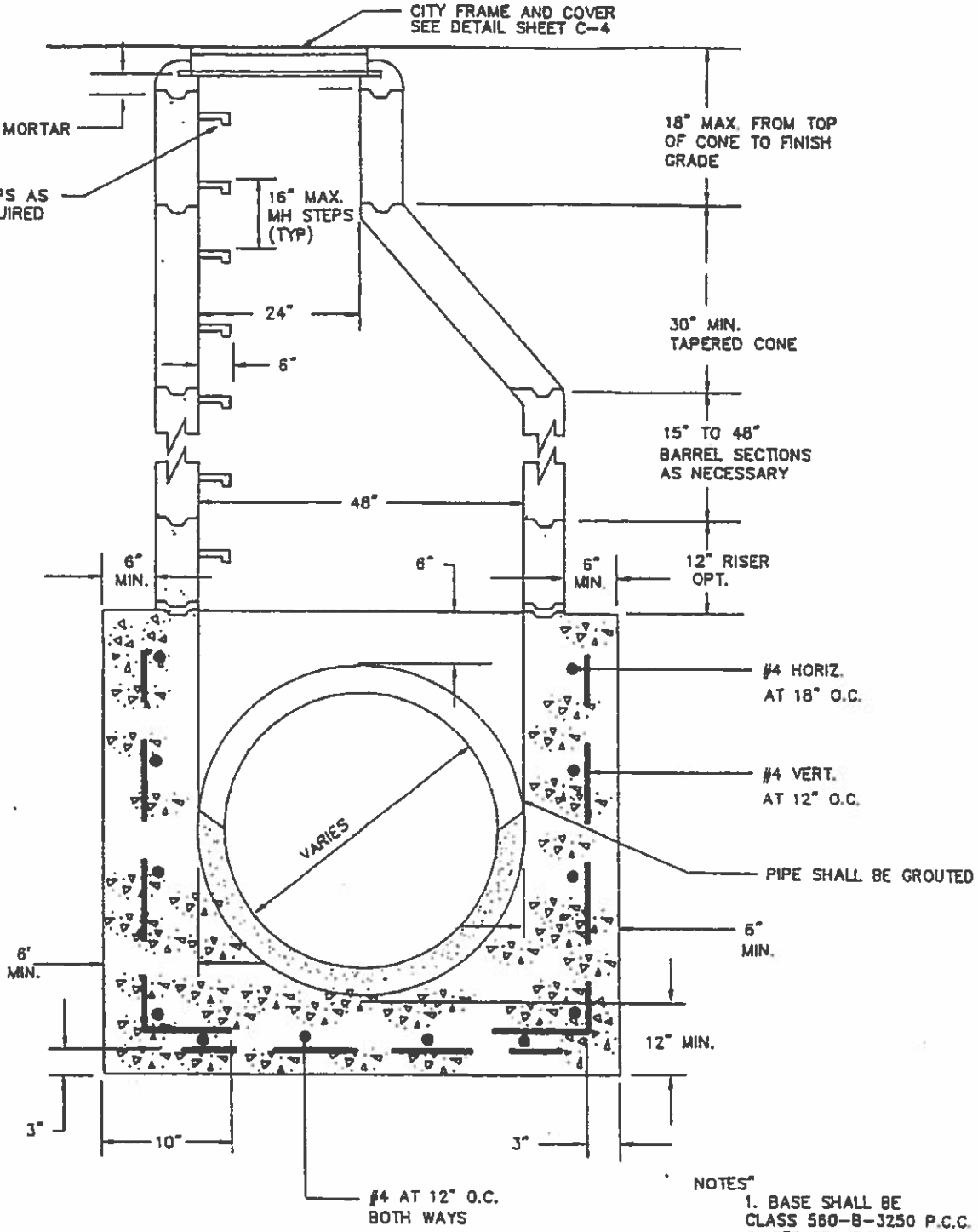
SECTION D STORM DRAIN IMPROVEMENTS



SECTION A-A

NOTES"

1. BASE SHALL BE CLASS 560-B-3250 P.C.C.
2. SEE STANDARD DETAIL C-2 FOR CONSTRUCTION AND MATERIAL NOTES
2. ALL REINFORCING BARS SHALL BE PREFORMED BILLET BARS AS PER ASTM A615

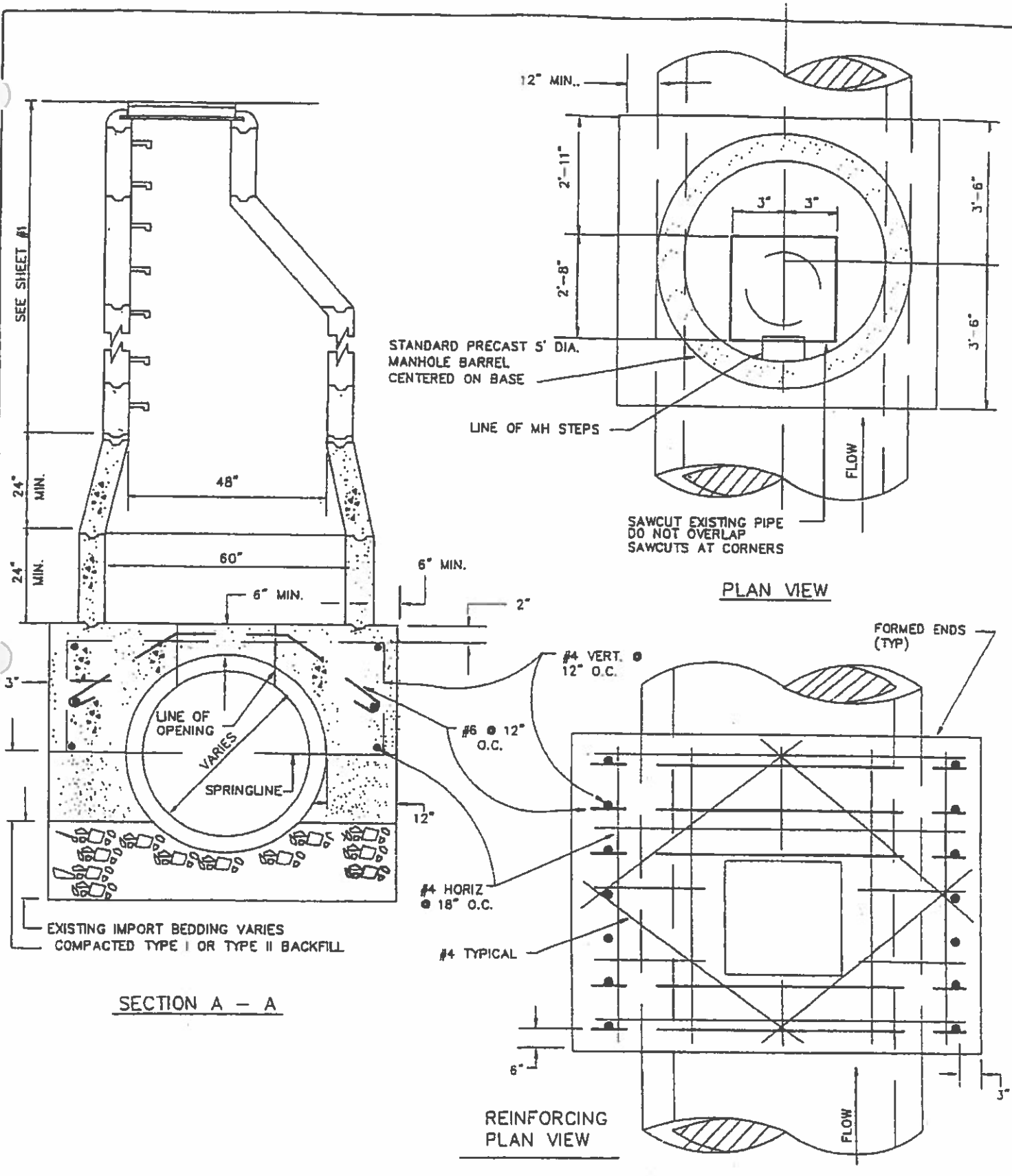
TYPE II ECCENTRIC MANHOLE (36" TO 48")

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-1-1 SHEET 1 OF 2



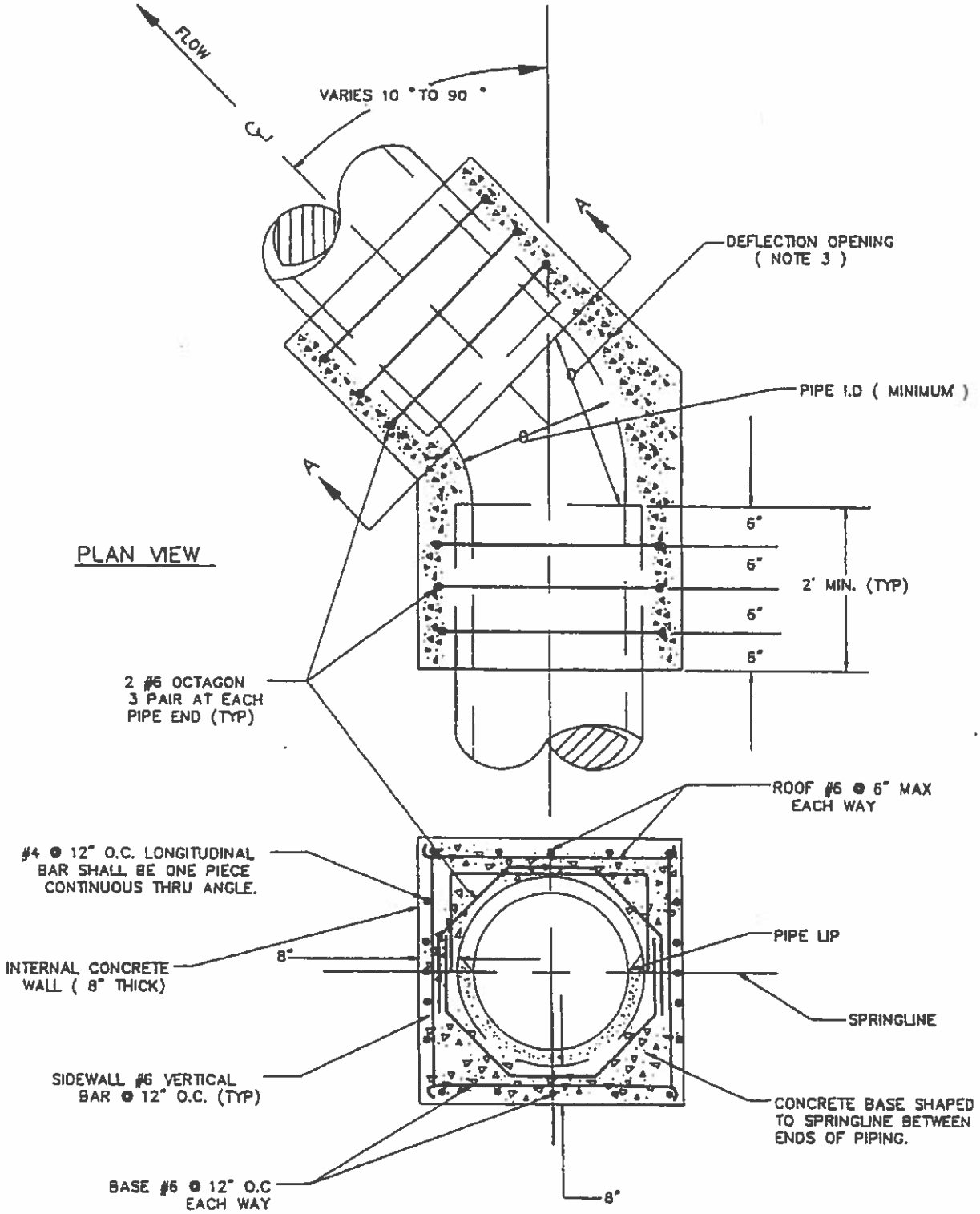
TYPE III ECCENTRIC MH (51" & LARGER PIPE)

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D–1–2 SHEET 2 OF 2



ANGLE MANHOLE P.I. BASE

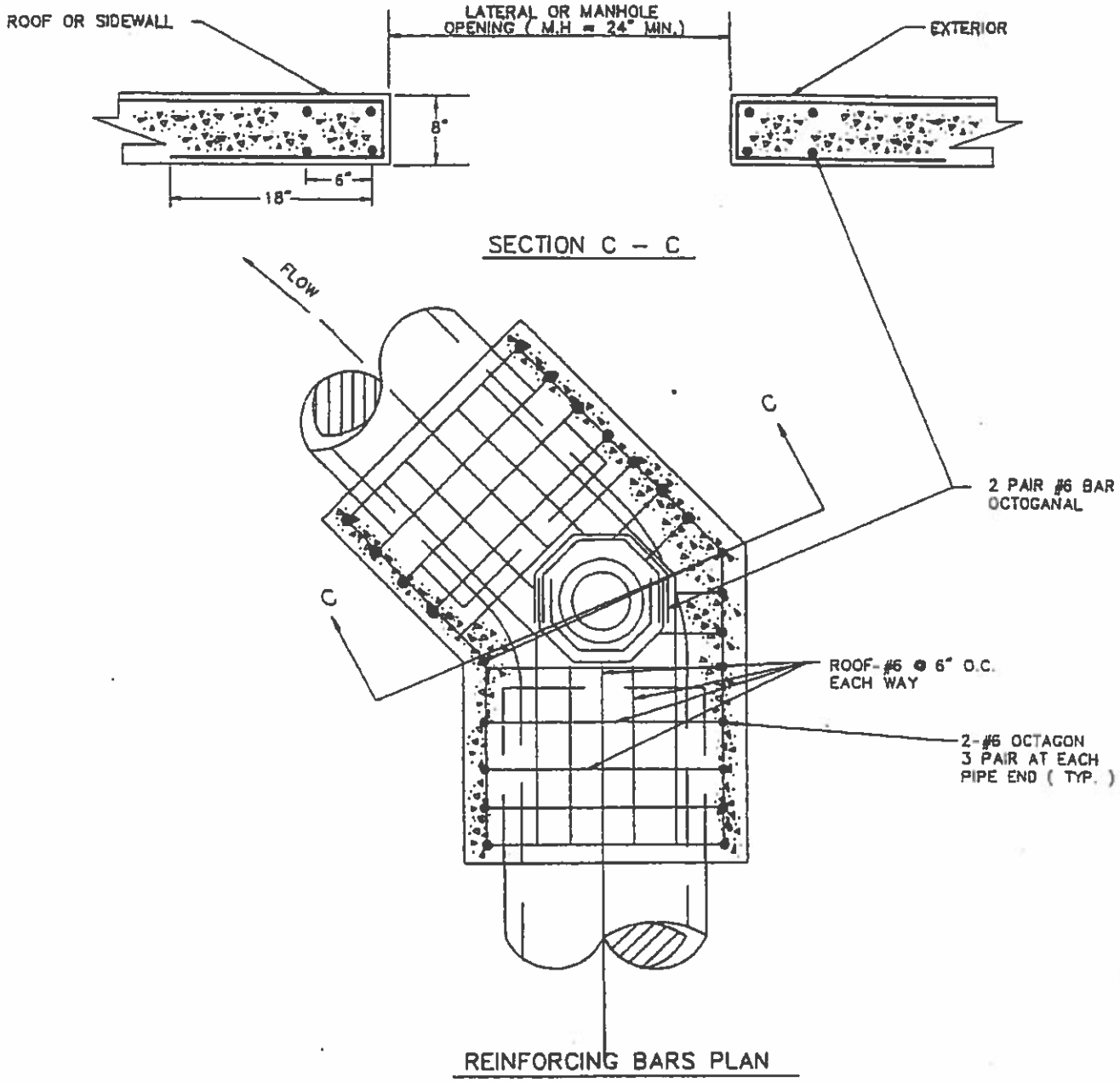
CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D–2–1

SHEET 1 OF 2



NOTES:

1. THE CONTRACTOR MAY ELECT TO CONSTRUCT A S.D. ANGLE M.H. BASE WHERE A MITER BEND IS CALLED FOR ON THE PLANS.
2. THE CONCRETE FOR ANGLE M.H. SHALL BE CLASS 560–C–3500 P.C.C. (MAX. SLUMP 5").
3. IF THE DEFLECTION OPENING EXCEED 54" FOR 54" OR LARGER MAIN OR 42" FOR 48" OR SMALLER MAIN, A ANGLE MANHOLE BASE SHALL BE REQUIRED.
4. ALL REINFORCING BARS SHALL BE BILLET STEEL BARS AS PER ASTM A 615.
5. THE CONCRETE SHALL BE VIBRATED OR TAMPED UNTILL CONCRETE HAS BEEN CONSOLIDATED
6. NO POURING OF CONCRETE WILL BE MADE UNTIL THE PUBLIC WORKS INSPECTOR APPROVES THE FORMS AND REBARS.
7. THE INTERIOR OF THE ANGLE MANHOLE BASE SHALL HAVE A SMOOTH TROWELED FINISH.

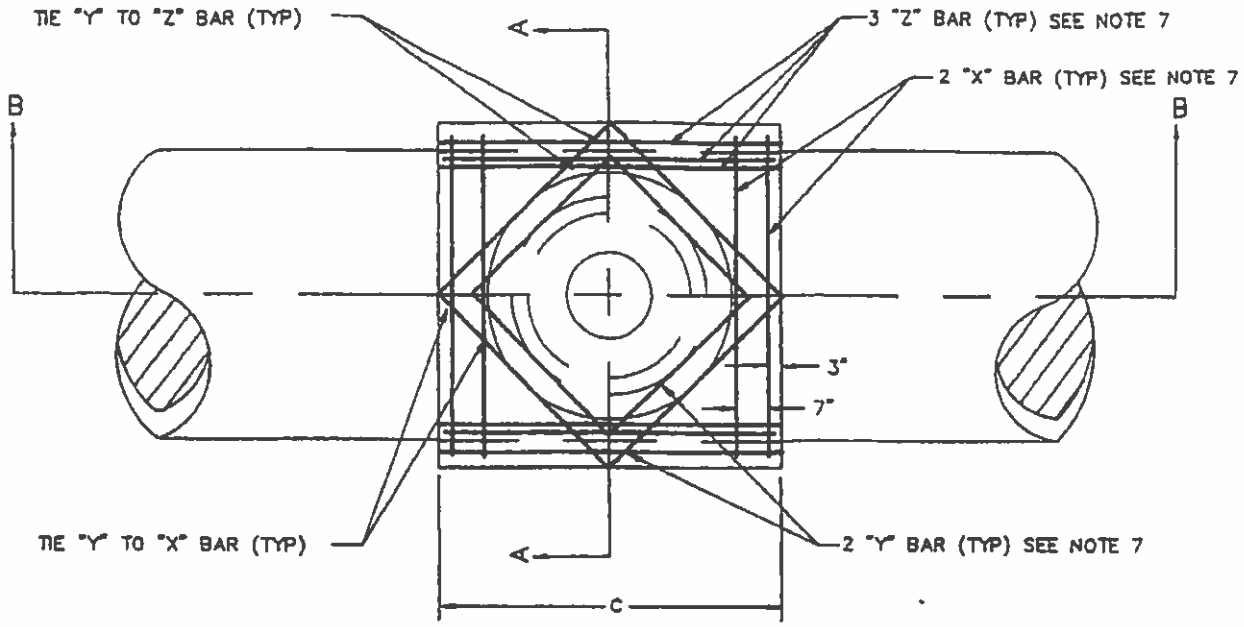
ANGLE MANHOLE P.I. BASE

CITY OF SAN JUAN BAUTISTA

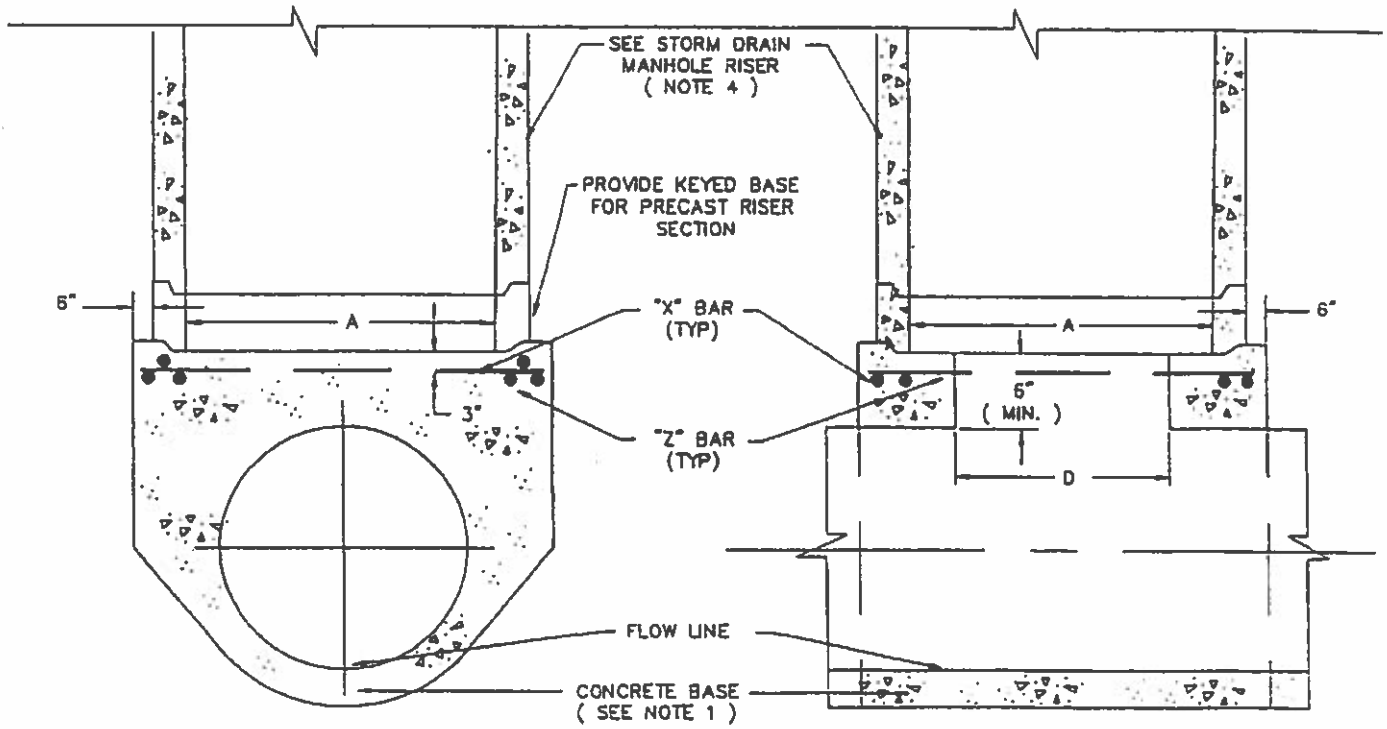
STANDARD PLANS

APPROVED: _____

DATE	April 30, 1992
REVISED	
DETAIL	D–2–2 SHEET 2 OF 2



PLAN



SECTION A – A

SECTION B – B

STRAIGHT THROUGH CAST-IN-PLACE MH

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-3-1 SHEET 1 OF 2

DIMENSIONS					REINFORCEMENT					
PIPE DIAMETER (INCHES)	A (IN)	B (IN)	C (FT)	D (IN)	BAR "X"		BAR "Y"		BAR "Z"	
					#	L	#	L	#	L
30" AND SMALLER	48	18 (MIN)	5'-6"	*	* MATCH PER DIAMETER					
36"	48	14	5'-6"	32						
42"	48	11	5'-6"	38						
48"	48	9	6	44						
54"	60	14	7	54	5	6'-0"	5	2'-6"	5	6'-6"
60"	60	10	7	54	5	6'-6"	5	2'-6"	5	6'-6"
66"	60	10	7	54	5	7'-0"	5	3'-0"	5	7'-0"
72"	60	12	8	54	5	7'-6"	5	4'-0"	5	7'-6"

NOTES:

1. ALL CONCRETE SHALL BE CLASS 560-C-3500 P.C.C. (MAX. SLUMP 5")
2. CONCRETE SHALL BE VIBRATED OR TAMPED UNTIL THE CONCRETE HAS BEEN CONSOLIDATED.
3. ALL REINFORCING BARS SHALL BE BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATION OF ASTM A615 (GRADE 40 OR 60).
4. THE STORM DRAIN RISER DETAILS SHALL BE: FOR 48" DIA. AND SMALLER STANDARD PLAN D-1-1, FOR 54" DIA. AND LARGER STANDARD DETAIL D-1-2.
5. THE INTERIOR OF THE MANHOLE BASE SHALL HAVE A SMOOTH TROWELLED SURFACE.
6. NO REINFORCING BARS ARE REQUIRED ON 48" DIA. AND SMALLER PIPE.

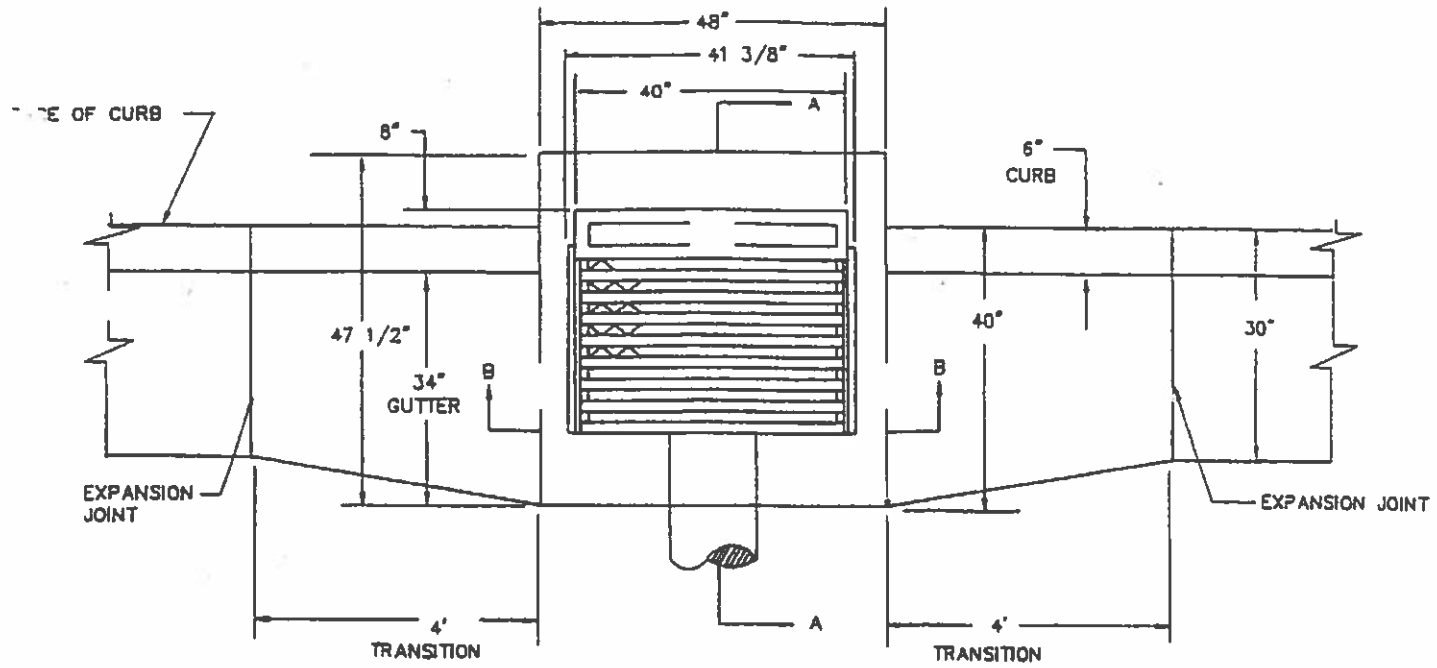
STRAIGHT THROUGH CAST-IN-PLACE MH

CITY OF SAN JUAN BAUTISTA

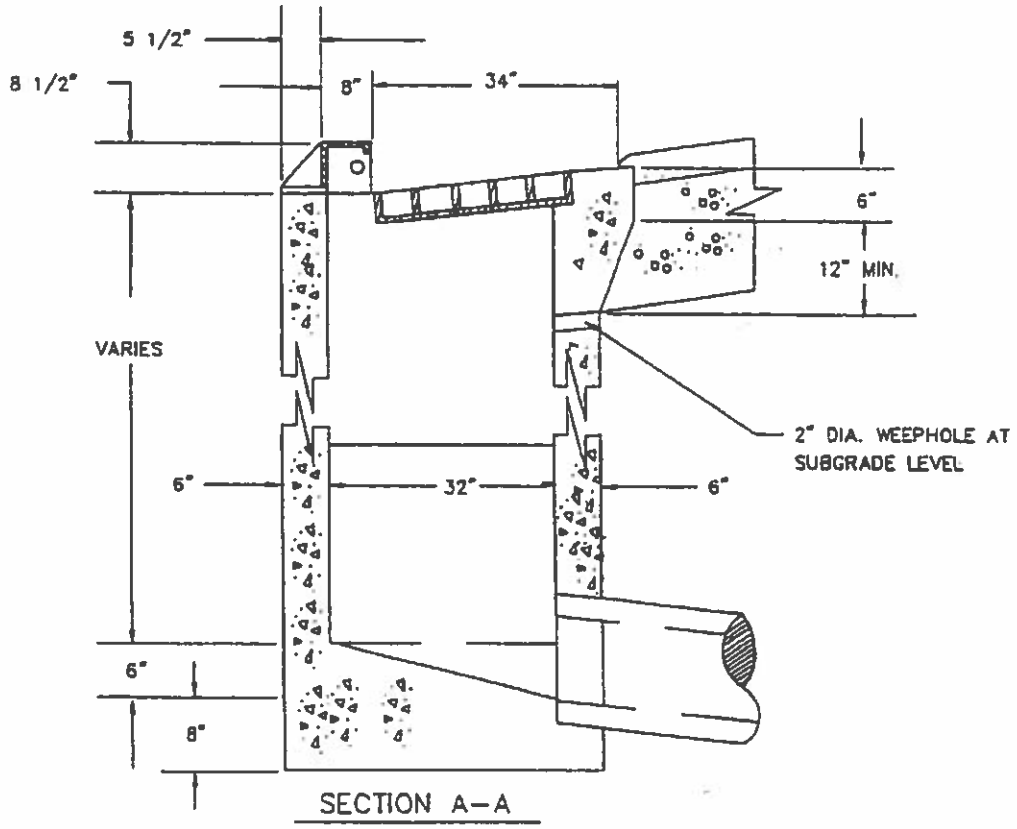
STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-3-2 SHEET 2 OF 2



PLAN VIEW



SECTION A–A

NOTES:

1. SEE NOTES AND SECTION B–B ON DETAIL SHEET D–6.
2. SEE DETAIL SHEET D–8 FOR HOOD, FRAME AND GRATE.

TYPE "A" CURB INLET CATCH BASIN (24"X36")

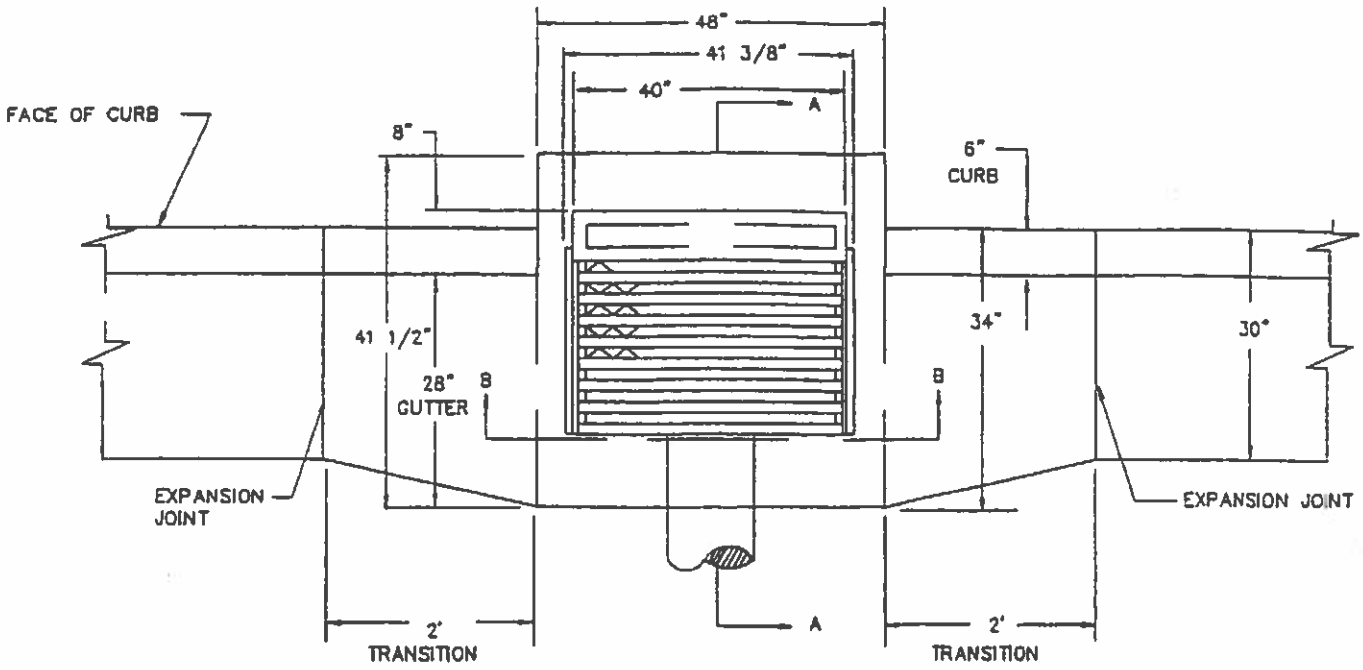
CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

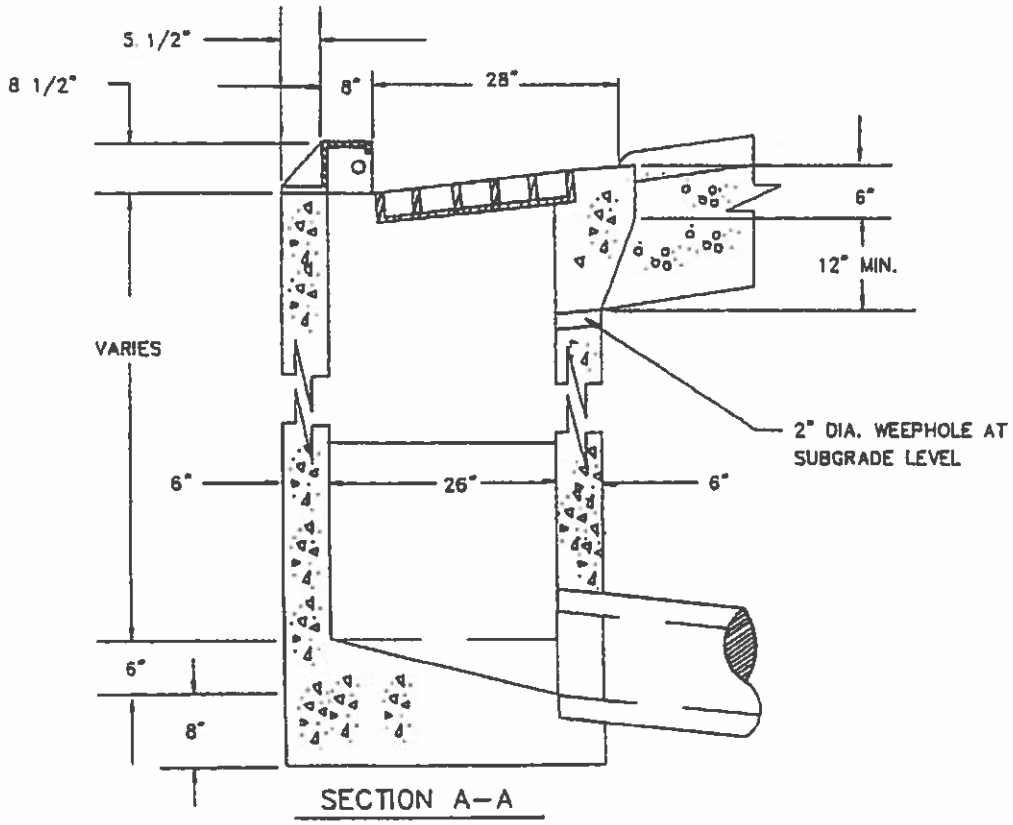
APPROVED: Max H. Bridges

MAX H. BRIDGES R.C.E. 24152 EXP. 12/31/93

DATE	APRIL 30, 1992
REVISED	
DETAIL	D — 4 SHEET 1 OF 1



PLAN VIEW



SECTION A–A

NOTES:
1. SEE NOTES AND SECTION B–B ON DETAIL SHEET D–6.
2 SEE DETAIL SHEET D–8 FOR HOOD, FRAME AND GRATE.

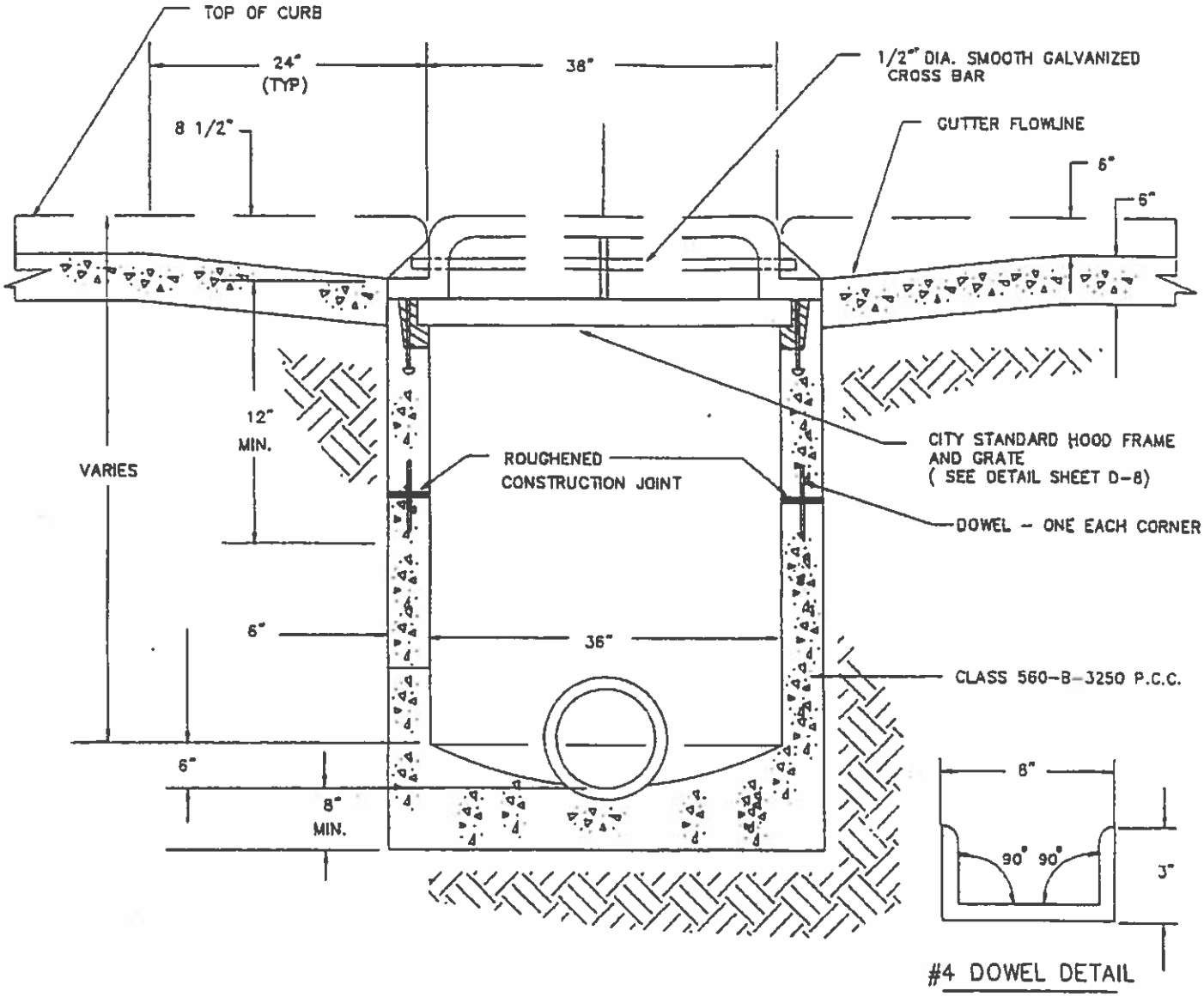
TYPE "B" CURB INLET CATCH BASIN (18"X36")

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	April 30, 1992
REVISED	
DETAIL	D – 5 SHEET 1 OF 1



#4 DOWEL DETAIL

SECTION B-B

NOTES:

1. PRECAST INLETS MAY BE USED SUBJECT TO WRITTEN APPROVAL OF THE CITY ENGINEER. EXCAVATION TO BE MIN. 4" LARGER THAN PRECAST BOX ON ALL SIDES. BACKFILL WITH CLASS 100-E-100 P.C.C. .
2. INLET BASE TO BE POURED AGAINST UNDISTURBED EARTH.
3. INLET WALLS MAY BE POURED TO AN ELEVATION NOT LESS THAN 1'-0" FROM GUTTER LINE. DOWELS SHALL BE PROVIDED AT EACH CORNER OF BOX. THE UPPER 1'-0" OF THE INLET BOX SHALL BE FRAMED AND POURED MONOLITHICALLY WITH THE CURB AND GUTTER.
4. NO CONCRETE MAY BE POURED PRIOR TO CHECKING OF FORMS BY THE PUBLIC WORKS INSPECTOR.
5. PIPES MAY BE PLACED IN ANY WALL.
6. WHEN CURB GUTTER AND SIDEWALK ARE NOT POURED MONOLITHIC, THE CONCRETE CURB POUR SHALL ALSO ENCASE SIDES AND BACK OF HOOD A MINIMUM OF 8" WIDE AND 8" DEEP. ENCASEMENT SHALL BE POURED IN A FORM TO PROVIDE STRAIGHT EDGES.
7. REINFORCING BARS SHALL BE REQUIRED IN WALLS WHICH ARE MORE THAN 6' DEEP. HORIZONTAL AND VERTICAL BARS SHALL BE #4, SPACED 12" O.C. AND PLACED 2" CLEAR OF INSIDE WALL SURFACE.

CURB INLET CATCH BASIN DETAIL & NOTES

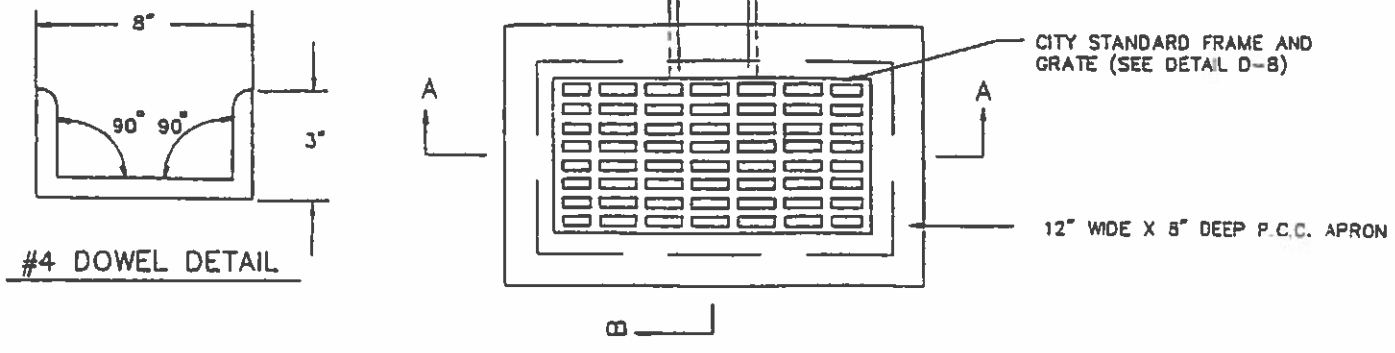
CITY OF SAN JUAN BAUTISTA

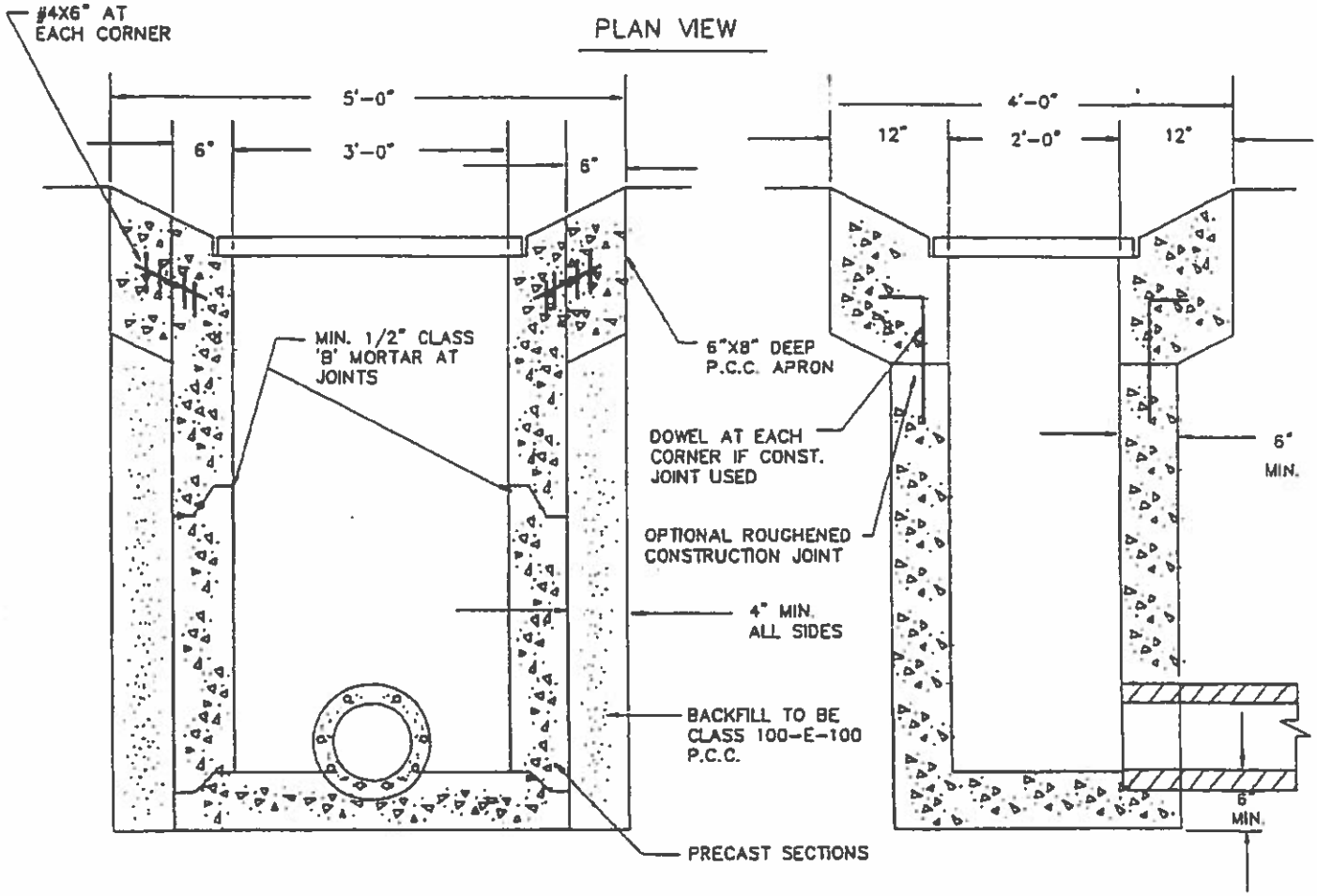
STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-6

SHEET 1 OF 1





SECTION A–A (PRECAST BOX CONSTRUCTION)

SECTION B–B (POURED IN PLACE CONSTRUCTION)

NOTES:
1. PRECAST INLETS MAY BE USED AT CONTRACTORS OPTION FOR DEPTHS UP TO 6 FEET.
2. INLET BASE TO BE POURD AGAINST UNDISTURBED EARTH.
3. NO CONCRETE MAY BE POURED PRIOR TO CHECKING FORMS BY THE PUBLIC WORKS INSPECTOR.
4. PIPES MAY BE PLACED IN ANY WALL.
5. REINFORCING BARS SHALL BE REQUIRED IN WALLS WHICH ARE MORE THAN 6' DEEP. HORIZONTAL AND VERTICAL BARS SHALL BE #4, SPACE 12" O.C. AND PLACED AT 2" CLEAR OF INSIDE WALL SURFACE.

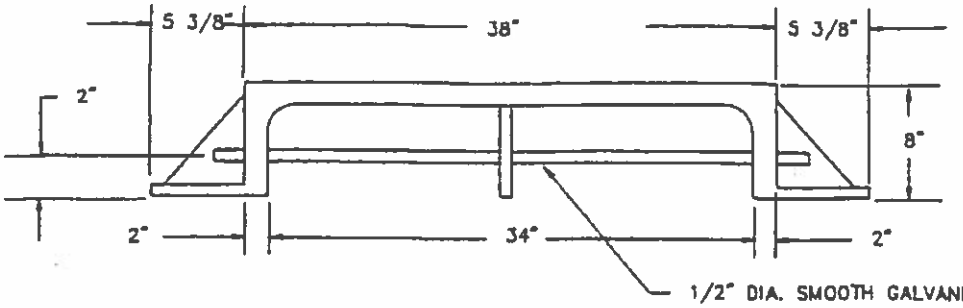
DROP INLET (24" X 36")

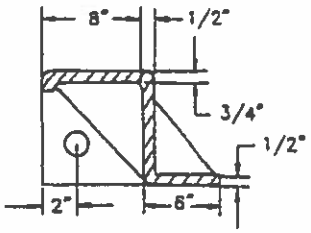
CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

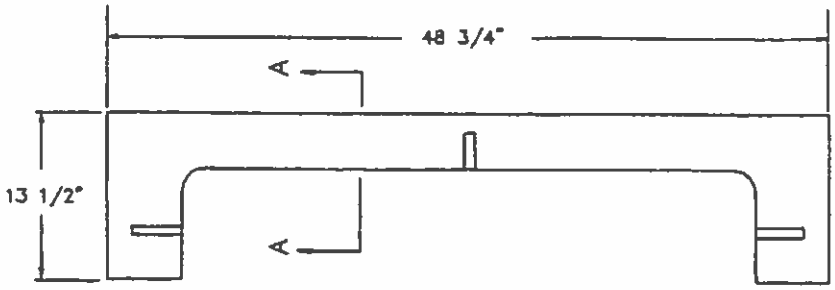
APPROVED: Allan G. Bell

DATE	APRIL 30, 1992
REVISED	
DETAIL	D – 7 SHEET 1 OF 1

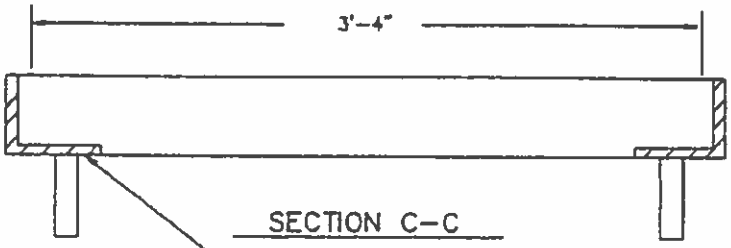




SECTION A–A

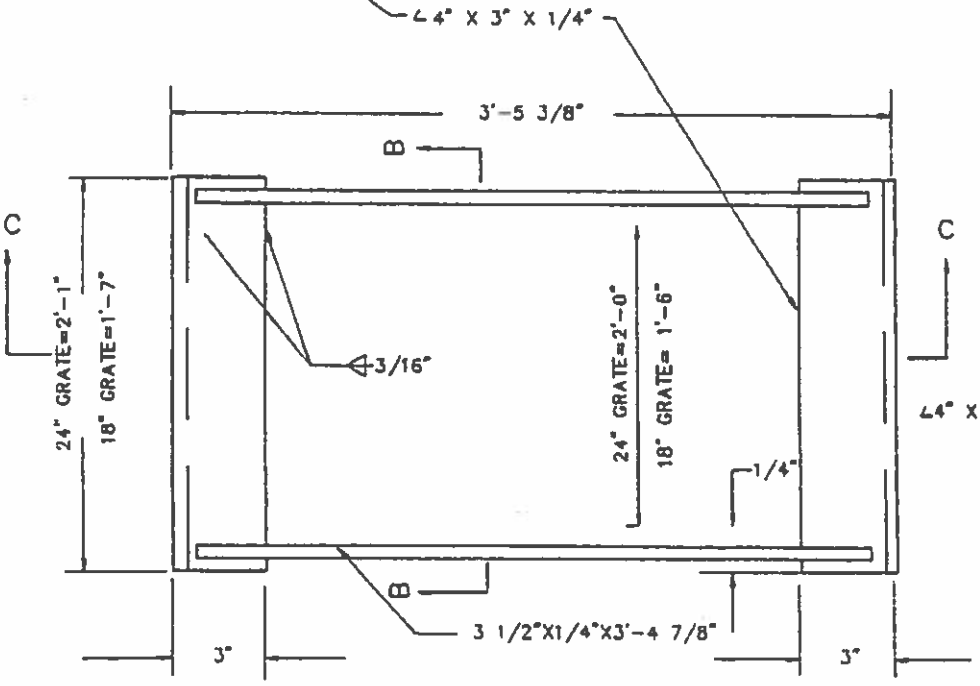


CAST IRON HOOD

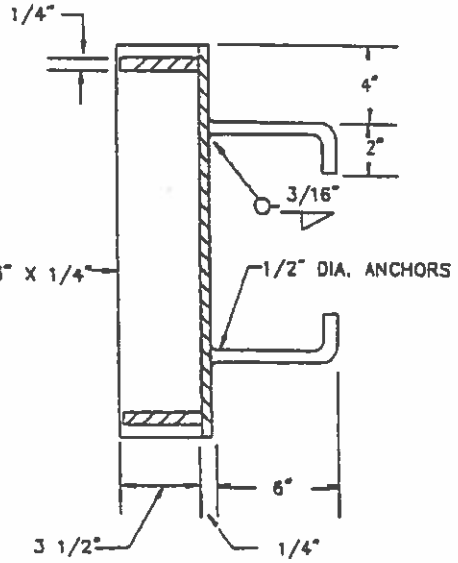


SECTION C–C

NOTES:
1. HOOD TO BE CAST IRON DIPPED IN ASPHALT PAINT.
2. FRAME AND GRATES TO BE GALVANIZED AFTER FABRICATION.



WELDED STEEL FRAME



SECTION B–B

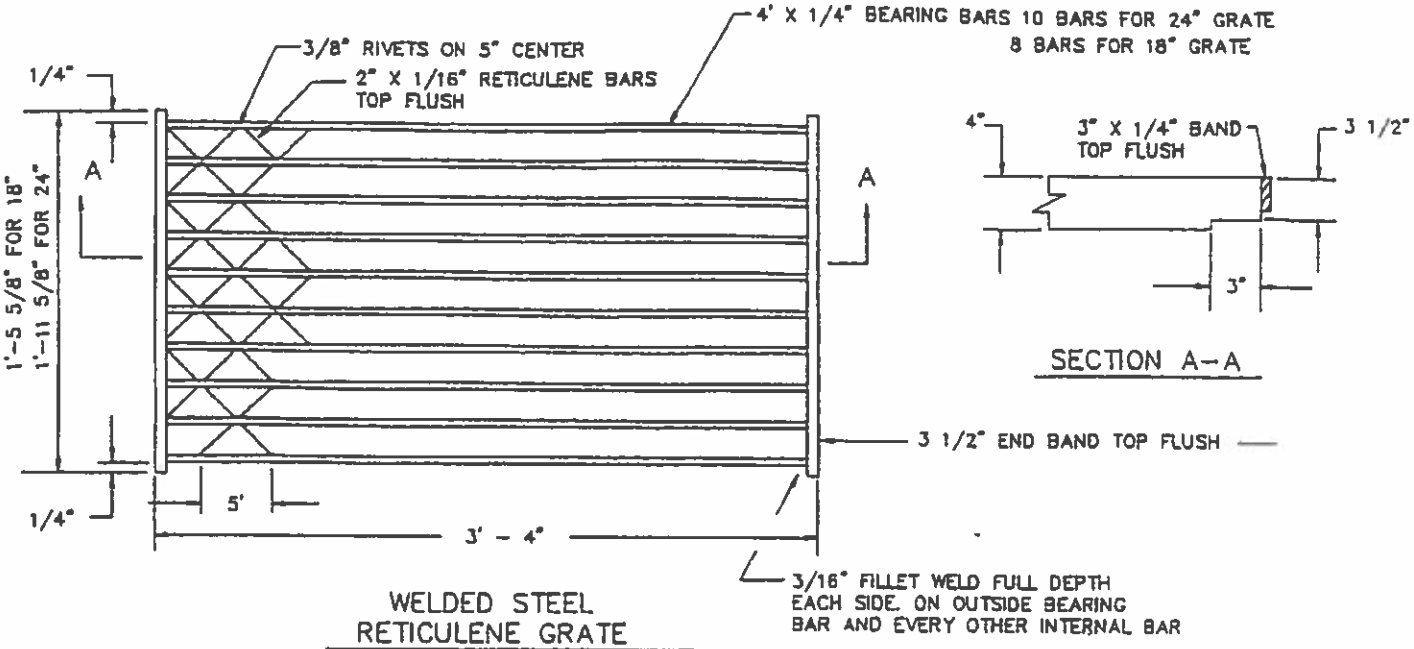
INLET HOOD, FRAME AND GRATES

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

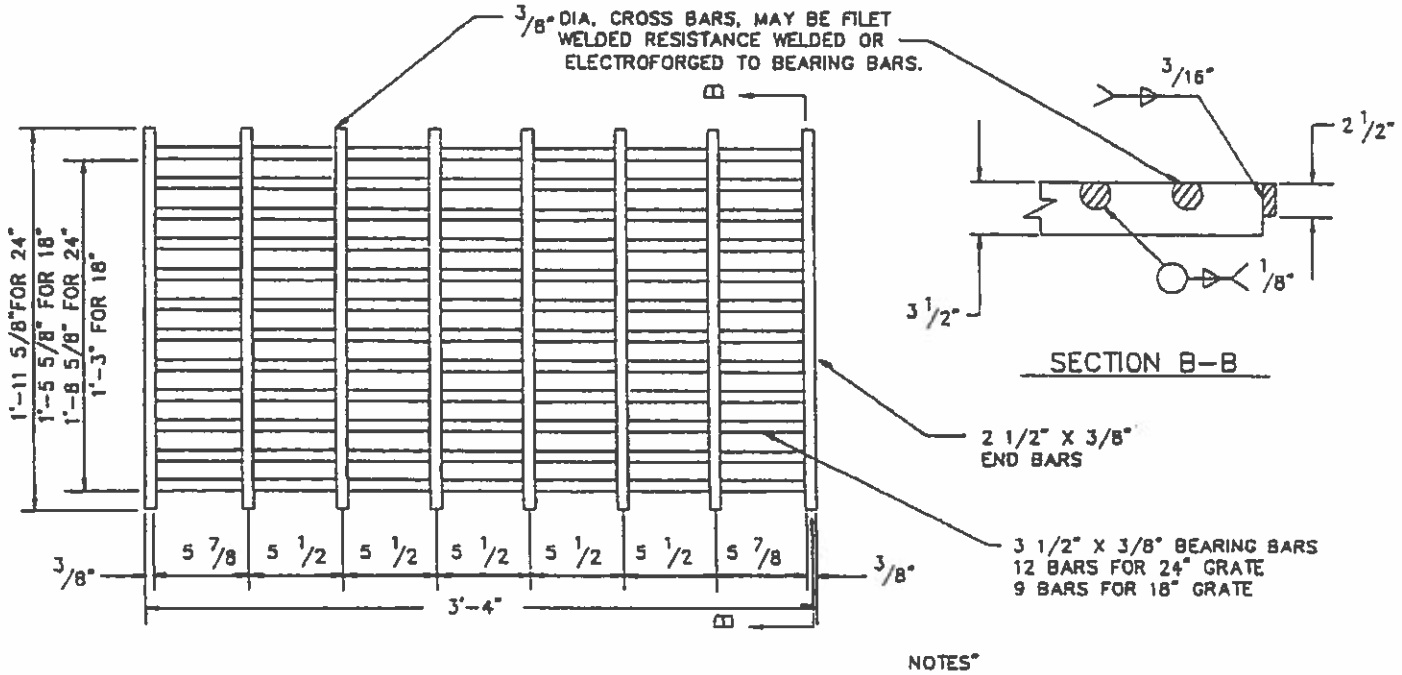
APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D–8–1



WELDED STEEL
RETICULENE GRATE

WT. OF 24" GRATE = 182 LBS.
WT OF 18" GRATE = 145 LBS.



WELDED STEEL GRATE

WT. OF 24" GRATE = 192 LBS
WT. OF 18" GRATE = 145 LBS.

NOTES"
1. FRAMES AND GRATES TO BE GALVANIZED AFTER FABRICATION.
2. EITHER WELDED STEEL GRATE MAY BE USED AT CONTRACTORS OPTION.

INLET HOOD, FRAME AND GRATES

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
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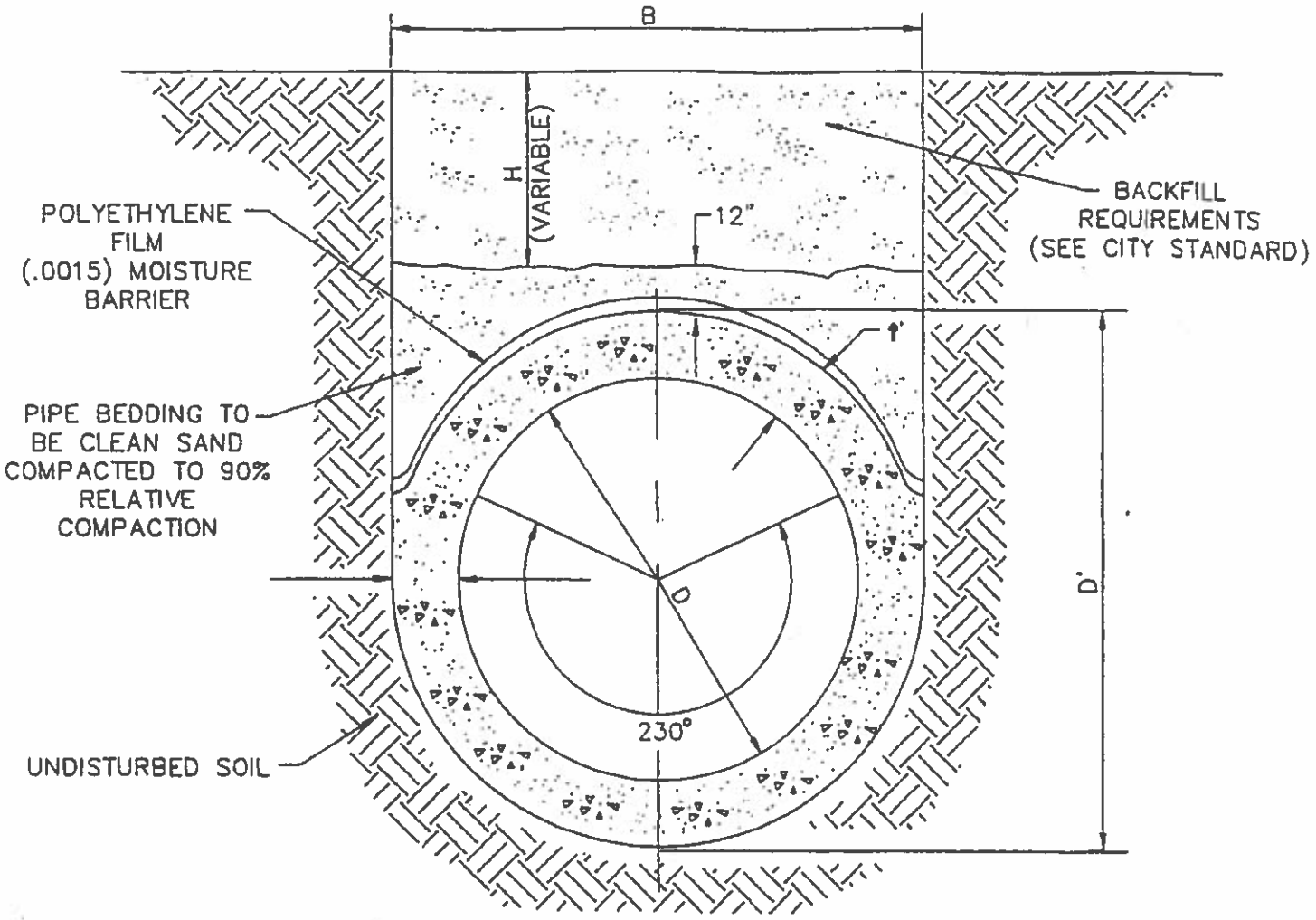
DETAIL	D-8-2 SHEET 2 OF 2



TYPICAL PIPE CROSS SECTION 24" THRU 96"
NOTE: CAST IN PLACE CONCRETE PIPE SHALL BE CLASS 560-C-4000 P.C.C.

DIMENSIONS OF CIP CONCRETE PIPE

NOMINAL DIAMETER (INTERIOR)	OUTER DIAMETER (DEPTH)	WIDTH OF PIPE TRENCH (NOMINAL)	NOMINAL THICKNESS (MINIMUM)	SIDEWALL THICKNESS (INTERIOR)
D	D'	B	t	t'
24"	30"	30"	3"	3"
27"	33"	33"	3"	3"
30"	36"	36"	3"	3"
36"	43"	43"	3-1/2"	3-1/2"
42"	50"	50"	4"	4"
48"	58"	58"	5"	5"
54"	65"	65"	5-1/2"	5-1/2"
60"	72"	72"	6"	6"
66"	79"	79"	6-1/2"	6-1/2"
72"	86"	86"	7"	7"
84"	100"	100"	8"	8"
96"	114"	114"	9"	9"

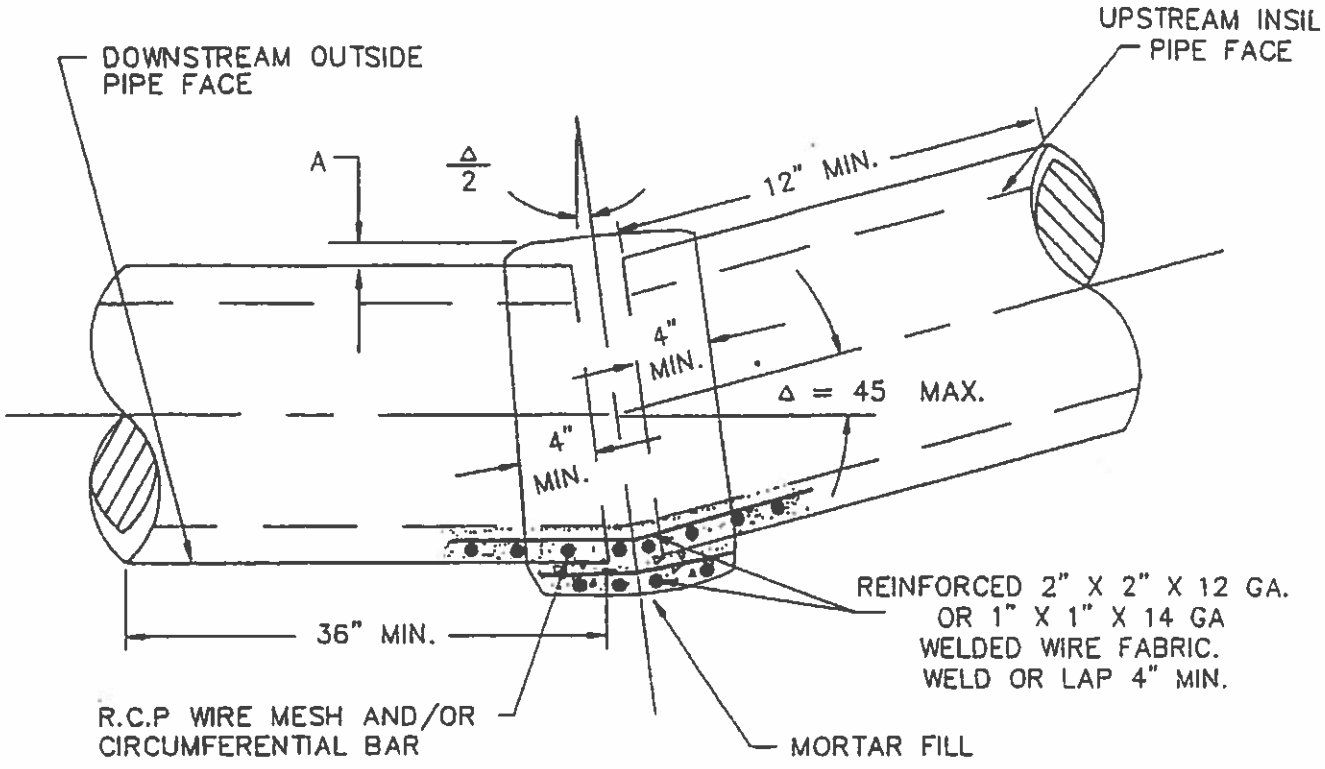
CAST-IN-PLACE CONCRETE PIPE DETAIL

CITY OF SAN JUAN BAUTISTA
STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-9

SHEET 1 OF



PIPE DIA. (INCHES)	R.C.P. PIPE (MAX DEFLECTION PER JOINT	CAST IN PLACE CONCRETE PIPE (MIN. ALLOWABLE RADUS)	MINIMUM BAND THICKNESS ("A" IN)
24" & SMALLER	1 °30'	75 FEET	1 1/2"
27" TO 48"	1 °0'	150 FEET	2"
51" TO 60"	0 °45'	175 FEET	2 1/2"
66" & LARGER	0 °30'	200 FEET	3"

NOTES:

1. R.C.P. MITER BEND MAY BE INSTALLED INSTEAD OF S.D. MANHOLE WHEN THE PIPE DEFLECTION EXCEEDS THE MAXIMUM ALLOWABLE DEFLECTION. THE PROPOSED S.D. MANHOLE MUST BE BE RELOCATTED TO A STRAIGHT SECTION OF PIPE.
2. REINFORCED CONCRETE PIPE (R.C.P) SHALL HAVE A MINIMUM OF CLASS III RATING.
3. MITER BEND SHALL BE PRE-CAST OR APPROVED EQUAL.

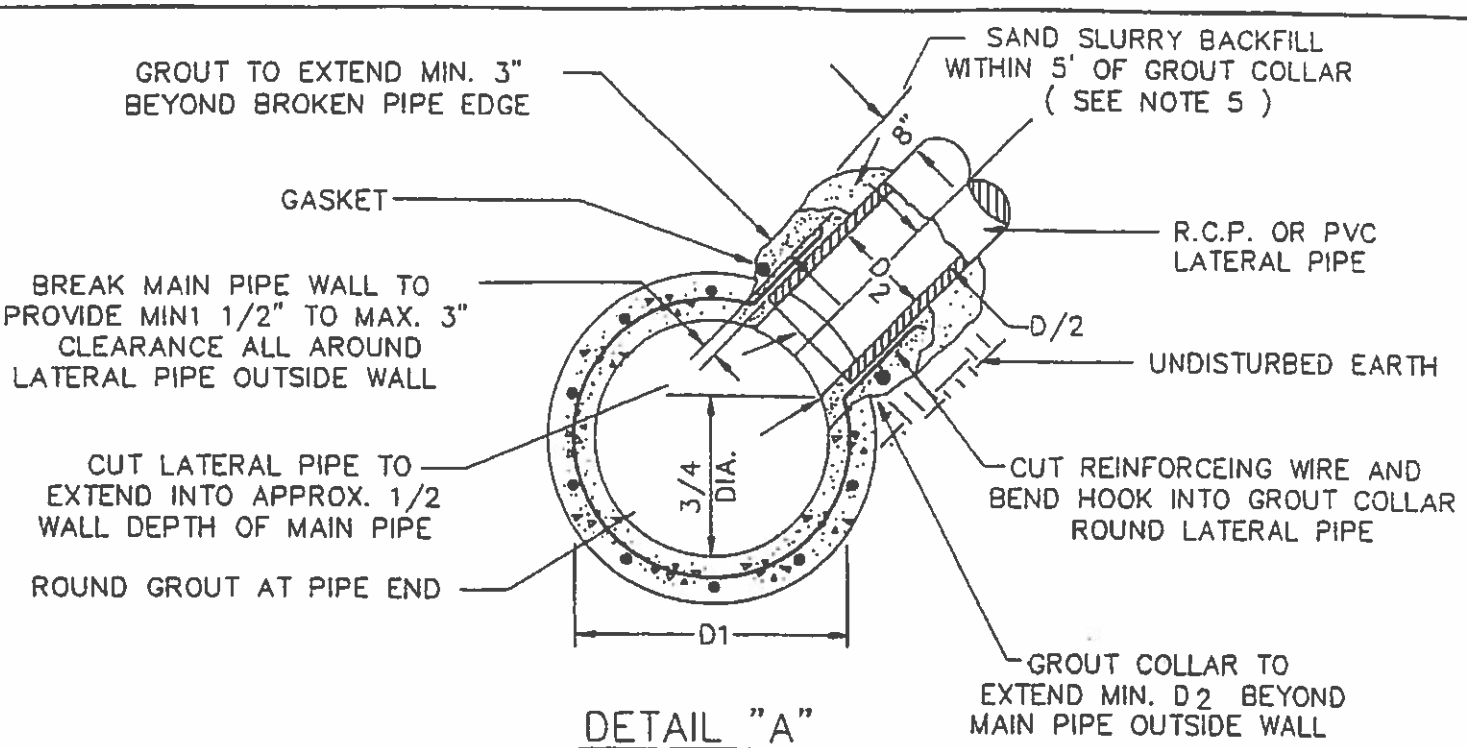
REINFORCE CONCRETE PIPE MITER BEND

CITY OF SAN JUAN BAUTISTA

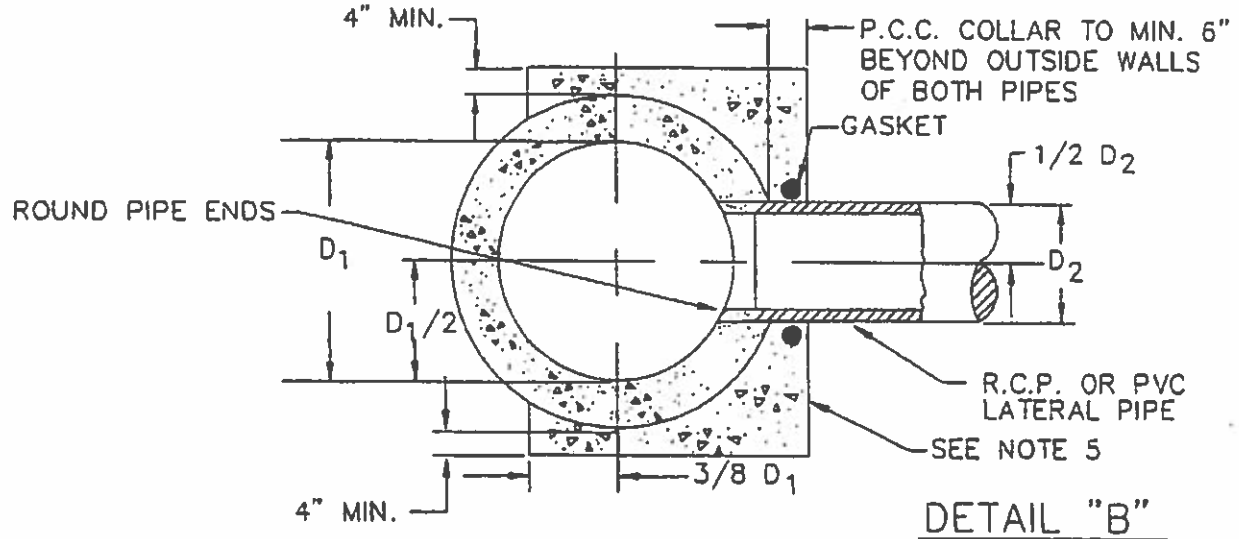
STANDARD PLANS

APPROVED:

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-10 SHEET 1 OF 1



DETAIL "A" (30" AND LARGER MAIN)



DETAIL "B" (24" AND 27" MAIN)

NOTES:

1. ALL STORM DRAIN LATERALS SHALL BE CLASS III R.C.P. OR P.V.C. SDR 35.0 PIPE.
2. DETAIL "A" SHALL BE USED WHEN LATERAL PIPE D_2 IS LESS THAN 1/2 THE MAIN D_1.
3. SAND SLURRY BACKFILL SHALL BE CLASS 100-E-100 P.C.C.
4. DETAIL "B" SHALL BE USED ONLY WHEN LATERAL PIPE D_2 IS GREATER THAN 1/2 MAIN D1 .
5. CONCRETE COLLAR SHALL BE CLASS 470-C-2000 P.C.C.
6. THE TERMINUS OF THE LATERAL PIPE SHALL NOT PROJECT INTO THE WATERWAY OF THE MAIN PIPE.

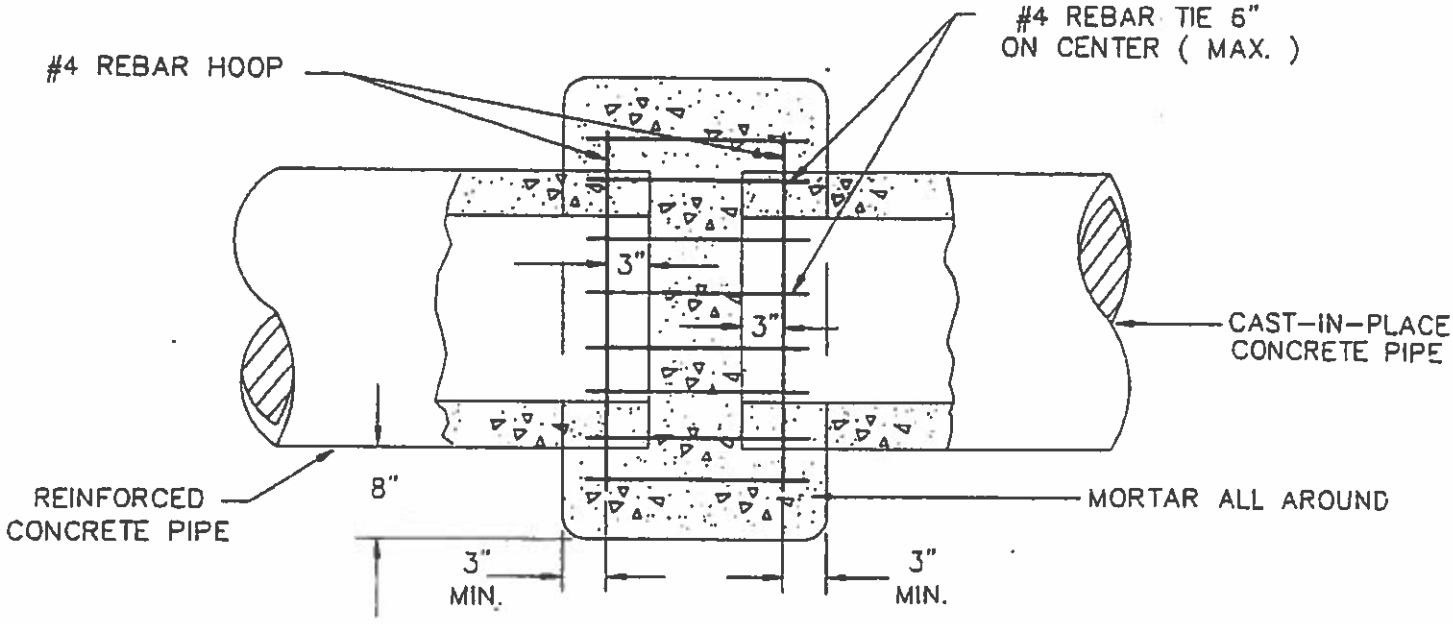
LATERAL CONNECTION TO STORM MAIN

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED:

DATE	APRIL 30, 1992
REVISED	
DETAIL	D 11 SHEET ... OF ...



NOTES:

1. MORTAR SHALL BE CLASS "C" P.C.C.
2. CONCRETE SHALL BE CLASS 470-C-2000 P.C.C.
3. ALL REBAR SHALL BE BILLET STEEL BARS CONFORMING TO ASTM A615.

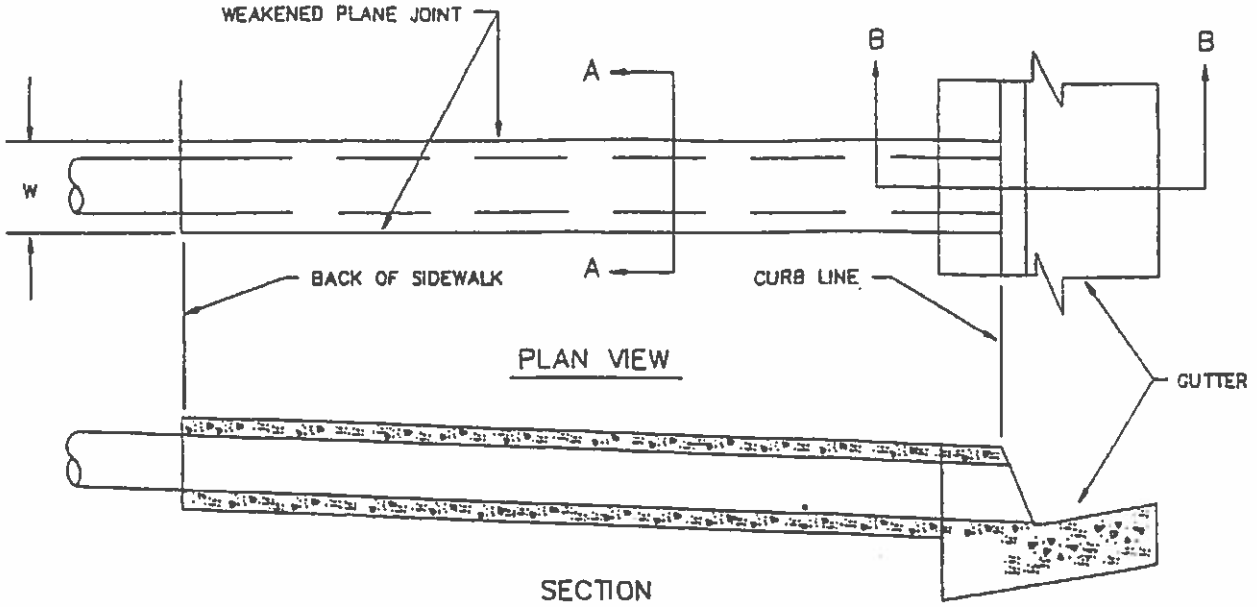
STORM DRAIN STANDARD CONNECTION

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

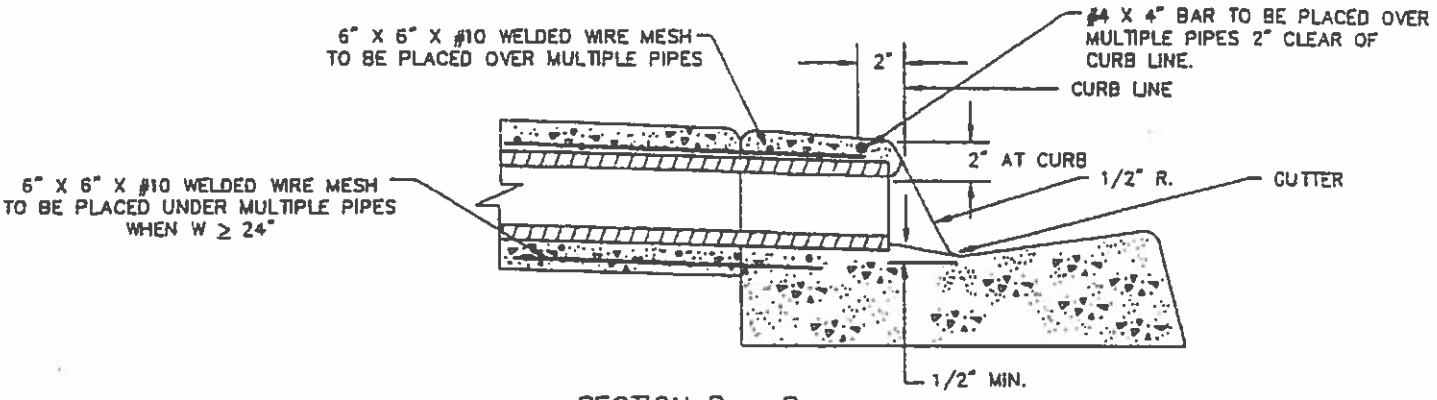
APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-12 SHEET 1 OF 1

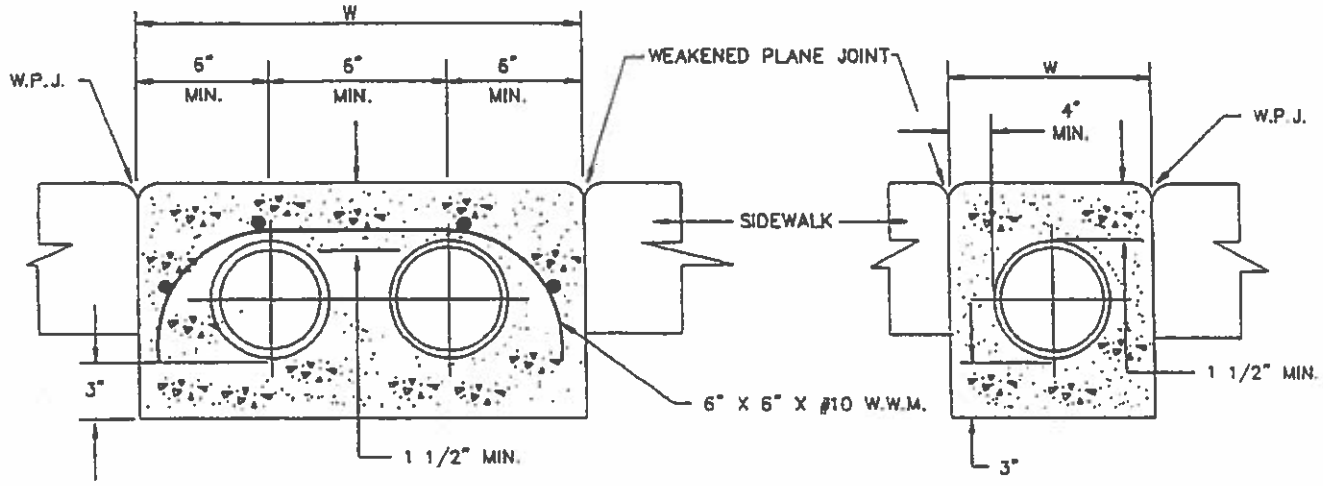


PLAN VIEW

SECTION



SECTION B – B



SECTION A–A FOR MULTIPLE PIPES

SECTION A–A FOR SINGLE PIPE

SIDEWALK UNDERDRAIN PIPE

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D–13–1 SHEET 1 OF 1

"W" DIMENSION	
NO. OF PIPES	MIN. WIDTH
1	12"
2	18"
3	24"
4	30"

NOTES:
1. PIPE SHALL BE ONE CONTINUOUS LENGTH FROM CURB LINE TO A MINIMUM OF 12" BEYOND BACK OF SIDEWALK.
2. MULTIPLE PIPES TO BE SET A MINIMUM DISTANCE OF 6" APART.
3. CONCRETE SHALL BE 520-C-2500 P.C.C. .
4. PIPE SHALL BE 3" CIRCULAR CAST IRON OR RIGID PLASTIC PIPE.
5. WEAKENED PLANE JOINTS SHALL BE 1/8" X 2" WHEN CUT AND 1/8" X 1/2" WHEN FINISHED.
6. ALL CONCRETE SURFACES TO HAVE A LIGHT BROOM FINISH AND TREATED WITH CURING COMPOUND.

WPJ = WEAKENED PLANE JOINTS
WWM = WELDED WIRE MESH

SIDEWALK UNDERDRAIN PIPE

CITY OF SAN JUAN BAUTISTA

STANDARD PLANS

APPROVED: _____

DATE	APRIL 30, 1992
REVISED	
DETAIL	D-13-2 SHEET 2 OF 2