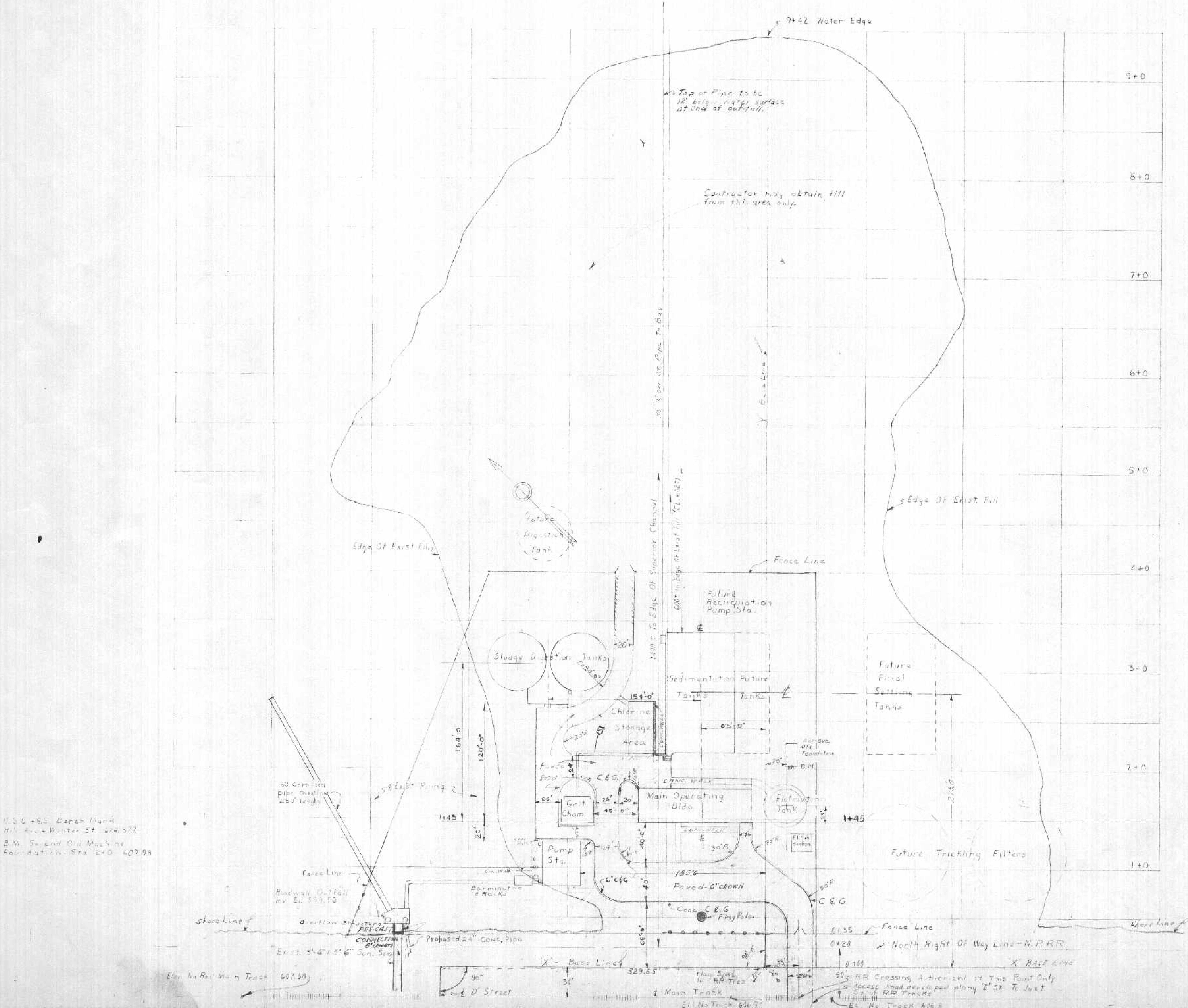
END OF DOCK
DOUGLAS COUNTY PROPERTY
CITY OF SUPERIOR PROPERTY
WL 603.24 USG&GS DATUM
SEPTEMBER 20, 1947
Contractor to install 20' roadway from N. R.O.W. Line
EXISTING OUTLET HEADWALL
INV. EL. 600.39
INV. EL. 599.14
SCALE HOUSE
R.R. R.O.W.
EXISTING 3'-6"x5'-6" BOX SEWER
24" R.C.P. SEWER LINE TO BE INSTALLED UNDER CONTRACT
INV. EL 600.61
EXISTING MANHOLE
24" R.C. PIPE IN PLACE NOT IN USE AT PRESENT
INV. EL. 599.55
EXISTING 4'-0"x 5'-6" SEWER NOW IN USE
PUMP HOUSE
1st St.
GAS STORAGE
2 ND ST.
3rd St.
AVE. C
AVE. D
AVE. E
EXISTING 27" R.C.P.
WINTER ST.
HILL AVE.
B M
PROPERTY OF CITY OF SUPERIOR
PERMANENT BENCH MARK
ELEVATION 614.372
U.S.C. & G.S. - SLO.
1929
NOTE: CONTRACTOR TO CONNECT EXISTING BOX SEWER TO NEW BY-PASS STRUCTURE
SUPERIOR BAY
EXISTING 3'-6"x5'-6" BOX SEWER
NEW 60" BY-PASS LINE
NEW BY-PASS STRUCTURE
24" R.C. PIPE PROPOSED
EXISTING M.H.
AVE D
SCALE: 1" = 100
FILL
610.0
600.0
590.0
SCALE: 1" = 100 HOR. 1" = 10' VERT.
PLAN & PROFILE OF NEW 24" R.C.P.
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
(Reviewing Engineer) (Date)
and are herewith APPROVED
(Regional Engineer) (Date)
EXAMINED and reported upon by the Section on Environmental Sanitation
O. J. MUEGGE
State Sanitary Engineer
APPROVED by the State Board of Health, as required by Wisconsin Statutes, subject to conditions set forth in the letter of approval
CARL N. NEUPERT, M. D.
State Health Officer
JUL 6 1956
Verification
REVISIONS
DATE DESCRIPTION BY
12/55 Added Details for Sewer R. L.
WATERFRONT AT DISPOSAL SITE
SUPERIOR, WIS.
HITCHCOCK & ESTABROOK, INC.
CONSULTING ENGINEERS
521 SEXTON BLDG.
MINNEAPOLIS 15, MINN.
DR. C.H.U.
TR. CHU
CHKD. JBE
APPD.
DATE 9/17/48 SCALE 1" = 50'
400
11 of 71


9+42 Water Edge
May Use Fill From This Area Only
Edge Of Exist Fill
Test Hole No. 1
Future Digestion Tank
12" Opening
330' FENCE
Future Recirculation Pump Sta.
Sludge Digestion Tanks
Sedimentation Tanks
Future Tanks
Future Final Settling Tanks
Chlorine Storage Area
Grit Chm.
Main Operating Bldg.
Elutriation Tank
Pump Sta.
Future Trickling Filters
400' FENCE
425' CHAIN LINK FENCE
Old Shore Line 0+35
2' Opening
North Right Of Way Line - N.P.R.R.
Base Line 329.65'
Main Track
R.R. Crossing Authorized at This Point Only
Overflow Struct.
Shore Line
Note:
Highest Recorded Reading Nov. 28, 1905 - 604.40
Lowest Recorded Reading Feb. 16, 1921 - 598.85
MEAN YEARLY READING
WATER LEVEL OF LAKE SUPERIOR
TEST HOLES
EXAMINED and reported upon by the Section on Environmental Sanitation
O. J. MUEGGE
State Sanitary Engineer
APPROVED by the State Board of Health as required by Wisconsin Statutes, subject to conditions set forth in the letter of approval
JUL 6 1956
CARL N. NEUPERT, M. D.
State Health Officer
Verification
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
(Reviewing Engineer)
and are herewith APPROVED
(Regional Engineer)
Region V, Chicago, Illinois
LEGEND-
Existing Elevation 604.0 = 4.0
Established Grade 610.5
BORING LOG [see Specs page C-8]
NOTE:
Posts shall be set not more than 10' C.C.
Finished grade shall slope from building to drain.
Fill at waters edge shall be sloped 3 to 1 or greater
REVISIONS
DATE
DESCRIPTION
BY
GRADING AND FENCING PLAN
SUPERIOR WIS.
HITCHCOCK & ESTABROOK, INC.
CONSULTING ENGINEERS
300 LINCOLN BLDG.
MINNEAPOLIS 1, MINN.
DR.
TR.
CHKD.
APPD.
DATE
SCALE
JOB NO.
SHEET NO.
12 OF 71



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

These Plans and Specifications submitted in connection with an Application for a Federal grant for the construction of treatment works under the provisions of the Federal Water Pollution Control Act (33 U.S.C. 466 et seq.) and the regulations promulgated thereunder have been reviewed.

(Reviewing Engineer) (Date)

and are herewith APPROVED

(Regional Engineer) (Date)

Region V, Chicago, Illinois

EXAMINED and reported upon by the Section on Environmental Sanitation

O. J. MUEGGE
State Sanitary Engineer

APPROVED by the State Board of Health, as required by Wisconsin Statutes, subject to conditions set forth in the letter of approval

JUL 6 1956

CARL N. NEUPERT, M. D.
State Health Officer

Verification D. Voramwald

Note:
Curb & Gutter to be
6" H
18" W } Minn. Highway Dept. Plate 7121B
SLOPE-1% MIN TO DRAIN PROPERLY

CONTRACTOR TO INSTALL 8' PRECAST CONNECTION, ON PILING, FROM PRESENT OUTFALL SEWER TO NEW BY-PASS STRUCTURE AND SEAL TO PREVENT LEAKAGE.

REVISIONS		
DATE	DESCRIPTION	BY
6-[illegible]	CHANGED [illegible]	N.R.
8-13-62	REMOVED WASTE GAS BURNER ME 81.1	C.W.

SEWAGE TREATMENT PLANT
GENERAL LAYOUT

SUPERIOR WIS.

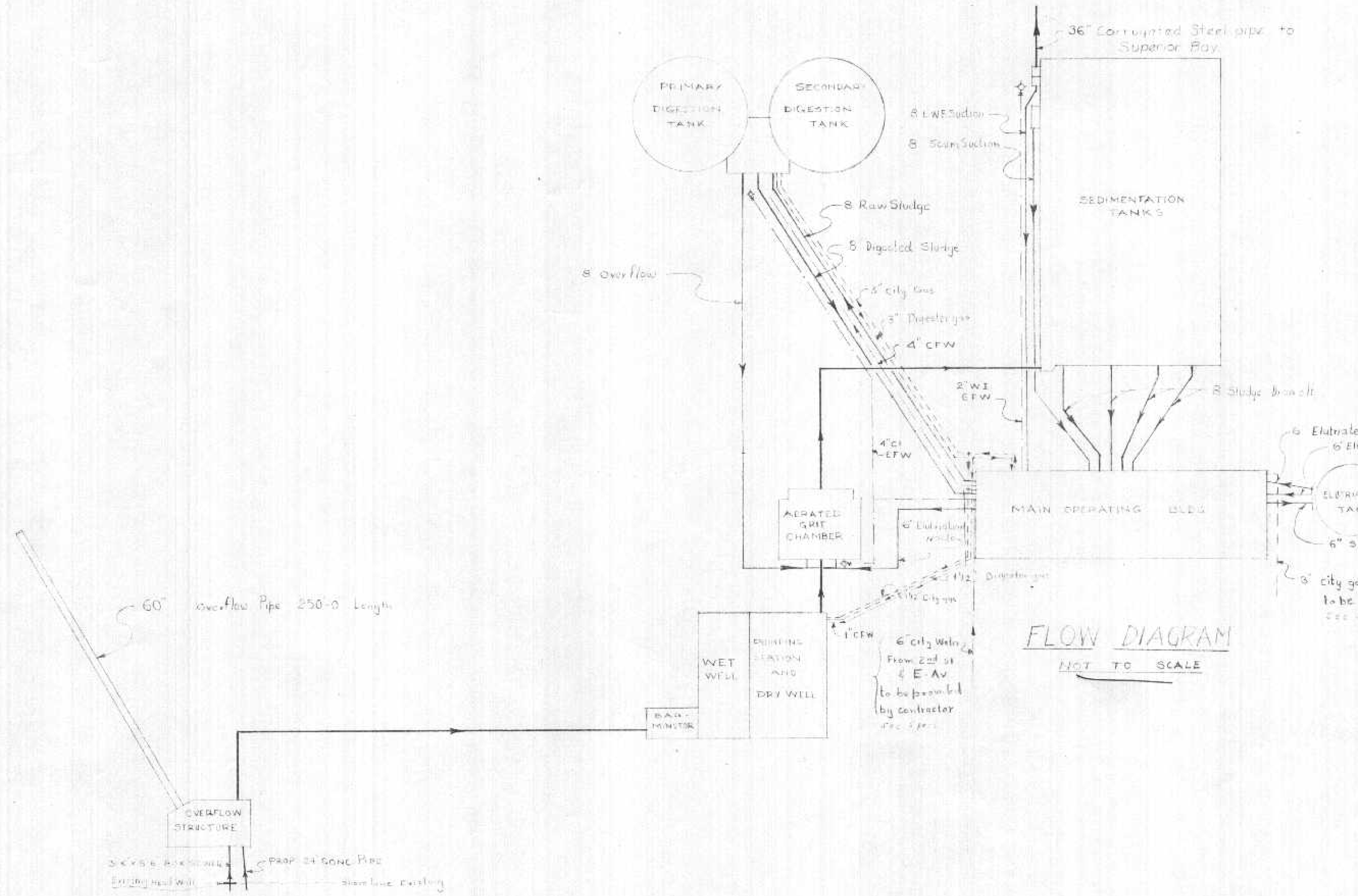
HITCHCOCK & ESTABROOK, INC.
CONSULTING ENGINEERS
300 LINCOLN BLDG.
MINNEAPOLIS 1, MINN.

DR. J.L. TR.
CHKD. APPD.
DATE: [illegible] SCALE: 1"=[illegible]

JOB NO. 400
SHEET NO. 13 OF 71

HYDRAULIC PROFILE [FOR MAX FLOW]

SCALE 1"-10'-0" VERT; 1"-10'-0" HOR



FLOW DIAGRAM

NOT TO SCALE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

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and are herewith APPROVED

(Regional Engineer) (Date)

Region V, Chicago, Illinois

EXAMINED and reported upon by the Section on Environmental Sanitation

O. J. MUEGGE
State Sanitary Engineer

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CARL N. NEUPERT, M. D.
State Health Officer

JUL 6 1956

Verification D. Voramwald

REVISIONS		
DATE	DESCRIPTION	BY
[illegible]	[illegible]	JD

HYDRAULIC PROFILE & FLOW DIAGRAM
SEWAGE TREATMENT PLANT

SUPERIOR WIS

HITCHCOCK & ESTABROOK, INC.
CONSULTING ENGINEERS
300 LINCOLN BLDG.
MINNEAPOLIS 1, MINN.

DR. TR. J D
CHKD. J D APPD. [illegible]

DATE: [illegible] SCALE: As Noted

JOB NO. 400

SHEET NO. 14 OF 71

Note:- Contractor shall provide all gas and water piping inside plant property line in lump sum bid and the payment for gas & water piping outside plant property line to be done on unit bid basis

PIPE LEGEND:

C.M.P.	denotes	Corrugated Metal Pipe
C.I.	"	Cast Iron Pipe
W.I.	"	Wrought Iron Pipe
R.L.	"	Rubber Lined Steel Pipe
E.F.W.	"	Effluent Flushing Water
C.F.W.	"	City Flushing Water
C.W.	"	City Water Supply Main

GENERAL NOTES:
24" and 36" Cast Iron pipe shall have bell and spigot ends with lead joints.
Other Cast Iron pipe and fittings shall have standardized mechanical joints.
Pipe lines shall slope at a constant rate between the elevations as shown on the drawings.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
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(Reviewing Engineer) (Date)

and are herewith APPROVED

(Regional Engineer) (Date)
Region V, Chicago, Illinois

EXAMINED and reported upon by the Section on Environmental Sanitation
O. J. MUEGGE
State Sanitary Engineer

APPROVED by the State Board of Health, as required by Wisconsin Statutes, subject to conditions set forth in the letter of approval
JUL 6 1956
CARL N. NEUPERT, M. D.
State Health Officer
Verification D. [signature]

SUPERIOR, WISCONSIN

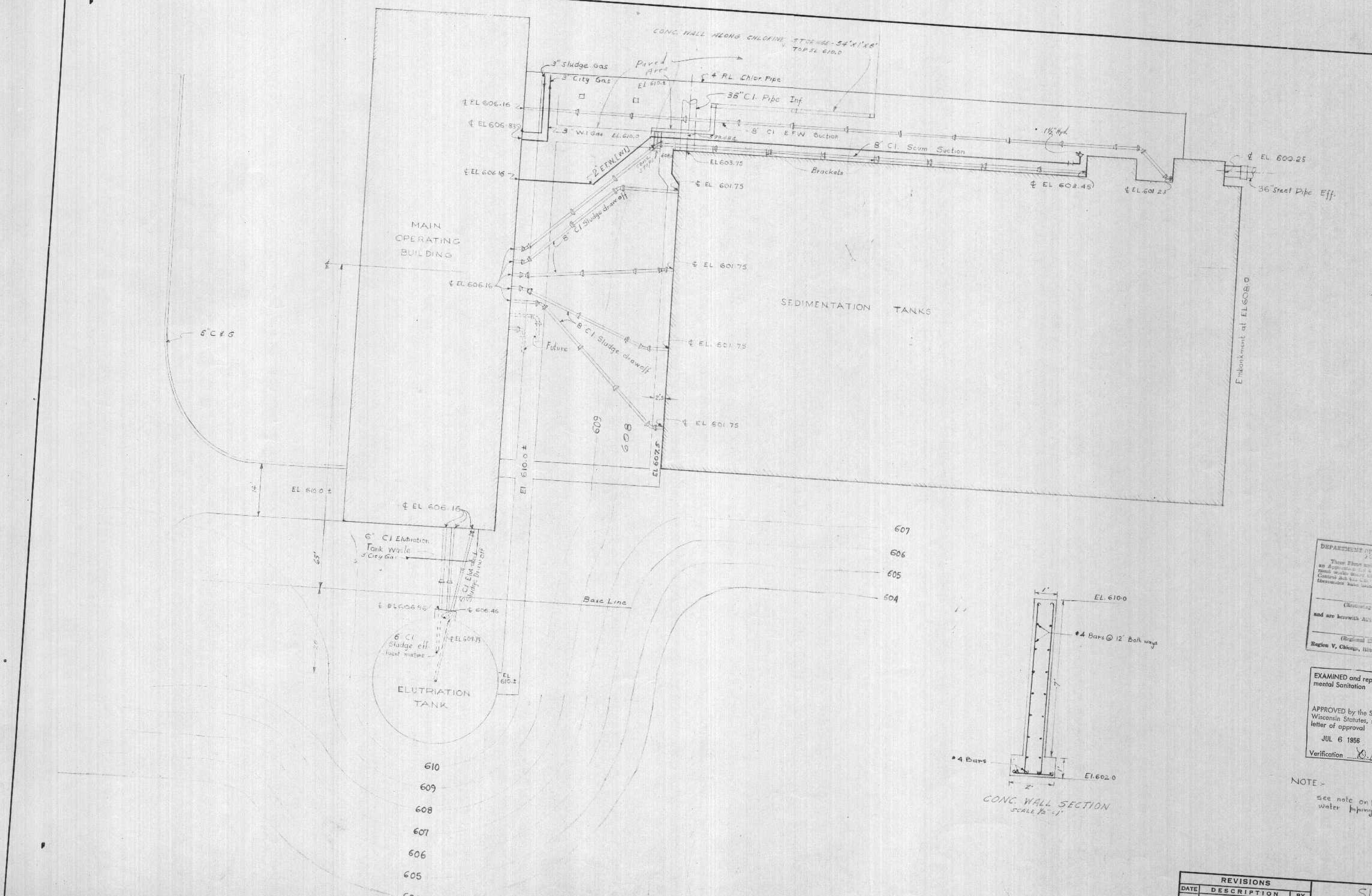
SEWAGE TREATMENT PLANT

OUTSIDE PIPING
PLAN - 1

SCALE: 1" = 10'-0"
FEB. 1956

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

400 SHEET No. 61 OF 71



CONC. WALL ALONG CHLORINE STORAGE
3" Sludge Gas
3" City Gas
Paved Area
4" RL Chlor Pipe
38" C.I. Pipe Inf
¢ EL 606.16
¢ EL 606.835
3" W.I. Gas
8" CI EFW Suction
1½" Hyd.
8" C.I. Scum Suction
2" EFW (W1)
EL 603.75
Brackets
¢ EL 601.75
¢ EL 603.45
¢ EL 601.23
¢ EL 609.25
36" Steel Pipe Eff.
N
MAIN OPERATING BUILDING
8" C.I. Sludge drawoff
SEDIMENTATION TANKS
Embankment at EL 608.0
5' C & G
Future
EL 610.0 ±
EL 602.5
609
608
¢ EL 606.16
6" C.I. Elutriation Tank Waste
3" City Gas
Base Line
6" C.I. Sludge eff.
ELUTRIATION TANK
610
609
608
607
606
605
604
EL 610.0
#4 Bars @ 12" Both ways
#4 Bars
El. 602.0
CONC. WALL SECTION

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

and are herewith APPROVED

Region V, Chicago, Illinois

EXAMINED and reported upon by the Section on Environmental Sanitation

O. J. MUEGGE
State Sanitary Engineer

APPROVED by the State Board of Health, as required by Wisconsin Statutes, subject to conditions set forth in the letter of approval

JUL 6 1956

CARL N. NEUPERT, M. D.
State Health Officer

Verification D. Vorsmwald

NOTE:-

see note on Sh. 61 for gas and water piping

REVISIONS		
DATE	DESCRIPTION	BY

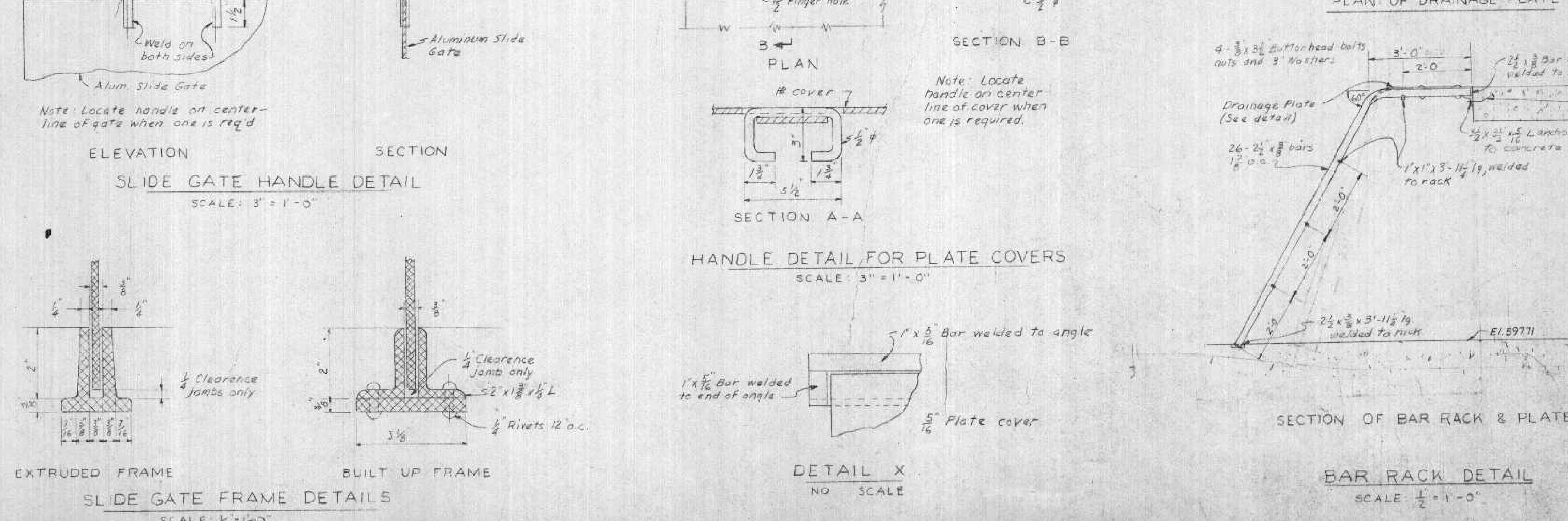
SUPERIOR WIS

SEWAGE TREATMENT PLANT
OUTSIDE PIPING PLAN - 2

HITCHCOCK & ESTABROOK, INC.
CONSULTING ENGINEERS
300 LINCOLN BLDG.
MINNEAPOLIS 1, MINN.

DR. | TR. JD | CHKD. | APPD.

JOB NO. 400



ALUMINUM SLIDE GATE AND FRAME SCHEDULE

	No Req'd	Frame		Gate		No. Handles	Location	Ribs	
		W	D	X	Y			No Req'd	Z
A	2	2'-0"	3'-0	2'-3½"	2'-2"	1	Entrance to Grit Chambers	None	—
B	2	2'-0"	4'-0"	2'-3½"	3'-2"	1	Exit from Grit Chambers	None	
C	1	4'-0	4'-0"	4'-3½"	3'-2"	2	Entrance to Bypass Rack	3	3'-11½"
D	1	4'-0"	5'-0 13/16	4'-3½"	3'-2"	2	Exit from Bypass Rack	4	3'-11½"
E	4	2'-0"	3'-1¼"	2'-3½"	2'-0"	1	Entrance to Sedimentation Tks	None	

EXAMINED and reported upon by the Section on Environmental Sanitation

O. J. MUEGGE
State Sanitary Engineer

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JUL 6 1956

CARL N. NEUPERT, M. D.
State Health Officer

Verification [signature]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

These Plans and Specifications submitted in connection with an Application for a grant for the construction of treatment works under the provisions of the Federal Water Pollution Control Act ... have been reviewed.

(Reviewing Engineer) (Date)

and are herewith APPROVED

(Regional Engineer) (Date)

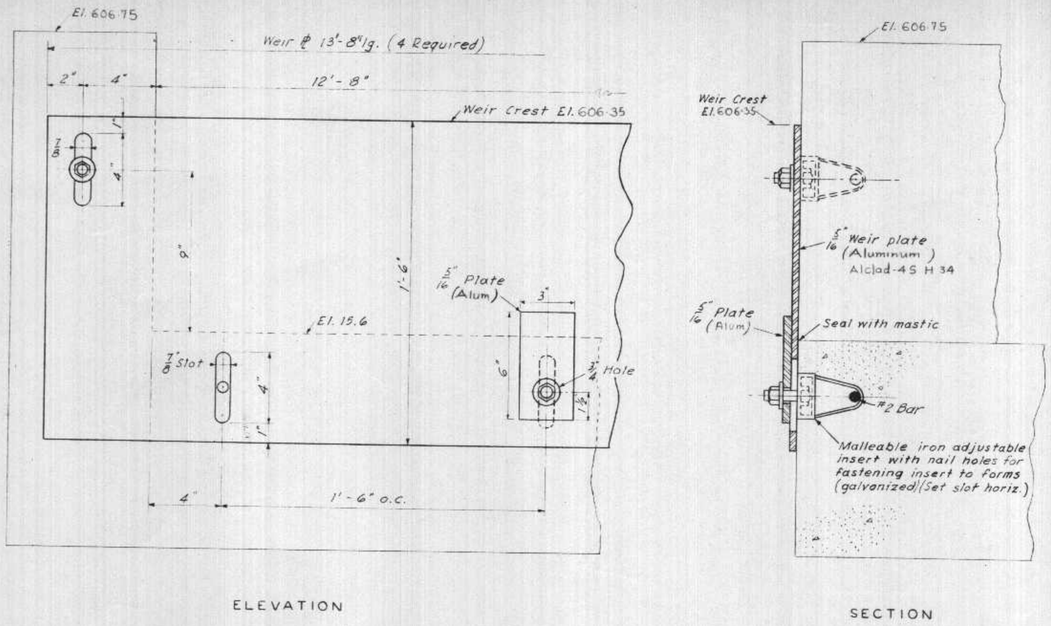
REVISIONS		
DATE	DESCRIPTION	BY
7/27/56	Added Cover Nos: 1, 2, 3 & 6	J.D.

MISCELLANEOUS DETAILS I

SEWAGE TREAT. PLANT
SUPERIOR WIS.

HITCHCOCK & ESTABROOK, INC.
CONSULTING ENGINEERS
300 LINCOLN BLDG.
MINNEAPOLIS 1, MINN.

DR. J.L. TR.
CHKD. APPD.
DATE: 1/56 SCALE: As Shown
JOB NO. 400
SHEET NO. 64 OF 71

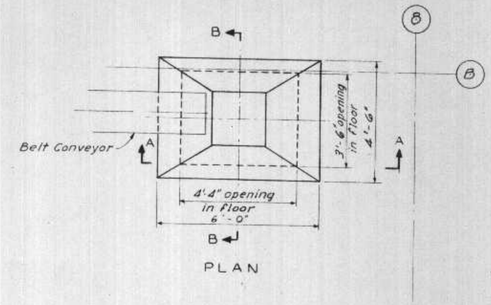


ELEVATION

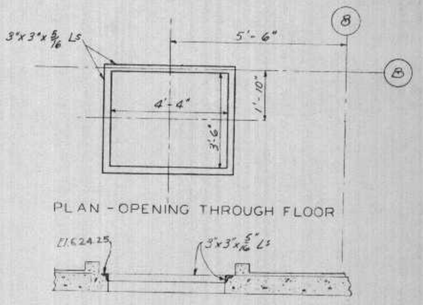
SECTION

INFLUENT WEIR - SEDIMENTATION TANKS

SCALE: 3" = 1'-0"

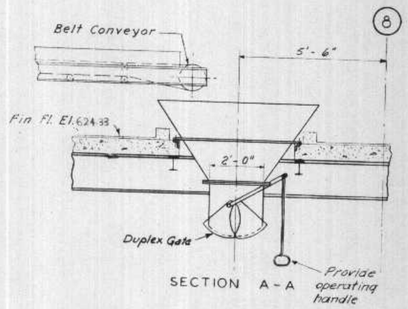


PLAN

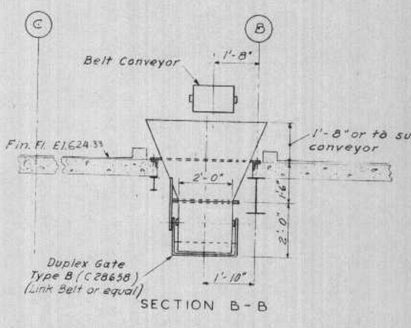


PLAN - OPENING THROUGH FLOOR

SECTION THROUGH FLOOR



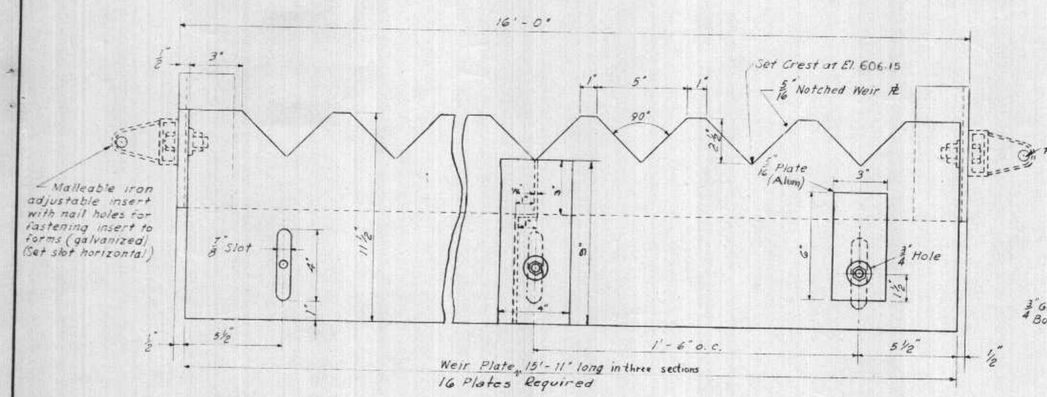
SECTION A - A



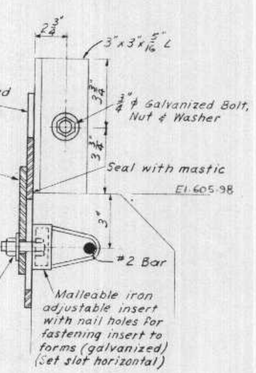
SECTION B - B

SLUDGE HOPPER AND GATE

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



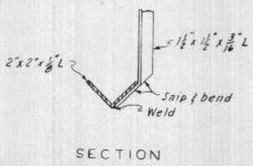
ELEVATION



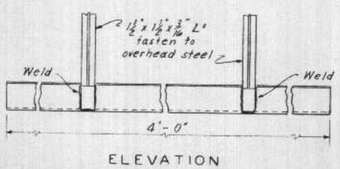
SECTION

EFFLUENT WEIR - SEDIMENTATION TANKS

SCALE: 3" = 1'-0"



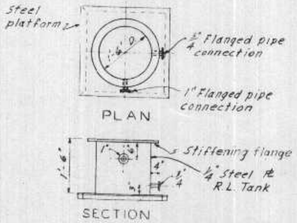
SECTION



ELEVATION

HOSE SUPPORT

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

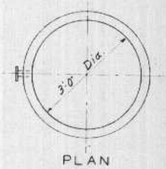


PLAN

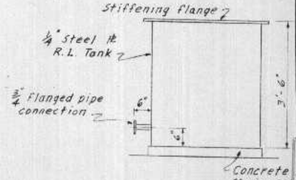
SECTION

FERRIC CHLORIDE DISTRIBUTION TANK

SCALE: 1" = 1'-0"



PLAN



FERRIC CHLORIDE DISSOLVING TANK

2 REQUIRED

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

EXAMINED and reported upon by the Section on Environmental Sanitation

O. J. MUEGGE
State Sanitary Engineer

APPROVED by the State Board of Health, as required by Wisconsin Statutes, subject to conditions set forth in the letter of approval

JUL 6 1956

CARL N. [illegible], M. D.
State [illegible] Officer

Verification [illegible]

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
[illegible]

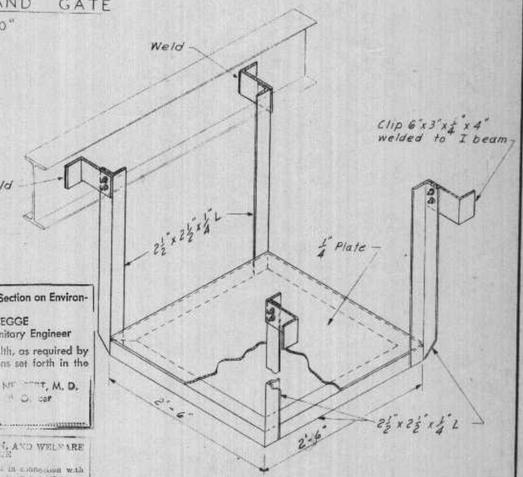
(Reviewing Engineer) (Date)

and are herewith APPROVED

Revised 6/12/56

(Regional Engineer) (Date)
Region V, Chicago, Illinois

Note: Unless otherwise specified all material is galvanized steel



FERRIC CHLORIDE DIST. TANK SUPPORT

SCALE: 1" = 1'-0"

APPROVED [illegible]

FOR METCALF & EDDY, ENGINEERS

DATE

SUPERIOR WIS

SEWAGE TREATMENT PLANT

MISCELLANEOUS DETAILS-2

SCALE, AS SHOWN

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

DRAWN BY R.L.J.
TRACED BY R.L.J.
CHECKED BY H.B.G.

400 SHEET 65 OF 71

DESIGN INFORMATION

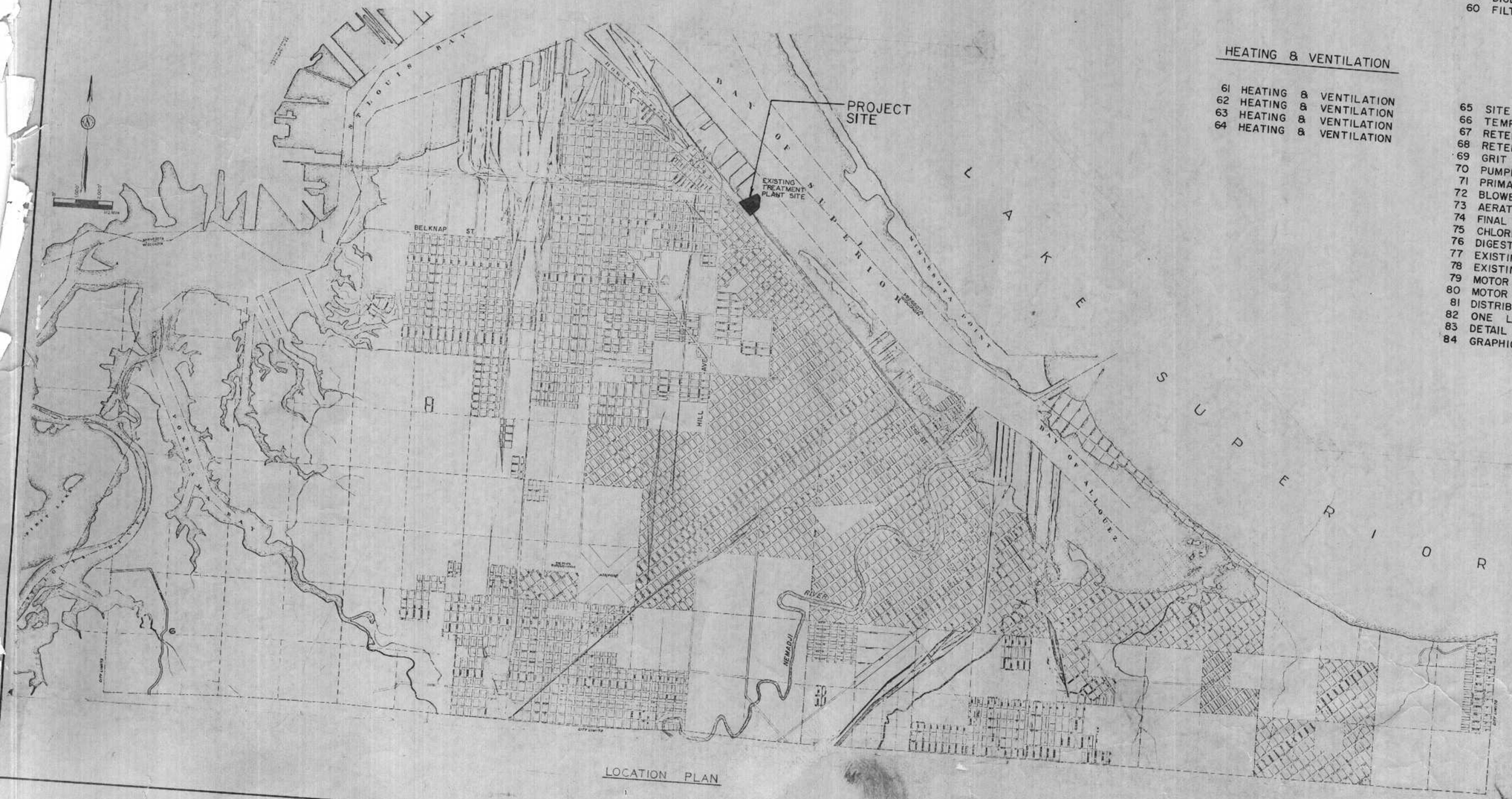
AVERAGE DRY WEATHER FLOW	5.0 MGD
MAX. HYDRAULIC CAPACITY - SECONDARY	15.0 MGD
MAX. HYDRAULIC CAPACITY - RETENTION TANK	50.0 MGD
B.O.D. LOADING - AVERAGE	7,500 LBS / DAY
B.O.D. CONCENTRATION - AVERAGE	180 MG / L
S.S. LOADING - AVERAGE	8,500 LBS / DAY
S.S. CONCENTRATION - AVERAGE	200 MG/L
PHOSPHORUS AS "P"	10 MG/L
POPULATION EQUIVALENT	44,000
RETENTION TANK	30 MIN. DETENTION (MINIMUM)
GRIT BASINS	100 MESH RETENTION
PRIMARY TANKS	665 GAL. / SQ. FT. / DAY
AERATION TANKS	50 LBS / 1,000 CU. FT
FINAL TANKS	650 GAL / SQ. FT. / DAY
CHLORINE CONTACT TANKS	15 MIN. DETENTION (MINIMUM)
ANAEROBIC DIGESTERS	30 DAY DETENTION
AIR	2,300 CU. FT. / LB. B.O.D.

INDEX TO DRAWINGS

HEATING & VENTILATION

STRUCTURAL

ELECTRICAL



LOCATION PLAN

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

THOMAS G. FRANGOS
ADMINISTRATOR

APPROVAL NO. 72 355

DATE: FEB 4 '74

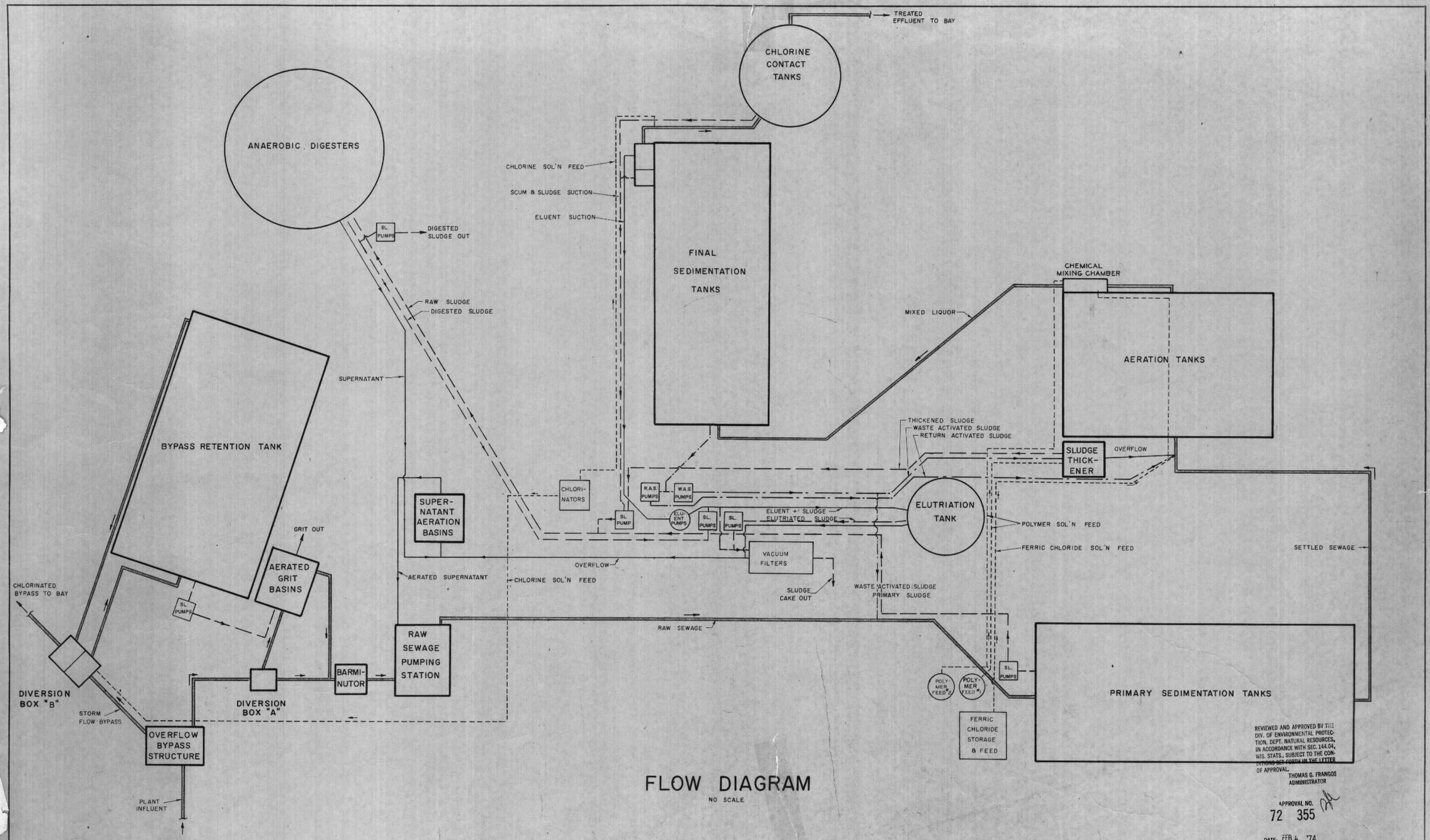
DNR JAN 3 1974

SURVEY	REVISIONS
DRAWN	
DESIGN	
APPROVED	

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

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

LOCATION PLAN
AND INDEX



FLOW DIAGRAM

NO SCALE

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

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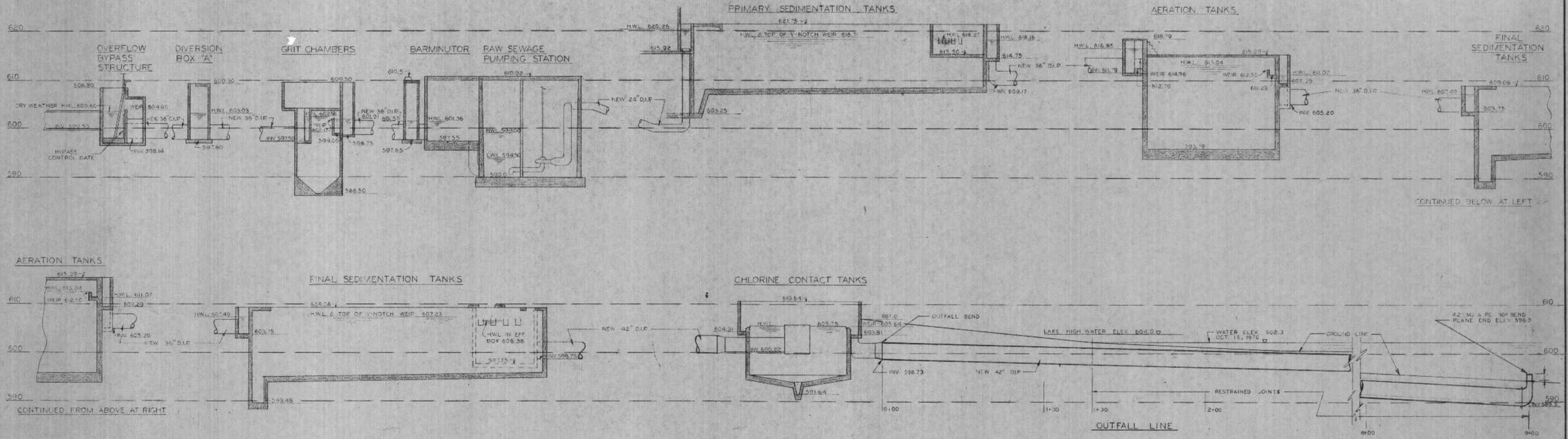
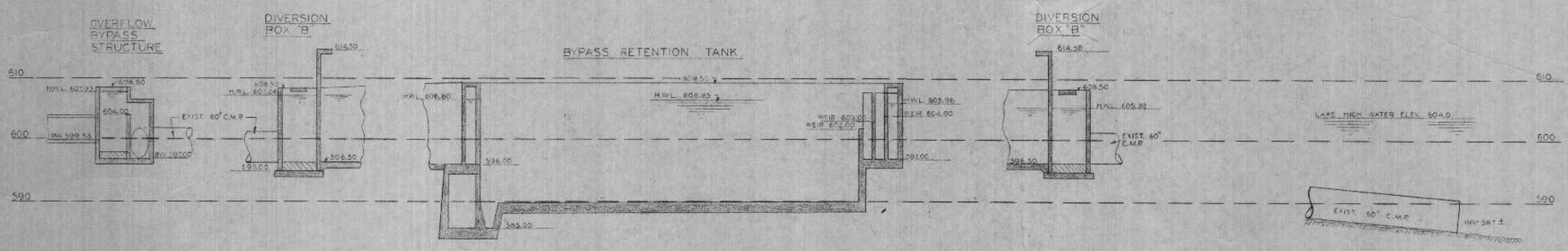
SURVEY	REVISIONS	BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.	SUPERIOR, WISCONSIN
DRAWN		ST. PAUL, MINNESOTA	DATE: FEBRUARY 2, 1971 COMM. 6888 A
DESIGN			FLOW DIAGRAM
APPROV.			



MAIN TREATMENT PLANT SEQUENCE
AT MAXIMUM FLOW



WET WEATHER BYPASS SEQUENCE
AT MAXIMUM FLOW & LAKE HIGH WATER ELEVATION —
ALL H.W.L'S APPROX. 2.0' LOWER AT NORMAL LAKE WATER ELEVATION

HYDRAULIC PROFILES
HORIZ. 1" = 20'
VERT. 1" = 10'

REVIEWED AND APPROVED BY THE DIV. OF ENVIRONMENTAL PROTECTION, DEPT. NATURAL RESOURCES, IN ACCORDANCE WITH SEC. 144.04, WIS. STATS., SUBJECT TO THE CONDITIONS SET FORTH IN THE LETTER OF APPROVAL.
THOMAS G. FRANGOS
ADMINISTRATOR
APPROVAL NO. 72 355
DATE: FEB 4 '74

DNR JAN 3 1974

SURVEY		REVISIONS	BONESTROO, ROSENE, ANDERLIK & ASSOC., INC. ST. PAUL, MINNESOTA	SUPERIOR, WISCONSIN DATE: FEBRUARY 2, 1971 COMM 6888A	HYDRAULIC PROFILES
DRAWN					
DESIGN					
APPROV'D					


SOIL BORING LOG
BORING NUMBERS
Elevation 1 2 3 4 5 6 7
Fill Sludge
Sand
Sand little brown wet
Fat Clay red brown
Silt brown wet gravel
Fat Clay
Silty Sand brown
Fill mostly sand & debris
This boring not taken
Boring Scale 1" = 20' Vertical
▼ Denotes Water Table - Jan. 1970
SOIL NOTES:
1. Each symbol for soil is labeled only once in log. Recurrence of symbol is for same type of soil.
2. Soil borings shown here were made by Lakehead Testing Laboratory, Inc., Duluth, Minnesota, during January 1970.
3. Soil borings are shown for information only and no warranty is given on varying conditions. The contractor shall be responsible for determining and investigating soil conditions prior to bidding.
SUPERIOR BAY
SUPERIOR BAY
Base Line 'N'
Base Line 'W'
Base Line 'E'
Base Line 'S'
Existing Digesters
Digester Control Building
Bituminous Surfaced Area
Existing Primary Settling Tanks
Chlorine Storage Facility Structure
Grit Removal Tanks
Main Control Building
Elevation Tank
Pump Bldg.
Barscreen Building
Existing Bituminous Surface & Concrete Curb & Gutter
6' Chainlink Fence
Railroad Locomotive
Existing Switch Tracks
Excess Soil Material Stockpiles Available for fill material
Water Line Nov. 11, 12, 1969 Elev. 601.8
Grid North
Magnetic North
Scale 1" = 50'
NOTE:
Grid lines are on 100' square pattern. Grid lines hereon are same on this existing site plan and on the proposed site plan.
NOTE
Elevations shown at location of decimal point unless otherwise indicated by an arrow.

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

THOMAS G. FRANGOS
ADMINISTRATOR

APPROVAL NO. 72 355

DATE: FEB 4 '74

DNR JAN 8 1974

SURVEY		REVISIONS	BONESTROO, ROSENE, ANDERLIK & ASSOC., INC. ST. PAUL, MINNESOTA	SUPERIOR, WISCONSIN	EXISTING SITE LAYOUT
DRAWN				DATE: FEBRUARY 2, 1971 COMM. 6888 A	
DESIGN					
APPROV'D					

SUPERIOR BAY

SUPERIOR BAY

Baseline 'N'

Base Line 'W'

Base Line 'S'

Digester Control Building

Bituminous Surfaced Area

Chlorine Storage Facility Structure

Gas Relief Tanks

MAIN CONTROL BUILDING

EQUALIZATION TANK

PUMP BLDG.

Barscreen Building

EXISTING PRIMARY SETTLING TANKS

EXISTING DIGESTERS

EXISTING BITUMINOUS SURFACE & CONCRETE CURB & GUTTER

RAIL ROAD LOCOMOTIVE

Existing Switch Tracks

6' Chain link Fence

Excess Soil Material Stockpiles Available for fill material

Grid North

Magnetic North

SCALE OF 1"=50'

SOIL BORING LOG

BORING NUMBERS

Elevation	1	2	3	4	5	6	7
620							
610							
600							
590							
580							
570							
560							
550							
540							
530							
520							
510							
500							
490							
480							
470							
460							
450							
440							

Fill, Sludge

Soft Sand fine brown wet

Fat Clay red brown

Silt Brown wet, stone

Fat Clay

Silty Sand, brown

Fill mostly sand & debris

THIS BORING NOT TAKEN

Boring Scale 1"=20' Vertical

▼ Denotes Water Table - Jan. 1970

SOIL NOTES

1. Each symbol for soil is labeled only once in top Recurrence of symbol is for same type of soil.
2. Soil borings shown here were made by Lundberg Testing Laboratory, Inc., Duluth, Minnesota, during January 1970.
3. Soil borings are shown for information only and no warranty is given on varying conditions. The contractor shall be responsible for determining and investigating soil conditions prior to bidding.

Boring No. 1 Elev. 607.8

Boring No. 2 Elev. 607.7

Boring No. 3 Elev. 608.88

Boring No. 4 Elev. 608.4

Boring No. 5 Elev. 609.40

Boring No. 6 Elev. 607.8

Boring No. 7 Elev. 609.80

Boring No. 8 Elev. 608.85

N 1+27 Elev. 608.4

N 2+97 Elev. 608.58

E 0+15 Elev.

E 1+28 Elev. 608.58

E 1+97 Elev. 608.5

E 2+46 Elev.

Water Line Nov. 11, 12 - 1969 Elev. 607.8

Tee Bypass Mh Elev. 609.1

Gas Valve Elev. 607.9

Hydrant

Air Relief

Top Rail Elev. 607.7

Top Rail Elev. 608.7

Top Rail Elev. 608.4

Top Rail Elev. 607.4

Top Rail Elev. 607.3

Top Rail Elev. 608.5

BENCHMARK Top of bolt on hydrant Elev. 610.05

Base Line 'S'

NOTE

Grid lines are on 100' square pattern. Grid lines hereon are same as on the Existing Site plan and on the proposed Site plan.

NOTE

Elevations shown are spot elevations at decimal point unless otherwise indicated by an arrow.

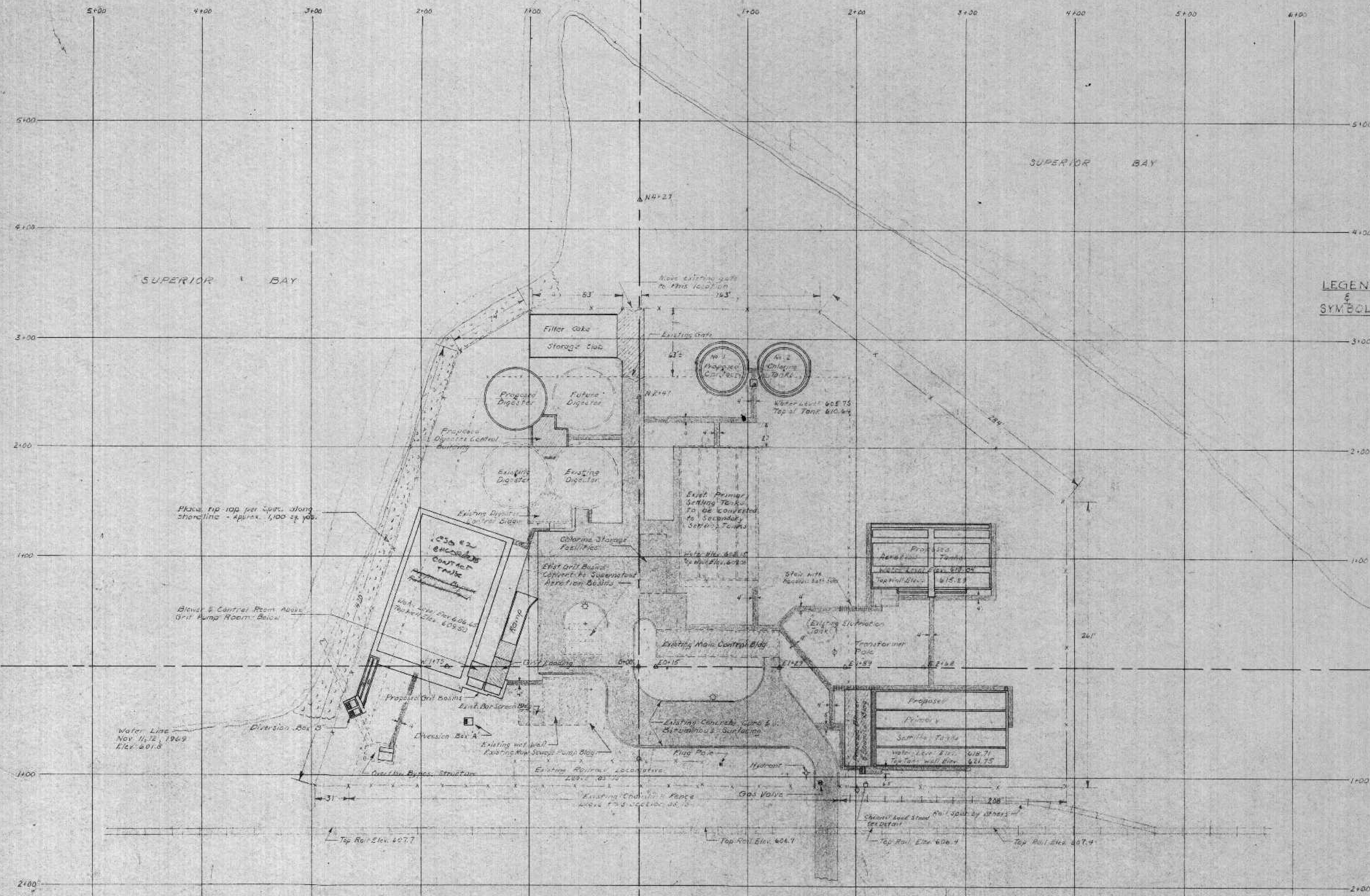
REVISIONS		
SURVEY		
DRAWN		
DESIGN		
APPROV'D		

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

SUPERIOR, WISCONSIN

DATE: FEBRUARY 2, 1971 COMM: 6888 A

EXISTING SITE LAYOUT



UNIT STRUCTURE LOCATION COORDINATES

Unit	Point	Coordinates
Primary Settling Tanks	N.E. Cor.	S0+20, E3+39
	S.E. Cor.	S0+90, E3+34
Aeration Tanks	N.E. Cor.	N1+32, E3+25
	N.W. Cor.	N1+32, E2+14
Digester	Center	N2+44, W1+13
Chlorine Tank No. 1	Center	N2+71, E0+76
Chlorine Tank No. 2	Center	N2+71, E1+32
Bypass Retention Tank	N.W. Cor.	N1+45, W2+01
	N.E. Cor.	N1+16, W1+15
Diversion Box 'A'	Locate in Field	
Diversion Box 'B'	Locate in Field	
Filter Cake Storage Slab	N.E. Cor.	N 3+22, W 0+20
	N.W. Cor.	N 3+22, W 1+00

NOTE
Grid lines shown on 100' square grid. Table above gives grid coordinates for locations of proposed units. See separate drawings for dimensions of each unit. Check all locations carefully in field. Some unit locations may require minor changes as directed by the Engineer.

LEGEND & SYMBOLS

- Existing Fence - Leave in place
- New or relocated fence
- Existing Fence Lost ... to remain
- Ornamental Light
- Power Pole
- Control Points — E 1+39 (Station on baseline)
- Existing Structure
- Proposed Structure
- Exist. Roofed Bldg.
- Proposed Roofed Bldg.
- Exist. Bituminous Surfacing
- Proposed Bituminous Surfacing
- Existing Concrete Sidewalk
- Proposed 4" Concrete Sidewalk
- Proposed Rip-rap shoreline protection

SOD & SEED
Turf shall be re-established by sodding all slopes greater than 6:1 except rip-rap area & seeding all other disturbed area. Estimated area to be sodded, 3,300 yd²

FENCE NOTES
1. Part of existing fence to remain as shown on this sheet.
2. Part of existing fence to be relocated as shown. Approximately 1085 lin. ft. more or less plus one ... gate. By contractor.
3. The contractor shall furnish and install the necessary new fencing to fill out the remainder as shown (Approx. 440')

BENCHMARK
Top of operating nut on fire hydrant. Elev. 610.87

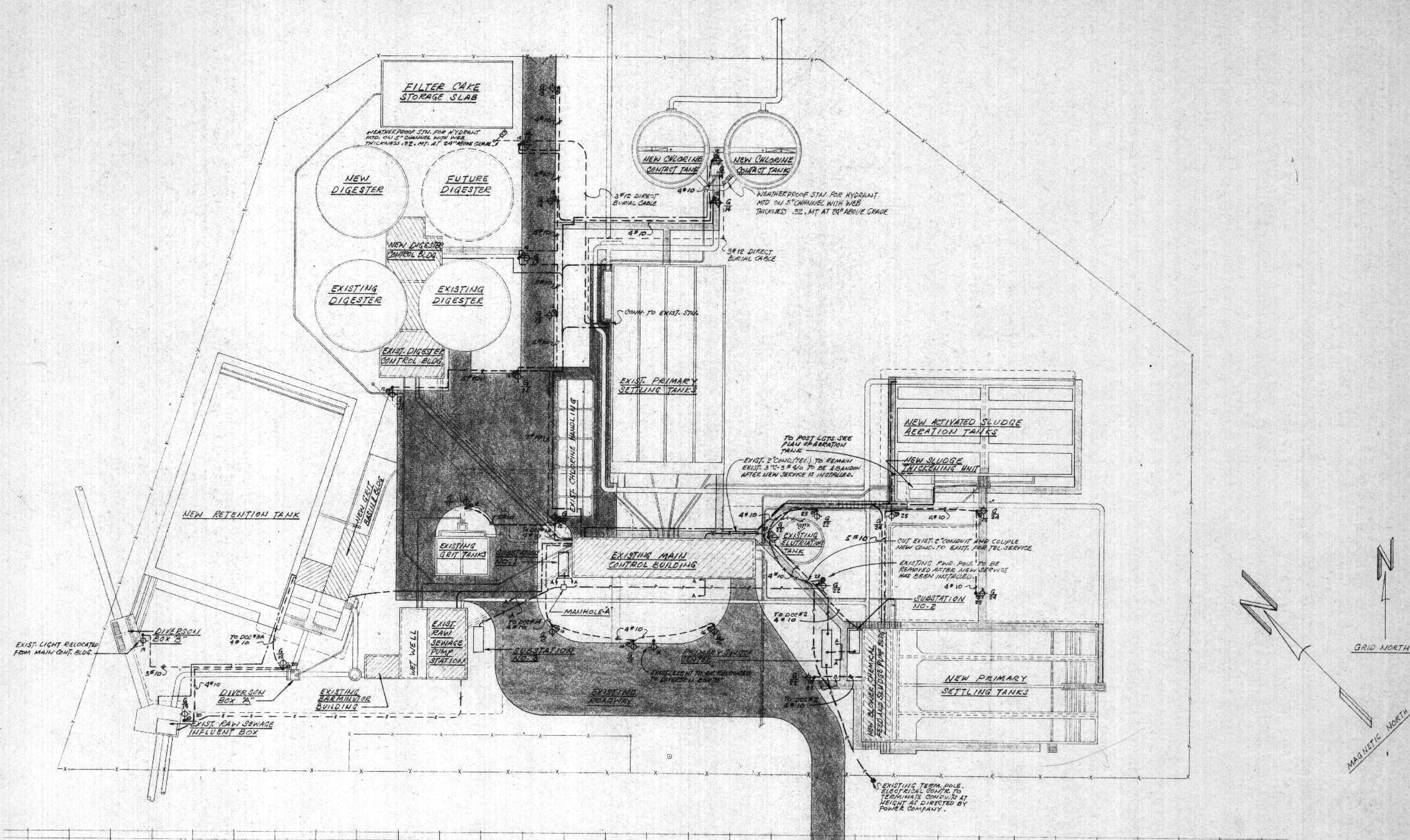
NOTE
Spot elevations shown are at location of decimal point unless otherwise shown by arrow location.
For sidewalk & sidewalk step details see Structural Sheets

SCALE ~ 1" = 50'

NOTE
For purposes of clarity of description all references to north on plans shall refer to GRID NORTH.

SURVEY		REVISIONS	BONESTROO, ROSENE, ANDERLIK & ASSOC., INC. ST. PAUL, MINNESOTA	SUPERIOR, WISCONSIN	PROPOSED SITE LAYOUT	SHEET 6/84
DRAWN				DATE: FEBRUARY 2, 1971 COMM. 6888A		
DESIGN						
APPROV'D						


BUTTERFLY VALVE DETAIL
Handwheel
Protective Pipe for Operating Rod
Butterfly Valve
Variable
Operator
SPECIFIC CONSTRUCTION NOTES
8 F&I 2" Cu N.P.W. Line
9 F&I 8" DIP - See Plan
11 Exist 1½" W.I. Sewage Gas
12 Exist 1½" W.I. City Gas
14 Exist 4" CIP E.F.W.
15 Exist 2" CIP E.F.W.
16 Exist 3" W.I. City Gas
17 Exist 3" W.I. Sewage Gas
18 Exist 4" CIP N.P.W.
19 Exist 6" CIP Raw Sludge Line
20 Exist 8" CIP Digested Sludge
21 F&I 2" New Gas Line
22 F&I 1½" New Gas Line
23 F&I 1" New Gas Line
PLAN ABBREVIATIONS
Furnish and Install — F&I
Non-potable Plant Water — N.P.W.
Cast Iron Pipe — C.I.P.
Ductile Iron Pipe — D.I.P.
Fiberglass Reinforced Pipe — F.R.P.
Polyvinylchloride Pipe — P.V.C.
Copper Pipe — Cu.P.
Corrugated Metal Pipe — CMP
Gate Valve — G.V.
Butterfly Valve — B.V.
Return Activated Sludge — R.A.S.
Waste Activated Sludge — W.A.S.
Reinforced Concrete Pipe — RCP
Pipe Invert Elevation — Inv. Elev.
Steel Pipe — S.P.
Effluent Flushing Water — E.F.W.
Yard Hydrant — Hyd
Wrought Iron Pipe — W.I.
Clean Out — C.O.
Backwater Valve with Cleanout — B.V./C.O.
PLAN SYMBOLS
Valve or Gate
Valve with Handwheel
Proposed Contour with elevation
New Pipe to be installed
Existing Pipe
New Structure with, without roof
Existing Structure with, without roof
GENERAL CONSTRUCTION NOTES
1. Contractor shall be responsible for checking all unit plans for proper pipe elevations.
2. All existing lines shown as per "as-built" plans available. Some variations may exist and the contractor should allow for same change.
From City Sanitary Sewer System
New Primary Settling Tanks
New Activated Sludge Aeration Tanks
Existing Main Control Bldg
Proposed Chlorine Contact Tank
Proposed New Digester
Future Digester
Existing Digester
Filter Cake Storage Slab
Base Line "N"
Base Line "W"
Base Line "E"
MAGNETIC NORTH
GRID NORTH
SCALE 1" = 30'
BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.
ST. PAUL, MINNESOTA
SUPERIOR, WISCONSIN
DATE: FEBRUARY 2, 1971 COMM. 6888A
FIELD PIPING & GRADING
SHEET 7/84


FILTER CAKE STORAGE SLAB
WEATHERPROOF STN. FOR HYDRANT MTD. ON 5" CHANNEL WITH WEB THICKNESS .32, MT. AT 24" ABOVE GRADE
NEW DIGESTER
FUTURE DIGESTER
NEW DIGESTER CONTROL BLDG.
EXISTING DIGESTER
EXISTING DIGESTER
EXIST. DIGESTER CONTROL BLDG.
NEW CHLORINE CONTACT TANK
NEW CHLORINE CONTACT TANK
WEATHERPROOF STN. FOR HYDRANT MTD. ON 5" CHANNEL WITH WEB THICKNESS .32, MT. AT 24" ABOVE GRADE
3#12 DIRECT BURIAL CABLE
3#12 DIRECT BURIAL CABLE
4#10
CONN. TO EXIST. STN.
EXIST. PRIMARY SETTLING TANKS
EXIST. CHLORINE HANDLING
NEW RETENTION TANK
NEW GRIT BAFFLE BLDG.
EXISTING GRIT TANKS
SUBSTATION NO. 1
EXISTING MAIN CONTROL BUILDING
TO POST LGTS. SEE PLAN OF AERATION TANK
EXIST. 2" COND. (TEL.) TO REMAIN EXIST. 3"C. - 3#4/0 TO BE ABANDON AFTER NEW SERVICE IS INSTALLED.
NEW ACTIVATED SLUDGE AERATION TANKS
NEW SLUDGE THICKENING UNIT
EXISTING ELUTRIATION TANK
CUT EXIST. 2" CONDUIT AND COUPLE NEW COND. TO EXIST. FOR TEL. SERVICE
EXISTING PWR. POLE TO BE REMOVED AFTER NEW SERVICE HAS BEEN INSTALLED.
SUBSTATION NO. 2
MANHOLE "A"
WET WELL
EXIST. RAW SEWAGE PUMP STATION
SUBSTATION NO. 3
PRIMARY SWITCH
EXISTING ROADWAY
DIVERSON BOX "B"
EXIST. LIGHT RELOCATED FROM MAIN CONT. BLDG.
DIVERSON BOX "A"
EXISTING BARMINUTOR BUILDING
EXIST. RAW SEWAGE INFLUENT BOX
NEW BLOWER, CHEMICAL FEED AND SLUDGE PUMP BLDG.
NEW PRIMARY SETTLING TANKS
EXISTING TERM. POLE. ELECTRICAL CONTR. TO TERMINATE CONDUITS AT HEIGHT AS DIRECTED BY POWER COMPANY.
GRID NORTH
MAGNETIC NORTH

NOTE:

ALL CONDUCTORS FOR POST LIGHTS SHALL BE DIRECT BURIAL CABLE.

———— ON THIS SITE PLAN THIS SYMBOL INDICATES ROUTING LOCATION OF SUPERVISORY CONTROL AND INTERCOM. REFER TO EACH BUILDING FLOOR PLAN FOR CONDUIT & CONDUCTOR SIZES.

REFER TO SHEETS #66 AND 83 FOR DUCT AND PRIMARY SWITCH DETAILS.

– – – – INDICATES DIRECT BURIAL CABLE FOR OUTSIDE LIGHTING.

—P—P— INDICATES PRIMARY SERVICE DUCT (POWER AND OR TEL SERVICE)

—·—·— INDICATES UNDERGROUND BUBBLER LINE. REFER TO FLOOR PLANS.

—E—E— INDICATES UNDERGROUND CONDUIT FROM DCC#3 TO INFLUENT BOX.

—X—X— INDICATES EXISTING CONDUIT.

SITE PLAN SCALE: 1" = 30'-0"

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

DATE REG NO 4713

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

SURVEY		REVISIONS
DRAWN		8/17/71 T.T.
DESIGN		
APPROV'D		

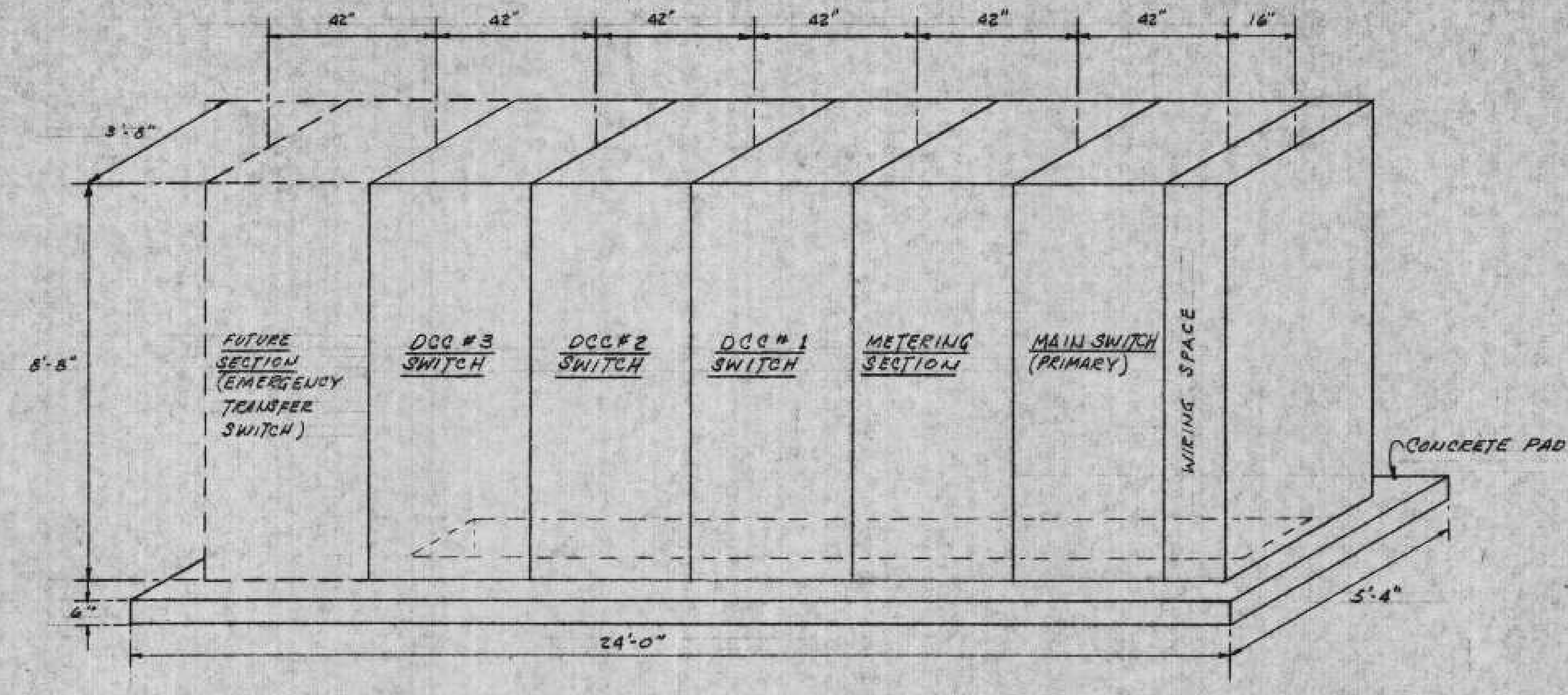
BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.
ST. PAUL, MINNESOTA

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

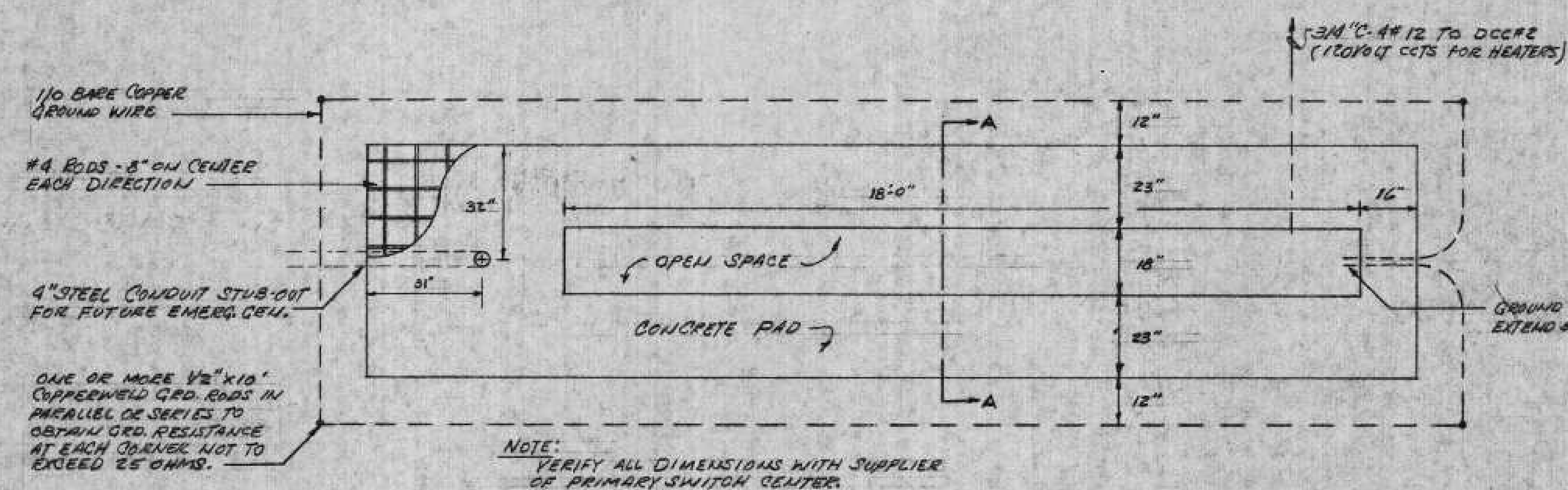
SITE PLAN

SHEET 65/84

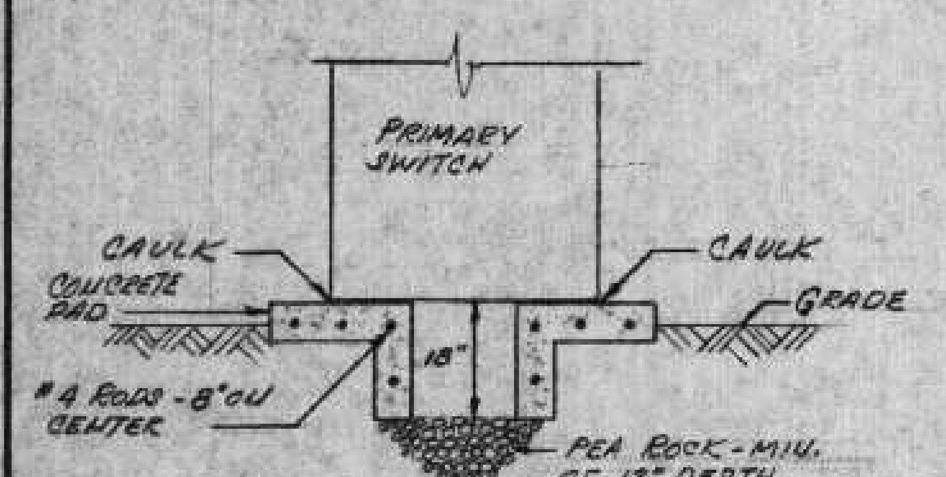
921



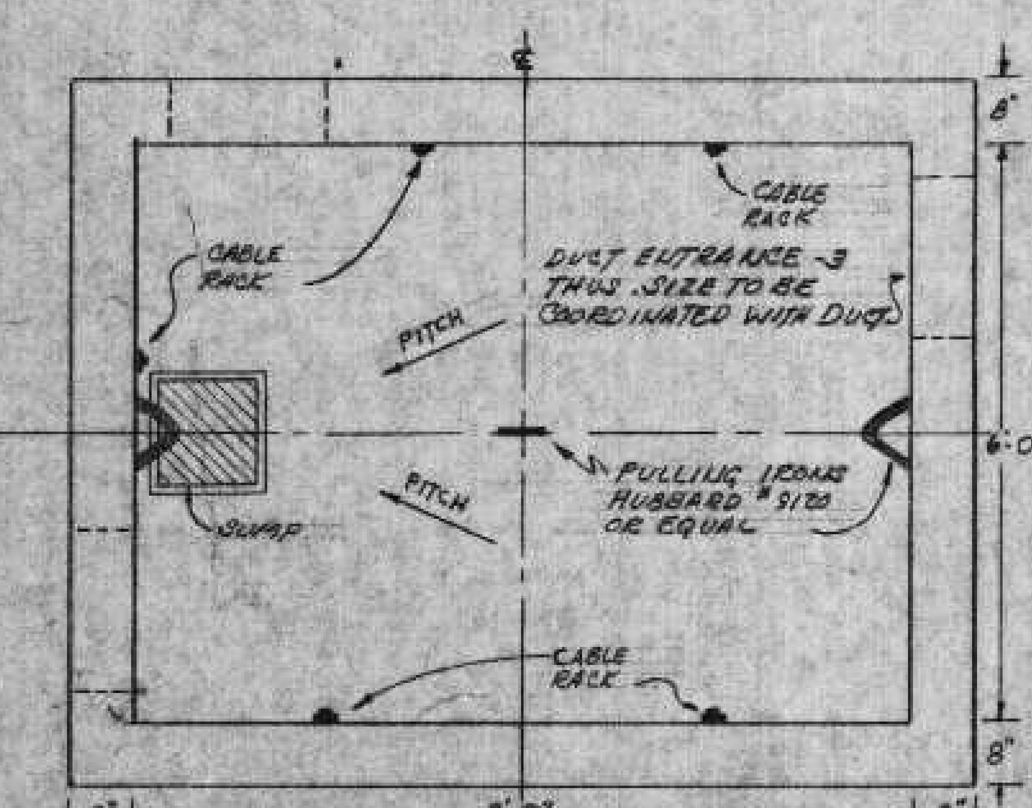
FRONT ELEVATION OF PRIMARY SWITCH CENTER SCALE: 3/8" = 1'-0"



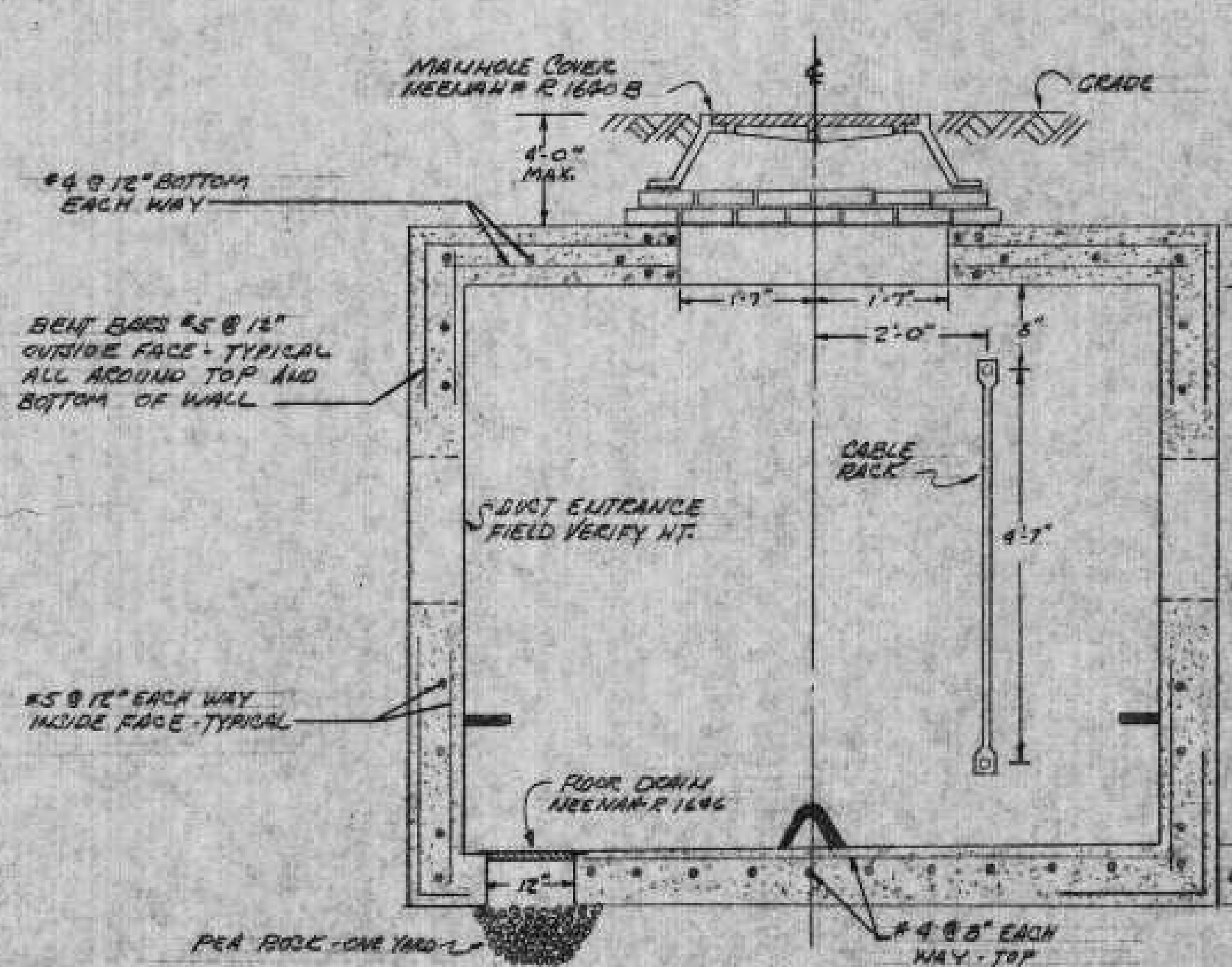
PRIMARY SWITCH CENTER CONCRETE PAD DETAIL SCALE: 3/8" = 1'-0"



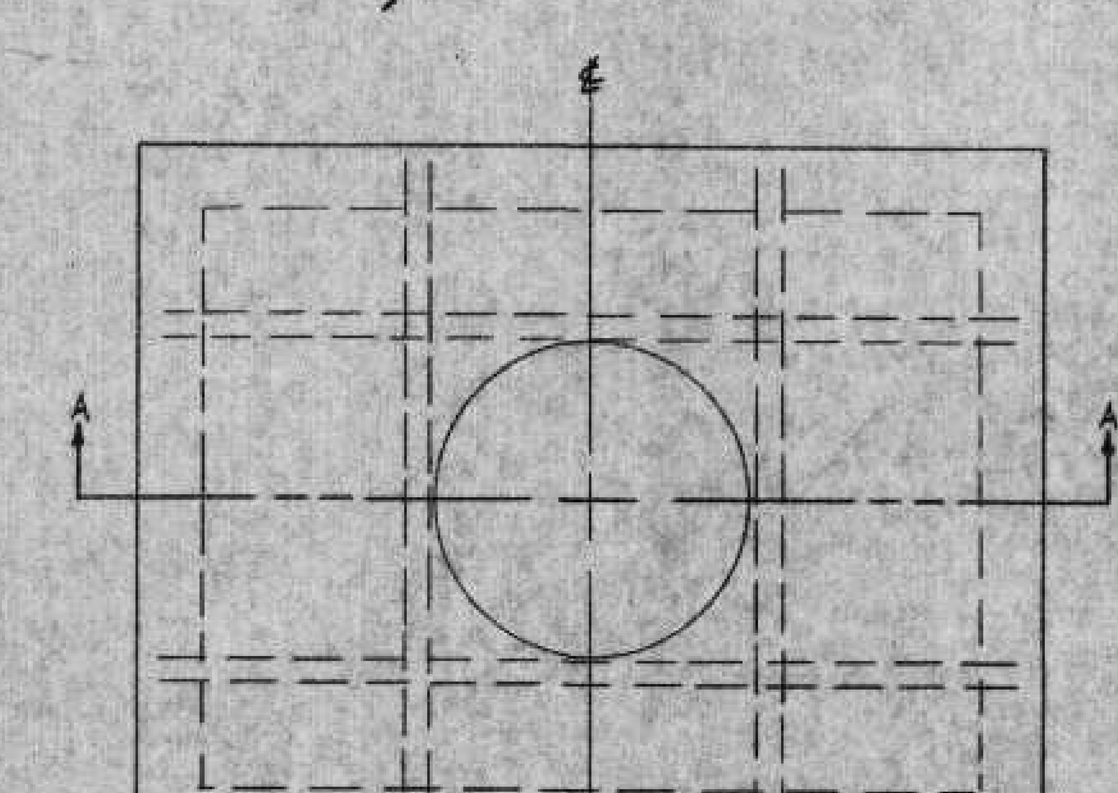
SECTION "A"-"A" SCALE: 3/8" = 1'-0"



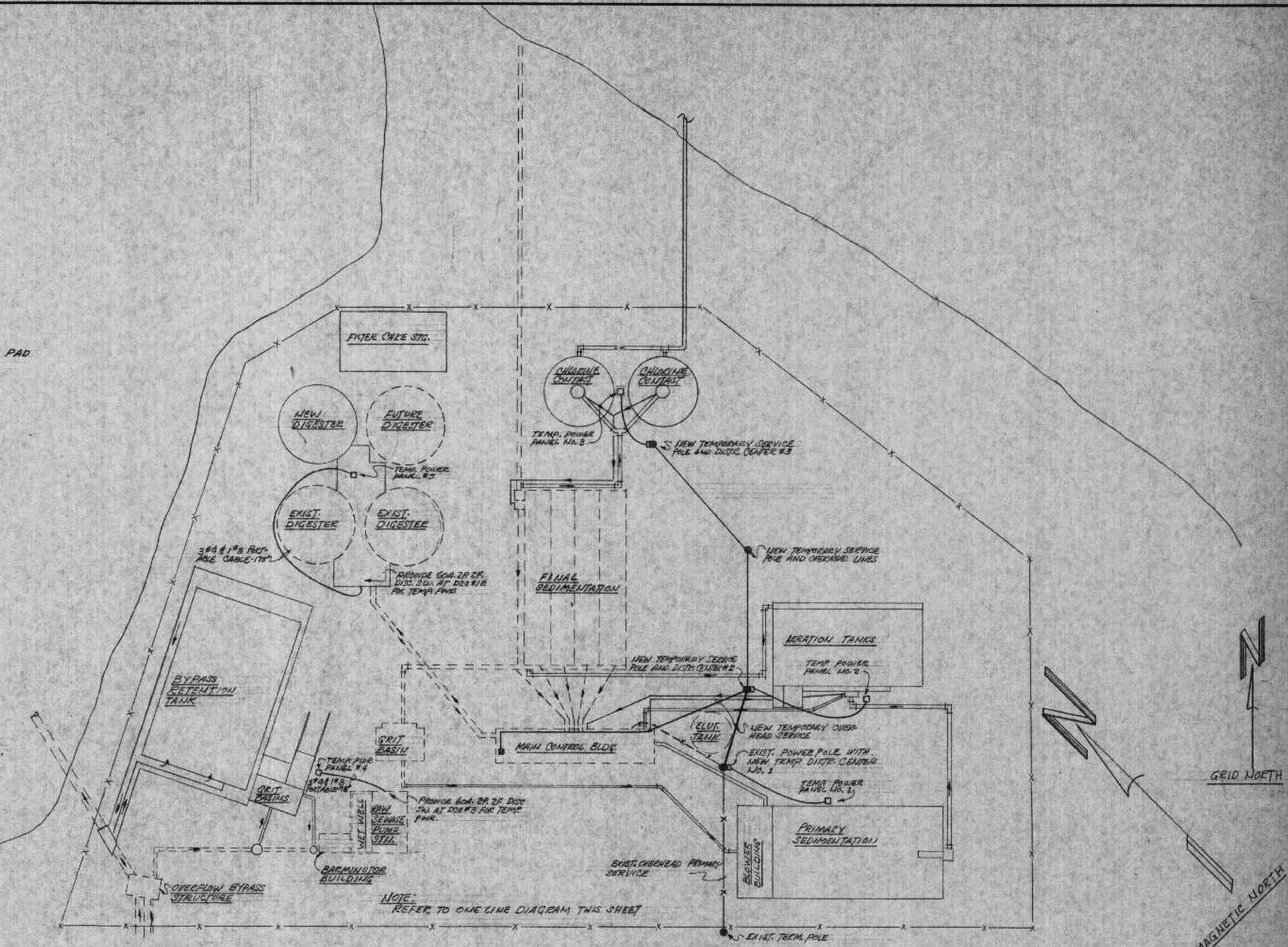
PLAN OF MANHOLE "A" SCALE: 1/2" = 1'-0"



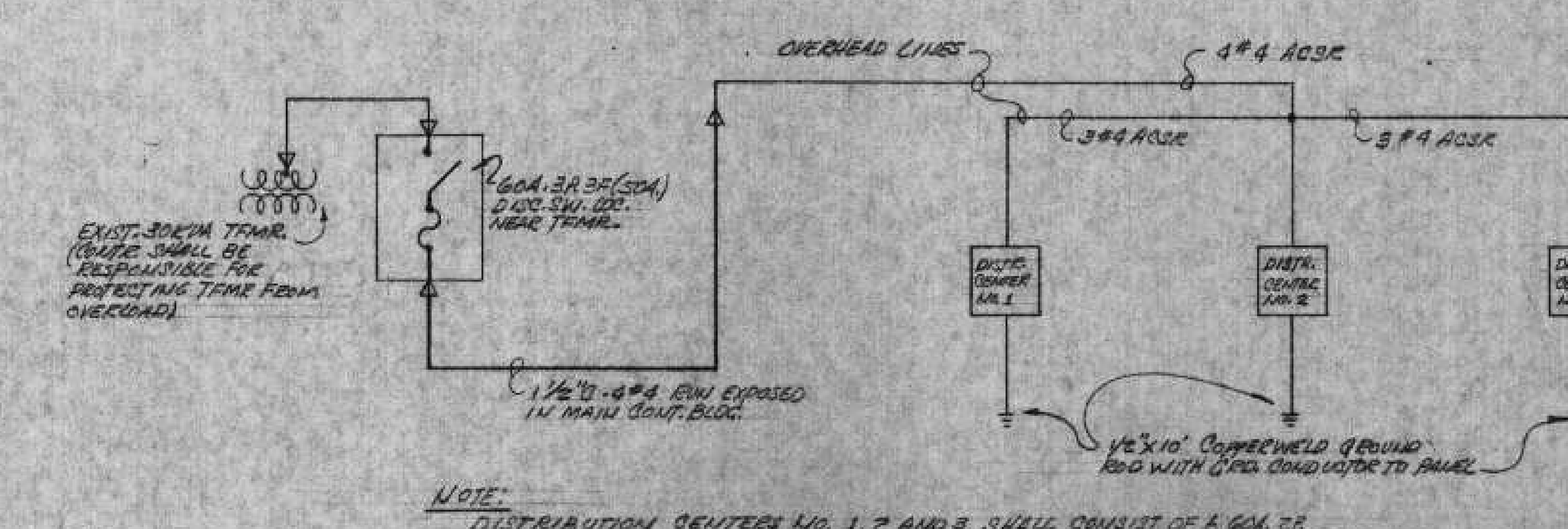
SECTION — MANHOLE "A" SCALE: 1/2" = 1'-0"



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



TEMPORARY SERVICE — SUPERIOR PLANT LAYOUT
SCALE 1" = 50'



NOTE:
DISTRIBUTION CENTERS NO. 1, 2 AND 3 SHALL CONSIST OF A 60A. 2P. 2F. (SOLID NEUTRAL) WEATHERPROOF DISCONNECT SWITCH, POLE MOUNTED AND 75' OF 4 #4 S.J.O. PORTABLE CABLE TERMINATED IN TEMPORARY HOOK PANEL.

ONE LINE DIAGRAM OF TEMPORARY SERVICE NOT TO SCALE

REVIEWED AND APPROVED BY THE DIV. OF ENVIRONMENTAL PROTECTION, DEPT. NATURAL RESOURCES, IN ACCORDANCE WITH SEC. 144.04 WIS. STATS., SUBJECT TO THE CONDITIONS SET FORTH IN THE LETTER OF APPROVAL.
THOMAS G. FRANGOS
ADMINISTRATOR
APPROVAL NO. 72 355
DATE FEB 4 '74

DNR JAN 8 1974

ERICKSEN ELLISON AND ASSOC. INC. ST. PAUL, MINNESOTA	SURVEY / DRAWN / DESIGN / APPROVED	REVISIONS	BONESTROO, ROSENE, ANDERLIK & ASSOC., INC. ST. PAUL, MINNESOTA	SUPERIOR, WISCONSIN DATE: FEBRUARY 2, 1971 COMM. 6888A	TEMPORARY SERVICE	SHEET 66/84

921

MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE

NUMBER	EQUIPMENT	SIZE	VOLT & Ø	LOCA.	CONTROL	CONT. LOCA.	STARTER SIZE	STARTER LOCA.	DISC SIZE & TYPE
71	UNIT HEATER #6	1/6	120-1	BOILER BLDG. FIRST	STAT "	BLOWER BLDG.	NONE	-	MS
72	UNIT HEATER #7	1/6	120-1	BLOWER BLDG. FIRST	STAT "	BLOWER BLDG	NONE	-	MS
73	UNIT HEATER #8	1/6	120-1	BLOWER BLDG. SECOND	STAT "	BLOWER BLDG.	NONE	-	MS
74	UNIT HEATER #9	1/6	120-1	BLOWER BLDG. SECOND	STAT "	BLOWER BLDG.	NONE	-	MS
75	UNIT HEATER #10	1/6	120-1	BLOWER BLDG. SECOND	STAT "	BLOWER BLDG.	NONE	-	MS
76	EXH. FAN E-5	1/4	120-1	BLOWER BLDG. SECOND	MS & P (35)	BLOWER BLDG.	NONE	-	MS
77	HTG. PUMP P-2	1/4	120-1	BLOWER BLDG. FIRST	STAT "	BLOWER BLDG.	NONE	-	MS
78	HTG. PUMP P-3	1/6	120-1	BLOWER BLDG. FIRST	STAT "	BLOWER BLDG.	NONE	-	MS
79	HTG. PUMP P-4	1-1/2	460-3	BLOWER BLDG.	START STOP	DCC#2	0	DCC#2	-
80	EXIST. RAW SLUDGE PUMP #1 (17)	7-1/2	460-3	CONTROL BLDG.	EXIST. (21) START STOP & P	-	1	-	-
81	EXIST. RAW SLUDGE PUMP #2 (17)	7-1/2	460-3	CONTROL BLDG.	EXIST. (21)	-	1	-	-
82	EXIST. SCUM PUMP	7-1/2	460-3	CONTROL BLDG.	TIMER (23)	DCC#1	EXIST.	DCC#1	-
83	EXIST. BLOWER #1 (17)	3	460-3	CONTROL BLDG.	EXIST. P.B. (22)	AT MTR.	EXIST. 0	DCC#1	-
84	EXIST. BLOWER #2 (17)	3	460-3	CONTROL BLDG.	EXIST. P.B. (22)	AT MTR.	EXIST. 0	DCC#1	-
85	EXIST. BLOWER #3 (17)	3	460-3	CONTROL BLDG.	EXIST. P.B. (22)	AT MTR.	EXIST. 0	DCC#1	-
86	EXIST. PLANT FLUSHING WATER PUMP #1 (17)	15	460-3	CONTROL BLDG.	EXIST. DUATROL AND ALT. (22)	AT MTR.	EXIST.	DCC#1	-
87	EXIST. PLANT FLUSHING WATER PUMP #2 (17)	15	460-3	CONTROL BLDG.	EXIST. DUATROL AND ALT. (22)	AT MTR.	EXIST.	DCC#1	-
88	EXIST. HOT WATER CIRCULATOR	1/6	120-1	CONTROL BLDG.	EXIST. MS & P (22)	AT UNIT	NONE	-	-
89	EXIST. HOT WATER CIRCULATOR	1/6	120-1	CONTROL BLDG.	EXIST. MS & P (22)	AT UNIT	NONE	-	-
90	EXIST. AIR COMP. #1	1-1/2	460-3	CONTROL BLDG.	EXIST. PRESS SW (22)	AT UNIT	EXIST.	DCC#1	-
91	EXIST. AIR COMP. #2	1-1/2	460-3	CONTROL BLDG.	EXIST. PRESS SW (22)	AT UNIT	EXIST.	DCC#1	-
92	EXIST. SLUDGE DEWATERING PUMP #1	3	460-3	CONTROL BLDG.	EXIST. P. B. (22)	SLUDGE FILTER ROOM	EXIST.	DCC#1	-
93	EXIST. SLUDGE DEWATERING PUMP #2	3	460-3	CONTROL BLDG.	EXIST. P. B. (22)	SLUDGE FILTER ROOM	EXIST.	DCC#1	-
94	EXIST. SLUDGE DEWATERING PUMP #3	3	460-3	CONTROL BLDG.	EXIST P. B. (22)	SLUDGE FILTER ROOM	EXIST.	DCC#1	-
95	EXIST. SLUDGE DEWATERING PUMP #4	3	460-3	CONTROL BLDG.	EXIST. P. B. (22)	SLUDGE FILTER ROOM	EXIST.	DCC#1	-
96	EXIST. OVERHEAD DOOR	1/2	120-1	CONTROL BLDG.	EXIST. (22)	SLUDGE FILTER ROOM	-	-	-
97	EXIST. PIPE SPACE VENT.	1/4	120-1	CONTROL BLDG.	EXIST. (22)	CONTROL	NONE	-	-
98	EXIST. UNIT HEATER #1 (7)	1/20	460-3	CONTROL BLDG.	EXIST. STAT (22)	HALL	NONE	-	-
99	EXIST. UNIT HEATER #2 (7)	1/20	460-3	CONTROL BLDG.	EXIST. STAT (22)	PUMP ROOM	NONE	-	-
100	EXIST. UNIT HEATER #3 (7)	1/20	460-3	CONTROL BLDG.	EXIST. STAT (22)	PUMP ROOM	NONE	-	-
101	EXIST. UNIT HEATER #4 (7)	1/20	460-3	CONTROL BLDG.	EXIST. STAT (22)	PUMP ROOM	NONE	-	-
102	EXIST. SUMP PUMP	1/3	120-1	CONTROL BLDG.	EXIST. FLOAT SW. (22)	AT UNIT	NONE	-	-

MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE

NUMBER	EQUIPMENT	SIZE	VOLT & Ø	LOCA.	CONTROL	CONT. LOCA.	STARTER SIZE	STARTER LOCA.	DISC SIZE & TYPE
36	BARMINUTOR (17)	3	460-3	BARMINUTOR BLDG.	BUBBLER (18)	BARMINUTOR BLDG.	0	BARMINUTOR BLDG.	30A-3P-NF (EXP. PROOF)
37	RETURN ACTIVATED SLUDGE PUMP #1(17)	30	460-3	MAIN BLDG.	FLOW (19)	DCC#1A	3(34)	DCC#1A	-
38	RETURN ACTIVATED SLUDGE PUMP #2(17)	30	460-3	MAIN BLDG.	FLOW (19)	DCC#1A	3(34)	DCC#1A	-
39	WASTE ACTIVATED SLUDGE PUMP #1(17)	3	460-3	MAIN BLDG.	ORP (TIMER) (19)	DCC#1	0	DCC#1	-
40	WASTE ACTIVATED SLUDGE PUMP #2(17)	15	460-3	MAIN BLDG.	TIMER (19)	DCC#1	2	DCC#1	-
41	CHLORINE INJECTOR PUMP (17)	3	460-3	MAIN BLDG.	START STOP & P	DCC#1	0	DCC#1	-
42	EXIST. CHLORINE INJECTOR PUMP #2 (17)	10	460-3	MAIN BLDG.	INTERLOCK WITH NEW CHLORINATOR	DCC#1A	EXIST.	DCC#1	EXIST.
43	EXH. FAN E-6	1/8	120-1	BLOWER BLDG.	MS & P (35)	DCC#2	NONE	-	TOGGLE SW
44	POLYMER FEEDER(17)	1/2	460-3	BLOWER BLDG.	SEE SPECS	AT UNIT	0	AT UNIT	-
45	POLYMER FEEDER (17)	1/4	460-3	BLOWER BLDG.	SEE SPECS	AT UNIT	0	AT UNIT	-
46	FERRIC CHLORIDE PUMP (17)	3/4	460-3	BLOWER BLDG.	FLOW METER(19)	DCC#2	SEE SHT. 72	DCC#2	-
47	POLYMER FEEDER (17) PUMP #1	1/3	460-3	BLOWER BLDG.	INTERLOCK WITH MTR. #39 & 40	DCC#2	0	DCC #2	TOGGLE SW
48	PRIMARY SLUDGE PUMP (17)	7-1/2	460-3	BLOWER BLDG.	TIMER (19)	DCC#2	1	DCC#2	
49	PRIMARY SLUDGE PUMP (17)	7-1/2	460-3	BLOWER BLDG.	TIMER (19)	DCC#2	1	DCC#2	
50	BLOWER (17)	125	460-3	BLOWER BLDG.	FLOW METER (32) (19)	DCC#2	5(29)	DCC#2	-
51	BLOWER (17)	125	460-3	BLOWER BLDG.	FLOW METER (32) (19)	DCC#2	5(29)	DCC#2	-
52	BLOWER (17)	125	460-3	BLOWER BLDG.	FLOW METER (32) (19)	DCC#2	5(29)	DCC#2	-
53	BLOWER (17)	125	460-3	BLOWER BLDG.	FLOW METER (32) (19)	DCC#2	5(29)	DCC#2	-
54	DUAL SCRAPER DR. (17)	3/4	460-3	PRIMARY TANK	START STOP & P (20)	DCC#2	0	DCC#2	30A-3P-NF (WP)
55	DUAL SCRAPER DR. (17)	3/4	460-3	PRIMARY TANK	START STOP & P (20)	DCC#2	0	DCC#2	30A-3P-NF (WP)
56	PRIMARY TANK (17) CROSS COLLECTOR	1	460-3	PRIMARY TANK	INTERLOCK (20) WITH MTR. #54	DCC#2	0	DCC#2	30A-3P-NF (WP)
57	PRIMARY TANK (17) CROSS COLLECTOR	1	460-3	PRIMARY TANK	INTERLOCK (20) WITH MTR. #55	DCC#2	0	DCC#2	30A-3P-NF (WP)
58	SUMP PUMP	1/2	208-1	BLOWER BLDG.	FLOAT SW. (9)	AT SUMP	0	DCC#2	30A-2P-NF
59	SUPPLY FAN	1-1/2	460-3	DIGESTER BLDG.	START STOP & P (33)	DCC#1C	0	DCC#1C	-
60	EXH. FAN E-4	1/3	120-1	DIGESTER BLDG.	INTERLOCK WITH MTR. #59	DCC#1C	NONE	-	MS & P
61	HEATING PUMP P-1	1/3	120-1	DIGESTER BLDG.	INTERLOCK WITH MTR. #59	DCC#1C	NONE	-	MS & P
62	UNIT HEATER #2	1/8	120-1	GRIT BLDG.	ELECTRIC STAT	PUMP ROOM	NONE	-	MS
63	UNIT HEATER #3	1/8	120-1	GRIT BLDG.	ELECTRIC STAT	GRIT DEWATERING RM.	NONE	-	MS
64	UNIT HEATER #4	1/40	120-1	GRIT BLDG.	ELECTRIC STAT	BLOWER ROOM	NONE	-	MS
65	UNIT HEATER #5	1/2	208-3	GRIT BLDG.	ELECTRIC STAT	GARAGE LOADING	0	GARAGE LOADING	30A-3P-NF
66	EXH. FAN E-2	1/8	120-1	GRIT BLDG.	MS & P (35)	DCC#3A	NONE	-	TOGGLE SW (30)
67	EHX. FAN E-3	1/20	120-1	GRIT BLDG.	MS & P (35)	DCC#3	NONE	-	TOGGLE SW (30)
68	FERRIC CHLORIDE AIR COMP. (17)	15	460-3	BLOWER BLDG.	START STOP & P	DCC#2	2	DCC#2	-
69	GAS COMPRESSOR HEATER (17)	6KW	460-3	DIGESTER TANK	BY MFGR. (11)	AT UNIT	NONE	-	30A-3P-NF (WP)
70	BOILER	-	120-1	BLOWER BLDG.	STAT"	BLOWER BLDG.	NONE	-	MS

MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE

NUMBER	EQUIPMENT	SIZE	VOLT & Ø	LOCA.	CONTROL	CONT. LOCA.	STARTER SIZE	STARTER LOCA.	DISC SIZE & TYPE
1	BRIDGE DRIVE (17)	3/4	460-3	RET. TANK	BUBBLER (1)	DCC#3A	BY MFGR.	RET. TANK	30A-3P-3F (WP)
2	HOIST DRUM	3/4	460-3	RET. TANK	BY MFGR (2)	ON BRIDGE	BY MFGR.	RET. TANK	30A-3P-3F (WP)
3	HELITHICKNER #1 (17)	1	460-3	RET. TANK	INTERLOCK (20) WITH MTR#1(3)	DCC#3A	0	DCC#3A	30A-3P-3F (WP)
4	HELITHICKNER #2 (17)	1	460-3	RET. TANK	INTERLOCK (20) WITH MTR#1(3)	DCC#3A	0	DCC#3A	30A-3P-3F (WP)
5	CABLE REEL	1/2	460-3	RET. TANK	BY OTHERS (4)	RET. TANK	BY MFGR.	RET. TANK	-
6	RET. SLUDGE PUMP #1 (17)	10	460-3	RET. TUNNEL	TIMER	DCC#3A	1	DCC#3A	30A-3P-NF
7	RET. SLUDGE PUMP #2 (17)	10	460-3	RET. TUNNEL	TIMER	DCC#3A	1	DCC#3A	30A-3P-NF
8	SUMP PUMP	1	208-1	RET. TUNNEL	FLOAT SW (6) (9)	RET. TUNNEL	0	DCC#3A	30A-2P-NF
9	GRIT PUMP #1 (17)	20	460-3	GRIT BLDG.	START STOP &P (5)	GRIT DEWATERING	2	DCC#3A	-
10	GRIT PUMP #2(17)	20	460-3	GRIT BLDG.	START STOP & P (5)	GRIT DEWATERING	2	DCC#3A	-
11	BLOWER #1 (17)	10	460-3	GRIT BLDG.	START STOP & P	DCC#3A	1	DCC#3A	-
12	BLOWER #2 (17)	10	460-3	GRIT BLDG.	START STOP & P	DCC#3A	1	DCC#3A	-
13	CLASSIFIER (17)	1/2	460-3	GRIT BLDG.	START STOP & P (5)	GRIT DEWATERING	0	DCC#3A	-
14	CLASSIFIER (17)	1/2	460-3	GRIT BLDG.	START STOP & P (5)	GRIT DEWATERING	0	DCC#3A	-
15	GRIT HOPPER GATE	1	460-3	GRIT BLDG.	START STOP & P (7)	GRIT LOADING	0	DCC#3A	-
16	GRIT HOPPER VIBRATOR	1/4	460-3	GRIT BLDG.	START STOP & P (7)	GRIT LOADING	0	DCC#3A	-
17	OVERHEAD DOOR	1/3	120-1	GRIT BLDG.	BY MFGR. (8)	GRIT LOADING	NONE	-	MS
18	SUMP PUMP	1/2	208-1	GRIT BLDG.	FLOAT SW (6) (9)	AT PUMP	0	DCC#3A	30A-2P-NF
19	SEWAGE PUMP #1(28)	50	460-3	PUMP BLDG.	BUBBLER (10) (29)	DCC#3	3(34)	DCC#3	-
20	SEWAGE PUMP #2(28)	50	460-3	PUMP BLDG.	BUBBLER (29)	DCC#3	3(34)	DCC#3	-
21	SEWAGE PUMP #3(28)	50	460-3	PUMP BLDG.	BUBBLER (29)	DCC#3	3(34)	DCC#3	-
22	SEWAGE PUMP #4(28)	60	460-3	PUMP BLDG.	BUBBLER (29)	DCC#3	4(34)	DCC#3	-
23	SLUDGE RECIRCULATING PUMP #1 (17)	5	460-3	DIGESTER BLDG.	STAT"	BLR. CONT. PANEL	BY MFGR.	BLR. CONT. PANEL	-
24	SLUDGE RECIRCULATING PUMP #2 (17)	5	460-3	DIGESTER BLDG.	STAT"	BLR. CONT. PANEL	BY MFGR.	BLR. CONT. PANEL	-
25	SUMP PUMP	1/2	208-1	DIGESTER BLDG.	FLOAT SW. (9) (14)	DIGESTER BLDG	O	DCC 1C	-
26	SLUDGE TRANSFER PUMP (17)	3	460-3	DIGESTER BLDG.	START STOP & P (31)	DIGESTER BLDG	O	DCC 1C	-
27	GAS COMPRESSOR (17)	3KW 7-1/2	460-3	DIGESTER TANK	BY MFGR. (11)	AT UNIT	1	DCC 1C	2-30A-3P-NF
28	BOILER RECIR. PUMP	3	460-3	DIGESTER BLDG.	BY MFGR. (12) (14)	AT UNIT	O	BOILER CONT. PANEL	-
29	BOILER	-	120-1	DIGESTER BLDG.	BY MFGR. (13) (14)	AT UNIT	-	-	TOGGLE SW.
30	CHLORINE CONTACT SCRAPER DRIVE	1/2	460-3	CHLORINE TANK	START STOP & P (15)	DCC#1	0	DCC#1	30A-3P-NF (WP)
31	CHLORINE CONTACT SCRAPER DRIVE	1/2	460-3	CHLORINE TANK	START STOP & P (15)	DCC#1	0	DCC#1	30A-3P-NF (WP)
32	THICKENER DRIVE(17)	1	460-3	AERATION TANK	INTERLOCK WITH MTR #39 & 40	DCC#1	0	DCC#1	30A-3P-NF (WP)
33	MIXER THICKENER(17)	1/3	120-1	AERATION TANK	INTERLOCK WITH MTR #32	DCC#1	O	DCC#1	MS
34	RET. EXH. FAN E-1	1/3	120-1	RET. TUNNEL	MS&P (35)	RET. TUNNEL	NONE	-	TOGGLE SW
35	UNIT HEATER	1/4	120-1	RET. TUNNEL	ELEC. STAT."	RET. TUNNEL	NONE	-	MS

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

THOMAS G. FRANGOS
ADMINISTRATOR

APPROVAL NO.
72 355

DATE: FEB 4 '74

DNR JAN 3 1974

ERICKSEN ELLISON AND ASSOC INC
ST PAUL, MINNESOTA

		REVISIONS
SURVEY		
DRAWN		
DESIGN		
APPROV'D		

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

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

MOTOR SCHEDULE

SHEET 79/84

921

MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE

NUMBER	EQUIPMENT	SIZE	VOLT & Ø	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	BARMINUTER 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 SHT. 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

1. 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 MFGR. AND SHALL BE INSULATED FLEXIBLE ELECTRIC CABLE. BRIDGE DRIVE AND CONTROLS WILL BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.
2. 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.
3. 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.
4. 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.
5. START STOP STATIONS ARE TO BE REMOTELY LOCATED. SEE PLANS.
6. INSTALL REMOTE PILOT LIGHT AT CONTROL PANEL IN GRIT BUILDING.
7. CONTROL TO BE LOCATED AT TRUCK LEVEL AS SHOWN ON PLANS.
8. 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 MFGR.
9. 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.
10. REFER TO SPECIFICATION FOR CONTROL.
11. 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.
12. 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.
13. MAKE POWER CONNECTION TO BOILER CONTROL PANEL, ALL OTHER WIRING AND CONTROLS FOR BOILER WILL BE BY OTHERS.
14. INSTALL REMOTE PILOT LIGHT AT CONTROL PANEL DCC#1C IN NEW DIGESTER BUILDING.
15. INSTALL RUNNING LIGHT AND SHEAR PIN ALARM AT DCC#1A IN MAIN CONTROL BUILDING.
16. 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.
17. INSTALL RUNNING LIGHT AT DCC#1A FOR THIS MOTOR. PROVIDE N.O. AUX. CONTACT IN THIS STARTER FOR CONNECTION OF REMOTE RUNNING LIGHT WIRING.
18. 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 MFGR. 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.
19. REFER TO SPECIFICATIONS FOR CONTROL.
20. ELECTRICAL CONTRACTOR SHALL ALSO MAKE CONNECTION TO LIMIT SWITCH FOR SHEAR PIN ALARM.
21. 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.
22. EXISTING MOTOR AND CONTROLLER SHALL REMAIN UNCHANGED.
23. 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.
24. THIS MOTOR IS TO BE REMOVED AND REPLACED BY MOTOR #41 OF THIS SCHEDULE.
25. 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.
26. THIS MOTOR IS TO BE REMOVED. ALL CONTROLS AND CONTROLLER WILL BE REMOVED FROM EXISTING DISTRIBUTION CONTROL CENTER #3. SEE PLAN AND SPECIFICATION.
27. THIS MOTOR IS TO BE REMOVED AND REPLACED WITH MOTOR #36 OF THIS SCHEDULE.
28. 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.
29. THIS MOTOR IS TWO SPEED.
30. INSTALL MANUAL MOTOR DISCONNECT SWITCH INSIDE UNIT HOUSING.
31. INSTALL REMOTE START STOP STATION AT EXISTING BUILDING AS SHOWN ON PLAN.
32. MAKE CONNECTION TO SOLENOID FOR COOLING WATER AND LOW OIL LEVEL ALARM. VERIFY LOCATION OF STUB UPS TO BLOWER.
33. 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.
34. THIS MOTOR IS VARIABLE SPEED.

ERICKSEN ELLISON AND ASSOC. INC.
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MOTOR, APPLIANCE AND EQUIPMENT SCHEDULE

NUMBER	EQUIPMENT	SIZE	VOLT & Ø	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	-	MS
114	EXIST. FERRIC CHLORIDE PUMP #2	1/4	120-1	CONTROL BLDG.	EXIST. (22)	SLUDGE FILTER ROOM	NONE	-	MS
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	-	MS
121	EXIST. SLUDGE CON-VEYOR LONG. #1	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
122	EXIST. SLUDGE CON-VEYOR LONG. #2	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
123	EXIST. SLUDGE CON-VEYOR LONG. #3	1/2	460-3	FINAL TANK	EXIST. (25)	AT UNIT	1	DCC#1	EXIST.
124	EXIST. SLUDGE CON-VEYOR 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	ELUTRIA-TION 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 COMP-RESSOR (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.

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

GENERAL NOTES:

1. CIRCUIT NUMBERS SHOWN ON THESE DRAWINGS SHALL NOT NECESSARILY CORRESPOND TO ACTUAL CIRCUIT BREAKER NUMBERS.
2. VERIFY LOCATION OF ALL MOTORS WITH MECHANICAL PLANS BEFORE ROUGH-IN.
3. ADJUST MOUNTING HEIGHTS OF ALL OUTLETS IF REQUIRED SO AS NOT TO INTERFERE WITH MECHANICAL EQUIPMENT. VERIFY CHANGES WITH ENGINEER.
4. VERIFY TYPE OF CEILING CONSTRUCTION FOR PROPER MOUNTING OF ALL LIGHT FIXTURES.
5. 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.
6. LETTER THUS: "A" - INDICATES TYPE OF LIGHTING FIXTURES. REFER TO LIGHTING FIXTURE TYPES IN SPECIFICATIONS.
7. VERIFY LOCATION OF ALL FLOOR OUTLETS WITH ENGINEER PRIOR TO ROUGH-IN.
8. ALL EXTERIOR JUNCTION BOXES SHALL BE WEATHERPROOF AND CAST BOXES.
9. FIELD VERIFY LOCATIONS FOR ALL ROUGH-INS TO EQUIPMENT.
10. 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.
11. 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
- OUTLET FOR, OR CONNECTION TO A RECESSED LIGHTING FIXTURE
- WALL OUTLET
- JUNCTION BOX
- CLOCK OUTLET
- NIGHT LIGHT
- SINGLE CONVENIENCE RECEPTACLE - NEMA 5-15R
- DUPLEX CONVENIENCE RECEPTACLE-NEMA 5-15R
- COMBINATION 15A, 120V-220V RECEPTACLE GROUND - NEMA 5-15R + 6-15R
- DUPLEX CONVENIENCE RECEPTACLE UPPER-HALF SWITCHED - NEMA 5-15R
- RANGE RECEPTACLE 50A, 3P + G, 4W, NEMA 14-50R
- SWITCH & CONVENIENCE OUTLET IN SAME PLATE
- FLOOR OUTLET
- SINGLE POLE SWITCH
- 2 DOUBLE POLE SWITCH
- 3 3-WAY SWITCH
- 4 4-WAY SWITCH
- D DOOR SWITCH
- K KEY SWITCH
- SWITCH & PILOT
- 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
- SPEAKER OUTLET
- SOUND OR INTERCOM SYSTEM 'CALL BACK' SWITCH
- TELEPHONE OUTLET
- I INTERCOMMUNICATION STATION OUTLET
- M MICROPHONE OUTLET
- PROJECTOR OUTLET
- TELEVISION OUTLET
- TERMINAL CABINET
- ANNUNCIATOR
- BRANCH CIRCUIT PANEL
- MOTOR (NO. REFERS TO SCHEDULE)
- EQUIPMENT OR APPLIANCE (NO. REFERS TO SCH)
- MAGNETIC MOTOR STARTER
- DISCONNECT SWITCH
- DISCONNECT SWITCH & MAGNETIC MOTOR STARTER IN SAME LOCATION
- M MANUAL MOTOR STARTING SWITCH
- MANUAL MOTOR CONTROL STATION
- MANUAL MOTOR CONTROL STATION WITH PILOT
- THERMOSTAT
- EXIT LIGHT
- AUXILIARY EQUIPMENT (AS NOTED)
- AUXILIARY SYSTEM CIRCUITS
- BRANCH CIRCUIT (CEILING OR WALL)
- BRANCH CIRCUIT (FLOOR)
- HOME RUNS TO CAB.-ARROWS INDICATE NO. OF CIRCUITS
- EXISTING CONDUIT
- EXISTING CONDUIT, CONDUCTORS REMOVED
- PLUGSTRIP-OUTLET SPACING AS SHOWN OR SPEC.

NOTE: ANY CIRCUIT WITHOUT FURTHER DESIGNATION IS A TWO-WIRE CIRCUIT. A GREATER NUMBER OF WIRES ARE INDICATED BY CROSS MARKS.

ANY SYMBOL MAY BE FURTHER DESIGNATED BY ONE OR MORE OF THE FOLLOWING SUBSCRIPTS:

- PS OUTLET WITH PULL SWITCH
- WP WEATHERPROOF OUTLET
- X EXISTING OUTLET (DOES NOT APPLY TO EQUIPMENT OR DEVICE)
- XC EXIST. OUTLET TO BE REMOVED OR COVERED WITH BLANK COVER (DOES NOT APPLY TO EQUIPMENT OR DEVICE)
- A LETTER INDICATES FIXTURE TYPE
- 2 NUMBER INDICATES CIRCUIT NUMBER

EEA

E-200

REVIEWED AND APPROVED BY THE DIV. OF ENVIRONMENTAL PROTECTION, DEPT. NATURAL RESOURCES, IN ACCORDANCE WITH SEC. 144.04, WIS. STATS., SUBJECT TO THE CONDITIONS SET FORTH IN THE LETTER OF APPROVAL.
THOMAS G. FRANGOS
ADMINISTRATOR

APPROVAL NO. 72 355

DATE: FEB 1 '74

DNR JAN 3 1974

SURVEY		REVISIONS	BONESTROO, ROSENE, ANDERLIK & ASSOC., INC. ST. PAUL, MINNESOTA	SUPERIOR, WISCONSIN	MOTOR SCHEDULE	SHEET 80/84
DRAWN		8/17/71 J.T.		DATE: FEBRUARY 2, 1971 COMM. 6888A		
DESIGN						
APPROV'D						

ANAEROBIC DIGESTERS
GAS COMPRESSORS
GAS COMPRESSOR HEATER
SLUDGE RECIRCULATION PUMPS
DIGESTED SLUDGE OUT
#1 2 3 SLUDGE TRANSFER PUMPS
CHLORINE CONTACT TANKS
ALARMS
SCRAPER DRIVES
TREATED EFFLUENT TO BAY
TO W.A.S. FLOW RECORDER AND RATIO CONTROL
TO R.A.S. FLOW RECORDER AND RATIO CONTROL
TO O.R.P RECORDER
TO D.O. ANALYZER AND RECORDER
ML-SS ANALYZER AND RECORDER
1 2 3 4 SLUDGE LEVEL
FINAL SEDIMENTATION TANKS
ELUENT SUCTION
SCUM AND SLUDGE SUCTION
CHLORINE SOL'N FEED
RAW SLUDGE
DIGESTED SLUDGE
SUPERNATANT
SCRAPER DRIVES
ALARMS
CROSS COLLECTORS
MIXED LIQUOR
CHEMICAL MIXING
AERATION TANK
BYPASS RETENTION TANK
BRIDGE
THICKENED SLUDGE
WASTE ACTIVATED SLUDGE
RETURN ACTIVATED SLUDGE
MIXER
OVERFLOW
SCRAPER
O.L. ALARM
SLUDGE THICKENER
SUPER-NATANT AERATION BASINS
R.A.S. PUMPS
EFFLUENT WATER WASHING PUMP
W.A.S. PUMPS
CHLORI-NATORS
CHLORINE INJECTOR PUMPS
ELUENT PUMP
SLUDGE PUMPS
ELUENT + SLUDGE
ELUTRIATED SLUDGE
ELUTRIATION TANK
POLYMER SOL'N FEED NO. 1
FERRIC CHLORIDE SOL'N FEED
GRIT OUT
ALARM
CROSS COLLECTORS
AERATED GRIT BASINS
BLOWERS
CLASSIFIER DRIVES
GRIT PUMPS
SCUM PUMP
BLOWERS #1 #2 #3
CITY WATER FLUSHING PUMPS
VACUUM FILTERS
OVERFLOW
AERATED SUPERNATANT
CONTROL BUILDING
SCRAPER DRIVE
POLYMER SOL'N FEED NO. 2
SETTLED SEWAGE
WASTE ACTIVATED SLUDGE
SLUDGE CAKE OUT
PRIMARY SLUDGE
CHLORINATED BYPASS TO BAY
SLUDGE PUMPS
CHLORINE SOL'N FEED
RAW SEWAGE
ALARM
SEWAGE PUMPS #1 2 3 4
RAW SEWAGE PUMPING STATION
POLYMER FEEDER #1 #2
BLOWERS #1 #2 #3 #4
CROSS COLLECTOR
SCRAPER DRIVE
SLUDGE PUMPS
PRIMARY SEDIMENTATION TANKS
SCRAPER DRIVE
CROSS COLLECTOR
FERRIC CHLORIDE AIR COMPRESSOR
FERRIC CHLORIDE PUMP
POLYMER FEEDER PUMPS
FERRIC CHLORIDE STORAGE AND FEED
BLOWER BUILDING
DIVERSION BOX "B"
BARMINUTOR
DIVERSION BOX "A"
BARMINUTOR
STORM FLOW BYPASS
OVERFLOW BYPASS STRUCTURE
PLANT INFLUENT
TO BYPASS LEVEL GAUGE AND RECORDER
TO WET WELL LEVEL GAUGE
TO RAW SEWAGE FLOW RECORDER
GRID NORTH

GRAPHIC PANEL LAYOUT

N.T.S.

ERICKSEN ELLISON AND ASSOC. INC.
ST PAUL, MINNESOTA

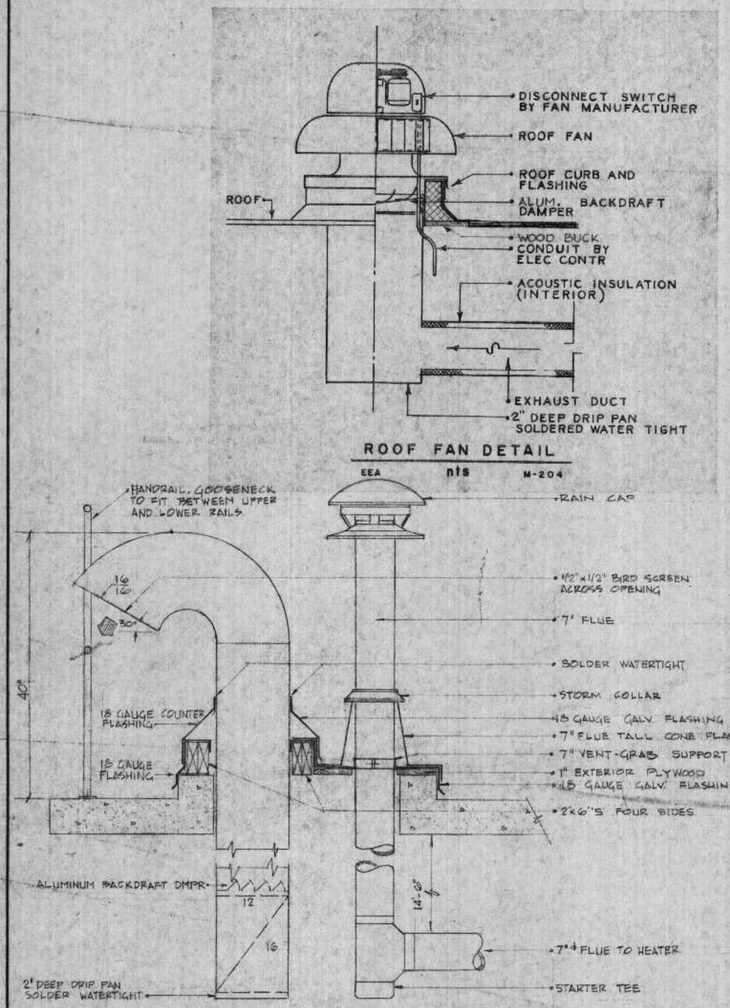
SURVEY | DRAWN | DESIGN | APPROV'D | REVISIONS

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

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

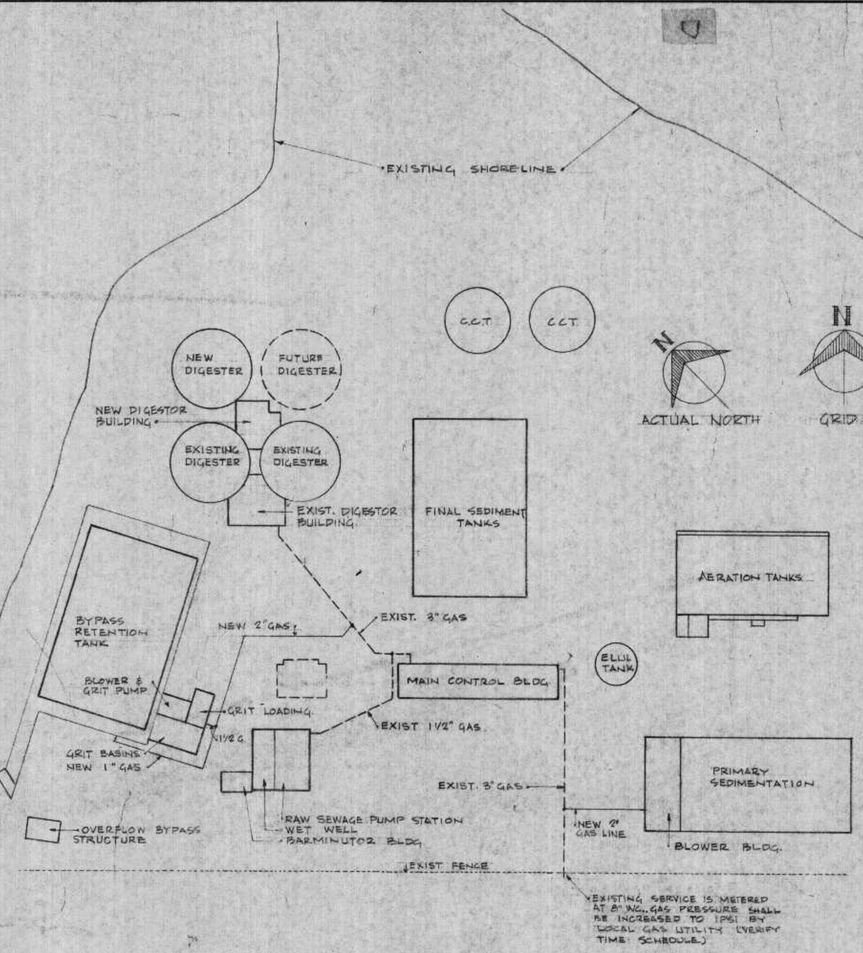
GRAPHIC PANEL LAYOUT

SHEET 84/84



ROOF FAN DETAIL

EEA n/s M-204

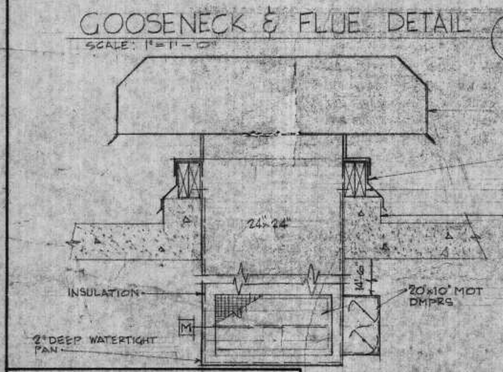


GAS PIPING PLAN

SCALE: 1"=50'-0"

GOOSENECK & FLUE DETAIL (1/64)

SCALE: 1"=1'-0"



INTAKE VENTILATOR DETAIL (2/64)

SCALE: 1"=1'-0"

SUPPLY AIR UNIT SCHEDULE				
UNIT NO.	S-1	S-2	S-3	S-4
SERVICE	DIGEST BLDG			
MANUFACTURER	TRANE			
MODEL	#10 C.C.			
STYLE	HORIZON.			
FRESH AIR (%)	30			
CFM	5000			
OV (FPM)	1490			
SP "H_2O (TOTAL)	1 1/4"			
SP "H_2O (EXTERNAL)				
HORSEPOWER	3			
RPM (FAN)	690			
HEATING COIL :				
QUANTITY	1-30"x45"			
TYPE	HOT WATER			
FV (FPM)	320			
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 EFF.			
TYPE	PERMANENT			
SIZE	6-16"x25"			
FV (FPM)	350			
VIBRATION ISOLATOR	"H"-1" DEFL.			
NOTES :				

EEA M-101

PUMP SCHEDULE

UNIT NO.	LOC	SERVICE	MFR	SERIES	MODEL	GPM	FT. HD.	HP	RPM	REMARKS
P - 1	DIGEST BLDG	HTG. COIL UNIT S-1	B&G	60	1 1/2AA	27	20	1/3	1750	
P - 2	BLOWER BLDG.	FERRIC CHLORIDE STORAGE TANK	B&G	90	1AA	12	26	1/4	1750	
P - 3	BLOWER BLDG.	FERRIC CHLORIDE HEATER TANK	B&G	IN LINE	2"	5	10	1/6	1750	
P - 4	BLOWER BLDG.	UNIT HEATERS.	B&G	60	2A	80	39	1 1/2	1750	
P - 5										
P - 6										
P - 7										
P - 8										
P - 9										
P - 10										

NOTES:

EEA M-107

EXHAUST FAN SCHEDULE

FAN	SERVICE	MFR	MODEL	TYPE	DRIVE	CFM	"SP	FAN RPM	HP	REMARKS
E-1	RETENTION TANK TUNNEL	TRANE	15B1	UTILITY SET	BELT	1600	1/4	930	1/3	PROVIDE INLET SCREEN
E-2	GRIT DEWATER.	COOK	24A1B	PROP.	BELT	2000	1/8		1/8	
E-3	GRIT PUMP RM	COOK	15CF2P	PRV	BELT	700	1/8	625	1/20	VCG CURB
E-4	DIGEST BLDG	TRANE	15B1	UTILITY SET	BELT	1500	1/6	880	1/3	
E-5	BLOWER BLDG	COOK	24038	PRV	BELT	2400	1/4	550	1/4	VCG CURB
E-6	BLOWER BLDG	COOK	N24110	PROP	DIRECT	1000	1/8	1140	1/8	
E-7	BLOWER BLDG	COOK	24038	PRV	BELT	2400	1/4	550	1/4	VCG CURB
E-8	RETENTION TANK TUNNEL	COOK	INTAKE TYPE V2	24"x24" THROAT		1600				POURED CONCRETE CURB
E-9	BLOWER BLDG	COOK	INTAKE TYPE V2	30"x24" THROAT		3400				VCG CURB
E-10	GRIT BLDG	COOK	INTAKE TYPE V2	30"x24" THROAT		2700				VCG CURB
E-11	DIGESTOR BLDG	COOK	VCG-22							CURB FOR GOOSENECK
E-12	BLOWER BLDG	COOK	VCG-22							CURB FOR BOILER FLUE STACK

NOTES:

EEA N-108

UNIT HEATER SCHEDULE

UNIT NO.	LOC	TYPE	MODEL	HP	RPM	CFM	#/HR	GPM	MBH
UH-1	PUMP TUNNEL	GAS	B-160X	1/4	580	1970			128
UH-2	GRIT PUMP ROOM	GAS	F-160	1/3	"	1050			128
UH-3	GRIT (UPPER) DEWATER	GAS	F-160	1/8	"	1050			128
UH-4	GRIT BLOWER	GAS	F-50	1/40		530			40
UH-5	GRIT (LOWER) DEWATER	GAS	B-250-X	1/2	580	2650			200
UH-6	BLOWER BLDG.	HOT WATER	343-S	1/6	1150	1875		16	100
UH-7	BLOWER BLDG.	HOT WATER	343-S	1/6	1150	1875		16	100
UH-8	BLOWER BLDG.	HOT WATER	343-S	1/6	1150	1875		16	100
UH-9	BLOWER BLDG.	HOT WATER	343-S	1/6	1150	1875		16	100
UH-10	BLOWER BLDG.	HOT WATER	343-S	1/6	1150	1875		16	100

NOTES:
(1) MODEL NO. UH 1 THRU 5 REFER TO HASTING INDUSTRIES UNITS
(2) MBH RATINGS REFER TO HEATER OUTPUT
(3) UH-5 MOTOR 1/2 HP - 208/3/60

EEA N-109

REVIEWED AND APPROVED BY THE DIV. OF ENVIRONMENTAL PROTECTION, DEPT. NATURAL RESOURCES, IN ACCORDANCE WITH SEC. 144.04, WIS. STATS., SUBJECT TO THE CONDITIONS SET FORTH IN THE LETTER OF APPROVAL.
THOMAS G. FRANGOS ADMINISTRATOR
APPROVAL NO. 72 355
DATE: FEB 4 '74

DNR JAN 3 1974

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

SURVEY		REVISIONS
DRAWN		
DESIGN		
APPROV'D		

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

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

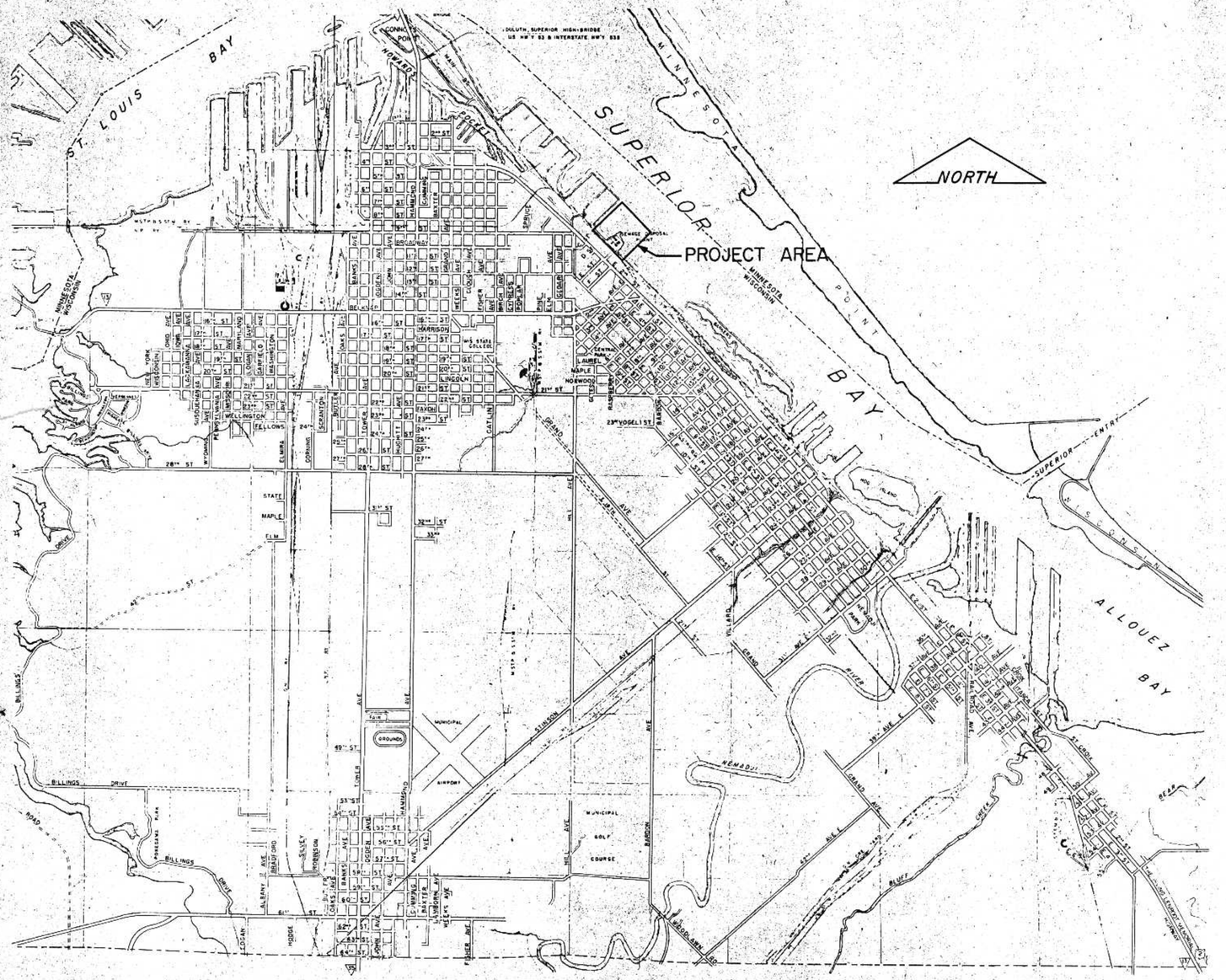
HEATING AND VENTILATION

SHEET 64/84

921

SUPERIOR, WISCONSIN

COMBINED SEWER OVERFLOW
TREATMENT PLANT - DISTRICT 2
1975



LOCATION PLAN

Scale: 1"=2,000'

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

COMBINED SEWER OVERFLOW PLANT DISTRICT 2
1975

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

SURVEY
DRAWN
DESIGN
APPROV'D

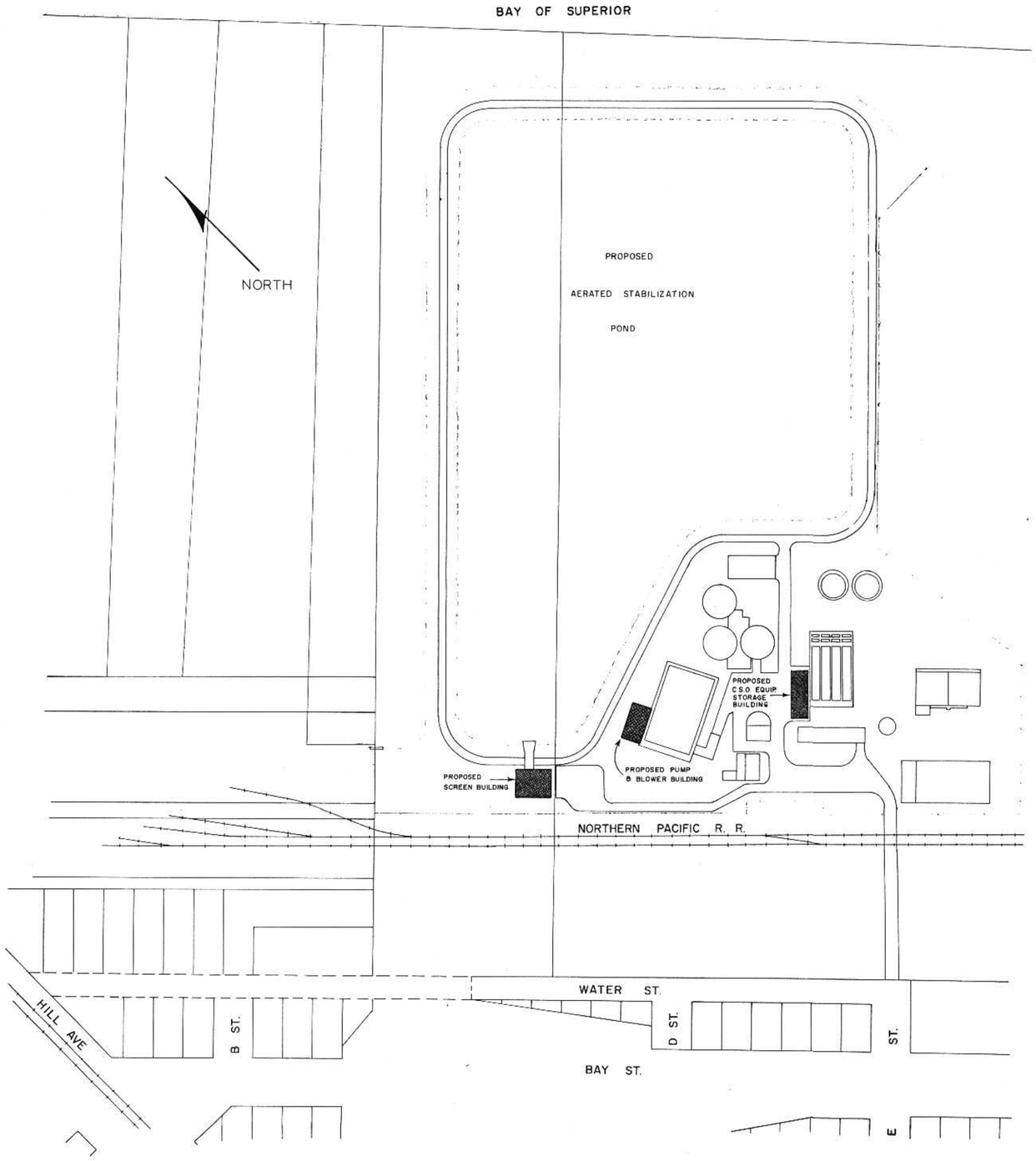
REVISIONS

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

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

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

SHEET 1 OF 53



INDEX

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

SURVEY	GRC
DRAWN	DCB
DESIGN	RET
APPROV'D	RET

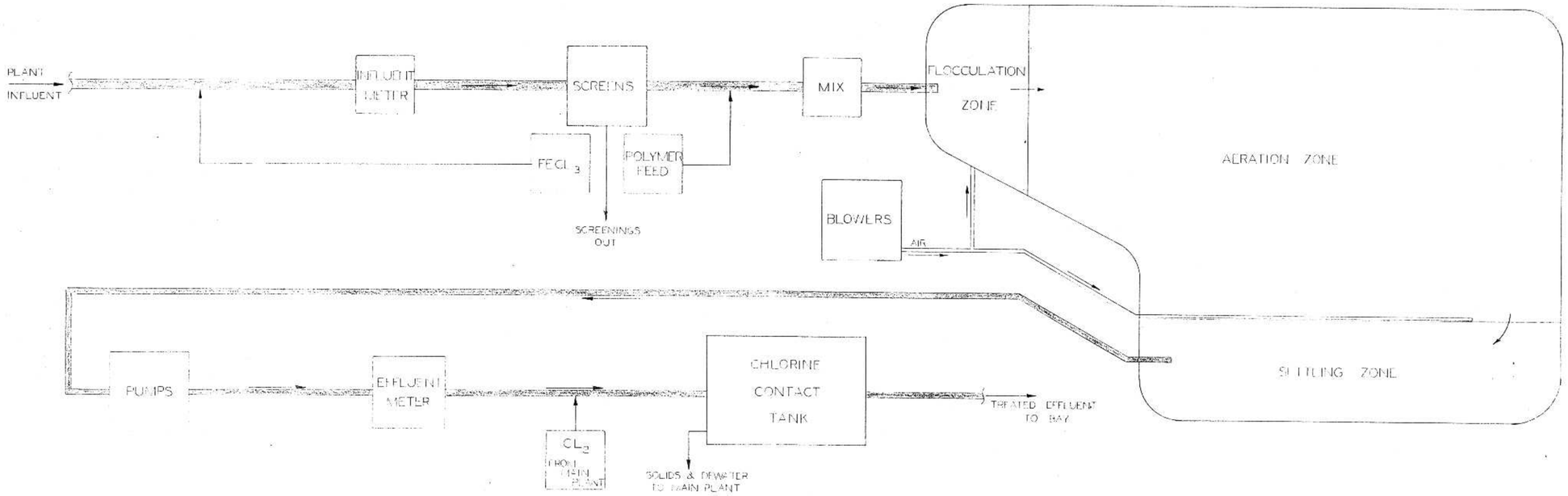
REVISIONS

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

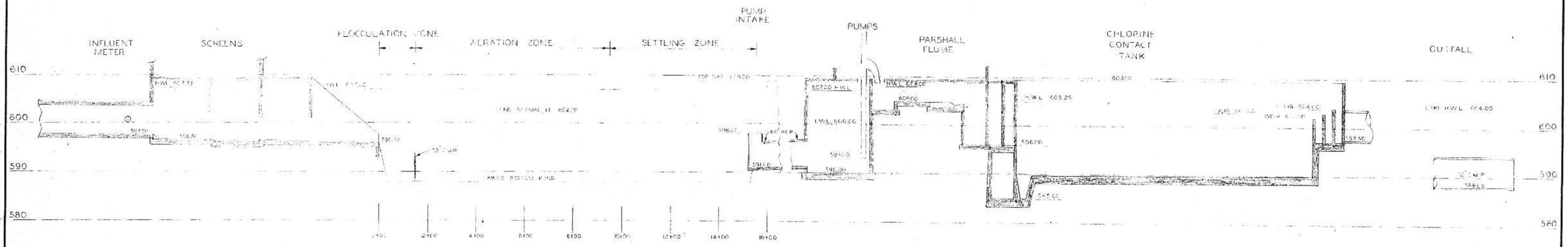
SUPERIOR, WISCONSIN
DATE: JUNE 14, 1975 COMM 6888 F

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

SHEET 2/53



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 DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.
DATE JUNE 14, 1975 REG. NO. E06599

SURVEY	GRC
DRAWN	DCB
DESIGN	RCT
APPROV'D	RCT

REVISIONS

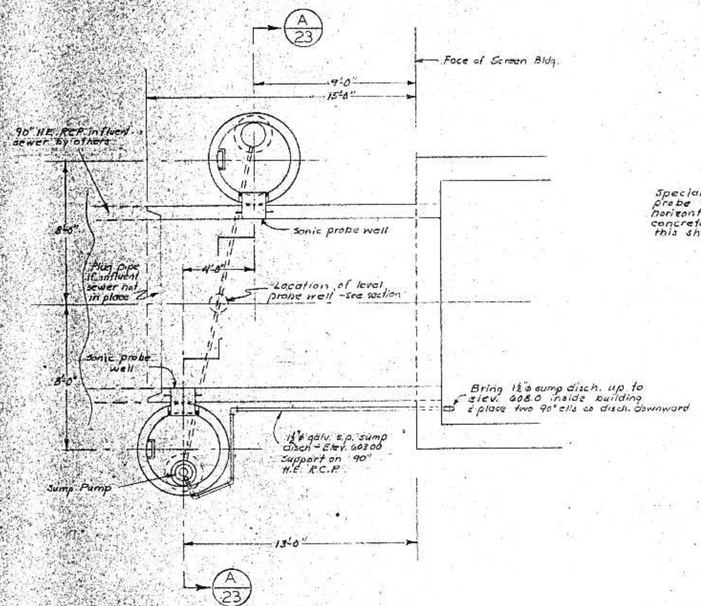
BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.
ST. PAUL, MINNESOTA

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

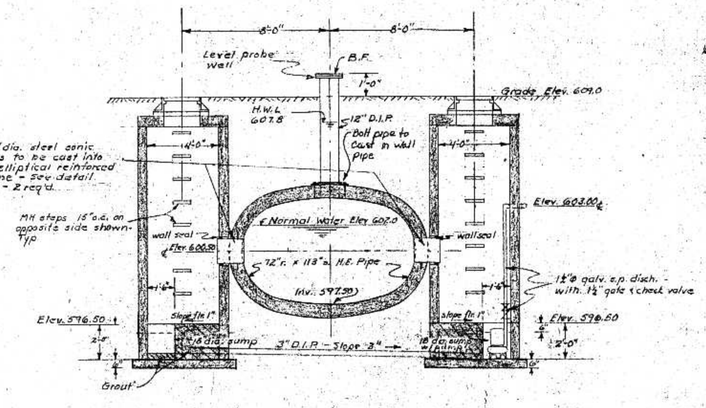
C. S. O. PLANT - DISTRICT 2
FLOW DIAGRAM & HYDRAULIC PROFILE

SHEET 3/53

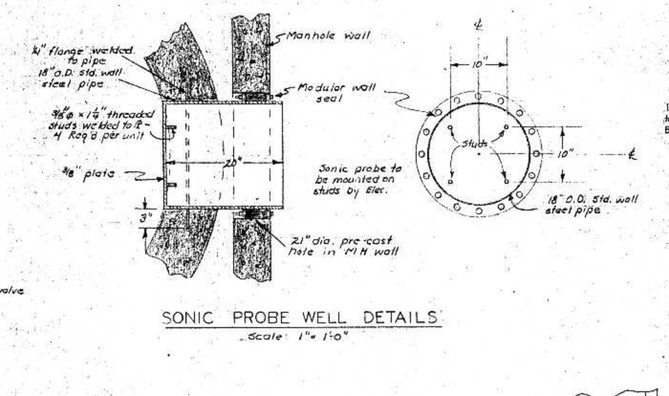

DNR JUL 14 1975
Timber piling
End fence in headwall - Headwall & cast-in sleeve by others
36"×58" arch RCP by others
72" Paved CMP - See profile Sht. 7
Exterior slope rip rap & filter blanket to points shown.
Rip-rap to this point
Interior slope rip rap all around.
New fence
SCREEN BUILDING
90" H.E. RCP by others
FLOCCULATION ZONE
Remove exist. 60" CMP to point where invert matches embankment slope
PUMP BLOWER BLDG.
Retention Tank - Under construction - To be converted to CSO C.C.T.
60" R.C.P. Cl. III
Crushed stone pipe bedding to be minimum of 3" below invert of pipe - this length
Insulate 10' of 6" D.I.P. over sewer pipe
Connect new fencing to existing
Place 2 - 22½° Bends
Construct new conc. curb to this point
Remove exist. conc. curb
AERATION ZONE
Filter cake storage slab Under constr.
Baffle & cat-walk - See details
Pumping station intake structure
SETTLING ZONE
Exist. 36" CMP outfall - To be removed
Plug exist. 36" CMP outfall
Emergency overflow
Interior Slope Rip Rap required all around.
C.S.O. EQUIPMENT STORAGE BLDG.
Exist. Prim. Tanks
Plug exist. 36" CMP
Secondary cct's Under constr.
BASELINE
Place 6" C.I.P. water line 7'-0" Cover
Place 45° Bend
Exist. Hyd
Cut into existing 6" C.I.P. H₂O service & place 6"×6" Tee, 6" 45° Bend & 6" GV & Box
Connect new fencing to existing
Existing fence
new fence
Turn-around
Edge water & normal lake elev. 602.0
Top dike elev. 609.0
Rip-rap with filter blanket req'd on lakeside face. Rip-rap only req'd on pond face - See typical dike section sheet 7
MAGNETIC NORTH
GRID NORTH
SCALE 1" = 50'
DREDGE SPOIL AREA
Excess material dredged from aerated stabilization pond to be deposited in this area - See Sheets 5 & 6
Fence end pier - See detail sheet 23
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
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.
DATE FEB. 5, 1975 REG. NO. E06599
SURVEY GRC
DRAWN RET
DESIGN RET
APPROV'D RET
REVISIONS
BONESTROO, ROSENE, ANDERLIK & ASSOC., INC.
ST. PAUL, MINNESOTA
SUPERIOR, WISCONSIN
DATE: JAN. 3, 1975 COMM 6888 F
C. S. O. PLANT - DISTRICT 2
SITE PLAN
SHEET 4/53



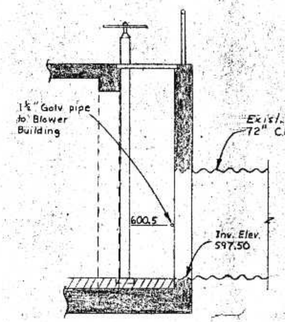
INFLUENT FLOW METER DETAILS
Scale: ¼"= 1'-0"



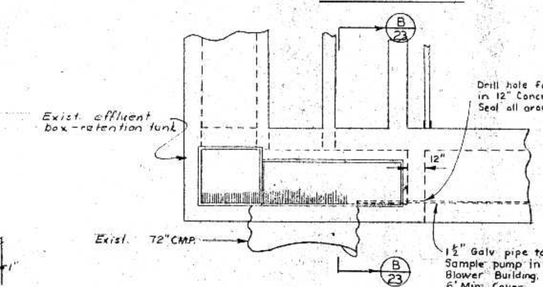
SECTION A-A
Scale: ¼"= 1'-0"



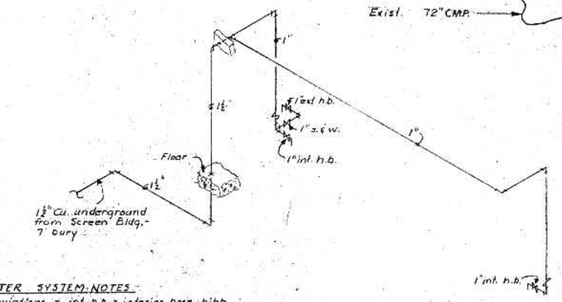
SONIC PROBE WELL DETAILS
Scale: 1"= 1'-0"



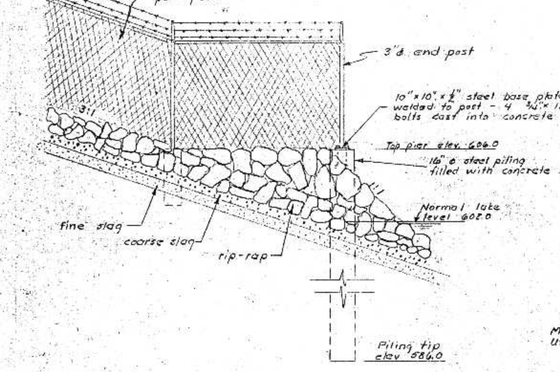
SECTION B-B



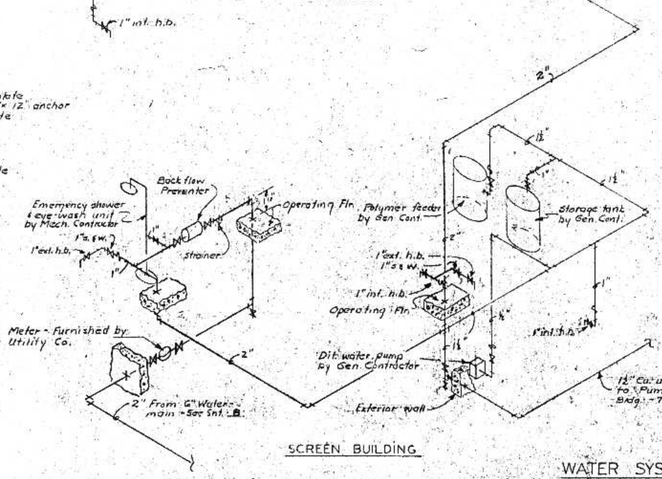
C.C.T. OUTLET
Scale ¼"= 1'-0"



PUMP & BLOWER BUILDING



FENCE END PIER DETAIL
Scale: ¼"= 1'-0"

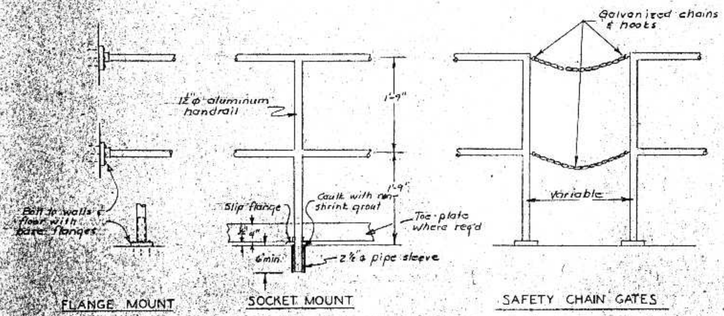


SCREEN BUILDING

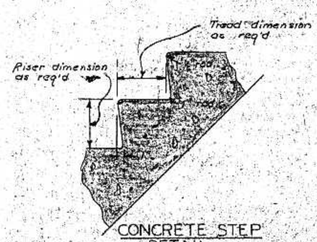
WATER SYSTEM ISOMETRIC

WATER SYSTEM NOTES

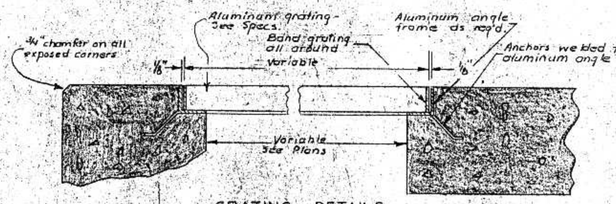
1. Abbreviations - int. h.b. = interior hose bibb
   ext. h.b. = exterior hose bibb
   s.&w. = stop & waste valve
2. All valves not labeled shall be gate valves of the same size as line on which located.
3. All hose bibbs shall be equipped with back-flow preventer per specification
4. All items shown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



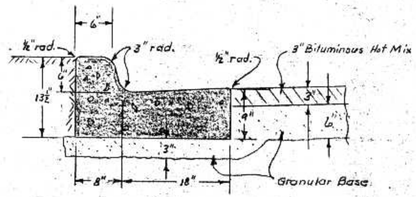
HANDRAIL DETAILS



CONCRETE STEP DETAIL



GRATING DETAILS



CURB & GUTTER DETAIL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.
DATE FEB. 5, 1975 REG. NO. E06599

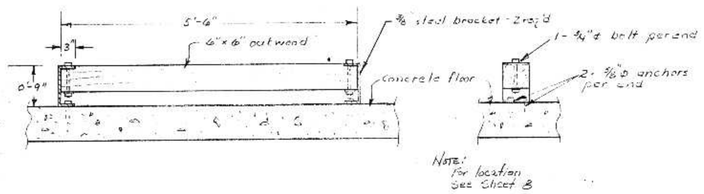
		REVISIONS
SURVEY	GRC	
DRAWN	RET	
DESIGN	RET	
APPROVED	RET	

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

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

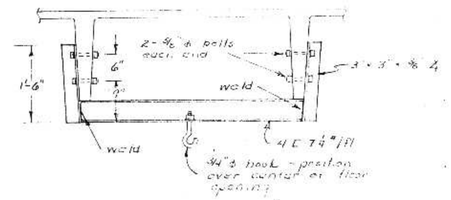
C. S. O. PLANT - DISTRICT 2
DETAILS

SHEET 23 / 53



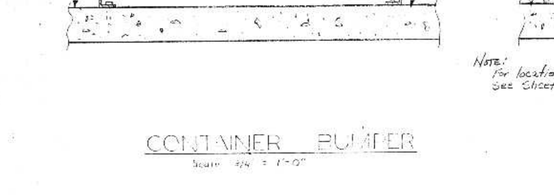
CONTAINER BUMPER

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



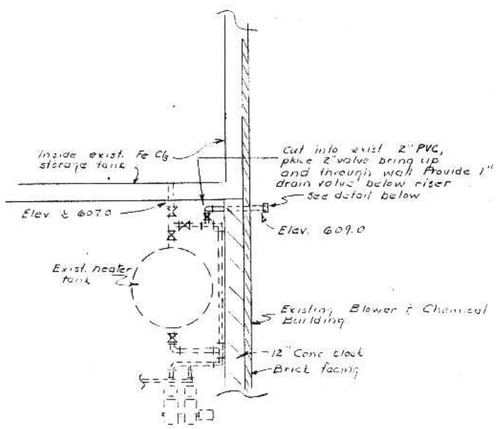
LIFTING HOOK DETAIL - 2 REQ'D

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



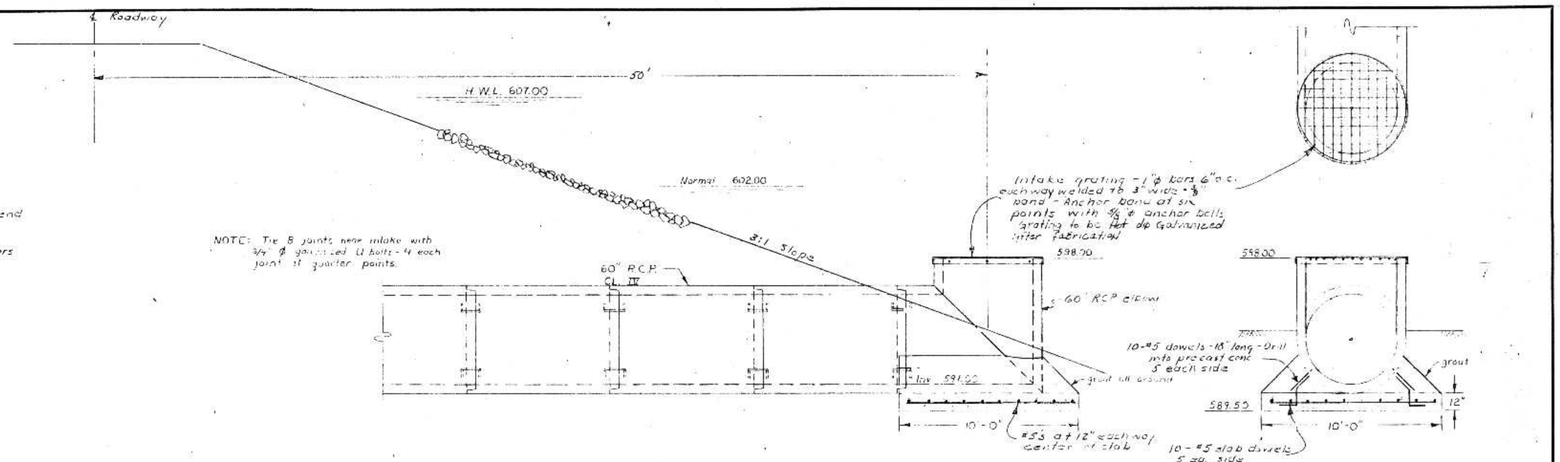
FERRIC CHLORIDE FILL & TRANSFER LINE DETAIL

No Scale



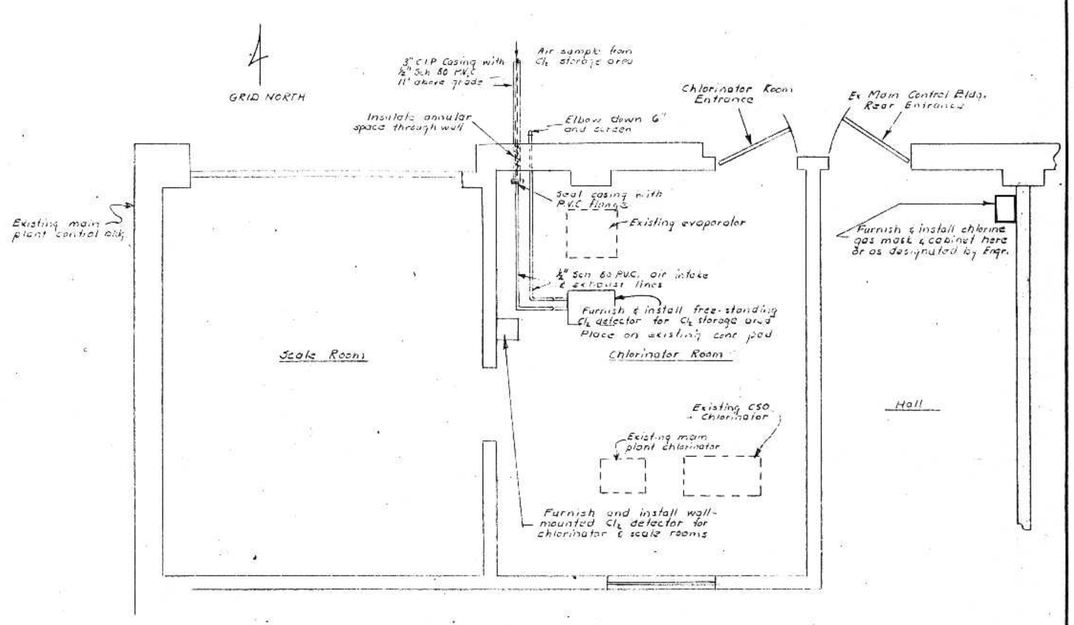
FERRIC CHLORIDE TRANSFER LINE

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



PUMP INTAKE

1/4" = 1'-0"



CHLORINE EQUIPMENT

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

DNR OCT 10 1975

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

DATE JUNE 14, 1975 REG. NO. E06599

SURVEY		
DRAWN	RET	
DESIGN	RET	
APPROV'D	RET	

REVISIONS
10/7/75 Add Cl2 detector and notes

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

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

C.S.O. PLANT-DISTRICT 2
DETAILS

SHEET 24/53

D-N R JUL 14 1975

1. #1 4"C-3 #350MCM (277/480VOLT POWER)
   #2 4"C WITH TYPE "A" AND TYPE "C" CONTROL CONDUCTORS
   #3 1½"C-1#8720 BELDEN & 1#8618BELDEN AND 1#12 (PULL WIRE)
   #4 1½"C-4#6 (EMERG-277/480 VOLT)

2. #1 4"C-3#2 (15KV) AND 1#4 (600V) - POWER

3. #1 3"C-4#350MCM (277/480V POWER)

4. #1 1½"C-4#6 (EMERG-277/480VOLT)
   #2 1½"C-1#8720 BELDEN, 1#8618BELDEN AND 1#12 (PULL WIRE)
   #3 3"C WITH TYPE "B" CONTROL CONDUCTORS, 2#12 (RETENTION TANK), 2#12 (RECEP AT MANHOLE B AND C) AND 8#12 (SPARES)

5. #1 4"C-3#2 (15KV) AND 1#4 (600V) - POWER
   #2 1½"C-2#8720 BELDEN, 2#8618BELDEN AND 1#12 (PULL WIRE)
   #3 4"C WITH TYPE "A" AND "B" CONTROL CONDUCTORS AND 2#12 (RECEPT AT MANHOLE 'B' AND 'C')

6. #1 EXIST 4" CONDUIT - INSTALL NEW 3#2 (15KV) AND 1#4 (600V)

7. #1 EXIST 4"C-3#2 (15 KV) AND 1#4 (600V) TO REMAIN AS IS
   #2 EXIST 4" CONDUIT - INSTALL NEW 3#2 (15KV) AND 1#4 (600V)

8. #1 EXIST 1½" CONDUIT - INSTALL NEW 2#8720 BELDEN, 2 #8618BELDEN AND 1#12 (PULL WIRE)
   #2 EXIST 4" CONDUIT - INSTALL NEW CONTROL CONDUCTORS TYPE "A" AND TYPE "B"

9. #1 EXIST 4" CONDUIT - INSTALL NEW CONTROL CONDUCTORS TYPE "A" AND TYPE "B".

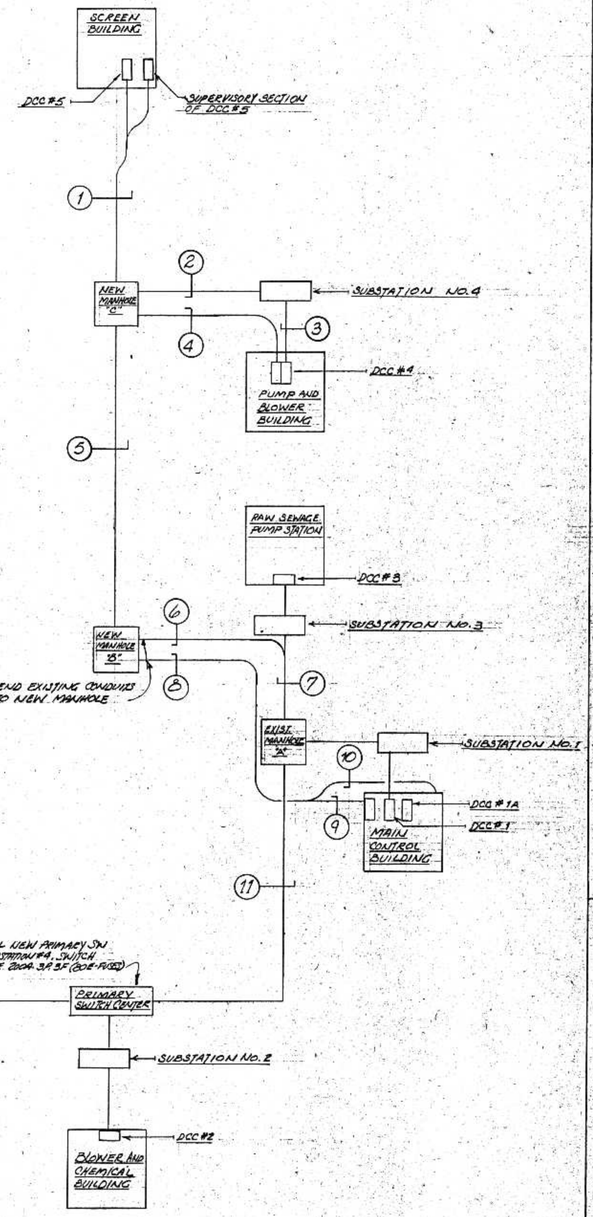
10. #1 EXIST 1½" CONDUIT - INSTALL NEW 2#8720 BELDEN, 2#8618 BELDEN AND 1#12 (PULL WIRE)

11. #1 EXIST 4"C-6#2 (15KV) AND 2#4 (600V) TO REMAIN AS IS
    #2 EXIST 4" CONDUIT - INSTALL NEW 3#2 (15KV) AND 1#4 (600V)

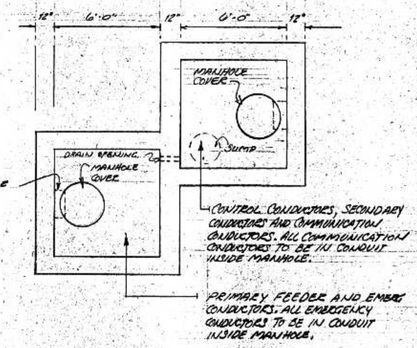
NOTE -
Refer to Detail Sheet for Concrete Encased Duct Detail.

CONTROL CONDUCTOR SCHEDULE

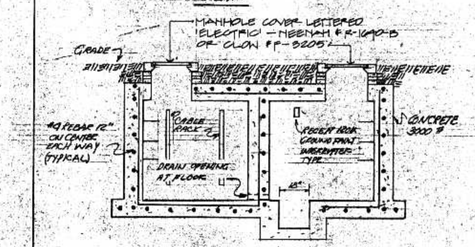
TYPE	NUMBER OF CONDUCTORS AND USE (TYPE THHN CONDUCTORS EXCEPT FOR SHIELDED PAIR)
A	7 PAIR #16 SHIELDED (INFLUENT & EFFLUENT FLOW), 2#12 (COMMON ALARM), 2#12 (RETENTION TANK-CALL FOR 1 PAIR POWER FAILURE), 2#12 (LOW TEMP ALARM-SCREENING), 20 #12 (RUNNING LGTS-MTRS #3, 9, 10, 11, 12, 13, 15, 16, 17 & 18) AND 16#12 (SPARES)
B	7 PAIR #16 SHIELDED (PEAK FLOW), 2#12 (PRIMARY BLOWER BLDG. LOW TEMP ALARM), 6#12 (CALL FOR LGTS-MTRS #4, 5 & 6) AND 16#12 (RUNNING LGTS MTRS #1, 2, 3, 4, 5, 6, 7 AND 21) AND 8#12 (SPARE)
C	18#12 (RUNNING LGTS-MOTORS #1, 2, 3, 4, 5, 6, 7 AND 21) AND 8#12 (SPARES)



ELECTRICAL UNDERGROUND SCHEMATIC
N.T.S.



PLAN



SECTION

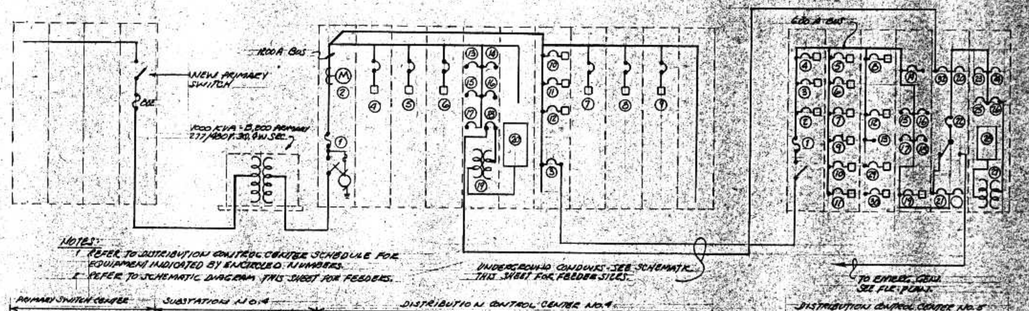
MANHOLE 'B' AND 'C' DETAIL
SCALE: 1/4"=1'-0"

ELECTRICAL SYMBOLS

EEA — A-500

- 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
  - 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
- D DOOR SWITCH
- K KEY SWITCH
- SWITCH AND PILOT
- MC MOMENTARY CONTACT SWITCH
- TS TIME SWITCH (SEE SPECS.)
- DIMMER OR DIMMER CONTROL
- PUSH BUTTON
- BUZZER
- BELL
- T TRANSFORMER
- F FIRE ALARM STATION
- F FIRE ALARM HORN
- F FIRE ALARM BELL
- D F FIRE ALARM-DOOR HOLDER
- F THERMAL DETECTOR
- F FIRE ALARM FLOW SWITCH
- F IONIZATION DETECTOR
- F — 8/21 IONIZATION DETECTOR INSTALLED IN DUCT (DUCT SIZE)
- CHIME
- C CLOCK OUTLET
- S SPEAKER OUTLET
- SOUND OR INTERCOM 'CALL BACK' SWITCH
- SOUND OR INTERCOM VOLUME CONTROL
- TELEPHONE OUTLET
- M MICROPHONE OUTLET

- HOME RUN
  - #1 & 101 — 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. WHERE GREATER NUMBER OF WIRES ARE INDICATED BY CROSS MARKS
- ANY SYMBOL MAY BE FURTHER DESIGNATED BY ONE OR MORE OF THE FOLLOWING SUBSCRIPTS:
  - 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 (120V 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
- UNDERFLOOR DUCT
  - LOW POTENTIAL OUTLET
  - HIGH POTENTIAL OUTLET
- AUXILIARY SYSTEM CIRCUITS
  - Δ INDICATES SHIELDED CABLE (SEE SPECS.)
  - C INDICATES CABLE ONLY (CONDUIT NOT REQ'D.)
- BRANCH CIRCUIT (CEILING OR WALL)
- BRANCH CIRCUIT (FLOOR)
- EXISTING CONDUIT
- EXISTING CONDUIT, CONDUCTORS REMOVED
- EXISTING CONDUIT — NEW CONDUCTORS
- PLUGSTRIP - OUTLET SPACING AS SHOWN OR SPECIFIED
- INDICATES NOTE ON PLAN
- (E) EQUIPMENT OR APPLIANCE (NO. REFERS TO SCH.)
- (5) MOTOR (NO. REFERS TO SCHEDULE)
- INTERCOMMUNICATION STATION OUTLET
- DRY TYPE TRANSFORMER - SIZE AS NOTED ON DRAWINGS
- N NURSES CALL STATION - LETTER INDICATES TYPE OF STATION
- NURSES CALL CORRIDOR DOME LIGHT, TWO CCT.
- PROJECTOR OUTLET
- TELEVISION OUTLET



ONE LINE DIAGRAM OF THE POWER DISTRIBUTION SYSTEM
N.T.S.

ERICKSEN ELLISON AND ASSOCIATES INC.
CONSULTING ENGINEERS
SAINT PAUL MINNESOTA

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE JUNE 14 1975 REG. NO. E-16569 Jim Ellison

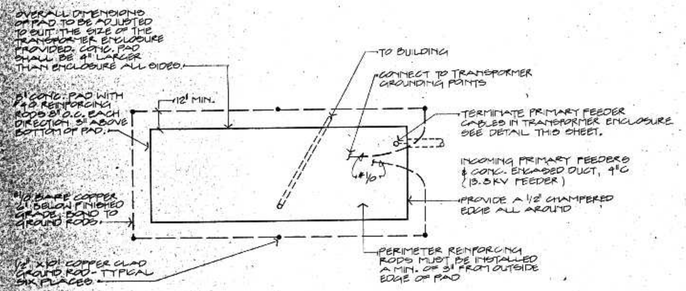
	REVISIONS
SURVEY	
DRAWN	
DESIGN	JT
APPROV'D	RET

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

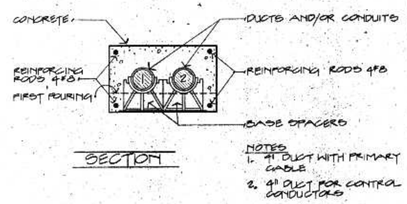
SUPERIOR, WISCONSIN
DATE: JUNE 14, 1975 COMM 6888 F

ELECTRICAL UNDERGROUND SCHEMATIC

SHEET 50/53

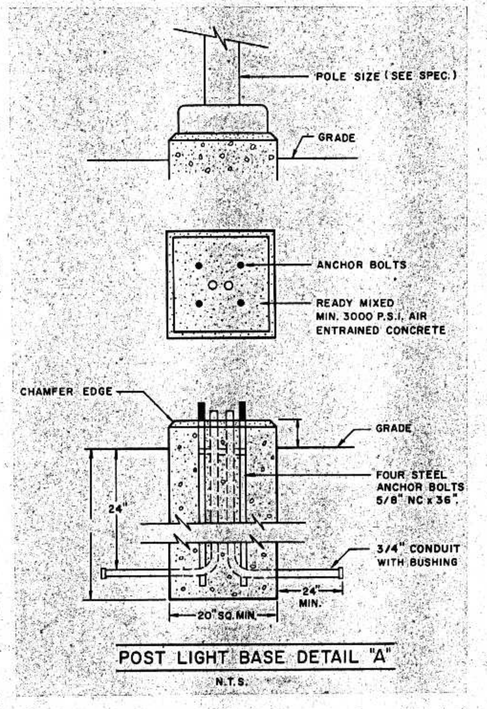


SUBSTATION TRANSFORMER PAD DETAIL
SCALE: 1/4"=1'-0"

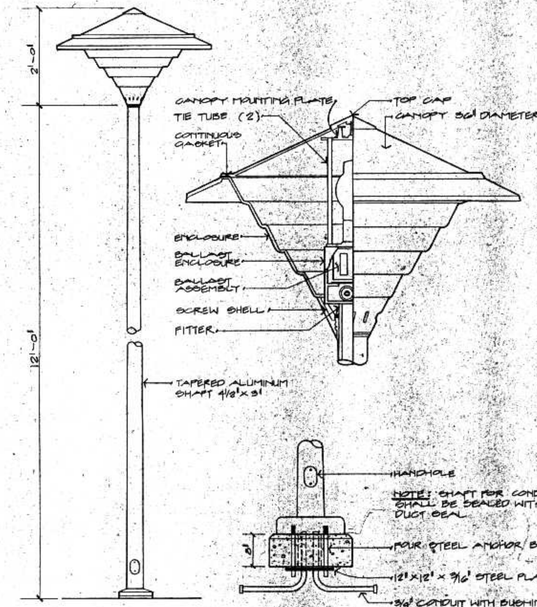


SECTION

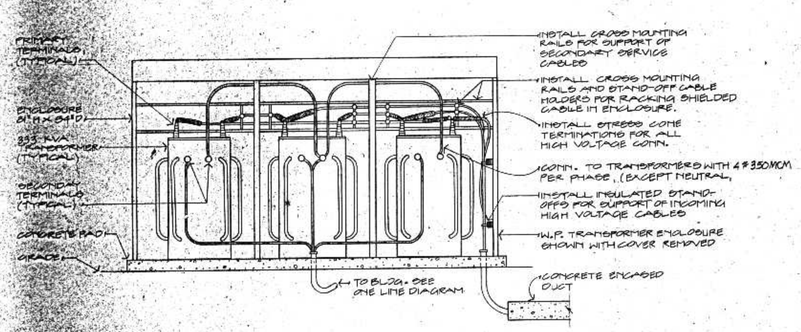
NOTES
1. 4" DUCT WITH PRIMARY CABLE
2. 4" DUCT FOR CONTROL CONDUCTORS



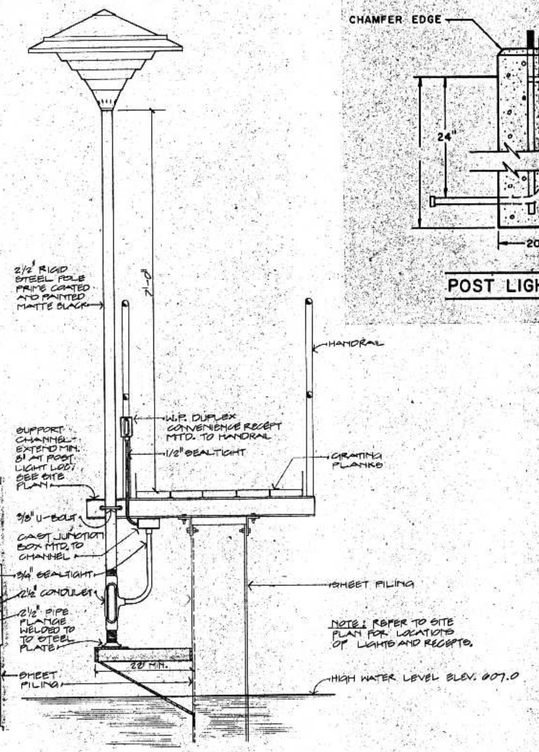
POST LIGHT BASE DETAIL "A"
N.T.S.



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

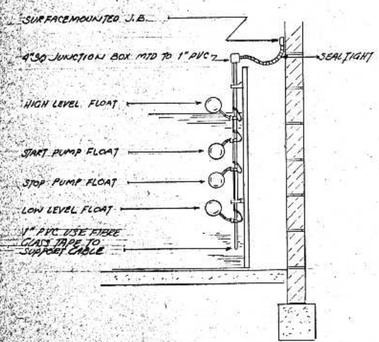


ELEVATION OF SUBSTATION NO. 4
NOT TO SCALE

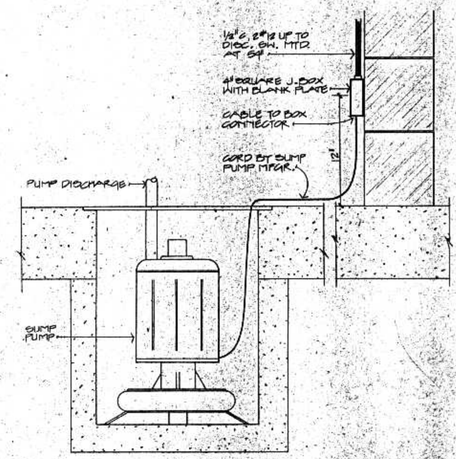


PLAN

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



POLYMER STORAGE TANK FLOAT DETAIL
NOT TO SCALE



SUMP PUMP CONNECTION DETAIL

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

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE: JUNE 14, 1975 REG. NO. E-4569

		REVISIONS
SURVEY		
DRAWN		
DESIGN	JT	
APPROV'D	RET	

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

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

C.S.O. PLANT-DISTRICT 2
ELECTRICAL DETAILS

SHEET 51/53

DNR JUL 14 1978

DISTRIBUTION CONTROL CENTER SCHEDULE

BUS & TYPE	MAIN LUGS SIZE	MAIN LUGS LOCA.	MTR. NO.	UNIT #	CIRCUIT BREAKER & STARTERS FRAME SIZE	TRIP RATING	POLES	STARTER SIZE	INT. AMPS
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 SIZE	MAIN LUGS LOCA.	MTR. NO.	UNIT #	CIRCUIT BREAKER & STARTERS FRAME SIZE	TRIP RATING	POLES	STARTER SIZE	INT. AMPS.
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						
			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 3Ø,4W 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. & Ø	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 CHLORIDE PUMP #1	2HP	460-3	SCREEN BLDG UPPER LEVEL	SEE SPEC	DCC #5	0	DCC #5	30A.3P.NF
13	FERRIC CHLORIDE 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	FLOAR 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 VENTILATOR	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	6 STAGE STEP CONTROLLER	DCC #5	-	-	SELF CONTAINED
32	UNIT VENTILATOR	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 MFGR
36	ELEC. UNIT HEATER	7.5KW	480-3	PUMP AND BLOWER BLDG	STAT		-	-	BY MFGR
37	ELEC. UNIT HEATER	15KW	480-3	PUMP AND BLOWER BLDG	STAT	PUMP RM	-	-	BY MFGR
38	CHLORINE EXH	2 HP	460-3	CHLORINE BLDG.	TIMER(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) TIMER SHALL BE INTERMATIC #8865 WITH OMITTING DEVICES. PROVIDE A WEATHERPROOF BYPASS SWITCH AT EXTERIOR OF CHLORINE ROOM.

SCHEDULE - LIGHTING FIXTURE TYPES

TYPE LETTER	FIXTURE TYPE	FLUR.	INCAND.	H.I.D.	MOUNTING	LAMPS	CONTROL MEDIA (LENS, LOUVER ETC)	MANUFACTURER'S CATALOG NUMBER	REMARKS
A	RLM		X		SURFACE	150 WATT A-21	STD. DOME REFLECTOR GLASSTEEL DIFFUSER	SPERO #DOB-516GSD MILLER AC 1141 OR EQUAL	OUTLET BOX MOUNTING
A-1	RLM		X		STEM	150 WATT A-21	STD. DOME REFLECTOR GLASSTEEL DIFFUSER	SPERO #DOB-516GSD 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	STONCE #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 #C716G0 08-35-112197-13 OR EQUAL	SEE NOTE 2
E	OMITTED								
F	KEYLESS		X		OUTLET BOX	1-150 WATT A21	NOME	BRYANT #5228 P&S-37 OR EQUAL	W/WIREGUARD
G	HIGH BAY			X	OUTLET BOX	250 WATT H37-5KC/DX	SPECULAR HEX/CLEAR GLASS	WIDE LIGHT #1L-257-SG-QD, HOLOPHANE #257	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 #QYE-8152-4R, CUTHRACK/3685	120 VOLT
K	1' X 4'	X			SURFACE	2-40 WATT	ACRYLIC-PLASTIC	GLOBE ILL #QYE-8254-4R, CUTHRACK/3685	120 VOLT
L	EXTERIOR			X	CEILING	1-100 WATT E23-1/2 DX	CORNING C73	ART METAL M-3509-1TL, CCLE# 1531	480 VOLT
M	1' X 4'	X			WALL	2-40 WATT	ACRYLIC PLASTIC	KEENE #CWB 240-B CUTHR #46703	120 VOLT

PANELBOARD SCHEDULE

PANEL NO.	BUS AND TYPE	MAIN LUGS SIZE	MAIN LUGS LOCA.	CIRCUIT BREAKERS QUAN.	FRAME SIZE	TRIP RATING	POLES	USE	INT. AMPS RMS. SYM	MOUNTING
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		
				1	50	20	2	MOTOR # 15		

GENERAL NOTES:

1. CIRCUIT NUMBERS SHOWN ON THESE DRAWINGS SHALL NOT NECESSARILY CORRESPOND TO ACTUAL CIRCUIT BREAKER NUMBERS.
2. VERIFY LOCATION OF ALL MOTORS WITH MECHANICAL PLANS BEFORE ROUGH-IN.
3. ADJUST MOUNTING HEIGHTS OF ALL OUTLETS IF REQUIRED SO AS NOT TO INTERFERE WITH OTHER EQUIPMENT. VERIFY CHANGES WITH ENGINEER.
4. IN MECHANICAL EQUIPMENT ROOMS, CONDUIT FOR LIGHTING FIXTURES MAY BE RUN EXPOSED.
5. VERIFY TYPE OF CEILING CONSTRUCTION FOR PROPER MOUNTING OF ALL RECESSED LIGHT FIXTURES.
6. 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.
7. LETTER THUS: "A" - INDICATES TYPE OF LIGHTING FIXTURES. REFER TO LIGHTING FIXTURE TYPES IN SPECIFICATIONS.

#8

ERICKSEN ELLISON AND ASSOCIATES INC. CONSULTING ENGINEERS SAINT PAUL MINNESCTA

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
DATE JUNE 14, 1975 REG. NO. E-14569 Jim Ellison

SURVEY | DRAWN | DESIGN JT | APPROV'D RET

REVISIONS

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

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

C.S.O. PLANT-DISTRICT 2
ELECTRICAL SCHEDULES

SHEET 52/53

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

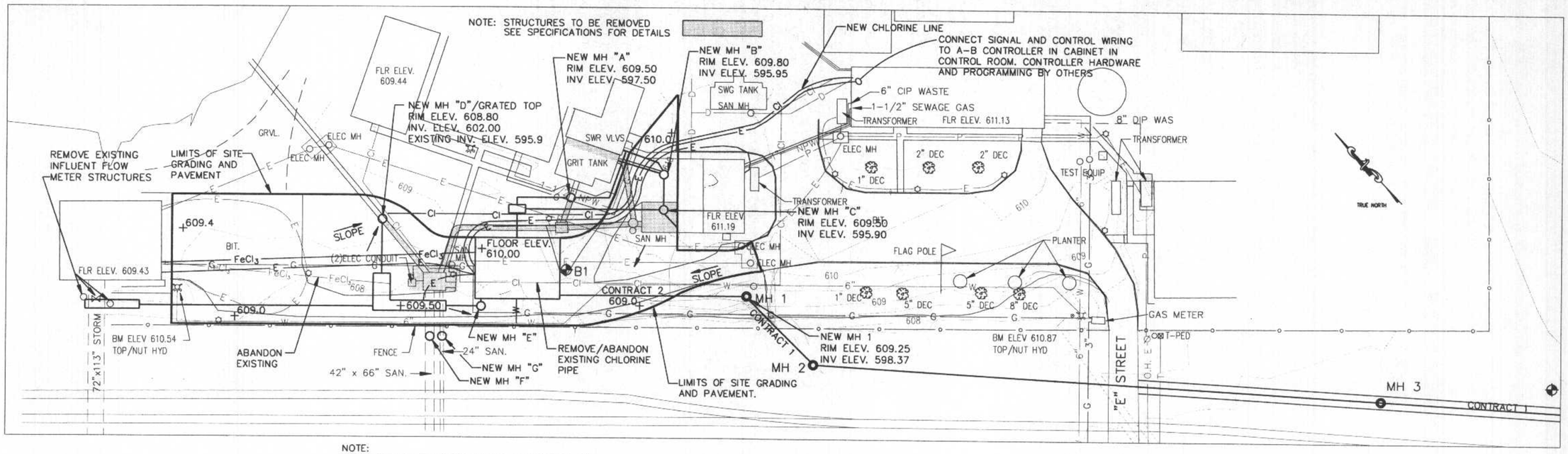
THOMAS L. NOERENBERG, P.E.
NO. E-23049

DEPT. OF PUBLIC WORKS

JEFF VITO
DIRECTOR

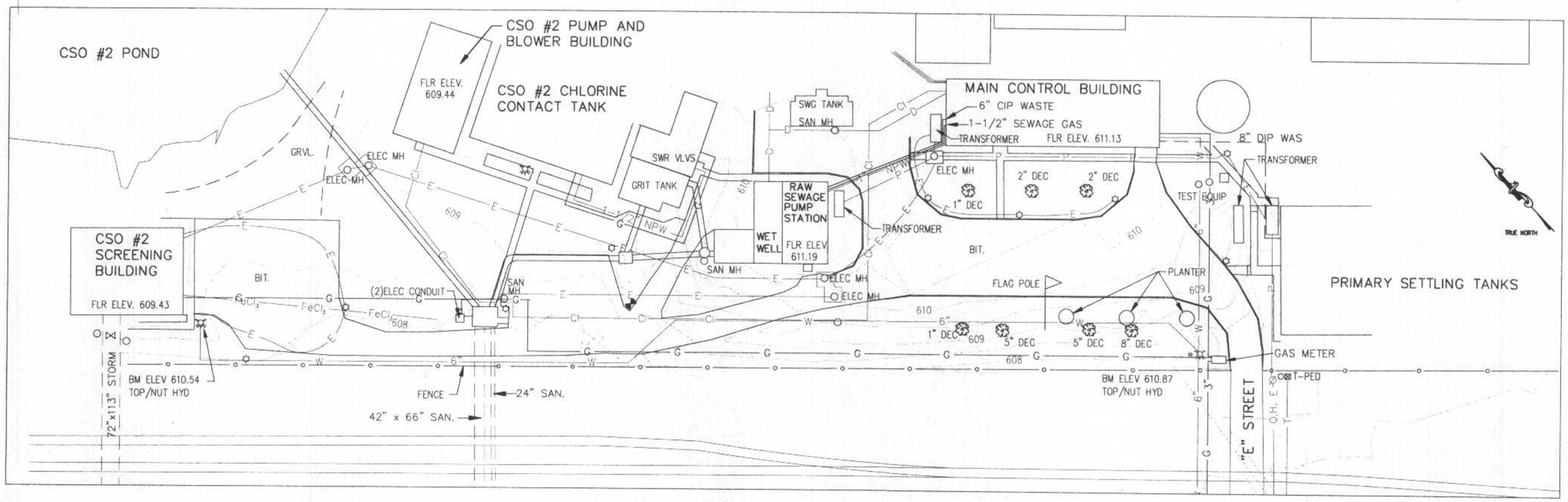
MARK DRAKE
SUPERINTENDENT

PRELIMINARY
JUN 17 1994



NOTE:
CONSTRUCTION OF CONTRACT NO. 1 INCLUDES ALL PIPING AND STRUCTURES BETWEEN MANHOLE 1 AND DIVERSION STRUCTURE IN EAST 2ND STREET. CONTRACT NO. 2 WILL INCLUDE THE PIPING BETWEEN THE NEW SCREEN BUILDING AND MANHOLE 1 ON THE PLANT SITE.

PROPOSED SITE PLAN



EXISTING SITE PLAN

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—
FORCEMAIN SEWER	FM
SANITARY SEWER	
PROPOSED RELIEF SEWER	
PROPOSED GRADE ELEVATION	+610.00
PROPOSED GAS	—G—

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED TN
DRAWN LED
CHECKED
DATE APRIL, 1994

SCALE
30 0 30 60
FEET

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT
2855 ANTHONY LANE SOUTH, SUITE 145
MINNEAPOLIS, MN. 55418-3265

SUPERIOR WASTEWATER TREATMENT PLANT
UNDERGROUND UTILITY SITE MAP

SHEET
OF SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

J:\3899-00\PLANTS+PLTST.DWG Plotted on 6/16/1994 @ 8:01 AM by ACAD1

RCD 11-27-95 CTE 5-p

CITY OF SUPERIOR, WISCONSIN
DEPARTMENT OF PUBLIC WORKS

PLANS FOR THE CONSTRUCTION OF
CONTRACT 5

OPERATIONS BUILDING MODIFICATION AND ADDITION

CITY OF SUPERIOR

MARGARET CICCONE
MAYOR

CONSOER TOWNSEND ENVIRODYNE ENGINEERS

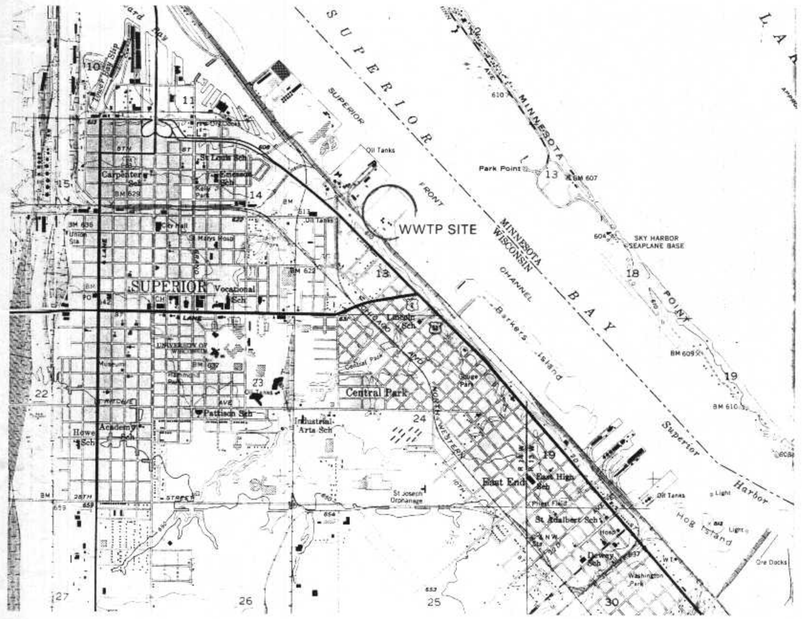
Jeff C. Cook
JEFF C. COOK, P.E.
NO. E-26997

WISCONSIN JEFF C. COOK E-26997 MPLS MN 11/6/95 PROFESSIONAL ENGINEER

DEPT. OF PUBLIC WORKS

JEFF VITO
DIRECTOR

WISCONSIN JEFF C. COOK E-26997 MPLS MN 11/17/95 PROFESSIONAL ENGINEER



LIST OF CONTRACT DRAWINGS

Sheet No.	Title
-	COVER SHEET
G-1	LOCATION MAP, SHEET INDEX
G-2	SITE PLAN
A-1	DEMOLITION PLAN EXISTING BUILDING
A-2	PLAN - FIRST FLOOR
A-3	PLAN - SECOND FLOOR
A-4	EXTERIOR ELEVATIONS
A-5	EXTERIOR ELEVATIONS
A-6	BUILDING AND STAIR SECTIONS
A-7	WALL SECTIONS
A-8	DETAIL SHEET
A-9	INTERIOR ELEVATIONS
A-10	ROOF PLAN & DETAILS
A-11	SCHEDULES, DETAILS, DOOR & WINDOW TYPES
F-1	SECOND FLOOR FURNITURE PLAN
S-1	STRUCTURAL FOUNDATION PLAN
S-2	STRUCTURAL SECOND FLOOR FRAMING PLAN
S-3	STRUCTURAL ROOF FRAMING PLAN
S-4	STRUCTURAL BUILDING SECTIONS
S-5	STRUCTURAL SECTION AND DETAILS - SHEET 1
S-6	STRUCTURAL SECTION AND DETAILS - SHEET 2
S-7	STRUCTURAL TYPICAL FOUNDATION DETAILS - SHEET 1
S-8	STRUCTURAL TYPICAL FOUNDATION DETAILS - SHEET 2
S-9	GENERAL NOTES & COLUMN SCHEDULE
MPL-1	HVAC & PLUMBING - LEGEND & SYMBOLS
PL-1	FIRST FLOOR PLAN PLUMBING
PL-2	SECOND FLOOR PLAN PLUMBING
PL-3	PLUMBING PIPE SPACE PLAN & WATER DISTRIBUTION DIAGRAM
PL-4	PLUMBING DIAGRAMS
PL-5	PLUMBING DETAILS
M-1	FIRST FLOOR PLAN HVAC
M-2	SECOND FLOOR PLAN HVAC
M-3	MECHANICAL SCHEDULES
E-1	ELECTRICAL FIRST FLOOR PLAN LIGHTING
E-2	ELECTRICAL FIRST FLOOR PLAN POWER
E-3	ELECTRICAL SECOND FLOOR PLAN LIGHTING
E-4	ELECTRICAL SECOND FLOOR PLAN POWER
E-5	ELECTRICAL SCHEDULES
E-6	ELECTRICAL SCHEDULES
E-7	ELECTRICAL RISER DIAGRAM
E-8	ELECTRICAL ABBREVIATIONS AND SYMBOLS

ADDITION AND ALTERATION
HEATING AND VENTILATING
BUILDING PLANS
Conditionally
APPROVED
DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS
SEE CORRESPONDENCE
95-10-0835-B
11-15-95

WISCONSIN
JEFFREY C. COOK
E-26997
MPLS. MN.
PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED
DRAWN
CHECKED
DATE

SCALE

CTE ENGINEERS
CONSOER TOWNSEND ENVIRODYNE ENGINEERS, INC.

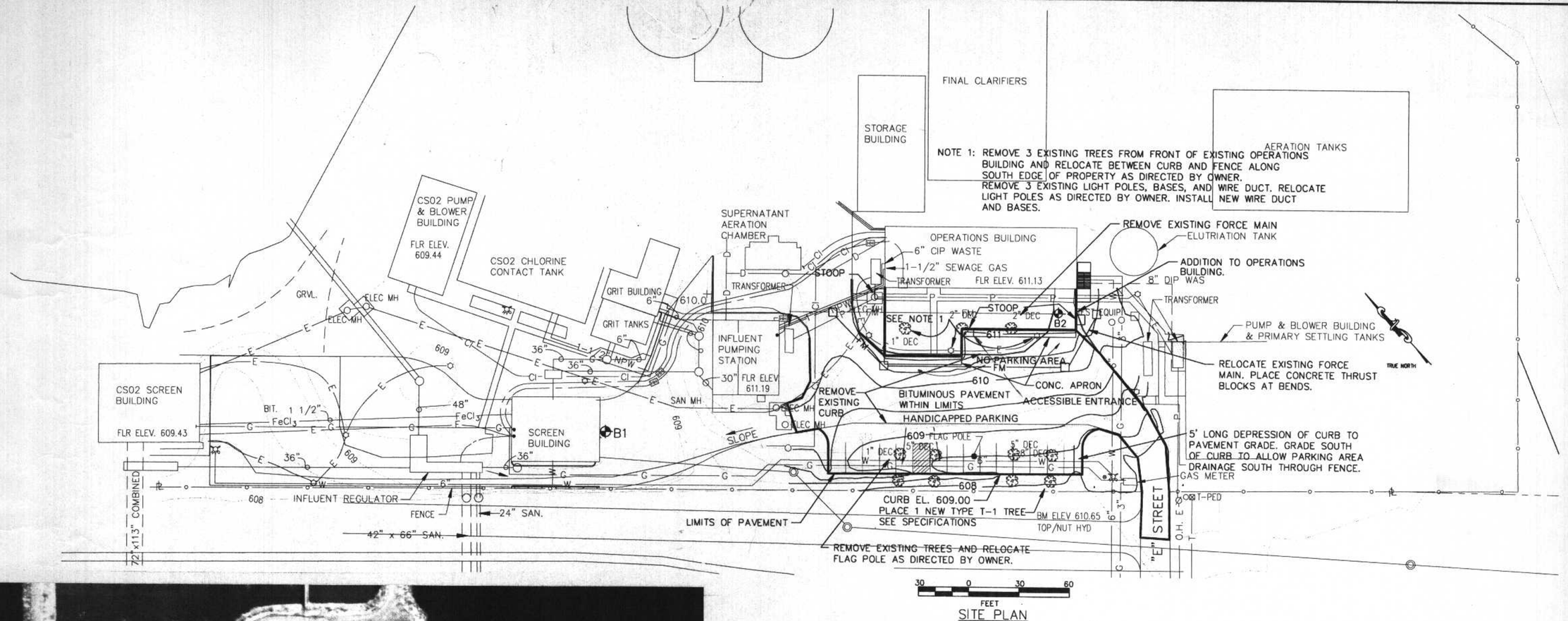
LHB ENGINEERS & ARCHITECTS
DULUTH o MINNEAPOLIS
21 W. Superior St., Ste. 500, Duluth, MN 55802
TEL 218/727-8446 o FAX 218/727-8456

BETA ENGINEERING, INC.
Engineers/Planners
1420 PROVIDENCE HIGHWAY, NORWOOD, MA
6 BLACKSTONE VALLEY PLACE, LINCOLN, RI

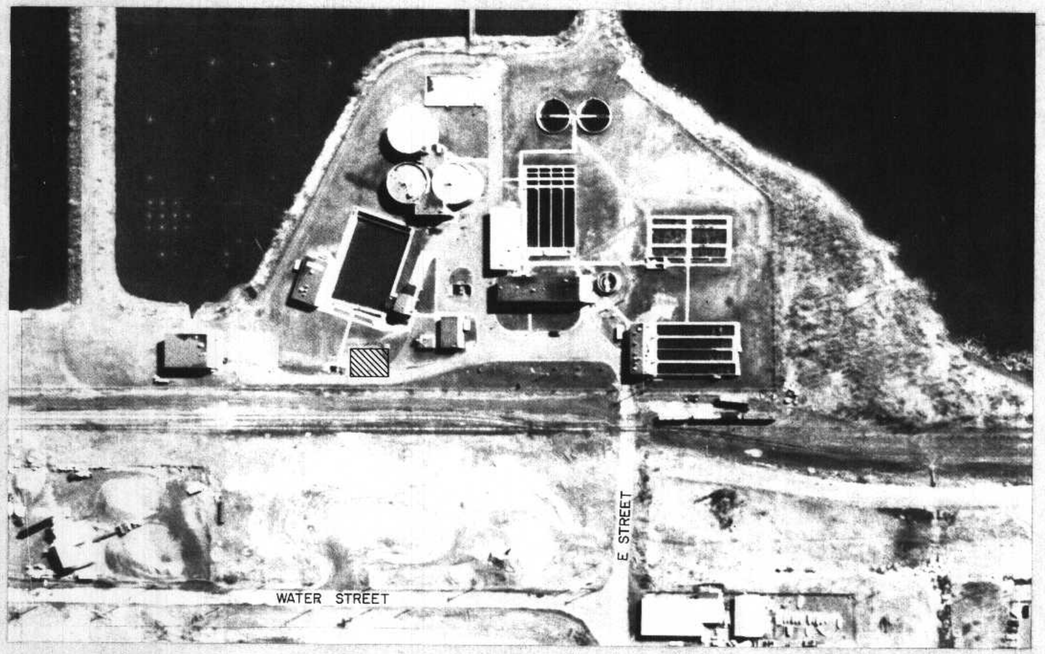
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

OPERATIONS BUILDING MODIFICATION AND ADDITION
LOCATION MAP AND INDEX OF DRAWINGS

SHEET G-1
OF 2 SHEETS
PROJECT NO. 3899-05



SITE PLAN



100 50 0 100 200
FEET

SITE AERIAL PHOTO (1991)

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	—CI—
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	⊕

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED TN
DRAWN LED
CHECKED JC
DATE

SCALE

CTE ENGINEERS
CONSOER TOWNSEND ENVIRODYNE ENGINEERS, INC.

LHB ENGINEERS & ARCHITECTS
DULUTH ▫ MINNEAPOLIS
21 W. Superior St., Ste. 500, Duluth, MN 55802
TEL 218/727-8446 ▫ FAX 218/727-8456

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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

M:\PROJECTS\3899\05\MOD\S-PLTST.DWG Plotted on 10/25/1995 @ 10:42 A.M. by LDOUBET

CITY OF SUPERIOR

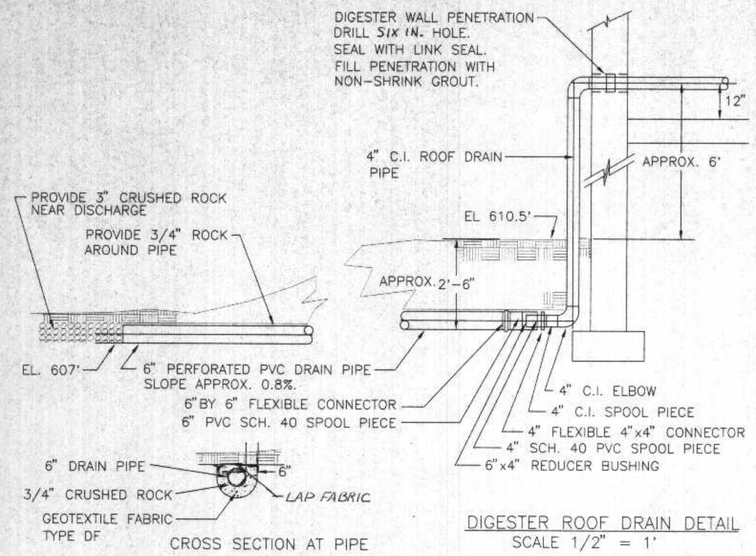
DEPARTMENT OF PUBLIC WORKS

WWTP STORAGE AND BUILDING IMPROVEMENTS

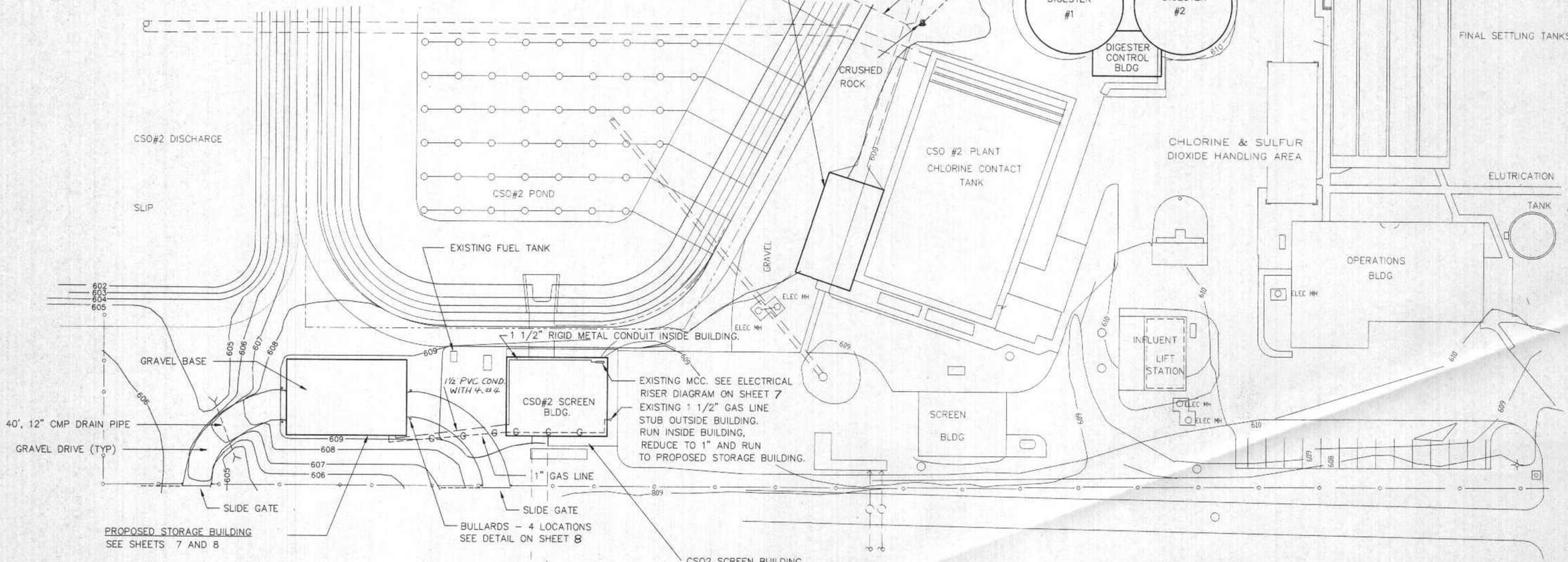
JUNE, 1998

PREPARED BY:
RMA ENGINEERING COMPANY
DULUTH, MN.

BUILDING IMPROVEMENT SHEETS



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



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

WWTP SITE PLAN

DESIGNED BY RMA		SCALE 1"=30'
DRAWN BY DMS		DATE
CHECKED BY	CAD FILE:	SHEET 2 of 8
APPROVED BY		