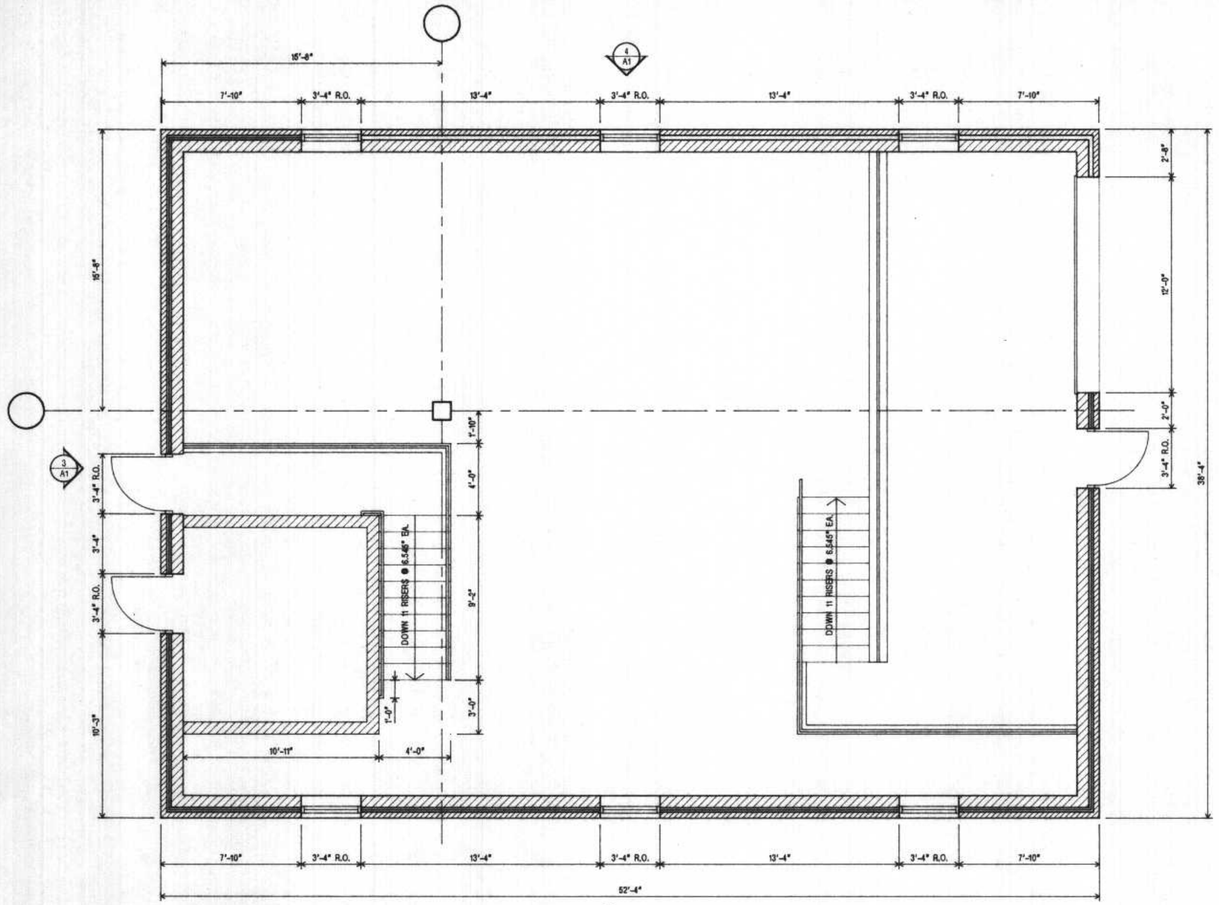
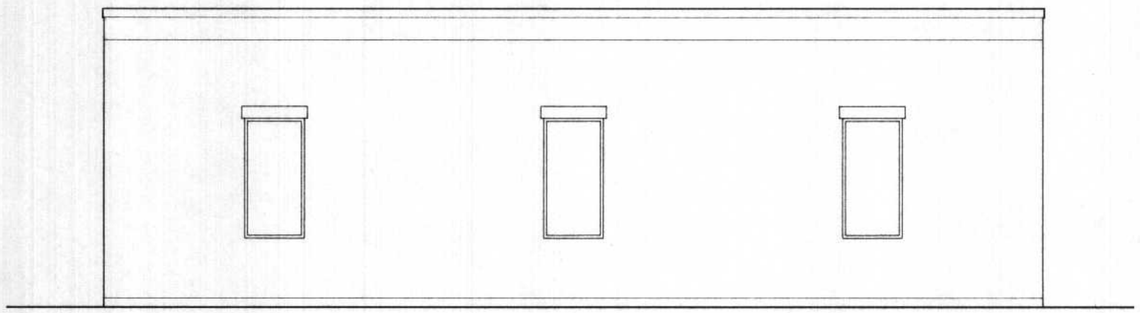
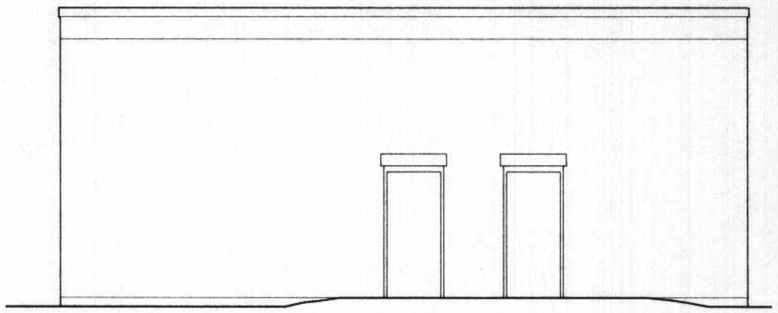


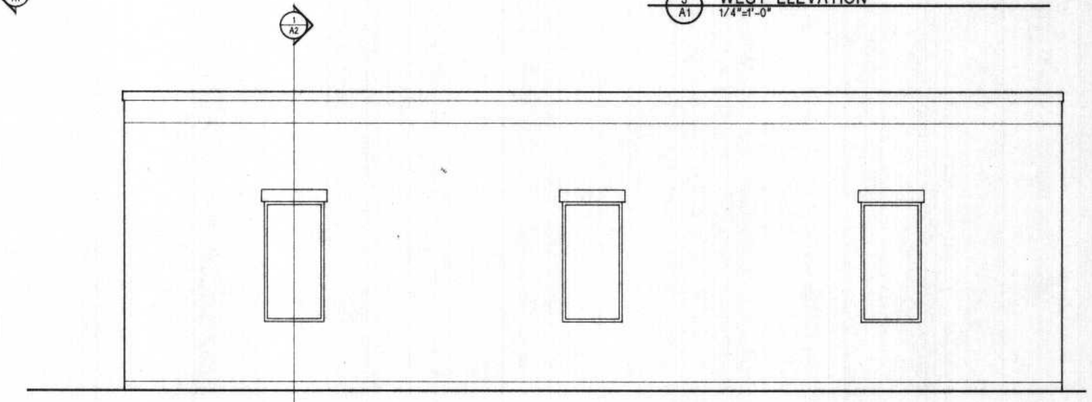
1 A1 GRADE LEVEL PLAN
1/4"=1'-0"



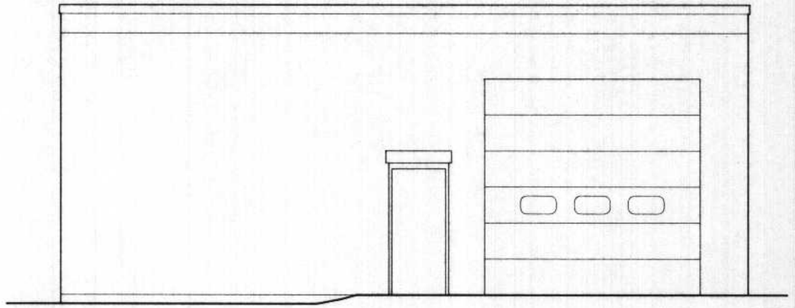
2 A1 SOUTH ELEVATION
1/4"=1'-0"



3 A1 WEST ELEVATION
1/4"=1'-0"



4 A1 NORTH ELEVATION
1/4"=1'-0"



5 A1 EAST ELEVATION
1/4"=1'-0"

CLIENT:

PROJECT NAME:
SCREEN BUILDING

DRAWING TITLE:
PLANS AND ELEVATIONS

DRAWN BY: MAF CHECKED BY:

DATE	NO	REVISION
	1	AS NOTED

LHB ENGINEERS & ARCHITECTS
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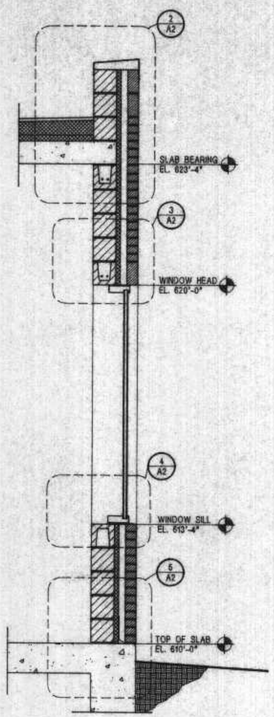
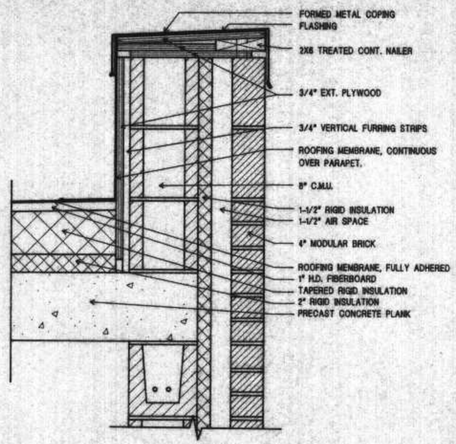
DATE: 6/10/94
FILE: \CADPROJ\94064\A1
PROJECT NO: 94064
SCALE: AS NOTED

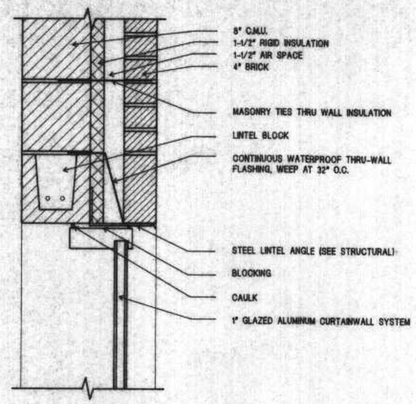
DRAWING NO:
A1



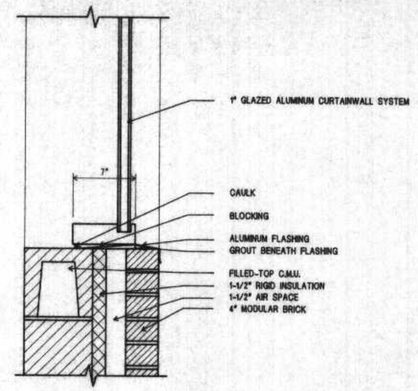
1 A2 WALL SECTION
1/2"=1'-0"



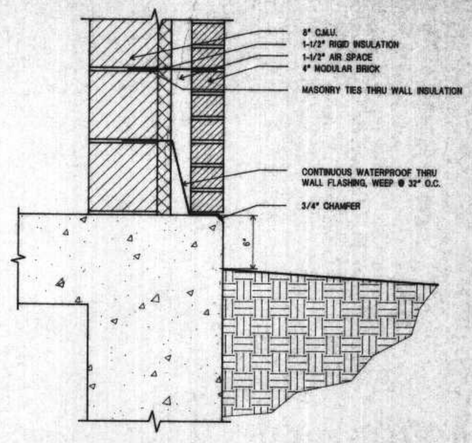
2 A2 ROOF EDGE DETAIL
1-1/2"=1'-0"
1 1/2"=1'-0"



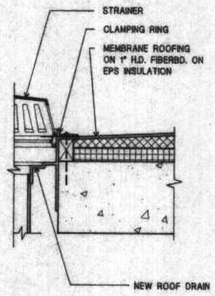
3 A2 WINDOW HEAD DETAIL
1-1/2" = 1'-0"
1 1/2"=1'-0"



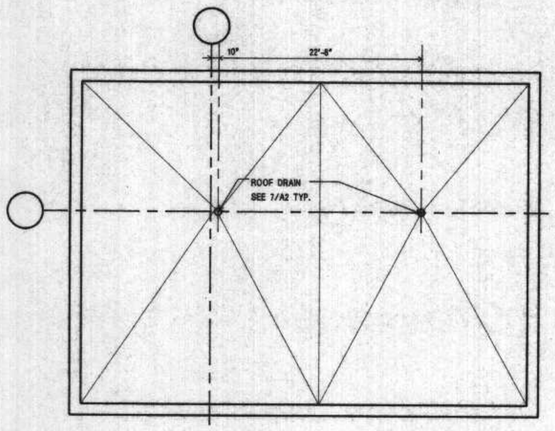
4 A2 WINDOW SILL DETAIL
1-1/2"=1'-0"
1 1/2"=1'-0"



5 A2 WALL BASE DETAIL
1-1/2"=1'-0"
1 1/2"=1'-0"



7 A2 ROOF DRAIN DETAIL
1-1/2" = 1'-0"
1 1/2"=1'-0"



6 A2 ROOF PLAN
1/8"=1'-0"

CLIENT:

PROJECT NAME:
SCREEN BUILDING

DRAWING TITLE:
PLANS AND ELEVATIONS

DRAWN BY: MAF CHECKED BY:

DATE	NO	REVISION
	1	AS NOTED

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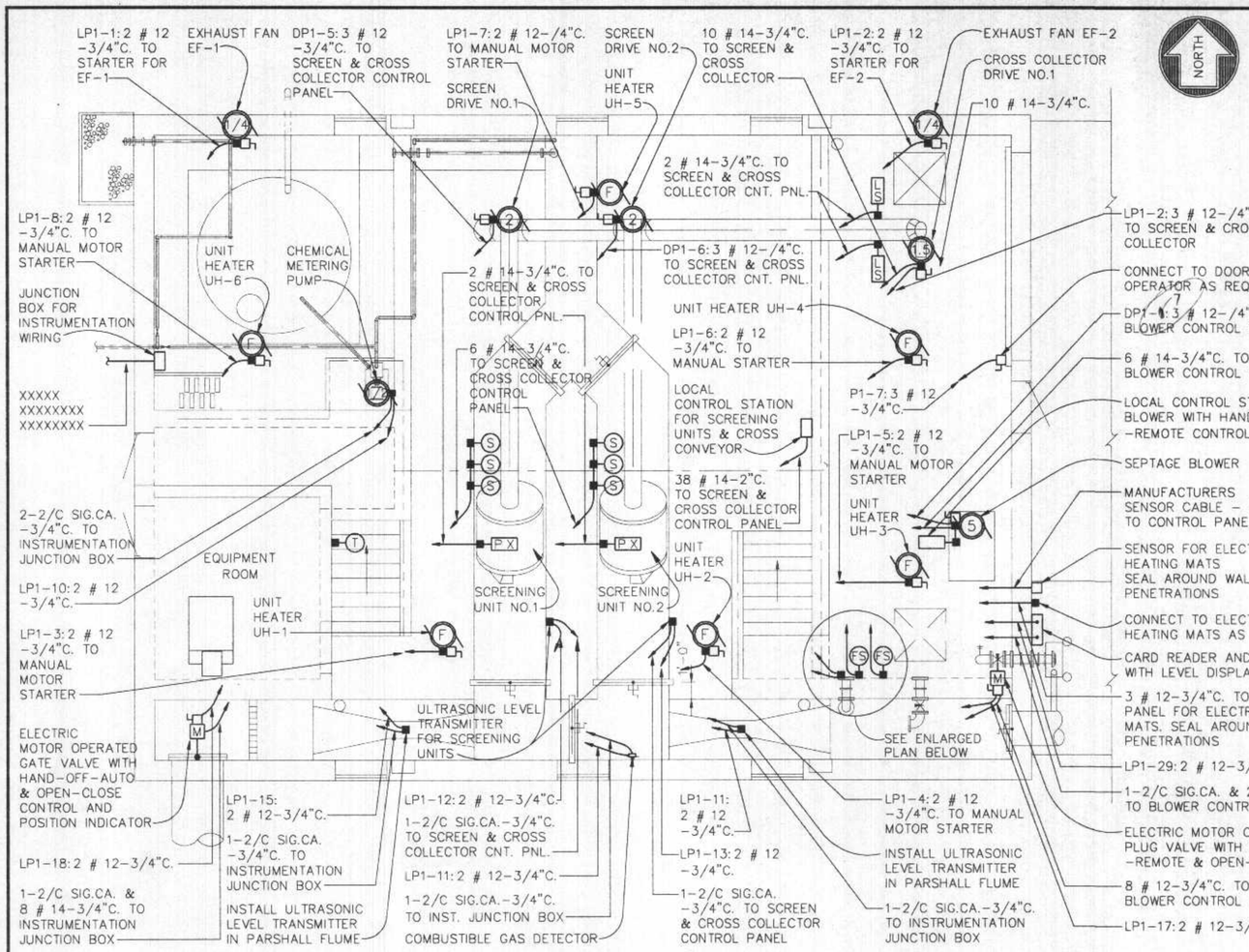
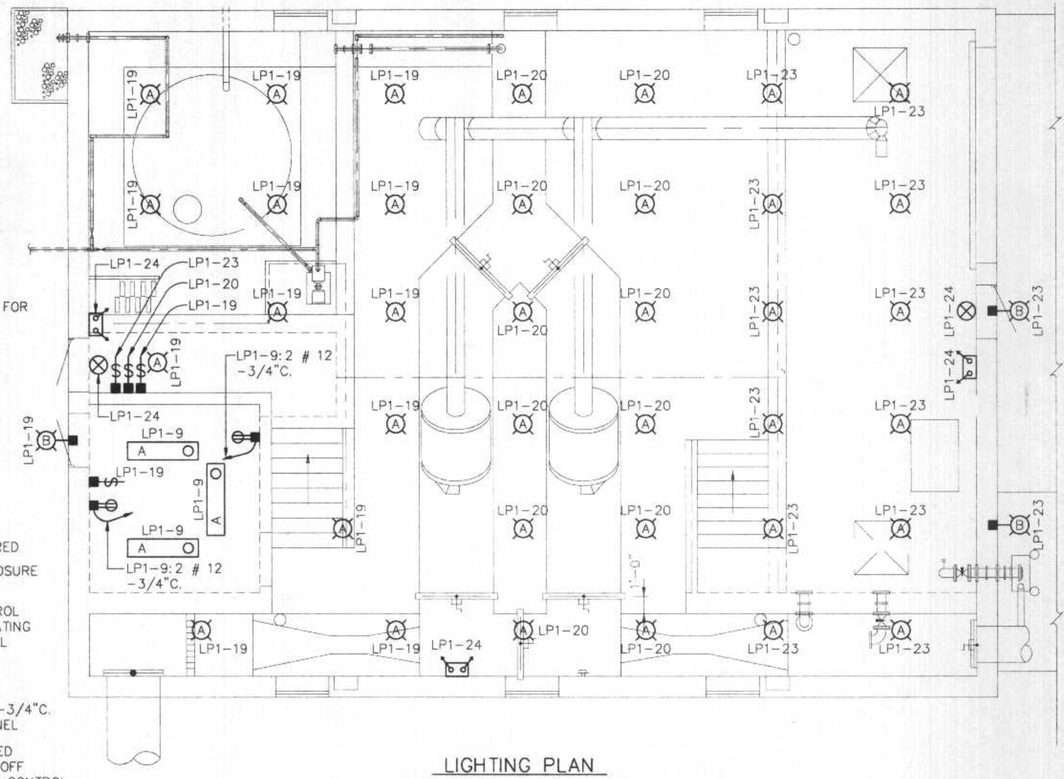
DATE: 6/10/94
FILE: \CADPROJ\94084\A2
PROJECT NO: 94084
SCALE: AS NOTED

DRAWING NO:
A2



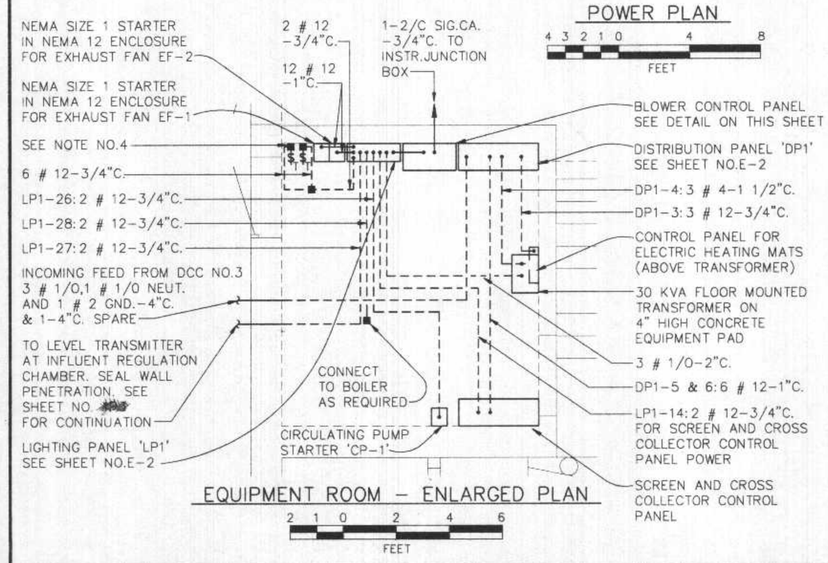
POWER PLAN

4 3 2 1 0 4 8
FEET



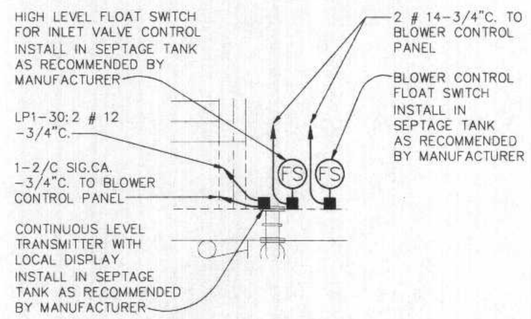
LIGHTING PLAN

4 3 2 1 0 4 8
FEET



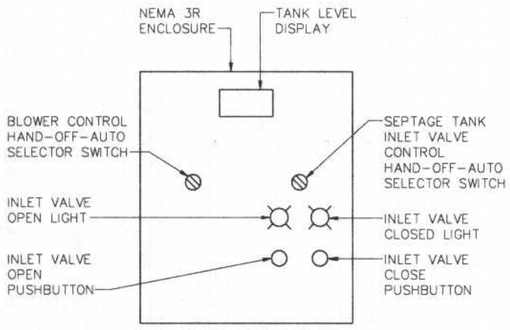
EQUIPMENT ROOM - ENLARGED PLAN

2 1 0 2 4 6
FEET



ENLARGED AREA

N.T.S.



BLOWER CONTROL PANEL DETAIL

N.T.S.

NOTES

1. ALL ELECTRICAL INSTALLATIONS EXCEPT THOSE WITHIN THE EQUIPMENT ROOM AND OUTSIDE OF THE BUILDING STRUCTURE SHALL BE EXPLOSION PROOF, SUITABLE FOR CLASS I, DIVISION I AREAS.
2. PENDANT MOUNT LIGHT FIXTURES AT AN ELEVATION OF 621.00'. INSTALL TO AVOID CONFLICT WITH HOIST MONORAIL AND SUPPORTS. CONNECT ALL LIGHTING UNITS AND SWITCHES TO CIRCUITS INDICATED USING 2 # 12-3/4"C.
3. ALL WALL PENETRATIONS ARE TO BE SEALED. SEE DETAILS ON SHEET NO. E-2.
4. STACK MANUAL MOTOR STARTERS ON THE WALL IN THREE ROWS OF TWO. TYPICAL FOR SIX STARTERS.

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED
DATE APRIL, 1994

SCALE: AS NOTED

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT
2855 ANTHONY LANE SOUTH, SUITE 145
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SCREEN BUILDING
ELECTRICAL PLANS

SHEET E-1
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

LIGHTING FIXTURE SCHEDULE

FLUORESCENT

TYPE	MANUFACTURER	CATALOG NO.	LAMP SIZE	MOUNTING	REMARKS
O A	DAY-BRITE	FL-1024-4U	2-40W.	PENDANT	

INCANDESCENT & HIGH INTENSITY DISCHARGE

TYPE	MANUFACTURER	CATALOG NO.	LAMP SIZE	MOUNTING	REMARKS
(A)	CROUSE HINDS	EVMA43200W/ RD73 DOME	200W. H.P.S.	PENDANT	SUITABLE FOR EXPLOSION PROOF INSTALLATION
(B)	HOLOPHANE	WL3K-250HP -24-BZ-FI -WL2KPR24	250W. H.P.S.	WALL	INTEGRAL PHOTOCONTROL WIRE TO UNSWITCHED SIDE OF CIRCUIT

PANEL 'LP1' TYPE 1 Ø, 3 WIRE
VOLTAGE 120/240V. MAINS 225A. MAIN, 125A. MAIN BKR.

DEVICE AMPS TRIP	DEVICE POLES	BRANCH CIRCUIT DESIGNATION	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT DESIGNATION	DEVICE POLES	DEVICE TRIP AMPS
20	1	EXHAUST FAN EF-1	1	2	EXHAUST FAN EF-2	1	20
20	1	UNIT HEATER UH-1	3	4	UNIT HEATER UH-2	1	20
20	1	UNIT HEATER UH-3	5	6	UNIT HEATER UH-4	1	20
20	1	UNIT HEATER UH-5	7	8	UNIT HEATER UH-6	1	20
20	1	EQPMNT. RM. RECEPT. & LIGHTS	9	10	METERING PUMP	1	20
20	1	COMBUSTIBLE GAS DETECTOR	11	12	SCREEN NO.1 LEVEL TRANSMITTER	1	20
20	1	SCREEN NO.2 LEVEL TRANSMTR.	13	14	SCREEN & COLLECTOR CNT. PNL.	1	20
20	1	ULTRASONIC LEVEL TRANSMITTER	15	16	ULTARSONIC LEVEL TRANSMITTER	1	20
20	1	SEPTAGE VALVE OPERATOR	17	18	SLIDE GATE OPERATOR	1	20
20	2	LIGHTING	19	20	LIGHTING	2	20
–	–	"	21	22	"	–	–
20	2	LIGHTING	23	24	EMERGENCY LTG. & EXIT SIGNS	1	20
–	–	"	25	26	CIRCULATING PUMP CP-1	1	20
20	1	ULTRASONIC LEVEL TRANSMITTER	27	28	BOILER	1	20
20	1	CARD READER	29	30	SEPTAGE LEVEL TRANSMITTER	1	20
20	1	SPARE	31	32	SPARE	1	20
20	1	SPARE	33	34	SPARE	1	20
20	1	SPARE	35	36	SPARE	1	20
20	1	SPARE	37	38	SPARE	1	20
20	1	SPARE	39	40	SPARE	1	20
20	1	SPARE	41	42	SPARE	1	20

PANEL 'P1' TYPE 3 Ø, 4WIRE
VOLTAGE 480V. MAINS 600A. MAIN, 150A. MAIN BKR.

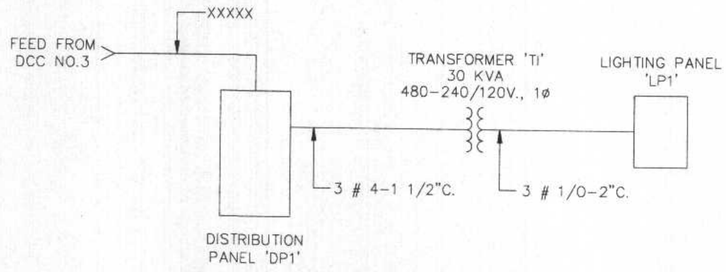
DEVICE AMPS TRIP	DEVICE POLES	BRANCH CIRCUIT DESIGNATION	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT DESIGNATION	DEVICE POLES	DEVICE TRIP AMPS
20	3	SEPTAGE BLOWER	1	2	CROSS COLLECTOR DRIVE	3	20
–	–	" "			" " "	–	–
–	–	" "			" " "	–	–
20	3	ELECTRIC HEATING MATS	3	4	TRANSFORMER T1	3	80
–	–	" " "			" "	–	–
–	–	" " "			SPACE	–	–
20	3	SCREENING UNIT NO.1	5	6	SCREENING UNIT NO.2	3	20
–	–	" " "			" " "	–	–
–	–	" " "			" " "	–	–
20	3	DOOR OPENER	7				
–	–	" "					
–	–	" "					

EXIT/DIRECTIONAL FIXTURE SCHEDULE

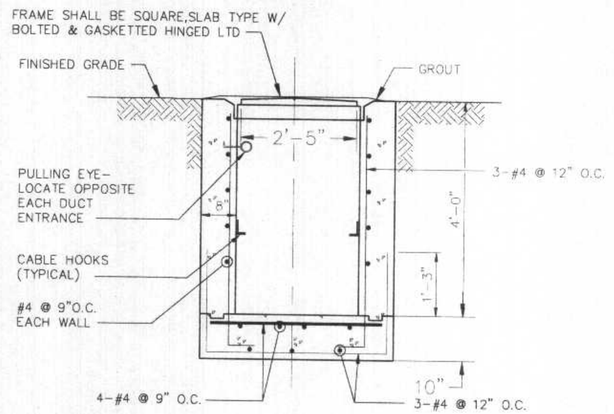
TYPE	FACE	DESCRIPTION	REMARKS
⊗	SINGLE NO ARROW	CROUSE-HINDS MODEL NO. EXL21A OR EQUAL	WALL MOUNT 9'-6" FT. ABOVE FINISHED FLOOR SUITABLE FOR EXPLOSION PROOF INSTALLATION

EMERGENCY LIGHTING FIXTURE SCHEDULE

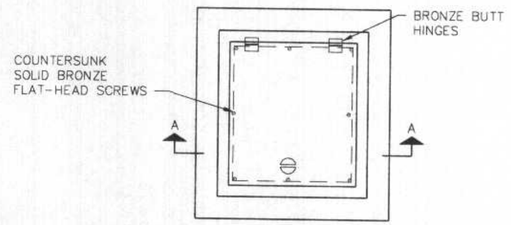
TYPE	MANUFACTURER	CATALOG NO.	LAMP	REMARKS
	CROUSE-HINDS	ELPS502	2-12 WATT	WALL MOUNT 9'-6" FT. ABOVE FINISHED FLOOR SUITABLE FOR EXPLOSION PROOF INSTALLATION



POWER SYSTEM – SINGLE LINE DIAGRAM
N.T.S.

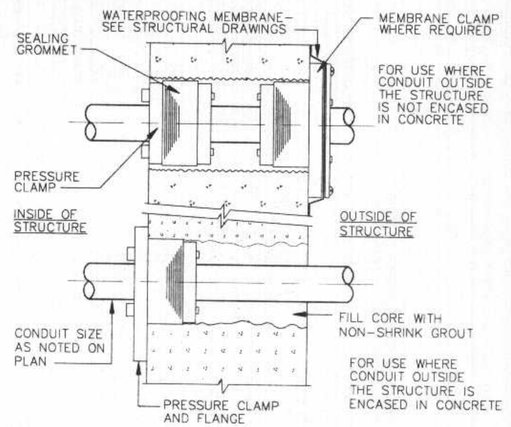


SECTION "A-A"

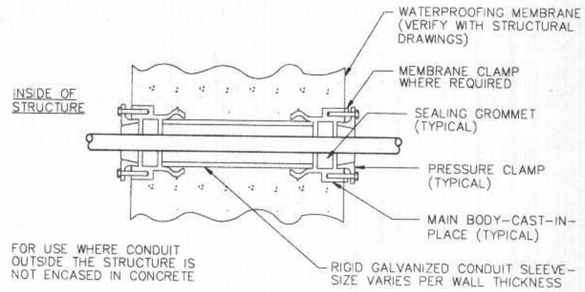


TOP PLAN

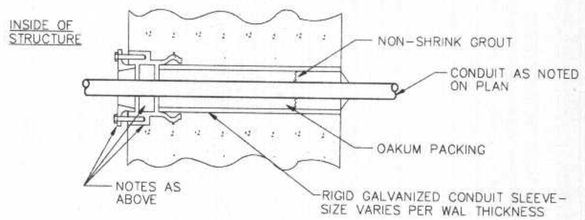
TYPICAL ELECTRICAL HANDHOLE CONSTRUCTION DETAILS
NO SCALE



TYPICAL CONDUIT SEAL DETAILS
TYPCSEAL



DOUBLE ENDED TYPE-FOR NEW CONSTRUCTION WITH MEMBRANE



SINGLE ENDED TYPE-FOR NEW CONSTRUCTURE

TYPICAL CONDUIT SEAL DETAILS
N.T.S
TCSEALNW

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED
DATE APRIL, 1994

SCALE
NO SCALE

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT
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SCREEN BUILDING
ELECTRICAL DETAILS AND SCHEDULES

SHEET E-2
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

ELECTRICAL PLAN SHEET SYMBOLS

SYMBOLS	DESCRIPTION
	BRACKET MOUNTED INCANDESCENT OR HIGH INTENSITY DISCHARGE FIXTURE
GFI +18	DUPLEX GFI RECEPTACLE (NUMBER INDICATES MOUNTING HEIGHT. IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
+18	SINGLE CONVENIENCE RECEPTACLE (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
+18	DUPLEX CONVENIENCE RECEPTACLE (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
	FLOOR MOUNTED DUPLEX CONVINIENCE RECEPTACLE
	TELEPHONE UTILITY SYSTEM OUTLET
	LIGHTING PANEL
	REMOTE TELEMETRY SYSTEM CABINET
	TELEPHONE UTILITY SYSTEM
	DISTRIBUTION PANEL
	CABINET OR PULL BOX
	UNFUSED SAFETY SWITCH, 3P-30A, 600V, IN NEMA 4 STAINLESS STEEL ENCLOSURE, UNLESS OTHERWISE NOTED.
	FUSED SAFETY SWITCH, 3P-30A, 600V, IN NEMA 4 STAINLESS STEEL ENCLOSURE, UNLESS OTHERWISE NOTED.
	HANDHOLE
	OUTLET OR JUNCTION BOX
	COMBINATION PROTECTIVE DEVICE AND MAGNETIC STARTER OR CONTROL PANEL WITH CONTROL TRANSFORMER AND (3) AUXILIARY CONTACTS.
	SINGLE UNIT PUSHBUTTON STATION
	2-UNIT PUSHBUTTON STATION
	3-UNIT PUSHBUTTON STATION
(5)	ELECTRIC MOTOR - "NUMBER" INDICATES HORSEPOWER, "F" DENOTES FRACTIONAL HORSEPOWER.
GS	CONTROL STATION-SELECTOR SWITCH, SPEED CONTROL, RUN INDICATION, START/STOP, SPEED INDICATION
FS	FLOW SWITCH
LS	LIMIT SWITCH
PE	PNUEMATIC/ELECTRIC SWITCH
PS	PRESSURE SWITCH
PX	PROXIMITY SWITCH
SS	"HAND-OFF-AUTOMATIC" SELECTOR SWITCH
TS	TORQUE SWITCH
VS	VACUUM SWITCH
FS	POINT FLOAT SWITCH
EP	ELECTRO-PNUEMATIC VALVE
S	SOLENOID VALVE
T	ELECTRIC THERMOSTAT
D	ELECTRIC DAMPER MOTOR
T	TEMPERATURE ACTUATED DEVICE

SYMBOLS	DESCRIPTION
$\frac{S}{1}^{+48}$	SINGLE POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$\frac{S}{2}^{+48}$	2 - POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$\frac{S}{3}^{+48}$	3 - POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$\frac{S}{4}^{+48}$	4 - POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$\frac{S}{T}^{+48}$	MANUAL MOTOR STARTER SWITCH W/OVERLOAD PROTECTION AND ENCLOSURE(NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS.)
	BATTERY POWERED EMERGENCY LIGHTING FIXTURE
	UNIT HEATER
H	ALARM HORN
6F	ZONAL GROUNDING
HH	HANDHOLE
GFI	GROUND FAULT INTERRUPTION
C	CONDUIT
SIG. CA.	SIGNAL CABLE
F.O.	FIBER OPTIC
	EMERGENCY SHOWER & EYEWASH WITH LIGHT AND ALARM
S	SMOKE DETECTOR (IONIZATION TYPE)
D	RATE OF RISE HEAT DETECTOR
M	MANUAL FIRE ALARM PULL STATION
H_F	FIRE ALARM SYSTEM HORN
	EXPOSED CONDUIT
	UNDERGROUND DUCT AS NOTED
	CONDUIT CONCEALED IN CEILING OR WALL
	CONDUIT CONCEALED IN FLOOR SLAB OR UNDER FLOOR SLAB. (CONDUITS 1-1/4" OR LARGER SHALL BE INSTALLED UNDER FLOOR SLAB). CONDUITS RUN UNDER FLOOR SLAB SHALL BE ENCASED IN CONCRETE.
	HOMERUN TO PANEL OR M.C.C. AS NOTED
E	EXISTING CONDUIT AND WIRE SHALL REMAIN
R	EXISTING CONDUIT, WIRE, BOXES, ETC., WHICH SHALL BE REMOVED.
A	EXISTING CONDUIT WHICH SHALL BE ABANDONED. DISCONNECT AND REMOVE EXISTING CONDUCTORS. CUT OFF CONDUIT FLUSH W/FINISHED SURFACE AND FILL W/GROUT.
E/R	EXISTING CONDUIT WHICH SHALL BE REUSED. REMOVE EXISTING CONDUCTORS AND INSTALL NEW CONDUCTORS AS INDICATED OR NOTED ON PLAN.

CONDUIT SYSTEM NOTES

1. CONDUITS IMBEDDED IN STRUCTURAL CONCRETE (FLOOR SLABS, ETC.) SHALL BE SO LOCATED AS NOT TO UNDULY IMPAIR THE STRENGTH OF THE CONSTRUCTION AND SHALL BE SPACED NOT LESS THAN TWO TIMES THE CONDUIT O.D. BETWEEN ADJACENT CONDUITS EXECEPT WHERE CROSSING OR OTHERWISE APPROVED BE THE ENGINEER.
2. ANY CONDUIT WITHOUT FURTHER DESIGNATION, INDICATES 2#12 IN 3/4 INCH CONDUIT, GREATER NUMBER OF WIRE ARE INDICATED AS FOLLOWS: -//- (3-WIRES) -///- (4-WIRES) ETC. LONGER HATCHMARK INDICATES NEUTRAL CONDUCTOR.
3. WIRING FOR LIGHTING, RECEPTACLES AND OTHER MISCELLANEOUS CIRCUITS SHALL CONFORM TO THE CIRCUITING INDICATED ON THE DRAWINGS WITH ARRANGEMENT AND ROUTING AS REQUIRED. THE WIRING SHALL BE SO ARRANGED THAT NO MORE THAN 6 CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED PER CONDUIT AND CIRCUITS OF DIFFERENT PANELS SHALL BE INSTALLED IN SEPERATE RACEWAYS.

SCHEMATIC WIRING SYMBOLS

SYMBOLS	DESCRIPTION
	CONTACT, NORMALLY OPEN
	CONTACT, NORMALLY CLOSED
	PUSHBUTTON, NORMALLY CLOSED
	PUSHBUTTON, NORMALLY OPEN
	SELECTOR SWITCH - "HAND-OFF-AUTO", UNLESS OTHERWISE NOTED.
	PUSHBUTTON, MAINTAINED CONTACT, DOUBLE CIRCUIT
OLS	OVERLOADS
	FUSE
G	PILOT LIGHT
	MANUAL MOTOR STARTER
M	AUXILIARY STARTER CONTACTS
	PRESSURE SWITCH, OPENS ON RISE
	PRESSURE SWITCH, CLOSES ON RISE
	LIMIT SWITCH, NORMALLY CLOSED
	LIMIT SWITCH, NORMALLY OPEN
	LIMIT SWITCH, NORMALLY OPEN, HELD CLOSED
	LIMIT SWITCH, NORMALLY CLOSED, HELD OPEN
	TEMPERATURE ACTUATED SWITCH, OPENS ON RISE
	TEMPERATURE ACTUATED SWITCH, CLOSES ON RISE
	VACUUM SWITCH, OPENS ON RISE
	VACUUM SWITCH, CLOSES ON RISE
	FLOW SWITCH (CLOSES WITH FLOW)
	FLOW SWITCH (OPENS WITH FLOW)
	FLOAT OPERATED SWITCH, OPENS ON RISE
	FLOAT OPERATED SWITCH, CLOSES ON RISE
	TORQUE SWITCH (OPENS ON INCREASE)
	TORQUE SWITCH (CLOSES ON INCREASE)
	OVERLOAD
*	LOCATED REMOTE
●	LOCATED AT MOTOR
□	NEW DEVICE TO BE PROVIDED
CL / M	MOTORIZED TIME DELAY RELAY
TD	TIME DELAY RELAY
M	STARTER COIL
R	CONTROL RELAY
ETM	ELAPSED TIME METER

INSTRUMENTATION SYSTEM SYMBOLS

PIT	PRESSURE TRANSMITTER WITH LOCAL INDICATION
LIT	LEVEL TRANSMITTER WITH LOCAL INDICATION
LAH	LEVEL ALARM HIGH
LAL	LEVEL ALARM LOW
TIT	TEMPERATURE TRANSMITTER WITH LOCAL INDICATION
AIT	ANALYZING TRANSMITTER WITH LOCAL INDICATION
FIT	FLOW TRANSMITTER WITH LOCAL INDICATION
D/P	DIFFERENTIAL PRESSURE TRANSMITTER
I/P	CURRENT-TO-PNEUMATIC TRANSDUCER
V/I	VOLTAGE-TO-CURRENT TRANSDUCER
I/I	CURRENT-TO-CURRENT TRANSDUCER
MBU	MANUAL BACKUP UNIT AS SPECIFIED
IND	EXISTING INDICATOR
HYD	HYDRAULIC VALVE ACTUATOR
HYD *	HYDRAULIC VALVE ACTUATOR WITH NEW POSITIONER
MAN	MANUALLY OPERATED VALVE
PNEU	PNEUMATIC VALVE ACTUATOR
PNEU *	PNEUMATIC VALVE ACTUATOR WITH NEW POSITIONER
M	ELECTRIC VALVE ACTUATOR, OPEN/CLOSE
MM	ELECTRIC VALVE ACTUATOR, MODULATING
FCC	FILTER CONTROL CONSOLE
	FLOW DEVICE
	BUTTERFLY VALVE
MM	MODULATING BUTTERFLY VALVE
	GATE VALVE
	CHECK VALVE
	PUMP
	ANALOG INPUT TO RTU
	ANALOG OUT FROM RTU
	DISCRETE INPUT TO RTU UNLESS OTHERWISE NOTED
	DISCRETE OUTPUT FROM RTU UNLESS OTHERWISE NOTED
PULSE	PULSE INPUT TO RTU
-A	EQUIPMENT PER INSTRUMENTATION INSTALLATION DETAIL "A" (TYPICAL)

J:\3899-00\PLAN\S_ESYMBL.DWG Plotted on 5/9/1994 @ 1:36 P.M. by AGADI7

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED
DATE APRIL, 1994

SCALE
NO SCALE

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT
2855 ANTHONY LANE SOUTH, SUITE 145
MINNEAPOLIS, MN. 55418-3255

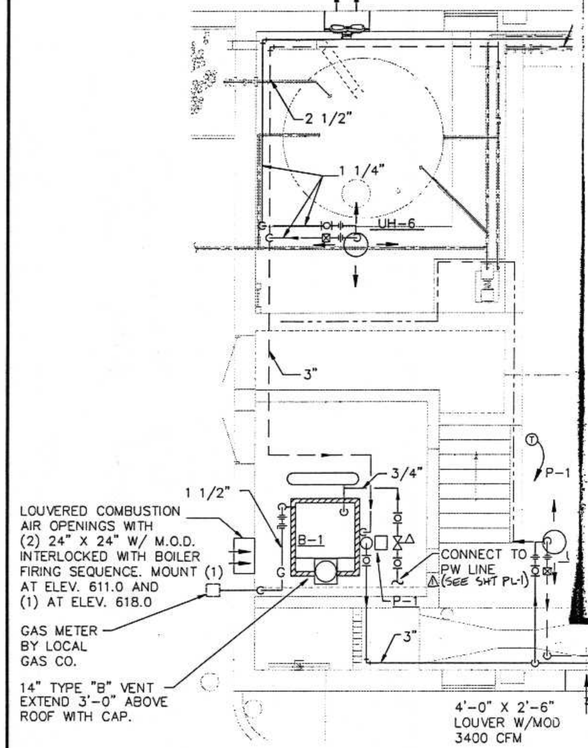
ELECTRICAL SYMBOLS

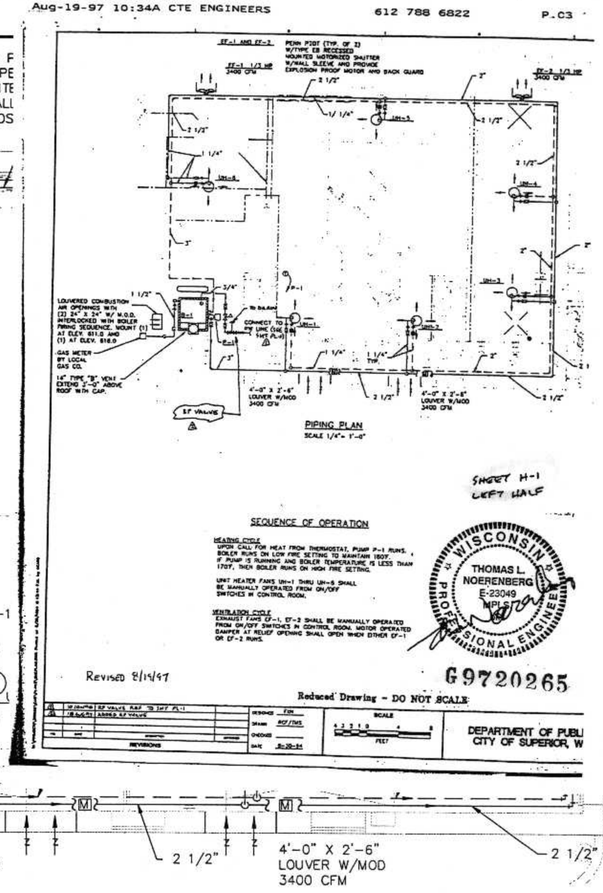
SHEET E-3
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

EF-1 AND EF-2

EF-1 1/3 HP
3400 CFM

PENN F
W/TYPE
MOUNTE
W/WALL
EXPLOS





PIPING PLAN
SCALE 1/4"= 1'-0"

SHEET H-1
LEFT HALF

SEQUENCE OF OPERATION

HEATING CYCLE
UPON CALL FOR HEAT FROM THERMOSTAT, PUMP P-1 RUNS. BOILER RUNS ON LOW FIRE SETTING TO MAINTAIN 180°F. IF PUMP IS RUNNING AND BOILER TEMPERATURE IS LESS THAN 170°F, THEN BOILER RUNS ON HIGH FIRE SETTING.

UNIT HEATER FANS UH-1 THRU UH-6 SHALL BE MANUALLY OPERATED FROM ON/OFF SWITCHES IN CONTROL ROOM.

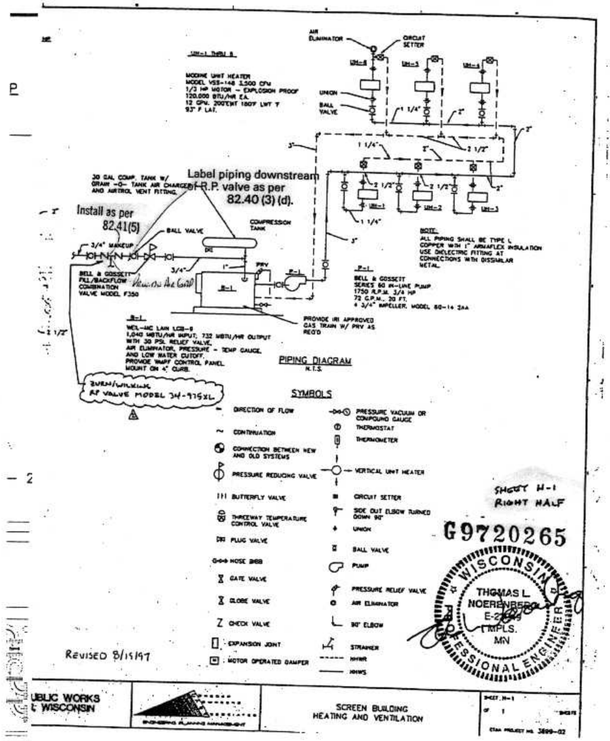
VENTILATION CYCLE
EXHAUST FANS EF-1, EF-2 SHALL BE MANUALLY OPERATED FROM ON/OFF SWITCHES IN CONTROL ROOM. MOTOR OPERATED DAMPER AT RELIEF OPENING SHALL OPEN WHEN EITHER EF-1 OR EF-2 RUNS.

Revised 8/15/97

G9720265

Reduced Drawing - DO NOT SCALE

DEPARTMENT OF PUBLI
CITY OF SUPERIOR, W

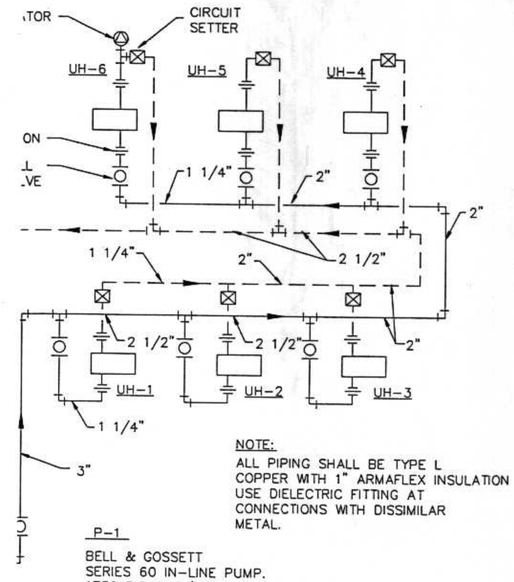


SHEET H-1
RIGHT HALF

G9720265

Revised 8/15/97

SCREEN BUILDING
HEATING AND VENTILATION



NOTE:
ALL PIPING SHALL BE TYPE L COPPER WITH 1" ARMAFLEX INSULATION USE DIELECTRIC FITTING AT CONNECTIONS WITH DISSIMILAR METAL.

P-1
BELL & GOSSETT
SERIES 60 IN-LINE PUMP.
1750 R.P.M. 3/4 HP
72 G.P.M., 20 FT.
4 3/4" IMPELLER. MODEL 60-14 2AA

DE IRI APPROVED
TRAIN W/ PRV AS

WITH 30 PSI. RELIEF VALVE,
AIR ELIMINATOR, PRESSURE - TEMP GAUGE,
AND LOW WATER CUTOFF.
PROVIDE WMPF CONTROL PANEL.
MOUNT ON 4" CURB.

PIPING DIAGRAM
N.T.S.

SYMBOLS

DIRECTION OF FLOW
CONTINUATION
CONNECTION BETWEEN NEW AND OLD SYSTEMS
PRESSURE REDUCING VALVE
BUTTERFLY VALVE
THREEWAY TEMPERATURE CONTROL VALVE
PLUG VALVE
HOSE BIBB
GATE VALVE
GLOBE VALVE
CHECK VALVE
EXPANSION JOINT
MOTOR OPERATED DAMPER
PRESSURE VACUUM OR COMPOUND GAUGE
THERMOSTAT
THERMOMETER
VERTICAL UNIT HEATER
CIRCUIT SETTER
SIDE OUT ELBOW TURNED DOWN 90°
UNION
BALL VALVE
PUMP
PRESSURE RELIEF VALVE
AIR ELIMINATOR
90° ELBOW
STRAINER
HHWR
HHWS

G9720265

NO.	DATE	DESCRIPTION	APPROVED
1	10JAN96	RP VALVE REF. TO SHT PL-1	

REVISIONS

DESIGNED FXN
DRAWN RCF/TMS
CHECKED
DATE 8-30-94

SCALE
4 3 2 1 0 4 8
FEET

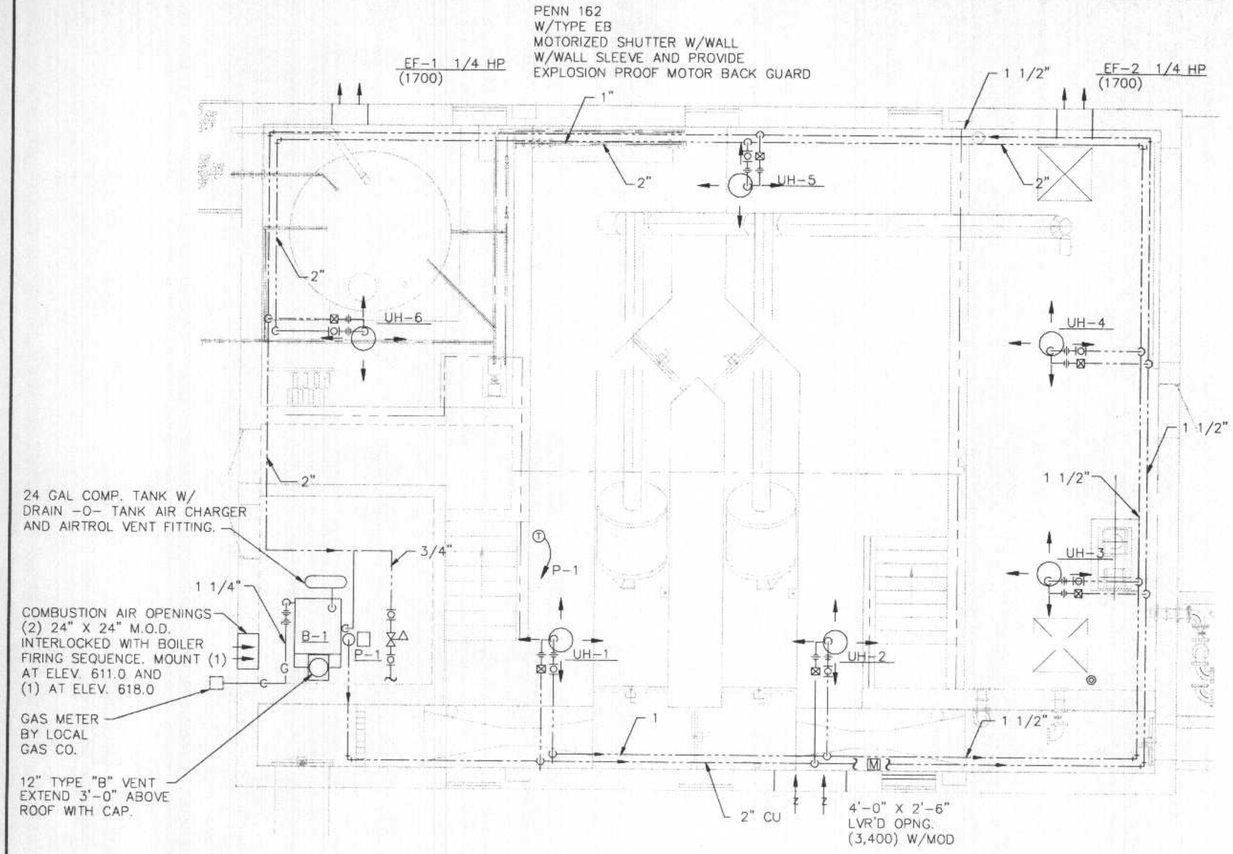
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT

SCREEN BUILDING
HEATING AND VENTILATION

SHEET H-1
OF 1 SHEETS
CT&A PROJECT NO. 3899-02

M:\PROJECTS\389900\CAD\PLANT\SMEPLAN.DWG Plotted on 8/30/1994 @ 12:44 P.M. by ACAD5

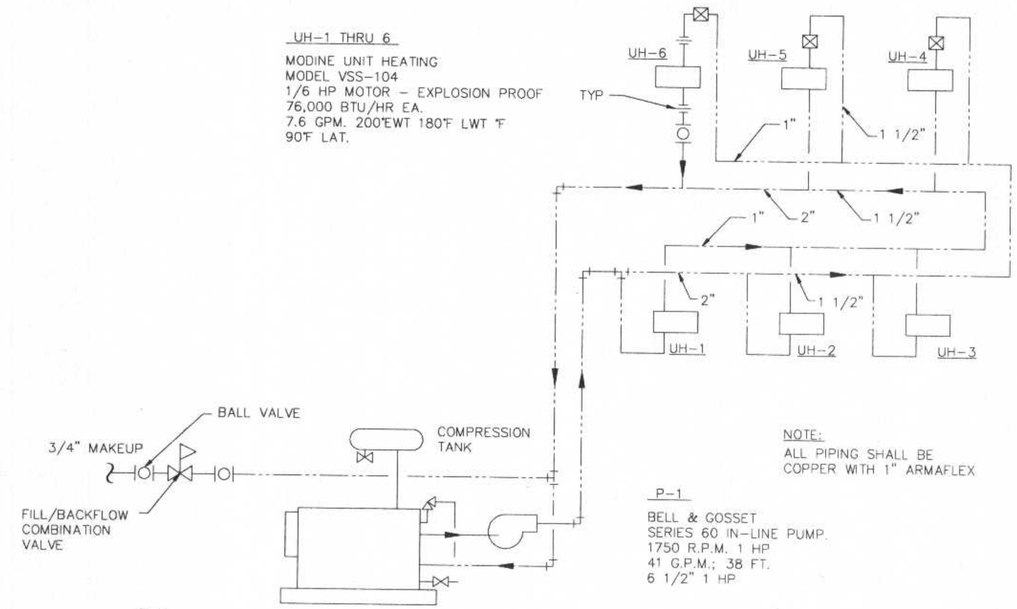


PIPING PLAN

SCLAE 1/4"= 1'-0"

UH-1 THRU 6

MODINE UNIT HEATING
MODEL VSS-104
1/6 HP MOTOR - EXPLOSION PROOF
76,000 BTU/HR EA.
7.6 GPM. 200°EWT 180°F LWT °F
90°F LAT.



NOTE:
ALL PIPING SHALL BE
COPPER WITH 1" ARMAFLEX

P-1

BELL & GOSSET
SERIES 60 IN-LINE PUMP.
1750 R.P.M. 1 HP
41 G.P.M.; 38 FT.
6 1/2" 1 HP

B-1

WEIL-MC LAIN LGB-6
650,000 BTU/HR INPUT; 457,000 BTU/HR OUTPUT
WITH 30 PSI. RELIEF VALVE,
AIR ELIMINATOR, PRESSURE - TEMP GAUGE,
AND LOW WATER CUTOFF.
PROVIDE WMPF CONTROL PANEL

PIPING DIAGRAM

N.T.S.

SEQUENCE OF OPERATION

HEATING CYCLE
UPON CALL FOR HEAT FROM THERMOSTAT PUMP P-1 RUNS.
BOILER RUNS ON LOW FIRE SETTING TO MAINTAIN 180°F.
IF PUMP IS RUNNING AND BOILER TEMPERATURE IS LESS THAN
170°F, THEN BOILER RUNS ON HIGH FIRE SETTING.

UNIT HEATER FANS UH-1 THRU UH-6 SHALL
BE MANUALLY OPERATED FROM ON/OFF
SWITCHES IN CONTROL ROOM.

VENTILATION CYCLE
EXHAUST FANS EF-1, EF-2 SHALL BE MANUALLY OPERATED
FROM ON/OFF SWITCHES IN CONTROL ROOM. MOTOR OPERATED
DAMPERS AT RELIEF OPENINGS SHALL OPEN WHEN EITHER EF-1
OR EF-2 RUNS.

SYMBOLS

- DIRECTION OF FLOW
- CONTINUATION
- CONNECTION BETWEEN NEW AND OLD SYSTEMS
- PRESSURE REDUCING VALVE
- BUTTERFLY VALVE
- THREEWAY TEMPERATURE CONTROL VALVE
- PLUG VALVE
- HOSE BIBB
- GATE VALVE
- GLOBE VALVE
- CHECK VALVE
- EXPANSION JOINT
- [M] MOTOR OPERATED DAMPER
- PRESSURE VACUUM OR COMPOUND GUAGE
- (T) THERMOSTAT
- THERMOMETER
- VERTICAL UNIT HEATER
- CIRCUIT SETTER
- SIDE OUT ELBOW TURNED DOWN 90°
- UNION
- BALL VALVE
- PUMP
- PRESSURE RELIEF VALVE
- AIR ELIMINATOR
- 90° ELBOW
- STRAINER
- HHWR
- HHWS

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED FXN
DRAWN RCF
CHECKED
DATE

SCALE
4 3 2 1 0 4 8
FEET

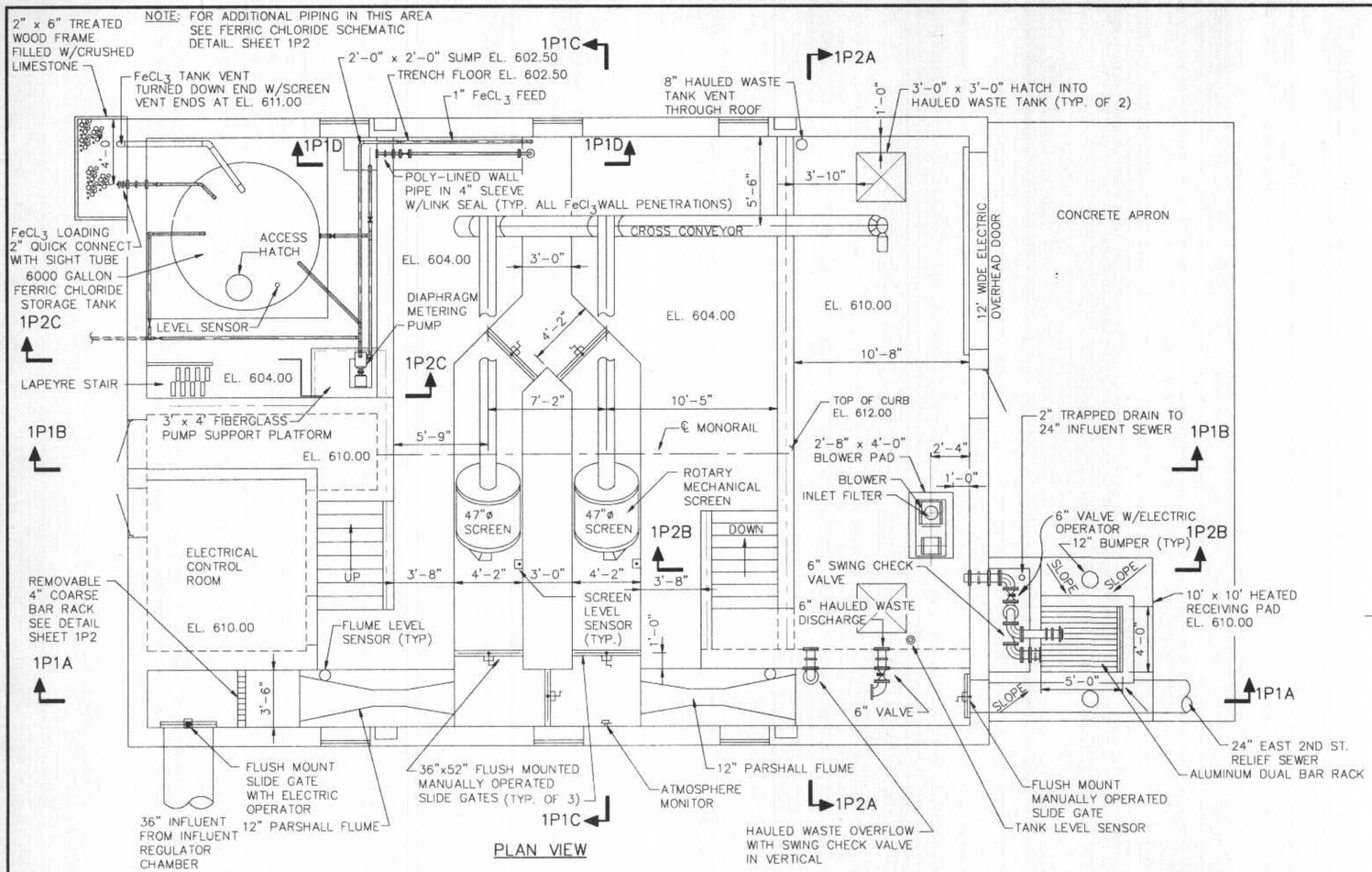
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT

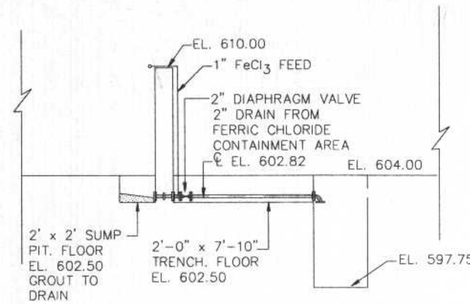
SCREEN BUILDING
HEATING AND VENTALTION
PLAN AND DETAILS

SHEET H-1
OF 1 SHEETS
CT&A PROJECT NO. 3899-00

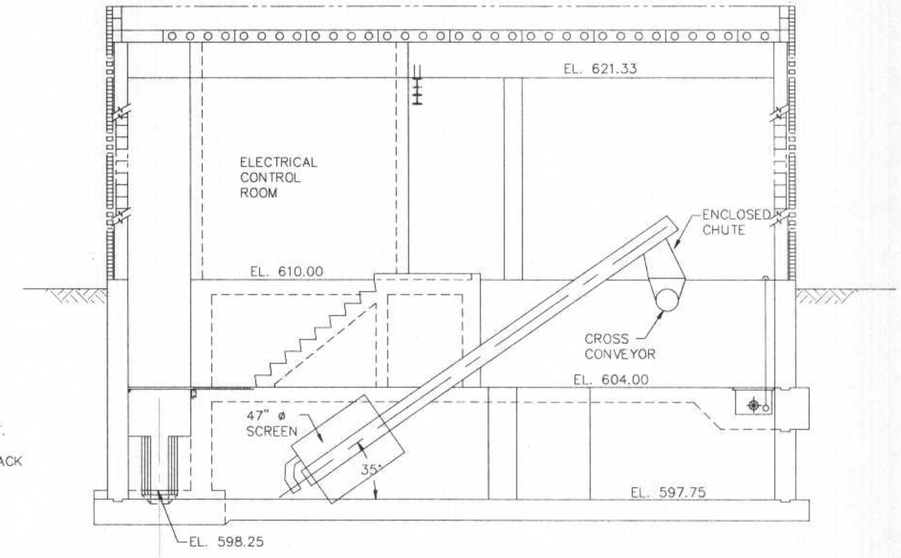
J:\3899-00\PLAN\SWEP1.AN.DWG Plotted on 6/10/1994 @ 9:27 A.M. by ACAD14



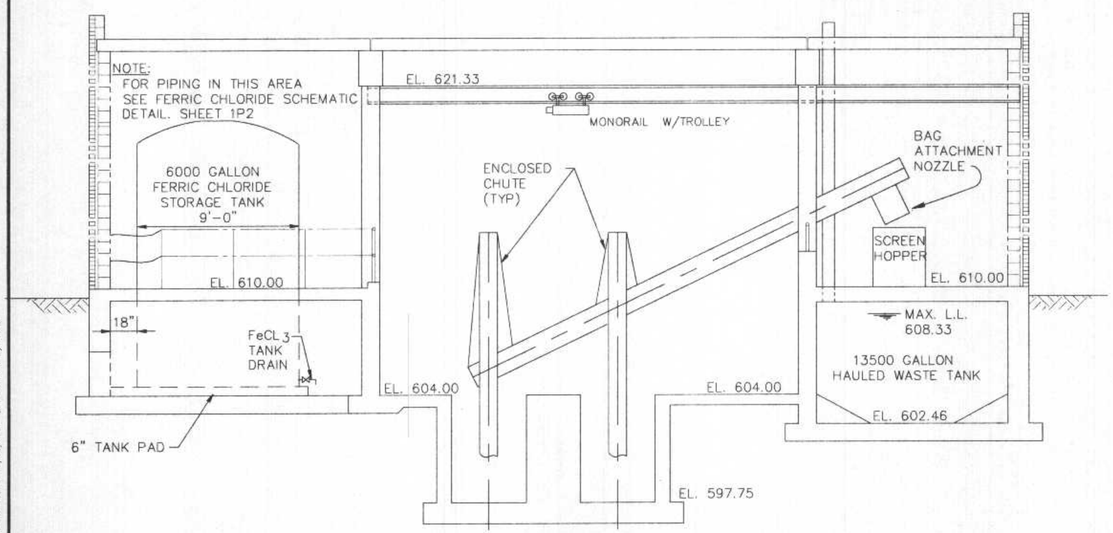
PLAN VIEW



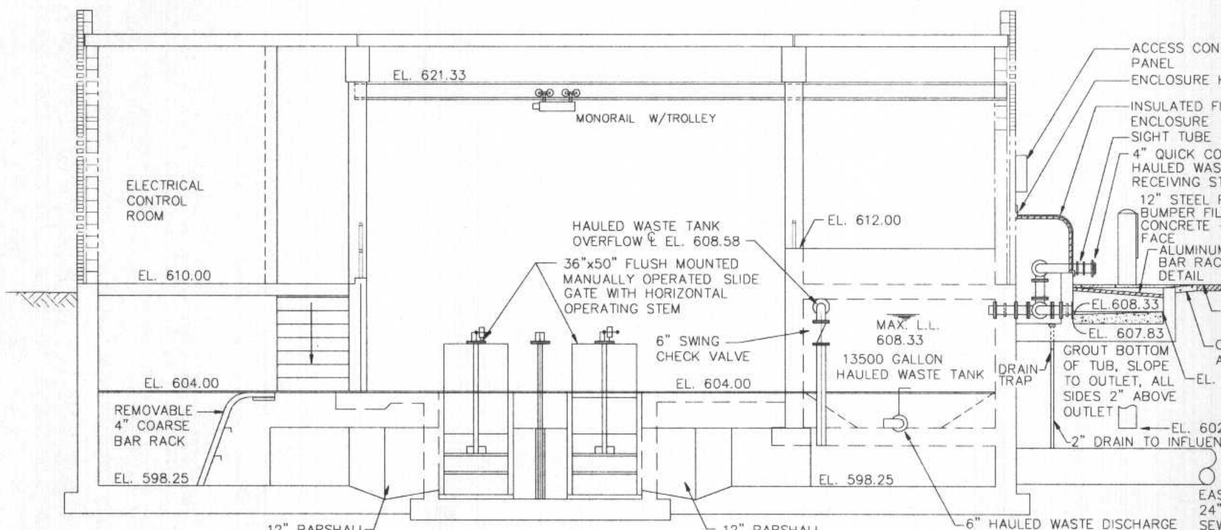
SECTION 1P1D



SECTION 1P1C



SECTION 1P1B



SECTION 1P1A

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED TN
DRAWN LED
CHECKED
DATE APRIL, 1994

SCALE
4 3 2 1 0 4 8
FEET

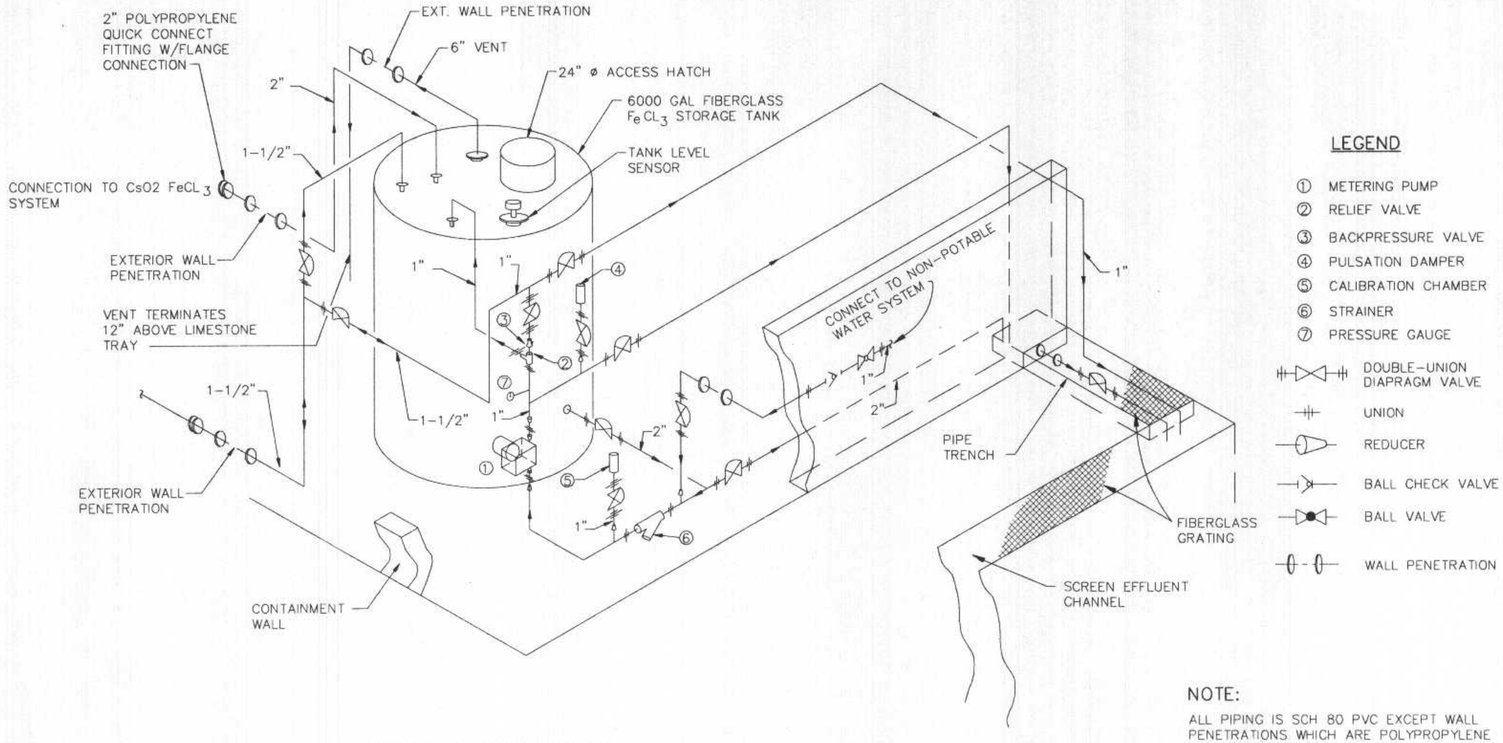
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

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

SCREEN BUILDING
PLAN AND SECTIONS

SHEET 1P1
OF 5 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

J:\3899-00\PLANTS-SCRN1.DWG Plotted on 5/15/1994 @ 1:30 P.M. by ACAD1



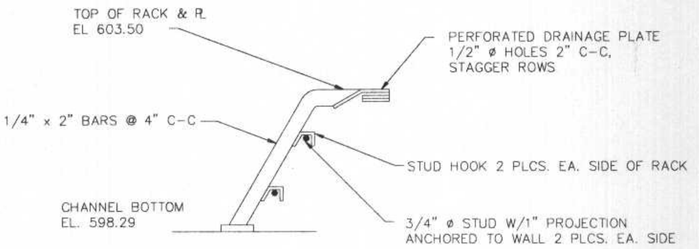
FERRIC CHLORIDE SYSTEM
PIPING SCHEMATIC

LEGEND

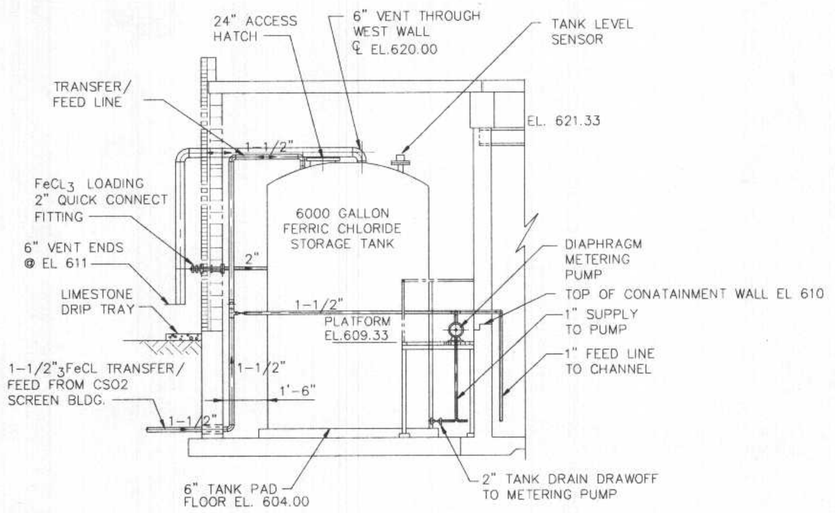
① METERING PUMP
② RELIEF VALVE
③ BACKPRESSURE VALVE
④ PULSATION DAMPER
⑤ CALIBRATION CHAMBER
⑥ STRAINER
⑦ PRESSURE GAUGE

DOUBLE-UNION DIAPRAGM VALVE
UNION
REDUCER
BALL CHECK VALVE
BALL VALVE
WALL PENETRATION

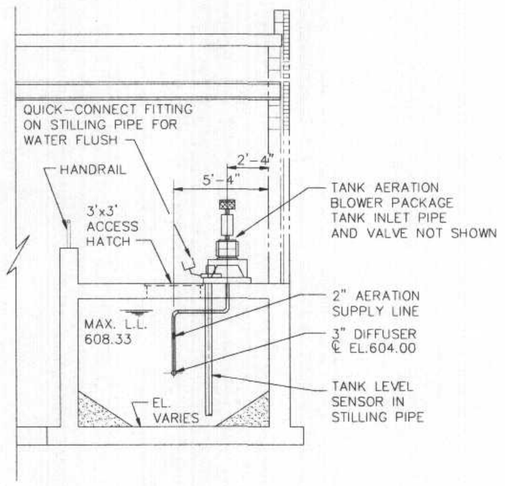
NOTE:
ALL PIPING IS SCH 80 PVC EXCEPT WALL PENETRATIONS WHICH ARE POLYPROPYLENE -LINED STEEL MOUNTED USING LINK-SEALS.



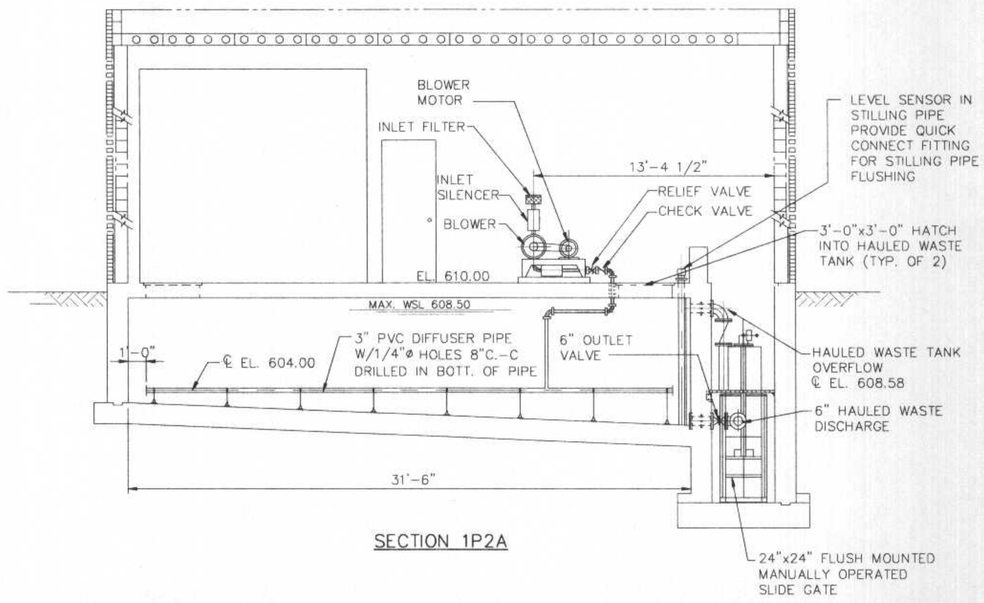
REMOVABLE BAR RACK
DETAIL



SECTION 1P2C



SECTION 1P2B



SECTION 1P2A

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED TN
DRAWN LED
CHECKED
DATE APRIL, 1994

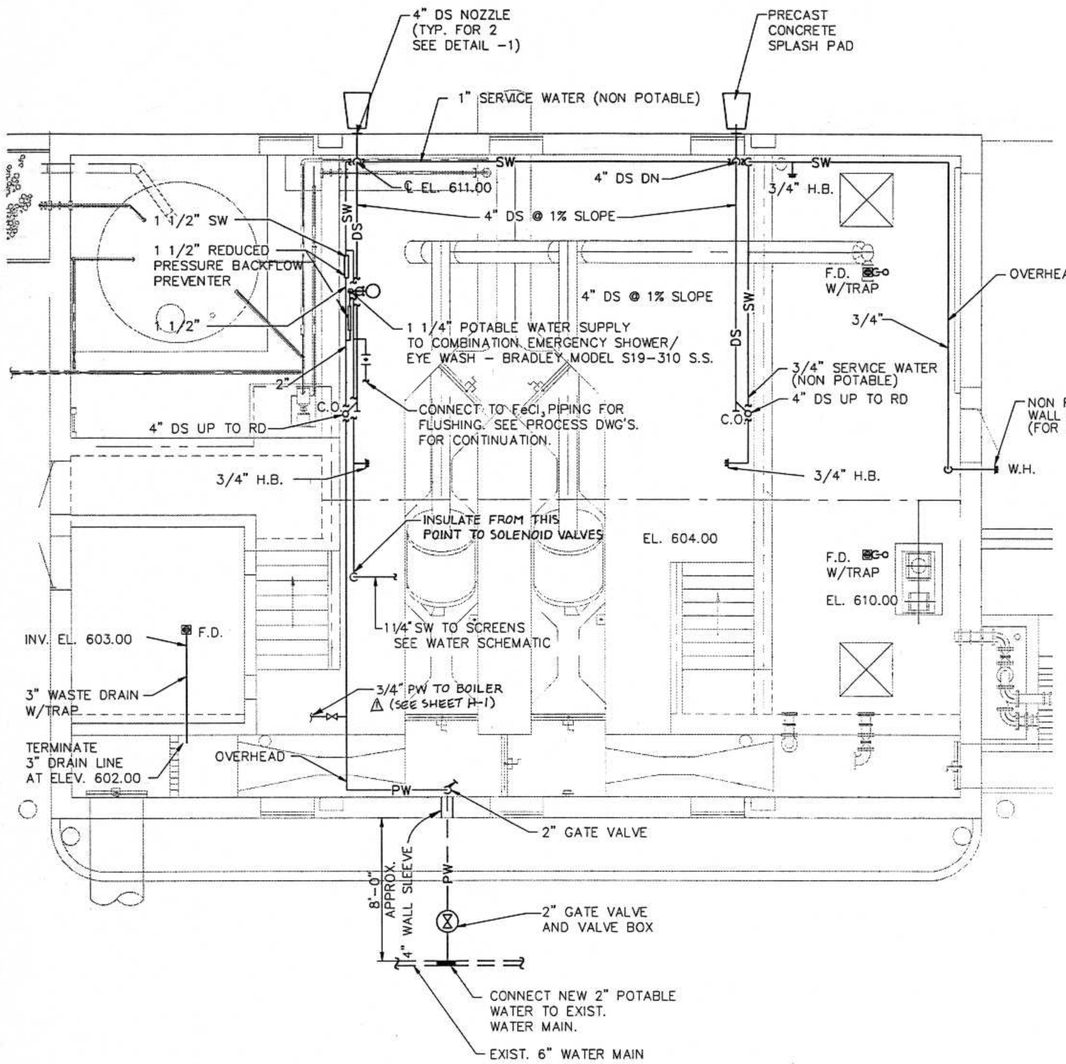
SCALE
4 3 2 1 0 4 8
FEET

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

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

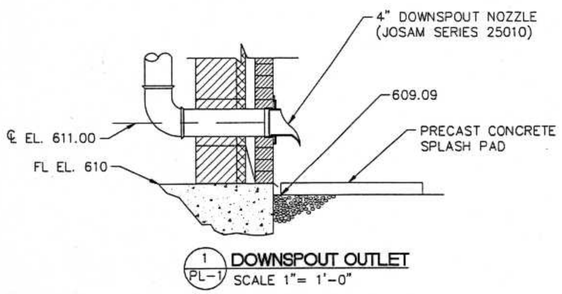
SCREEN BUILDING
PLAN AND SECTIONS

SHEET 1P2
OF 5 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

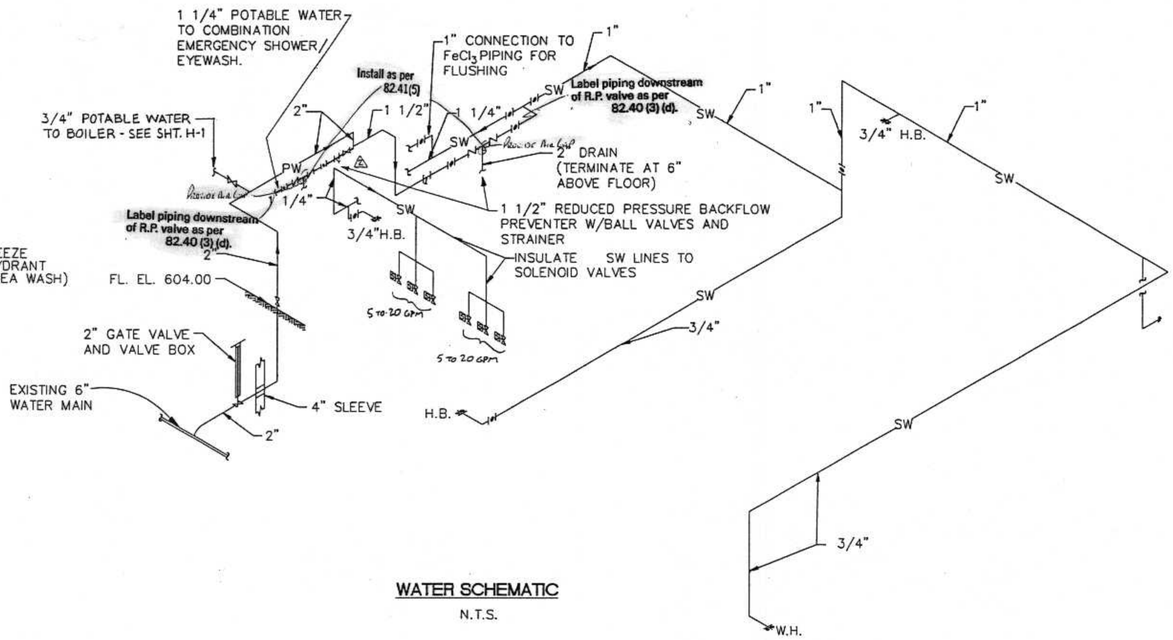


PLUMBING PLAN

4 3 2 1 0 4 8
FEET



1 PL-1 **DOWNSPOUT OUTLET**
SCALE 1"= 1'-0"



WATER SCHEMATIC

N.T.S.

SYMBOLS AND ABBREVIATIONS

	EXISTING WATER MAIN
	NEW POTABLE WATER LINE (UNDERGROUND)
PW	POTABLE WATER (ABOVE GROUND)
SW	SERVICE WATER – NONPOTABLE (ABOVE GROUND)
DS	DOWNSPOUT
	WASTE DRAINAGE LINE (ABOVE GROUND)
FD	FLOOR DRAIN
HB/WH	HOSE BIBB/OR WALL HYDRANT
S	SOLENOID VALVE
	STRAINER
	BALL VALVE
	GATE VALVE
C.O.	CLEAN OUT

APPROVAL FOR REDUCED PRESSURE ZONE PRINCIPLE TYPE BACKFLOW PREVENTER ONLY

Conditionally APPROVED
DEPARTMENT OF COMMERCE
DIVISION OF SAFETY AND BUILDINGS
SEE CORRESPONDENCE

WISCONSIN
THOMAS L. NOERENBERG
E-25049
MPLS.
MN
PROFESSIONAL ENGINEER

RECEIVED
AUG 13 1997
SAFETY & BLDGS. DIV.
G9720265

NO.	DATE	DESCRIPTION	APPROVED
⚠	10 JAN 96	BOILER WATER SUPPLY REF. TO SHT H-1	
⚠	10 JAN 96	ADDED RP BACKFLOW PREV. @ SHOWER/EYEWASH	

REVISIONS

DESIGNED A.R.
DRAWN R.C.F.
CHECKED
DATE 8/16/94

SCALE: AS NOTED

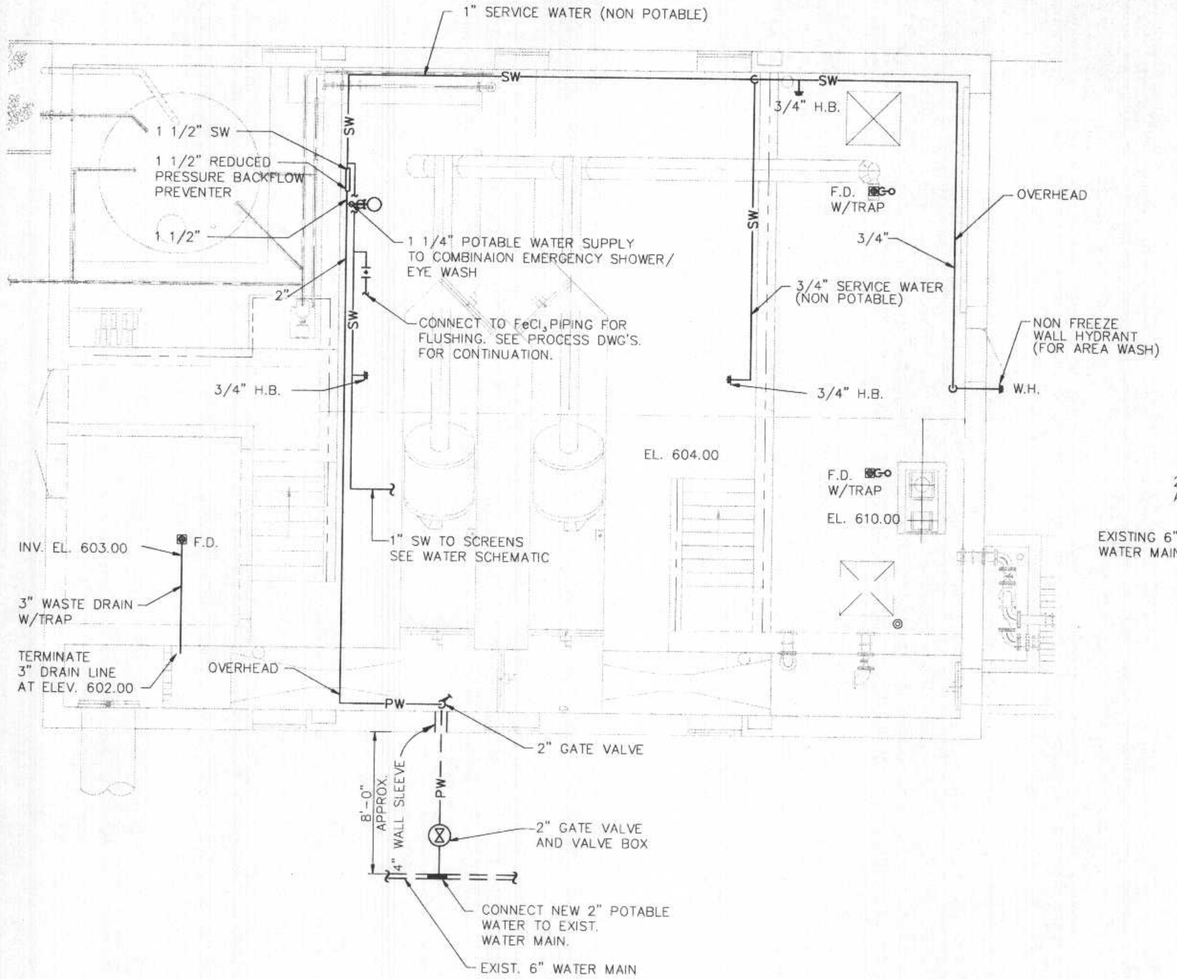
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT

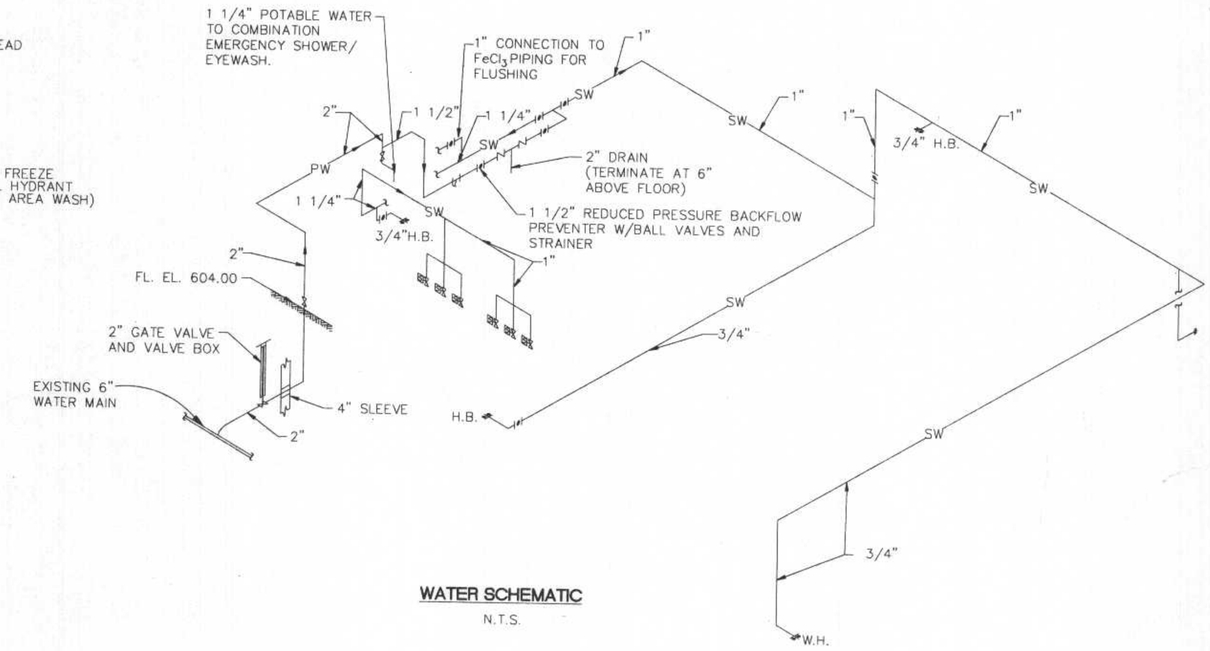
SCREEN BUILDING
PLUMBING PLAN

SHEET PL-1
OF 1 SHEETS
CT&A PROJECT NO. 3899-02

M:\PROJECTS\389900\CAD\PLANTS-PLUM.DWG Plotted on 8/26/1994 @ 7:24 A.M. by ACAD11



PLUMBING PLAN
SCALE 1/4"= 1'-0"



WATER SCHEMATIC
N.T.S.

SYMBOLS AND ABBREVIATIONS

	EXISTING WATER MAIN
	NEW POTABLE WATER LINE (UNDERGROUND)
PW	POTABLE WATER (ABOVE GROUND)
SW	SERVICE WATER – NONPOTABLE (ABOVE GROUND)
	WASTE DRAINAGE LINE (ABOVE GROUND)
FD	FLOOR DRAIN
HB/WH	HOSE BIBB/OR WALL HYDRANT
S	SOLENOID VALVE
	STRAINER
	BALL VALVE
	GATE VALVE

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED FXN
DRAWN RCF
CHECKED
DATE

SCALE
4 3 2 1 0 4 8
FEET

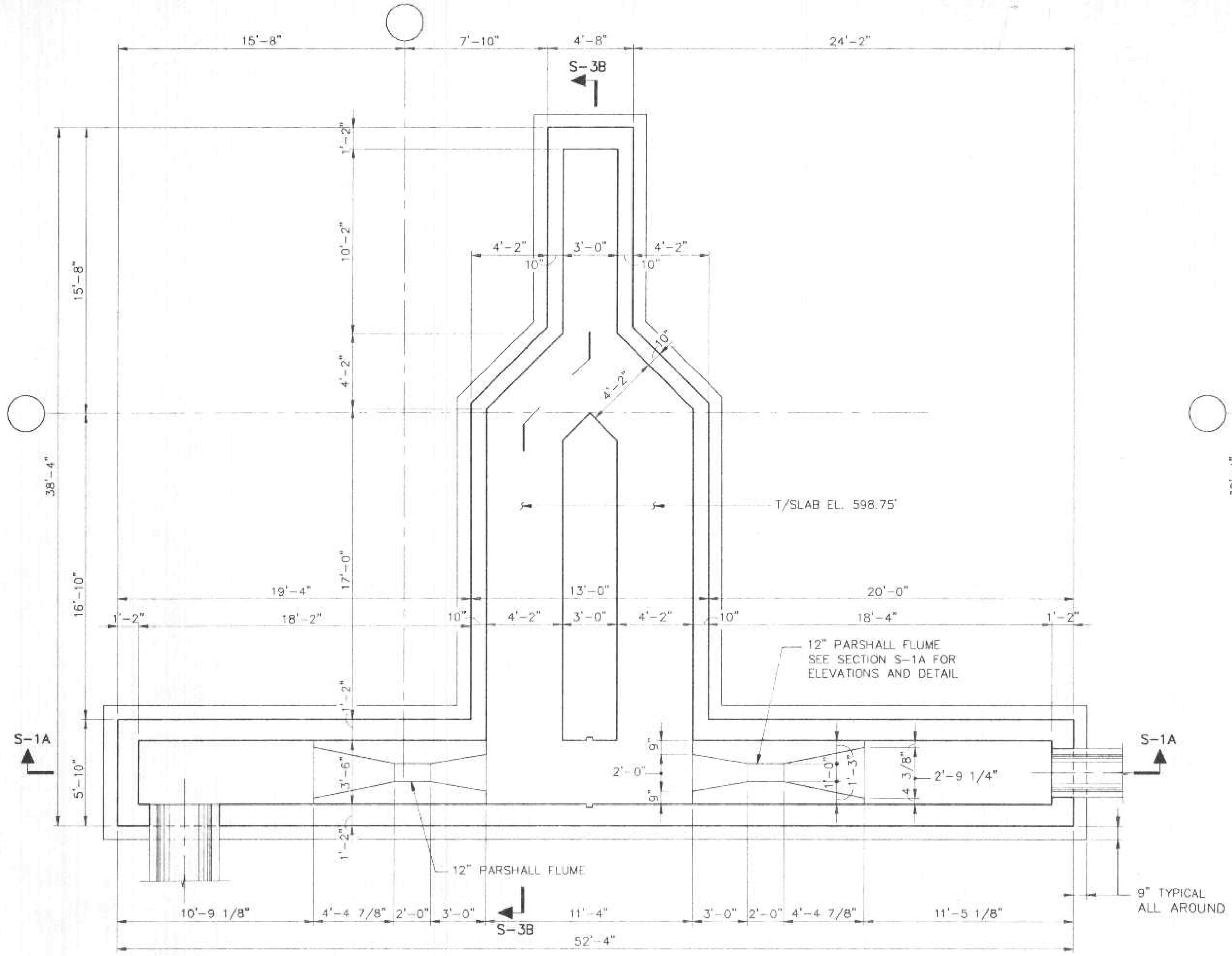
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CUNSOER TOWNSEND CT&A ASSOCIATES
ENGINEERING PLANNING MANAGEMENT

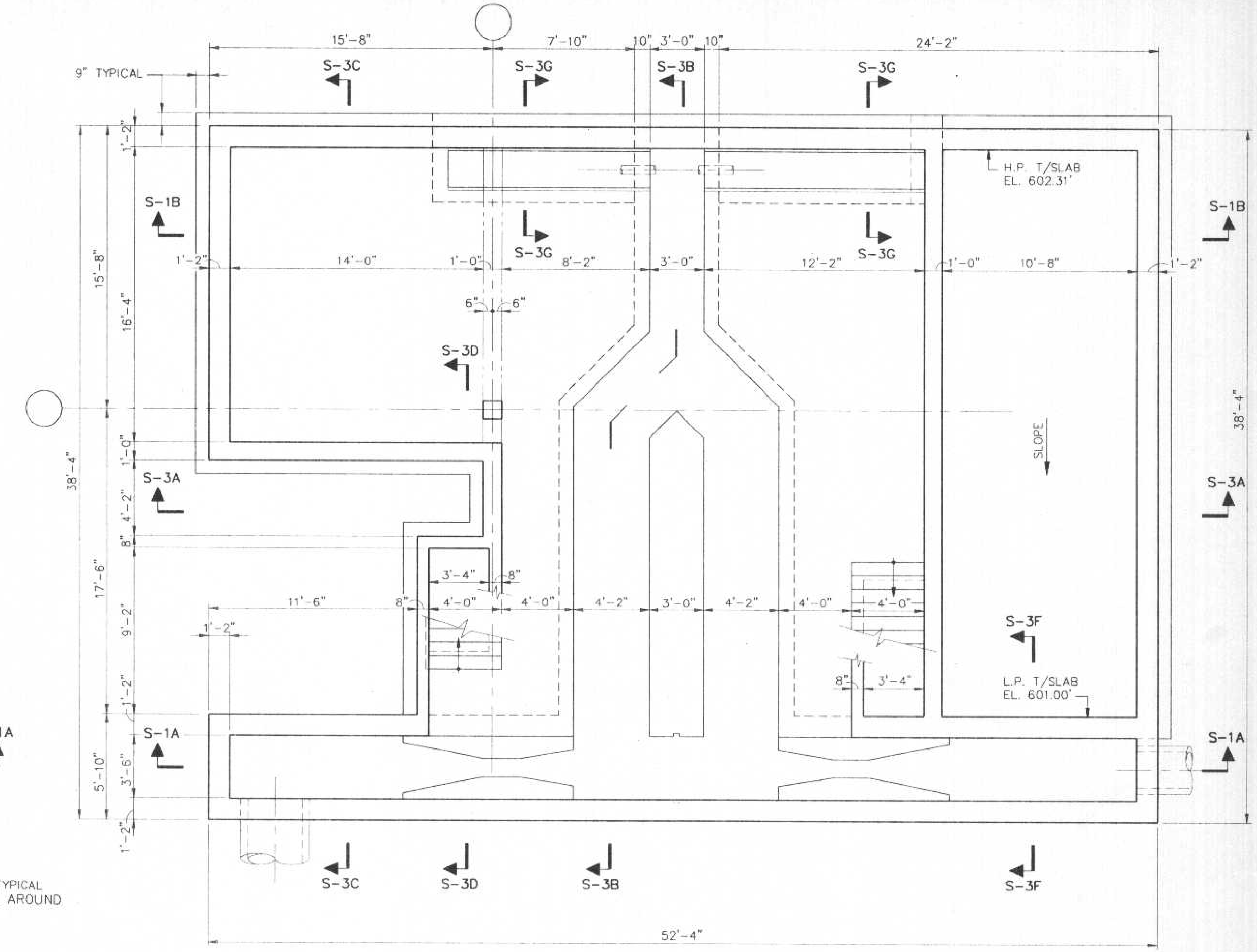
SCREEN BUILDING
PLUMBING PLAN

SHEET PL-1
OF 1 SHEETS
CT&A PROJECT NO. 3899-00

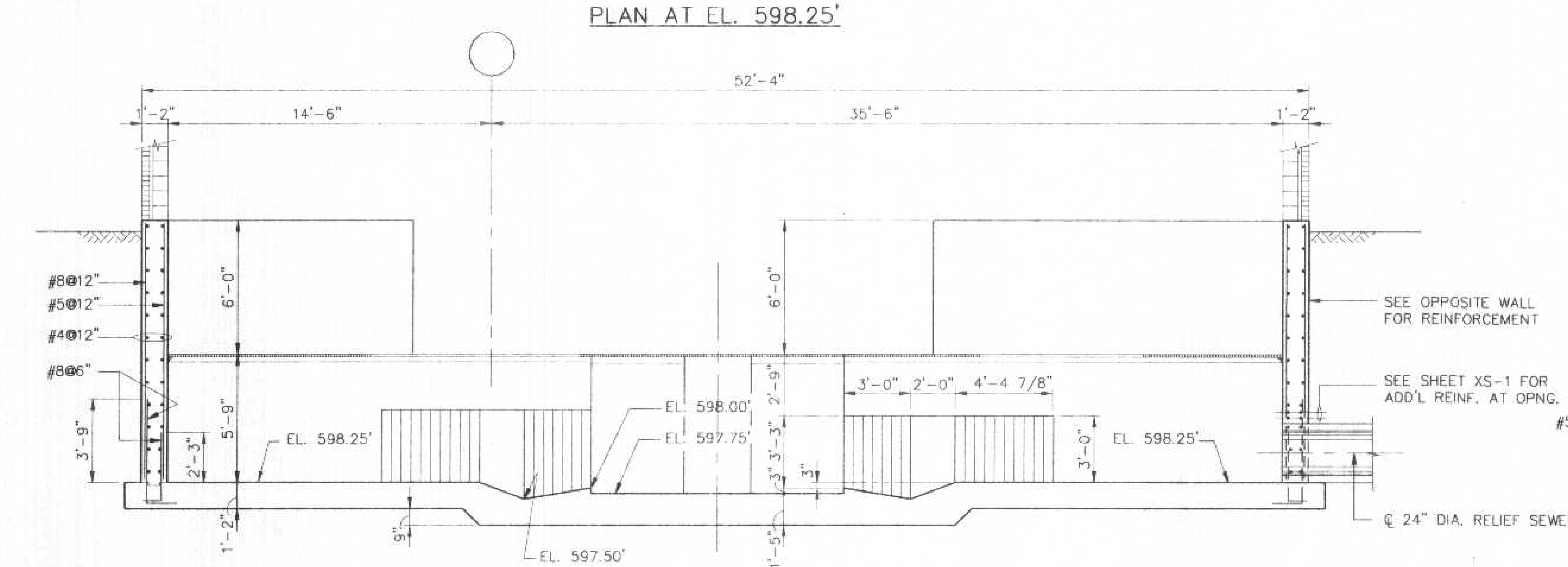
a:\3899-00\PLANTS-PLUM.DWG Plotted on 6/10/1994 @ 10:10 A.M. by ACAD14



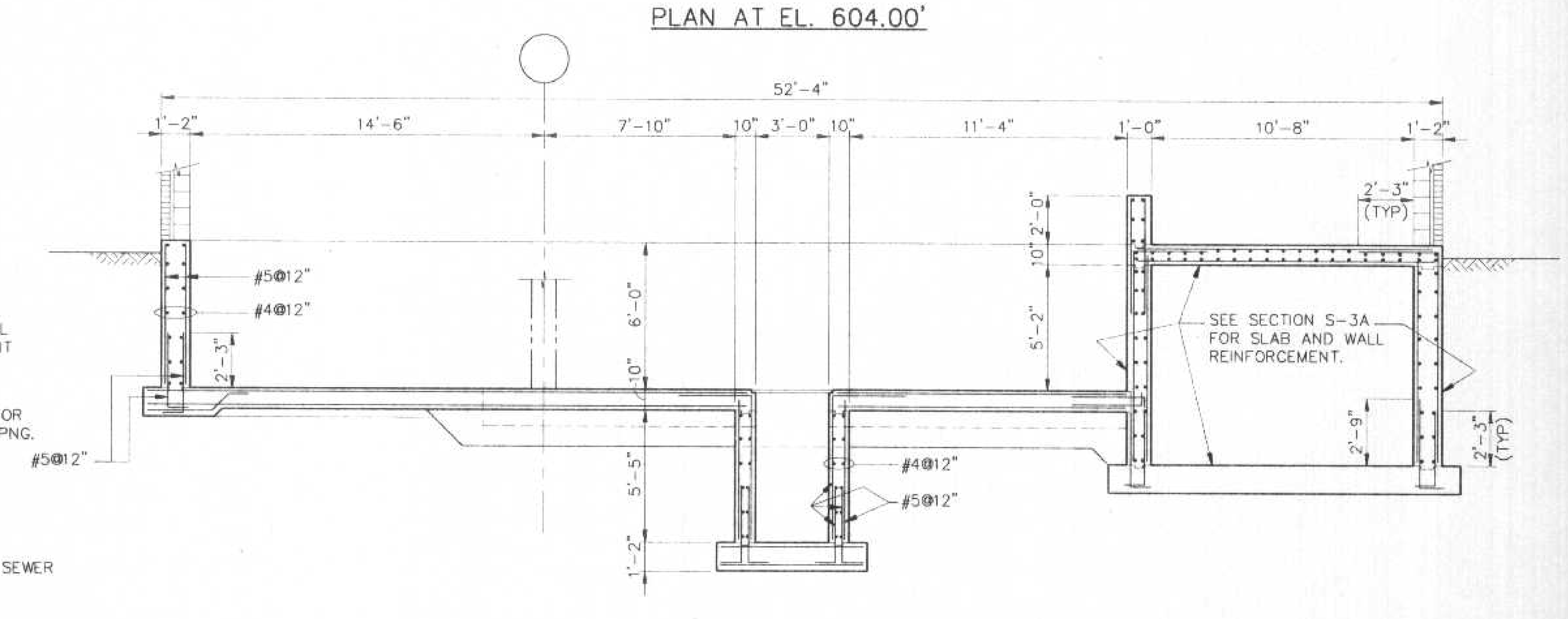
PLAN AT EL. 598.25'



PLAN AT EL. 604.00'



SECTION S-1A



SECTION S-1B

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED JAM
DRAWN LTS
CHECKED
DATE

SCALE 4 3 2 1 0 4 8 FEET

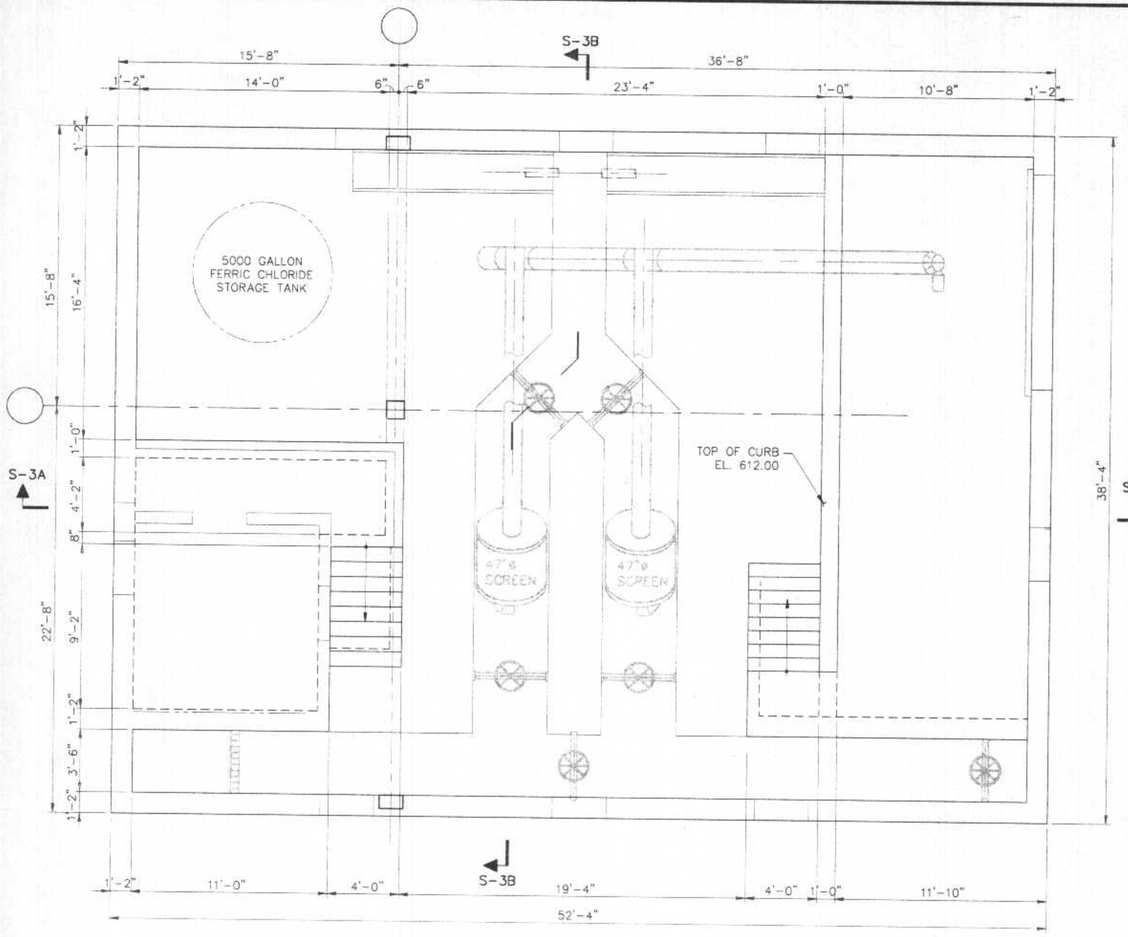
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

Consoer Townsend & Associates
ENGINEERING PLANNING MANAGEMENT

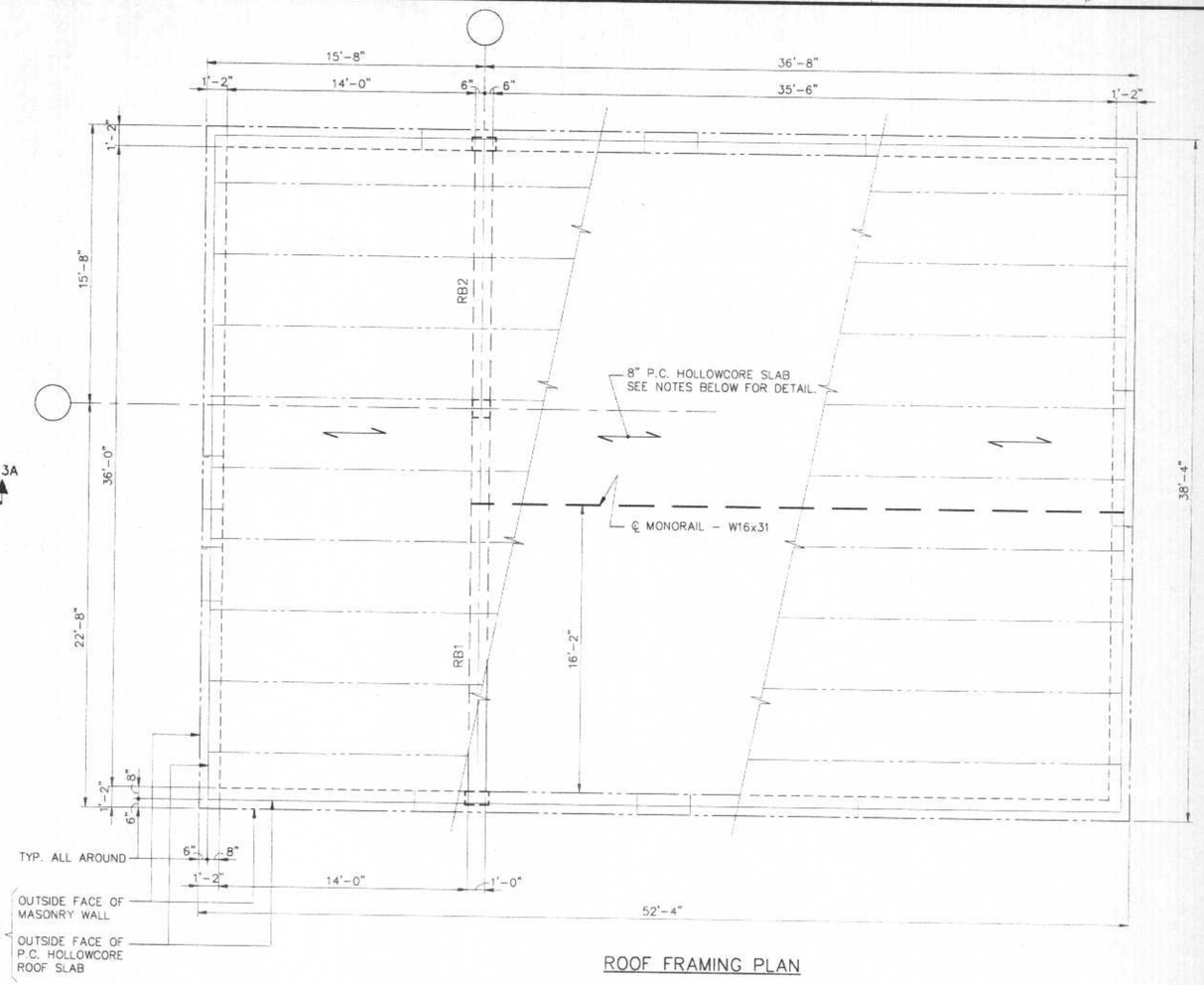
SCREEN BUILDING
PLAN AND SECTIONS

SHEET S-1
OF SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

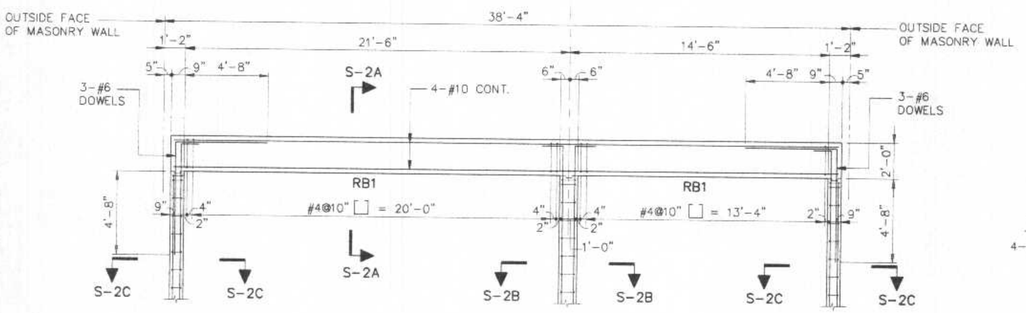
P:\1STS\CSW-STO1.DWG Plotted on 5/2/1994 @ 12:05 P.M. by ACAD13



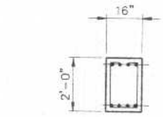
GRADE PLAN AT EL. 610.00'



ROOF FRAMING PLAN



BEAM ELEVATION

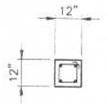


16"x 24" BEAM (TYP.)

4-#10 CONT. TOP & BOTTOM
#4@10" [ ] TIES U.O.N.

SECTION S-2A

2 1 0 2 4 6
FEET

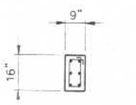


12"x 12" COLUMN

4-#7 VERTICAL
4-#7 DOWELS
#3@12" TIES [ ]

SECTION S-2B

2 1 0 2 4 6
FEET



9"x 16" COLUMN (TYP. 2 PLACES)

6-#6 VERTICAL
6-#6 DOWELS
#3@12" TIES [ ]

SECTION S-2C

2 1 0 2 4 6
FEET

NOTES :

1. P.C. HOLLOWCORE ROOF SLAB SHALL SUPPORT THE FOLLOWING SUPERIMPOSED LOADS:

LIVE LOAD	30 PSF
ROOFING AND INSULATION	25 PSF
MECHANICAL, ETC.	15 PSF

2. 8" P.C. HOLLOWCORE SLAB SHALL NOT WEIGH MORE THAN 70 PSF.
3. FOR LOCATION AND SIZE OF ROOF OPENINGS SEE PROCESS, MECHANICAL AND ARCHITECTURAL DRAWINGS.
4. (•) DIMENSIONS TO BE CHECKED AGAINST MECHANICAL DRAWINGS AND COORDINATED WITH EQUIPMENT MANUFACTURER'S DRAWINGS.
5. PRECAST ROOF SLAB CONTRACTOR TO FRAME ALL OPENINGS AS REQUIRED TO SUPPORT INTERRUPTED SLABS, EXCEPT AS SHOWN OTHERWISE.
6. PRECAST SLAB MANUFACTURER SHALL PROVIDE INSERTS TO SUPPORT PIPES, DUCTWORK AND OTHER EQUIPMENT. FOR DETAILS SEE PROCESS, MECHANICAL, ELECTRICAL AND ARCHITECTURAL DWGS.
7. MASONRY WALLS SHALL BE ADEQUATELY BRACED DURING ERECTION OF PRECAST ROOF SLAB UNITS. THESE TEMPORARY BRACINGS AND GUYS SHALL BE MAINTAINED UNTIL ALL CONNECTIONS SHOWN ARE SATISFACTORILY COMPLETED. FOR CONNECTION DETAILS SEE THIS SHEET.

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED JAM
DRAWN LTS
CHECKED
DATE

SCALE
4 3 2 1 0 4 8
FEET

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

ENGINEERING PLANNING MANAGEMENT

SCREEN BUILDING
PLAN AND SECTIONS

SHEET S-2
OF SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

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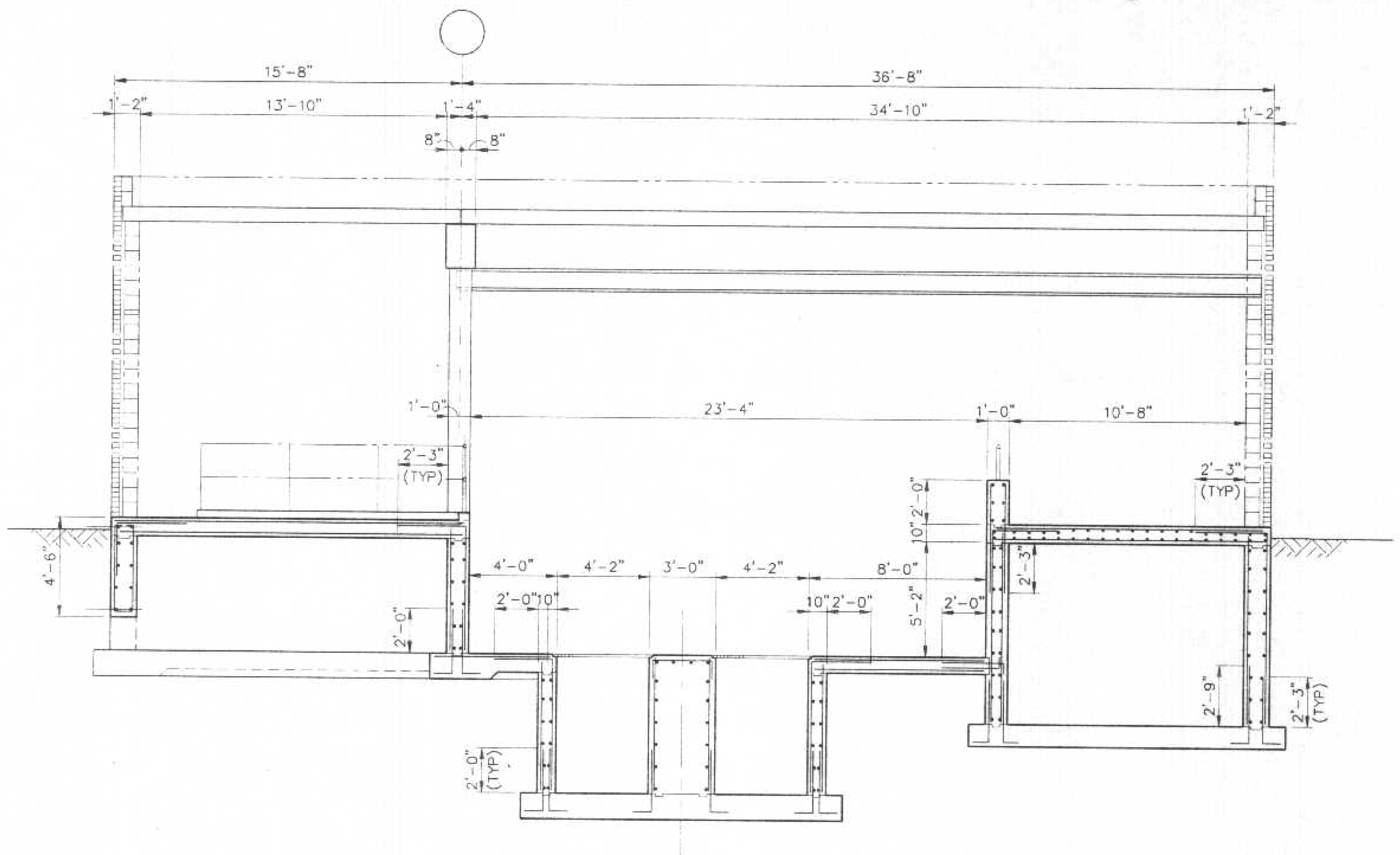
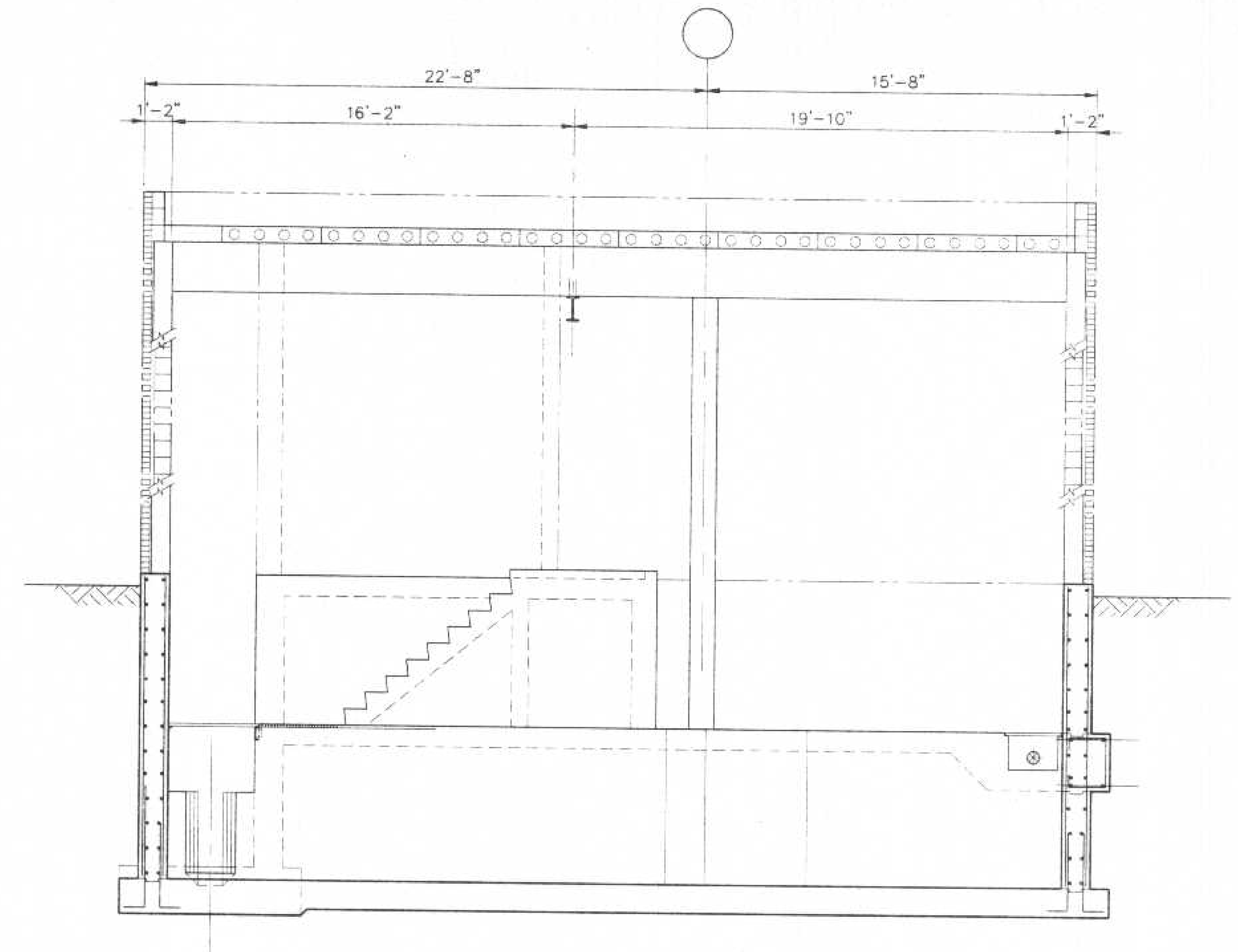


SECTION S-3A



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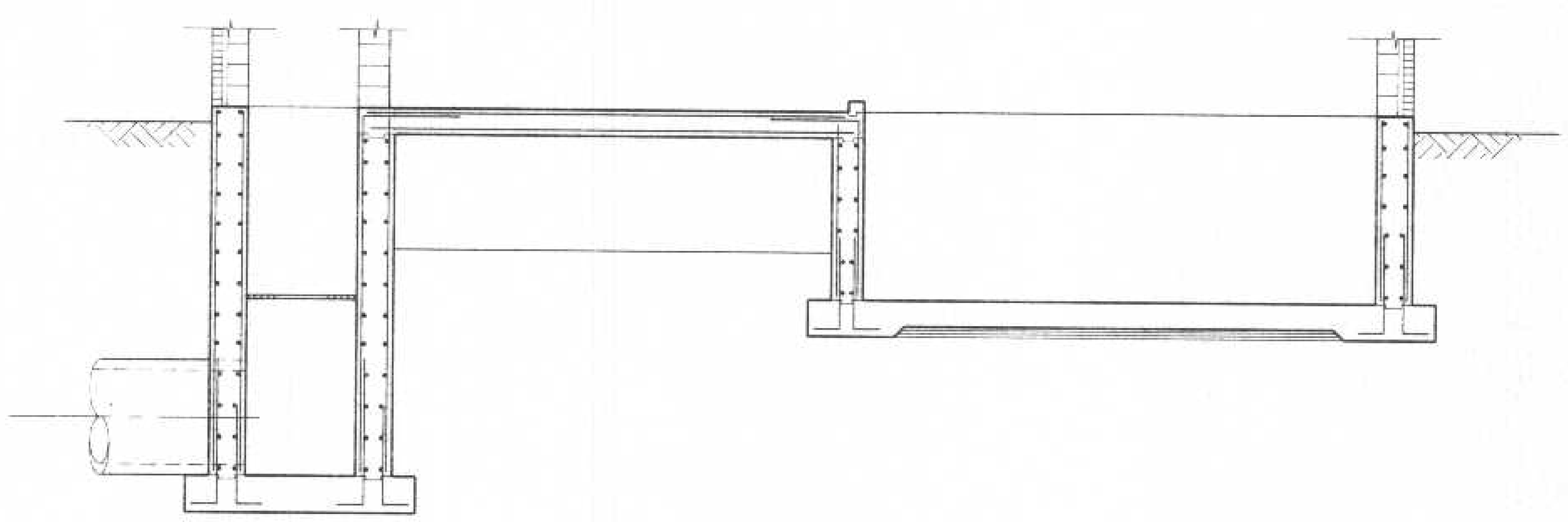

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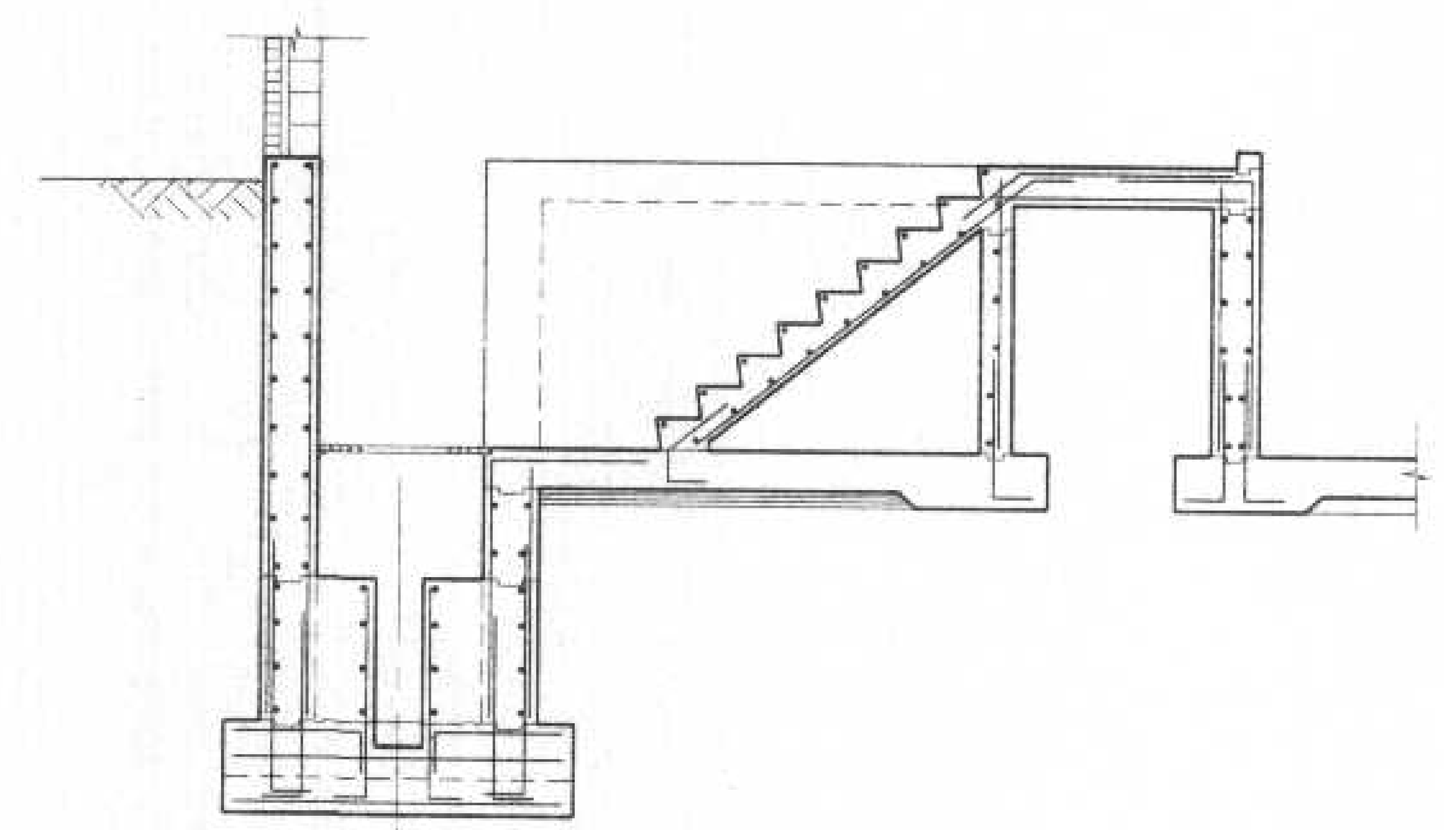

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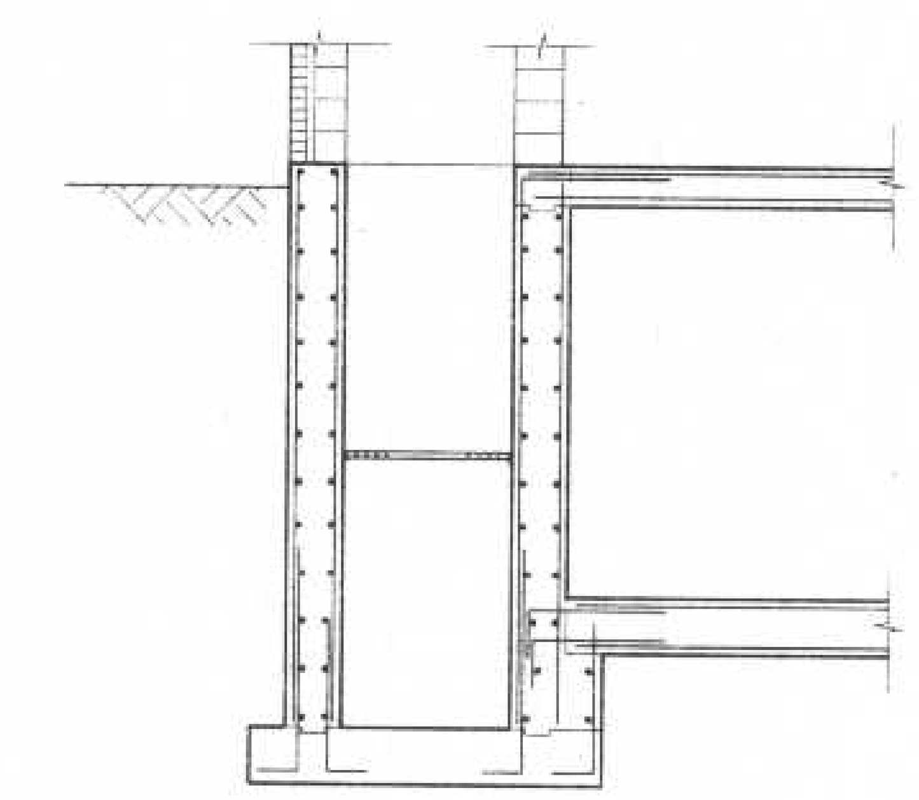

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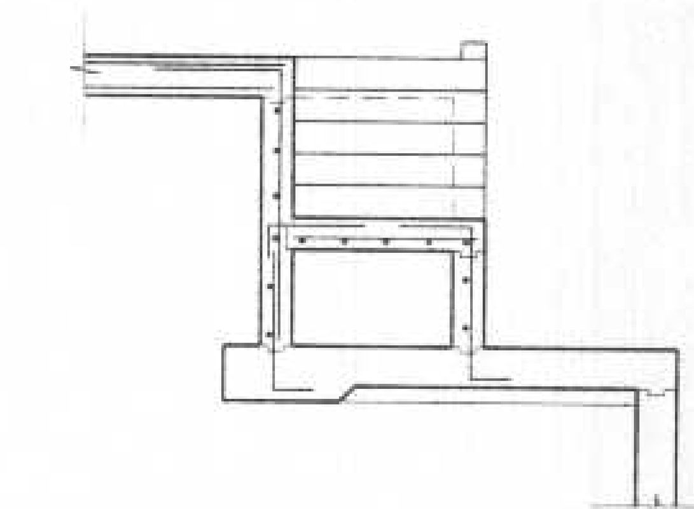

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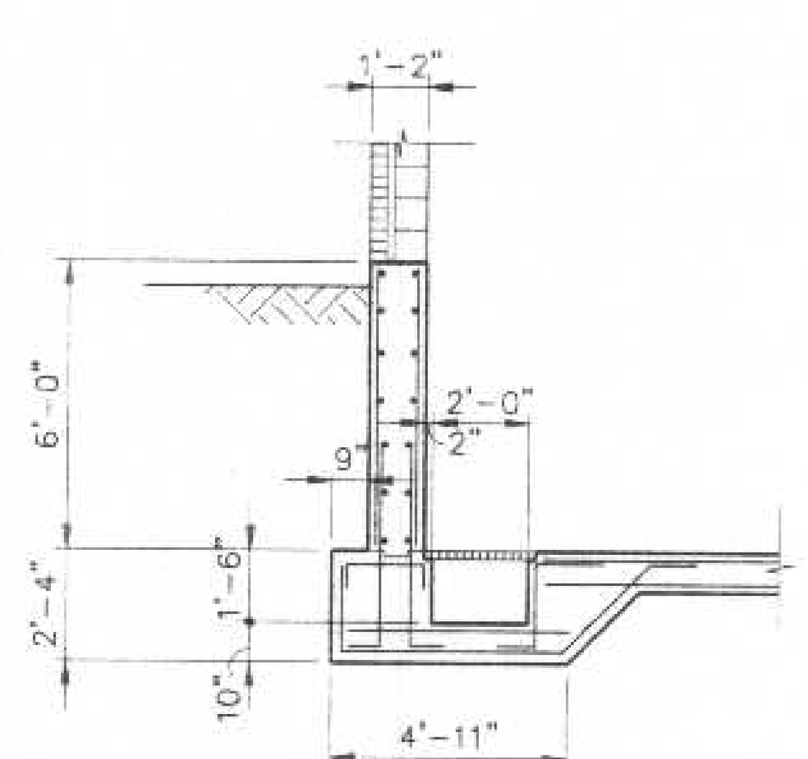

SECTION S-3G

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FEET

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

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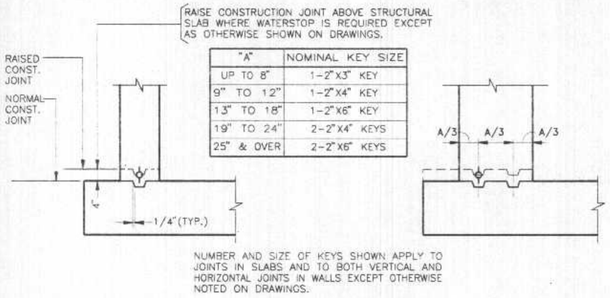
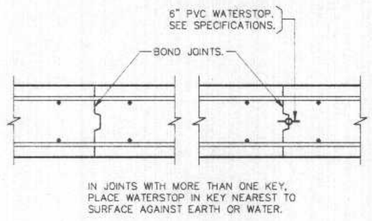
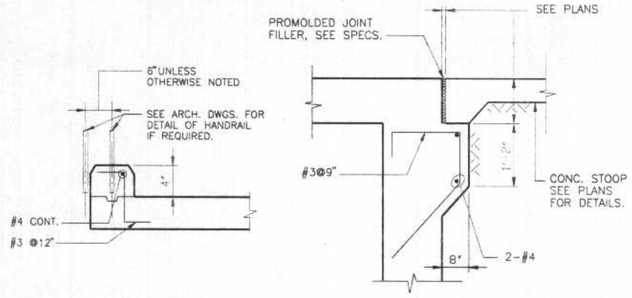
ENGINEERING PLANNING MANAGEMENT

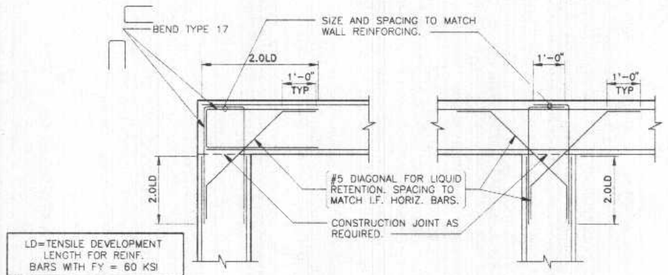
SCREEN BUILDING
SECTIONS AND DETAILS

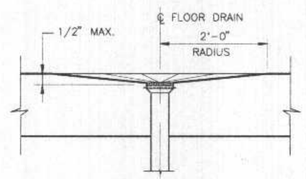
SHEET S-3
OF SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

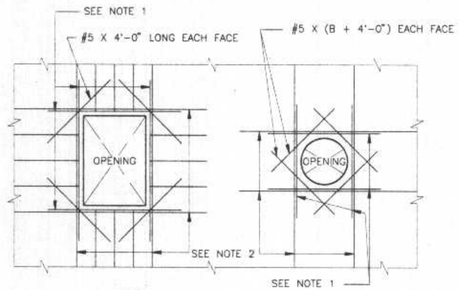


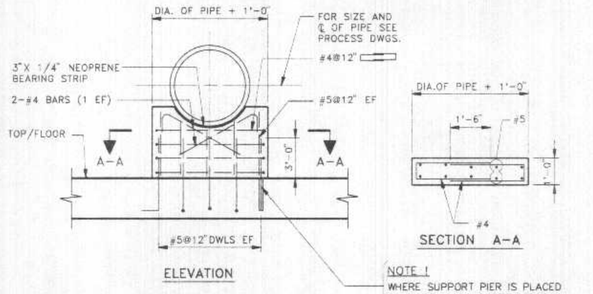


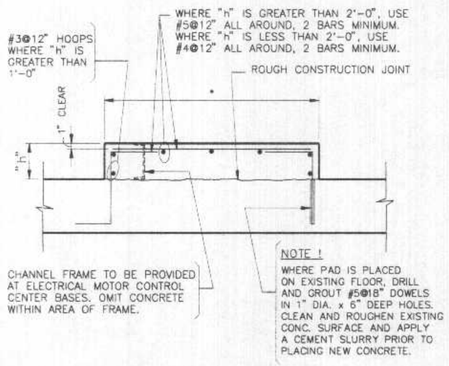












"A"	NOMINAL KEY SIZE
UP TO 8"	1-2"X3" KEY
9" TO 12"	1-2"X4" KEY
13" TO 18"	1-2"X6" KEY
19" TO 24"	2-2"X4" KEYS
25" & OVER	2-2"X6" KEYS

NUMBER AND SIZE OF KEYS SHOWN APPLY TO JOINTS IN SLABS AND TO BOTH VERTICAL AND HORIZONTAL JOINTS IN WALLS EXCEPT OTHERWISE NOTED ON DRAWINGS.

CONSTRUCTION JOINTS

KEY DETAILS

IN JOINTS WITH MORE THAN ONE KEY, PLACE WATERSTOP IN KEY NEAREST TO SURFACE AGAINST EARTH OR WATER.

REINFORCING STEEL IS CONTINUOUS THROUGH CONSTRUCTION JOINT.

TYPE C1

TYPE C2

CONSTRUCTION JOINTS

WITH OR WITHOUT HANDRAIL

TYP. CONCRETE CURB DETAILS

APRONS AND STOOPS

SUPPORT BRACKET DETAIL

CORNER

INTERSECTION

TYP. DETAILS OF WALL REINFORCEMENT

LD=TENSILE DEVELOPMENT LENGTH FOR REINF. BARS WITH FY = 60 KSI	
BAR SIZE	TENSION DEVELOPMENT LENGTH "LD" INCHES
3	12
4	12
5	15
6	19
7	26
8	35
9	44
10	56
11	68

NOTE: DETAIL APPLIES ONLY WHERE FLOOR IS LEVEL.

FLOOR DRAIN DETAIL

NOTE 1
PROVIDE 2-#6X(B+4'-0")ADD'L TOP & BOTTOM AND 2-#6X(A+4'-0") ADD'L AT EACH SIDE OF OPENING IN WALLS ONLY.

NOTE 2
PROVIDE ADD'L BARS EQUAL TO ONE-HALF OF BARS INTERRUPTED AT EACH SIDE OF OPENING AT 3" C/C. THESE BAR SHALL BE ORIGINAL SIZES AND LENGTHS AS THOSE OF THE INTERRUPTED BARS.(TYPICAL FOR OPENINGS IN SLABS AND PRESSURE WALLS.)

ADDITIONAL REINFORCING STEEL AT OPENINGS IN WALLS AND SLABS

SECTION A-A

ELEVATION

FOR SUPPORT PIER LOCATIONS SEE PROCESS DWGS. AND SPECS.

NOTE 1
WHERE SUPPORT PIER IS PLACED ON EXISTING CONCRETE FLOOR, DRILL AND GROUT #5@12" DOWELS IN 1" DIA. x 10" DEEP HOLES. CLEAN AND ROUGHEN EXISTING CONCRETE SURFACE AND APPLY A CEMENT SLURRY PRIOR TO PLACING NEW CONCRETE.

TYPICAL PIPE SUPPORT PIER

CHANNEL FRAME TO BE PROVIDED AT ELECTRICAL MOTOR CONTROL CENTER BASES. OMIT CONCRETE WITHIN AREA OF FRAME.

NOTE !
WHERE PAD IS PLACED ON EXISTING FLOOR, DRILL AND GROUT #5@18" DOWELS IN 1" DIA. x 6" DEEP HOLES. CLEAN AND ROUGHEN EXISTING CONC. SURFACE AND APPLY A CEMENT SLURRY PRIOR TO PLACING NEW CONCRETE.

EQUIPMENT PAD DETAIL

ABBREVIATIONS

ADD'L	ADDITIONAL
ALT	ALTERNATE
ARCH	ARCHITECT
BRG	BEARING
BM	BEAM
BOT	BOTTOM
BLDG	BUILDING
COL	COLUMN
CONT	CONTINUOUS
DET	DETAIL
DIA	DIAMETER
DWG	DRAWING
DWL	DOWEL
O.A.	OVERALL
℄	CENTER LINE
CONC.	CONCRETE
CTR'D	CENTERED
E.F.	EACH FACE
E.W.	EACH WAY
EL.	ELEVATION
EXP.	EXPANSION
EXT	EXTERIOR
FTG	FOOTING
H.P.	HIGH POINT
I.D.	INSIDE DIMENSION
I.F.	INSIDE FACE
INT	INTERIOR
L.P.	LOW POINT
MAX	MAXIMUM
MECH	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MTL	METAL
OPNG	OPENING
℘	PLATE
P.V.C	POLYVINYL CHLORIDE
R	RADIUS
REINF	REINFORCEMENT
SECT	SECTION
STD	STANDARD
STL	STEEL
SYM	SYSMMETRICAL
TYP	TYPICAL
VERT	VERTICAL
W.W.F.	WELDED WIRE FABRIC
T/	TOP OF
B/	BOTTOM OF
U.O.N.	UNLESS OTHERWISE NOTED

LEGEND

▭	EXISTING CONCRETE STRUCTURE
▭	NEW CONCRETE STRUCTURE
— - —	EXISTING STEEL STRUCTURE
—	NEW STEEL STRUCTURE
▨	EXISTING STRUCTURE TO BE REMOVED

* DIMENSIONS NOTED THUS TO BE DETERMINED BY EQUIPMENT MANUFACTURER.

DETAILS SHOWN ON THIS DRAWING ARE TYPICAL DETAILS AND SHALL BE USED WHOLLY OR IN PART WHERE THEY APPLY EXCEPT WHERE MODIFIED BY DETAILED DRAWINGS & SPECIFICATIONS.

GENERAL NOTES FOR STRUCTURES

CONCRETE

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF THE AMERICAN CONCRETE INSTITUTE (ACI 318)
2. ALL REINFORCING BARS SHALL CONFORM TO A.S.T.M A-615, GRADE 60. ARRANGEMENT AND DETAILS OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL UNLESS OTHERWISE NOTED.
3. ALL SLAB AND BEAM REINFORCEMENT SHALL HAVE A MINIMUM EXTENSION INTO THE SUPPORT IN ACCORDANCE WITH THE LATEST A.C.I. CODE. IF SUCH EXTENSION IS NOT POSSIBLE, BARS SHALL TERMINATE IN STANDARD HOOKS.
4. HORIZONTAL WALL REINFORCEMENT AND TEMPERATURE REINFORCEMENT SHALL LAP A MINIMUM OF 1.7Ld AT SPLICES. WALL DOWELS AND WALL BAR EXTENSIONS AND ALL STRESS SPLICES SHALL LAP A MINIMUM OF 1.7 Ld UNLESS OTHERWISE NOTED.
5. PILASTERS SHALL HAVE DOWELS FROM FOUNDATIONS OR CONSTRUCTION BELOW OF SAME SIZE AND SPACING AS PILASTER VERTICAL STEEL. SEE FOOTING SCHEDULE.
6. UNLESS OTHERWISE NOTED ON THE DRAWINGS, CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL NOT BE LESS THAN THE FOLLOWING:
   - STRUCTURAL MEMBERS, FOUNDATIONS, WALLS AND SUSPENDED SLABS --4000 PSI
   - SLABS ON GRADE------------------------------------ 4000 PSI
   - LEAN CONCRETE OR GROUT FILL------------------------------2000 PSI
7. UNLESS OTHERWISE SHOWN, THE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
   - SLABS AND JOISTS
     TOP AND BOTTOM OF FORMED SLABS FOR DRY CONDITION:
     #14 AND #18 BARS------------------------------------1 1/2"
     #11 BARS AND SMALLER------------------------------------1"
     FORMED CONCRETE SURFACES EXPOSED TO EARTH, WATER OR WEATHER, AND OVER OR IN CONTACT WITH SEWAGE AND FOR BOTTOMS BEARING ON WORK MAT, OR SLABS SUPPORTING EARTH COVER:
     ALL BARS------------------------------------2"
   - BEAMS AND COLUMNS
     FOR DRY CONDITIONS:
     STIRRUPS, SPIRALS AND TIES ------------------------------1 1/2"
     PRINCIPAL REINFORCEMENT------------------------------2"
     EXPOSED TO EARTH, WATER, SEWAGE OR WEATHER:
     STIRRUPS AND TIES ------------------------------2"
     PRINCIPAL REINFORCEMENT------------------------------2 1/2"
   - WALLS
     FOR DRY CONDITIONS:
     #11 BARS AND SMALLER ------------------------------1"
     #14 AND #18 BARS ------------------------------1 1/2"
     FORMED CONCRETE SURFACES EXPOSED TO EARTH, WATER, SEWAGE, WEATHER, OR IN CONTACT WITH GROUND:
     CIRCULAR TANKS WITH RING TENSION ------------------------2"
     ALL OTHERS ------------------------------2"
     WALLS 12" OR OVER IN THICKNESS WITH POURS MORE THAN 10 FEET------2 1/2"
   - FLOORINGS AND BASE SLABS
     AT FORMED SURFACES AND BOTTOMS BEARING ON CONCRETE WORK MAT---2"
     AT UNFORMED SURFACES AND BOTTOMS IN CONTACT WITH EARTH---------3"
     TOP OF FOOTINGS - SAME AS SLABS
     OVER TOP OF PILES ------------------------------2"
8. HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS SHOWN OR NOTED ON THE PLANS ARE RECOMMENDED. ANY DEVIATION FROM THOSE SHOWN SHALL HAVE APPROVAL OF THE ENGINEER.
9. ANY STOP IN FRAMED CONCRETE WORK MUST BE MADE IN THE CENTER OF THE SPAN AND INCORPORATE AN APPROVED KEYWAY. REINFORCEMENT SHALL EXTEND THROUGH THESE JOINTS IF REQUIRED FOR CONTINUITY.
10. USE TYPE "C2" JOINT FOR ALL CONSTRUCTION JOINTS IN WALLS AND SLABS BELOW GRADE WITHIN BUILDINGS AND WALLS WHICH SEPARATE AREAS OF SOIL OR LIQUID FROM PERMANENTLY DRY AREAS SUCH AS TUNNELS, GALLERIES, BASEMENT ROOMS, ETC. USE TYPE C1 JOINT AT ALL OTHER CONSTRUCTION JOINTS UNLESS OTHERWISE NOTED ON DRAWINGS.
11. CONCRETE WALLS AND PARTITIONS SHALL BE POURED IN MAXIMUM LENGTHS OF 40 FEET BETWEEN VERTICAL CONSTRUCTION JOINTS.
12. ALL CONCRETE SLABS OVER 8" IN THICKNESS, REINFORCED WITH BARS, AND POURED AGAINST SOIL SHALL BE POURED IN A STRIP PATTERN OF 40 FEET OR LESS IN EACH DIRECTION.
13. ALL EXPOSED EDGES OF BEAMS, COLUMNS, SLABS AND WALLS SHALL BE CHAMFERED 3/4" UNLESS MASONRY OR OTHER MEMBERS ARE ERECTED FLUSH WITH THEM.
14. REFER TO ARCHITECTURAL, PROCESS, MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL SLEEVES, PIPES, CONDUITS AND MISCELLANEOUS ANCHORING DEVICES TO BE INCORPORATED IN THE CONSTRUCTION.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS". ALL STRUCTURAL STEEL SHALL BE ASTM A36.
2. ELEVATIONS OF STEEL BEAMS SHOWN ON FRAMING PLANS REFER TO TOP OF FLANGE, UNLESS OTHERWISE NOTED.
3. ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER ASTM A-325 BOLTS EXCEPT AS OTHERWISE SHOWN OR NOTED. ALL CONNECTIONS SHALL BE CAPABLE OF SUPPORTING ONE HALF THE MAXIMUM ALLOWABLE UNIFORM LOAD FOR INDICATED BEAM SIZE AND SPAN IN AISC MANUAL OF STEEL CONSTRUCTION EXCEPT AS OTHERWISE NOTED.
4. FIELD CONNECTIONS SHALL BE BOLTED EXCEPT AS OTHERWISE SHOWN OR NOTED.
5. ALL WELDING SHALL CONFORM TO THE LATEST SPECIFICATION OF THE AMERICAN WELDING SOCIETY ALL WELDED CONNECTIONS SHALL BE MADE WITH AWS A5.1 OR A5.5 E70 XX ELECTRODE.
6. ANCHOR BOLTS AND MISC. EMBEDDED STEEL------------------------ASTM A36.
7. ALL EQUIPMENT ANCHOR BOLT DIMENSIONS AND LOCATIONS SHALL BE VERIFIED FROM CERTIFIED VENDOR DRAWINGS, PRIOR TO CONSTRUCTION.

FOUNDATIONS

1. ALLOWABLE SOIL BEARING PRESSURE, EXCAVATION AND BACKFILL FOR FOUNDATIONS AND STRUCTURES SHALL BE AS RECOMMENDED IN THE GEOTECHNICAL REPORT.
2. ALL EXCAVATIONS SHALL BE CARRIED OUT IN THE DRY, AND PROVISIONS SHALL BE MADE TO PREVENT THE BOTTOM OF ALL EXCAVATIONS AND SLABS ON GROUND FROM FREEZING OR FLOODING AT ALL TIMES.
3. ALL FOUNDATIONS SHALL BE CONSTRUCTED IN EXCAVATIONS FREE OF STANDING WATER.
4. BACKFILL MATERIAL, PLACING AND COMPACTION OF BACKFILL SHALL BE IN ACCORDANCE WITH THE DRAWINGS, AND THE CONTRACT SPECIFICATIONS.

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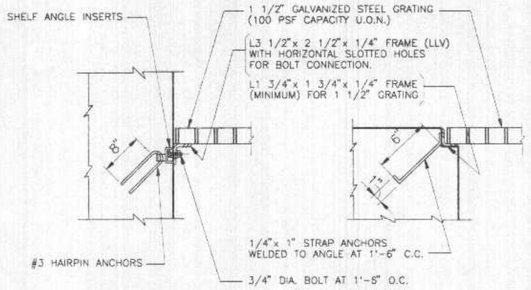
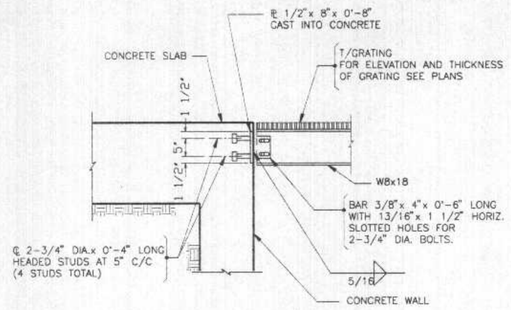
STRUCTURAL STANDARDS
NOTES AND DETAILS

SHEET XS-1
OF SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

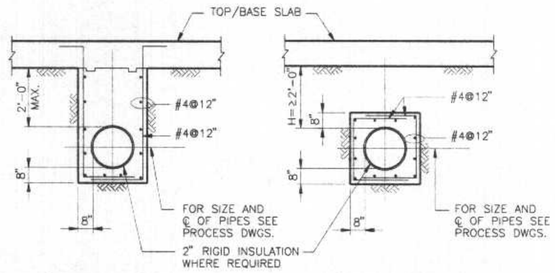


TYPICAL GRATING DETAILS



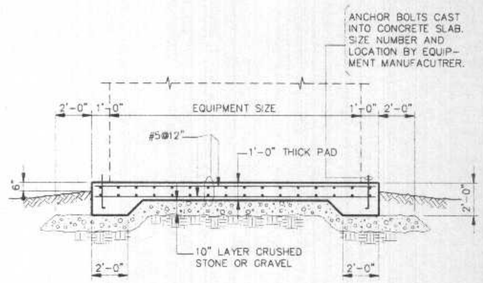
TYPICAL GRATING SUPPORT BEAMS CONNECTION TO CONCRETE

DETAIL XS3D

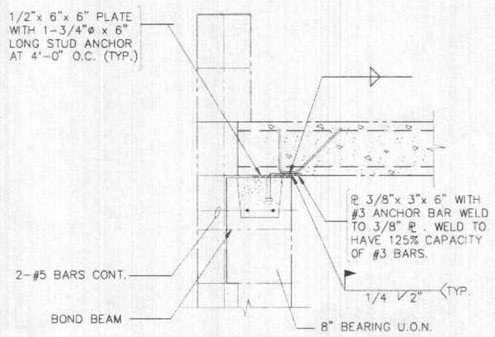


SLAB CONNECTED SOIL SUPPORTED SLAB

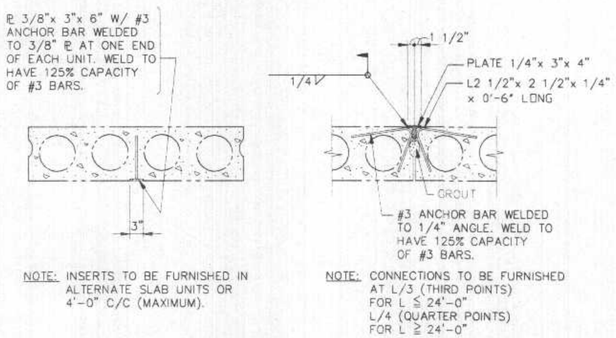
TYPICAL PIPE ENCASEMENT DETAILS



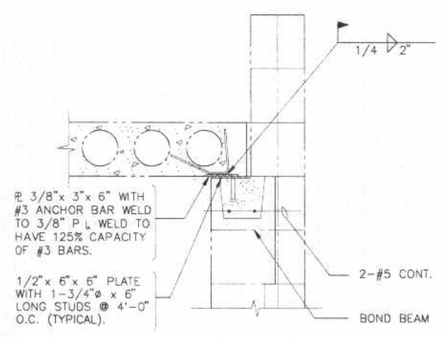
TYP. CONCRETE PAD FOR OUTSIDE EQUIPMENT (U.O.N.)



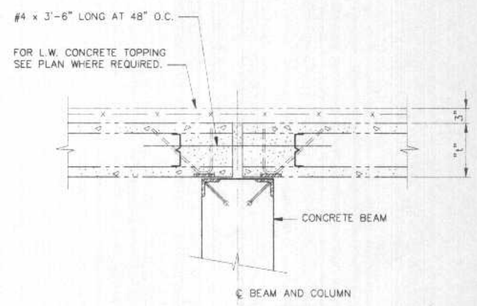
TYP. HOLLOWCORE SLAB AND MASONRY WALL CONN. DETAILS



TYPICAL HOLLOWCORE SLAB CONNECTION DETAILS



TYP. HOLLOWCORE SLAB AND MASONRY WALL CONN. DETAILS



BEARING ON INTERIOR BEAM

P.C. PANEL CONNECTION DETAIL

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SHEET XS-2
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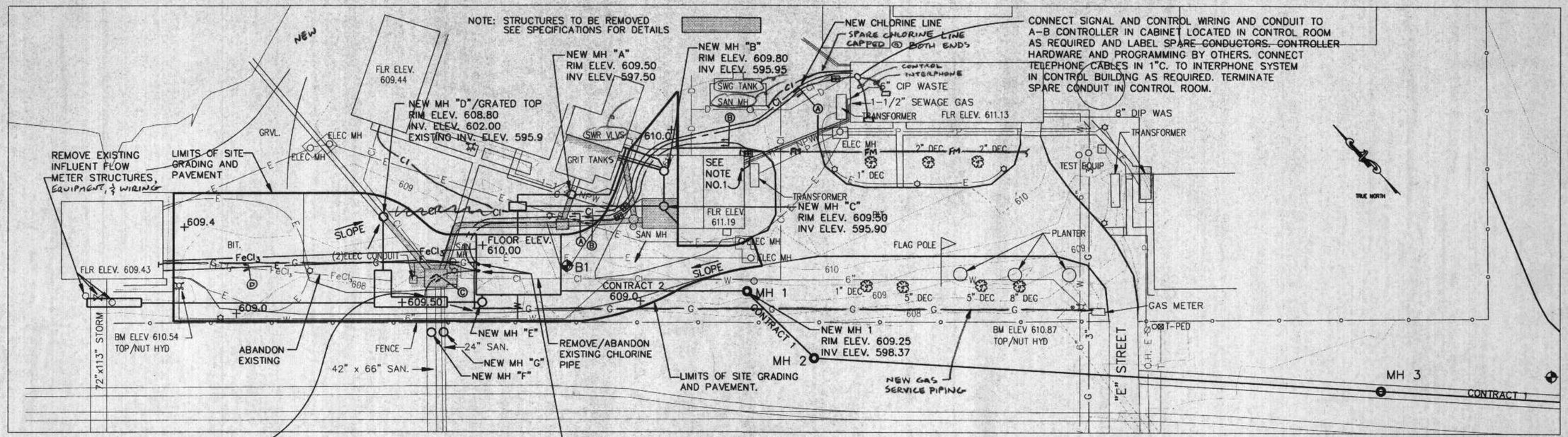
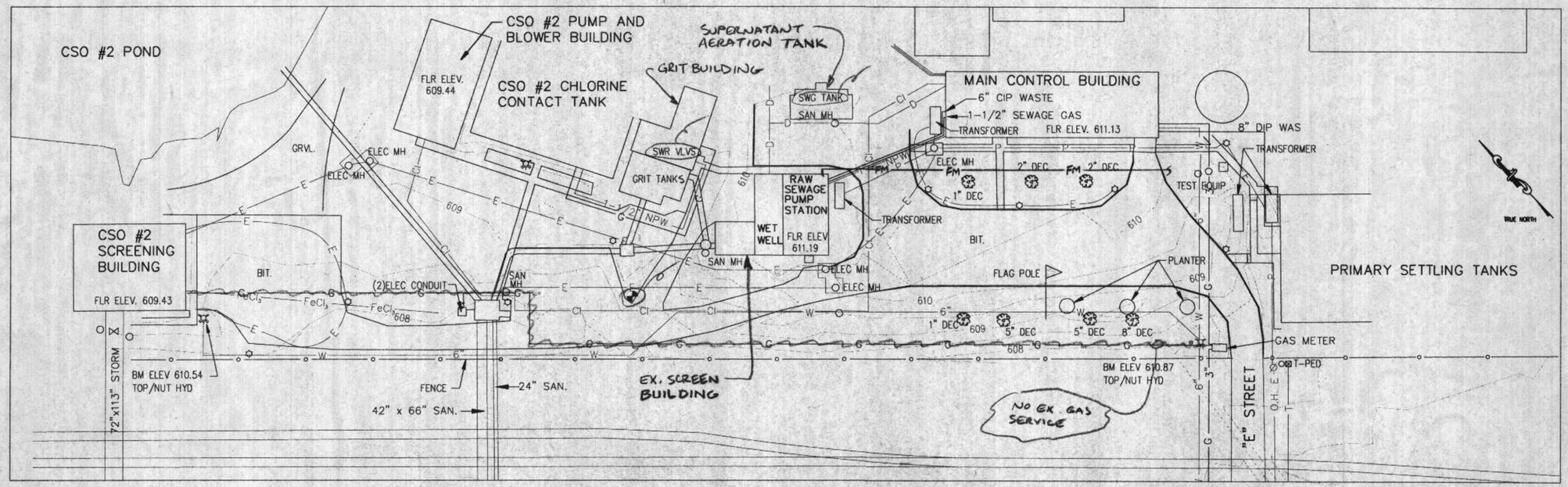


PROPOSED SITE PLAN

NOTE:
CONSTRUCTION OF CONTRACT NO. 1 INCLUDES ALL PIPING AND STRUCTURES BETWEEN MANHOLE 1 AND MH 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.

NOTES

1. INSTALL A 150 A CIRCUIT BREAKER IN DISTRIBUTION CONTROL CENTER DCC #3 TO FEED SCREENING BUILDING. CONNECT 3#2/0, 1#2/0 NEUT, AND 1#2/0 GND. – 4"C. TO DCC #3 AS REQUIRED. TERMINATE SPARE CONDUIT WITHIN BUILDING STRUCTURE.



EXISTING SITE PLAN

PRELIMINARY
JUL 22 1994

LEGEND

NON-POTABLE PLANT WATER	NPW
CAST IRON PIPE	C.I.P.
DUCTILE IRON PIPE	D.I.P.
WASTE ACTIVATED SLUDGE	WAS
WROUGHT IRON PIPE	W.I.
PRIMARY SERVICE DUCT	—P—
ELECTRICAL	—E—
CHLORINE LINE	—Cl—
WATER	—W—
GAS	—G—
DRAIN	—D—
FORCEMAIN SEWER	FM
SANITARY SEWER	
PROPOSED RELIEF SEWER	
PROPOSED GRADE ELEVATION	+610.00
PROPOSED GAS	—G—

ELECTRICAL DUCTBANK SCHEDULE

(A) 4"C. (SPARE); 10-2/C SIG. CA. – 4"C.; 3#14 –4"C.; 2 TELEPHONE CABLES – 4"C.
(B) 3#2/0, 1#2/0 NEUT. AND 1#2/0 GND. – 4"C.; 4"C. (SPARE)
(C) 2-2/C SIG. CA. – 2"C.; 2#12 – 2"C.
(D) 2" SPARE CONDUIT

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED TN
DRAWN LED
CHECKED
DATE APRIL, 1994

SCALE
30 0 30 60
FEET

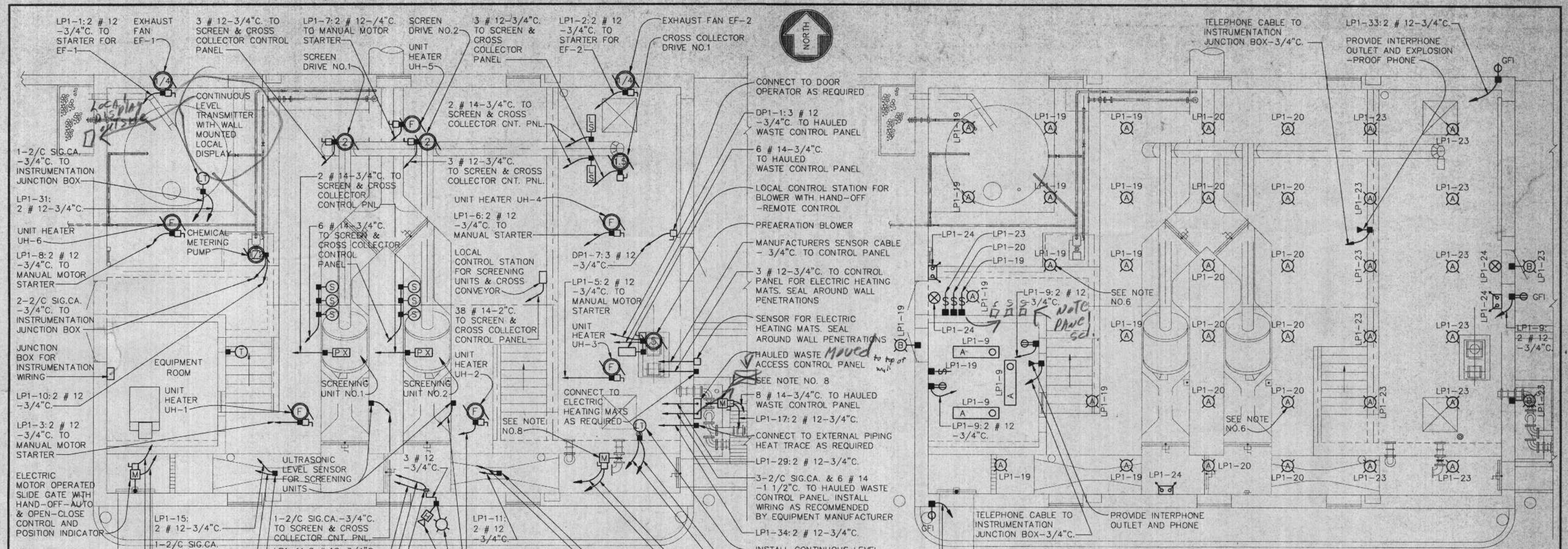
DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

ENGINEERING PLANNING MANAGEMENT
2855 ANTHONY LANE SOUTH, SUITE 145
MINNEAPOLIS, MN. 55418-3285

SUPERIOR WASTEWATER TREATMENT PLANT
UNDERGROUND UTILITY SITE MAP

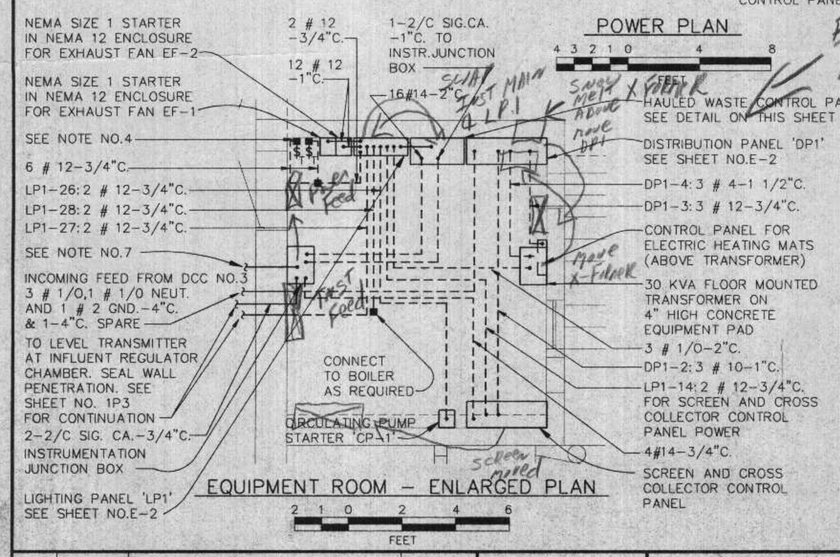
SHEET
OF SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

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



LIGHTING PLAN

4 3 2 1 0 4 8
FEET

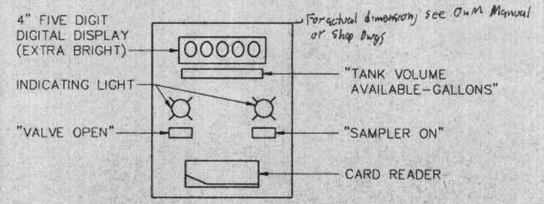


POWER PLAN

4 3 2 1 0 4 8
FEET

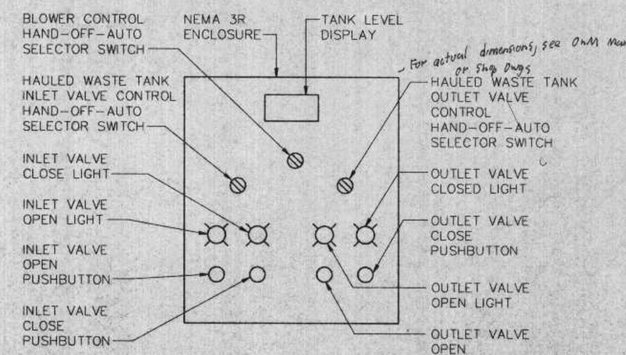
EQUIPMENT ROOM – ENLARGED PLAN

2 1 0 2 4 6
FEET



HAULED WASTE ACCESS CONTROL PANEL

N.T.S.



HAULED WASTE CONTROL PANEL DETAIL

N.T.S.

NOTES

1. ALL ELECTRICAL INSTALLATIONS EXCEPT THOSE WITHIN THE EQUIPMENT ROOM AND OUTSIDE OF THE BUILDING STRUCTURE SHALL BE EXPLOSION PROOF, SUITABLE FOR CLASS I, DIVISION I AREAS.
2. PENDANT MOUNT LIGHT FIXTURES AT AN ELEVATION OF 621.00'. INSTALL TO AVOID CONFLICT WITH HOIST MONORAIL AND SUPPORTS. CONNECT ALL LIGHTING UNITS AND SWITCHES TO CIRCUITS INDICATED USING 2 # 12-3/4"C.
3. ALL WALL PENETRATIONS ARE TO BE SEALED. SEE DETAILS ON SHEET NO. E-2.
4. STACK MANUAL MOTOR STARTERS FOR UNIT HEATERS ON THE WALL IN THREE ROWS OF TWO. TYPICAL FOR SIX STARTERS.
5. PROVIDE ALARM HORN AND ALARM LIGHT MOUNTED ON EXTERIOR OF BUILDING CONNECTED TO ATMOSPHERE MONITOR.
6. LIGHTING UNITS TO BE WIRED TO THE UNSWITCHED SIDE OF CIRCUIT TO REMAIN ON AT ALL TIMES.
7. 4-4"C. FOR CONTINUATION SEE SITE PLAN. INSTALL 2 TELEPHONE CABLES - 4"C, 10-2/C SIGNAL CABLES - 4"C, 36#14 - 4"C, AND 4"C SPARE. TAG SPARE CONDUCTORS AND CABLES IN JUNCTION BOX.
8. ELECTRIC MOTOR OPERATED VALVE WITH HAND-OFF -REMOTE AND OPEN-CLOSE CONTROL.

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED J.C.
DATE APRIL, 1994

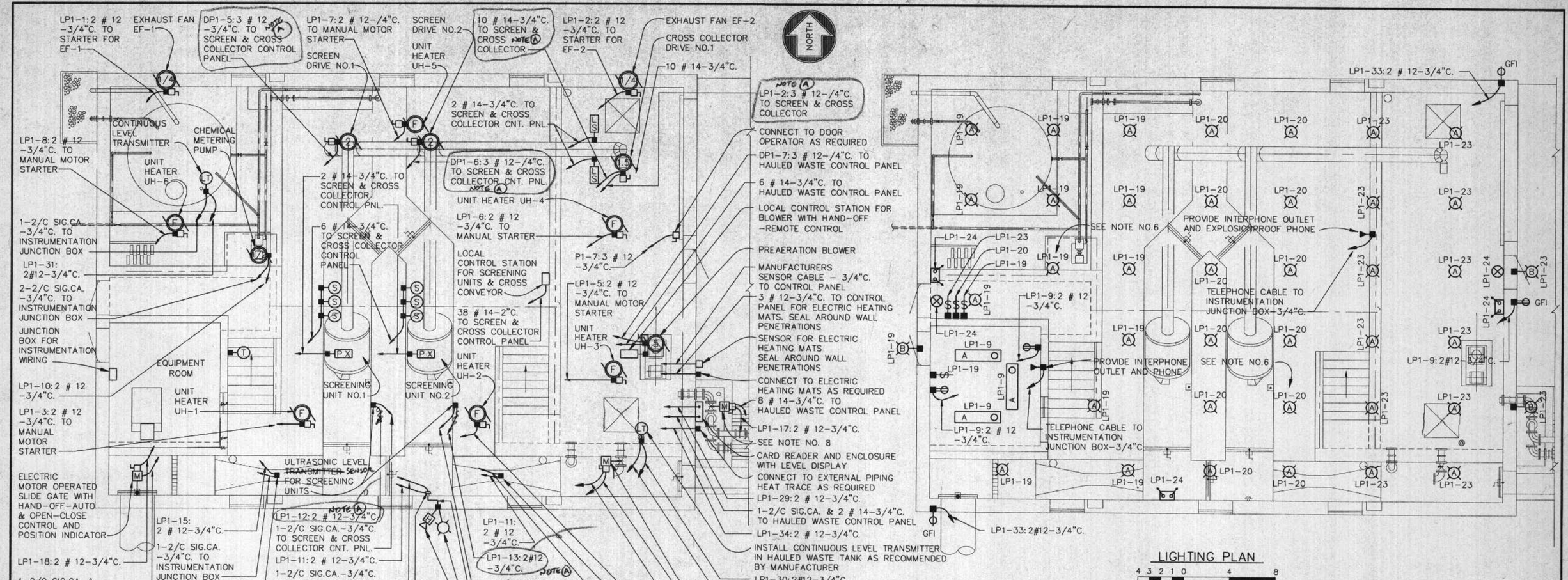
SCALE: AS NOTED

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

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

SCREEN BUILDING ELECTRICAL PLANS

SHEET E-1
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-02



NOTES

1. ALL ELECTRICAL INSTALLATIONS EXCEPT THOSE WITHIN THE EQUIPMENT ROOM AND OUTSIDE OF THE BUILDING STRUCTURE SHALL BE EXPLOSION PROOF, SUITABLE FOR CLASS I, DIVISION I AREAS.
2. PENDANT MOUNT LIGHT FIXTURES AT AN ELEVATION OF 621.00'. INSTALL TO AVOID CONFLICT WITH HOIST MONORAIL AND SUPPORTS. CONNECT ALL LIGHTING UNITS AND SWITCHES TO CIRCUITS INDICATED USING 2 # 12-3/4"C.
3. ALL WALL PENETRATIONS ARE TO BE SEALED. SEE DETAILS ON SHEET NO. E-2.
4. STACK MANUAL MOTOR STARTERS ON THE WALL IN THREE ROWS OF TWO. TYPICAL FOR SIX STARTERS.
5. PROVIDE ALARM HORN AND ALARM LIGHT MOUNTED ON EXTERIOR OF BUILDING CONNECTED TO ATMOSPHERE MONITOR.
6. LIGHTING UNITS TO BE WIRED TO THE UNSWITCHED SIDE OF CIRCUIT TO REMAIN ON AT ALL TIMES.
7. 4-4"C. FOR CONTINUATION SEE SITE PLAN. INSTALL 2 TELEPHONE CABLES - 4"C, 10-2/C SIGNAL CABLES - 4"C, 36#14 - 4"C, AND 4"C SPARE. TAG SPARE CONDUCTORS AND CABLES IN JUNCTION BOX.
8. ELECTRIC MOTOR OPERATED VALVE WITH HAND-OFF -REMOTE AND OPEN-CLOSE CONTROL.

PRELIMINARY
JUL 22 1994

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED
DATE APRIL, 1994

SCALE
AS NOTED

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

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

SCREEN BUILDING
ELECTRICAL PLANS

SHEET E-1
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

J:\3899-00\PLANT\S-SBEP48.DWG Plotted on 5/6/1994 @ 1:53 PM by ACA017

REC'D 27 JUL 94

LIGHTING FIXTURE SCHEDULE

FLUORESCENT

TYPE	MANUFACTURER	CATALOG NO.	LAMP SIZE	MOUNTING	REMARKS
O A	DAY-BRITE	FL-1024-4U	2-40W.	PENDANT	

HIGH INTENSITY DISCHARGE

TYPE	MANUFACTURER	CATALOG NO.	LAMP SIZE	MOUNTING	REMARKS
(A)	CROUSE HINDS	EVMA93250W/ RD73 DOME	250W. M.H.	PENDANT	SUITABLE FOR EXPLOSION PROOF INSTALLATION
(B)	HOLOPHANE	WL3K-250HP -24-BZ-FI -WL2KPR24	250W. H.P.S.	WALL	INTEGRAL PHOTOCONTROL WIRE TO UNSWITCHED SIDE OF CIRCUIT

EXIT/DIRECTIONAL FIXTURE SCHEDULE

TYPE	FACE	DESCRIPTION	REMARKS
⊗	SINGLE NO ARROW	CROUSE-HINDS MODEL NO. EXL21A OR EQUAL	WALL MOUNT 9'-6" FT. ABOVE FINISHED FLOOR SUITABLE FOR EXPLOSION PROOF INSTALLATION

EMERGENCY LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	LAMP	REMARKS
E	CROUSE-HINDS	ELPS502	2-12 WATT	WALL MOUNT 9'-6" FT. ABOVE FINISHED FLOOR SUITABLE FOR EXPLOSION PROOF INSTALLATION

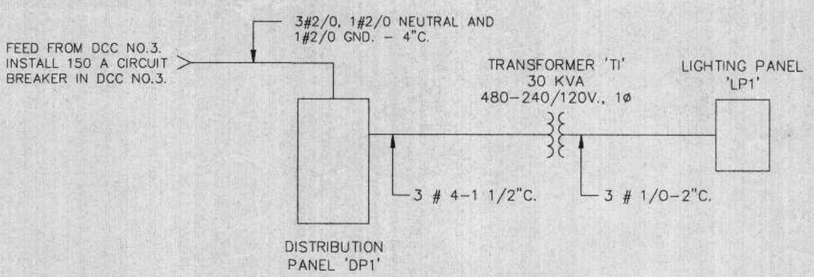
PANEL 'LP1' TYPE 1 Ø, 3 WIRE
VOLTAGE 120/240V. MAINS 225A. MAIN, 125A. MAIN BKR.

DEVICE AMPS TRIP	DEVICE POLES	BRANCH CIRCUIT DESIGNATION	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT DESIGNATION	DEVICE POLES	DEVICE TRIP AMPS
20	1	EXHAUST FAN EF-1 N-FAN	1	2	EXHAUST FAN EF-2 N-Valve	1	20
20	1	UNIT HEATER UH-1 S-Fan	3	4	UNIT HEATER UH-2	1	20
20	1	UNIT HEATER UH-3 Boiler	5	6	UNIT HEATER UH-4 GAS DETector	1	20
20	1	UNIT HEATER UH-5 UNIT HTR	7	8	UNIT HEATER UH-6 UNIT HTR	1	20
20	1	EQPMNT. RM. RECEPT. & LIGHTS	9	10	METERING PUMP UNIT HTR	1	20
20	1	COMBUSTIBLE GAS DETECTOR UNIT HTR	11	12	SPARE UNIT HTR	1	20
20	1	SPARE WALL Pack	13	14	SCREEN & COLLECTOR CNT. PNL. Blower	2	20
20	1	ULTRASONIC LEVEL TRANSMITTER	15	16	ULTRASONIC LEVEL TRANSMITTER Receiver	1	20
20 X	1	HAULED WASTE VALVE OPERATOR	17	18	SLIDE GATE OPERATOR HEAT TRACE	1	20
20 X	2	LIGHTING S LTS	19	20	LIGHTING Mech. RM	1	20
– X	–	" Mid LTS	21	22	" Hauled WASTE Valve	1	20
20 X	2	LIGHTING N LTS	23	24	EMERGENCY LTG. & EXIT SIGNS	1	20
–	–	" L-100	25	26	CIRCULATING PUMP OFFside Valve	1	20
20	1	ULTRASONIC LEVEL TRANSMITTER	27	28	BOILER LOT	1	20
20	1	CARD READER	29	30	HAULED WASTE LEVEL TRANSMITTER Tele Phone	1	20
20	1	CHEMICAL LEVEL TRANSMITTER	31	32	HAULED WASTE VALVE OPERATOR	1	20
20	2	OUTDOOR RECEPTACLE (GFI)	33	34	HEAT TRACE	1	20
–	–	" "	35	36	SPARE	1	20
20	1	SPARE	37	38	SPARE	1	20
20	1	SPARE	39	40	SPARE	1	20
20	1	SPARE	41	42	SPARE	1	20

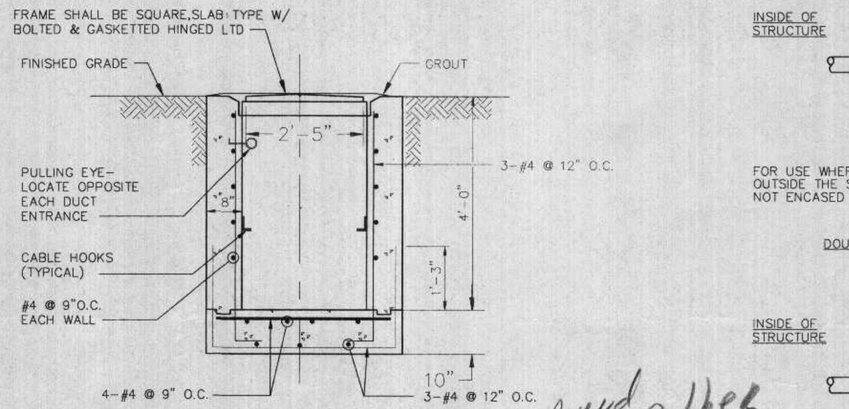
20 Amp two pole changed to 30 amp single pole BRK with #10 wire used

PANEL 'DP1' TYPE 3 Ø, 4WIRE
VOLTAGE 480V. MAINS 600A. MAIN, 150A. MAIN BKR.

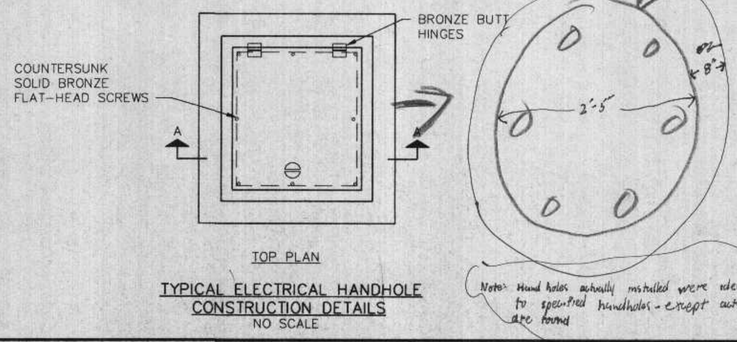
DEVICE AMPS TRIP	DEVICE POLES	BRANCH CIRCUIT DESIGNATION	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT DESIGNATION	DEVICE POLES	DEVICE TRIP AMPS
20	3	PREAERATION BLOWER Spare	1	2	SCREEN & CROSS COLL. CNT. PNL.	3	30
–	–	" "			" " "	–	–
–	–	" "			" " "	–	–
20	3	ELECTRIC HEATING MATS	3	4	TRANSFORMER T1	3	80
–	–	" " "			" "	–	–
–	–	" " "			SPACE	–	–
20	3	SPARE Blower	5	6	SPARE outside out let	3	20
–	–	" " "			" "	–	–
–	–	" " "			" "	–	–
20	3	DOOR OPENER	7	8	SPARE out side out let	3	20
–	–	" "			"	–	–
–	–	" "			"	–	–
–	–	SPACE	9	10	SPACE	–	–
–	–	"			"	–	–
–	–	"			"	–	–



POWER SYSTEM – SINGLE LINE DIAGRAM
N.T.S.

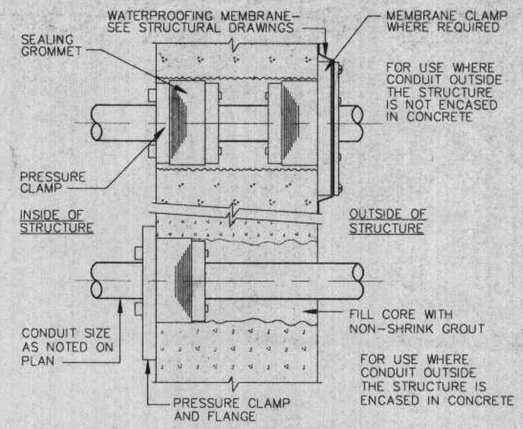


SECTION "A-A"



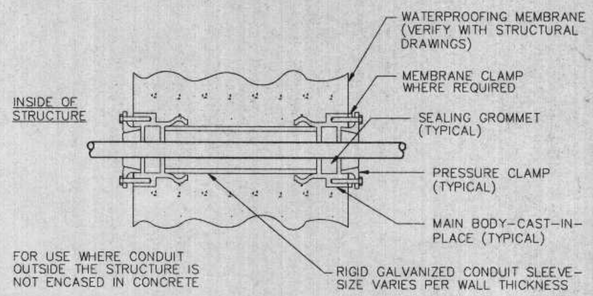
TOP PLAN

TYPICAL ELECTRICAL HANDHOLE CONSTRUCTION DETAILS
NO SCALE

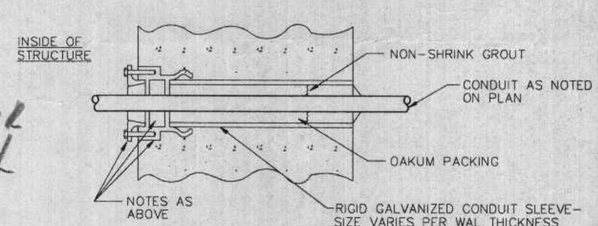


CORED HOLE APPLICATIONS IN EXISTING WALLS

TYPICAL CONDUIT SEAL DETAILS



DOUBLE ENDED TYPE–FOR NEW CONSTRUCTION WITH MEMBRANE



SINGLE ENDED TYPE–FOR NEW CONSTRUCTION

TYPICAL CONDUIT SEAL DETAILS
N.T.S

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED
DATE APRIL, 1994

SCALE
NO SCALE

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

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

SCREEN BUILDING
ELECTRICAL DETAILS AND SCHEDULES

SHEET E-2
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-02

M:\PROJECTS\389900\CAD\PLANTS-EDET1.DWG Plotted on 8/31/1994 @ 11:20 A.M. by LOUBRE

LIGHTING FIXTURE SCHEDULE

FLUORESCENT

TYPE	MANUFACTURER	CATALOG NO.	LAMP SIZE	MOUNTING	REMARKS
O A	DAY-BRITE	FL-1024-4U	2-40W.	PENDANT	

INCANDESCENT & HIGH INTENSITY DISCHARGE

TYPE	MANUFACTURER	CATALOG NO.	LAMP SIZE	MOUNTING	REMARKS
(A)	CROUSE HINDS	EVMA93250W/ RD73 DOME	250W. M.H.	PENDANT	SUITABLE FOR EXPLOSION PROOF INSTALLATION
(B)	HOLOPHANE	WL3K-250HP -24-BZ-FI -WL2KPR24	250W. H.P.S.	WALL	INTEGRAL PHOTOCONTROL WIRE TO UNSWITCHED SIDE OF CIRCUIT

EXIT/DIRECTIONAL FIXTURE SCHEDULE

TYPE	FACE	DESCRIPTION	REMARKS
⊗	SINGLE NO ARROW	CROUSE-HINDS MODEL NO. EXL21A OR EQUAL	WALL MOUNT 9'-6" FT. ABOVE FINISHED FLOOR SUITABLE FOR EXPLOSION PROOF INSTALLATION

EMERGENCY LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	LAMP	REMARKS
	CROUSE-HINDS	ELPS502	2-12 WATT	WALL MOUNT 9'-6" FT. ABOVE FINISHED FLOOR SUITABLE FOR EXPLOSION PROOF INSTALLATION

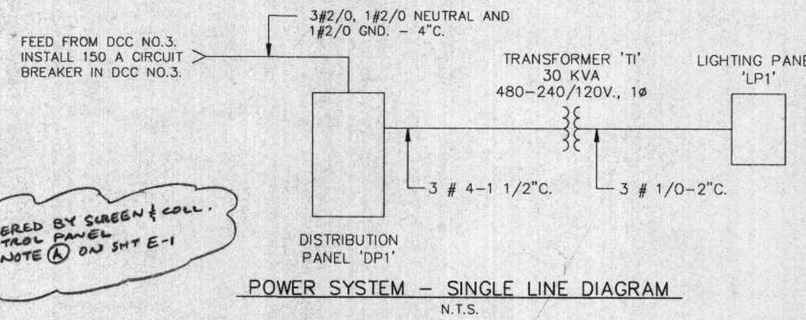
PANEL 'LP1' TYPE 1 ø, 3 WIRE
VOLTAGE 120/240V. MAINS 225A. MAIN, 125A. MAIN BKR.

DEVICE AMPS TRIP	DEVICE POLES	BRANCH CIRCUIT DESIGNATION	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT DESIGNATION	DEVICE POLES	DEVICE TRIP AMPS
20	1	EXHAUST FAN EF-1	1	2	EXHAUST FAN EF-2	1	20
20	1	UNIT HEATER UH-1	3	4	UNIT HEATER UH-2	1	20
20	1	UNIT HEATER UH-3	5	6	UNIT HEATER UH-4	1	20
20	1	UNIT HEATER UH-5	7	8	UNIT HEATER UH-6	1	20
20	1	EQPMNT. RM. RECEPT. & LIGHTS	9	10	METERING PUMP	1	20
20	1	COMBUSTIBLE GAS DETECTOR	11	12	SCREEN NO.1 LEVEL TRANSMITTER	1	20
20	1	SCREEN NO.2 LEVEL TRANSMTR.	13	14	SCREEN & COLLECTOR CNT. PNL.	1	20
20	1	ULTRASONIC LEVEL TRANSMITTER	15	16	ULTRASONIC LEVEL TRANSMITTER	1	20
20	1	HAULED WASTE VALVE OPERATOR	17	18	SLIDE GATE OPERATOR	1	20
20	2	LIGHTING	19	20	LIGHTING	2	20
–	–	"	21	22	"	–	–
20	2	LIGHTING	23	24	EMERGENCY LTG. & EXIT SIGNS	1	20
–	–	"	25	26	CIRCULATING PUMP CP-1	1	20
20	1	ULTRASONIC LEVEL TRANSMITTER	27	28	BOILER	1	20
20	1	CARD READER	29	30	HAULED WASTE LEVEL TRANSMITTER	1	20
20	1	CHEMICAL LEVEL TRANSMITTER	31	32	HAULED WASTE VALVE OPERATOR	1	20
20	2	OUTDOOR RECEPTACLE (GFI)	33	34	HEAT TRACE	1	20
–	–	" "	35	36	SPARE	1	20
20	1	SPARE	37	38	SPARE	1	20
20	1	SPARE	39	40	SPARE	1	20
20	1	SPARE	41	42	SPARE	1	20

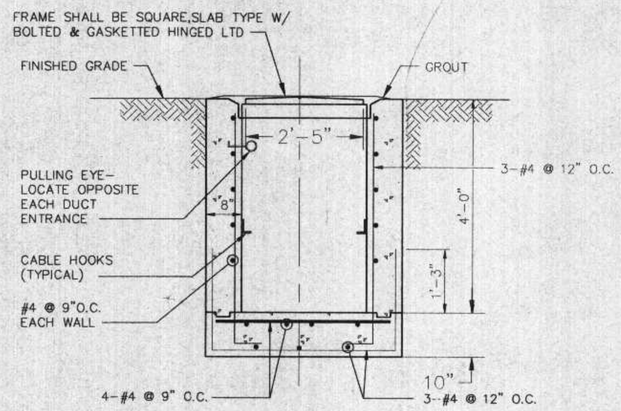
POWERED BY SCREEN & COLL. CONTROL PANEL SEE NOTE (A) ON SHT E-1

PANEL DP1' TYPE 3 ø, 4WIRE
VOLTAGE 480V. MAINS 600A. MAIN, 150A. MAIN BKR.

DEVICE AMPS TRIP	DEVICE POLES	BRANCH CIRCUIT DESIGNATION	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT NUMBER	BRANCH CIRCUIT DESIGNATION	DEVICE POLES	DEVICE TRIP AMPS
20	3	PREAERATION BLOWER	1	2	CROSS COLLECTOR DRIVE	3	20
–	–	" "			" " "	–	–
–	–	" "			" " "	–	–
20	3	ELECTRIC HEATING MATS	3	4	TRANSFORMER T1	3	80
–	–	" " "			" "	–	–
–	–	" " "			SPACE	–	–
20	3	SCREENING UNIT NO.1	5	6	SCREENING UNIT NO.2	3	20
–	–	" " "			" " "	–	–
–	–	" " "			" " "	–	–
20	3	DOOR OPENER	7	8	SPARE	3	20
–	–	" "			"	–	–
–	–	" "			"	–	–
–	–	SPACE	9	10	SPACE	–	–
–	–	"			"	–	–
–	–	"			"	–	–



POWER SYSTEM – SINGLE LINE DIAGRAM
N.T.S.



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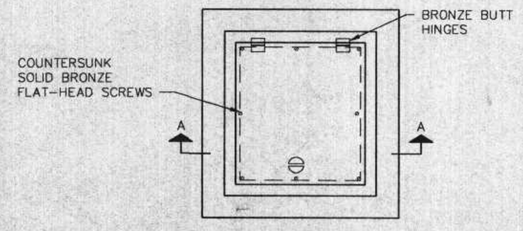
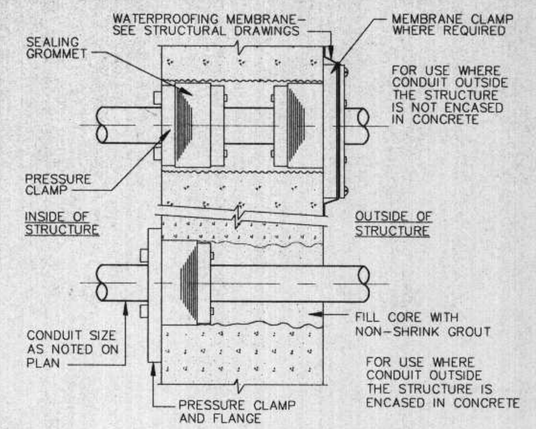


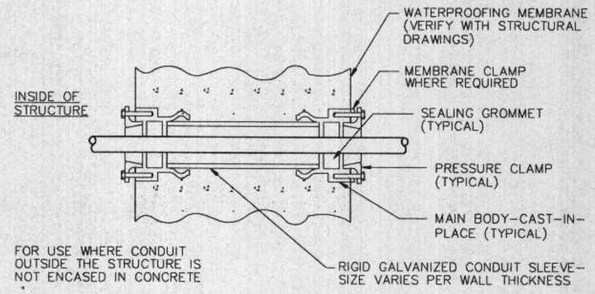
TOP PLAN

TYPICAL ELECTRICAL HANDHOLE CONSTRUCTION DETAILS
NO SCALE

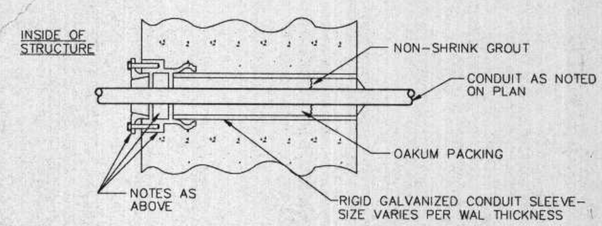


CORED HOLE APPLICATIONS IN EXISTING WALLS

TYPICAL CONDUIT SEAL DETAILS
TYPCSEAL



DOUBLE ENDED TYPE-FOR NEW CONSTRUCTION WITH MEMBRANE



SINGLE ENDED TYPE-FOR NEW CONSTRUCTION

TYPICAL CONDUIT SEAL DETAILS
N.T.S
TCSEALNW

PRELIMINARY
JUL 22 1994

J:\3899-00\PLANT\S-EDET1.DWG Plotted on 5/16/1994 @ 8:04 A.M. by ACAD17

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED
DATE APRIL, 1994

SCALE
NO SCALE

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

CONSOER TOWNSEND & ASSOCIATES
ENGINEERING PLANNING MANAGEMENT
2555 ANTHONY LANE SOUTH, SUITE 145
MINNEAPOLIS, MN. 55418-3265

SCREEN BUILDING
ELECTRICAL DETAILS AND SCHEDULES

SHEET E-2
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

Rec'd 21 JUL 94

ELECTRICAL PLAN SHEET SYMBOLS

SYMBOLS	DESCRIPTION
	BRACKET MOUNTED INCANDESCENT OR HIGH INTENSITY DISCHARGE FIXTURE
GFI +18	DUPLEX GFI RECEPTACLE (NUMBER INDICATES MOUNTING HEIGHT. IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
+18	SINGLE CONVENIENCE RECEPTACLE (220 V) (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
+18	DUPLEX CONVENIENCE RECEPTACLE (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
	FLOOR MOUNTED DUPLEX CONVINIENCE RECEPTACLE
	TELEPHONE UTILITY SYSTEM OUTLET
	LIGHTING PANEL
	REMOTE TELEMETRY SYSTEM CABINET
	TELEPHONE UTILITY SYSTEM
	DISTRIBUTION PANEL
	CABINET OR PULL BOX
	UNFUSED SAFETY SWITCH, 3P-30A, 600V, IN NEMA 4 STAINLESS STEEL ENCLOSURE, UNLESS OTHERWISE NOTED.
	FUSED SAFETY SWITCH, 3P-30A, 600V, IN NEMA 4 STAINLESS STEEL ENCLOSURE, UNLESS OTHERWISE NOTED.
	HANDHOLE
	OUTLET OR JUNCTION BOX
	COMBINATION PROTECTIVE DEVICE AND MAGNETIC STARTER OR CONTROL PANEL WITH CONTROL TRANSFORMER AND (3) AUXILIARY CONTACTS.
	SINGLE UNIT PUSHBUTTON STATION
	2-UNIT PUSHBUTTON STATION
	3-UNIT PUSHBUTTON STATION
(5)	ELECTRIC MOTOR - "NUMBER" INDICATES HORSEPOWER, "F" DENOTES FRACTIONAL HORSEPOWER.
CS	CONTROL STATION-SELECTOR SWITCH, SPEED CONTROL, RUN INDICATION, START/STOP, SPEED INDICATION
FS	FLOW SWITCH
LS	LIMIT SWITCH
PE	PNUEMATIC/ELECTRIC SWITCH
PS	PRESSURE SWITCH
PX	PROXIMITY SWITCH
SS	"HAND-OFF-AUTOMATIC" SELECTOR SWITCH
TS	TORQUE SWITCH
VS	VACUUM SWITCH
FS	POINT FLOAT SWITCH
EP	ELECTRO-PNUEMATIC VALVE
S	SOLENOID VALVE
T	ELECTRIC THERMOSTAT
D	ELECTRIC DAMPER MOTOR
T	TEMPERATURE ACTUATED DEVICE

SYMBOLS	DESCRIPTION
$_{1}^{+48}$	SINGLE POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$_{2}^{+48}$	2 - POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$_{3}^{+48}$	3 - POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$_{4}^{+48}$	4 - POLE TOGGLE SWITCH (NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS)
$_{7}^{+48}$	MANUAL MOTOR STARTER SWITCH W/OVERLOAD PROTECTION AND ENCLOSURE(NUMBER INDICATES MOUNTING HEIGHT, IF NO NUMBER IS SHOWN, SEE SPECIFICATIONS.)
	BATTERY POWERED EMERGENCY LIGHTING FIXTURE
	UNIT HEATER
H	ALARM HORN
6F	ZONAL GROUNDING
HH	HANDHOLE
GFI	GROUND FAULT INTERRUPTION
C	CONDUIT
SIG. CA.	SIGNAL CABLE
F.O.	FIBER OPTIC
	EMERGENCY SHOWER & EYEWASH WITH LIGHT AND ALARM
S	SMOKE DETECTOR (IONIZATION TYPE)
D	RATE OF RISE HEAT DETECTOR
M	MANUAL FIRE ALARM PULL STATION
H F	FIRE ALARM SYSTEM HORN
	EXPOSED CONDUIT
	UNDERGROUND DUCT AS NOTED
	CONDUIT CONCEALED IN CEILING OR WALL
	CONDUIT CONCEALED IN FLOOR SLAB OR UNDER FLOOR SLAB. (CONDUITS 1-1/4" OR LARGER SHALL BE INSTALLED UNDER FLOOR SLAB). CONDUITS RUN UNDER FLOOR SLAB SHALL BE ENCASED IN CONCRETE.
	HOMERUN TO PANEL OR M.C.C. AS NOTED
E	EXISTING CONDUIT AND WIRE SHALL REMAIN
R	EXISTING CONDUIT, WIRE, BOXES, ETC., WHICH SHALL BE REMOVED.
A	EXISTING CONDUIT WHICH SHALL BE ABANDONED. DISCONNECT AND REMOVE EXISTING CONDUCTORS. CUT OFF CONDUIT FLUSH W/FINISHED SURFACE AND FILL W/GROUT.
E/R	EXISTING CONDUIT WHICH SHALL BE REUSED. REMOVE EXISTING CONDUCTORS AND INSTALL NEW CONDUCTORS AS INDICATED OR NOTED ON PLAN.

CONDUIT SYSTEM NOTES

1. CONDUITS IMBEDDED IN STRUCTURAL CONCRETE (FLOOR SLABS, ETC.) SHALL BE SO LOCATED AS NOT TO UNDULY IMPAIR THE STRENGTH OF THE CONSTRUCTION AND SHALL BE SPACED NOT LESS THAN TWO TIMES THE CONDUIT O.D. BETWEEN ADJACENT CONDUITS EXECEPT WHERE CROSSING OR OTHERWISE APPROVED BE THE ENGINEER.
2. ANY CONDUIT WITHOUT FURTHER DESIGNATION, INDICATES 2#12 IN 3/4 INCH CONDUIT, GREATER NUMBER OF WIRE ARE INDICATED AS FOLLOWS: —//— (3-WIRES) —///— (4-WIRES) ETC. LONGER HATCHMARK INDICATES NEUTRAL CONDUCTOR.
3. WIRING FOR LIGHTING, RECEPTACLES AND OTHER MISCELLANEOUS CIRCUITS SHALL CONFORM TO THE CIRCUITING INDICATED ON THE DRAWINGS WITH ARRANGEMENT AND ROUTING AS REQUIRED. THE WIRING SHALL BE SO ARRANGED THAT NO MORE THAN 6 CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED PER CONDUIT AND CIRCUITS OF DIFFERENT PANELS SHALL BE INSTALLED IN SEPERATE RACEWAYS.
4. ALL EQUIPMENT SHALL BE PROPERLY GROUNDED PER APPLICABLE LOCAL CODES.

SCHEMATIC WIRING SYMBOLS

SYMBOLS	DESCRIPTION
	CONTACT, NORMALLY OPEN
	CONTACT, NORMALLY CLOSED
	PUSHBUTTON, NORMALLY CLOSED
	PUSHBUTTON, NORMALLY OPEN
	SELECTOR SWITCH - "HAND-OFF-AUTO". UNLESS OTHERWISE NOTED.
	PUSHBUTTON, MAINTAINED CONTACT, DOUBLE CIRCUIT
OL'S X2	OVERLOADS
	FUSE
C	PILOT LIGHT
	MANUAL MOTOR STARTER
M	AUXILIARY STARTER CONTACTS
	PRESSURE SWITCH, OPENS ON RISE
	PRESSURE SWITCH, CLOSES ON RISE
	LIMIT SWITCH, NORMALLY CLOSED
	LIMIT SWITCH, NORMALLY OPEN
	LIMIT SWITCH, NORMALLY OPEN, HELD CLOSED
	LIMIT SWITCH, NORMALLY CLOSED, HELD OPEN
	TEMPERATURE ACTUATED SWITCH, OPENS ON RISE
	TEMPERATURE ACTUATED SWITCH, CLOSES ON RISE
	VACUUM SWITCH, OPENS ON RISE
	VACUUM SWITCH, CLOSES ON RISE
	FLOW SWITCH (CLOSES WITH FLOW)
	FLOW SWITCH (OPENS WITH FLOW)
	FLOAT OPERATED SWITCH, OPENS ON RISE
	FLOAT OPERATED SWITCH, CLOSES ON RISE
	TORQUE SWITCH (OPENS ON INCREASE)
	TORQUE SWITCH (CLOSES ON INCREASE)
	OVERLOAD
*	LOCATED REMOTE
●	LOCATED AT MOTOR
□	NEW DEVICE TO BE PROVIDED
CL M	MOTORIZED TIME DELAY RELAY
TD	TIME DELAY RELAY
M	STARTER COIL
R	CONTROL RELAY
ETM	ELAPSED TIME METER

INSTRUMENTATION SYSTEM SYMBOLS

PIT	PRESSURE TRANSMITTER WITH LOCAL INDICATION
LIT	LEVEL TRANSMITTER WITH LOCAL INDICATION
LT	LEVEL TRANSMITTER
LAH	LEVEL ALARM HIGH
LAL	LEVEL ALARM LOW
TIT	TEMPERATURE TRANSMITTER WITH LOCAL INDICATION
AIT	ANALYZING TRANSMITTER WITH LOCAL INDICATION
FIT	FLOW TRANSMITTER WITH LOCAL INDICATION
D/P	DIFFERENTIAL PRESSURE TRANSMITTER
I/P	CURRENT-TO-PNEUMATIC TRANSDUCER
V/I	VOLTAGE-TO-CURRENT TRANSDUCER
I/I	CURRENT-TO-CURRENT TRANSDUCER
MBU	MANUAL BACKUP UNIT AS SPECIFIED
IND	EXISTING INDICATOR
HYD	HYDRAULIC VALVE ACTUATOR
HYD *	HYDRAULIC VALVE ACTUATOR WITH NEW POSITIONER
MAN	MANUALLY OPERATED VALVE
PNEU	PNEUMATIC VALVE ACTUATOR
PNEU *	PNEUMATIC VALVE ACTUATOR WITH NEW POSITIONER
M	ELECTRIC VALVE ACTUATOR, OPEN/CLOSE
MM	ELECTRIC VALVE ACTUATOR, MODULATING
FCC	FILTER CONTROL CONSOLE
	FLOW DEVICE
	BUTTERFLY VALVE
MM	MODULATING BUTTERFLY VALVE
	GATE VALVE
	CHECK VALVE
	PUMP
	ANALOG INPUT TO RTU
	ANALOG OUT FROM RTU
	DISCRETE INPUT TO RTU UNLESS OTHERWISE NOTED
	DISCRETE OUTPUT FROM RTU UNLESS OTHERWISE NOTED
PULSE	PULSE INPUT TO RTU
A	EQUIPMENT PER INSTRUMENTATION INSTALLATION DETAIL "A" (TYPICAL)

PRELIMINARY

JUL 22 1994

J:\3899-00\PLANTS-ESYM01.DWG Plotted on 5/16/1994 @ 8:06 A.M. by ACA017

NO.	DATE	DESCRIPTION	APPROVED

REVISIONS

DESIGNED E.J.V.
DRAWN K.C.M.
CHECKED
DATE APRIL, 1994

SCALE: NO SCALE

DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN

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ELECTRICAL SYMBOLS

SHEET E-3
OF 3 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-00

REV'D 21 JUL 94