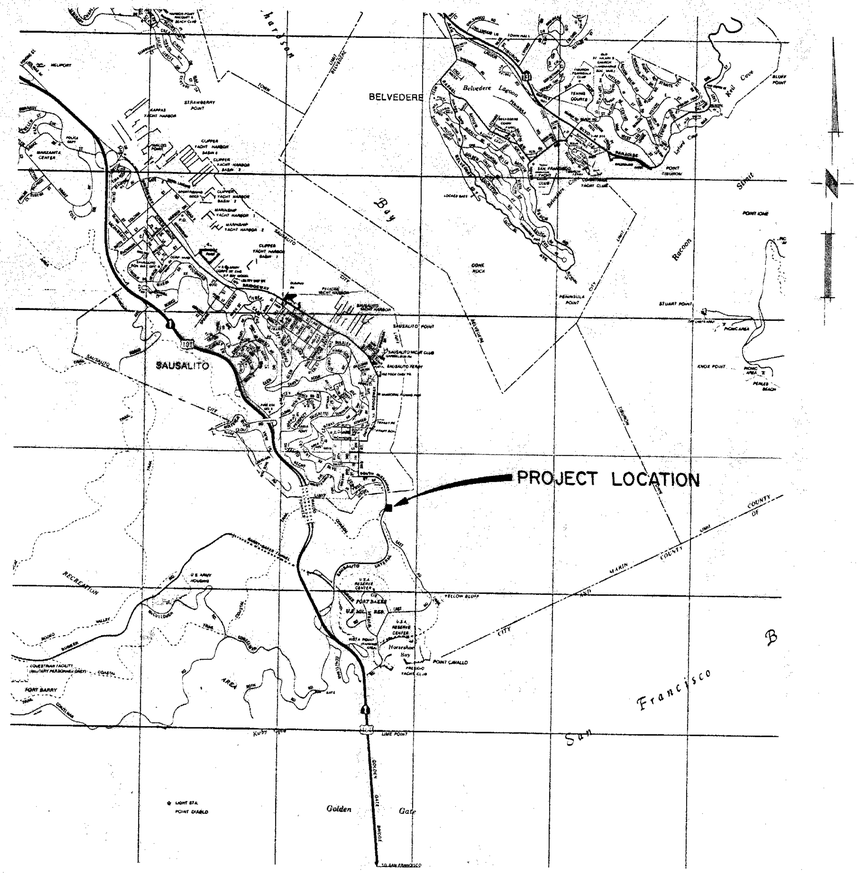


PROJECT LOCATION MAP
NO SCALE

SAUSALITO - MARIN CITY SANITARY DISTRICT

MARIN COUNTY, CALIFORNIA

PLANS

FOR THE CONSTRUCTION OF

WASTEWATER TREATMENT PLANT IMPROVEMENTS

EFFLUENT FILTERS

KENNEDY/JENKS/CHILTON
CONSULTING ENGINEERS
PALO ALTO, CALIFORNIA

1990

INDEX TO PLANS

SHEET NUMBER AND TITLE

1. PROJECT LOCATION MAP - AND INDEX TO PLANS
2. SITE PLAN - ABBREVIATIONS AND LEGENDS
3. EFFLUENT FILTERS - GENERAL - DECK PLAN, FLOOR PLAN AND DETAILS
4. EFFLUENT FILTERS - GENERAL - SECTIONAL PLAN
5. EFFLUENT FILTERS - GENERAL - SECTIONS
6. EFFLUENT FILTERS - STRUCTURAL - DECK PLAN AND FLOOR PLAN
7. EFFLUENT FILTERS - STRUCTURAL - SECTIONAL PLANS
8. EFFLUENT FILTERS - STRUCTURAL - BEAM AND COLUMN FOOTING DETAILS
9. EFFLUENT FILTERS - STRUCTURAL - BEAM AND COLUMN DETAILS
10. EFFLUENT FILTERS - STRUCTURAL - BEAM DETAILS
11. EFFLUENT FILTERS - STRUCTURAL - SECTIONS A THRU D
12. EFFLUENT FILTERS - STRUCTURAL - PUMP PIT SECTIONS
13. MISCELLANEOUS GENERAL DETAILS
14. MISCELLANEOUS STRUCTURAL DETAILS
15. ELECTRICAL - ABBREVIATIONS AND LEGENDS
16. ELECTRICAL - SINGLE LINE DIAGRAM AND SCHEDULES
17. ELECTRICAL - EFFLUENT FILTERS AND EXISTING - ENGINE/GENERATOR BUILDING - PLANS AND ELEVATIONS
18. ELECTRICAL - PARTIAL SITE PLANS - CONTROL ROOM AND - ELEVATION
19. ELECTRICAL - ELEMENTARY DIAGRAMS

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET)

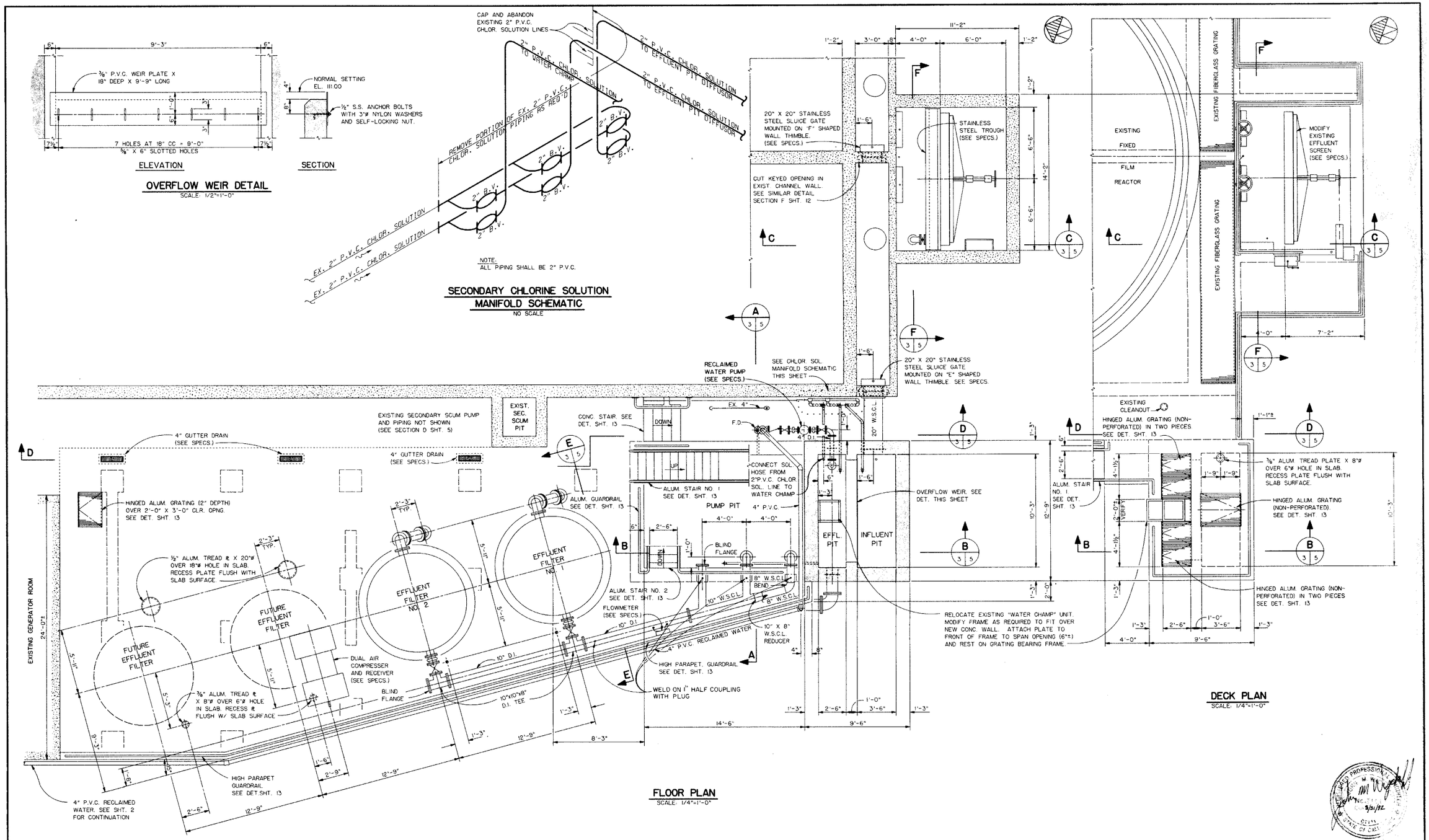
DESIGNED JMW
DRAWN RTO
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto

SUBMITTED: JOHN H. JENKS — R.E. NO. 8120
APPROVED: RAYMOND G. GERGUS

PROJECT LOCATION MAP AND INDEX TO PLANS

SCALE: AS NOTED
JOB NO. 905004.00
SHEET 1 OF 19



REV.	DESCRIPTION	SUB.	APPR.	DATE

REFER TO TRACING FOR LATEST REVISION

REFERENCE INFORMATION AND NOTES:

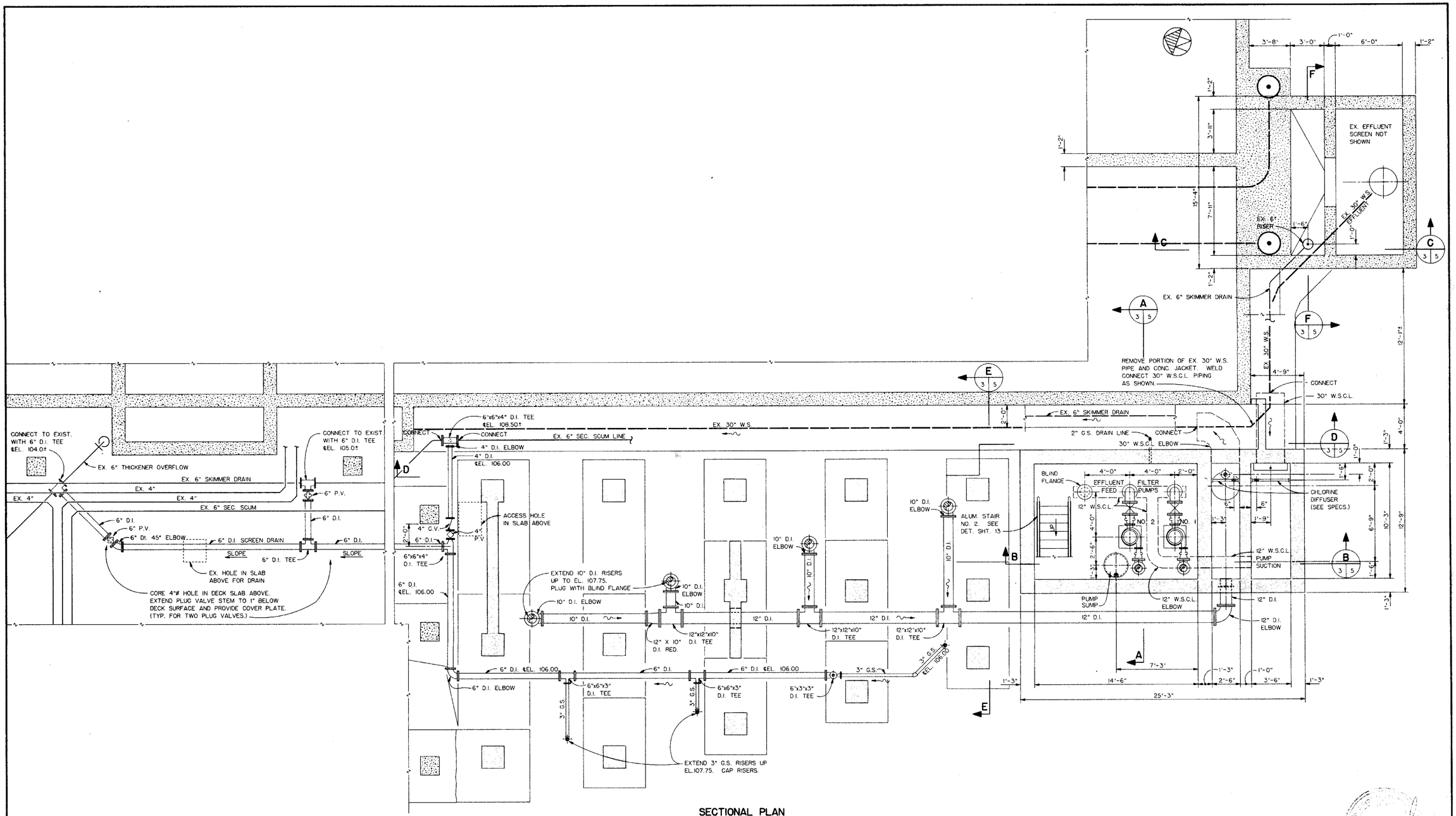
GRAPHIC SCALES (IN FEET)
1/4"=1'-0" 0 5
1/2"=1'-0" 0 3

DESIGNED JMW
DRAWN LLK JKJ
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton Palo Alto
SUBMITTED APPROVED
JOHN H. JENKS R.E. NO. 8120 RAYMOND G. GERGUS

EFFLUENT FILTERS
GENERAL
DECK PLAN, FLOOR PLAN AND DETAILS

SCALE AS NOTED
JOB. NO. 905004.00
SHEET 3 OF 19



SECTIONAL PLAN

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET) 1/4"=1'-0" 0 5

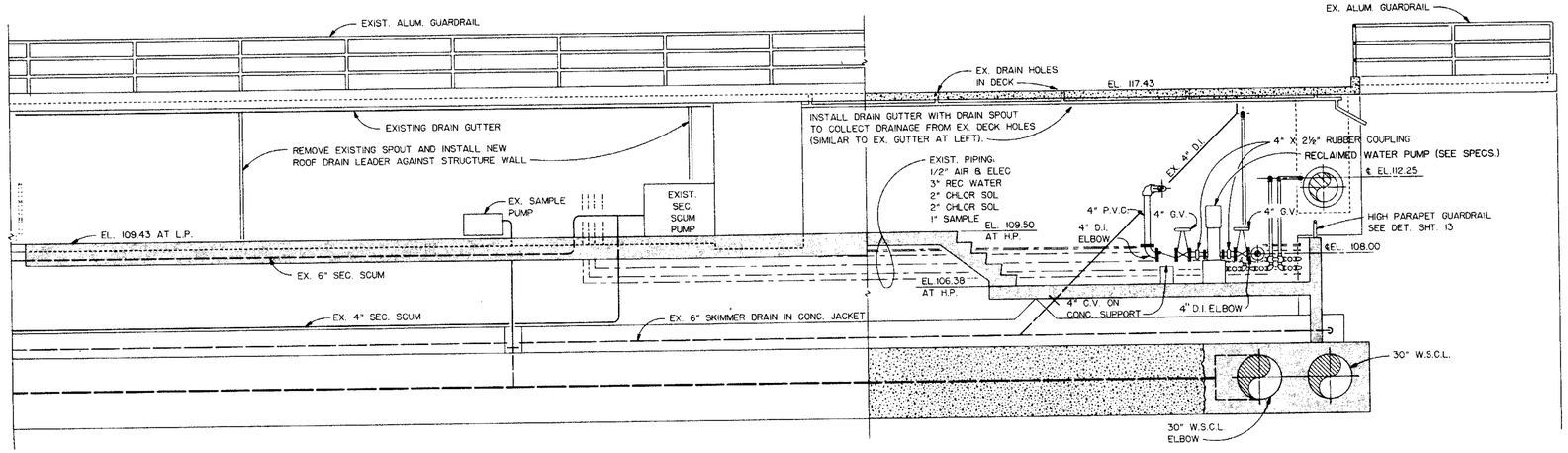
DESIGNED JMW
DRAWN JKJ
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton Palo Alto

SUBMITTED JOHN H. JENKS
APPROVED R.E. NO. 8120 RAYMOND G. GERGUS

EFFLUENT FILTERS
GENERAL
SECTIONAL PLAN

SCALE: 1/4"=1'-0"
JOB. NO. 905004.00
SHEET 4 OF 19



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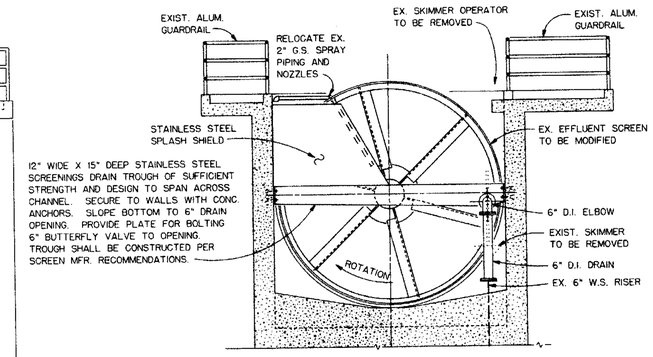

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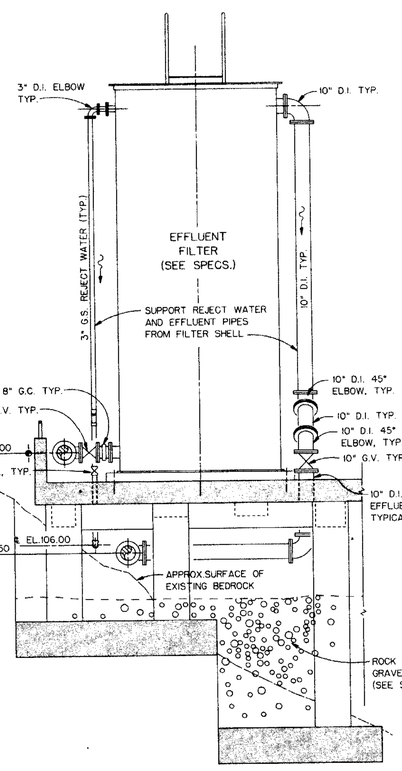

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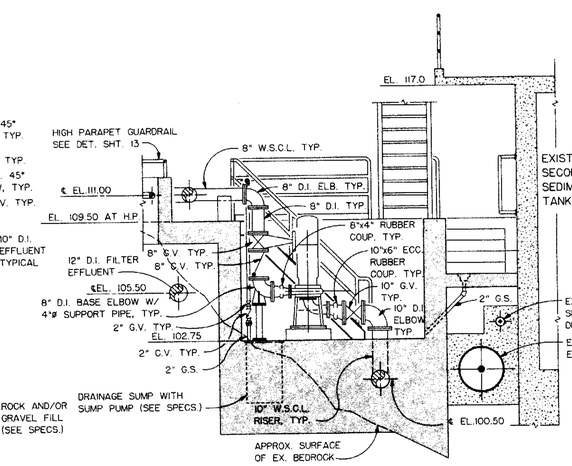
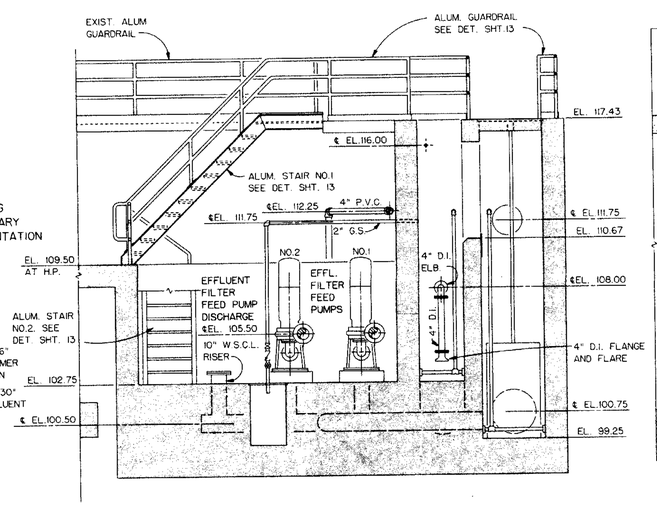
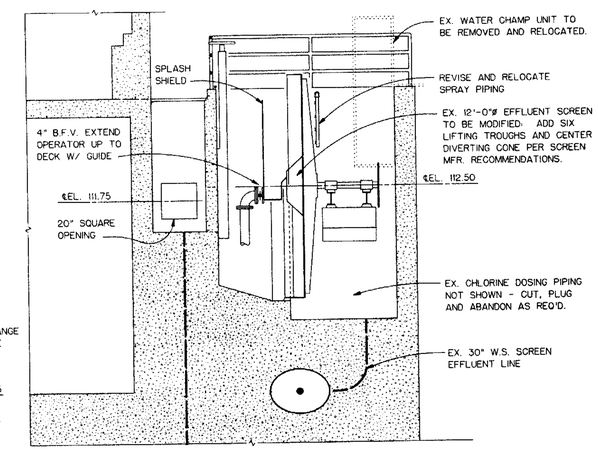


SECTION A 3 5



SECTION B 3 5



SECTION C 3 5

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET) 1/4"=1'-0" 0 5

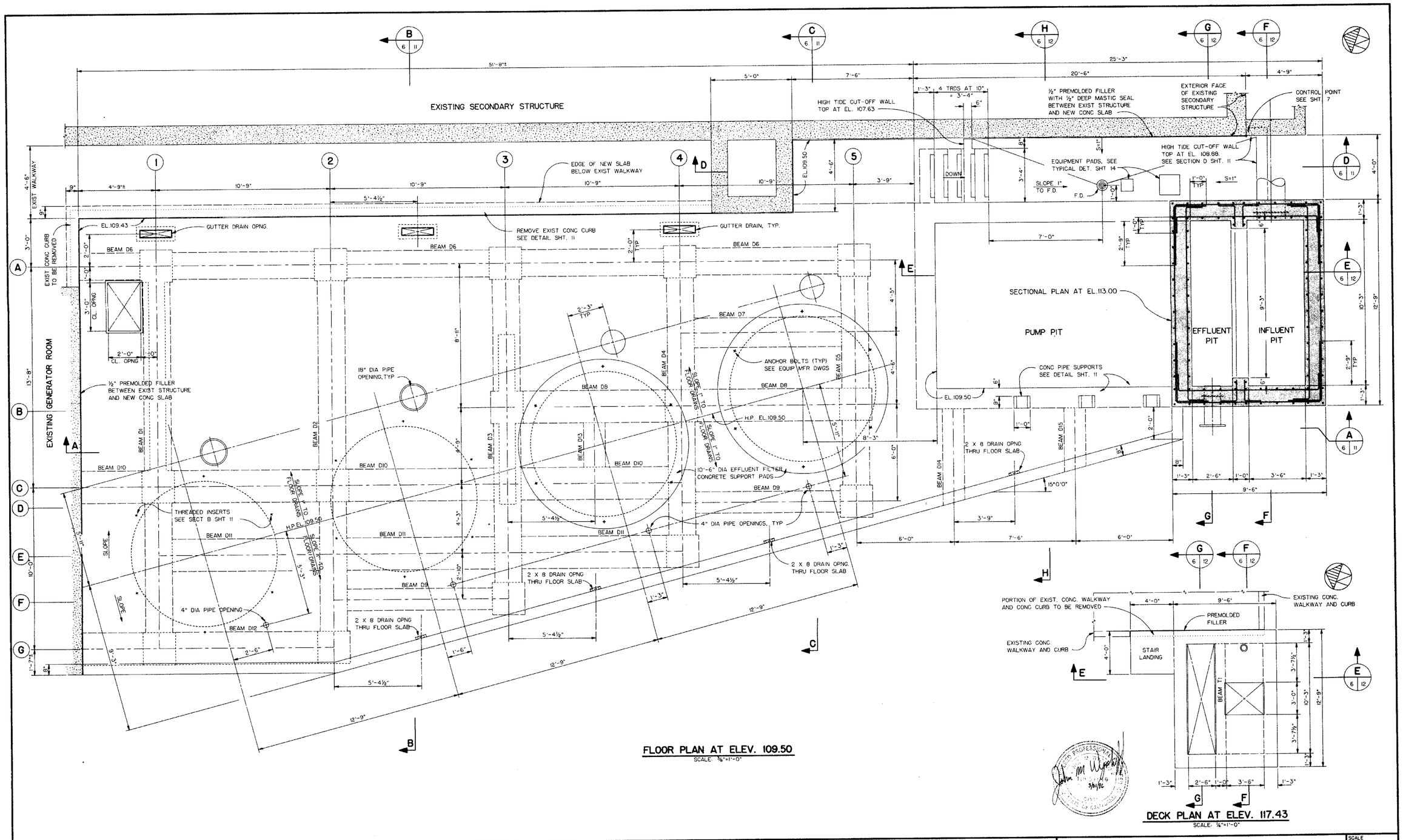
DESIGNED JMW
DRAWN LLK JKJ
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton Palo Alto

SUBMITTED JOHN H. JENKS R.E. NO. 8120
APPROVED RAYMOND G. GERGUS

EFFLUENT FILTERS GENERAL SECTIONS

SCALE 1/4"=1'-0"
JOB. NO. 905004.00
SHEET 5 OF 19



FLOOR PLAN AT ELEV. 109.50
SCALE: 3/8"=1'-0"

DECK PLAN AT ELEV. 117.43
SCALE: ¼"=1'-0"

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET)

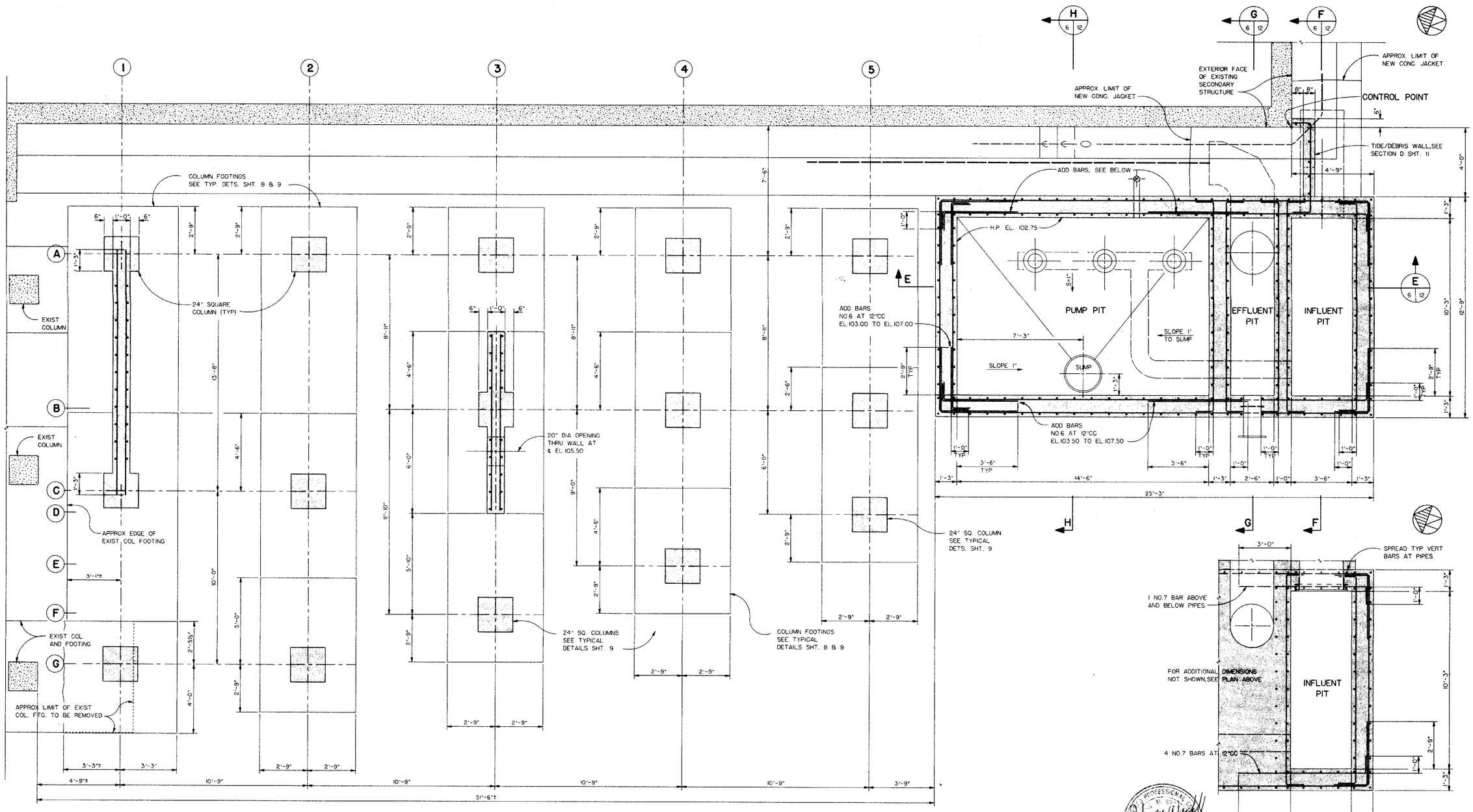
DESIGNED: AGE
DRAWN: MR
CHECKED: JHJ
DATE: APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto

SUBMITTED: JOHN H. JENKS, R.E. NO. 8120
APPROVED: RAYMOND G. GERGUS

EFFLUENT FILTERS
STRUCTURAL
DECK PLAN AND FLOOR PLAN

SCALE: AS NOTED
JOB. NO. 905004.00
SHEET 6 OF 19



SECTIONAL PLAN AT ELEV. 105.50

PART SECT. PLAN AT ELEV. 101.0

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

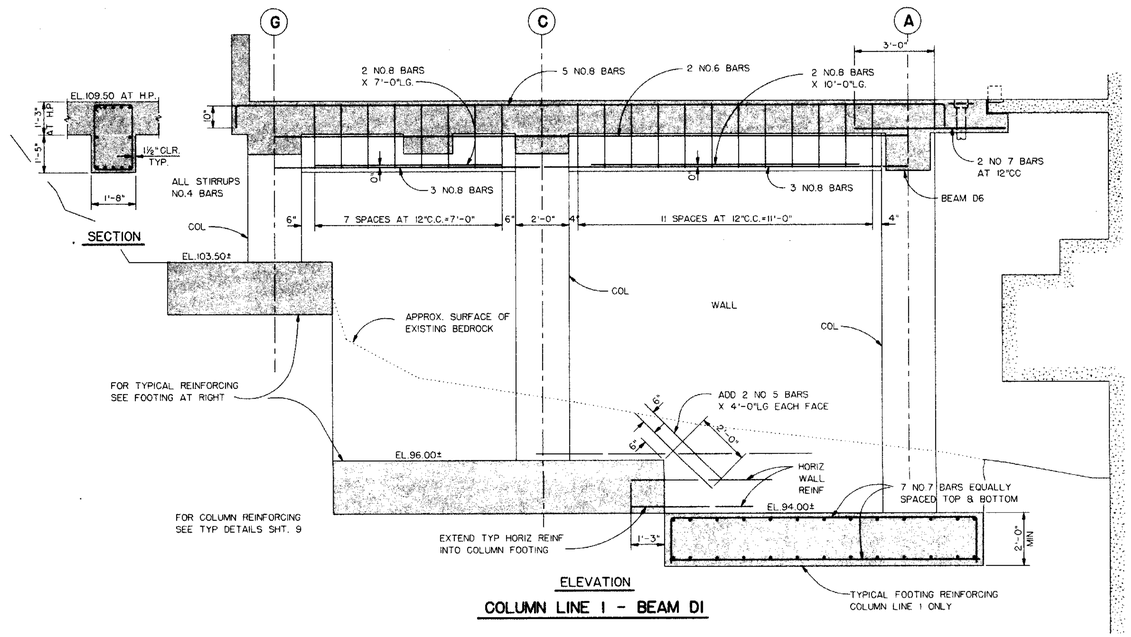
GRAPHIC SCALES (IN FEET) 3/8"=1'-0" 0 2 4

DESIGNED AGE
DRAWN MR
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton Palo Alto
SUBMITTED JOHN H. JENKS R.E. NO. 8120
APPROVED RAYMOND G. GERGUS

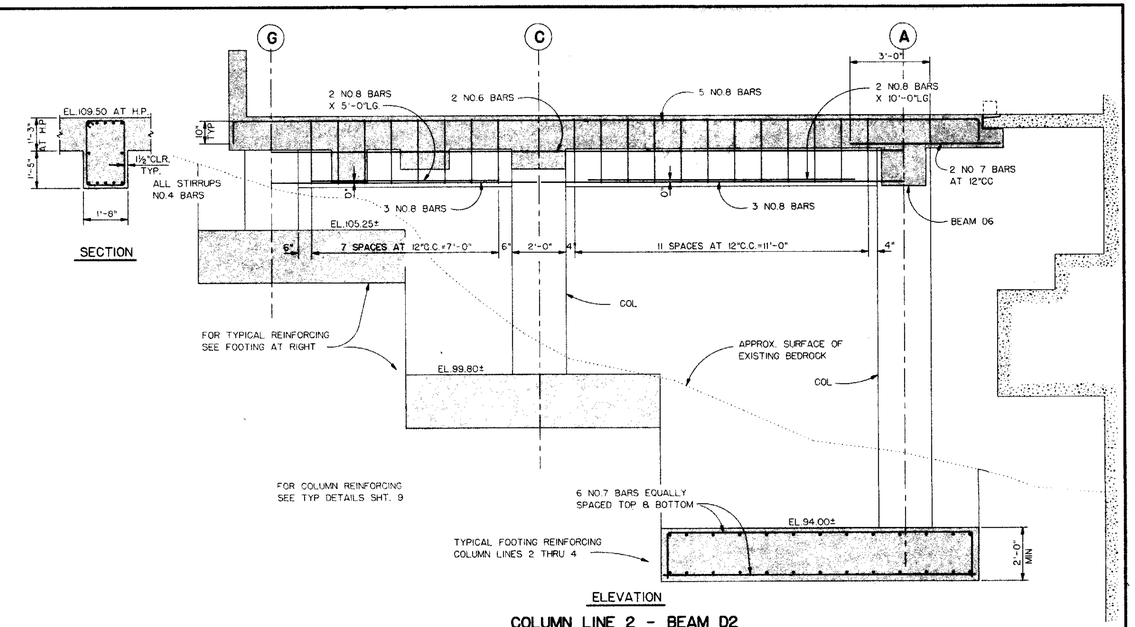
EFFLUENT FILTERS
STRUCTURAL
SECTIONAL PLANS

SCALE 3/8"=1'-0"
JOB. NO. 905004.00
SHEET 7 OF 19



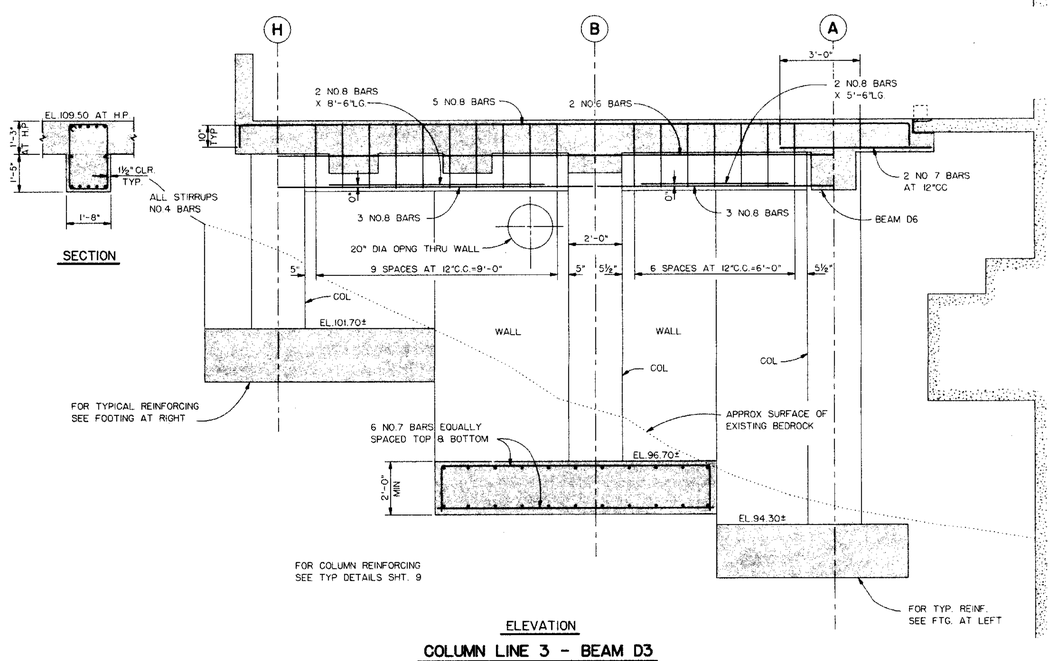
ELEVATION

COLUMN LINE 1 - BEAM D1



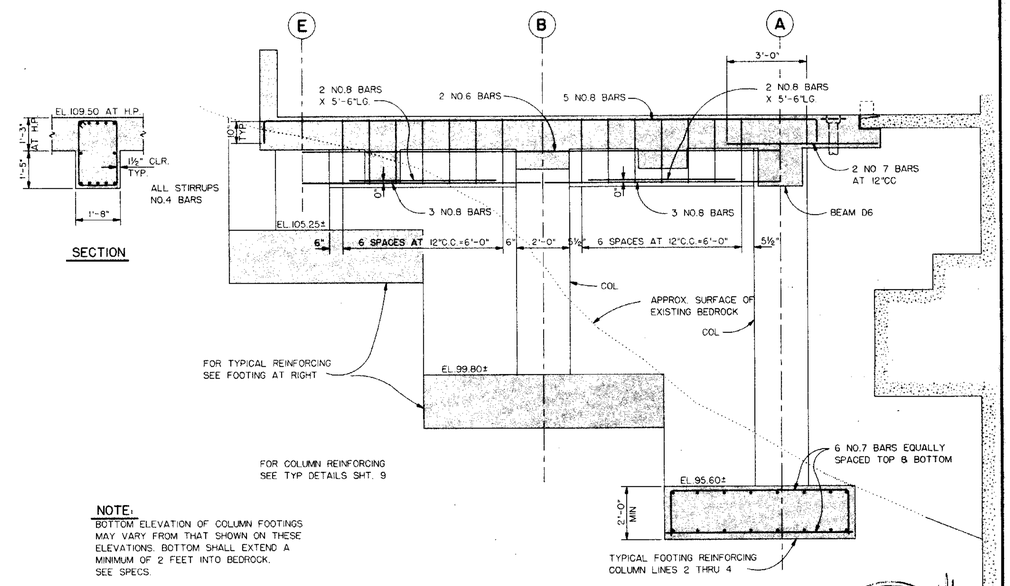
ELEVATION

COLUMN LINE 2 - BEAM D2



ELEVATION

COLUMN LINE 3 - BEAM D3



NOTE:
BOTTOM ELEVATION OF COLUMN FOOTINGS MAY VARY FROM THAT SHOWN ON THESE ELEVATIONS. BOTTOM SHALL EXTEND A MINIMUM OF 2 FEET INTO BEDROCK. SEE SPECS.

ELEVATION

COLUMN LINE 4 - BEAM D4

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — 3/26/90

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

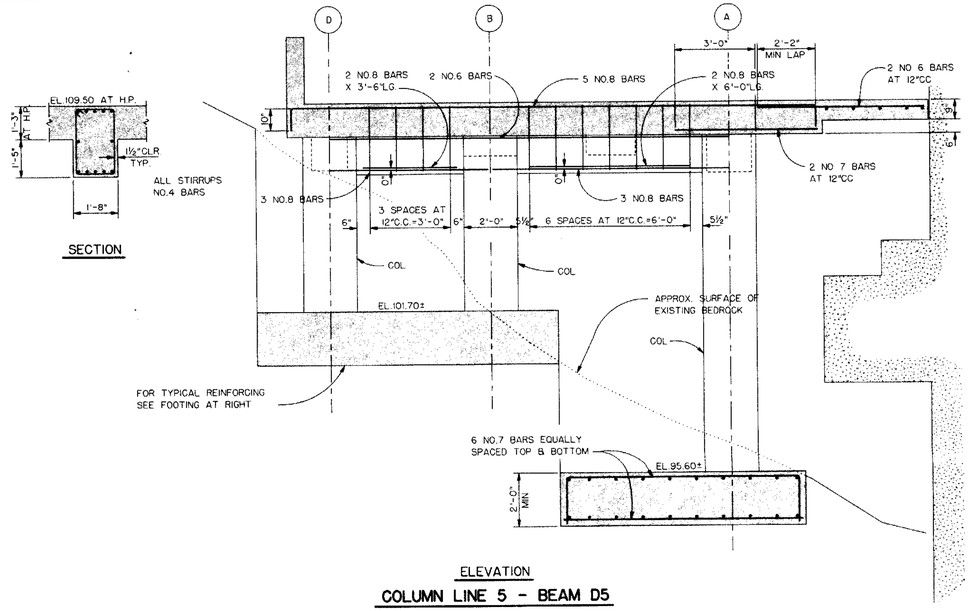
GRAPHIC SCALES (IN FEET) 3/8"=1'-0" 0 2 4

DESIGNED AGE
DRAWN MR
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto
SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 820 — RAYMOND G. GERGUS

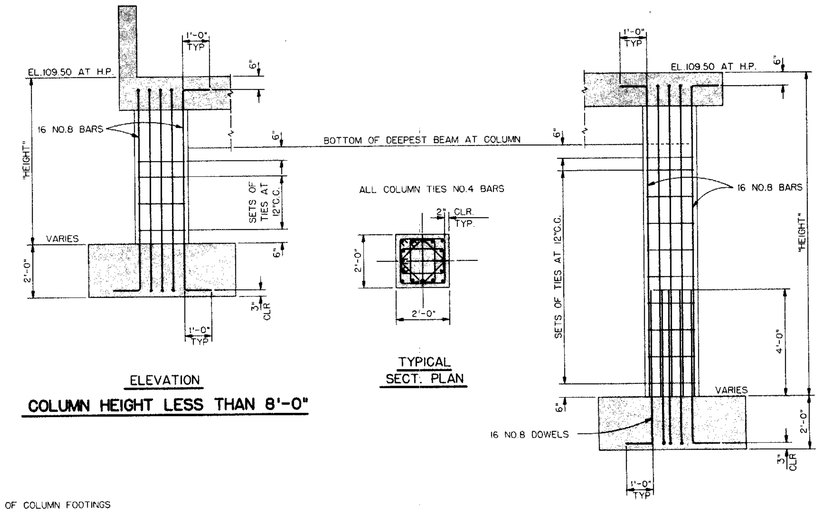
EFFLUENT FILTERS
STRUCTURAL
BEAM AND COLUMN FOOTING DETAILS

SCALE 3/8"=1'-0"
JOB. NO. 905004.00
SHEET 8 OF 19



ELEVATION

COLUMN LINE 5 - BEAM D5



ELEVATION

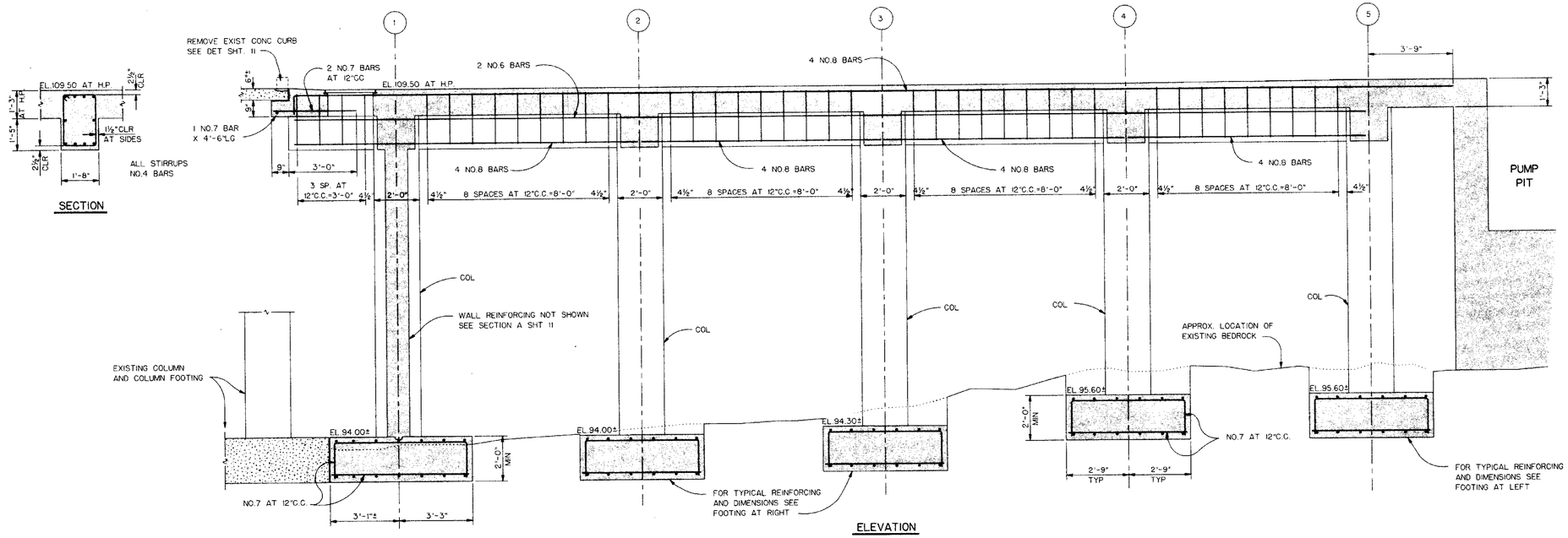
COLUMN HEIGHT LESS THAN 8'-0"

ELEVATION

COLUMN HEIGHT MORE THAN 8'-0"

NOTE:
BOTTOM ELEVATION OF COLUMN FOOTINGS MAY VARY FROM THAT SHOWN ON THESE ELEVATIONS. BOTTOM SHALL EXTEND A MINIMUM OF 2 FEET INTO EXISTING BEDROCK. SEE SPECS.

TYPICAL COLUMN DETAILS



ELEVATION

COLUMN LINE A - BEAM D6

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

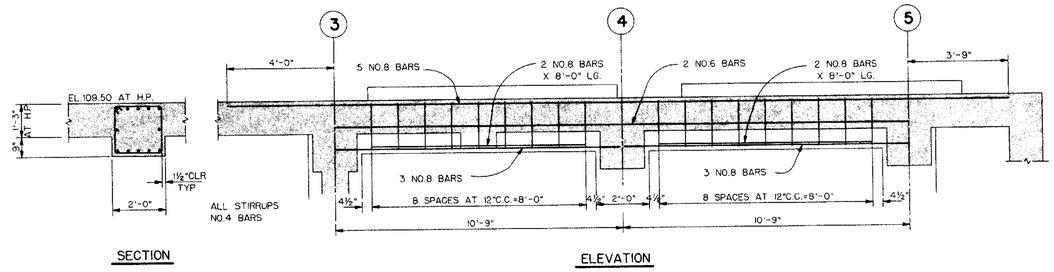
GRAPHIC SCALES (IN FEET) 3/8"=1'-0" 0 2 4

DESIGNED AGE
DRAWN MR
CHECKED JHJ
DATE APRIL 1990

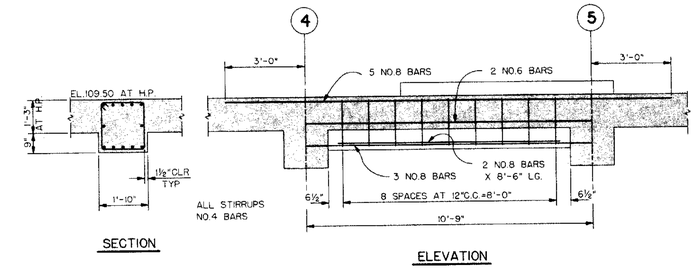
SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto
SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 6120 — RAYMOND G. GERGUS

EFFLUENT FILTERS
STRUCTURAL
BEAM AND COLUMN DETAILS

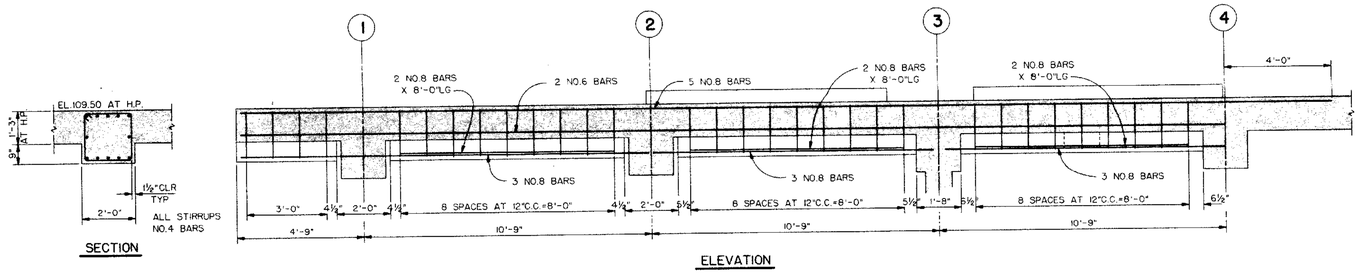
SCALE 3/8"=1'-0"
JOB NO. 905004.00
SHEET 9 OF 19



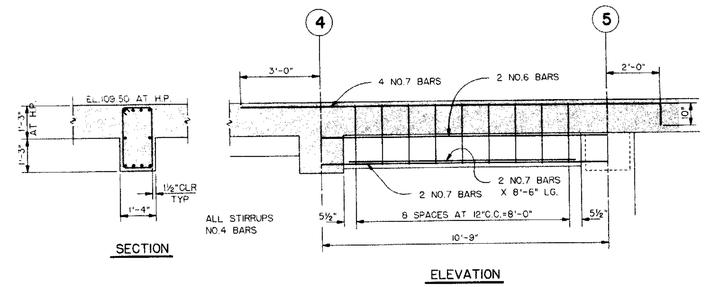
BEAM D8



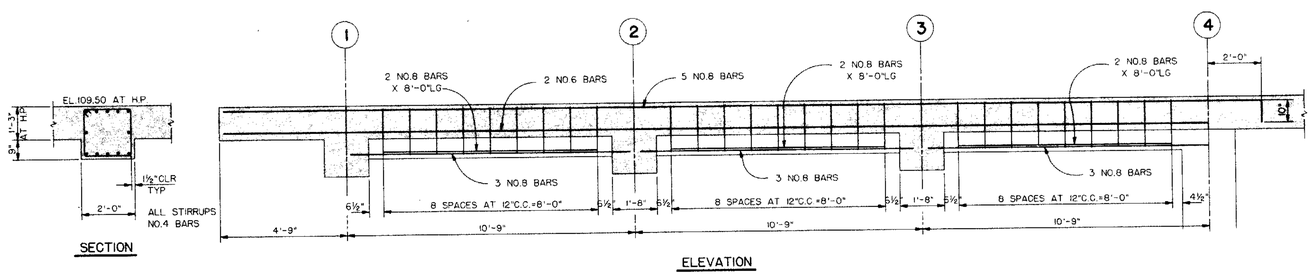
BEAM D7



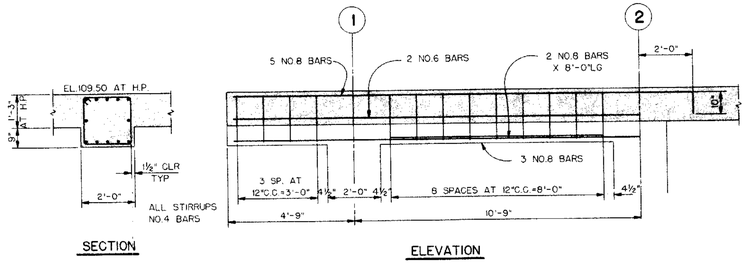
BEAM D10



BEAM D9 - 2 REQD.



BEAM D11



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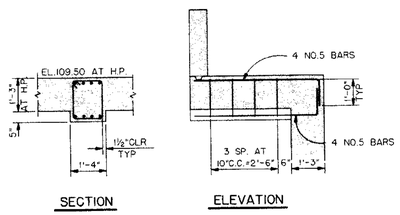

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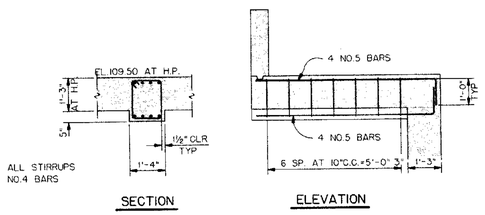

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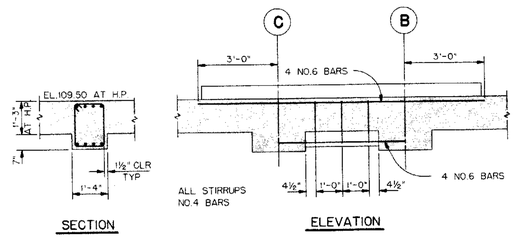


BEAM D13

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

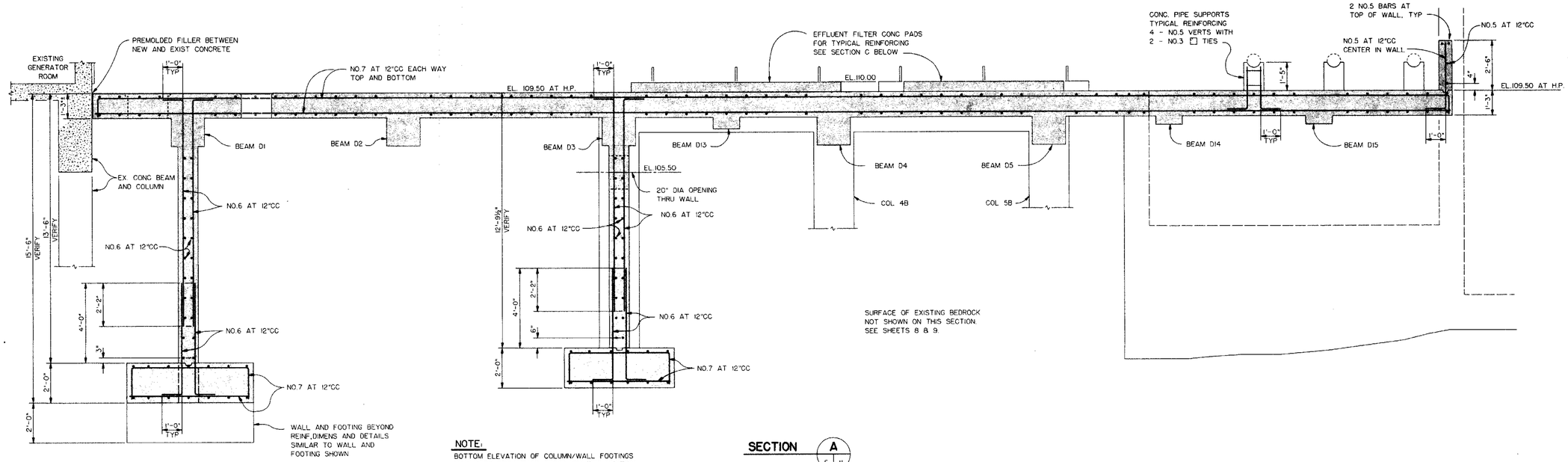
GRAPHIC SCALES (IN FEET) 3/8"=1'-0" 0 2 4

DESIGNED AGE
DRAWN MR
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto
SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 8120 — RAYMOND G. GERGUS

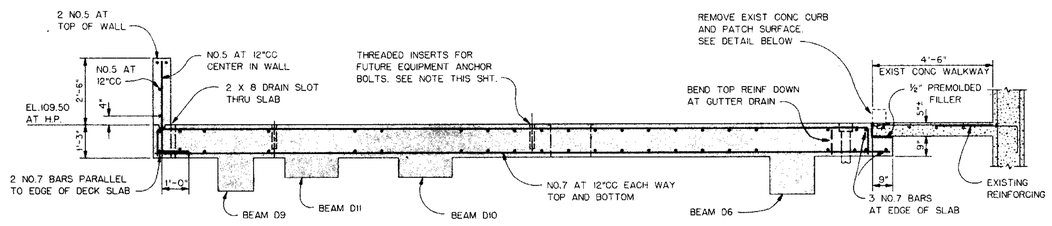
EFFLUENT FILTERS
STRUCTURAL
BEAM DETAILS

SCALE 3/8"=1'-0"
JOB. NO. 905004.00
SHEET 10 OF 19



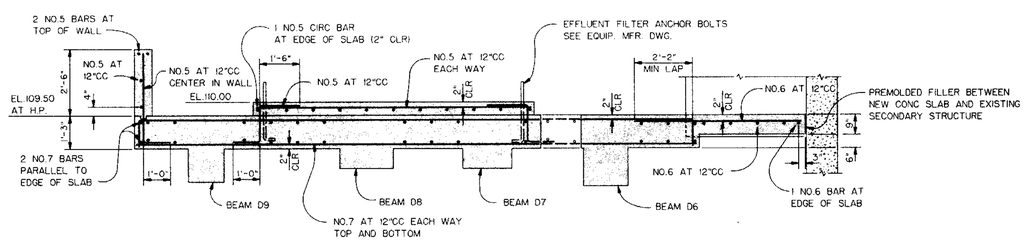
NOTE:
BOTTOM ELEVATION OF COLUMN/WALL FOOTINGS MAY VARY FROM THAT SHOWN ON THIS SECTION. BOTTOM SHALL EXTEND A MINIMUM OF 2 FEET INTO EXISTING BEDROCK. SEE SPECS.

SECTION A (6 | 11)

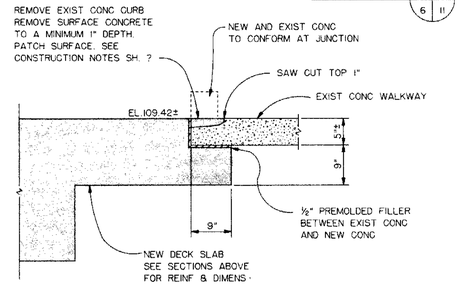


THREADED INSERT NOTE.
CONTRACTOR TO INSTALL THREADED INSERTS, SIZE, DEPTH AND LOCATION TO MATCH SIZE AND NUMBER OF ANCHOR BOLTS, AS PER EFFLUENT FILTER MANUFACTURERS DRAWINGS. PROVIDE STAINLESS STEEL PLUG FOR EACH INSERT.

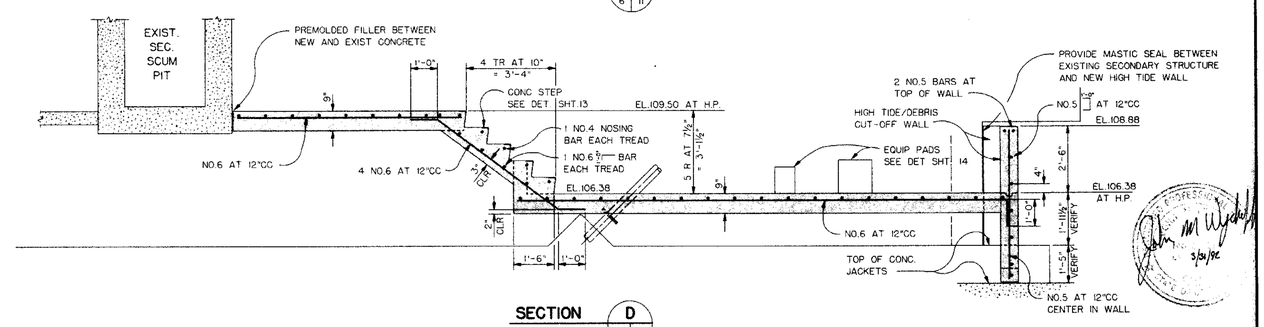
SECTION B (6 | 11)



SECTION C (6 | 11)



EXIST CONC CURB REMOVAL DETAIL
NO SCALE



SECTION D (6 | 11)

REV.	DESCRIPTION	SUB.	APPR'S	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

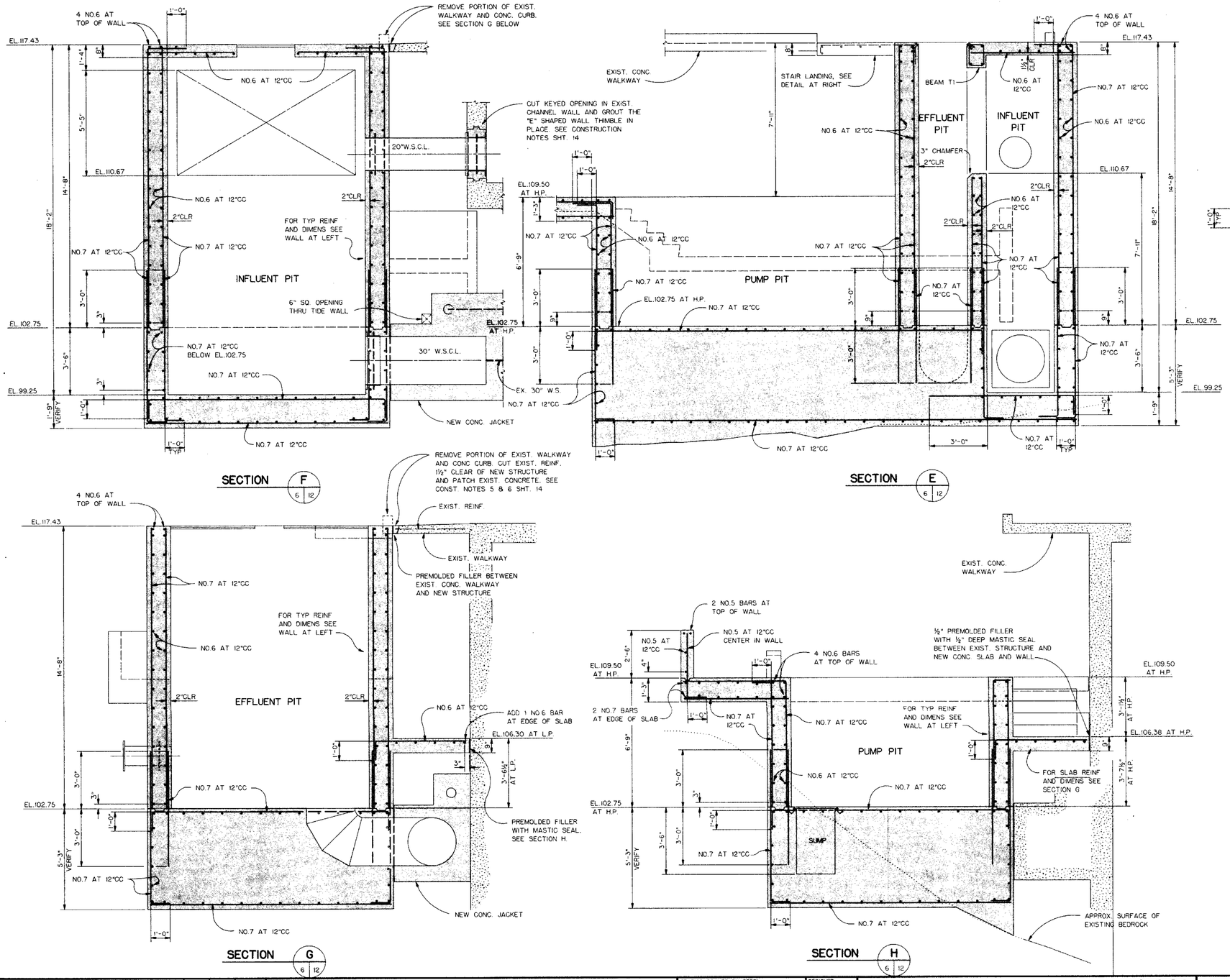
GRAPHIC SCALES (IN FEET) 3/8"=1'-0" 0 2 4

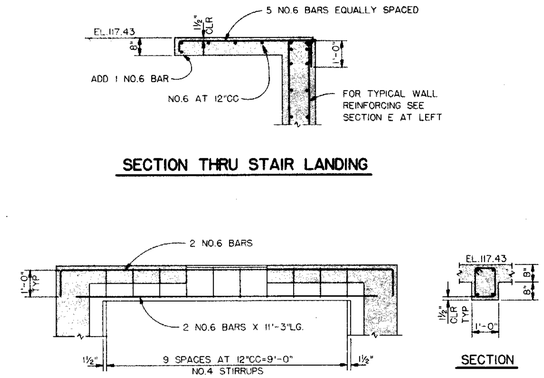
DESIGNED AGE
DRAWN MR
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto
SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 8120 — RAYMOND G. GEROUS

EFFLUENT FILTERS STRUCTURAL SECTIONS A THRU D

SCALE 3/8"=1'-0"
JOB. NO. 905004.00
SHEET 11 OF 19





REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET) 3/8"=1'-0" 0 2 4

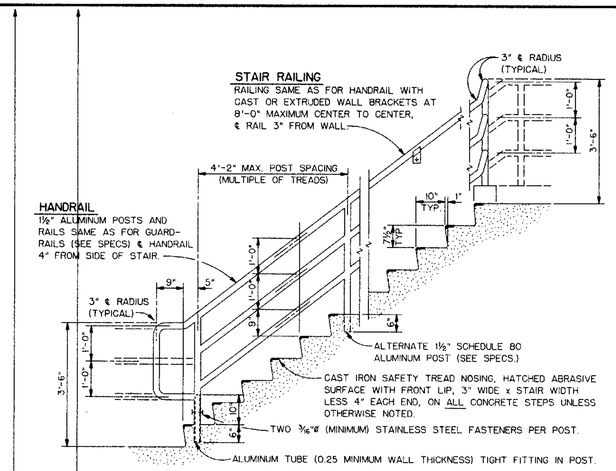
DESIGNED AGE
DRAWN MR
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto

SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 8120 — RAYMOND G. GERGUS

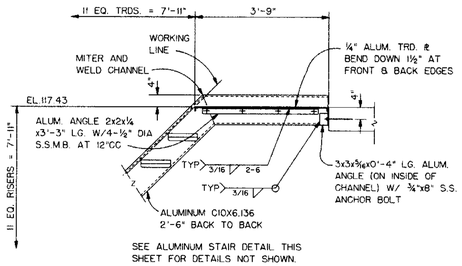
EFFLUENT FILTERS
STRUCTURAL
PUMP PIT SECTIONS

SCALE 3/8"=1'-0"
JOB. NO. 905004.00
SHEET 12 OF 19



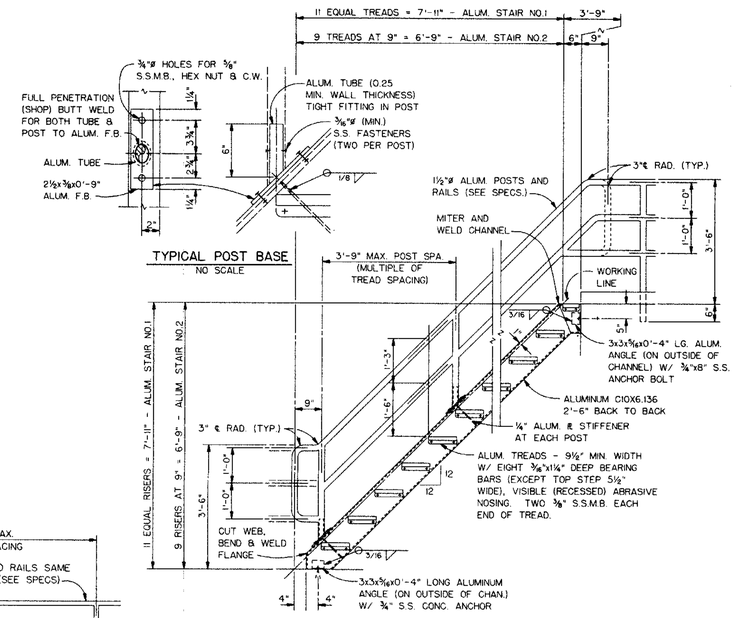
CONCRETE STAIR, HANDRAIL AND RAILING DETAIL

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



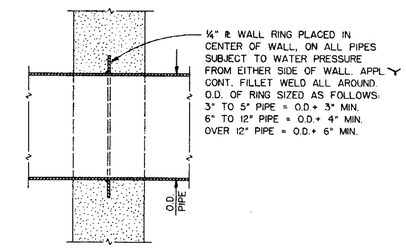
TOP DETAIL - STAIR NO. 1

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



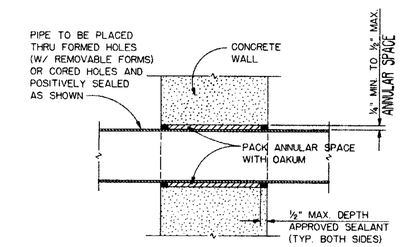
ALUMINUM STAIR DETAIL

SCALE: ½"=1'-0"



CUT-OFF RING DETAIL

NO SCALE

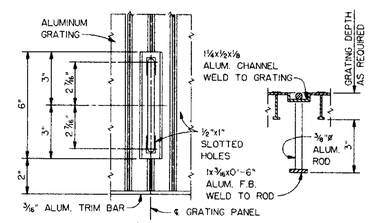


TYPICAL FOR ALL A.C.,Cu.,F.R.P. & P.V.C. PIPES UNLESS OTHERWISE DETAILED ON THE PLANS

MAY ALSO BE USED FOR ALL 2" DIA. AND SMALLER PIPING

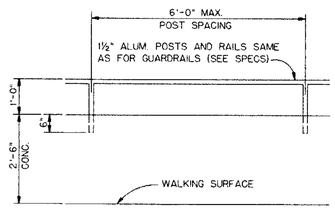
TYPICAL PIPE-WALL PENETRATION

NO SCALE



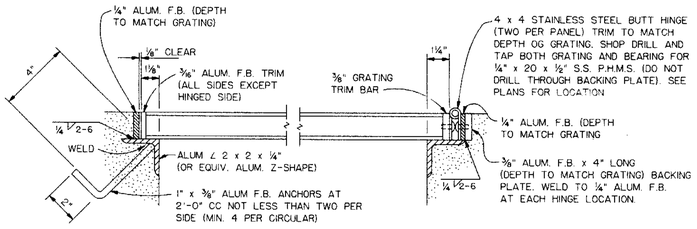
RETRACTABLE HANDLE DETAIL

SCALE: 3"=1'-0"



HIGH PARAPET GUARDRAIL

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



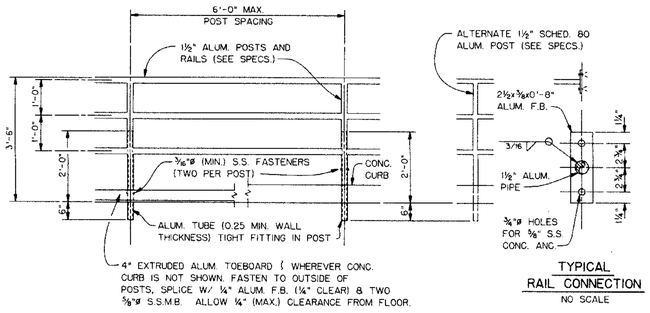
GRATING SHALL BE EXTRUDED ALUMINUM WITH 19/32" X 3" RECTANGULAR UPSET PERFORATIONS (EXCEPT WHERE NOTED NON-PERFORATED), HEAVY DUTY DESIGN. GRATING SHALL HAVE 1" DIA. FINGER HOLES, EXCEPT FOR HINGED GRATING WHICH SHALL HAVE ONE RETRACTABLE HANDLE IN EACH PIECE (SEE DETAIL)

CLEAR SPAN	MIN.DEPTH *
0" TO 2'-0"	1" DEEP
2'-1" TO 3'-0"	1¼" DEEP
3'-1" TO 4'-0"	1½" DEEP
4'-1" TO 5'-0"	1¾" DEEP
5'-1" TO 6'-0"	2" DEEP

OVER 6'-0" USE INTERMEDIATE SUPPORTS.
* UNLESS OTHERWISE NOTED ON THE PLANS.

GRATING AND BEARING DETAIL

SCALE: 3"=1'-0"



ALUM. TUBE (OR POST) TO BE SET IN CORED OR FORMED HOLES (REMOVABLE FORMS) AND SECURELY FIXED BY GROUT (SEE SPECS.)

TOP RAIL AT END POST SHALL BEND DOWN ON 1" MAX. ℄ RADIUS. TOP RAIL AT CORNERS SHALL BE A SIDE OUTLET ELBOW (OR OFFSET CORNER POST 6" AND USE 3" ℄ RADIUS HORIZ. BEND IN ALL RAILS AND TOEBOARD)

VERTICAL MITERS, OFFSETS OR PROTRUSIONS IN THE TOP RAIL ARE NOT ACCEPTABLE. ALL SPLICES SHALL BE SMOOTH AND TIGHT. REFER TO ELECT. PLANS FOR LIGHT POST LOCATIONS AND DETAILS WHERE REQ'D.

ALUMINUM GUARDRAIL DETAIL

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

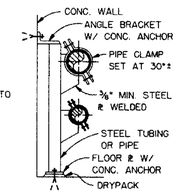
PIPE SUPPORT NOTE

ALL PIPING INSTALLED AS PART OF THIS PROJECT SHALL BE ADEQUATELY SUPPORTED. THE ELEVATED PIPING SHALL BE SUPPORTED ON APPROVED HANGERS, SADDLES, STRAPS, BRACKETS, FRAMES AND/OR CONCRETE PIERS WHICH SHALL BE SECURELY CONNECTED TO THE REINFORCED CONCRETE FLOOR SLABS, WALLS AND/OR ROOF SLABS. THE SUPPORT SYSTEM SHALL BE DESIGNED TO ADEQUATELY SUPPORT THE FULL WEIGHT OF THE PIPE, PIPE FITTINGS AND PIPE CONTENTS AS WELL AS TO PROVIDE LATERAL AND LONGITUDINAL SUPPORT FOR THE COMPLETE ELEVATED PIPING SYSTEM. THE PIPE SUPPORTS SHALL BE LOCATED AS SHOWN AND/OR NOTED ON THESE PLANS, AND THEY SHALL ALSO CONFORM TO THE FOLLOWING MAXIMUM SPACINGS AND LOCATIONS:

1. 30"ø TO 14"ø PIPES - - - - - 15'-0" MAX. SPACING.
2. 12"ø TO 8"ø PIPES - - - - - - 12'-0" MAX. SPACING.
3. 6"ø C.I. OR W.S. PIPES - - - - 10'-0" MAX. SPACING.
4. 4"ø C.I. OR W.S. PIPES - - - - 8'-0" MAX. SPACING.
5. 3"ø TO 2"ø METAL PIPES - - - 6'-0" MAX. SPACING.
6. 1½"ø TO ½"ø METAL PIPES - - 4'-0" MAX. SPACING.
7. 6"ø TO 2½"ø P.V.C. PIPES - - 4'-0" MAX. SPACING.
8. 2"ø TO ½"ø P.V.C. PIPES - - - 3'-0" MAX. SPACING.
9. LOCATE A SUPPORT AT EACH END OF EACH PIPE.
10. LOCATE A SUPPORT AT EACH HORIZONTAL AND EACH VERTICAL ANGLE POINT.

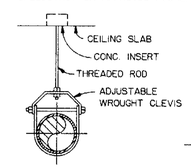
THE PROPOSED PIPING SUPPORT SYSTEM SHALL BE SUBMITTED FOR APPROVAL PRIOR TO THE POURING OF THE CONCRETE STRUCTURE.

PIPE SUPPORT COMPONENTS SHALL BE GRINNELL, ELCEN, UNISTRUT, SPEEDSTRUT OR APPROVED EQUAL.

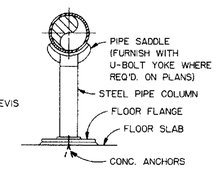


FABRICATED BRACKET

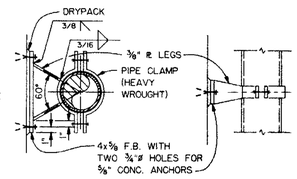
NO SCALE



HANGER



SADDLE



PLAN ELEVATION

MAY BE USED FOR VERTICAL SUPPORT AND/OR LATERAL SUPPORT (SHOWN)

PIPE SUPPORT NOTE AND DETAILS

SCALE: 1"=1'-0"

FABRICATED

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET)
1/2"=1'-0" 0 3
1"=1'-0" 0 1

DESIGNED JMW
DRAWN JKJ
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton Palo Alto
SUBMITTED APPROVED
JOHN H. JENKS R.E. NO. 8120 RAYMOND G. GERGUS

MISCELLANEOUS GENERAL DETAILS

SCALE AS NOTED
JOB. NO. 905004.00
SHEET 13 OF 19

CONSTRUCTION NOTES

1. THE CONTRACTOR, FOLLOWING INPLEMENTATION OF THE NECESSARY PROVISIONS TO MINIMIZE INTERRUPTIONS OF NORMAL OPERATION, SHALL COMMENCE THE MODIFICATIONS AND ADDITIONS TO THE EXISTING UTILITIES AFTER FAVORABLE REVIEW BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT AND ACCESSORIES AS REQUIRED FOR THE CONSTRUCTION OF THESE IMPROVEMENTS. THE CONSTRUCTION SCHEDULE SHALL BE AS DESCRIBED IN DIVISION ONE (1) OF THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL VERIFY ALL FEATURES (INCLUDING DIMENSIONS) OF THE EXISTING UTILITIES AT THE JOB SITE PRIOR TO THE FABRICATION OR CONSTRUCTION REQUIRED BY THE ALTERATIONS AND ADDITIONS INDICATED.
3. THE CONTRACTOR SHALL REMOVE EQUIPMENT, EXCAVATION, PIPEWORK, CONCRETE, AND PAVEMENT AS REQUIRED IN LOCATIONS INDICATED. THIS WORK SHALL BE DONE IN SUCH A MANNER THAT THE REMAINING UTILITIES SHALL NOT BE DAMAGED AND SHALL BE TO THE SATISFACTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL PATCH AND REPAIR THE EXISTING UTILITIES AS REQUIRED BY THE CONSTRUCTION OF THE MODIFICATIONS USING SUITABLE AND APPROPRIATE BUILDING MATERIALS ALL TO THE SATISFACTION OF THE ENGINEER.
5. WHERE REQUIRED BY CONTRACT PLANS, REMOVE SURFACE OF EXISTING STRUCTURE, BY CHIPPING, DRILL DOWELS AS SHOWN INTO EXISTING CONCRETE AND APPLY A FAVORABLY REVIEWED EPOXY ADHESIVE COMPOUND. SEE NOTES 6 AND 7.
6. THE SURFACE OF EXISTING CONCRETE AT ALL JUNCTIONS OF NEW AND EXISTING CONCRETE SHALL BE THOROUGHLY CLEANED AND FREE FROM SURFACE CONTAMINATION, DUST AND/OR LOOSE PARTICLES. COAT THESE SURFACES OF EXISTING CONCRETE WITH A FAVORABLY REVIEWED EPOXY ADHESIVE COMPOUND: "CONCRESIVE 1001-LPL" (ADHESIVE ENGINEERING CO.), "SIKADOR HI-MOD" (SIKA CHEMICAL CORP.), OR EQUAL, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. NEW CONCRETE SHALL BE PLACED AGAINST THIS COATING, BEFORE THE COATING SETS: IF THE COATING SHOULD SET, APPLY A SECOND COATING BEFORE POURING CONCRETE.

TYPICAL STRUCTURAL NOTES

1. THESE NOTES SHALL APPLY TO ALL CONSTRUCTION INCLUDED IN THE PROJECT.
2. THE DESIGN AND CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE UNIFORM BUILDING CODE AND APPLICABLE LOCAL CODES.
3. THE CONSTRUCTION OF THE IMPROVEMENTS INCLUDED IN THIS PROJECT SHALL BE COORDINATED WITH FAVORABLY REVIEWED EQUIPMENT MANUFACTURER'S DRAWINGS. DIMENSIONS AND STRUCTURES SHALL CONFORM TO THE EQUIPMENT TO BE INSTALLED.
4. TYPICAL STRUCTURAL DETAILS SHOWN ON THIS DRAWING SHALL APPLY TO ALL CONSTRUCTION UNLESS OTHERWISE SHOWN OR NOTED.

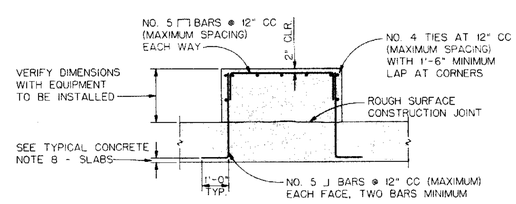
CONCRETE NOTES

1. THESE NOTES SHALL APPLY TO ALL CONCRETE STRUCTURE CONSTRUCTION INCLUDED IN THIS PROJECT.
2. ALL CONCRETE SHALL BE "CLASS A" DEVELOPING A COMPRESSIVE STRENGTH OF NOT LESS THAN 3500 P.S.I. IN 28 DAYS.
3. REINFORCING STEEL SHALL BE ASTM DESIGNATION A-615, GRADE 60, DEFORMED BARS. ALL SLAB AND BEAM REINFORCING SHALL HAVE A MINIMUM EXTENSION INTO ITS SUPPORT STRUCTURE IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI 301 SPECIFICATION. ALL ARRANGEMENTS, DETAILS, SPACERS, AND SUPPORTS SHALL BE IN ACCORDANCE WITH THE LATEST ACI 315 DETAILING MANUAL. ALL SPLICES SHALL BE LAPPED A MINIMUM OF 1.7 TIMES THE TENSILE DEVELOPMENT LENGTH UNLESS OTHERWISE SHOWN. SPLICES SHALL BE STAGGERED AND SHALL NOT BE LOCATED AT POINTS OF MAXIMUM STRESS.
4. CONCRETE FOR SLABS AND/OR WALLS BETWEEN CONSTRUCTION JOINTS SHALL BE PLACED IN ONE CONTINUOUS OPERATION. THE LOCATIONS OF PERMISSIBLE VERTICAL WALL CONSTRUCTION JOINTS ARE SHOWN ON THESE DRAWINGS. WALL REINFORCING SHALL BE CONTINUOUS THROUGH EACH VERTICAL CONSTRUCTION JOINT. THE LOCATIONS OF ALL CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR FAVORABLE REVIEW PRIOR TO START OF WORK ON THE FORMS, REINFORCING STEEL OR CONCRETE PLACEMENT.
5. CARE SHALL BE TAKEN TO ASSURE GOOD WATERTIGHT CONCRETE AT CONSTRUCTION JOINTS. CONCRETE SHALL BE WELL COMPACTED AT THE SURFACE OF JOINTS, SHALL BE CLEANED BY SANDBLASTING OR AS OTHERWISE APPROVED BY THE ENGINEER, TO EXPOSE CLEAN COARSE AGGREGATE FIRMLY EMBEDDED IN THE ORIGINAL MATRIX. JUST PRIOR TO THE PLACING OF THE FRESH CONCRETE, THE HARDENED CONCRETE SHALL BE DAMPENED AND THEN THOROUGHLY COVERED WITH A COAT OF 1:2 PORTLAND CEMENT MORTAR, OR A 2" MINIMUM THICKNESS OF MODIFIED CONCRETE MIX (DESIGNATED CONCRETE MIX WITH ONE-HALF OF THE COARSE AGGREGATE REMOVED). PLACE THE FRESH CONCRETE BEFORE THE MORTAR OR THE MODIFIED CONCRETE MIX HAS ATTAINED ITS INITIAL SET.
6. CHAMFER ALL EXPOSED EDGES AND CORNERS 3/4-INCH, UNLESS OTHERWISE NOTED.
7. REFER TO PIPEWORK AND EQUIPMENT DRAWINGS, TYPICAL DETAILS, EQUIPMENT MANUFACTURER'S DRAWINGS AND SPECIFICATIONS FOR REQUIRED OPENINGS, SLEEVES, PIPES, CONDUITS, MISCELLANEOUS ANCHORING DEVICES, PIPEWORK AND EQUIPMENT FORMED, CAST AND/OR EMBEDDED IN THE CONCRETE STRUCTURE.
8. CONCRETE COVER FOR REINFORCING BARS, UNLESS OTHERWISE SHOWN OR NOTED, SHALL BE AS FOLLOWS:

   SLABS:
   - BOTTOM AND SLAB CAST AGAINST EARTH ---------- 3"
   - FORMED SIDE AND TOP EXPOSED TO EARTH ---------- 2-1/2"
   - TOP AND BOTTOM EXPOSED TO INTERIOR TANK ATMOSPHERE -------- 2"
   - TOP AND BOTTOM EXPOSED TO WEATHER ---------- 1-1/2"
   - TOP AND BOTTOM ALL OTHER EXPOSURES ---------- 1-1/2"

   WALLS:
   - INTERIOR FACE ---------- 1-1/2"
   - FORMED EXTERIOR EXPOSED TO EARTH ---------- 2"

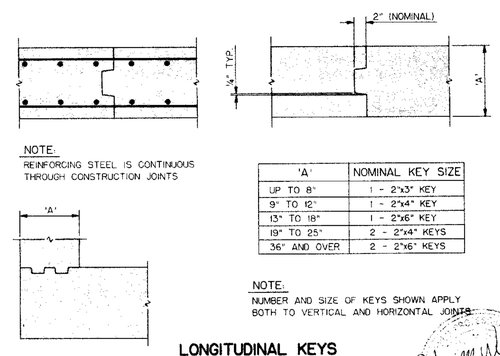
   BEAMS:
   - TOP, BOTTOM OR SIDE OF LONGITUDINAL REINFORCEMENT -------- 2"
   - TOP, BOTTOM OR SIDE OF STIRRUPS OR TIES ---------- 1-1/2"
   - FORMED BOTTOM AND SIDE OF STIRRUPS EXPOSED TO EARTH ---- 2"
9. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT ALL STRUCTURES SUBJECT TO WATER PRESSURE FROM INTERNAL OR EXTERNAL SOURCES AND LOCATIONS SHALL BE WATERTIGHT AND THAT PROPER PRECAUTIONS AND CAREFUL WORKMANSHIP SHALL BE EXERCISED TO ASSURE THAT THIS RESULT IS OBTAINED BY HIM.



NOTE: EQUIPMENT ANCHOR BOLTS ARE NOT SHOWN. VERIFY PLAN DIMENSIONS WITH EQUIPMENT MANUFACTURER.

TYPICAL EQUIPMENT PAD REINFORCING DETAIL

NO SCALE



NOTE:
REINFORCING STEEL IS CONTINUOUS THROUGH CONSTRUCTION JOINTS

'A'	NOMINAL KEY SIZE
UP TO 8"	1 - 2"x3" KEY
9" TO 12"	1 - 2"x4" KEY
13" TO 18"	1 - 2"x6" KEY
19" TO 25"	2 - 2"x4" KEYS
36" AND OVER	2 - 2"x6" KEYS

NOTE:
NUMBER AND SIZE OF KEYS SHOWN APPLY BOTH TO VERTICAL AND HORIZONTAL JOINTS.

LONGITUDINAL KEYS

NO SCALE

3/31/92

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET)

DESIGNED AGE
DRAWN MR
CHECKED JHJ
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton Palo Alto
SUBMITTED JOHN H. JENKS R.E. NO. 8120
APPROVED RAYMOND G. GERGUS

MISCELLANEOUS STRUCTURAL DETAILS

SCALE NONE
JOB NO. 905004.00
SHEET 14 OF 19

ABBREVIATIONS

a	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS CLOSE
A	AMMETER, AMPERES
AC	ALTERNATING CURRENT
ACSR	ALUMINUM CONDUCTOR STEEL REINFORCED
A/D	ANALOG TO DIGITAL
ADJ	ADJUSTABLE
AF	AMPERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
ALT	ALTERNATOR
AMP	AMPERES
ANN	ANNUNICATOR
APPROX	APPROXIMATE
AS	AMMETER SWITCH
AT	AMMERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
b	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS OPEN
BCG	BARE COPPER GROUND
BCP	BUBBLER CONTROL PANEL
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CC	CONTROL CABLE, CLOSING COIL
CHH	COMMUNICATION HANDHOLE
CKT	CIRCUIT
CLG	CEILING
CMH	COMMUNICATION MANHOLE
CO	CONDUIT ONLY
COMM	COMMUNICATION
CONN	CONNECT, CONNECTION
CONT	CONTINUED, CONTINUATION
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
D/A	DIGITAL TO ANALOG
DB	DIRECT BURIAL
DC	DIRECT CURRENT
DIA	DIAMETER
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DWG	DRAWING
(E)	EXISTING
EA	EACH
EF	EXHAUST FAN
EHH	ELECTRICAL HANDHOLE
EL	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ELEM	ELEMENTARY
EMER	EMERGENCY
EMH	ELECTRICAL MANHOLE
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
EQ	EQUAL
EQPT	EQUIPMENT
ETM	ELAPSED TIME METER
FA	FIRE ALARM
FABX	FIRE ALARM BOX
FDR	FEEDER
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FREQ	FREQUENCY
FSK	FREQUENCY SHIFT KEYED
FT	FEET, FOOT
FU	FUSE
FUT	FUTURE
FVNR	FULL VOLTAGE, NON REVERSING
FVR	FULL VOLTAGE, REVERSING
FWD	FORWARD
GA	GAUGE
GALV	GALVANIZED
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HOR	HAND-OFF-REMOTE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
HZ	HERTZ (CYCLES PER SECOND)
IND LT	INDICATING LIGHT
IN	INCH
INCAND	INCANDESCENT
INSTR	INSTRUMENT, INSTRUMENTATION
I/O	INPUT/OUTPUT
JB	JUNCTION BOX
KA	KILOAMPERES
KCMIL	THOUSANDS OF CIRCULAR MILS
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KVARH	KILOVOLT AMPERES REACTIVE HOURS
KW	KILOWATTS
KWH	KILOWATT HOURS
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
mA	MILLIAMPERES
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTION
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOV	MOTOR OPERATED VALVE
MS	MOTOR STARTER
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MUX	MULTIPLEXER
(N)	NEW
NC	NORMALLY CLOSED
NEUT	NEUTRAL
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NPL	NAMEPLATE
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OIL-INSULATED, SELF-COOLED
OA/FA	OIL-INSULATED, SELF-COOLED/ FORCED AIR COOLED
OCB	OIL CIRCUIT BREAKER
OH	OVERHEAD
OPP	OPPOSITE
OT	OVER TEMPERATURE
OVLD	THERMAL OVERLOAD RELAY
PB	PULLBOX
PBSW	PUSHBUTTON SWITCH
PC	PROCESS CONTROLLER
PEC	PHOTOELECTRIC CELL
PF	POWER FACTOR
PG&E	PACIFIC GAS & ELECTRIC CO.
pH	MEASURE OF ACIDITY OR ALKALINITY
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNLBD	PANELBOARD
POSN	POSITION
PRI	PRIMARY
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCPT	RECEPTACLE
RCT	REPEAT CYCLE TIMER
REQD	REQUIRED
RM	ROOM
RMS	ROOT MEAN SQUARE
RPM	REVOLUTIONS PER MINUTE
RT	RESET TIMER
RTU	REMOTE TERMINAL UNIT
RVS	REVERSE
SCR	SILICON CONTROLLED RECTIFIER
SD	SMOKE DETECTOR
SEC	SECONDS, SECONDARY
SECT	SECTION
SF	SUPPLY FAN
SH	SHEET
SIG	SIGNAL
SN	SOLID NEUTRAL
SOLV	SOLENOID OPERATED VALVE
SPEC	SPECIFICATION
SPT	SOUND POWERED TELEPHONE
SPDT	SINGLE POLE, DOUBLE THROW
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYNC	SYNCHRONIZING
TC	TIMED CLOSING
TEL	TELEPHONE
TEMP	TEMPERATURE
TERM	TERMINAL
TO	TIMED OPENING
TOA	TEST-OFF-AUTOMATIC
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UGND	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SYSTEM
V	VOLTS
VA	VOLT-AMPERES
VAR	VOLT AMPERES REACTIVE
VERT	VERTICAL
VH	VAR-HOUR
VS	VOLTMETER SWITCH
W	WIRE, WATTS
WH	WATTHOUR METER
WHDM	WATTHOUR DEMAND METER
WP	WEATHERPROOF
WR	WEATHER RESISTANT
WT	WATERTIGHT
XFMR	TRANSFORMER

PLANS

P1 CONDUIT SIZE AND FILL SHALL BE AS INDICATED. WHERE NO SIZE IS SHOWN, THE CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY THE AUTHORITY HAVING CODE ENFORCEMENT JURISDICTION. WHERE NO FILL IS INDICATED, THE FILL SHALL BE 2#12. PROVIDE 3/16 INCH NYLON PULL ROPE IN EACH EMPTY CONDUIT.

P2 LOWER CASE LETTERS ADJACENT TO A SWITCH OR LIGHT FIXTURE INDICATE A SWITCHED CIRCUIT. FOR FOUR LAMP FLUORESCENT FIXTURES WIRED IN PAIRS WITHIN EACH FIXTURE, THE "a" SWITCH CONTROLS THE OUTER LAMPS AND THE "b" SWITCH CONTROLS THE INNER LAMPS; WIRE 3 LAMP FIXTURES SIMILARLY.

PLAN SYMBOLS

- OH — OVERHEAD POWER LINE
- UNDERGROUND DIRECT BURIAL CABLE
- UNDERGROUND DUCT LINE (CONC. ENCASEMENT)
- UNDERGROUND DIRECT BURIAL CONDUITS
- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT CONCEALED IN FLOOR
- EXPOSED CONDUIT
- (123) CALLOUT INDICATING CONDUIT PER SCHEDULE
- 3/4" C – 3#12 CALLOUT INDICATING CONDUIT SIZE, NUMBER OF WIRES AND WIRE SIZE
- CONDUIT RUN, HATCH MARKS INDICATE NUMBER OF #12 CONDUCTORS, NO HATCH MARKS IS 2#12
- HOME RUN TO PANELBOARD OR AS INDICATED
- FLEXIBLE CONDUIT
- CONDUIT RUN, BROKEN AND CONTINUED SAME SHEET OR AS NOTED
- CONDUIT WITH SEAL FITTING
- CAP ON CONDUIT STUB
- OPEN CIRCLE DENOTES UPWARD CONDUIT RISER
- SOLID CIRCLE DENOTES DOWNWARD CONDUIT RISER
- INDICATES REMOVAL
- FA — FIRE ALARM
- T — TELEPHONE CONDUIT
- B — BUBBLER TUBE
- FLUSH MOUNTED PANELBOARD
- SURFACE MOUNTED PANELBOARD
- TC — FLUSH MOUNTED TELEPHONE CABINET
- TC — SURFACE MOUNTED TELEPHONE CABINET
- UNIT SUBSTATION, SWITCHGEAR, MOTOR CONTROL CENTER
- CONTROL STATION
- EQUIPMENT MOUNTING STAND
- (M) MOTOR
- SAFETY SWITCH
- COMBINATION MOTOR STARTER AND SAFETY SWITCH
- S^{MS} MANUAL MOTOR STARTER
- GROUND ROD AND BOX
- MH, HH — MANHOLE OR HANDHOLE
- S_* SINGLE POLE SWITCH
  - * 2 = 2 POLE, 3 = 3 WAY, 4 = 4 WAY, K = KEY OPERATED, WP = WEATHERPROOF, D = DIMMER, P = SWITCH WITH PILOT LIGHT
- ab — FLUORESCENT FIXTURE
- WALL / CEILING MOUNTED FIXTURE
- POLE MOUNTED FIXTURE
- WALL / CEILING MOUNTED EXIT LIGHT – DIRECTIONAL ARROWS WHERE INDICATED SHADED AREAS INDICATE ILLUMINATED FACE/FACES
- EMERGENCY SELF CONTAINED LIGHT FIXTURE WITH BATTERY
- WALL / CEILING MOUNTED EMERGENCY LIGHT FIXTURE WITH REMOTE BATTERY
- A/70 — LIGHT FIXTURE IDENIFICATION WITH LAMP WATTAGE
- (C) WALL CLOCK HANGER OUTLET
- SINGLE RECEPTACLE, 120V
- SINGLE RECEPTACLE, 240V
- DUPLEX FLOOR RECEPTACLE, 120V
- DUPLEX WALL RECEPTACLE, 120V
  - WP = WEATHERPROOF
  - G = GROUNDED
  - IG = ISOLATED GROUND
  - GF = GROUND FAULT INTERRUPTER
- X IN. — MULTI OUTLET ASSEMBLY WITH SINGLE RECEPTACLE, 120V MOUNTING HEIGHT AS NOTED
- SPECIAL PURPOSE WALL RECEPTACLE, RATING AS NOTED
- SPECIAL PURPOSE FLOOR RECEPTACLE, RATING AS NOTED
- (J) CEILING JUNCTION BOX
- (J) WALL JUNCTION BOX
- [J] FLOOR JUNCTION BOX
- WALL TELEPHONE OUTLET (+ 12")
- WALL TELEPHONE OUTLET (+ 60")
- FLOOR TELEPHONE OUTLET
- L — FIRE ALARM FLASHING LIGHT
- F — FIRE ALARM HORN
- BELL
- BUZZER
- (H) HEAT DETECTOR
- (S) PHOTO ELECTRIC SMOKE DETECTOR
- [F] FIRE ALARM MANUAL PULL STATION
- EOL — END OF LINE RESISTOR
- FACP — FIRE ALARM CONTROL PANEL
- INSTRUMENT

SINGLE LINE SYMBOLS

- GROUND CONNECTION
- SWITCH, 3 POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED
- AUTOMATIC TRANSFER SWITCH 3 POLE, RATING AS NOTED
- VACUUM BREAK SWITCH
- FUSE
- FUSE CUTOUT
- 0MCP/00AT, 000AF/000AT — CIRCUIT BREAKER, 3 POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED. IF TWO RATINGS APPEAR (EG. 100/625) THEN DEVICE IS MCP; NUMERATOR IS CONTINUOUS CURRENT RATING & DENOMINATOR IS INSTANTANEOUS TRIP SETTING.
- POWER CIRCUIT BREAKER DRAWOUT ABOVE 1500V RATING AS NOTED
- SURGE ARRESTER
- CURRENT TRANSFORMER
- VOLTAGE TRANSFORMER
- POWER OR DISTRIBUTION TRANSFORMER RATING AS NOTED
- (10) MOTOR. NUMBER INDICATES HORSEPOWER
- (GEN) GENERATOR
- CONTROL PACKAGE PROVIDED WITH THE DRIVEN EQUIPMENT
- BUS STAB ON MCC OR SWITCHGEAR, CORD & PLUG CONNECTION FOR MOTORS
- THERMAL OVERLOAD
- (*) * A – AMMETER, V – VOLTMETER, WH – WATTHOUR METER, GS – GROUND FAULT SENSOR
- [AS] AMMETER SWITCH
- [VS] VOLTMETER SWITCH
- [3] ELEMENTARY DIAGRAM NUMBER
- [P476] CALLOUT INDICATING CIRCUIT NUMBER PER SCHEDULE
- (K) KIRK KEY INTERLOCK
- POWER RECEPTACLE FOR PORTABLE EQUIPMENT
- (#) RELAY DEVICE FUNCTION, # PER ANSI NUMBER C37.2
- TERMINATOR / POTHEAD
- SPLICE, TERMINATION
- 2 * MOTOR STARTER. NUMBER INDICATES NEMA SIZE.
  - * (NONE) FULL VOLTAGE NONREVERSING
  - A AUTOTRANSFORMER REDUCED VOLTAGE
  - PW PART WINDING
  - R REVERSING
  - SS SOLID STATE
  - Y△ WYE DELTA
  - -2S TWO SPEED
- AFD — ADJUSTABLE FREQUENCY DRIVE
- AFD — ADJUSTABLE FREQUENCY DRIVE WITH FULL SPEED BYPASS CONTACT
- CAPACITOR – KVAR INDICATED

ELEMENTARY DIAGRAM SYMBOLS

- FUSE. RATING IN AMPERES
- (M) MOTOR
- (ETM) ELAPSED TIME METER
- (**) CONTROL DEVICE COIL. PREFIX NUMBER, WHEN USED, DISTINGUISHES BETWEEN DEVICES OF THE SAME TYPE.

** ALT – ALTERNATOR | LR – LATCH RELAY
CR – CONTROL RELAY | SV – SOLENOID VALVE
GR – GENERAL RELAY | PR – PROBE RELAY
ISR – INTRINSICALLY SAFE RELAY | TR – TIMING RELAY

- INDICATING LIGHT
- PUSH-TO-TEST INDICATING LIGHT
  - * COLORS: A – AMBER, B – BLUE, C – CLEAR, G – GREEN | R – RED, N – NEON, W – WHITE
- TERMINAL
- SINGLE POLE SWITCH
- PUSHBUTTON, NORMALLY OPEN / CLOSED
- SWITCH, 1-POLE / 3-POLE
- MULTI-POSITION SELECTOR SWITCH
- H O A — HAND-OFF-AUTOMATIC SWITCH X-INDICATES CONTACTS CLOSED
- H1 H3 H2 H4 / X1 X2 — CONTROL POWER TRANSFORMER
- [C450] CALLOUT INDICATION CIRCUIT NUMBER
- MOTOR HEATER
- CIRCUIT BREAKER, 1-POLE / 3-POLE
- BUZZER, BELL, HORN
- GROUND CONNECTION
- CONTACT, NORMALLY OPEN / CLOSED
- BUS STAB ON MCC; CORD & PLUG CONNECTION FOR MOTORS
- THERMAL OVERLOAD

(4 CR) — 2-2, 3, 0, 0 / [C127]

- CROSS REFERENCE TO ANOTHER DIAGRAM
- NORMALLY OPEN CONTACT ON THE OTHER DIAGRAM
- SPARE CONTACTS ON RELAY IF OMITTED, THEN THE SPEC. REQUIREMENTS REGARDING SPARE CONTACTS APPLY.
- NORMALLY CLOSED CONTACT ON THIS DIAGRAM
- CIRCUIT CALLOUT FOR WIRING REQUIRED BETWEEN DIAGRAMS; EXPLICIT CIRCUIT CALLOUTS ARE NOT SHOWN FOR CIRCUITS WITHIN A GIVEN PIECE OF EQUIPMENT OR BETWEEN ABUTTING PIECES OF EQUIPMENT

SENSING SWITCHES

CLOSE ON: RISING	CLOSE ON: FALLING	SENSED VARIABLE
		FLOW
		LEVEL
		PRESSURE
		TEMPERATURE

LIMIT SWITCHES

SYMBOL	
	CLOSE ON REACHING LIMIT
	CLOSE ON LEAVING LIMIT

TIMED CONTACTS

SYMBOL	NORMAL	OPEN TO CLOSED	CLOSED TO OPEN
	OPEN	DELAYED	INSTANTANEOUS
	CLOSED	INSTANTANEOUS	DELAYED
	OPEN	INSTANTANEOUS	DELAYED
	CLOSED	DELAYED	INSTANTANEOUS

ELEMENTARY DIAGRAMS

E1 UNDERLINED WORDS SHOWN AT A PUSHBUTTON, LIGHT, SELECTOR SWITCH, ETC. INDICATE THE LEGEND PLATE REQUIREMENT FOR THAT PARTICULAR DEVICE. ANY ADDITIONAL NAMEPLATES ARE INDICATED ON ELEVATIONS WITH THE REQUIRED NAMEPLATE INSCRIPTIONS.

E2 "NORMAL" STATUS OF SWITCHES OR CONTACTS IS THE SHELF POSITION.

E3 NUMBERS AND LETTERS IDENTIFY DEVICE.

GENERAL NOTES

G1 THESE DRAWINGS ARE DIAGRAMMATIC ONLY; EXACT LOCATIONS OF ELECTRICAL EQUIPMENT SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. THE INSTALLATION OF ALL EQUIPMENT SHOWN ON THESE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITIONS OF ALL APPLICABLE CODES AND UTILITY COMPANY STANDARDS. CONTACT THE UTILITY COMPANY REPRESENTATIVES AND VERIFY THEIR REQUIREMENTS.

G2 THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.

G3 NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS IN EQUIPMENT LOCATIONS ARE DISCOVERED OR IF PROBLEMS ARISE DUE TO FIELD CONDITIONS, LACK OF INFORMATION OR ANY OTHER REASON. NO PAYMENT WILL BE MADE FOR CHANGES WHICH HAVE NOT BEEN FAVORABLY REVIEWED BY THE ENGINEER.

G4 INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ANSI C37.2, Y1.1, Y32.2, AND Y32.9.

G5 VERIFY ALL COLOR REQUIREMENTS BEFORE ORDERING MATERIALS.

G6 REFER TO THE MECHANICAL DRAWINGS FOR CERTAIN CONTROL DIAGRAMS AND EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND FOR CERTAIN CONNECTIONS TO BE MADE TO ELECTRICAL CIRCUITS.

REGISTERED PROFESSIONAL ENGINEER — TONY L. WAKO... — E 10363 — EXP. — ELECTRICAL — STATE OF CALIFORNIA

E-1

REV.	DESCRIPTION	SUB.	APPR.	DATE

REFER TO TRACING FOR LATEST REVISION

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET)

DESIGNED SCB | DRAWN WL | CHECKED TIW | DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT

MARIN COUNTY, CALIFORNIA

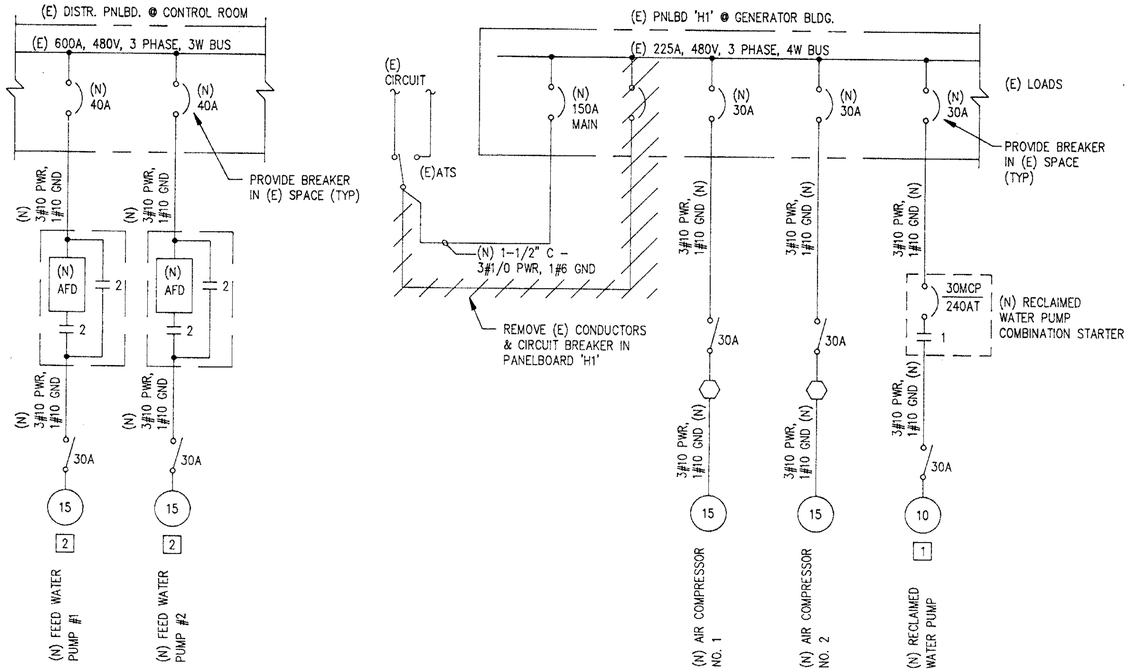
WASTEWATER TREATMENT PLANT IMPROVEMENTS

Kennedy/Jenks/Chilton **Palo Alto**

SUBMITTED JOHN H. JENKS R.E. NO. 8120 — APPROVED RAYMOND G. GERGUS

ELECTRICAL ABBREVIATIONS AND LEGENDS

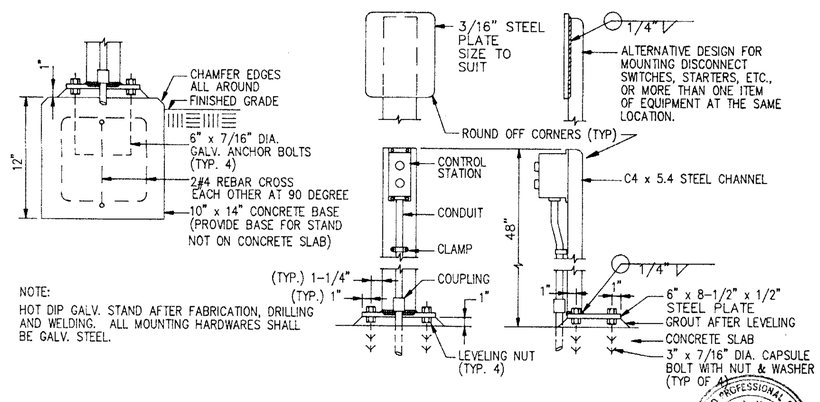
SCALE AS NOTED | JOB. NO. 905004.00 | SHEET 15 OF 19



SINGLE LINE DIAGRAM

FIXTURE SCHEDULE							
FIXTURE TYPE	LAMP NO.	LAMP TYPE	LAMP WATTS	1 Ø VOLTS	MOUNTING ARRGT	DESCRIPTION	CATALOG NUMBER
A 150	1	INCAND A-21	150	120	WALL	NON-METALLIC VAPORTIGHT, THERMOPLASTIC POLYESTER HOUSING, CLEAR GLASS GLOBE, GUARD & GASKETED. PROVIDE ARM ADAPTER.	HUBBELL NVBX15GG OR EQUAL
B 150	1	INCAND A-21	150	120	PENDANT	SIMILAR TO TYPE A EXCEPT NO ARM ADAPTER.	HUBBELL NVA15GG OR EQUAL
C 150	1	INCAND PAR 38	100	120	SURFACE ON JB	ENCLOSED & GASKETED, DIE-CAST ALUMINUM HOUSING W/ INTEGRAL SHIELD, PORCELAIN SOCKET, MOUNT ON 4" ROUND SPLICE BOX. WP CAST ALUMINUM W/ GASKETED CAST COVER.	STONCO V4400E/753-D OR EQUAL

(E) PANELBOARD 'A1' SCHEDULE											
208/120 VOLTS, 3 PHASE, 4 WIRE				100 AMP BUS		(N) 100 AMP MAIN		MOUNTING: SURFACE			
CKT. NO.	DESCRIPTION	CONNECTED VOLT-AMPS A	B	C	AMPS/ POLES	CKT. NO.	DESCRIPTION	CONNECTED VOLT-AMPS A	B	C	AMPS/ POLES
1	(E) CIRCUITS					2	(E) CIRCUITS				
3	(E) CIRCUITS					4	(E) CIRCUITS				
5	(E) CIRCUITS					6	(E) CIRCUITS				
7	(E) CIRCUITS					8	(E) CIRCUITS				
9	(E) CIRCUITS TOTAL					10	(E) CIRCUITS TOTAL				
11	SUMP PUMP			1176	(E)20/1	12	LIGHTING @ FILTER			1150	(E)20/1
13	RCPT @ FILTER	360			(E)15/1	14	FEED PUMP CONTROL PANEL	500			(E)15/1
15	FLOW TRANSMITTER		200		(N)15/1	16	BUBBLER AIR COMPRESSORS		504		(N)15/1
17						18					
SUBTOTALS											
PHASE TOTALS											
TOTAL VOLT-AMPS											



NOTE:
HOT DIP GALV. STAND AFTER FABRICATION, DRILLING AND WELDING. ALL MOUNTING HARDWARES SHALL BE GALV. STEEL.

EQUIPMENT MOUNTING STAND (1 / 17 16)
SCALE: NONE

REGISTERED PROFESSIONAL ENGINEER TONY L. WU E10363 EXP. 9/30/92 ELECTRICAL STATE OF CALIFORNIA

E-2

REV.	DESCRIPTION	SUB.	APPR.	DATE
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REFERENCE INFORMATION AND NOTES:

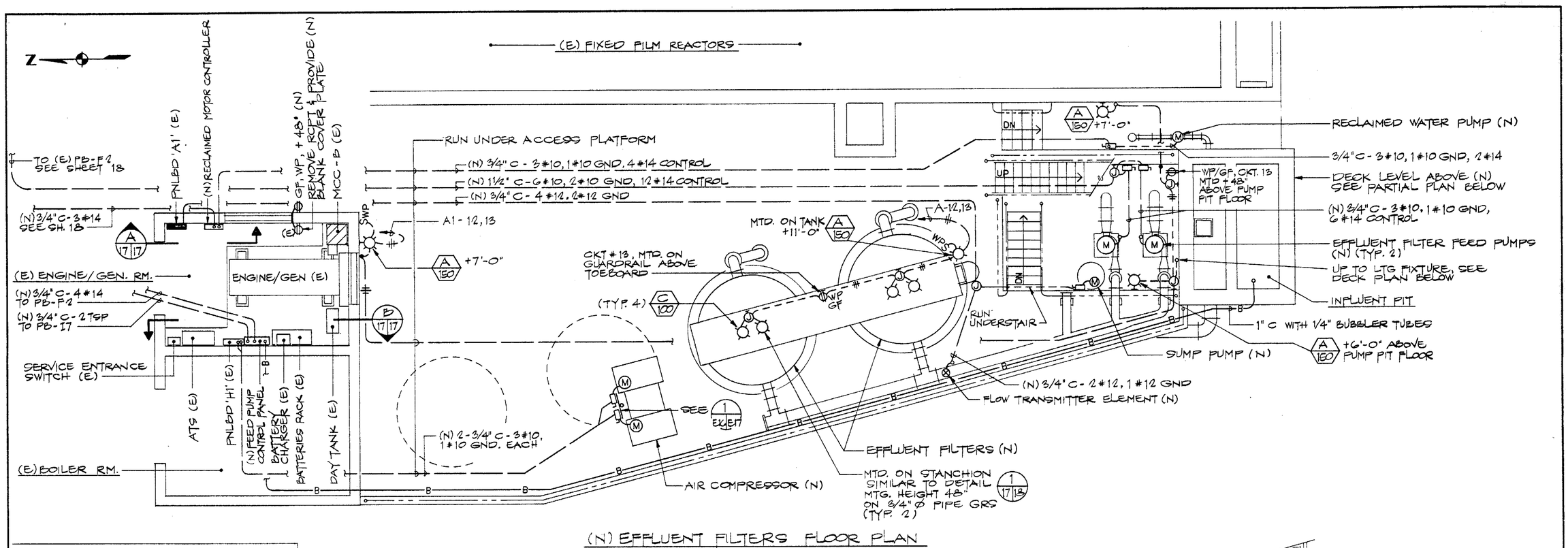
GRAPHIC SCALES (IN FEET)

DESIGNED SCB
DRAWN WL
CHECKED TIW
DATE APRIL 1990

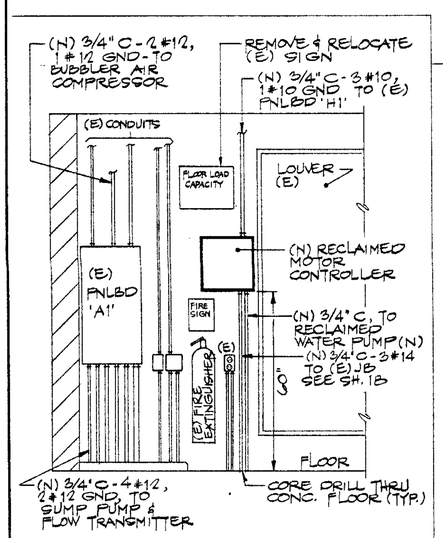
SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto
SUBMITTED — JOHN H. JENKS — R.E. NO. 8120
APPROVED — RAYMOND G. GERGUS

ELECTRICAL
SINGLE LINE DIAGRAM AND SCHEDULES

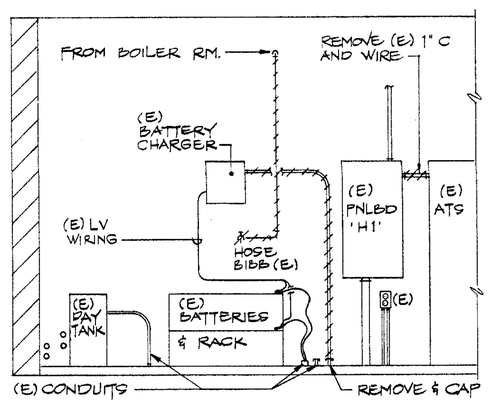
SCALE AS NOTED
JOB. NO. 905004.00
SHEET 16 OF 19



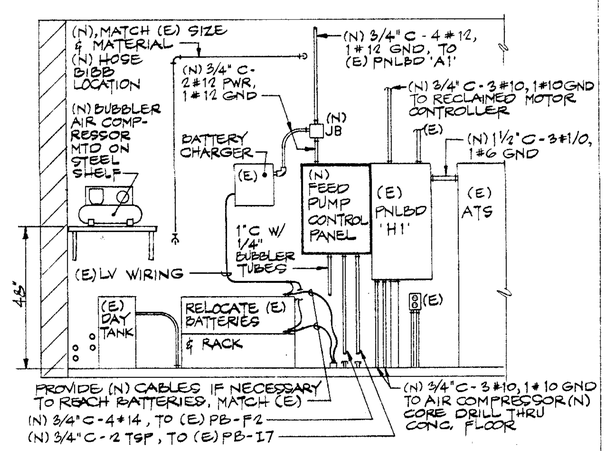
(N) EFFLUENT FILTERS FLOOR PLAN
SCALE : 1/4" = 1'-0"



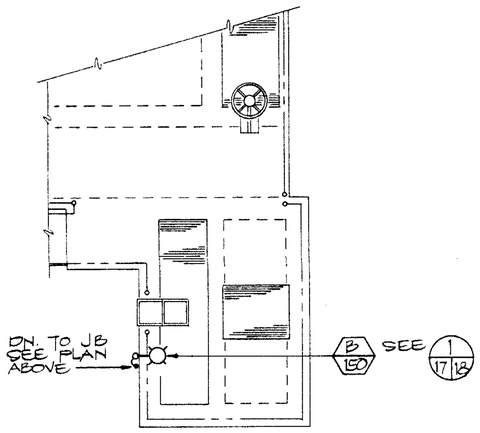
ELEVATION (A 17/17)
SCALE : 1/2" = 1'-0"



DEMOLITION ELEVATION (B 17/17)
SCALE : 1/2" = 1'-0"



NEW ELEVATION (B 17/17)
SCALE : 1/2" = 1'-0"



DECK PLAN
SCALE : 1/4" = 1'-0"

E-3

REV.	DESCRIPTION	SUB.	APPR.	DATE

REFER TO TRACING FOR LATEST REVISION

REFERENCE INFORMATION AND NOTES:

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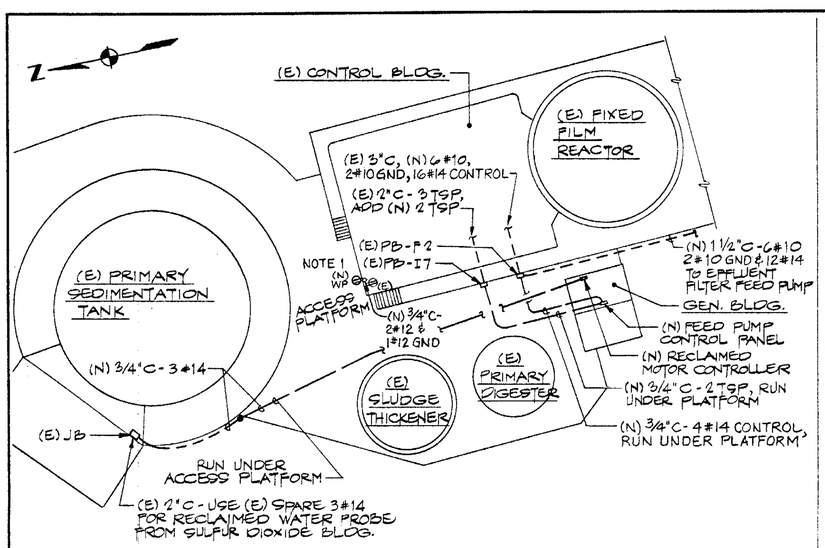
DESIGNED SCB
DRAWN WL
CHECKED TIW
DATE APRIL 1990

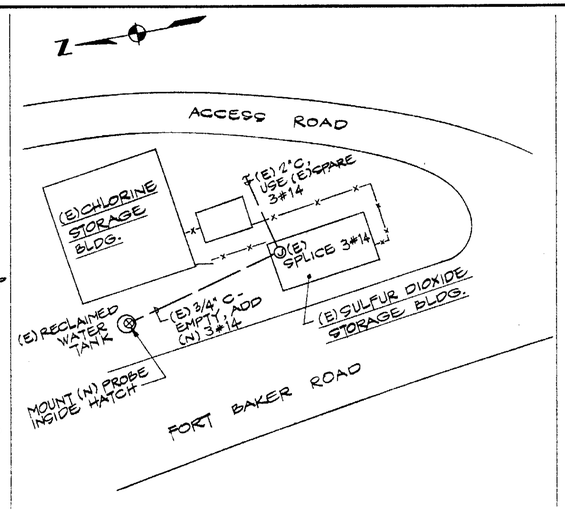
SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto
SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 8120 — RAYMOND C. GERGUS

ELECTRICAL
EFFLUENT FILTERS AND EXISTING ENGINE / GENERATOR
PLANS AND ELEVATIONS

SCALE: AS NOTED
JOB NO. 905004.00
SHEET 17 OF 19

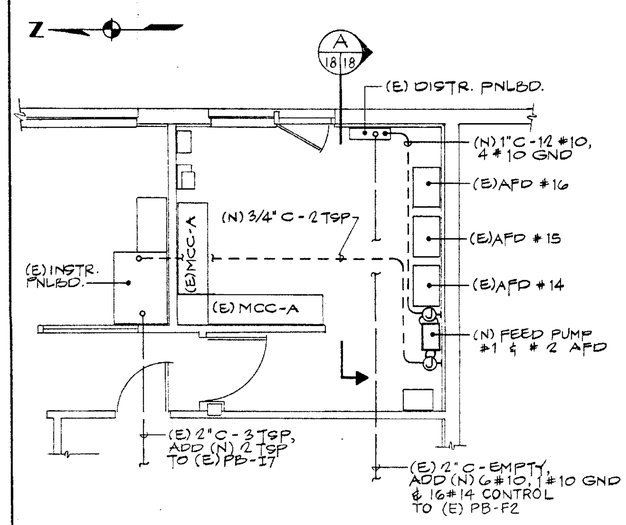


PARTIAL SITE PLAN A
SCALE: 1" = 20'

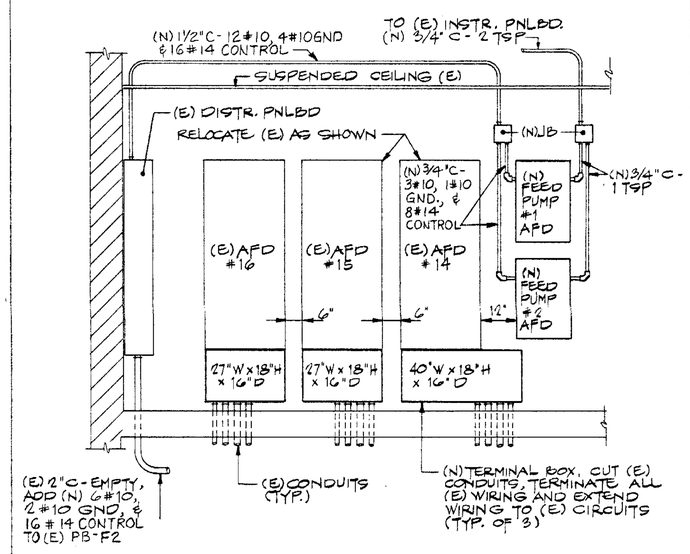


PARTIAL SITE PLAN B
SCALE: 1" = 20'

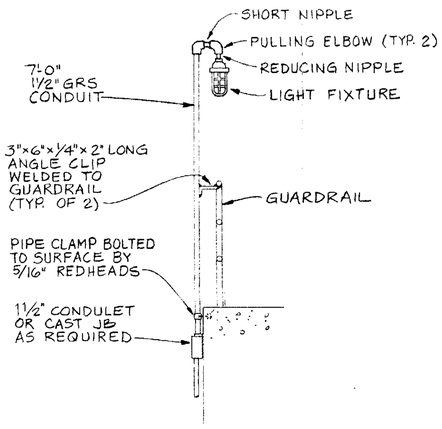
NOTES:
1. PROVIDE A (N) WEATHERPROOF DUPLEX RECEPTACLE ON THE OUTSIDE WALL OF THE CONTROL BUILDING. TAP INTO THE (E) DUPLEX RECEPTACLE INSIDE THE STORAGE ROOM. MOUNT THE (N) RCPT. + 48" HIGH.



CONTROL ROOM
PARTIAL PLAN OF CONTROL BLDG.
SCALE: 1/4" = 1'-0"



ELEVATION A 18/18
SCALE: 1/2" = 1'-0"



DETAIL 1 17/18
SCALE: NONE

REGISTERED PROFESSIONAL ENGINEER — TONY L. WILLIAMS — E 10260 — 9/4/92 — ELECTRICAL — STATE OF CALIFORNIA

E4

REV.	DESCRIPTION	SUB.	APPR.	DATE

REFER TO TRACING FOR LATEST REVISION

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET)

DESIGNED SCB
DRAWN WL
CHECKED TIW
DATE APRIL 1990

SAUSALITO-MARIN CITY SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Chilton — Palo Alto
SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 8120 — RAYMOND G. GEROUS

ELECTRICAL
PARTIAL SITE PLANS
CONTROL ROOM AND
ELEVATION

SCALE AS NOTED
JOB NO. 905004.00
SHEET 18 OF 19

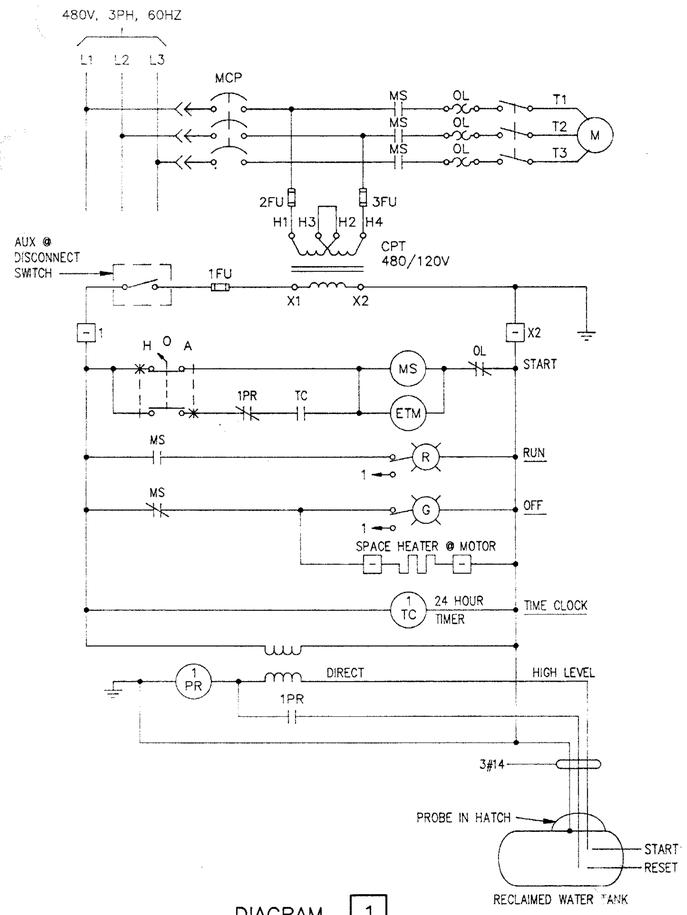


DIAGRAM 1

RECLAIMED WATER PUMP

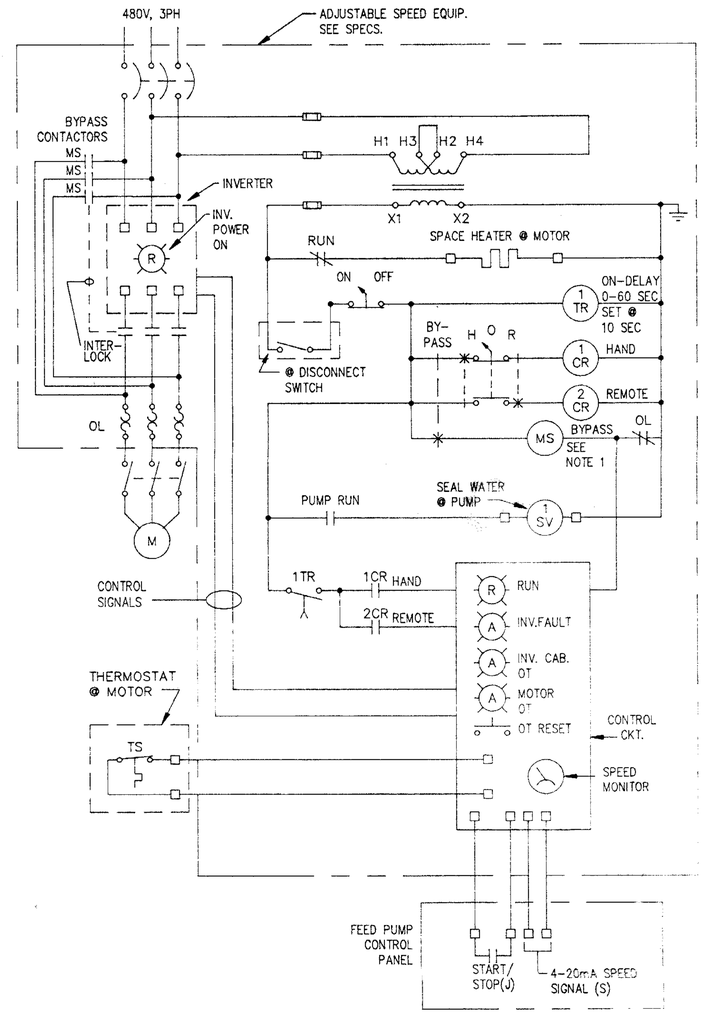
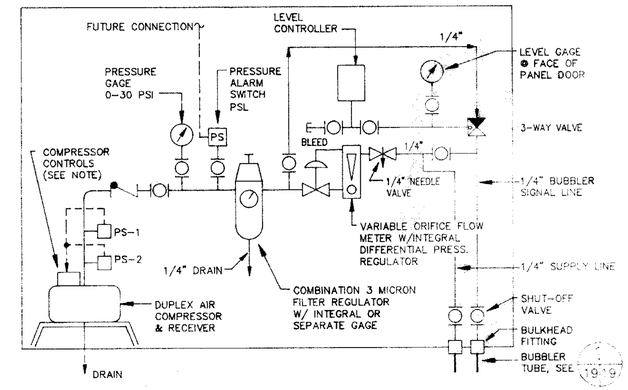


DIAGRAM 2

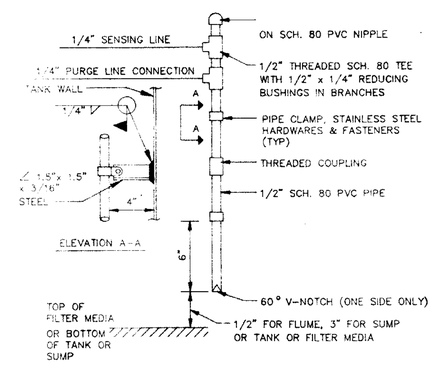
FEED PUMPS NO. 1 & NO. 2



NOTE: ALTERNATOR CIRCUIT WITH PRESSURE CONTROL. PS-1 FOR "LEAD" AND PS-2 FOR "LAG". SEE SPECS.

BUBBLER SYSTEM SCHEMATIC

SCALE: NONE



BUBBLE TUBE INSTALLATION

SCALE: NONE

1
19 19

NOTES:

1. PROVIDE REQUIRED TIME DELAY CIRCUITS TO TRANSFER FROM BYPASS TO AFD AND AFD TO BYPASS.

E5

REV.	DESCRIPTION	SUB.	APPR.	DATE
	REFER TO TRACING FOR LATEST REVISION			

REFERENCE INFORMATION AND NOTES:

GRAPHIC SCALES (IN FEET)

DESIGNED SCB
DRAWN WL
CHECKED TIW
DATE APRIL 1990

SAUSALITO-MARIN SANITARY DISTRICT
MARIN COUNTY, CALIFORNIA
WASTEWATER TREATMENT PLANT IMPROVEMENTS
Kennedy/Jenks/Clinton — Palo Alto
SUBMITTED — APPROVED
JOHN H. JENKS — R.E. NO. 6[illegible] — RAYMOND G. GERGUS

ELECTRICAL
ELEMENTARY DIAGRAMS

SCALE AS NOTED
JOB NO. 905004.00
SHEET 19 OF 19