

MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE									
NUMBER	EQUIPMENT	SIZE	VOLT & #	LOCA.	CONTROL	CONT. LOCA.	STARTER SIZE	STARTER LOCA.	DISC SIZE & TYPE
135	EXIST. MULTITHERN HTG. UNIT	1-1/2	460-3	DIGESTER BLDG.	EXIST. (22)	MCC	1	MCC	EXIST.
136	EXIST. EXHAUSTER	1	460-3	DIGESTER BLDG.	EXIST. (22)	MCC	1	MCC	EXIST.
137	EXIST. SEWAGE PUMP #1	15	460-3	PUMP STATION	EXIST. (26)	DCC#3	2	DCC#3	-
138	EXIST. SEWAGE PUMP #2	15	460-3	PUMP STATION	EXIST. (26)	DCC#3	2	DCC#3	-
139	EXIST. SEWAGE PUMP #3	15	460-3	PUMP STATION	EXIST. (26)	DCC#3	2	DCC#3	-
140	EXIST. SEWAGE PUMP #4	25	460-3	PUMP STATION	EXIST. (26)	DCC#3	2	DCC#3	-
141	EXIST. BARMINUTOR	1-1/2	460-3	BARMINUTOR BLDG.	EXIST. (27)	BARMIN-UTOR BLDG.	1	BARMINUTOR BLDG.	EXIST.
142	EXIST. SUMP PUMP	1/2	120-1	DIGESTER BLDG.	FLOAT SW. (22)	AT UNIT	NONE	-	-
143	EXIST. VACUUM PUMP	3/4	460-3	CONTROL BLDG.	EXIST. (22)	AT UNIT	1	AT UNIT	30A-3P-NF
144	EXHAUST FAN E-7	1/4	120-1	BLOWER BLDG.	M.S. AND P. (35)	DCC#2	NONE	-	TOGGLE SW.
145	BY PASS VALVE OPERATOR	1/4	460-3	BY PASS STRUCTURE	BUBBLER	DCC#3	0	DCC#3	30A, 3P, NF
146	POLYMER FEEDER PUMP #2 (17)	1	460-3	BLOWER BLDG.	FLOW METER (19)	DCC#2	SEE JMT 72	DCC#2	-

* ALL STARTERS, DISCONNECT SWITCHES, REMOTE STOP START STATIONS AND HOA SHALL BE LABELED AS DESCRIBED UNDER "EQUIPMENT" COLUMN OF THE SCHEDULE. LABELING SHALL BE ENGRAVED LAMINATED PLASTIC AND ATTACHED WITH SCREWS.

- MOTOR NOTES**
- THE BRIDGE DRIVE SHALL BE CONTROLLED BY BUBBLER FOR BYPASS STRUCTURE. PROVIDE REMOTE HAND-OFF-AUTO SELECTOR SWITCH LOCATED AT GRIT BLDG. THE "OFF" POSITION OF SWITCH SHALL BE LABELED "WINTER" IN ADDITION TO "OFF". CONTROL WIRING AT BRIDGE IS TO BE SUPPLIED BY MFR. AND SHALL BE INSULATED FLEXIBLE ELECTRIC CABLE. BRIDGE DRIVE AND CONTROLS WILL BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.
 - CONTROLS FOR RAISING AND LOWERING SLUDGE SCRAPING FLIGHTS ARE TO BE SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL MAKE ALL FIELD CONNECTIONS INCLUDING POWER AND CONTROL WIRING.
 - THE MOTOR SHALL HAVE "HAND-OFF-AUTO" SELECTOR SWITCH WITH "OFF" POSITION BE LABELED "WINTER" IN ADDITION TO OFF. INTERLOCK OF THE UNIT SHALL BE ACCOMPLISHED THROUGH CONTACTOR CONTROLLING MOTOR #1.
 - POWER AND CONTROL CABLE IS TO BE SUPPLIED BY THE BRIDGE MANUFACTURER. THIS CABLE SHALL CONTAIN 3-#12 FOR BRIDGE DRIVE, HOIST DRUM AND REEL MOTOR.
 - START STOP STATIONS ARE TO BE REMOTELY LOCATED. SEE PLANS.
 - INSTALL REMOTE PILOT LIGHT AT CONTROL PANEL IN GRIT BUILDING.
 - CONTROL TO BE LOCATED AT TRUCK LEVEL AS SHOWN ON PLANS.
 - CONTROLS FOR DOOR ARE TO BE SUPPLIED BY MANUFACTURER BUT INSTALLED BY ELECTRICAL. ONE CONTROL WILL BE LOCATED OUTSIDE EASILY ACCESSIBLE TO TRUCK DRIVER AS SHOWN ON PLANS. VERIFY ROUGH IN BOX WITH DOOR MFR.
 - CONNECTION FROM SUMP PUMP MOTOR TO MOTOR DISCONNECT SWITCH SHALL BE SOLIDLY CONNECTED BY MEANS OF COMPRESSION FITTING ON CORD AT BOX. SEE DETAIL SHEET FOR LAYOUT.
 - REFER TO SPECIFICATION FOR CONTROL.
 - CONTROLS FOR COMPRESSOR AND HEATING EQUIPMENT ARE TO BE SUPPLIED AND INSTALLED AS AN INTEGRAL PART OF THE UNIT BY THE MANUFACTURER. INSTALL AND CONNECT TO REMOTE PILOT LIGHTS IN THE NEW CONTROL PANEL DCC#1C TO INDICATE OPERATION OF THE MOTOR, AND OPERATION OF THE HEATER.
 - CONTROLS FOR BOILER PUMP WILL BE SUPPLIED AS AN INTEGRAL PART OF THE BOILER BY THE MANUFACTURER. INTERLOCK THRU MOTOR NO. 23 AND 24 STARTERS, SO THAT IN THE "AUTO" POSITION, BOILER PUMP WILL NOT RUN UNTIL ONE OF THE TWO SLUDGE RECIRC. PUMPS IS OPERATING. INSTALL AND CONNECT TO REMOTE PILOT LIGHTS IN THE NEW DCC#1C TO INDICATE OPERATION OF BOILER PUMP, AND OPERATION OF BOILER.
 - MAKE POWER CONNECTION TO BOILER CONTROL PANEL, ALL OTHER WIRING AND CONTROLS FOR BOILER WILL BE BY OTHERS.
 - INSTALL REMOTE PILOT LIGHT AT CONTROL PANEL DCC#1C IN NEW DIGESTER BUILDING.
 - INSTALL RUNNING LIGHT AND SHEAR PIN ALARM AT DCC#1A IN MAIN CONTROL BUILDING.
 - PROVIDE STARTER WITH ONE OVERLOAD TO PROTECT 120 VOLT MOTOR. STARTER WILL NOT BE CONNECTED TO CONTROL CENTER BUS. SEE ONE LINE DIAGRAM OF DCC#2.
 - INSTALL RUNNING LIGHT AT DCC#1A FOR THIS MOTOR. PROVIDE N.O. AUX. CONTACT IN THIS STARTER FOR CONNECTION OF REMOTE RUNNING LIGHT WIRING.
 - IN BARMINUTOR BUILDING INSTALL TERMINAL BOX AND STARTER ADJACENT TO BARMINUTOR RACK AND MAKE CONNECTIONS TO MOTOR. STARTER AND TERMINAL BOX ARE TO BE FURNISHED BY MANUFACTURER AS SHALL BE EXPLOSION PROOF. INSTALL ELECTRICAL ASSEMBLY IN PUMP BUILDING WHERE SHOWN. ASSEMBLY WILL BE FURNISHED BY MFR. AND SHALL CONSIST OF PNEUMATIC TIME DELAY RELAY, "HAND-OFF-AUTO" SELECTOR SWITCH AND MULTITRODE. ELECTRICAL CONTRACTOR SHALL WIRE BETWEEN ASSEMBLY, STARTER, TERMINAL STRIP AND MOTOR AS SHOWN ON DRAWINGS.
 - REFER TO SPECIFICATIONS FOR CONTROL.
 - ELECTRICAL CONTRACTOR SHALL ALSO MAKE CONNECTION TO LIMIT SWITCH FOR SHEAR PIN ALARM.
 - PUMPS ARE TO BE REMOVED FROM MAIN CONTROL BUILDING AND INSTALLED IN BLOWER BUILDING. NEW STARTERS AND CONTROLS WILL BE REQUIRED AT BLOWER BUILDING AND SHALL BE FURNISHED BY ELECTRICAL CONTRACTOR. THESE MOTORS ARE SHOWN IN BLOWER BUILDING AND SCHEDULED MOTOR #48 AND 49.
 - EXISTING MOTOR AND CONTROLLER SHALL REMAIN UNCHANGED.
 - THIS EXIST. PUMP IS TO BE CONTROLLED BY A TIMER. REFER TO SPEC. INSTALL A NEW SELECTOR SWITCH. HAVING ON-OFF-AUTO REMOTE 1, REMOTE 2, REMOTE 3 IN DCC#1.
 - THIS MOTOR IS TO BE REMOVED AND REPLACED BY MOTOR #41 OF THIS SCHEDULE.
 - THIS MOTOR SHALL REMAIN AS IS EXCEPT RUN 2, #14 FROM LIMIT SWITCH FROM LIMIT SWITCH TO DCC#1A FOR SHEAR PIN PILOT. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL LIMIT SWITCH.
 - THIS MOTOR IS TO BE REMOVED. ALL CONTROLS AND CONTROLLER WILL BE REMOVED FROM EXISTING DISTRIBUTION CONTROL CENTER #3. SEE PLAN AND SPECIFICATION.
 - THIS MOTOR IS TO BE REMOVED AND REPLACED WITH MOTOR #36 OF THIS SCHEDULE.
 - INSTALL RUNNING LIGHT AT DCC#1A FOR MOTOR. PROVIDE N.O. AUX. CONTACT IN STARTER FOR CONNECTION OF REMOTE RUNNING LIGHT WIRING. UTILIZE EXISTING WIRING IN EXISTING CONDUIT FROM EXISTING PUMP BUILDING TO DCC#1A IN THE MAIN CONTROL BUILDING.
 - THIS MOTOR IS TWO SPEED.
 - INSTALL MANUAL MOTOR DISCONNECT SWITCH INSIDE UNIT HOUSING.
 - INSTALL REMOTE START STOP STATION AT EXISTING BUILDING AS SHOWN ON PLAN.
 - MAKE CONNECTION TO SOLENOID FOR COOLING WATER AND LOW OIL LEVEL ALARM. VERIFY LOCATION OF STUB UPS TO BLOWER.
 - ELECTRICAL CONTRACTOR SHALL WIRE FRESH AIR AND RETURN AIR MOTORIZED DAMPERS TO CONTROLLER WALL MOUNTED AS SHOWN ON PLANS. CONTROLLER SHALL BE MOUNTED BY OTHERS.
 - THIS MOTOR IS VARIABLE SPEED.

ERICKSEN ELLISON AND ASSOC. INC.
ST PAUL, MINNESOTA

MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE									
NUMBER	EQUIPMENT	SIZE	VOLT & #	LOCA.	CONTROL	CONT. LOCA.	STARTER SIZE	STARTER LOCA.	DISC SIZE & TYPE
103	EXIST. CHLORINE INJECTOR #1	10	460-3	CONTROL BLDG.	EXIST. P. B. (24)	AT UNIT	EXIST.	DCC#1	-
104	EXIST. ELUENT PUMP (17)	5	460-3	CONTROL BLDG.	EXIST. P. B. (22)	AT UNIT	EXIST.	DCC#1	-
105	EXIST. EFFLUENT FLUSHING WATER PUMP (17)	15	460-3	CONTROL BLDG.	EXIST. P. B. (22)	AT UNIT	EXIST.	DCC#1	-
106	EXIST. UNIT HEATER #5	1/20	120-1	CONTROL BLDG.	EXIST. STAT (22)	SLUDGE FILTER ROOM	NONE	-	-
107	EXIST. UNIT HEATER #6	1/20	120-1	CONTROL BLDG.	EXIST. STAT (22)	SLUDGE FILTER ROOM	NONE	-	-
108	EXIST. UNIT HEATER #7	1/20	120-1	CONTROL BLDG.	EXIST. STAT (22)	SLUDGE FILTER ROOM	NONE	-	-
109	EXIST. UNIT HEATER #8	1/20	120-1	CONTROL BLDG.	EXIST. STAT (22)	SLUDGE FILTER ROOM	NONE	-	-
110	EXIST. UNIT HEATER #9	1/20	120-1	CONTROL BLDG.	EXIST. STAT (22)	SLUDGE FILTER ROOM	NONE	-	-
111	EXIST. FERRIC CHLORIDE MIXER	1/6	120-1	CONTROL BLDG.	EXIST. (22)	AT UNIT	NONE	-	-
112	EXIST. FERRIC CHLORIDE MIXER	1/6	120-1	CONTROL BLDG.	EXIST. (22)	AT UNIT	NONE	-	-
113	EXIST. FERRIC CHLORIDE PUMP #1	1/4	120-1	CONTROL BLDG.	EXIST. (22)	SLUDGE FILTER ROOM	NONE	-	M5
114	EXIST. FERRIC CHLORIDE PUMP #2	1/4	120-1	CONTROL BLDG.	EXIST. (22)	SLUDGE FILTER ROOM	NONE	-	M5
115	EXIST. CONVEYOR BELT MTR.	1/2	460-3	CONTROL BLDG.	EXIST. P. B. (22)	SLUDGE FILTER ROOM	EXIST.	DCC#1	-
116	EXIST. ROOF VENT	1/6	120-1	CONTROL BLDG.	EXIST. (22)	SLUDGE FILTER ROOM	NONE	-	-
117	EXIST. ROOF VENT	1/6	120-1	CONTROL BLDG.	EXIST. (22)	SLUDGE FILTER ROOM	NONE	-	-
118	EXIST. SLUDGE DE-WATERING UNIT #1	20	460-3	SLUDGE FILTER ROOM	EXIST. P. B. (22)	SLUDGE FILTER ROOM	EXIST.	DCC#1	EXIST.
119	EXIST. SLUDGE DE-WATERING UNIT #2	20	460-3	SLUDGE FILTER ROOM	EXIST. P. B. (22)	SLUDGE FILTER ROOM	EXIST.	DCC#1	EXIST.
120	EXIST. OFFICE EXH.	1/6	120-1	ROOF	EXIST. (22)	OFFICE	NONE	-	M5
121	EXIST. SLUDGE CONVEYOR LONG. #1	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
122	EXIST. SLUDGE CONVEYOR LONG. #2	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
123	EXIST. SLUDGE CONVEYOR LONG. #3	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
124	EXIST. SLUDGE CONVEYOR LONG. #4	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
125	EXIST. SLUDGE CROSS COLLECTOR #1	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
126	EXIST. SLUDGE CROSS COLLECTOR #2	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
127	EXIST. ELUTRIATION TANK DRIVE (17)	1/2	460-3	ELUTRIATION TANK	EXIST. (22)	AT UNIT	1	DCC#1	EXIST.
128	EXIST. SLUDGE (17) TRANSFER PUMP #1	3	460-3	DIGESTER BLDG.	EXIST. (22)	AT UNIT	1	MCC	-
129	EXIST. SLUDGE (17) TRANSFER PUMP #2	3	460-3	DIGESTER BLDG.	EXIST. (22)	AT UNIT	1	MCC	-
130	EXIST. PRIMARY (17) RECIRCULATION PUMP	3	460-3	DIGESTER BLDG.	EXIST. (22)	MCC	1	MCC	-
131	EXIST. SECONDARY (17) RECIRCULATION PUMP	3	460-3	DIGESTER BLDG.	EXIST. (22)	MCC	1	MCC	-
132	EXIST. HOT WATER CIRCULATOR	1-1/2	460-3	DIGESTER BLDG.	INTERLOCK WITH MOTOR #135	MCC	1	MCC	-
133	EXIST. GAS COMPRESSOR (17)	7-1/2	460-3	DIGESTER BLDG.	EXIST. (22)	MCC	1	MCC	EXIST.
134	EXIST. DIGESTER HTG. FAN	1-1/2	460-3	DIGESTER BLDG.	EXIST. (22)	MCC	1	MCC	EXIST.

MOTOR NOTES CONT.

- MAKE CONNECTION TO MOTORIZED DAMPER AS SHOWN ON THESE PLANS.

- GENERAL NOTES:**
- CIRCUIT NUMBERS SHOWN ON THESE DRAWINGS SHALL NOT NECESSARILY CORRESPOND TO ACTUAL CIRCUIT BREAKER NUMBERS.
 - VERIFY LOCATION OF ALL MOTORS WITH MECHANICAL PLANS BEFORE ROUGH-IN.
 - ADJUST MOUNTING HEIGHTS OF ALL OUTLETS IF REQUIRED SO AS NOT TO INTERFERE WITH MECHANICAL EQUIPMENT. VERIFY CHANGES WITH ENGINEER.
 - VERIFY TYPE OF CEILING CONSTRUCTION FOR PROPER MOUNTING OF ALL LIGHT FIXTURES.
 - INTERRUPTING RATINGS NOTED IN SCHEDULES SHALL APPLY TO ENTIRE PANELBOARD AND/OR SWITCHBOARD. ALL EQUIPMENT COMPRISING PANELS AND/OR SWITCHBOARDS SHALL EITHER BE RATED FOR SHORT CIRCUIT CURRENT NOTED OR BE SUITABLY PROTECTED FOR THE AVAILABLE SHORT CIRCUIT CURRENT.
 - LETTER THUS: "A" - INDICATES TYPE OF LIGHTING FIXTURES. REFER TO LIGHTING FIXTURE TYPES IN SPECIFICATIONS.
 - VERIFY LOCATION OF ALL FLOOR OUTLETS WITH ENGINEER PRIOR TO ROUGH-IN.
 - ALL EXTERIOR JUNCTION BOXES SHALL BE WEATHERPROOF AND CAST BOXES.
 - FIELD VERIFY LOCATIONS FOR ALL ROUGH-INS TO EQUIPMENT.
 - CONDUITS SHOWN ON THESE PLANS AS EXISTING HAVE BEEN TAKEN FROM EXISTING PLANS AND MAY NOT HAVE BEEN INSTALLED AS ORIGINALLY SHOWN. THE CONTRACTOR SHALL MAKE ALL ADJUSTMENTS NECESSARY TO ACCOMMODATE ANY DIFFERENCES BETWEEN ACTUAL FIELD CONDITIONS AND THOSE CONDITIONS SHOWN AS EXISTING.
 - WHERE CONDUITS ARE NOT SHOWN CONNECTED TO EXISTING OUTLETS, FIELD INFORMATION IS NOT AVAILABLE FOR DETERMINING THE ACTUAL LOCATION OF THESE EXISTING CONDUITS. THE CONTRACTOR SHALL INSTALL NEW WIRING TO THE EXISTING OUTLETS SHOWN, WHERE SUITABLE, EXISTING CONDUIT MAY BE USED. WHERE NOT SUITABLE, NEW CONDUIT SHALL BE PROVIDED.

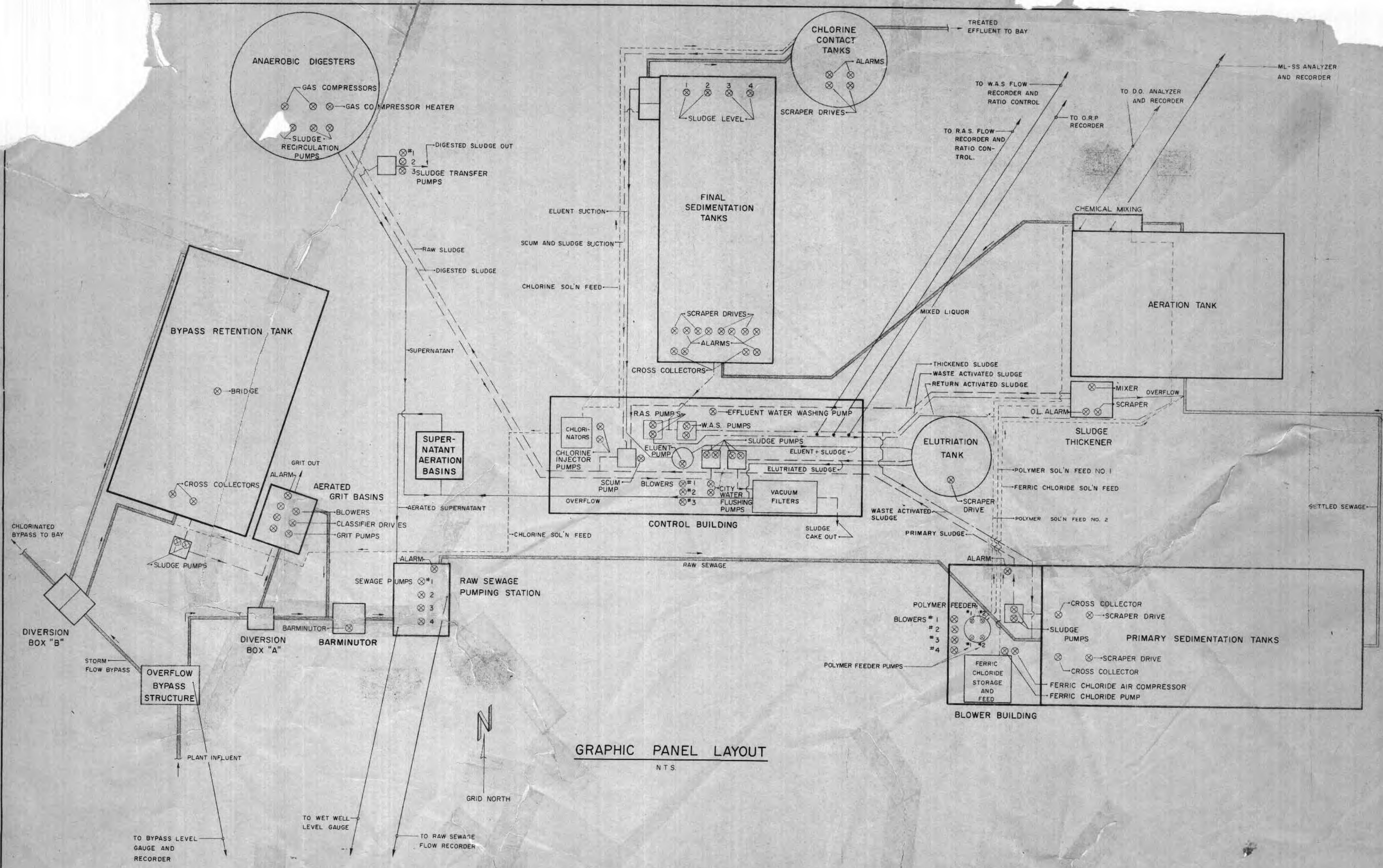
ELECTRICAL SYMBOLS

⊙ CEILING OUTLET	⊙ SPEAKER OUTLET
⊙ OUTLET FOR OR CONNECTION TO A RECESSED LIGHTING FIXTURE	⊙ SOUND OR INTERCOM SYSTEM CALL BACK SWITCH
⊙ WALL OUTLET	⊙ TELEPHONE OUTLET
⊙ JUNCTION BOX	⊙ INTERCOMMUNICATION STATION OUTLET
⊙ CLOCK OUTLET	⊙ MICROPHONE OUTLET
⊙ NIGHT LIGHT	⊙ PROJECTOR OUTLET
⊙ SINGLE CONVENIENCE RECEPTACLE-NEMA 5-15R	⊙ TELEVISION OUTLET
⊙ DUPLEX CONVENIENCE RECEPTACLE-NEMA 5-15R	⊙ TERMINAL CABINET ANNUNCIATOR
⊙ COMBINATION 15A, 120V-220V RECEPTACLE GROUND-NEMA 5-15R + 6-15R	⊙ BRANCH CIRCUIT PANEL
⊙ DUPLEX CONVENIENCE RECEPTACLE UPPER-HALF SWITCHED-NEMA 5-15R	⊙ MOTOR (NO. REFERS TO SCHEDULE)
⊙ RANGE RECEPTACLE 30A, 3P + G, 4W, NEMA 14-30R	⊙ EQUIPMENT OR APPLIANCE (NO. REFERS TO SCH)
⊙ SWITCH & CONVENIENCE OUTLET IN SAME PLATE	⊙ MAGNETIC MOTOR STARTER
⊙ FLOOR OUTLET	⊙ DISCONNECT SWITCH
⊙ SINGLE POLE SWITCH	⊙ DISCONNECT SWITCH & MAGNETIC MOTOR STARTER IN SAME LOCATION
⊙ DOUBLE POLE SWITCH	⊙ MANUAL MOTOR STARTING SWITCH
⊙ 3-WAY SWITCH	⊙ MANUAL MOTOR CONTROL STATION
⊙ 4-WAY SWITCH	⊙ MANUAL MOTOR CONTROL STATION WITH PILOT
⊙ DOOR SWITCH	⊙ THERMOSTAT
⊙ KEY SWITCH	⊙ EXIT LIGHT
⊙ SWITCH & PILOT	⊙ AUXILIARY EQUIPMENT (AS NOTED)
⊙ DIMMER OR DIMMER CONTROL	⊙ PUSH BUTTON
⊙ BUZZER	⊙ BELL
⊙ TRANSFORMER	⊙ FIRE ALARM STATION
⊙ FIRE ALARM HORN	⊙ FIRE ALARM BELL
⊙ FIRE ALARM DOOR HOLDER	⊙ AUTOMATIC FIRE ALARM STATION
⊙ SMOKE DETECTOR	⊙ CHIME
⊙ INDICATES NOTE ON PLAN	

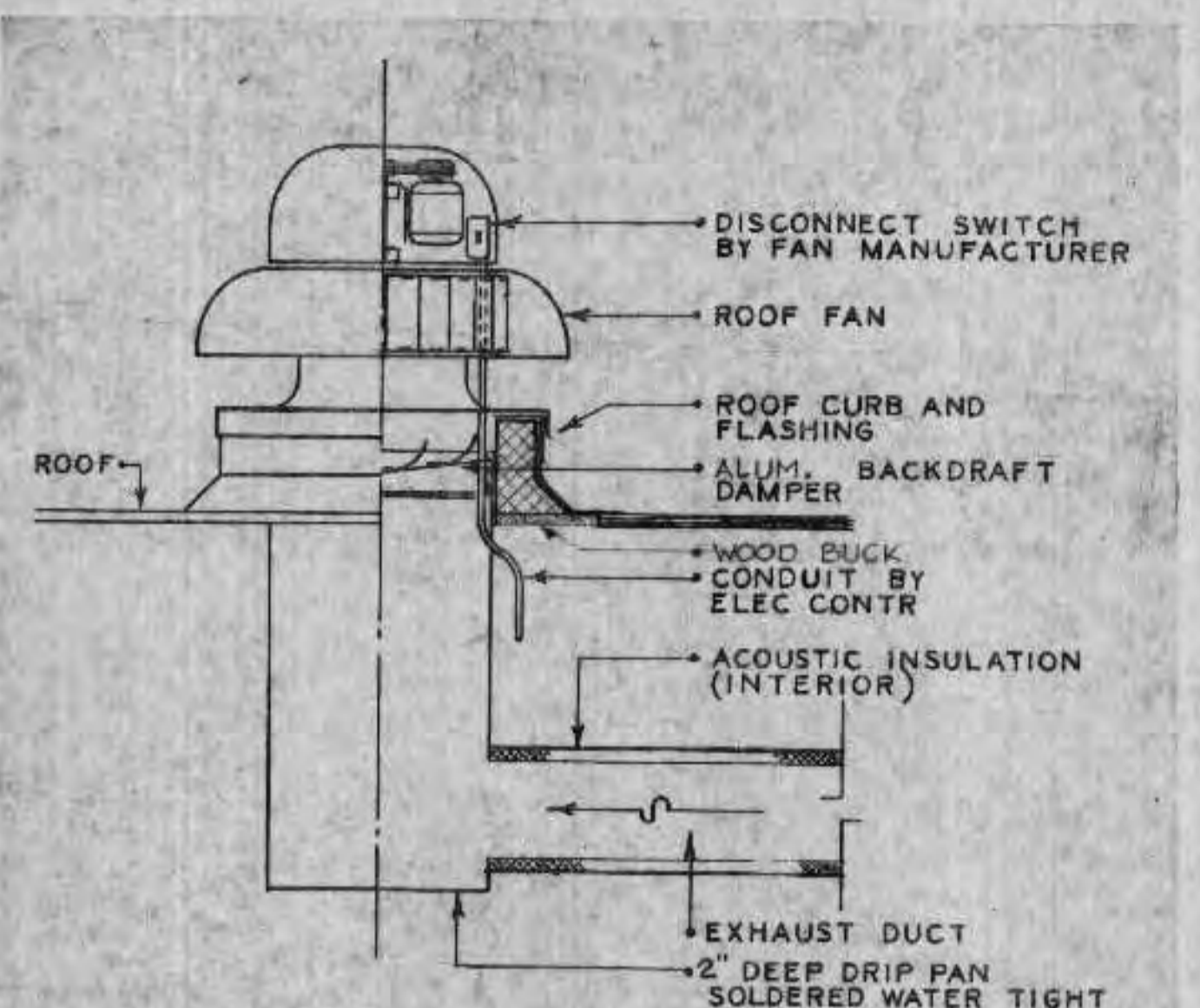
REVIEWED AND APPROVED BY THE DIV. OF ENVIRONMENTAL PROTECTION, DEPT. NATURAL RESOURCES, IN ACCORDANCE WITH SEC. 144.01, M.S. STAT., SUBJECT TO THE CONDITIONS SET FORTH IN THE LETTER OF APPROVAL.

THOMAS G. FRANGOS
ADMINISTRATOR

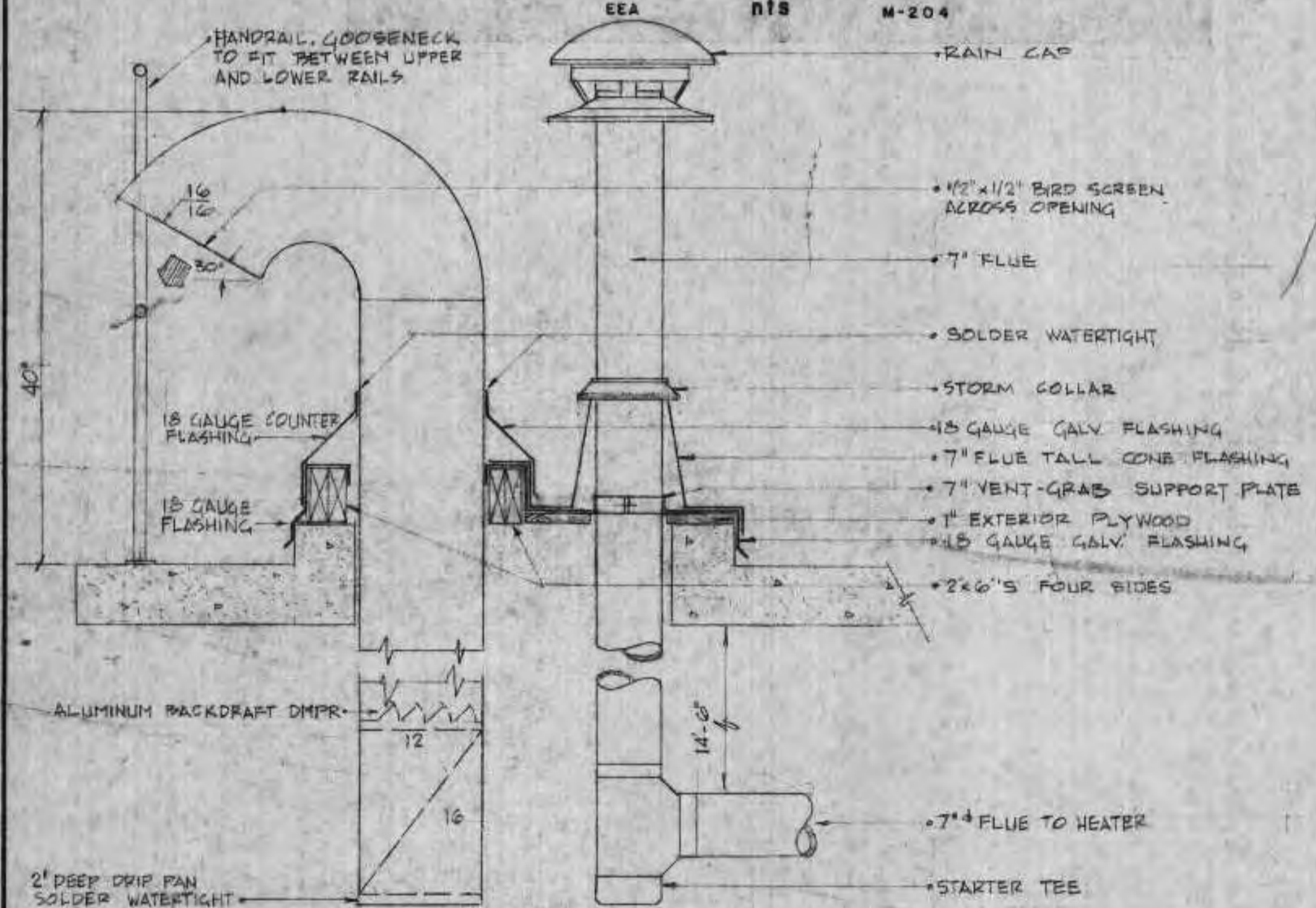
APPROVAL NO. 72 355
DATE: FEB 4 '76



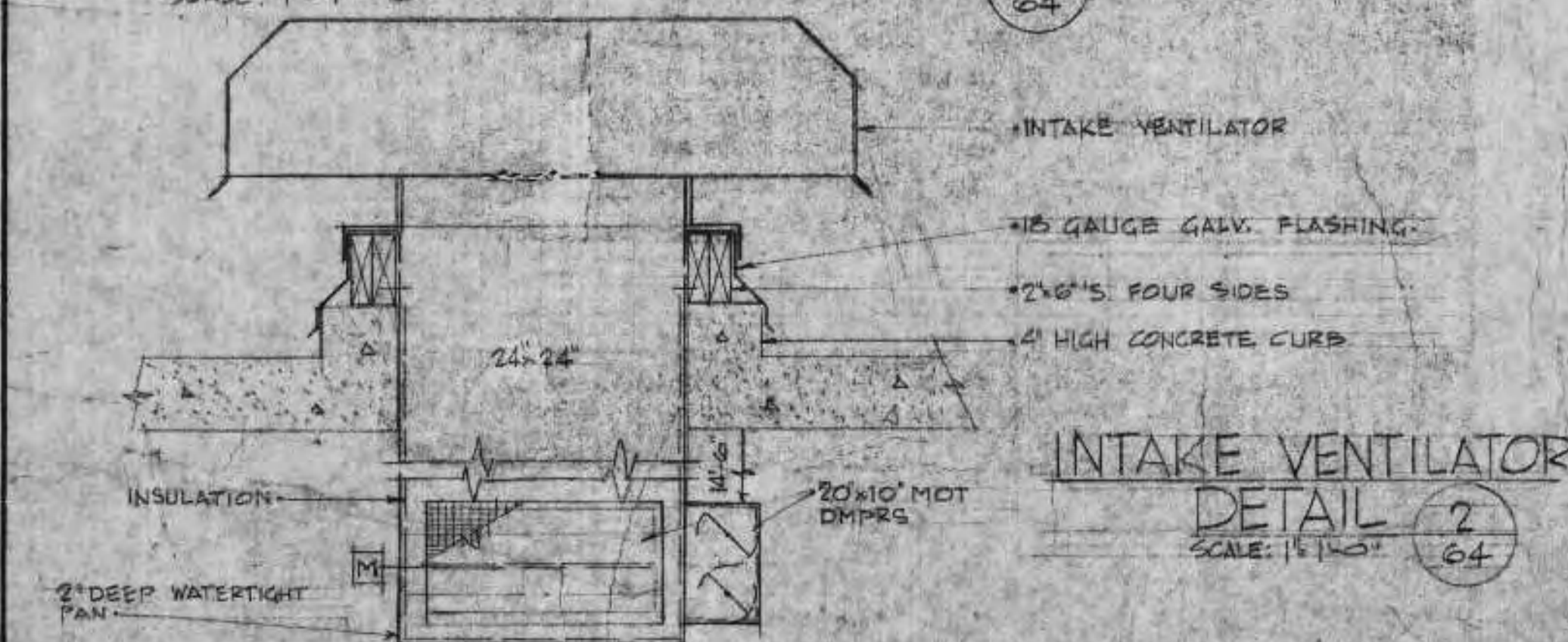
GRAPHIC PANEL LAYOUT
N.T.S.



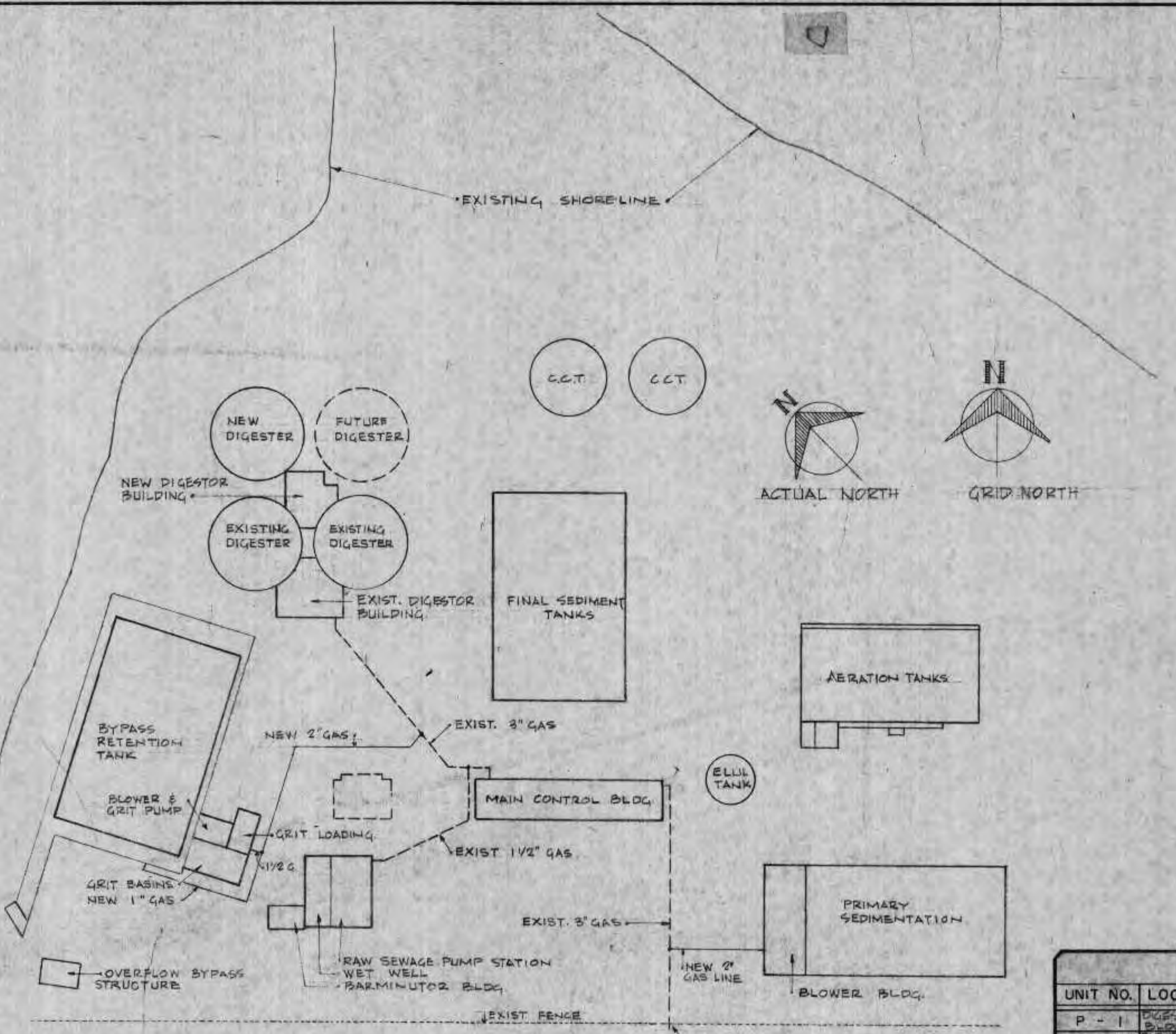
ROOF FAN DETAIL



GOOSENECK & FLUE DETAIL



INTAKE VENTILATOR DETAIL



GAS PIPING PLAN

SUPPLY AIR UNIT SCHEDULE				
UNIT NO.	S-1	S-2	S-3	S-4
SERVICE	DIGEST BLDG			
MANUFACTURER	TRANE			
MODEL	#10 C.C.			
STYLE	HORIZONTAL			
FRESH AIR (%)	30			
CFM	5000			
OV (FPM)	1490			
SP H ₂ O (TOTAL)	1 1/2"			
SP H ₂ O (EXTERNAL)				
HORSEPOWER	3			
RPM (FAN)	690			
HEATING COIL:				
QUANTITY	1-20x45			
TYPE	HOT WATER			
FV (FPM)	520			
ENT AIR TEMP °F	40°F			
LVG AIR TEMP °F	90°F			
GPM	27			
COOLING COIL:				
QUANTITY				
TYPE				
FV (FPM)				
ENT AIR TEMP °F WB/DB				
LVG AIR TEMP °F WB/DB				
FACE & BYPASS	EXTERNAL			
FILTERS:	MED CAP			
TYPE	PERMANENT			
SIZE	6" 16x25			
FV (FPM)	350			
VIBRATION ISOLATOR	4" - 1" DEFL.			
NOTES:				

PUMP SCHEDULE										
UNIT NO.	LOC	SERVICE	MFR	SERIES	MODEL	GPM	FT. HD.	HP	RPM	REMARKS
P-1	DIGEST BLDG	HOT COIL UNIT S-1	BEG	60	1 1/2" AA	27	20	1/3	1750	
P-2	BLOWER BLDG	PERM. CONDENS. AT STORAGE TANK	BEG	40	1AA	12	20	1/4	1750	
P-3	BLOWER BLDG	PERM. CONDENS. HEATER TANK	BEG	IN LINE	2"	3	10	1/8	1750	
P-4	BLOWER BLDG	UNIT HEATERS	BEG	60	2A	80	39	1/2	1750	
P-5										
P-6										
P-7										
P-8										
P-9										
P-10										
NOTES:										

EXHAUST FAN SCHEDULE										
FAN	SERVICE	MFR	MODEL	TYPE	DRIVE	CFM	"SP	FAN RPM	HP	REMARKS
E-1	RETENTION TANK TUNNEL	TRANE	15B1	UTILITY SHT	BELT	1800	1/4	930	1/3	POUR CONCR. CURB
E-2	GRIT DENATER	COOK	24A1B	PROP	BELT	2000	1/3	1150	1/3	
E-3	GRIT PUMP RM	COOK	15C02B	RAW	BELT	700	1/3	625	1/20	VCG CURB
E-4	DIGEST BLDG	TRANE	15B1	UTILITY SHT	BELT	1500	1/4	850	1/3	
E-5	BLOWER BLDG	COOK	24C0B	PRV	BELT	2400	1/4	550	1/4	VCG CURB
E-6	BLOWER BLDG	COOK	18A1D	PROP	DIRECT	1000	1/3	1140	1/3	
E-7	BLOWER BLDG	COOK	24C0B	PRV	BELT	2400	1/4	550	1/4	VCG CURB
E-8	RETENTION TANK TUNNEL	COOK	INTAKE TYPE V2	24x24 THREAT		1600				POUR CONCR. CURB
E-9	BLOWER BLDG	COOK	INTAKE TYPE V2	30x24 THREAT		3400				VCG CURB
E-10	GRIT BLDG	COOK	INTAKE TYPE V2	30x18 THREAT		2700				VCG CURB
E-11	DIGESTOR BLDG	COOK	VCG-22							CURB FOR SCREENING CURB FOR ROTTER BLUE STAKE
E-12	BLOWER BLDG	COOK	VCG-22							
NOTES:										

UNIT HEATER SCHEDULE										
UNIT NO.	LOC	TYPE	MODEL	HP	RPM	CFM	#/HR	GPM	MBH	
UH-1	PUMP PLUNGER	GAS	B-160X	1/4	580	1970			128	
UH-2	GRIT PUMP ROOM	GAS	F-160	1/3		1090			128	
UH-3	GRIT UPPER BLDG	GAS	F-160	1/3		1090			128	
UH-4	GRIT LOWER BLDG	GAS	F-50	1/40		530			40	
UH-5	GRIT LOWER BLDG	GAS	B-250X	1/2	580	2850			200	
UH-6	BLOWER BLDG	HOT WATER	343-5	1/6	1150	1875		16	100	
UH-7	BLOWER BLDG	HOT WATER	343-5	1/6	1150	1875		16	100	
UH-8	BLOWER BLDG	HOT WATER	343-5	1/6	1150	1875		16	100	
UH-9	BLOWER BLDG	HOT WATER	343-5	1/6	1150	1875		16	100	
UH-10	BLOWER BLDG	HOT WATER	343-5	1/6	1150	1875		16	100	
NOTES:										

ERIKSEN ELLISON AND ASSOC. INC.
ST. PAUL, MINNESOTA

REVISIONS
APPROVED

BONESTROD, ROSENE, ANDERLIK & ASSOC. INC.
ST. PAUL, MINNESOTA

SUPERIOR, WISCONSIN
DATE: FEBRUARY 2, 1971 COMM. 6888A

HEATING AND VENTILATION
64/84
921

REVIEWED AND APPROVED BY THE
DIV. OF ENVIRONMENTAL PROTECTION,
DEPT. NATURAL RESOURCES,
IN ACCORDANCE WITH SEC. 14.01
WIS. STAT., SUBJECT TO THE CON-
DITIONS SET FORTH IN THE LETTER
OF APPROVAL.
THOMAS G. FRANGOS
ADMINISTRATOR

APPROVAL NO.
72 355

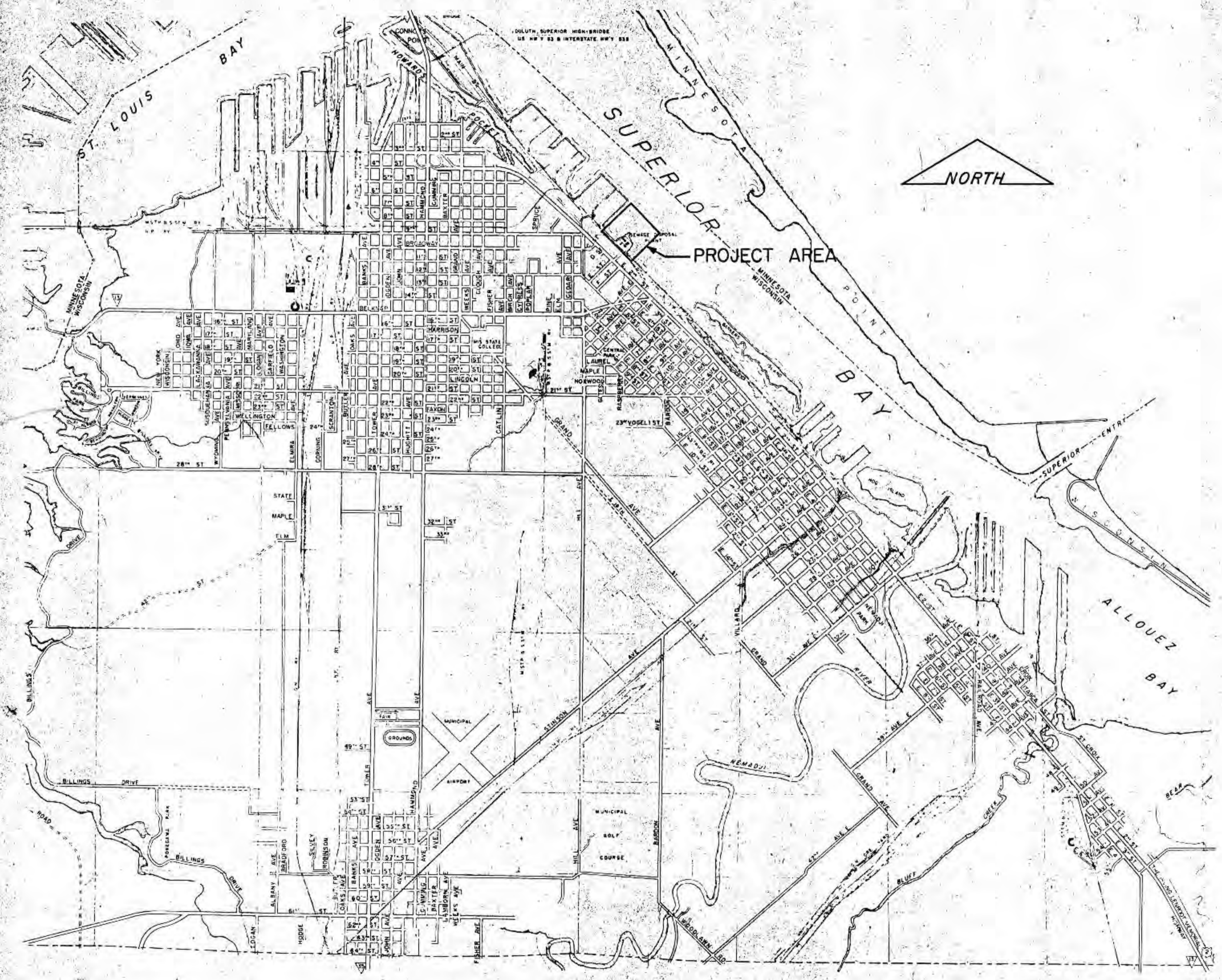
DATE: FEB 4 '74

DNR JAN 3 1974

DNR JUL 14 1975

SUPERIOR, WISCONSIN

COMBINED SEWER OVERFLOW TREATMENT PLANT - DISTRICT 2 1975



REVIEWED AND APPROVED BY THE
 DIV. OF ENVIRONMENTAL STANDARDS,
 DEPT. NATURAL RESOURCES
 IN ACCORDANCE WITH SEC. 144.04,
 WIS. STATS., SUBJECT TO THE CON-
 DITIONS SET FORTH IN THE LETTER
 OF APPROVAL.

OLIVER B. WILLIAMS
 ACTING ADMINISTRATOR

APPROVAL NO.
 75 822

OCT 10 '75

CITY COUNCIL

- BRUCE C. HAGEN MAYOR
- THOMAS P. STROOZAS, JR. COUNCILMAN
- THOMAS G. HIGGINS COUNCILMAN
- CARL DAHLIN COUNCILMAN
- HERBERT C. WALLIN COUNCILMAN
- LOWELL W. BANKS COUNCILMAN
- PATRICIA PAQUETTE COUNCILWOMAN
- THOMAS J. GODFREY COUNCILMAN
- JAMES McHUGH COUNCILMAN
- JAMES E. JOHNSON COUNCILMAN
- REGINA HILL COUNCILWOMAN
- WILLIAM A. HAMMANN CITY ATTORNEY
- FRED M. SEGUIN PUBLIC WORKS DIRECTOR
- GEORGE HOWELL CITY PLANNER

LOCATION PLAN

Scale: 1"=2,000'

COMBINED SEWER
 OVERFLOW PLANT
 DISTRICT 2

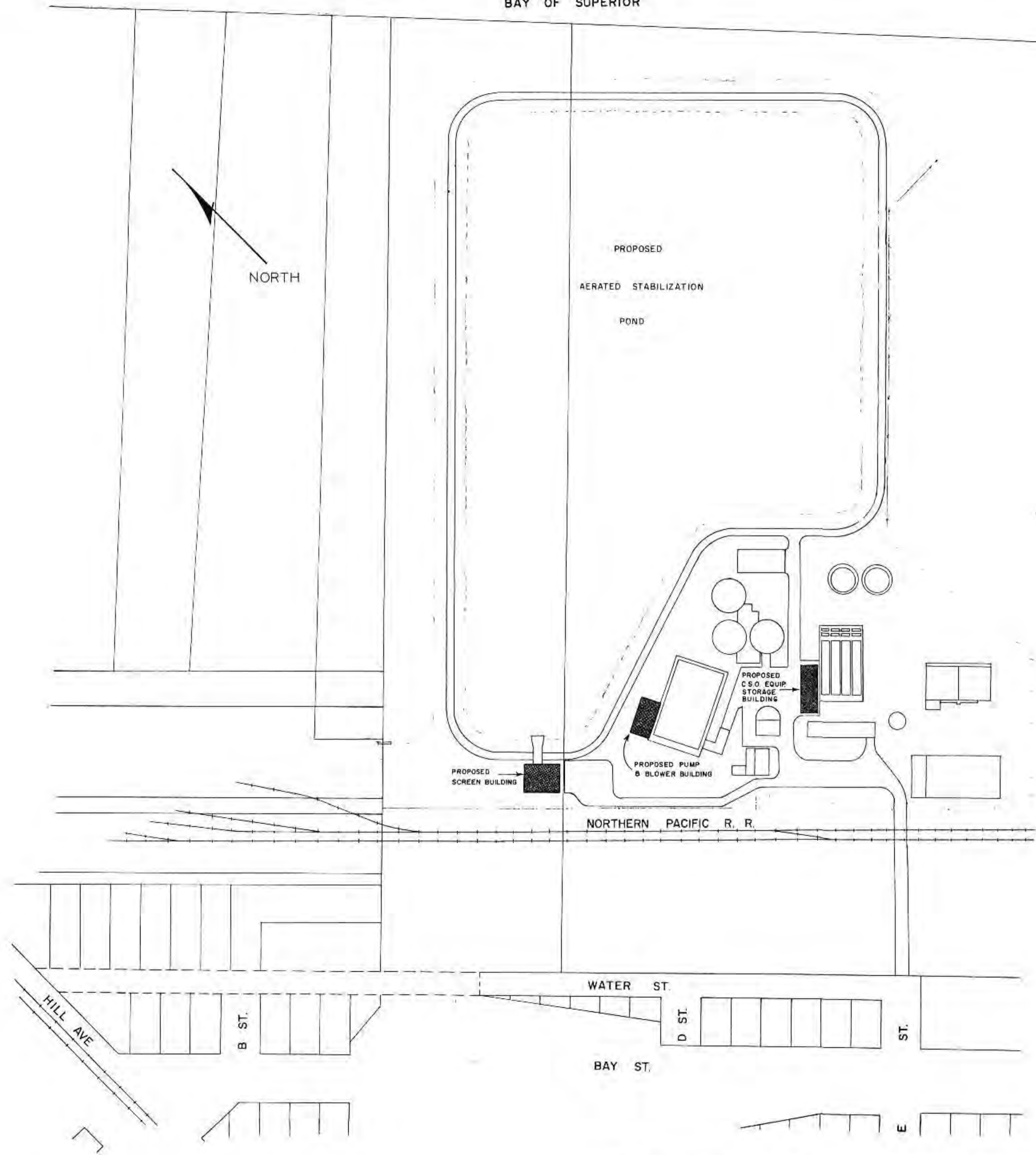
1975

BAY OF SUPERIOR

DN 11/14/75

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42. SCREEN BUILDING HEATING AND VENTILATING
43. SCREEN BUILDING HEATING AND VENTILATING
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47. SCREEN BUILDING ELECTRICAL
48. PUMP & BLOWER BUILDING ELECTRICAL
49. C.S.O. STORAGE ELECTRICAL & D.C.C.'S
50. ELECTRICAL UNDERGROUND SCHEMATIC
51. ELECTRICAL DETAILS
52. ELECTRICAL SCHEDULES
53. GRAPHIC PANELS



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.
 DATE: JUNE 14, 1975 REG. NO. E06599

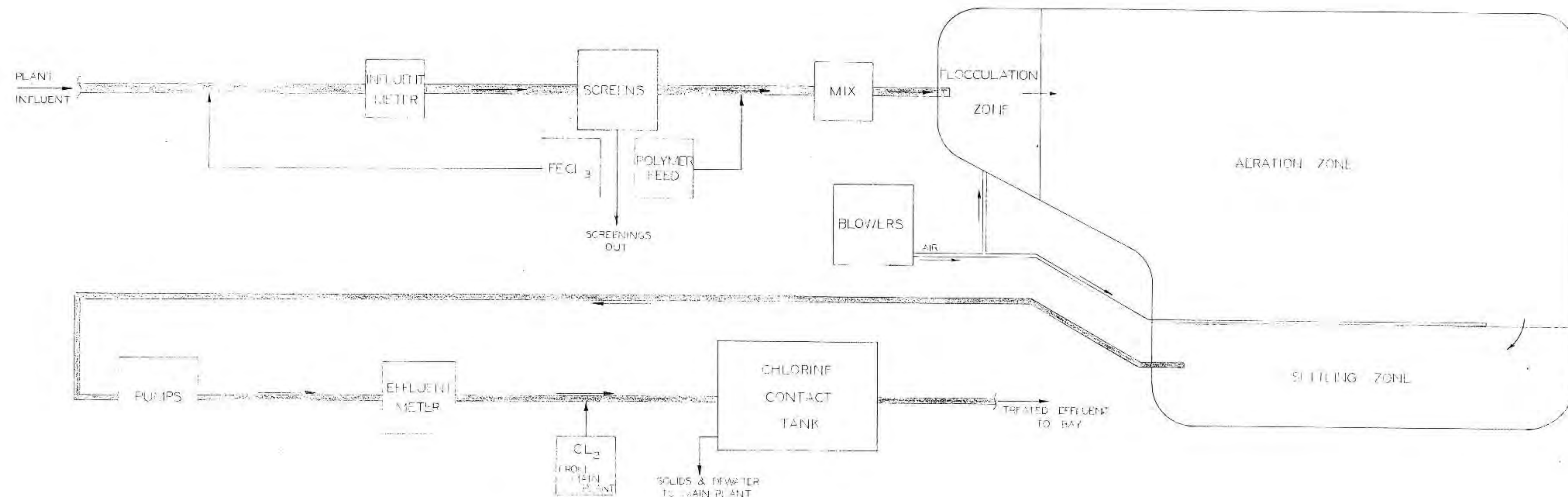
REVISIONS	
SURVEY	G.R.C.
DRAWN	D.C.B.
DESIGN	R.E.T.
APPROVED	R.C.T.

BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.
 ST. PAUL, MINNESOTA

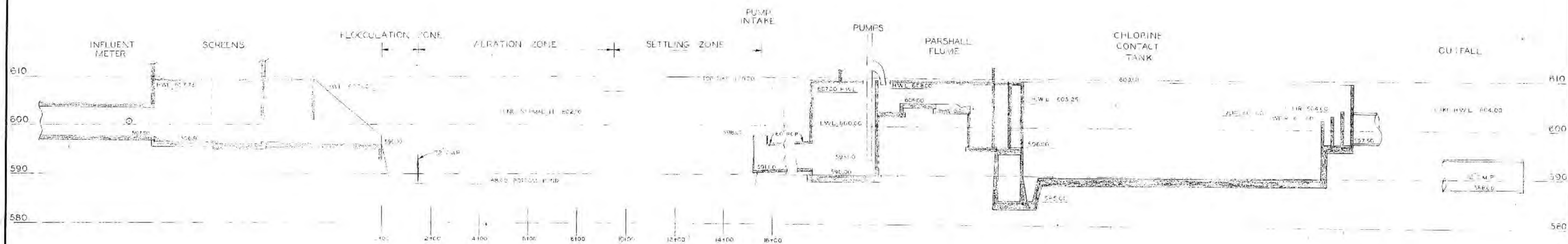
SUPERIOR, WISCONSIN
 DATE: JUNE 14, 1975 COMM 6888 F

C.S.O. PLANT - DISTRICT 2
 INDEX SHEET

SHEET
 27
 53



FLOW DIAGRAM
NO SCALE



HYDRAULIC PROFILE
HORIZ. 1"=20'
VERT. 1"=10'
(UNLESS NOTED OTHERWISE)

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.
DATE: JUNE 14, 1975 REG. NO. E06599

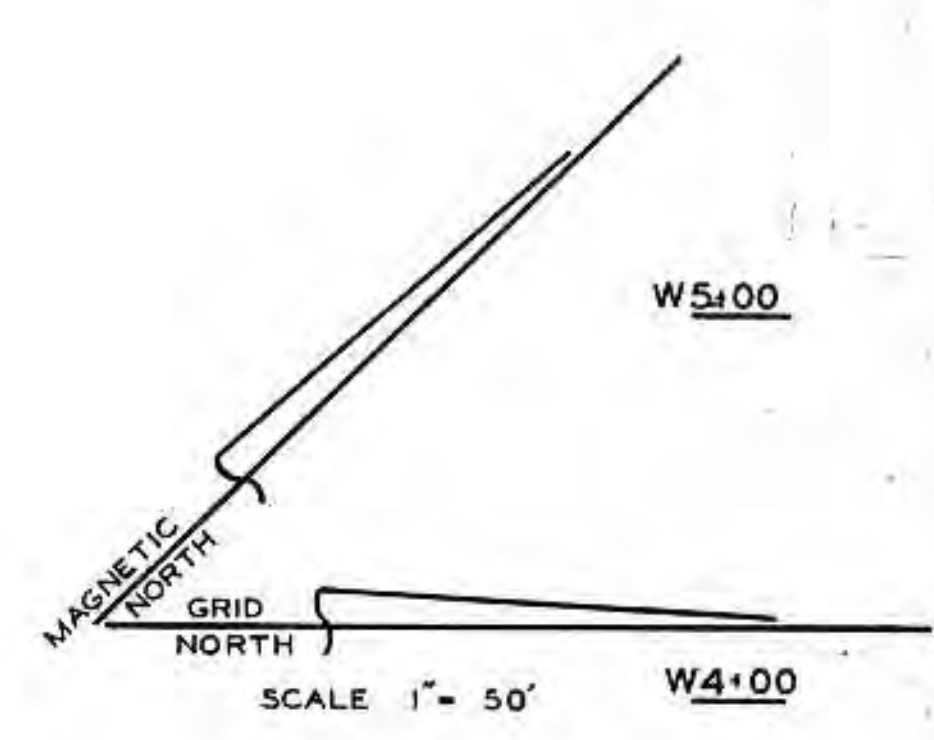
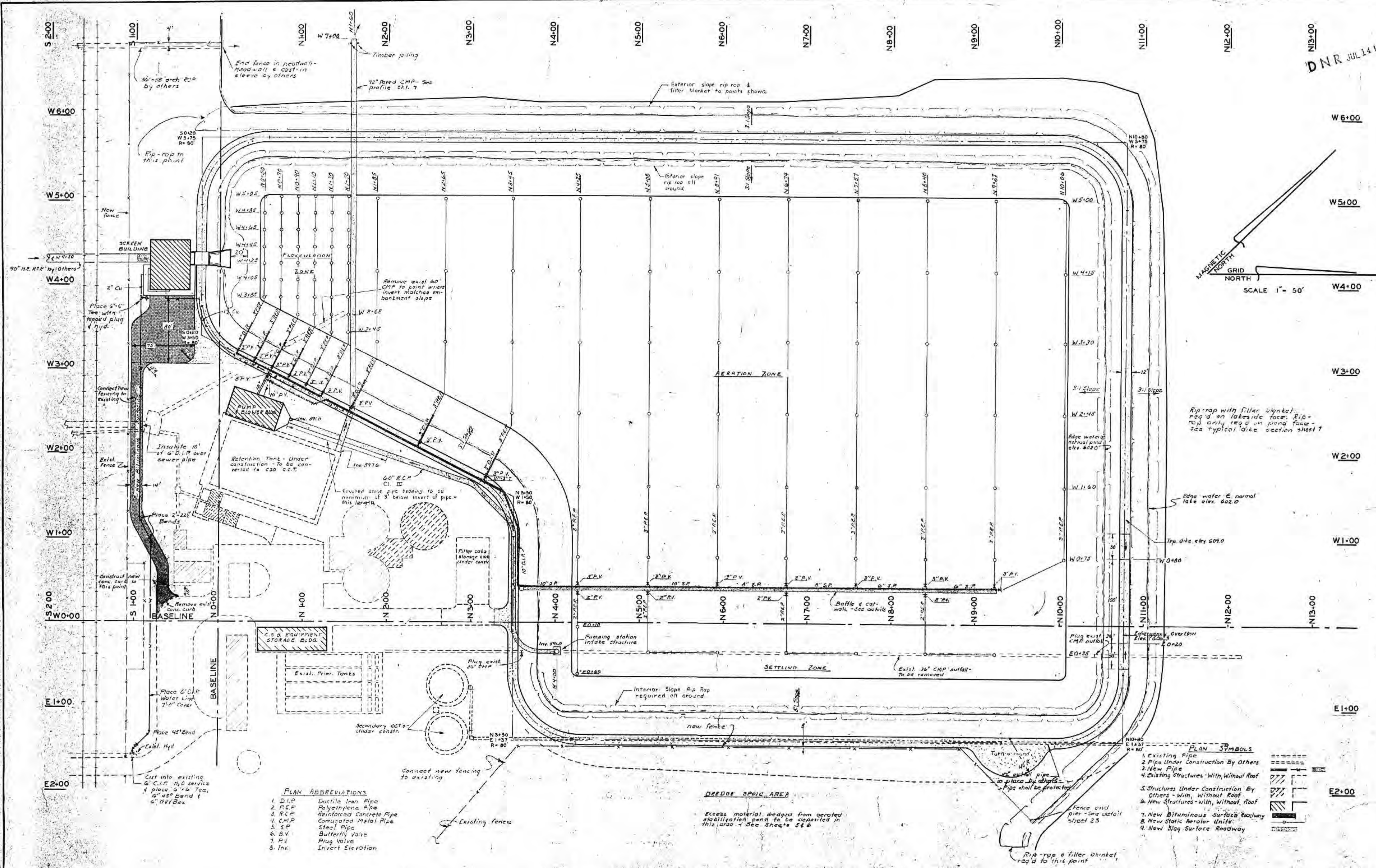
SURVEY	CHC	REVISIONS
DRAWN	DCB	
DESIGN	RET	
APPROVED	RET	

BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.
ST. PAUL, MINNESOTA

SUPERIOR, WISCONSIN
DATE: JAN 3, 1975 COMM 6888 F

C. S. O. PLANT - DISTRICT 2
FLOW DIAGRAM & HYDRAULIC PROFILE

DNR JUL 14 1975



Rip-rap with filler blanket req'd on lakeside face. Rip-rap only req'd on pond face - see Typical dice section sheet 7

Edge water @ normal lake elev. 602.0

Top dist. elev. 609.0

Plug exist. CMP outlet Elev. 602.0

Emerg. overflow Elev. 602.0

Fence and pier - See detail sheet 25

3\"/>

3\"/>

Rip-rap & filler blanket req'd to this point

- PLAN ABBREVIATIONS**
- 1. D.I.P. Ductile Iron Pipe
 - 2. P.E.P. Polyethylene Pipe
 - 3. R.C.P. Reinforced Concrete Pipe
 - 4. C.M.P. Corrugated Metal Pipe
 - 5. S.P. Steel Pipe
 - 6. B.V. Butterfly Valve
 - 7. P.V. Plug Valve
 - 8. Inv. Invert Elevation

- PLAN SYMBOLS**
- 1. Existing Pipe
 - 2. Pipe Under Construction By Others
 - 3. New Pipe
 - 4. Existing Structures - With, Without Roof
 - 5. Structures Under Construction By Others - With, Without Roof
 - 6. New Structures - With, Without Roof
 - 7. New Bituminous Surface Roadway
 - 8. New Static Aerator Units
 - 9. New Slag Surface Roadway

DREDGE SPOIL AREA

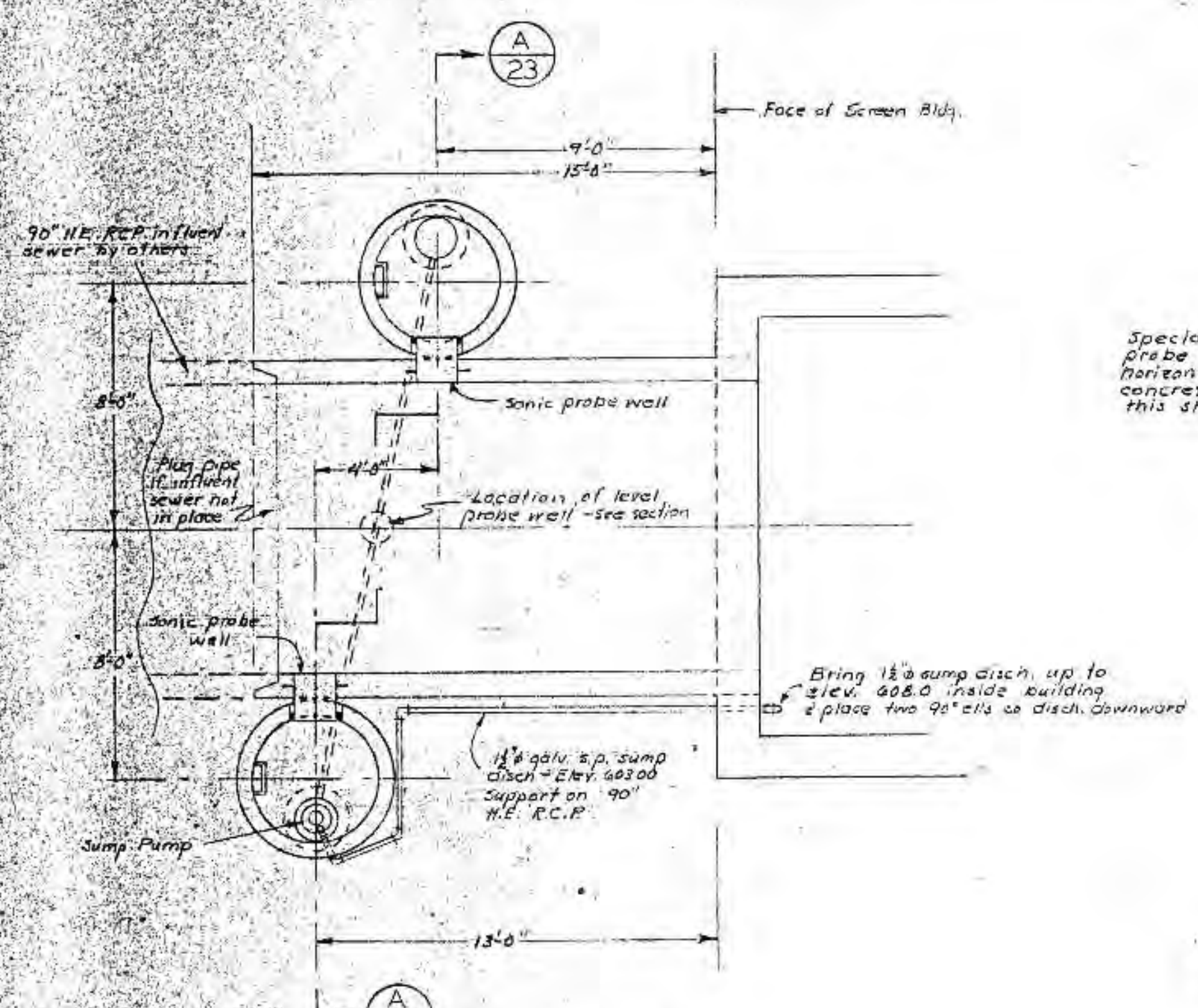
Excess material dredged from aerated stabilization pond to be deposited in this area - See Sheets 54 &

DESIGNED BY: [Signature] CHECKED BY: [Signature] DRAWN BY: [Signature] DATE: FEB. 5, 1975

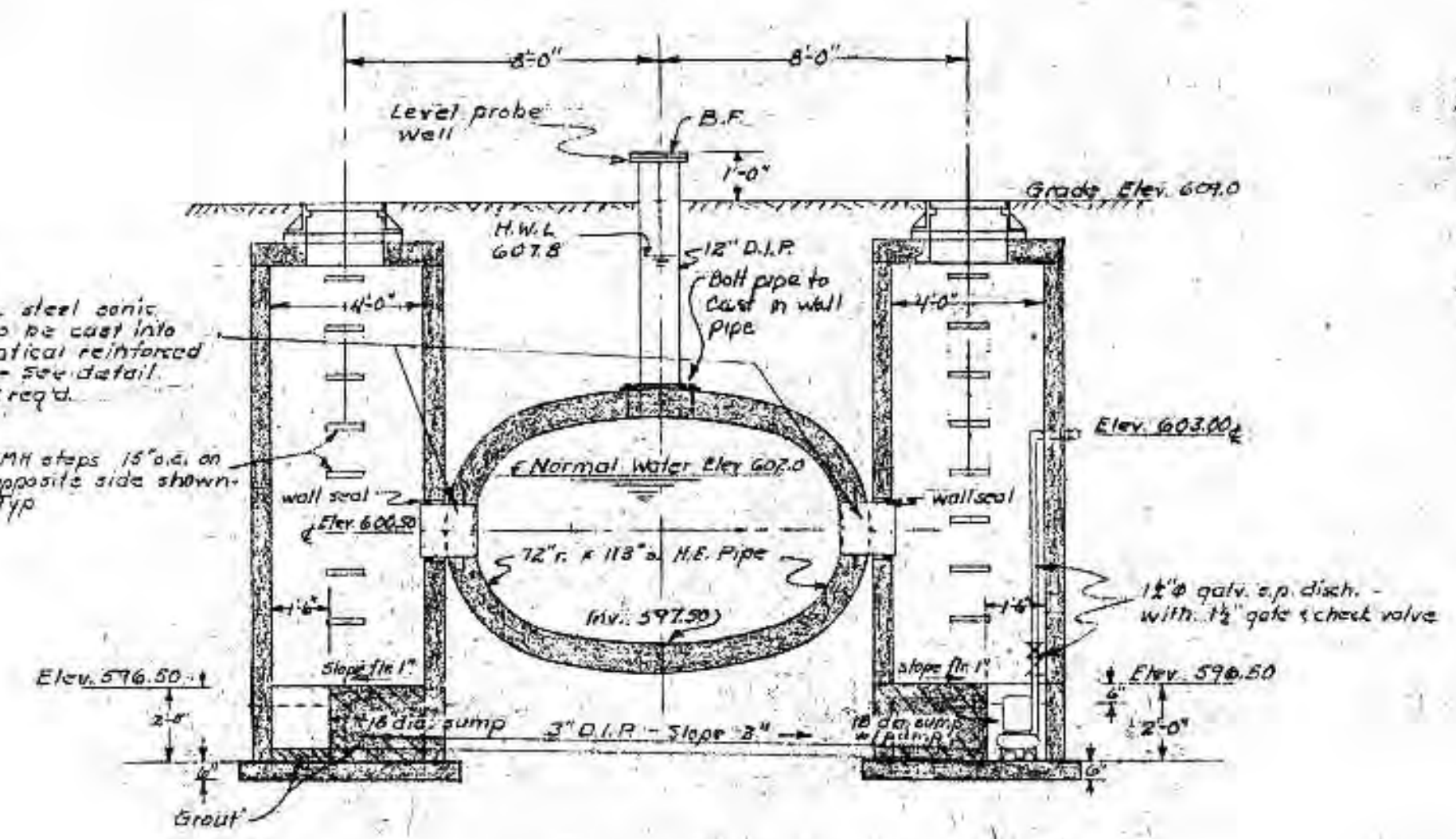
BONESTROO, ROSENE, ANWERLIK & ASSOC., INC.
ST. PAUL, MINNESOTA

SUPERIOR, WISCONSIN
DATE: JAN. 3, 1975

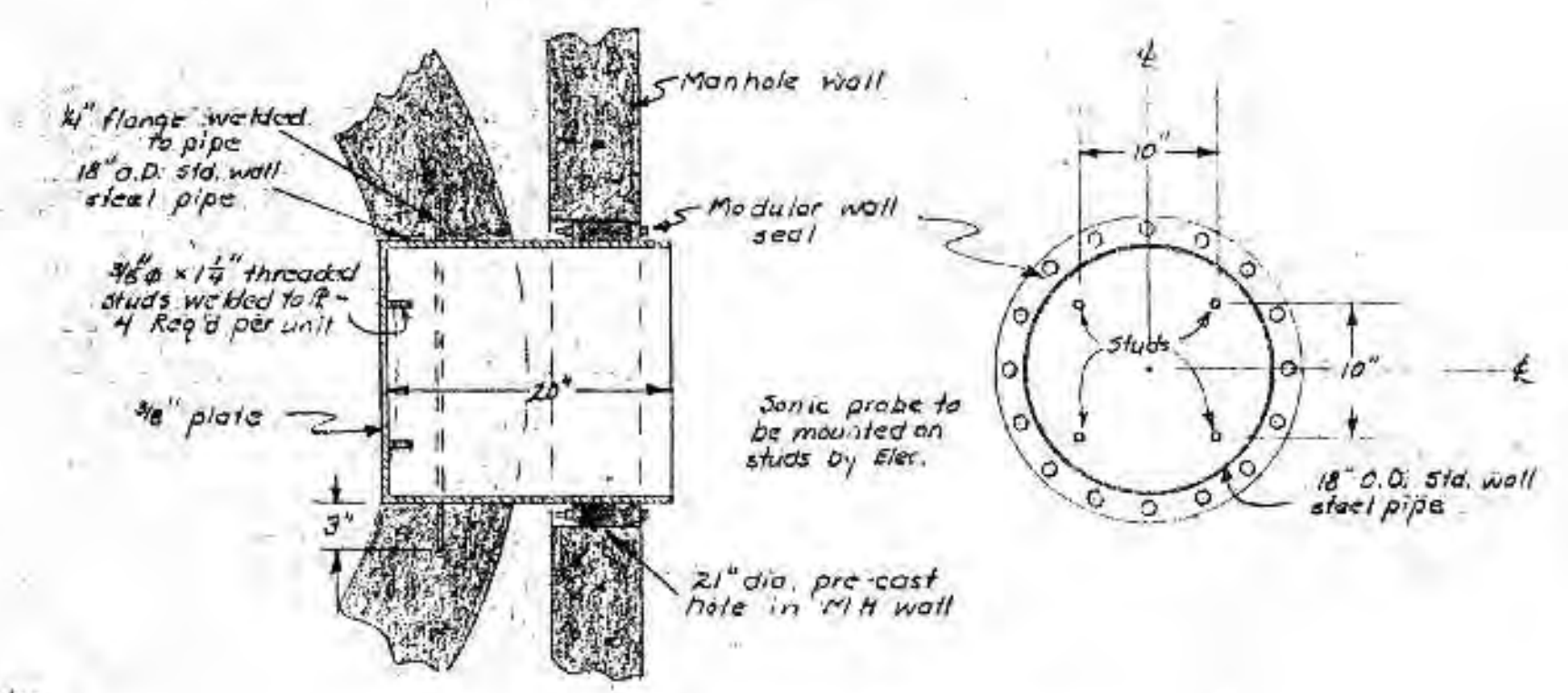
C. S. O. PLANT - DISTRICT 2
SITE PLAN



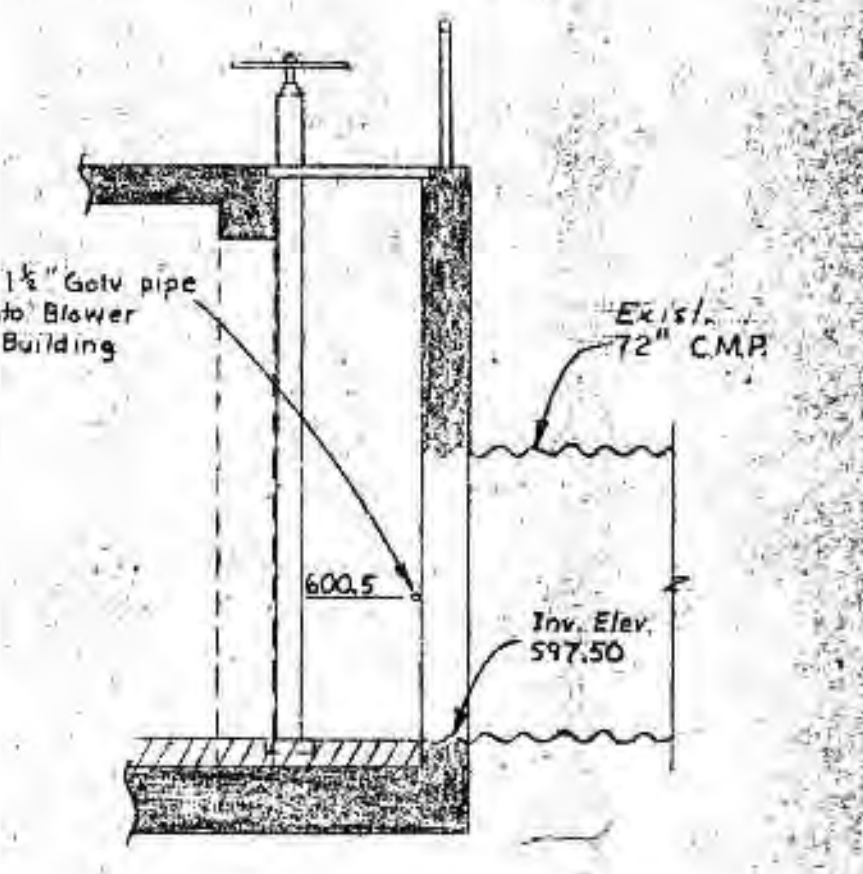
INFLUENT FLOW METER DETAILS
Scale: 1/4" = 1'-0"



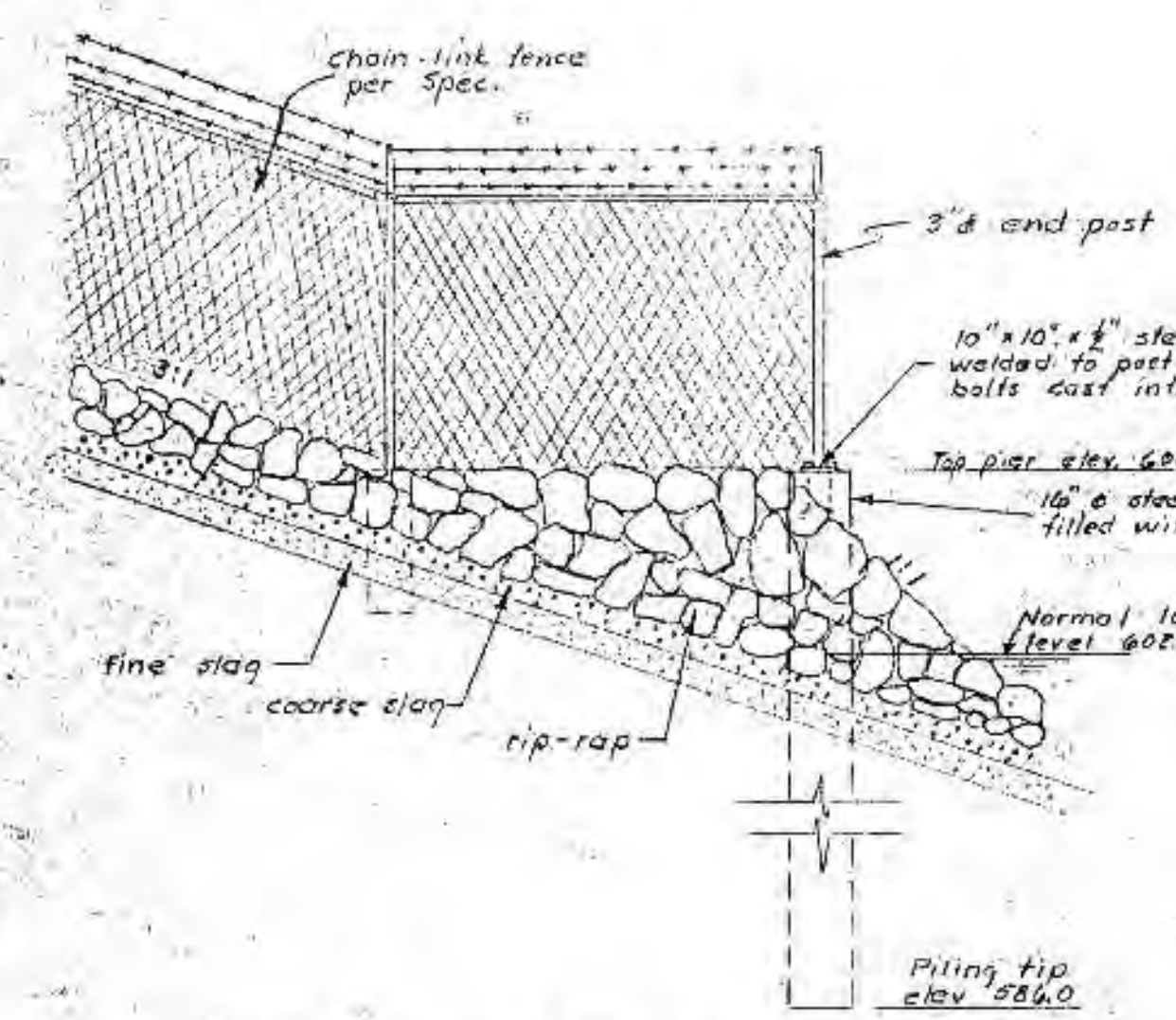
SECTION A-A
Scale: 1/4" = 1'-0"



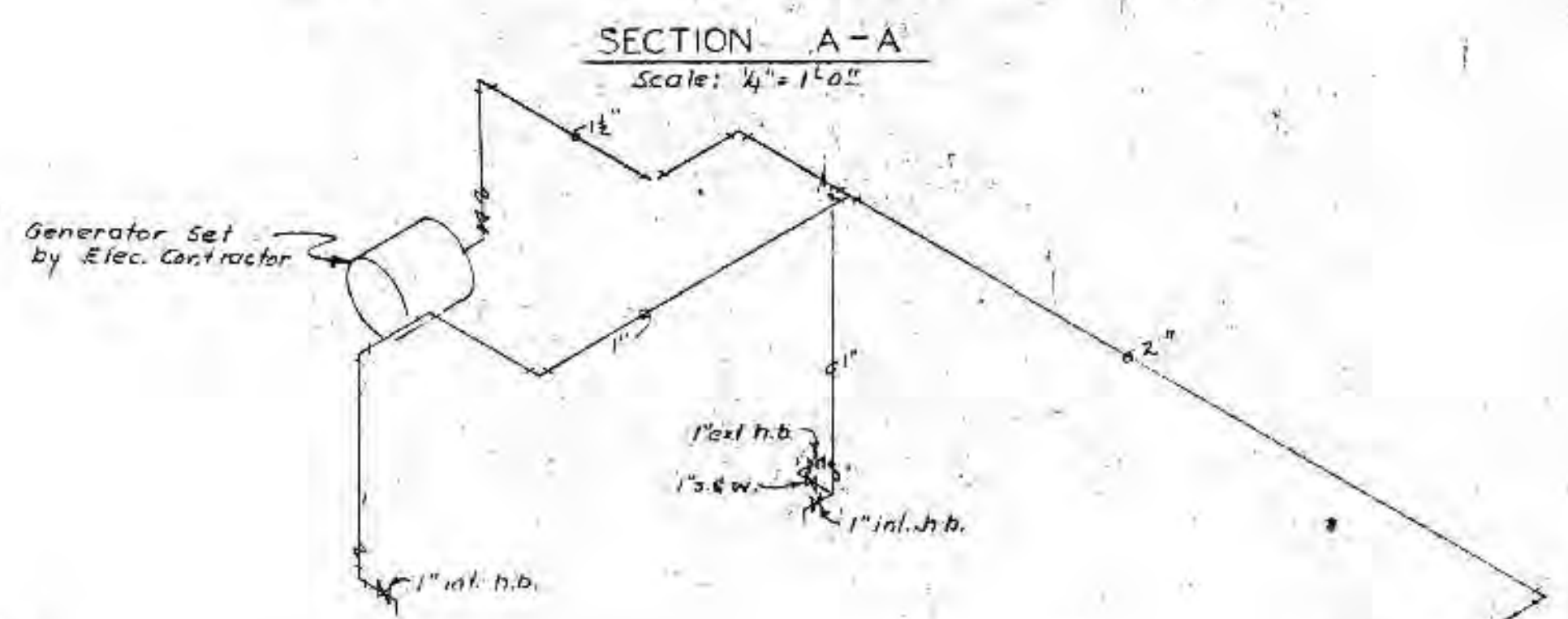
SONIC PROBE WELL DETAILS
Scale: 1" = 1'-0"



SECTION B-B



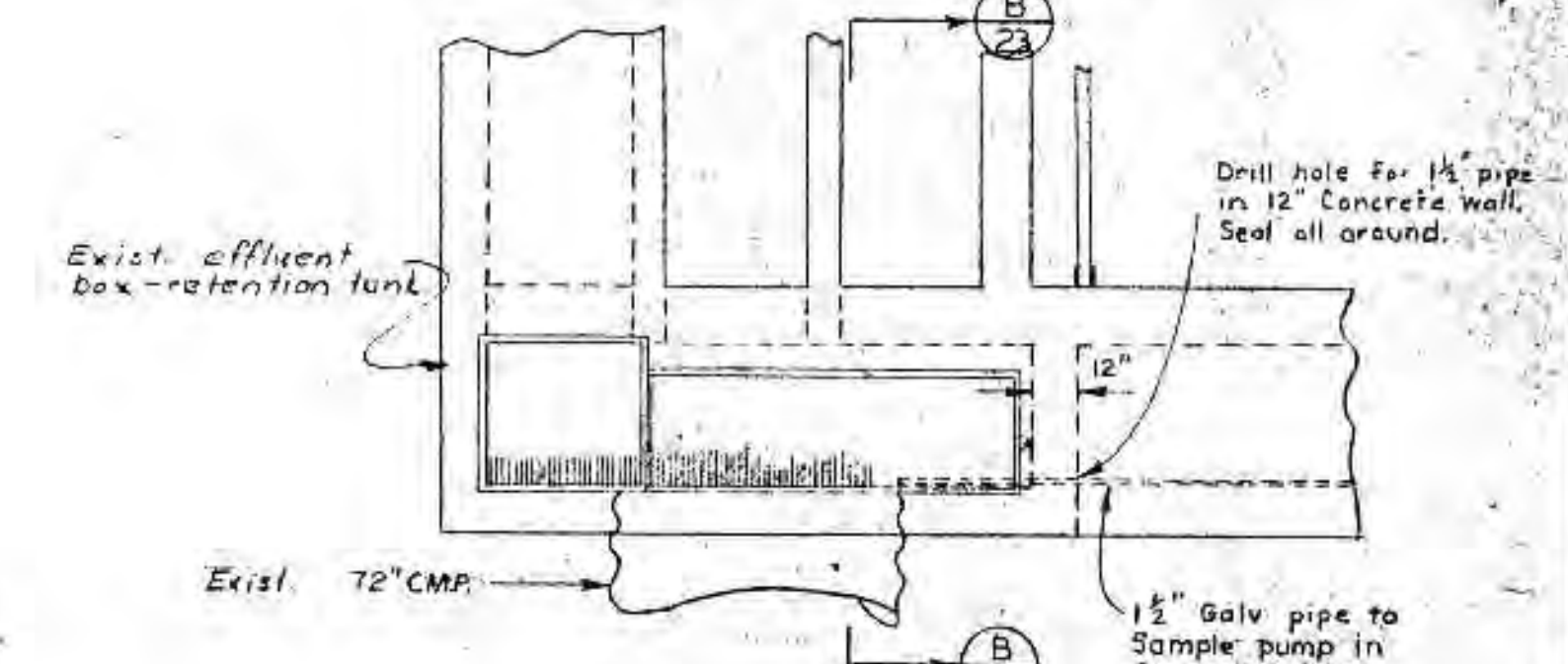
FENCE END PIER DETAIL
Scale: 1/4" = 1'-0"



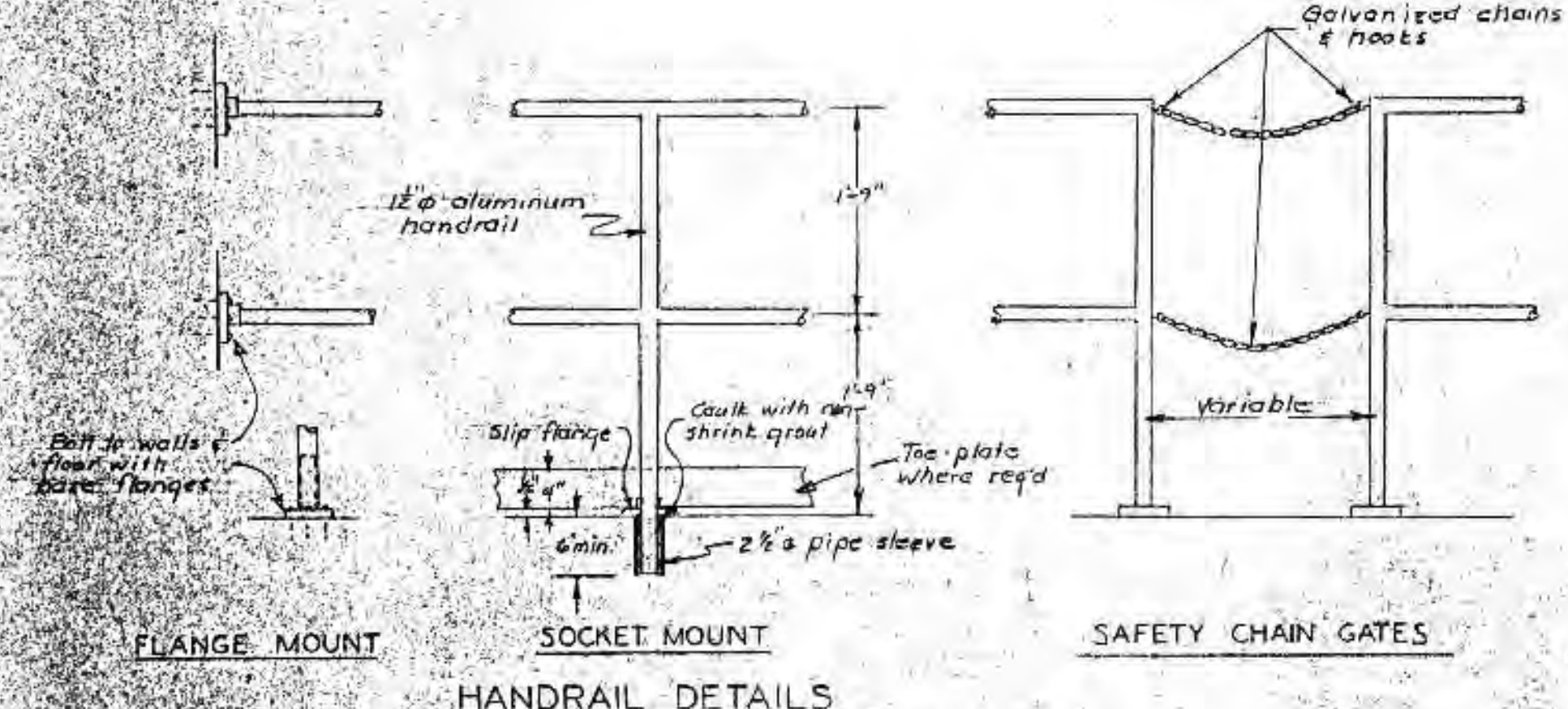
WATER SYSTEM ISOMETRIC

- WATER SYSTEM NOTES**
1. Abbreviations - int. h.b. = interior hose bibb, ext. h.b. = exterior hose bibb, s.w. = stop & work valve.
 2. All valves not labeled shall be gate valves of the same size as line on which located.
 3. All hose bibbs shall be equipped with back-flow preventer per specification.
 4. All items shown shall be by Fleisch. Contractor unless otherwise stated.
 5. Provide back-flow preventers per spec. ahead of connections to polymer feed tank, generator set motor cooler, pump seals.

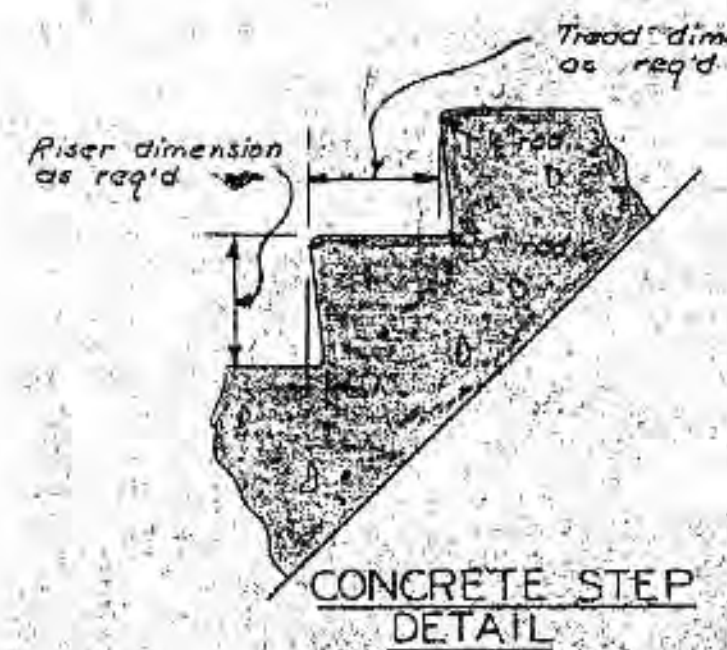
PUMP & BLOWER BUILDING



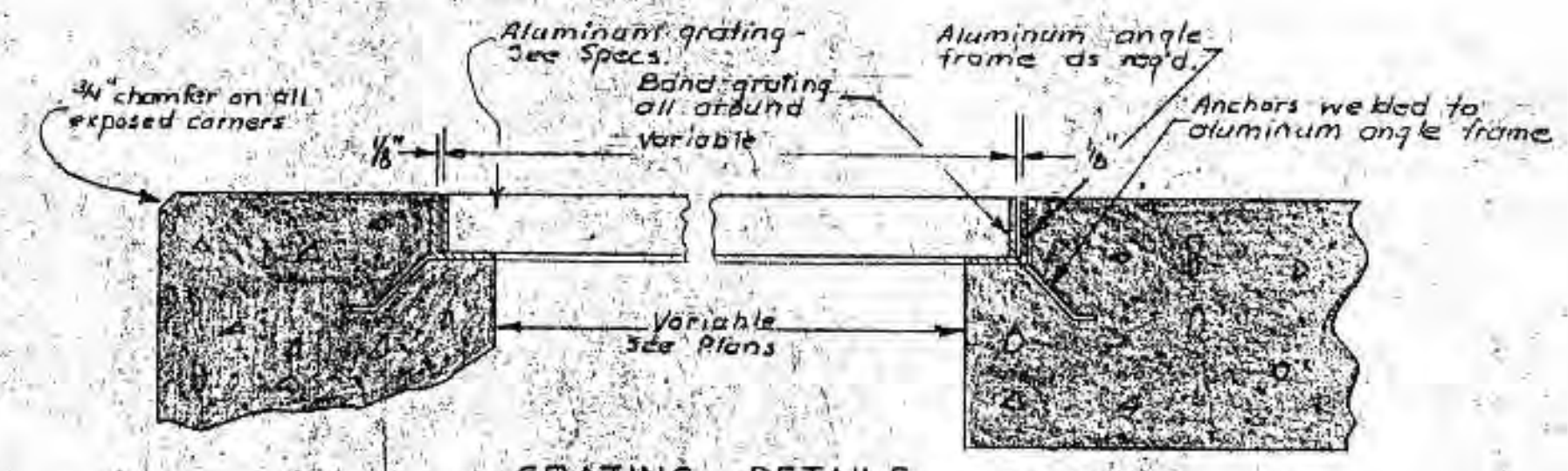
C.C.T. OUTLET
Scale: 1/4" = 1'-0"



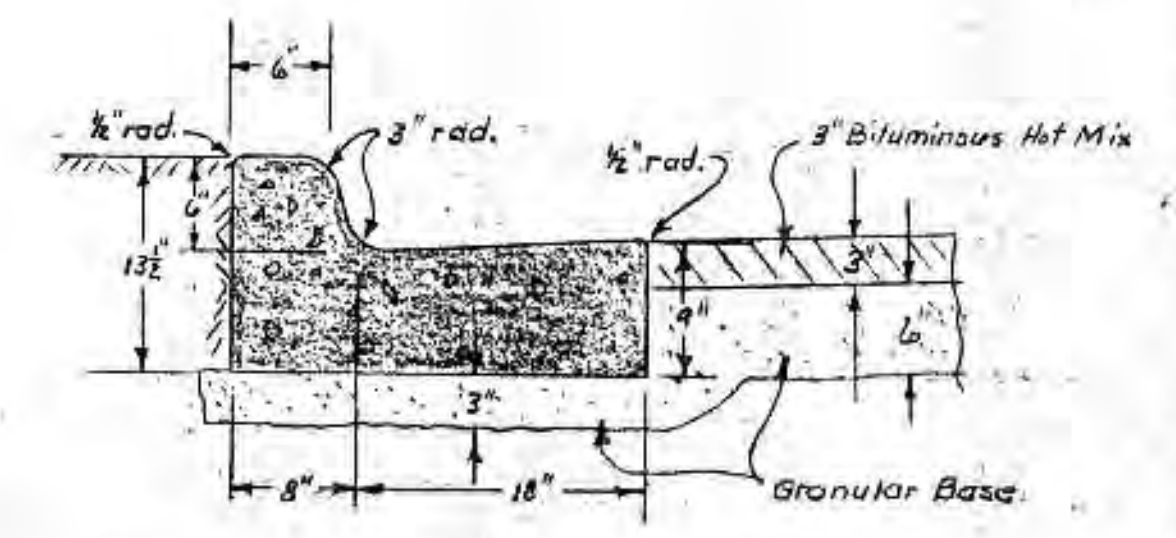
HANDRAIL DETAILS



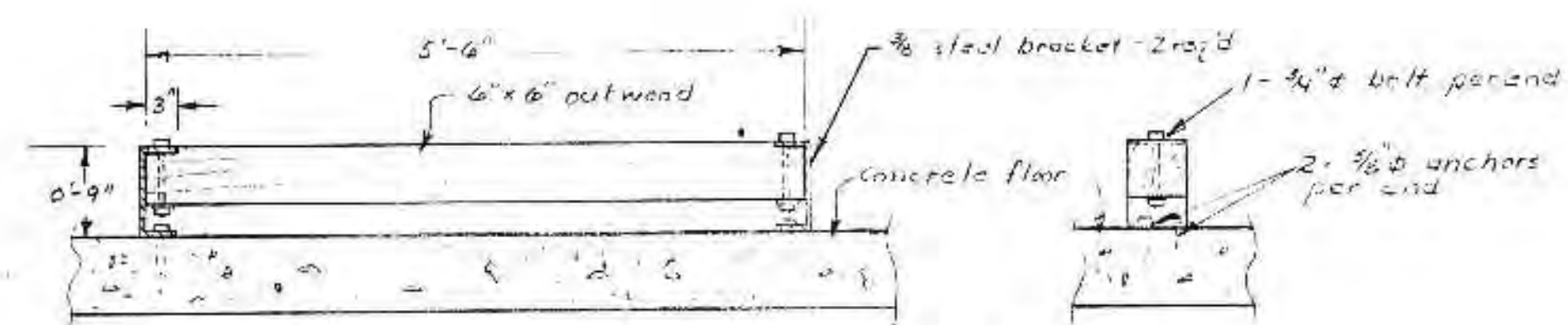
CONCRETE STEP DETAIL



GRATING DETAILS



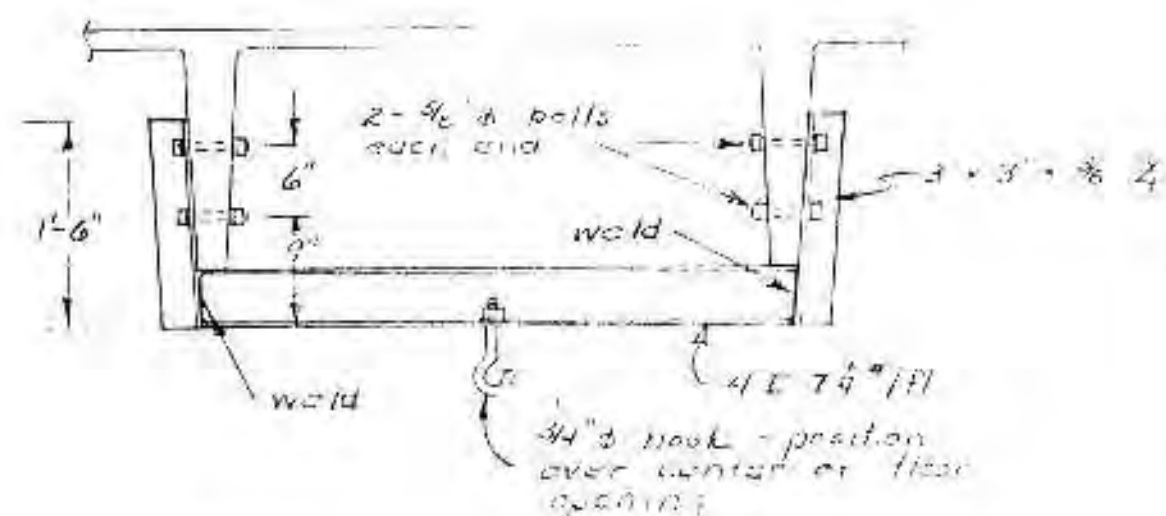
CURB & GUTTER DETAIL



CONTAINER BUMPER

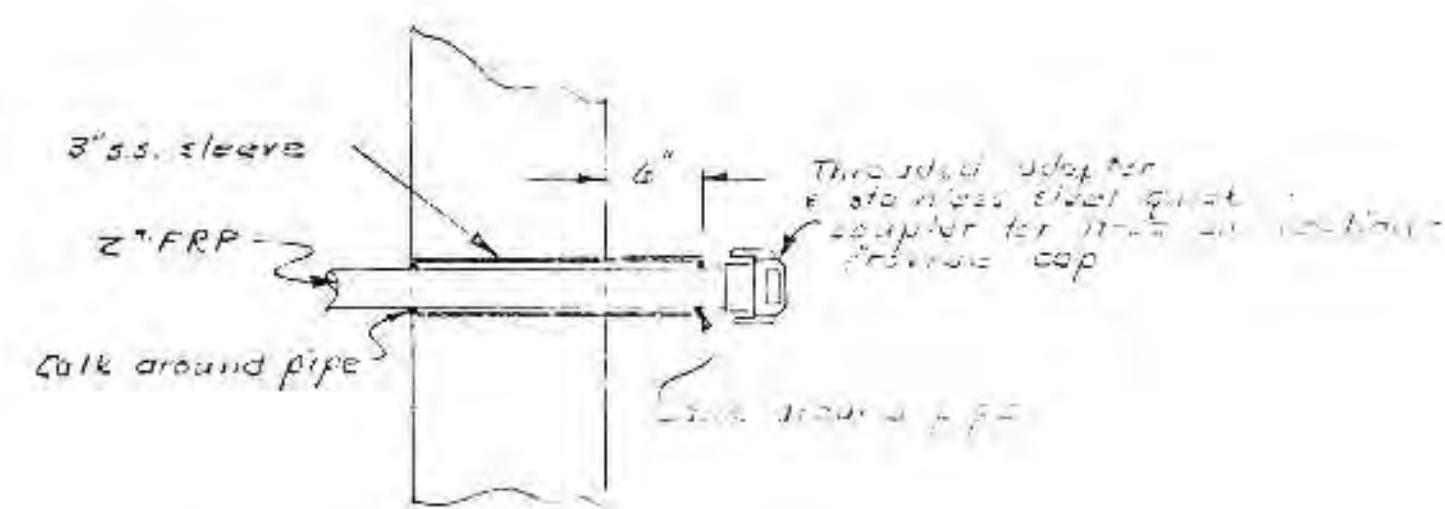
Beam 6x6 = 1'-0"

Note:
for location
see sheet 3



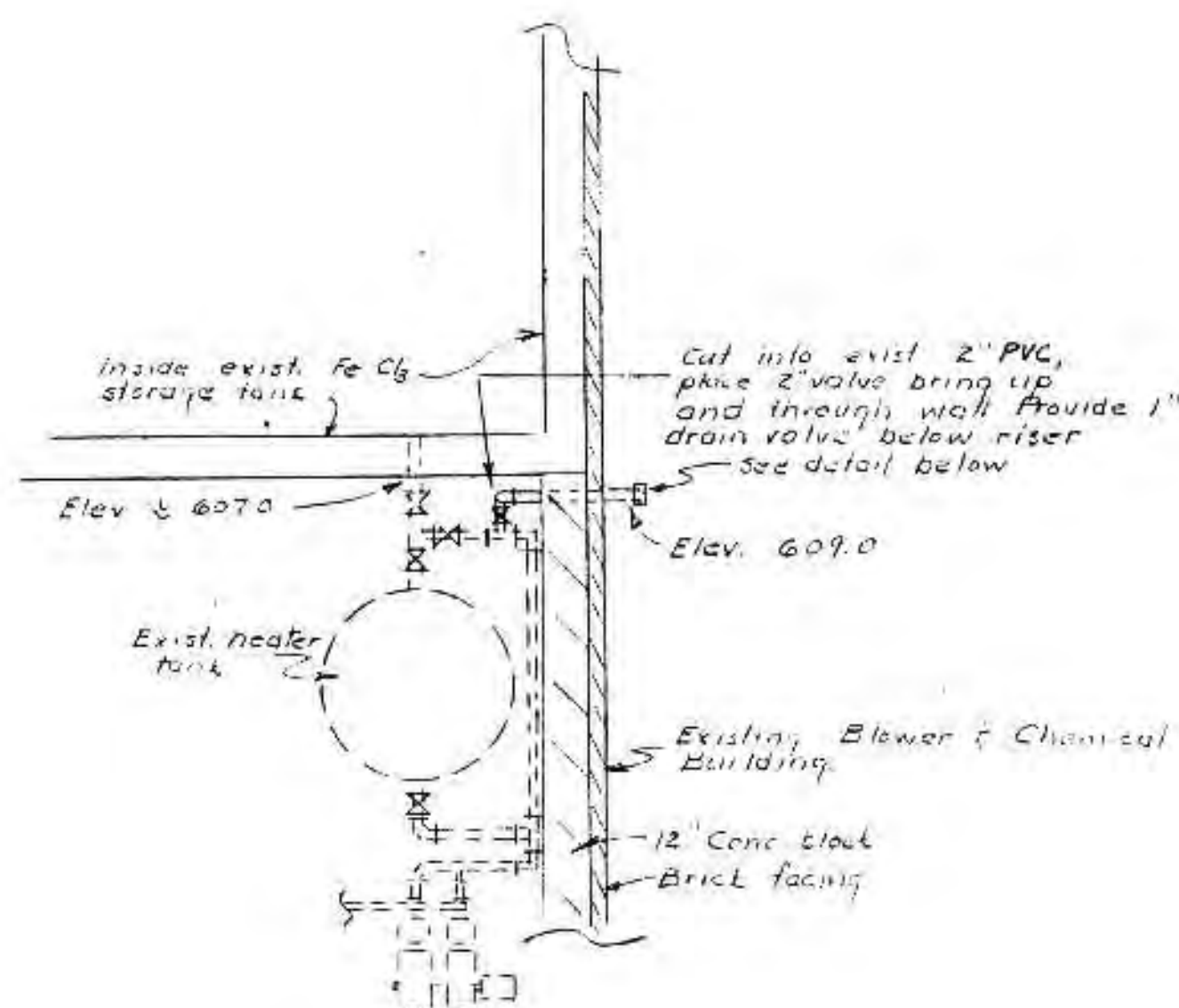
LIFTING HOOK DETAIL - 2 REQ'D

Scale: 3/4" = 1'-0"



FERRIC CHLORIDE FILL & TRANSFER LINE DETAIL

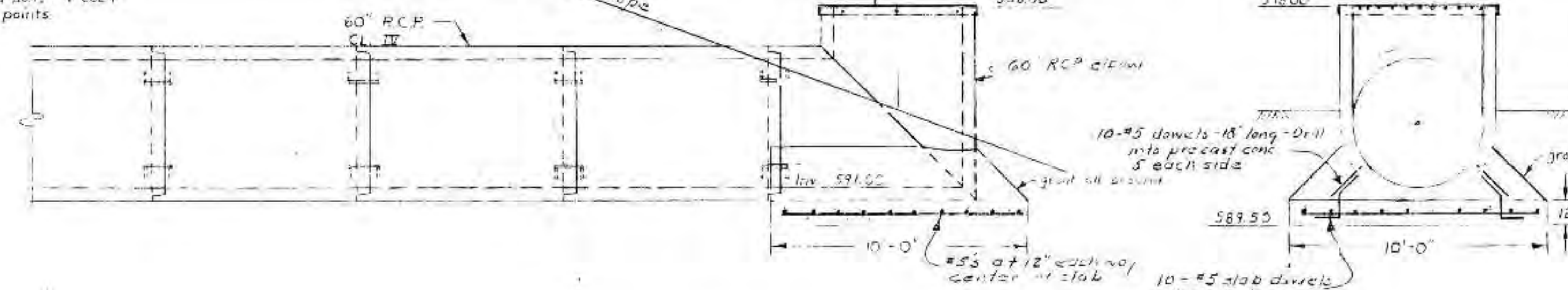
No Scale



FERRIC CHLORIDE TRANSFER LINE

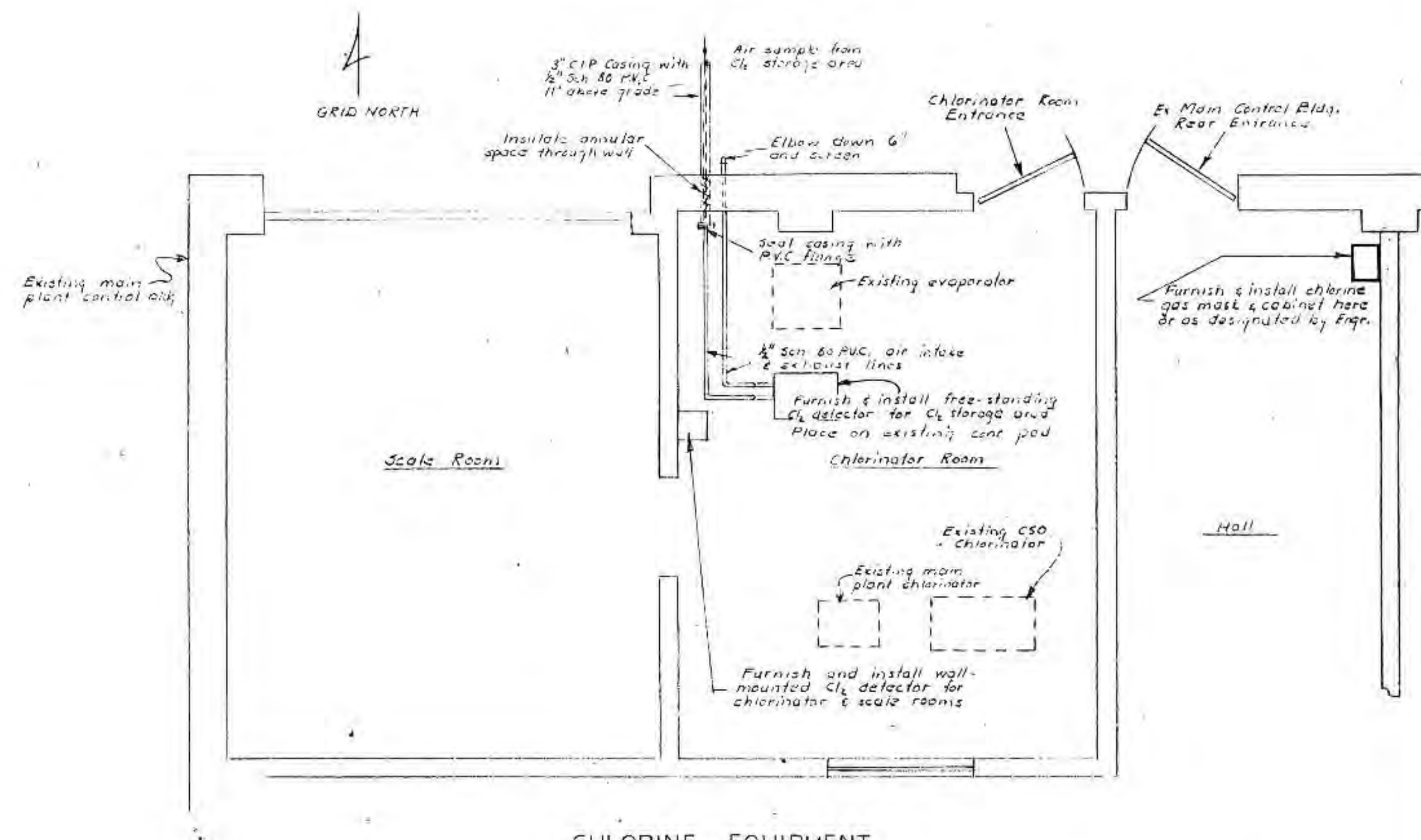
Scale: 1/4" = 1'-0"

NOTE: Tie B joints near intake with 3/4" galvanized U bolts - 4 each joint at quarter points



PUMP INTAKE

1/4" = 1'-0"



CHLORINE EQUIPMENT

Scale: 3/8" = 1'-0"

D N R OCT 10 1975

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.
DATE: JUNE 14, 1975 REG. NO. F06599

SURVEY	RET
DRAWN	RET
DESIGN	RET
APPROVED	RET

REVISIONS
10/17/75 Add Cl₂ detector
01/14/76

BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.
ST. PAUL, MINNESOTA

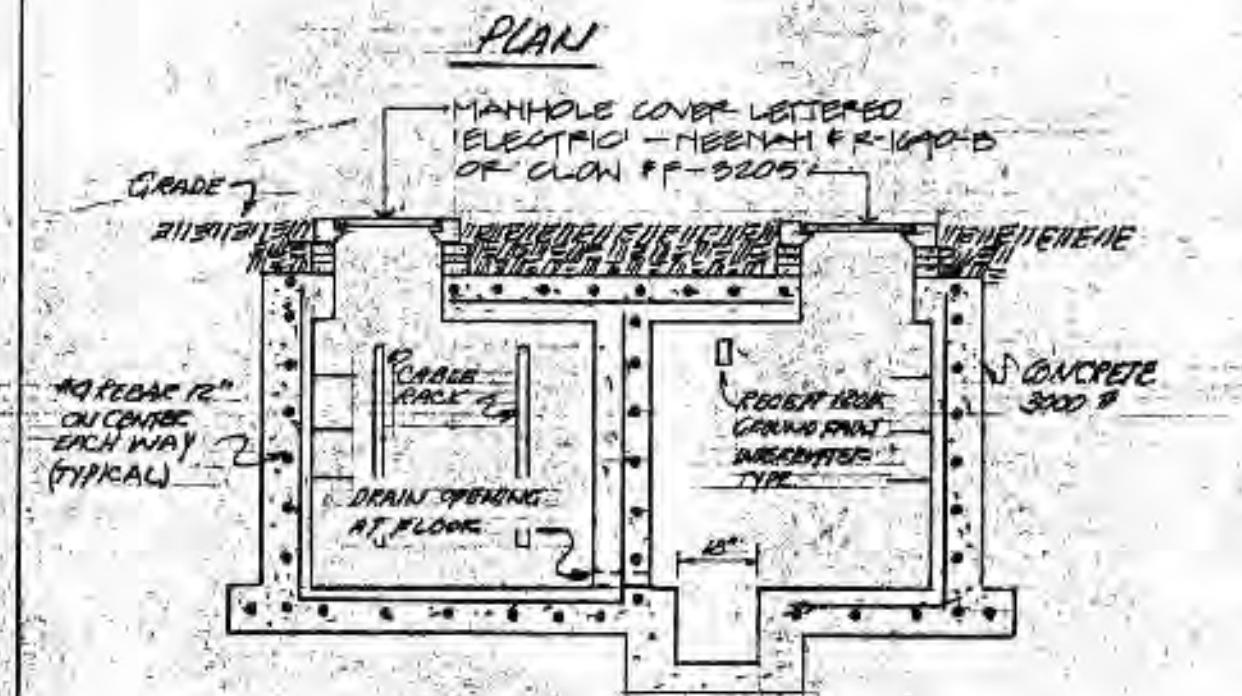
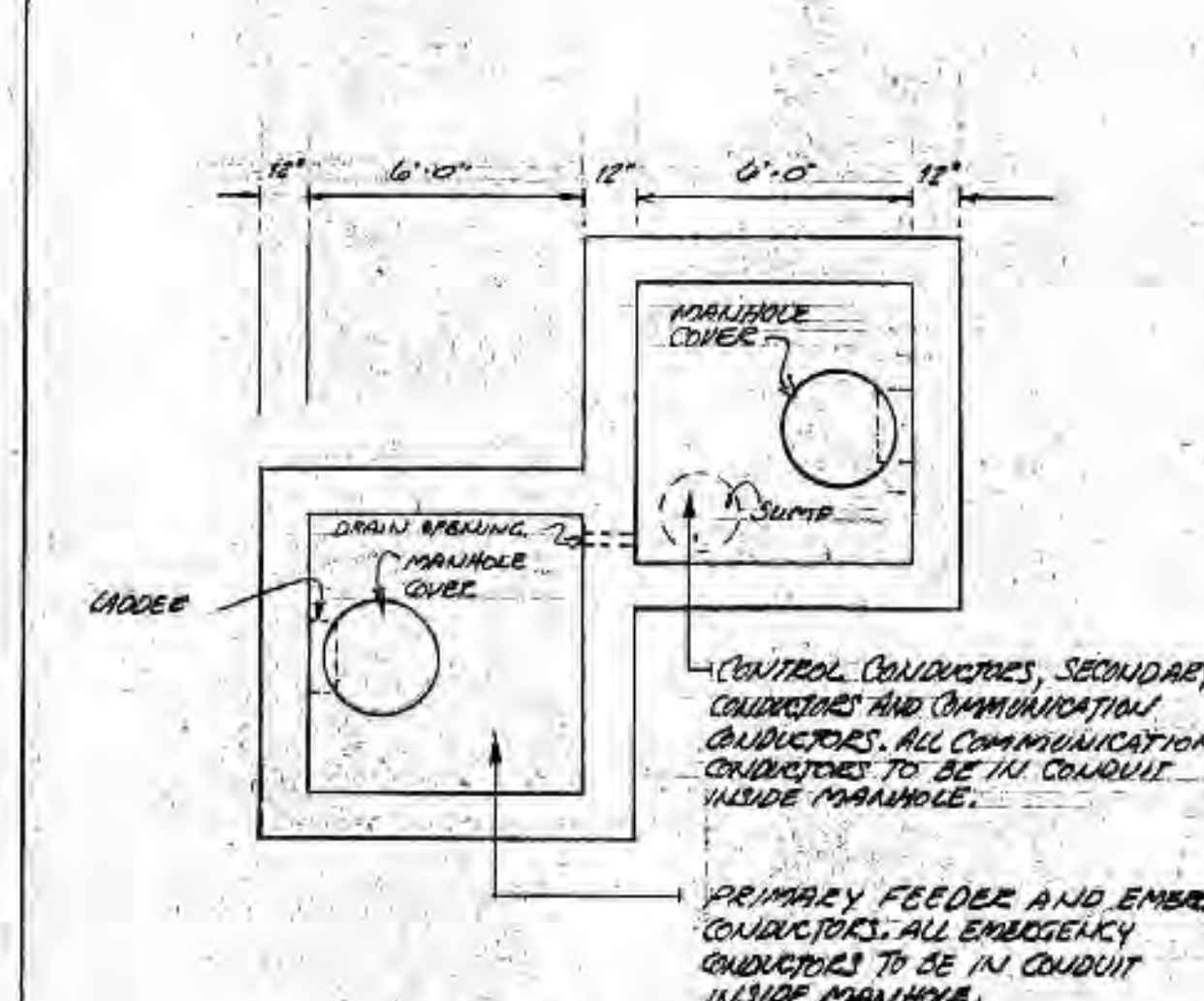
SUPERIOR, WISCONSIN
DATE: JUNE 14, 1975 COMM 6868F

C.S.O. PLANT - DISTRICT 2
DETAILS

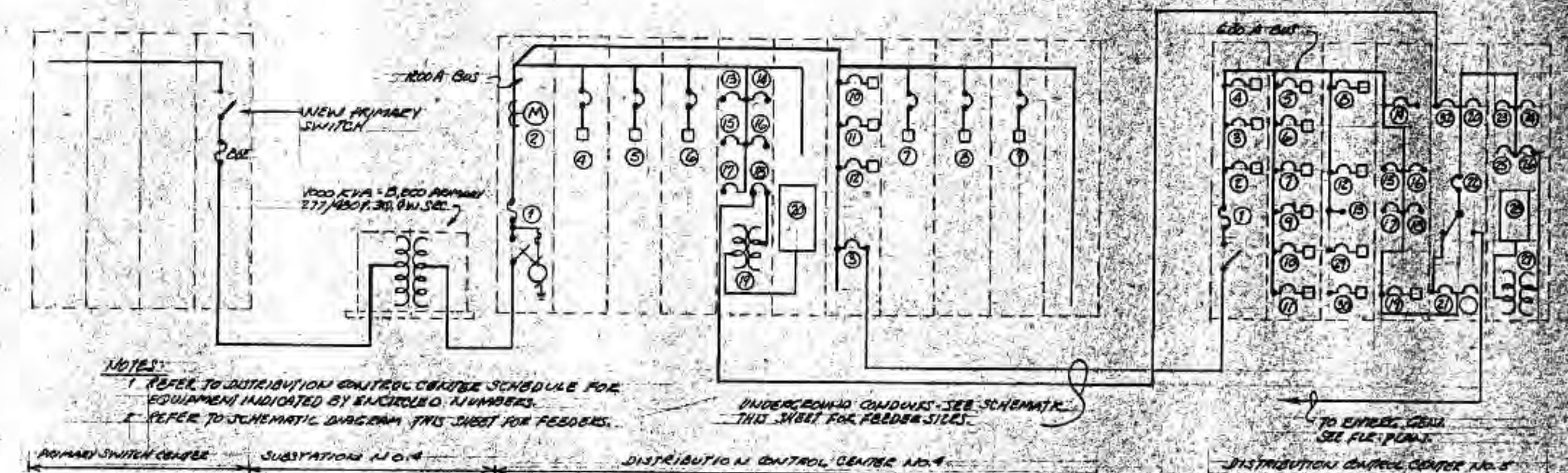
SHEET
24
53

ELECTRICAL SYMBOLS

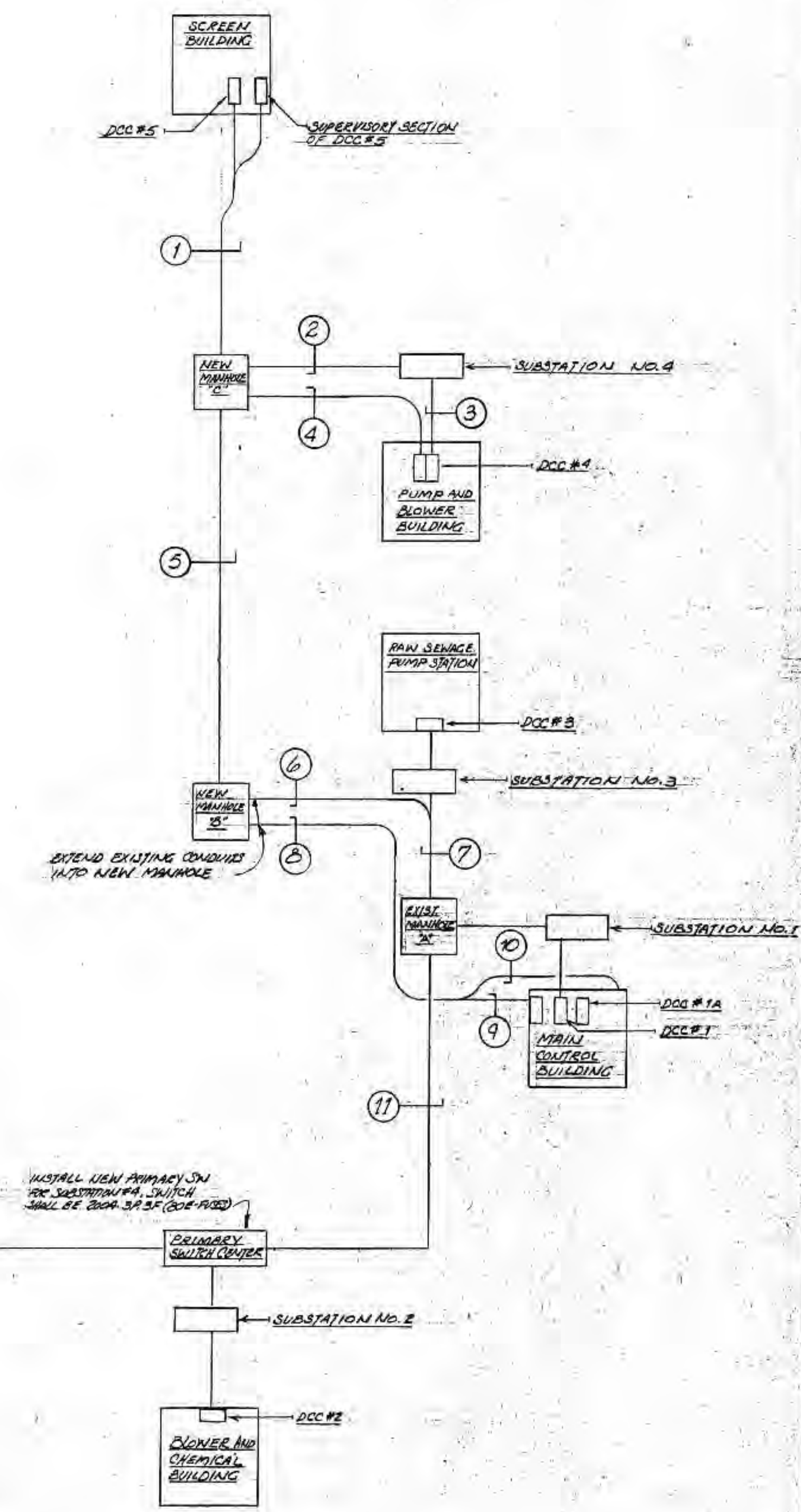
<ul style="list-style-type: none"> ⊙ CEILING OUTLET ⊙ OUTLET FOR OR CONNECTION TO RECESSED LIGHTING FIXTURE ⊙ WALL OUTLET ⊙ OUTLET MOUNTED BELOW, OR ON MECHANICAL DUCT WORK ⊙ EXIT LIGHT ⊙ DUPLEX CONVENIENCE RECEPT NEMA 5-15R ⊙ COMBINATION 20A, 120V-208V RECEPT, GROUND NEMA 5-20R + 6-20R ⊙ DUPLEX CONVENIENCE RECEPT, UPPER HALF SWITCHED, NEMA 5-15R ⊙ RANGE RECEPT, 50A, 3P+G, 4W, NEMA 14-50R ⊙ DUPLEX CONVENIENCE RECEPT, NEMA 5-20R ⊙ BRACKET INDICATES ALL DEVICES ON COMMON PLATE, MIN. OF ONE GANG PER DEVICE ⊙ FLOOR OUTLET <ul style="list-style-type: none"> F- FLUSH DEVICE P- PEDESTAL MTD. DEVICE C- CONDUIT CONNECTED DEVICE S- STANDPIPE ⊙ SINGLE POLE SWITCH 2 ⊙ DOUBLE POLE SWITCH 3 ⊙ 3-WAY SWITCH 4 ⊙ 4-WAY SWITCH ⊙ DOOR SWITCH K ⊙ KEY SWITCH ⊙ SWITCH AND PILOT ⊙ MOMENTARY CONTACT SWITCH ⊙ TIME SWITCH (SEE SPECS.) ⊙ DIMMER OR DIMMER CONTROL ⊙ PUSH BUTTON ⊙ BUZZER ⊙ BELL ⊙ TRANSFORMER ⊙ FIRE ALARM STATION ⊙ FIRE ALARM HORN ⊙ FIRE ALARM BELL ⊙ FIRE ALARM - DOOR HOLDER ⊙ THERMAL DETECTOR ⊙ FIRE ALARM FLOW SWITCH ⊙ IONIZATION DETECTOR ⊙ IONIZATION DETECTOR INSTALLED IN DUCT DUCT SIZE ⊙ CHIME ⊙ CLOCK OUTLET ⊙ SPEAKER OUTLET ⊙ SOUND OR INTERCOM CALL BACK SWITCH ⊙ SOUND OR INTERCOM VOLUME CONTROL ⊙ TELEPHONE OUTLET ⊙ MICROPHONE OUTLET 	<ul style="list-style-type: none"> — HOME RUN — PANEL NUMBER — CIRCUIT NUMBER — INDICATES WIRE SIZE IF NOT NOTED #12 AWG CONDUCTORS SHALL BE USED NOTE: ANY CIRCUITS WITHOUT FURTHER DESIGNATION IS A TWO-WIRE CIRCUIT. GREATER NUMBER OF WIRES ARE INDICATED BY CROSS MARKS. ANY SYMBOL MAY BE FURTHER DESIGNATED BY ONE OR MORE OF THE FOLLOWING SUBSCRIPTS: <ul style="list-style-type: none"> PS- OUTLET WITH PULL SWITCH WP- WEATHERPROOF OUTLET X- EXISTING OUTLET (DOES NOT APPLY TO EQUIP. OR DEVICE) XC- EXISTING OUTLET TO BE REMOVED OR COVERED WITH A BLANK COVER (DOES NOT APPLY TO EQUIP. OR DEVICE) A- LETTER INDICATES FIXTURE TYPE 2- NUMBER INDICATES CIRCUIT NUMBER — TERMINAL CABINET — ANNUNCIATOR — BRANCH CIRCUIT PANEL (250V OR LESS) — BRANCH CIRCUIT PANEL (277V/480) — MAGNETIC MOTOR STARTER — DISCONNECT SWITCH — DISCONNECT SWITCH & MAGNETIC MOTOR STARTER IN SAME LOCATION — MANUAL MOTOR STARTING SWITCH — MANUAL MOTOR CONTROL SWITCH — MANUAL MOTOR CONTROL SWITCH WITH PILOT — THERMOSTAT — AUXILIARY EQUIPMENT (AS NOTED) — JUNCTION BOX — UNDER FLOOR DUCT <ul style="list-style-type: none"> — LOW POTENTIAL OUTLET — HIGH POTENTIAL OUTLET — AUXILIARY SYSTEM CIRCUITS — A INDICATES SHIELDED CABLE (SEE SPECS.) — C INDICATES CABLE ONLY (CONDUIT NOT SHOWN) — BRANCH CIRCUIT (CEILING OR WALL) — BRANCH CIRCUIT (FLOOR) — EXISTING CONDUIT — EXISTING CONDUIT, CONDUCTORS REMOVED — EXISTING CONDUIT, CONDUCTORS REMOVED IN SAME LOCATION — PLUMBING - OUTLET SPACING AS SHOWN OR SPECIFIED — INDICATES NOTE ON PLAN — EQUIPMENT OR APPLIANCE (NO. REFERS TO SCHEDULE) — MOTOR (NO. REFERS TO SCHEDULE) — INTERCOMMUNICATION STATION OUTLET — DRY-TYPE TRANSFORMER - SIZE AS NOTED ON DRAWINGS — NURSE CALL STATION — LETTER INDICATES TYPE OF STATION — NURSE CALL CORRIDOR DOME LIGHT - TWO-WIRE — PROJECTOR OUTLET — TELEVISION OUTLET
---	--



MANHOLE "B" AND "C" DETAIL
SCALE: 1/2" = 1'-0"



ONE LINE DIAGRAM OF THE POWER DISTRIBUTION SYSTEM
SCALE: 1" = 100'



ELECTRICAL UNDERGROUND SCHEMATIC
SCALE: 1" = 100'

- 1 3" 4# 350MCM (277/480V POWER)
- 2 4" 3# 2 (15KV) AND 1# 4 (600V) - POWER
- 3 3" 4# 350MCM (277/480V POWER)
- 4 1 1/2" 2# 2 (15KV) AND 1# 4 (600V) - POWER
- 5 1 1/2" 2# 2 (15KV) AND 1# 4 (600V) - POWER
- 6 4" 3# 2 (15KV) AND 1# 4 (600V) - POWER
- 7 1 1/2" 2# 2 (15KV) AND 1# 4 (600V) - POWER
- 8 4" 3# 2 (15KV) AND 1# 4 (600V) - POWER
- 9 4" 3# 2 (15KV) AND 1# 4 (600V) - POWER
- 10 4" 3# 2 (15KV) AND 1# 4 (600V) - POWER
- 11 4" 3# 2 (15KV) AND 1# 4 (600V) - POWER

NOTE: REFER TO DETAIL SHEET FOR CONCRETE ENCASED DUCT DETAIL.

CONTROL CONDUCTOR SCHEDULE	
TYPE	SUMMARY OF CONDUCTORS AND USE (TYPE THIN CONDUCTORS EXCEPT FOR SHIELDED PAIR)
A	TYPE # 6 SHIELDED (RIVULET & EFFLUENT FLOW), 2# 12 (COMMON ALARM), 2# 12 (RETENTION TANK CALL FOR 200 AMP FAILURE), 1# 12 (LOW TEMP ALARM - 200V), 2# 12 (PUMPING LOGS - NOTES 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18) AND 1# 12 (SPARE)
B	TYPE # 6 SHIELDED (PUMP (PUMP & BLOWER BLDG. LOW TEMP ALARM), 6# 12 (CALL FOR 100 AMP NOTES 14, 5 & 6) AND 1# 12 (PUMPING LOGS - NOTES 1, 2, 3, 4, 5, 6, 7 AND 21) AND 1# 12 (SPARE)
C	TYPE # 6 UNSHIELDED (PUMP MOTORS # 1, 2, 3, 4, 5, 6, 7 AND 21) AND 8# 12 (SPARES)

ERIKSEN ELLISON
AND ASSOCIATES INC.
CONSULTING ENGINEERS
SAINT PAUL, MINNESOTA

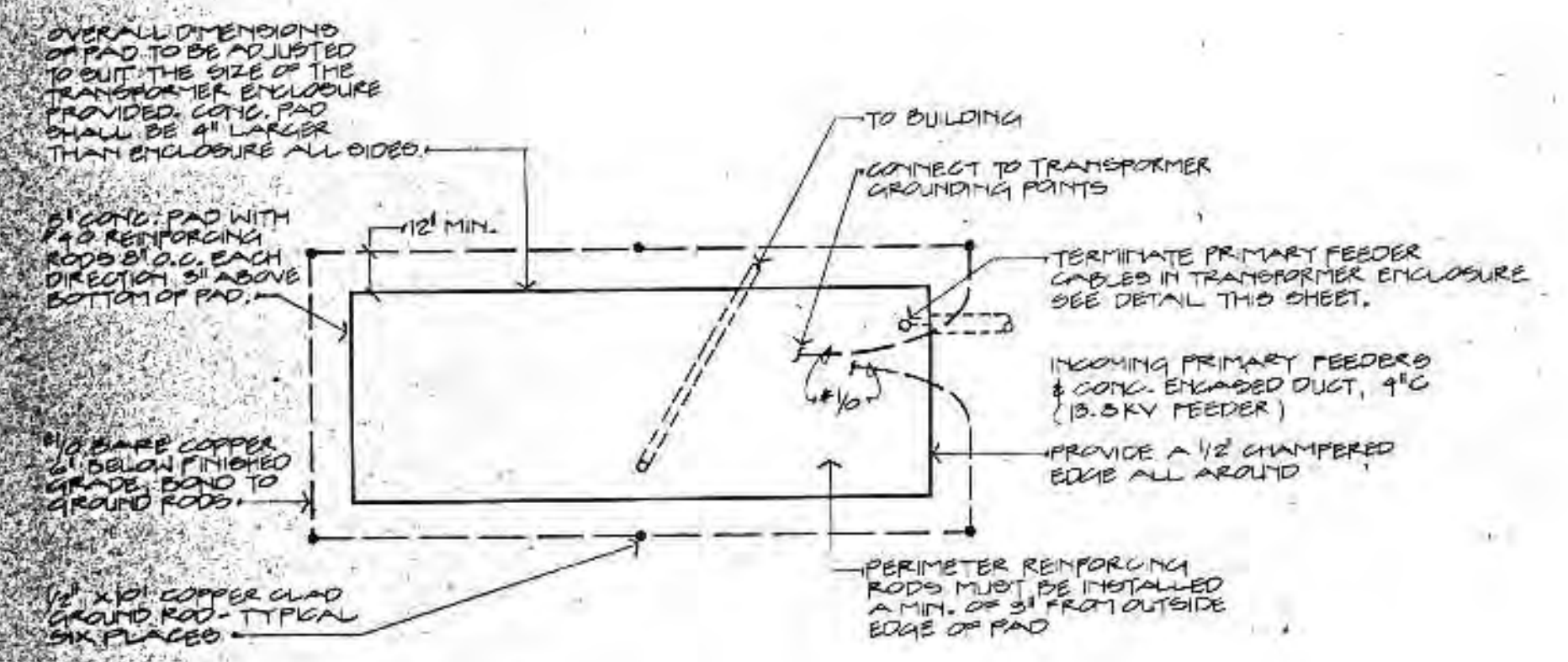
DATE: JUNE 14, 1975
DESIGNED BY: J. J. HANSEN
CHECKED BY: J. J. HANSEN
APPROVED BY: J. J. HANSEN

BONESTROO, ROSENE, ANDERLIN & ASSOC., INC.
ST. PAUL, MINNESOTA

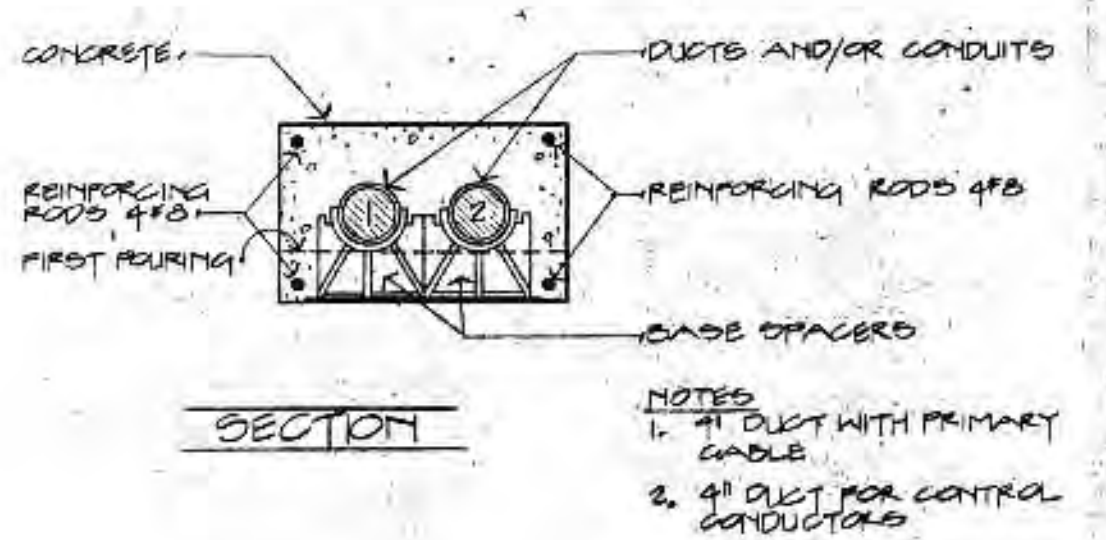
SUPERIOR, WISCONSIN
DATE: JUNE 14, 1975
GRAPHIC: 6888F

ELECTRICAL UNDERGROUND SCHEMATIC

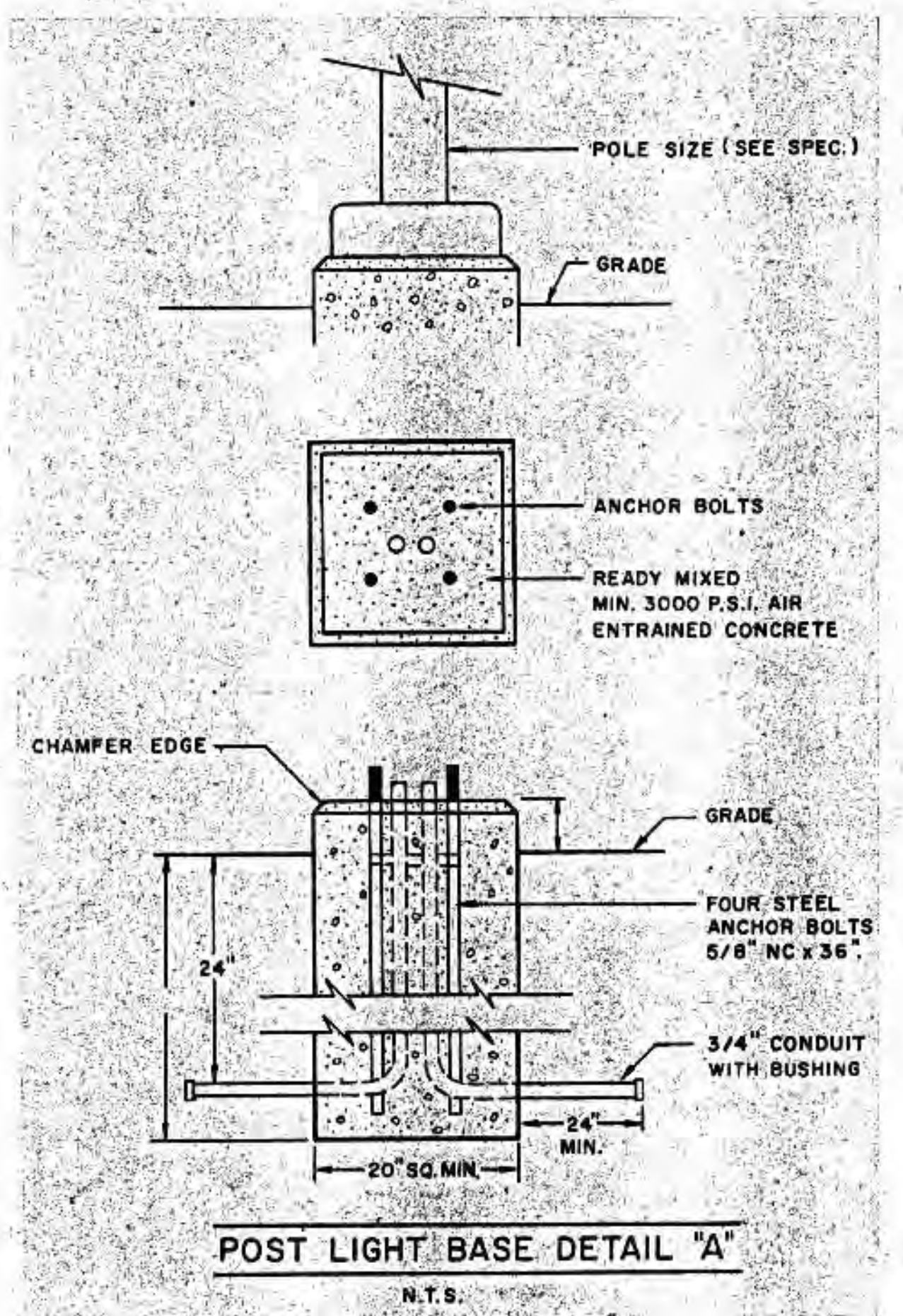
D.N.R. JUL 14 1975



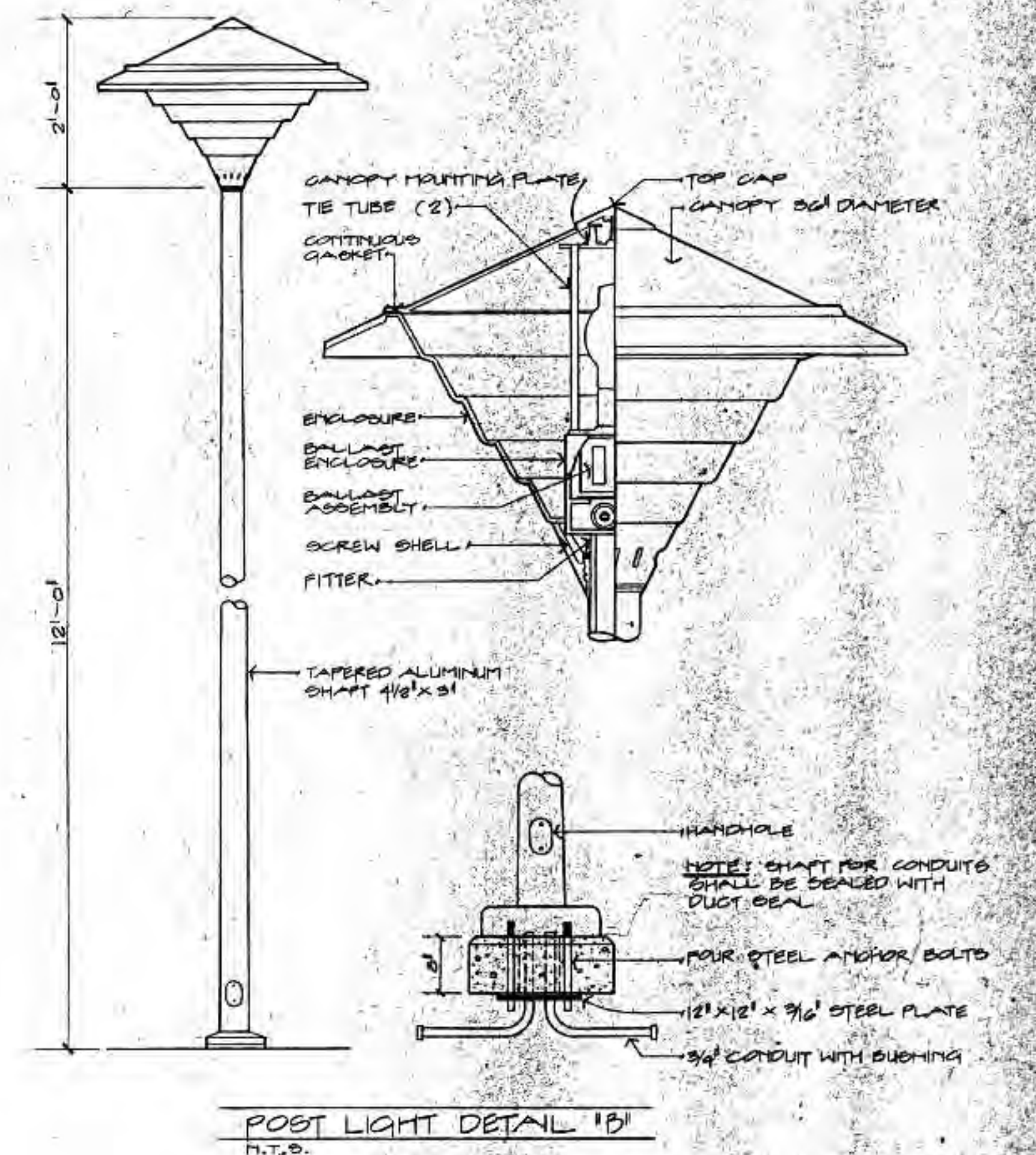
SUBSTATION TRANSFORMER PAD DETAIL
SCALE: 1/4" = 1'-0"



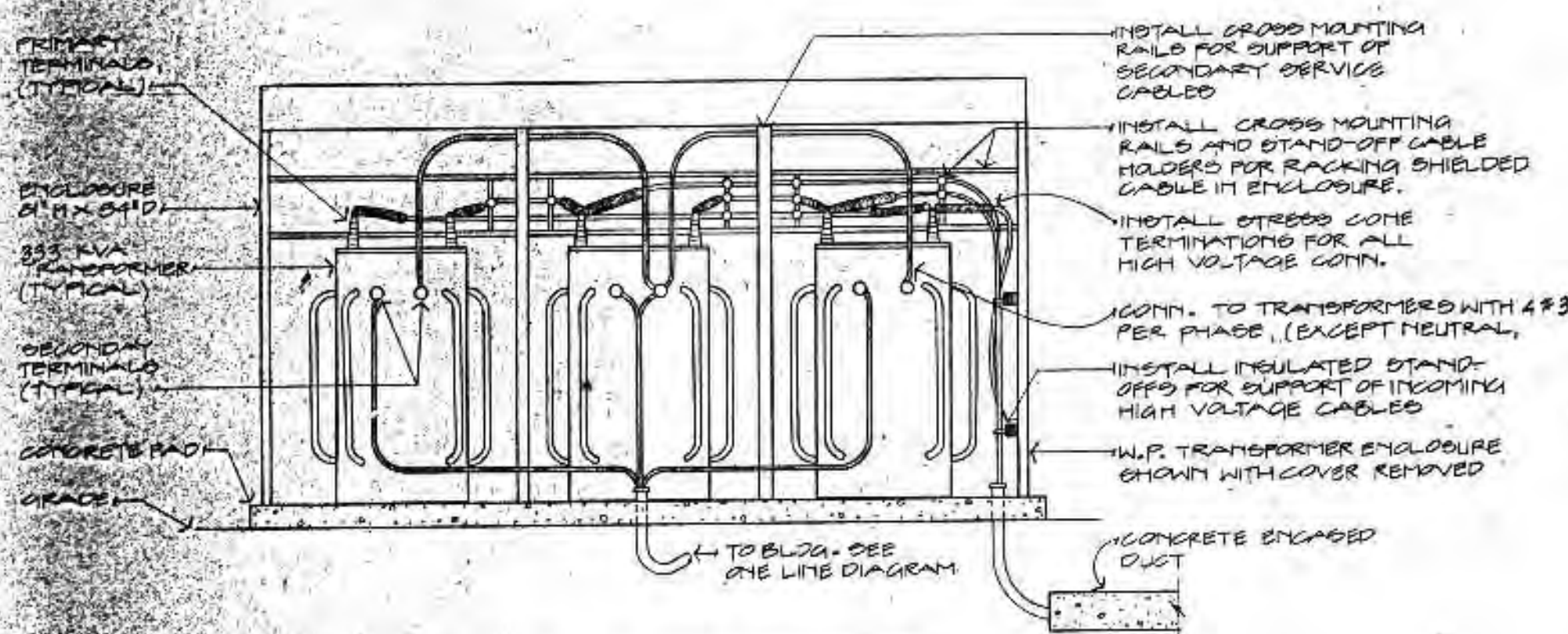
SECTION



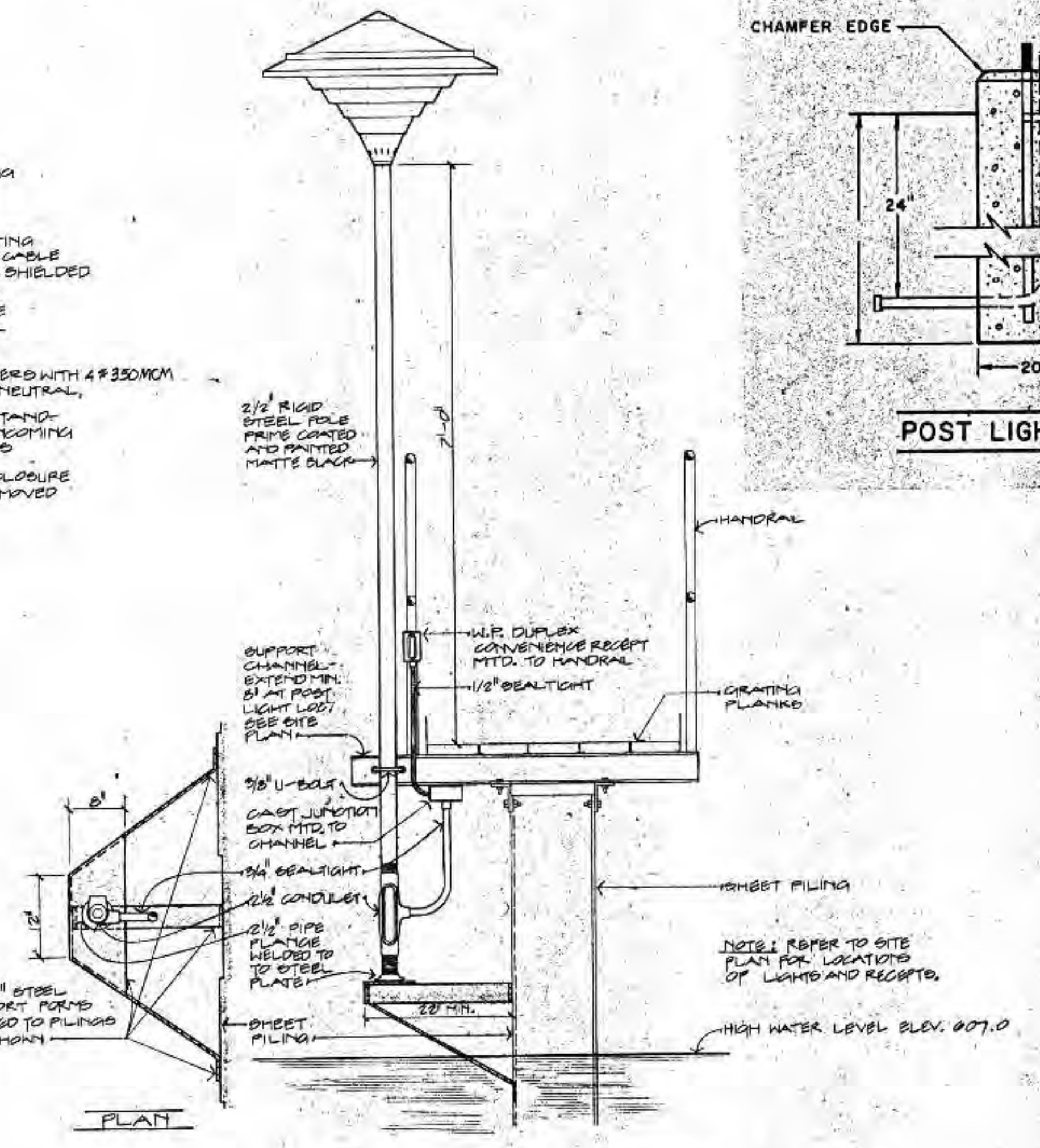
POST LIGHT BASE DETAIL "A"
N.T.S.



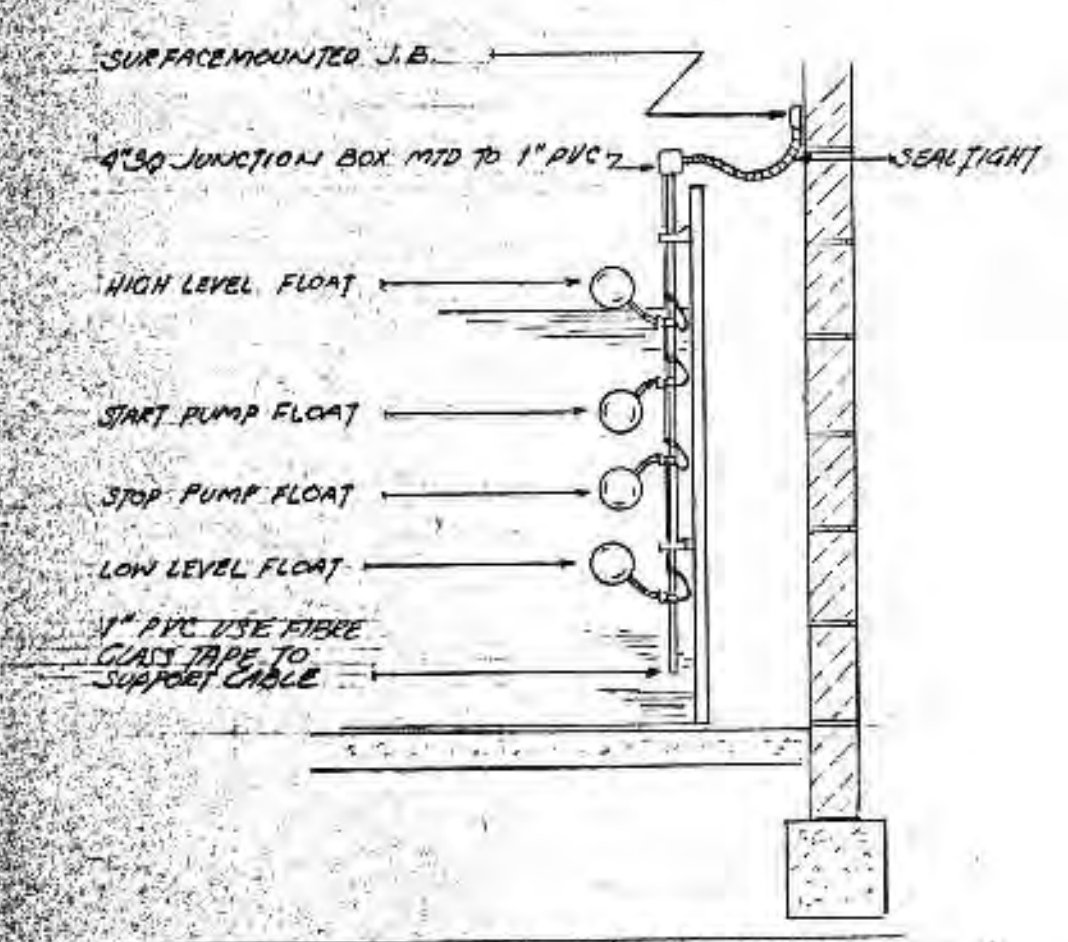
POST LIGHT DETAIL "B"
N.T.S.



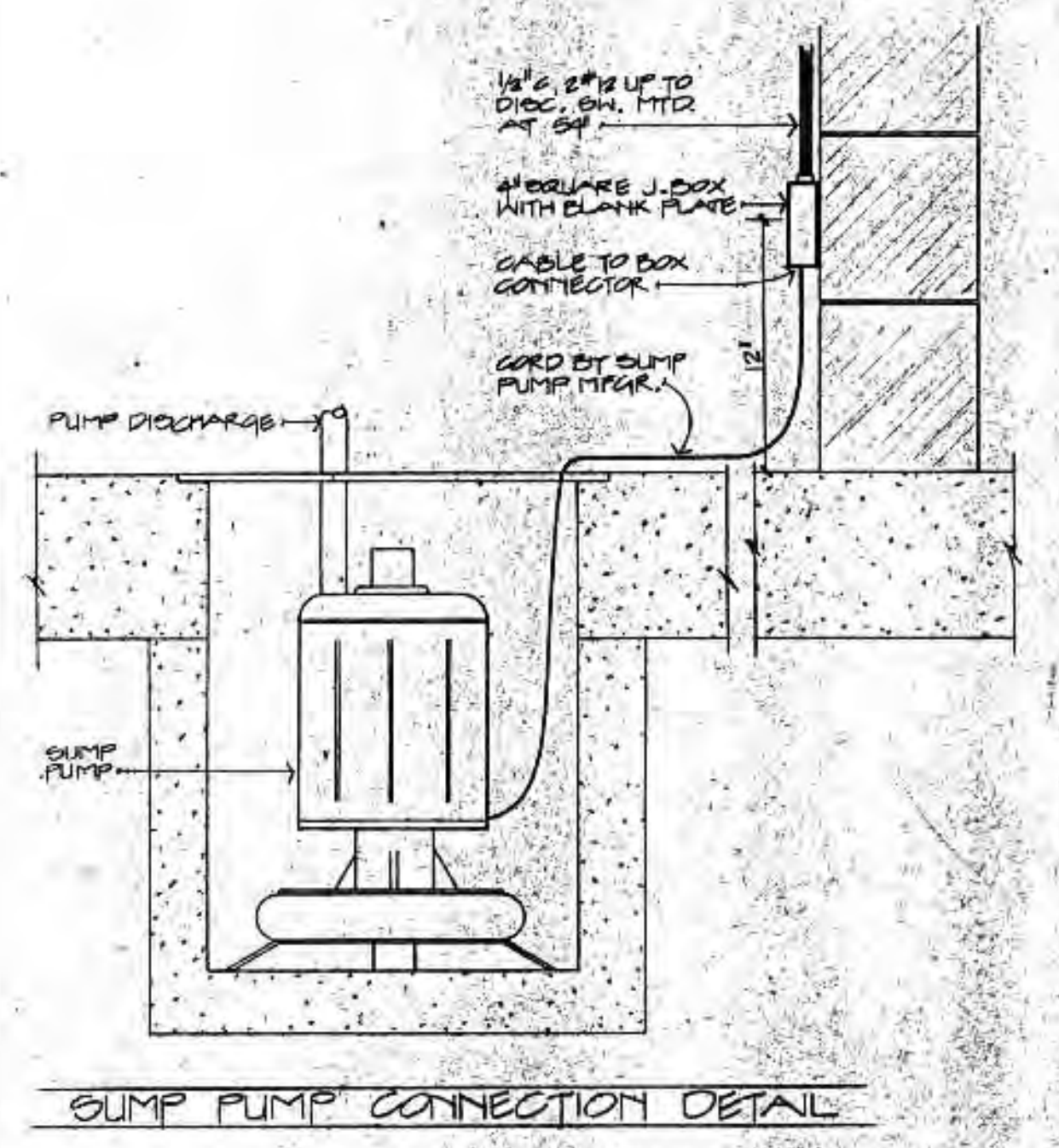
ELEVATION OF SUBSTATION NO. 4
NOT TO SCALE



SECTION - GATWALK LIGHTING
SCALE: 3/4" = 1'-0"



POLYMER STORAGE TANK FLOAT DETAIL
SCALE: 1/4" = 1'-0"



SUMP PUMP CONNECTION DETAIL

DISTRIBUTION CONTROL CENTER SCHEDULE										
BUS & TYPE	MAIN LUGS		MTR. NO.	UNIT #	CIRCUIT BREAKER & STARTERS			STARTER SIZE	INT. AMPS	
	SIZE	LOCA.			FRAME SIZE	TRIP RATING	POLES			
DCC #4 277/480V, 3Ø, 4W	1200	BOTTOM	MAIN	(1) [#]	1200	1200	3	(FUSED SW)	25000	
			METER	(2)	-	-	-	-		
			DCC#5	(3)	600	600	3	-		
			1	(4)	225	175	3	4AT		
			2	(5)	225	175	3	4AT		
			3	(6)	225	175	3	4AT		
			4	(7)	400	200	3	4AT		
			5	(8)	400	200	3	4AT		
			6	(9)	400	200	3	4AT		
			7	(10)	50	20	3	1		
			27	(11)	50	15	3	0		
			34	(12)	50	15	3	0		
			37	(13)	50	30	3	-		
			35	(14)	50	20	3	-		
			36	(15)	50	20	3	-		
			WALL LGTS	(16)	50	20	2	-		
			POST LGTS	(17)	50	20	2	-		
			TFMR	(18)	50	30	3	-		
			9 KVA TFMR	(19)	-	-	-	-		
			120/208 V, PANEL	(20)	SEE DCC #4 PANELBOARD SCHEDULE					
			SPACE	(21)	-	-	-	-		
				(22)	SUPERVISORY CONTROL SECTION					

* MAIN SWITCH TO BE BOLTED PRESSURE SWITCH WITH GROUND FAULT PROTECTION.

DISTRIBUTION CONTROL CENTER SCHEDULE										
BUS & TYPE	MAIN LUGS		MTR. NO.	UNIT #	CIRCUIT BREAKER & STARTERS			STARTER SIZE	INT. AMPS	
	SIZE	LOCA.			FRAME SIZE	TRIP RATING	POLES			
DCC #5 277/480V, 3Ø, 4W 600A	350 MCM DBL WGS	BOTTOM	MAIN	(1)	600	500	3	FUSED SW	18,000	
			12	(2)	50	15	3	0		
			13	(3)	50	15	3	0		
			14	(4)	50	15	3	-		
			SPACE	(5)	-	-	-	-		
			16	(6)	50	30	3	1		
			17	(7)	50	30	3	1		
			18	(8)	50	15	3	-		
			22	(9)	50	15	3	0		
			25	(10)	50	15	3	1		
			26	(11)	50	15	3	0		
			SPACE	(12)	-	-	-	-		
			SPACE	(13)	50	-	3	1		
			24	(14)	400	350	3	-		
			29	(15)	100	20	3	-		
			31	(16)	100	30	3	-		
			LIGHTS	(17)	100	20	2	-		
			OUTSIDE LIGHTS	(18)	100	20	2	-		
			SPACE	(19)	50	20	3	1		
			11	(20)	50	15	3	-		
			FEEDER TRANS. SW.	(21)	100	60	3	-		
			AUTO TRANS. SW.	(22)	-	60	3	-		
			8	(23)	50	15	3	-		
			9	(24)	50	15	3	-		
			10	(25)	50	15	3	-		
			15 KVA TFMR	(26)	50	30	3	-		
			15 KVA TFMR	(27)	-	-	-	-		
			120/208 V, PANEL	(28)	SEE DCC #5 PANELBOARD SCHEDULE					
			28	(29)	-	-	-	0		
			32	(30)	-	-	-	0		
				(31)	SUPERVISORY CONTROL SECTION					
			DCC#4 TFMR MAIN	(32)	50	30	3	-		

MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE									
NUMBER	EQUIPMENT	SIZE	VOLT. & #	LOCA.	CONTROL	CONT. LOCA.	STARTER SIZE	STARTER LOCA.	DISC SIZE & TYPE
1	BLOWER NO. 1	75	460-3	BLOWER BLDG	SEE SPEC	DCC #4	4(1)	DCC #4	-
2	BLOWER NO. 2	75	460-3	BLOWER BLDG	SEE SPEC	DCC #4	4(1)	DCC #4	-
3	BLOWER NO. 3	75	460-3	BLOWER BLDG	SEE SPEC	DCC #4	4(1)	DCC #4	-
4	PUMP NO. 1	100	460-3	BLOWER BLDG	SEE SPEC	DCC #4	4(1)	DCC #4	-
5	PUMP NO. 2	100	460-3	BLOWER BLDG	SEE SPEC	DCC #4	4(1)	DCC #4	-
6	PUMP NO. 3	100	460-3	BLOWER BLDG	SEE SPEC	DCC #4	4(1)	DCC #4	-
7	WET WELL DE-WATERING PUMP	9.4	460-3	BLOWER BLDG WET WELL	SEE SPEC	DCC #4	1	DCC #4	30A.3P.NF
8	BAR SCREEN #1	3	460-3	SCREEN BLDG UPPER LEVEL	SEE SPEC	DCC #5	SELF CONTAINED	-	30A.3P.NF
9	BAR SCREEN #2	3	460-3	SCREEN BLDG UPPER LEVEL	SEE SPEC	DCC #5	SELF CONTAINED	-	30A.3P.NF
10	BAR SCREEN #3	3	460-3	SCREEN BLDG UPPER LEVEL	SEE SPEC	DCC #5	SELF CONTAINED	-	30A.3P.NF
11	CONVEYOR	1HP	460-3	SCREEN BLDG UPPER LEVEL	SEE SPEC	DCC #5	0	AT CONVEYOR	30A.3P.NF
12	FERRIC CHLO-RIDE PUMP #1	2HP	460-3	SCREEN BLDG UPPER LEVEL	SEE SPEC	DCC #5	0	DCC #5	30A.3P.NF
13	FERRIC CHLO-RIDE PUMP #2	2HP	460-3	SCREEN BLDG UPPER LEVEL	SEE SPEC	DCC #5	0	DCC #5	30A.3P.NF
14	POLYMER MIXER	1-1/2	460-3	SCREEN BLDG LOWER LEVEL	SEE SPEC	AT UNIT	0	AT UNIT	30A.3P.NF
15	POLYMER METER PUMP	3HP	208-1	SCREEN BLDG LOWER LEVEL	SEE SPEC	DCC #5	0	AT UNIT	30A.3P.NF
16	POLYMER TRANSFER PUMP	7-1/2	460-3	SCREEN BLDG LOWER LEVEL	SEE SPEC	DCC #5	1	DCC #5	30A.3P.NF
17	BLOWER	.10	460-3	SCREEN BLDG LOWER LEVEL	SEE SPEC	DCC #5	1	DCC #5	30A.3P.NF
18	DILUTION WATER PUMP	3.0	460-3	SCREEN BLDG LOWER LEVEL	SEE SPEC	DCC #5	0	DCC #5	30A.3P.NF
19	SUMP PUMP	1/3	120-1	SCREEN BLDG LOWER LEVEL	FLOAT SW **	AT UNIT	NONE	-	MTR. SW.
20	SUMP PUMP	1/3	120-1	SONIC MAN HOLE	FLOOR SW **	ON PUMP	NONE	-	MTR. SW.
21	EFFLUENT SAMPLE PUMP	1/2	120-1	BLOWER BLDG	MS&P	DCC #4	-	-	TOGGLE SW.
22	VAC. PUMP	1/2	460-3	SCREEN BLDG	MS&P	DCC #5	0	DCC #5	30A.3P.NF
23	SAMPLER INFLUENT	1/3	120-1	SCREEN BLDG	SELF CONTAINED ()	-	-	-	MTR. SW.
24	HEATING COIL	220KW	480-3	SCREEN BLDG	10 STAGE STEP CONTROLLER	DCC #5	-	-	SELF CONTAINED
25	UNIT S-1 (SUPPLY #1)	5HP	480-3	SCREEN BLDG	TIME CLOCK () SEL. SW. SEE SPEC	DCC #5	1	DCC #5	30A.3P.NF
26	EXHAUST FAN E-1	3HP	480-3	SCREEN BLDG ROOF	INTERLOCK WITH MTR 25	DCC #5	0	DCC #5	30A.3P.NF
27	EXHAUST FAN E-2	1HP	480-3	PUMP AND BLOWER	REVERSE ACT STAT**	DCC #4	0	DCC #4	30A.3P.NF
28	UNIT VENTI-LATOR	1/3HP	120-1	SCREEN BLDG OFFICE	SEE SPEC	DCC #5	0	DCC #5	30A.3P.NF
29	HEATING COIL	6KW	480-3	SCREEN BLDG OFFICE	3 STAGE STEP CONTROLLER	DCC #5	-	-	SELF CONTAINED
30	OIL PUMP	1/4	120-1	SCREEN BLDG	FLOAT SW.	DAY TANK	-	-	MTR. SW.
31	HEATING COIL	15.6KW	480-3	SCREEN BLDG LOWER	5 STAGE STEP CONTROLLER	DCC #5	-	-	SELF CONTAINED
32	UNIT VENTI-LATOR	1/3HP	120-1	SCREEN BLDG LOWER	SEE SPEC	DCC #5	0	DCC #5	30A.3P.NF
33	EFFLUENT SAMPLER	1/3	120-1	PUMP AND BLOWER BLDG	SELF CONTAINED	-	-	-	MS
34	EXHAUST FAN E-3	3	460-3	PUMP AND BLOWER BLDG	REVERSE ACT STAT**	PUMP RM	1	DCC #4	30A.3P.NF
35	ELEC. UNIT HEATER	7.5KW	480-3	PUMP AND BLOWER BLDG	STAT	BLOWER ROOM	-	-	BY MFR
36	ELEC. UNIT HEATER	7.5KW	480-3	PUMP AND BLOWER BLDG	STAT	-	-	-	BY MFR
37	ELEC. UNIT HEATER	15KW	480-3	PUMP AND BLOWER BLDG	STAT	PUMP RM	-	-	BY MFR
38	CHLORINE EXH	2HP	460-3	CHLORINE BLDG	TIMBER (2)	GARAGE	0	GARAGE	30A.3P.NF
39	SUPPLY FAN	1/3HP	120-1	GARAGE	M.S. AND PILOT	GARAGE	-	-	-

MOTOR NOTES
 (1) PROVIDE A REDUCED VOLTAGE CLOSED TRANSITION AUTOTRANSFORMER STARTER FOR THIS MOTOR.
 (2) TIMBER SHALL BE INTERMEDIATE RIBBLES WITH OMITTING DEVICES. PROVIDE A WEATHERPROOF BYPASS SWITCH AT EXTERIOR OF CHLORINE ROOM.

SCHEDULE - LIGHTING FIXTURE TYPES									
TYPE LETTER	FIXTURE TYPE	FLOR	M/PLD	H/D	MOUNTING	LAMPS	CONTROL MEDIA (LENS, LOUVER ETC)	MANUFACTURER'S CATALOG NUMBER	REMARKS
A	RLM		X		SURFACE	150 WATT A-21	STD. DOME REFLECTOR GLASSSTEEL DIFFUSER	SPERO #D08-5166SD MILLER AC 1141 OR EQUAL	OUTLET BOX MOUNTING
A-1	RLM		X		STEM	150 WATT A-21	STD. DOME REFLECTOR GLASSSTEEL DIFFUSER	SPERO #D08-5166SD MILLER AC 1141 OR EQUAL	
B	EXTERIOR			X	WALL BRACKET	175 WATT H39-22KC/OX	PRISMATIC GLASS HIGH IMPACT RESISTANCE	STONCO #532-175MM ART METAL MWBA OR EQUAL	BLACK FINISH 480 VOLT
B-1	EXTERIOR			X	WALL BRACKET	250 WATT H37-5KC/DX	PRISMATIC GLASS HIGH IMPACT RESISTANCE	STONCO #542-250MM ART METAL MWBB	BLACK FINISH 480 VOLT SEE NOTE 1
C	STAIR			X	WALL MOUNTED	2-75 WATT	OPAL WHITE GLASS	HALO #2411-2 MARKSTONE #781 OR EQUAL	
D	AREA LIGHT			X	POST	250 WATT H37-5KC/DX	WHITE ACRYLIC PLASTIC	STERNER #BC36-250M 12.5A GE #C71660 08-35-112197-13 OR EQUAL	SEE NOTE 2
E	OMITTED								
F	KEYLESS		X		OUTLET BOX	1-150 WATT A21	NOME	BRYANT #5228 PES-37 OR EQUAL	W/WIREGUARD
G	HIGH BAY			X	OUTLET BOX	250 WATT H37-5KC/DX	SPECULAR HEX/CLEAR GLASS	WIDE LIGHT #11-257-5G-OD, #1000000000	480 VOLT
H	EXPLOSION PROFF		X		SURFACE	1-150 WATT A-21	PRISMATIC REFRACTOR	CROUSE HINDS EVA 1105 APPLETON AAC15506 OR EQUAL	SUITABLE FOR 1 GROUP D
J	2' X 4'	X			SURFACE	4-40 WATT	ACRYLIC-PLASTIC	GLOBE ILL #0YE-8152-4R, GUT# AKY3885	120 VOLT
K	1' X 4'	X			SURFACE	2-40 WATT	ACRYLIC-PLASTIC	GLOBE ILL #0YE-8254-4R, GUT# AKY3885	120 VOLT
L	EXTERIOR			X	CEILING	1-100 WATT E23-1/2 DX	CORNING C73	ART METAL M-3509-1TL, COLE # 1531	480 VOLT
M	1' X 4'	X			WALL	2-40 WATT	ACRYLIC PLASTIC	KEENE #CWB 240-B GUT# AKY3885	120 VOLT

PANELBOARD SCHEDULE										
PANEL NO.	BUS AND TYPE	MAIN LUGS		CIRCUIT BREAKERS					INT. AMPS RMS. SYM	MOUNTING
		SIZE	LOCA.	QUAN.	FRAME SIZE	TRIP RATING	POLES	USE		
DCC #4	120/208V, 3Ø, 4W, 100A MAIN	#2	BOTTOM	1	50	40	3	MAIN	10,000	IN DCC
				3	50	20	1	LGT. CCTS		
				5	50	20	1	RECEPT. CCTS		
				3	50	20	1	SPARES		
DCC #5	120/208V, 3Ø, 4W, 100A MAINS	#2	BOTTOM	1	100	60	3	MAIN	10,000	IN DCC
				3	50	20	1	LTG. CCTS.		
				9	50	20	1	RECEPT. CCTS.		
				4	50	20	1	MOTORS		
				4	50	20	1	SPARES		
				3	50	20	1	SUPERVISORY CONT		

- GENERAL NOTES:
- CIRCUIT NUMBERS SHOWN ON THESE DRAWINGS SHALL NOT NECESSARILY CORRESPOND TO ACTUAL CIRCUIT BREAKER NUMBERS.
 - VERIFY LOCATION OF ALL MOTORS WITH MECHANICAL PLANS BEFORE ROUGH-IN.
 - ADJUST MOUNTING HEIGHTS OF ALL OUTLETS IF REQUIRED SO AS NOT TO INTERFERE WITH OTHER EQUIPMENT. VERIFY CHANGES WITH ENGINEER.
 - IN MECHANICAL EQUIPMENT ROOMS, CONDUIT FOR LIGHTING FIXTURES MAY BE RUN EXPOSED.
 - VERIFY TYPE OF CEILING CONSTRUCTION FOR PROPER MOUNTING OF ALL RECESSED LIGHT FIXTURES.
 - INTERRUPTING RATINGS NOTED IN SCHEDULES SHALL APPLY TO ENTIRE PANELBOARD AND/OR SWITCHBOARD. ALL EQUIPMENT COMPRISING PANELS AND/OR SWITCHBOARDS SHALL EITHER BE RATED FOR SHOR CIRCUIT CURRENT NOTED OR BE SUITABLY PROTECTED FOR THE AVAILABLE SHORT CIRCUIT CURRENT.
 - LETTER THUS: "A" - INDICATES TYPE OF LIGHTING FIXTURES. REFER TO LIGHTING FIXTURE TYPES IN SPECIFICATIONS.

CITY OF SUPERIOR, WISCONSIN DEPARTMENT OF PUBLIC WORKS

PLANS FOR THE CONSTRUCTION OF CONTRACT 2

PRELIMINARY TREATMENT IMPROVEMENTS AT THE MAIN WASTEWATER TREATMENT PLANT

CITY OF SUPERIOR

HERBERT W. BERGSON
MAYOR

CONSOER TOWNSEND & ASSOCIATES

THOMAS L. NOERENBERG, P.E.
NO. E-23049

DEPT. OF PUBLIC WORKS

JEFF VITO
DIRECTOR

MARK DRAKE
SUPERINTENDENT

PRELIMINARY

JUN 17 1994

CITY OF SUPERIOR, WISCONSIN DEPARTMENT OF PUBLIC WORKS

PLANS FOR THE CONSTRUCTION OF CONTRACT 5

OPERATIONS BUILDING MODIFICATION AND ADDITION

CITY OF SUPERIOR

CONSOER TOWNSEND ENVIRODYNE ENGINEERS

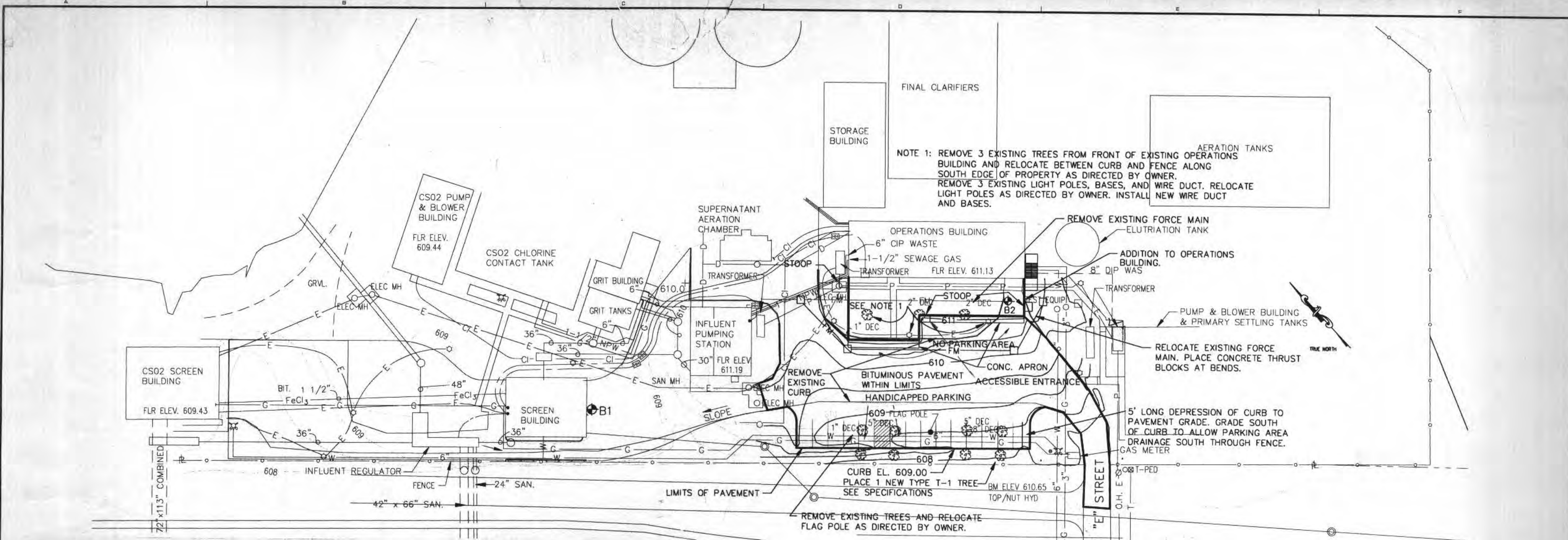
DEPT. OF PUBLIC WORKS

MARGARET CICCONE
MAYOR

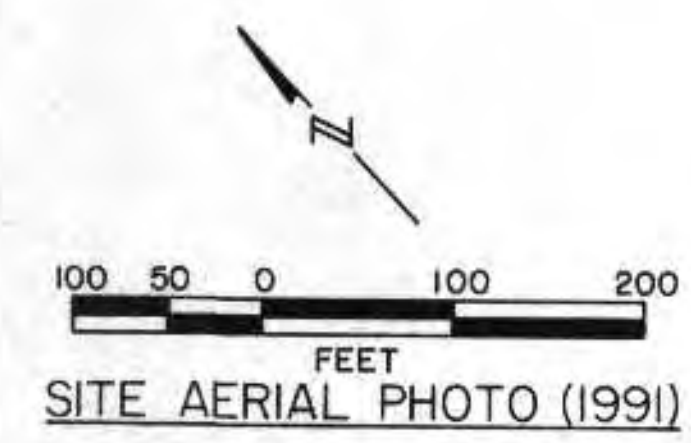
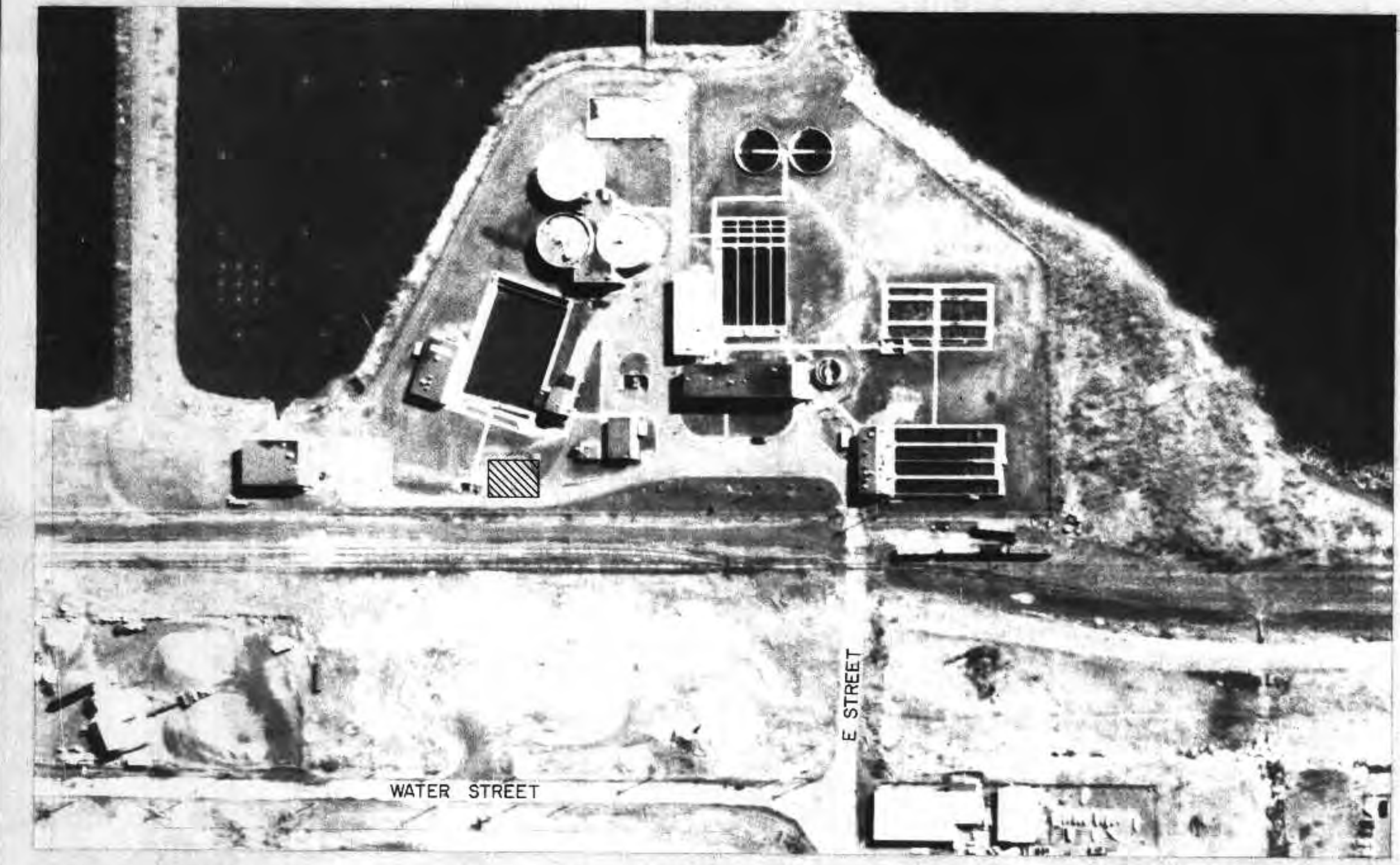
Jeff C. Cook
JEFF C. COOK, P.E.
NO. E-26997

JEFF VITO
DIRECTOR





NOTE 1: REMOVE 3 EXISTING TREES FROM FRONT OF EXISTING OPERATIONS BUILDING AND RELOCATE BETWEEN CURB AND FENCE ALONG SOUTH EDGE OF PROPERTY AS DIRECTED BY OWNER. REMOVE 3 EXISTING LIGHT POLES, BASES, AND WIRE DUCT. RELOCATE LIGHT POLES AS DIRECTED BY OWNER. INSTALL NEW WIRE DUCT AND BASES.



LEGEND

- NON-POTABLE PLANT WATER NPW
- CAST IRON PIPE C.I.P.
- DUCTILE IRON PIPE D.I.P.
- WASTE ACTIVATED SLUDGE WAS
- WROUGHT IRON PIPE W.I.
- PRIMARY SERVICE DUCT — P —
- ELECTRICAL — E —
- CHLORINE LINE — Cl —
- WATER — W —
- GAS — G —
- DRAIN — D —
- FORCEMAIN SEWER — FM —
- SANITARY SEWER — — —
- RELOCATED FORCE MAIN — FM —
- CONCRETE THRUST BLOCKS 2' x 2' x 3'H
- SOIL BORING LOCATION

M:\PROJECTS\seppro\WOODS-PLTS\DWG Plotted on 10/25/1995 @ 10:42 A.M. by LDU/BET

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	TN	SCALE
DRAWN	LED	
CHECKED	JC	
DATE		

CTE ENGINEERS
CONSER TOWNSEND ENVIRONMENTAL ENGINEERS, INC.

LHB
LHB ENGINEERS & ARCHITECTS
DULUTH • MINNEAPOLIS
21 W. Superior St., Ste. 500, Duluth, MN 55802
TEL 218/727-8446 • FAX 218/727-8636

B BETA ENGINEERING, INC.
ENGINEERS/PLANNERS
1420 PROVIDENCE HIGHWAY, NORWOOD, MA
6 BLACKSTONE VALLEY PLACE, LINCOLN, RI

**DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN**
OPERATION BUILDING MODIFICATION AND ADDITION
SITE PLAN

SHEET	G-2	OF	2	SHEETS
PROJECT NO.	3899-05			

CITY OF SUPERIOR

DEPARTMENT OF PUBLIC WORKS

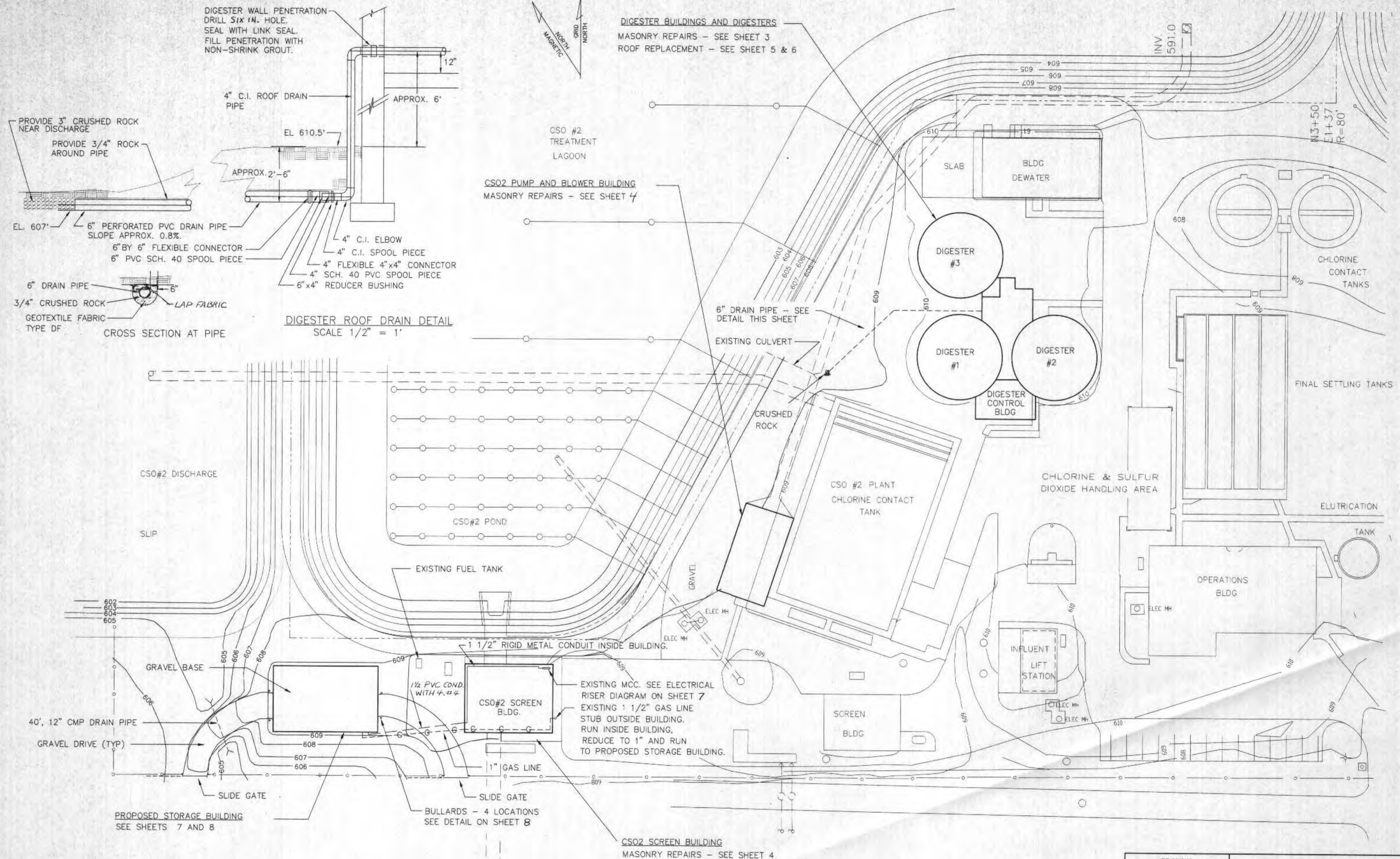
WWTP STORAGE AND BUILDING IMPROVEMENTS

JUNE, 1998

BUILDING IMPROVEMENT SHEETS

<u>SHEET NO.</u>	<u>TITLE</u>
1	COVER SHEET
2	SITE PLAN
3	MASONRY RENOVATION - DIGESTERS AND DIGESTER BUILDINGS
4	MASONRY RENOVATION - CS02 SCREEN AND PUMP BUILDINGS
5	ROOF REPLACEMENT PLAN - DIGESTER BUILDINGS
6	ROOF DRAINAGE PLAN - DIGESTER BUILDINGS
7	STORAGE BUILDING PLAN
8	STORAGE BUILDING FOUNDATION

PREPARED BY:
RMA ENGINEERING COMPANY
DULUTH, MN.



DIGESTER WALL PENETRATION
 DRILL 5/8 IN. HOLE.
 SEAL WITH LINK SEAL.
 FILL PENETRATION WITH
 NON-SHRINK GROUT.

DIGESTER BUILDINGS AND DIGESTERS
 MASONRY REPAIRS - SEE SHEET 3
 ROOF REPLACEMENT - SEE SHEET 5 & 6

CSO2 PUMP AND BLOWER BUILDING
 MASONRY REPAIRS - SEE SHEET 4

PROVIDE 3" CRUSHED ROCK
 NEAR DISCHARGE
 PROVIDE 3/4" ROCK
 AROUND PIPE

EL. 607'
 6" PERFORATED PVC DRAIN PIPE
 SLOPE APPROX. 0.8%
 6" BY 6" FLEXIBLE CONNECTOR
 6" PVC SCH. 40 SPOOL PIECE
 6" DRAIN PIPE
 3/4" CRUSHED ROCK
 GEOTEXTILE FABRIC
 TYPE DF
 CROSS SECTION AT PIPE

DIGESTER ROOF DRAIN DETAIL
 SCALE 1/2" = 1'

EXISTING MCC. SEE ELECTRICAL
 RISER DIAGRAM ON SHEET 7
 EXISTING 1 1/2" GAS LINE
 STUB OUTSIDE BUILDING.
 RUN INSIDE BUILDING.
 REDUCE TO 1" AND RUN
 TO PROPOSED STORAGE BUILDING.

PROPOSED STORAGE BUILDING
 SEE SHEETS 7 AND 8

CSO2 SCREEN BUILDING
 MASONRY REPAIRS - SEE SHEET 4

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED
 BY ME, OR UNDER MY DIRECT SUPERVISION, AND I
 AM A DULY REGISTERED PROFESSIONAL ENGINEER
 UNDER THE LAWS OF THE STATE OF WISCONSIN.

DATE: _____ REG. NO.: _____

REVISIONS			NO.	BY	DATE
DESIGNED BY	RAM	SCALE	1" = 30'		
DRAWN BY	DMS	DATE			
CHECKED BY	CAD FILE	SHEET	2 of 8		
APPROVED BY					

WWTP SITE PLAN