

CITY OF WHITTIER, ALASKA
WHITTIER WELL FIELD UPGRADE

ADDENDUM NO. 3

February 14, 2024

The changes, additions, deletions, and clarifications reflected in this addendum are hereby made a part of the Whittier Well Field Upgrade Specifications and Contract Documents.

SPECIFICATIONS AND CONTRACT DOCUMENTS

IX. RECORD DRAWINGS

Add the attached WHITTIER WATER SYSTEM IMPROVEMENTS PHASE III as-built drawings showing the location and configuration of the approximately 1,000,000 gallon water reservoir.

BIDDER MUST ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE APPROPRIATE SPACE ON THE BID FORM. FAILURE TO DO SO WILL SUBJECT THE BIDDER TO DISQUALIFICATION.

*** END OF ADDENDUM NO. 3 ***

SHEET INDEX

WHITTIER WATER SYSTEM IMPROVEMENTS PHASE III Whittier, Alaska

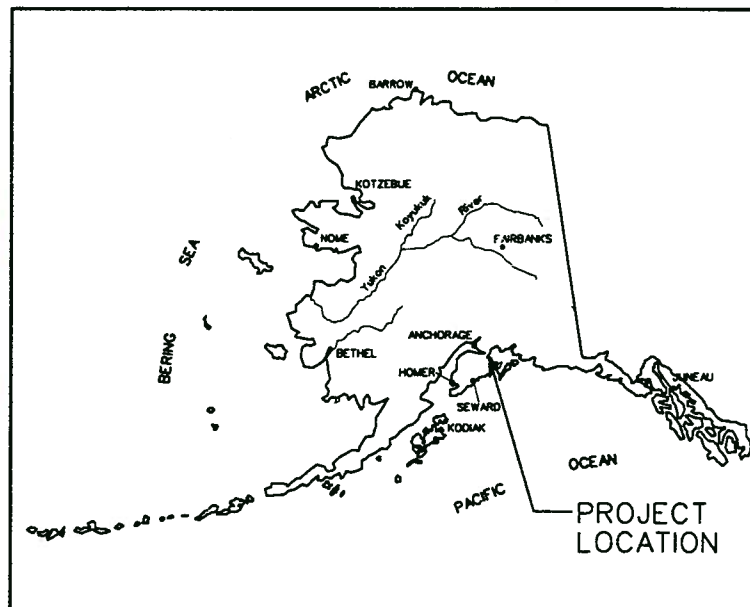
June, 1995

In Cooperation with the State of Alaska
Department of Environmental Conservation
Village Safe Water Program

No.	Title
1	Cover Sheet
2	Index Sheet & Legend
3	Survey Control
4	Pipe Node Diagram/Design Data
5	Reservoir Line: Sta. 21+34RS - Sta. 28+00RS
6	Typical Cross Sections, Piping Details & Well House *3 PRV
7	Lower Valve Vault Plan & Details
8	Upper Valve Vault Plan & Details
9	New Valve Vault Plan & Details
10	Pipe Encasement Design & Retaining Wall
11	Water Reservoir Improvements
12	Water Reservoir Details
13	Water Reservoir Details
14	Reservoir Electrical Plan

CHLORINATION BUILDING

15	Piping Plan & General Notes
16	Site Plan
17	Elevations & Details
18	Floor Plan, Sections & Details
19	Foundation Plan & Details
20	Roof Framing Plan & Notes
21	Floor Plan, Sections, Chlorination System & Details
22	Injection Vault Plan & Details
23	Electrical Plan
24	Panel Wiring Schematic & Details
25	Ladder Diagram & Pump Diagrams



Location Map

engineering group
anchorage, alaska

3900 ARCTIC BLVD, SUITE 203
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
FAX: (907) 561-2273

Consultant

RECORD DRAWING CERTIFICATE

THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.

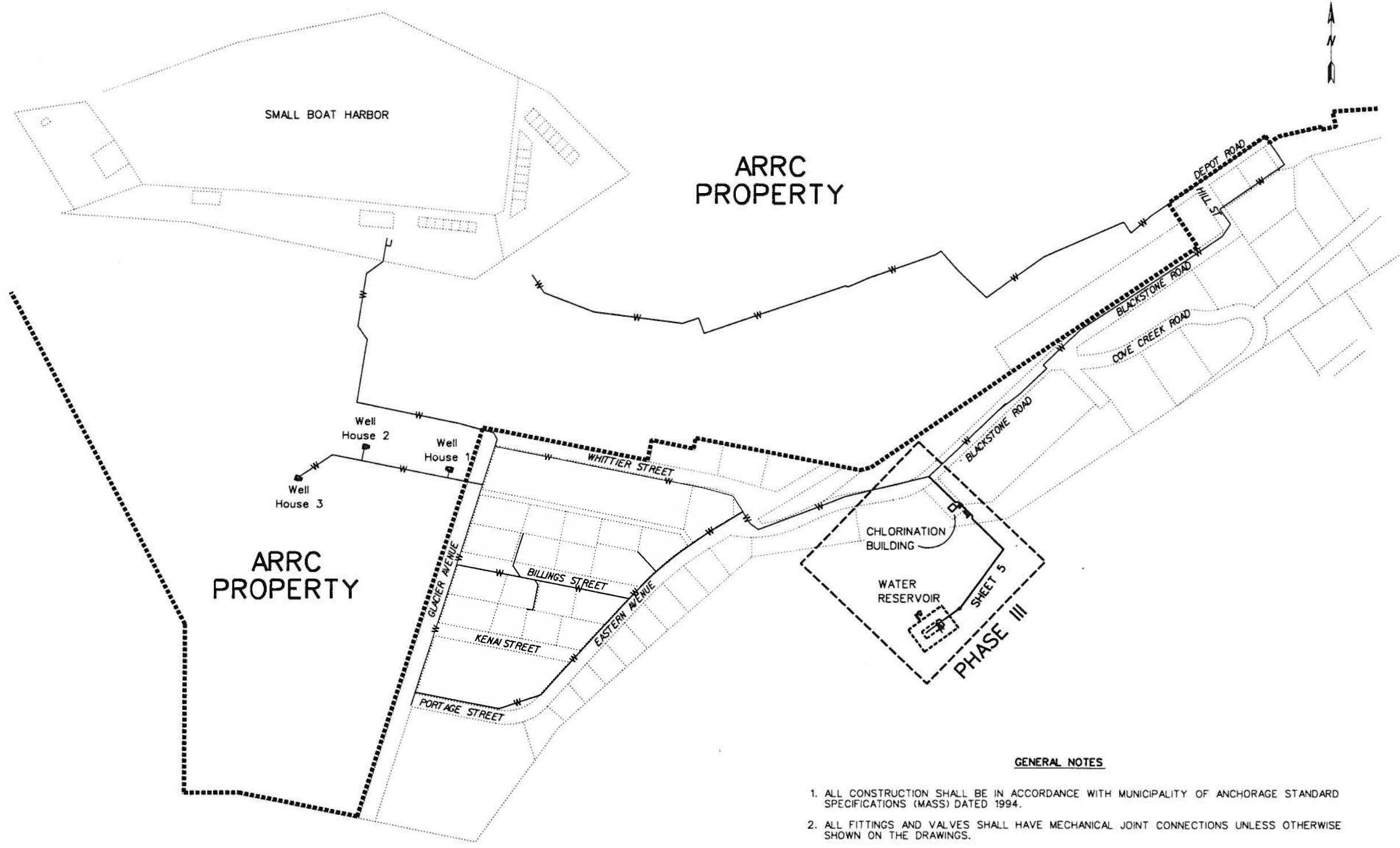
Pete Bellezza
NAME

January 12, 1996
DATE

Project Number (Consultant)	9069 (VSW)	90907
VSW Project Engineer	Bob Lundell	
Contractor	Rockford Corporation	
Construction Foreman	Jerry Burkes	
Utility Owner	City of Whittier, Alaska	
Final Design (Date)	April 14, 1995	
ADEC Approval (Date)	April 13, 1995	
Construction Period (From) (To)	June, 1995 (To) October, 1995	
As-Built (Date)	November 1, 1995	

PHASE III AS-BUILTS

II
9069



EXISTING LEGEND - Plan	
Symbol	Description
⊙	ALUMINUM CAP
⊕	SURVEY MONUMENT
⊙	IRON PIN RECOVERED
○	UTILITY POLE
○	LIGHT POLE
←	GUY WIRE AND ANCHOR
—○—	OVERHEAD ELECTRIC
—○—	UNDERGROUND ELECTRIC
□	ELECTRIC MANHOLE
⊕	ELECTRIC RISER
—○—	OVERHEAD TELEPHONE
—○—	UNDERGROUND TELEPHONE
□	TELEPHONE MANHOLE
—○—	UNDERGROUND TELEPHONE AND CABLE LINES
—○—	PETROLEUM OIL LINE
—S—	SEWER LINE
□	SEWER CLEANOUT
○	SEWER MANHOLE
—	SEWER PLUG
—	WATER LINE
⊕	FIRE HYDRANT
—	WATER PLUG OR CAP
⊕	WATER MAIN VALVE
⊕	WATER SERVICE KEY BOX
—	STORM DRAIN LINE
⊕	STORM DRAIN MANHOLE
□	STORM CATCH BASIN
—	DRAINAGE CULVERT
---	FLOW LINE
---	EDGE OF PAVEMENT
---	CURB AND GUTTER
---	EDGE OF GRAVEL ROAD
—	GUARD RAIL
+	STREET SIGN
⊕	TREE OR SHRUB
+	RAILROAD TRACKS
⊕	RAILROAD TRACK SWITCH
▨	BUILDING
---	UNDERGROUND STRUCTURE
⊕	TEST HOLE

EXISTING LEGEND - Profile	
Symbol	Description
—	UTILITY LINE CROSSING/PROFILE
—	UTILITY DUCT CROSSING/PROFILE
⊕	UTILITY MANHOLE

PROPOSED IMPROVEMENTS LEGEND	
Symbol	Description
—	WATER LINE-PLAN
—	WATER LINE PROFILE AND CROSSING-PROFILE
—	WATER PLUG OR CAP
⊕	WATER MAIN VALVE
⊕	WATER SERVICE VALVE
⊕	FIRE HYDRANT

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MUNICIPALITY OF ANCHORAGE STANDARD SPECIFICATIONS (MASS) DATED 1994.
2. ALL FITTINGS AND VALVES SHALL HAVE MECHANICAL JOINT CONNECTIONS UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
3. THRUST BLOCKS SHALL BE INSTALLED AT ALL FITTINGS, CHANGES IN ALIGNMENT OR WHERE THE WATER LINE TERMINATES.
4. ALL FIRE HYDRANTS SHALL BE MUELLER CENTURIAN SINGLE PUMPER AS SHOWN IN STANDARD DETAIL 60-6 (MASS). FIRE HYDRANTS SHALL BE FURNISHED WITH A BARREL LENGTH THAT WILL ALLOW A MINIMUM OF 7 FEET OF BURY.
5. FOUR HYDRANT GUARD POSTS ARE REQUIRED AT EACH FIRE HYDRANT INSTALLATION. GUARD POSTS SHALL BE 6" HEAVY WALL STEEL PIPE FILLED WITH CONCRETE AND INSTALLED IN ACCORDANCE WITH STANDARD DETAIL 60-8 (MASS). ALL GUARD POSTS ARE INCIDENTAL TO THE CONTRACT.
6. FIRE HYDRANTS SHALL BE ADJUSTED TO FINAL GRADE BY THE CONTRACTOR.
7. LOCATION (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES SHOWN IN THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS AND ADJUST WATER LINE ALIGNMENT AND GRADE TO AVOID CONFLICT WITH EXISTING UTILITIES. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL SEPARATION FROM STORM AND SANITARY SEWERS.
8. CONTRACTOR SHALL CALL FOR UTILITY LOCATES AND COORDINATE ACTIVITIES WITH ALL UTILITY COMPANIES AND THE ALASKA RAILROAD CORPORATION.
9. CONTRACTOR SHALL RESTORE ALL DISRUPTED PROPERTY TO ORIGINAL CONDITION.

PHASE III

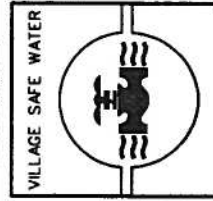
SCHEDULE A - Base Bid
 SHEETS 5 - 6: Reservoir Line/Well House #3
 SHEET 7: Lower Valve Vault Improvements
 SHEET 8: Upper Valve Vault Improvements
 SHEETS 11-13: Water Reservoir Improvements
 SHEET 14: Reservoir Electrical

SCHEDULE B - Additive Alternate 1
 SHEET 9: New Valve Vault
 SHEET 10: Pipe Encasement & Retaining Wall

SCHEDULE C - Additive Alternate 2
 SHEETS 15-25: Chlorination Building



RECORD DRAWING CERTIFICATE
 THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.
 PAUL BELLETTO
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF ALASKA
 1/12/96



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 1/12/96

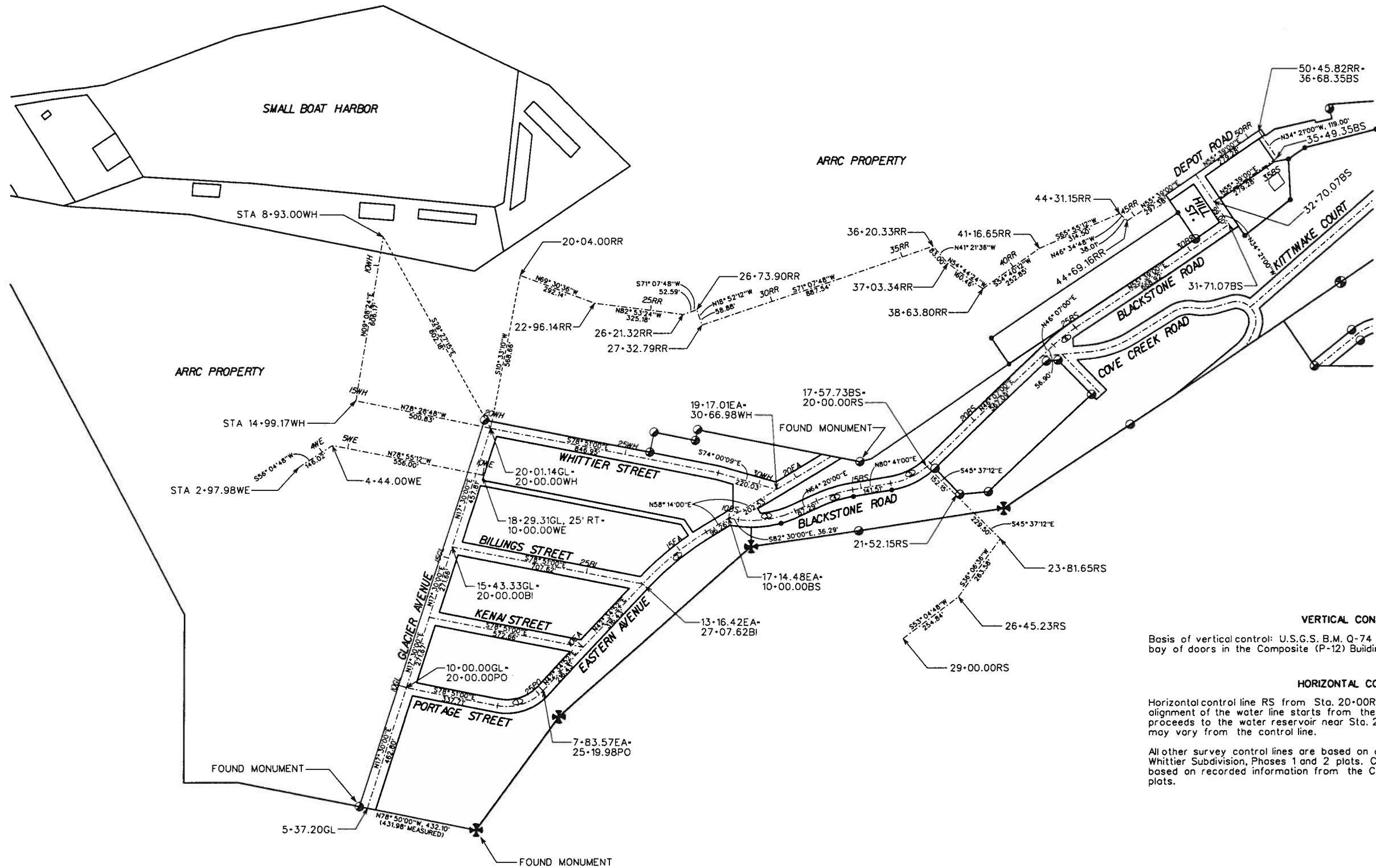
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 REGISTERED PROFESSIONAL ENGINEER
 STATE OF ALASKA
 1/12/96

WHITTIER WATER IMPROVEMENTS PHASE III

INDEX SHEET & LEGEND

REVISION	DATE	BY
ISSUED FOR BID	01/11/95	P.B.
PHASE III AS-BUILTS	1/12/96	P.B.

Project No. 9069	Date APR 1995	Designed P.B.	Drawn B.P./P.B.	Approved W.V.H.
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MONUMENTS LEGEND

- ⊕ G.L.O. BRASS CAPPED MONUMENT
- ALUMINUM CAPPED MONUMENT ON REBAR
- 5/8" REBAR
- ⊙ BRASS CAPPED MONUMENT

NOTE: Monuments not found unless specifically indicated.



CURVE DIMENSION TABLE						
PC STATION	DELTA	RADIUS	TANGENT	LENGTH	CHORD	CH. BEARING
23-37.71PO	58° 34' 08"	178.31'	100.00'	182.27'	174.44'	N71° 51' 56" E
13-16.42EA	15° 39' 08"	1104.71'	151.84'	301.79'	300.85'	N50° 24' 26" E
10-36.29BS	33° 10' 00"	359.27'	106.99'	207.97'	205.08'	N80° 55' 00" E
12-44.26BS	16° 21' 00"	478.36'	68.72'	136.51'	136.04'	N72° 30' 30" E
16-09.51BS	34° 34' 00"	274.37'	85.37'	165.53'	163.04'	N63° 24' 00" E
23-99.04BS	09° 32' 00"	619.69'	51.67'	103.11'	103.00'	N50° 53' 00" E

STATIONING DESIGNATION		
STATION CODE	LOCATION	SHEET NO.
RS	RESERVOIR LINES	5

VERTICAL CONTROL
 Basis of vertical control: U.S.G.S. B.M. Q-74 located at floor level on the northwest bay of doors in the Composite (P-12) Building. Elevation - 28.15 MLLW.

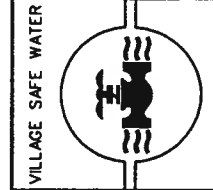
HORIZONTAL CONTROL
 Horizontal control line RS from Sta. 20-00RS to 29-00RS is calculated. The proposed alignment of the water line starts from the lower valve vault at Sta 21-60RS and proceeds to the water reservoir near Sta. 27-00RS. Actual placement of the water line may vary from the control line.

All other survey control lines are based on center line of rights-of-way within City of Whittier Subdivision, Phases 1 and 2 plats. Control line stationing and bearings are based on recorded information from the City of Whittier Subdivision, Phases 1 and 2 plats.

RECORD DRAWING CERTIFICATE

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1/12/96
 PAUL BELLEZZO
 SURVEYOR



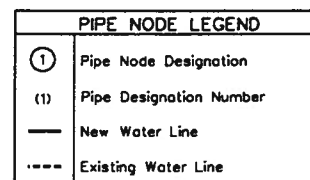
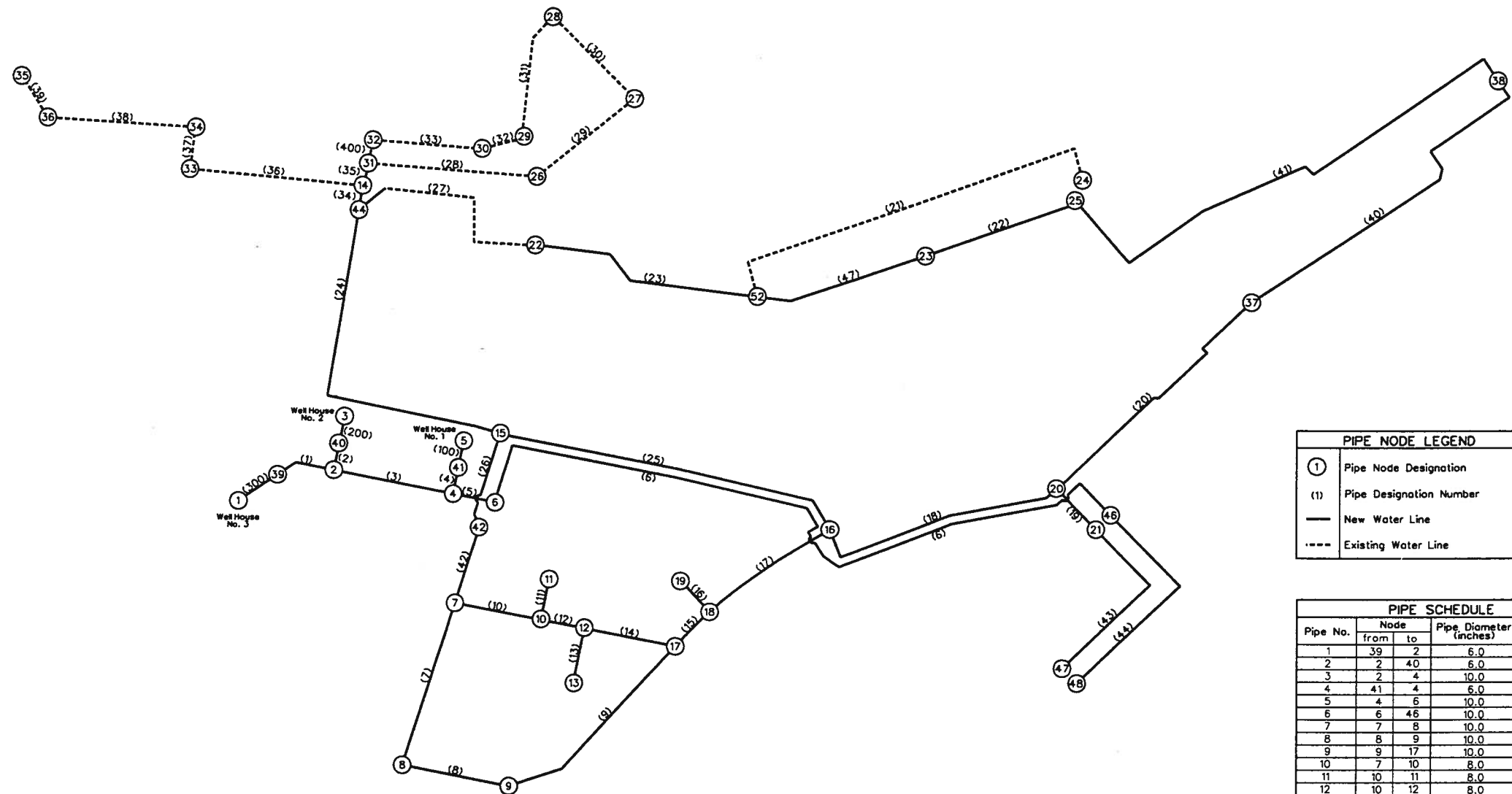
STATE OF ALASKA
 PROFESSIONAL ENGINEER
 PAUL BELLEZZO
 LICENSE NO. 11311
 EXPIRES 12/31/96

Engineering Group
 3900 ARCTIC BLVD. SUITE 203
 ANCHORAGE, ALASKA 99503
 PHONE: (907) 567-2322
 FAX: (907) 567-2773

WHITTIER WATER IMPROVEMENTS PHASE III
 SURVEY CONTROL

REVISION	BY	DATE
ISSUED FOR BID	D.Y.	4/14/95
PHASE II AS-BUILT	P.B.	1/12/96

Project No. 9069
 Date APR 1995
 Designed P.B.
 Drawn B.P./P.B.
 Approved W.V.H.



PIPE SCHEDULE

Pipe No.	Node from	Node to	Pipe Diameter (inches)	Pipe Length (feet)
1	39	2	6.0	285
2	2	40	6.0	45
3	2	4	10.0	330
4	4	41	6.0	30
5	4	6	10.0	150
6	6	46	10.0	1,940
7	7	8	10.0	490
8	8	9	10.0	310
9	9	17	10.0	640
10	7	10	8.0	240
11	10	11	8.0	175
12	10	12	8.0	55
13	12	13	8.0	140
14	12	17	8.0	355
15	17	18	10.0	140
16	18	19	8.0	100
17	18	16	10.0	385
18	16	20	10.0	740
19	20	21	10.0	160
20	20	37	10.0	790
21	52	24	10.0	1,200
22	25	23	10.0	460
23	22	52	10.0	680
24	44	15	10.0	1,150
25	15	16	10.0	960
26	15	42	10.0	95
27	22	44	4.0	630
28	31	26	6.0	565
29	26	27	6.0	335
30	27	28	1.5	330
31	28	29	1.5	415
32	29	30	1.5	95
33	30	32	1.5	435
34	44	14	10.0	20
35	14	31	6.0	10
36	33	14	6.0	495
37	33	34	6.0	70
38	34	36	6.0	400
39	36	35	6.0	190
40	37	38	10.0	1,050
41	38	25	10.0	1,490
42	42	7	10.0	365
43	21	47	10.0	540
44	46	48	6.0	540
47	52	23	10.0	500
48	31	32	6.0	140

PIPE NODE SCHEDULE

Node No.	Elevation (feet)	Demand (gpm)
1	63.8	0.0
2	36.0	0.0
3	36.0	0.0
4	34.1	0.0
5	34.0	0.0
6	32.8	0.0
7	42.8	0.0
8	58.7	5.0
9	57.5	25.5
10	41.8	0.0
11	44.0	0.0
12	41.2	5.0
13	38.0	0.0
14	21.0	0.0
15	28.0	38.3
16	25.4	9.2
17	39.2	5.0
18	36.2	0.0
19	35.5	0.0
20	38.1	0.0
21	38.1	0.0
22	19.3	5.0
23	19.7	1.2
24	20.5	0.0
25	20.0	5.0
26	20.5	0.0
27	20.0	10.0
28	20.0	5.0
29	20.6	5.0
30	20.6	0.0
31	20.9	0.0
32	20.9	10.0
33	22.7	0.0
34	21.4	15.0
35	20.7	5.0
36	21.6	5.0
37	50.0	11.0
38	24.0	10.0
39	63.8	0.0
40	36.0	0.0
41	34.0	0.0
42	32.8	5.0
44	21.0	0.0
46	38.1	0.0
47	195.8	0.0
48	203.8	0.0
52	19.5	0.0

RESERVOIR CAPACITY TABLE

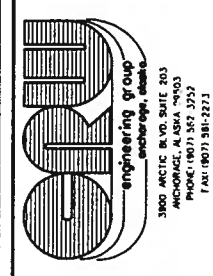
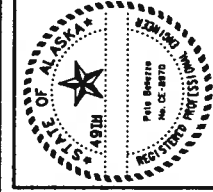
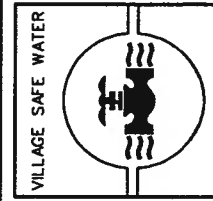
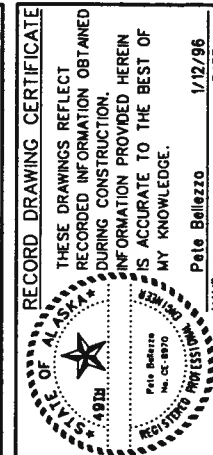
Distance from Top of Ladder	Elev.	Depth of Water (Feet)	Gallons	
98	8.2	215.8	20	1,041,000
110	9.2	214.8	19	949,000
122	10.2	213.8	18	863,000
134	11.2	212.8	17	781,000
146	12.2	211.8	16	704,000
158	13.2	210.8	15	632,000
170	14.2	209.8	14	564,000
182	15.2	208.8	13	500,000
194	16.2	207.8	12	441,000
206	17.2	206.8	11	385,000
218	18.2	205.8	10	334,000
230	19.2	204.8	9	286,000
242	20.2	203.8	8	242,000
254	21.2	202.8	7	201,000
266	22.2	201.8	6	164,000
278	23.2	200.8	5	130,000
290	24.2	199.8	4	99,000
302	25.2	198.8	3	71,000
314	26.2	197.8	2	46,000
326	27.2	196.8	1	23,000
338	28.2	195.8	0	4,000

WATER SYSTEM GENERAL DESIGN CONSIDERATIONS

- DEMANDS**
- All demands based on existing water use records:
 - Maximum Day Demand - 180.2 gpm
 - Average Daily Demand - 0.5 x Maximum Day Demand - 90.1 gpm
 - Fire Flow Rate - 500 gpm
 - Average Daily Demands at Key Locations:
 - Begich Towers: 16.7 gpm (Node 9)
 - Whittier Manor / Sportsman's Inn: 8.7 gpm (Node 37)
 - Great Pacific Fisheries: 16.5 gpm (Node 15)
- WATER SOURCES**
- Deep wells (75' to 110')
 - No modifications to existing well sources or pumps:
 - Well No. 1: 50 hp - 500 gpm (Node 5)
 - Well No. 2: 35 hp - 225 gpm (Node 3)
 - Well No. 3: 35 hp - 250 gpm (Node 1)
- ESTIMATED CHLORINATION RATES**
- To Reservoir (Primary System - Maximum Day Demand)
 - Chlorine Mass Loading - 1.63 lb/day
 - Injection Concentration - 0.75 mg/L
 - To Reservoir (Primary System - Average Daily Demand)
 - Chlorine Mass Loading - 1.08 lb/day
 - Injection Concentration - 1.00 mg/L
 - To Distribution Network (Secondary System - Maximum Day Demand)
 - Chlorine Mass Loading - 2.18 lb/day
 - Injection Concentration - 1.00 mg/L
 - To Distribution Network (Secondary System - Average Daily Demand)
 - Chlorine Mass Loading - 1.08 lb/day
 - Injection Concentration - 1.00 mg/L

- STORAGE**
- Nominal Tank Capacity - 1,041,000 gallons (Node 47, 48)
 - Tank is trapezoidal in shape with 4000-gallon sump:

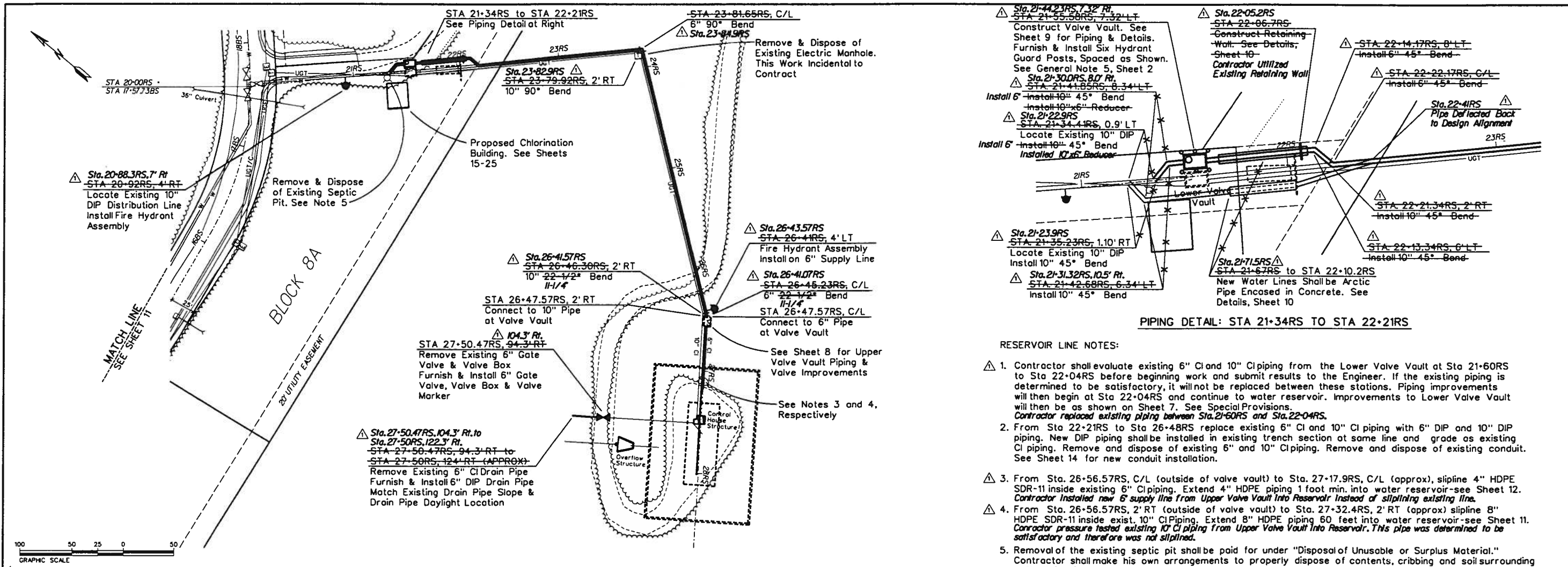
- SYSTEM OPERATIONS**
- Operating Pressure Range: minimum 20 psig - maximum 80 psig
 - Pressure reducing valve in Well House No. 2 limits maximum system pressure to 80 psig. PRV in use only when reservoir is off-line and Well No. 2 only is supplying system



WHITTIER WATER IMPROVEMENTS PHASE III

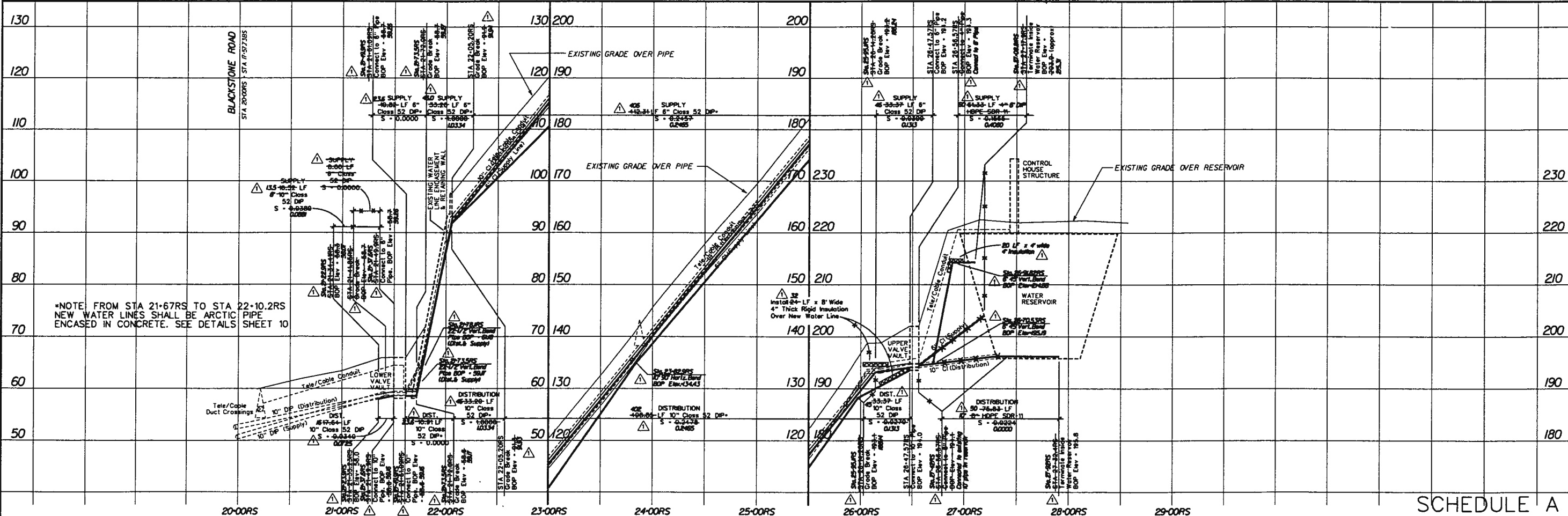
PIPE NODE DIAGRAM / DESIGN DATA

Project No.	Date	Designed	Drawn	Approved
9069	APR 1995			W.V.H.



PIPING DETAIL: STA 21-34RS TO STA 22-21RS

- RESERVOIR LINE NOTES:
- Contractor shall evaluate existing 6" CI and 10" CI piping from the Lower Valve Vault at Sta 21-60RS to Sta 22-04RS before beginning work and submit results to the Engineer. If the existing piping is determined to be satisfactory, it will not be replaced between these stations. Piping improvements will then begin at Sta 22-04RS and continue to water reservoir. Improvements to Lower Valve Vault will then be as shown on Sheet 7. See Special Provisions. Contractor replaced existing piping between Sta. 21-60RS and Sta. 22-04RS.
 - From Sta 22-21RS to Sta 26-48RS replace existing 6" CI and 10" CI piping with 6" DIP and 10" DIP piping. New DIP piping shall be installed in existing trench section at same line and grade as existing CI piping. Remove and dispose of existing 6" and 10" CI piping. Remove and dispose of existing conduit. See Sheet 14 for new conduit installation.
 - From Sta. 26-56.57RS, C/L (outside of valve vault) to Sta. 27-17.9RS, C/L (approx), sipline 4" HDPE SDR-11 inside existing 6" CI piping. Extend 4" HDPE piping 1 foot min. into water reservoir-see Sheet 12. Contractor installed new 6" supply line from Upper Valve Vault into Reservoir instead of sliplining existing line.
 - From Sta. 26-56.57RS, 2' RT (outside of valve vault) to Sta. 27-32.4RS, 2' RT (approx) sipline 8" HDPE SDR-11 inside exist. 10" CI piping. Extend 8" HDPE piping 60 feet into water reservoir-see Sheet 11. Contractor pressure tested existing 10" CI piping from Upper Valve Vault into Reservoir. This pipe was determined to be satisfactory and therefore was not sliplined.
 - Removal of the existing septic pit shall be paid for under "Disposal of Unusable or Surplus Material." Contractor shall make his own arrangements to properly dispose of contents, cribbing and soil surrounding the septic pit.

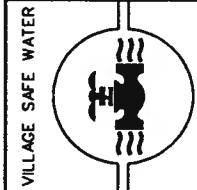


SCHEDULE A

RECORD DRAWING CERTIFICATE

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Pete Bellezza 1/12/96



STATE OF ALASKA PROFESSIONAL ENGINEER

Pete Bellezza No. CE-8910

Engineering Group

3800 ARCTIC BLVD. SUITE 203
ANCHORAGE, ALASKA 99503
PHONE: (907) 567-3227
FAX: (907) 567-7171

WHITTIER WATER IMPROVEMENTS PHASE III

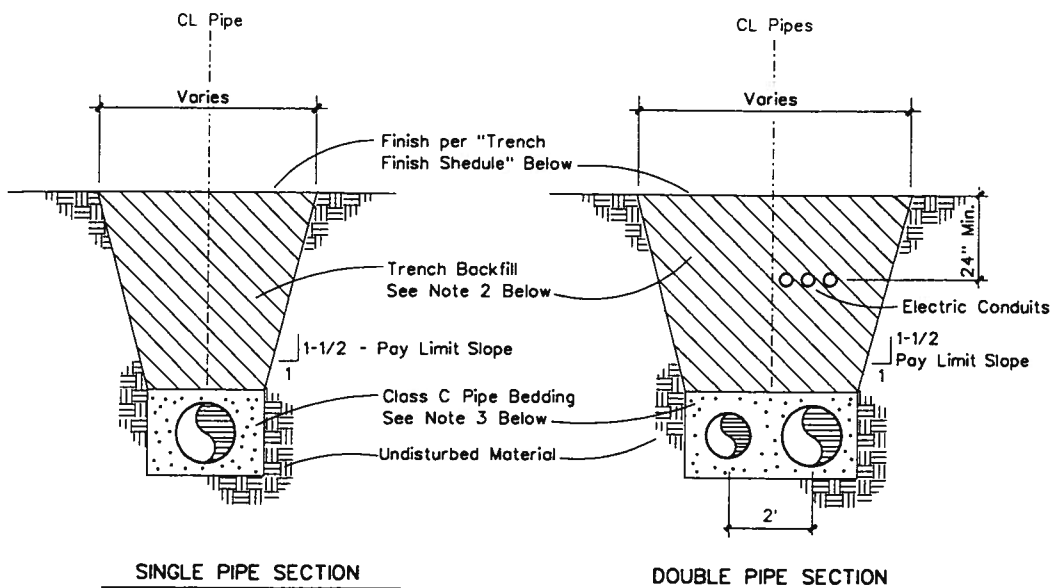
RESERVOIR LINE

STA 21-34RS - STA 28-00RS

BY DATE	REVISION
D.Y. 4/14/95	ISSUED FOR BO
P.B. 1/27/96	PHASE II AS-BUILTS

Project No. 9069
 Date: APR 1995
 Designed: P.B.
 Drawn: P.B./B.P.
 Approved: W.V.H.

Sheet No. 5 OF 25

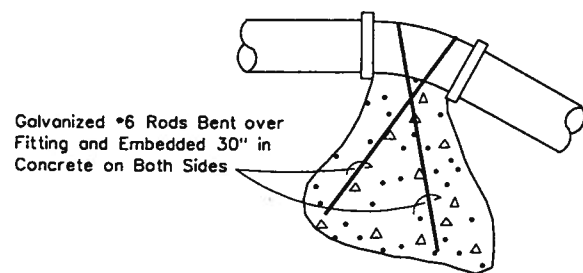


TRENCH CROSS SECTION NOTES

1. Trench excavation and shoring shall comply with local, state and OSHA regulations and requirements. Indicated slope is for pay quantity determination only for imported backfill gravel and resurfacing requirements.
2. Trench Backfill will be the original trench backfill materials approved by the Engineer. Roadways and roadway prisms shall have 8" max. rock size. Mechanical compaction to a minimum 95% of the maximum density.
3. Class C Pipe Bedding shall be installed 6" min. above top of pipe per MASS Standard Detail 20-13. Disregard Note #4 on Standard Detail 20-13.
4. Maximum width of pavement cut for pay limits shall be 9' from centerline of pipe(s) or to edge of existing pavement, whichever is less.

TRENCH FINISH SCHEDULE	
PAVED ROADWAYS: Finish trench with 2" leveling course and 2" Type C AC Pavement over 18" Type II-A material (2" minus).	
GRAVEL ROADWAY OR PARKING: Finish trench with 6" Type II-A material (2" minus). Match grade and slope.	
LAWN: Finish trench with 4" topsoil and seeding.	
OTHER: Finish with native material, graded smooth.	

1
6 TYPICAL TRENCH CROSS-SECTION
NOT TO SCALE

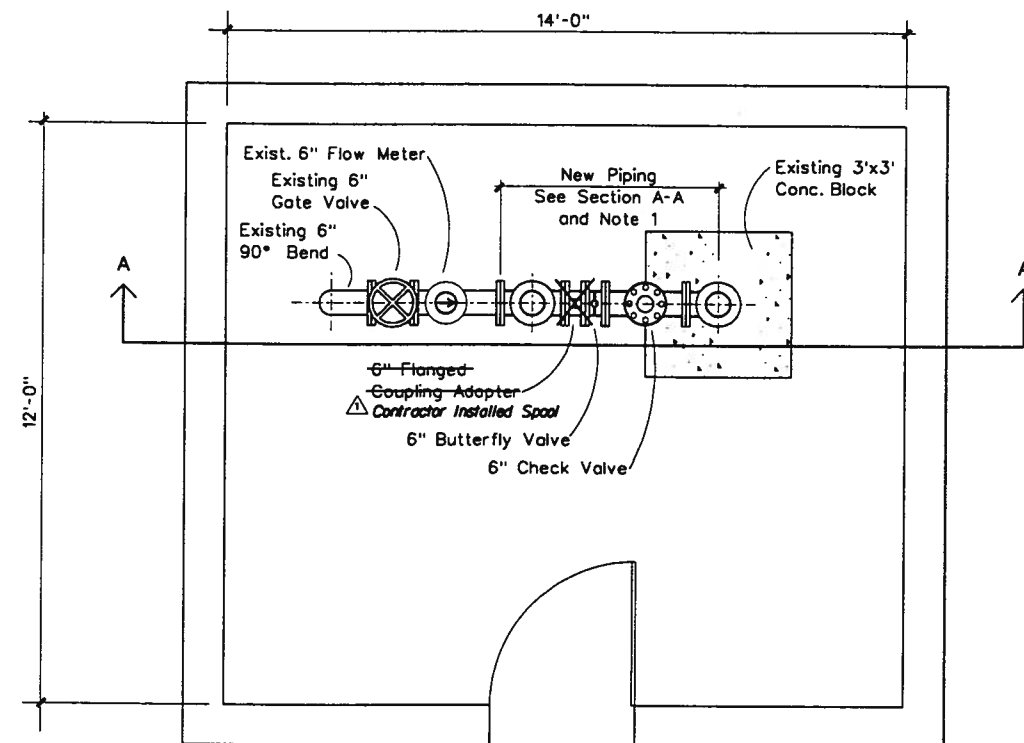


VOLUME OF THRUST BLOCK IN CUBIC YARDS (Vertical Bends)			
FITTING SIZE	BEND ANGLE		
	45°	22-1/2°	11-1/4°
4	0.73	0.40	0.20
6	1.62	0.88	0.45
8	2.90	1.57	0.80
10	4.45	2.41	1.23

VERTICAL THRUST BLOCK NOTES:

1. Required volumes or bearing area at fittings shall be as indicated.
2. Bearing area of thrust block shall not be less than 1.0 sq. ft.

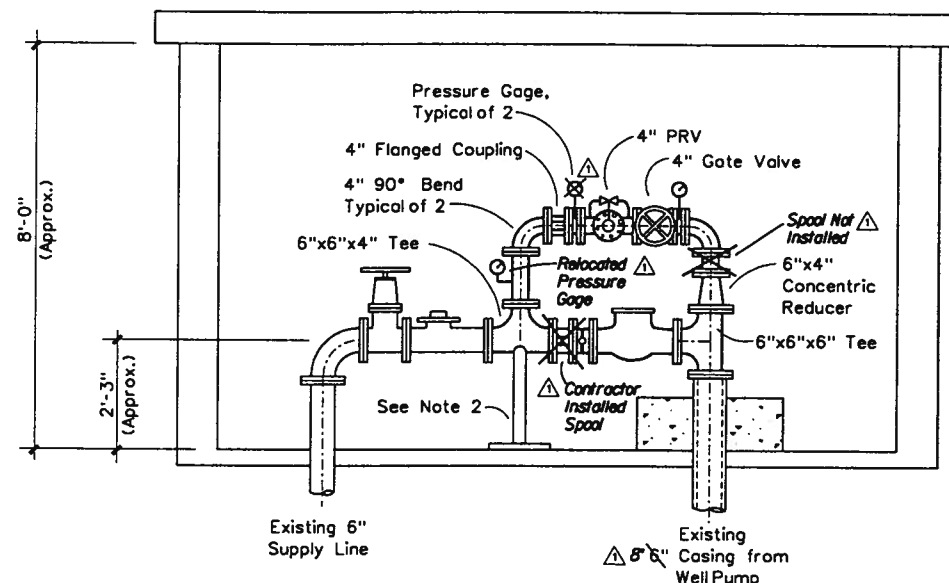
6
6 VERTICAL THRUST BLOCK DETAIL (PROFILE)
NOT TO SCALE



WELL HOUSE #3 PLAN

WELL HOUSE #3 NOTES:

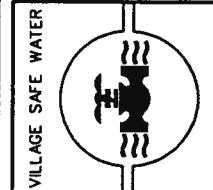
1. Contractor shall remove existing 6" 90° Bend, 6" check valve, service strap with 1" hose bib, service strap with pressure gage, and related piping prior to installing new piping.
2. Provide pipe support: Grinnell Figure 264 with 3" Pipe and Floor Flange.



SECTION A-A

3
6 WELL HOUSE #3 - PIPING IMPROVEMENTS

RECORD DRAWING CERTIFICATE
THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.
Pete. Bellezza
1/12/96
DATE



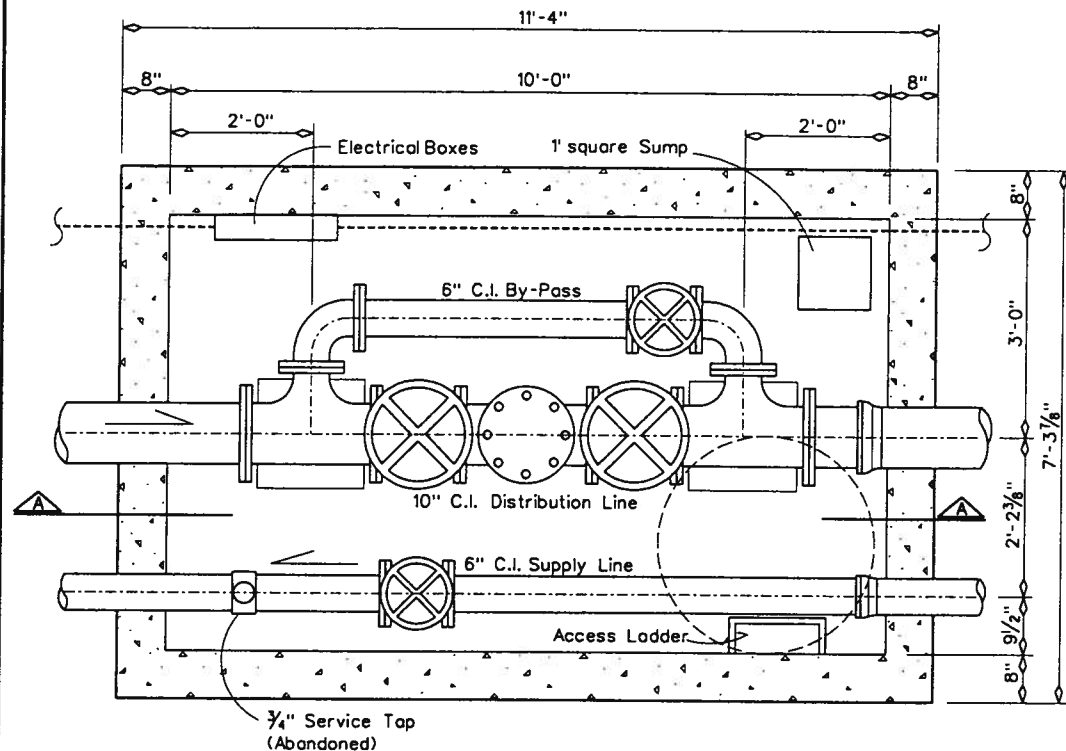
STATE OF ALASKA
REGISTERED PROFESSIONAL ENGINEER
Pete. Bellezza
No. CE-8970
EXPIRES 12/31/97

Whittier Engineering Group
3800 ARCTIC BLVD. SUITE 203
ANCHORAGE, ALASKA 99503
PHONE: (907) 567-3357
FAX: (907) 561-2273

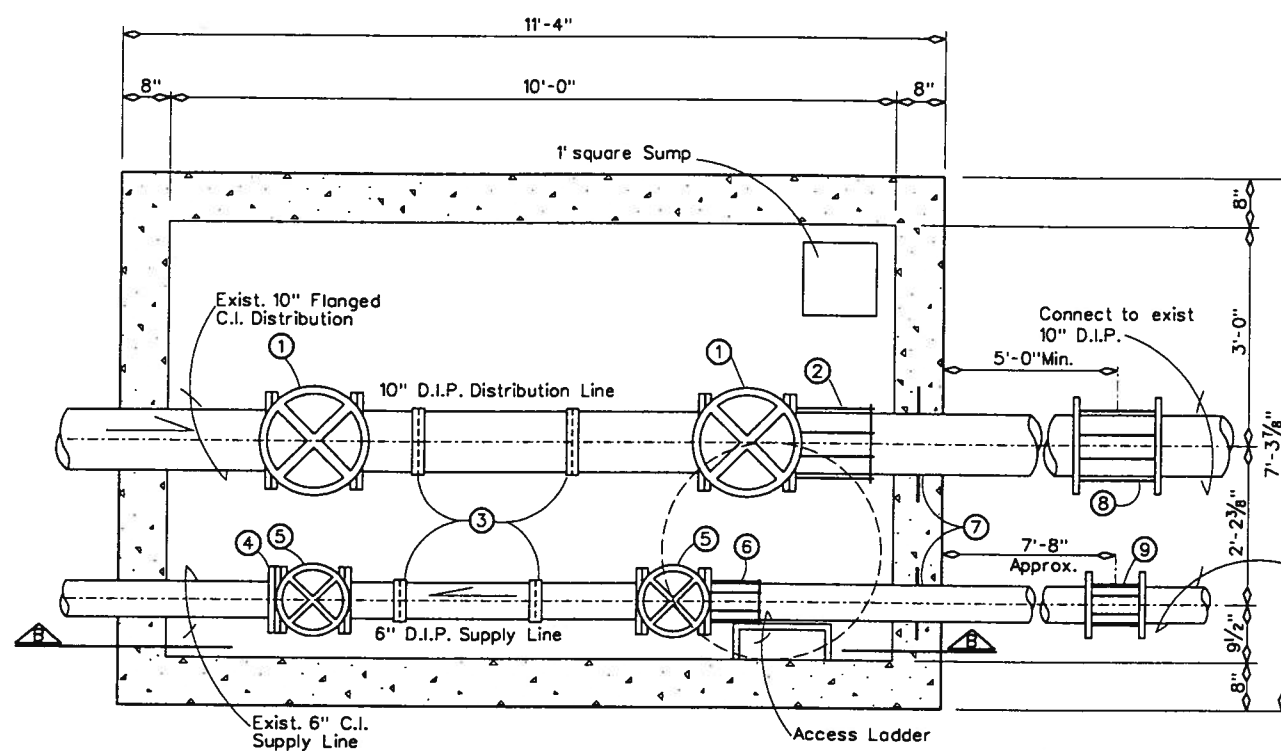
WHITTIER
WATER IMPROVEMENTS
PHASE III
TYPICAL CROSS SECTIONS, PIPING
DETAILS & WELL HOUSE #3 PRV

REVISION	DATE	BY	DATE
ISSUED FOR BID	01/11/95	D.J.	1/11/95
PHASE II AS-BUILT	01/12/95	P.E.	1/12/95

Project No. 9069
Date APR 1995
Designed P.B.
Drawn B.P.
Approved W.V.H.



EXISTING PLAN-LOWER VALVE VAULT



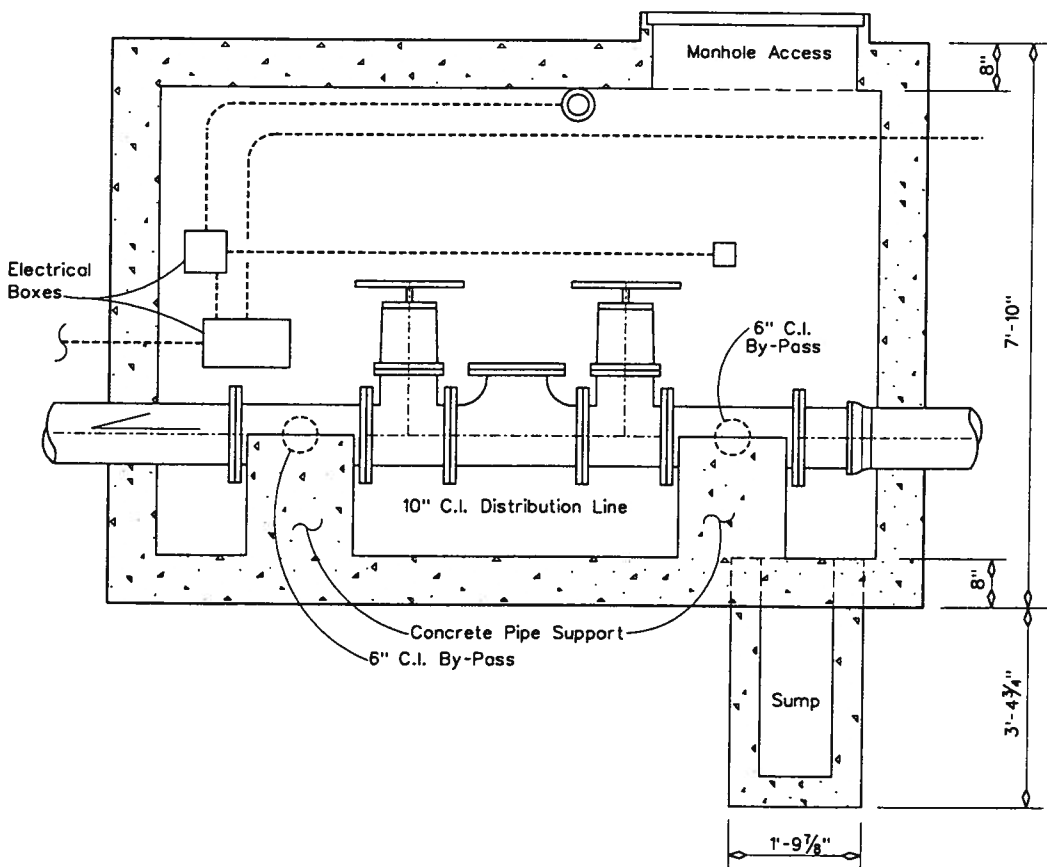
PROPOSED PLAN-LOWER VALVE VAULT

VAULT IMPROVEMENTS KEY

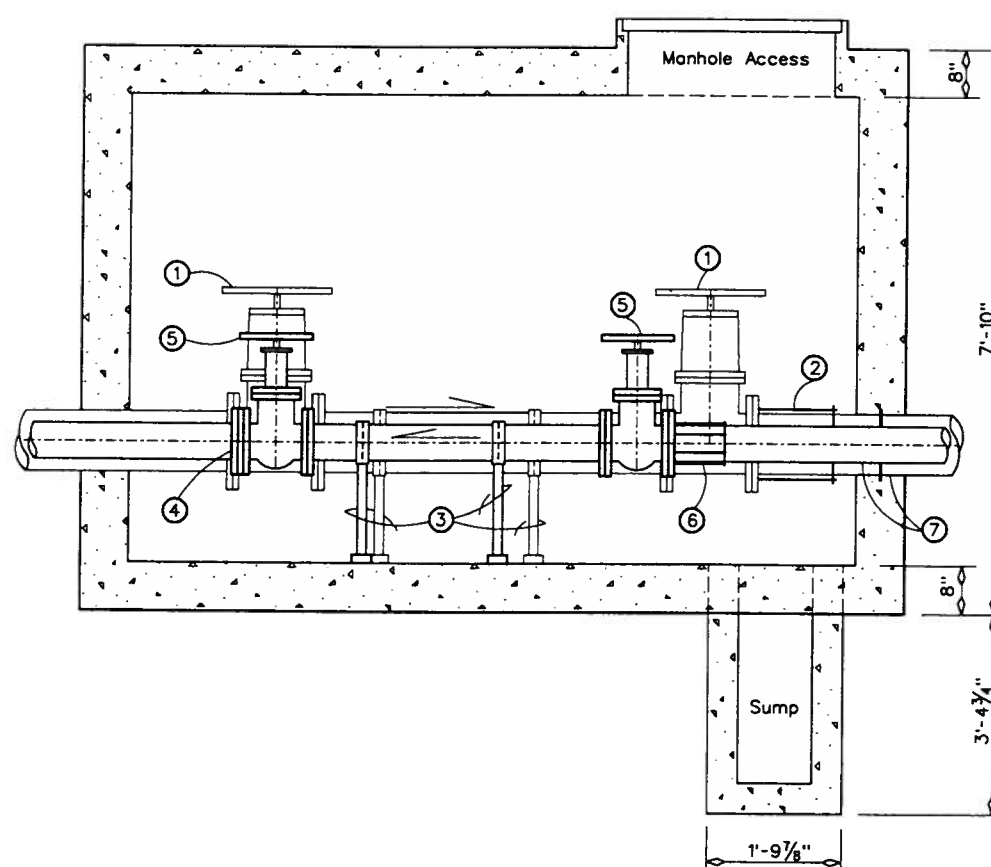
- ① New 10" Gate Valve
- ② 10" Flanged Coupling Adaptor
- ③ Pipe Support-Grinell Fig. 264 with 3" Pipe & Floor Flange
- ④ 6" Field Flange
- ⑤ New 6" Gate Valve
- ⑥ 6" Flanged Coupling Adaptor
- ⑦ Wall Sleeve with Pipe Seal See Wall Penetration Detail Below
- ⑧ 10" Straight Coupling
- ⑨ 6" Straight Coupling

LOWER VALVE VAULT NOTES

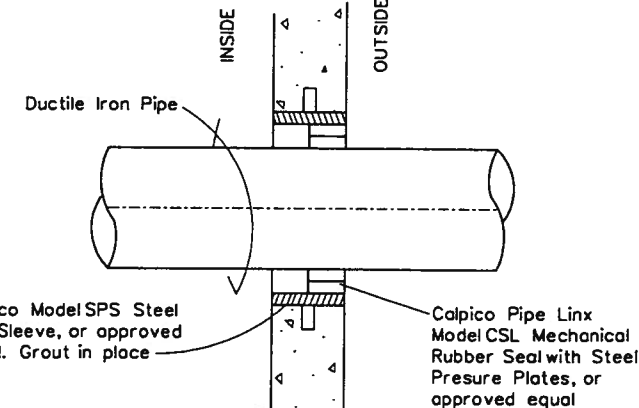
1. Remove and dispose of all existing piping, valves and appurtenances.
 2. Remove and dispose of existing pipe supports. Grind or grout as necessary to provide a smooth surface.
 3. Remove and dispose of all Electric Boxes, Conduit and Wiring inside vault. Grind surfaces smooth where electrical apparatus were attached to walls or ceiling.
 4. Remove and dispose of all dirt, debris, & water inside valve vault & Sump.
 5. All new gate valves shall be handwheel operated and open to the left.
 6. Install gate valves to maximize length of pipe between them.
 7. Materials for installation of DIP outside of valve vault will be paid for under their respective item of work.
- △ B. See Sheet 22 for additional improvements to the valve vault if Schedule C is awarded.
The new Lower Valve Vault was constructed as part of these Improvements. Contractor abandoned existing Lower Valve Vault by backfilling with surplus material.



EXISTING SECTION A-LOWER VALVE VAULT



PROPOSED SECTION A-LOWER VALVE VAULT

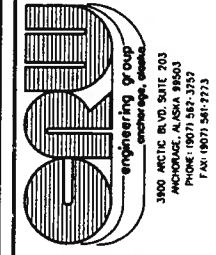
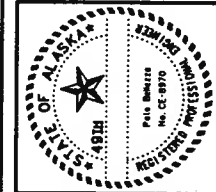
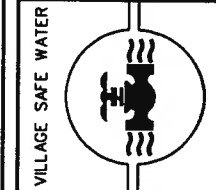
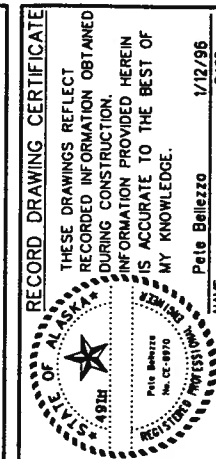


WALL PENETRATION DETAIL

N.T.S.



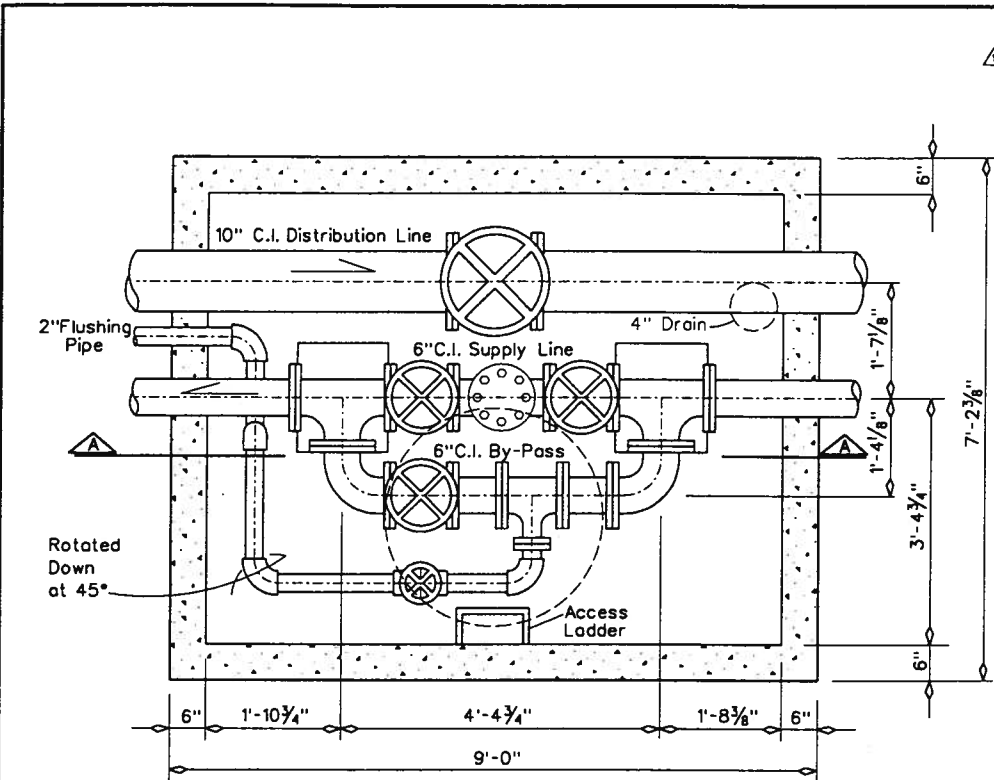
GRAPHIC SCALE



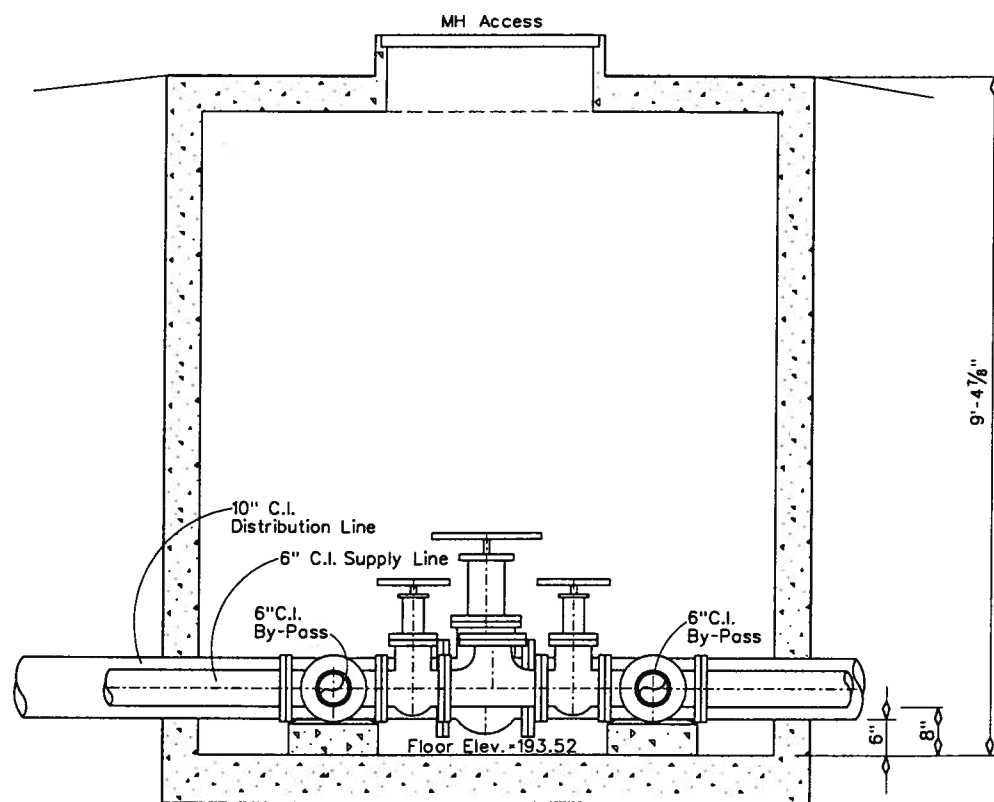
WHITTIER
 WATER IMPROVEMENTS
 PHASE III
 LOWER VALVE VAULT
 PLAN & DETAILS

REVISION	DATE
ISSUED FOR BID	4/14/95
PHASE III AS-BUILTS	4/14/95

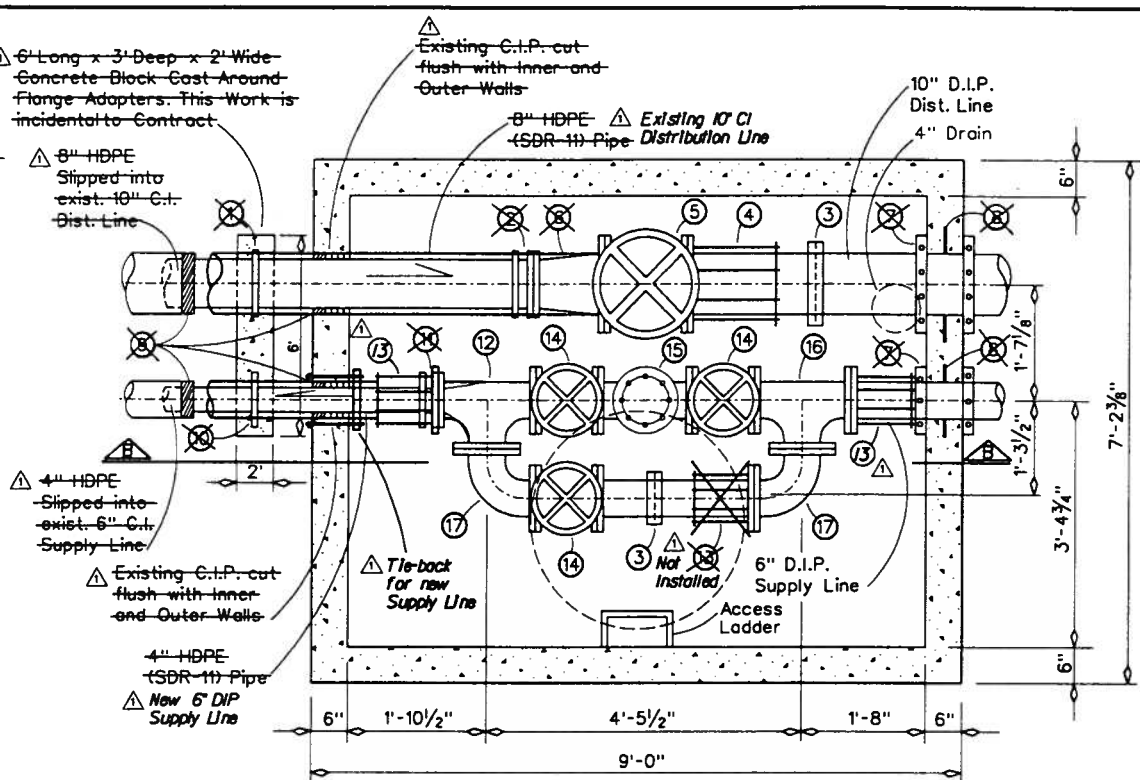
Project No.	9069
Date	APR 1995
Designed	P.B.
Drawn	AV
Approved	W.V.H.



EXISTING PLAN-UPPER VALVE VAULT



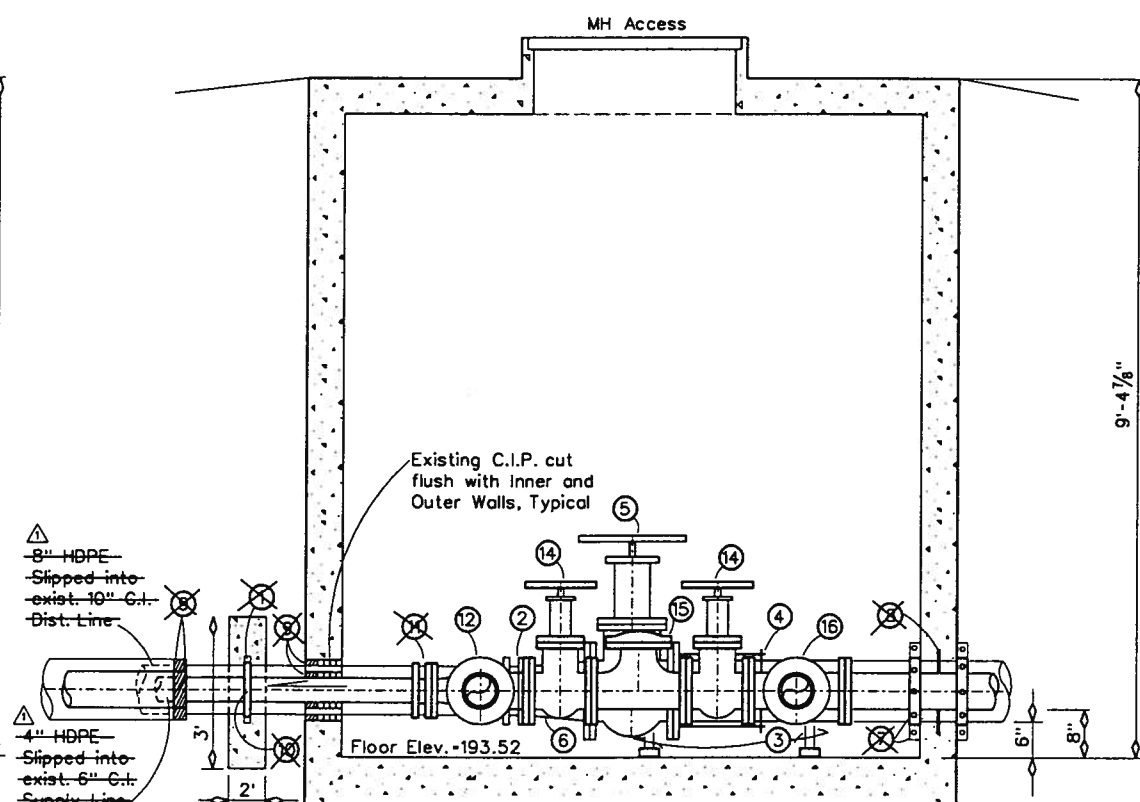
EXISTING SECTION A-UPPER VALVE VAULT



PROPOSED IMPROVEMENTS-UPPER VALVE VAULT

AS-BUILT NOTE:

Contractor installed new 6" supply line from Upper Valve Vault into Reservoir. Existing 10" C.I. distribution line from Upper Valve Vault into Reservoir was determined to be satisfactory and therefore was not slipped.



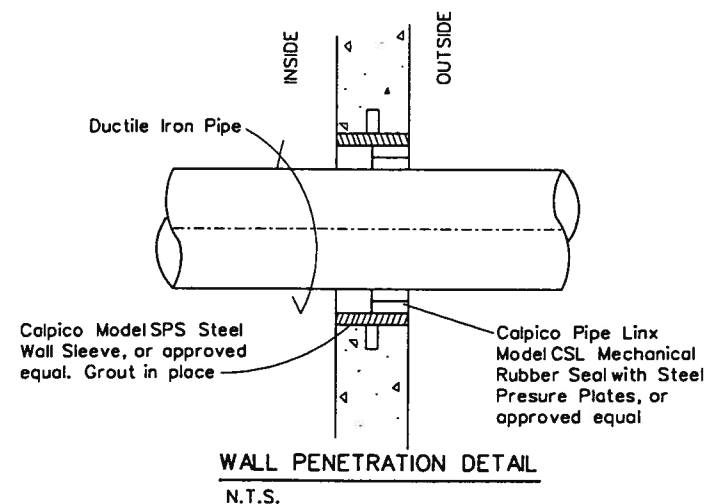
PROPOSED SECTION B-UPPER VALVE VAULT

UPPER VALVE VAULT IMPROVEMENTS KEY

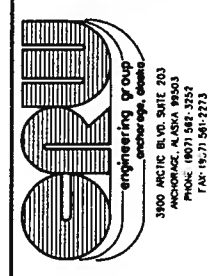
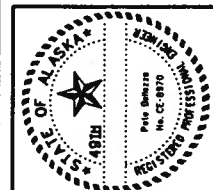
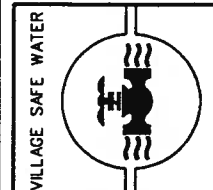
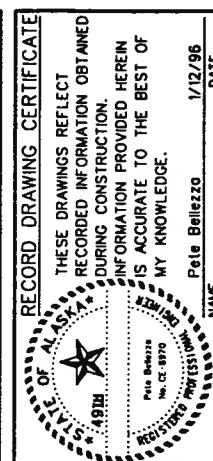
- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ① Not Installed 8" HDPE Flange Adaptor ② Not Installed 8" HDPE Flange Adaptor with D.I.P. back up Flange ③ Pipe Support-Grinnel Fig. 264 with 3" Pipe & Floor Flange. ④ 10" Flanged Coupling Adaptor ⑤ New 10" Gate Valve ⑥ Not Installed 10" x 8" Concentric Reducer ⑦ Not Installed Megalug Mechanical Joint - Restraint or approved equal - butted against inner and Outer Walls, Typical of 2- ⑧ Not Installed Wall Sleeve with Pipe Seal: See Wall Penetration Detail - Below. | <ul style="list-style-type: none"> ⑨ Not Installed Calpico Pipe Linx Model CSL - Mechanical Rubber Seal with Steel Plates, or appr. equal ⑩ Not Installed 4" HDPE Flange Adaptor ⑪ Not Installed 4" HDPE Flange Adaptor with D.I.P. back up Flange - 6" x 6" Tee ⑫ 6" x 4" x 6" Reducing Tee ⑬ 6" Flanged Coupling Adaptor ⑭ New 6" Gate Valve ⑮ New 6" Check Valve ⑯ 6" x 6" x 6" Tee ⑰ 6" 90° Bend |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

UPPER VALVE VAULT NOTES

1. Remove and dispose of all existing piping, valves and appurtenances. Grout 2" flushing pipe penetration closed to form a water tight seal.
2. Remove and dispose of existing pipe supports. Grind or grout as necessary to provide a smooth surface.
3. Remove and dispose of all dirt and debris inside valve vault, including 4" drain.
4. All new gate valves shall be handwheel operated and open to the left.
5. All flanged fittings will be ductile iron.
6. Material for insulation of DIP outside of valve vault will be paid for under their respective item of work.



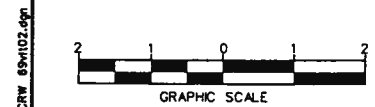
WALL PENETRATION DETAIL
N.T.S.

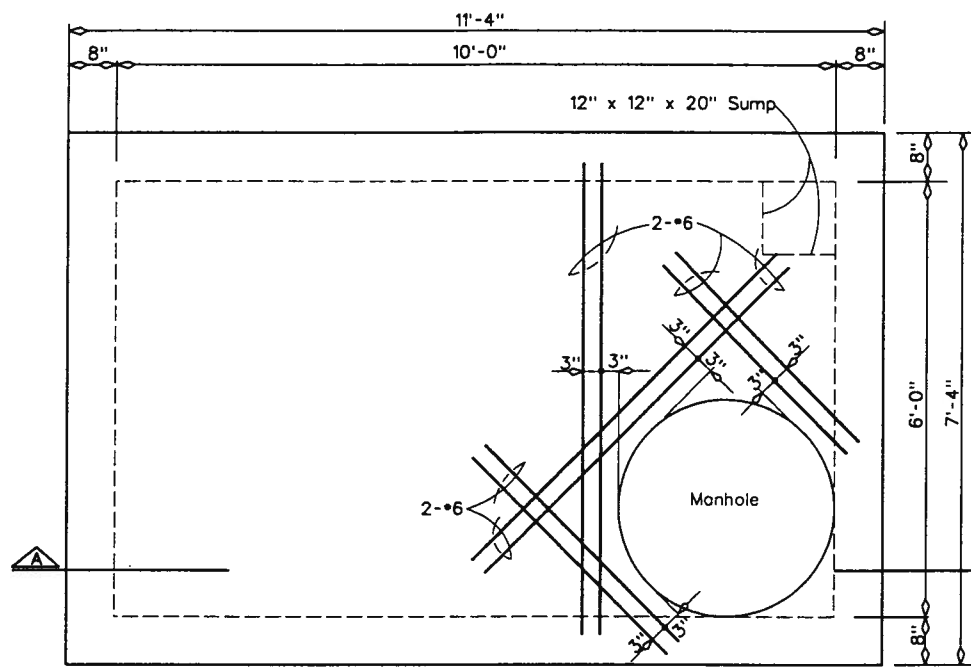


WHITTIER WATER IMPROVEMENTS PHASE III
UPPER VALVE VAULT PLAN & DETAILS

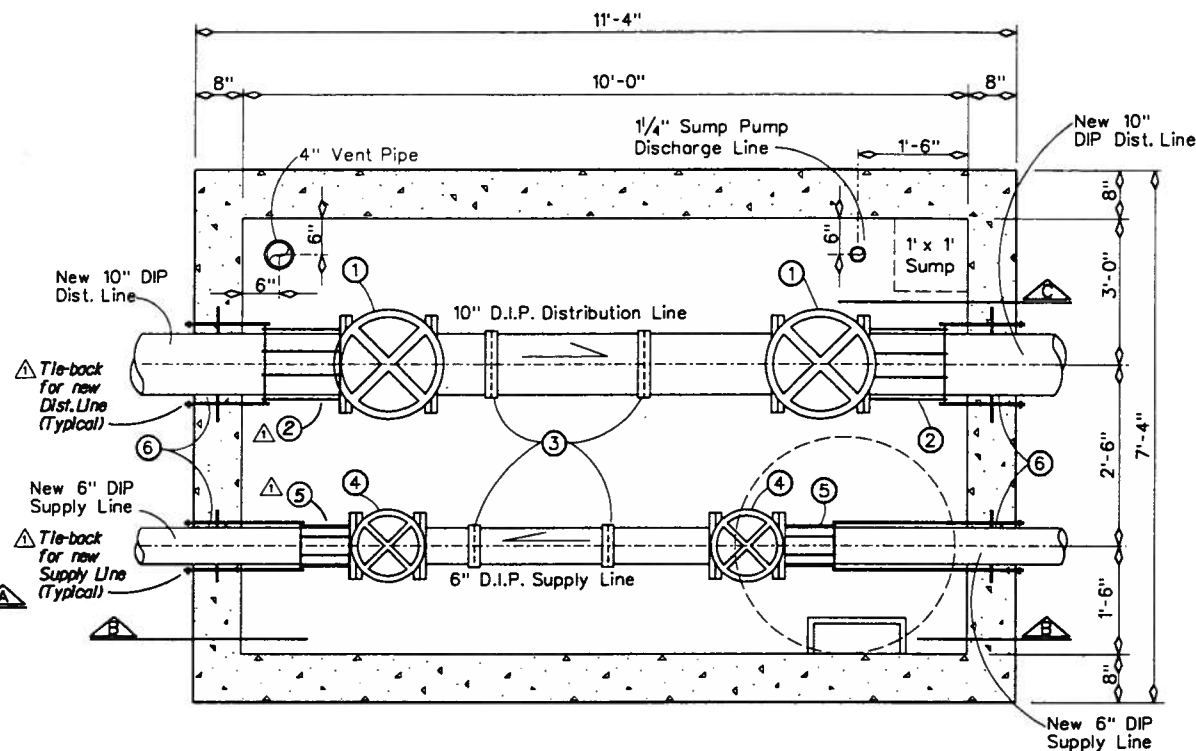
REVISION	BY DATE
ISSUED FOR BID	D.T. 1/12/95
PHASE III AS-BUILT	P.B. 1/12/95

Project No. 9069	Date APR 1995	Designed P.B.	Drawn AV	Approved W.V.H.
------------------	---------------	---------------	----------	-----------------

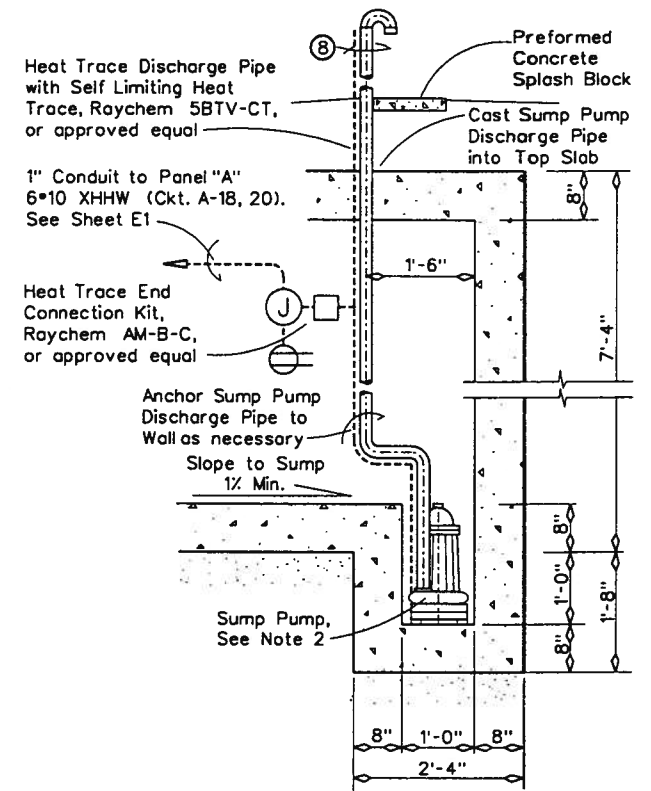




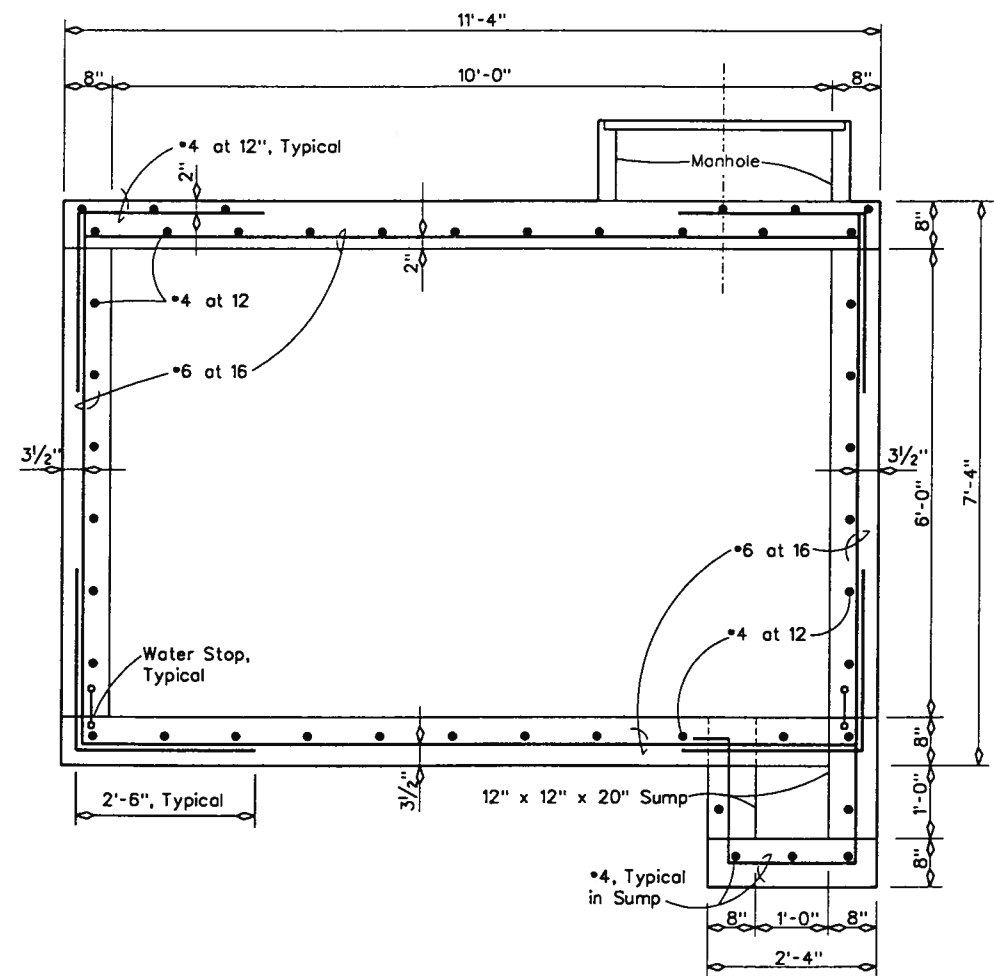
STRUCTURAL PLAN-NEW VALVE VAULT



PIPING PLAN-NEW VALVE VAULT



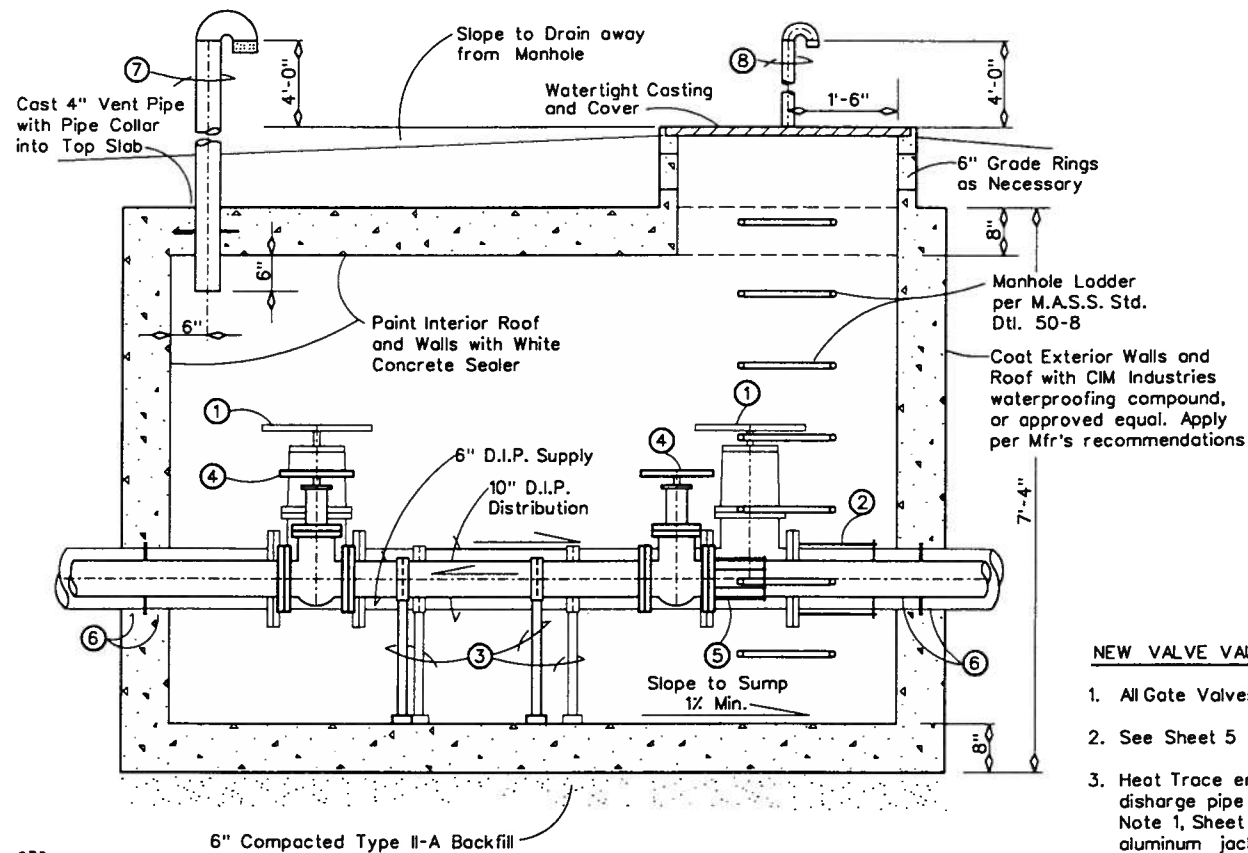
SECTION C-NEW VALVE VAULT



STRUCTURAL SECTION A-NEW VALVE VAULT

AS-BUILT NOTE:

Contractor Installed a pre-cast valve vault matching the design dimensions of the New Valve Vault.



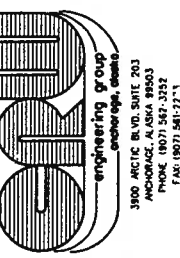
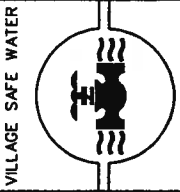
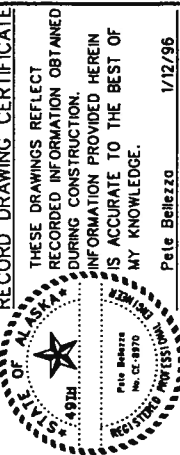
PIPING SECTION B-NEW VALVE VAULT

VAULT IMPROVEMENTS KEY

- ① New 10" Gate Valve
- ② 10" Flanged Coupling Adaptor
- ③ Pipe Support-Grinnell Fig. 264 with 3" Pipe & Floor Flange
- ④ 6" Gate Valve
- ⑤ 6" Flanged Coupling Adaptor
- ⑥ Wall Sleeve with Pipe Seal. See Wall Penetration Detail, Sheet 7.
- ⑦ 4" Schedule 40 Steel Vent Pipe with 180° Return Bend. Hot dip Galvanize. Install Fine Mesh Insect Screen over opening.
- ⑧ 1/4" Schedule 40 Galvanized Sump Pump Discharge Pipe with 180° Return Bend. Direct to Drain Flow away from Valve Vault.

NEW VALVE VAULT NOTES

1. All Gate Valves shall be handwheel operated and open to the left.
2. See Sheet 5 for location and orientation of New Valve Vault.
3. Heat Trace entire length of Sump Pump Discharge Pipe. Insulate discharge pipe inside Valve Vault and above ground as per General Note 1, Sheet M2. Wrap insulation outside of valve vault with rigid aluminum jacket.
4. Install gate valves to maximize length of pipe between them.
5. Gate valves and piping improvements shall be as specified in Section 90.52 of the Special Provisions.
6. See Sheet 22 for additional improvements to valve vault if Schedule C is awarded.



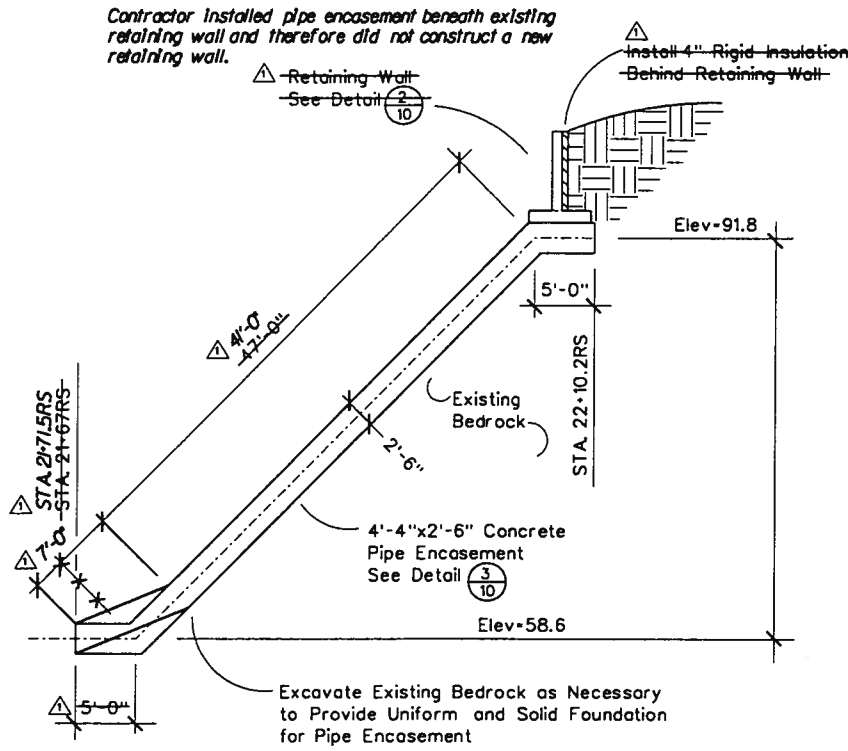
WHITTIER
WATER IMPROVEMENTS
PHASE III
NEW VALVE VAULT
PLAN & DETAILS

REVISION	BY	DATE
ISSUED FOR BID	D.V. / J.H.P.B.	
PHASE III AS-BUILT	P.A. / J.V.P.W.	

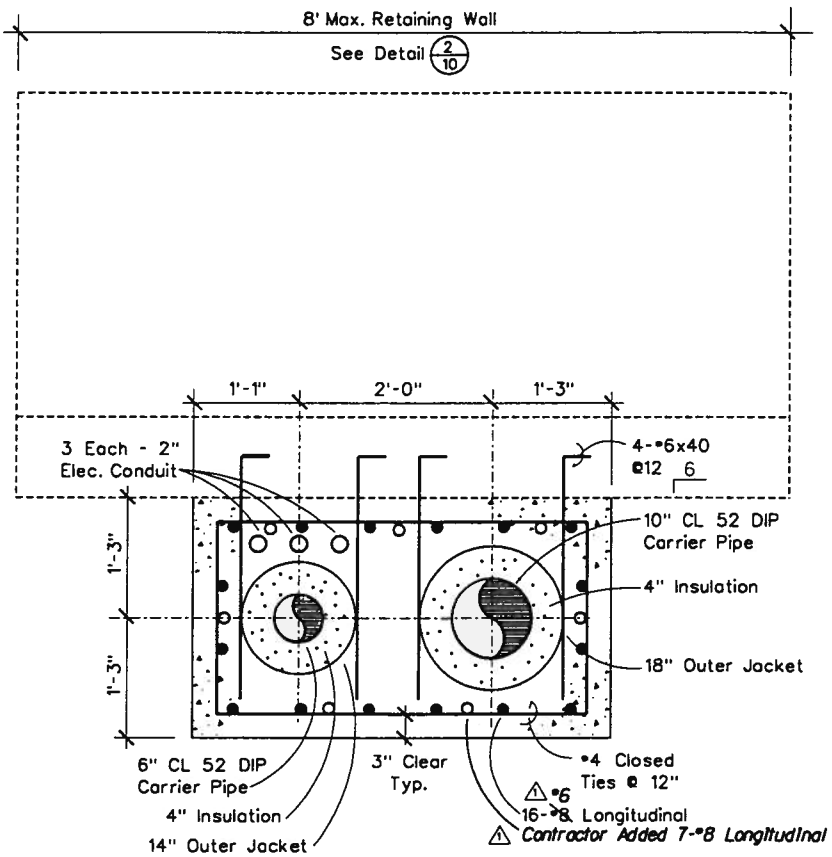
Project No.	9069
Date	APR 1995
Designed	J.A.
Drawn	AV
Approved	W.V.H.

AS-BUILT NOTE:

Contractor installed pipe encasement beneath existing retaining wall and therefore did not construct a new retaining wall.



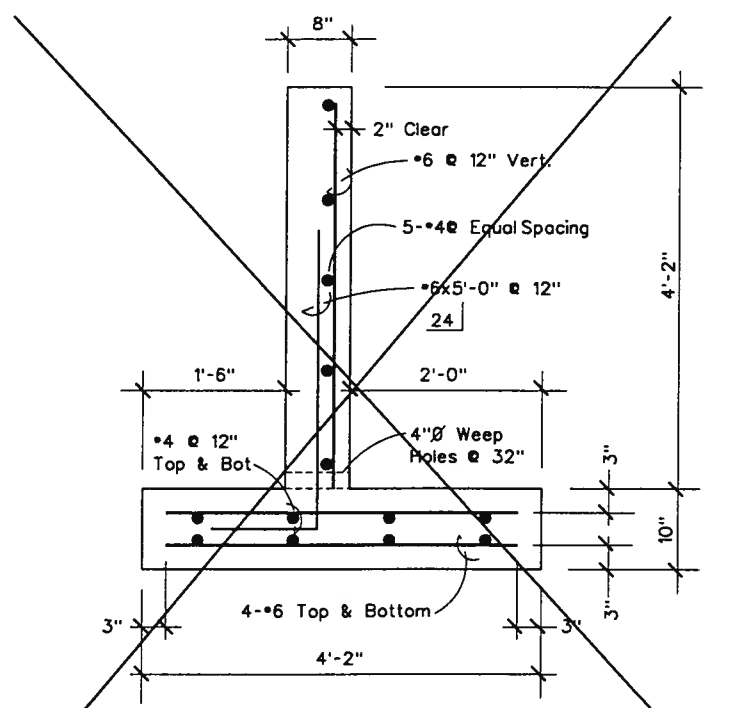
1
10
PIPE ENCASEMENT ELEVATION
STA. 21+67 TO STA. 22+10.2
N.T.S.



3
10
PIPE ENCASEMENT SECTION & ARCTIC PIPE
1"=1'-0"

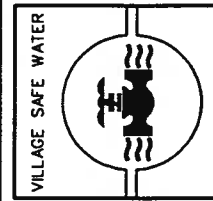
NOTES:

- Contractor is responsible for designing system to anchor pipe encasement to existing bedrock. See Special Provisions.
- Remove existing retaining wall at Sta. 22+04RS as necessary for construction of new pipe encasement and retaining wall.



2
10
RETAINING WALL SECTION
1"=1'-0"
Not Constructed

RECORD DRAWING CERTIFICATE
THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.
Pete Bellezza
1/12/96



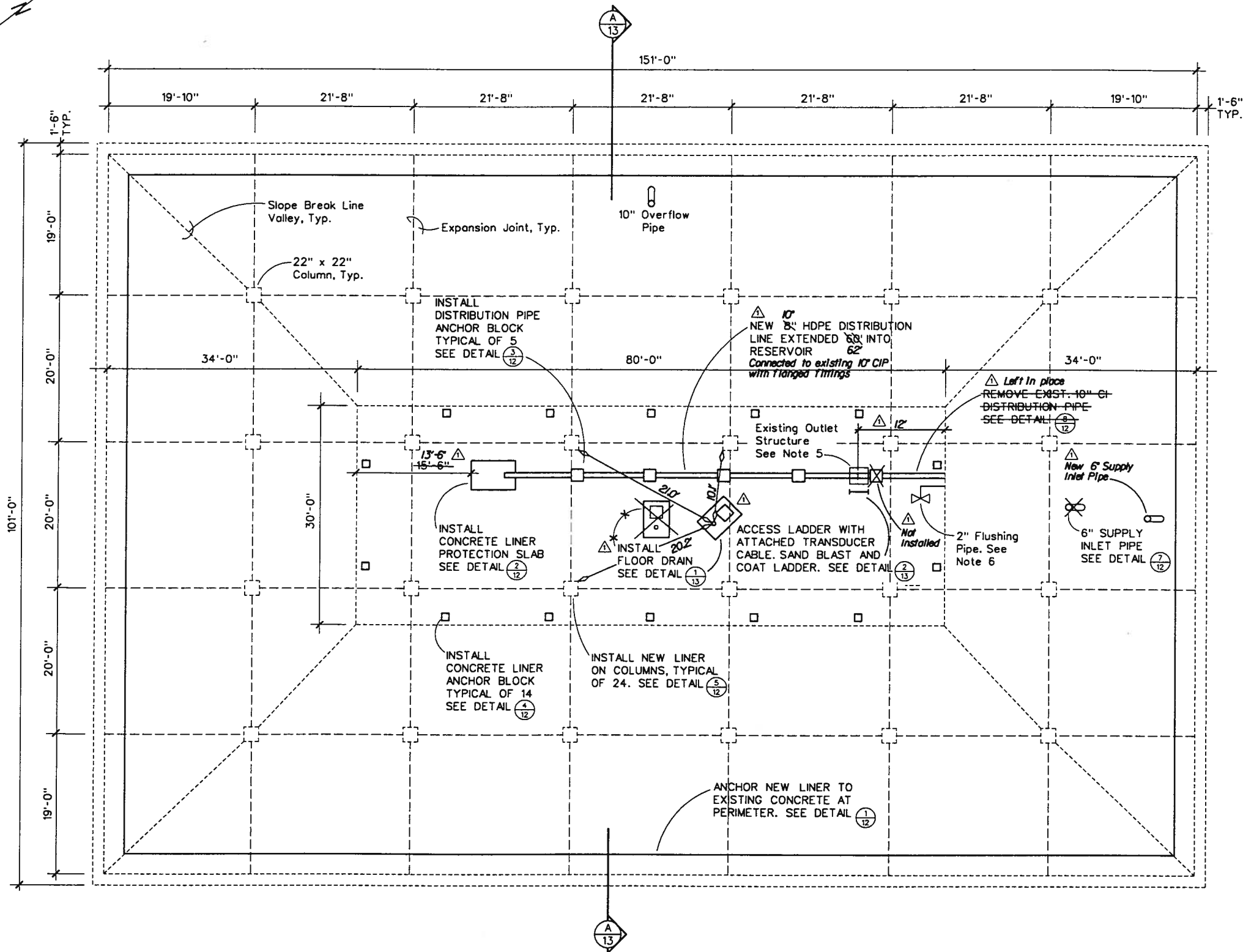
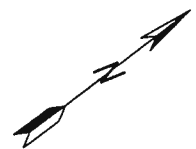
STATE OF ALASKA
REGISTERED PROFESSIONAL ENGINEER
No. 3377-E
Pete Bellezza

BR
engineering group
anchorage, alaska
3800 ARCTIC BLVD. SUITE 203
ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
FAX: (907) 561-2273

WHITTIER WATER IMPROVEMENTS PHASE III
PIPE ENCASEMENT DESIGN & RETAINING WALL

REVISION	BY DATE
ISSUED FOR BID	D.V. 1/14/95
PHASE III AS-BUILT'S	P.A. 1/12/96

Project No. 9069	Designed J.A.	Drawn B.P.	Approved W.V.H.
Date APR 1995			



GENERAL NOTES:

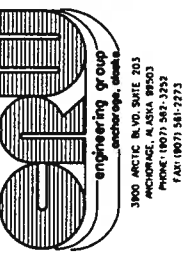
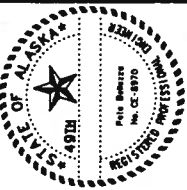
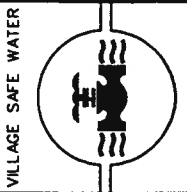
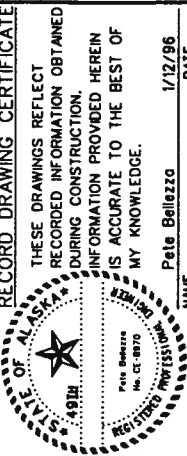
1. Water reservoir is an underground structure in the shape of an inverted frustum of a pyramid.
2. Total area of reservoir floor and walls is approximately 17,100 square feet.
3. Access into reservoir is only through a 2'x4' hatch in roof of reservoir with steel ladder to floor. Access hatch is located in 8'x8' control house structure.
4. Existing reservoir pipe penetrations are 6" CI supply line, 10" CI distribution line, 6" floor drain, 10" CI overflow pipe and 2" flushing line.
5. All dimensions for the reservoir are from as-builts provided by others and should be considered approximate. Contractor is responsible for installing improvements to match existing conditions.

CONSTRUCTION NOTES:

1. Remove and dispose of all silt, dirt, rocks and debris in reservoir.
2. Remove and dispose of all cracked and loose white coating in reservoir. Loose is defined as not bonded to existing asphalt membrane.
3. Remove and dispose of abandoned float well sleeves hanging below controlhouse structure.
4. Remove and dispose of piece of original formwork attached to roof of reservoir near 10" overflow pipe. Formwork is approximately 4'x4'.
5. Remove and dispose of existing outlet structure. Grind or grout floor of reservoir as necessary to provide a smooth surface.
6. Cut existing 2" Flushing Pipe flush with concrete. Grout penetration closed to form a water tight seal.
7. Install polypropylene liner in water reservoir. Liner will be installed to an elevation of 8-inches above the high water mark on the walls and columns.
8. Install drainage composite below the polypropylene liner on the floor and walls of the water reservoir.
9. Install non-woven geotextile below the polypropylene liner on the columns.
10. Install concrete liner anchor blocks at even intervals around perimeter of floor area.
11. Install distribution line anchor blocks at even 10-foot intervals along new HDPE distribution pipe.

AS-BUILT NOTES:

Contractor installed new 6" supply inlet pipe at elevation 215.31 near existing supply inlet pipe.
 The existing 10" CI distribution pipe inside of reservoir was coated with epoxy and left in service.



WHITTIER WATER IMPROVEMENTS PHASE III WATER RESERVOIR IMPROVEMENTS

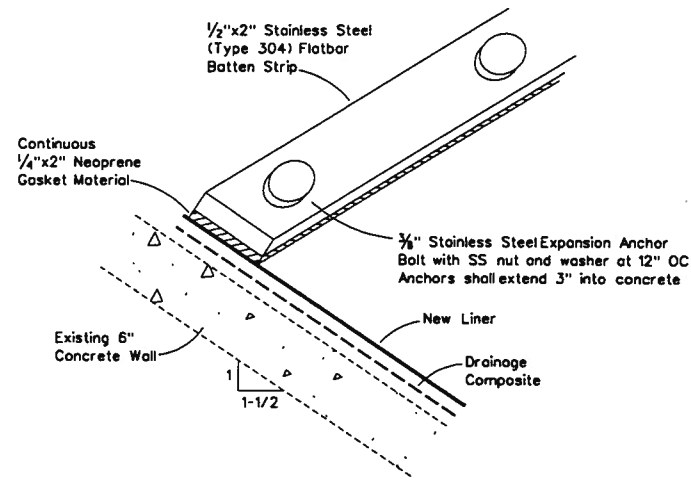
REVISION	BY	DATE
ISSUED FOR BID	D.T.	4/14/95
PHASE III AS-BUILTS	P.B.	1/12/98

Project No.	9069
Date	APR 1995
Designed	P.B.
Drawn	B.P.
Approved	W.V.H.

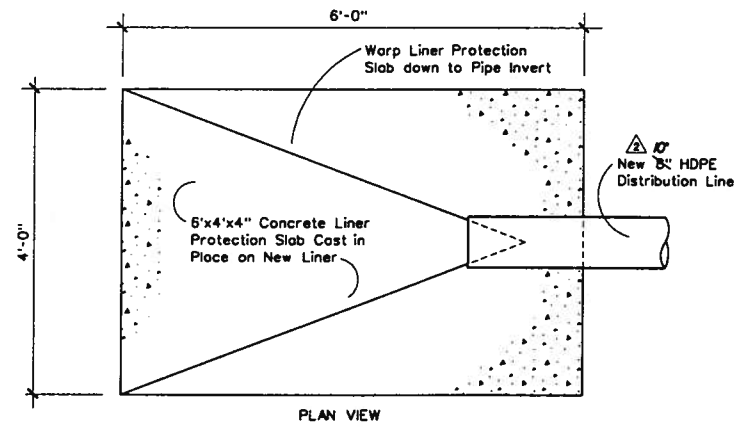
Sheet No.

SHEET 11 OF 25

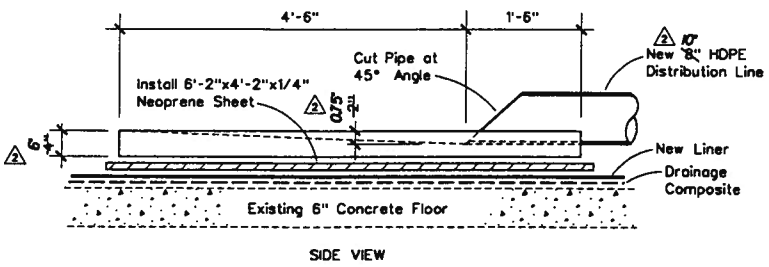
SCHEDULE A



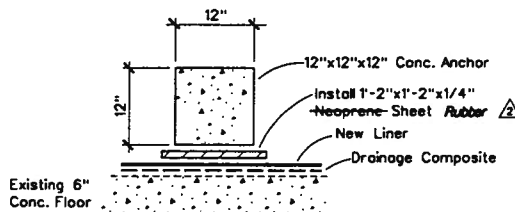
1
12
LINER ANCHOR DETAIL
NOT TO SCALE



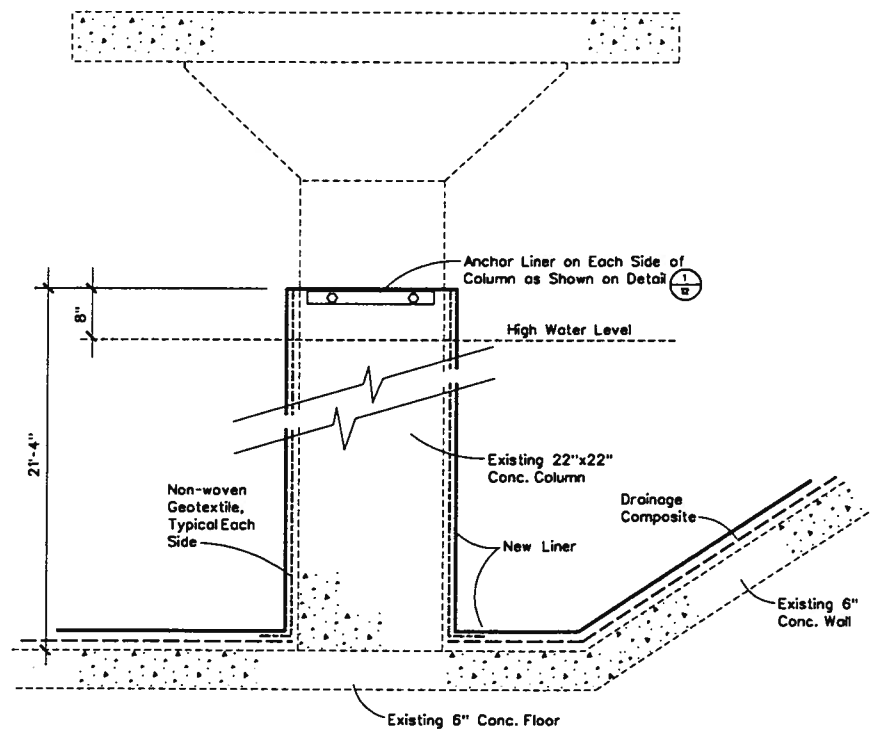
2
12
LINER PROTECTION SLAB DETAIL
NOT TO SCALE



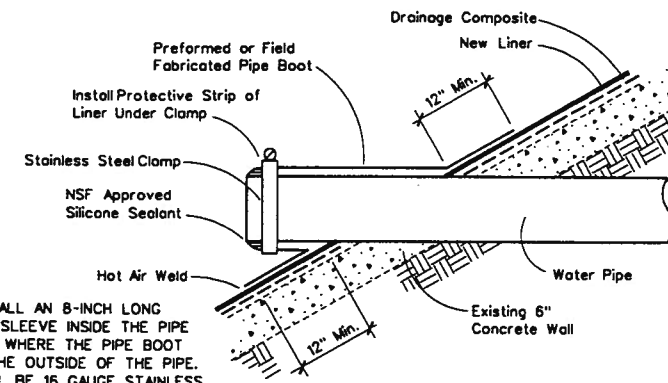
3
12
PIPE ANCHOR BLOCK DETAIL
NOT-TO-SCALE



4
12
LINER ANCHOR BLOCK DETAIL
NOT-TO-SCALE

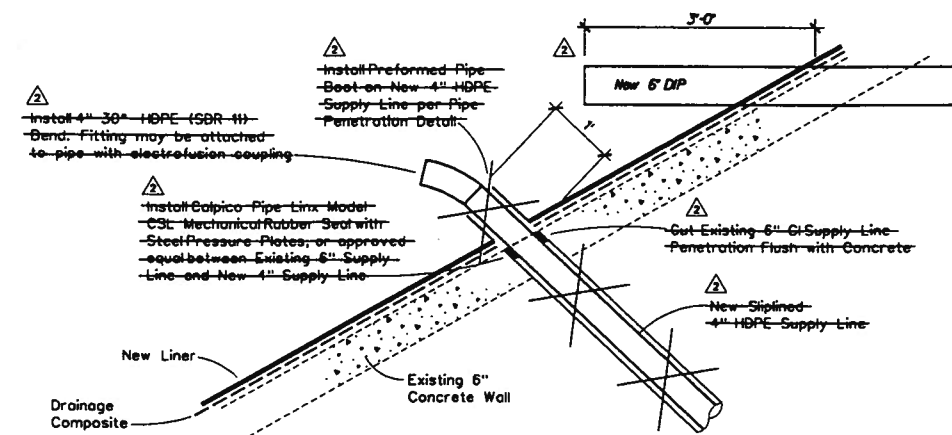


5
12
LINER AT COLUMN DETAIL
NOT-TO-SCALE



6
12
PIPE PENETRATION DETAIL
NOT-TO-SCALE

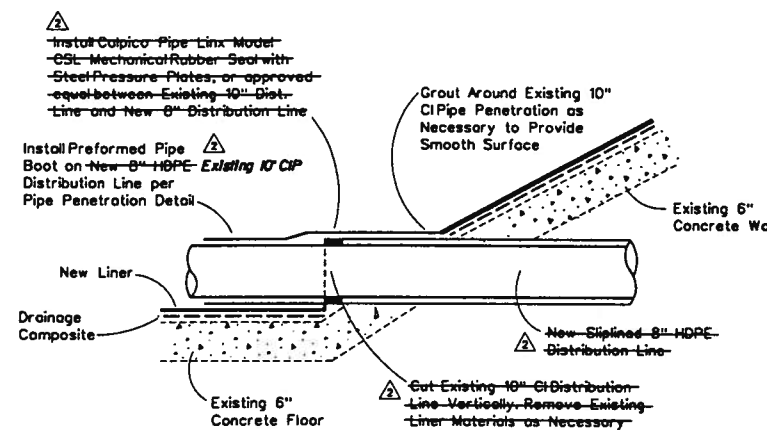
FURNISH AND INSTALL AN 8-INCH LONG STAINLESS STEEL SLEEVE INSIDE THE PIPE AT THE LOCATION WHERE THE PIPE BOOT IS CLAMPED TO THE OUTSIDE OF THE PIPE. THE SLEEVE SHALL BE 16 GAUGE STAINLESS STEEL (TYPE 308) AND BE FIRMLY PRESSED AGAINST THE INSIDE OF THE PIPE.



7
12
6" SUPPLY PIPE DETAIL
NOT-TO-SCALE

AS-BUILT NOTE:

Contractor installed new 6" DIP supply line into Reservoir. New supply pipe extends 3' into Reservoir. Existing supply line penetration was cut flush with concrete and grouted shut.

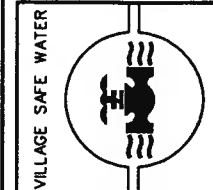


8
12
10" SUPPLY PIPE DETAIL
NOT-TO-SCALE

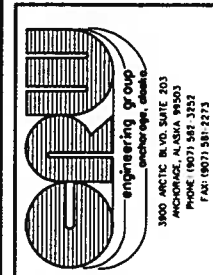
AS-BUILT NOTE:

Existing 10" CI Distribution Pipe was determined to be satisfactory and therefore was not sliplined. The new 10" HDPE pipe was connected to the existing 10" CI pipe with flanged fittings.

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PAUL BELLEZZO
REGISTERED PROFESSIONAL ENGINEER
STATE OF ALASKA
No. CC-0870
EXPIRES 12/31/2015



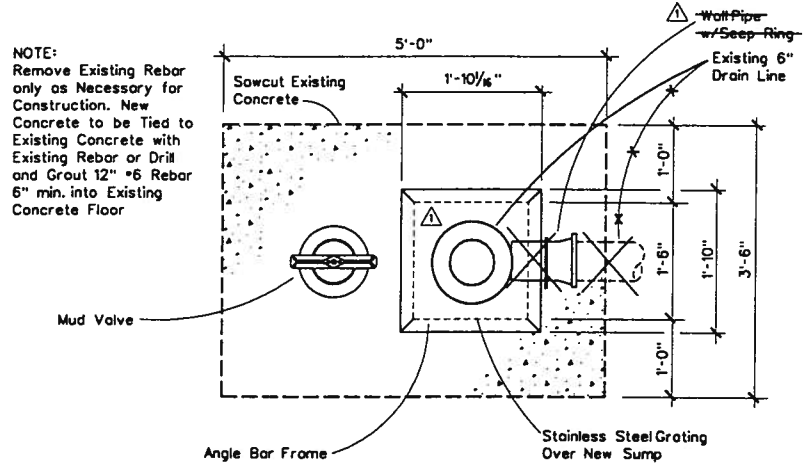
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PAUL BELLEZZO
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STATE OF ALASKA
No. CC-0870
EXPIRES 12/31/2015



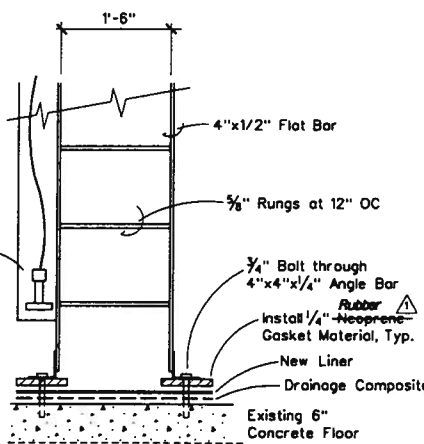
WHITTIER WATER IMPROVEMENTS
PHASE III
WATER RESERVOIR DETAILS

REVISION	NO.	DATE	BY	DATE
ISSUED FOR BID		1/14/95	D.T.	1/14/95
ADDED ITEM FROM SCHEDULE 1		1/14/95	P.B.	1/14/95
PHASE II AS-BUILTS		1/12/96	P.B.	1/12/96

Project No.	9069
Date	APR 1995
Designed	P.B.
Drawn	B.P.
Approved	W.V.H.

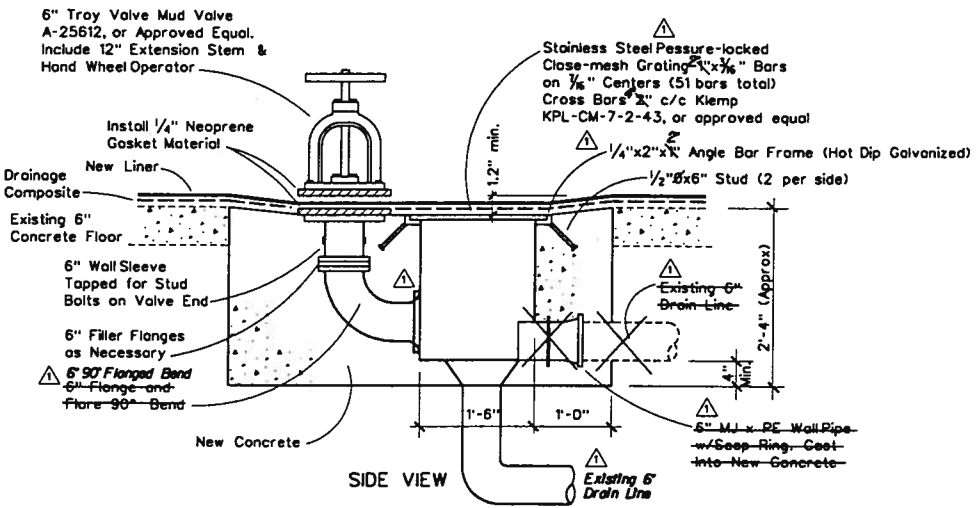


PLAN VIEW

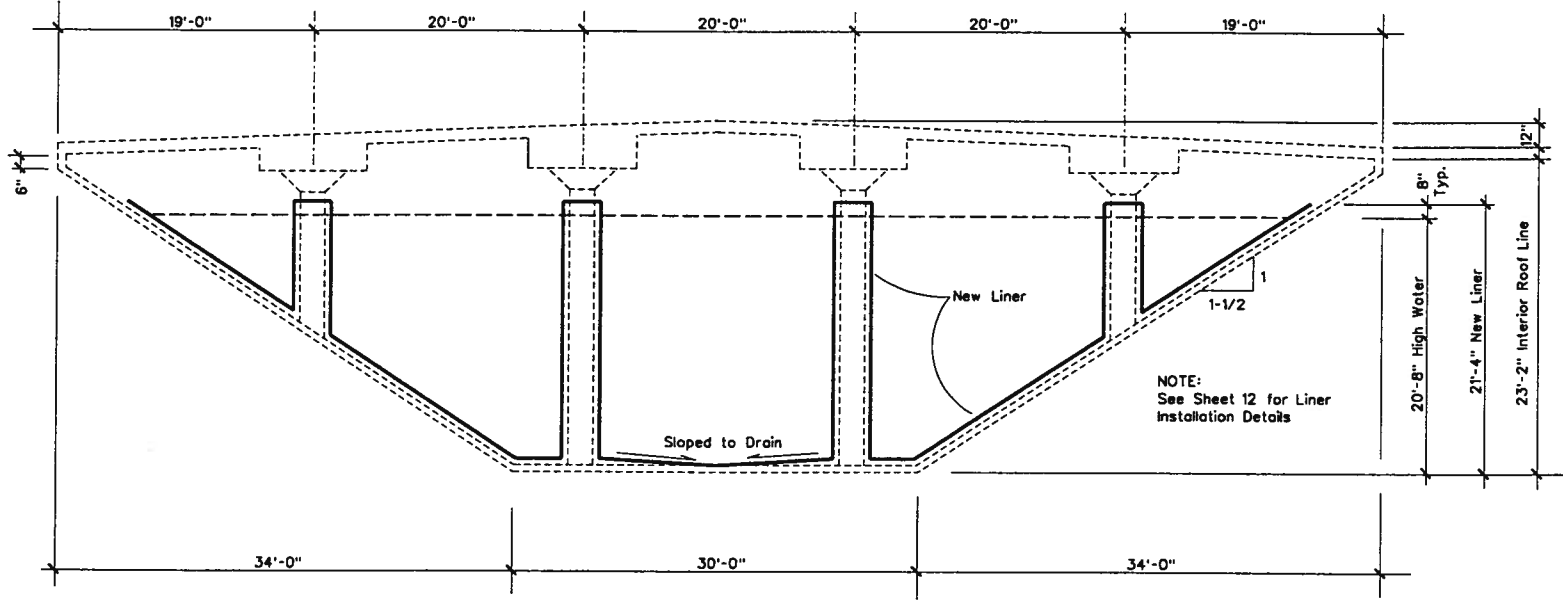


- NOTES:
- 1. Contractor installed new reservoir access ladder.
 - 2. Sandblast and coat ladder. Coating shall be 2-part NSF 61 approved epoxy system.
 - 3. Remove and replace level indicator assembly to accommodate improvements to ladder.
 - 4. Contractor may replace existing ladder with new ladder. See Special Provisions.

2 ACCESS LADDER DETAIL
13 NOT-TO-SCALE



1 FLOOR DRAIN DETAIL
13 NOT-TO-SCALE

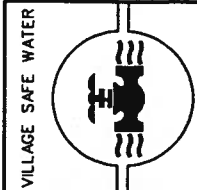


A RESERVOIR SECTION A-A
13 NOT TO SCALE

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Pete Bellezza
REGISTERED PROFESSIONAL ENGINEER
STATE OF ALABAMA
No. CE-8870



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Pete Bellezza
REGISTERED PROFESSIONAL ENGINEER
STATE OF ALABAMA
No. CE-8870

engineering group
and/or design

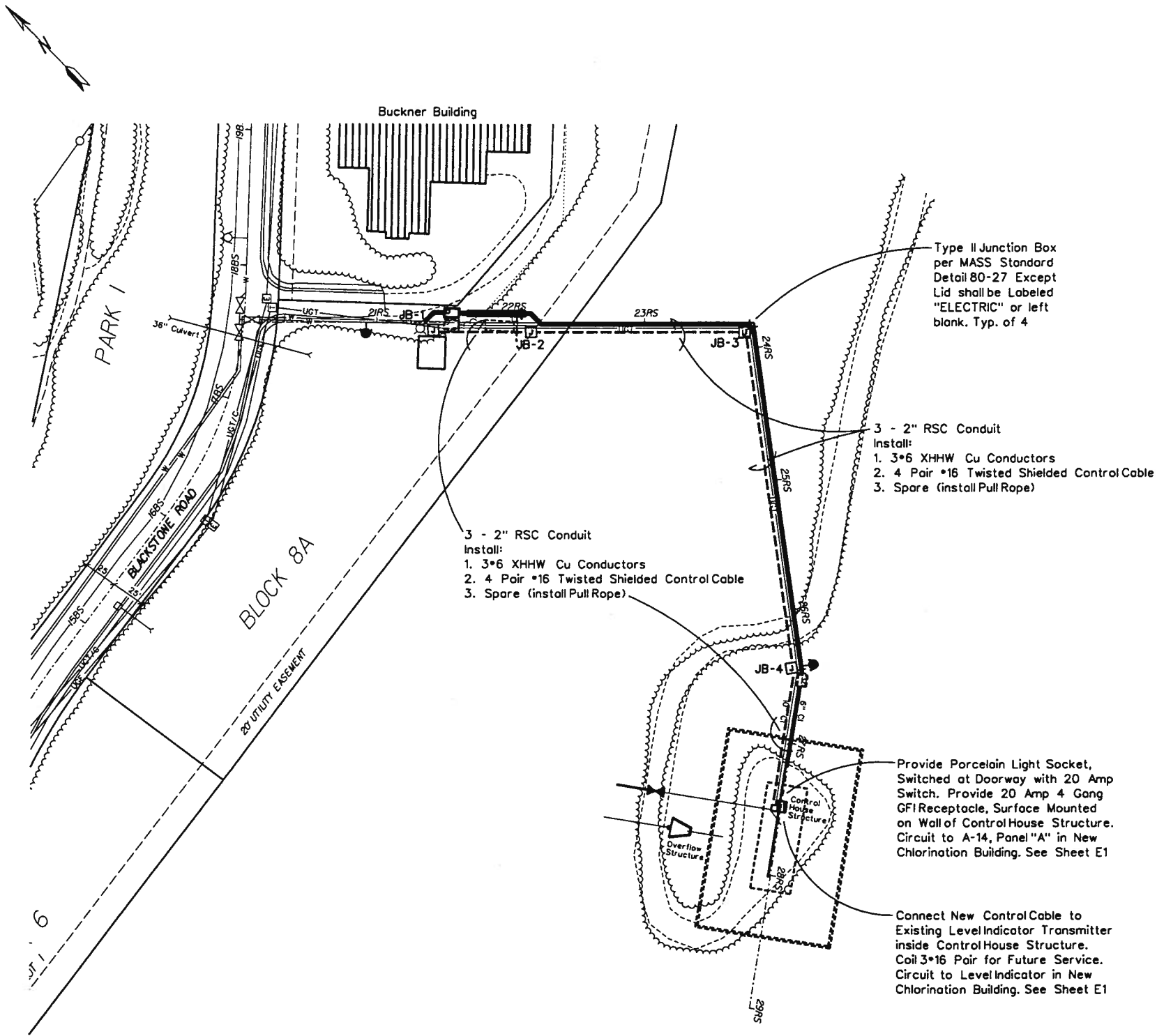
3900 ARCTIC BLVD. SUITE 203
ANCHORAGE, ALASKA 99503
PHONE: (907) 561-2237
FAX: (907) 561-2237

WHITTIER
WATER IMPROVEMENTS
PHASE III

WATER RESERVOIR DETAILS

REVISION	BY	DATE
ISSUED FOR BID	D.Y.	4/14/95
PHASE II AS-BUILTS	P.B.	1/12/96

Project No. 9069
Date APR 1995
Designed P.B.
Drawn B.P.
Approved W.V.H.



- NOTES:
1. Install 3-2" RSC conduit from JB-2 at Sta. 22+14RS to the Control House Structure at Sta. 27+45RS. From Sta. 22+14RS to Sta. 26+50RS, install conduit as shown in Typical Cross Section (Sheet 6). From Sta. 26+50RS to Sta. 27+45RS install conduit 24" deep min. New conduit shall enter Control House Structure through existing conduit penetrations.
 2. New conduit from JB-1 to JB-2 will be installed only if new concrete encasement is installed. See Special Provisions.
 3. If new concrete encasement is not installed, intercept existing conduits (3) at top of existing pipe encasement with JB-2. Intercept existing conduits (3) at Lower Valve Vault with JB-1. See Special Provisions.
 4. See Sheet E1 for electrical from JB-1 to Chlorination Building.

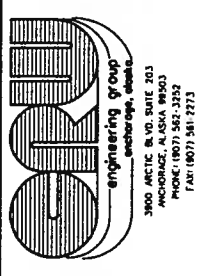
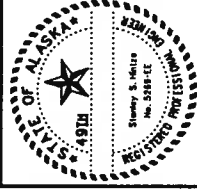
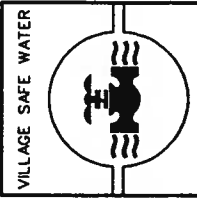
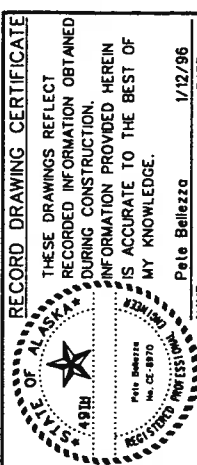
Type II Junction Box per MASS Standard Detail 80-27 Except Lid shall be Labeled "ELECTRIC" or left blank. Typ. of 4

3 - 2" RSC Conduit
Install:
1. 3*6 XHHW Cu Conductors
2. 4 Pair #16 Twisted Shielded Control Cable
3. Spare (install Pull Rope)

3 - 2" RSC Conduit
Install:
1. 3*6 XHHW Cu Conductors
2. 4 Pair #16 Twisted Shielded Control Cable
3. Spare (install Pull Rope)

Provide Porcelain Light Socket, Switched at Doorway with 20 Amp Switch. Provide 20 Amp 4 Gang GFI Receptacle, Surface Mounted on Wall of Control House Structure. Circuit to A-14, Panel "A" in New Chlorination Building. See Sheet E1

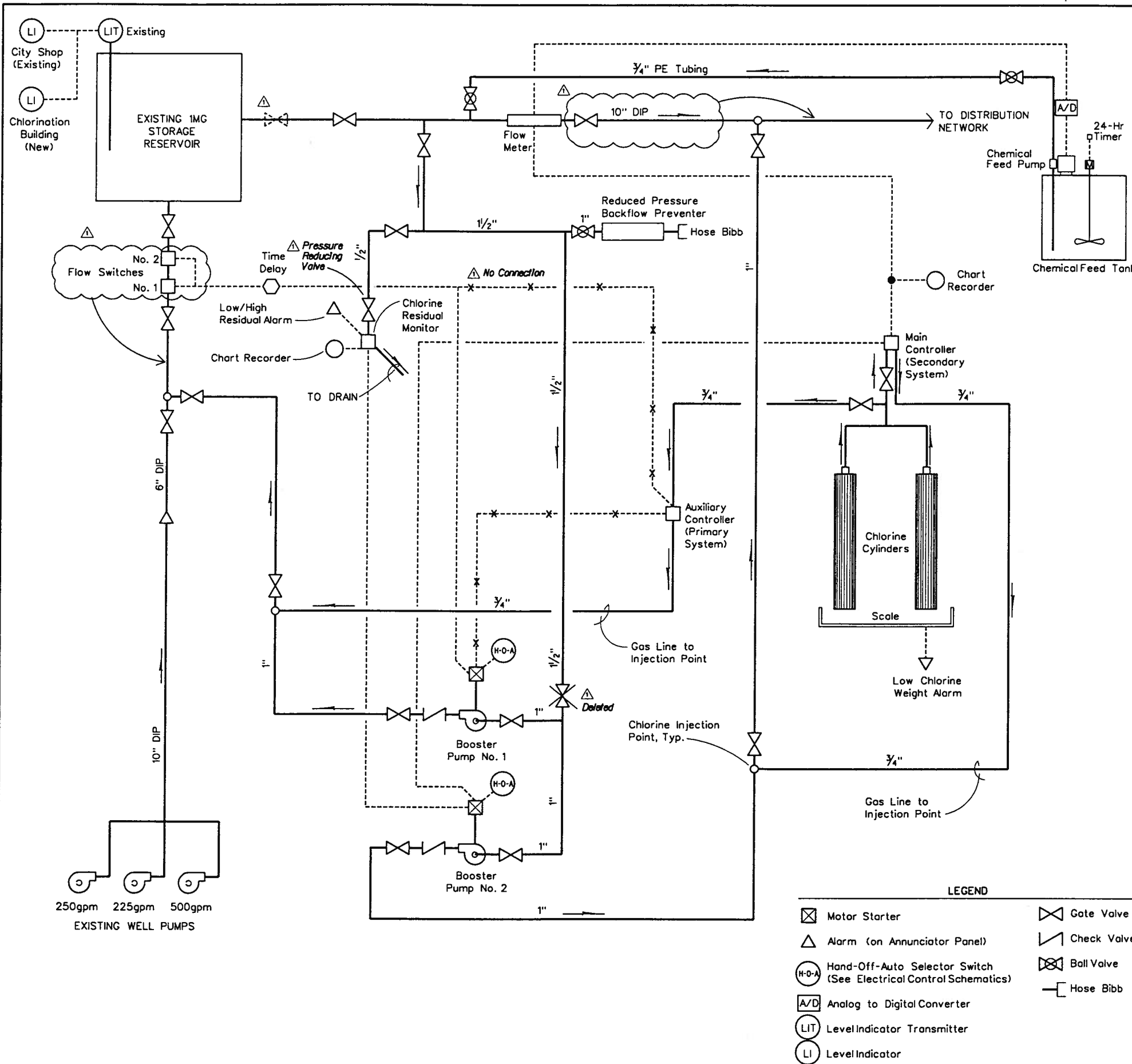
Connect New Control Cable to Existing Level Indicator Transmitter inside Control House Structure. Coil 3*16 Pair for Future Service. Circuit to Level Indicator in New Chlorination Building. See Sheet E1



WHITTIER
WATER IMPROVEMENTS
PHASE III
RESERVOIR ELECTRICAL PLAN

REVISION	BY	DATE
ISSUED FOR BID	D.Y.	1/11/95
PHASE II AS-BUILTS	P.B.	1/12/95

Project No. 9069
Date APR 1995
Designed S.H.
Drawn B.P./P.B.
Approved W.V.H.



PIPING & INSTRUMENTATION DIAGRAM
N.T.S.

- LEGEND**
- ☒ Motor Starter
 - ⊗ Gate Valve
 - △ Alarm (on Annunciator Panel)
 - ↗ Check Valve
 - (H-O-A) Hand-Off-Auto Selector Switch (See Electrical Control Schematics)
 - ⊗ Ball Valve
 - A/D Analog to Digital Converter
 - Hose Bibb
 - (LIT) Level Indicator Transmitter
 - (LI) Level Indicator

CHLORINATION SYSTEM DESIGN

WATER DEMANDS

Estimated maximum day demand based on existing water use records, without leakage - 181 gpm
 Average Daily Demand - 0.5 x Maximum Day Demand - 90.5 gpm
 Fire Flow Rate - 500 gpm

ESTIMATED CHLORINATION RATES

To reservoir (primary system - maximum day demand)
 chlorine mass loading - 1.63 lb/day
 injection concentration - 0.75 mg/L

To reservoir (primary system - average daily demand)
 chlorine mass loading - 1.08 lb/day
 injection concentration - 1.00 mg/L

To distribution system (secondary system - maximum day demand)
 chlorine mass loading - 2.18 lb/day
 injection concentration - 1.00 mg/L

To distribution network (secondary system - average daily demand)
 chlorine mass loading - 1.08 lb/day
 injection concentration - 1.00 mg/L

CODE INFORMATION

Type of Construction: V-N

Location from Property Line:
 northeast - 27 ft
 southeast - 29 ft
 northwest - 108 ft
 southwest - 17 ft

Total Occupant Load (UBC Section 3302 1a1 & Table 33-A, Use 20): 2

Occupancy: B-4, Water Treatment

Allowable Floor Area: (UBC Table 5-D): 12,000 square feet

Number of Stories & Height (UBC Table 5-D):
 2 stories & 40 feet height allowable

Actual Building Area: 400 square feet

Actual Number of Stories: 1

Actual Building Height: 15'-0"

NOTES:

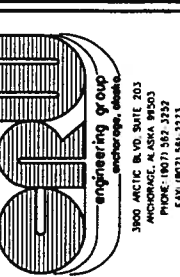
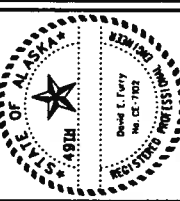
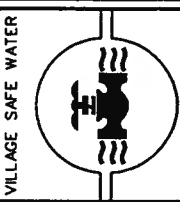
Building not normally occupied, therefore no toilet rooms required (UBC Section 705).

Floor area less than 1,500 square feet; therefore, automatic sprinklers not required (UBC Section 3802).

Although building is accessible from grade, accessibility not required (UBC, Exception 1, Section 3103 1a1).

Although compressed chlorine gas is stored and used in the Chlorination Room, total quantity shall be limited to two 100-lb cylinders.

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 1/12/96
 Pete Bellezza

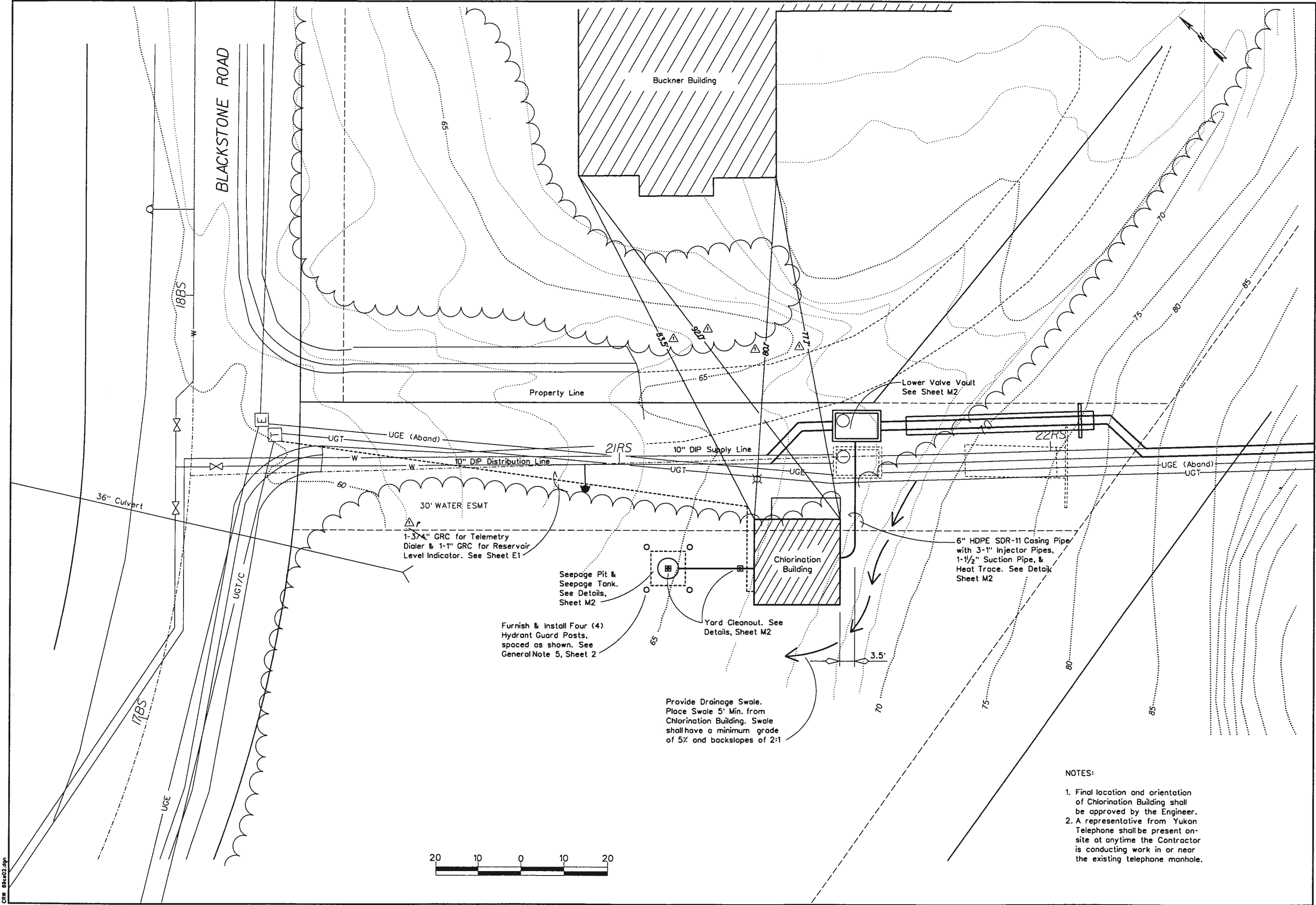


WHITTIER WATER IMPROVEMENTS PHASE III
 CHLORINATION BUILDING
 PIPING PLAN & GENERAL NOTES

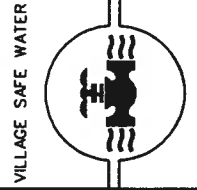
REVISION	BY	DATE
ISSUED FOR BID	D.Y.	4/14/95
PHASE II AS-BUILTS	P.B.	1/17/98

Project No. 9069
 Date: APR 1995
 Designed: D.F.
 Drawn: AV
 Approved: W.V.H.

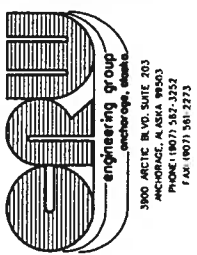
Sheet No. G1
 SHEET 15 OF 25



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 Pete Bellezzo
 1/12/96
 PROFESSIONAL ENGINEER



STATE OF ALASKA
 PROFESSIONAL ENGINEER
 Pete Bellezzo
 No. CC-9870
 REG. 12/20/82



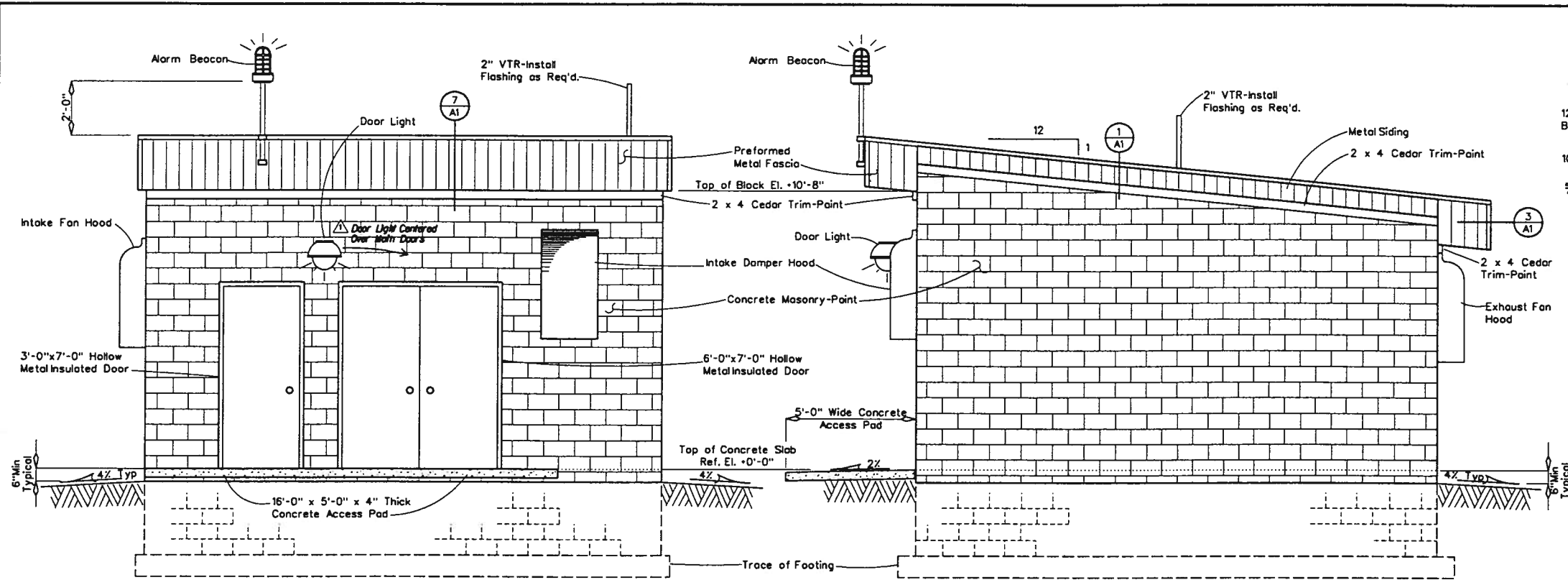
WHITTIER
 WATER IMPROVEMENTS
 PHASE III
 CHLORINATION BUILDING
 SITE PLAN

REVISION	BY	DATE
ISSUED FOR BID	D.Y.	4/14/95
PHASE II AS-BUILT	P.B.	1/12/96

Project No.	9069
Date	APR 1995
Designed	D.F.
Drawn	AV
Approved	W.V.H.

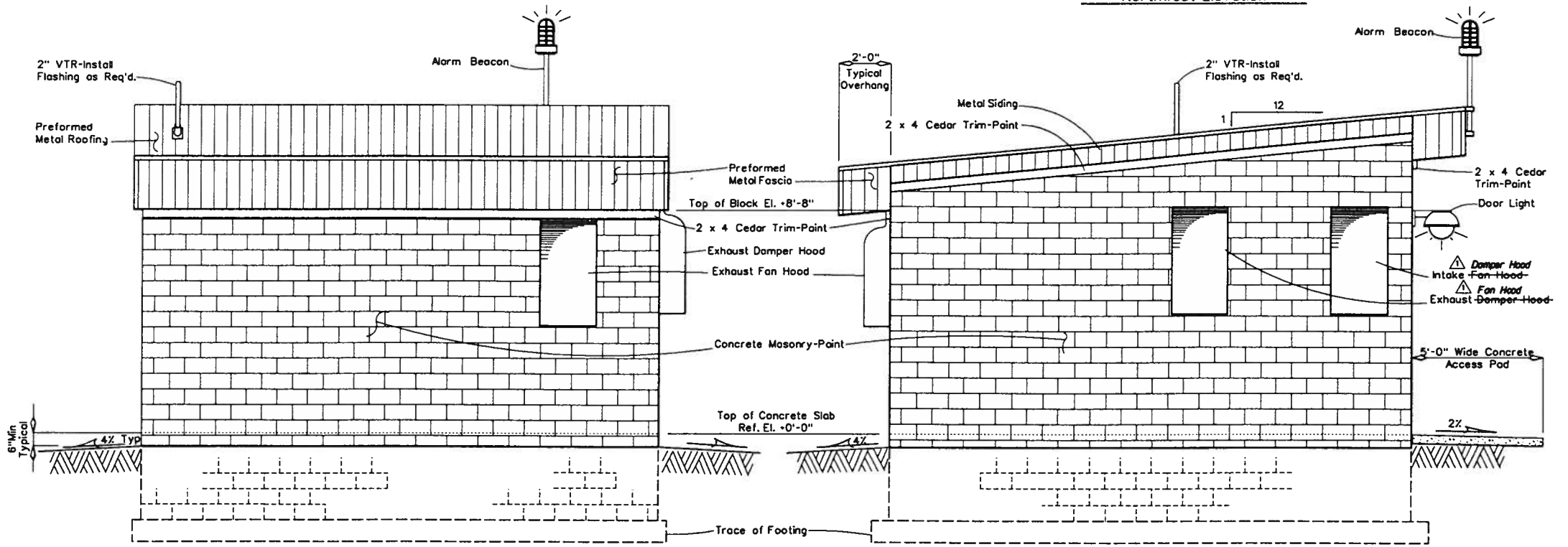
- NOTES:
1. Final location and orientation of Chlorination Building shall be approved by the Engineer.
 2. A representative from Yukon Telephone shall be present on-site at anytime the Contractor is conducting work in or near the existing telephone manhole.





Northeast Elevation

Northwest Elevation

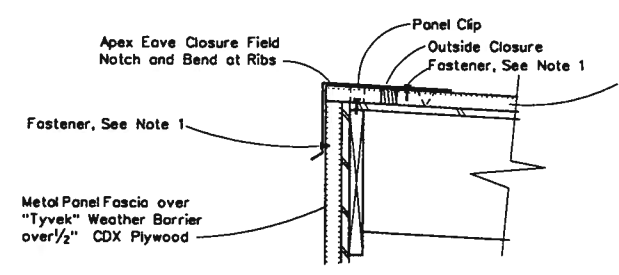


Southwest Elevation

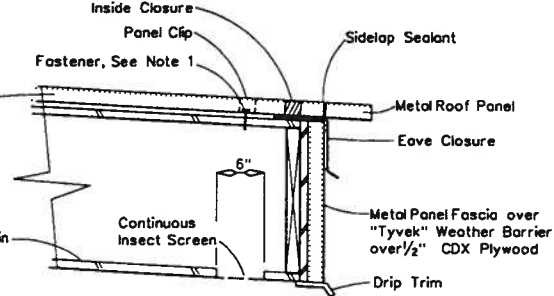
Southeast Elevation

BUILDING ELEVATIONS

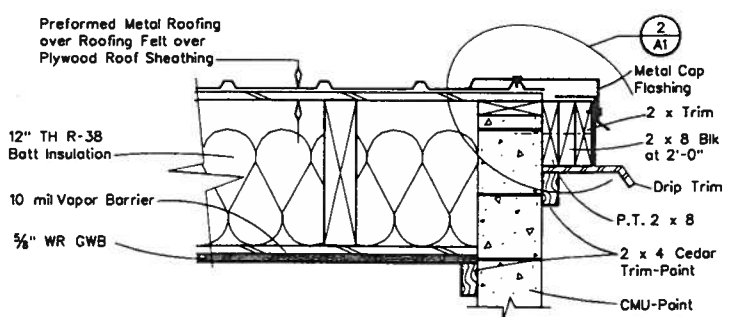
NOTES
 1. All Fasteners and Spacing shall be as recommended by the Roof System Component Manufacturer, in accordance with the requirements of UBC and the latest adopted code requirements of the Municipality of Anchorage.



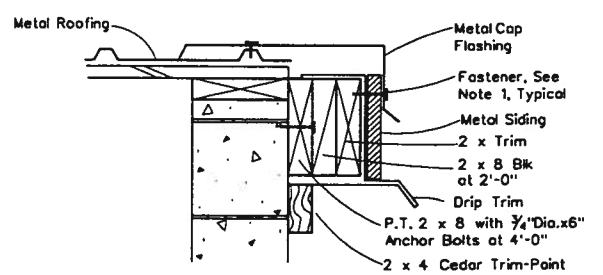
7 A1 APEX EAVE CLOSURE DETAIL



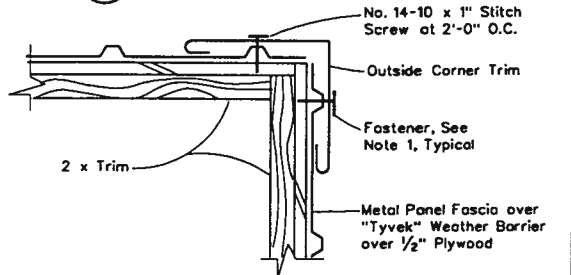
6 A1 EAVE CLOSURE DETAIL



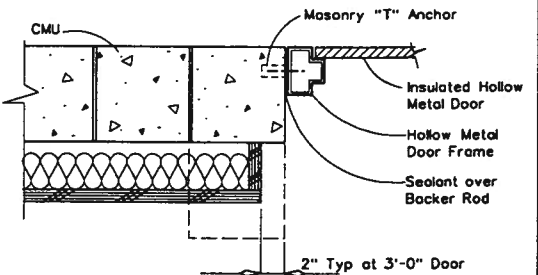
1 A1 DRIP DETAIL



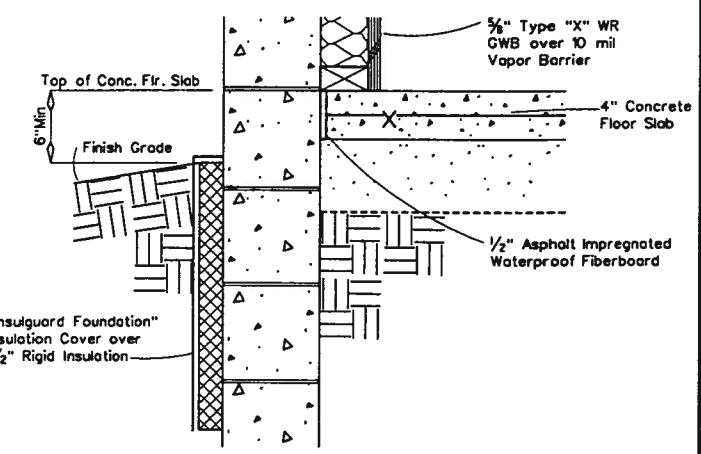
2 A1 RAKE TRIM DETAIL



3 A1 OUTSIDE CORNER TRIM DETAIL



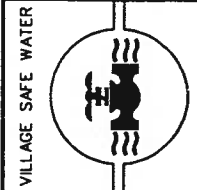
4 A1 EXTERIOR DOOR JAMB DETAIL



5 A1 CONCRETE SLAB PERIMETER DETAIL



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 PETE BELLEZZA
 No. CC-8870
 REGISTERED PROFESSIONAL ENGINEER
 1/12/96
 Pete Bellezza



STATE OF ALASKA
 49th
 PETE BELLEZZA
 No. CC-8870
 REGISTERED PROFESSIONAL ENGINEER

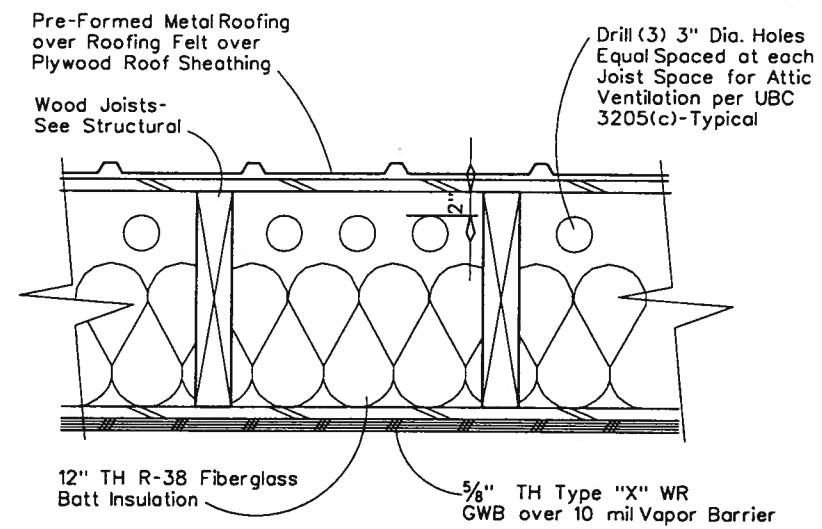
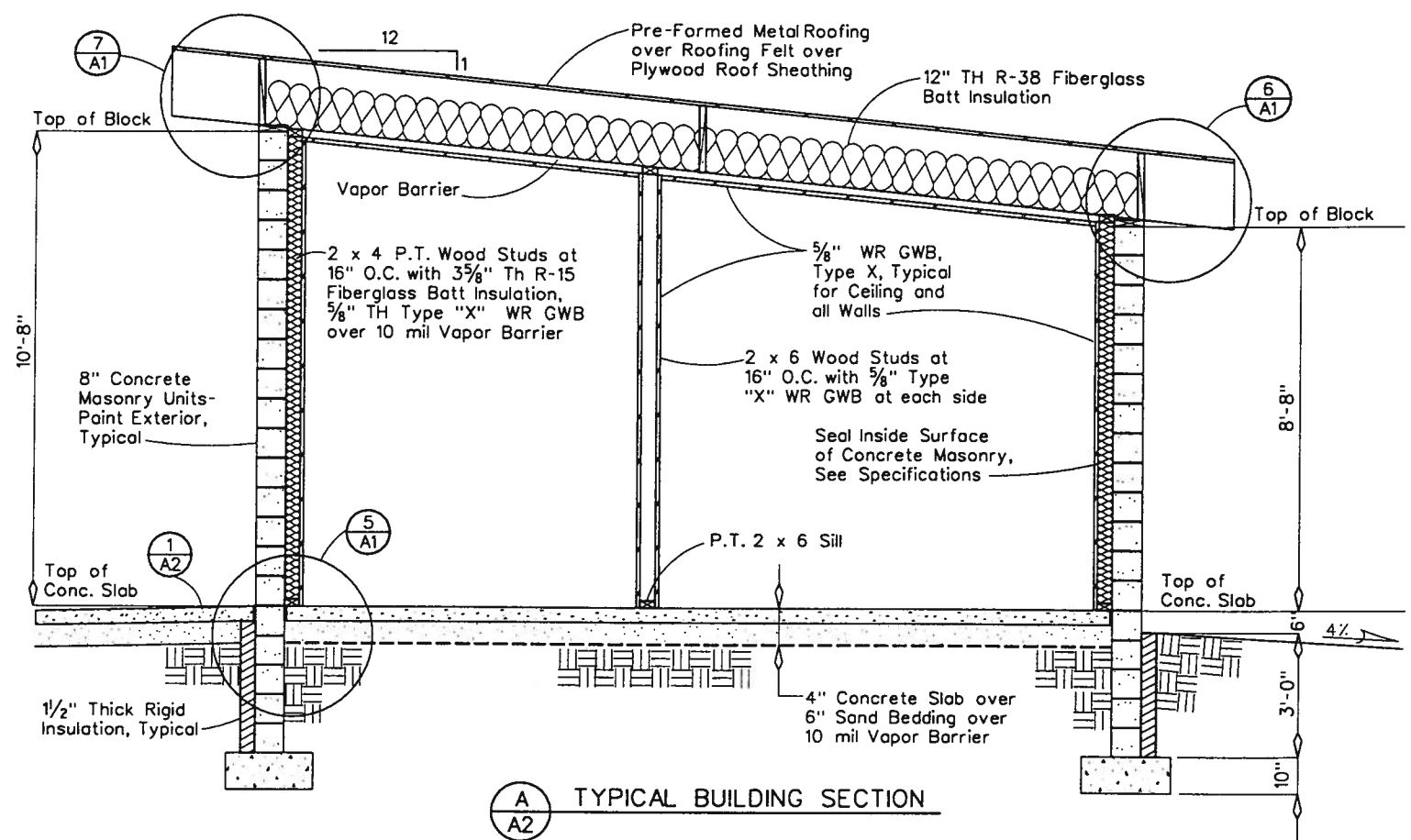
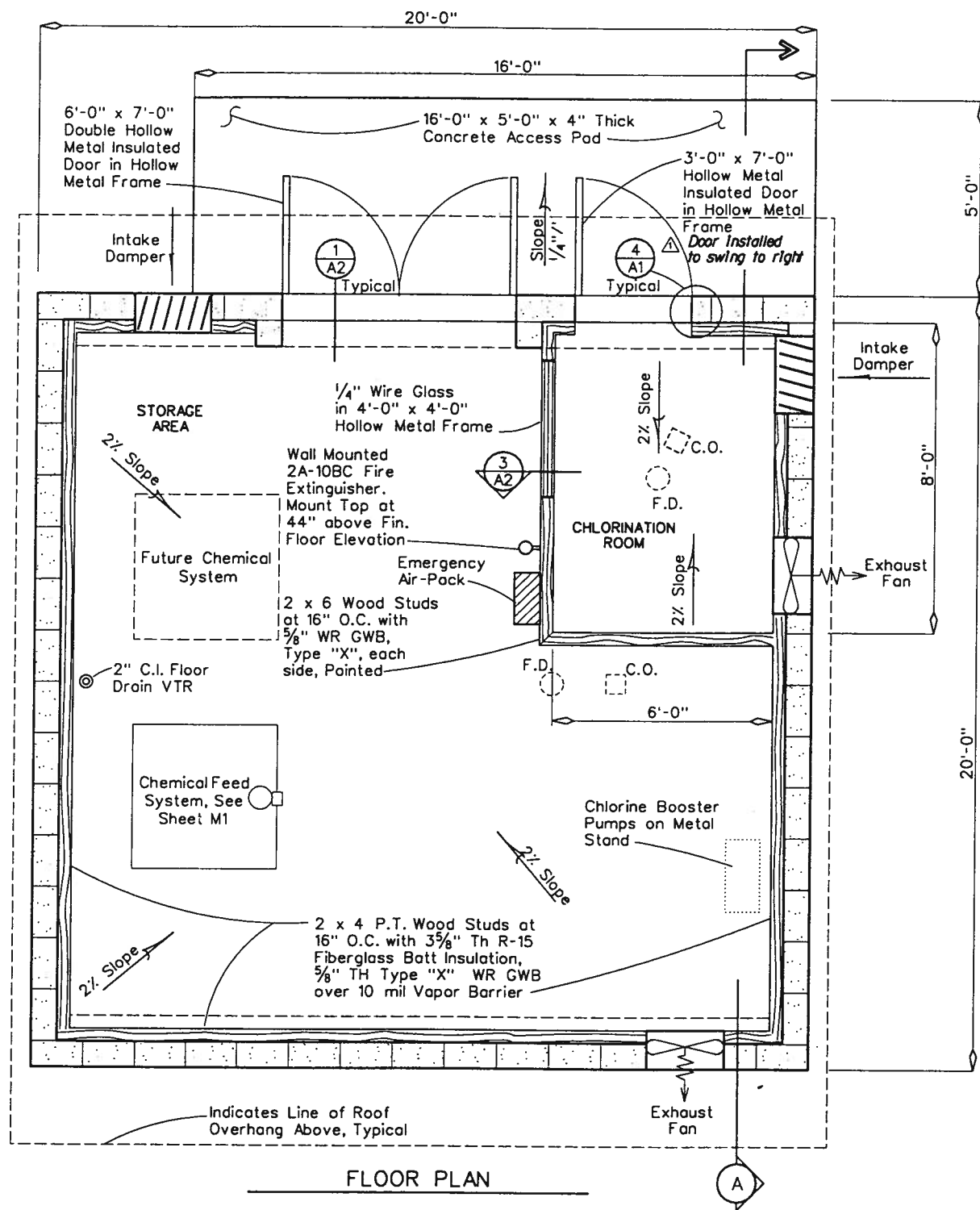
engineering group
 3800 SUTCLIFF BLVD. SUITE 203
 ANCHORAGE, ALASKA 99503
 PHONE: (907) 567-2352
 FAX: (907) 567-2273

WHITTIER WATER IMPROVEMENTS
 PHASE III
 CHLORINATION BUILDING
 ELEVATIONS & DETAILS

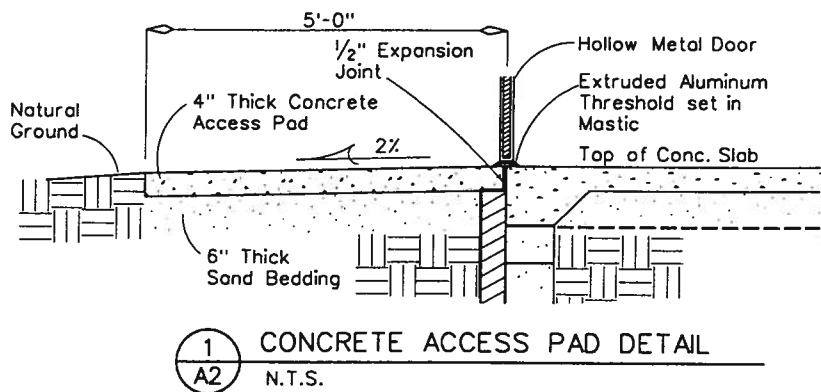
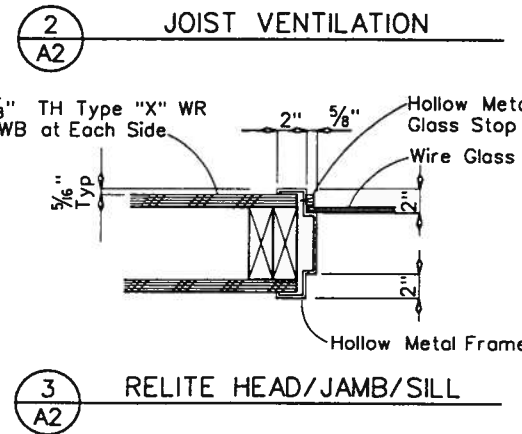
REVISION	BY	DATE
ISSUED FOR BID	D.Y.	4/14/95
PHASE II AS-BUILTS	P.B.	1/12/96

Project No. 9069
 Date: APR 1995
 Designed: J.H.
 Drawn: AV
 Approved: W.V.H.

Sheet No. A1
 SHEET 17 OF 25



NOTE:
This Detail is Typical at End Walls and Intermediate Blocking at Joist Space

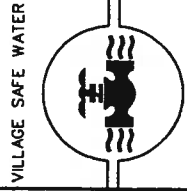


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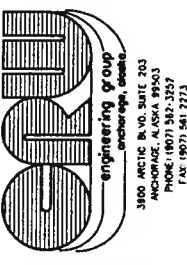
STATE OF ALASKA REGISTERED PROFESSIONAL ENGINEER

Pete Bellezza No. CE-18718



STATE OF ALASKA REGISTERED PROFESSIONAL ENGINEER

James L. Hill No. AS-1819



WHITTIER WATER IMPROVEMENTS PHASE III

CHLORINATION BUILDING

FLOOR PLAN, SECTION & DETAILS

REVISION	DATE	BY	DATE
ISSUED FOR BID	1/14/95	D.V.	1/14/95
PHASE II AS-BUILTS	1/22/95	P.S.	1/22/95

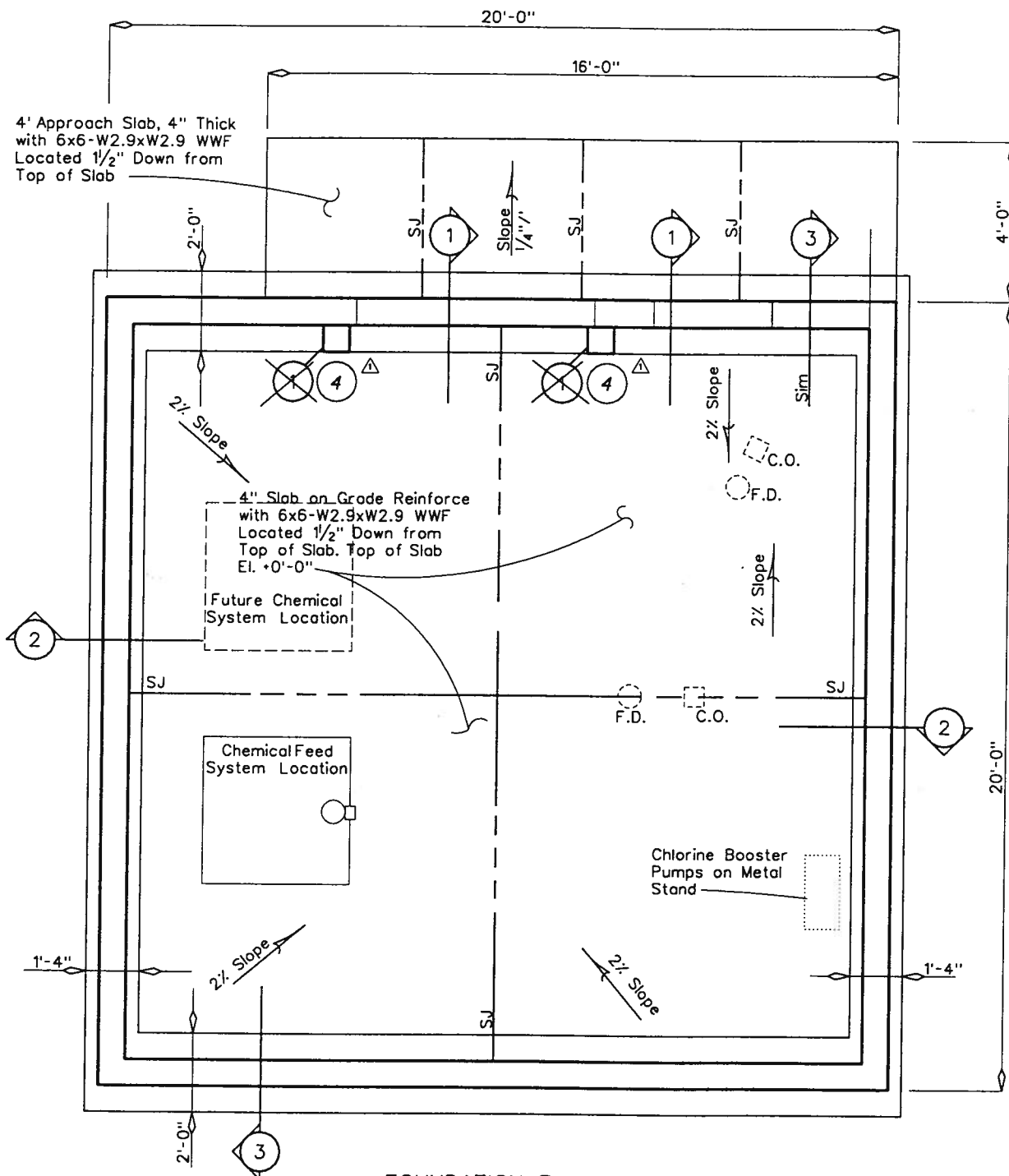
Project No. 9069

Date APR 1995

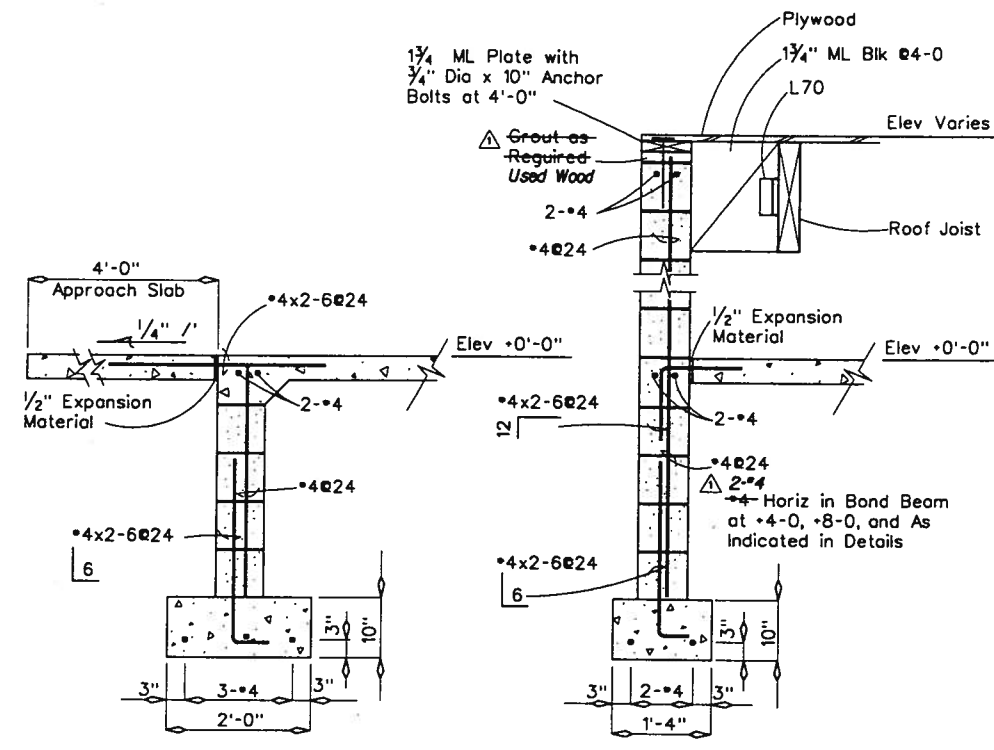
Designed J.H.

Drawn AV

Approved W.V.H.

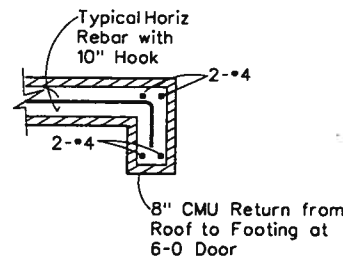


FOUNDATION PLAN

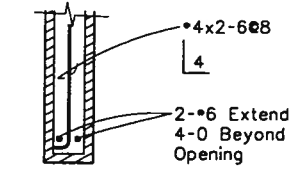


SECTION 1

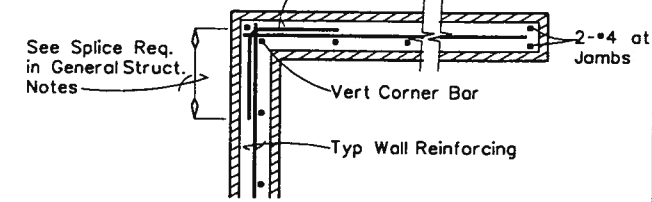
SECTION 2



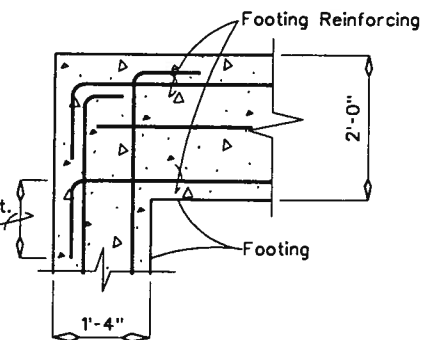
DETAIL 4
6-0 Door Jamb



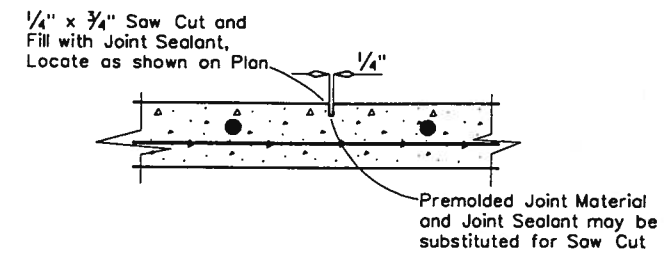
DETAIL 5
Typical CMU Lintel



DETAIL 6
Typical Masonry Wall

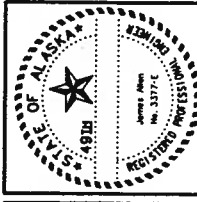
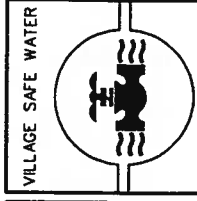


DETAIL 7
Typical Footing Corner



DETAIL 8
Typical Slab Joint (SJ)

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 STATE OF ALASKA
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 PETE BELLEZZO
 No. 3377-E
 REG. STREET No. 1331
 ANCHORAGE, ALASKA 99503
 1/12/96

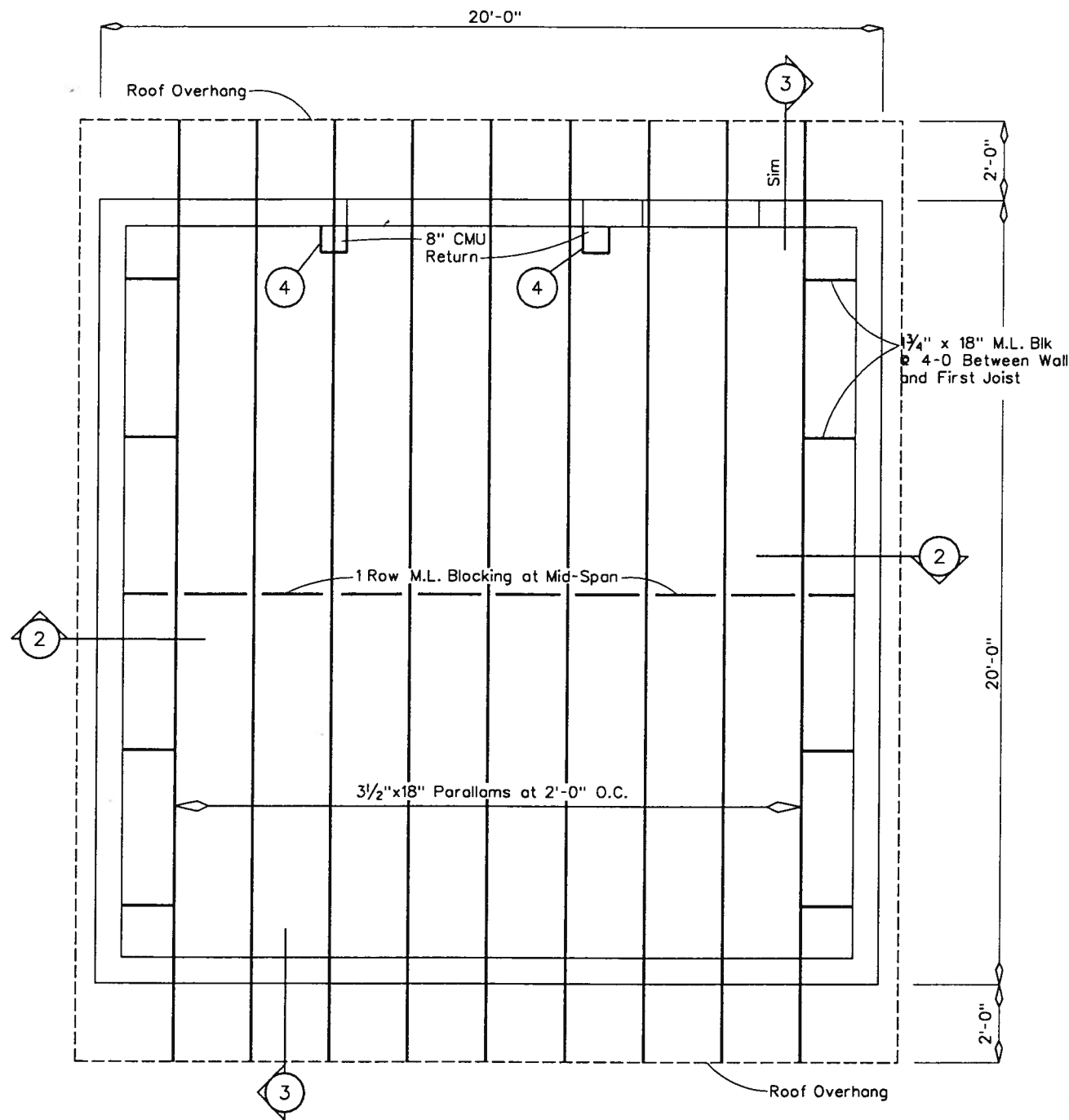


engineering group
 3800 ARCTIC BLVD., SUITE 703
 ANCHORAGE, ALASKA 99503
 PHONE: (907) 561-7232
 FAX: (907) 561-7233

WHITTIER
 WATER IMPROVEMENTS
 PHASE III
 CHLORINATION BUILDING
 FOUNDATION PLAN & DETAILS

REVISION	BY	DATE
ISSUED FOR BID	D.Y.	4/14/95
PHASE II AS-BUILTS	P.B.	1/12/96

Project No. 9069
 Date APR 1995
 Designed J.A.
 Drawn AV
 Approved W.V.H.

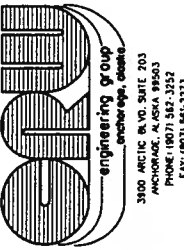
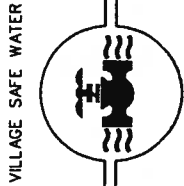
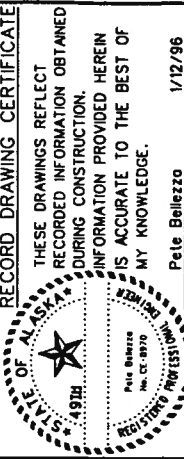


ROOF FRAMING PLAN

STRUCTURAL NOTES

- Design Criteria:
 - Uniform Building Code, 1991 Edition
 - Occupancy Category IV
 - Snow LL = 280 PSF, I = 1.00
 - Soil Pressure 3,000 PSF
 - Seismic Zone 4, I = 1.00, R_w = 6
 - Wind 100 M.P.H. Basic, Exposure C, I = 1.00
- Soils data: Remove all organics and other objectionable materials. Provide 12 inches of NFS sandy gravel beneath all footings and slabs on grade. Compact to 95% maximum density.
- Concrete shall have a minimum compressive strength of 3,000 psi at 28 days, measured, mixed, and placed in accordance with ACI Std. 304. Slump shall be 3 inches maximum.
- Masonry materials shall conform to the following ASTM Standards: Concrete Masonry Units, ASTM C-90, Grade N-1, F'm = 1,500 psi; Mortar, ASTM C-476, Type M, Grout, C-476, F'c = 2,000 psi, slump 8 inches; provide nonshrink type admixture, i.e. Grout Aid, and mechanical vibration for consolidation. All cells shall be grouted full. Provide bond beams with reinforcing steel at locations shown in the details.
- Reinforcing steel shall conform to ASTM A-615, Grade 60. All reinforcing steel shall be detailed, fabricated, and placed in accordance with ACI 318-89 and ACI 315-80 (Revised 1986). All splices in concrete shall be lapped 44 bar diameters minimum. All splices in masonry shall be lapped 30 bar diameters minimum. Welded Wire Fabric shall conform to ASTM A-185.
- Plywood panels shall be stamped with APA Grade Trademark of the American Plywood Association and shall meet U.S. Product Standard P.S. 1-83. All Plywood shall have exterior glue.

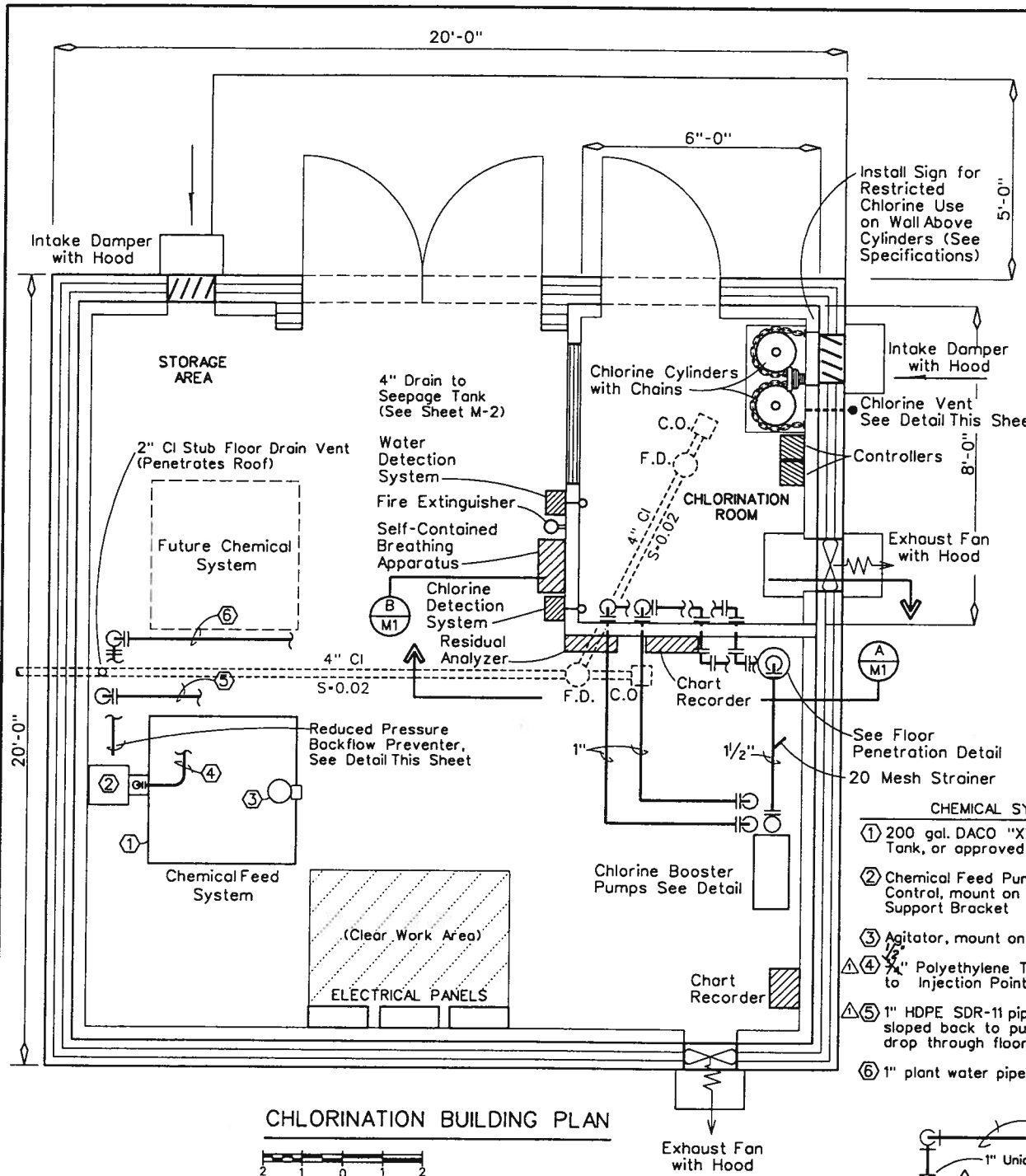
Roof sheathing shall be APA 1 1/8" CDX. Panel Identification Index 48/24. Install with face grain perpendicular to supports. Stagger end panel joints. Nail at 4 c-c all panel edges and 8 c-c at intermediate supports. All nails shall be 10d common or galvanized box nails.
- Laminated Veneer Lumber shall be "Parallams" by Trus Joist MacMillan or equal and shall have the following allowable stresses: F_b = 2,900 psi, F_v = 290 psi, E = 2,000,000 psi. All adhesive shall be waterproof meeting the requirements of ASTM D-2559.



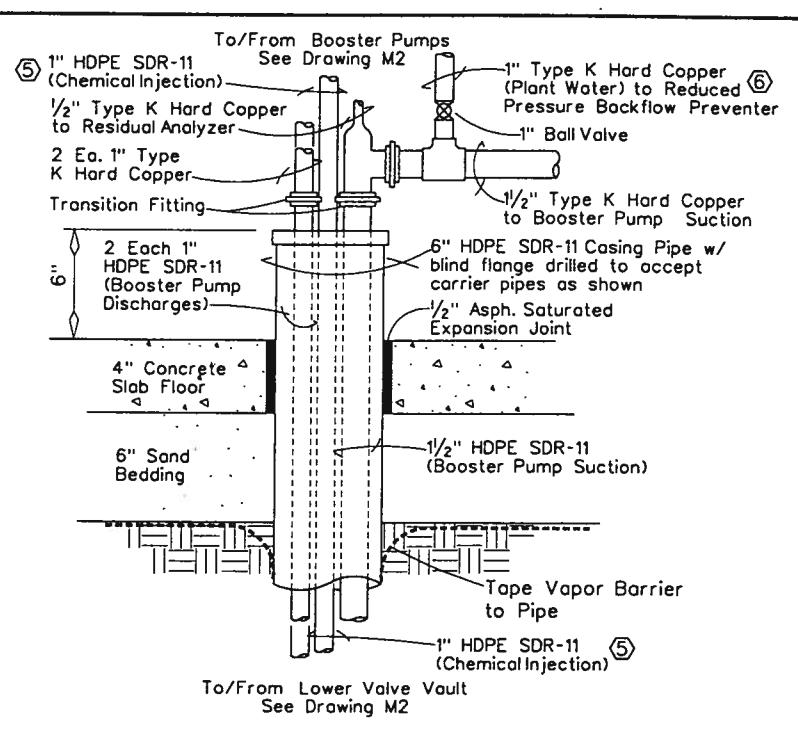
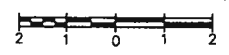
WHITTIER
WATER IMPROVEMENTS
PHASE III
CHLORINATION BUILDING
ROOF FRAMING PLAN & NOTES

REVISION	BY	DATE
ISSUED FOR BID	D.Y.	1/11/99
PHASE # 10-BUILD	P.B.	1/12/99

Project No. 9069
Date APR 1995
Designed J.A.
Drawn AV
Approved W.V.H.

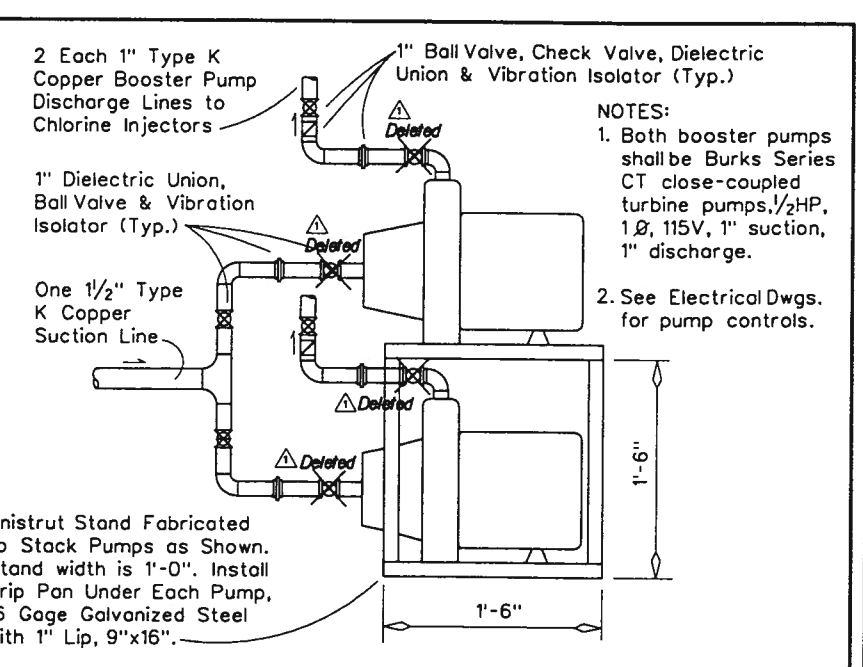


CHLORINATION BUILDING PLAN



FLOOR PENETRATION DETAIL

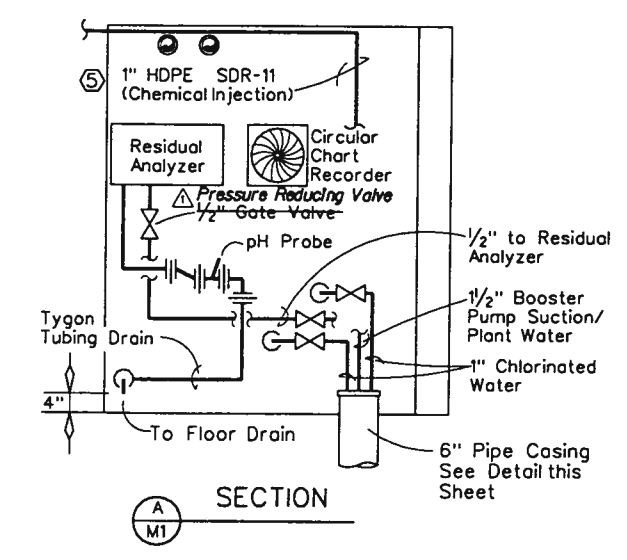
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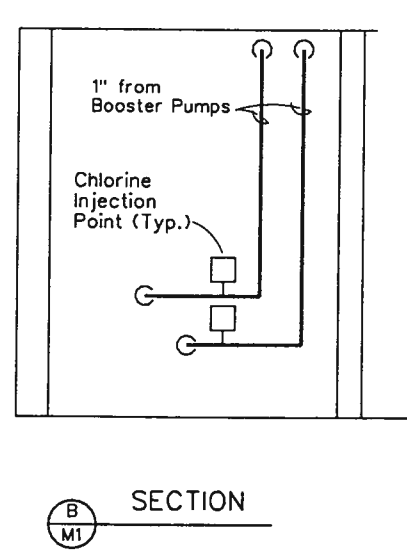
BOOSTER PUMP DETAIL

N.T.S.

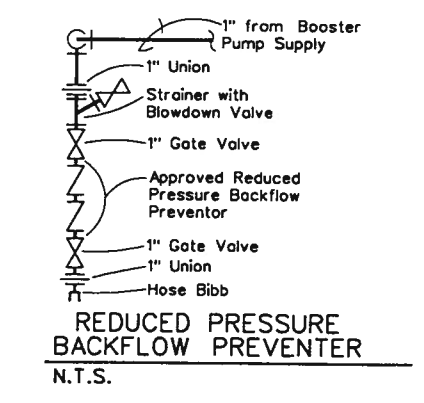
- NOTES:
- Both booster pumps shall be Burks Series CT close-coupled turbine pumps, 1/2HP, 1Ø, 115V, 1" suction, 1" discharge.
 - See Electrical Dwg. for pump controls.



SECTION A-M1

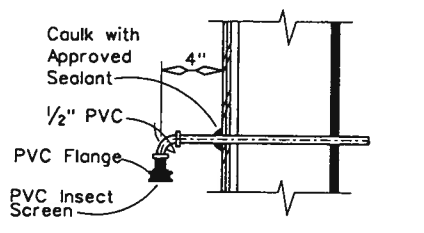


SECTION B-M1



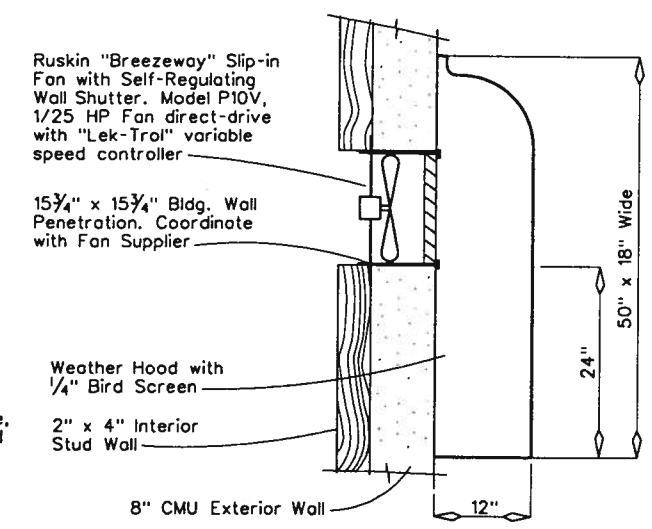
REDUCED PRESSURE BACKFLOW PREVENTER

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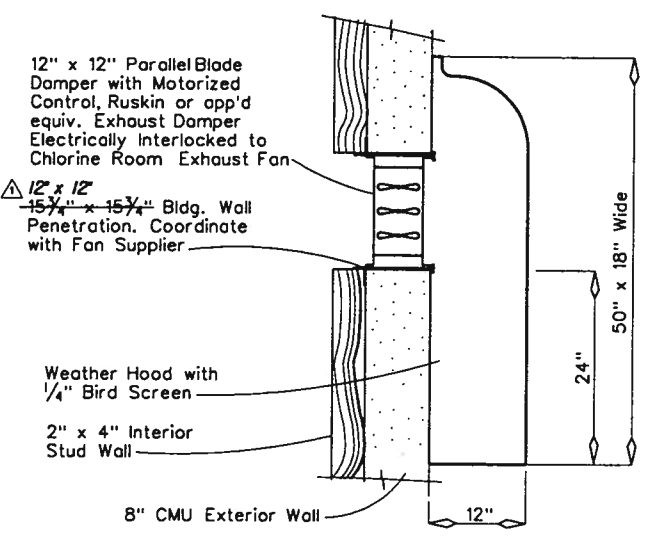
CHLORINE VENT DETAIL

N.T.S.



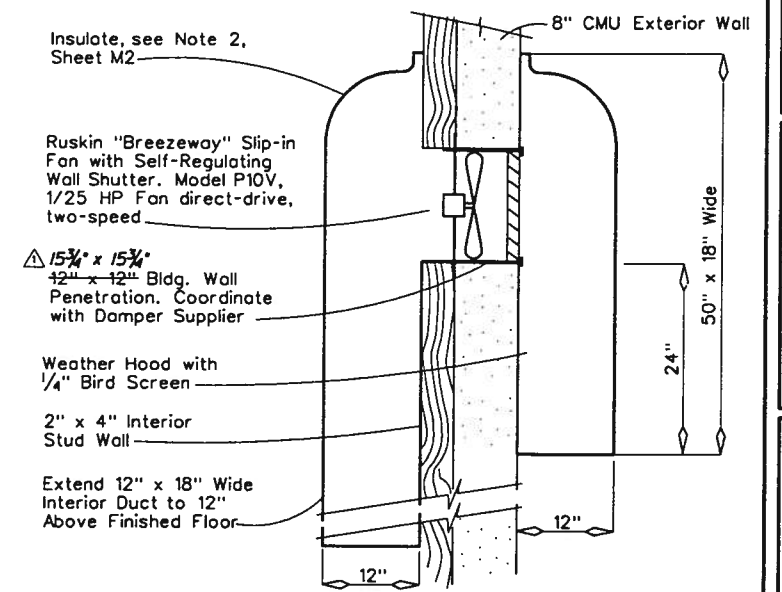
VENTILATION EXHAUST FAN DETAIL

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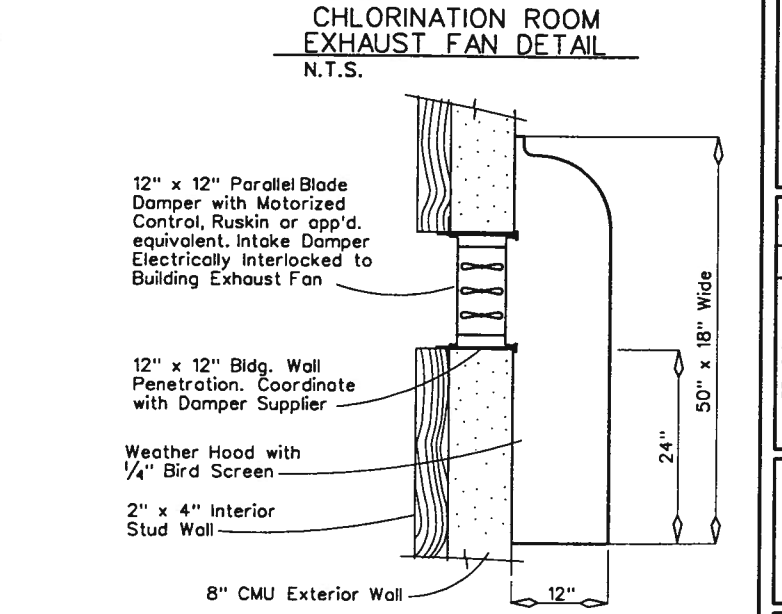
CHLORINATION ROOM INTAKE DAMPER DETAIL

N.T.S.



CHLORINATION ROOM EXHAUST FAN DETAIL

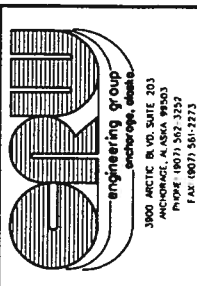
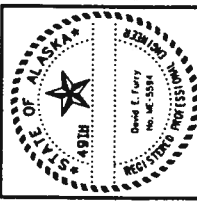
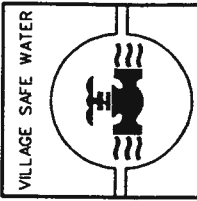
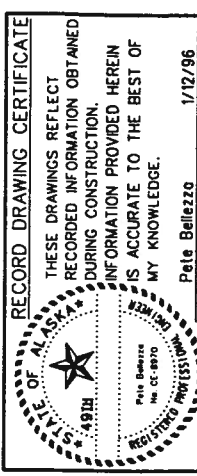
N.T.S.



INTAKE DAMPER DETAIL

N.T.S.

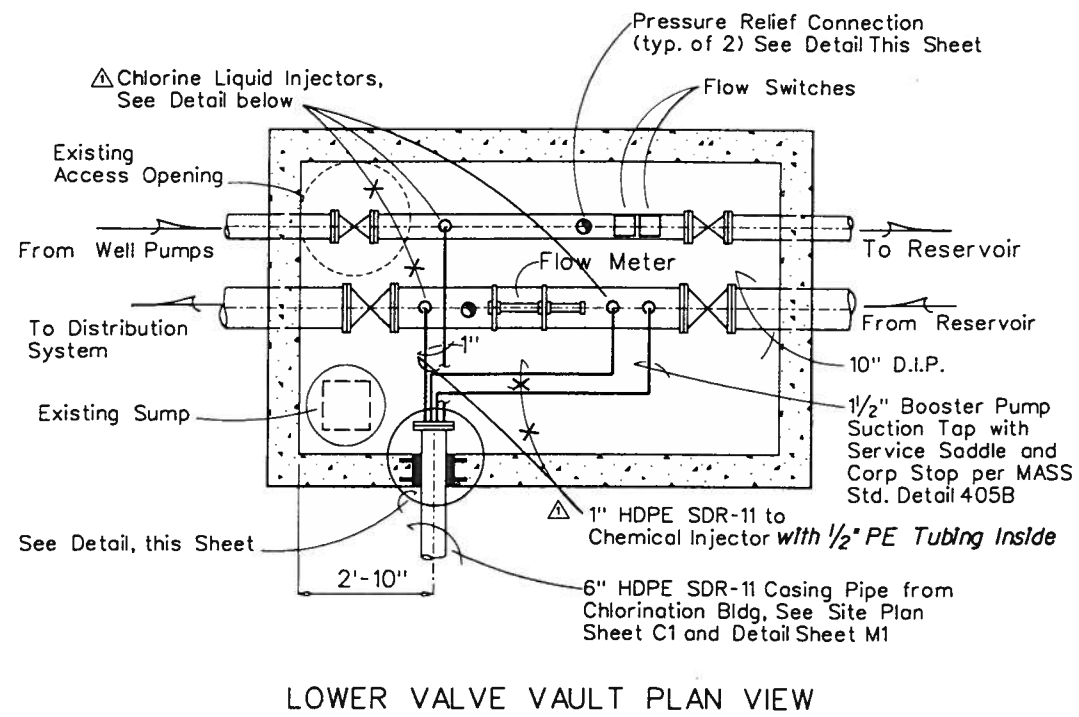
- CHEMICAL SYSTEM KEY
- 200 gal. DACO "XYTEC 2000" Polyethylene Tank, or approved equal
 - Chemical Feed Pump with Proportional Control, mount on wall with Mfr's. approved Support Bracket
 - Agitator, mount on Tank
 - 1/2" Polyethylene Tubing, from Tank bottom to Injection Point. See #5.
 - 1" HDPE SDR-11 pipe with 3/4" PE Tubing inside, sloped back to pump. Mount along ceiling and drop through floor to injection Point
 - 1" plant water pipe



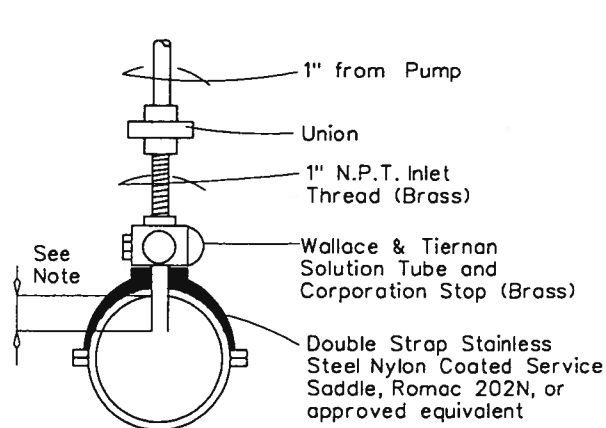
WHITTIER
WATER IMPROVEMENTS
PHASE III
CHLORINATION BUILDING
FLOOR PLAN, SECTIONS, CHLORINATION
SYSTEM & DETAILS

REVISION	BY	DATE
ISSUED FOR BIDDING	D.T.	1/14/95
PHASE III AS-BUILTS	P.B.	1/12/95

Project No.	9069
Date	APR 1995
Designed	D.F.
Drawn	AV
Approved	W.V.H.



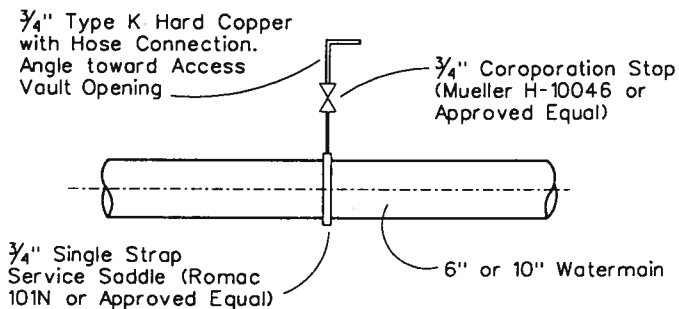
LOWER VALVE VAULT PLAN VIEW



NOTE:
End of Tube must Extend into Main, but no more than 1/3 the diameter of the Main.

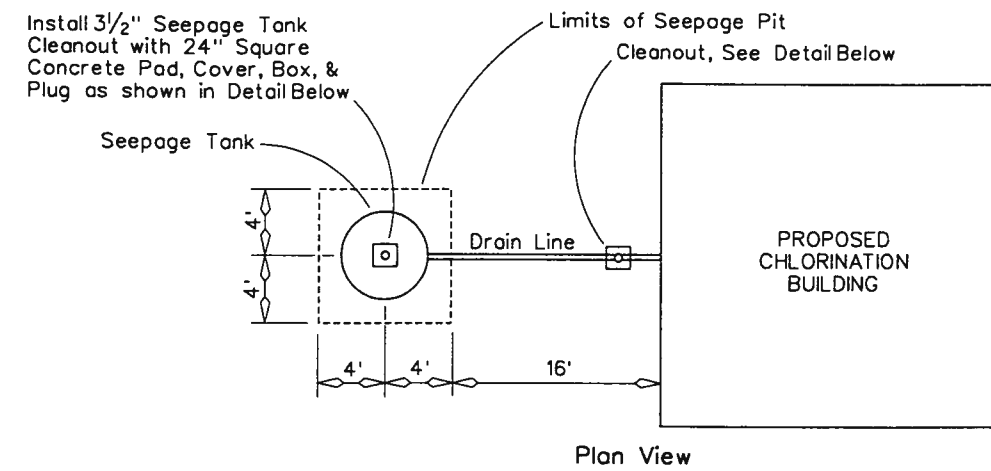
CHLORINE LIQUID AND CHEMICAL INJECTOR DETAIL-TYP. OF 3

N.T.S.

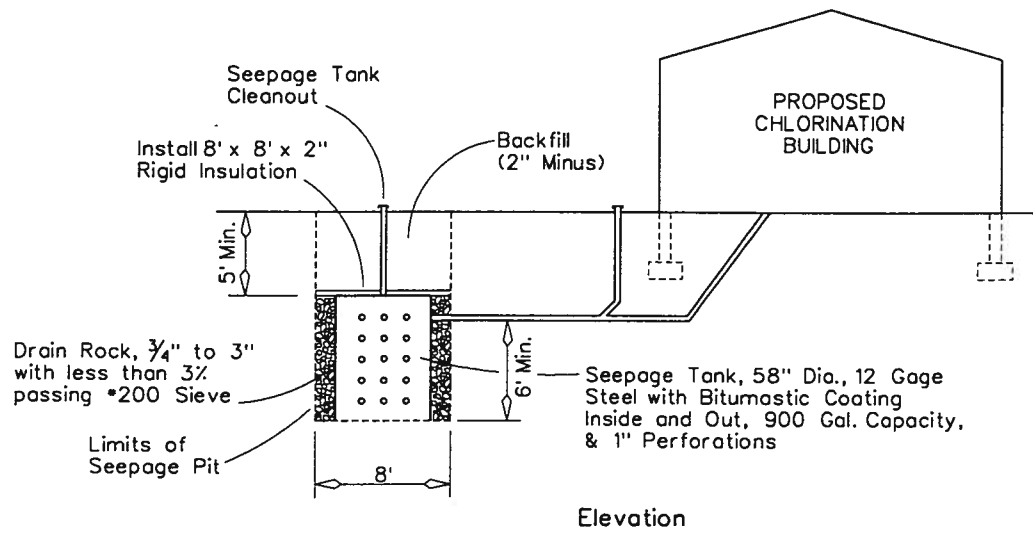


PRESSURE RELIEF CONNECTION DETAIL-TYP. OF 3

N.T.S.



Plan View



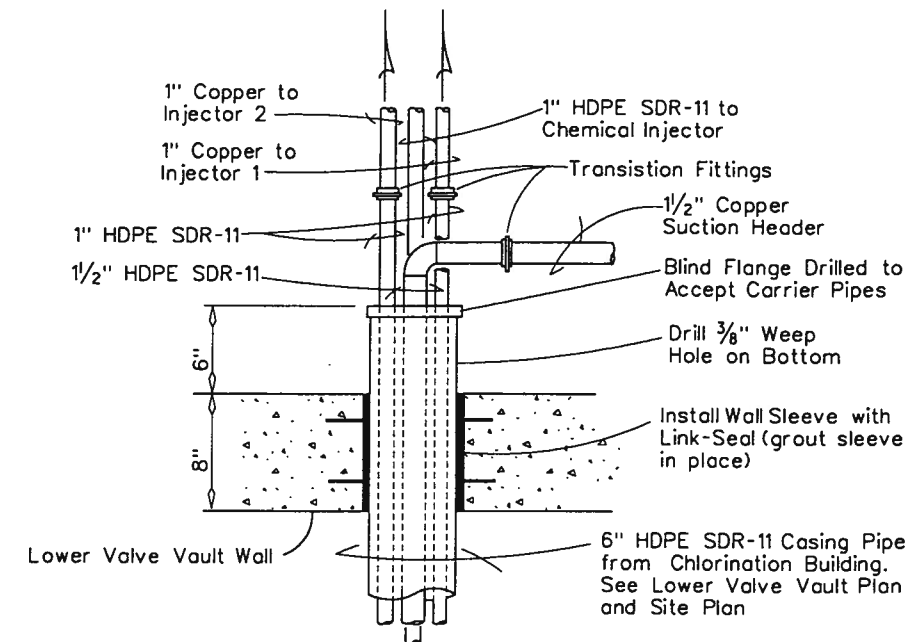
Elevation

SEEPAGE PIT & SEEPAGE TANK DETAIL

N.T.S.

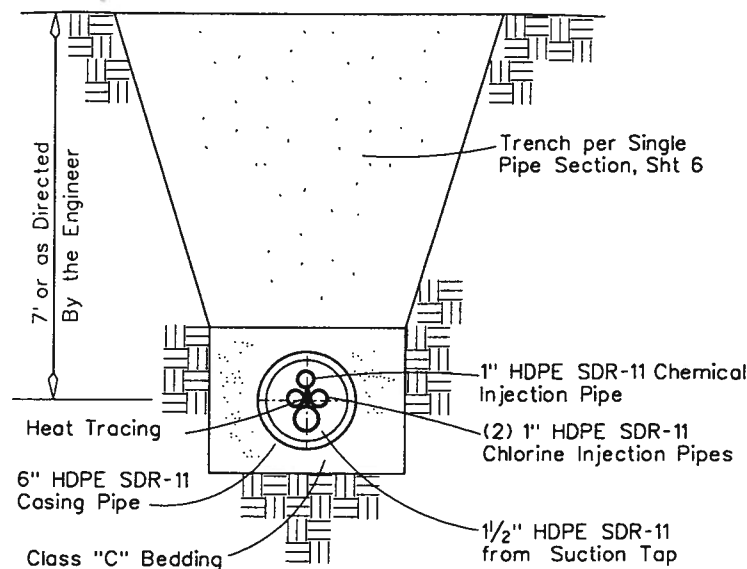
GENERAL NOTES

- All exposed piping shall be insulated with closed cell elastomeric, pre-slit tubular, UL 723 approved, white; Armstrong 2000 or approved equivalent. Adhesives at all joints shall be waterproof, fire-resistant to applicable ASTM, NFPA and UL standards. Joint tape shall be fiber cloth with foil scrim facing, and tie wire shall be annealed steel, 16-gauge. Provide steel insulation protection shields at each hanger. Thickness of insulation applied to fittings shall match the pipe insulation thickness. Pre-molded fiberglass fittings shall be used with vapor barrier jacket. Cover with spiral wrapped glass mesh tape and finish with a vapor barrier coating applied at least 1/16" thick.
- Interior Chlorination Room exhaust duct shall be insulated with a 2" thick, rigid glass fiber board with a non-combustible, continuous vapor barrier and foil scrim facing. Adhesives at all joints shall be waterproof, fire-resistant to applicable ASTM, NFPA and UL standards. Joint tape shall be fiber cloth with foil scrim facing. All voids at the fasteners and all joints shall be coated with an approved mastic. All insulation edges & butt joints shall be sealed with a non-combustible vapor barrier pressure sensitive adhesive sealing tape, not less than 5" wide and compatible to vapor barrier facing, to form a complete, tight system.



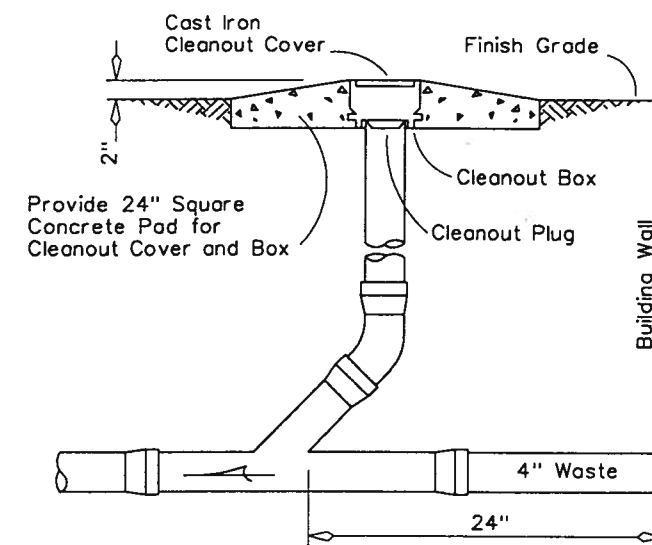
WALL PENETRATION DETAIL

N.T.S.



CASING and BOOSTER PIPING TRENCH SECTION

N.T.S.



YARD CLEANOUT DETAIL

N.T.S.

RECORD DRAWING CERTIFICATE
THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.
Pete Bellezza
1/12/96

VILLAGE SAFE WATER

STATE OF ALASKA REGISTERED PROFESSIONAL ENGINEER
No. CE-792
Date of Expiration 12/31/2000

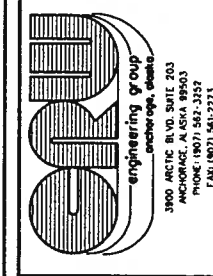
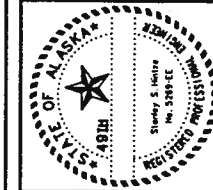
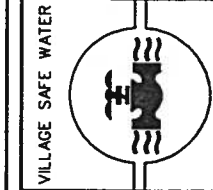
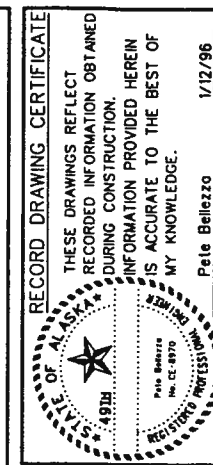
engineering group
3100 ARCTIC BLVD. SUITE 203
ANCHORAGE, ALASKA 99503
PHONE: (907) 242-2327
FAX: (907) 242-7173

WHITTIER WATER IMPROVEMENTS PHASE III
CHLORINATION BUILDING INJECTION VAULT PLAN & DETAILS

REVISION	BY	DATE
ISSUED FOR BID	D.T.	1/11/95
PHASE III AS-BUILTS	P.B.	1/12/96

Project No. 9069	Designed: D.F.
Date: APR 1995	Drawn: AV
	Approved: W.V.H.

CRW 591ME02.dgn



WHITTIER WATER IMPROVEMENTS PHASE III
CHLORINATION BUILDING ELECTRICAL PLAN

BY DATE	REVISION
D.Y. 1/11/95	ISSUED FOR BID
P.E. 1/27/95	PHASE III AS-BUILTS

Project No. 9069
 Date APR 1995
 Designed S.H.
 Drawn AV
 Approved W.V.H.

Sheet No. **F1**
 SHEET 23 OF 25

PANEL No. A	LOCATION: CHLORINE BUILDING				
INTERRUPT CAPACITY: 10,000 AMPS	240/120 VOLTS 1 PHASE 3 WIRE				
MOUNTING: SURFACE	100 AMP ONL. W/MAN LUGS				
CIRCUIT DESCRIPTION	KVA	AMP	AMP	KVA	CIRCUIT DESCRIPTION
Lights	0.5	20/1	15	1.0	Primary Pump (P1)
Receptacles	1.0		2	-	
Fans	0.5		5	1.0	Secondary Pump (P2)
Control Panel	0.2		7	-	
Main/Auxiliary Controller	0.1		9	10	Chlorine Tanks/Chlorine Det.
Heat Trace (GFI)	0.2		11	12	Flow Chart Recorder
Receptacle	1.0		13	14	Control House Light & Rcpt.
Flow Meter			15	16	15/1 0.2 Chemical Feed Pump
Spare			17	18	20/1 0.5 Valve Vault Rcpt. (Sump Pump) *
			19	20	0.2 Sump Pump Heat Trace *
			21	22	Spare
			23	24	
			25	26	
			27	28	
Unit Heater	7.5	50/2	29	30	20/2 2.0 Wall Heater
			31	32	
			33	34	
			35	36	
			37	38	
			39	40	
			41	42	
CONNECT LOAD	5.7 16.2	KVA	0.25 X	KVA CONTINUOUS LOAD	5.7 16.2 KVA LOAD
CODE LOAD X	5.7 1.0	DIVERSITY FACTOR	=	1.0 KVA DESIGN LOAD	= 24.675 AMPS/PHASE

* GFI Circuit Breaker, 30MA Trip

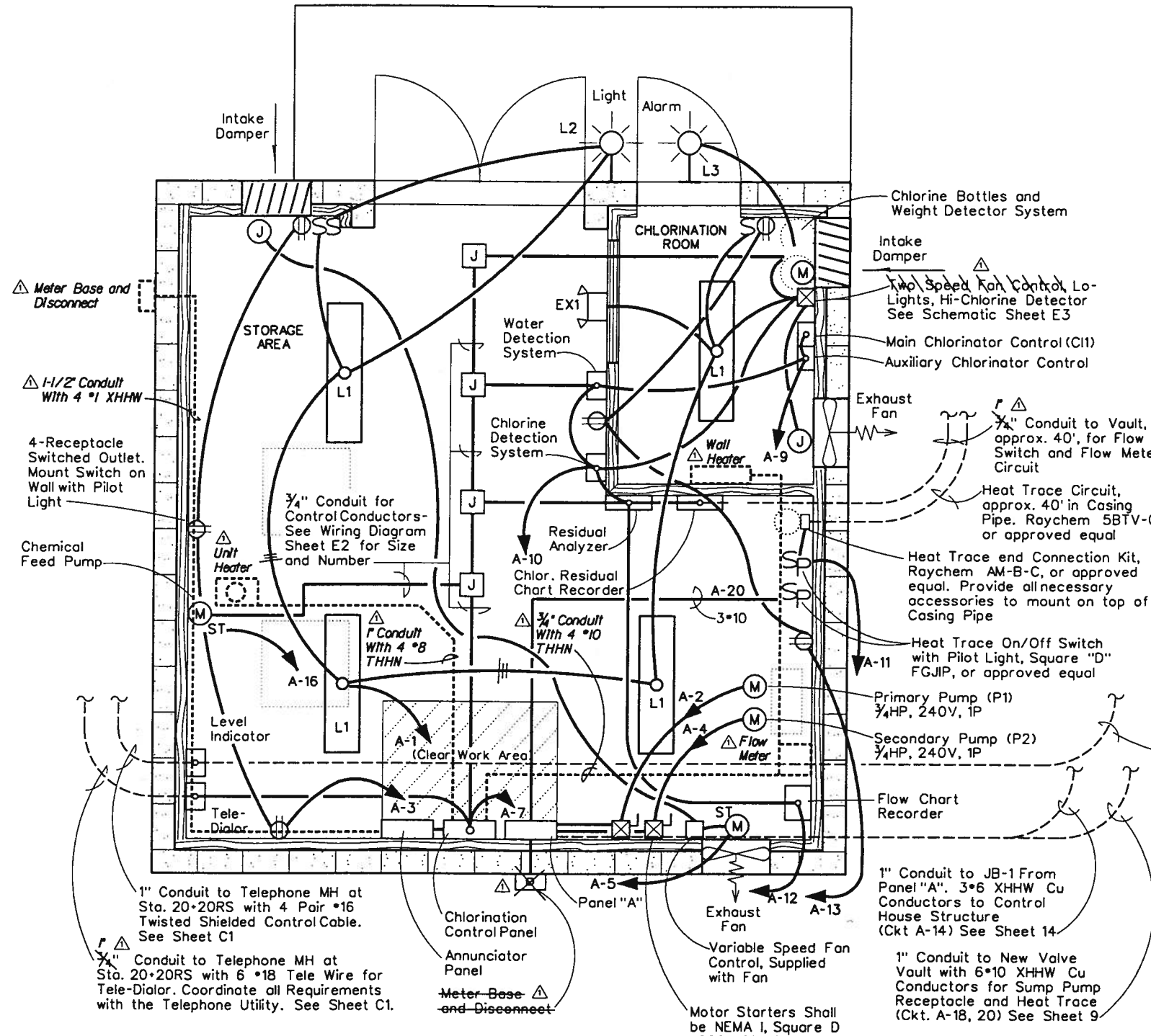
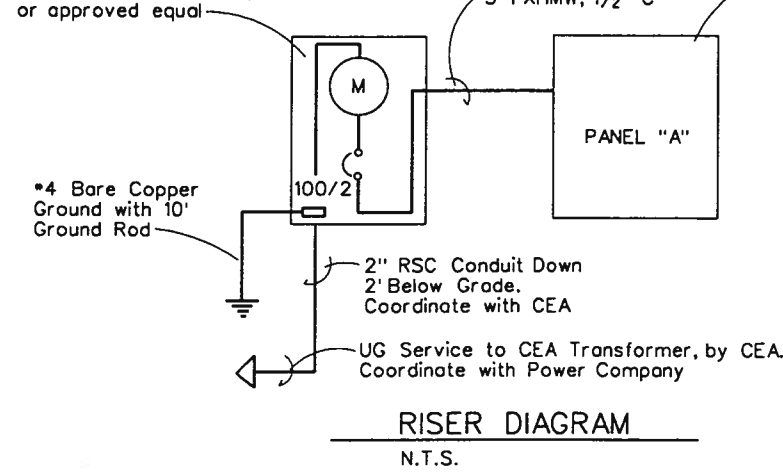
1" Conduit to JB-1 for Level Indicator Cable
 4 PR #16 Twisted Shielded Control Cable. See Sheet 14

1" Conduit to JB-1 From Panel "A". 3*6 XHHW Cu Conductors to Control House Structure (Ckt A-14) See Sheet 14

1" Conduit to New Valve Vault with 6*10 XHHW Cu Conductors for Sump Pump Receptacle and Heat Trace (Ckt. A-18, 20) See Sheet 9

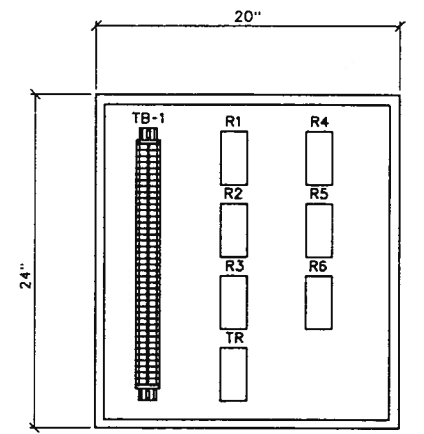
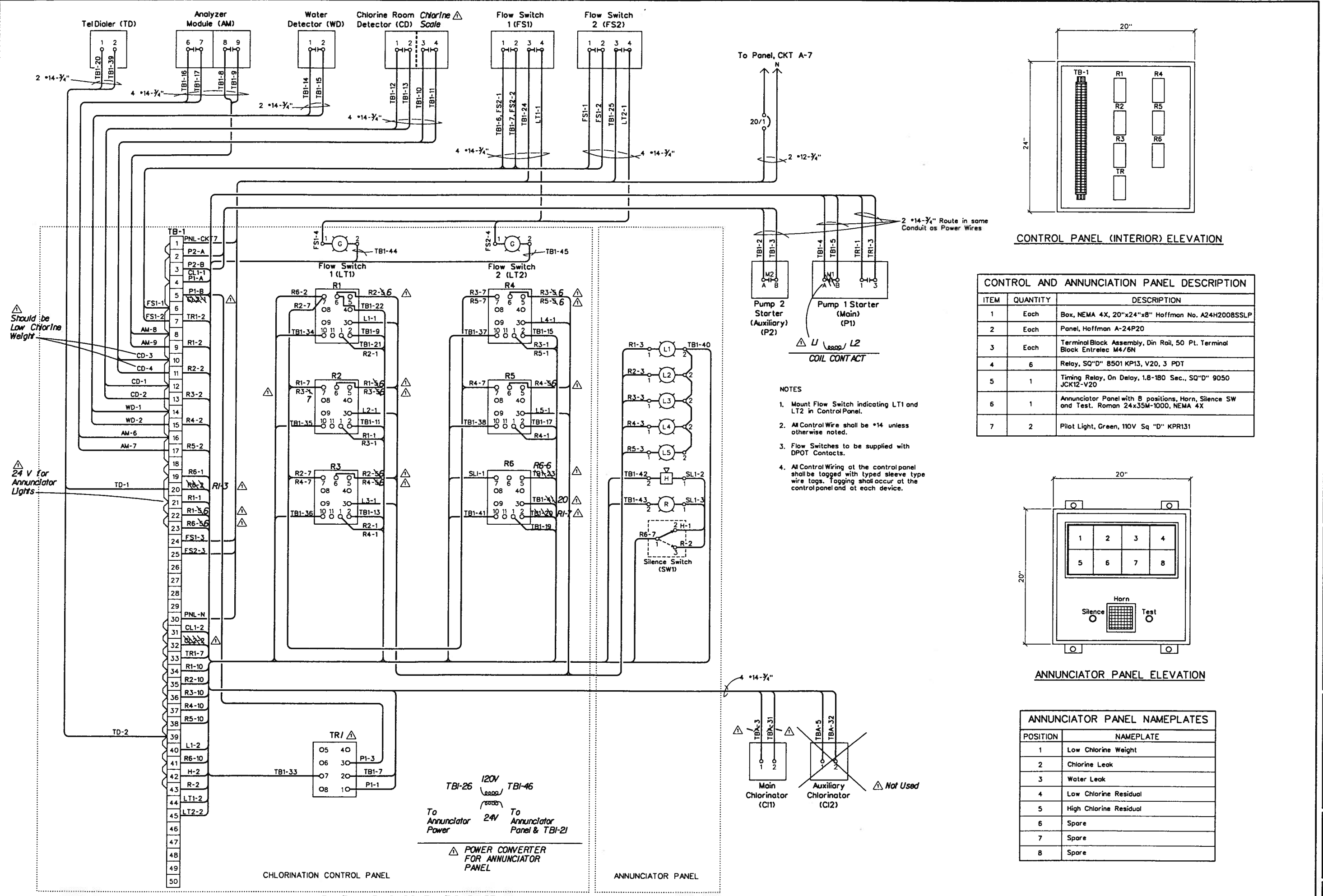
Combination Meter/Disconnect, NEMA 3R Enclosure, SQ "D" No. C125RB w/100A Main Breaker No. QOM1, or approved equal

Panel Board, NEMA 1 Enclosure, Surface Mount. See Panel Schedule for Breakers. SQ "D" NQOD100SFL, or approved equal



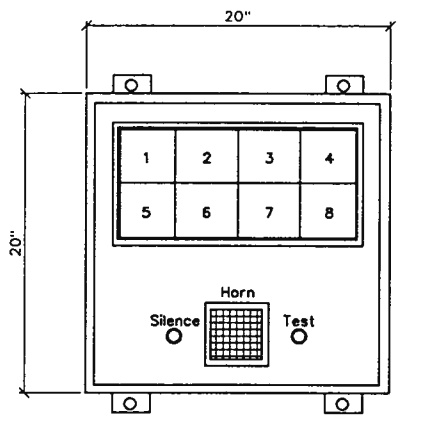
ELECTRICAL PLAN VIEW

- NOTES**
- Light Fixtures are as follows:
 L1- Hubble WGM44WACL
 L2- Hubble BN65
 L3- Crouse-Hinds VXH12GPRED
 EX1- DualLite DL-4
 - Level Indicator shall be Rosemont 0751-A-M4-NA-B, or approved equal.
 - Fan Control Two-Speed Starter shall be Square "D" 8810 SCW1V02.



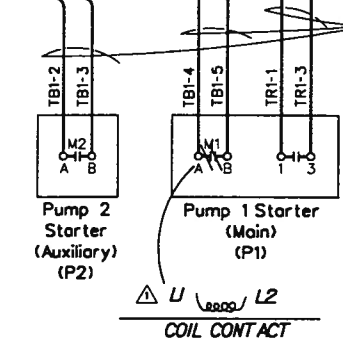
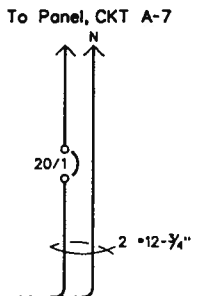
CONTROL AND ANNUNCIATION PANEL DESCRIPTION

ITEM	QUANTITY	DESCRIPTION
1	Each	Box, NEMA 4X, 20"x24"x8" Hoffman No. A24H2008SSLP
2	Each	Panel, Hoffman A-24P20
3	Each	Terminal Block Assembly, Din Rail, 50 Pt. Terminal Block Entelec M4/6N
4	6	Relay, SQ"D" 8501 KP13, V20, 3 PDT
5	1	Timing Relay, On Delay, 1.8-180 Sec., SQ"D" 9050 JCK12-V20
6	1	Annunciator Panel with 8 positions, Horn, Silence SW and Test. Roman 24x35M-1000, NEMA 4X
7	2	Pilot Light, Green, 110V Sq "D" KPR131

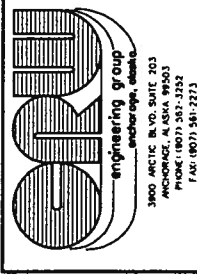
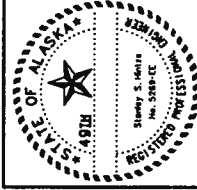
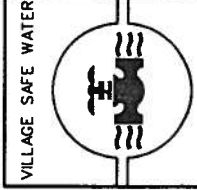
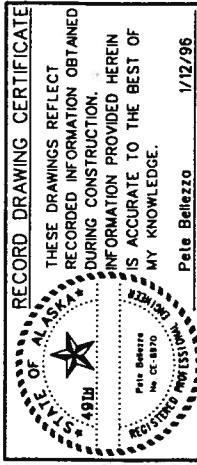
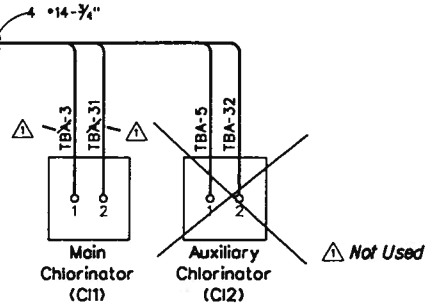


ANNUNCIATOR PANEL NAMEPLATES

POSITION	NAMEPLATE
1	Low Chlorine Weight
2	Chlorine Leak
3	Water Leak
4	Low Chlorine Residual
5	High Chlorine Residual
6	Spare
7	Spare
8	Spare



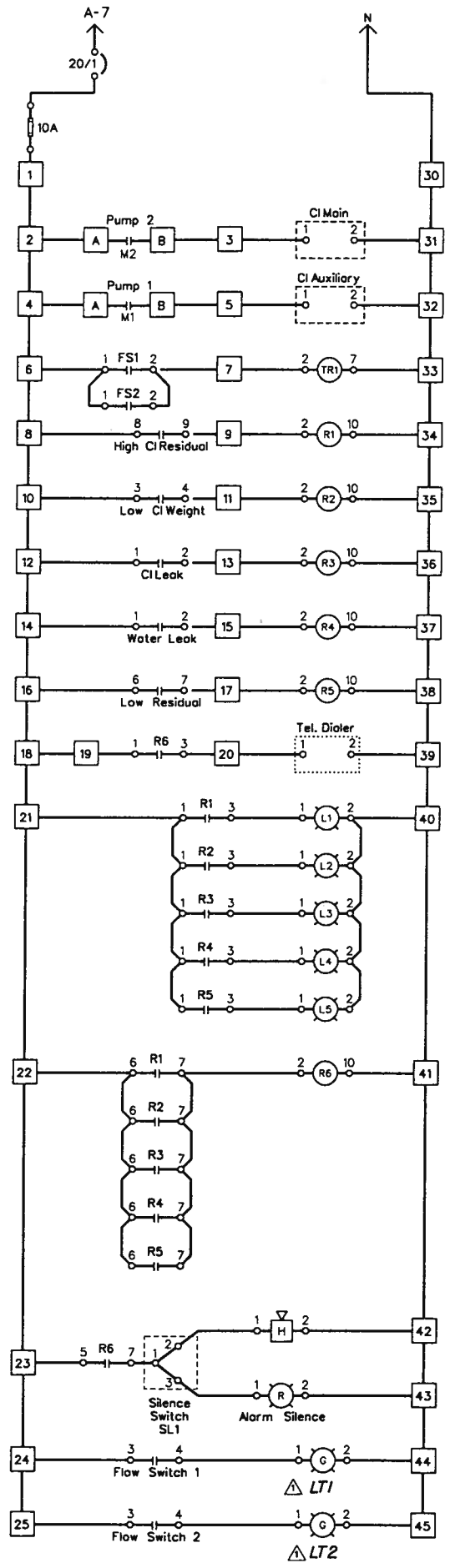
- NOTES**
1. Mount Flow Switch indicating LT1 and LT2 in Control Panel.
 2. All Control Wire shall be #14 unless otherwise noted.
 3. Flow Switches to be supplied with DPDT Contacts.
 4. All Control Wiring at the control panel shall be tagged with typed sleeve type wire tags. Tagging shall occur at the control panel and at each device.



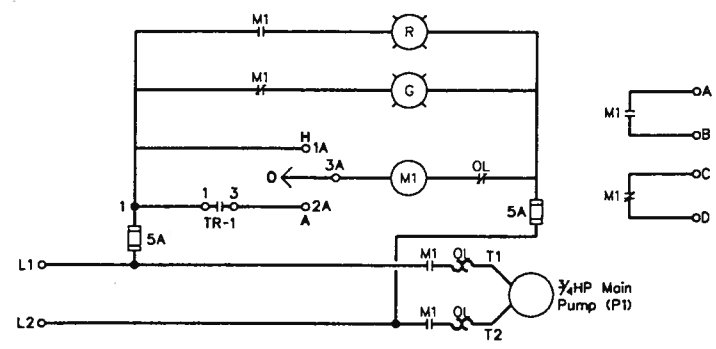
WHITTIER
WATER IMPROVEMENTS
PHASE III
 CHLORINATION BUILDING
 PANEL WIRING SCHEMATIC & DETAILS

BY DATE	REVISION	PROJECT NO.	DATE	DESIGNED BY	DRAWN BY	APPROVED BY
		9069	APR 1995	S.H.	B.P.	W.V.H.

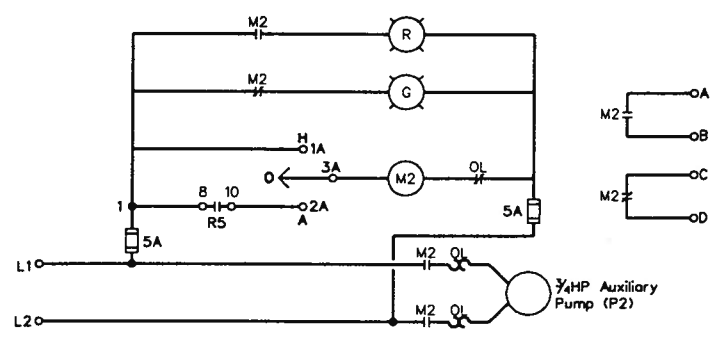
Project No. 9069
 Date: APR 1995
 Designed: S.H.
 Drawn: B.P.
 Approved: W.V.H.



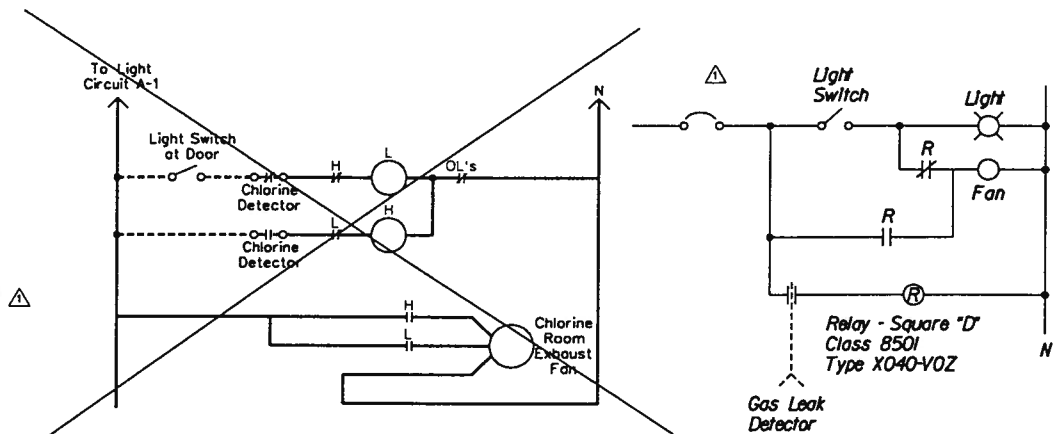
LADDER SCHEMATIC DIAGRAM



PUMP P1 SCHEMATIC DIAGRAM (Primary)

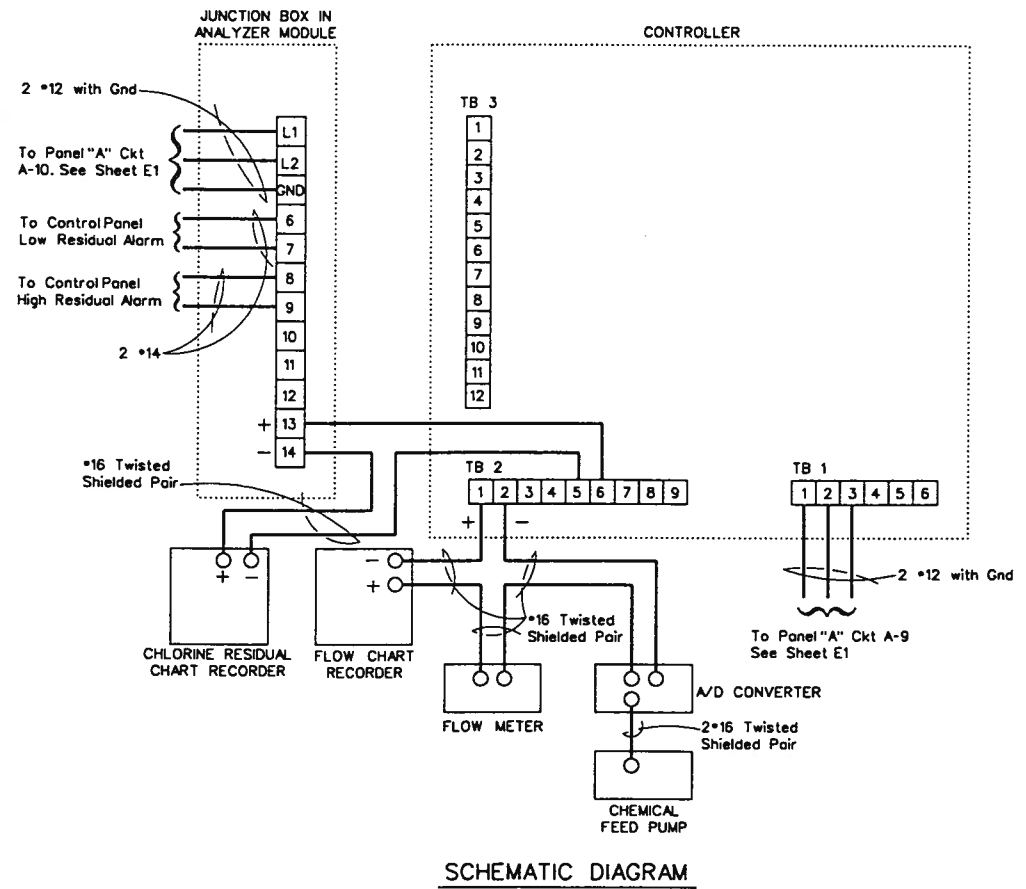


PUMP P2 SCHEMATIC DIAGRAM (Secondary)

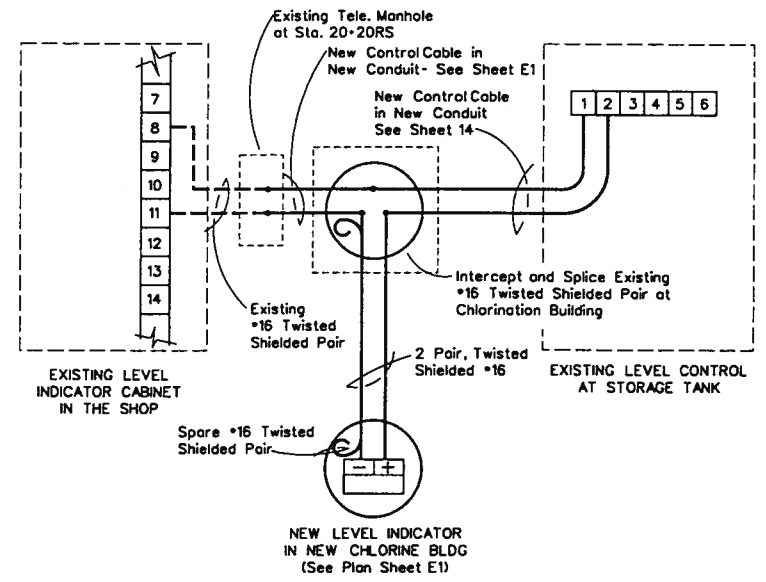


CHLORINE ROOM FAN CONTROL SCHEMATIC

AS-BUILT NOTE:
Contractor Installed Chlorine Room Fan Control as shown in new schematic.

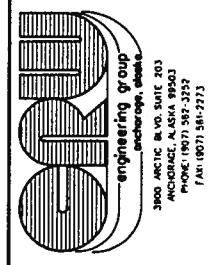
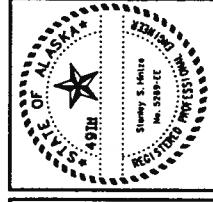
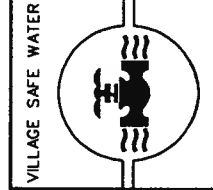


SCHEMATIC DIAGRAM



LEVEL INDICATOR SCHEMATIC

RECORD DRAWING CERTIFICATE
THESE DRAWINGS REFLECT RECORDED INFORMATION OBTAINED DURING CONSTRUCTION. INFORMATION PROVIDED HEREIN IS ACCURATE TO THE BEST OF MY KNOWLEDGE.
Pete Bellezzo 1/12/96



WHITTIER WATER IMPROVEMENTS PHASE III
CHLORINATION BUILDING
LADDER DIAGRAM & PUMP DIAGRAMS

REVISION	BY	DATE
ISSUED FOR BID	D.V.	4/14/95
PHASE II AS-BUILT'S	P.B.	1/12/96

Project No. 9069
Date APR 1995
Designed S.H.
Drawn B.P.
Approved W.V.H.