MAIN STORM WATER DRAIN # 8 - PHASE II

WITHIN I-35W R/W & FROM EL. LOT 39, PARKMORE 2ND ADDN. TO HILLSIDE

CITY OF WICHITA, KANSAS

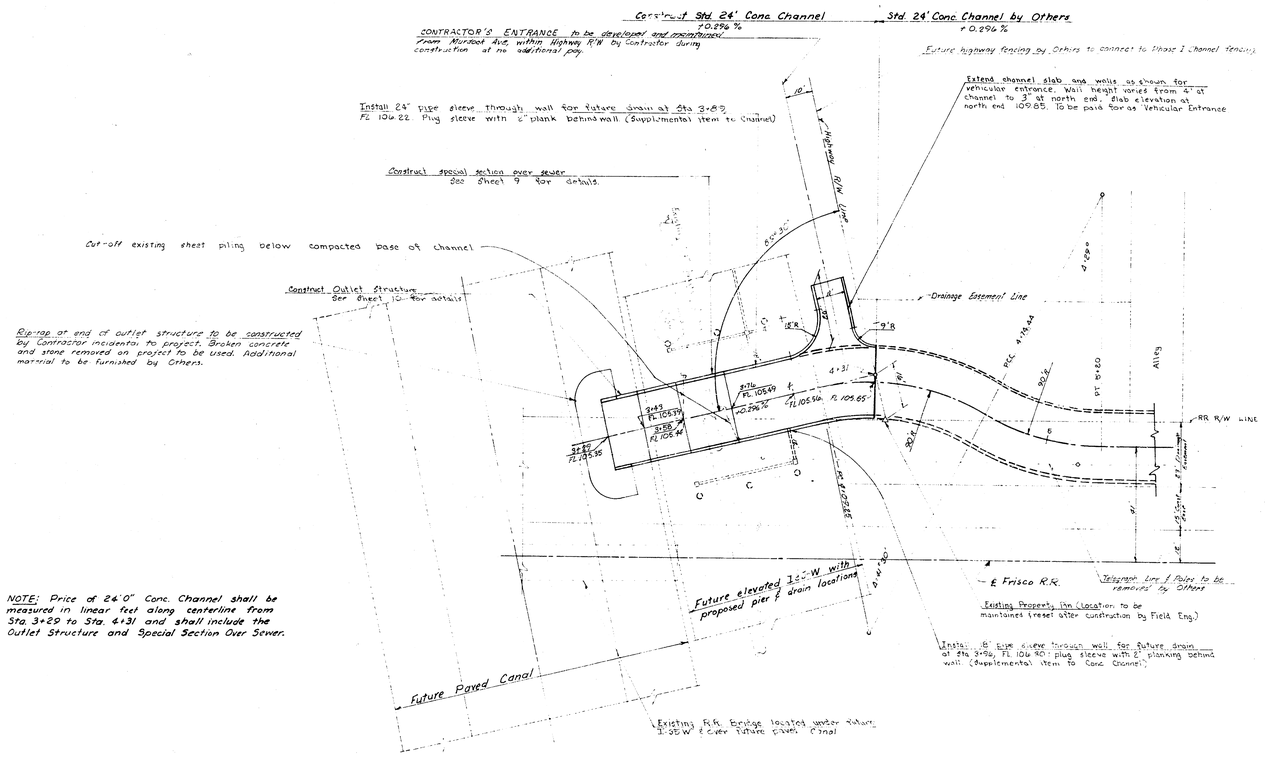
B.E. SMITH CITY ENGINEER

DATE: July ,1970 PROJECT No:

GENERAL NOTES:

1. All elevations refer to City Datum.
2. "Preparation and Clean-up" shall be a lump sum pay item and shall include all required or indicated post, stump, tree, sheeting, foot bridge, manhole and debris removal; removal and replacement [illegible] barricade, clothes line and damaged walks and drives as required; and the reshaping and reseeding [illegible] of disturbed areas to the quality of the original. Any damaged trees shall have damaged areas pruned and wounds coated with prunning paint.
3. Sewer construction shall conform to "Details of Sewer Appurtenances" adopted as std. design by Engineering Division, City of Wichita, 1964. Manholes shall be "Standard Manhole, Type A," 8"-inch sewer construction shall be by "Ordinary Bedding Methods For Clay Pipe", 8-inch sewer concrete encasement shall be "Reinforced Concrete Encasement", and 15-inch pipe (RCP) installation shall be by "Ordinary Bedding Methods for Reinforced Concrete Pipe". Std 2'x5' Inlet shall conform to City of Wichita Detail Plan dated Sept. 1965.
4. Street construction shall conform to Std. Section for the City of Wichita.
5. Class A-AE Concrete shall be used for RCB throughout
6. "8-inch CMP with Flapgate" shall be a pay item and includes a 6" to 9" length of 16-gauge AASHO M-36-60 8" CMP and one ARMCO Model 10C Flapgate or approved equal. The unit shall be factory assembled. The spigot back of gate shall be embedded in the concrete wall, the free pipe and shall be cut flush with wall surface, and concrete forms shall recess wall as required for proper operation of gate link.
7. All Bench Marks damaged or destroyed shall be completely removed and replaced at an adjacent location by the field engineer and so noted on the "as built" plans. The new bench mark will be located so the data of the original Bench Mark could not be mistaken for the new bench mark.
8. Any temporary easement required for construction will be obtained by the Contractor.
9. For fence specifications see sheet 8.

INDEX:



BM #1 - Top ½" reinf. rod, SE Wingwall end of Murdock Bridge over canal EL 116.03

BM #2 - Railroad spike south face power pole in alley W. of Minneapolis & N. of N St. EL 110.615

NOTE: Price of 24'0" Conc. Channel shall be measured in linear feet along centerline from Sta. 3+29 to Sta. 4+31 and shall include the Outlet Structure and Special Section Over Sewer.

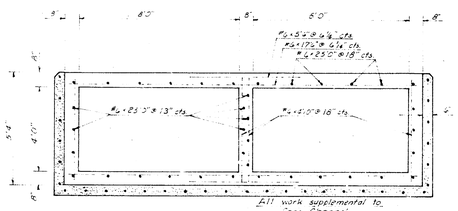
Note to Field Engineer:

Make construction survey from Sta 3+29 to Sta 4+31 at least 1-week before construction starts. For verification of work under this contract to fulfill requirements of future construction, contact Designers of future highway and canal improvements a minimum of 7-days prior to start of construction.

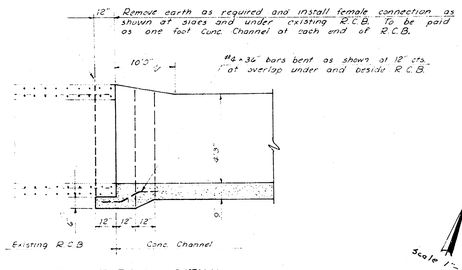
MAIN STORM WATER DRAIN #8 — PHASE II

PROJECT NO. 24/20

Construct 4'8 block-outs for fence posts at outside wall and at center of R.C.B. or install fence corner post at each end of R.C.B



SECTION THRU R.C.B.



SECTION THRU CONNECTION

CONNECTION DETAILS OF CONC CHANNEL TO EXISTING R.C.B. AT GREEN ST.

SCALE: As Noted

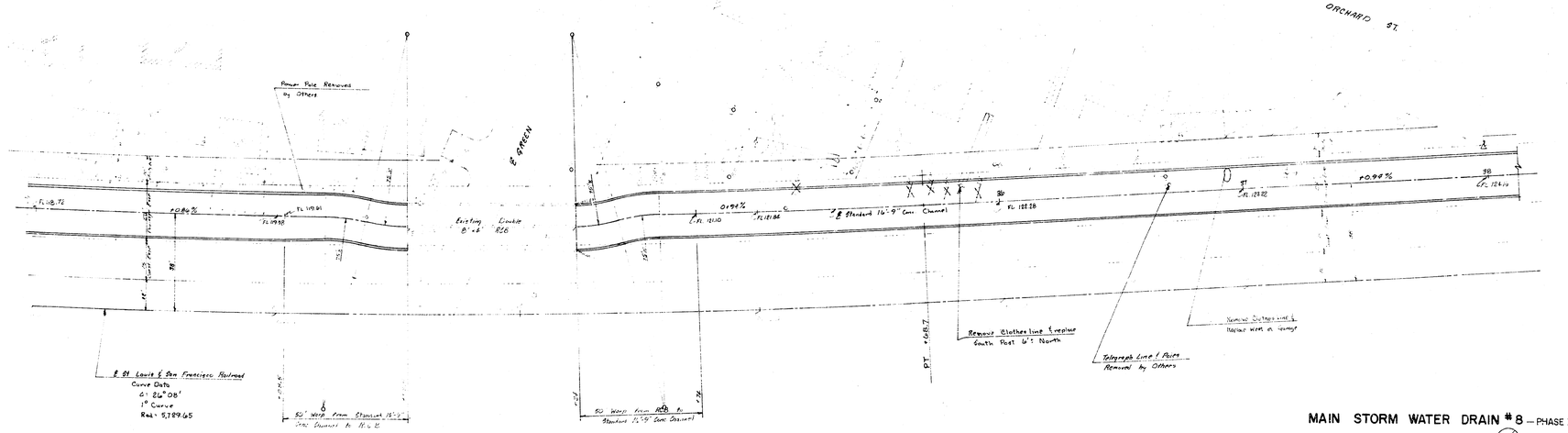
Install 8" C.M.P. with tide gate in north wall

Sta		
32+30	Flowline	121.9
33+00		122.9
33+20		124.0
33+50		124.3
34+00		125.3
34+50		125.3
37+00		126.5
37+50		126.5
38+00		126.0

Install fence along north wall from Sta 32+20 to west end of R.C.B. thence south across R.C.B.
Install fence across east end of R.C.B. thence along north wall to Sta. 38+00.

BM # 12 - "X" Top NE Cor. RCB on Green, N of Frisco, S of Murdock EL. 129.28

BM # 13 - SE Corner Conc. Porch on House # 2626 Orchard EL. 128.68



MAIN STORM WATER DRAIN # 8 — PHASE II

PROJECT NO. 4/24

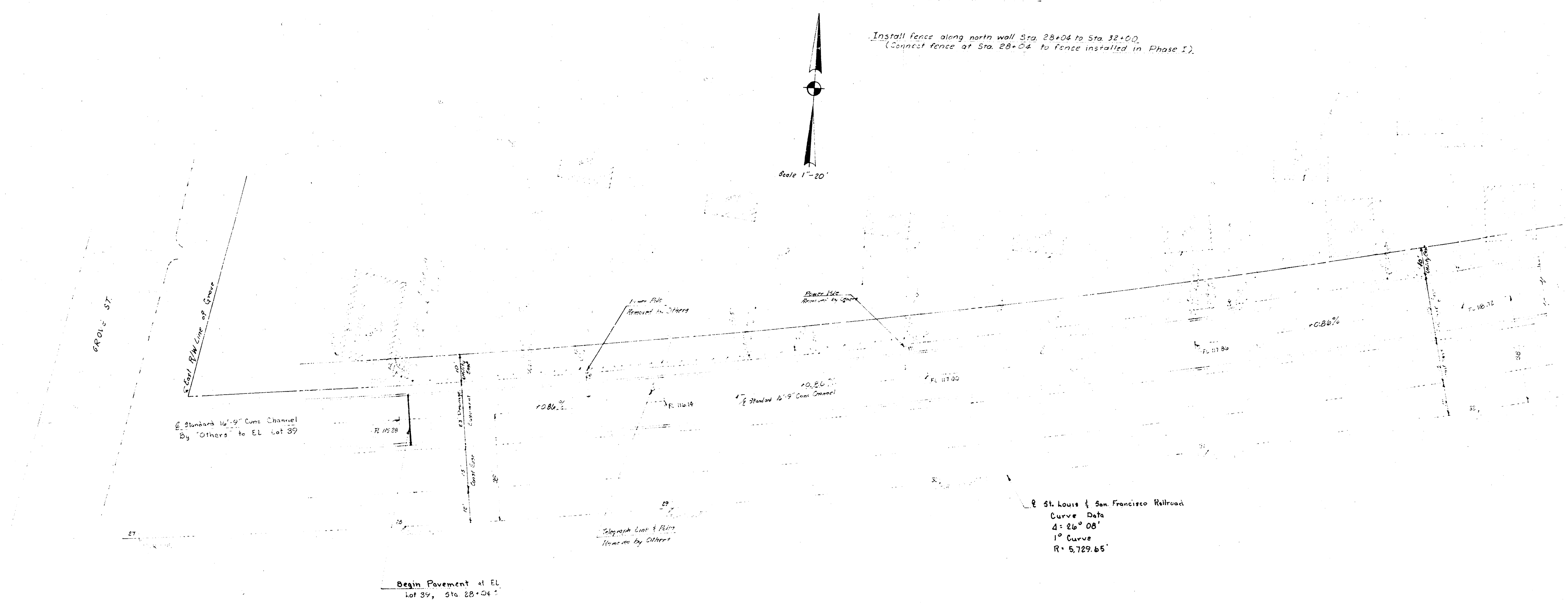
BM #10 - "□" Cut in NW Cor. of West headwall R.C.B.
on Grove, N. of Frisco, S of Murdock EL 120.27

BM #11A - 60penny spike, S. face P.P., N of Frisco or
W.L. Poplar EL 121.22

Install 8" C.M.P. with flap gate in north wall:

Sta. 29+50,	Flowline	119.3
30+00,		120.0
30+50		120.5
31+00		120.5
31+50		120.5
32+00		121.0

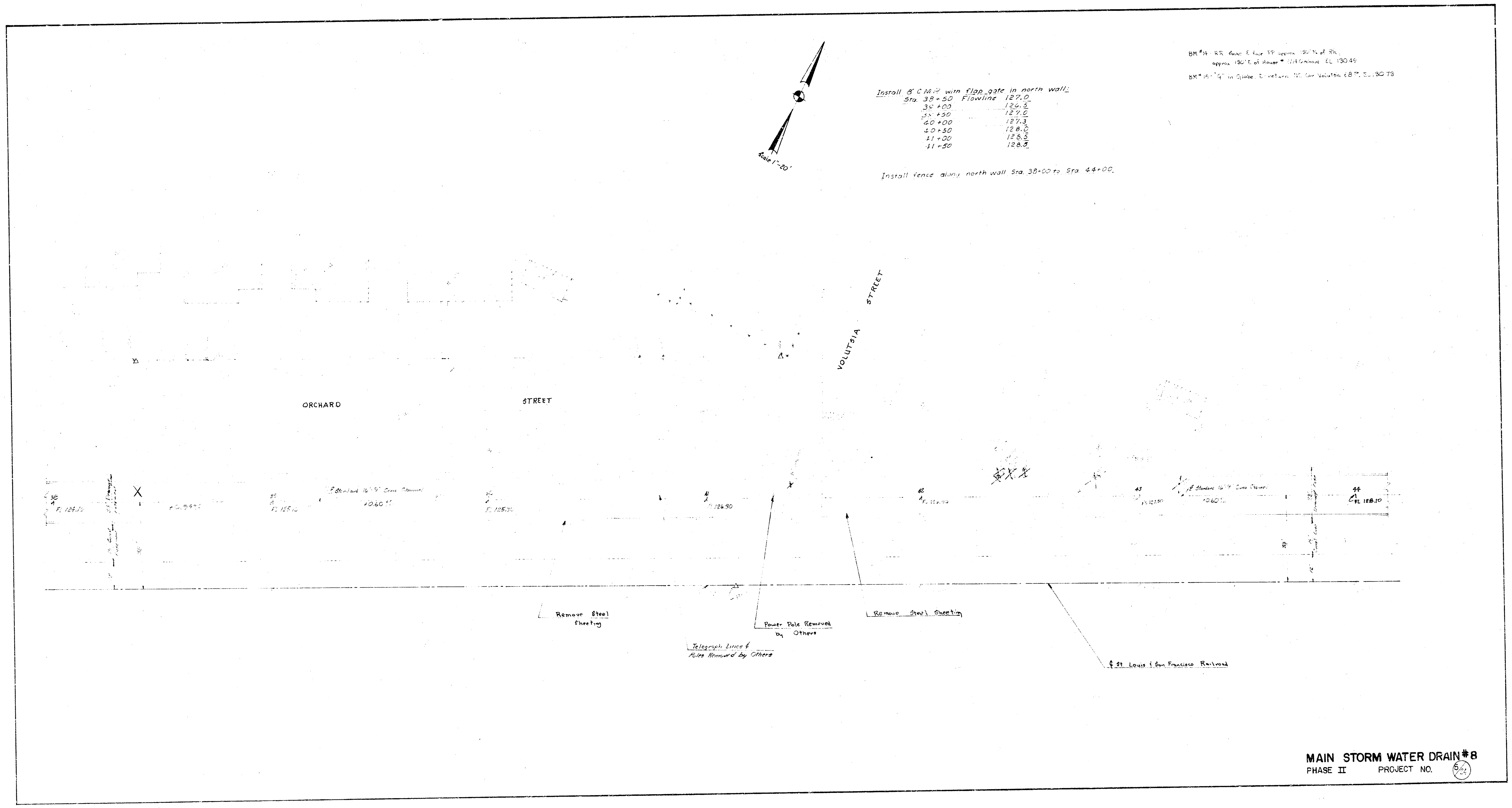
Install fence along north wall Sta. 28+04 to Sta. 32+00.
(Connect fence at Sta. 28+04 to fence installed in Phase I).

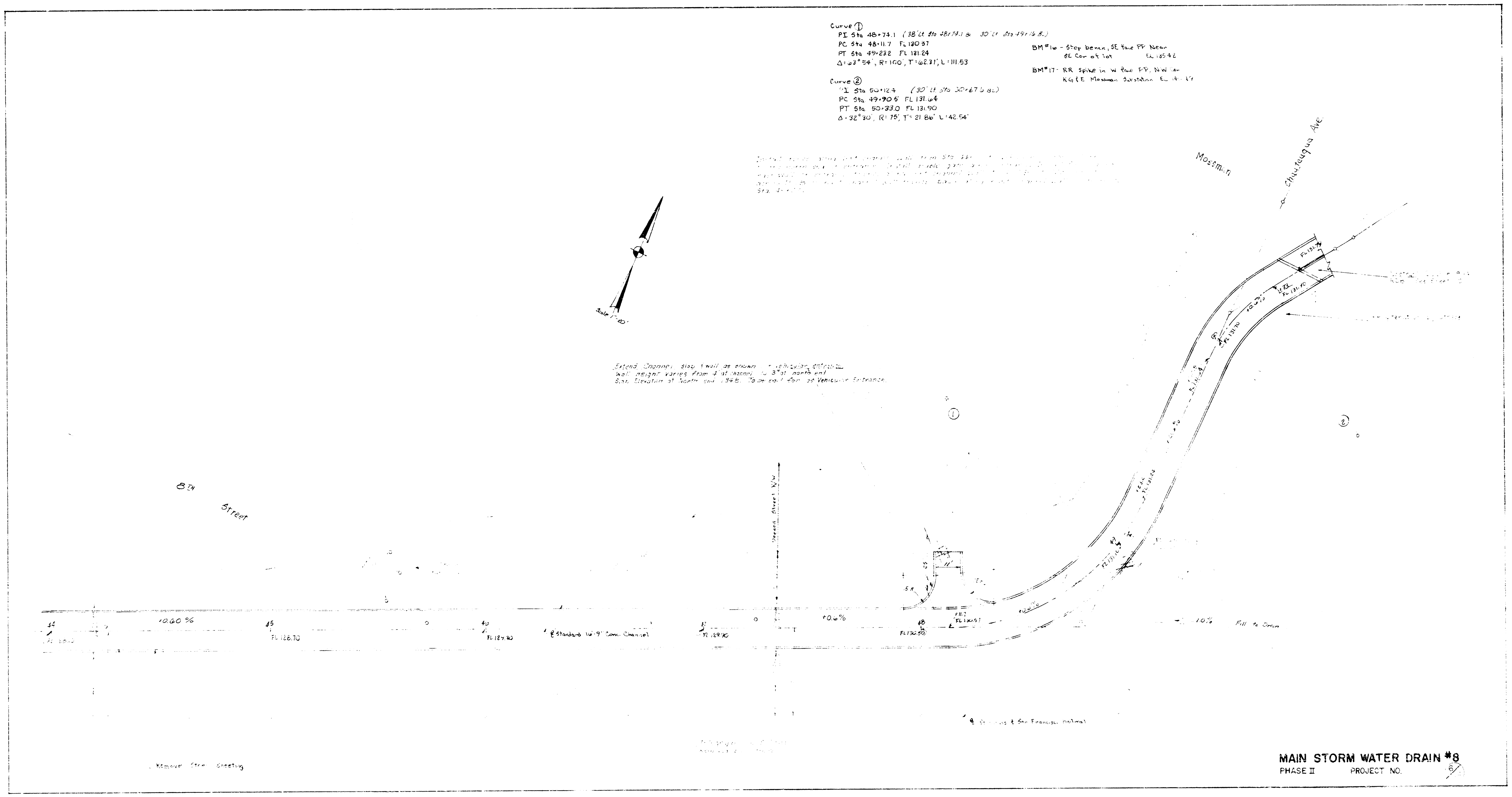


MAIN STORM WATER DRAIN #8 - PHASE II

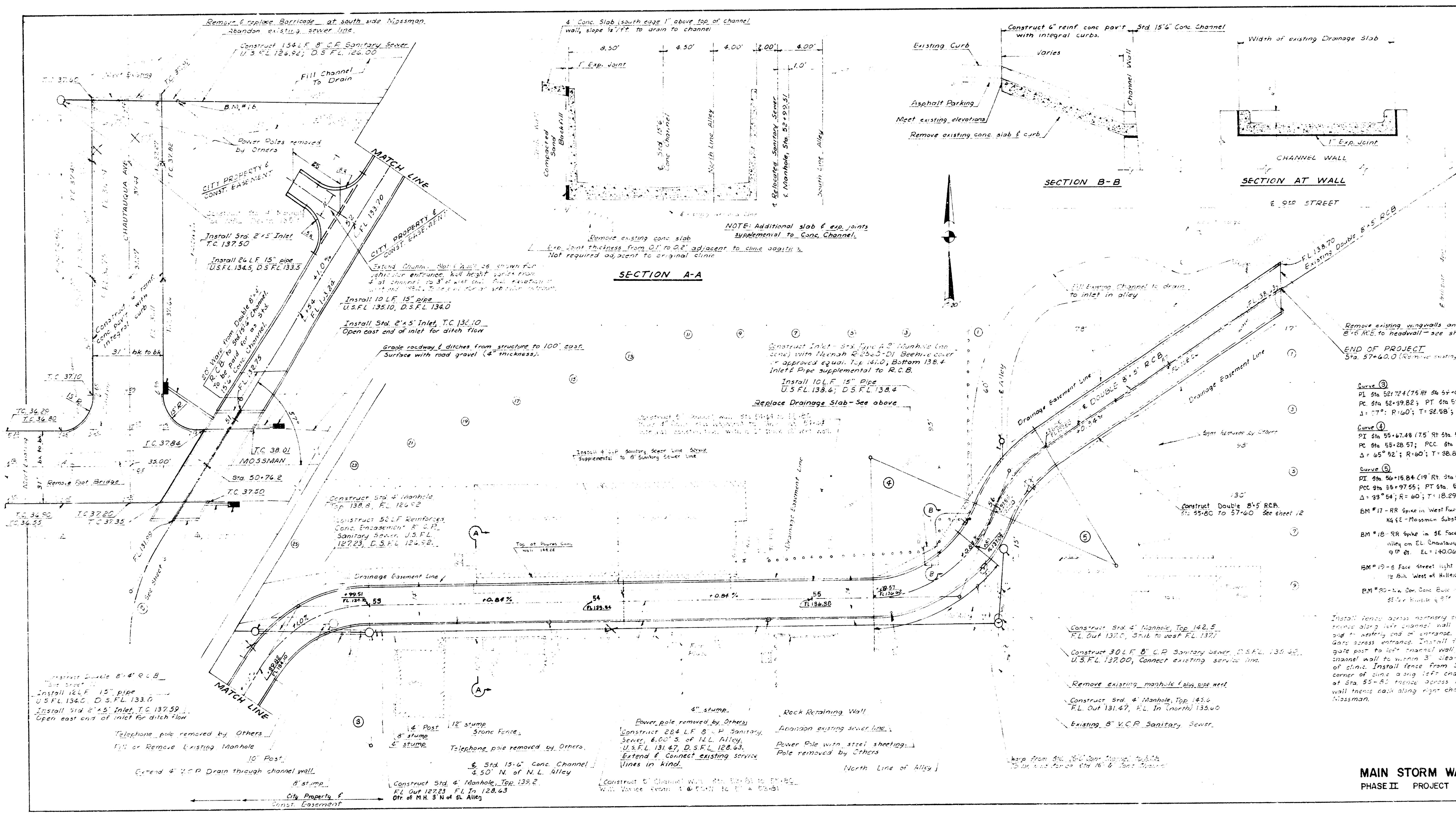
PROJECT NO.

3/24


Install 8" C.M.P. with flap gate in north wall:
Sta. 38+50 Flowline 127.0
39+00 126.5
39+50 127.0
40+00 127.3
40+50 128.0
41+00 128.5
41+50 128.5
Install fence along north wall Sta. 38+00 to Sta. 44+00.
Scale 1" = 20'
ORCHARD
STREET
VOLUTSIA
STREET
Remove Steel Sheeting
Telegraph Lines &
Poles Removed by Others
Power Pole Removed by Others
Remove Steel Sheeting
℄ St. Louis & San Francisco Railroad
MAIN STORM WATER DRAIN #8
PHASE II
PROJECT NO.
5/24



Curve ①
PI Sta 48+74.1
PC Sta 48+11.7 FL 130.37
PT Sta 49+23.2 FL 131.24
Δ=63°54', R=100', T=62.31', L=111.53
Curve ②
PC Sta 49+90.5 FL 131.64
PT Sta 50+33.0 FL 131.90
Δ=32°30', R=75', T=21.86' L=42.54'
BM#16 - Step bench, SE face PP Near SE Cor of lot
BM#17 - RR Spike in W face PP, NW Cor KG&E Mossman Substation
Mossman
Scale 1"=20'
Wall height varies from 4' at channel to 3" at north end
Street
MAIN STORM WATER DRAIN #8
PHASE II PROJECT NO.


Remove & replace Barricade at south side Mossman. Abandon existing sewer line.
Construct 154 L.F. 8" C.P. Sanitary Sewer U.S.F.L. 126.92; D.S.F.L. 126.00
Fill Channel To Drain
B.M.#16
Power Poles removed by Others
MATCH LINE
CITY PROPERTY & CONST. EASEMENT
CHAUTAUQUA AVE.
Install Std. 2'x5' Inlet T.C. 137.50
Install 26 L.F. 15" pipe U.S.F.L. 134.5, D.S.F.L. 133.5
F.L. 133.70
+1.0%
+54 F.L. 133.24
Install 10 L.F. 15" pipe U.S.F.L. 135.10, D.S.F.L. 134.0
Install Std. 2'x5' Inlet, T.C. 136.10 Open east end of inlet for ditch flow
Grade roadway & ditches from structure to 100' east. Surface with road gravel (4" thickness).
Construct 6" reinf. conc. pav't with integral curb
31' bk. to bk.
20' Warp from Double 8'x4' R.C.B. to Std. 15'6" Channel. to be paid for as Std. 15'6" Conc. Channel.
F.L. 132.75
T.C. 37.10
15' R.
T.C. 36.29
T.C. 36.80
T.C. 37.84
T.C. 38.01
MOSSMAN
35.00'
Sta. 50+76.2
T.C. 37.50
Remove Foot Bridge
T.C. 36.90
T.C. 36.55
T.C. 37.20
T.C. 37.35
F.L. 131.99
See Sheet 6
Construct Std. 4' Manhole Top 138.8, F.L. 126.92
Construct 50 L.F. Reinforced Conc. Encasement 8" C.P. Sanitary Sewer. U.S.F.L. 127.23, D.S.F.L. 126.92.
Drainage Easement Line
+99.51 F.L. 134.10
53
+0.84%
54 F.L. 135.84
55 F.L. 136.38
+28.57 F.L. 136.62
Construct Double 8'x4' R.C.B. See Sheet 6
Install 12 L.F. 15" pipe U.S.F.L. 134.0, D.S.F.L. 133.0
Install Std. 2'x5' Inlet, T.C. 137.59 Open east end of inlet for ditch flow
Telephone pole removed by Others
Fill or Remove Existing Manhole
10" Post
Extend 4" V.C.P. Drain through channel wall
8" stump
City Property & Const. Easement
4" Post
8" stump
4" stump
12" stump
Stone Fence
Telephone pole removed by Others.
℄ Std. 15'-6" Conc. Channel 4.50' N. of N.L. Alley
Construct Std. 4' Manhole, Top 139.2 F.L. Out 127.23 F.L. In 128.63 Ctr. of M.H. 3' N of S.L. Alley
4" stump
Power pole removed by Others
Construct 284 L.F. 8" C.P. Sanitary Sewer, 6.00' S. of N.L. Alley. U.S.F.L. 131.47, D.S.F.L. 128.63. Extend & Connect existing service lines in kind.
Rock Retaining Wall
Abandon existing sewer line
Power Pole with steel sheeting; Pole removed by Others
North Line of Alley
4" Conc. Slab (south edge 1" above top of channel wall, slope 1/8"/ft. to drain to channel
8.50'
4.50'
4.00'
2.00'
4.00'
1" Exp. Joint
1.0'
Compacted Sand Backfill
℄ Std. 15'6" Conc. Channel
North Line Alley
℄ Relocated Sanitary Sewer
℄ Manhole, Sta. 52+99.51
South Line Alley
Remove existing conc. slab
NOTE: Additional slab & exp. joints supplemental to Conc. Channel.
Exp. Joint thickness from 0.1' to 0.2' adjacent to clinic addition. Not required adjacent to original clinic
SECTION A-A
Construct 6" reinf. conc. pav't with integral curbs.
Std. 15'6" Conc. Channel
Existing Curb
Varies
Channel Wall
Asphalt Parking
Meet existing elevations
Remove existing conc. slab & curb
SECTION B-B
Width of existing Drainage Slab
1" Exp. Joint
CHANNEL WALL
SECTION AT WALL
℄ 9TH STREET
1" = 20'
Fill Existing Channel to drain to inlet in alley
Construct Inlet - Std. Type A-2 Manhole (no cone) with Neenah R-2563-D1 Beehive cover or approved equal. Top 141.0; Bottom 138.4 Inlet & Pipe supplemental to R.C.B.
Install 10 L.F. 15" Pipe U.S.F.L. 138.6; D.S.F.L. 138.4
Replace Drainage Slab - See above
Install 4" C.P. Sanitary Sewer Line Service Supplemental to 8" Sanitary Sewer Line
Drainage Easement Line
℄ Alley
60'
℄ DOUBLE 8'x5' R.C.B.
+0.94%
56
F.L. 138.70 Existing Double 8'x5' RCB
F.L. 138.32
Remove existing wingwalls and attach double 8'x5' R.C.B. to headwall - see sheet 12
END OF PROJECT Sta. 57+60.0 (Remove existing R.C.B. to Sta. 57+61.5)
Signs Removed by Others
Construct Double 8'x5' RCB. Sta. 55+80 to 57+60 See sheet 12
Construct Std. 4' Manhole, Top 142.5 F.L. Out 137.0, Stub to east F.L. 137.1
Construct 30 L.F. 8" C.P. Sanitary Sewer, D.S.F.L. 136.60, U.S.F.L. 137.00, Connect existing service line.
Remove existing manhole & plug pipe west
Construct Std. 4' Manhole, Top 145.6 F.L. Out 131.47, F.L. In (north) 135.60
Existing 8" V.C.P. Sanitary Sewer
Curve ③
PI Sta 52+72.4 (7.5' Rt Sta 54+04.95 BL)
PC Sta 52+39.82; PT Sta 52+99.51
Δ = 57°; R = 60'; T = 32.58'; L = 59.69'
Curve ④
PI Sta 55+67.48 (7.5' Rt Sta 57+05.45 BL)
PC Sta 55+28.57; PCC Sta 55+97.55
Δ = 65° 52'; R = 60'; T = 38.86'; L = 68.98'
Curve ⑤
PI Sta 56+15.84 (19' Rt. Sta 57+54.51 BL)
PCC Sta 55+97.55; PT Sta. 56+33.05
Δ = 33° 54'; R = 60'; T = 18.29; L = 35.50'
BM #17 - RR Spike in West Face PP, N.W. Cor KG & E - Mossman Substation EL = 140.49
BM #18 - RR Spike in SE Face PP, west end alley on E.L. Chautauqua; 1/2 Blk S of 9th St. EL = 140.06
BM #19 - S Face Street light pole, N of 9th, 1/2 Blk West of Hillside EL 144.87
Install fence across northerly end of R.C.B. at Mossman thence along left channel wall to vehicular entrance and to westerly end of entrance. Install Double Fence Gate across entrance. Install fence from northerly gate post to left channel wall thence along left channel wall to within 3" clear of southwest corner of clinic. Install fence from 3" clear of southeast corner of clinic along left channel wall to R.C.B. at Sta. 55+80 thence across R.C.B. to right channel wall thence back along right channel wall to R.C.B. at Mossman.
MAIN STORM WATER DRAIN #8
PHASE II PROJECT NO.
7/24

CORNER, PULL, OR GATE POSTS OF THE SAME SIZE AS END POSTS SHALL BE INSTALLED AT CORNERS, AT 500' MAXIMUM CENTERS, AT PC AND PT OF CURVES AND AT INTERSECTION OF CHANNEL WALL AND VEHICULAR ENTRANCE WALL. FABRIC FOR FENCE LOCATED WITHIN RAILROAD CURVE, CHANNEL CURVE OR VEHICULAR ENTRANCE SHALL BE INSTALLED OUTSIDE OF THE CURVES SO FABRIC WILL PULL TOWARD POSTS RATHER THAN AWAY FROM POSTS. THE DOUBLE FENCE GATE TO HAVE FRAME AND FABRIC SAME AS FENCE AND SHALL COME COMPLETE WITH HINGES, BRACE ROD, TRUSS ROD AND LATCH ASSEMBLY. FRAME TO BE 1-5/8" O.D. TUBULAR MATERIAL. TOTAL CLEAR OPENING OF GATES TO BE 11-FOOT OR AS REQUIRED WITH GATE POSTS AT ENTRANCE WALL.

15'-6"
16'-9"
(5'-0" where noted on plans)

16'-8"
(5'-0" where noted on plan)

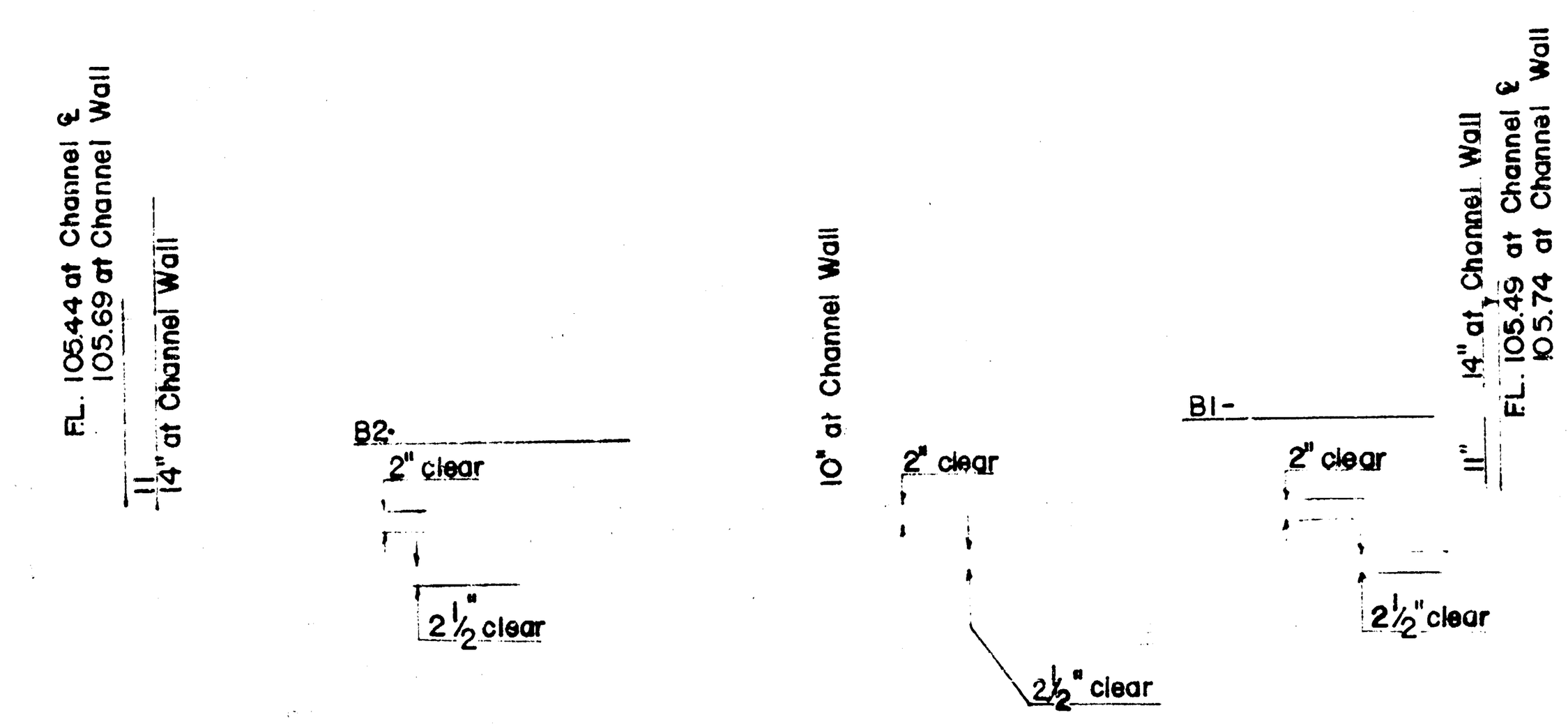
E IS ON A 5,691.65' RADIUS
CURVE. CURVE SEGMENTS TO BE 50' MAXIMUM.

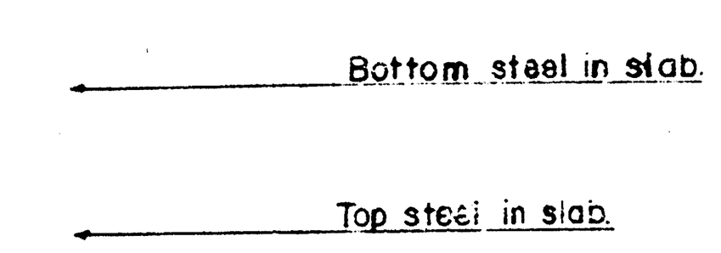
AT GREEN ST.

MAIN STORM :R DRAIN #8 - PHASE II
PROJEC. .IO. C

NOTE: Special section over sewer to include all costs for constructing complete 18-foot special section including walls. Bid price shall be Lin. Ft. of 24'-0" Conc. Channel Measured on Center Line.

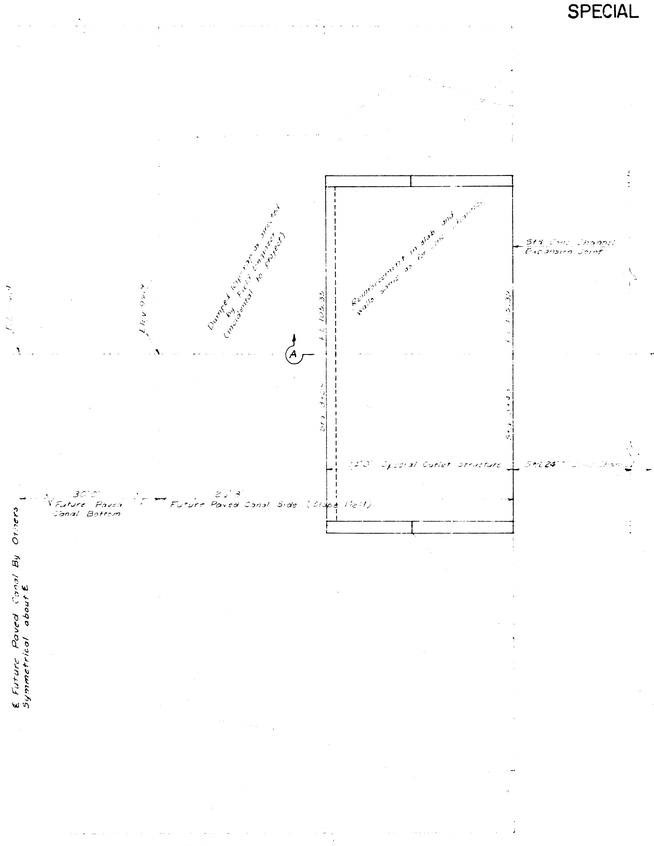
Note:
For Channel Walls see Typical Section on sheet 8.
Provide Compacted Base for typical channel section except for 6' strip over existing sewer where such an operation may damage said sewer.



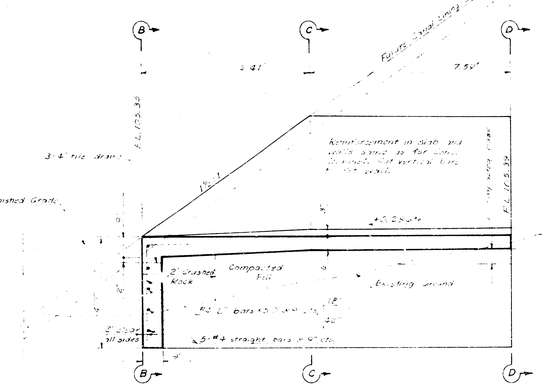


MAIN ST | 8 - PHASE II

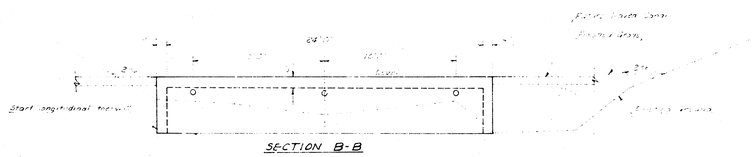
SPECIAL OUTFALL STRUCTURE



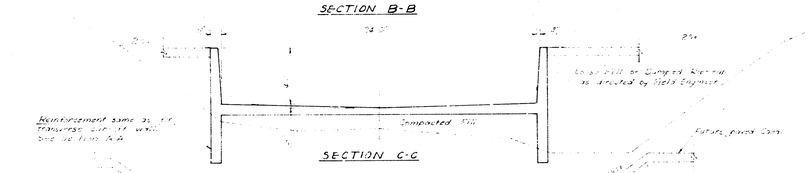
PLAN
Scale 1"=10'-0"



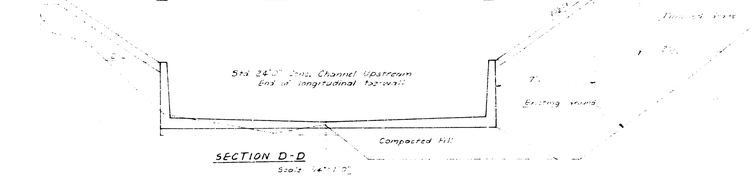
SECTION A-A
Scale 3/8"=1'-0"



SECTION B-B



SECTION C-C



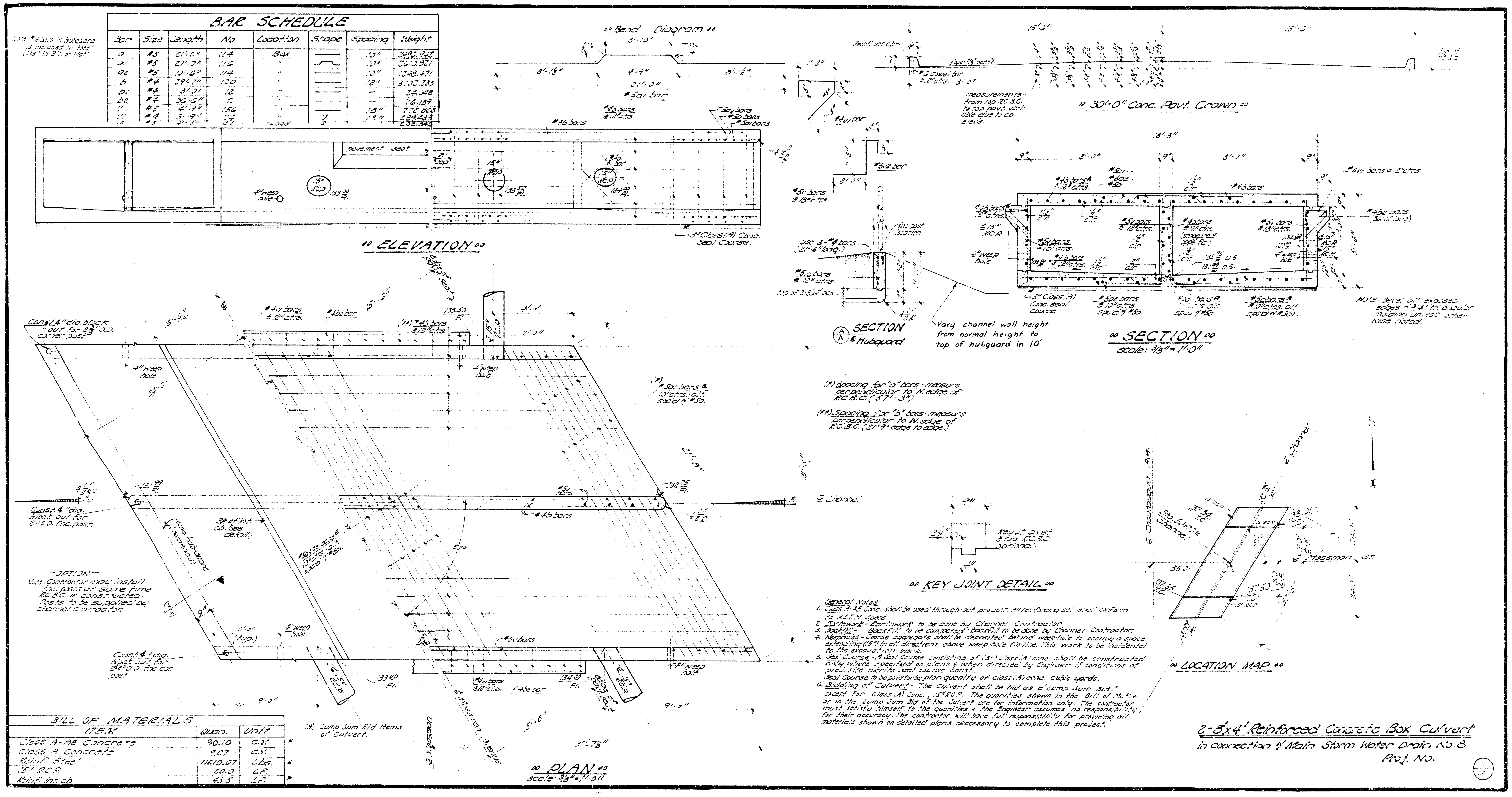
SECTION D-D
Scale 1/4"=1'-0"

Note:

Price of Special Outfall Structure to be paid for as 140 L.F. of 24'0" Conc. Channel

Main Storm Water Drain #8 - PHASE II

PROJECT No.



Note: #4 bars in hubguard is included in total (Lbs) in Bill of Mat'l.

BAR SCHEDULE

Bar	Size	Length	No.	Location	Shape	Spacing	Weight
a	#5	21'-0"	114	Box	—	10"	2496.942
a1	#5	21'-7"	116	"	⌒	10"	2610.921
a2	#5	10'-6"	114	"	—	10"	1248.471
b	#4	29'-7"	120	"	—	12"	3702.233
b1	#4	3'-0"	12	"	—	—	24.048
b2	#4	36'-6"	2	"	—	—	76.139
1'	#5	4'-4"	156	"	—	18"	772.863
11	#4	3'-9"	74	"	7	12"	289.433
12	#5	4'-5"	24	hubguard	7	"	232.845

BILL OF MATERIALS

ITEM	Quan.	Unit	
Class A-AE Concrete	90.10	C.Y.	*
Class A Concrete	9.67	C.Y.	
Reinf. Steel	11610.07	Lbs.	*
15" R.C.P.	20.0	L.F.	
Reinf. int. cb	43.5	L.F.	*

General Notes:

1. Class A-AE Conc. shall be used through-out project. All reinforcing stl. shall conform to A.S.T.M. Specs.
2. Earthwork - Earthwork to be done by Channel Contractor.
3. Backfill - Backfill to be compacted - Backfill to be done by Channel Contractor.
4. Weepholes - Coarse aggregate shall be deposited behind weep hole to occupy a space extending (15") in all directions above weep hole flo-line. This work to be incidental to the excavation work.
5. Seal Course - A Seal Course consisting of (3") class (A) conc. shall be constructed only where specified on plans & when directed by Engineer if conditions of proj. site merits seal course const.. Seal Course to be paid for by plan quanity of class (A) conc. cubic yards.
6. Bidding of Culvert - The Culvert shall be bid as a "Lump Sum Bid." except for Class (A) Conc., 15" R.C.P. The quanities shown in the Bill of Mat'l or in the Lump Sum Bid of the Culvert are for information only. The contractor must satisfy himself to the quanities & the Engineer assumes no responsibility for their accuracy. The contractor will have full responsibility for providing all materials shown on detailed plans necessary to complete this project.

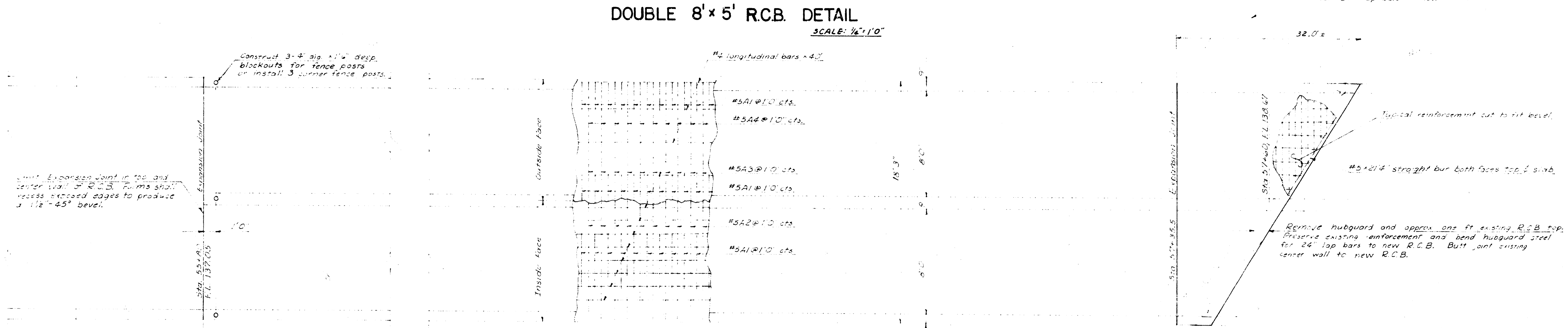
2-8'x4' Reinforced Concrete Box Culvert

in connection w/ Main Storm Water Drain No. 8

Proj. No.

DOUBLE 8' × 5' R.C.B. DETAIL

SCALE: 1/8" = 1'0"



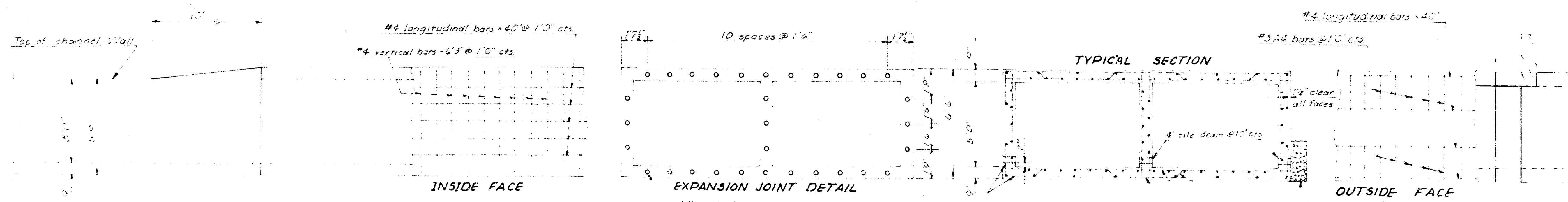
Conc. Channel-Warp to Std. 15'6" in 50 feet Slope +0.84%

Double 8'×5' R.C.B. Slope +0.84%

NOTE: When R.C.B. is within a curve, space A1, A2, A3 bars each at 1'0" cts. at centerline of R.C.B. and space A4 bar at 1'0" cts. at outside walls of R.C.B. Longitudinal bars to be tied to follow curve. Curve segments to be 10' maximum.

Install construction joints at Sta. 56+20, Sta. 56+57 and Sta. 56+92. Lap longitudinal bars 1'6" at joints. Where bars are located on outside of curve and short for a 1'6" lap, splice (lap 1'6") additional length required for 1'6" lap at joint.

Size and reinforcement of existing R.C.B. same as proposed R.C.B. except transverse steel is parallel to skewed ends rather than transverse to centerline.



#6 × 24" smooth bars coated with hard grease and capped on one end. Centerline of bar must be parallel line & grade of R.C.B.

Expansion Joint Material shall be either Redwood Board 3/4" in thickness or premolded Asphaltic Material 3/4" in thickness.

#5A1 × 18'10" bent bar @ 1'0" cts.

#5A2 × 18'0" straight bar at 1'0" cts. Alternate with A1 bar.

#5A4 × 6'0" L bars @ 1'0" cts. Alternate with A1 bar

#5A3 × 12'0" straight bar @ 1'0" cts. Symmetrical about centerline. Alternate with A1 bar.

All vertical bars are #4 × 6'3" straight bars @ 1'0" cts. Alternate with #4 bars in outside walls. Alternate faces in center wall.

All longitudinal bars are #4 × 40' straight bars @ 1'0" cts. or as shown.

Length of R.C.B. @ ℄: 181 L.F.
Concrete: 1.431 C.Y. per foot.
Re-bars: 121.32 lbs. per foot (does not include lap bars nor header bars at existing R.C.B.)

Price of Double 8'×5' R.C.B. shall be measured in linear foot along centerline and shall include removal of and attaching to existing structure, concrete, reinforcement bars, paving joints, alley inlet & pipe, and all appurtenances necessary to complete facility as shown within the plans. Earthwork is a separate pay item.

Main Storm Water Drain #8 - PHASE II

PROJECT No.

NINTH STREET

CHAUTAUQUA AVE.

HILLSIDE AVE.

FRISCO AVENUE

33 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3

Temporary Construction Easement

Drainage Easement

Temp Const Easement

Temporary Construction Easement

10' ALLEY

10' ALLEY

10' ALLEY

ADDITION

Drainage Easement

1 3 5 7

N

1" = 20'

DRAINAGE EASEMENTS
FOR
MAIN STORM WATER DRAIN NO. 8
PHASE II