THE STATE OF DELAWARE

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

STANDARDS

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

STANDARD SHEET INDEX

- REVISED -

6/30/78 R.F.R.
4/24/79 R.F.R.
12/18/79 R.F.R.
1/30/81 R.F.R.
5/1/81 R.F.R.
5/15/84 B.E.B.

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Sheet Number
Revision Number (Where Shown)

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COUNTY	CONTRACT	P. R. & REQ. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET C-1

URBAN ENTRANCE DETAILS

PREL. TRACING H.R.C. DESIGN J.E.R. CHKD. E.L.W.

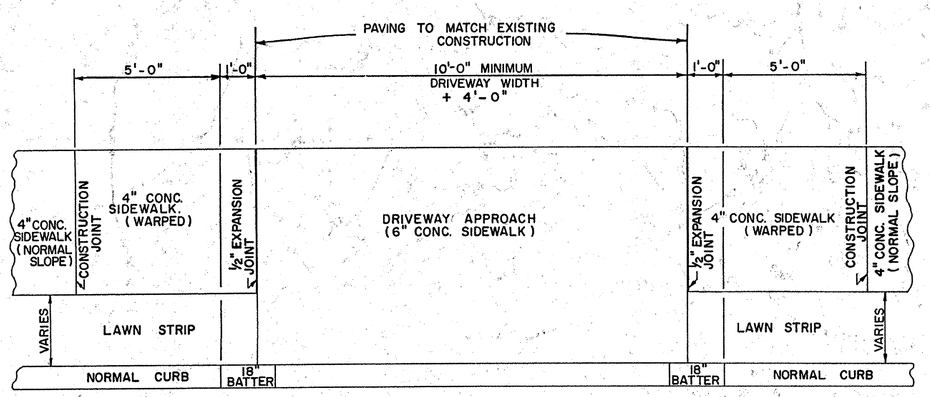
REVISIONS

DELETED ENTRANCE NOTES. 12-2-75 R.F.R.

APPROVED _____ 6-22-76
DIRECTOR OF OPERATIONS DATE

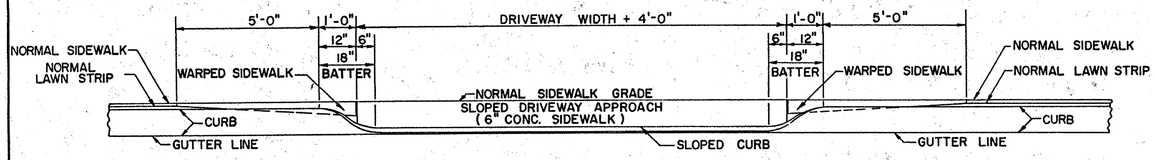
_____ 6/22/76
DEPUTY DIRECTOR-CHIEF ENGINEER DATE

NOTE:
SEE CURRENT DEPARTMENT "POLICY & STANDARDS FOR ENTRANCES TO HIGHWAYS" FOR ADDITIONAL INFORMATION.



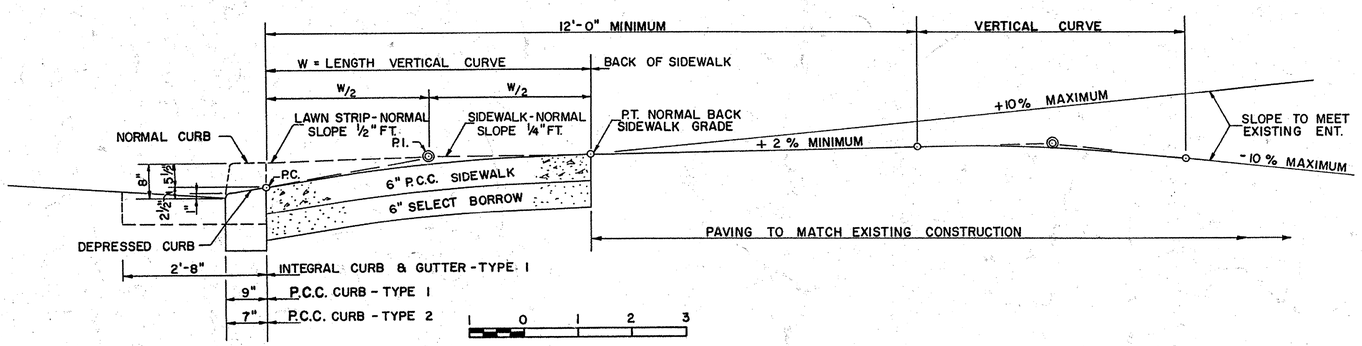
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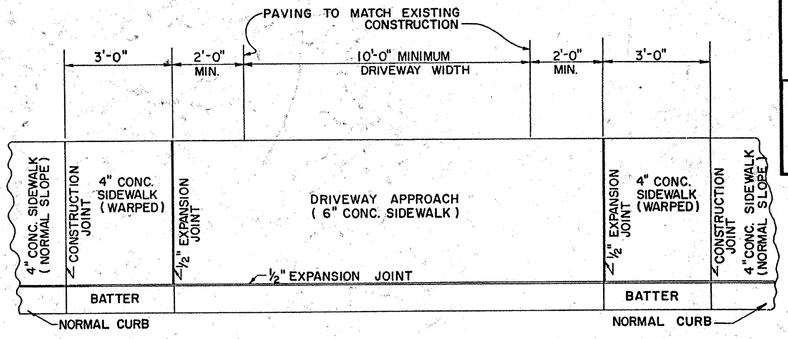
0 1 2 3 4 5



FRONT VIEW WITH LAWN STRIP

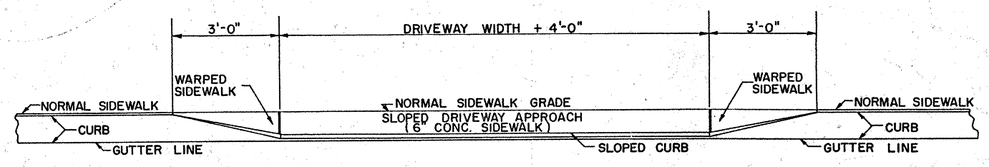
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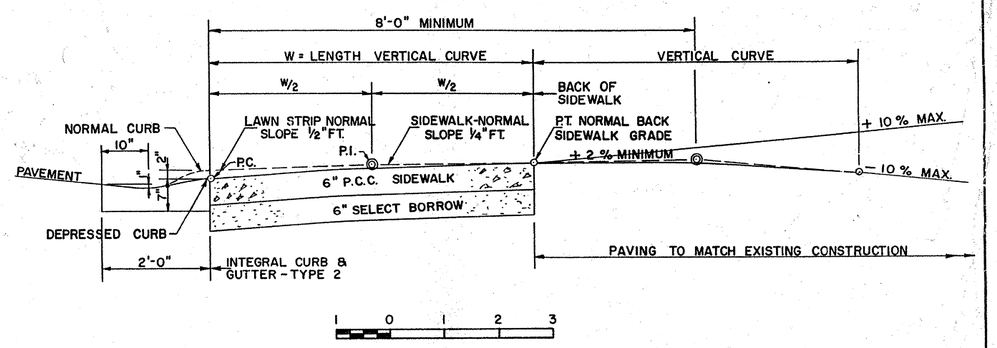
PLAN

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FRONT VIEW WITHOUT LAWN STRIP

0 1 2 3 4 5



DRIVEWAY PROFILES — SHOWING TYPICAL CONSTRUCTION

DIETZGEN Philadelphia 135 Imperial Tracing Cloth

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.		[redacted]	[redacted]

STANDARD SHEET C-2

CURB & CROSSABLE TRAFFIC SEPARATORS

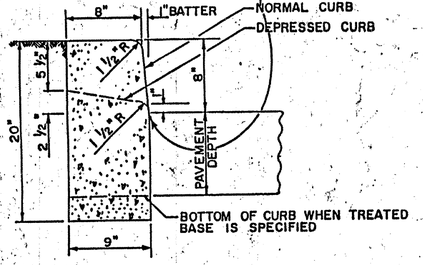
PREL. TRACING H.R.C. DESIGN J.E.R. CHKD. E.L.W.

REVISIONS

DELETED TYPE 1 HOT-MIX CURB. ADDED TYPE 3 INTEGRAL CURB & GUTTER AND TYPE 3 PARKWAY CURB. 10-29-70 J.T.B.
CORRECTED DIMENSION P.C.C. PARKWAY CURB TYPE 3. 6/25/71 Y.N.C.
ADDED CURB MODIFICATION AND NOTE 1/31/77 R.E.R

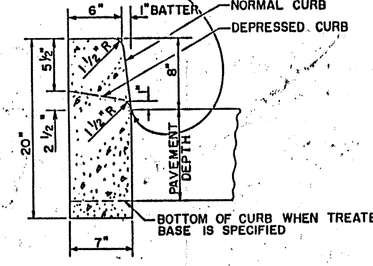
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DIRECTOR OF OPERATIONS DATE

[signature] 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE



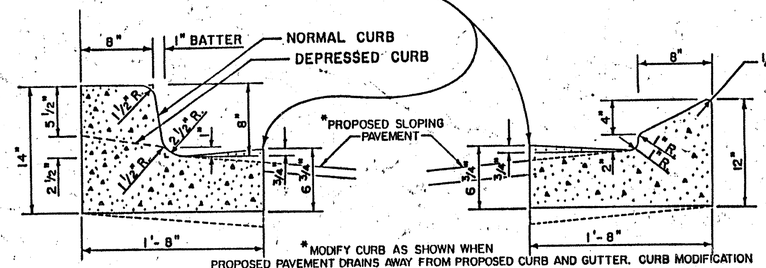
P.C.C. CURB
TYPE 1

IF CRACK IS VISIBLE ADJACENT TO CEMENT CONCRETE PAVEMENT. USE APPROVED JOINT FILLER.



P.C.C. CURB
TYPE 2

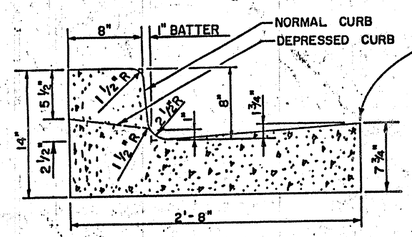
WHEN ADJACENT TO CEMENT CONCRETE PAVEMENT, APPLY APPROVED JOINT FILLER.



INTEGRAL P.C.C. CURB & GUTTER
TYPE 3

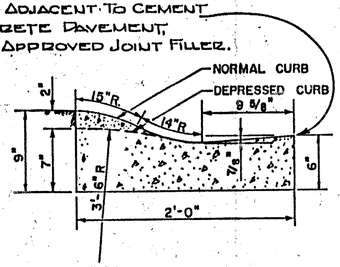
P.C.C. PARKWAY CURB
TYPE 3

*MODIFY CURB AS SHOWN WHEN PROPOSED PAVEMENT DRAINS AWAY FROM PROPOSED CURB AND GUTTER. CURB MODIFICATION TO BE INCLUDED IN UNIT PRICE BID FOR RESPECTIVE CURB.



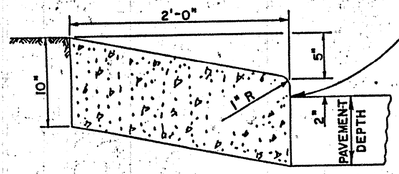
INTEGRAL P.C.C. CURB & GUTTER
TYPE 1

WHEN ADJACENT TO CEMENT CONCRETE PAVEMENT, APPLY APPROVED JOINT FILLER.

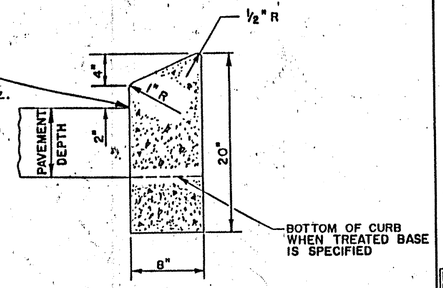


INTEGRAL P.C.C. CURB & GUTTER
TYPE 2

IF CRACK IS VISIBLE ADJACENT TO CEMENT CONCRETE PAVEMENT. USE APPROVED JOINT FILLER.



P.C.C. PARKWAY CURB
TYPE 1

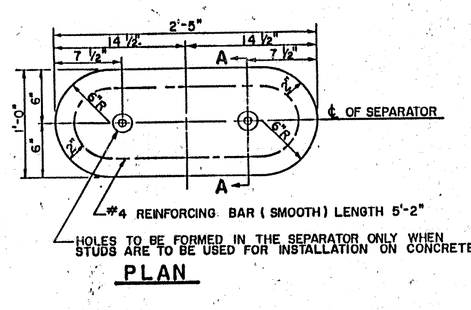


P.C.C. PARKWAY CURB
TYPE 2

SCALE
0 1 2 3

NOTE: COST OF JOINT FILLER & APPLICATION TO BE INCLUDED IN UNIT PRICE BID FOR CURBS.

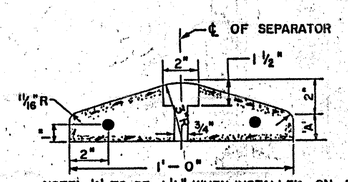
CROSSABLE TRAFFIC SEPARATORS



HOLES TO BE FORMED IN THE SEPARATOR ONLY WHEN STUDS ARE TO BE USED FOR INSTALLATION ON CONCRETE

PLAN

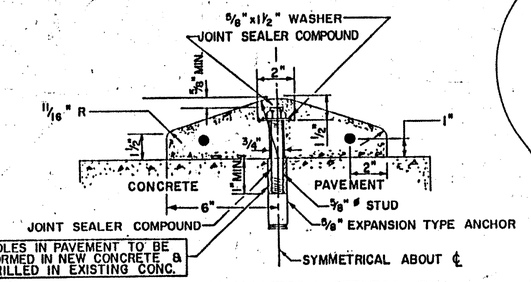
SCALE 0 2



NOTE: 'A' TO BE 1 1/2" WHEN INSTALLED ON P.C.C. PAVEMENT.
'A' TO BE 3 1/2" WHEN INSTALLED ON HOT MIX ON CONC. BASE

SECTION A-A

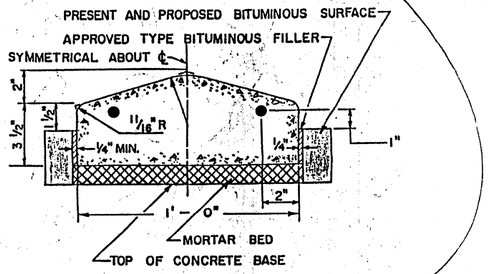
NOTE: THE SEPARATORS ARE TO BE PRECAST OF WHITE CEMENT CONCRETE



HOLES IN PAVEMENT TO BE FORMED IN NEW CONCRETE & DRILLED IN EXISTING CONC.

METHOD OF INSTALLATION ON PORTLAND CEMENT CONC. PAVEMENT

SCALE 0 1



METHOD OF INSTALLATION ON HOT-MIX, ON CONCRETE BASE

NOTE:
REINFORCING STEEL AND ALL OTHER ITEMS NECESSARY FOR THE CONSTRUCTION AND PLACEMENT OF THE SEPARATORS, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CROSSABLE TRAFFIC SEPARATORS.
THE SEPARATORS SHALL NOT BE PLACED UNTIL THE BITUMINOUS PAVEMENT HAS BEEN COMPACTED.
SAW PRESENT AND PROPOSED BITUMINOUS PAVEMENT TO DEPTH AS SHOWN.
PLACE MORTAR BED UNDER SEPARATOR TO INSURE A LEVEL SECTION AND THE PROPER HEIGHT AS SHOWN ABOVE.

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET C-3

GUTTER, CUT-OFF WALL, & PERFORATED UNDERDRAIN

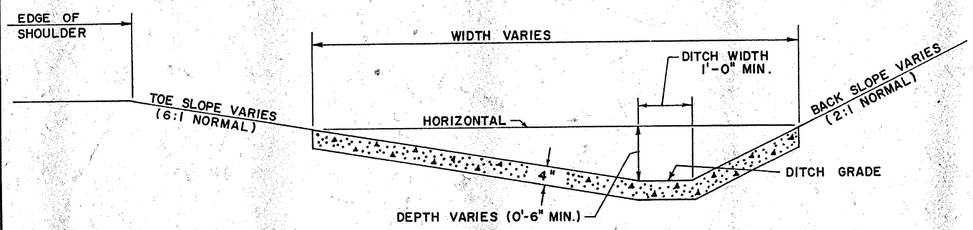
PREL. TRACING J.T.B. DESIGN E.L.W. CHKD. E.L.W.

REVISIONS

REVISED GENERAL NOTES 5/11/76
REVISED BELOW PIPE DIMENSION UNDERDRAIN DETAIL 1-31-77 R.E.R.

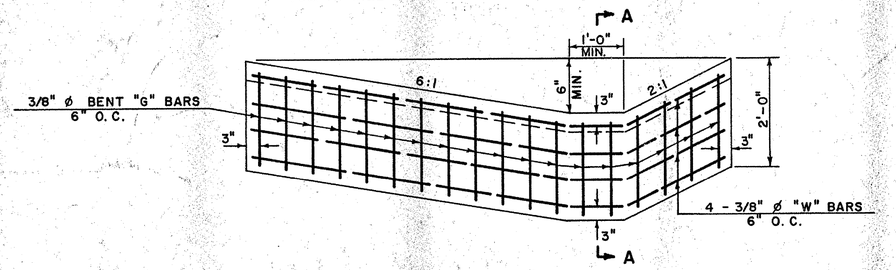
APPROVED _____ DIRECTOR OF OPERATIONS 6-22-70 DATE

_____ DEPUTY DIRECTOR-CHIEF ENGINEER 6/22/70 DATE



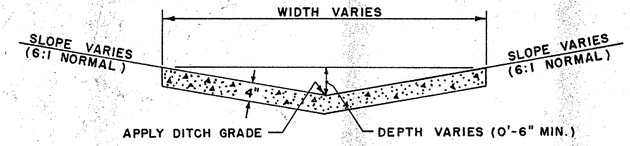
P.C.C. GUTTER- NORMAL SIDE DITCH

(DEPTH WILL BE 6" UNLESS OTHERWISE DIRECTED)



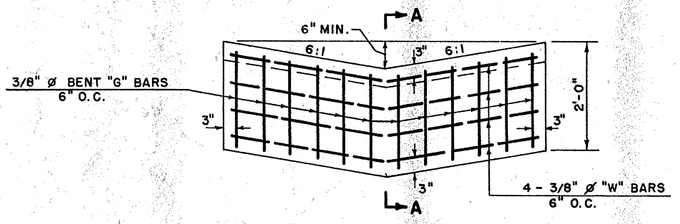
SECTION OF CUT-OFF WALL FOR ABOVE

SCALE 0 2 3



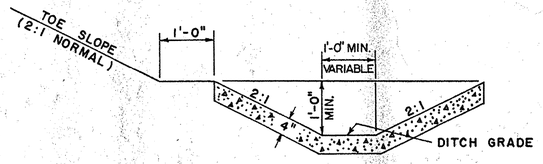
P.C.C. GUTTER- NORMAL MEDIAN STRIP

(DEPTH WILL BE 6" UNLESS OTHERWISE DIRECTED)

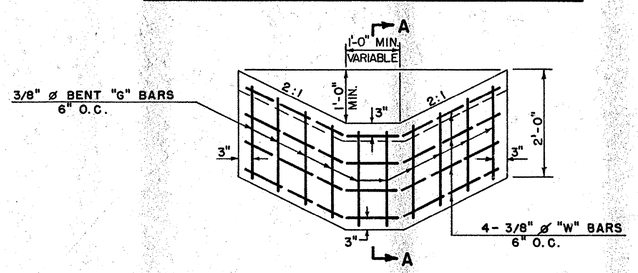


SECTION OF CUT-OFF WALL FOR ABOVE

SCALE 0 2 3

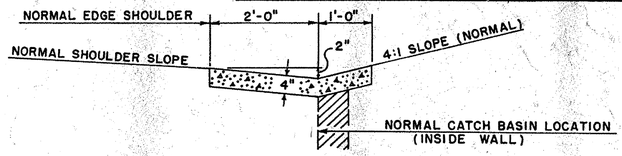


P.C.C. GUTTER- TOE OF SLOPE

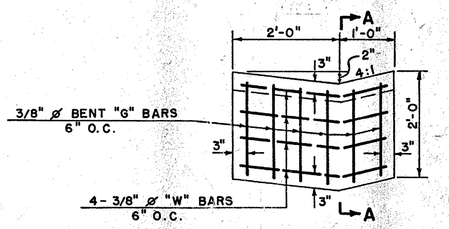


SECTION OF CUT-OFF WALL FOR ABOVE

SCALE 0 2 3

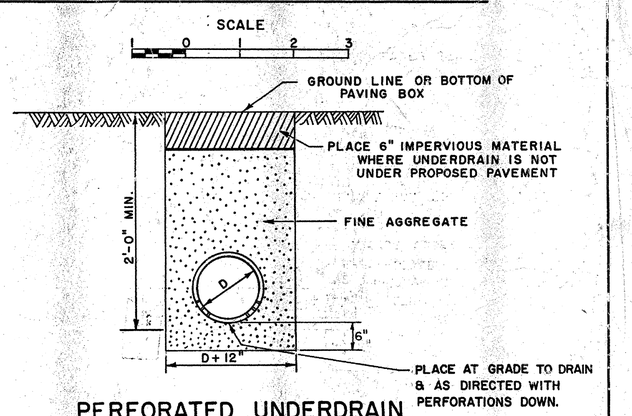


P.C.C. GUTTER- EDGE OF SHOULDER

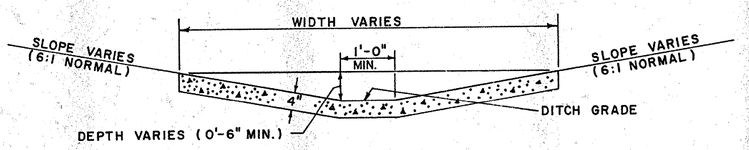


SECTION OF CUT-OFF WALL FOR ABOVE

SCALE 0 2 3

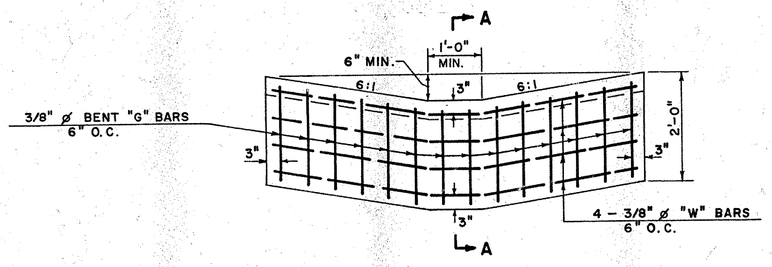


PERFORATED UNDERDRAIN TRENCH DETAIL



P.C.C. GUTTER- ALTERNATE MEDIAN STRIP

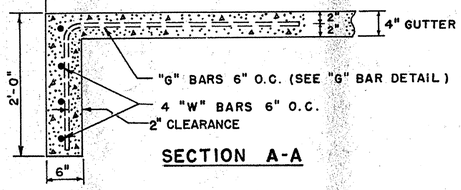
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SECTION OF CUT-OFF WALL FOR ABOVE

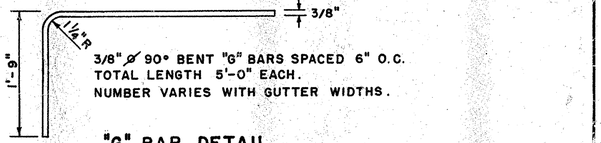
SCALE 0 2 3

CUT-OFF WALL



SECTION A-A

SCALE 0 2



"G" BAR DETAIL

GENERAL NOTES:

GENERAL PLAN OF CUT-OFF WALL IS TO BE ADAPTED TO ALL TYPES OF PORTLAND CEMENT CONCRETE GUTTER.
CUT-OFF WALL IS TO BE PLACED AT BEGINNING AND END OF EACH INSTALLATION
LENGTH OF "W" BARS WILL VARY WITH THE WIDTH OF GUTTER.
THE COST OF CUT-OFF WALL COMPLETE IN PLACE TO BE INCLUDED IN UNIT PRICE BID FOR GUTTER.

3 MILPRINT - IMPERIAL TRACING CLOTH

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET C-4
GUTTER, HOT-MIX CURB

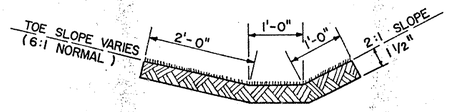
PREL. TRACING J.T.B. DESIGN E.L.W. CHKD. E.L.W.

REVISIONS

ADDED HOT-MIX CURB. 10-30-70 J.T.B.
DELETED CONCRETE GUTTER TYPE 2. 11-7-70 E.L.W.
ADDED HOT-MIX CURB, TYPE 2. 10-7-75 R.F.R.
REVISED CURB TITLES 1-31-77 R.F.R.

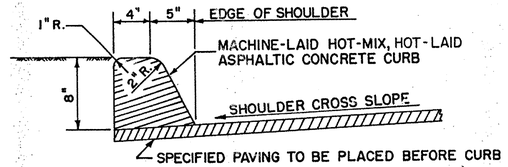
APPROVED _____ 6-22-70
DIRECTOR OF OPERATIONS DATE

_____ 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE



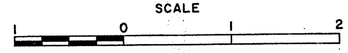
SOD GUTTER

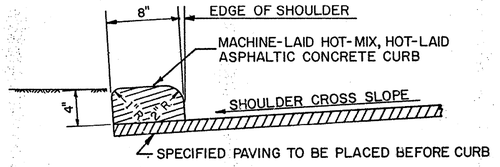
SCALE



HOT-MIX, HOT LAID
BITUMINOUS CONCRETE CURB
TYPE 1

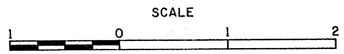
SCALE





HOT-MIX, HOT-LAID
BITUMINOUS CONCRETE CURB
TYPE 2

SCALE



CONTRACT	COUNTY	FEDERAL AID PROJECT Nº	SHEET Nº	TOTAL SHEETS

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

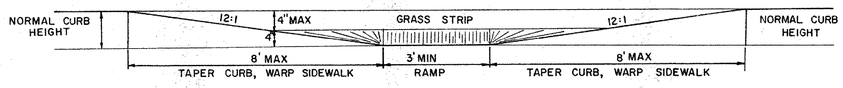
STANDARD SHEET NUMBER C-5-1

WHEELCHAIR CURB RAMPS AND MEDIAN OPENINGS

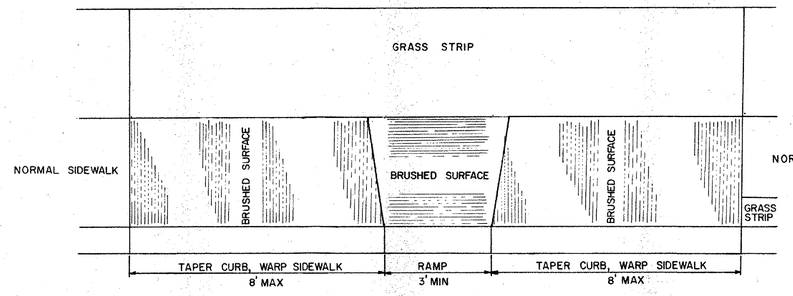
REVISIONS

APPROVED _____ DIRECTOR OF OPERATIONS 3/27/85 DATE

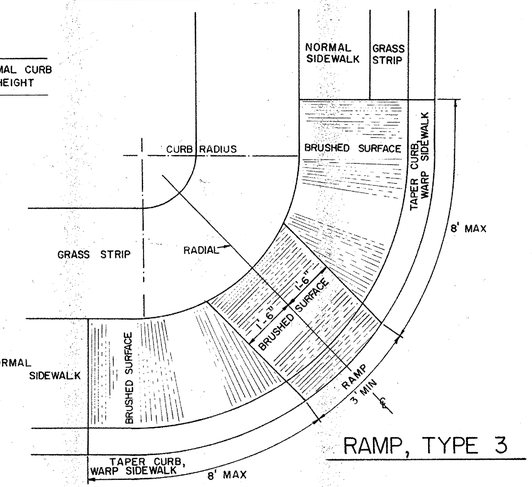
RECOMMENDED _____ DEPUTY DIRECTOR OF HIGHWAYS 3/19/85 DATE



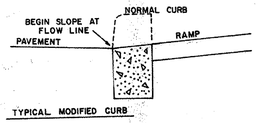
PROFILE - RAMPS, TYPE 2 & 3

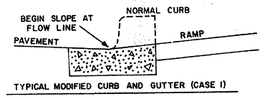


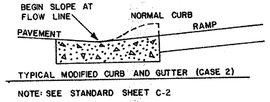
RAMP, TYPE 2



RAMP, TYPE 3







NOTE: SEE STANDARD SHEET C-2

CURB MODIFICATIONS FOR RAMPS

GENERAL NOTES

PAYMENT FOR RAMPS AND DEPRESSED CURB SHALL BE UNDER THE APPLICABLE SECTION 705 BID ITEM AND THE SECTION PERTAINING TO THE ADJOINING CURB RESPECTIVELY

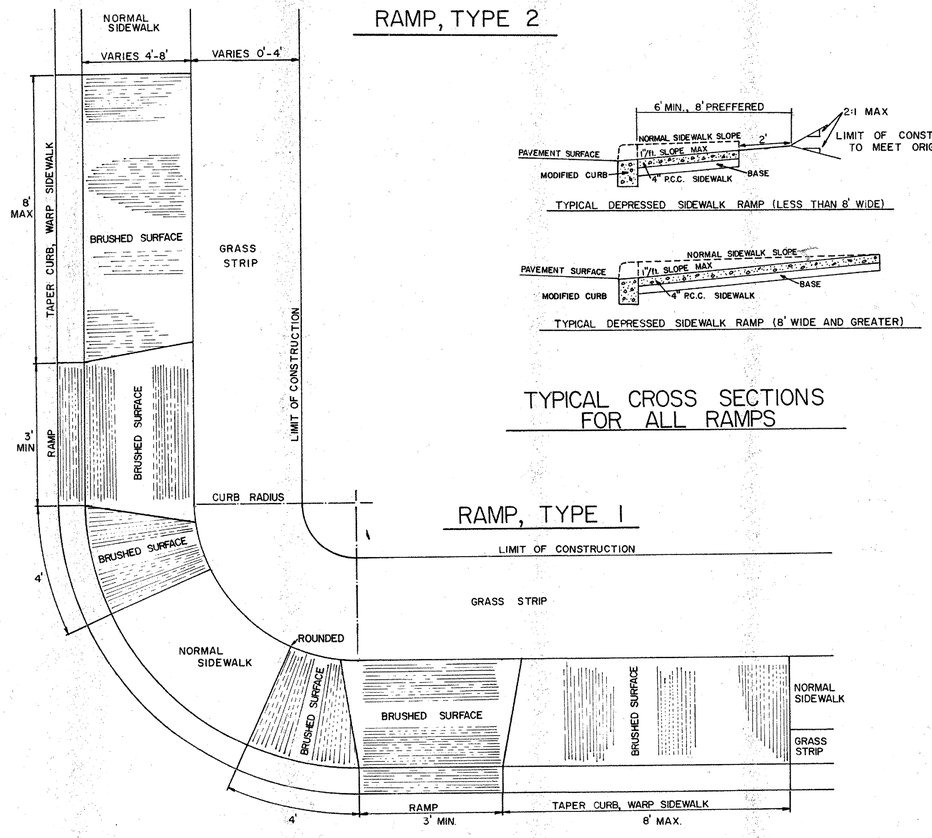
CURB RAMPS SHALL BE CONSTRUCTED IN EACH QUADRANT OF THE INTERSECTION, ISLANDS OR CROSSWALKS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER

SETTING CONCRETE TO BE BRUSHED WITH STREET BROOM IN THE DIRECTION SHOWN BY ARROWS TO CREATE A SKID RESISTANT SURFACE ON ALL RAMPS

THE SLOPE OF ALL CURB RAMPS SHALL BEGIN FLUSH WITH THE PAVEMENT OR GUTTER AT THE FLOW LINE

TRAFFIC ISLANDS SHALL BE FULLY DIVIDED OR RAMPED AT CROSSWALK LOCATIONS AS SHOWN. ISLANDS OF INSUFFICIENT WIDTH TO ACCOMODATE UP AND DOWN RAMPS AND A 4' LEVEL PLATFORM SHALL HAVE A 4' WIDE CROSSWALK FLUSH WITH THE ADJOINING PAVEMENT

THE BROOMED FINISHED SURFACE SHALL EXTEND ONE FOOT BEYOND THE WARPED SIDEWALK SECTIONS.

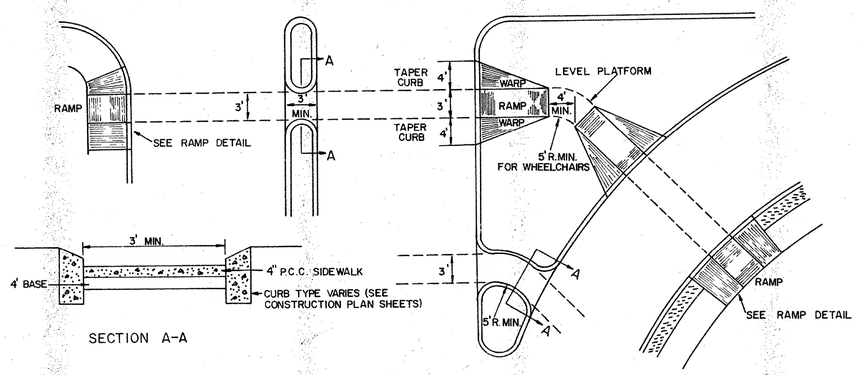


RAMP, TYPE 1

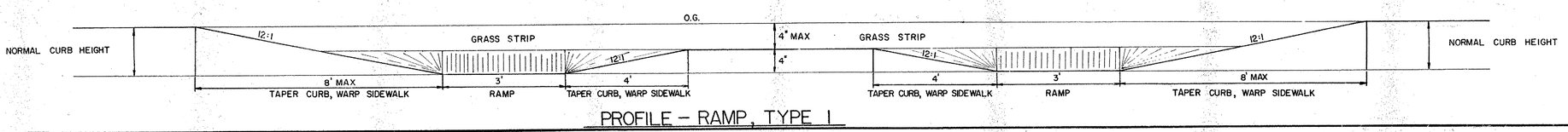
TYPICAL DEPRESSED SIDEWALK RAMP (LESS THAN 8' WIDE)

TYPICAL DEPRESSED SIDEWALK RAMP (8' WIDE AND GREATER)

TYPICAL CROSS SECTIONS FOR ALL RAMPS



MEDIAN OPENINGS



PROFILE - RAMP, TYPE 1

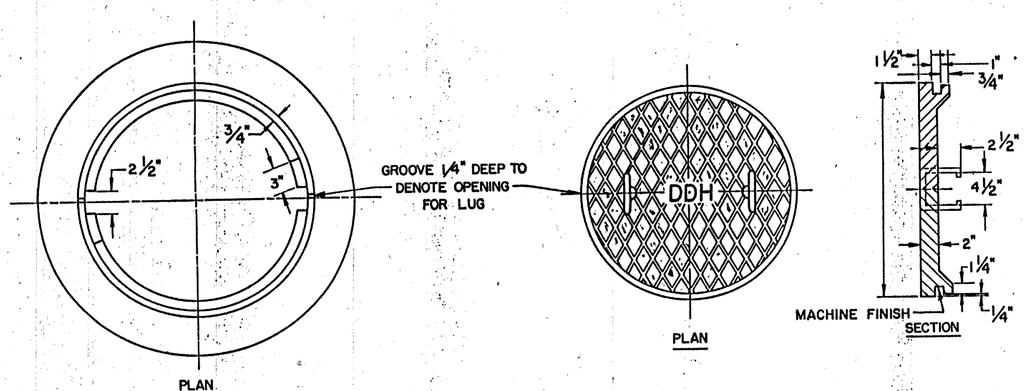
REVISIONS

DESIGN NUBEIL CHKD.

PREL. TRACING NUBEIL

55163

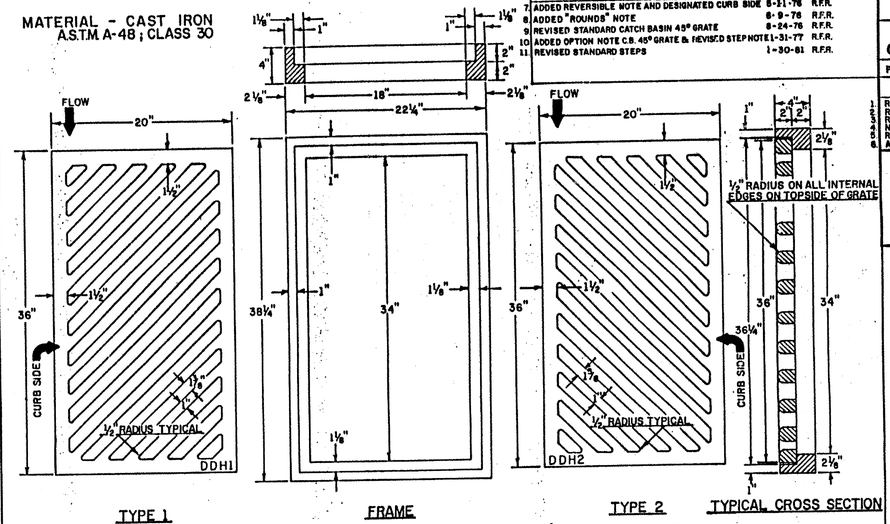
NOTE:
THE CONTACTING SURFACES ON ALL MANHOLE FRAMES AND COVERS USED IN ROADWAY OR SHOULDER AREAS ARE TO BE MACHINE FINISHED.



FRAME AND COVER FOR STANDARD MANHOLES

WT. FRAME AND COVER 470 LBS. (MIN.) 490 LBS. (MAX.)

MATERIAL - CAST IRON
A.S.T.M. A-48; CLASS 30



NOTE: BOTTOM OF GRATE TO BE FLAT AND TRUE

*THE LETTERS "DDH" AND THE NUMERALS "1" OR "2" TO BE ONE INCH AND RAISED ON TOP SIDE OF EACH GRATE LOCATED AS SHOWN



DETAIL OF IDENTIFICATION LETTERS (ONE SIDE ONLY)

STANDARD CATCH BASIN FRAME & 45° GRATE

*THE ABOVE MENTIONED LETTERS MAY BE ETHER RAISED OR DEPRESSED AT THE OPTION OF THE FOUNDRY

REVISIONS (Cont.)

7.	ADDED REVERSIBLE NOTE AND DESIGNATED CURB SIDE	8-21-76	R.F.R.
8.	ADDED "ROUNDS" NOTE	8-9-76	R.F.R.
9.	REVISED STANDARD CATCH BASIN 45° GRATE	8-24-76	R.F.R.
10.	ADDED OPTION NOTE C.B. 45° GRATE & REVISED STEP NOTE	1-31-77	R.F.R.
11.	REVISED STANDARD STEPS	1-30-81	R.F.R.

COUNTY	CONTRACT	P. R. & R. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-1-11
CASTINGS, STEPS, MONUMENT BOX DETAILS

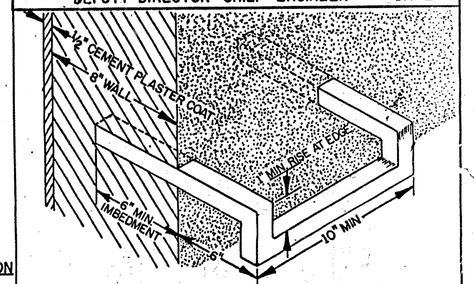
PREL. TRACING J.L.W.H.T.R. DESIGN E.L.W. CHKD. J.T.B.

REVISIONS

1	REVISED IMPRINT ON CASTINGS AND SEATING SURFACE REQUIREMENTS	12-22-70 JTB
2	REVISED OUTSIDE DIMENSION STANDARD C.B. FRAME	7-8-71 JTB
3	REVISED STANDARD CATCH BASIN GRATE	5-16-74 JTB
4	NOTE PROVIDING ALTERNATE STEP	10-25-74 RTC
5	REVISED STANDARD STEPS	12-2-75 RFR
6	ADDED DETAIL IDENTIFICATION LETTERS	5-11-76 RFR

APPROVED _____ 6-22-70
DIRECTOR OF OPERATIONS DATE

Joe S. Robinson 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE



Steps are required to be installed in each catch basin, manhole or type B junction box exceeding 48 inches in depth measured from the top of grate or cover elevation to the center line of the lowest pipe.

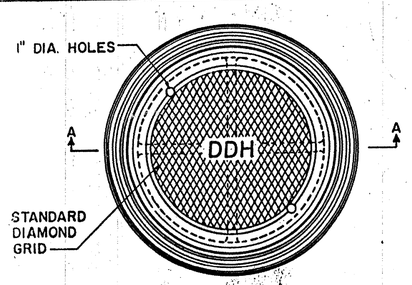
The top step shall be located no more than 30 inches below the top of grate or cover. The steps shall be aligned so as to form a continuous ladder and be spaced equally and vertically at 12 inch intervals unless other wise directed. The bottom step shall be no more than 23 inches nor less than 13 inches above the finished bottom of the unit except when structurally impractical

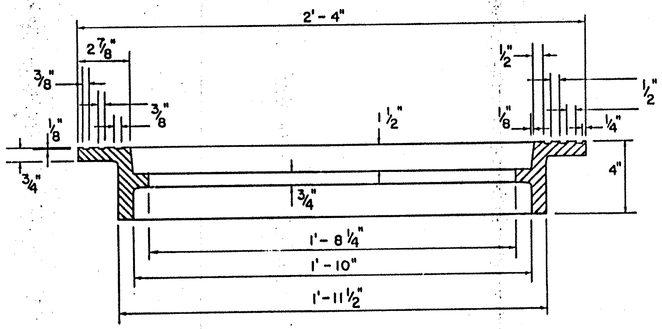
The steps shall be of grey iron castings conforming to AASHTO M105, class 30 B or carbon steel castings conforming to AASHTO M103 and be galvanized in accordance with AASHTO M111 or extruded aluminum conforming to ASTM B221, alloy 6061-T6 coated with zinc chromate primer as per Fed. Spec. TT-P-645. Aluminum steps shall in no way be permited to contact reinforcement or dissimilar metals.

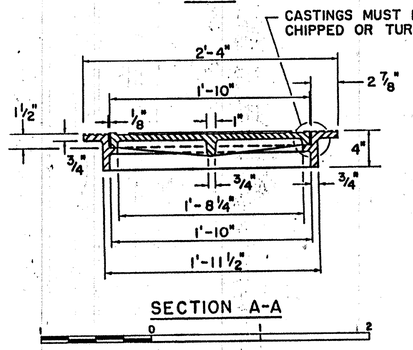
The minimum cross sectional dimension of the step shall be 0.75 inches

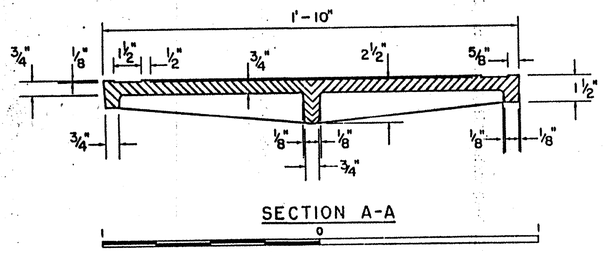
The dimensions and specifications herein shown or described are specifics or minimum standards and must be adhered to. The pictorial representation is for the purpose of displaying dimensions and does not constitute a standard in itself, however, all deviations must be submitted to the department, design section, for approval.

STANDARD STEPS



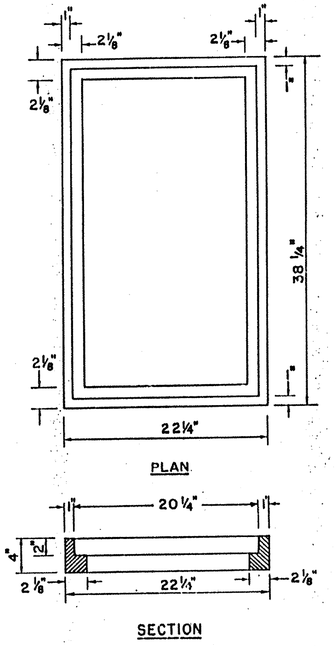


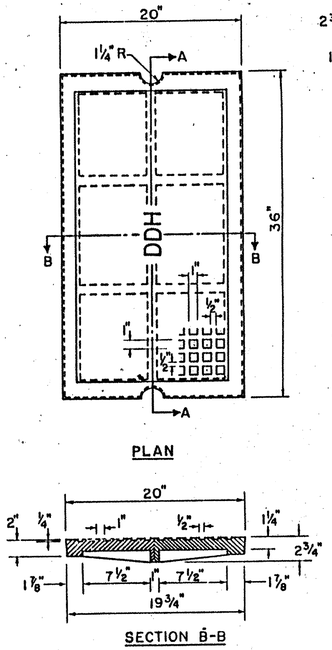


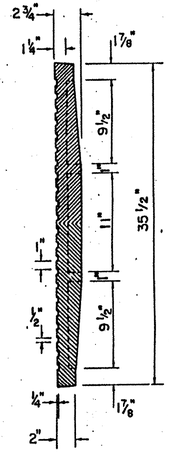


SIDEWALK FRAME AND COVER

WEIGHT 195 LBS



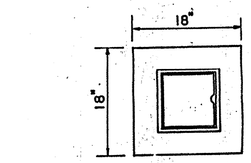


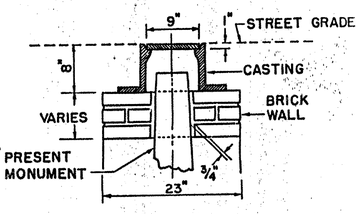


NOTE:
USE TO CONVERT B C.B. TO JUNCTION BOX

B JUNCTION BOX FRAME & COVER

WEIGHT 465 LBS MIN.- 485 LBS MAX.





NOTE:
BRICK MASONRY AND CASTING SHALL BE INCLUDED IN THE PRICE BID FOR "MONUMENT BOX".

MONUMENT BOX DETAIL

0 2

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-2-4

PARKWAY CATCH BASINS

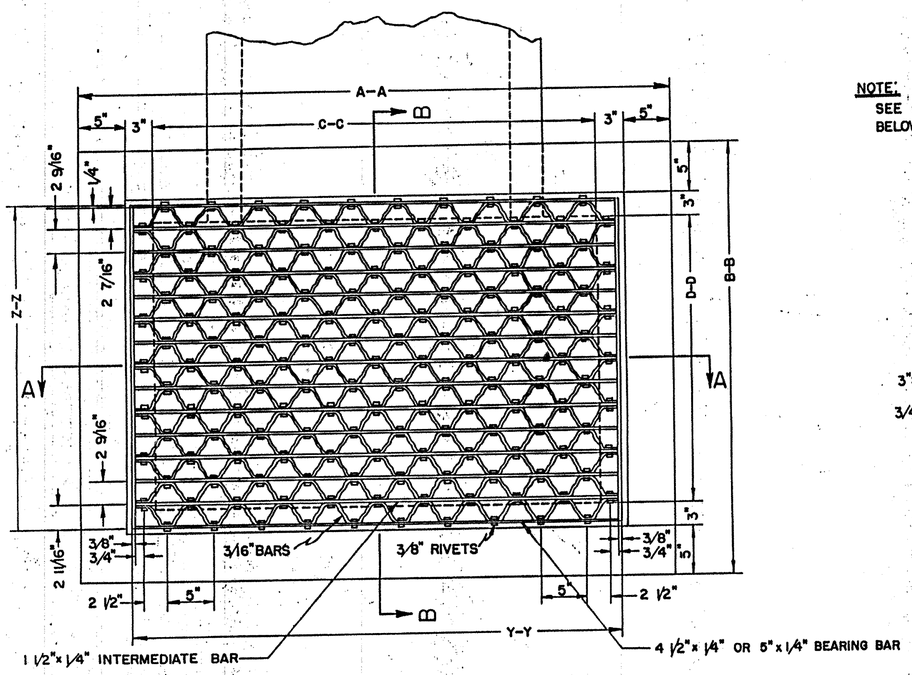
PREL. TRACING J. WHITE DESIGN E. L. W. CHKD. J. T. B.

REVISIONS

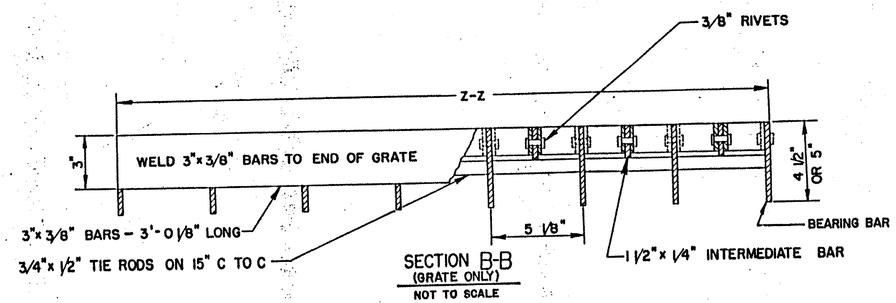
1. CLARIFIED GRATE AND BASIN DIMENSIONS AND ADDED NOTE TO GUTTER. 12-2-75 R.F.R.
2. REPLACED NOTE (6) 5-11-76 R.F.R.
3. ADDED NOTE (7) 1-31-77 R.F.R.
4. REVISED NOTE (5) ADDED NOTE (8) 1-30-81 R.F.R.

APPROVED _____ DIRECTOR OF OPERATIONS 6-22-70 DATE

_____ DEPUTY DIRECTOR-CHIEF ENGINEER 6/22/70 DATE

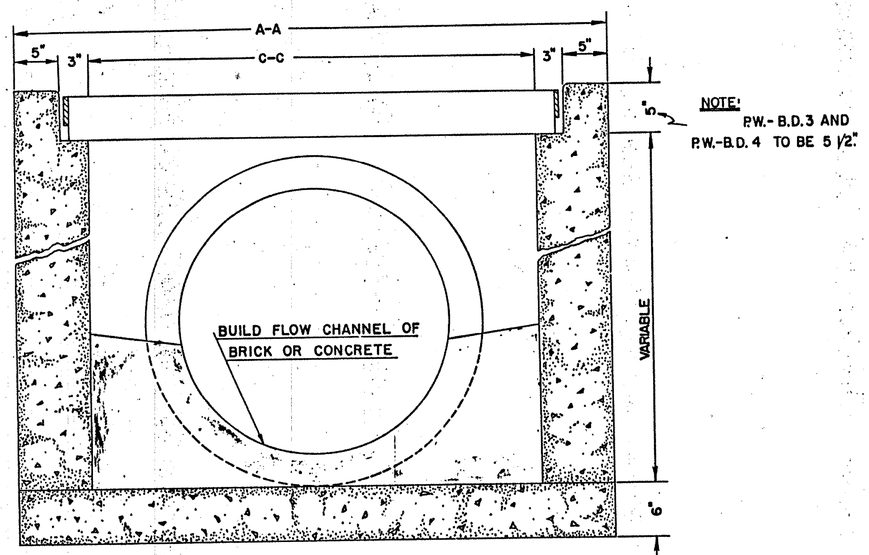


NOTE:
SEE CATCH BASIN AND GRATING DATA BELOW FOR SIZES.



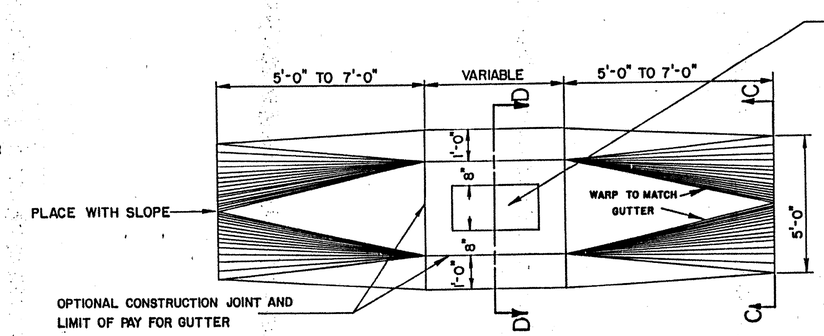
SECTION B-B
(GRATE ONLY)
NOT TO SCALE

PARKWAY CATCH BASINS
P.W.-B.D. 1
P.W.-B.D. 2
P.W.-B.D. 3
P.W.-B.D. 4

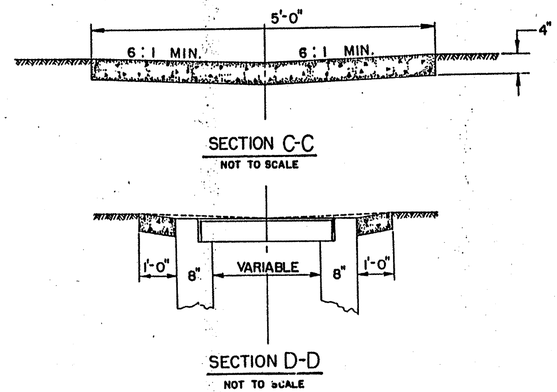


SECTION A-A
NOT TO SCALE

NOTE:
P.W.-B.D. 3 AND P.W.-B.D. 4 TO BE 5 1/2".



CONC. GUTTER TO BE USED WITH PARKWAY CATCH BASINS.
NOT TO SCALE



SECTION C-C
NOT TO SCALE

SECTION D-D
NOT TO SCALE

NOTES:

(1) GUTTER USED ONLY WHEN NOTED ON PLANS.

(2) P.W.-B.D. C. BASIN WALLS TO BE BRICK, CONCRETE, OR SOLID CONCRETE BLOCK, EXCEPT FOR UPPER 12" WHICH IS TO BE OF CEMENT CONCRETE MASONRY.

(3) COST OF CONCRETE MASONRY TO BE INCLUDED IN UNIT PRICE BID FOR STRUCTURE COMPLETE.

(4) GRATING INCLUDED IN UNIT PRICE BID FOR P.W.-B.D. CATCH BASIN GRATINGS TO BE GALVANIZED.

(5) PARGET BRICK OR BLOCK WITH 1/2" OF PORTLAND CEMENT MORTAR.

(6) P.C.C. GUTTER WILL BE PAID FOR UNDER SECTION 704, PORTLAND CEMENT CONCRETE GUTTER.

(7) CATCH BASINS MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCING AND OTHER PERTINENT INFORMATION FOR APPROVAL.

(8) STEPS ARE TO BE PLACED IN ALL CATCH BASINS & MANHOLE OVER 4' DEEP, SEE STANDARD SHEET D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN OR MANHOLE.

PARKWAY CATCH BASIN AND DRAIN GRATE DATA

NUMBER OF CATCH BASIN	LARGEST PIPE SIZE		CATCH BASIN DATA						GRATING DATA			
	A-A	B-B	WALL THICK.	A-A OUTSIDE	B-B OUTSIDE	C-C INSIDE	D-D INSIDE	BEARING BAR SIZES	Y-Y	Z-Z	GRATING AREA & WEIGHT
P.W.-B.D. 1	30"	15"	8"	4'-5 1/2"	3'-3 7/8"	3'-1 1/2"	1'-11 7/8"	4 1/2" x 1/4"	3'-6 1/4"	2'-4 7/16"	8.39 sq ft / 178 LBS.
P.W.-B.D. 2	36"	24"	8"	5'-3 1/4"	3'-11 1/2"	3'-11 1/4"	2'-7 1/2"	4 1/2" x 1/4"	4'-4 1/4"	3'-0 1/8"	13.11 sq ft / 273 LBS.
P.W.-B.D. 3	42"	24"	8"	5'-8 1/4"	3'-11 1/2"	4'-4 1/4"	2'-7 1/2"	5" x 1/4"	4'-9 1/4"	3'-0 1/8"	14.36 sq ft / 311 LBS.
P.W.-B.D. 4	48"	24"	8"	6'-1 1/4"	3'-11 1/2"	4'-9 1/4"	2'-7 1/2"	5" x 1/4"	5'-2 1/4"	3'-0 1/8"	15.62 sq ft / 336 LBS.

COUNTY	CONTRACT	P. R. A. SEQ. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

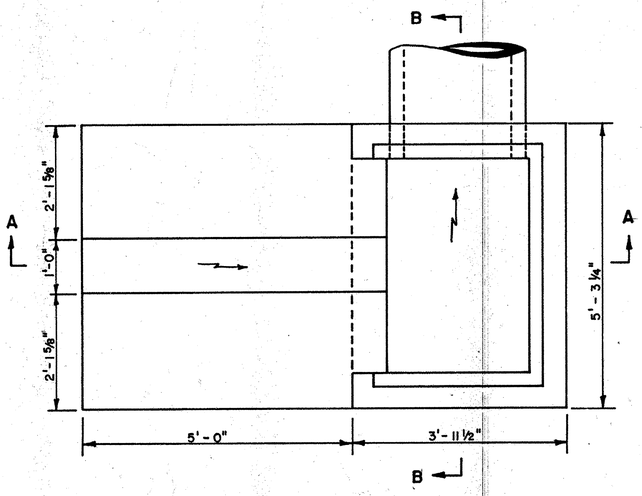
STANDARD SHEET D-3-4
P.W.-B.D.-2 MOD. CATCH BASINS 1 & 2

PREL. TRACING J.T.B. DESIGN E.L.W. CHKD. Y.N.C.

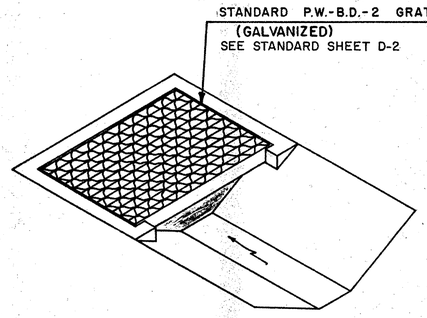
1. 10/25/74, NOTE REFERRING TO STANDARD SHEET D-2, R.T.C.
2. REMOVED CUT-OFF WALL NOTE 5/11/76 -
3. ADDED PRECAST NOTES 1-31-77 R.F.R.
4. REVISED AND ADDED NOTES 1-30-81 R.F.R.

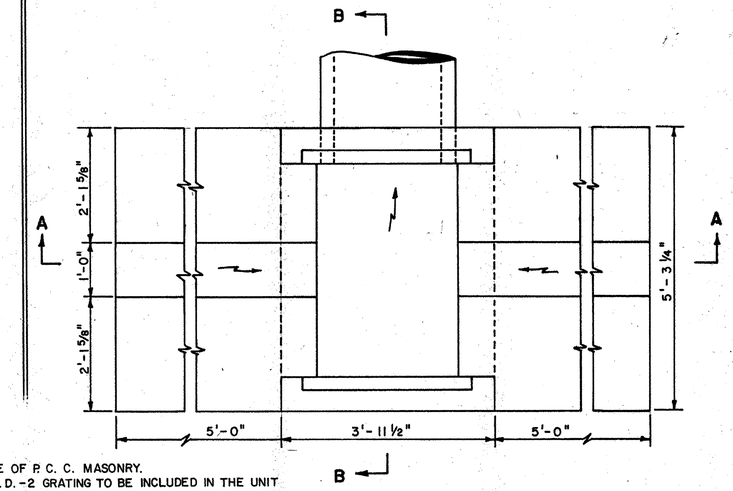
APPROVED [signature] 6-22-70
DIRECTOR OF OPERATIONS DATE

Joe S. Robinson 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE

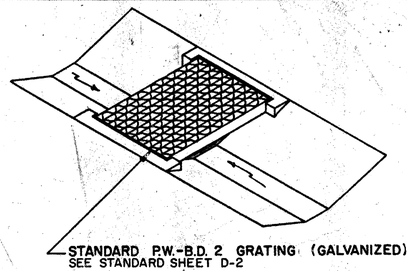


PLAN



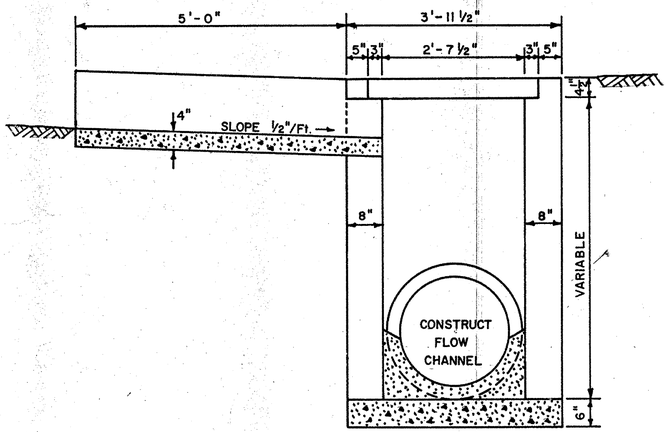


PLAN

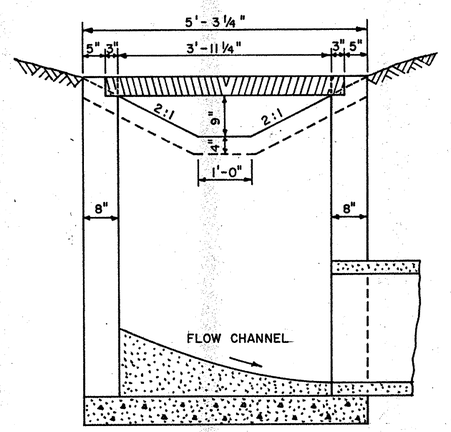


GENERAL NOTES:

1. TOP 12" OF THE CATCH BASIN TO BE OF P. C. C. MASONRY.
2. COST OF P. C. C. GUTTER AND P.W.-B.D.-2 GRATING TO BE INCLUDED IN THE UNIT PRICE BID FOR CATCH BASIN.
3. P.W.-B.D.-2 MODIFIED CATCH BASINS 1 & 2 TO BE USED ONLY 30' OR MORE FROM EDGE OF NEAREST RUNNING LANE.
4. STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD SHEET D-1. COST STEP TO BE INCLUDED IN COST OF CATCH BASIN.
5. PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.
6. CATCH BASINS MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.



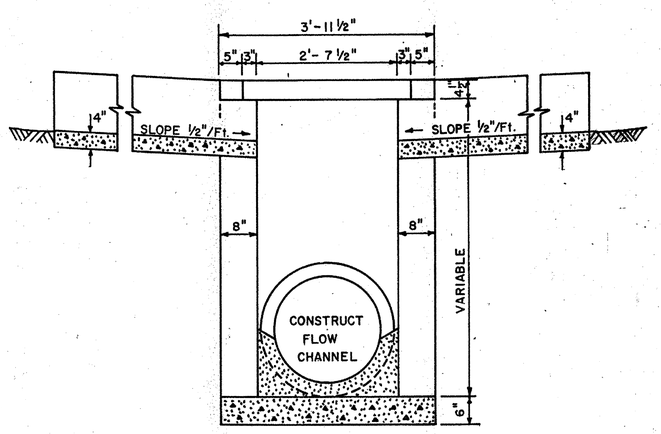
SECTION A-A



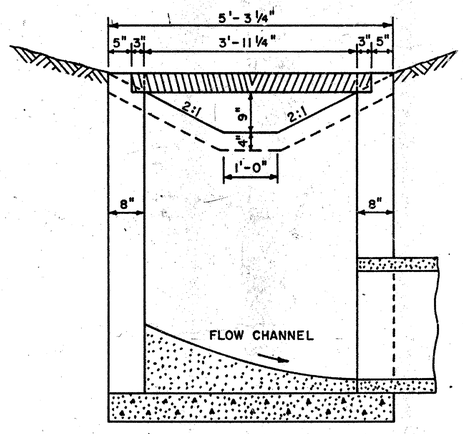
SECTION B-B

P.W.-B.D.-2 MODIFIED #1 CATCH BASIN

1 0 1 2 3



SECTION A-A



SECTION B-B

P.W.-B.D.-2 MODIFIED #2 CATCH BASIN

1 0 1 2 3

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-4

MEDIAN GRATE M-1

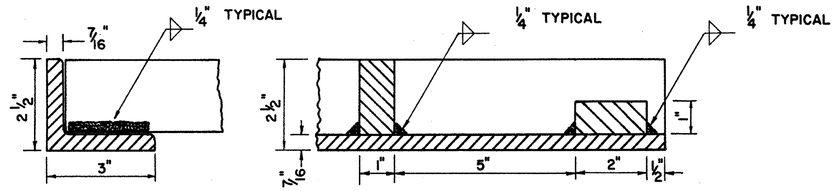
PREL. TRACING Y.N.C. DESIGN E.L.W. CHKD. J.T.B.

REVISIONS

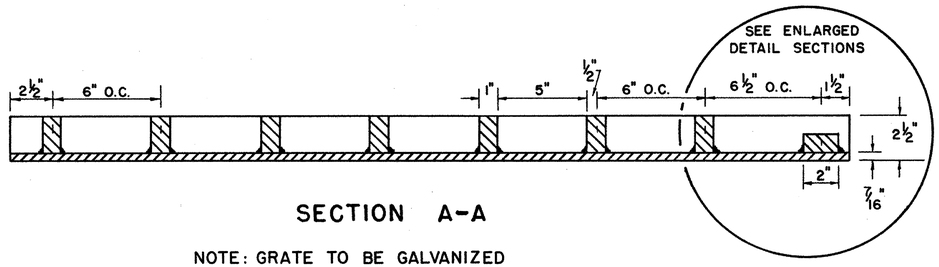
NOMENCLATURE CHANGES FOR A.I.S.C. SPECIFICATIONS, 3/31/71 —D.M.E.—

APPROVED _____ DIRECTOR OF OPERATIONS 6.22.70 DATE

Joe S. Robinson DEPUTY DIRECTOR-CHIEF ENGINEER 6/22/70 DATE

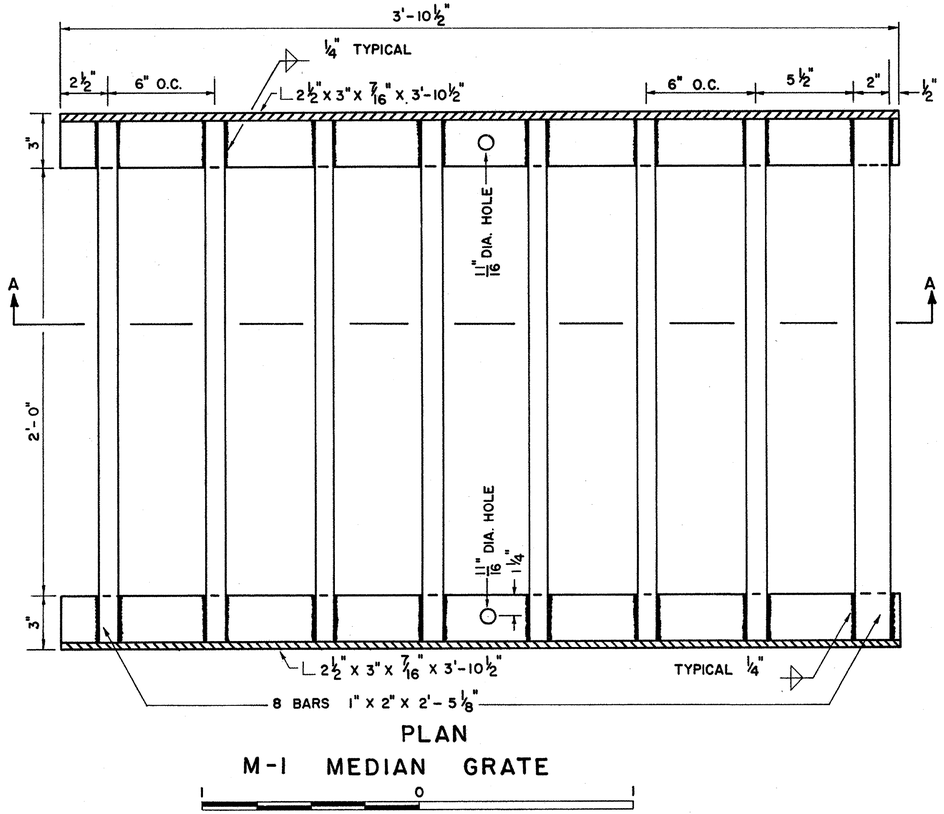


ENLARGED SECTIONS



SECTION A-A

NOTE: GRATE TO BE GALVANIZED



PLAN

M-1 MEDIAN GRATE

0

COUNTY	CONTRACT	P. S. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-5
SAFETY END STRUCTURE

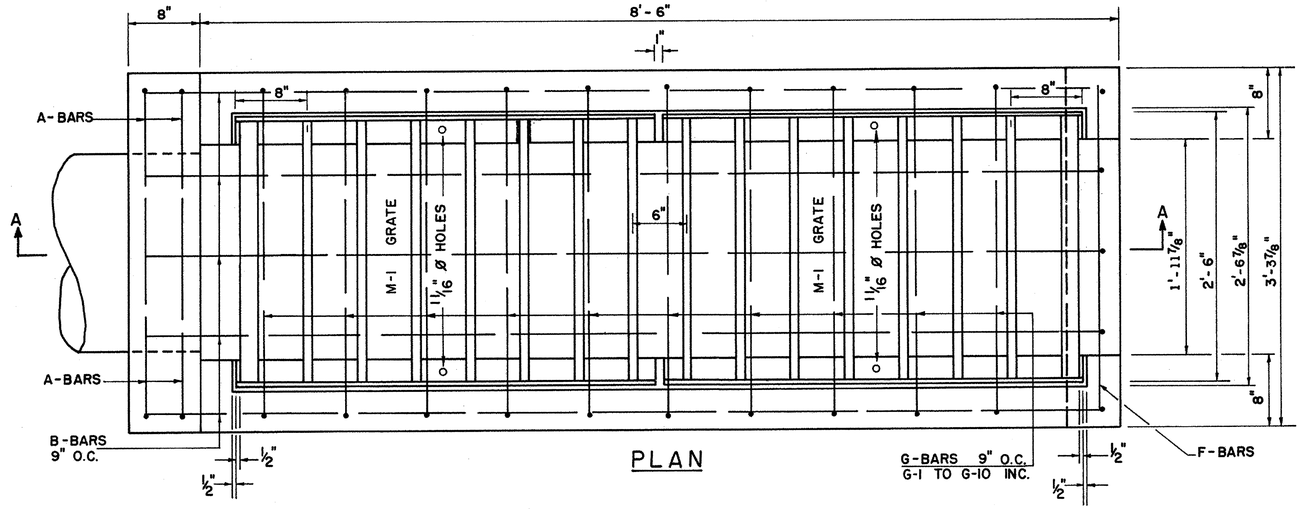
PREL. TRACING Y.N.C. DESIGN E.L.W. CHKD. J.T.B.

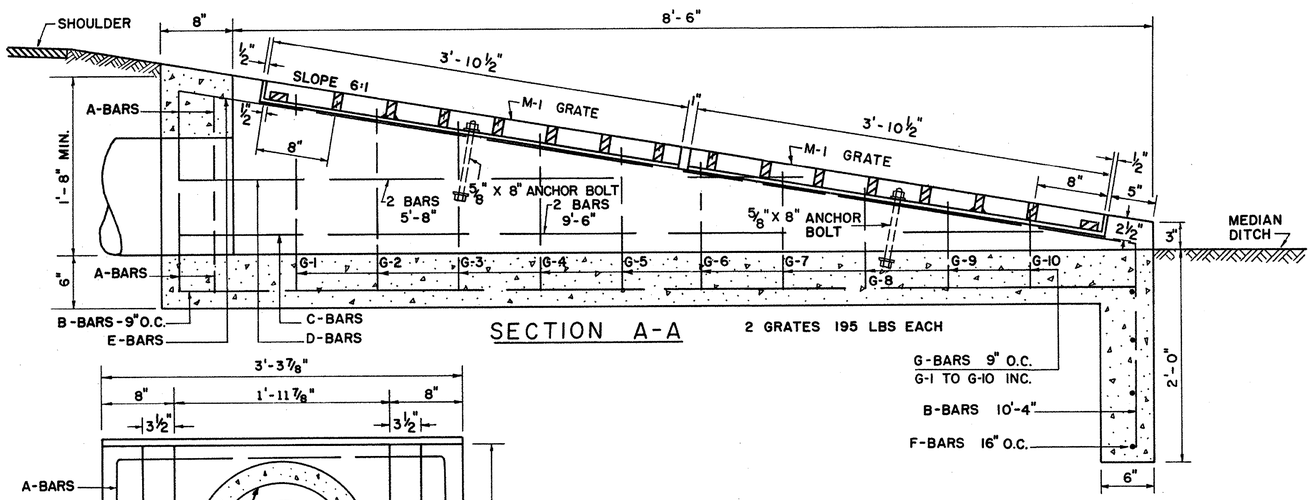
REVISIONS

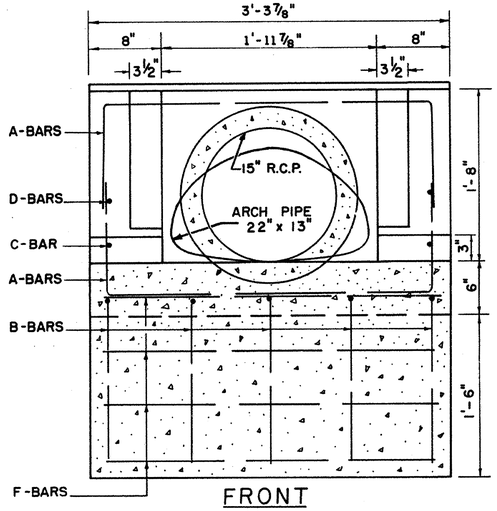
STANDARDIZED DIMENSIONS 12-2-75 R.F.R.

APPROVED _____ 6-22-70
DIRECTOR OF OPERATIONS DATE

_____ 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE







SAFETY END STRUCTURE

1 0 1 2

TABLE OF REINFORCEMENT			
REINFORCEMENT	QTY.	LENGTH	TOTAL LENGTH
A-BARS (3'-0", 1'-3")	4	5'-6"	22'-0"
G-1 BAR (3'-0", 1'-10")	1	6'-8"	6'-8"
G-2 BAR (3'-0", 1'-8")	1	6'-4"	6'-4"
G-3 BAR (3'-0", 1'-7")	1	6'-2"	6'-2"
G-4 BAR (3'-0", 1'-5")	1	5'-10"	5'-10"
G-5 BAR (3'-0", 1'-4")	1	5'-8"	5'-8"
G-6 BAR (3'-0", 1'-2")	1	5'-4"	5'-4"
G-7 BAR (3'-0", 1'-1")	1	5'-2"	5'-2"
G-8 BAR (3'-0", 1'-0")	1	4'-10"	4'-10"
G-9 BAR (3'-0", 0'-10")	1	4'-8"	4'-8"
G-10 BAR (3'-0", 0'-8")	1	4'-4"	4'-4"
B-BARS (8'-10", 1'-9")	5	10'-4"	51'-8"
C-BARS (8'-11", 0'-9")	2	9'-8"	19'-4"
D-BARS STRAIGHT	2	5'-8"	11'-4"
E-BARS STRAIGHT	2	8'-10"	17'-8"
F-BARS STRAIGHT	4	3'-1"	12'-4"
* TOTAL LENGTH 189' 1/2" Ø BARS TOTAL WEIGHT 130 LBS ALL REINFORCING BARS TO BE 1/2" Ø			

* REINFORCING BAR LIST GIVEN FOR ESTIMATING PURPOSES ONLY. COST TO BE INCLUDED IN UNIT PRICE BID FOR STRUCTURE.

NOTE:

SAFETY END STRUCTURES TO BE USED AT EACH END OF CROSSOVER DRAINS.

END STRUCTURE SHALL BE PAID FOR AT A UNIT PRICE BID EACH IN PLACE, INCLUDING M-I GRATES AND REINFORCING STEEL.

THE MINIMUM SLOPE FOR PIPE UNDER CROSSOVERS SHALL BE 0.003.

SEE STANDARD SHEET D-4 FOR M-I GRATE.

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-6-6
CATCH BASIN M.D. & M.S.

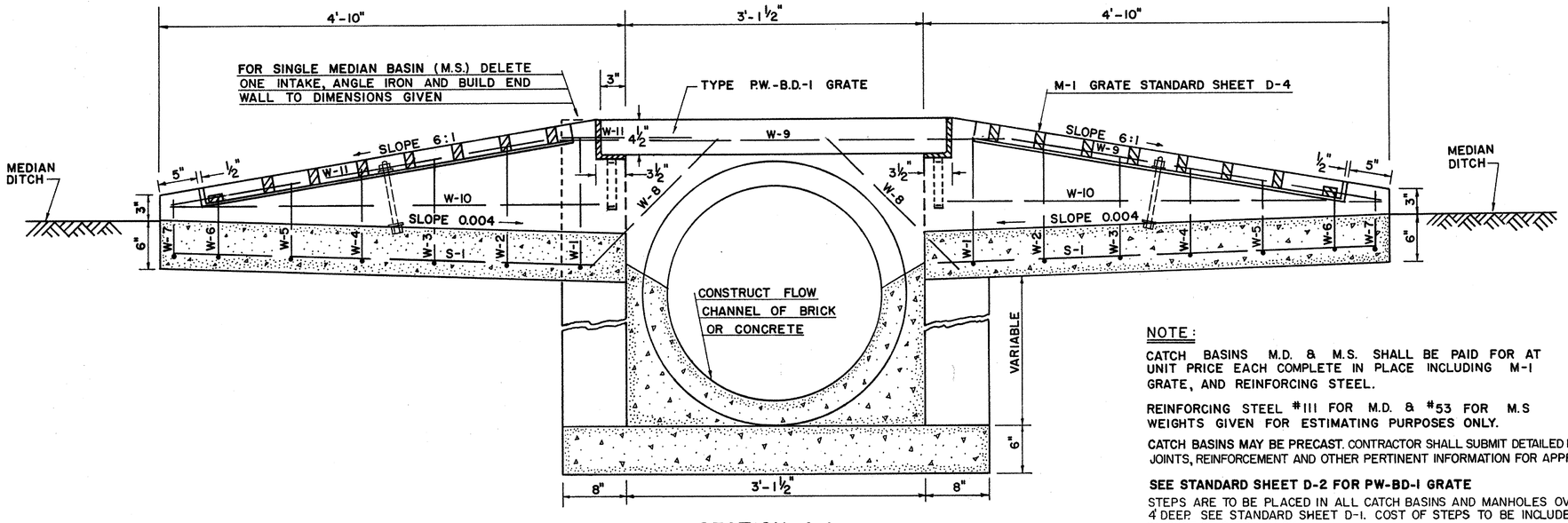
PREL. TRACING Y.N.C. DESIGN E.L.W. CHKD. J.T.B.

REVISIONS

1. 4/1/71, NOMENCLATURE CHANGES FOR A.I.S.C. SPEC., D.M.E.
2. 10/25/74, NOTE REFERRING TO STANDARD SHEET D-2, R.T.C.
3. STANDARDIZED DIMENSIONS 12-2-75 R.F.R.
4. REMOVED CUT-OFF WALL NOTE 5-11-76 R.F.R.
5. ADDED PRECAST NOTE 1-31-77 R.F.R.
6. ADDED STEP NOTE 1-30-81 R.F.R.

APPROVED _____ 6-22-70
DIRECTOR OF OPERATIONS — DATE

_____ 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER — DATE



SECTION A-A

M.D. & M.S. CATCH BASINS

NOTE:

CATCH BASINS M.D. & M.S. SHALL BE PAID FOR AT UNIT PRICE EACH COMPLETE IN PLACE INCLUDING M-I GRATE, AND REINFORCING STEEL.

REINFORCING STEEL #111 FOR M.D. & #53 FOR M.S WEIGHTS GIVEN FOR ESTIMATING PURPOSES ONLY.

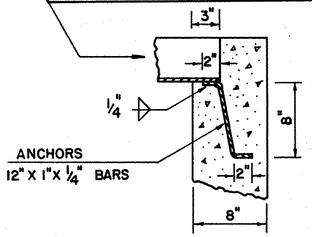
CATCH BASINS MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.

SEE STANDARD SHEET D-2 FOR PW-BD-I GRATE

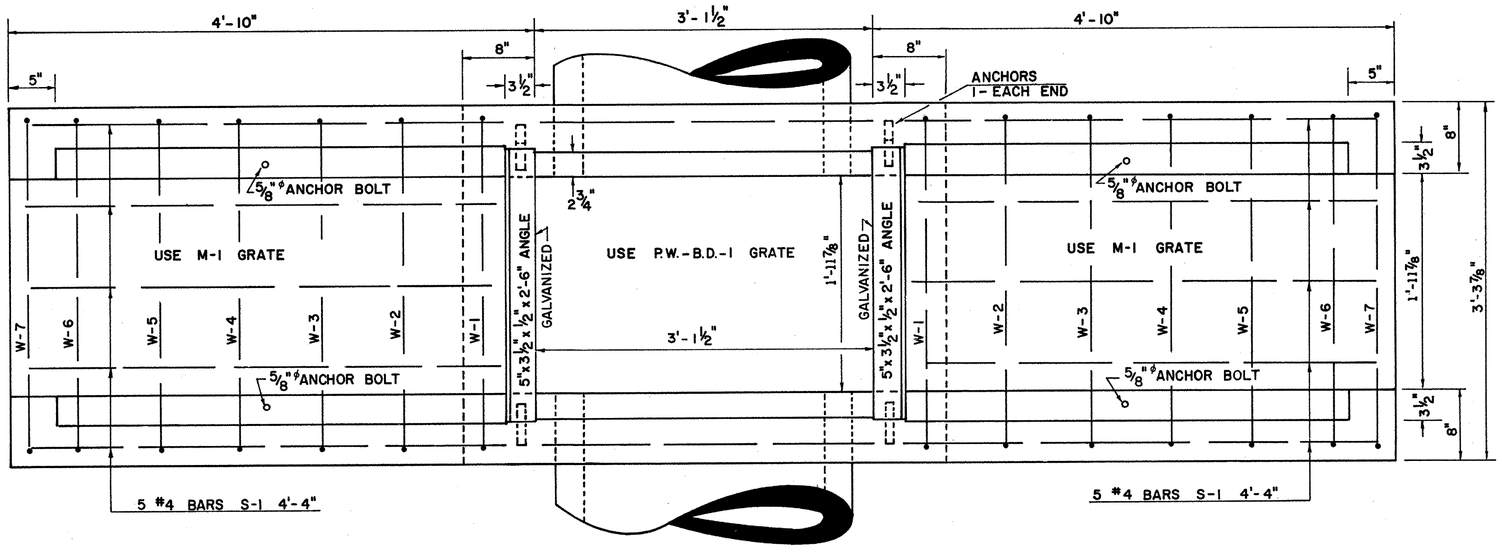
STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD SHEET D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN.

NOTE:

5"X3½"X½"X 2'-6" ANGLE (GALVANIZED)



ANCHOR DETAIL



PLAN

0 1 2

BAR SCHEDULE

STRAIGHT BARS – SIZE 4ϕ

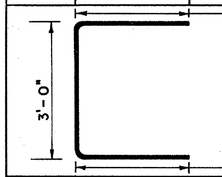
NO.	MARK	LENGTH	TOTAL LENGTH
10	S-1	4'-4"	43'-4"
2	W-11	6'-0"	12'-0" *
4	W-10	4'-4"	17'-4"
2	W-9	8'-2"	16'-4" *
4	W-8	2'-0"	8'-0"

* BEND THESE BARS IN FIELD

BAR SCHEDULE

BENT BARS – SIZE 4ϕ

MARK	BEND	TOTAL LENGTH
W-7	0'-7"	4'-2"
W-6	0'-8"	4'-4"
W-5	0'-10"	4'-8"
W-4	0'-11"	4'-10"
W-3	1'-1"	5'-2"
W-2	1'-3"	5'-6"
W-1	1'-4"	5'-8"



MARK	BEND	TOTAL LENGTH
W-1	1'-4"	5'-8"
W-2	1'-3"	5'-6"
W-3	1'-1"	5'-2"
W-4	0'-11"	4'-10"
W-5	0'-10"	4'-8"
W-6	0'-8"	4'-4"
W-7	0'-7"	4'-2"

M-D #111 M-S #52

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

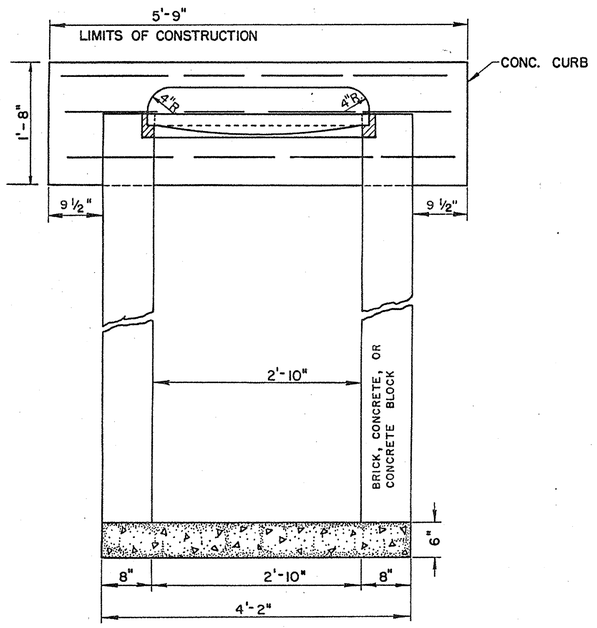
STANDARD SHEET D-7-5
CATCH BASINS A & B, B JUNCTION BOX

PREL. TRACING J.WHITE DESIGN E.L.W. CHKD. J.T.B.

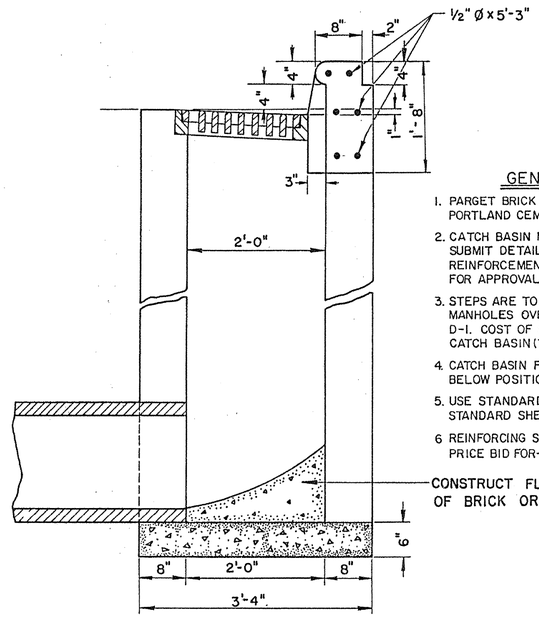
DELETED REQUIREMENT FOR TOP 12" OF P.C.C. MASONRY. 9-25-72 J.T.B.
10/25/74, NOTE REFERRING TO STANDARD SHEET D-1, R.T.C.
STANDARDIZED DIMENSIONS & ADDED FRAME & GRATE NOTE 12-2-75 R.F.R.
ADDED PRECAST NOTE 1-31-77 R.F.R.
REVISED NOTES, ADDED STEP NOTE 1-30-81 R.F.R.

APPROVED _____ 6-22-70
DIRECTOR OF OPERATIONS DATE

_____ 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE



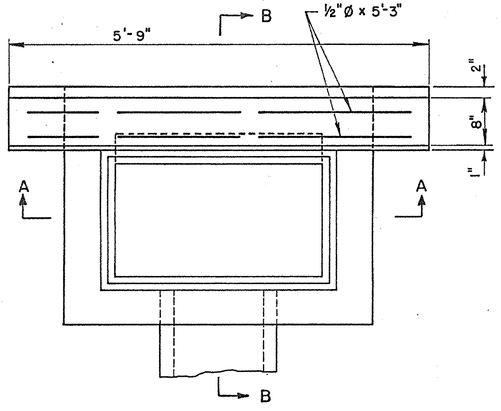
SECTION A-A



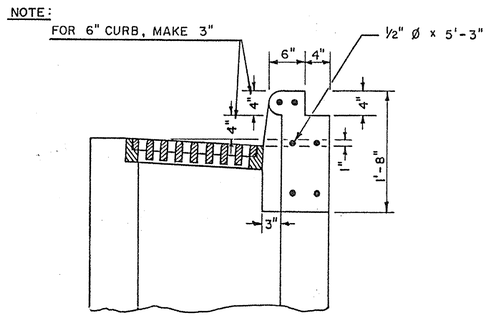
SECTION B-B

GENERAL NOTES

1. PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.
2. CATCH BASIN MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.
3. STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD SHEET D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN (THIS ALSO REFERS TO B JUNCTION BOXES).
4. CATCH BASIN FRAME AND MAY BE DEPRESSED 1/2" BELOW POSITION SHOWN, WHEN DIRECTED.
5. USE STANDARD CATCH BASIN FRAME & GRATE SEE STANDARD SHEET D-1.
6. REINFORCING STEEL IS TO BE INCLUDED IN UNIT PRICE BID FOR- A CATCH BASIN.



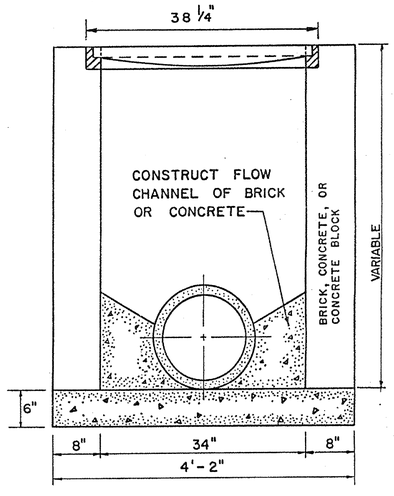
PLAN



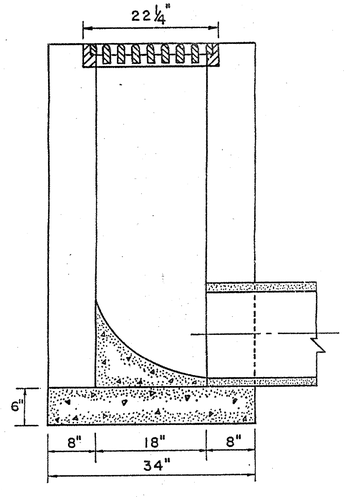
SECTION B-B

A CATCH BASIN

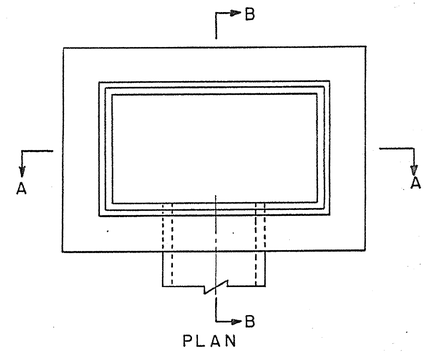
1 0 1 2



SECTION A-A



SECTION B-B



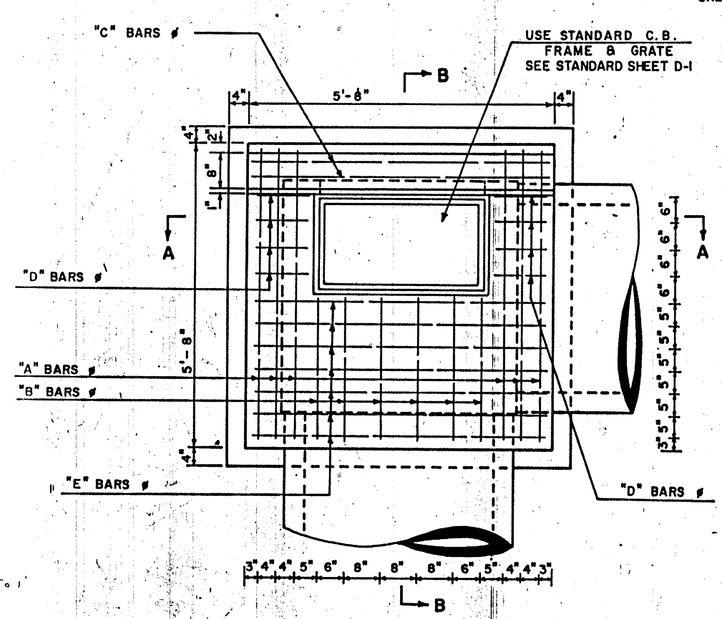
PLAN

B CATCH BASIN (as shown) OR B JUNCTION BOX*

1 0 1 2

* The cover shown on sheet D-1 is substituted for the grate. This is the only difference.

1. PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.
2. UPPER 12" OF STRUCTURE TO BE OF R.C.C. MASONRY.
3. CATCH BASIN MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.
4. STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD SHEET D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN.

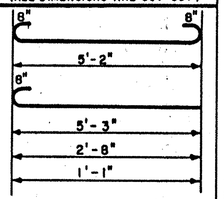


PLAN

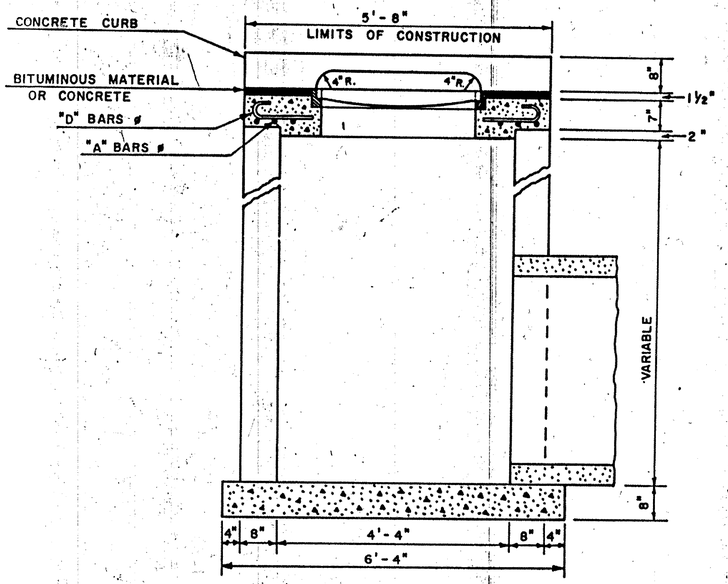
BILL OF MATERIALS

REINF. STEEL	NO.	SIZE	LENGTH	MARK
BENT BARS				
	7	5/8"ø	6'-6"	E
	6	5/8"ø	5'-11"	A
	6	5/8"ø	3'-4"	B
	8	5/8"ø	1'-9"	D
STRAIGHT BARS				
	6	5/8"ø	5'-4"	C

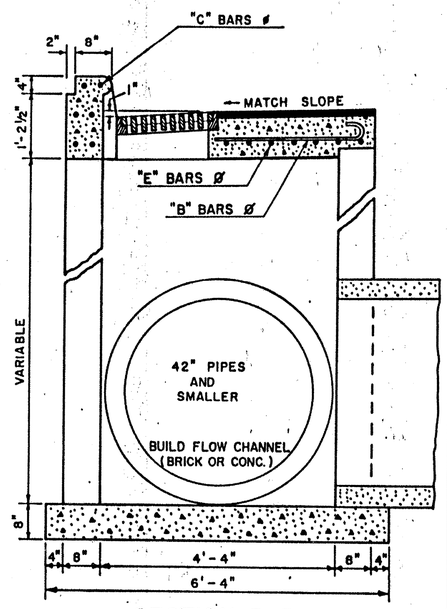
BENDING DIAGRAM (ALL DIMENSIONS ARE OUT-OUT)



NOTE: ALL REINFORCING STEEL TO BE INCLUDED IN UNIT PRICE BID FOR CATCH BASIN.



SECTION A-A

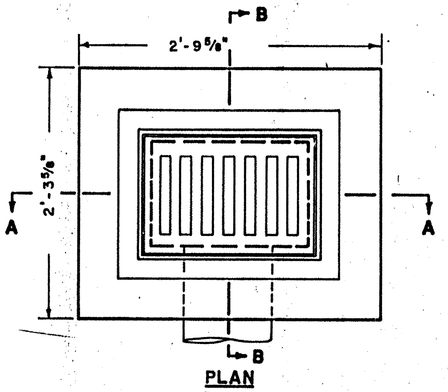


SECTION B-B

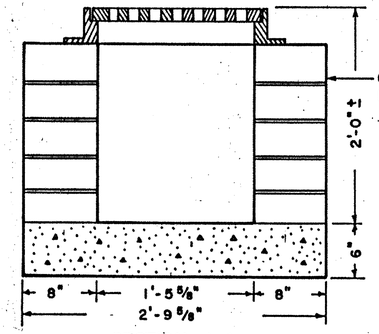
A-A CATCH BASIN

A-A CATCH BASIN FRAME AND GRATE MAY BE DEPRESSED 1/2" BELOW POSITION SHOWN, WHEN DIRECTED.

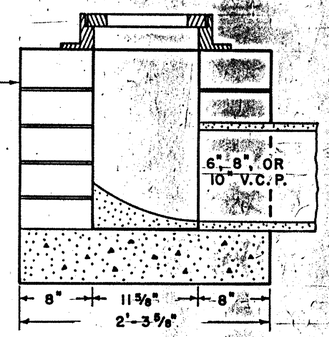
0 1 2 3



PLAN



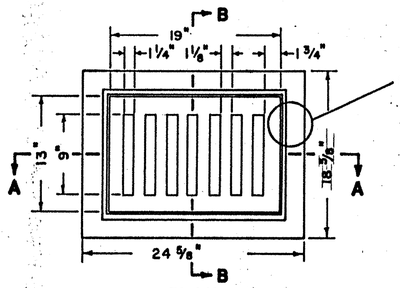
SECTION A-A



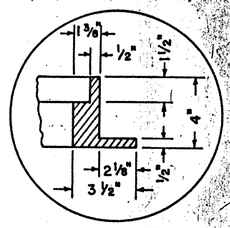
SECTION B-B

LAWN CATCH BASIN

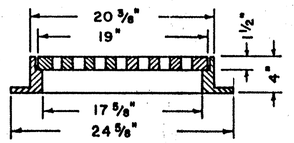
0 2



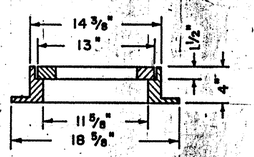
PLAN



DETAIL OF FRAME



SECTION A-A



SECTION B-B

FRAME AND GRATE

APPROX. WT. : FRAME & GRATE 160 LBS.

COUNTY	CONTRACT	P.R.S. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.		122	128

STANDARD SHEET D-8-6
CATCH BASINS A-A & LAWN

PREL. TRACING J.T.B. DESIGN E.L.W. CHKD. Y.N.C.

REVISIONS

1. ADDED LAWN CATCH BASIN. 9-25-70 J.T.B.
2. NOTE ADDED CONSTRUCT OF BRICK OR CONC. 1-27-71 Y.N.C.
3. 10/25/74, NOTE REFERRING TO STANDARD SHEET D-1, R.T.C.
4. ADDED FRAME & GRATE NOTE 12-2-75 R.F.R.
5. ADDED PRECAST NOTE 1-31-77 R.F.R.
6. ADDED STEP NOTE 1-30-81 R.F.R.

APPROVED Erik Ivar Bruun 6-23-70
DIRECTOR OF OPERATIONS DATE
Lee S. Robinson 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-9-7

CATCH BASINS J, J MOD., SD-1A

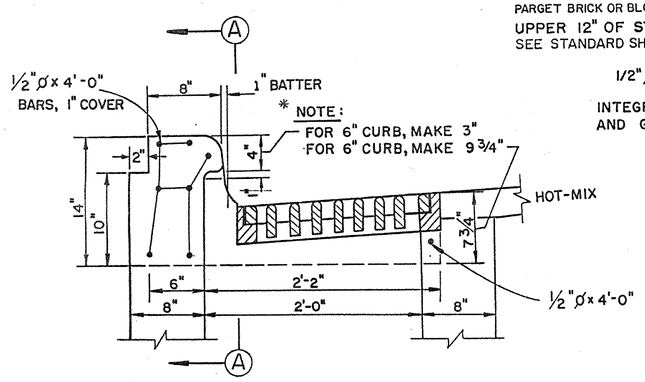
PREL. TRACING J. WHITE DESIGN E.L.W. CHKD. J.T.B.

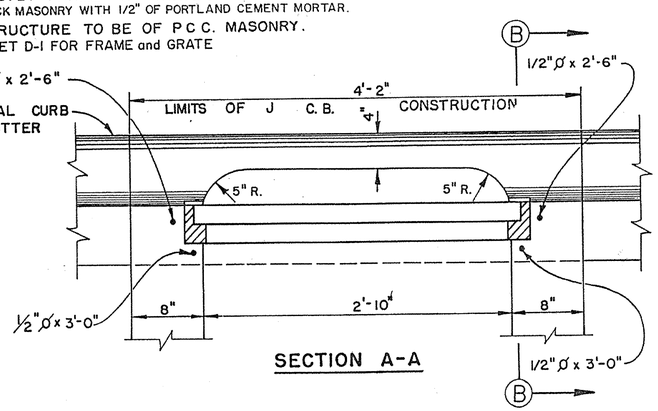
1 3/31/71 NOMENCLATURE CHANGES FOR A.I.S.C. SPEC - D.M.E.
2 5/12/73 ADDED FILLETS OF 5" R. TO SECTION A-A OF J CATCH BASIN - J.T.B.
3 10/25/74 NOTE REFERING TO STANDARD SHEET D-1 - R.T.C.
4 12/2/75 STANDARDIZED DIMENSIONS AND ADDED FRAME AND GRATE NOTE - R.F.R.
5 5/1/76 ADDED PAYMENT LIMIT DIMENSION - R.F.R.
6 ADDED PRECAST NOTE 1-31-77 R.F.R.
7 ADDED STEP NOTE 1-30-81 R.F.R.

APPROVED _____ 6-23-70
DIRECTOR OF OPERATIONS DATE

_____ 6/22/70
DEPUTY DIRECTOR - CHIEF ENGINEER DATE

NOTE.
USE STANDARD C.B. FRAME & GRATE.
PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.
UPPER 12" OF STRUCTURE TO BE OF P.C.C. MASONRY.
SEE STANDARD SHEET D-1 FOR FRAME and GRATE

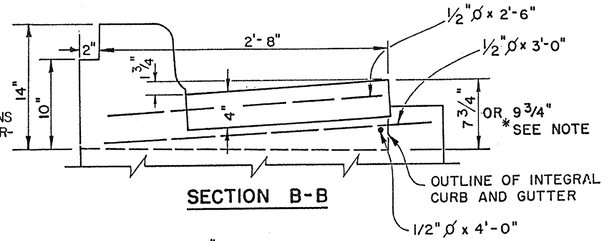




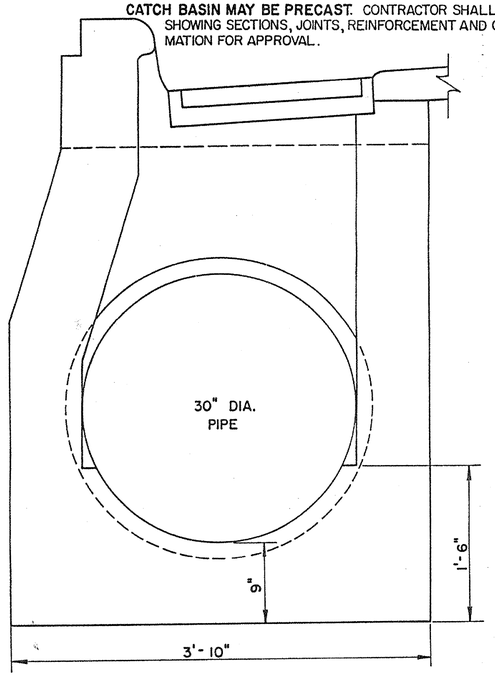
SECTION A-A

NOTE:
CATCH BASIN FRAME AND GRATING MAY BE SET 1/2" BELOW POSITION SHOWN, WHERE DIRECTED BY THE ENGINEER.
REINFORCING STEEL SHALL CONFORM TO SECTION 605.
PAYMENT IS TO BE INCLUDED IN UNIT PRICE BID FOR J CATCH BASINS.

CATCH BASIN MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.

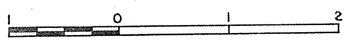


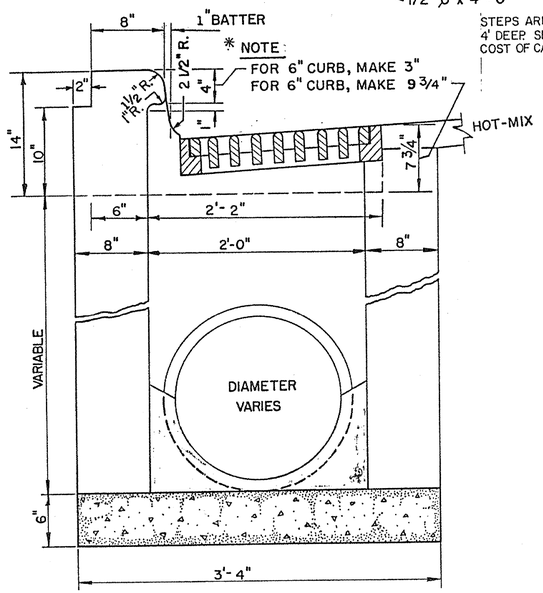
SECTION B-B



J MODIFIED CATCH BASIN (30" PIPE)

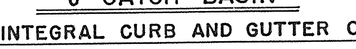
FOR INTEGRAL CURB AND GUTTER ONLY



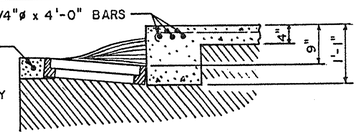


J CATCH BASIN

FOR INTEGRAL CURB AND GUTTER ONLY



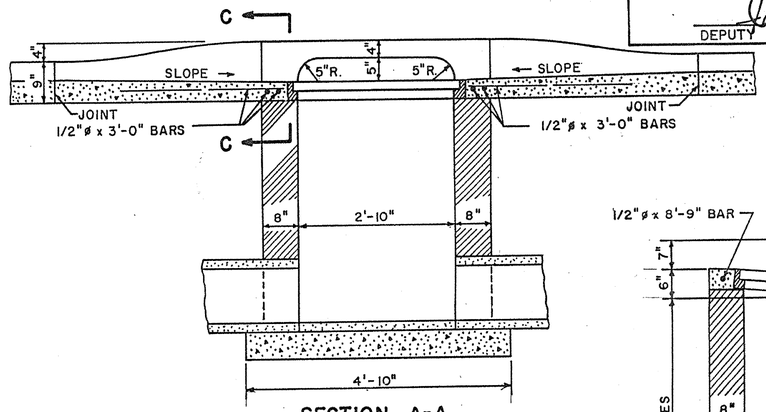
STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN.



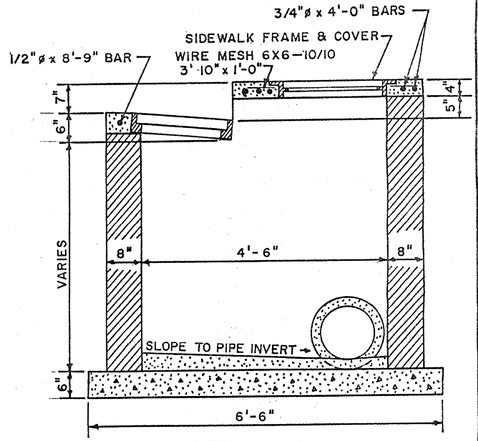
NOTE:
PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.

UPPER 12" OF STRUCTURE TO BE OF P.C.C. MASONRY.

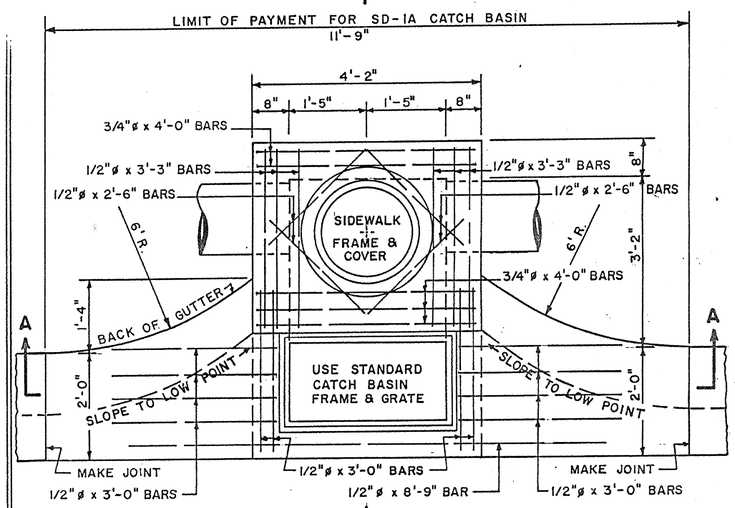
SECTION C-C



SECTION A-A



SECTION B-B



PLAN

TABLE OF REINFORCEMENT			
SIZE	LENGTH	QUANTITY	TOTAL LENGTH
1/2" ø	2'-6"	4	10'-0"
"	3'-0"	12	36'-0"
"	3'-3"	6	19'-6"
"	8'-9"	1	8'-9"
3/4" ø	4'-0"	5	20'-0"
WIRE MESH 6X6-10/10	3'-10" x 1'-0"	1	3'-10" x 1'-0"

NOTE.
BAR SCHEDULE FOR ESTIMATING PURPOSES ONLY.

Note: SEE STANDARD SHEET D-1 FOR FRAME and GRATE and SIDEWALK FRAME and COVER

CATCH BASIN FRAME AND GRATE MAY BE DEPRESSED 1/2" BELOW POSITION SHOWN, WHEN DIRECTED.

CATCH BASIN MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.

SD-1A CATCH BASIN

© KEUFFEL & ESSER CO. MYLAR

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-10-6

CATCH BASIN DOUBLE SD-1A

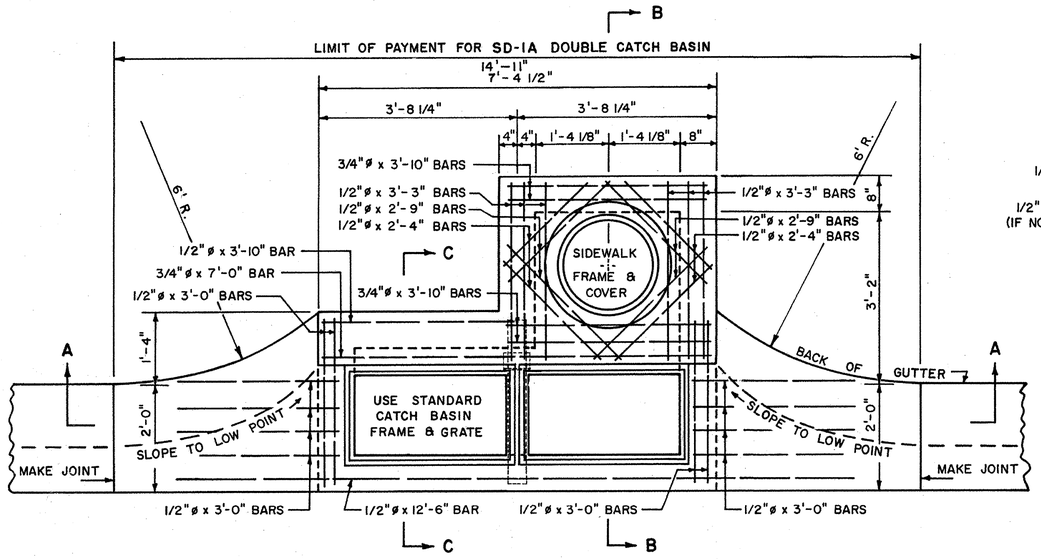
PREL. TRACING J.T.B. DESIGN E.L.W. CHKD. Y.N.C.

REVISIONS

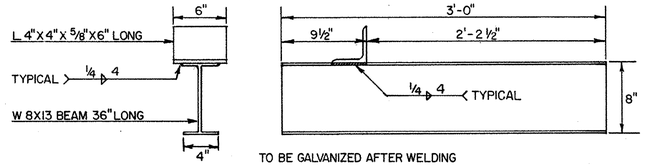
3/31/71, NOMENCLATURE CHANGES FOR A.I.S.C. SPEC., D.M.E.
10/25/74, NOTE REFERRING TO STANDARD SHEET D-1, R.T.C.
12/2/75, STANDARDIZED DIMENSIONS & ADDED FRAME & GRATE NOTE - R.F.R.
5/11/76, ADDED PAYMENT LIMIT DIMENSION - R.F.R.
1/31/77, REVISED NOTES AND SUPPORT BEAM. REMOVED COLUMN SUPPORT. R.F.R.
1/30/81, ADDED STEP NOTE R.F.R.

APPROVED _____ 6-22-70
DIRECTOR OF OPERATIONS DATE

_____ 6/22/70
DEPUTY DIRECTOR-CHIEF ENGINEER DATE

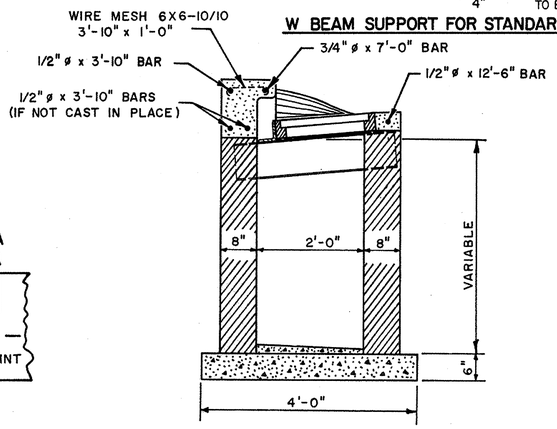


PLAN

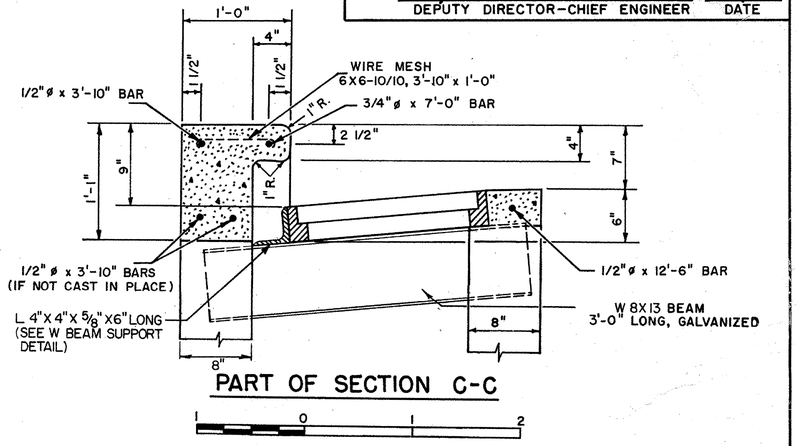


TO BE GALVANIZED AFTER WELDING

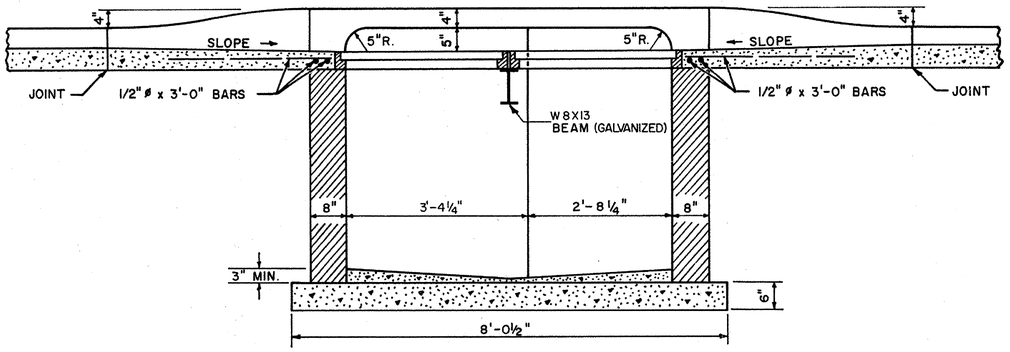
W BEAM SUPPORT FOR STANDARD CATCH BASIN FRAMES AND GRATES



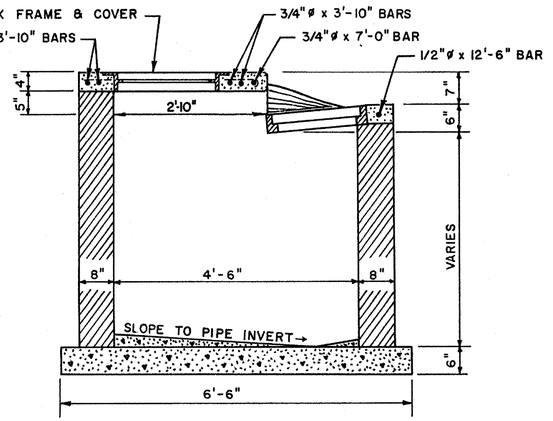
SECTION C-C



PART OF SECTION C-C



SECTION A-A



SECTION B-B

TABLE OF REINFORCEMENT			
SIZE	LENGTH	QUANTITY	TOTAL LENGTH
1/2" ø	12'-6"	1	12'-6"
"	3'-10"	1	3'-10"
"	3'-3"	6	19'-6"
"	3'-0"	12	36'-0"
"	2'-9"	4	11'-0"
"	2'-4"	4	9'-4"
3/4" ø	7'-0"	1	7'-0"
"	3'-10"	4	15'-4"
WIRE MESH 6X6-10/10	3'-10" x 1'-0"	2	7'-8" x 1'-0"

NOTE:
BAR SCHEDULE FOR ESTIMATING PURPOSES ONLY.

DOUBLE SD-1A CATCH BASIN

NOTES:

SLOPE CONCRETE FLOOR TO INVERT OF OUTLET PIPE.

PLACE W 8X13 BEAM, 3'-0" LONG, GALVANIZED, AS SUPPORT FOR STANDARD CATCH BASIN FRAME AND GRATE. COST TO BE INCLUDED IN UNIT PRICE BID FOR STRUCTURE.

PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.

UPPER 12" OF STRUCTURE TO BE OF P.C.C. MASONRY.

SEE STANDARD SHEET D-1 FOR FRAME and GRATE and SIDEWALK FRAME and COVER

CATCH BASIN FRAME AND GRATE MAY BE DEPRESSED ½" BELOW POSITION SHOWN, WHEN DIRECTED.

CATCH BASINS MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.

STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN.

© MIL PRINT MYLAR

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-11-8

CATCH BASINS S.D.-1 & S.D.-2A

PREL. TRACING J.T.B. DESIGN E.L.W. CHKD. Y.N.C.

REVISIONS

1. DELETED S.D.-2 CATCH BASIN - 7/21/70 - J.T.B.
2. DELETED WEEP HOLE IN S.D.-1 CATCH BASIN - 9/8/70 - J.T.B.
3. 3/6/71, NOMENCLATURE CHANGES FOR A.I.S.C. SPEC. - D.M.E.
4. 10/25/74, NOTE REFERING TO STANDARD SHEET D-1, R.T.C.
5. 12/2/75, STANDARDIZED DIMENSIONS, ADDED FRAMES & GRATES NOTE & REMOVED S.D.-2A RESTRICTION NOTE. - R.F.R.
6. 5/11/76, CORRECTED PAYMENT LIMIT DIMENSIONS. - R.F.R.
7. 11/21/77 ADDED BEAM DETAIL, REV. ANGLE DIMENSIONS - R.F.R.
8. 7/30/81 REVISED NOTES - R.F.R.

APPROVED _____ DIRECTOR OF OPERATIONS 8-27-70 DATE

_____ DEPUTY DIRECTOR-CHIEF ENGINEER 6/22/70 DATE

NOTE:

SEE STANDARD SHEET D-1 FOR FRAME and GRATE. APPLIES TO BOTH CATCH BASINS

CATCH BASIN FRAMES AND GRATES MAY BE DEPRESSED 1/2" BELOW POSITION SHOWN, WHEN DIRECTED.

CATCH BASINS MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.

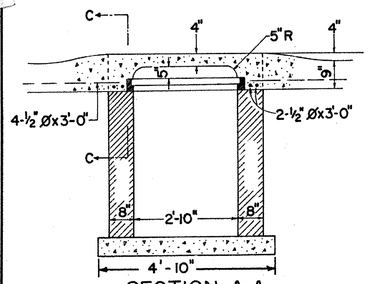
STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD SHEET D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN.

USE STANDARD C. B. FRAME & GRATE.

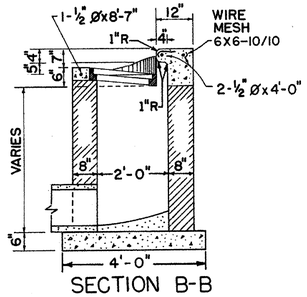
PLACE JOINT AT POINTS WHERE CATCH BASIN GUTTER BECOMES NORMAL GUTTER.

UPPER 12" OF STRUCTURE TO BE OF P.C.C. MASONRY.

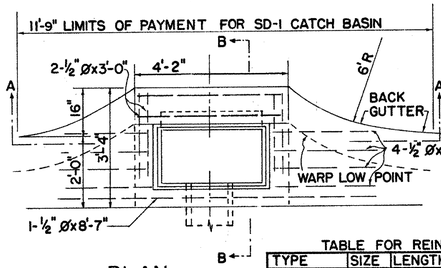
PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.



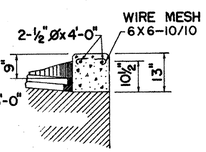
SECTION A-A



SECTION B-B



PLAN



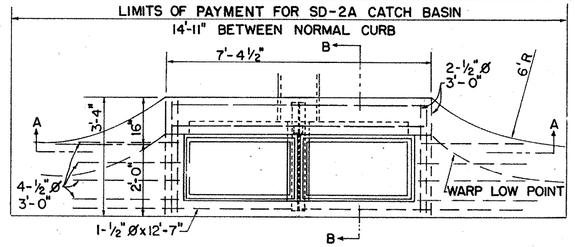
SECTION C-C

TABLE FOR REINFORCEMENT

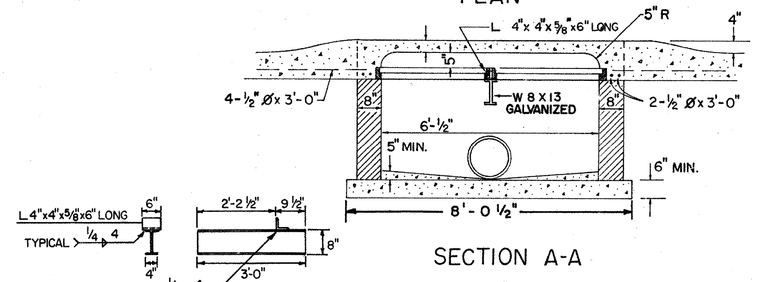
TYPE	SIZE	LENGTH	QTY.	TOTAL L'TH	WT. (LB)
ROUND BAR	½"	4'-0"	2	8'-0"	5.3
" "	½"	3'-0"	12	36'-0"	24.0
" "	½"	8'-7"	1	8'-7"	5.7
TOTAL	½"				35.0
WIRE MESH	6X6-10/10	4'-0" X 12"	1	4'-0" X 12"	

SD-1 CATCH BASIN

1 0 1 2 3 4



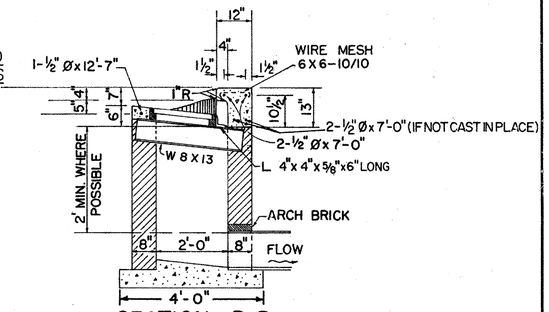
PLAN



SECTION A-A

TO BE GALVANIZED AFTER WELDING

W BEAM SUPPORT FOR STANDARD CATCH BASIN FRAMES AND GRATES



SECTION B-B

TABLE FOR REINFORCEMENT

TYPE	SIZE	LENGTH	QTY.	TOTAL L'TH	
ROUND BAR	½"	3'-0"	12	36'-0"	
" "	"	7'-0"	2	14'-0"	
" "	"	7'-0"	2	14'-0"	IF NOT CAST IN PLACE
" "	"	12'-7"	1	12'-7"	
WIRE MESH	6X6-10/10	7'-0" X 12"	1	7'-0" X 12"	

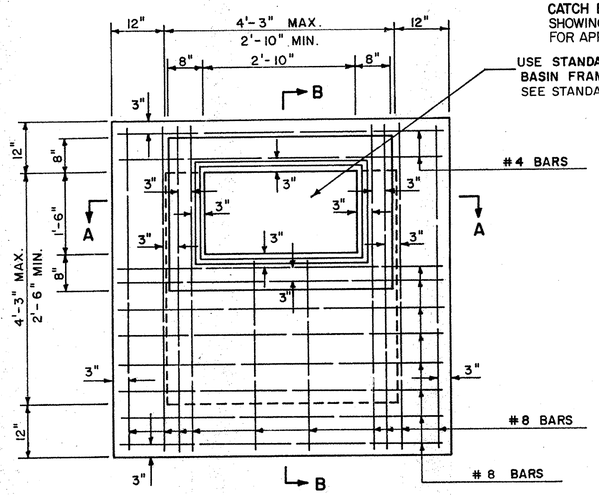
SD-2A CATCH BASIN

1 0 1 2 3

NOTE:
PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.
CATCH BASINS MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL

USE STANDARD CATCH BASIN FRAME & GRATE SEE STANDARD SHEET D-1

STEPS ARE TO BE PLACED IN ALL CATCH BASINS AND MANHOLES OVER 4' DEEP. SEE STANDARD SHEET D-1. COST OF STEPS TO BE INCLUDED IN COST OF CATCH BASIN.



PLAN

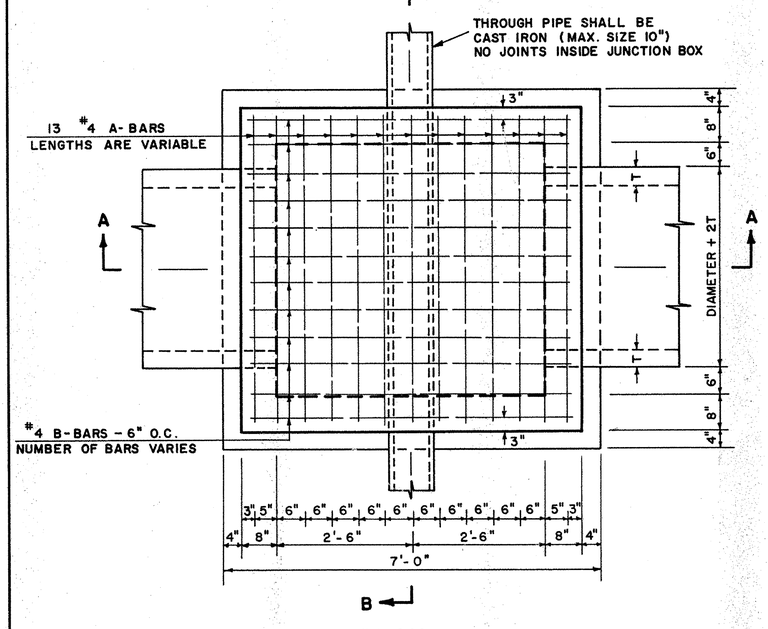
SECTION A-A SECTION B-B

B-2 CATCH BASIN

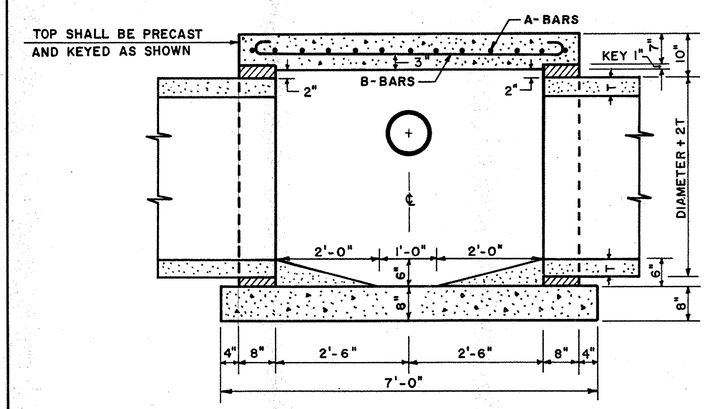
1 0 1 2 3

NOTE:
PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.
JUNCTION BOXES MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL

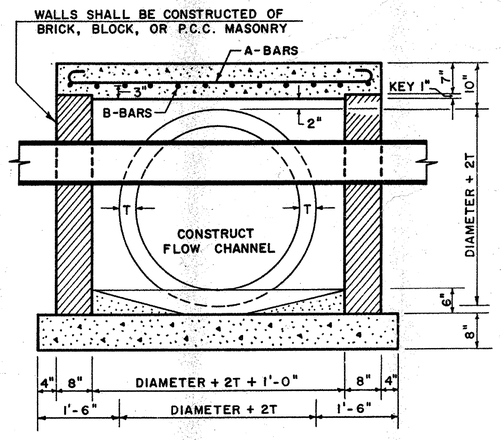
THROUGH PIPE SHALL BE CAST IRON (MAX. SIZE 10") NO JOINTS INSIDE JUNCTION BOX



PLAN



SECTION A-A

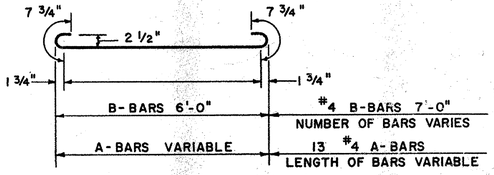


SECTION B-B

JUNCTION BOX A

1 0 1 2 3

BAR BENDING DIAGRAM



NOTES:
(1) THIS STRUCTURE IS TO USED WHERE UTILITY CONFLICT CANNOT BE AVOIDED AND UTILITY LINE 10"ϕ OR LESS.
(2) THE COST OF CAST IRON PIPE AND REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR STRUCTURE.

COUNTY	CONTRACT	P. R. A. REG. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-12-3
CATCH BASIN B-2, JUNCTION BOX A

PREL. TRACING J.T.B. DESIGN E.L.W. CHKD. Y.N.C.

REVISIONS
1. 10/25/74, NOTE REFERRING TO STANDARD SHEET D-1, R.T.C.
2. 1/31/77, ADD PRECAST NOTES R.F.R.
3. 1/30/81, ADD STEP NOTE R.F.R.

APPROVED _____ DIRECTOR OF OPERATIONS 6-22-70 DATE

Jae S. Robinson DEPUTY DIRECTOR-CHIEF ENGINEER 6/22/70 DATE

COUNTY	CONTRACT	P.R.A. REF. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
		2	DEL.			

STANDARD SHEET D-13-1
JUNCTION BOX NO. 1 & NO. 2

PREL. TRACING J.W. DESIGN E.L.W. CHKD. Y.N.C.

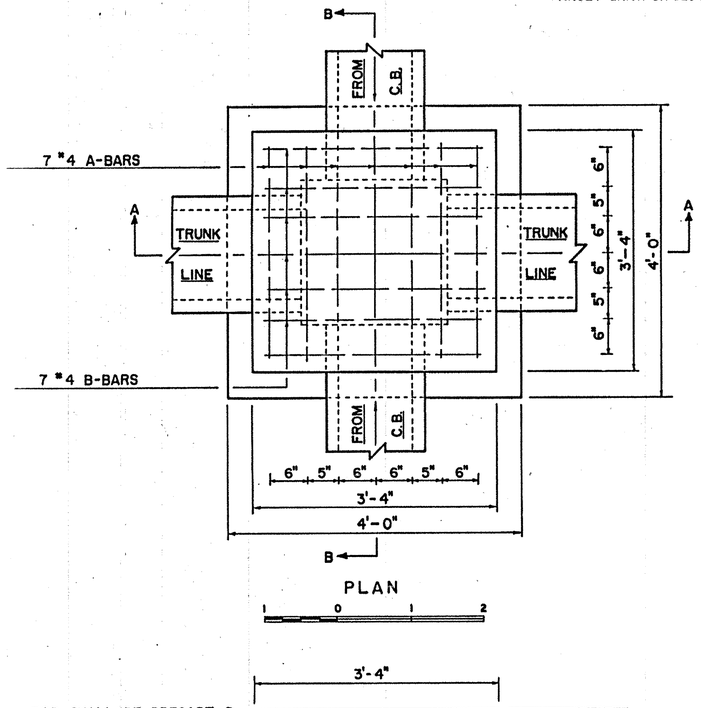
REVISIONS

1/31/77, ADD PRECAST NOTES R.F.R.
12/18/79, ADD UTILITY CONFLICT NOTES R.F.R.

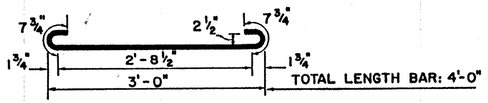
APPROVED _____ 6-27-78
DIRECTOR OF OPERATIONS DATE

_____ 6/22/78
DEPUTY DIRECTOR-CHIEF ENGINEER DATE

PARGET BRICK OR BLOCK MASONRY WITH 1/2" OF PORTLAND CEMENT MORTAR.



BAR BENDING DIAGRAM



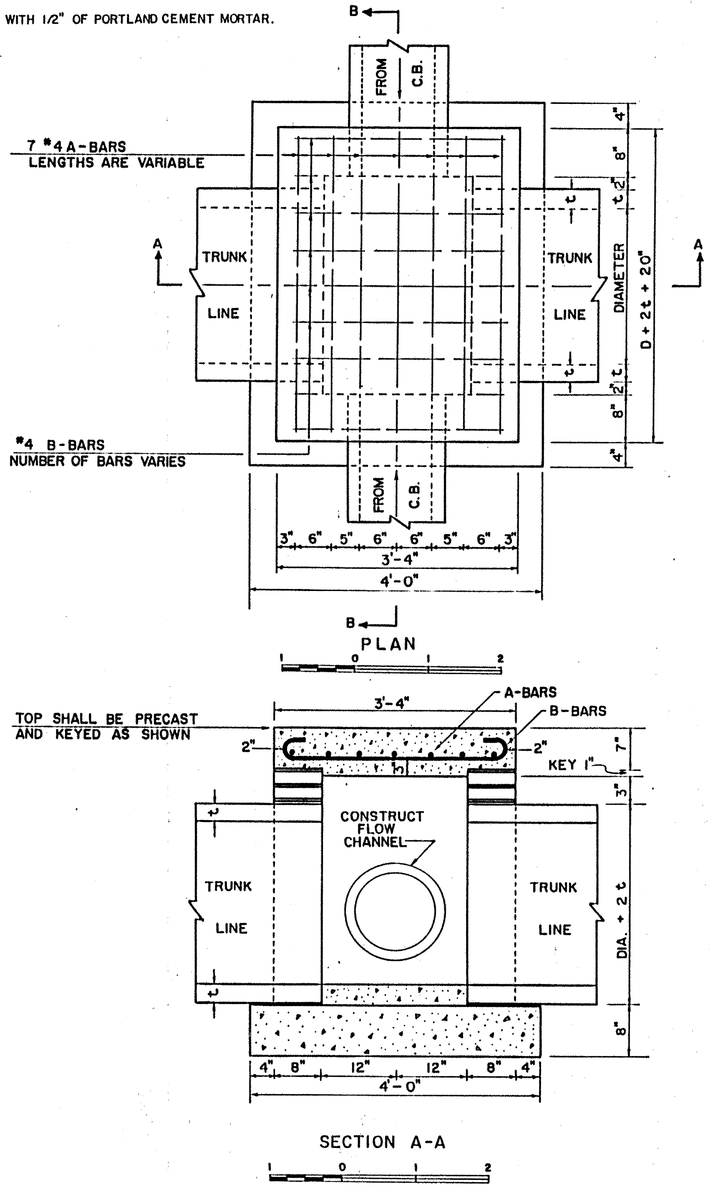
14 #4 BARS 4'-0" = 56'-0" WT. 38 LBS.

JUNCTION BOX NO. 1

THIS STRUCTURE TO BE USED FOR CONNECTIONS TO TRUNK LINES BETWEEN MANHOLES (MAXIMUM PIPE SIZE 18") AND NOT TO BE USED FOR UTILITY CONFLICTS

REINFORCING STEEL INCLUDED IN UNIT PRICE BID FOR STRUCTURE

JUNCTION BOXES MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER INFORMATION FOR APPROVAL.

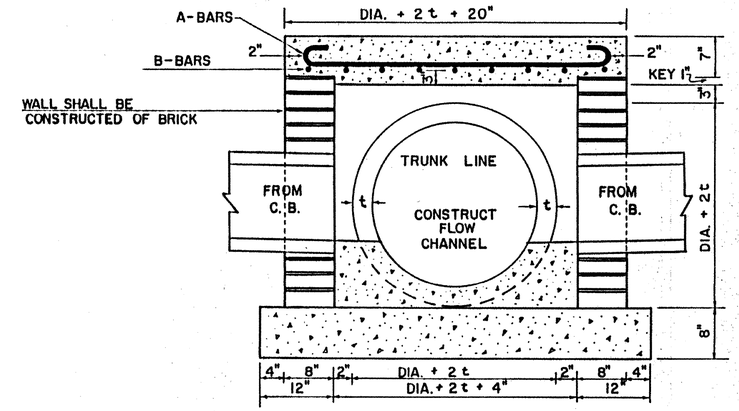


JUNCTION BOX NO. 2

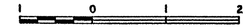
THIS STRUCTURE TO BE USED FOR CONNECTIONS TO TRUNK LINES BETWEEN MANHOLES (PIPE SIZES 21" THRU 48" INCLUSIVE) AND NOT TO BE USED FOR UTILITY CONFLICTS

REINFORCING STEEL INCLUDED IN UNIT PRICE BID FOR STRUCTURE

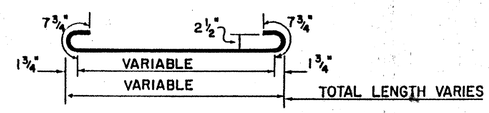
JUNCTION BOXES MAY BE PRECAST. CONTRACTOR SHALL SUBMIT DETAILED PLANS SHOWING SECTIONS, JOINTS, REINFORCEMENT AND OTHER PERTINENT INFORMATION FOR APPROVAL.



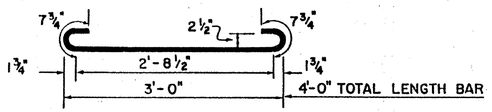
SECTION B-B



BAR BENDING DIAGRAM



7 - #4 A-BARS VARIABLE LENGTHS



#4 - B-BARS
NUMBER OF BARS VARIES