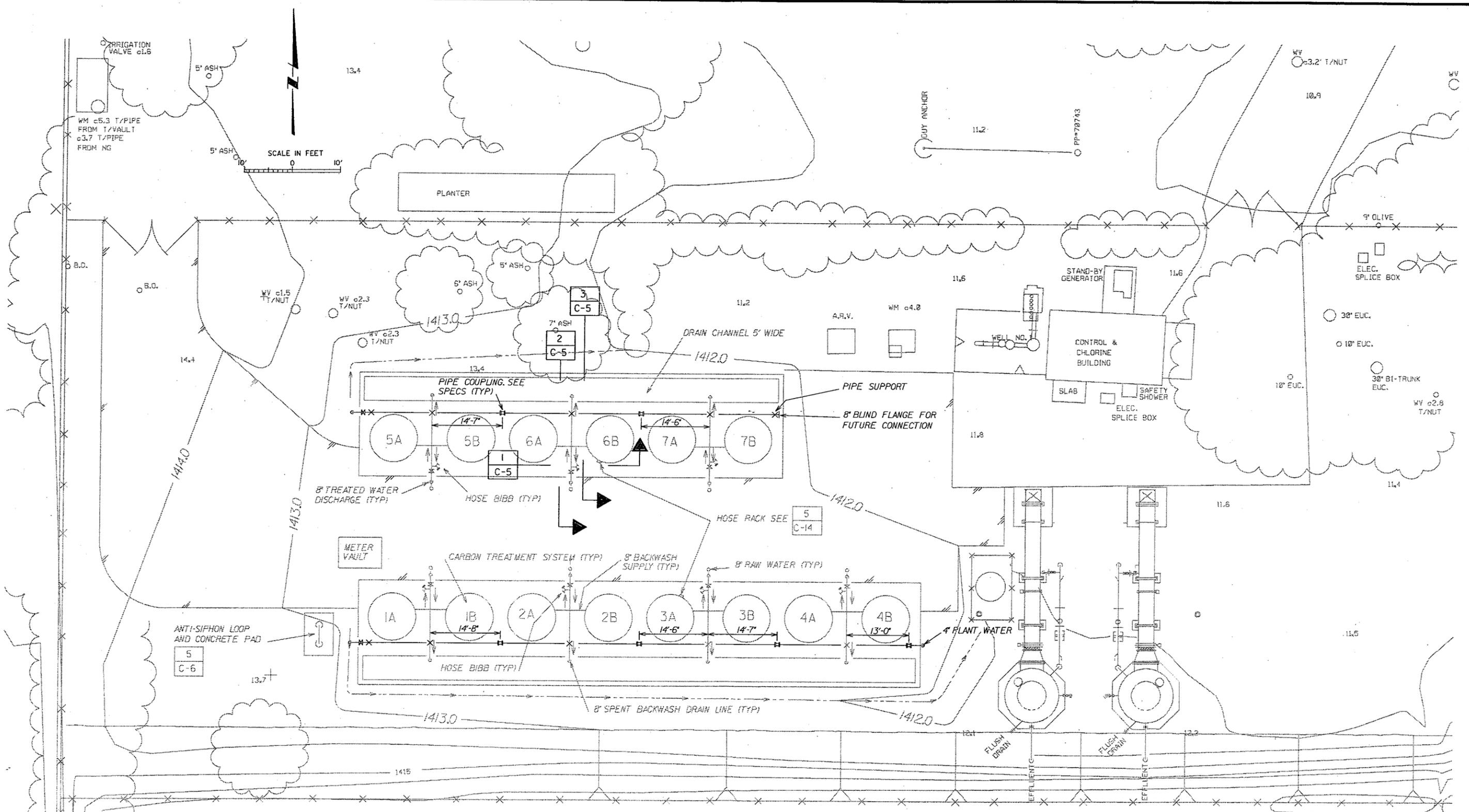


JOB No. 62370-50 No. 11/USTIS\PROJ\NEWMARK\ASBUIL\TY C-4A.DGN



LEGEND :
 X PIPE SUPPORT
 □ PIPE COUPLING

NOTES :
 1. CONCRETE PAD SHOWN ON SHEET S-1.
 2. CARBON SYSTEM PIPING SHOWN ON SHEET C-5.
 3. YARD PIPING CONNECTING TO THE CARBON SYSTEM TO BE COORDINATED WITH THE CARBON VENDOR.
 4. PIPE SUPPORTS ARE SHOWN FOR BACKWASH SUPPLY PIPE ONLY (FOR DETAIL SEE SHT. C-15 FOR ADDITIONAL PIPE SUPPORTS SEE CARBON VENDOR'S SHOP DRAWINGS.

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

URS URS Consultants, Inc.
 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA

JOB No. 62370

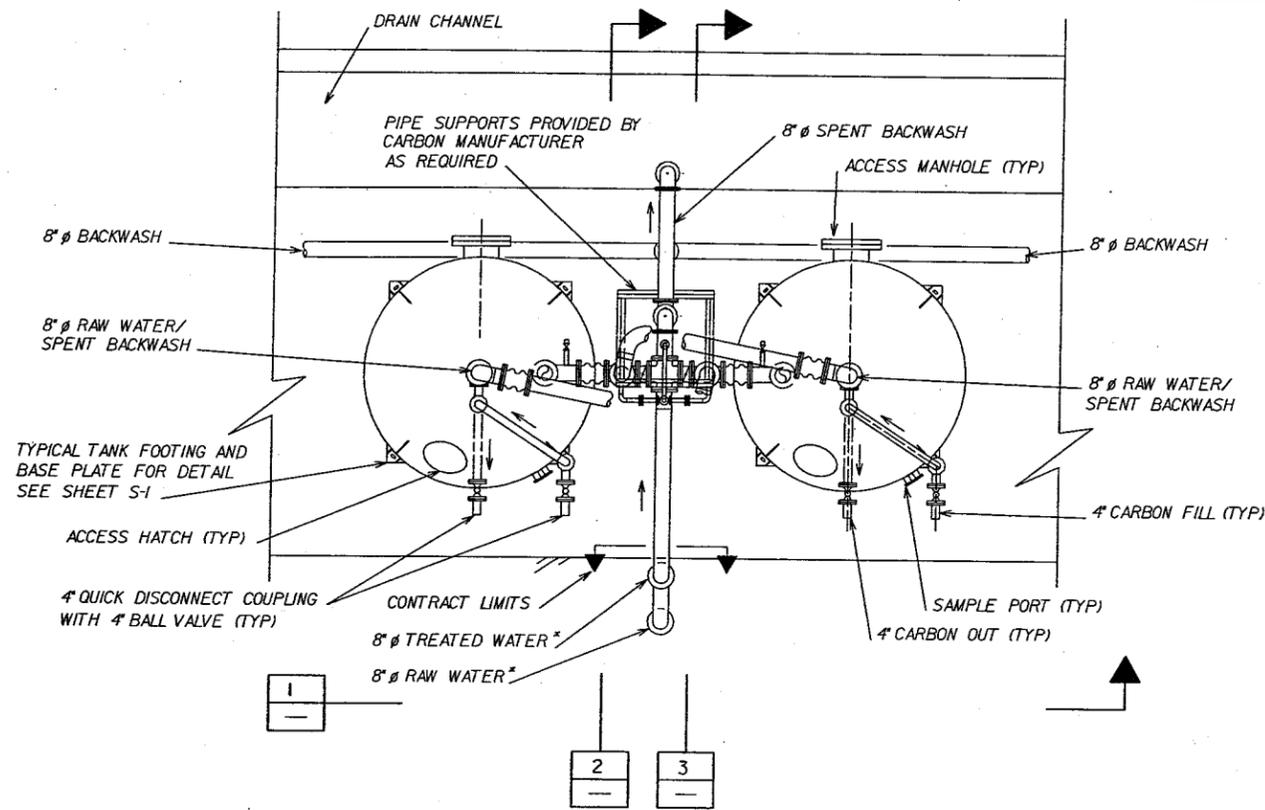


NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

"RECORD DRAWING"

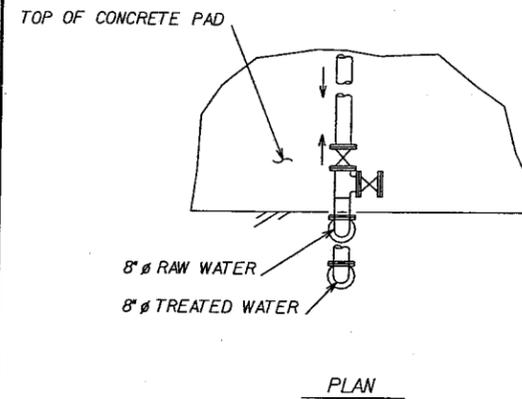
NORTH PLANT
 SITE LAYOUT

Scale: AS NOTED
 Date: 9/97
 Dwg. No.: C-4

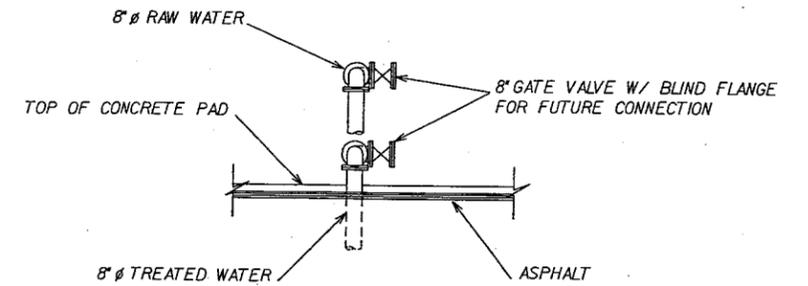


PLAN - TYPICAL CARBON TREATMENT SYSTEM LAYOUT

* FOR CARBON UNITS C-1 AND C-2 FUTURE CONNECTIONS SEE DETAIL AT RIGHT

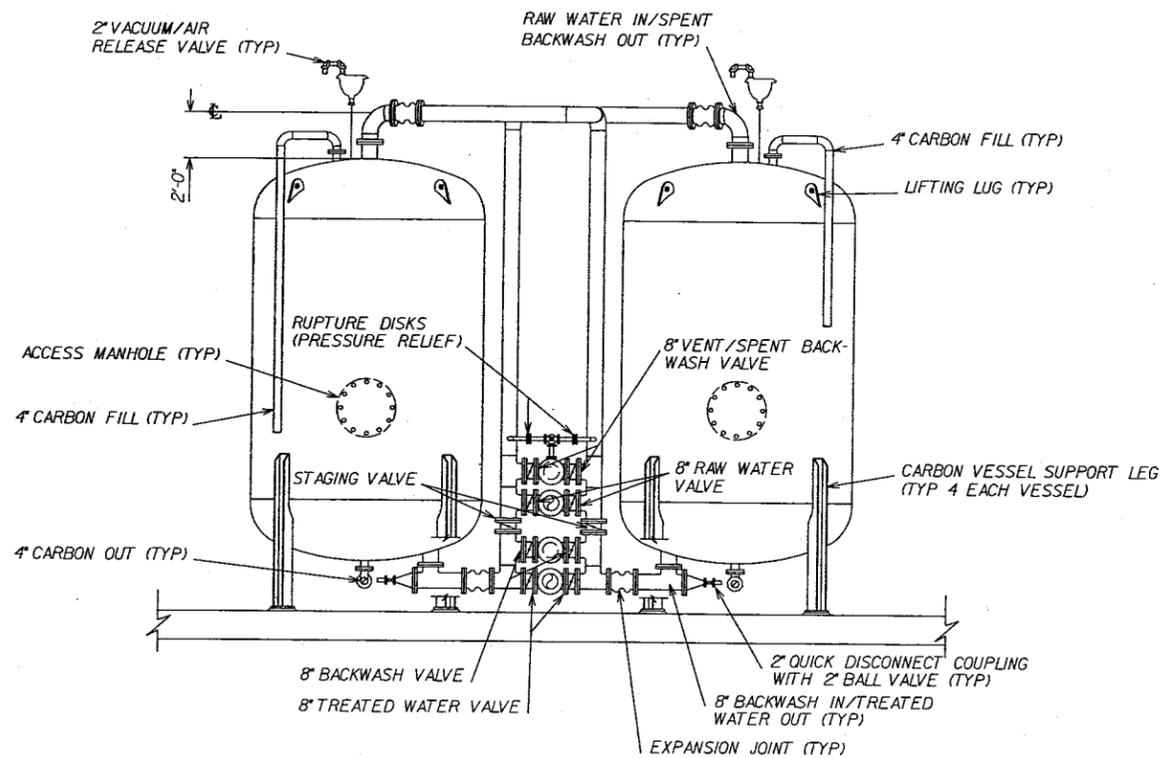


PLAN



ELEVATION

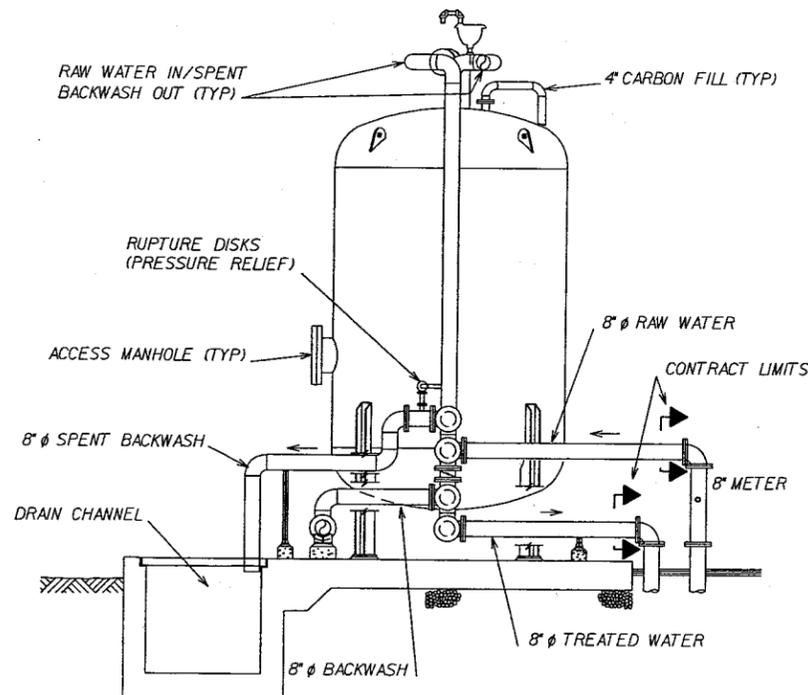
STUB-OUT DETAIL FOR FUTURE CONNECTION
(CARBON UNITS C-1 AND C-2)



ELEVATION - TYPICAL CARBON TREATMENT SYSTEM LAYOUT

NOTE: PIPE SUPPORTS PROVIDED BY CARBON MANUFACTURER AS REQUIRED

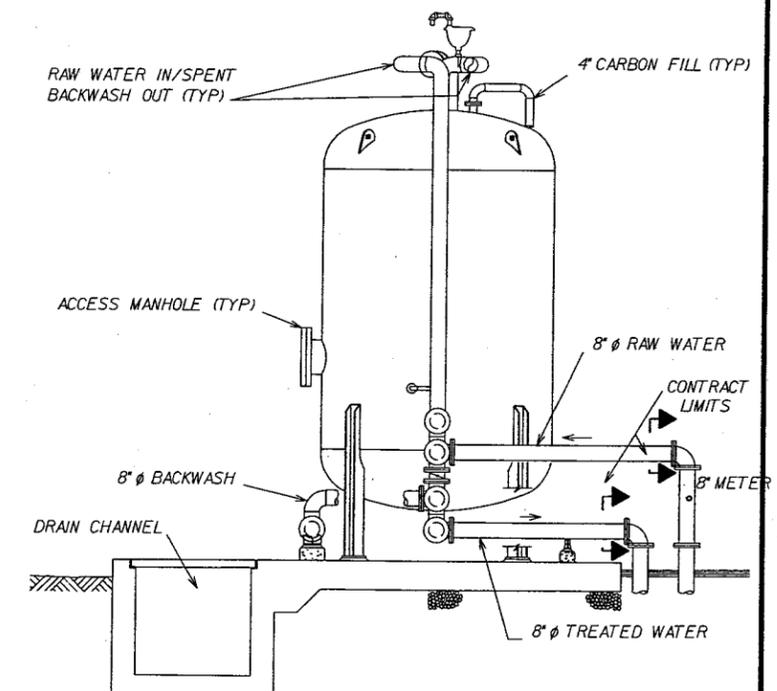
1	



SECTION - TYPICAL CARBON TREATMENT SYSTEM LAYOUT

NOTE: PIPE SUPPORTS PROVIDED BY CARBON MANUFACTURER AS REQUIRED

2	



SECTION - TYPICAL CARBON TREATMENT SYSTEM LAYOUT

NOTE: PIPE SUPPORTS PROVIDED BY CARBON MANUFACTURER AS REQUIRED

3	

JOB No. 62370.50

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY:	PS
DRAWN BY:	NDH
CHECKED BY:	DHD

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CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

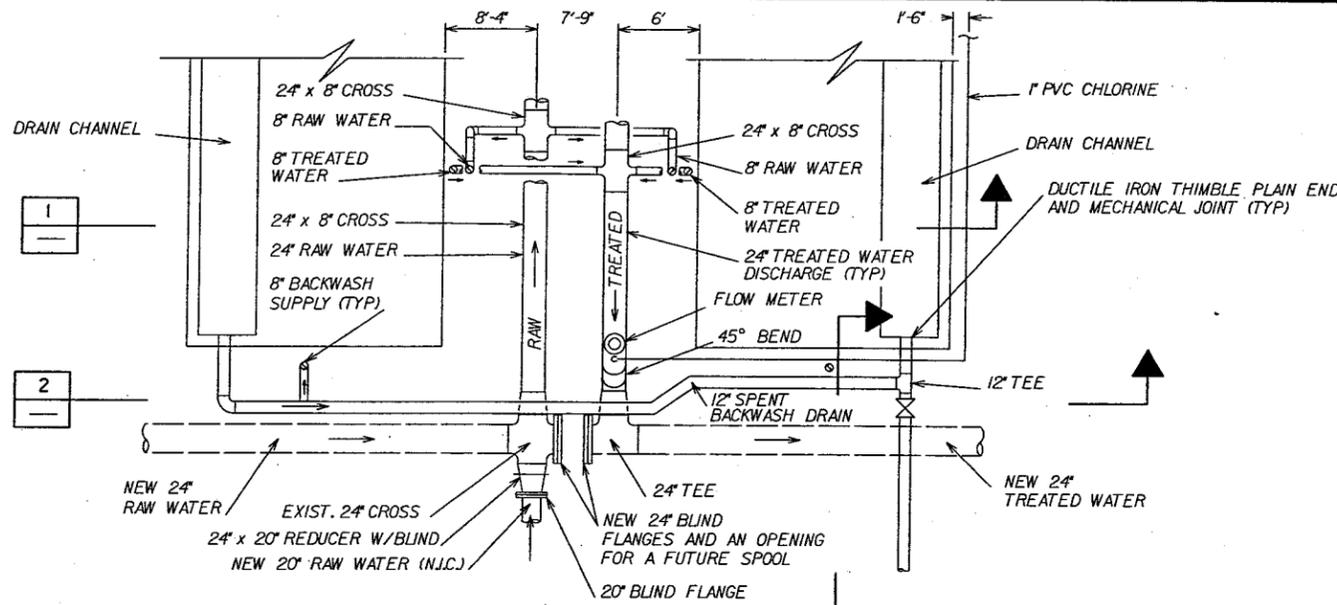
JOB No. 62370



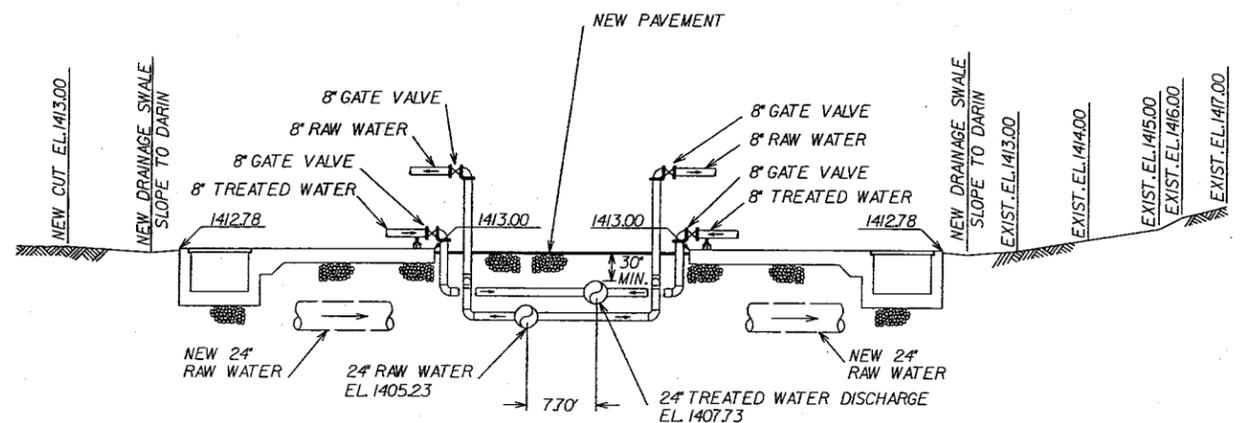
NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

NORTH PLANT
CARBON TREATMENT SYSTEM
LAYOUT

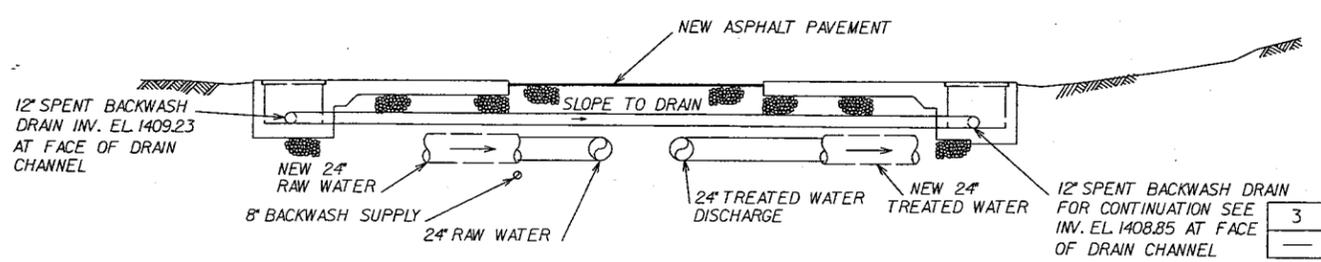
Scale: 1/4" = 1'-0"
Date: 6/97 Dwg. No.: C-5



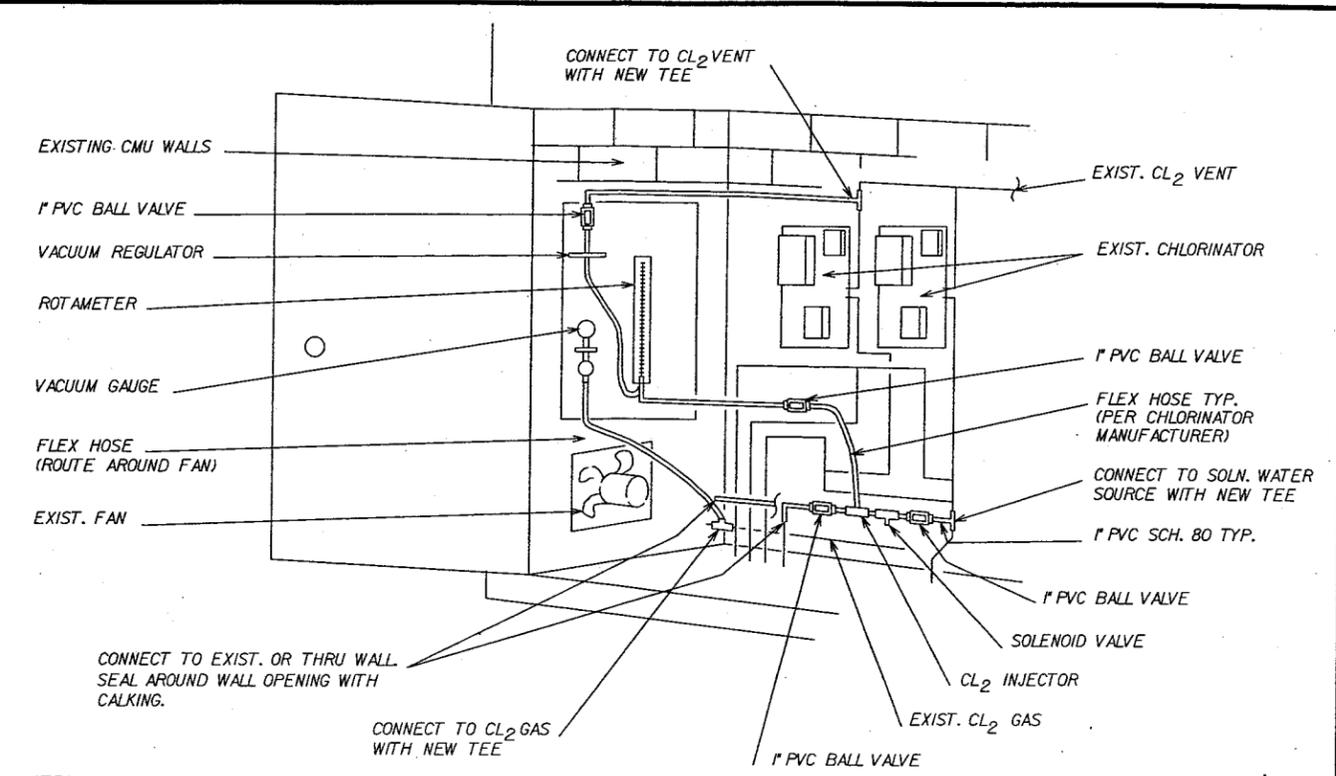
PLAN - PIPING LAYOUT
 YARD PIPING CONNECTION TO CARBON SYSTEM
 TO BE COORDINATED WITH CARBON VENDOR.
 1/8" = 1'-0"



SECTION - PIPING LAYOUT
 1/8" = 1'-0"

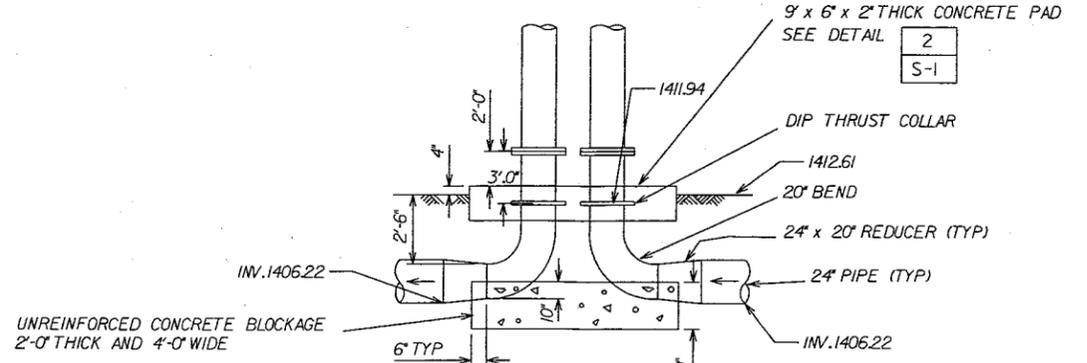
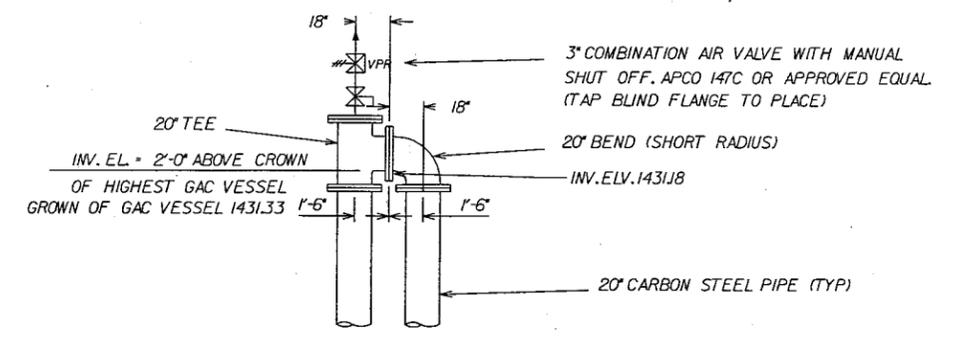


SECTION - 12" SPENT BACKWASH DRAIN
 1/8" = 1'-0"



NOTES :
 1. SECURE CHLORINATOR & RIGID PIPE TO WALLS
 USING APPROPRIATE PIPE SUPPORTS AND ANCHORS
 TO MATCH EXISTING. DO NOT USE EXPANSION
 ANCHORS IN CMU WALLS.
 2. FOR ELECTRICAL SEE SHEET E-4

NEW CHLORINATOR
INSTALLATION SCHEMATIC
 NOT TO SCALE



ANTI-SIPHON LOOP
 NOT TO SCALE

"RECORD DRAWING"

JOB No. 62370.50 No. 11/98 PROJ. NEWMARK AS BUILT, C-6.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

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 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA

JOB No. 62370



NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

NORTH PLANT
 PIPING AND BACKWASH DRAIN
 PLAN AND SECTIONS

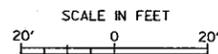
Scale: AS NOTED
 Date: 9/97
 Dwg. No.: C-6

NOTES :

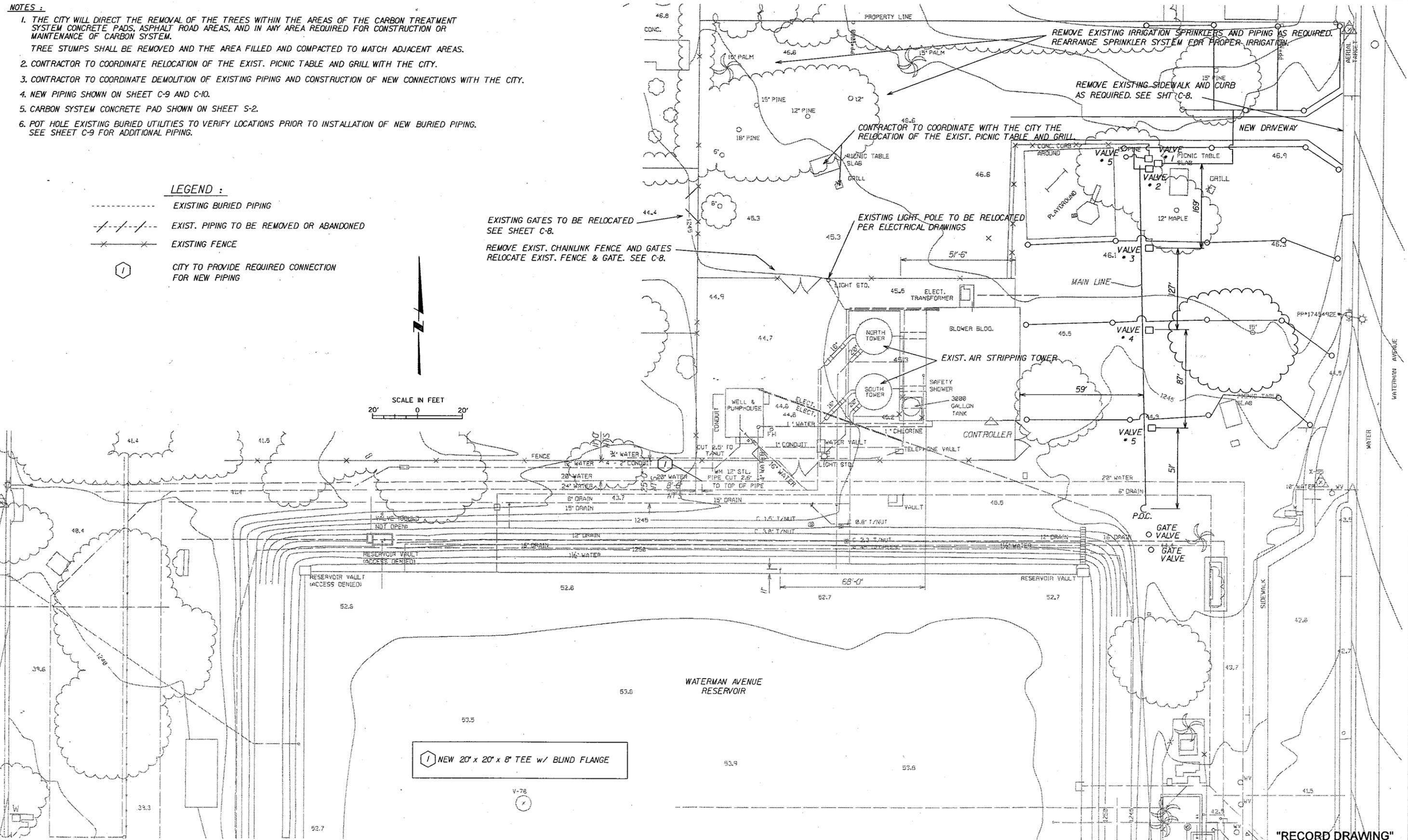
1. THE CITY WILL DIRECT THE REMOVAL OF THE TREES WITHIN THE AREAS OF THE CARBON TREATMENT SYSTEM CONCRETE PADS, ASPHALT ROAD AREAS, AND IN ANY AREA REQUIRED FOR CONSTRUCTION OR MAINTENANCE OF CARBON SYSTEM.
TREE STUMPS SHALL BE REMOVED AND THE AREA FILLED AND COMPACTED TO MATCH ADJACENT AREAS.
2. CONTRACTOR TO COORDINATE RELOCATION OF THE EXIST. PICNIC TABLE AND GRILL WITH THE CITY.
3. CONTRACTOR TO COORDINATE DEMOLITION OF EXISTING PIPING AND CONSTRUCTION OF NEW CONNECTIONS WITH THE CITY.
4. NEW PIPING SHOWN ON SHEET C-9 AND C-10.
5. CARBON SYSTEM CONCRETE PAD SHOWN ON SHEET S-2.
6. POT HOLE EXISTING BURIED UTILITIES TO VERIFY LOCATIONS PRIOR TO INSTALLATION OF NEW BURIED PIPING. SEE SHEET C-9 FOR ADDITIONAL PIPING.

LEGEND :

- EXISTING BURIED PIPING
- - - - - EXIST. PIPING TO BE REMOVED OR ABANDONED
- x--- EXISTING FENCE
- ① CITY TO PROVIDE REQUIRED CONNECTION FOR NEW PIPING



① NEW 20' x 20' x 8' TEE w/ BLIND FLANGE



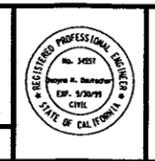
JOB No. 62370.60 No. T:\AUSTIS\PROJ\NEWMARK\ASBUIL.T. C-7.DWG

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

URS URS Consultants, Inc.
 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA

JOB No. 62370



NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

WATERMAN PLANT
 IRRIGATION

Scale: AS NOTED
 Date: 9/97
 Dwg. No.: C-7

"RECORD DRAWING"

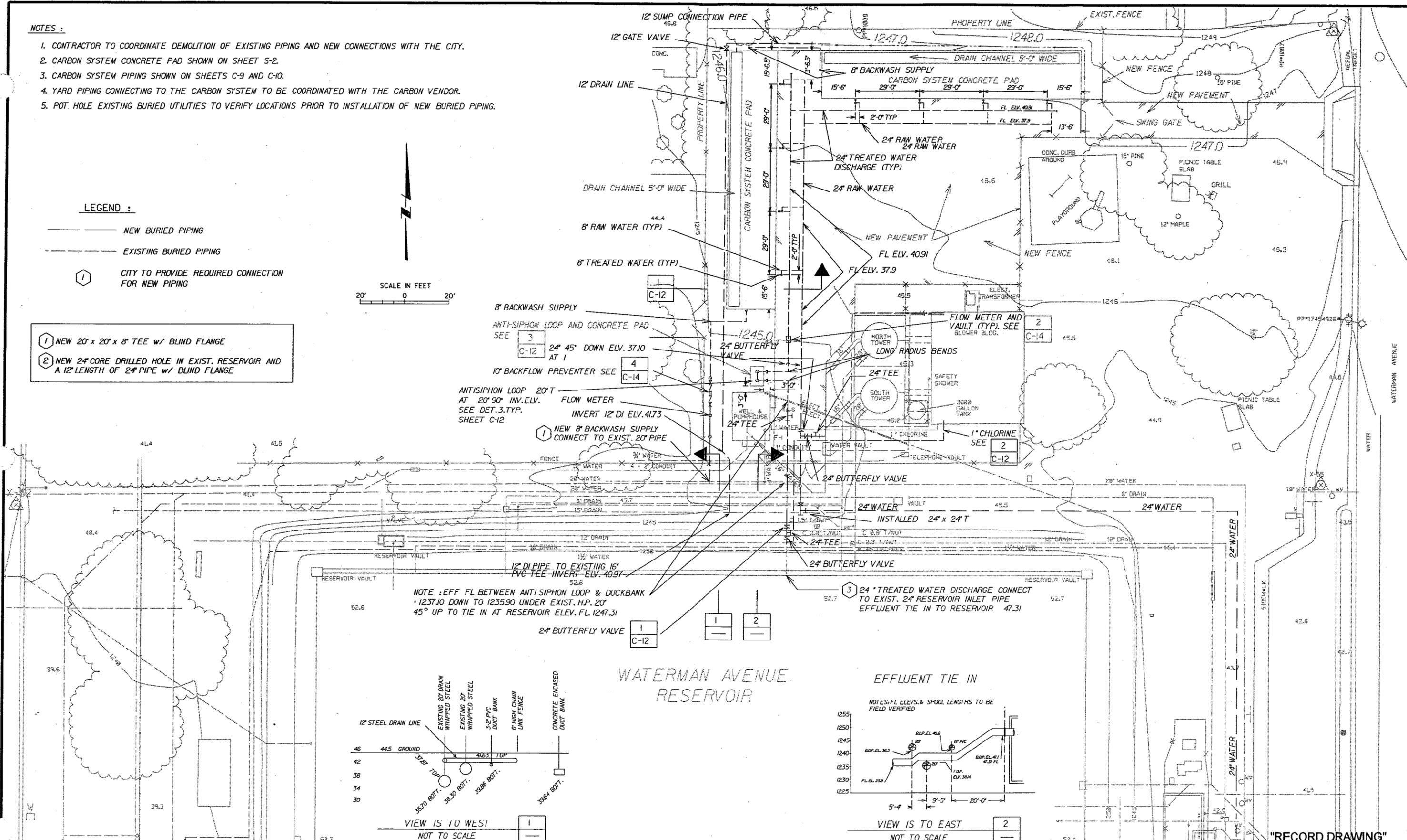
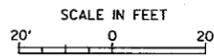
NOTES :

1. CONTRACTOR TO COORDINATE DEMOLITION OF EXISTING PIPING AND NEW CONNECTIONS WITH THE CITY.
2. CARBON SYSTEM CONCRETE PAD SHOWN ON SHEET S-2.
3. CARBON SYSTEM PIPING SHOWN ON SHEETS C-9 AND C-10.
4. YARD PIPING CONNECTING TO THE CARBON SYSTEM TO BE COORDINATED WITH THE CARBON VENDOR.
5. POT. HOLE EXISTING BURIED UTILITIES TO VERIFY LOCATIONS PRIOR TO INSTALLATION OF NEW BURIED PIPING.

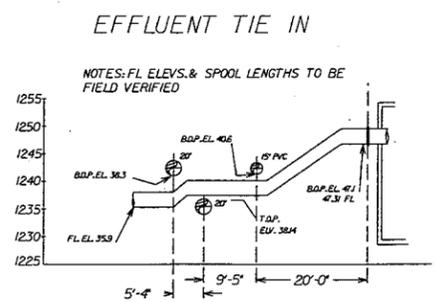
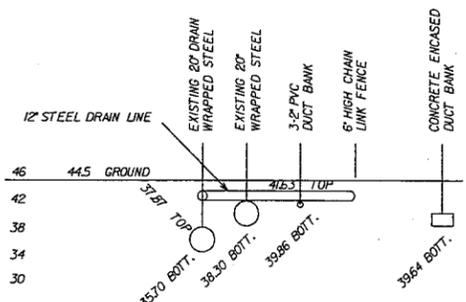
LEGEND :

- NEW BURIED PIPING
- - - EXISTING BURIED PIPING
- ① CITY TO PROVIDE REQUIRED CONNECTION FOR NEW PIPING

- ① NEW 20" x 20" x 8" TEE w/ BLIND FLANGE
- ② NEW 24" CORE DRILLED HOLE IN EXIST. RESERVOIR AND A 12' LENGTH OF 24" PIPE w/ BLIND FLANGE



NOTE: EFF FL BETWEEN ANTI-SIPHON LOOP & DUCKBANK
 • 1237.10 DOWN TO 1235.90 UNDER EXIST. H.P. 20"
 45° UP TO TIE IN AT RESERVOIR ELEV. FL. 1247.31



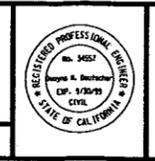
JOB No. 62370.60 No. T:\JUSTS\PROJ\NEWMARK\ASBUILT\ C-9.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

URS URS Consultants, Inc.
 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA

JOB No. 62370

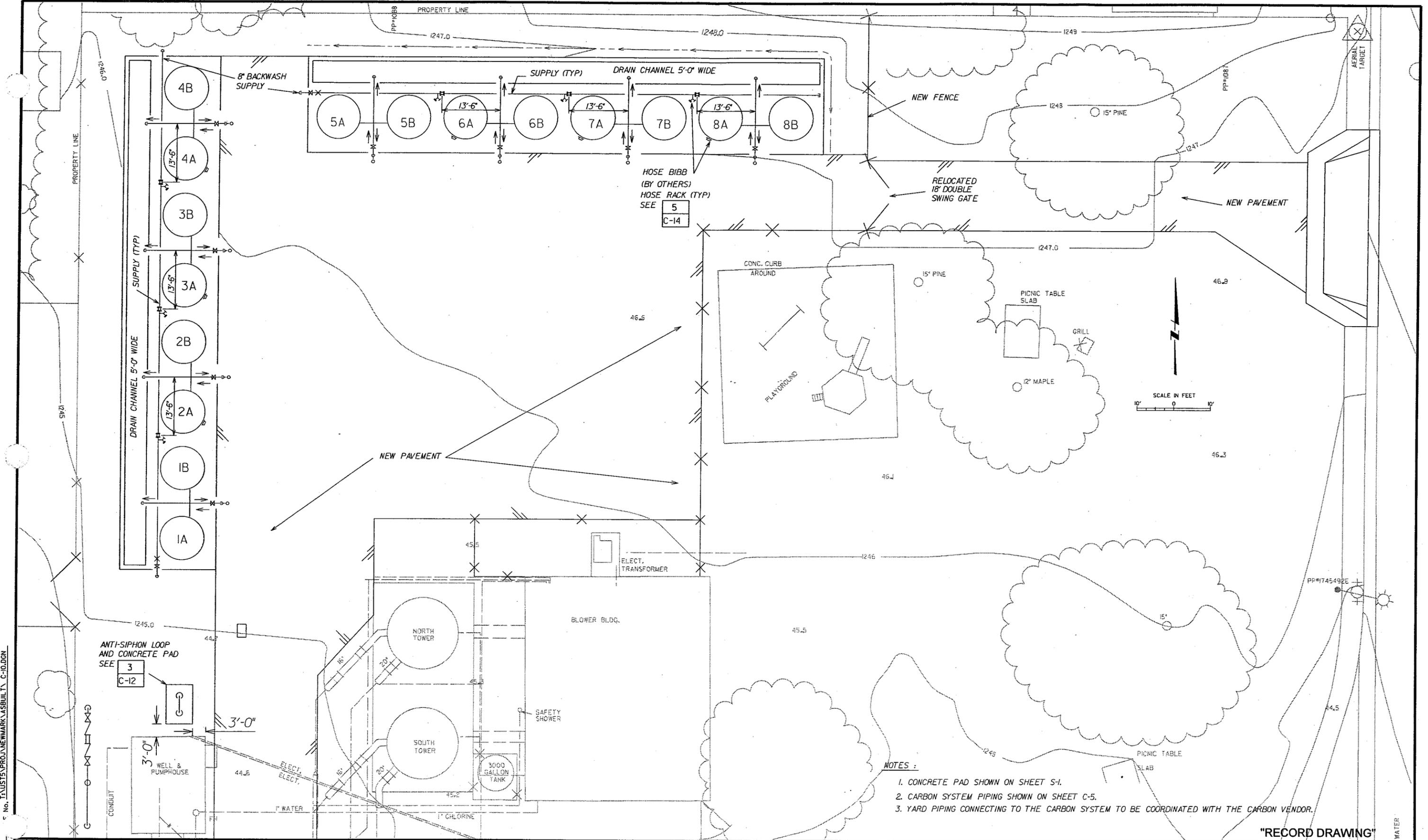


NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

WATERMAN PLANT
 YARD PIPING

Scale: AS NOTED
 Date: 9/97
 Dwg. No.: C-9

"RECORD DRAWING"



- NOTES:
1. CONCRETE PAD SHOWN ON SHEET S-1.
 2. CARBON SYSTEM PIPING SHOWN ON SHEET C-5.
 3. YARD PIPING CONNECTING TO THE CARBON SYSTEM TO BE COORDINATED WITH THE CARBON VENDOR.

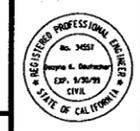
"RECORD DRAWING"

JOB No. 62370.60

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

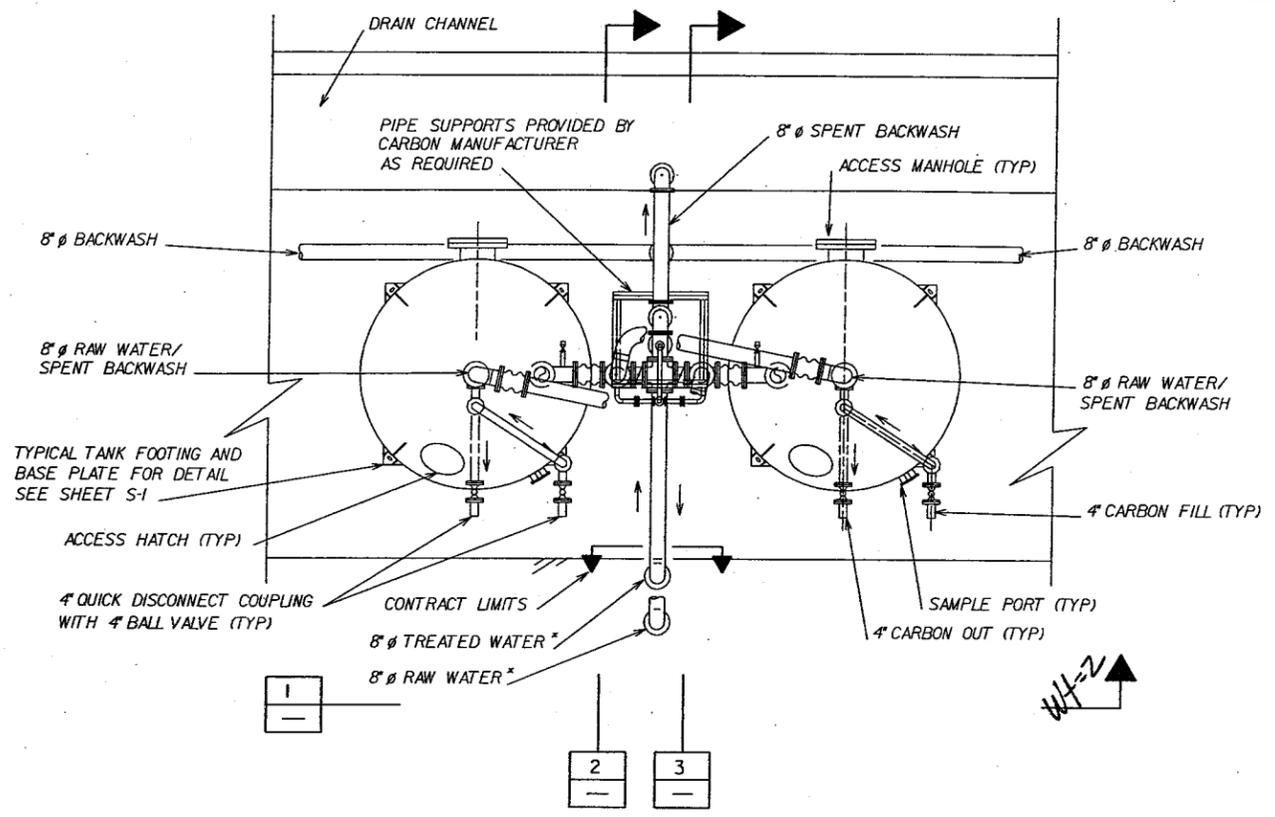
URS URS Consultants, Inc.
 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA



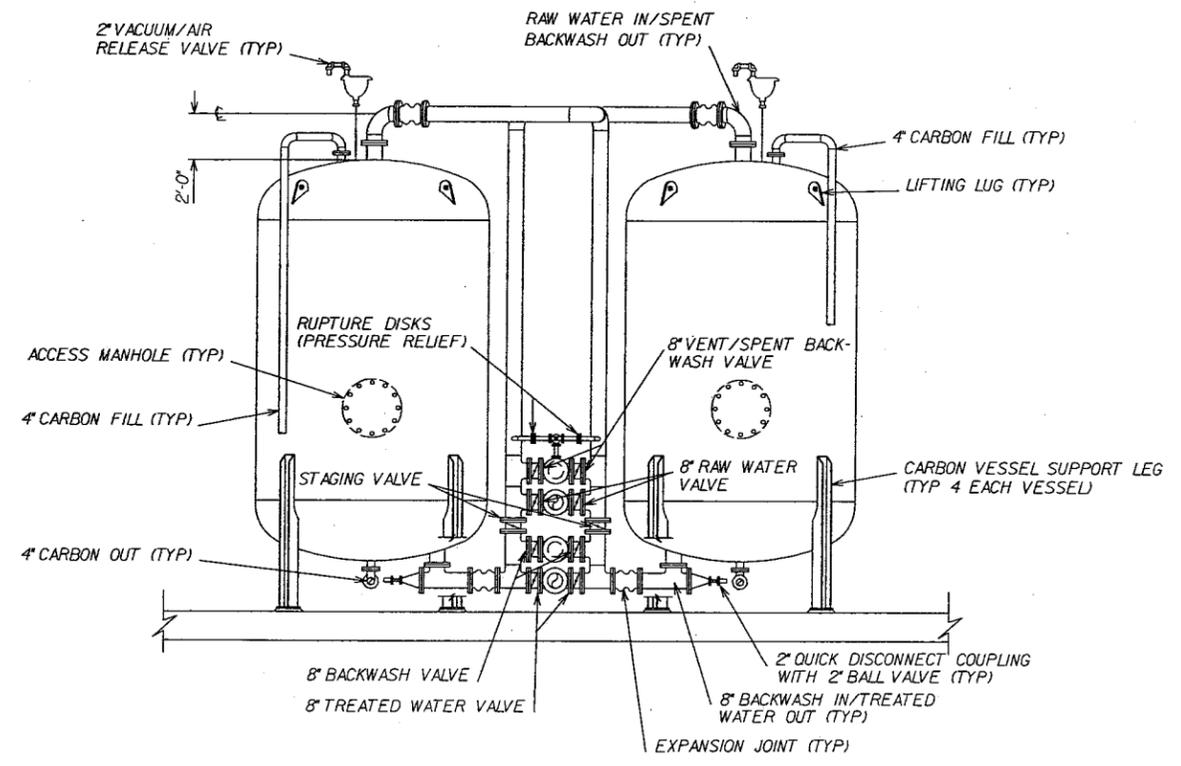
NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

WATERMAN PLANT
 SITE LAYOUT

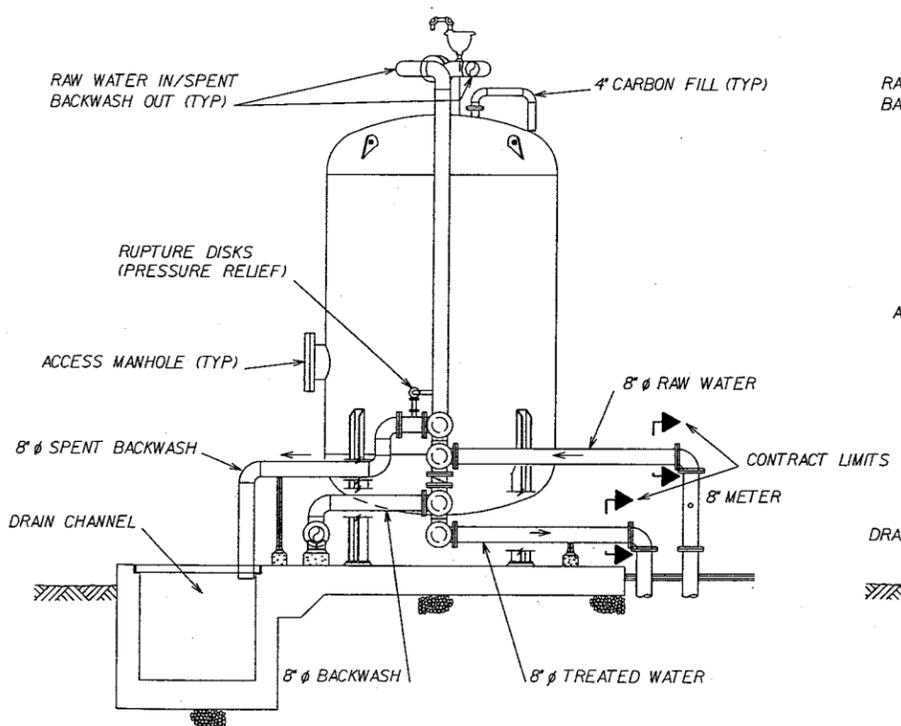
Scale: AS NOTED
 Date: 9/97
 Dwg. No.: C-10



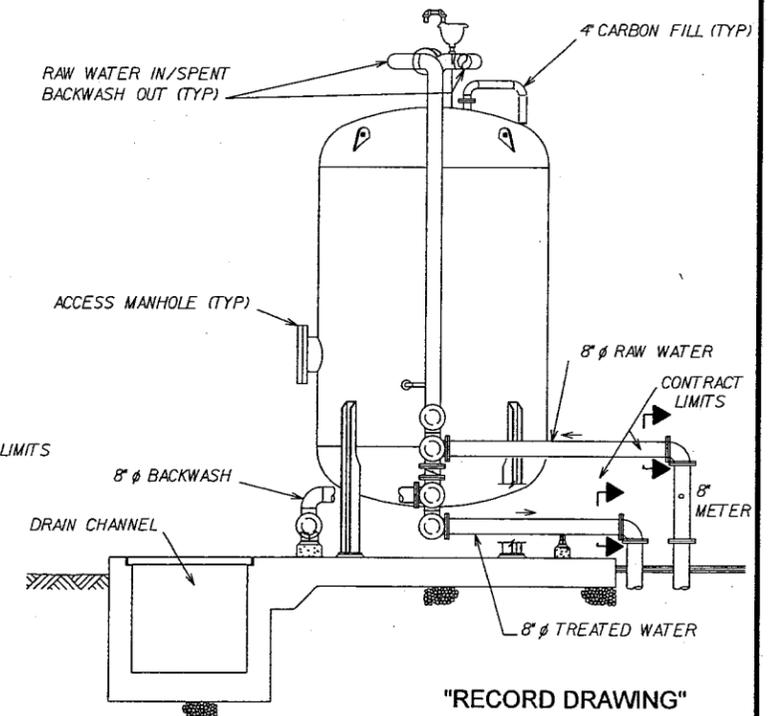
PLAN - TYPICAL CARBON TREATMENT SYSTEM LAYOUT
 * FOR CARBON UNITS C-1 AND C-2 FUTURE CONNECTIONS SEE DETAIL AT RIGHT



ELEVATION - TYPICAL CARBON TREATMENT SYSTEM LAYOUT 1
 NOTE: PIPE SUPPORTS PROVIDED BY CARBON MANUFACTURER AS REQUIRED



SECTION - TYPICAL CARBON TREATMENT SYSTEM LAYOUT 2
 NOTE: PIPE SUPPORTS PROVIDED BY CARBON MANUFACTURER AS REQUIRED



SECTION - TYPICAL CARBON TREATMENT SYSTEM LAYOUT 3
 NOTE: PIPE SUPPORTS PROVIDED BY CARBON MANUFACTURER AS REQUIRED

JOB No. 62370-50 No. 11AUSTEY PROJ. NEWMARK ASBUILTY C-HDGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

URS URS Consultants, Inc.
 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA

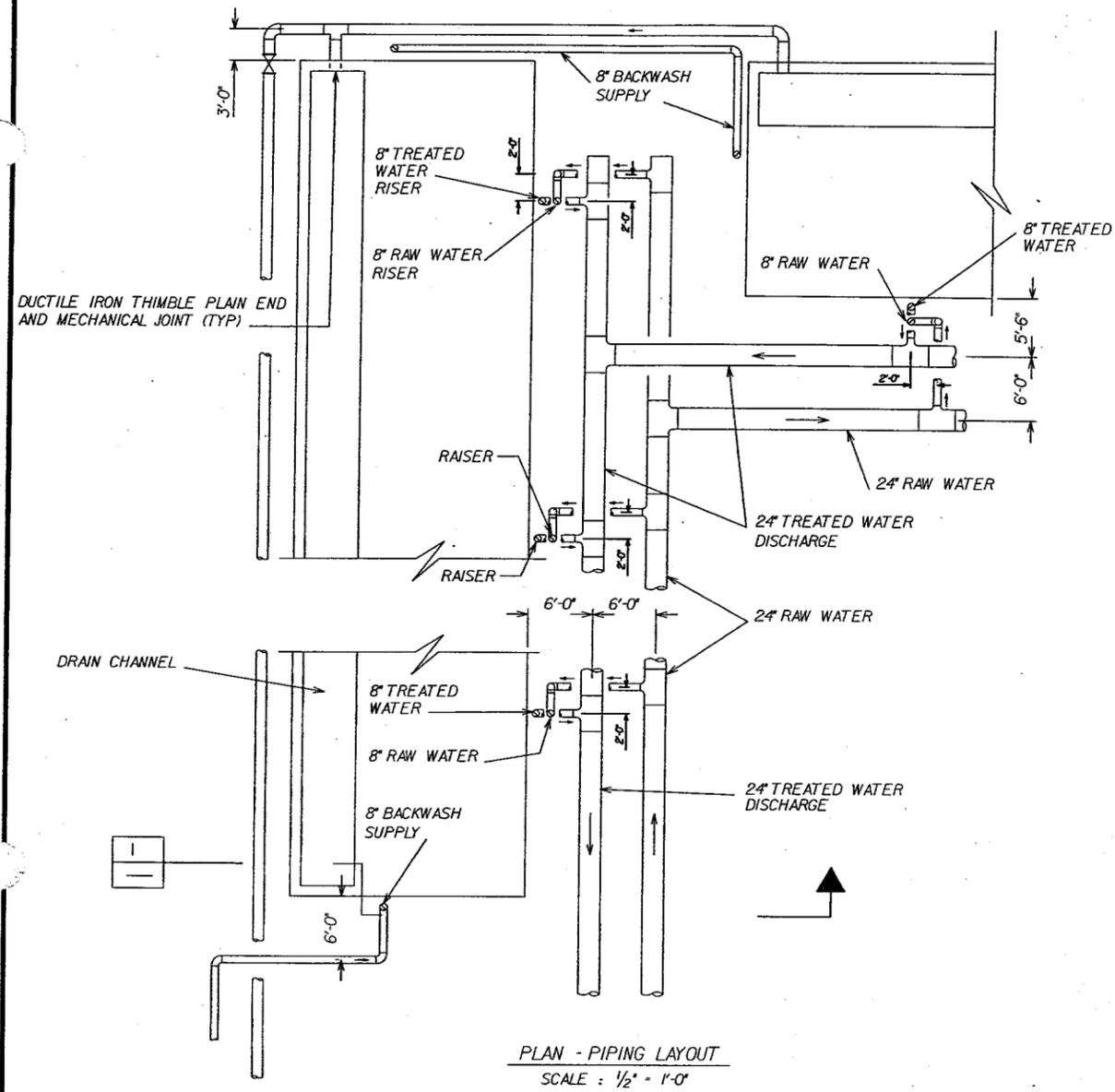
JOB No. 62370



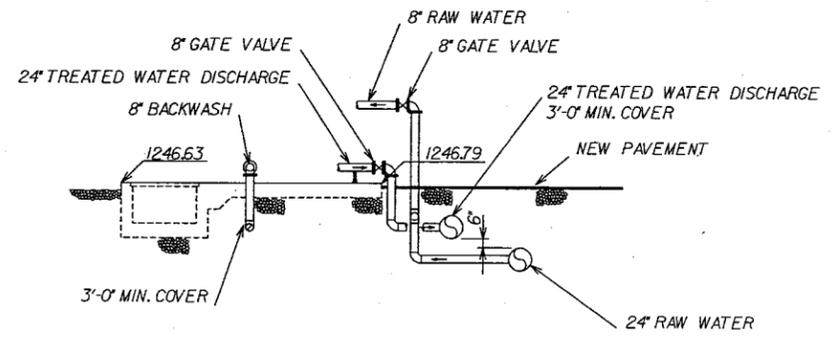
NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

WATERMAN PLANT
CARBON TREATMENT SYSTEM
LAYOUT

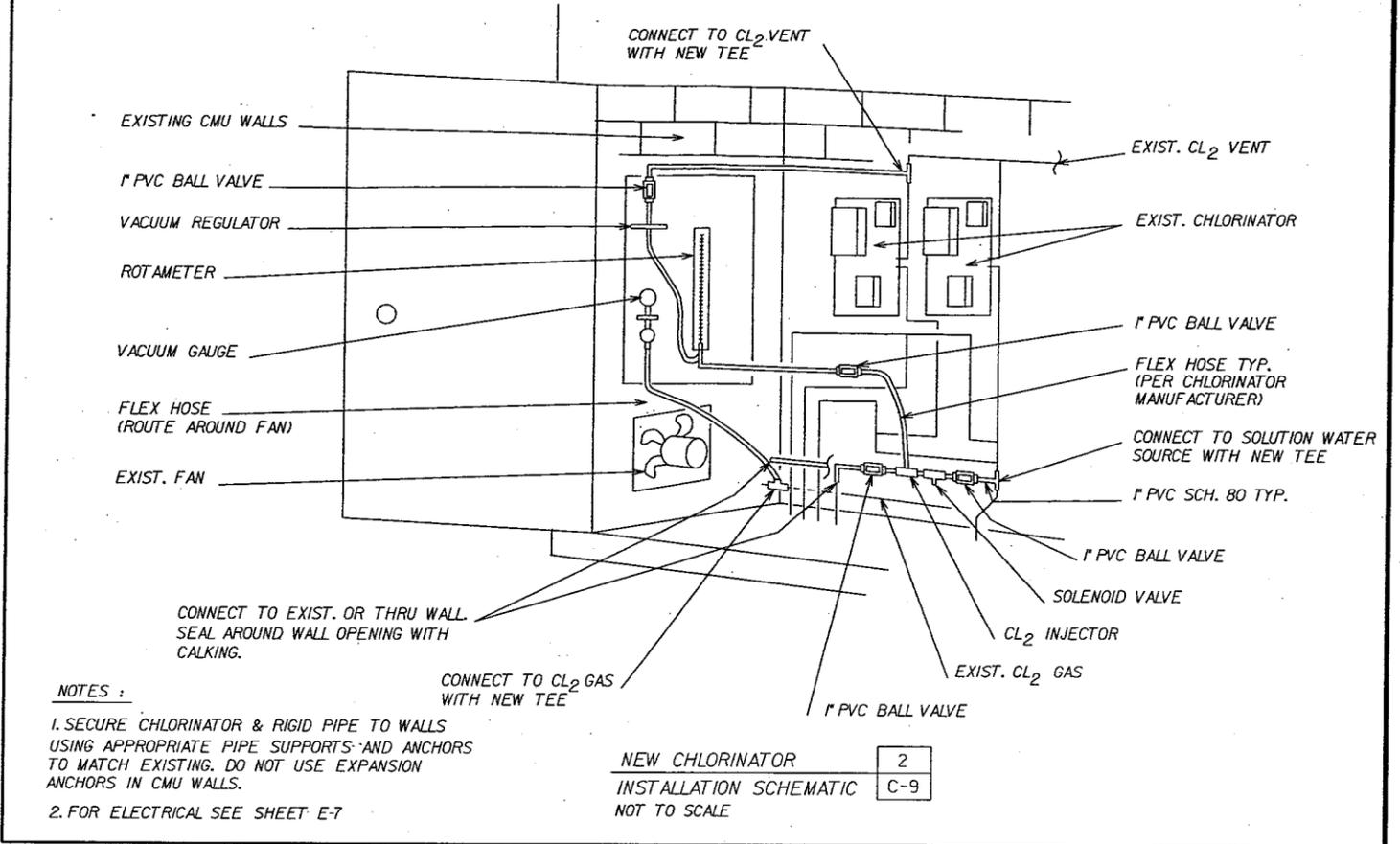
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 Date: 6/97 Dwg. No.: C-11



PLAN - PIPING LAYOUT
SCALE: 1/2" = 1'-0"

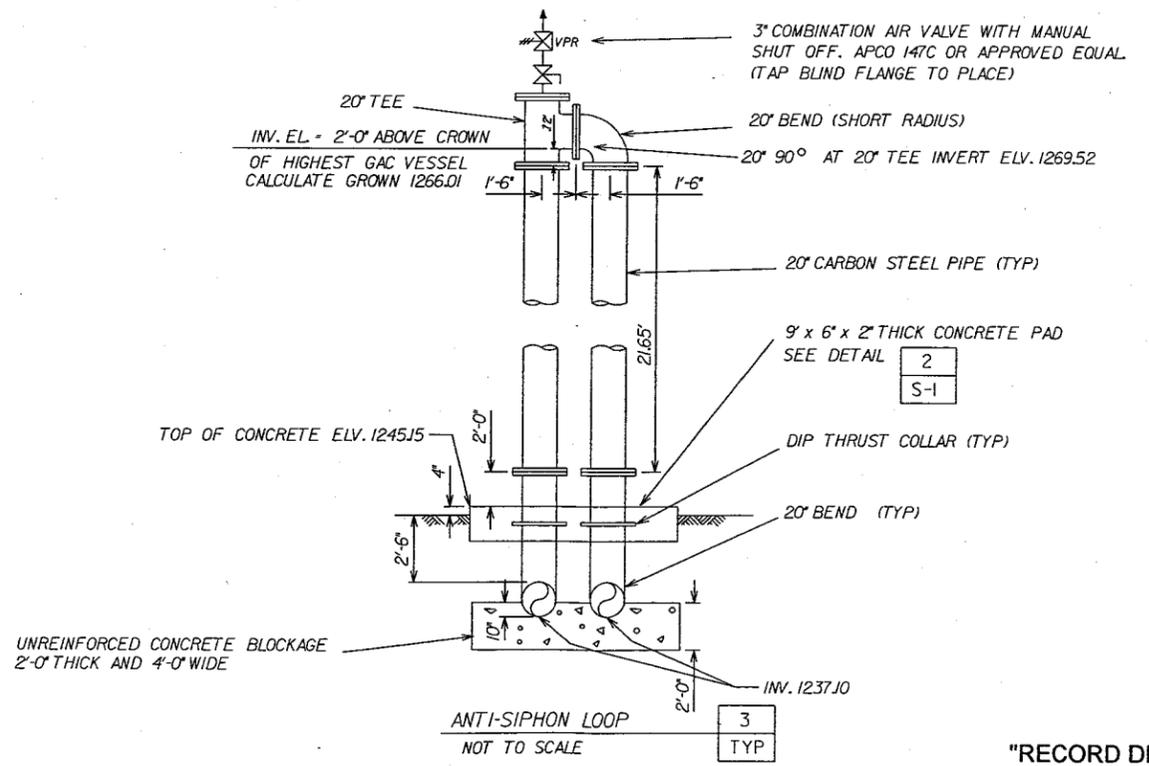


SECTION - PIPING LAYOUT
SCALE: 1/2" = 1'-0"



NOTES:
1. SECURE CHLORINATOR & RIGID PIPE TO WALLS USING APPROPRIATE PIPE SUPPORTS AND ANCHORS TO MATCH EXISTING. DO NOT USE EXPANSION ANCHORS IN CMU WALLS.
2. FOR ELECTRICAL SEE SHEET E-7

NEW CHLORINATOR	2
INSTALLATION SCHEMATIC	C-9
NOT TO SCALE	



ANTI-SIPHON LOOP
NOT TO SCALE

JOB No. 62370.60 P. No. 11/98 URS CONSULTANTS\PROJECTS\NEWARK\ASBUILT_C-12.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
DRAWN BY: NDH
CHECKED BY: DHD

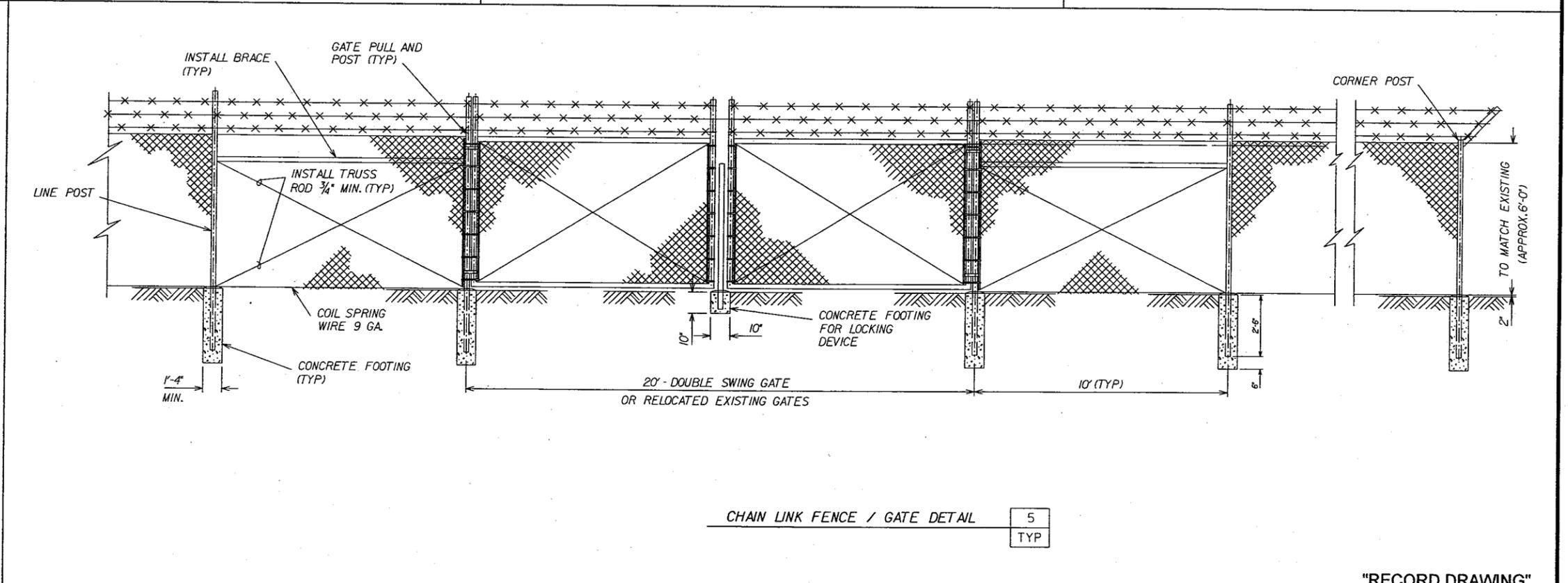
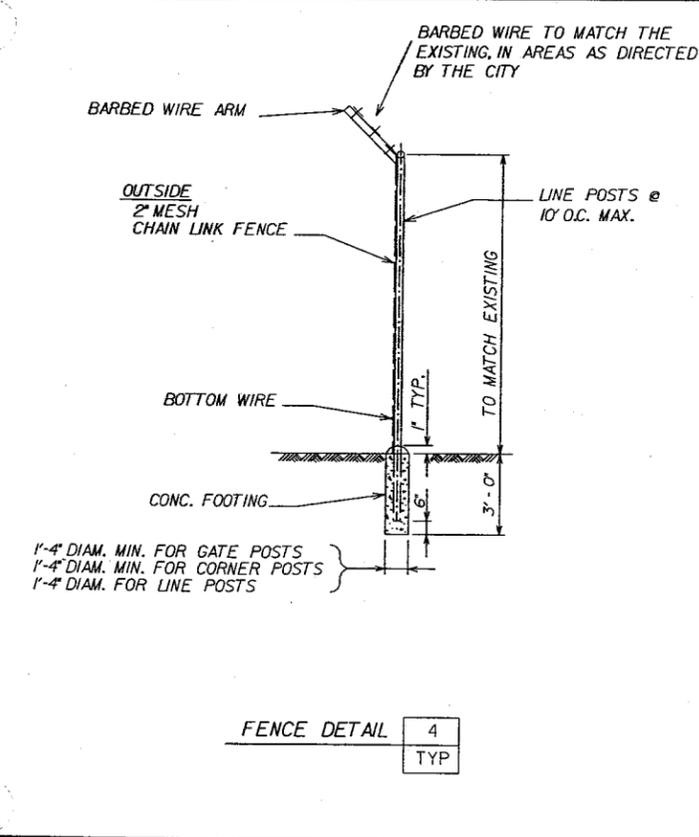
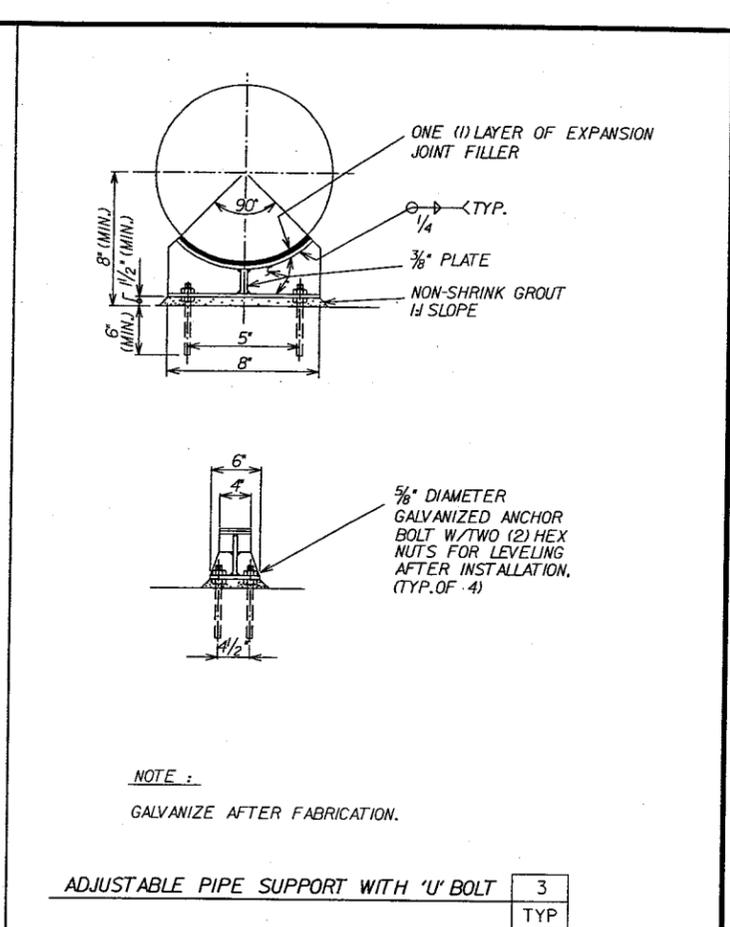
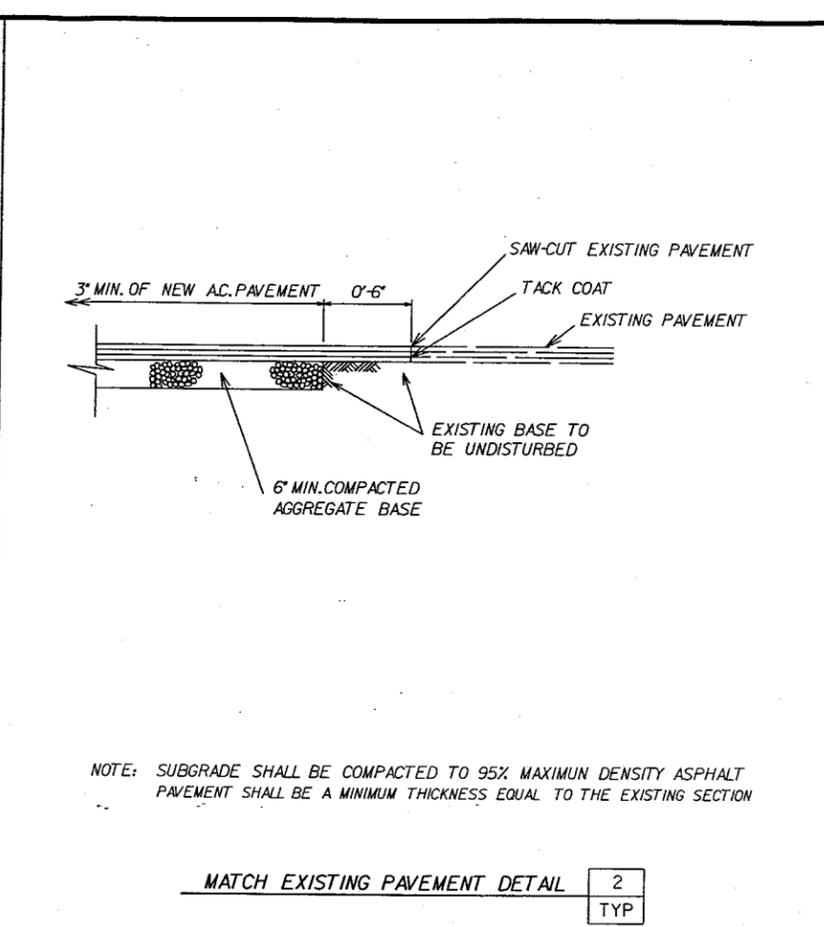
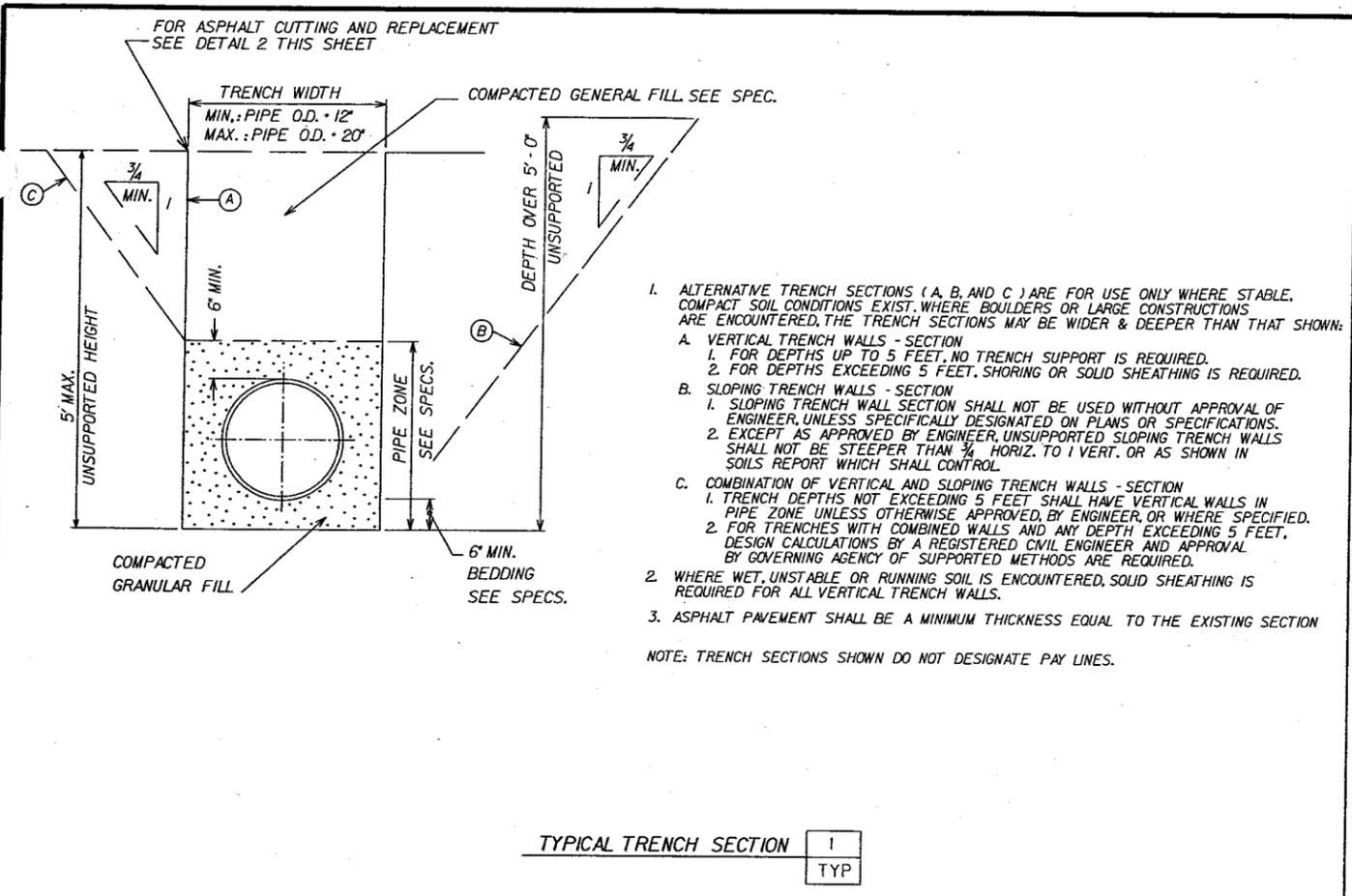
URS URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA



NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

WATERMAN PLANT
PIPING AND BACKWASH DRAIN
PLAN AND SECTIONS

Scale: AS NOTED Date: 9/97 Dwg. No.: C-12



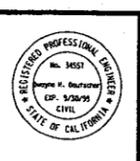
JOB No. 62370.50 P. 1 OF 1 PROJECT: NEWMARK NORTH, C-13.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
DRAWN BY: NDH
CHECKED BY: DHD

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CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

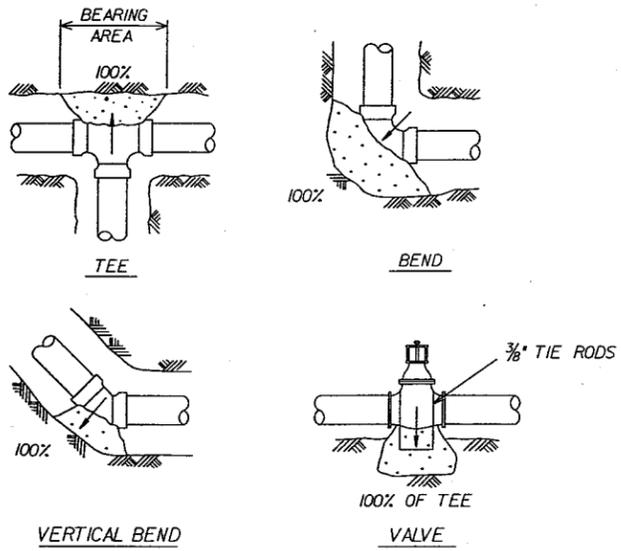


NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

"RECORD DRAWING"

STANDARD DETAILS

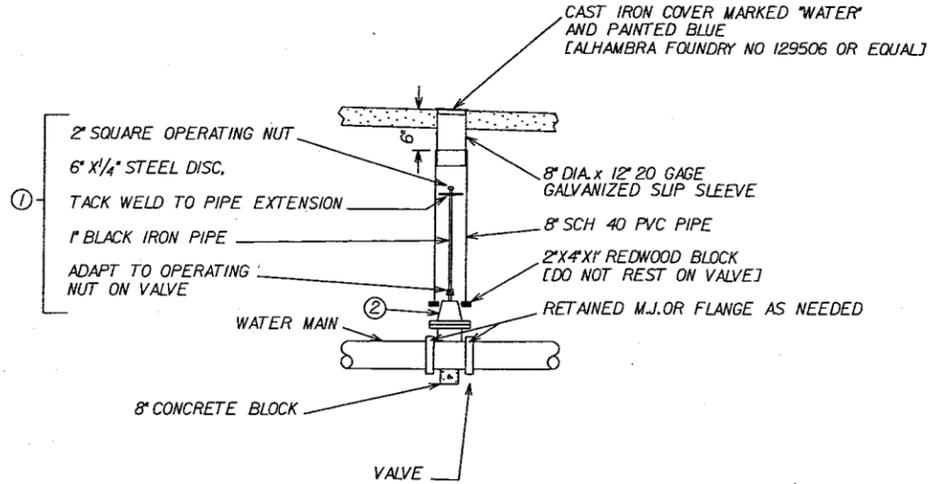
Scale: NOT TO SCALE Date: 6/97 Dwg. No.: C-13



NOTE:
FIGURE (100%) AT THRUST BLOCK INDICATES PERCENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.

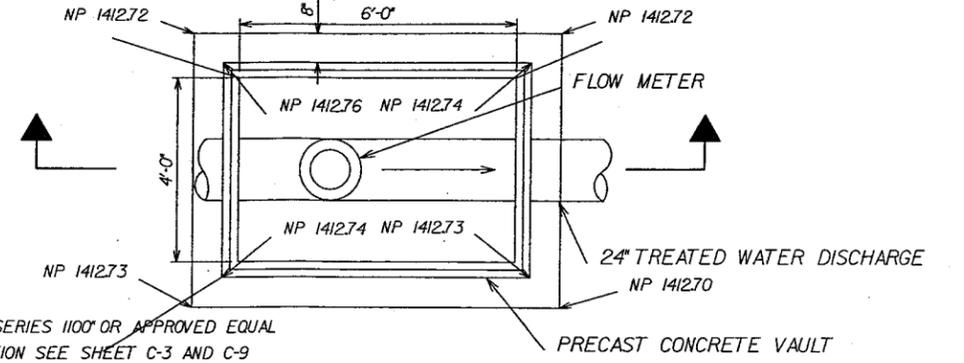
ARROWS (→) INDICATE THRUST DIRECTION

CONCRETE THRUST BLOCKS 1 TYP



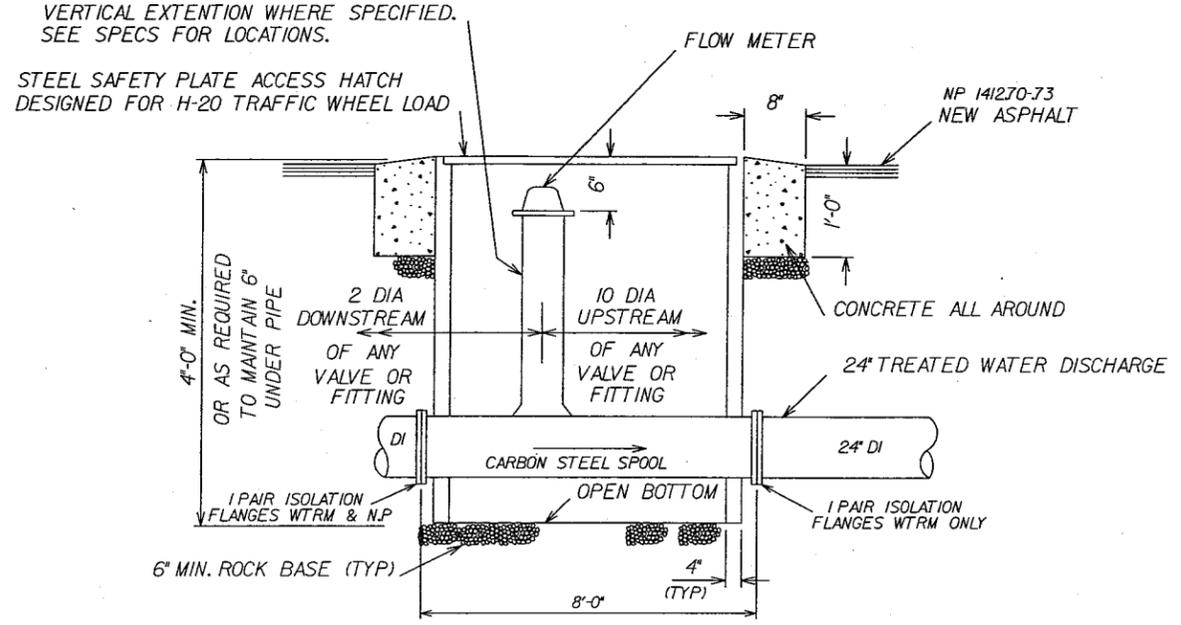
- NOTE:
- ① PROVIDE VALVE STEM EXTENSION AS SHOWN IF VALVE NUT BURY DEPTH EXCEEDS 5.0 FEET.
 - ② BACKFILL VALVE WITH SAND UP TO PACKING
 - ③ REFER TO STANDARD DRAWING NUMBER 3J- SAN BERNARDINO MUNICIPAL WATER DEPARTMENT

TYPICAL VALVE INSTALLATION 2 TYP

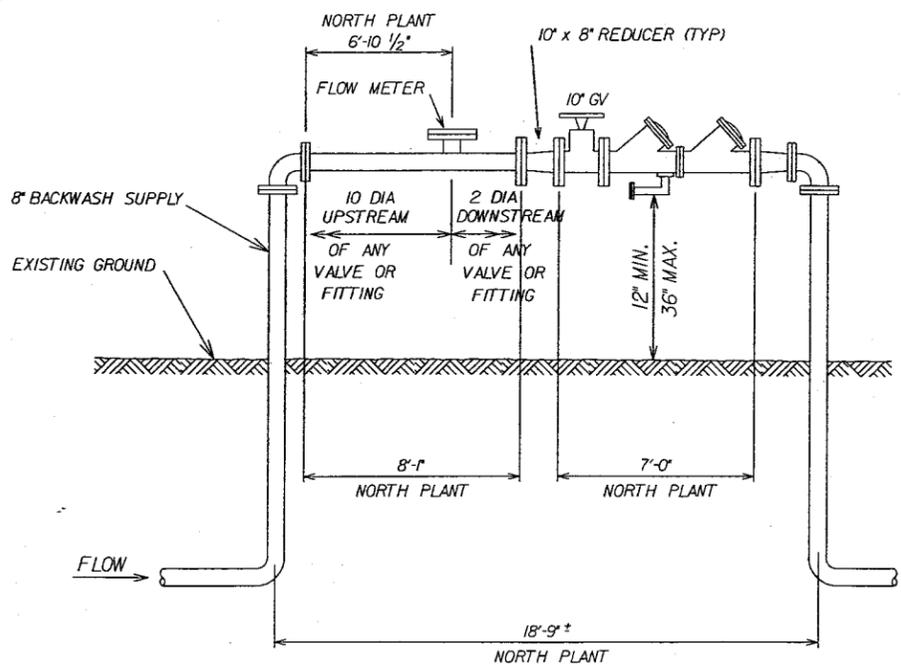


- 1. USE "UTILITY VAULT SERIES 1100" OR APPROVED EQUAL
- 2. FOR VAULT ORIENTATION SEE SHEET C-3 AND C-9

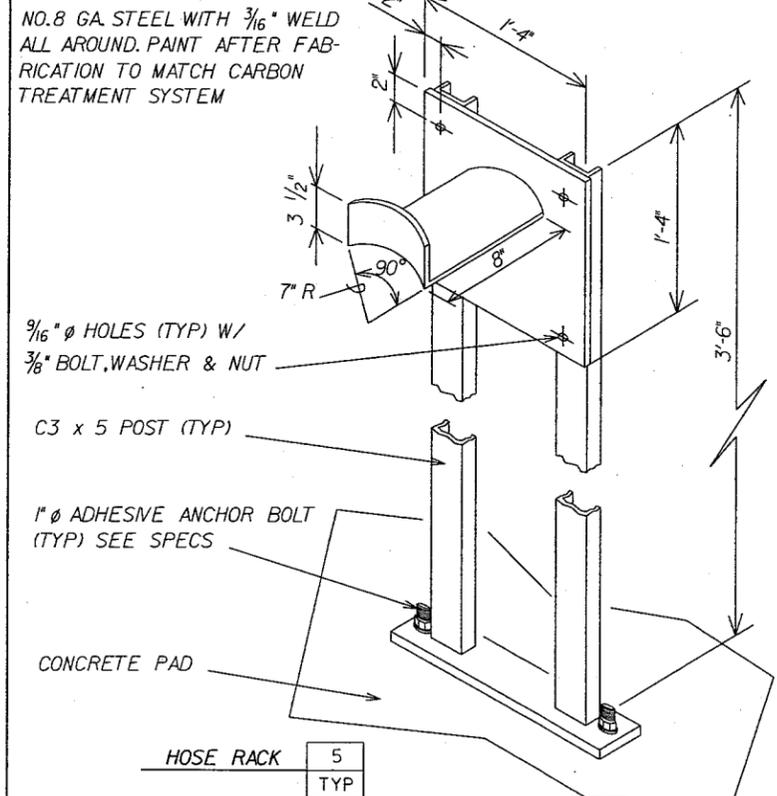
PLAN - METER VAULT 3 TYP NORTH PLANT



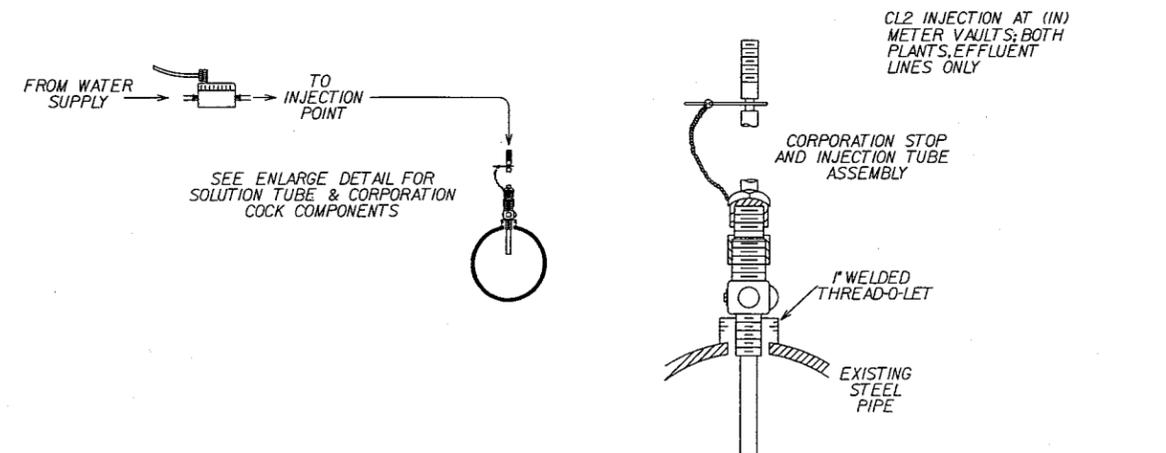
SECTION - METER VAULT NORTH PLANT



10" BACKFLOW PREVENTER 4 TYP



HOSE RACK 5 TYP



"RECORD DRAWING"

JOB No. 62370-50

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
REVISIONS					

DESIGNED BY: PS
DRAWN BY: NDH
CHECKED BY: DHD

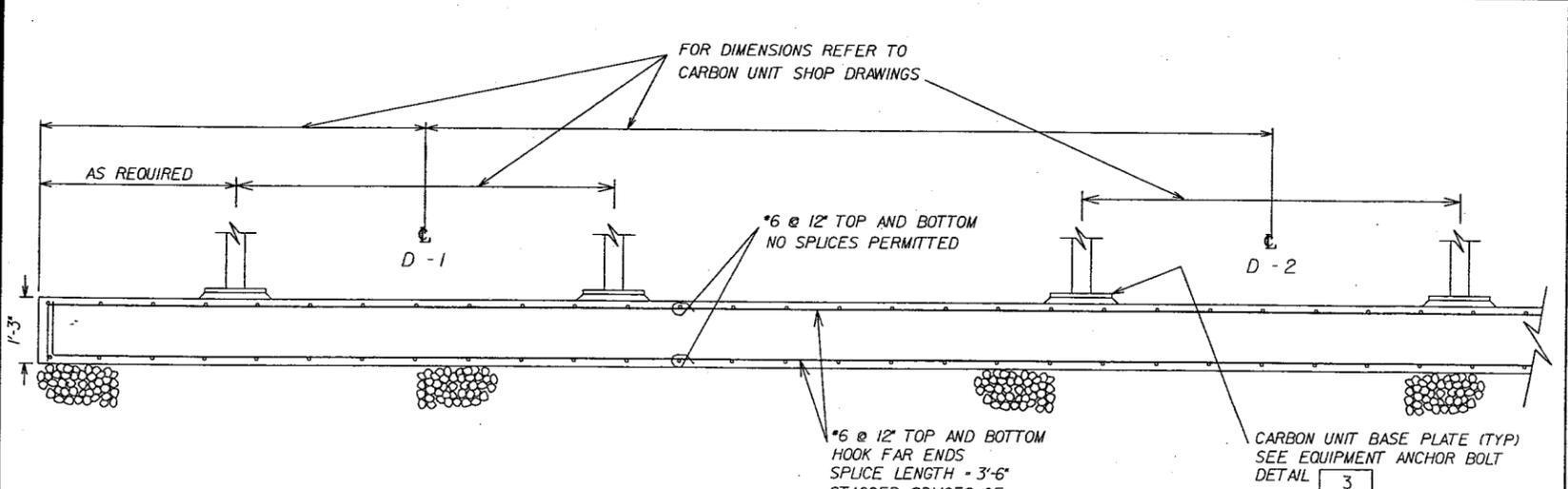
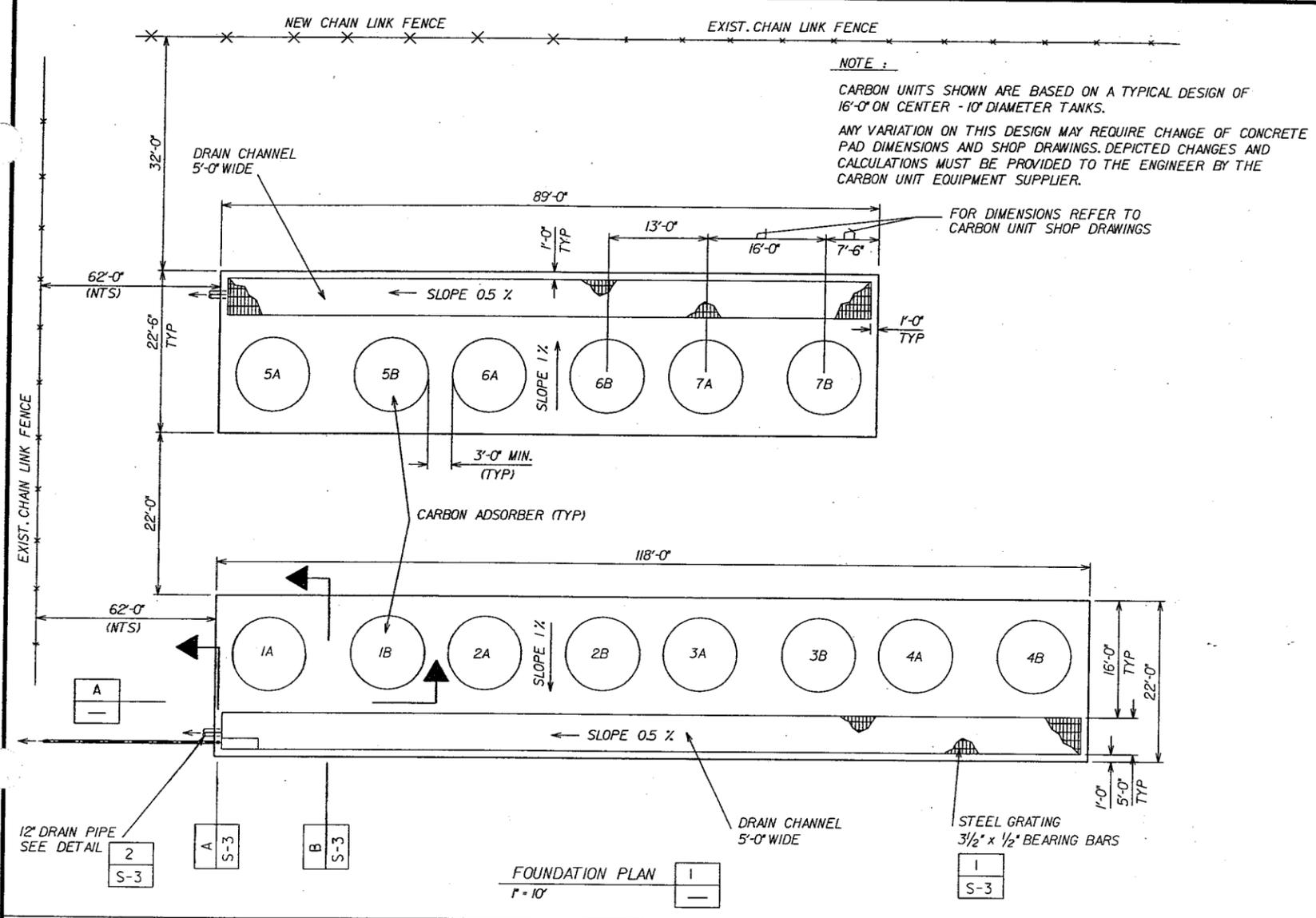
URS URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA



NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

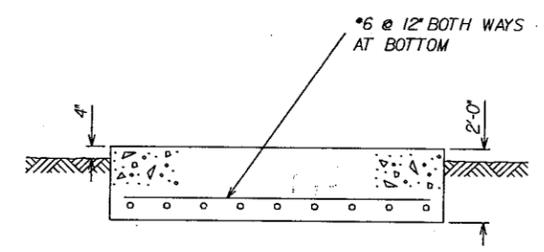
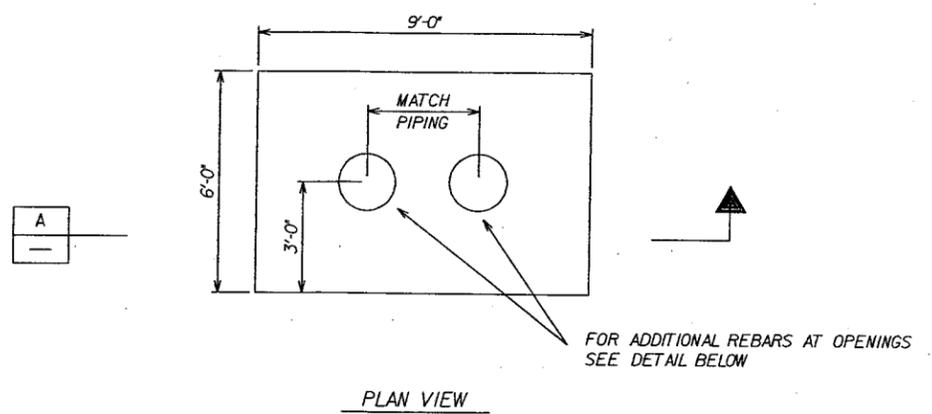
STANDARD DETAILS
Scale: NOT TO SCALE
Date: 6/97
Dwg. No.: C-14

JOB No. 62370



NOTE :
 PROVIDE 3" CLEARANCE FOR REINFORCING AT FACE NEAR SOIL
 PROVIDE 2" CLEARANCE FOR ALL OTHER REINFORCING

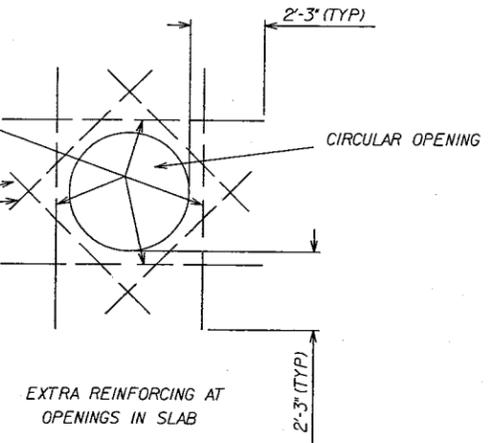
SECTION A
 NOT TO SCALE



SECTION A

EXTRA BARS EACH FACE EQUAL IN AREA TO REGULAR REINF. CUT OUT BY OPENING

*5 BAR x 3'-10" LONG EACH CORNER, EACH FACE



ANTI-SIPHON LOOP SUPPORT SLAB
 NOT TO SCALE

JOB No. 62370.60

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

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 CONSULTING ENGINEERS
 SACRAMENTO CALIFORNIA

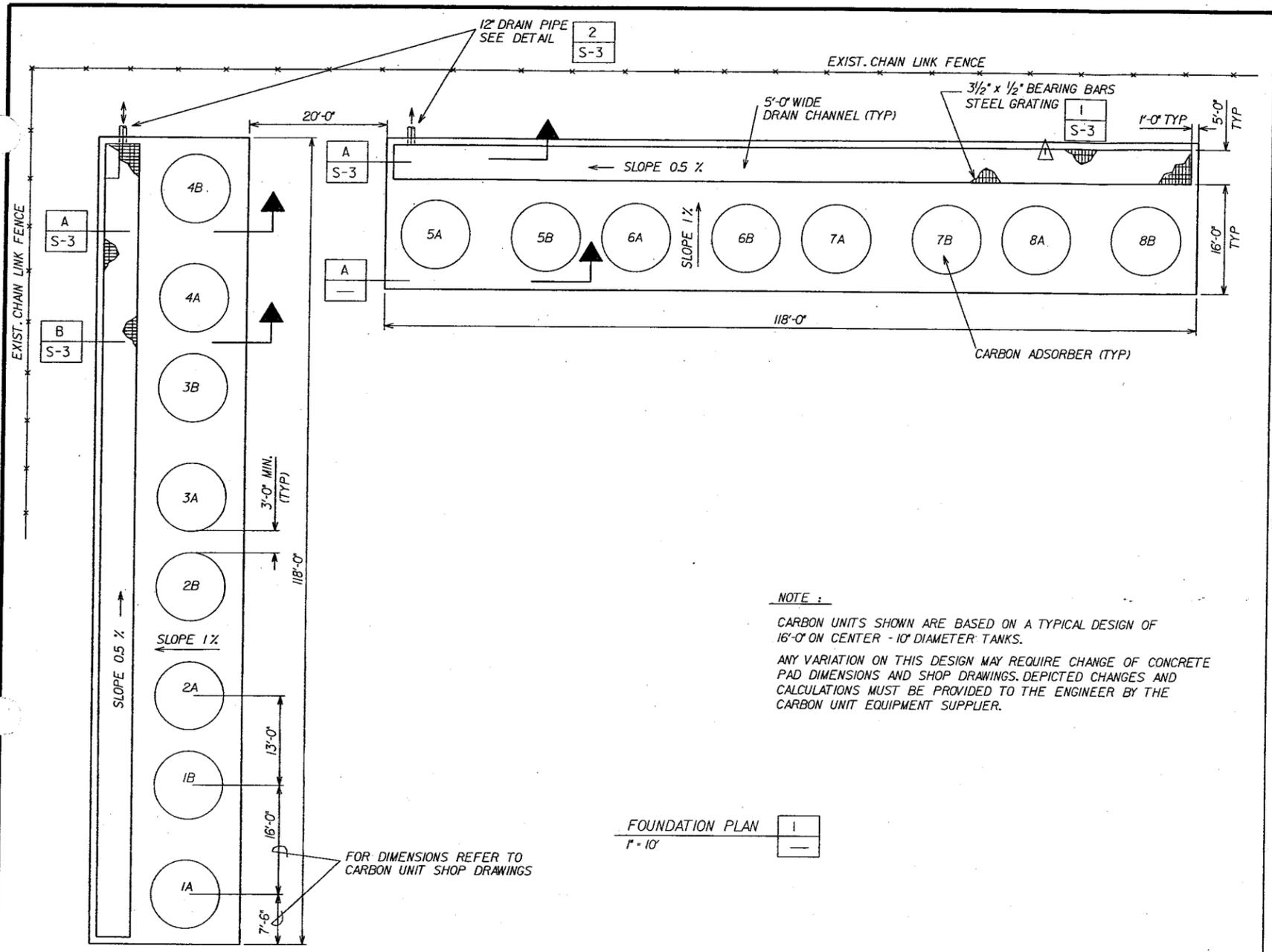


NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

NORTH PLANT
 STRUCTURAL DETAILS

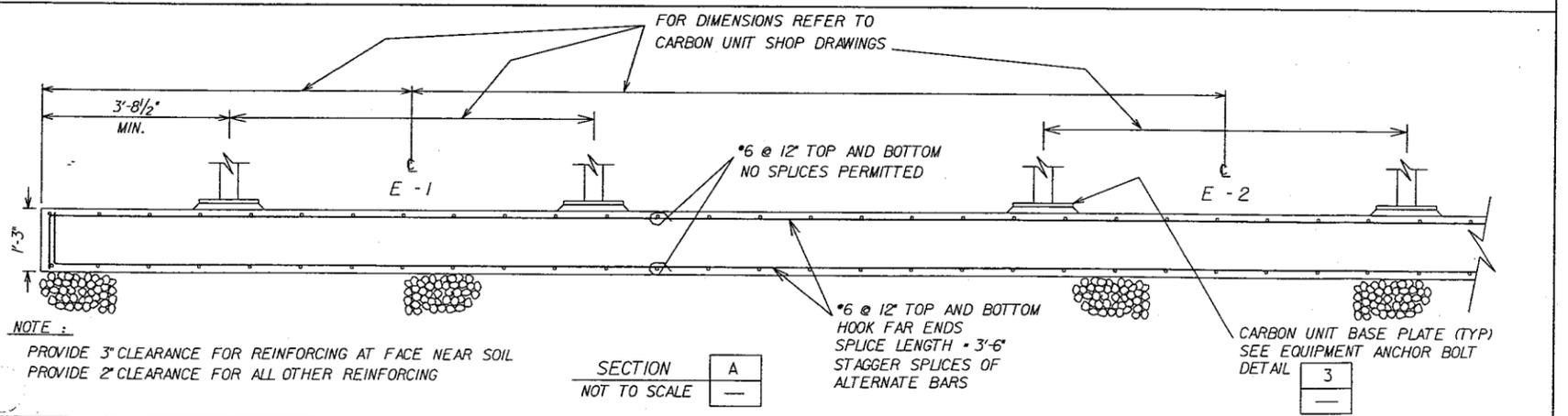
Scale: AS NOTED Date: 9/97 Dwg. No.: S-1

"RECORD DRAWING"



NOTE :
 CARBON UNITS SHOWN ARE BASED ON A TYPICAL DESIGN OF 16'-0" ON CENTER - 10" DIAMETER TANKS.
 ANY VARIATION ON THIS DESIGN MAY REQUIRE CHANGE OF CONCRETE PAD DIMENSIONS AND SHOP DRAWINGS. DEPICTED CHANGES AND CALCULATIONS MUST BE PROVIDED TO THE ENGINEER BY THE CARBON UNIT EQUIPMENT SUPPLIER.

FOUNDATION PLAN 1
 1'-10"



NOTE :
 PROVIDE 3" CLEARANCE FOR REINFORCING AT FACE NEAR SOIL
 PROVIDE 2" CLEARANCE FOR ALL OTHER REINFORCING

SECTION A
 NOT TO SCALE

JOB NO. 62370.60 FILE NO. T:\AUSTIS\PROJ\NEWMARK\ASBUIL\T_5-2.DGN

"RECORD DRAWING"

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11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
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 CHECKED BY: DHD

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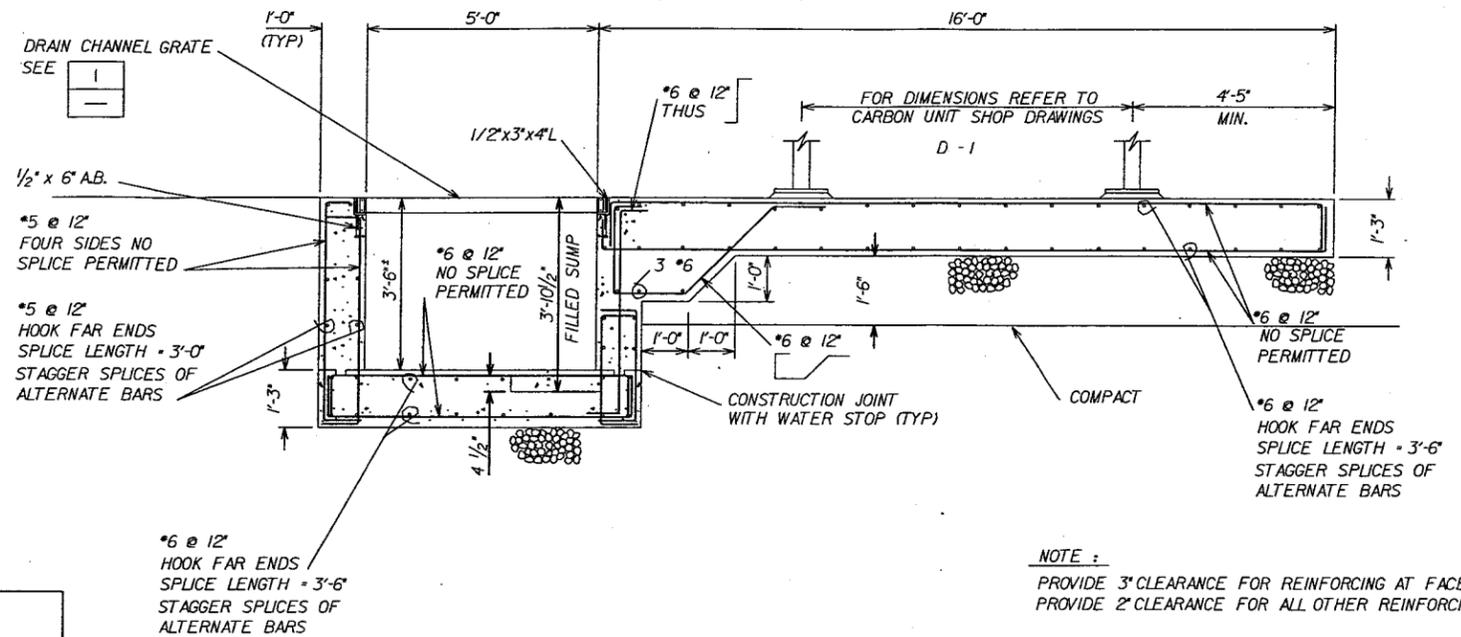
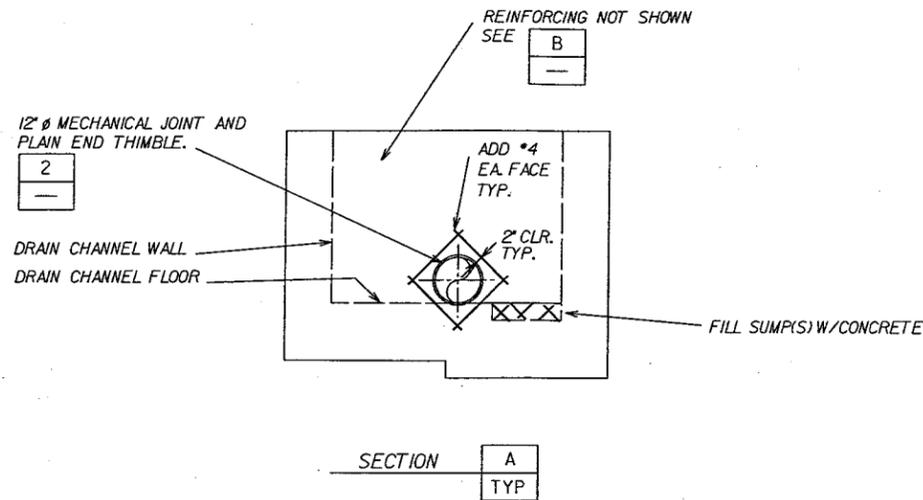


NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

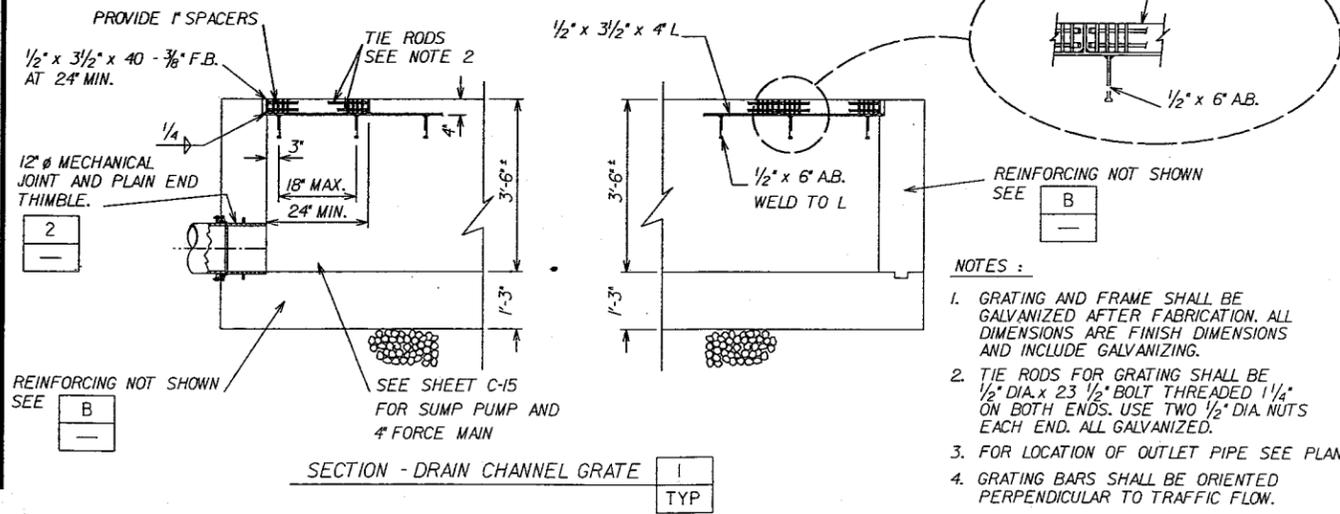
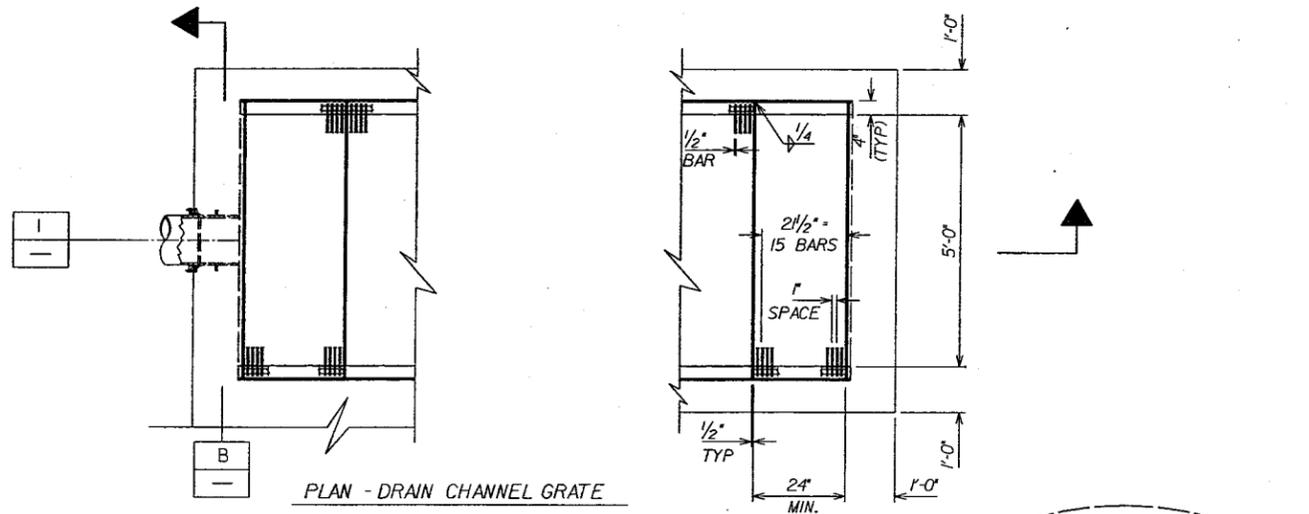
WATERMAN PLANT
 STRUCTURAL DETAILS

Scale: AS NOTED Date: 9/97 Dwg. No.: S-2

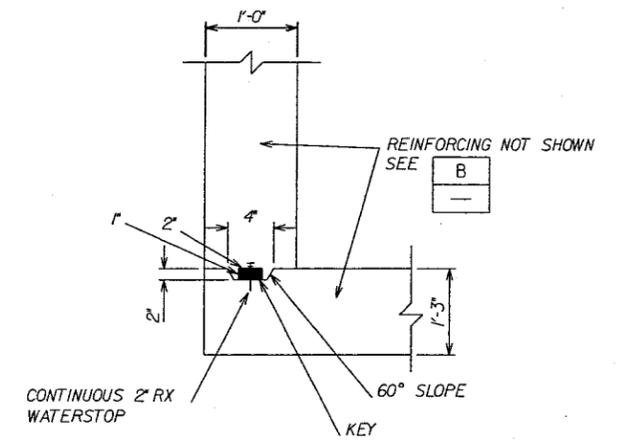
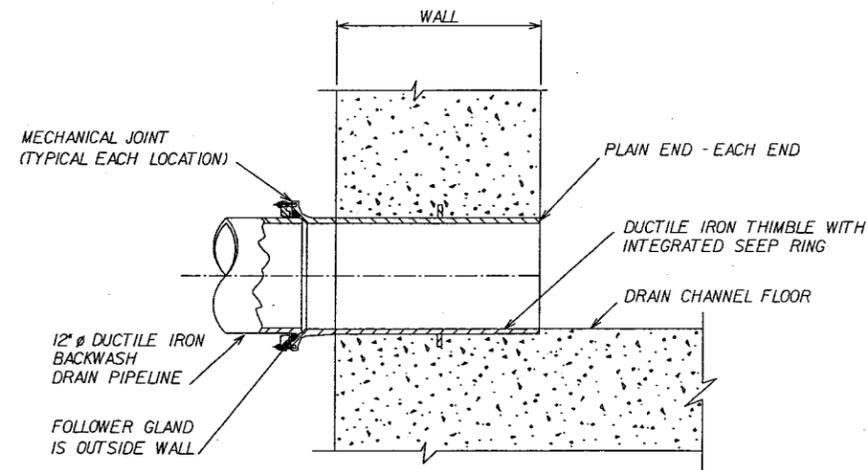
JOB No. 62370



NOTE:
 PROVIDE 3" CLEARANCE FOR REINFORCING AT FACE NEAR SOIL
 PROVIDE 2" CLEARANCE FOR ALL OTHER REINFORCING



- NOTES:
1. GRATING AND FRAME SHALL BE GALVANIZED AFTER FABRICATION. ALL DIMENSIONS ARE FINISH DIMENSIONS AND INCLUDE GALVANIZING.
 2. TIE RODS FOR GRATING SHALL BE 1/2" DIA. x 23 1/2" BOLT THREADED 1 1/4" ON BOTH ENDS. USE TWO 1/2" DIA. NUTS EACH END. ALL GALVANIZED.
 3. FOR LOCATION OF OUTLET PIPE SEE PLANS.
 4. GRATING BARS SHALL BE ORIENTED PERPENDICULAR TO TRAFFIC FLOW.



CONSTRUCTION JOINT DETAIL C
 WALL TO FOUNDATION TYP

"RECORD DRAWING"

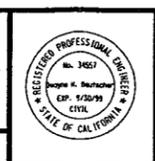
JOB NO. 62370.50 No. 11/98 PROJ. NEW MARK AS BUILT S-3.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: PS
 DRAWN BY: NDH
 CHECKED BY: DHD

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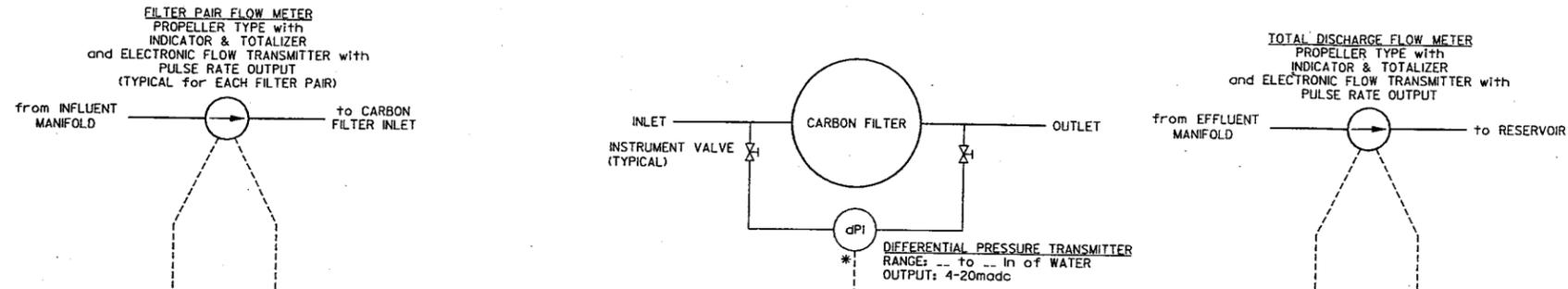
JOB No. 62370



NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

CONCRETE DETAILS	
Scale: NOT TO SCALE	Date: 9/97
Dwg. No.:	S-3

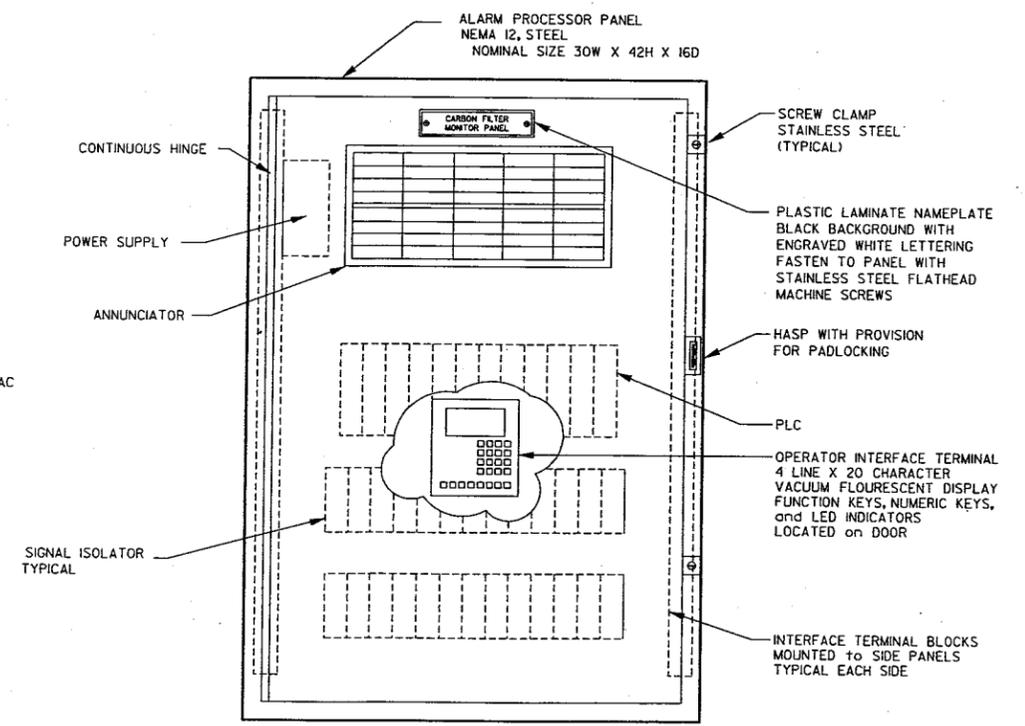
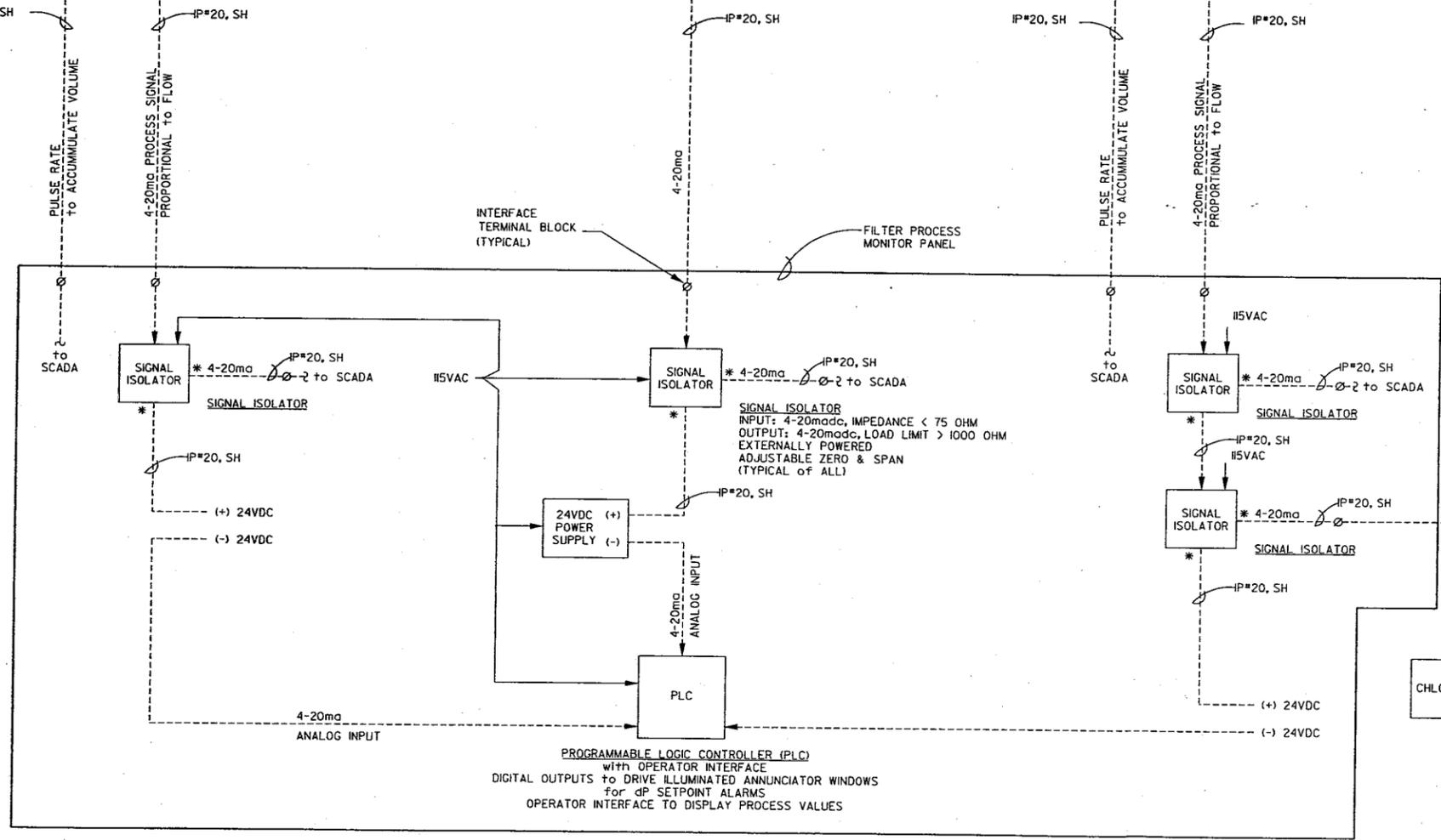
* GROUND CABLE SHIELD at ONE END ONLY, WHERE INDICATED



UNIT No. 1A dP HIGH ALARM	UNIT No. 3A dP HIGH ALARM	UNIT No. 5A dP HIGH ALARM	UNIT No. 7A dP HIGH ALARM
UNIT No. 1A dP CRITICAL ALARM	UNIT No. 3A dP CRITICAL ALARM	UNIT No. 5A dP CRITICAL ALARM	UNIT No. 7A dP CRITICAL ALARM
UNIT No. 1B dP HIGH ALARM	UNIT No. 3B dP HIGH ALARM	UNIT No. 5B dP HIGH ALARM	UNIT No. 7B dP HIGH ALARM
UNIT No. 1B dP CRITICAL ALARM	UNIT No. 3B dP CRITICAL ALARM	UNIT No. 5B dP CRITICAL ALARM	UNIT No. 7B dP CRITICAL ALARM
UNIT No. 2A dP HIGH ALARM	UNIT No. 4A dP HIGH ALARM	UNIT No. 6A dP HIGH ALARM	UNIT No. 8A dP HIGH ALARM
UNIT No. 2A dP CRITICAL ALARM	UNIT No. 4A dP CRITICAL ALARM	UNIT No. 6A dP CRITICAL ALARM	UNIT No. 8A dP CRITICAL ALARM
UNIT No. 2B dP HIGH ALARM	UNIT No. 4B dP HIGH ALARM	UNIT No. 6B dP HIGH ALARM	UNIT No. 8B dP HIGH ALARM
UNIT No. 2B dP CRITICAL ALARM	UNIT No. 4B dP CRITICAL ALARM	UNIT No. 6B dP CRITICAL ALARM	UNIT No. 8B dP CRITICAL ALARM

PLC OUTPUT ALARMS - ANNUCIATOR WINDOWS

SHOWN FOR 8 PAIRS OF FILTERS AND SIMILAR FOR ALL BUT MODIFIED FOR THE ACTUAL NUMBER OF FILTER PAIRS.



FILTER PROCESS MONITOR PANEL

BLOCK DIAGRAM FILTER FLOW DATA
SHOWN FOR ONE FILTER PAIR and TYPICAL FOR EACH PAIR

FILTER dP ALARM - BLOCK DIAGRAM
SHOWN FOR ONE FILTER and TYPICAL FOR EACH

BLOCK DIAGRAM TOTAL DISCHARGE FLOW DATA

"RECORD DRAWING"

TRAUSTYPROJUNENWAPR... QUALITY ENGINEERING

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: WRP
DRAWN BY: CAD
CHECKED BY: RLH

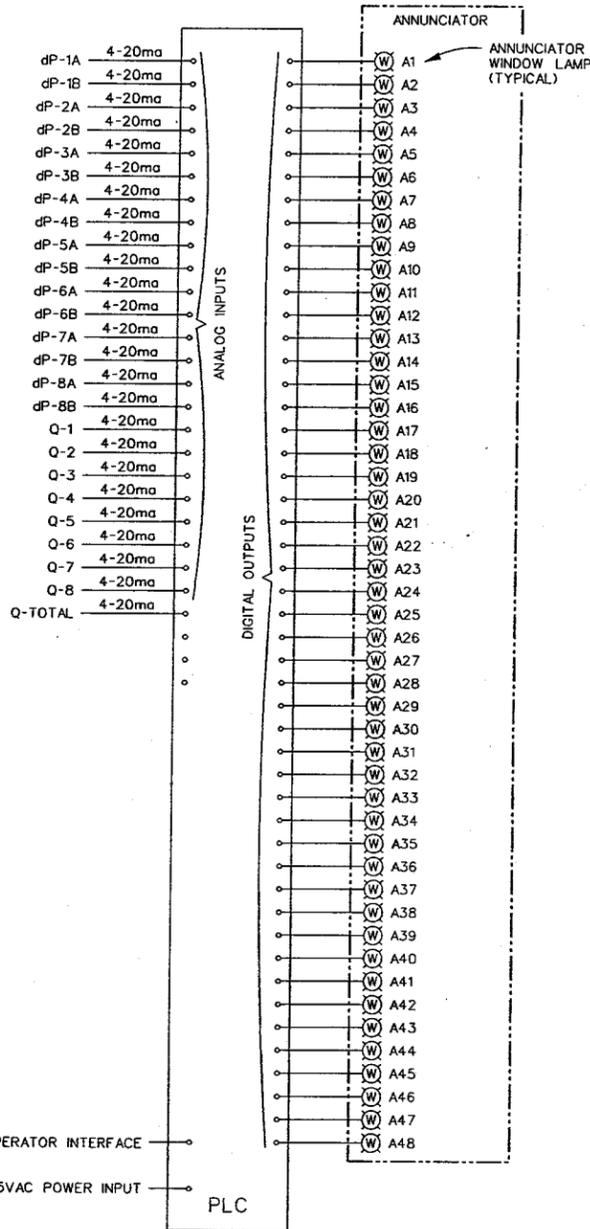
URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370.60.30



NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

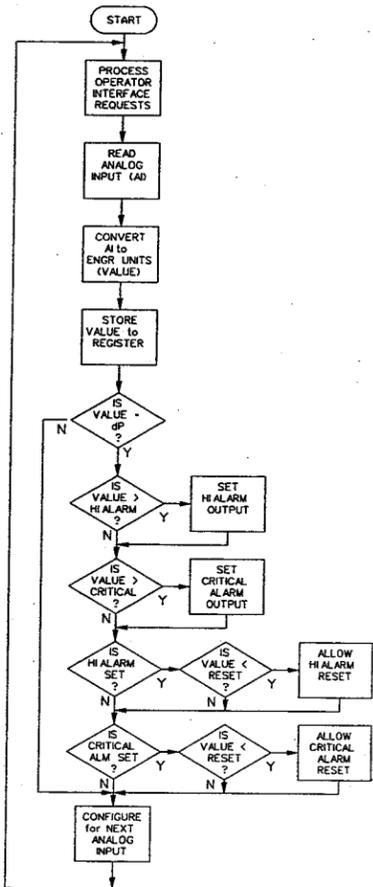
CARBON FILTERS MONITOR PANEL		
SCALE: NONE	Dtgs: 3/14/97	Dwg. No.: E-1



PLC BLOCK DIAGRAM

dP-() - DIFFERENTIAL PRESSURE SIGNAL
 Q-() - FLOW SIGNAL
 A() - ANNUNCIATOR LAMP OUTPUT

SHOWN FOR SITE WITH EIGHT PAIR OF FILTERS AND SIMILAR FOR ALL EXCEPT MODIFIED FOR THE NUMBER OF FILTER PAIRS.



PLC LOGIC DIAGRAM

PLC PROGRAM REQUIREMENTS:

- P1. THE PROGRAM SHALL INCLUDE AN AVERAGING ALGORITHM FOR THE ANALOG INPUTS. THE PARAMETERS FOR THE AVERAGING ALGORITHM SHALL BE ADJUSTABLE (THROUGH PROGRAM MODIFICATIONS - NOT THROUGH OIT), AS AN ALTERNATIVE, THE AVERAGING CAN BE CONFIGURED WITH THE HARDWARE AS A PART OF THE ANALOG INPUT CARDS.
- P2. THE PROGRAM SHALL TEST ANALOG INPUT REASONABILITY (I.E. 4ma < AI < 20ma). ANALOG INPUTS WHICH FAIL REASONABILITY SHALL BE ALARMED WITH MESSAGE TO THE OIT.

OPERATOR INTERFACE REQUIREMENTS:

- O1. SELECTIVELY VIEW DIFFERENTIAL PRESSURE VALUES
- O2. SELECTIVELY VIEW FILTER FLOW VALUE
- O3. CHANGE DIFFERENTIAL PRESSURE HIGH ALARM SETPOINT
- O4. CHANGE DIFFERENTIAL PRESSURE CRITICAL ALARM SETPOINT
- O5. CHANGE DIFFERENTIAL PRESSURE HIGH ALARM RESET POINT
- O6. CHANGE DIFFERENTIAL PRESSURE CRITICAL ALARM RESET POINT
- O7. INITIATE ALARM AKNOWLEDGE
- O8. INITIATE ALARM RESET
- O9. INITIATE ANNUNCIATOR LAMP TEST

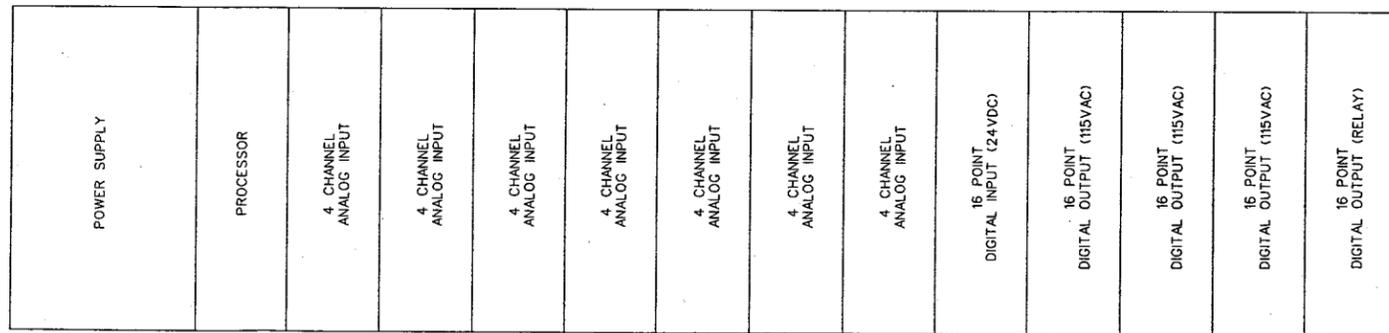
ANNUNCIATOR FUNCTION and SEQUENCE

- A1. WHEN ALARM CONDITION EXISTS, APPROPRIATE ANNUNCIATOR WINDOW SHALL FLASH AT THE RATE 1/2 SEC ON, 1/2 SEC OFF.
- A2. WHEN ALARM IS ACKNOWLEDGED (OIT FUNCTION KEY), FLASHING DISPLAY SHALL BE REPLACED WITH STEADY ON DISPLAY. IF ADDITIONAL ALARMS OCCUR AFTER ACKNOWLEDGE FUNCTION HAS BEEN INITIATED, THESE SHALL FLASH UNTIL SUBSEQUENTLY ACKNOWLEDGED.
- A3. WHEN ALARM IS RESET (OIT FUNCTION KEY), ALL INDICATIONS NOT CURRENTLY IN ALARM CONDITION SHALL BE EXTINGUISHED. INDICATIONS REMAINING IN ALARM CONDITION SHALL CONTINUE TO ILLUMINATE.
- A4. WHEN LAMP TEST (OIT FUNCTION KEY) IS INITIATED, ALL LAMPS SHALL ILLUMINATE FOR A THREE SECOND PERIOD.

FLTR	GROUP	No.	A		
FLT	#1	dP:	XX.X	ln.	
FLT	#2	dP:	XX.X	ln.	
FLOW:	XXX	X	GPM		

OPERATOR INTERFACE TERMINAL TYPICAL DISPLAY MESSAGE

SHOWN for FILTER GROUP No. A AND TYPICAL for GROUPS B THROUGH H



PLC CHASSIS LAYOUT

"RECORD DRAWING"

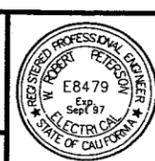
T:\JUSTS\PROJ\NEWMAP\ASBULTY E-2.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
11/98		RECORD DRAWING			
REVISIONS					

DESIGNED BY: WRP
 DRAWN BY: CAD
 CHECKED BY: RLH

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 SACRAMENTO CALIFORNIA

JOB No. 62370.60.30



NEWMARK OU REMEDIAL DESIGN
 NEWMARK GROUNDWATER
 CONTAMINATION SUPERFUND SITE
 NORTH & SOUTH PLANTS

CARBON FILTER PANEL PLC DIAGRAMS	
SCALE: NONE	Date: APRIL, 1997
Dwg. No.:	E-2