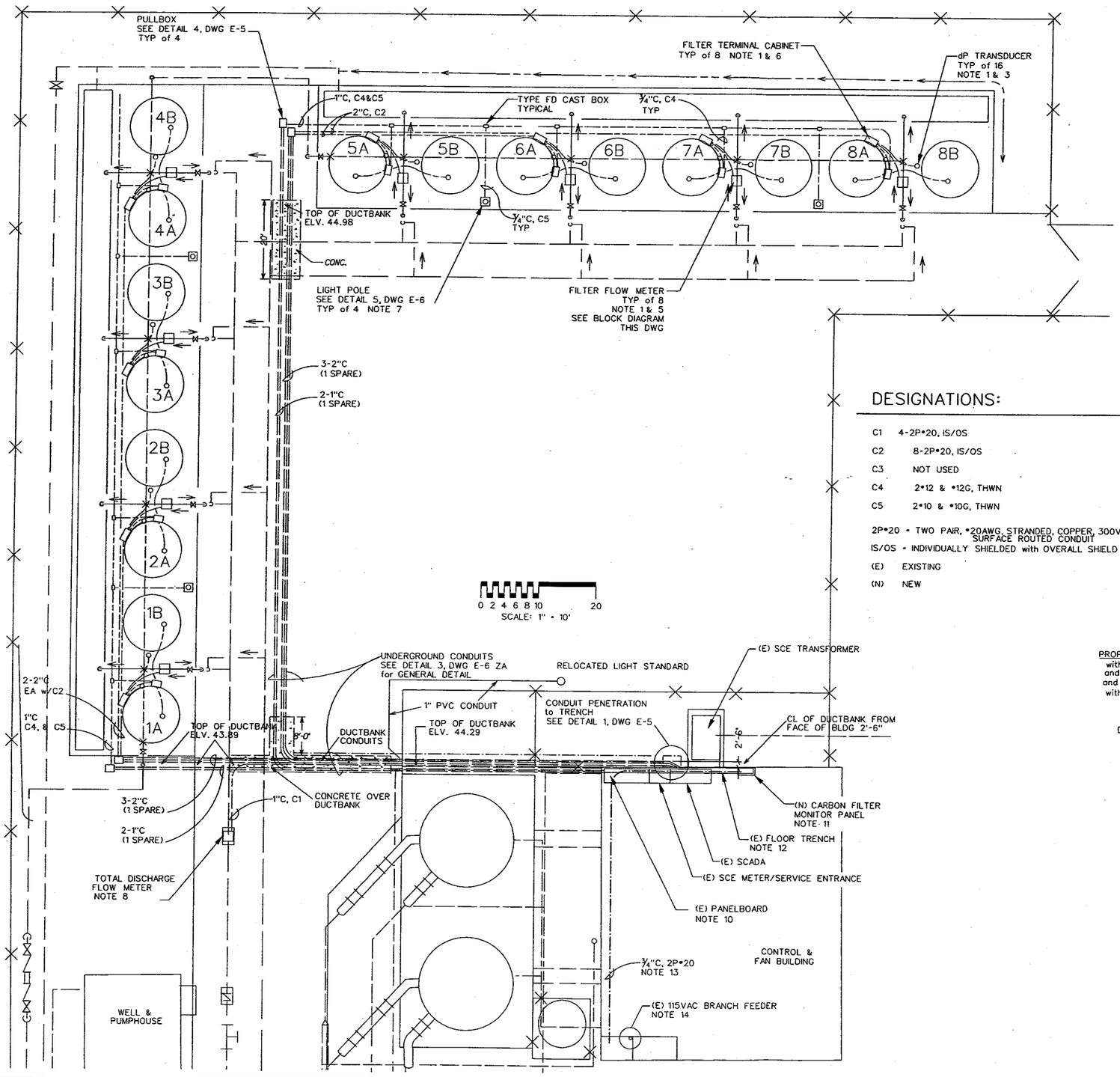


NOTES:

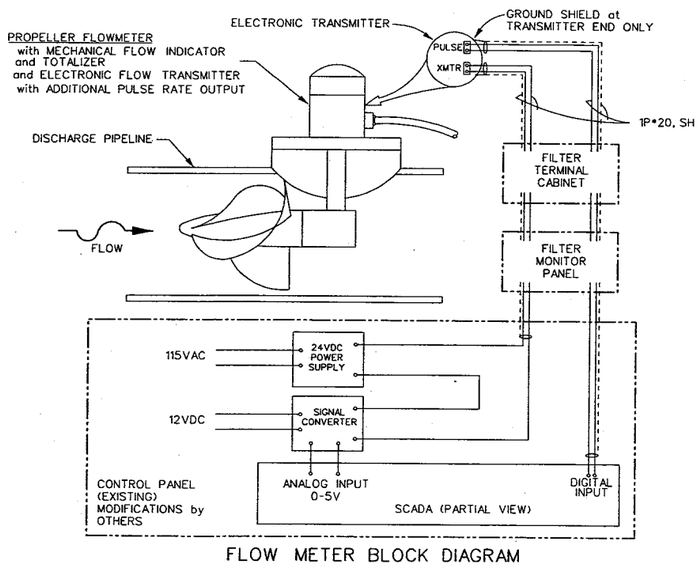
1. LOCATION OF DEVICES ON CARBON FILTER SHOWN FOR PURPOSE OF ILLUSTRATION ONLY. CONTRACTOR SHALL ADJUST ROUTING OF INTERCONNECTING CONDUIT TO SUIT FIELD CONDITIONS. CONDUIT TO FIELD DEVICES SHALL BE RGS AND LIQUID-TITE FLEXIBLE METAL.
2. NOT USED
3. FIELD ROUTE 1P•20 SH CABLE IN ½" CONDUIT FROM dP PRESSURE TRANSDUCER TO FILTER TERMINAL CABINET.
4. NOT USED
5. FIELD ROUTE 2P•20, IS/OS CABLE IN ¾" CONDUIT FROM FILTER FLOW METER TO FILTER TERMINAL CABINET.
6. FILTER TERMINAL CABINET SHALL BE PROVIDED BY THE CONTRACTOR TO INTERFACE FIELD DEVICE WIRING WITH WIRING TO CARBON MONITOR PANEL. THE FILTER TERMINAL CABINET SHALL BE NEMA 4, 24"H X 20"W X 6"D WITH HINGED AND CLAMPED DOOR, BACK PANEL, AND INTERFACE TERMINAL BOARDS. THE CABINET SHALL BE MOUNTED TO THE FILTER ASSEMBLY AT A CONVENIENT LOCATION. INTERFACE TERMINALS SHALL BE PROVIDED FOR:
   FILTER 1 dP TRANSDUCER
   FILTER 2 dP TRANSDUCER
   FILTER FLOW METER SIGNAL
   FILTER FLOW PULSE OUTPUT

   GROUND TERMINALS SHALL BE PROVIDED FOR ALL CABLE SHIELDS. A MINIMUM OF 20% SPARE TERMINAL POINTS SHALL BE PROVIDED. INTERFACE CABLES TO THE FILTER MONITOR PANEL SHALL BE 4-2P•20, IS/OS (1 SPARE). FILTER DEVICES SHALL BE AS NOTED (NOTES 2 - 5).
7. LIGHT POLES SHALL INCLUDE GFCI DUPLEX RECEPTACLE. LIGHT POLES AND RECEPTACLES SHALL RECEIVE POWER FROM A NEW 20A, ONE-POLE BREAKER INSTALLED IN THE EXISTING 240/120V PANELBOARD LOCATED IN THE CONTROL ROOM.
8. ROUTE 2P•20, IS/OS CABLE IN ¾" CONDUIT FROM TOTAL DISCHARGE FLOW METER TO FILTER TERMINAL CABINET. ROUTE CONDUIT UNDERGROUND FROM FLOW METER TO FILTER PAD AND SURFACE ROUTE CONDUIT AS NECESSARY OVER FILTER PAD.
9. SUBSURFACE CONDUITS SHALL BE PVC, SCHEDULE 40. SURFACE ROUTED CONDUITS SHALL BE RGS. TRANSITION CONDUITS FROM SURFACE TO SUBSURFACE SHALL BE PVC COATED RGS OR PVC WRAPPED RGS.
10. MODIFY EXISTING PANELBOARD (WESTINGHOUSE TYPE PRL1, 120/240V, 1Ø, 225A). ADD NEW 1-POLE, 20A, TYPE "BA" BREAKERS FOR THE FOLLOWING NEW CIRCUITS: EXTERIOR LIGHTING; FILTER MONITOR PANEL.
11. (N) WALL MOUNTED CARBON FILTER MONITOR PANEL. SEE DWGS E-1, E-2, AND E-4 FOR ADDITIONAL DETAILS.
12. (E) FLOOR TRENCH TO BE USED AS WIREWAY FOR NEW INTERCONNECTIONS.
13. SURFACE ROUTE NEW CONDUIT FROM CARBON FILTER MONITOR PANEL TO (E) CHLORINATION DELIVERY ROOM. CABLE SHALL CONNECT FROM TOTAL FLOW SIGNAL ISOLATOR TO NEW CHLORINATION DELIVERY EQUIPMENT AS REQUIRED FOR CHLORINATION AUTOMATION. CONDUIT PENETRATION TO CHLORINATION ROOM SHALL BE COMPLETELY SEALED.
14. TAP (E) 115VAC POWER FROM JUNCTION BOX TO NEW 240V, FUSED SWITCH, NEMA 1, 10A FUSE, AND ROUTE TO NEW CHLORINATION DELIVERY EQUIPMENT IN PVC, SCHDL 80, CONDUIT.

DESIGNATIONS:

C1 4-2P•20, IS/OS
C2 8-2P•20, IS/OS
C3 NOT USED
C4 2•12 & •12G, THWN
C5 2•10 & •10G, THWN

2P•20 - TWO PAIR, •20AWG, STRANDED, COPPER, 300V SURFACE ROUTED CONDUIT
IS/OS - INDIVIDUALLY SHIELDED with OVERALL SHIELD
(E) EXISTING
(N) NEW



FLOW METER BLOCK DIAGRAM

"RECORD DRAWING"

T:\USTS\PROJ\NEWMAP\ASBUILT\ E-3.DGN

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

REGISTERED PROFESSIONAL ENGINEER
ROBERT PETERSON
E8479
Exp. Sept '97
ELECTRICAL
STATE OF CALIFORNIA

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

CARBON FILTER / WATERMAN
ELECTRICAL SITE PLAN

SCALE: AS SHOWN
Date: APRIL, 1997
Dwg. No.: E-3

DESIGNATIONS:

C1 4-2P*20, IS/OS

C2 8-2P*20, IS/OS

C3 9-2P*20, IS/OS

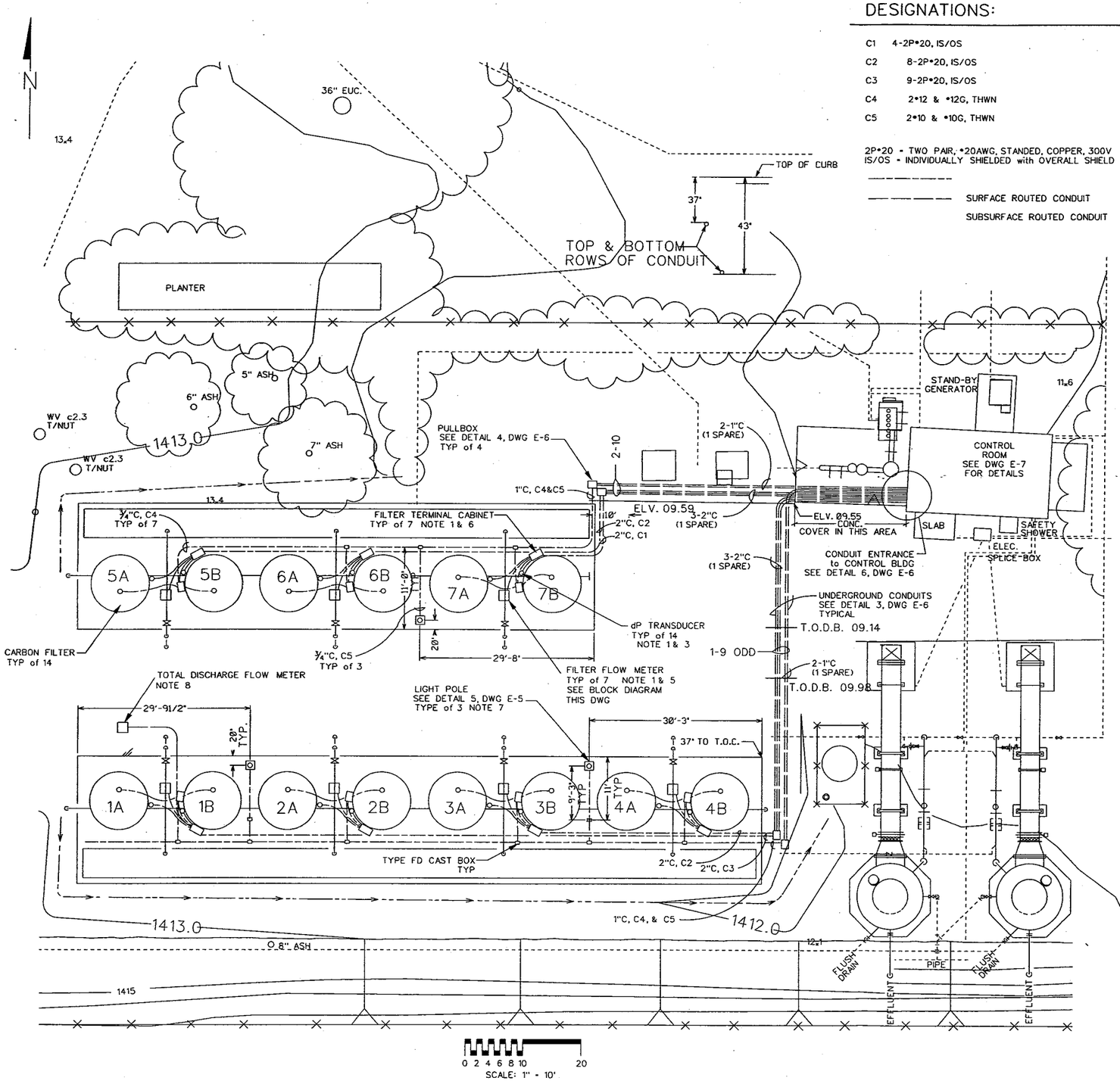
C4 2*12 & *12G, THWN

C5 2*10 & *10G, THWN

2P*20 - TWO PAIR, *20AWG, STANDED, COPPER, 300V
IS/OS - INDIVIDUALLY SHIELDED with OVERALL SHIELD

SURFACE ROUTED CONDUIT

SUBSURFACE ROUTED CONDUIT



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   FILTER 1 dP TRANSDUCER
   FILTER 2 dP TRANSDUCER
   FILTER FLOW METER SIGNAL
   FILTER FLOW PULSE OUTPUT
   TOTAL FLOW METER SIGNAL (WHERE APPLICABLE)
   TOTAL FLOW METER PULSE OUTPUT (WHERE APPLICABLE)

   GROUND TERMINALS SHALL BE PROVIDED FOR ALL CABLE SHIELDS. A MINIMUM OF 20% SPARE TERMINAL POINTS SHALL BE PROVIDED. INTERFACE CABLES TO THE FILTER MONITOR PANEL SHALL BE 4-2P*20, IS/OS (1 SPARE). FILTER DEVICES SHALL BE AS NOTED (NOTES 2 - 5).
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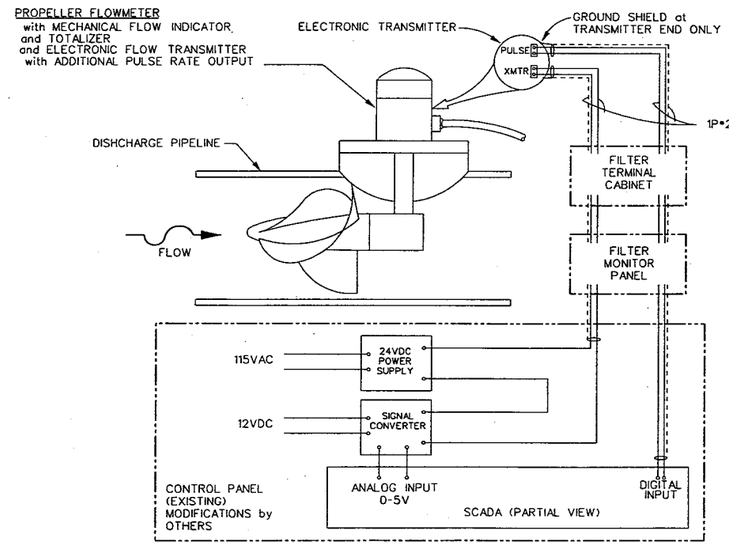


FLOW METER BLOCK DIAGRAM

"RECORD DRAWING"

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

REVISIONS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370.60.30

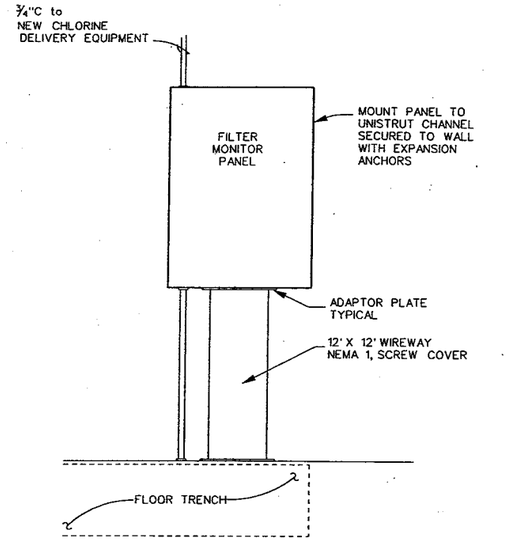
REGISTERED PROFESSIONAL ENGINEER W. ROBERT PETERSON E8479 Exp. Sept '97 ELECTRICAL STATE OF CALIFORNIA

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

CARBON FILTER / NORTH PLANT
ELECTRICAL SITE PLAN

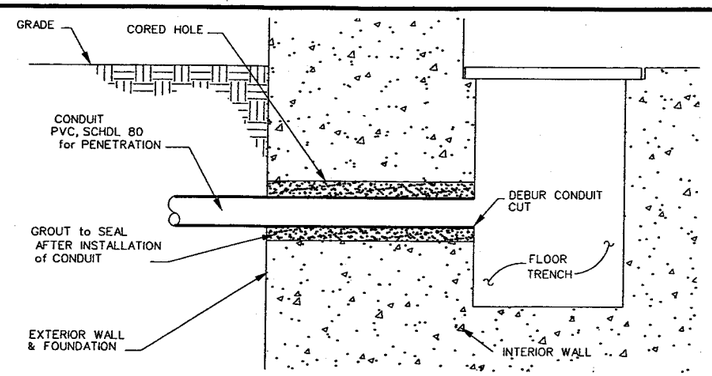
SCALE: | Date: | Dwg. No.: E-4

T:\USTS\PROJ\NEWMAP\...\BUILT\ E-4.DGN



FILTER MONITOR PANEL - SOUTH PLANT

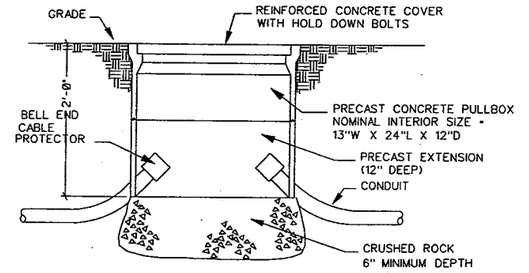
NO SCALE



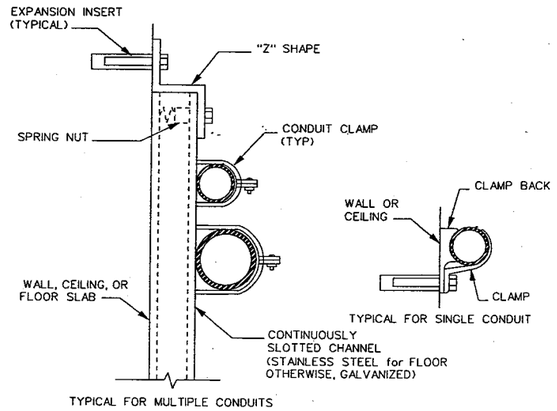
DETAIL 1

BLOCK/CONCRETE WALL CONDUIT PENETRATION - WATERMAN

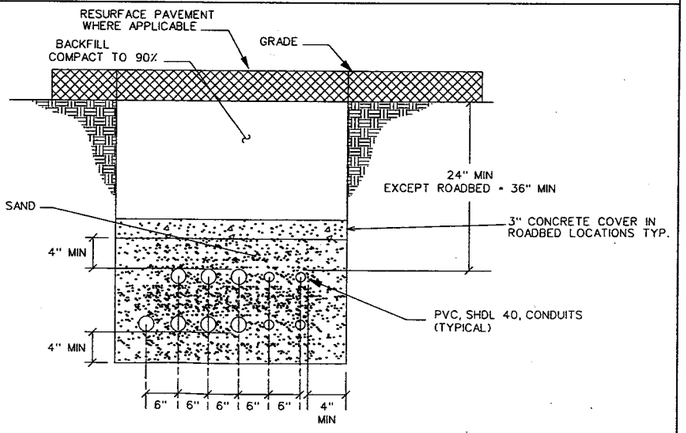
FOR EXTERIOR to INTERIOR PENETRATIONS



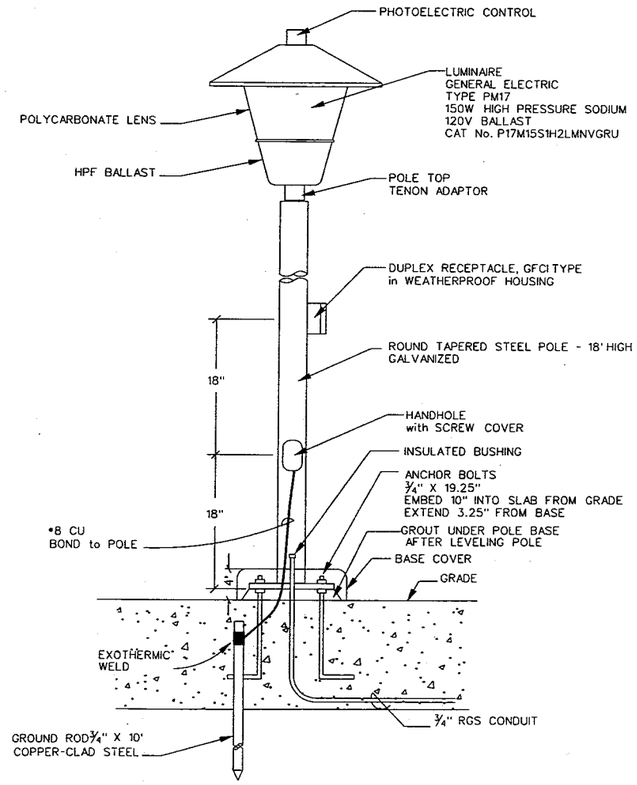
DETAIL 4 - PRECAST PULLBOX



DETAIL 2 - CONDUIT SUPPORTS

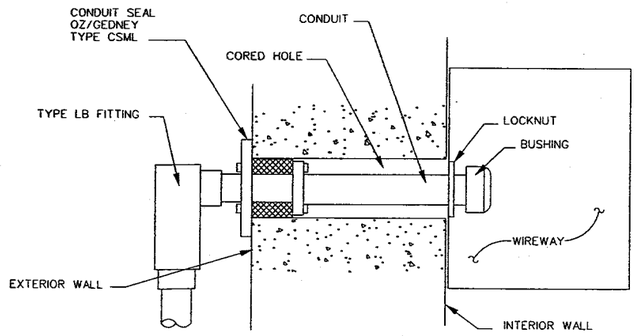


DETAIL 3 - DUCTBANK



DETAIL 5 - AREA LIGHT POLE

"RECORD DRAWING"



DETAIL 6

BLOCK/CONCRETE WALL CONDUIT PENETRATION

FOR EXTERIOR to INTERIOR PENETRATIONS

T:\USTS\PROJ\NEWMAP\"SBUILT\ E-6.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	11/98	RECORD DRAWING			

REVISIONS

DESIGNED BY:

DRAWN BY:

CHECKED BY:

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

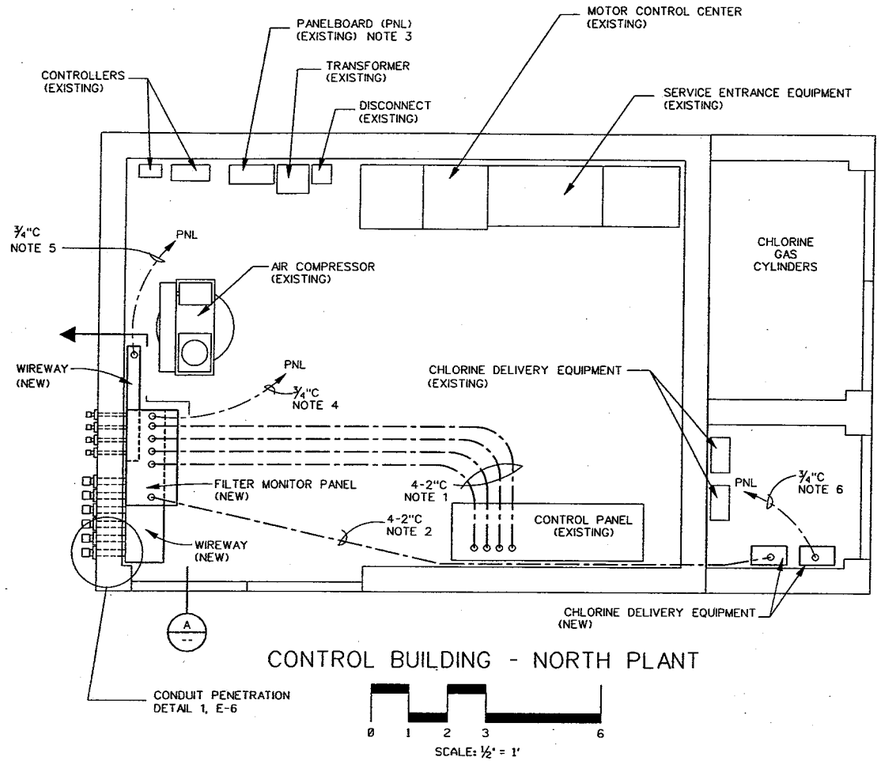
JOB No. 62370.60.30

REGISTERED PROFESSIONAL ENGINEER
W. ROBERT PETERSEN
E8479
Exp. Sept '97
ELECTRICAL
STATE OF CALIFORNIA

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

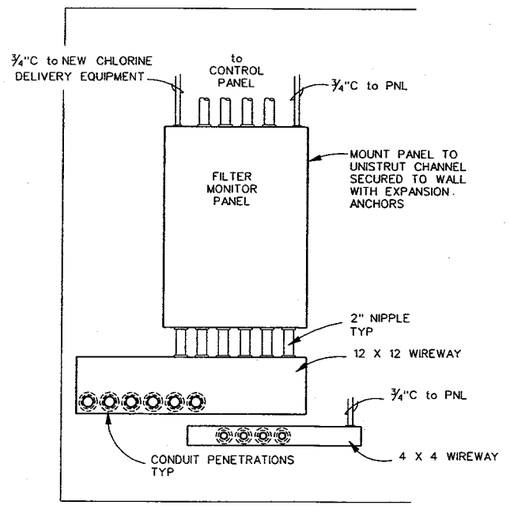
ELECTRICAL DETAILS

SCALE: NONE | Date: 3/97 | Dwg. No.: E-6



CONTROL BUILDING - NORTH PLANT

SCALE: ½" = 1'



SECTION A - FILTER MONITOR PANEL

NO SCALE

CONTROL BUILDING NOTES:

1. INSTALL 4 - 2"C FROM FILTER MONITOR PANEL TO EXISTING CONTROL PANEL. INSTALL 22-2P#20 IS/OS CABLES. CONNECT CABLE ENDS AT FILTER MONITOR PANEL TO INTERFACE "SCADA" TERMINALS. PROVIDE UNIQUE WIRE MARKERS FOR EACH WIRE INSTALLED ON BOTH ENDS OF CABLE. EXTEND CABLES INTO EXISTING CONTROL PANEL 10' AND COIL FOR FUTURE USE BY DISTRICT.
2. INSTALL ¾" CONDUIT FROM FILTER MONITOR PANEL TO NEW CHLORINE DELIVERY EQUIPMENT. ROUTE 1P#20, SH CABLE FROM APPLICABLE SIGNAL ISOLATOR FOR TOTAL FLOW SIGNAL FOR USE BY CHLORINE DELIVERY EQUIPMENT.
3. MODIFY EXISTING PANELBOARD. ADD FOUR NEW SINGLE-POLE, 20A BREAKERS TO BE CONNECTED TO FOLLOWING NEW LOADS:
   - FILTER MONITOR PANEL
   - FILTER RUPTURE MONITORS
   - FILTER AREA LIGHTING and RECEPTACLES
   - NEW CHLORINE DELIVERY EQUIPMENT
4. INSTALL ¾" CONDUIT FROM PANELBOARD TO FILTER MONITOR PANEL. ROUTE AND CONNECT 2#12 & #12G FOR NEW BRANCH CIRCUIT FOR FILTER MONITOR PANEL.
5. INSTALL ¾" CONDUIT FROM PANELBOARD TO 4" X 4" WIREWAY. ROUTE AND CONNECT 2#12 & #12G FOR NEW BRANCH CIRCUIT TO ALL RUPTURE MONITOR PANELS. ROUTE AND CONNECT 2#10 & #10G FOR NEW BRANCH CIRCUIT TO AREA LIGHTING AND RECEPTACLES.
6. INSTALL ¾" CONDUIT FROM PANELBOARD TO NEW CHLORINE DELIVERY EQUIPMENT. ROUTE AND CONNECT 2#12 & #12G FOR NEW BRANCH CIRCUIT FOR NEW CHLORINE DELIVERY EQUIPMENT.

"RECORD DRAWING"

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

REVISIONS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No.

REGISTERED PROFESSIONAL ENGINEER
W. ROBERT PETERSEN
E8479 Exp. Sept '97
ELECTRICAL
STATE OF CALIFORNIA

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

CONTROL BUILDING
NORTH PLANT

SCALE:	Date:	Dwg. No.:
NONE	3/97	E-7

T:\USTS\PROJ\NEWMARK\BUILT\ E-7.DGN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER CONTAMINATION SUPERFUND SITE
17 th STREET PLANT

RECORD DRAWINGS

PREPARED BY

URS CONSULTANTS, INC.

SACRAMENTO, CA

MAY 2001

PIPE LINE SYMBOL IDENTIFICATION

- PROCESS LINE
- NON-PROCESS LINE OR UTILITY LINE
- HPST — HEAT-TRACED LINES : HPST = HIGH PRESSURE STEAM
- LPST — LPST = LOW PRESSURE STEAM
- JACKETED LINE
- RUBBER HOSE
- A — COMPRESSED AIR LINE

VALVE SYMBOLS

CLV	CONTROL VALVE
GV	GATE VALVE
BFV	BUTTERFLY VALVE
PCV	PLUG COCK VALVE
GLV	GLOBE VALVE
BV	BALL VALVE
TWV	THREE WAY VALVE
FWV	FOUR WAY VALVE
PIV	PINCH VALVE
PV	PLUG VALVE
CV	CHECK VALVE
NV	NEEDLE VALVE
AV	ANGLE VALVE
VPR	VACUUM/PRESSURE RELIEF
VR	VACUUM RELIEF
PR	PRESSURE RELIEF
SGV	SLIDE GATE VALVE
KGV	KNIFE GATE VALVE
DV	DIAPHRAGM VALVE
BFP	BACK FLOW PREVENTOR
PRV	PRESSURE REGULATING VALVE

PIPE FITTING SYMBOLS
(USE FOR INSTALLATION OF ALL MATERIALS)

- THREADED FITTING
- FLANGED FITTING
- WELDED FITTING
- BELL & SPIGOT FITTING
- SOLVENT WELDED FITTING

PIPE LINE DESIGNATIONS

6"-CS-WM-1"

- 6" — NORMAL LINE SIZE
- CS — MATERIAL
- WM — FLUID MEDIUM
- 1 — INSULATION THICKNESS

MISCELLANEOUS PIPING COMPONETS

- REDUCER (CONCENTRIC)
- REDUCER (ECCENTRIC)
- DOUBLE FLANGE
- DRAIN
- UNION
- PIPE CAP
- PIPE CAP (WELDED)
- RUPTURE DISK
- EXPANSION JOINT (METAL OR RUBBER)
- RUBBER SLEEVE
- Y-TYPE STRAINER W/PLUG
- Y-TYPE STRAINER W/VALVE
- HOSE CONNECTION
- QUICK DISCONNECT COUPLING (FEMALE)
- QUICK DISCONNECT COUPLING (MALE)
- T — TRAP

EQUIPMENT DESIGNATIONS

- CENTRIFUGAL PUMP
- CENTRIFUGAL FAN
- POSITIVE DISPLACEMENT PUMP
- ROTARY BLOWER
- AIR FILTER
- ROTARY LOBE PUMP

PIPING DESIGNATIONS

CI	-	CAST IRON
CS	-	CARBON STEEL
CU	-	COPPER TUBING
PVC	-	POLYVINYL CHLORIDE
PVCS	-	POLYVINYL CHLORIDE SCHEDULE 80
CPVC	-	CHLORNATED POLYVINYL CHLORIDE
SS	-	STAINLESS STEEL
GCS	-	GALVANIZED CARBON STEEL
LCS	-	LINED CARBON STEEL
FS	-	FLEXIBLE HOSE

ABBREVIATIONS

ATM	-	ATMOSPHERIC
BF	-	BLIND FLANGE
BOP	-	BOTTOM OF PIPE
CW	-	CHAINWHEEL OPERATED
DR.	-	DRAIN
F	-	FITTING
FC	-	FAIL CLOSED
FI	-	FAIL INDETERMINATE
FO	-	FAIL OPEN
GO	-	GEAR OPERATED
H.C.	-	HOSE CONNECTION
H. PT	-	HIGH POINT
IAS	-	INSTRUMENT AIR SUPPLY
L. PT	-	LOW POINT
NC	-	NORMALLY CLOSED
NLL	-	NORMAL LIQUID LEVEL
NO	-	NORMALLY OPEN
P	-	PIPE
P.O.S.	-	POINT OF SUPPORT
RO	-	RESTRICTION ORIFICE
S.T.	-	SAMPLE TAP
V	-	VALVE
V.S.	-	VENDOR SUPPLIED ITEM
XJ	-	EXPANSION JOINT

FLUID MEDIUM SPECIFICATIONS TABLE

FLUID MEDIUM ABBREVIATIONS	FLUID MEDIUM
RW	RAW WATER
TW	TREATED WATER
BW	BACKWASH WATER
SBW	SPENT BACKWASH WATER

INSTRUMENTATION SYMBOLS & LEGEND

- M — MOTOR
- PL — PANEL LIGHT/INDICATOR

(INSTRUMENTATION)

F1 222 — 2 SERIES — 02 FUNCTIONAL GROUP

(EQUIPMENT)

F21 — P TYPE — 02 FUNCTIONAL GROUP

INSTRUMENTATION SYMBOLS & LEGEND continued

GENERAL SYMBOL - BALLOON (APPROX. SIZE 7/16" DIA.)

- LOCALLY MOUNTED — PE 1021
- MOUNTED BEHIND BOARD — PE 1021
- MOUNTED BEHIND BOARD IN AUX LOCATION — PE 1021
- LOCALLY MOUNTED TWO MEASURED VARIABLES — PE 1021 PE 1022
- MOUNTED BEHIND BOARD TWO MEASURED VARIABLES — PE 1021 PE 1022
- AUX LOCATION: NORMALLY ACCESSABLE TO OPERATOR — PE 1021
- ELECTRICAL SIGNAL
- MOUNTED ON BOARD — PE 1021
- LOCALLY MOUNTED LONG TAG NUMBER — PE 1022-23
- MOUNTED ON BOARD TWO MEASURED VARIABLES — PE 1021 PE 1022
- INTERLOCK — I 1
- PROGRAMABLE INTERLOCK — I 2

MEANINGS OF IDENTIFICATION LETTERING

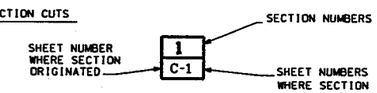
LTR	FIRST LETTER: MEASURED OR INITIATING VARIABLE	FIRST LETTER: MODIFIER	SUCCEEDING LETTER: READOUT OR PASSIVE FUNCTION	SUCCEEDING LETTER: OUTPUT FUNCTION	SUCCEEDING LETTER: MODIFIER
A	ANALYSIS	-	ALARM	-	-
B	BURNER FLAME	-	USERS CHOICE	• →	→
C	CONDUCTIVITY (ELEC)	-	-	CONTROL 13	-
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL *	-	-	-
E	VOLTAGE (EMF)	-	PRIMARY ELEMENT	-	-
F	FLOW RATE	RATIO (FRACTION)*	-	-	-
G	GAGING (DIMENSIONAL)	-	GLASS*	-	-
H	HAND (MANUALLY ACTIVATED)	-	ALARM	-	HIGH *
I	CURRENT (ELEC)	-	INDICATE	-	-
J	POWER	SCAN	-	-	-
K	TIME OR TIME - SCHEDULE	-	-	CONTROL STATION	-
L	LEVEL	-	LIGHT (PILOT)	•	LOW
M	MOISTURE OR HUMIDITY	-	-	-	MIDDLE OR INTERMIDIATE
N	USERS CHOICE* →	→	→	→	→
O	USERS CHOICE*	-	ORIFICE (RESTRICTION)	-	-
P	PRESSURE/VACUUM	-	POINT (TEST CONNECTION	-	-
Q	QUANTITY/EVENT	INTEGRATE OR TOTALIZE*	-	-	-
R	RADIOACTIVITY	-	RECORD/PRINT	-	-
S	SPEED/FREQUENCY	SAFETY*	-	SWITCH*	-
T	TEMPERATURE	-	ALARM	TRANSMIT	-
U	MULTIVARIABLE*	-	MULTIFUNCTION	• →	→
V	VISCOSITY	-	-	VALVE DAMPER OR LOUVER*	-
W	WEIGHT/FORCE	-	WELL	-	-
X	UNCLASSIFIED* →	→	→	→	→
Y	USERS CHOICE*	-	ALARM	RELAY OR COMPUTE*	-
Z	POSITION	-	-	DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	-

* = SEE ISA "INSTRUMENTATION SYMBOLS AND IDENTIFICATION" MANUAL (AMERICAN NATIONAL STANDARD) 1981 EDITION. TABLE 1. PAGE 12.

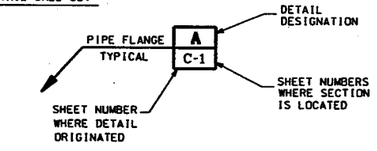
- DPAH = DIFFERENTIAL PRESSURE ALARM (HIGH)
- DPSL = DIFFERENTRIAL PRESSURE SWITCH (LOW)
- FE = FLOW ELEMENT
- FSL = FLOW SWITCH (LOW)
- FP = FLOW MEASURE
- FIR = FLOW INDICATOR AND RECORDER
- FI = FLOW INDICATOR
- FQI = FLOW REGULATOR
- LLA = LOW LEVEL ALARM
- LC = LEVEL CONTROL
- LSH = LEVEL SWITCH HIGH
- LSL = LEVEL SWITCH LOW
- LSHH = LEVEL SWITCH HIGH HIGH
- PDSL = DIFFERENTIAL PRESSURE SWITCH
- PI = PRESSURE INDICATOR (GAUGE)
- PSL = PRESSURE SWITCH (LOW)
- PSH = PRESSURE SWITCH (HIGH)
- S = SAMPLE
- TC = TEMPERATURE CONTROLLER
- TE = TEMPERATURE ELEMENT
- TI = TEMPERATURE INDICATOR (GAUGE)
- TIR = TEMPERATURE INDICATOR AND RECORDER
- TSL = TEMPERATURE SWITCH LOW
- TSH = TEMPERATURE SWITCH HIGH
- XIR = PH RECORDER
- XSL = PH (LOW)
- XSH = PH (HIGH)

SECTION & DETAIL IDENTIFICATION

SECTION CUTS



DETAIL CALL OUT



LOCAL SECTION/DETAIL CALL OUTS

RECORD DRAWING

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
5/01		RECORD DRAWING			

REVISIONS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370.60

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
17 th STREET PLANT

LEGEND & SYMBOLS

Scale: NONE | Date: 7/95 | Dwg. No.: G-3

JOB No. 6237 . FILE No. C:\PROJ\NEWMARK\NORTH\SYMSHT.DGN

FROM EXIST. PLANT WATER SUPPLY

CARBON UNIT 20,000 LB A-1
CARBON UNIT 20,000 LB A-2
CARBON UNIT 20,000 LB B-1
CARBON UNIT 20,000 LB B-2
CARBON UNIT 20,000 LB C-1
CARBON UNIT 20,000 LB C-2
CARBON UNIT 20,000 LB D-1
CARBON UNIT 20,000 LB D-2

BACKWASH WATER HEADER
RAW WATER INLET HEADER
TREATED WATER HEADER
SPENT BACKWASH LINE (TYP)

BACKWASH SUMP

SEE SHEETS P-5 AND C-3

CARBON UNIT 20,000 LB E-1
CARBON UNIT 20,000 LB E-2
CARBON UNIT 20,000 LB F-1
CARBON UNIT 20,000 LB F-2
CARBON UNIT 20,000 LB G-1
CARBON UNIT 20,000 LB G-2
CARBON UNIT 20,000 LB H-1
CARBON UNIT 20,000 LB H-2

SPENT BACKWASH DRAIN LINE
BACKWASH WATER HEADER
RAW WATER INLET HEADER
TREATED WATER HEADER

BACKWASH SUMP

SPENT BACKWASH DRAIN LINE

EXISTING DRAIN LINE

TO STORM DRAIN

NOTE:
CARBON UNITS WITH ALL RELATED PIPING, VALVING AND INSTRUMENTATION PROVIDED BY CARBON VENDOR

LEGEND :
EXISTING
NEW

17 th STREET PLANT

CARBON UNIT 20,000 LB A-1
CARBON UNIT 20,000 LB A-2
CARBON UNIT 20,000 LB B-1
CARBON UNIT 20,000 LB B-2
CARBON UNIT 20,000 LB C-1
CARBON UNIT 20,000 LB C-2

BACKWASH WATER HEADER
RAW WATER INLET HEADER
TREATED WATER HEADER
TO CITY WATER DISTRIBUTION SYSTEM

BACKWASH SUMP

NOTE:
MODIFICATION PIPING FOR DOUBLE-PASS OPERATION TO BE INSTALLED BY THE CITY OF SAN BERNARDINO

RAW WATER INLET

PROPOSED WELL NO. 1
PROPOSED WELL NO. 2
PROPOSED WELL NO. 3
PROPOSED WELL NO. 4
PROPOSED WELL NO. 5

SYSTEM BYPASS

EXISTING AIR STRIPPING TOWER
EXISTING AIR STRIPPING TOWER

EXISTING TREATED WATER DISCHARGE LINES TO RESERVOIR

EXISTING RESERVOIR

RECORD DRAWING

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
5/01		RECORD DRAWING			

REVISIONS

DESIGNED BY: GP
DRAWN BY: NDH
CHECKED BY: DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

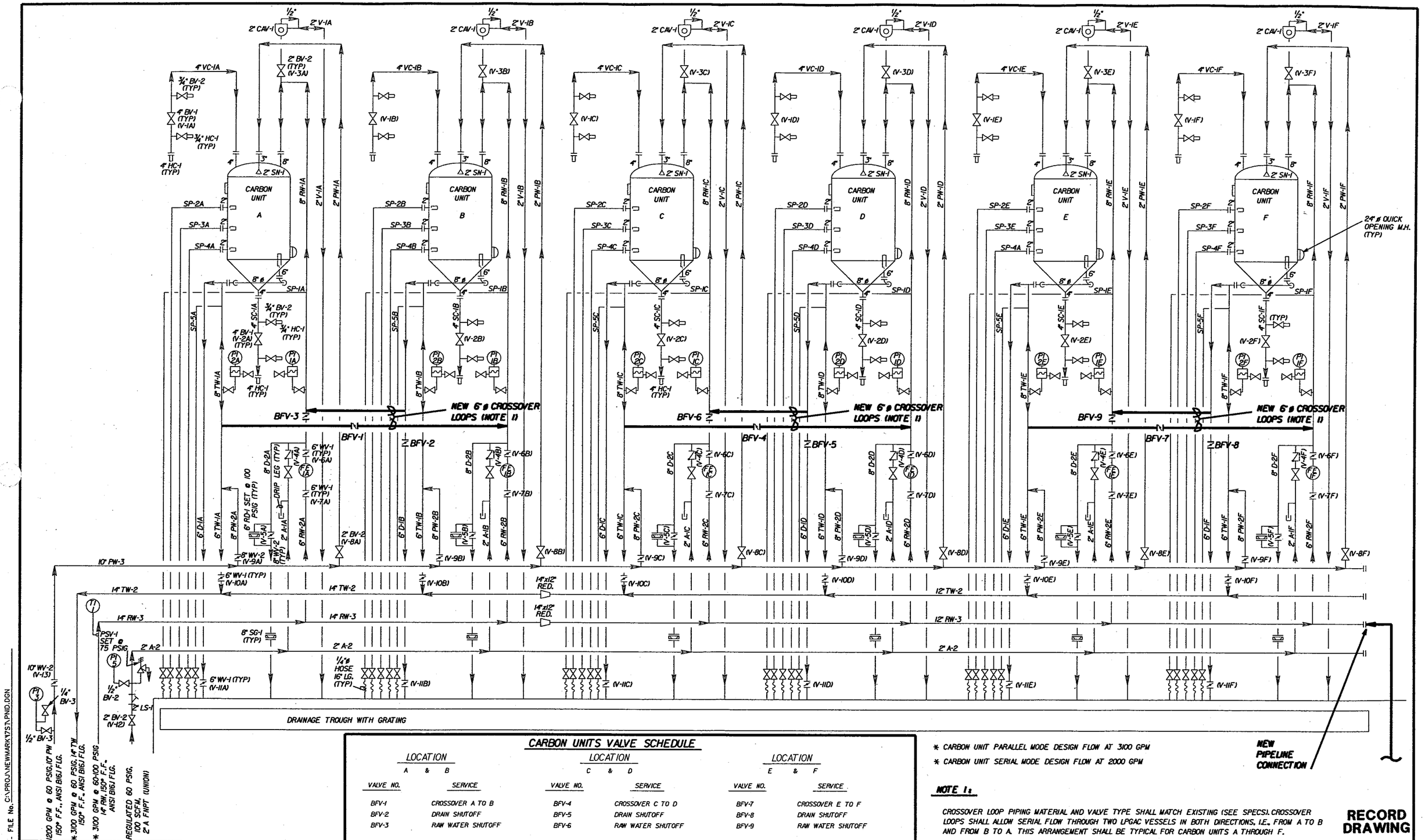
JOB No. 62370

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

SOUTH PLANTS
PROCESS FLOW DIAGRAM

Scale: NONE | Date: 2/99 | Dwg. No.: P-6

FILE No. C:\PROJ\NEWMARK\WATERPROCESS.DGN
JOB No. 623



CARBON UNITS VALVE SCHEDULE

LOCATION A & B		LOCATION C & D		LOCATION E & F	
VALVE NO.	SERVICE	VALVE NO.	SERVICE	VALVE NO.	SERVICE
BFV-1	CROSSOVER A TO B	BFV-4	CROSSOVER C TO D	BFV-7	CROSSOVER E TO F
BFV-2	DRAIN SHUTOFF	BFV-5	DRAIN SHUTOFF	BFV-8	DRAIN SHUTOFF
BFV-3	RAW WATER SHUTOFF	BFV-6	RAW WATER SHUTOFF	BFV-9	RAW WATER SHUTOFF

* CARBON UNIT PARALLEL MODE DESIGN FLOW AT 3100 GPM

* CARBON UNIT SERIAL MODE DESIGN FLOW AT 2000 GPM

NOTE 1:

CROSSOVER LOOP PIPING MATERIAL AND VALVE TYPE SHALL MATCH EXISTING (SEE SPECS). CROSSOVER LOOPS SHALL ALLOW SERIAL FLOW THROUGH TWO LPGAC VESSELS IN BOTH DIRECTIONS, I.E., FROM A TO B AND FROM B TO A. THIS ARRANGEMENT SHALL BE TYPICAL FOR CARBON UNITS A THROUGH F.

RECORD DRAWING

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
	5/01	RECORD DRAWING			

REVISIONS

DESIGNED BY: GP
DRAWN BY: NDH
CHECKED BY: DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

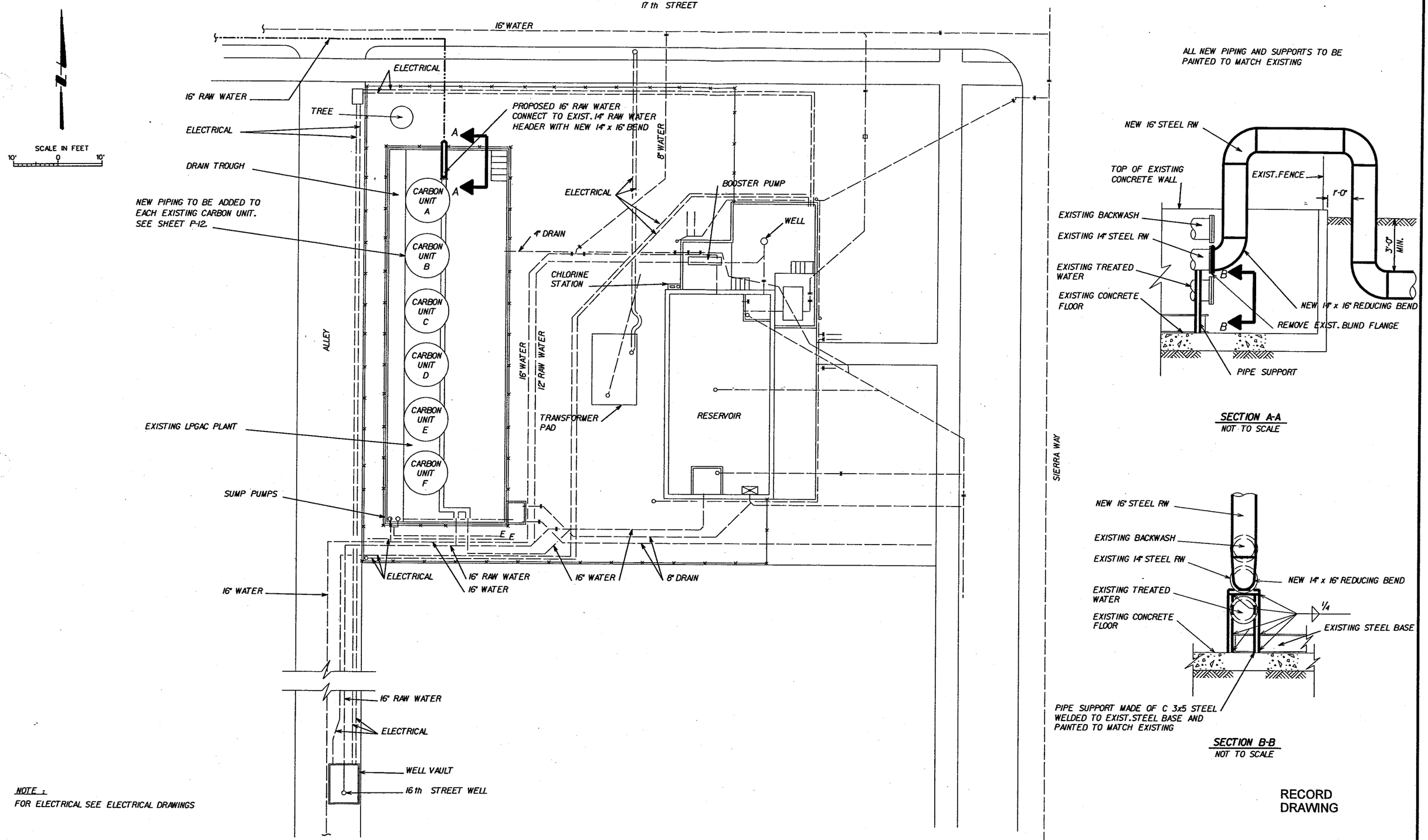
NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

17 th STREET
PIPING AND INSTRUMENTATION
DIAGRAM (P&ID)

Scale: NONE | Date: 2/97 | Dwg. No.: P-12

JOB No. 520

FILE No. C:\PROJ\NEWMARK\7STN.PNID.DGN



NOTE :
FOR ELECTRICAL SEE ELECTRICAL DRAWINGS

ALL NEW PIPING AND SUPPORTS TO BE PAINTED TO MATCH EXISTING

SECTION A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

RECORD DRAWING

SCALE IN FEET
10' 0 10'

JOB No. 520.0211 FILE No. C:\PROJ\NEWMARK\7STN.17EXSITE.DGN

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
	5/01	RECORD DRAWING			

REVISIONS

DESIGNED BY: GP
DRAWN BY: NDH
CHECKED BY: DHD

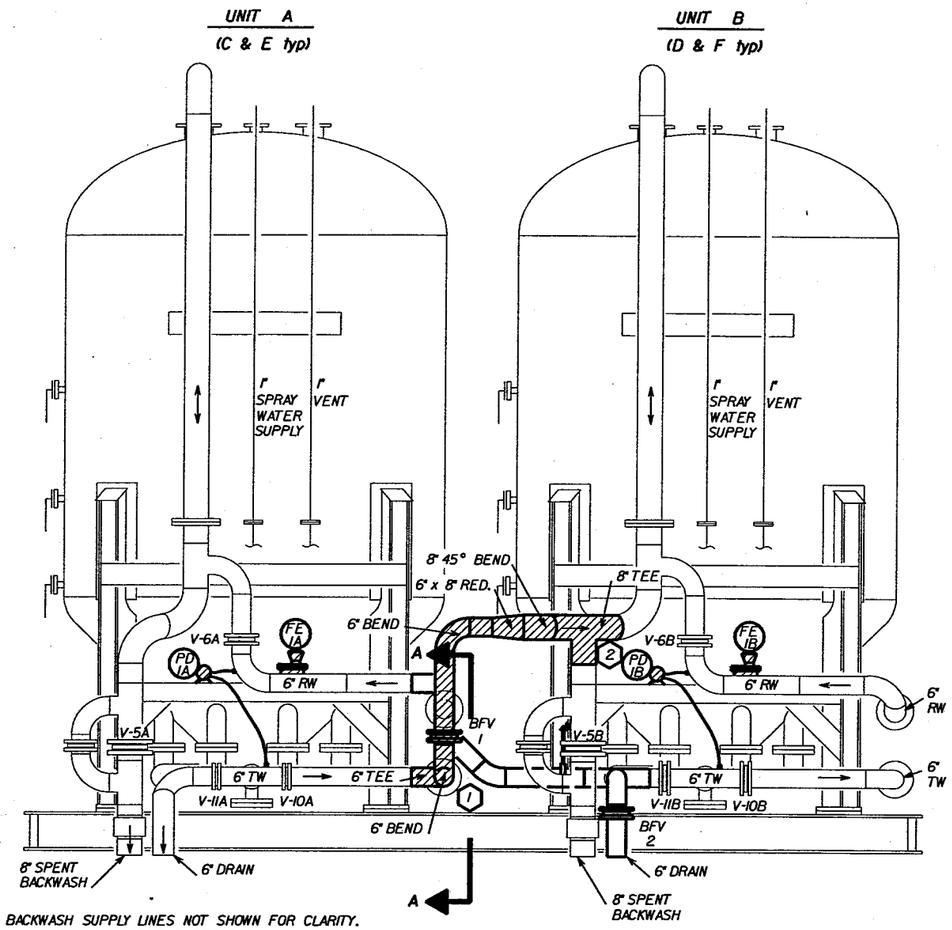
URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

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

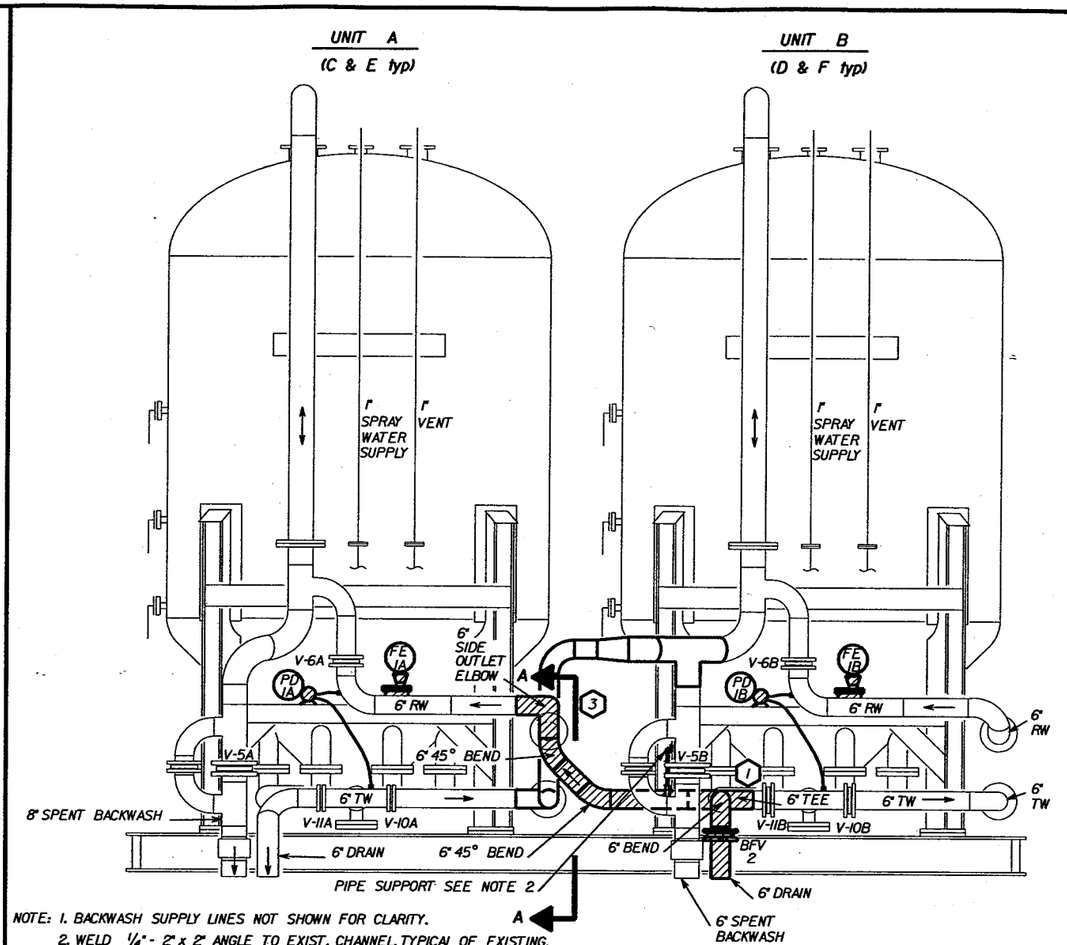
17 th STREET PLANT
SITE LAYOUT

Scale: AS NOTED | Date: 2/97 | Dwg. No.: C-13



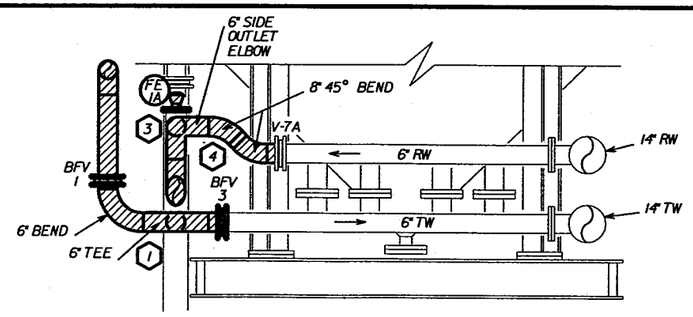
NOTES: 1. BACKWASH SUPPLY LINES NOT SHOWN FOR CLARITY.
FOR CONTINUATION SEE SHEET P-12.
2. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL INFORMATION.

SERIAL CONNECTION OF CARBON UNIT A WITH CARBON UNIT B — 1



NOTE: 1. BACKWASH SUPPLY LINES NOT SHOWN FOR CLARITY.
2. WELD 1/4" - 2" x 2" ANGLE TO EXIST. CHANNEL, TYPICAL OF EXISTING. FOR SUPPORT OF 6" SERIAL CONNECTION OF CARBON UNIT B WITH CARBON UNIT A USE 'GRINNEL FIG 69' OR EQUAL. PAINT TO MATCH EXISTING.

SERIAL CONNECTION OF CARBON UNIT B WITH CARBON UNIT A — 2



NOTE: BACKWASH SUPPLY LINES NOT SHOWN FOR CLARITY.

SECTION A-A

REQUIRED MODIFICATIONS AND CONNECTIONS TO EXISTING PIPING

1. REMOVE EXISTING 6" BEND, REPLACE WITH 6" TEE
2. REMOVE EXISTING 8" BEND, REPLACE WITH 8" TEE
3. REMOVE EXISTING 6" BEND, REPLACE WITH 6" SIDE OUTLET BEND
4. INSTALL TWO NEW 45° BENDS, RELOCATE V-7A ACCORDINGLY.

NEW PIPING AND FITTINGS

NOTE: 1. NEW CONNECTIONS AND PIPING TO BE WELDED STEEL.
2. ALL NEW VALVES TO BE FLANGED CONNECTIONS.

RECORD DRAWING

NO.	DATE	DESCRIPTION
1	5/01	RECORD DRAWING

REVISIONS

DESIGNED BY: GP
DRAWN BY: NDH
CHECKED BY: DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

REGISTERED PROFESSIONAL ENGINEER — No. 20511 — Gregory S. Rentschler — EXP. 9/30/98 — CIVIL — STATE OF CALIFORNIA

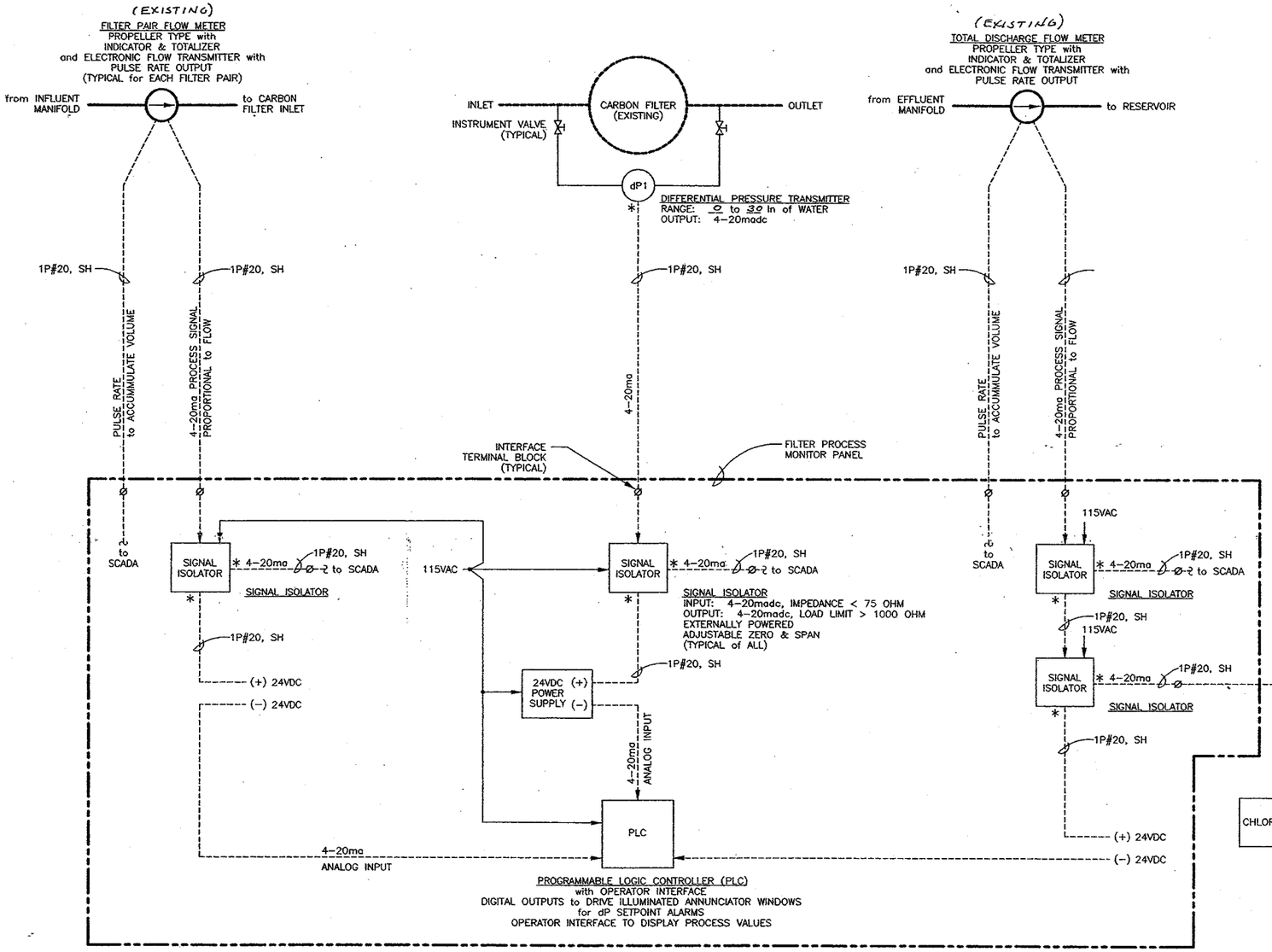
NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH & SOUTH PLANTS

17 th STREET
TYPICAL CARBON UNIT
CROSSOVER LOOP PIPING

Scale: 1/2" = 1'-0" | Date: 2/97 | Dwg. No.: C-14

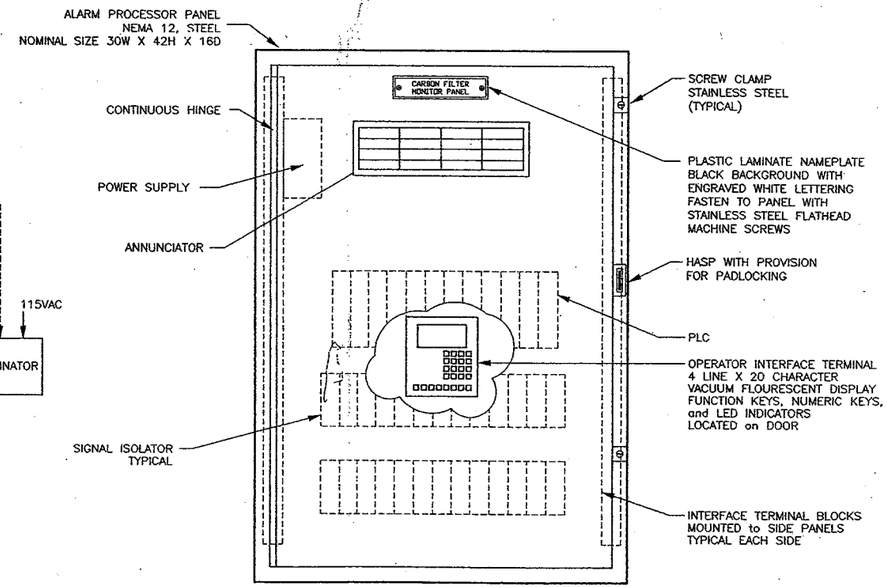
JOB No. 520.1 FILE No. C:\PROJ\NEWMARK\17STR.17PIPE.DGN

* GROUND CABLE SHIELD at ONE END ONLY, WHERE INDICATED



UNIT No. A-1 dP HIGH ALARM	UNIT No. B-1 dP HIGH ALARM	UNIT No. C-1 dP HIGH ALARM	
UNIT No. A-1 dP CRITICAL ALARM	UNIT No. B-1 dP CRITICAL ALARM	UNIT No. C-1 dP CRITICAL ALARM	
UNIT No. A-2 dP HIGH ALARM	UNIT No. B-2 dP HIGH ALARM	UNIT No. C-2 dP HIGH ALARM	
UNIT No. A-2 dP CRITICAL ALARM	UNIT No. B-2 dP CRITICAL ALARM	UNIT No. C-2 dP CRITICAL ALARM	

PLC OUTPUT ALARMS - ANNUCIATOR WINDOWS



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

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
			1	5/22/98	REVISED FOR 17TH STREET STATION

REVISIONS

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

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370.60.30

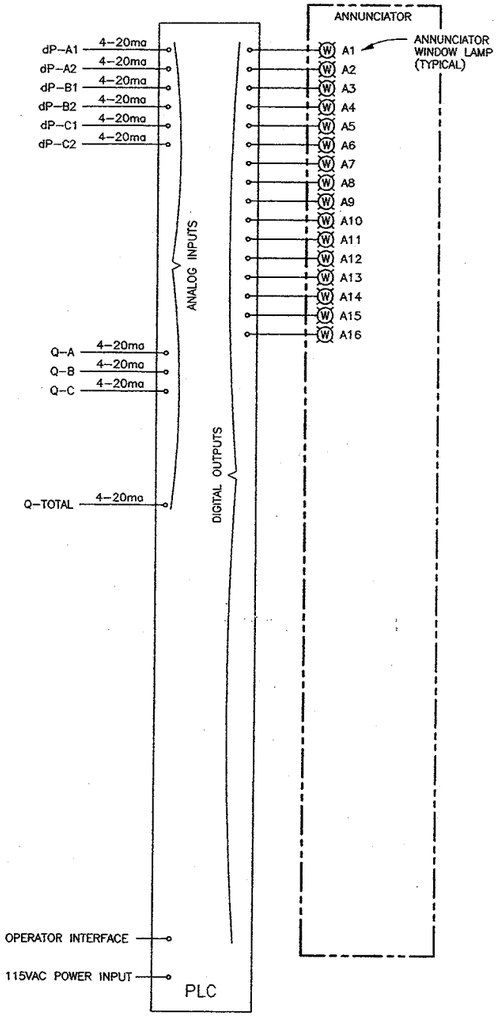
REGISTERED PROFESSIONAL ENGINEER W. ROBERT PETERSON E8479 Exp. 6/30/98 CIVIL STATE OF CALIFORNIA

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
17TH STREET STATION

CARBON FILTERS
MONITOR PANEL

SCALE: NONE
Date: 3/14/97
Dwg. No.:- E-1

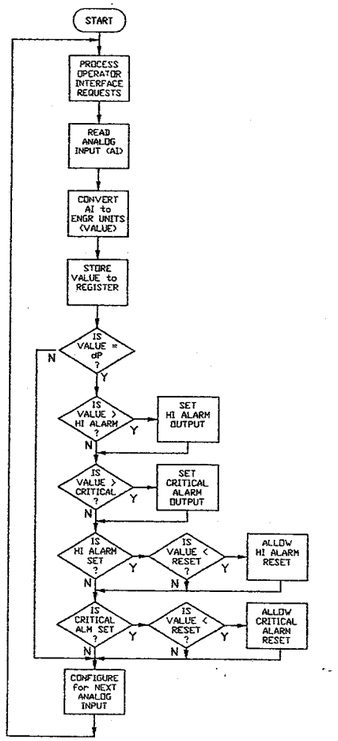
FILE: S-E1; 1/ 2/97



PLC BLOCK DIAGRAM

dP-( ) = DIFFERNTIAL 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:

01. SELECTIVELY VIEW DIFFERENTIAL PRESSURE VALUES
02. SELECTIVLY VIEW FILTER FLOW VALUE
03. CHANGE DIFFERENTIAL PRESSURE HIGH ALARM SETPOINT
04. CHANGE DIFFERENTIAL PRESSURE CRITICAL ALARM SETPOINT
05. CHANGE DIFFERENTIAL PRESSURE HIGH ALARM RESET POINT
06. CHANGE DIFFERENTIAL PRESSURE CRITICAL ALARM RESET POINT
07. INITIATE ALARM AKNOWLEDGE
08. INITIATE ALARM RESET
09. INTIATE 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 AKNOWLEDGE FUNCTION HAS BEEN INITIATED, THESE SHALL FLASH UNTIL SUBSEQUENTLY ACKNOWLEDGED.

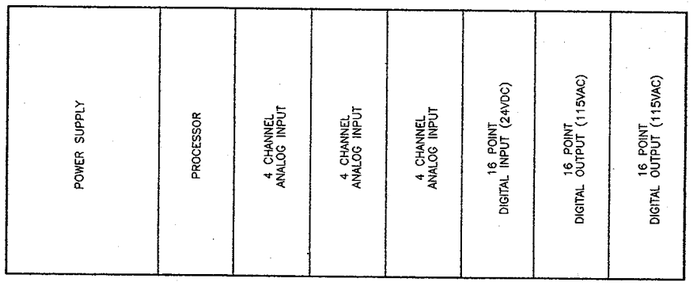
A3. WHEN ALARM IS RESET (OIT FUNCTION KEY), ALL INDICATIONS NOT CURRENTLY IN ALARM CONDITION SHALL BE EXTINGUISHED. INDICATIONS REMAINING IN ALARM CONDITION SHALL CONTINUE TO ILLUMINATE.

A4. WHEN LAMP TEST (OIT FUNCTION KEY) IS INTIATED, ALL LAMPS SHALL ILLUMINATE FOR A THREE SECOND PERIOD.

FILTER	GROUP	No.	A				
FLT #1	dP:	XX.	X	In.			
FLT #2	dP:	XX.	X	In.			
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

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
			1	5/22/98	REVISED FOR 17TH STREET STATION

REVISIONS

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

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370.60.30

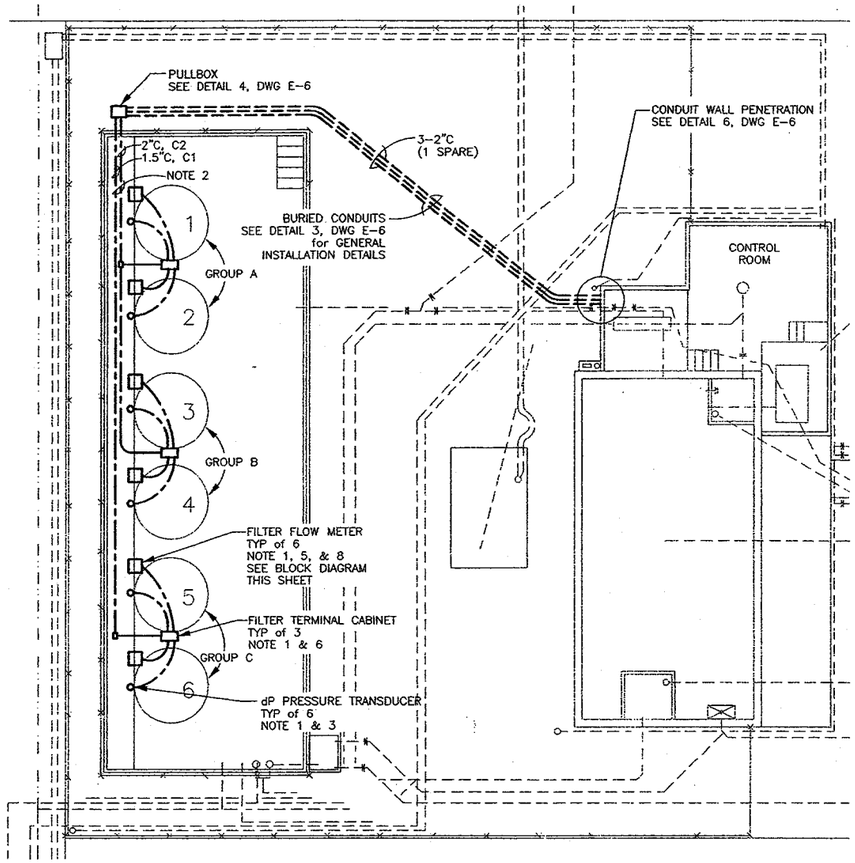
REGISTERED PROFESSIONAL ENGINEER W. ROBERT PETERSON E8479 5-31-98 CIVIL STATE OF CALIFORNIA

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER CONTAMINATION SUPERFUND SITE
17TH STREET STATION

CARBON FILTER PANEL
PLC DIAGRAMS

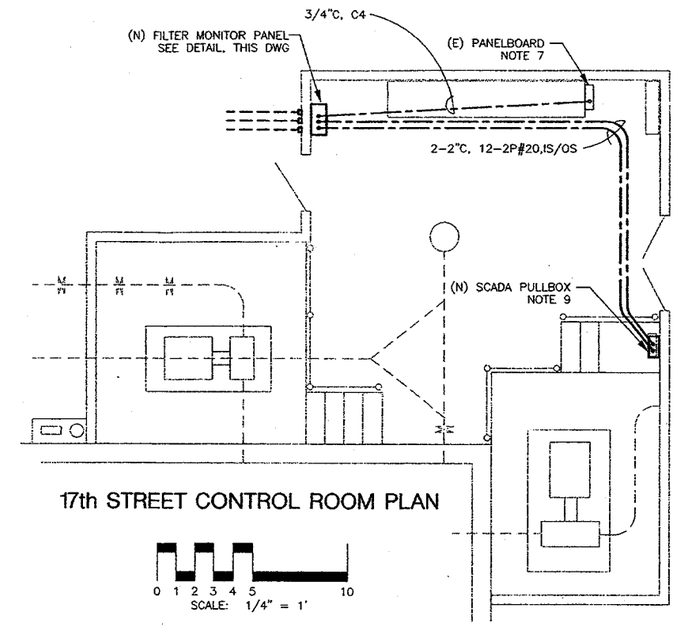
SCALE: NONE | Date: APRIL, 1997 | Dwg. No.: E-2

FILE: NS-E2;



17th STREET SITE PLAN

0 2 4 6 8 10 20
SCALE: 1" = 10'



17th STREET CONTROL ROOM PLAN

0 1 2 3 4 5 10
SCALE: 1/4" = 1'

NOTES:

1. LOCATION OF DEVICES ON CARBON FILTER SHOWN FOR PURPOSE OF ILLUSTRATION ONLY. CONTRACTOR SHALL ADJUST ROUTING OF INTERCONNECTING CONDUIT TO SUIT FIELD CONDITIONS. CONDUIT TO FIELD DEVICES SHALL BE RGS AND LIQUID-TITE FLEXIBLE METAL.
2. EXTEND CONDUITS FROM GRADE UP TO LEVEL OF FILTER TANK UPPER PIPE SUPPORT. CONDUIT RISERS CAN BE SUPPORTED ON EXISTING HANDRAIL. CONDUITS SHALL BE SURFACE ROUTED AND EXTEND AS NECESSARY ALONG LENGTH OF FILTER TANK ASSEMBLIES SUPPORTED TO UPPER PIPE SUPPORTS.
3. FIELD ROUTE 1P#20 SH CABLE IN 1/2" CONDUIT FROM dP PRESSURE TRANSDUCER TO FILTER TERMINAL CABINET.
4. NOT USED.
5. FIELD ROUTE 2P#20, IS/OS CABLE IN 3/4" CONDUIT FROM FILTER FLOW METER TO FILTER TERMINAL CABINET.
6. FILTER TERMINAL CABINET SHALL BE PROVIDED BY THE CONTRACTOR TO INTERFACE FIELD DEVICE WIRING WITH WIRING TO CARBON MONITOR PANEL. THE FILTER TERMINAL CABINET SHALL BE NEMA 4, 24"H X 20"W X 6"D WITH HINGED AND CLAMPED DOOR, BACK PANEL, AND INTERFACE TERMINAL BOARDS. THE CABINET SHALL BE MOUNTED TO THE FILTER ASSEMBLY AT A CONVENIENT LOCATION. INTERFACE TERMINALS SHALL BE PROVIDED FOR:

   FILTER 1 dP TRANSDUCER
   FILTER 2 dP TRANSDUCER
   FILTER FLOW METER SIGNAL
   FILTER FLOW PULSE OUTPUT

   GROUND TERMINALS SHALL BE PROVIDED FOR ALL CABLE SHIELDS. A MINIMUM OF 20% SPARE TERMINAL POINTS SHALL BE PROVIDED. INTERFACE CABLES TO THE FILTER MONITOR PANEL SHALL BE 4-2P#20, IS/OS (1 SPARE). FILTER DEVICES SHALL BE AS NOTED (NOTES 2 - 5).
7. MODIFY EXISTING PANELBOARD BY REPLACING ONE ITE TYPE "QP", 1-POLE, 20A BREAKER WITH ONE ITE TYPE "QT", 2-POLE, 20A BREAKER THAT PLUGS INTO THE SAME SPACE AS THE REPLACED BREAKER. RECONNECT THE EXISTING CIRCUIT TO ONE OF THE NEW BREAKER POLES AND FEED THE NEW FILTER CONTROL PANEL WITH THE OTHER NEW BREAKER POLE.
8. MODIFY THE EXISTING WATER SPECIALTIES, INC. WATER FLOW METERS TO ADD ELECTONIC FLOW TRANSMITTER WITH ANALOG OUTPUT AND DIGITAL PULSE.
9. PROVIDE NEW JUNCTION/PULLBOX, 12" X 18" X 6", NEMA 1, INSTALLED NEAR CEILING ABOVE EXISTING SCADA CABINET, AND TERMINATE CONDUITS ROUTED FROM FILTER MONITOR PANEL. CABLE ENDS SHALL BE CLEARLY MARKED AND IDENTIFIED AND COILED WITHIN BOX WITH 10' EXTENDED CABLE LENGTH. ALL ANALOG SIGNAL CABLE PAIRS SHALL BE JUMPERED AT THE FILTER MONITOR PANEL TERMINAL BOARDS.
10. SUBSURFACE CONDUITS SHALL BE PVC, SCHEDULE 40. SURFACE ROUTED CONDUITS SHALL BE RGS. TRANSITION CONDUITS FROM SURFACE TO SUBSURFACE SHALL BE PVC COATED RGS OR PVC WRAPPED RGS.
11. THIS DRAWING ILLUSTRATES SITE PLAN FOR 17TH STREET STATION. REFER TO DRAWING E-1 FOR BLOCK DIAGRAM OF FILTERS AND LAYOUT OF FILTER MONITOR PANEL. REFER TO DRAWING E-2 FOR PLC DIAGRAM AND MODIFY TO SUIT THIS APPLICATION. REFER TO DRAWINGS E-6 ~~AND E-7~~ FOR APPLICABLE DETAILS.

DESIGNATIONS:

C1	4-2P#20, IS/OS
C2	8-2P#20, IS/OS
C3	NOT USED
C4	2#12 & #12G, THWN
C5	NOT USED

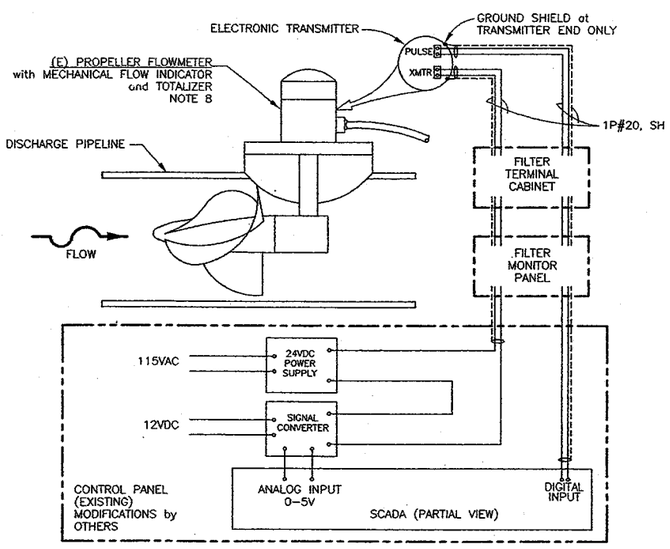
2P#20 = TWO PAIR, #20AWG, STRANDED, COPPER, 300V
IS/OS = INDIVIDUALLY SHIELDED with OVERALL SHIELD

———— SURFACE ROUTED CONDUIT

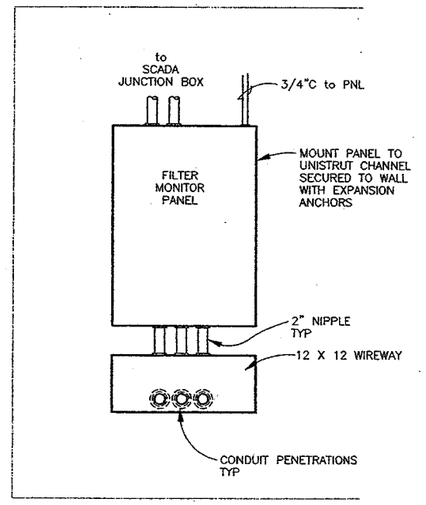
- - - - - - - - SUBSURFACE ROUTED CONDUIT

(E) EXISTING

(N) NEW



FLOW METER BLOCK DIAGRAM



FILTER MONITOR PANEL

NO SCALE

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

REVISIONS

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

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No62370.60.30

REGISTERED PROFESSIONAL ENGINEER W. ROBERT PETERSON E8479 Exp. Sept. 30 CIVIL STATE OF CALIFORNIA

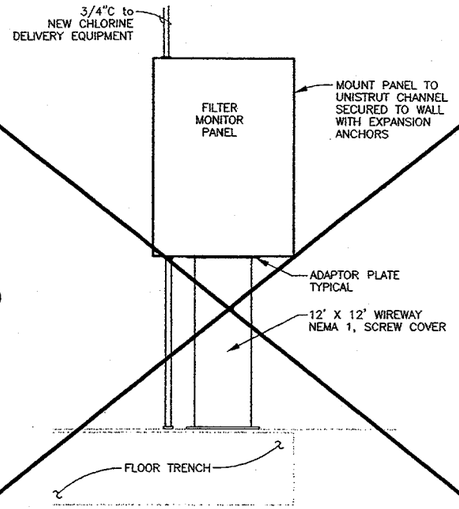
NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
17TH STREET STATION

CARBON FILTER / 17th STREET
ELECTRICAL SITE PLAN

SCALE:	Date:	Dwg. No.:
AS SHOWN	APRIL, 1997	E-5

NS-E5 / 1-1

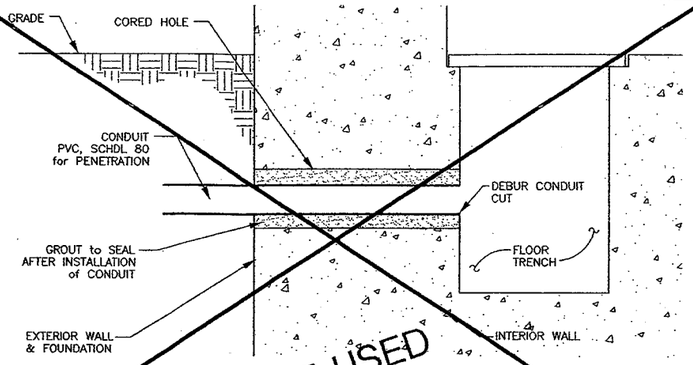
NOT USED



FILTER MONITOR PANEL - SOUTH PLANT

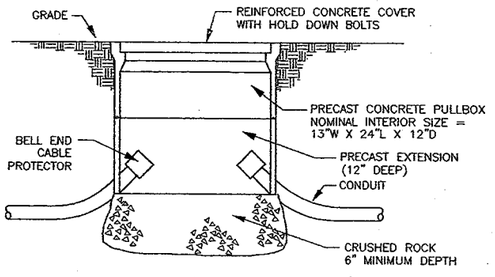
NO SCALE

DETAIL 6
BLOCK/CONCRETE WALL CONDUIT PENETRATION
FOR EXTERIOR to INTERIOR PENETRATIONS

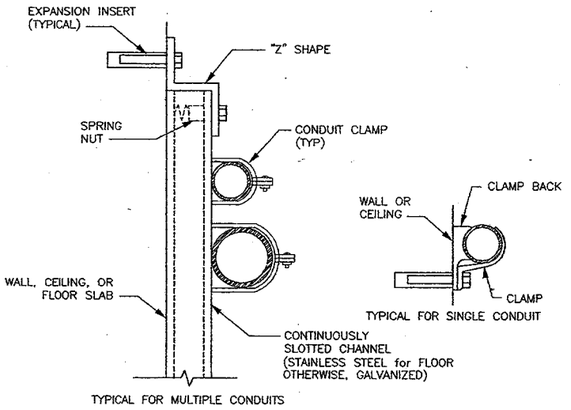


NOT USED

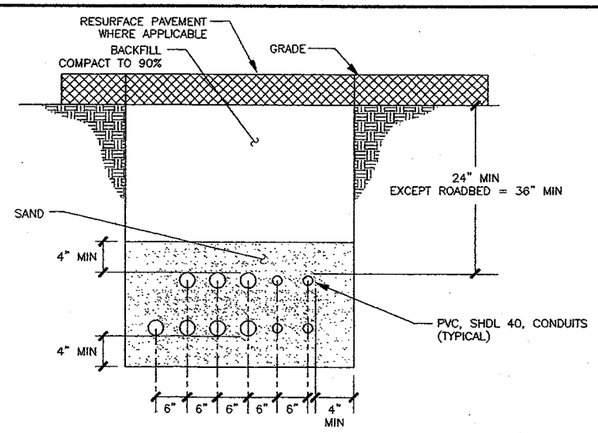
DETAIL 1
BLOCK/CONCRETE WALL CONDUIT PENETRATION - WATERMAN
FOR EXTERIOR to INTERIOR PENETRATIONS



DETAIL 4 - PRECAST PULLBOX

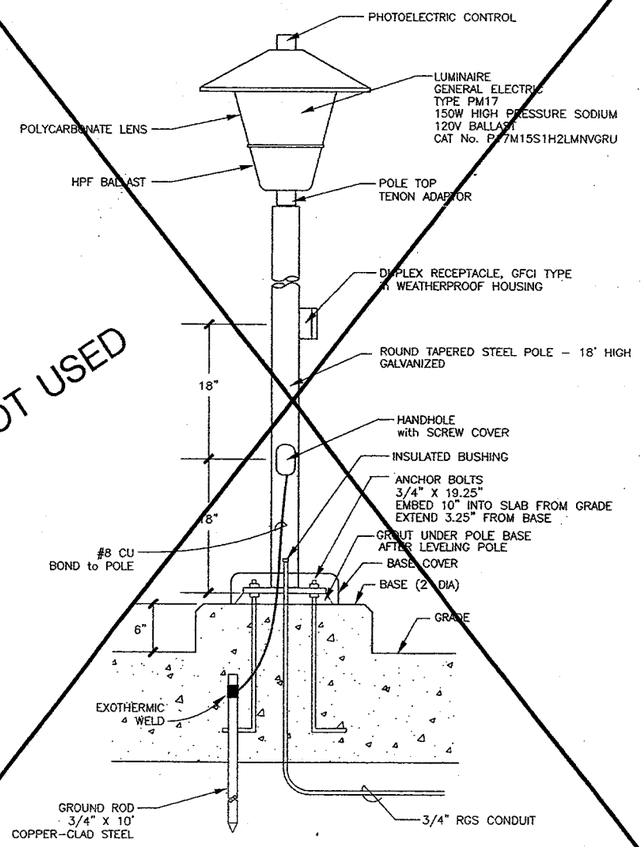


DETAIL 2 - CONDUIT SUPPORTS



DETAIL 3 - DUCTBANK

NOT USED



DETAIL 5 - AREA LIGHT POLE

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
			1	5/22/98	REVISED FOR 17TH STREET STATION

REVISIONS

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

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370.60.30

REGISTERED PROFESSIONAL ENGINEER
W. ROBERT PETERSON
E8479
Exp. 6-30-98
CIVIL
STATE OF CALIFORNIA

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
17TH STREET STATION

ELECTRICAL DETAILS

SCALE:	Date:	Dwg. No.:
AS SHOWN	APRIL, 1997	E-6

FILE: NS-E6; 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

RECORD DRAWING

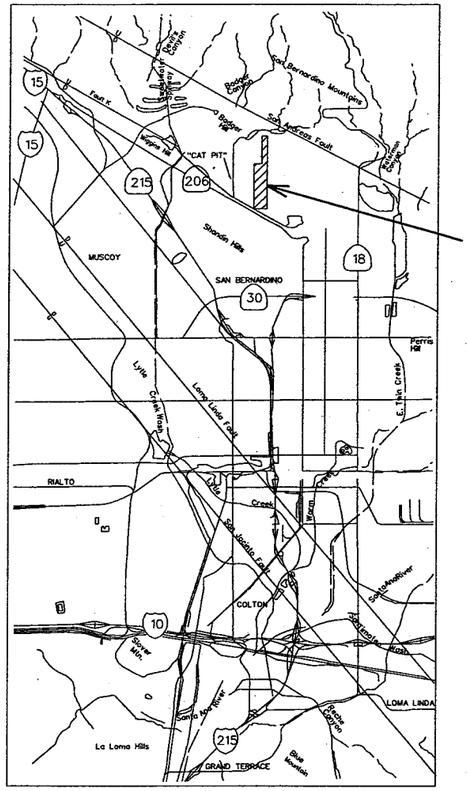
NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH PLANT TRANSMISSION PIPELINE

PREPARED BY
URS CONSULTANTS, INC.
SAN BERNARDINO, CA.

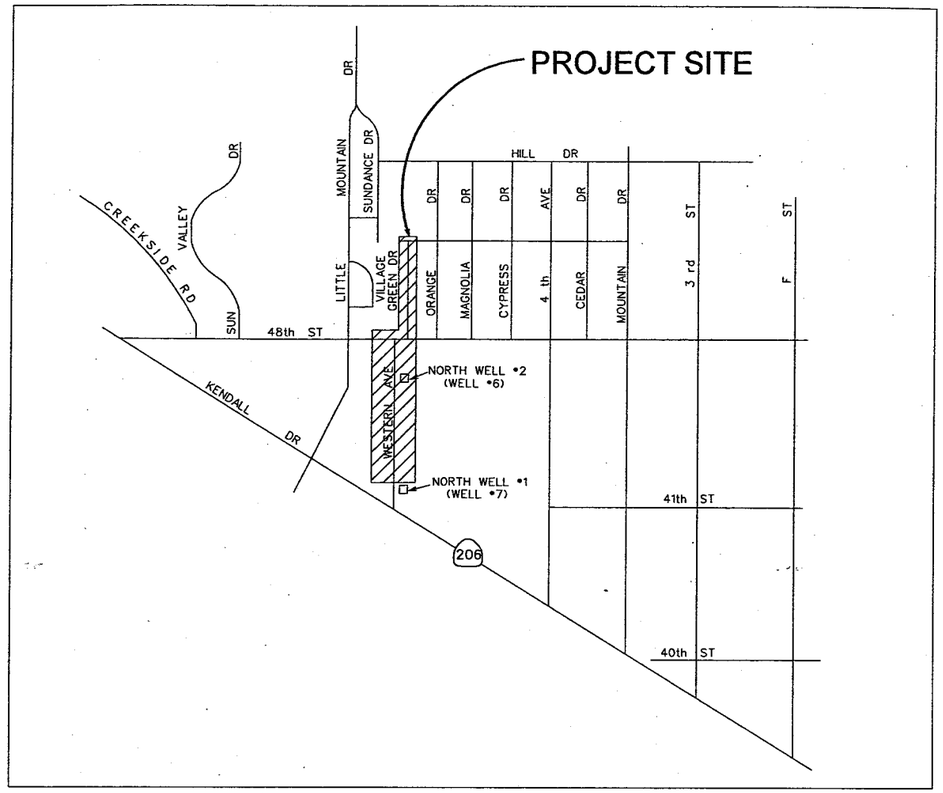
SEPTEMBER 1997

RECORD
DRAWING

SANBRDO\62370-53\ D\COVERSHT.DGN



VICINITY MAP



LOCATION MAP

PRIVATE ENGINEER'S NOTES TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUIT OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS.

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIBILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

DIG ALERT

DIAL TOLL FREE
1-800-422-4133

AT LEAST TWO DAYS
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

RECORD DRAWING

GENERAL NOTES

1. BENCHMARK (ELEV. 1409.941 FEET) IS A BRASS DISK STAMPED "R CLARK WILSON, L.S. 3223" LOCATED 3 FEET EAST OF THE WEST END OF A CONCRETE HEADWALL OF A FLOOD CONTROL BRIDGE OVER THE DEVIL CREEK CHANNEL NORTH OF 42nd STREET ON LITTLE MOUNTAIN DRIVE. CITY OF SAN BERNARDINO DESIGNATION A6-13A, SET 1985.
2. CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR PROTECTION OF EXISTING FACILITIES FROM DAMAGE DUE TO CONTRACTOR'S OPERATIONS.
3. CONTRACTOR AGREES TO ENSURE THAT ALL WORK IS PERFORMED IN A MANNER WHICH MINIMIZES DISTURBANCE TO OWNER'S ONGOING ACTIVITIES AT THE SITE. CONTRACTOR SHALL ENFORCE STRICT DISCIPLINE AND GOOD ORDER AMONG ITS EMPLOYEES AT ALL TIMES. CONTRACTOR SHALL NOT EMPLOY ANY PERSON UNFIT OR UNSKILLED IN ANY PROJECT ASSIGNED TO HIM.
4. OSHA PERMIT IS REUIRED FOR TRENCHES OVER 5 FT. IN DEPTH, PRIOR TO START OF TRENCH EXCAVATION.
5. ALL WATERLINE CONNECTION POINTS AND CRITICAL UTILITY CROSSINGS POINTS SHALL BE EXPOSED AND ACCURATELY LOCATED AT THE START OF CONSTRUCTION, AND THE SBMWD SHALL BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO THE CONTINUATION OF WORK.
6. THE CONTRACTOR SHALL NOT OPEN MORE TRENCHES THAN CAN BE PROPERLY PROSECUTED IN A DAY'S OPERATION. ANY TRENCH UNAVOIDABLY LEFT OPEN DURING THE HOURS OF DARKNESS OR OVER A WEEKEND SHALL BE FENCED WITH A 6-FOOT CHAIN LINK FENCING AND PROPERLY LIGHTED, OR BRIGE BY A SBMWD APPROVED TRAFFIC PLATE WITH REFERENCE TO THE W.A.T.C.H. MANUAL.
7. THE CONTRACTOR SHALL REINSTALL PAVEMENT MARKINGS AND STRIPPING THAT HAVE BEEN DISTURBED BY HIS OPERATIONS.
8. THE CONTRACTOR SHALL PROVIDE SAFE AND CONTINUOUS PASSAGE FOR LOCAL PEDESTRIAN AND VEHICULAR TRAFFIC AT ALL TIMES WITH REFERENCE TO THE W.A.T.C.H. MANUAL.
9. TRAFFIC SIGNALS FUNCTIONS SHALL BE THE RESPONSIBILITY OF THEE CITY OF SAN BERNARDINO, DEPARTMENT OF PUBLIC WORKS: HOWEVER, THE CONTRACTOR IS REQUIRED TO GIVE 48-HOUR NOTICE PRIOR TO ANY CONSTRUCTION THAT MAY DAMAGE OR AFFECT BURIED TRAFFIC DETECTORS.
10. THE CONTRACTOR SHALL SO CONDUCT HIS OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC, AND HE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAT HE CAN PROSECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC. CONVENIENT ACCESS TO DRIVEWAYS, HOUSES, AND BUILDINGS ALONG THE LINE OF WORK SHALL BE MAINTAINED. TEMPORARY CROSSINGS SHALL BE PROVIDED AND MAINTAINED IN GOOD CONDITION. NOT MORE THAN ONE CROSSING OR INTERSECTING STREET OR ROAD SHALL BE CLOSED AT ANY ONE TIME WITHOUT THE APPROVAL OF THE WATER DEPARTMENT ENGINEER. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SUCH FENCES, BARRIERS, DIRECTIONAL SIGNS, LIGHTS, AND FLAGMEN AS ARE NECESSARY TO GIVE ADEQUATE WARNING TO THE PUBLIC AT ALL TIMES OF ANY DANGEROUS CONDITIONS TO BE ENCOUNTERED AS A RESULT OF THE CONSTRUCTION WORK, AND TO GIVE DIRECTIONS TO THE PUBLIC.
11. ALL REMOVALS IN PAVED AREAS SHALL BE SAW CUT ON A NEAT, STRAIGHT LINE PARALLEL TO THE PIPE LINE. THE CUT EDGE SHALL BE PROTECTED FROM CRUSHING AND ALL BROKEN EDGES SHALL BE RECUT PRIOR TO PAVING OPERATIONS.
12. DUST SHALL BE CONTROLLED AT ALL TIMES BY APPROVED METHODS.
13. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE FROM DIRT AND/OR DEBRIS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED IN STREET CLEANING NECESSITATED BY HIS OPERATION
14. ALL TRENCH BACKFILLS SHALL BE TESTED AND CERTIFIED BY A SOILS ENGINEER PRIOR TO ACCEPTANCE.
15. THE CONTRACTOR SHALL NOT MAKE ANY CONNECTION TO THE EXISTING SBMWD DISTRIBUTION SYSTEM WITHOUT FIRST GAINING WRITTEN PERMISSION TO DO SO FROM THE WATER DEPARTMENT ENGINEER. IN THE EVENT THAT PERMISSION IS GRANTED, A SBMWD INSPECTOR MUST BE PRESENT ON SITE TO WITNESS SAID CONNECTION(S). TEST PLATES SHALL BE INSTALLED ON THE NEW CONSTRUCTED SIDE OF ALL MAIN CONNECTION POINTS. THE CONTRACTOR MAY USE ALTERNATIVE METHODS. ALL FLUSHING, CHLORINATION, AND TESTING SHALL BE PERFORMED EITHER BY (A) WATER TRUCK, OR (B) HYDRANT-TO-HYDRANT CONNECTION THROUGH AN APPROVED BACKFLOW PREVENTION ASSEMBLY.
16. ALL WATER MAINS AND APPURTENANCES SHALL BE PRESSURE TESTED AND DISINFECTED PRIOR TO ACCEPTANCE BY THE SBMWD.
17. ALL TESTING AND DISINFECTION SHALL BE MADE IN THE PRESENCE OF THE INSPECTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN TWENTY-FOUR (24) HOURS IN ADVANCE OF THE ACTUAL TIME OF TESTING AND/OR DISINFECTION SO THAT THE WATER DEPARTMENT ENGINEER OR DESIGNEE MAY OBSERVE THE PROCEDURE.
18. IF THE PRESSURE TEST, CHLORINATION OR BACTERIOLGICAL TEST FAIL TO MEET THE REQUIREMENT OF THE SPECIFICATIONS, THE CONTRACTOR SHALL MAKE ALL NECESSARY REPAIRS, REPLACEMENTS OR REPETITION OF PROCEDURES AT HIS OWN EXPENSE.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAVEMENT REPLACEMENT FOR ALL TRENCH CUTS AND DAMAGE TO EXISTING PAVEMENT.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAVEMENT REPLACEMENT FOR ALL TRENCH CUTS AND DAMAGE TO EXISTING PAVEMENT. CONTRACTOR SHALL BE REQUIRED TO REPLACE THE CUT AND DAMAGED PAVING ACROSS EXISTING PARKING LOT FROM APPROXIMATE STATION 21+04 TO APPROX. STATION 23+56 (SOUTH RIGHT-OF-WAY 42nd STREET) WITH TEMPORARY AC ONLY.

IF SHEET IS LESS THAN 24"X36" IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
1	1/99	RECORD DRAWING			

REVISIONS

DESIGNED BY: STL/MA
DRAWN BY: JW/NH
CHECKED BY: DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

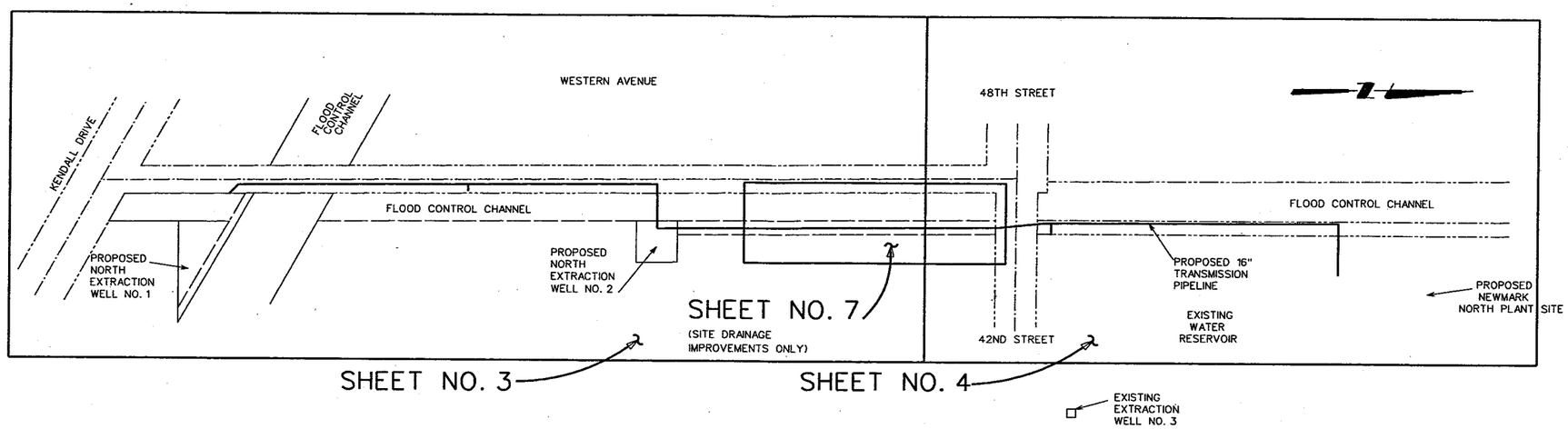
REGISTERED PROFESSIONAL ENGINEER No. 34557 Wayne S. Deutschel EXP. 9/30/98 CIVIL STATE OF CALIFORNIA

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
SOUTH PLANT TRANSMISSION PIPELINE

LOCATION MAPS & GENERAL NOTES

Scale: AS SHOWN | Date: JULY 31, 1997 | Dwg. No.: 1

SANBRDO\62370-53\RECORD\SHT1.DGN



LEGEND

- EXISTING BURIED FACILITY
- CENTERLINE
- RIGHT-OF-WAY
- NEW PIPELINE
- MANHOLE
- GATE VALVE
- REDUCER
- BUTTERFLY VALVE
- COMBINATION AIR VALVE
- BLOW OFF

ABBREVIATIONS

ARV	AIR RELEASE VALVE
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BO	BLOW OFF
CAV	COMBINATION AIR VALVE
CL	CEMENT LINED
℄	CENTERLINE
D	DRAIN
DIP	DUCTILE IRON PIPE
E	ELECTRICAL
ECC	ECCENTRIC
FCA	FLANGED COUPLING ADAPTOR
FLG	FLANGED
G	GAS
GB	GRADE BRAKE
INV	INVERT ELEVATION
LF	LINEAL FEET
℄	LAYOUT LINE
MJ	MECHANICAL JOINT
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
PRV	PRESSURE REDUCING VALVE
RCP	REINFORCED CONCRETE PIPE
RED	REDUCER
RW	RIGHT-OF-WAY
S	SLOPE
SBCFCD	SAN BERNADINO COUNTY FLOOD CONTROL DISTRICT
SS	SANITARY SEWER
STA	STATION
T	TELEPHONE
W	WATER
W/	WITH
WP	WRAPPED

SHEET INDEX

IF SHEET IS LESS THAN 24"X36" IT IS A REDUCED PRINT. SCALE REDUCED ACCORDINGLY.

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
	1/99	RECORD DRAWING			

REVISIONS

DESIGNED BY: STL/MA
DRAWN BY: JW/NH
CHECKED BY: DHD

URS Consultants, Inc.
CONSULTING ENGINEERS
SACRAMENTO CALIFORNIA

JOB No. 62370

REGISTERED PROFESSIONAL ENGINEER No. 34557 Bruce K. Beitscher EXP. 9/30/98 CIVIL STATE OF CALIFORNIA

NEWMARK OU REMEDIAL DESIGN
NEWMARK GROUNDWATER
CONTAMINATION SUPERFUND SITE
NORTH PLANT TRANSMISSION PIPELINE

SHEET INDEX, LEGEND & ABBREVIATIONS

Scale: AS SHOWN | Date: JULY 31, 1997 | Dwg. No.: 2

'0-53\RECORD\SHT2.DGN

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