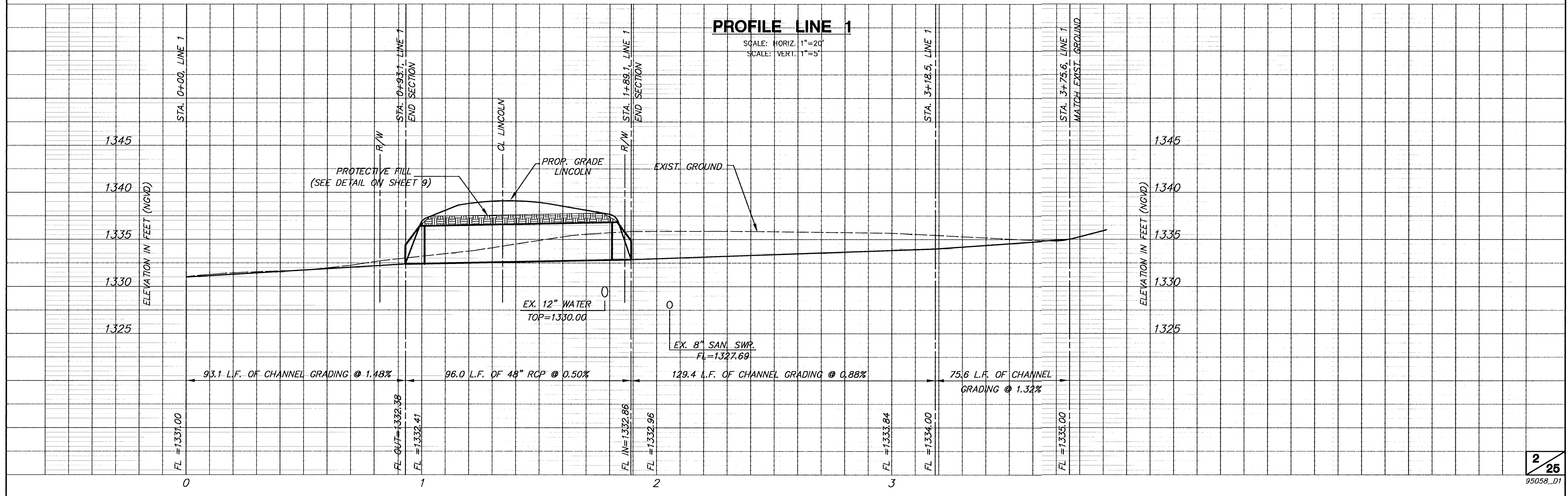
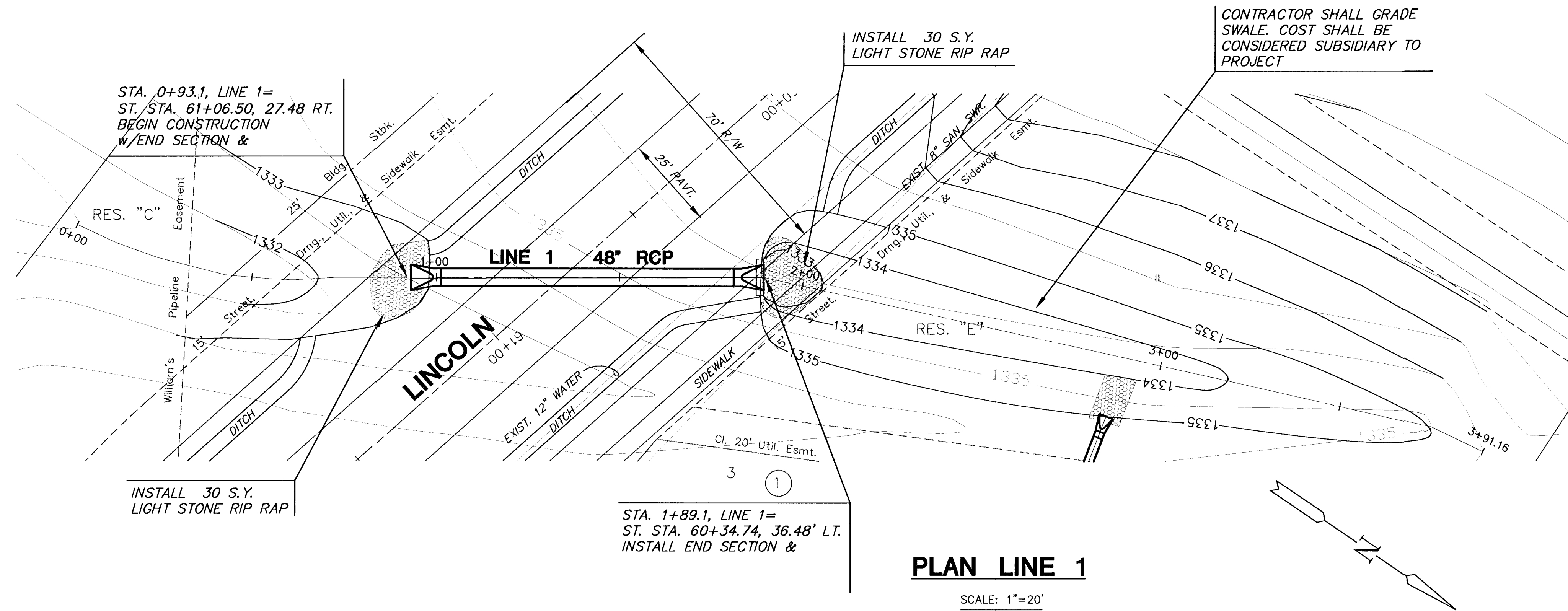
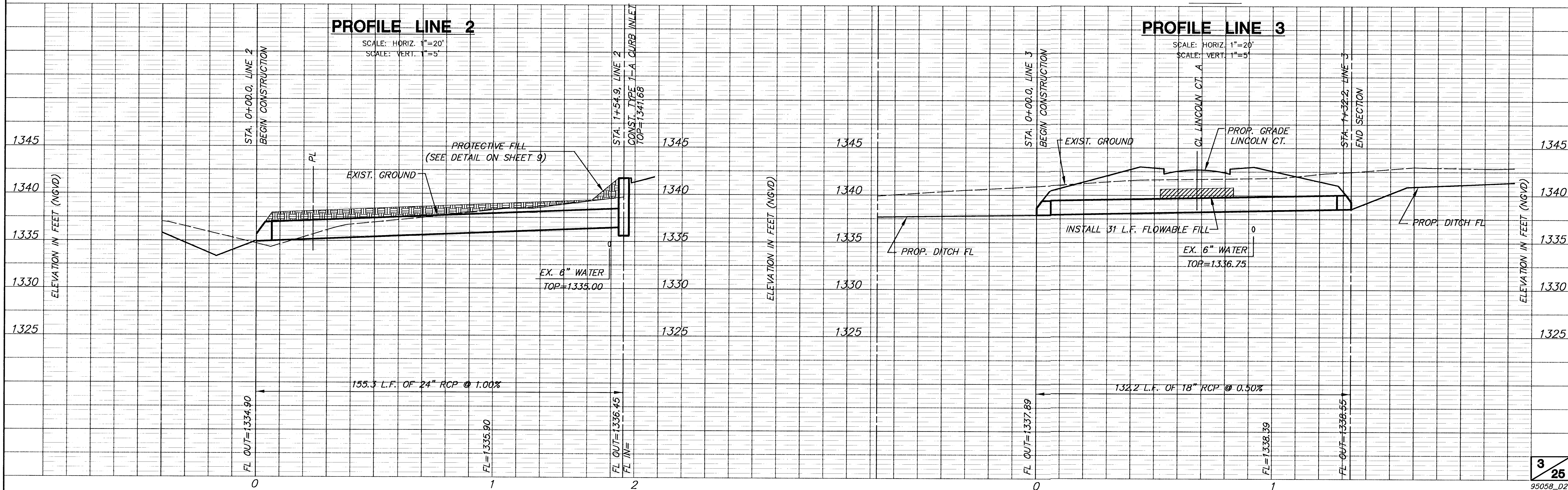
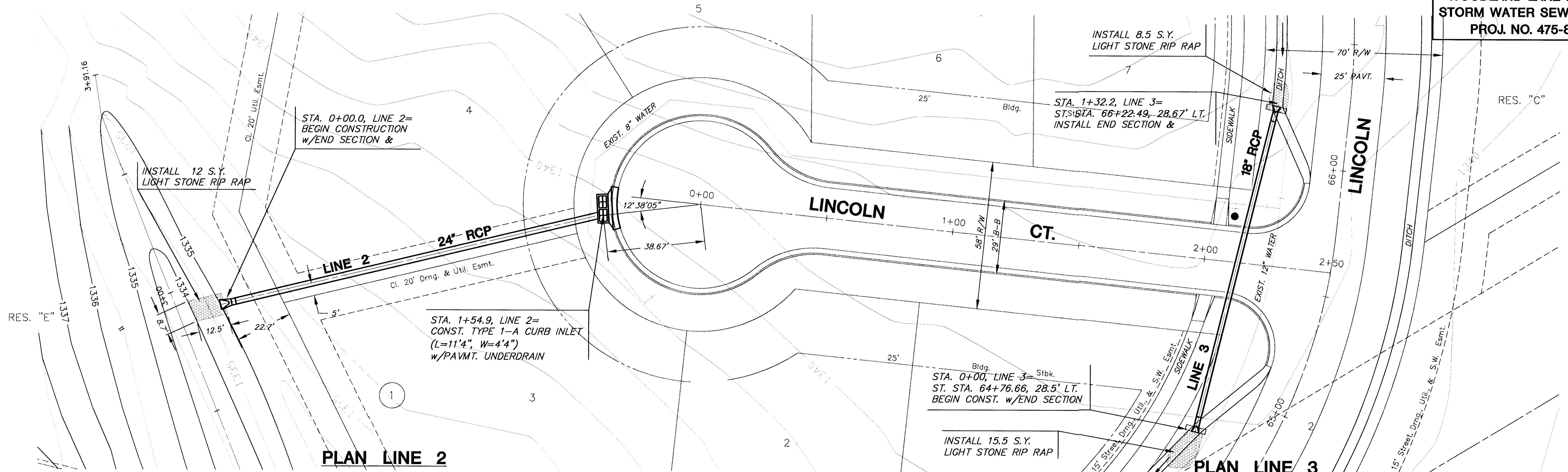
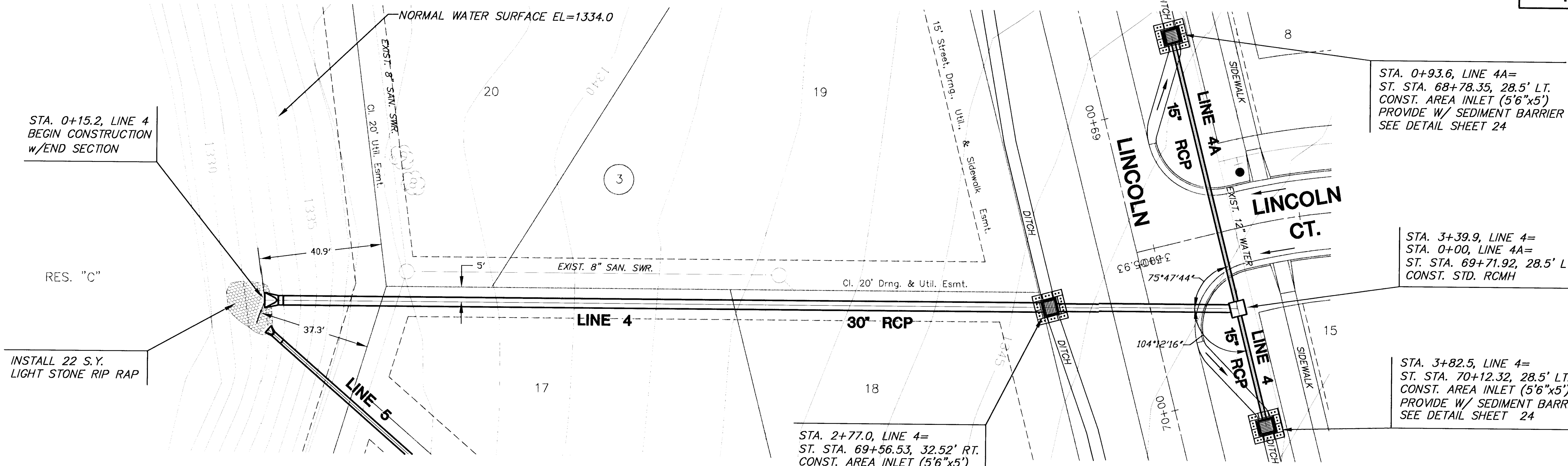






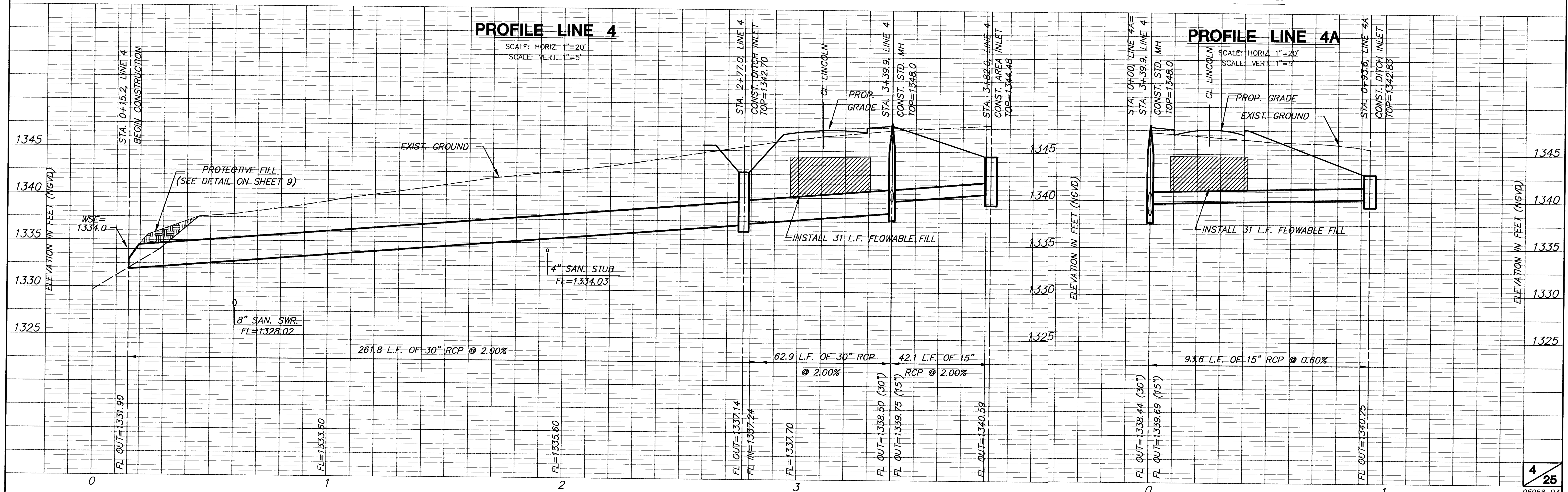


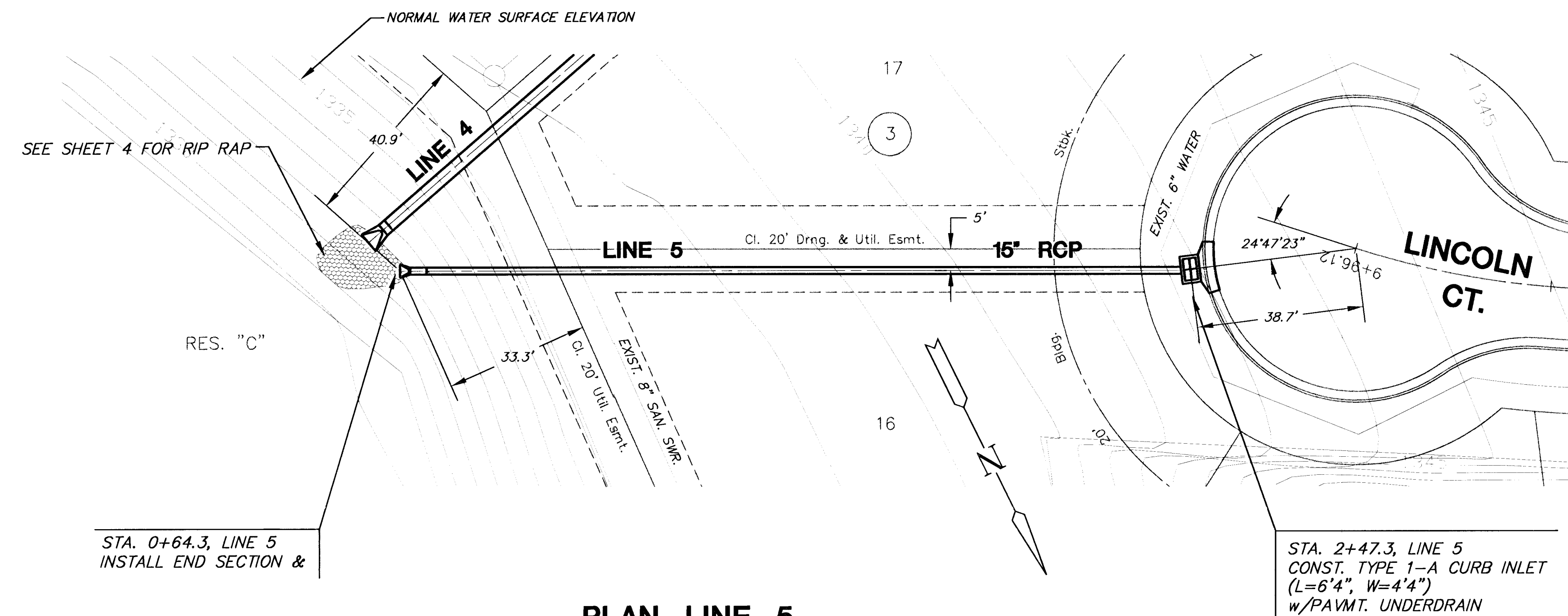
PLAN LINE 4

SCALE: 1"=20'

PLAN LINE 4A

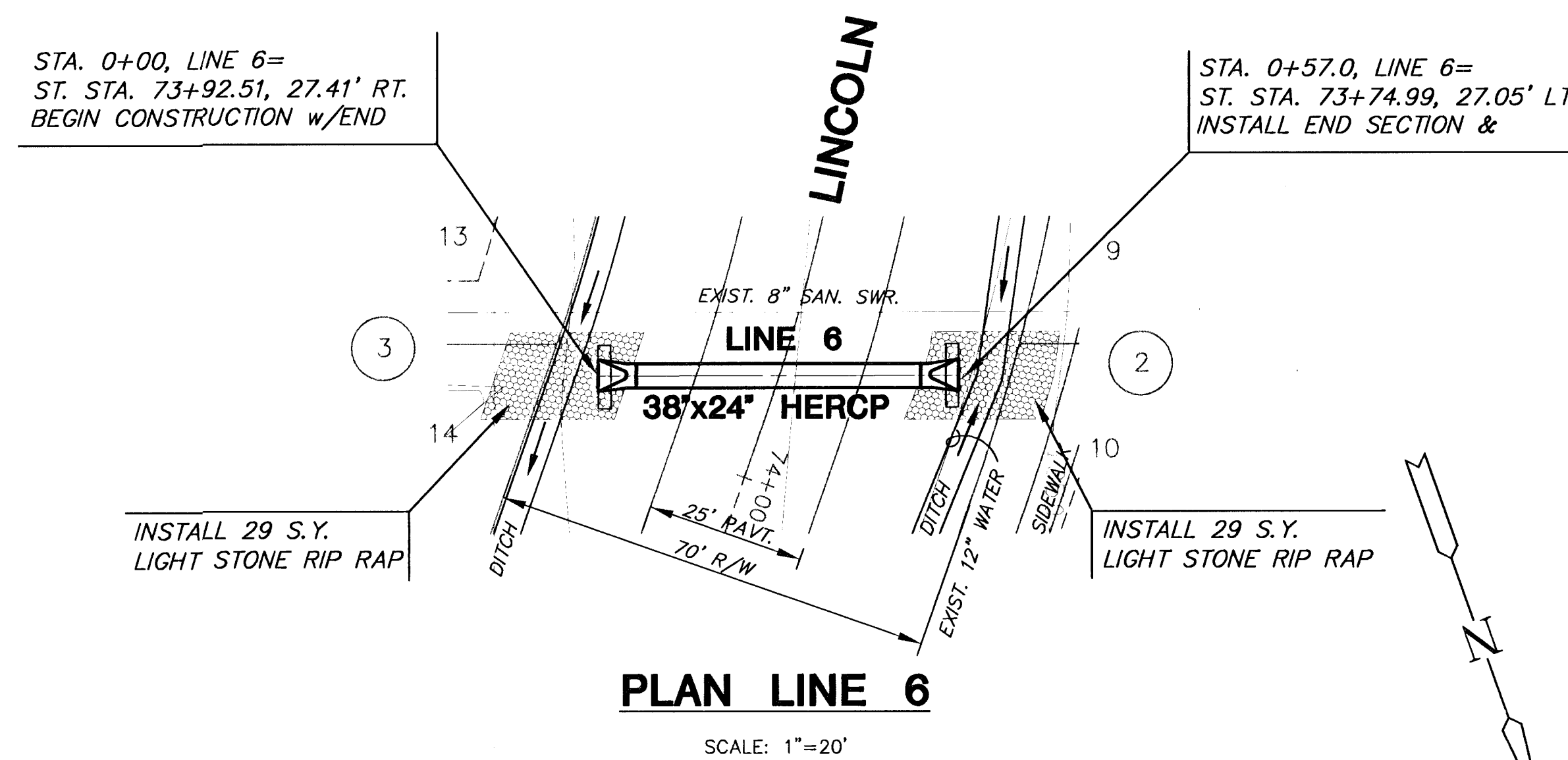
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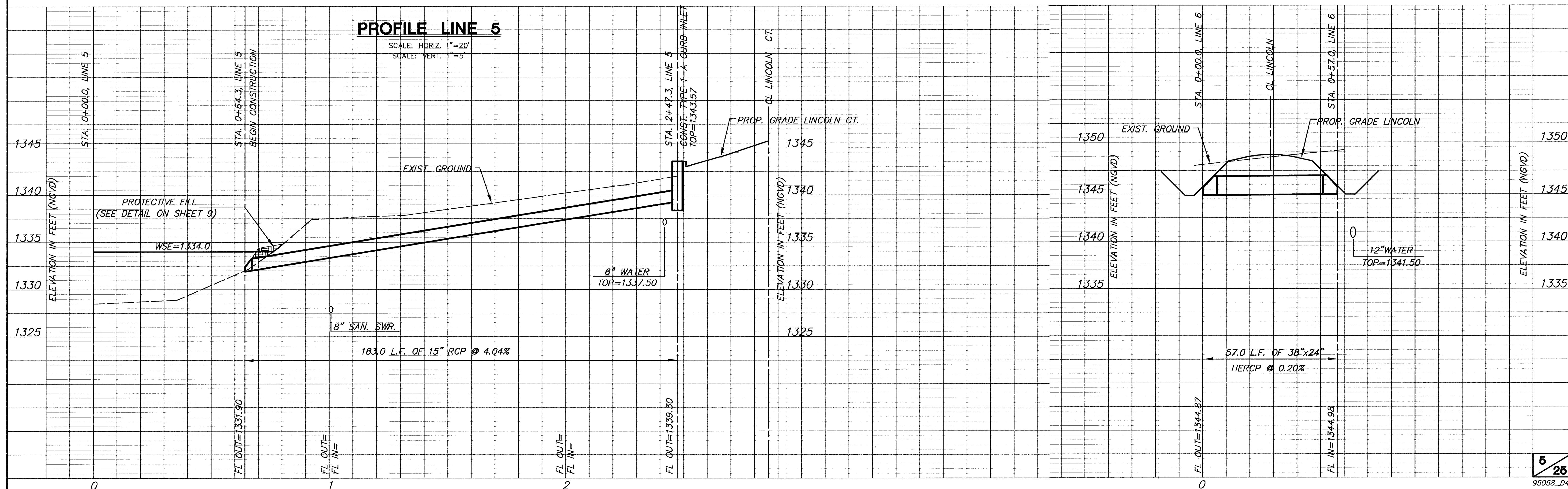
PLAN LINE 5

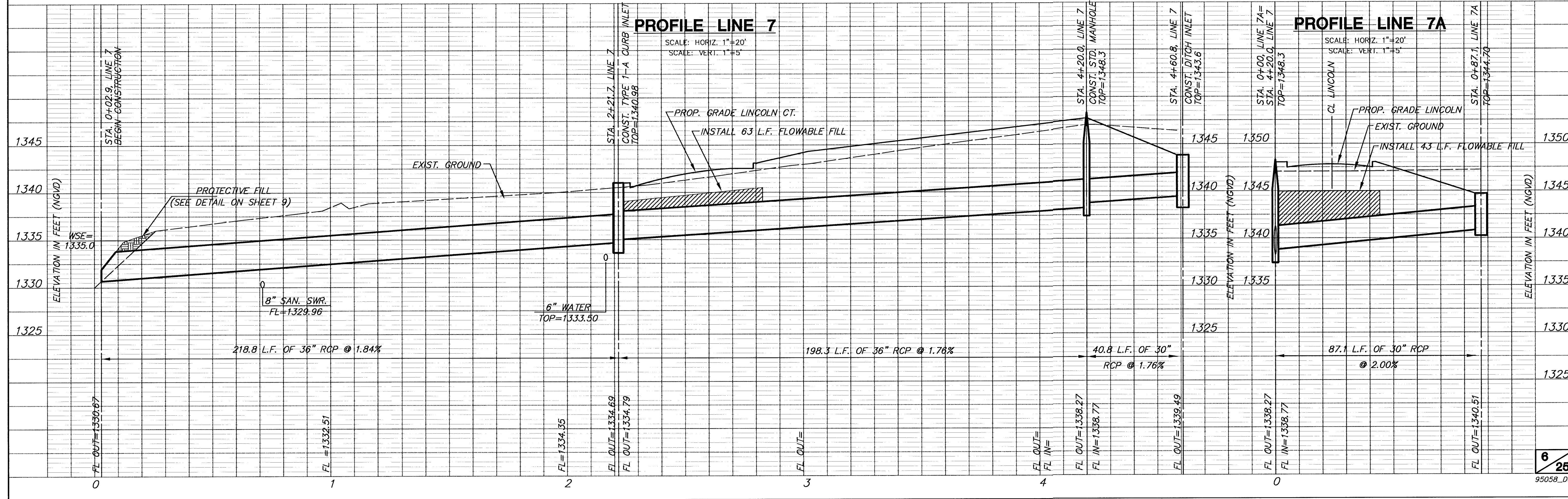
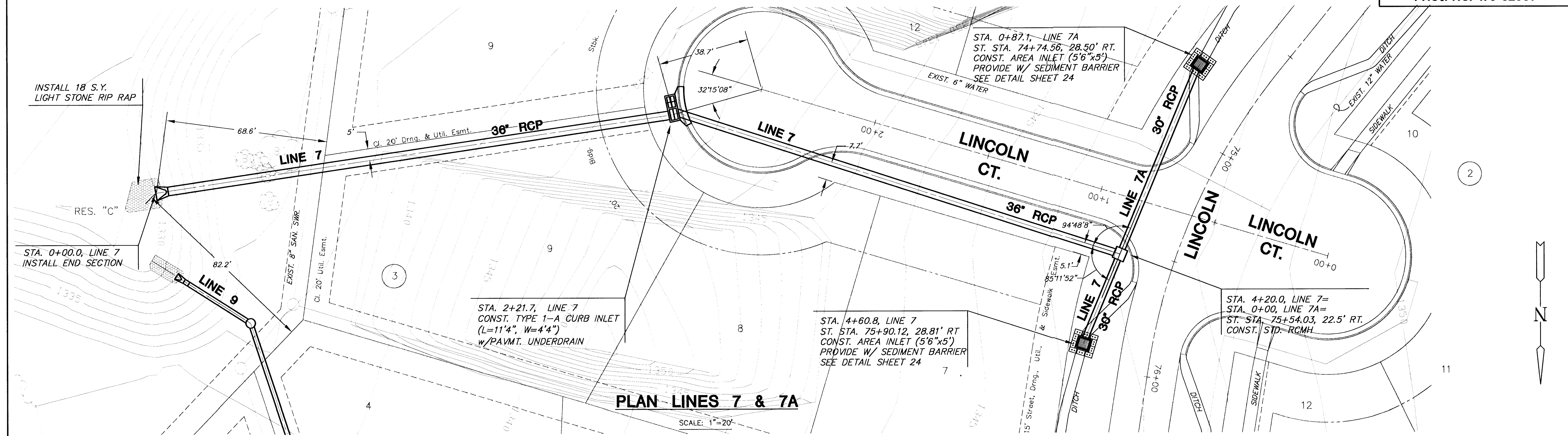
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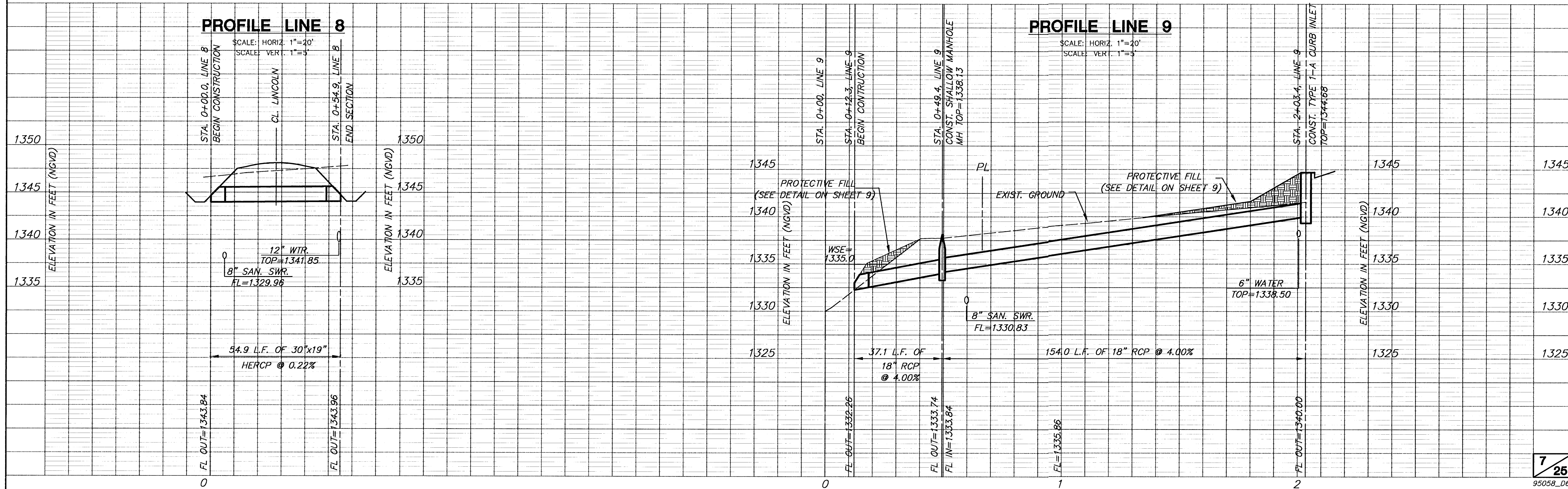
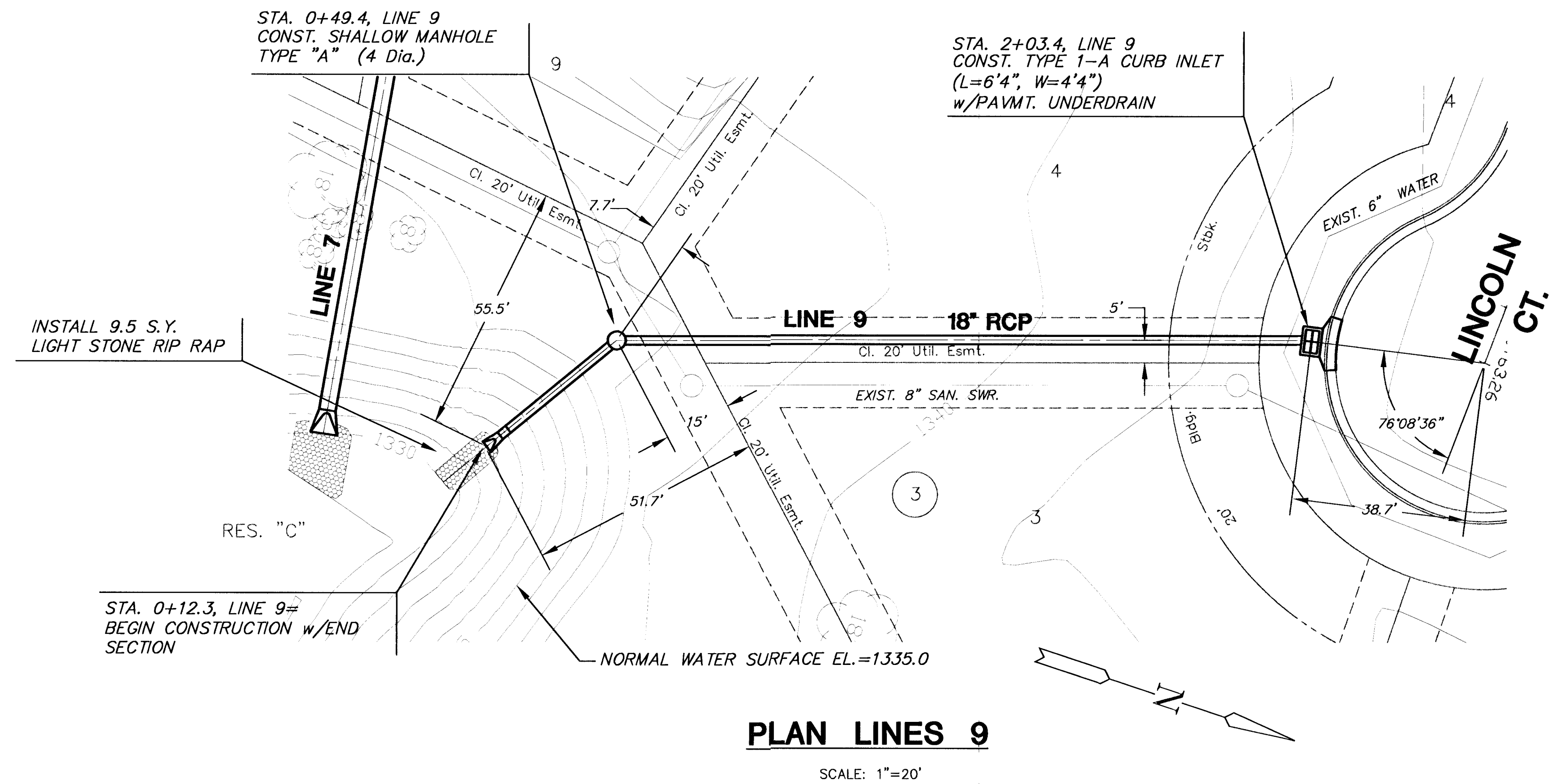
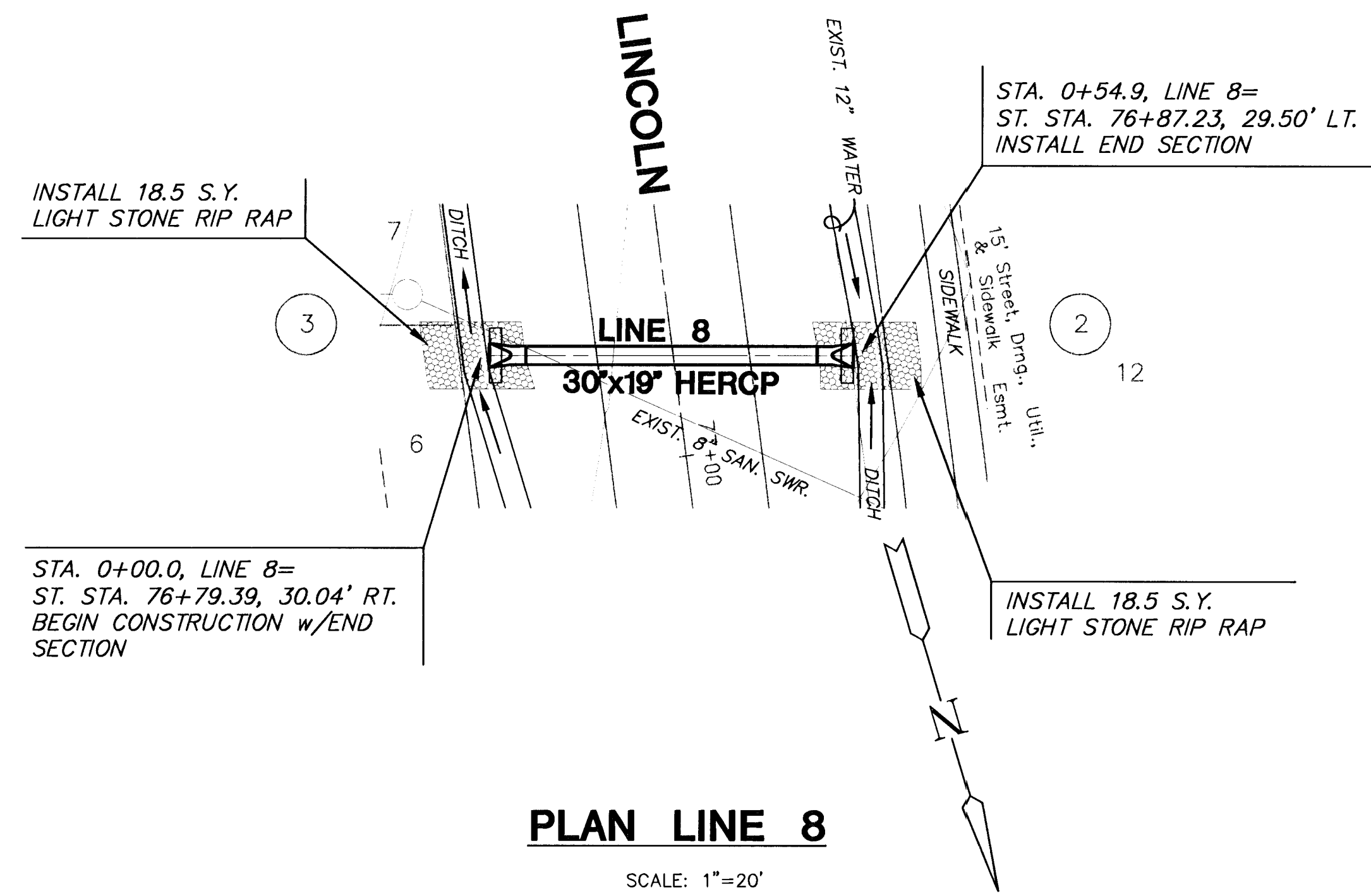


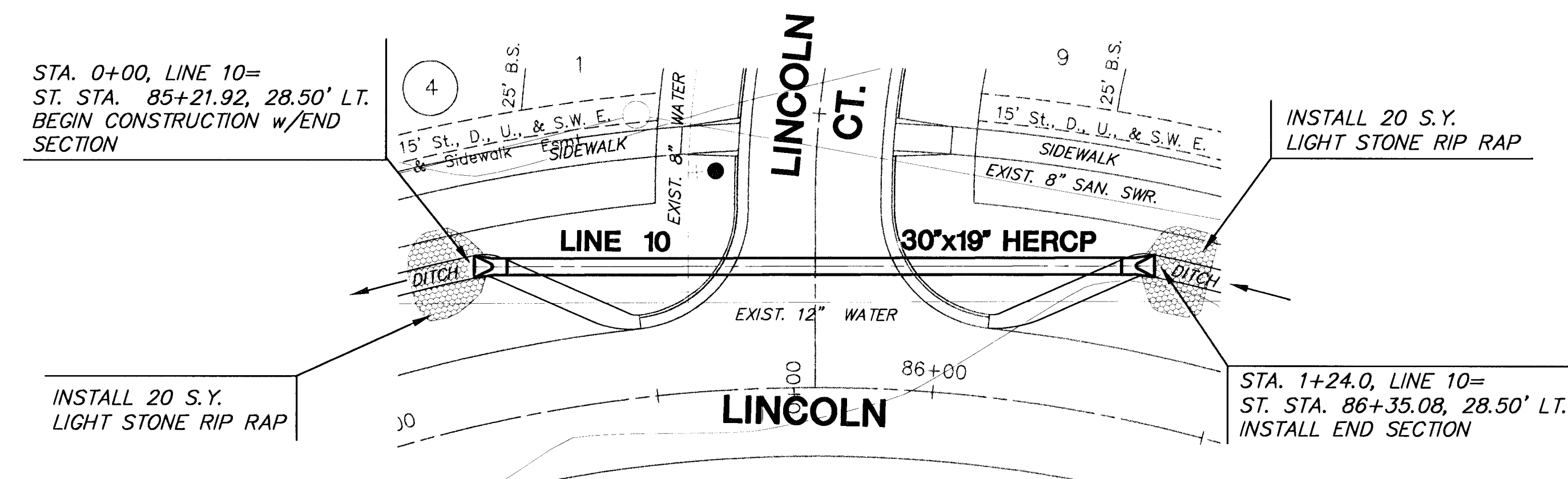
PROFILE LINE 6

SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'



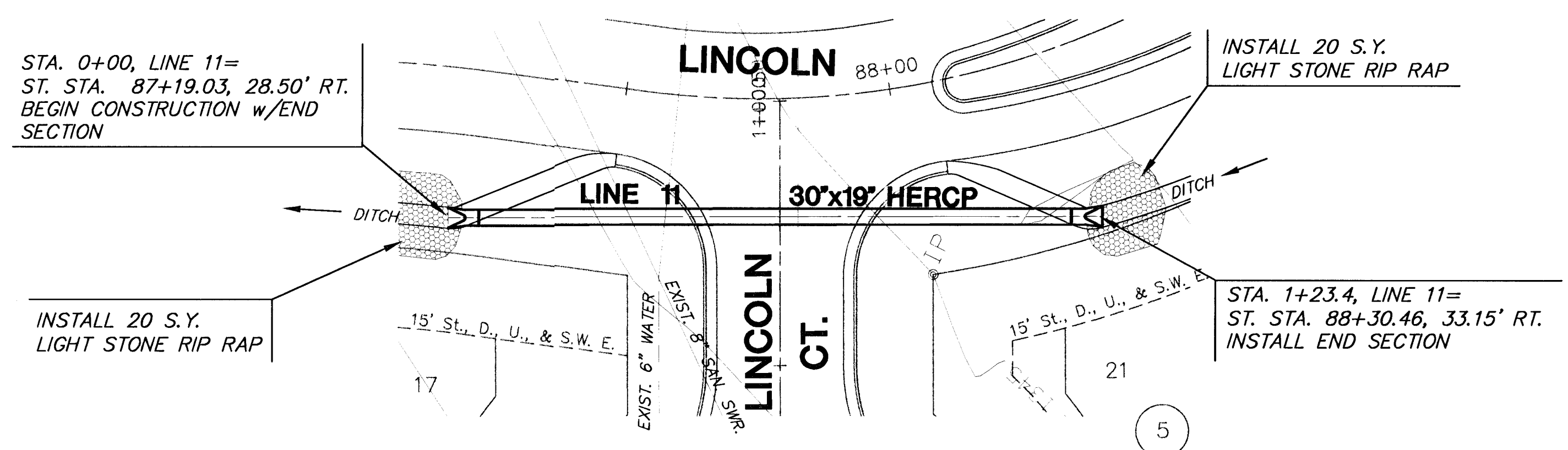






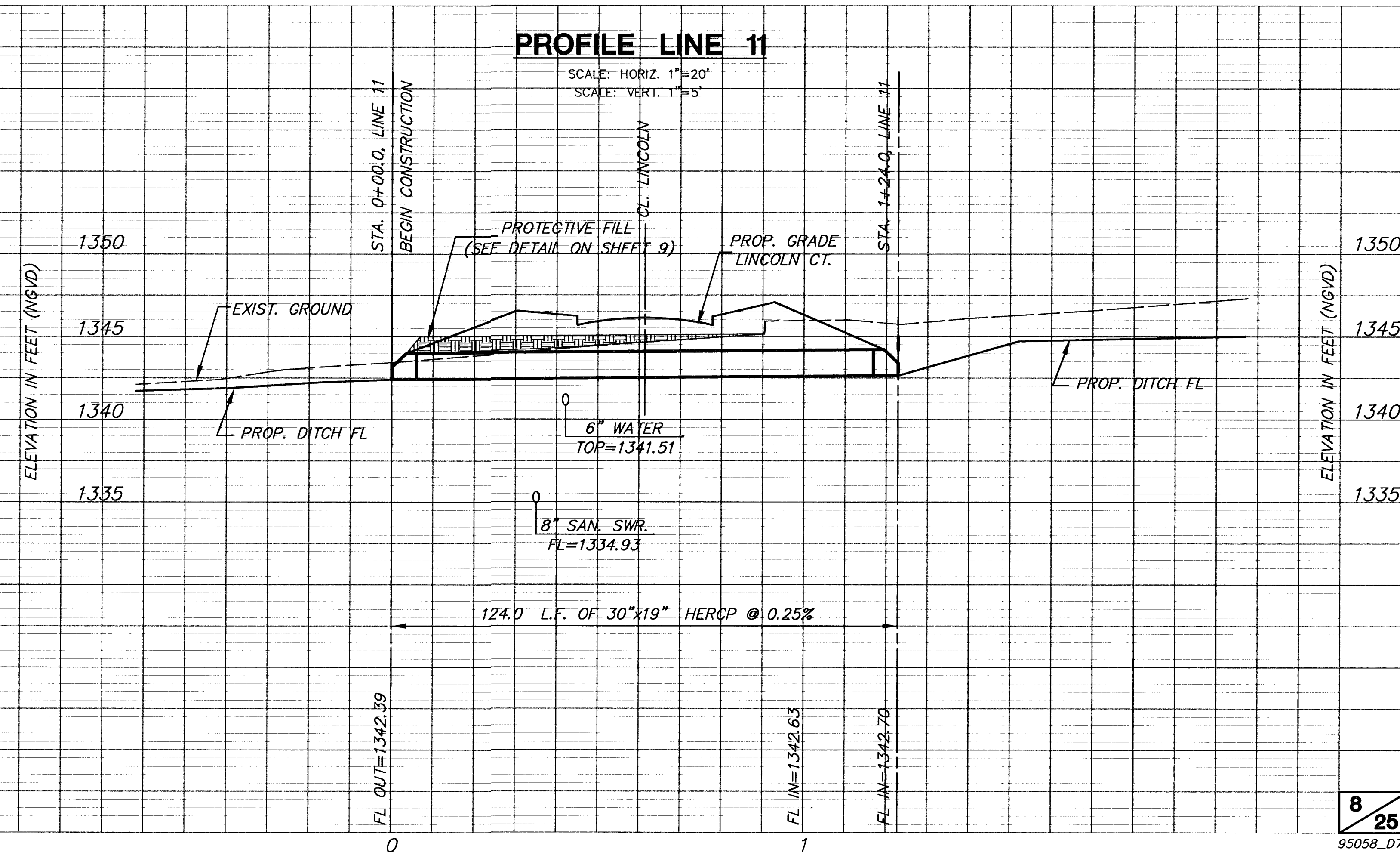
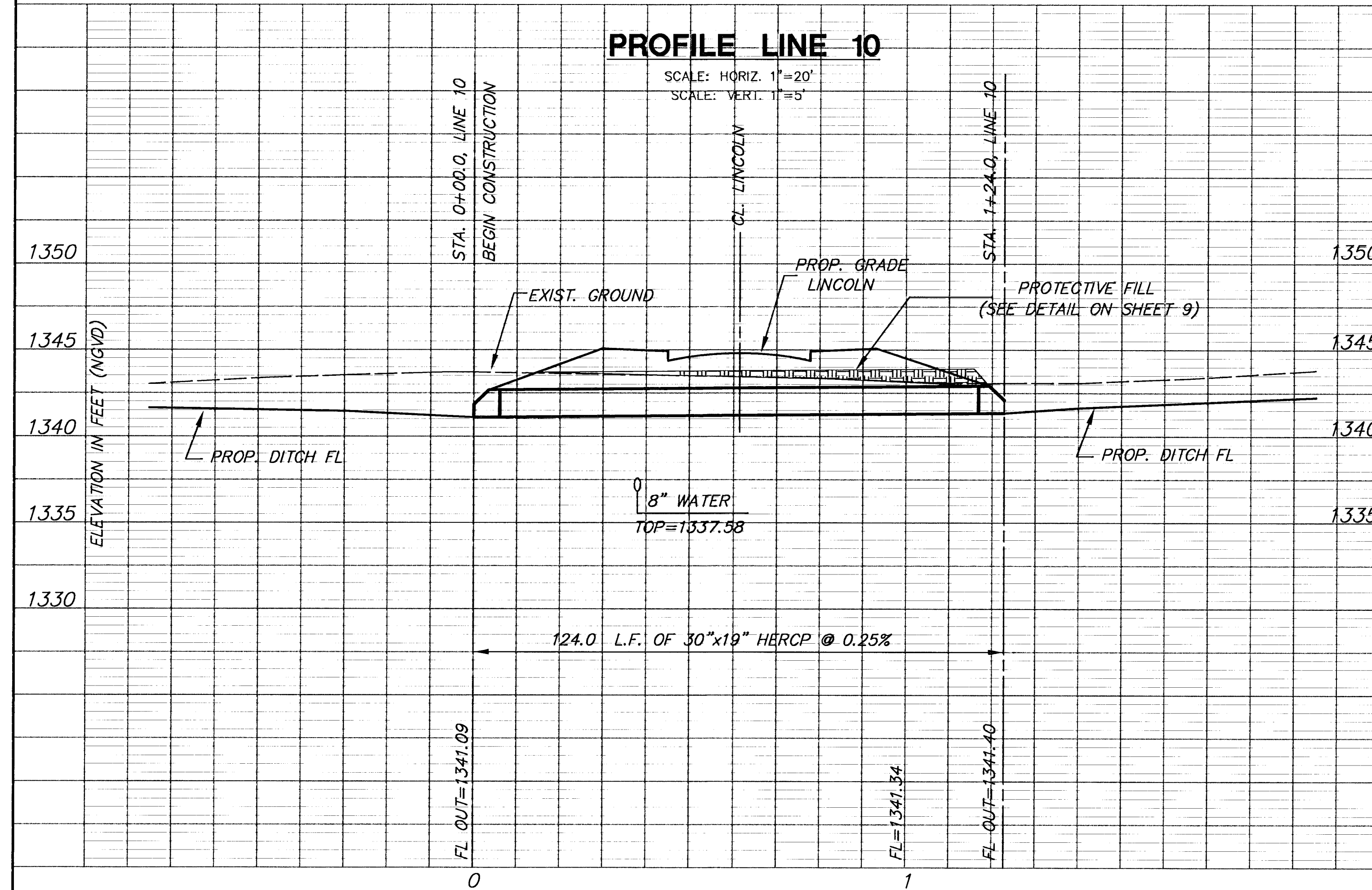
PLAN LINE 10

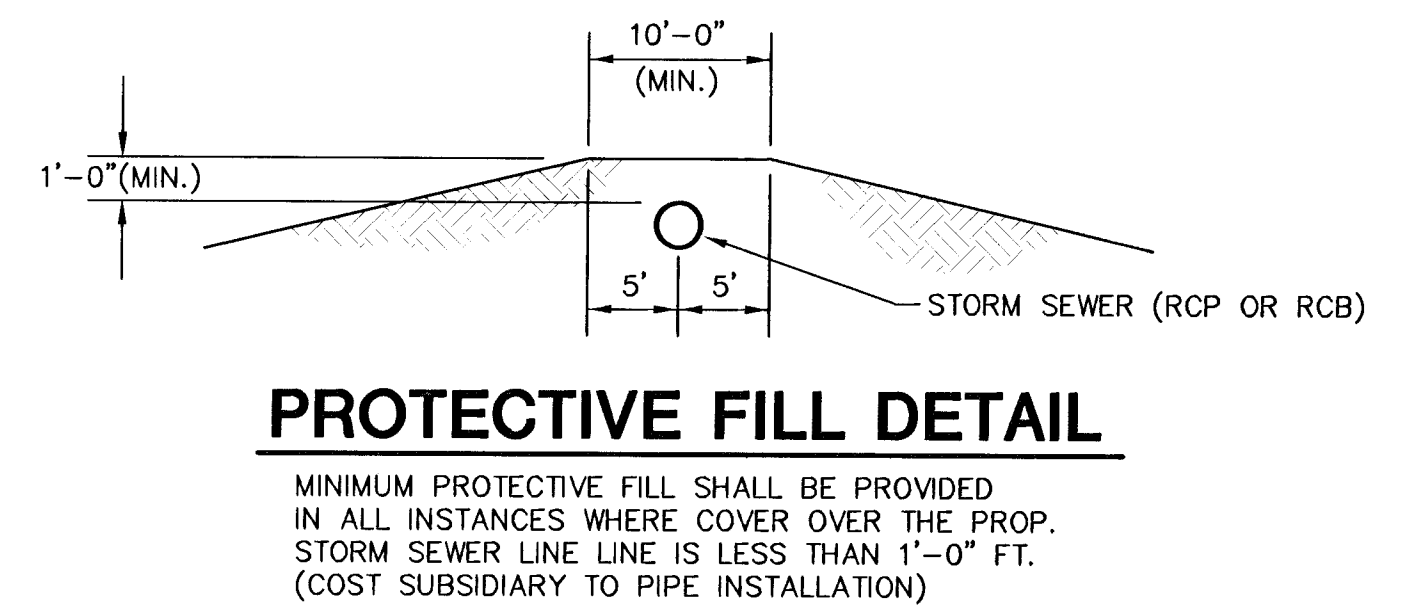
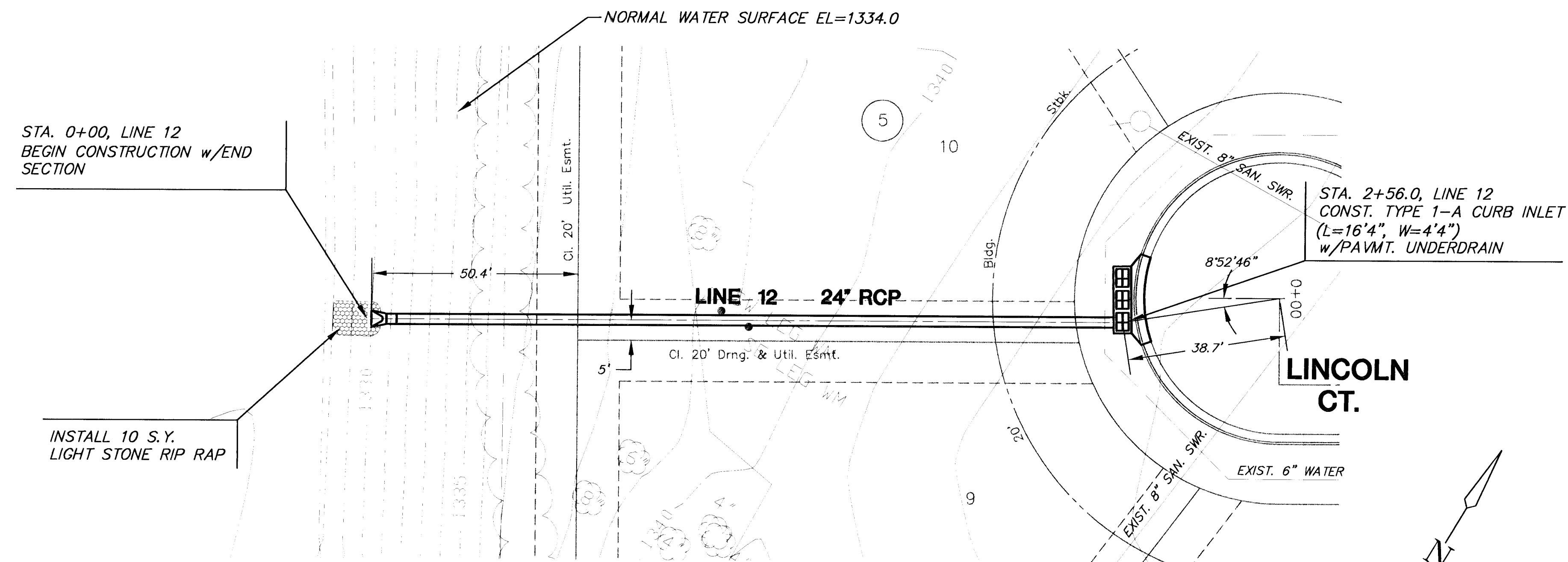
SCALE: 1"=20'



PLAN LINE 11

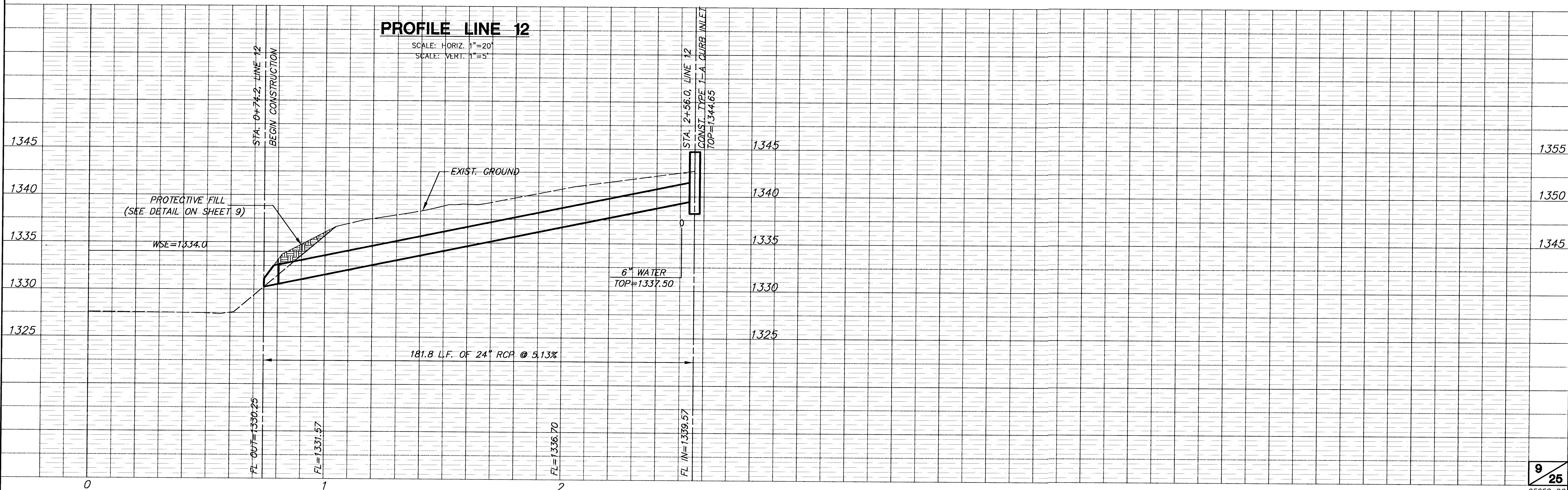
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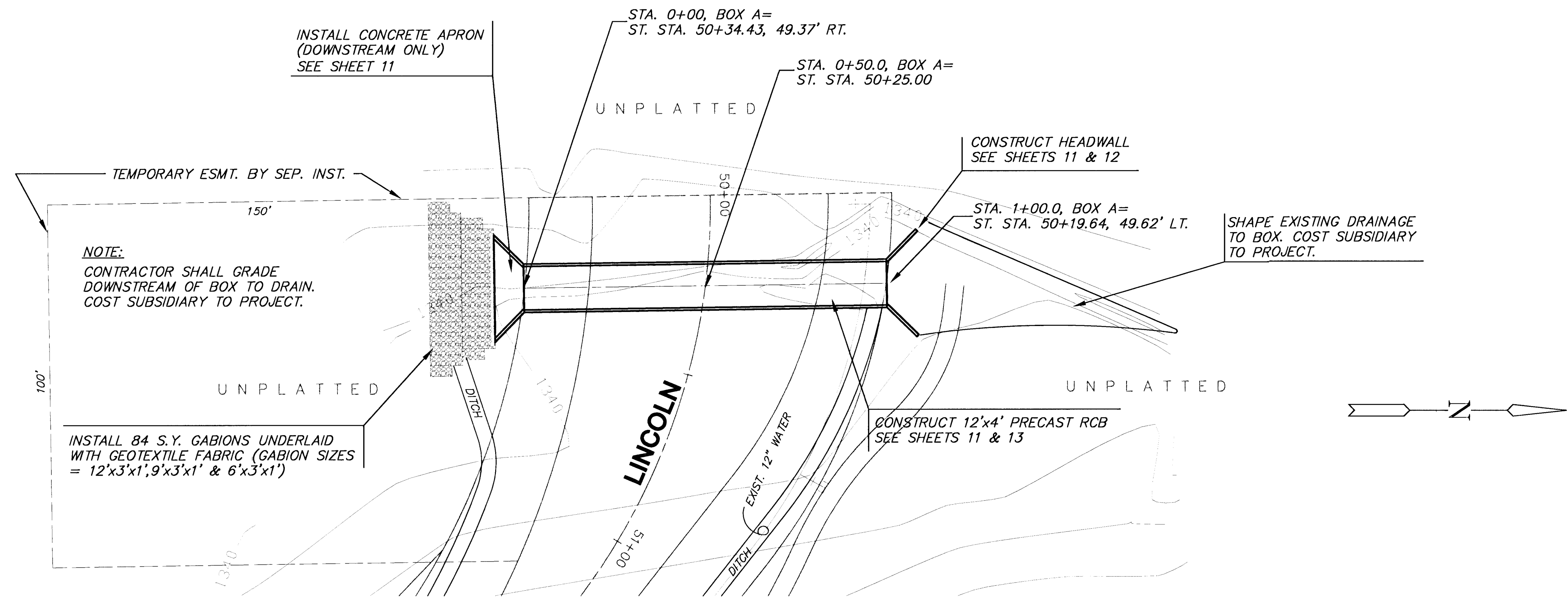




PROFILE LINE 12

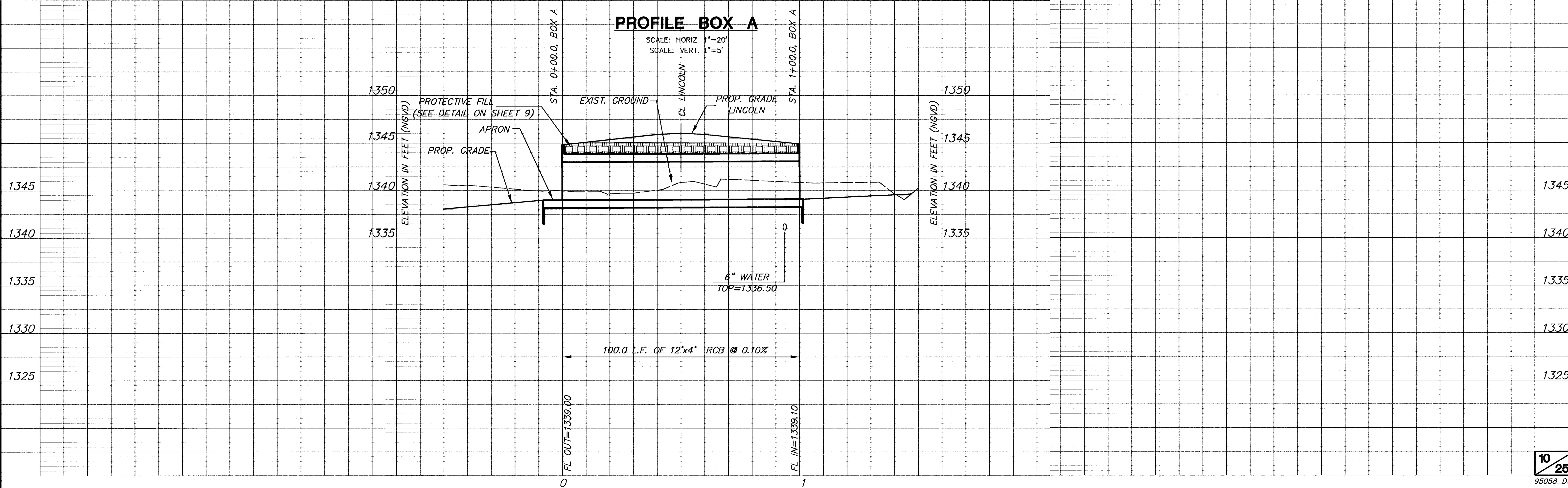
SCALE: HORIZ. 1"=20'
SCALE: VERT. 1"=5'





PLAN BOX A

SCALE: 1"=20'



GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications, 1992 Edition
UNIT STRESSES: Class AAA Concrete; $f'_c = 4,000$ p.s.i.
Reinforcing Steel; $f_y = 60,000$ p.s.i.

CONCRETE: Class AAA (AE) Concrete shall be used throughout.
Bevel all exposed edges with a 3/4" triangular moulding.

REINFORCING: All reinforcing shall conform to ASTM A615, Grade 60. All dimensions relative to reinforcing steel shall be to centerline of bar unless otherwise noted.

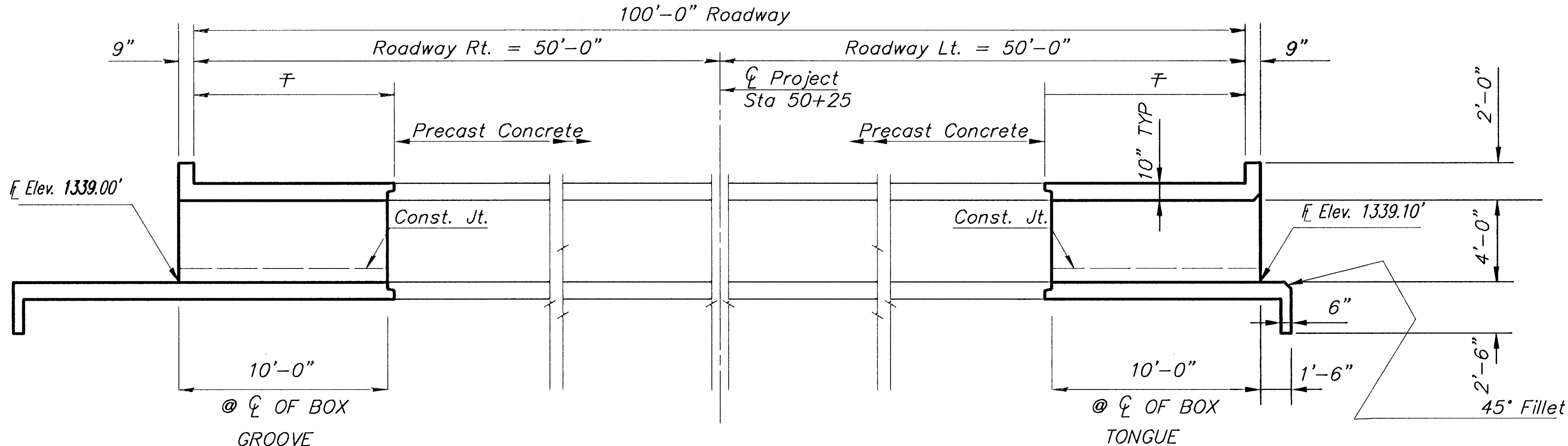
EXCAVATION: Excavation for culvert shall not be paid for directly but shall be subsidiary to Class AAA (AE) Concrete.

FOUNDATION STABILIZATION: Foundation Stabilization may be required as directed by the Engineer. The depth of Foundation Stabilization shall be determined by the Engineer. Foundation Stabilization shall be paid for at the determined Unit Price set for Foundation Stabilization.

GRANULAR BACKFILL (WINGWALLS): Special backfill procedures may be required at the direction of the Engineer.

STRIKE LINE: Wingwalls and that portion of the RCB outside the Strike Line shall be constructed level. Footing for wingwalls shall be constructed with the culvert floor.

FOUNDATION AND BACKFILL MATERIAL: Soils judged as high plasticity clays, fat clays, expansive clays, or organic clays are unsuitable for foundation and/or backfill material for wingwalls and will not be used. Where these conditions exist, Foundation Stabilization and/or Granular Backfill (Wingwalls) shall be used as determined by the Engineer.

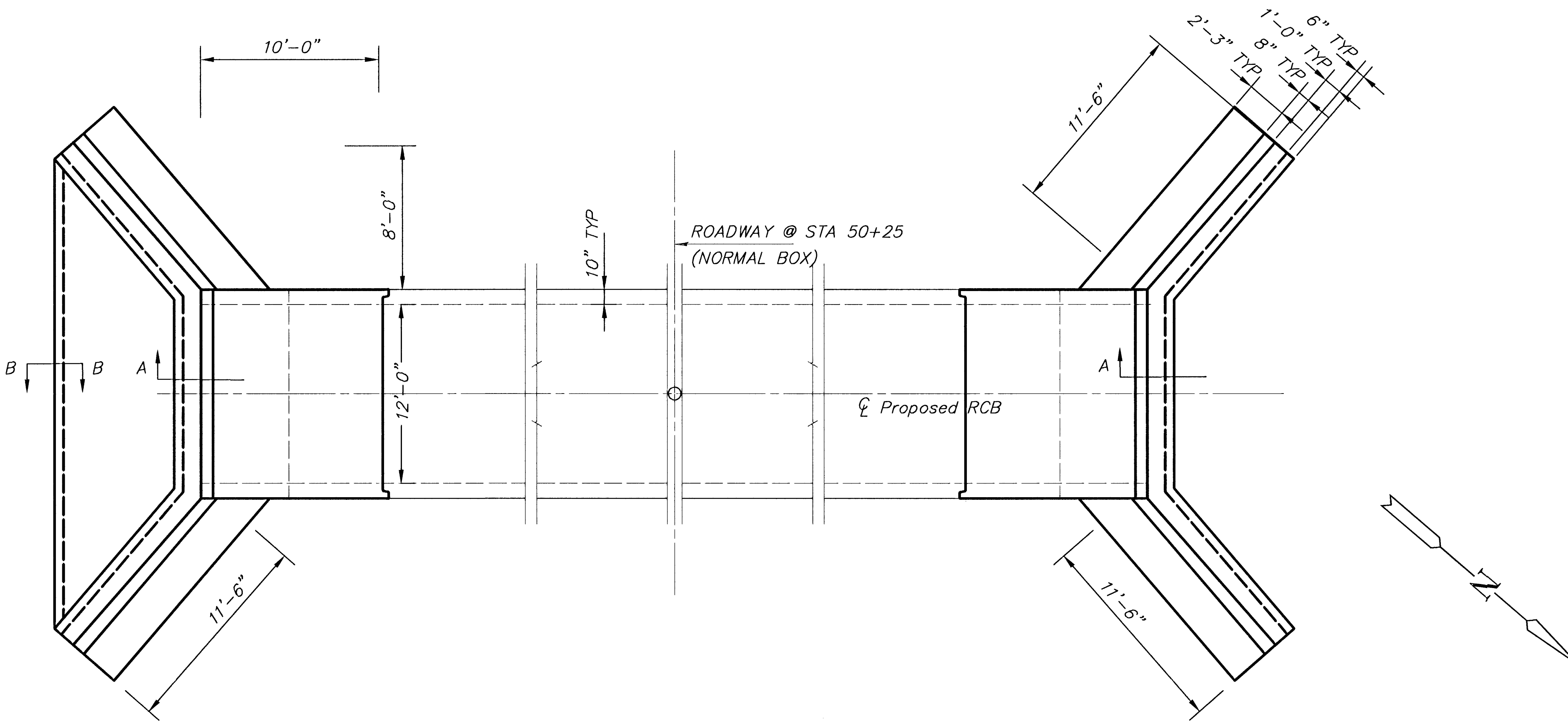


Transition (Typ.)
(Upstream End Only)

SECTION AND ELEVATION

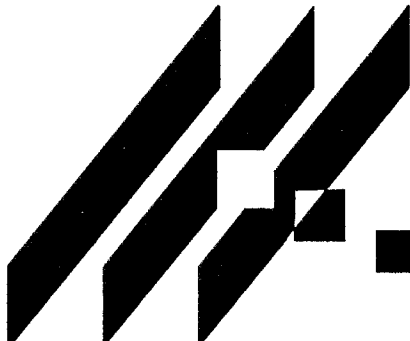
(Normal to $\mathcal{C}$ Roadway @ STA 50+25)
SCALE 1/4"=1'-0"

Hand Compaction Equip.
Only in this area



PLAN

SCALE 1/4"=1'-0'

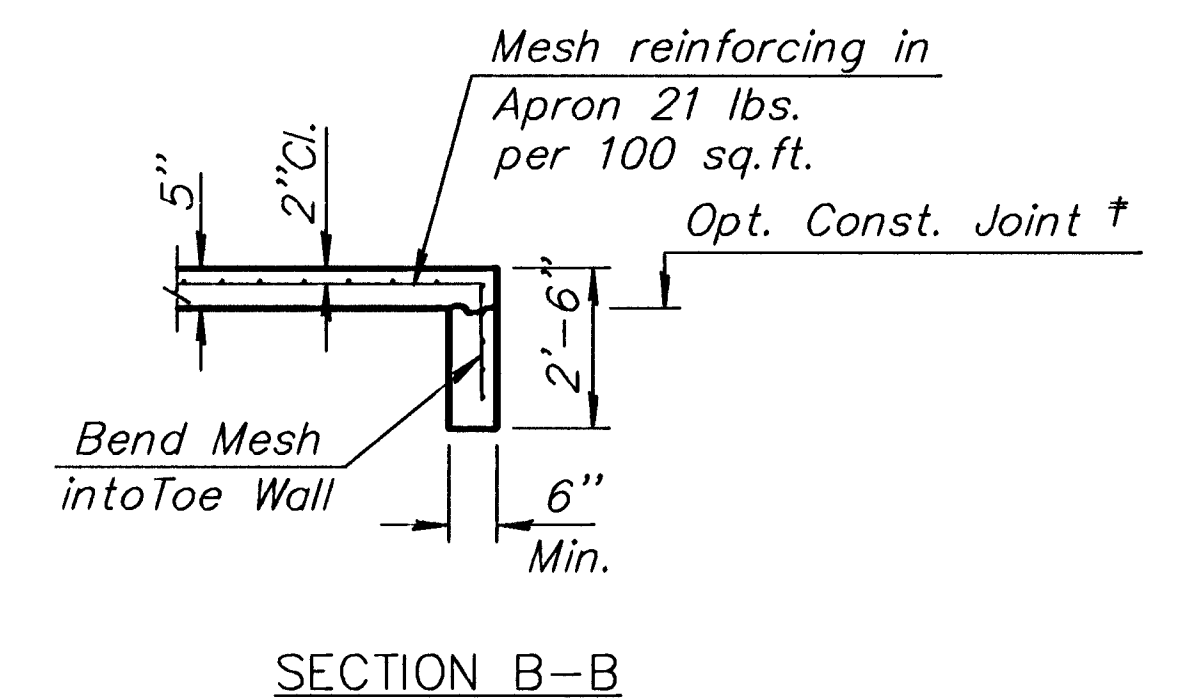
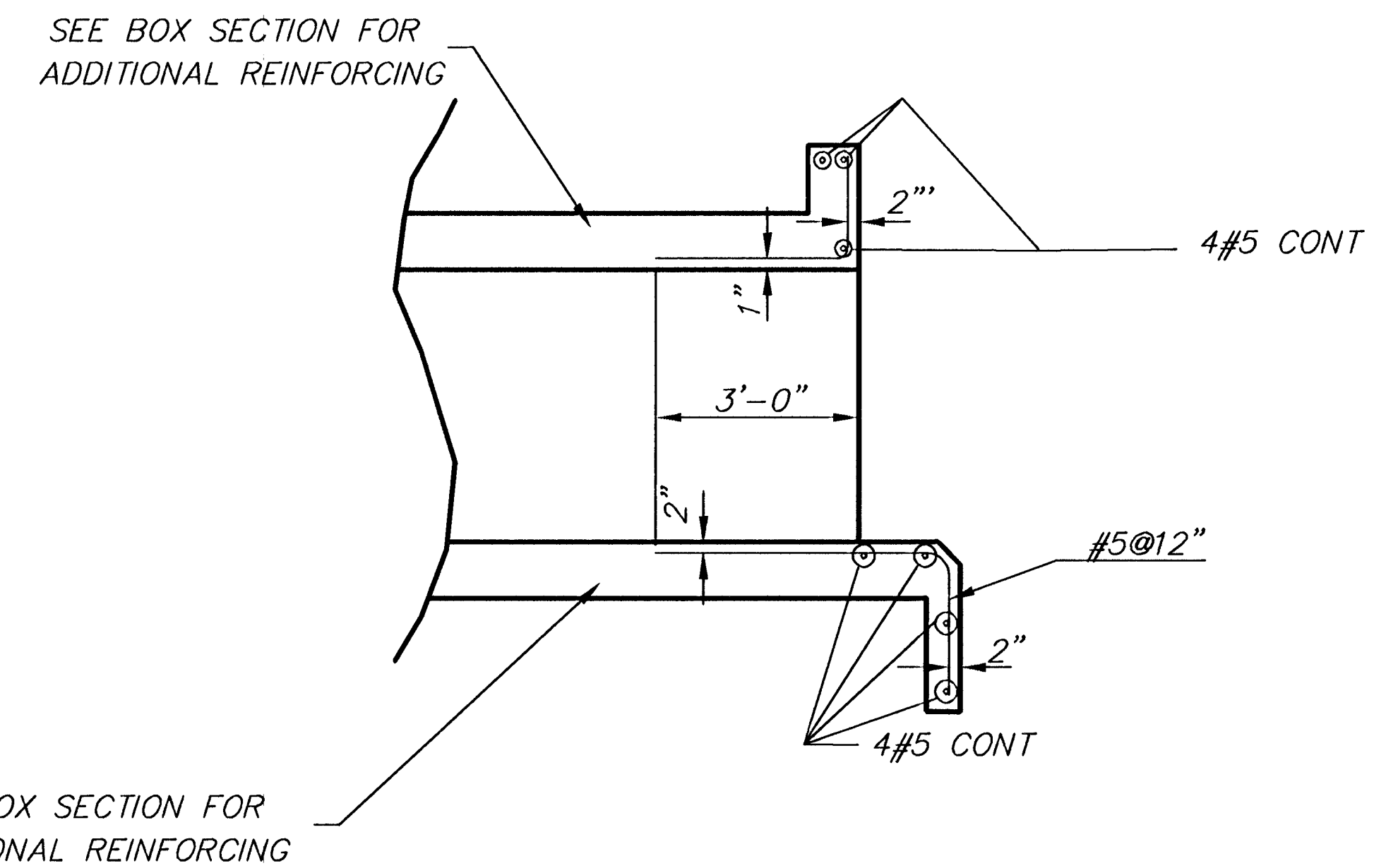
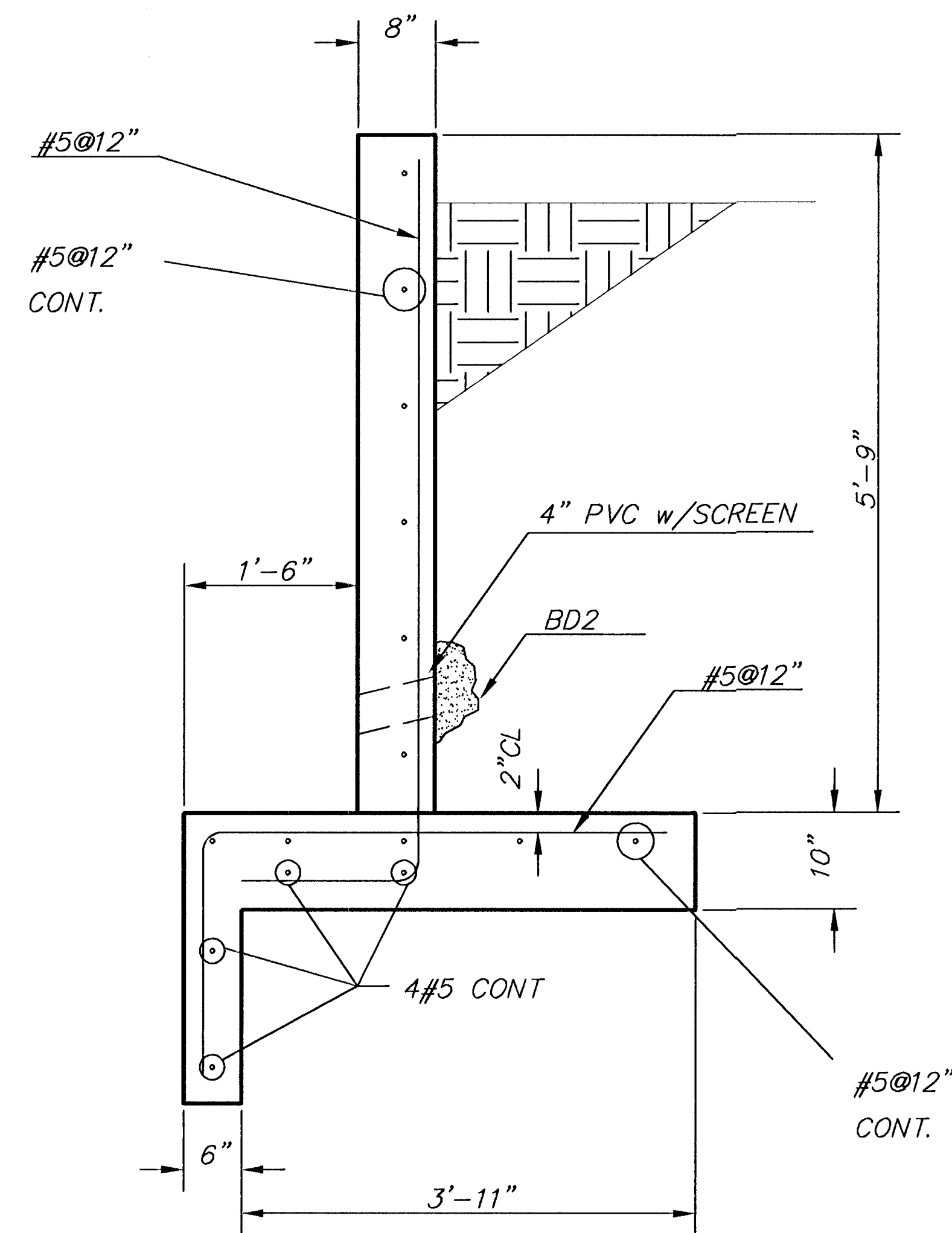
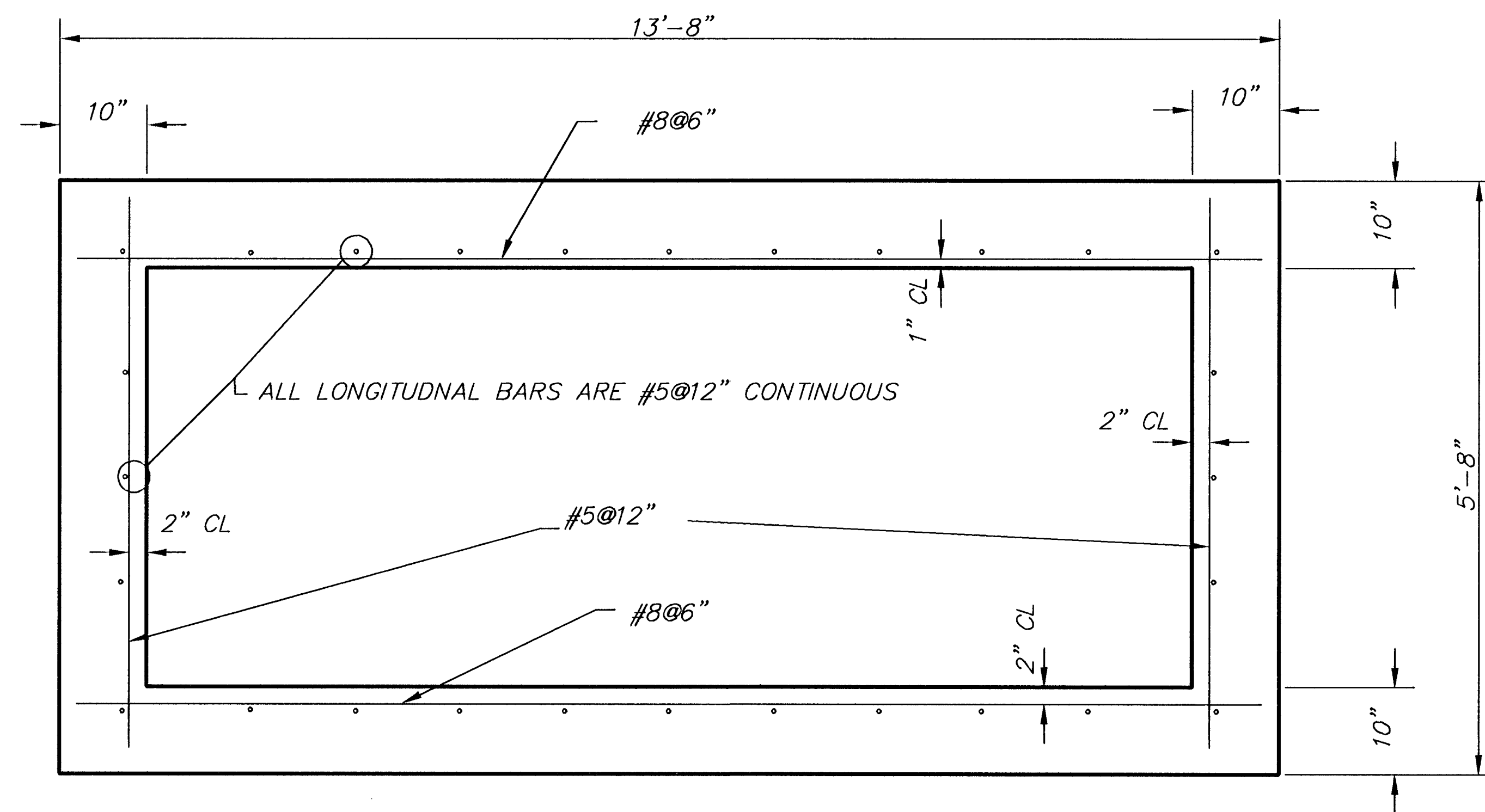
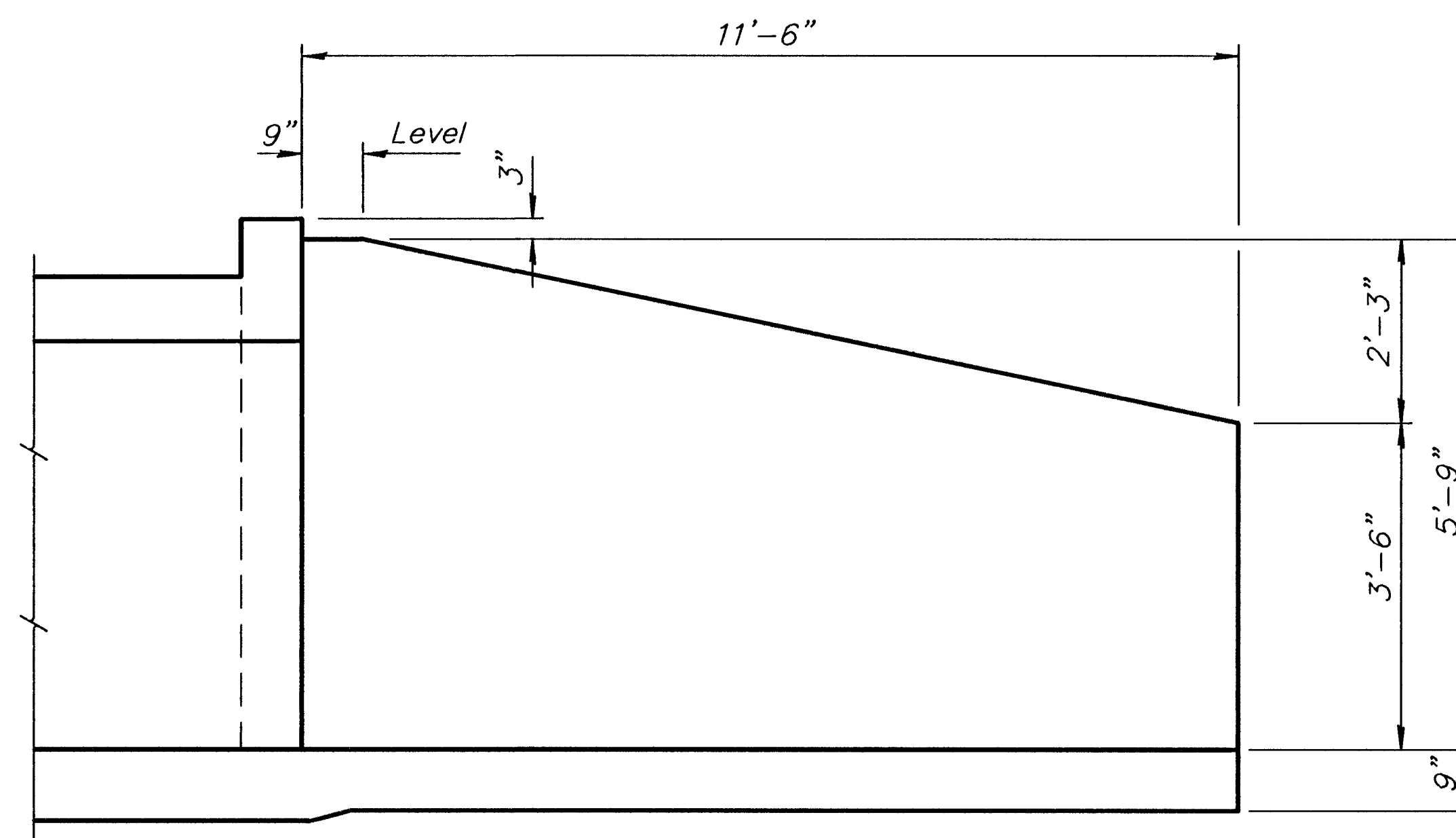


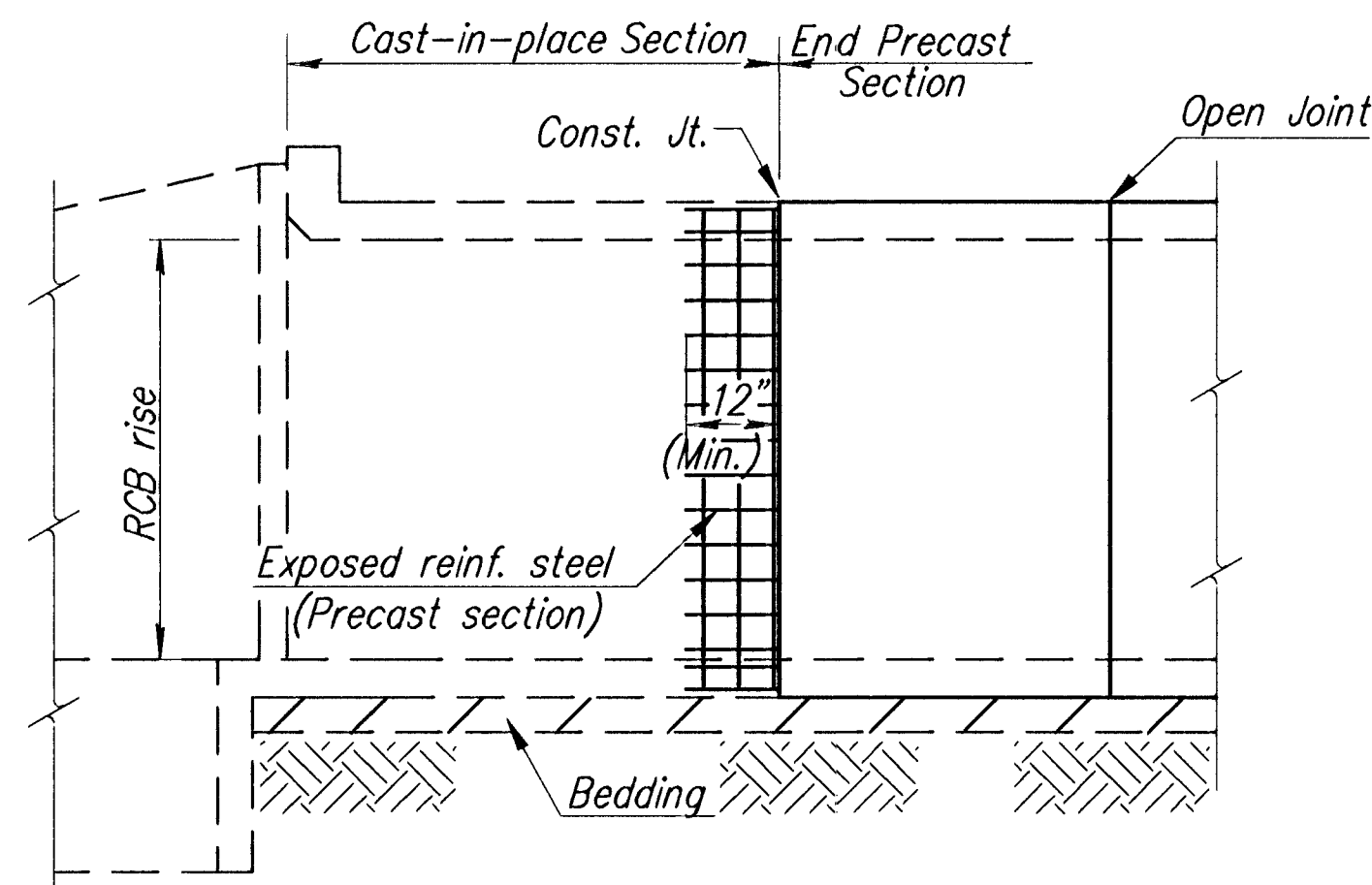
WOODLAND LAKES ESTATES
PROJECT NAME

BOX A DETAILS
SHEET TITLE

**MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600**

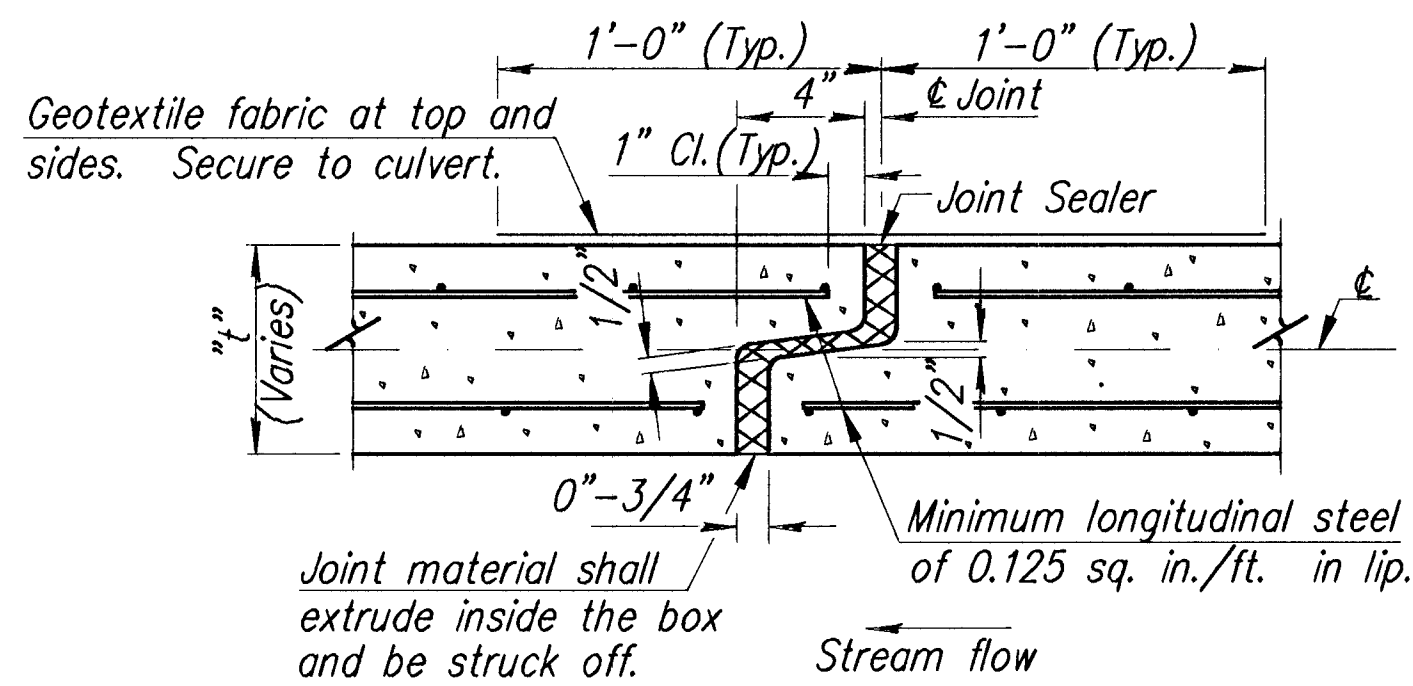
JAH	JAH	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
6/21/96	95058D11	11 / 20
DATE	JOB NO.	SHEET/OF



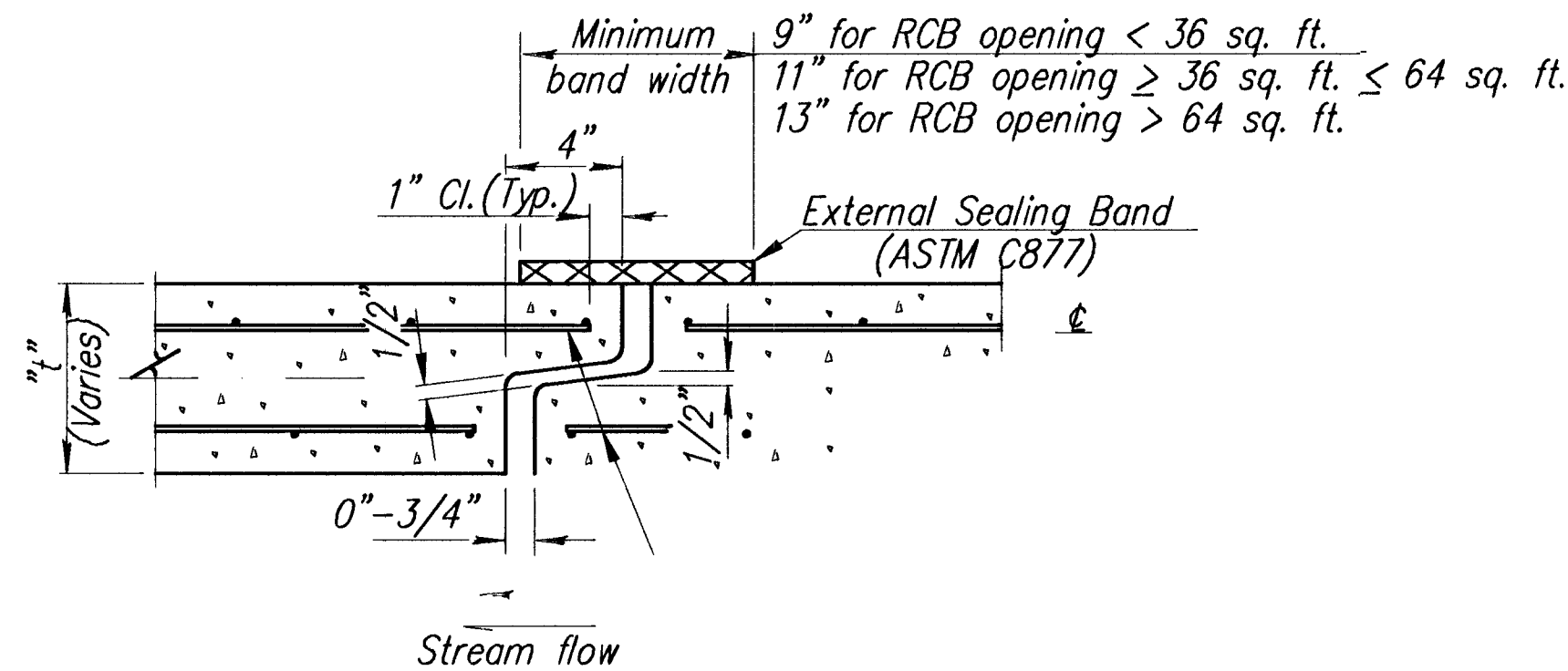


ELEVATION AT HEADWALL

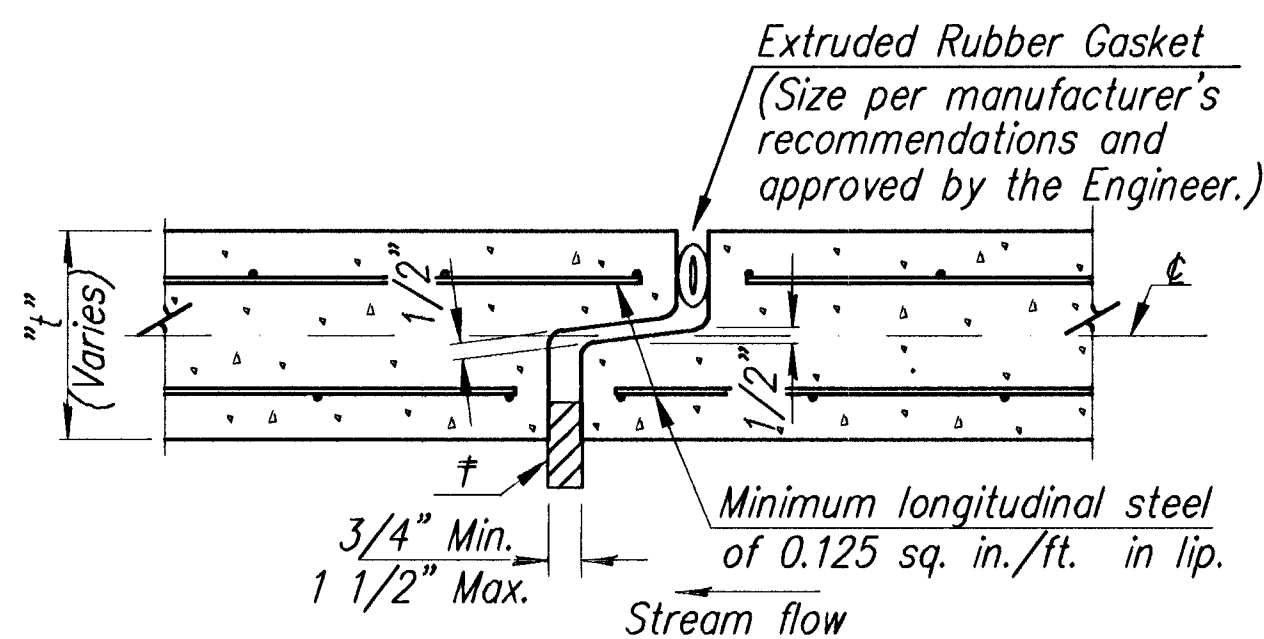
(End unit using combination of cast-in-place and precast sections.)



OPTION "A"



OPTION "B"



OPEN JOINT DETAIL

GENERAL NOTES

PRECAST BOX CULVERTS: If precast box culverts are specified, they shall be constructed at the locations shown in the plans and according to the requirements shown on this sheet. When approved by the Engineer, precast box culverts may be constructed in lieu of cast-in-place box culverts. When the precast option is chosen by the Contractor, the cast-in-place quantities shall be used as the basis of payment which shall include all labor, equipment, materials, and incidentals necessary to complete the installation.

Unless otherwise approved by the Engineer, cast-in-place collars shall be required at horizontal and vertical changes in RCB alignment. Cast-in-place end sections and wingwalls are required except as noted on this sheet. Cast-in-place sections may be required at the direction of the Engineer at junctions of drainage structures.

Cast-in-place concrete work shall be done in accordance with the KDOT Specifications and KDOT's "Guidelines for Structural Design and Detail of Reinforced Concrete Box Culverts". Class AAA (AE) Concrete and Grade 60 Reinforcing Steel shall be used for the cast-in-place construction.

SPECIFICATIONS: Single-cell Precast Concrete Box Culverts shall conform to the requirements of the following specifications except as noted in the KDOT Specifications. Multiple-cell Precast Boxes shall be designed in accordance with the criteria used to develop the single-cell precast boxes. (See

the latest AASHTO Specifications.)

Condition	Min. Fill	AASHTO	Equiv. ASTM
2 Ft. or more fill	2 Ft.	M259, Table 2	C789, Table 2
Less than 2 Ft. fill	0 Ft.	M273, Table 2	C850, Table 2

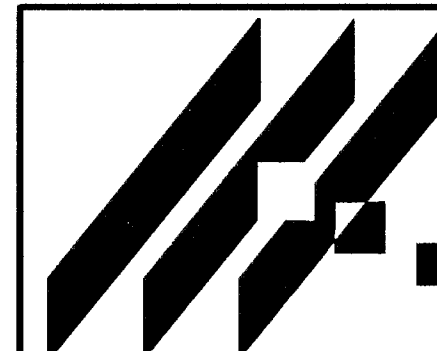
FABRICATION: Prior to fabrication, the Contractor shall furnish shop drawings to the Engineer for review. Shop drawings shall detail all phases of construction including layout, joint details, lifting devices, casting methods, construction placement and details of any cast-in-place segments or transitions that may be required. Copies of overweight and overload permits, when required, shall be submitted with the shop drawings.

The following information shall be legibly marked on an inside face of each box section by waterproof paint or other approved means:

- Date of manufacture
- Name or trademark and location of the manufacturer
- Weight of box section in tons
- Piece mark
- The top of the box

CONSTRUCTION REQUIREMENTS: Foundation preparation shall be in accordance with KDOT Specifications except that a minimum 6 inch thickness of crushed stone for backfill or 3 inch seal course shall be provided. Choice of bedding shall be at the Contractor's option and approved by the Engineer.

Precast concrete box culvert shall be laid with the groove end of each section up-grade, and the sections shall be tightly joined. Joint shall be sealed with an approved bituminous mastic material and geotextile or sealing band or an extruded rubber gasket, installed in accordance with the recommendations of the manufacturer. Lifting holes shall be plugged with a precast plug, sealed and covered with mastic or mortar.

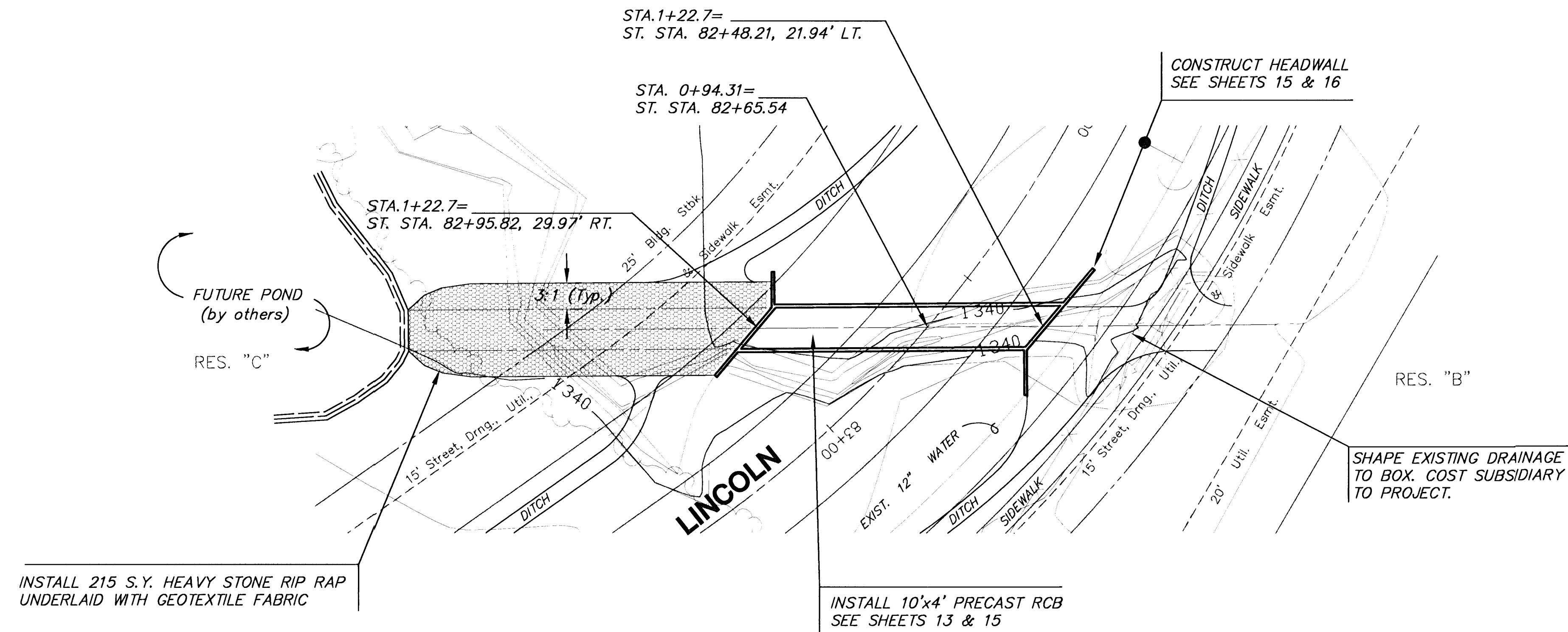


MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

WOODLAND LAKES ESTATES
PROJECT NAME

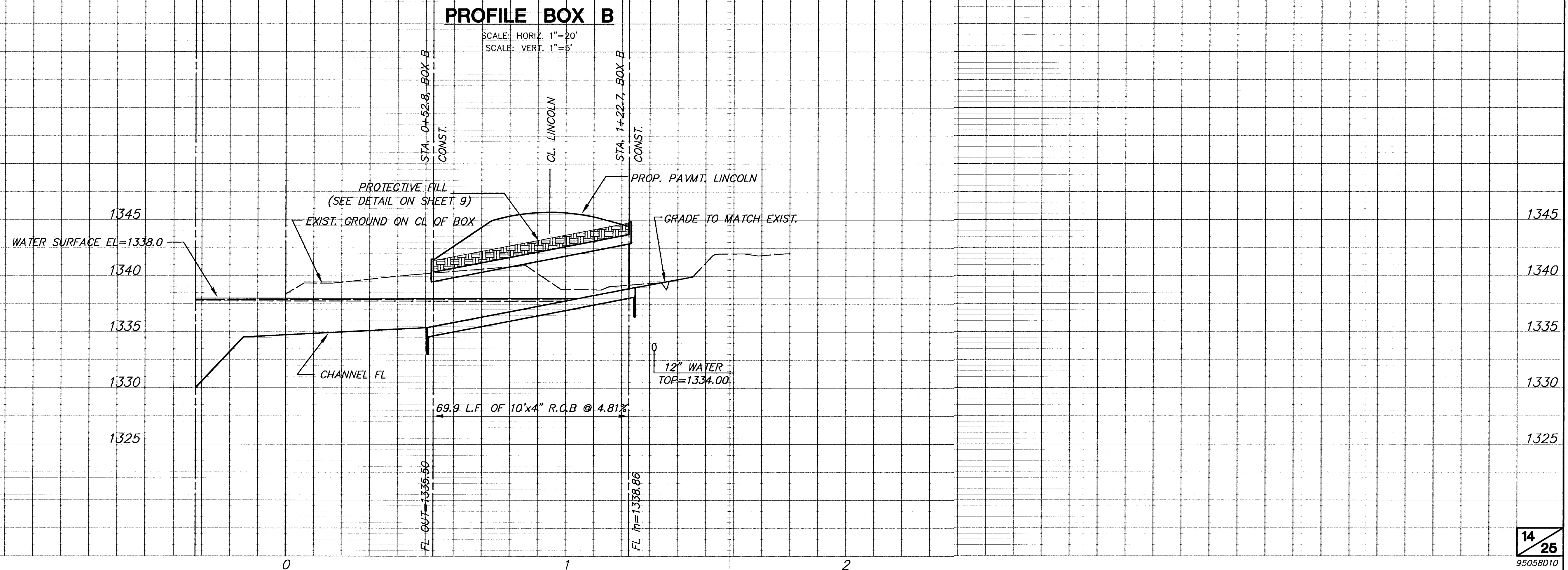
PRECAST CONC. BOX CULVERT DETAILS
SHEET TITLE

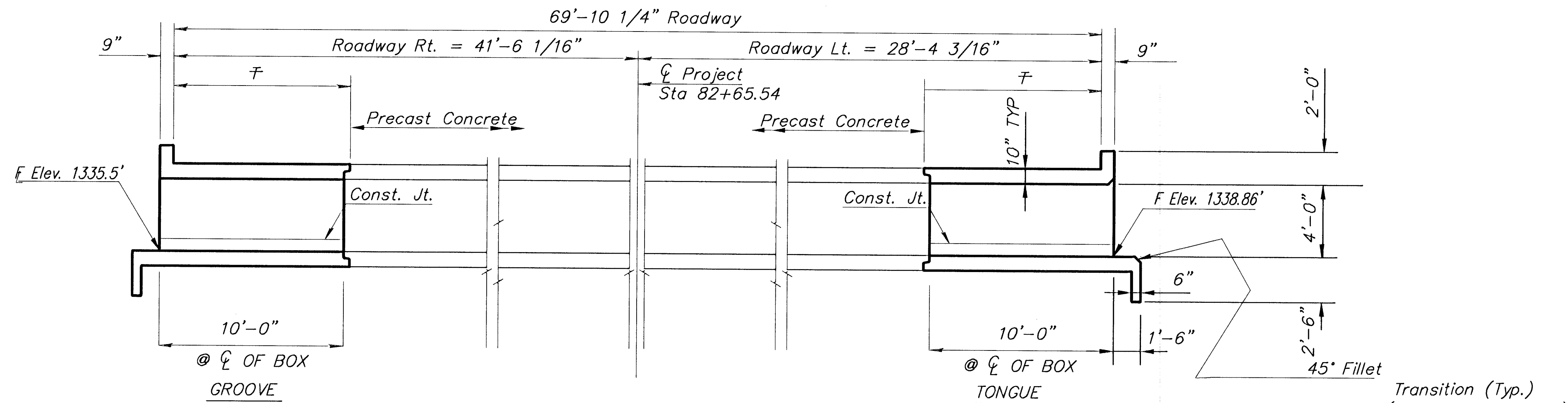
JAH DESIGN BY:	DPG DRAWN BY:	KJS CHECKED BY:
JUNE 1996 DATE	95058D12 JOB NO.	13 / 25 SHEET / OF



PLAN BOX B

SCALE: 1"=20'

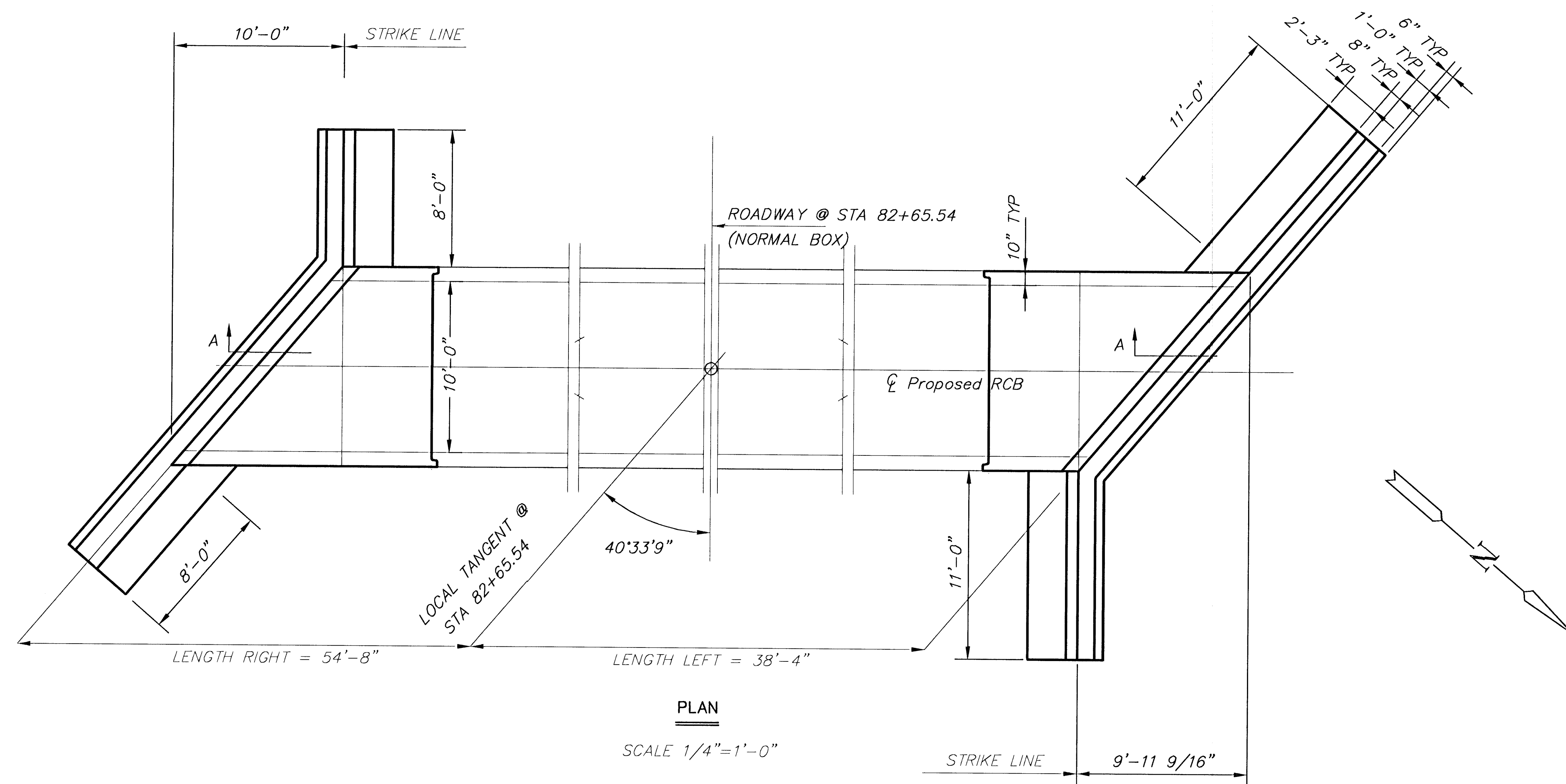




SECTION AND ELEVATION

(Normal to ϕ Roadway @ STA 82+65.54)
SCALE 1/4"=1'-0"

$\mp$ Hand Compaction Equip.
Only in this area



PLAN

SCALE 1/4"=1'-0"

GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications, 1992 Edition.
UNIT STRESSES: Class AAA Concrete; $f'_c = 4,000$ p.s.i.
Reinforcing Steel; $f_y = 60,000$ p.s.i.

CONCRETE: Class AAA (AE) Concrete shall be used throughout.
Bevel all exposed edges with a 3/4" triangular moulding.

REINFORCING: All reinforcing shall conform to ASTM A615,
Grade 60. All dimensions relative to reinforcing steel shall
be to centerline of bar unless otherwise noted.

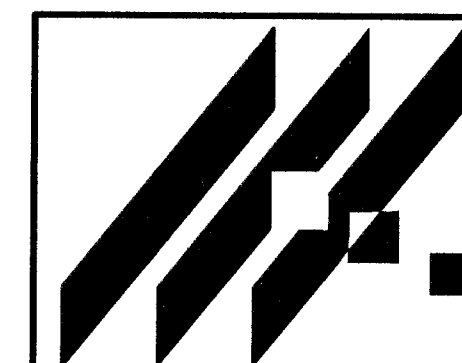
EXCAVATION: Excavation for culvert shall not be paid for directly
but shall be subsidiary to Class AAA (AE) Concrete.

FOUNDATION STABILIZATION: Foundation Stabilization may be
required as directed by the Engineer. The depth of Foundation
Stabilization shall be determined by the Engineer. Foundation
Stabilization shall be paid for at the determined Unit Price
set for Foundation Stabilization.

GRANULAR BACKFILL (WINGWALLS): Special backfill procedures
may be required at the direction of the Engineer.

STRIKE LINE: Wingwalls and that portion of the RCB outside the
Strike Line shall be constructed level. Footing for wingwalls shall
be constructed with the culvert floor.

FOUNDATION AND BACKFILL MATERIAL: Soils judged as high plasticity
clays, fat clays, expansive clays, or organic clays are unsuitable
for foundation and/or backfill material for wingwalls and will not
be used. Where these conditions exist, Foundation Stabilization
and/or Granular Backfill (Wingwalls) shall be used as determined
by the Engineer.



WOODLAND LAKES ESTATES

PROJECT NAME

BOX B DETAILS

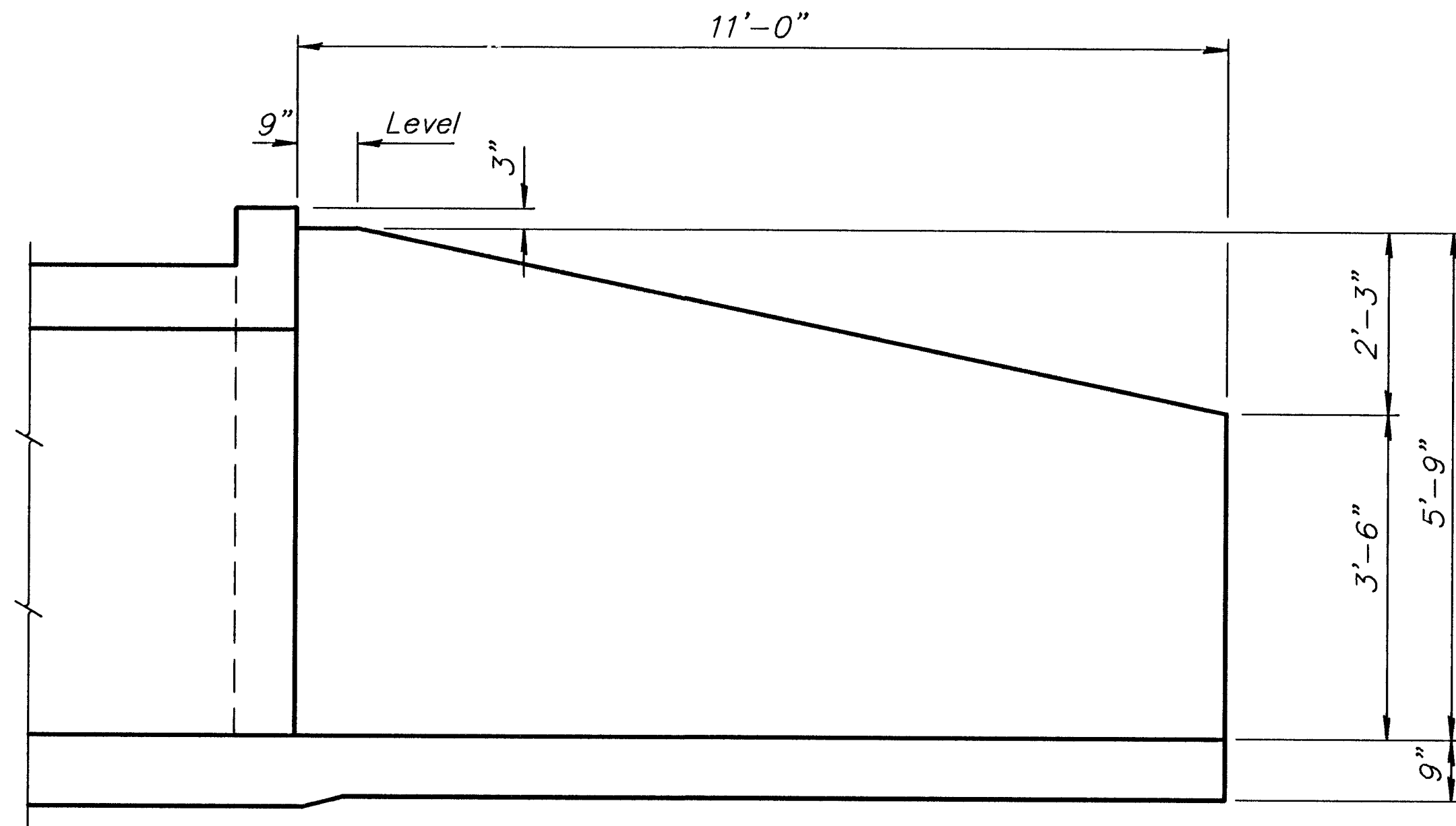
SHEET TITLE

MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

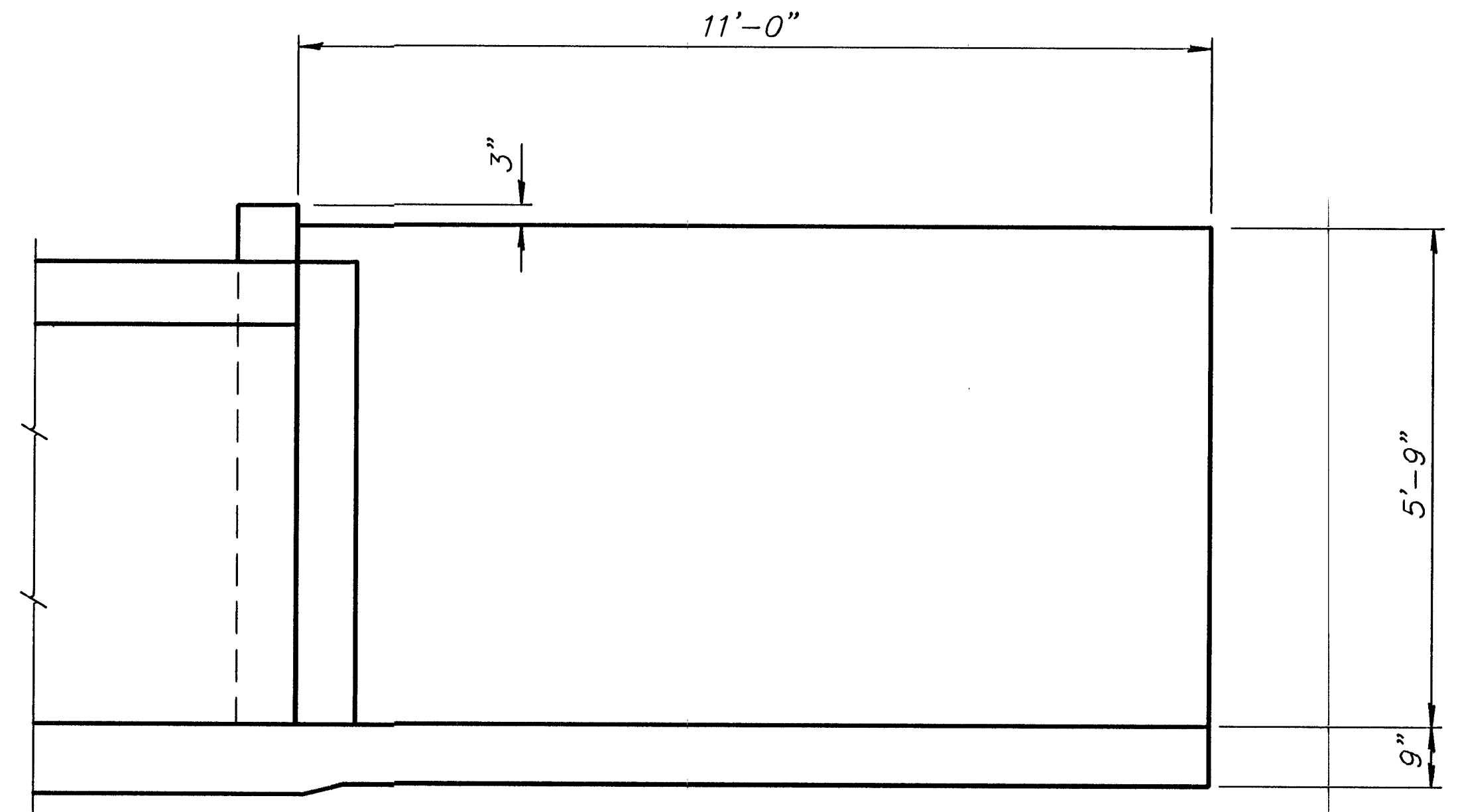
JAH
DESIGN BY:
6/21/96
DATE

JAH
DRAWN BY:
95058D14
JOB NO.

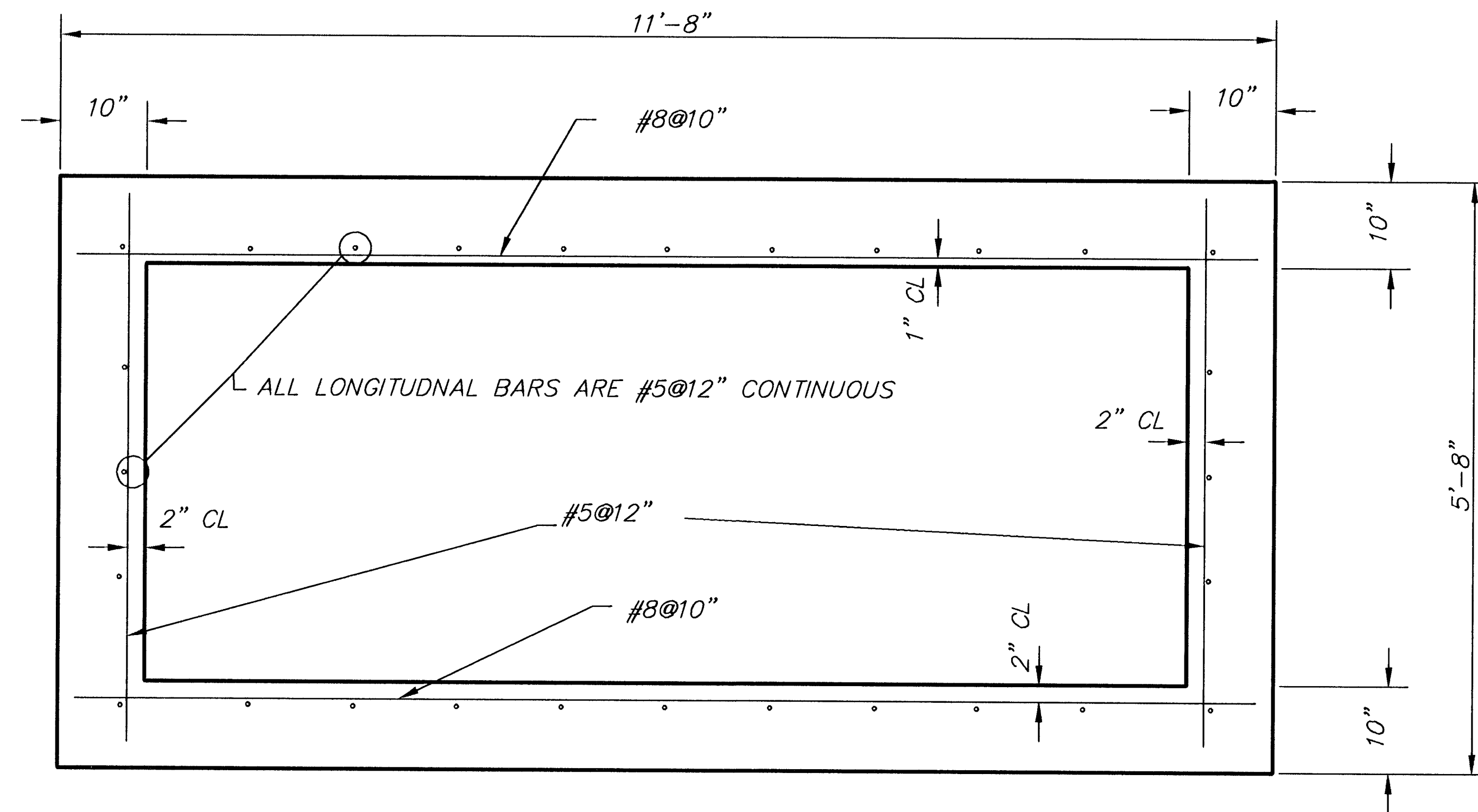
KJS
CHECKED BY:
15 / 25
SHEET / OF



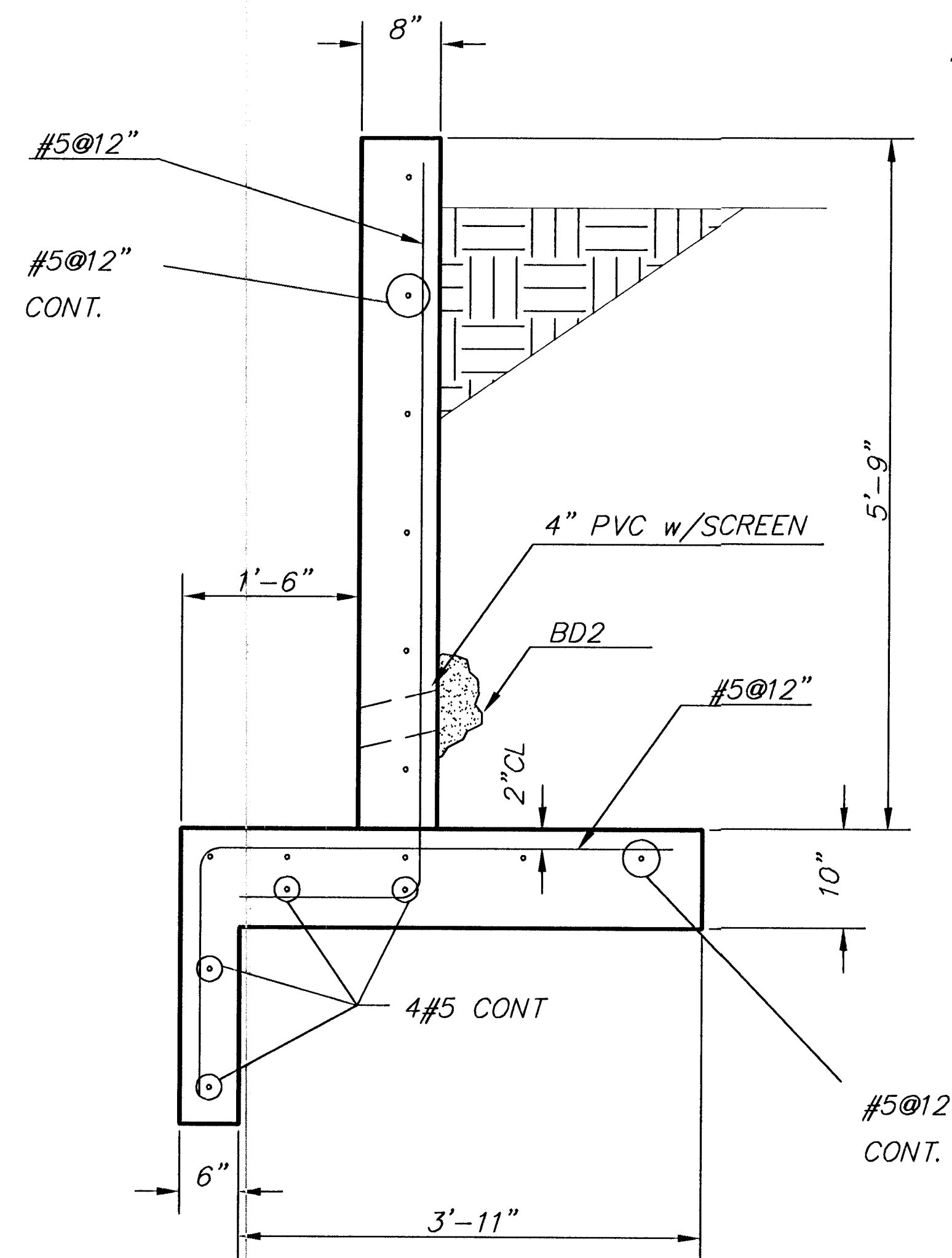
TYPICAL ELEVATION OF WINGWALLS



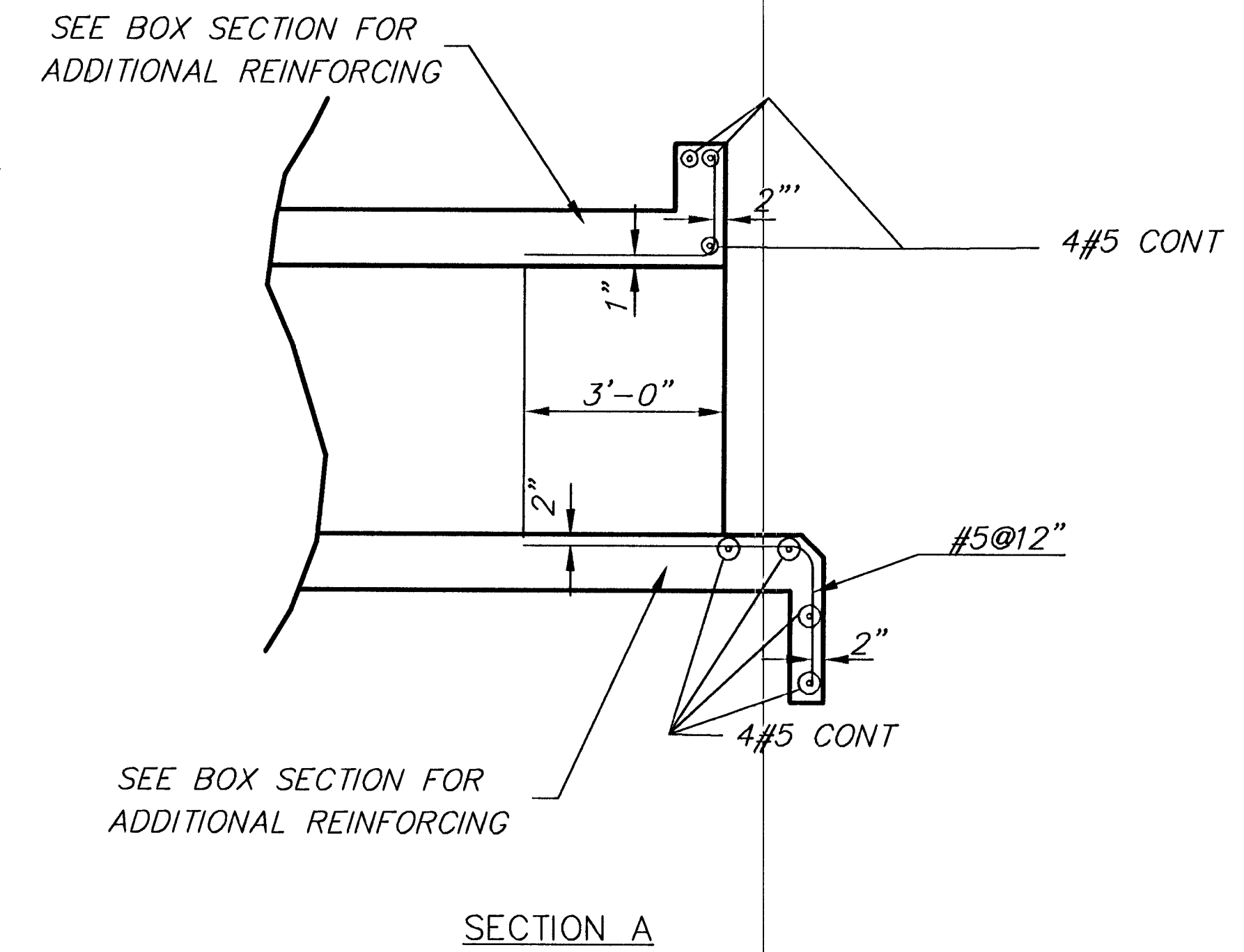
TYPICAL ELEVATION OF WINGWALLS



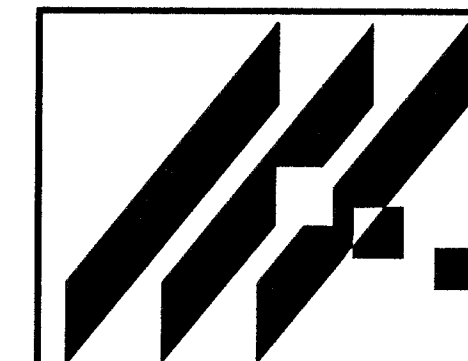
TYPICAL RCB SECTION



TYPICAL WINGWALL



SECTION A

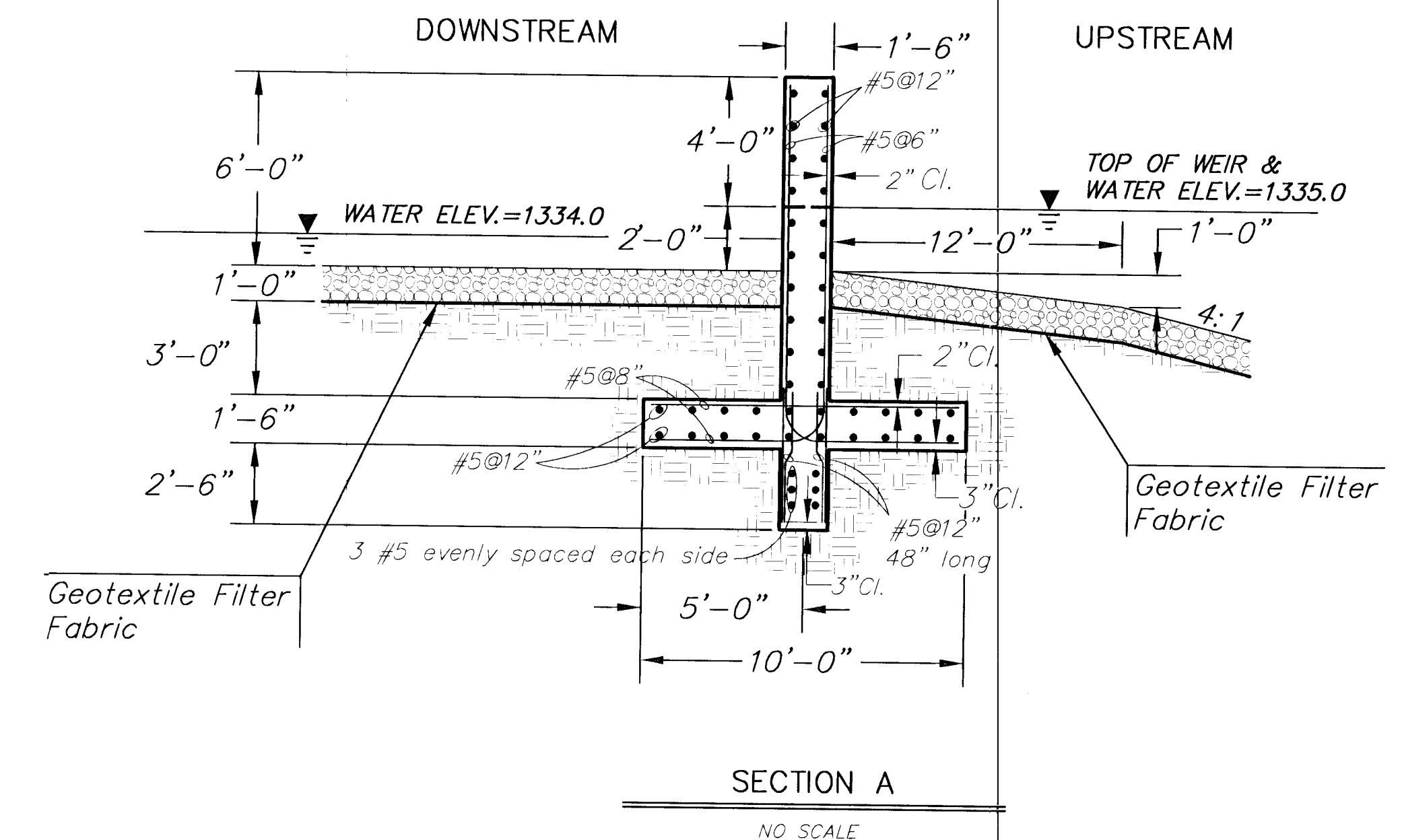
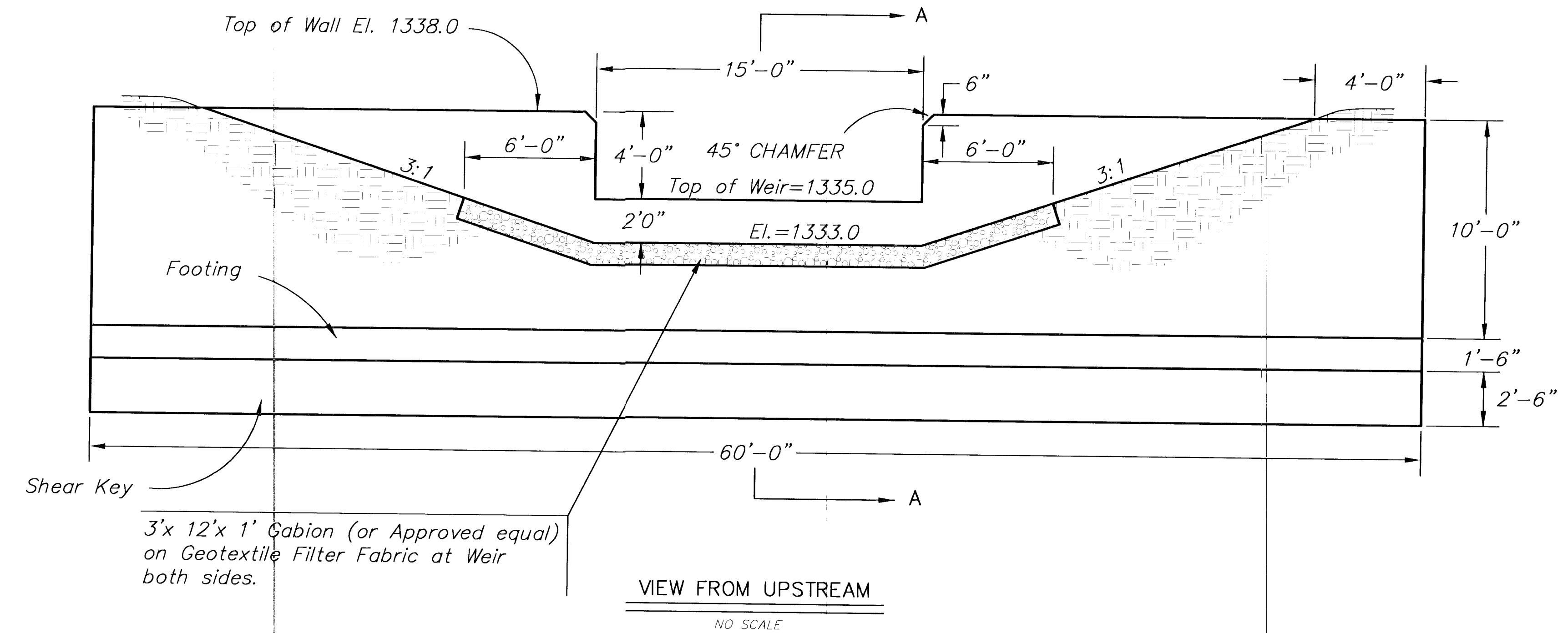
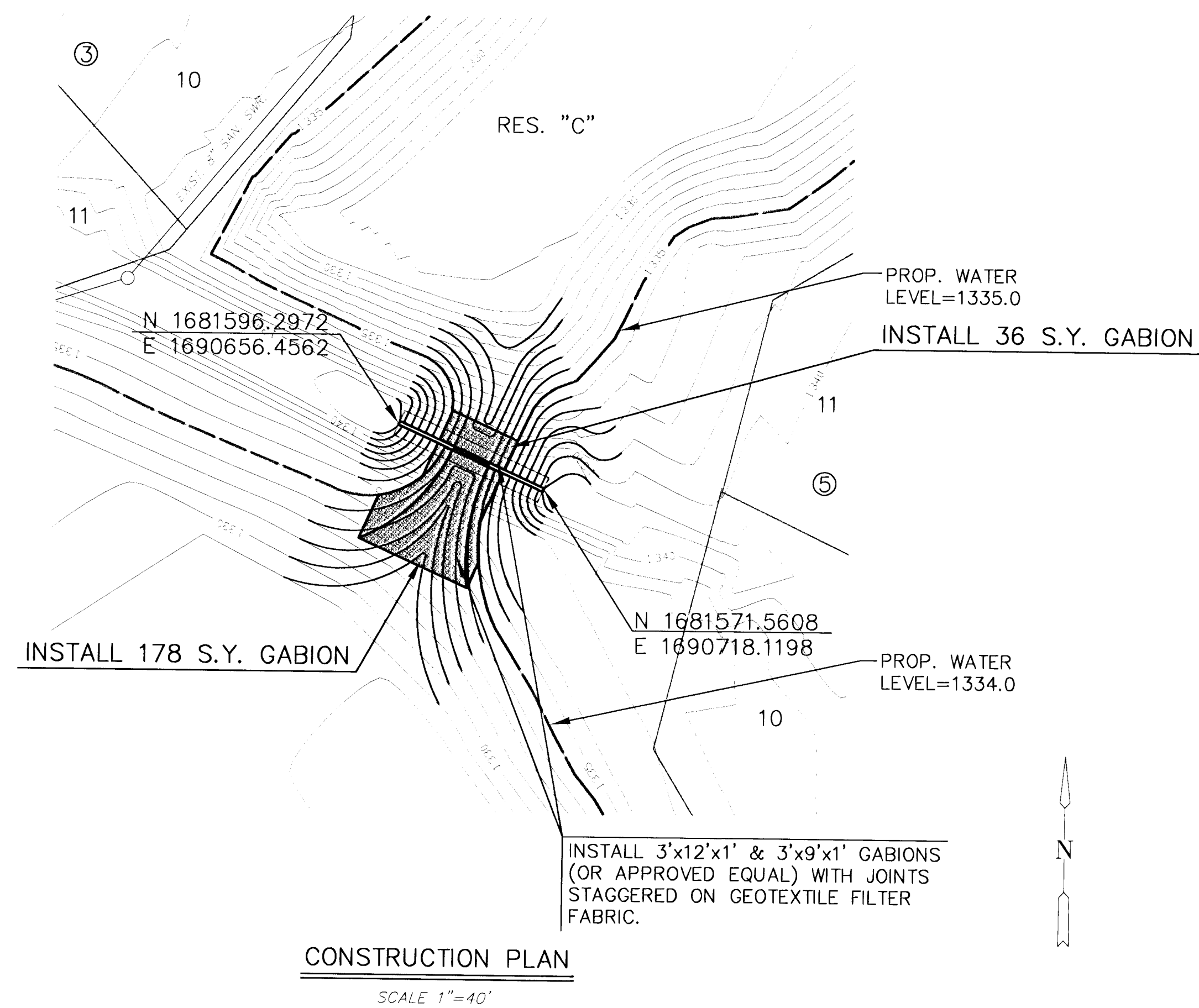
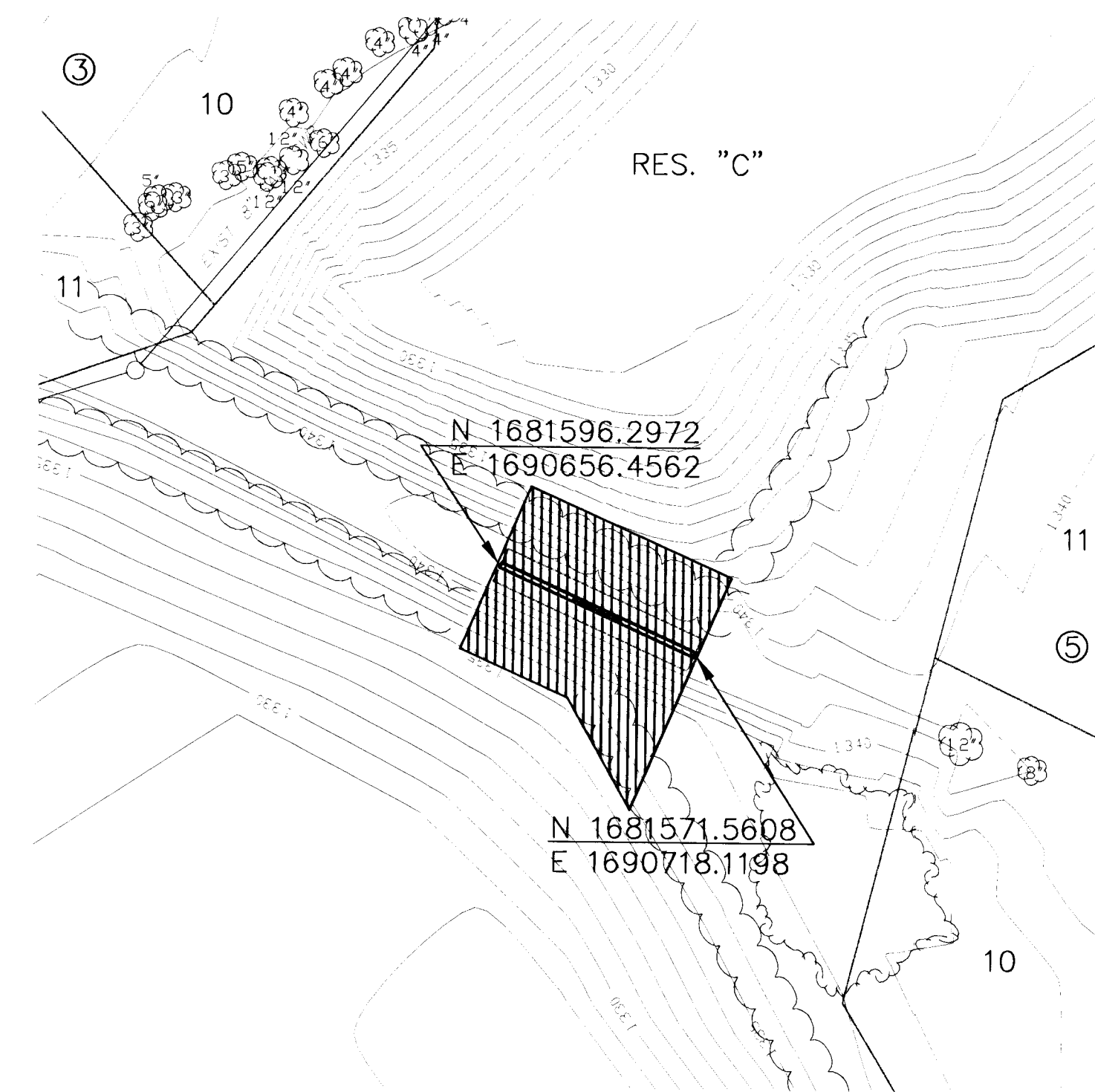


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316-684-9600

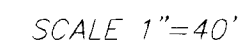
WOODLAND LAKES ESTATES
PROJECT NAME

BOX B DETAILS
SHEET TITLE

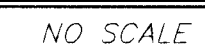
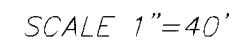
JAH DESIGN BY:	JAH DRAWN BY:	KJS CHECKED BY:
6/24/96 DATE	95058D15 JOB NO.	16 / 25 SHEET / OF



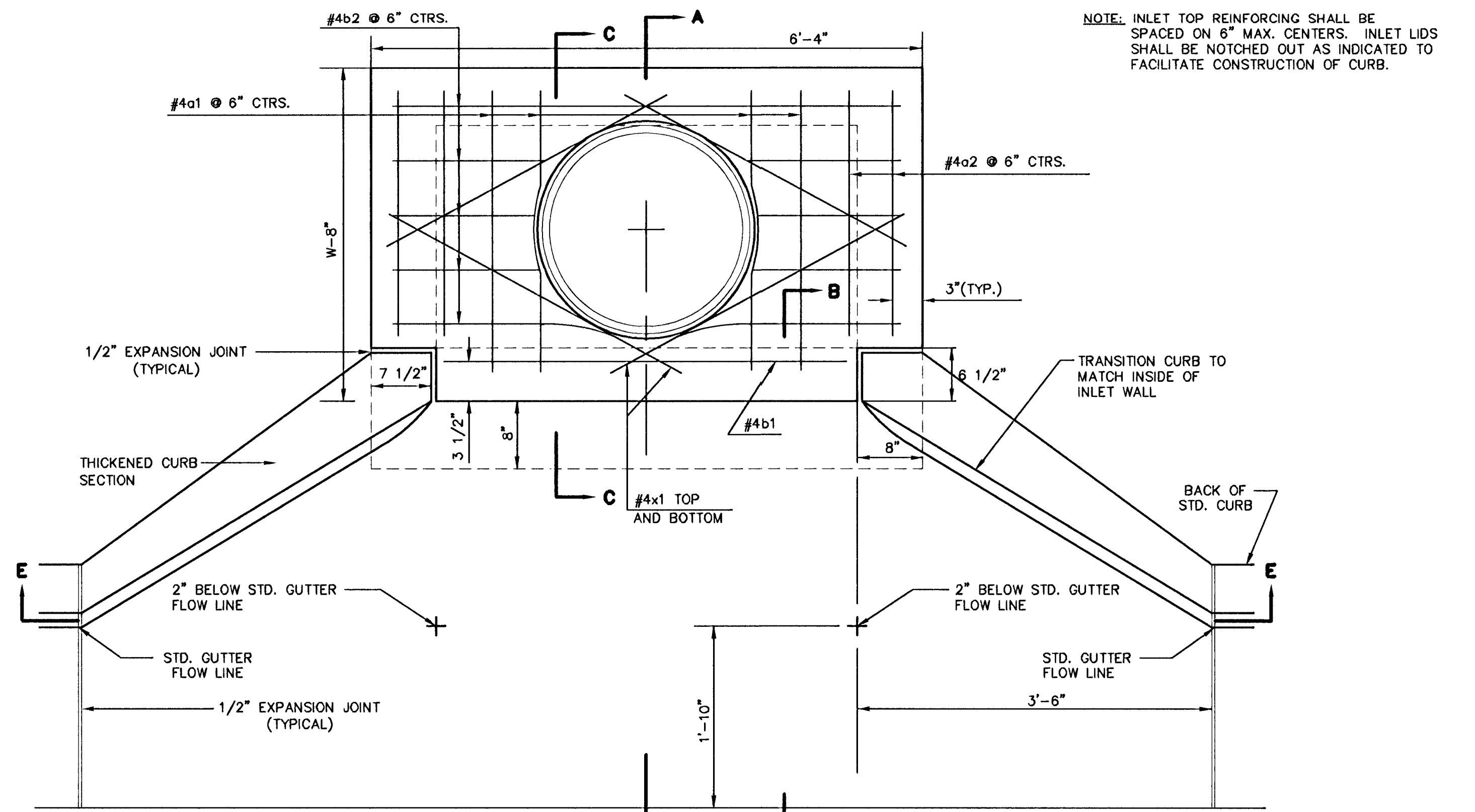
1. All concrete to have minimum compressive strength of 4000 psi at 28 days.
2. All concrete shall conform to the current "ACI MANUAL OF CONCRETE PRACTICE".
3. Portland Cement shall conform to ASTM C-150, TYPE I OR II.
4. All aggregate for normal weight concrete shall meet ASTM C33.
5. All reinforcing to meet ASTM A615 or GR. 60.
6. Concrete cover shall be 3" in bottom of footing cast against soil. All other cover shall be 2".
7. All footings shall bear on undisturbed earth or engineered fill at elevations shown on details.
8. Earthwork shall be considered subsidiary to weir construction.



Tree Species	Limits of Tree Removal
Redwood	10
Douglas Fir	8
Western Red Cedar	6
Western White Pine	4
Lodgepole Pine	2
Gambel Pine	1
Juniper	1



- GENERAL NOTES

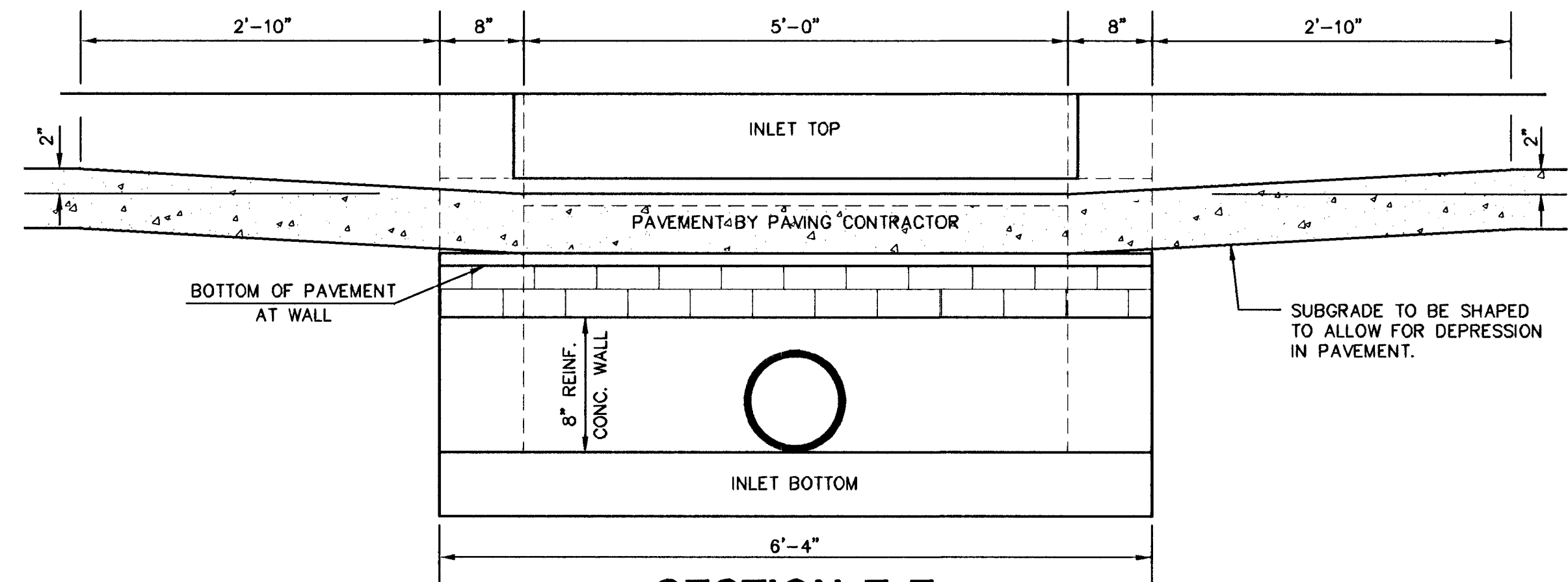


PLAN

PRECAST SLAB AND FLOOR REINFORCING											
		W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
a1	#4	6	6'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1"	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	5'-2"

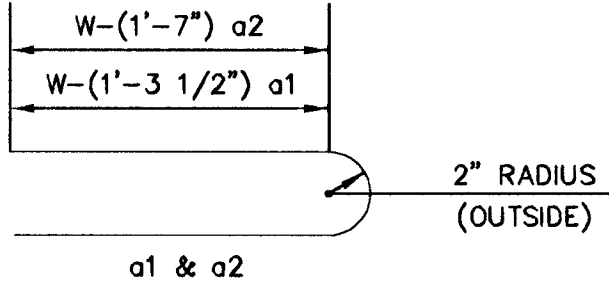
WALL REINFORCING											
		W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	32	②	36	②	40	②	44	②	48	②

* FIELD BEND OR CUT REINFORCING AS REQUIRED FOR CLEARANCE
 ① 4(HI-12"); (HI-12") ROUND DOWN TO NEAREST 0.5"
 ② HI-3"



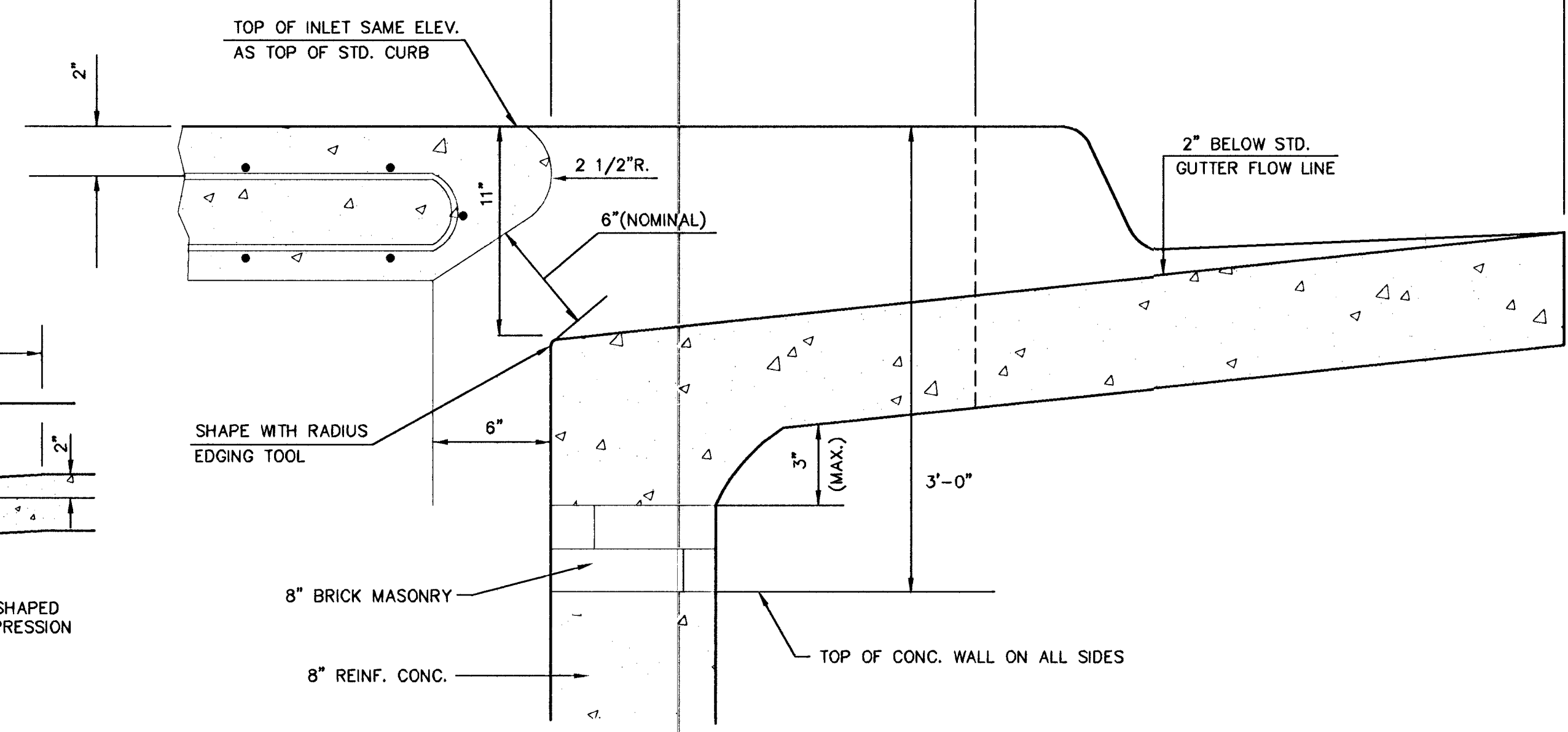
SECTION E-E

NOTE: INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.

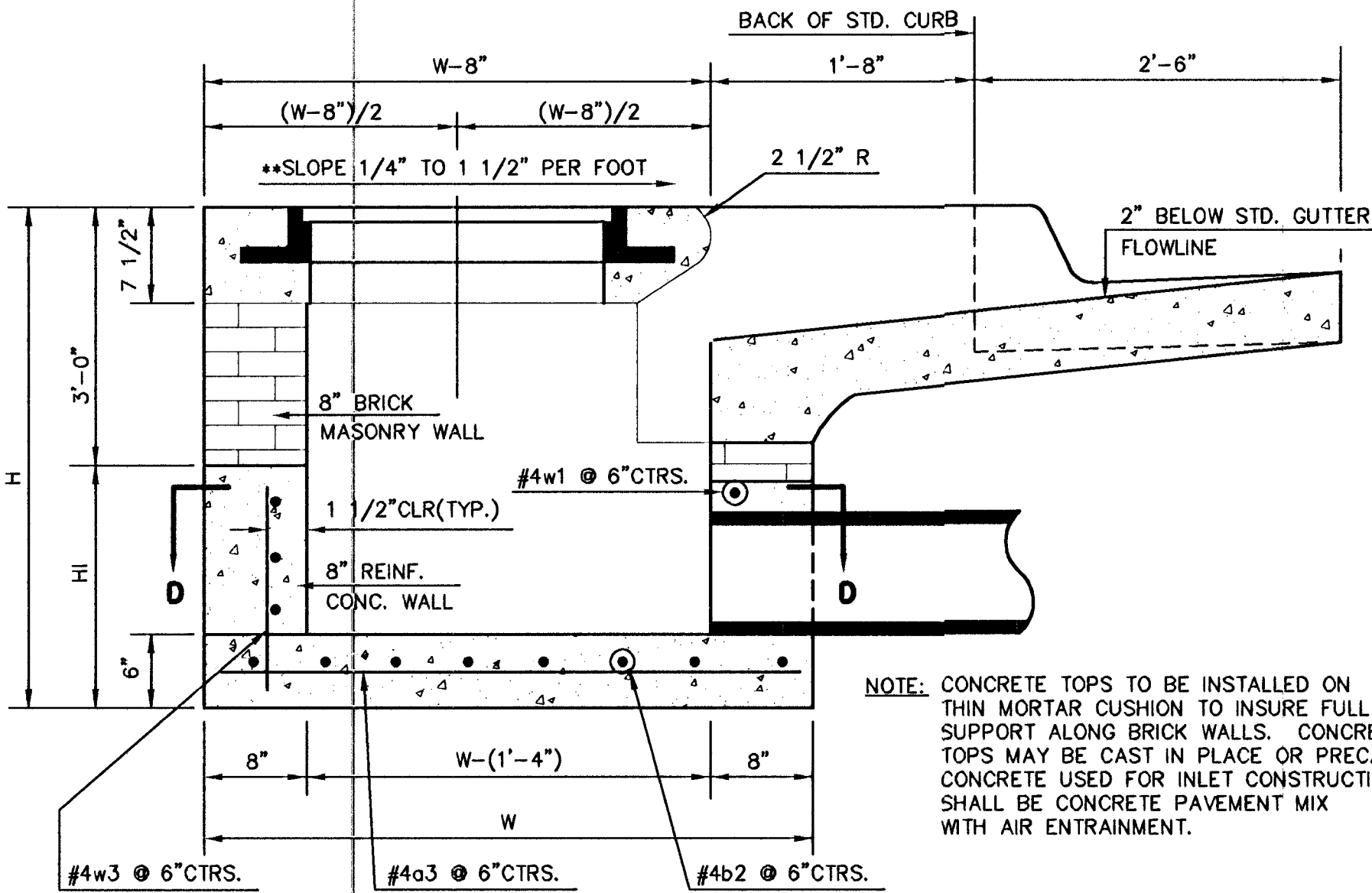


BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8"x6'-4"x7 1/2"	21" & SMALLER	.038±
5'-4"	4'-8"x6'-4"x7 1/2"	24" & 30"	.51±
6'-4"	5'-8"x6'-4"x7 1/2"	36" & 42"	.64±
7'-4"	6'-8"x6'-4"x7 1/2"	48" & 54"	.77±
8'-4"	7'-8"x6'-4"x7 1/2"	60" & 66"	.90±



SECTION B-B



SECTION A-A

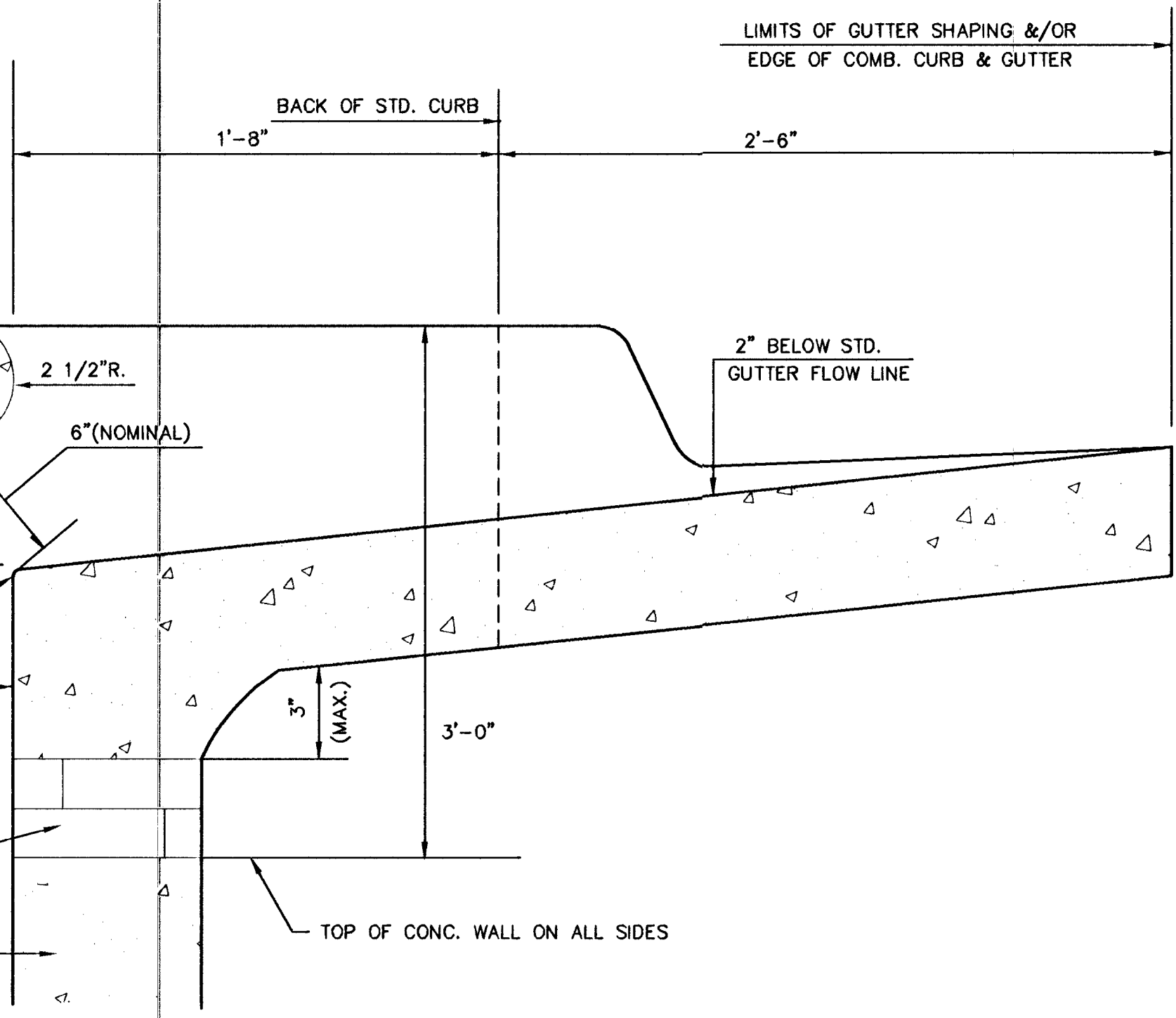
NOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W=6'-4" AND H=7'-0" OR LESS.

ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOOKUP.

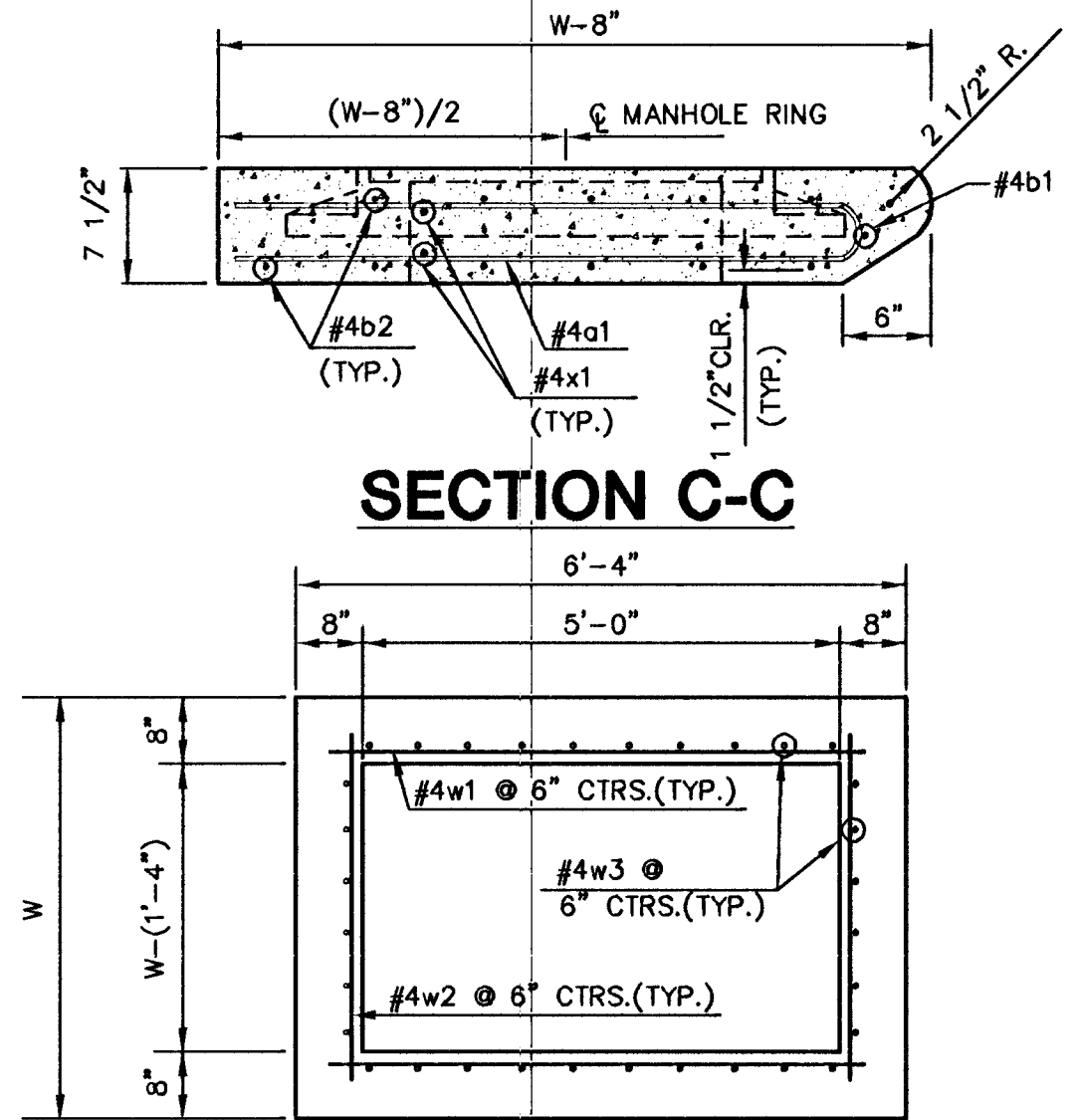
INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

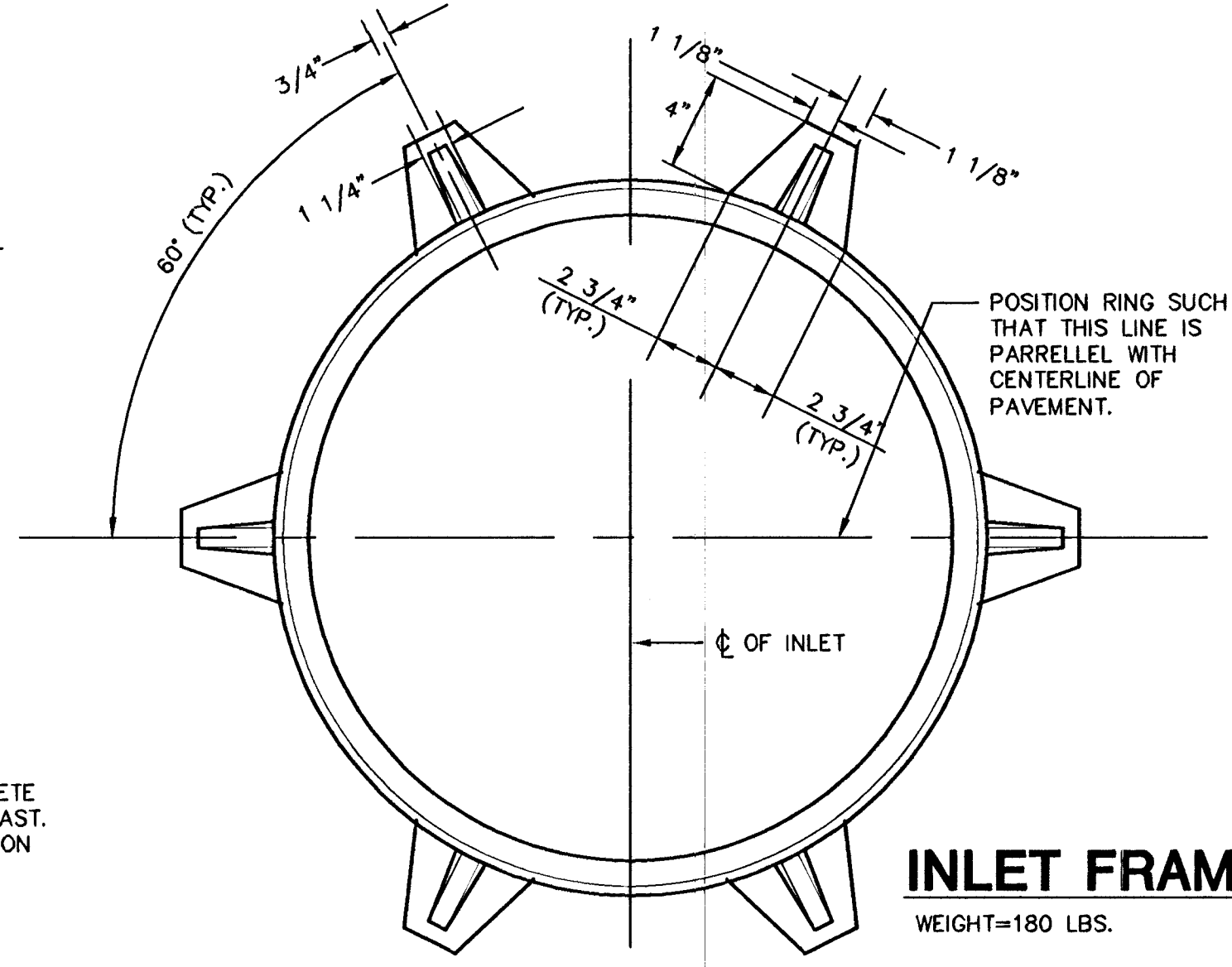
**NOTE: SLOPE OF INLET TOPS TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



SECTION C-C

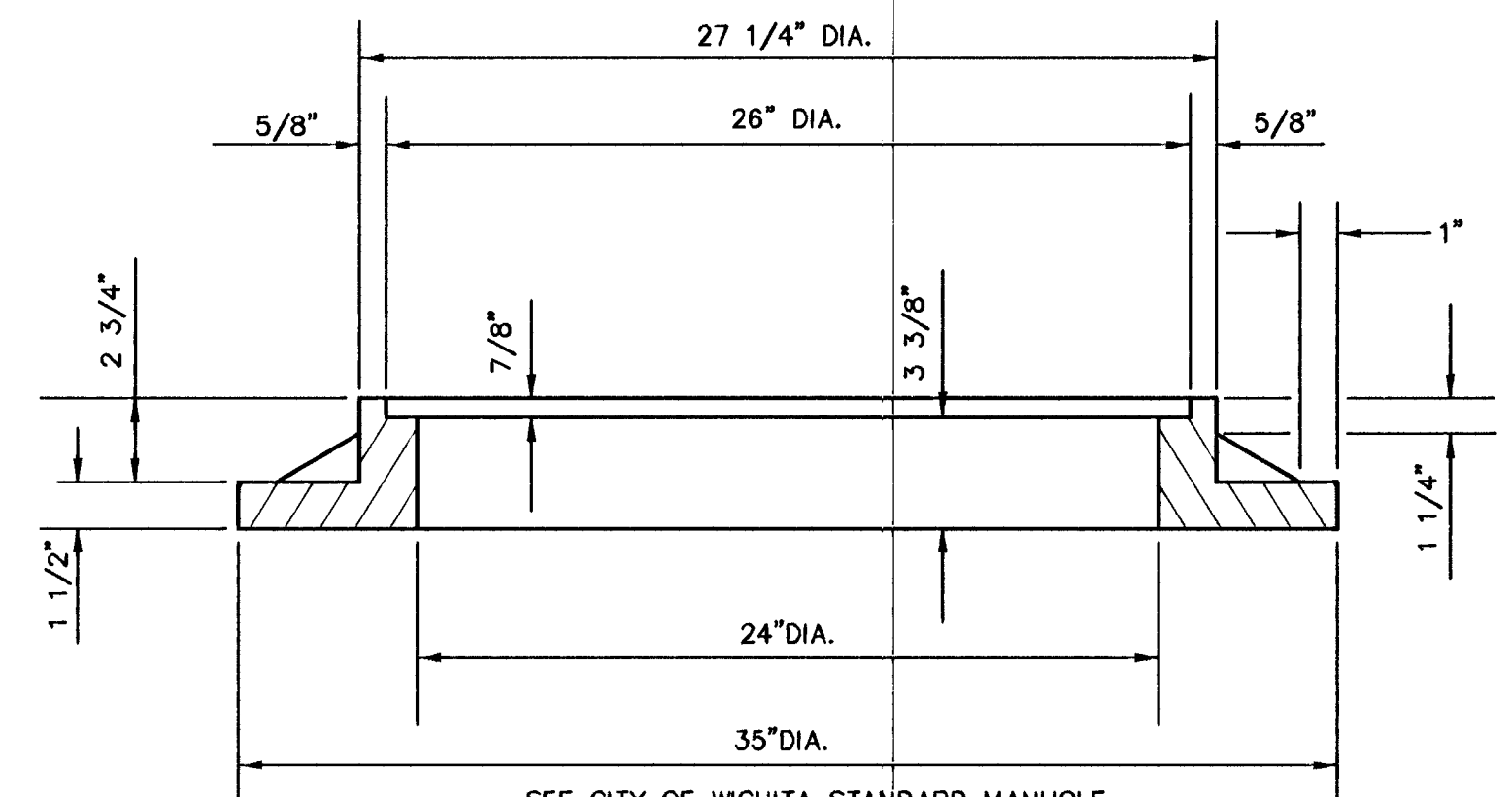


SECTION D-D



INLET FRAME

WEIGHT=180 LBS.



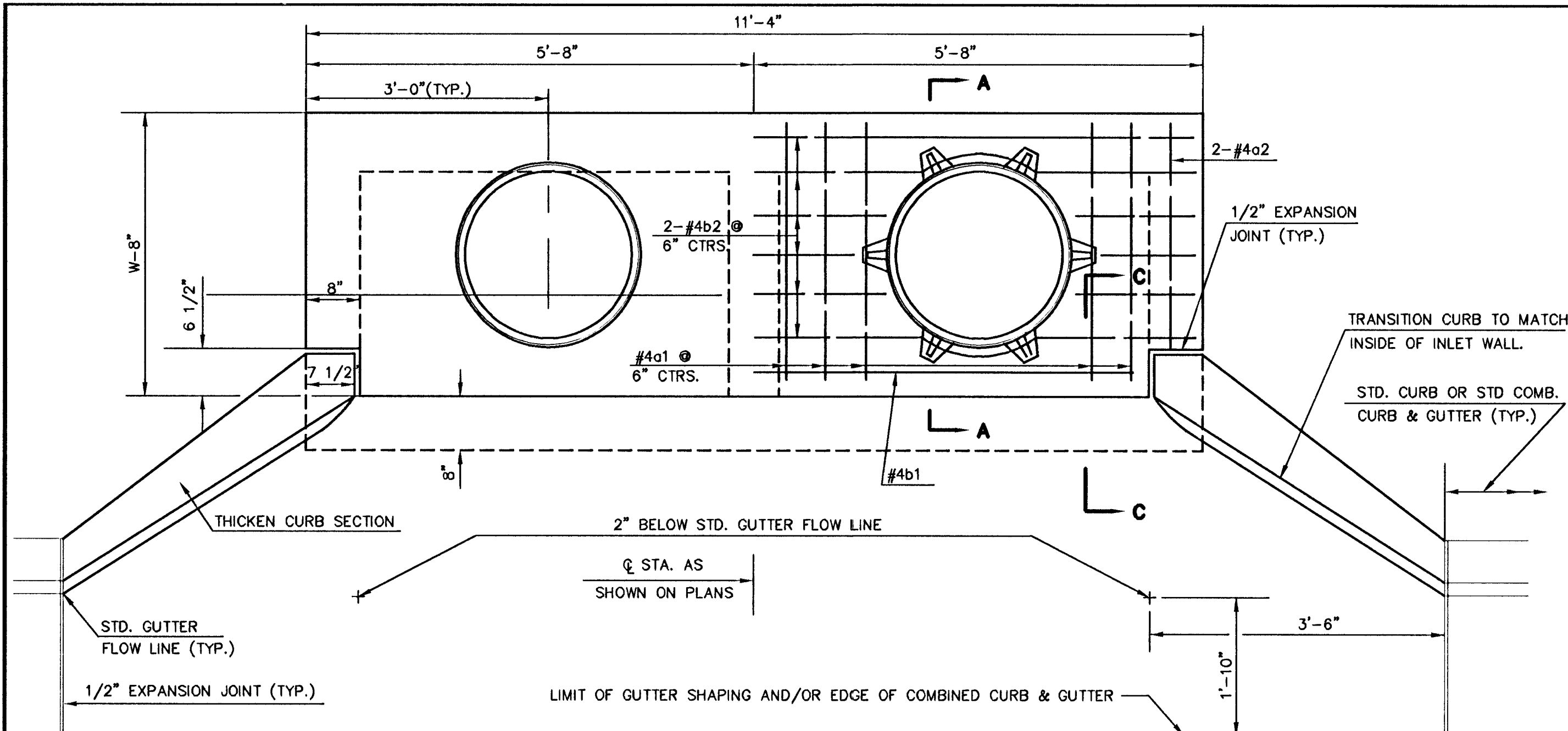
SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

REVISED: 2-18-89 C.O.W.

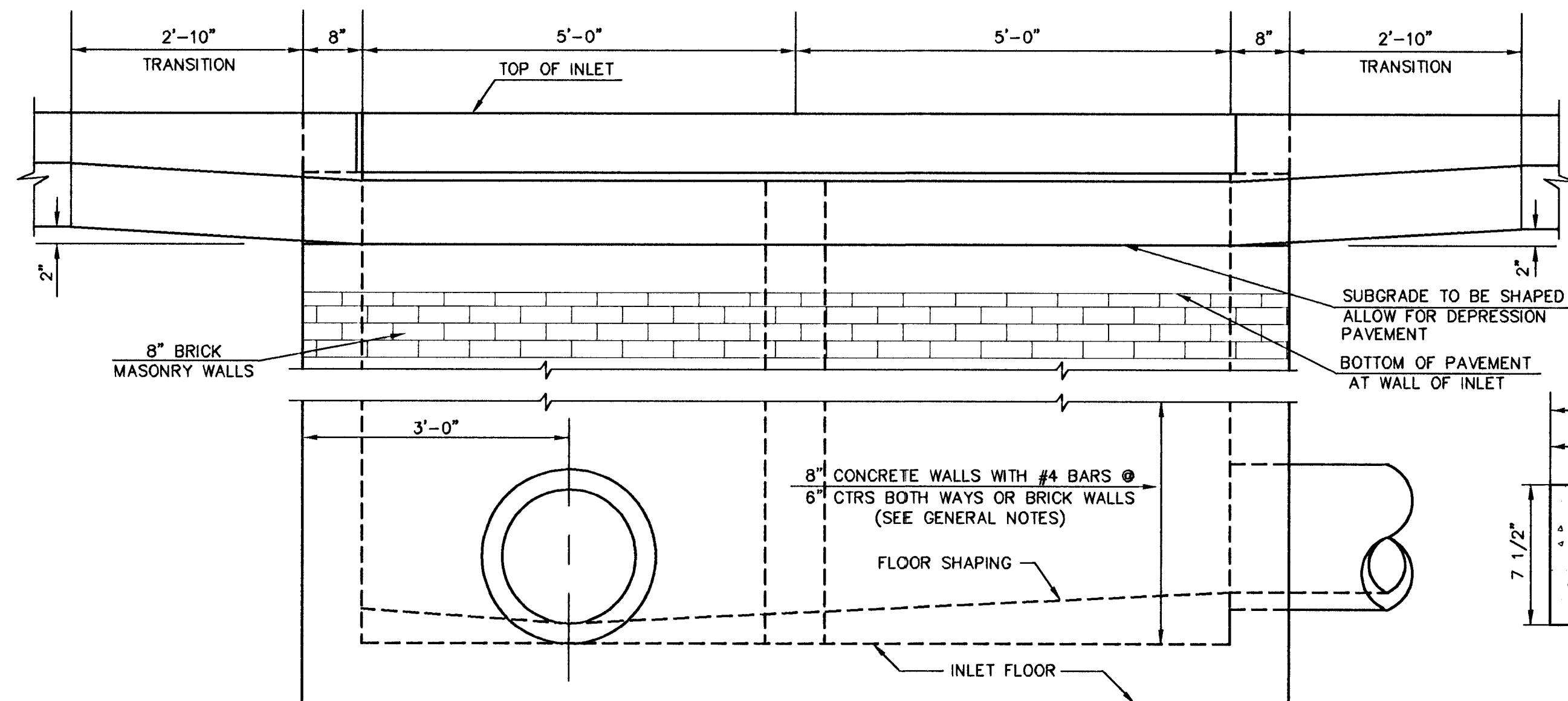
STANDARD TYPE 1A CURB INLET

INLET OPENING=6"x5'-0"

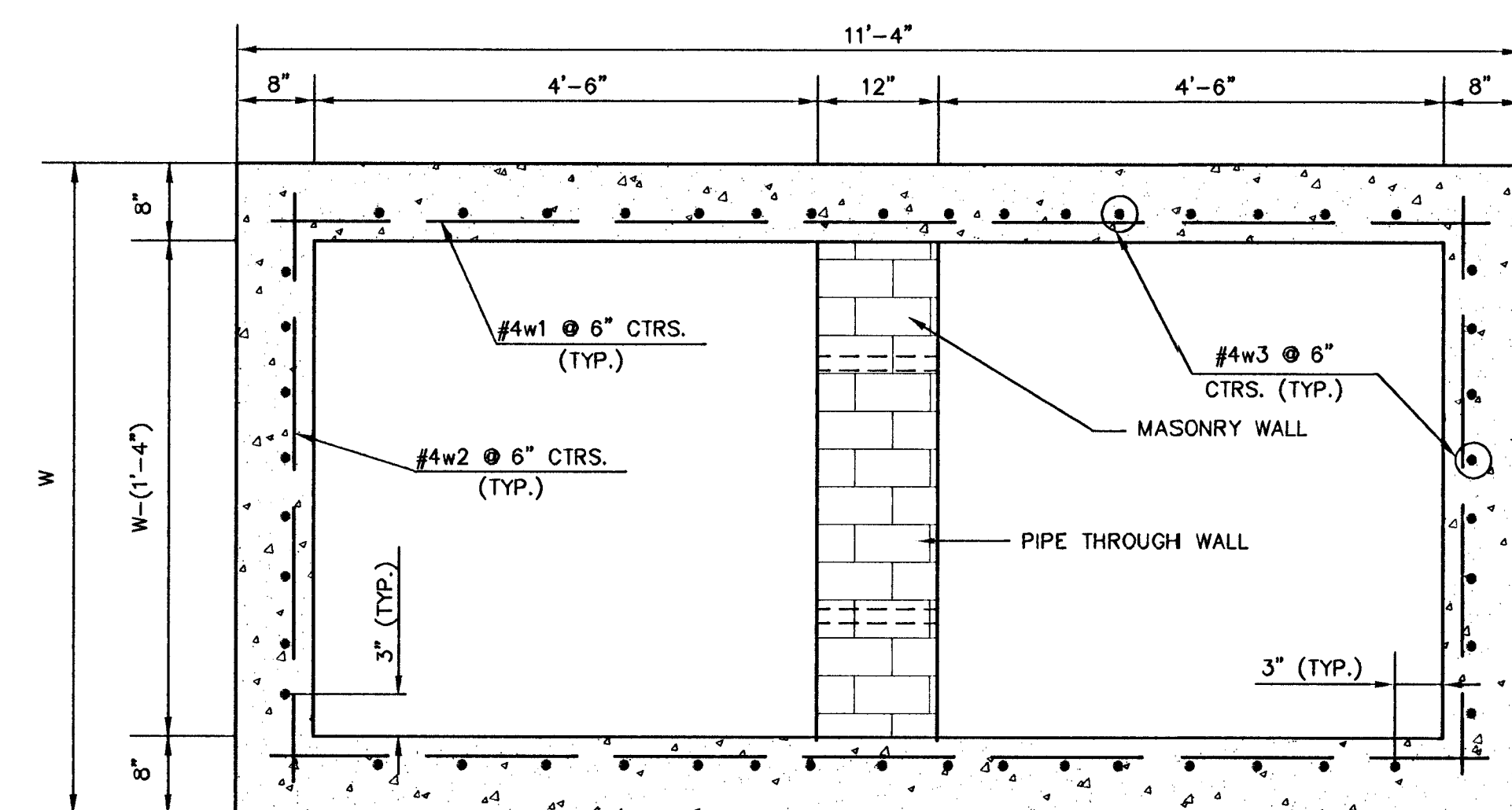
JUNE 1984			
CITY OF WICHITA, KANSAS			
Design C.O.W.	Checked by		
Drawn by	Date	Date JULY 1996	Job No. 95058DD1



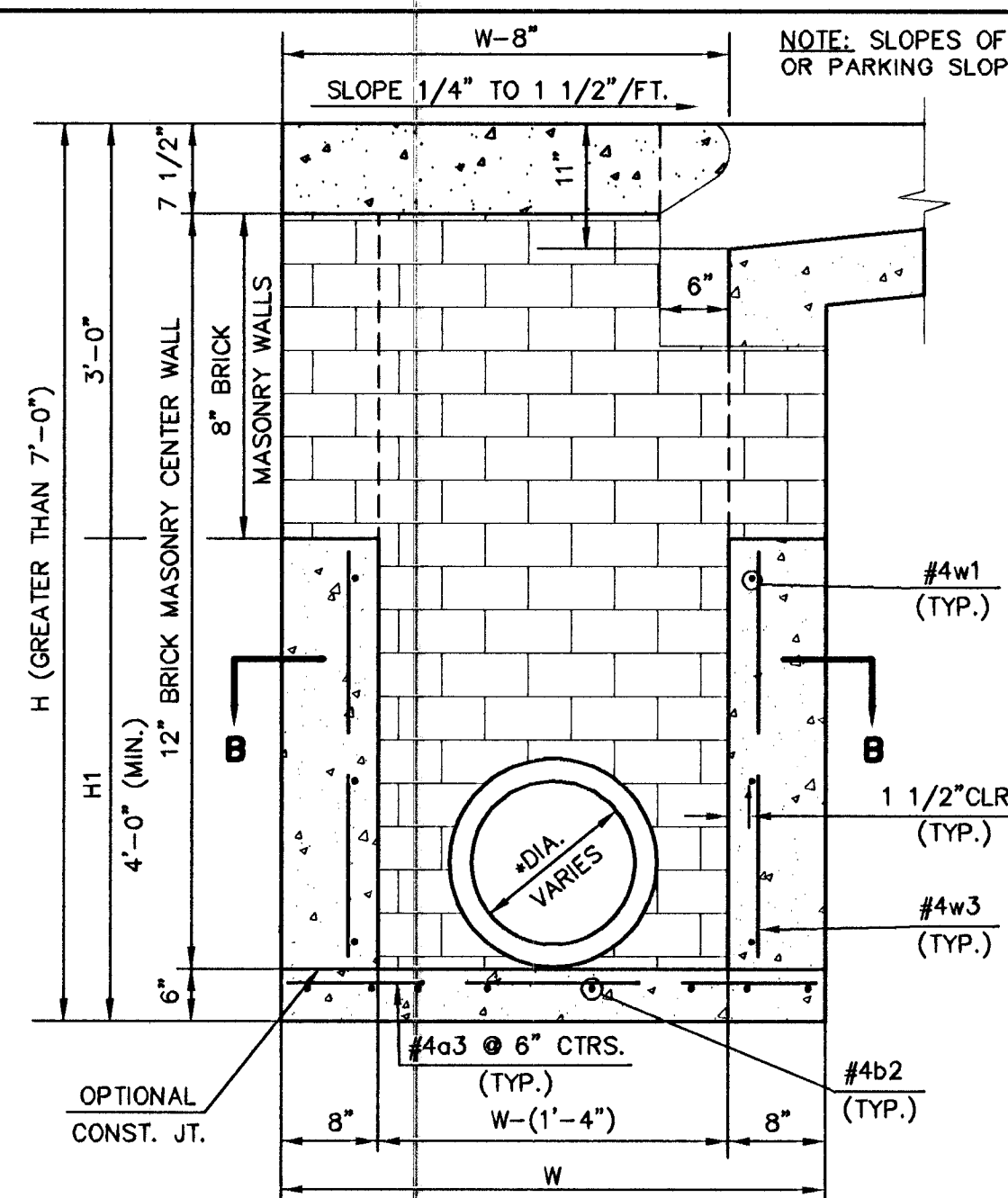
PLAN



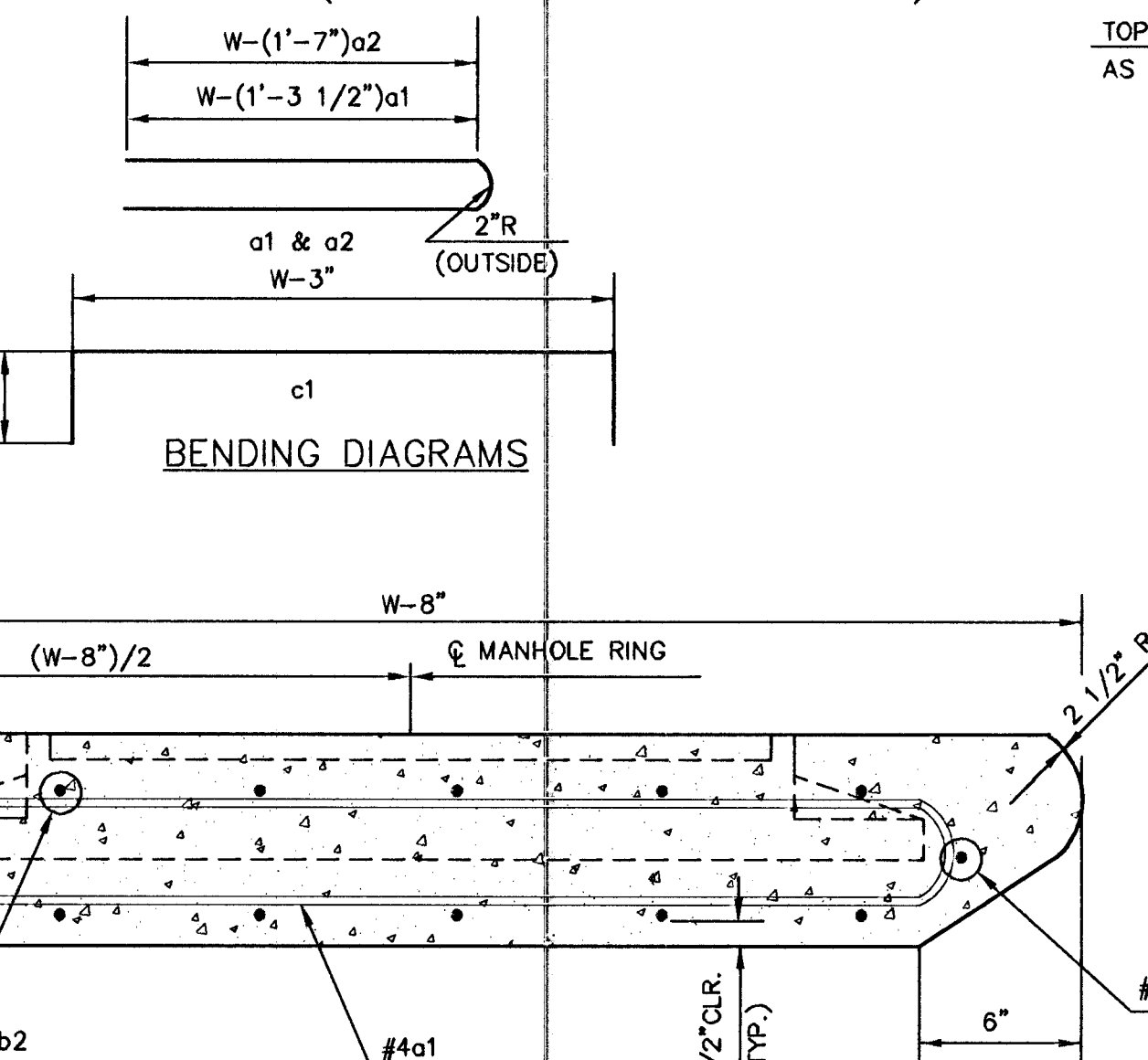
ELEVATION



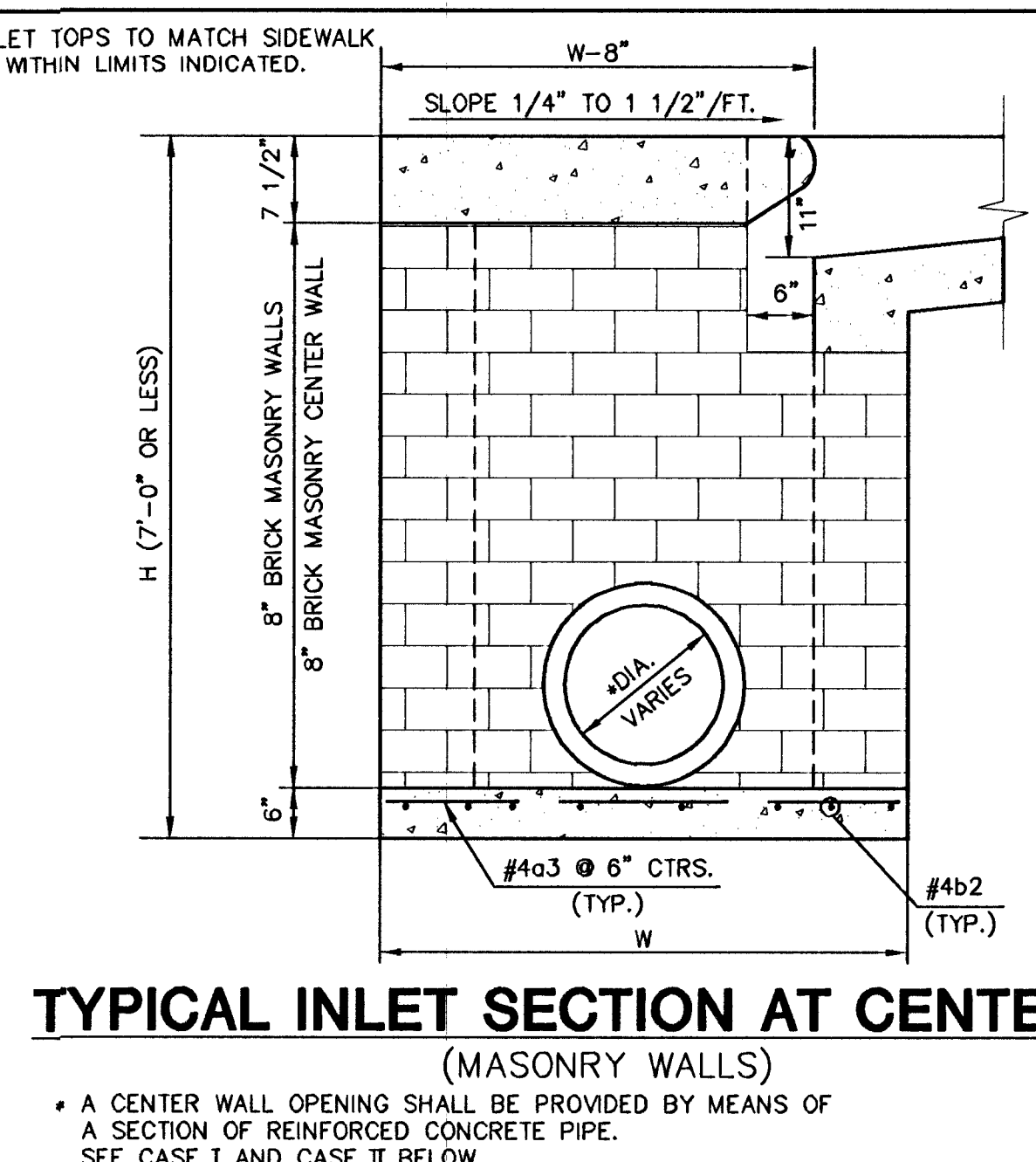
SECTION B-B



TYPICAL INLET SECTION AT CENTER WALL
(REINFORCED CONCRETE WALLS)

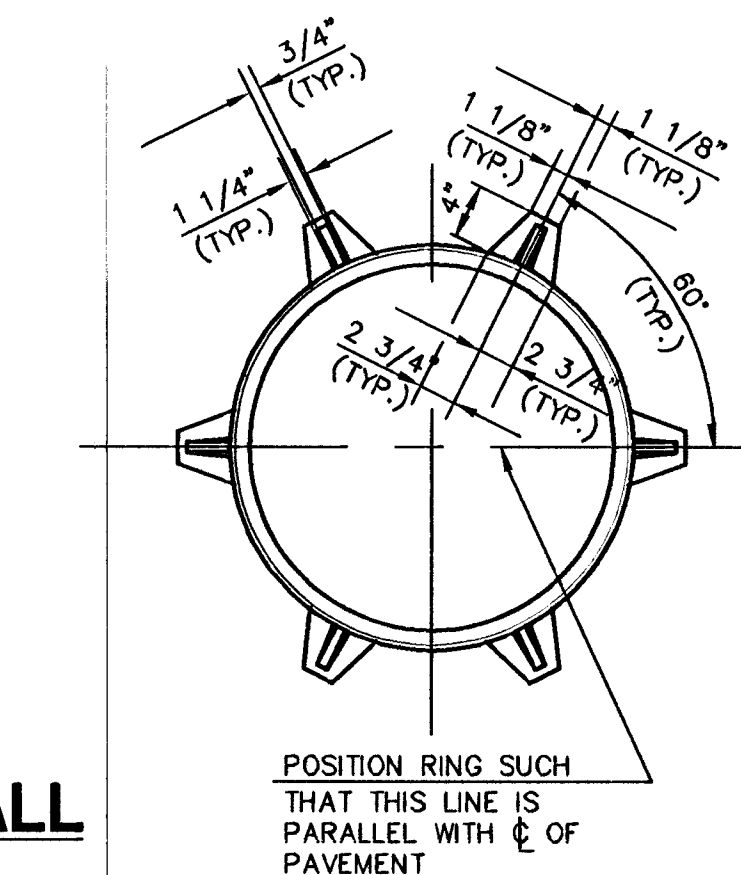


SECTION A-A



TYPICAL INLET SECTION AT CENTER WALL
(MASONRY WALLS)

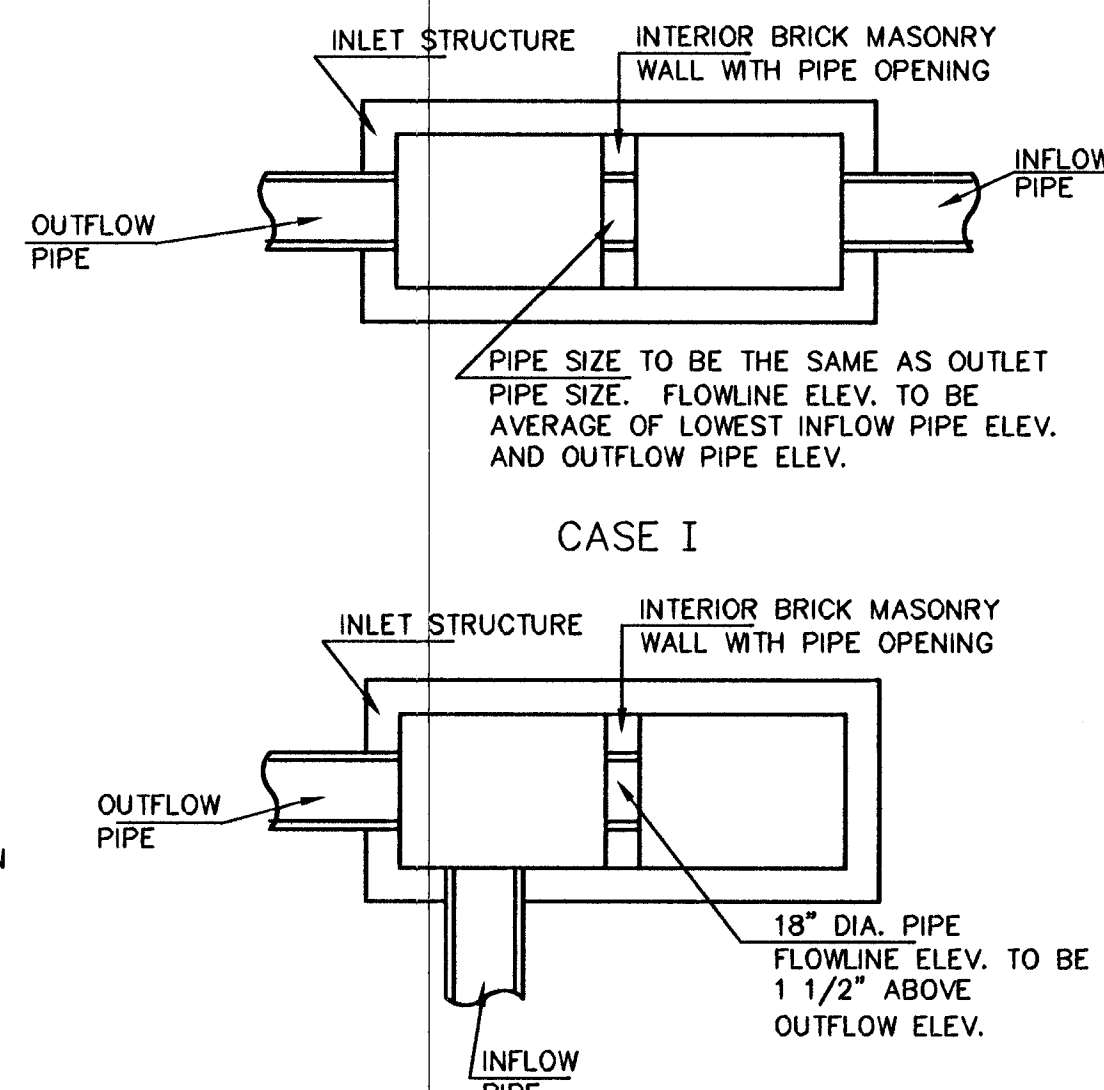
* A CENTER WALL OPENING SHALL BE PROVIDED BY MEANS OF A SECTION OF REINFORCED CONCRETE PIPE. SEE CASE I AND CASE II BELOW.



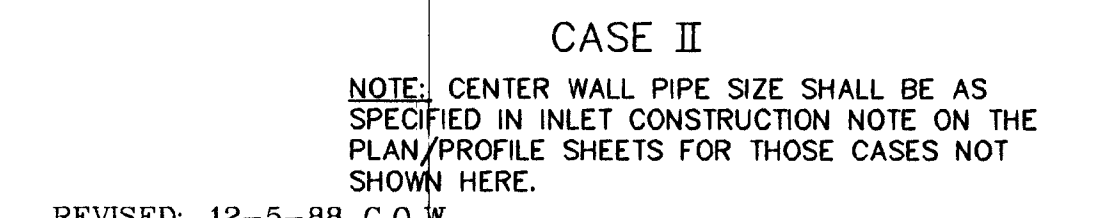
CAST IRON INLET RING

WT.=180 LBS.

SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.



CASE I



CASE II

NOTE: CENTER WALL PIPE SIZE SHALL BE AS SPECIFIED IN INLET CONSTRUCTION NOTE ON THE PLAN/PROFILE SHEETS FOR THOSE CASES NOT SHOWN HERE.

REVISED: 12-5-88 C.O.W.

STANDARD TYPE 1A CURB INLET

INLET OPENING=6"x10'-0"

NOV. 1984

CITY OF WICHITA, KANSAS

Design BER	Checked by	Checked by	
KJS MWB			
Drawn by	Date	Date JULY 1996	Job No. 95058DD2

SLAB AND FLOOR REINFORCING

MARK	SIZE	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
a1	#4	13	6'-7 1/4"	13	8'-7 1/4"	13	10'-7 1/4"	13	12'-7 1/4"	13	14'-7 1/4"
a2	#4	2	6'-0"	2	8'-0"	2	10'-0"	2	12'-0"	2	14'-0"
a3	#4	20	4'-1"	20	5'-1"	20	6'-1"	20	7'-1"	20	8'-1"
b1	#4	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"
*b2	#4	18	11'-1"	24	11'-1"	30	11'-1"	36	11'-1"	42	11'-1"

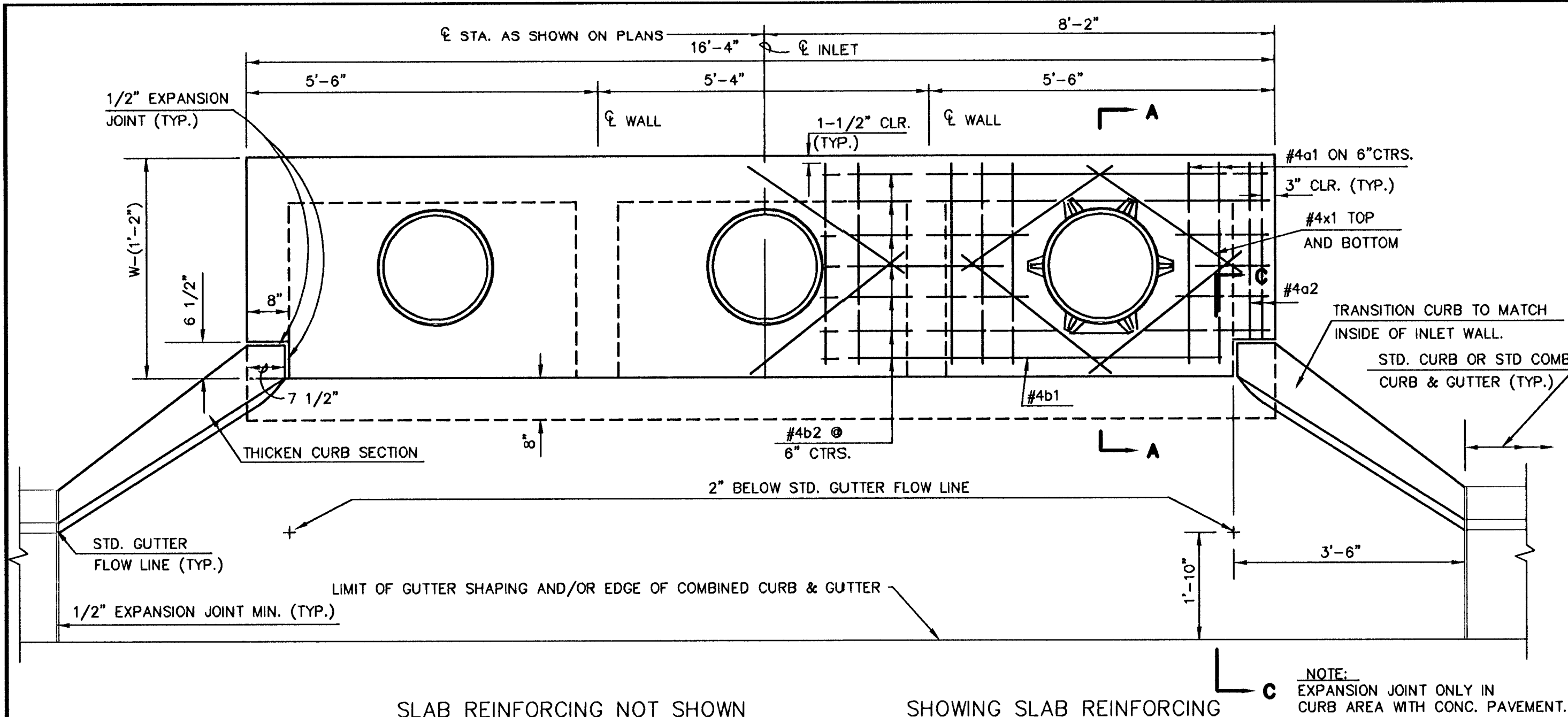
WALL REINFORCING

MARK	SIZE	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
c1	#6	4	6'-1"	4	7'-1"	4	8'-1"	4	9'-1"	4	10'-1"
w1	#4	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	②	③	②	③	②	③	②	③	②	③

* FIELD BEND OR CUT REINFORCING AS REQUIRED FOR CLEARANCE
 ① 4(H1-6")+4 (H1-6") ROUNDED DOWN TO NEAREST 0.5
 ② 40+4(W-16")
 ③ H1+(9")

- THE CONTRACTOR SHALL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W=6'-4" OR LESS AND H=7'-0" OR LESS. WHEN W IS GREATER THAN 6'-4" AND H IS LESS THAN 7'-0", THE OUTSIDE INLET WALLS BELOW THE BRICK STACK SHALL BE REINFORCED CONCRETE CONSTRUCTION AND THE CENTER WALL SHALL BE OF MASONRY WALL OPTION AS SHOWN FOR THE MASONRY WALL OPTION.
- INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
- CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL BE CONCRETE PAVEMENT MIX.
- INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB. BARS IN INLET TOP TO BE FIELD BENT OR CUT TO CLEAR MANHOLE RING.
- THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

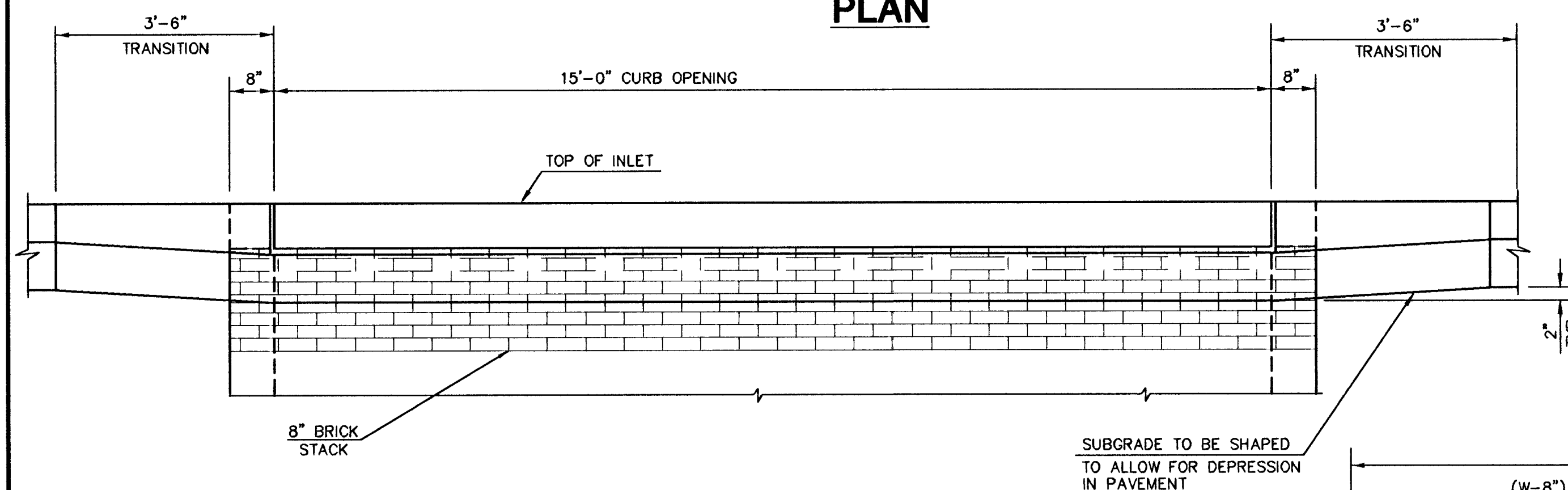
STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	SIDE OR INTERIOR WALL PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8"x11'-4"x7 1/2"	21" & SMALLER	0.83±
5'-4"	4'-8"x11'-4"x7 1/2"	24" & 30"	1.09±
6'-4"	5'-8"x11'-4"x7 1/2"	36" & 42"	1.35±
7'-4"	6'-8"x11'-4"x7 1/2"	48" & 54"	1.61±
8'-4"	7'-8"x11'-4"x7 1/2"	60" & 66"	1.87±



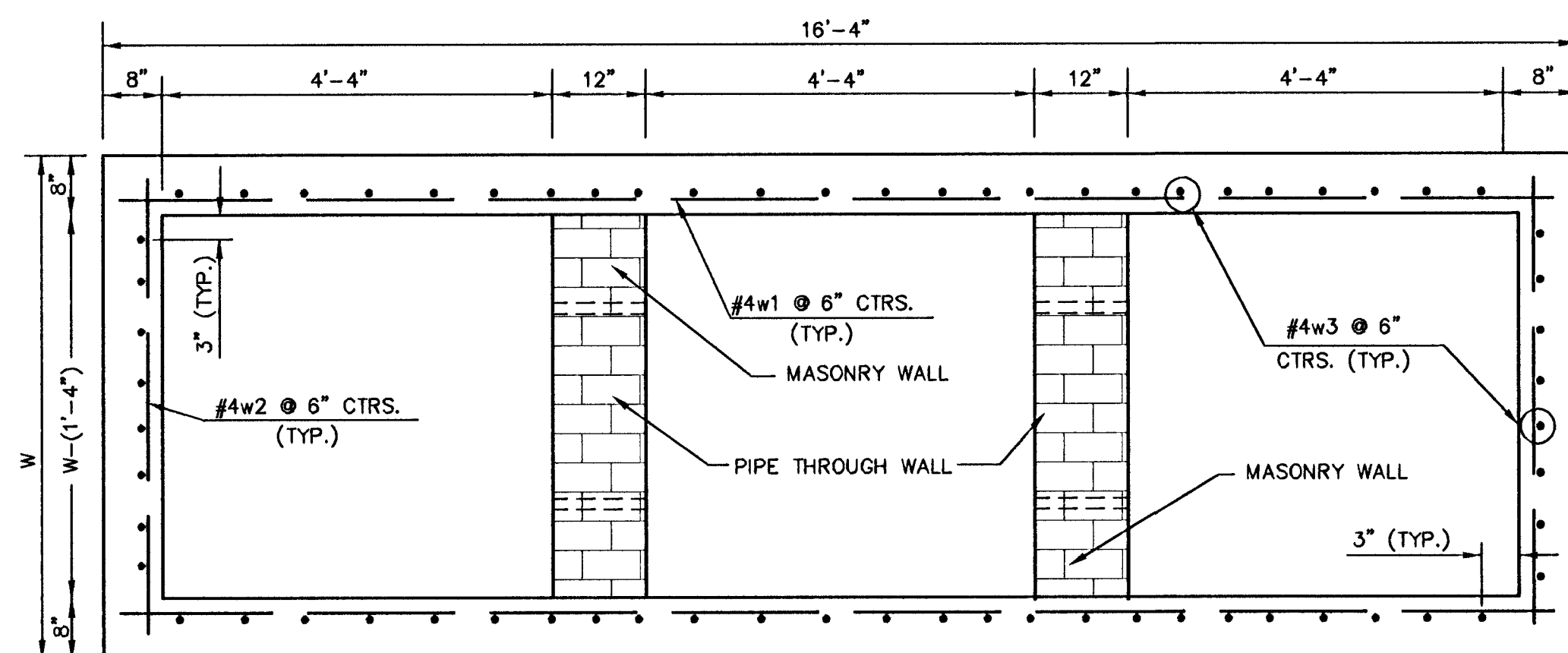
SLAB REINFORCING NOT SHOWN

PLAN

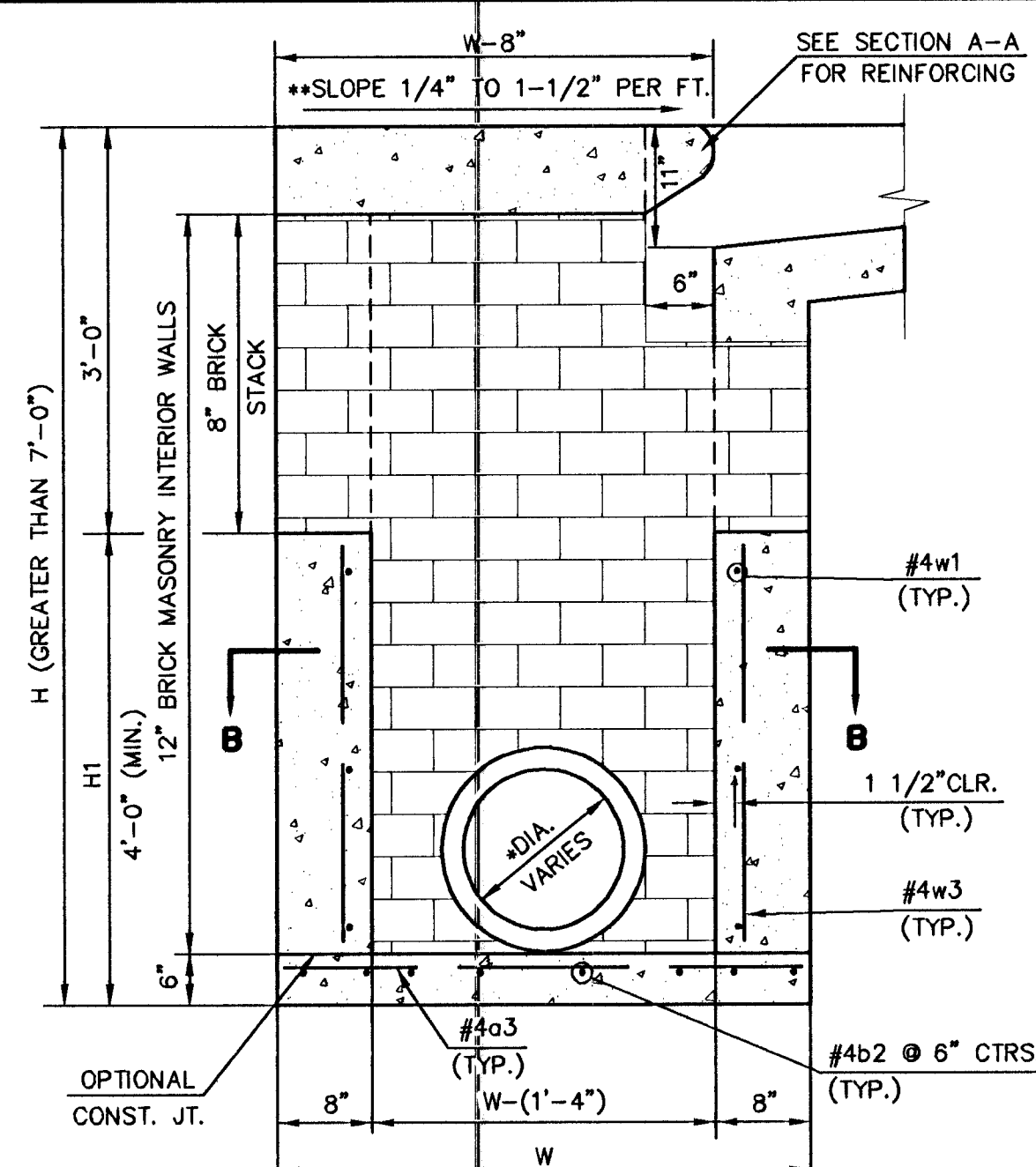
SHOWING SLAB REINFORCING



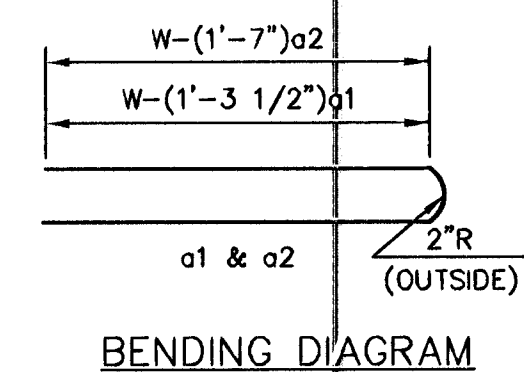
ELEVATION



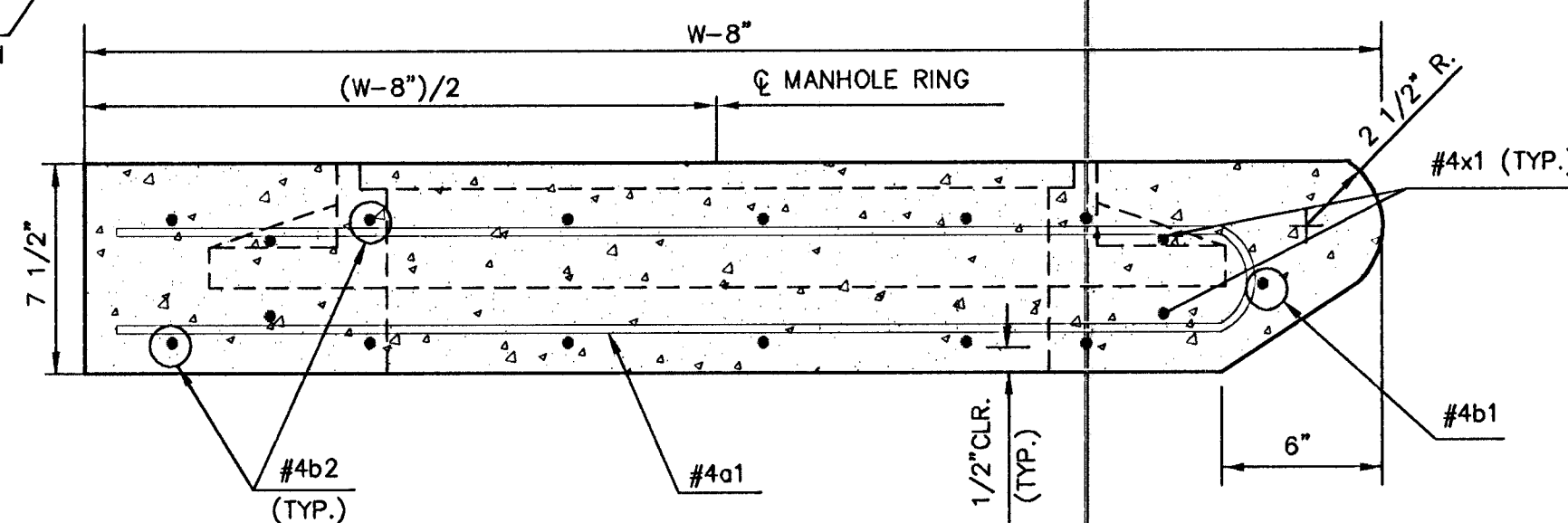
SECTION B-B



TYPICAL INLET SECTION AT INTERIOR WALL (REINFORCED CONCRETE WALLS)



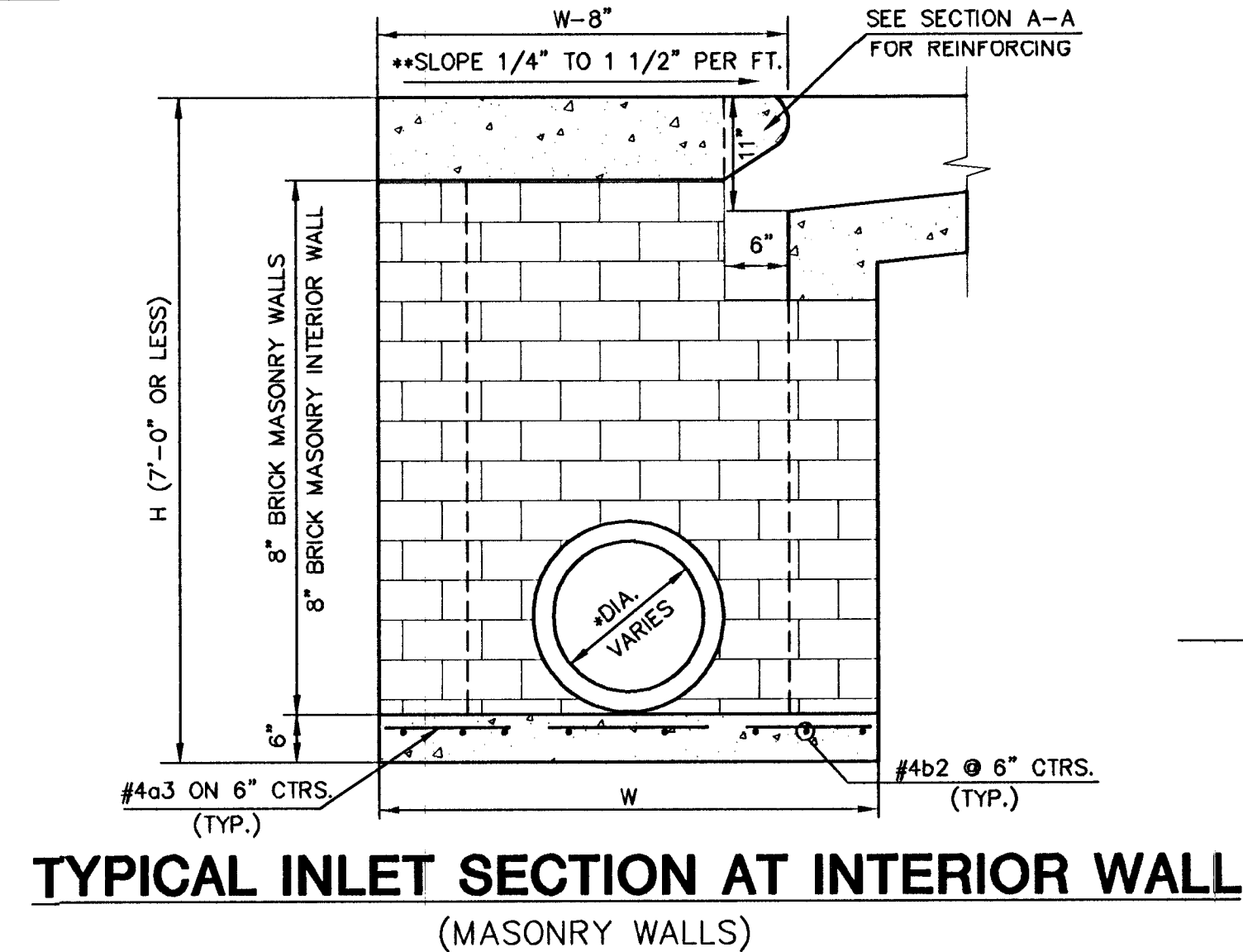
BENDING DIAGRAM



SECTION A-A

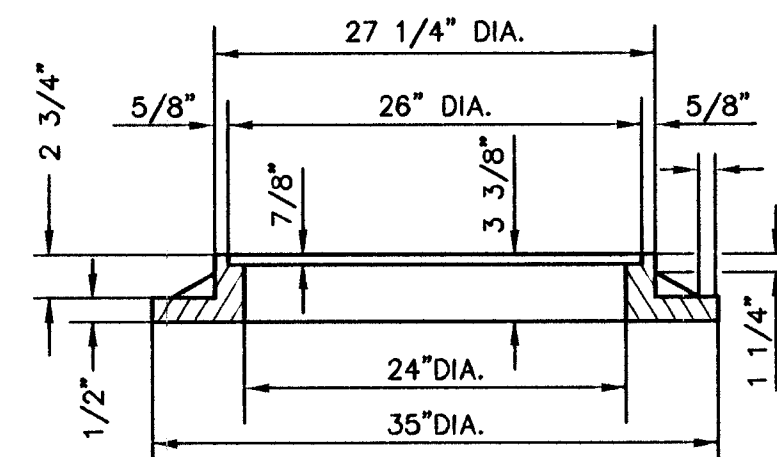
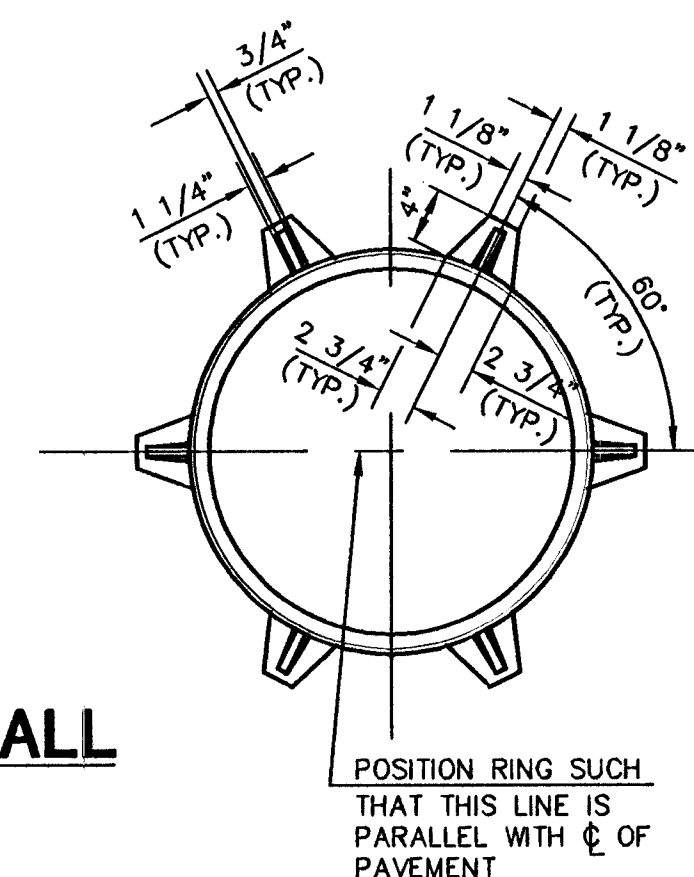
PRECAST SLAB AND FLOOR REINFORCING									
MARK	SIZE	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
a1	#4	20	6'-7"	20	8'-7"	20	10'-7"	20	12'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"
a3	#4	33	4'-1"	33	5'-1"	33	6'-1"	33	7'-1"
b1	#4	1	14'-9"	1	14'-9"	1	14'-9"	1	14'-9"
b2	#4	23	16'-1"	29	16'-1"	35	16'-1"	41	16'-1"
x1	#4	24	3'-10"	24	4'-2"	24	4'-6"	24	4'-10"
MARK	SIZE	W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	16'-1"	①	16'-1"	①	16'-1"	①	16'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"
w3	#4	72	②	76	②	80	②	84	②

* FIELD BEND OR CUT REINFORCING AS REQUIRED FOR CLEARANCE
① 4(H1-12"); (H1-12") ROUND DOWN TO NEAREST 0.5"
② H1-3"



TYPICAL INLET SECTION AT INTERIOR WALL (MASONRY WALLS)

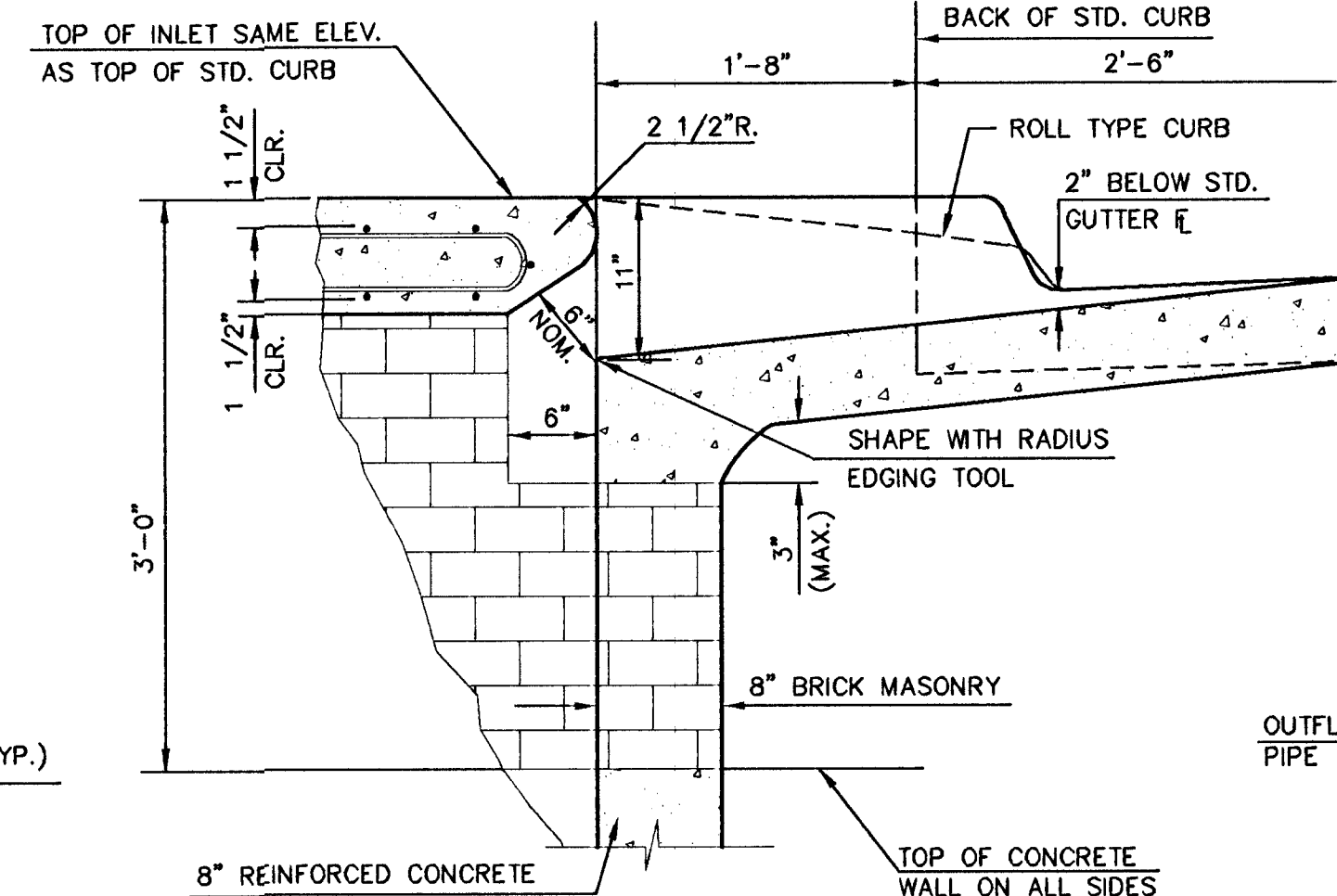
- * AN INTERIOR WALL OPENING SHALL BE PROVIDED BY MEANS OF A SECTION OF REINFORCED CONCRETE PIPE. SEE CASE I AND CASE II.
- ** SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPE WITHIN THE LIMITS INDICATED.



CAST IRON INLET RING

WT.=180 LBS.

SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

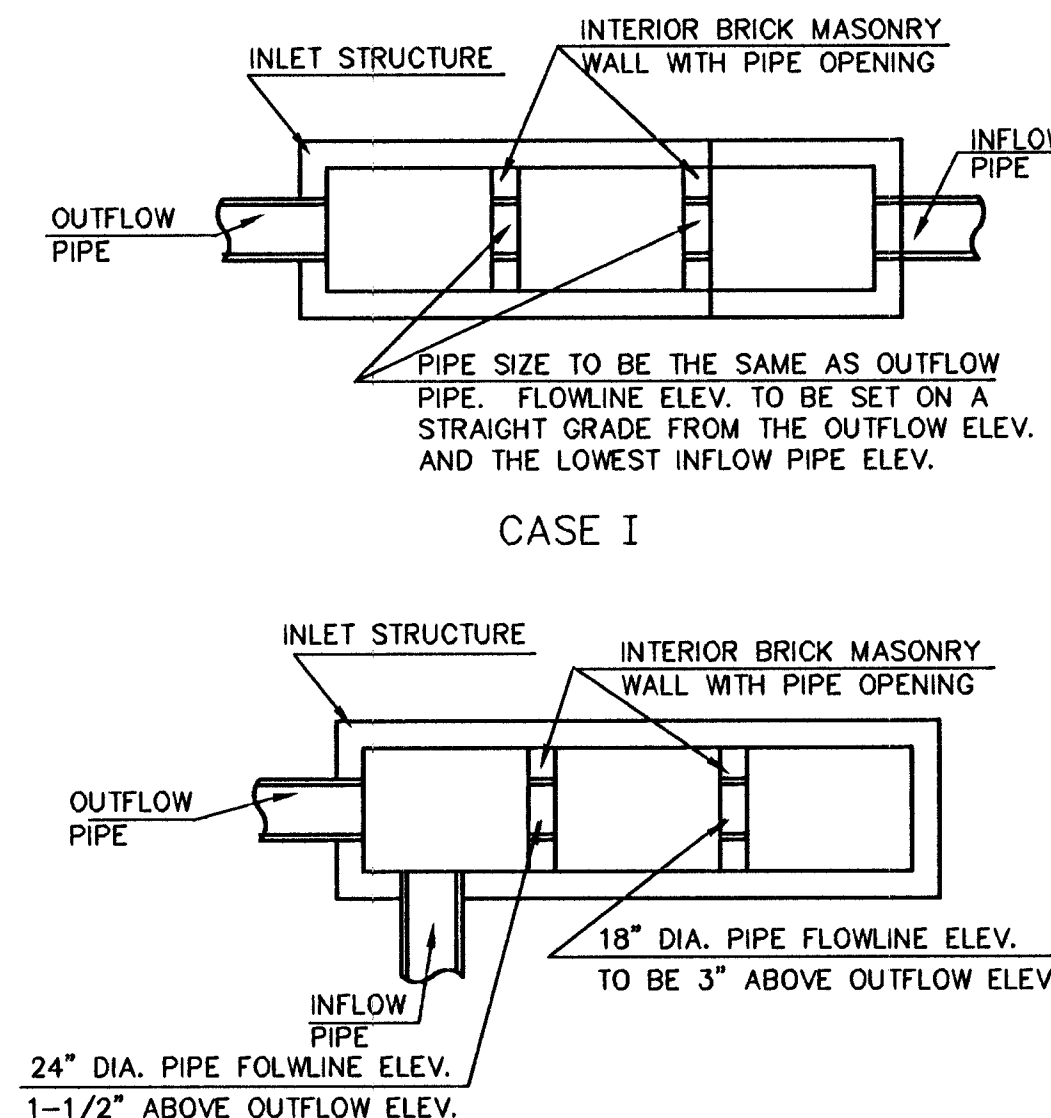


SECTION C-C

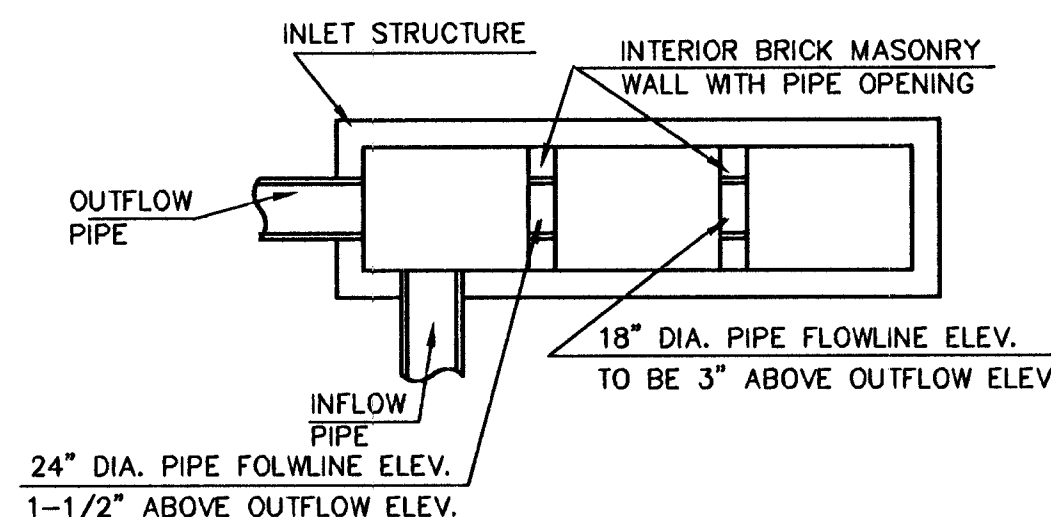
GENERAL NOTES

- THE CONTRACTOR SHALL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE INLET BASE AND TOP WHEN W=6'-4" OR LESS AND H=7'-0" OR LESS. WHEN W IS GREATER THAN 6'-4" AND H IS LESS THAN 7'-0". THE OUTSIDE INLET WALLS BELOW THE BRICK STACK SHALL BE REINFORCED CONCRETE CONSTRUCTION. THE INTERIOR WALLS SHALL BE OF MASONRY CONSTRUCTION.
- INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
- CONCRETE SHALL BE C.O.W. STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN EDGING TOOL. REINFORCING BARS SHALL BE FIELD BENT OR CUT TO CLEAR PIPES AND INLET RING. ALL BARS ARE #4 BARS AT 6" SPACING AND SHALL HAVE A MINIMUM CLEARANCE OF 1-1/2" UNLESS OTHERWISE NOTED.
- CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST.
- THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	SIDE OR INTERIOR WALL PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8"x16'-4"x7-1/2"	21" & SMALLER	1.20±
5'-4"	4'-8"x16'-4"x7-1/2"	24" & 30"	1.58±
6'-4"	5'-8"x16'-4"x7-1/2"	36" & 42"	1.95±
7'-4"	6'-8"x16'-4"x7-1/2"	48" & 54"	2.33±
8'-4"	7'-8"x16'-4"x7-1/2"	60" & 66"	2.70±



CASE I



CASE II

NOTE: INTERIOR WALL PIPE SIZE SHALL BE AS SPECIFIED IN THE INLET CONSTRUCTION NOTE ON THE PLAN/PROFILE SHEETS FOR THOSE CASES NOT SHOWN HERE.

REVISED: 2-17-89

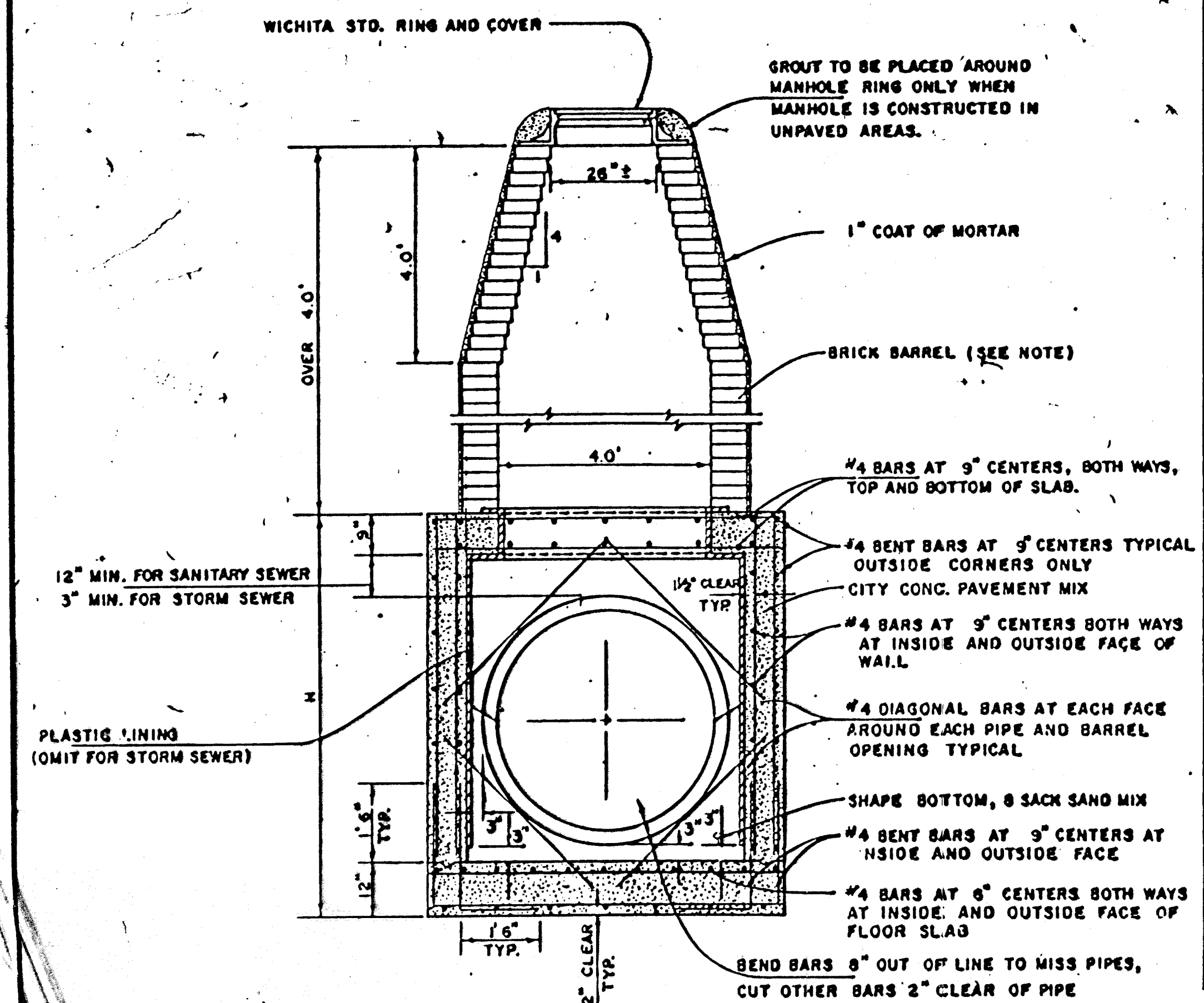
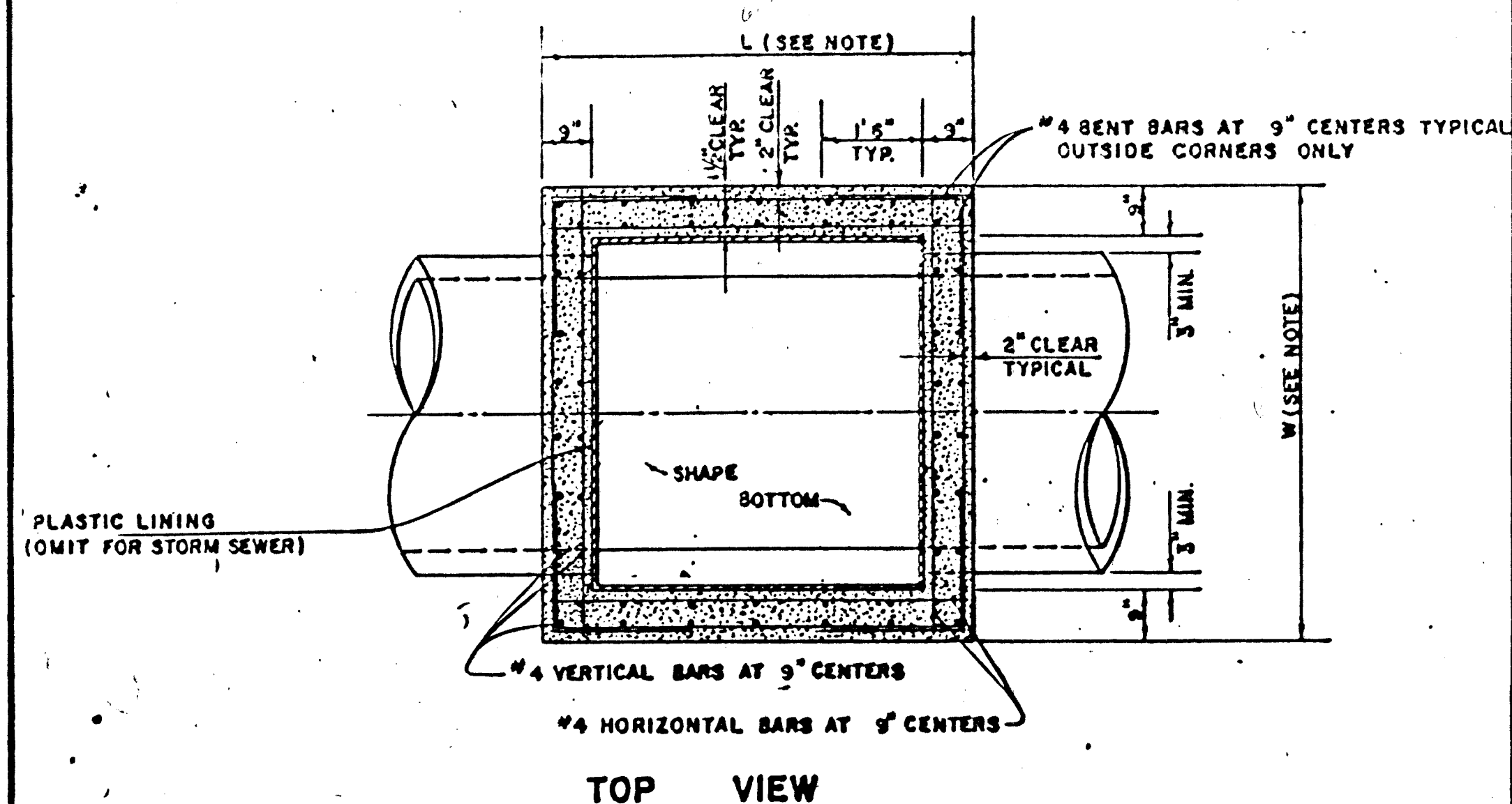
STANDARD TYPE 1A CURB INLET

INLET OPENING=6"x15'-0"

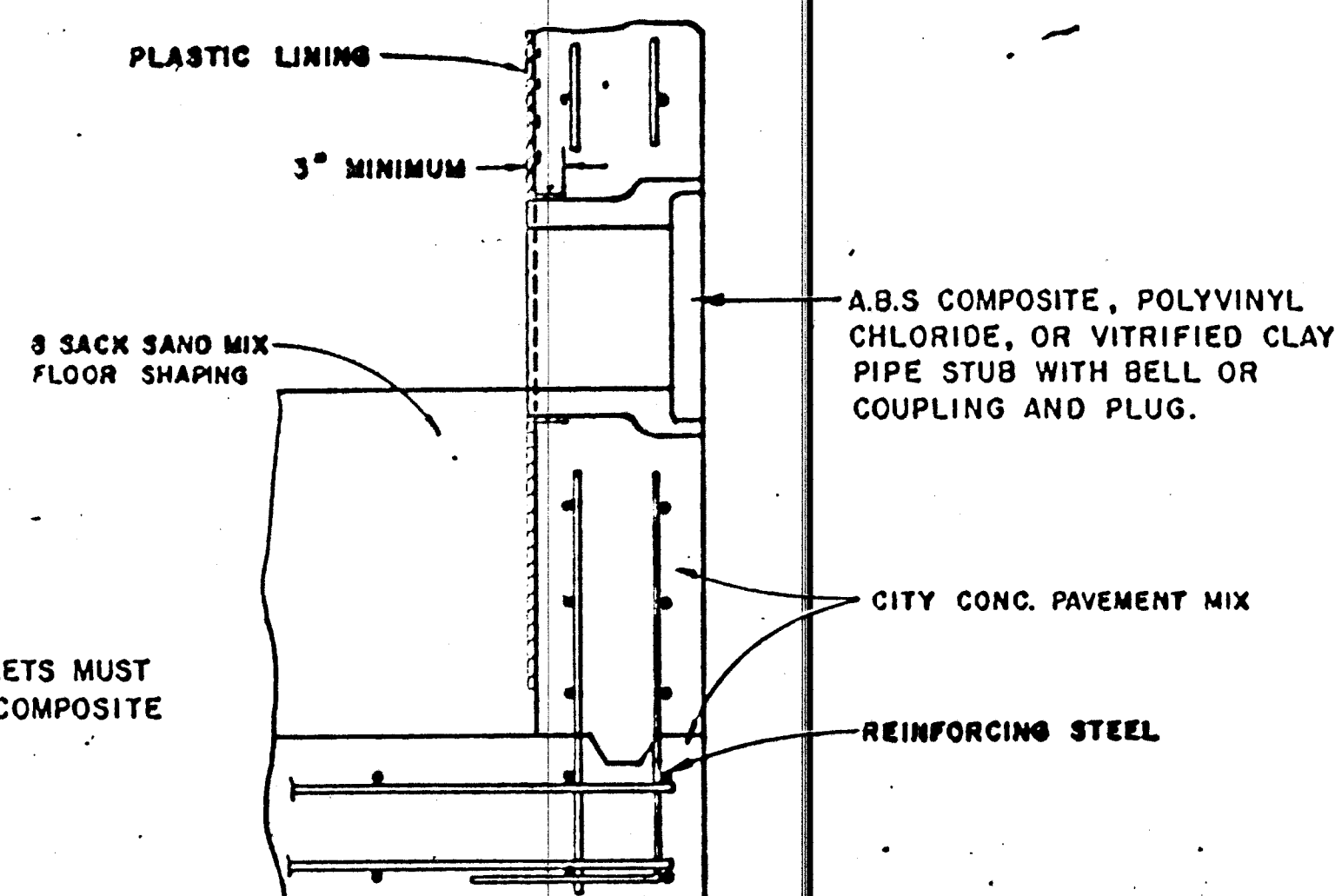
JANUARY 1989

CITY OF WICHITA, KANSAS

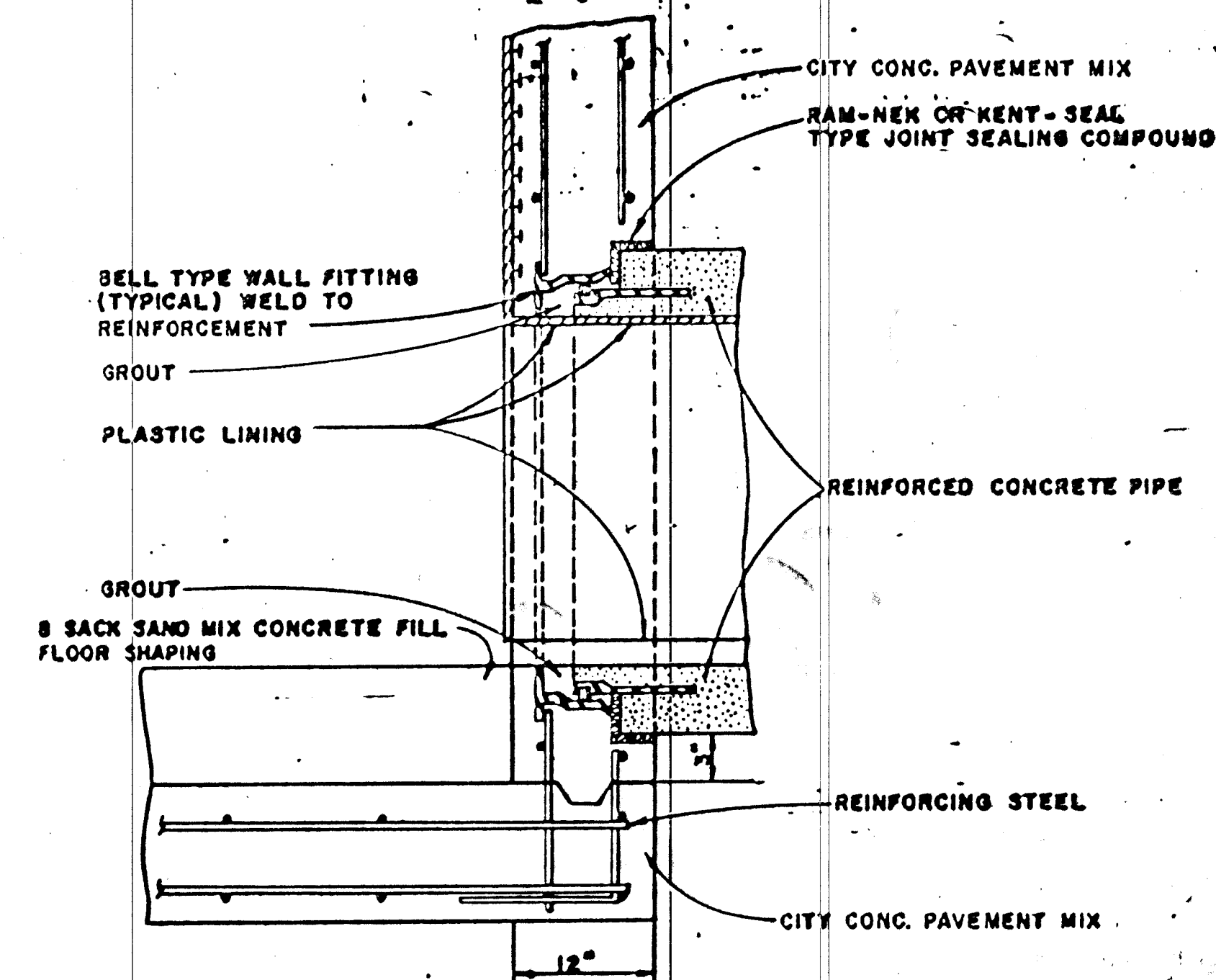
Design	Checked by	M.E.L.	Checked by	
Drawn by	Date	2-17-89	Date	JULY 1996
			Job No.	95058DD3



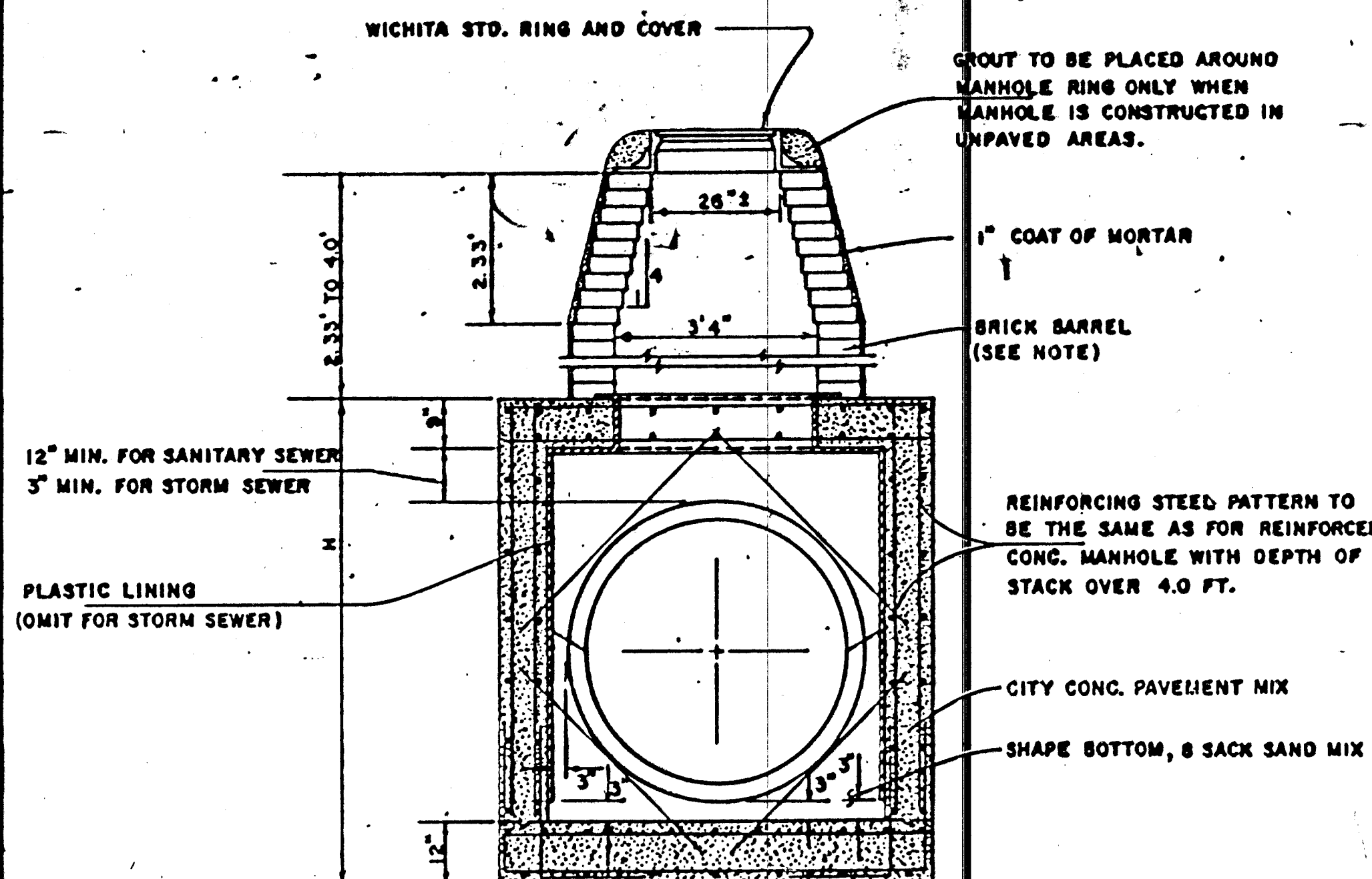
NOTE: WATERSTOP GASKETS MUST BE USED WITH A.B.S COMPOSITE OR R.V.C. PIPE.



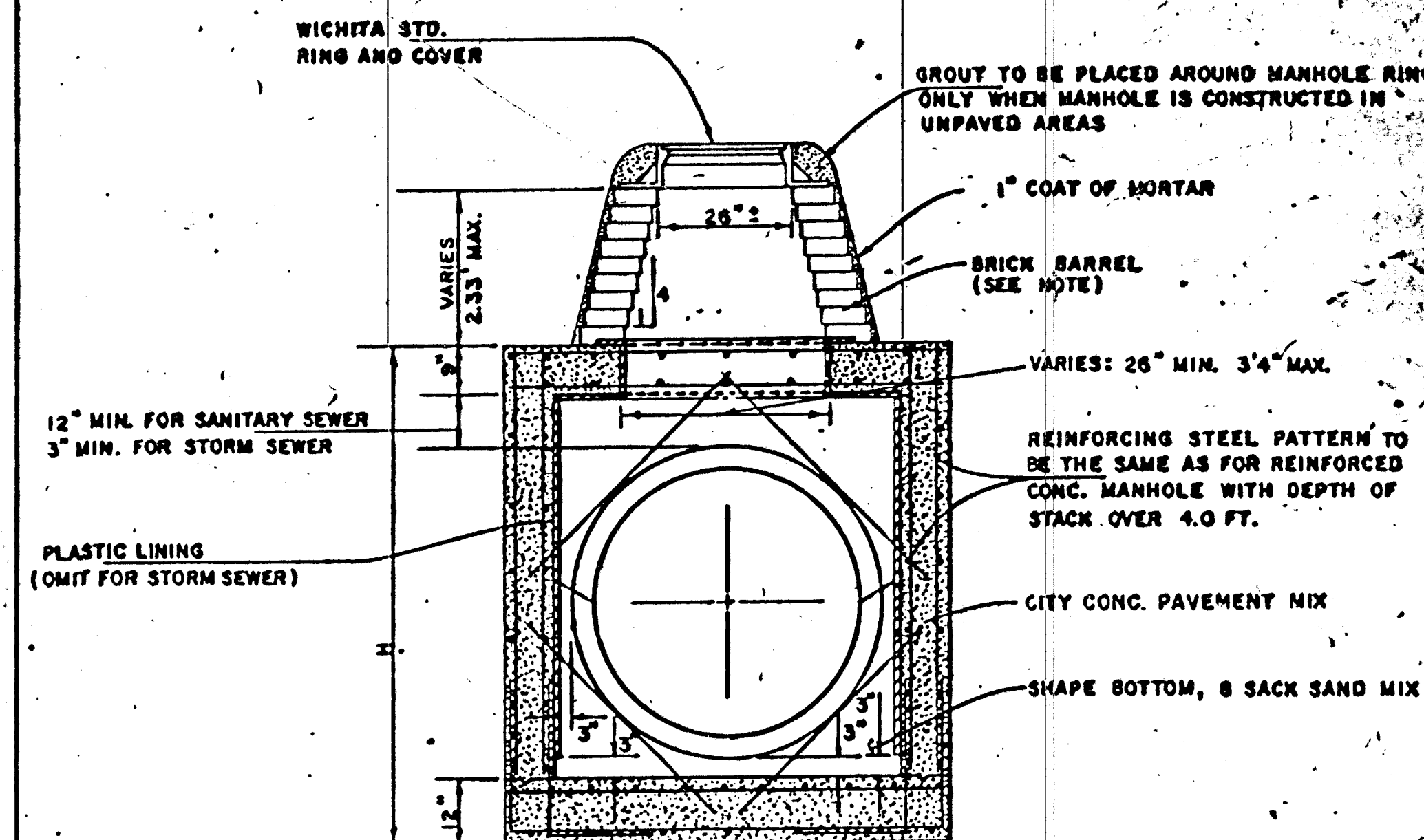
PIPE STUB DETAIL
SANITARY SEWER ONLY



R.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY



NOTE:
BRICK BARRELS LESS THEN 16' DEEP SHALL HAVE 8" WALLS EXCEPT WHEN LOCATED WITHIN PUBLIC STREET OR ALLEY PAVEMENT THEN THE WALL SHALL BE 12". BRICK BARRELS MORE THEN 16' DEEP SHALL HAVE 12" WALLS. THE "L" AND "W" DIMENSIONS SHALL BE A MINIMUM OF 3'6" FOR BRICK BARRELS WITH 8" WALLS AND 6'2" FOR BRICK BARRELS WITH 12" WALLS WHEN THE BRICK BARRELS ARE OVER 4 FT. IN HEIGHT.



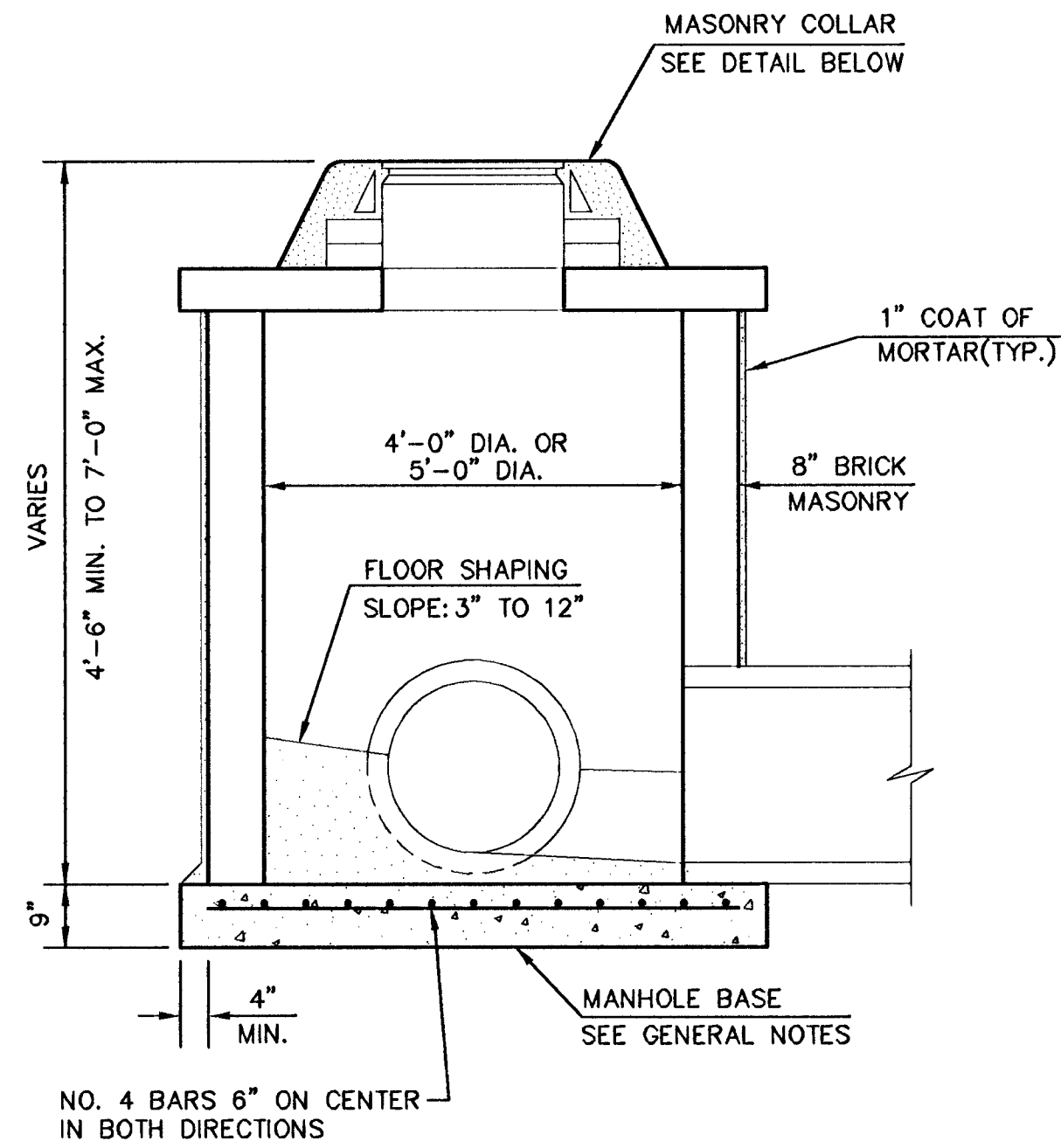
REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 0' TO 2.33'
SCALE 1" = 2'

REVISED 1-7-83

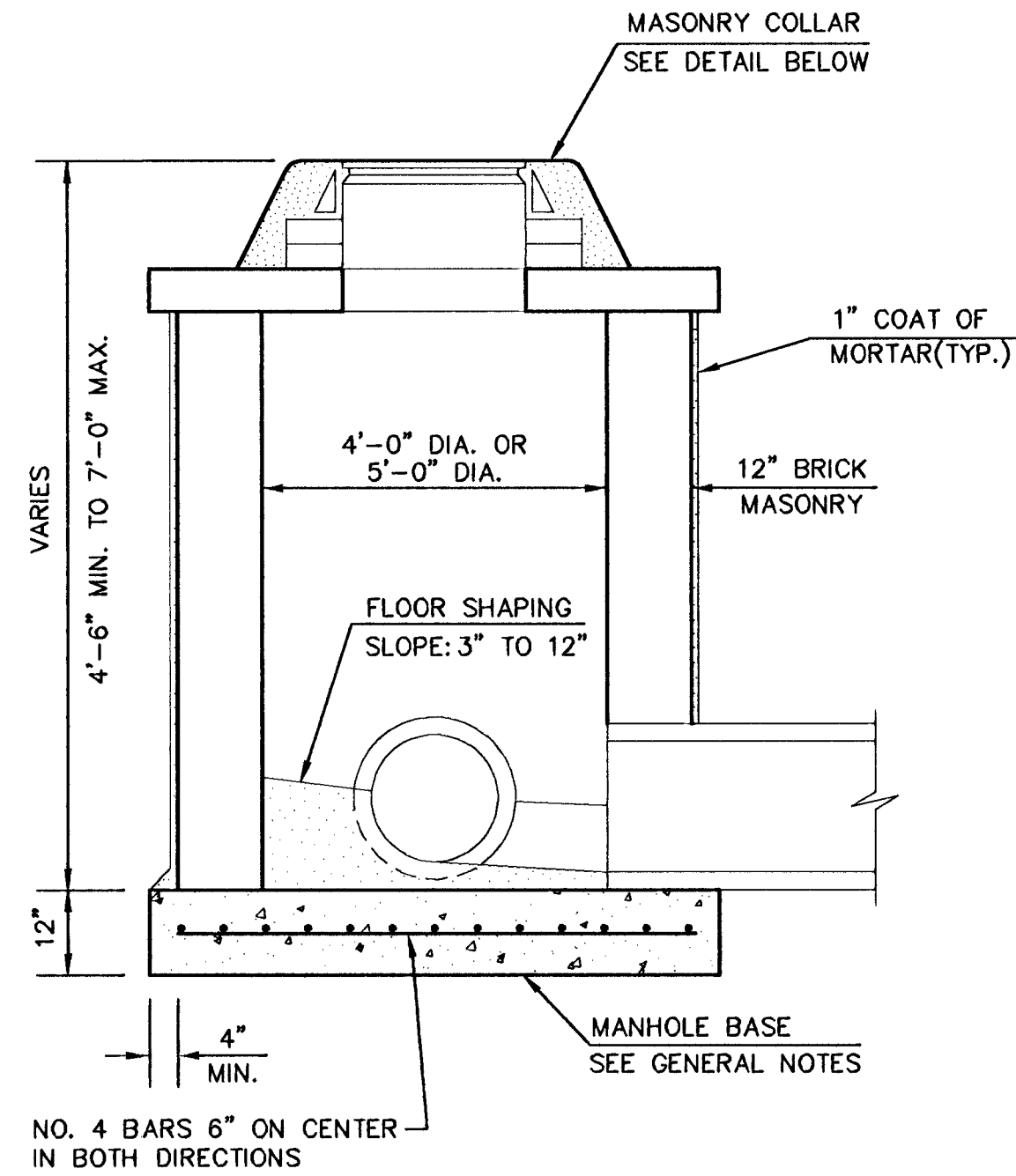
STANDARD DETAILS
REINFORCED CONCRETE MANHOLES
CITY OF WICHITA

FEBRUARY 1984

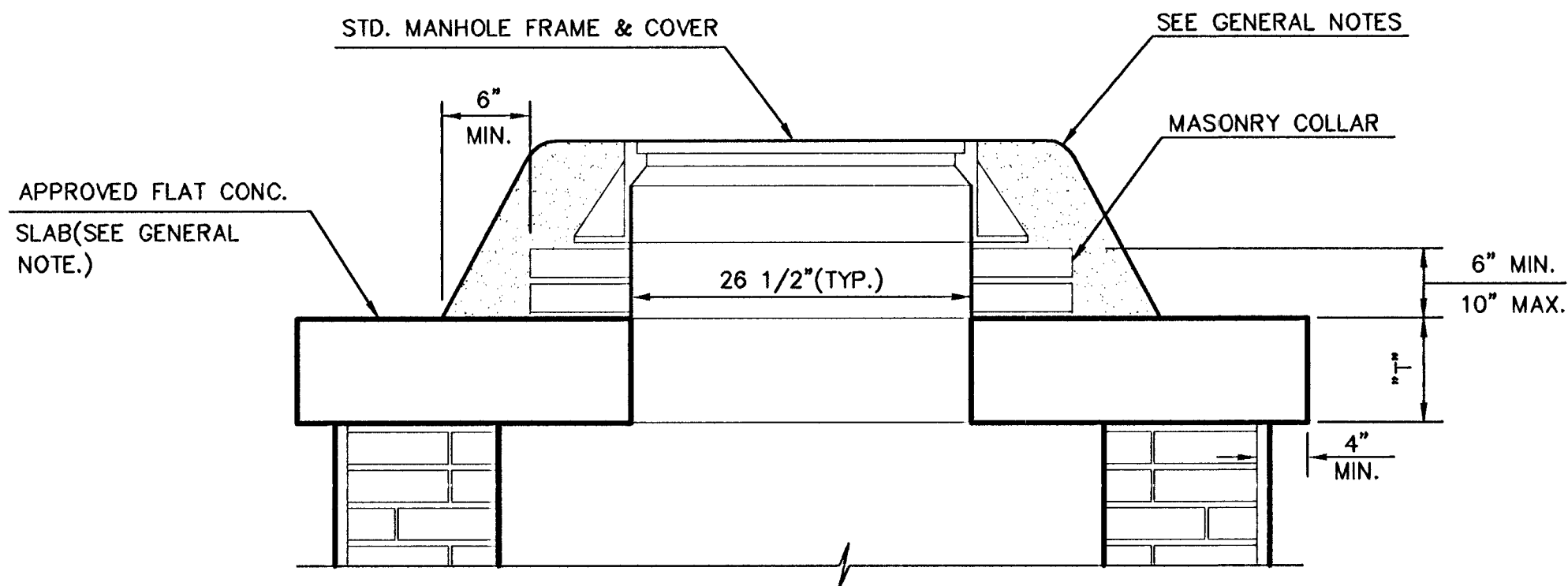
1381-100002



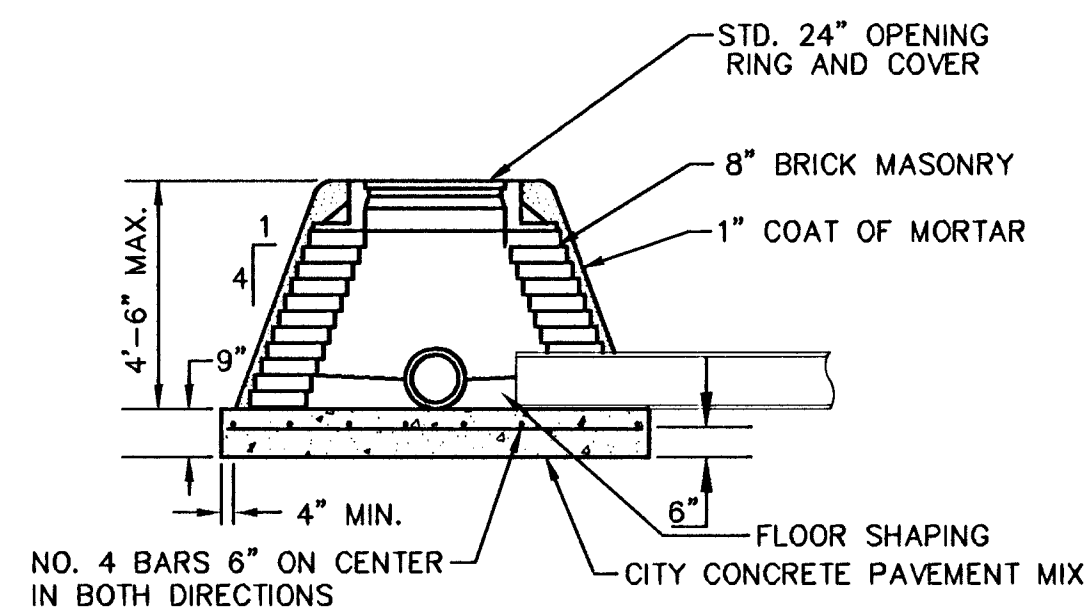
SHALLOW TYPE "A" MANHOLE



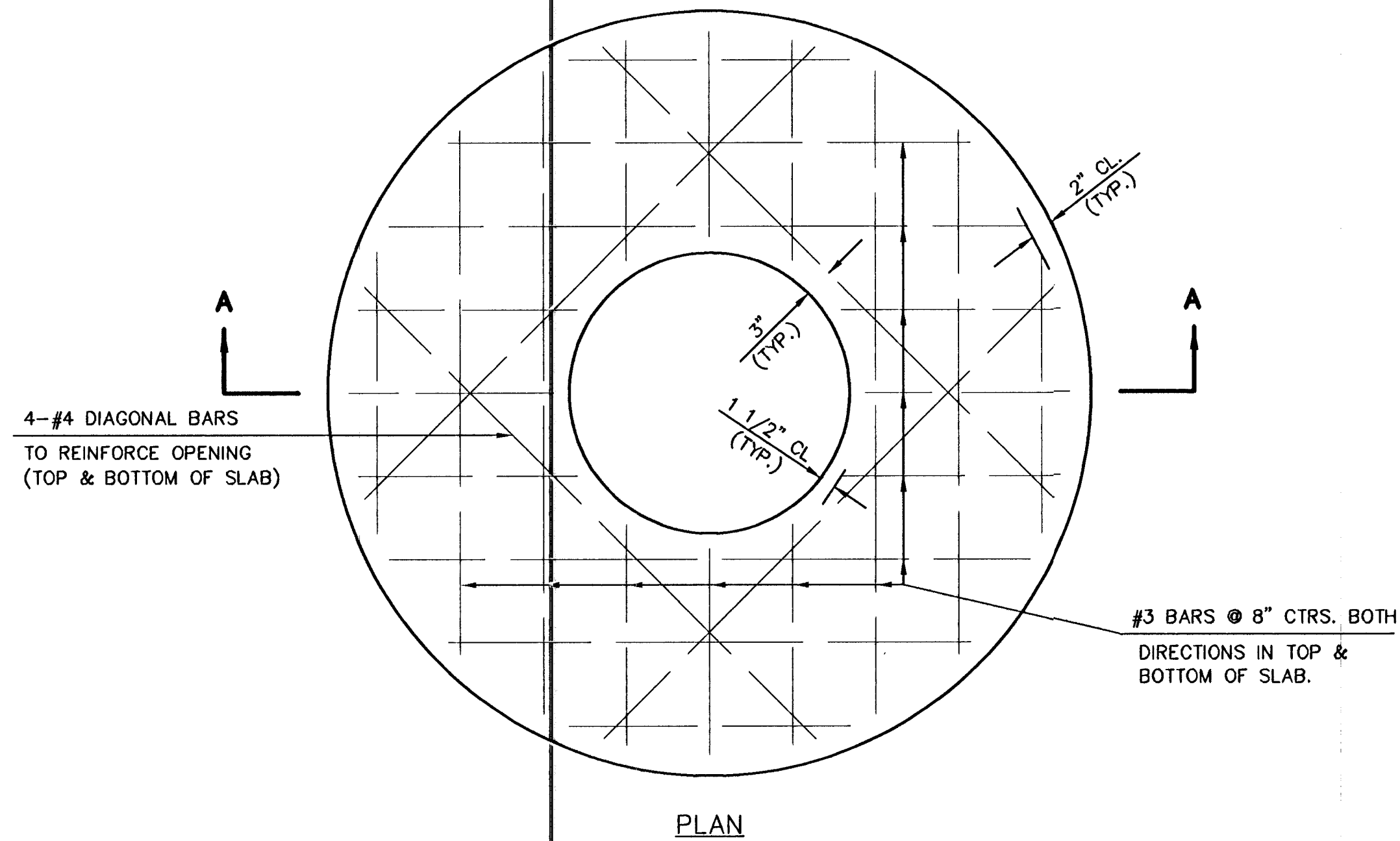
SHALLOW TYPE "B" MANHOLE



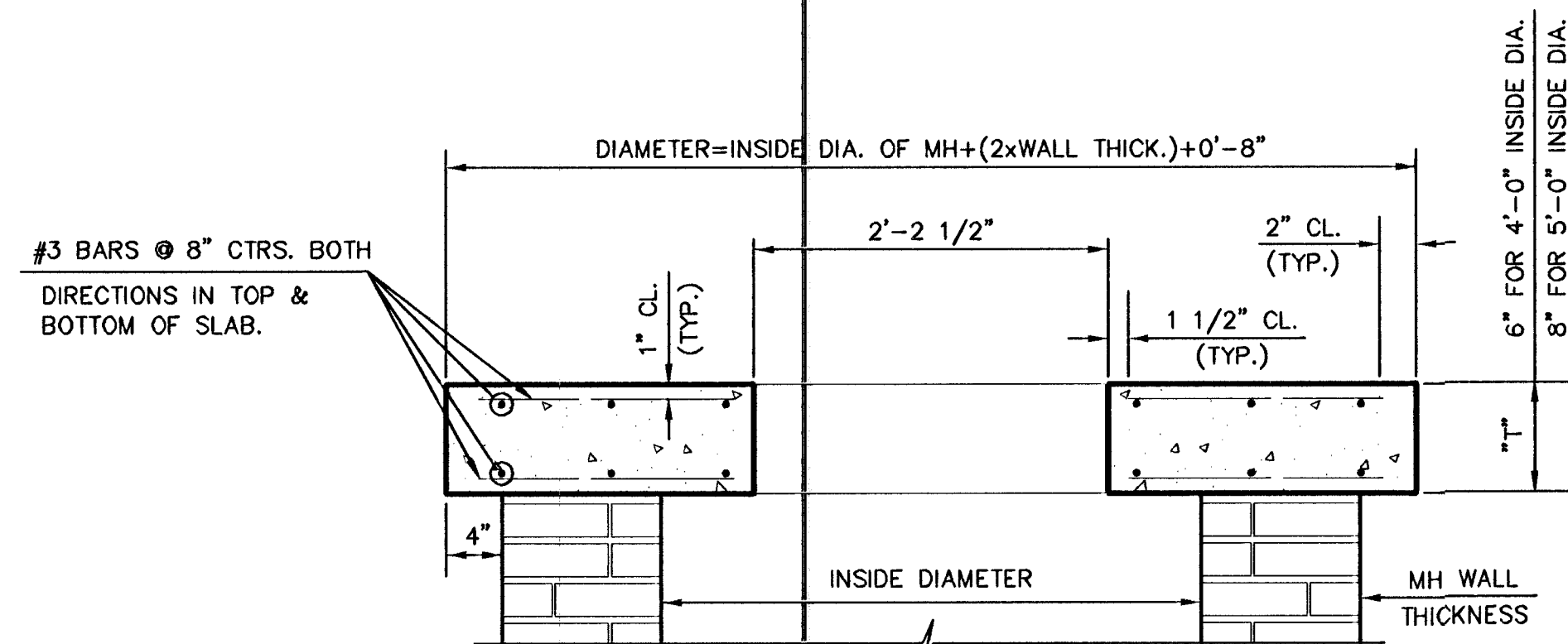
MASONRY COLLAR DETAIL



SPECIAL SHALLOW TYPE "A" MANHOLE

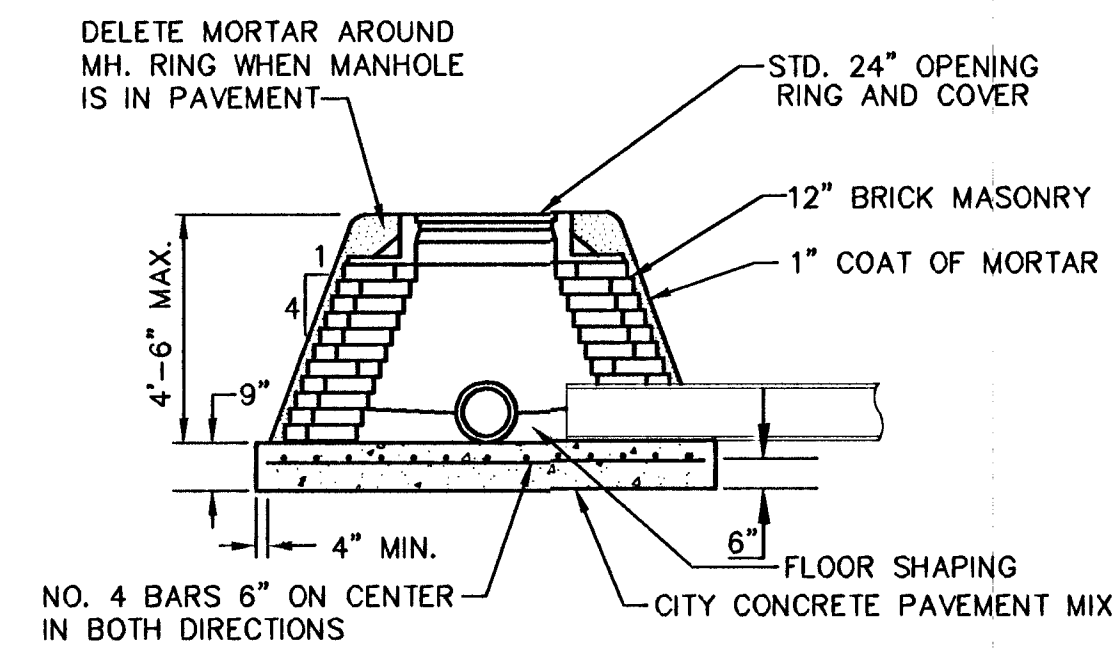


PLAN



SECTION A-A

FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE "B" MANHOLE

GENERAL NOTES

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE CEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "A" SHALLOW MANHOLES CAN BE USED ON SEWERS WHEN THE MANHOLE IS NOT LOCATED WITHIN PUBLIC STREET PAVEMENT. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
- PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWINGS.
- THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE AND DIAMETER INDICATED. STANDARD SPECIAL SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE INDICATED. ALL STANDARD SHALLOW MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

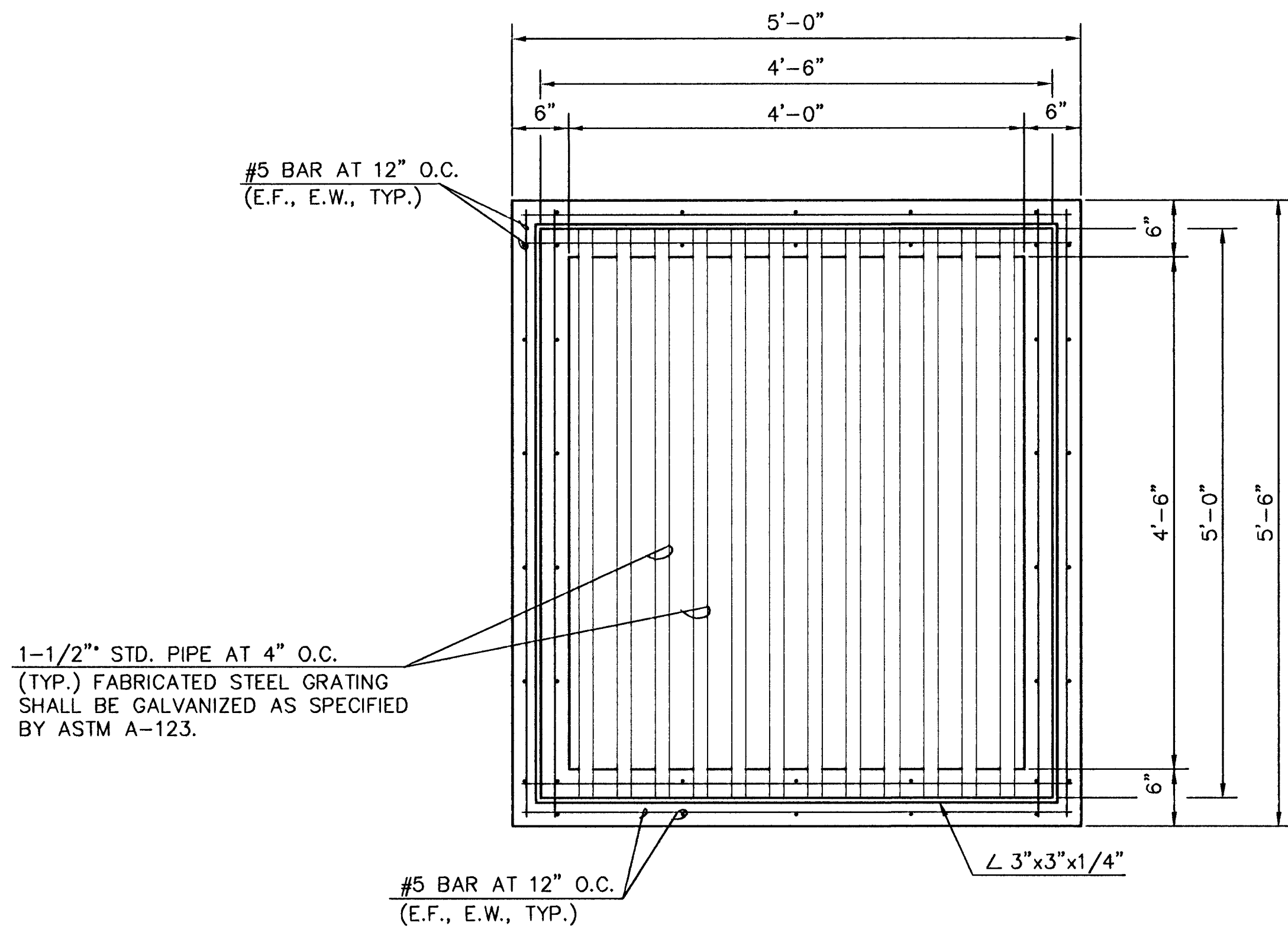
STANDARD SHALLOW MANHOLES TYPE "A" AND TYPE "B"

CITY OF WICHITA, KANSAS

Design	C.O.W.	Checked by		Checked by	
Drawn by		Date		Date JULY 1996	Job No. 95058DD5

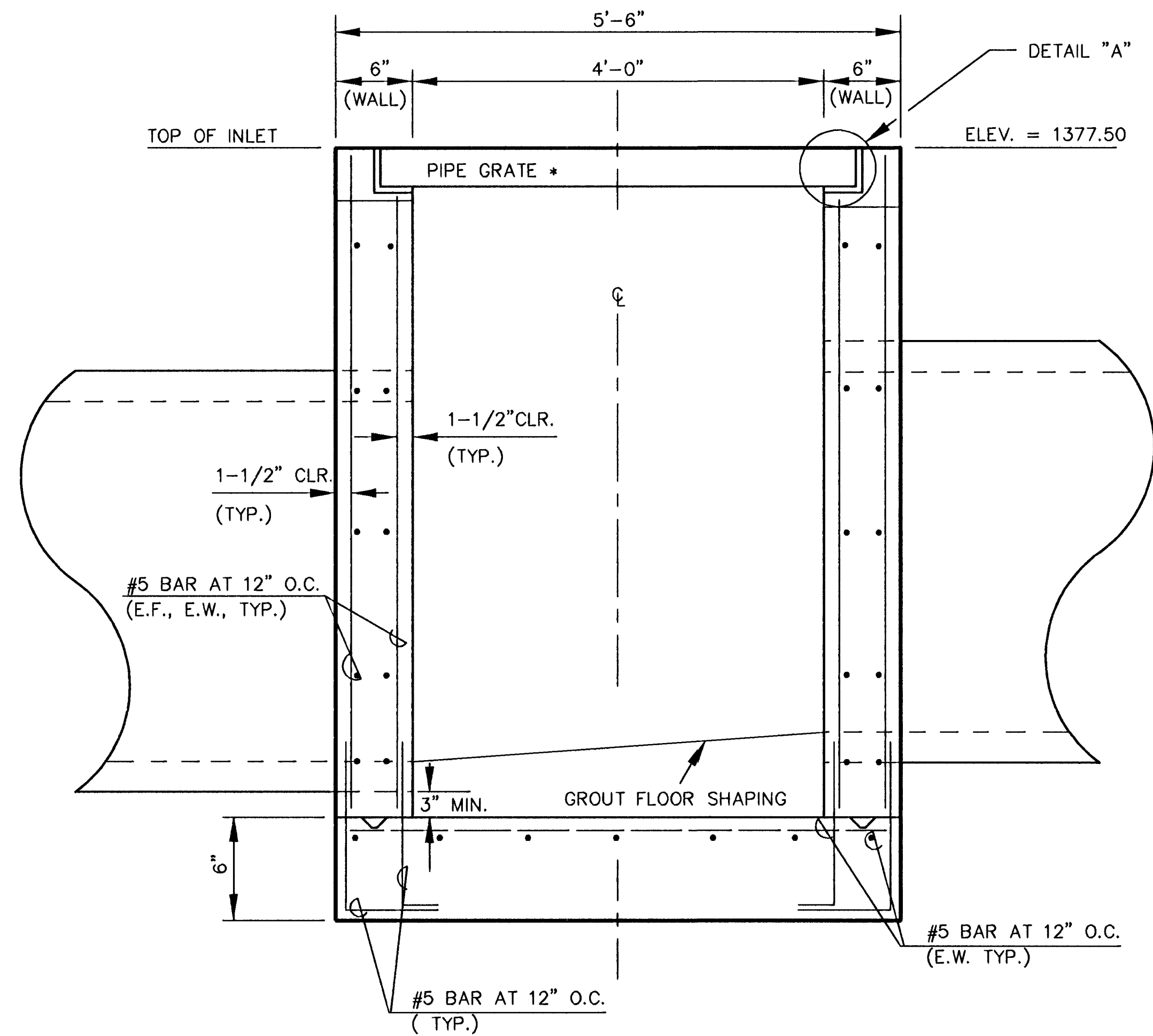
\\CIVIL\95058\DWG\95058DD6.DWG WED JUL 24 10:17:54 1996

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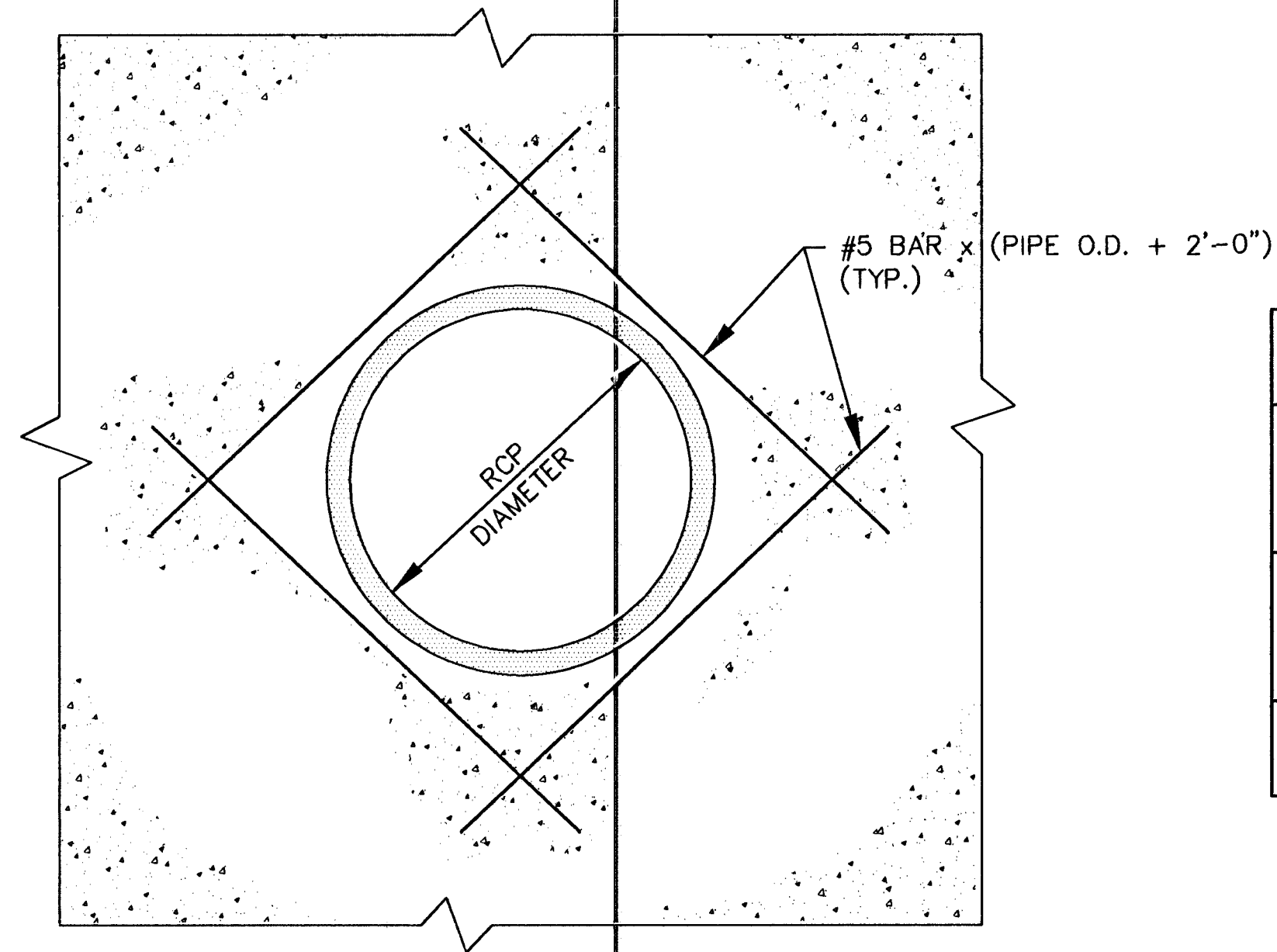
PLAN VIEW

CONTRACTOR MAY SUBSTITUTE 8" BRICK
WALL FOR 6" REINFORCED CONCRETE WALL.



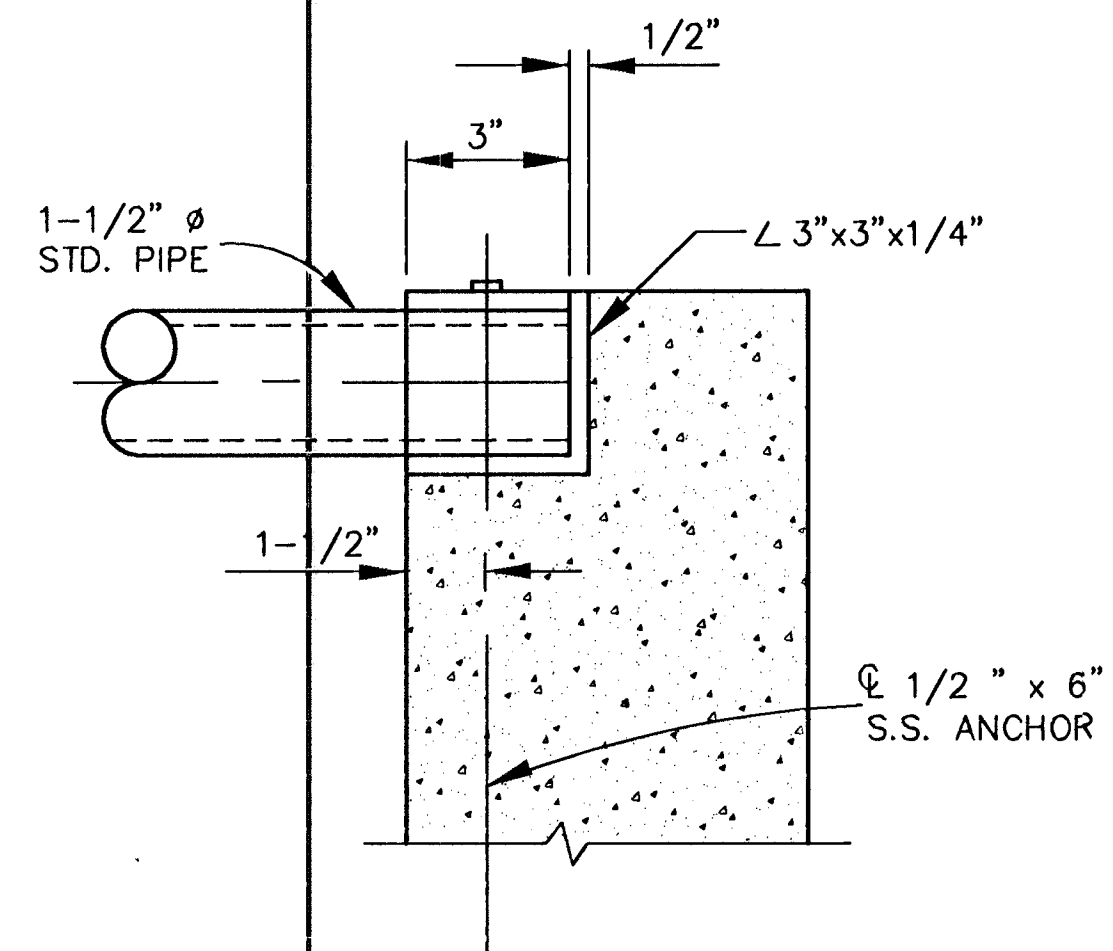
ELEVATION VIEW

REINFORCED CONCRETE AREA INLET



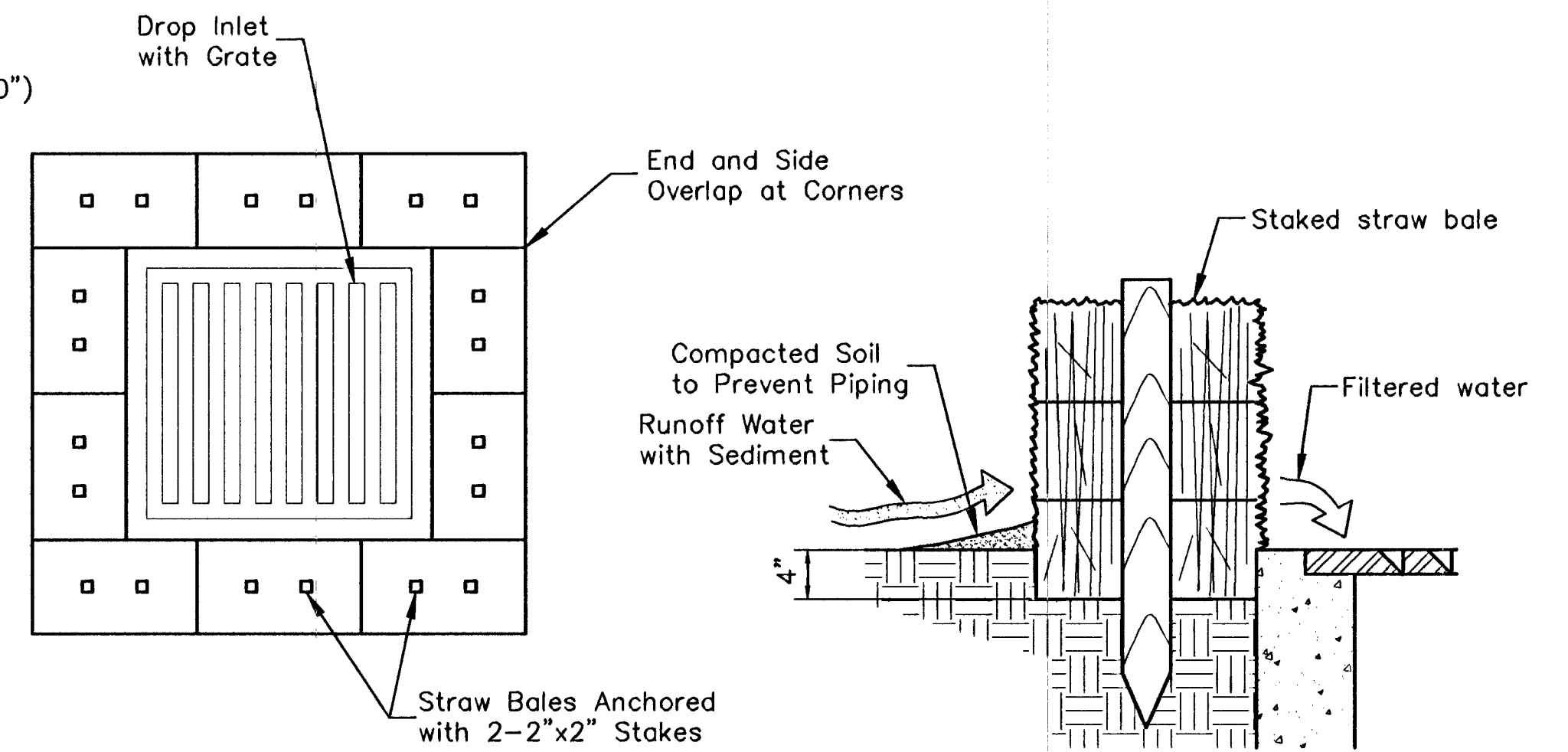
NOTE:
CUT REINFORCING AS REQUIRED TO CLEAR RCP.

TYPICAL REINFORCING AT PIPE



NOTE:
FABRICATED STEEL GRATING SHALL
BE GALVANIZED AS SPECIFIED BY
ASTM A-123.

DETAIL "A"



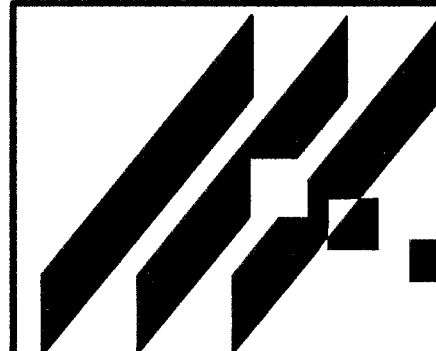
STRAW BALE DROP INLET SEDIMENT BARRIER

Note: Wedge loose straw between bales to
prevent water from flowing between bales.

MATERIAL SPEC'S

MORTAR - TYPE "M"
BRICK - ASTM C62 GRADE MW
STEEL - ASTM A36 OR EQUIVALENT
GALV. ASTM A-123 STD.
CONCRETE - $f'_c = 4,000$ PSI MINIMUM WITH
6 SACKS OF CEMENT PER
CUBIC YARD MINIMUM.

ORIFICE EQUATION				
$Q = C \cdot A \cdot \sqrt{2gh}$				
h (DEPTH)	2g	C	A	Q
0.5	64.4	0.7	8.625	34.3 cfs
1.0	64.4	0.6	8.625	41.5 cfs
2.0	64.4	0.6	8.625	58.7 cfs
2.0	64.4	0.7	8.625	68.5 cfs
3.0	64.4	0.6	8.625	71.9 cfs
4.0	64.4	0.6	8.625	83.1 cfs
5.0	64.4	0.6	8.625	92.9 cfs
6.0	64.4	0.6	8.625	101.7 cfs
7.0	64.4	0.6	8.625	109.9 cfs
8.0	64.4	0.6	8.625	117.5 cfs



MID-KANSAS ENGINEERING
CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

WOODLAND LAKES ESTATES
PROJECT NAME

REINFORCED CONCRETE AREA INLET
SHEET TITLE

MKEC DESIGN BY:	MKEC DRAWN BY:	MKEC CHECKED BY:
JULY 1996 DATE	95058DD6 JOB NO.	24 / 25 SHEET / OF

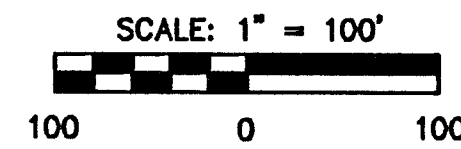
FINAL PLAT OF
WOODLAND LAKES ESTATES
AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

N.W. CORNER S. 1/2
OF N.E. 1/4
SECTION 27, T27S R2E

$\Delta = 06^{\circ}05'59''$
 $R = 3014.79'$
 $L = 320.96$
 $CHD. = 320.81'$
 $CHD. BRG. = N66^{\circ}59'49''E$

$\Delta = 06^{\circ}10'06''$
 $R = 222.00'$
 $L = 23.90'$
 $CHD. = 23.89'$
 $CHD. BRG. = N65^{\circ}21'47''E$

N.E. CORNER S. 1/2
OF N.E. 1/4
SECTION 27, T27S R2E



LEGEND

- = IRON
- S.D., U. & S.W. E. = STREET DRAINAGE, UTILITY & SIDEWALK EASEMENT
- B.S. = BUILDING SETBACK

BENCH MARKS

- BM #1 R.R. SPIKE IN WEST FACE
OF 4TH POWER POLE SOUTH
OF U.S. 54 ON EAST SIDE
OF 127TH STREET
ELEV. = 168.975 CITY DATUM
1354.375 (USGS DATUM)
- BM #2 " " CUT ON EAST END OF
THE NORTH HUBQUARD U.S. 54
EAST BOUND BRIDGE OVER THE
K.T.A.
ELEV. = 177.235 CITY DATUM
1364.635 (USGS DATUM)

CENTER SECTION 27,
T27S R2E

$\Delta = 38^{\circ}55'19''$
 $R = 162.10'$
 $L = 110.12'$
 $CHD. = 108.01'$
 $CHD. BRG. = S71^{\circ}25'29''E$

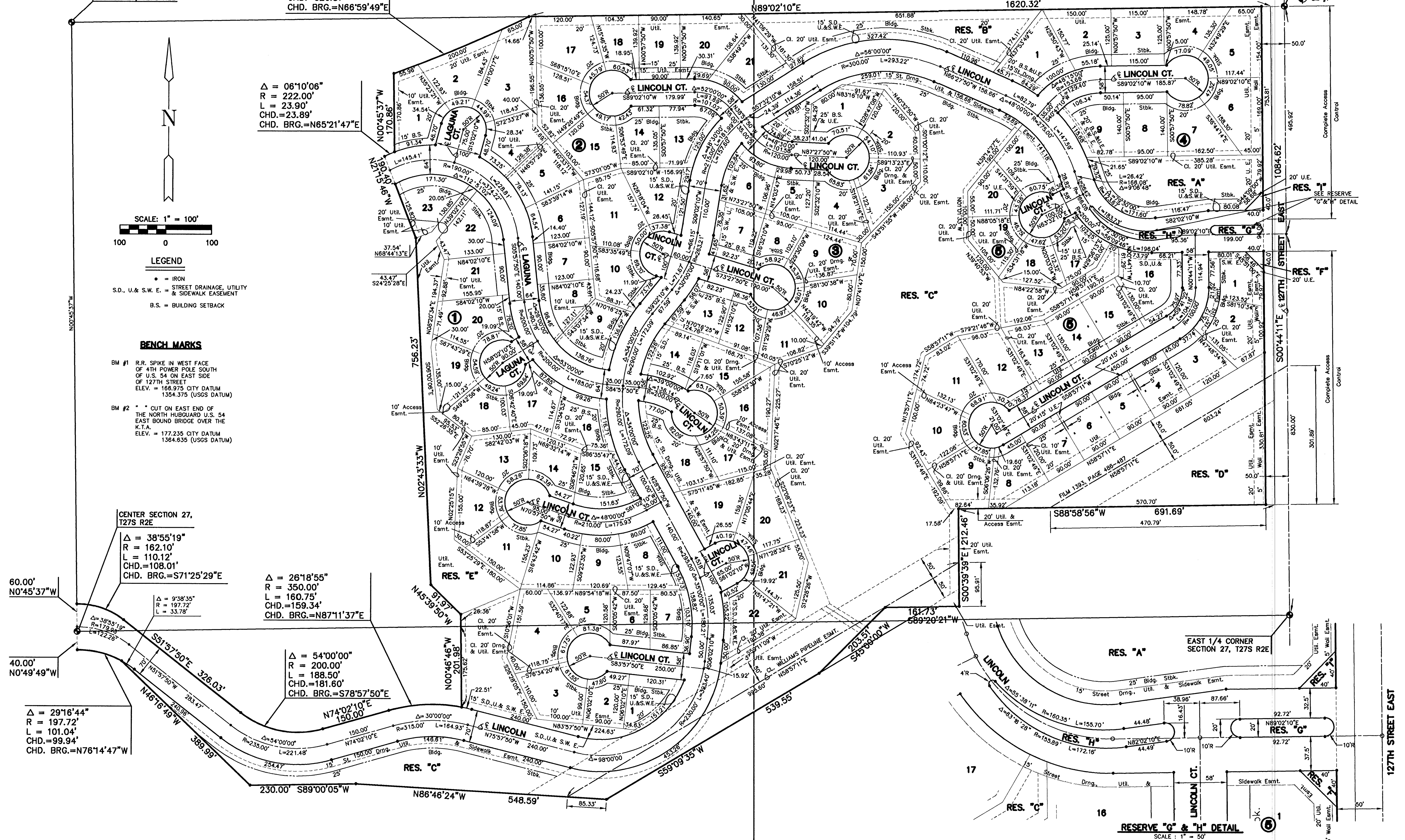
60.00'
N0°45'37"W

40.00'
N0°49'49"W

$\Delta = 29^{\circ}16'44''$
 $R = 197.72'$
 $L = 101.04'$
 $CHD. = 99.94'$
 $CHD. BRG. = N76^{\circ}14'47''W$

$\Delta = 26^{\circ}18'55''$
 $R = 350.00'$
 $L = 160.75'$
 $CHD. = 159.34'$
 $CHD. BRG. = N87^{\circ}11'37''E$

$\Delta = 54^{\circ}00'00''$
 $R = 200.00'$
 $L = 188.50'$
 $CHD. = 181.60'$
 $CHD. BRG. = S78^{\circ}57'50''E$



RESERVE "G" & "H" DETAIL

SCALE: 1" = 50'

127TH STREET EAST