APPENDIX 2.8 –

Pump Station As-Builts / Plans

FOR:

Urban Pump Station

TABLE UPS
Urban Pump Station Computations of Elevations and Rating Curve

Item Description	Elevation 29 vert datum	88 vert datum add 2.65 ft	Elevation on 88 vert datum
(a)	(a)	(a)	(a)
Urban Pump Station			
pump station floor elevation	4927.84	2.65	**4930.49**

depth from pump station top rim elevation to floor elevation	
top rim	4956.50
floor	4927.84
depth of pump station	**28.66**

pump station rim elevation	---	**4959.15**

(a) Data Source: Record Drawings Feb. 20, 1990 - Urban Roadway Pump Station Sections Sheet P5 of 47 - Included in Appendix

Pump Rating Curve Information and Assumptions

High weir water elevation =	4937.00 (a)
floor invert elevation =	4927.84 (a)
pump operating depth =	9.2

Very limited documentation was found by the COA regarding this pump station and it capacity, therefore, the COA suggested that the assumed maximum capacity is 12 cfs

SEC assigned an assumed rating curve for this pump operating depth range and maximum Q as follows:

Depth ft	Q cfs
0.0	0
0.2	1
1.5	2
3.1	4
6.1	8
9.2	12

CURVE DATA TABLE					
CURVE	Δ	T	L	R	DESCRIPTION
(A)	60°00'00"	27.14'	49.22'	47.00'	FACE OF WALL
(B)	90°01'06"	52.02'	81.70'	52.00'	CENTERLINE
(C)	90°01'06"	60.02'	94.27'	60.00'	FACE OF WALL
(D)	30°01'06"	33.46'	65.39'	124.81'	FACE OF WALL
(E)	90°01'29"	45.02'	70.71'	45.00'	FLOWLINE
(F)	44°15'40"	20.33'	38.63'	50.00'	FLOWLINE
(G)	44°57'32"	18.62'	35.31'	45.00'	FLOWLINE

NOTES

1. ON 2" W.L.: INSTALL 34 LF OF 2" WATERLINE BEGINNING AT 6" X 6" X 2" TEE, 2" X 90° BEND W/BLOCKING, ADDITIONAL 19 LF OF 2" WATERLINE, INSTALL 2" FROST-PROOF POST HYDRANT AT END OF LINE. MAINTAIN MINIMUM 3' COVER OVER LINE.
2. EXERCISE EXTREME CAUTION WHEN EXCAVATING IN THIS AREA. 60-WAY TELEPHONE CONDUIT CONTAINS FIBER OPTIC CABLE. CONTACT WARREN REYNOLDS AT MOUNTAIN BELL 880-6733 THREE WORKING DAYS PRIOR TO CONSTRUCTION IN THIS AREA.
3. EXCAVATION OF THIS SITE MUST BE COMPLETED TO WITHIN ONE FOOT OF GRADE SHOWN FOUR MONTHS AFTER NOTICE TO PROCEED. WORK SHALL BE COORDINATED WITH PARKING STRUCTURE CONTRACTOR. PUMP STATION AND CONTROL BUILDING CONSTRUCTION SHALL BE SUBSTANTIALLY COMPLETE FOUR MONTHS AFTER NOTICE TO PROCEED SO THAT HELIX CONSTRUCTION MAY PROCEED.

CURB RETURN ELEVATIONS

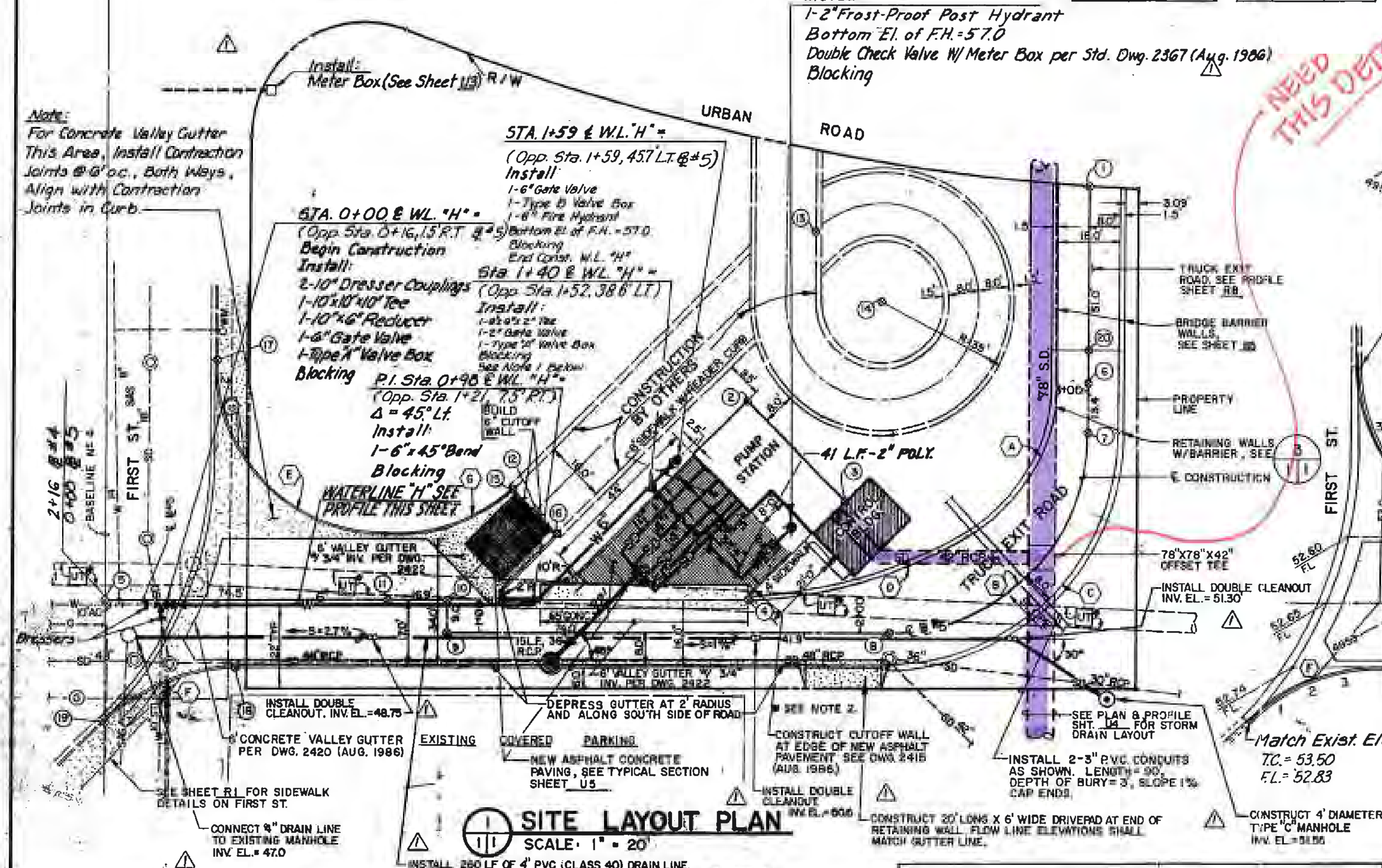
	(E) T.C.	(E) F.L.	(F) T.C.	(F) F.L.	(G) T.C.	(G) F.L.
P.C.	54.43	53.76	53.50	52.83	55.22	54.55
1	54.14	53.47	53.58	52.91	55.25	54.58
2	53.84	53.17	53.66	52.99	55.28	54.61
3	53.55	52.88	53.73	53.06	55.31	54.64
P.T.	53.25	52.58	53.81	53.14	55.34	54.67

NOTES

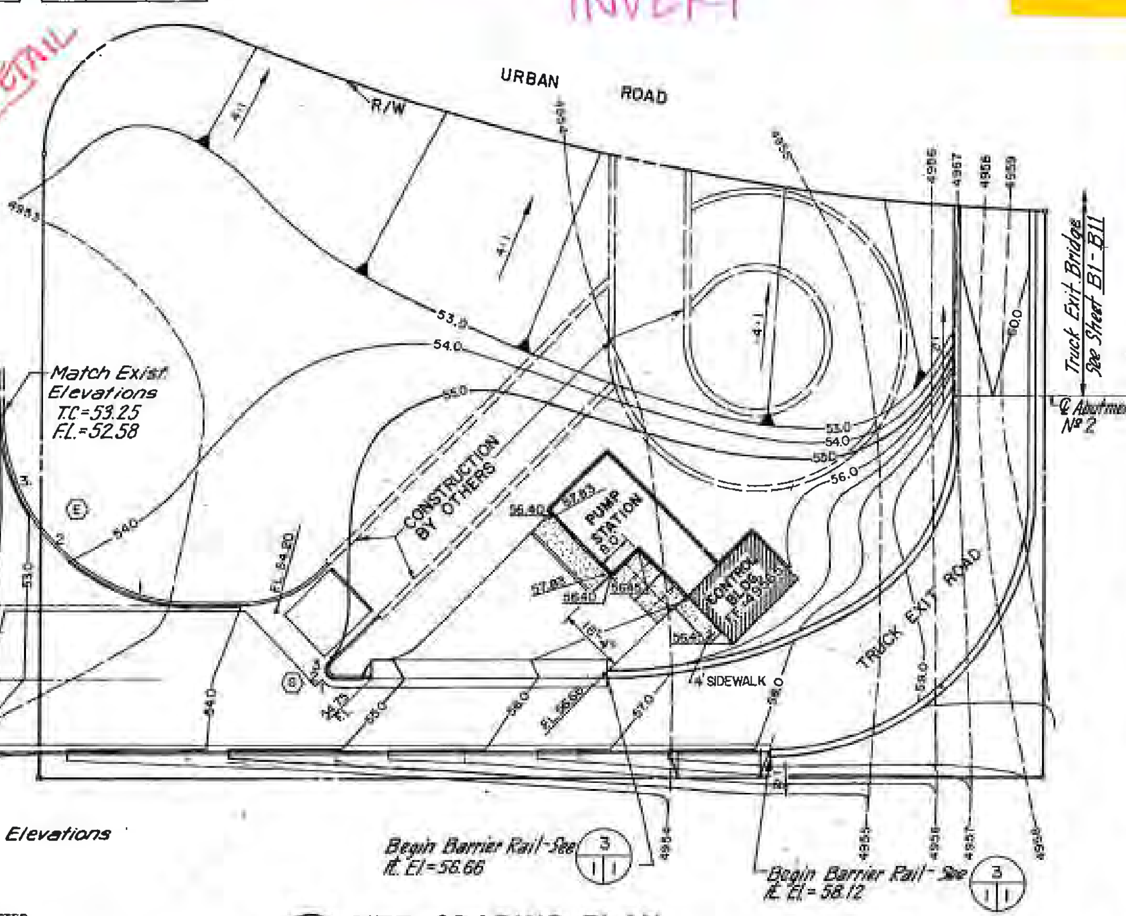
1. REFER TO SHEETS P1 THROUGH P12 FOR PUMP STATION PLANS AND DETAILS.
2. REFER TO SHEETS P13 THROUGH P15 FOR CONTROL BUILDING PLANS AND DETAILS.
3. REFER TO PLAN AND PROFILE SHEET U-4 FOR 14" AND 3" D.I. STORM DRAIN LINES PROFILE.
4. PUMP STATION STORM DRAIN DISCHARGE LINES ARE TO BE CLASS 50 DUCTILE IRON W/45°, 22-1/2° and 90° FITTINGS AS SHOWN.
5. REFER TO MISCELLANEOUS SHOP DRAWINGS FOR ADDITIONS TO PUMP STATION.

URBAN PUMP STATION INVERT

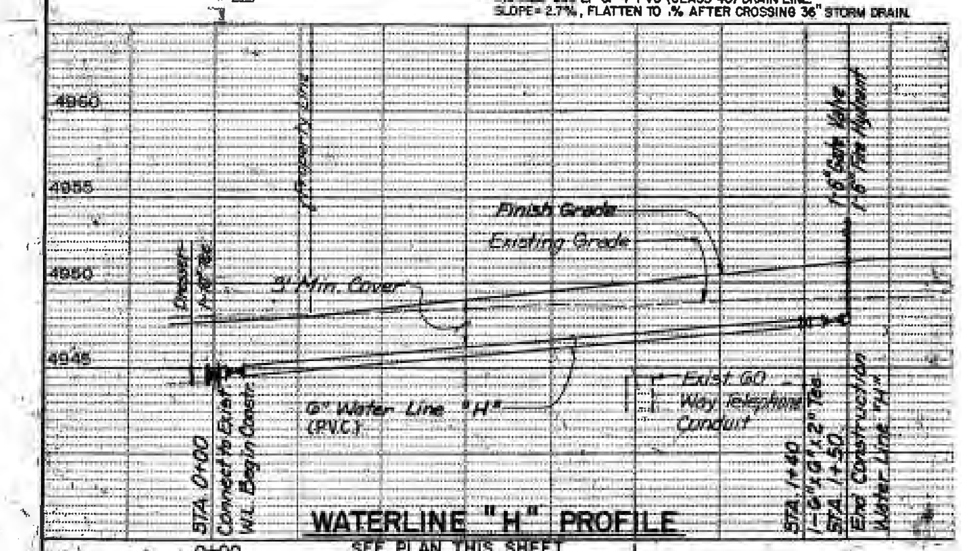
UPS 4-4



(1) SITE LAYOUT PLAN
SCALE: 1" = 20'

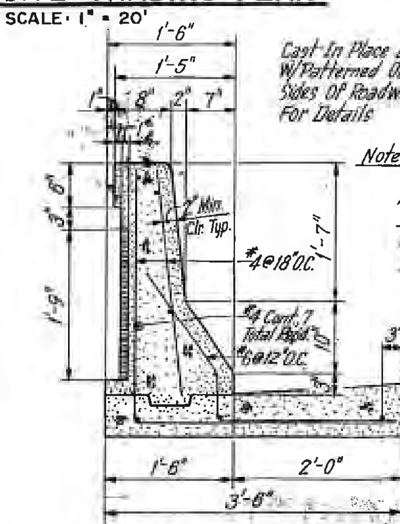


(2) SITE GRADING PLAN
SCALE: 1" = 20'



WATERLINE "H" PROFILE
SEE PLAN THIS SHEET

COORDINATE CONTROL POINT SCHEDULE						
POINT	COORDINATES		DESCRIPTION	STATION ALONG ℄ #5	OFFSET DISTANCE LEFT	OFFSET DISTANCE RIGHT
(1)	N 1,486,993.91	E 381,540.71	INT. BETWEEN CENTERLINE OF ROAD AND PROPERTY LINE	3+53.24		
(2)	N 1,486,953.28	E 381,443.84	NW COR. PUMP STATION	1+69.88	60.97'	
(3)	N 1,486,923.28	E 381,465.50	NE COR. PUMP STATION	1+96.03	34.79'	
(4)	N 1,486,901.09	E 381,434.76	INT. BETWEEN PROJECTION OF BLDG./ASPHALT LINE AND FLOWLINE	1+69.20	8.00'	
(5)	N 1,486,928.91	E 381,267.86	INT. BETWEEN CENTERLINE OF ROAD AND BASILINE NO. 4	0+00		
(6)	N 1,486,943.55	E 381,532.64	OPP. P.C. (A)	3+02.24		
(7)	N 1,486,930.29	E 381,530.51	P.C. (B)	2+88.81		
(8)	N 1,486,887.18	E 381,470.92	P.T. (B)	2+07.11		
(9)	N 1,486,905.60	E 381,356.23	℄ ∠ PT.	0+90.95		
(10)	N 1,486,914.48	E 381,357.66	℄ ∠ PT.	0+90.95		
(11)	N 1,486,917.10	E 381,341.37	OPP. P.C. (E)	0+74.45		
(12)	N 1,486,934.78	E 381,385.76	℄ EXIT RAMP @ CURB LINE	1+15.48	33.50'	
(13)	N 1,486,993.57	E 381,467.17	℄ P.C. HELIX (FUTURE)	3+41.26	72.56'	
(14)	N 1,486,972.89	E 381,482.10	RADIUS PT. HELIX (FUTURE)	2+04.55	86.41'	
(15)	N 1,486,941.2	E 381,381.08	P.T. (G)	1+09.83	39.16'	
(16)	N 1,486,928.29	E 381,390.45	BEGIN LT. CURB @ EXIT RAMP	1+21.13	27.83'	
(17)	N 1,486,985.47	E 381,306.78	P.T. (E)	0+29.45	62.82'	
(18)	N 1,486,906.84	E 381,299.28	P.T. (F)	0+34.55		17.00'
(19)	N 1,486,898.17	E 381,262.57	P.C. (F)	-0+00.35		31.19'
(20)	N 1,486,952.14	E 381,534.02	℄ ROAD @ ℄ ABUTMENT #2	3+10.94		



(3) DETAIL
SCALE: 1"=1'-0"

Cast-In Place Barrier Railing W/Patterned Outside Face Both Sides Of Roadway. See Sht. B5 For Details

Note: Reflective Barrier Delineators In Accordance With N.M.S.H.D. Specification Section 703 Shall Be Installed On Top Of Barrier Railing. Spacing Shall Be 10' O.C.

RECORD DRAWING
Date FEB 20 1990
These drawings have been revised based on the construction records of the owner. While the information submitted by the Owner will be assumed to be reliable, the Engineer will not be responsible for the accuracy of the information nor for errors or omissions which may appear in the record document as a result thereof.

C of A PRD Maps & Records
26 32449390

SCALE: 1" = 20'

NO.	DATE	REMARKS	BY
	2/90	Record Drawing	E.C.
1	Mar. 88	New Drain Line, Drivepad, Revised Tabulations	LH

SURVEY INFORMATION — FIELD NOTES — NO. — BY — DATE

BENCH MARKS — FOR BENCH MARKS SEE SHEET

ENGINEER'S SEAL

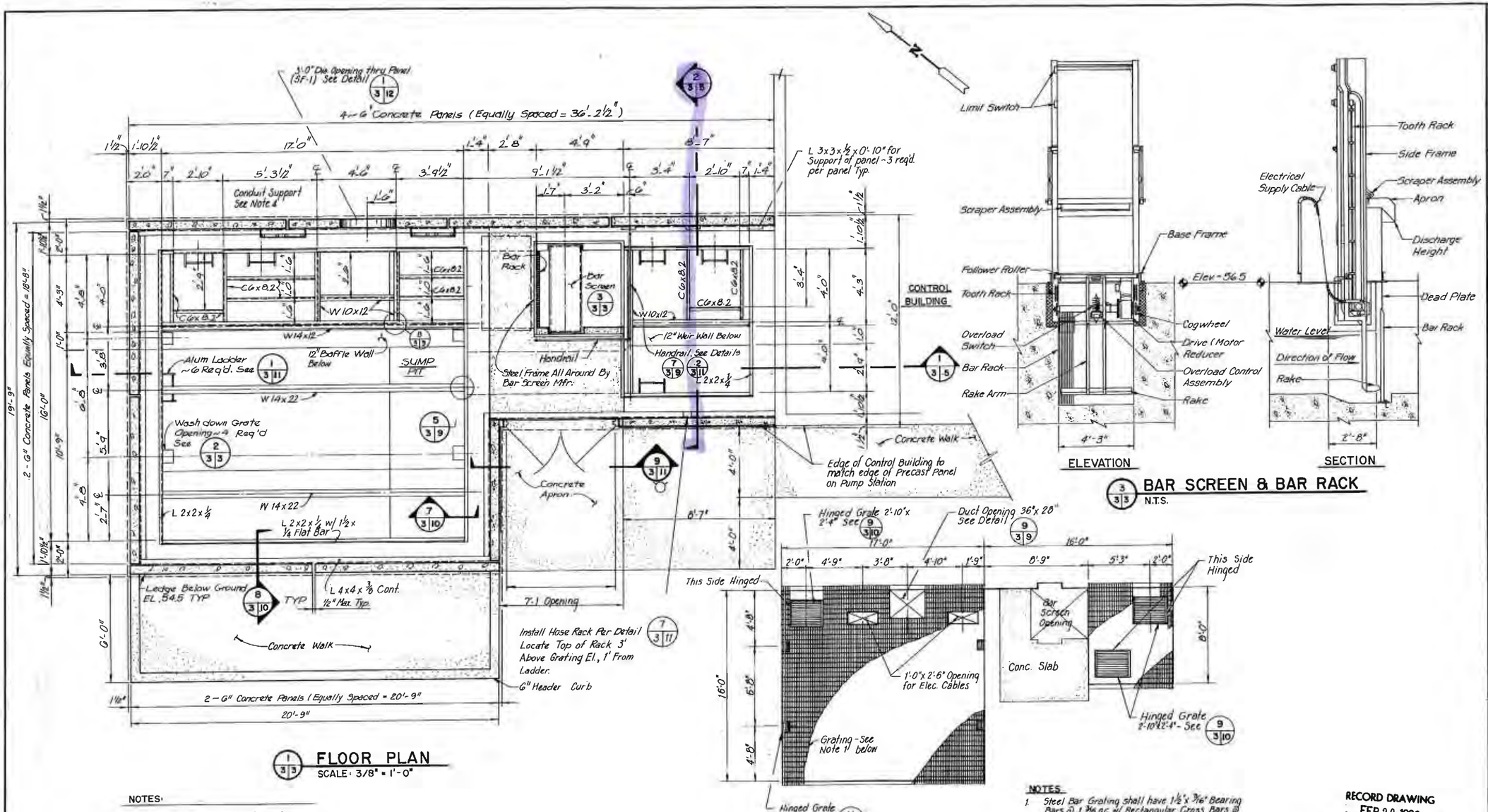
REVISIONS — DESIGN — DESIGNED BY S.E.D. & J.E. DATE 8-87 — DRAWN BY — DATE — CHECKED BY E.D. DATE 10-87

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: URBAN ROADWAY PUMP STATION SITE LAYOUT AND GRADING PLAN

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer	[illegible]		Liquid Waste	[illegible]	11/19/87
A.C.E. Design	[illegible]	[illegible]	Traffic	[illegible]	12/[illegible]
A.C. E.-Hydrology	[illegible]	11-15-87	Water	[illegible]	[illegible]/87

DRAWING NO. 3244 — MAP NO. K-14 — SHEET P1 OF 43



1/3 3 FLOOR PLAN
SCALE: 3/8" = 1'-0"

NOTES:

1. For Aluminum Ladder Locations See Piping Plan Sht 4.
2. For Platforms see Sht. 4 for locations. See Sht 10 for Details.
3. For Precast Panels, See 10/3 9
4. Support Members Not Shown For Clarity.

3/3 3 BAR SCREEN & BAR RACK
N.T.S.

2/3 3 PLAN - GRATING LAYOUT @ EL. 56.50
SCALE: 1/4" = 1'-0"

NOTES:

1. Steel Bar Grating shall have 1 1/2" x 3/16" Bearing Bars @ 1 3/16 o.c. w/ Rectangular Cross Bars @ 4" o.c. Attach grating to supporting members w/ Saddle Clips and Stud bolts @ 18" max o.c.

C of A PWD Maps & Records
1 2 3 4 5 6 7 8 9 10 11 12
2 4 3 2 4 4 4 5 9 0

RECORD DRAWING
Date FEB 20 1990
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AS BUILT INFORMATION
CONTRACTOR
STAKED BY
INSPECTOR
FIELD BOOK
PAGE
DRAWN
CHKD
REVIEW
P.O.

BENCH MARKS
FOR BENCH MARKS SEE SHEET G-3

SURVEY INFORMATION
FIELD NOTES
NO. | DATE | BY

ENGINEER'S SEAL

NO.	DATE	REVISIONS	BY
1	2/90	Record Drawing	G.C.

DESIGN
DESIGNED BY M.Z. DATE 9-87
DRAWN BY D.C. DATE 10-87
CHECKED BY C.D. DATE 10-87

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: URBAN ROADWAY PUMP STATION
FLOOR AND GRATING PLANS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		11/19/87
A.C.E. Design		12-14-87	Traffic		12/8/87
A.C.E.-Hydrology	C.A.M.	11-15-87	Water		11/19/87

DRAWING NO. 3244 | MAP NO. K-14 | SHEET P3 OF 45

El. 64.5
6" Precast Panel With Colored Concrete
8'-0"
Grade
El. 56.5
2'-0"
6'-10"
17'-6"
W14 x 22
3'-1/2"
3'-0" dia hole in 6" Conc. Panel - see 1/5 12
E. Bar Screen
1½" Grating
2'-3" Typ.
Beam Connection - See Detail at all Beam Connections 5/5 9 Typ.
Ductwork See Sheet P12
Aluminum Ladder - See Detail 1/5 11 Typ.
2'-0"
17'-0"
1½" Handrail - See Detail 2/5 11 TYP.
El. 39.0
El. 36.5
High Water Level
3'-0" 3'-4" 3'-0"
Waterproofing to 39.0
Compacted Backfill
Aluminum Ladder
Support Brackets for Plenum. See Sheet P12
Rung to match top of platform
14'-3¾"
El. 32.0 (Top of Baffle Wall)
Aluminum Ladder
El. 27.84
El. Varies
2'-0" Typ.
El. 24.19
2'-0"
Manhole Steps
Opening thru Baffle Wall
Vert.
L 4x4x¼" Galv. w/ ½" ϕ x 4' Studs @ 24" O.C. Max.
Compacted Backfill
El. 21.90
Kick Plate
Drip Groove
W10x12
Handrail @ Barscreen. See Detail 7/5 9
8'-1"
℄ W10x12
5'-4"
Control Bldg. See Sht. P13 → P15
El. 56.5
See Detail 7/5 10
9'-0"
7'-0"
2'-0"
1½" Handrail
Aluminum Ladder
El. 38.5
Rung to match top of platform
El. 39.0
L 4x4x¼ Galv. w/ ½" ϕ x 4' Studs @ 24" Max. O.C.
℄ 42" R.C.P.
Pipe 1½ Standard Mount to Wall w/4- ½"ϕ Stainless Steel Exp. Anchors, 4-Places Ea. End - Typical
El. 27.84
Old Datum
+ 2.65'
1½" Handrail. See Detail 2/5 11
6" Precast Panel With Colored Concrete
5'-6"
See Detail 8/5 10
W10x12
6" Precast Panel Connection. See 4/5 9
Aluminum Ladder - Typ. See Detail 1/5 11
Compacted Backfill
2'-0"
6'-0"
2'-8" 2'-8" 2'-8"
El. 38.5
El. 37.0
2'-9"
4'-3"
OVERFLOW CHANNEL
INLET CHANNEL
El. Varies
Exterior Waterproofing to El. 39.0
2'-0" Typ.
2'-0" Nom.

1/5 SECTION
SCALE: 3/8"=1'-0"

2/5 SECTION
SCALE: 3/8"=1'-0"

C of A PWD Maps & Records
2 | 6 | 3 | 2 | 4 | 4 | 4 | 7 | 9 | 0

RECORD DRAWING
Date FEB 20 1990
These drawings have been revised based on the construction records of the owner. While the information submitted by the Owner will be assumed to be reliable, the Engineer will not be responsible for the accuracy of this information nor for errors or omissions which may appear in the record document as a result thereof.

NO.	DATE	BY
2	2-90	GC

Record Drawing
REMARKS
REVISIONS
DESIGN
DATE 9-87
DATE 10-87
DATE 10-87
DESIGNED BY M.Z.
DRAWN BY D.C.
CHECKED BY G.B.

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

BENCH MARKS
FOR BENCH MARKS SEE SHEET G-3

AS BUILT INFORMATION
CONTRACTOR
FOREMAN BY
INSPECTED BY
FIELD
DRAWINGS BY
RECORDED BY
NO.
DATE

MICRO-FILM INFORMATION
RECORDED BY
DATE
NO.

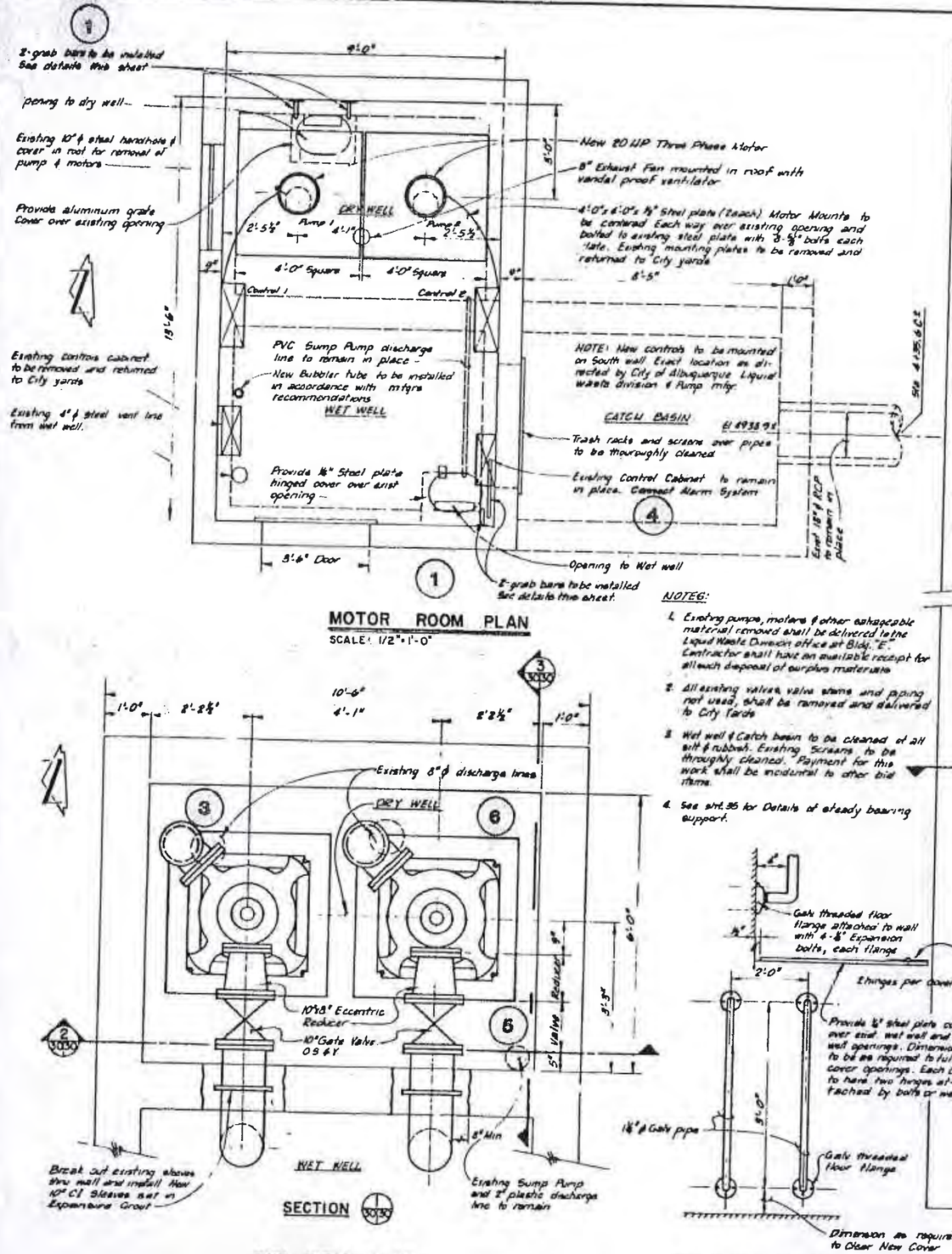
ENGINEER'S SEAL

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: URBAN ROADWAY PUMP STATION SECTIONS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		11/29/87
A.C.E. Design		11-11-87	Traffic		12/16/87
A.C. E.-Hydrology	CAM	11-11-87	Water		11/19/87

DRAWING NO. 3244 | MAP NO. K-14 | SHEET P5 OF 47



MOTOR ROOM PLAN

SCALE: 1/2"=1'-0"

NOTES:

1. Existing pumps, motors & other salvageable material removed shall be delivered to the Liquid Waste Division office at Bldg. "E". Contractor shall have an available receipt for all such disposal of surplus materials
2. All existing valves, valve stems and piping not used, shall be removed and delivered to City Yards
3. Wet well & Catch basin to be cleaned of all silt & rubbish. Existing Screens to be throughly cleaned. Payment for this work shall be incidental to other bid items.
4. See sht. 3S for Details of steady bearing support.

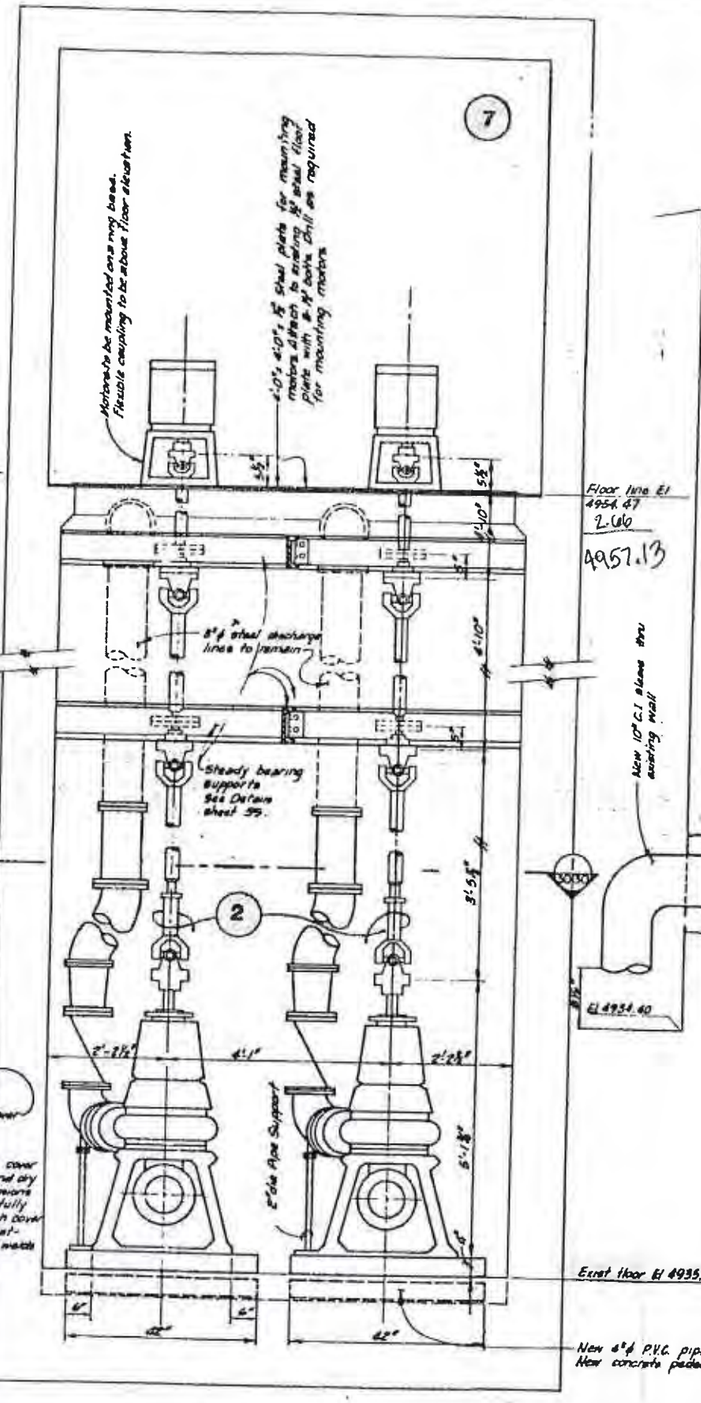
SECTION 3/3S30

DRY WELL PLAN

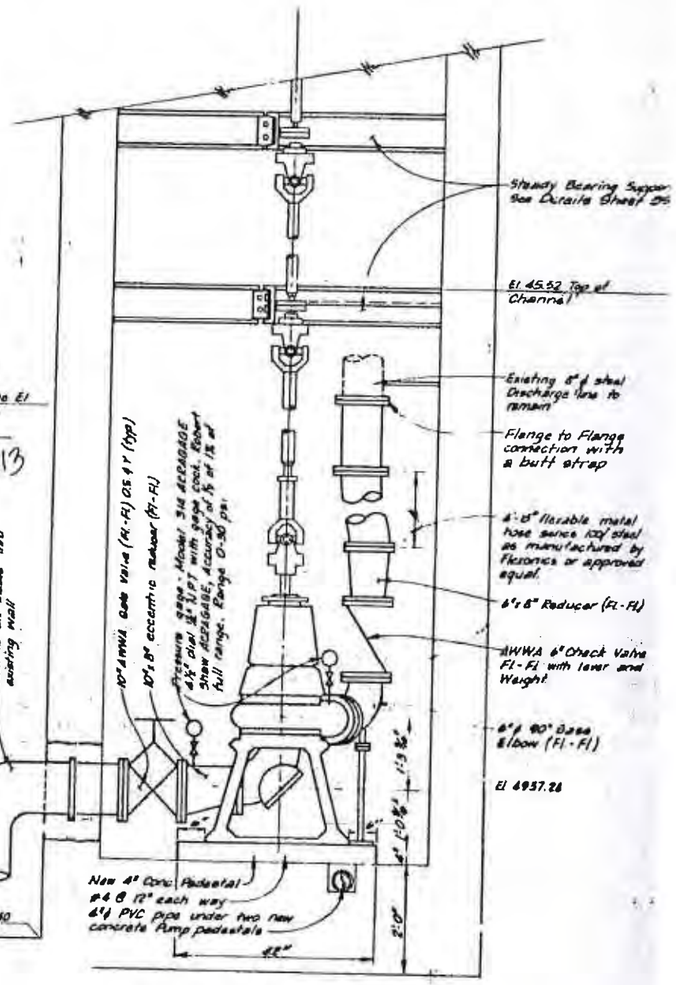
SCALE 3/4"=1'-0"

GRAB BAR DETAIL

NO SCALE



SECTION 2/3S30



SECTION 3/3S30

SCALE 3/4"=1'-0"

4935.90 + 2.66 = 4938.56

FIGURE NO. 1

FOR CENTRAL STA. NO. 27

BOVAY ENGINEERS, INC.

HOUSTON • SPOKANE • BATON ROUGE
AUSTIN • ALBUQUERQUE • WASHINGTON, D.C.

BRUNING 44132