EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1

Oakland, California

EBMUD

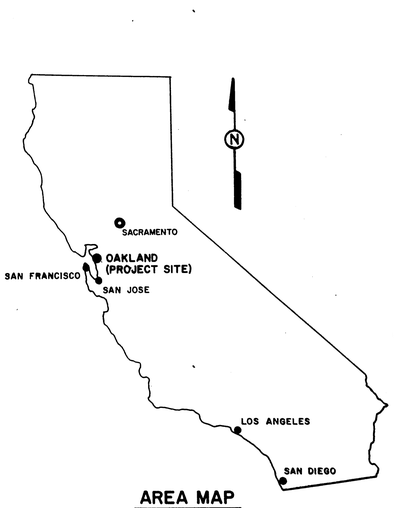
REPAIR OF DIGESTERS 1, 2, 3 & 4

Specification SD-180

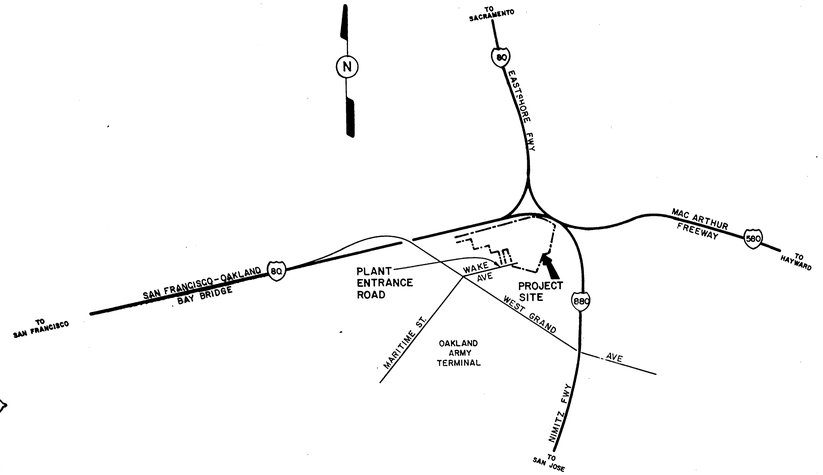
PART B

Drawings

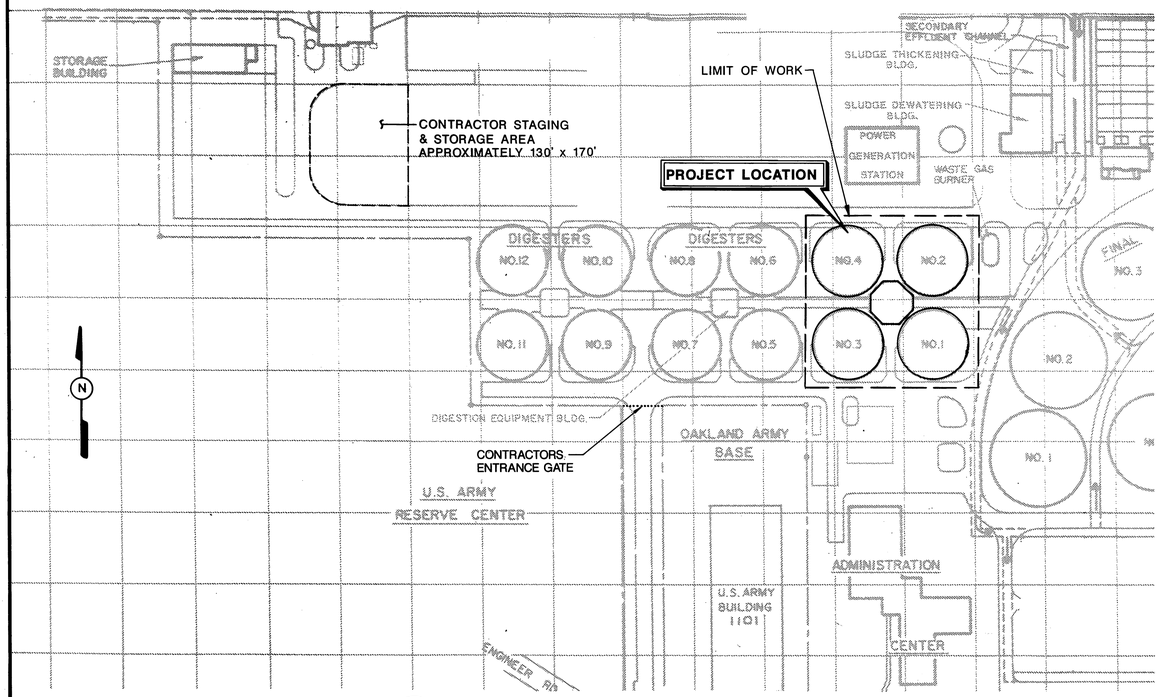
JOHN CAROLLO ENGINEERS



AREA MAP
STATE OF CALIFORNIA



LOCATION MAP



A — SITE PLAN
SCALE 1" = 100'

NEW STRUCTURES
EXISTING STRUCTURES
NEW PIPING
EXISTING PIPING (or)
HIDDEN LINE
CENTER, MONUMENT OR SURVEY LINE
HAND RAIL
EXISTING CONTOURS 308
NEW CONTOURS 308
NEW FENCE
EXISTING FENCE
REMOVE
POWER POLE & LINE E PP E
PROPERTY LINE OR RIGHT OF WAY
SLOPE TOP / TOE
RAILROAD
CITY LIMITS
FUTURE ROAD
EXISTING ROAD
CURB & GUTTER OR

NOTE: ALL SCREENED BACKGROUND IS EXISTING.

B TYP — LINE WORK
S 482

AB	ANCHOR BOLT	JT	JOINT
ABC	AGGREGATE BASE COURSE	LAB	LABORATORY
ACT	ACOUSTICAL TILE	LAV	LAVATORY
ALT	ALTERNATE	LP	LOW POINT OR LIQUID PROPANE
ALUM	ALUMINUM	LWS	LOW WATER SURFACE
ANCH	ANCHOR	MATL	MATERIAL
APPROX	APPROXIMATE	MAX	MAXIMUM
@	AT	MCC	MOTOR CONTROL CENTER
AVG	AVERAGE	MECH	MECHANICAL
BD	BOARD	MFRS	MANUFACTURER'S
BLDG	BUILDING	MIN	MINIMUM
BLK	BLOCK	MK	MARK
CA	CONCRETE ANCHOR	NAT GR	NATURAL GRADE
CB	CATCH BASIN	N	NORTH
CL OR ℄	CENTER LINE	N/A	NOT APPLICABLE
CLR	CLEAR	NO OR #	NUMBER
CMU	CONCRETE MASONRY UNIT	NTS	NOT TO SCALE
CPLG	COUPLING	OC	ON CENTER
CW	COLD WATER	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OPNG	OPENING
CONT	CONTINUATION, CONTINUOUS	PR	PAIR
CTSK	COUNTERSINK	PERP	PERPENDICULAR
CU	CUBIC	PH OR Ø	PHASE
DEG	DEGREE	PL	PLATE OR PROPERTY LINE
DBL	DOUBLE	R	RADIUS
DIAM OR Ø	DIAMETER	REINF	REINFORCEMENT
DIG	DIGESTER		REINFORCING
DIST	DISTRIBUTION	REQD	REQUIRED
DWG	DRAWING	REV	REVISION
E	EAST	R/W	RIGHT OF WAY
EA	EACH	S	SOUTH
EF	EACH FACE	SCH	SCHEDULE
ELEC	ELECTRIC(AL)	SEL	SELECT
EL	ELEVATION	SGL	SINGLE
EQPT	EQUIPMENT	SHT	SHEET
EW	EACH WAY	SPEC	SPECIFICATION
EXIST	EXISTING	ST STL	STAINLESS STEEL
EXP	EXPANSION	STD	STANDARD
FB	FLAT BAR	STA	STATION
FLEX	FLEXIBLE	STL	STEEL
FG	FINISH GRADE	STRUCT	STRUCTURAL
FIG	FIGURE	SQ	SQUARE
FT	FOOT	SYMM	SYMMETRICAL
GALV	GALVANIZED	T & B	TOP & BOTTOM
GA	GAUGE	THK	THICK
GL	GLASS	TOS	TOP OF STEEL
GWB	GYPSUM WALL BOARD	TOW	TOP OF WEIR
HŁE	HOOK ONE END	TYP	TYPICAL
HŁE	HOOK TWO ENDS	VERT	VERTICAL
HDWR	HARDWARE	VOL	VOLUME
HORIZ	HORIZONTAL	W	WEST
HW	HOT WATER	W/	WITH
HP	HIGH POINT	W/O	WITH OUT
HWS	HIGH WATER SURFACE	WS	WATER SURFACE
ID	INSIDE DIAMETER	WWF	WELDED WIRE FABRIC
IN OR "	INCH		
INV	INVERT		

C TYP — ABBREVIATIONS

N D-12 / N TYP / N — DETAIL OR SECTION IDENTIFICATION
DETAIL OR SECTION TAKEN ON THE SAME SHEET
DETAIL OR SECTION MAY BE TAKEN ON SEVERAL DIFFERENT SHEETS
DETAIL OR SECTION IS TAKEN ON THE DRAWING INDICATED

AT TITLE

N D-12 / N — DETAIL OR SECTION IDENTIFICATION
DETAIL OR SECTION IS TO BE FOUND ON THE SAME SHEET
DETAIL OR SECTION IS TO BE FOUND ON THE DRAWING INDICATED

AT CROSS REFERENCE

D TYP — DRAWING CROSS REFERENCING
S 483

INDEX OF DRAWINGS

REGISTERED PROFESSIONAL ENGINEER — CARL C. DEES — NO. 27809 — Exp. 31 MAR 90 — STATE OF CALIFORNIA — CIVIL
REGISTERED PROFESSIONAL ENGINEER — CARL A. GENTRY — S 002940 — Exp. 31 MAR 90 — STRUCTURAL — STATE OF CALIFORNIA

JOB NO. 3134A.10

JOHN CAROLLO ENGINEERS
PHOENIX, AZ • WALNUT CREEK, CA
FOUNTAIN VALLEY, CA • VISALIA, CA
SAN BERNARDINO, CA • TUCSON, AZ
SAN DIEGO, CA • BAKERSFIELD, CA

NO.	DATE	REVISION	BY	REC.	APP.
		IN SERVICE 31 MAR 93 AS BUILT	RW	WSB	TMS

SPECIFICATION SD-180

REPAIR OF DIGESTERS 1, 2, 3 & 4

DESIGNED BY	CAG
DESIGN CHECKED BY	DMM
DRAWN BY	ELP/RMK
SR. PROJ. ENGR.	—
APPROVED	GCD
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

EBMUD

PROJECT ENG. R.P.E. No. C — P.A. Clinton
PROJECT MGR. R.P.E. No. C33117 — T.J. Gentry for EAH
MGR. OF SUPPORT SERVICES R.P.E. No. C29111 — Dennis M. Diemer
MANAGER OF WASTEWATER R.P.E. NO. C 26855 — Walter J. Bishop

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

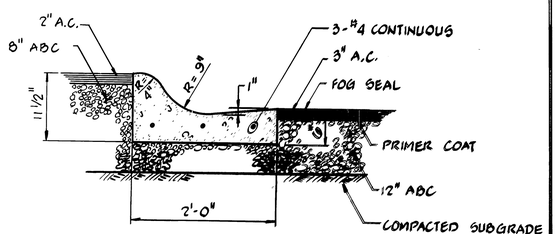
LOCATION MAPS
INDEX AND DETAILS

DRAWN BY	DRAWING No. G-2
SCALE	
DATE	SHEET 2 OF 8

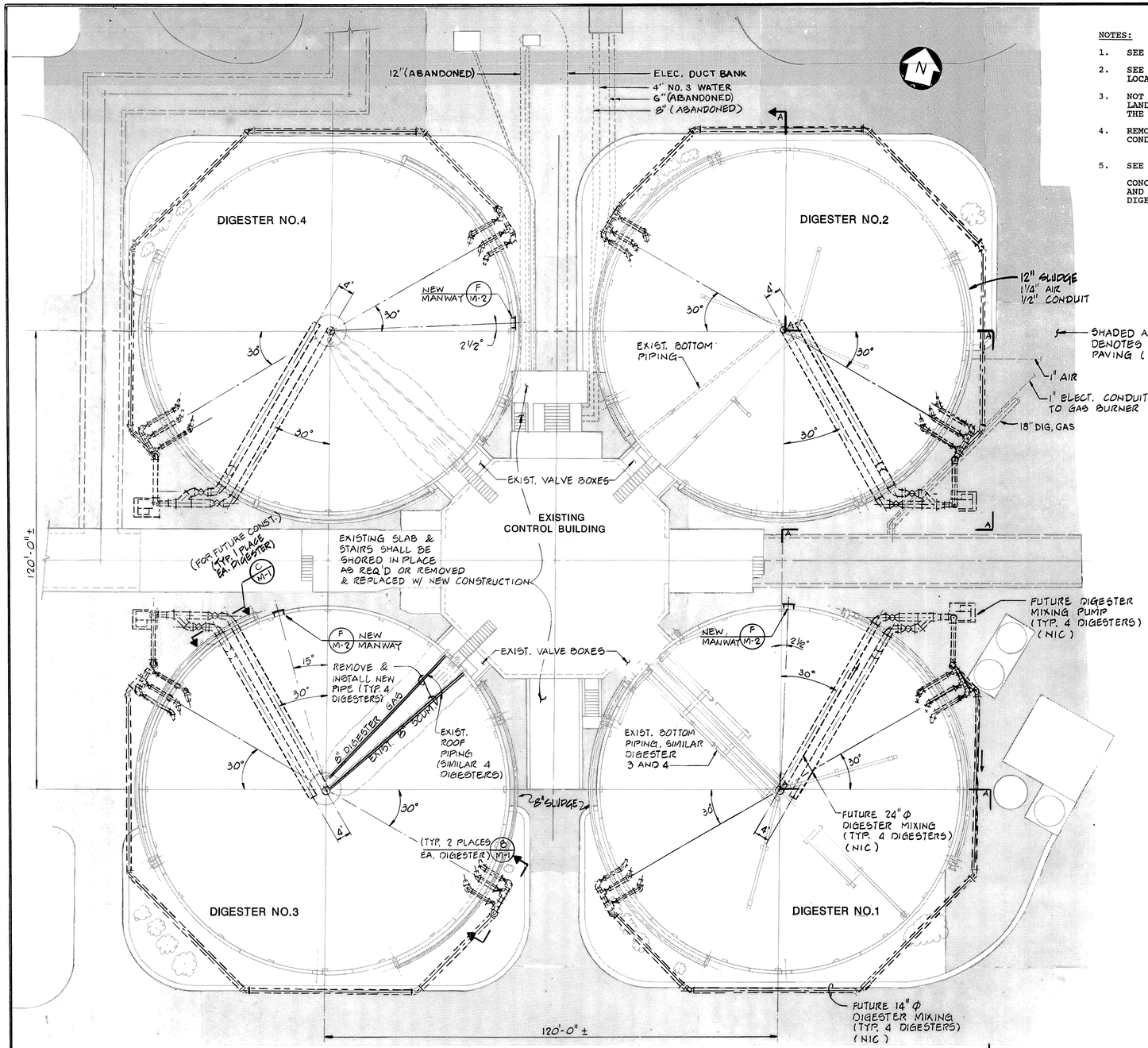
DIETERICH POST RECORDER NO. 111748

NOTES:

1. SEE DRAWING S-1 FOR DEMOLITION WALL SECTIONS.
2. SEE DRAWING S-2 FOR TYPICAL WALL SECTIONS, LOCATIONS OF NEW BARS, AND SHOTCRETE.
3. NOT ALL LANDSCAPING IS SHOWN. EXISTING LANDSCAPING SHALL BE SAVED AND PROTECTED TO THE MAXIMUM EXTENT POSSIBLE.
4. REMOVE AND REPLACE EXISTING PIPING AND CONDUITS AS REQUIRED.
5. SEE (G/—) FOR DETAIL FOR REPLACEMENT OF CONCRETE CURB AND PAVING. REPLACE ALL CURB AND PAVING DAMAGED IN REPAIRING THE DIGESTERS.



(G/—) CONCRETE CURB AND PAVING DETAIL
1" = 1'-0"



(F/—) DIGESTER AREA PLAN
1" = 15'

REGISTERED PROFESSIONAL ENGINEER — GARY E. BEGG — NO. 27689 — Exp. [illegible] — STATE OF CALIFORNIA — CIVIL

REGISTERED PROFESSIONAL ENGINEER — CARL A. GENTRY — S 002948 — Exp. [illegible] — STRUCTURAL — STATE OF CALIFORNIA

JOB NO. 3134A.10

JOHN CAROLLO ENGINEERS
PHOENIX, AZ • WALNUT CREEK, CA
FOUNTAIN VALLEY, CA • VISALIA, CA
SAN BERNARDINO, CA • TUCSON, AZ
SAN DIEGO, CA • BAKERSFIELD, CA

NO.	DATE	REVISION	BY	REC.	APP.
		IN SERVICE 31 MAR 93 AS BUILT	RW	1993	7/93
1	11-16-88	SLEEVES NOTED FOR FUTURE CONST	RMG		

SPECIFICATION SD-180

REPAIR OF DIGESTERS 1, 2, 3 & 4

DESIGNED BY	CAG
DESIGN CHECKED BY	DMM
DRAWN BY	ELP/SO
SR. PROJ. ENGR.	—
APPROVED	GCD
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

EBMUD

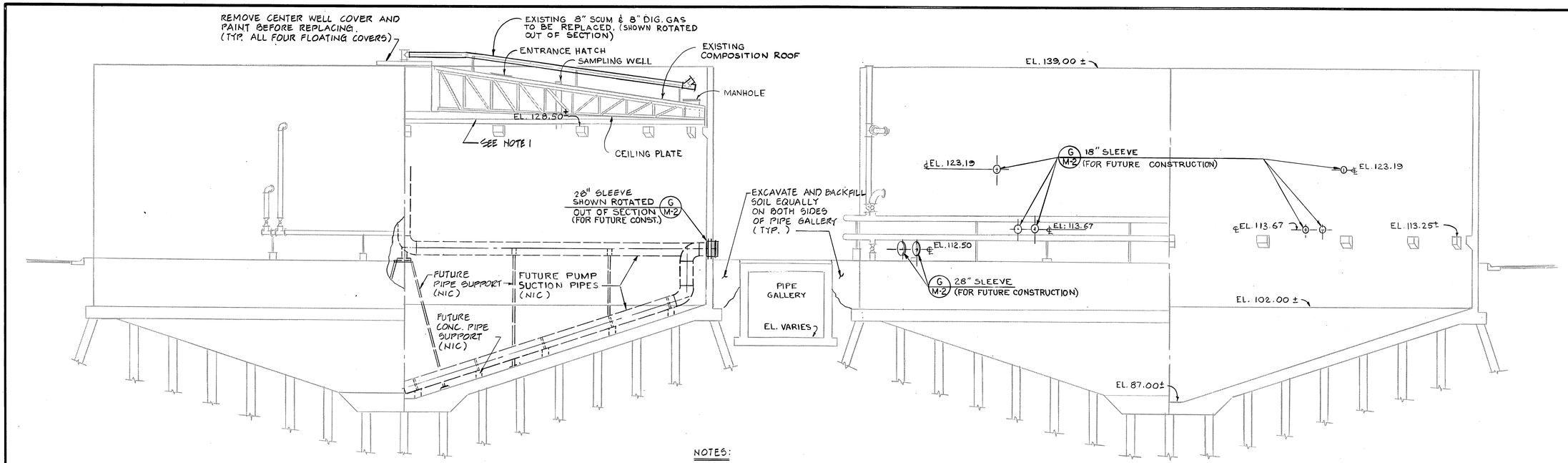
PROJECT ENG. R.P.E. No. C	P.A. Clinton
PROJECT MGR. 43949 R.P.E. No. C33317	
MGR. OF SUPPORT SERVICES R.P.E. No. C 29111	
MANAGER OF WASTEWATER R.P.E. No. C 26855	Walter J. Barbor

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

DIGESTER AREA PLAN

DRAWN BY	
SCALE	
DATE	
DRAWING No.	G-3
SHEET	3 OF 8

DIETRICH POST REORDER NO. 11768



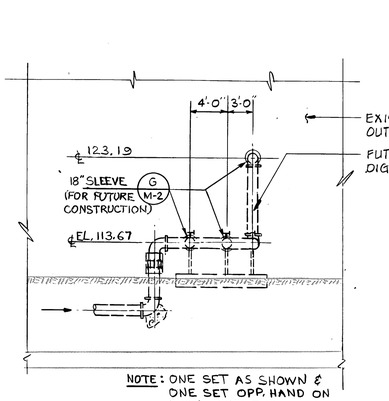
DIGESTER NO. 1

DIGESTER NO. 2

NOTES:

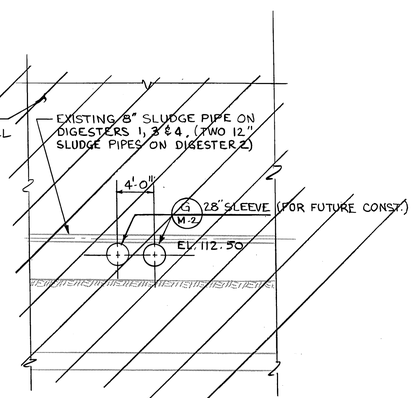
1. PAINT INTERIOR SURFACES OF THE DIGESTER FLOATING COVER, INCLUDING THE INSIDE AND OUTSIDE OF THE SKIRT AND THOSE PORTIONS OF THE CEILING PLATE AND CENTER WELL NORMALLY IN CONTACT WITH SLUDGE OR DIGESTER GAS.

A G-3 SECTION
1/8" = 1'-0"



NOTE: ONE SET AS SHOWN & ONE SET OPP. HAND ON EACH DIGESTER.

B G-3 SECTION
1/8" = 1'-0"



C G-3 SECTION
1/8" = 1'-0"

DIETERICH POST REORDER NO. 11178

JOB NO. 3134A.10

JOHN CAROLLO ENGINEERS
PHOENIX, AZ • WALNUT CREEK, CA
FOUNTAIN VALLEY, CA • VISALIA, CA
SAN BERNARDINO, CA • TUCSON, AZ
SAN DIEGO, CA • BAKERSFIELD, CA

NO.	DATE	REVISION	BY	REC.	APP.
1	11/14/95	IN SERVICE 31 MAR. 93 AS BUILT SLEEVES NOTED FOR FUT. CONST.	RW ELP	CWS	TMS CAG

SPECIFICATION SD-180

REPAIR OF DIGESTERS 1, 2, 3 & 4

DESIGNED BY	CAG
DESIGN CHECKED BY	DMM
DRAWN BY	ELP/RMK
SR. PROJ. ENGR.	—
APPROVED	GCD
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

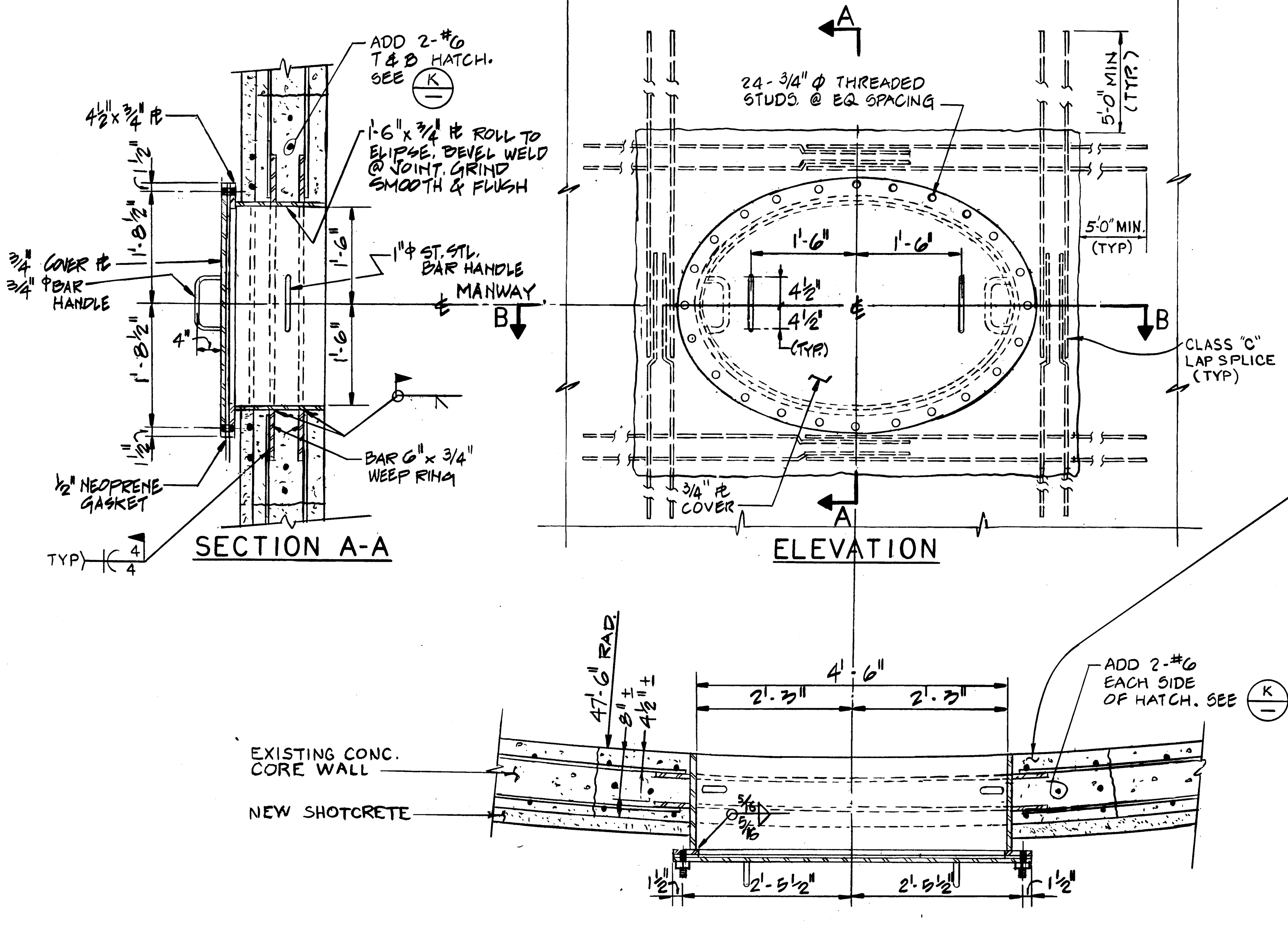
EBMUD

PROJECT ENG. R.P.E. No. C — Ed. Clinton
PROJECT MGR. R.P.E. No. C33317 — [illegible] Eng
MGR. OF SUPPORT SERVICES R.P.E. No. C 29111 — Dennis M. Brown
MANAGER OF WASTEWATER R.P.E. NO. C 28455 — Walter J. Bishop

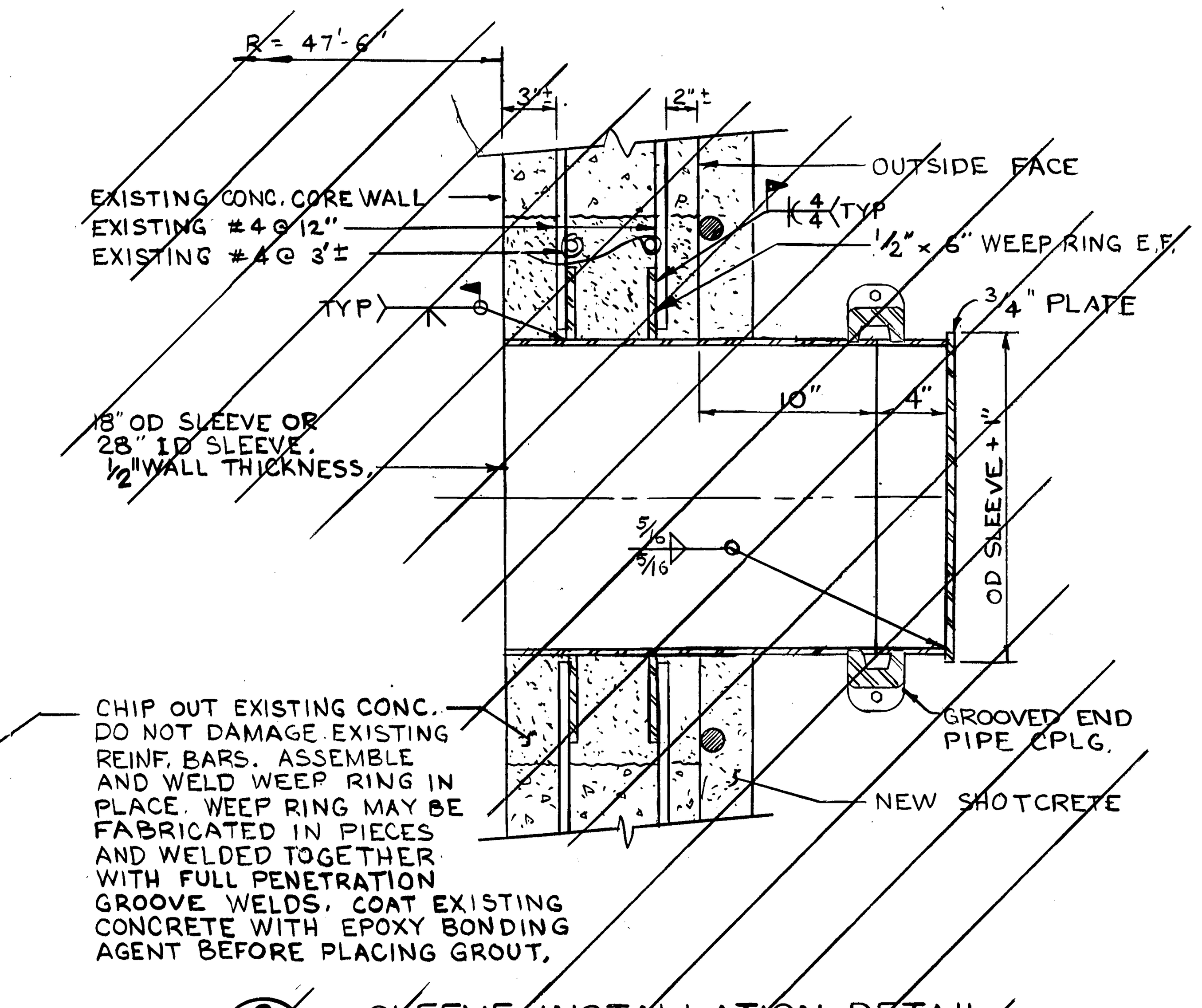
EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

PIPING SECTIONS

DRAWN BY	DRAWING No. M-1
SCALE	
DATE	SHEET 7 OF 8

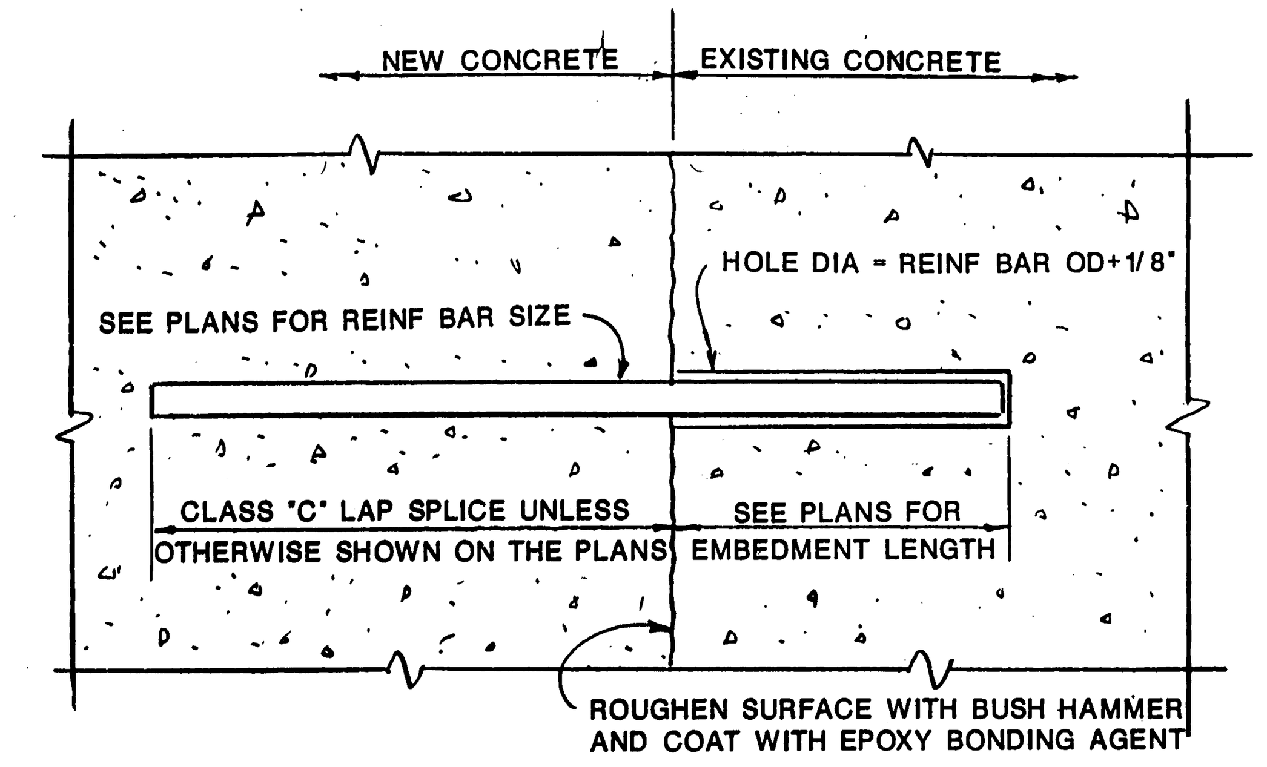


(F / G-3) MANWAY DETAIL
3/4" = 1' - 0"



(G / M-1) SLEEVE INSTALLATION DETAIL
NO SCALE
(FOR FUTURE CONSTRUCTION)

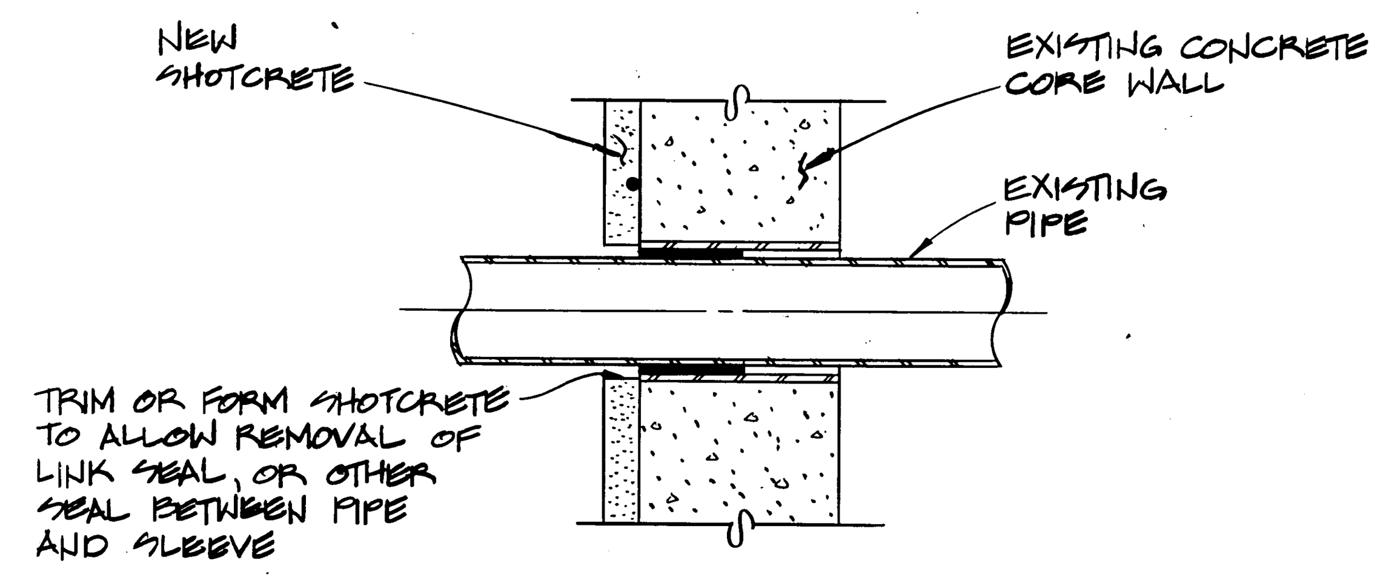
DELETED



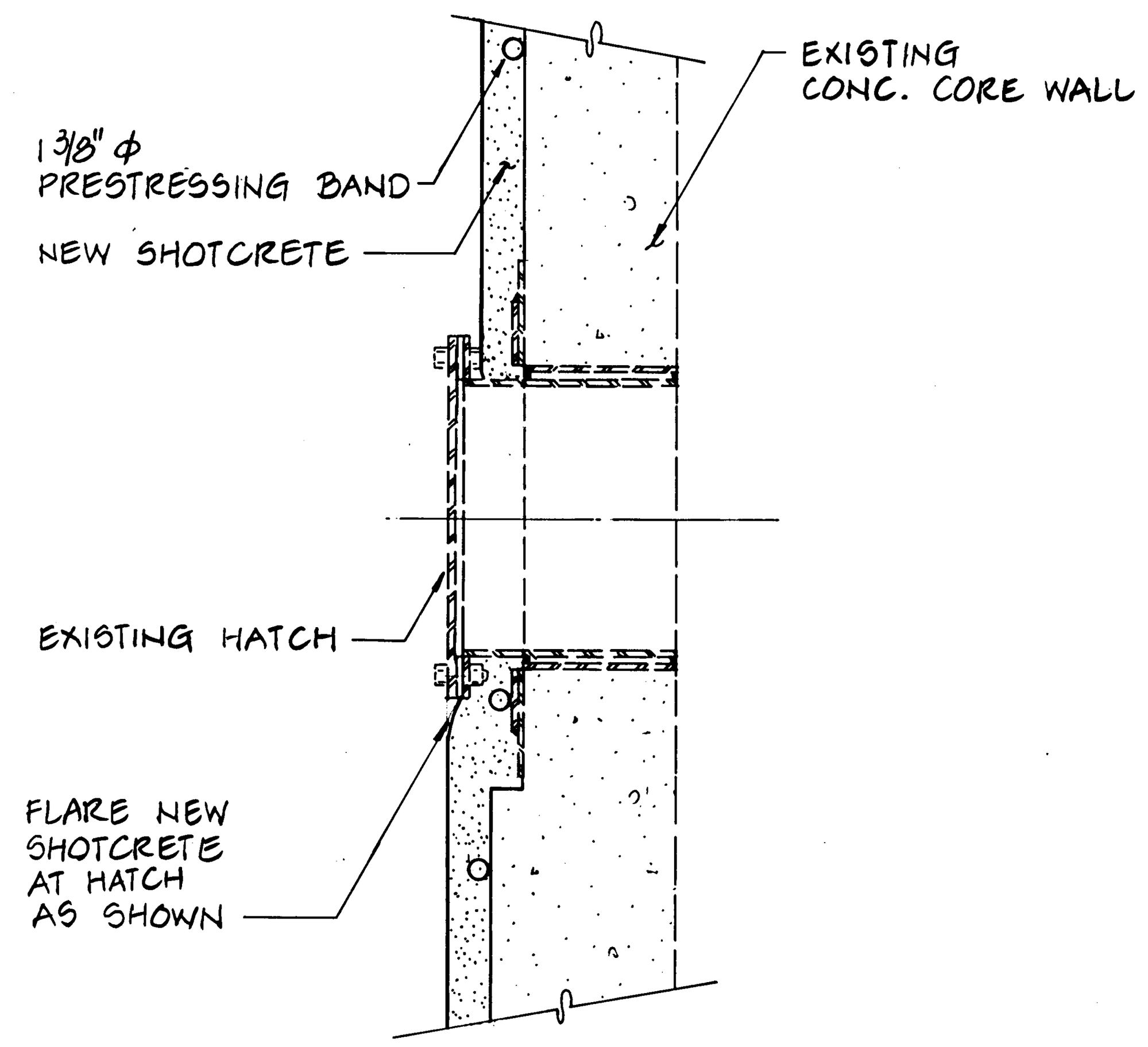
NOTES:

1. FILL HOLE WITH EPOXY GEL BEFORE INSERTING REINFORCING BAR.
2. DRILL HOLES WITH IMPACT DRILL TO OBTAIN ROUGH HOLE SURFACE. THE HOLE SHALL BE CLEAN AND DRY.
3. THE REINFORCING BAR SHALL BE FREE OF OIL, PAINT, DIRT, OR OTHER COATINGS THAT WILL REDUCE BOND.
4. DO NOT DAMAGE OR CUT EXISTING REINFORCING BARS. IF THE DRILL HITS AN EXISTING REINFORCING BAR, OR OTHER OBSTRUCTION, STOP DRILLING AND FILL THE HOLE WITH DRYPACK MORTAR. RELOCATE HOLE FOR REINFORCING BAR AND DRILL ANOTHER HOLE. REPEAT ABOVE UNTIL A HOLE FOR REINFORCING BAR HAS BEEN DRILLED TO THE REQUIRED DEPTH.

(K / TYP) EPOXY GROUTED REINFORCING BARS



(L / TYP) DETAIL-EXISTING PIPE SLEEVES
NO SCALE



(M / TYP) DETAIL - SHOTCRETE AT EXISTING HATCH
N.T.S

JOB NO. 3134A.10

JOHN CAROLLO ENGINEERS
PHOENIX, AZ • WALNUT CREEK, CA
FOUNTAIN VALLEY, CA • VISALIA, CA
SAN BERNARDINO, CA • TUCSON, AZ
SAN DIEGO, CA • BAKERSFIELD, CA

NO.	DATE	REVISION	BY	REC.	APP.
	IN SERVICE 31 MAR. 93	AS BUILT	RW		
1	11/14/88	SLEEVES NOTED FOR FUT. CONST.	ELP		CAG

SPECIFICATION SD-180

REPAIR OF DIGESTERS 1, 2, 3 & 4

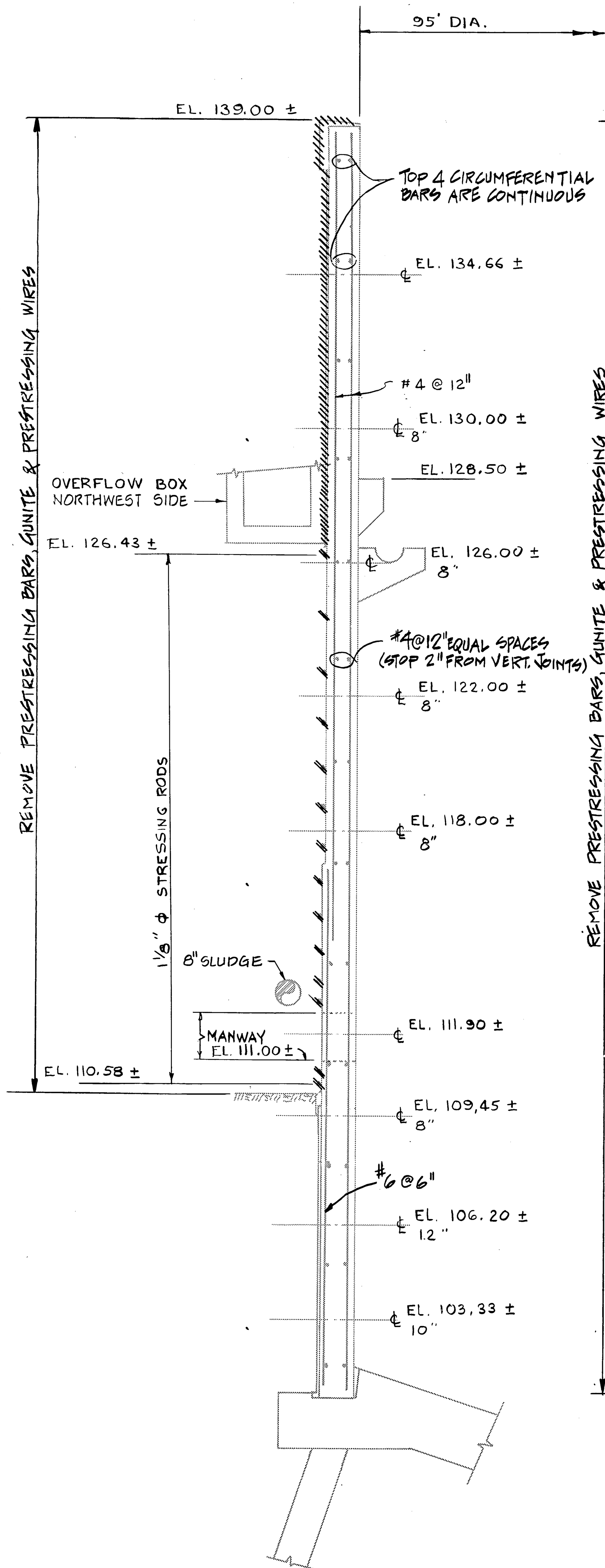
DESIGNED BY	CAG
DESIGN CHECKED BY	DMM
DRAWN BY	ELP/RMK
SR. PROJ. ENGR.	—
APPROVED	GCD
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

EBMUD
PROJECT ENG. R.P.E. No. C
PROJECT MGR. R.P.E. No. C33317
MGR. OF SUPPORT SERVICES R.P.E. No. C29111
MANAGER OF WASTEWATER R.P.E. NO. C 26855

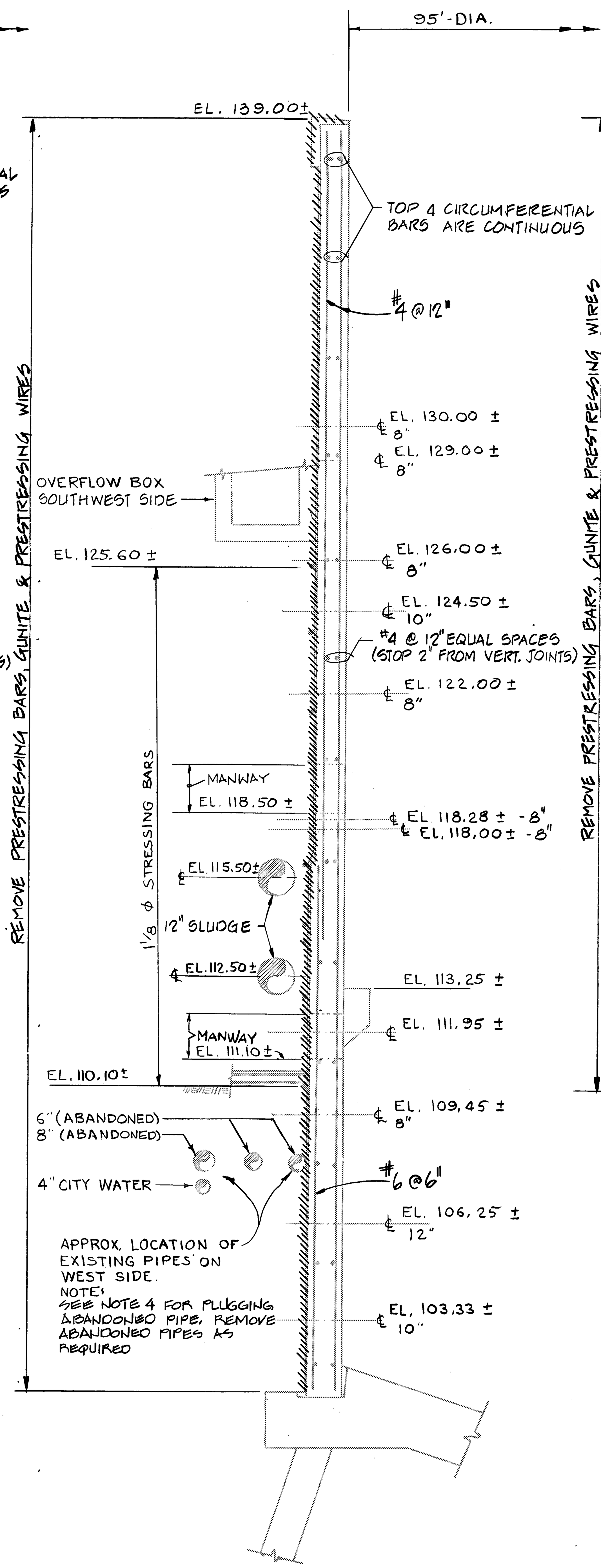
EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

MECHANICAL DETAILS

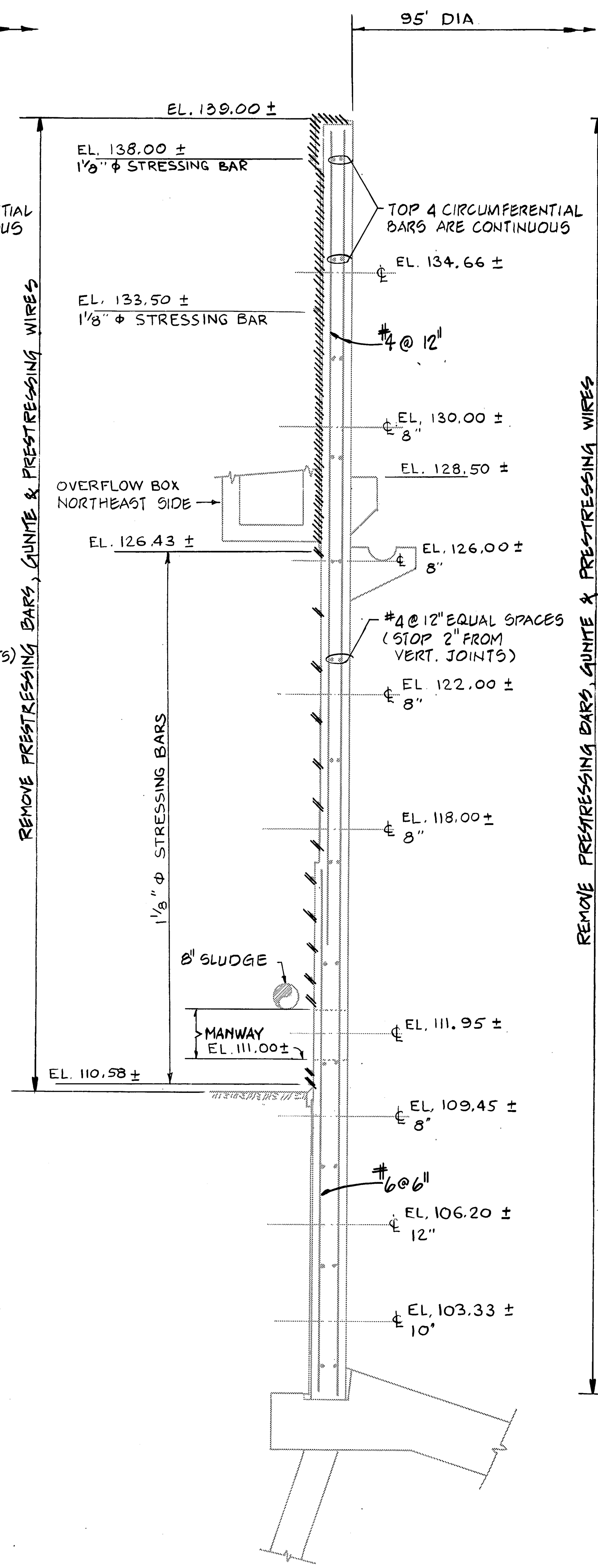
DRAWN BY
SCALE
DATE
DRAWING No. M-2
SHEET 8 OF 8



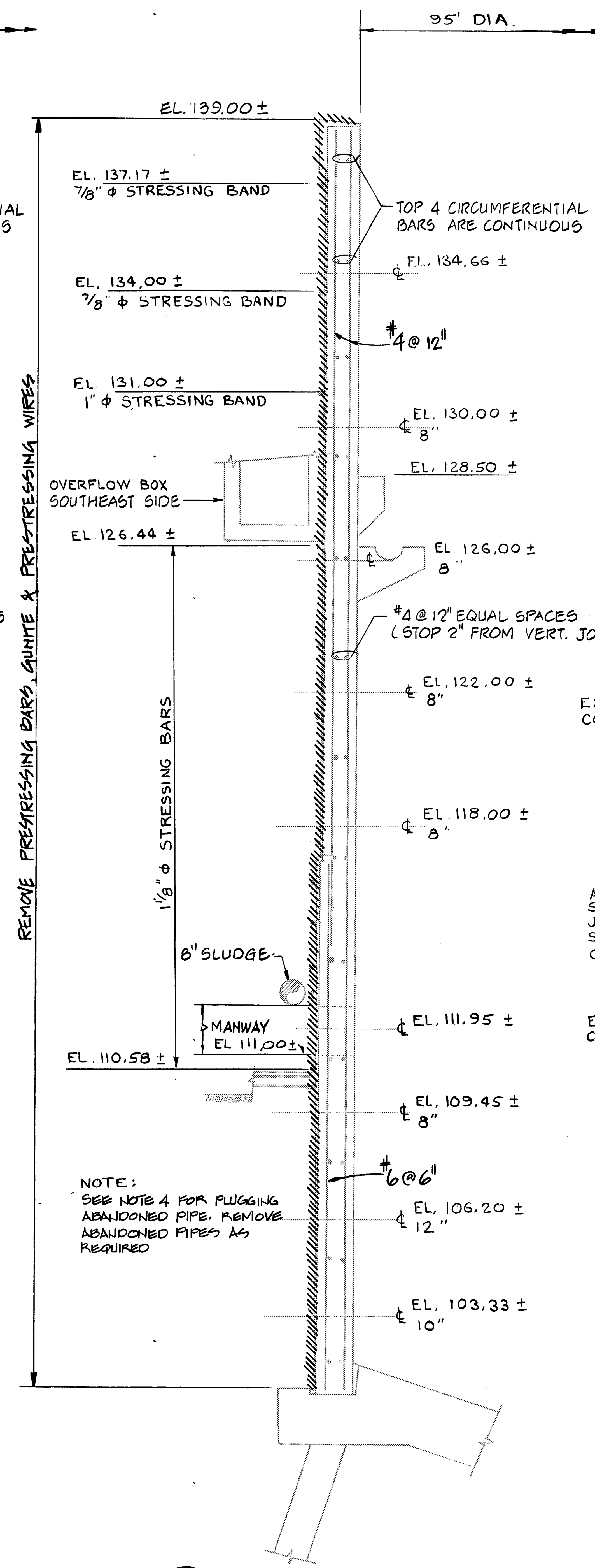
J DIGESTER NO. 1
3/8" = 1'-0"



K DIGESTER NO. 2
3/8" = 1'-0"



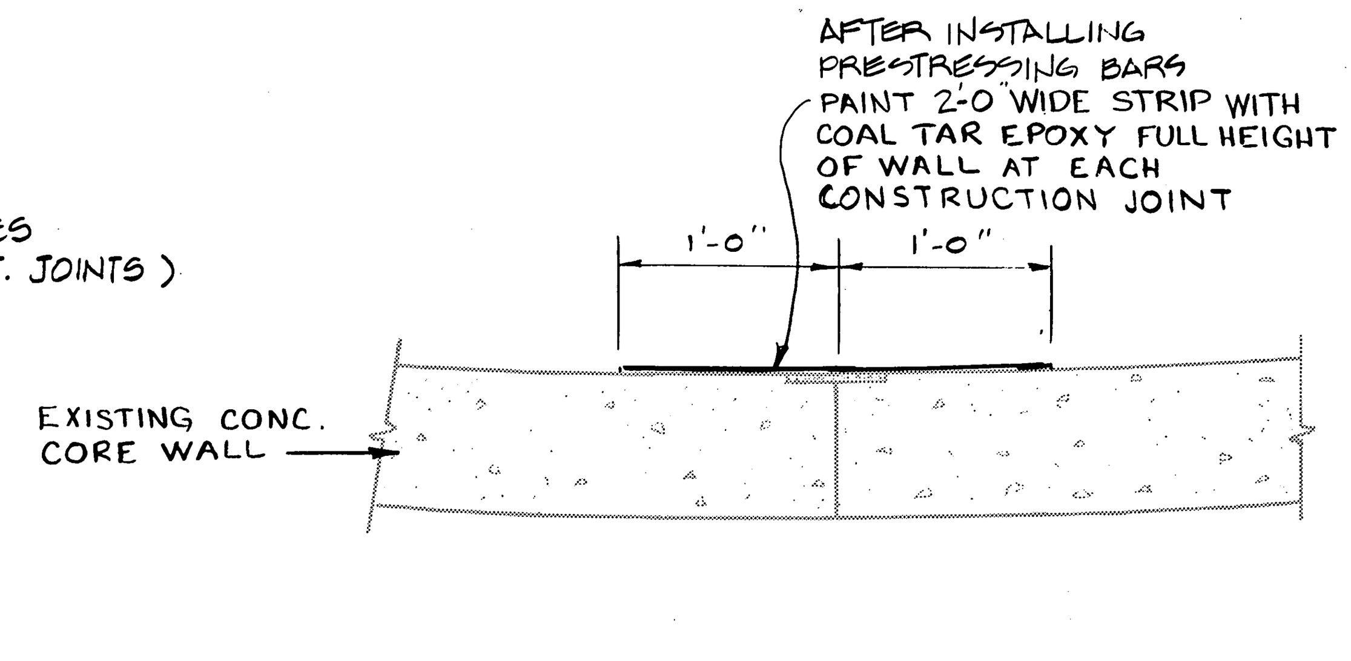
L DIGESTER NO. 3
3/8" = 1'-0"



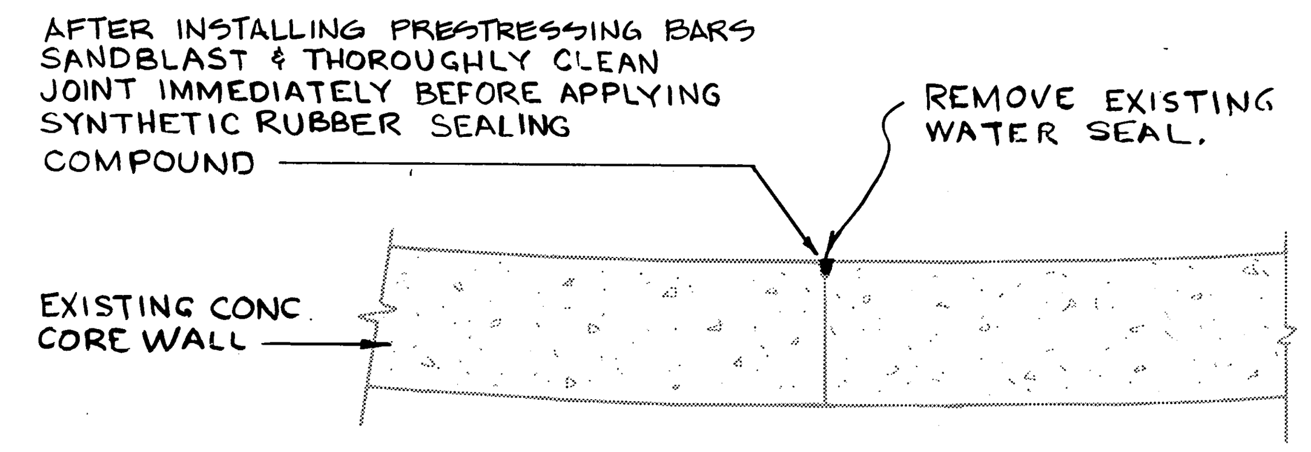
M DIGESTER NO. 4
3/8" = 1'-0"

NOTES:

1. THE WALL SECTIONS ARE COMPOSITE WALL SECTIONS SHOWING PIPES AND PIPE PENETRATIONS AT VARIOUS PLACES AROUND THE DIGESTERS.
2. ONLY THE TOP FOUR HORIZONTAL REINFORCING BARS ARE CONTINUOUS AROUND THE DIGESTER. DUE TO THE AGE OF THE DIGESTERS, THE REINFORCING BARS SHOULD BE ASSUMED TO BE CORRODED. TEMPORARY PRESTRESSING BARS OR WALL BRACES SHALL BE INSTALLED TO KEEP THE WALLS STABLE DURING CONSTRUCTION AFTER THE EXISTING WIRES AND BARS HAVE BEEN REMOVED.
3. THE COVER SHALL BE SHORED IN PLACE DURING THE PERIOD THAT THE EXISTING PRESTRESSING WIRE AND BARS HAVE BEEN REMOVED FROM THE WALL AND BEFORE THE NEW PRESTRESSING BARS ARE INSTALLED. THE COVER LOAD SHALL NOT BE SUPPORTED BY THE TANK WALLS.
4. THE REMAINING ENDS OF ABANDONED PIPE CUT FOR CONSTRUCTION SHALL BE FILLED FOR 3' LENGTH WITH GROUT.



P VERTICAL CONSTRUCTION JOINT
DIGESTERS 1, 3 & 4 NO SCALE



Q VERTICAL CONSTRUCTION JOINT
DIGESTER 2 NO SCALE

JOB NO. 3134A.10

JOHN CAROLLO ENGINEERS
PHOENIX, AZ · WALNUT CREEK, CA · FOUNTAIN VALLEY, CA · VISALIA, CA · SAN BERNARDINO, CA · TUCSON, AZ · SAN DIEGO, CA · BAKERSFIELD, CA

NO.	DATE	REVISION	BY	REC.	APP.
	IN SERVICE 31 MAR 93	AS BUILT	RW		

SPECIFICATION SD-180

REPAIR OF DIGESTERS 1, 2, 3 & 4

DESIGNED BY	CAG
DESIGN CHECKED BY	DMM
DRAWN BY	ELP/RMK
SR. PROJ. ENGR.	—
APPROVED	GCD
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

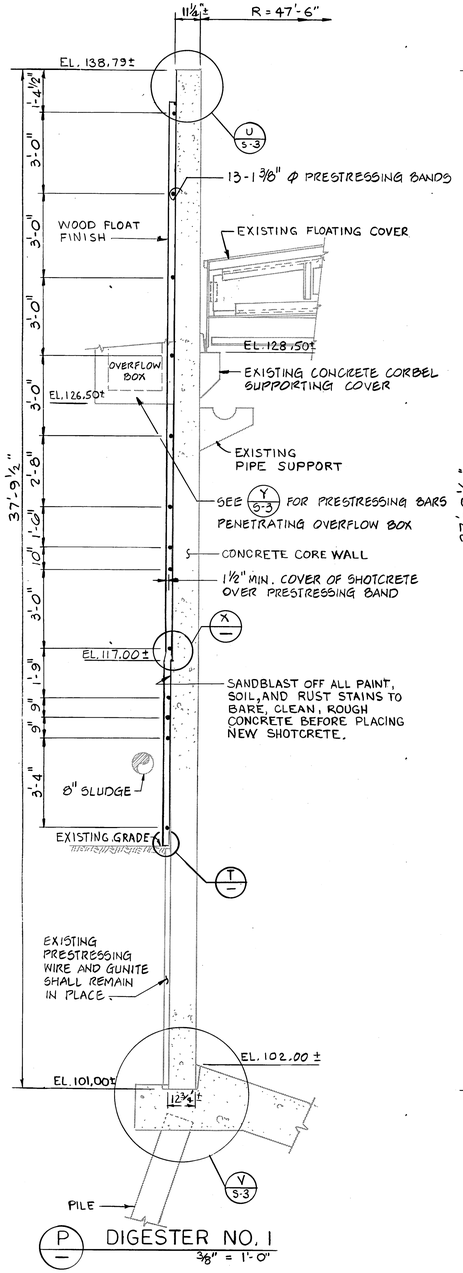
EBMUD
PROJECT ENG. R.P.E. No. C
PROJECT MGR. R.P.E. No. C33317
MGR. OF SUPPORT SERVICES R.P.E. No. C29111
MANAGER OF WASTEWATER R.P.E. No. C 26855

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

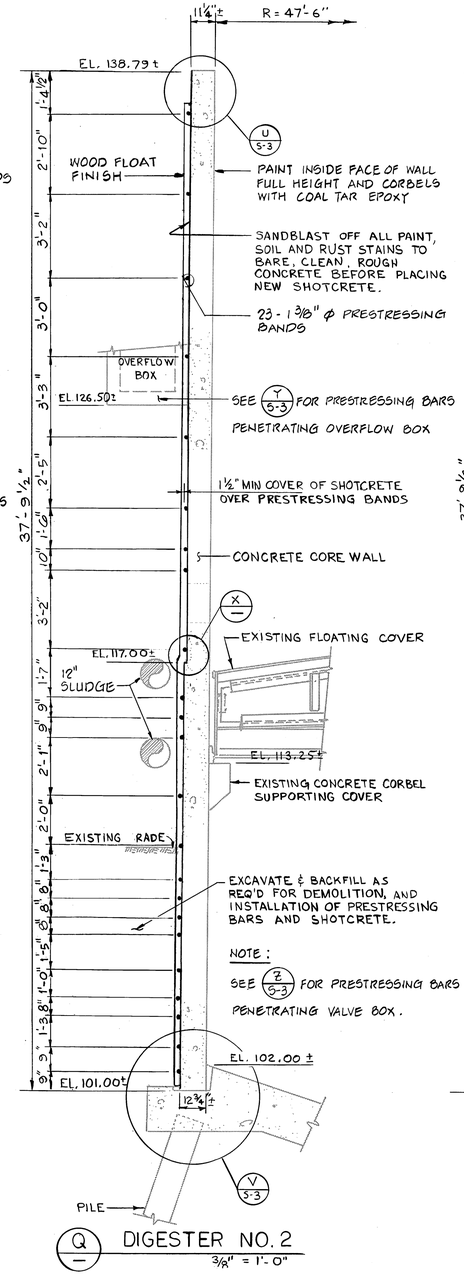
COMPOSITE DEMOLITION WALL SECTIONS

DRAWN BY
SCALE
DATE
DRAWING No. S-1
SHEET 4 OF 8

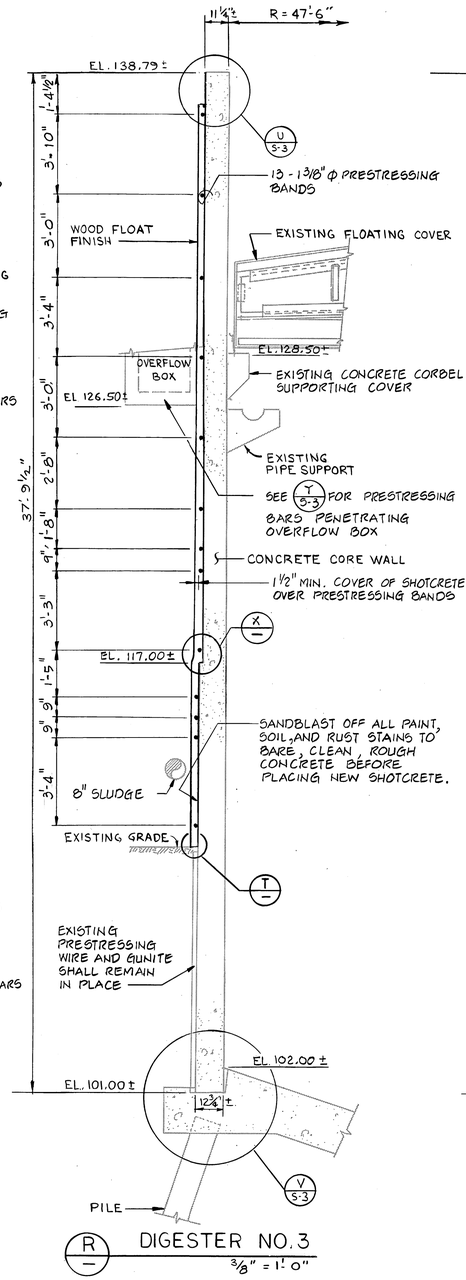
DIETERICH POST REORDER NO. 111769



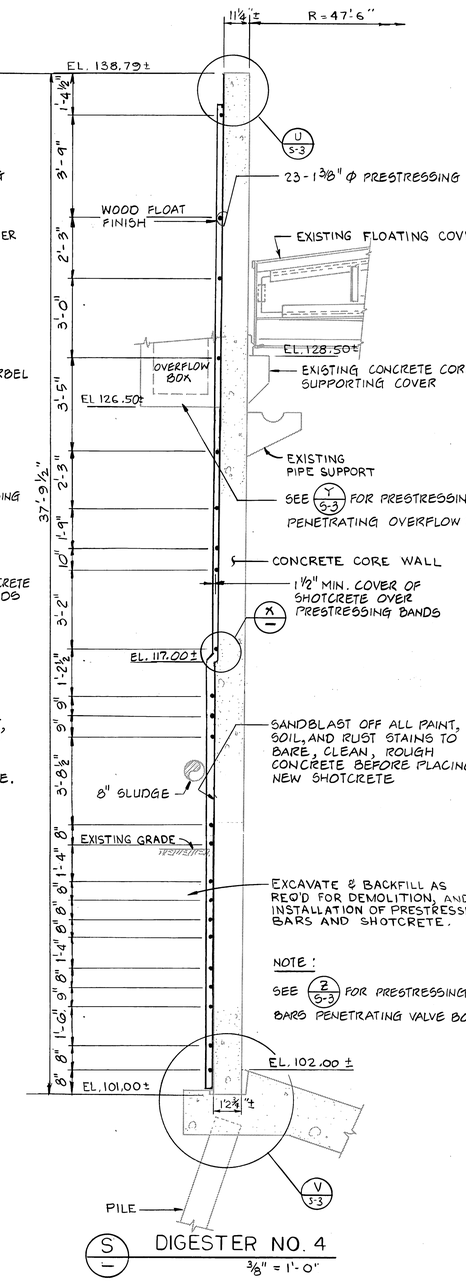
P — DIGESTER NO. 1
3/8" = 1'-0"



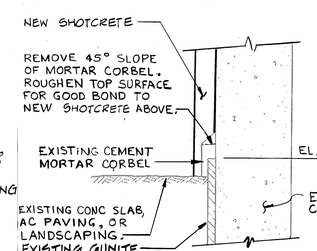
Q — DIGESTER NO. 2
3/8" = 1'-0"



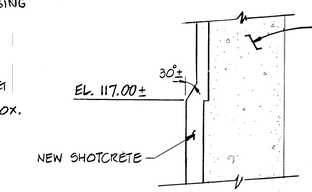
R — DIGESTER NO. 3
3/8" = 1'-0"



S — DIGESTER NO. 4
3/8" = 1'-0"



T — SHOTCRETE JOINT DETAIL
NO SCALE



NOTE:
BARS NOT SHOWN.

X — DETAIL
NO SCALE

GENERAL NOTES:

1. EXISTING SLUDGE PIPE, WATER PIPES AND ELECTRICAL CONDUITS LOCATED ON THE SIDE OF THE DIGESTER AND BELOW GRADE AT THE DIGESTER WHICH MAY INTERFERE WITH WORK ARE NOT ALL DETAILED. RELOCATION OF INTERFERING PIPES AND ELECTRICAL CONDUITS, AND REALIGNMENT OF PRESTRESSING BANDS SHALL BE COMPLETED AS NECESSARY. THE CONTRACTOR SHALL VISIT THE JOB SITE AND REVIEW THE LOCATION OF INTERFERENCES WHICH MAY AFFECT PLACING PRESTRESSING BANDS ON THE DIGESTERS BEFORE BIDDING THE JOB.
2. PROVIDE OFFSET SPACERS FOR REINSTALLATION OF ELECTRICAL CONDUIT, PIPING, INDICATOR PANELS, ALARMS AND APPURTENANCES AFTER PRESTRESSING BARS ARE INSTALLED AND PAINTED. ALL WIRING REMOVED SHALL BE REPLACED WITH NEW ELECTRICAL WIRING.
3. SEE DETAILS D S-3, E S-3 AND F S-3 FOR PRESTRESSING BAND DETAILS.
4. SPECIFIED STRENGTH OF CONCRETE CORE WALL IS 4500 POUNDS PER SQUARE INCH FOR DIGESTER 2 AND 3000 POUNDS PER SQUARE INCH FOR DIGESTER 1, 3 AND 4.
5. REMOVE ALL REMAINING MORTAR FROM SNAP TIE CONE HOLES ON INSIDE FACE AND OUTSIDE FACE OF WALLS ON DIGESTERS 1, 2, 3 AND 4. ON DIGESTERS 1 AND 3, THE SNAP TIE CONE HOLE ON THE OUTSIDE FACE OF WALL BEHIND THE GUNITE THAT WILL REMAIN IN PLACE, SHALL NOT BE REPAIRED. REMOVE RUST AND ROUGHEN CONCRETE IN SNAP TIE CONE HOLES. THEN COAT HOLES WITH EPOXY AND FILL HOLES WITH EPOXY GROUT.
6. SEE SPECIFICATION SECTION 031100 FOR INSTALLATION OF PRESTRESSING BANDS.
7. SEE DETAILS P S-1 AND Q S-1 FOR JOINT DETAILS.

REGISTERED PROFESSIONAL ENGINEER — GARY E. DIETZ — NO. 27809 Exp. — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CARL A. GENTRY — S 002940 Exp. — STRUCTURAL — STATE OF CALIFORNIA

JOB NO. 3134A.10

DIETERICH POST RECORDER NO. 111748

JOHN CAROLLO ENGINEERS
PHOENIX, AZ · WALNUT CREEK, CA
FOUNTAIN VALLEY, CA · VISALIA, CA
SAN BERNARDINO, CA · TUCSON, AZ
SAN DIEGO, CA · BAKERSFIELD, CA

NO.	DATE	REVISION	BY	REC.	APP.
		IN SERVICE 31 MAR 93 AS BUILT with Yellow Left	RW	1009	7733

SPECIFICATION SD-180

REPAIR OF DIGESTERS 1, 2, 3 & 4

DESIGNED BY	CAG
DESIGN CHECKED BY	DMM
DRAWN BY	ELP
SR. PROJ. ENGR.	—
APPROVED	GCD
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

EBMUD

PROJECT ENG. R.P.E. No. C — P.A. Clinton
PROJECT MGR. R.P.E. No. C33317 — T.A. Gentry 5/9/11
MGR. OF SUPPORT SERVICES R.P.E. No. C29111 — Dennis M. Diemer
MANAGER OF WASTEWATER R.P.E. NO. C 26855 — Walter J. Bishop

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

TYPICAL WALL SECTIONS AND DETAILS

DRAWN BY
SCALE
DATE

DRAWING No. **S-2**
SHEET 5 OF 8

GENERAL:

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

2. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.

3. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK, DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.

REINFORCED CONCRETE:

1. ALL CONCRETE CONSTRUCTION, INCLUDING BENDING OF BARS, SHALL COMPLY WITH ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318).

2. UNLESS CALLED OUT OTHERWISE ON THE PLANS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE:

8" THICK OR LESS	-	USE #5 @ 12" EW
9" OR THICKER	-	USE #5 @ 12" EWEF

3. ALL WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAPPED, OR TERMINATED IN A STANDARD 90 DEGREE HOOK. LAP SPLICES SHALL CONFORM WITH NOTE 5.

4. UNLESS SHOWN OTHERWISE ALL BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS TO BE SPLICED TO THE DOWELS.

5. UNLESS CALLED OUT OTHERWISE ON THE PLANS, THE LENGTH OF LAP SPLICES SHALL BE CLASS "B" WHERE NO MORE THAN 1/2 THE BARS ARE LAP SPLICED WITHIN THE LENGTH TABULATED BELOW AND CLASS "C" WHERE MORE THAN 1/2 THE BARS ARE LAP SPLICED WITHIN THE LENGTH TABULATED BELOW. ALL SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH APPLICABLE TABULATED VALUES. LENGTHS ARE SHOWN IN INCHES. FOR BARS SPACED 6 INCHES ON CENTER OR FARTHER APART WITH AT LEAST 3-INCHES CLEAR FROM FACE OF MEMBER TO EDGE OF BAR, MEASURED IN DIRECTION OF SPACING, THE SPLICE LENGTH MAY BE REDUCED BY 20 PERCENT.

THE SPLICE LENGTH TABLE IS BASED ON F_y = 60,000 PSI.

		#4	#5	#6	#7	#8	#9	#10	#11
TOP BARS*	(CLASS "B")	22	27	33	44	58	74	94	115
	(CLASS "C")	29	36	43	58	76	97	123	151
OTHER BARS	(CLASS "B")	16	20	23	32	42	53	67	82
	(CLASS "C")	20	26	31	41	54	69	88	108

*TOP BARS ARE ALL HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

6. ALL SLABS, BEAMS AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318.

7. STIRRUP SUPPORT BARS SHALL BE PROVIDED BETWEEN ENDS OF TOP BARS AS REQUIRED.

8. UNLESS INDICATED OTHERWISE, CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:

   A. SURFACES NOT EXPOSED DIRECTLY TO THE GROUND, WATER, OR WEATHER AFTER FORM REMOVAL:
      CONCRETE SLABS IN BUILDINGS - - - - - - - - - - - - - - - - 3/4"
      CONCRETE SLABS OVER WATER BEARING STRUCTURES - - - - - - 1"
      CONCRETE BEAMS, GIRDERS, COLUMNS AND WALLS - - - - - - - 1-1/2"
   B. SURFACES EXPOSED DIRECTLY TO THE GROUND, WATER OR WEATHER AFTER FORM REMOVAL:
      FOR #5 BARS OR SMALLER - - - - - - - - - - - - - - - - - 1-1/2"
      FOR #6 BARS OR LARGER - - - - - - - - - - - - - - - - - - 2"
   C. CONCRETE PLACED DIRECTLY AGAINST GROUND - - - - - - - - - 3"
   D. REINFORCEMENT SHALL BE PLACED WITHIN A TOLERANCE OF ± 1/4" OF POSITION SPECIFIED.

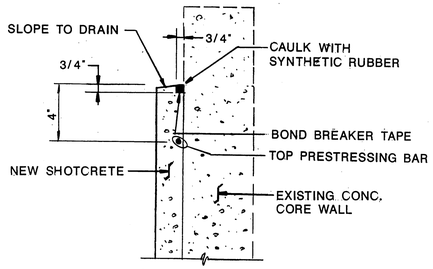
9. KEYWAYS AND WATER STOP SHALL END 3" BELOW THE TOP OF WALLS, UNLESS THERE IS A SLAB ON TOP OF THE WALL, IN WHICH CASE IT SHALL END AT BOTTOM OF THE SLAB. IN JOINTS WHERE WATERSTOP TERMINATES AT ADJOINING SLAB OR WALL, WATER STOP SHALL BE EMBEDDED IN ADJOINING SLAB OR WALL A MINIMUM OF 6".

10. CONCRETE CURING SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SOME CONCRETE WORK REQUIRES WATER CURING, AS MEMBRANE CURING IS NOT ALLOWED. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. THE CONTRACTOR SHALL STUDY REQUIREMENTS AND SHALL FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED. TOP OF WALLS SHALL BE KEPT VISIBLY MOIST AT ALL TIMES AND SHALL BE FLOODED NOT LESS THAN THREE TIMES DAILY.

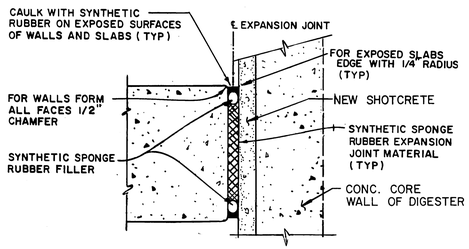
11. WATERSTOP SHALL BE PLACED IN ALL CONSTRUCTION, CONTRACTION, AND EXPANSION JOINTS IN ALL WATERBEARING SLABS AND WALLS UNLESS CALLED OUT OTHERWISE ON THE PLANS, AND ALL WALLS AND SLABS SUBJECTED TO GROUNDWATER. WATERSTOP IN THE WALLS SHALL BE CARRIED INTO SLABS AND SHALL BE SPLICED WITH THE WATER STOP IN THE SLABS.

12. NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL CONCRETE HAS REACHED 85 PERCENT OF THE SPECIFIED STRENGTH AND THE CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND HAVE REACHED 85 PERCENT OF THE SPECIFIED STRENGTH.

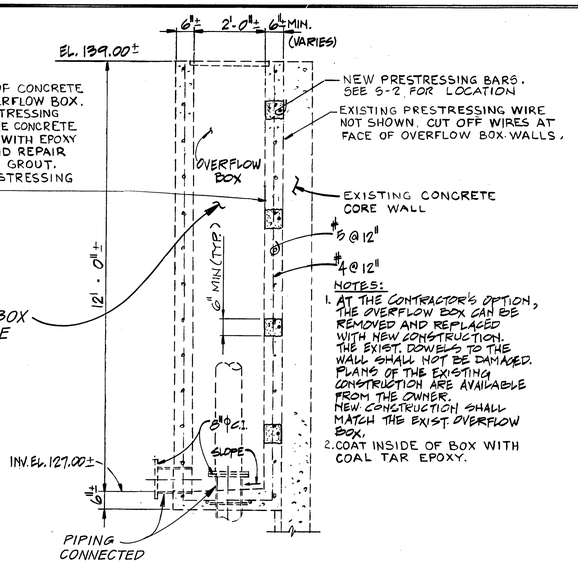
T TYP S 387 STRUCTURAL NOTES



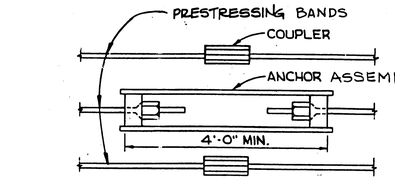
U S-2 DETAIL
NOT TO SCALE



W — EXPANSION JOINT
NOT TO SCALE

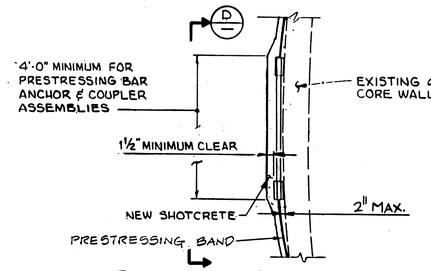


Y S-2 OVERFLOW BOX DETAIL
1/2" = 1' - 0"

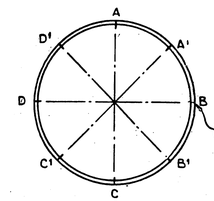


D — ELEVATION
NOT TO SCALE

NOTE: 8 SHOTCRETE PILASTERS SHALL BE EQUALLY SPACED AROUND DIGESTER TO COVER COUPLERS AND ANCHOR ASSEMBLIES.

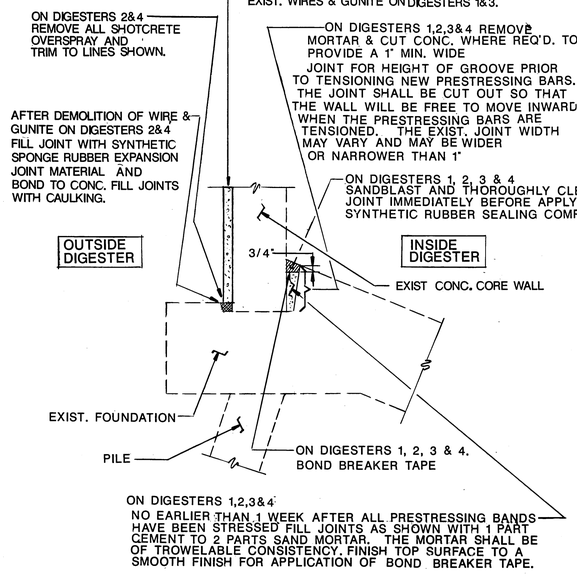


E — PARTIAL PLAN - PILASTER
NOT TO SCALE

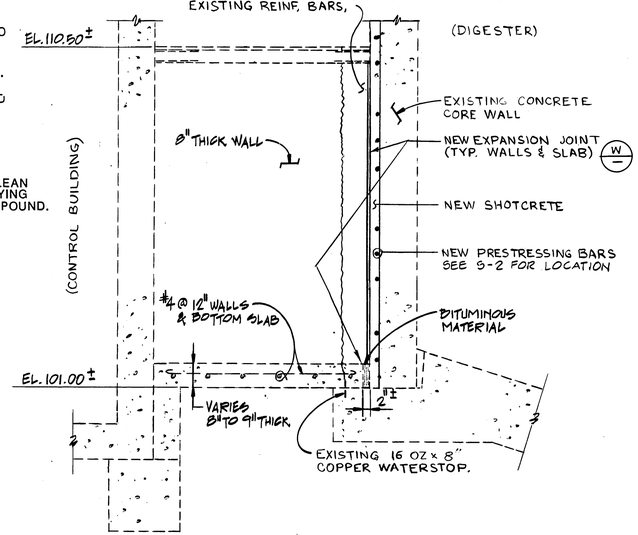


NOTE: PRESTRESSING BANDS SHALL BE STRESSED STARTING WITH THE BOTTOM AND FINISHING WITH TOP BAND ON THE DIGESTER WALL. THE FIRST BAND TO BE STRESSED SHALL HAVE ANCHORS AT POINTS A, B, C & D AND HAVE COUPLERS AT POINTS A', B', C' & D'. THE SECOND BAND SHALL HAVE ANCHORS AT POINTS A', B', C' & D' AND HAVE COUPLERS AT POINTS A, B, C & D. THE REMAINING BANDS SHALL HAVE THEIR ANCHORS AND COUPLERS ALTERNATE SIMILAR TO THE FIRST TWO BANDS.

F — PRESTRESSING BAND STRESSING DIAGRAM



V S-2 JOINT DETAIL
NOT TO SCALE



Z S-2 VALVE PIT DETAIL
1/2" = 1' - 0"

REGISTERED PROFESSIONAL ENGINEER — CLINT C. DEEP — NO. 27809 Exp. MAR 31, '94 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CARL A. GENTRY — S 002940 Exp. MAR 31 '95 — STRUCTURAL — STATE OF CALIFORNIA

JOB NO. 3134A.10

JOHN CAROLLO ENGINEERS
PHOENIX, AZ • WALNUT CREEK, CA
FOUNTAIN VALLEY, CA • VISALIA, CA
SAN BERNARDINO, CA • TUCSON, AZ
SAN DIEGO, CA • BAKERSFIELD, CA

	BY	REC.	APP.
IN SERVICE 31 MAR 93 AS BUILT	RW	1203	7733

SPECIFICATION SD-1180

REPAIR OF DIGESTERS 1, 2, 3 & 4

DESIGNED BY	CAG
DESIGN CHECKED BY	DMM
DRAWN BY	ELP/RMK
SR. PROJ. ENGR.	—
APPROVED	GCD
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

EBMUD

PROJECT ENG. R.P.E. No. C — P.A. Clinton
PROJECT MGR. R.P.E. No. C33317 — [illegible]
MGR. OF SUPPORT SERVICES R.P.E. No. C29111 — Dennis M. Brown
MANAGER OF WASTEWATER R.P.E. NO. 26855 — Walter J. Bishop

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

STRUCTURAL DETAILS

DRAWN BY
SCALE
DATE

DRAWING No. S-3
SHEET 6 OF 8

DIETRICH POST REORDER NO. 11784