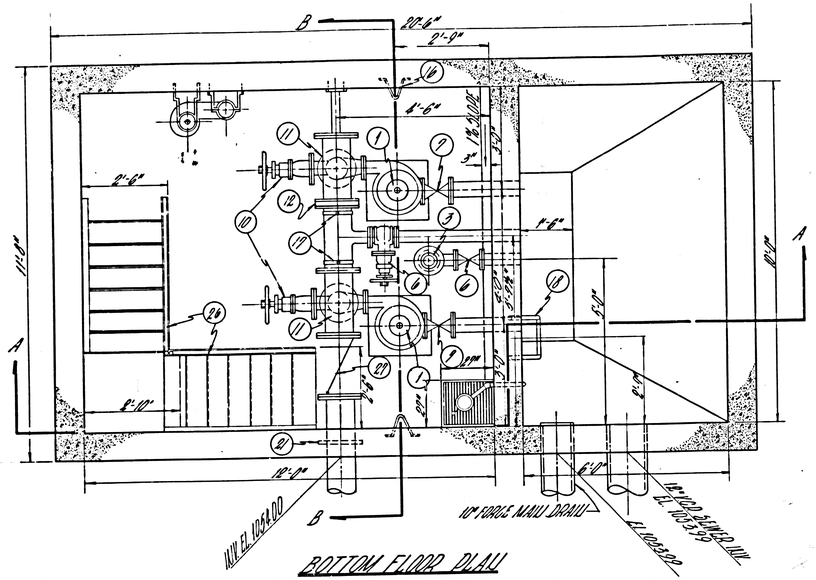
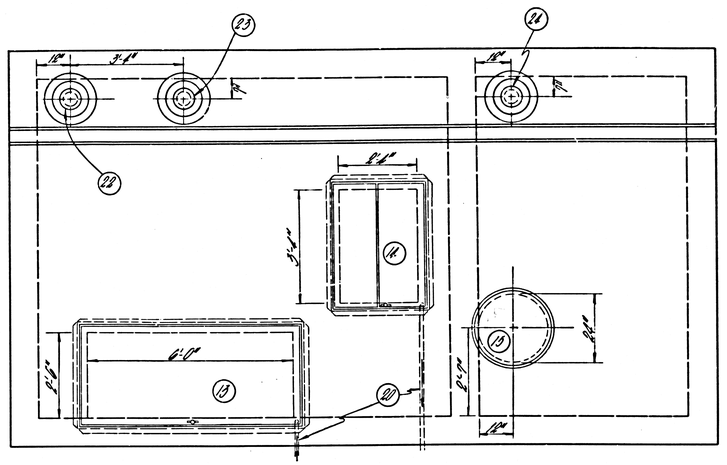


BOTTOM FLOOR PLAN
SCALE 1/4"=1'-0"



TOP SLAB
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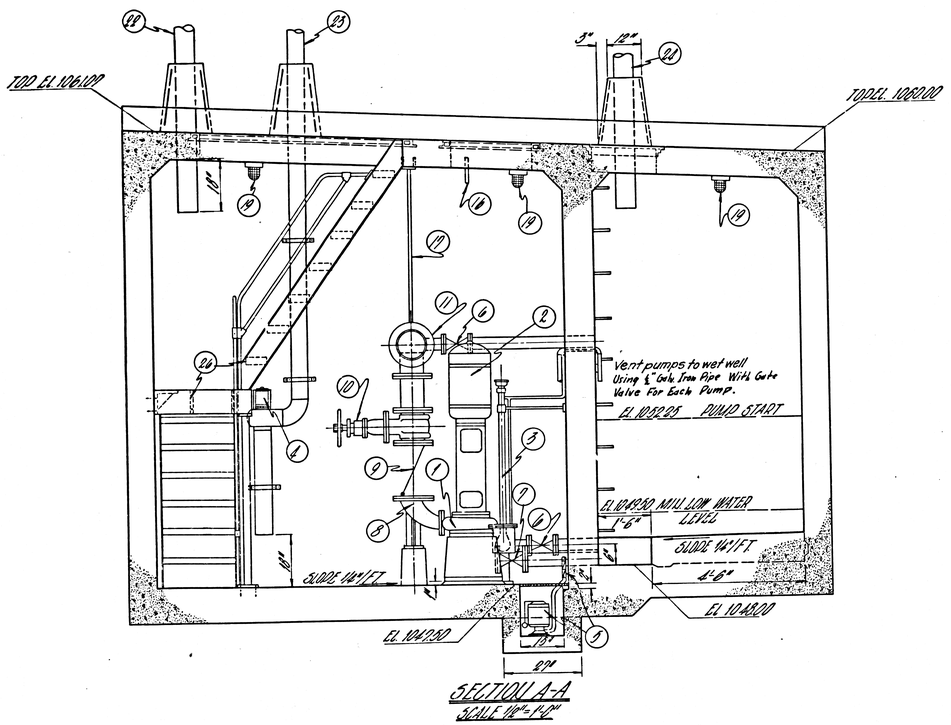
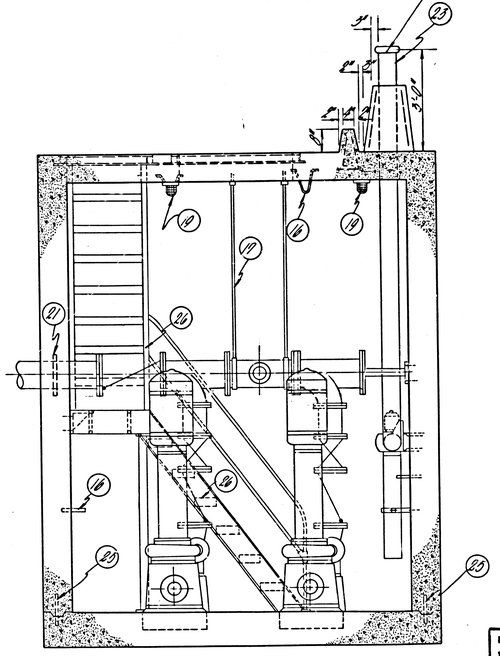


SECTION A-A
SCALE 1/4"=1'-0"



SECTION B-B
SCALE 1/4"=1'-0"

LIST OF MATERIALS

⑦	2	CHICAGO "3656" VERTICAL ODEN SHAFT PEDESTAL MOUNTED LIQUID DUMP DELIVERS 450 G.P.M. AGAINST 105 FT. HEAD WITH 30 HP MOTOR OPERATING AT 1750 R.P.M.
⑥	2	30 HP 60 & 3 PHASE 60 CYCLE 440 VOLTS 1750 R.P.M. DAVID BROOK MOTORS AND WIRING.
⑤	1	CHICAGO "ELECTRODE" FLOATLESS DUMP CONTROLLER
④	1	"BUFFALO" BABY VERT. FAN 1/6 HP 110 V 60 CYCLE 1 PHASE SIZE G, TO DELIVER 393 C.F.M. @ 3/8" S.P.
③	1	1½ HP 110 V 60 CYCLE 1 PHASE SUBMERSIBLE SUMP PUMP WITH FLOAT & SWITCH WITH 1 1/4" GALV. DISCHARGE LINE WITH BRASS CHECK VALVE AND GATE VALVE.
⑨	2	4" I.B.D.D. GATE VALVE WITH LOW-RISING STEM # 451 OR EQUAL.
⑰	2	3" I.B.D.D. GATE VALVE WITH LOW-RISING STEM # 451 OR EQUAL.
⑭	2	8"x4" REDUCING C.I. 90° BASE ELBOW
⑯	2	8" SWING CHECK VALVE WITH OUTSIDE LEVER AND WEIGHT.
⑩	2	8" I.B.D.D. GATE VALVE WITH LOW-RISING STEM # 451 OR EQUAL.
⑫	2	10"x10"x8" C.I. SINGLE SWEED TEE.
⑧	1	2" WIDE STEEL FLANGE DRILL TO SUIT I.P.
㉑	1	6" GALV. PIPE SCHEDULE 30 - A.S.B. SEAL AROUND THE SIDE AT FLOOD BILGE DOOR 2'-6"x6'-0" CLEAR OPENING GALV. (SPECIAL FABRICATION REQUIRED AS MANUFACTURED BY THE BILCO CO. INC.) SARGENT CYL. DOOR LOCK B-7745 M.P. KEYED U6571 & DES. D. OR EQUAL.
⑮	1	BILCO DOOR TYPE A-10 GALV. AS MFD. BY THE BILCO CO. INC. SARGENT CYL. DOOR LOCK B-7745 M.P. KEYED U6571 & DES. D. OR EQUAL.
㉒	1	STAIRWAY 24" FRAME & COVER SPEC. S-3-119
⑱	1	¾" LIFTING EYE (ALHAMBRA A-3350)
⑲	2	SIDE HANGERS (CUBAIC 155 G, 160 G AND 253 G).
⑫	12	MANHOLE STEPS ALHAMBRA A-3340.
⑯	3	100 W. EXPLOSION PROOF LIGHT
⑳	2	1½" GALV. PIPE DRAIN FROM DOOR SHAKWELL TO CURB.
⑥	1	WATER STOP
⑪		AIR INTAKE 6" GALV. PIPE WITH MUSHROOM TYPE HOOD
⑬		AIR EXHAUST 8" GALV. PIPE WITH MUSHROOM TYPE HOOD WITH SCREEN
⑮		WET WELL VENT 6" GALV. PIPE WITH MUSHROOM TYPE HOOD.
㉓		6" DUNSEL RUBBER WATER STOP CONTINUOUS
㉔		STAIRWAY TO BE CONSTRUCTED AS PER LEMIER WELDING & MANUFACTURING CO.
⑰		10" SWING CHECK VALVE WITH OUTSIDE LEVER AND WEIGHT.
㉕		PLASTER INSIDE OF M.H. WITH TWO COATS OF CEMENT PLASTER TOTALING ONE INCH IN THICKNESS AND MUST BE WATERTIGHT.

CAST IRON PIPE MAY BE SUBSTITUDED FOR A.C. PIPE (See Specs.)

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. THE CONTRACTOR SHALL WATER PROOF ALL SIDEWALLS AND VAPOR PROOF ALL ELECTRICAL CONDUITS.
3. ELECTRICAL INSTALLATION TO MEET REQUIREMENTS OF THE APPLICABLE STATE AND LOCAL CODES.
4. ALL OVERLOAD PROTECTION FOR ELECTRICAL EQUIPMENT SHALL BE PROVIDED THROUGH CIRCUIT BREAKERS.
5. ELECTRICAL CONDUIT TO BE UNDERGROUND FROM POWER POLE TO PUMP STATION.
6. THE PUMPING EQUIPMENT MANUFACTURERS REPRESENTATIVE SHALL SUPERVISE THE INSTALLATION, STARTING AND TESTING OF THE EQUIPMENT.
7. ULTIMATE CONCRETE STRESS @ 28 DAYS E = 3300 KSI, ALLOWABLE STEEL STRESS Fs = 20,000 PSI
8. FIELD WELDS AROUND CUTTAWAY DOORS TO BE WATER TIGHT.
9. THE CONTRACTOR SHALL MAKE ANY ADJUSTMENT UNDER ANY DOOR FLUSH WITH CONC. SLAB.
10. ALL FITTINGS AND VALVES TO BE FLANGED, CLASS 150 CAST IRON
11. INSIDE WALLS AND FLOOR OF WET WELL SHALL HAVE BITUMINOUS COATING APPLIED.
12. DRY PIT SHALL BE COATED WITH WATER PROOF PAINT.
13. THE CONTRACTOR SHALL CONTACT AND MAKE ARRANGEMENTS WITH SO CAL EDISON CO FOR POWER SERVICE AND WITH LOS VIRGENES WATER DIST FOR WATER SERVICE.

DATE	REVISION	APPROVED

PRIVATE CONTRACT NO. 6536-B

SEWAGE LIFT STATION

COUNTY OF LOS ANGELES, CALIFORNIA

APPROVED: J.A. LAURIE
COUNTY ENGINEER

REVIEWED:

BY L.H. Hughes
SANITATION ENGINEER

Calif. Dept.
SEWER MAINTENANCE DIST.

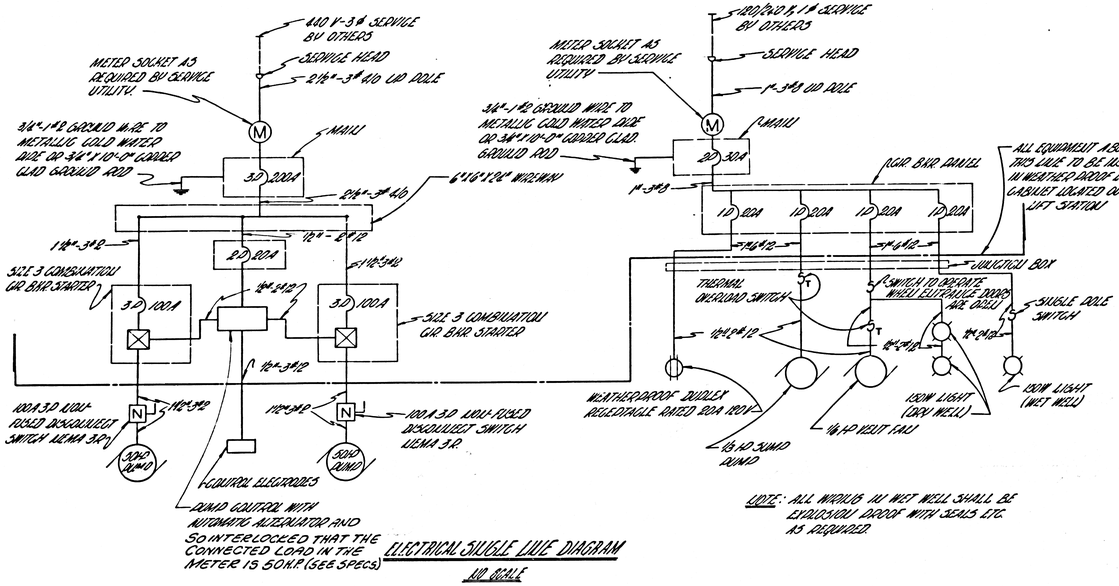
CHECKED BY Bernard L. Vallely
OFFICE OF COUNTY ENGINEER REG. C.E. NO. 10652

2 PAGES + 2 SHEETS

DATE MARCH, 1965	SCALE AS SHOWN	PAGE NO. 1 OF 9 PAGES

ENGINEERING SERVICE CORPORATION
1127 W. WASHINGTON BOULEVARD
LOS ANGELES 15, CALIF. RI 9-7281

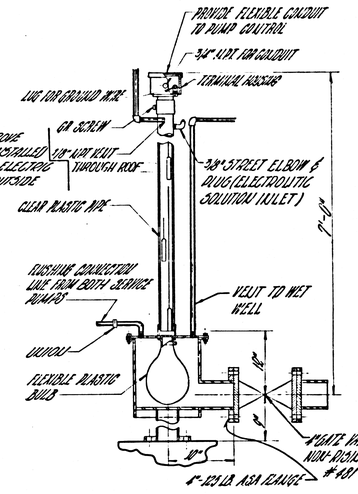
Designed by A.A.	Approved by E.E. Young	
Ckd'd by G.M.C. E.M.M.		
Date 2-11-63	Reg. C. E. No. 3692	
W.O. 7937	F.B.	L.B.



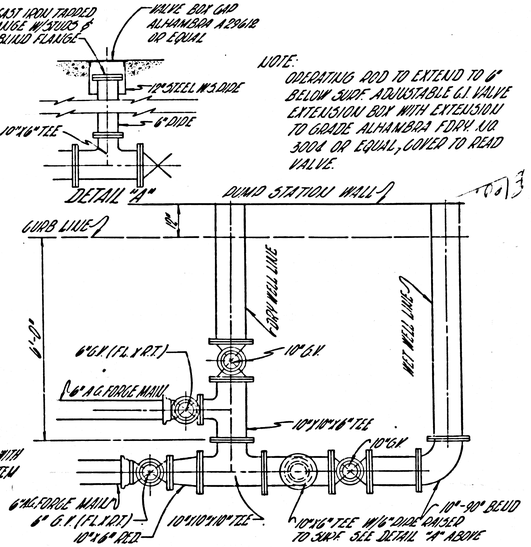
ELECTRICAL JUGGLE LINE DIAGRAM

1/10 SCALE

NOTE: ALL WIRING IN WET WELL SHALL BE EXPLOSION PROOF WITH SEALS ETC AS REQUIRED

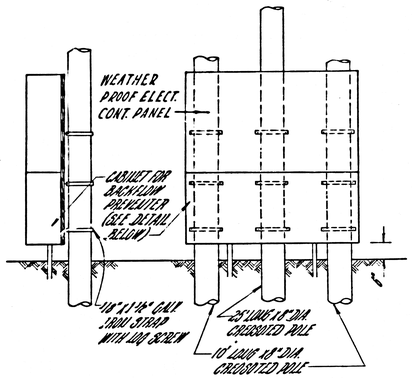


DRY PIT INSTALLATION FOR "SEALITRODE" SEALED ELECTRODE PUMP CONTROLLER



DETAIL OF FORCE MAIN CONNECTIONS

SCALE ½"=1'-0"



POWER POLE DETAIL

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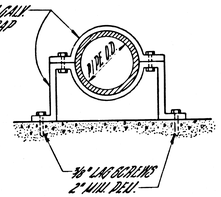
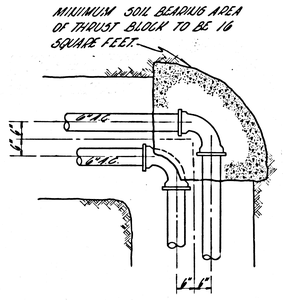
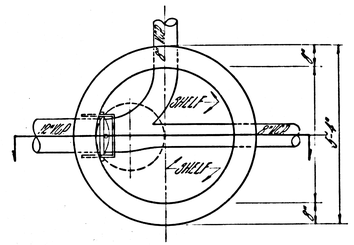


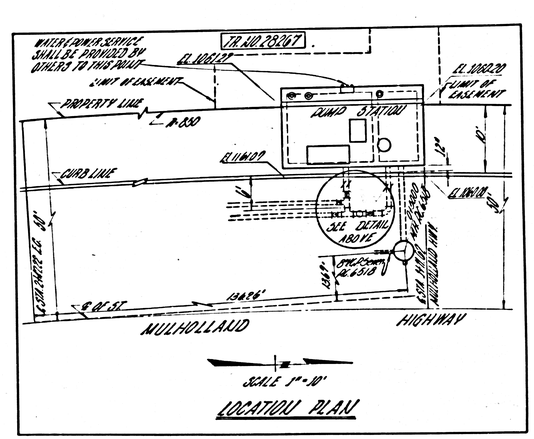
PIPE HANGER DETAIL

1/10 SCALE



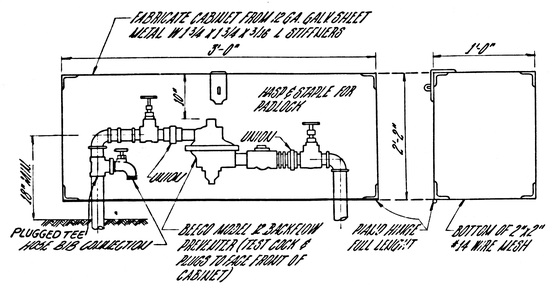
THRUST BLOCK DETAIL



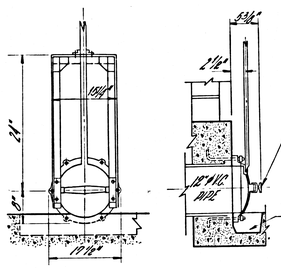


SCALE 1"=10'

LOCATION PLAN

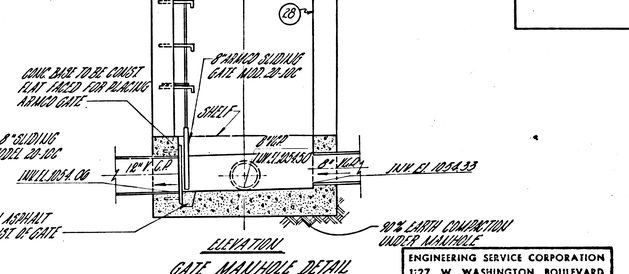


BACKFLOW PREVENTER - CABINET DETAIL



ARMCO GATE DETAILS

1/10 SCALE



ELEVATION

GATE MANHOLE DETAIL

SCALE ½"=1'-0"

ENGINEERING SERVICE CORPORATION	
1127 W. WASHINGTON BOULEVARD	
LOS ANGELES 15, CALIF.	RI 9-7281
Designed By: L.A.C.-D.M.	Approved By:
Ck'd By: G.M.L.-R.W.M.	
Date: 6-17-63	Reg. C.E. No. 3697
W.O. 1763/-4	F.B. L.B.

DATE	REVISION	APPROVED

PRIVATE CONTRACT NO. 6556B

SEWAGE LIFT STATION

COUNTY OF LOS ANGELES, CALIFORNIA

APPROVED: J.A. LAMBIE
COUNTY ENGINEER

REVIEWED:

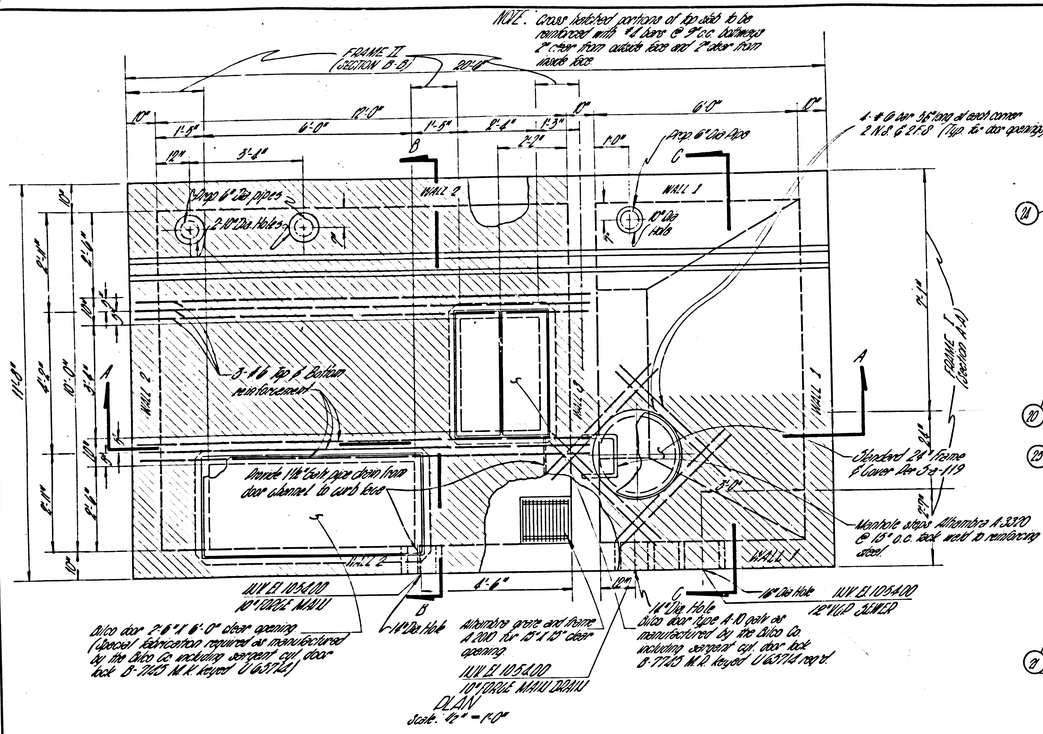
BY L.A. Vaughan
SANITATION ENGINEER

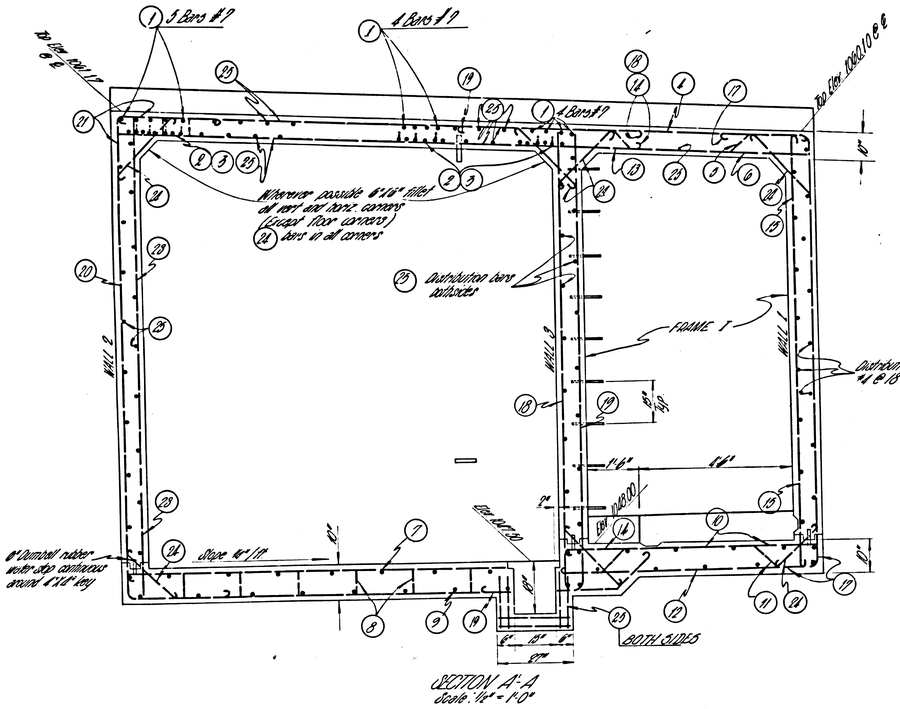
Carl St. Pierre
SEWER MAINTENANCE SUPT.

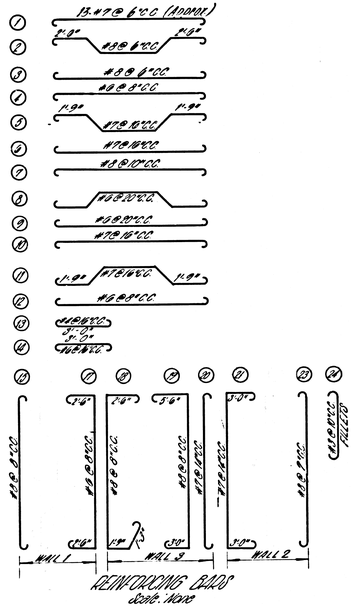
CHECKED BY Bernard L. Vallery
OFFICE OF COUNTY ENGINEER REG. C.E. NO. 10653

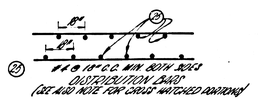
2 PAGES, 3 SHEETS

DATE: MARCH 1963	SCALE: AS SHOWN	PAGE NO. 2 OF 7 PAGES









GENERAL NOTES

1. All steel to have 2" min clearance from face of concrete
2. Steel cutouts & Ltr 24" bar diameters unless otherwise noted
3. All steel to have 3" min clearance at bottom slab

ENGINEERING SERVICE CORPORATION
1127 W. WASHINGTON BOULEVARD
LOS ANGELES 15, CALIF. RI 9-7281

Designed By L.J.L. / J.C.D.M.	Approved By: C.H.L. Fleming
Check By C.M.L. / R.W.M.	Reg. C.E. No. 3692
Date 4-17-63	
W.O. 763/4	F.B. / L.B.

DATE	REVISION	APPROVED

PRIVATE CONTRACT NO. 65568

SEWAGE LIFT STATION

COUNTY OF LOS ANGELES, CALIFORNIA

APPROVED: J. A. LAUNER
COUNTY ENGINEER

RECOMMENDED:

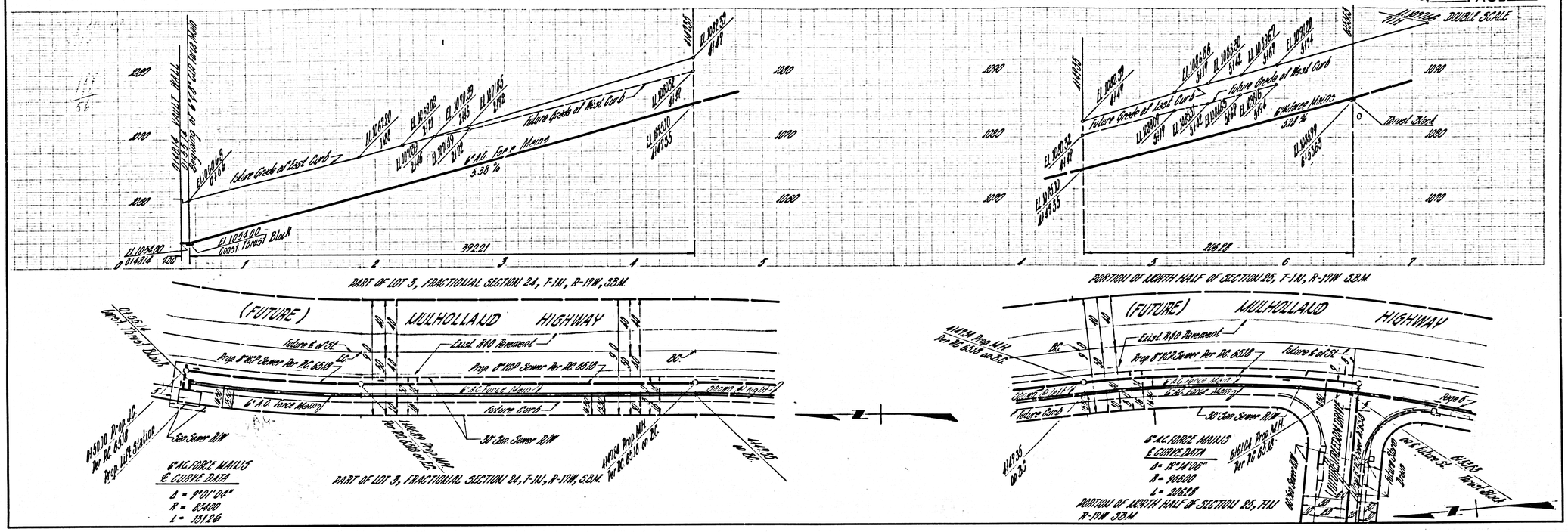
BY L. L. Hughes
SANITATION ENGINEER

BY Carl A. Tenny
DISTRICT MAINTENANCE SUPT.

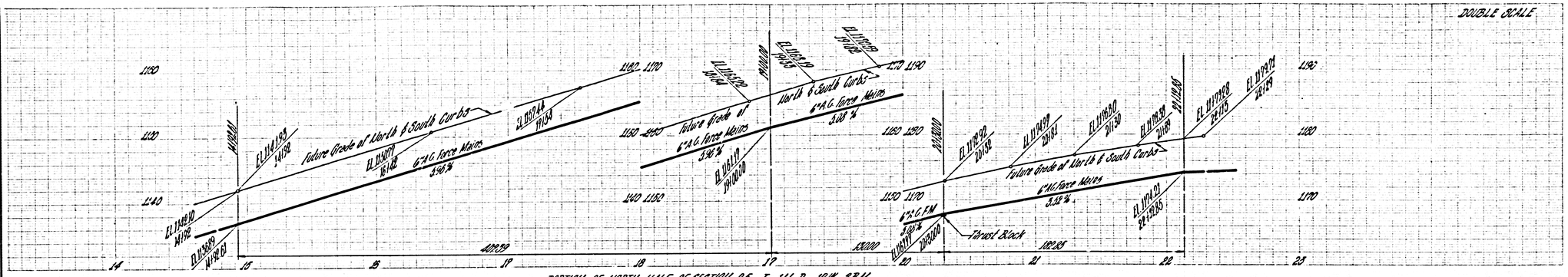
CHECKED BY Raymond V. Whaley
OFFICE OF COUNTY ENGINEER REG. C.E. NO. 10653

DATE: MARCH 1963	SCALE: AS SHOWN	DRAWING NO. 3 OF 7 DRAWINGS

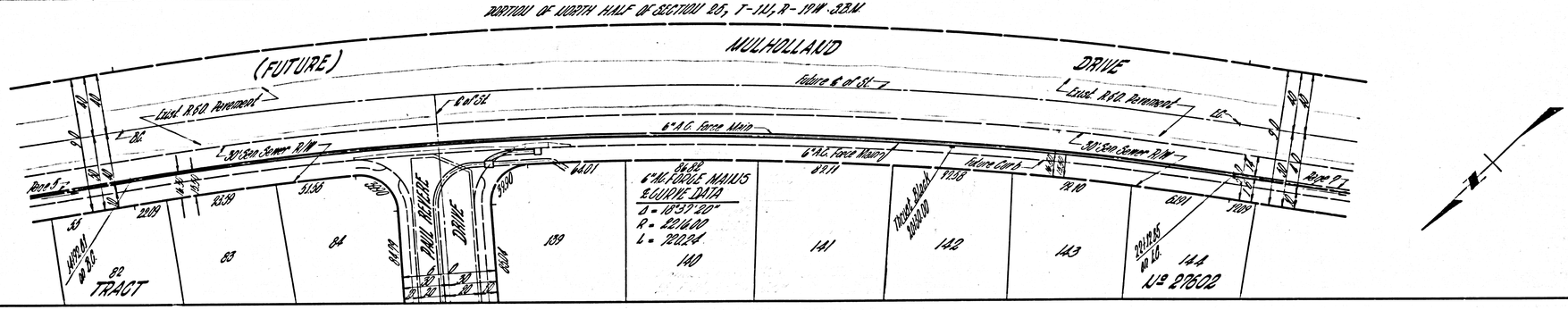
D.C. 65568 PAGE 4


DOUBLE SCALE
Future Grade of East Curb
Future Grade of West Curb
6" A.C. Force Mains
Block Block
Tonot Thrust Block
PART OF LOT 3, FRACTIONAL SECTION 24, T-1N, R-19W, S.B.M.
PORTION OF NORTH HALF OF SECTION 25, T-1N, R-19W S.B.M
(FUTURE)
MULHOLLAND
HIGHWAY
Future 6 of St.
Exist. R/O Remnant
Prop 8"W.P. Sewer Per D.C. 6518
6" A.C. Force Mains
Future Curb
30' Son Sewer R/W
Prop 8"W.P. Sewer Per D.C. 6518
Future Curb
Ground Slope
Prop 8"W.P. Sewer Per D.C. 6518
Future 6 of St.
Exist. R/O Remnant
Prop 8"W.P. Sewer Per D.C. 6518
6" A.C. Force Mains
30' San Sewer R/W

DOUBLE SCALE



PORTION OF NORTH HALF OF SECTION 25, T-1N, R-19W S.B.M.



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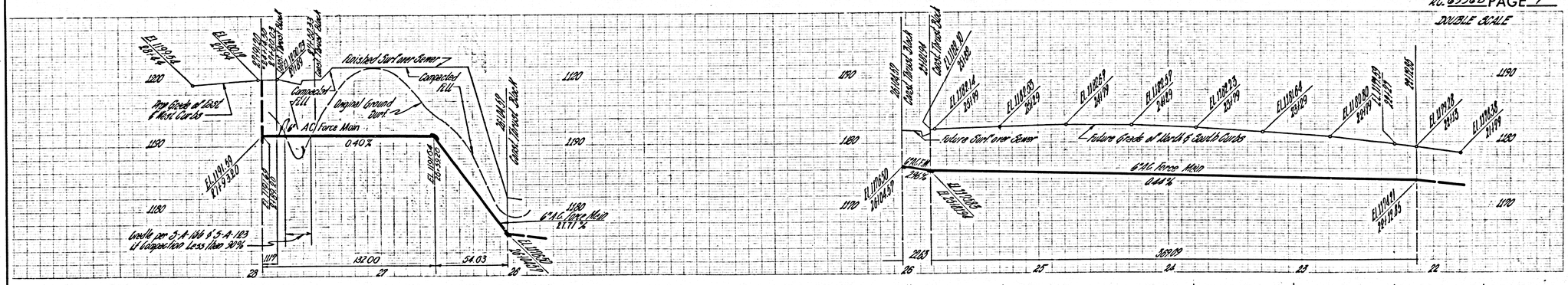
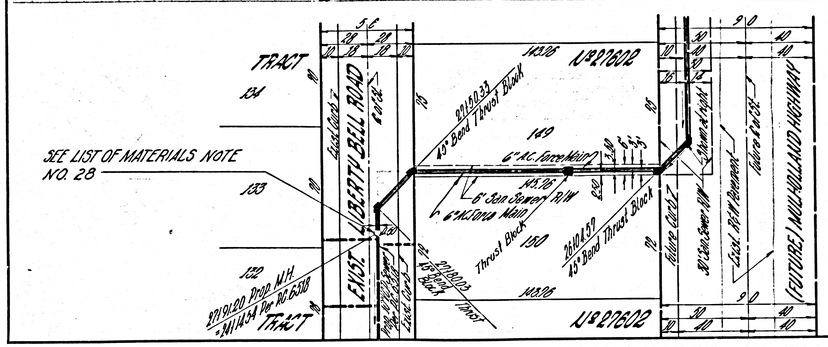
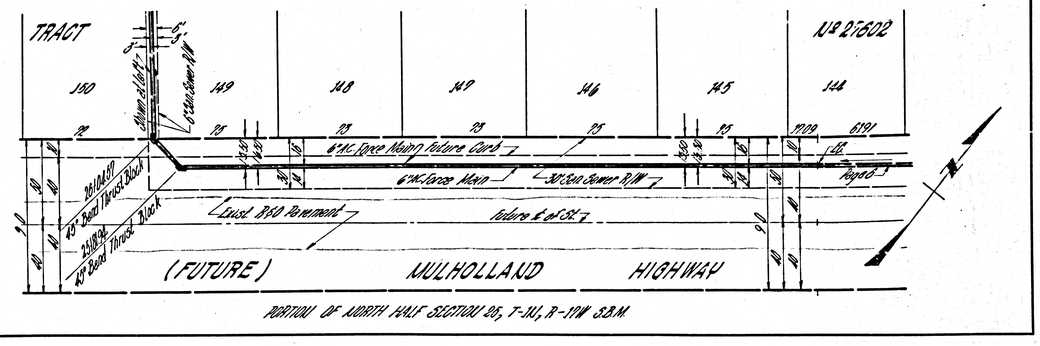
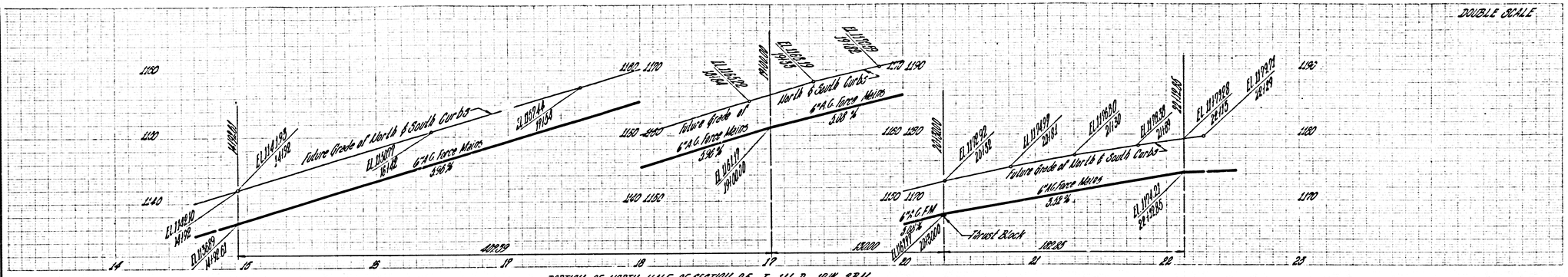




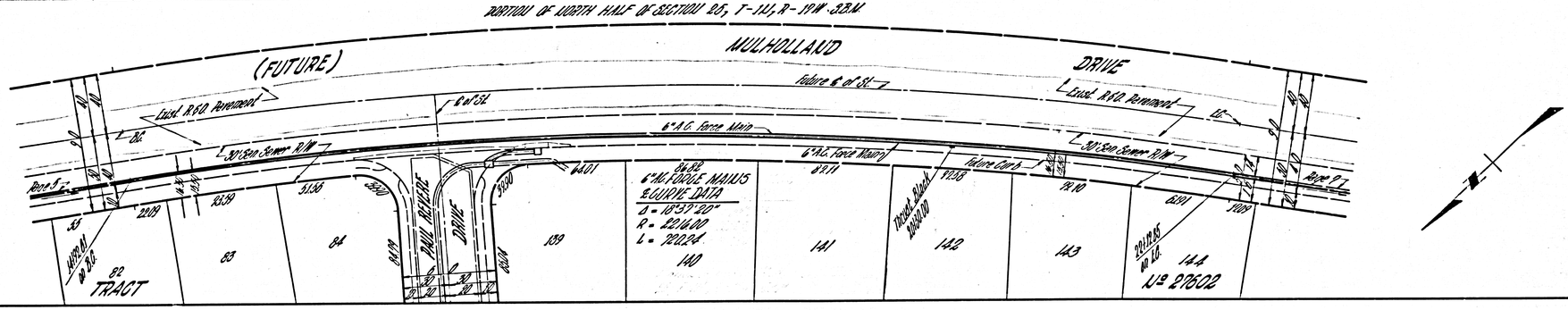


PORTION OF NORTH HALF SECTION 25, T-1N, R-19W S.B.M.

DOUBLE SCALE



PORTION OF NORTH HALF OF SECTION 25, T-1N, R-19W S.B.M.



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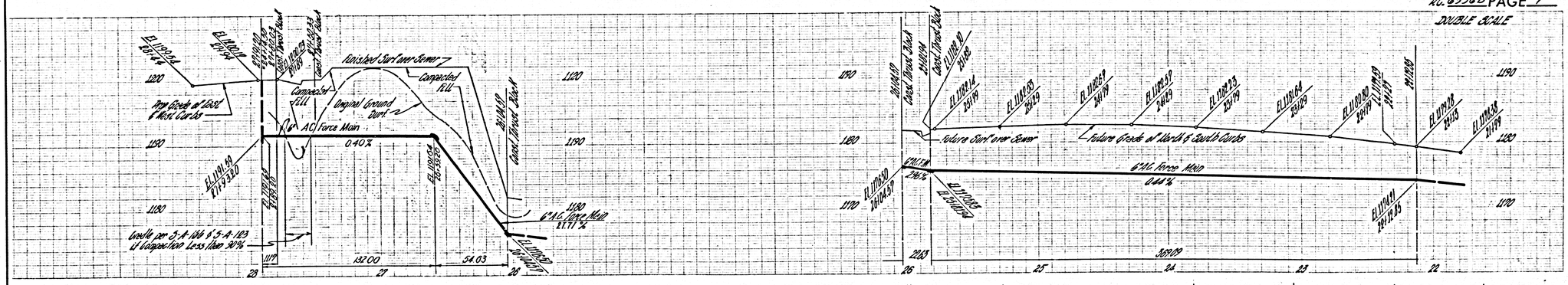
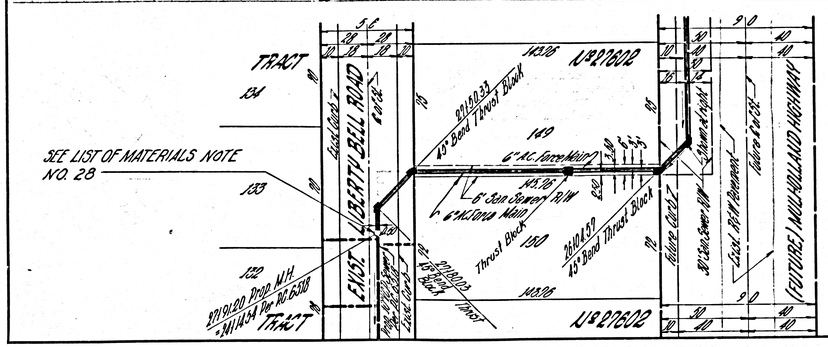
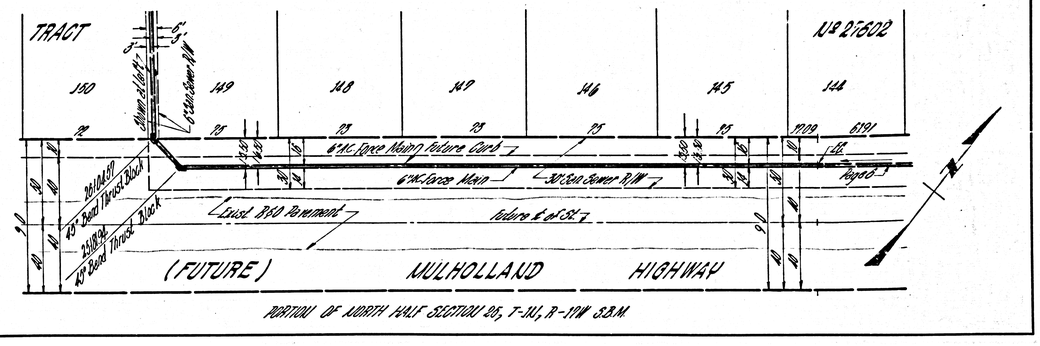






PORTION OF NORTH HALF SECTION 25, T-1N, R-19W S.B.M.

40692

MULWOOD CORPORATION

ENCINO, CALIFORNIA

CONSTRUCTION PLANS FOR

WATER RECLAMATION PLANT

INDEX TO DRAWINGS

DWG. NO.	DWG. TITLE
1	TITLE AND INDEX SHEET
2	FLOW DIAGRAM, HYDRAULIC PROFILE, DESIGN CRITERIA
3	PAVING, GRADING & YARD PIPING
4	PLAN-CONTACT STABILIZATION UNIT, PIPING MECHANICAL
5	CONTACT STABILIZATION UNIT SECTIONS, PIPING MECHANICAL
6	CONTACT STABILIZATION UNIT FLOW METERS & WEIR BOX MECHANICAL
7	FROTH SPRAY PIPING MECHANICAL
8	COMMINUTOR, BAR SCREEN, WEIRS & SCUM EJECTOR MECHANICAL
9	YARD PIPING & PRESSURE FILTERS
10	CHLORINATION BUILDING - EQUIPMENT & PIPING MECHANICAL - ARCHITECTURAL
11	CHLORINATION EQUIPMENT & PIPING MECHANICAL - ELECTRICAL
12	CONTACT STABILIZATION UNIT - STRUCTURAL
13	ALTERNATE "A" OUTER STEEL TANK - STRUCTURAL & STORAGE POND DETAILS
14	CONTROL BUILDING - ARCHITECTURAL DETAILS
15	CHLORINATION CHAMBER & EFFLUENT RECOVERY PUMPS STRUCTURAL & MECHANICAL
16	CONTROL BUILDING - ELECTRICAL & PLUMBING
17	ELECTRICAL PLOT PLAN
17A	STORAGE POND & SPRAY IRRIGATION SYSTEM

GENERAL NOTES

PLANS FOR THE LANDSCAPING OF AREAS BETWEEN PROPERTY LINE AND BUILDING SETBACK LINES MUST BE APPROVED BY THE DIRECTOR OF REGIONAL PLANNING BEFORE PLANTING

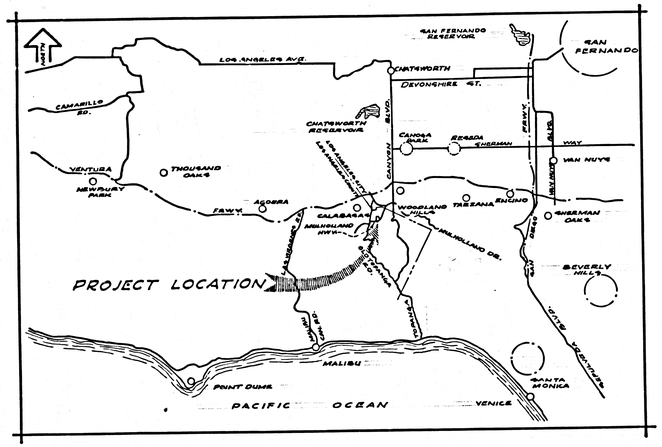
P.C. 6556 C

COUNTY OF LOS ANGELES, CALIFORNIA

APPROVED, JOHN A. LAMBIE, COUNTY ENGINEER

BY Richard S. Kahn — REVIEWED Carl H. Pierno
ASST. SANITATION ENGINEER — SEWER MAINTENANCE SUPT.

CHECKED Bernard A. Woodley
OFFICE OF COUNTY ENGINEER, CE 10653



·VICINITY · MAP·

SCALE IN MILES

PLANS PREPARED BY

BOYLE ENGINEERING

SANTA ANA · BAKERSFIELD · VENTURA · SAN DIEGO

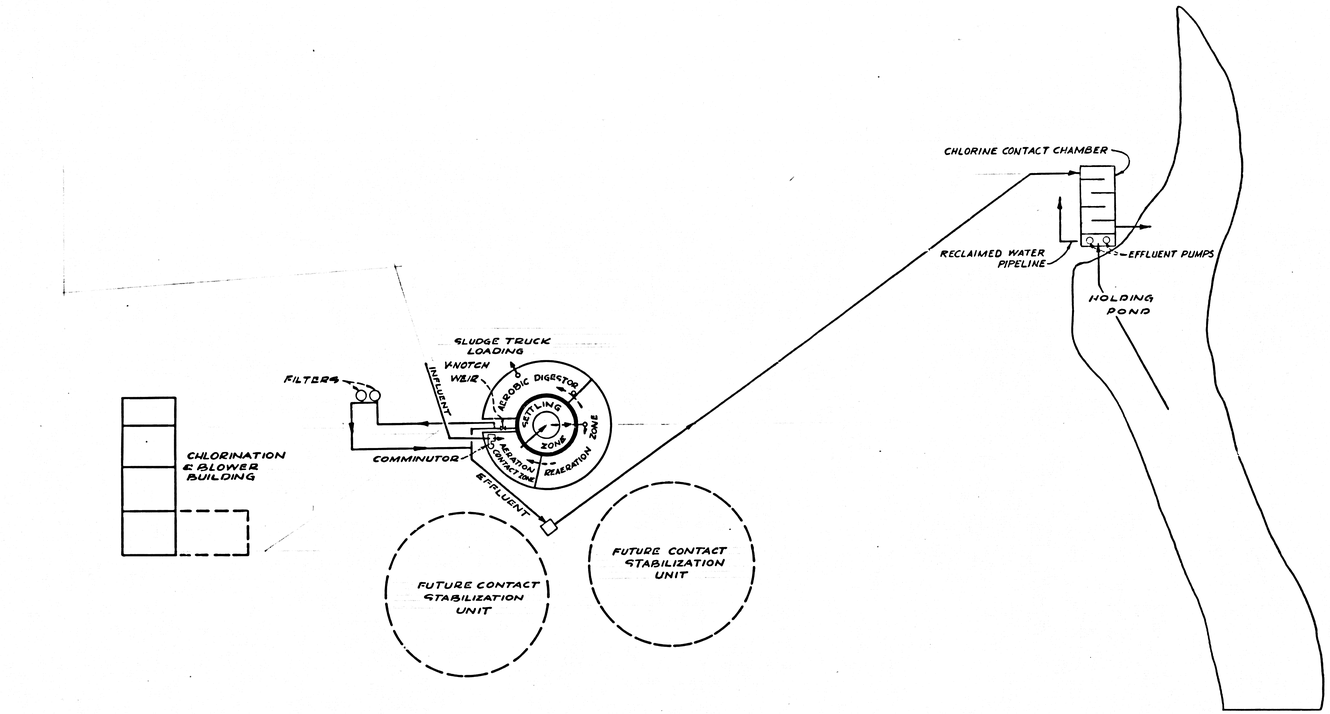
Lawrence Hirsch

LAWRENCE HIRSCH ~ R.C.E. 12004

SHEET 1 OF 17

BEWO 7002

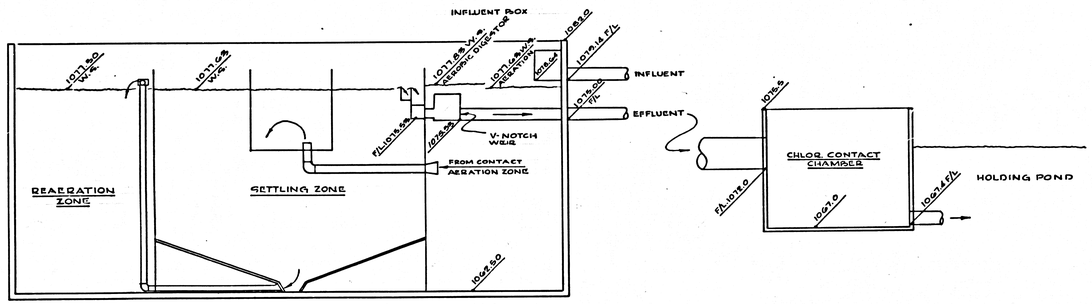
1A-3



A/2 **FLOW DIAGRAM**

·NOT TO SCALE·

ZONE	DESIGN FLOW WATER ELEV.	PEAK FLOW WATER ELEV.
AERATION CONTACT	1077.69	1077.79
SETTLING	1077.65	1077.60
REAERATION	1077.60	1077.60
AEROBIC DIGESTOR	1077.85	1077.85



B/2 **HYDRAULIC PROFILE**

·NOT TO SCALE·

(ELEV. SHOWN ARE AT DESIGN FLOW)

DESIGN FACTORS

40693

GENERAL

PLANT PROCESS:
- CONTACT STABILIZATION
- AEROBIC SLUDGE DIGESTION

EQUIVALENT POPULATION:

FIRST STAGE DEVELOPMENT	1,250
SECOND STAGE ADDITION	3,125
THIRD STAGE ADDITION	6,250

FLOW:

PER CAPITA, GPCPD.	80
FIRST STAGE AVERAGE, M.G.D.	0.100
FIRST STAGE PEAK, M.G.D.	0.244
SECOND STAGE AVERAGE, M.G.D.	0.250
SECOND STAGE PEAK, M.G.D.	0.533
THIRD STAGE AVERAGE, M.G.D.	0.500
THIRD STAGE PEAK, M.G.D.	0.970

RAW SEWAGE STRENGTH:

B.O.D. AVERAGE P.P.M.	300
B.O.D. LBS./CAPITA/DAY	0.23
S.S. AVERAGE P.P.M.	300
S.S. LBS./CAPITA/DAY	0.23

PLANT PERFORMANCE:

B.O.D. REDUCTION %	90-95
S.S. REDUCTION %	90-95
B.O.D. # FINAL EFFLUENT, P.P.M.	30-15
S.S. # FINAL EFFLUENT, P.P.M.	30-15

FLOW MEASUREMENT:

1ST STAGE - EFFLUENT - V NOTCH WEIR, MGD	0.244
2ND & 3RD STAGE - PARSHALL FLUME, MGD.	0.970

FIRST STAGE PLANT DEVELOPMENT

COMMINUTOR & BAR SCREEN:

COMMINUTOR CAPACITY, M.G.D.	0.250
BYPASS BAR SCREEN WIDTH, IN.	18

PLANT DIMENSIONS:

DIAMETER OF OUTER SHELL, FT.	37.5
DIAMETER OF INNER SHELL, FT.	15.0
AERATION TANK S.W.D., FT.	15.0

AERATION ZONES - GENERAL:

B.O.D. LOAD, LBS/DAY	250
LBS. B.O.D./1000 CU.FT. TANK VOL.	35
AIR REQUIRED, C.F./LB. B.O.D.	1000

CONTACT AERATION ZONE:

VOLUME, 1000 CU.FT.	250
AVERAGE DENTENTION TIME, HOURS	1.5
AIR REQUIRED, C.F.M.	55

REAERATION ZONE:

VOLUME, 1000 CU.FT.	5.0
AVERAGE DENTENTION TIME, HOURS	2.4
AIR REQUIRED, C.F.M.	110

CLARIFICATION ZONE:

AVERAGE DENTENTION TIME, HOURS	3.8
SURFACE AREA, SQ. FT.	240
OVERFLOW RATE MAX., G.P.F.D.	650

AEROBIC SLUDGE DIGESTOR:

DESIGN CAPACITY CU.FT./CAP.	2.5
VOLUME, 1000 CUBIC FT.	8.2
AIR REQUIRED, C.F.M.	60

FLOW MEASUREMENT

EFFLUENT - V-NOTCH WEIR, HEAD, IN.	4.8

BLOWERS:

NUMBER	2
PRESSURE	7
CAPACITY, C.F.M. (EACH)	330

CHLORINATION:

CONTACT PERIOD AT DESIGN FLOW, MINUTES	75
DESIGN DOSAGE RATE, P.P.M.	12

HOLDING PONDS

NUMBER	1
MAXIMUM WATER DEPTH, FT.	10
VOLUME, M.G.	1

EFFLUENT PUMPING STATION

NUMBER OF PUMPING UNITS	2
CAPACITY EACH, M.G.D.	0.250

NO	Description	Date	Sht
	REVISIONS		
⚠	Move Manhole per L.A. Co. P.C. 6856	9-30-66	
	Void Grading Plan		8
	Add Door & Wall North End Maintenance Area		10,14,16
	Change Size & Location of Reinforcing Steel		12
	Void Alternate "A"		13

MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

FLOW DIAGRAM, HYDRAULIC PROFILE, DESIGN CRITERIA

SCALE: AS SHOWN

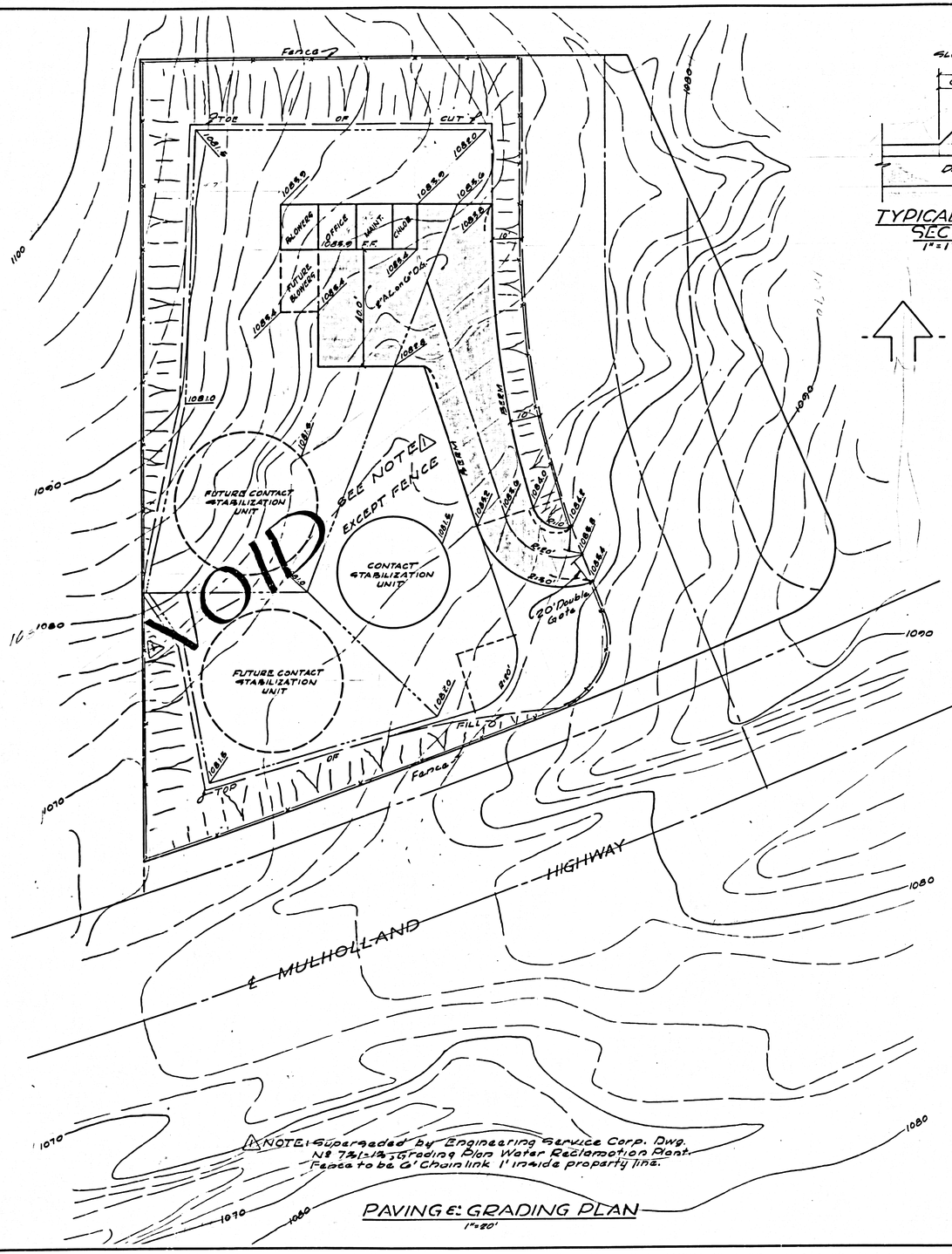
DATE: JUNE 1966

BOYLE ENGINEERING
SAN DIEGO - SANTA ANA
Lawrence Hirsch
R.C.E. 12994

SHEET NO. 2 OF 17 SHTS.

BEWO 7002

40694


Fence
TOE OF CUT
1081.6
1080.0
1082.0
1083.0
1084.0
1085.0
1085.5
BLOWERS
OFFICE
MAINT.
CHLOR.
FUTURE BLOWERS
F.F. 1085.0
1084.4
1084.8
1085.2
1085.6
1085.8
1086.0
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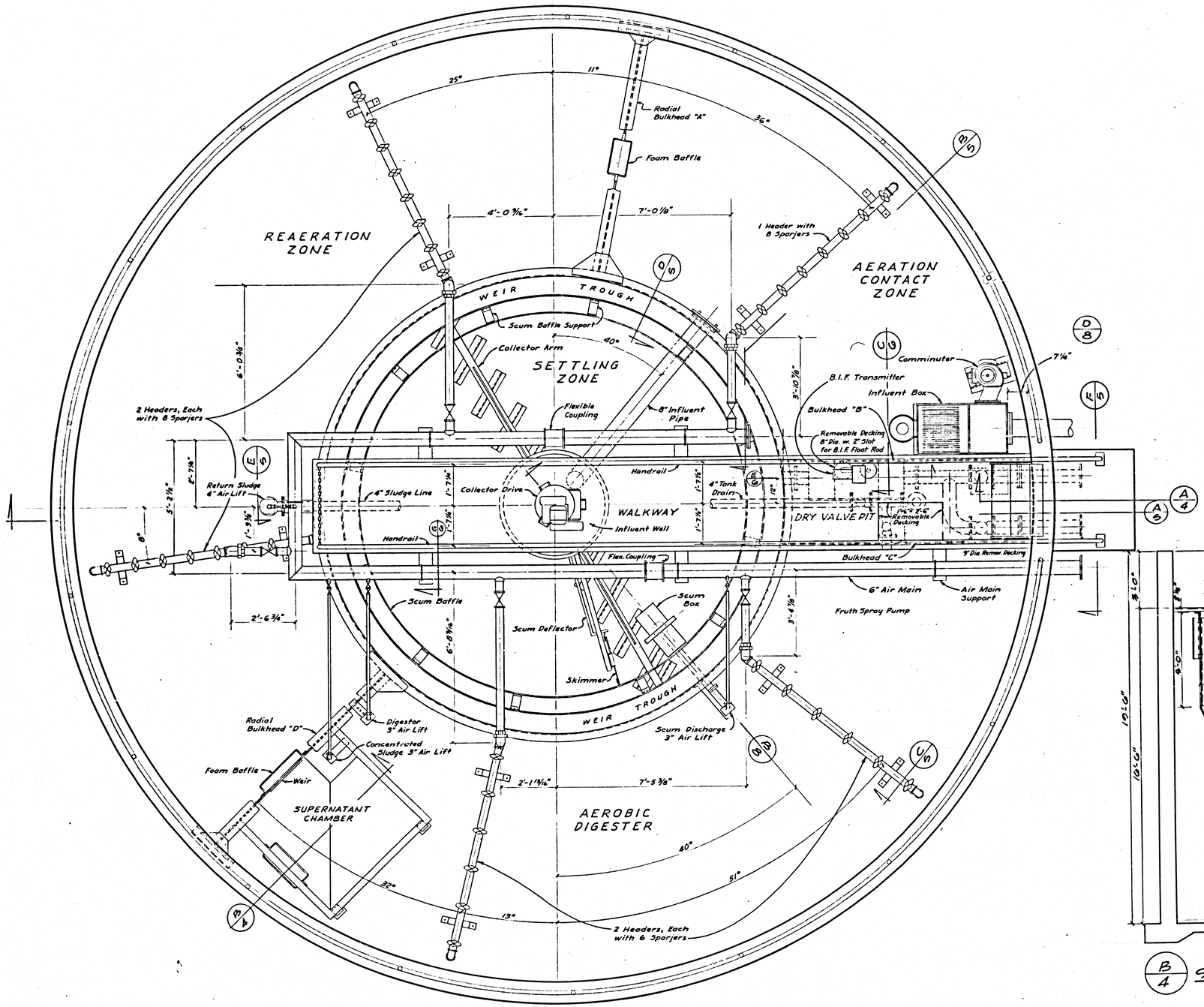
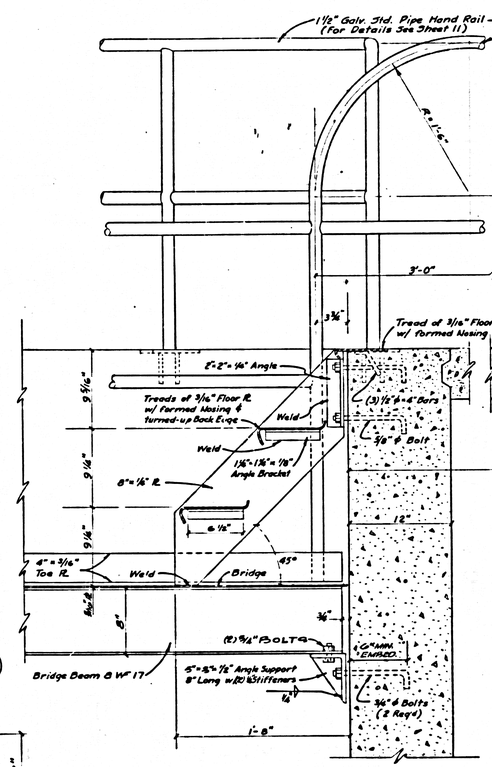
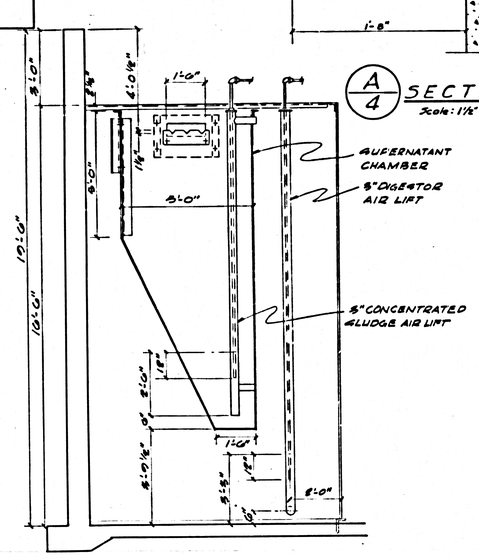
40695



PLAN
Scale: 1/2"=1'-0"



A/4 SECTION
Scale: 1 1/2"=1'-0"



B/4 SECTION
3/8"=1'-0"

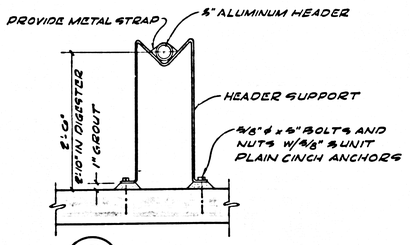
MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

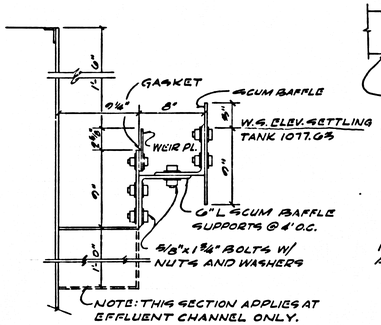
PLAN
CONTACT STABILIZATICN UNIT PIPING
MECHANICAL

SCALE: AS SHOWN	BOYLE ENGINEERING SAN DIEGO – SANTA ANA	SHEET NO. 4 OF 17 SHTS.
DATE: JUNE 1964	R.C.E. 15994	BEWO 7002

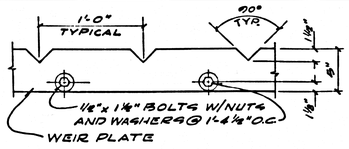
40696

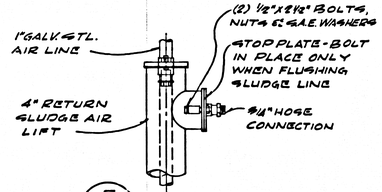


C/5 SECTION
-NOT TO SCALE-

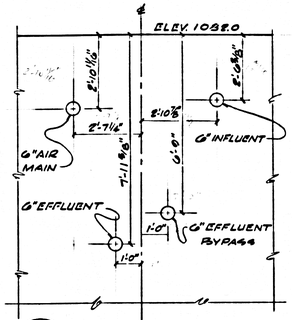


D/5 WEIR DETAILS
-NOT TO SCALE-

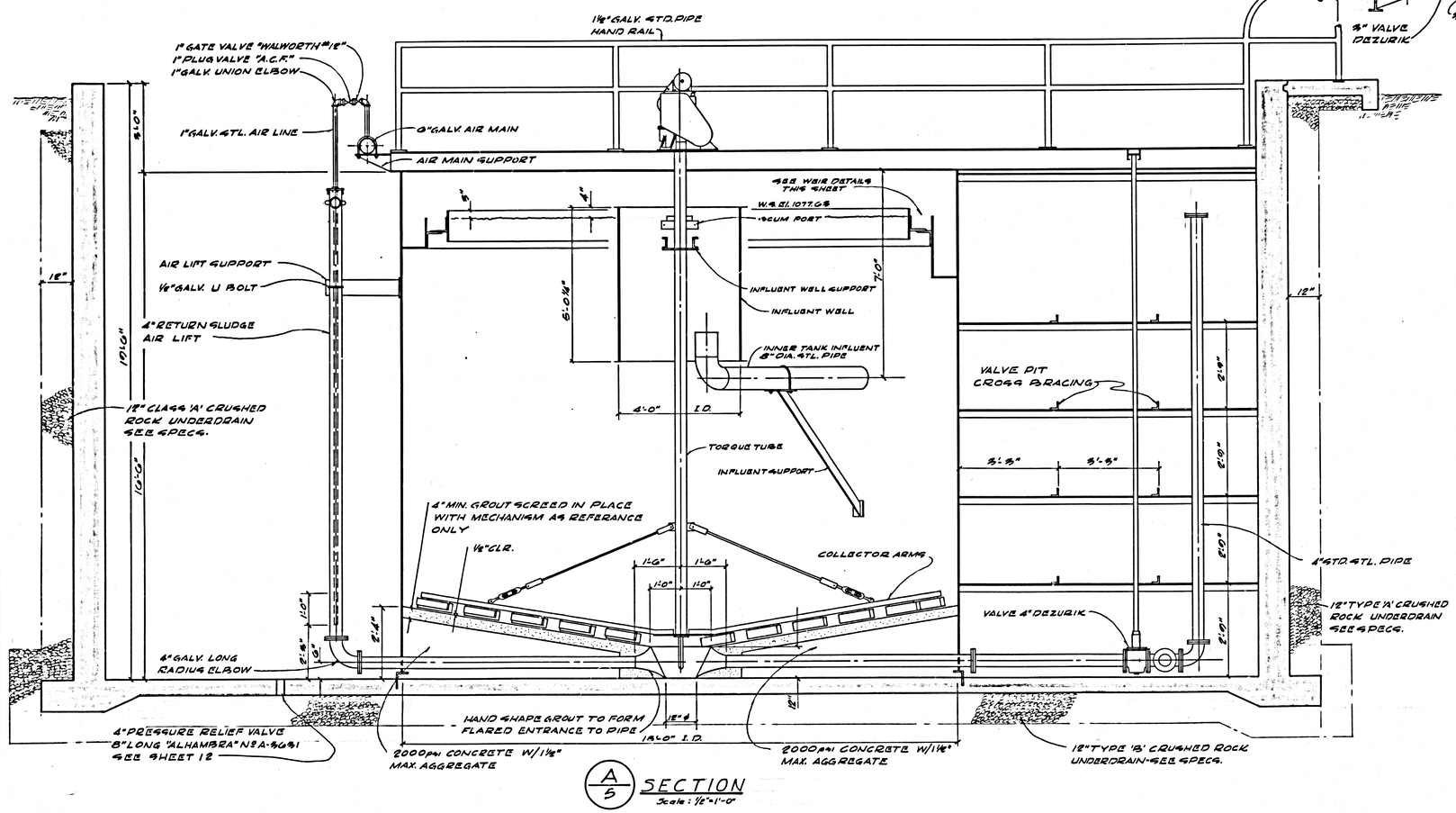




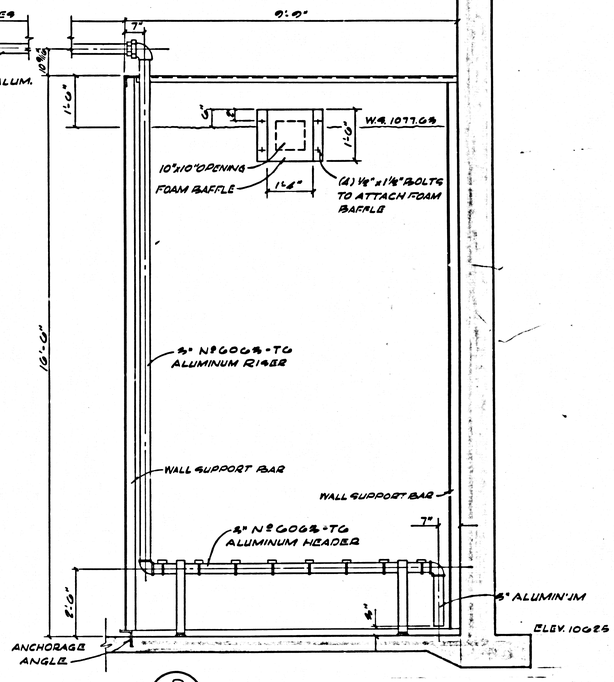
E/5 SECTION
-NOT TO SCALE-



F/5 ELEVATION
⅜"=1'-0"



A/5 SECTION
Scale: ½"=1'-0"



B/5 SECTION
Scale: ½"=1'-0"

MULWOOD CORPORATION
ENCINO, CALIFORNIA

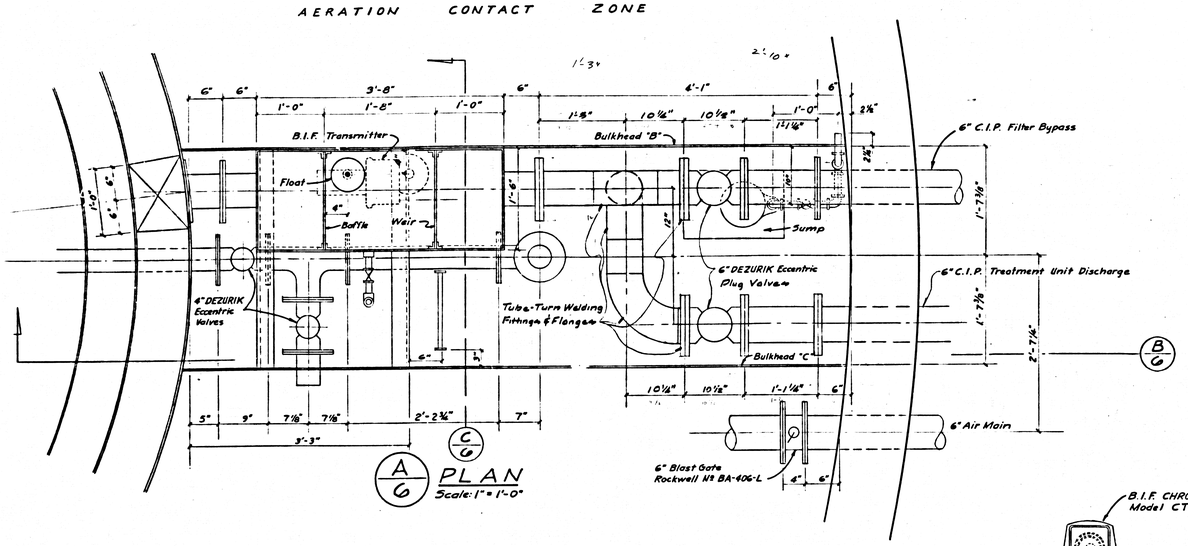
WATER RECLAMATION PLANT

CONTACT STABILIZATION UNIT
SECTIONS, PIPING
MECHANICAL

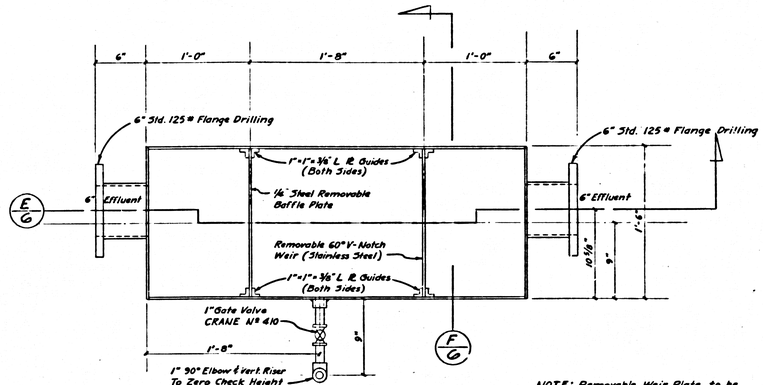
SCALE: As Shown	BOYLE ENGINEERING SAN DIEGO – SANTA ANA	SHEET NO. 5 OF 17 SHTS.
DATE: JUNE 1965	R.C.E. 15994	BEWO 7002

40697

AERATION CONTACT ZONE

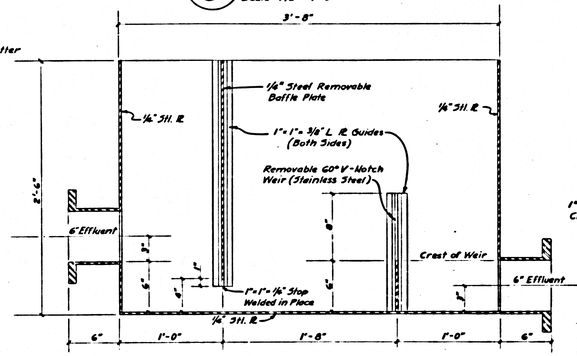


A/6 PLAN
Scale: 1" = 1'-0"

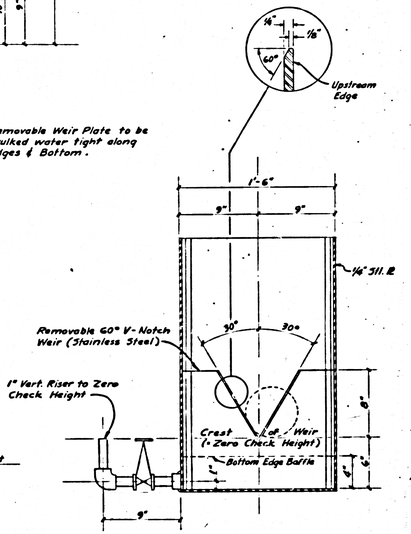


D/6 PLAN
Scale: 1 1/2" = 1'-0"

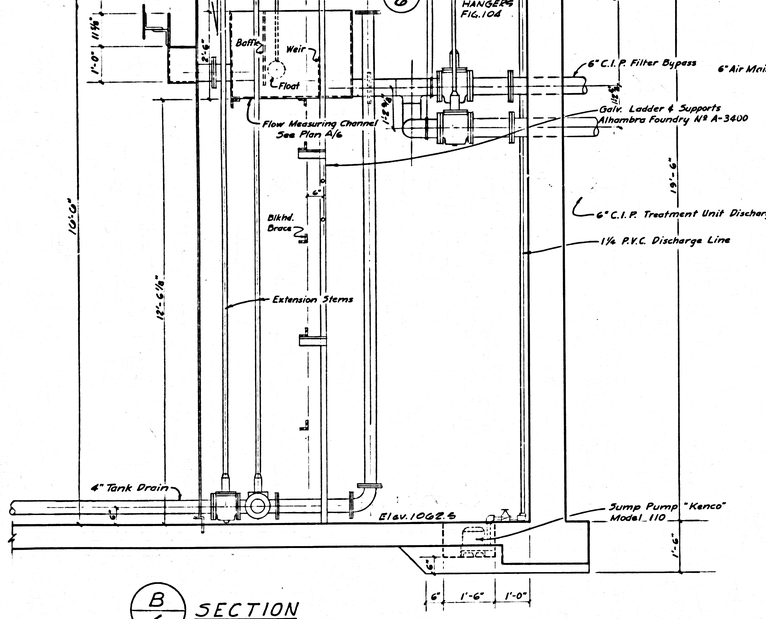
NOTE: Removable Weir Plate to be caulked water tight along Edges & Bottom.



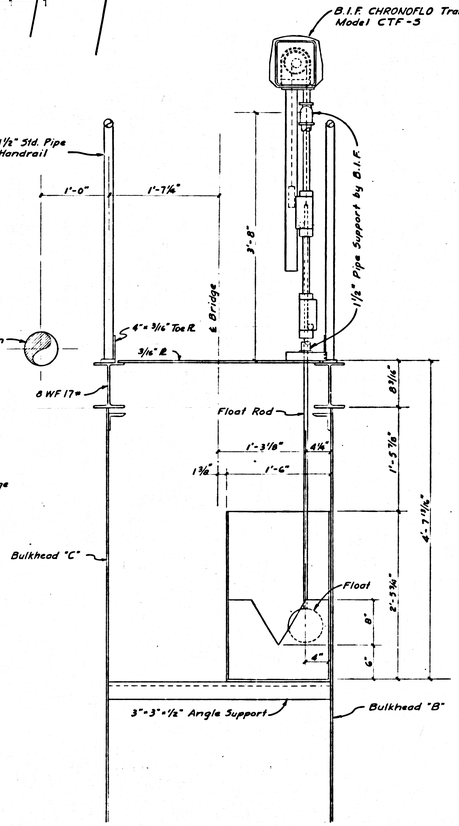
E/6 SECTION
Scale: 1 1/2" = 1'-0"



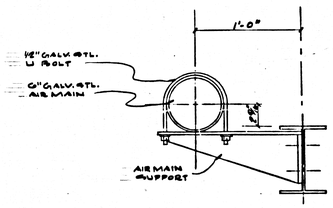
F/6 SECTION
Scale: 1 1/2" = 1'-0"



B/6 SECTION
Scale: 1/2" = 1'-0"



C/6 SECTION
Scale: 1" = 1'-0"



G/6 SECTION
1 1/2" = 1'-0"

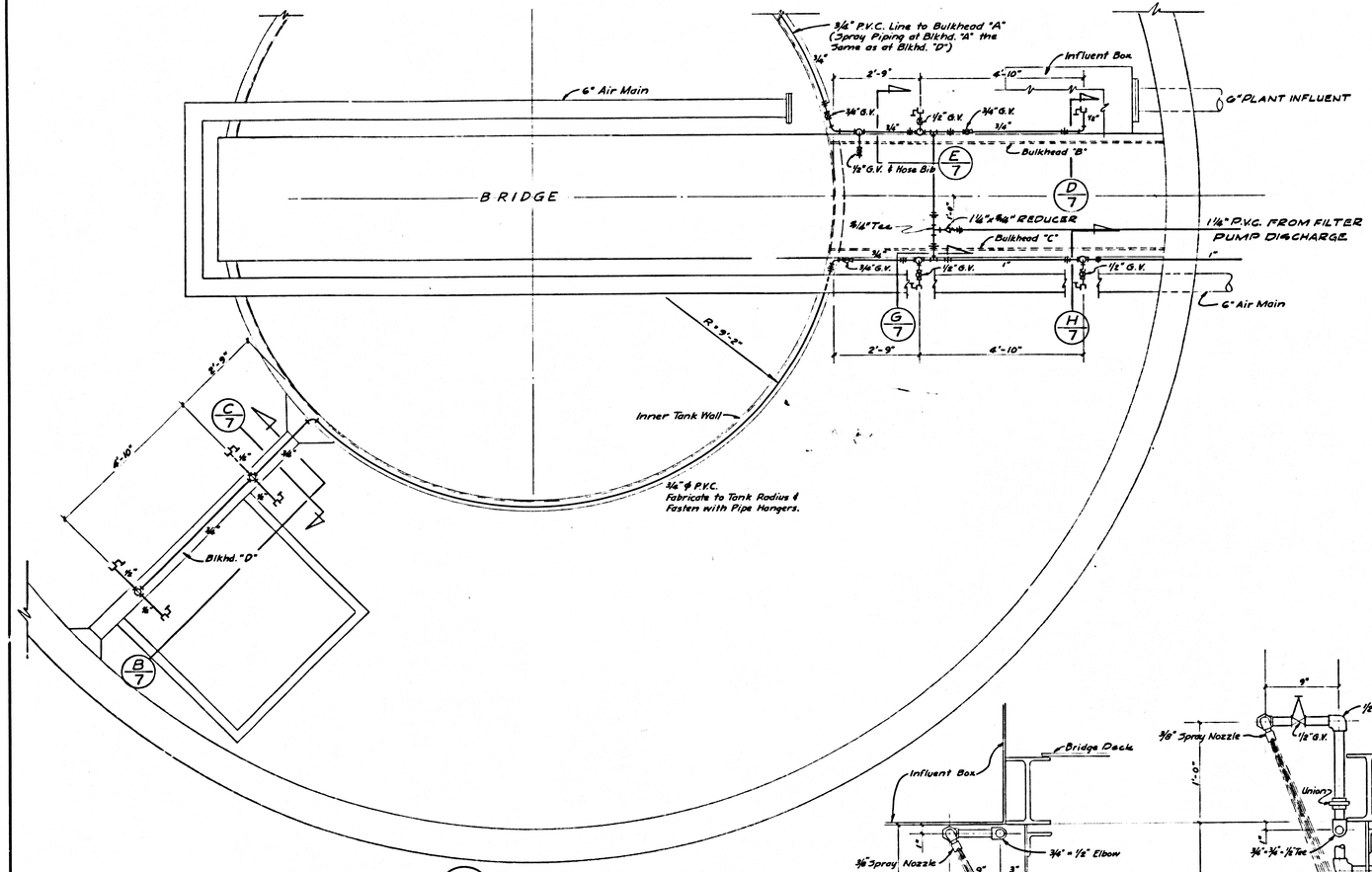
MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

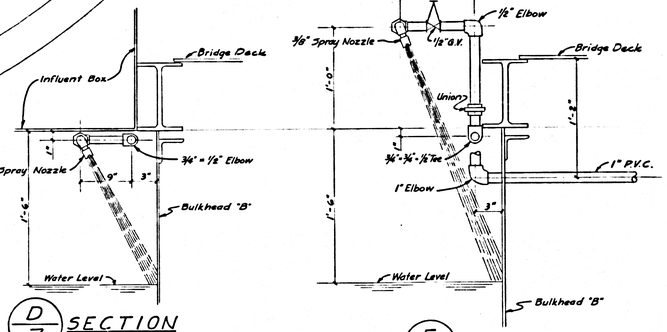
CONTACT STABILIZATION UNIT
FLOW METER & WEIR BOX
MECHANICAL

SCALE: AS SHOWN	BOYLE ENGINEERING SAN DIEGO — SANTA ANA	SHEET NO. 6 OF 17 SHTS.
DATE: JUNE 1968	R.C.E. 12994	BEWO 7002

40698

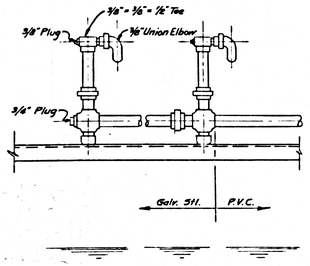


A/7 PLAN
Scale: 1/2" = 1'-0"

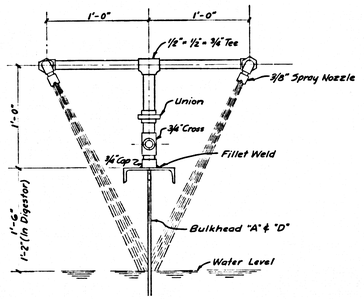


D/7 SECTION
Not to Scale

E/7 SECTION
Not to Scale



B/7 SECTION
Not to Scale



C/7 SECTION
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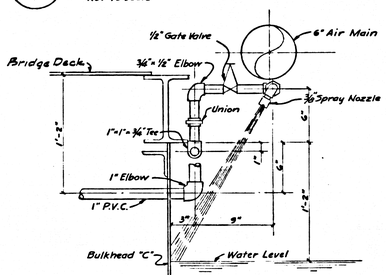
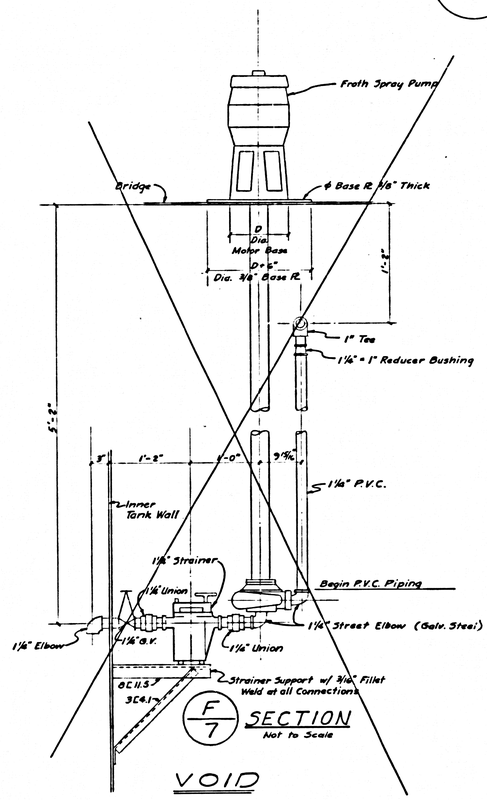


G&H/7 SECTION
Not to Scale



F/7 SECTION
Not to Scale

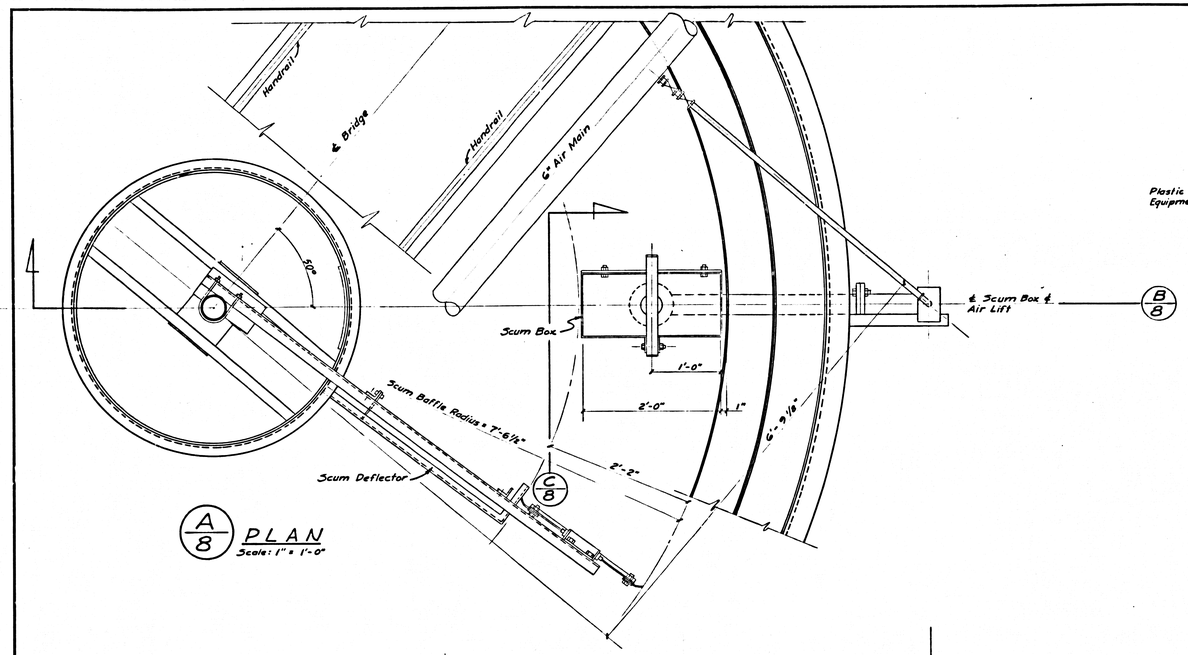
VOID

MULWOOD CORPORATION
ENCINO, CALIFORNIA

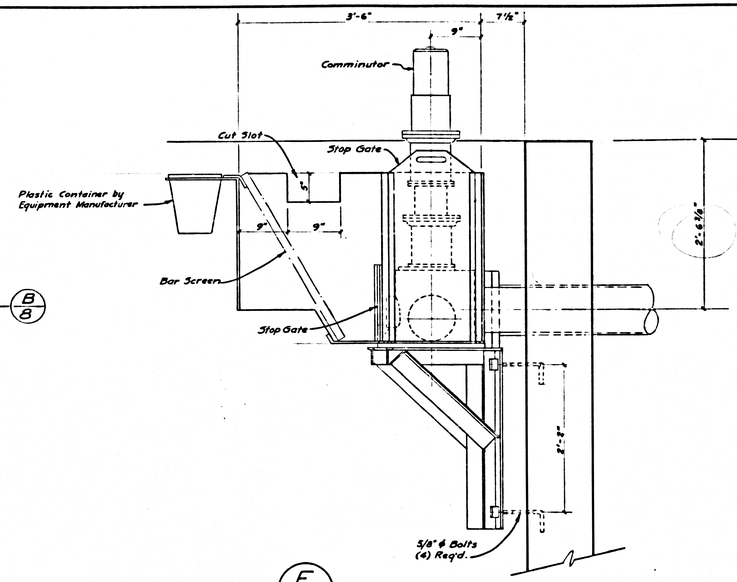
WATER RECLAMATION PLANT

FROTH SPRAY PIPING
MECHANICAL

SCALE: AS SHOWN	BOYLE ENGINEERING SAN DIEGO – SANTA ANA	SHEET NO. 7 OF 17 SHTS.
DATE: JUNE 1968	R.C.E. 12894	BEWO 7002



A/8 PLAN
Scale: 1" = 1'-0"



F/8 SECTION
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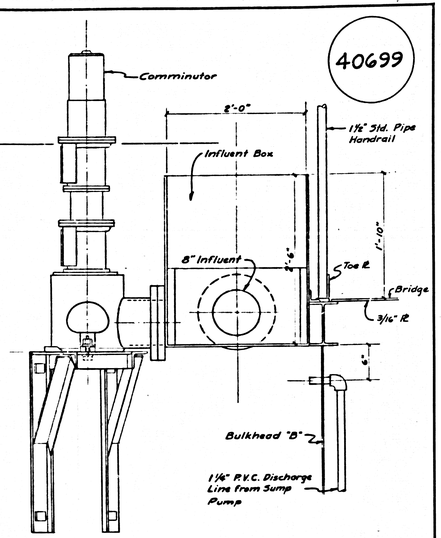
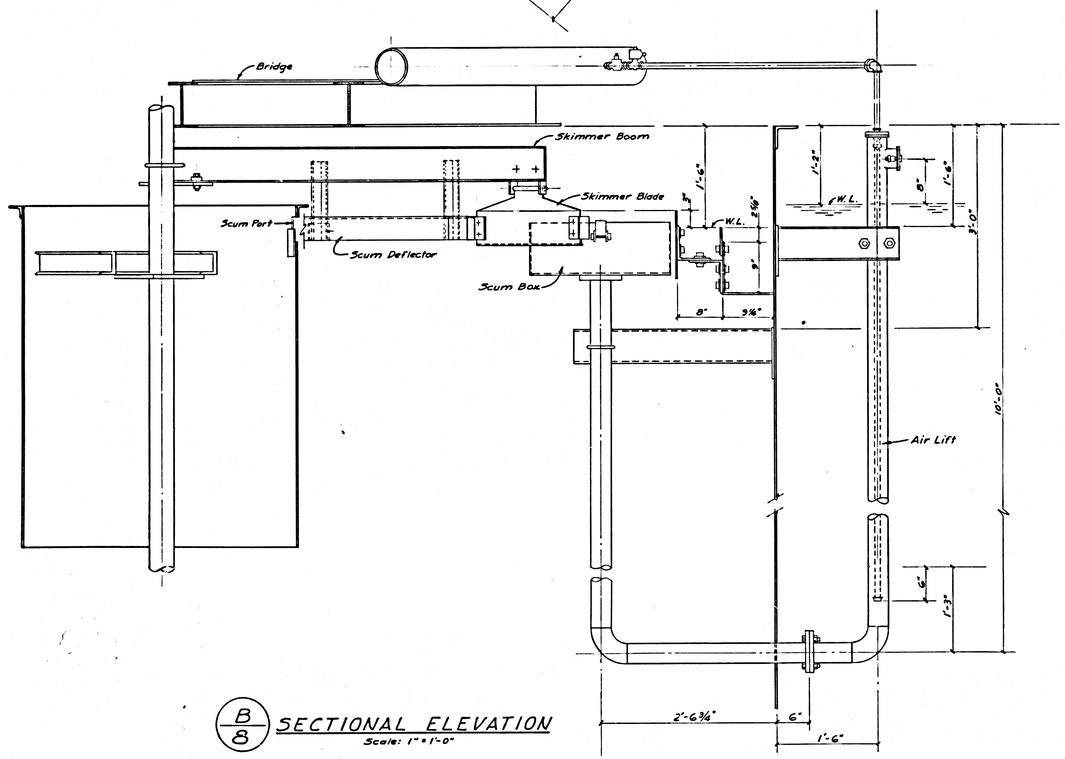
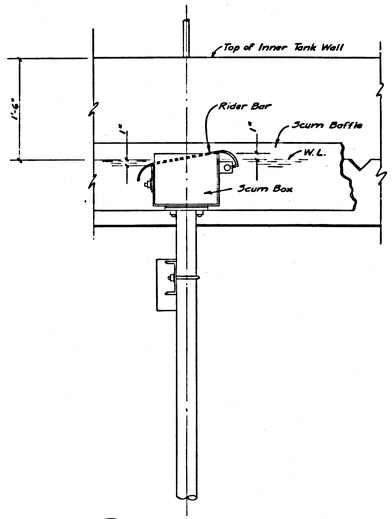


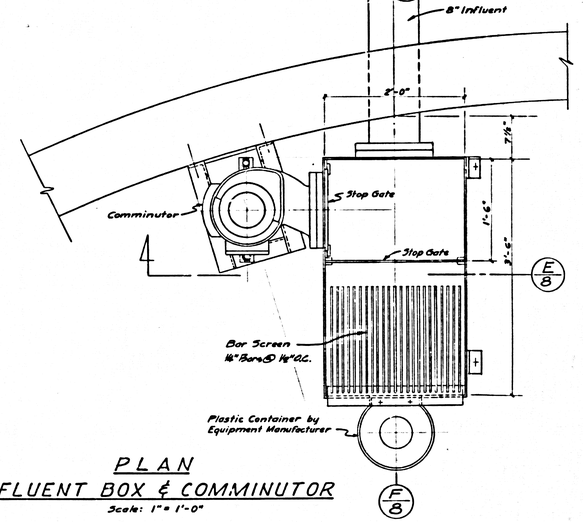
E/8 SECTION
Scale: 1" = 1'-0"



B/8 SECTIONAL ELEVATION
Scale: 1" = 1'-0"



C/8 SECTION
Scale: 1" = 1'-0"



D/8 PLAN
INFLUENT BOX & COMMINUTOR
Scale: 1" = 1'-0"

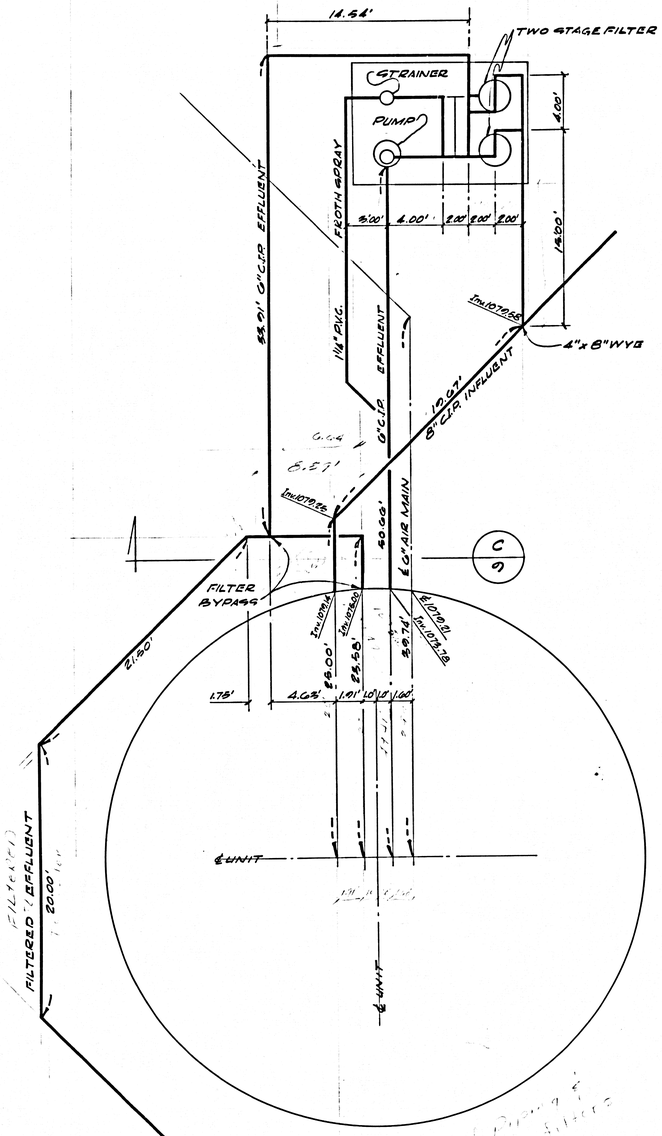
MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

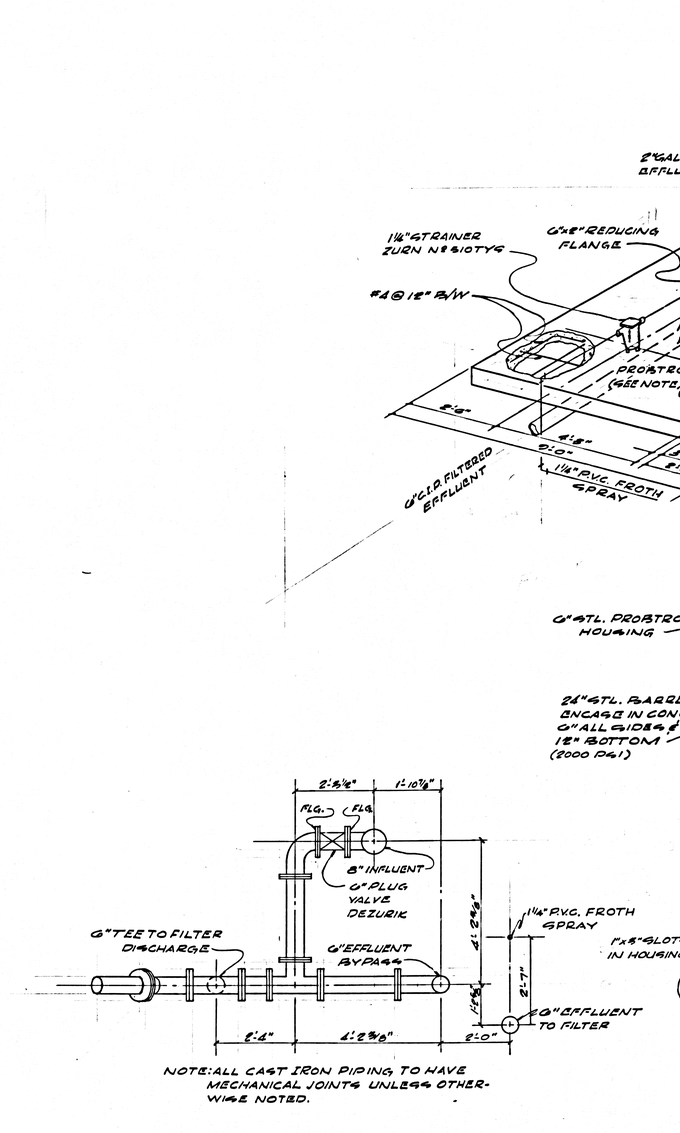
COMMINUTOR, BAR SCREEN, WEIRS & SCUM EJECTOR MECHANICAL

SCALE: As Shown	BOYLE ENGINEERING SAN DIEGO — SANTA ANA	SHEET NO. 8 OF 17 SHTS.
DATE: JUNE 1964	R.C.E. 12994	BEWO 7002

40700

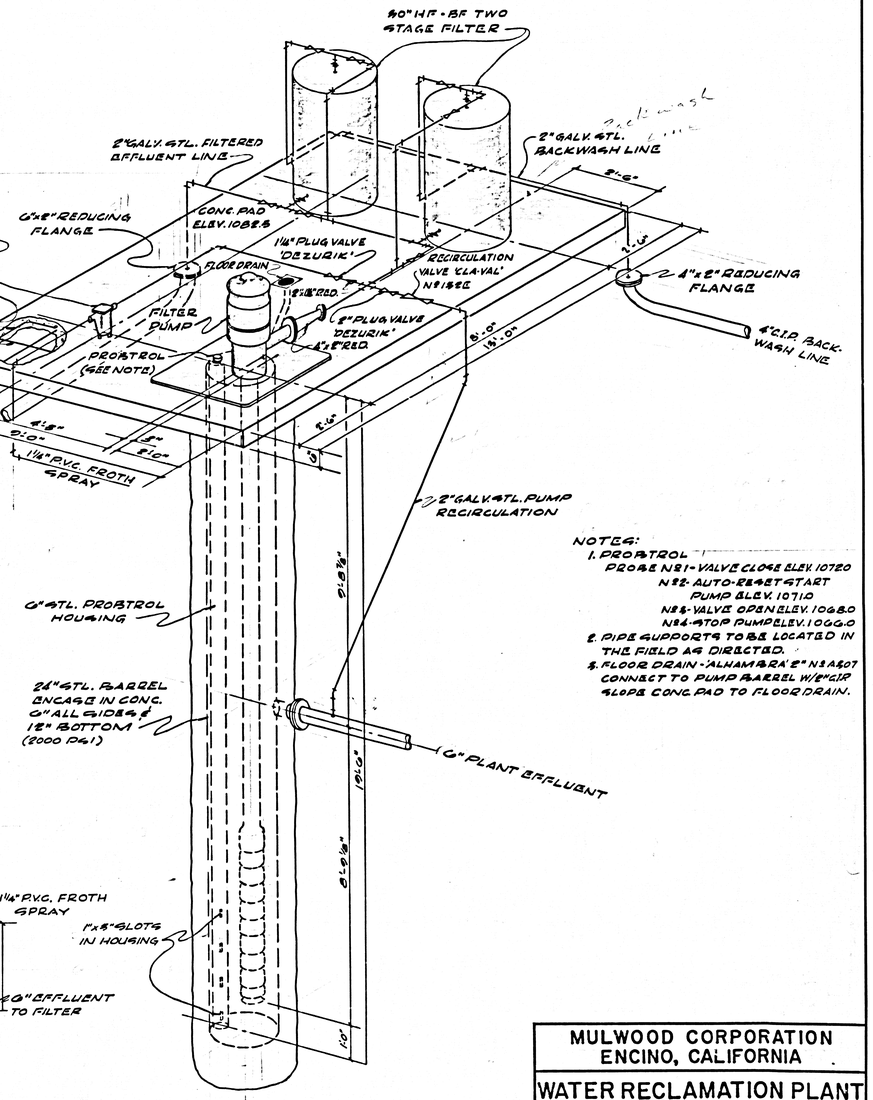


A/D YARD PIPING & PRESSURE FILTERS
1"=5'



NOTE: ALL CAST IRON PIPING TO HAVE MECHANICAL JOINTS UNLESS OTHERWISE NOTED.

C/D SECTION
½"=1'-0"



NOTES:
1. PROBTROL
PROBE N°1 - VALVE CLOSE ELEV. 107.20
N°2 - AUTO-RESET START PUMP ELEV. 107.10
N°3 - VALVE OPEN ELEV. 106.80
N°4 - STOP PUMP ELEV. 106.40
2. PIPE SUPPORTS TO BE LOCATED IN THE FIELD AS DIRECTED.
3. FLOOR DRAIN - 'ALHAMBRA' 2" N° A607 CONNECT TO PUMP BARREL W/2" C.I.P. SLOPE CONC. PAD TO FLOOR DRAIN.

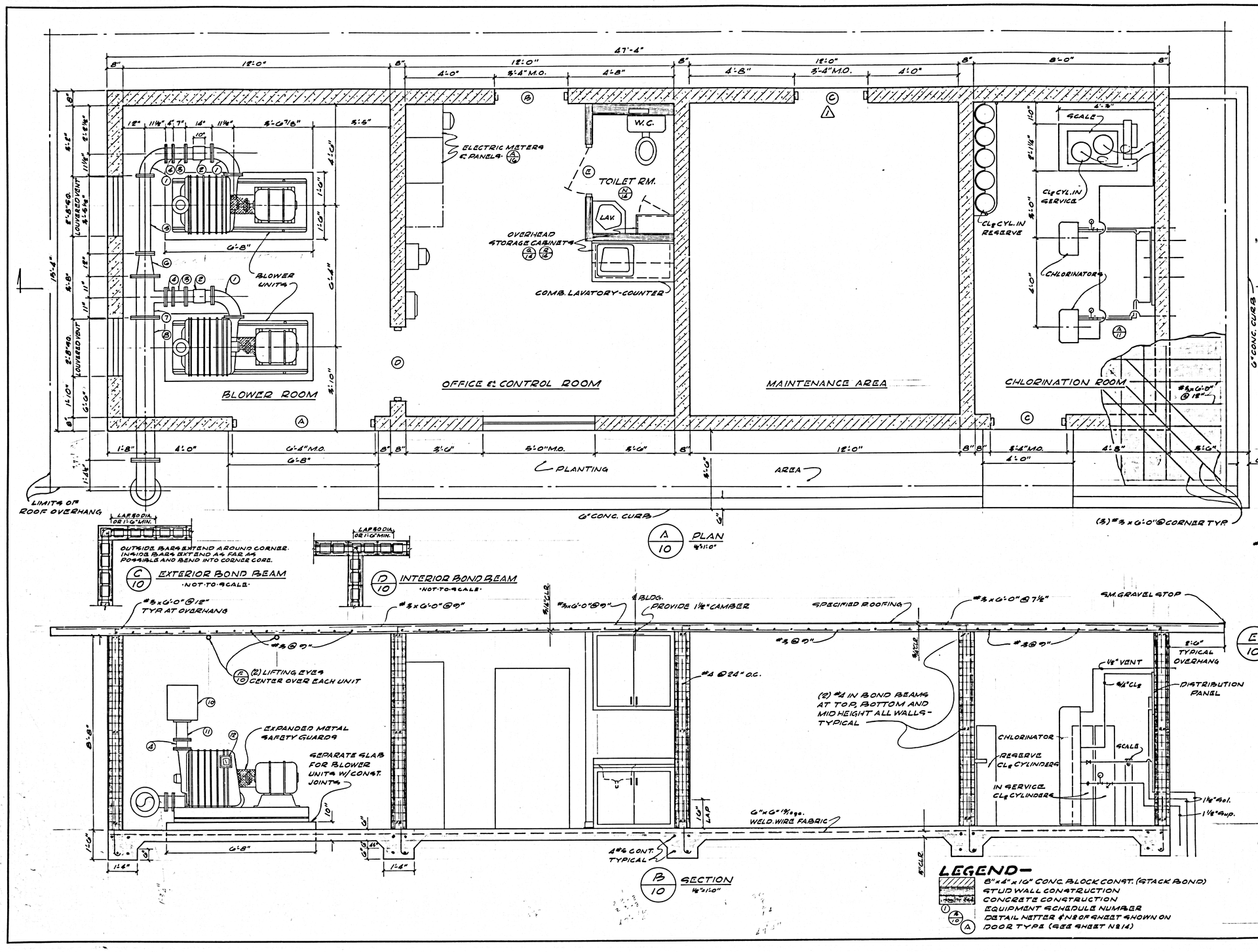
B/D PRESSURE FILTERS
ISOMETRIC SCALE: ½"=1'-0"

MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

YARD PIPING & PRESSURE FILTERS

SCALE: AS SHOWN	BOYLE ENGINEERING SAN DIEGO – SANTA ANA	SHEET NO. 9 OF 17 SHTS.
DATE: JUNE 1964	R.C.E. 12884	BEWO 7002



EQUIPMENT SCHEDULE

NO	DESCRIPTION
(1)	6" C.I. 90° BEND
(2)	6" FLEXIBLE COUPLING 'GUTORBILT'
(3)	6" CHECK VALVE 'U.S. HOFFMAN MACH. CORP.' DWG. NO HO-619-B
(4)	6" BUTTERFLY VALVE 'U.S. HOFFMAN MACH. CORP.' DWG. NO HO-541-A
(5)	6" C.I. P. SPOOL
(6)	10" x 6" C.I. REDUCER
(7)	10" x 10" x 6" C.I. TEE
(8)	10" C.I. PIPE
(9)	10" C.I. 90° BEND
(10)	AIR-MAZE DA 1699-GT DRY TYPE FILTER
(11)	6" MODULATING SURGE VALVE
(12)	AMMETER CALIBRATED IN C.F.M.

GENERAL NOTES:

REINFORCED CONCRETE—

1. CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH IN 28 DAYS OF 2000 PSI.
2. TYPICAL SPLICE IN CONTINUOUS REINFORCING: LAP BARS 50 DIA. OR 1'-0" MIN.

CONCRETE BLOCK MASONRY—

1. ALL VERTICAL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE FILLED WITH GROUT.
2. FILL CELLS IN CONCRETE BLOCK WALLS ABOVE GRADE AT 24" O.C. UNLESS SHOWN OTHERWISE.
3. VERTICAL BARS IN WALLS ARE TO BE PLACED IN CENTER OF WALL UNLESS SHOWN OTHERWISE.
4. ALL VERTICAL CELLS CONTAINING REINFORCEMENT ARE TO BE GROUTED SOLID IN LIFTS NOT EXCEEDING 5'-0" IN HEIGHT UNLESS SHOWN OTHERWISE.
5. PROVIDE INSPECTION AND CLEANOUT HOLES AT BASE OF VERTICAL CELL GROUT LIFTS WHICH ARE MORE THAN 4'-0" IN HEIGHT.
6. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE POUR OF GROUT 1½" BELOW THE TOP OF THE UPPERMOST UNIT.
7. FILL ALL CELLS SOLID IN LINTELS FROM SOFFIT TO FLOOR LEVEL OR ROOF LEVEL ABOVE AND FOR FULL WIDTH OF OPENING.

40701

3-30-65	Add Weir Box North End of Maintenance Area	2	
2-2-65	Revisions	1	
DATE	DESCRIPTION	NO	

MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

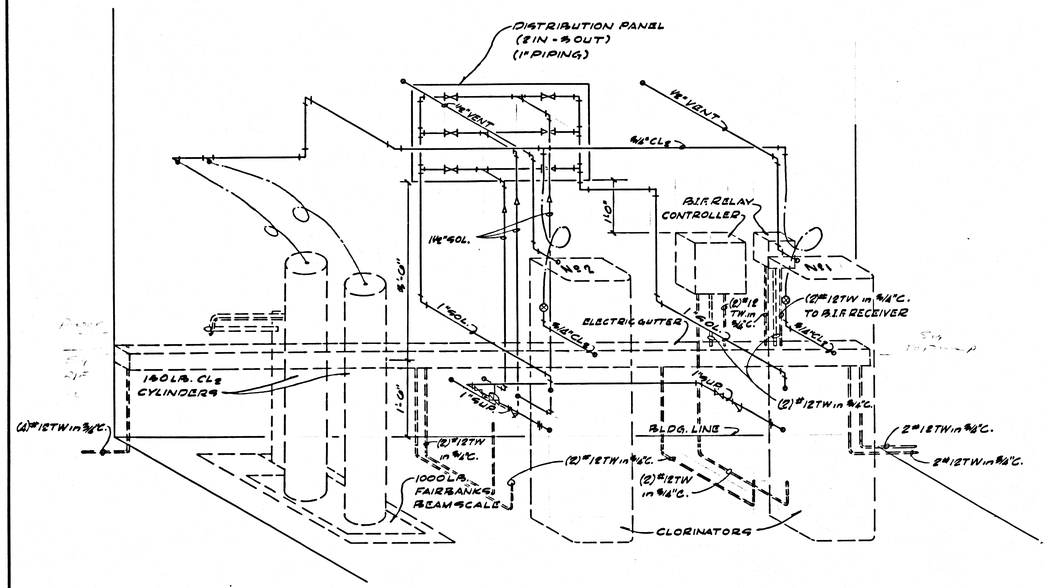
CONTROL BUILDING - EQUIPMENT & PIPING MECHANICAL - ARCHITECTURAL

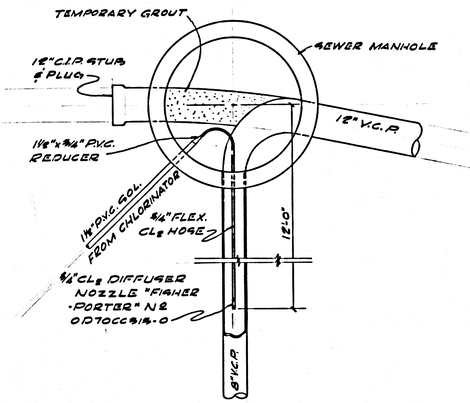
SCALE: AS SHOWN
DATE: JUNE 1965

BOYLE ENGINEERING
SAN DIEGO — SANTA ANA
Lawrence Hunt
R.C.E. 12995

SHEET NO. 10 OF 17 SHTS.
BEWO 7102

40702



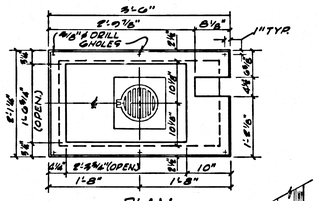


D/11 DIFFUSER DETAIL
1½" = 1'-0"

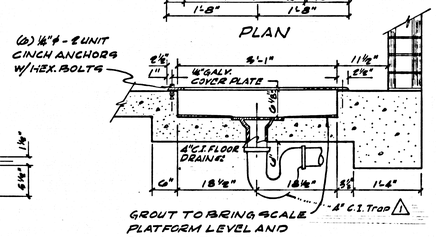
A/11 ·ELECTRICAL·AND·PIPING·SCHEMATIC·LAYOUT·CHLORINATION·ROOM·
ISOMETRIC SCALE: ¾" = 1'-0"

·PIPE·FITTING·SYMBOLS·

PIPING TO BE INSTALLED	
90° BEND	
TEE	
UNION	
GATE VALVE	
SOLENOID VALVE 1", WALLACE & TIERNAN TYPE A-302	
WALL OPENING OR CONNECTION	
"Y" STRAINER (BRASS)	
FLEXIBLE CHLORINE CONNECTORS	
1½" x 1" REDUCER	



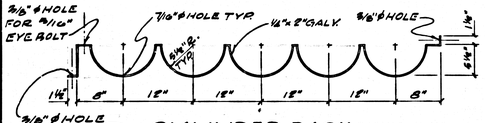
PLAN



GROUT TO BRING SCALE PLATFORM LEVEL AND FLUSH WITH FLOOR

& SECTION

C/11 COVER PLATE
¾" = 1'-0"



B/11 CYLINDER RACK
1" = 1'-0"

NO.	DESCRIPTION	DATE
1	Added 4" C.I. Trap at Floor Drain	10-25-65

MULWOOD CORPORATION
ENCINO, CALIFORNIA

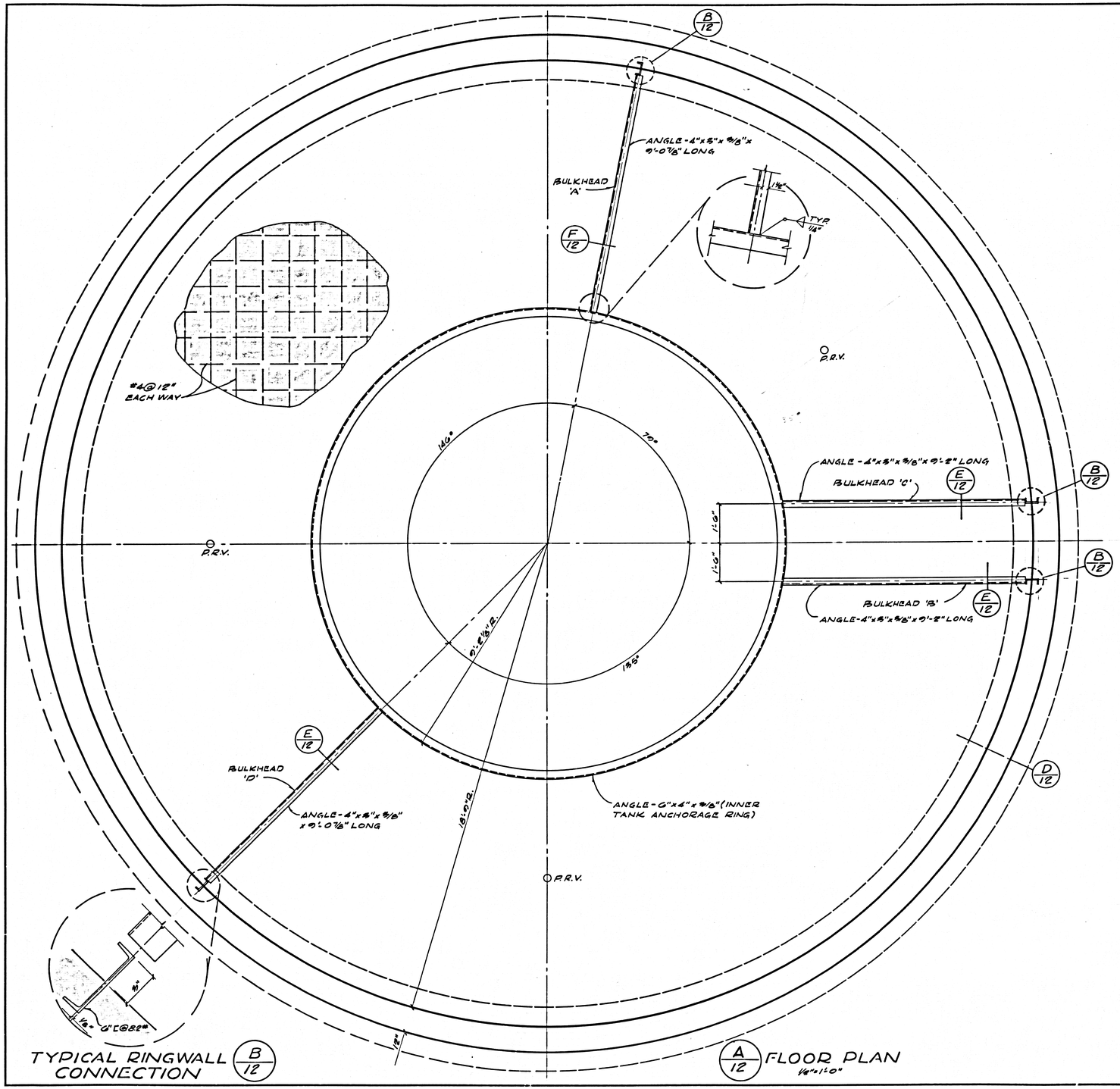
WATER RECLAMATION PLANT

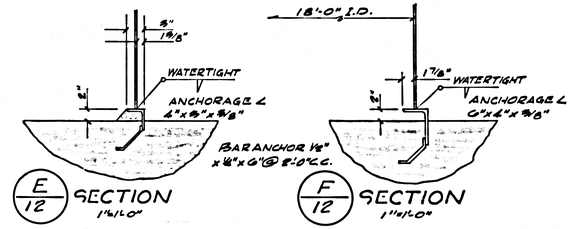
CHLORINATION EQUIPMENT & PIPING
MECHANICAL-ELECTRICAL

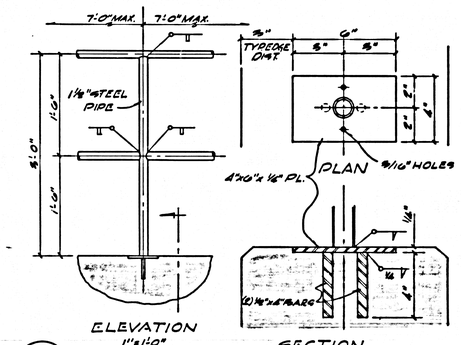
SCALE: As shown
BOYLE ENGINEERING SAN DIEGO – SANTA ANA
R.C.E. 12994
SHEET NO. 11 OF 17 SHTS.
DATE: JUNE 1965
BEWO 7002

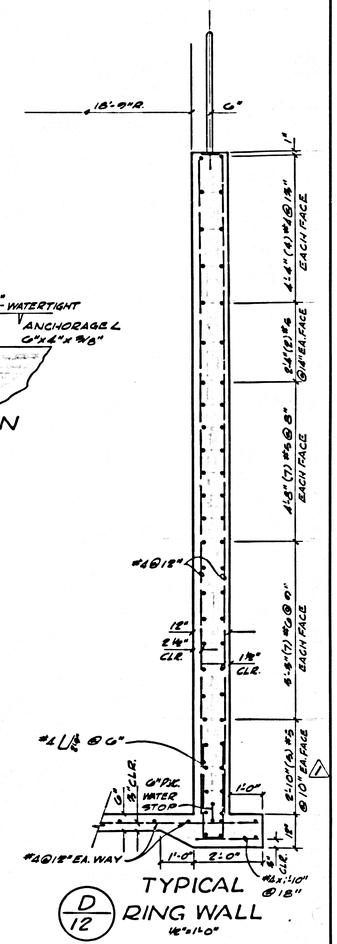
1A-3

40703









STRUCTURAL NOTES:

1. TYP. SPLICE IN CONT. REINF. LAP 40 BAR DIA. OR 1'-6" MIN.
2. CHAMFER ALL EXPOSED EDGES 1"x 45°
3. ALL REINF. STEEL, ANCHOR BOLTS, DOWELS & INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
4. IF THE CONTRACTOR DESIRES TO MAKE ANY CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS, HE SHALL SUBMIT DETAILS OF SAME TO THE ENGINEER FOR APPROVAL BEFORE STARTING WORK.
5. CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH IN 28 DAYS OF: 3000 P.S.I.

No	Description	Date
1	Change Size & Location of Reinforcing Steel	9-30-63
	REVISIONS	

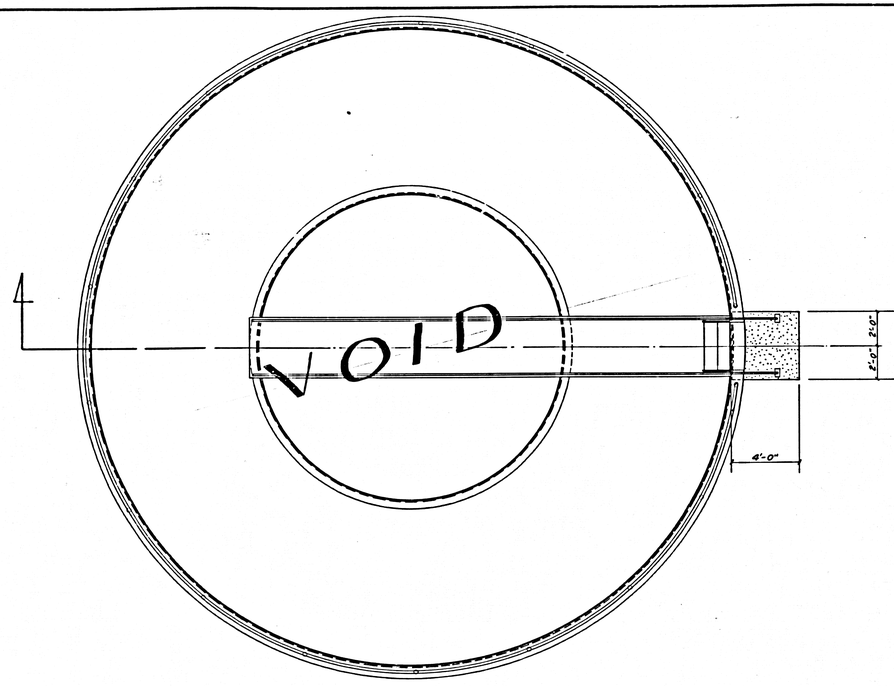
MULWOOD CORPORATION
ENCINO, CALIFORNIA

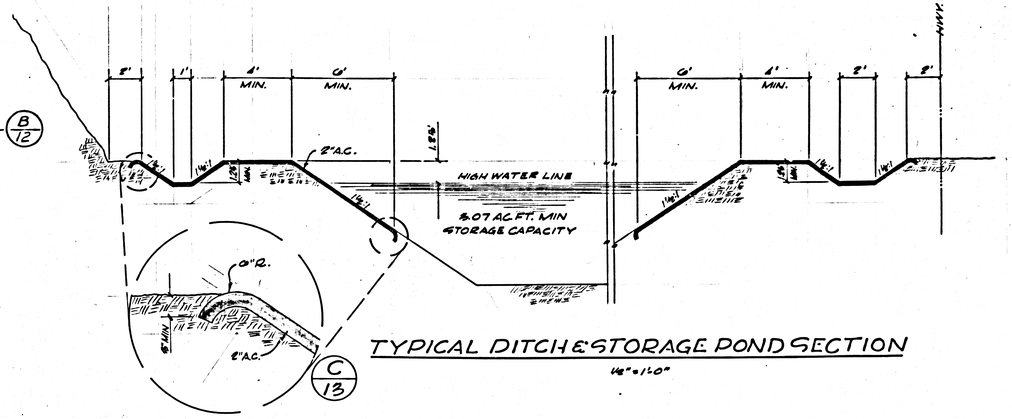
WATER RECLAMATION PLANT

CONTACT STABILIZATION UNIT STRUCTURAL

SCALE: AS SHOWN
DATE: JUNE 1962
BOYLE ENGINEERING SAN DIEGO – SANTA ANA
R.C.E. 12596
SHEET NO. 12 OF 17 SHTS.
BEWO 7002

40704



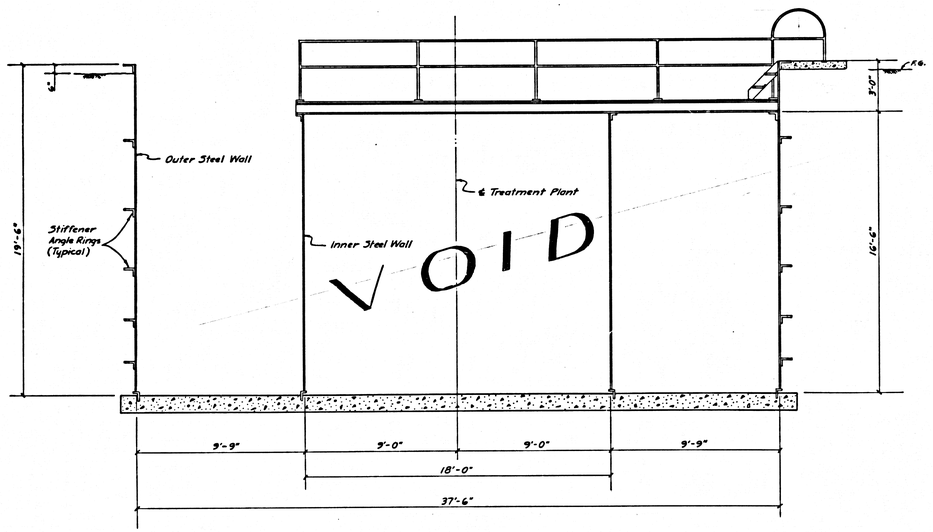


TYPICAL DITCH & STORAGE POND SECTION

1/8" = 1'-0"

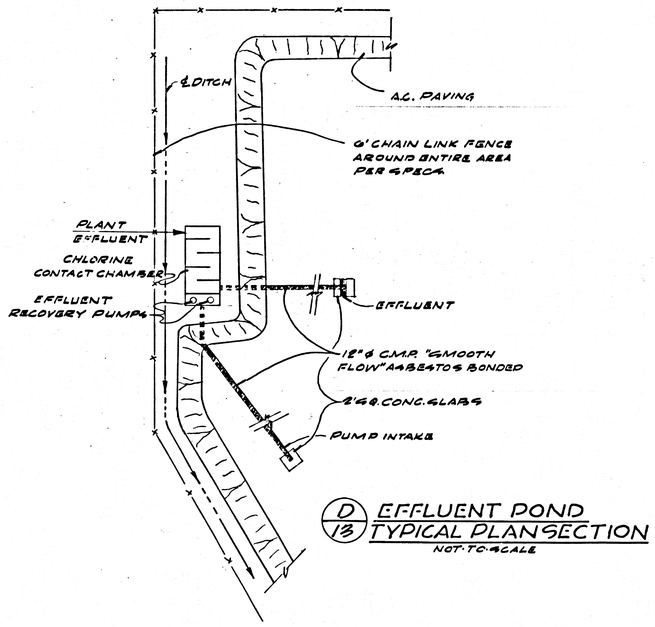
△ A/13 PLAN

Scale: 1/8" = 1'-0"



△ B/13 ALTERNATE "A" SECTION

Scale: 1/8" = 1'-0"



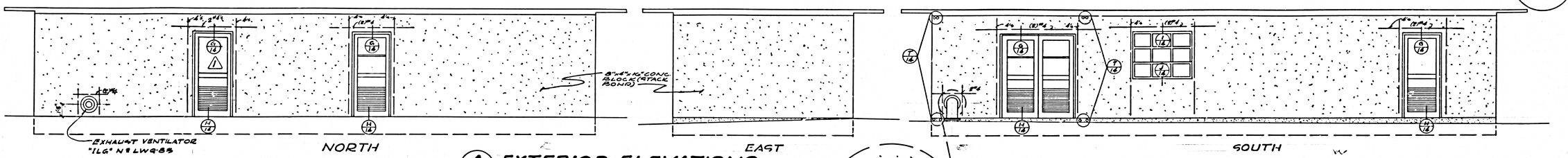
D/13 EFFLUENT POND TYPICAL PLAN SECTION

NOT TO SCALE

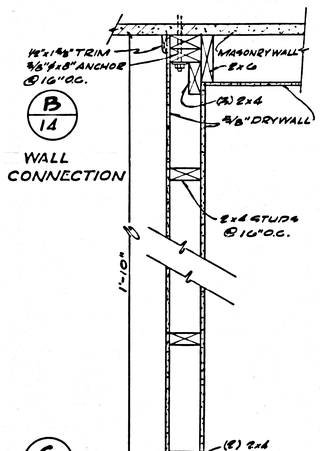
9-30-65		MULWOOD CORPORATION ENCINO, CALIFORNIA
12-15		WATER RECLAMATION PLANT
1-10-0 Alternate "A"		ALTERNATE "A" OUTER STEEL TANK STRUCTURAL & STORAGE POND DETAILS
No. Description	REVISION	SCALE: AS SHOWN; BOYLE ENGINEERING SAN DIEGO – SANTA ANA; SHEET NO. 13 OF 17 SHTS.
		DATE: JUNE 1965; R.C.E. 15994; BEWO 7002

Alternate "A" - Outer Steel Tank 1A-

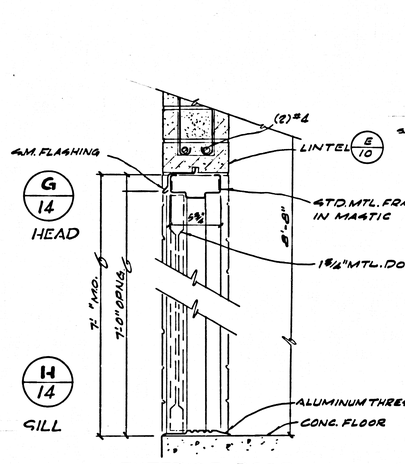
40705



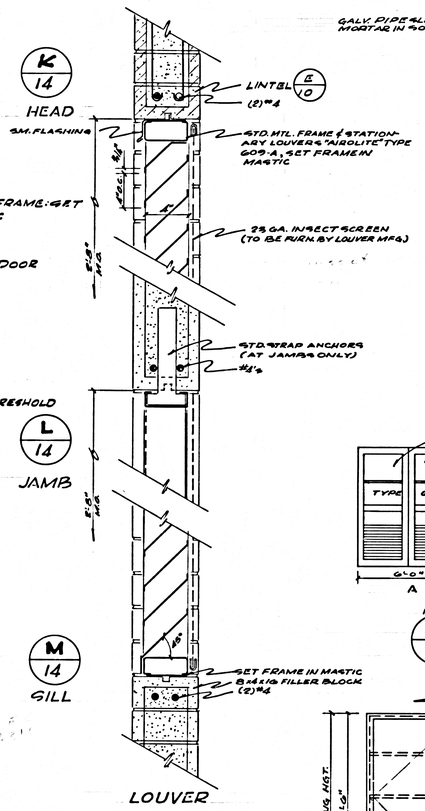
A/14 **EXTERIOR ELEVATIONS**
1/4"=1'-0"



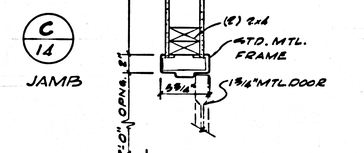
B/14 WALL CONNECTION



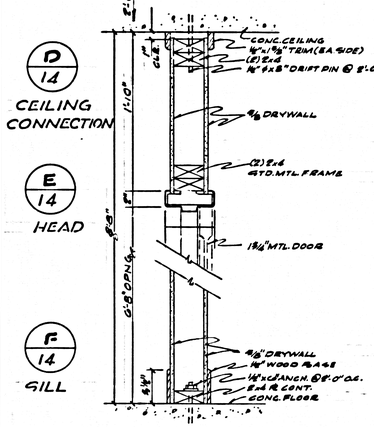
G/14 HEAD
H/14 SILL
EXTERIOR DOOR



K/14 HEAD
L/14 JAMB

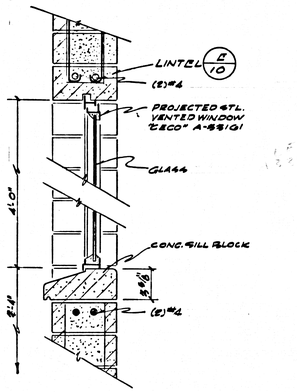


C/14 JAMB



D/14 CEILING CONNECTION
E/14 HEAD
F/14 SILL

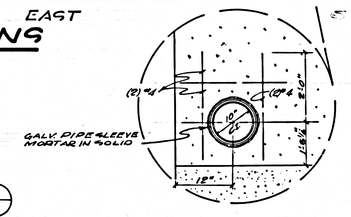
4" INTERIOR WALL

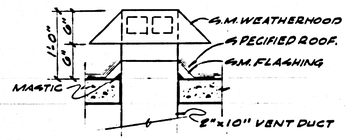


I/14 HEAD
J/14 SILL
M/14 SILL

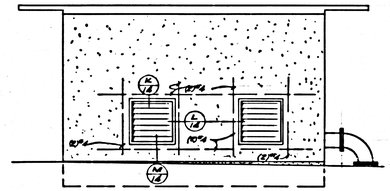
WINDOW

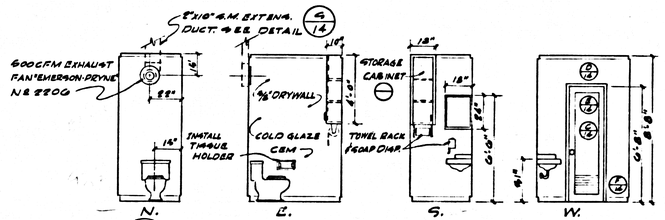
TYPICAL SECTIONS
1 1/2"=1'-0"



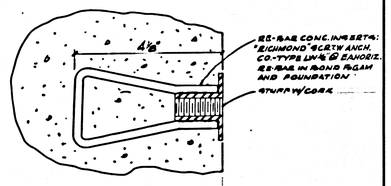


S/14 **FLASHING DETAIL**
1"=1'-0"

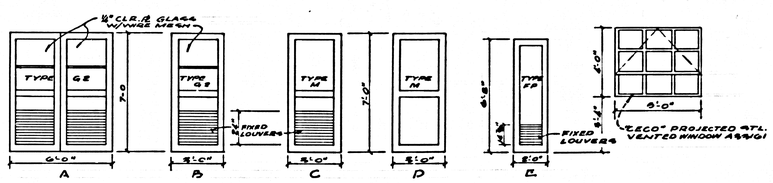




N/14 **INTERIOR ELEVATIONS · TOILET RM. ·**
1/4"=1'-0"

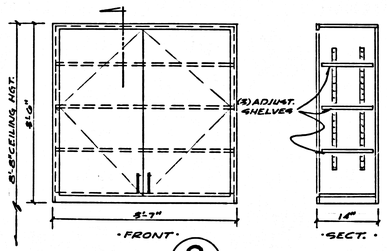


T/14 **RE-BAR ATTACHMENT FOR FUTURE ADDITION**

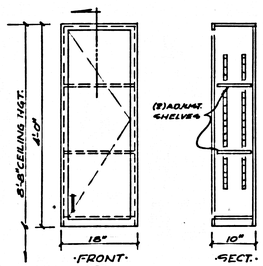


NOTE: DOORS 'A','B','C' & 'D' SHALL BE "TRUCON" SERIES 61. DOOR 'B' SHALL BE "TRU-CON" SERIES 67

P/14 **DOOR & WINDOW SCHEDULE**
1/4"=1'-0"



Q/14 OFFICE



R/14 TOILET RM.

CABINET DETAILS
3/4"=1'-0"

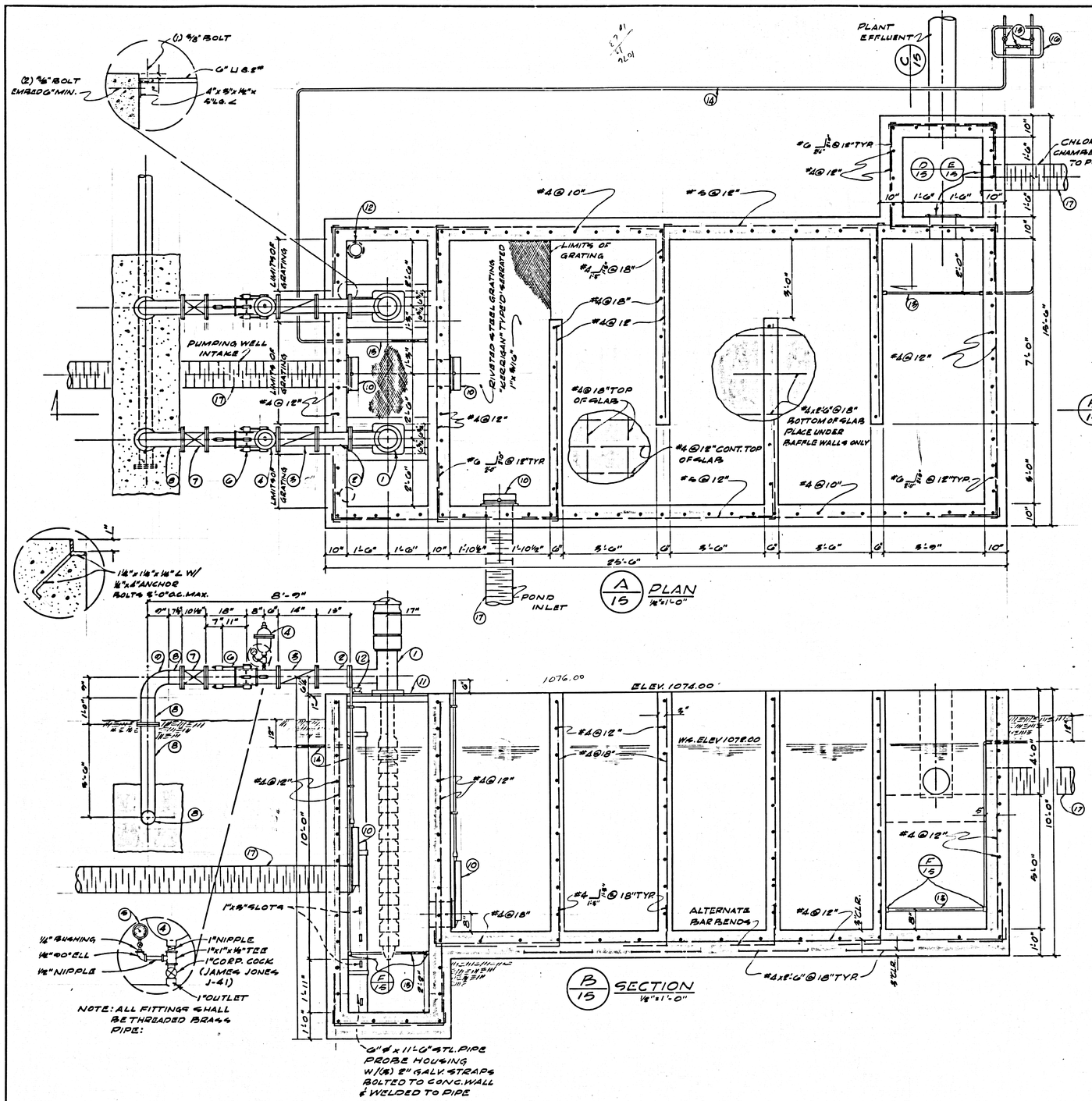
	9-30-64	Date
1st Dept. Wkl. North End Mechanical Area		
1/8 Dept.		REVISIONS

MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

CONTROL BUILDING
ARCHITECTURAL DETAILS

SCALE: AS SHOWN	BOYLE ENGINEERING SAN DIEGO – SANTA ANA	SHEET NO. 14 OF 175 SHTS.
DATE: JUNE 1964	R.C.E. 11994	BEWO 7002



SCHEDULE

1. VERTICAL TURBINE PUMPS: 7.5 H.P. ELECTRIC MOTOR
2. 6" STEEL SPOOL, SCH. 40
3. 6" CHECK VALVE, RENSSELAER LIGHT 440
4. 1" AIR RELEASE VALVE, APCO 200A, CAST IRON BODY, BRONZE TRIM, STAINLESS STEEL FLOAT, 5/32 ORFICE
5. 4½" PRESSURE GUAGE W/COCK, MARSH STD. TYPE I, 0-800 PSI
6. 6" HARNESS COUPLING, BAKER SERIES 418
7. 6" PLUG VALVE, 150# W-K-M TYPE EC
8. 6" SCH. 40 STEEL PIPE
9. 6" LONG RADIUS 90° BEND, TUBE TURN
10. 18" GLIDE GATE VALVE, ARMCO MODEL 80-10C W/ NON-PROJECTING STEM EXTENSION & STEM GUIDES
11. STEEL GRATING, 1" x ⅜" GALV., IRVING TYPE Q.
12. PROBOTROL, AUTOCON BULLETIN 4100
    - PROBE N21 = HIGH WATER ALARM ELEV. 1078.50
    - N22 = START PUMP ELEV. 1071.75
    - N23 = STOP PUMP ELEV. 1069.75
    - N24 = GROUND ELEV. 1062.50
13. CL2 DIFFUSOR, SCH. 80 P.V.C. 1½"
14. SCHEDULE 40 P.V.C. 1½"
15. SOLUTION CONTROL VALVE 1½", WEST
16. BROOKS METER BOX N287
17. "SMOOTH FLOW" ARRESTOR BONDED 12" CORRUGATED METAL PIPE

MULWOOD CORPORATION
ENCINO, CALIFORNIA

WATER RECLAMATION PLANT

CHLORINATION CHAMBER & EFFLUENT RECOVERY PUMPS STRUCTURAL & MECHANICAL

SCALE: AS SHOWN	BOYLE ENGINEERING SAN DIEGO – SANTA ANA	SHEET NO. 15 OF 17 SHTS.
DATE: JUNE 1968	Lawrence Shack R.C.E. 13994	BEWO 7002

1A-3

Chlorination Chamber and Effluent Recovery Pumps

LEGEND

SYMBOL	DESCRIPTION
⊖	LIGHTING OUTLET W/FIXTURE
$	SINGLE POLE SWITCH - 20A
$WP	SINGLE POLE SWITCH - 20A (WEATHER-PROOF LOCK TYPE)
----	WIRING RUN - POWER (IN FLOORS/WALLS)
———	WIRING RUN - LIGHTING (IN CEILING)
⊖	DUPLEX RECEPT. - CONVENIENCE OUTLET (GROUND STYLE)
(A)	FIXTURE DESIGNATION: RLM INDUSTRIAL (200 WATTS)
(B)	FIXTURE DESIGNATION: VAPOR-PROOF (200 WATTS)
$3W	TWO WAY SWITCH - 20A

EQUIPTMENT SCHEDULE

NO	DESCRIPTION
① ②	METER & MAIN BREAKER SECTIONS
③	MOTOR CONTROL SECTION
④	R-H RECEIVER
⑤	MAIN BREAKER & DISTRIBUTION PANEL - NQOB-12-B2B 'SQUARE D'
⑥	120/240 V., 3 WIRE, 1 PH. 60 C. LIGHTING METER SOCKET PER S.C.E. REQUIREMENTS INCLUDING CT SECTION

LIGHTING PANEL SCHEDULE

1φ, 120/240 V.A.C. SW S/N

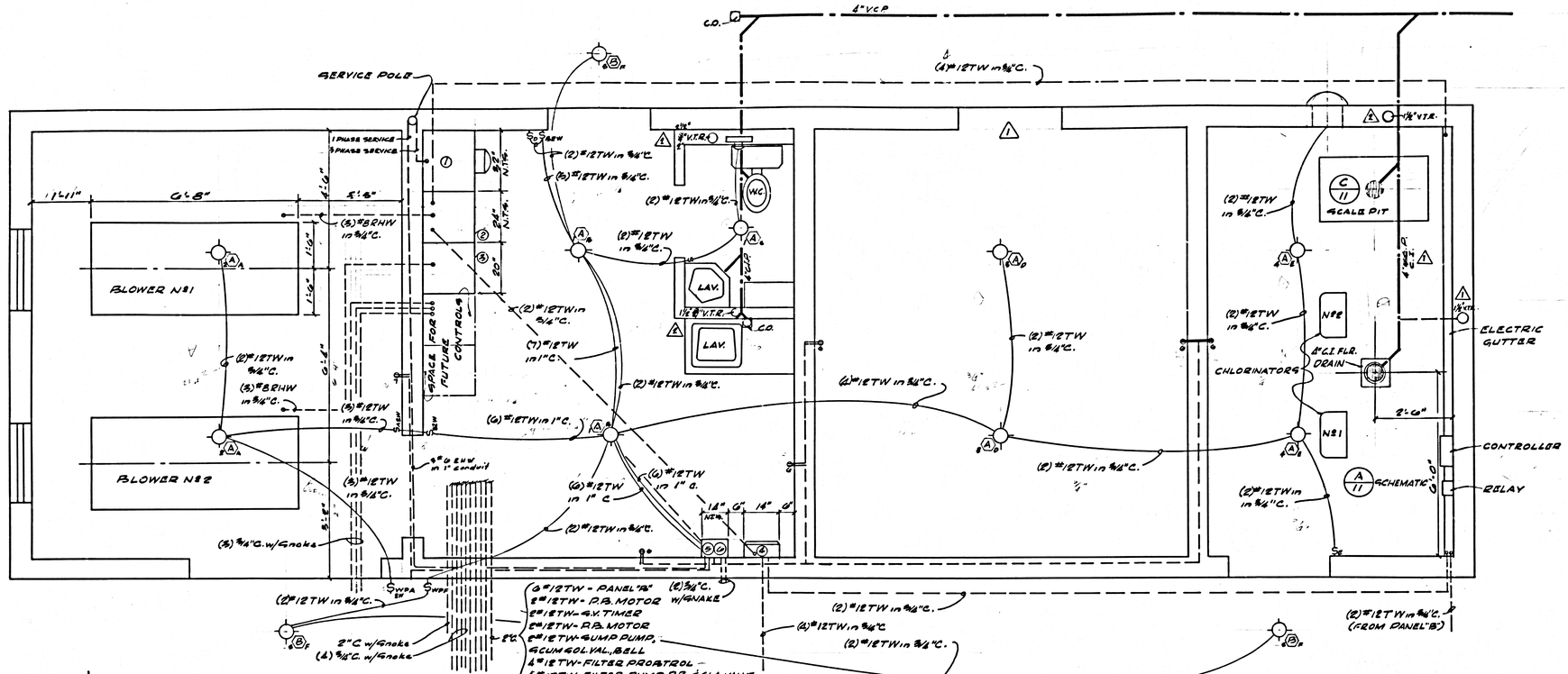
CIR. NO	CIR. BKR. AMP	CIR. BKR. POLE	OUTLET LTGS	OUTLET RECP	OUTLET MISC	LOAD WATTS L_1	LOAD WATTS L_2	DESCRIPTION
1	20	1	4		1	610		CONTROL & TOILET RM.
2	↓	↓	2				400	BLOWER ROOM
3			2			400		MAINTANCE AREA
4			5		1		410	CHLORINATION ROOM & EXHAUST FAN
5			3			600		OUTSIDE
6	↑	↑		3			1000	CONVENIENCE OUTLETS
7	20	1		1		800		CONVENIENCE OUTLETS
8TO 18								SPACES
		TOTAL				1810	1810	= 3620 ÷ 240V. = 15.1A

40707

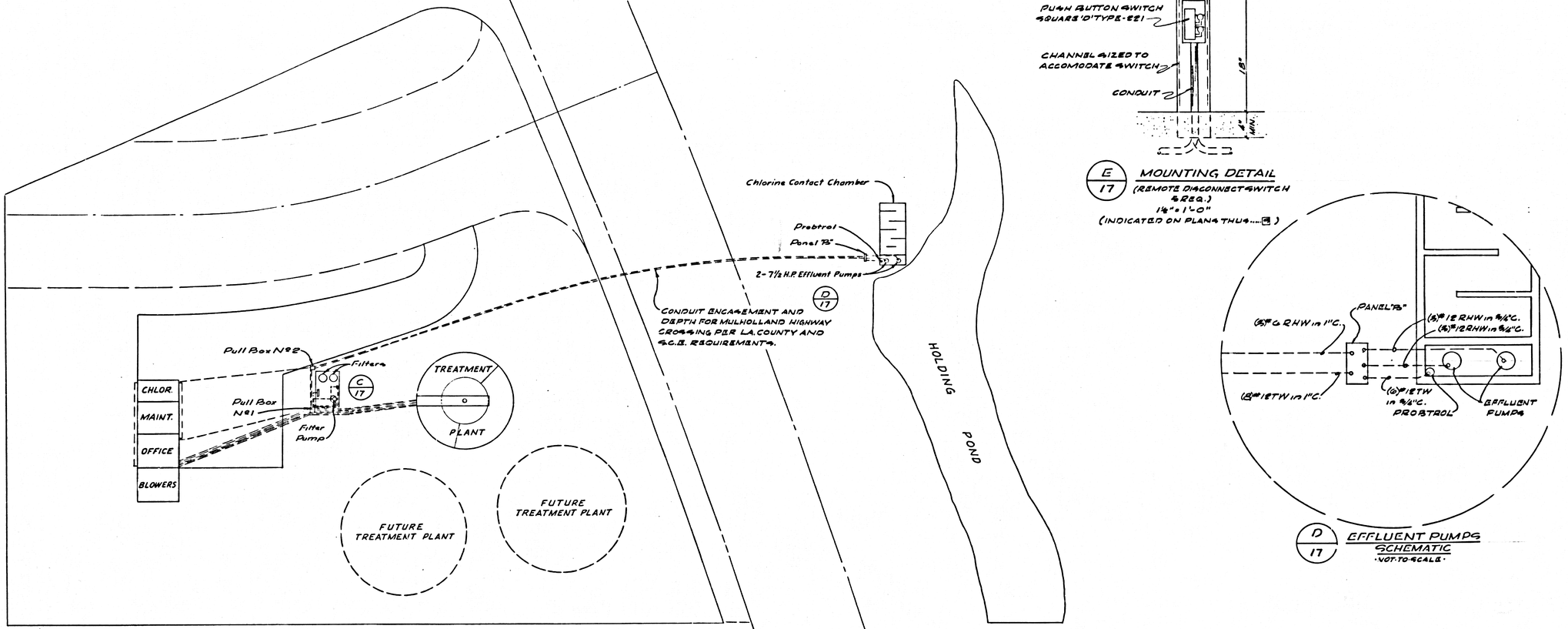
NOTES:
1. ALL 120V CIRCUITS SHALL HAVE #12, AWG, TW in ¾" CONDUIT UNLESS OTHERWISE NOTED
2. WIRING RUNS ARE DRAWN SCHEMATIC, BUT SHALL BE INSTALLED AS SHORT DIRECT RUNS WHERE POSSIBLE.
3. SNAKES SHALL BE #12 TW PULL WIRE.

ELECTRICAL AND PLUMBING PLAN

1/2" = 1'-0"


C.O.
4" VCP
SERVICE POLE
1 PHASE SERVICE
3 PHASE SERVICE
(4) #12TW in ¾"C.
(2) #12TW in ¾"C.
(5) #8RHW in ¾"C.
BLOWER NO 1
BLOWER NO 2
(6) #12TW in ¾"C.
(5) #8RHW in ¾"C.
(6) #12TW in ¾"C.
(6) #12TW in 1" C.
(2) #12TW in ¾"C.
(5) ¾"C. w/Snake
5" DIA. in 1' conduit
SPACE FOR FUTURE CONTROLS
(2) #12TW in ¾"C.
(2) #12TW in ¾"C.
(2) #12TW in ¾"C.
(1) #12TW in 1"C.
(2) #12TW in ¾"C.
(6) #12TW in 1" C.
(2) #12TW in ¾"C.
(2) #12TW in ¾"C.
(2) #12TW in ¾"

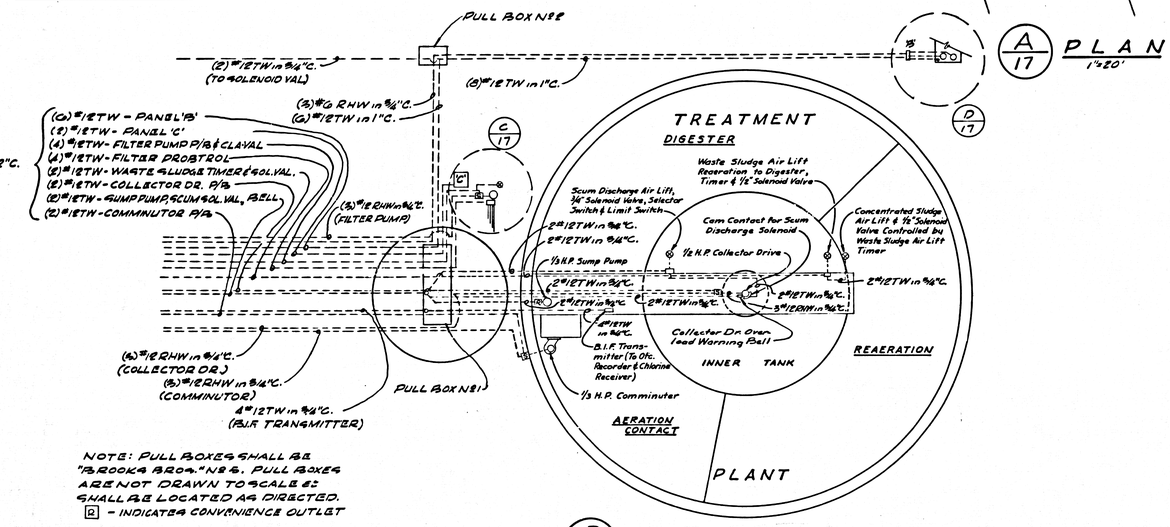
40708



A 17 PLAN 1"=20'

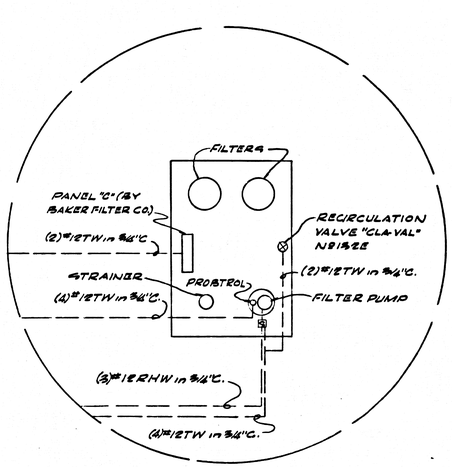
E 17 MOUNTING DETAIL
(REMOTE DISCONNECT SWITCH SIZE REQ.)
1¼"=1'-0"
(INDICATED ON PLANS THUS....[E])

D 17 EFFLUENT PUMPS SCHEMATIC
·NOT TO SCALE·



NOTE: PULL BOXES SHALL BE "BROOKS BROOKS" N°6. PULL BOXES ARE NOT DRAWN TO SCALE & SHALL BE LOCATED AS DIRECTED.
[D] - INDICATES CONVENIENCE OUTLET

B 17 TANK SCHEMATIC
·NOT TO SCALE·

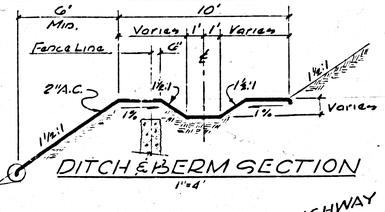


C 17 PRESSURE FILTERS SCHEMATIC
·NOT TO SCALE·

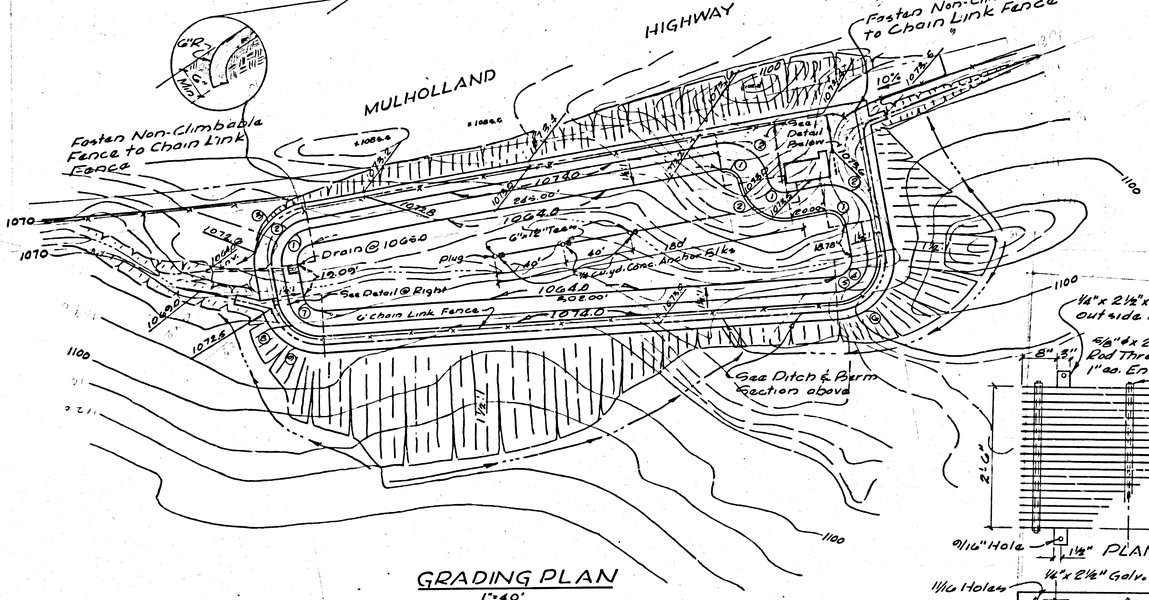
MULWOOD CORPORATION ENCINO, CALIFORNIA	
WATER RECLAMATION PLANT	
ELECTRICAL PLOT PLAN	
SCALE: AS SHOWN	BOYLE ENGINEERING SAN DIEGO – SANTA ANA
DATE: JUNE 1964	R.C.E. 12994
SHEET NO. 17 OF 17 SHTS.	
BEWO 7002	

40709

Curves:
① Δ= 90°00'00" R=10' L=15.71'
② Δ= 90°00'00" R=26' L=40.84'
③ Δ= 70°00'00" R=36' L=54.98'
④ Δ= 70°46'46" R=10' L=12.80'
⑤ Δ= 70°46'46" R=26' L=32.15'
⑥ Δ= 70°46'46" R=56' L=69.01'
⑦ Δ= 85°24'10" R=10' L=14.92'
⑧ Δ= 85°24'10" R=28' L=40.80'
⑨ Δ= 85°24'10" R=56' L=80.95'

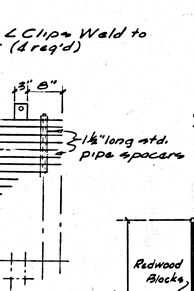


DITCH & BERM SECTION
1"=4'

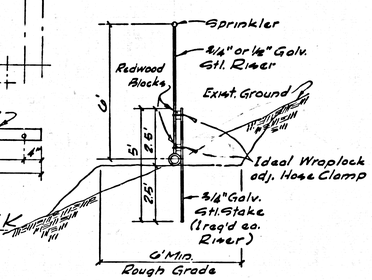


GRADING PLAN
1"=40'

DETAIL
1"=10'

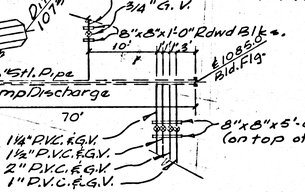


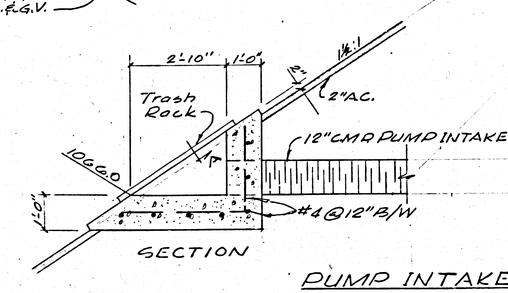
RACK BAR



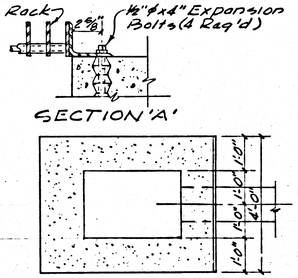
TRASH RACK
·NOT·TO·SCALE·

TYPICAL SPRINKLER SECTION
·NOT·TO·SCALE·





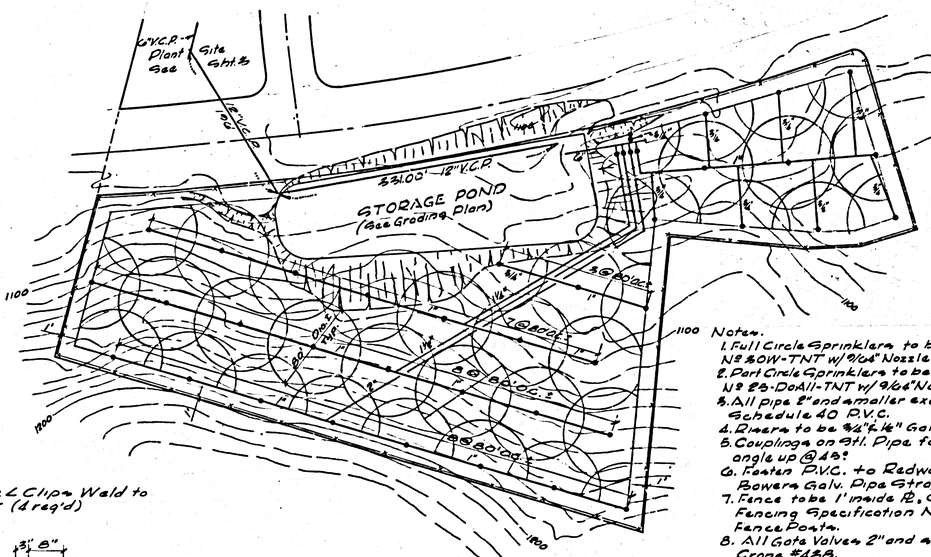
SECTION



SECTION 'A'

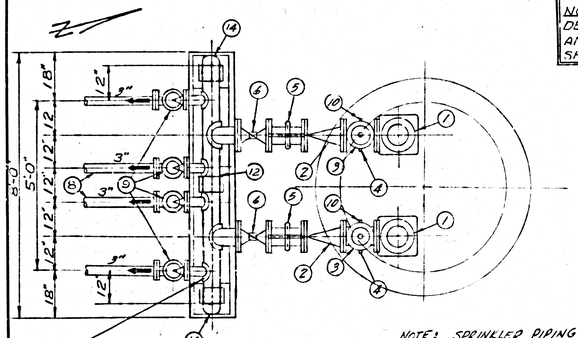
PLAN

PUMP INTAKE BOX
½"=1'-0"

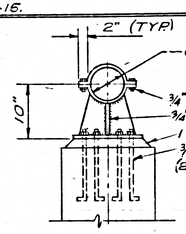

6" Y.C.P. Plant Site See Sht 8
12" V.C.P.
±3100' 12" V.C.P.
STORAGE POND (See Grading Plan)
1100
1100
1100

40710

NOTE: PUMP MOUNTING AND PUMP DISCHARGE PIPING DETAILS SHOWN AT LEFT SUPERCEDE PUMP MOUNTING AND PUMP DISCHARGE PIPING DETAILS AS SHOWN ON SHEET-16.



NOTE: WELD REINFORCING RS ON MANIFOLD AT ALL NOZZLES.

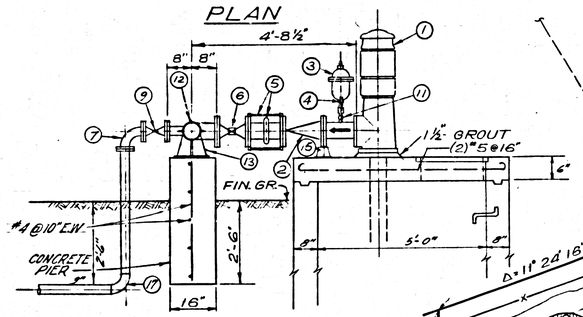


NOTE: FABRICATE SUPPORT FROM ¾" STL. PL. GALVANIZE AFTER FABRICATION.

NOTE: SPRINKLER PIPING DETAILS SUPERCEDES SHEETS 17-A AND 18.

DETAIL (13) PIPE SUPPORT
1"=1'-0"
(3 REQUIRED)

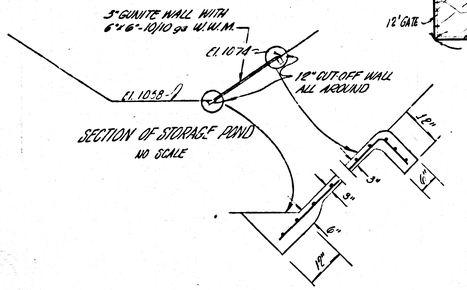
PLAN
4'-8½"



ELEVATION
½"=1'-0"

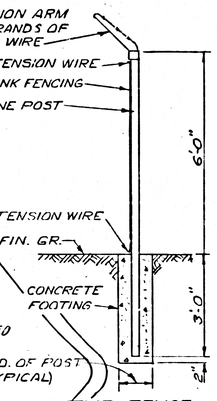
SCHEDULE

1. VERTICAL TURBINE PUMP & MOTOR.
2. 6" CHECK VALVE, RENNSALAER LIST 340.
3. 1" AIR RELEASE VALVE, APCO 200-A.
4. 3½" Ø PRESSURE GAGE W/COCK, MARSH STANDARD TYPE 1, 0-300 PSI.
5. 6" VICTAULIC COUPLING W/HARNESS.
6. 6" PLUG VALVE, 150# W-K-M TYPE EC.
7. 3" SCH. 40, 90° BEND W/ SLIP ON FLANGE.
8. 3" SCH. 40 STEEL PIPE.
9. GATE VALVE, MUELLER A-2380-6
10. ¾" HOSE BIBB.
11. 1" CORP STOP.
12. 6" SCH. 40 STL. PIPE MANIFOLD W/3" FLG'D NOZZLES.
13. GALV. STL. PIPE SUPPORT (SEE DET. THIS SH.)
14. 6" WELDED STL. CAP.
15. 6" PIPE SUPPORT
16. PROBETROL AUTOCON BULLETIN 4100 (SEE SHT. 15).
17. 3" SCH. 40, 90° BEND.



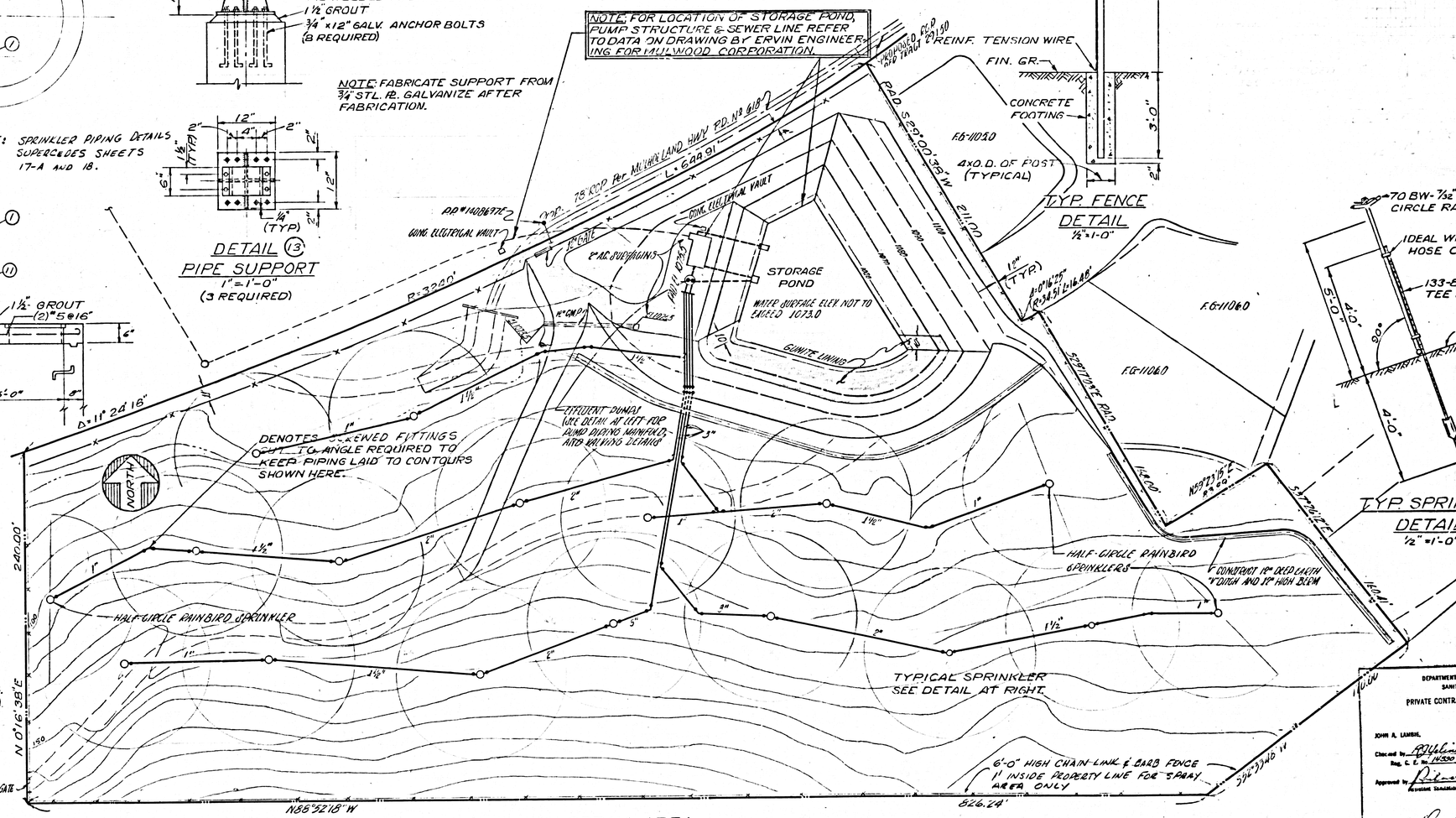
SECTION OF STORAGE POND
NO SCALE

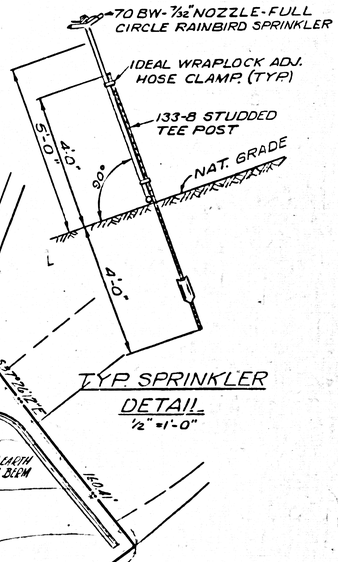
NOTE: USE 3"Ø POSTS AT CORNERS. USE 4"Ø POSTS AT GATES. INSTALL HORIZONTAL BRACE & TRUSS ROD AT CORNERS & GATES.



TYP FENCE DETAIL
½"=1'-0"

NOTE: FOR LOCATION OF STORAGE POND, PUMP STRUCTURE & SEWER LINE REFER TO DATA ON DRAWING BY ERVIN ENGINEERING FOR MULWOOD CORPORATION.





TYP SPRINKLER DETAIL
½"=1'-0"

SPRAY AREA
1"=40'-0"

NOTES:

1. BEFORE FINAL ACCEPTANCE IS MADE, THE DESIGN DIVISION OF LOS ANGELES CO. ENGINEER MUST BE CONTACTED FOR DRAINAGE APPROVAL. MA 9-4747 EXT. 8357
2. BEFORE FINAL ACCEPTANCE IS MADE, THE GRADING SECTION OF THE DEPT. OF BUILDING AND SAFETY LOS ANGELES CO. ENGINEER MUST BE CONTACTED FOR GRADING APPROVAL.
3. ALL EFFLUENT DISCHARGED SHALL BE RETAINED ON PROPERTY AT ALL TIMES.
4. ELECTRICAL PERMIT REQUIRED.
5. ALL SPRAY IRRIGATION PIPING CROSSING FIRE ROAD TO BE INSTALLED UNDERGROUND WITH 30" COVER.
6. PROVIDE COVER OVER IRRIGATION LINES IN PAVED AREA AT CONTACT CHAMBER.
7. SIGNS SHALL BE PREPARED AND SECURED PERMANENTLY TO THE EFFLUENT PIPING INSTALLED ABOVE GROUND AND HOSE BIBS. EACH SIGN SHALL READ AS FOLLOWS:
   LINE 1 - "SEWAGE EFFLUENT" - LETTERS 1 INCH HIGH
   LINE 2 - "FOR IRRIGATION ONLY" - LETTERS ¾ INCH HIGH
   LINE 3 - "DO NOT DRINK" - LETTERS ½ INCH HIGH
   LINE 4 - "DO NOT INTERCONNECT" - LETTERS ½ INCH HIGH
   THE LETTERS SHALL BE EVENLY SPACED CAPITAL BLOCK LETTERS AND THE WORDS SHALL BE CENTERED ON A MINIMUM 5 INCH BY 12" SIZE, 10 GA. STEEL SIGN. THE LETTERS SHALL BE BLACK AGAINST A YELLOW BACKGROUND OF BAKED ENAMEL. THE SIGNS SHALL BE WEATHERPROOF FOR OUTDOOR USE.
8. SIGNS SHALL BE INSTALLED ON FENCE OF SPRAY AREA IRRIGATION SITE AND PLACED AT APPROXIMATELY 100 FT. INTERVALS AROUND ENTIRE PERIMETER AND READ AS FOLLOWS:
   LINE 1 - "WARNING" - LETTERS 3 INCHES HIGH
   LINE 2 - "THIS AREA IRRIGATED" - LETTERS 2 INCHES HIGH
   LINE 3 - "WITH RECLAIMED WATER" - LETTERS 2 INCHES HIGH
   LINE 4 - "AVOID CONTACT" - LETTERS 2 INCHES HIGH
   THE LETTERS SHALL BE EVENLY SPACED CAPITAL BLOCK LETTERS AND THE WORDS SHALL BE CENTERED ON A MINIMUM 12 INCH BY 18 INCH SIZE 10 GA. STEEL SIGN. THE LETTERS SHALL BE BLACK AGAINST A YELLOW BACKGROUND OF BAKED ENAMEL. THE SIGN SHALL BE WEATHERPROOF FOR OUTDOOR USE.

REVISIONS	CHKD BY	DATE
REVISED WATER SURFACE ELEV. FROM 1072.0 TO 1073.0	CONSTRUCTION CHANGE	10-27-64
REVISED DETAILS AT AC BUILT	CONSTRUCTION CHANGE	10-28-64

DEPARTMENT OF COUNTY ENGINEER
SANITATION DIVISION
PRIVATE CONTRACT NO. 6556-C

JOHN A. LAMBIE, COUNTY ENGINEER
Checked by: Roy Lind's Date: 10/26/64
Reg. C. E. No. 14300
Approved by: R. J. Klein Date: 10-28-64
Assistant Sanitation Engineer
Approved by: R. V. Scuggs Date: 10/28/64
LOS ANGELES COUNTY HEALTH DEPT.

MULWOOD CORPORATION
ENCINO, CALIFORNIA
WATER RECLAMATION PLANT
SPRINKLER PIPING DETAILS SPRAY AREA

SCALE:	BOYLE ENGINEERING	SHEET NO.
AS SHOWN	SAN DIEGO • VENTURA • SANTA ANA	18-A OF SHTS
DATE: 6-23-64	Lawrence Hirsch RCE 12994	BEWO 7002

EXHIBIT 110-14