

MAYOR JIM GRAY



DOUG BURTON, P.E.
DIRECTOR
ENGINEERING

September 22, 2017

Users of Lexington – Fayette Urban County Engineering Standard Drawings

Re: Standard Drawings 2017

Attached is the latest edition of the LFUCG Standard Drawings for construction of storm, sanitary sewers, streets and roads in Lexington – Fayette County. These drawings supersede any and all Standard Drawings previously issued by the Division of Engineering.

These drawings become effective as of September 22, 2017 and any projects dedicated to public use after the above date must comply with or contain references to these Standard Drawings or revisions thereof where applicable.

Questions or comments should be directed to:

Urban County Engineer
Division of Engineering
Fourth Floor
101 E. Vine Street
Lexington, KY 40507
859-258-3410

Sincerely,

W. Douglas Burton, P.E.
Urban County Engineer

WDB;MHF



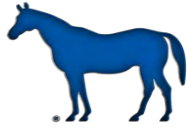


LEXINGTON

LEXINGTON - FAYETTE URBAN COUNTY GOVERNMENT STANDARD DRAWINGS 2017

TABLE OF CONTENTS

Drawing No.	Drawing Title
Manholes-Storm Drainage:	
100	Storm Sewer Manhole Type "A" - Circular Walls
101	Storm Sewer Manhole Type "B" - Non-Circular Walls
102	Storm Sewer Manhole Details
103	Manhole Frames, Covers and Steps
104	Storm Sewer Manhole Circular Slabs 4'-0" and 5'-0" Diameter
105	Storm Sewer Manhole Circular Slabs 6'-0" Diameter
106	Storm Sewer Manhole Circular Slabs 7'-0" Diameter
107	Storm Sewer Manhole Circular Slabs 8'-0" Diameter
108	Reinforcement Detail 5' Non-Circular M.H. Less Than 10' Depth, 8" Walls, 10" Slab
109	Reinforcement Detail 5' Non-Circular M.H. 7'-6" to 20' Depth, 8" Walls, 12" Slab
110	Reinforcement Detail 6' Non-Circular M.H. Less Than 10' Depth, 8" Walls, 10" Slab
111	Reinforcement Detail 6' Non-Circular M.H. 8' to 15' Depth, 8" Walls, 12" Slab
112	Reinforcement Detail 6' Non-Circular M.H. 15' to 20' Depth, 10" Walls, 12" Slab
113	Reinforcement Detail 7' Non-Circular M.H. Less Than 10' Depth, 8" Walls, 10" Slab
114	Reinforcement Detail 7' Non-Circular M.H. 8' to 10' Depth, 8" Walls, 12" Slab
115	Reinforcement Detail 7' Non-Circular M.H. 10' to 20' Depth, 10" Walls, 12" Slab
116-119	(Future)
Surface Inlets & Catch Basins:	
120	Surface Inlet Type "A"
121	Surface Inlet Type "B"
122-1	Curb Box Inlet Type "A" 4' x 4' Box 15" - 18" Pipes
122-2	Curb Box Inlet Type "A" 4' x 4' Box 15" - 18" Pipes
123-1	Curb Box Inlet Type "B" 5' x 5' Box 15" - 24" Pipes
123-2	Curb Box Inlet Type "B" 5' x 5' Box 15" - 24" Pipes
124-1	Curb Box Inlet Type "C" 4' x 3' Box Single Pipe 15" or Less
124-2	Curb Box Inlet Type "C" 4' x 3' Box Single Pipe 15" or Less
125	Curb Box Inlet Type "D"
126	Spring Box Inlet Type "A"
127	Spring Box Inlet Type "B"



LEXINGTON

LEXINGTON - FAYETTE URBAN COUNTY GOVERNMENT STANDARD DRAWINGS 2017 TABLE OF CONTENTS

Drawing No.	Drawing Title
128	Security Devices for Frames and Grates
129	(Future)
Channels & Ditches:	
130-1	Aggregate Channel Lining
130-2	Aggregate Channel Lining
131	Mattress Channel Lining
132	Paved Ditch
133-139	(Future)
Roadway Drainage:	
140-149	(Future)
Headwalls:	
150	Straight Headwalls
151	ELL Headwalls
152	U-Type Headwalls
153	Pipe Culvert Headwalls 0° Skew 15" - 27" Circular Pipe
154-1	Pipe Culvert Headwalls 0° Skew 30" - 108" Pipe
154-2	Dimensions and Quantities 30" - 108" Headwalls Circular Pipe 0° Skew
154-3	Bill of Reinforcement 30" - 90" Diameter Circular Pipe Headwalls 0° Skew
154-4	Bill of Reinforcement 96" - 108" Diameter Circular Pipe Headwalls 0° Skew
158	18" - 24" Double & Triple Pipe Culvert Headwalls at 0° Skew
159-1	Double and Triple Pipe Culvert Headwalls 0° Skew
159-2	Dimensions and Quantities 30" - 48" Double and Triple Headwalls - Circular Pipe 0° Skew
159-3	Bill of Reinforcement 30" - 48" Double and Triple Headwalls - Circular Pipe 0° Skew
162	Sloped and Flared Box Inlet - Outlet 18" - 24" - 30" - 36" All Skews
163	Grates for Sloped and Flared Box Inlet - Outlet
164	Impact Stilling Basin 15" - 24" Pipes
165	Impact Stilling Basin 27" - 48" Pipes
166-169	(Future)
Silt & Erosion Control:	
	See Chapter 11 of <i>LFUCG Stormwater Manual</i> for Approved Design Details



LEXINGTON

LEXINGTON - FAYETTE URBAN COUNTY GOVERNMENT STANDARD DRAWINGS 2017 TABLE OF CONTENTS

Drawing No.	Drawing Title
Retaining Structures:	
180	Retaining Wall Gravity Type
181-189	(Future)
Trenching:	
200	Trenching, Laying, Backfilling and Bedding Outside R/W Limits
201-1	Trenching, Laying, Backfilling and Bedding Under Street Pavement
201-2	Trenching, Laying, Backfilling and Bedding Under Street Pavement Using Flowable Fill
201-3	Utility Trench Restoration Beneath Existing Paved Roads (Section View)
201-4	Utility Trench Restoration Beneath Existing Paved Roads (Plan View)
204	Sanitary Sewer Pipe: Types and Maximum Allowable Fill Heights
206-209	(Future)
Manholes-Sanitary:	
210	Typical Precast Concrete Shallow Manhole Pipes 24" and Larger
211	Typical Standard Precast Concrete Manhole Pipes Up To 24"
212	Typical Precast Concrete Drop Manhole Pipes Up To 36"
213	Standard Manhole Junction and Water Stop Details
214	Sewer Manhole Adjustment Grade Rings
216	Manhole Size Standards and General Notes for Deep Manholes
217	Deflection Angle Criteria for Sanitary Manholes
220	Standard Circular Manhole Frame and Cover
222	Standard Watertight Manhole Frame and Cover
223-229	(Future)
Connections:	
230	House Lateral for Greater than 6' Deep Sewer in Soil and Rock Excavation
231	House Lateral for Greater than 6' Deep Sewer in Soil
232	House Lateral for Shallow Sewer in Soil or Rock
233	Lateral Cleanout in Non-Paved Areas and Yards
234	Right-Of-Way Easement Lateral Cleanout in Non-Paved Areas and Yards
240	Sanitary Sewer Stream Crossing and Stream Bed Restoration Detail
250	Grease Interceptor Typical Configuration



LEXINGTON

LEXINGTON - FAYETTE URBAN COUNTY GOVERNMENT STANDARD DRAWINGS 2017 TABLE OF CONTENTS

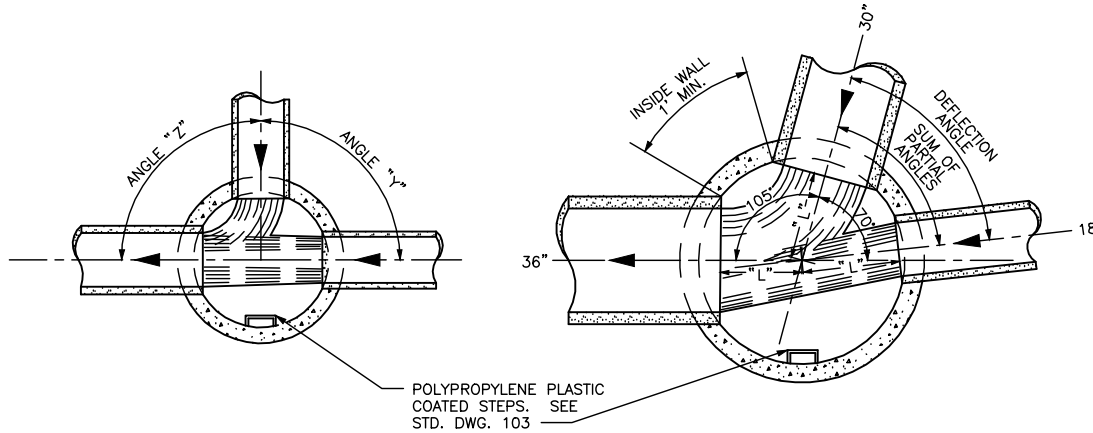
Drawing No.	Drawing Title
260	Sewer Connection to Existing Concrete Manhole
261-269	(Future)
Streets & Roads:	
300	Typical Street Sections
301	Curb and Gutter
302	Integral Curb, Header Curb, Monolithic Curb and Sidewalk
303	Sidewalk Construction Specifications
304	Sidewalk Ramp Type 1
305	(Future)
306	(Future)
307-1	Residential Entrance Details
307-2	Commercial Entrance Details
308	Chain Link Fence 3' - 6'
309	Chain Link Fence 8' - 12'
310	Chain Link Gate
311	Plank Fence
312	Woven Wire Right-of-Way Fence Type 1
313	Woven Wire Right-of-Way Fence Type 2
314	Woven Wire Gates
315	Concrete Steps
316	Top Rail for Retaining Walls Handrail for Steps
317	County Road Typical Shoulder Sections (Minimum Requirements)
318	Edge Key
319	Typical Edge Key for Minimum Overlays, Short Projects, Low Speed
320-1	Perforated Pipe Subgrade Drainage Along Roadway
320-2	Perforated Pipe Subgrade Drainage For Raised Non-Paved Medians
321	Perforated Pipe for Subgrade Drainage
322	Perforated Pipe Underdrains
323	Public Improvement Sign
324-330	(Future)

TABLE I
OF
MINIMUM PARTIAL ANGLE

PIPE SIZE	MANHOLE SIZE									
	4'-0"		5'-0"		6'-0"		7'-0"		8'-0"	
	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.
15"	38°	1'-10"	30°	2'-4"	25°	2'-11"	22°	3'-5"	19°	3'-11"
18"	43°	1'-9"	34°	2'-4"	28°	2'-10"	24°	3'-4"	21°	3'-11"
24"	53°	1'-7"	41°	2'-2"	34°	2'-9"	29°	3'-3"	25°	3'-10"
27"	—	—	45°	2'-1"	37°	2'-8"	32°	3'-3"	28°	3'-9"
30"	—	—	49°	2'-0"	40°	2'-7"	34°	3'-2"	30°	3'-8"
33"	—	—	54°	1'-10"	44°	2'-6"	37°	3'-1"	37°	3'-8"
36"	—	—	—	—	47°	2'-4"	40°	3'-0"	34°	3'-7"
42"	—	—	—	—	55°	2'-1"	46°	2'-9"	39°	3'-5"
48"	—	—	—	—	63°	1'-9"	52°	2'-6"	44°	3'-2"
54"	—	—	—	—	—	—	59°	2'-3"	50°	2'-11"
60"	—	—	—	—	—	—	67°	1'-10"	56°	2'-8"

GENERAL NOTES:

1. ALL DIMENSIONS ARE BASED ON SIZE OF LARGEST PIPE IN MANHOLE.
2. MANHOLES FOR PIPE LARGER THAN 60" SHALL BE SPECIALLY DESIGNED.
3. IN CASES WHERE DEFLECTION ANGLES EXCEED MAXIMUM SHOWN IN TABLES, MANHOLE SHALL BE INCREASED IN SIZE OR SPECIALLY DESIGNED.
4. BOTTOM SLAB OF MANHOLES SHALL BE SPECIALLY DESIGNED WITH REGARD TO AREA, THICKNESS, AND REINFORCING IN SITUATIONS WHERE HIGH WATER TABLE OR UNSTABLE SOIL CONDITIONS EXIST.
5. MANHOLE BENCH SHALL SLOPE AT LEAST 1" PER FT. FROM WALLS TO CHANNELS AND SHALL HAVE SMOOTH FLOAT AND BRUSH FINISH.
6. ELEVATIONS OF PIPES IN MANHOLES SHALL BE SUCH THAT THE TOP OF ALL INFLUENT PIPES WILL BE AT AN ELEVATION EQUAL TO OR GREATER THAN THE TOP OF THE EFFLUENT PIPE.
7. INFLUENT PIPES MAY ENTER MANHOLES AT AN ELEVATION ABOVE THE CHANNELS AS REQUIRED TO AVOID CONFLICT WITH LARGER PIPES IN THE MANHOLE.



TYPE "A" MANHOLE – CIRCULAR WALLS
CAST-IN-PLACE OR PRECAST CONCRETE

NOTES:

1. PRECAST CONCRETE MANHOLE BARREL SHALL BE ASTM C-478, CLASS II PIPE TO 12' DEPTH AND C-76 CLASS III GREATER THAN 12' DEPTH.
2. BASE SECTION OF CIRCULAR MANHOLES MAY BE CAST-IN-PLACE CONCRETE, OR CUSTOM PRECAST CONCRETE WITH OPENINGS FOR PIPE.
3. BASE SECTIONS MAY BE SIMILAR TO SANITARY SEWER MANHOLE.
4. PROVIDE STEPS WITHIN 18" OF BENCH.

CIRCULAR MANHOLE NOTES:

1. THE ANGLE BETWEEN ANY TWO PIPES (e.g. ANGLE "Y" OR "Z") MUST BE GREATER THAN THE SUM OF THE PARTIAL ANGLES FROM TABLE I FOR THE MANHOLE SIZE SELECTED. FOR SMALLER ANGLES BETWEEN PIPES, LARGE MANHOLES MUST BE SELECTED. (SEE EXAMPLE BELOW)
2. THE MAXIMUM DEFLECTION ANGLE BETWEEN ANY INCOMING PIPE AND THE DISCHARGE PIPE SHALL BE NO MORE THAN 90° FOR PIPES UP TO 24" IN DIAMETER. THE MAXIMUM DEFLECTION ANGLE FOR 27" TO 42" PIPES SHALL BE 75° AND FOR PIPES LARGER THAN 42" THE MAXIMUM DEFLECTION ANGLE SHALL BE 60°.

EXAMPLE FOR MANHOLE SIZE SELECTION:

FOR MANHOLE SHOWN ABOVE, THE ANGLE BETWEEN 18" AND 30" PIPE IS 70° AND THE ANGLE BETWEEN 30" AND 36" PIPE IS 110°. THE TABLE INDICATES THAT FOR A 6'-0" DIAMETER MANHOLE THE MINIMUM PARTIAL ANGLE FOR AN 18" PIPE IS 28° AND FOR A 30" PIPE IS 40°. THE SUM OF THE PARTIAL ANGLES IS 68° THIS SUM IS LESS THAN THE 70°. THEREFORE, A 6'-0" MANHOLE DIAMETER IS ACCEPTABLE.

LEXINGTON

DIVISION OF ENGINEERING

STORM SEWER
MANHOLE TYPE "A" –
CIRCULAR WALLS

STANDARD DRAWING NO. 100

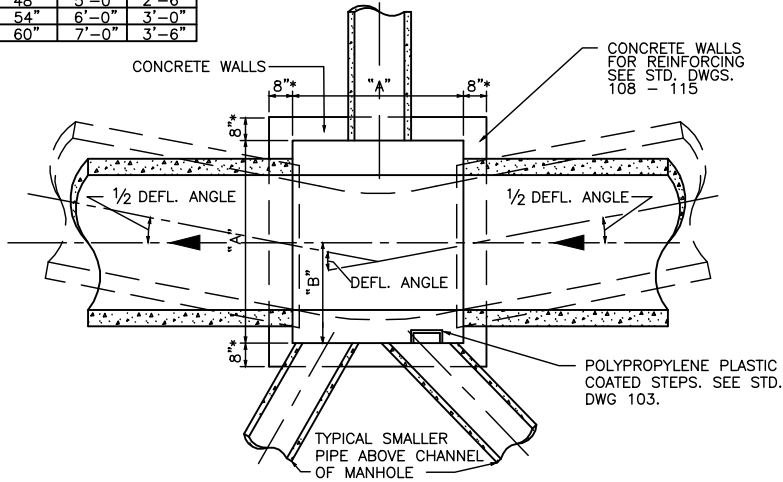
APPROVAL: 9/22/17

URBAN COUNTY ENGINEER DATE

COMMISSIONER 9/22/17

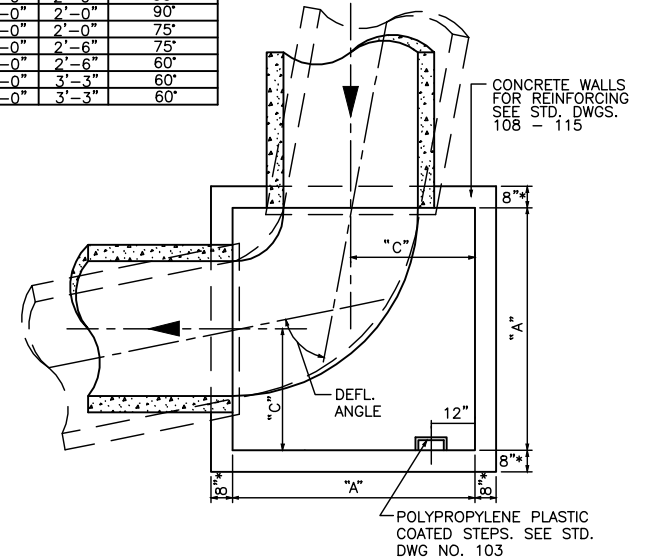
DATE

PIPE SIZE	DIM. "A"	DIM. "B"
12"	5'-0"	2'-6"
15"-42"	5'-0"	2'-6"
48"	5'-0"	2'-6"
54"	6'-0"	3'-0"
60"	7'-0"	3'-6"



0°-22° DEFLECTION ANGLE

PIPE SIZE	DIM. "A"	DIM. "C"	MAXIMUM DEF. ANGLE
12"	5'-0"	2'-0"	90°
15"-33"	5'-0"	2'-0"	90°
36"	5'-0"	2'-0"	75°
42"	6'-0"	2'-6"	75°
48"	6'-0"	2'-6"	60°
54"	7'-0"	3'-3"	60°
60"	7'-0"	3'-3"	60°

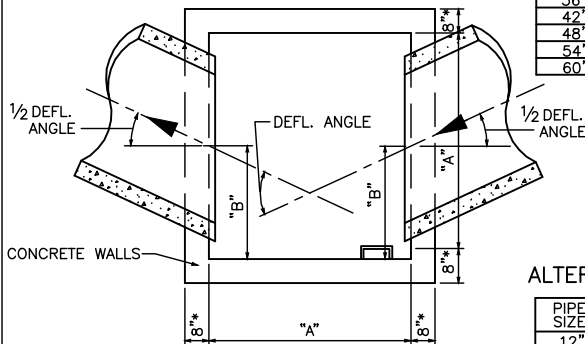


GREATER THAN 68° DEFLECTION ANGLE

TYPE "B" MANHOLE - NON-CIRCULAR WALLS, CAST-IN-PLACE CONCRETE

ALTERNATE-22°-50°

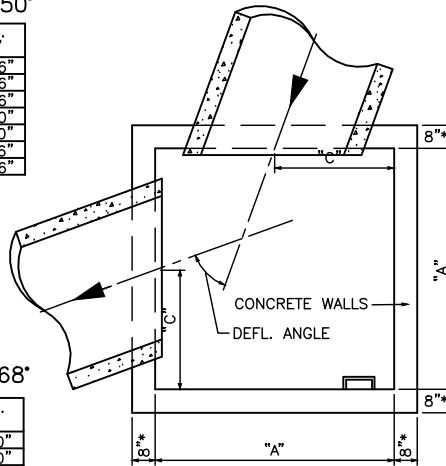
PIPE SIZE	DIM. "A"	DIM. "B"
12"	5'-0"	2'-6"
15"-33"	5'-0"	2'-6"
36"	5'-0"	2'-6"
42"	6'-0"	3'-0"
48"	6'-0"	3'-0"
54"	7'-0"	3'-6"
60"	7'-0"	3'-6"



22°-50° DEFLECTION ANGLE

ALTERNATE-50°-68°

PIPE SIZE	DIM. "A"	DIM. "C"
12"	5'-0"	2'-0"
15"-33"	5'-0"	2'-0"
36"	5'-0"	2'-0"
42"	6'-0"	2'-6"
48"	6'-0"	2'-6"
54"	7'-0"	3'-3"
60"	7'-0"	3'-3"



50°-90° DEFLECTION ANGLE

* WALL THICKNESS FOR MANHOLES

DEPTH TO INV.	A=5'-0"	A=6'-0"	A=7'-0"
UP TO 10'	8"	8"	8"
10' TO 15'	8"	8"	10"
15' TO 20'	8"	10"	10"

NOTES:

- ALL DIMENSIONS ARE BASED ON SIZE OF LARGEST PIPE IN MANHOLE.
- MANHOLES FOR PIPE LARGER THAN 60" SHALL BE SPECIALLY DESIGNED.
- PIPES SHALL ENTER MANHOLE WALLS, NOT CORNERS. ALLOW 2" MINIMUM TO INSIDE CORNER FOR WALL CUT.
- IN CASES WHERE DEFLECTION ANGLES EXCEED MAXIMUM SHOWN IN TABLES, MANHOLE SHALL BE SPECIALLY DESIGNED.
- BOTTOM SLAB OF MANHOLES SHALL BE SPECIALLY DESIGNED WITH REGARD TO AREA, THICKNESS, AND REINFORCING IN SITUATIONS WHERE HIGH WATER TABLE OR UNSTABLE SOIL CONDITIONS EXIST.
- MANHOLE BENCH SHALL SLOPE AT LEAST 1" PER FT. FROM WALLS TO CHANNELS AND SHALL HAVE SMOOTH FLOAT AND BRUSH FINISH.
- THE TOP OF ALL INFLUENT PIPES WILL BE AT AN ELEVATION EQUAL TO THE TOP OF THE EFFLUENT PIPE.
- INFLUENT PIPES MAY ENTER MANHOLES AT AN ELEVATION ABOVE THE CHANNELS AS REQUIRED TO AVOID CONFLICT WITH LARGER PIPES IN THE MANHOLE.
- THE MAXIMUM DEFLECTION ANGLE BETWEEN ANY INCOMING PIPE AND OUT GOING PIPE SHALL BE NO MORE THAN 90° FOR PIPES UP TO 24" IN DIAMETER. THE MAXIMUM DEFLECTION ANGLE FOR 27" TO 42" PIPES SHALL BE 75° AND FOR PIPES LARGER THAN 42" THE MAX. DEFLECTION ANGLE SHALL BE 60°.
- FOR REINFORCING SEE STD. DWGS. 108 - 115.

TYPE "B" MANHOLE FOR DEFLECTION ANGLES BETWEEN 22° & 90°

LEXINGTON

DIVISION OF ENGINEERING

STORM SEWER
MANHOLE TYPE "B" -
NON-CIRCULAR WALLS

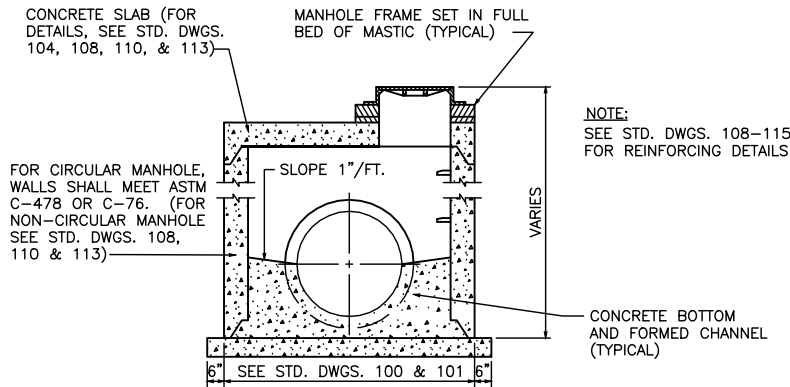
STANDARD DRAWING NO. 101

APPROVAL: 9/22/17

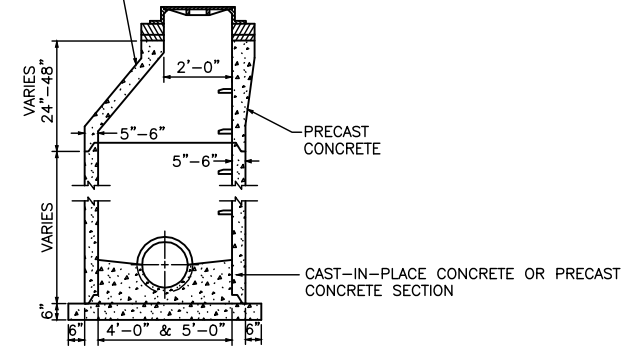
URBAN COUNTY ENGINEER / DATE

COMMISSIONER 9/22/17

DATE

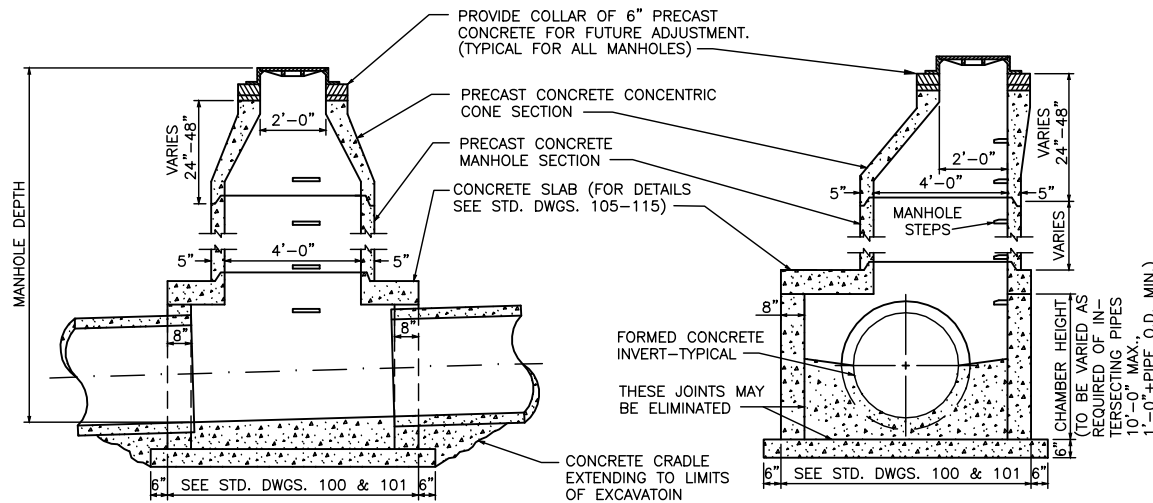


NOTE:
VERTICAL WALLS AND FLAT SLAB MAY BE SUBSTITUTED FOR CONE SECTION OF MANHOLE.



CIRCULAR AND NON-CIRCULAR WALLS
(TYPE "A" & TYPE "B")

STANDARD 4'-0" DIA. & 5'-0"
CIRCULAR WALLS
(TYPE "A")




NOTES:

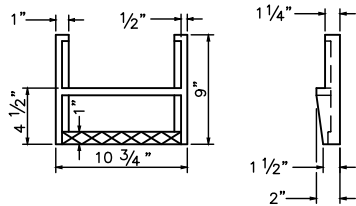
1. BASE SECTION OF CIRCULAR MANHOLES MAY BE CAST-IN-PLACE CONCRETE OR CUSTOM PRECAST CONCRETE WITH OPENINGS FOR PIPE.
2. 6" OVERHANG IN BOTTOM SLAB IS NOT REQUIRED IF PRECAST MANHOLES ARE USED.
3. FLAT SLABS IN PAVED AREAS SHALL BE USED ONLY AS APPROVED BY ENGINEER.

TYPICAL LONGITUDINAL SECTION

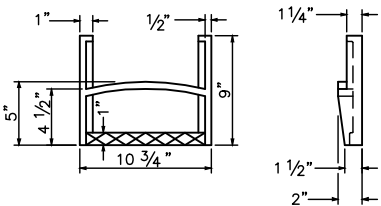
TYPICAL TRANSVERSE SECTION

STANDARD CIRCULAR MANHOLE - 6'-0" DIAMETER & LARGER TYPE "A"
AND NON-CIRCULAR WALL MANHOLE - ALL SIZES TYPE "B"

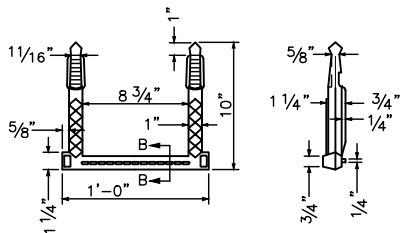
 LEXINGTON	
DIVISION OF ENGINEERING	
STORM SEWER MANHOLE DETAILS	
STANDARD DRAWING NO.	102
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



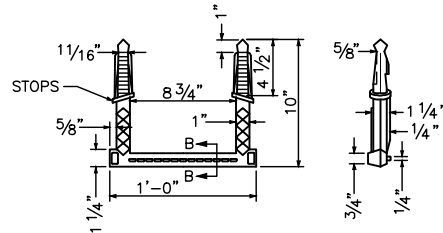
STEP TYPE NO. 1



STEP TYPE NO. 2

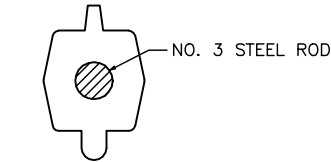


STEP TYPE NO. 3

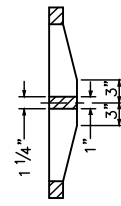


STEP TYPE NO. 4

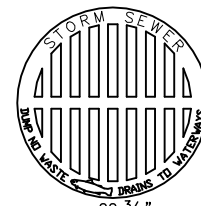
MANHOLE STEPS



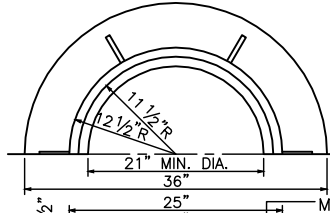
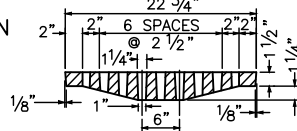
SECTION B-B



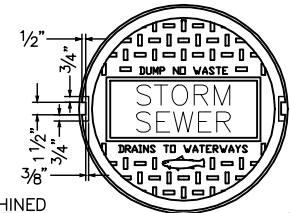
SECTION



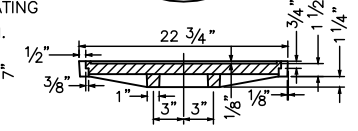
GRATING COVER



FRAME



SOLID COVER




MANHOLE FRAME AND COVERS

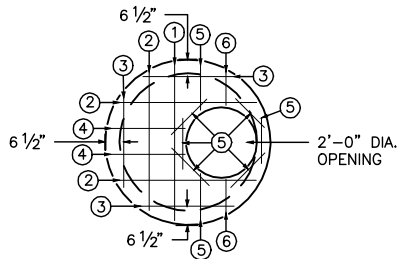
NOTES:

1. STEPS SHALL BE POLYPROPYLENE PLASTIC COATED STEEL ROD OR OF A TYPE AND SIZE APPROVED BY THE ENGINEER.
2. STEPS SHALL BE SPACED 12" O.C. VERTICALLY SO AS TO FORM A CONTINUOUS LADDER.
3. STEPS SHALL BE REQUIRED IN MANHOLES WHEN THE STRUCTURE IS 4 FEET AND GREATER IN DEPTH. (MEASURE FROM FLOWLINE OF LOWEST PIPE TO TOP OF STRUCTURE.)
4. THE TREADS OF ALL STEPS SHALL HAVE ANTI-SKID PROPERTIES FOR HAND AND FOOT GRIPS.
5. MANHOLE STEPS SHALL BE INSTALLED IN A VERTICAL LINE AND SHALL COMPLY WITH OSHA STANDARDS IN ALL RESPECTS.
6. FOR CAST-IN-PLACE OR PRECAST CIRCULAR AND NON-CIRCULAR MANHOLES.
7. FIRST STEP SHALL BE 12" - 18" FROM TOP OF PRECAST CONE SECTION, AND SHALL BE VERTICALLY LOCATED TO MAXIMIZE THE DISTANCE OF ANY STEP FROM THE JOINT OF A MANHOLE SECTION.

NOTES:

1. MINIMUM WEIGHT FOR THE 7" FRAME SHALL BE 185 LBS.
2. MINIMUM WEIGHT FOR THE SOLID COVER SHALL BE 120 LBS.
3. CASTINGS TO MEET ASTM A-48 CLASS 35.

 LEXINGTON	
DIVISION OF ENGINEERING	
MANHOLE FRAMES, COVERS, & STEPS	
STANDARD DRAWING NO.	103
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

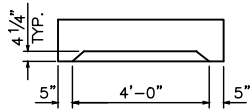


MARK	NO.	SIZE	LENGTH	TYPE
1	1	4	4'-5"	STR.
2	3	"	4'-0"	"
3	3	"	2'-8"	"
4	2	"	2'-0"	"
5	8	"	1'-6"	"
6	2	"	1'-0"	"

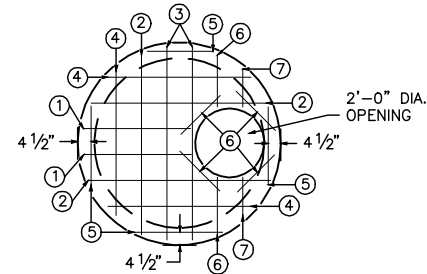
4'-0" DIA.
SHALLOW MANHOLES

NOTES:

- FOR PIPE SIZES 15" TO 24".
- 9" O.C. SPACING EACH WAY.
- 8" THICK SLAB.
- 4'-10" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
- CIRCULAR REBAR MAY BE USED, OR MARK 5 BARS AS SHOWN.



SIDE VIEW

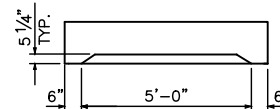


MARK	NO.	SIZE	LENGTH	TYPE
1	2	4	3'-2"	STR.
2	3	"	5'-3"	"
3	2	"	5'-8"	"
4	3	"	4'-2"	"
5	4	"	2'-2"	"
6	6	"	1'-6"	"
7	2	"	1'-0"	"

5'-0" DIA.
SHALLOW MANHOLES

NOTES:

- FOR PIPE SIZES 21" TO 33".
- 9" O.C. SPACING EACH WAY.
- 8" THICK SLAB.
- 6'-0" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
- CIRCULAR REBAR MAY BE USED, OR MARK 6 BARS AS SHOWN.



SIDE VIEW

NOTE:

SLAB OUTER DIAMETER TO VARY WITH MANHOLE WALL THICKNESS, TO COMPLETELY COVER MANHOLE WALLS.





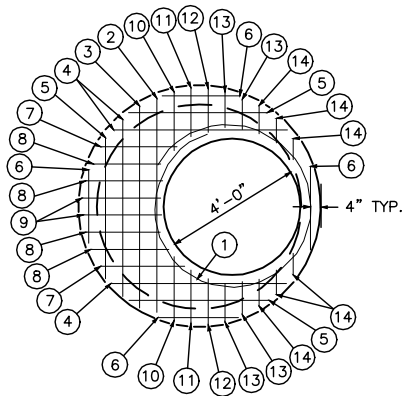
LEXINGTON

DIVISION OF ENGINEERING

STORM SEWER
MANHOLE CIRCULAR SLABS
4'-0" & 5'-0" DIAMETER

STANDARD DRAWING NO. **104**

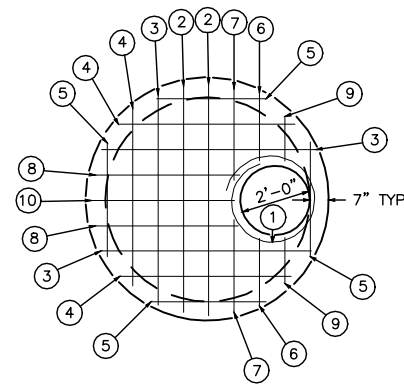
APPROVAL:  9/22/17
URBAN COUNTY ENGINEER _____ DATE
COMMISSIONER  9/22/17
DATE



MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	1	6	6'-6"	STR.
3	1	"	5'-11"	"
4	3	"	5'-3"	"
5	3	"	4'-3"	"
6	4	"	2'-6"	"
7	2	"	2'-7"	"
8	4	"	2'-3"	"
9	2	"	2'-2"	"
10	2	"	1'-10"	"
11	2	"	1'-6"	"
12	2	"	1'-3"	"
13	4	"	1'-0"	"
14	6	"	0'-10"	"

6'-0" DIA.

STANDARD MANHOLES



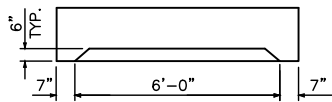
MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	9'-6"	A ₁
2	2	5	6'-9"	STR.
3	3	"	6'-3"	"
4	3	"	5'-3"	"
5	4	"	3'-3"	"
6	2	"	1'-10"	"
7	2	"	2'-9"	"
8	2	"	4'-4"	"
9	2	"	1'-5"	"
10	1	"	4'-3"	"

6'-0" DIA.

SHALLOW MANHOLES

NOTES:

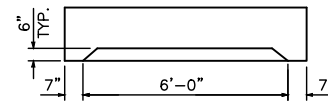
- FOR PIPE SIZES 15" TO 48".
- 6" O.C. SPACING EACH WAY.
- 12" THICK SLAB.
- 7'-2" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.



SIDE VIEW

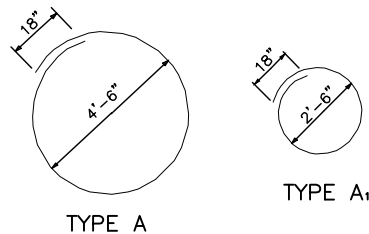
NOTES:

- FOR PIPE SIZES 15" TO 36".
- 9" O.C. SPACING EACH WAY.
- 8" THICK SLAB.
- 7'-2" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.



SIDE VIEW

SPECIAL BAR BENDS



NOTE:

SLAB OUTER DIAMETER TO VARY WITH MANHOLE WALL THICKNESS, TO COMPLETELY COVER MANHOLE WALLS.

LEXINGTON

DIVISION OF ENGINEERING

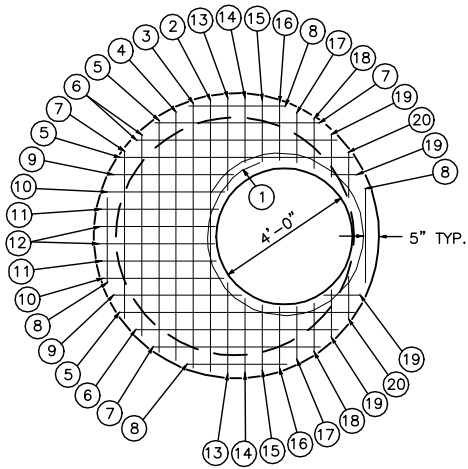
STORM SEWER
MANHOLE CIRCULAR SLABS
6'-0" DIAMETER

STANDARD DRAWING NO. **105**

APPROVAL: 9/22/17

URBAN COUNTY ENGINEER DATE

COMMISSIONER DATE

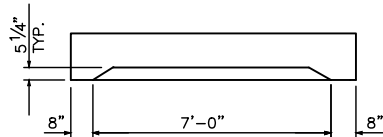


7'-0" DIA.
STANDARD MANHOLES

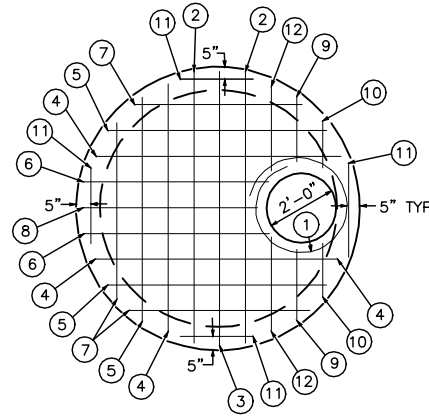
MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	1	6	7'-10"	STR.
3	1	"	7'-7"	"
4	1	"	7'-2"	"
5	3	"	6'-8"	"
6	3	"	5'-11"	"
7	3	"	4'-11"	"
8	4	"	3'-0"	"
9	2	"	3'-9"	"
10	2	"	3'-7"	"
11	2	"	3'-5"	"
12	2	"	3'-4"	"
13	2	"	2'-10"	"
14	2	"	2'-3"	"
15	2	"	1'-11"	"
16	2	"	1'-8"	"
17	2	"	1'-6"	"
18	2	"	1'-4"	"
19	4	"	1'-3"	"
20	2	"	1'-0"	"

NOTES:

- FOR PIPE SIZES 15" TO 60".
- 6" O.C. SPACING EACH WAY.
- 12" THICK SLAB.
- 8'-4" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.



SIDE VIEW

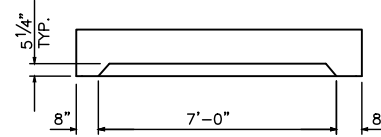


7'-0" DIA.
SHALLOW MANHOLES

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	9'-6"	A ₁
2	2	5	7'-10"	STR.
3	1	"	8'-0"	"
4	3	"	7'-6"	"
5	3	"	6'-8"	"
6	2	"	5'-7"	"
7	3	"	5'-3"	"
8	1	"	5'-4"	"
9	2	"	2'-2"	"
10	2	"	1'-8"	"
11	4	"	2'-6"	"
12	2	"	3'-0"	"

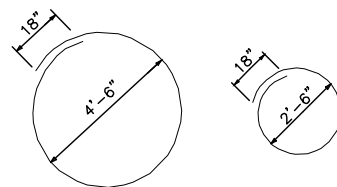
NOTES:

- FOR PIPE SIZES 15" TO 36".
- 9" O.C. SPACING EACH WAY.
- 10" THICK SLAB.
- 8'-4" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.



SIDE VIEW

SPECIAL BAR BENDS




TYPE A

TYPE A₁

NOTE:

SLAB OUTER DIAMETER TO VARY WITH MANHOLE WALL THICKNESS, TO COMPLETELY COVER MANHOLE WALLS.




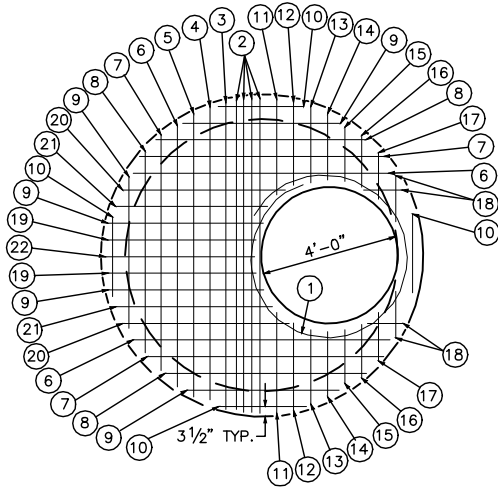
LEXINGTON

DIVISION OF ENGINEERING

STORM SEWER
MANHOLE CIRCULAR SLABS
7'-0" DIAMETER

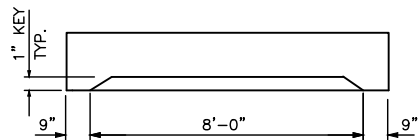
STANDARD DRAWING NO. **106**

APPROVAL:  9/22/17
URBAN COUNTY ENGINEER 9/22/17
COMMISSIONER 9/22/17



8'-0" DIA.
STANDARD MANHOLE

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	4	6	9'-0"	STR.
3	1	"	8'-10"	"
4	1	"	8'-8"	"
5	1	"	8'-3"	"
6	3	"	7'-9"	"
7	3	"	7'-0"	"
8	3	"	6'-0"	"
9	5	"	4'-6"	"
10	4	"	3'-0"	"
11	2	"	3'-0"	"
12	2	"	2'-9"	"
13	2	"	2'-4"	"
14	2	"	2'-0"	"
15	2	"	1'-9"	"
16	2	"	1'-7"	"
17	2	"	1'-6"	"
18	4	"	1'-0"	"
19	2	"	4'-5"	"
20	2	"	5'-0"	"
21	2	"	4'-8"	"
22	1	"	4'-4"	"

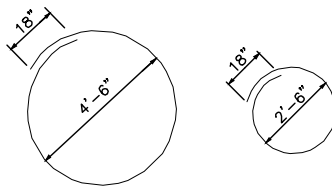


SIDE VIEW

NOTES:

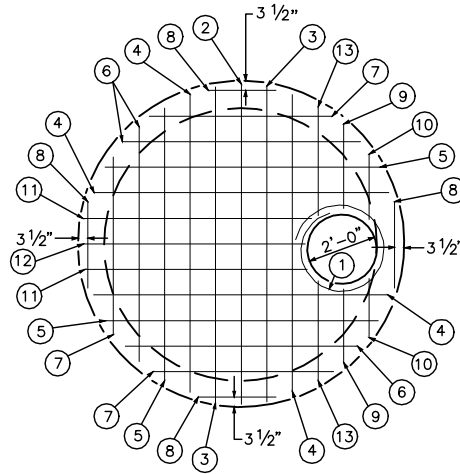
- FOR PIPE SIZES 15" TO 60".
- 6" O.C. SPACING EACH WAY.
- 12" THICK SLAB.
- 9'-6" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.

SPECIAL BAR BENDS



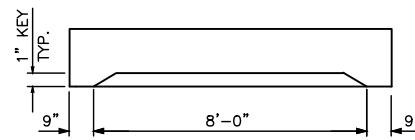
TYPE A

TYPE A1



8'-0" DIA.
SHALLOW MANHOLE

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	9'-6"	A1
2	1	5	9'-3"	STR.
3	2	"	9'-0"	"
4	4	"	8'-9"	"
5	3	"	8'-0"	"
6	3	"	7'-0"	"
7	3	"	5'-5"	"
8	4	"	2'-9"	"
9	2	"	2'-3"	"
10	2	"	1'-9"	"
11	2	"	6'-6"	"
12	1	"	6'-2"	"
13	2	"	3'-3"	"



SIDE VIEW

NOTES:

- FOR PIPE SIZES 15" TO 60".
- 9" O.C. SPACING EACH WAY.
- 10" THICK SLAB.
- 9'-6" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.

NOTE:

SLAB OUTER DIAMETER TO VARY WITH MANHOLE WALL THICKNESS, TO COMPLETELY COVER MANHOLE WALLS.

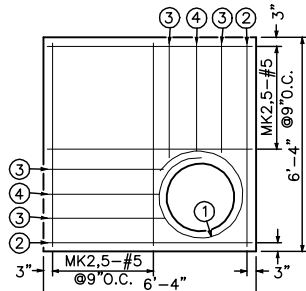
LEXINGTON

DIVISION OF ENGINEERING

STORM SEWER
MANHOLE CIRCULAR SLABS
8'-0" DIAMETER

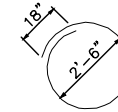
STANDARD DRAWING NO.	107
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

SPECIAL BAR BENDS

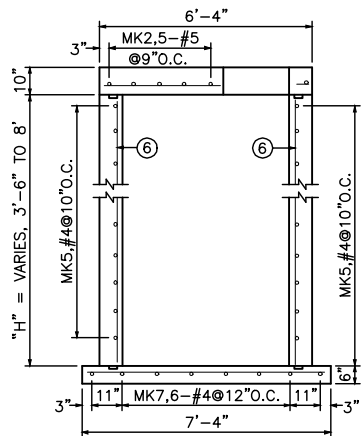


TOP SLAB
2'-0" OPENING

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	9'-6"	A ₁
2	12	5	6'-0"	STR.
3	4	5	3'-8"	"
4	2	5	3'-4"	"



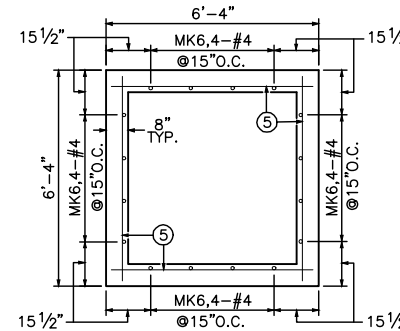
TYPE A₁



VERT. SECTION

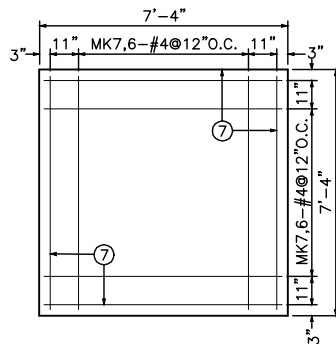
MARK	NO.	SIZE	LENGTH	TYPE
5	*	4	6'-0"	STR.

* 4 X (HEIGHT OF WALL (INCH)/10)
(ROUNDED UP TO THE NEXT WHOLE NUMBER)



HORIZ. SECTION

MARK	NO.	SIZE	LENGTH	TYPE
6	16	4	DIM. "H"-2"	STR.



BOTTOM SLAB

MARK	NO.	SIZE	LENGTH	TYPE
7	16	4	7'-0"	STR.

NOTES:

1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.





LEXINGTON

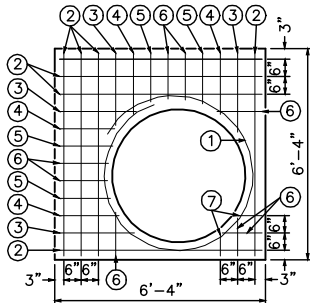
DIVISION OF ENGINEERING

REINFORCEMENT DETAIL
5' NON-CIRCULAR M.H.
LESS THAN 10' DEPTH,
8" WALLS, 10" SLAB

STANDARD DRAWING NO. **108**

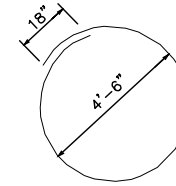
APPROVAL:  9/22/17
URBAN COUNTY ENGINEER / DATE
 9/22/17
COMMISSIONER / DATE

SPECIAL BAR BENDS

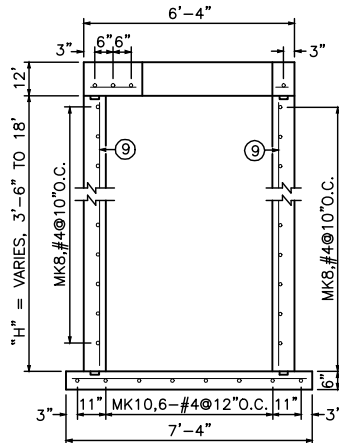


TOP SLAB
4'-0" OPENING

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	8	5	6'-0"	STR.
3	4	5	2'-4"	"
4	4	5	1'-9"	"
5	4	5	1'-5"	"
6	8	5	1'-4"	"
7	2	5	0'-10"	"



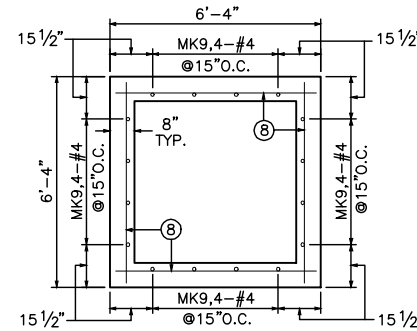
TYPE A



VERT. SECTION

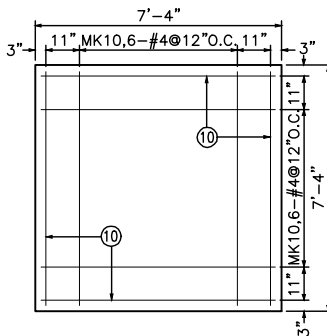
MARK	NO.	SIZE	LENGTH	TYPE
8	*	4	6'-0"	STR.

* 4 X (HEIGHT OF WALL (INCH)/10)
(ROUNDED UP TO THE NEXT
WHOLE NUMBER)



HORIZ. SECTION

MARK	NO.	SIZE	LENGTH	TYPE
9	16	4	DIM. "H"-2"	STR.



BOTTOM SLAB

MARK	NO.	SIZE	LENGTH	TYPE
10	16	4	7'-0"	STR.

NOTES:

1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN THE TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.

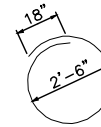


DIVISION OF ENGINEERING

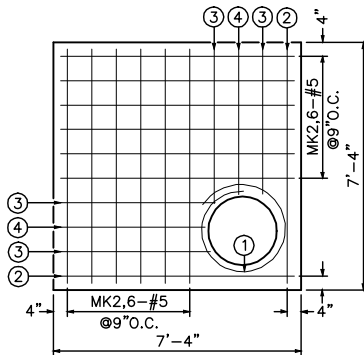
REINFORCEMENT DETAIL
5' NON-CIRCULAR M.H.
7'-6" TO 20' DEPTH,
8" WALLS, 12" SLAB

STANDARD DRAWING NO.	109
APPROVAL:	
URBAN COUNTY ENGINEER	<i>[Signature]</i> 9/22/17
COMMISSIONER	<i>[Signature]</i> 9/22/17

SPECIAL BAR BENDS

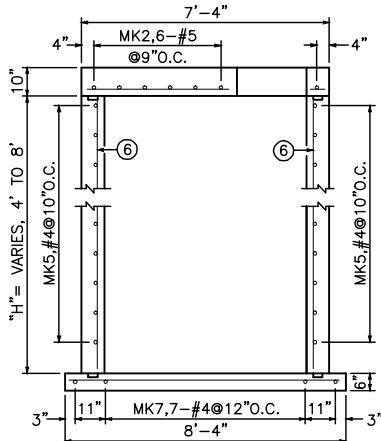


TYPE A₁



TOP SLAB
2'-0" OPENING

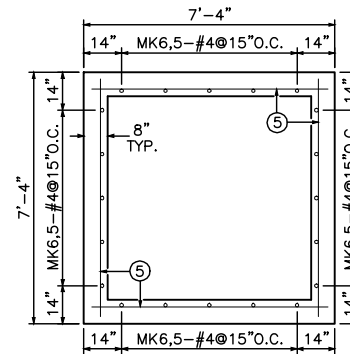
MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	9'-6"	A ₁
2	14	5	7'-0"	STR.
3	4	5	4'-8"	"
4	2	5	4'-4"	"



VERT. SECTION

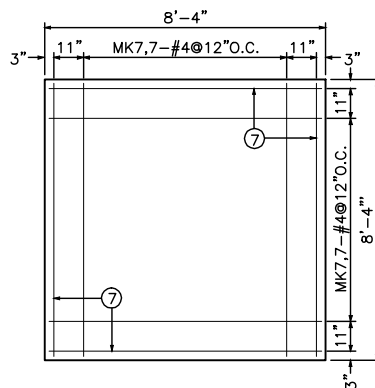
MARK	NO.	SIZE	LENGTH	TYPE
5	*	4	7'-0"	STR.

* 4 X (HEIGHT OF WALL (INCH)/10)
(ROUNDED UP THE NEXT
WHOLE NUMBER)



HORIZ. SECTION

MARK	NO.	SIZE	LENGTH	TYPE
6	20	4	DIM. "H"-2"	STR.



BOTTOM SLAB

MARK	NO.	SIZE	LENGTH	TYPE
7	18	4	8'-0"	STR.

NOTES:

1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.





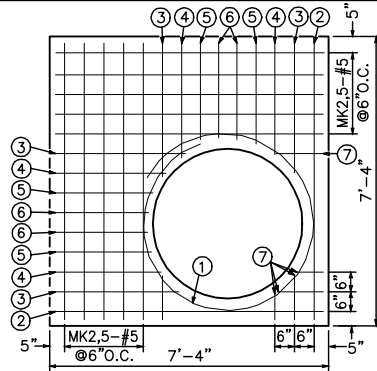
LEXINGTON

DIVISION OF ENGINEERING

REINFORCEMENT DETAIL
6' NON-CIRCULAR M.H.
LESS THAN 10' DEPTH,
8" WALLS, 10" SLAB

STANDARD DRAWING NO. 110

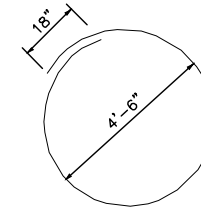
APPROVAL:  9/22/17
URBAN COUNTY ENGINEER DATE
COMMISSIONER  9/22/17
DATE



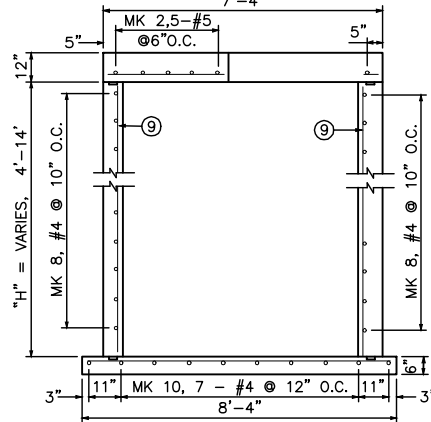
TOP SLAB
4'-0" OPENING

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	12	5	7'-10"	STR.
3	4	5	3'-4"	"
4	4	5	2'-9"	"
5	4	5	2'-5"	"
6	4	5	2'-4"	"
7	6	5	0'-10"	"

SPECIAL BAR BENDS



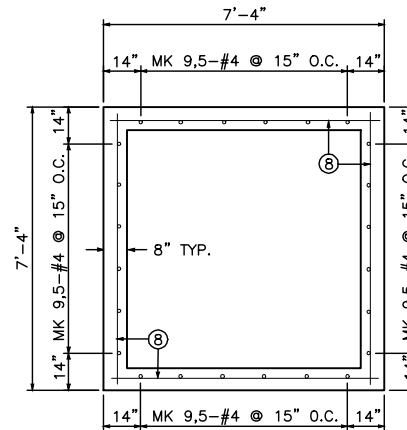
TYPE A



VERT. SECTION

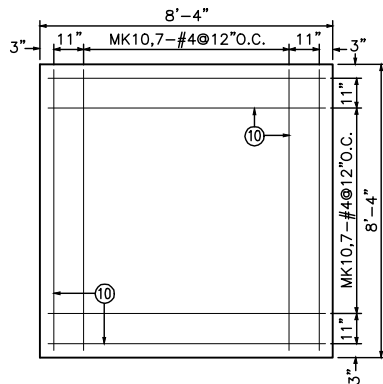
MARK	NO.	SIZE	LENGTH	TYPE
8	*	4	7'-0"	STR.

* 4 X (HEIGHT OF WALL (INCH)/10)
(ROUNDED UP TO THE NEXT WHOLE NUMBER)



HORIZ. SECTION

MARK	NO.	SIZE	LENGTH	TYPE
9	20	4	DIM. "H"-2"	STR.



BOTTOM SLAB

MARK	NO.	SIZE	LENGTH	TYPE
10	18	4	8'-0"	STR.

NOTES:

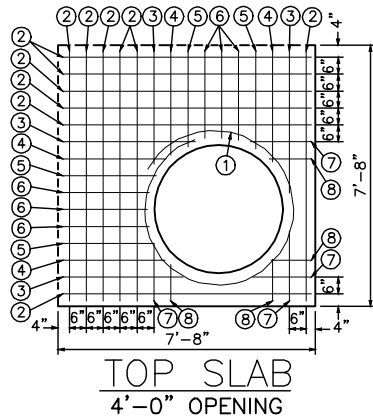
1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.



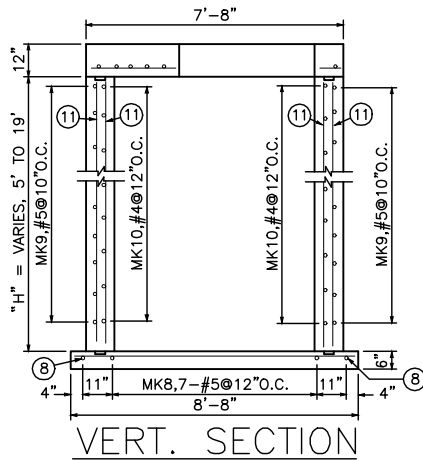
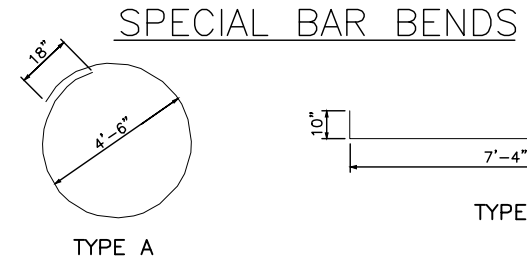
DIVISION OF ENGINEERING

REINFORCEMENT DETAIL
6' NON-CIRCULAR M.H.
8' TO 15' DEPTH,
8" WALLS, 12" SLAB

STANDARD DRAWING NO.	111
APPROVAL:	
URBAN COUNTY ENGINEER	<i>[Signature]</i> 9/22/17
COMMISSIONER	<i>[Signature]</i> 9/22/17

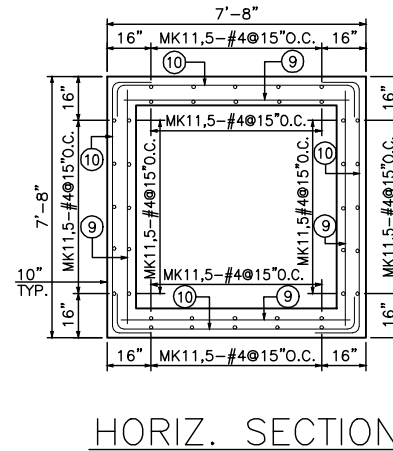


MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	12	5	7'-4"	STR.
3	4	5	3'-3"	"
4	4	5	2'-9"	"
5	4	5	2'-7"	"
6	6	5	2'-6"	"
7	4	5	1'-2"	"
8	4	5	0'-10"	"

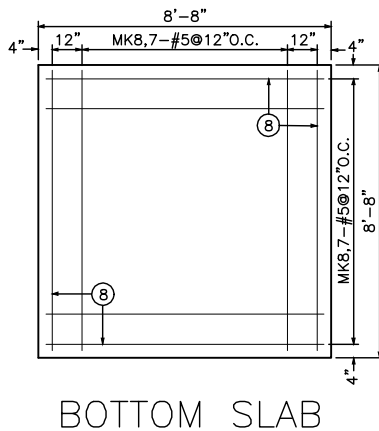


MARK	NO.	SIZE	LENGTH	TYPE
9	*1	5	7'-4"	STR.
10	*2	4	9'-0"	C

*1 4 X (WALL HEIGHT (INCH)/10)
 *2 4 X (WALL HEIGHT (INCH)/12)
 (ROUNDED UP TO THE NEXT WHOLE NUMBER)



MARK	NO.	SIZE	LENGTH	TYPE
11	40	4	DIM. "H"-2"	STR.



MARK	NO.	SIZE	LENGTH	TYPE
8	18	5	8'-4"	STR.

NOTES:

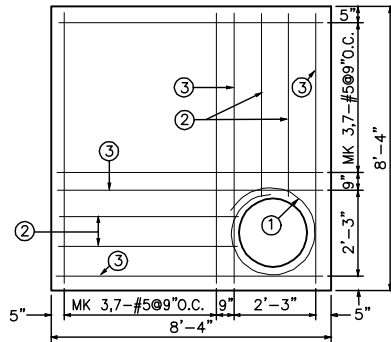
1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.

LEXINGTON

DIVISION OF ENGINEERING

REINFORCEMENT DETAIL
 6' NON-CIRCULAR M.H.
 15' TO 20' DEPTH,
 10" WALLS, 12" SLAB

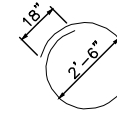
STANDARD DRAWING NO.	112
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	/ DATE



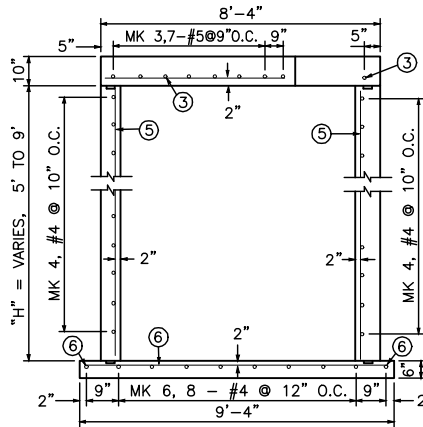
TOP SLAB
2'-0" OPENING

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	9'-6"	A ₁
2	4	5	5'-5"	STR.
3	18	5	8'-0"	"

SPECIAL BAR BENDS



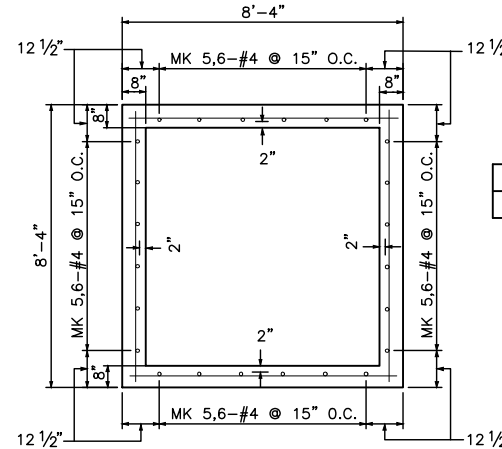
TYPE A₁



VERT. SECTION

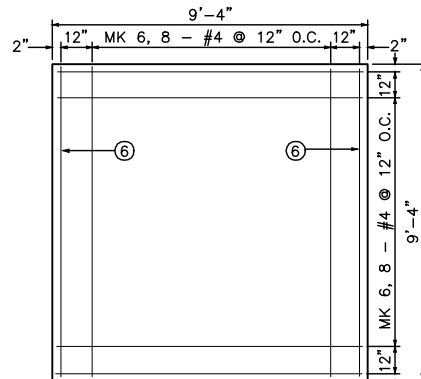
MARK	NO.	SIZE	LENGTH	TYPE
4	*	4	8'-0"	STR.

* 4 X (HEIGHT OF WALL)
(INCH)/10 (ROUNDED
TO THE NEXT WHOLE NUMBER.)



MARK	NO.	SIZE	LENGTH	TYPE
5	24	4	DIM. "H"-2"	STR.

HORIZ. SECTION




BOTTOM SLAB

MARK	NO.	SIZE	LENGTH	TYPE
6	20	4	9'-0"	STR.

NOTES:

1. PROVIDE 2" X 4" KEYS FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACFE TO M.H. INVERT.




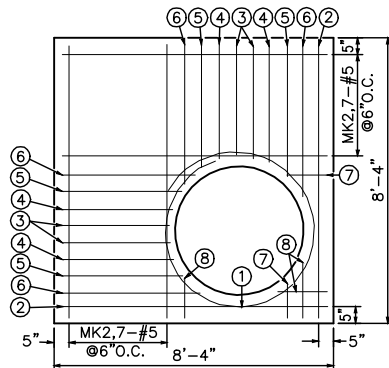
LEXINGTON

DIVISION OF ENGINEERING

REINFORCEMENT DETAIL
7' NON-CIRCULAR M.H.
LESS THAN 10' DEPTH,
8" WALLS, 10" SLAB

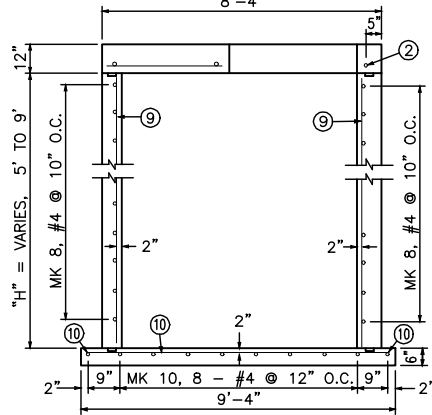
STANDARD DRAWING NO. **113**

APPROVAL:  9/22/17
URBAN COUNTY ENGINEER 9/22/17
COMMISSIONER 9/22/17



TOP SLAB
4'-0" OPENING

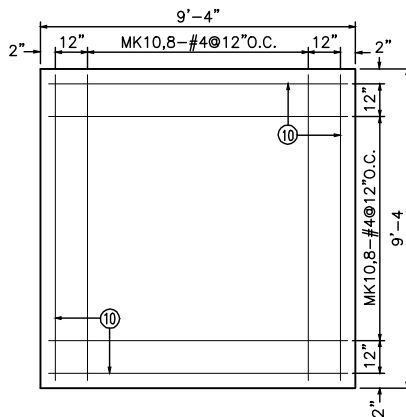
MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	16	5	8'-0"	STR.
3	4	5	3'-4"	"
4	4	5	3'-5"	"
5	4	5	3'-9"	"
6	4	5	4'-4"	"
7	2	5	0'-10"	"
8	3	5	1'-4"	"



VERT. SECTION

MARK	NO.	SIZE	LENGTH	TYPE
8	*	4	8'-0"	STR.

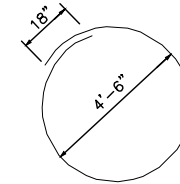
* 4 X (HEIGHT OF WALL (INCH)/10)
(ROUNDED UP TO THE NEXT
WHOLE NUMBER)



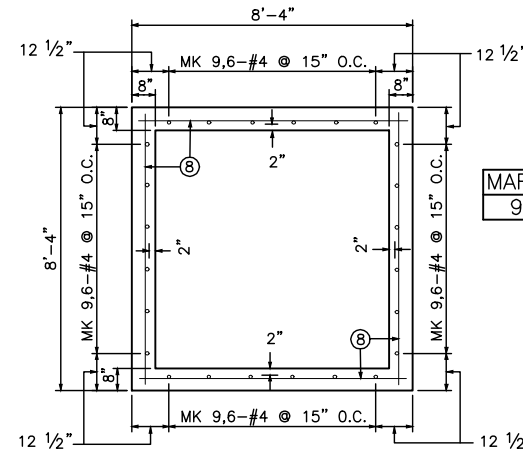
BOTTOM SLAB

MARK	NO.	SIZE	LENGTH	TYPE
10	20	4	9'-0"	STR.

SPECIAL BAR BENDS



TYPE A



HORIZ. SECTION

MARK	NO.	SIZE	LENGTH	TYPE
9	24	4	DIM. "H"-2"	STR.

NOTES:

1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.

LEXINGTON

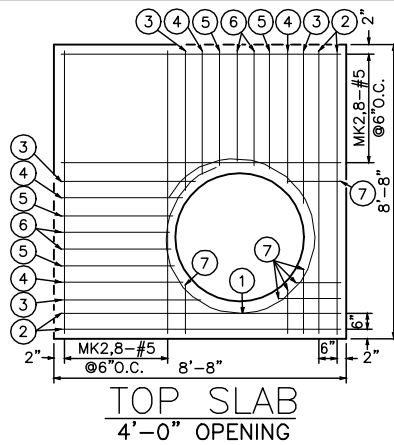
DIVISION OF ENGINEERING

REINFORCEMENT DETAIL
7' NON-CIRCULAR M.H.
8' TO 10' DEPTH,
8" WALLS, 12" SLAB

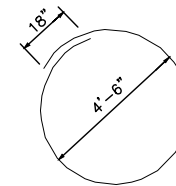
STANDARD DRAWING NO. **114**

APPROVAL: _____ DATE 9/22/17
 URBAN COUNTY ENGINEER _____ DATE 9/22/17
 COMMISSIONER _____ DATE _____

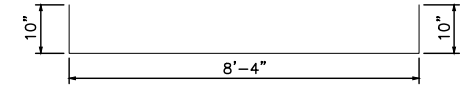
SPECIAL BAR BENDS



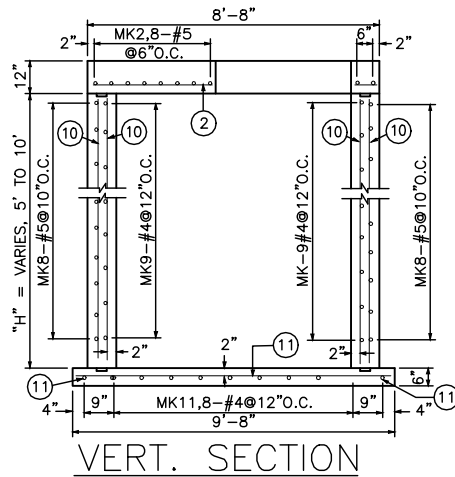
MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	15'-10"	A
2	20	5	8'-4"	STR.
3	4	5	4'-3"	"
4	4	5	3'-9"	"
5	4	5	3'-7"	"
6	4	5	3'-6"	"
7	6	5	1'-2"	"



TYPE A

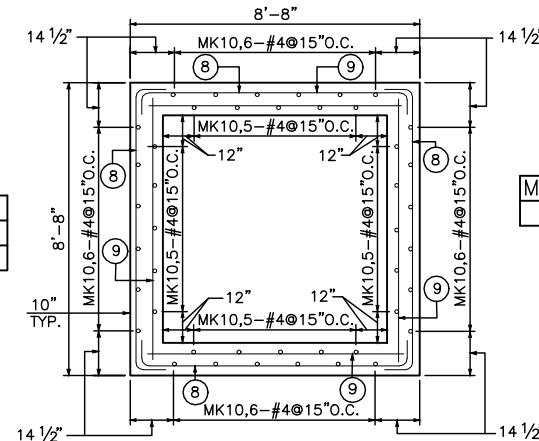


TYPE C



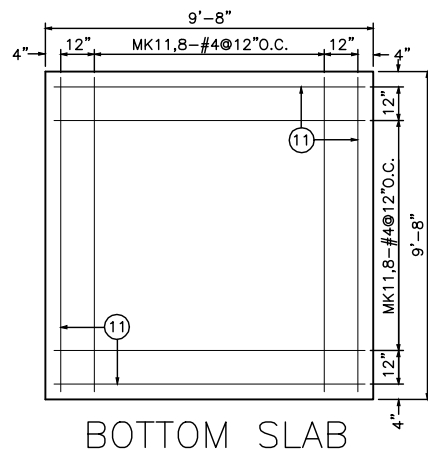
MARK	NO.	SIZE	LENGTH	TYPE
8	*1	5	10'-0"	C
9	*2	4	8'-4"	STR.

* 4 X (WALL HEIGHT (INCH)/10)
 * 2 X (WALL HEIGHT (INCH)/12)
 (ROUNDED UP TO THE NEXT WHOLE NUMBER)



MARK	NO.	SIZE	LENGTH	TYPE
10	44	4	DIM. "H"-2"	STR.

HORIZ. SECTION



MARK	NO.	SIZE	LENGTH	TYPE
11	20	4	9'-4"	STR.

NOTES:

1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.

LEXINGTON

DIVISION OF ENGINEERING

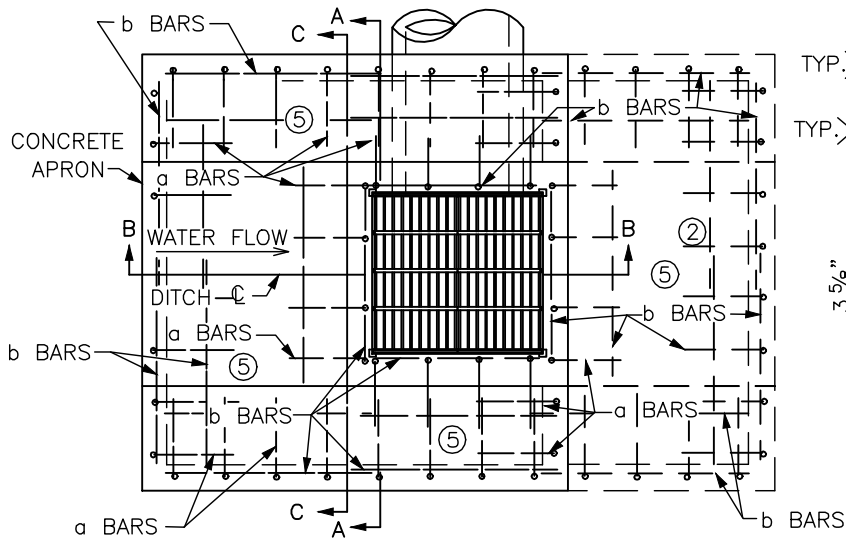
REINFORCEMENT DETAIL
7' NON-CIRCULAR M.H.
10' TO 20' DEPTH,
10" WALLS, 12" SLAB

STANDARD DRAWING NO. 115

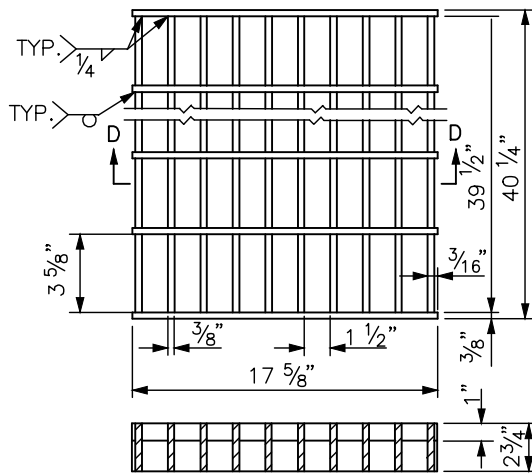
APPROVAL: 9/22/17

URBAN COUNTY ENGINEER / DATE

COMMISSIONER / DATE

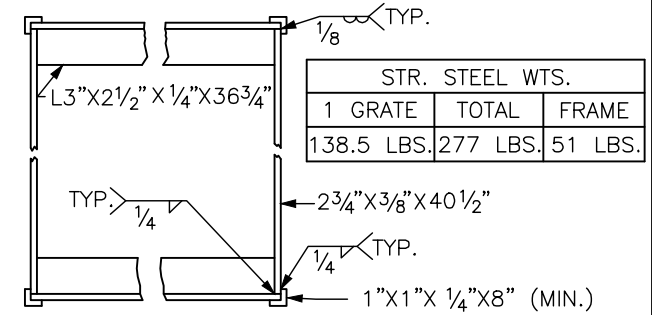


PLAN

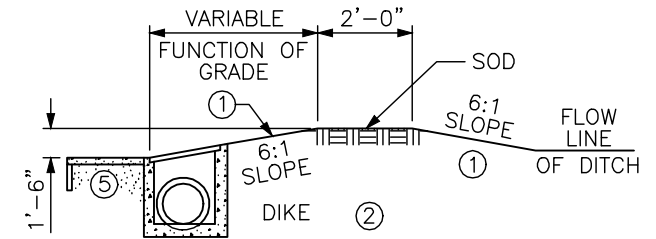


SECTION D-D

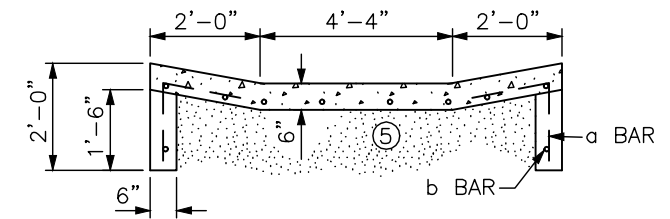
DETAIL OF GRATE
(TWO REQUIRED)



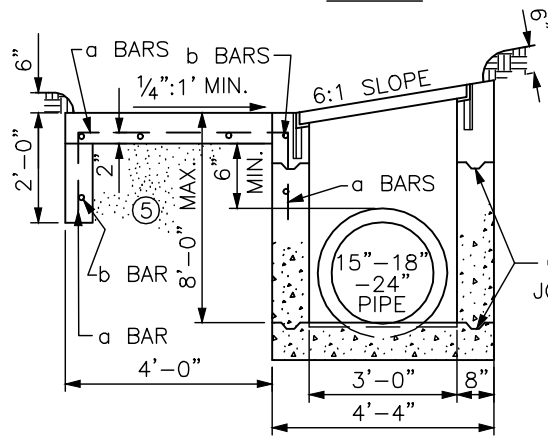
DETAIL OF FRAME



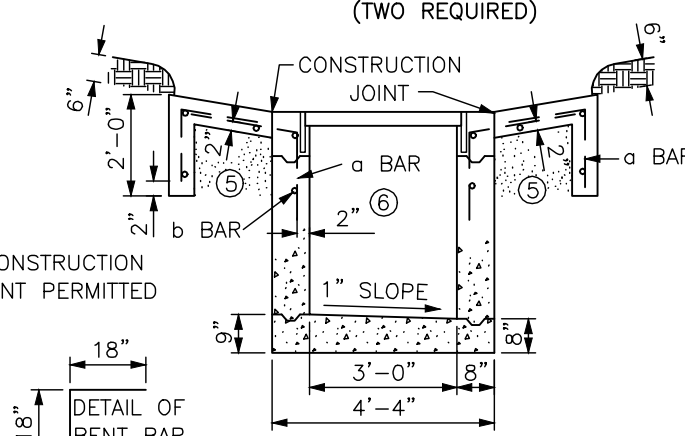
SECTION OF DIKE



SECTION C-C



SECTION B-B



SECTION A-A



- 6 : 1 Slopes are with reference to ditch grade.
- When a box inlet is placed in a sag, omit the earth dike and longitudinal slope of the grate, and provide a concrete apron on each side of the inlet.
- Rate of increase or decrease 0.36 cu. yd. per foot in height.
- Deduct approximately 0.1 cu. yd. of concrete per pipe.
- Compact this volume with D.G.A. base or equivalent.
- Steps are required for depths greater than 4' refer to Std. Dwg. 103.

APPROX. QUANTITIES

TYPE	CONCRETE 3'-9" (3) BOX	REINF. STEEL
SAG	4.4 CU. YD. (4)	282 LBS.
GRADE	3.4 CU. YD. (4)	192 LBS.

BILL OF REINFORCEMENT

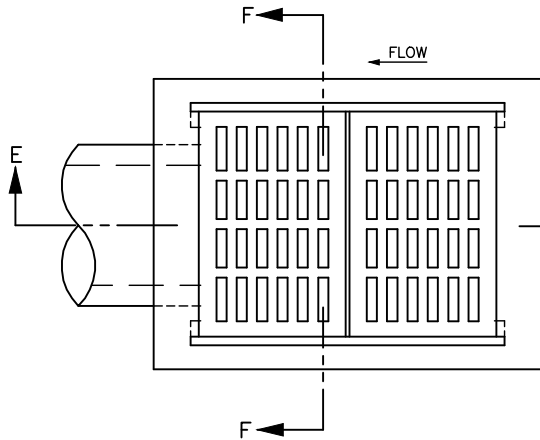
BAR	NO.	SIZE	LENGTH	APPROX. SPACING
a	40 OR 56	#5	3'-0"	12" C TO C
b	25 OR 40	#4	4'-0"	AS SHOWN



DIVISION OF ENGINEERING

SURFACE INLET TYPE "A"

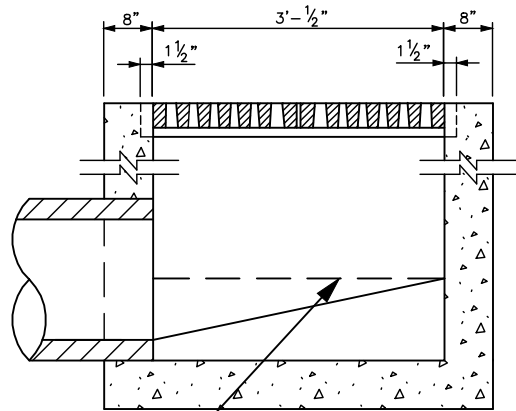
STANDARD DRAWING NO. 120
 APPROVAL: *[Signature]* 9/22/17
 URBAN COUNTY ENGINEER / DATE
 COMMISSIONER *[Signature]* 9/22/17 / DATE



PLAN VIEW

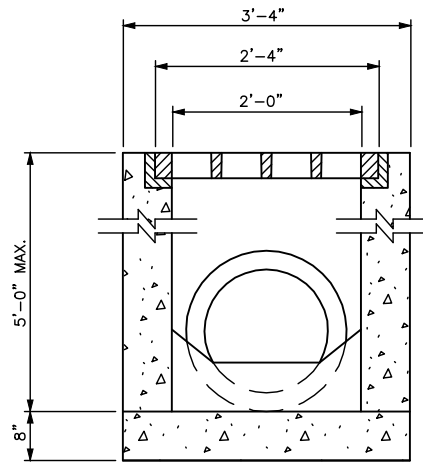
NOTES:

1. NO. 5 STEEL SHALL BE USED THROUGHOUT ON 12" CENTERS.
2. ALL STEEL SHALL HAVE A 2" MINIMUM CLEARANCE TO ANY CONCRETE FACE.
3. NO STEEL IS REQUIRED IN THE BOTTOM SLAB.
4. ALL VERTICAL STEEL SHALL EXTEND 4" INTO BOTTOM SLAB.
5. FOR USE IN PAVED AREAS ONLY.
6. PROVIDE MINIMUM 0.1' SLOPE THROUGH STRUCTURE FOR PIPES IN SERIES. CARRY THROUGH THROUGH. ONLY STRAIGHT THROUGH CONNECTIONS ARE ALLOWED.



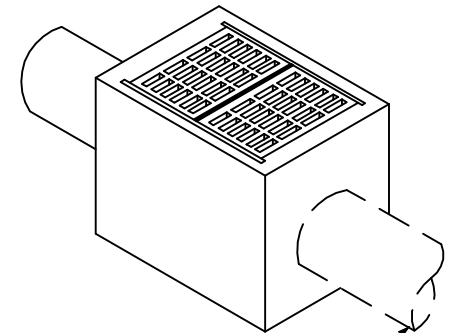
TOP OF BENCH IF PIPE RUNS STRAIGHT THROUGH INLET

SECTION E-E

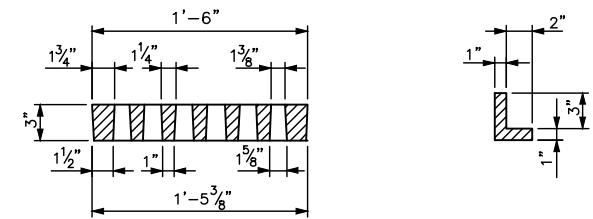
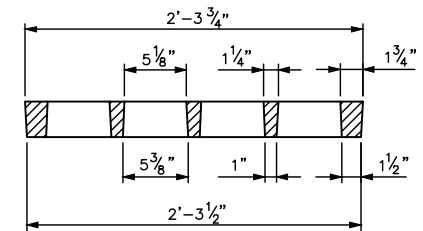


SECTION F-F




ISOMETRIC VIEW

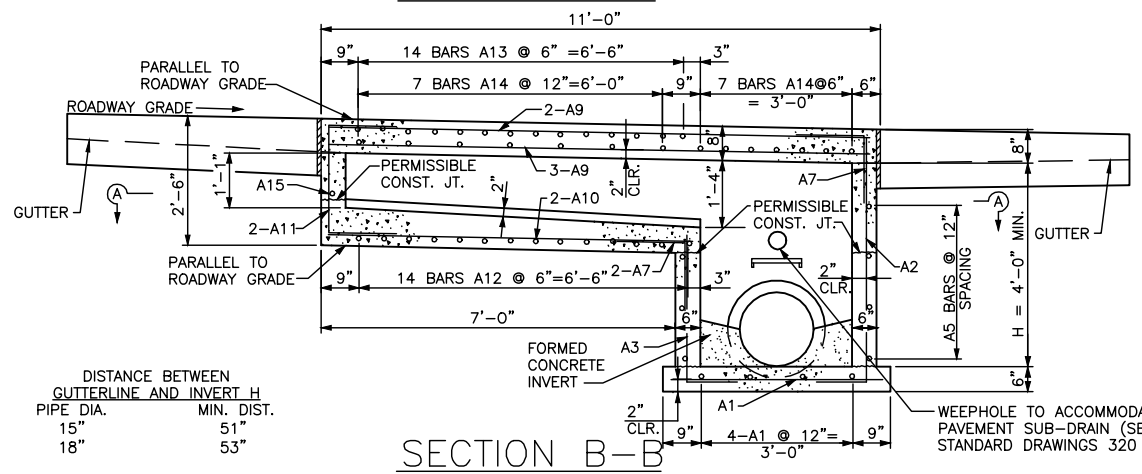
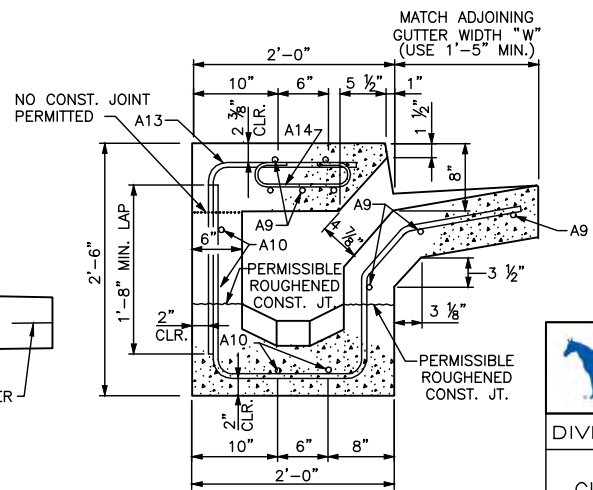
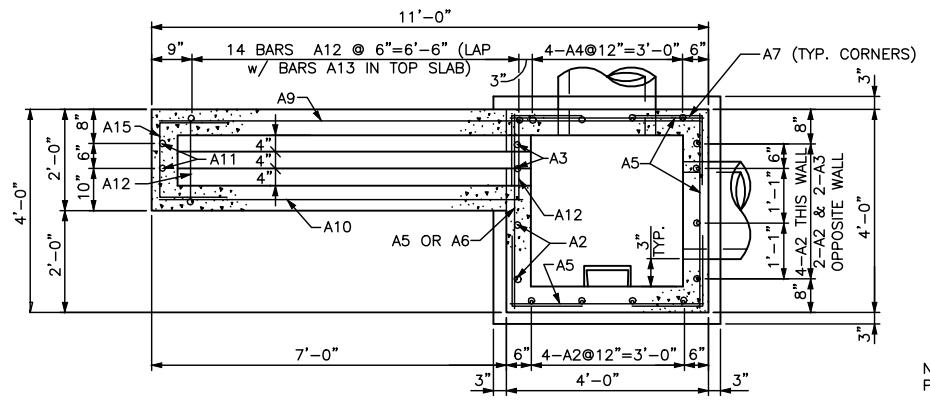
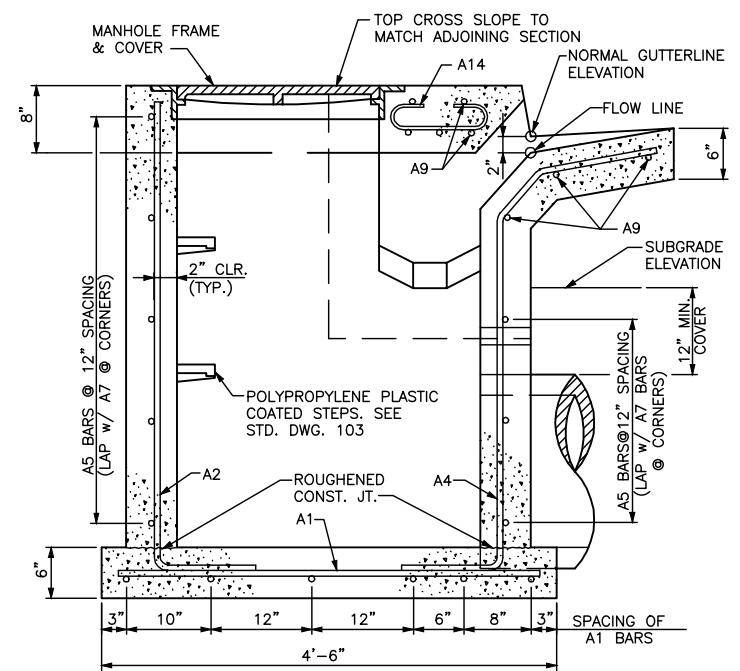
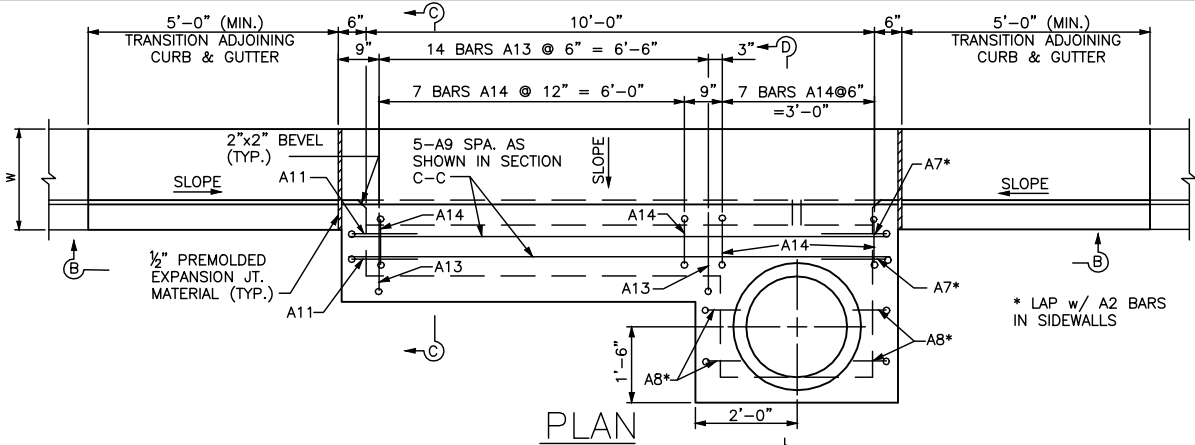


OPTIONAL PIPE FOR INLETS IN SERIES (SEE NOTE 6)



GRATE DETAILS

 LEXINGTON	
DIVISION OF ENGINEERING	
SURFACE INLET TYPE "B"	
STANDARD DRAWING NO.	121
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE 9/22/17
COMMISSIONER 	DATE



DISTANCE BETWEEN GUTTERLINE AND INVERT H	
PIPE DIA.	MIN. DIST.
15"	51"
18"	53"

SEE STD. DWG. 122-2 FOR BILL OF REINFORCEMENT & ADDITIONAL DETAILS



DIVISION OF ENGINEERING

CURB BOX INLET TYPE "A"
4'X4' BOX
15"-18" PIPES

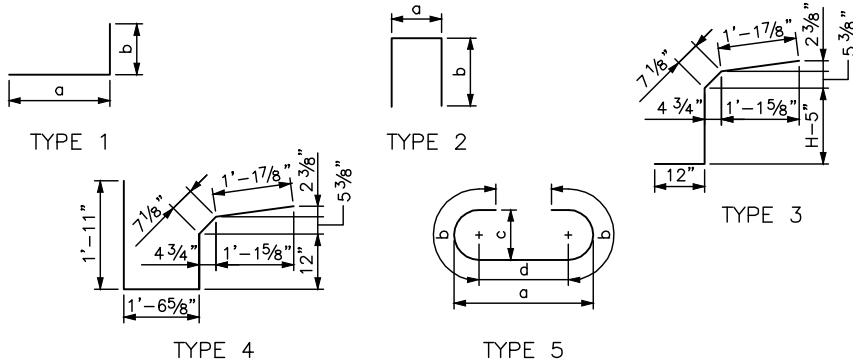
STANDARD DRAWING NO.	122-1
APPROVAL:	
URBAN COUNTY ENGINEER	<i>[Signature]</i> 9/22/17 DATE
COMMISSIONER	<i>[Signature]</i> 9/22/17 DATE

BILL OF REINFORCEMENT

MARK	TYPE	SIZE	NO.	LENGTH		LOCATION	a		b		c		d	
				FT.	IN.		FT.	IN.	FT.	IN.	FT.	IN.		
A1	STR	#5	10	4	2	FOOTING								
A2	1	#5	10	H+(1'-10")		CHAMBER WALLS	1	0	H+10"					
A3	1	#5	2	H-4"		CHAMBER WALLS	1	0	H-(1'-4")					
A4	3	#5	4	H+(2'-4")		CHAMBER FRONT WALL								
A5	STR	#5	15*	3	8	CHAMBER WALLS								
A6	STR	#5	2	2	2	CHAMBER ABOVE THROAT								
A7	1	#5	19*	2	8	CORNERS	1	4	1	4				
A8	1	#5	4	2	1	CHAMBER WALLS & TOP	1	4	0	9				
A9	STR	#5	8	10	8	TOP SLAB & APRON								
A10	STR	#5	4	7	2	THROAT								
A11	2	#5	2	4	8	THROAT	2	1 5/8	1	4				
A12	4	#5	14	6	1	THROAT & APRON								
A13	1	#5	14	3	5	THROAT	1	11	1	6				
A14	5	#3	14	1	11	TOP SLAB	0	11 1/2	0	7	0	3	0	8 1/2
A15	2	#5	1	4	2	END THROAT	1	6	1	4				

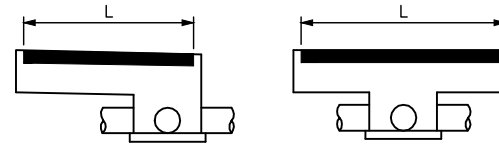
* NO. OF BARS REQUIRED FOR H=4'-0"
ADD OR DEDUCT 4-A5 & 4-A7 FOR EACH 1'-0" INCREASE OR DECREASE IN H.

BAR TYPES



NOTES:

- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. STEEL REINFORCEMENT SHALL BE ASTM A-615, GRADE 60. ALL EXPOSED EDGES SHALL BE BEVELED 3/4" UNLESS OTHERWISE SHOWN.
- THIS DRAWING DEPICTS A CURB BOX INLET IN A GRADE SITUATION. FOR CURB BOX INLET IN SAG SITUATION, DETAILS SHALL BE MODIFIED AS INDICATED IN DETAIL 'A'.
- THE STANDARD OPENING LENGTH IS 10'-0" AS DETAILED HERE. THIS LENGTH MAY BE INCREASED OR DECREASED BASED ON HYDRAULIC ANALYSIS AND APPROVAL BY THE LEXINGTON-FAYETTE COUNTY URBAN GOVERNMENT ENGINEER. MODIFICATION TO THE OPENING LENGTH WILL REQUIRE MODIFICATION OF LENGTH OF BARS A9 & A10 AND INCREASE OR DECREASE IN NUMBER OF BARS A12, A13 & A14 MAINTAINING THE SAME MAXIMUM SPACING SHOWN ON THIS DRAWING.
- MAXIMUM "H" FOR APPLICATION OF THIS DRAWING SHALL BE 10 FEET.
- FIELD BEND OR CUT BARS A2, A4, AND A5 AS NECESSARY WHERE PIPES PENETRATE CHAMBER WALLS.
- FOR CURB BOX INLET IN CURVE WITH CURB RADIUS OF LESS THAN 25', LONGITUDINAL BARS A9, A10 SHALL BE SHOP FABRICATED RADIALLY.

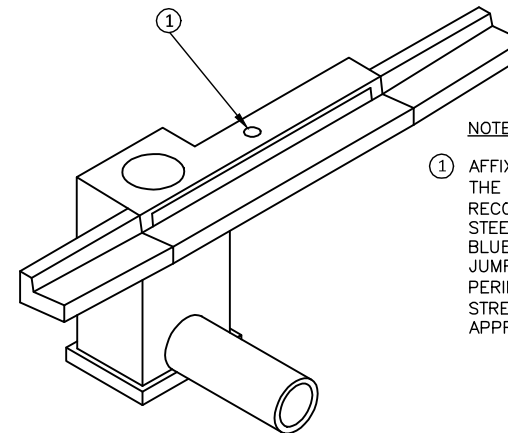


GRADE

SAG

DETAIL 'A'

APPLICABLE SITUATIONS




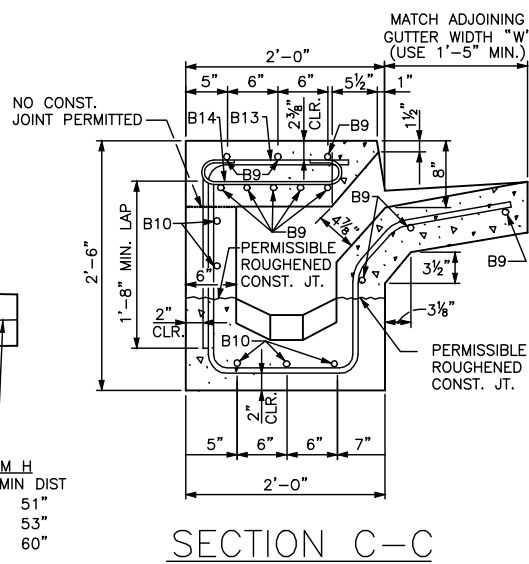
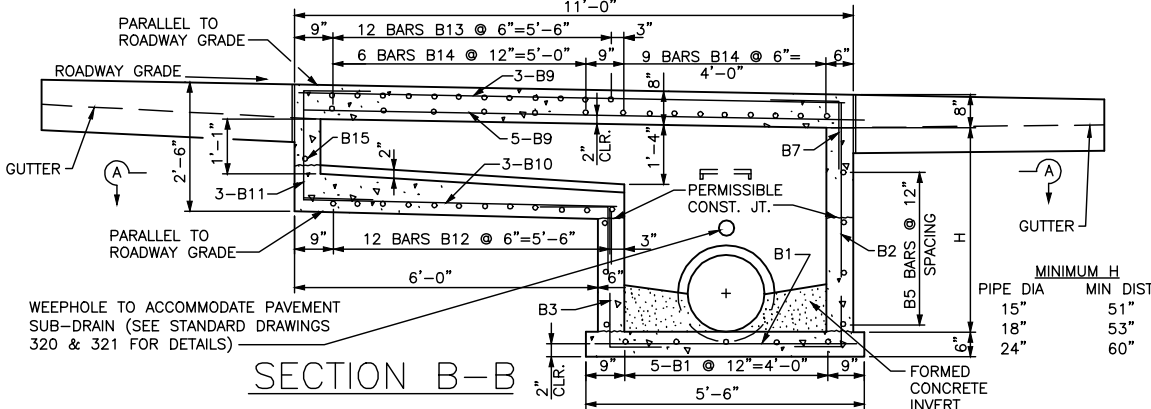
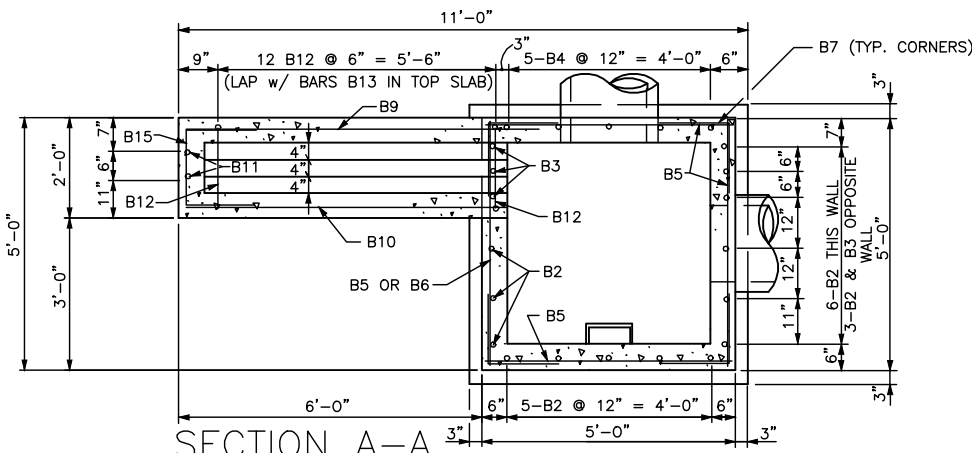
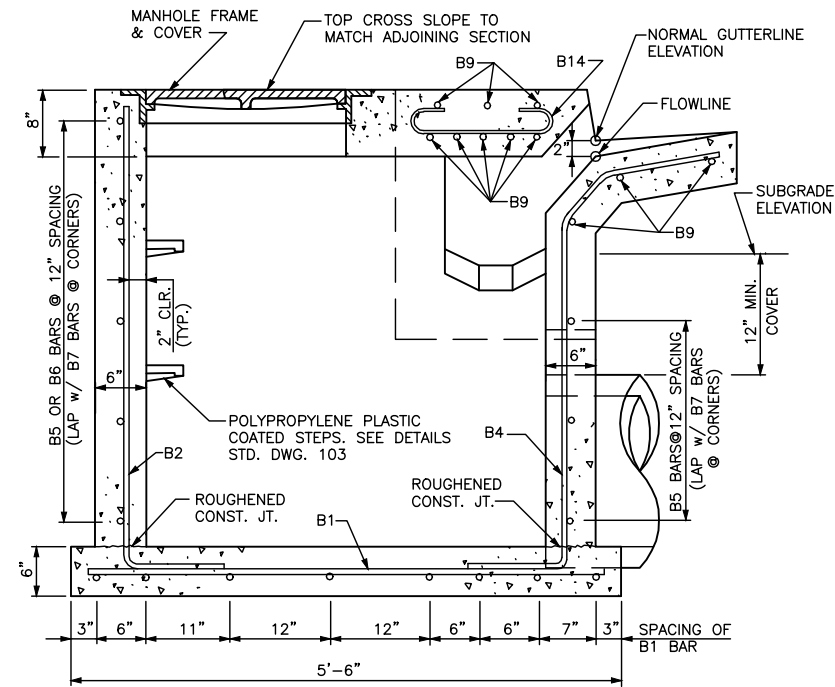
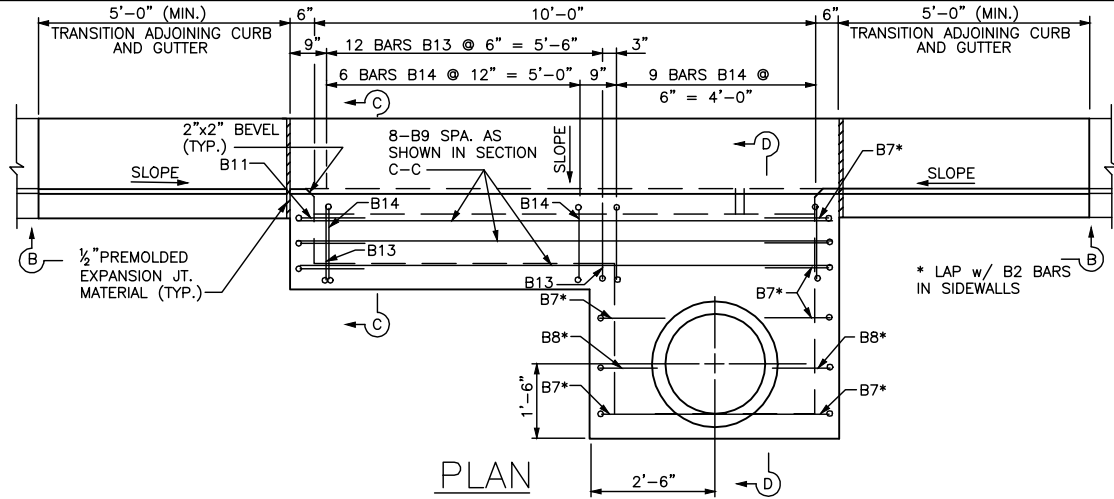
NOTES:

- AFFIX CIRCULAR MARKER TO THE TOP OF THE INLET BOX, PER MANUFACTURER'S RECOMMENDATIONS: 4" DIAMETER STAINLESS STEEL STAMPED DISK WITH BAKED ENAMEL BLUE BACKGROUND. LOGO OF FISH JUMPING OVER WAVES WITH TEXT ON PERIMETER "STORM DRAIN * DRAINS TO STREAM*". ALMETEK INDUSTRIES OR APPROVED EQUAL.

ISOMETRIC VIEW

WORK THIS DWG. WITH STD. DWG. 122-1

 LEXINGTON	
DIVISION OF ENGINEERING	
CURB BOX INLET TYPE "A" 4'X4' BOX 15'-18" PIPES	
STANDARD DRAWING NO.	122-2
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	DATE



SEE STD. DWG. 123-2 FOR BILL OF REINFORCEMENT & ADDITIONAL DETAILS.

LEXINGTON

DIVISION OF ENGINEERING

CURB BOX INLET TYPE "B"
5'X5' BOX
15"-24" PIPES

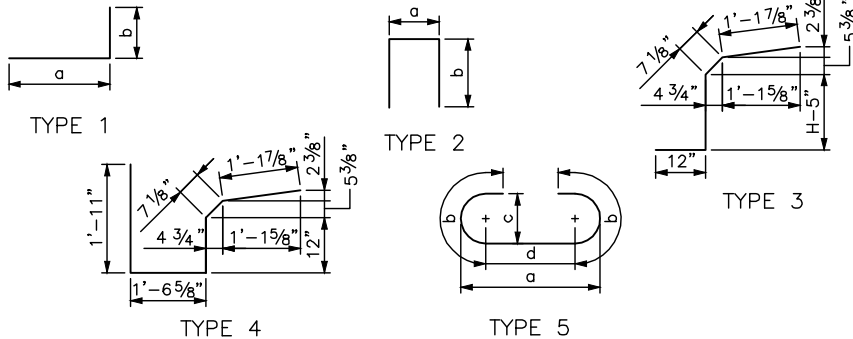
STANDARD DRAWING NO.	123-1
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE

BILL OF REINFORCEMENT

MARK	TYPE	SIZE	NO.	LENGTH		LOCATION	a		b		c		d	
				FT.	IN.		FT.	IN.	FT.	IN.	FT.	IN.		
B1	STR	#5	13	5	2	FOOTING								
B2	1	#5	14	H+(1'-10")		CHAMBER WALLS	1	0	H+10"					
B3	1	#5	3	H-4"		CHAMBER WALLS	1	0	H-(1'-4")					
B4	3	#5	5	H+(2'-4")		CHAMBER FRONT WALL								
B5	STR	#5	15*	4	8	CHAMBER WALLS								
B6	STR	#5	2	3	2	CHAMBER ABOVE THROAT								
B7	1	#5	25*	2	8	CORNERS	1	4	1	4				
B8	1	#5	2	2	6	CHAMBER WALLS & TOP	1	4	1	2				
B9	STR	#5	11	10	8	TOP SLAB & APRON								
B10	STR	#5	5	6	2	THROAT								
B11	2	#5	3	4	8	THROAT	2	15/8	1	4				
B12	4	#5	12	6	1	THROAT & APRON								
B13	1	#5	12	3	5	THROAT	1	11	1	6				
B14	5	#5	15	2	4	TOP SLAB	1	5	0	7	0	3	1	2
B15	2	#5	1	4	1	END THROAT	1	6	1	4				

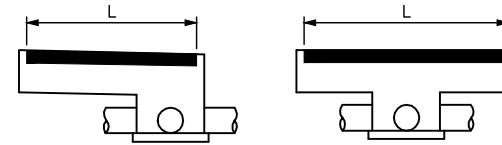
* NO. OF BARS REQUIRED FOR H=4'-0"
 ADD OR DEDUCT 4-B5 & 4-B7 FOR EACH 1'-0" INCREASE OR DECREASE IN H.

BAR TYPES



NOTES:

1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. STEEL REINFORCEMENT SHALL BE ASTM A-615, GRADE 60. ALL EXPOSED EDGES SHALL BE BEVELED 3/4" UNLESS OTHERWISE SHOWN.
2. THIS DRAWING DEPICTS A CURB BOX INLET IN A GRADE SITUATION. FOR CURB BOX INLET IN SAG SITUATION, DETAILS SHALL BE MODIFIED AS INDICATED IN DETAIL 'A'.
3. THE STANDARD OPENING LENGTH IS 10'-0" AS DETAILED HERE. THIS LENGTH MAY BE INCREASED OR DECREASED BASED ON HYDRAULIC ANALYSIS AND APPROVAL BY THE LEXINGTON-FAYETTE COUNTY URBAN GOVERNMENT ENGINEER. MODIFICATION TO THE OPENING LENGTH WILL REQUIRE MODIFICATION OF LENGTH OF BARS B9 & B10 AND INCREASE OR DECREASE IN NUMBER OF BARS B12, B13 & B14 MAINTAINING THE SAME MAXIMUM SPACING SHOWN ON THIS DRAWING.
4. MAXIMUM "H" FOR APPLICATION OF THIS DRAWING SHALL BE 10 FEET.
5. FIELD BEND OR CUT BARS B2, B4, AND B5 AS NECESSARY WHERE PIPES PENETRATE CHAMBER WALLS.
6. FOR CURB BOX INLET IN CURVE WITH CURB RADIUS OF LESS THAN 25', LONGITUDINAL BARS B9, B10 SHALL BE SHOP FABRICATED RADIALLY.
7. 30" PIPE MAY BE APPROVED IF BOTH PIPES ARE INSTALLED ON THE SAME LINE.

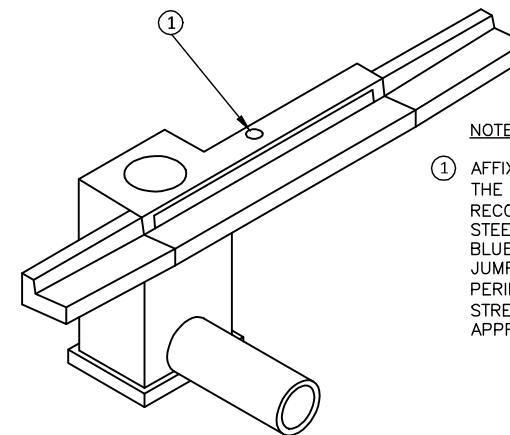


GRADE

SAG

DETAIL 'A'

APPLICABLE SITUATIONS




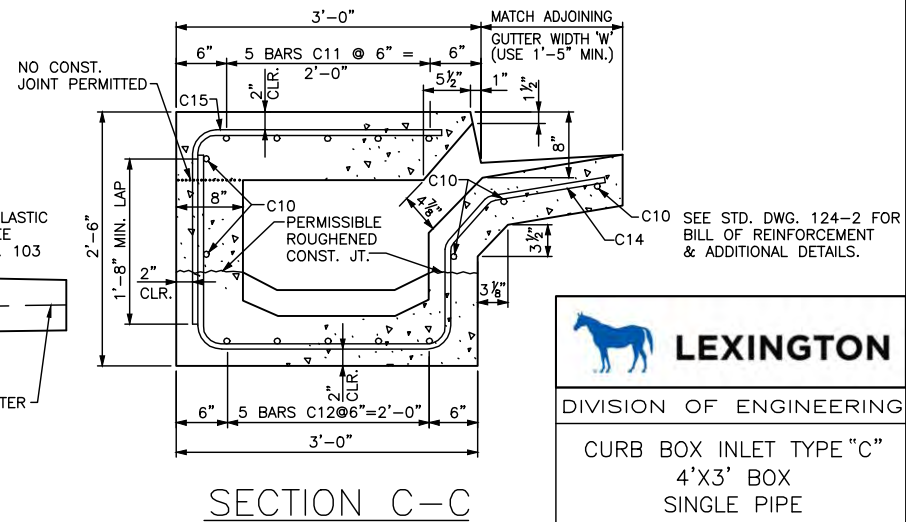
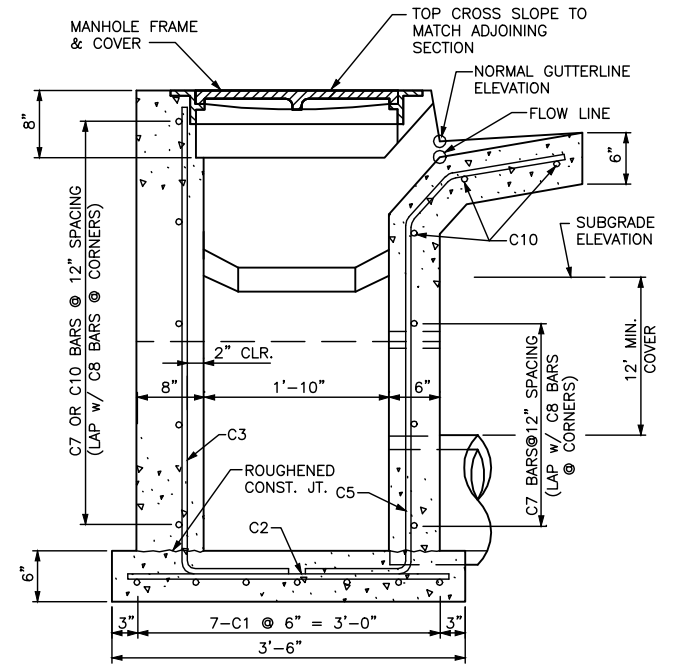
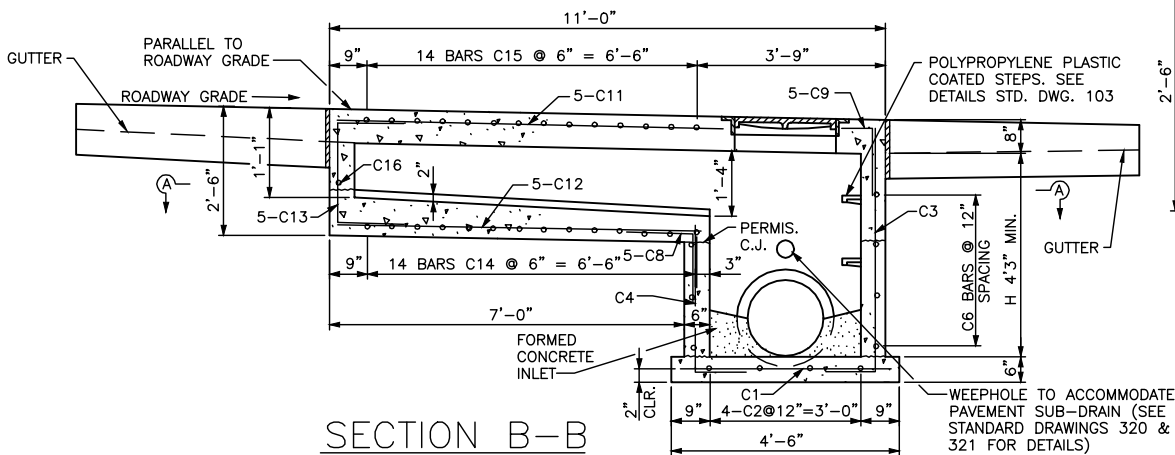
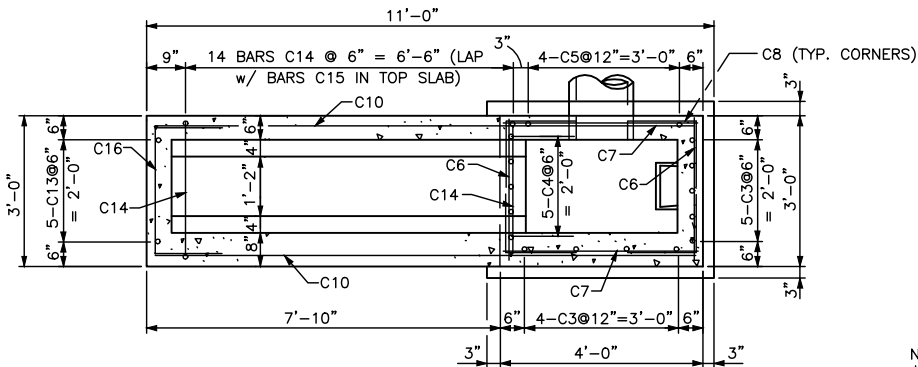
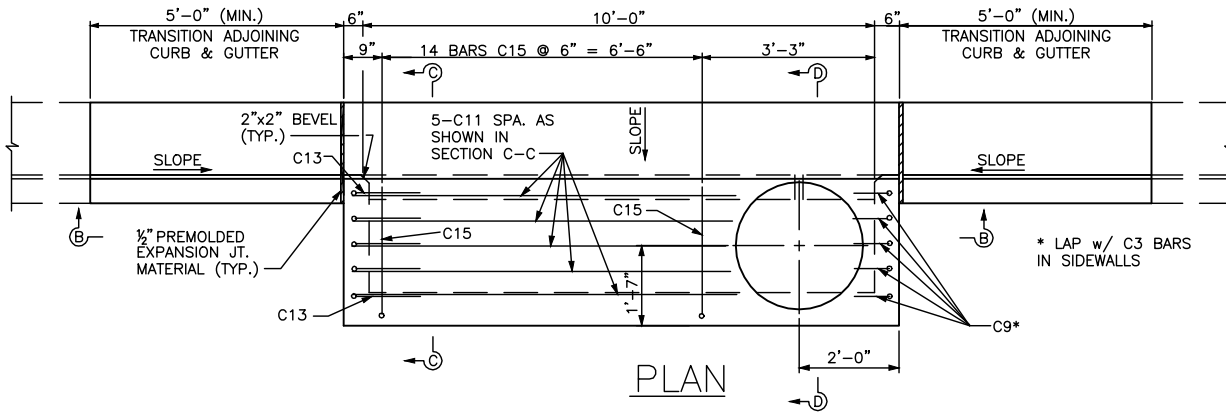
NOTES:

- 1 AFFIX CIRCULAR MARKER TO THE TOP OF THE INLET BOX, PER MANUFACTURER'S RECOMMENDATIONS: 4" DIAMETER STAINLESS STEEL STAMPED DISK WITH BAKED ENAMEL BLUE BACKGROUND. LOGO OF FISH JUMPING OVER WAVES WITH TEXT ON PERIMETER "STORM DRAIN * DRAINS TO STREAM*". ALMETEK INDUSTRIES OR APPROVED EQUAL.

WORK THIS DWG. WITH STD. DWG. 123-1

ISOMETRIC VIEW

 LEXINGTON	
DIVISION OF ENGINEERING	
CURB BOX INLET TYPE "B" 5'X5' BOX 15"-24" PIPES	
STANDARD DRAWING NO.	123-2
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	DATE



LEXINGTON

DIVISION OF ENGINEERING

CURB BOX INLET TYPE "C"
4'X3' BOX
SINGLE PIPE
15" OR LESS

STANDARD DRAWING NO. 124-1

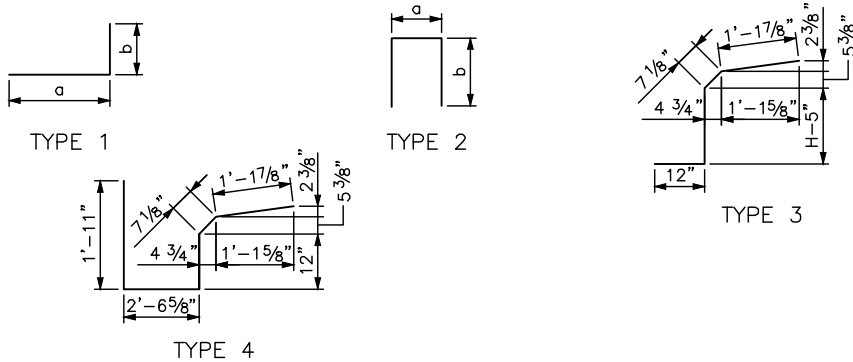
APPROVAL: [Signature] 9/22/17
URBAN COUNTY ENGINEER DATE
[Signature] 9/22/17
COMMISSIONER DATE

BILL OF REINFORCEMENT

MARK	TYPE	SIZE	NO.	LENGTH		LOCATION	a		b		c		d	
				FT.	IN.		FT.	IN.	FT.	IN.	FT.	IN.		
C1	STR	#5	7	4	2	FOOTING								
C2	STR	#5	4	3	2	FOOTING								
C3	1	#5	9	H+(1'-10")		CHAMBER WALLS	1	0	H+10"					
C4	1	#5	5	H-4"		CHAMBER WALLS	1	0	H-(1'-4")					
C5	3	#5	4	H+(2'-4")		CHAMBER WALLS								
C6	STR	#5	7*	2	8	CHAMBER WALLS								
C7	STR	#5	6*	3	8	CHAMBER WALLS								
C8	1	#5	19*	2	8	CORNERS	1	4	1	4				
C9	1	#5	5	2	1	CHAMBER WALLS & TOP	1	4	0	9				
C10	STR	#5	5	10	8	THROAT & APRON								
C11	STR	#5	5	7	7	TOP SLAB								
C12	STR	#5	5	7	2	THROAT								
C13	2	#5	5	4	8	END THROAT	2	1	1	4				
C14	4	#5	14	7	1	THROAT & APRON								
C15	1	#5	14	4	5	THROAT	1	11	2	6				
C16	2	#5	1	5	1	END THROAT	2	6	1	4				

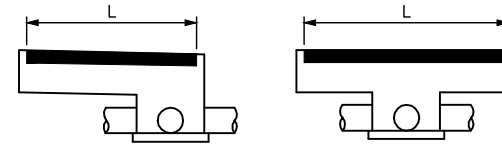
* NO. OF BARS REQUIRED FOR H=4'-0"
 ADD OR DEDUCT 2-C6, 2-C7 & 4-C8 FOR EACH 1'-0" INCREASE OR DECREASE IN H.

BAR TYPES



NOTES:

1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. STEEL REINFORCEMENT SHALL BE ASTM A-615, GRADE 60. ALL EXPOSED EDGES SHALL BE BEVELED 3/4" UNLESS OTHERWISE SHOWN.
2. THIS DRAWING DEPICTS A CURB BOX INLET IN A GRADE SITUATION. FOR CURB BOX INLET IN SAG SITUATION, DETAILS SHALL BE MODIFIED AS INDICATED IN DETAIL 'A'.
3. THE STANDARD OPENING LENGTH IS 10'-0" AS DETAILED HERE. THIS LENGTH MAY BE INCREASED OR DECREASED BASED ON HYDRAULIC ANALYSIS AND APPROVAL BY THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT ENGINEER. MODIFICATION TO THE OPENING LENGTH WILL REQUIRE MODIFICATION OF LENGTH OF BARS C10, C11 & C12 AND INCREASE OR DECREASE IN NUMBER OF BARS C14 & C15 MAINTAINING THE SAME MAXIMUM SPACING SHOWN ON THIS DRAWING.
4. MAXIMUM "H" FOR APPLICATION OF THIS DRAWING SHALL BE 5 FEET.
5. FIELD BEND OR CUT BARS C3, C5, C6 & C7 AS NECESSARY WHERE PIPES PENETRATE CHAMBER WALLS.
6. FOR CURB BOX INLET IN CURVE WITH CURB RADIUS OF LESS THAN 25', LONGITUDINAL BARS C10, C11 & C12 SHALL BE SHOP FABRICATED RADIALLY.

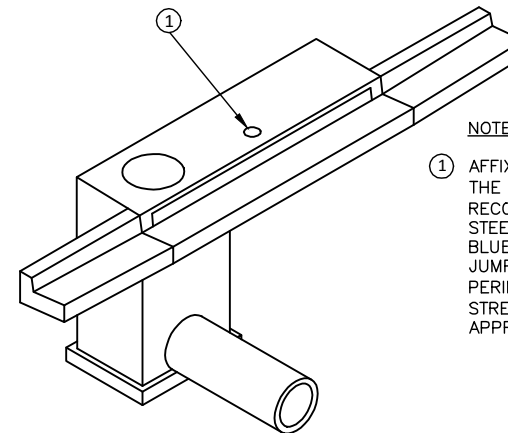


GRADE

SAG

DETAIL 'A'

APPLICABLE SITUATIONS



NOTES:

- ① AFFIX CIRCULAR MARKER TO THE TOP OF THE INLET BOX, PER MANUFACTURER'S RECOMMENDATIONS: 4" DIAMETER STAINLESS STEEL STAMPED DISK WITH BAKED ENAMEL BLUE BACKGROUND. LOGO OF FISH JUMPING OVER WAVES WITH TEXT ON PERIMETER "STORM DRAIN * DRAINS TO STREAM*". ALMTEK INDUSTRIES OR APPROVED EQUAL.

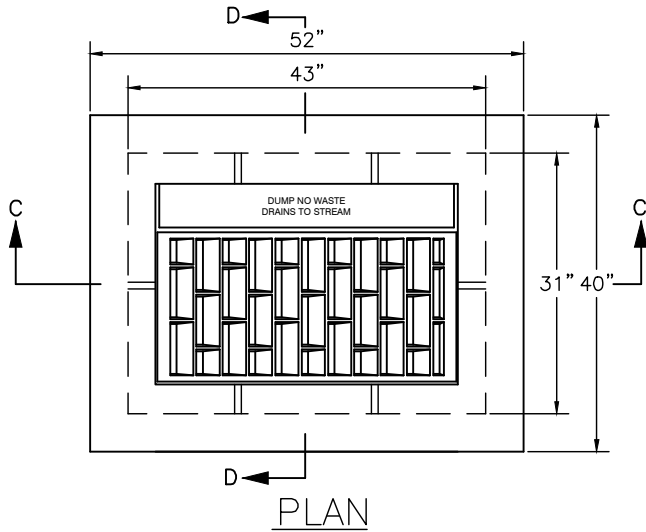
WORK THIS DWG. WITH STD. DWG. 124-1

ISOMETRIC VIEW

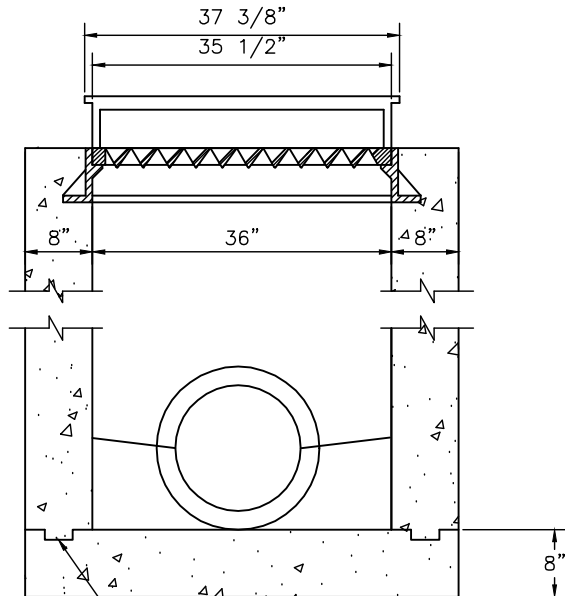
LEXINGTON
DIVISION OF ENGINEERING
CURB BOX INLET TYPE "C" 4'X3' BOX SINGLE PIPE 15" OR LESS
STANDARD DRAWING NO. 124-2
APPROVAL: 9/22/17
URBAN COUNTY ENGINEER / DATE
COMMISSIONER DATE

NOTES:

1. CURB BOX ADJUSTABLE 6" TO 9" TO MATCH TOP OF CURB.
2. NO. 5 STEEL SHALL BE USED THROUGHOUT ON 12" CENTERS. 2" CLEARANCE ON ALL EXTERIOR WALL BARS. EXTERIOR HORIZ. WALL BARS SHALL HAVE A 12" MIN. LAP AT CORNERS.
3. ALL EXPOSED FLATWORK SHALL HAVE A HAND FLOATED AND BROOMED FINISH.
4. NO STEEL IS REQUIRED IN BOTTOM SLAB.
5. ALL VERTICAL STEEL SHALL EXTEND 4" INTO BOTTOM SLAB. VERTICAL STEEL SHALL HAVE A 12" LAP INTO BOTTOM SLAB WITH 3" CLEARANCE FROM EXTERIOR BOTTOM.
6. SET BACK OF FRAME IN CONCRETE TO ANCHOR IN PLACE AFTER IT HAS BEEN ADJUSTED.
7. 18" MAX. PIPE DIAMETER.
8. EAST JORDAN IRON WORKS CATCH BASIN CURB INLET 7035 WITH TYPE M6 GRATE OR EQUIVALENT.
9. TOP OF CURB SECTION SHALL BE CAST WITH "DUMP NO WASTE DRAINS TO STREAM".

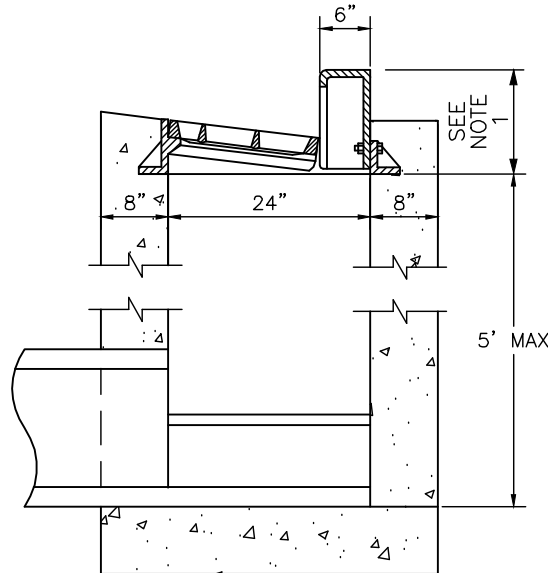


PLAN

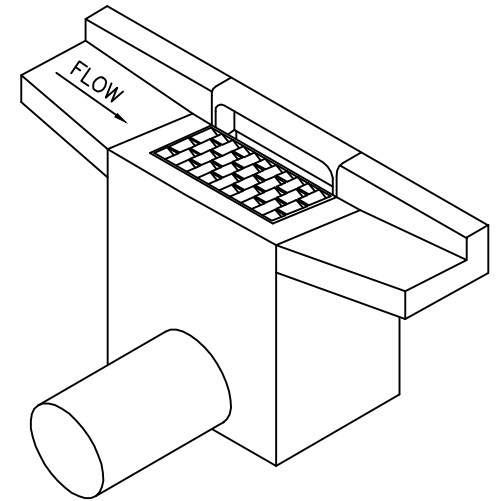


SECTION C-C

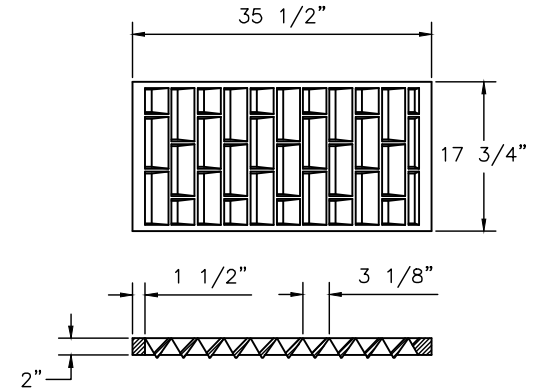
2"x4" KEY AT CONSTRUCTION JOINTS



SECTION D-D



ISOMETRIC VIEW



GRATE DETAIL



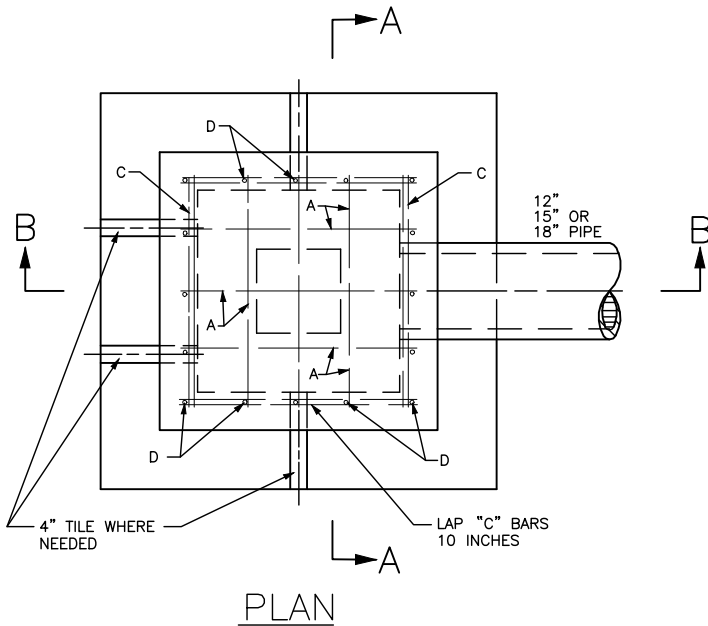
LEXINGTON

DIVISION OF ENGINEERING

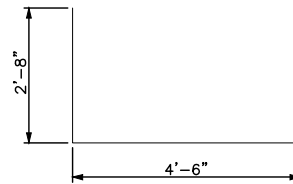
CURB BOX INLET
TYPE "D"

STANDARD DRAWING NO. 125

APPROVAL: *[Signature]* 9/22/17
URBAN COUNTY ENGINEER DATE
[Signature] 9/22/17
COMMISSIONER DATE



DETAIL C-BAR



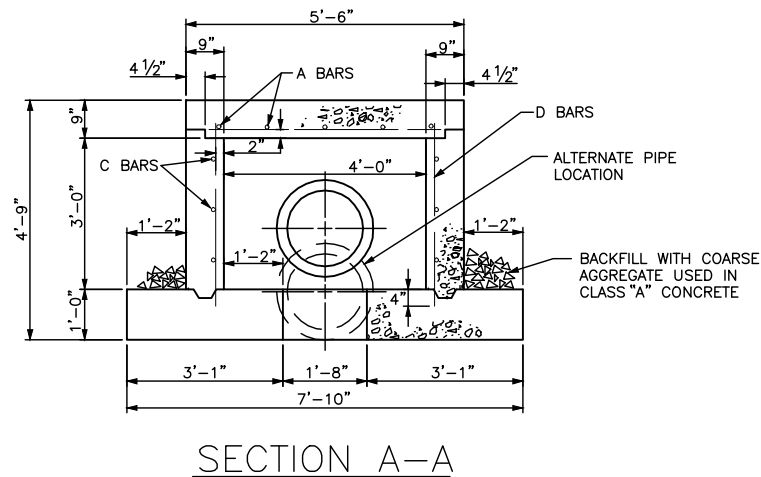
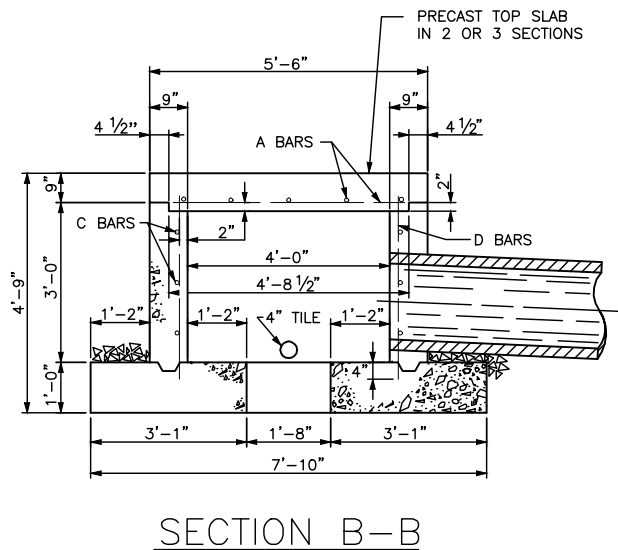
BILL OF REINFORCEMENT


MARK	QUANTITY	SIZE	LENGTH	LOCATION	DESCRIPTION
A	10	1/2"Ø	4'-7"	TOP SLAB	STRAIGHT
C	6	"	9'-9"	WALL	BENT
D	16	"	3'-4"	"	STRAIGHT

STEEL REINFORCEMENT 105 LBS.
 12" CLASS "A" CONCRETE 4.61 CU. YDS.
 15" CLASS "A" CONCRETE 4.59 CU. YDS.
 18" CLASS "A" CONCRETE 4.58 CU. YDS.

NOTES:

1. LOCATION OF OPENING MAY BE DETERMINED IN THE FIELD FOR A SIDE OR BOTTOM SPRING INLET.
2. TYPE "A" TO BE USED WHEN FILL OVER TOP IS 10' OR MORE.





 **LEXINGTON**

DIVISION OF ENGINEERING

SPRING BOX INLET
TYPE "A"

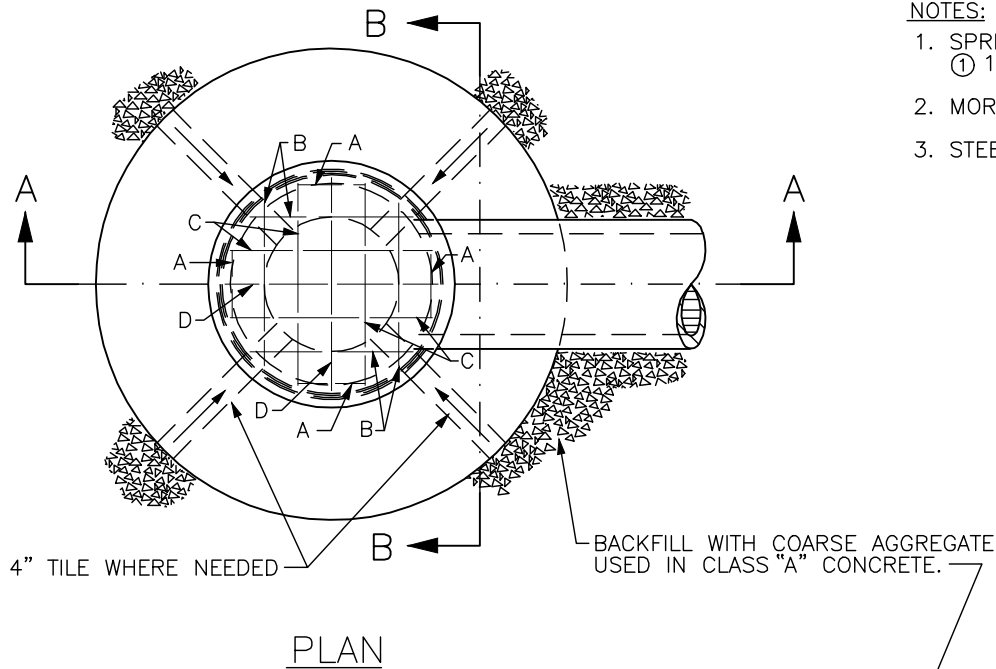
STANDARD DRAWING NO. 126

APPROVAL:  9/22/17
 URBAN COUNTY ENGINEER DATE
 9/22/17
 COMMISSIONER DATE

NOTES:

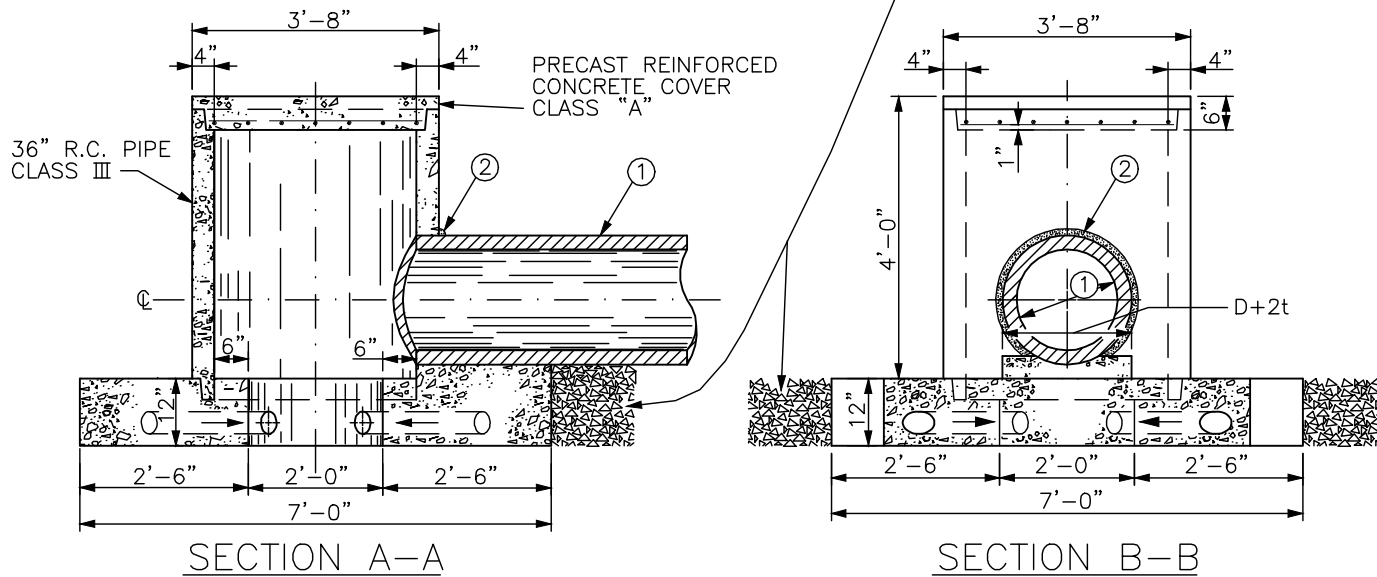
1. SPRING BOX INLET TYPE "B" MAY BE USED WHEN FILL OVER TOP IS LESS THAN 10'.
 ① 12", 15", OR 18" DIAMETER PIPE OUTLET (SEE PIPE SECTIONS FOR SIZE AND TYPE)
2. MORTAR AROUND PIPE TO PREVENT SEEPAGE.
3. STEEL REINFORCEMENT PLACED 6" ON CENTERS.


STEEL REINFORCEMENT 13 LBS.
 CLASS "A" CONCRETE 1.54 CU. YDS.



BILL OF REINFORCEMENT

MARK	QUANTITY	SIZE	LENGTH
A	4	NO.3	1'-0"
B	4	"	2'-5"
C	4	"	3'-0"
D	2	"	3'-2"
MARK	LOCATION	DESCRIPTION	
A	TOP	STRAIGHT	
B	"	"	
C	"	"	
D	"	"	






LEXINGTON


DIVISION OF ENGINEERING

SPRING BOX INLET
TYPE "B"

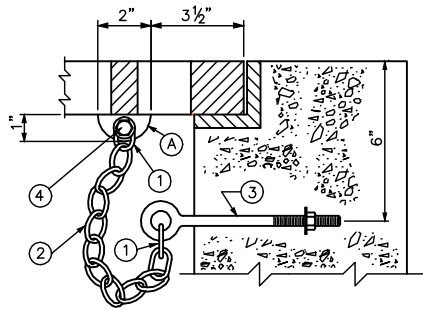
STANDARD DRAWING NO. 127

APPROVAL:  9/22/17

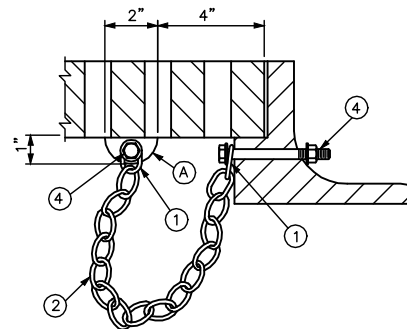
URBAN COUNTY ENGINEER / DATE

COMMISSIONER  9/22/17

DATE



GRATE CONNECTED TO WALL

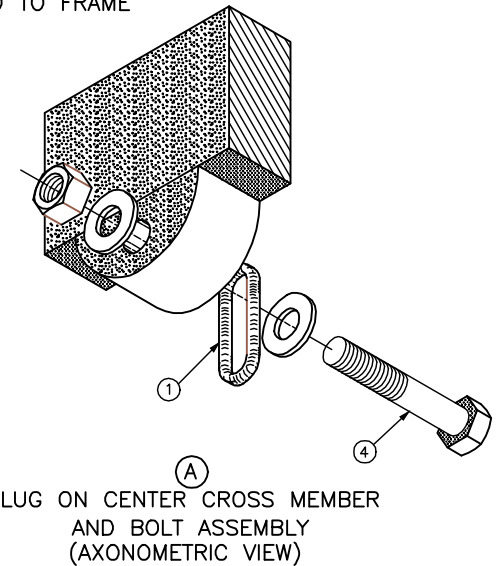


GRATE CONNECTED TO FRAME

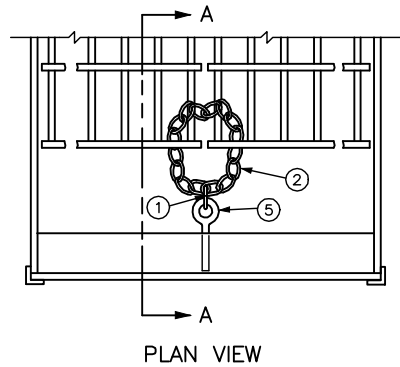
TYPICAL ILLUSTRATIONS FOR CASTINGS

NOTES:

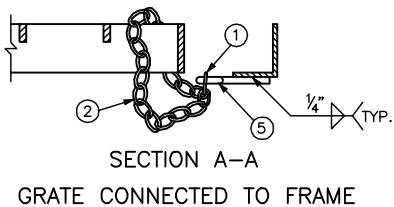
- ① CHAIN SHACKLE, OR COLD SHUT OF AN APPROVED TYPE.
- ② 3/8" PROOF COIL CHAIN OF SUFFICIENT LENGTH TO ALLOW REMOVAL AND DISPLACEMENT OF GRATE, 18" MIN.
- ③ 3/8" x 6" EYE BOLT, NUT, AND WASHER.
- ④ 3/8" HEX HEAD CAP SCREW (GRADE 2), NUT AND WASHERS. LENGTH DETERMINED BY THICKNESS OF FRAME OR GRATE. 7/16" DIA. HOLE FOR CAP SCREW. BATTER THREADS ON CAP SCREW TO PREVENT REMOVAL OF NUT.
- ⑤ 3/8" EYE BOLT (LENGTH DETERMINED BY THE FRAME DIMENSION).
6. ALL EYE BOLTS SHALL HAVE A CONTINUOUS OR SOLID EYE.
7. ALL HARDWARE SHALL BE GALVANIZED AND OF COMMERCIAL QUALITY AND SHALL BE APPROVED BY THE ENGINEER.
8. THE COST OF THE COMPLETE SECURITY DEVICE, INSTALLED, SHALL BE INCIDENTAL TO THE COST OF THE STRUCTURE.
9. THE DESIGNS SHOWN ARE ACCEPTABLE; HOWEVER ARE SUBJECT TO CHANGE IF APPROVED IN WRITING BY THE ENGINEER.



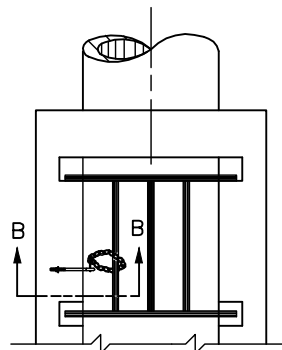
LUG ON CENTER CROSS MEMBER AND BOLT ASSEMBLY (AXONOMETRIC VIEW)



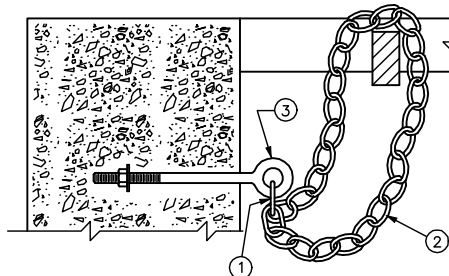
PLAN VIEW



SECTION A-A
GRATE CONNECTED TO FRAME

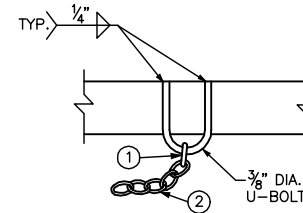


PLAN VIEW




SECTION B-B

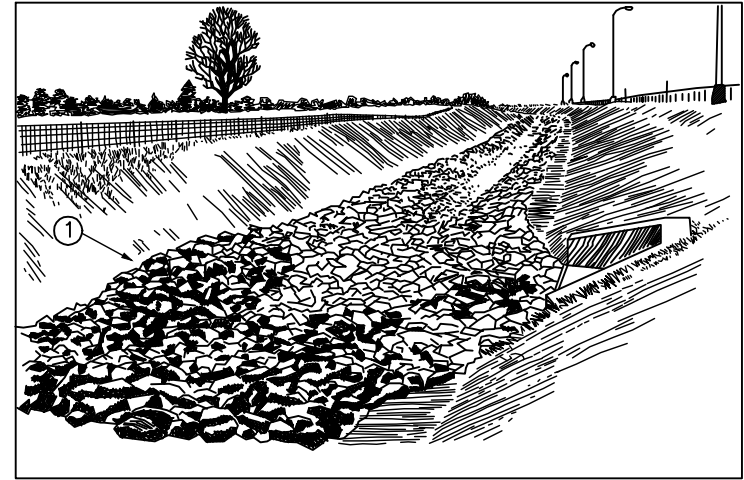
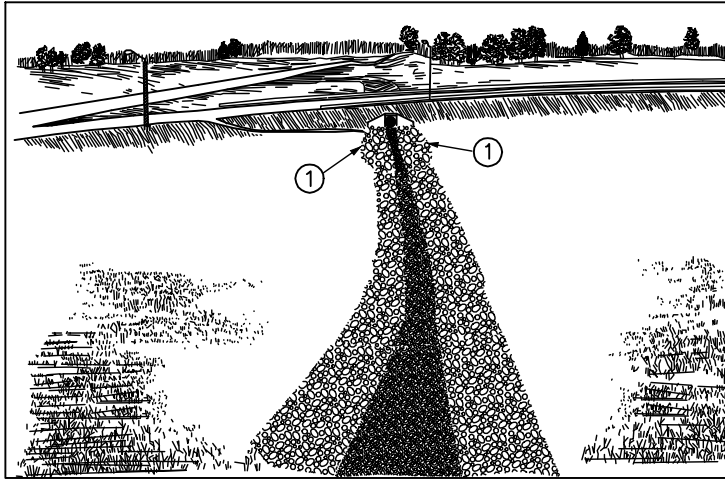
GRATE CONNECTED TO WALL



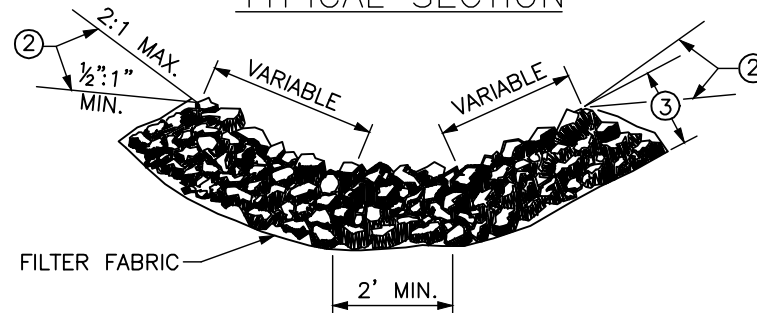
ALTERNATE FOR
STRUCTURAL STEEL
MEMBERS

TYPICAL ILLUSTRATIONS FOR STRUCTURAL STEEL UNITS

 LEXINGTON	
DIVISION OF ENGINEERING	
SECURITY DEVICES FOR FRAMES AND GRATES	
STANDARD DRAWING NO.	128
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	9/22/17 DATE



TYPICAL SECTION



NOTES:

1. AGGREGATE CHANNEL LINING WILL NOT BE REQUIRED IN THE BOTTOM OF THE DITCH WHERE SOLID ROCK IS ENCOUNTERED. SIDE SLOPES SHALL BE LINED.
2. AGGREGATE ESTIMATED ON THE BASIS OF 0.50 TON/SQ. YD. PER FOOT OF DEPTH.

SHEET NOTES: ○

- ① WIDEN CHANNEL LINING AT STRUCTURES TO PREVENT EROSION.
- ② ALTERNATE LOCATION OF GROUNDLINE.
- ③ MINIMUM DEPTH OF CHANNEL LINING SHALL BE 24". LESSER DEPTHS SHALL HAVE APPROVAL FROM THE ENGINEER. STONE SHALL BE WELL GRADED SO THAT OPENINGS BETWEEN LARGER STONES ARE FILLED WITH SMALLER STONES.

SEE SHEET 130-2 FOR CHANNEL LINING MATERIAL NOTES



DIVISION OF ENGINEERING

AGGREGATE
CHANNEL LINING

STANDARD DRAWING NO.	130-1
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE

NOTES:




1. BEDDING MATERIAL SHOULD NOT BE SMALLER THAN KDOT NO. 2 COARSE AGGREGATE STONE. THE REQUIREMENTS FOR KDOT NO. 2 COARSE AGGREGATE STONE ARE AS FOLLOWS:

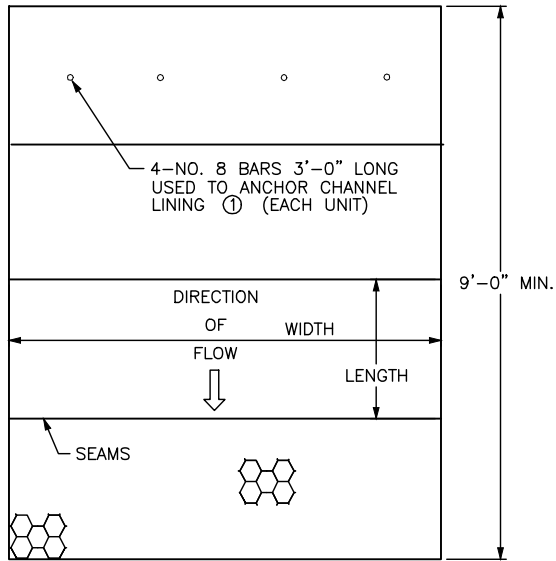
SIEVE SIZE (INCHES)	PERCENT PASSING
3 1/2	100
2 1/2	70-85
1 1/2	0-10

2. BEDDING SHOULD BE AT LEAST THREE INCHES AND SPREAD UNIFORMLY.
3. PLASTIC FILTER FABRIC MAY BE USED IN PLACE OF OR IN CONJUNCTION WITH GRAVEL FILTERS. THE FOLLOWING PARTICLE SIZE RELATIONSHIPS MUST EXIST:
 - A. FOR FILTER FABRIC ADJACENT TO GRANULAR MATERIALS CONTAINING 50 PERCENT OR LESS (BY WEIGHT) OF FINE PARTICLES (LESS THAN 0.074 mm):
 - 1.) $\frac{D \text{ (PARTICLE DIAMETER) } 85 \text{ BASE (mm)}}{\text{EOS* FILTER FABRIC (mm)}} > 1$
 - 2.) TOTAL OPEN AREA OF FILTER IS LESS THAN 36 PERCENT.
 - B. FOR FILTER FABRIC ADJACENT TO ALL OTHER SOILS:
 - 1.) EOS* LESS THAN U.S. STANDARD SIEVE NO. 70
 - 2.) TOTAL OPEN AREA OF FILTER IS LESS THAN 10 PERCENT.
4. NO FILTER FABRIC SHOULD BE USED WITH LESS THAN 4 PERCENT OPEN AREA OR AN EOS* LESS THAN U.S. STANDARD SIEVE NO. 100.
5. *EOS – EQUIVALENT OPENING SIZE TO A U.S. STANDARD SIEVE SIZE.
6. THE FOLLOWING CHART SHOWS HOW TO DETERMINE THE DIAMETER OF STONE IN RELATION TO DESIGN VELOCITY.

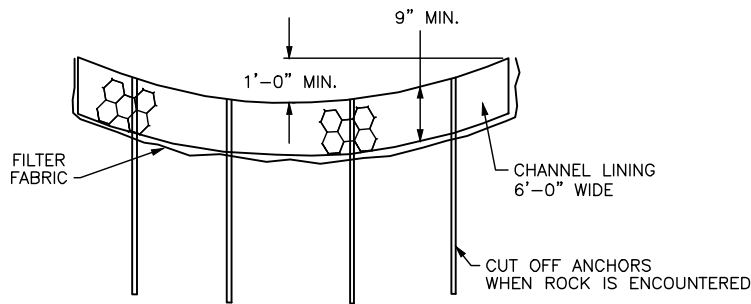
VELOCITY (FEET/SECOND)	STONE DIAMETER (INCHES)
4	2 1/2
6	5
8	9
10	14

SEE SHEET 130-1 FOR AGGREGATE CHANNEL LINING MATERIAL DRAWINGS

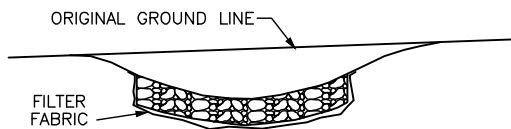
 LEXINGTON
DIVISION OF ENGINEERING
AGGREGATE CHANNEL LINING
STANDARD DRAWING NO. 130-2
APPROVAL:  9/22/17
URBAN COUNTY ENGINEER  DATE 9/22/17
COMMISSIONER DATE



PLAN



ELEVATION

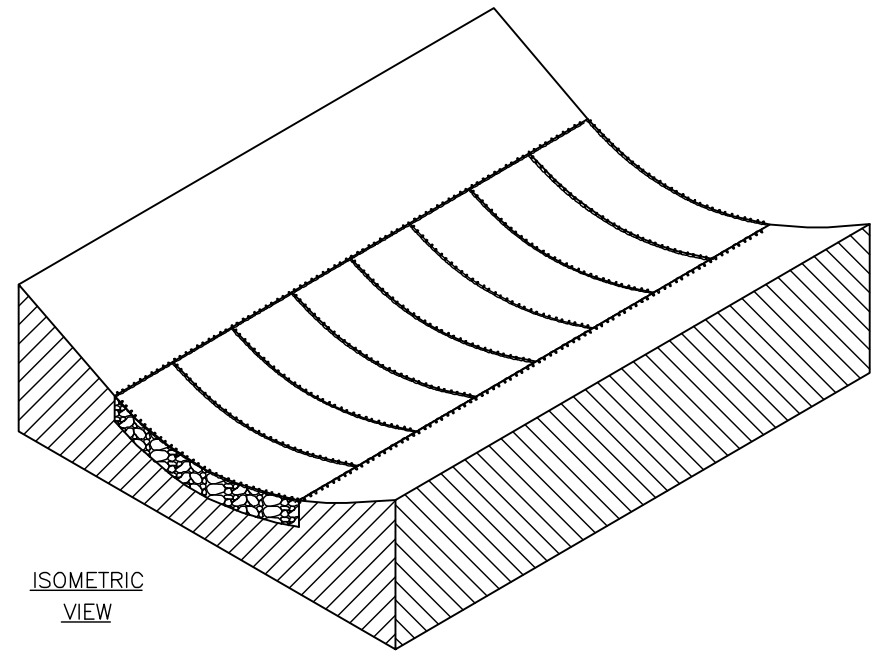


SHEET NOTES: ○

① ANCHORS REQUIRED WHEN LINING IS PLACED ON 5% GRADE OR GREATER.

NOTES:

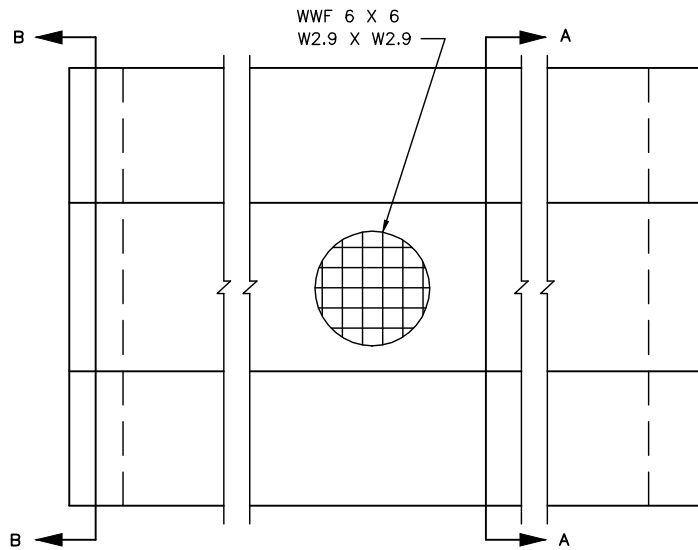
1. SECURE THE LACING WIRE AT THE CORNER OF THE BASKET BY LOOPING AND TWISTING, CONTINUE LACING THROUGHOUT WITH DOUBLE LOOPS AT APPROXIMATELY 5 INCH INTERVALS. EACH UNIT SHALL CONSIST OF LININGS SUPPLIED IN WIDTHS OF 6'-0" AS SHOWN AND LENGTHS IN MULTIPLES OF 3'-0".
2. AGGREGATE ESTIMATED ON THE BASIS OF 0.375 TONS PER SQ. YD.
3. MATTRESS SHALL BE MANUFACTURED FROM WIRE WITH A MINIMUM TENSILE STRENGTH OF 40,000 PSI.
4. STONE SIZE PER MANUFACTURER SPECIFICATIONS.



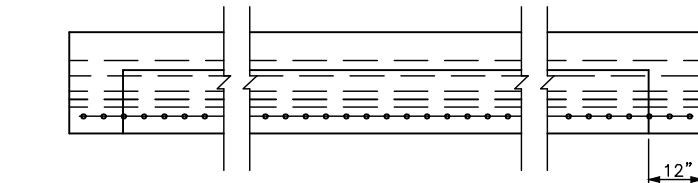
DIVISION OF ENGINEERING

MATTRESS
CHANNEL LINING

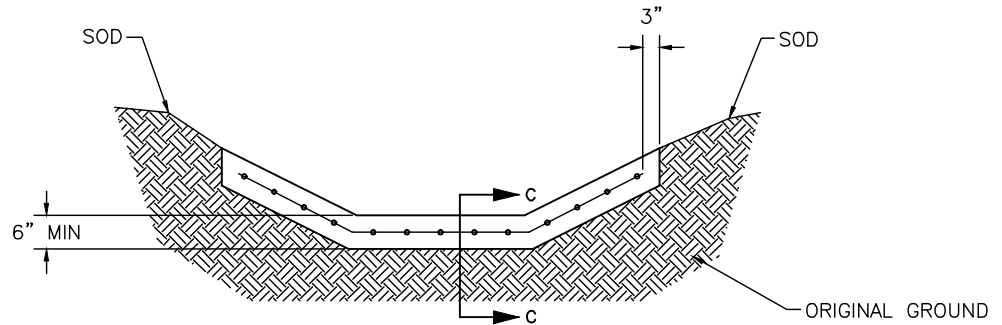
STANDARD DRAWING NO.	131
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE



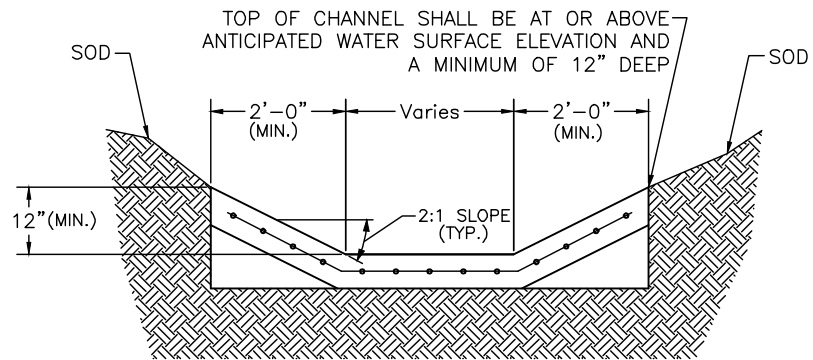
PLAN



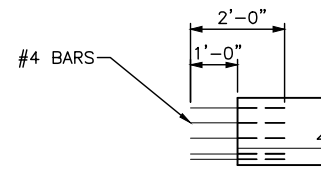
ELEVATION



SECTION A-A




SECTION B-B



SECTION C-C
(© CONSTRUCTION JOINT)

NOTES:

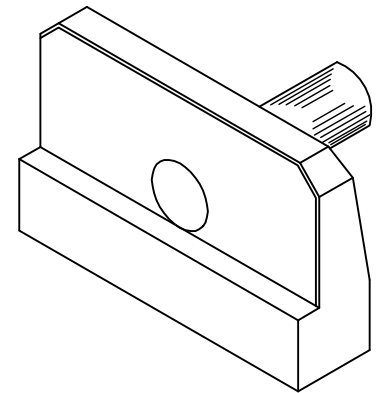
1. USE "CLASS A" CONCRETE THROUGHOUT.
2. COMPACTION, FINISHING AND CURING SHALL BE THE SAME AS REQUIRED FOR CONCRETE SIDEWALK (USE WHITE COMPOUND).
3. IF THE CONTRACTOR ELECTS TO USE A CONSTRUCTION JOINT IN THE POURING OF THE PAVED DITCH, NO. 4 TIE BARS SPACED 6" O.C. SHALL BE USED (SEE SECTION C-C).
4. INTERMEDIATE ANCHORS MAY BE REQUIRED BY THE ENGINEER FOR SPECIAL CASES. A SPECIAL DESIGN WILL BE REQUIRED IN THIS SITUATION.
5. SHOULD THE TERRAIN OF THE EXISTING GROUND BE SO THAT WATER WOULD DRAIN INTO THE DITCH FROM ONE SIDE ONLY, THEN SODDING WILL BE REQUIRED ON THAT ONE SIDE ONLY OF THE DITCH.
6. EXPANSION JOINTS & SEALER REQUIRED ON ENDS ABUTTING STRUCTURES AND ANCHORS ON ENDS NOT ABUTTING STRUCTURES.
7. IF FIBER REINFORCED CONCRETE IS USED THE WWF 6 x 6 MAY BE ELIMINATED.
8. DO NOT PLACE PAVED DITCH ON DISTURBED SOIL.

 LEXINGTON	
DIVISION OF ENGINEERING	
PAVED DITCH	
STANDARD DRAWING NO.	132
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

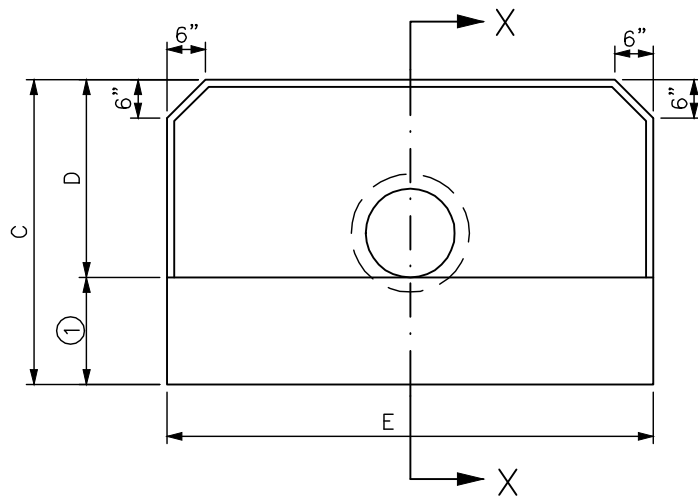
HEADWALL TYPE	DIA. OF PIPE	HEADWALL DIMENSIONS				
		A	B	C	D	E
④ STANDARD	15"	1'-8 1/2"	1'-2 1/2"	4'-3"	2'-9"	6'-9"
	18"	1'-9"	1'-3"	4'-6"	3'-0"	7'-6"
	21"	1'-9 1/2"	1'-3 1/2"	4'-9"	3'-3"	8'-3"
	24"	1'-10"	1'-4"	5'-0"	3'-6"	9'-0"
	27"	1'-10 1/2"	1'-4 1/2"	5'-3"	3'-9"	9'-9"
⑤ RAISED	15"	1'-8 1/2"	1'-2 1/2"	4'-9"	3'-3"	8'-3"
	18"	1'-9"	1'-3"	5'-0"	3'-6"	9'-0"
	21"	1'-9 1/2"	1'-3 1/2"	5'-3"	3'-9"	9'-9"
	24"	1'-10"	1'-4"	5'-6"	4'-0"	10'-6"
	27"	1'-10 1/2"	1'-4 1/2"	5'-9"	4'-3"	11'-3"

NOTES:

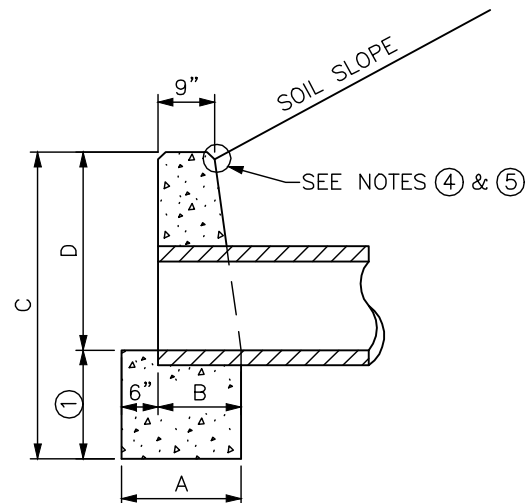
- ① HEIGHT OF FOOTER SHALL BE 18" FOR SOIL AND 12" IN ROCK.
2. ALL EXPOSED EDGES TO BE CHAMFERED 3/4".
3. ALL EXPOSED SURFACES TO HAVE A RUBBED FINISH.
- ④ STANDARD HEADWALLS ARE FLUSH WITH SOIL FILL.
- ⑤ RAISED HEADWALLS PROTRUDE 6" ABOVE SOIL FILL.
6. CHAIN LINK FENCE IS REQUIRED ON ALL HEADWALLS WHEN VERTICAL FACE "D" IS GREATER THAN 30".




ISOMETRIC VIEW

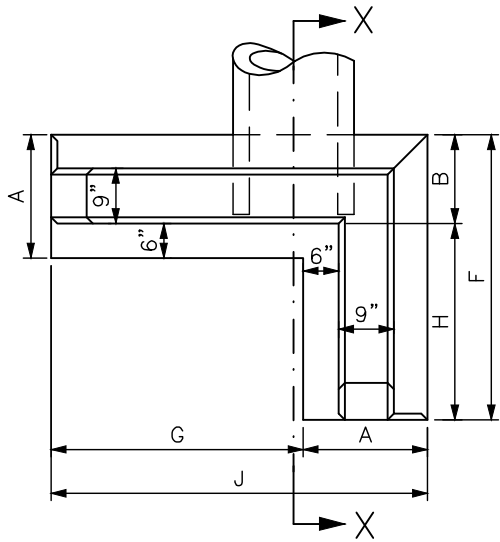


PLAN ELEVATION



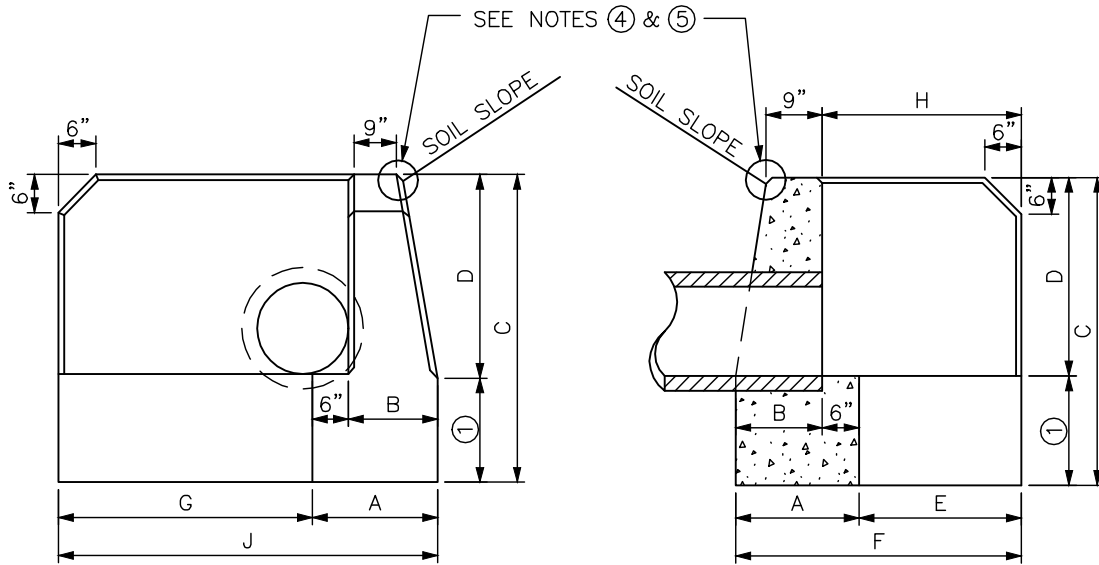
SECTION X-X

 LEXINGTON	
DIVISION OF ENGINEERING	
STRAIGHT HEADWALLS	
STANDARD DRAWING NO.	150
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



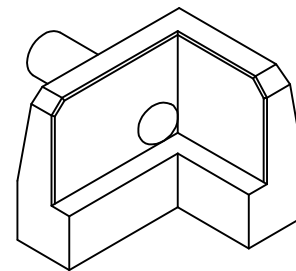
PLAN ELEVATION

HEADWALL TYPE	DIA. OF PIPE	HEADWALL DIMENSIONS								
		A	B	C	D	E	F	G	H	J
④ STANDARD ELL	15"	1'-8 1/2"	1'-2 1/2"	4'-3"	2'-9"	2'-3"	3'-11 1/2"	3'-6"	2'-9"	5'-2 1/2"
	18"	1'-9"	1'-3"	4'-6"	3'-0"	2'-6"	4'-3"	4'-0"	3'-0"	5'-9"
	21"	1'-9 1/2"	1'-3 1/2"	4'-9"	3'-3"	2'-9"	4'-6 1/2"	4'-6"	3'-3"	6'-3 1/2"
	24"	1'-10"	1'-4"	5'-0"	3'-6"	3'-0"	4'-10"	5'-0"	3'-6"	6'-10"
⑤ RAISED ELL	15"	1'-8 1/2"	1'-2 1/2"	4'-9"	3'-9"	3'-3"	5'-1 1/2"	5'-6"	3'-9"	7'-4 1/2"
	18"	1'-9"	1'-3"	5'-0"	3'-6"	3'-3"	5'-0"	4'-9"	3'-9"	6'-6"
	21"	1'-9 1/2"	1'-3 1/2"	5'-3"	3'-9"	3'-6"	5'-3 1/2"	5'-3"	4'-0"	7'-0 1/2"
	24"	1'-10"	1'-4"	5'-6"	4'-0"	3'-9"	5'-7"	5'-9"	4'-3"	7'-7"
	27"	1'-10 1/2"	1'-4 1/2"	5'-9"	4'-3"	4'-0"	5'-10 1/2"	6'-3"	4'-6"	8'-1 1/2"



FRONT ELEVATION


SECTION X-X

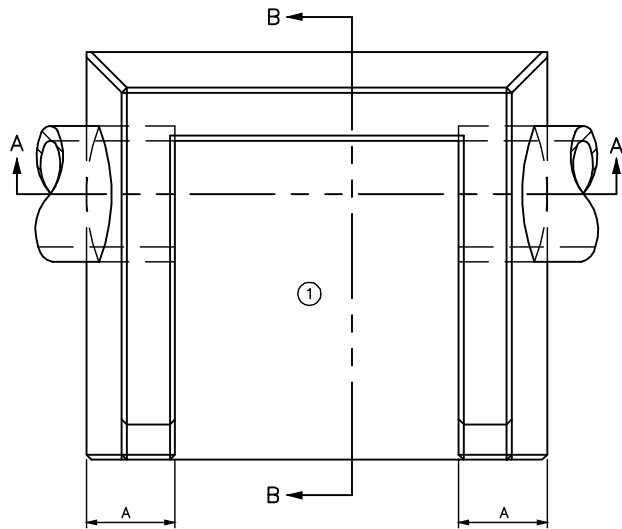


ISOMETRIC VIEW

NOTES:

- ① HEIGHT OF FOOTER SHALL BE 18" FOR SOIL AND 12" IN ROCK.
2. ALL EXPOSED EDGES TO BE CHAMFERED 3/4".
3. ALL EXPOSED SURFACES TO HAVE A RUBBED FINISH.
- ④ STANDARD HEADWALLS ARE FLUSH WITH SOIL FILL.
- ⑤ RAISED HEADWALLS PROTRUDE 6" ABOVE SOIL FILL.
6. CHAIN LINK FENCE IS REQUIRED ON ALL HEADWALLS WHEN VERTICAL FACE "D" IS GREATER THAN 30".

 LEXINGTON	
DIVISION OF ENGINEERING	
ELL HEADWALLS	
STANDARD DRAWING NO.	151
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



PLAN

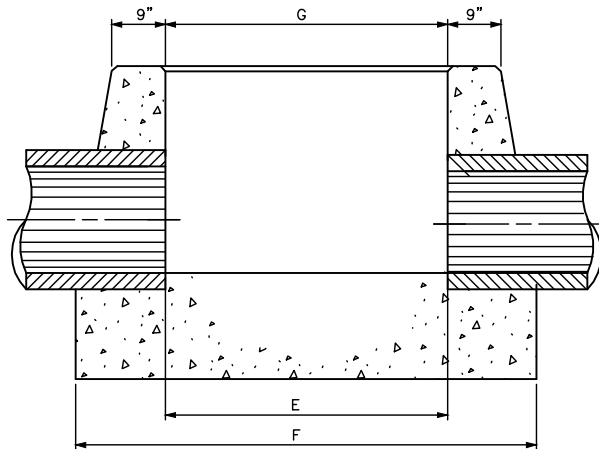
SHEET NOTE: ○

① SOLID CONCRETE BOTTOM REQUIRED.

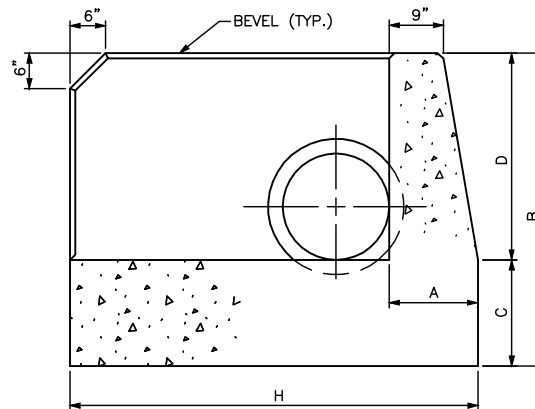
NOTES:

- VOLUME DISPLACED BY BARREL OF PIPE HAS BEEN COMPUTED USING INSIDE DIAMETER OF PIPE.
- CHAIN LINK FENCE IS REQUIRED ON ALL HEADWALLS WHEN VERTICAL FACE "D" IS GREATER THAN 30".


DIMENSIONS AND QUANTITIES					
DIMENSIONS	DIAMETER OF PIPE				
	15"	18"	24"	30"	36"
A	1'-2"	1'-3"	1'-4"	1'-5"	1'-6"
B	4'-3"	4'-6"	5'-0"	5'-6"	6'-6"
C	1'-6"	1'-6"	1'-6"	1'-6"	2'-0"
D	2'-9"	3'-0"	3'-6"	4'-0"	4'-6"
E	3'-9"	4'-0"	4'-6"	4'-9"	5'-0"
F	6'-2"	6'-6"	7'-2"	7'-7"	8'-0"
G	3'-9"	4'-0"	4'-6"	4'-9"	5'-0"
H	5'-2"	5'-9"	6'-10"	7'-11"	9'-0"
C.Y. CONC. ONE HEADWALL	2.96	3.53	4.72	6.03	8.79



SECTION A-A



SECTION B-B

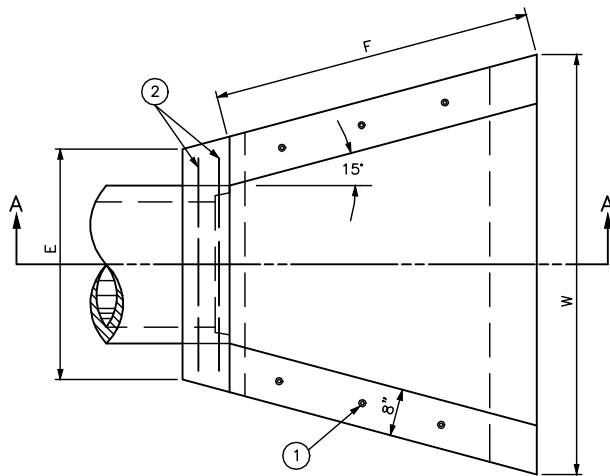


LEXINGTON

DIVISION OF ENGINEERING

U-TYPE HEADWALLS

STANDARD DRAWING NO.	152
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



PLAN VIEW

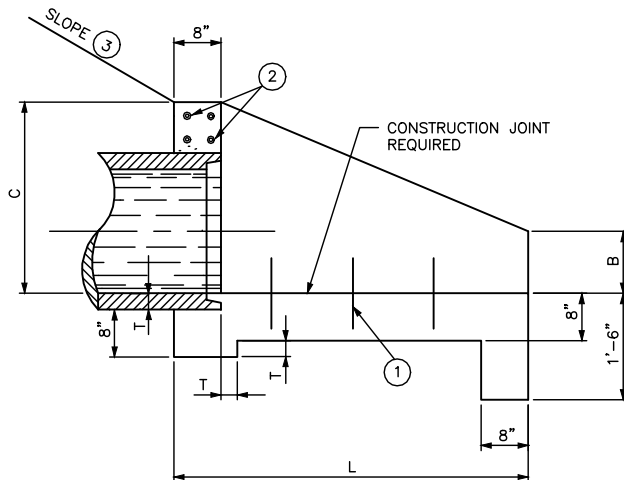
PIPE DIA.	DIMENSIONS							CLASS "A" CONC.	REINF. STEEL
	B	C	E	F	L	W	T	C.Y.	LBS.
15"	0'-7 1/2"	2'-0"	2'-9"	3'-5 3/8"	4'-0"	4'-10 3/4"	2 1/4"	0.90	10
18"	0'-9"	2'-3"	3'-0"	3'-11 9/16"	4'-6"	5'-4 15/16"	2 1/2"	0.97	11
21"	0'-10 1/2"	2'-6"	3'-3"	4'-5 13/16"	5'-0"	5'-11 1/8"	2 3/4"	1.17	12
24"	1'-0"	2'-9"	3'-6"	5'-0"	5'-6"	6'-5 3/8"	3"	1.38	12
27"	1'-1 1/2"	3'-0"	3'-9"	5'-6 3/16"	6'-0"	6'-11 9/16"	3 1/4"	1.62	13

SHEET NOTES: ○

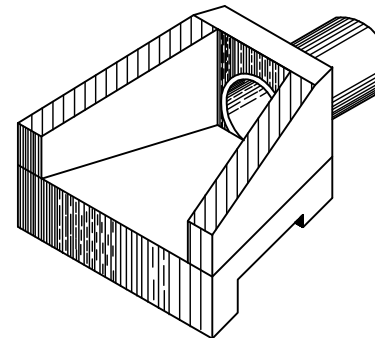
- ① 6 #4 x 1'-0" DOWELS
- ② 4 #4 x ("E" DIMENSION MINUS 4")
- ③ SLOPE SHALL BE WARPED TO FIT HEADWALL WHEN PIPE IS SKEWED AND / OR NORMAL SLOPE VARIES FROM 2:1.

NOTES:

- 1. REINFORCING STEEL MINIMUM GRADE 40, EVENLY SPACED (MIN. SPACING 12" O.C.)
- 2. VOLUME DISPLACED BY PIPE COMPUTED USING INSIDE DIAMETER OF PIPE.
- 3. WING ANGLES AND / OR DIMENSIONS MAY BE ALTERED DURING CONSTRUCTION TO ACCOMMODATE FLOW OF WATER.
- 4. APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE, BUT NOT TO EXCEED 5%. FRONT FACE OF HEADWALL SHALL REMAIN VERTICAL.
- 5. CHAIN LINK FENCE IS REQUIRED ON ALL HEADWALLS WHEN VERTICAL FACE "C" IS GREATER THAN 30".
- 6. ALL EXPOSED EDGES ARE TO HAVE 3/4" CHAMFER.
- 7. SKEWED PIPE REQUIRES SPECIAL DESIGN.



SECTION A-A



ISOMETRIC VIEW

LEXINGTON

DIVISION OF ENGINEERING

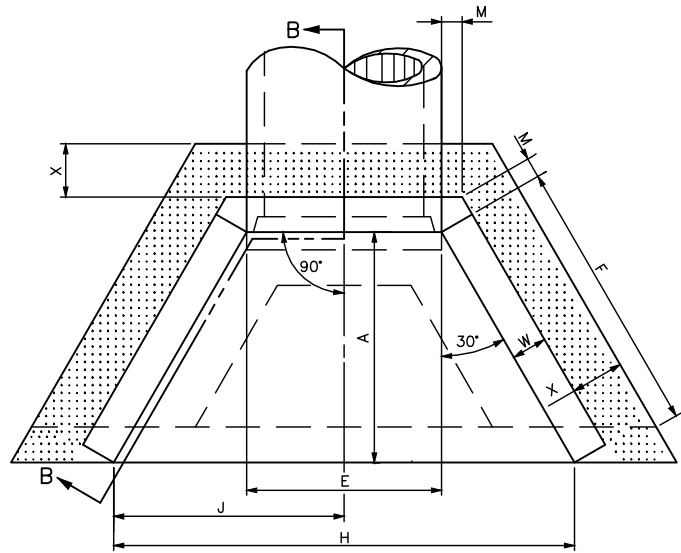
PIPE CULVERT HEADWALLS
0° SKEW
15"-27" CIRCULAR PIPE

STANDARD DRAWING NO. **153**

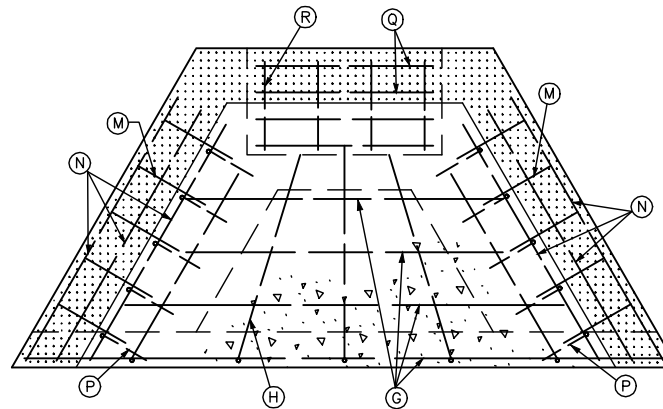
APPROVAL: _____ DATE 9/22/17

URBAN COUNTY ENGINEER _____ DATE 9/22/17

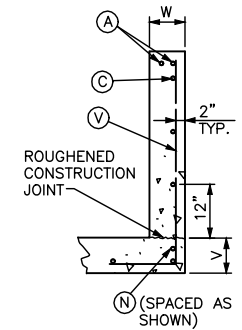
COMMISSIONER _____ DATE _____



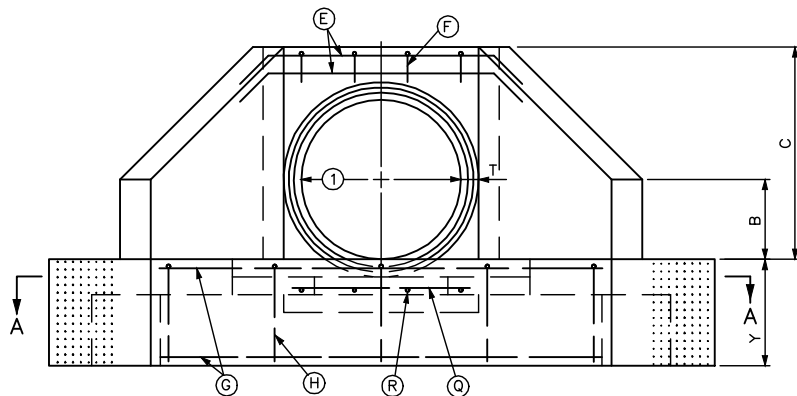
PLAN VIEW



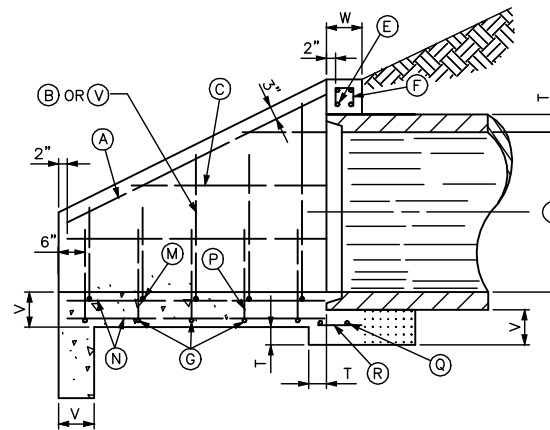
SECTION A-A



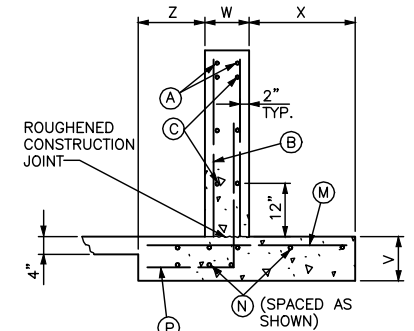
WING SECTION
30"-60" CIRCULAR PIPE



FRONT ELEVATION



SECTION B-B



WING SECTION
66"-108" CIRCULAR PIPE

SHEET 1 OF 4

NOTES:

1. [Pattern] APPLIES TO 66" DIAMETER AND GREATER. (CIRCULAR PIPE)
2. SEE SHEETS 2, 3, AND 4 OF CURRENT STD. DWG. 154 FOR DIMENSIONS, QUANTITIES, AND BILL OF REINFORCEMENT.
3. DIMENSIONS FROM FACE OF CONCRETE TO STEEL SHALL BE 2" CLEAR DISTANCE UNLESS OTHERWISE NOTED.
4. ENCIRCLED LETTERS, (), INDICATE STEEL BAR LOCATIONS.
5. BARS (B), (C), (G), (P), (M), (V) ARE SPACED 1'-0" O.C. ALL OTHER BARS SHALL BE EVENLY SPACED.
6. BARS (B) AND (V) ARE PLACED IN ORDER OF INCREASING LENGTHS, BEGINNING AT THE END OF EACH WING.
7. BARS (C) ARE PLACED IN ORDER OF INCREASING LENGTHS, BEGINNING AT TOP OF EACH WING.
8. HEADWALLS LOCATED AT EDGE OF SHOULDER SHALL BE PARALLEL TO CENTERLINE OF THE ROAD.
9. APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE, NOT TO EXCEED 5%.
10. FRONT OF HEADWALL AND ENDS OF WINGS SHALL REMAIN VERTICAL.
11. FENCE AND / OR HANDRAIL IS REQUIRED FOR ALL HEADWALLS, SEE STD. DWG. 308.
12. ALL EXPOSED EDGES ARE TO HAVE 3/4" CHAMFER.

SHEET NOTE: ()

() DIAMETER OF PIPE



LEXINGTON


DIVISION OF ENGINEERING

PIPE CULVERT HEADWALLS
0° SKEW
30"-108" PIPE

STANDARD DRAWING NO.	154-1
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE

DIMENSION	DIAMETER OF PIPE														DIMENSION
	30"	36"	42"	48"	54"	60"	66"	72"	78"	84"	90"	96"	102"	108"	
A	3'-9"	4'-4"	4'-11"	5'-6"	6'-1"	6'-8"	7'-5"	8'-0"	8'-7"	9'-2"	9'-9"	10'-4"	10'-11"	11'-6"	A
B	1'-3"	1'-6"	1'-9"	2'-0"	2'-3"	2'-6"	2'-9"	3'-0"	3'-3"	3'-6"	3'-9"	4'-0"	4'-3"	4'-6"	B
C	3'-6"	4'-0"	4'-7"	5'-1"	5'-8"	6'-2"	7'-0"	7'-5"	8'-0"	8'-6"	9'-1"	9'-7"	10'-2"	10'-8"	C
E	3'-1"	3'-8"	4'-3"	4'-10"	5'-5"	6'-0"	6'-7"	7'-2"	7'-9"	8'-4"	8'-11"	9'-6"	10'-1"	10'-8"	E
F	4'-4"	5'-0"	5'-8"	6'-4"	7'-0"	7'-8"	8'-7"	9'-3"	9'-11"	10'-7"	11'-3"	11'-11"	12'-7"	13'-3"	F
H	7'-6"	8'-8"	10'-0"	11'-2"	12'-6"	13'-8"	15'-2"	16'-6"	17'-8"	19'-0"	20'-2"	21'-6"	22'-8"	24'-0"	H
J	3'-9"	4'-4"	5'-0"	5'-7"	6'-3"	6'-10"	7'-7"	8'-3"	8'-10"	9'-6"	10'-1"	10'-9"	11'-4"	12'-0"	J
M	0'-5"							0'-6"							M
T	0'-3.5"	0'-4.0"	0'-4.5"	0'-5.0"	0'-5.5"	0'-6.0"	0'-6.5"	0'-7.0"	0'-7.5"	0'-8.0"	0'-8.5"	0'-9.0"	0'-9.5"	0'-10.0"	T
V	0'-8"							1'-0"							V
W	0'-8"							0'-10"							W
X	-							2'-0"			2'-6"				X
Y	2'-0"							2'-6"			3'-0"				Y
Z	-							1'-3"			1'-9"				Z
CU.YDS.CONC. 2 HEADWALLS	3.36	4.30	5.35	6.53	7.82	9.22	18.76	20.95	23.25	25.67	31.48	34.31	37.25	40.32	CU.YDS.CONC. 2 HEADWALLS
LBS.STEEL 2 HEADWALLS	281	363	430	496	583	687	1320	1571	1815	2043	2451	2753	3050	3379	LBS.STEEL 2 HEADWALLS

SHEET 2 OF 4



LEXINGTON

DIVISION OF ENGINEERING

DIMENSIONS AND QUANTITIES
30"-108" HEADWALLS
CIRCULAR PIPE
0° SKEW

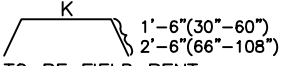
STANDARD DRAWING NO. 154-2

APPROVAL: *[Signature]* 9/22/17
URBAN COUNTY ENGINEER DATE
[Signature] 9/22/17
COMMISSIONER DATE

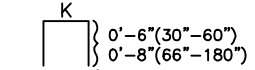
MARK	SIZE	NO				LGTH				K	MARK	SIZE	NO				LGTH				K	MARK	SIZE	NO				LGTH				K	
		①	FT		IN		①	FT					IN		①	FT		IN		①				FT		IN		①	FT		IN		
			FT	IN	FT	IN		FT	IN				FT	IN		FT	IN	FT	IN					FT	IN	FT	IN						
96"					102"					108"																							
A	5	4	13	0			A	5	4	13	9			A	5	4	14	6															
B1	5	8	4	1			B1	5	8	4	4			B1	5	8	4	7															
B2	5	8	5	0			B2	5	8	5	3			B2	5	8	5	6															
B3	5	8	5	11			B3	5	8	6	2			B3	5	8	6	5															
B4	5	8	6	10			B4	5	8	7	2			B4	5	8	7	4															
B5	5	8	7	10			B5	5	8	8	1			B5	5	8	8	3															
B6	5	8	8	9			B6	5	8	9	0			B6	5	8	9	3															
C1	4	4	3	0			B7	5	4	9	11			B7	5	8	10	2															
C2	4	4	5	2			C1	4	4	2	0			C1	4	4	3	3															
C3	4	4	7	3			C2	4	4	4	2			C2	4	4	5	5															
C4	4	4	9	5			C3	4	4	6	4			C3	4	4	7	7															
C5	4	4	11	7			C4	4	4	8	6			C4	4	4	9	8															
C6	4	12	11	9			C5	4	4	10	7			C5	4	4	11	10															
E1	5	2	14	9	9	9	C6	4	16	12	5			C6	4	16	13	1															
E2	5	2	15	3	10	3	E1	5	2	15	4	10	4																				
F	4	10	1	9	0	6	E2	5	2	15	10	10	10	E1	5	2	15	10	10	10													
G1	4	3	10	9			F	4	10	1	9	0	6	E2	5	2	16	5	11	5													
G2	4	3	14	3			G1	4	3	12	1			F	4	11	1	9	0	6													
G3	4	3	17	9			G2	4	3	15	8			G1	4	1	9	10															
G4	4	3	20	0			G3	4	3	19	2			G2	4	3	13	4															
H	4	10	12	8	10	0	G4	4	3	21	7			G3	4	3	16	10															
M	4	24	4	9			H	4	11	13	3	10	7	G4	4	3	20	3															
N	4	16	11	9			M	4	26	4	9			G5	4	3	22	7															
P	6	24	6	9	4	6	N	4	16	12	5			H	4	11	13	10	11	2													
Q	5	4	9	2			P	7	26	7	0	4	9	M	4	28	4	9															
R	5	10	3	3			Q	5	4	9	9			N	4	16	13	1															
							R	5	10	3	4			P	7	28	7	3	5	0													
														Q	5	4	10	4															
														R	5	11	3	4															

- NOTES:**
- ① NUMBER OF BARS IN ONE HEADWALL.
 - DIMENSIONS ARE OUT TO OUT OF BARS.
 - ALL BARS ARE STRAIGHT EXCEPT THOSE SHOWN BELOW.

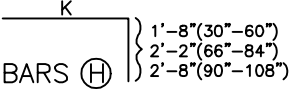
BENT BAR SHAPES



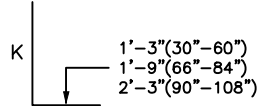
TO BE FIELD BENT
BARS (E)



BARS (F)



BARS (H)



BARS (P) AND (V)
SHEET 4 OF 4

LEXINGTON
DIVISION OF ENGINEERING

BILL OF REINFORCEMENT
96"-108" DIAMETER
CIRCULAR PIPE HEADWALLS
0° SKEW

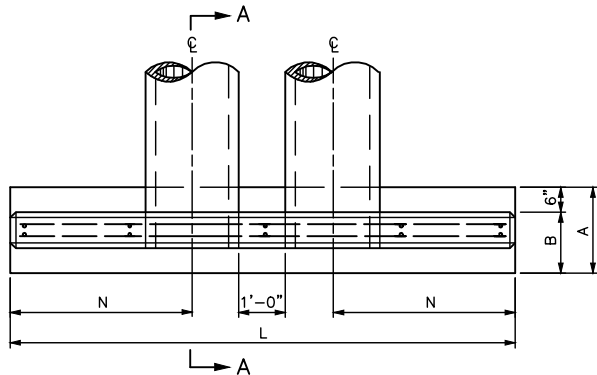
STANDARD DRAWING NO. **154-4**
APPROVAL: 9/22/17
URBAN COUNTY ENGINEER _____ DATE
COMMISSIONER _____ DATE

DIMENSIONS AND QUANTITIES

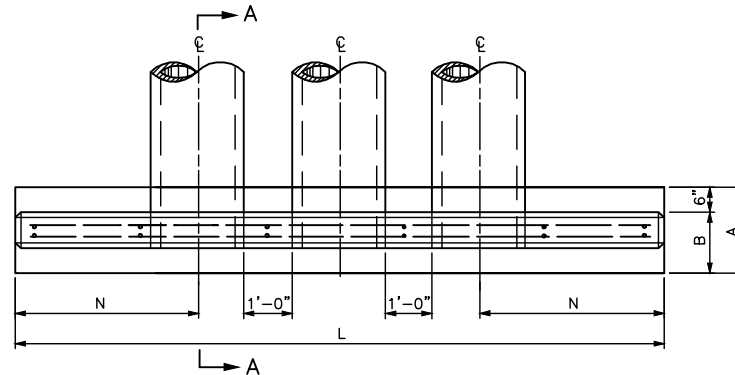
HEADWALL TYPE	PIPE DIA.	A	B	C	E	L	M	N	CU. YD. CONC. 2 HDWLS.
STANDARD DOUBLE LINE	18"	1'-9"	1'-3"	4'-6"	3'-0"	10'-5"	10 3/4"	3'-9"	4.18
	24"	1'-10"	1'-4"	5'-0"	3'-6"	12'-6"		4'-6"	5.65
STANDARD TRIPLE LINE	18"	1'-9"	1'-3"	4'-6"	3'-0"	13'-4"		3'-9"	4.87
	24"	1'-10"	1'-4"	5'-0"	3'-6"	16'-0"		4'-6"	6.68
RAISED DOUBLE LINE	18"	1'-9"	1'-3"	5'-0"	3'-6"	11'-11"		4'-6"	5.28
	24"	1'-10"	1'-4"	5'-6"	4'-0"	14'-0"		5'-3"	7.43
RAISED TRIPLE LINE	18"	1'-9"	1'-3"	5'-0"	4'-0"	14'-10"		4'-6"	6.76
	24"	1'-10"	1'-4"	5'-6"	4'-6"	17'-6"		5'-3"	8.83

NOTES:

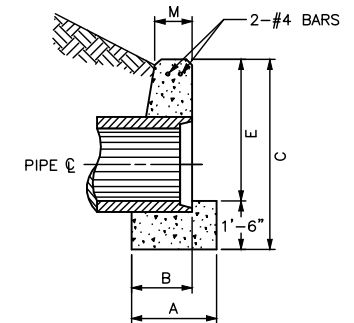
1. ALL VOLUMES ARE IN CUBIC YARDS FOR TWO HEADWALLS; VOLUME DISPLACED BY BARREL OF PIPE HAS BEEN COMPUTED USING INSIDE DIAMETER OF PIPE. NO DEDUCTION HAS BEEN MADE FOR BEVELED EDGES.
2. WHERE HEADWALLS ARE LOCATED AT THE EDGE OF THE SHOULDER, THE TOP OF THE HEADWALLS SHALL BE PARALLEL TO THE EDGE OF SHOULDER.
3. WHERE A RAISED HEADWALL IS USED ON THE OUTLET END OF THE PIPE, THE TOPS OF BOTH WALLS SHALL BE AT THE SAME ELEVATION.
4. CHAIN LINK FENCE IS REQUIRED ON ALL HEADWALLS WHEN VERTICAL FACE "E" IS GREATER THAN 30".



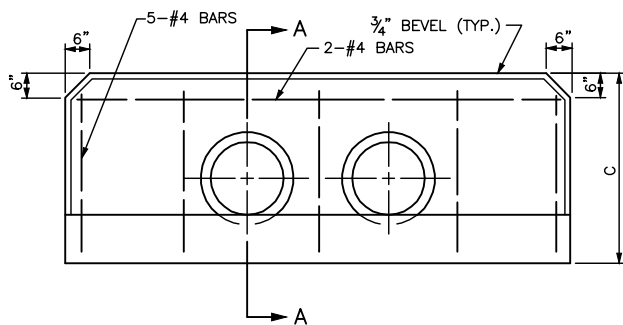
PLAN



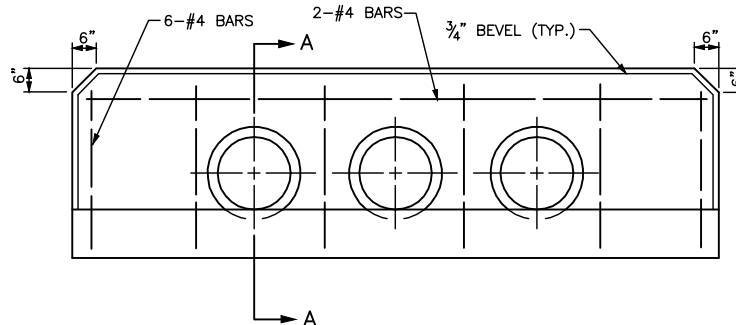
PLAN




SECTION A-A



ELEVATION





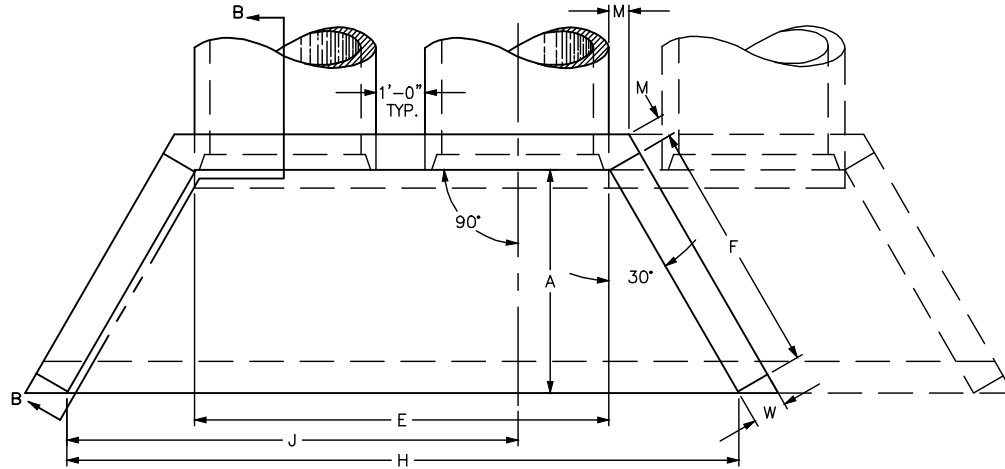
ELEVATION

 **LEXINGTON**
 DIVISION OF ENGINEERING

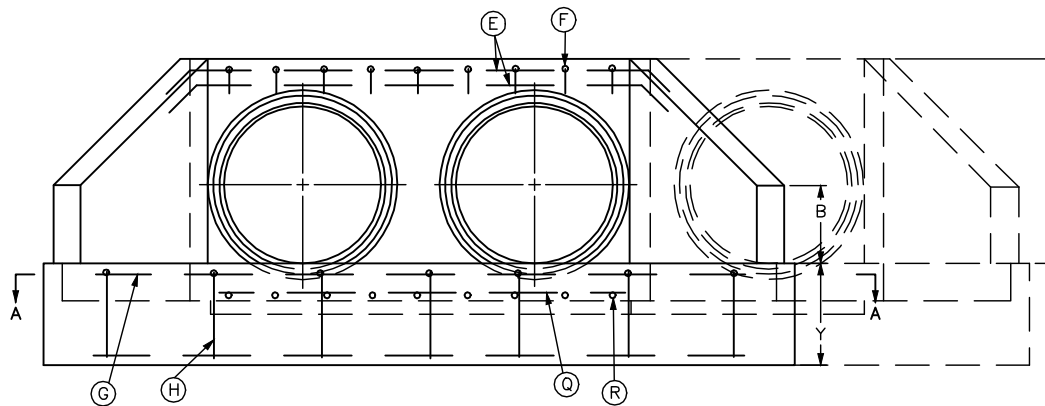
18"-24" DOUBLE & TRIPLE PIPE CULVERT HEADWALLS AT 0° SKEW

STANDARD DRAWING NO. 158

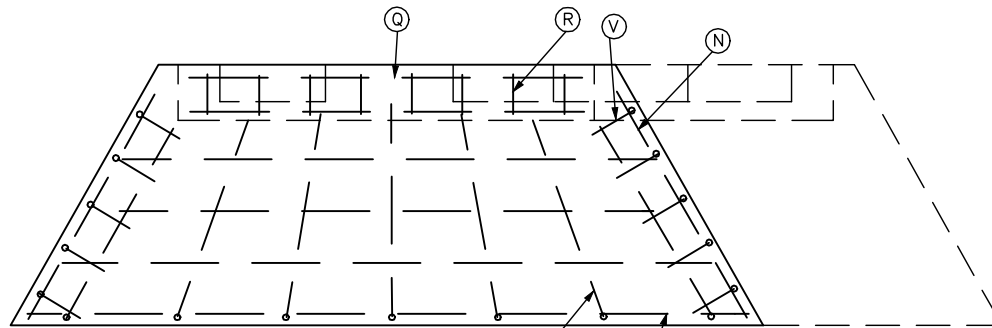
APPROVAL:  9/22/17
 URBAN COUNTY ENGINEER DATE
 9/22/17
 COMMISSIONER DATE



PLAN VIEW



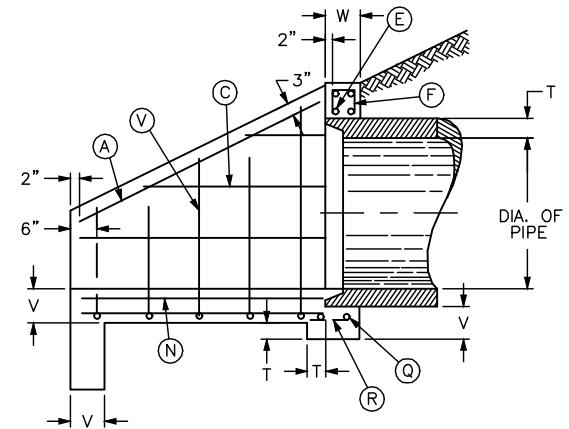
FRONT ELEVATION



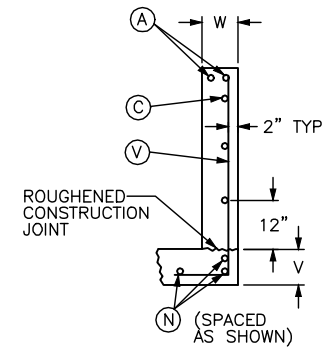
SECTION A-A

NOTES:

1. SEE SHEETS 2 AND 3 OF CURRENT STD. DWG. 159 FOR DIMENSIONS, QUANTITIES, AND BILL OF REINFORCEMENT.
2. ENCIRCLED LETTERS, ○, INDICATE STEEL BAR LOCATIONS.
3. BARS ○, ○, ○ ARE SPACED 1'-0" O.C. ALL OTHER BARS SHALL BE EVENLY SPACED.
4. BARS ○ ARE PLACED IN ORDER OF INCREASING LENGTHS, BEGINNING AT THE END OF EACH WING.
5. BARS ○ ARE PLACED IN ORDER OF INCREASING LENGTHS, BEGINNING AT THE TOP OF EACH WING.
6. HEADWALLS LOCATED AT THE EDGE OF SHOULDER SHALL BE PARALLEL TO CENTERLINE OF THE ROAD.
7. APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW EQUAL TO SLOPE OF PIPE. FRONT FACE AND ENDS OF WINGS SHALL REMAIN VERTICAL.
8. DIMENSIONS FROM FACE OF CONCRETE TO STEEL SHALL BE 2" CLEAR DISTANCE.
9. CHAIN LINK FENCE IS REQUIRED ON ALL HEADWALLS WHEN VERTICAL FACE "C" IS GREATER THAN 30". SEE STD. DWG. 308.



SECTION B-B



WING SECTION

SHEET 1 OF 3



DIVISION OF ENGINEERING


DOUBLE & TRIPLE PIPE
CULVERT HEADWALLS
0° SKEW

STANDARD DRAWING NO.	159-1
APPROVAL:	<i>[Signature]</i> 9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

DIMENSIONS FOR MULTIPLE PIPE HEADWALLS – 0° SKEW

DIMENSION	DOUBLE				TRIPLE				DIMENSION
	30"	36"	42"	48"	30"	36"	42"	48"	
A	3'-9"	4'-4"	4'-11"	5'-6"	3'-9"	4'-4"	4'-11"	5'-6"	A
B	1'-3"	1'-6"	1'-9"	2'-0"	1'-3"	1'-6"	1'-9"	2'-0"	B
C	3'-6"	4'-0"	4'-7"	5'-1"	3'-6"	4'-0"	4'-7"	5'-1"	C
E	7'-2"	8'-4"	9'-6"	10'-8"	11'-3"	13'-0"	14'-9"	16'-6"	E
F	4'-4"	5'-0"	5'-8"	6'-4"	4'-4"	5'-0"	5'-8"	6'-4"	F
H	11'-6"	13'-4"	15'-2"	17'-0"	15'-6"	18'-0"	20'-6"	22'-10"	H
J	-	-	-	-	7'-9"	9'-0"	10'-3"	11'-5"	J
M	0'-5"				0'-5"				M
T	0'-3.5"	0'-4"	0'-4.5"	0'-5"	0'-3.5"	0'-4"	0'-4.5"	0'-5"	T
V	0'-8"				0'-8"				V
W	0'-8"				0'-8"				W
Y	2'-0"				2'-0"				Y
CLASS "A" CONC. CU. YDS. 2 HEADWALLS	4.91	6.22	7.75	9.38	6.49	8.20	10.19	12.30	CLASS "A" CONC. CU. YDS. 2 HEADWALLS
LBS. STEEL 2 HEADWALLS	379	480	561	660	475	594	702	797	LBS. STEEL 2 HEADWALLS

SHEET 2 OF 3





LEXINGTON

DIVISION OF ENGINEERING

DIMENSIONS AND QUANTITIES
30"-48"
DOUBLE & TRIPLE
HEADWALLS-CIRCULAR PIPE
0° SKEW

STANDARD DRAWING NO. **159-2**

APPROVAL:  9/22/17
URBAN COUNTY ENGINEER / DATE
 9/22/17
COMMISSIONER / DATE

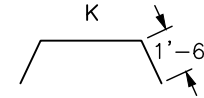
MARK	SIZE	NO				K	MARK	SIZE	NO				K	MARK	SIZE	NO				K							
		①	FT	IN	FT				IN	①	FT	IN				FT	IN	①	FT		IN	FT	IN				
DOUBLE 30"						42"						TRIPLE 30"						42"									
A	5	4	4	8		C ₁	4	2	2	9		A	5	4	4	8		C ₁	4	2	2	9					
C ₁	4	2	2	4		C ₂	4	2	5	6		C ₁	4	2	2	4		C ₂	4	2	4	9					
C ₂	4	2	4	2		E ₁	5	2	12	10	9	10	C ₁	4	2	4	2		E ₁	5	2	18	1	15	1		
E ₁	5	2	10	6	7	6	E ₂	5	2	13	0	10	0	E ₁	5	2	14	7	11	7	E ₂	5	2	18	3	15	3
E ₂	5	2	10	8	7	8	F	4	10	1	3	0	4	E ₂	5	2	14	9	11	9	F	4	15	1	3	0	4
F	4	8	1	3	0	4	G ₁	4	3	11	5			F	4	12	1	3	0	4	G ₁	4	3	16	8		
G ₁	4	2	7	8			G ₂	4	3	13	9			G ₁	4	2	11	10			G ₂	4	3	19	1		
G ₂	4	3	10	0			H	4	7	6	3	4	7	G ₂	4	3	14	1			H	4	10	6	3	4	7
H	4	6	5	1	3	5	N	4	6	5	6			H	4	8	5	1	3	5	N	4	6	5	6		
N	4	6	4	2			Q	4	2	9	2			N	4	6	4	2			Q	4	2	14	5		
Q	4	2	7	1			R	4	10	0	9			Q	4	2	11	1			R	4	15	0	9		
R	4	8	0	8			V ₁	5	4	3	6	2	3	R	4	12	0	8			V ₁	5	4	3	6	2	3
V ₁	5	4	3	1	1	10	V ₂	5	4	4	6	3	3	V ₁	5	4	3	1	1	10	V ₂	5	4	4	6	3	3
V ₂	5	4	4	1	2	10	V ₃	5	4	5	6	4	3	V ₂	5	4	4	1	2	10	V ₃	5	4	5	6	4	3
V ₃	5	4	5	6	4	3								V ₃	5	4	4	1	2	10							
36"						48"						36"						48"									
A	5	4	5	5		A	5	4	6	11		A	5	4	5	5		A	5	4	6	11					
C ₁	4	2	1	7		C ₁	4	2	1	10		C ₁	4	2	1	7		C ₁	4	2	1	10					
C ₂	4	2	3	8		C ₂	4	2	3	10		C ₂	4	2	3	8		C ₂	4	2	3	10					
C ₃	4	2	4	10		C ₃	4	2	5	10		C ₃	4	2	4	10		C ₃	4	2	5	10					
E ₁	5	2	11	8	8	8	C ₄	4	2	6	2		E ₁	5	2	16	4	13	4	C ₄	4	2	6	2			
E ₂	5	2	11	10	8	10	E ₁	5	2	14	0	11	0	E ₂	5	2	16	6	13	6	E ₁	5	2	19	10	16	10
F	4	9	1	3	0	4	E ₂	5	2	14	2	11	2	F	4	13	1	3	0	4	E ₂	5	2	20	0	17	10
G ₁	4	3	9	7			F	4	11	1	3	0	4	G ₁	4	3	14	4			F	4	17	1	3	0	4
G ₂	4	3	12	0			G ₁	4	1	11	0			G ₂	4	3	16	8			G ₁	4	1	16	9		
H	4	7	5	8	4	0	G ₂	4	3	13	3			H	4	9	5	8	4	0	G ₂	4	3	19	0		
N	4	6	4	10			G ₃	4	3	15	7			N	4	6	4	10			G ₃	4	3	21	5		
Q	4	2	8	2			H	4	9	16	10	5	2	Q	4	2	12	8			H	4	12	6	11	5	3
R	4	9	0	8			N	4	6	6	2			R	4	13	0	8			N	4	6	6	2		
V ₁	5	4	3	4	2	1	Q	4	2	10	4			V ₁	5	4	3	4	2	1	Q	4	6	16	2		
V ₂	5	4	4	4	3	1	R	4	11	0	9			V ₂	5	4	4	4	3	1	R	4	17	0	9		
V ₃	5	2	5	4	4	1	V ₁	5	4	3	9	2	6	V ₃	5	2	5	4	4	1	V ₁	5	4	3	9	2	6
							V ₂	5	4	4	9	3	6		V ₂	5	4	4	4	9	3	6					
							V ₃	5	4	5	9	4	6		V ₃	5	4	5	9	4	6						

NOTES:

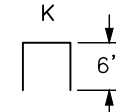
- ① NUMBER OF BARS IN ONE HEADWALL.
- DIMENSIONS ARE OUT TO OUT OF BARS.
- ALL BARS ARE STRAIGHT EXCEPT THOSE SHOWN BELOW.

BENT BAR SHAPES

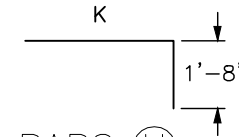
TO BE FIELD BENT



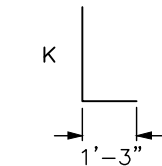
BARS (E)



BARS (F)




BARS (H)



BARS (V)

SHEET 3 OF 3




LEXINGTON

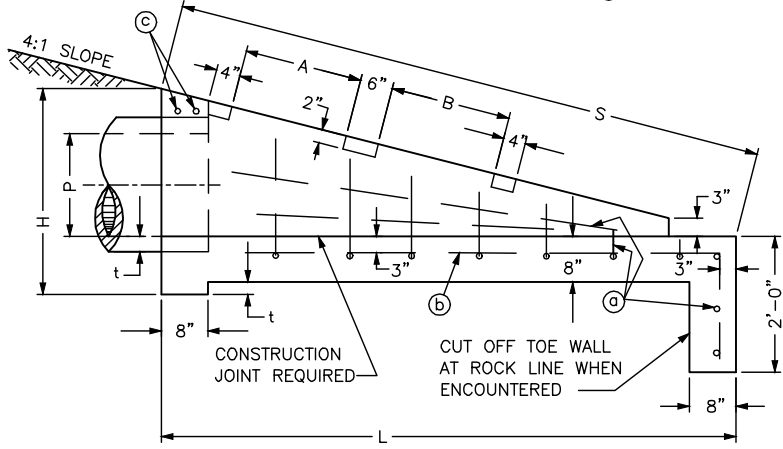
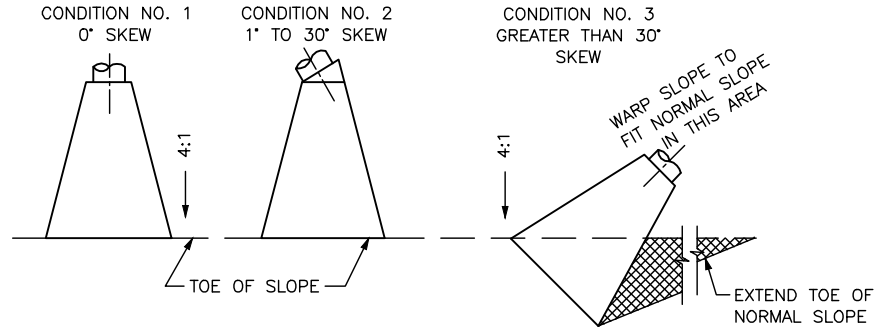
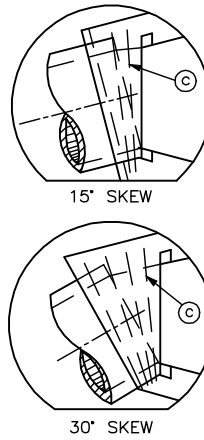
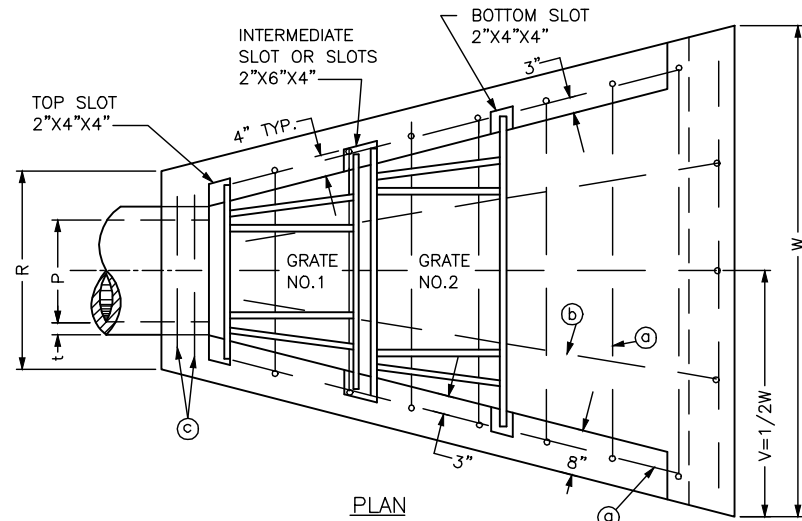
DIVISION OF ENGINEERING

BILL OF REINFORCEMENT
30"-48" DOUBLE & TRIPLE
HEADWALLS-CIRCULAR PIPE
0° SKEW

STANDARD DRAWING NO. **159-3**

APPROVAL:  9/22/17
URBAN COUNTY ENGINEER 9/22/17
COMMISSIONER DATE

PLAN VIEW OF STRUCTURE LOCATIONS

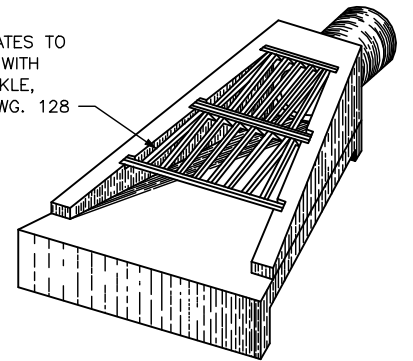


ELEVATION

NOTES:

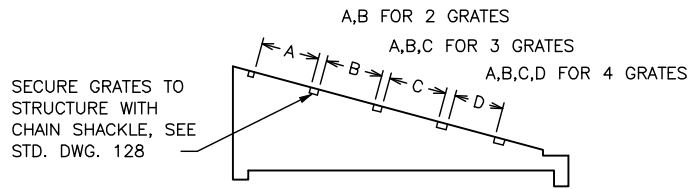
1. THE MINIMUM REQUIREMENT FOR REINFORCING STEEL SHALL BE GRADE 40. FIELD BENDING WILL BE PERMITTED.
2. ONE ADDITIONAL © BAR WILL BE REQUIRED FOR EACH 15° SKEW.
3. t IS CONCRETE PIPE WALL THICKNESS.

SECURE GRATES TO STRUCTURE WITH CHAIN SHACKLE, SEE STD. DWG. 128



18"-24"
TRIMETRIC VIEW

DETAIL SHOWING LOCATION OF SLOTS FOR GRATES



SEE STD. DWG. 163 FOR GRATE DETAILS.

DIMENSIONS

P	H	L	S	R	V	W	A	B	C	D
18"	3'-0"	8'-6"	8'-9 1/8"	2'-11 1/2"	3'-7 1/2"	7'-3"	1'-9"	1'-9"	-	-
24"	3'-7"	10'-8"	11'-0"	3'-6 1/2"	4'-5 1/2"	8'-11"	2'-9"	2'-9"	-	-
30"	4'-2"	12'-10"	13'-2 3/4"	4'-1 1/2"	5'-3 1/2"	10'-7"	2'-9"	2'-9"	1'-9"	-
36"	4'-9"	15'-0"	15'-5 1/2"	4'-8 1/2"	6'-1 1/2"	12'-3"	2'-9"	2'-9"	1'-9"	1'-9"

NO. OF GRATES REQ'D	
2'	3'
2	-
-	2
1	2
2	2

NO. 4 REINFORCEMENT BARS					CLASS "A" CONC.
NUMBER-LENGTH AND WEIGHT					
ⓐ	ⓑ	ⓒ	ⓓ	LBS.	CU.YD.
14 AT 6'-5"	3 AT 8'-6"	2 AT 2'-8"		81	1.8
16 AT 8'-0"	3 AT 10'-6"	2 AT 3'-3"		111	2.7
18 AT 9'-7"	3 AT 12'-9"	2 AT 3'-10"		146	3.8
20 AT 11'-4"	3 AT 15'-0"	2 AT 4'-5"		187	5.1

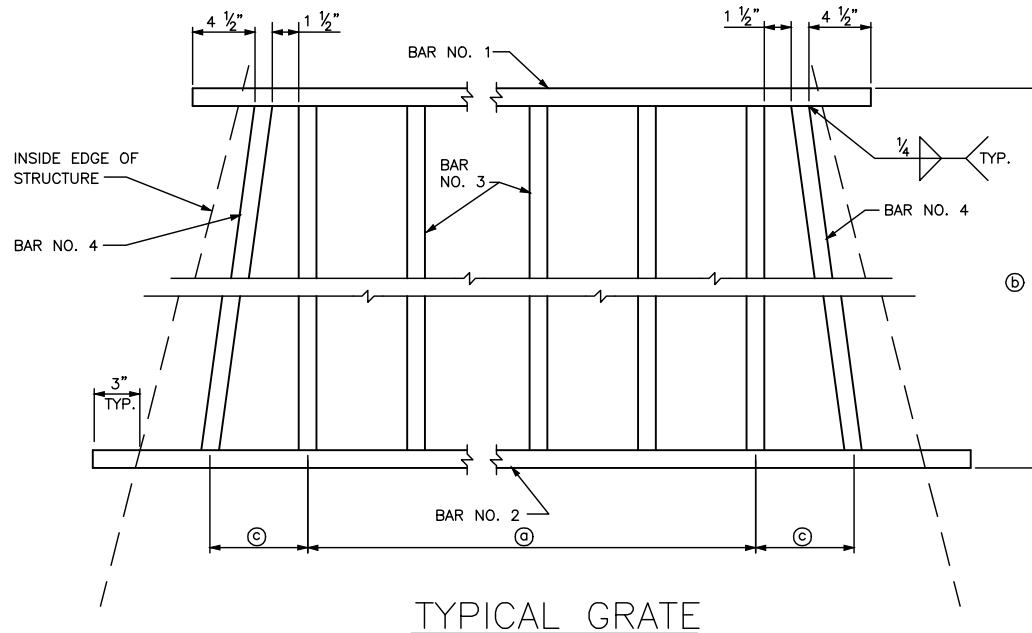
LEXINGTON
DIVISION OF ENGINEERING

SLOPED AND FLARED BOX INLET-OUTLET
18"-24"-30"-36"
ALL SKEWS

STANDARD DRAWING NO. **162**

APPROVAL: *[Signature]* 9/22/17
URBAN COUNTY ENGINEER *[Signature]* 9/22/17
COMMISSIONER *[Signature]* DATE


BOX INLET-OUTLET SIZE	GRATE		BAR NO. 1	BAR NO. 2	BAR NO. 3		BAR NO. 4	LBS. STRUCTURAL STEEL	
	NO.	SIZE	LENGTH	LENGTH	NO. BARS	LENGTH	LENGTH	EACH GRATE	TOTAL
18"	1	2'-0"	2'-6 1/2"	3'-5 3/4"	4	1'-10"	1'-10 1/4"	116	272
	2	2'-0"	3'-7 5/8"	4'-6 7/8"	6	1'-10"	1'-10 1/4"	156	
24"	1	3'-0"	3'-1 1/2"	4'-6 5/8"	5	2'-10"	2'-10 3/8"	187	454
	2	3'-0"	4'-8 1/2"	6'-1 5/8"	8	2'-10"	2'-10 3/8"	267	
30"	1	3'-0"	3'-8 1/2"	5'-1 1/2"	6	2'-10"	2'-10 3/8"	215	796
	2	3'-0"	5'-3 1/2"	6'-8 5/8"	9	2'-10"	2'-10 3/8"	294	
	3	2'-0"	6'-10 1/2"	7'-9 3/4"	13	1'-10"	1'-10 1/4"	287	
36"	1	3'-0"	4'-3 1/2"	5'-8 1/2"	7	2'-10"	2'-10 3/8"	242	1218
	2	3'-0"	5'-10 1/2"	7'-3 5/8"	10	2'-10"	2'-10 3/8"	321	
	3	2'-0"	7'-5 1/2"	8'-4 3/4"	14	1'-10"	1'-10 1/4"	308	
	4	2'-0"	8'-6 3/4"	9'-5 7/8"	16	1'-10"	1'-10 1/4"	347	



TYPICAL GRATE

NOTES:

- Ⓐ EQUALLY SPACE BARS NO. 3.
- Ⓑ SIZE OF GRATE EITHER 2'-0" OR 3'-0".
- Ⓒ 5 1/2" FOR 2'-0" GRATE, 7" FOR 3'-0" GRATE.
- 1. ALL COMPONENTS ARE 1" x 2" STRUCTURAL STEEL BARS.
- 2. SEE STD. DWG. 162.
- 3. SECURE GRATE TO STRUCTURE WITH CHAIN SHACKLE, SEE STD. DWG. 128.





LEXINGTON

DIVISION OF ENGINEERING

GRATES FOR
SLOPED AND FLARED
BOX INLET-OUTLET

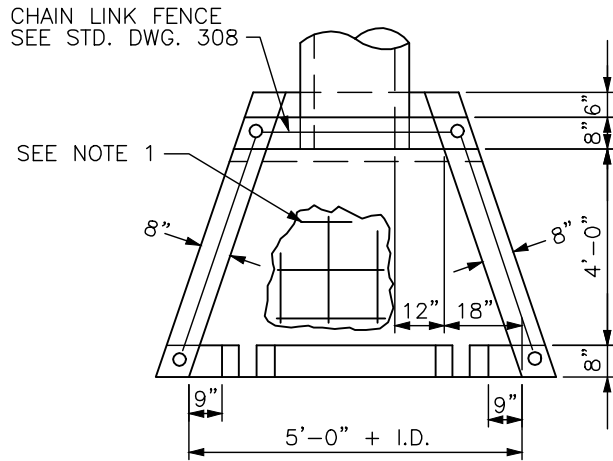
STANDARD DRAWING NO. 163

APPROVAL:  9/22/17

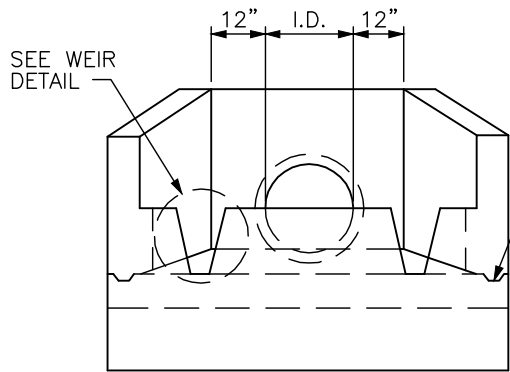
URBAN COUNTY ENGINEER  DATE

COMMISSIONER 9/22/17

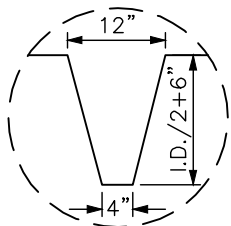
DATE



PLAN ELEVATION



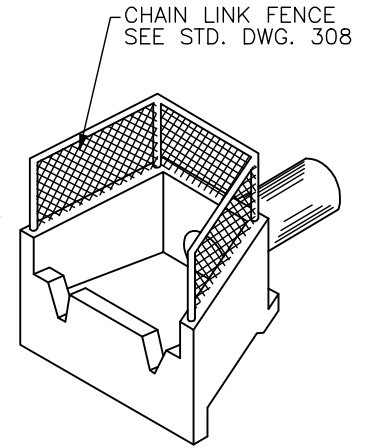
FRONT ELEVATION



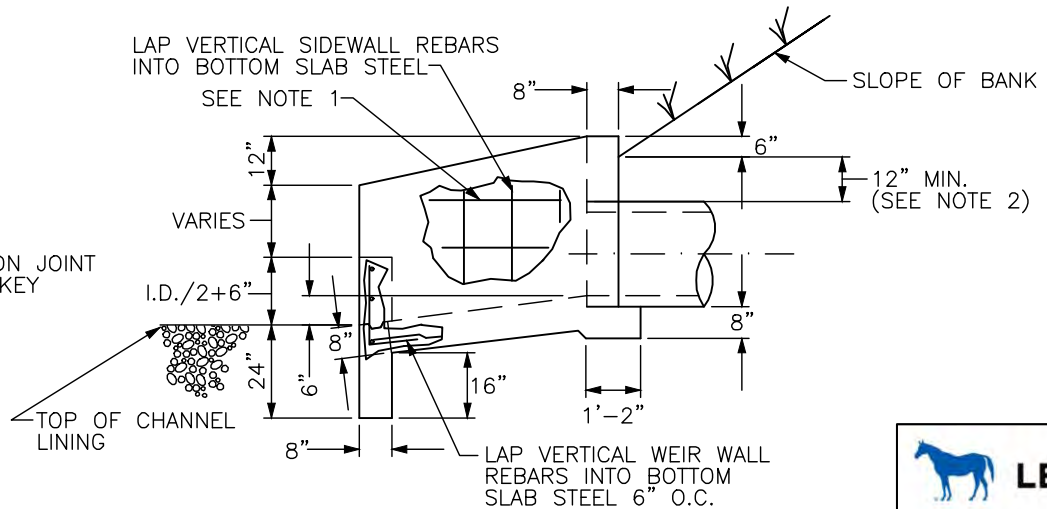
WEIR DETAIL

NOTES:


1. NO. 5 STEEL BARS TO BE USED THROUGHOUT ON 12" CENTERS.
2. HEIGHT OF WALL SHALL BE DETERMINED BY THE AMOUNT OF FILL BEHIND PIPE. TOP OF WALL SHALL BE 18" ABOVE TOP O.D. OF PIPE.
3. TOP OF END SILL SHALL BE LEVEL WITH CENTERLINE OF PIPE.
4. CHANNEL LINING TO BE WIDTH OF END SILL, 18" MINIMUM THICKNESS, AND COMPOSED OF CLASS III CHANNEL LINING.
5. ALL VERTICAL OR SLOPED EXPOSED SURFACES SHALL HAVE A RUBBED FINISH.
6. ALL EXPOSED FLAT WORK TO HAVE A HAND FLOATED AND BROOMED FINISH.
7. ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.
8. ALL STEEL SHALL HAVE 2" MINIMUM CLEARANCE TO THE CONCRETE FACE ON THE BACKFILL SIDE OF THE WALLS.
9. FENCES REQUIRED ON HEADWALLS.

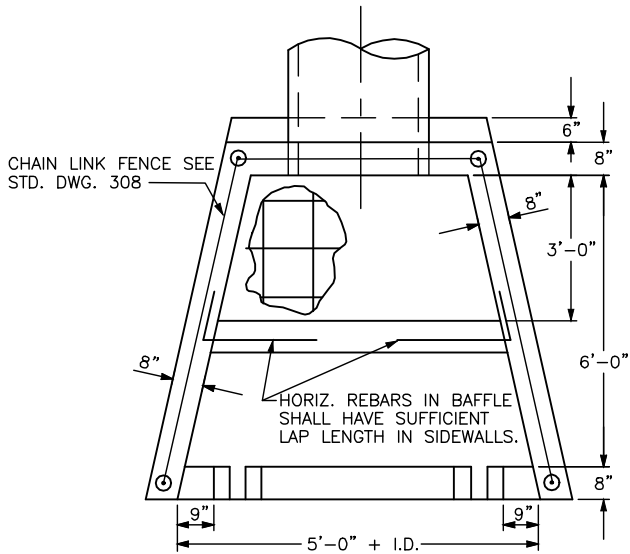


ISOMETRIC VIEW



SIDE ELEVATION

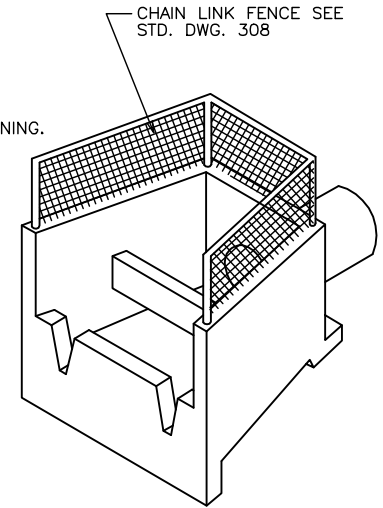
 LEXINGTON	
DIVISION OF ENGINEERING	
IMPACT STILLING BASIN 15" - 24" PIPES	
STANDARD DRAWING NO.	164
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



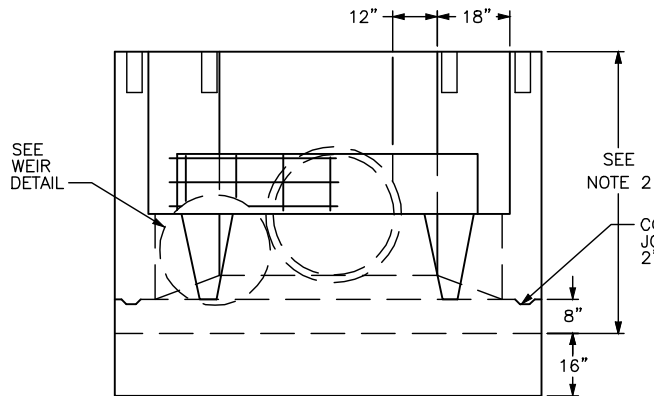
PLAN ELEVATION

NOTES:

1. NO. 5 STEEL BARS SHALL BE USED THROUGHOUT ON 12" CENTERS EXCEPT ON BAFFLE WHERE HORIZONTAL AND VERTICAL STEEL WILL BE ON 6" CENTERS.
2. HEIGHT OF WALL SHALL BE DETERMINED BY THE AMOUNT OF FILL BEHIND PIPE. TOP OF WALL SHALL BE 18" ABOVE TOP O.D. OF PIPE.
3. TOP OF END SILL SHALL BE LEVEL WITH CENTERLINE OF PIPE.
4. TOP OF BAFFLE SHALL BE LEVEL WITH CROWN OF PIPE, AND THE BOTTOM SHALL BE LEVEL WITH CENTERLINE OF PIPE.
5. CHANNEL LINING TO BE 2 TIMES THE WIDTH OF THE END SILL AND EXTEND A MINIMUM OF 4' BEYOND THE STILLING BASIN WITH AN 18" MINIMUM THICKNESS AND COMPOSED OF CLASS III CHANNEL LINING.
6. CHANNEL LINE SPILL SLOPES BEYOND SIDES OF HEADWALL WITH CLASS III CHANNEL LINING. CHANNEL LINING SHALL EXTEND 4' IN WIDTH ON SLOPES AT WINGWALL AND TO DOWNSTREAM END OF CHANNEL.
7. ALL VERTICAL OR SLOPED EXPOSED SURFACES SHALL HAVE A RUBBED FINISH.
8. ALL EXPOSED FLATWORK SHALL HAVE A HANDFLOATED AND BROOMED FINISH.
9. ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.
10. ALL STEEL SHALL HAVE A 2" MINIMUM CLEARANCE TO THE CONCRETE FACE ON THE BACKFILL SIDE OF THE STRUCTURE.
11. CHAIN LINK FENCE IS REQUIRED ON ALL HEADWALLS WHEN THE VERTICAL FACE IS GREATER THAN 30".
12. ALL LARGER PIPES SHALL HAVE A SPECIAL DESIGN STILLING BASIN.
13. ALL LONGITUDINAL REINFORCING BARS IN BAFFLE SHALL HAVE SUFFICIENT ANCHORAGE LENGTH IN SIDEWALLS.



ISOMETRIC VIEW

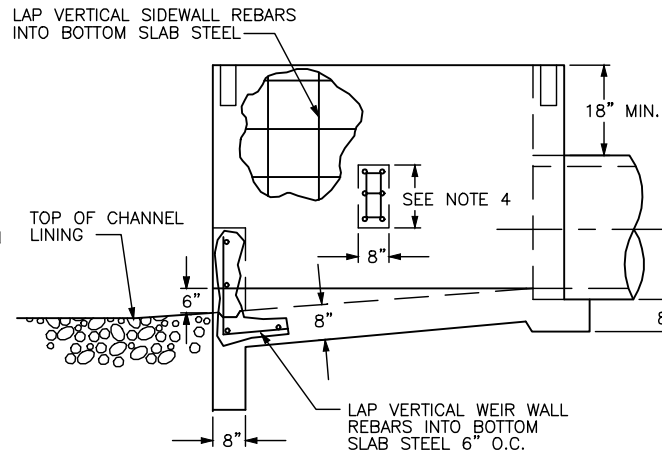


FRONT ELEVATION

SEE WEIR DETAIL

SEE NOTE 2

CONSTRUCTION JOINT WITH 2"X4" KEY

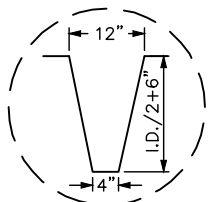


SIDE ELEVATION


LAP VERTICAL SIDEWALL REBARS INTO BOTTOM SLAB STEEL

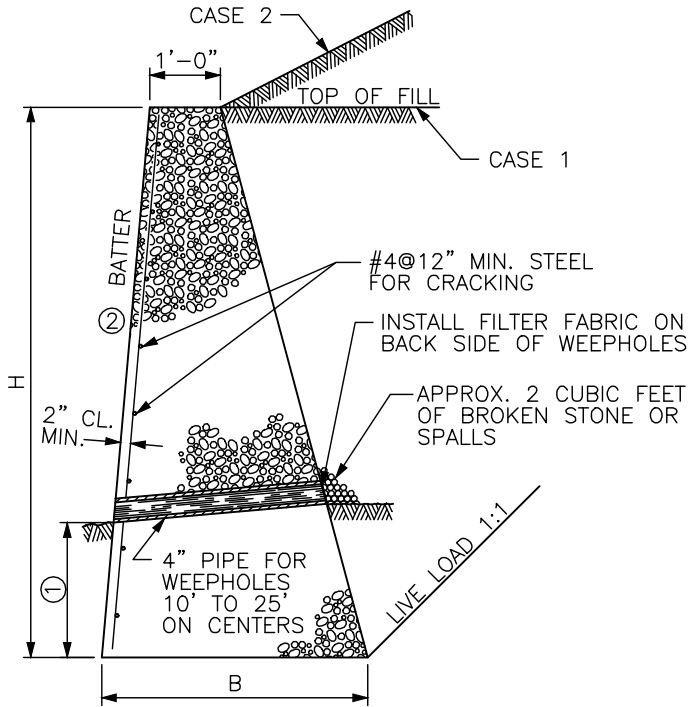
TOP OF CHANNEL LINING

LAP VERTICAL WEIR WALL REBARS INTO BOTTOM SLAB STEEL 6" O.C.



WEIR DETAIL

 LEXINGTON	
DIVISION OF ENGINEERING	
IMPACT STILLING BASIN 27"-48" PIPES	
STANDARD DRAWING NO.	165
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



RETAINING WALL

H	B	END AREA SQ. FT.	VOLUME C.Y./L.F.
CASE 1 OR 2			
2'-6"	1'-3"	2.8125	0.1042
3'-0"	1'-6"	3.7500	0.1389
3'-6"	1'-9"	4.8125	0.1782
4'-0"	2'-0"	6.0000	0.2222
4'-6"	2'-3"	7.3125	0.2708
5'-0"	2'-6"	8.7500	0.3241
5'-6"	2'-9"	10.3125	0.3819
6'-0"	3'-0"	12.0000	0.4444
6'-6"	3'-3"	13.8125	0.5116
7'-0"	3'-6"	15.7500	0.5833
7'-6"	3'-9"	17.8125	0.6597
8'-0"	4'-0"	20.0000	0.7407
8'-6"	4'-3"	22.3125	0.8264
9'-0"	4'-6"	24.7500	0.9167
9'-6"	4'-9"	27.3125	1.0116
CASE 1			
10'-0"	5'-0"	30.0000	1.1111
10'-6"	5'-3"	32.8125	1.2153
11'-0"	5'-6"	35.7500	1.3241
11'-6"	5'-9"	38.8125	1.4375
12'-0"	6'-0"	42.0000	1.5556
CASE 2			
10'-0"	6'-0"	35.0000	1.2963
10'-6"	6'-3"	38.0625	1.4097
11'-0"	6'-6"	41.2500	1.5278
11'-6"	6'-9"	44.5625	1.6505
12'-0"	7'-0"	48.0000	1.7778

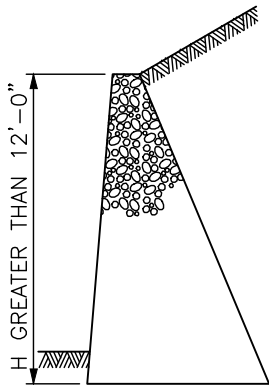
NOTES:

- THE RETAINING WALL DEPICTED ON THIS DRAWING SHALL BE USED WHEN THE HEIGHT ("H" DIMENSION) OF THE WALL IS 2'-6" TO 12'-0" PROVIDED THE FILL COMPLIES WITH THE FOLLOWING CONDITIONS:
 CASE 1 - TOP OF FILL IS LEVEL WITH TOP OF WALL.
 CASE 2 - WALL IS SURCHARGED WITH DEAD LOAD FILL SLOPES OF 2:1 OR LESS.
- AREAS AND VOLUMES HAVE BEEN COMPUTED WITHOUT DEDUCTING FOR BEVELED EDGES OR PIPE DRAINS. WHEN A RETAINING WALL VARIES IN HEIGHT, THE PRISMOIDAL FORMULA SHALL BE USED IN COMPUTING VOLUMES.
- GRAVITY TYPE RETAINING WALLS SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE.
- TRANSVERSE EXPANSION JOINTS 1/2 INCH IN WIDTH SHALL BE PLACED AT INTERVALS OF NOT OVER 30 FEET THROUGHOUT THE LENGTH OF RETAINING WALLS AND EXPANSION JOINT MATERIAL SHALL BE PLACED THEREIN. ALL EXPOSED EDGES SHALL BE BEVELED 3/4 INCH. THE WALLS SHALL NOT BE SURCHARGED EXCEPT IN SPECIAL CASES WHEREIN SPECIAL DRAWINGS WILL BE FURNISHED.

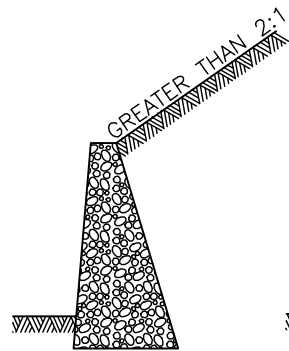
SHEET NOTES: (C)

SPECIAL DESIGNS SHALL BE REQUIRED WHEN ANY ONE OF THE FOLLOWING CONDITIONS EXIST:

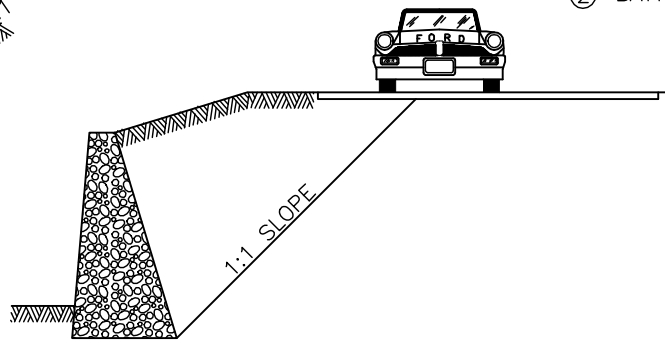
- (A) WALL HEIGHT IS GREATER THAN 12'-0" (CASE 1 OR CASE 2 FILL).
- (B) WALL IS SURCHARGED WITH DEAD LOAD FILL SLOPES GREATER THAN 2:1.
- (C) WALL IS SURCHARGED WITH A LIVE LOAD WITHIN THE LIMITS OF A 1:1 SLOPE EXTENDING FROM THE BASE OF THE WALL.
- (1) MINIMUM VALUE FOR FIRM SOIL IS 2'-0".
- (2) BATTER: H=3'-0" TO LESS THAN 5'-0" (VERTICAL)
 H=5'-0" TO LESS THAN 10'-0" (1":1')
 H=10'-0" TO 12'-0" (2":1')



(A)




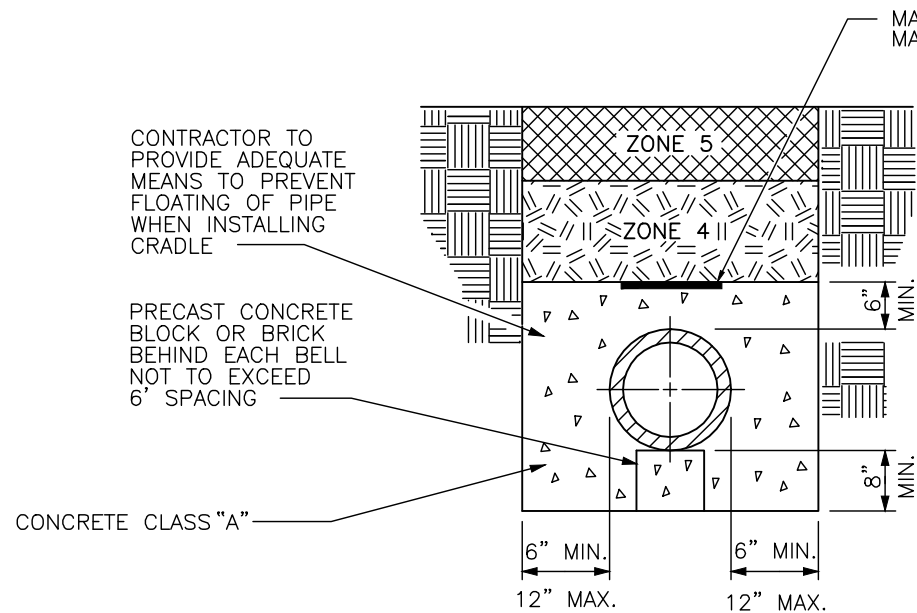
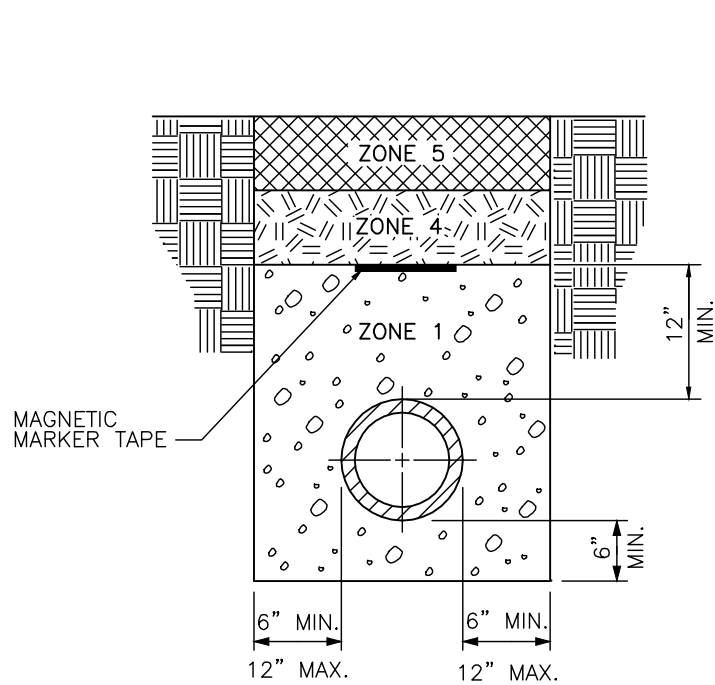
(B)



(C)

SPECIAL DESIGNS REQUIRED

 LEXINGTON	
DIVISION OF ENGINEERING	
RETAINING WALL GRAVITY TYPE	
STANDARD DRAWING NO.	180
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



PIPE LAID IN ROCK OR SOIL TRENCH

STANDARD CONCRETE ENCASEMENT
(NOTE: AS REQUIRED BY DESIGN)

PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SQJL. (NO ROCK GREATER THAN 6" DIAMETER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

NOTES:

1. COVER, UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
2. ALL SANITARY SEWER LINES CONSTRUCTED FROM NON-METALLIC MATERIALS SHALL HAVE MAGNETIC MARKER TAPE INSTALLED IN THE TRENCH ABOVE THE SANITARY SEWER LINE.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.

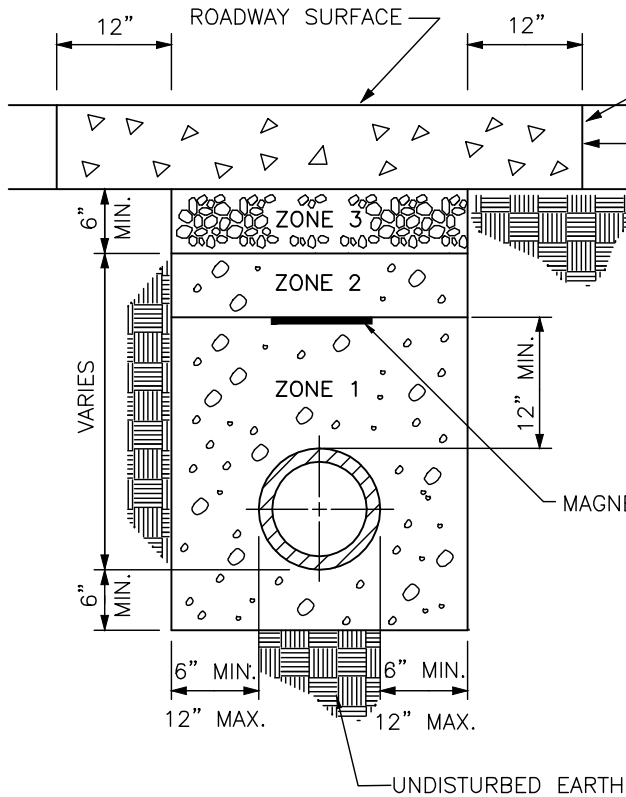


DIVISION OF ENGINEERING

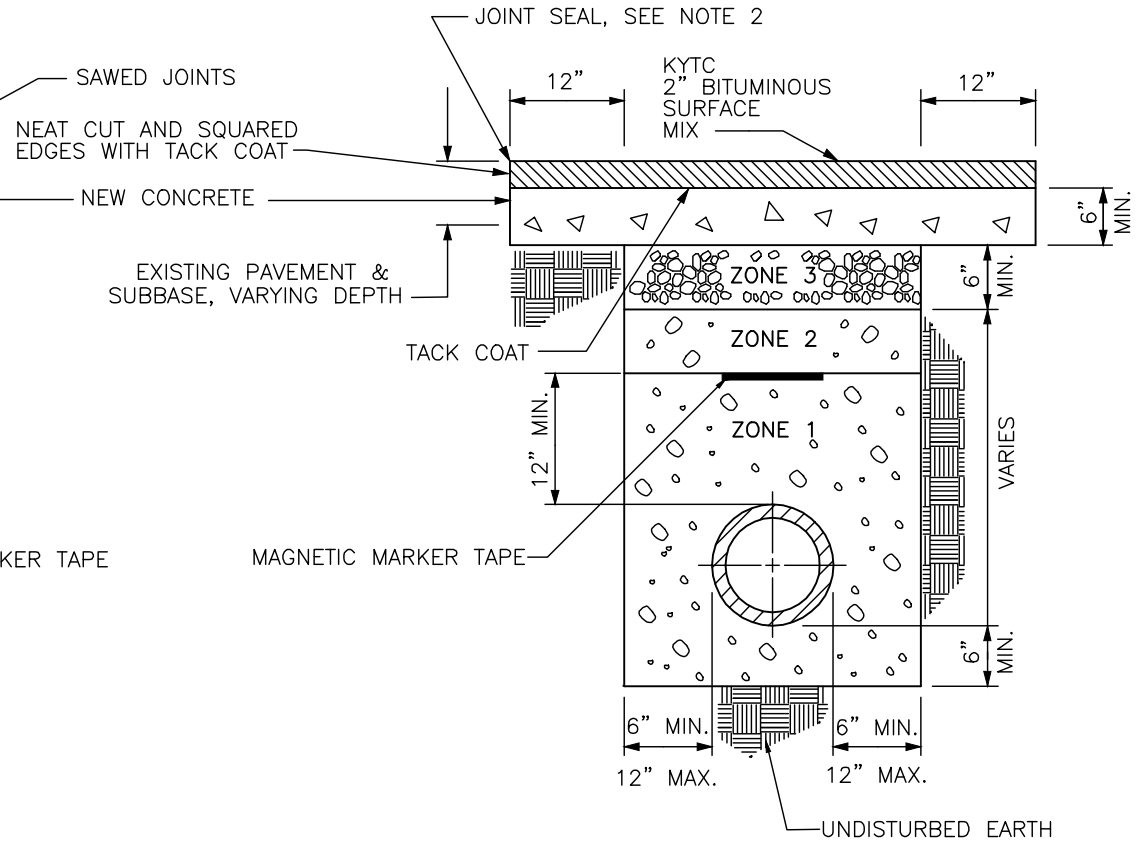
TRENCHING, LAYING,
BACKFILLING AND BEDDING
OUTSIDE R/W LIMITS

STANDARD DRAWING NO.	200
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE

CONCRETE PAVEMENT




BITUMINOUS PAVEMENT



NOTES:

1. REPLACE CONCRETE PAVEMENT WITH NEW CONCRETE PAVEMENT, 6" MINIMUM OR EXISTING THICKNESS, WHICHEVER IS GREATER.
2. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.



PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED


LEXINGTON

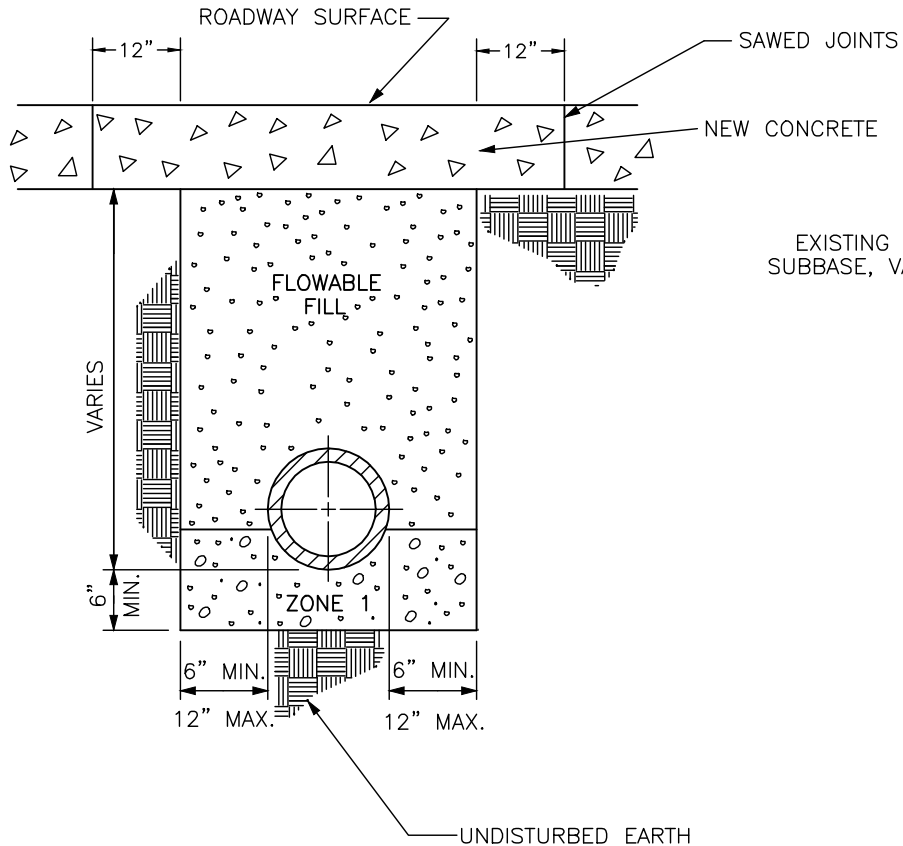
DIVISION OF ENGINEERING

TRENCHING, LAYING, BACKFILLING AND BEDDING UNDER STREET PAVEMENT

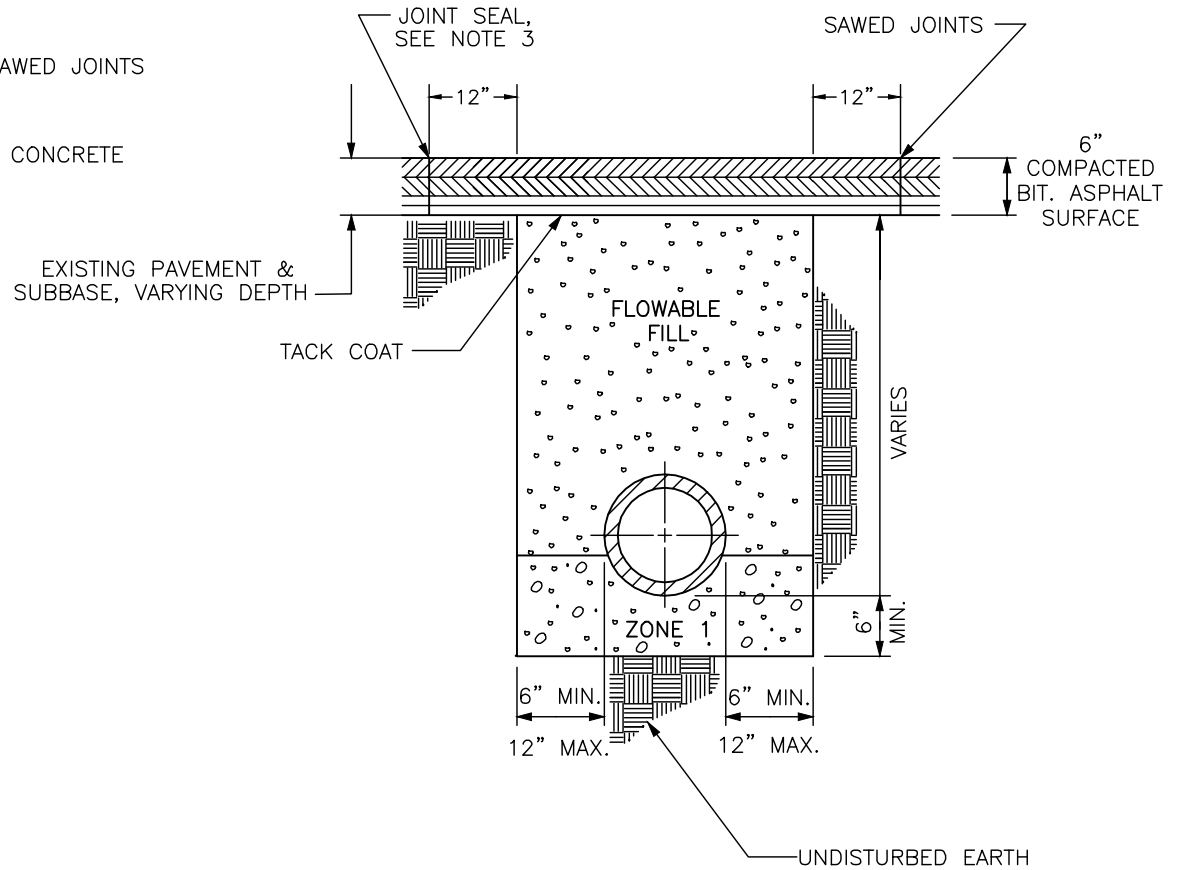
STANDARD DRAWING NO. **201-1**

APPROVAL:  9/22/17
 URBAN COUNTY ENGINEER DATE
 COMMISSIONER  9/22/17
 DATE

CONCRETE PAVEMENT



BITUMINOUS PAVEMENT



PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

NOTES:



1. FLOWABLE FILL PER KYTC SPECIFICATION 601.03.03 FROM STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CURRENT EDITION.
2. REPLACE CONCRETE PAVEMENT WITH NEW CONCRETE PAVEMENT, 6" MINIMUM OR EXISTING THICKNESS, WHICHEVER IS GREATER.
3. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.



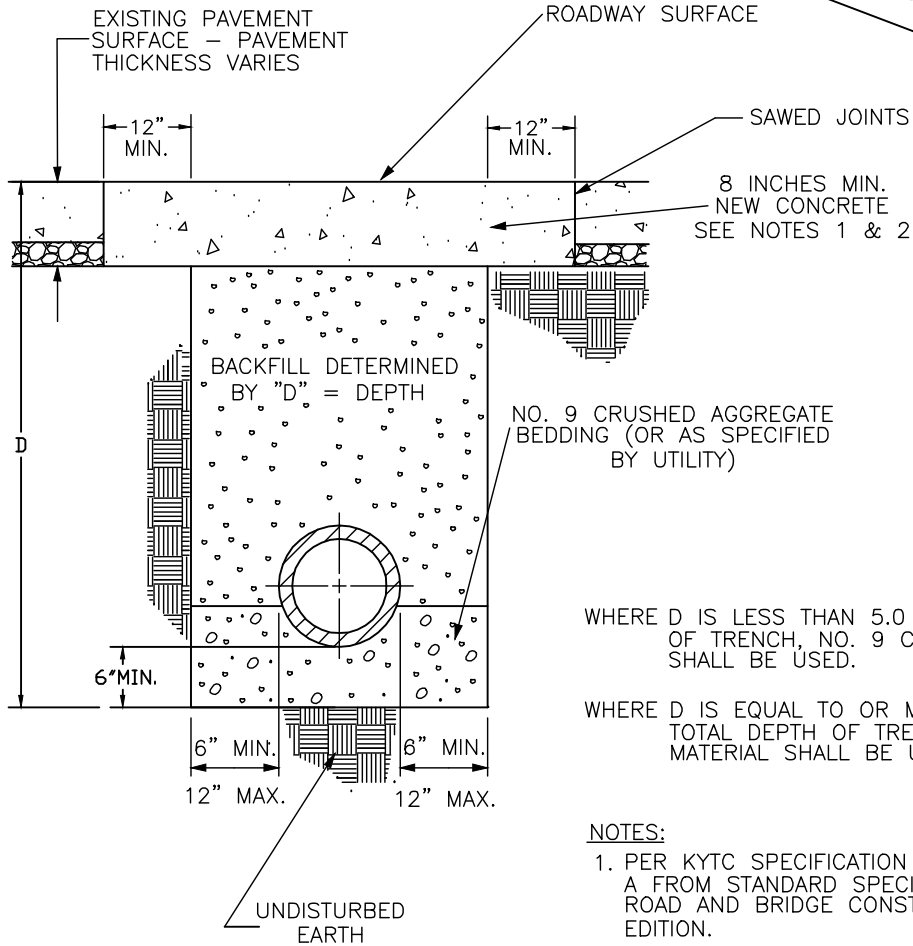
DIVISION OF ENGINEERING

TRENCHING, LAYING, BACKFILLING, AND BEDDING UNDER STREET PAVEMENT USING FLOWABLE FILL

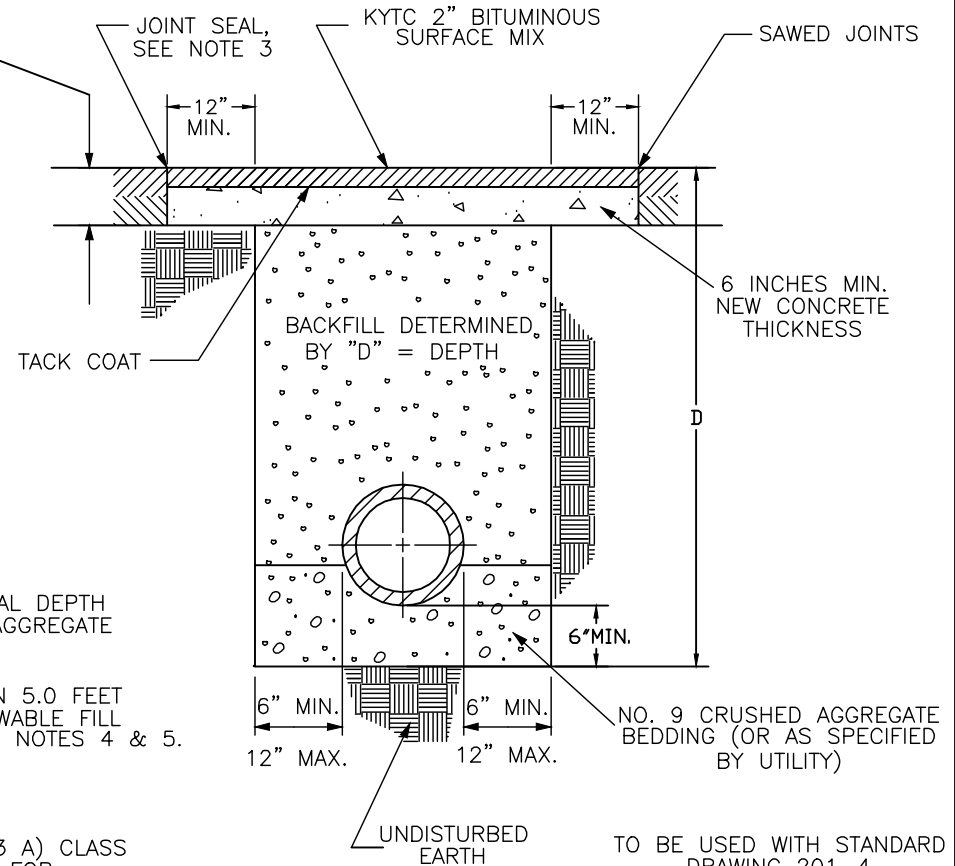
STANDARD DRAWING NO. 201-2

APPROVAL:  9/22/17
 URBAN COUNTY ENGINEER  9/22/17
 COMMISSIONER DATE

CONCRETE PAVEMENT



BITUMINOUS PAVEMENT



WHERE D IS LESS THAN 5.0 FEET TOTAL DEPTH OF TRENCH, NO. 9 CRUSHED AGGREGATE SHALL BE USED.

WHERE D IS EQUAL TO OR MORE THAN 5.0 FEET TOTAL DEPTH OF TRENCH, FLOWABLE FILL MATERIAL SHALL BE USED. SEE NOTES 4 & 5.

NOTES:

1. PER KYTC SPECIFICATION 601.03.03 A) CLASS A FROM STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
2. REPLACE CONCRETE PAVEMENT WITH NEW CONCRETE PAVEMENT.
3. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.
4. FLOWABLE FILL TO BE PROPORTIONED PER KYTC SPECIFICATION 601.03.03 B) 5) FROM STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
5. UTILITY DESIGNERS AND CONTRACTORS SHALL ACCOUNT FOR AND PROVIDE ANY SUITABLE MEANS TO PREVENT PIPE/CONDUIT FLOATATION.



TO BE USED WITH STANDARD DRAWING 201-4



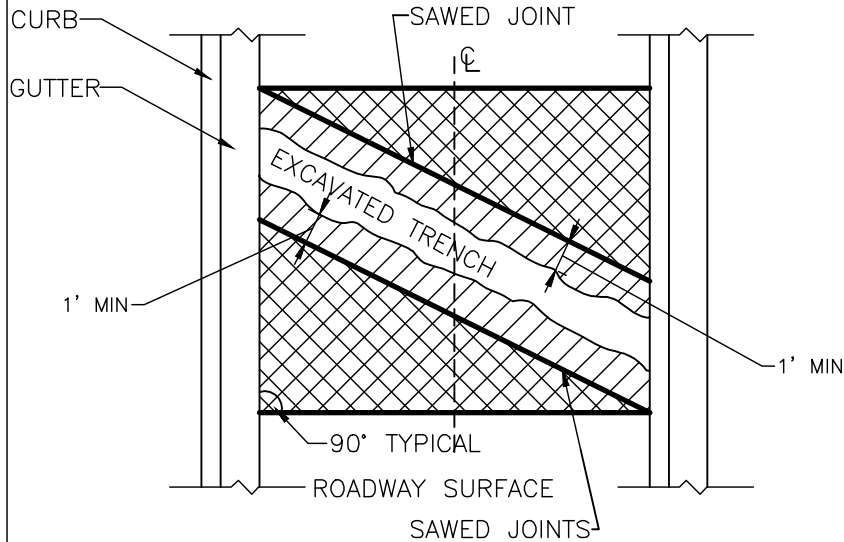
DIVISION OF ENGINEERING

UTILITY TRENCH RESTORATION BENEATH EXISTING PAVED ROADS (SECTION VIEW)

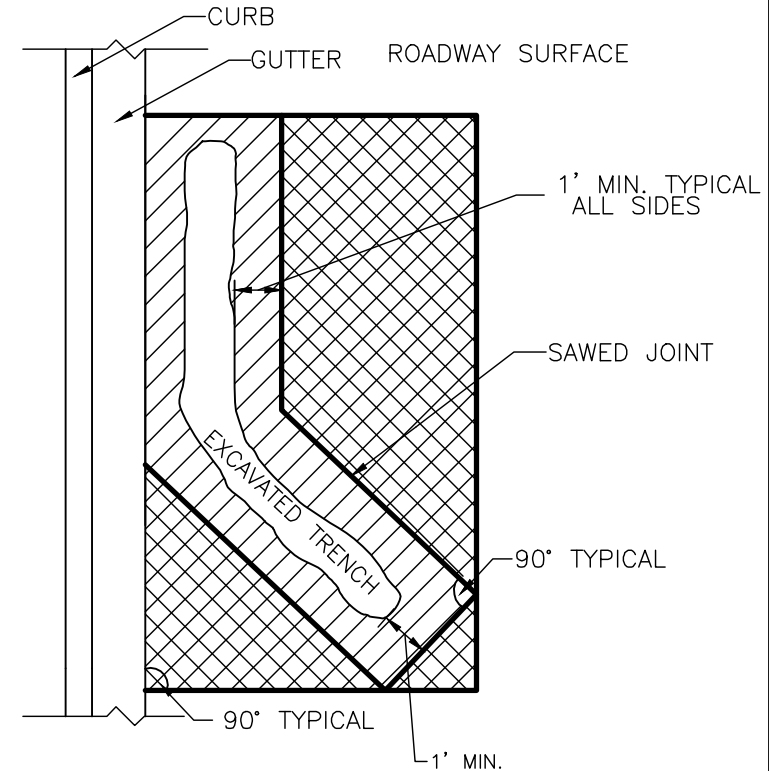
STANDARD DRAWING NO. 201-3

APPROVAL:  9/22/17
 URBAN COUNTY ENGINEER  9/22/17
 COMMISSIONER DATE

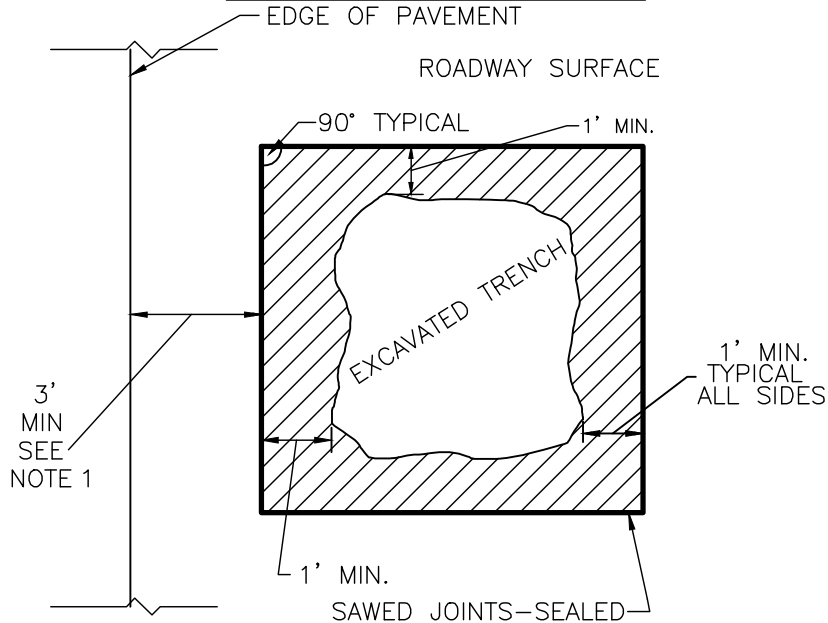
TRANSVERSE EXCAVATION



LONGITUDINAL EXCAVATION – ADJACENT TO CURB OR GUTTER

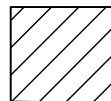


ISOLATED EXCAVATION

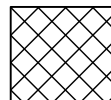


NOTES:

1. WHEN LESS THAN 3', THEN THE PAVEMENT SHALL BE REMOVED TO THE EDGE OF PAVEMENT AND REPLACED PER STANDARD DRAWING 201-3.
2. STREET CUT SHALL BE ORIENTED EITHER PARALLEL OR PERPENDICULAR TO CURB OR GUTTER.
3. ALL SAWED JOINTS SHALL PRODUCE NEAT CUTS WITH SQUARED EDGES.



AREA SHALL BE EXCAVATED TO 8" BELOW ROADWAY SURFACE, THEN REPLACED PER STANDARD DRAWING 201-3.



AREA SHALL BE MILLED 2" AND REPLACED WITH 2" BITUMINOUS SURFACE MIX.

TO BE USED WITH STANDARD DRAWING, 201-3



LEXINGTON

DIVISION OF ENGINEERING

UTILITY TRENCH RESTORATION BENEATH EXISTING PAVED ROADS (PLAN VIEW)

STANDARD DRAWING NO. 201-4

APPROVAL: *[Signature]* 9/22/17
 URBAN COUNTY ENGINEER *[Signature]* / DATE
 COMMISSIONER *[Signature]* 9/22/17 / DATE




TABLE OF:
MAXIMUM ALLOWABLE FILL HEIGHTS
 (LIVE LOAD NOT INCLUDED)

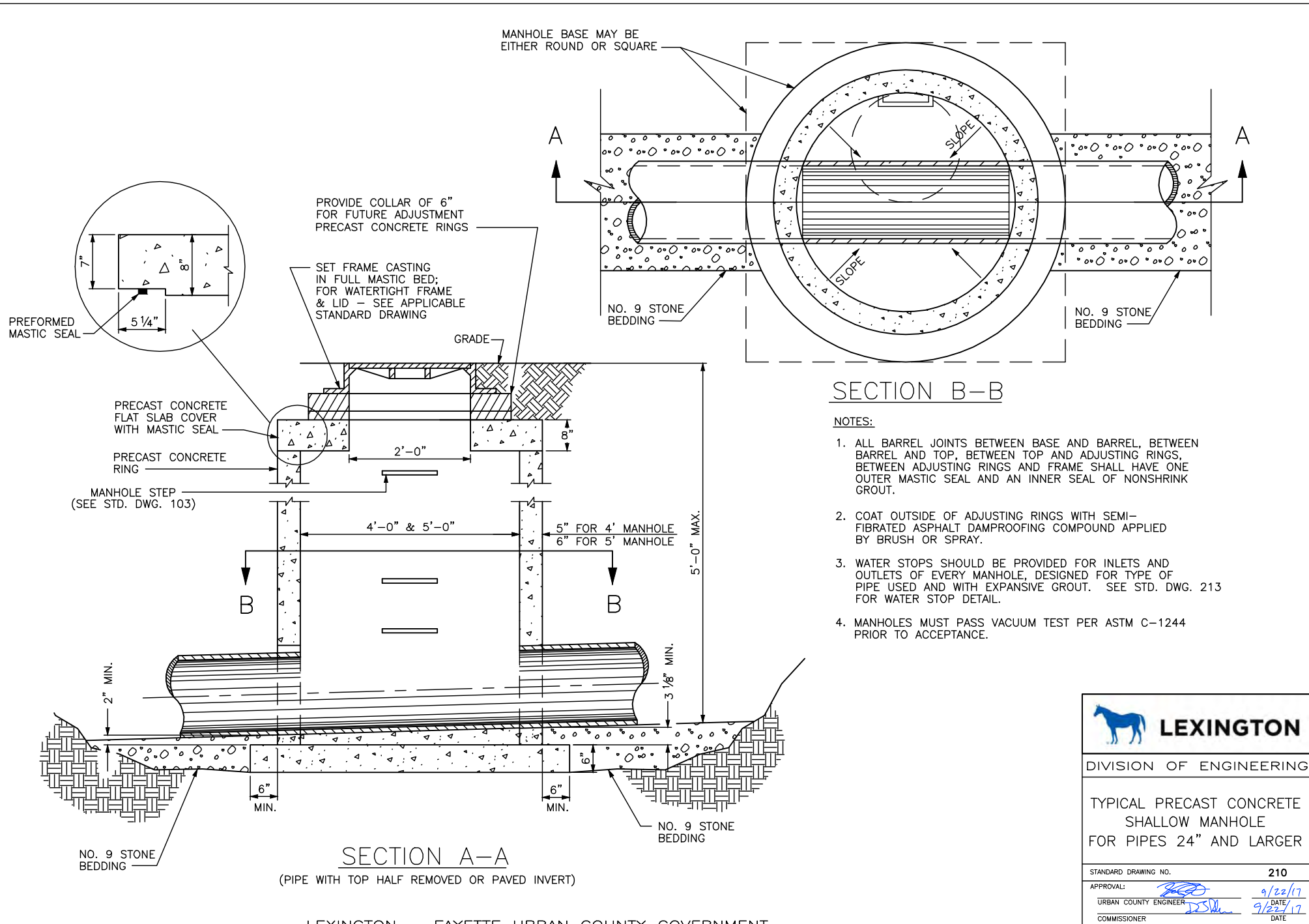
DIAMETER (INCHES)	DUCTILE IRON PIPE	POLYVINYL CHLORIDE (PVC) PIPE	
	CLASS 50 *	SDR-35	SDR-26 HEAVY WALL
	MAXIMUM DEPTH OF COVER (FEET)	MAXIMUM DEPTH OF COVER (FEET)	MAXIMUM DEPTH OF COVER (FEET)
4	—	—	—
6	20	15	—
8	20	15	—
10	20	15	—
12	20	15	—
14	20	—	—
15	—	15	—
16	20	—	—
18	20	—	20
20	18	—	—
21	—	—	20
24	17	—	20
27	—	—	20
30	14	—	—
36	14	—	—
42	13	—	—
48	13	—	—


NOTES:

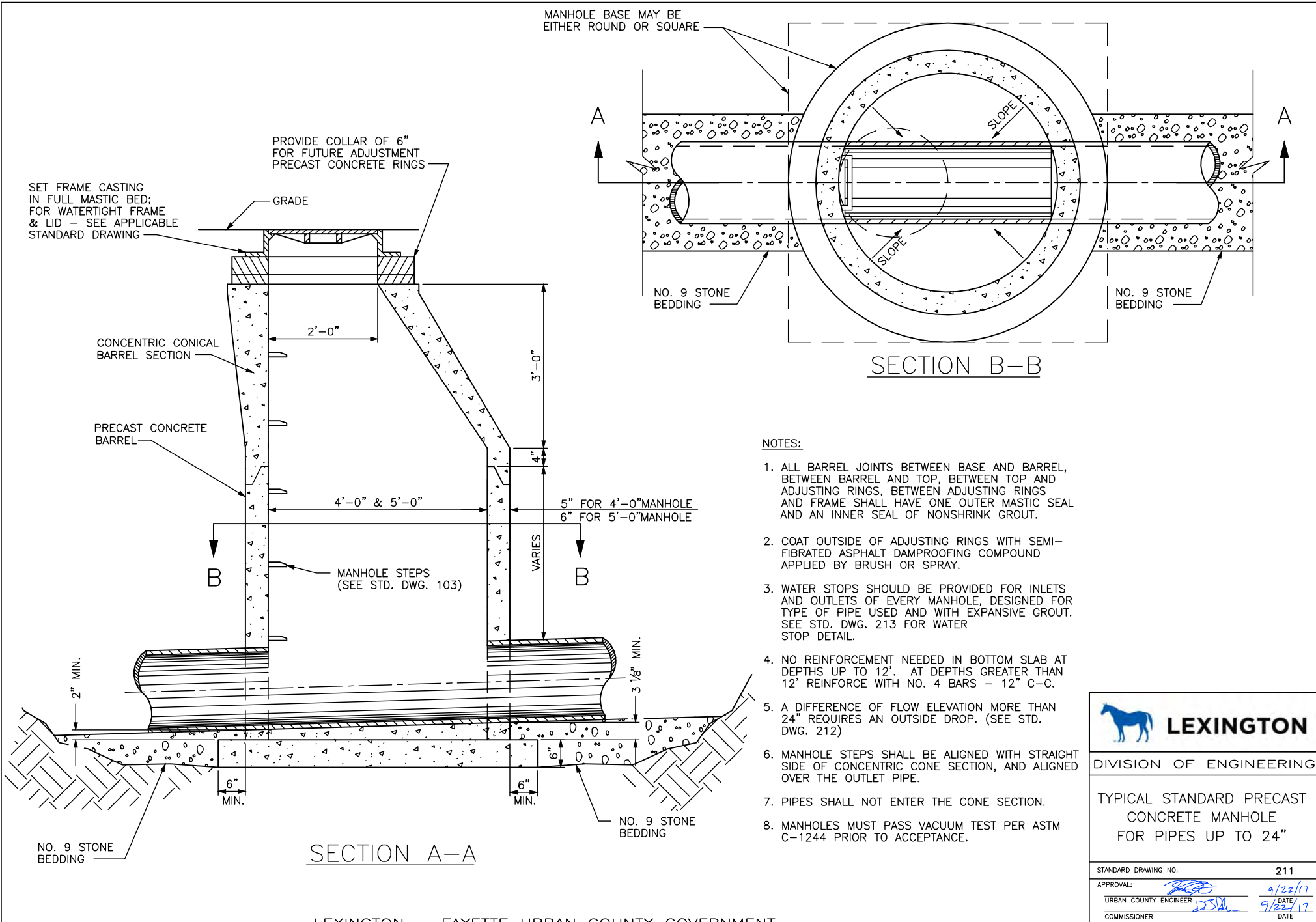
1. DEPTH IS BASED ON LAYING CONDITION UTILIZING NO. 9 STONE ENCASING PIPE FROM 6" MINIMUM BELOW PIPE TO A PLANE, LEVEL WITH THE TOP OF THE PIPE AND 6" TO 12" NO. 9 STONE TO EDGE OF TRENCH.
2. WEIGHT OF SOIL AND ROCK COVER MIX IS ASSUMED TO BE APPROXIMATELY 120 LB./CU. FT.
3. DUCTILE IRON PIPE HAS FLEXIBLE LINING.
4. DESIGN ENGINEERS SHOULD USE THIS STANDARD DRAWING FOR GENERAL GUIDELINES AND SHOULD CHECK THEIR DESIGN FOR SAFE, NON-DESTRUCTIVE FILL HEIGHTS FOR ACTUAL BRAND OF PIPE PROPOSED.
5. SPECIAL TRENCHING DETAILS AND PROCEDURES SHOULD BE USED WHERE FILL DEPTHS ARE HIGHER THAN THOSE SHOWN IN TABLE.
6. INSTALLATIONS REQUIRING A DEPTH GREATER THAN 20', MUST BE APPROVED BY THE ENGINEER.

* LIGHTEST CLASS OF DUCTILE IRON PIPE




 LEXINGTON
DIVISION OF ENGINEERING
SANITARY SEWER PIPE: TYPES & MAXIMUM ALLOWABLE FILL HEIGHTS
STANDARD DRAWING NO. 204
APPROVAL:  <u>9/22/17</u> URBAN COUNTY ENGINEER / DATE  <u>9/22/17</u> COMMISSIONER / DATE

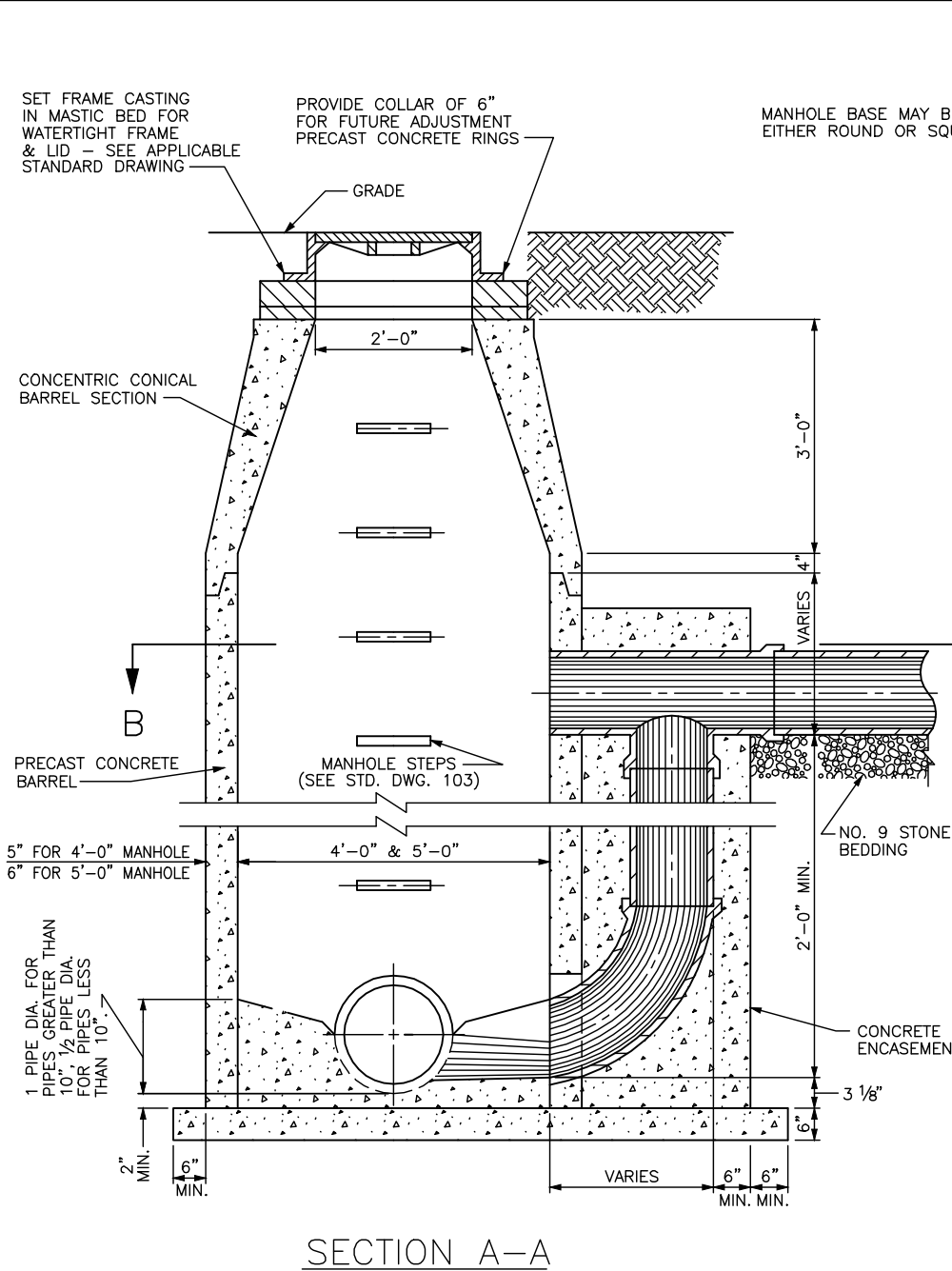


 LEXINGTON	
DIVISION OF ENGINEERING	
TYPICAL PRECAST CONCRETE SHALLOW MANHOLE FOR PIPES 24" AND LARGER	
STANDARD DRAWING NO.	210
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

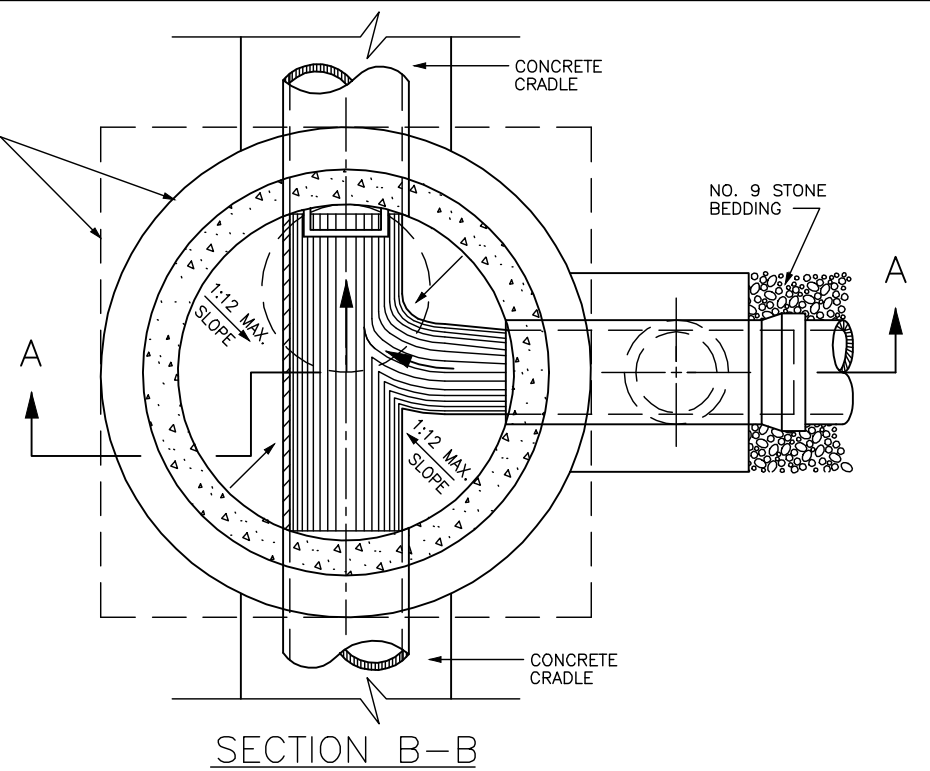


- NOTES:**
1. ALL BARREL JOINTS BETWEEN BASE AND BARREL, BETWEEN BARREL AND TOP, BETWEEN TOP AND ADJUSTING RINGS, BETWEEN ADJUSTING RINGS AND FRAME SHALL HAVE ONE OUTER MASTIC SEAL AND AN INNER SEAL OF NONSHRINK GROUT.
 2. COAT OUTSIDE OF ADJUSTING RINGS WITH SEMI-FIBRATED ASPHALT DAMPROOFING COMPOUND APPLIED BY BRUSH OR SPRAY.
 3. WATER STOPS SHOULD BE PROVIDED FOR INLETS AND OUTLETS OF EVERY MANHOLE, DESIGNED FOR TYPE OF PIPE USED AND WITH EXPANSIVE GROUT. SEE STD. DWG. 213 FOR WATER STOP DETAIL.
 4. NO REINFORCEMENT NEEDED IN BOTTOM SLAB AT DEPTHS UP TO 12'. AT DEPTHS GREATER THAN 12' REINFORCE WITH NO. 4 BARS - 12" C-C.
 5. A DIFFERENCE OF FLOW ELEVATION MORE THAN 24" REQUIRES AN OUTSIDE DROP. (SEE STD. DWG. 212)
 6. MANHOLE STEPS SHALL BE ALIGNED WITH STRAIGHT SIDE OF CONCENTRIC CONE SECTION, AND ALIGNED OVER THE OUTLET PIPE.
 7. PIPES SHALL NOT ENTER THE CONE SECTION.
 8. MANHOLES MUST PASS VACUUM TEST PER ASTM C-1244 PRIOR TO ACCEPTANCE.

 LEXINGTON	
DIVISION OF ENGINEERING	
TYPICAL STANDARD PRECAST CONCRETE MANHOLE FOR PIPES UP TO 24"	
STANDARD DRAWING NO.	211
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE 9/22/17
COMMISSIONER 	DATE




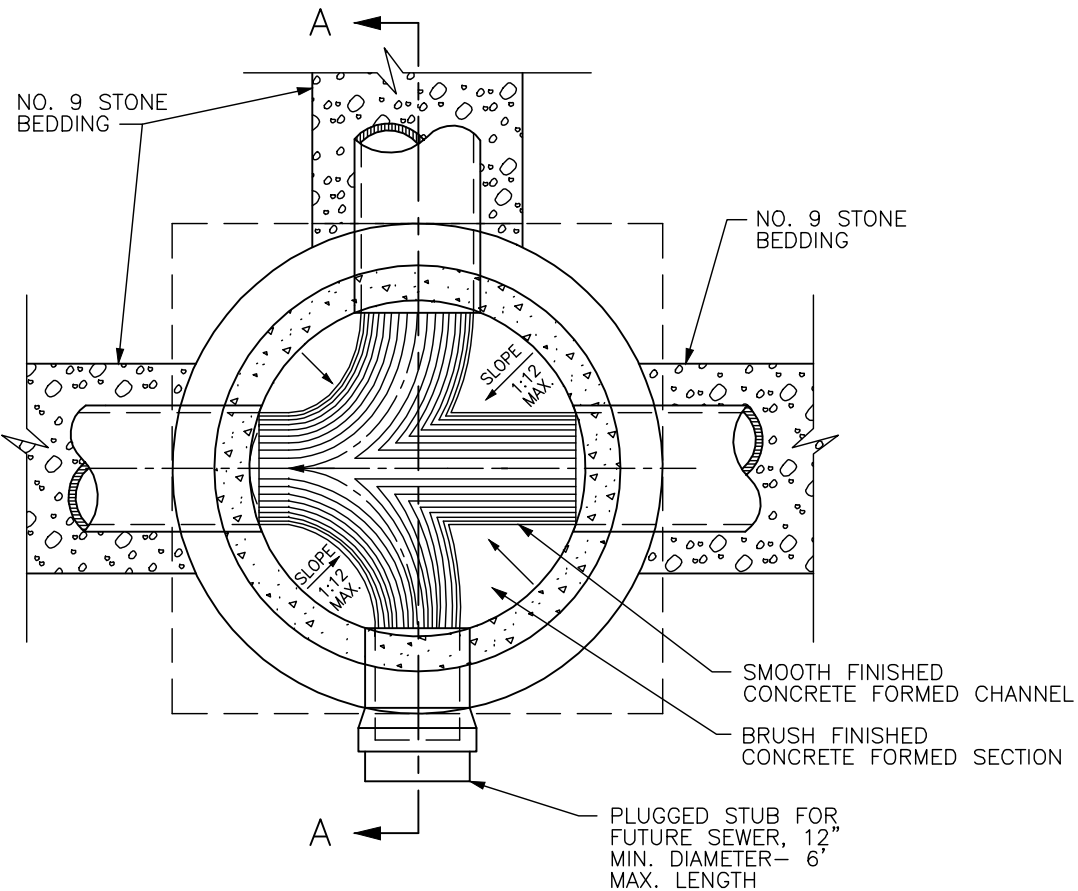
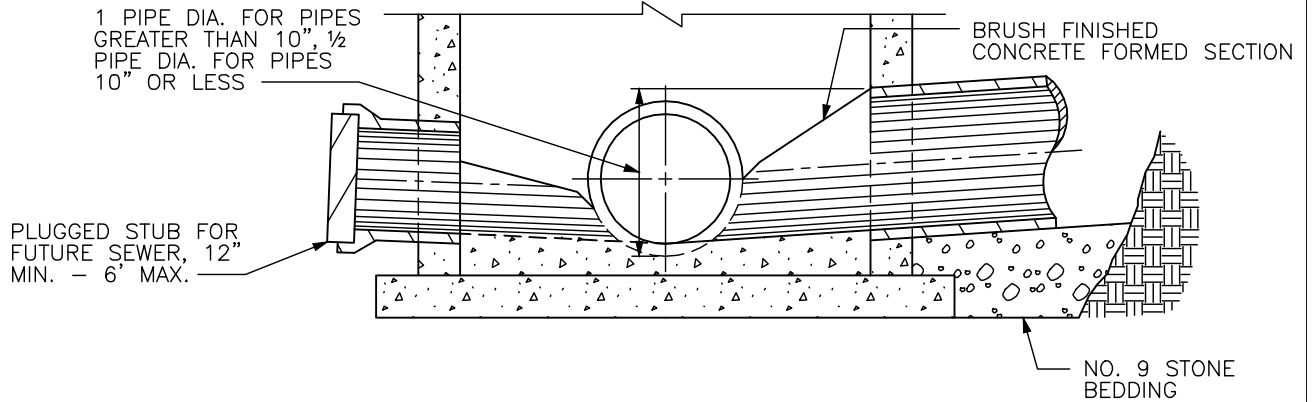
SECTION A-A



NOTES:

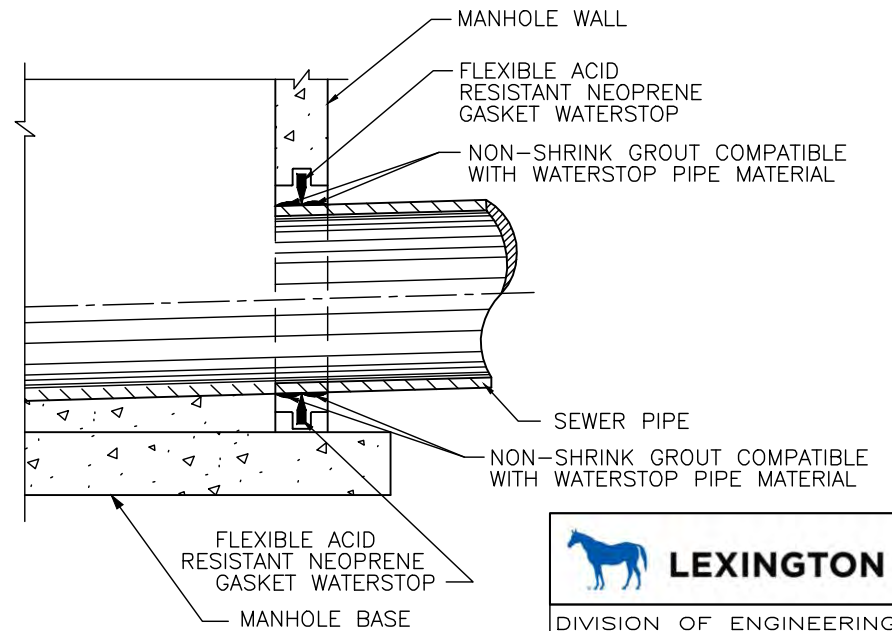
1. ALL BARREL JOINTS BETWEEN BASE AND BARREL, BETWEEN BARREL AND TOP, BETWEEN TOP AND ADJUSTING RINGS, BETWEEN ADJUSTING RINGS AND FRAME SHALL HAVE ONE OUTER MASTIC SEAL AND AN INNER SEAL OF NONSHRINK GROUT.
2. COAT OUTSIDE OF ADJUSTING RINGS WITH SEMI-FIBRATED ASPHALT DAMPROOFING COMPOUND APPLIED BY BRUSH OR SPRAY.
3. WATER STOPS SHOULD BE PROVIDED FOR INLETS AND OUTLETS OF EVERY MANHOLE, DESIGNED FOR TYPE OF PIPE USED AND WITH EXPANSIVE GROUT. SEE STD. DWG. 213 APPLICABLE FOR WATER STOP DETAIL.
4. NO REINFORCEMENT NEEDED IN BOTTOM SLAB AT DEPTHS UP TO 12'. AT DEPTHS GREATER THAN 12' REINFORCE WITH NO. 4 BARS - 12" C-C.
5. PROVIDE A MINIMUM FALL OF 0.1 FOOT FROM DROP TO MANHOLE OUTLET.
6. MANHOLES SHALL PASS VACUUM TEST PER ASTM C-1244 PRIOR TO ACCEPTANCE.
7. PIPE SHALL NOT ENTER CONE SECTION.
8. MANHOLE STEPS SHALL BE ALIGNED WITH STRAIGHT SIDE OF CONCENTRIC CONE SECTION, AND ALIGNED OVER OUTLET PIPE.
9. DO NOT USE IN CASES WHERE THE DROP IS 2'-0" OR LESS.

 LEXINGTON	
DIVISION OF ENGINEERING	
TYPICAL PRECAST CONCRETE DROP MANHOLE FOR PIPES UP TO 36"	
STANDARD DRAWING NO.	212
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



SECTION PLAN

SECTION A-A



WATER STOP DETAIL

NOTE:

MANHOLES SHALL PASS VACUUM TEST PER
ASTM C-1244 PRIOR TO ACCEPTANCE.



LEXINGTON

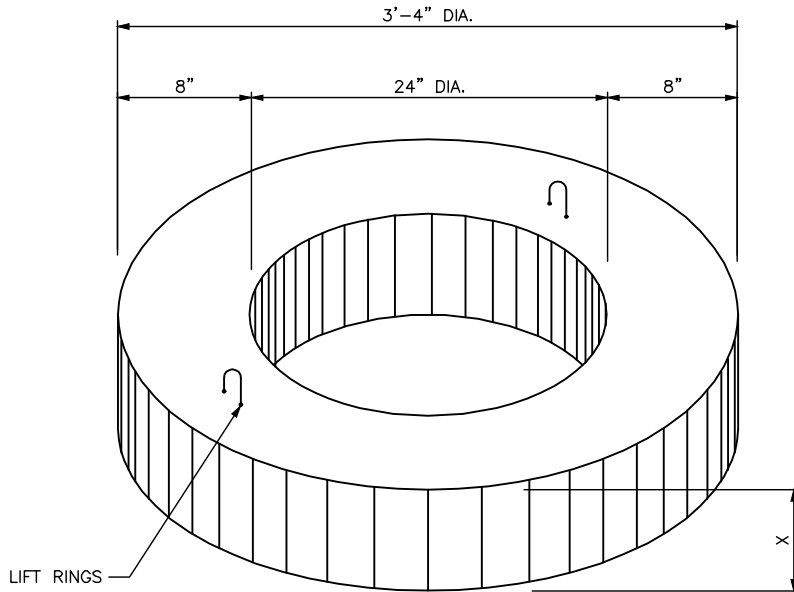
DIVISION OF ENGINEERING

STANDARD MANHOLE
JUNCTION AND WATER
STOP DETAILS

STANDARD DRAWING NO.	213
APPROVAL:	
URBAN COUNTY ENGINEER	<i>[Signature]</i> 9/22/17
COMMISSIONER	<i>[Signature]</i> 9/22/17
	DATE

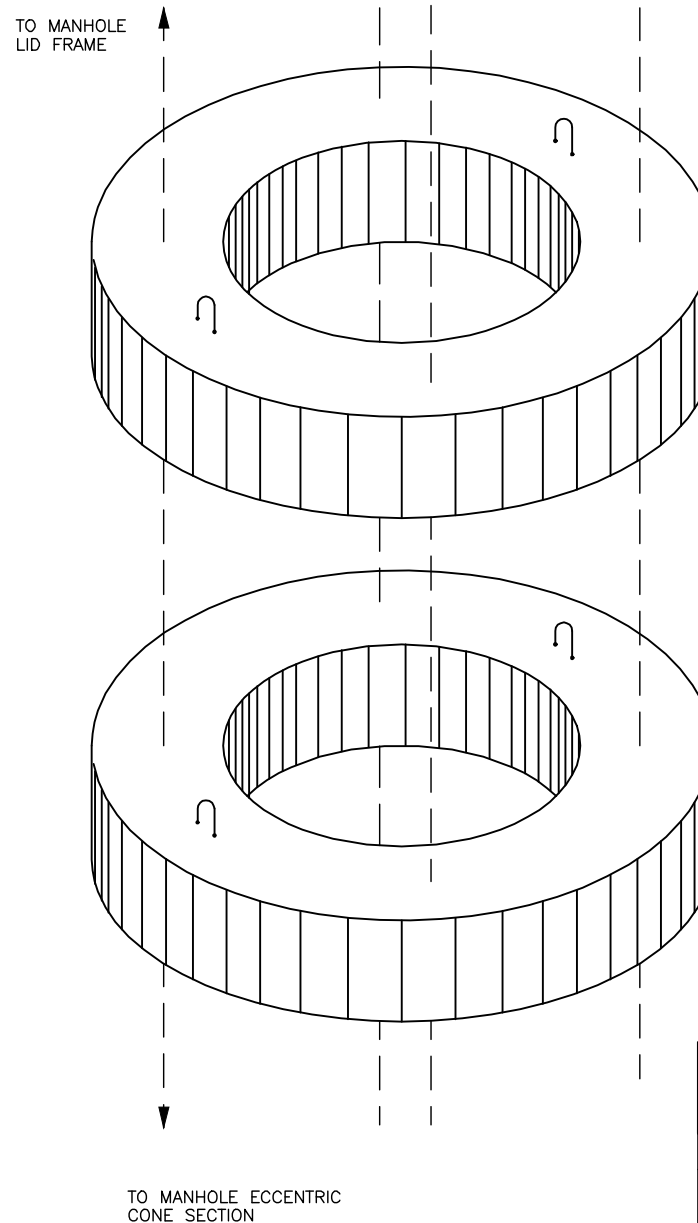
NOTES:




1. LIFT RINGS TO BE CUT BEFORE ADDING THE NEXT RING OR TOP.
2. COAT OUTSIDE AND IN BETWEEN ADJUSTING RINGS WITH SEMI-FIBRATED ASPHALT DAMPROOFING COMPOUND APPLIED BY BRUSH OR SPRAY.
3. GRADE RINGS WITH NON-PARALLEL SURFACES MAY BE USED TO ADJUST CASTING TO SLOPED SURFACE.
4. CONCRETE: CLASS "A" 3500 PSI AT 28 DAYS, AND IN ACCORDANCE WITH ASTM C-478, OR APPROVED EQUAL.
5. NO MORE THAN 2 GRADE RINGS MAY BE USED AT ONE LOCATION AND THE MAXIMUM HEIGHT OF ALL RINGS USED SHALL NOT EXCEED 12 INCHES.
6. APPLY MASTIC BETWEEN ALL JOINTS.



GRADE RING WIDTH CHART

X	WEIGHT LBS.
2"	140
3"	210
4"	279
6"	419
8"	560
12"	730



 LEXINGTON	
DIVISION OF ENGINEERING	
SEWER MANHOLE ADJUSTMENT GRADE RINGS	
STANDARD DRAWING NO.	214
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE 9/22/17
COMMISSIONER 	DATE DATE

GENERAL NOTES

1. SHALLOW MANHOLE TYPE CONSTRUCTION SHOWN ON STD. DWG. 210 MAY BE USED FOR ALL MANHOLES UP TO 5' IN DEPTH.
2. ALL DIMENSIONS ARE BASED ON SIZE OF LARGEST PIPE IN MANHOLE.
3. MANHOLES FOR PIPE LARGER THAN 36" SHALL BE SPECIALLY DESIGNED.
4. BOTTOM SLAB OF MANHOLES SHALL BE SPECIALLY DESIGNED WITH REGARD TO AREA, THICKNESS, AND REINFORCING IN SITUATIONS WHERE HIGH WATER TABLE OR UNSTABLE SOIL CONDITIONS EXIST.
5. MANHOLE STEPS SHALL BE INSTALLED IN A VERTICAL LINE AND SHALL COMPLY WITH OSHA STANDARDS IN ALL RESPECTS.
6. ALL FLOORS OF MANHOLES SHALL SLOPE AT LEAST 1" PER FT. FROM WALL TO CHANNELS AND SHALL HAVE SMOOTH FLOAT AND BRUSH FINISH.
7. CHANNEL SURFACE OF MANHOLES FROM INLET TO OUTLET SHALL HAVE SMOOTH FLOAT FINISH.
8. ELEVATIONS OF PIPES IN MANHOLES SHALL BE SUCH THAT THE TOP OF ALL INFLUENT PIPES WILL BE AT AN ELEVATION EQUAL TO OR GREATER THAN THE TOP OF THE EFFLUENT PIPE.
9. A MINIMUM FALL OF 0.10 FOOT SHALL BE PROVIDED.
10. BASE OF MANHOLES GREATER THAN 12' DEEP TO BE REINFORCED WITH NO. 4 BARS AT 12" BOTH WAYS.
11. ASPHALT DAMPROOFING COMPOUND IS REQUIRED ON PRECAST MANHOLES IN WET AREAS OR OTHERWISE AS DIRECTED BY THE ENGINEER.
12. LEAKS IN MANHOLES OBSERVED DURING CONSTRUCTION OR INSPECTION SHALL BE CORRECTED IMMEDIATELY.
13. MANHOLES SHALL PASS VACUUM TEST PER ASTM C-1244 PRIOR TO ACCEPTANCE.
14. ALL INLETS, INCLUDING LATERALS, MUST HAVE FLOW CHANNELS.
15. NEW CONNECTIONS TO EXISTING SANITARY SEWER MANHOLES MUST REPLACE EXISTING BRICK MANHOLES OR DAMAGED MANHOLES AT NO EXPENSE TO THE LFUCG.
16. FIELD POURED BASES (DOGHOUSE MANHOLES) SHALL ONLY BE ALLOWED WITH PRIOR APPROVAL OF THE LFUCG.

SPECIFICATIONS

1. CASTINGS SHALL BE ASTM A-48, CLASS 35.
2. CONCRETE FOR MANHOLES, CRADLE ENCASEMENT, ETC. SHOWN IN THESE DETAILS SHALL BE CLASS "A".
3. CONCRETE MANHOLE BARREL CONSTRUCTION SHALL CONFORM TO ASTM C-478 OR ITS LATEST REVISION.



DIVISION OF ENGINEERING

MANHOLE SIZE STANDARDS
AND GENERAL NOTES
FOR DEEP MANHOLES

STANDARD DRAWING NO. **216**

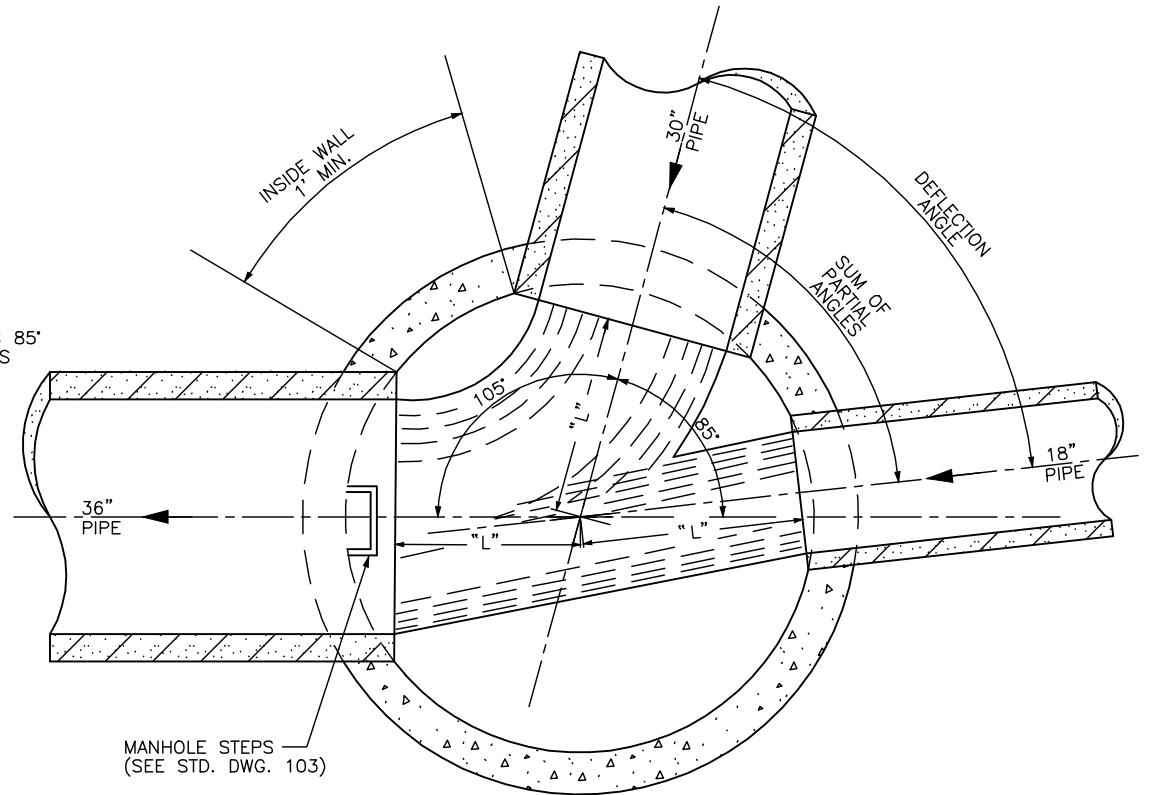
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	DATE

CIRCULAR MANHOLE NOTES:

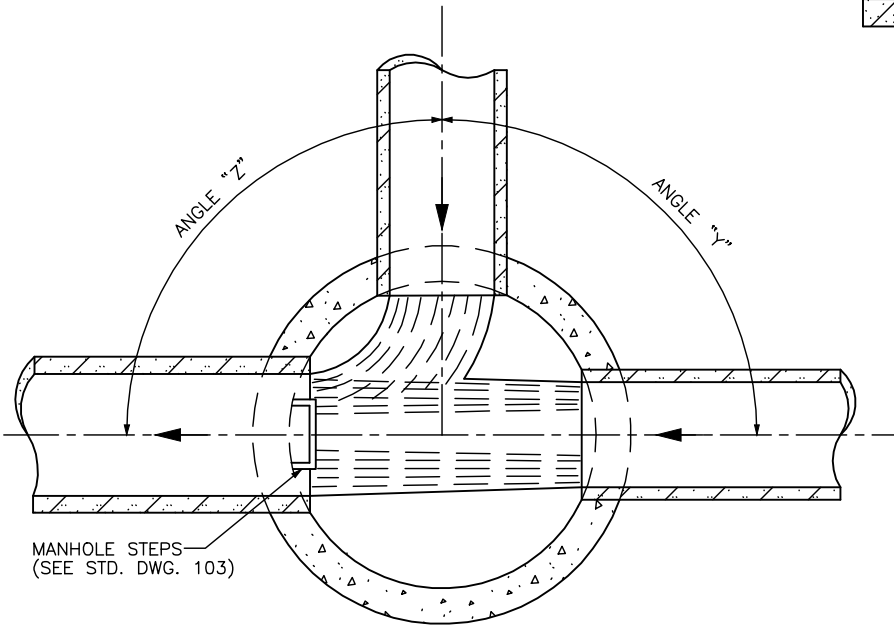
1. THE ANGLE BETWEEN ANY TWO PIPES (e.g. ANGLE "Y" OR "Z") MUST BE GREATER THAN THE SUM OF THE PARTIAL ANGLES. REFER TO SEPARATE STANDARD DRAWINGS FOR TABLE OF MINIMUM PARTIAL ANGLES. ANGLES SMALLER THAN LISTED ON TABLE SHALL REQUIRE LARGER MANHOLE SELECTION.
2. THE MAXIMUM DEFLECTION ANGLE BETWEEN ANY INCOMING PIPE AND THE CENTERLINE EXTENSION OF THE DISCHARGE PIPE SHALL BE NO MORE THAN 90° FOR PIPES UP TO 24" IN DIAMETER. THE MAXIMUM DEFLECTION ANGLE FOR 27" TO 36" PIPES SHALL BE 75°.

EXAMPLE FOR SANITARY MANHOLE SIZE SELECTION:

FOR MANHOLE SHOWN AT RIGHT, THE ANGLE BETWEEN THE 18" AND 30" PIPES IS 85° AND THE ANGLE BETWEEN THE 30" AND 36" PIPES IS 105°. THE TABLE INDICATES THAT FOR A 5'-0" DIAMETER MANHOLE THE MINIMUM PARTIAL ANGLE FOR AN 18" PIPE IS 34° AND FOR A 30" PIPE IS 50°. THE SUM OF THE PARTIAL ANGLES IS 84°, THIS SUM IS LESS THAN THE 85° THEREFORE, A 5'-0" MANHOLE DIAMETER IS ACCEPTABLE.



PLAN SECTION



PLAN SECTION

TABLE OF MINIMUM PARTIAL ANGLES FOR SANITARY MANHOLES

PIPE SIZE	MANHOLE SIZE			
	4'-0"		5'-0"	
	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.
15"	38°	1'-10"	30°	2'-3"
18"	43°	1'-8"	34°	2'-3"
24"	53°	1'-6"	39°	2'-2"
27"	-	-	45°	2'-0"
30"	-	-	50°	1'-11"

LEXINGTON

DIVISION OF ENGINEERING

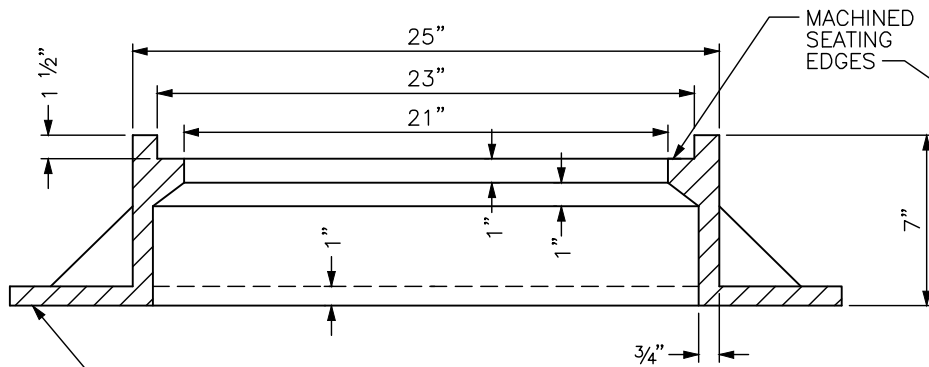
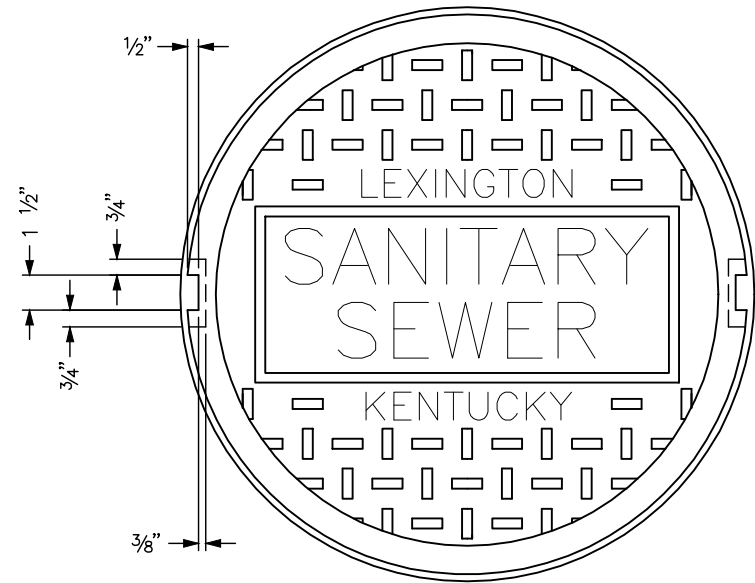
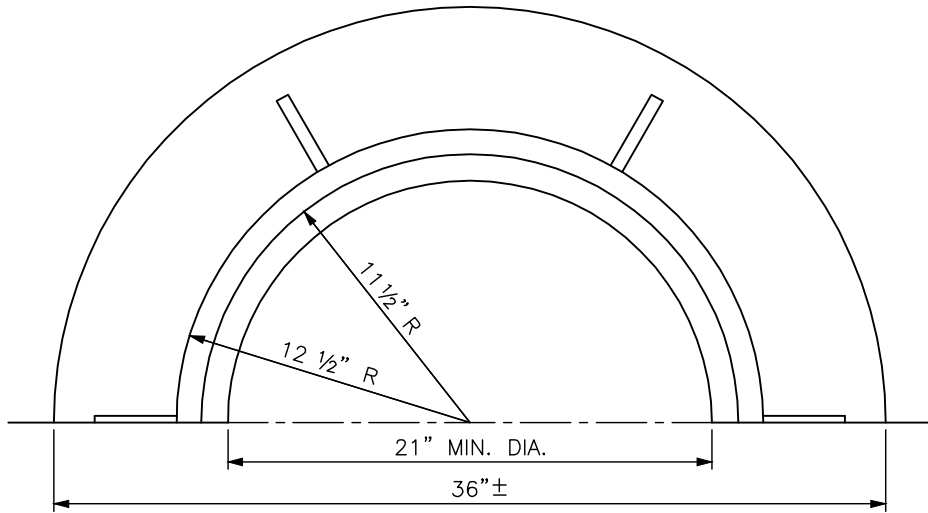
DEFLECTION ANGLE
CRITERIA FOR
SANITARY MANHOLES

STANDARD DRAWING NO. 217

APPROVAL: 9/22/17

URBAN COUNTY ENGINEER DATE

COMMISSIONER DATE

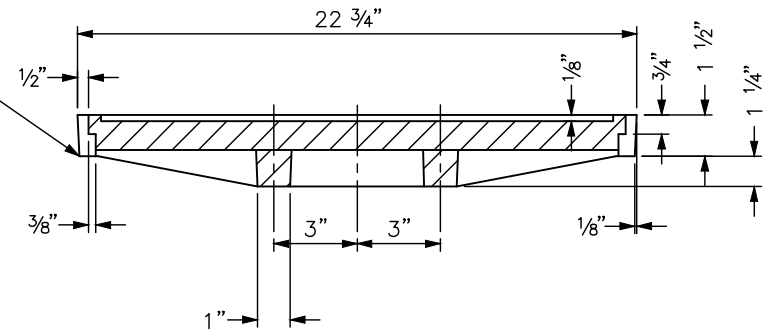


SET FRAME CASTING IN FULL MORTAR BED, FOR WATERTIGHT MANHOLE FRAME AND LID - SEE APPLICABLE STANDARD DRAWING

FRAME DETAIL

NOTE:

MANHOLE FRAME & LID ASSEMBLY SHALL HAVE A MINIMUM LID WEIGHT OF 120 LBS. AND A TOTAL MINIMUM FRAME & LID WEIGHT OF 305 LBS. WITH ALL STEEL IN ACCORDANCE WITH ASTM A-48 CLASS 35 SPEC.



COVER DETAIL

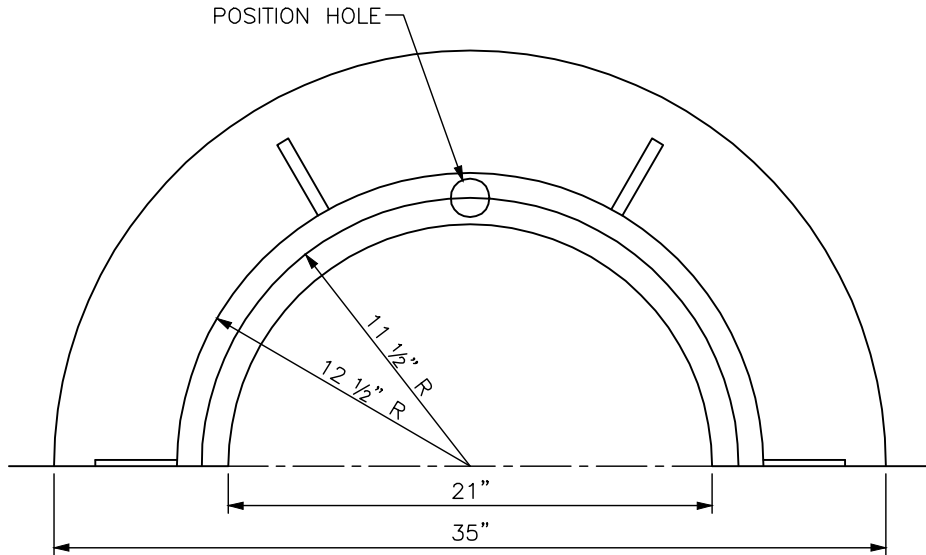


DIVISION OF ENGINEERING

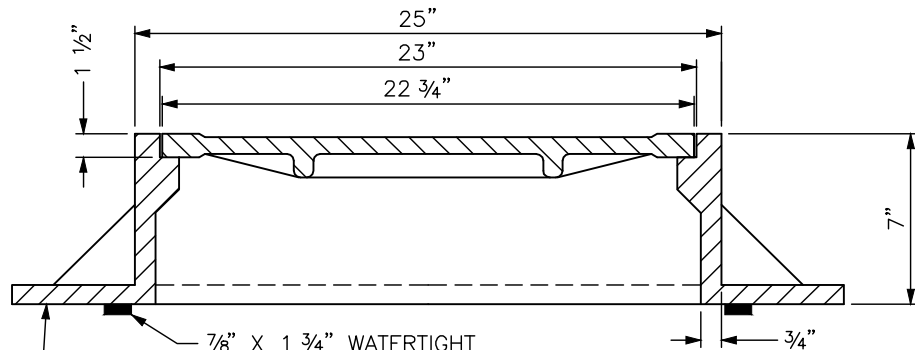
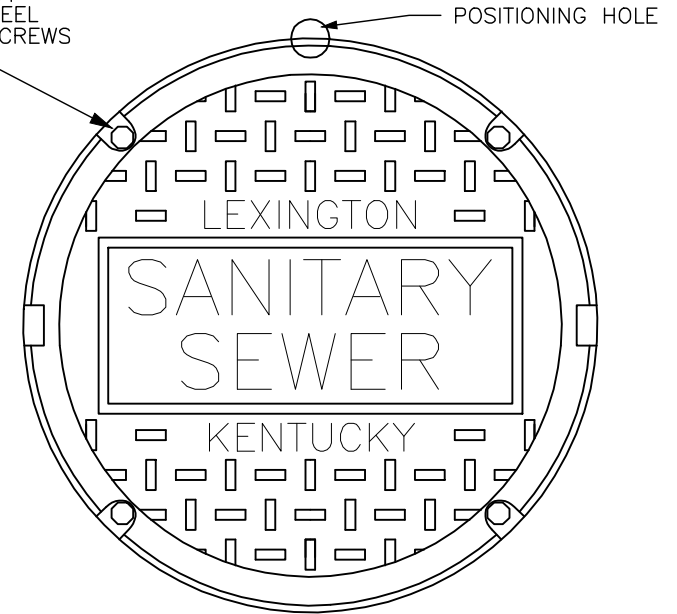
STANDARD CIRCULAR
MANHOLE FRAME & COVER

STANDARD DRAWING NO. 220

APPROVAL: *[Signature]* 9/22/17
URBAN COUNTY ENGINEER DATE
[Signature] 9/22/17
COMMISSIONER DATE



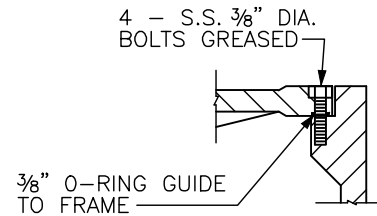
4 1/2" - 13" X 1 3/4"
STAINLESS STEEL
REC'D CAP SCREWS
GREASED



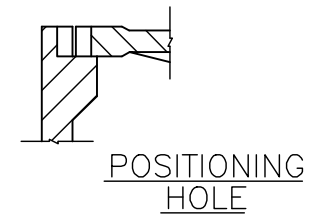
7/8" X 1 3/4" WATERTIGHT
GASKET BETWEEN BOTTOM
FRAME AND TOP OF BARREL

SET FRAME CASTING IN FULL MORTAR
BED, FOR WATERTIGHT MANHOLE FRAME
AND LID - SEE APPLICABLE STANDARD
DRAWING.

FRAME DETAIL






WATERTIGHT DETAIL



COVER DETAIL

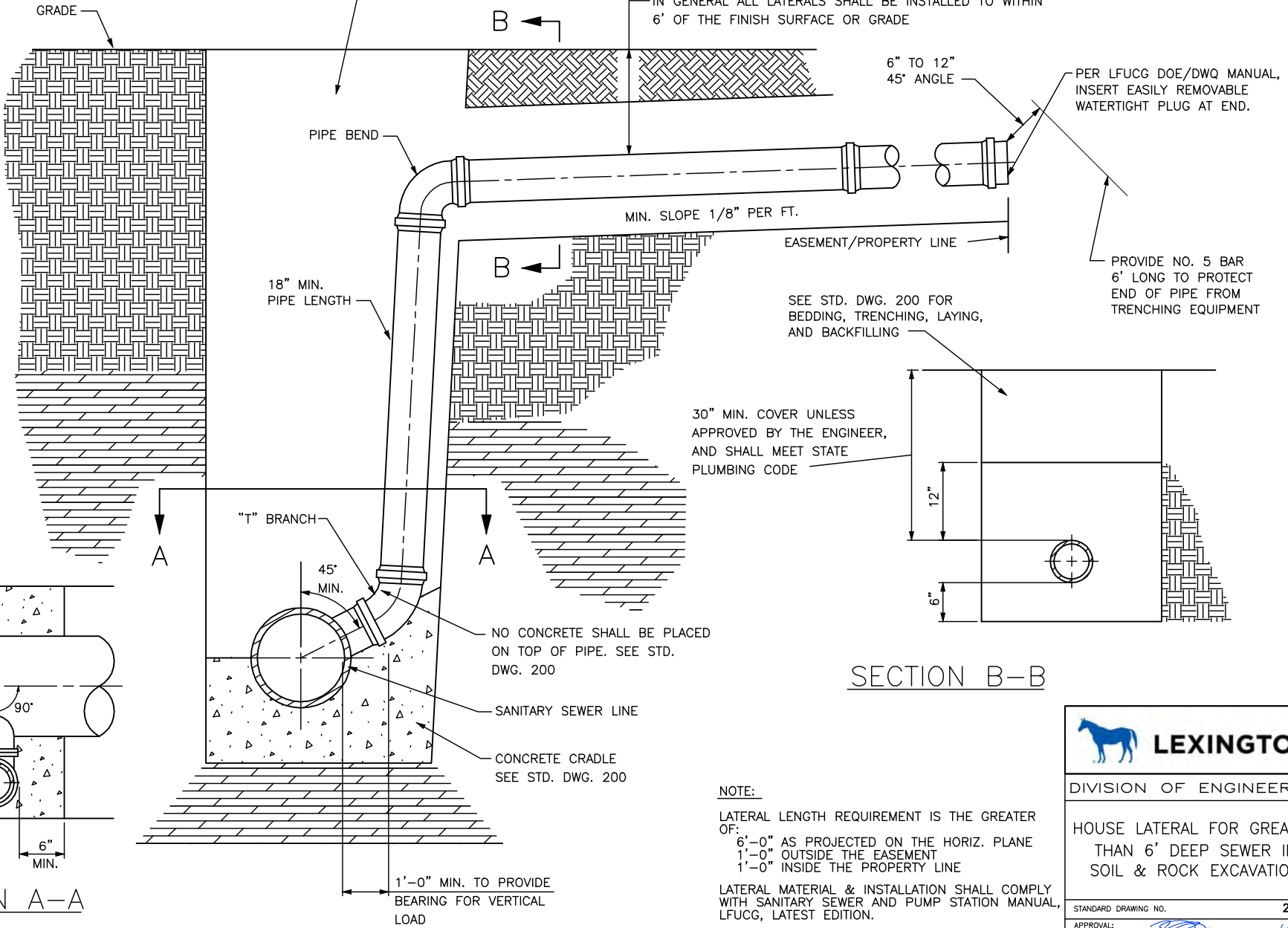
NOTE:

MANHOLE FRAME & LID ASSEMBLY SHALL BE NEENAH
#R-1916-D OR APPROVED EQUAL, HAVE A MINIMUM LID
WEIGHT OF 150 LBS. AND A TOTAL MINIMUM FRAME
& LID WEIGHT OF 335 LBS. WITH ALL STEEL IN
ACCORDANCE WITH ASTM A-48 CLASS 35 SPEC.
OR HIGHER.

 LEXINGTON	
DIVISION OF ENGINEERING	
STANDARD WATERTIGHT MANHOLE FRAME & COVER	
STANDARD DRAWING NO.	222
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE
COMMISSIONER 	DATE


SEE APPLICABLE STANDARD DRAWING FOR BEDDING, TRENCHING, LAYING, AND BACKFILLING

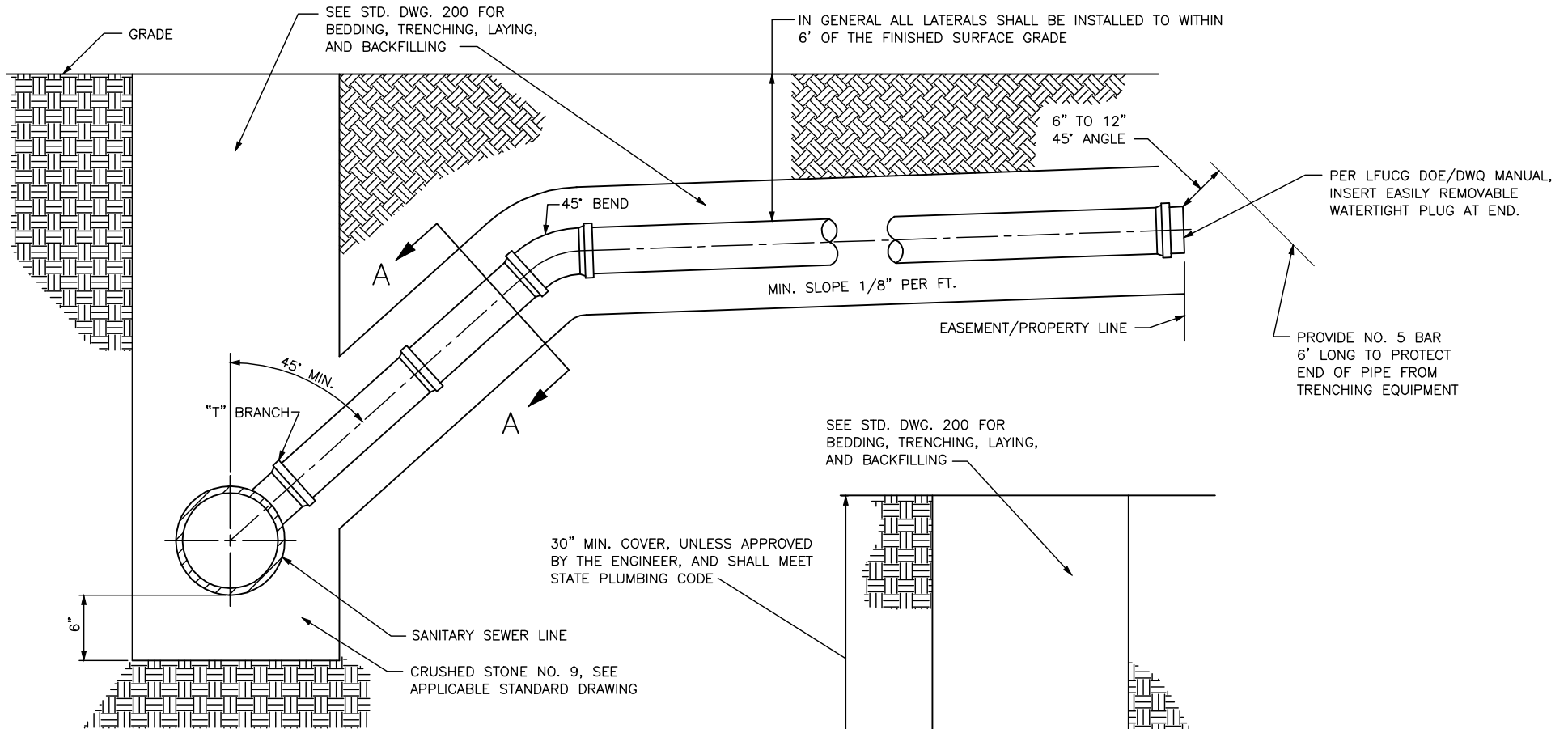
IN GENERAL ALL LATERALS SHALL BE INSTALLED TO WITHIN 6' OF THE FINISH SURFACE OR GRADE



NOTE:
 LATERAL LENGTH REQUIREMENT IS THE GREATER OF:
 6'-0" AS PROJECTED ON THE HORIZ. PLANE
 1'-0" OUTSIDE THE EASEMENT
 1'-0" INSIDE THE PROPERTY LINE

LATERAL MATERIAL & INSTALLATION SHALL COMPLY WITH SANITARY SEWER AND PUMP STATION MANUAL, LFUCG, LATEST EDITION.


 LEXINGTON	
DIVISION OF ENGINEERING	
HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL & ROCK EXCAVATION	
STANDARD DRAWING NO.	230
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	9/22/17
	DATE

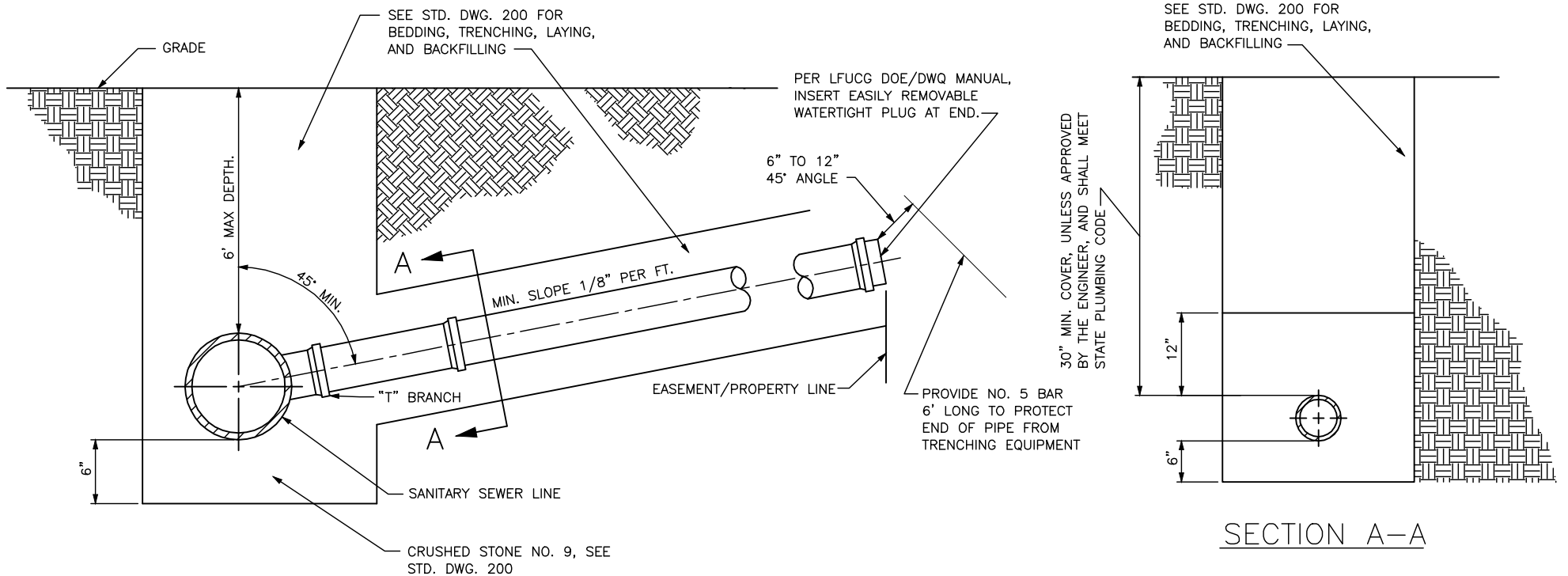


NOTE:
 LATERAL LENGTH REQUIREMENT IS THE GREATER OF:
 6'-0" AS PROJECTED ON THE HORIZ. PLANE
 1'-0" OUTSIDE THE EASEMENT
 1'-0" INSIDE THE PROPERTY LINE

LATERAL MATERIAL & INSTALLATION SHALL COMPLY WITH SANITARY SEWER AND PUMP STATION MANUAL, LFUCG, LATEST EDITION.

SECTION A-A

 LEXINGTON	
DIVISION OF ENGINEERING	
HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL	
STANDARD DRAWING NO.	231
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



SECTION A-A

NOTE:

LATERAL LENGTH REQUIREMENT IS THE GREATER OF:
 6'-0" AS PROJECTED ON THE HORIZ. PLANE
 1'-0" OUTSIDE THE EASEMENT
 1'-0" INSIDE THE PROPERTY LINE

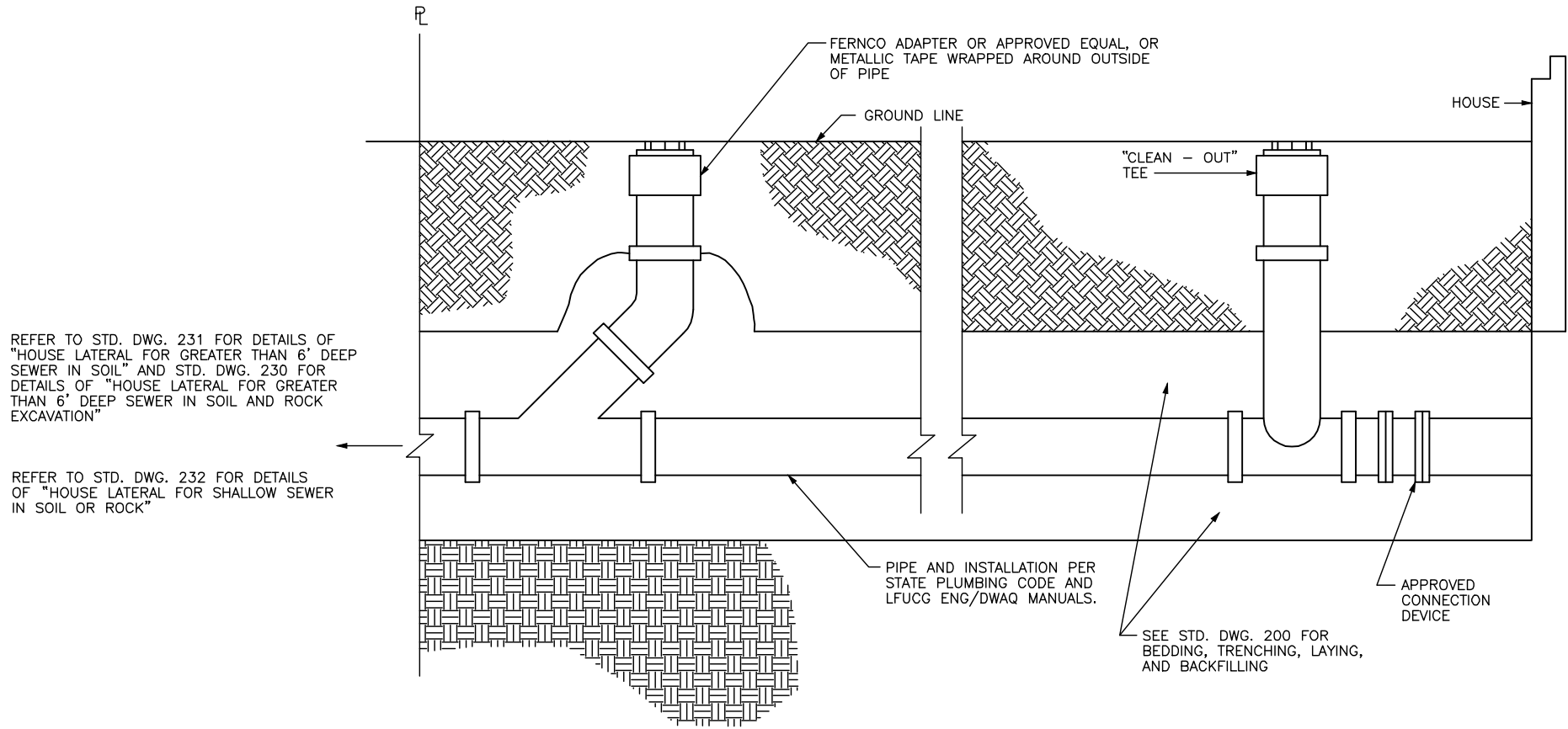
LATERAL MATERIAL & INSTALLATION SHALL COMPLY WITH SANITARY SEWER AND PUMP STATION MANUAL, LFUCG, LATEST EDITION.



DIVISION OF ENGINEERING




HOUSE LATERAL
 FOR SHALLOW SEWER
 IN SOIL OR ROCK

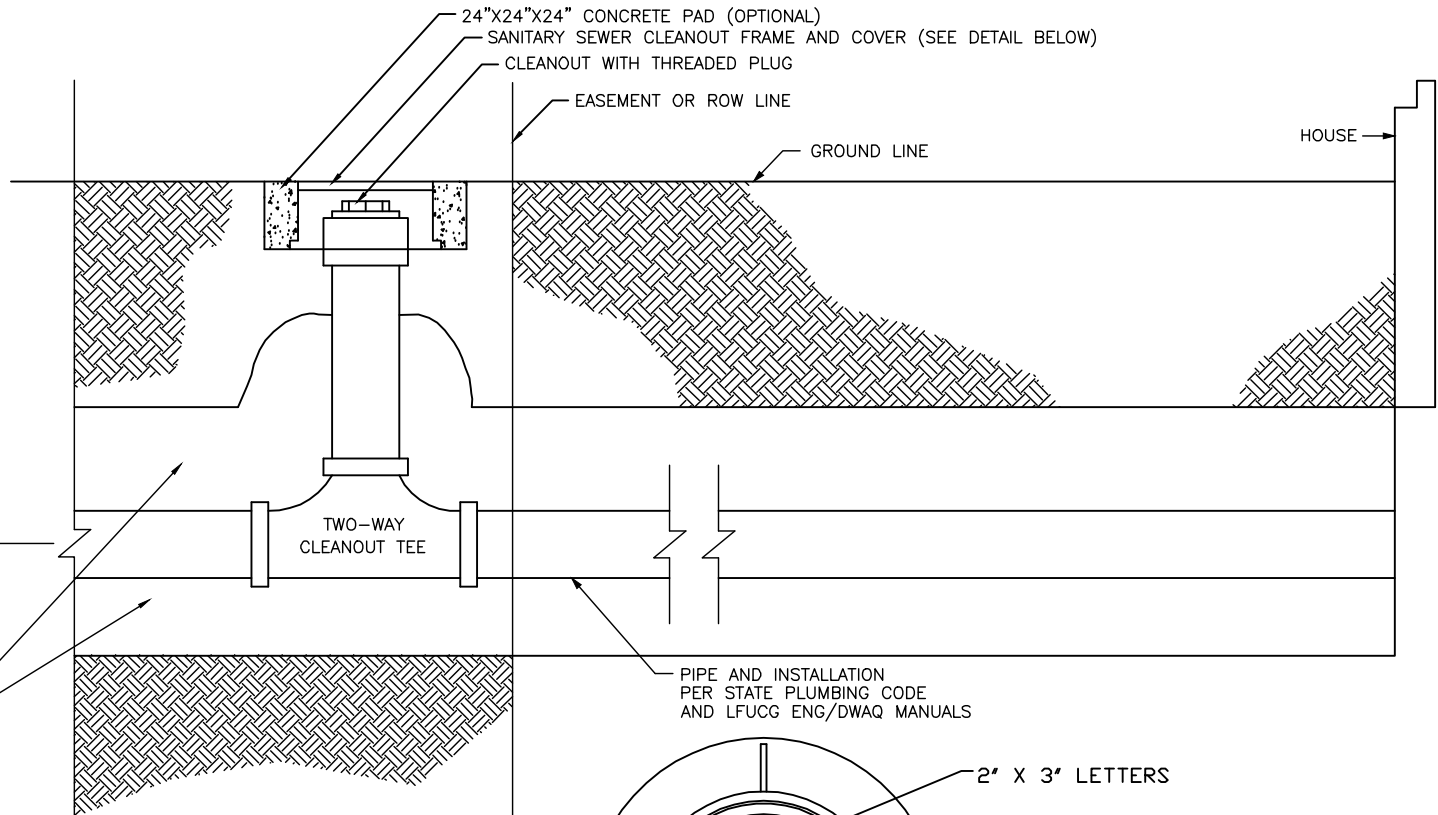
STANDARD DRAWING NO.	232
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE



NOTE:

SEWER PIPE FROM HOUSE TO THE LONG SWEEP "L" MUST BE IN ACCORDANCE WITH STATE PLUMBING CODE AND LFUGG ENG/DWAQ MANUALS.

 LEXINGTON	
DIVISION OF ENGINEERING	
LATERAL CLEANOUT IN NON-PAVED AREAS AND YARDS	
STANDARD DRAWING NO.	233
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE 9/22/17
COMMISSIONER 	DATE DATE

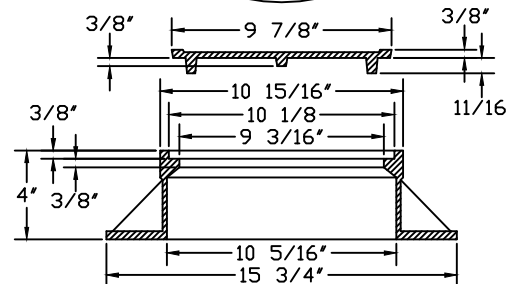
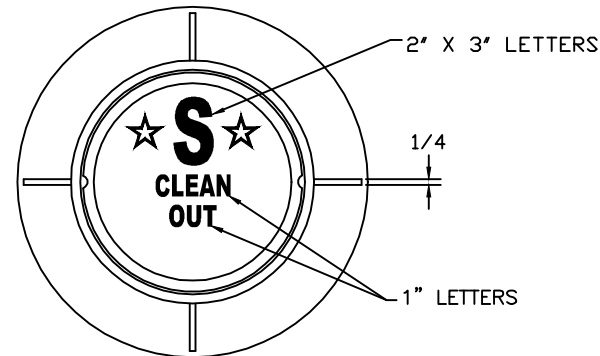


REFER TO STD. DWG. 231 FOR DETAILS OF "HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL" AND STD. DWG. 230 FOR DETAILS OF "HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL AND ROCK EXCAVATION"

REFER TO STD. DWG. 232 FOR DETAILS OF "HOUSE LATERAL FOR SHALLOW SEWER IN SOIL OR ROCK"

SEE STD. DWG. 200 FOR BEDDING, TRENCHING, LAYING, AND BACKFILLING

PIPE AND INSTALLATION PER STATE PLUMBING CODE AND LFUCG ENG/DWAQ MANUALS




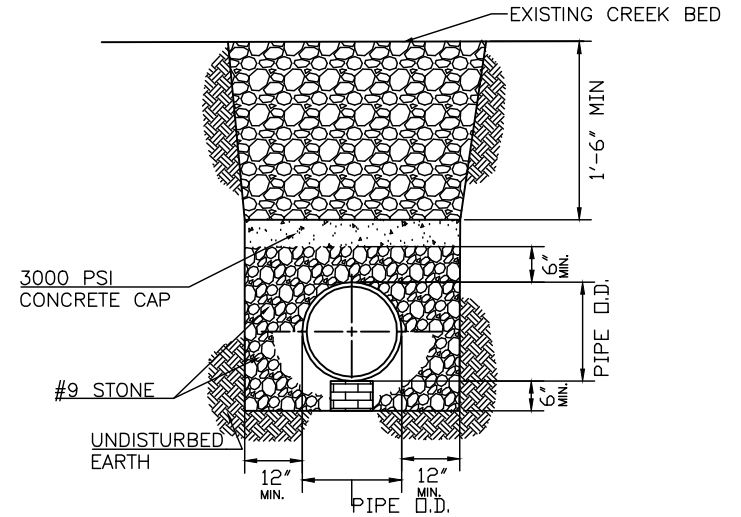
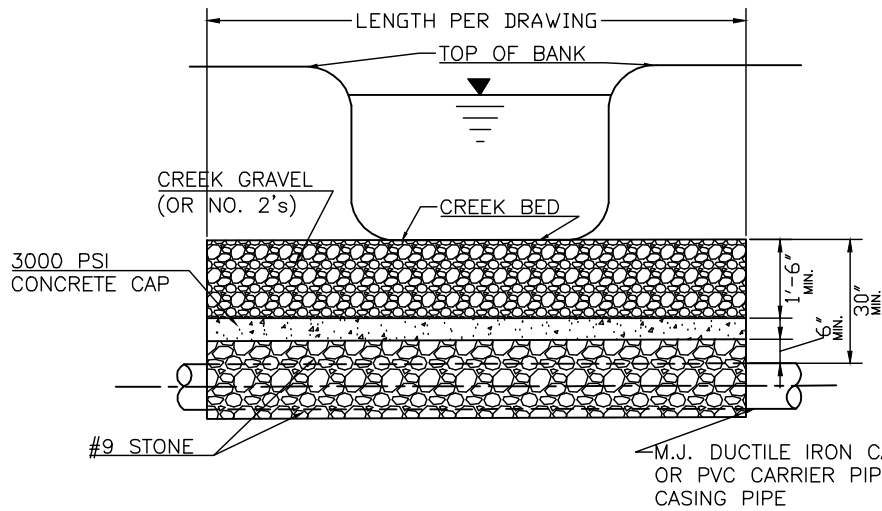
NOTES:

SEWER PIPE FROM HOUSE TO CLEANOUT MUST BE IN ACCORDANCE WITH STATE PLUMBING CODE AND LFUCG ENG/DWAQ MANUALS.

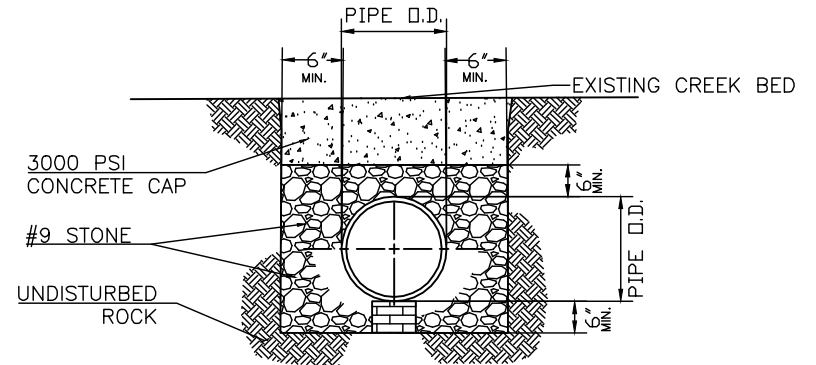
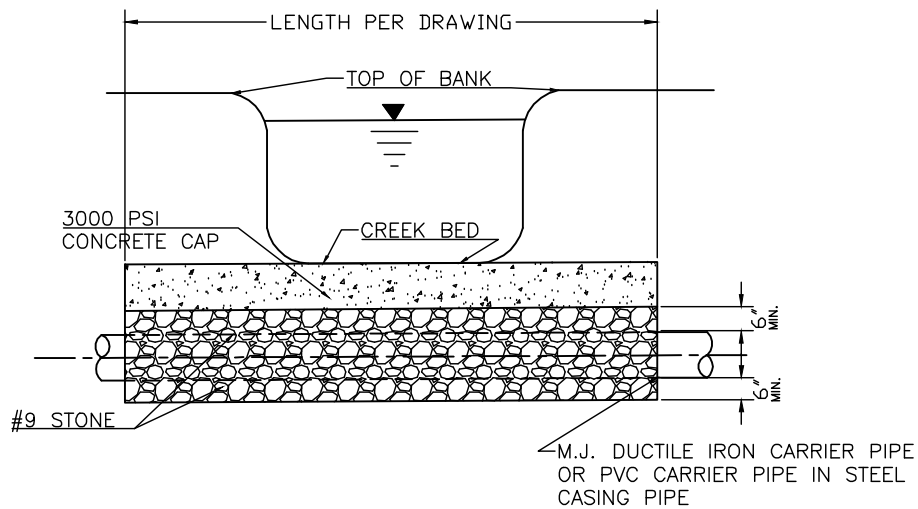
TWO-WAY CLEANOUT TEE IS TO BE INSTALLED BY THE PLUMBER AND OR CONTRACTOR PRIOR TO CONNECTION OF THE LATERAL TO PUBLIC SANITARY SEWER LINE.

CLEANOUT TO BE INSTALLED AT THE END OF PUBLICLY MAINTAINED SEWER. POINT TO BE DETERMINED BY THE DIVISION OF ENGINEERING.

 LEXINGTON	
DIVISION OF ENGINEERING	
RIGHT OF WAY OR EASEMENT LATERAL CLEANOUT IN NON-PAVED AREAS AND YARDS	
STANDARD DRAWING NO.	234
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	9/22/17 DATE



CREEK CROSSING DETAIL FOR SOIL CREEKBED



CREEK CROSSING DETAIL FOR ROCK CREEKBED


NOTES:

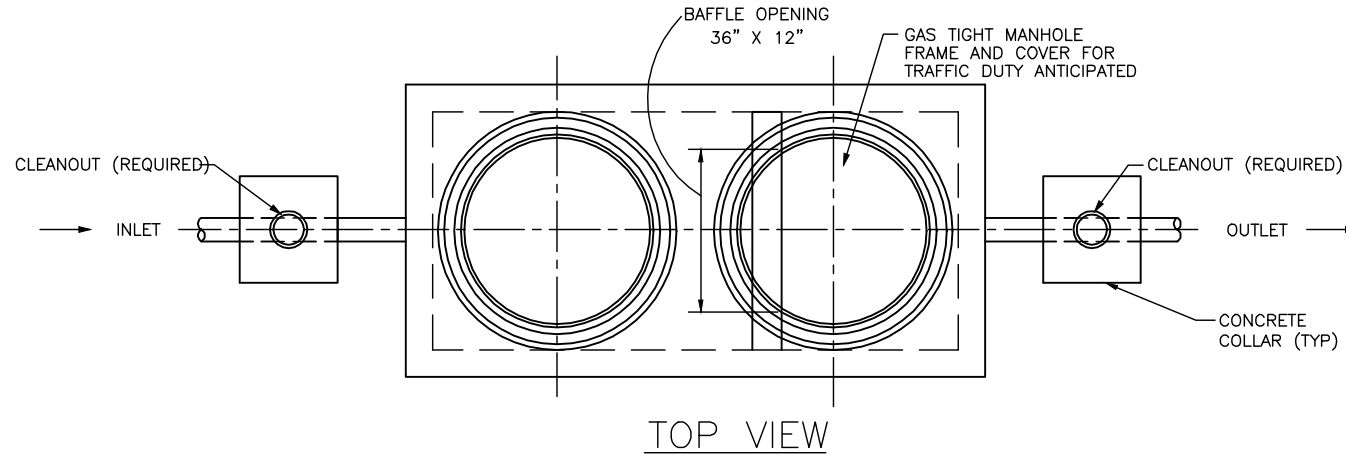
1. A WATERSTOP SHALL BE PROVIDED ON THE UPSTREAM SIDE OF THE DOWNSTREAM MANHOLE.
2. PIPE TO BE DUCTILE IRON WHEN DEPTH OF COVER IS LESS THAN 4'.
3. SPECIAL DESIGN REQUIRED WHEN COVER IS 30' OR LESS.
4. CONTRACTOR SHALL USE THE CREEK CROSSING DETAIL THAT CORRESPONDS TO THE CHANNEL BED ENCOUNTERED.

CONCRETE CAP SHALL BE PLACED ACROSS CHANNEL BED AND EXTEND 10 FT. MIN. INTO EACH CHANNEL BANK, MEASURED FROM BOTTOM OF BANK.

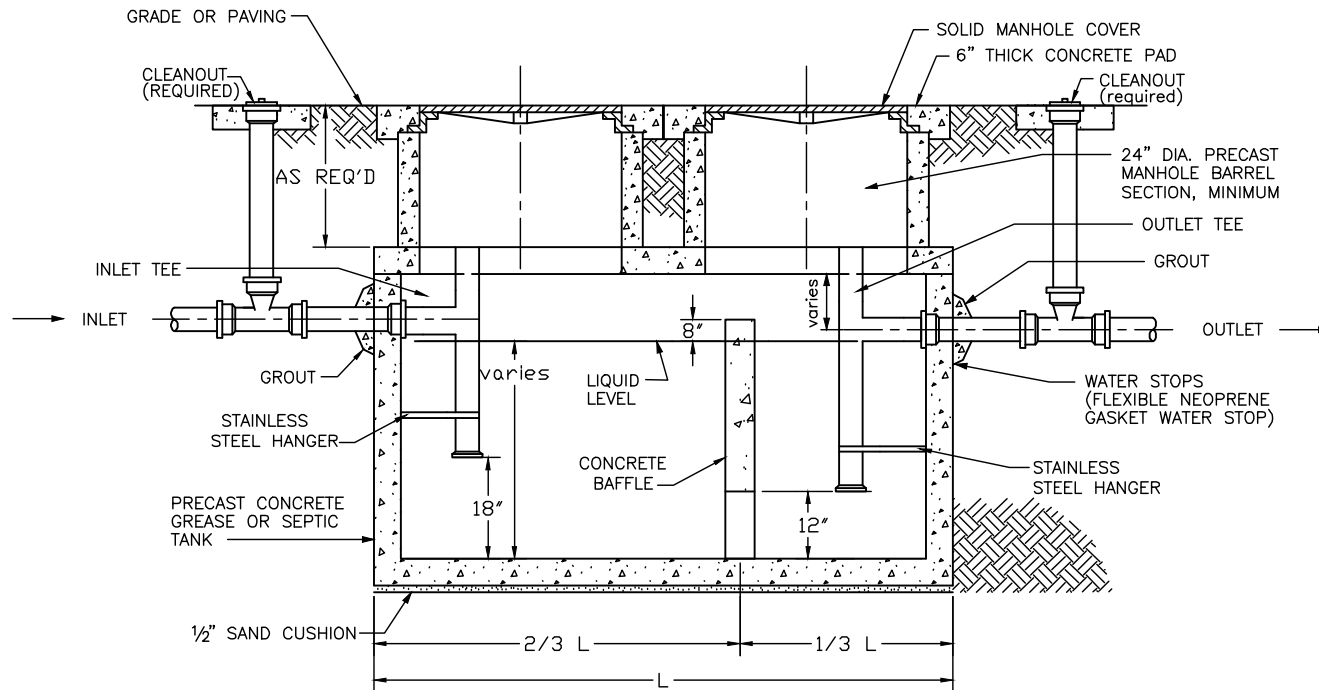
SAWCUT EDGE OF TRENCH (4" MIN. DEPTH) TO PREVENT FRACTURING OF SURFACE BEDROCK BEYOND TRENCH EXCAVATION (TYP. EACH SIDE).

WHILE CROSSING THE CREEK WITH EQUIPMENT, PROVIDE NECESSARY MEANS TO PREVENT FRACTURING OF BEDROCK OUTSIDE THE TRENCH, BY USING GRAVEL, SWAMP MATS, OR OTHER APPROVED METHOD.

 LEXINGTON	
DIVISION OF ENGINEERING	
SANITARY SEWER STREAM CROSSING AND STREAM BED RESTORATION DETAIL	
STANDARD DRAWING NO.	240
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	DATE




TOP VIEW

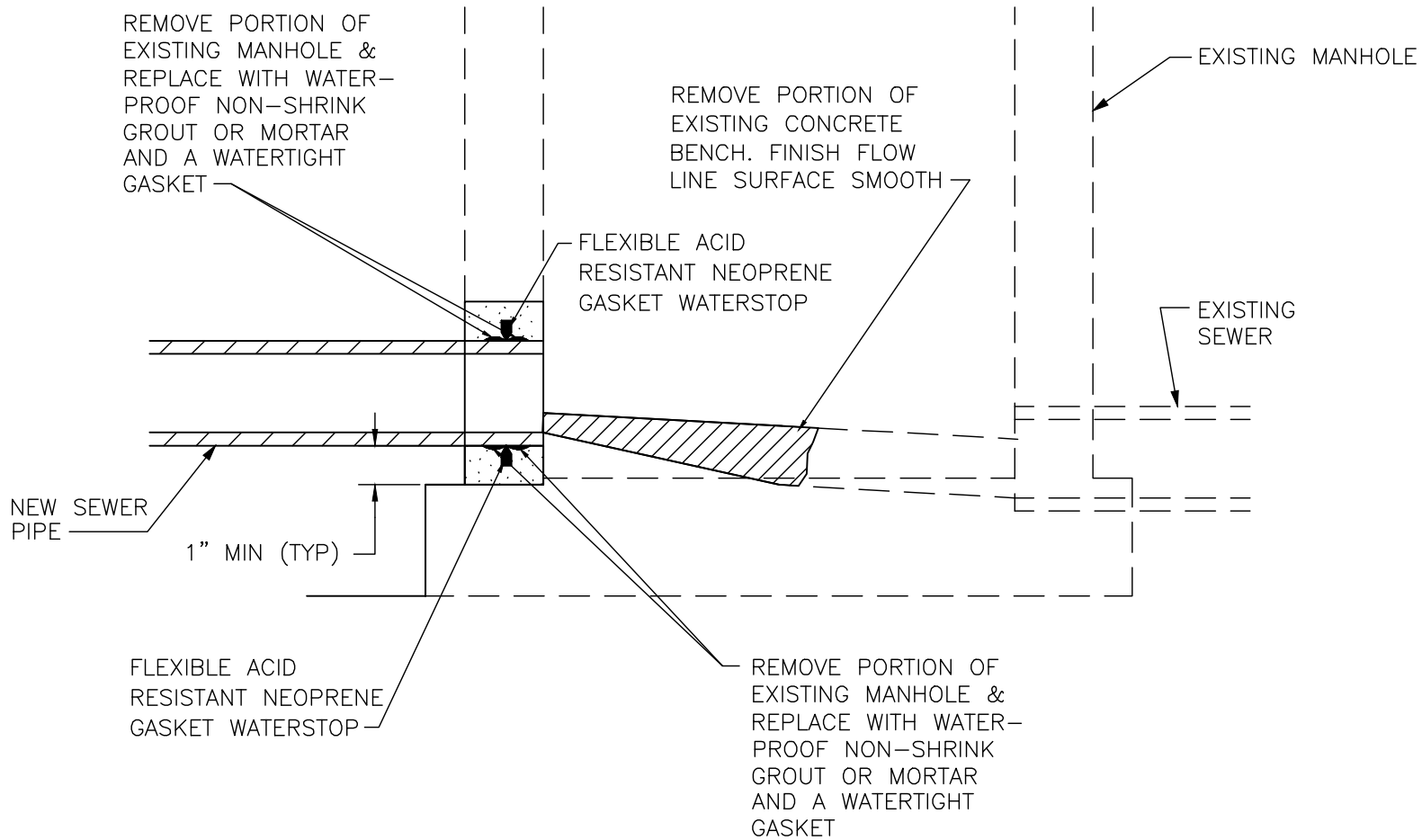


SECTION

GENERAL NOTES:




1. THIS STRUCTURE IS TO BE ACCESSIBLE FOR MAINTENANCE OR INSPECTION WITH COVERS AND CLEANOUTS BROUGHT TO GRADE.
2. DESIGN CRITERIA SHALL BE HS-20 LOADING.
3. FLOW TO THE INTERCEPTOR SHALL EXCLUDE SANITARY SEWAGE AND SURFACE DRAINAGE.
4. DESIGN AND CAPACITY OF GREASE INTERCEPTOR TO BE CERTIFIED BY ENGINEER IN ACCORD WITH KENTUCKY STATE PLUMBING CODE AND REVIEWED FOR CAPACITY BY THE DIVISION OF WATER QUALITY PRIOR TO CONSTRUCTION.
5. MULTIPLE COMPARTMENT INTERCEPTORS ARE ACCEPTABLE.
6. THE MINIMUM CAPACITY OF INTERCEPTORS IS 1000 GALLONS.
7. PIPE CLEANOUT TEE SHALL BE THE SAME SIZE AS THE PIPE AND BE WITHIN 6' OF THE GREASE INTERCEPTOR ON THE OUTLET LINE. THE INLET LINE CLEANOUT IS OPTIONAL.
8. MANUFACTURER WILL PROVIDE GREASE TRAP WITH TWO(2) ACCESS POINTS AS SHOWN. PLUMBING CONTRACTOR TO INSTALL FIXTURES AS SHOWN.
9. DIAMETER OF PIPE IN GREASE INTERCEPTOR SHALL BE THE SAME DIAMETER AS THE INLET LATERAL PIPE.

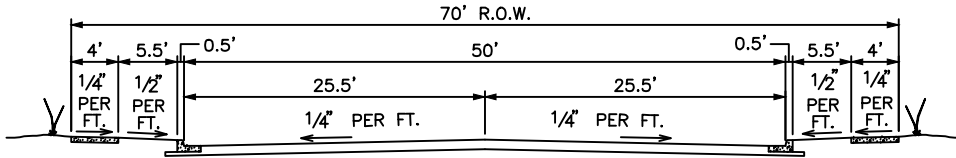
 LEXINGTON	
DIVISION OF ENGINEERING	
GREASE INTERCEPTOR TYPICAL CONFIGURATION	
STANDARD DRAWING NO.	250
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



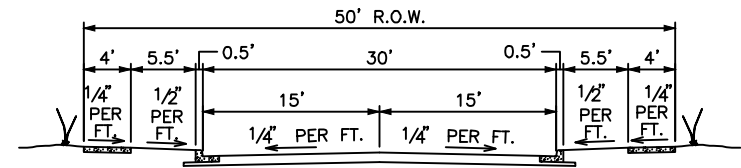
ALL HOLES CUT INTO SEWER MANHOLES SHALL BE CORE DRILLED.

SEWER CONNECTION TO EXISTING MANHOLE

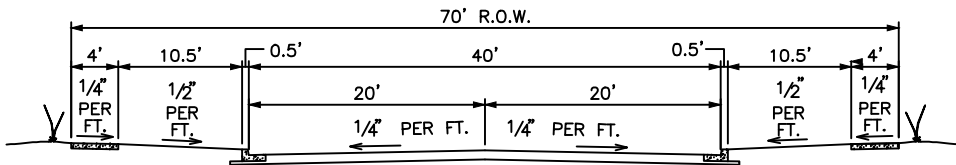
 LEXINGTON	
DIVISION OF ENGINEERING	
SEWER CONNECTION TO EXISTING CONCRETE MANHOLE	
STANDARD DRAWING NO.	260
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE
COMMISSIONER 	DATE



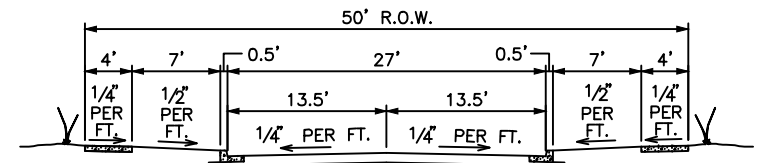
NON-RESIDENTIAL COLLECTOR



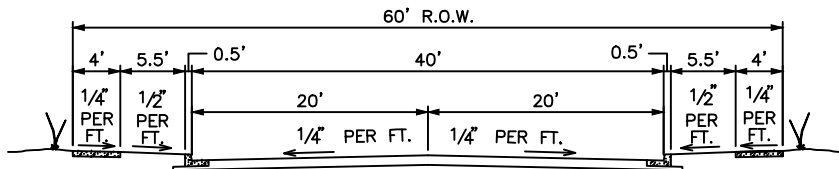
RESIDENTIAL CONTINUING LOCAL
OR COMMERCIAL SERVICE



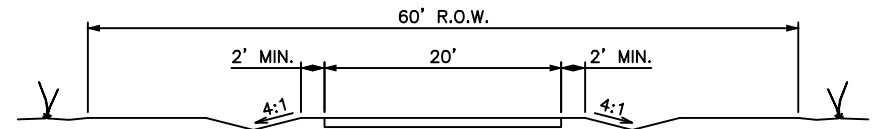
NON-RESIDENTIAL OR INDUSTRIAL COLLECTOR



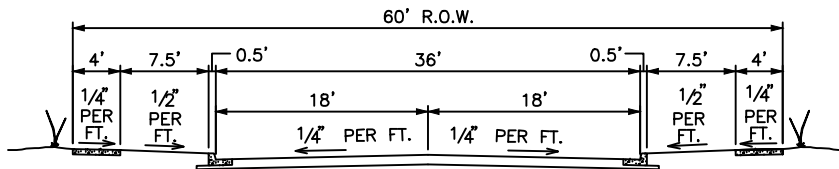
RESIDENTIAL CUL-DE-SAC
AND CONTINUING LOCAL
(SEE NOTE 3)



RESIDENTIAL COLLECTOR AND INDUSTRIAL LOCAL



RURAL LOCAL



RESIDENTIAL COLLECTOR
(OBSOLETE) - USED TO COMPLETE EXISTING STREETS

NOTES:

1. SLOPES AND DRAINAGE DITCHES OUTSIDE THE R.O.W. SHALL BE APPROVED BY THE ENGINEER.
2. THE APPLICATIONS AND USES OF THE ABOVE TYPICAL SECTIONS SHALL BE IN ACCORDANCE WITH THE L.F.U.C.G. LAND SUBDIVISION REGULATIONS, ARTICLE 6.
3. PARKING RESTRICTED TO ONE SIDE OF ROADWAY.

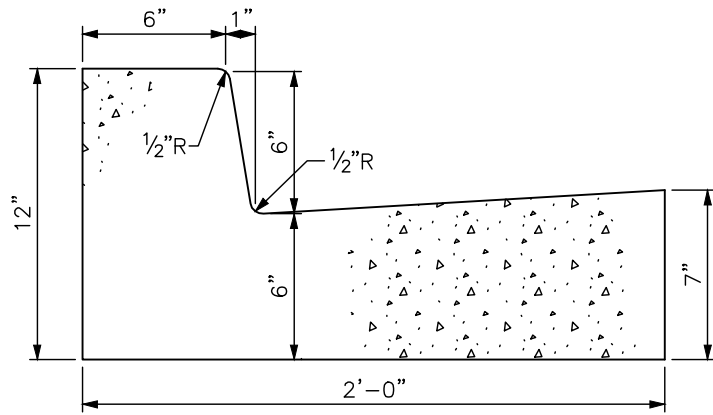
*****PENDING LAND SUBDIVISION REGULATIONS UPDATE*****



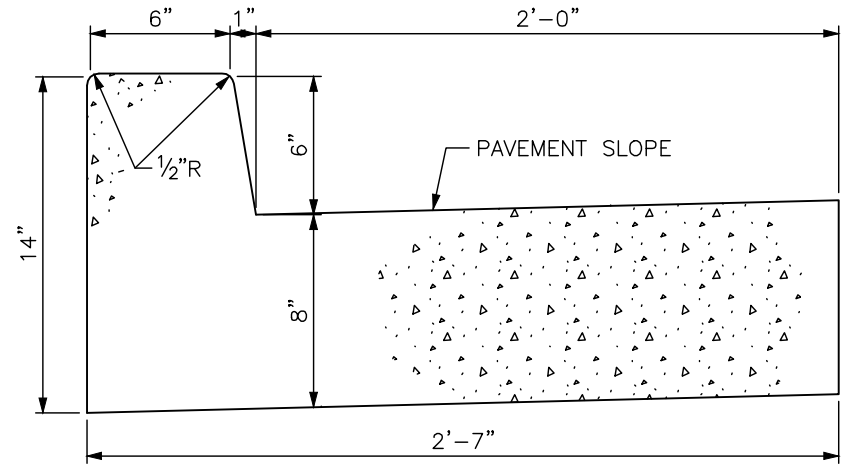
DIVISION OF ENGINEERING

TYPICAL STREET
SECTIONS

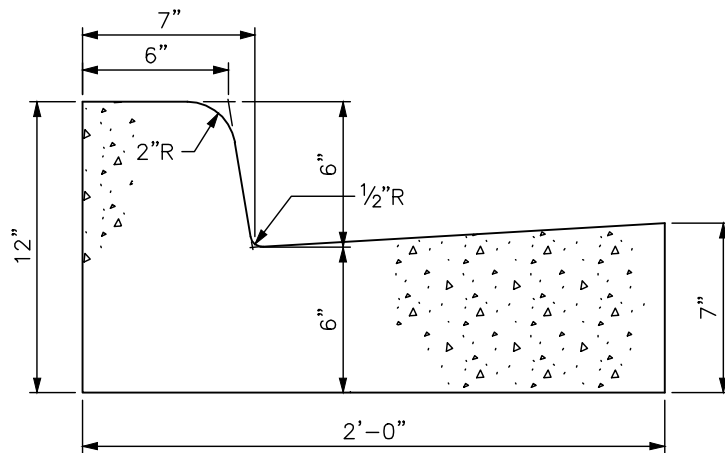
STANDARD DRAWING NO.	300
APPROVAL:	
URBAN COUNTY ENGINEER	<i>[Signature]</i> 9/22/17
COMMISSIONER	<i>[Signature]</i> 9/22/17



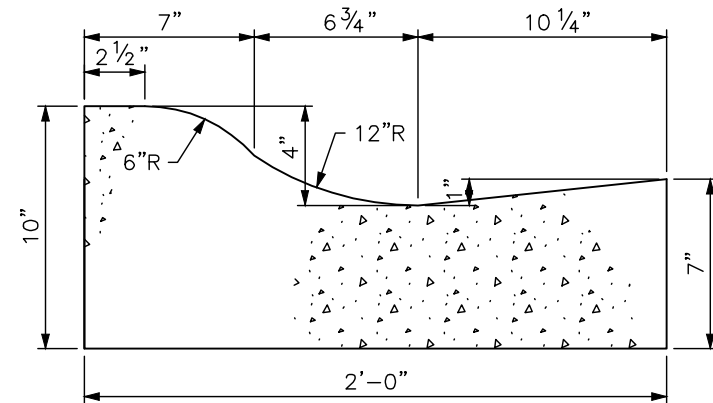
TYPE 1



TYPE 2



TYPE 3




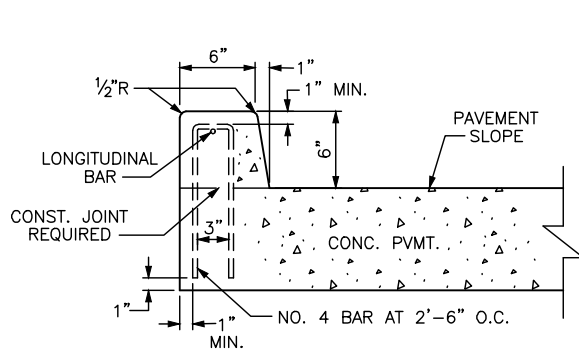
TYPE 4

(RESIDENTIAL LOCAL STREETS ONLY)

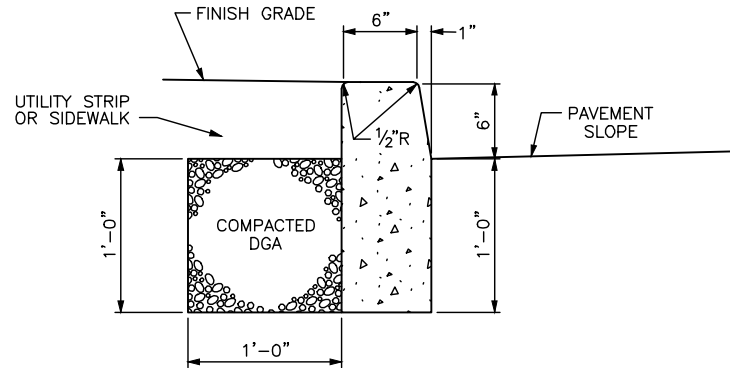
NOTES:

1. CONCRETE SHALL BE KDOT CLASS "A".
2. SAWED CONTRACTION JOINTS SHALL BE CONSTRUCTED EVERY 20 FEET, WITH A MIN. DEPTH OF 3", IN ACCORDANCE WITH KDOT STANDARD SPECIFICATION.
3. FULL DEPTH EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL BREAKS IN ALIGNMENT, AT CONTACT WITH NEW OR EXISTING CONCRETE, AT ALL DRAINAGE INLETS, AT THE BEGINNING AND ENDING POINTS OF CURVES, AND NOT TO EXCEED 200' MAXIMUM SPACING FOR SLIP FORM APPLICATION AND 30' MAXIMUM SPACING FOR HAND PLACED.
4. ALL CONCRETE SHALL BE CURED WITH WHITE PIGMENTED MEMBRANE FORMING COMPOUND (AASHTO M 148, TYPE 2).

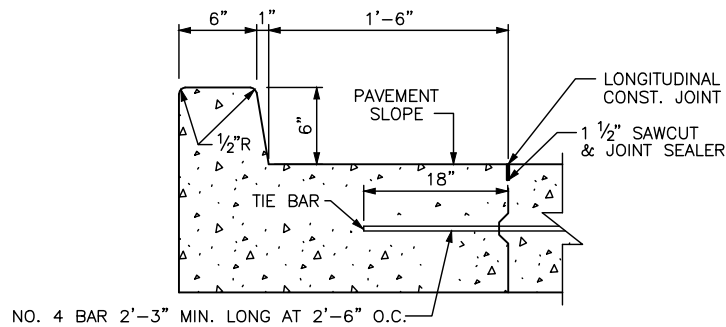
 LEXINGTON	
DIVISION OF ENGINEERING	
CURB & GUTTER	
STANDARD DRAWING NO.	301
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



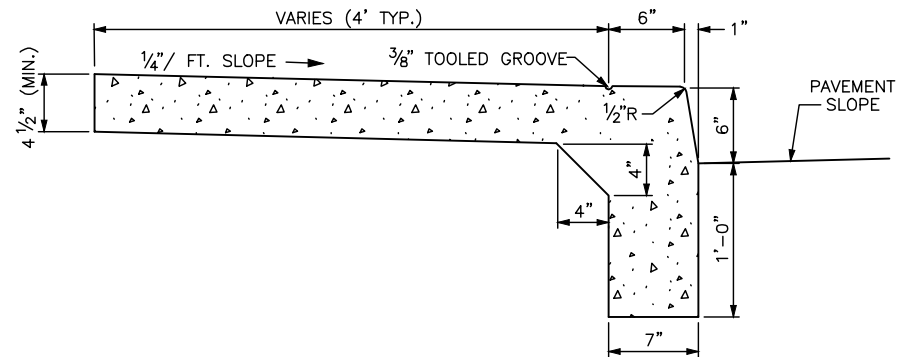
INTEGRAL CURB, TYPE 1



HEADER CURB



INTEGRAL CURB, TYPE 2



MONOLITHIC CURB AND SIDEWALK

NOTES:



1. CONCRETE SHALL BE KDOT CLASS "A".
2. SAWED CONTRACTION JOINTS SHALL BE CONSTRUCTED EVERY 20 FEET, 3" MINIMUM DEPTH.
3. THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING THE STANDARD INTEGRAL CURB AS DETAILED IN EITHER TYPE 1 OR 2. IF TYPE 2 IS CHOSEN A LONGITUDINAL CONSTRUCTION JOINT SHALL BE REQUIRED AND THE REMAINING PAVEMENT AND CURB SHALL BE CONSTRUCTED MONOLITHIC WITHOUT A HORIZONTAL CONSTRUCTION JOINT AND ACCOMPANYING REINFORCING STEEL (TYPE 1).
4. FULL DEPTH EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL BREAKS IN ALIGNMENT, AT ALL DRAINAGE INLETS AND AT THE BEGINNING AND ENDING POINTS OF CURVES.
5. ALL CONCRETE, EXCEPT BONDING SURFACES, SHALL BE CURED WITH WHITE PIGMENTED MEMBRANE FORMING COMPOUND (AASHTO M 148, TYPE 2).



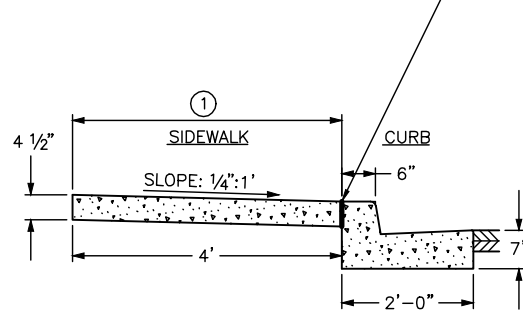
DIVISION OF ENGINEERING

INTEGRAL CURB,
HEADER CURB,
MONOLITHIC CURB
& SIDEWALK

STANDARD DRAWING NO. 302

APPROVAL:  / DATE 9/22/17
URBAN COUNTY ENGINEER  / DATE 9/22/17
COMMISSIONER / DATE

EXPANSION JOINT, FULL DEPTH AND SPAN



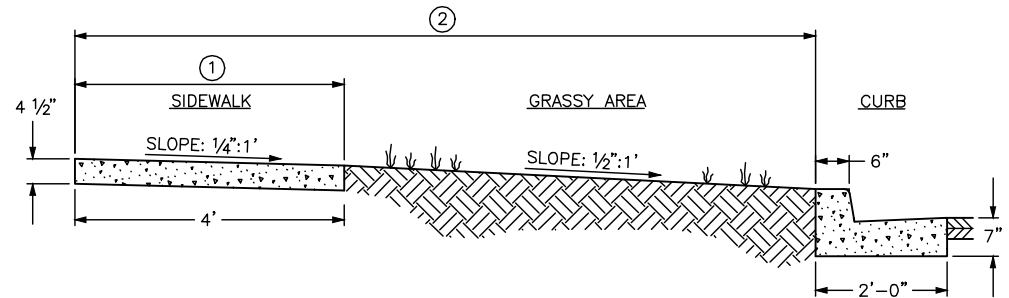
SIDEWALK/CURB AND GUTTER

NOTES:


1. CONCRETE SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED ON A THOROUGHLY COMPACTED SUB-GRADE AND SHALL BE FOUR AND ONE HALF (4 1/2) INCHES IN THICKNESS AND A MINIMUM WIDTH OF FOUR (4) FEET. CONCRETE SHALL MEET THE REQUIREMENTS FOR CLASS "A" AND SHALL BE COATED WITH WHITE PIGMENTED CURING COMPOUND TYPE 2, ALL AS SPECIFIED IN KYTC SPECIFICATION, SECTION 823.02.
2. FULL DEPTH EXPANSION JOINTS SHALL BE PLACED AT CONTACT WITH NEW OR EXISTING CONCRETE, EXISTING CONCRETE, AT ABUTTING RIGID STRUCTURES OR FEATURES SUCH AS BUILDINGS, DRIVEWAYS, UTILITY POLES FIRE HYDRANTS, ECT. AND NOT TO EXCEED 200' MAXIMUM SPACING FOR SLIP FORM APPLICATION AND 32' FOR HAND PLACED. EXPANSION MATERIAL SHALL BE 1/2" ASPHALTIC MATERIAL OR APPROVED EQUAL MEETING KYTC 807.04.03.
3. CONTROL JOINTS SHALL BE PLACED AT INTERVALS EQUIVALENT TO THE SIDEWALK WIDTH, WITH A DEPTH OF 1/4 THE SIDEWALK THICKNESS.
4. THE SIDEWALKS SHALL BE PLACED ADJACENT TO THE STREET RIGHT-OF-WAY LINE. SLOPE TOWARD CURB SHALL BE ONE QUARTER (1/4) OF AN INCH TO THE FOOT. CONSTRUCTION IN EXISTING NEIGHBORHOODS SHALL REQUIRE THE CONTRACTOR TO MATCH EXISTING GRADE AND SIDEWALK WIDTH UNLESS SPECIFIED OTHERWISE BY THE DIVISION OF ENGINEERING.
5. SIDEWALK REPAIR FOR ANY CUTS MADE FOR UTILITY WORK REPLACEMENT SHALL BE FULL PANEL MATCHING THE ORIGINAL DIMENSIONS.

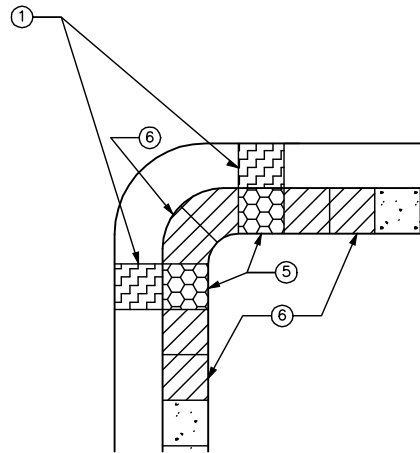
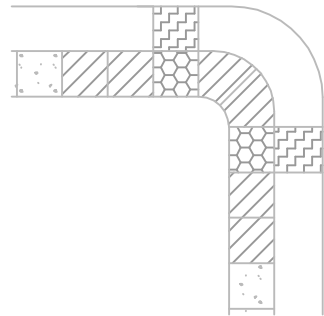
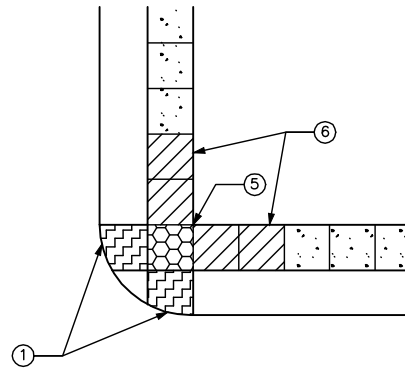
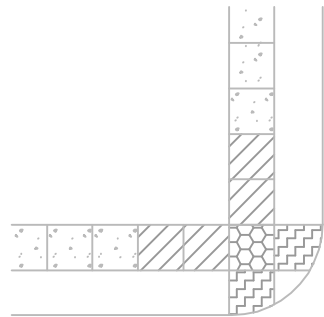
SHEET NOTES:

- ① NORMAL SIDEWALK WIDTH SHALL BE 4' UNLESS CHANGE IS AUTHORIZED BY URBAN COUNTY ENGINEER'S OFFICE.
- ② DISTANCE WILL VARY WITH ROAD CROSS-SECTION.



SIDEWALK/CURB AND GUTTER WITH GRASS UTILITY STRIP

	
DIVISION OF ENGINEERING	
SIDEWALK CONSTRUCTION SPECIFICATIONS	
STANDARD DRAWING NO.	303
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	9/22/17
	DATE



PLAN VIEW

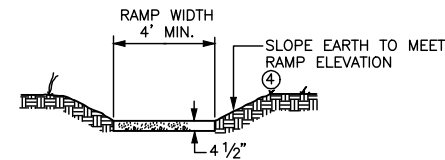
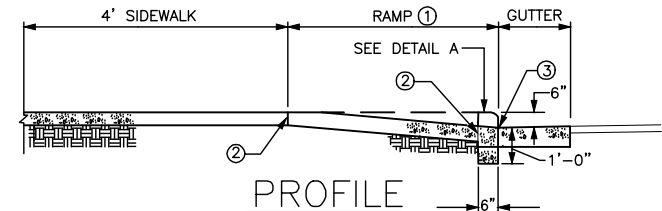
NORMAL TREATMENT FOR ARTERIALS
AND SIGNALIZED INTERSECTIONS

NOTES:

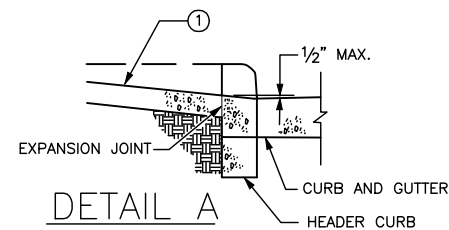
1. INLET LOCATIONS WILL VARY, DEPENDENT ON CROSSWALK AND RAMP LOCATION.
2. THE RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE, AND SHALL UTILIZE CAST IN PLACE REPLACEABLE TACTILE WARNING TILE, SUCH AS ADA SOLUTIONS, INC., ACCESS TILE TACTILE SYSTEMS, ARMOR-TILE HERCULITE OR APPROVED EQUAL. TILE COLOR SHALL BE FEDERAL YELLOW.
3. THE NORMAL GUTTER LINE SHOULD BE MAINTAINED THROUGH THE RAMP.
4. RAMPS SHOULD BE LOCATED WITHIN MARKED LIMITS OF CROSSWALKS.
5. WHERE NO CURB EXISTS, STREET EDGE SHALL BE SAW CUT, OR AS DIRECTED BY L.F.U.C.G. ENGINEER.
6. MAXIMUM CROSS SLOPE OF SIDEWALK 1/4": 1'.
7. SIDEWALK REPAIR FOR ANY CUTS MADE FOR UTILITY WORK REPLACEMENT SHALL BE FULL PANEL MATCHING THE ORIGINAL DIMENSIONS.

SHEET NOTES:


- ① MAXIMUM RAMP SLOPE 1":1'.
- ② 1/2" EXPANSION JOINT AT BACK OF CURBLINE AND SIDEWALK LINE, FULL DEPTH.
- ③ NO BUMP PERMITTED.
- ④ SLOPE VARIES UNIFORMLY TO A MAXIMUM OF 1":1' AT GUTTER LINE.
- ⑤ MAXIMUM CROSS SLOPE OF LANDING 1/4": 1' IN ALL DIRECTIONS.
- ⑥ MAXIMUM LONGITUDINAL SLOPE 1/2": 1', OR ALONG THE CENTERLINE GRADE OF THE ADJACENT ROADWAY.



CROSS SECTION

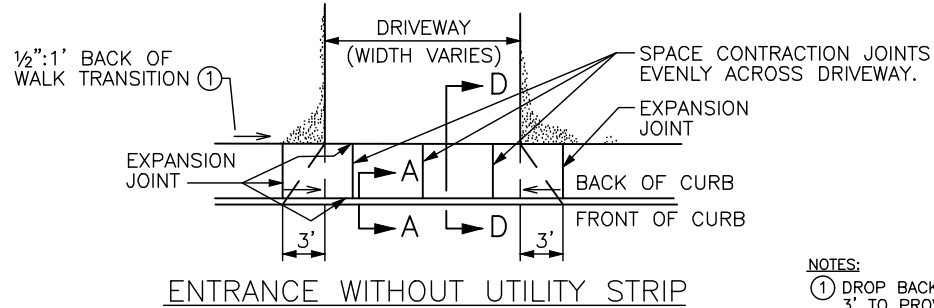
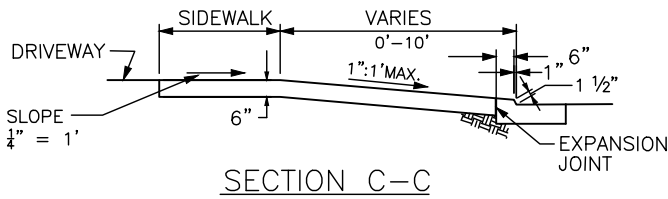
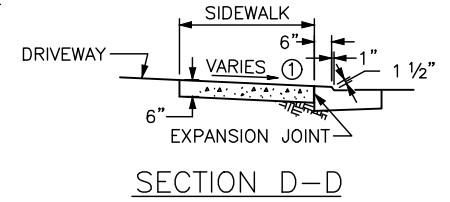
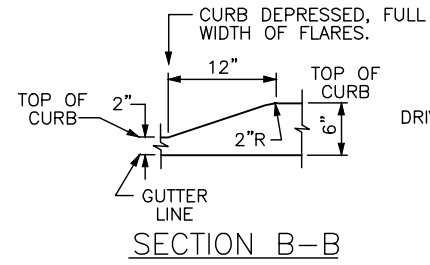
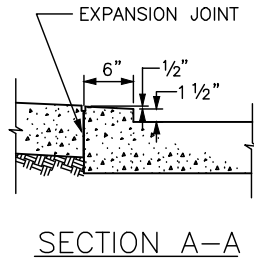


DETAIL A

 LEXINGTON	
DIVISION OF ENGINEERING	
SIDEWALK RAMP	
STANDARD DRAWING NO.	304
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

MAXIMUM ALLOWABLE APRON AND DRIVEWAY WIDTHS

CLASSIFICATION	DRIVEWAY	APRON
SINGLE RESIDENTIAL	12'	18'
DOUBLE OR JOINT RESIDENTIAL	20'	26'

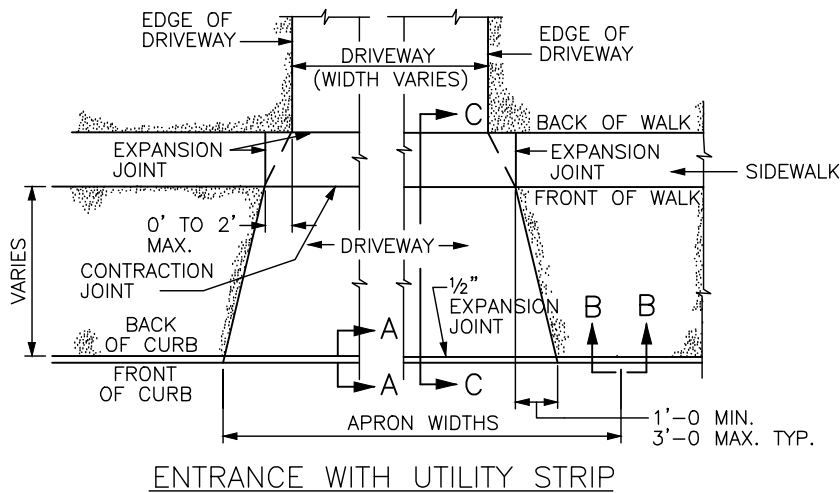


NOTES:

- ① DROP BACK OF SIDEWALK GRADE 1 1/2" OVER 3' TO PROVIDE A MAXIMUM SLOPE OF 1":1'.
- PROVIDE A SAWED JOINT ALONG CENTER LINE OF APRON.
- MAXIMUM DROP AT BACK OF SIDEWALK SHALL NOT EXCEED 1 1/2".
- MAXIMUM CROSS SLOPE ON SIDEWALK SHALL NOT EXCEED 1/4" = 1'.
- MAXIMUM SLOPE ON APRON SHALL NOT EXCEED 1":1' (8.33%).
- ENTIRE APRON FROM BACK OF CURB TO BACK OF SIDEWALK SHALL BE CONSTRUCTED WITH A SINGLE POUR.
- ALL EXPANSION JOINTS SHALL BE FULL DEPTH.

STREET WITH PARKING LANE

STREET WITHOUT PARKING LANE



NOTE:
FOR USE WITH 6" HEADER CURB OR 6" CURB AND GUTTER

UTILITY STRIP WIDTH	DROP BACK OF 4' SIDEWALK	SIDEWALK SLOPE	SLOPE ON APRON
0'	1 1/2"	7.29%	N/A
2'	1 1/2"	5.21%	8.33%
4'	1 1/2"	3.12%	8.33%
5'	1 1/2"	2.08%	8.33%
6'	1"	2.08%	8.33%
8'	0"	2.08%	8.33%
10'	0"	2.08%	7.50%

BASED ON UTILITY STRIP WITH 1/2":1' CROSS SLOPE

UTILITY STRIP WIDTH	DROP BACK OF 4' SIDEWALK	SIDEWALK SLOPE	SLOPE ON APRON
0'	1 1/2"	7.29%	N/A
2'	1 1/2"	4.17%	8.33%
3'	1 1/2"	2.60%	8.33%
4'	1"	2.08%	8.33%
6'	0"	2.08%	7.64%
8'	0"	2.08%	6.25%
10'	0"	2.08%	5.42%

BASED ON UTILITY STRIP WITH 1/4":1' CROSS SLOPE

LEXINGTON

DIVISION OF ENGINEERING

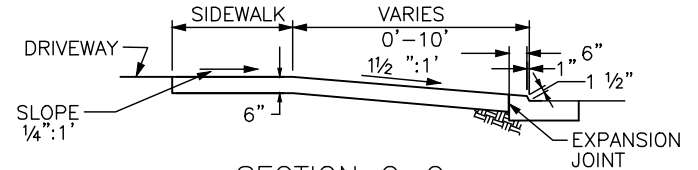
RESIDENTIAL ENTRANCE DETAILS

STANDARD DRAWING NO. **307-1**

APPROVAL: *[Signature]* **9/22/17**
URBAN COUNTY ENGINEER *[Signature]* **DATE**
COMMISSIONER *[Signature]* **DATE**

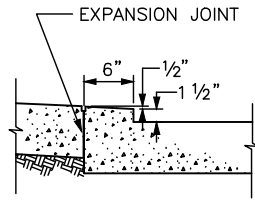
MAXIMUM ALLOWABLE APRON AND DRIVEWAY WIDTHS

CLASSIFICATION	DRIVEWAY	STANDARD APRON	ALTERNATE APRON
NON-RESIDENTIAL	30'	5' STRAIGHT FLARE=40' CURB CUT	10' RADIAL FLARE=50' CURB CUT
COMMERCIAL LOADING	30'	15' STRAIGHT FLARE=60' CURB CUT	20' RADIAL FLARE=70' CURB CUT
INDUSTRIAL	40'	20' STRAIGHT FLARE=80' CURB CUT	25' RADIAL FLARE=90' CURB CUT

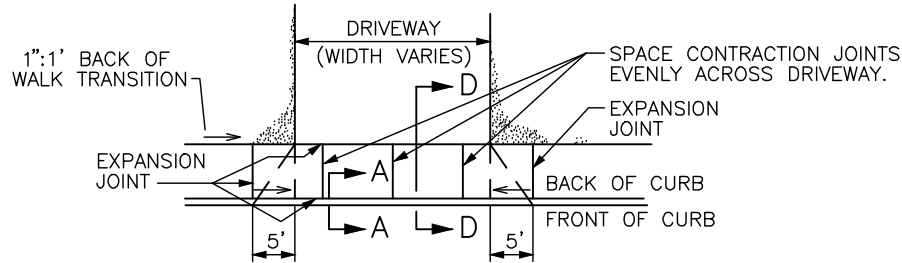


SECTION C-C

FRONT OF SIDEWALK ELEVATION DETERMINED BY ADDING 1/2" : 1' ACROSS UTILITY STRIP FROM TOP OF CURB. IF COMING OFF 1/2" LIP ADD ANOTHER 4/2" TO DETERMINE ELEVATION AT FRONT OF SIDEWALK.



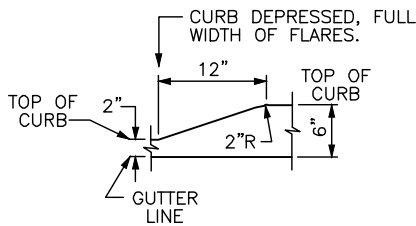
SECTION A-A



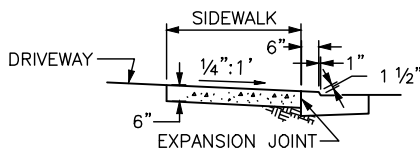
ENTRANCE WITHOUT UTILITY STRIP

NOTES:

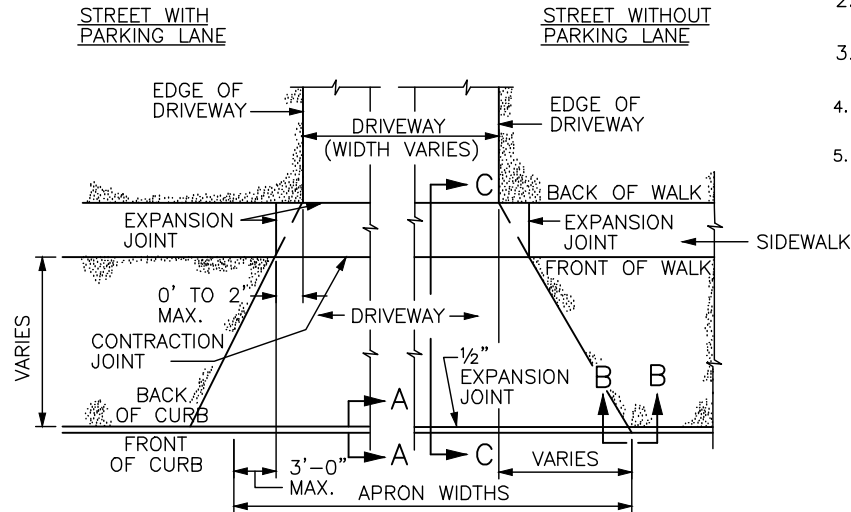
1. PROVIDE A SAWED JOINT ALONG CENTER LINE OF APRON.
2. MAXIMUM CROSS SLOPE ON SIDEWALK SHALL NOT EXCEED 1/4" : 1'
3. MAXIMUM SLOPE ON APRON SHALL NOT EXCEED 1/2" : 1'.
4. NO CATCH BASINS WILL BE PUT IN APRONS.
5. ALL EXPANSION JOINTS SHALL BE FULL DEPTH.




SECTION B-B



SECTION D-D



ENTRANCE WITH UTILITY STRIP



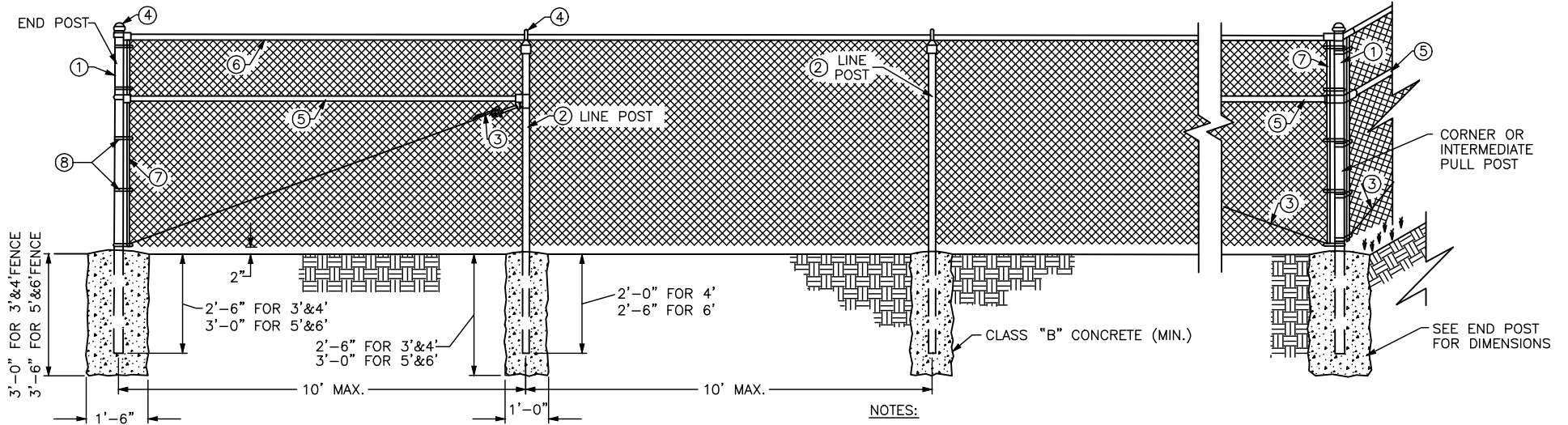
LEXINGTON

DIVISION OF ENGINEERING

COMMERCIAL ENTRANCE DETAILS

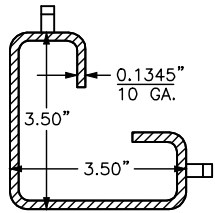
STANDARD DRAWING NO. 307-2

APPROVAL: *[Signature]* 9/22/17
 URBAN COUNTY ENGINEER DATE
[Signature] 9/22/17
 COMMISSIONER DATE

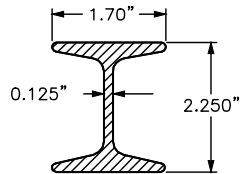


NOTES:

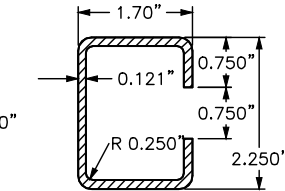
1. ALL POSTS SHALL BE SET IN CONCRETE TO THE DIMENSIONS AS INDICATED ON THIS DRAWING.
2. 3' HIGH FENCE SHALL HAVE 3' FABRIC HEIGHT. 4' HIGH FENCE SHALL HAVE 4' FABRIC HEIGHT. 5' HIGH FENCE SHALL HAVE 5' FABRIC HEIGHT. 6' HIGH FENCE SHALL HAVE 6' FABRIC HEIGHT.
3. BRACE BANDS SHALL BE 7/8"x1/8" GALVANIZED STEEL 5/16"x1 1/4" CARRIAGE BOLT.
4. POST CAPS AND SOCKET TYPE BRACE END CONNECTIONS SHALL BE GALVANIZED MALLEABLE IRON OR OTHER TYPE AS APPROVED BY THE ENGINEER. THEY SHALL BE DESIGNED IN A MANNER TO EXCLUDE MOISTURE FROM INSIDE POSTS AND RAILS.
5. O.D. DEPICTED FOR TUBULAR POSTS IS NOMINAL-ASTM A-120 SHALL GOVERN.
6. STRUCTURAL SHAPES SHALL CONFORM TO STD. SPEC. 816.07.01 EXCEPT YIELD SHALL BE A MIN. 45,000 P.S.I.
7. INDISCRIMINATE MIXING OF POSTS WILL NOT BE PERMITTED.
8. CHAIN LINK FENCE FABRIC SHALL BE 0.148 INCH NOMINAL DIAMETER (NO. 9 GAGE) WIRE WOVEN IN 2 INCH MESH.



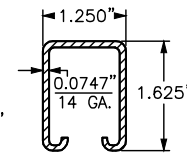
TERMINAL POST & CORNER POST



LINE POST H-COLUMN



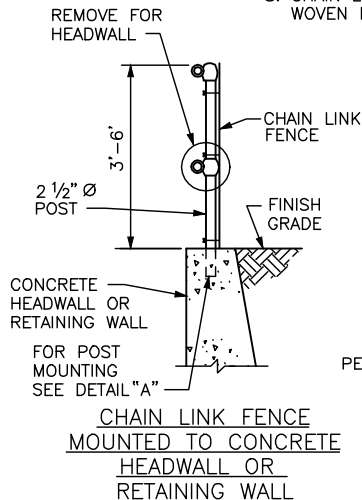
LINE POST HEAVY "C" ROLL FORM



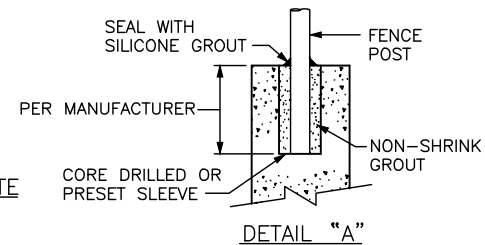
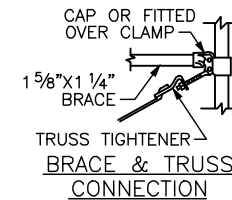
TOP & BRACE RAIL

LEGEND-(ALTERNATES)

	TUBULAR	ROLL FORMED
①	2 1/2" O.D. @ 3.65#/L.F.	3.5"x3.5" @ 5.14#/L.F.
②	2" O.D. @ 2.72#/L.F.	2.250" H-COL. @ 3.26#/L.F. OR 2.250" C-COL. @ 2.64#/L.F.
③	3/8" Ø TRUSS ROD & TIGHTENER	0.375" Ø TRUSS ROD & TIGHTENER
④	APPROVED CAPS	NOT REQUIRED
⑤	1 5/8" BRACE @ 2.27#/L.F.	1.250"x1.625" @ 1.35#/L.F.
⑥	1 5/8" O.D. @ 2.27#/L.F.	1.250"x1.625" @ 1.35#/L.F.
⑦	3/16"x3/4" FLAT STRETCHER BAR	NOT REQUIRED
⑧	BRACE BAND & TENSION BAND	NOT REQUIRED



CHAIN LINK FENCE MOUNTED TO CONCRETE HEADWALL OR RETAINING WALL



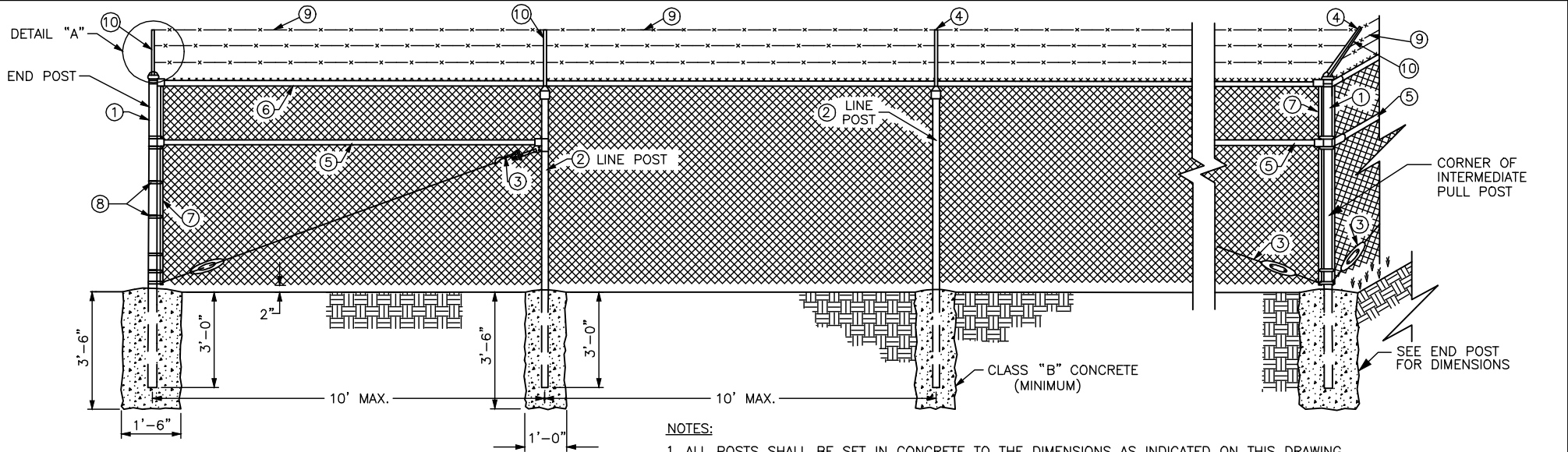
DETAIL "A"

LEXINGTON
DIVISION OF ENGINEERING

CHAIN LINK FENCE
3'-6"

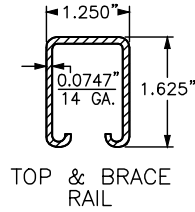
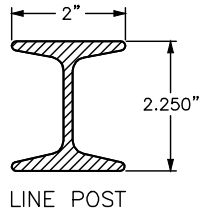
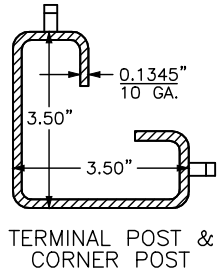
STANDARD DRAWING NO. **308**

APPROVAL: *[Signature]* 9/22/17
URBAN COUNTY ENGINEER DATE
COMMISSIONER *[Signature]* 9/22/17 DATE



NOTES:

1. ALL POSTS SHALL BE SET IN CONCRETE TO THE DIMENSIONS AS INDICATED ON THIS DRAWING.
2. A 1 5/8" O.D. AT 2.27 LB. PER L.F. OR 1 1/4"x1 5/8" ROLL FORMED SECTION AT 1.35 LB. PER L.F. BOTTOM RAIL SHALL BE REQUIRED AROUND ALL UTILITY INSTALLATIONS AND AT OTHER LOCATIONS DESIGNATED BY THE ENGINEER.
3. 8' HIGH FENCE SHALL HAVE 7' FABRIC HEIGHT. 9' HIGH FENCE SHALL HAVE 8' FABRIC HEIGHT. 10' HIGH FENCE SHALL HAVE 9' FABRIC HEIGHT. 11' HIGH FENCE SHALL HAVE 10' FABRIC HEIGHT. 12' HIGH FENCE SHALL HAVE 11' FABRIC HEIGHT.
4. BRACE BAND SHALL BE 7/8"x 1/8" GALVANIZED STEEL WITH 5/16"x1 1/4" CARRIAGE BOLTS. POST CAPS AND SOCKET TYPE BRACE END CONNECTION SHALL BE GALVANIZED MALLEABLE IRON OR OTHER TYPE AS APPROVED BY THE ENGINEER. THEY SHALL BE DESIGNED IN A MANNER TO EXCLUDE MOISTURE FROM INSIDE POSTS AND RAILS.
5. O.D. DEPICTED FOR TUBULAR POSTS IS NOMINAL - ASTM A-120 SHALL GOVERN.
6. CHAIN LINK FENCE FABRIC SHALL BE 0.148 INCH NOMINAL DIAMETER (NO.9 GAGE) WIRE WOVEN IN 2 INCH MESH.



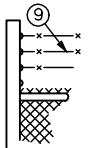
TERMINAL POST & CORNER POST

LINE POST

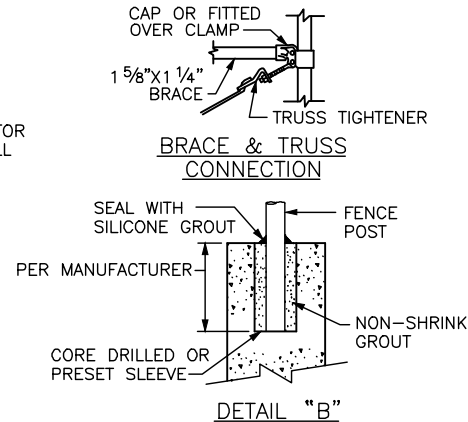
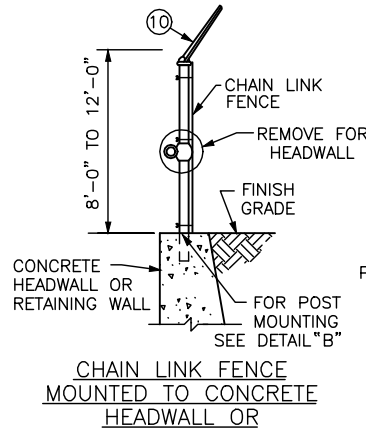
TOP & BRACE RAIL


LEGEND-(ALTERNATES)

	TUBULAR	ROLL FORMED
①	2 1/2" O.D. @ 3.65#/L.F.	3.5"x3.5" @ 5.14#/L.F.
②	2" O.D. @ 2.72#/L.F.	2.250" H-COL. @ 3.26#/L.F. OR 2.250" C-COL. @ 2.64#/L.F.
③	3/8" Ø TRUSS ROD & TIGHTENER	0.375" Ø TRUSS ROD & TIGHTENER
④	APPROVED CAPS	NOT REQUIRED
⑤	1 5/8" BRACE @ 2.27#/L.F.	1.250"x1.625" @ 1.35#/L.F.
⑥	1 5/8" O.D. @ 2.27#/L.F.	1.250"x1.625" @ 1.35#/L.F.
⑦	3/16"x 3/4" FLAT STRETCHER BAR	NOT REQUIRED
⑧	BRACE BAND & TENSION BAND	NOT REQUIRED
⑨	BARBED WIRE	BARBED WIRE
⑩	BARBED WIRE ARMS	BARBED WIRE ARMS



DETAIL "A" ROLL FORMED







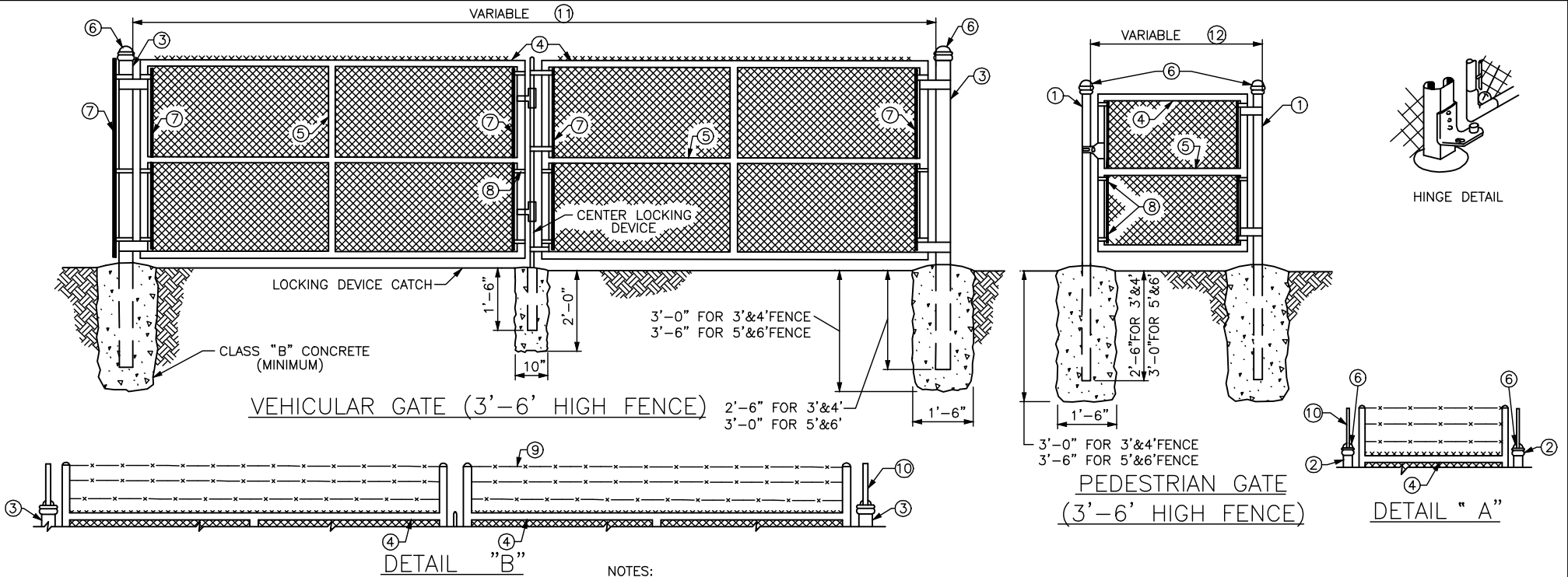
LEXINGTON

DIVISION OF ENGINEERING

CHAIN LINK FENCE
8'-12'

STANDARD DRAWING NO. **309**

APPROVAL:  **9/22/17**
URBAN COUNTY ENGINEER **DATE**
COMMISSIONER  **9/22/17**
DATE




NOTES:

1. ALL POSTS SHALL BE SET IN CONCRETE TO THE DIMENSIONS AS INDICATED ON THIS DRAWING.
2. VEHICULAR AND PEDESTRIAN GATES SHALL HAVE HEAVY PRESSED STEEL CORNERS SECURELY RIVETED OR SHALL BE MACHINE NOTCHED, AND ELECTRICALLY WELDED SO AS TO BE RIGID AND WATER TIGHT; AND EQUIPPED WITH PADLOCKING DEVICE AND GROUND STOP.
3. ALL WELDED JOINTS SHALL BE CLEANED AND PAINTED WITH TWO (2) COATS OF ALUMINUM PAINT.
4. 3' HIGH GATES SHALL HAVE 3' FABRIC HEIGHT. 4' HIGH GATES SHALL HAVE 4' FABRIC HEIGHT. 5' HIGH GATES SHALL HAVE 5' FABRIC HEIGHT. 6' HIGH GATES SHALL HAVE 6' FABRIC HEIGHT. 8' HIGH GATES SHALL HAVE 7' FABRIC HEIGHT. 9' HIGH GATES SHALL HAVE 8' FABRIC HEIGHT. 10' HIGH GATES SHALL HAVE 9' FABRIC HEIGHT. 11' HIGH GATES SHALL HAVE 10' FABRIC HEIGHT. 12' HIGH GATES SHALL HAVE 11' FABRIC HEIGHT.
5. SEE DETAIL "A" FOR BARBED WIRE INSTALLATION ON 8' TO 12' HIGH PEDESTRIAN GATES.
6. SEE DETAIL "B" FOR BARBED WIRE INSTALLATION ON 8' TO 12' HIGH VEHICULAR GATES.
7. THE CONTRACTOR IS NOT TO ORDER GATES UNTIL THEIR NECESSITY AND LOCATION HAVE BEEN CERTIFIED BY THE ENGINEER.
8. O.D. DEPICTED FOR TUBULAR POSTS IS NOMINAL - ASTM A-120 SHALL GOVERN.
9. CHAIN LINK FENCE FABRIC SHALL BE 0.148 INCH NOMINAL DIAMETER (NO.9 GAGE) WIRE WOVEN 2 INCH MESH.

LEGEND - (ALTERNATES)

	TUBULAR	ROLL FORMED
①	END POST 2 1/2" O.D. @ 3.65#/L.F.	3 1/2"x3 1/2" @ 5.14#/L.F.
②	END POST 3" O.D. @ 3.65#/L.F.	3 1/2"x3 1/2" @ 5.14#/L.F.
③	4" O.D. @ 9.1#/L.F. GATE POST	NO ALTERNATE
④	2" O.D. @ 2.72#/L.F. GATE FRAME	NO ALTERNATE
⑤	1 5/8" O.D. @ 2.27#/L.F.	NO ALTERNATE
⑥	APPROVED CAPS	NOT REQUIRED
⑦	3/16"x5/8" FLAT STRETCHER BAR	NOT REQUIRED
⑧	BRACE BAND & TENSION BAND	NOT REQUIRED
⑨	BARBED WIRE	BARBED WIRE
⑩	BARBED WIRE ARMS	BARBED WIRE ARMS

- ⑪ 6' TO 13' WIDTH FOR SINGLE GATE OR 12' TO 26' WIDTH FOR DOUBLE GATE.
- ⑫ 4' TO 6' WIDTH





LEXINGTON

DIVISION OF ENGINEERING

CHAIN LINK GATE

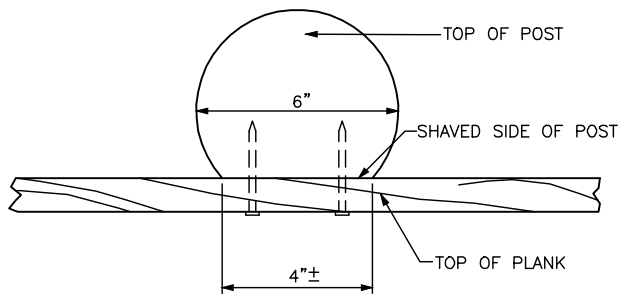
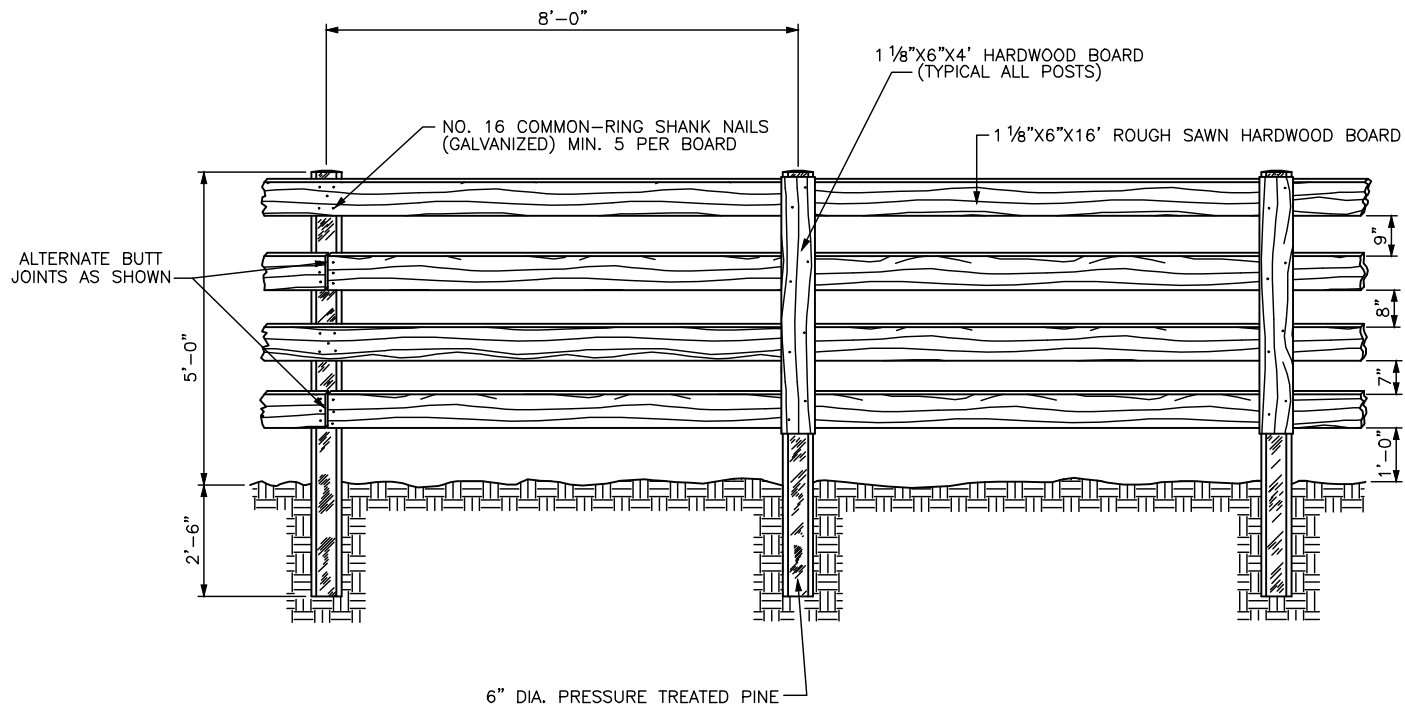
STANDARD DRAWING NO. **310**

APPROVAL:  9/22/17

URBAN COUNTY ENGINEER  DATE

COMMISSIONER 9/22/17

DATE



NOTES:

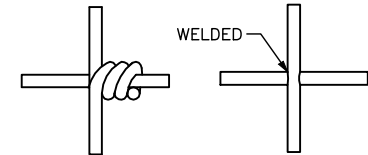
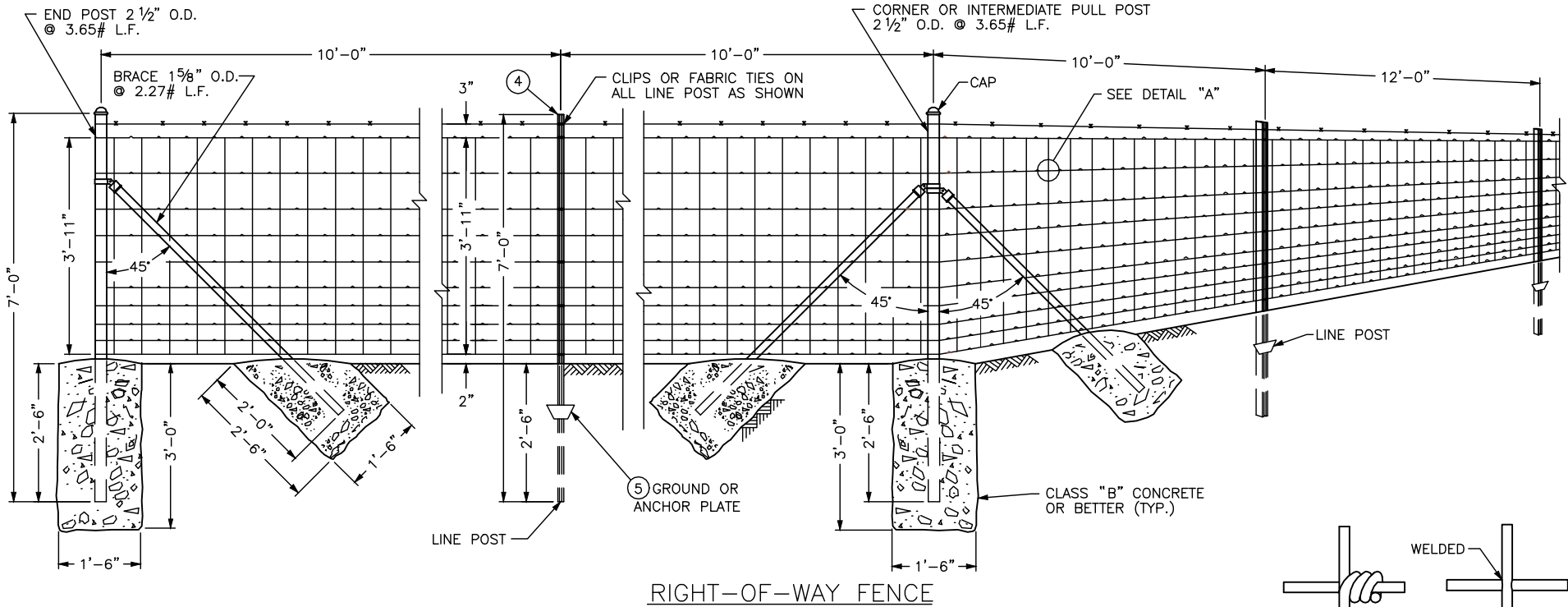
1. POSTS ARE TO BE DRIVEN 2'-6" INTO GROUND AND TOPS CUT AT AN ANGLE TO DRAIN WATER.
2. FENCE SHALL BE PAINTED BLACK OR WHITE WITH PAINT AND APPLICATION RATE AS APPROVED BY THE ENGINEER.
3. HARDWOODS APPROVED ARE RED OAK, WHITE OAK, AND POPLAR.



DIVISION OF ENGINEERING

PLANK FENCE

STANDARD DRAWING NO.	311
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE
	9/22/17
	DATE

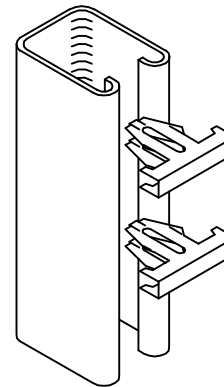


ALTERNATE METHODS OF SECURING VERTICAL STAY WIRE TO THE HORIZONTAL WIRE OF THE FABRIC.

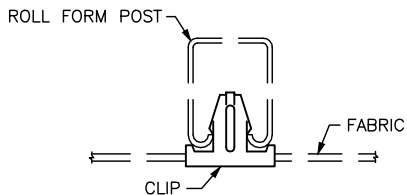
DETAIL "A"

NOTES:

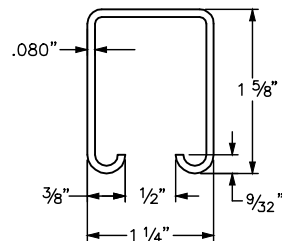
1. WOVEN-WIRE USED FABRIC IN RIGHT-OF-WAY FENCE SHALL BE EITHER ALUMINUM-COATED STEEL NO. 1047-6-9 OR ZINC-COATED STEEL NO. 1047-6-9.
2. ALL FENCE FITTINGS SHALL COMPLY WITH ASTM F 626.
3. O.D. DEPICTED FOR TUBULAR POSTS IS NOMINAL - ASTM F 1083 SHALL GOVERN.
4. STUDDED "T" POST AT 1.33 LBS. PER FOOT.
- OR -
ROLL FORM POST AT 1.35 LBS. PER FOOT. (SEE DETAIL)
5. NOT REQUIRED FOR ROLL FORM POST.




CLIPS SHALL BE SPRING STEEL ALUMINUM - FINISHED

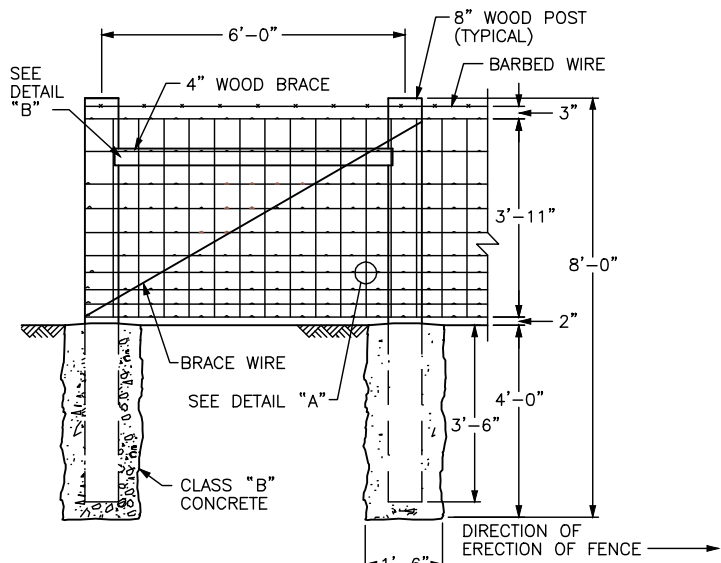


PLAN VIEW OF CLIP INSTALLED IN ROLL FORM POST

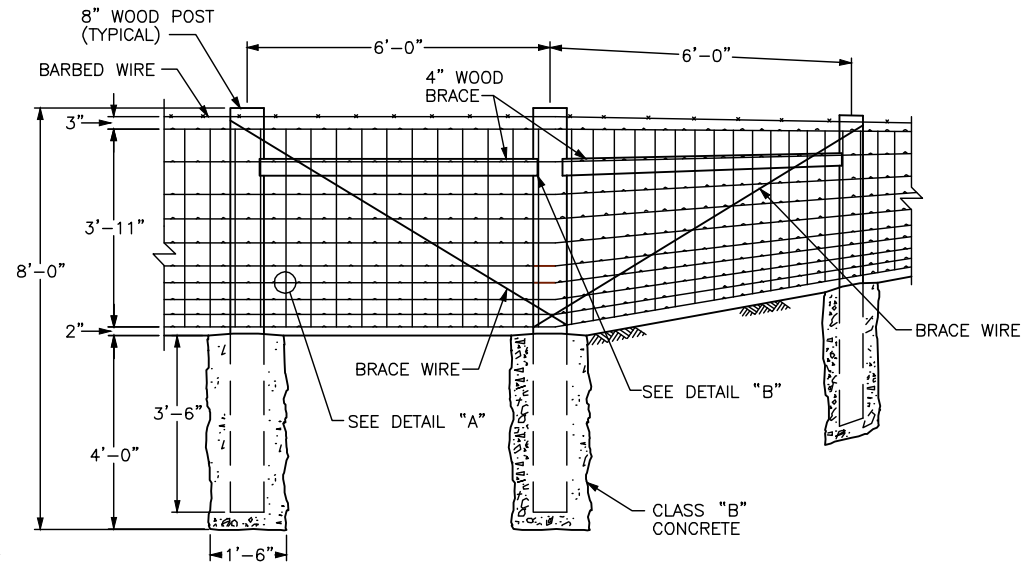


PLAN VIEW OF ROLL FORM POST

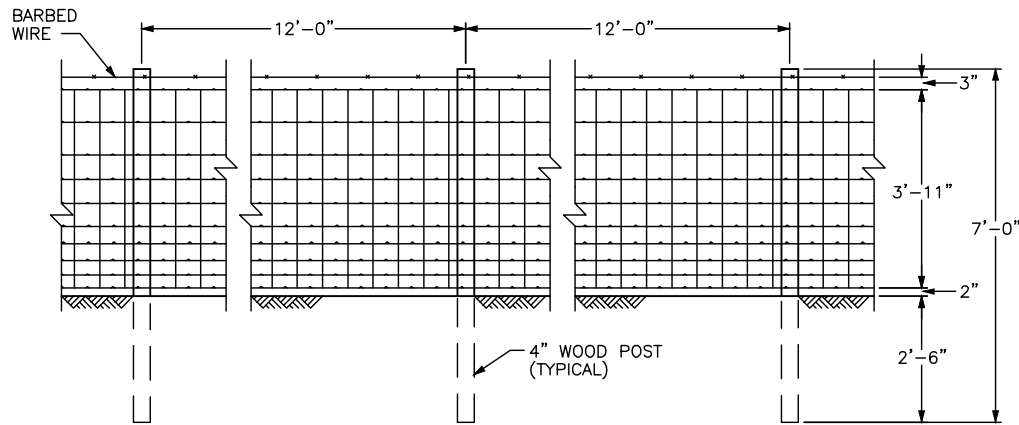
 LEXINGTON	
DIVISION OF ENGINEERING	
WOVEN WIRE RIGHT-OF-WAY FENCE TYPE 1	
STANDARD DRAWING NO.	312
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



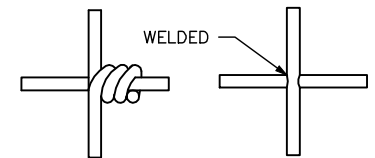
PULL OR END POST ASSEMBLY



CORNER POST ASSEMBLY

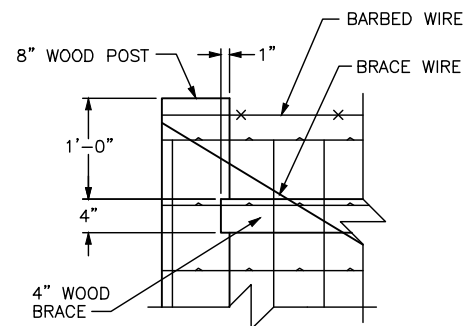


LINE POST



ALTERNATE METHODS OF SECURING VERTICAL STAY WIRE TO THE HORIZONTAL WIRE OF THE FABRIC.


DETAIL "A"

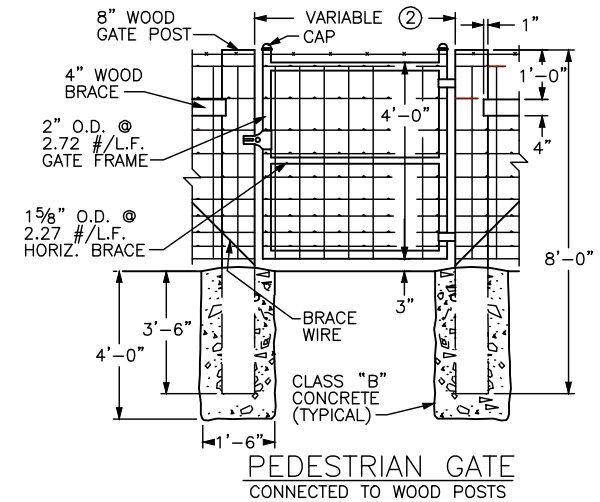
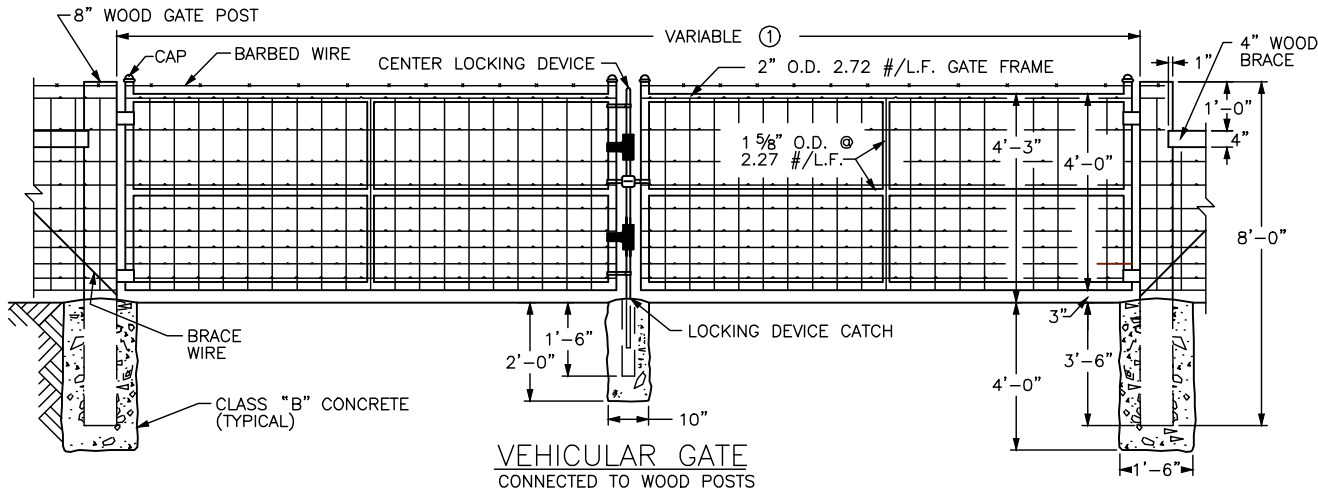
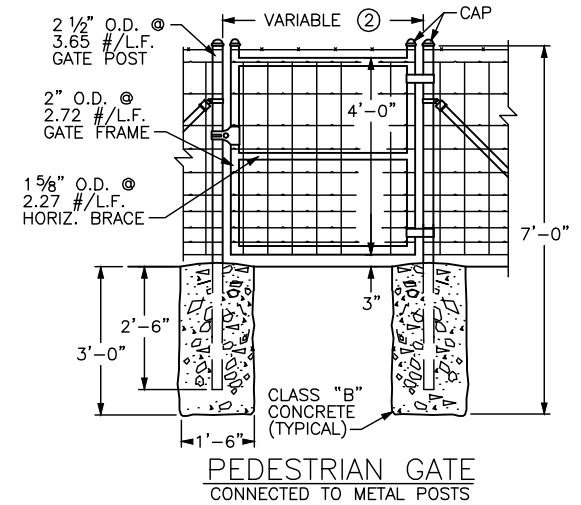
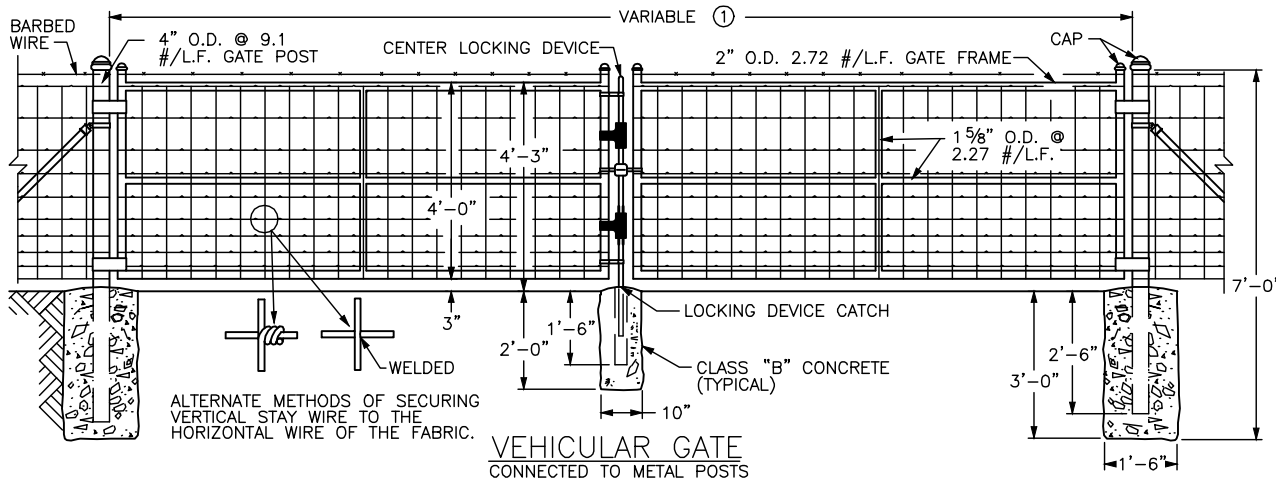


DETAIL "B"

NOTES:

1. ON INTERMEDIATE PULL POST ASSEMBLIES, BRACE WIRES SHALL BE REQUIRED FOR BOTH DIRECTIONS.
2. WOVEN-WIRE FABRIC USED IN RIGHT-OF-WAY FENCE SHALL BE EITHER ALUMINUM-COATED STEEL NO. 1047-6-9 OR ZINC-COATED STEEL NO. 1047-6-9.

 LEXINGTON	
DIVISION OF ENGINEERING	
WOVEN WIRE RIGHT-OF-WAY FENCE TYPE 2	
STANDARD DRAWING NO.	313
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



NOTES:

BASIS OF PAYMENT:

THE CONTRACT UNIT PRICE FOR WOVEN WIRE GATES SHALL BE:

- ① FEET WIDE SINGLE VEHICULAR WOVEN WIRE GATE
- ① FEET WIDE DOUBLE VEHICULAR WOVEN WIRE GATE
- ② FEET WIDE PEDESTRIAN WOVEN WIRE GATE
- ① - ② AS SHOWN ON PLANS

CONSTRUCTION REQUIREMENTS:

FABRIC TIE WIRES SHALL BE SPACED 12 INCHES ON CENTERS. THE CONTRACTOR IS NOT TO ORDER GATES UNTIL THEIR NECESSITY AND LOCATION HAVE BEEN CERTIFIED BY THE ENGINEER.

MATERIALS:


WOVEN-WIRE FABRIC USED IN THE GATES SHALL EITHER BE ALUMINUM-COATED STEEL NO. 1047-6-9 OR ZINC-COATED STEEL NO. 1047-6-9.

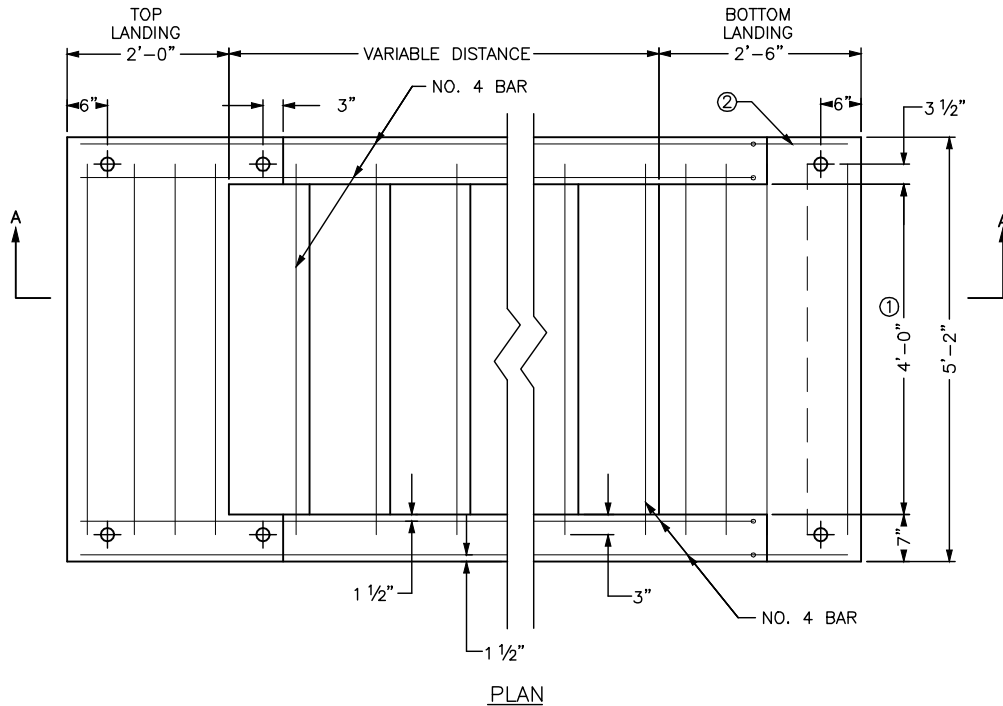
O.D. DEPICTED FOR TUBULAR POSTS IS NOMINAL - ASTM F 1083 SHALL GOVERN.

GATES SHALL HAVE HEAVY PRESSED STEEL CORNERS SECURELY RIVETED OR SHALL BE MACHINE NOTCHED AND ELECTRICALLY WELDED SO AS TO BE RIGID AND WATER TIGHT. ALL WELDED JOINTS SHALL BE CLEANED AND PAINTED WITH TWO (2) COATS OF ALUMINUM PAINT.

GENERAL:

- ① 6' TO 13' WIDTH FOR SINGLE GATE AND 12' TO 26' WIDTH FOR DOUBLE GATE.
- ② 4' TO 6' WIDTH

 LEXINGTON	
DIVISION OF ENGINEERING	
WOVEN WIRE GATES	
STANDARD DRAWING NO.	314
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	9/22/17
	DATE



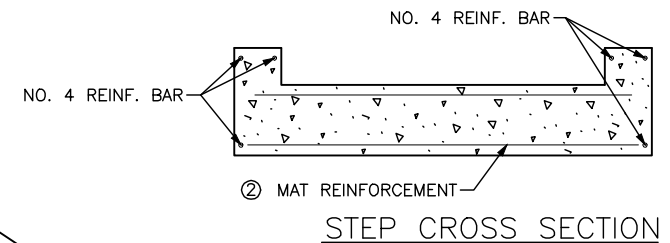
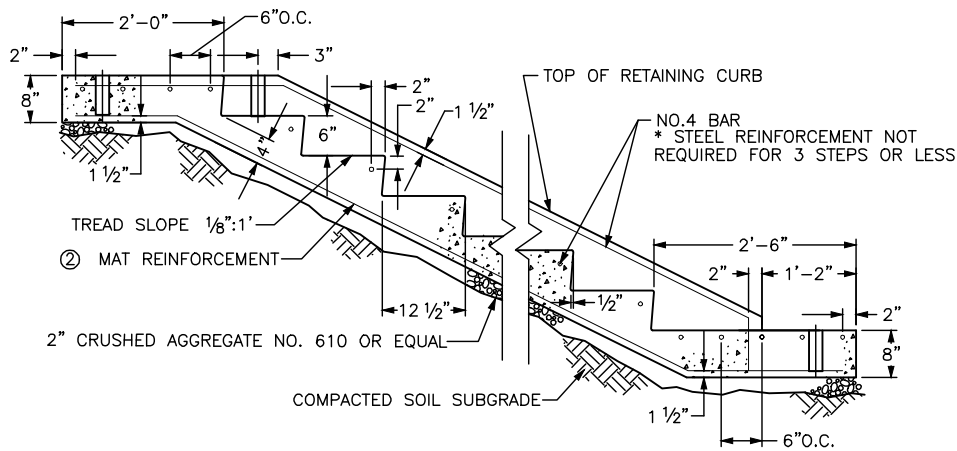
NOTES:

1. MAT REINFORCEMENT ②
NO. 4 REINFORCEMENT BARS, LONG. BARS 6" O.C. AND TRANSV. BARS 12" O.C., MIN. GRADE 40, OR WELDED WIRE FABRIC-6X6-W4XW4, 58 LBS./100 SQ. FT.
2. NO. 4 REINFORCEMENT BARS ADDITIONALLY AS SHOWN.
3. ROUND ALL EXPOSED EDGES AND CORNERS 1/4" R.
4. MAT REINFORCEMENT IN BOTTOM OF THE STEPS SHALL BE WIRE FABRIC OR BAR MAT ②.
5. HANDRAIL SHALL BE REQUIRED WITH THREE OR MORE STEPS.

TABLE OF QUANTITIES

SLOPE	LOCATION	ADDITIONAL NO. 4 BAR REINF. (LBS)		MAT REINFORCEMENT				CU. YDS. CLASS "A" CONCRETE	
		4' WIDTH	①	WIRE FABRIC(SQ.FT.)		BAR MAT (LBS)		4' WIDTH	①
				4' WIDTH	①	4' WIDTH	①		
2:1	BOTTOM LANDING	23.547	3.340	11.776	2.375	27.388	5.177	0.337	0.059
	INTERMEDIATE STEP	8.015	1.336	5.991	1.208	12.191	2.283	0.16	0.025
	TOP LANDING	22.483	3.340	9.504	1.917	20.708	3.897	0.265	0.051
1 1/2:1	BOTTOM LANDING	23.603	3.340	12.602	2.542	28.613	5.400	0.36	0.062
	INTERMEDIATE STEP	7.431	1.336	5.268	1.063	11.119	2.088	0.17	0.027
	TOP LANDING	22.545	3.340	9.710	1.958	21.014	3.952	0.281	0.054

① APPROXIMATE QUANTITY TO ADD FOR EACH ADDITIONAL FOOT OF WIDTH OVER 4'-0".



STEP DETAIL FOR 1 1/2:1 SLOPE

LEXINGTON

DIVISION OF ENGINEERING

CONCRETE STEPS

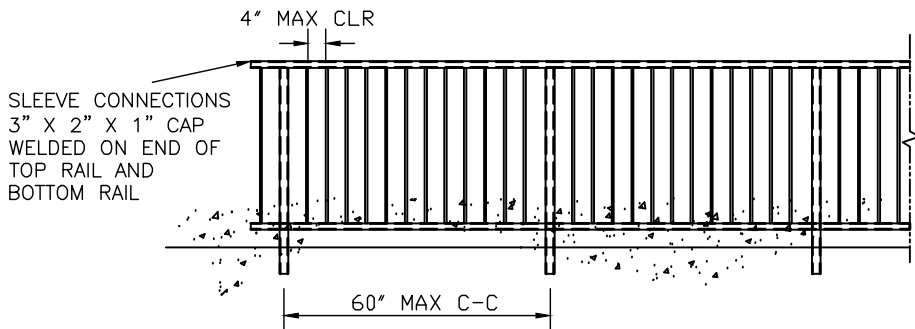
STANDARD DRAWING NO. 315

APPROVAL: 9/22/17

URBAN COUNTY ENGINEER DATE

COMMISSIONER 9/22/17

DATE

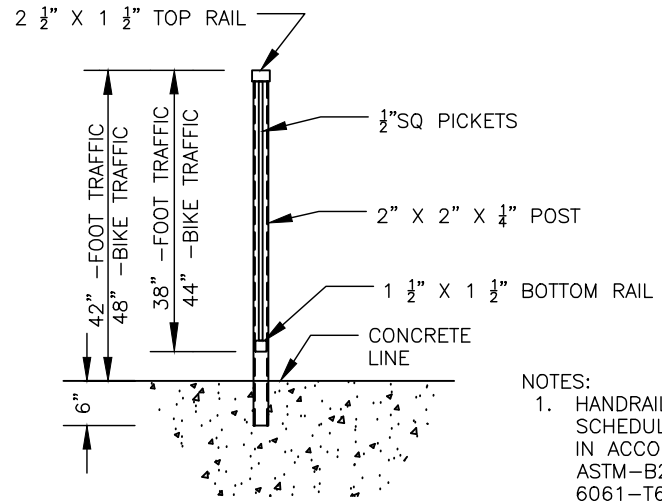


SLEEVE CONNECTIONS
3" X 2" X 1" CAP
WELDED ON END OF
TOP RAIL AND
BOTTOM RAIL

4" MAX CLR

60" MAX C-C

TOP RAIL FOR RETAINING WALLS



2 1/2" X 1 1/2" TOP RAIL

1/2" SQ PICKETS

2" X 2" X 1/4" POST

1 1/2" X 1 1/2" BOTTOM RAIL

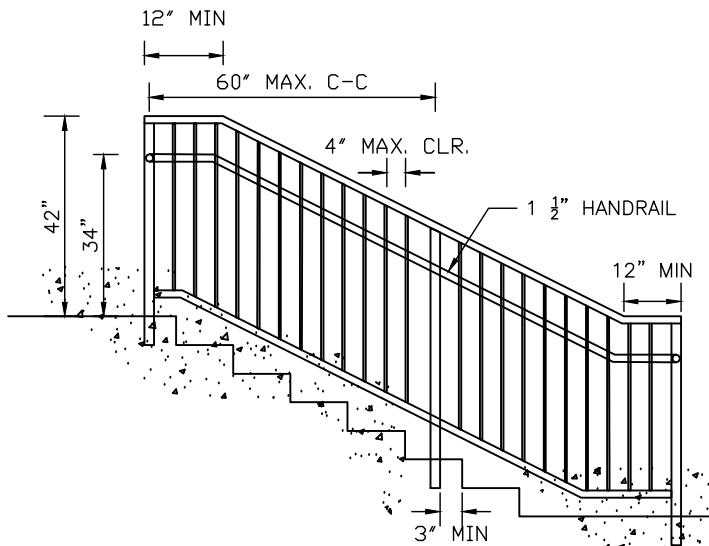
CONCRETE LINE

6"

SECTION

NOTES:

- HANDRAILS SHALL BE DN 40 SCHEDULE 40 ALUMINUM PIPE IN ACCORDANCE WITH ASTM-B221 OR B210 ALLOY 6061-T6.
- SQUARE BARS SHALL BE DN 40 SCHEDULE ALUMINUM IN ACCORDANCE WITH ASTM -B221 OR B210 ALLOY 6061-T6.
- ALL METAL TO BE POWDER COATED BLACK IN ACCORDANCE WITH AAMA 2605.
- GROUT POSTS TO CONCRETE - SEE POST SETTINGS DETAIL THIS SHEET.
- ANCHOR POSTS IN CORED OR FORMED HOLES.
- ALUMINUM SURFACES, SUCH AS EXPOSED ENDS, IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS SHALL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT.



12" MIN

60" MAX. C-C

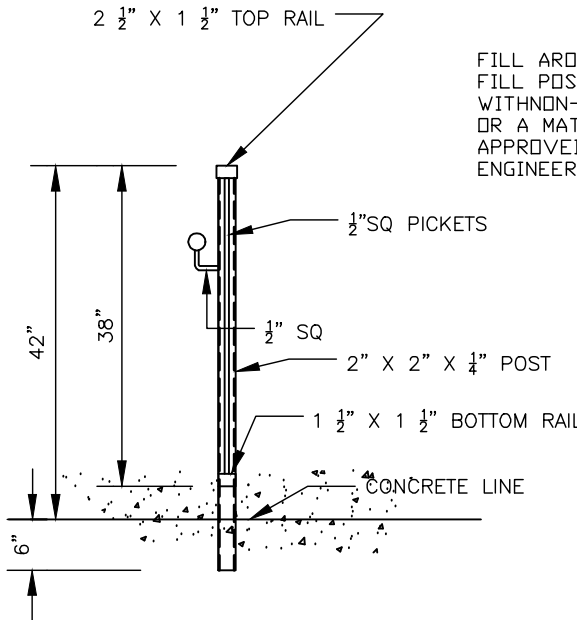
4" MAX. CLR.

1 1/2" HANDRAIL

12" MIN

3" MIN

HANDRAIL FOR STEPS



2 1/2" X 1 1/2" TOP RAIL

1/2" SQ PICKETS

1/2" SQ

2" X 2" X 1/4" POST

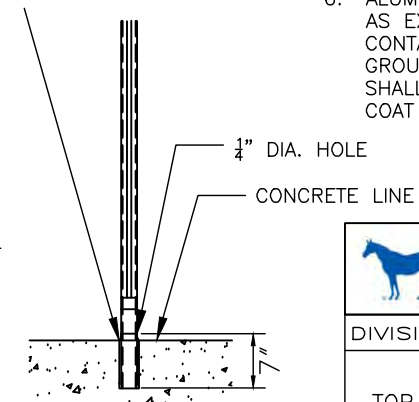
1 1/2" X 1 1/2" BOTTOM RAIL

CONCRETE LINE

6"

SECTION

FILL AROUND POST AND
FILL POST TO HOLE
WITH NON-SHRINK GROUT
OR A MATERIAL
APPROVED BY THE
ENGINEER



1/4" DIA. HOLE

CONCRETE LINE

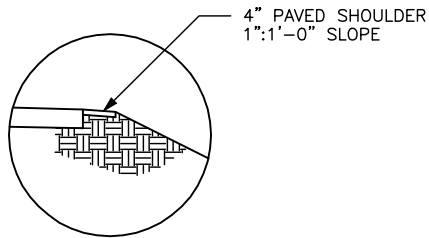
POST SETTING DETAIL



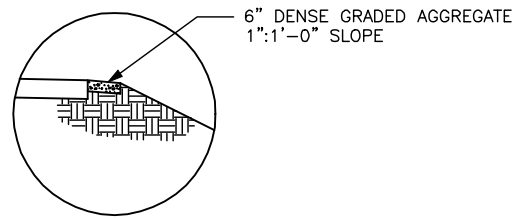
DIVISION OF ENGINEERING

TOP RAIL FOR RETAINING
WALLS HANDRAIL FOR STEPS

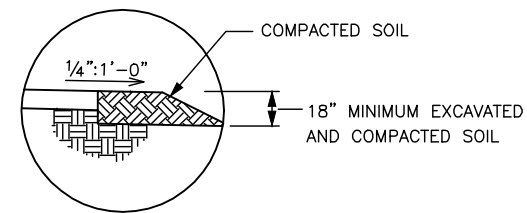
STANDARD DRAWING NO.	316
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE



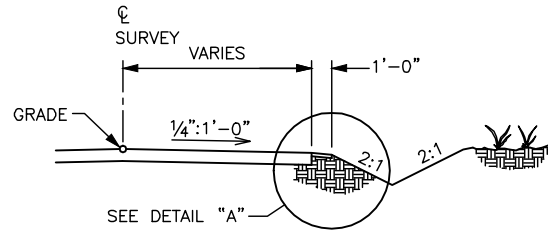
DETAIL "A"



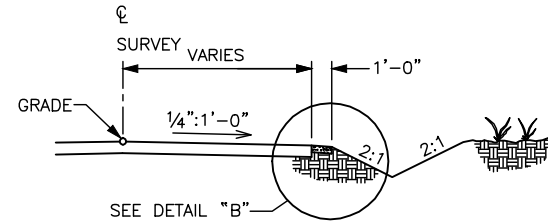
DETAIL "B"



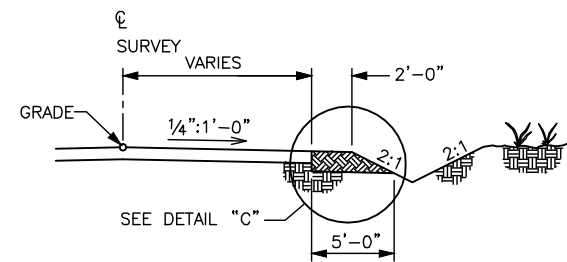
DETAIL "C"



PAVED SHOULDER



ROCK SHOULDER



SOIL SHOULDER

NOTES:



1. SLOPES AND DRAINAGE DITCHES OUTSIDE THE R/W SHALL BE APPROVED BY THE ENGINEER.
2. DRAINAGE DITCH SIDE SLOPES SHALL BE 2:1 MAXIMUM.

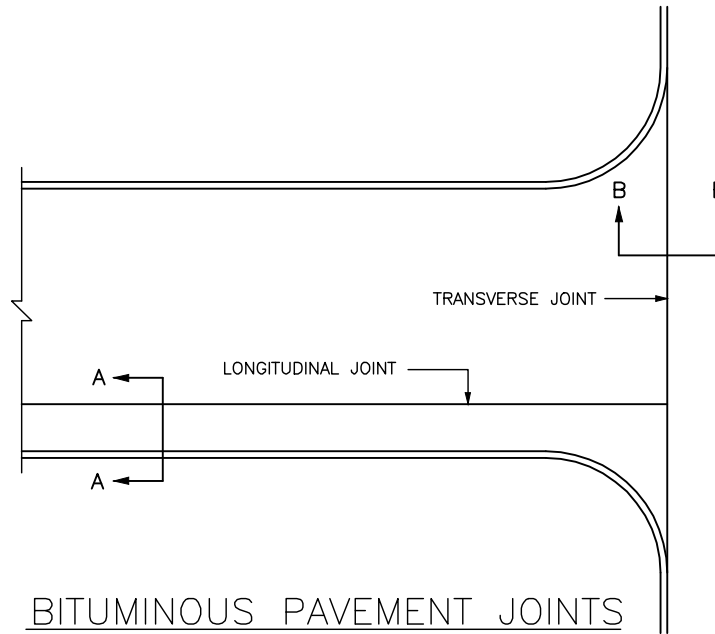


DIVISION OF ENGINEERING

COUNTY ROAD
TYPICAL SHOULDER SECTIONS
(MINIMUM REQUIREMENTS)

STANDARD DRAWING NO. 317

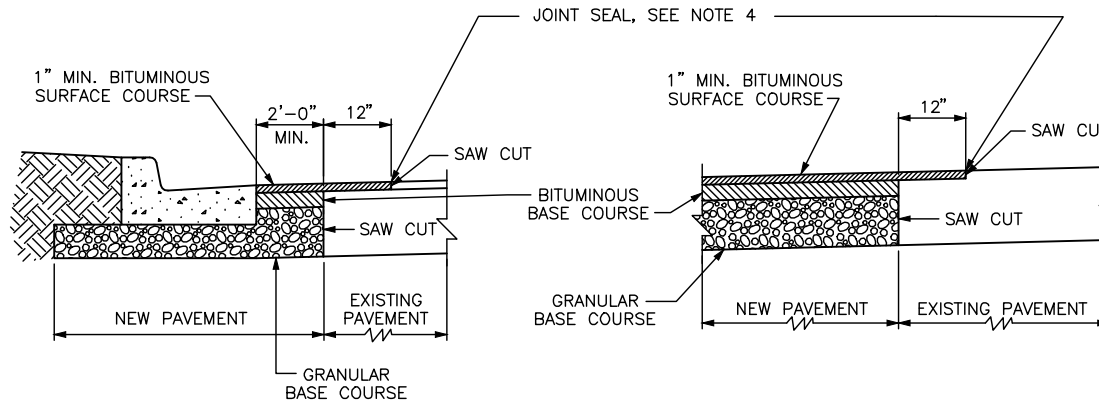
APPROVAL:  / DATE 9/22/17
URBAN COUNTY ENGINEER  / DATE 9/22/17
COMMISSIONER / DATE



BITUMINOUS PAVEMENT JOINTS

NOTES:

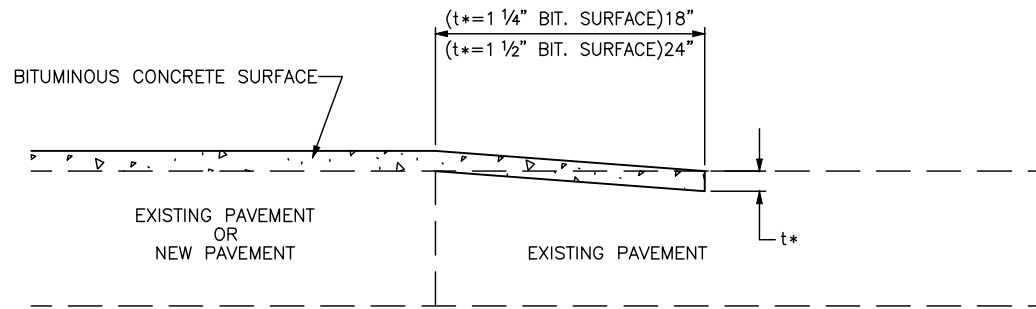
1. ALL SAW-CUTS SHALL BE NEAT AND STRAIGHT.
2. IMMEDIATELY BEFORE LAYING NEW BITUMINOUS COURSES, ALL SAW CUT EDGES SHALL BE CLEANED OF DUST AND DEBRIS AND SPRAYED WITH A BITUMINOUS TACK COAT.
3. EDGE KEY SHALL NOT BE REQUIRED IF BOTH EXISTING AND NEW PAVEMENT ARE TO RECEIVE AN OVERLAY AS PART OF THIS CONTRACT.
4. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.



**SECTION A-A
LONGITUDINAL EDGE KEY**

**SECTION B-B
TRANSVERSE EDGE KEY**

LEXINGTON	
DIVISION OF ENGINEERING	
EDGE KEY	
STANDARD DRAWING NO.	318
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE





EDGE KEY



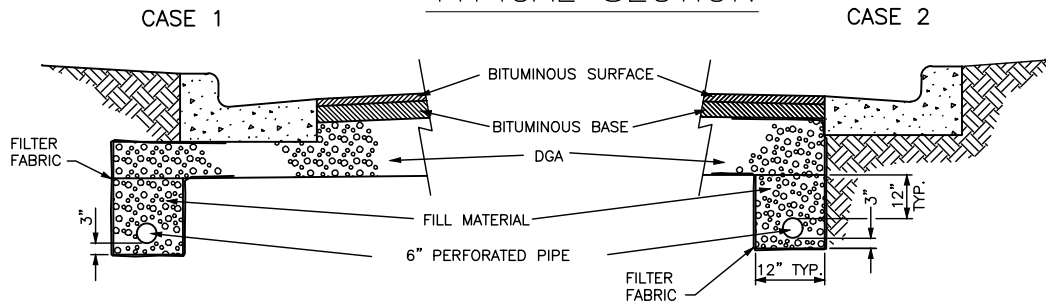
DIVISION OF ENGINEERING

TYPICAL EDGE KEY
FOR
MINIMUM OVERLAYS,
SHORT PROJECTS,
LOW SPEED

STANDARD DRAWING NO. 319

APPROVAL:  9/22/17
URBAN COUNTY ENGINEER  9/22/17
COMMISSIONER DATE

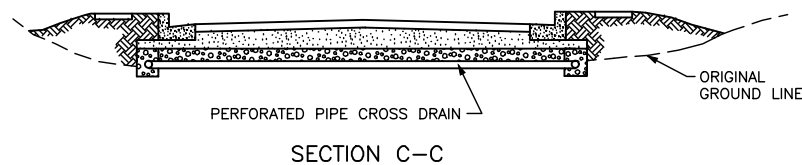
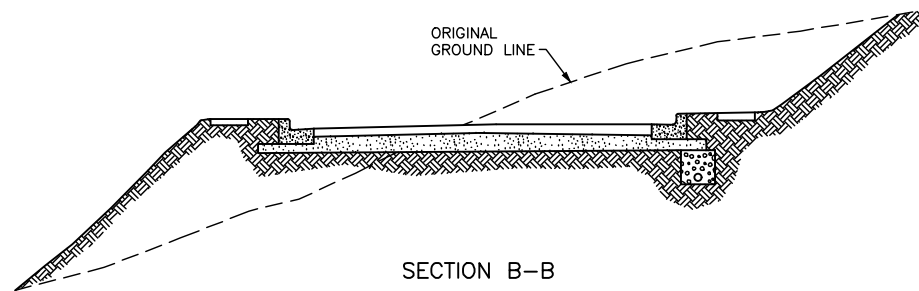
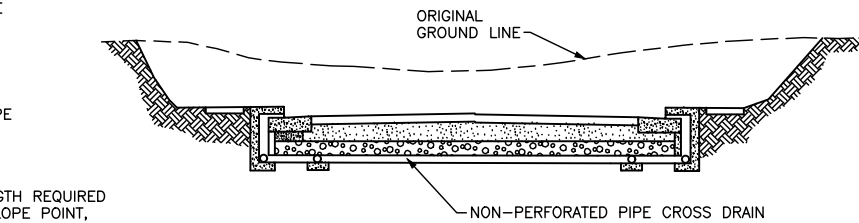
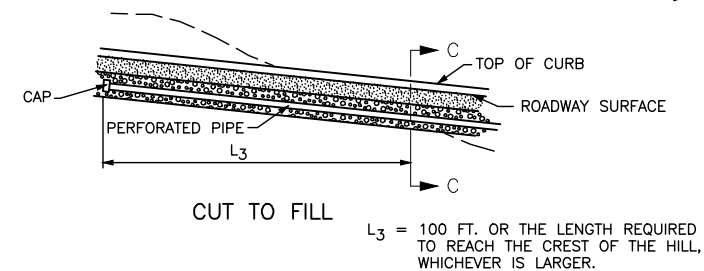
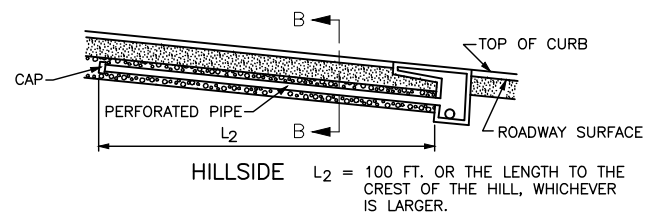
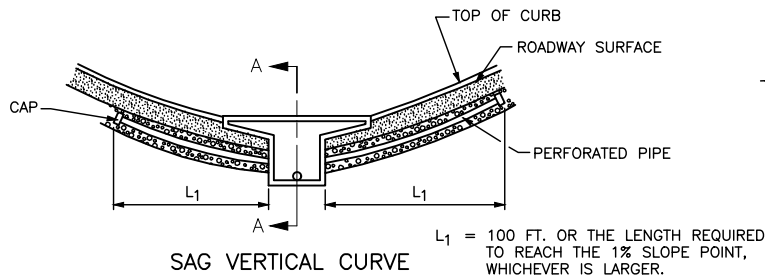
TYPICAL SECTION




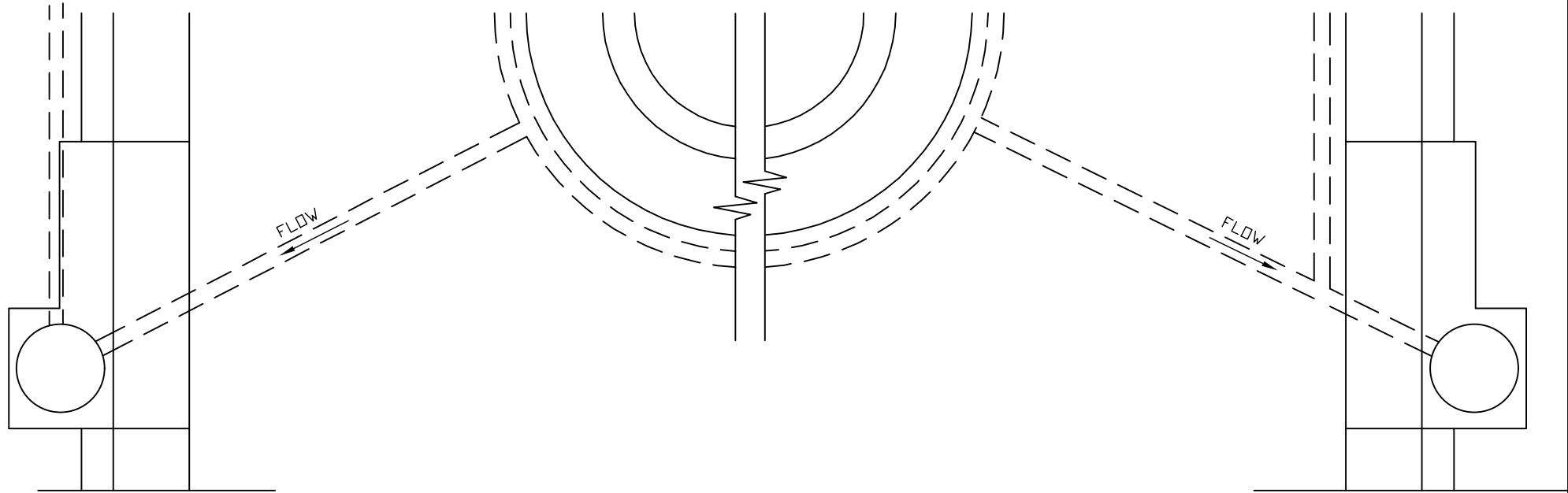
NOTES:

1. SUBGRADE DRAINAGE, AS DEPICTED, IS INTENDED FOR USE WITH THE SURFACING PHASE OF CONSTRUCTION, AND SHALL BE INSTALLED ONLY AFTER THE SUBGRADE HAS BEEN COMPLETED, AND PRIOR TO CONSTRUCTING PAVING MATERIALS.
2. THE CAP SHALL BE A STANDARD MANUFACTURED ITEM FURNISHED BY THE PIPE SUPPLIER.
3. TERMINATE PERFORATED PIPE IN CATCH BASIN AT AN ELEVATION WHICH PROVIDES POSITIVE DRAINAGE (MAY REQUIRE ADDITIONAL OPENING IN CATCH BASIN WALL).
4. BACKFILL TO CONSIST OF NO. 78, 8, 9M COARSE AGGREGATE OR NATURAL SAND. THE FILL MATERIAL SHALL BE THOROUGHLY COMPACTED IN LAYERS NOT EXCEEDING 6 INCHES LOOSE MEASUREMENT.
5. CONNECTIONS TO DRAINAGE STRUCTURES AND PIPE TERMINI SHALL BE NON-PERFORATED PIPE MEETING THE REQUIREMENTS OF THE PERFORATED PIPE EXCEPT FOR PERFORATIONS.
6. ALL RAISED NON-PAVED MEDIANS SHALL HAVE SUBGRADE DRAINAGE ASSOCIATED WITH CURB AND GUTTER.

TYPICAL SUBGRADE DRAINAGE LOCATIONS

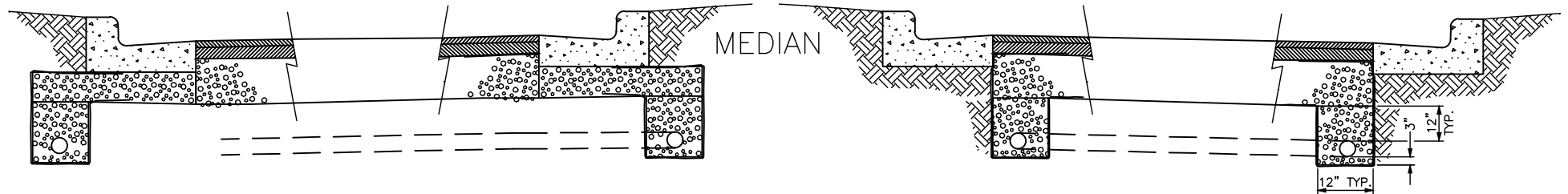


 LEXINGTON	
DIVISION OF ENGINEERING	
PERFORATED PIPE SUBGRADE DRAINAGE ALONG ROADWAY	
STANDARD DRAWING NO.	320-1
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	/ DATE
COMMISSIONER	DATE



CURB ON PAVEMENT

CURB ON SOIL



TYPICAL SECTION



1. For installation of perforated pipe see Detail Sheet #320
2. Perforated pipe shall completely surround all islands
3. For islands greater than 50" long or wide, perforated pipe surrounding island and leading to the curb inlet shall be 6" diameter.

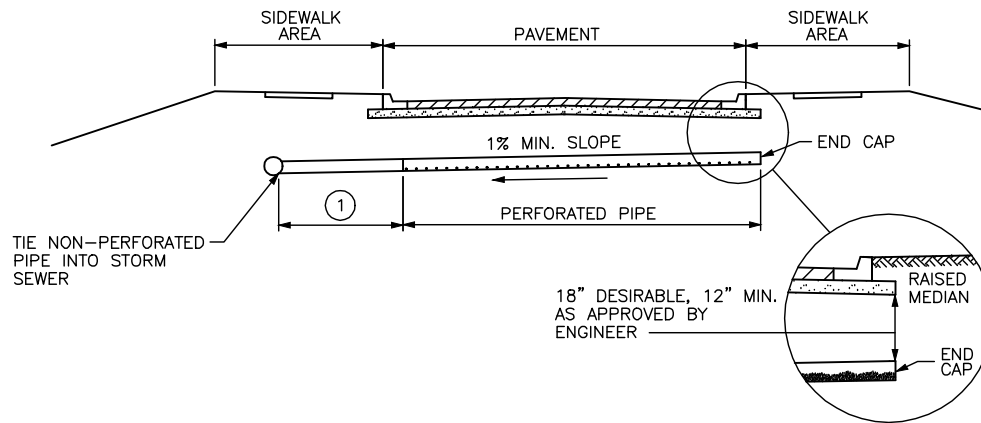


DIVISION OF ENGINEERING

PERFORATED PIPE
SUBGRADE DRAINAGE
FOR RAISED
NON-PAVED MEDIANS

STANDARD DRAWING NO. **320-2**

APPROVAL:		9/22/17
URBAN COUNTY ENGINEER		DATE
COMMISSIONER		DATE

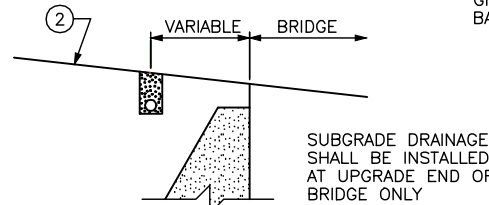


NOTES:

1. SUBGRADE DRAINAGE, AS DEPICTED, IS INTENDED FOR USE WITH THE ROADWAY CONSTRUCTION PHASE AND SHALL BE INSTALLED ONLY AFTER THE SUBGRADE HAS BEEN COMPLETED, AND PRIOR TO PLACING PAVING MATERIALS.
2. SUBGRADE DRAINAGE WILL NOT BE REQUIRED WHEN:
 - A. AGGREGATE SUBGRADE OR NATURAL BANK GRAVEL IS SPECIFIED.
 - B. POROUS OR FREE DRAINING SUBGRADES ARE EVIDENT.
 - C. DIRECTED BY THE LFUCG ENGINEER.
3. THE END CAP SHALL BE A STANDARD MANUFACTURED ITEM FURNISHED BY THE PIPE SUPPLIER.
4. FLOW SHALL BE DIRECTED TOWARD THE FILL SIDE OF THE ROADWAY WHEN POSSIBLE.
5. IF ROCK IS ENCOUNTERED WITHIN 24" OF SUBGRADE, PERFORATED PIPE IS REQUIRED THE FULL LENGTH OF ROCK. POSITIVE OUTLET IS REQUIRED.
6. A MIN. OF 100' OF PERFORATED PIPE IS REQUIRED UPHILL FROM BASINS ON GRADE AND 100' OF PERFORATED PIPE IS REQUIRED EACH WAY FROM SAG BASINS.

TIE NON-PERFORATED PIPE INTO STORM SEWER

18" DESIRABLE, 12" MIN. AS APPROVED BY ENGINEER

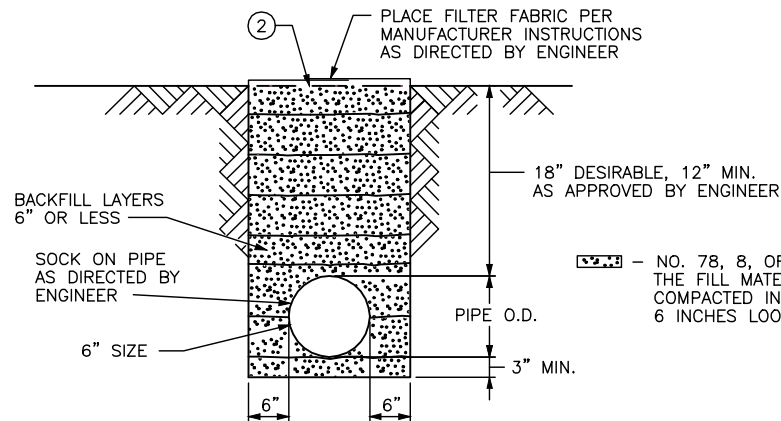
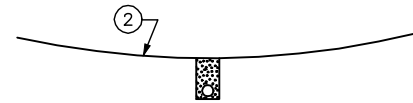


BRIDGES

① APPROXIMATELY 8 TO 12 FEET OF PIPE AT THE OUTLET SHALL BE NON-PERFORATED PIPE MEETING THE REQUIREMENTS OF THE PERFORATED PIPE, EXCEPT FOR PERFORATIONS.

② SUBGRADE ELEVATION

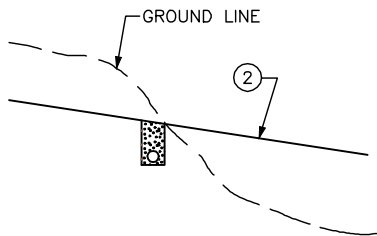
SAG VERTICAL CURVES




TRENCH DETAIL

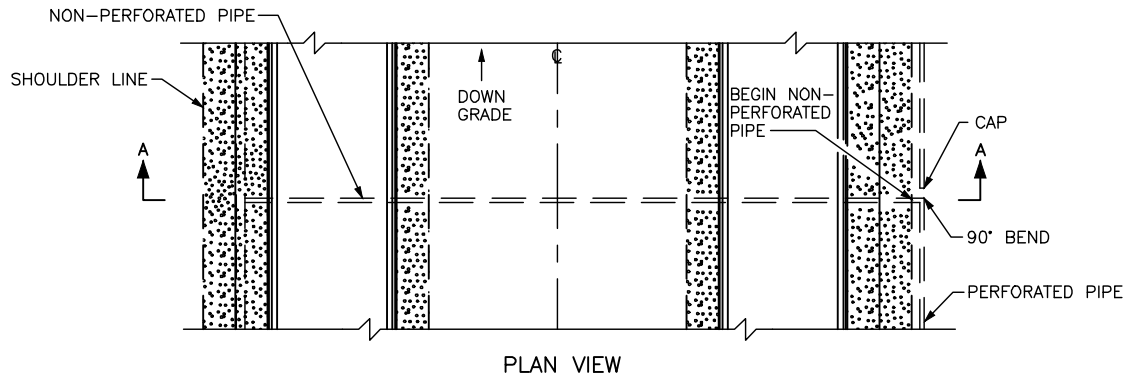
NO. 78, 8, OR 9M COARSE AGGREGATE. THE FILL MATERIAL SHALL BE THOROUGHLY COMPACTED IN LAYERS NOT EXCEEDING 6 INCHES LOOSE MEASUREMENT.

CUT TO FILL

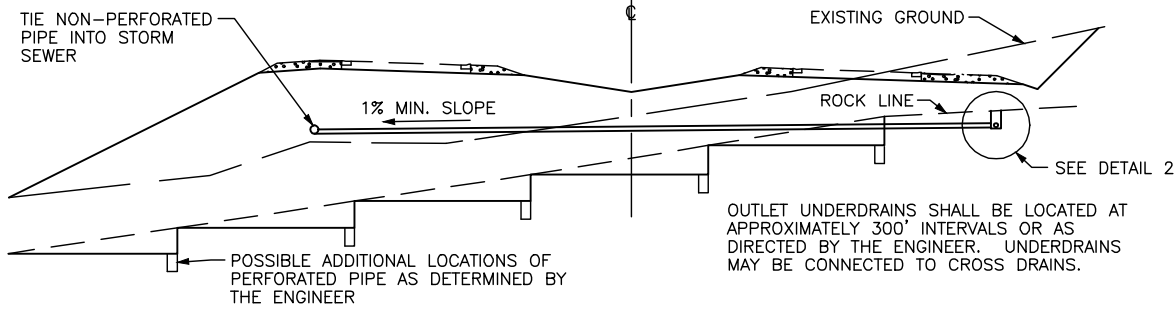


TYPICAL SUBGRADE DRAINAGE LOCATIONS

 LEXINGTON	
DIVISION OF ENGINEERING	
PERFORATED PIPE FOR SUBGRADE DRAINAGE	
STANDARD DRAWING NO.	321
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	9/22/17 DATE

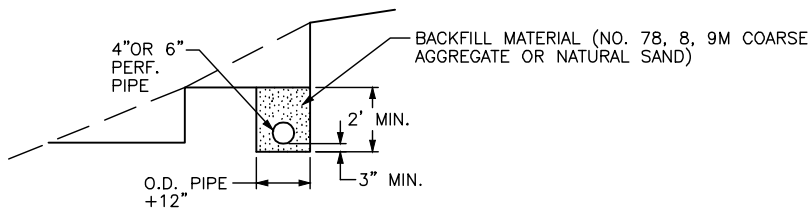


PLAN VIEW



SECTION A-A

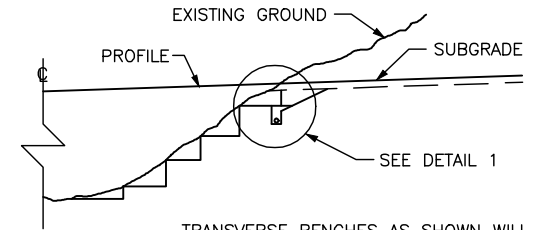
OUTLET UNDERDRAINS SHALL BE LOCATED AT APPROXIMATELY 300' INTERVALS OR AS DIRECTED BY THE ENGINEER. UNDERDRAINS MAY BE CONNECTED TO CROSS DRAINS.



DETAIL 2

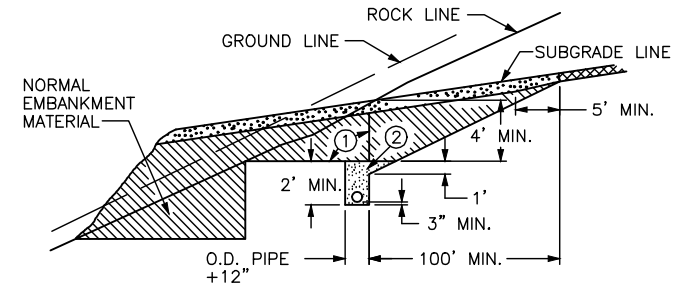
DETAIL FOR LONGITUDINAL UNDERDRAINS

DETAIL FOR TRANSVERSE UNDERDRAIN CUT TO FILL CONDITION



TRANSVERSE BENCHES AS SHOWN WILL BE REQUIRED WHERE PROPOSED GRADE INTERSECTS EXISTING GROUND.

1. UNDERDRAINS WILL BE REQUIRED ON UPGRADE BENCH. THIS PERFORATED PIPE UNDERDRAIN SHOULD BE PLACED IN ROCK OR SHALE FORMATIONS IF POSSIBLE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER ON CONSTRUCTION.
2. BENCHING AND UNDERDRAIN SHALL BE REQUIRED AT ALL TRANSITIONS FROM ROCK CUTS TO FILL WHETHER OR NOT UNDERDRAIN IS REQUIRED.
3. IF ROCK IS ENCOUNTERED WITHIN 24" OF SUBGRADE, PERFORATED PIPE IS REQUIRED THE FULL LENGTH OF ROCK. POSITIVE OUTLET IS REQUIRED.



DETAIL 1

SHEET NOTES: ○

- ① LIMITS OF FIRST BENCH.
- ② BACKFILL MATERIAL

NOTE:

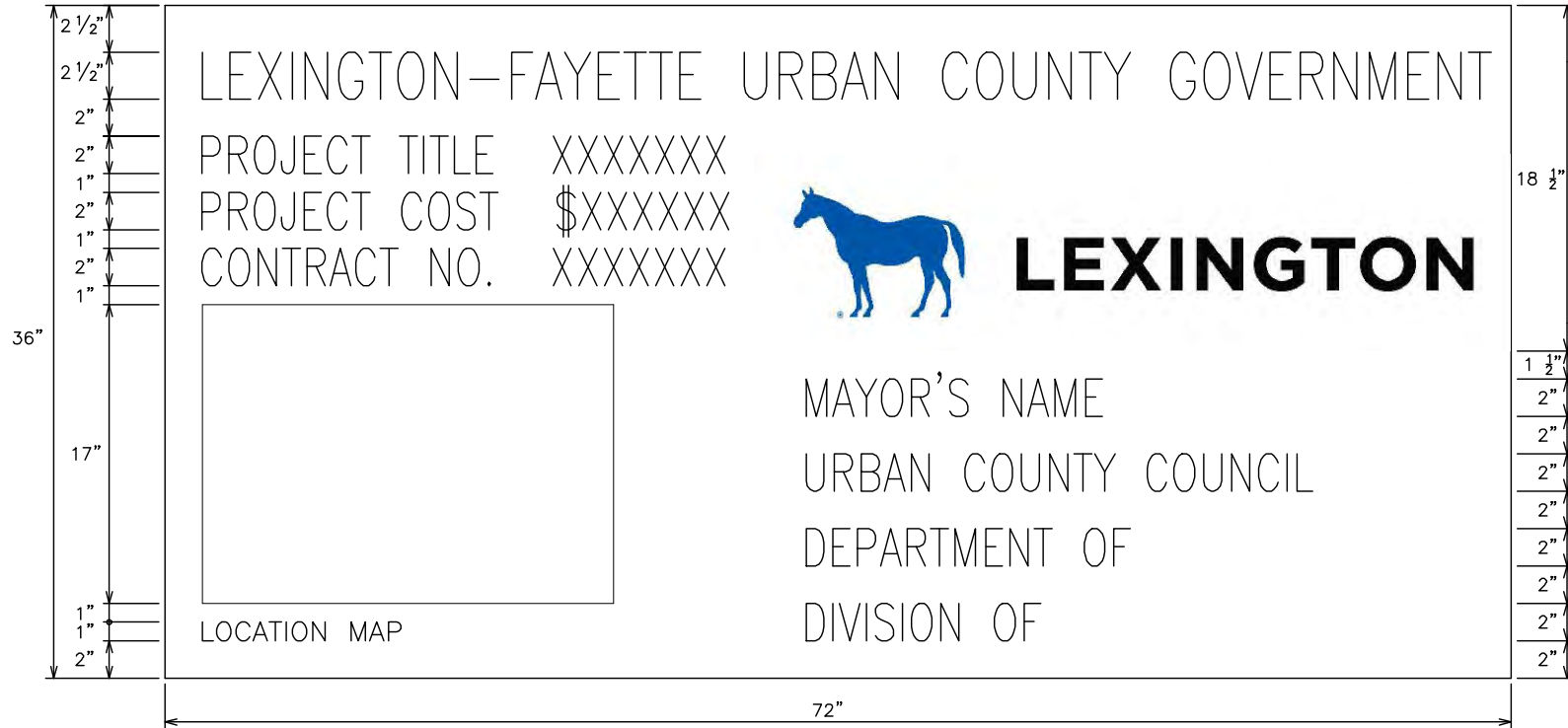
1. ALL PERFORATED AND NON-PERFORATED PIPE SHALL COMPLY WITH ASTM & KDOT SPECIFICATIONS.



DIVISION OF ENGINEERING

PERFORATED PIPE UNDERDRAINS

STANDARD DRAWING NO.	322
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE



NOTES:

THIS SIGN SHALL BE:

1. FURNISHED AND ERECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, IN ADDITION TO THE NORMAL WARNING AND REGULATORY SIGNS.
2. OF GOOD QUALITY EXTERIOR PLYWOOD OR OTHER APPROVED MATERIAL.
3. PAINTED WITH SOLID BLUE LETTERS ON A WHITE BACKGROUND.
4. UPDATED AS NEEDED TO INDICATE THE APPROPRIATE MAYOR'S NAME.
5. FRAMED AND BRACED SO AS TO REMAIN VERTICAL AND PLAINLY VISIBLE TO THE TRAVELING PUBLIC.
6. ERECTED PRIOR TO STARTING CONSTRUCTION WORK.
7. ERECTED AT EACH END OF THE PROJECT AT LOCATIONS DIRECTED BY THE ENGINEER AND AT OTHER LOCATIONS SPECIFIED ON THE PLANS OR IN THE PROPOSAL.
8. KEPT CLEAN AND IN GOOD CONDITION FOR THE DURATION OF THE CONSTRUCTION AS DIRECTED BY THE ENGINEER.
9. THE COST SHOWN APPLIES ONLY TO THE PORTION OF PROJECT UNDER CONSTRUCTION IN A CONTINUOUS SECTION. IN THE EVENT THE PROJECT CONSISTS OF MORE THAN ONE CONTINUOUS SECTION THE COST SHOWN SHALL BE FOR THE PARTICULAR SECTION WHERE WORK IS IN PROGRESS.
10. NOT TO BE USED ON FEDERAL AID TRANSPORTATION PROJECTS

LEXINGTON	
DIVISION OF ENGINEERING	
PUBLIC IMPROVEMENT SIGN	
STANDARD DRAWING NO.	323
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE