

EASTSIDE WASTEWATER TREATMENT PLANT

FOR

CITY OF JOLIET , ILLINOIS

PHASE III

TREATMENT PLANT IMPROVEMENTS

NOVEMBER , 1987

RECORD DRAWINGS DECEMBER, 1991

NOTE: THESE RECORD PLANS WERE PREPARED FROM INFORMATION SUPPLIED
BY THE GENERAL CONTRACTOR'S RECORD PLANS KEPT AT THE
CONSTRUCTION SITE DURING CONSTRUCTION.

CONTRACT 1-87

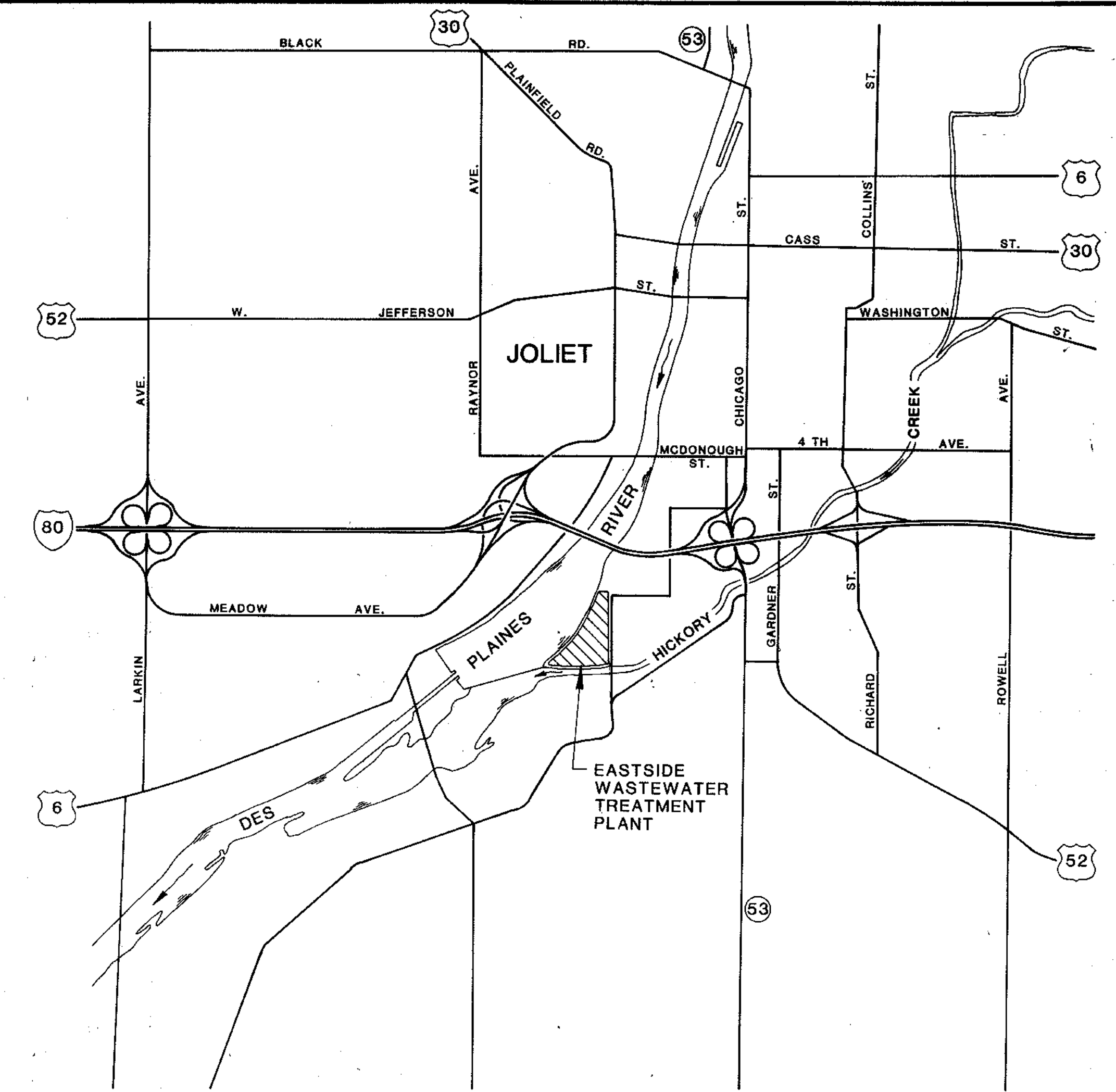
1 REVISED 5-23-88 LOCATION OF SOLIDS PROCESS BUILDING



CONSULTING ENGINEERS
Madison, Wisconsin

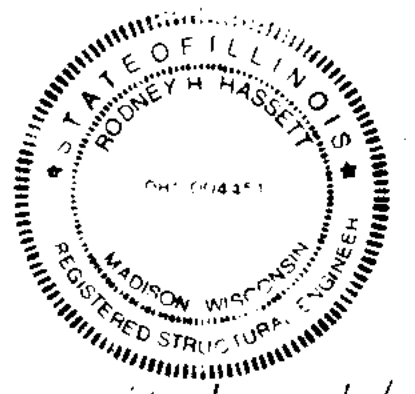
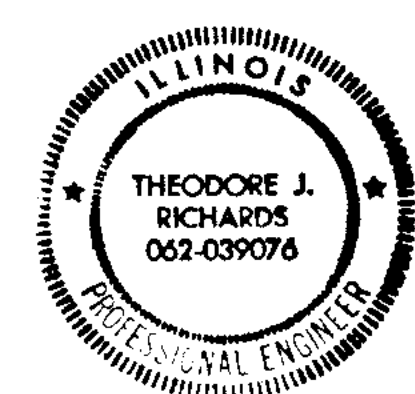
LIST OF DRAWINGS

SHEET NO.	DRAWING NO.	SHEET NO.	DRAWING NO.
▶ 1	255-230-1	▶ 41	255-230-41
R ▶▶ 2	255-230-2	▶ 42	255-230-42
3	255-230-3	43	255-230-43
▶ 4	255-230-4	44	255-230-44
5	255-230-5	▶ 45	255-230-45
▶ 6	255-230-6	46	255-230-46
▶ 7	255-230-7	47	255-230-47
8	255-230-8	R ▶ 48	255-230-48
▶ 9	255-230-9	49	255-230-49
10	255-230-10	50	255-230-50
▶ 11	255-230-11	▶ 51	255-230-51
▶ 12	255-230-12	▶ 52	255-230-52
▶ 13	255-230-13	▶ 53	255-230-53
▶ 14	255-230-14	54	255-230-54
▶ 15	255-230-15	55	255-230-55
▶ 16	255-230-16	56	255-230-56
▶ 17	255-230-17	57	255-230-57
▶ 18	255-230-18	▶ 58	255-230-58
▶ 19	255-230-19	59	255-230-59
20	255-230-20		
R ▶ 21	255-230-21		
22	255-230-22		
23	255-230-23		
24	255-230-24		
24 25	255-230-24		
25	255-230-25		
26 26	255-230-25		
27 27	255-230-26		
27	255-230-27		
▶ 28	255-230-28		
29	255-230-29		
30	255-230-30		
31	255-230-31		
32	255-230-32		
▶ 33	255-230-33		
▶ 34	255-230-34		
35	255-230-35		
36	255-230-36		
▶ 37	255-230-37		
▶ 38	255-230-38		
39	255-230-39		
▶ 40	255-230-40		



SITE LOCATION MAP
1" = 2000'

OVERLAY IDENTIFICATION	COMPOSITE	DL-N	DL-L
PROJECT NO.	OVERLAY	PL-N	PL-L
DATE	SCREEN		

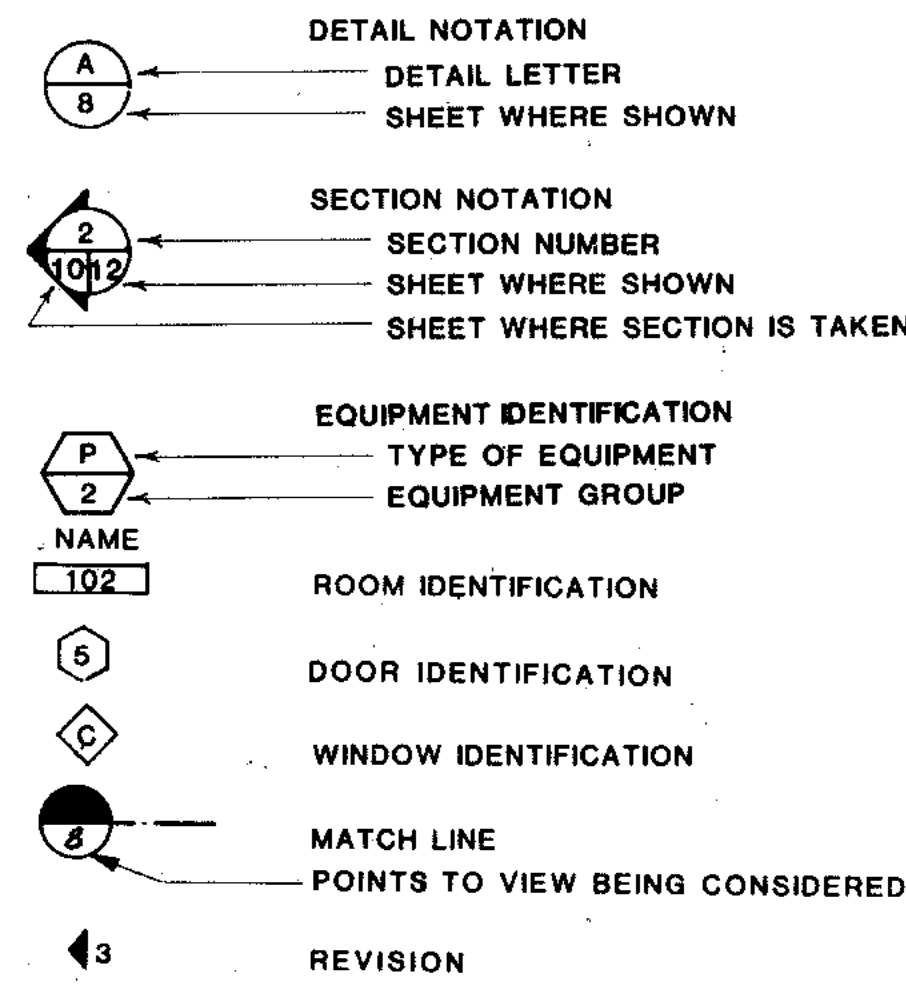


R RECORD DWG 11-91 JKP

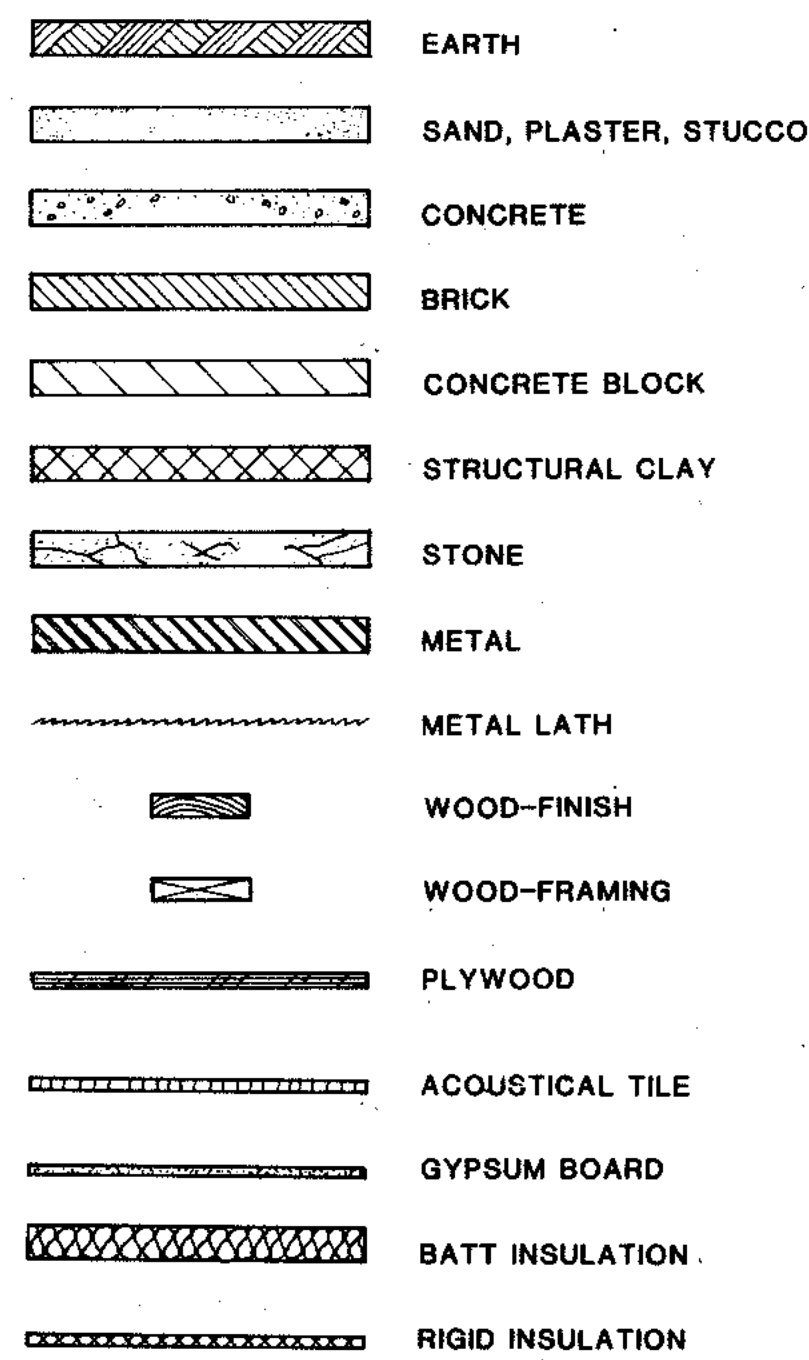
1 REVISED 5-23-88 REVISED DRAWINGS

 910 West Wingra Drive Madison, Wisconsin 53715 Tel: (608) 251-4843	CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT DRAWING LIST AND SITE LOCATION MAP
	SCALE AS SHOWN DATE NOVEMBER, 1987 DRAWING NO. 255-230-2

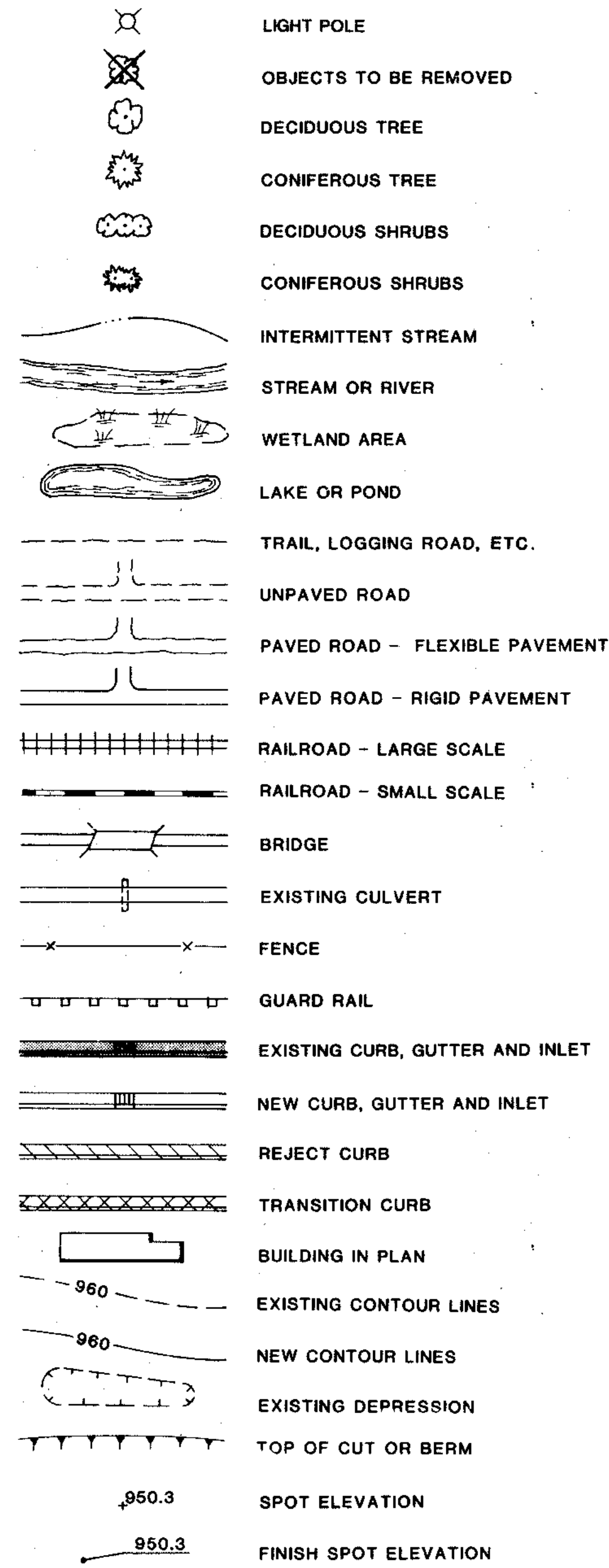
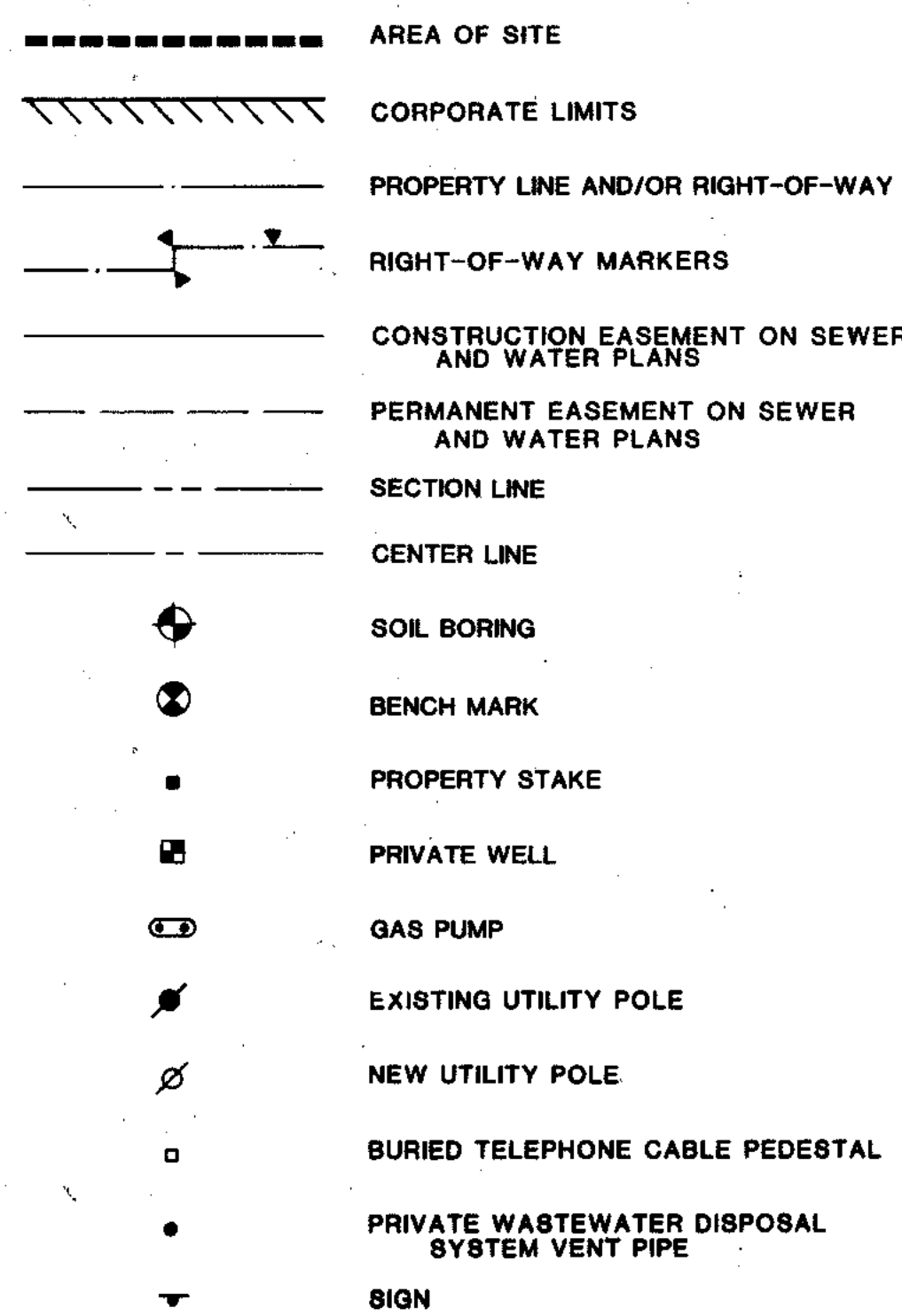
DRAFTING SYMBOLS



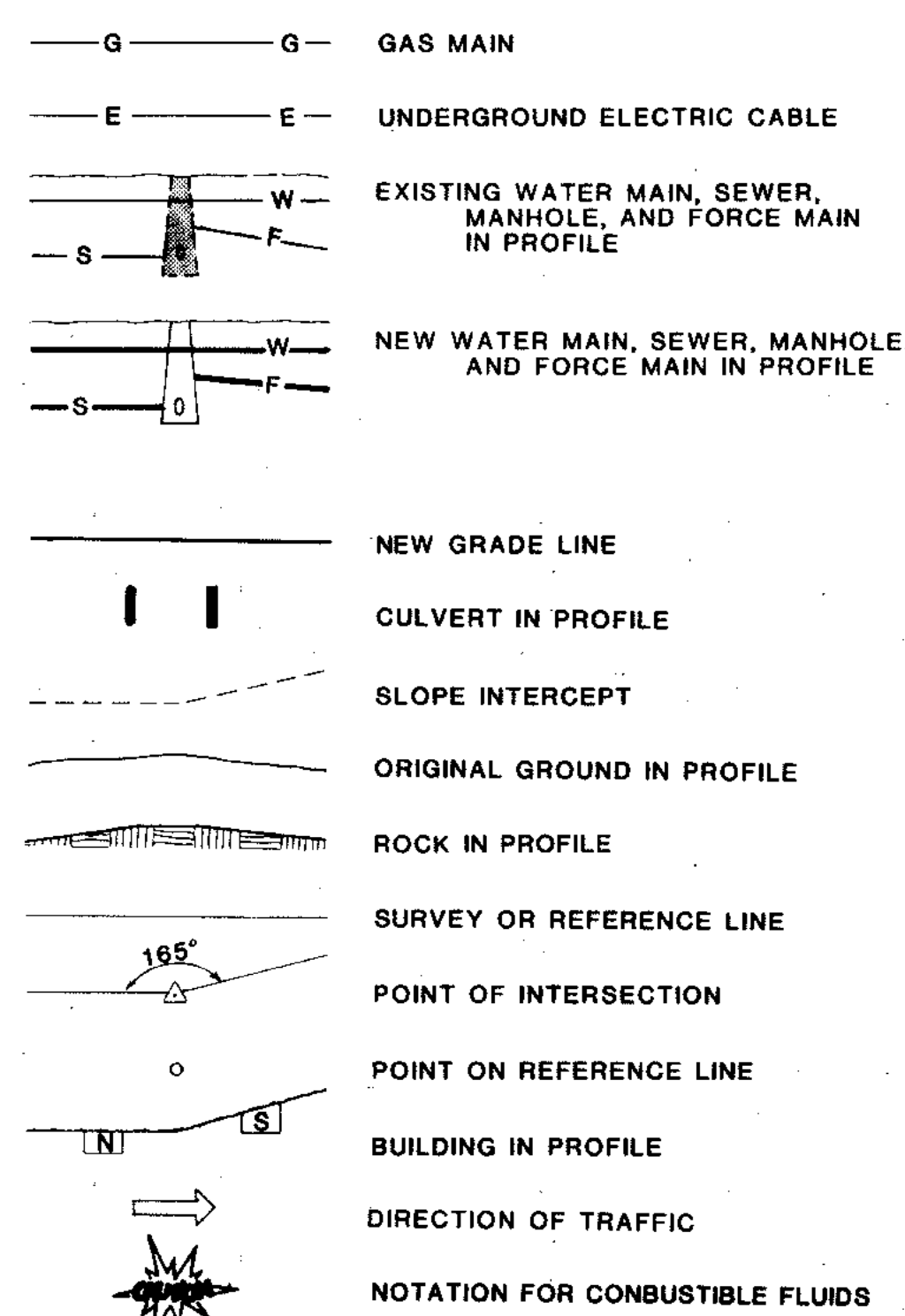
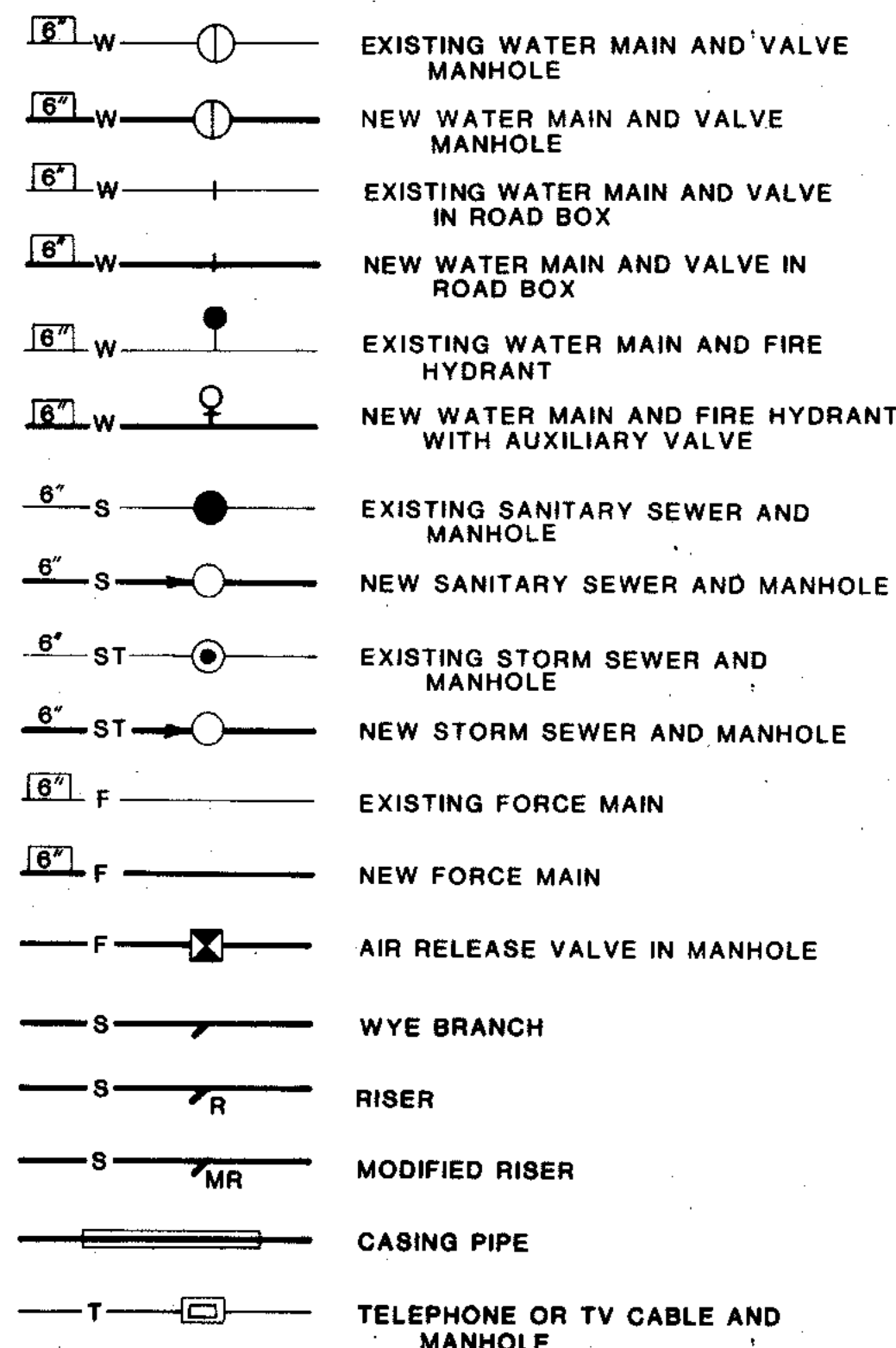
ARCHITECTURAL SYMBOLS



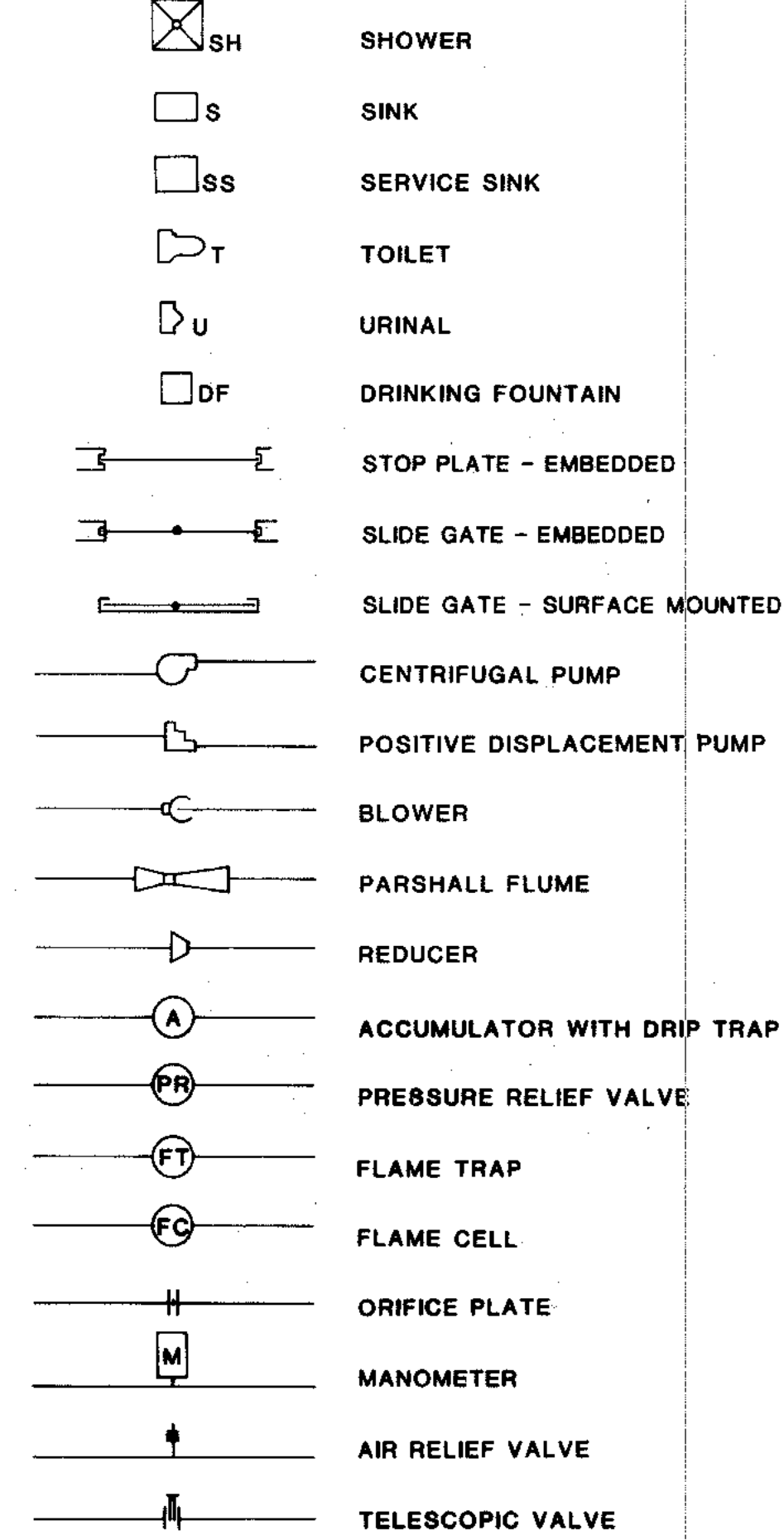
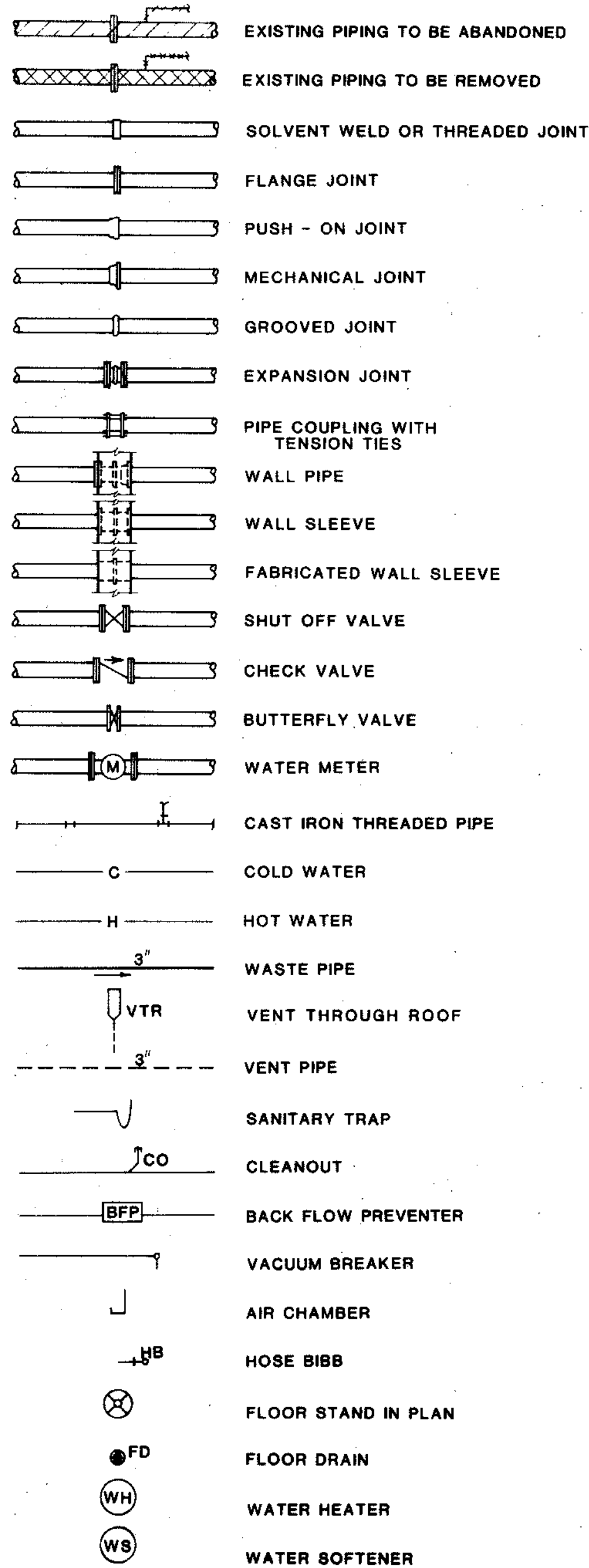
TOPOGRAPHIC SYMBOLS



UNDERGROUND UTILITY SYMBOLS

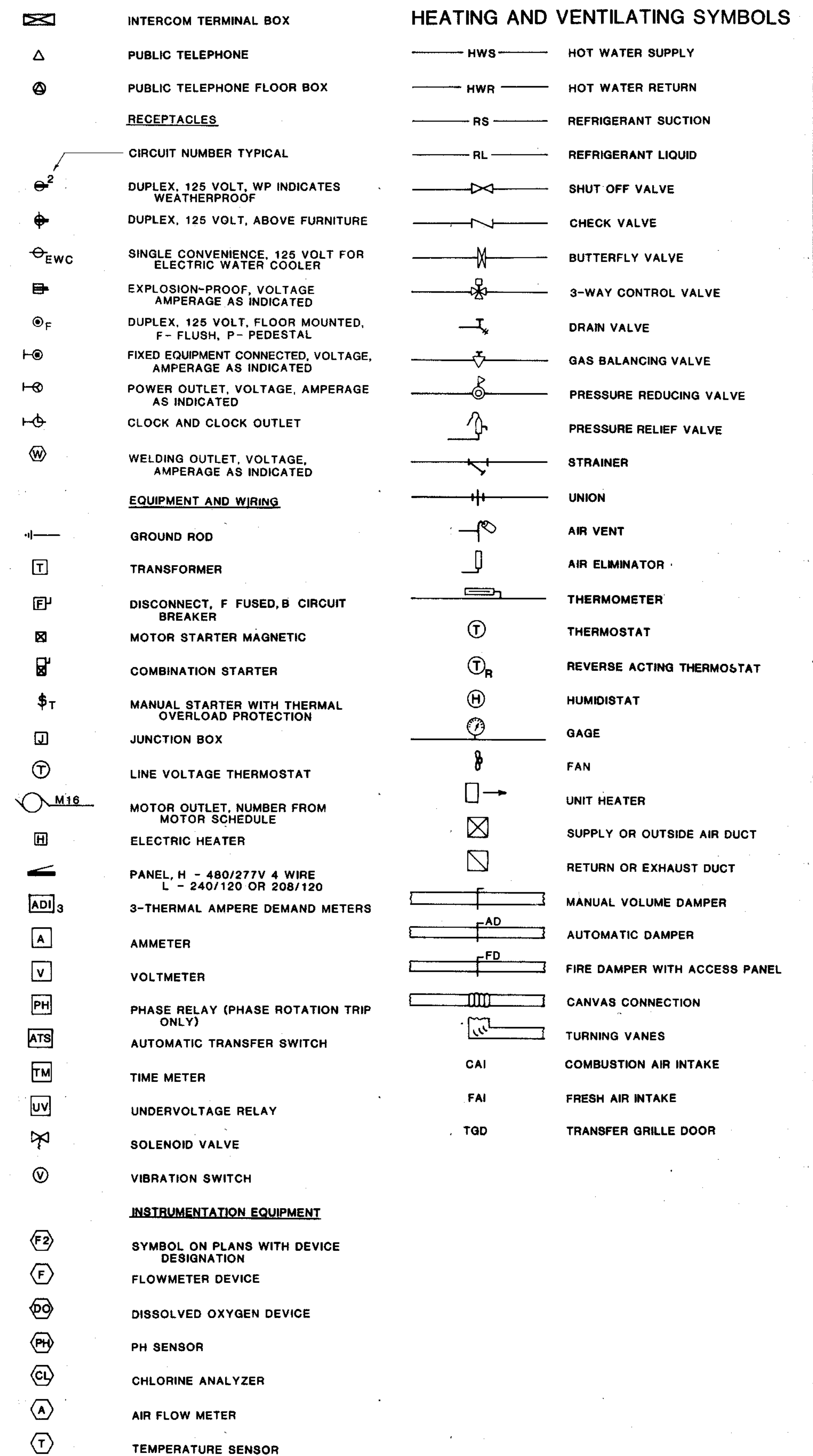
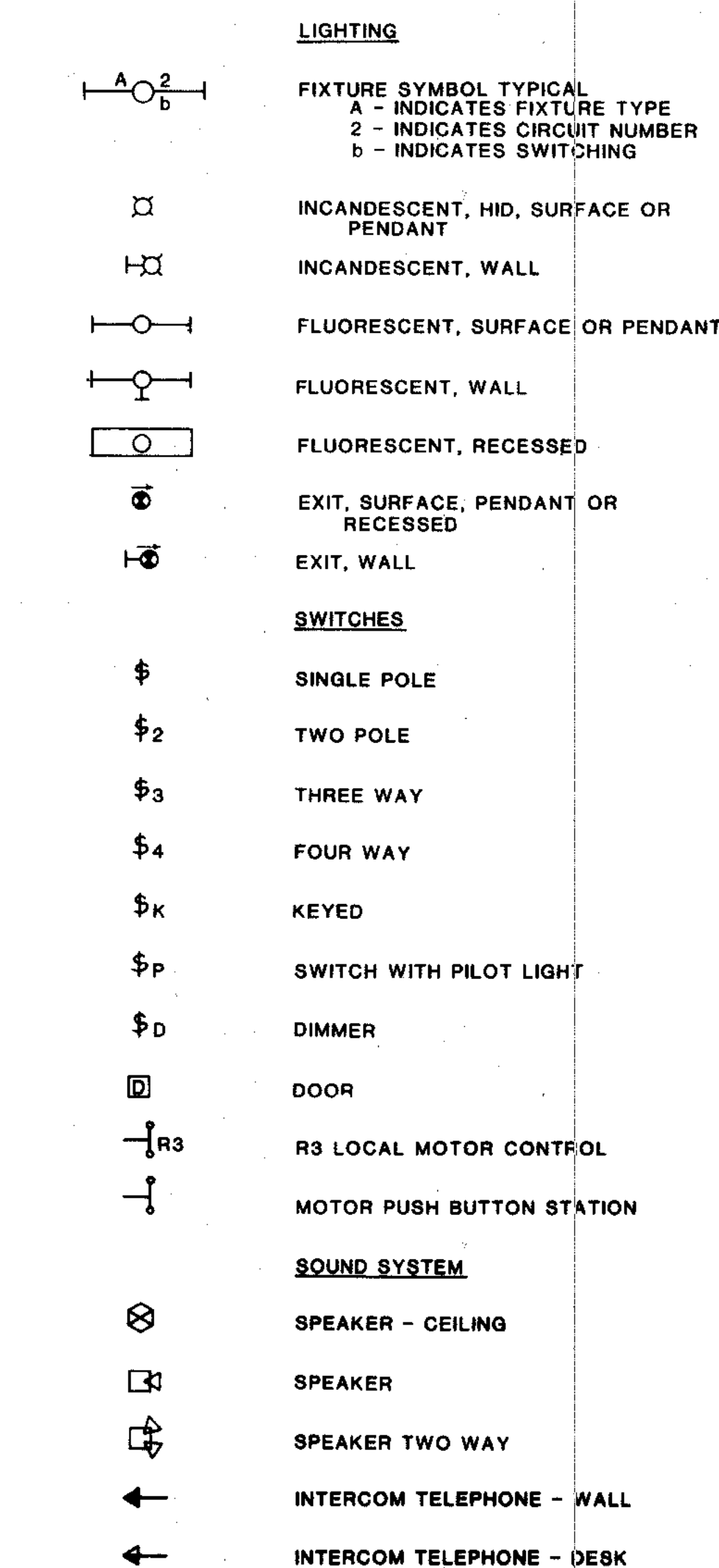


PIPING SYMBOLS



NOTE: SEE DRAWING 255-230-36 FOR MISCELLANEOUS GAS SYSTEM SCHEMATICS

ELECTRICAL SYMBOLS



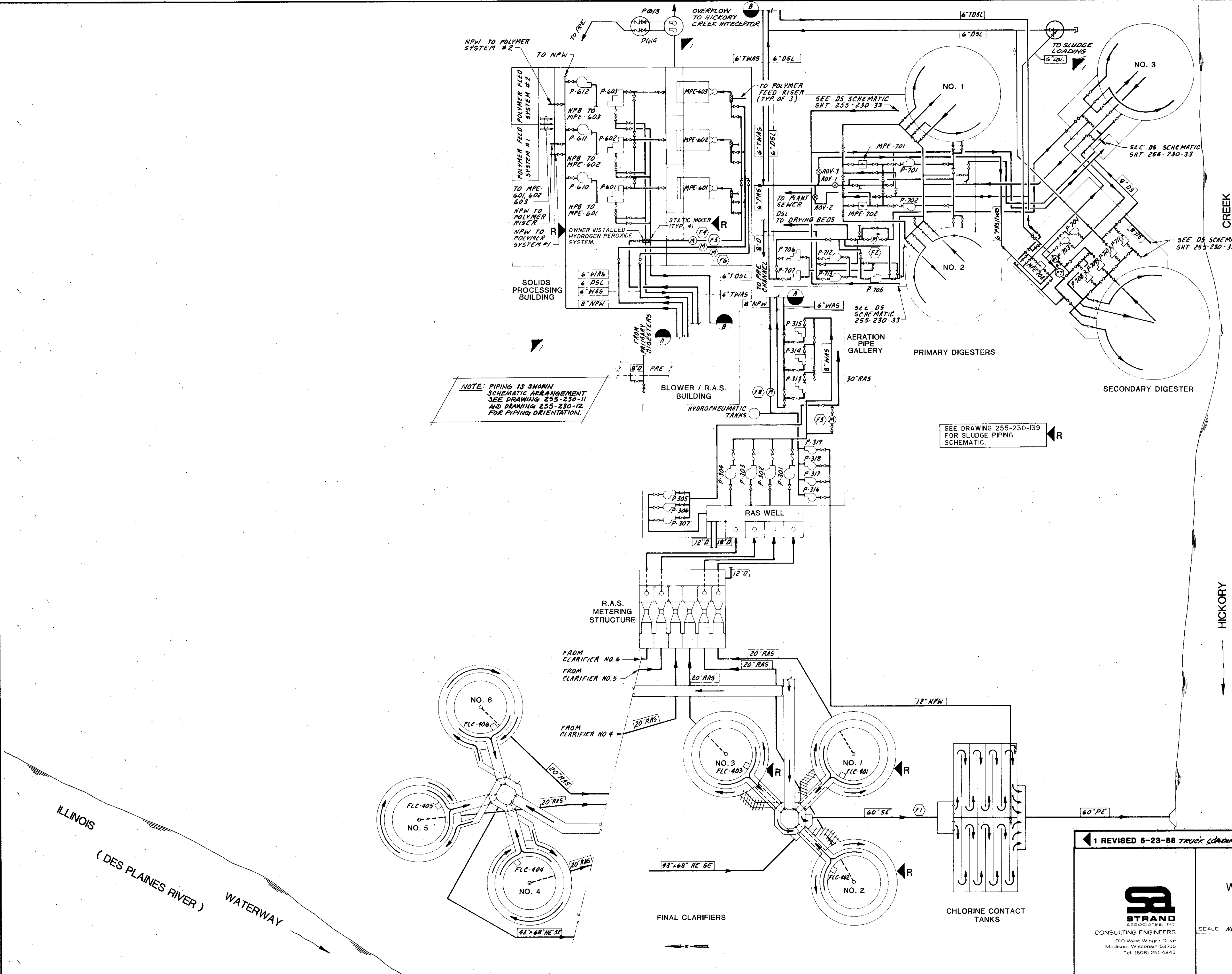
STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

**CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
STANDARD SYMBOLS**

SCALE: NO SCALE DATE: NOVEMBER, 1987

DRAWING NO
255-230-3

COMPOSITE 10-D-4 SP-4 5N-4
 OVERLAY 2D-4 2P-4 5M-4
 DATE



FLUID ABBREVIATIONS

- A Aeration
- ACP Air Compressor
- CG Chlorine Gas
- CS Chlorine Solution
- D Drain
- DGD Digester Gas Distribution
- DGM Digester Gas Mixing
- DS Digester Supernatant
- DSL Digested Sludge
- ERS Energy Recovery System
- G Natural Gas
- IW Injector Water Supply
- ML Mixed Liquor
- NPB Non-Potable Booster
- NPW Non-Potable Water
- PE Plant Effluent
- PEC Polyelectrolyte Chemical
- PI Plant Influent
- PRE Primary Effluent
- PRF Process Return Flows
- PRI Primary Influent
- PRS Primary Sludge
- PS Plant Sanitary Sewer
- PSS Plant Storm Sewer
- PW Potable Water
- RC Recycle
- RAS Return Activated Sludge
- S Scum
- SA Sample
- SE Secondary Effluent
- SPD Sump Pump Discharge
- SWS Seal Water Supply
- TDSL Thickened Digester Sludge
- TWAS Thickened Waste Activated Sludge
- VT Vent
- WAS Waste Activated Sludge

EQUIPMENT ABBREVIATIONS

- AHU Air Handling Unit
- B Blower
- F Flow Meter
- FLC Final Clarifier Drive
- MOV Motor Operated Valve
- MPE Miscellaneous Process Equipment
- GBT Gravity Belt Thickener
- P Pump
- PST Primary Sedimentation Tank Drive
- UH Unit Heater
- AOV Air Operated Valve

PIPE MATERIAL ABBREVIATIONS

- BI Black Iron Pipe
- CI Cast Iron Pipe
- CP Copper Piping
- DI Ductile Iron Pipe
- GI Galvanized Iron Pipe
- GLDI Glass Lined Ductile Iron Pipe
- PDP Perforated Drain Pipe
- PVC PVC Pipe
- RCP Reinforced Concrete Pipe
- SST Stainless Steel Pipe
- HE Horizontal Elliptical Concrete Pipe

OTHER SCHEMATIC DIAGRAMS

- MISCELLANEOUS DIGESTER (SEE SHT. NO. 33)
- POTABLE WATER SYSTEM (SEE SHT. NO. 52)
- POLYMER FEED SYSTEM (SEE SHT. NO. 15)
- NPW SYSTEM (SEE SHT. NO. 16)
- DIGESTER GAS (SEE SHT. NO. 36)

1 REVISED 5-23-88 TRUCK LOADING STA. LOCATION R RECORD DRAWING 6-81 DJP

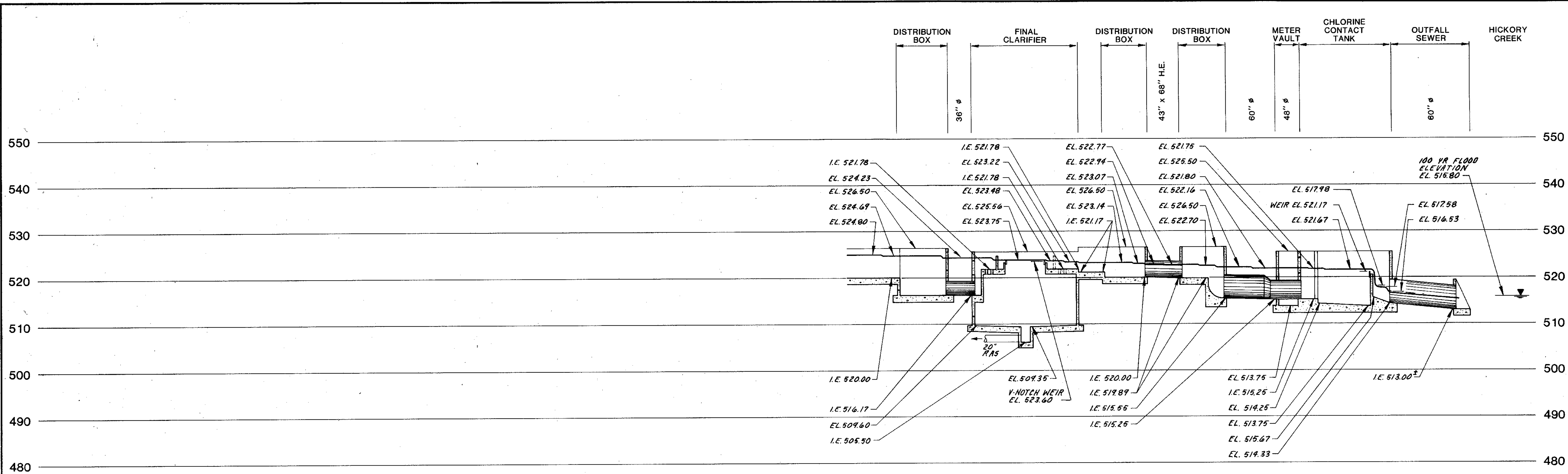
STRAND ASSOCIATES, INC.
 CONSULTING ENGINEERS
 910 West Wingra Drive
 Madison, Wisconsin 53715
 Tel. (608) 251-4843

CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT

SCHEMATIC FLOW DIAGRAM

SCALE NO SCALE DATE NOVEMBER, 1987

DRAWING NO. **255-230-4**



HYDRAULIC PROFILE
1"=10'-0" VERT.

NOTE: HYDRAULIC PROFILE CALCULATED FOR A DESIGN MAXIMUM DAILY FLOW OF 45.5 MGD WITH ALL TANKS IN SERVICE, MAXIMUM RAS FLOW OF 22.5 MGD.

DESIGN CRITERIA

DESIGN LOADS AND FLOWS

Flow:
Design Average Daily Flow 18.2 mgd
Annual Average Daily Flow 13.1 mgd
Peak Hourly 45.5 mgd

Parameter	@ 18.2 mgd		@ 13.1 mgd	
	lb/day	mg/L	lb/day	mg/L
BOD ₅	41,000	270	23,300	213
TSS	42,500	280	30,000	275
TKN	5,500	36	2,500	23

Loads, including Recycle:

Parameter	@ 18.2 mgd		@ 13.1 mgd	
	lb/day	mg/L	lb/day	mg/L
BOD ₅	42,340	279	24,156	221
TSS	45,788	302	31,980	293
TKN	5,942	39	2,781	25

Effluent Limits:

Parameter	Concentration Limits (mg/L)		
	Monthly Average	Weekly Average	Daily Maximum
	BOD ₅	20	30
Suspended Solids	25	38	50
Fecal Coliform	--	--	400/100 ml
Chlorine Residual	0.75		
NH ₃ -N:			
April - October			2.5
November - March			4.0

SLUDGE QUANTITY AND QUALITY

	MAXIMUM MONTHLY DAY			
	Dry Weight (lbs)	Volume (gal)	Percent Solids	Volatile Solids (lbs)
Primary Sludge	29,763	89,000	4%	22,322
Thickened WAS	17,538	35,000	6%	13,153
TOTAL	47,301	124,000	4.6%	35,475
Thickened Digested Sludge	25,542	38,300	8.0%	13,716
AVERAGE DAY				
	Dry Weight (lbs)	Volume (gal)	Percent Solids	Volatile Solids (lbs)
Primary Sludge	20,787	62,000	4%	15,590
Thickened WAS	8,732	17,000	6%	6,549
TOTAL	29,519	79,000	4.5%	22,139
Thickened Digested Sludge	15,940	23,900	8.0%	8,560

UNIT DESIGN DATA

Final Clarifiers:

Type - Existing: Circular, peripheral feed, suction sludge withdrawal
 - New: Circular, peripheral feed, suction sludge withdrawal

Number - Existing: 3
 - New: 3

Size, each - Existing: 100 ft dia x 12 ft S.W.D.
 - New: 100 ft dia x 14 ft S.W.D.

Area, each - Existing: 7,850 sq ft
 - New: 94,000 cu ft

Volume, each - Existing: 110,000 cu ft
 - New: 47,100 sq ft

Area, total - Existing: 612,000 cu ft

Surface Overflow Rate
 @ 18.132 mgd: 385 gpd/sq ft
 @ 45.432 mgd: 965 gpd/sq ft

Solids Loading Rate
 @ RAS = 9.14 mgd (3,000 mg/L): 14.6 lbs/day/sq ft
 @ Q forward = 18.278 mgd

Detention Time
 @ Q = 18.132 mgd: 6.1 hrs
 @ Q = 45.432 mgd: 2.4 hrs

Effluent Metering: (existing)

Type: Mag. meter, in line
 Size: 48-inch dia

WAS Thickening:

Type: Gravity Belt Thickener
 Number of Units: 2, 1 Standby shared with Digested Sludge Thickening

Unit Size: 2 meters
 Loading Rate: 1,000 lb/hr/unit

Primary Anaerobic

Number - Existing: 2
 - New (existing secondary): 1

Type: Heated and completely mixed, circular with floating cover
 Size - Existing: 85' dia x 25' SWD, added 7' to bottom of cone
 - New (existing secondary): 85' dia x 16' SWD, added 20.25' to bottom of cone

Volume, each - Existing
 Total: 1.175 mg
 Fixed: 0.82 mg
 Available for storage: 0.355 mg

Volume, each (Existing secondary)
 Total: 0.982 mg
 Fixed: 0.627 mg
 Available for storage: 0.355 mg

Loading Rate @ Design Condition = Solids Retention Time: 75 lbs VSS/1,000 cu ft/day
 27 days

Secondary Anaerobic Digestion

Type: Circular with floating cover
 Number: 1
 Size: 95' dia x 27' SWD, added 7' to bottom of cone
 Volume, total: 1.66 mg
 fixed: 0.44 mg
 available for storage: 1.22 mg
 Storage @ Q = 23,800 gpd: 51 days

Sludge Drying Beds (existing)

Type: Partially paved, underdrained
 Number: 12
 Size: 40 ft x 132 ft
 Area, each: 5,280 sq ft
 Area, total: 63,400 sq ft
 Storage @ Q = 23,800 gpd: 17 days

Additional Sludge Storage

Location: Joliet Westside Wastewater Treatment Plant
 Volume Available: 500,000 gallons
 Storage @ Q = 23,800 gpd: 21 days

Sludge Disposal

Liquid: Contract haul to land application
 Dried: Contract haul to land application

COMPOSITE HP-N HP-1
 OVERLAY HP-N HP-1
 PROJECT NO. HP-1
 DATE

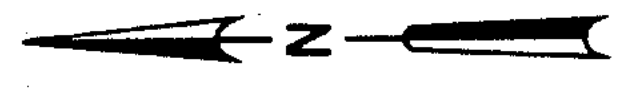
R RECORD DWG 0-01 DJP

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
HYDRAULIC PROFILE
AND DESIGN CRITERIA

SCALE: AS SHOWN DATE: NOVEMBER, 1987

DRAWING NO.
255-230-5



INDEX OF NEW FACILITIES

- DD RETURN ACTIVATED SLUDGE METERING STRUCTURE
- II DISTRIBUTION BOX
- OO SECONDARY DIGESTER
- TT SOLIDS PROCESSING BUILDING
- UU FINAL CLARIFIER #4
- VV FINAL CLARIFIER #5
- WW FINAL CLARIFIER #6

- CONTRACTOR ACCESS ALLOWED
- CONTRACTOR ACCESS PROHIBITED

EXISTING CONCRETE SLOPE WALL "OFF LIMITS" TO CONTRACTORS

AVAILABLE FILL AREA MAXIMUM FILL ELEV. OF 525.0 MAXIMUM 3 TO 1 SIDE SLOPES. SEE DRWG. 255-230-09 FOR EXISTING GRADES.

CONSTRUCT TEMPORARY DRAINAGE WAY AS NECESSARY.

EAST / WEST MATCH LINE

MANTAIN SWALE BELOW LEVEL OF ADJACENT LOTS. RAIN TO NORTH.

AVAILABLE FILL AREA MAXIMUM FILL DEPTH OF 5 FT. MAXIMUM 3 TO 1 SIDE SLOPES. NO FILL TO BE PLACED BELOW ELEV. 519.0 AVAILABLE AREA APPROX. 23,500 S.F.

PROVIDE TEMPORARY BRIDGING OVER TUNNEL

NOTE: CONTRACTOR SHALL MAINTAIN ACCESS FOR ALL ROADS IN EXCESS OF 10' IN WIDTH.

- FILL AREAS NO SCALE.
- WORK LIMITS
- WORK LIMITS THAT SHALL BE VACATED PRIOR TO 12-31-88

AVAILABLE LANDS

1" = 300'

THIS DRAWING NUMBER 255-230-6 THROUGH NUMBER 255-230-13 PREPARED UNDER THIS PROFESSIONAL SEAL.

Robert E. Hamilton 7/1/88
SIGNATURE DATE

RECORD DWG. 6-1 DJP
1 REVISION 8-25-88 RELOCATING TUNNEL

STRAND
ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
PLOT PLAN

SCALE 1"=60' DATE NOVEMBER, 1987

Robert E. Hamilton
Consulting Engineer
JOLIET, ILLINOIS 60435

DRAWING NO
255-230-6

INDEX OF EXISTING FACILITIES

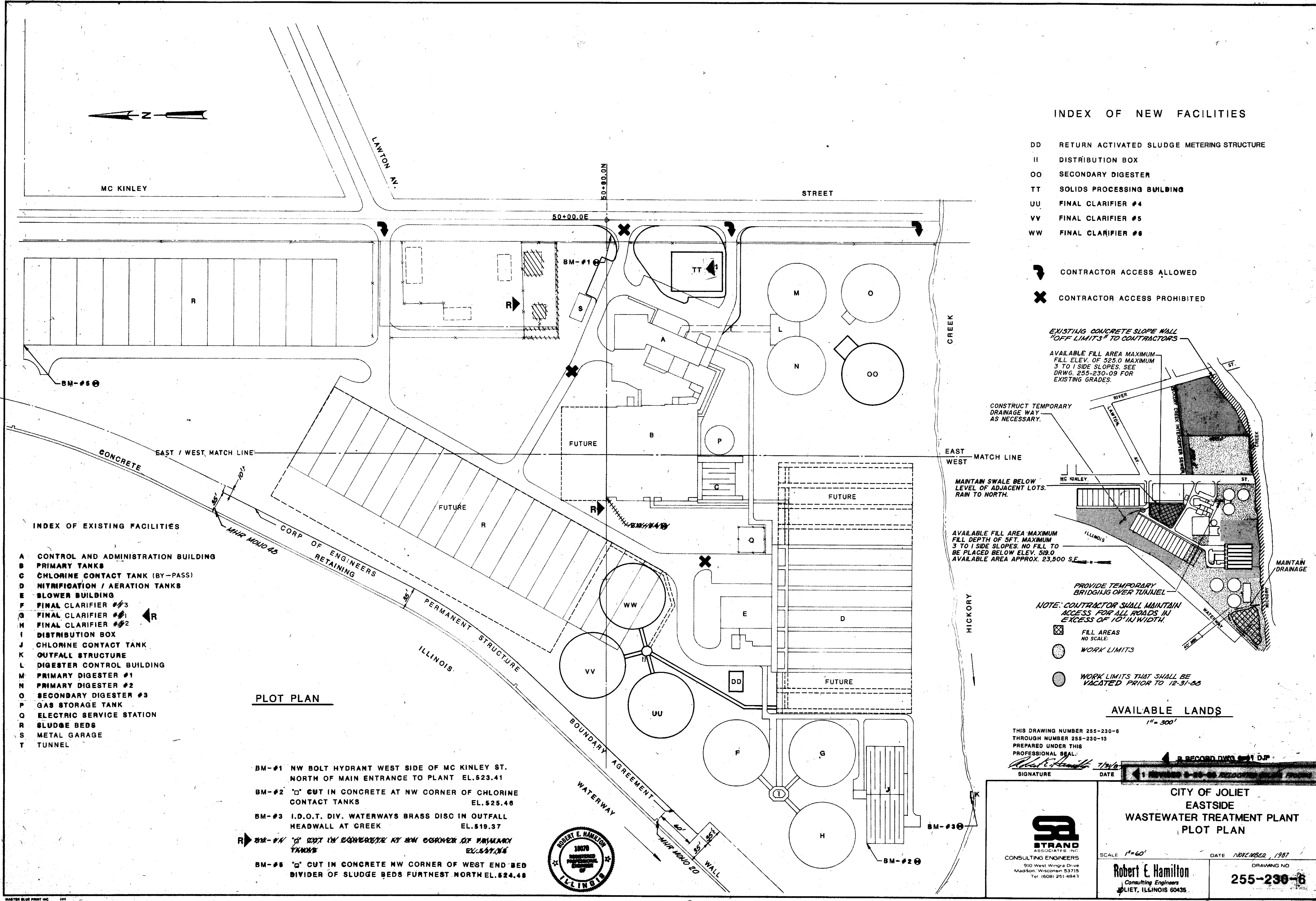
- A CONTROL AND ADMINISTRATION BUILDING
- B PRIMARY TANKS
- C CHLORINE CONTACT TANK (BY-PASS)
- D NITRIFICATION / AERATION TANKS
- E BLOWER BUILDING
- F FINAL CLARIFIER #3
- G FINAL CLARIFIER #1
- H FINAL CLARIFIER #2
- I DISTRIBUTION BOX
- J CHLORINE CONTACT TANK
- K OUTFALL STRUCTURE
- L DIGESTER CONTROL BUILDING
- M PRIMARY DIGESTER #1
- N PRIMARY DIGESTER #2
- O SECONDARY DIGESTER #3
- P GAS STORAGE TANK
- Q ELECTRIC SERVICE STATION
- R SLUDGE BEDS
- S METAL GARAGE
- T TUNNEL

PLOT PLAN

- BM-#1 NW BOLT HYDRANT WEST SIDE OF MC KINLEY ST. NORTH OF MAIN ENTRANCE TO PLANT EL.523.41
- BM-#2 "Q" CUT IN CONCRETE AT NW CORNER OF CHLORINE CONTACT TANKS EL.525.48
- BM-#3 I.D.O.T. DIV. WATERWAYS BRASS DISC IN OUTFALL HEADWALL AT CREEK EL.519.37
- BM-#4 "Q" CUT IN CONCRETE AT NW CORNER OF PRIMARY TANKS EL.527.16
- BM-#5 "Q" CUT IN CONCRETE NW CORNER OF WEST END BED DIVIDER OF SLUDGE BEDS FURTHEST NORTH EL.524.48



OVERLAY IDENTIFICATION	COMPOSITE	7/85	P-5T	JND
PROJECT NO.	OVERLAY	EX-5T	P-5T	JND
DATE	SCREEN	EX-5T	P-5T	JND



EXISTING
MANHOLE COORDINATES

19-1	5042.0N	4790.0E
20-1	5060.6N	5046.0E
20-1.1	5050.7N	5046.6E
20-1.2	5040.2N	5029.7E
20-1.3	4882.1N	5028.4E
20-10	5091.8N	4987.5E
20-11	4881.3N	4989.1E
20-12	4688.4N	4990.6E
20-12.1	4538.4N	4976.4E

HICKORY CREEK
INTERCEPTOR SEWER
EASEMENT (20')

SURVEY MONUMENTS

MONUMENT #1	9/16" IRON ROD	4617.05N	4106.73E
MONUMENT #2	9/16" IRON ROD	4742.56N	4529.15E
MONUMENT #3	9/16" IRON ROD	5004.94N	4571.78E

GRID COORDINATES - EXISTING STRUCTURES

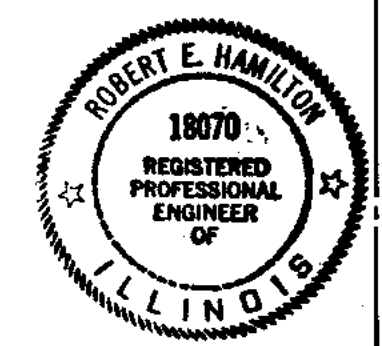
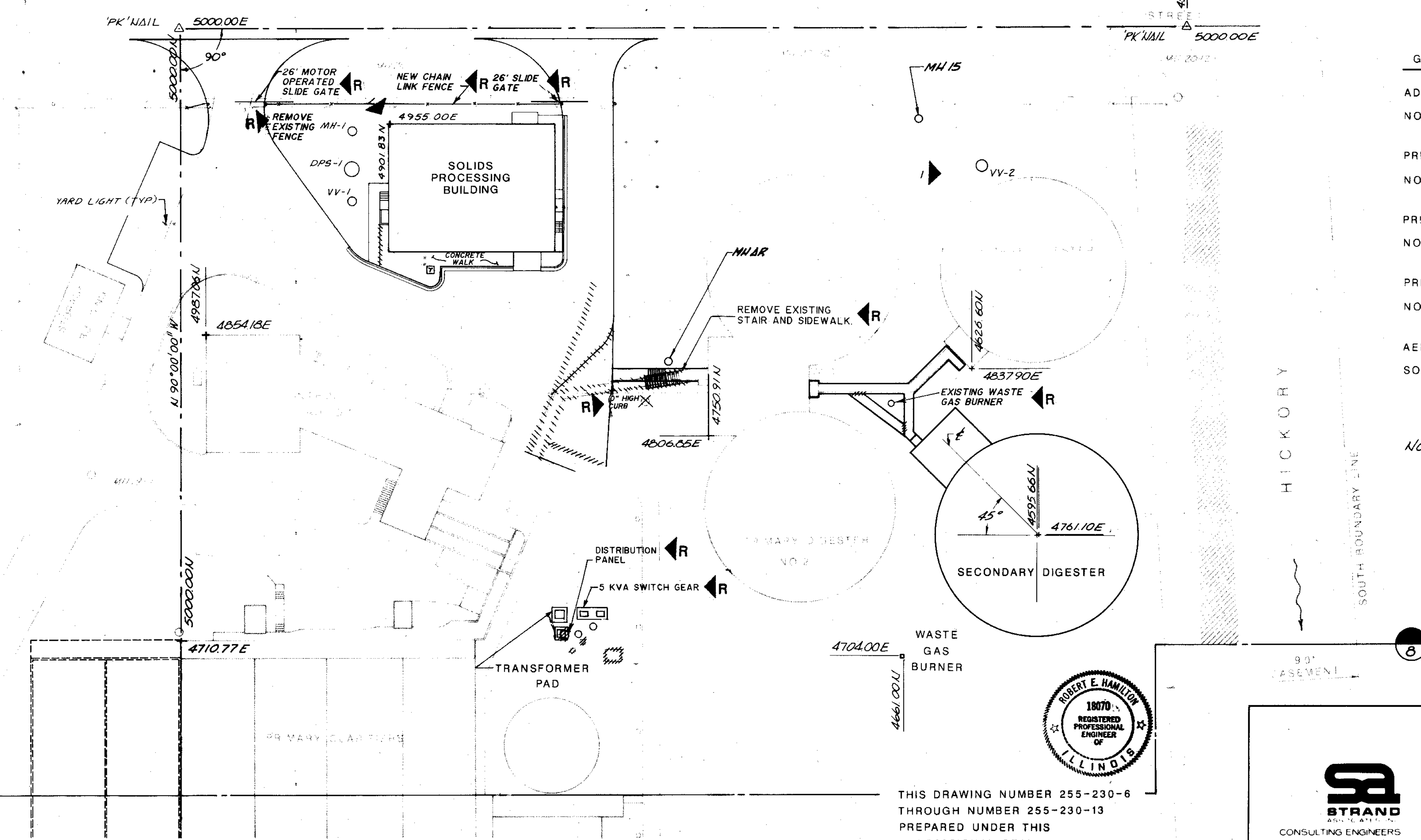
ADMINISTRATION BUILDING	
NORTHEAST CORNER	4987.06N 4854.18E
PRIMARY DIGESTER #3 CONTROL BUILDING	
NORTHWEST CORNER	4626.60N 4837.90E
PRIMARY DIGESTER 1&2 CONTROL BUILDING	
NORTHWEST CORNER	4750.91N 4806.85E
PRIMARY CLARIFIER	
NORTHEAST CORNER	5000.00N 4710.77E
AERATION TANKS	
SOUTHWEST CORNER	4537.00N 4304.30E

NOTES:
1) PROPOSED STRUCTURES ARE SQUARE WITH CO-ORDINATE GRID SYSTEM
2) SEE DRAWINGS 255-230-373A, 39 FOR LOCATION OF ELECTRICAL WORK

NEW
MANHOLE COORDINATES

MH #1	4921.83N	4951.50E
MH #2	4985.90N	4551.00E
MH #3	4985.90N	4483.74E
MH #4	5044.61N	4382.99E
MH #5	5080.69N	4320.50E
MH #6	5074.21N	4285.00E
MH #7	4966.67N	4337.99E
MH #8	4886.97N	4166.50E
MH #9	4798.70N	4116.42E
MH #10	4761.15N	4131.86E
MH #11	4713.62N	4090.27E
MH #12	4724.32N	4237.00E
MH #13	4724.32N	4136.47E
MH #14	4935.25N	5161.00E
MH #15	4652.00N	4958.00E
DPS #1	4921.83N	4933.50E
V.V. #1	4921.83N	4918.50E
MH AR.	4769.91N	4843.00E
ST. MH #16	4887.00N	4131.00E
CB #1	4920.25N	5025.00E
CB #2	4855.00N	4223.50E
CB #3	5003.00N	4220.00E
*FES	5110.00N	4315.00E
*FES	4808.00N	4057.00E
MH #17	Field Locate	
*FLARED END SECTION		
V.V. #2	4622.00N	4936.00E

OVERLAY IDENTIFICATION	COMPOSITE	DATE	DATE
OVERLAY	DATE	DATE	DATE
SCREEN	DATE	DATE	DATE



THIS DRAWING NUMBER 255-230-6
THROUGH NUMBER 255-230-13
PREPARED UNDER THIS
PROFESSIONAL SEAL.
Robert E. Hamilton 7/31/87
SIGNATURE DATE

STRAND
CONSULTING ENGINEERS
910 West Wmaga Drive
Madison, Wisconsin 53715
Tel: 608-251-4841

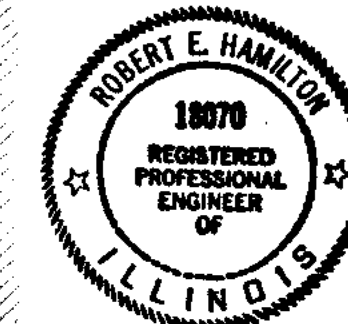
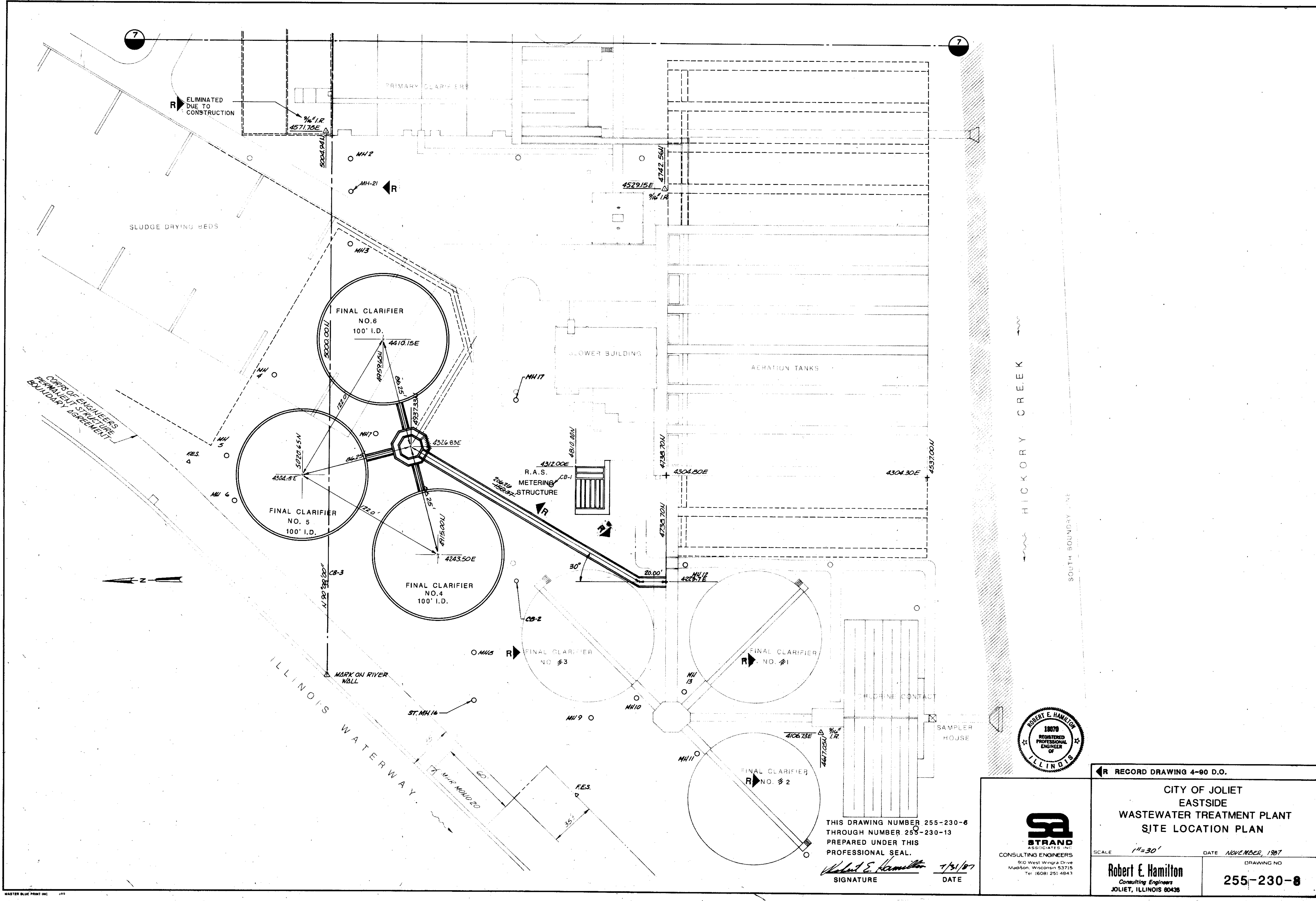
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SITE LOCATION PLAN

SCALE: 1"=30' DATE: NOVEMBER, 1987

Robert E. Hamilton
Consulting Engineers
JOLIET, ILLINOIS 60435

DRAWING NO.
255-230-7

OVERLAY IDENTIFICATION	COMPOSITE	TFS	EXE-1	PRE-1	S.P.-1
PROJECT NO.	OVERLAY	SCREEN	ENG.	DES.	S.P.-2
DATE					



THIS DRAWING NUMBER 255-230-6 THROUGH NUMBER 255-230-13 PREPARED UNDER THIS PROFESSIONAL SEAL.

Robert E. Hamilton 11/31/87
SIGNATURE DATE

STRAND
ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wrigley Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

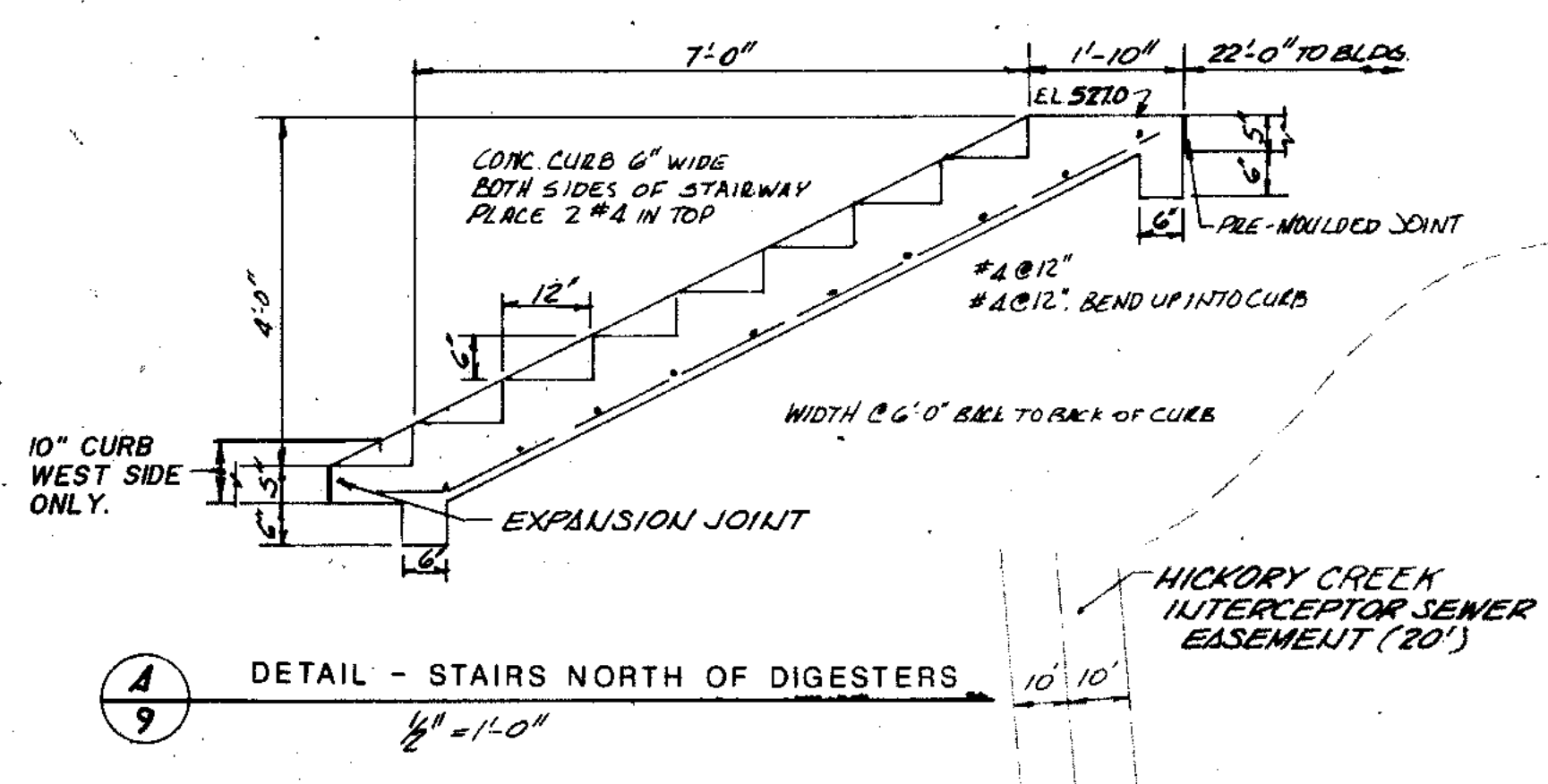
← RECORD DRAWING 4-90 D.O.

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SITE LOCATION PLAN

SCALE 1"=30' DATE NOVEMBER, 1987

Robert E. Hamilton
Consulting Engineers
JOLIET, ILLINOIS 60435

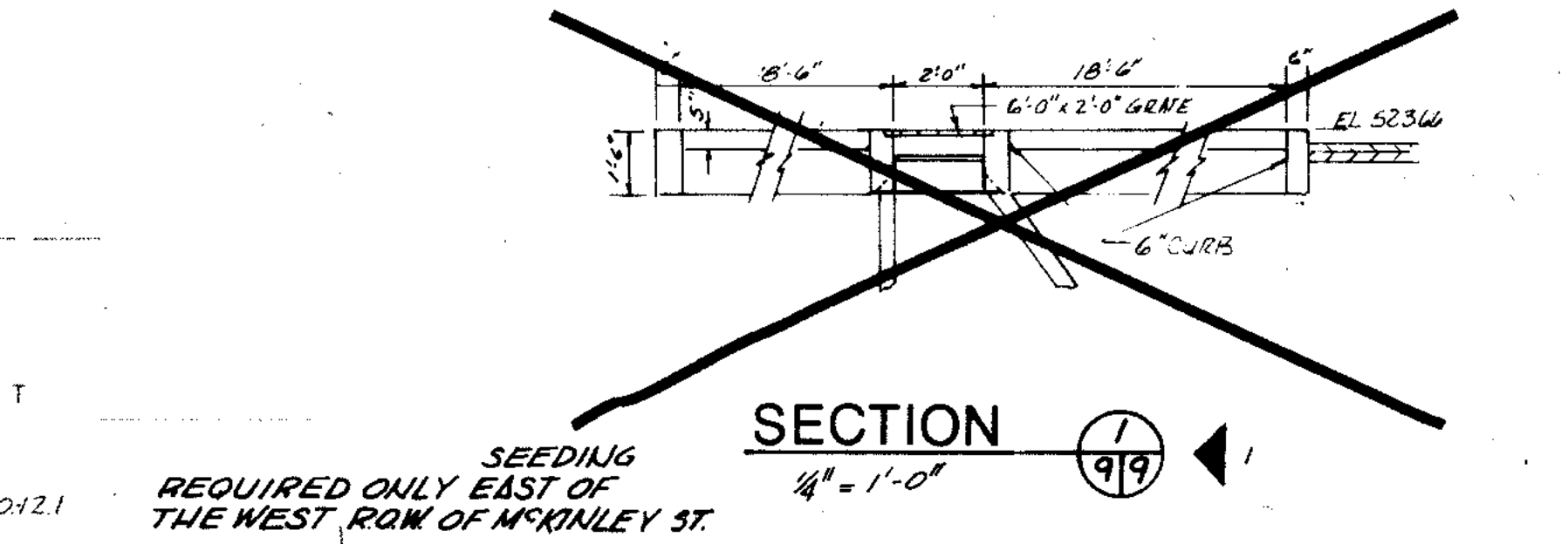
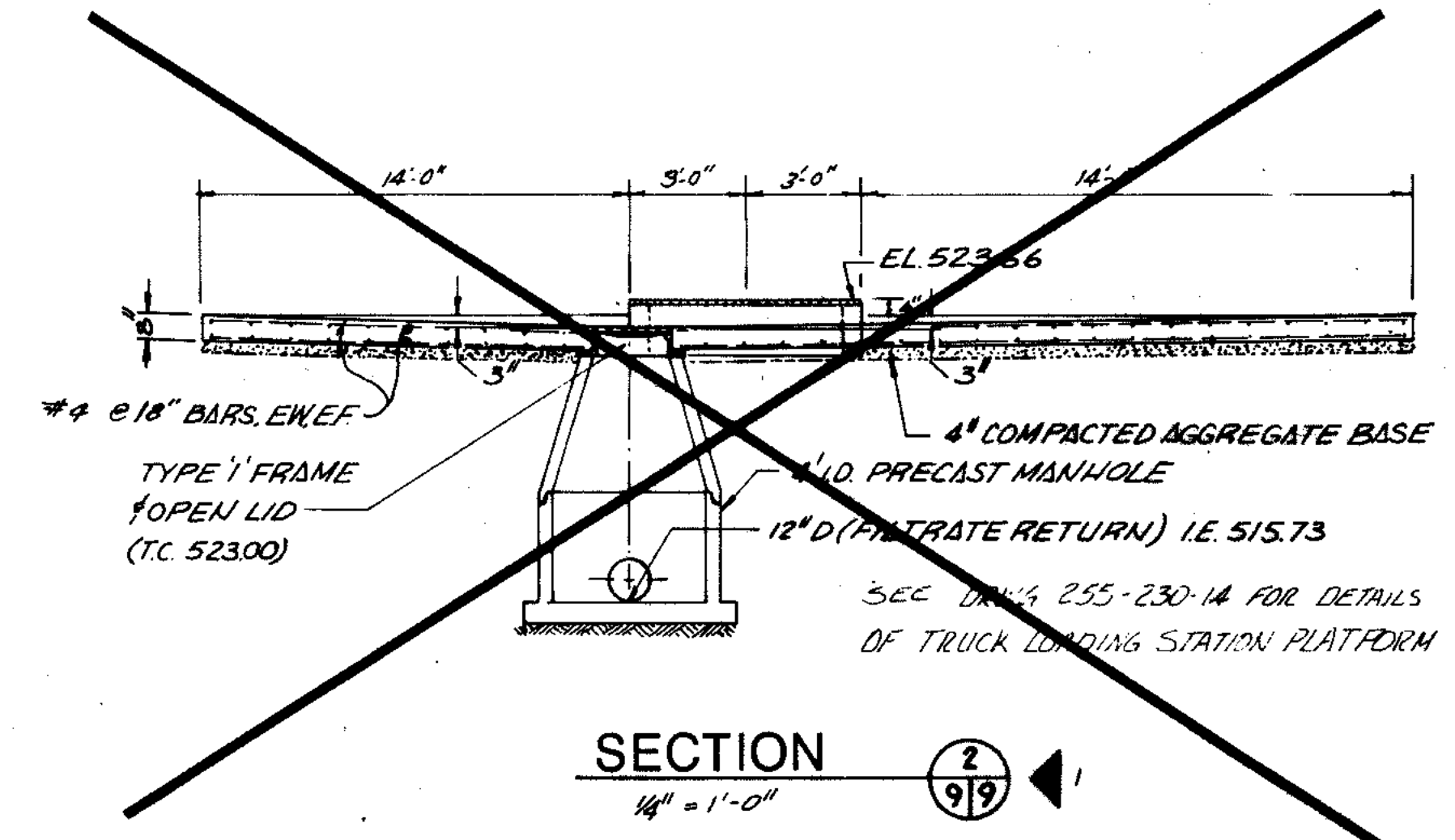
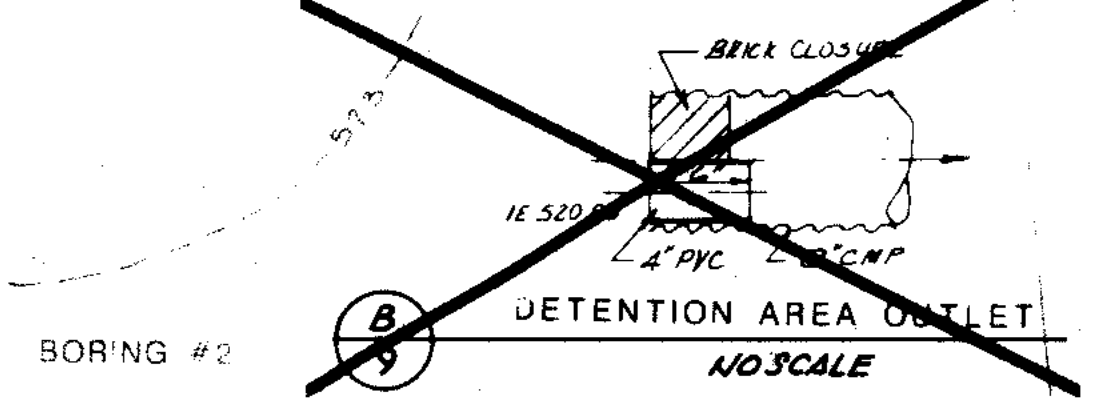
DRAWING NO
255-230-8



R NOTE: REPLACE THE CONCRETE IMMEDIATELY ADJACENT TO THE EXISTING DIGESTER CONTROL BUILDING UP TO THE BUILDING WALL.

INSTALL A NEW FENCE AND GATES FROM THE NORTH SIDE OF THE NORTH ENTRANCE TO THE SOUTH SIDE OF THE SOUTH ENTRANCE. SEE SPECIFICATIONS SECTION 0270 IN THIS REVISION FOR DETAILS. IN THIS REVISION FOR DETAILS.

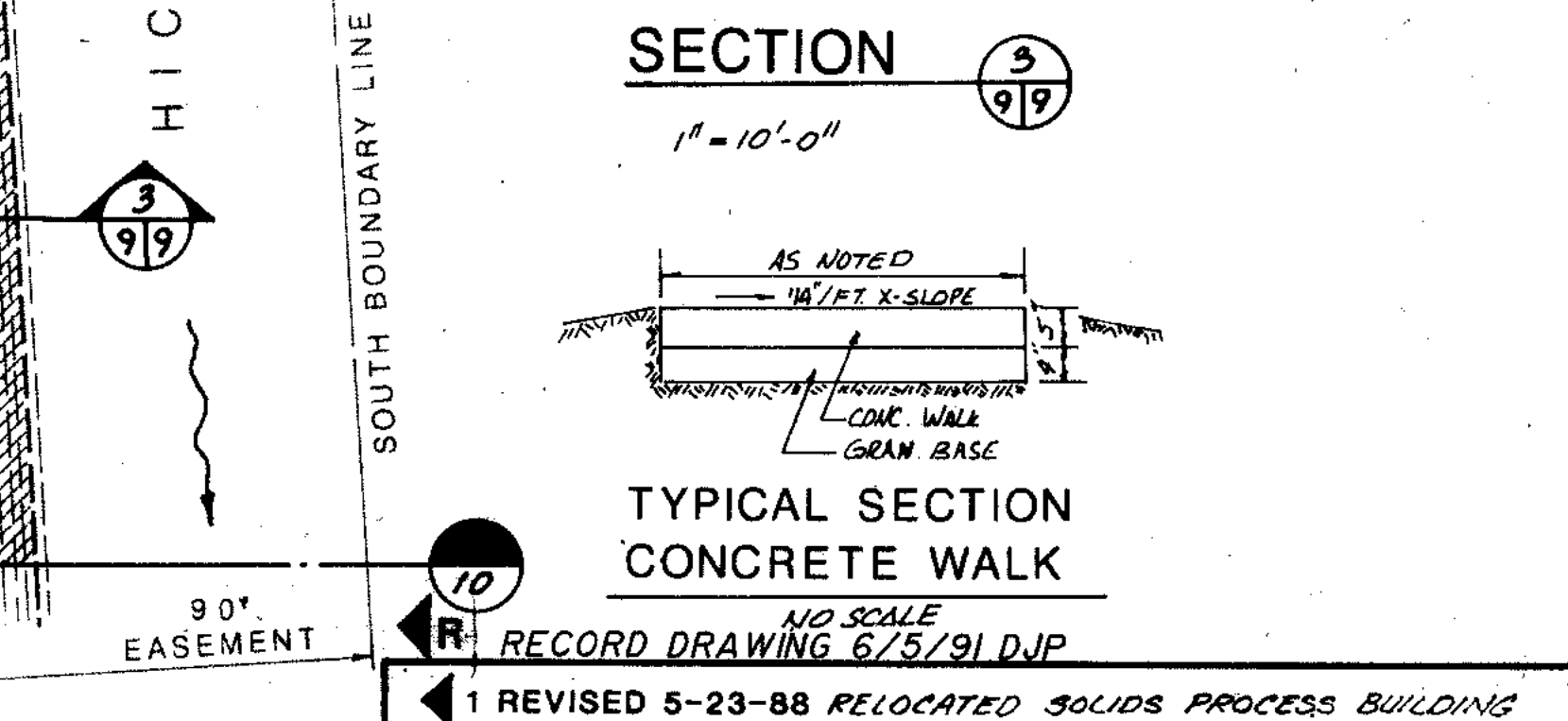
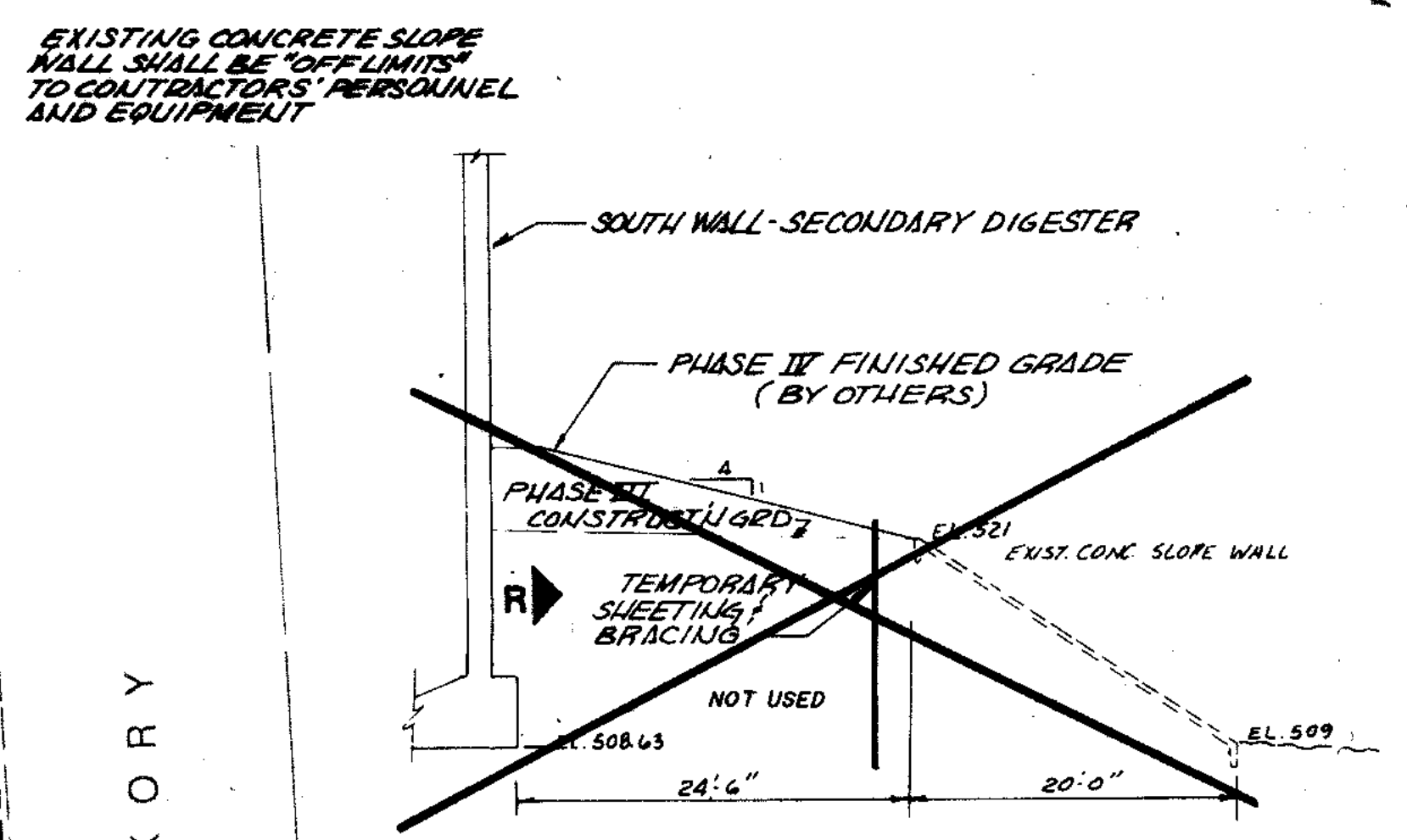
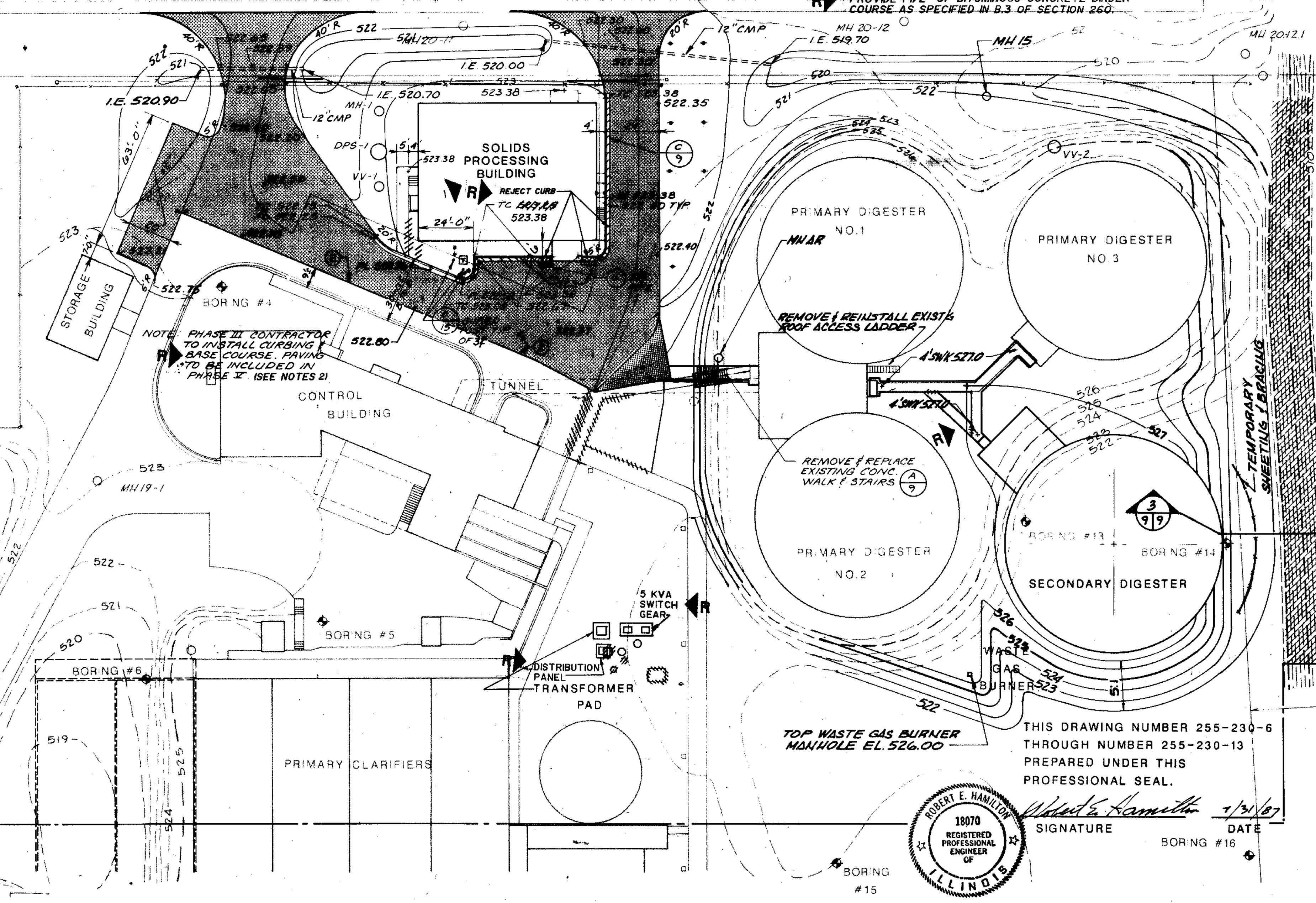
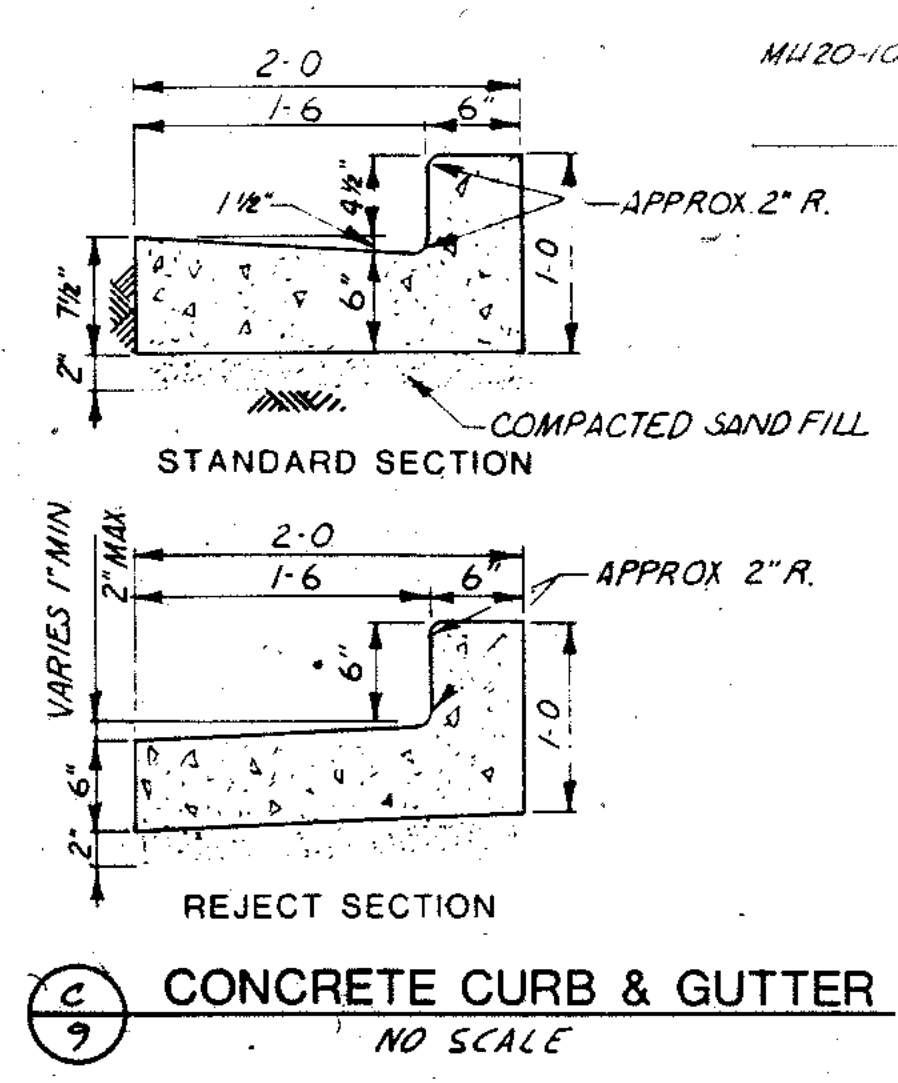
R NOTE: NORTHGATE IS MOTORIZED ROLLING GATE. THERE IS A PUSH BUTTON CONTROLLER NEXT TO THE DOOR ON THE NORTH. IN SIDE OF THE SOLIDS BUILDING. THERE ALSO IS A PORTABLE REMOTE CONTROLLER. SOUTH GATE IS MANUAL ROLLING GATE.



NOTES: 1 TAPER TOP OF CURB FROM 0" AT APRON TO TYPICAL SECTION 8'-0" FROM APRON.

2 SAWCUT EXISTING PAVEMENT FOR PHASE III CONSTRUCTION (CONTRACT 1-87) CONTRACTOR TO PLACE GRANULAR SUBBASE IN ACCORDANCE WITH 260.B.1) AND BITUMINOUS BASE COURSE AT 8" THICKNESS IN ACCORDANCE WITH 260.B.2.

R PROVIDE 1 1/2" OF BITUMINOUS CONCRETE BINDER COURSE AS SPECIFIED IN B.3 OF SECTION 260.



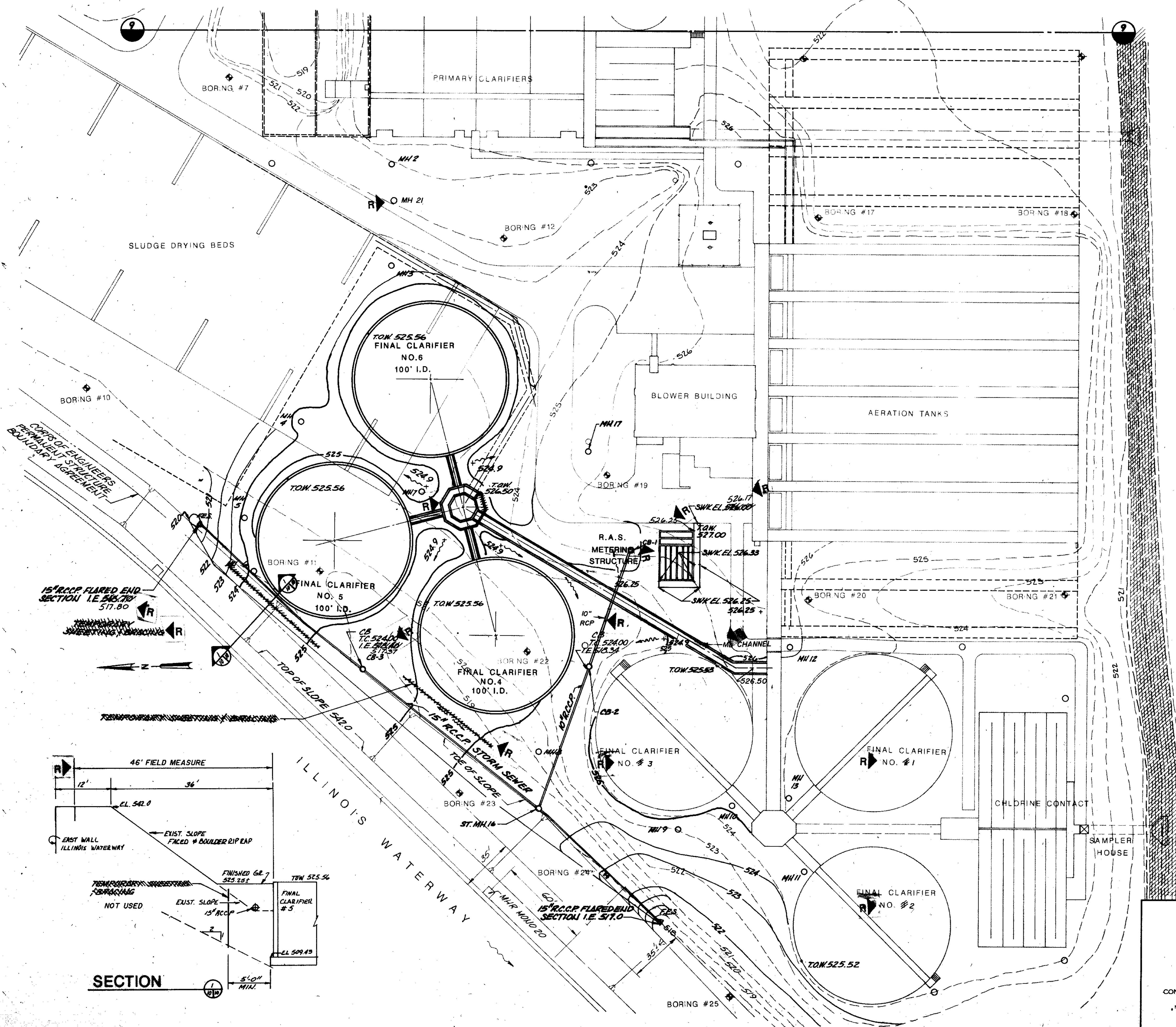
OVERLAY IDENTIFICATION	DATE	BY
COMPOSITE		
OVERLAY		
SCREEN		
PROJECT NO.		
DATE		

ROBERT E. HAMILTON
18070
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS

THIS DRAWING NUMBER 255-230-6 THROUGH NUMBER 255-230-13 PREPARED UNDER THIS PROFESSIONAL SEAL.

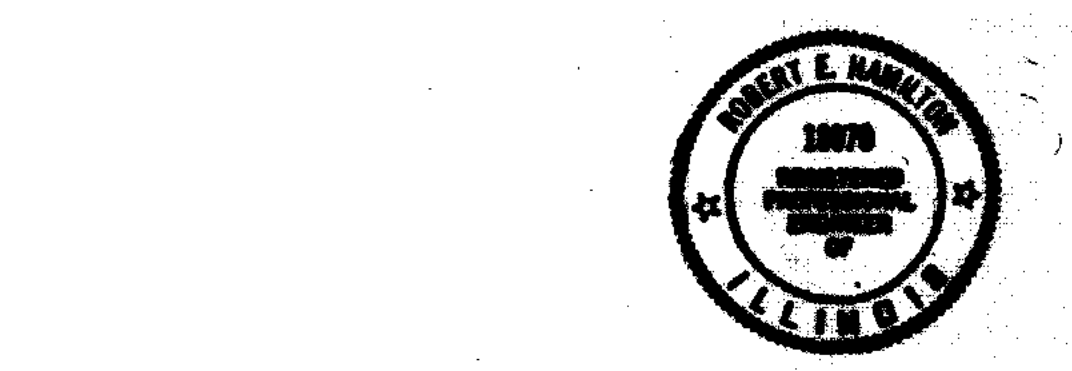
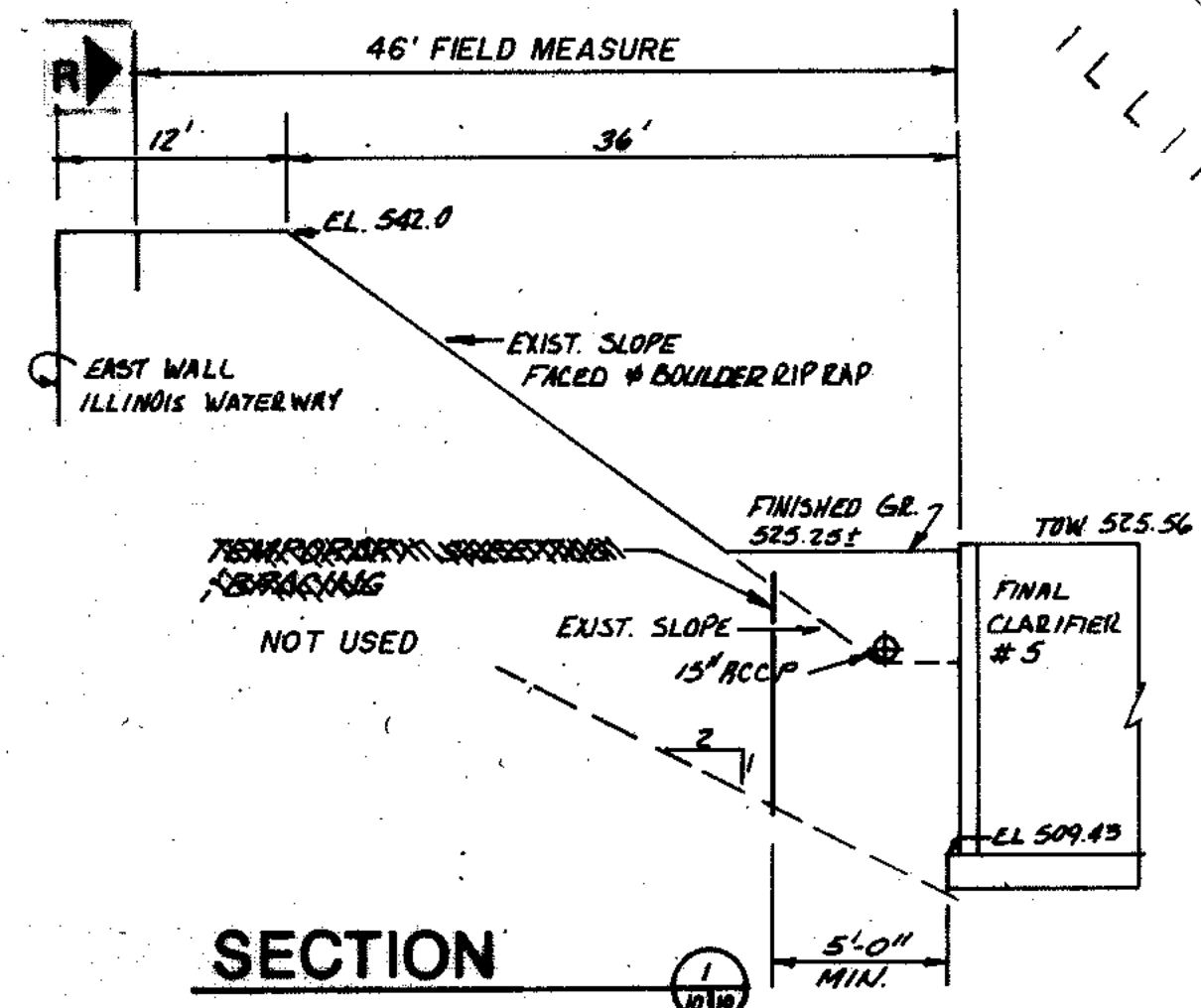
Signature: Robert E. Hamilton
DATE: 1/31/87
BORING # 16

 CONSULTING ENGINEERS 510 West Wmagra Drive Madison, Wisconsin 53715 Tel: (608) 251-4843	CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT SITE GRADING PLAN	
	SCALE 1"=30' Robert E. Hamilton Consulting Engineers JOLIET, ILLINOIS 60435	DATE NOVEMBER, 1987 DRAWING NO. 255-230-9



HICKORY CREEK
SOUTH BOUNDARY LINE

OVERLAY IDENTIFICATION	COMPOSITE	T/B	E/L	D/S	E/S	P/E	P/E	P/E	P/E
PROJECT NO.									
DATE									



THIS DRAWING NUMBER 255-230-6
THROUGH NUMBER 255-230-13
PREPARED UNDER THIS
PROFESSIONAL SEAL.
Robert E. Hamilton 1/10/87
SIGNATURE DATE

RECORD DRAWING

STRAND
ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingo Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SITE GRADING PLAN

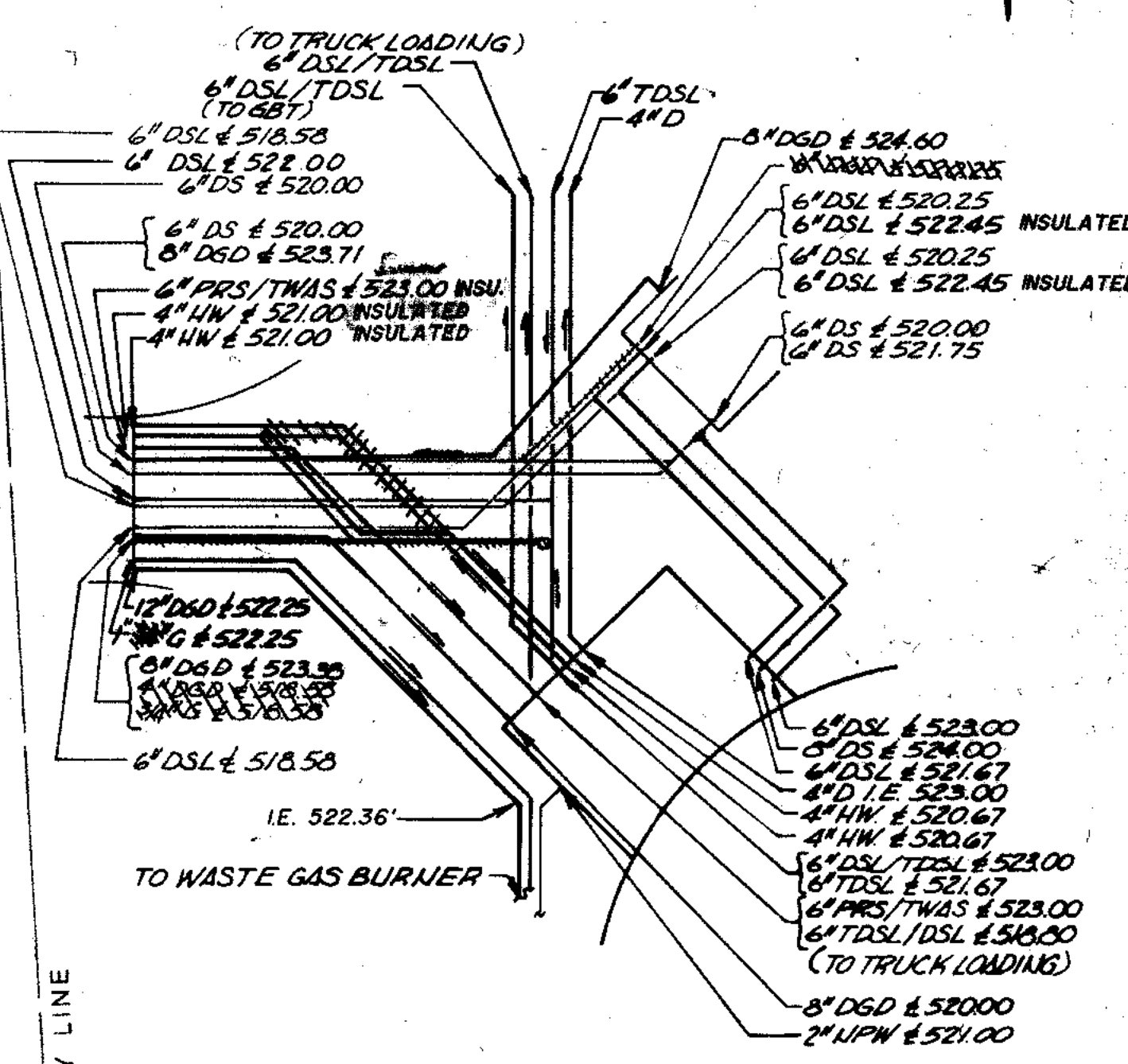
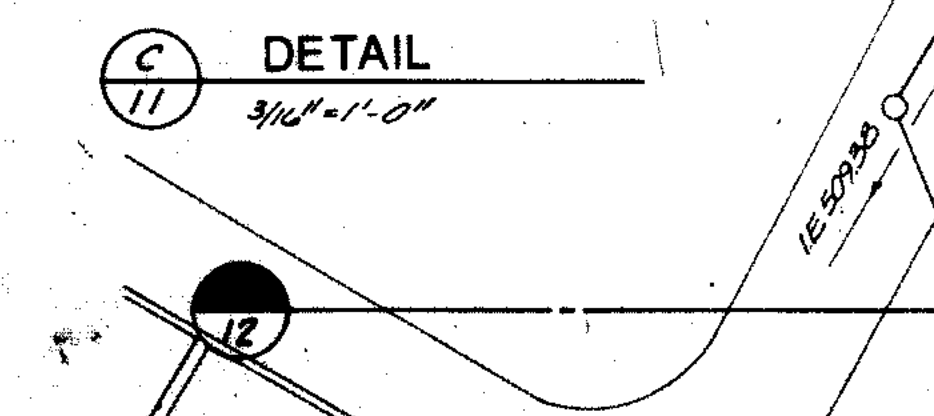
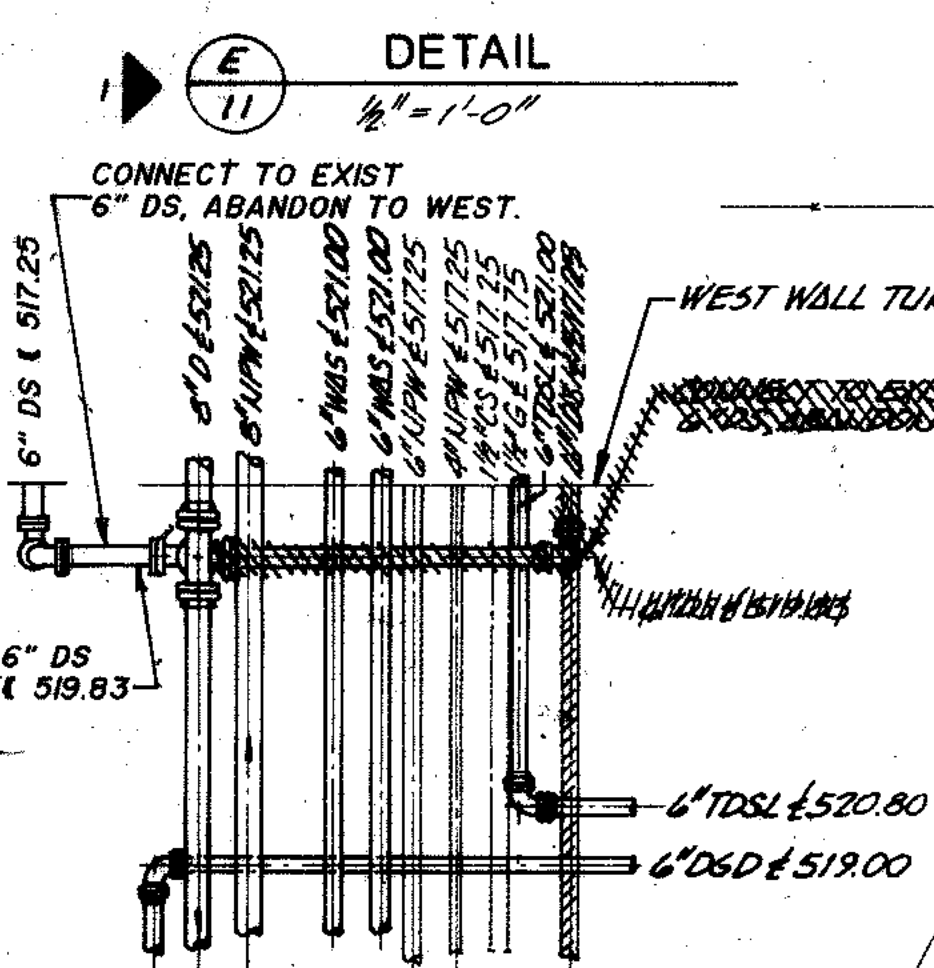
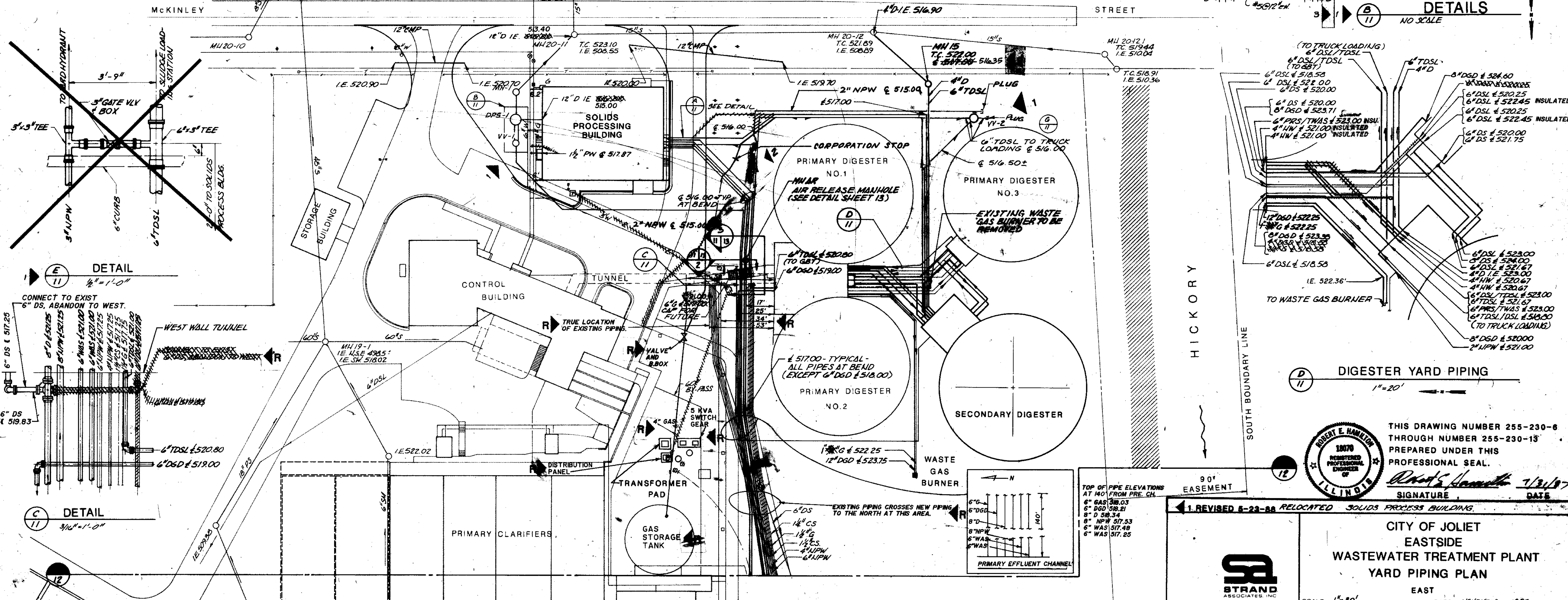
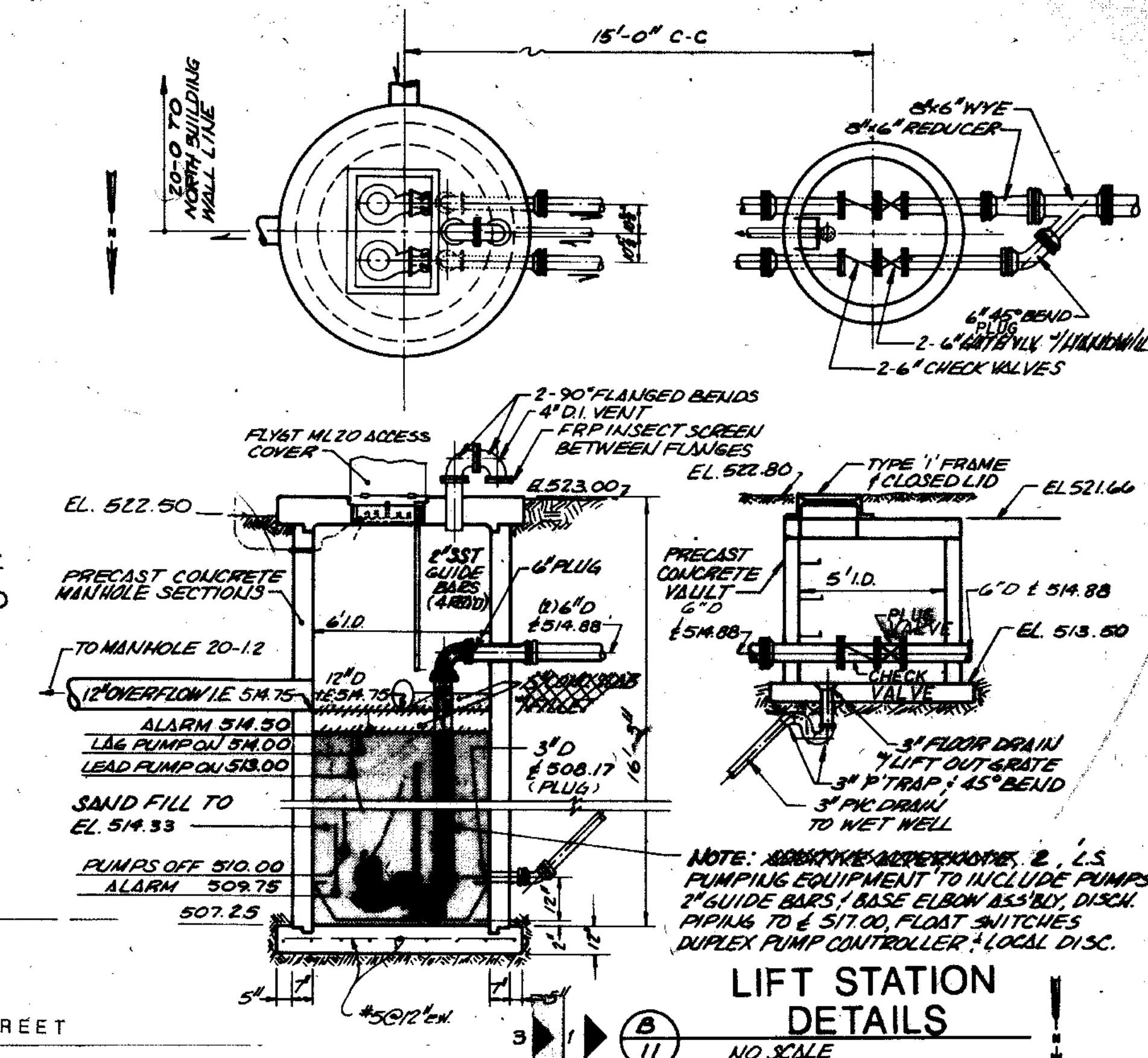
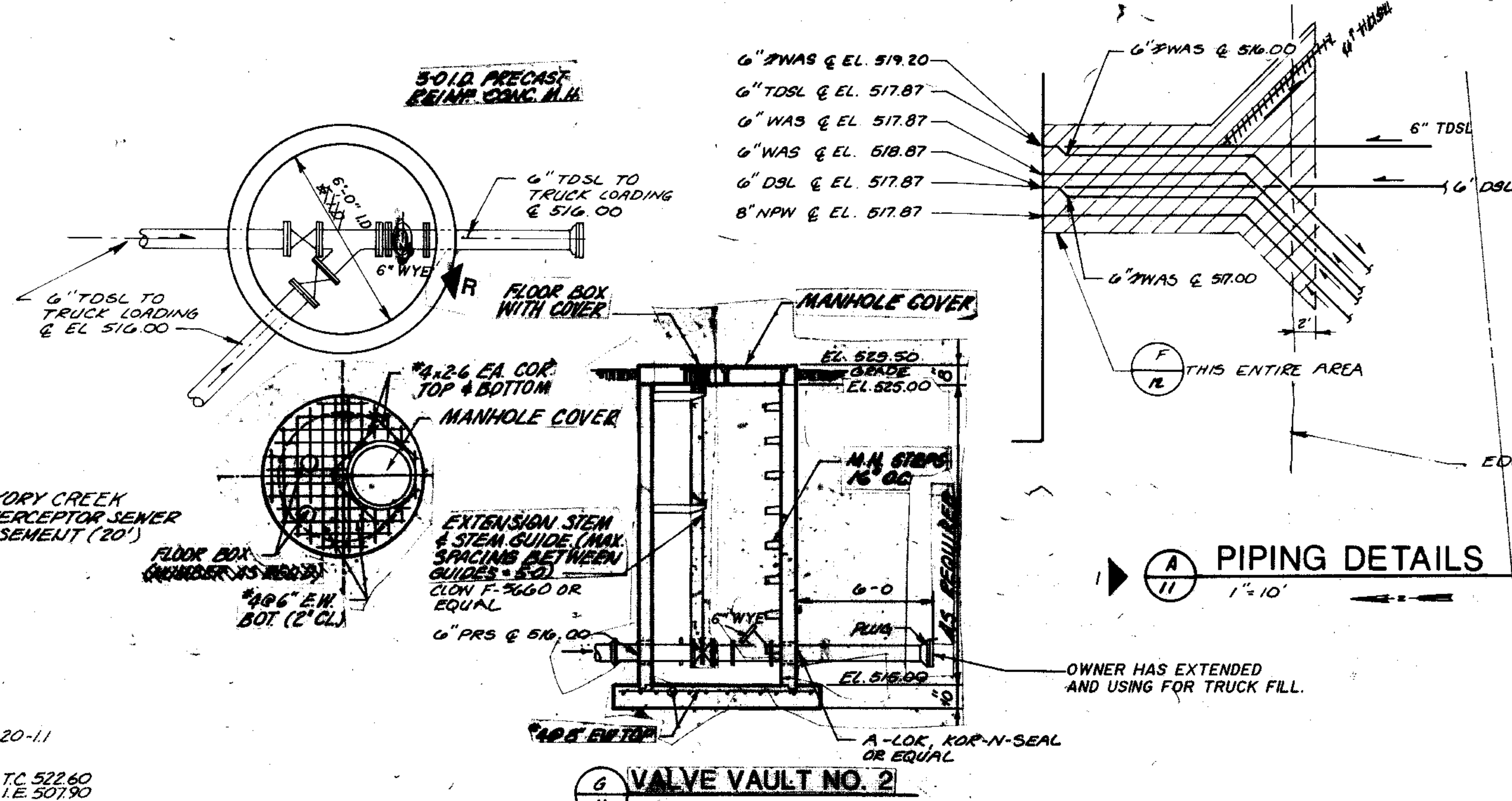
SCALE 1"=30' DATE: NOVEMBER, 1987

Robert E. Hamilton
Consulting Engineer
JOLIET, ILLINOIS 60438

DRAWING NO.
255-230-6

NOTES:

- ALL PIPING LESS THAN 12" SHALL BE CLASS 53 DI. ALL PIPING EQUAL TO OR GREATER THAN 12" SHALL BE CLASS 50, DI UNLESS OTHERWISE SHOWN OR SPECIFIED
- THIS DRAWING DOES NOT INDICATE ALL PIPE FITTINGS REQUIRED TO INSTALL YARD PIPING AS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING ALL REQUIRED FITTINGS
- MH - MANHOLE - SEE DRAWING 01-975-45A (SPECIFICATIONS)
- LOCATIONS AND ELEVATIONS OF EXISTING PIPING ARE APPROXIMATE.
- PROVIDE MINIMUM 5' COVER OVER NEW PW, NPW, PIPING
- TOP OF CASTING ELEVATIONS TO BE FIELD VERIFIED. ADJUST CASTINGS AS REQUIRED
- EXISTING 4-4" ELECTRIC DUCT BANK TO REMAIN IN SERVICE. SEE SHEETS 37 THRU 39 FOR THIS AND OTHER YARD ELECTRICAL FACILITIES
- PROTECT OR REPLACE EXISTING GAS AND POTABLE WATER LINES



THIS DRAWING NUMBER 255-230-6 THROUGH NUMBER 255-230-13 PREPARED UNDER THIS PROFESSIONAL SEAL.

Robert E. Hamilton 11/18/87
SIGNATURE DATE

STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
YARD PIPING PLAN
EAST
SCALE: 1"=30'
DATE: NOVEMBER, 1987
DRAWING NO: 255-230-11

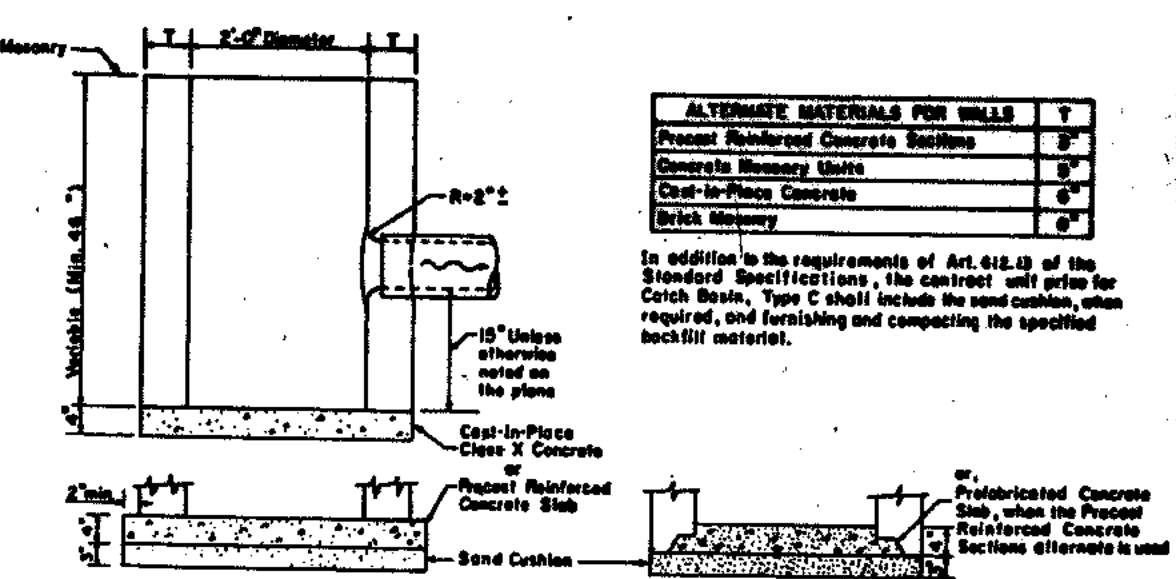
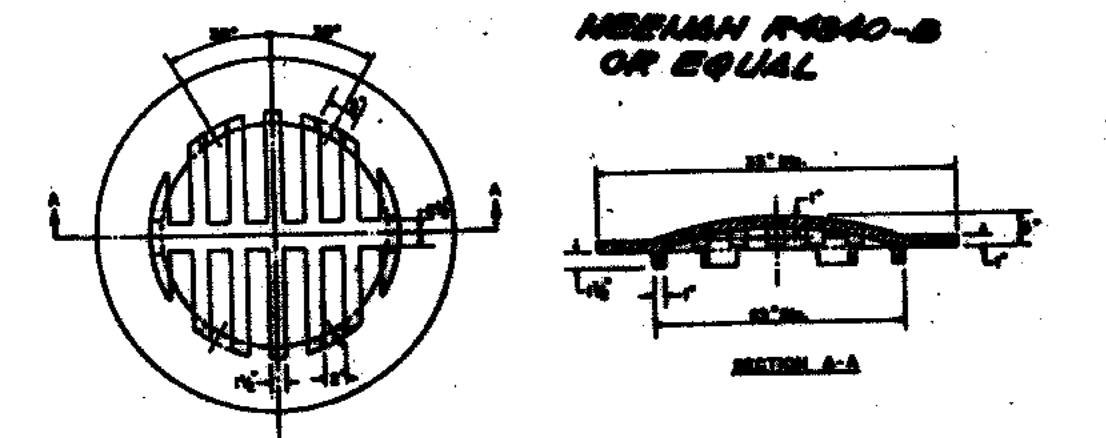
Robert E. Hamilton
Consulting Engineer
JOLIET, ILLINOIS 60436

RECORD DRAWING 4-88 D.O.
3 REVISED 7-1-88 ELEK DETAIL 9/11
2 REVISED 6-21-88 ADDED 2" NPW

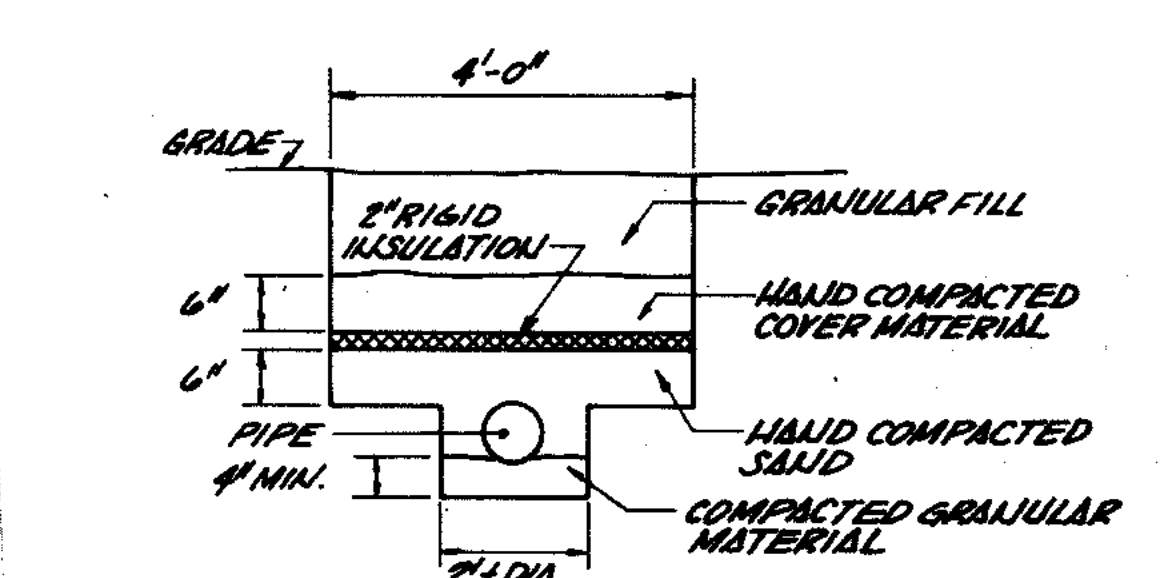
COMPOSITE	DATE	BY	CHK	APP
OVERLAY	DATE	BY	CHK	APP
SCREEN	DATE	BY	CHK	APP

NOTES:

1. ALL PIPING LESS THAN 12" SHALL BE CLASS 33. ALL PIPING EQUAL TO OR GREATER THAN 12" SHALL BE CLASS 80, UNLESS OTHERWISE SHOWN.
2. THIS DRAWING DOES NOT INDICATE ALL PIPE FITTINGS REQUIRED TO INSTALL YARD PIPING AS SHOWN. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND PROVIDING ALL REQUIRED FITTINGS.
3. ANY MANHOLE - SEE DRAWING 01-975-88A (SPECIFICATIONS).
4. LOCATIONS AND ELEVATIONS OF EXISTING PIPING ARE APPROXIMATE.
5. PROVIDE MINIMUM 5' COVER OVER AEN FOR NPW PIPING.
6. TOP OF CASTING ELEVATIONS TO BE FIELD VERIFIED. ADJUST CASTINGS AS REQUIRED.
7. EXISTING 4-4" ELECTRIC DUCT BANK TO REMAIN IN SERVICE. SEE SHEETS 87 THRU 89 FOR THIS AND OTHER YARD ELECTRICAL FACILITIES.
8. PROTECT OR REPLACE EXISTING GAS AND POTABLE WATER LINES.



CATCH BASIN DETAIL
NO SCALE



UNDERGROUND PIPE INSULATION
NO SCALE

NOTE: INSULATION REQUIRED ON ALL PIPES HAVING LESS THAN 4'-0" OF COVER.
NOTE: NO INSULATION OVER 48x60 HE PIPE.



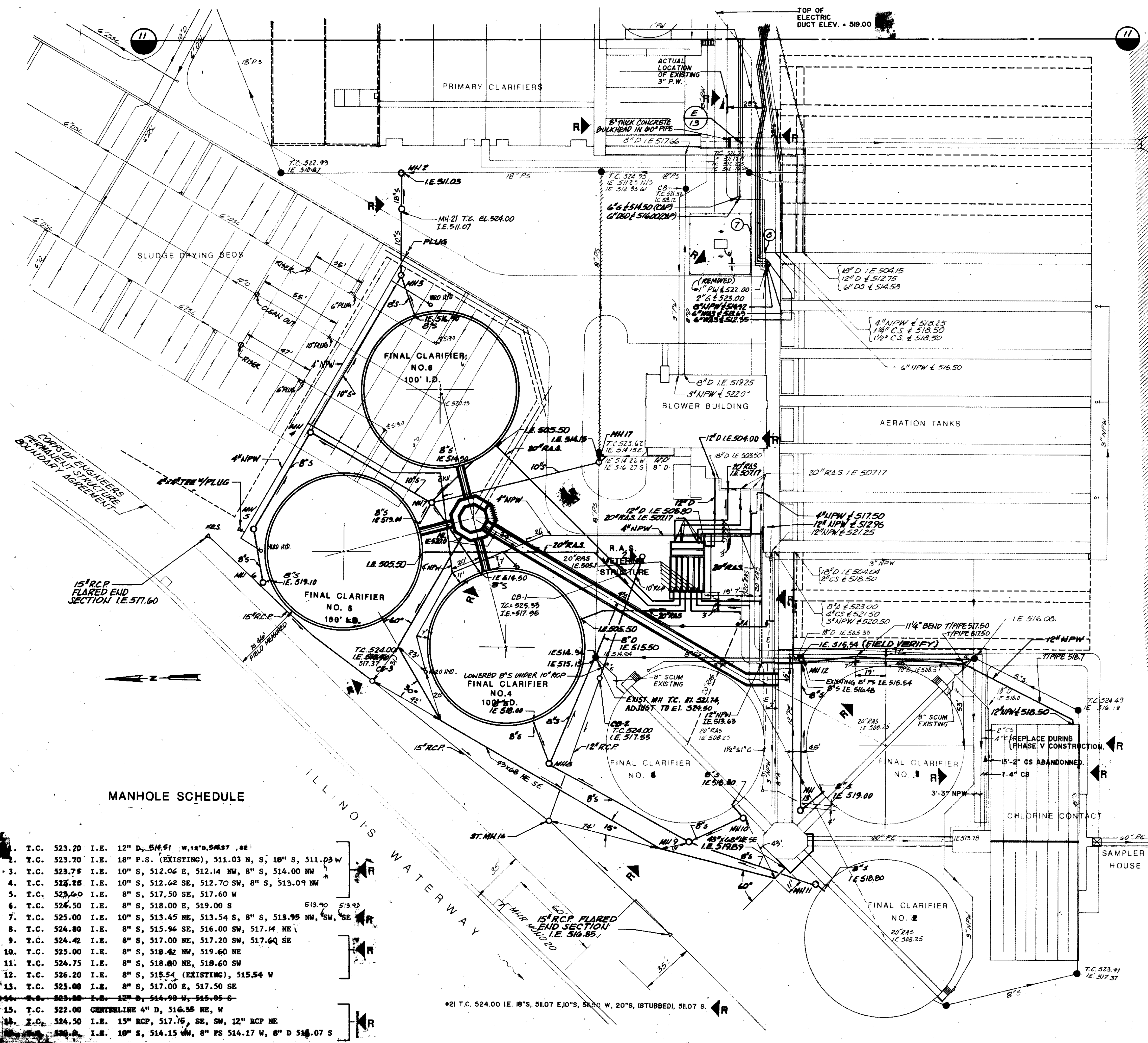
THIS DRAWING NUMBER 255-230-8 THROUGH NUMBER 255-230-13 PREPARED UNDER THIS PROFESSIONAL SEAL.

RECORD DRAWING 4-90 JKP
REVISED 8-21-88
REVISED 8-23-88 REVISED MANHOLE SCHEDULE

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wrigley Drive
Madison, Wisconsin 53715
Tel. (608) 261-4843

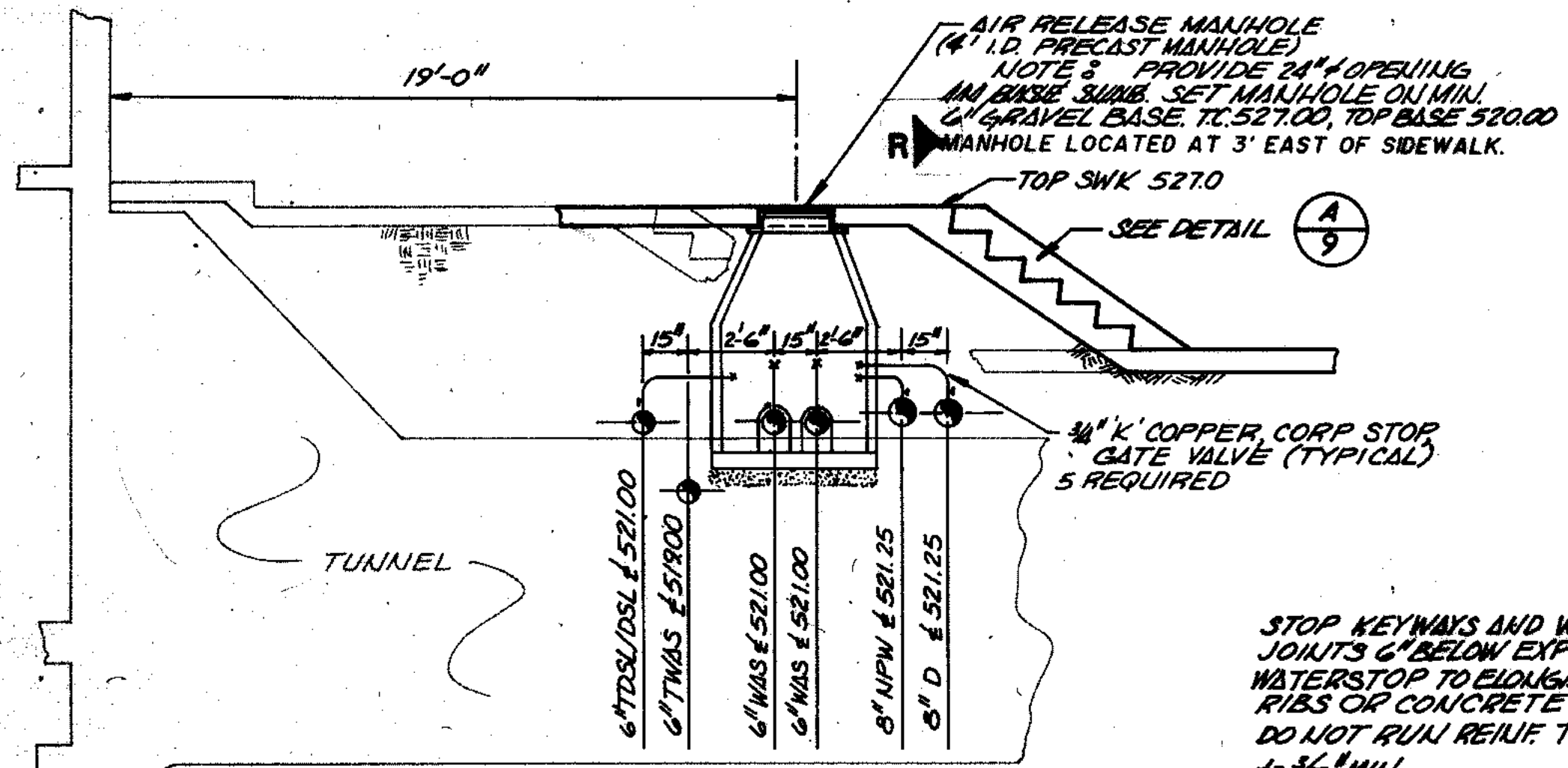
SCALE: 1"=30'
DATE: NOVEMBER 1987
DRAWING NO.



MANHOLE SCHEDULE

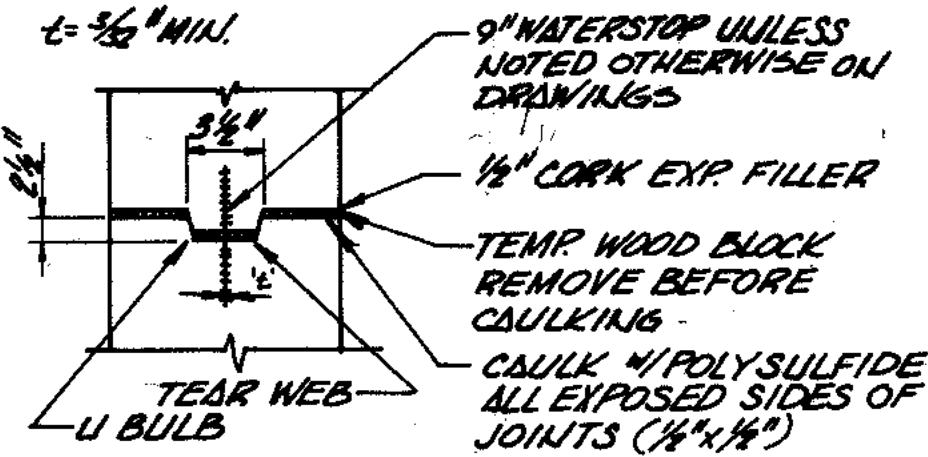
1. T.C. 523.20 I.E. 12" D, 514.51 W, 12'0.54x87, 08
2. T.C. 523.70 I.E. 18" P.S. (EXISTING), 511.03 N, S, 18" S, 511.03 W
3. T.C. 523.75 I.E. 10" S, 512.04 E, 512.14 NW, 8" S, 514.00 NW
4. T.C. 523.75 I.E. 10" S, 512.62 SE, 512.70 SW, 8" S, 513.09 NW
5. T.C. 523.60 I.E. 8" S, 517.50 SE, 517.60 W
6. T.C. 524.50 I.E. 8" S, 518.00 E, 519.00 S
7. T.C. 525.00 I.E. 10" S, 513.45 NE, 513.54 S, 8" S, 513.95 NW, SW, SE
8. T.C. 524.80 I.E. 8" S, 515.96 SE, 516.00 SW, 517.14 NE
9. T.C. 524.42 I.E. 8" S, 517.00 NE, 517.20 SW, 517.60 SE
10. T.C. 525.00 I.E. 8" S, 518.42 NW, 519.60 NE
11. T.C. 524.75 I.E. 8" S, 518.80 NE, 518.60 SW
12. T.C. 526.20 I.E. 8" S, 515.54 (EXISTING), 515.54 W
13. T.C. 525.00 I.E. 8" S, 517.00 E, 517.50 SE
14. T.C. 523.88 I.E. 12" D, 514.90 W, 515.05 E
15. T.C. 522.00 CENTERLINE 4" D, 516.95 NE, W
16. T.C. 524.50 I.E. 15" RCP, 517.75 SE, SW, 12" RCP NE
17. T.C. 524.50 I.E. 10" S, 514.15 NW, 8" PS 514.17 W, 8" D 514.07 S

*21 T.C. 524.00 I.E. 18" S, 510.7 E, 10" S, 510.0 W, 20" S, (ISTUBBED), 510.7 S

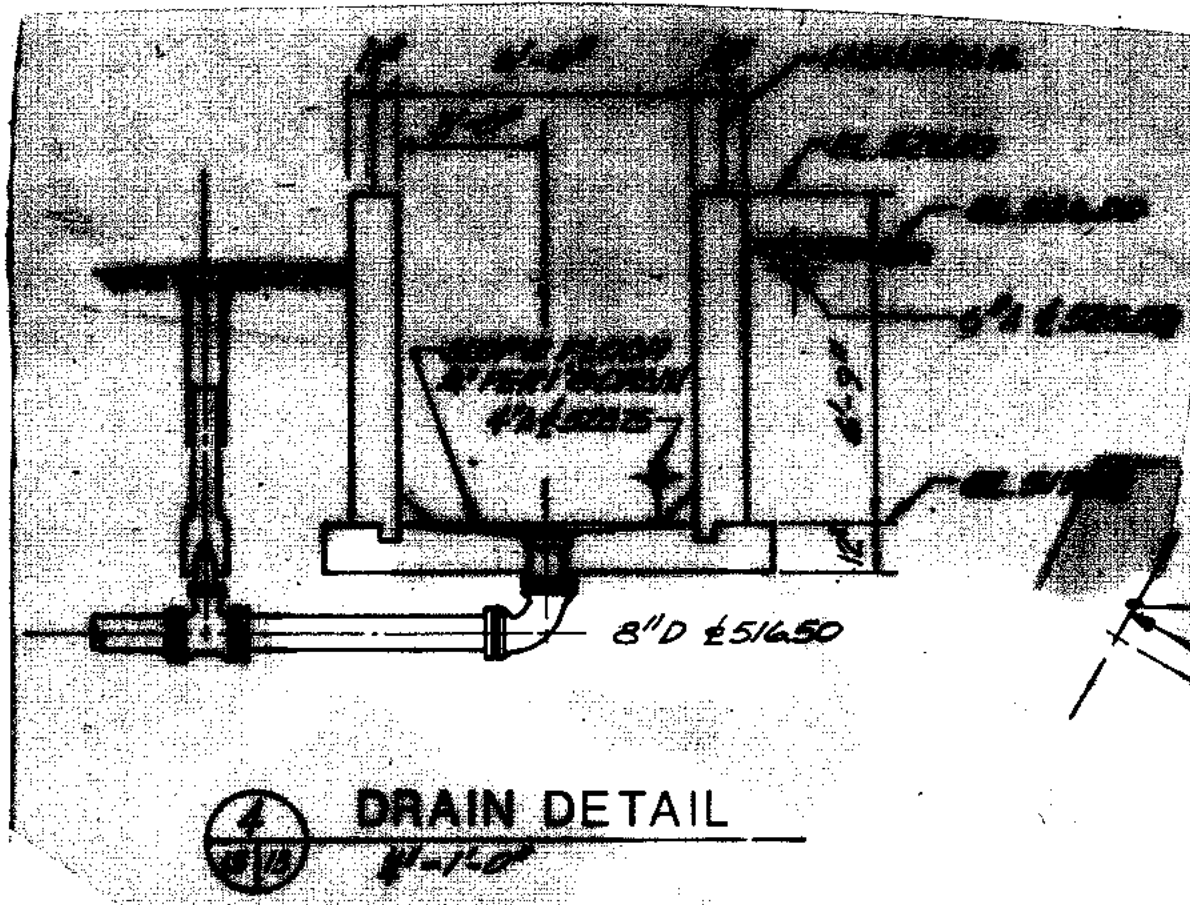


SECTION 2
1/4" = 1'-0"

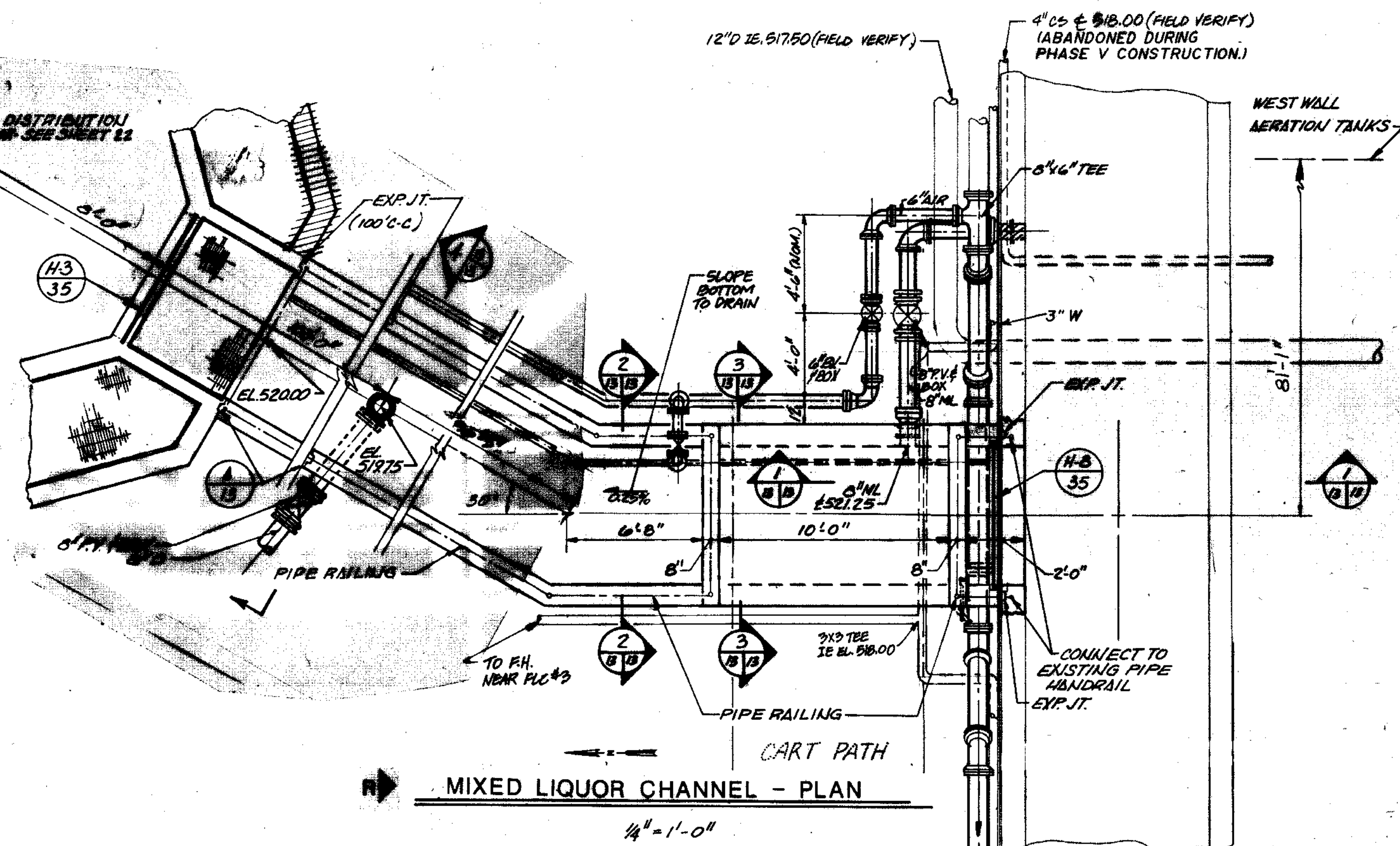
STOP KEYWAYS AND WATERSTOPS IN VERT JOINTS 6" BELOW EXPOSED TOP OF WALL WATERSTOP TO ELONGATE 1" WITHOUT STRESS & RIBS OF CONCRETE DO NOT RUN REIN. THRU JOINT 1/4" MIN.



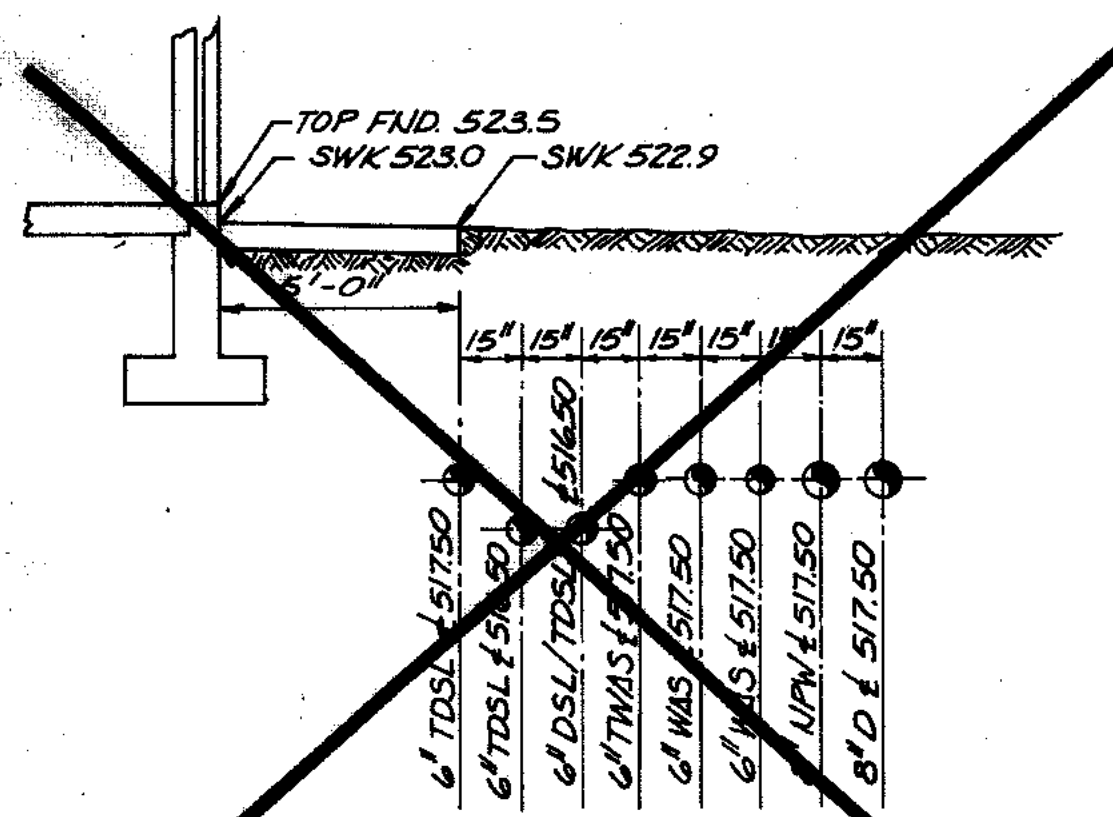
DETAIL 1
NO SCALE



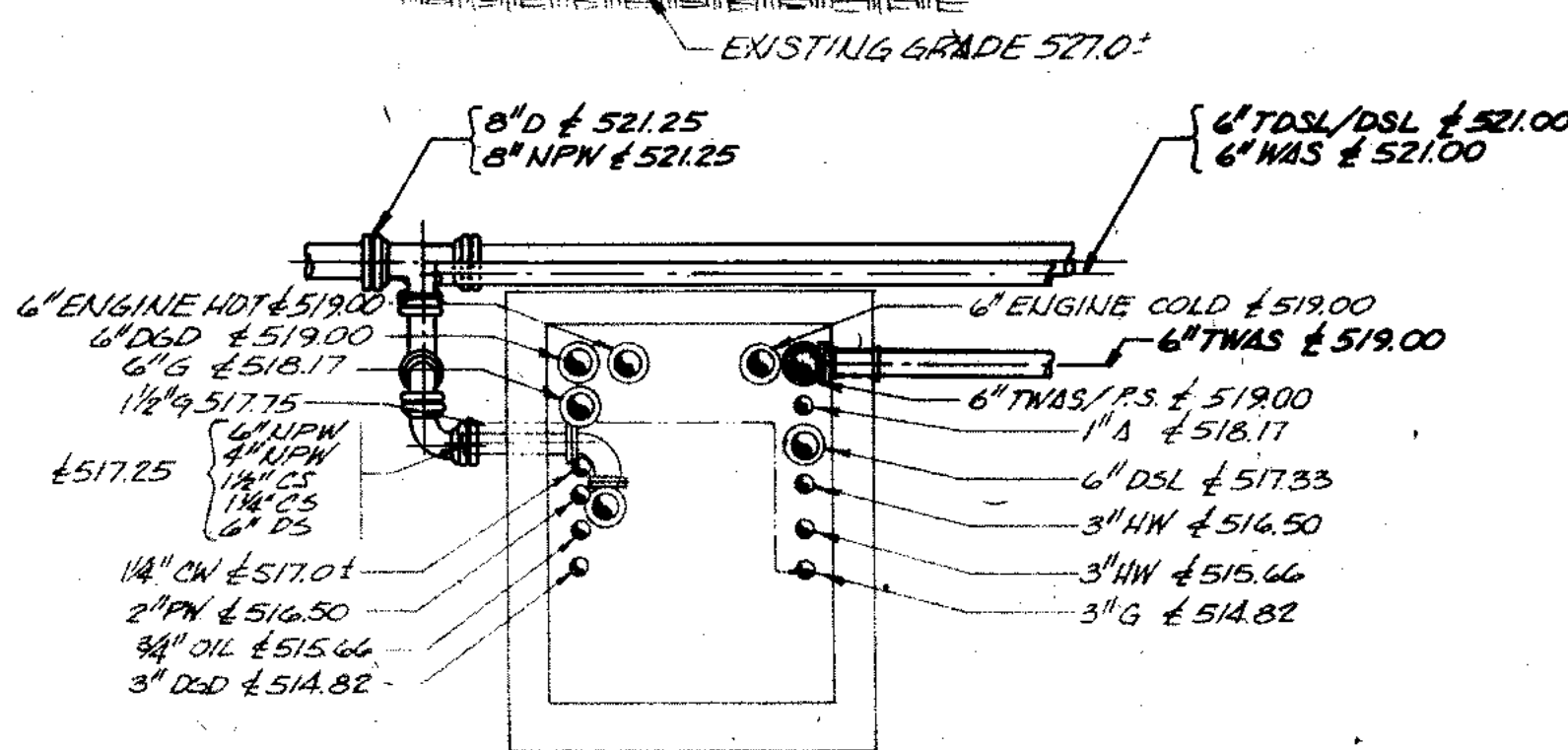
DRAIN DETAIL



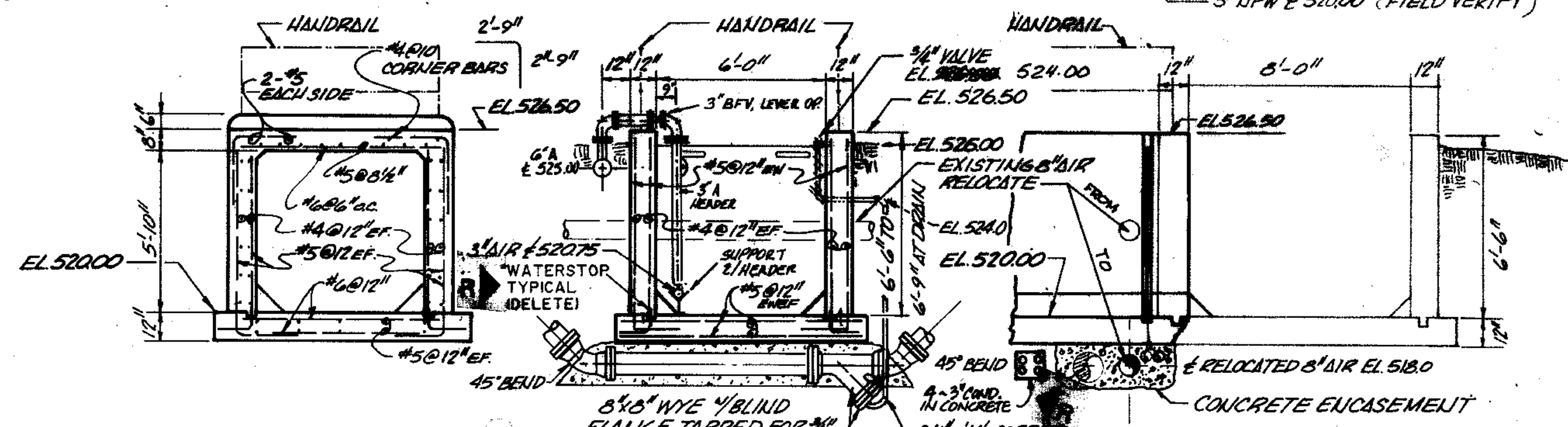
MIXED LIQUOR CHANNEL - PLAN



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



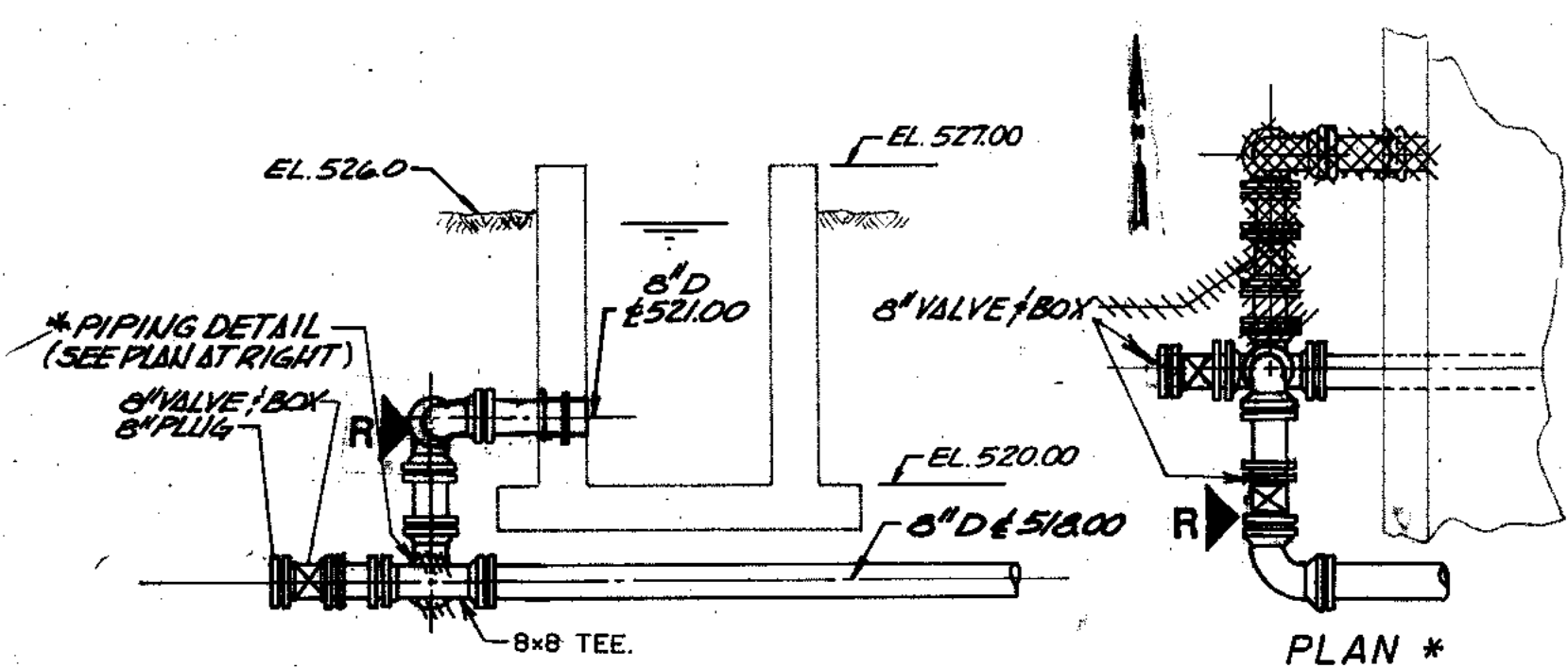
SECTION 3
1/4" = 1'-0"



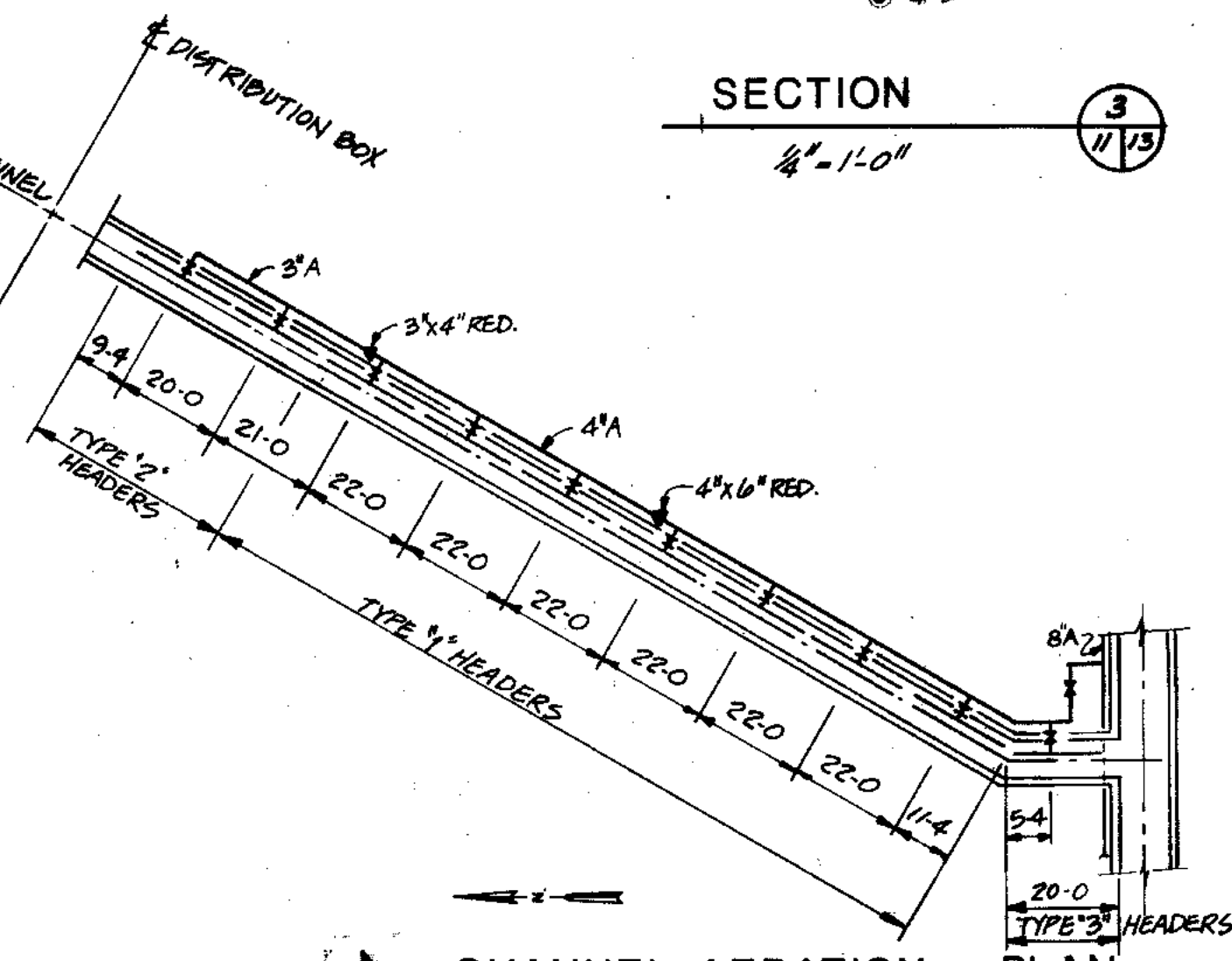
SECTION 3
1/4" = 1'-0"

SECTION 2
1/4" = 1'-0"

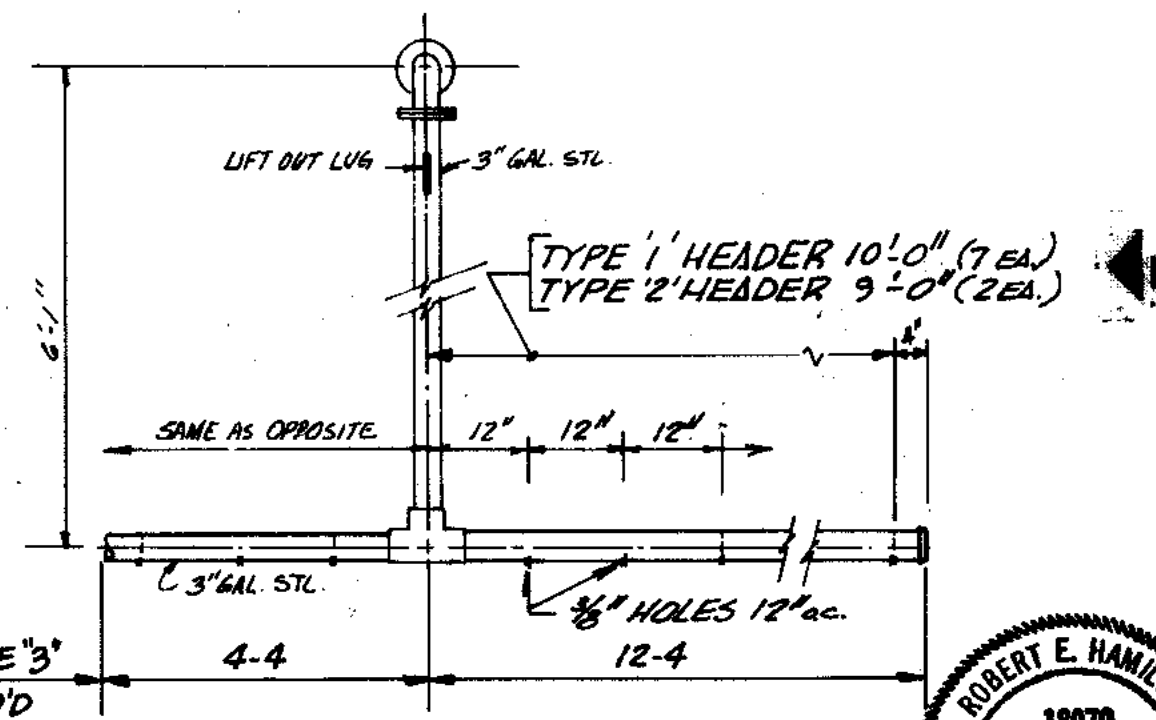
SECTION 1
1/4" = 1'-0"



DETAIL E
1/4" = 1'-0"



CHANNEL AERATION - PLAN
NO SCALE



CHANNEL AERATION - DETAIL
LIFT OUT HEADER

THIS DRAWING NUMBER 255-230-6 THROUGH NUMBER 255-230-13 PREPARED UNDER THIS PROFESSIONAL SEAL.

SIGNATURE DATE

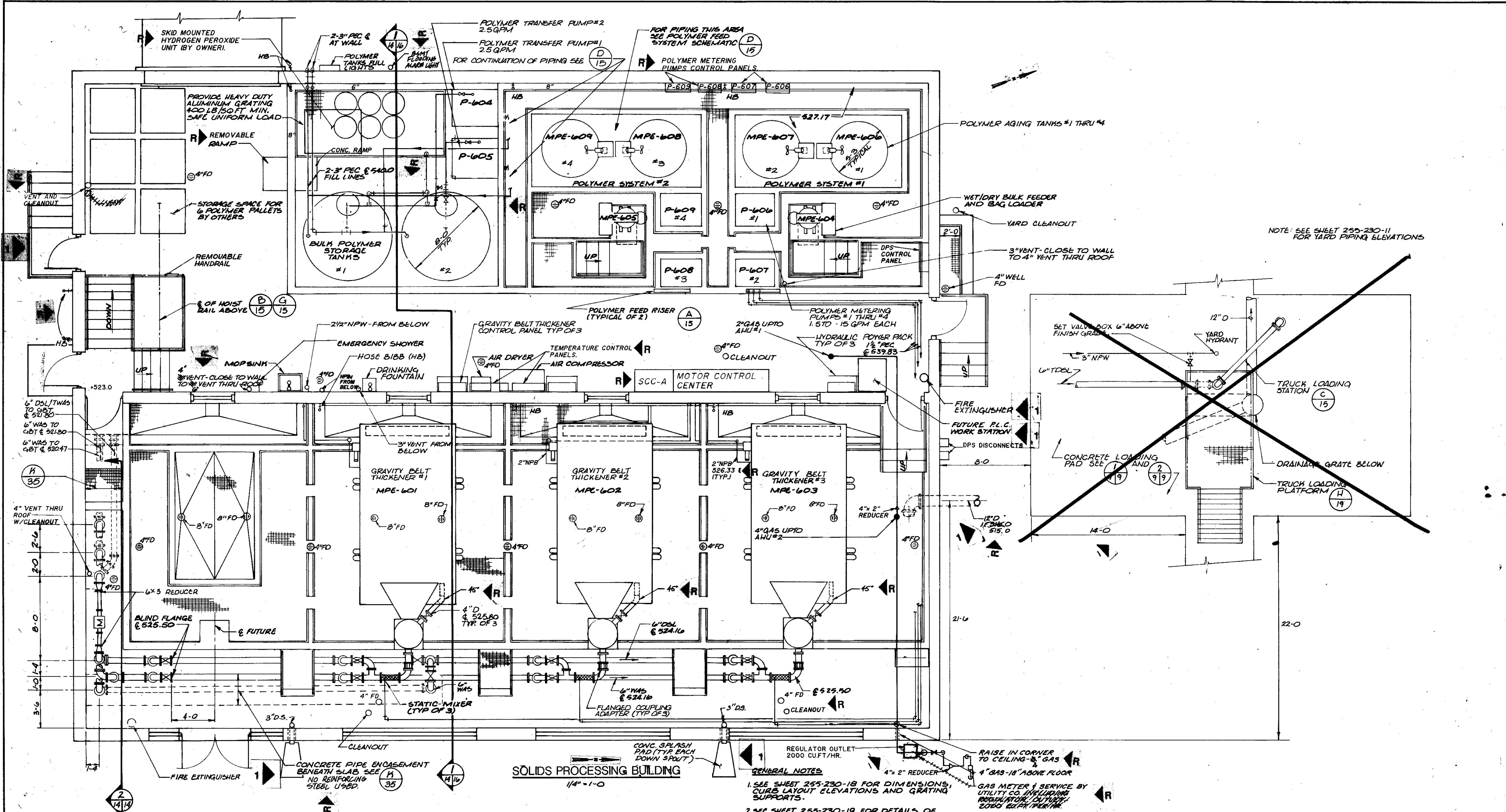
RECORDED DRAWING 4-99 P.O. REVISED 4-23-88

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
YARD PIPING PLAN
DETAILS

STRAND ASSOCIATED INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

SCALE AS SHOWN DATE NOVEMBER, 1987
DRAWING NO. 255-230-13
Robert E. Hamilton
Consulting Engineers
JOLIET, ILLINOIS 60435

COMPOSITE	DATE	BY
OVERLAY	DATE	BY
SCREEN	DATE	BY

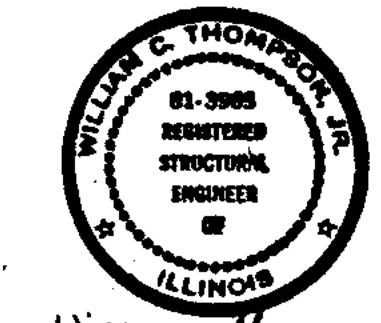
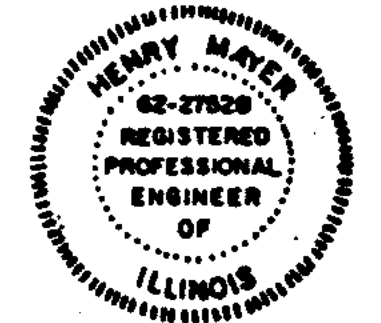
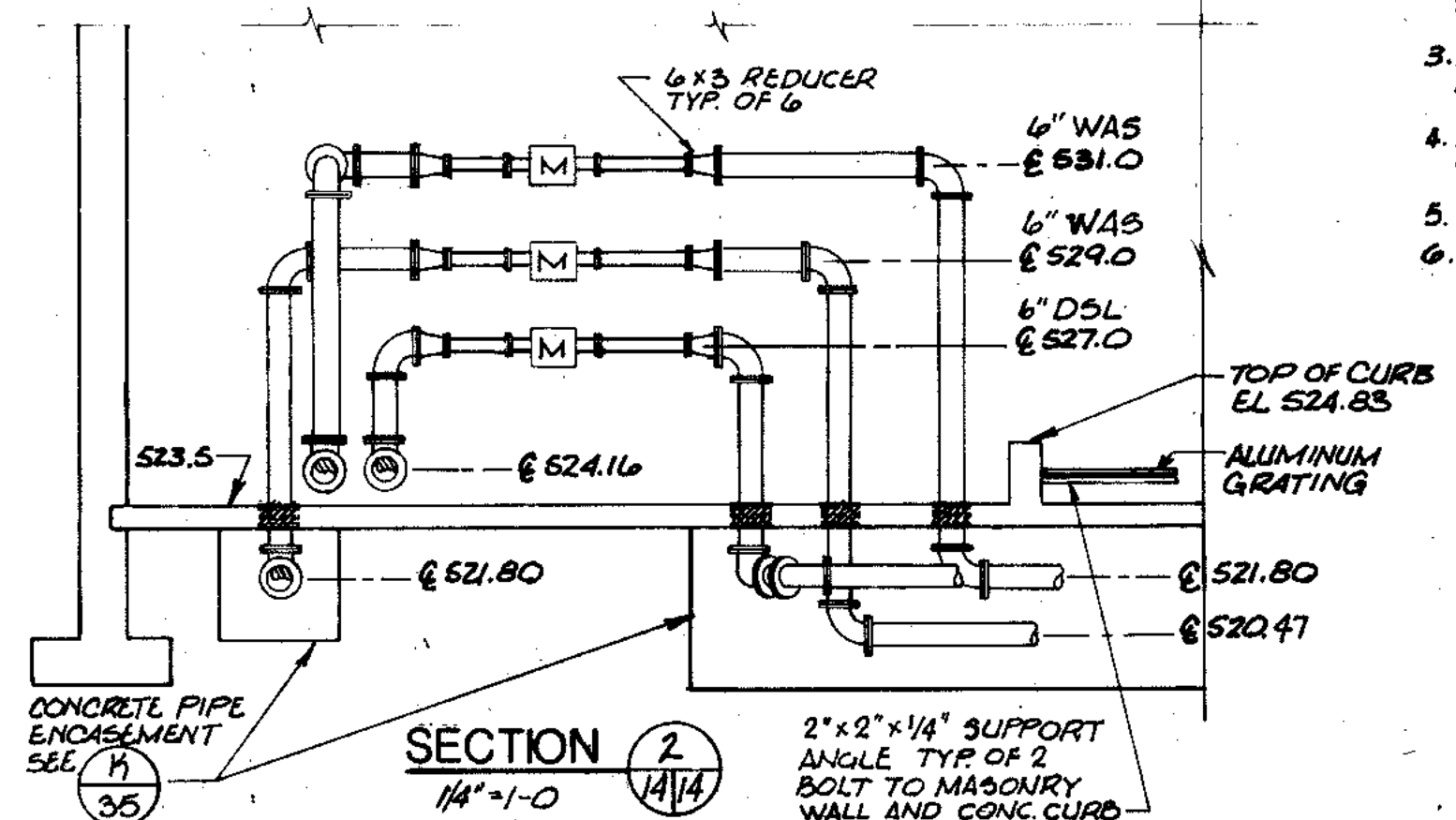


NOTE: SEE SHEET 255-230-11 FOR YARD PIPING ELEVATIONS

SOLIDS PROCESSING BUILDING
1/4" = 1'-0"

GENERAL NOTES

- SEE SHEET 255-230-18 FOR DIMENSIONS, CURB LAYOUT ELEVATIONS AND GRATING SUPPORTS.
 - SEE SHEET 255-230-19 FOR DETAILS OF STAIRWAYS AND PLATFORMS.
 - SEE SHEET 255-230-17 FOR FOUNDATION PLAN AND TYPICAL WALL SECTIONS
 - ALL INTERIOR WALL AND FLOOR PENETRATIONS SHALL BE GAS TIGHT
 - SEE SHEET 255-230-52 FOR PLUMBING SCHEMATICS
 - SEE DRAWING 255-230-34 FOR ROOF PLAN.
- THIS DRAWING NO. 255-230-14 THRU 255-230-36 PREPARED UNDER THIS PROFESSIONAL SEAL.
- STRUCTURAL ENGINEERING ON DRAWING NO. 255-230-14 THRU 255-230-36 PREPARED UNDER THIS PROFESSIONAL SEAL.



COMPOSITE	SPRO-A	IN-ST-A	DN-14
OVERLAY	SPRO-A	IN-ST-A	DN-14
SCREEN			
PROJECT NO.			
DATE			

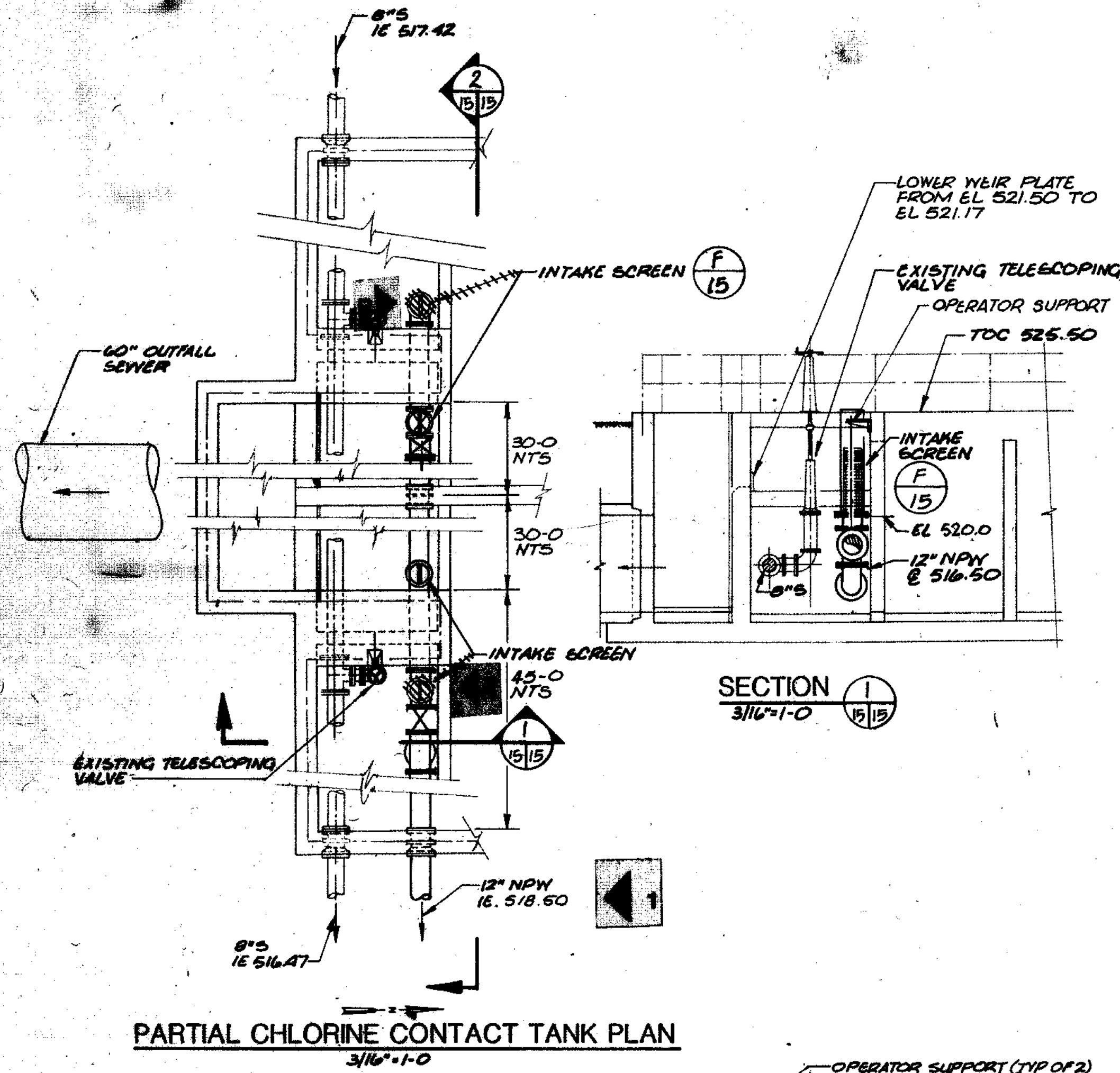
RECORD DRAWING 4-90 D.O.
1 REVISED 5-23-88 RELOCATED WALKS, GAS METER, DELETED TRUCK LOADING STA.

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SOLIDS PROCESSING BUILDING
FIRST FLOOR PLAN

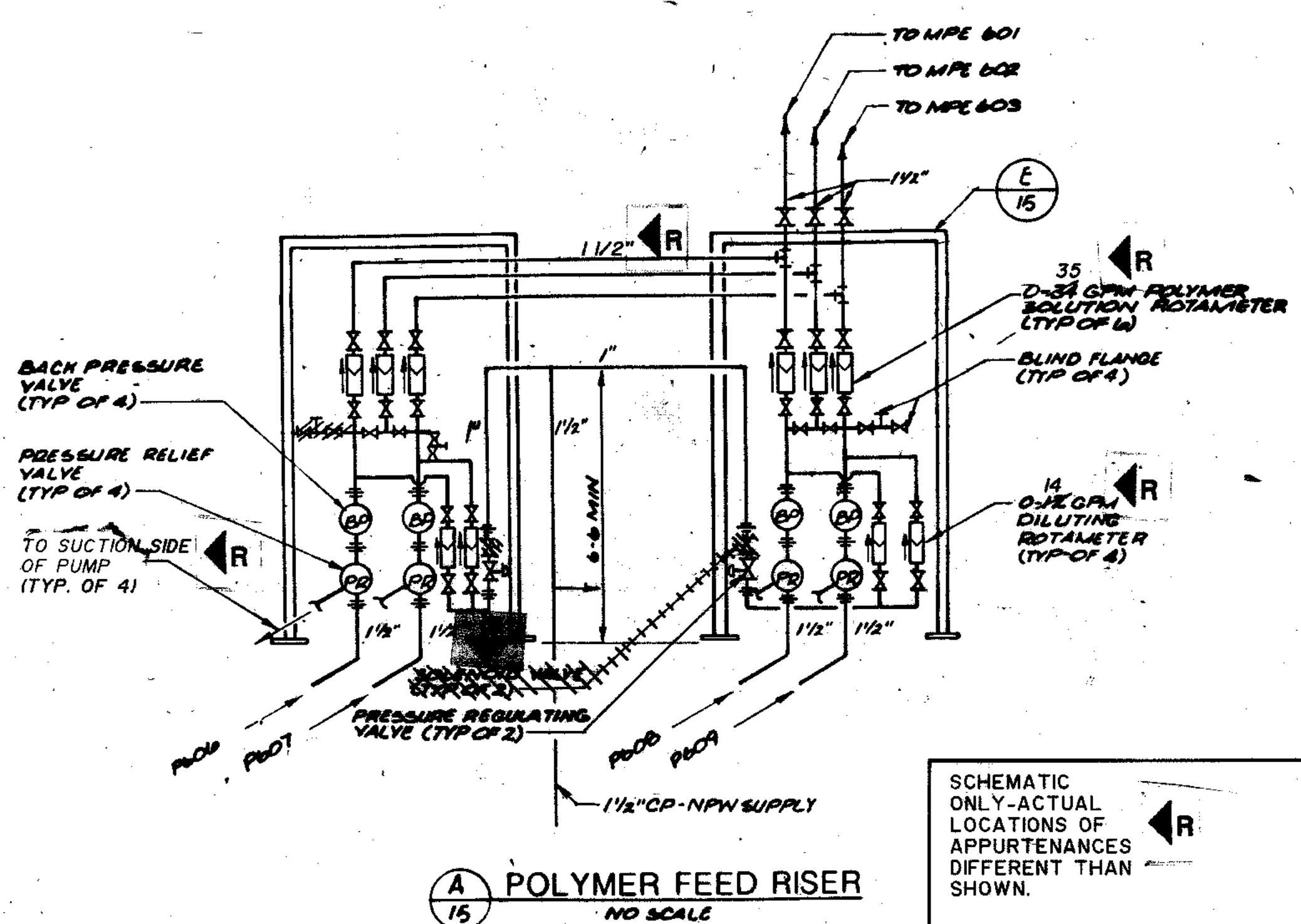
SCALE: AS NOTED DATE: NOVEMBER, 1987 DRAWING NO: 255-230-14

STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingo Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

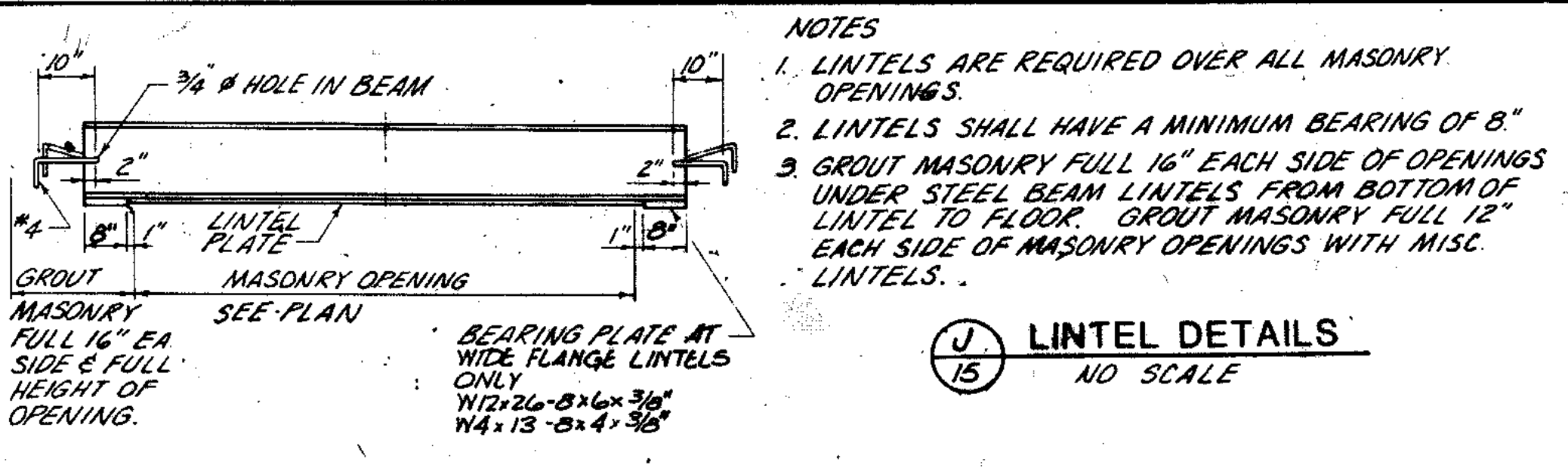
Beiling Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1800



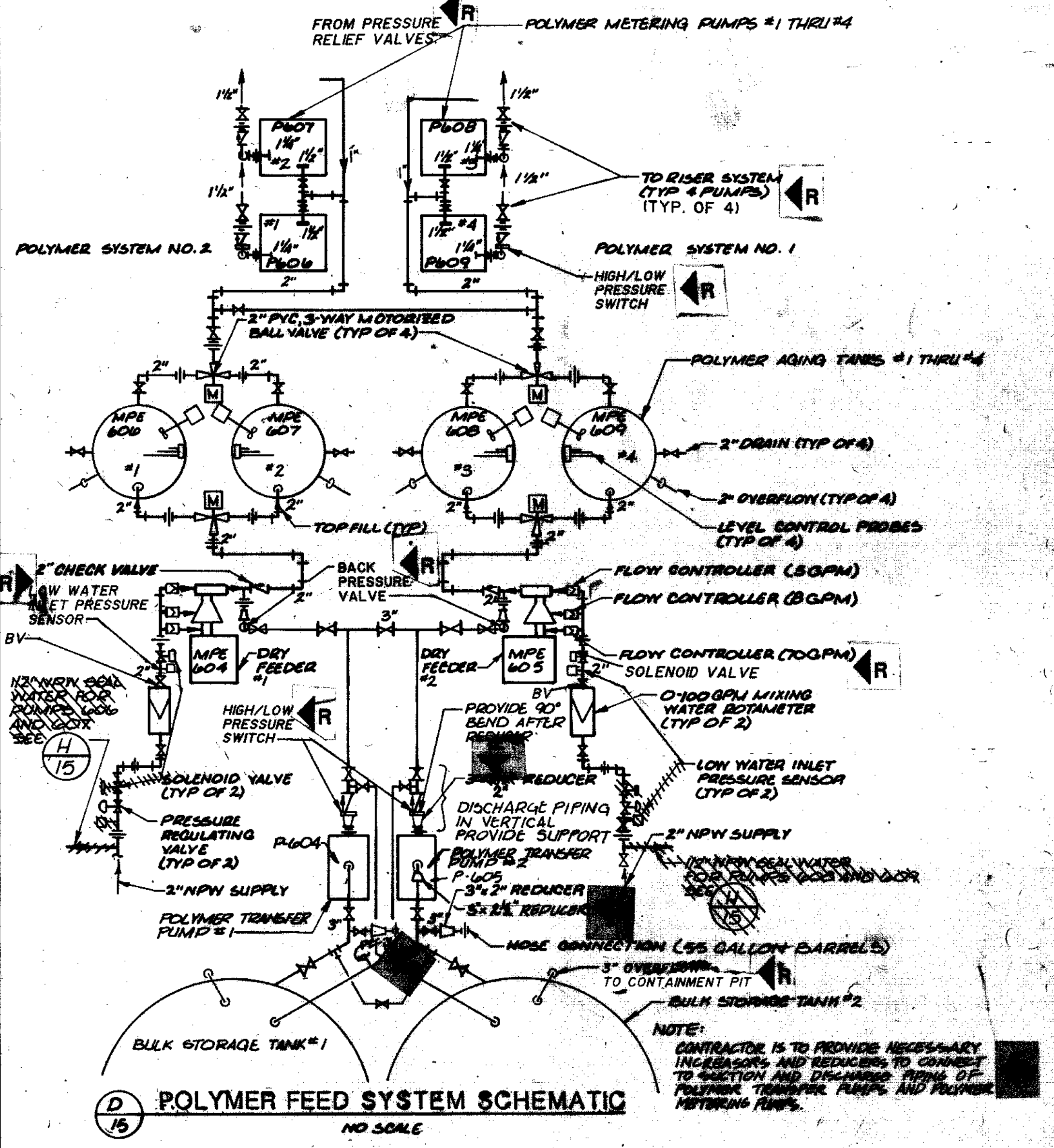
PARTIAL CHLORINE CONTACT TANK PLAN
3/16"=1'-0"



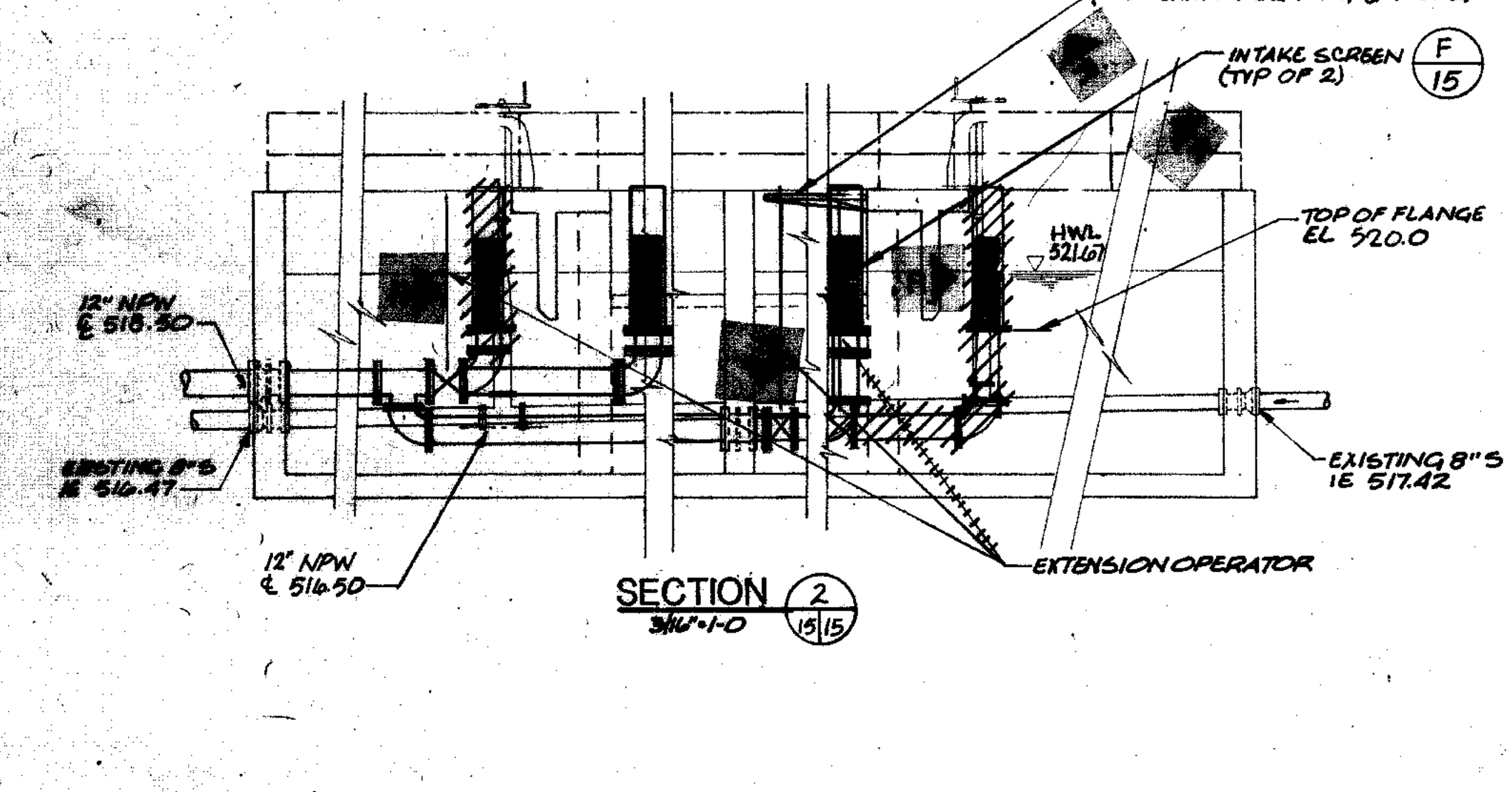
(A) POLYMER FEED RISER
NO SCALE



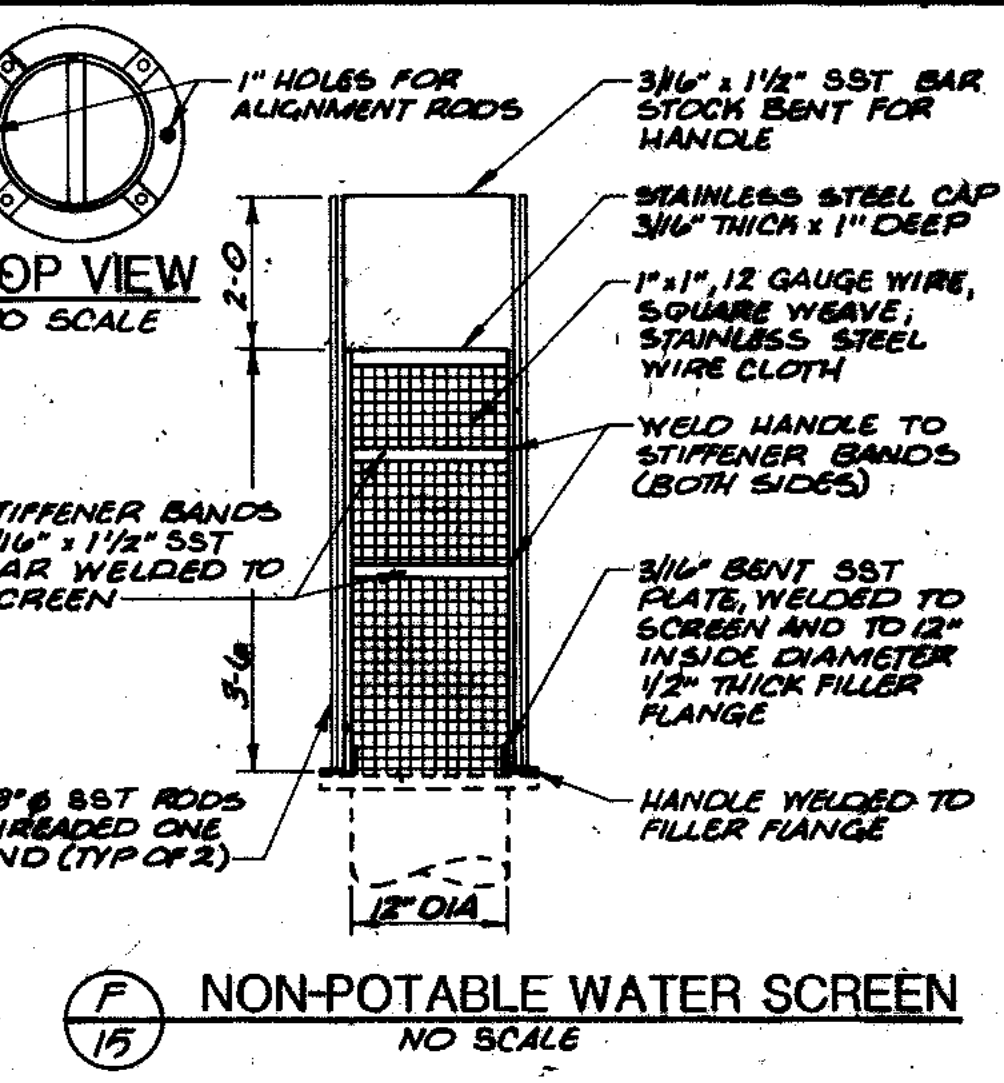
(J) LINTEL DETAILS
NO SCALE



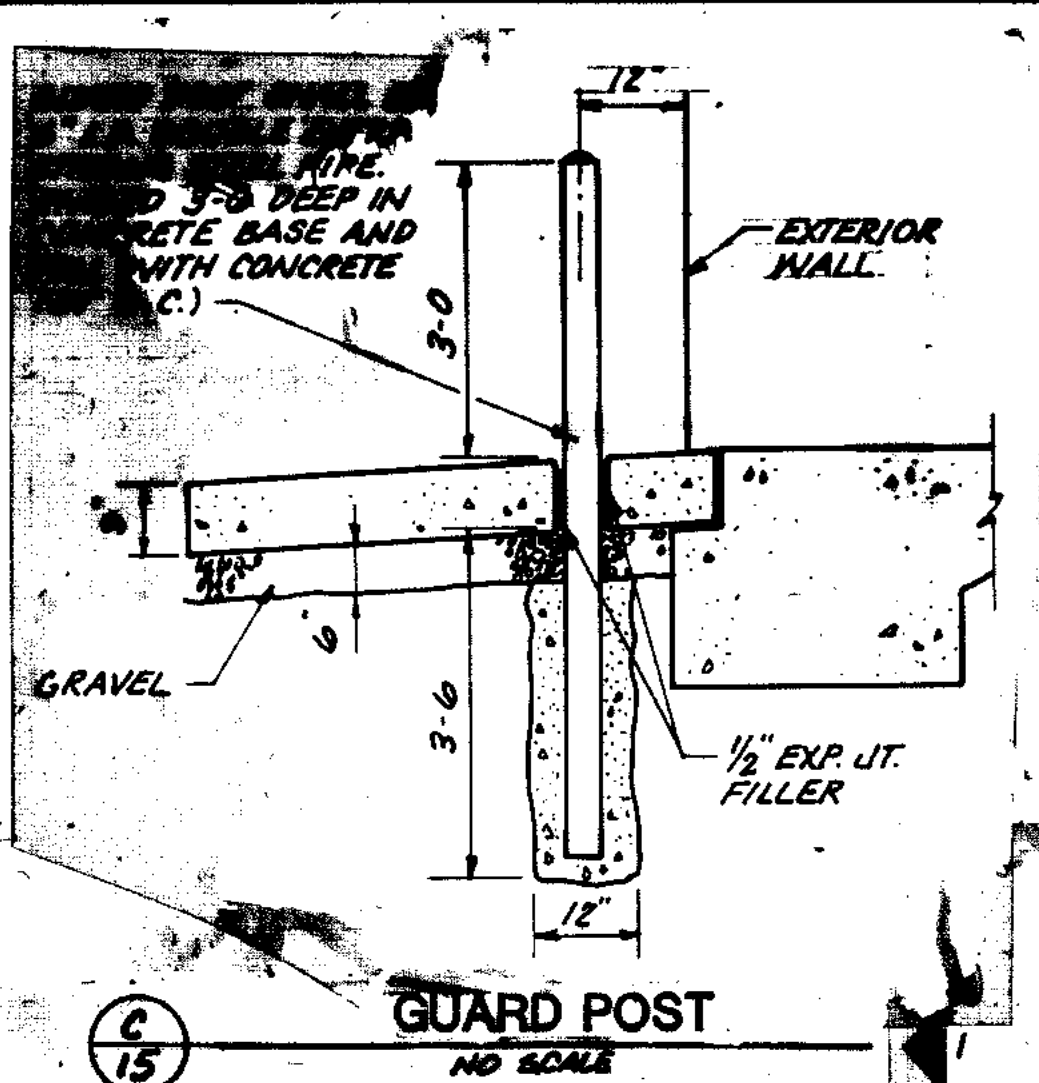
(D) POLYMER FEED SYSTEM SCHEMATIC
NO SCALE



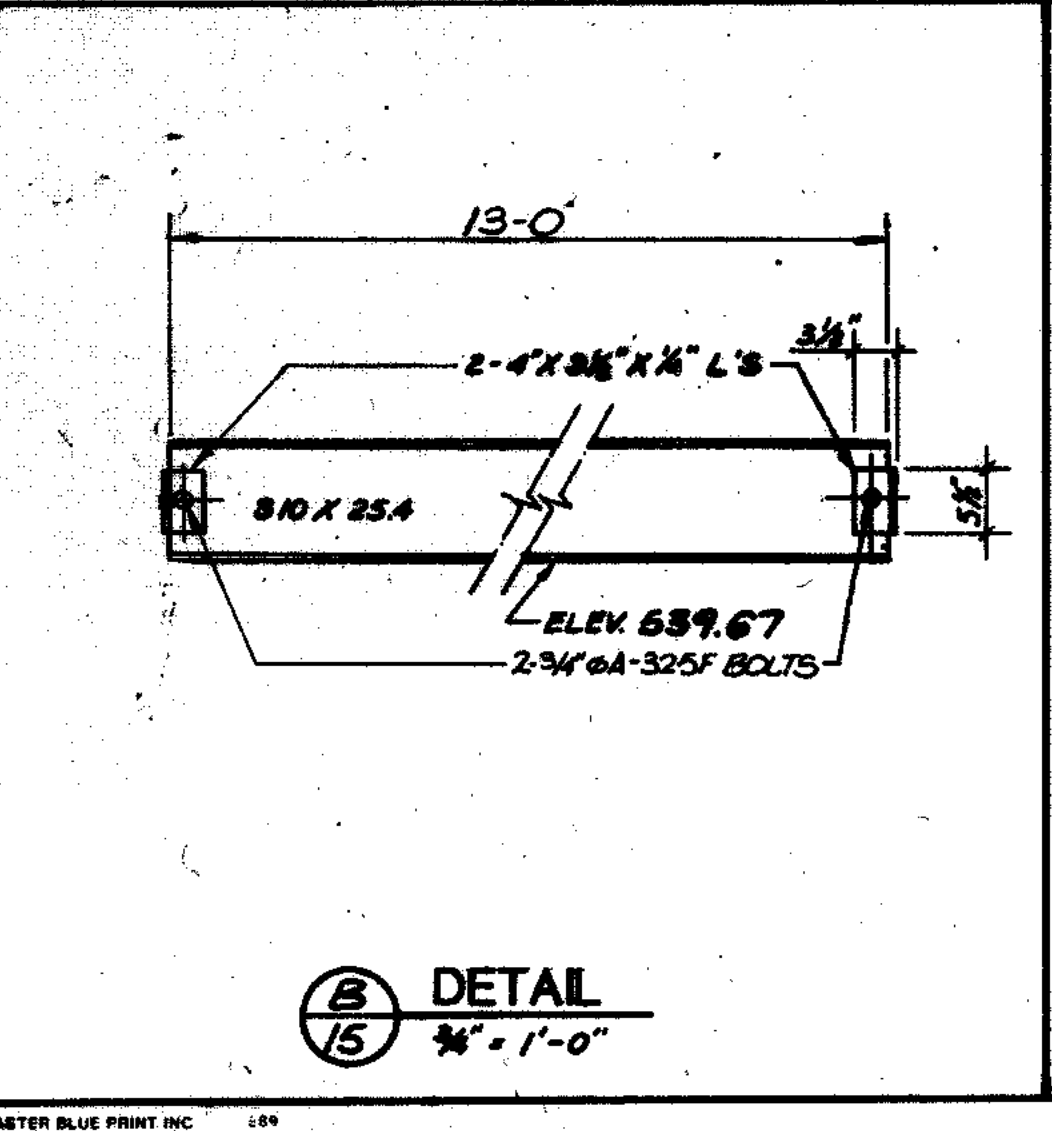
SECTION 2
3/16"=1'-0"



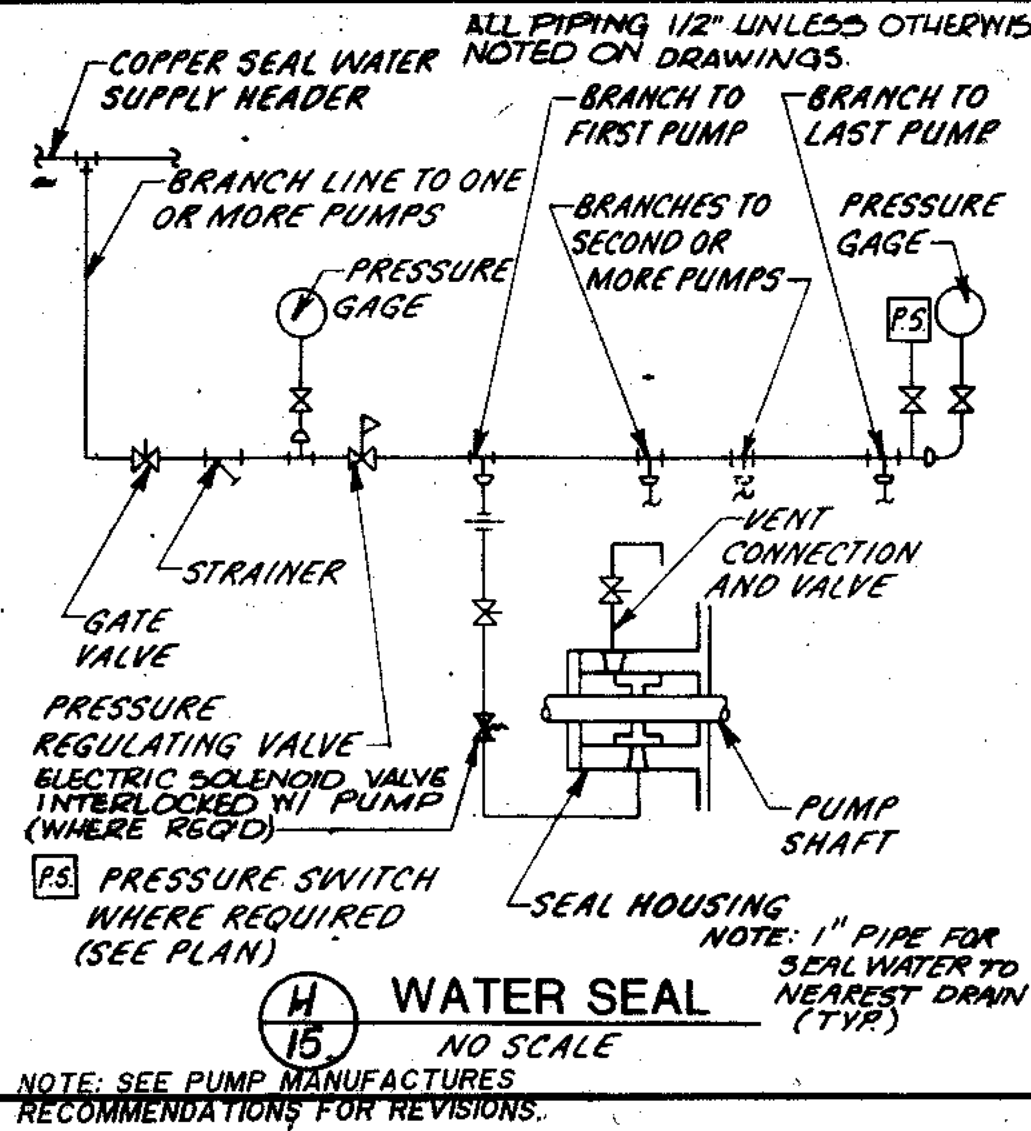
(F) NON-POTABLE WATER SCREEN
NO SCALE



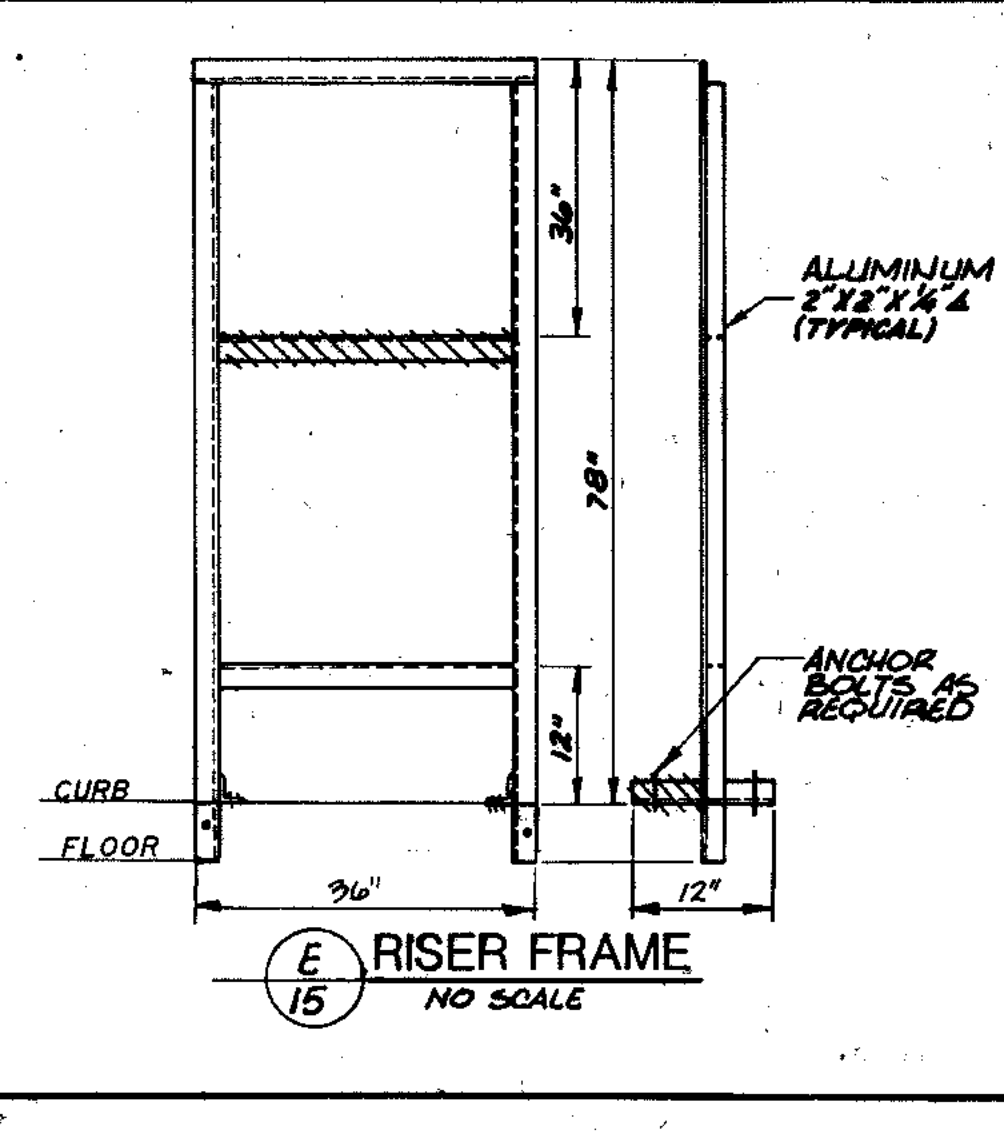
(C) GUARD POST
NO SCALE



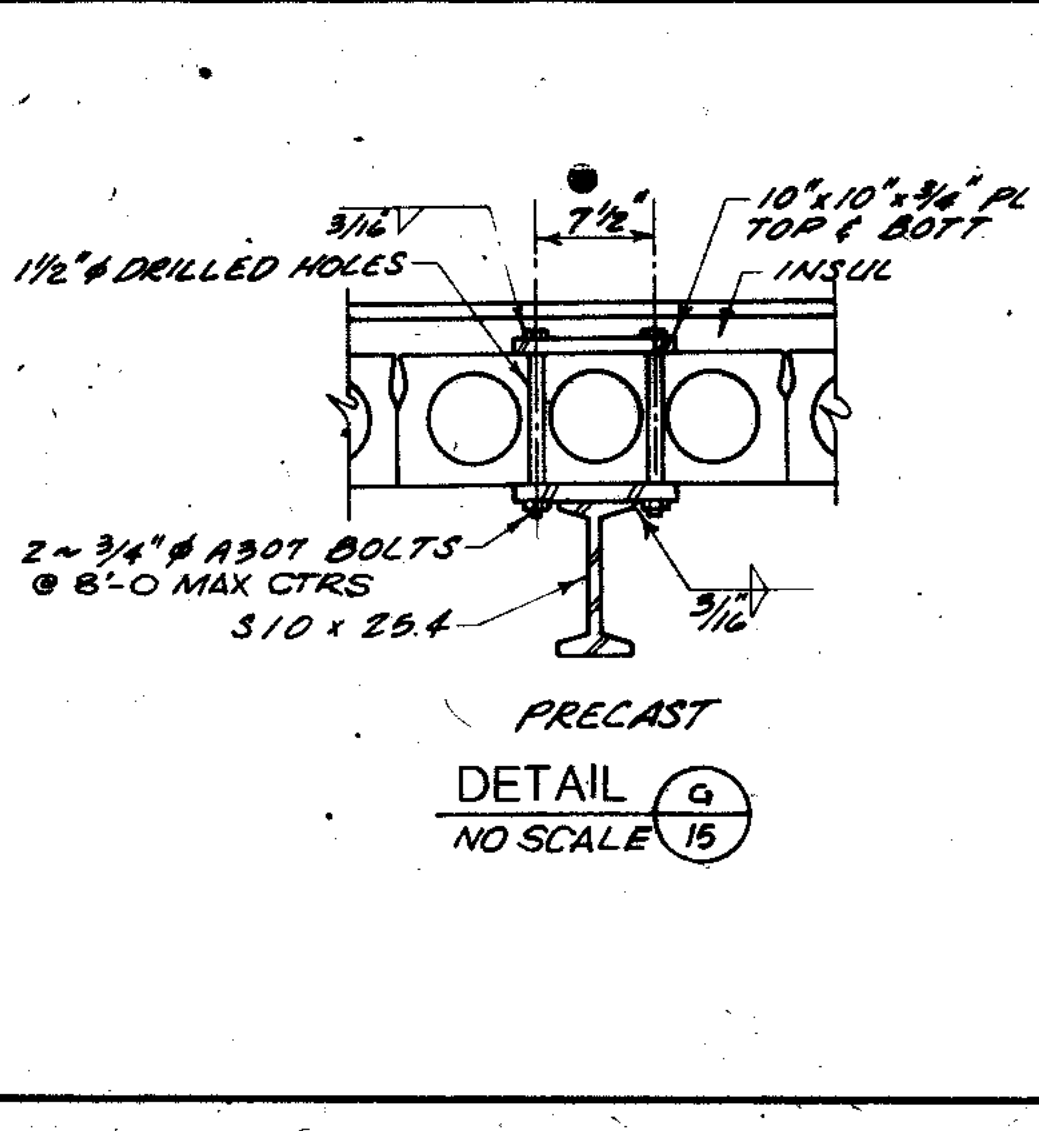
(B) DETAIL 15
3/4"=1'-0"



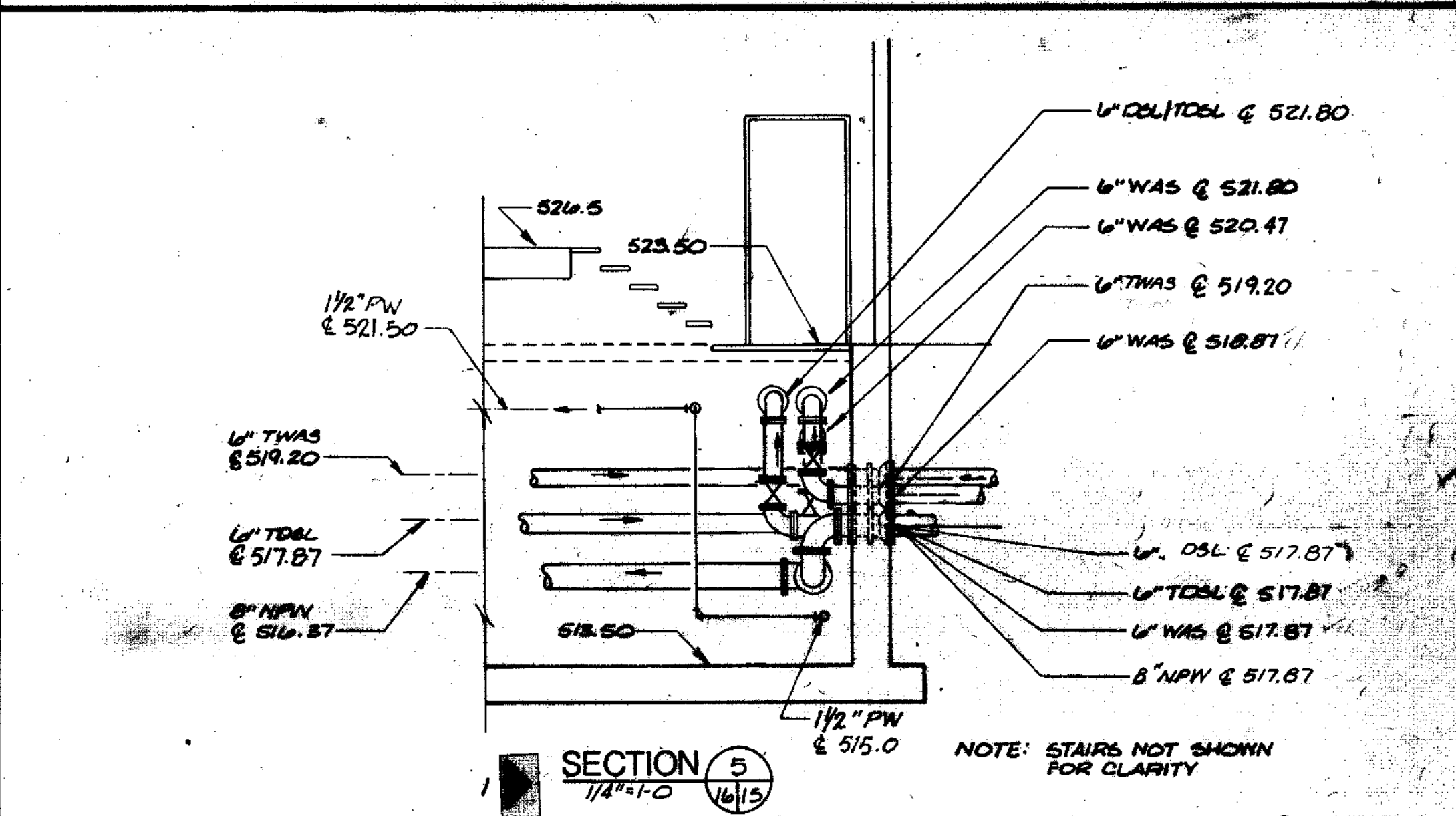
(H) WATER SEAL
NO SCALE



(E) RISER FRAME
NO SCALE



(G) PRECAST DETAIL 15
NO SCALE



SECTION 5
1/4"=1'-0"

OVERLAY NO. 15
 PROJECT NO. 15
 DATE 11/87

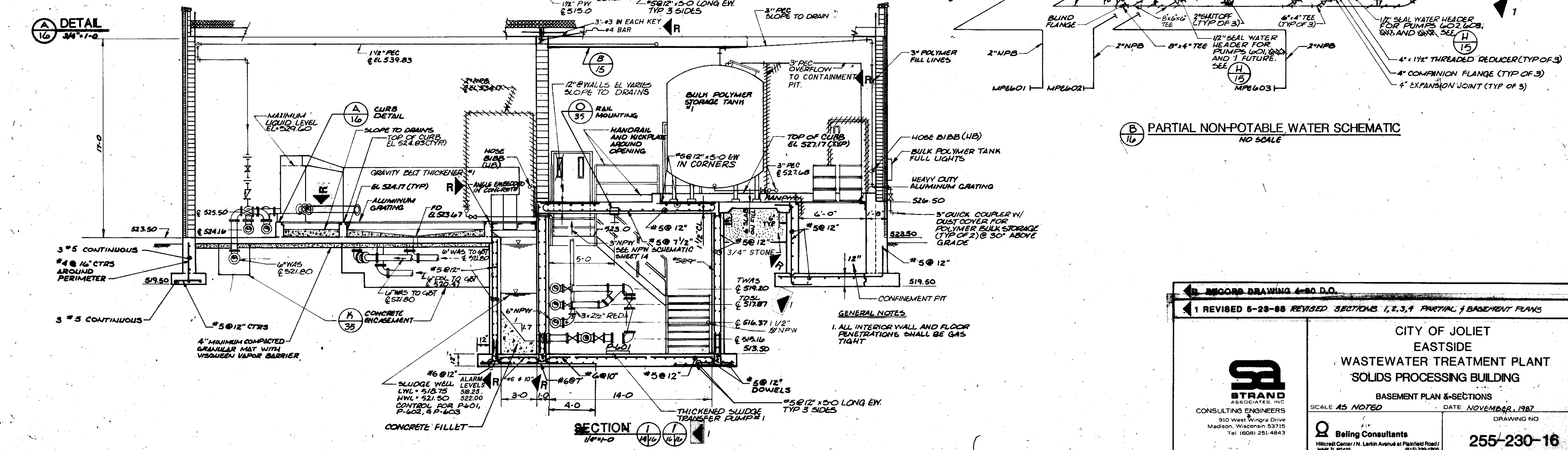
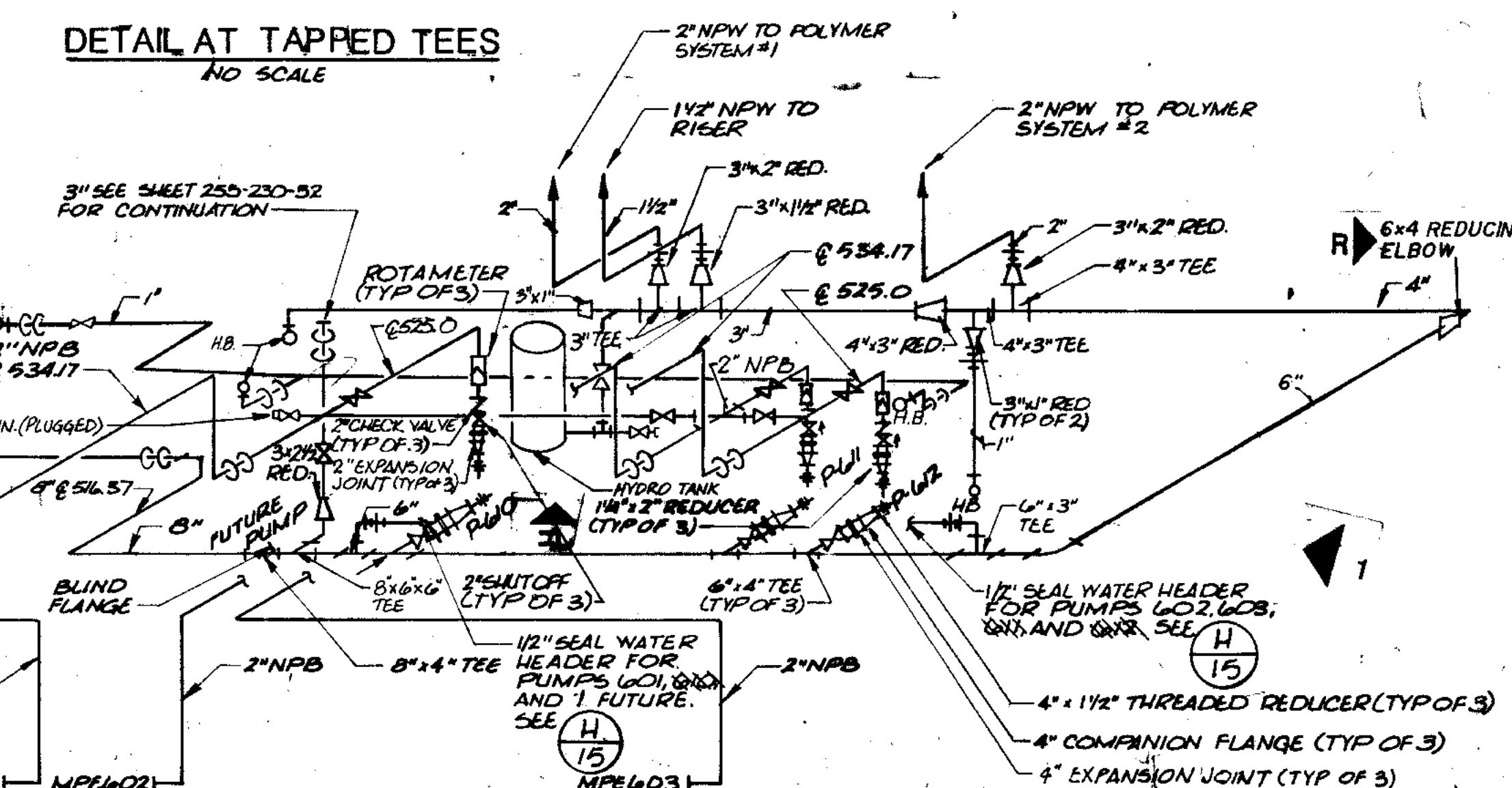
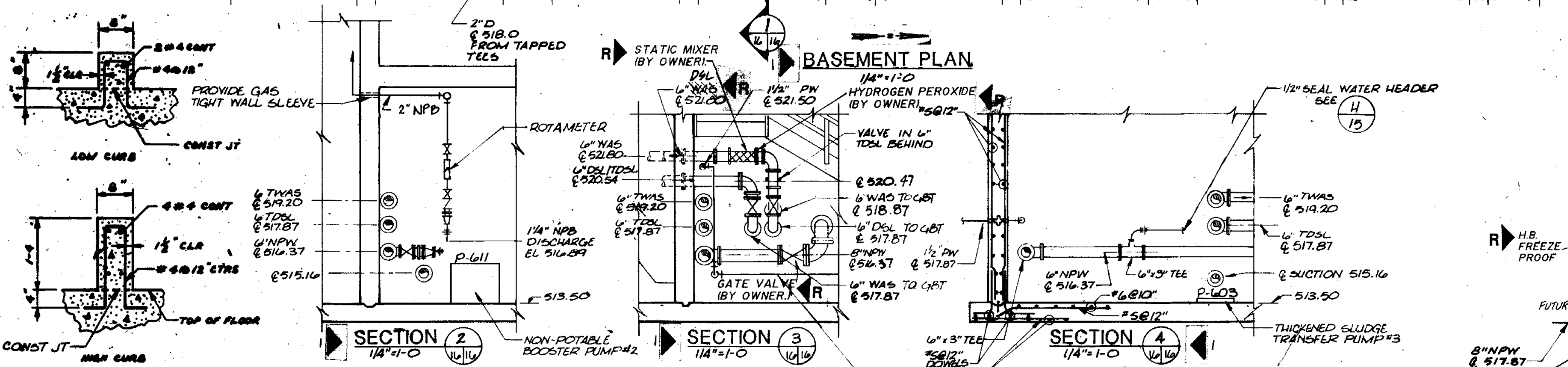
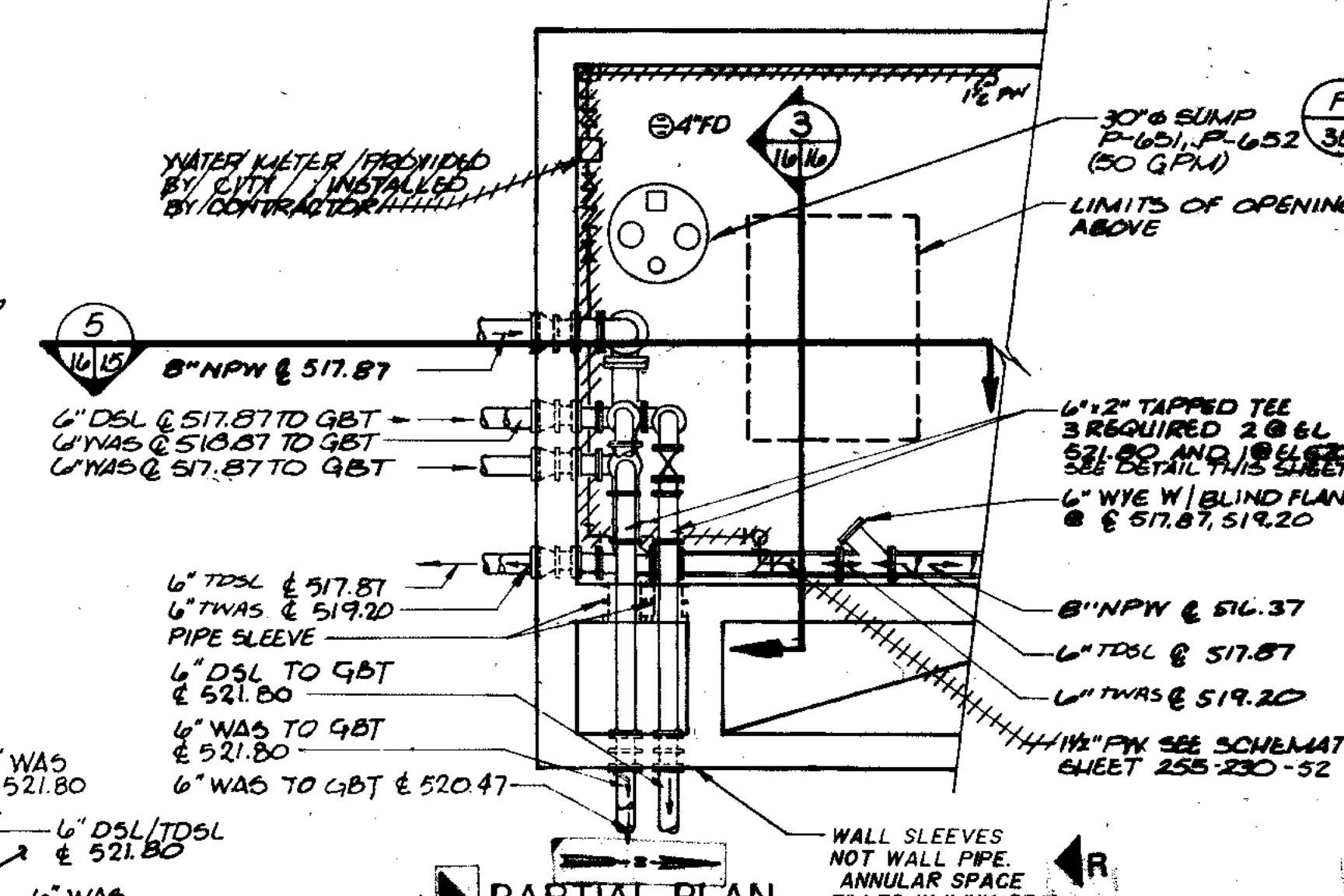
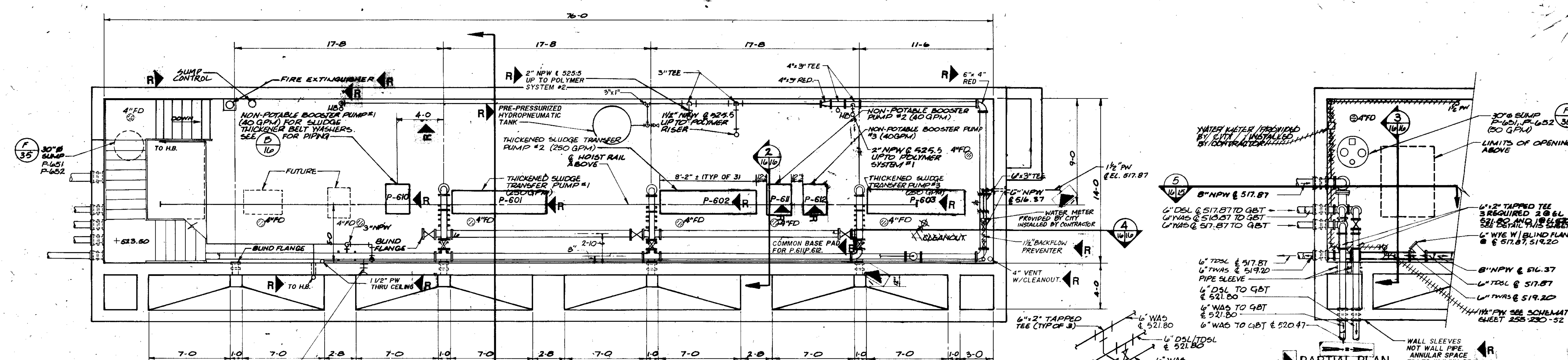
RECORD DRAWING A-30 D.O.
 REVISIONS: 1-87-01 REVISED PUMP SECTION 6/1/87 DELETED DETAIL 15

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SOLIDS PROCESSING BUILDING/ NPW SYSTEM
 DIAGRAMS, DETAILS & SECTIONS

STRAND ASSOCIATES, INC.
 CONSULTING ENGINEERS
 910 West Wingra Drive
 Madison, Wisconsin 53715
 Tel. (608) 251-4843

Belting Consultants
 1100 West Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435

SCALE AS NOTED
 DATE NOVEMBER, 1987
 DRAWING NO. **255-230-15**



COMPOSITE	5/20-16	N-57-16	DN-16	5/22-16	DN-16
OVERLAY	5/20-16	N-57-16	DN-16	5/22-16	DN-16
SCREEN					
PROJECT NO.					
DATE					

RECORD DRAWING 4-80 D.O.
 1 REVISED 5-28-88 REVISED SECTIONS 1,2,3,4 PARTIAL J BASEMENT PLANS

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SOLIDS PROCESSING BUILDING

BASEMENT PLAN & SECTIONS
 SCALE: AS NOTED DATE: NOVEMBER 1987
 DRAWING NO.

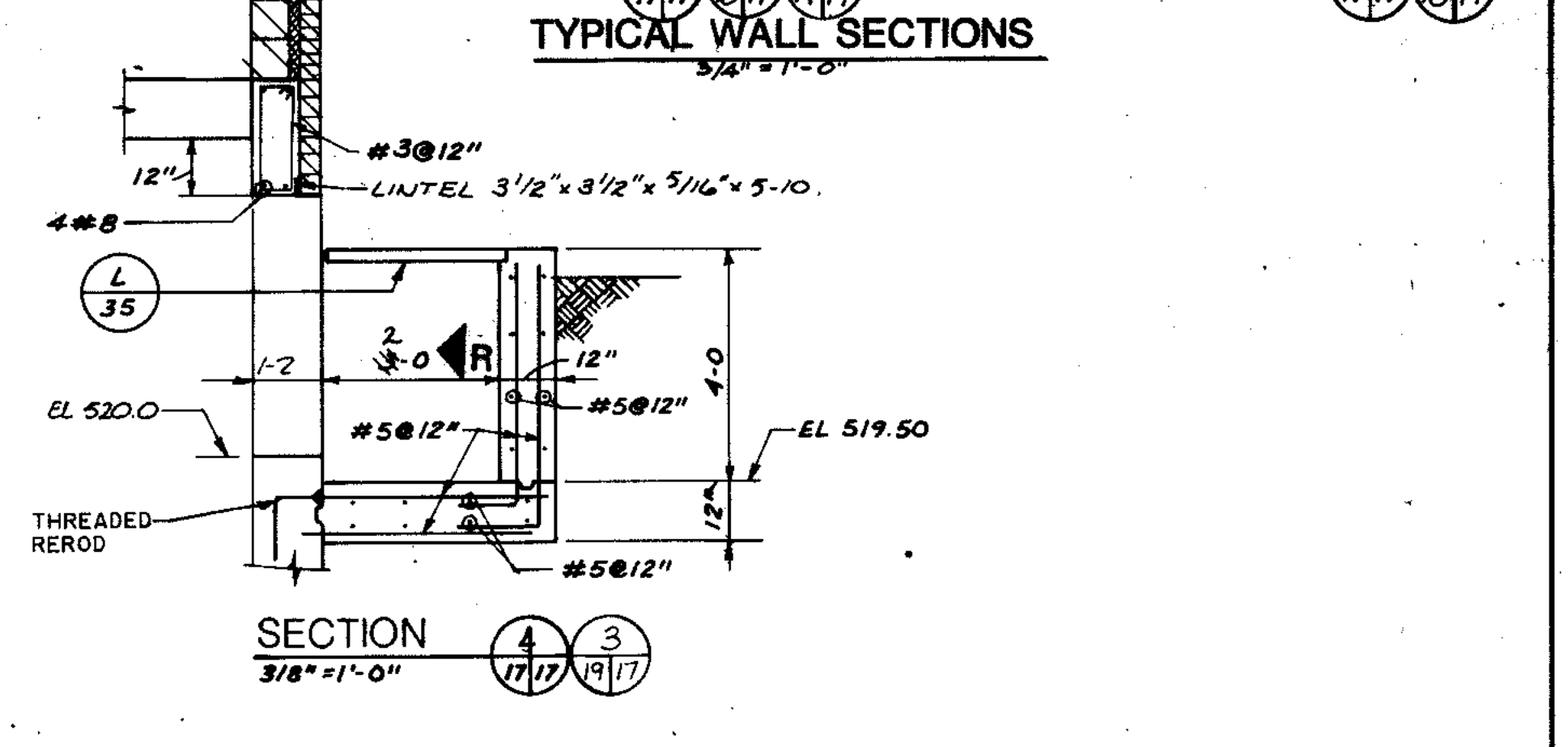
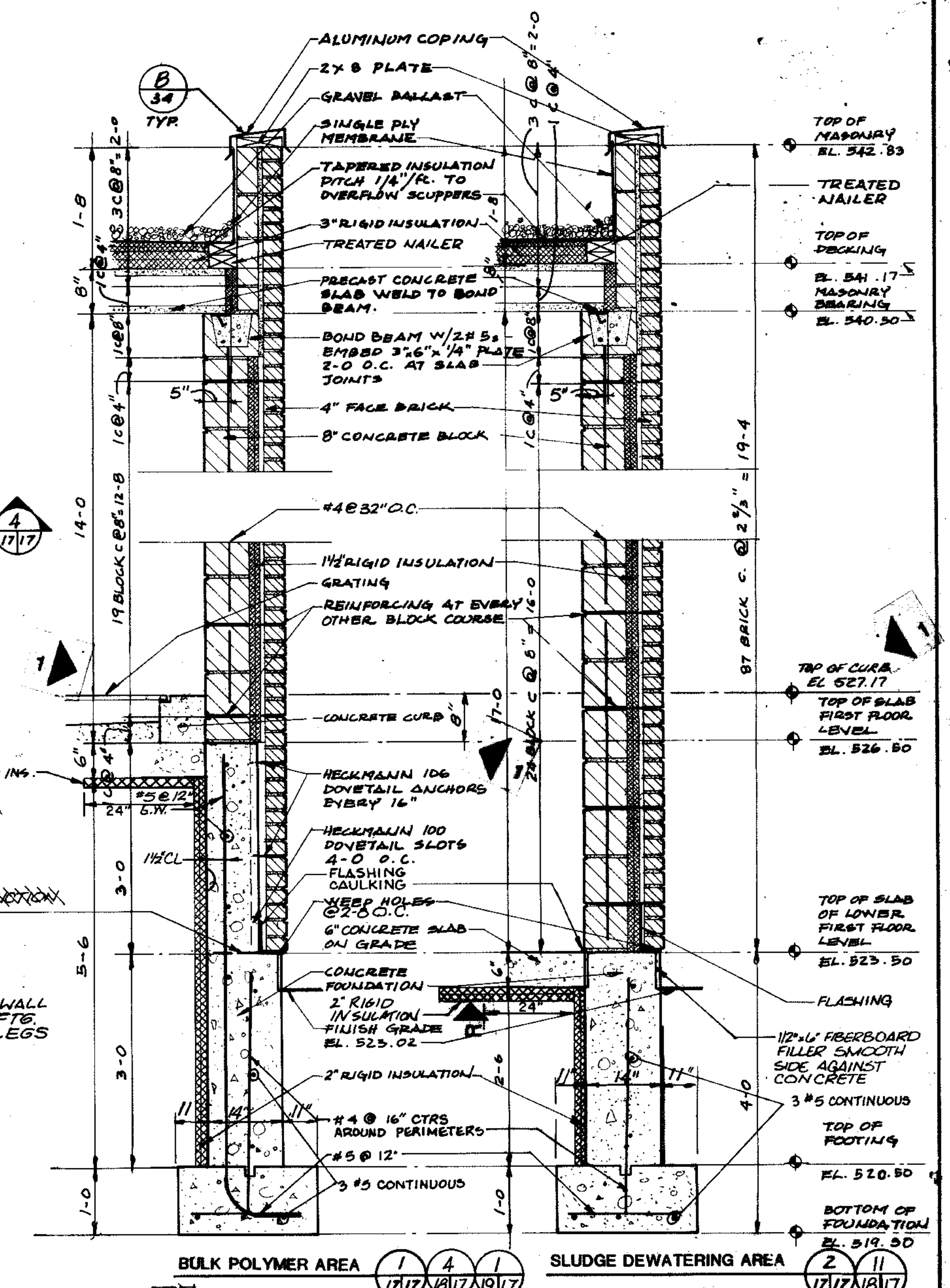
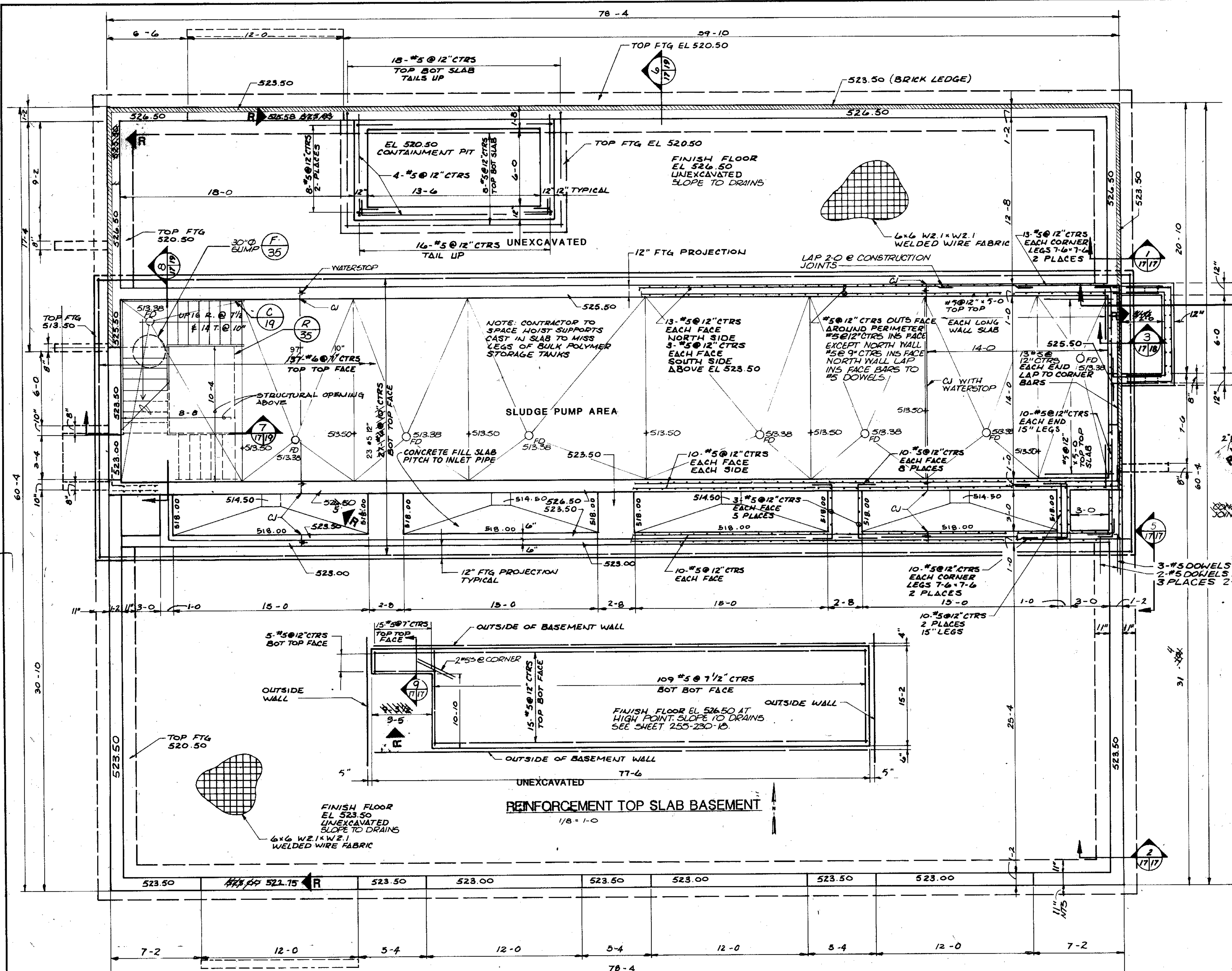
STRAND ASSOCIATES, INC.
 CONSULTING ENGINEERS
 910 West Windsor Drive
 Madison, Wisconsin 53715
 Tel. (608) 251-4843

Beiling Consultants
 Hillcrest Center / N. Larkin Avenue at Plainfield Road /
 Joliet, IL 60435

255-230-16

SHEET 16 OF 50

COMPOSITE 75-17 ARCH-17 STR-17
 OVERLAY 75-17 ARCH-17 STR-17
 PROJECT NO. DATE

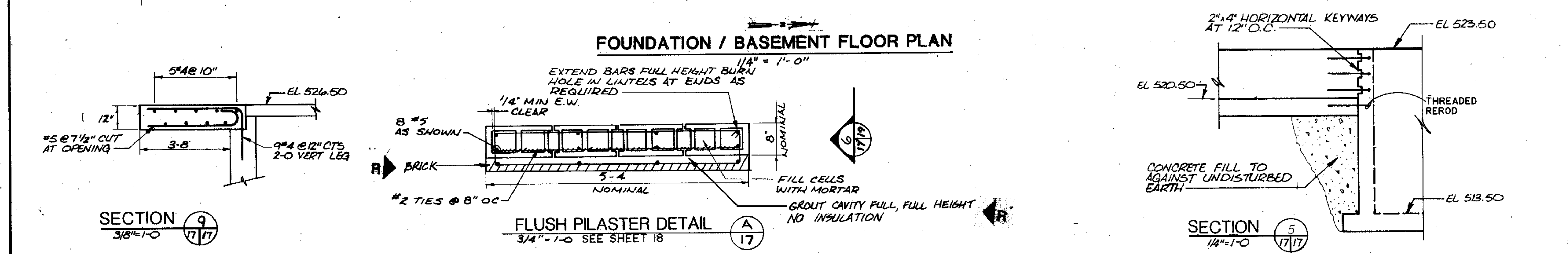


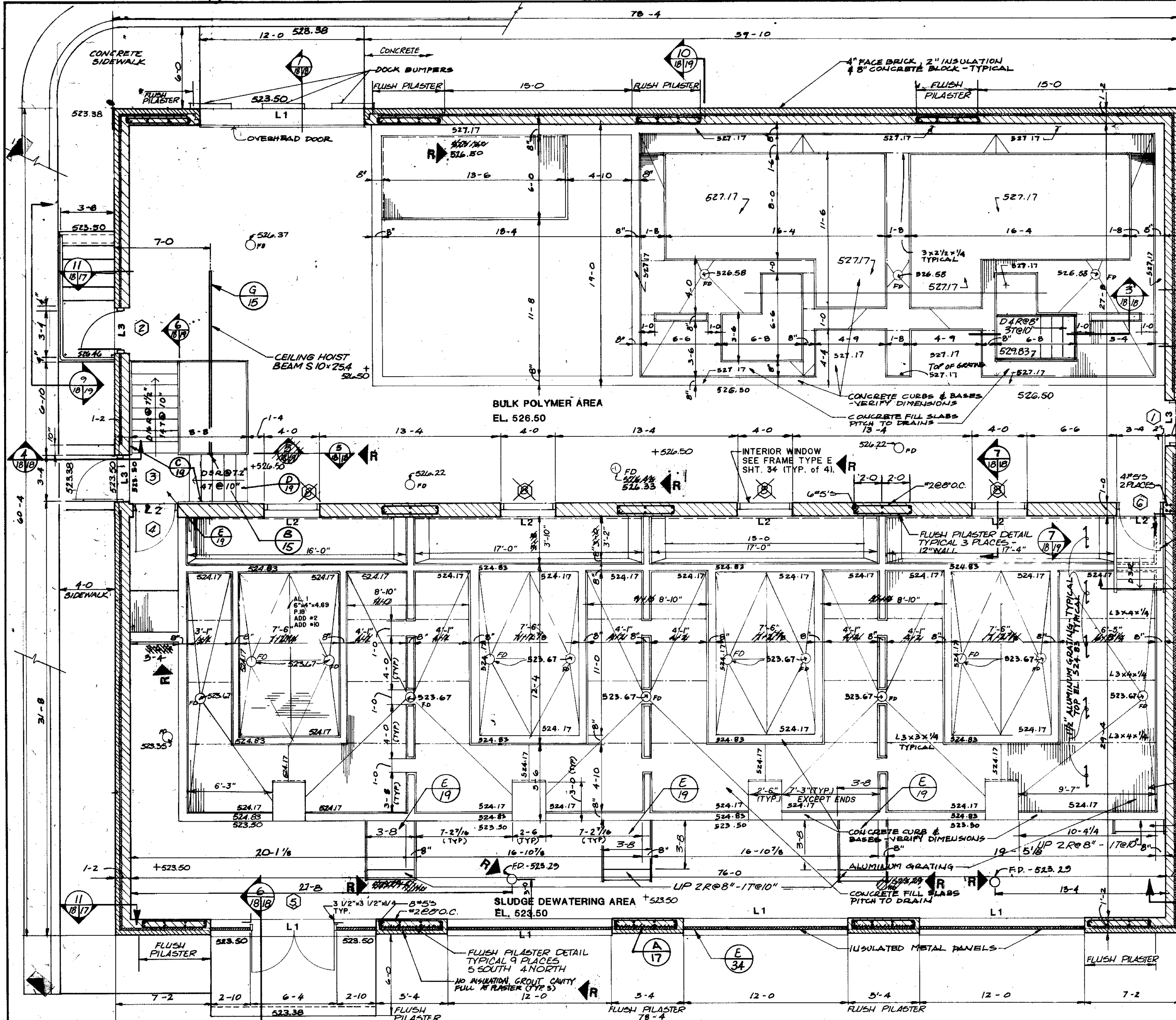
RECORD DRAWING 4-80 D.O.
 REVISED 6-23-88 STAIR, FOOTINGS AND CURB ELEV.
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SOLIDS PROCESSING BUILDING
 FOUNDATION/ BASEMENT FLOOR PLAN
 SCALE AS NOTED
 NOVEMBER, 1987

STRAND
 CONSULTING ENGINEERS
 910 West Wingra Drive
 Madison, Wisconsin 53715
 TEL: (608) 251-4943

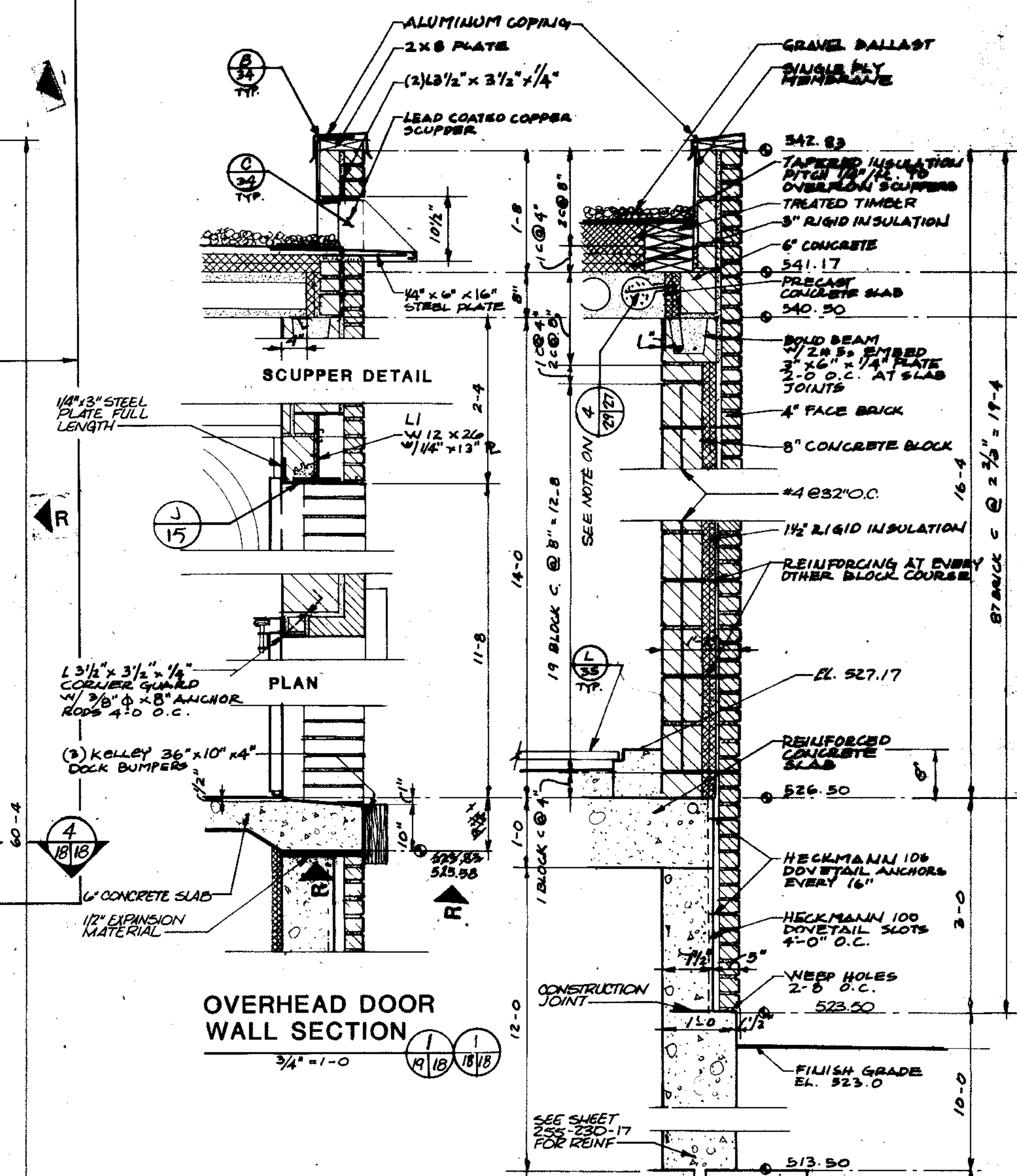
Beijing Consultants
 1001 East 1st St. Joliet, IL 60435
 (815) 729-1800

255-230-17

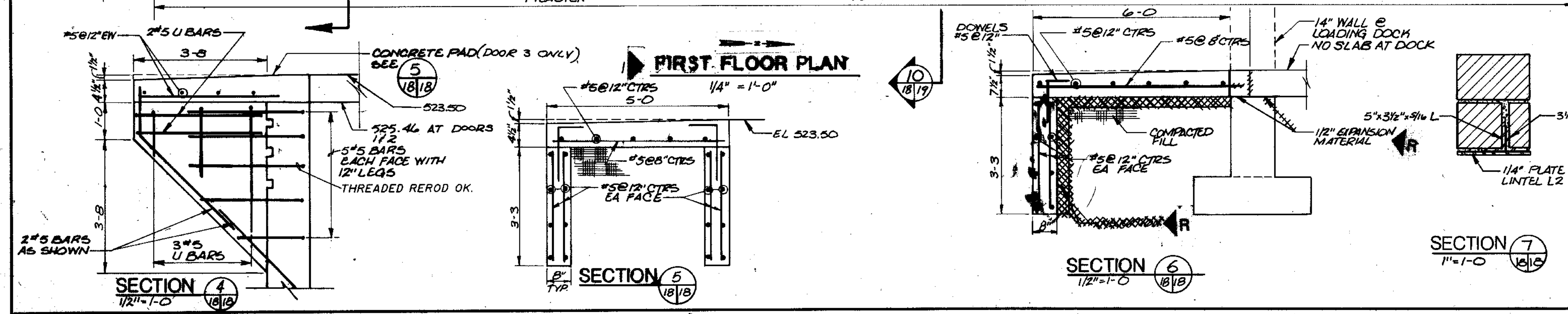




DRAWING NO. 255-230-18, SOLIDS PROCESSING BUILDING, FIRST FLOOR PLAN
 ADD AN ALUMINUM 6" x 4" x 4.59 PLF I-BEAM TO SUPPORT THE GRATING IN THE AREA OF THE FUTURE THICKENER. BEAM TO SPAN IN NORTH/SOUTH DIRECTION.



- GENERAL NOTES**
1. VERIFY DIMENSIONS WITH EQUIPMENT CONTRACTOR.
 2. SEE DOOR SCHEDULE SHEET 255-230-34
 3. SEE STAIR DETAILS SHEET 255-230-19
 4. PROVIDE RECESSED ANGLES FOR GRATING ONLY AT POINTS OF BEARING



RECORD DRAWING 4-89 D.O.
1 REVISED 5-23-88 RELOCATED STAIR & DOOR SOUTH WEST CORNER OF BLDG.

**CITY OF JOLIET
 EASTSIDE
 WASTEWATER TREATMENT PLANT
 SOLIDS PROCESSING BUILDING
 FIRST FLOOR PLAN**

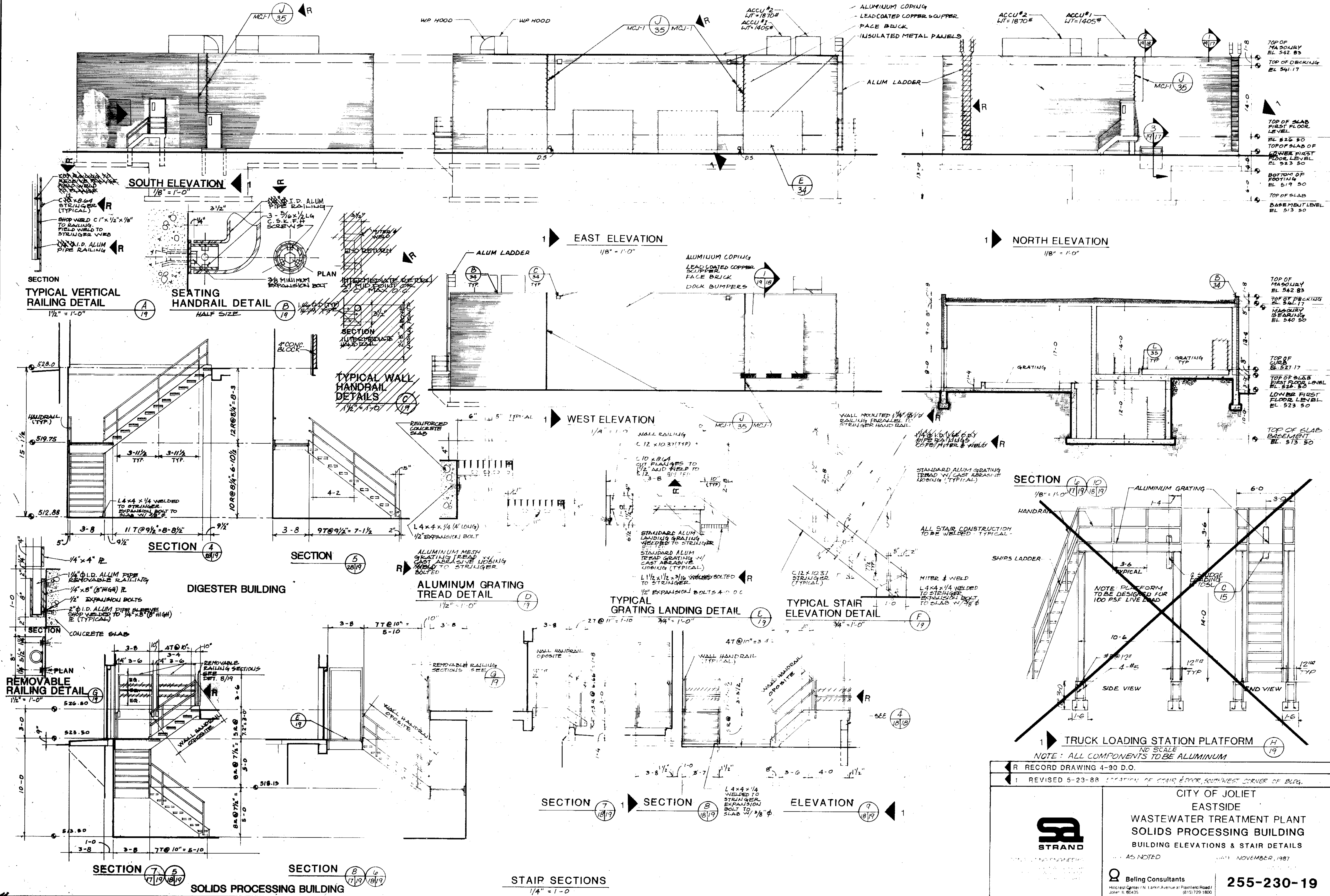
SCALE: AS NOTED DATE: NOVEMBER, 1987
 DRAWING NO. 255-230-18

STRAND ASSOCIATES, INC.
 CONSULTING ENGINEERS
 910 West Wingra Drive
 Madison, Wisconsin 53715
 Tel: (608) 251-4843

Beijing Consultants
 Hillcrest Center / N. Larkin Avenue at Plainfield Road /
 Joliet, IL 60435 (815) 726-1800

COMPOSITE	ARCH-18	STR-18
OVERLAY	ARCH-18	STR-18
SCREEN		
PROJECT NO.		
DATE		

OVERLAY IDENTIFICATION
 COMPOSITE ARCH-19 5/17/89
 OVERLAY ARCH-19 5/17/89
 PROJECT NO. 572-19
 DATE



RECORD DRAWING 4-90 D.O.
 REVISED 5-23-88 LOCATION OF CHAIR & DOOR, SOUTHWEST CORNER OF BLDG.

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SOLIDS PROCESSING BUILDING
 BUILDING ELEVATIONS & STAIR DETAILS

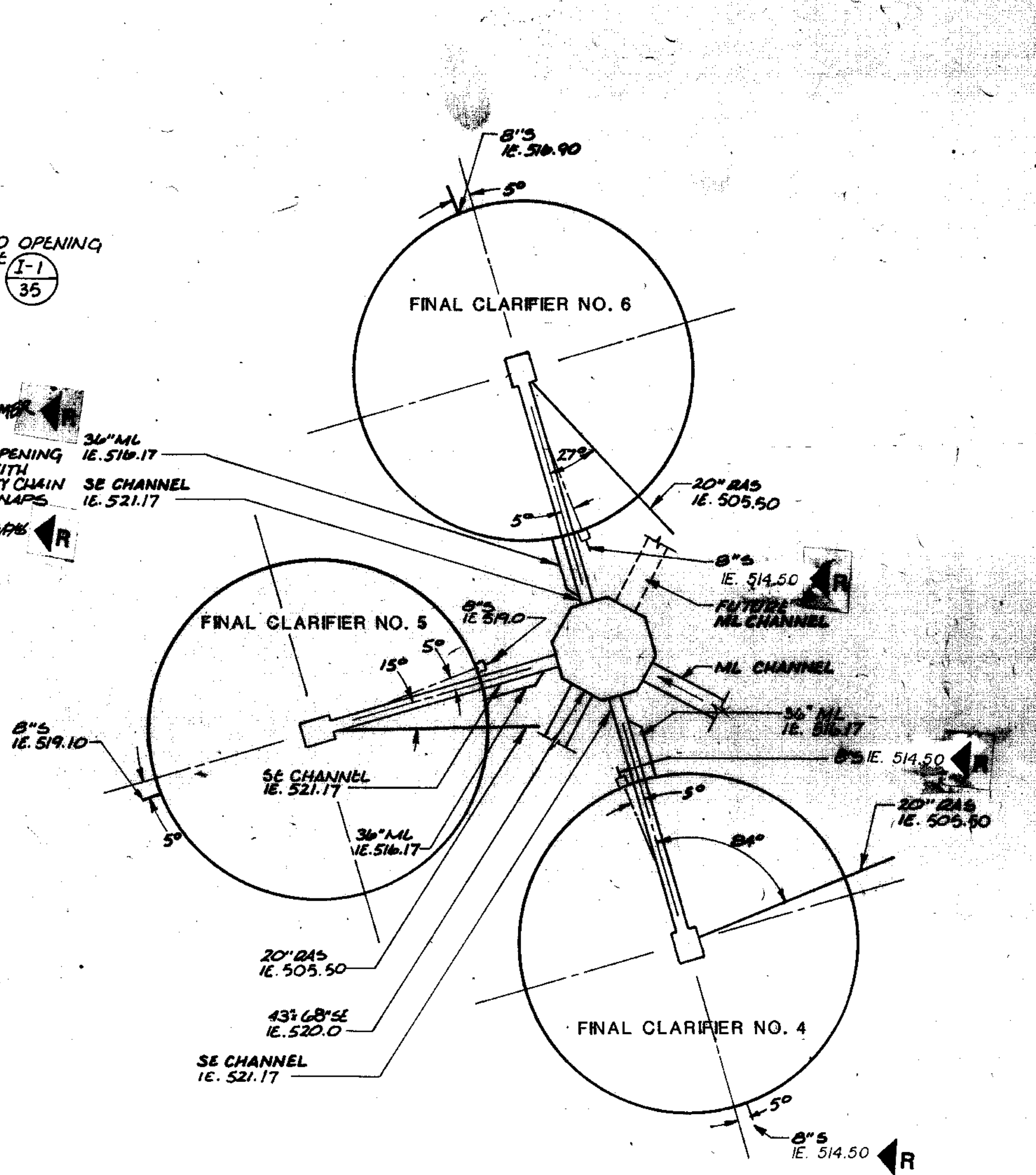
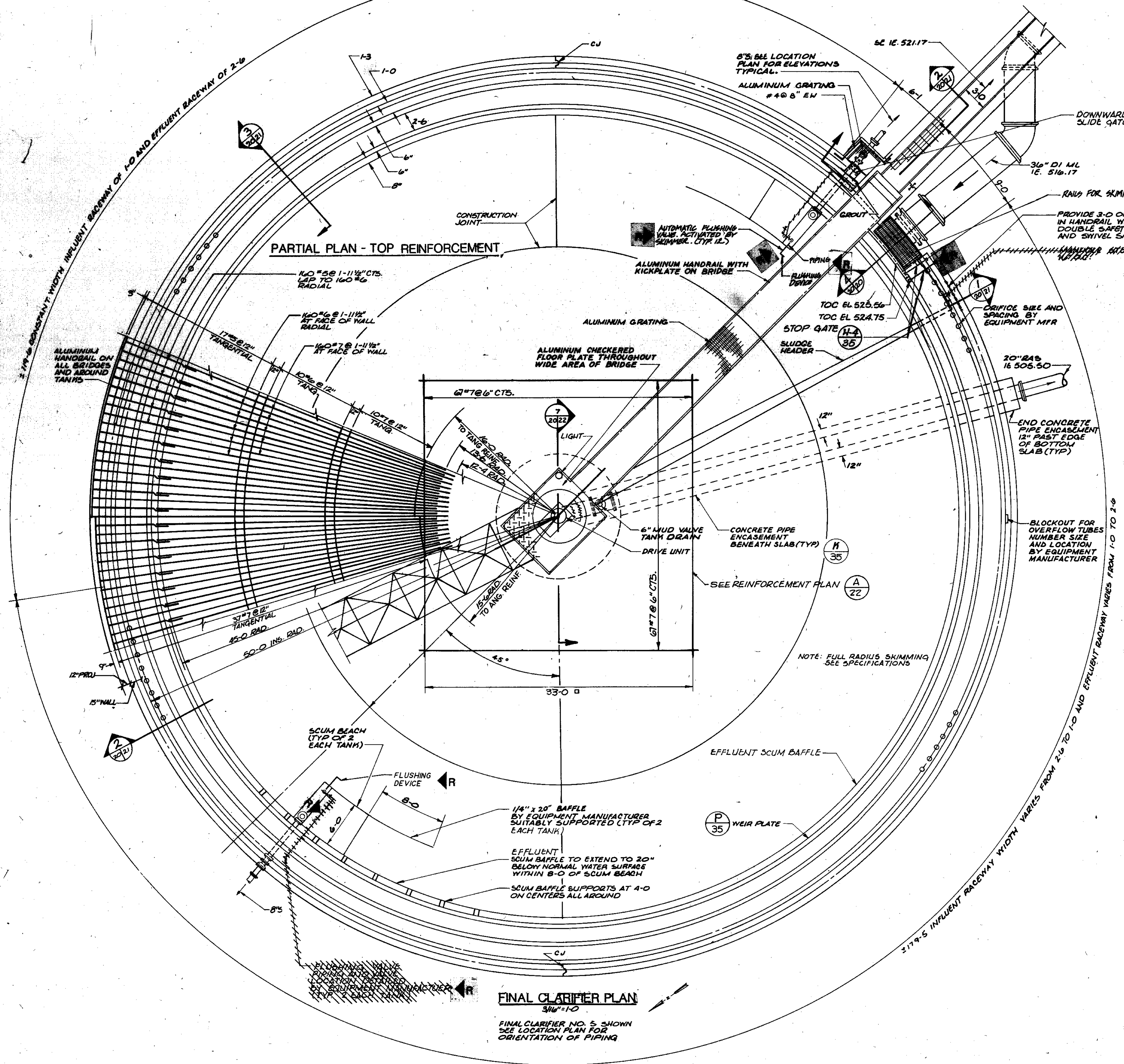
AS NOTED NOVEMBER, 1987

STRAND

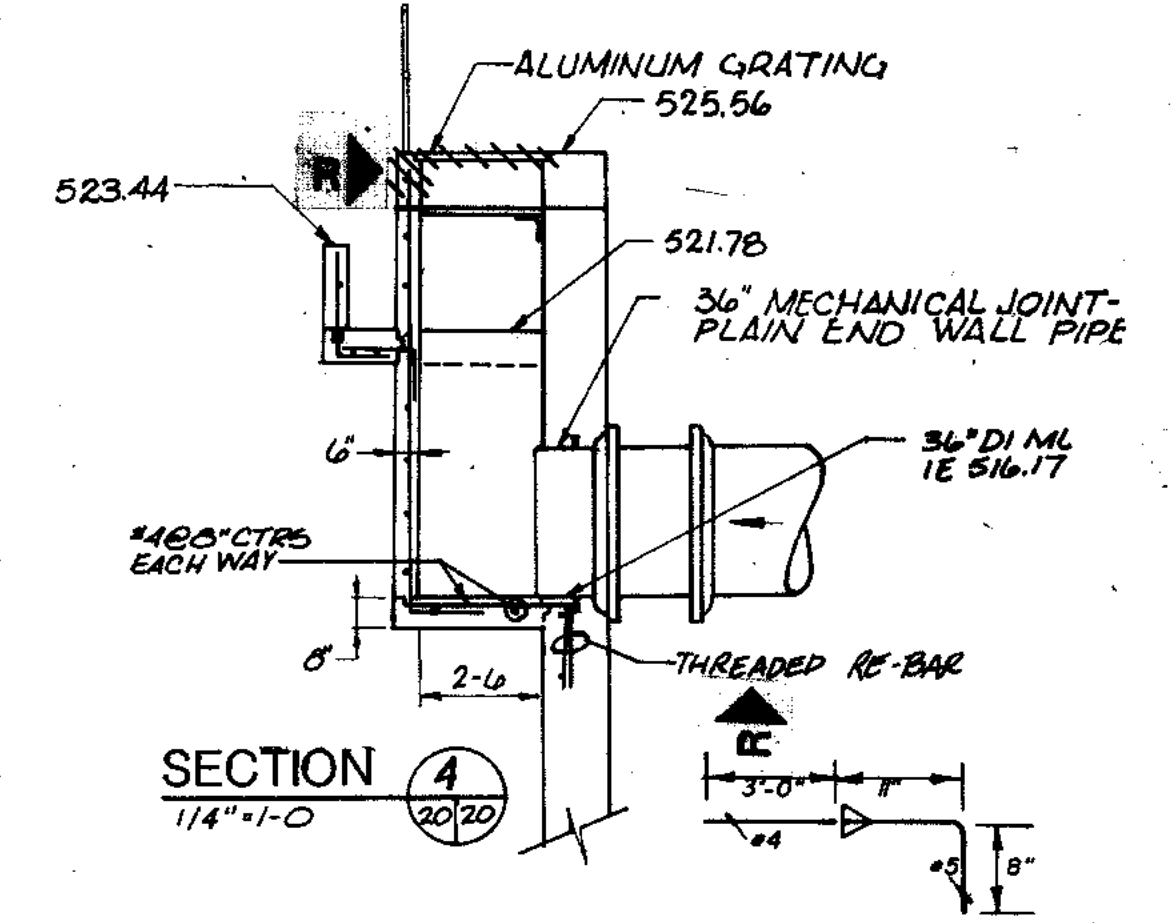
Being Consultants
 255-230-19

1100 East Park Avenue at Pleasant Road
 Joliet, IL 60435 (815) 729-1800

COMPOSITE	N-FL-20	N-57-20	DN-20	512-20
OVERLAY	N-FL-20	N-57-20	DN-20	512-20
SCREEN				
PROJECT NO.				
DATE				



LOCATION PLAN
1"=30'-0"



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

FINAL CLARIFIER PLAN
3/16"=1'-0"

FINAL CLARIFIER NO. 5 SHOWN
SEE LOCATION PLAN FOR
ORIENTATION OF PIPING

RECORD DRAWING 4-90 D.O.

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT

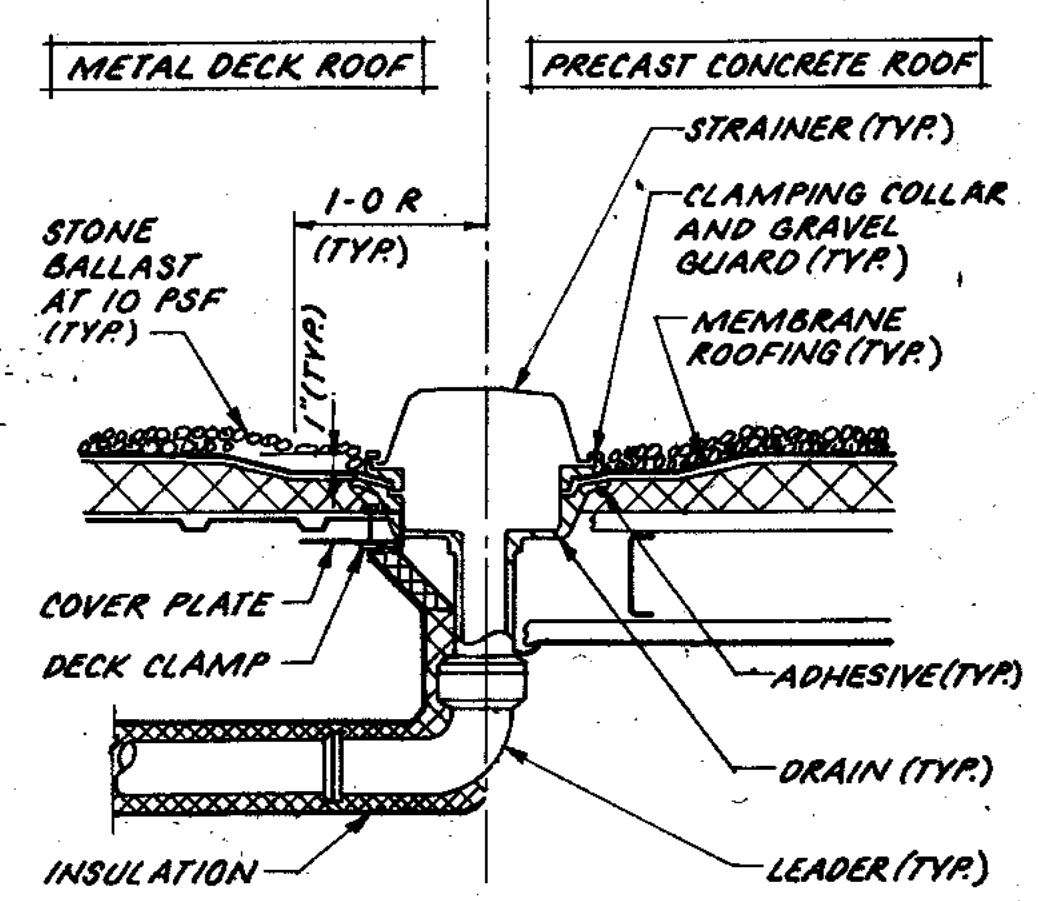
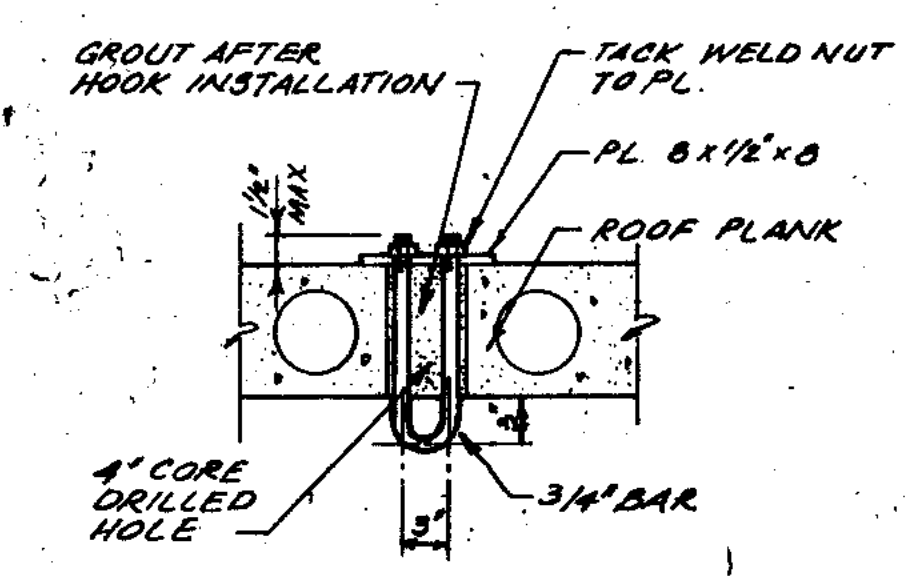
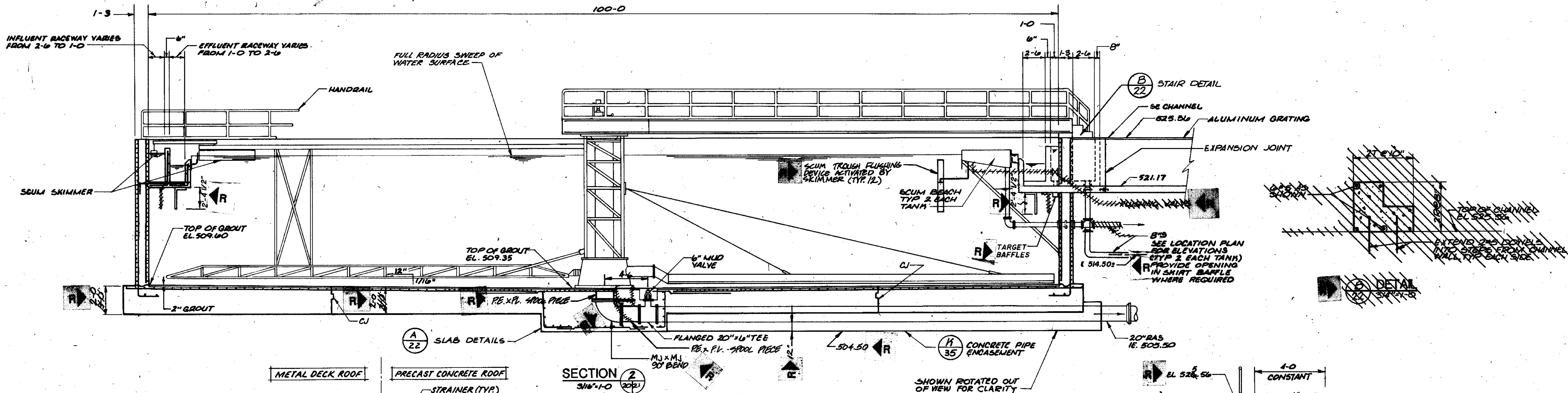
FINAL CLARIFIERS
GENERAL LOCATION & PLAN

SCALE AS NOTED DATE NOVEMBER 1, 1987

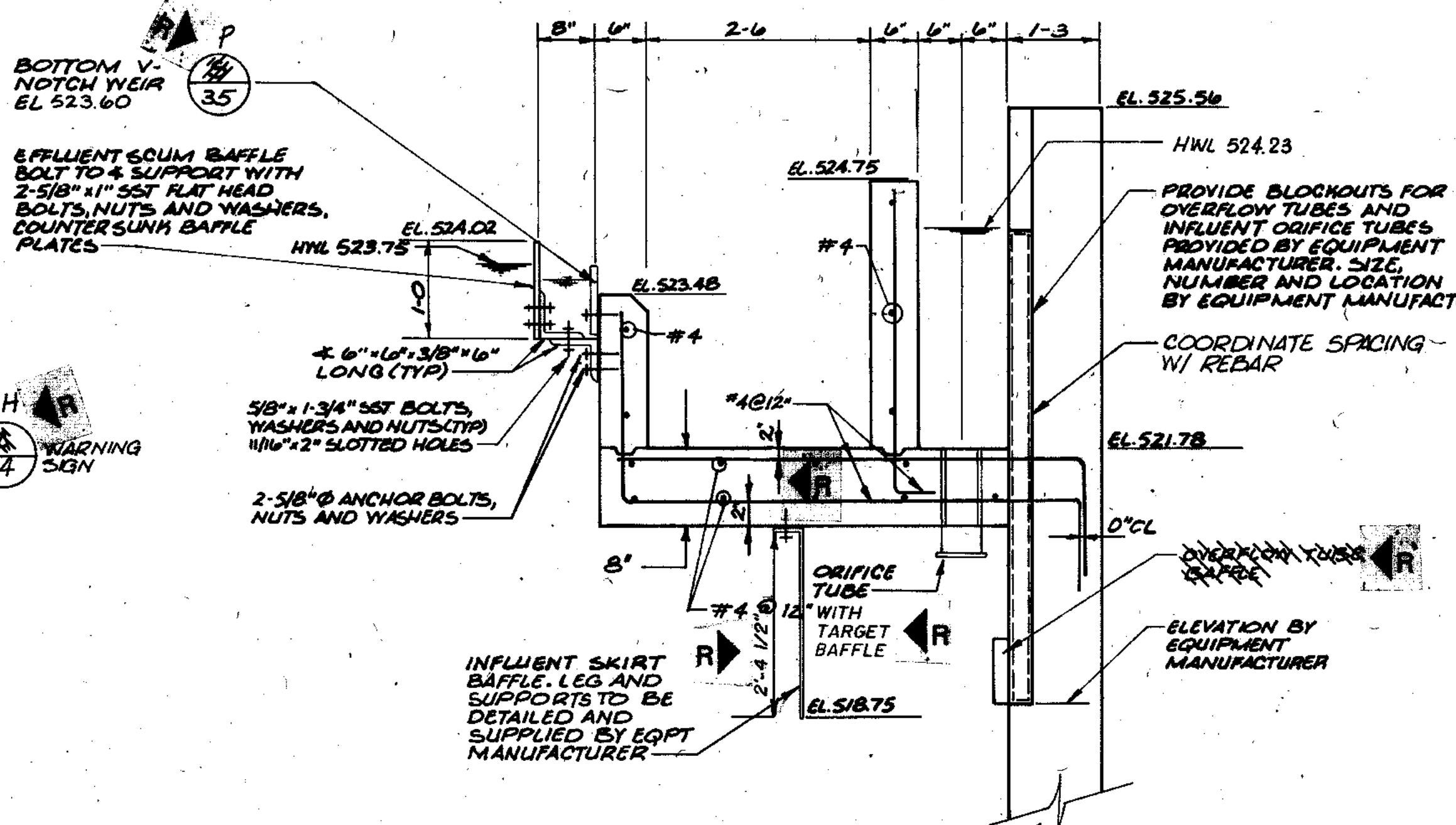
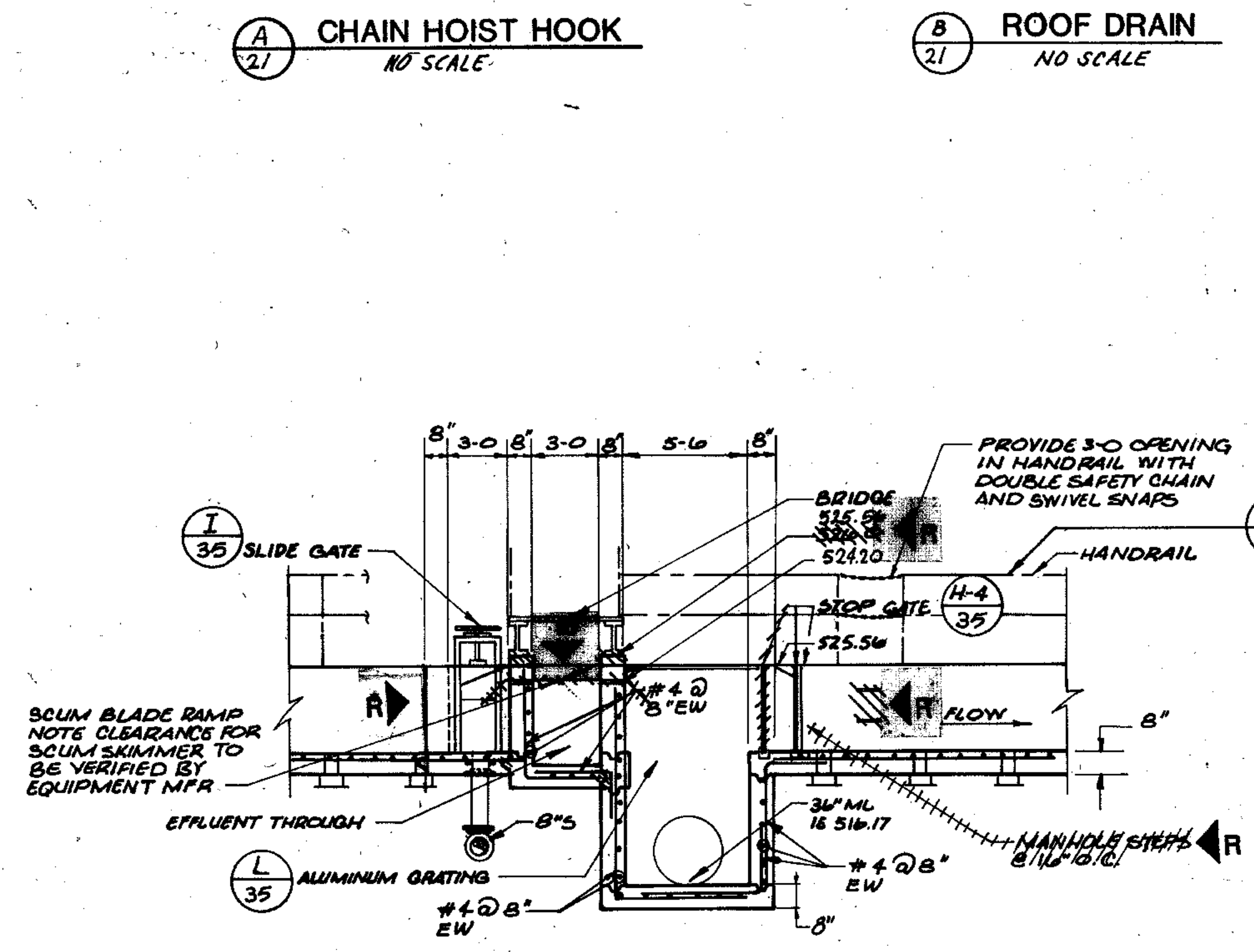
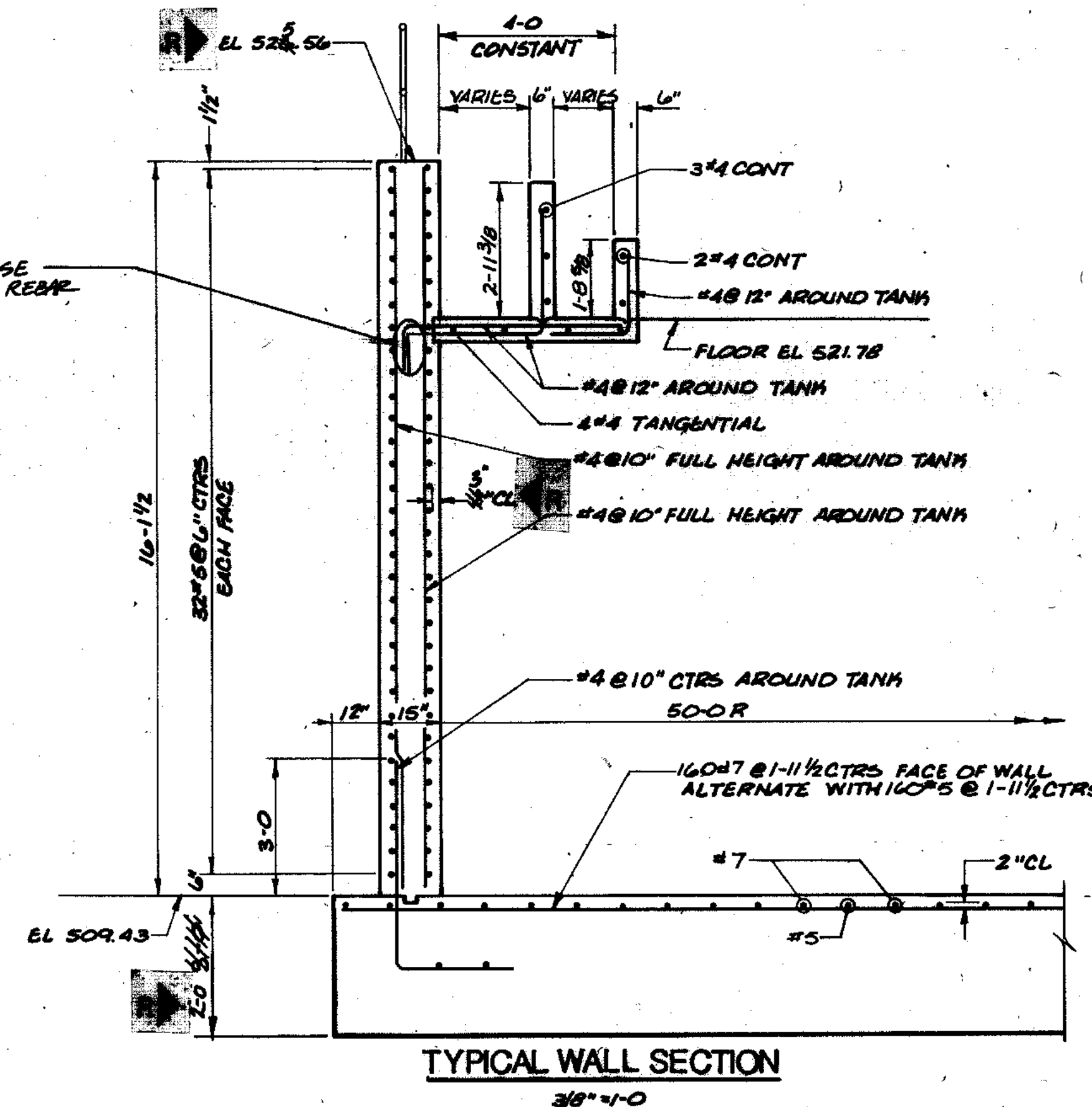
STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wmgra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4841

Beiling Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435

DRAWING NO. **255-230-20**



2.400 EIGHT 4" FLAP VALVES COMPLETE WITH STAINLESS-STEEL INLET SCREENS IN THE WALL OF EACH CLARIFIER WITH INVERT ELEVATION AT 52.50. PROVIDE A WALL PIPE WITH EACH VALVE AND RECESS THE VALVE IF NECESSARY TO CLEAR CLARIFIER EQUIPMENT. PROVIDE A TWELVE INCH THICK LAYER OF WASHED CRUSHED STONE FROM THE BOTTOM OF EXCAVATION TO ELEVATION 53.50 AROUND EACH CLARIFIER. PLACE FILTER FABRIC BETWEEN THE STONE AND SURROUNDING SOIL.



COMPOSITE NO.	14-00-21	14-01-21	14-02-21	14-03-21	14-04-21	14-05-21	14-06-21	14-07-21	14-08-21	14-09-21	14-10-21	14-11-21	14-12-21
OVERLAY NO.													
DATE													

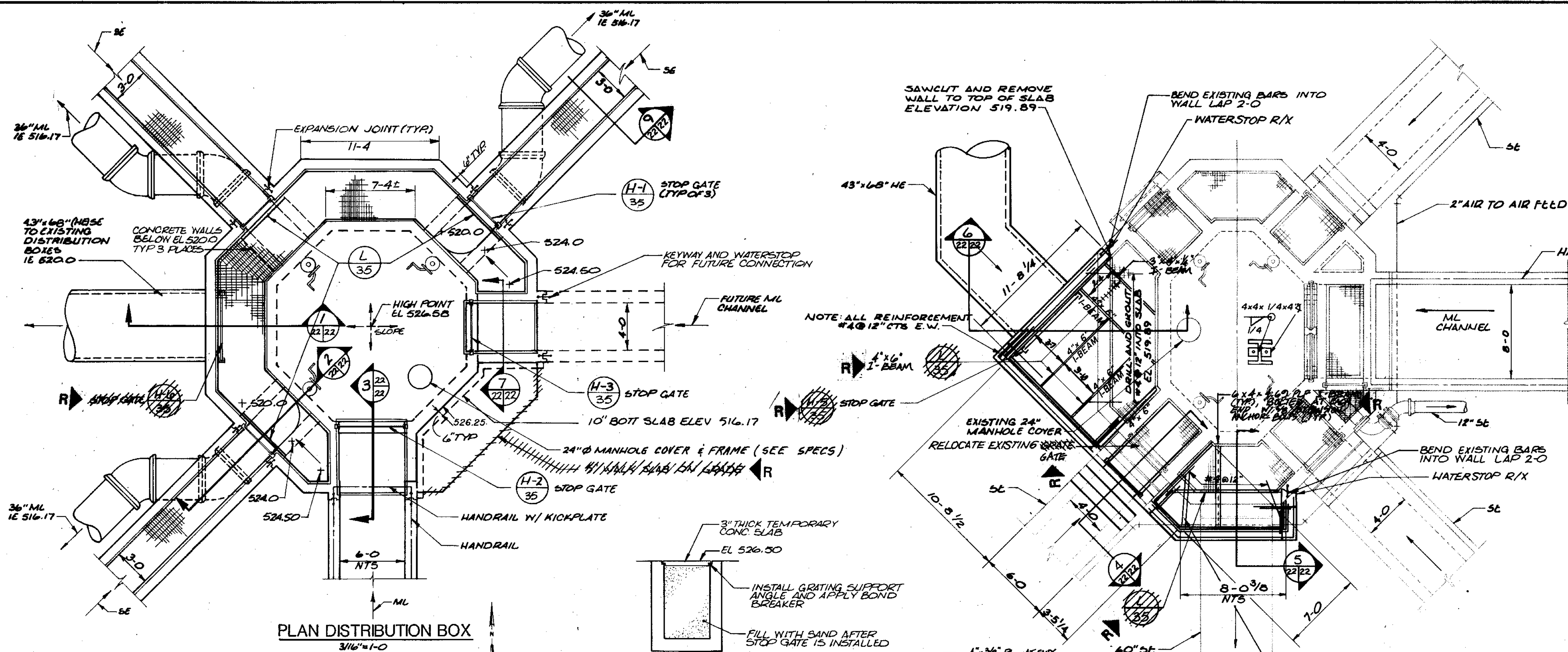
RECORD DRAWING 4-90 D.O.

STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

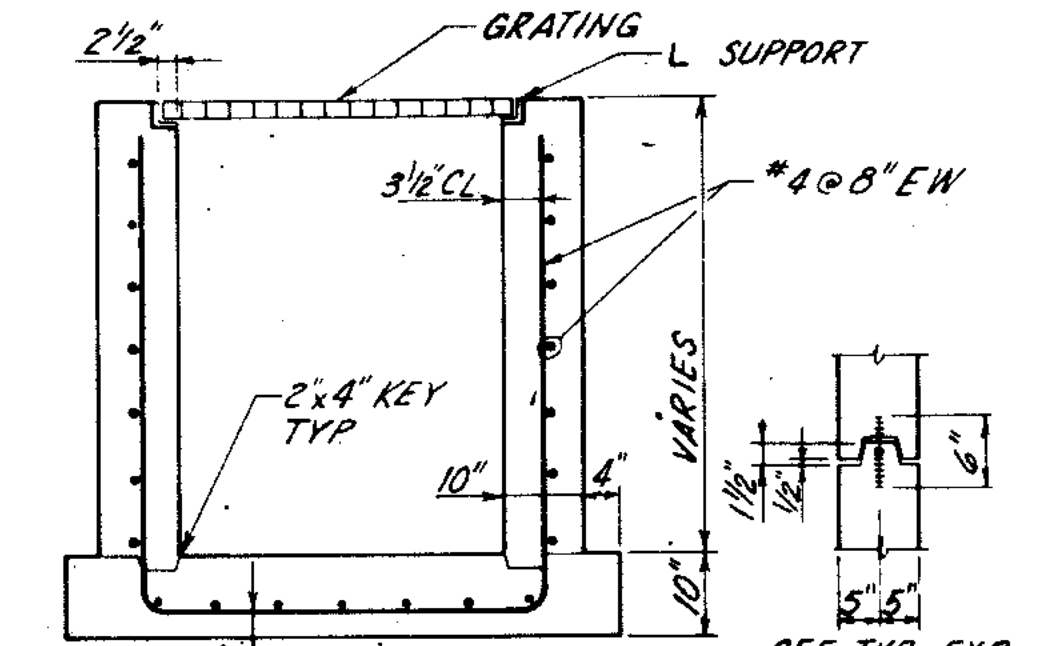
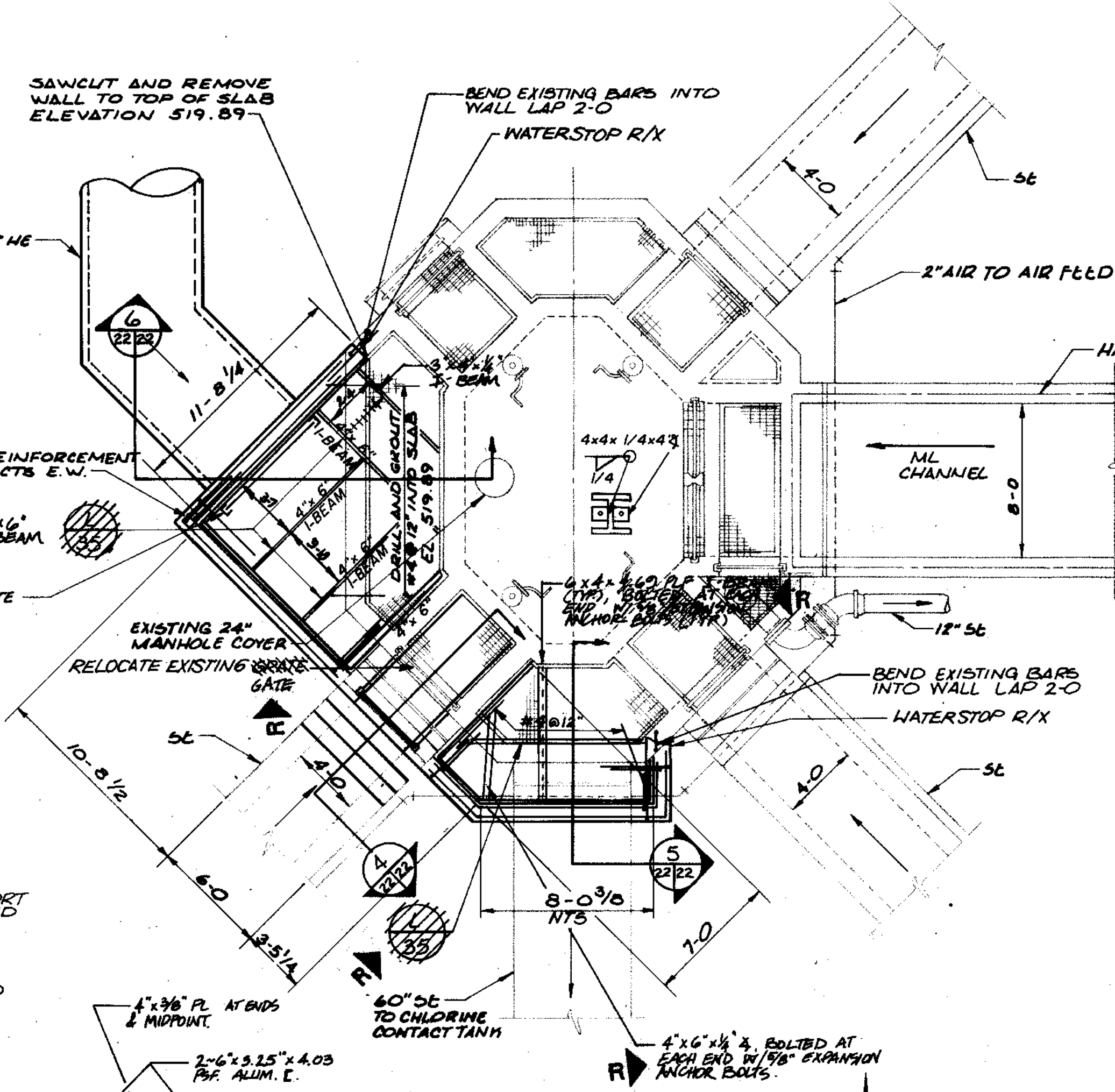
CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT FINAL CLARIFIERS SECTIONS & DETAILS

SCALE AS NOTED DATE NOVEMBER, 1987 DRAWING NO. 255-230-21

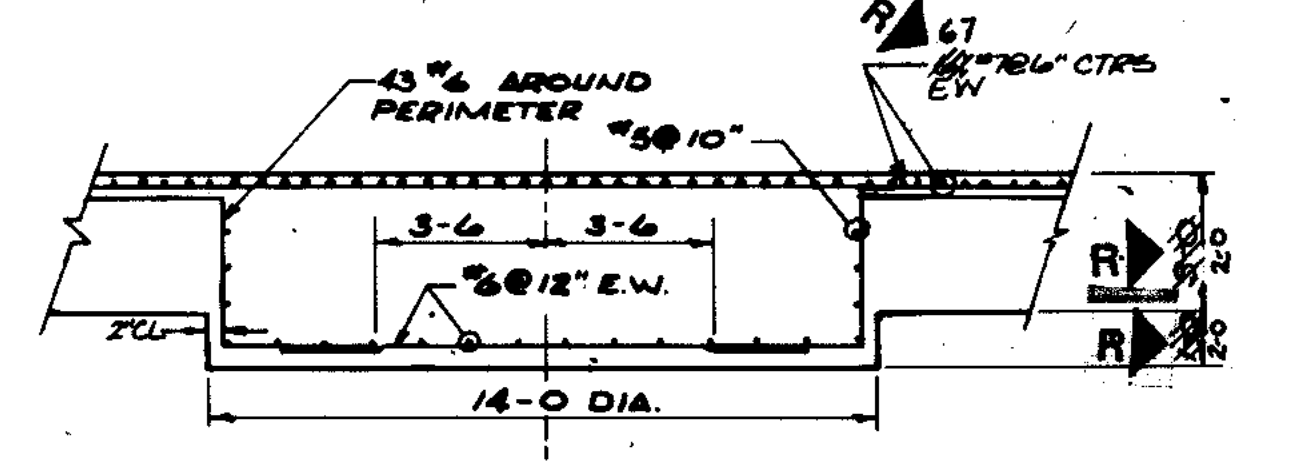
Beiling Consultants
1100 West Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1800



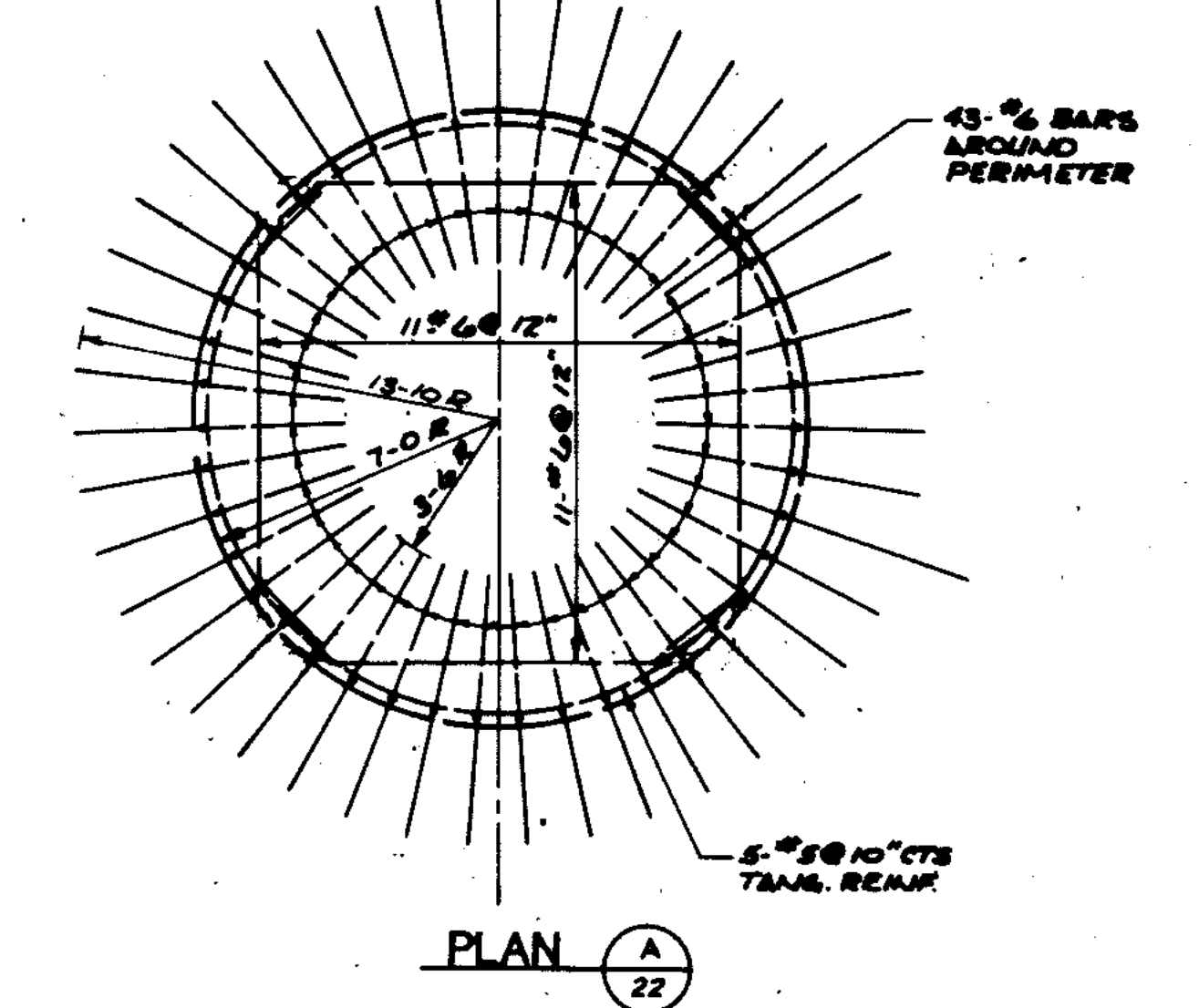
PLAN DISTRIBUTION BOX
3/16 x 1-0



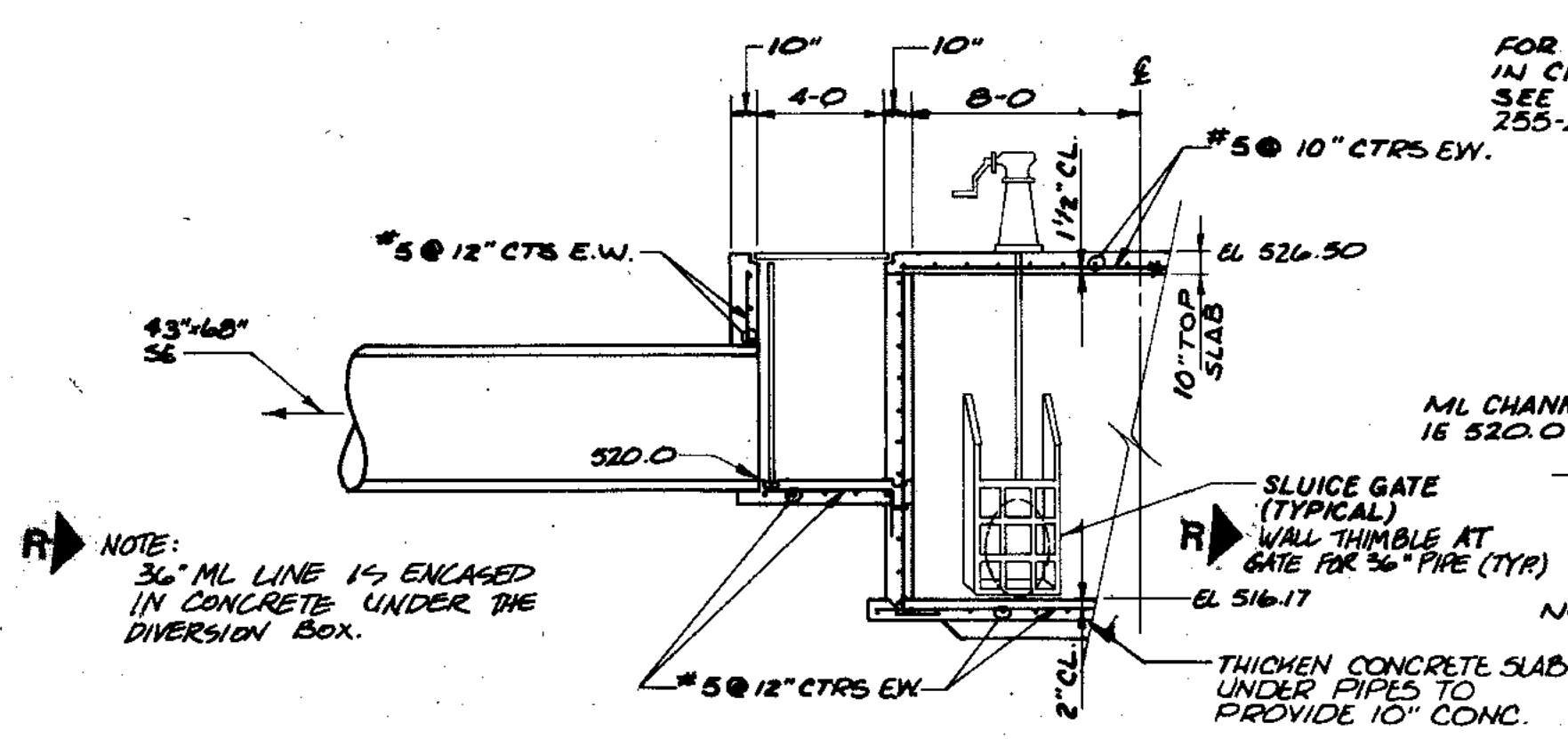
TYPICAL CHANNEL REINFORCING
NO SCALE



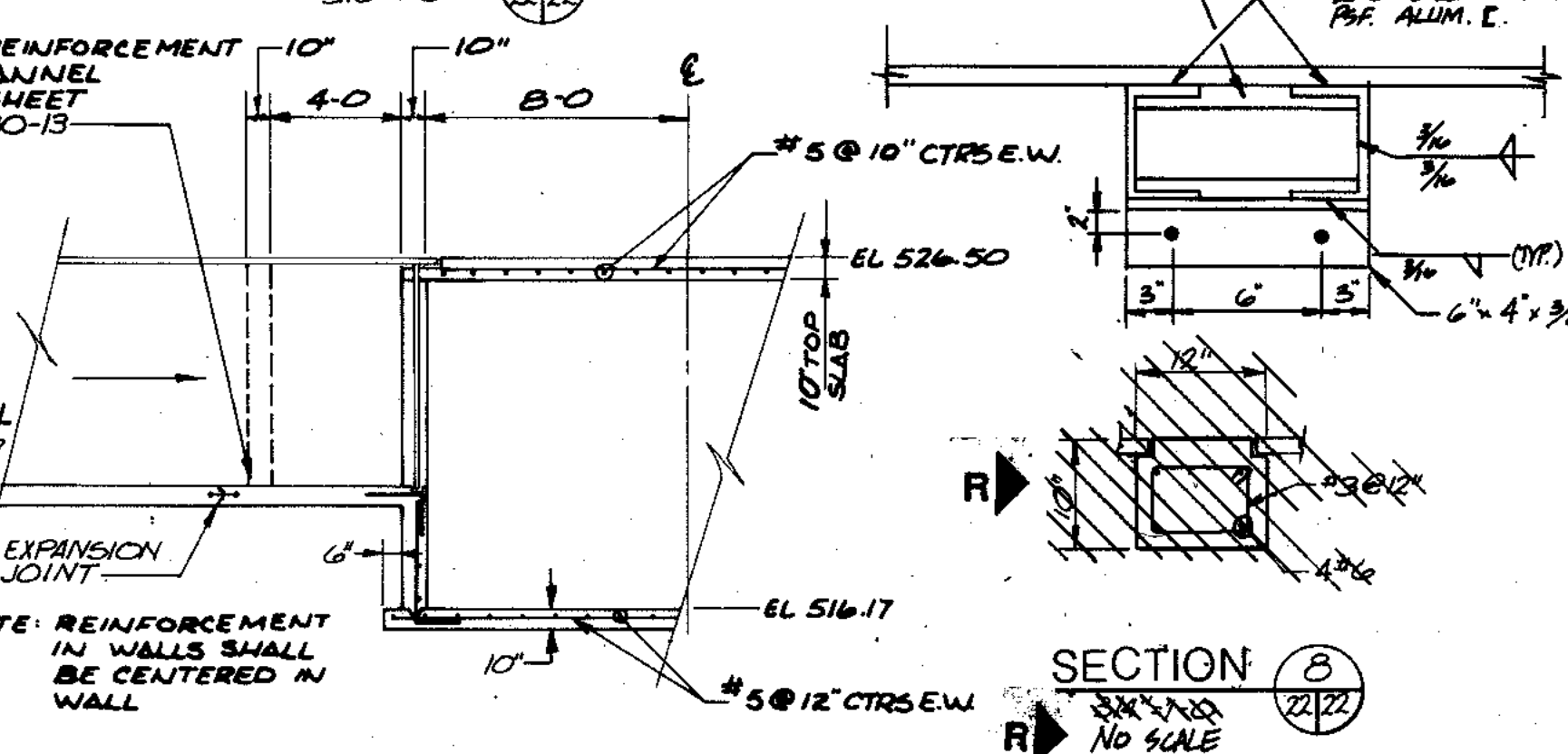
SECTION 7
1/4\" 7-0



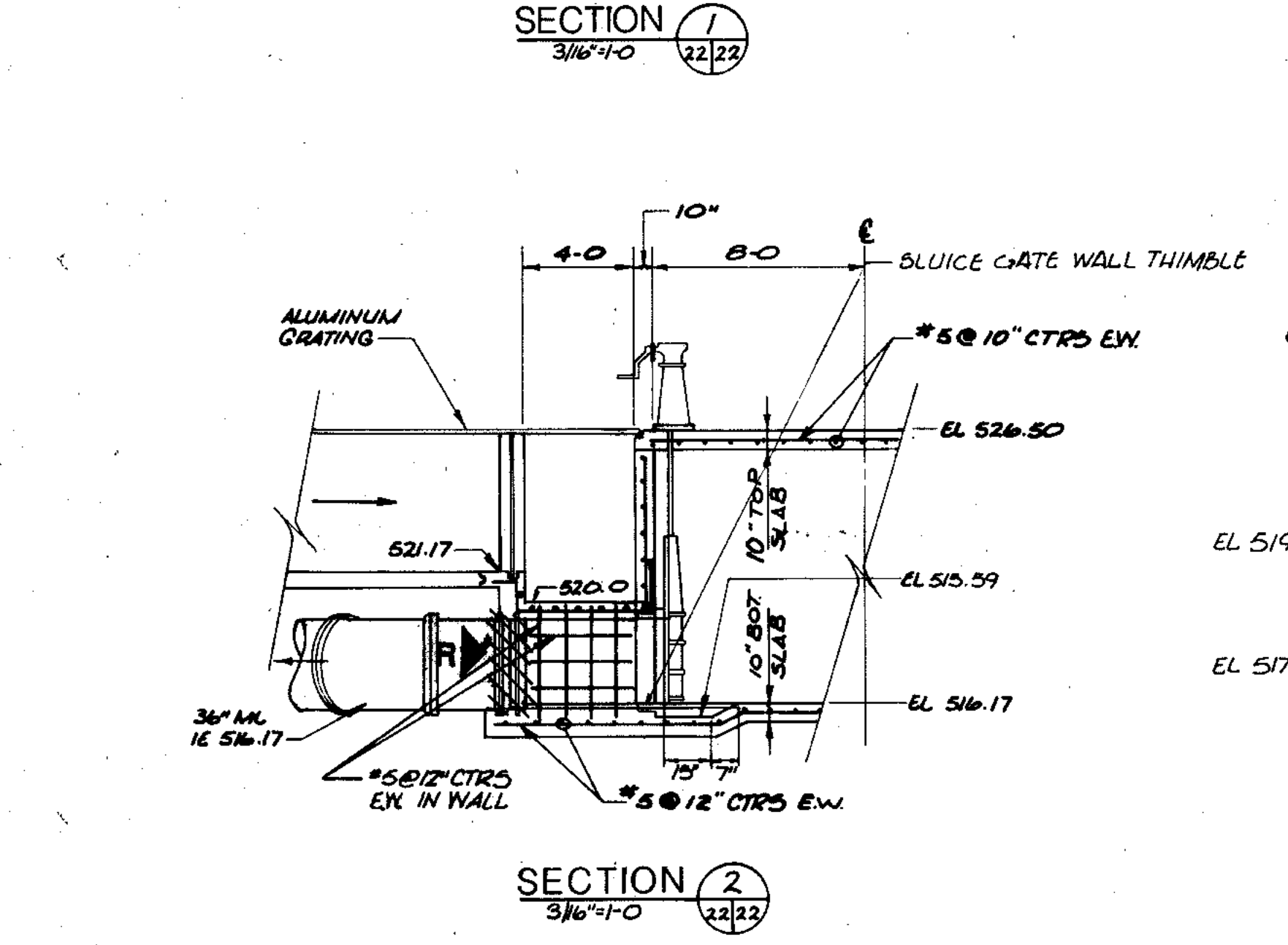
PLAN A
22



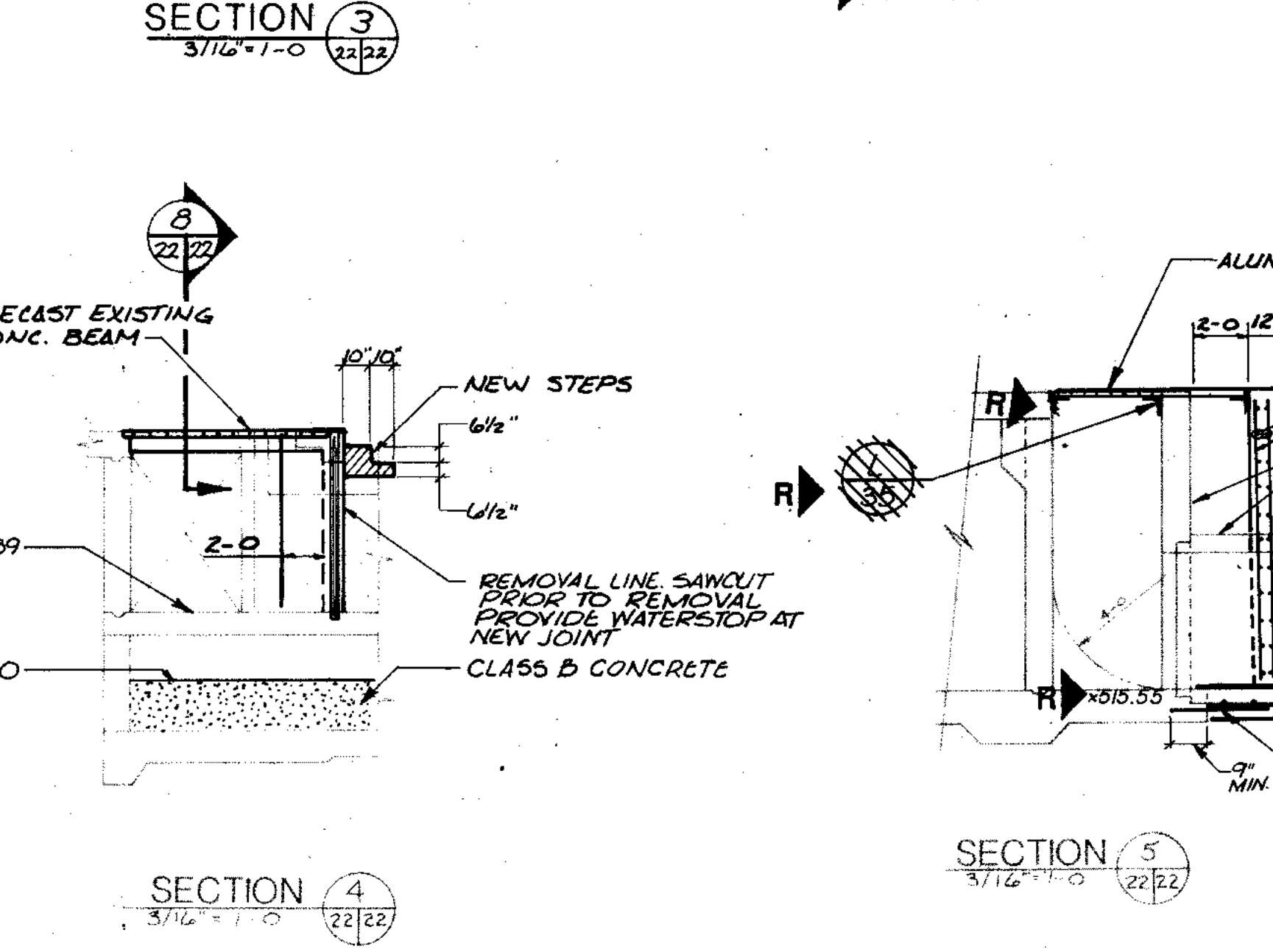
SECTION 1
3/16 x 1-0



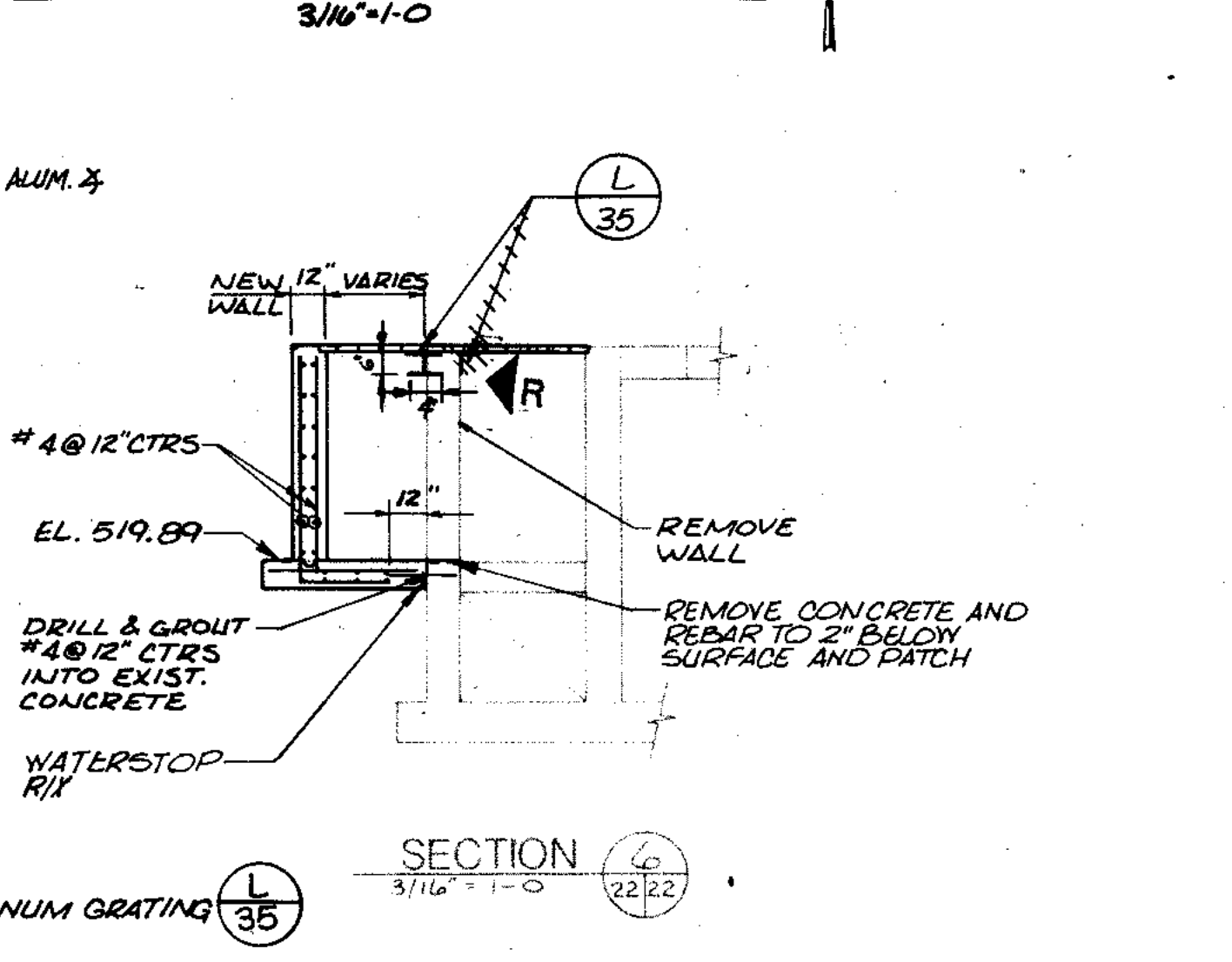
SECTION 3
3/16 x 1-0



SECTION 2
3/16 x 1-0



SECTION 4
3/16 x 1-0



SECTION 5
3/16 x 1-0

COMPOSITE	11-22	11-22	11-22	11-22	11-22	11-22	11-22	11-22	11-22
OVERLAY	11-22	11-22	11-22	11-22	11-22	11-22	11-22	11-22	11-22
PROJECT NO.	9								
DATE									

RECORD DRAWING 4-80 D.O.

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
FINAL CLARIFIERS
DISTRIBUTION BOXES

SCALE AS NOTED DATE NOVEMBER, 1987

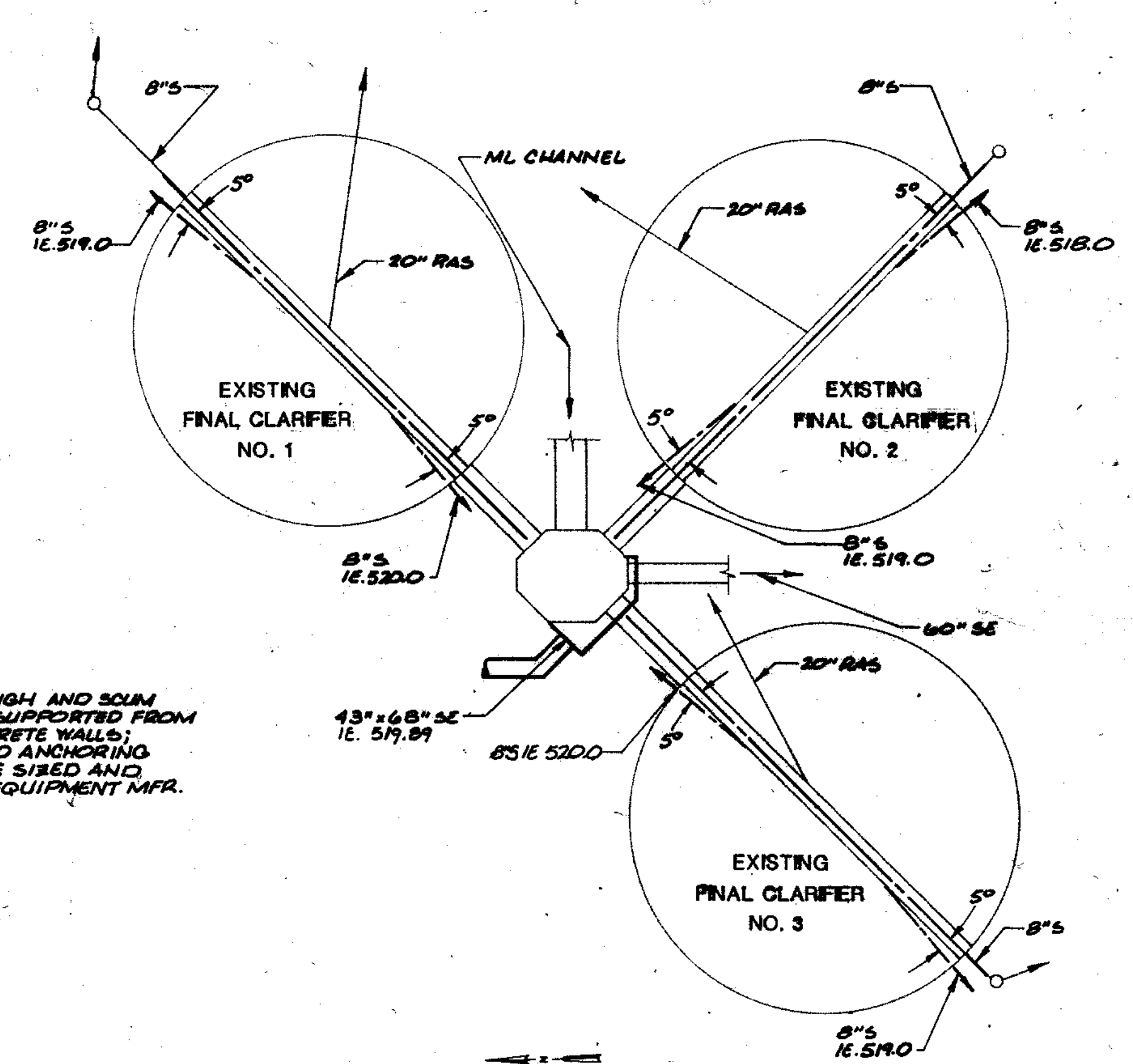
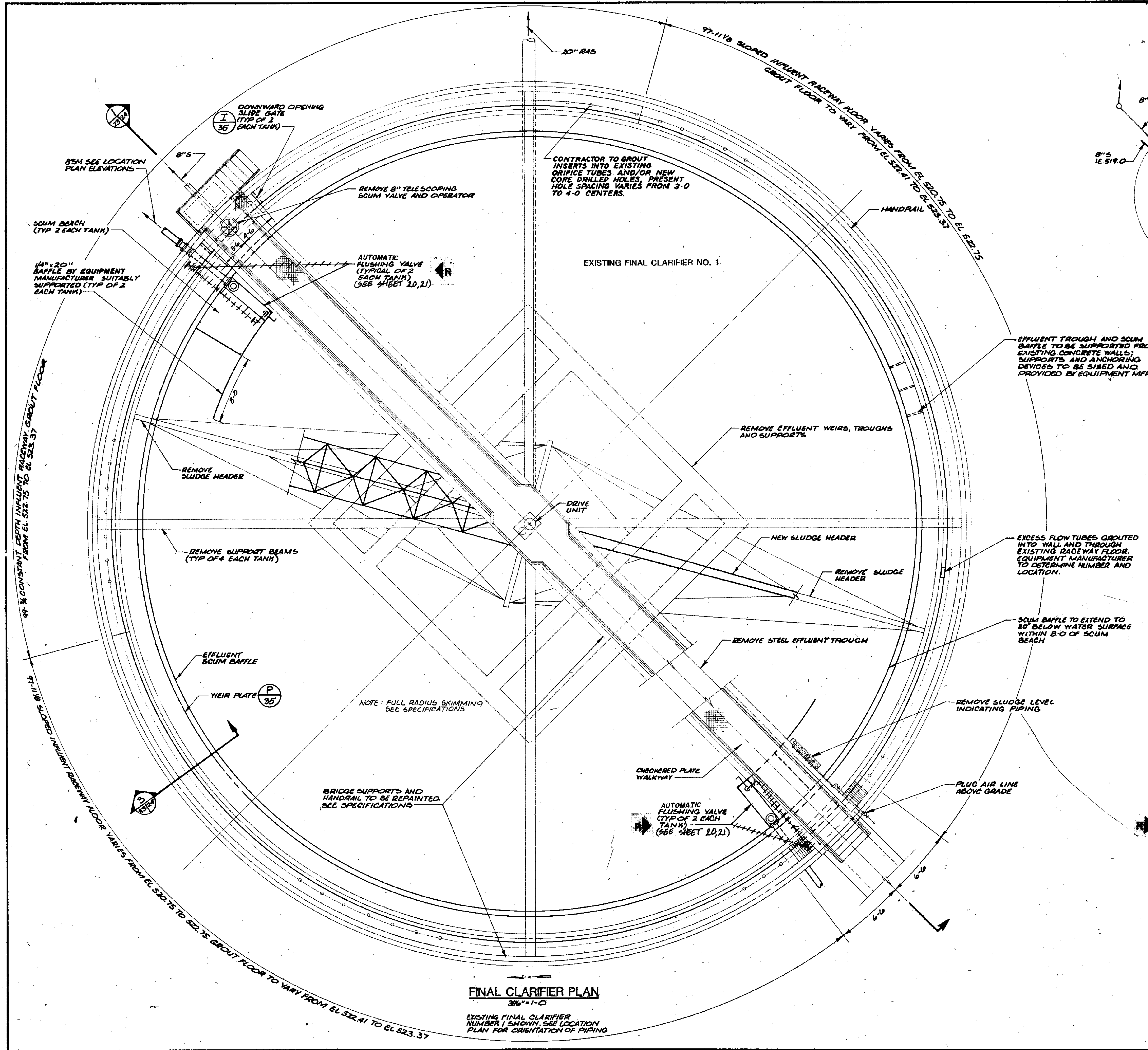
STRAND ASSOCIATED, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

Being Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1800

DRAWING NO. 255-230-22

SHEET 22 OF 59

COMPOSITE	A-57-25	E-70-23	DIV-23	DIV-23
OVERLAY	A-57-25	E-70-23	DIV-23	DIV-23
SCREEN				
PROJECT NO.				
DATE				

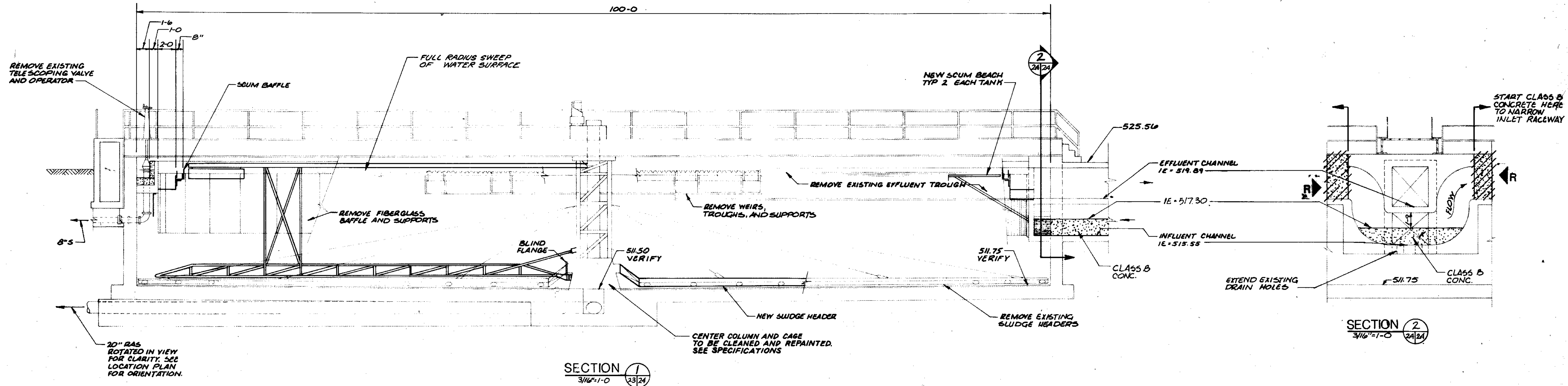


LOCATION PLAN
1"=30'-0"

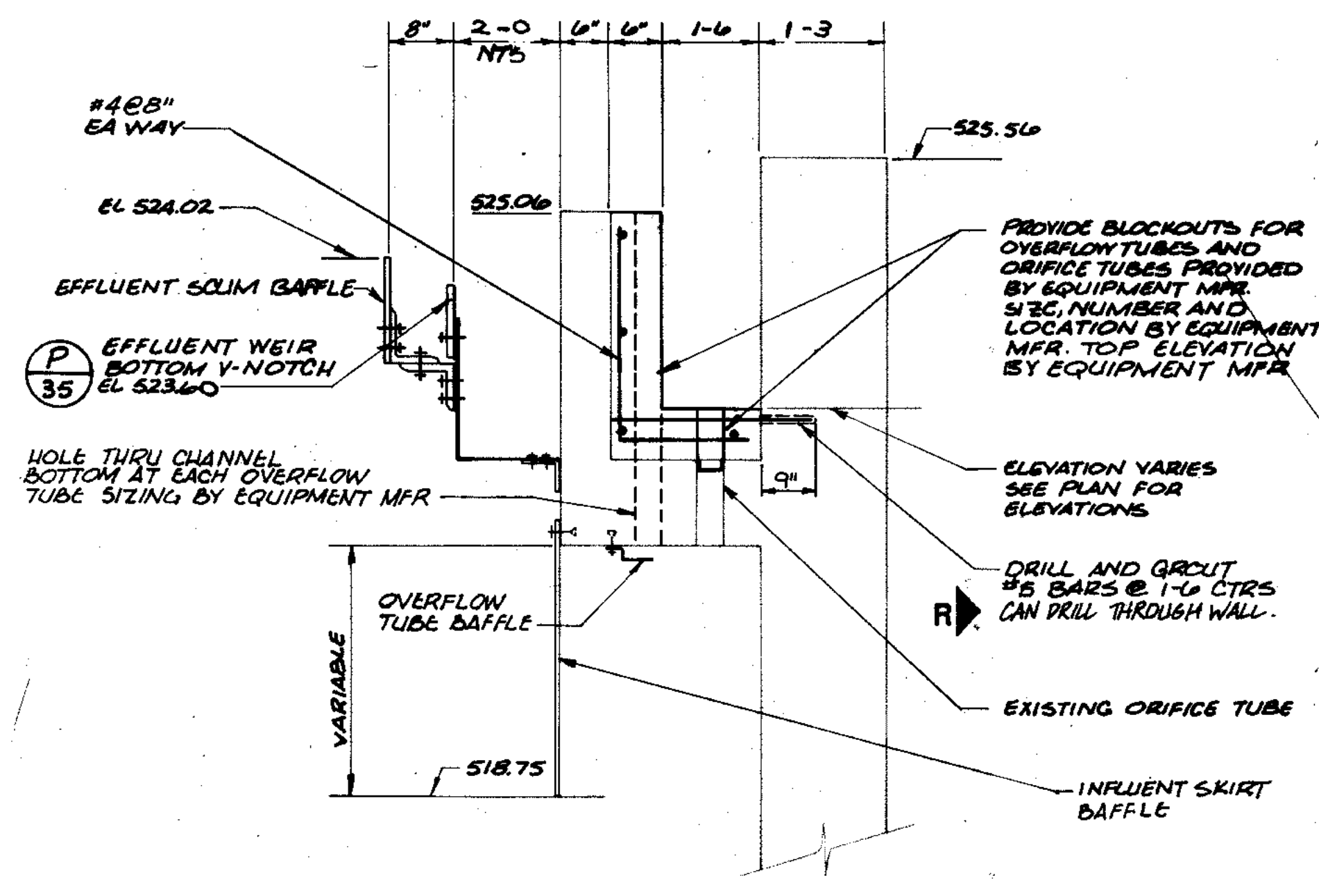
FINAL CLARIFIER PLAN
3/16"=1'-0"

THE ITEMS IDENTIFIED ON SHEETS 23 AND 24 ARE TO BE CONSIDERED PART OF THE ADDITIVE ALTERNATE NO. 1. SEE INSTRUCTIONS TO BIDDERS IN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

RECORD DRAWING 4-99 B.O.	
<p>STRAND ASSOCIATES, INC. CONSULTING ENGINEERS 910 West Wingo Drive Madison, Wisconsin 53715 Tel. (608) 251-4843</p>	<p>CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT EXISTING FINAL CLARIFIERS REVISIONS</p>
	<p>SCALE AS NOTED DATE NOVEMBER, 1987 DRAWING NO.</p>
<p>Belling Consultants Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435</p>	<p>255-230-23</p>



SECTION 1
3/16\"/>



THE ITEMS IDENTIFIED ON SHEETS 23 AND 24 ARE TO BE CONSIDERED PART OF THE ADDITIVE ALTERNATE NO. 1. SEE INSTRUCTIONS TO BIDDERS IN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

OVERLAY IDENTIFICATION	COMPOSITE	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24
PROJECT NO.	OVERLAY	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24	14-57-24
DATE	SCREEN								

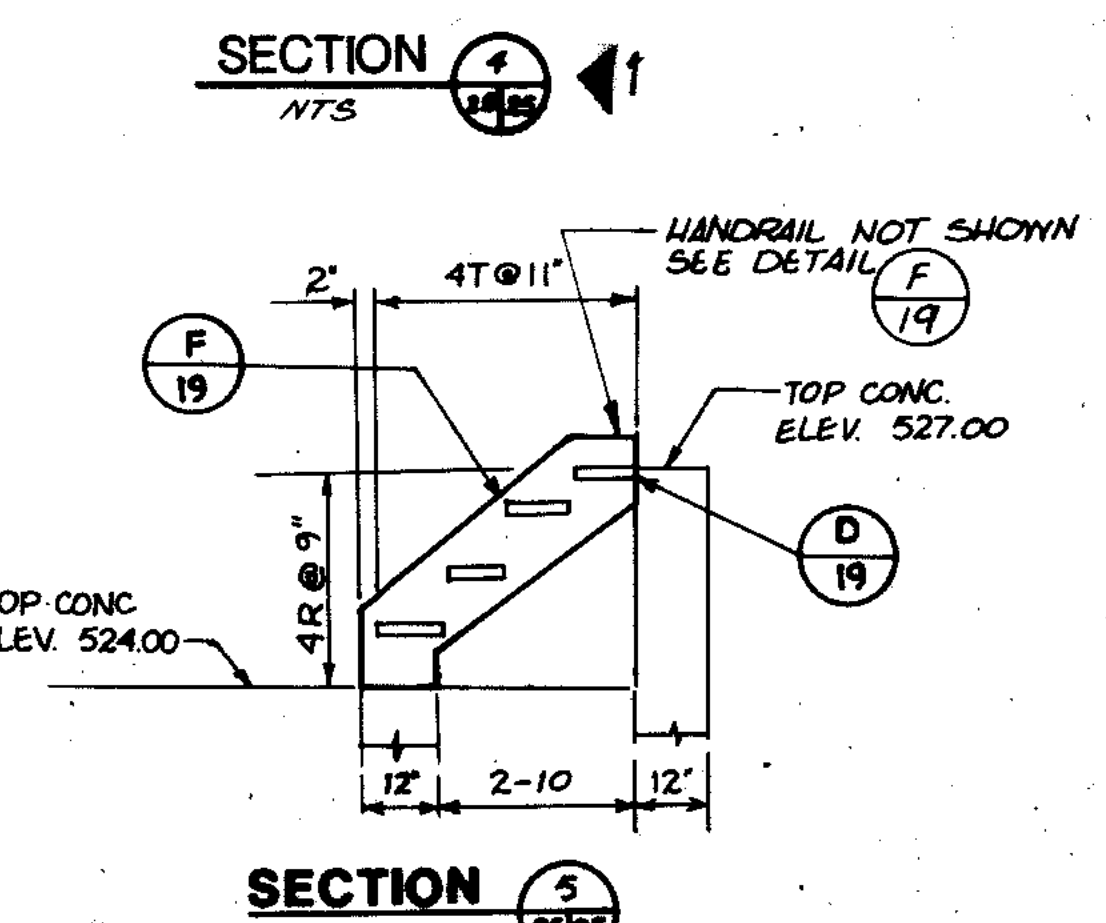
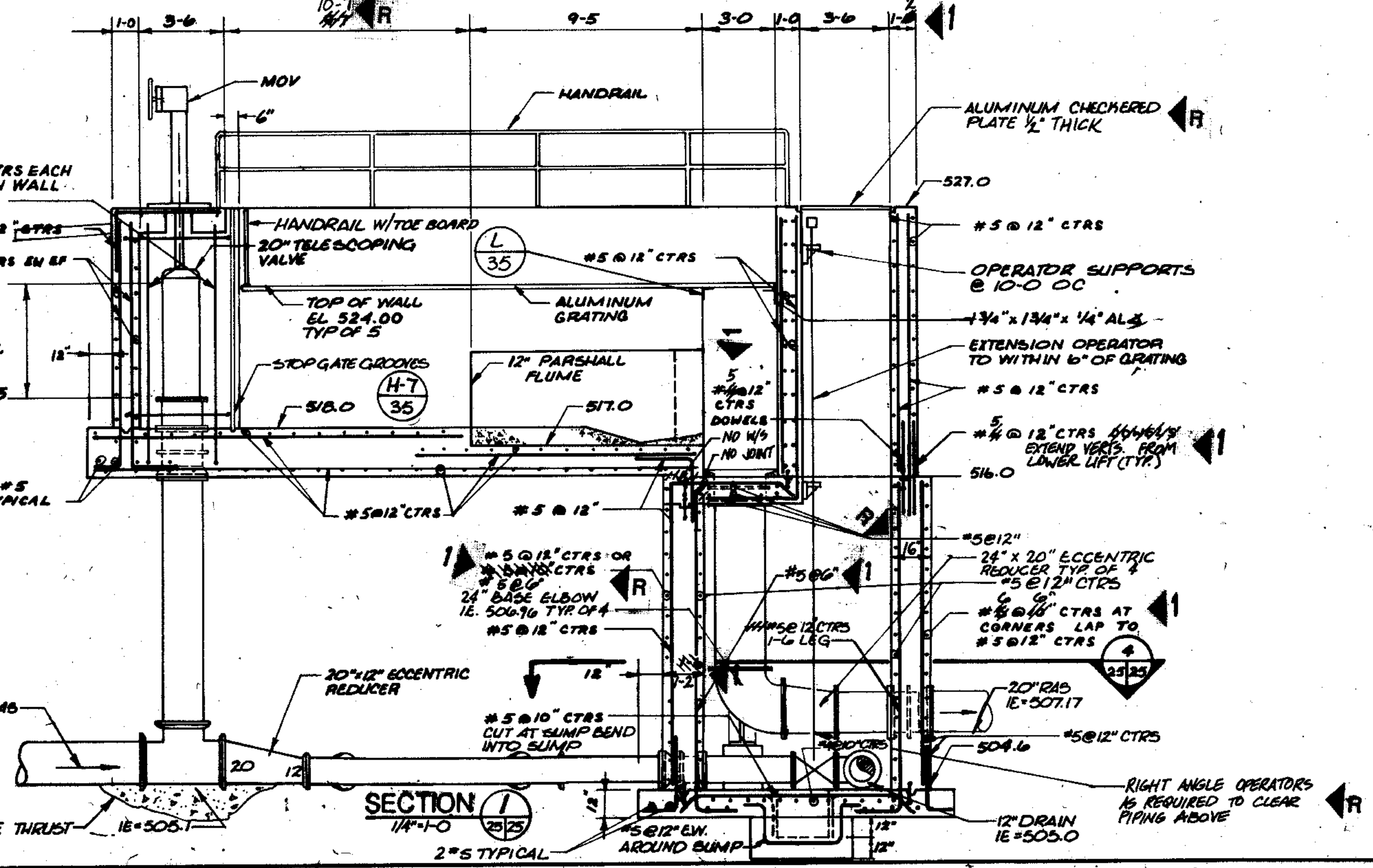
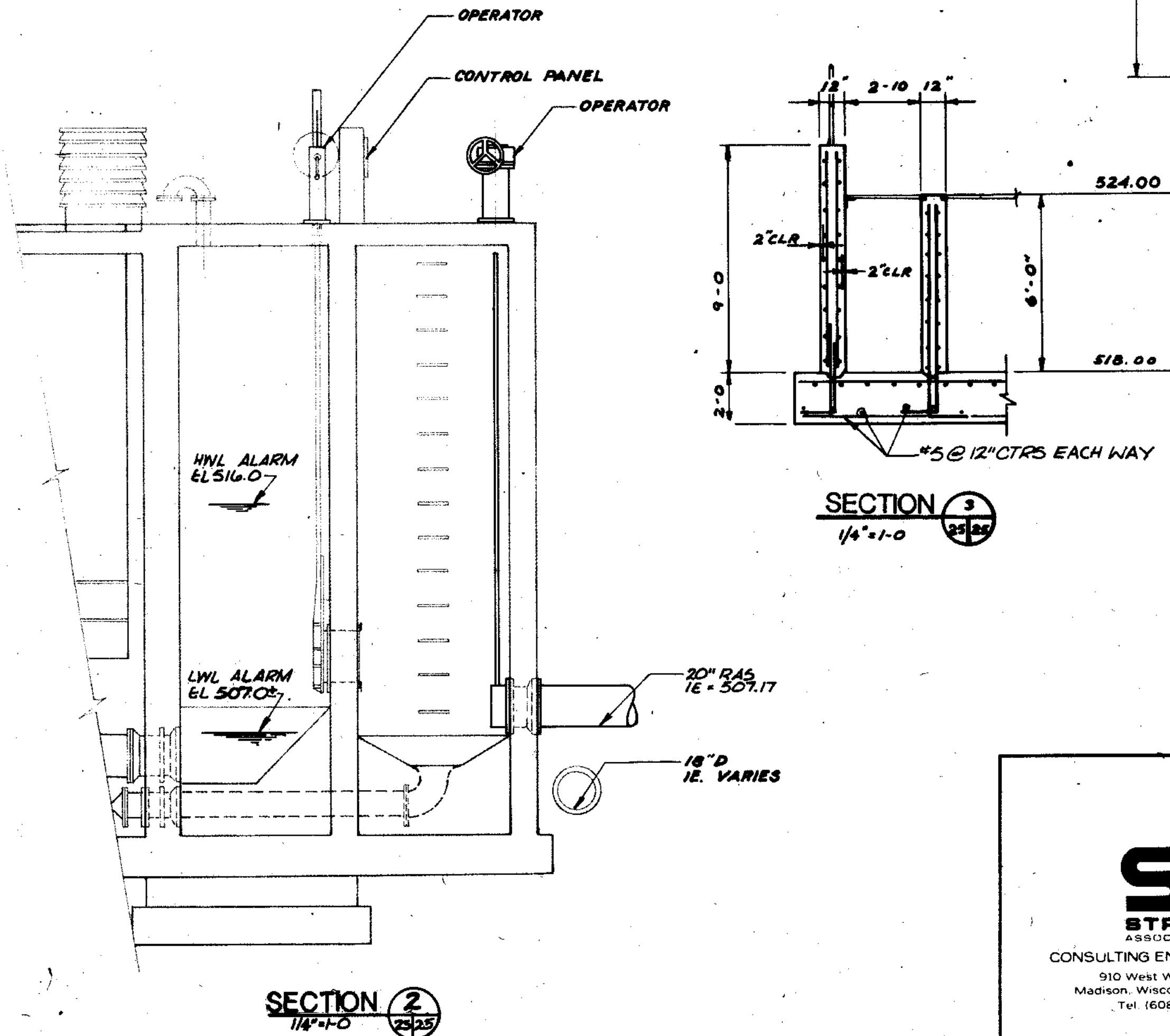
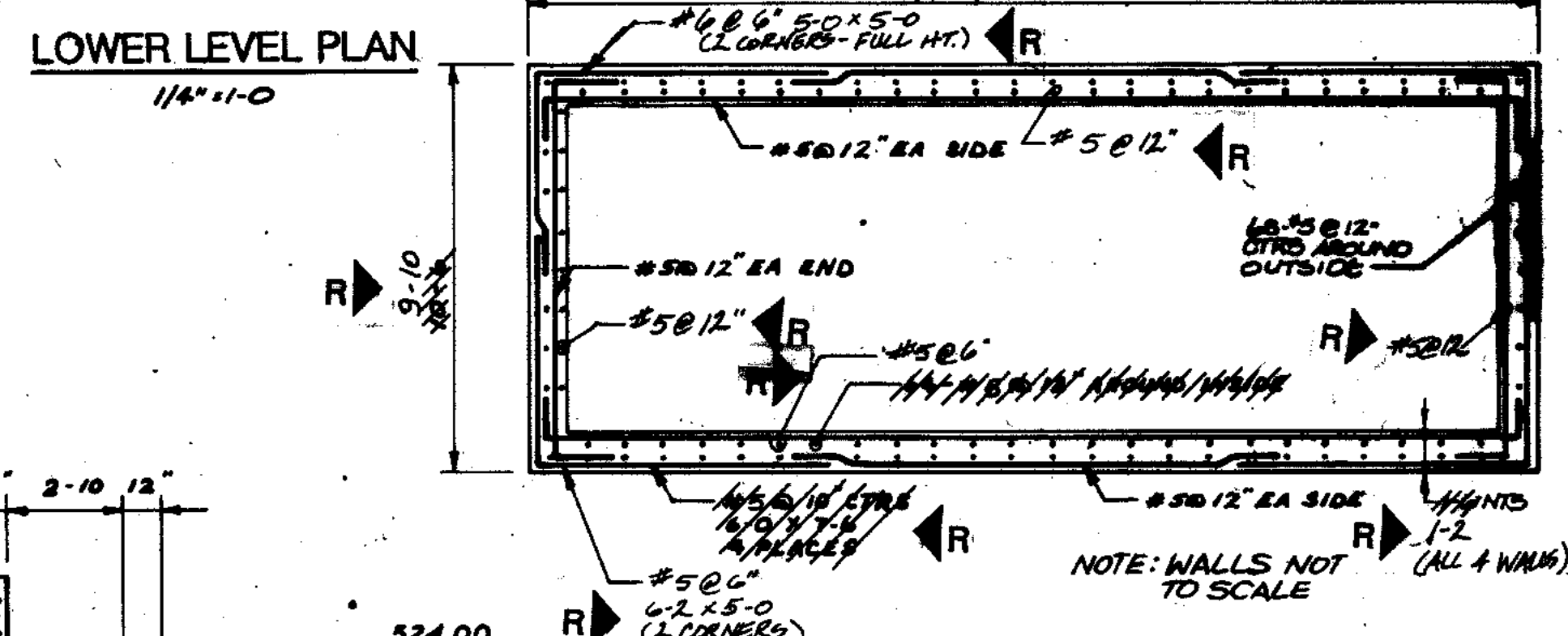
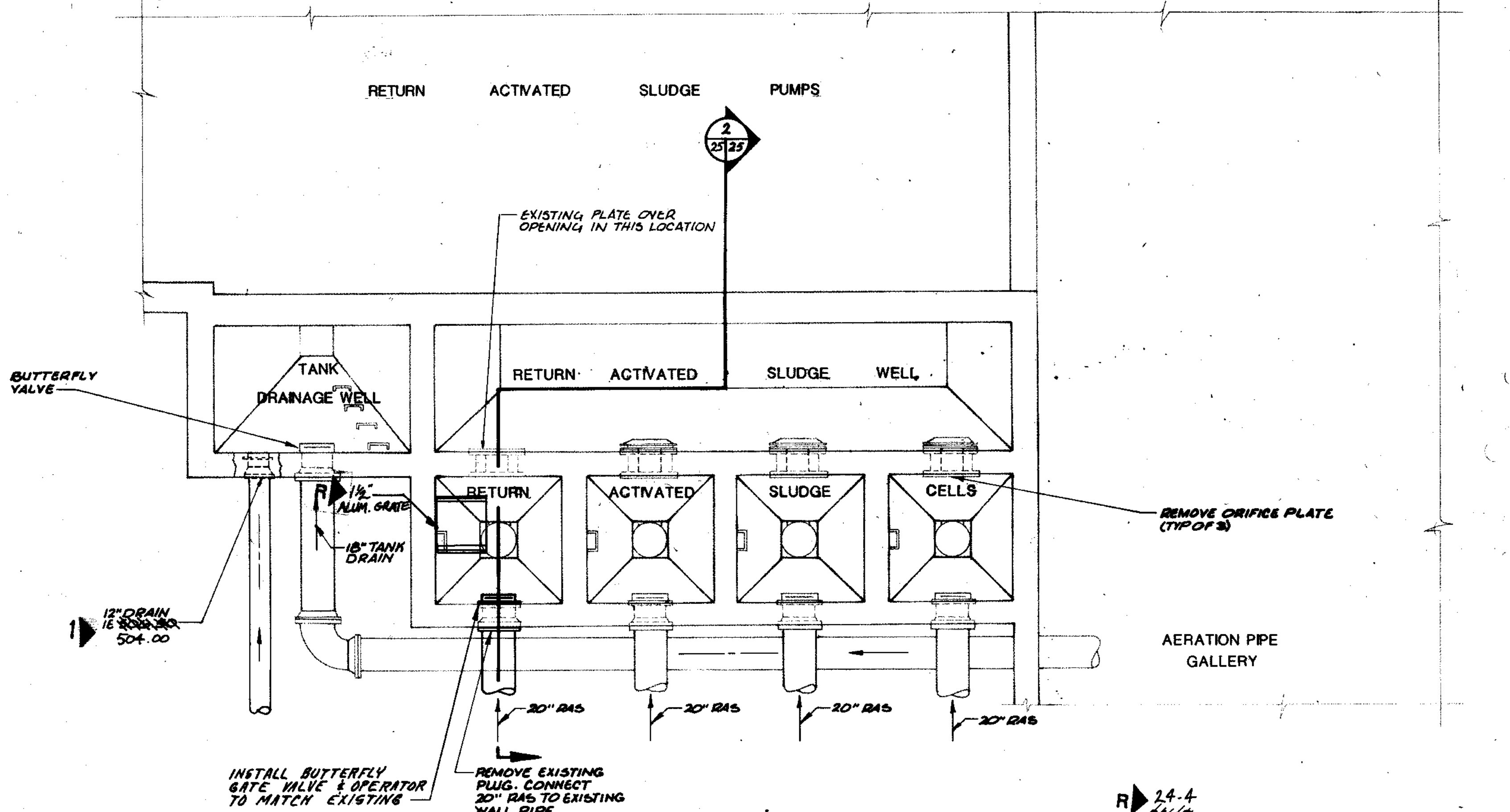
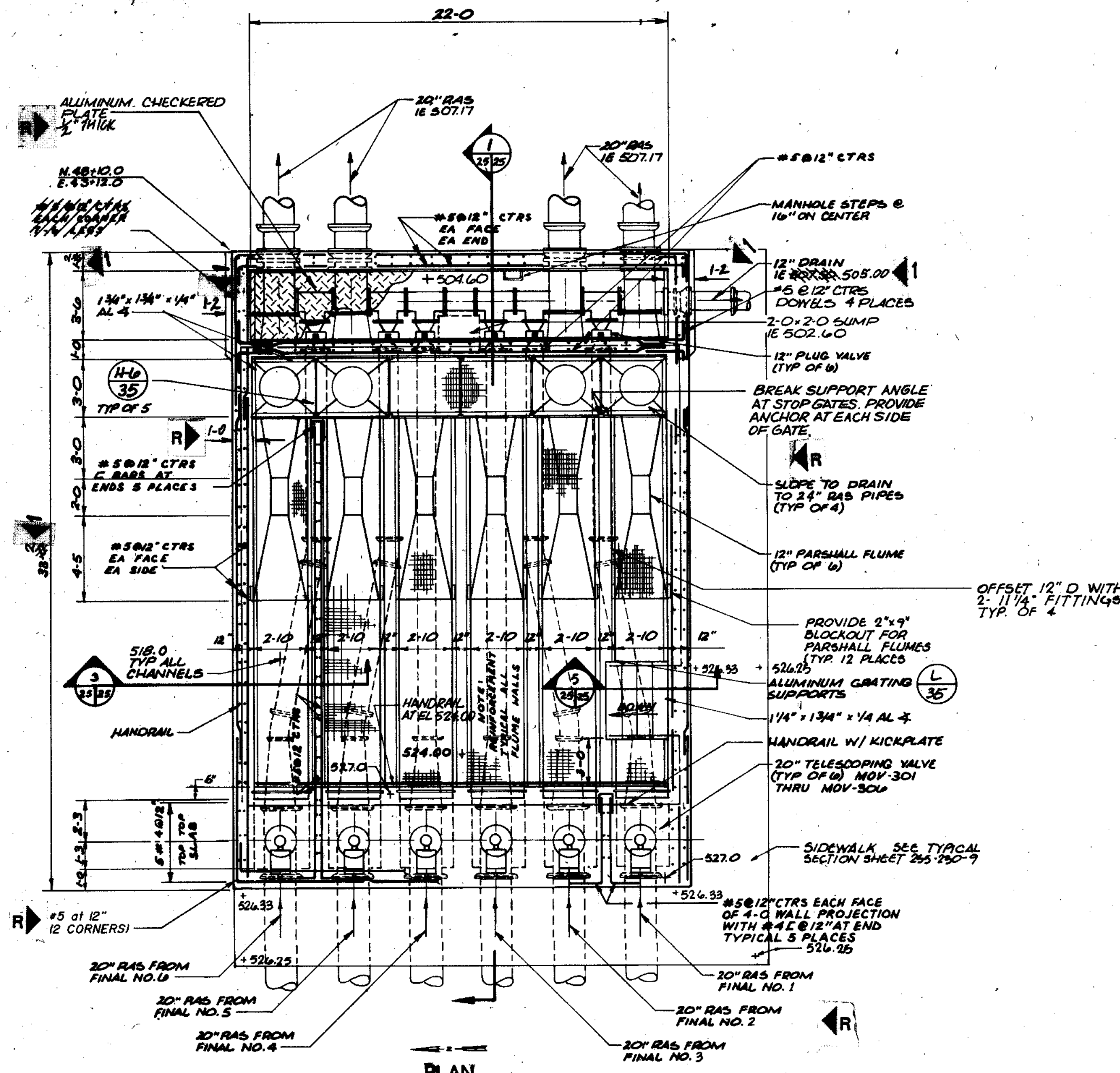
R RECORD DRAWING 4-80 D.O.

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wing & Drive
Madison, Wisconsin 53715
Tel (608) 251-4843

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
EXISTING
FINAL CLARIFIERS

SCALE AS NOTED DATE NOVEMBER, 1987
DRAWING NO. 255-230-24

Belting Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / JOLIET, IL 60438



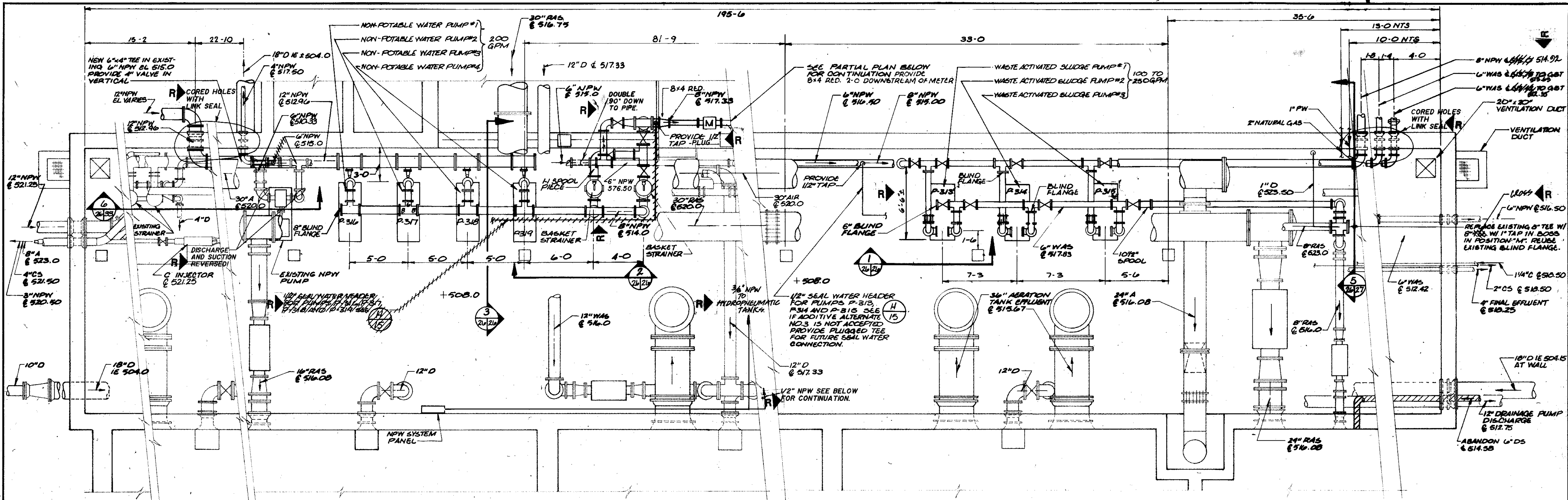
COMPOSITE	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25
OVERLAY	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25
SCREEN	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25	N-57-25
DATE									

STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingo Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

Beijing Consultants
Harriet Center / N. Larkin Avenue at Pearlfield Road
Joliet, IL 60435

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
R.A.S. WELL & REVISIONS TO EXISTING

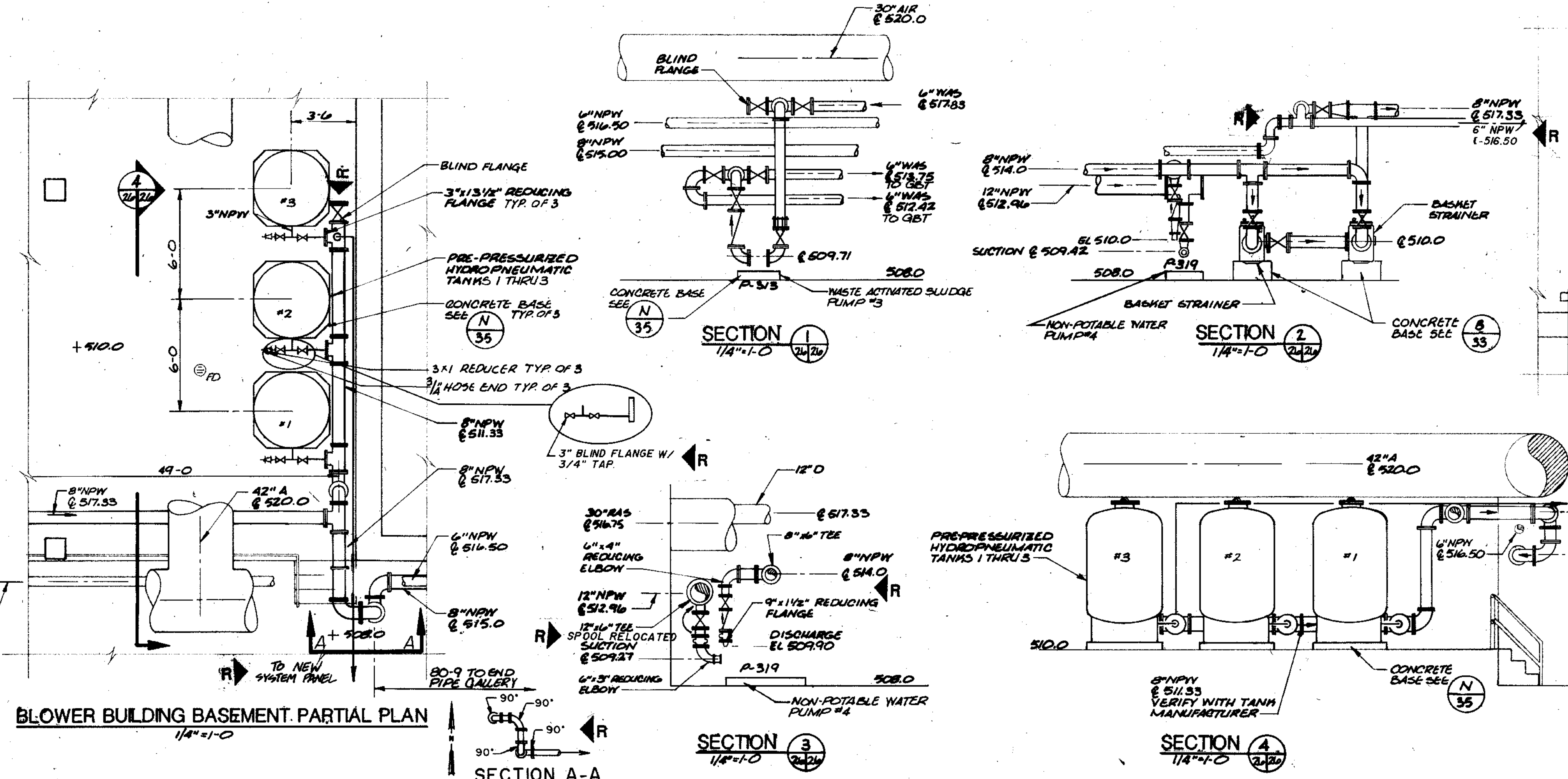
SCALE AS NOTED DATE NOVEMBER, 1987
DRAWING NO. 255-230-25



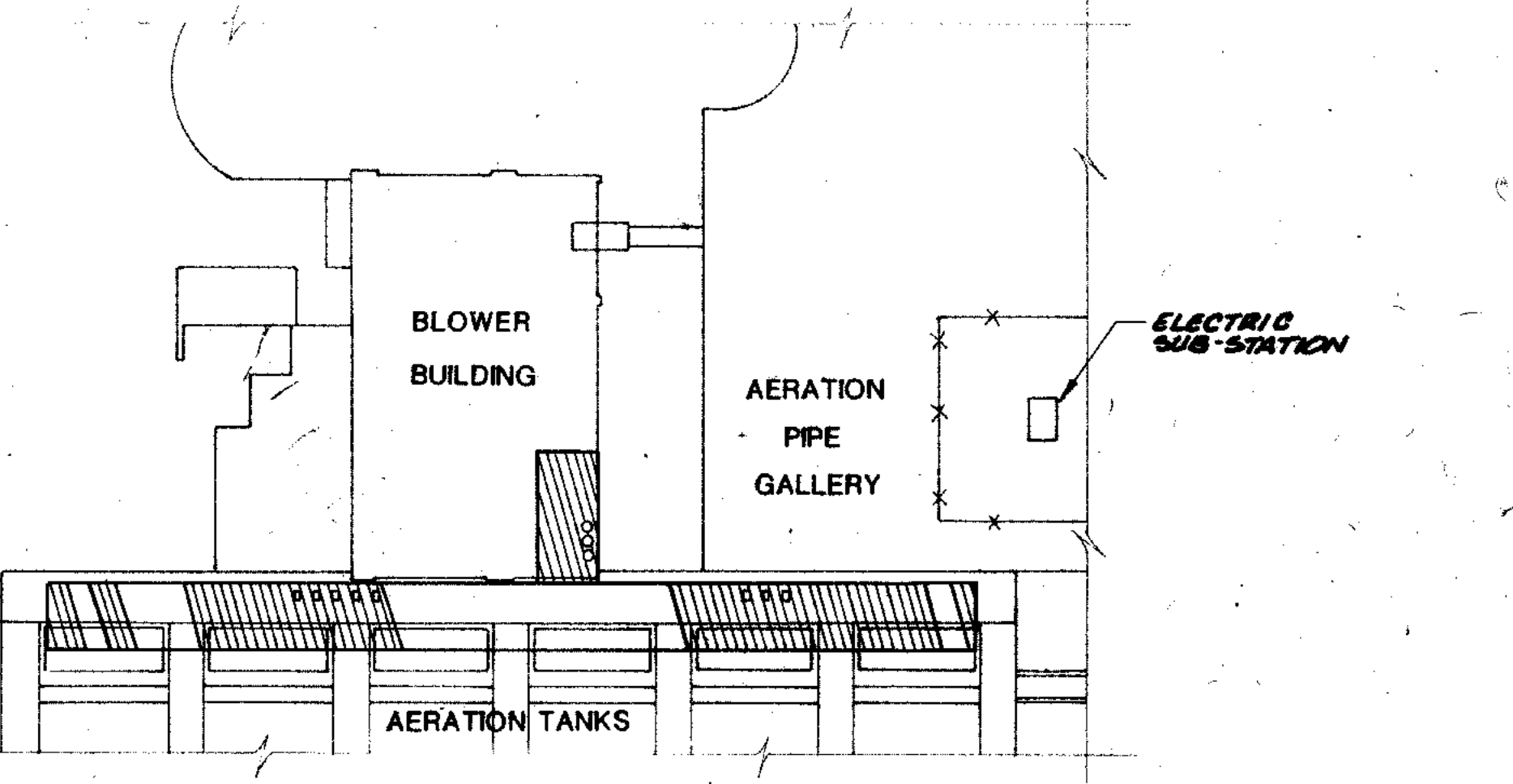
AERATION PIPE GALLERY PARTIAL PLAN
1/4\"/>

P-314 AND ASSOCIATED PIPING AND VALVES BETWEEN BLIND FLANGES ON SUCTION AND DISCHARGE HEADER ARE TO BE CONSIDERED PART OF ADDITIVE ALTERNATE NO. 3. SEE INSTRUCTIONS TO BIDDERS IN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

ALTERNATE NO. 3 WORK PERFORMED.



BLOWER BUILDING BASEMENT PARTIAL PLAN
1/4\"/>



LOCATION PLAN
1\"/>

OVERLAY IDENTIFICATION	COMPOSITE 11-09-26	5-00-26	DN-26
OVERLAY	11-09-26	5-00-26	DN-26
PROJECT NO.	11-09-26	5-00-26	DN-26
DATE			

RECORD DRAWING 4-90 D.Q.

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
AERATION PIPE GALLERY REVISIONS
WAS PUMPS AND NPW SYSTEM

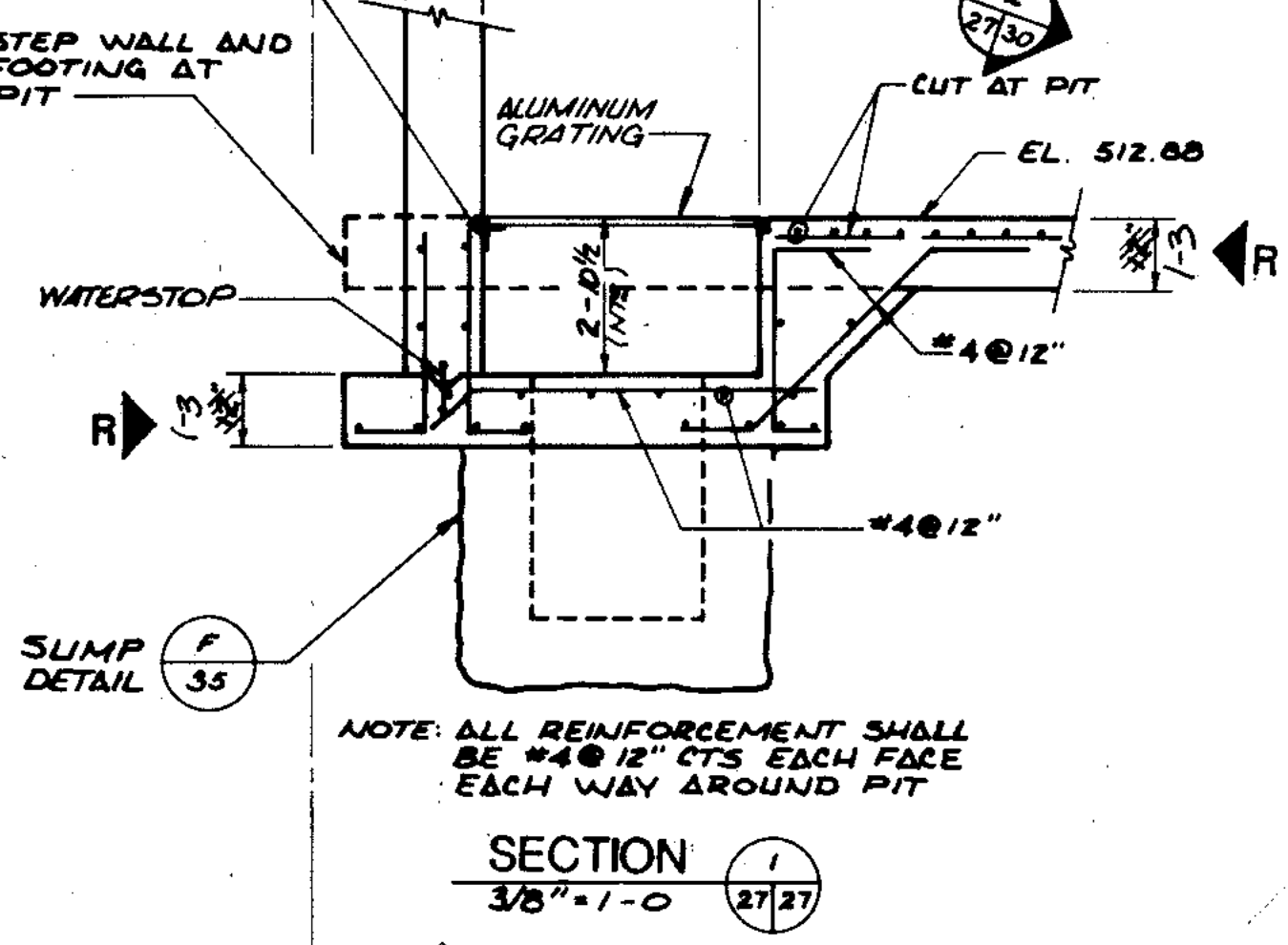
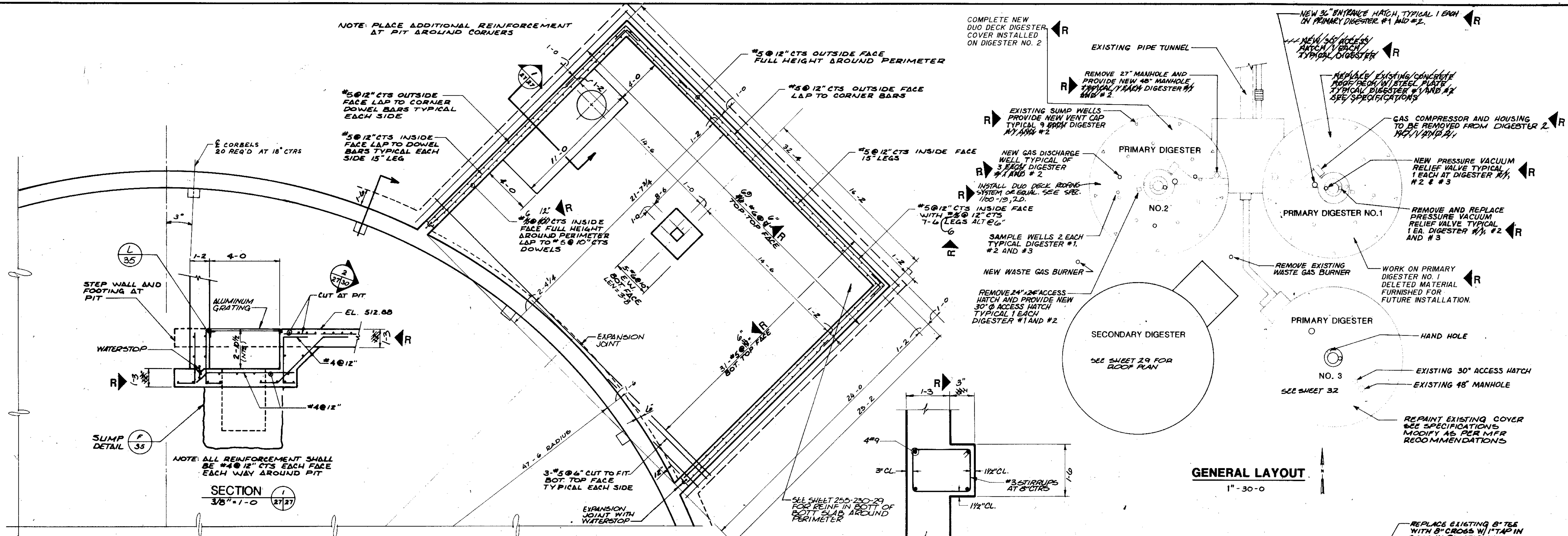
SCALE: AS NOTED DATE: NOVEMBER, 1987

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (609) 251-4843

Beijing Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road /
Joliet, IL 60435

DRAWING NO.
255-230-26

NOTE: PLACE ADDITIONAL REINFORCEMENT AT PIT AROUND CORNERS



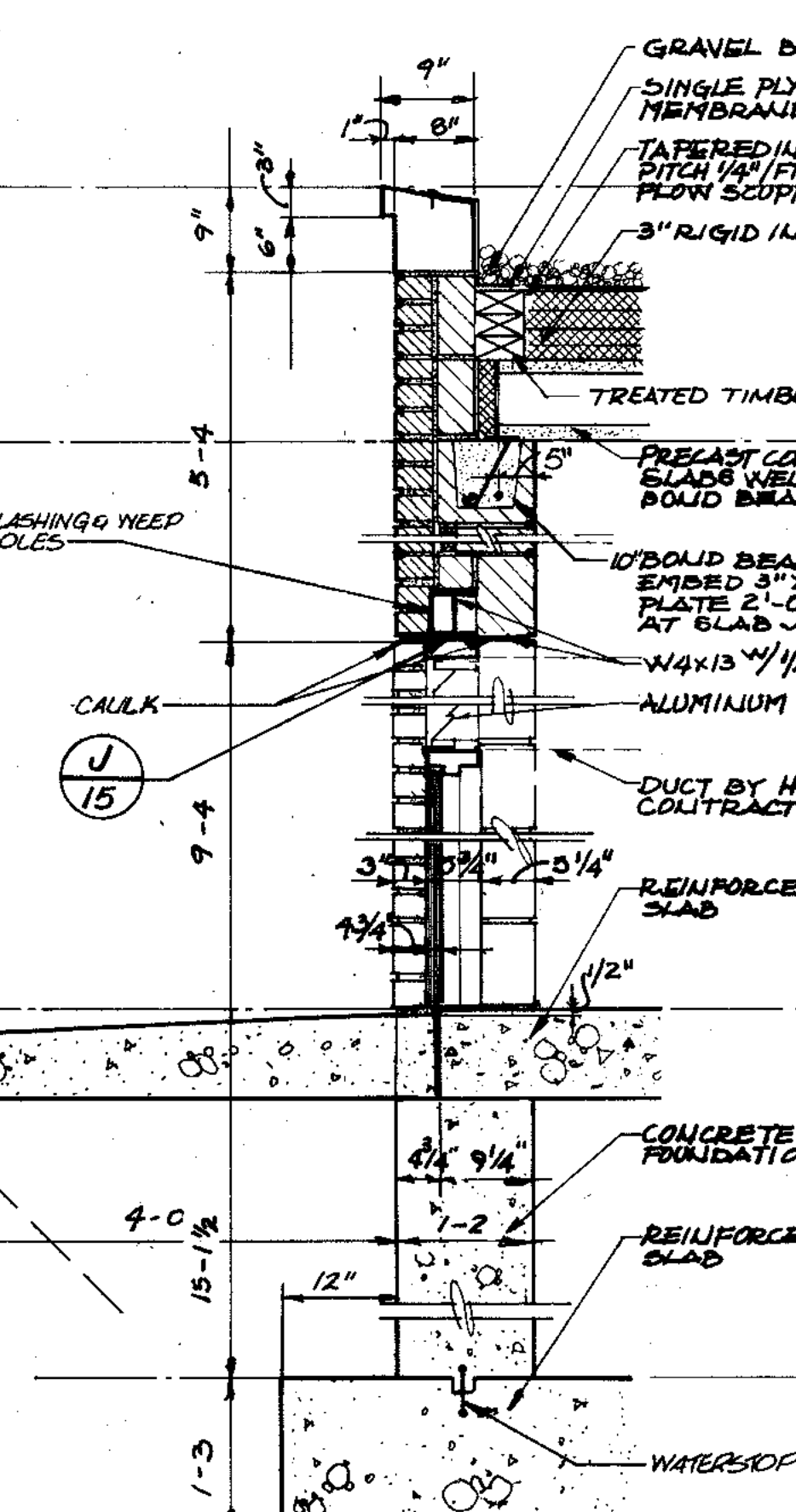
NOTE: ALL REINFORCEMENT SHALL BE #4 @ 12\"/>

DIGESTER 1/4\"/>

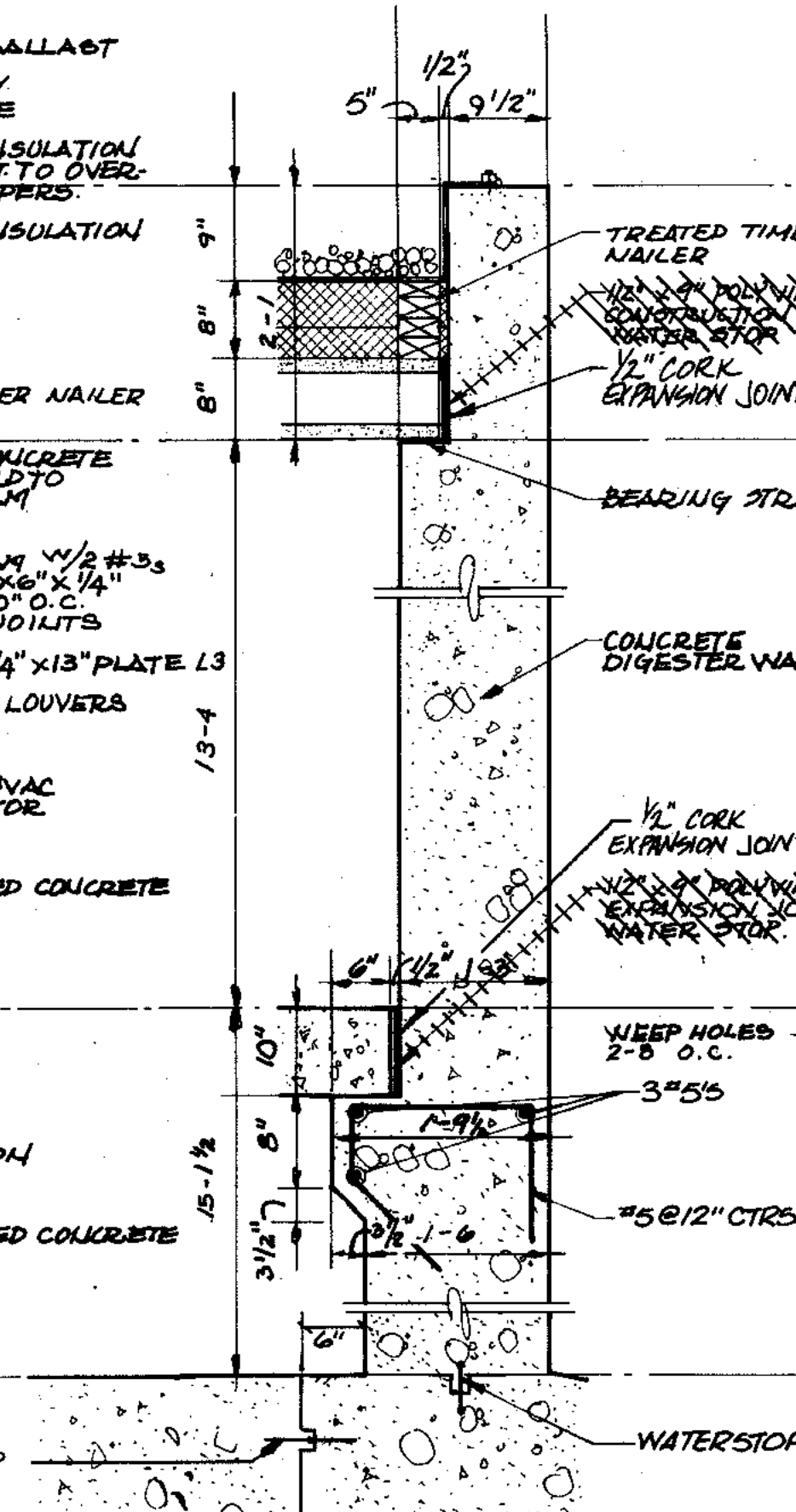
DIGESTER BUILDING FOUNDATION PLAN 3/4\"/>

PILASTER SECTION 3/4\"/>

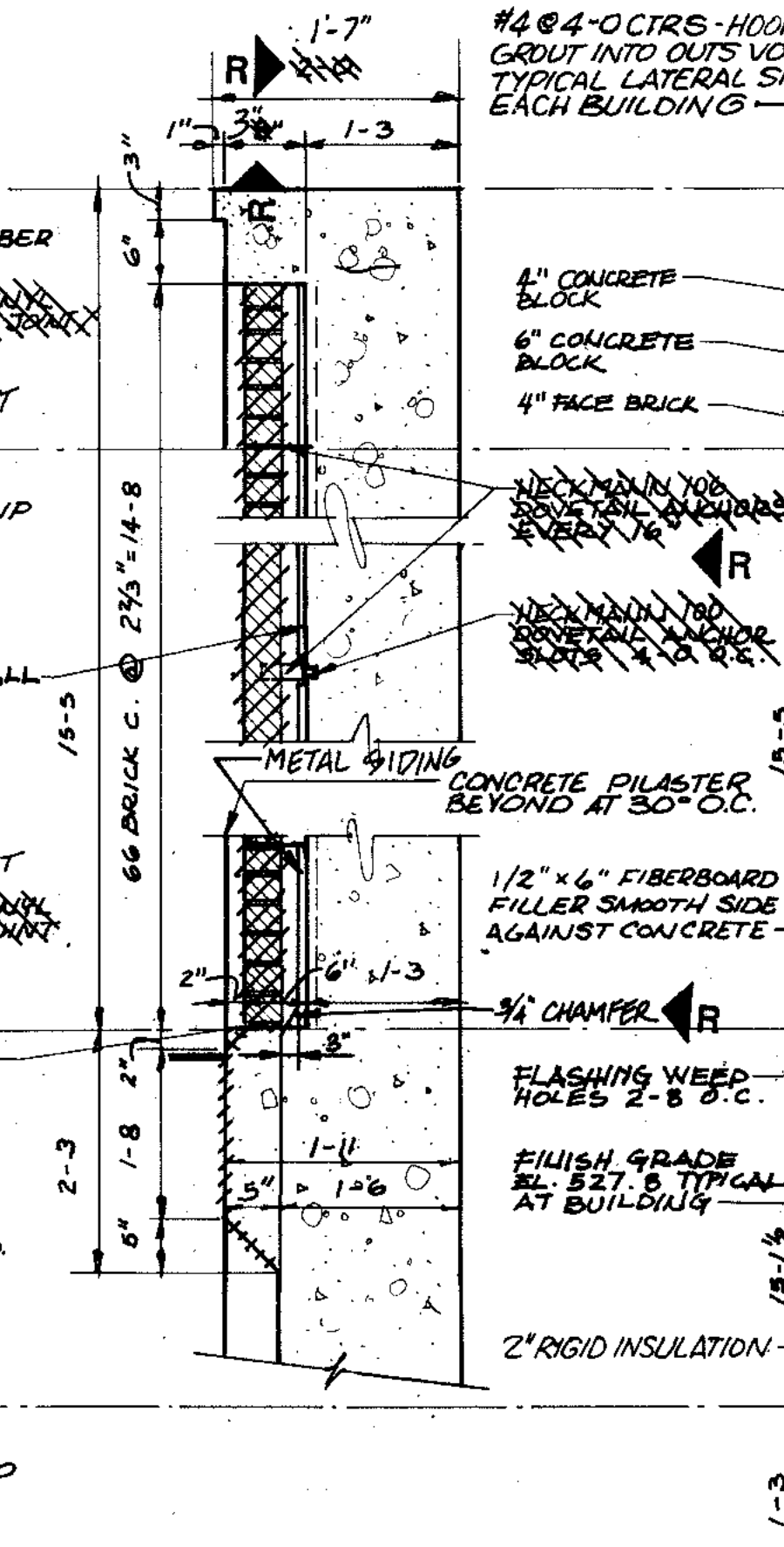
GENERAL LAYOUT 1\"/>



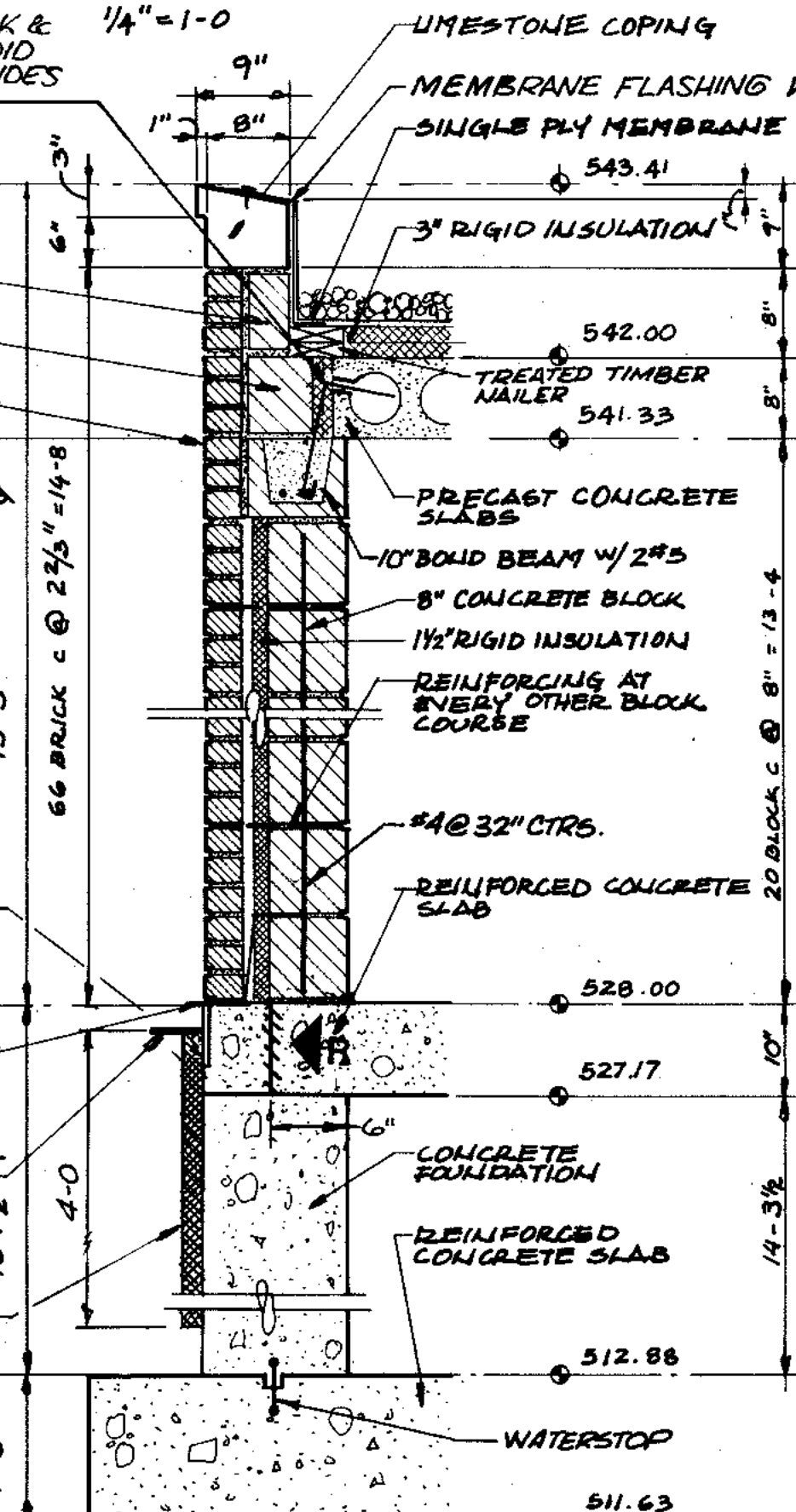
ENTRANCE SECTION 1 3/4\"/>



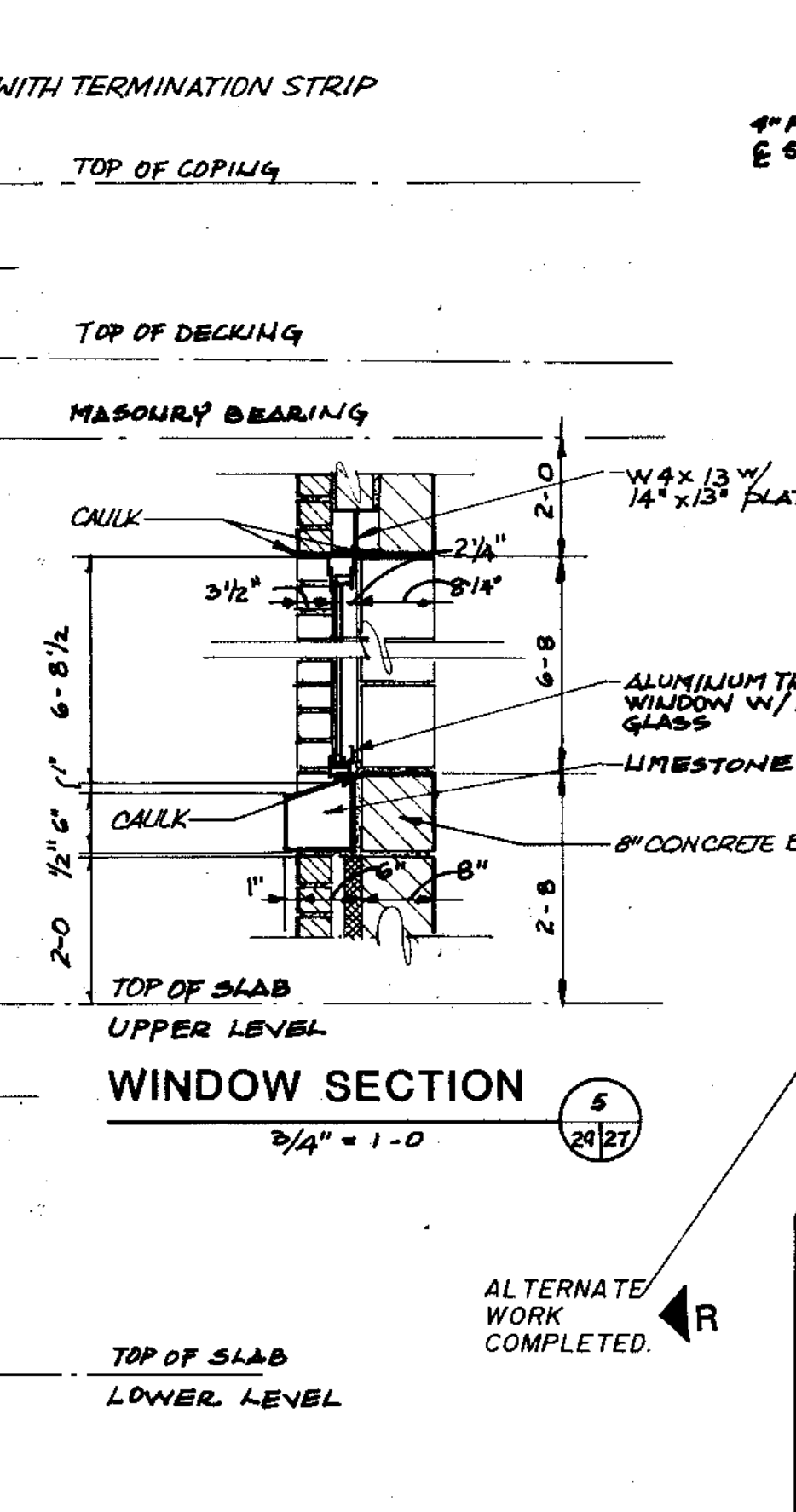
BUILDING/DIGESTER SECTION 2 3/4\"/>



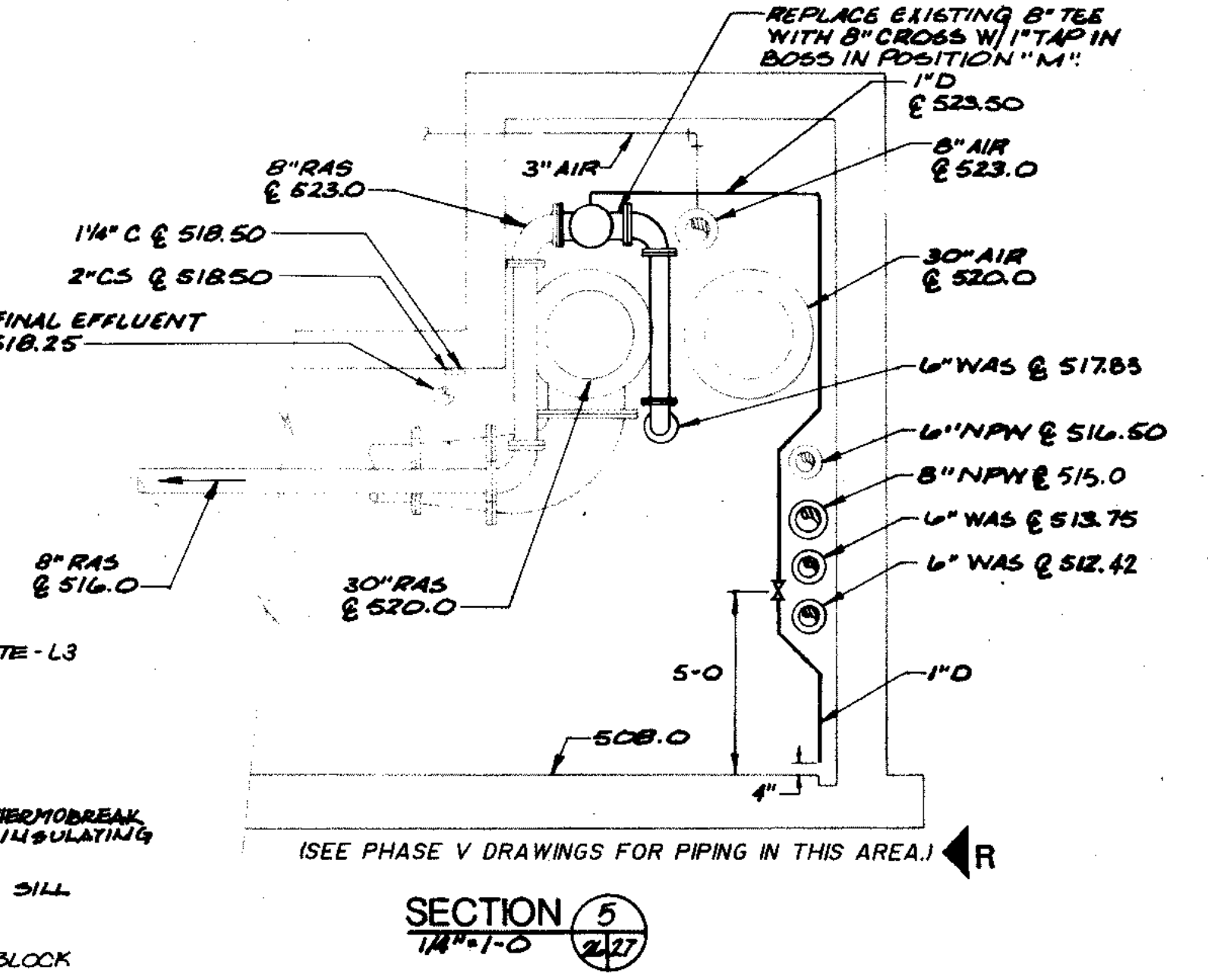
TYPICAL DIGESTER SECTION 3 3/4\"/>



TYPICAL WALL SECTION 4 3/4\"/>



WINDOW SECTION 5 2 1/4\"/>



SECTION 5 1/4\"/>

NEW GAS COMPRESSOR AND HOUSING TO REPLACE EXISTING FOR DIGESTERS NO. 1 AND NO. 2 ARE TO BE CONSIDERED PART OF ADDITIVE ALTERNATE NO. 4. BASE BID TO INCLUDE ALL GAS PIPING TO LANCES; BLIND FLANGES ON GAS TAKE-OFF LINE FROM GAS HOUSING; DRIP LEG THRU DIGESTER COVER, AND AT DISCHARGE OF ROTARY VALVE, AND DIGESTER COVER MODIFICATIONS. SEE INSTRUCTIONS TO BIDDERS IN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

OVERLAY IDENTIFICATION	ARCH-27	STR-27	EX-27	D/N-27
PROJECT NO.	ARCH-27	STR-27	EX-27	D/N-27
DATE				

ALTERNATE WORK COMPLETED.

RECORD DRAWING 4-98 D.

STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wmgra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

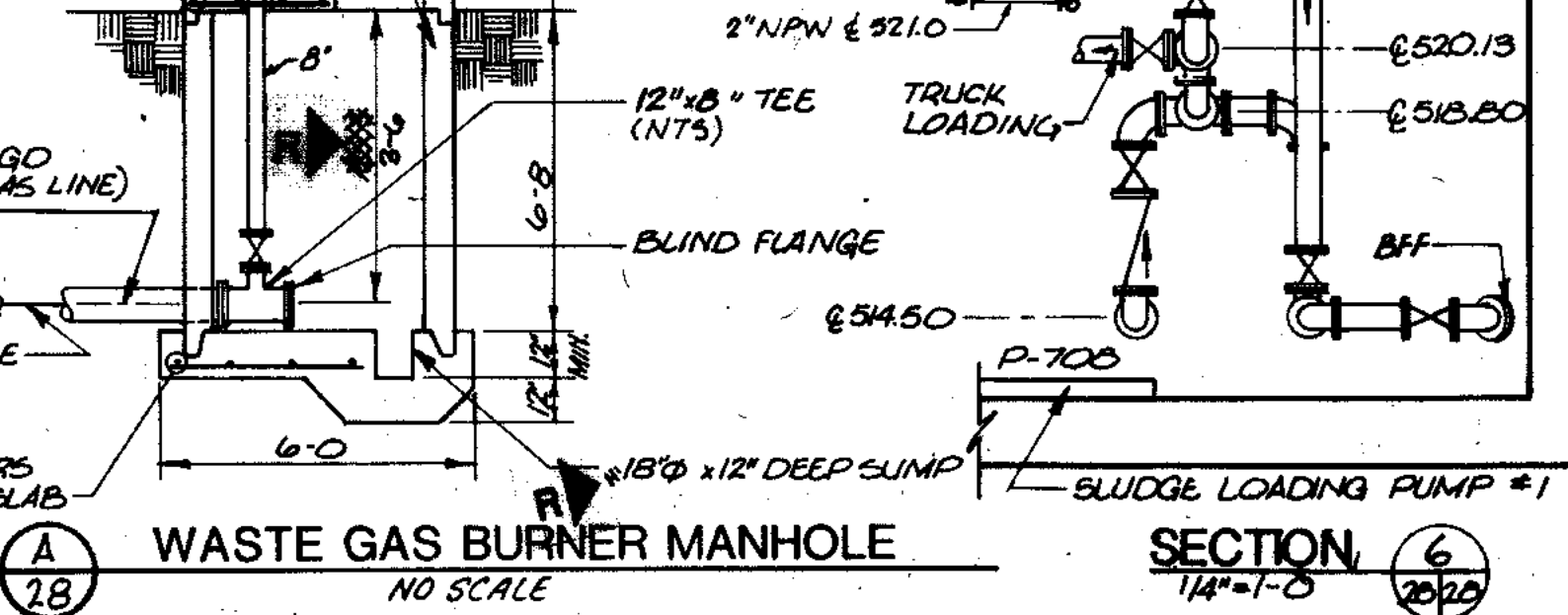
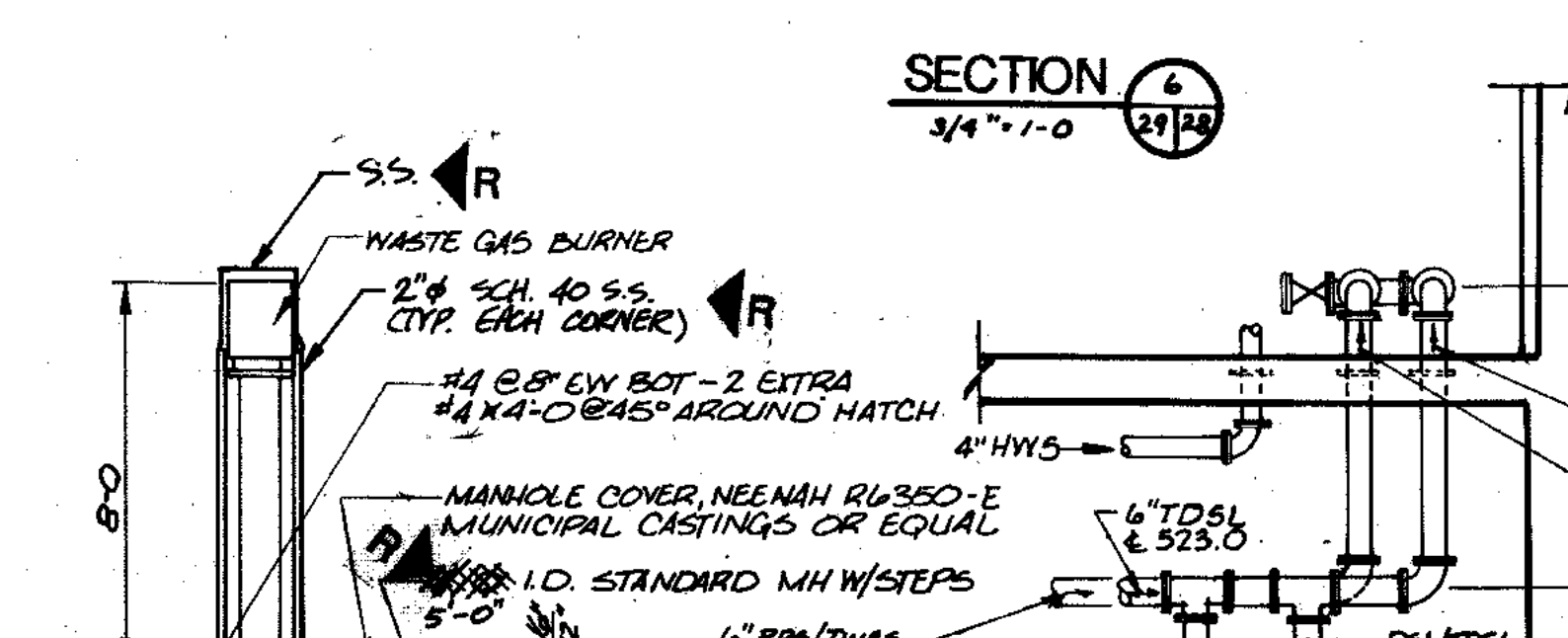
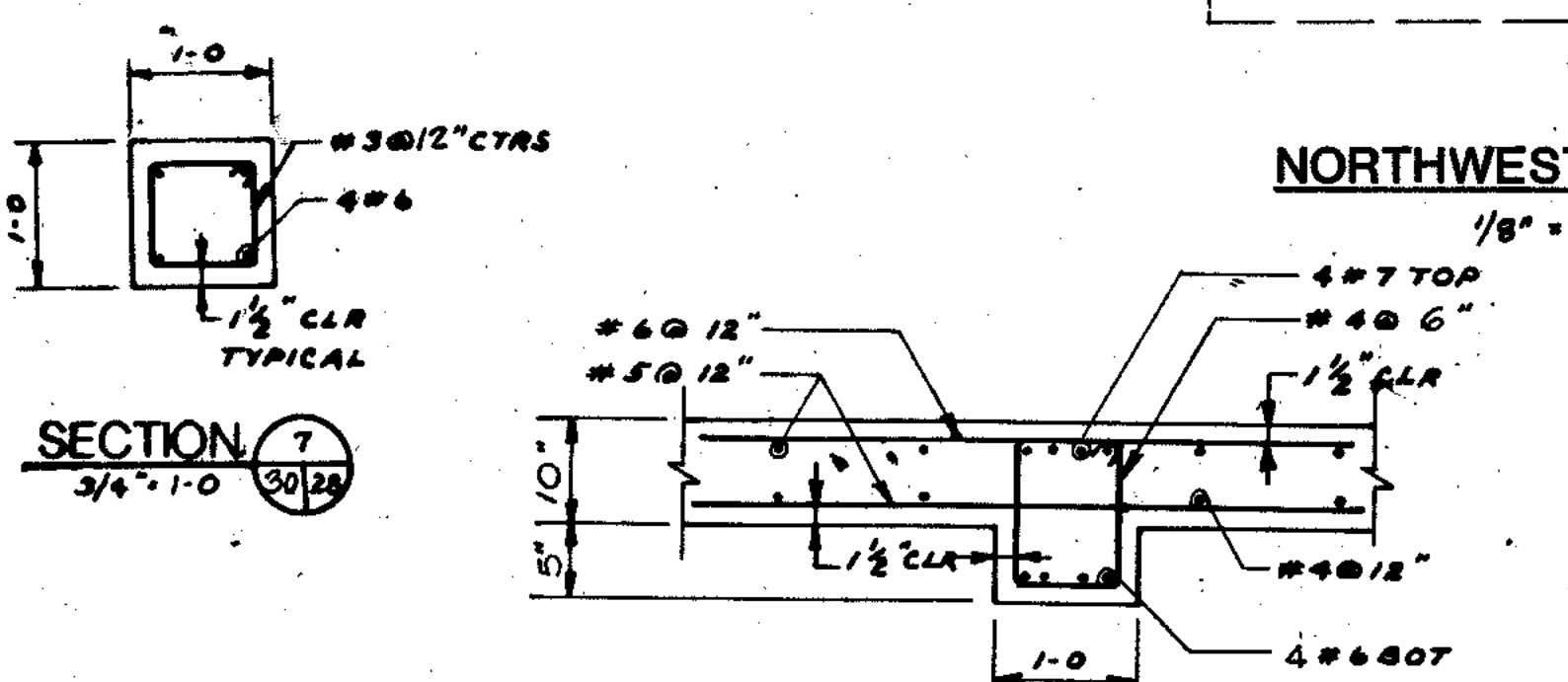
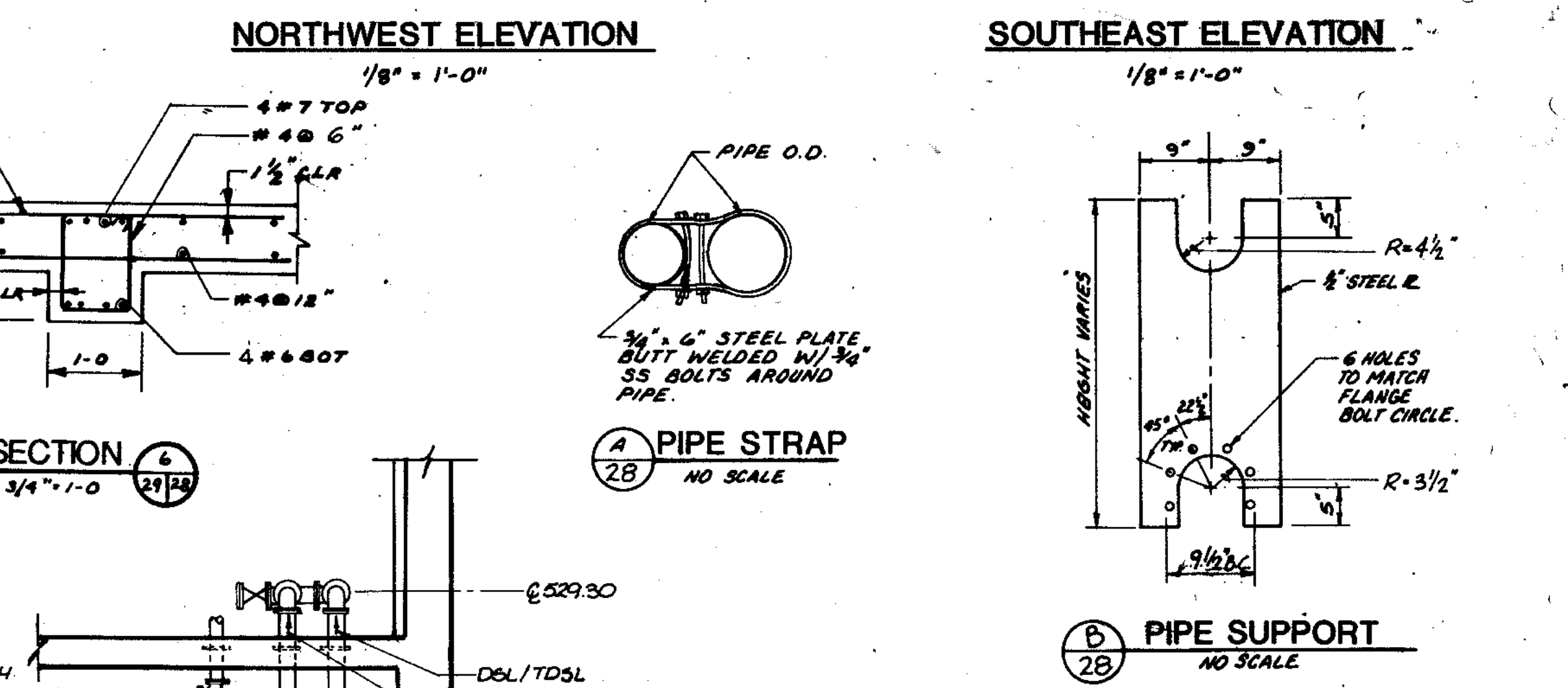
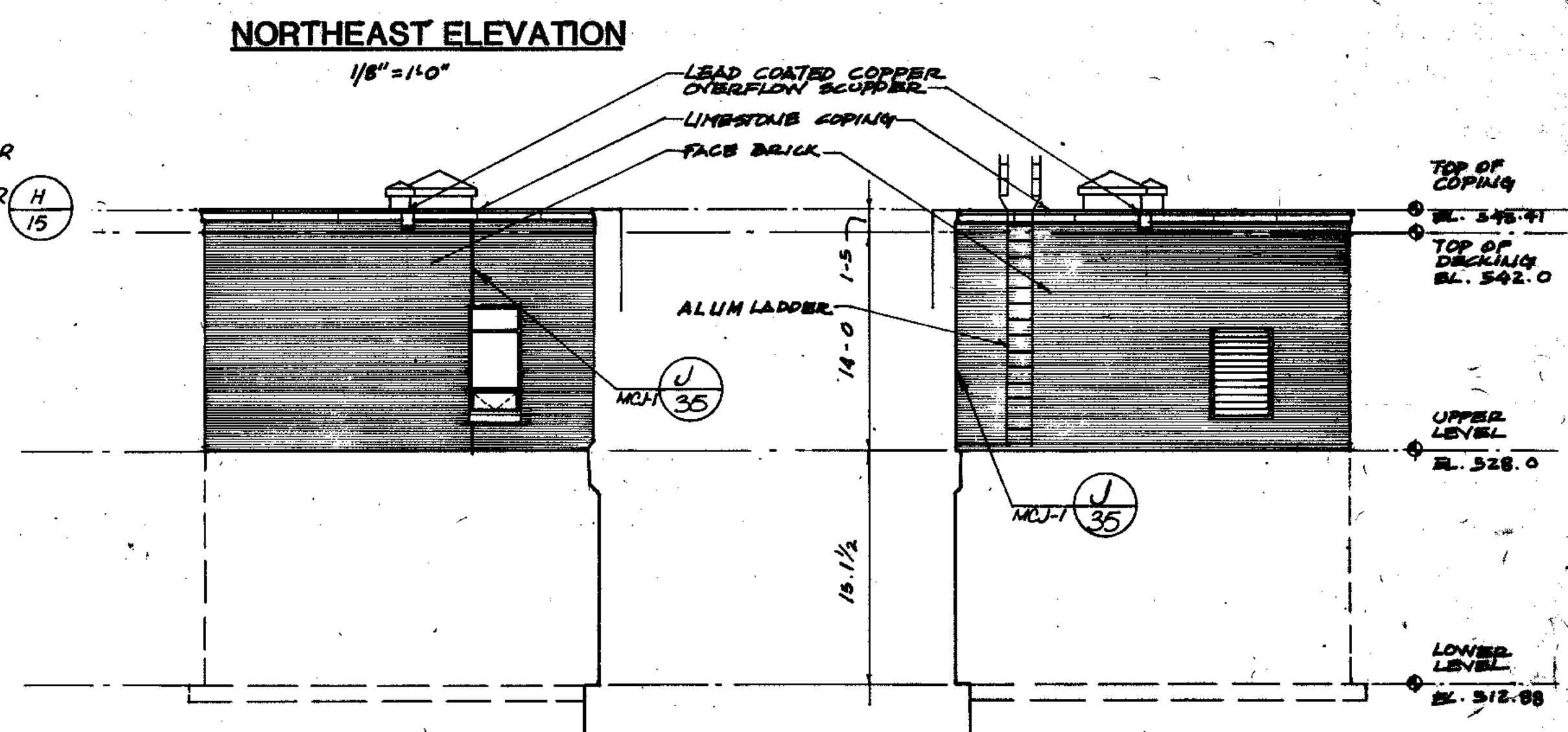
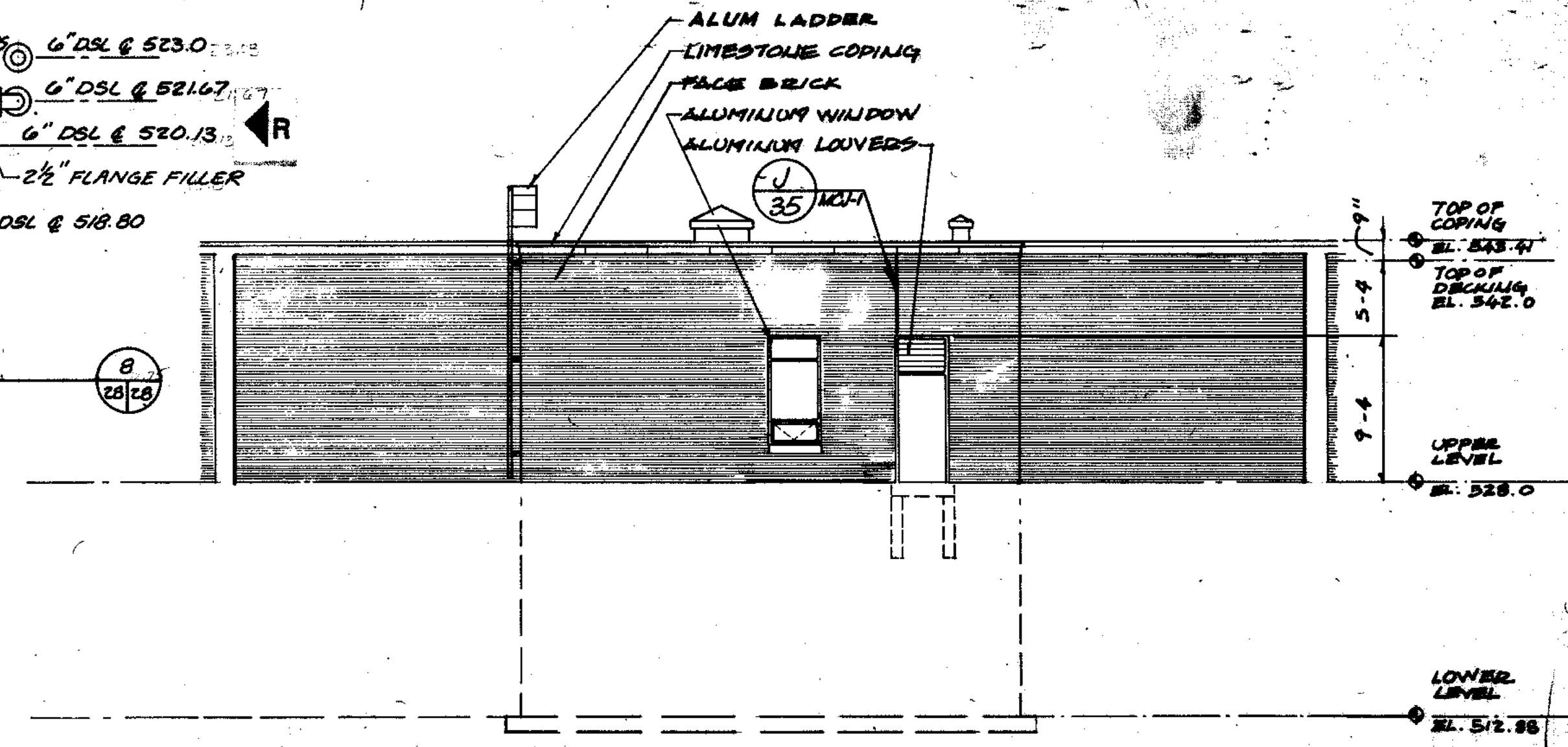
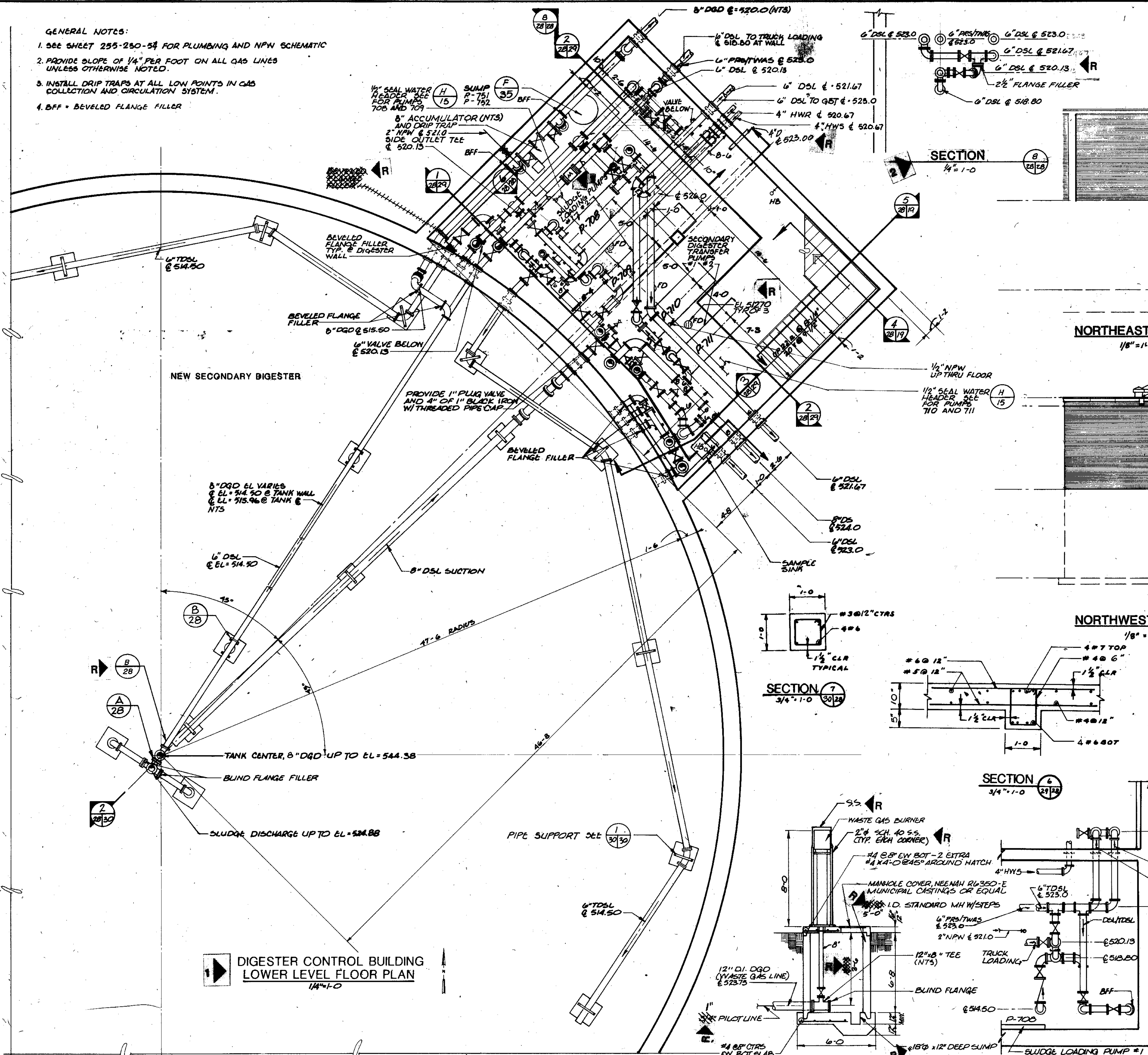
CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT ANAEROBIC DIGESTION GENERAL LAYOUT & FOUNDATION PLAN

SCALE AS NOTED DATE NOVEMBER, 1987 DRAWING NO. 255-230-27

Beijing Consultants
Hillcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 728-1800

GENERAL NOTES:

1. SEE SHEET 255-230-54 FOR PLUMBING AND NFW SCHEMATIC
2. PROVIDE SLOPE OF 1/4" PER FOOT ON ALL GAS LINES UNLESS OTHERWISE NOTED.
3. INSTALL DRIP TRAPS AT ALL LOW POINTS IN GAS COLLECTION AND CIRCULATION SYSTEM.
4. BFF = BEVELED FLANGE FILLER



COMPOSITE	DATE	BY
OVERLAY	DATE	BY
SCREEN	DATE	BY

1 REVISED 5-23-88 METER LOCATION, PIPING. **0-21-88 6\"/>

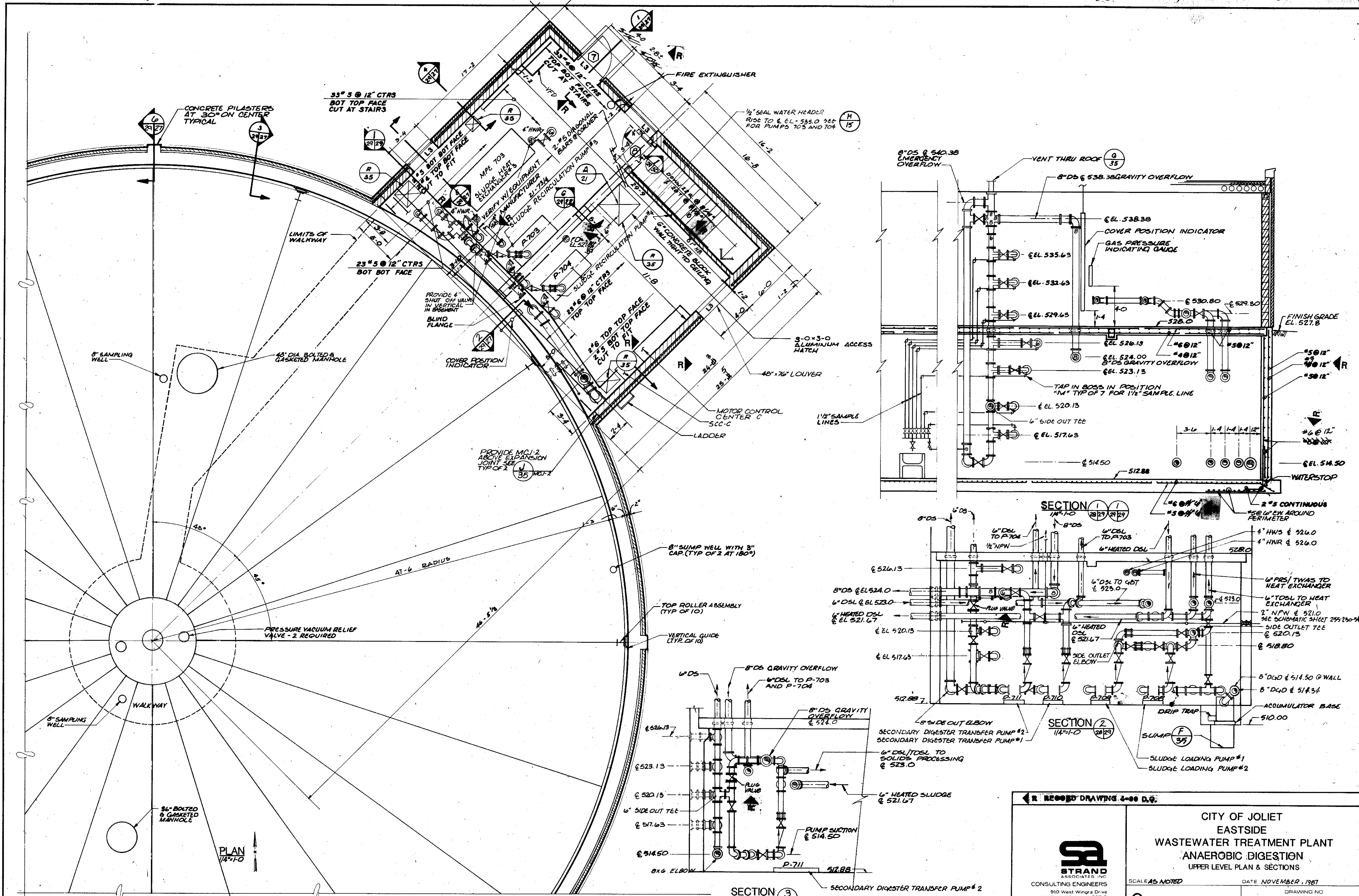
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ANAEROBIC DIGESTION
LOWER LEVEL PLAN
DIGESTER CONTROL BUILDING

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

Beijing Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road /
Joliet, IL 60435

SCALE AS NOTED DATE NOVEMBER, 1987 DRAWING NO. **255-230-28****

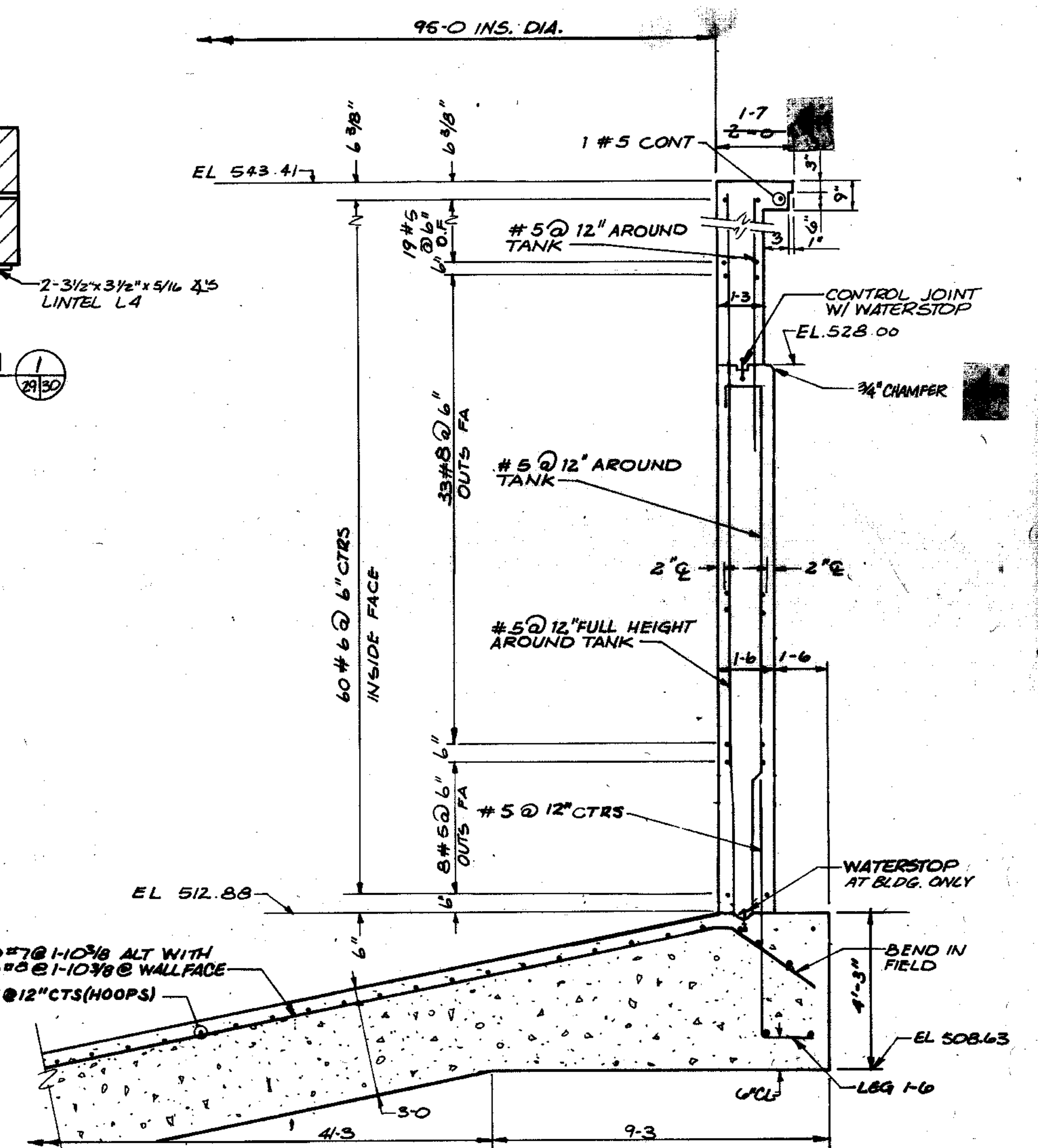
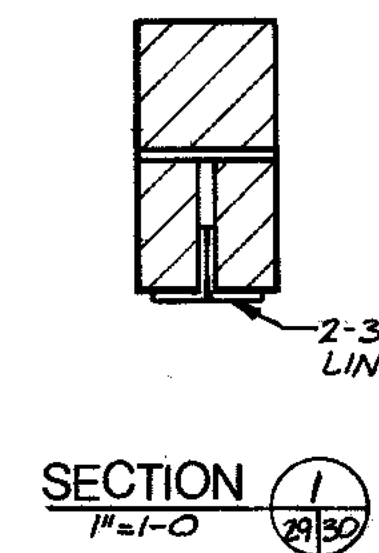
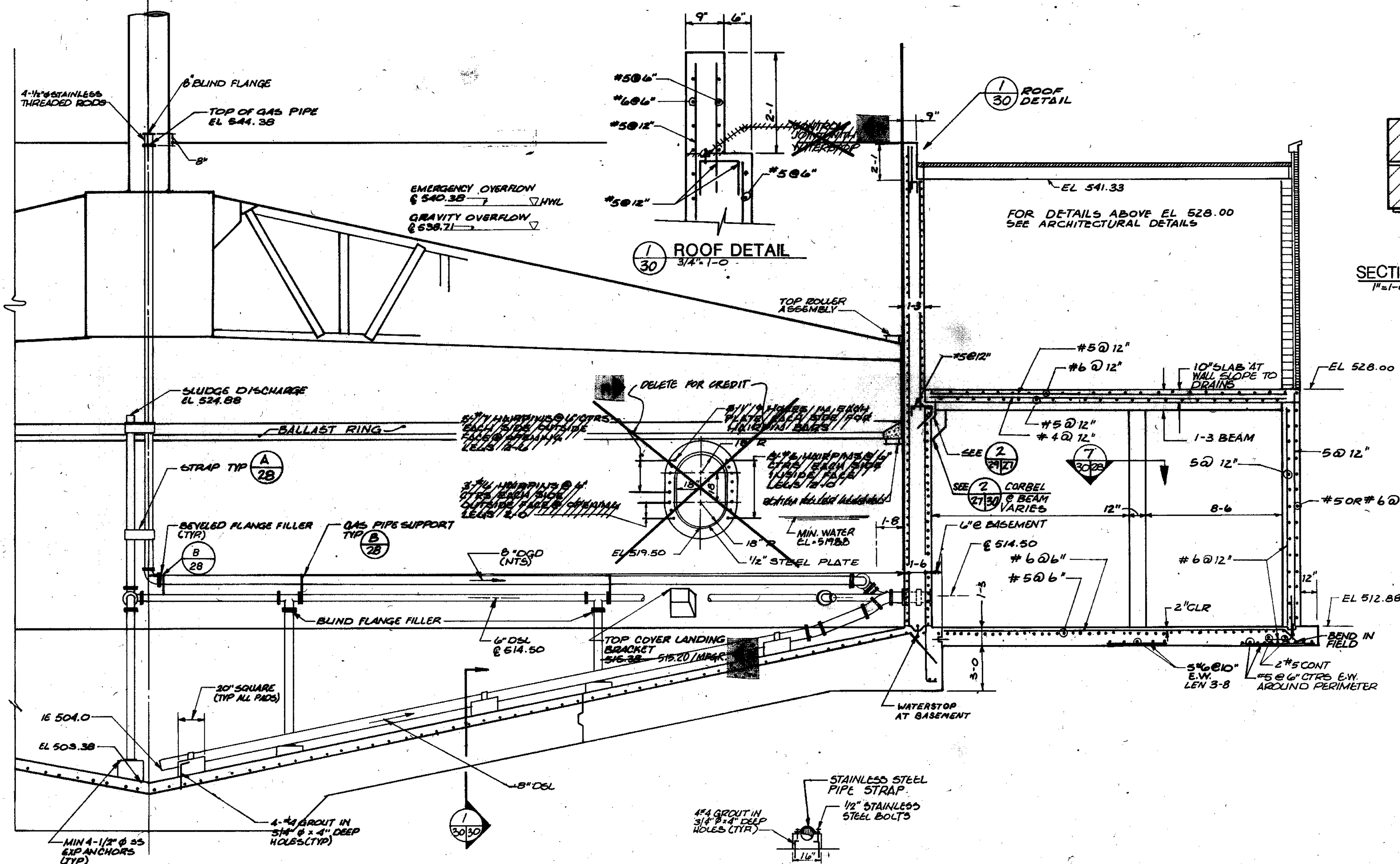
OVERLAY IDENTIFICATION
 COMPOSITE N-PIP-29 N-ND-29 N-29 STR-29
 OVERLAY N-PIP-29 N-ND-29 N-29 STR-29
 PROJECT NO. N-29-29 N-29-29 STR-29
 DATE



PLAN 1/4"=1'-0"

SECTION 3
1/4"=1'-0" 28/29

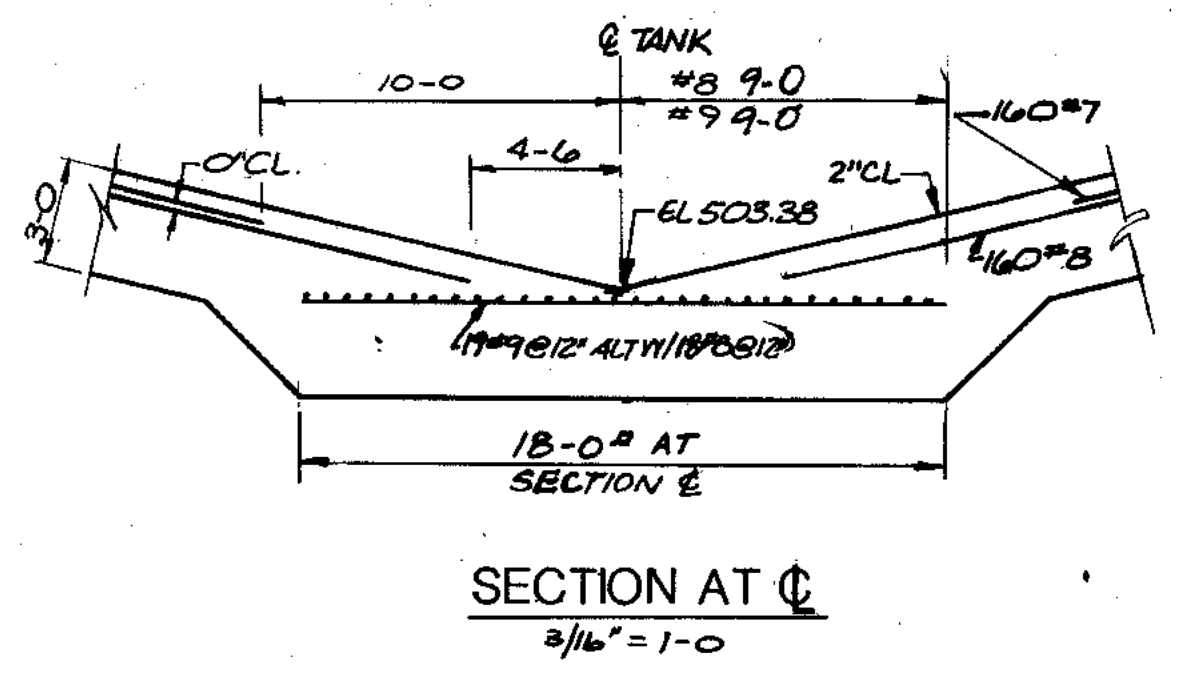
RECORD DRAWING 4-00 D.G.
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ANAEROBIC DIGESTION
UPPER LEVEL PLAN & SECTIONS
 SCALE AS NOTED DATE NOVEMBER, 1987 DRAWING NO.
STRAND ASSOCIATED, INC.
 CONSULTING ENGINEERS
 910 West Wing a Drive
 Madison, Wisconsin 53715
 Tel. (608) 251-4843
Beiling Consultants
 Hillcrest Center / N. Larkin Avenue at Plainfield Road
 Joliet, IL 60435 (815) 729-1800
255-230-29
 SHEET 29 OF 59



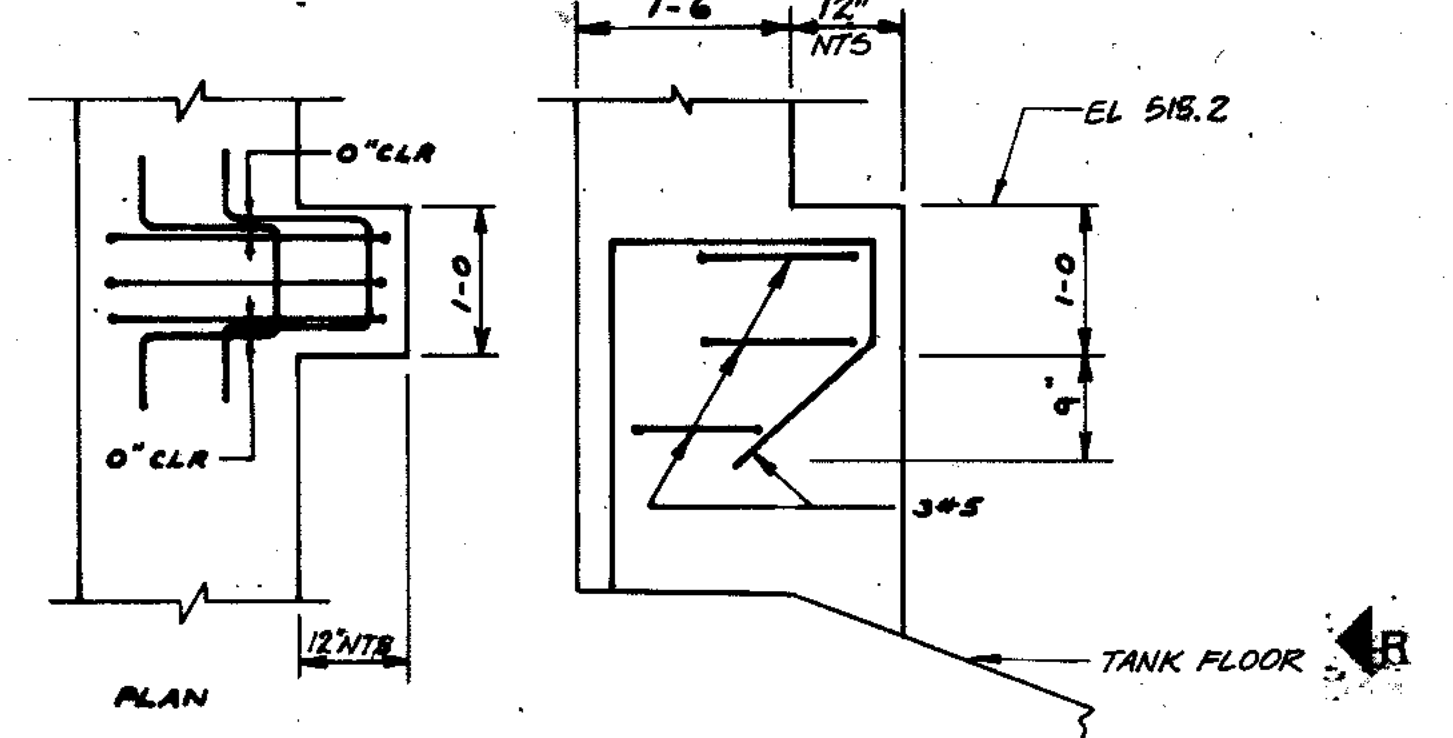
SECTION 2
1/4" = 1'-0" (28/30)

SECTION 1
1/4" = 1'-0" (30/30)

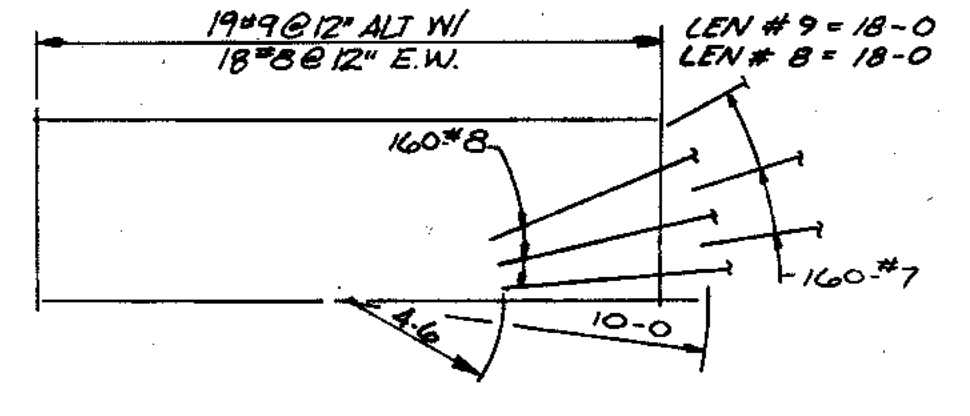
TYPICAL WALL SECTION
3/8" = 1'-0"



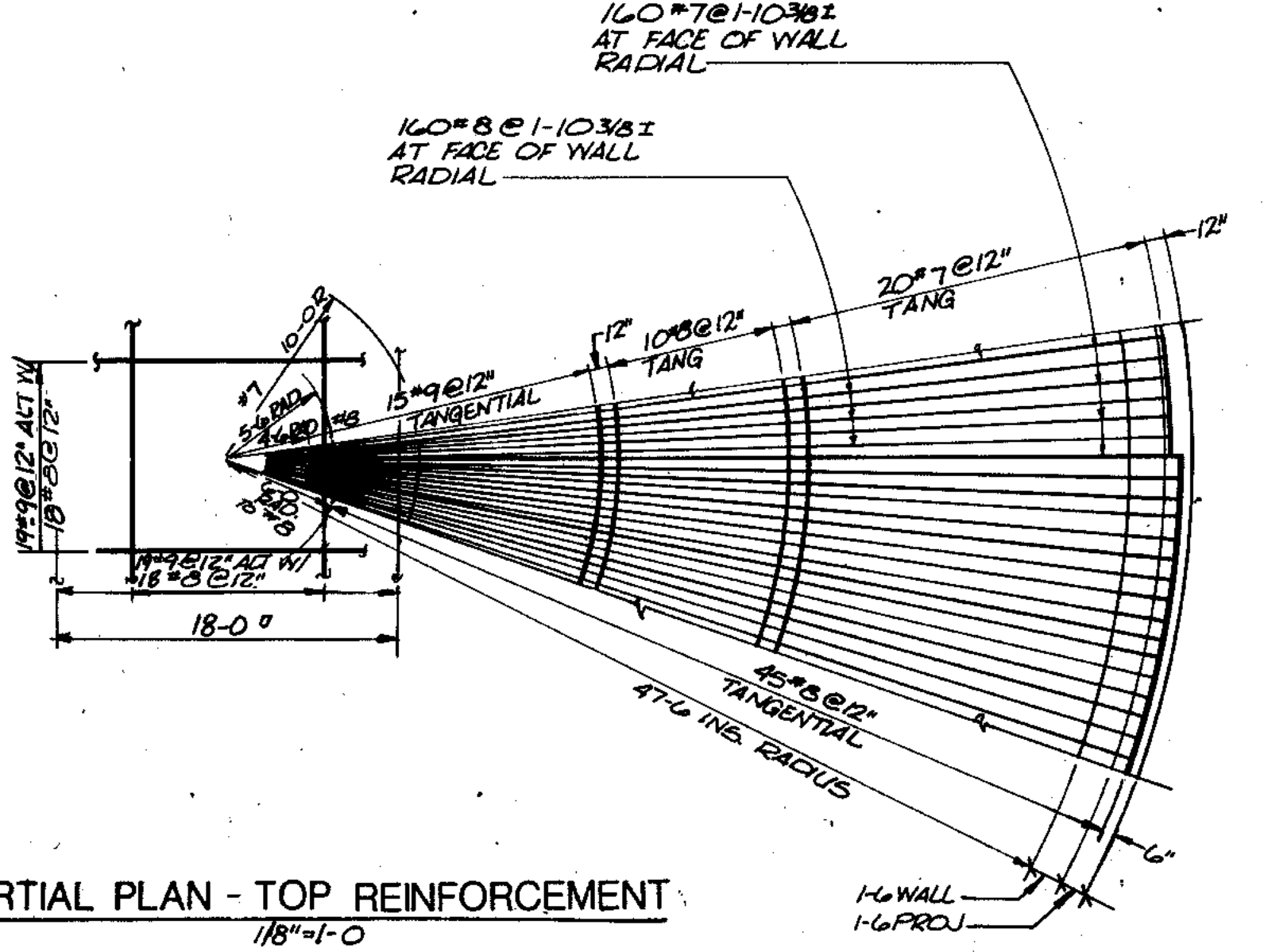
SECTION AT C
2 1/16" = 1'-0"



SECTION 2
3/4" = 1'-0" (27/30)



HALF PLAN AT C
5/16" = 1'-0"



PARTIAL PLAN - TOP REINFORCEMENT
1/8" = 1'-0"

COMPOSITE	TS-30	N-PIA-30	STR-30
OVERLAY	TS-30	N-PIA-30	STR-30
SCREEN			
PROJECT NO.			
DATE			

RECORD DRAWING 4-00 D.O.

STRAND
ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Winger Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

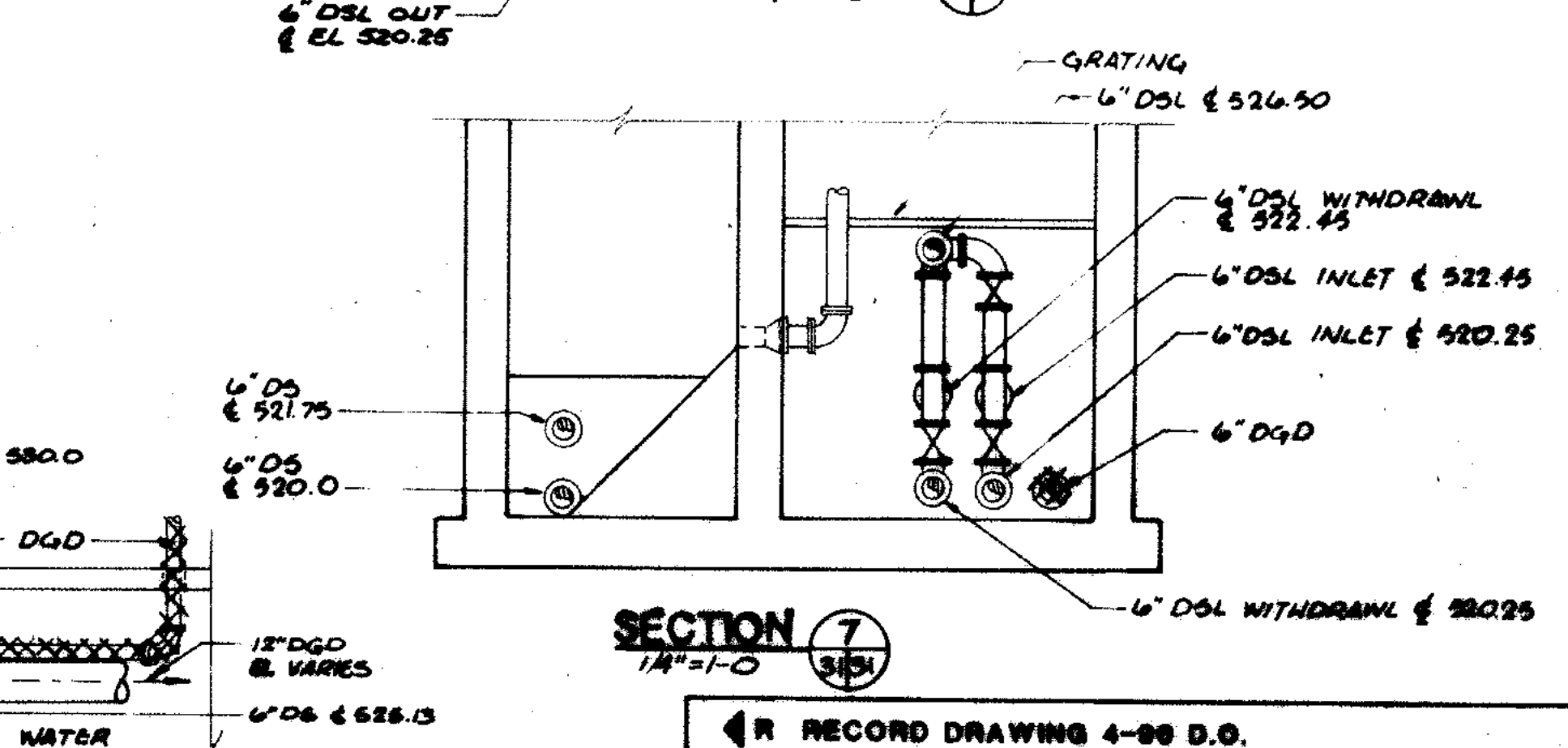
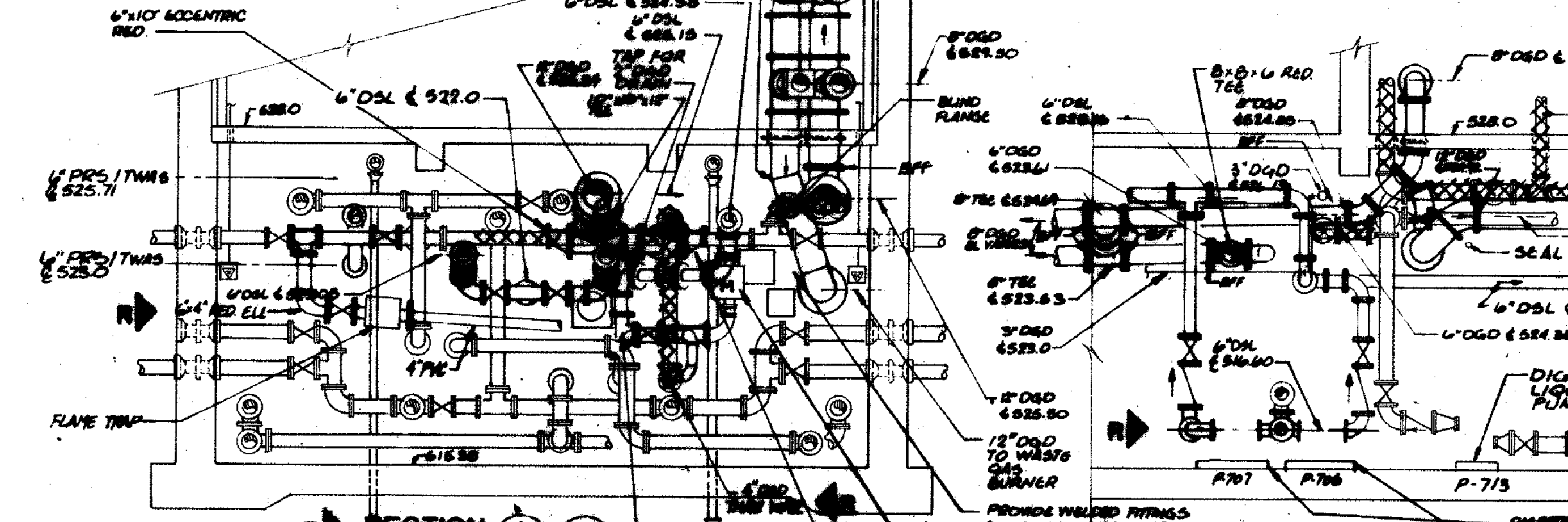
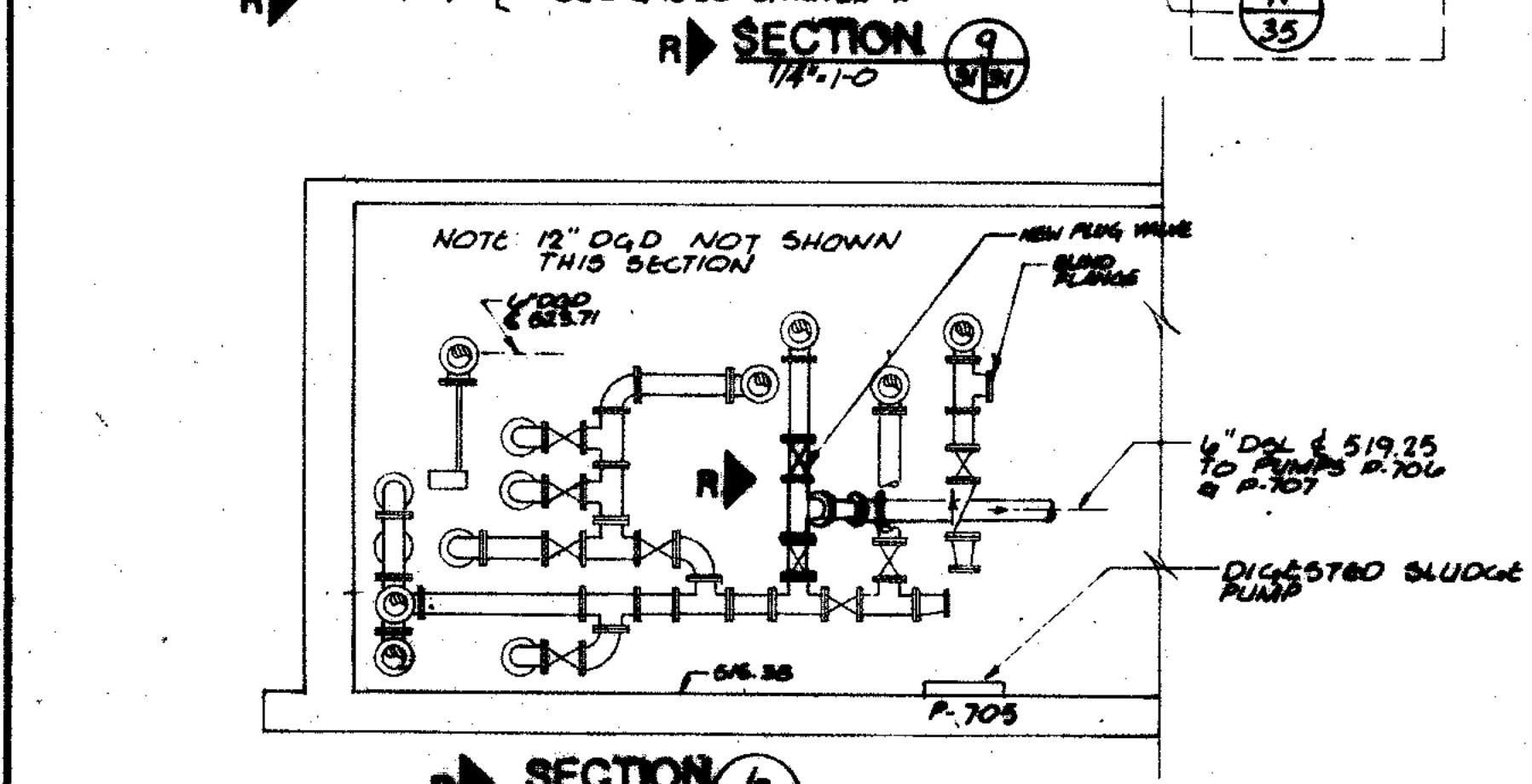
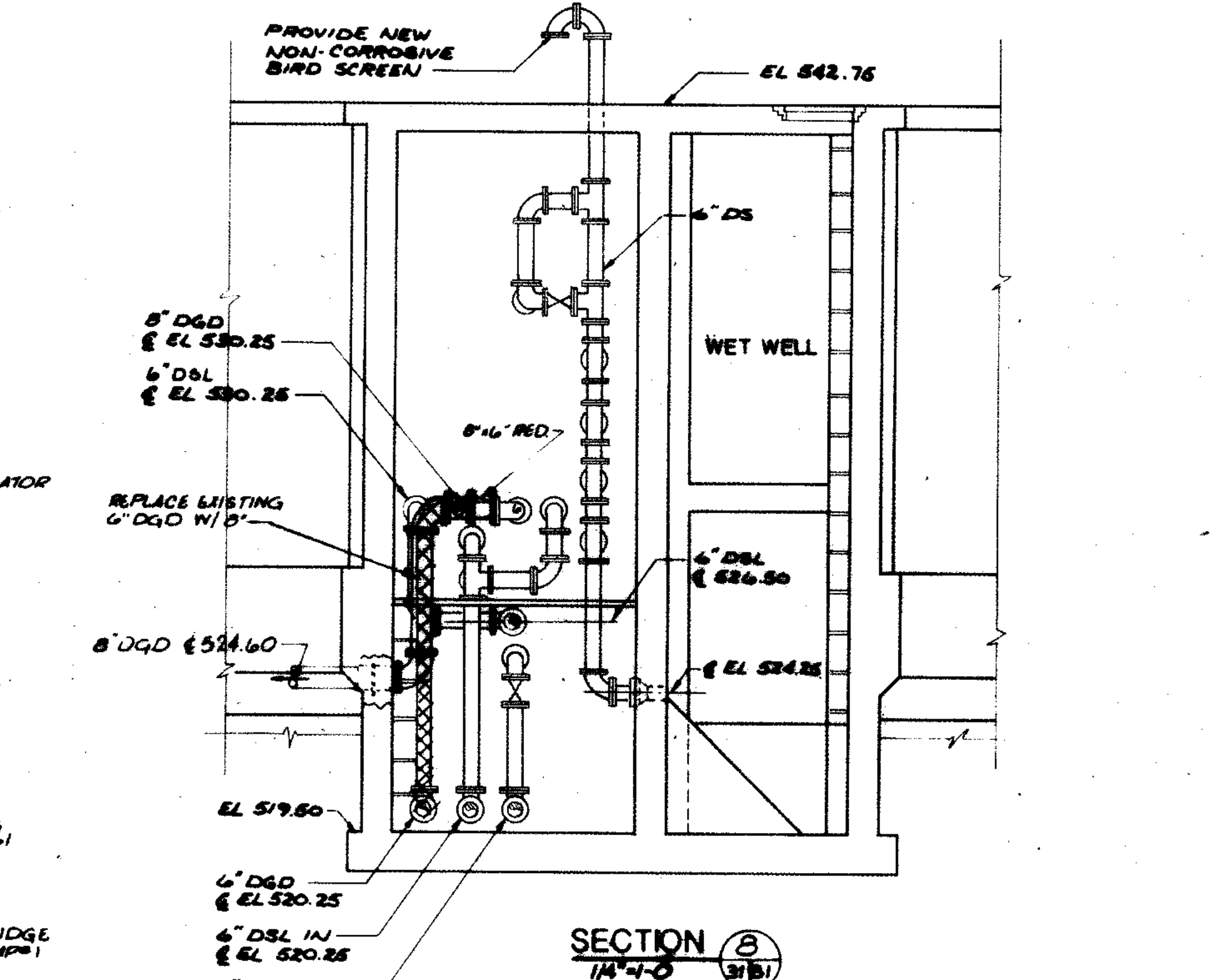
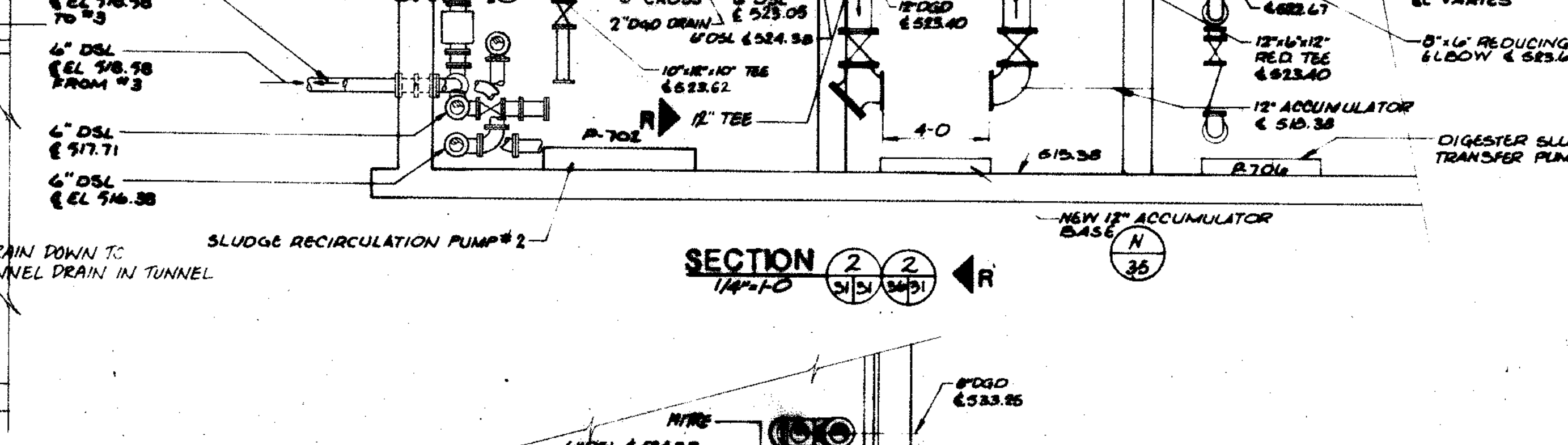
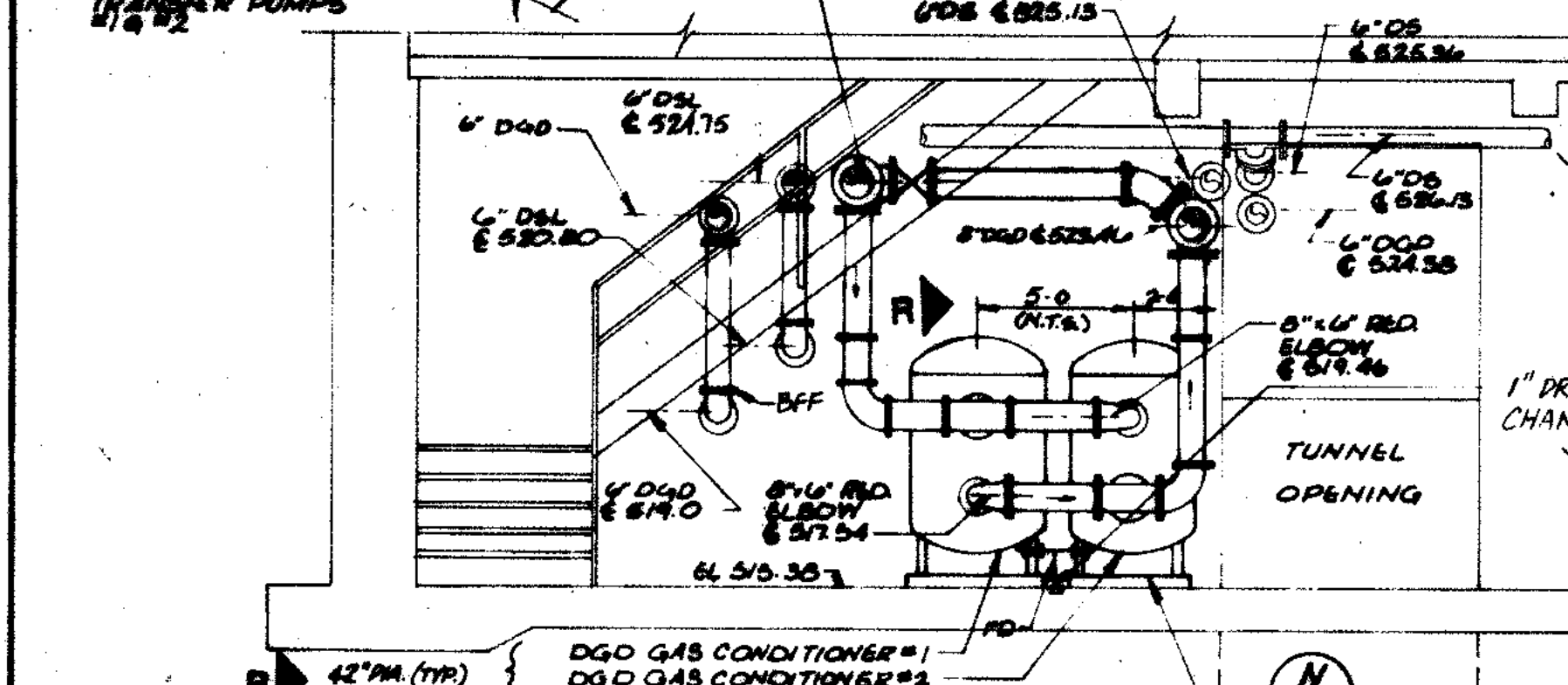
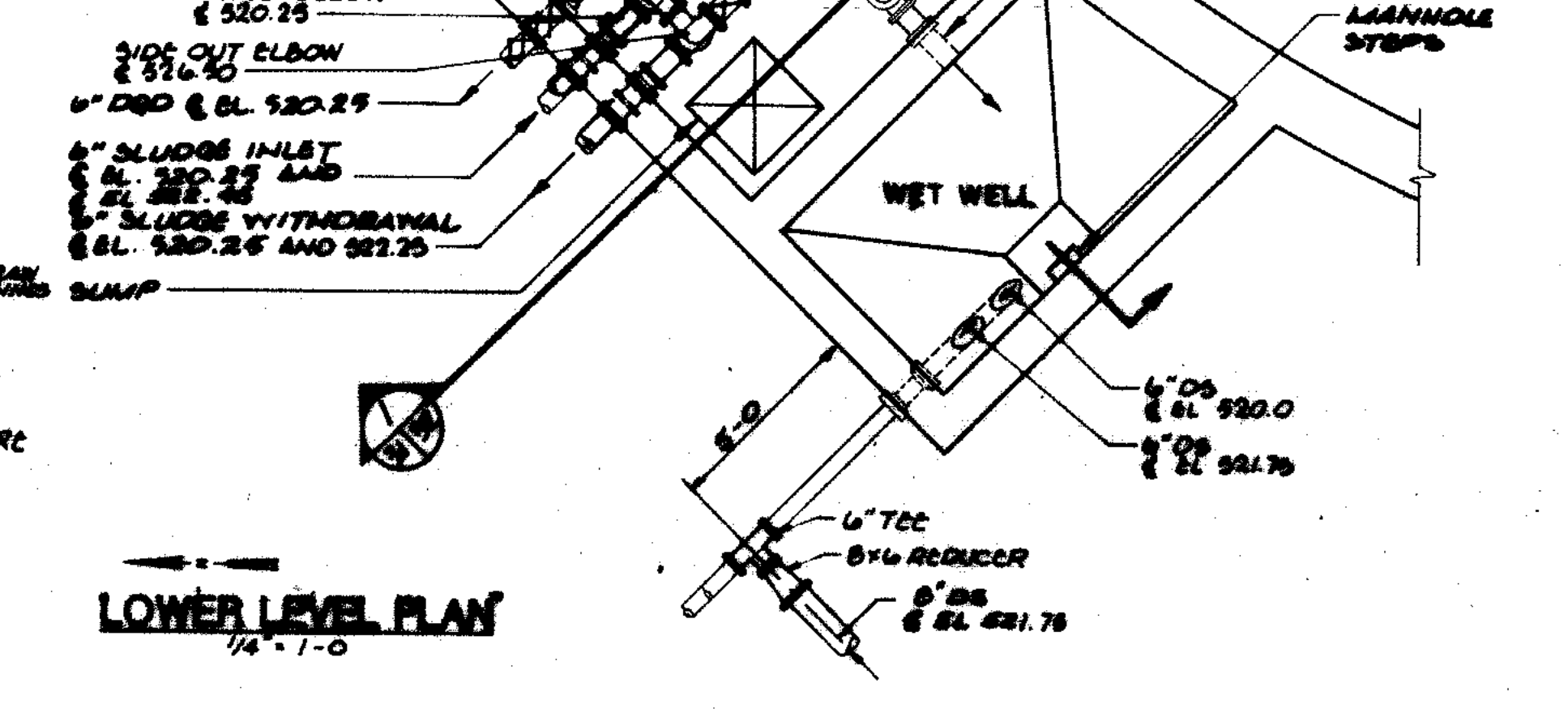
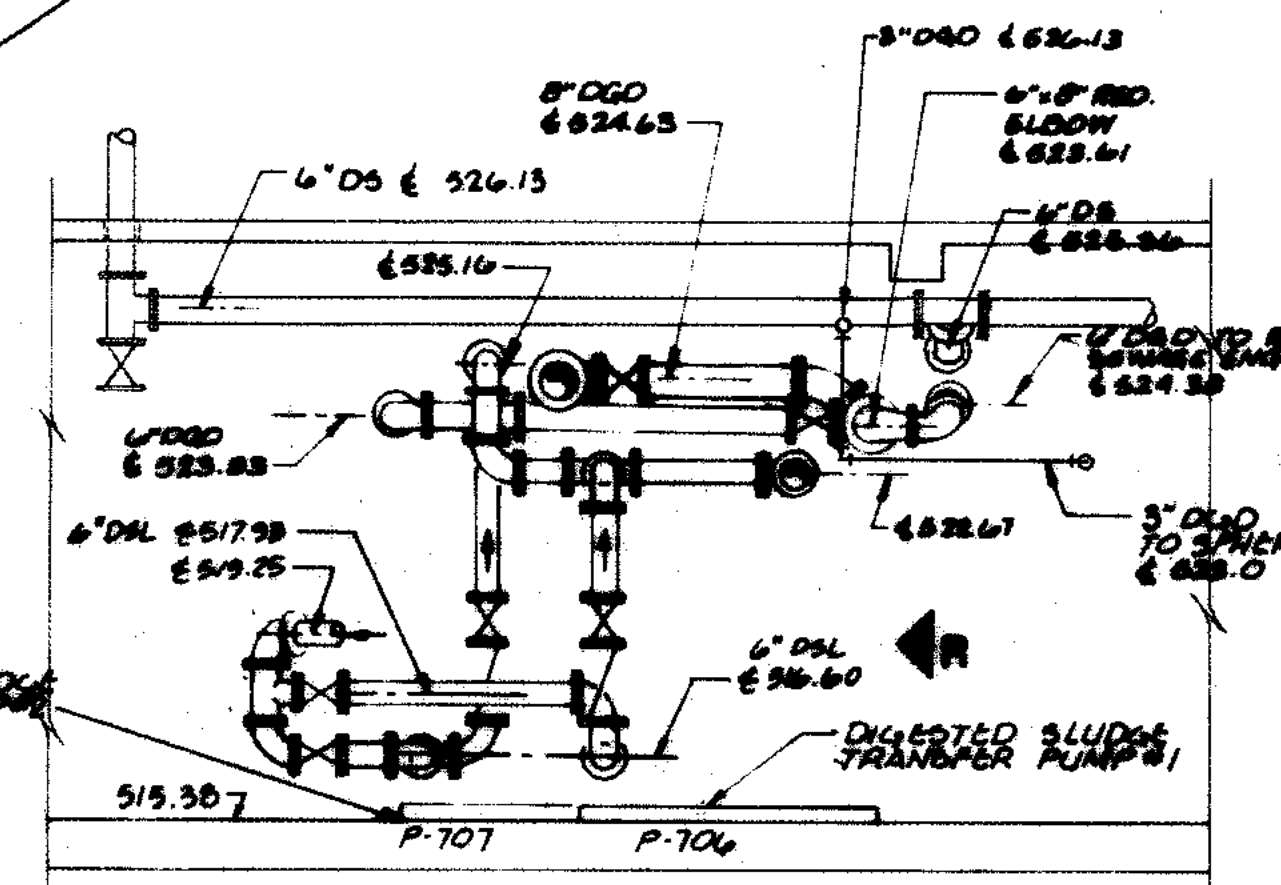
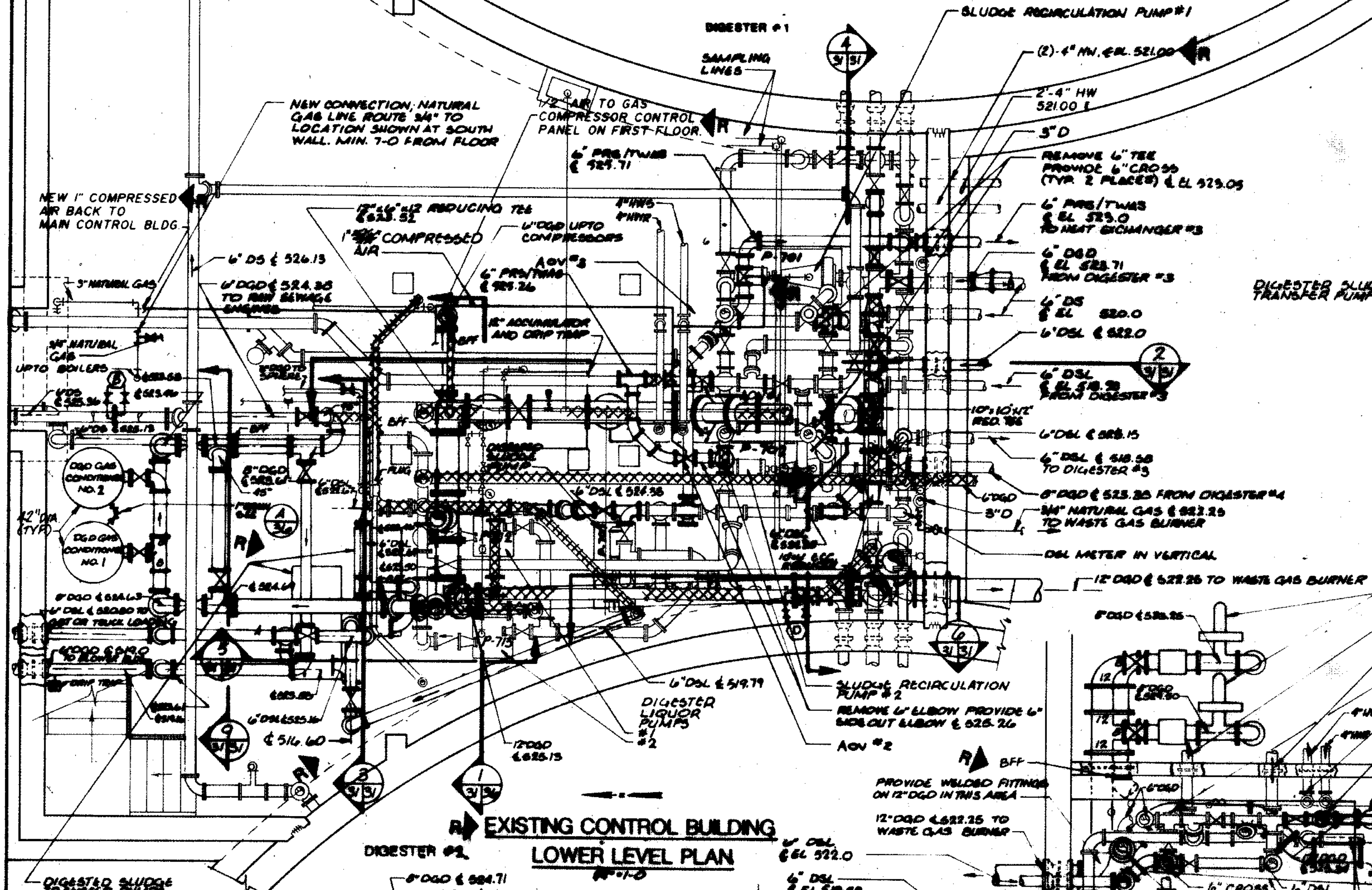
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ANAEROBIC DIGESTION
SECTIONS & DETAILS

SCALE AS NOTED DATE NOVEMBER, 1987

Beijing Consultants
Hickory Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435

DRAWING NO
255-230-30

- NOTES:**
- SEE SHEET 200-230-34 FOR HNS AND HNR PIPING IN THIS AREA.
 - NOT ALL PIPING SHOWN IN AREAS WHERE NO WORK IS TO BE DONE. CONTRACTOR IS RESPONSIBLE FOR RELOCATING EXISTING PIPE SUPPORTS, SMALLER PIPES (LESS THAN 2") SUCH AS SEAL WATER, HNS AND HNR LINES, ETC., THAT WILL INTERFERE WITH NEW WORK.
 - INSTALL DRIP TRAPS AT ALL LOW POINTS IN GAS COLLECTION AND CIRCULATION SYSTEM.
 - PROVIDE SLOPE OF 1/4" PER FOOT ON ALL GAS LINES UNLESS OTHERWISE NOTED.
 - BFF = BEVELLED FLANGE FILLER.
 - SEE SHEET 200-230-36 FOR DIGESTER GAS SCHEMATIC.



RECORD DRAWING 4-00 D.O.

**CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
EXISTING ANAEROBIC DIGESTION
PLAN & SECTIONS & PIPING REVISIONS**

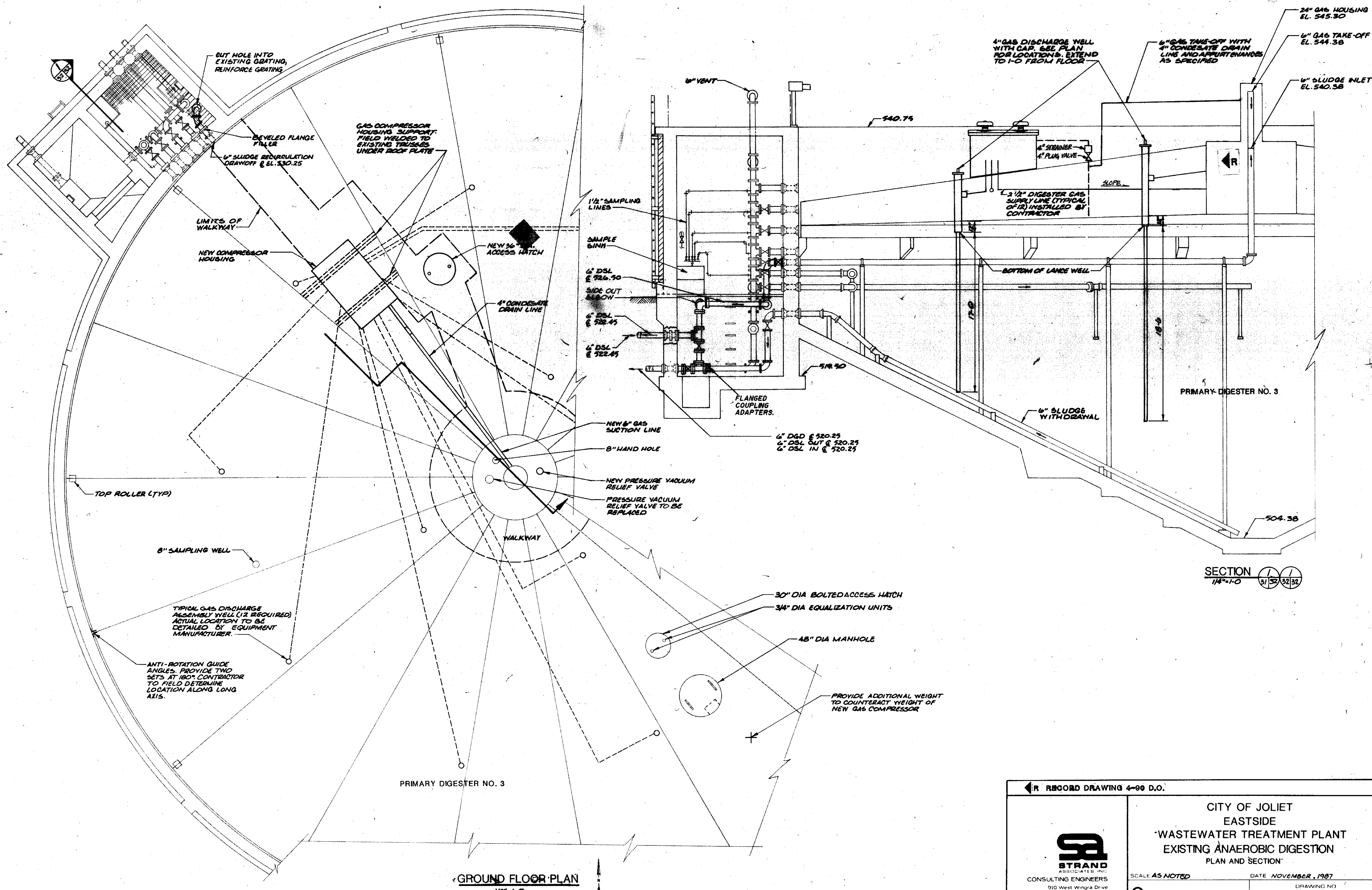
SCALE AS NOTED DATE NOVEMBER, 1987

STRAND
CONSULTING ENGINEERS
910 West Winona Drive
Madison, Wisconsin 53715
Tel: 608/251-4441

Boiling Consultants
1000 Center 7th North Avenue at Pleasant Road
Joliet, IL 60438 815/726-1000

(DRAWING NO)
200-230-31

SHEET NO. 31 OF 31
 DATE 11/15/87
 DRAWN BY J. J. BROWN
 CHECKED BY J. J. BROWN
 APPROVED BY J. J. BROWN
 PROJECT NO. 200-230-31
 SHEET NO. 31 OF 31



COMPOSITE	N-200-32	E-200-32	DN-32
OVERLAY	N-200-32	E-200-32	DN-32
SCREEN			
DATE			

GROUND FLOOR PLAN
1/4"=1'-0"

SECTION
1/4"=1'-0" 5/16 32/32

RECORD DRAWING 4-90 D.O.

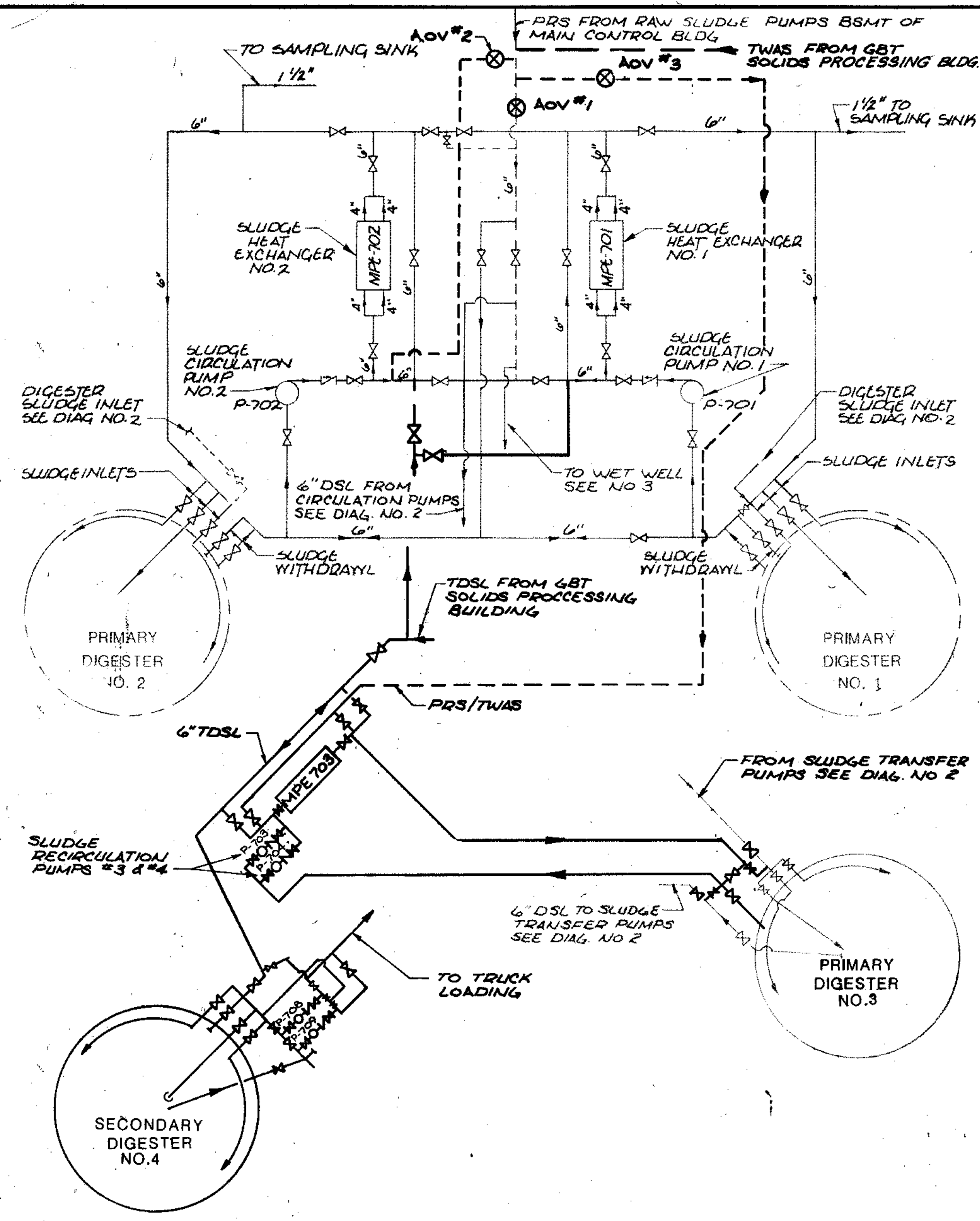
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
EXISTING ANAEROBIC DIGESTION
PLAN AND SECTION

SCALE AS NOTED DATE NOVEMBER, 1987

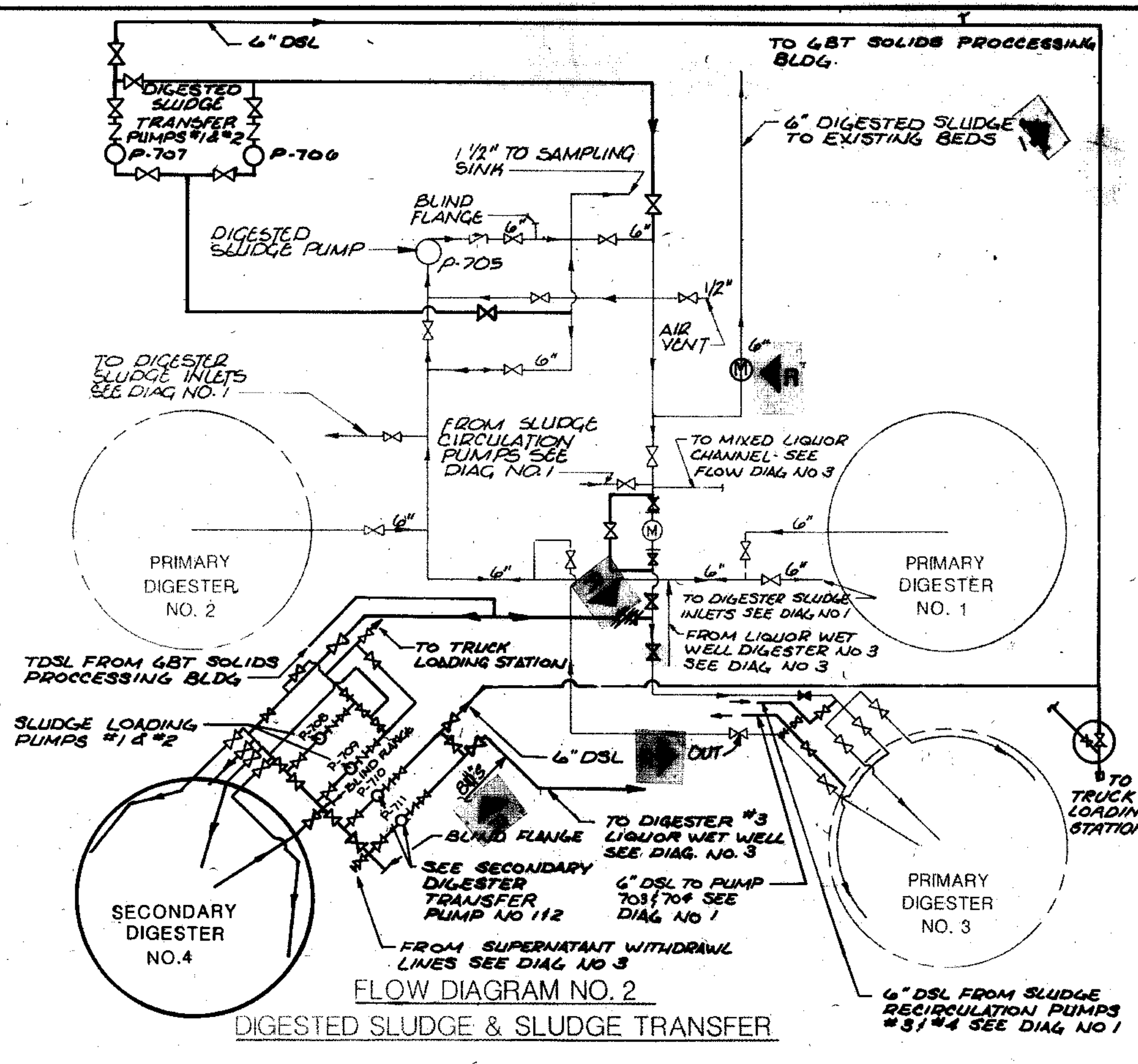
STRAND ASSOCIATED, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

Beiling Consultants
Hickory Corner / N. Larkin Avenue at Plainfield Road /
Joliet, IL 60435

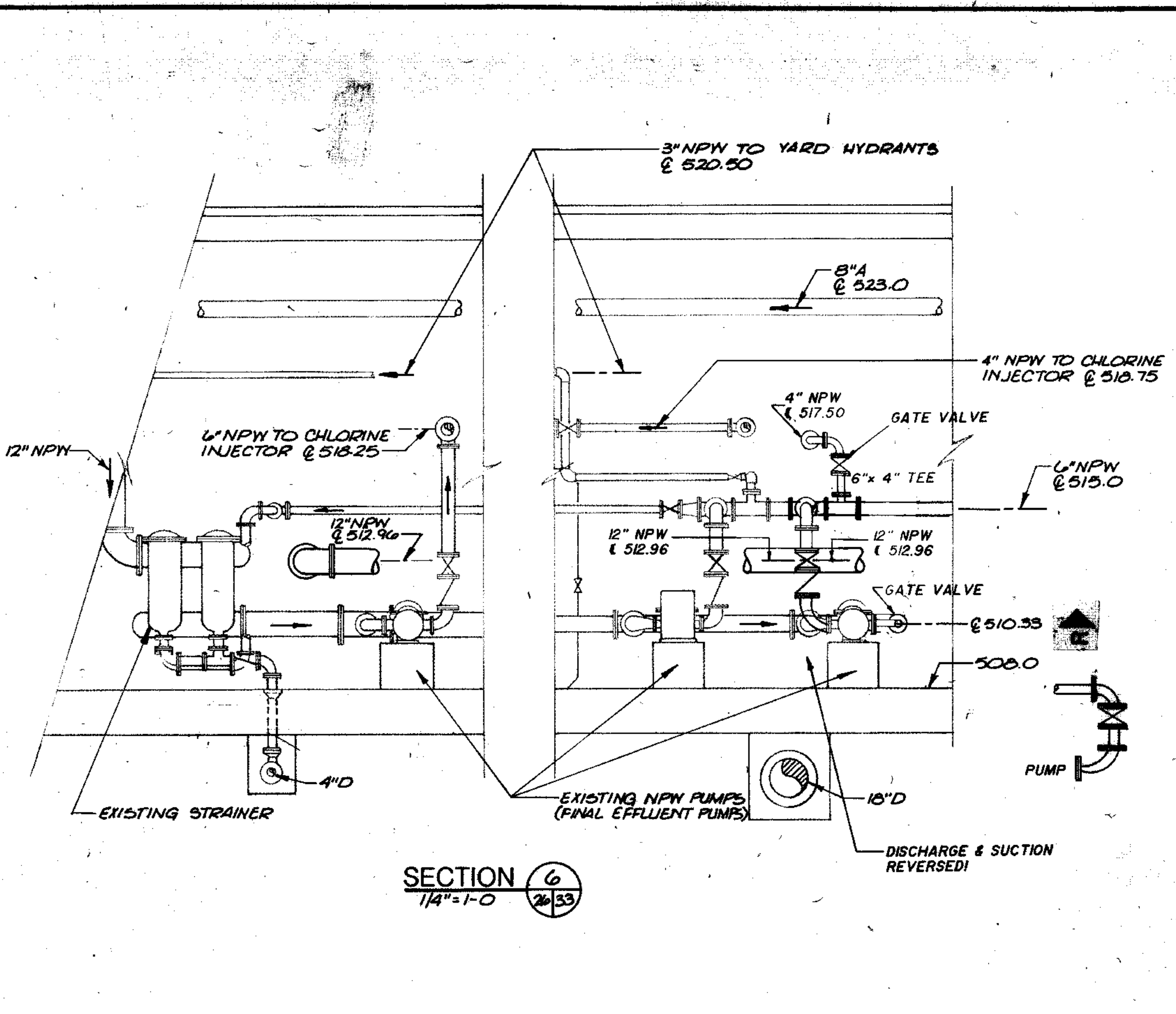
DRAWING NO. 255-230-32



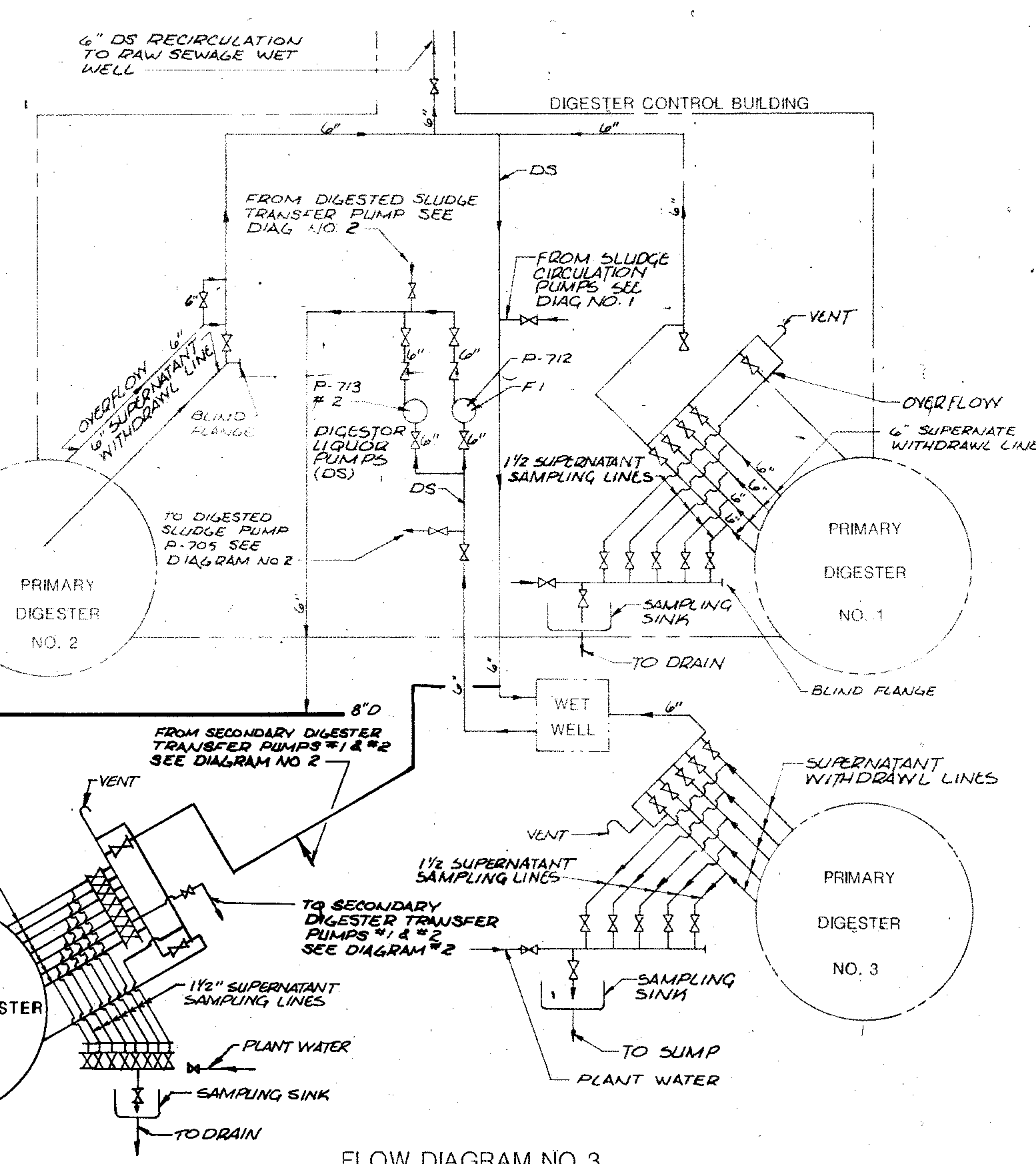
FLOW DIAGRAM NO. 1
PRIMARY SLUDGE, THICKENED WASTE ACTIVATED SLUDGE,
SLUDGE RECIRCULATION, AND HEATING SCHEMATIC



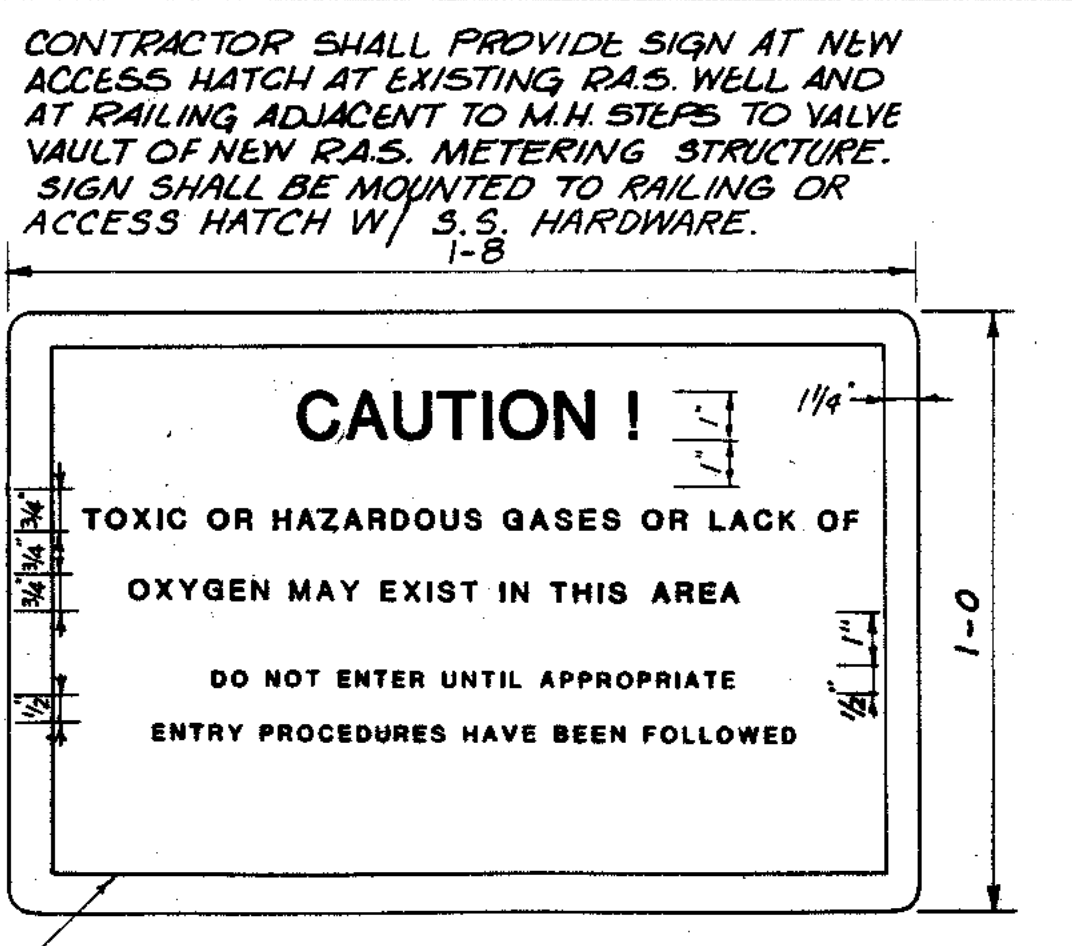
FLOW DIAGRAM NO. 2
DIGESTED SLUDGE & SLUDGE TRANSFER



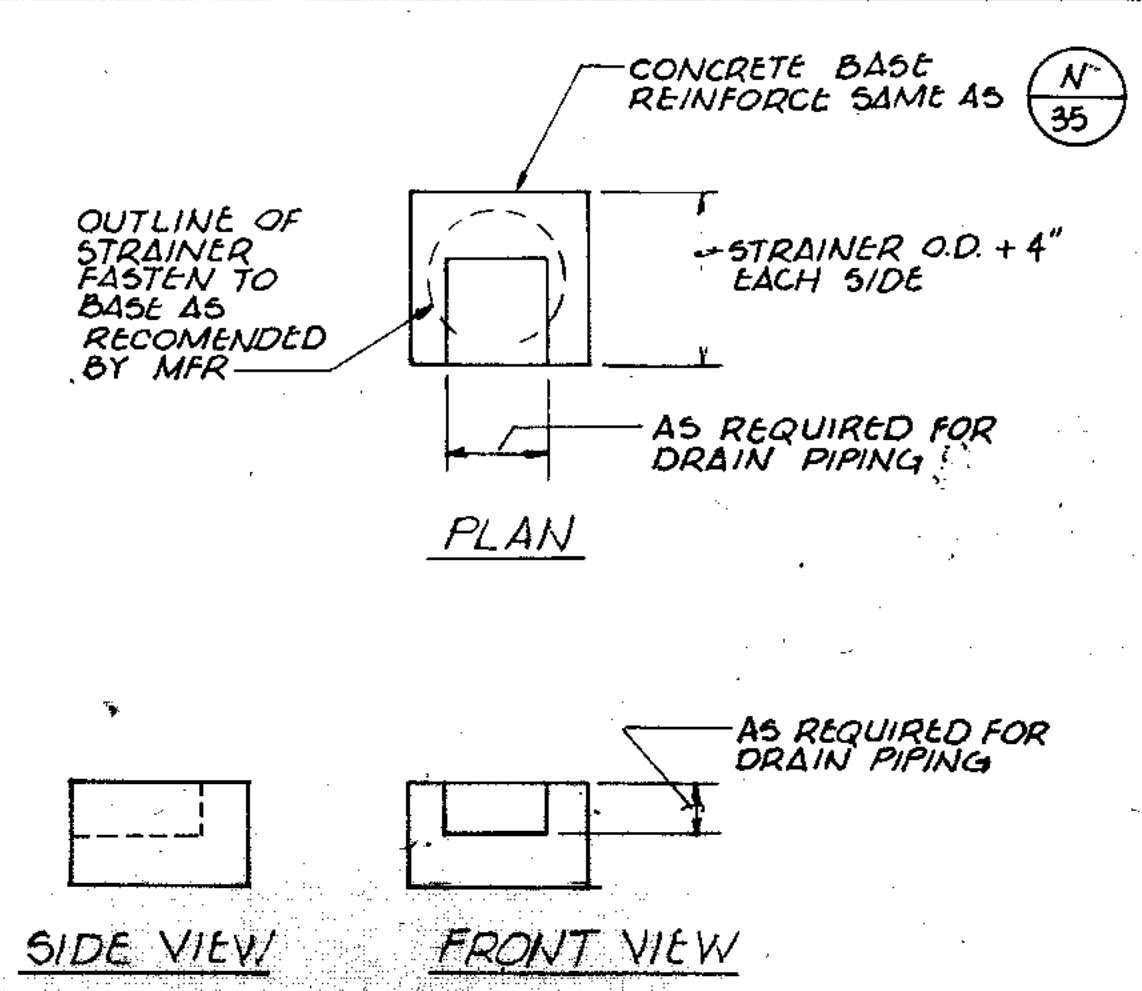
SECTION 6
1/4" = 1'-0"



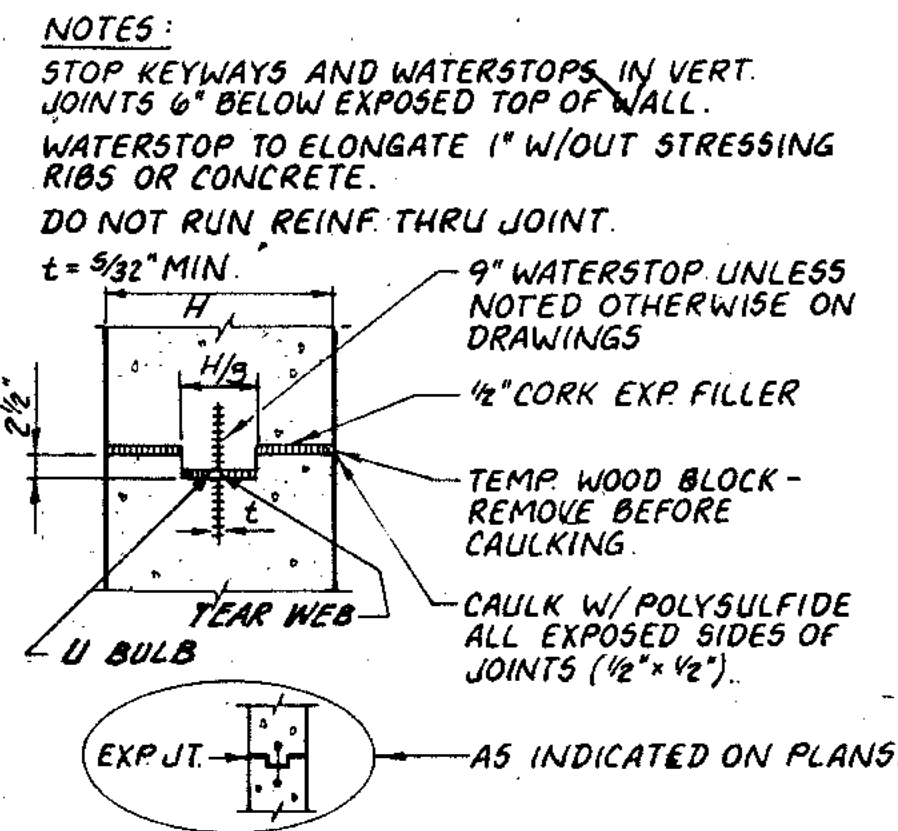
FLOW DIAGRAM NO. 3
SUPERNATANT & DIGESTER LIQUOR



CAUTION SIGN
NO SCALE



NPW STRAINER BASE DETAIL
NO SCALE



EXPANSION JOINT
NO SCALE

NOTES:
 STOP KEYWAYS AND WATERSTOPS IN VERT. JOINTS 6" BELOW EXPOSED TOP OF WALL.
 WATERSTOP TO ELONGATE 1" W/O OUT STRESSING RIBS OR CONCRETE.
 DO NOT RUN REINF. THRU JOINT.
 t = 3/32" MIN.
 9" WATERSTOP UNLESS NOTED OTHERWISE ON DRAWINGS.
 1/2" CORK EXP. FILLER
 TEMP WOOD BLOCK - REMOVE BEFORE CAULKING.
 CAULK W/ POLYSULFIDE ALL EXPOSED SIDES OF JOINTS (1/2" x 1/2").
 EXP. JT. - AS INDICATED ON PLANS.

COMPOSITE	UNIT - 33	FLOW-N-33	FLOW-E-33
OVERLAY	UNIT - 33	FLOW-N-33	FLOW-E-33
SCREEN			
PROJECT NO.			
DATE			

← R RECORD DRAWING 4-98 D.O.
 ← 1 REVISED 6-23-88

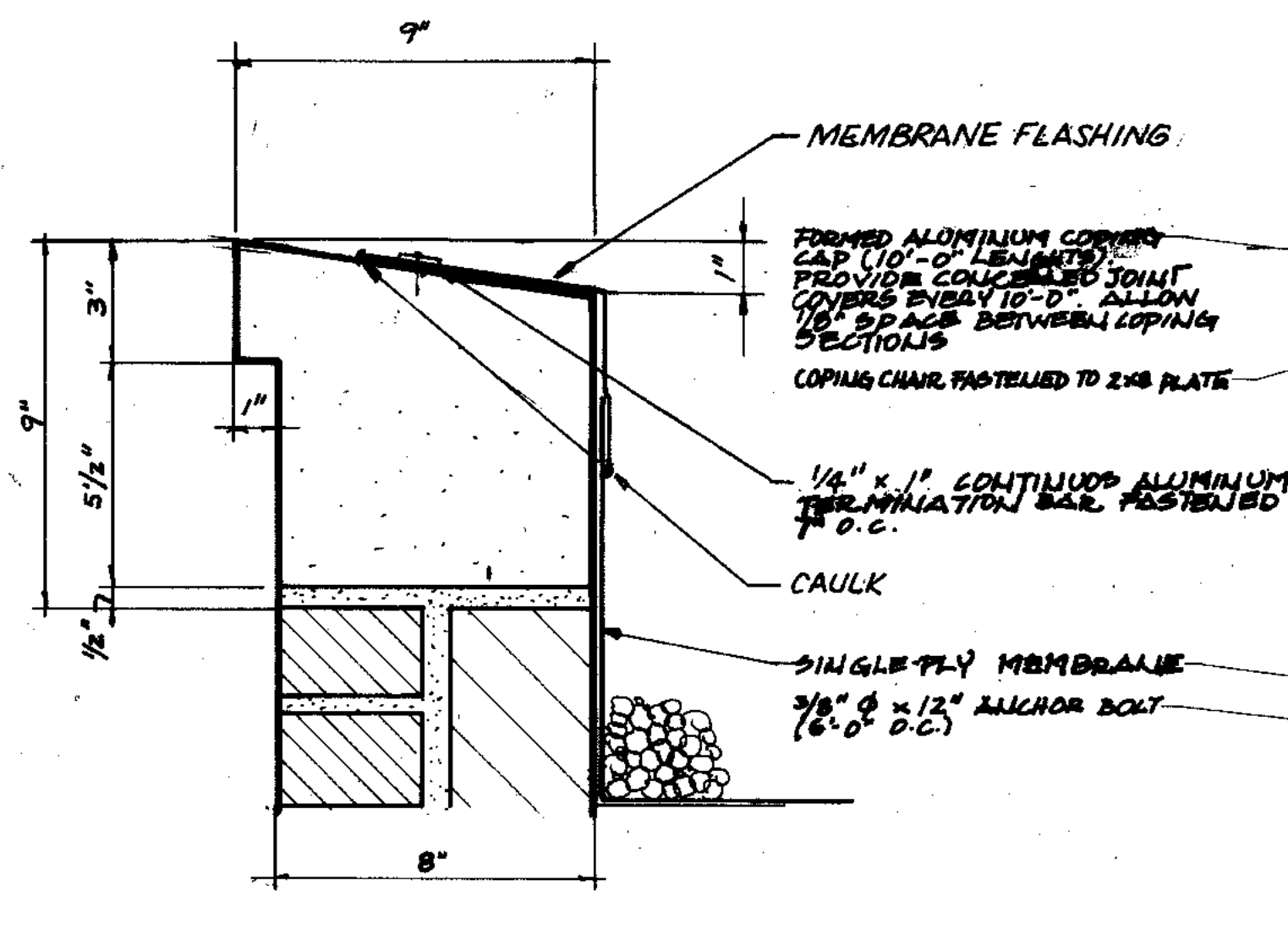
STRAND ASSOCIATES INC.
 CONSULTING ENGINEERS
 910 West Wingra Drive
 Madison, Wisconsin 53715
 Tel: (608) 251-4943

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ANAEROBIC DIGESTION
FLOW DIAGRAMS & DETAILS

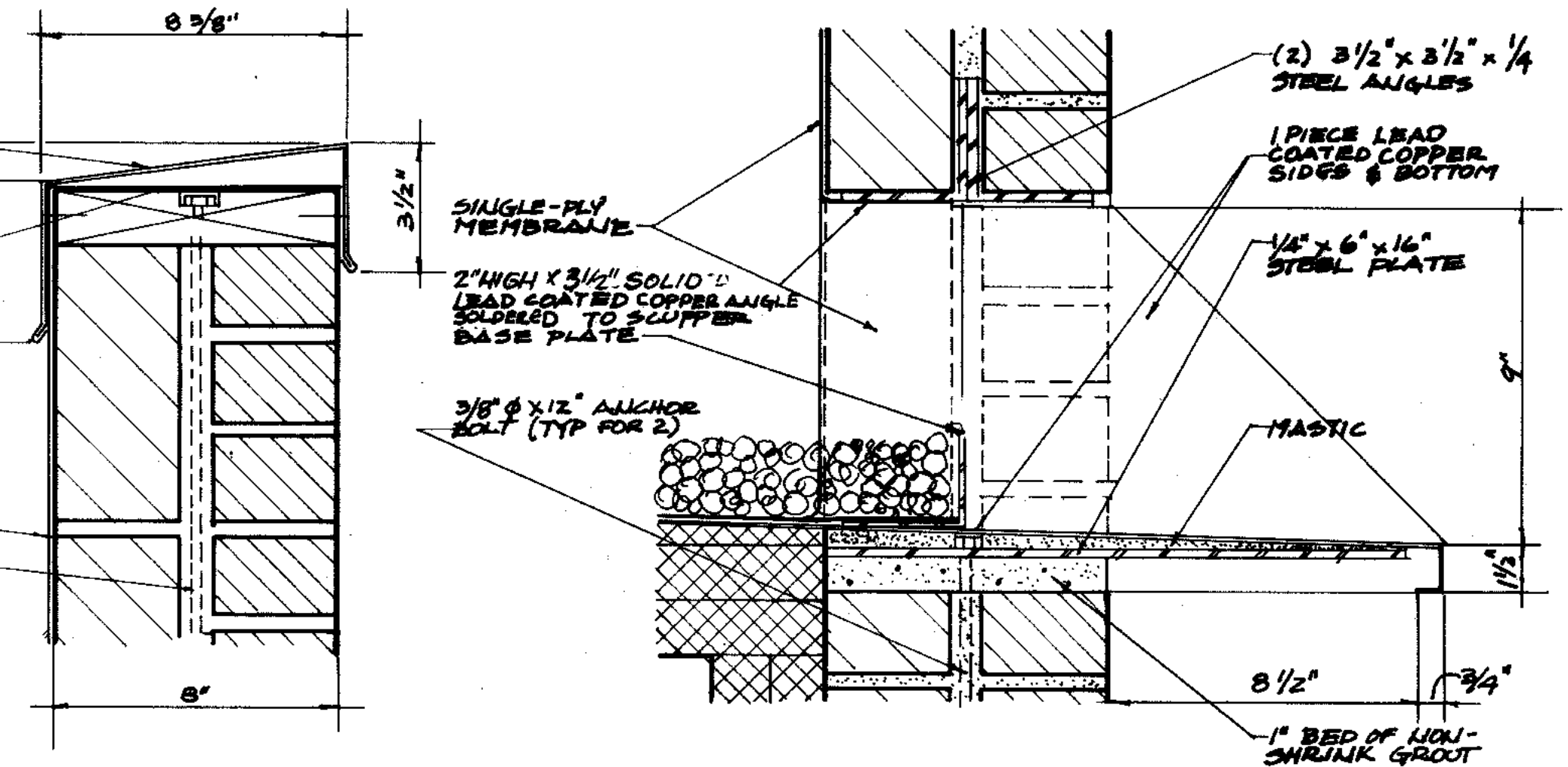
SCALE AS NOTED DATE NOVEMBER, 1987 DRAWING NO.

Being Consultants
 811 West Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435

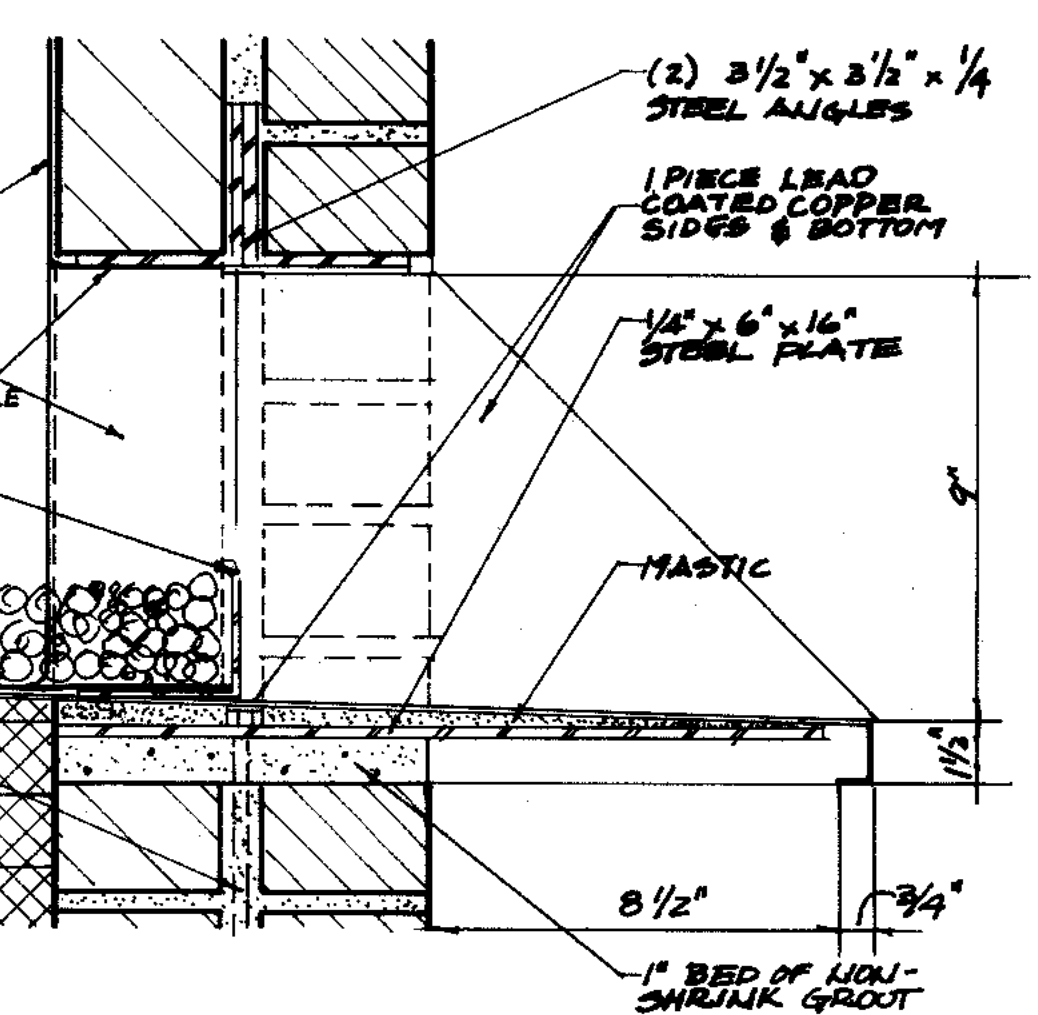
255-230-33



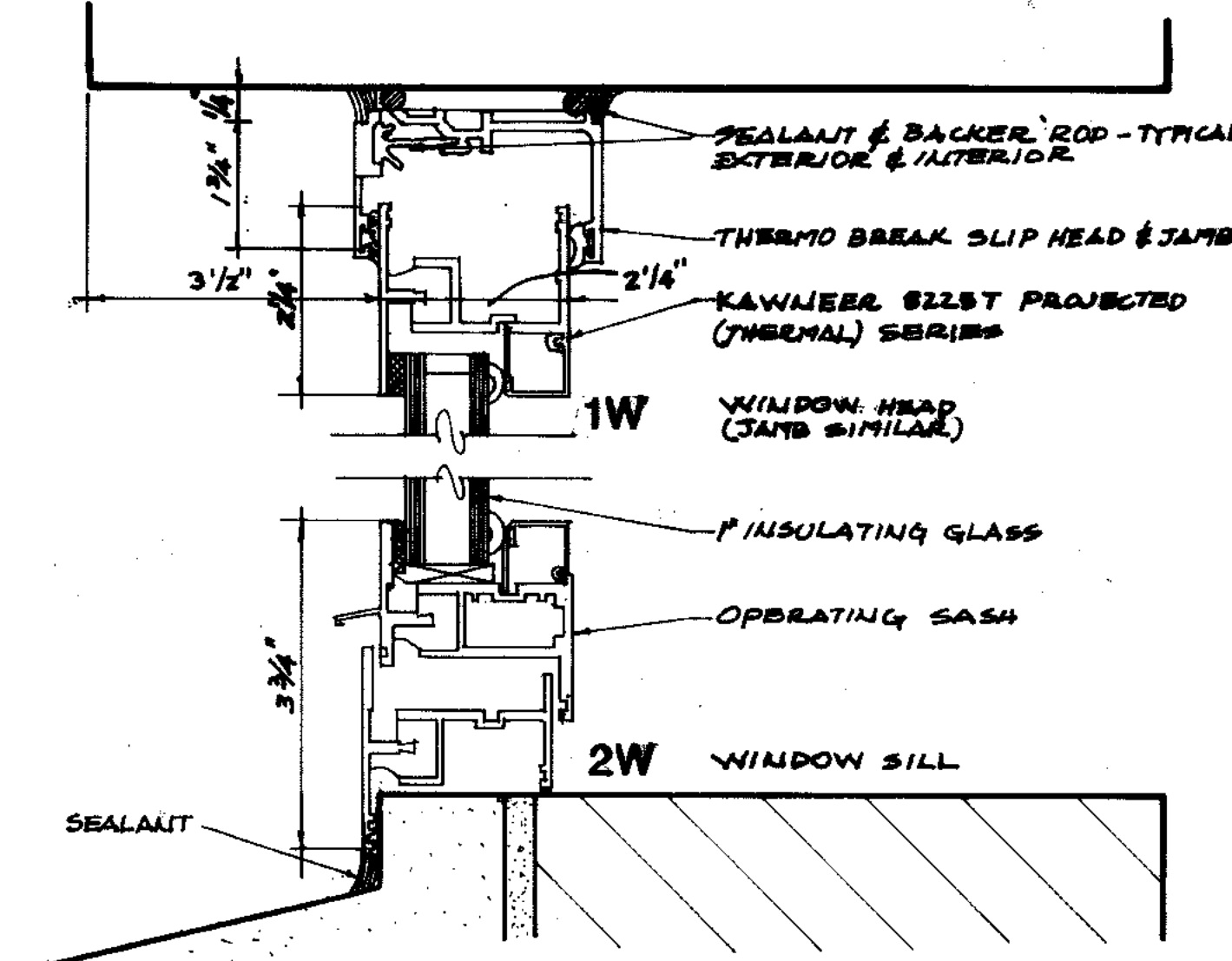
LIMESTONE COPING
3" = 1'-0"
A
34



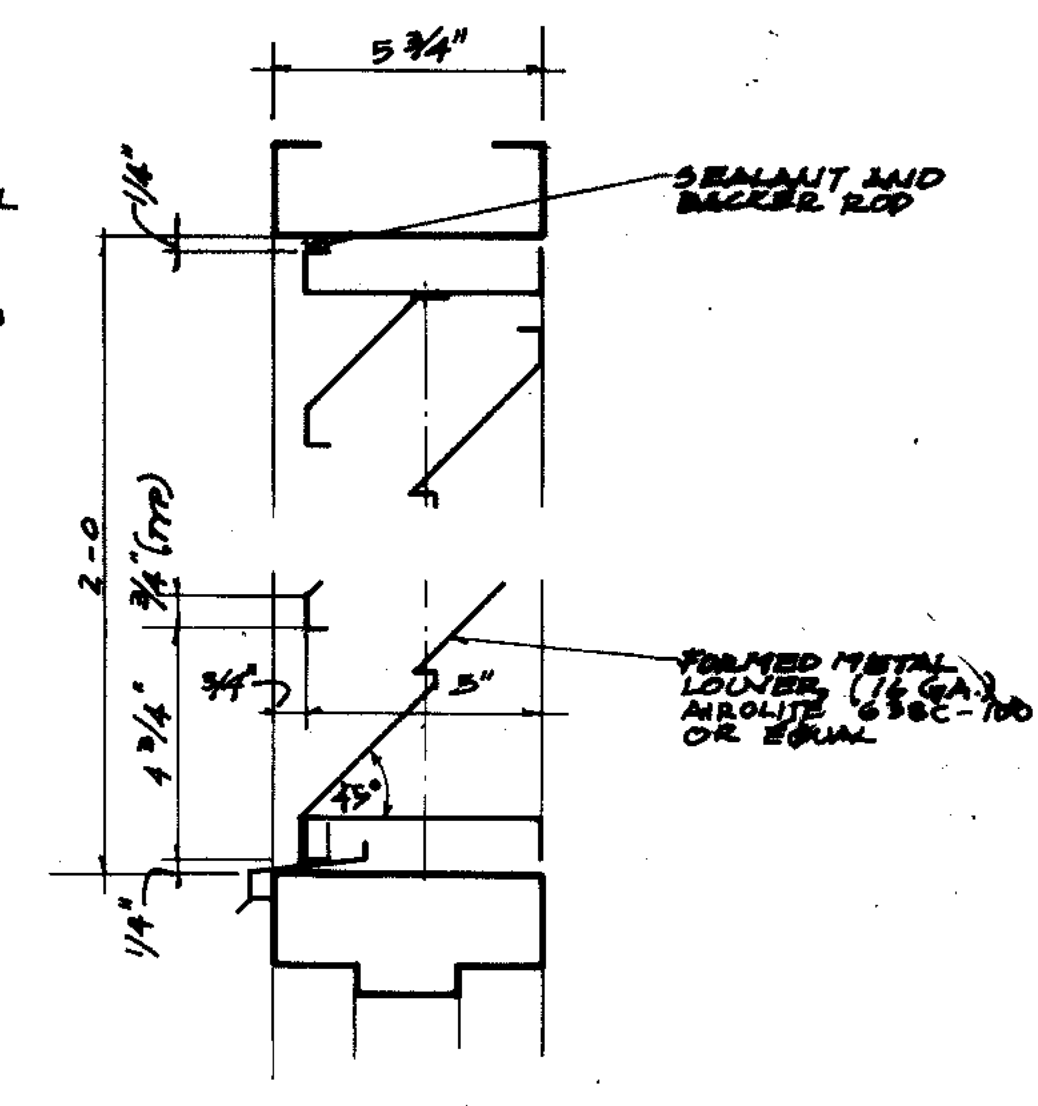
ALUMINUM COPING DETAIL
3" = 1'-0"
B
34



SCUPPER DETAIL
3" = 1'-0"
C
34

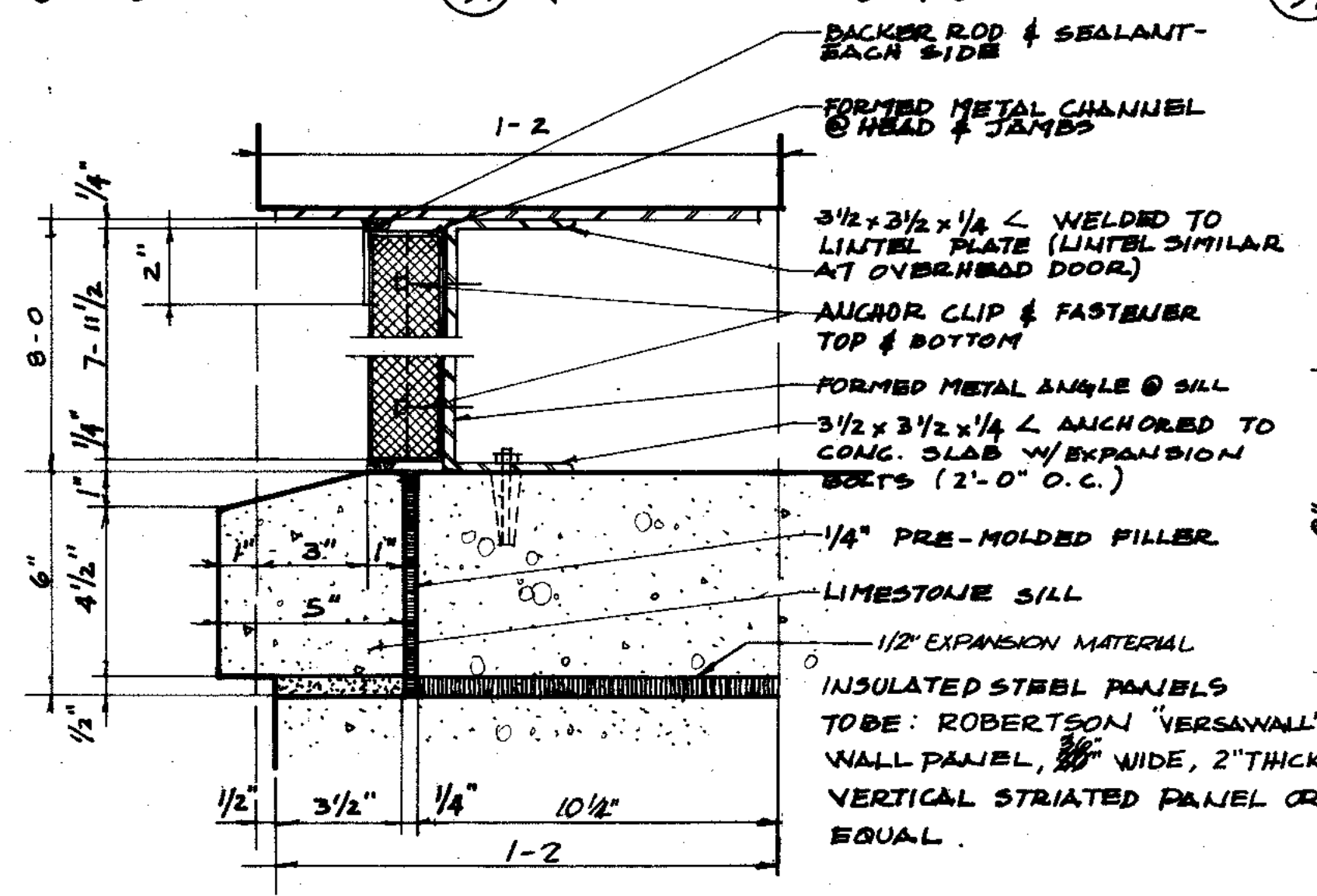


ALUMINUM WINDOW DETAILS
6" = 1'-0"

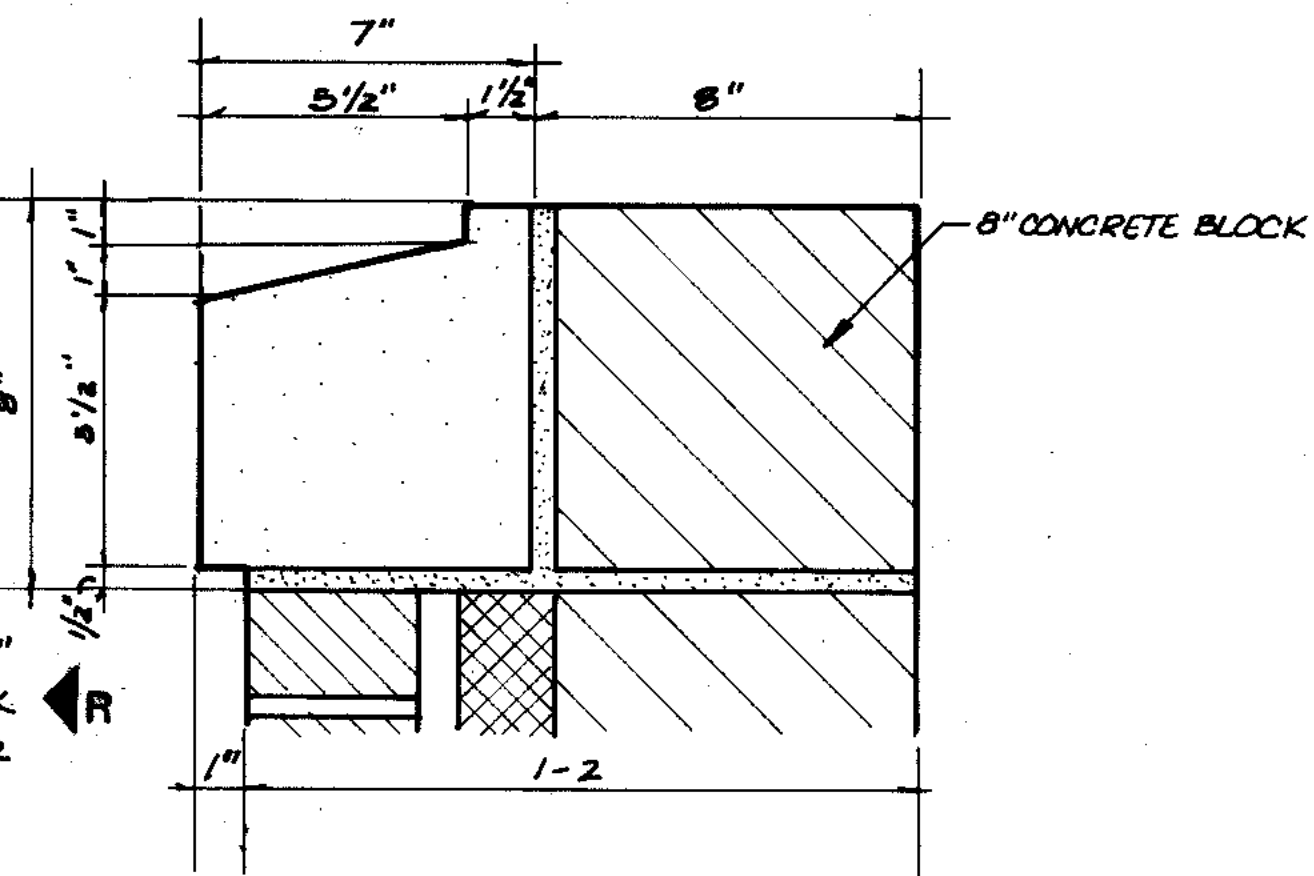


LOUVER DETAIL
3" = 1'-0"
D
34

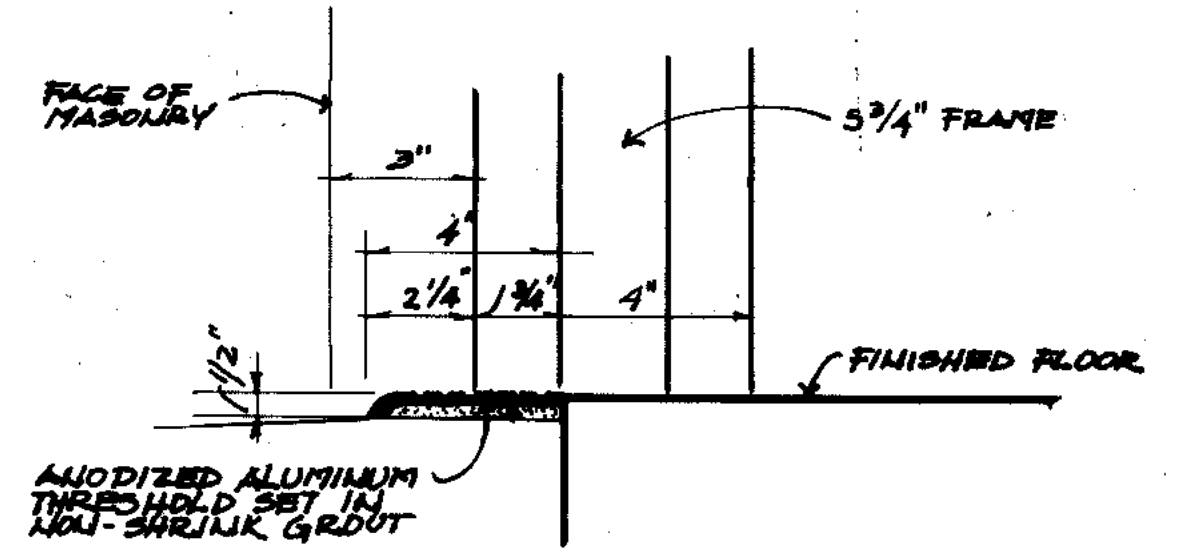
DOOR SCHEDULE							
DOOR			FRAME				
No.	TYPE	SIZE	MATERIAL	TYPE	MATERIAL	THRESH	REMARKS
1	1A	3-0 x 7-0 x 1 3/4"	HOLLOW METAL	B 1/4"	HOLLOW METAL	6 9/16"	INSULATED
2	1A	3-0 x 7-0 x 1 3/4"		B 1/4"		6 9/16"	INSULATED
3	1A	3-0 x 7-0 x 1 3/4"		B		6 9/16"	INSULATED
4	1	3-0 x 7-0 x 1 3/4"	ALUMINUM	B	ALUMINUM		
5	1	3-0 x 7-10 x 1 3/4"		C		6 9/16"	PAIR-INSULATED LEFT HAND ACTIVE
6	1	3-0 x 7-0 x 1 3/4"		B 1/4"			
7	1A	3-0 x 7-0 x 1 3/4"	HOLLOW METAL	D	HOLLOW METAL	6 9/16"	INSULATED
8	1	3-0 x 7-0 x 1 3/4"	HOLLOW METAL FIRE DOOR	B 1/4"			
9	1	3-0 x 7-0 x 1 3/4"		B 1/4"			
10	1	3-0 x 6-8 x 1 3/4"					USE EXISTING FRAME



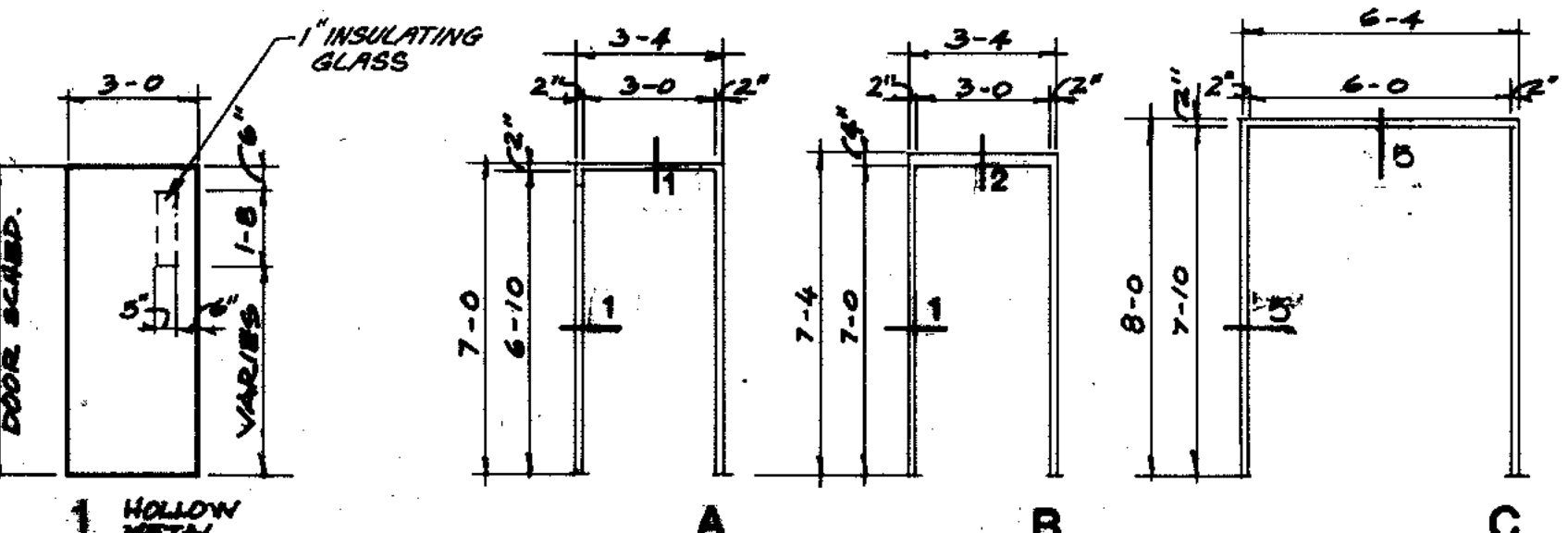
INSULATED METAL PANEL DETAIL
3" = 1'-0"
E
34



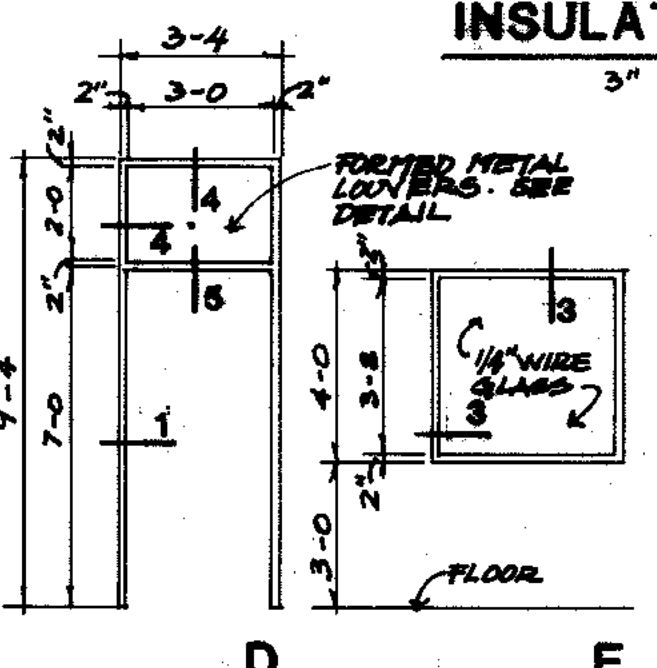
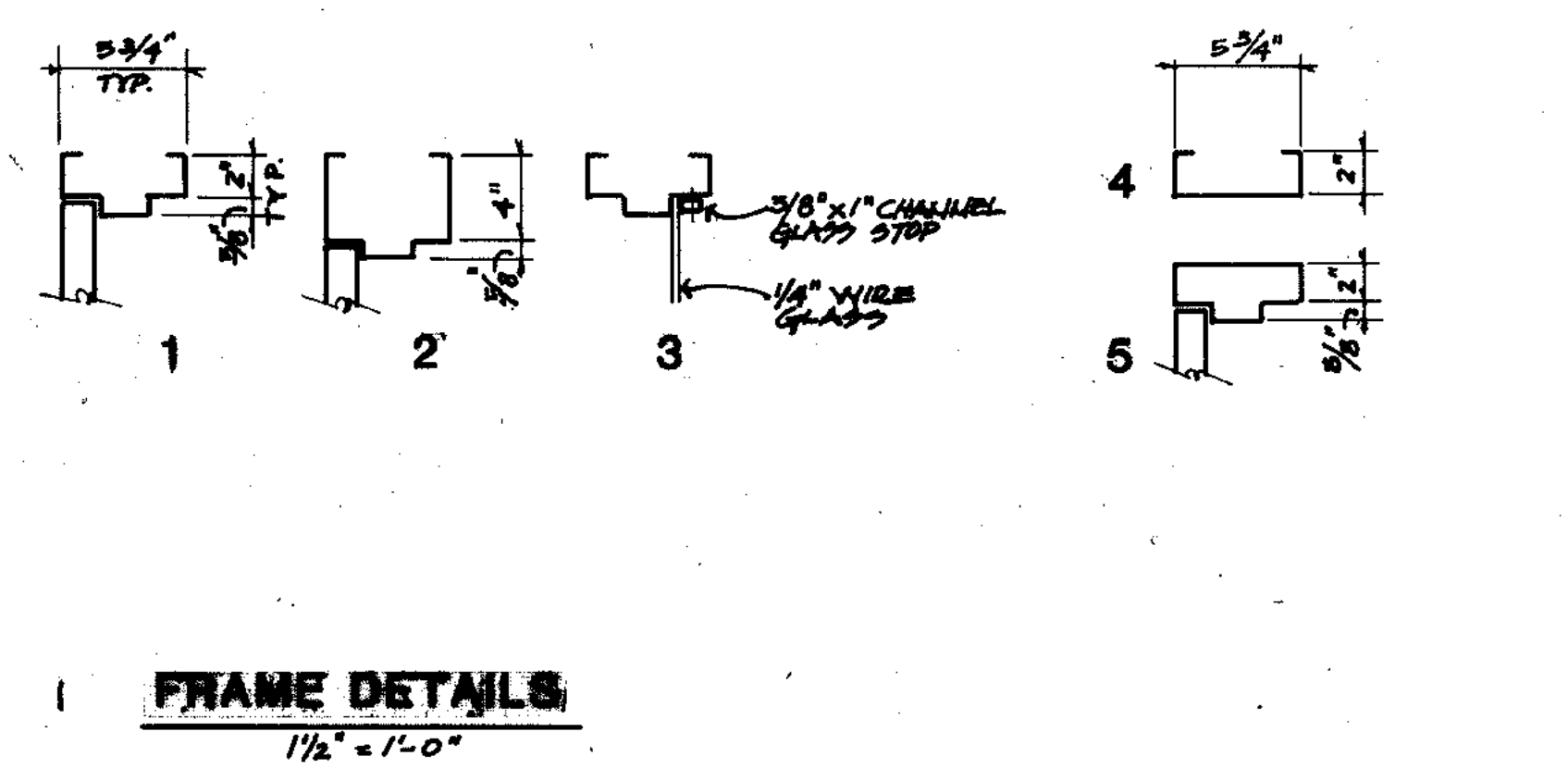
LIMESTONE SILL & ALUMINUM WINDOW DETAIL
3" = 1'-0"
F
34



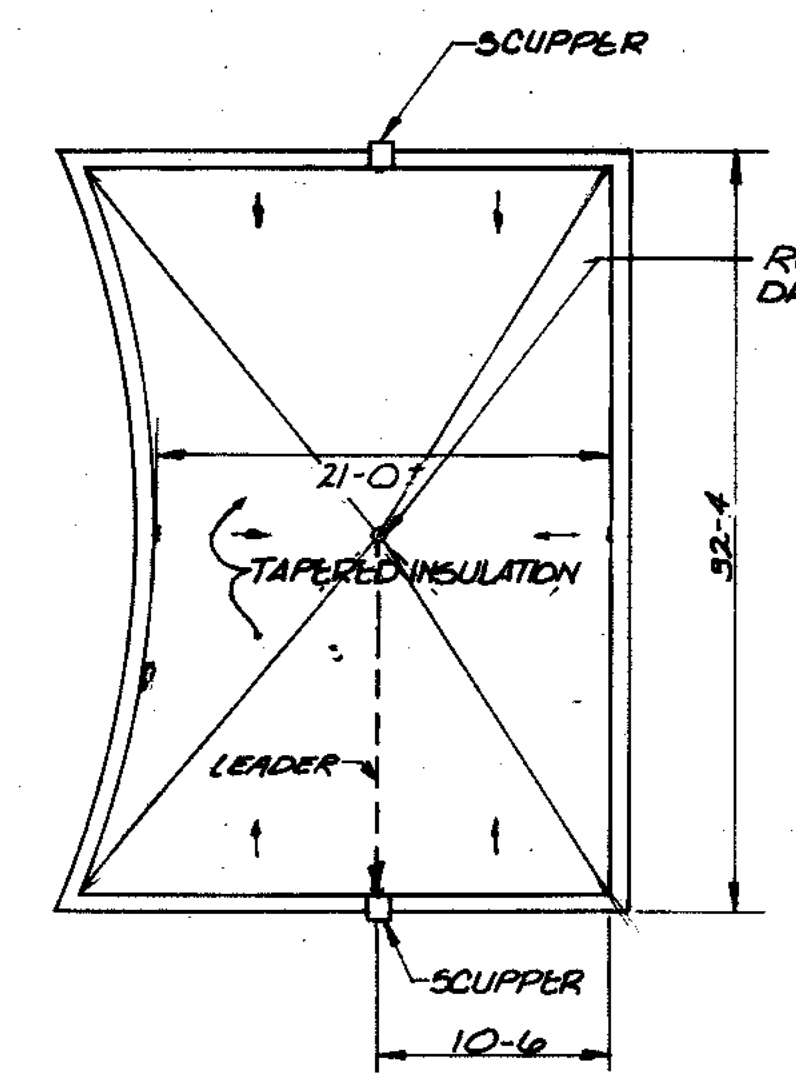
THRESHOLD DETAIL
3" = 1'-0"
G
34



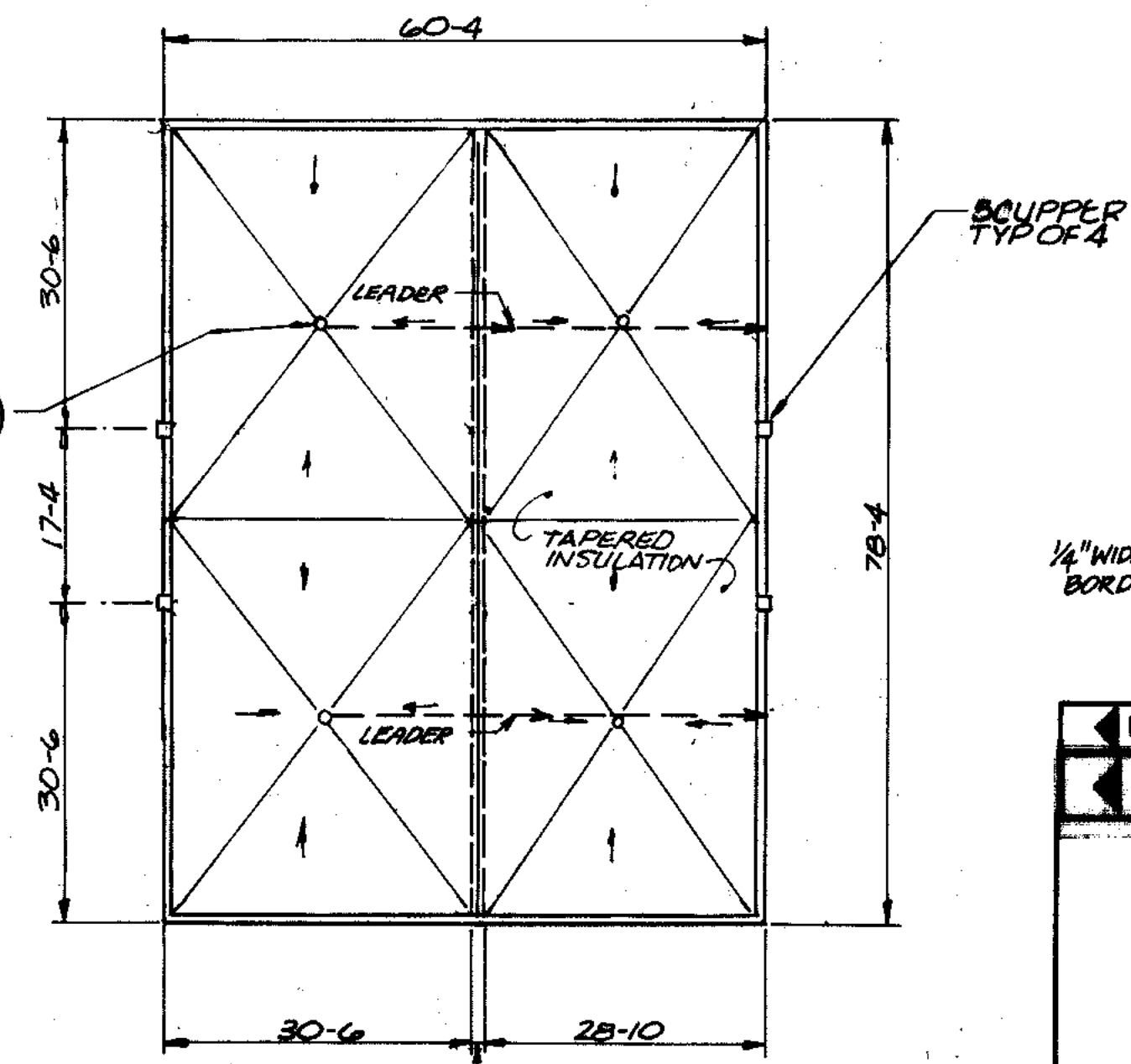
DOOR TYPES
1/4" = 1'-0"
FRAME TYPES
1/4" = 1'-0"



ALUMINUM WINDOW ELEVATION
1/4" = 1'-0"

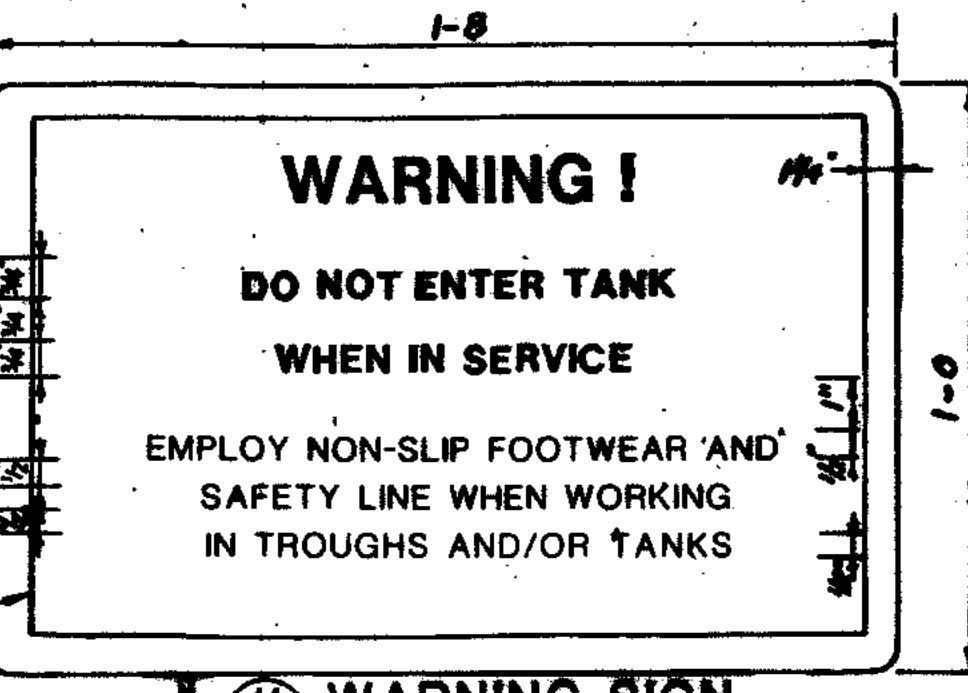


DIESTER CONTROL BUILDING ROOF PLAN
NO SCALE



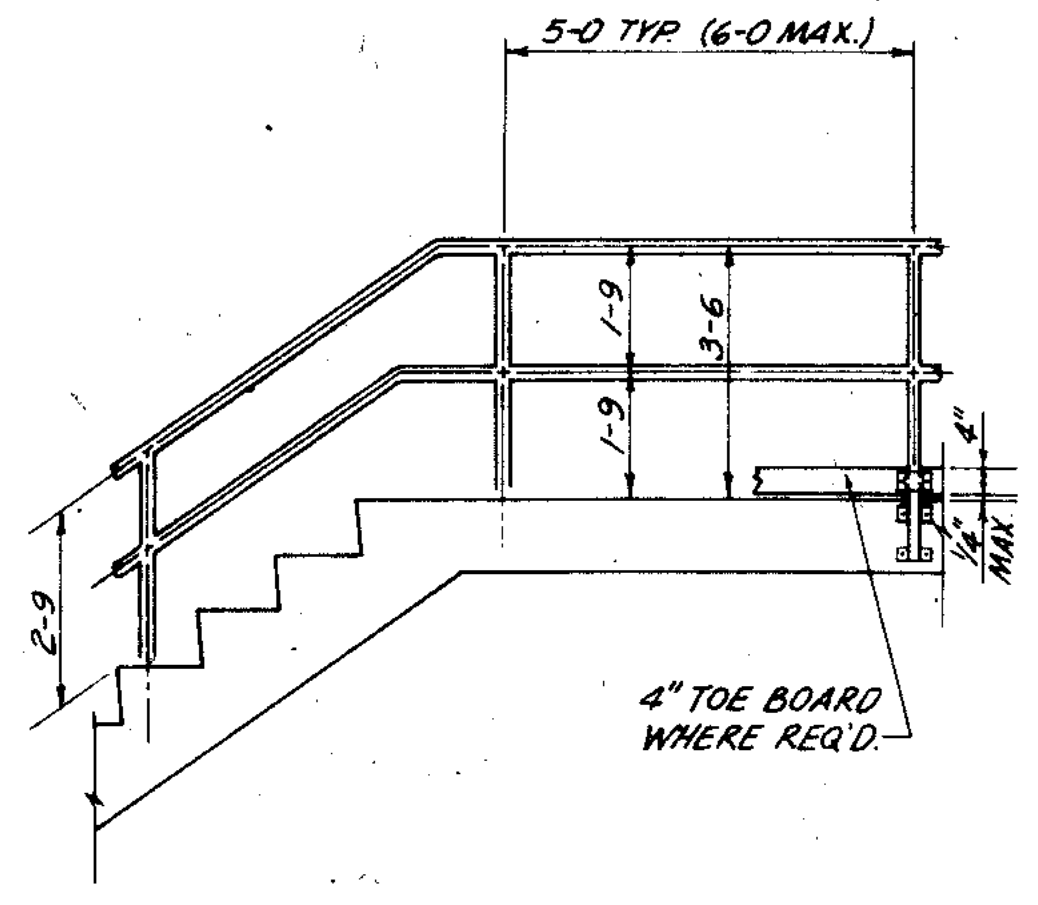
SOLID PROCESSING BUILDING ROOF PLAN
NO SCALE

CONTRACTOR SHALL PROVIDE SIGN NEAR ENTRANCE TO ALL FINAL CLARIFIERS. SIGN SHALL BE MOUNTED TO RAILINGS WITH SS HARDWARE.

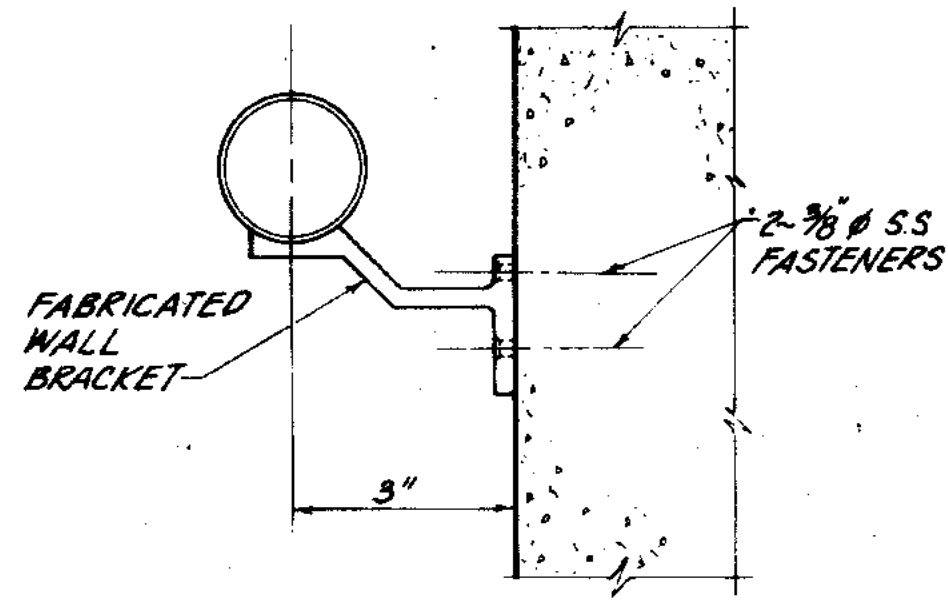


R RECORD DRAWING 4-90 D.O.
1 REVISED
STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingo Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843
CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT
SCALE: AS NOTED
DATE: NOVEMBER, 1987
DRAWING NO.
255-230-24

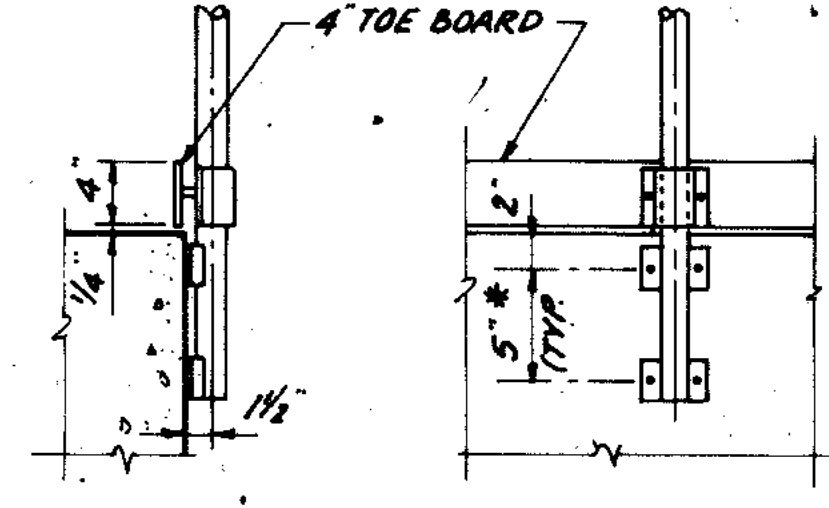
OVERLAY IDENTIFICATION
OVERLAY PROJECT NO.
OVERLAY SCREEN DATE



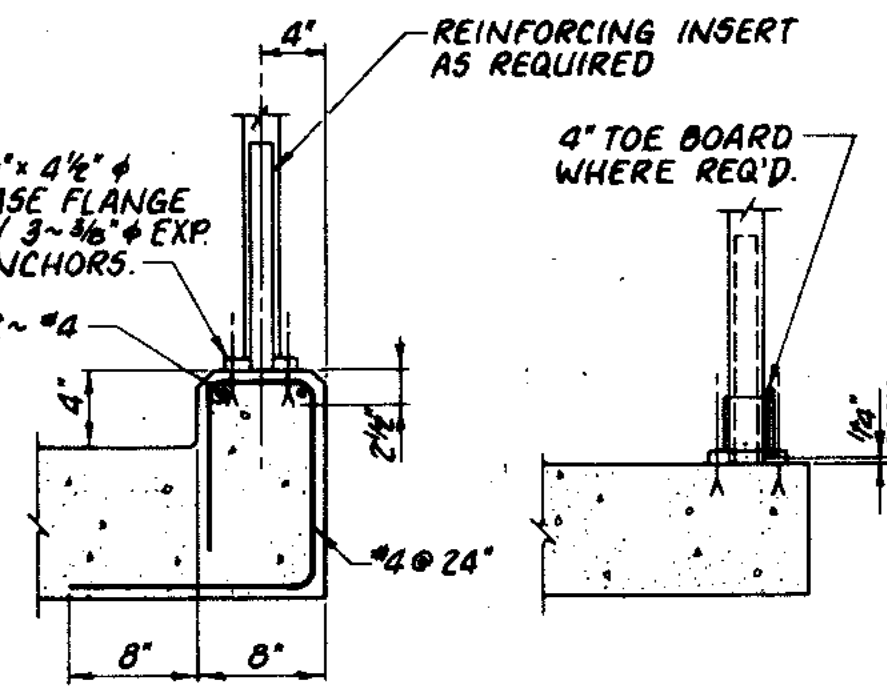
A ALUMINUM RAILING
NO SCALE



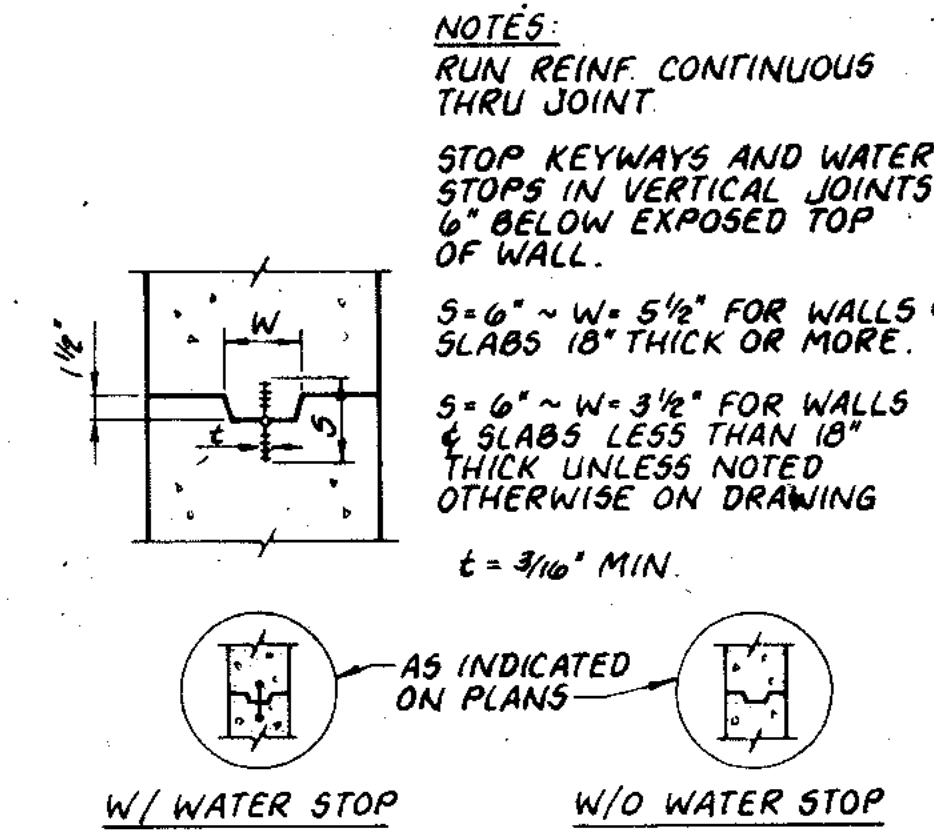
B HANDRAIL WALL MOUNTING
NO SCALE



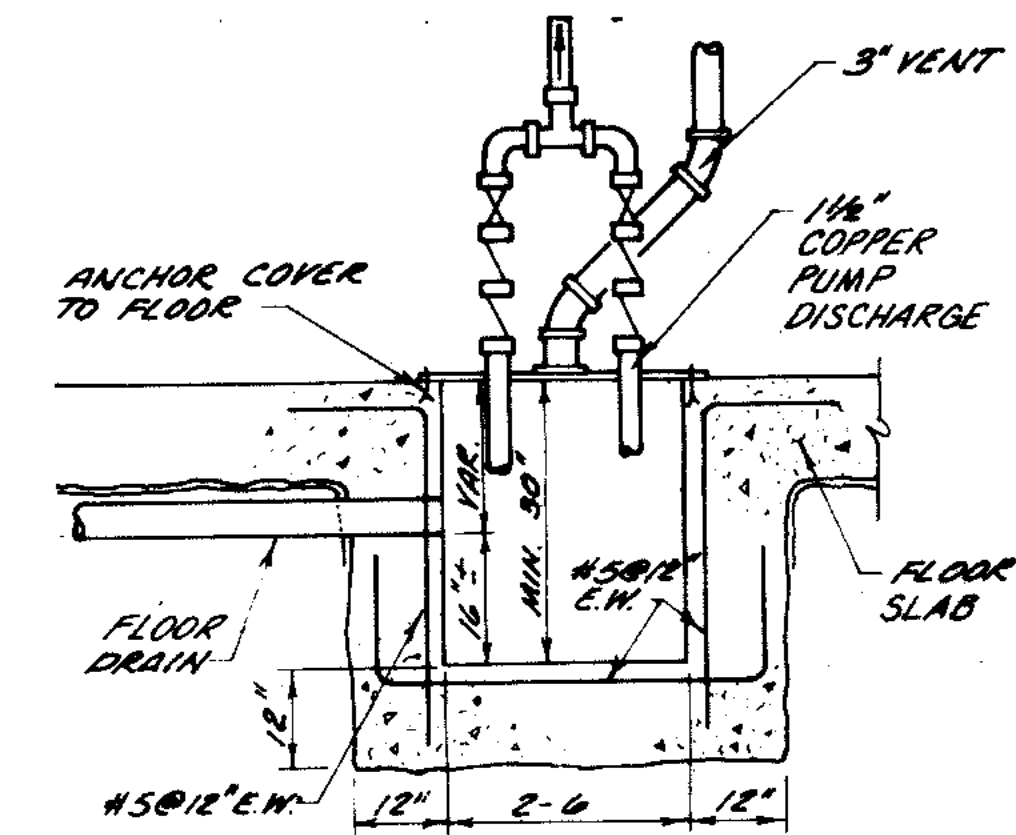
C HANDRAIL SIDE MOUNTING
NO SCALE



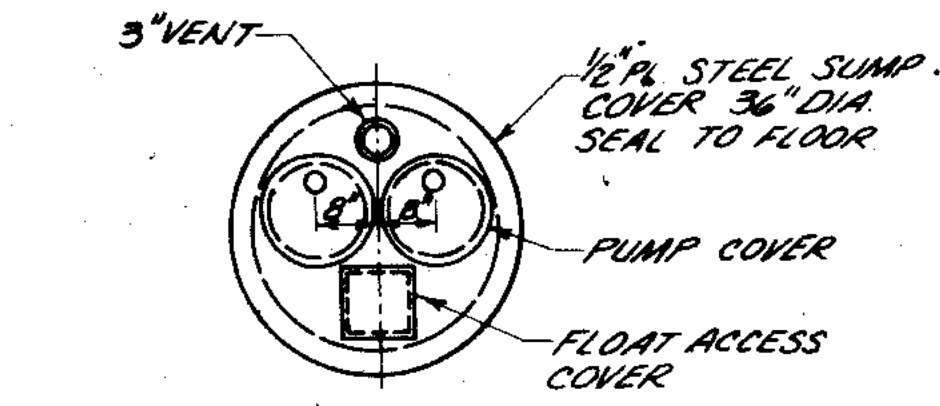
D HANDRAIL TOP MOUNTING
NO SCALE



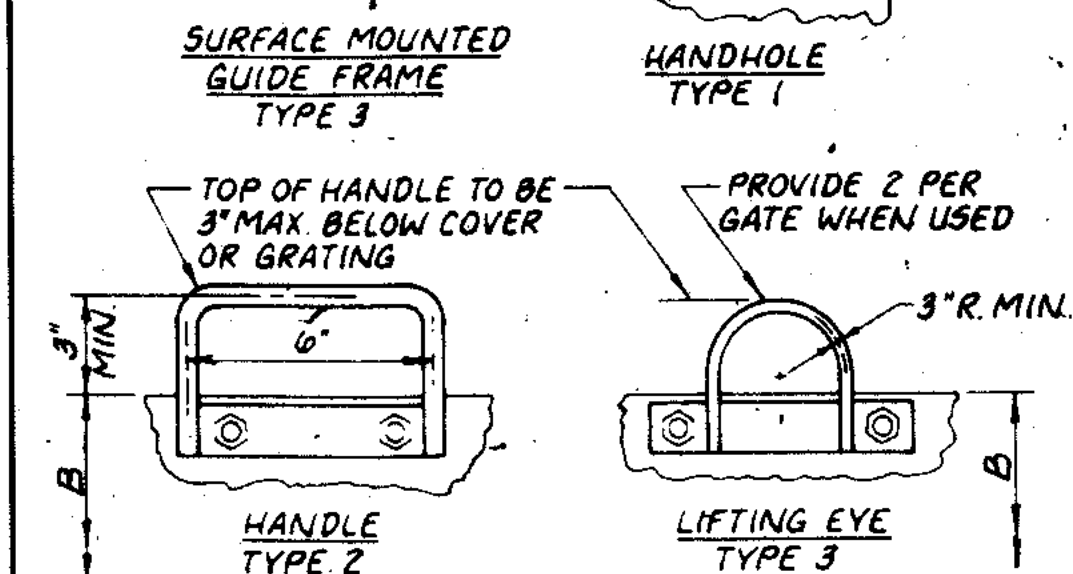
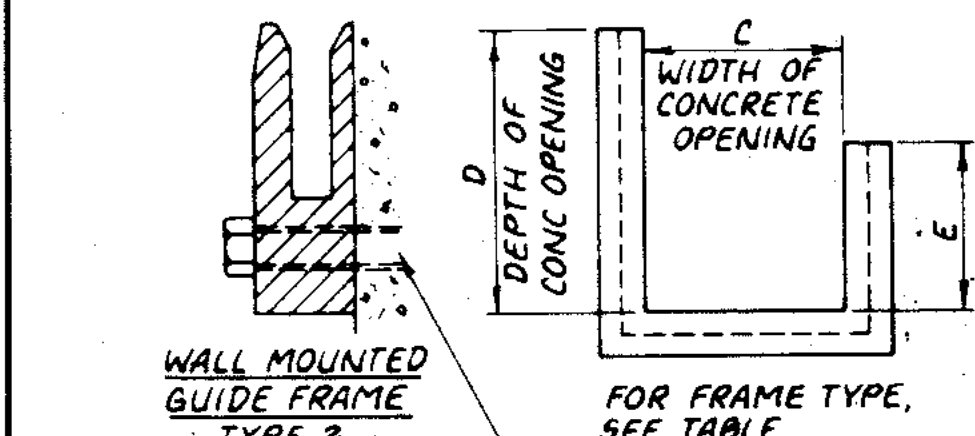
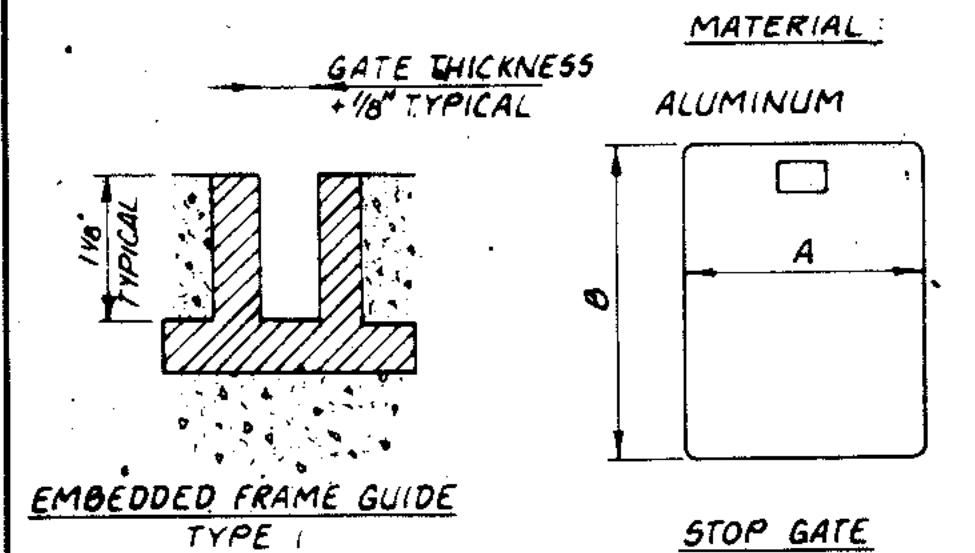
E CONSTRUCTION JOINT
NO SCALE



F SUMP
NO SCALE



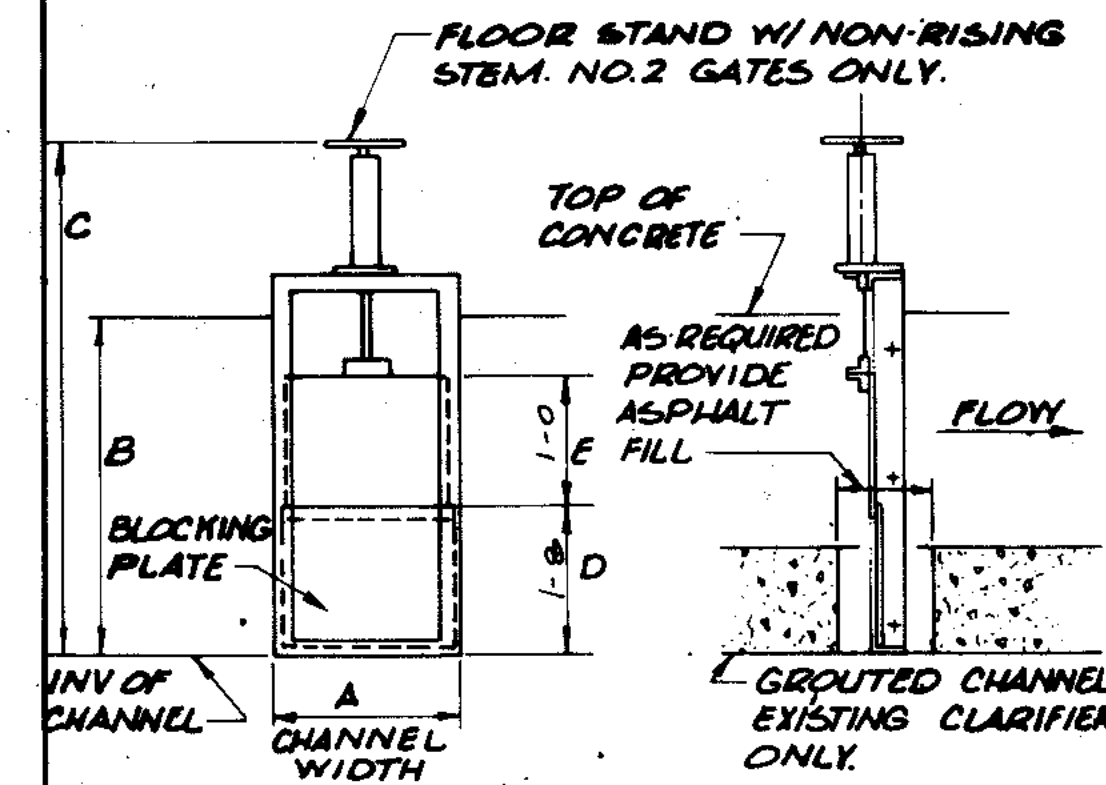
G SUMP COVER
NO SCALE



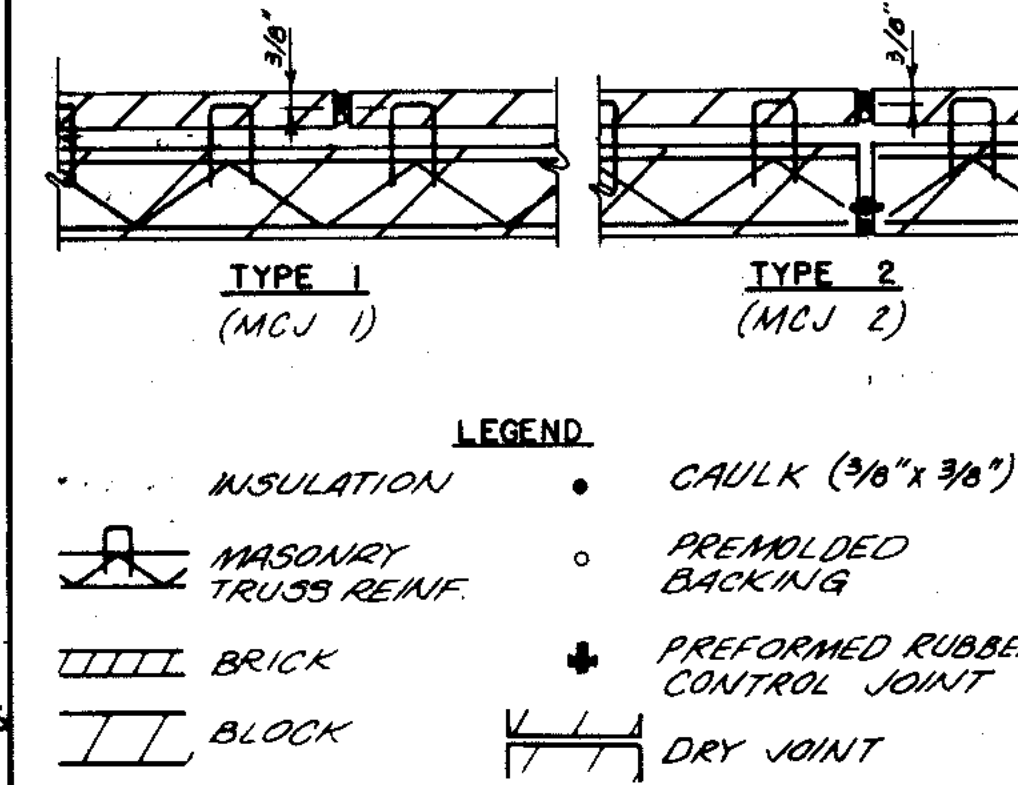
J STOP GATES
NO SCALE

REFERENCE SHEET NUMBER	GATE NO. REQ'D.	STOP GATE			GROOVES					
		THICKNESS	A	B	NO. OF HANDLES	TYPE OF HANDLES	NO. REQ'D.	TYPE OF GROOVES		
22	1	3/4	3-2	4-0	3	2	3	3-0	5-4	
22	2	1/4	6-2	6-0	2	1	1	6-0	6-6	
22	3	1/4	4-2	6-0	1	1	1	4-0	6-6	
20	4	3/4	2-8	3-3	3	2	3	2-6	3-9 1/2	
24	5	1/4	4-10	4-10	4	4	4	4-10	4-10	
25	6	3/4	3-2	4-6	5	2	1	3-0	5-4	
25	7	-	-	-	-	-	-	6-1	2-10	9-0
13	8	1/4	6-2	6-0	2	1	1	6-0	6-6	

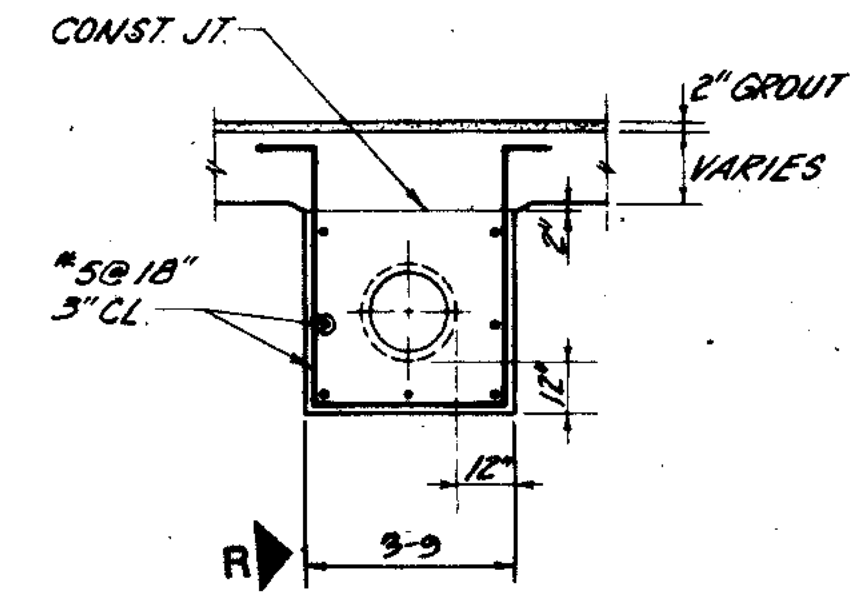
GATE WIDTH	ANGLE	NO. REQ'D	LOCATION
2-0	NONE	-	-
3-0	2" x 2" x 1/4"	1	BOTT
4-0	3" x 3" x 1/4"	2	TOP & BOTT
5-0	3 1/2" x 3 1/2" x 3/8"	2	TOP & BOTT
6-0	4" x 4" x 1/2"	3	TOP, MIDDLE & BOTTOM



K DOWNWARD OPENING FABRICATED SLIDE GATE WEIR
NO SCALE

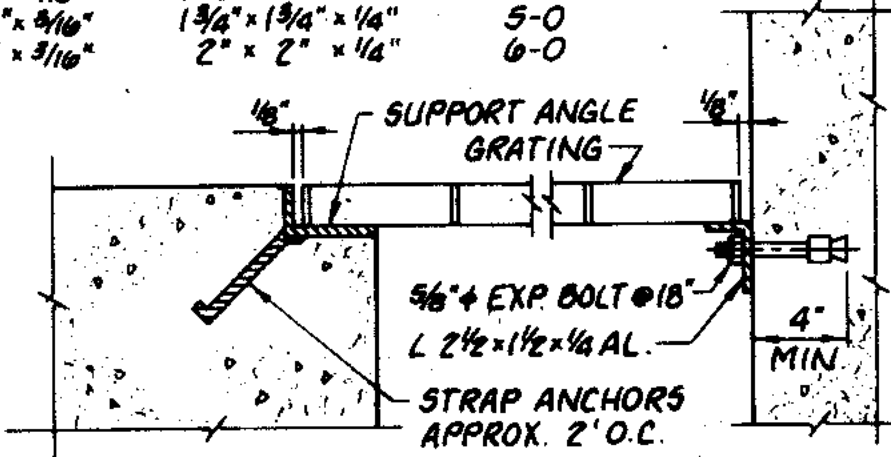


L MASONRY CONTROL JOINT
NO SCALE



M PIPE ENCASEMENT
NO SCALE

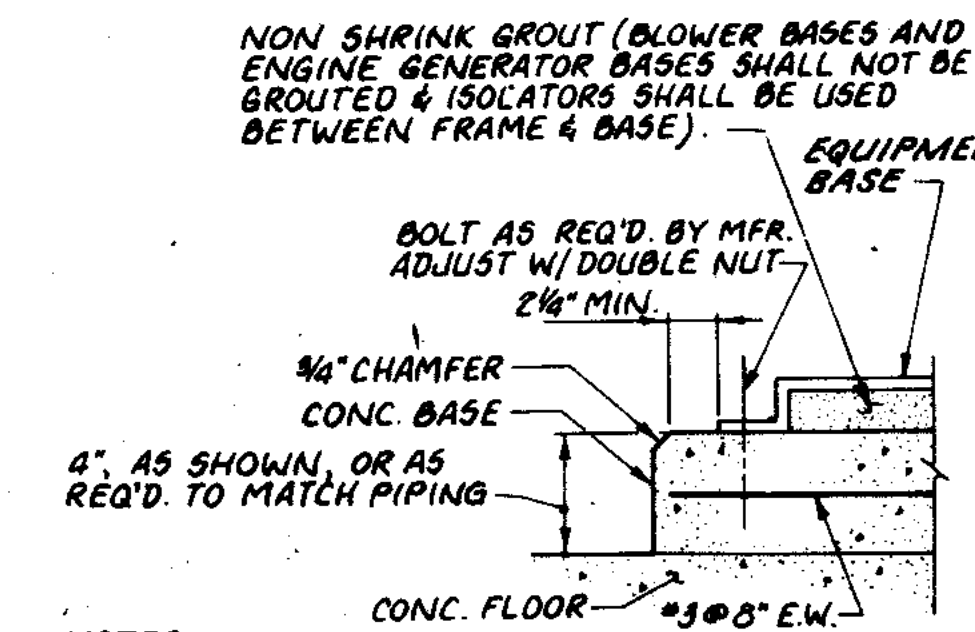
NOTES:
1. REINFORCED GRATING SUPPORT ANGLES ACROSS OPENINGS WITH L4 x 3 x 3/8" SILL. BOLT ENDS OF SILL TO SIDES OF OPENINGS.
2. GEN. CONT'R. SHALL CUT GRATING SUPPORT ANGLES FOR CLEARANCE FOR STOP PLATE GROOVES.
3. ALL ALUMINUM IN CONTACT WITH CONCRETE SHALL BE COATED WITH COAL TAR-EPOXY.
4. GRATING SCHEDULE:
SIZE SUPPORT ANGLE MAX SPAN
1" x 1/4" 1 1/2" x 1/4" x 1/4" 2-6
1 1/2" x 3/8" 1 3/4" x 1 3/4" x 1/4" 5-0
2" x 3/16" 2" x 2" x 1/4" 6-0



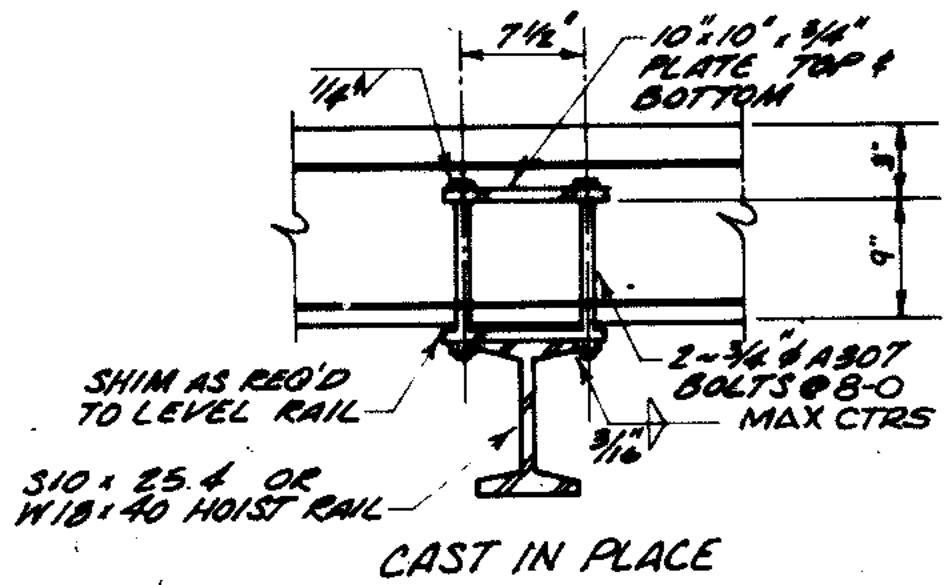
N GRATING DETAIL
NO SCALE

REFERENCE SHEET NO.	GATE NO.	DIMENSIONS					REMARKS
		A	B	C	D	E	
20	1	1-6	3-9 1/2	5-3	1-8	1-0	3 REQUIRED
23	2	1-6	2-2 1/4	10-0	10-0	1-0	6 REQUIRED AND 4 REQUIRED AND 2 REQUIRED

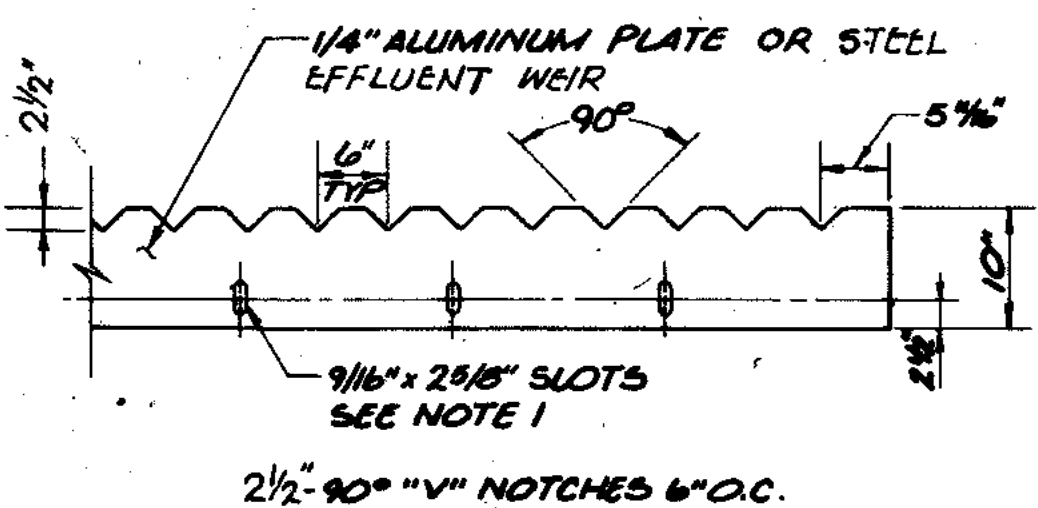
* VERIFY DIMENSION 38" ABOVE BRIDGE DECK



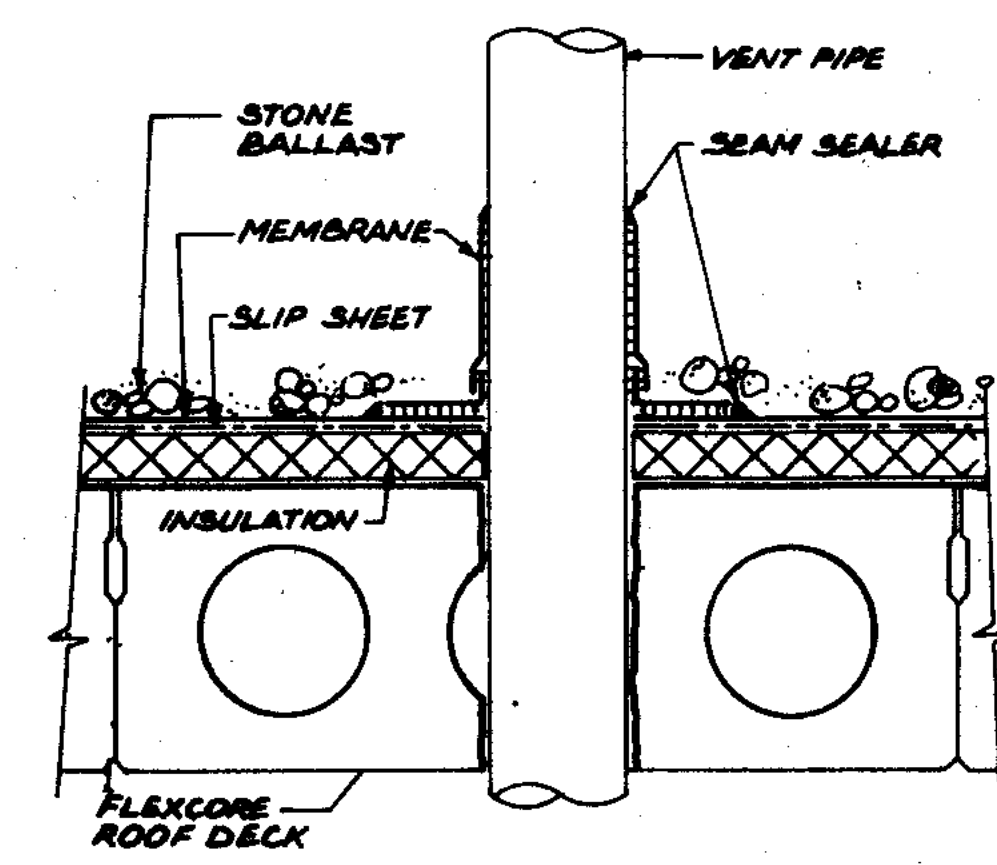
O CONCRETE EQUIPMENT BASE
NO SCALE



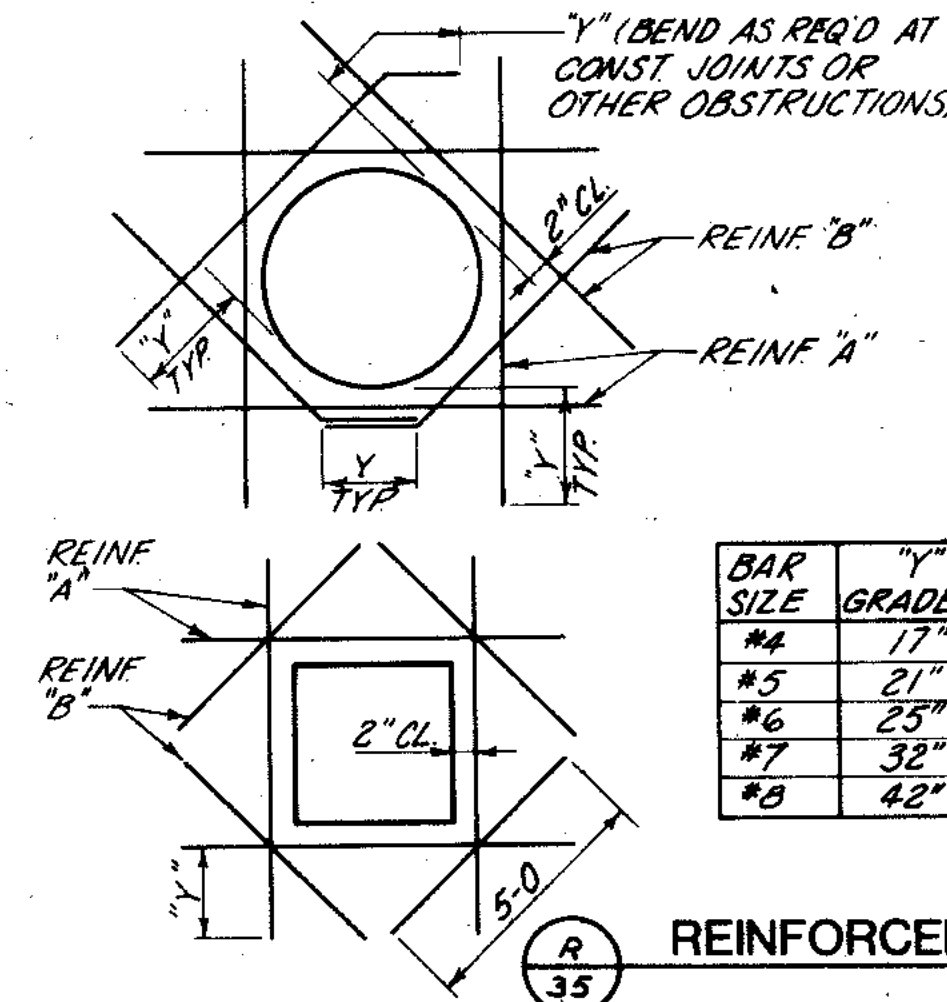
P RAIL MOUNTING
NO SCALE



Q V NOTCH WEIR PLATE
NO SCALE



R VENT PIPE DETAIL
NO SCALE



BAR SIZE	GRADE 60
#4	17"
#5	21"
#6	25"
#7	32"
#8	42"

S REINFORCEMENT AT CONCRETE OPENINGS
NO SCALE

NOTES:
1. MOVE REINFORCING MAX OF 2" TO CLEAR OPENING. CUT REMAINING BAR THROUGH OPENING. WHERE REIN. MUST BE CUT, ADD REIN. 'A' AT LEAST EQUAL IN AREA TO THAT WHICH WAS CUT AND EXTEND BEYOND OPENING DISTANCE 'Y'.
2. DIAGONAL BARS 'B' TO BE PLACED:
A. AT 1/2 OF WALL WHERE ONE LAYER OF REIN. IS PROVIDED.
B. AT EACH FACE OF WALL WHERE TWO LAYERS OF REIN. ARE PROVIDED.
C. AT TOP & BOTTOM OF ALL SLABS.
3. UNLESS OTHERWISE NOTED, SIZE OF REIN. 'B' SHALL BE THE SIZE OF THE LARGEST REIN. BAR CUT.
4. THIS DETAIL IS TO BE USED WHEN NO OTHER DETAIL IS SPECIFIED.
5. MINIMUM REINFORCING 'A' & 'B' AROUND ANY AND ALL OPENINGS SHALL BE #4.

RECORD DRAWING 4-90 D.O.

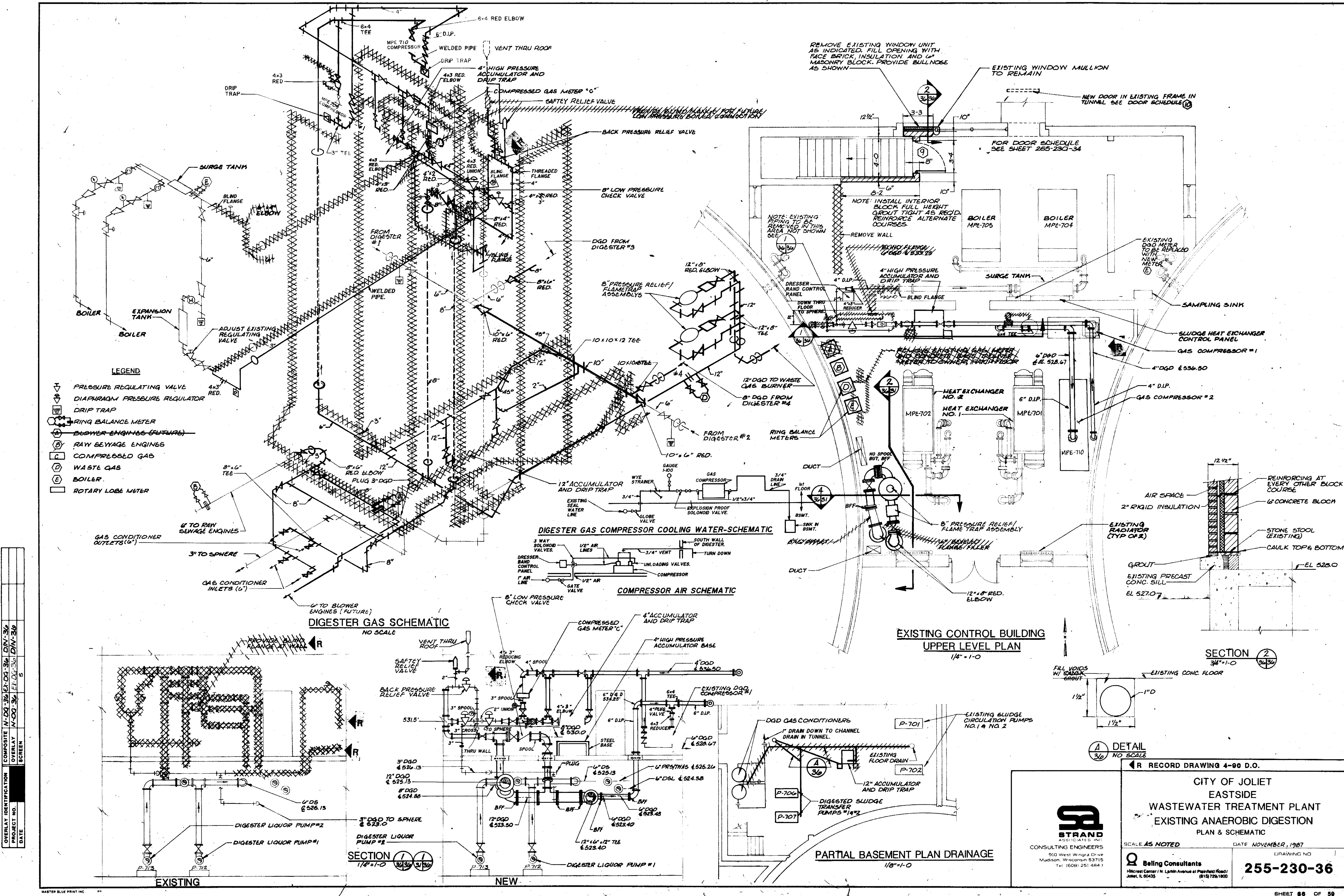
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
MISCELLANEOUS DETAILS

STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

Beling Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435

SCALE: AS NOTED
DATE: NOVEMBER, 1987
DRAWING NO. 255-230-35

SHEET 35 OF 59



LEGEND

- PRESSURE REGULATING VALVE
- DIAPHRAGM PRESSURE REGULATOR
- DRIP TRAP
- RING BALANCE METER
- BLOWER ENGINES (FUTURE)
- RAW BIOWASTE ENGINES
- COMPRESSED GAS
- WASTE GAS
- BOILER
- ROTARY LOBE METER

DIGESTER GAS SCHEMATIC
NO SCALE

DIGESTER GAS COMPRESSOR COOLING WATER SCHEMATIC

COMPRESSOR AIR SCHEMATIC

**EXISTING CONTROL BUILDING
UPPER LEVEL PLAN**
1/4" = 1'-0"

SECTION 2
3/4" = 1'-0"

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

PARTIAL BASEMENT PLAN DRAINAGE
1/8" = 1'-0"

DETAIL A
NO SCALE

COMPOSITE: M-DG-36-EL-DI-36-DIN-36
 OVERLAY: M-00-36-EX-DI-36-DIN-36
 PROJECT NO. 255-230-36
 DATE 11/87

RECORD DRAWING 4-90 D.O.

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
EXISTING ANAEROBIC DIGESTION
PLAN & SCHEMATIC

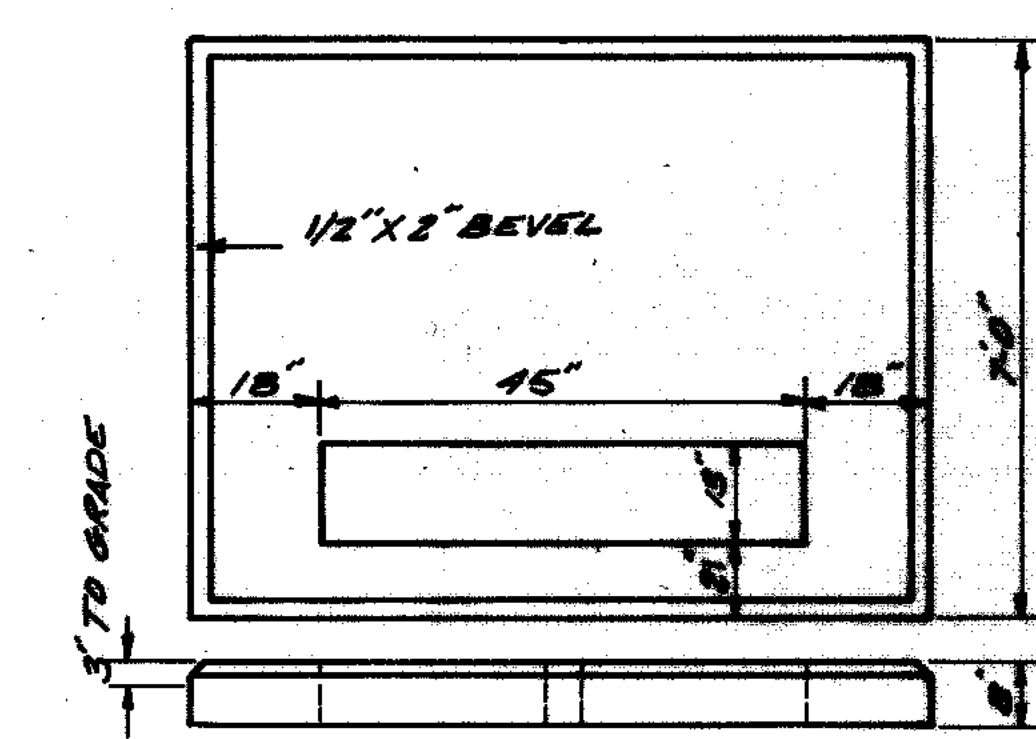


SCALE AS NOTED DATE NOVEMBER, 1987 DRAWING NO.

Belling Consultants
1400 East 1st Street, Joliet, IL 60438

255-230-36

CONCRETE PAD TO BE REINFORCED WITH #4 W1.4 X W1.4 W/W AND #3 BAR AROUND CABLE OPENINGS.



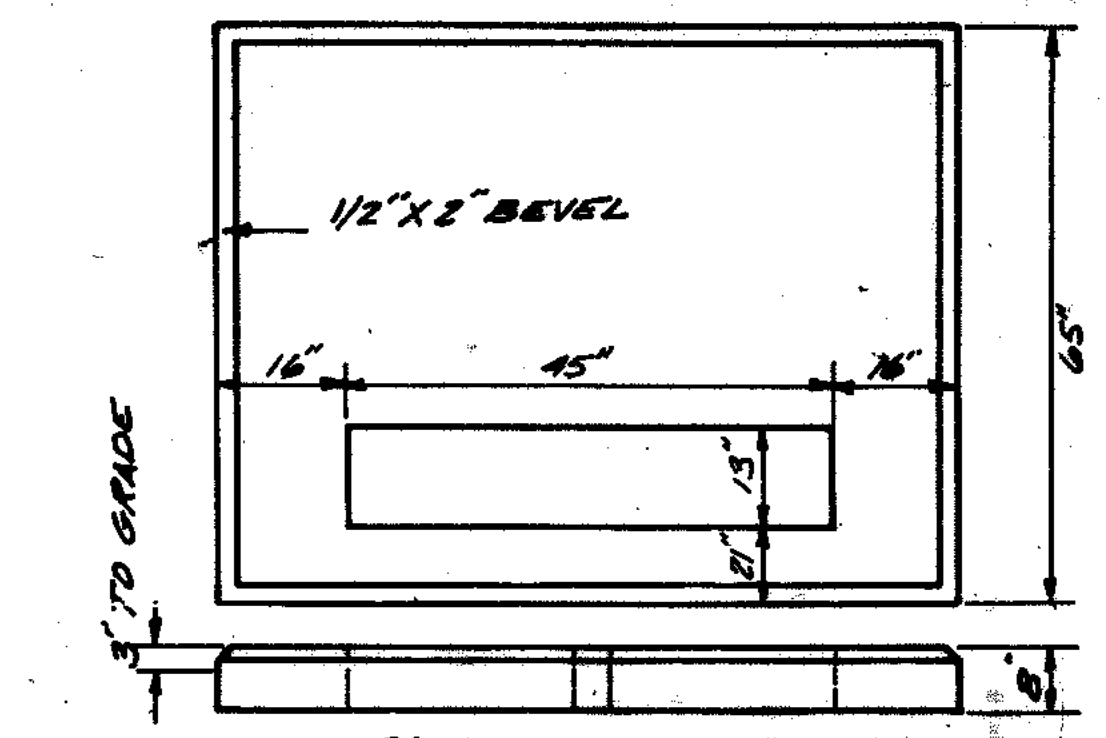
CONTRACTOR TO FOUR PAD PER TRANSFORMER REQUIREMENTS

500 KV TRANSFORMER PAD DETAIL

NO SCALE

NOTE: 300 KVA TRANSFORMER IS EXISTING AND IS TO BE RELOCATED FROM AREA BETWEEN ADMINISTRATION BUILDING AND DIGESTERS TO NEW LOCATION AT SOLIDS PROCESSING BUILDING. EXISTING CIRCUIT BREAKERS IN SECONDARY COMPARTMENT TO REMAIN. REMOVE EXISTING BREAKER ON OUTSIDE OF UNIT. EXISTING FEEDERS FOR ADMINISTRATION BUILDING AND CIRCUIT BREAKER DISTRIBUTION IN ADMINISTRATION BUILDING ARE TO BE REUSED. VERIFY EXISTING PAD SIZE AND WINDOWS OF PAD FOR NEW PAD AT SOLIDS PROCESSING BUILDING.

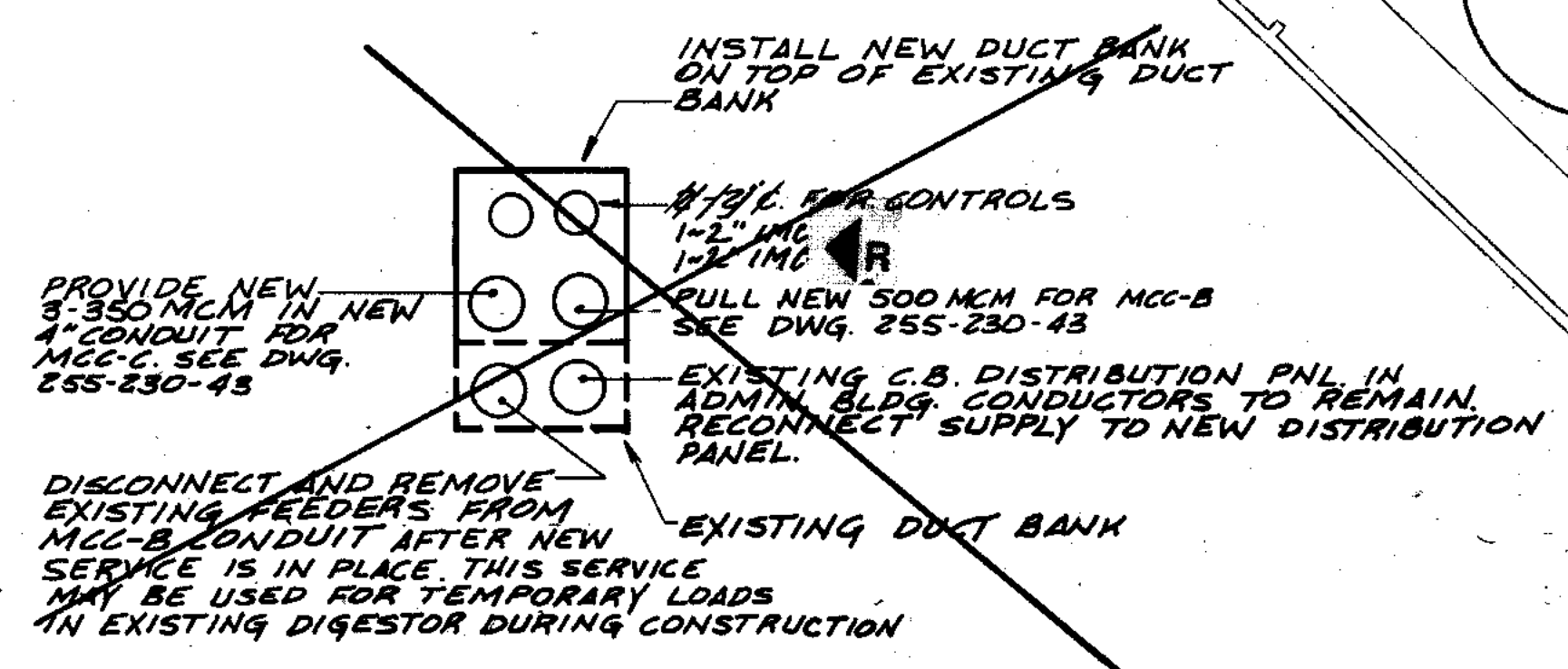
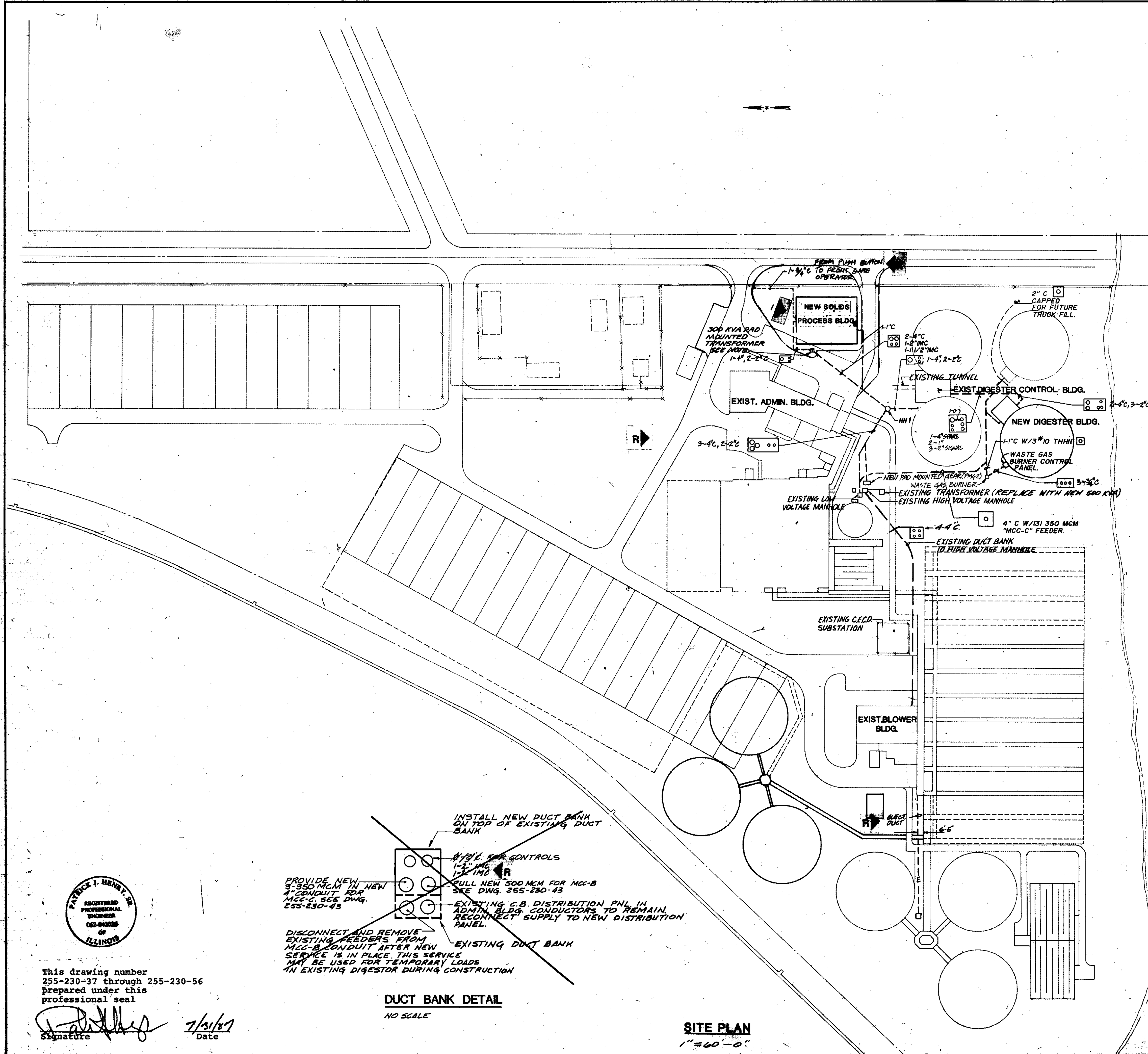
CONCRETE PAD TO BE REINFORCED WITH #4 W1.4 X W1.4 W/W AND #3 BAR AROUND CABLE OPENINGS.



CONTRACTOR TO FOUR PAD PER TRANSFORMER REQUIREMENTS

300 KV TRANSFORMER PAD DETAIL

NO SCALE



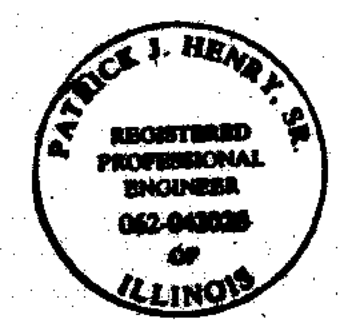
DUCT BANK DETAIL

NO SCALE

SITE PLAN

1"=60'-0"

COMPOSITE	25-37	EX-57	E-37
OVERLAY	25-37	EX-57	F-37
SCREEN			
PROJECT NO.			
DATE			



This drawing number 255-230-37 through 255-230-56 prepared under this professional seal

Signature: *[Handwritten Signature]* Date: 1/31/87

RECORD DRAWING 4-88 D.O.

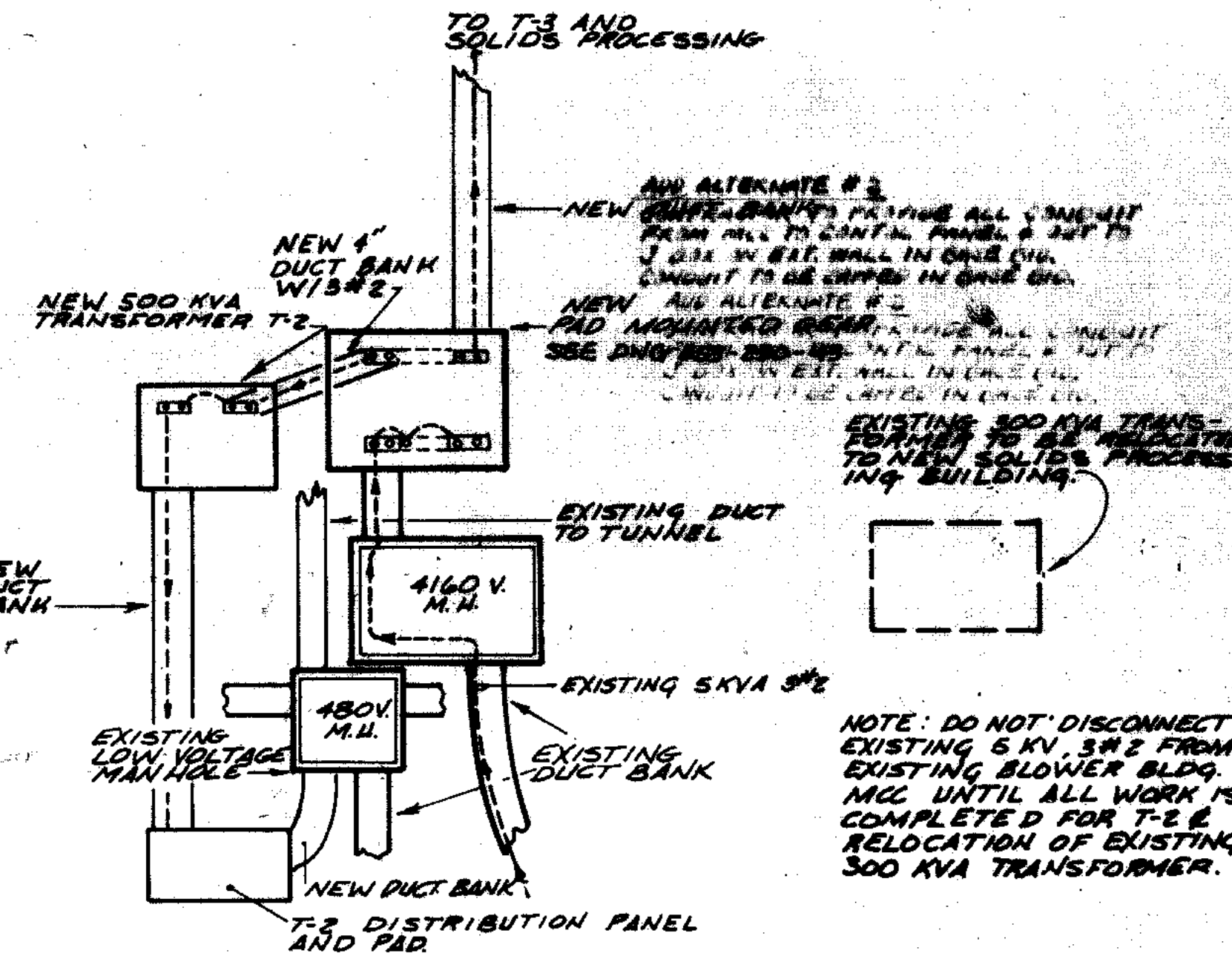
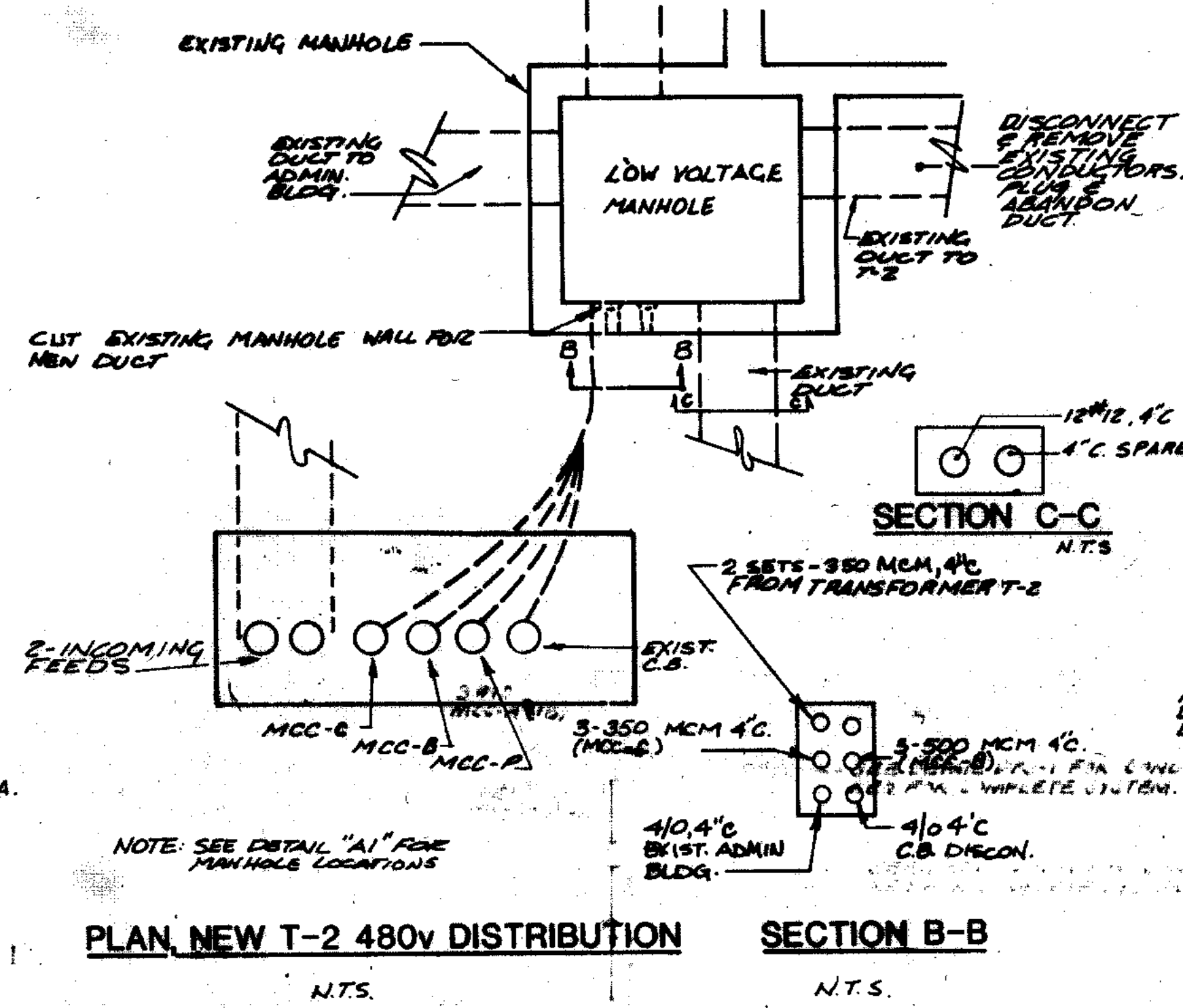
REVISED 6-23-88 LOCATION OF SOLIDS PROCESS BLDG. / WASTE STREAM

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ELECTRICAL SITE PLAN

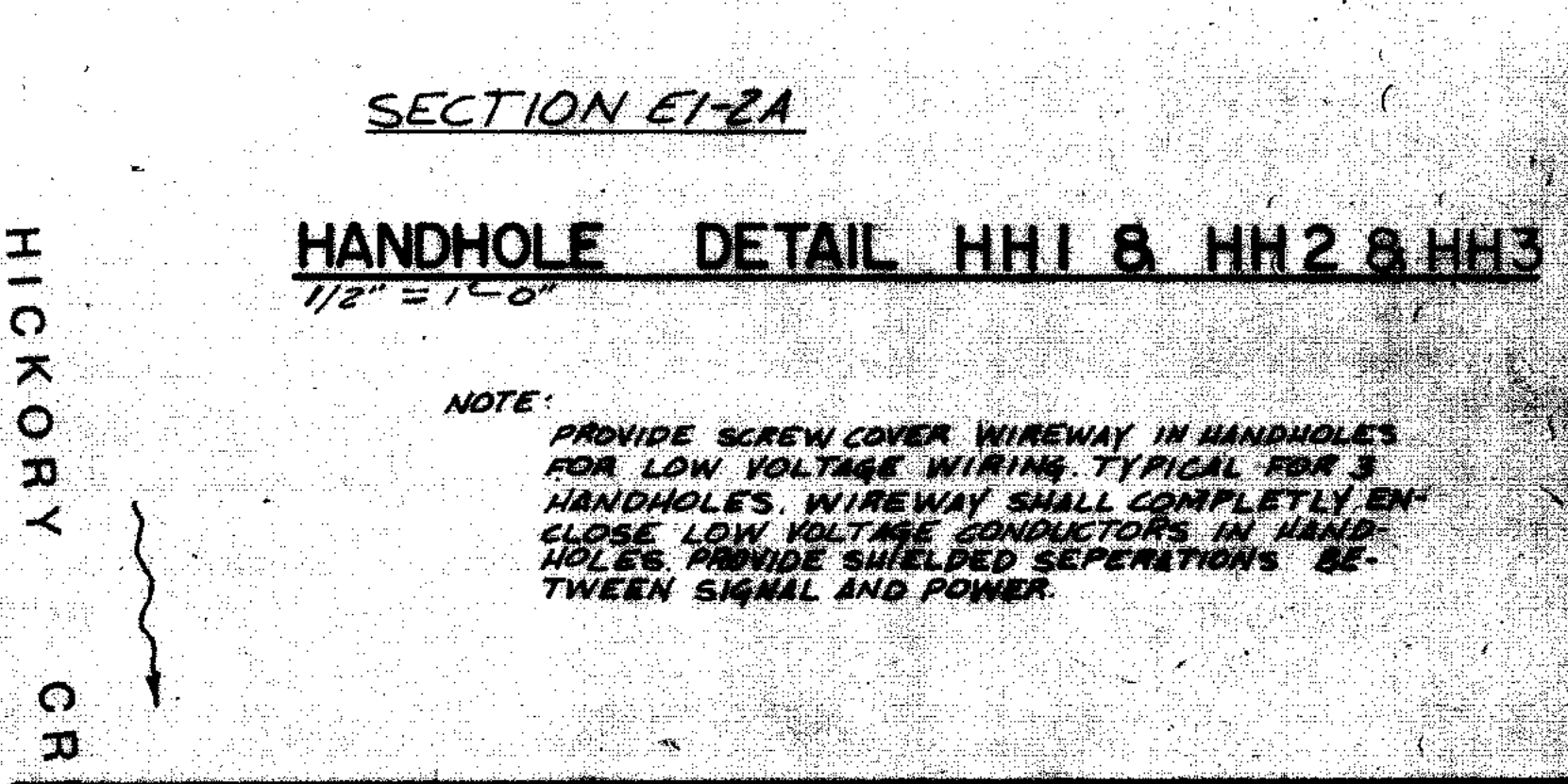
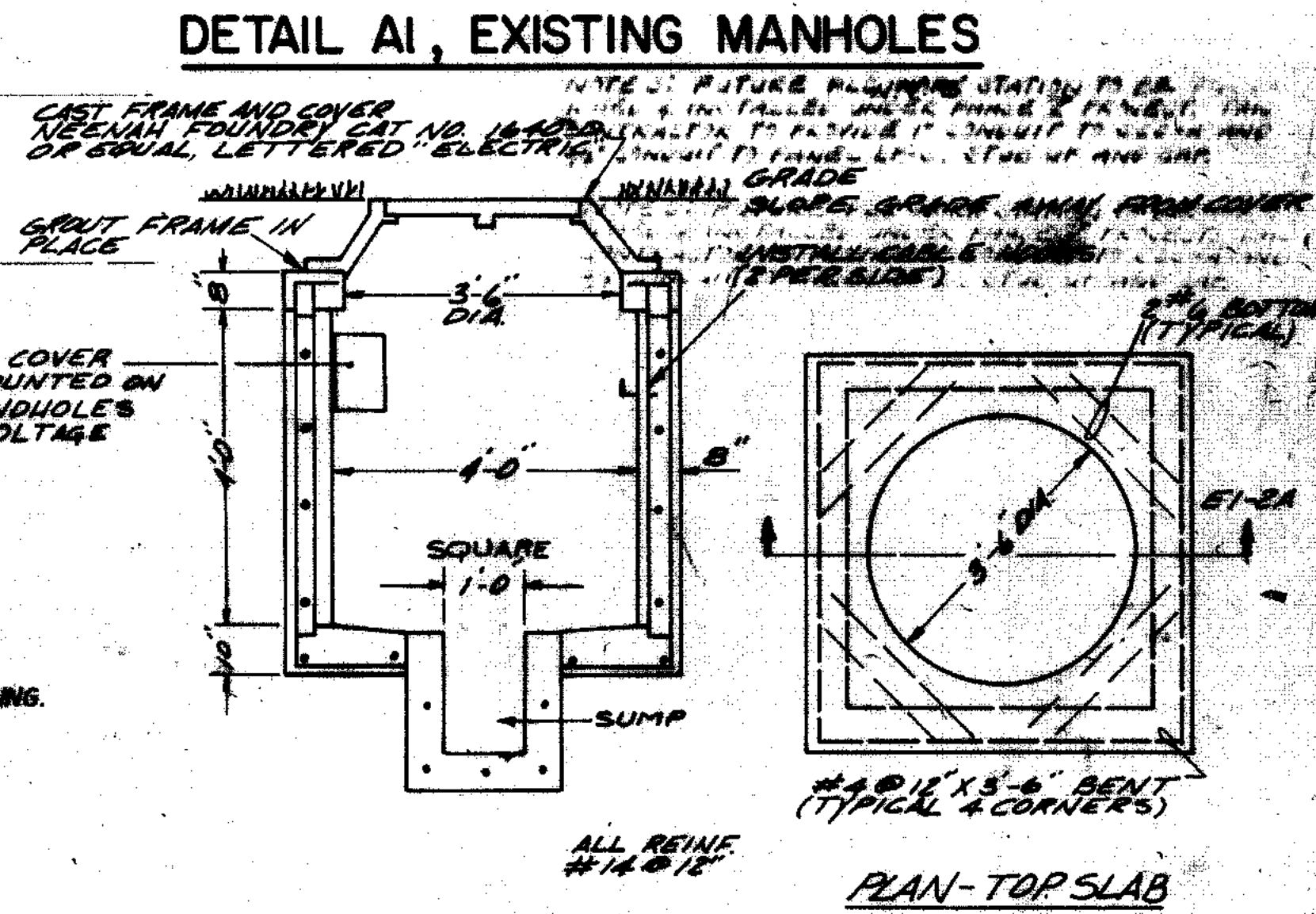
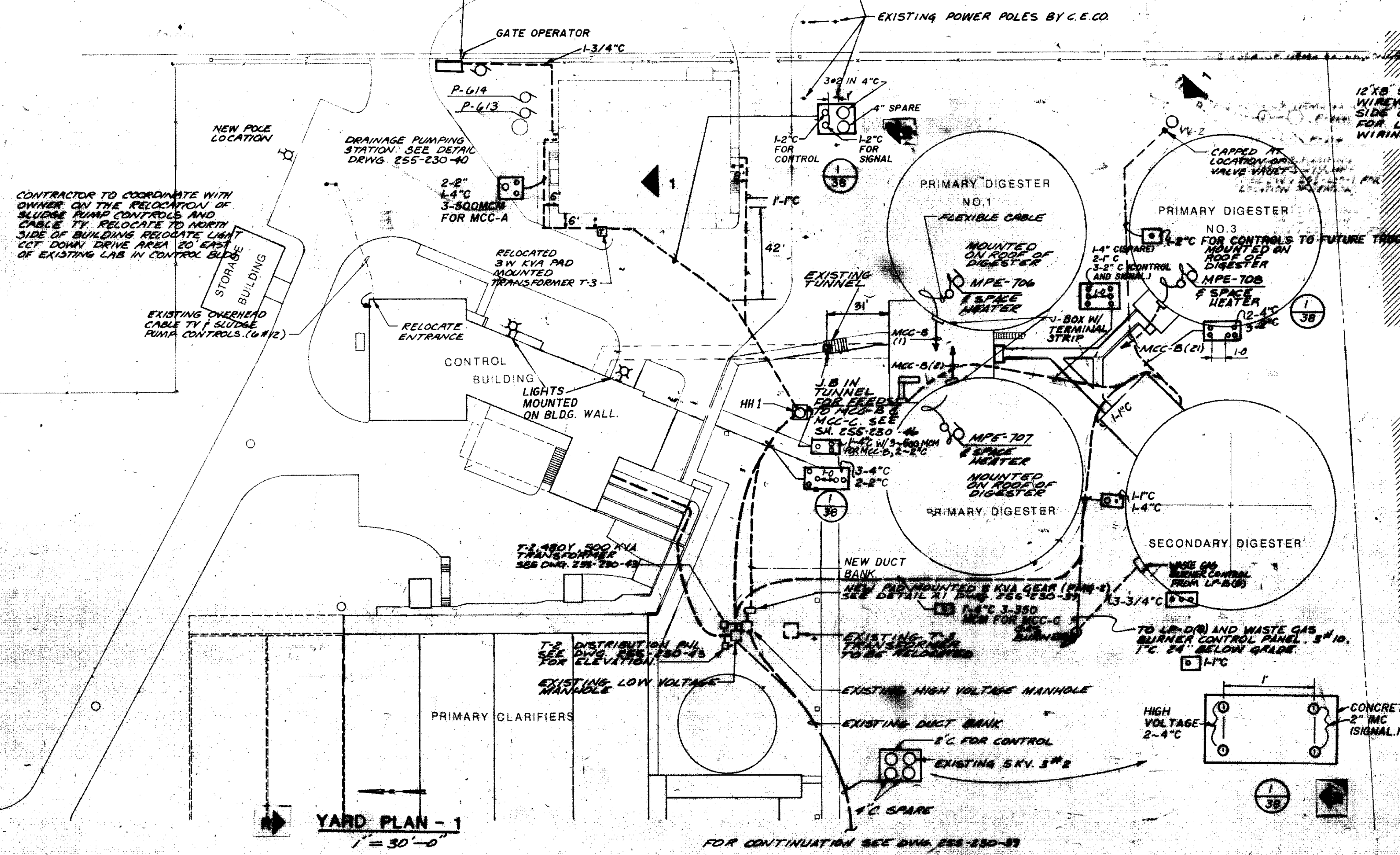
SCALE: AS NOTED DATE: NOVEMBER, 1987 DRAWING NO: 255-230-37

Beling Consultants
1400 West Center / N. Larkin Avenue at Pleasantland Road / Joliet, IL 60435



PROVIDE A 480 VOLT, 3 PHASE POWER FEED, 20A TO GATE OPERATOR FROM MCC-A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CONTROL WIRING. INSTALL OPEN GLOBE CONTROL STATION ON INSIDE OF GATE. PROVIDE KEY CONTROL ON EXTERIOR OF GATE.

MCKINLEY STREET



OVERLAY	DATE
E-36	E-36
E-35	E-35
E-34	E-34
E-33	E-33
E-32	E-32
E-31	E-31
E-30	E-30
E-29	E-29
E-28	E-28
E-27	E-27
E-26	E-26
E-25	E-25
E-24	E-24
E-23	E-23
E-22	E-22
E-21	E-21
E-20	E-20
E-19	E-19
E-18	E-18
E-17	E-17
E-16	E-16
E-15	E-15
E-14	E-14
E-13	E-13
E-12	E-12
E-11	E-11
E-10	E-10
E-9	E-9
E-8	E-8
E-7	E-7
E-6	E-6
E-5	E-5
E-4	E-4
E-3	E-3
E-2	E-2
E-1	E-1

1 REVISED 5-23-88 LOCATION OF SOLIDS PROCESS BLDG. & STREET.

CITY OF JOLET
EASTSIDE
WASTEWATER TREATMENT PLANT
YARD ELECTRICAL PLAN - 1

SCALE AS NOTED DATE NOVEMBER, 1987

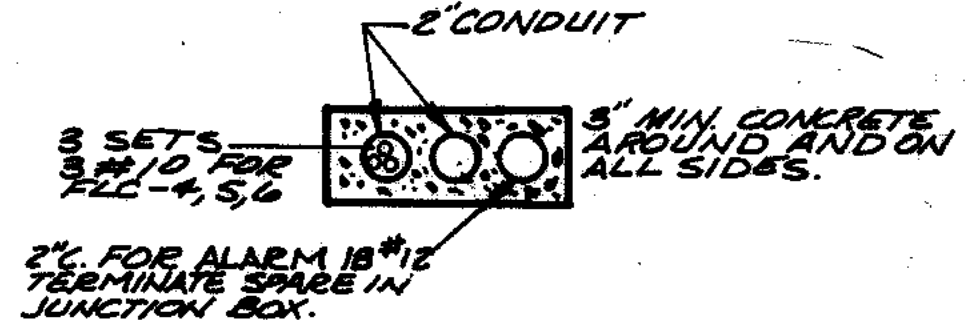
STRAND ASSOCIATES INC. CONSULTING ENGINEERS
910 West Wing & Drive
Madison, Wisconsin 53715
Tel: (608) 251-4643

Being Consultants
1000 North Lincoln Avenue
Madison, WI 53715
Tel: (608) 251-4643

DRAWING NO. 225-230-01

FOR CONTINUATION SEE DWG. 255-230-33

EXISTING DUCT BANK TO HIGH VOLTAGE MANHOLE



DETAIL AA
N.T.S.

EXISTING SUBSTATION

EXISTING 4160V FEEDER AND DUCT BANK TO REMAIN

SEE DWG. 255-230-43

STUB UP 2-1/4" INTO SCC-D FOR FUTURE PARALLEL FLUME PUMP FEEDERS AT RIS WELLS. SEE SH. 255-230-44 RIS WELL PARTIAL PLAN.

EXISTING BLOWER BLDG.

NEW FINAL CLARIFIER 6

NEW FINAL CLARIFIER 5

NEW FINAL CLARIFIER 4

EXISTING CLARIFIER

EXISTING CLARIFIER

EXISTING CLARIFIER

SEE DWG. NO. 255-230-47 FOR LARGE SCALE PLAN

MCC-D(8,9,10) 24" BELOW GRADE

MCC-D(6,7) 14" C, 24" B.G.

RIS WELL

2-3/4" CONCRETE ENCASED

2-3/4" CONCRETE ENCASED

1" C CONCRETE ENCASED

1" C CONCRETE ENCASED

2-1/4" CONCRETE ENCASED FOR LIGHTS

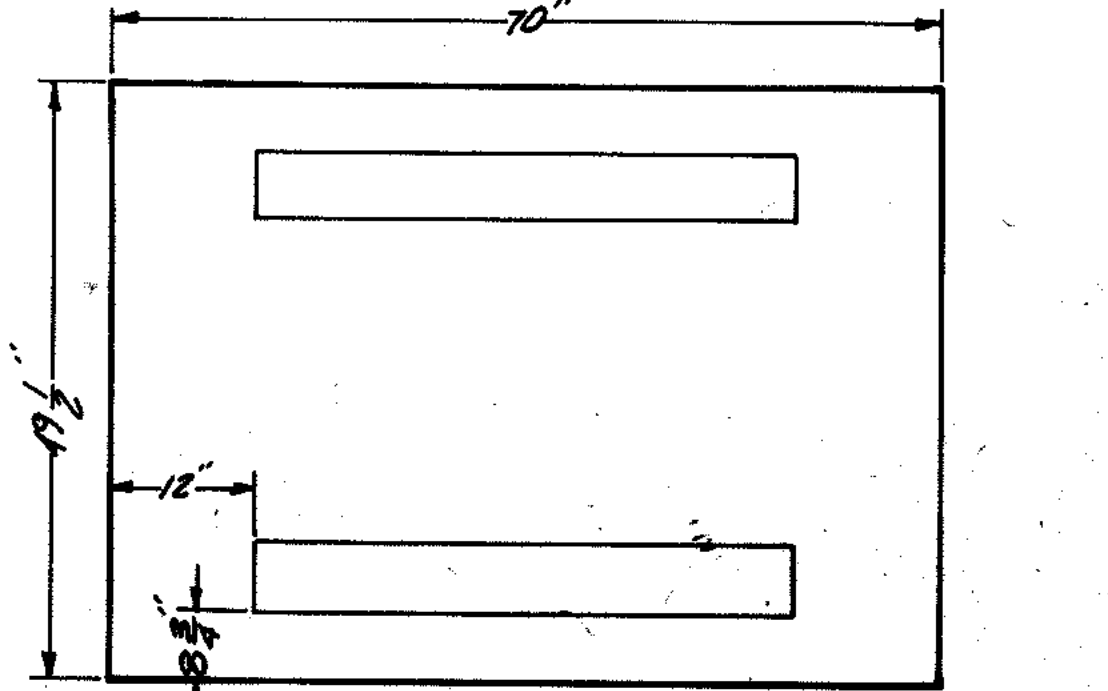
1" C IN CHANNEL WALL

EXISTING LIGHT FIXTURE

1/4" C FOR POWER
1/4" C SPARE
2-1/4" C FOR CONTROL AND SIGNAL TO SCC-D

STACKED
3 1/2" PVC

MOV-301-306



PMG-2 SWITCHGEAR PAD DETAIL
A1 & SECTION
3/4" = 1'-0"

OVERLAY IDENTIFICATION	COMPOSITE	79-89	87-2	8-83
	OVERLAY	79-89	87-2	8-83
	SCREEN			
PROJECT NO.				
DATE				

YARD PLAN - 2
1" = 30'-0"

R RECORD DRAWING 4-80 D.O.

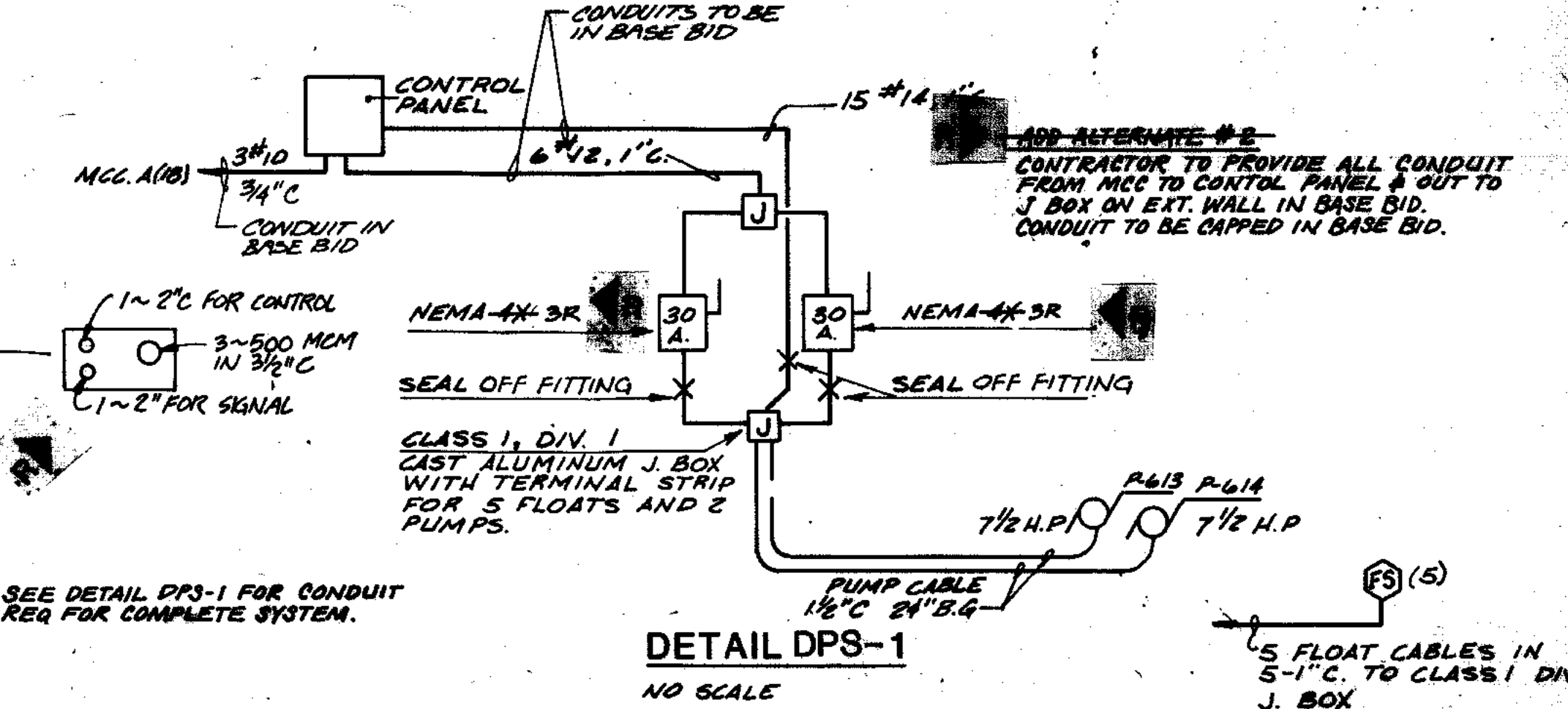
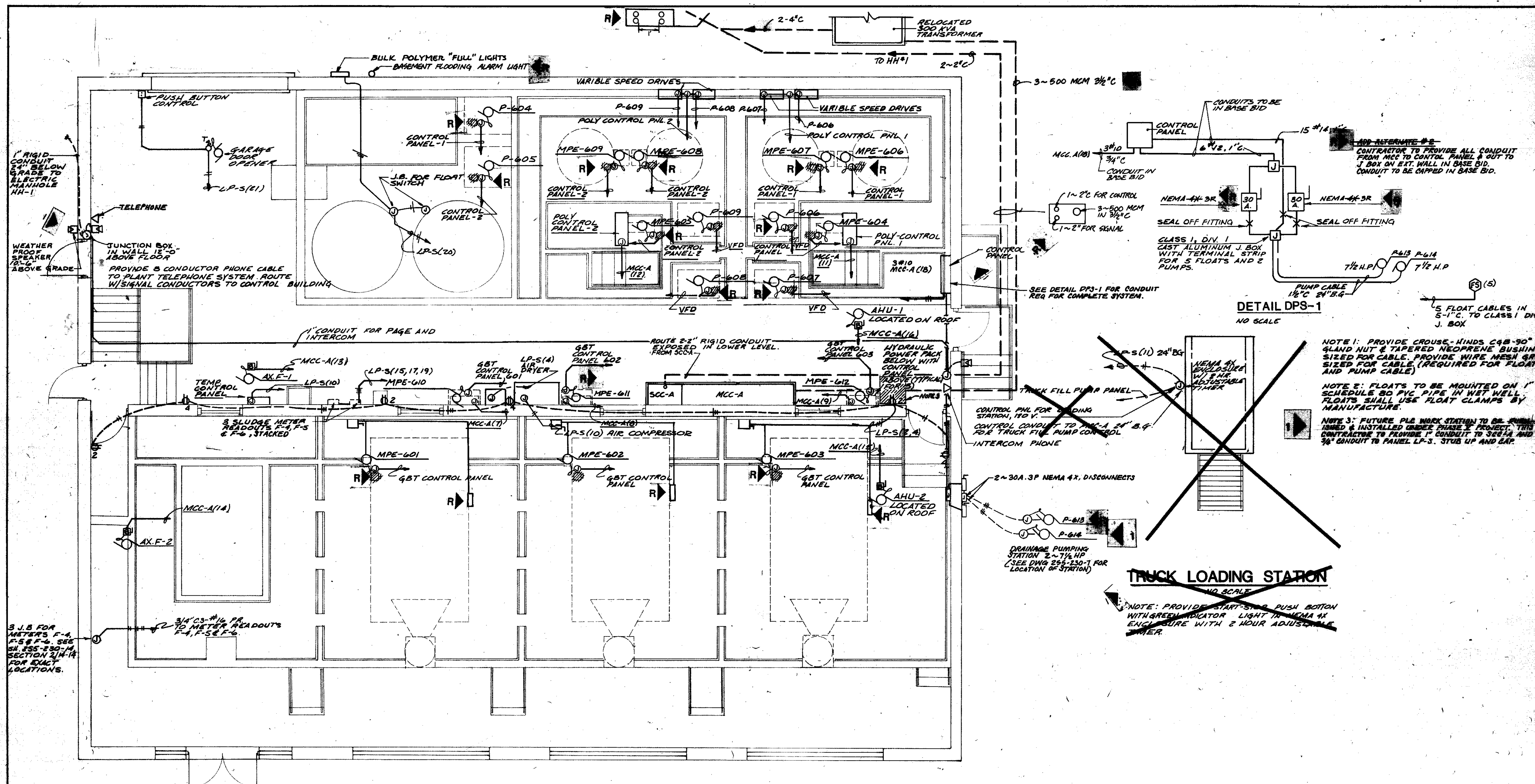
STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
YARD ELECTRICAL PLAN - 2

SCALE AS NOTED DATE: NOVEMBER, 1987

Being Consultants
1111 West Center / N. Lehigh Ave. at Plainfield Road / Joliet, IL 60435 (815) 729-1000

DRAWING NO. **255-230-64**



NOTE 1: PROVIDE CROUSE-HINDS C48-90° W/ GLAND NUT & TAPERED NEOPRENE BUSHING SIZED FOR CABLE. PROVIDE WIRE MESH GRIP SIZED FOR CABLE (REQUIRED FOR FLOATS AND PUMP CABLE)

NOTE 2: FLOATS TO BE MOUNTED ON 1\"/>

NOTE 3: FUTURE PLE WORK STATION TO BE PROVIDED & INSTALLED UNDER PHASE 2 PROJECT. THIS CONTRACTOR TO PROVIDE 1\"/>

TRUCK LOADING STATION
NO SCALE

NOTE: PROVIDE START-STOP PUSH BUTTON WITH GREEN INDICATOR LIGHT IN NEMA 4X ENCLOSURE WITH 2 HOUR ADJUSTABLE TIMER.

SOLIDS PROCESSING BUILDING - UPPER LEVEL
1/4" = 1'-0"

NOTE: ALL ELECTRICAL WORK IN THIS BUILDING TO BE NEMA 4X.

NOTE: ALL RECEPTACLES TO BE GROUND FAULT INDICATING (GFI) MOUNTED 54" A.F.F.

COMPOSITE	78-40	ASB/A	8-80
OVERLAY	78-40	ASB/A	8-80
DATE			

RECORD DRAWING - 255-230-40

1 REVISED 8-28-88

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
810 West Wingra Drive
Madison, Wisconsin 53718
Tel. (608) 251-4943

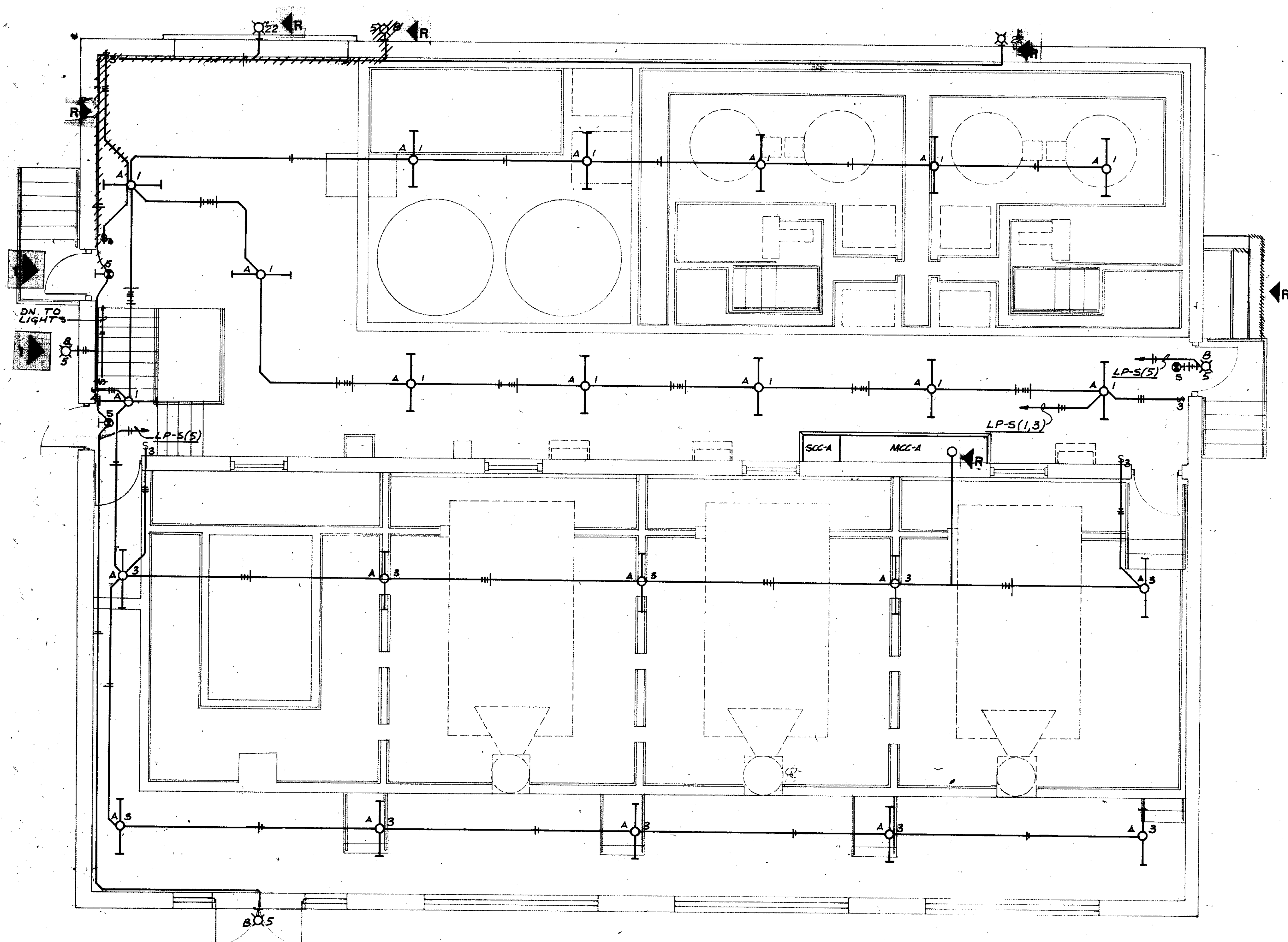
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ELECTRICAL POWER PLAN
SOLIDS PROCESSING BLDG. - UPPER LEVEL

SCALE AS NOTED DATE NOVEMBER 1987

Belling Consultants
1100 West Center / N. Larkin Avenue at Parkland Road / Joliet, IL 60435 (815) 728-1800

DRAWING NO. **255-230-40**

SHEET 40 OF 40



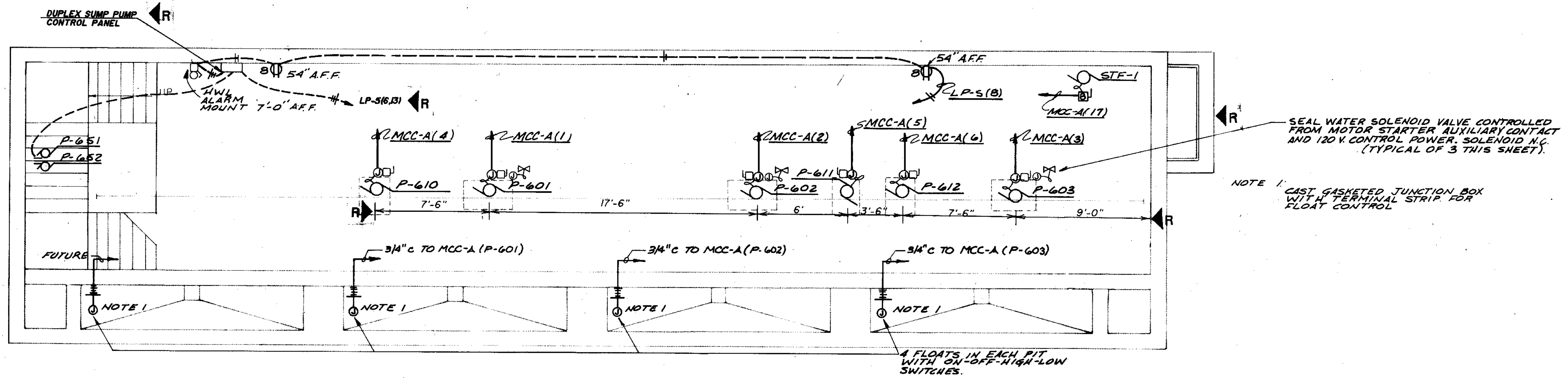
SOLIDS PROCESSING BUILDING - UPPER LEVEL
 1/4" = 1'-0"

NOTES: 1. COORDINATE ALL LIGHT FIXTURES WITH MECHANICAL WORK.

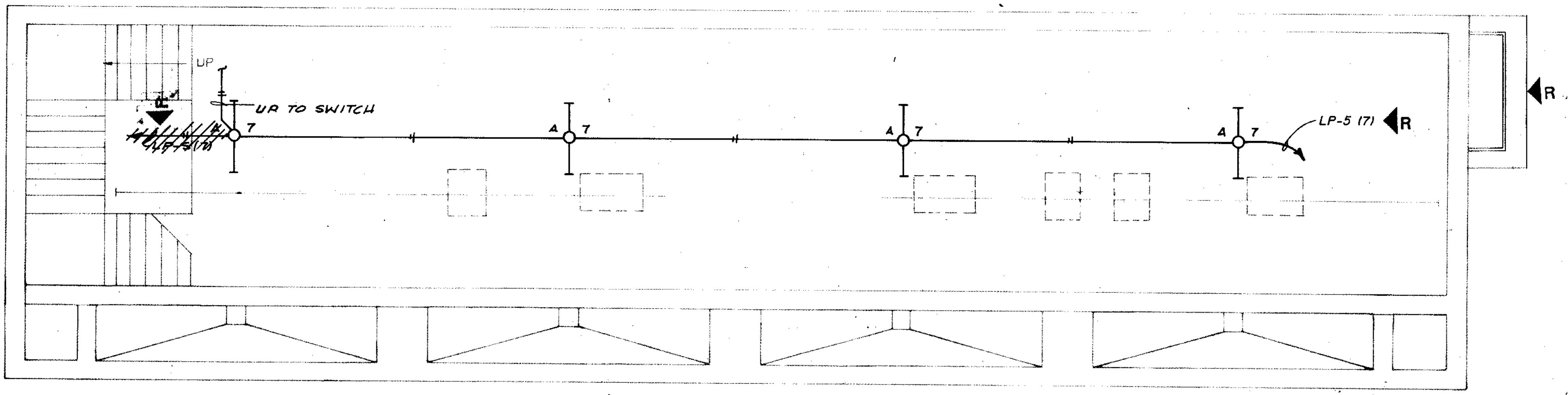
2. ALL ELECTRICAL TO BE NEMA 4X

COMPOSITE	78-41	11-87-74	E-4
OVERLAY	78-41	11-87-74	E-4
SCREEN			

← R RECORD DRAWING 4-88 D.O.	
← 1 REVISED 5-23-88	
<p>STRAND ASSOCIATES, INC. CONSULTING ENGINEERS 910 West Wingra Drive Madison, Wisconsin 53715 Tel. (608) 251-4843</p>	<p>CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT ELECTRICAL LIGHTING PLAN - SOLIDS PROCESSING BLDG. - UPPER LEVEL</p>
	<p>SCALE 1/4" = 1'-0" DATE NOVEMBER, 1987</p>
<p>Belting Consultants Hi-Crest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1900</p>	<p>DRAWING NO 255-230-41</p>



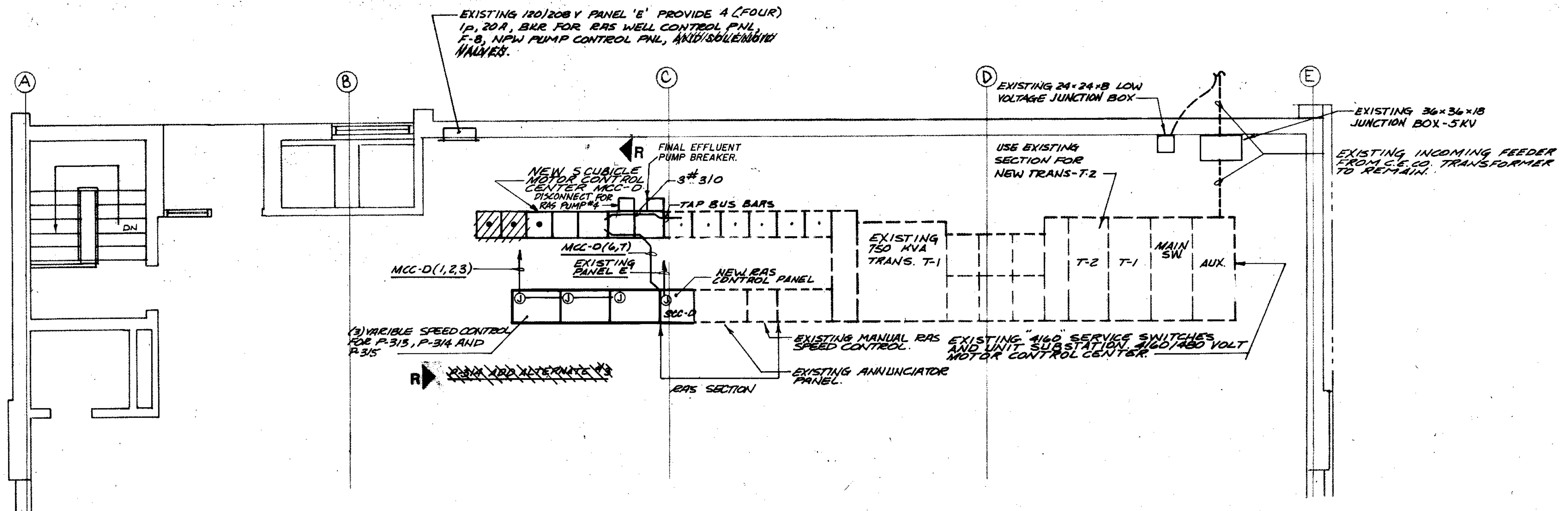
► SOLIDS PROCESS BUILDING - LOWER LEVEL
1/4" = 1'-0"



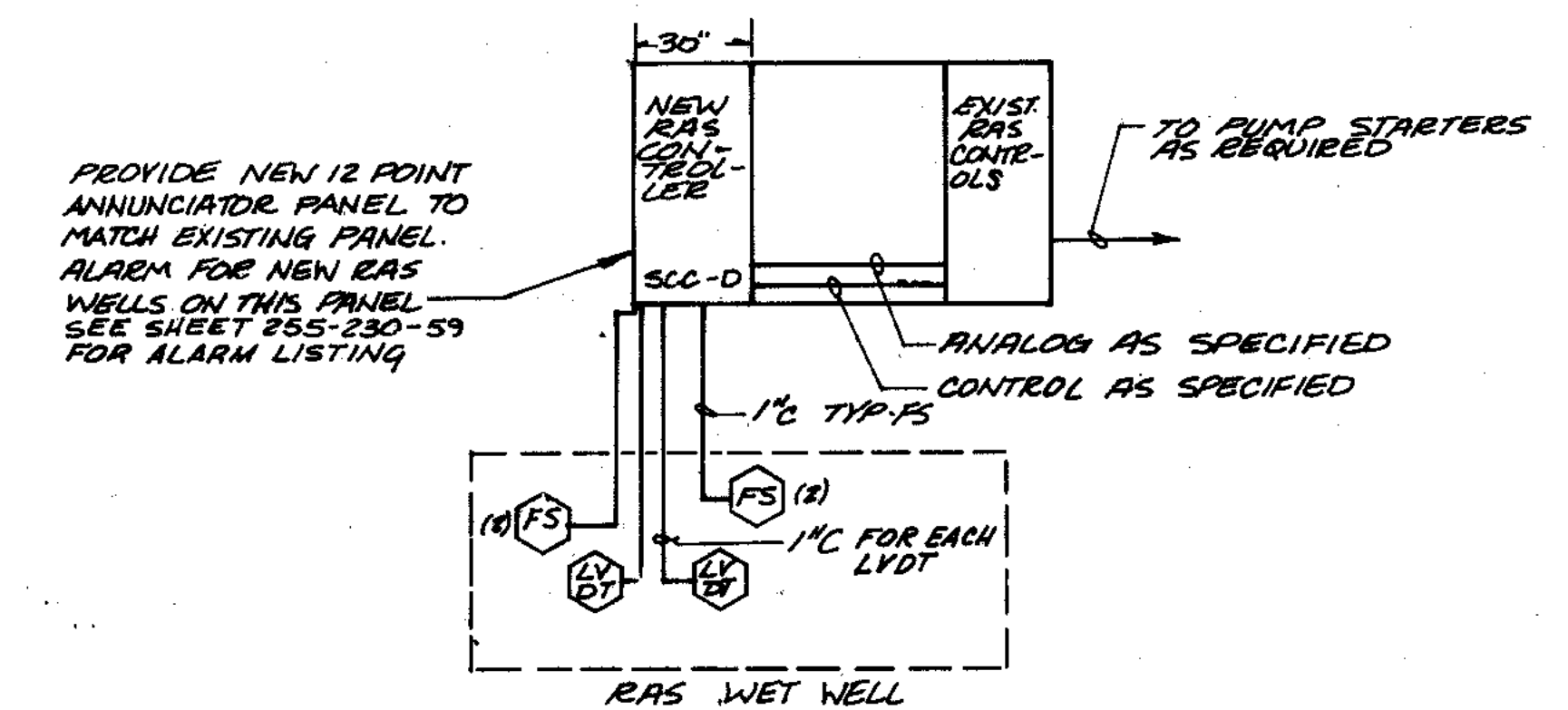
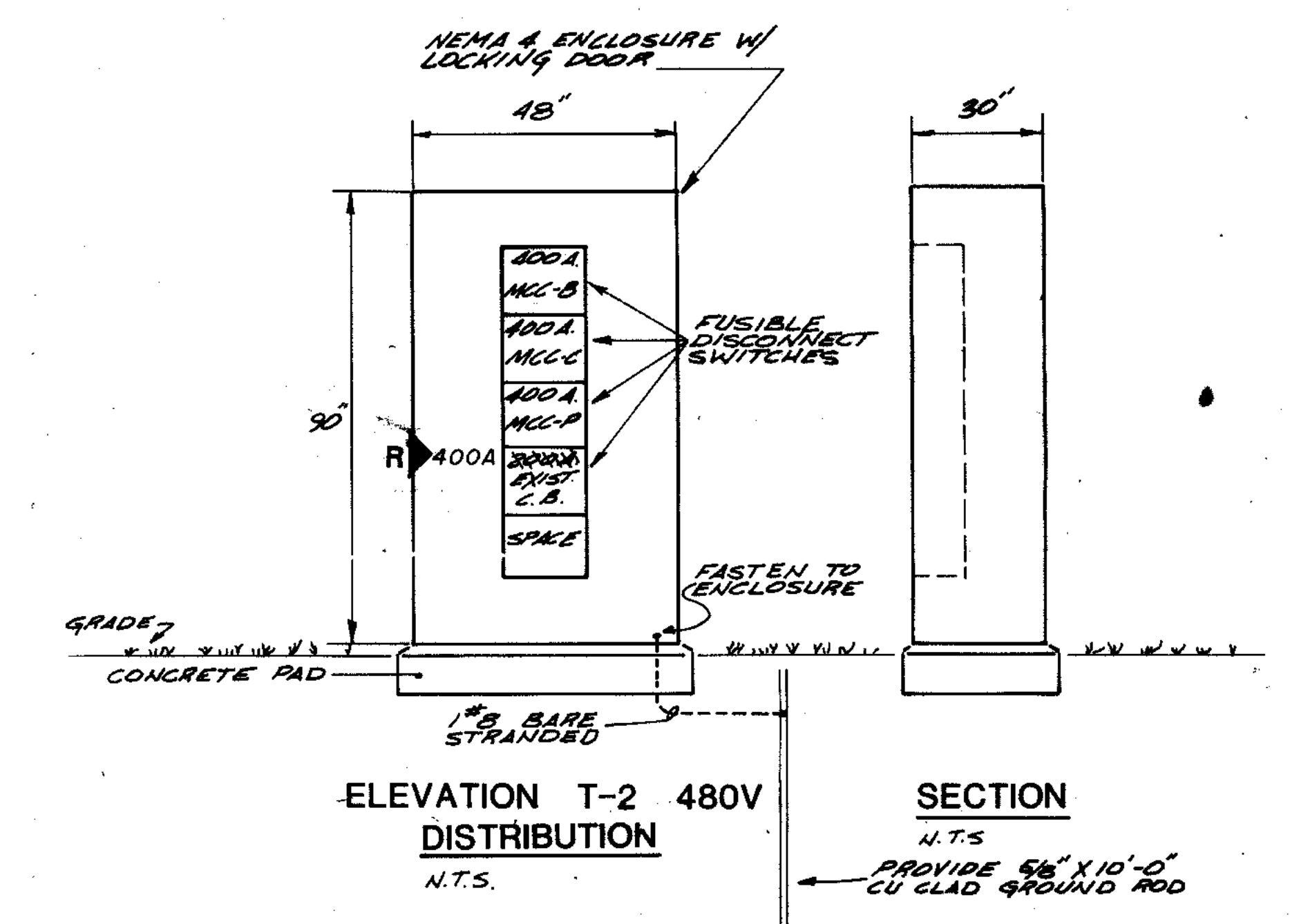
► SOLIDS PROCESS BUILDING - LOWER LEVEL
1/4" = 1'-0"

COMPOSITE	7/8-82	11-57-16	E-42
OVERLAY	7/8-82	11-57-16	E-42
SCREEN			
PROJECT NO.			
DATE			

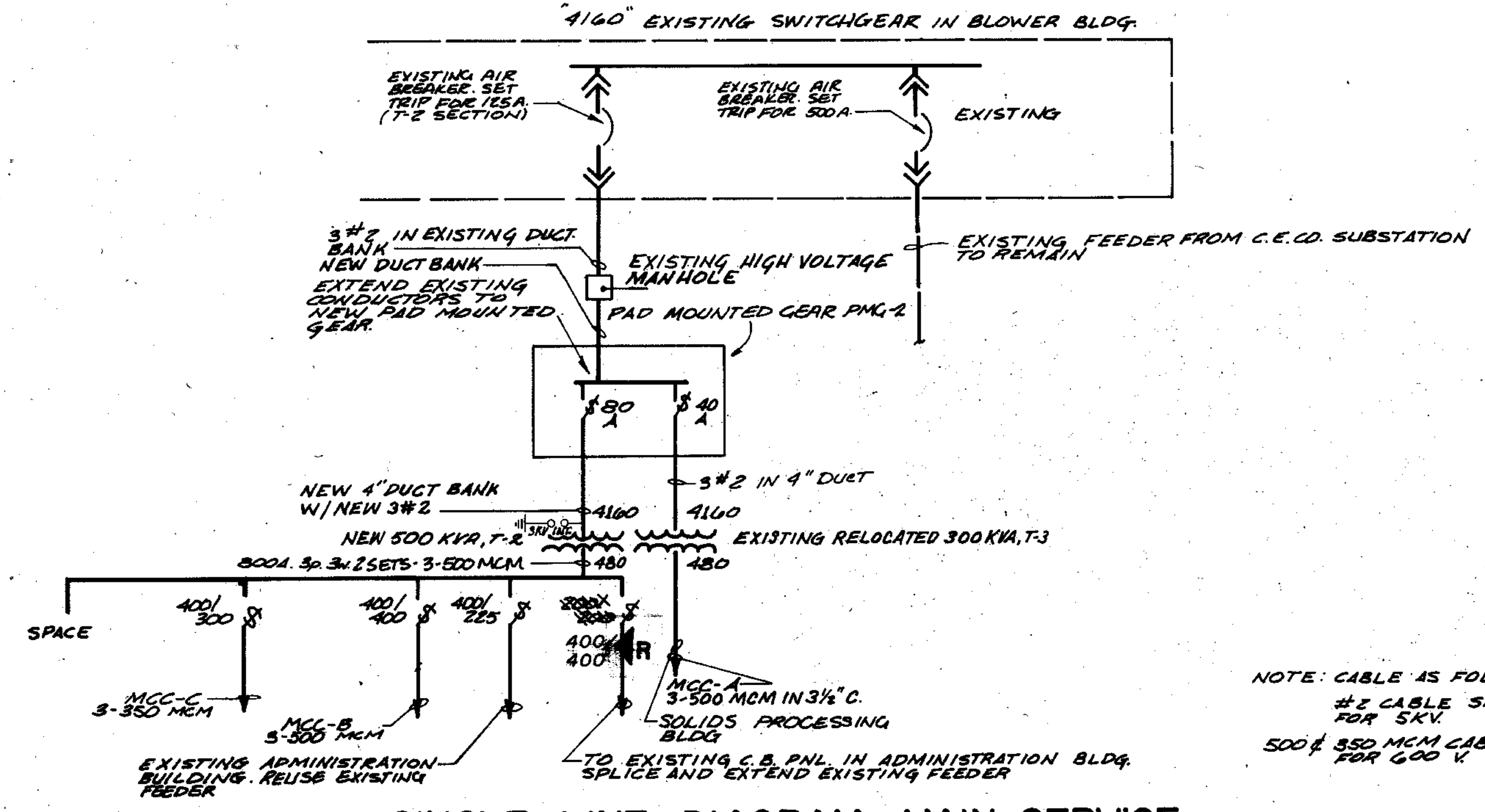
<p>◀ R RECORD DRAWING 4-22 D.C.</p> <p>◀ 1 REVISED 5-23-80. REVISIONS TRUCK FILL METER</p>	
<p>CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT ELECTRICAL POWER & LIGHTING SOLIDS PROCESS BLDG. - LOWER LEVEL</p>	
<p>STRAND ASSOCIATES, INC. CONSULTING ENGINEERS 910 West Wingra Drive Madison, Wisconsin 53715 Tel: (608) 251-4843</p>	<p>SCALE 1/4" = 1'-0" DATE NOVEMBER 1987</p>
<p>Belling Consultants Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1800</p>	<p>DRAWING NO. 255-230-42</p>



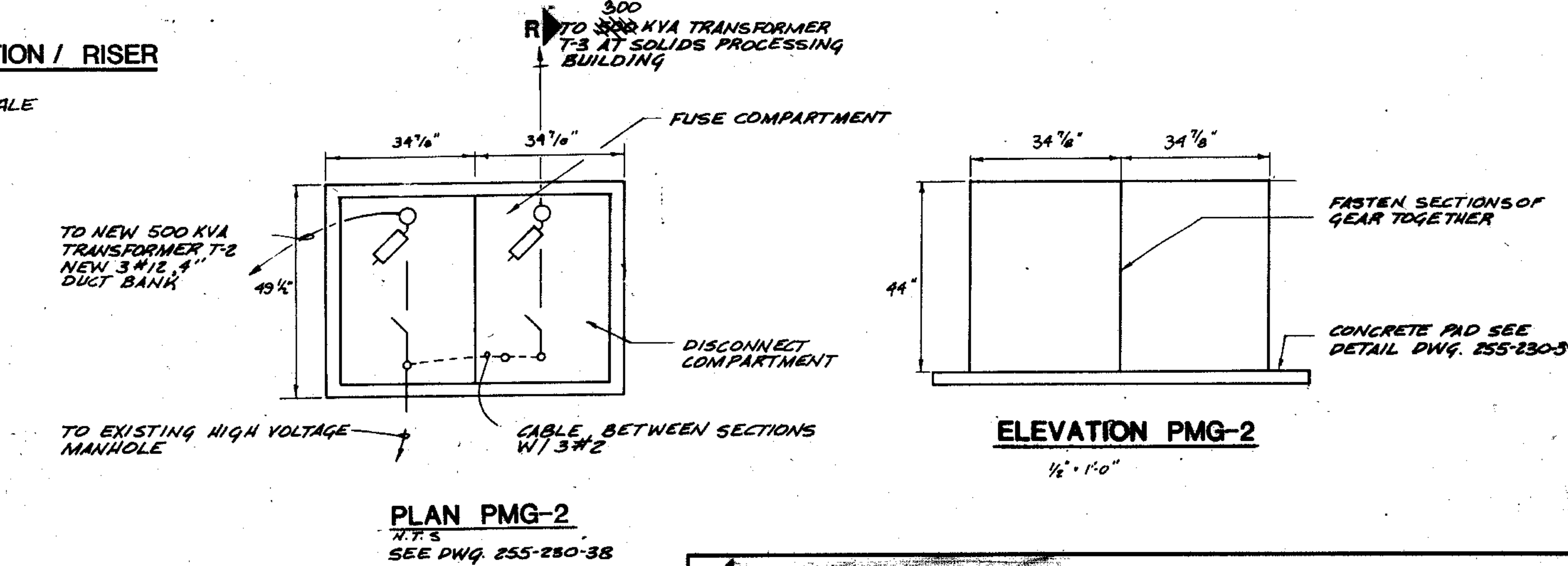
BLOWER BUILDING PARTIAL PLAN
1/4" = 1'-0"



RAS WELL SECTION / RISER
NOT TO SCALE



SINGLE LINE DIAGRAM MAIN SERVICE
REVISED
NO SCALE



NOTE: CABLE AS FOLLOWS.
#2 CABLE SHALL BE RATED FOR 5KV.
500 & 350 MCM CABLE SHALL BE RATED FOR 600V.

COMPOSITE	25-43	25	F-43
OVERLAY	25-43	25	F-43
PROJECT NO.			
DATE			

RECORD DRAWING 4-99-20

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
810 West Wright Drive
Madison, Wisconsin 53715
Tel. (608) 251-4943

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ELECTRICAL
BLOWER BUILDING

SCALE: AS NOTED

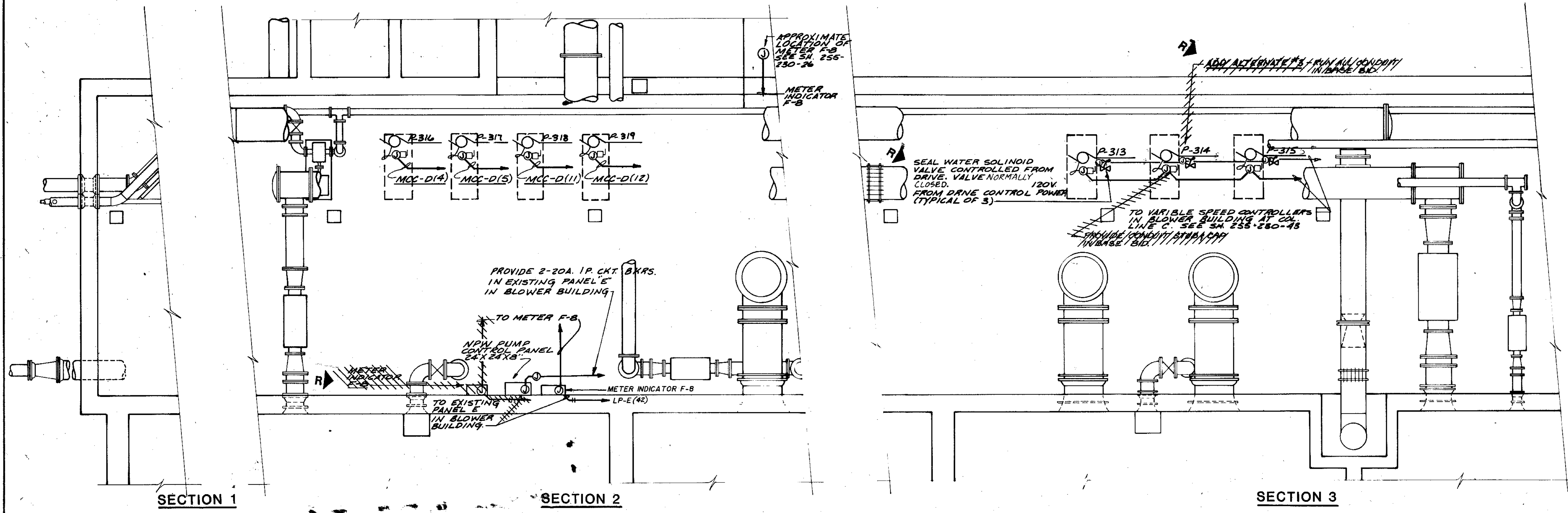
DATE: NOVEMBER, 1987

DRAWING NO.
255-230-43

Belting Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1800

NOVEMBER, 1987

SHEET 43 OF 60



SECTION 1

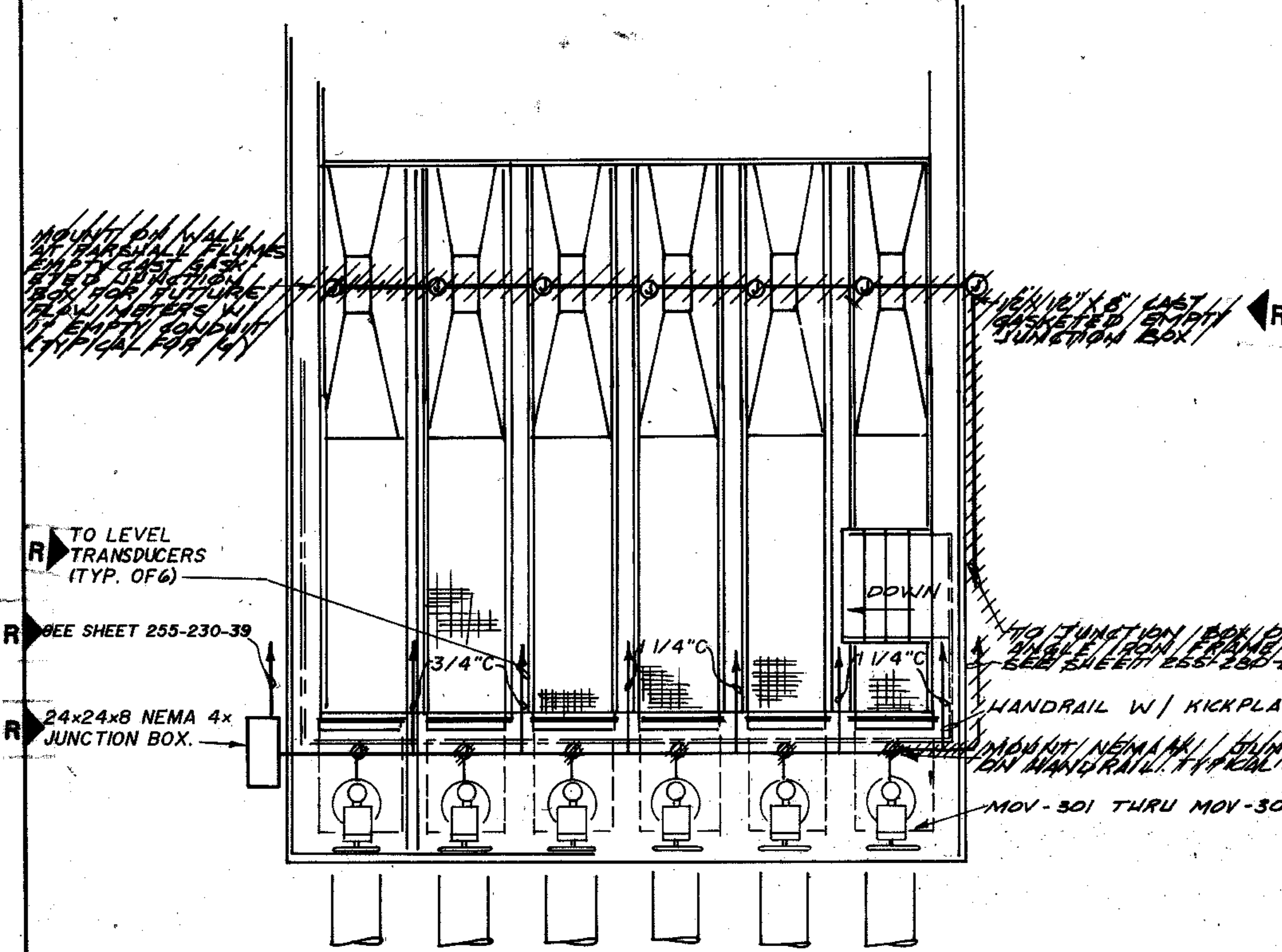
SECTION 2

SECTION 3

EXISTING AERATION GALLERY

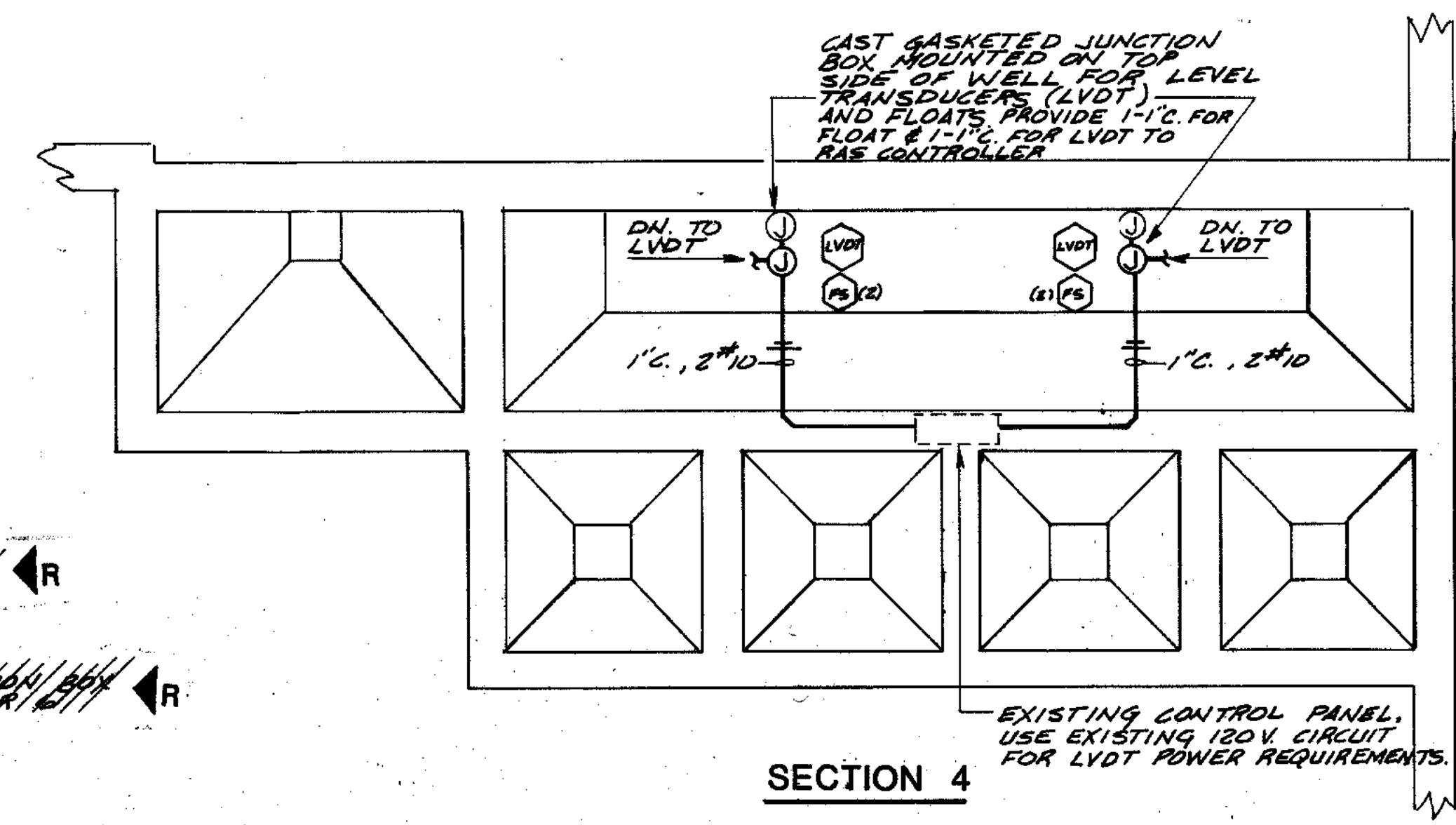
1/4" = 1'-0"

NOTE: ALL DISCONNECT SHALL BE NEMA 4X



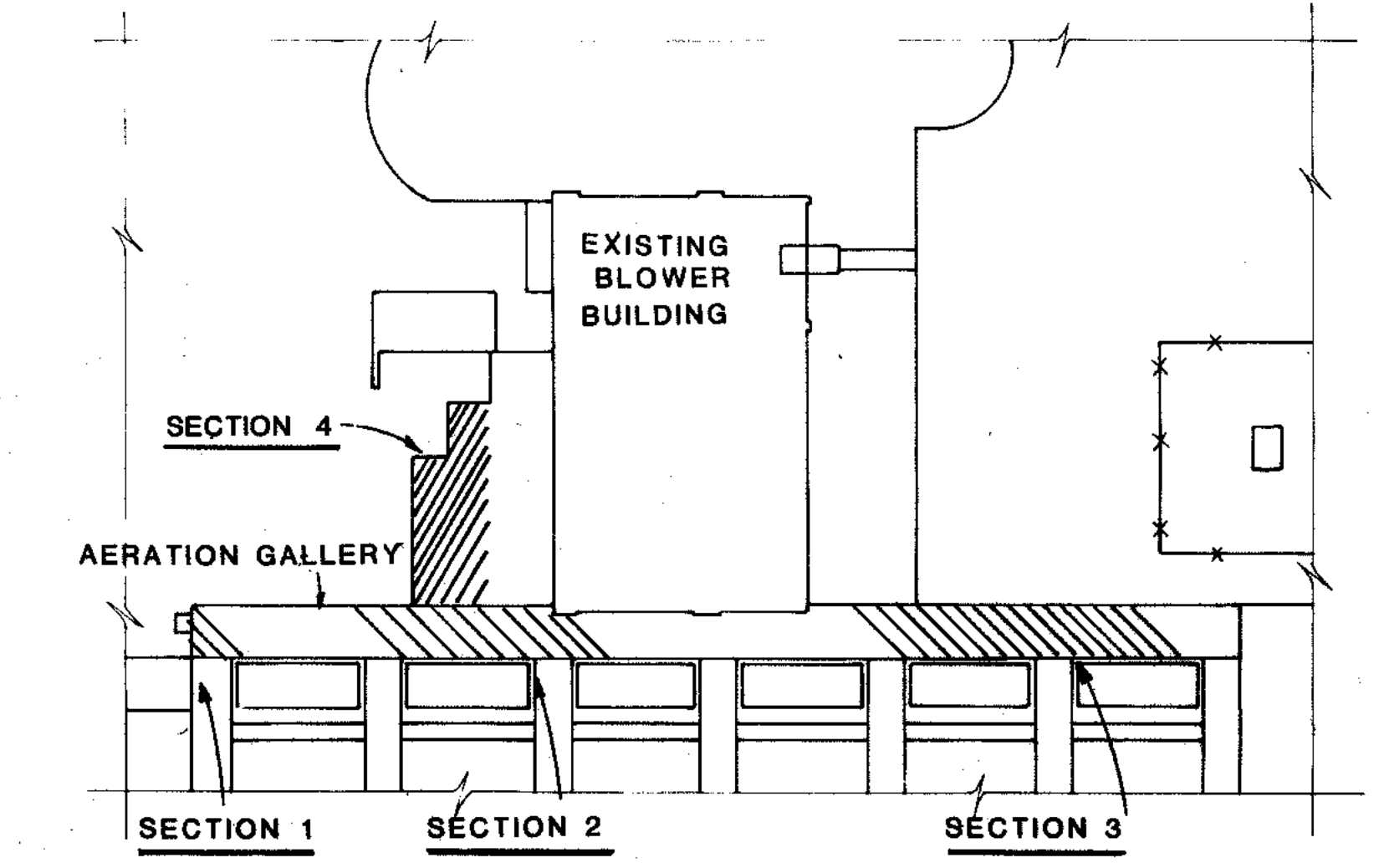
PARTIAL PLAN R.A.S. WELL

1/4" = 1'-0"



LOWER LEVEL PLAN R.A.S. WET WELL

1/4" = 1'-0"



PLAN, EXISTING AERATION GALLERY AND BLOWER BLDG.

1" = 30'-0"

COMPOSITE	78-14	EQG-22	F-44	F-44
OVERLAY	78-14	EQG-26	F-44	F-44
SCREEN				
DATE				

RECORD DRAWING 4-80 D.O.

STRAND
ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Windsor Drive
Madison, Wisconsin 53715
Tel: (608) 251-0941

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ELECTRICAL
AERATION GALLERY

SCALE: AS NOTED
DATE: NOVEMBER, 1987
DRAWING NO.: 255-230-44

Beiling Consultants
Midwest Center / N. Larkin Avenue at Plainfield Road
Joliet, IL 60435 (815) 729-1800

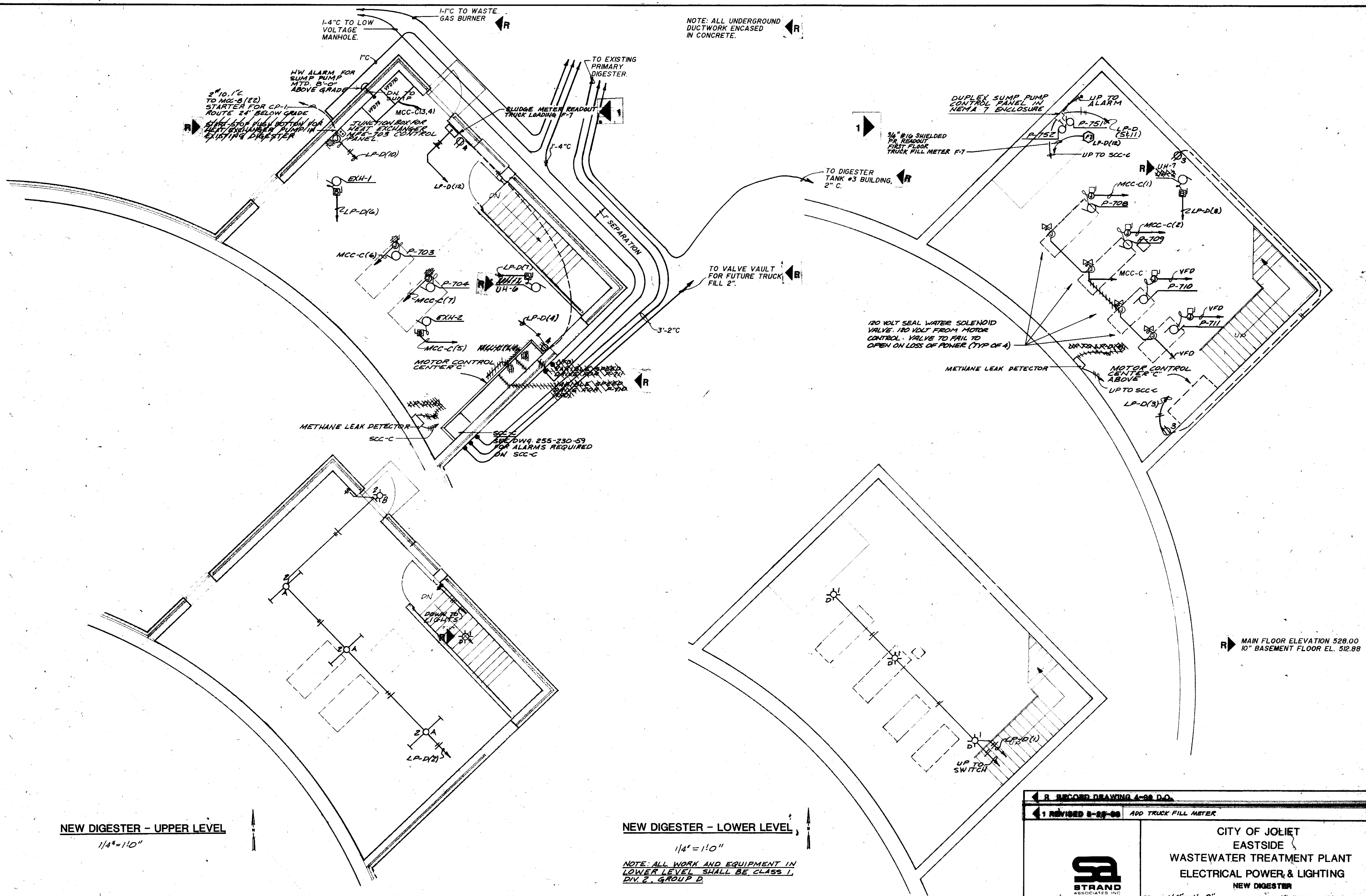
OVERLAY IDENTIFICATION	COMPOSITE	78-45	4-85
PROJECT NO.	OVERLAY	78-45	F-45
DATE	SCREEN	11-87	S

NEW DIGESTER - UPPER LEVEL
1/4" = 1'-0"

NEW DIGESTER - LOWER LEVEL
1/4" = 1'-0"

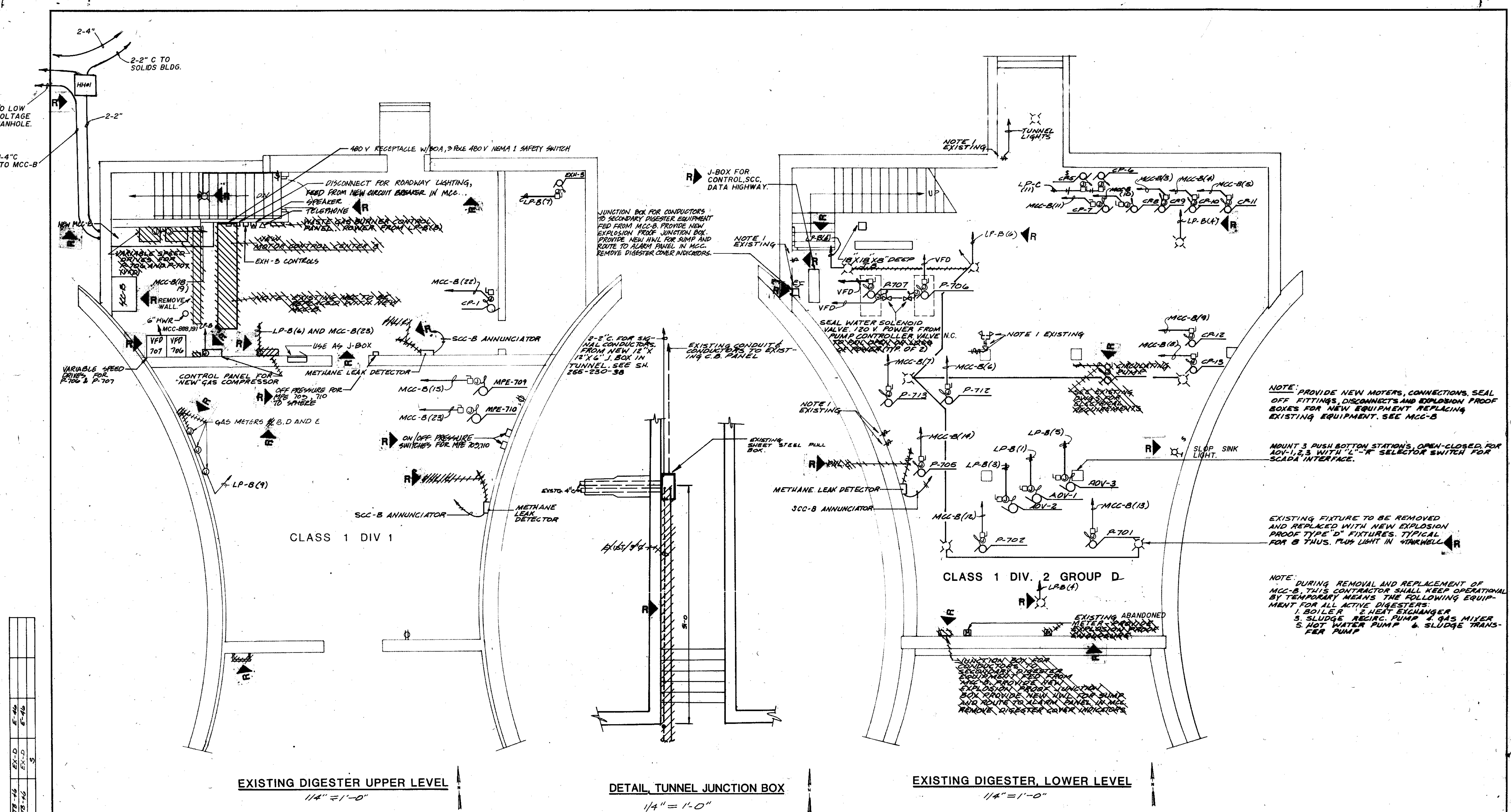
NOTE: ALL WORK AND EQUIPMENT IN LOWER LEVEL SHALL BE CLASS I, DIV. 2, GROUP D.

NOTE: ALL UNDERGROUND DUCTWORK ENCASED IN CONCRETE.



MAIN FLOOR ELEVATION 528.00
10" BASEMENT FLOOR EL. 512.88

<p>RECORD DRAWING A-98 D.O.</p> <p>REVISED 8-25-88 ADD TRUCK FILL METER</p>	
<p>STRAND ASSOCIATES INC. CONSULTING ENGINEERS 910 West Wingo Drive Madison, Wisconsin 53715 Tel: (608) 251-4843</p>	<p>CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT ELECTRICAL POWER & LIGHTING NEW DIGESTER</p>
	<p>SCALE 1/4" = 1'-0"</p> <p>DATE NOVEMBER, 1987</p>
<p>Belting Consultants Hilcrest Center / N. LaGrange Avenue at Plainfield Road / Joliet, IL 60435</p>	<p>DRAWING NO. 255-230-45</p>



EXISTING DIGESTER UPPER LEVEL
1/4" = 1'-0"

DETAIL TUNNEL JUNCTION BOX
1/4" = 1'-0"

EXISTING DIGESTER, LOWER LEVEL
1/4" = 1'-0"

NOTE: ALL WORK AND EQUIPMENT IN LOWER LEVEL SHALL BE CLASS 1, DIV. 2 GROUP D. REMOVE AND REPLACE ALL CONDUIT AND CONDUCTORS IN LOWER LEVEL. ALL CONDUIT SHALL BE HEAVY WALL. PROVIDE SEAL FITTINGS FOR ALL CONDUIT SWITCHES, OUTLETS, LIGHTS, BATTERY PACKS, AND METERS SHALL BE REMOVED AND REPLACED WITH EXPLOSION PROOF BOXES AND DEVICES. REUSE EXISTING BREAKERS.

NOTE: PROVIDE NEW MOTORS, CONNECTIONS, SEAL OFF FITTINGS, DISCONNECTS AND EXPLOSION PROOF BOXES FOR NEW EQUIPMENT REPLACING EXISTING EQUIPMENT. SEE MCC-B.

MOUNT 3 PUSH BUTTON STATIONS, OPEN-CLOSED, FOR ADV-1, 2, 3 WITH "L"-R SELECTOR SWITCH FOR SCADA INTERFACE.

EXISTING FIXTURE TO BE REMOVED AND REPLACED WITH NEW EXPLOSION PROOF TYPE "D" FIXTURES. TYPICAL FOR B THUS, PULL LIGHT IN STAIRWELL.

NOTE: DURING REMOVAL AND REPLACEMENT OF MCC-B, THIS CONTRACTOR SHALL KEEP OPERATIONAL BY TEMPORARY MEANS THE FOLLOWING EQUIPMENT FOR ALL ACTIVE DIGESTERS:
1. BOILER 2. HEAT EXCHANGER
3. SLUDGE RECIRC. PUMP 4. GAS MIXER
5. HOT WATER PUMP 6. SLUDGE TRANSFER PUMP

COMPOSITE	73-14	EX-D	5
OVERLAY	73-14	EX-D	5
PROJECT NO.			
DATE			

RECORD DRAWING 4-90 D.O.

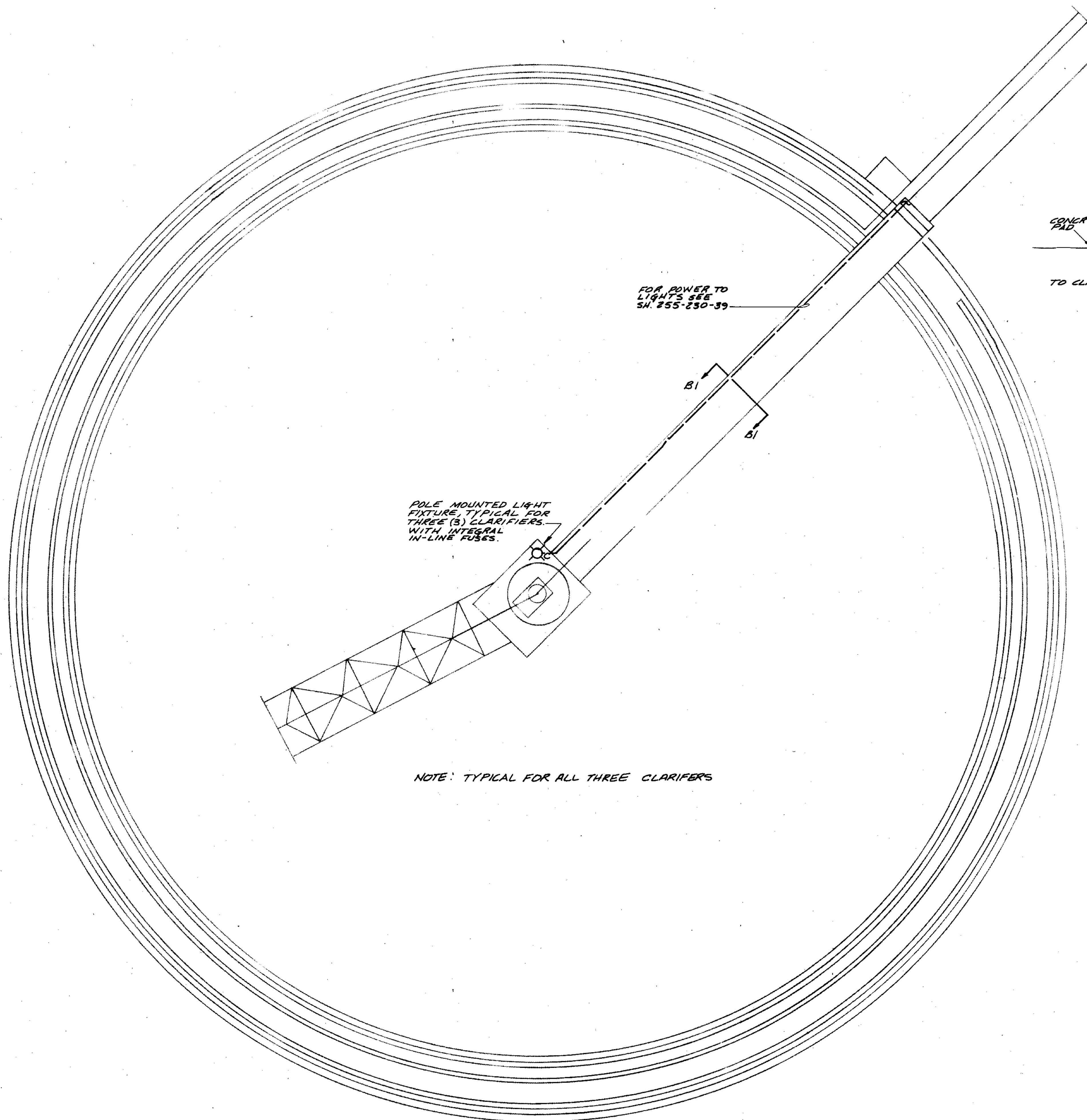
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ELECTRICAL POWER & LIGHTING
EXISTING DIGESTER

SCALE: 1/4" = 1'-0" DATE: NOVEMBER, 1987

DRAWING NO. 255-230-46

STRAND ASSOCIATES, INC. CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

Being Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1800

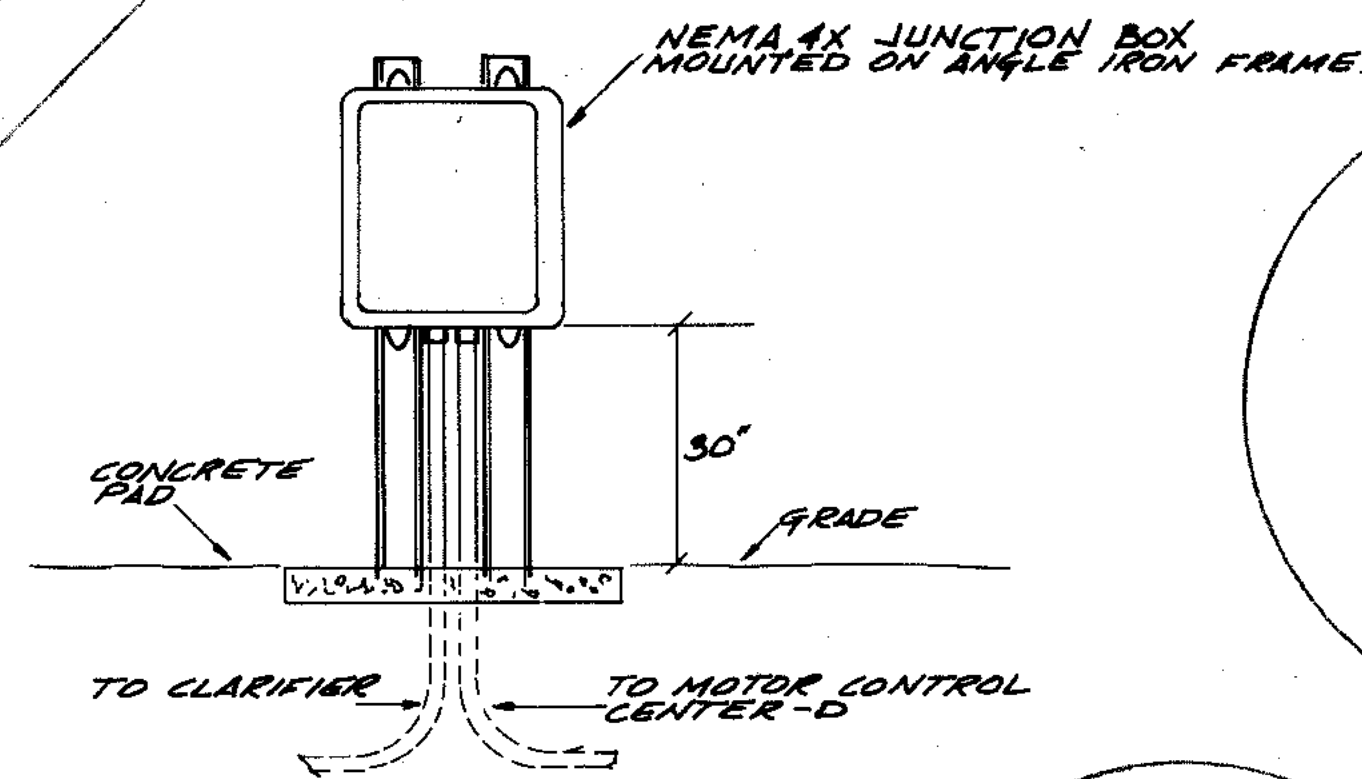


FOR POWER TO LIGHTS SEE SA. 255-230-39

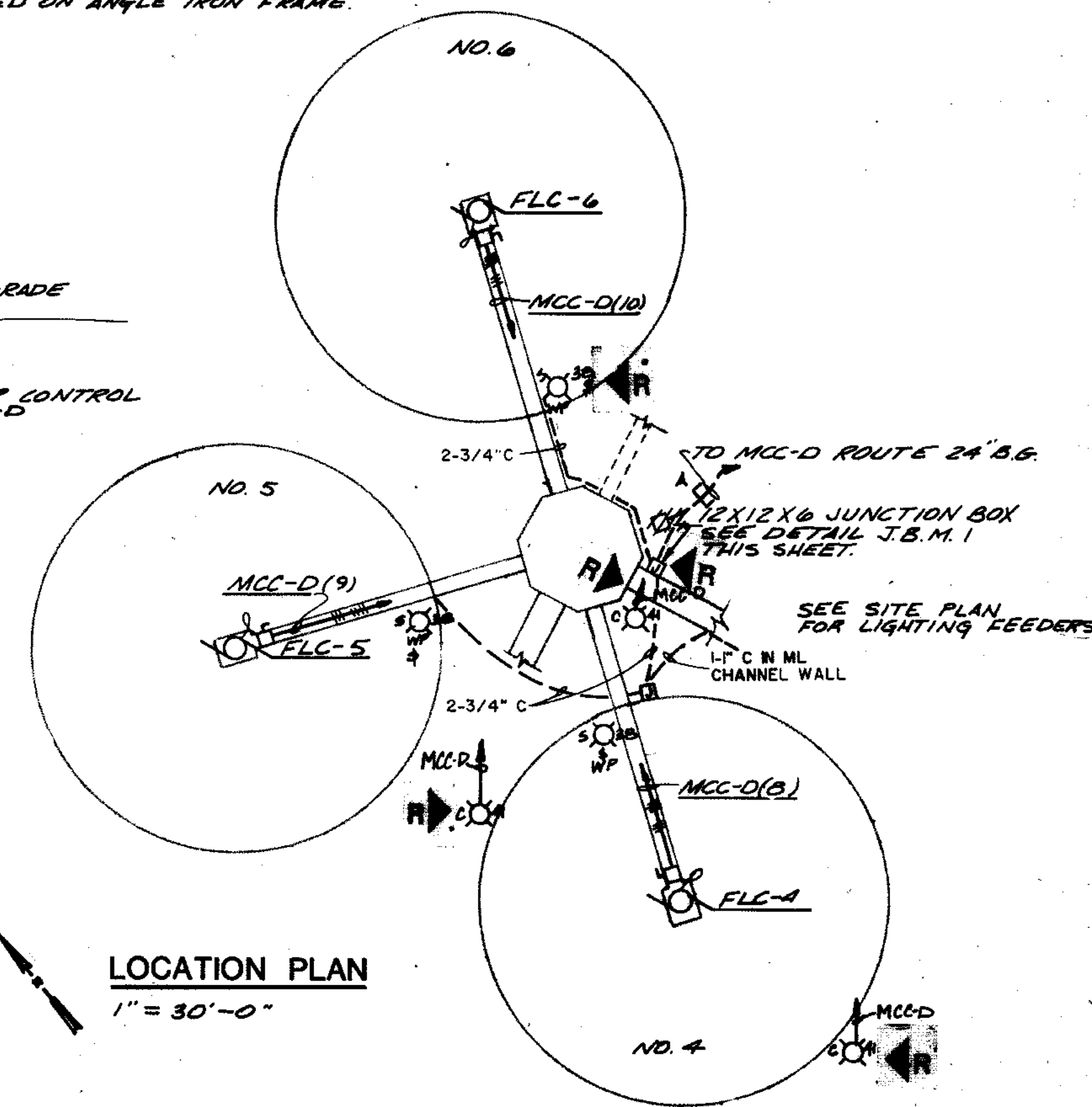
POLE MOUNTED LIGHT FIXTURE, TYPICAL FOR THREE (3) CLARIFIERS WITH INTEGRAL IN-LINE FUSES.

NOTE: TYPICAL FOR ALL THREE CLARIFIERS

FINAL CLARIFIER
3/16" = 1'-0"

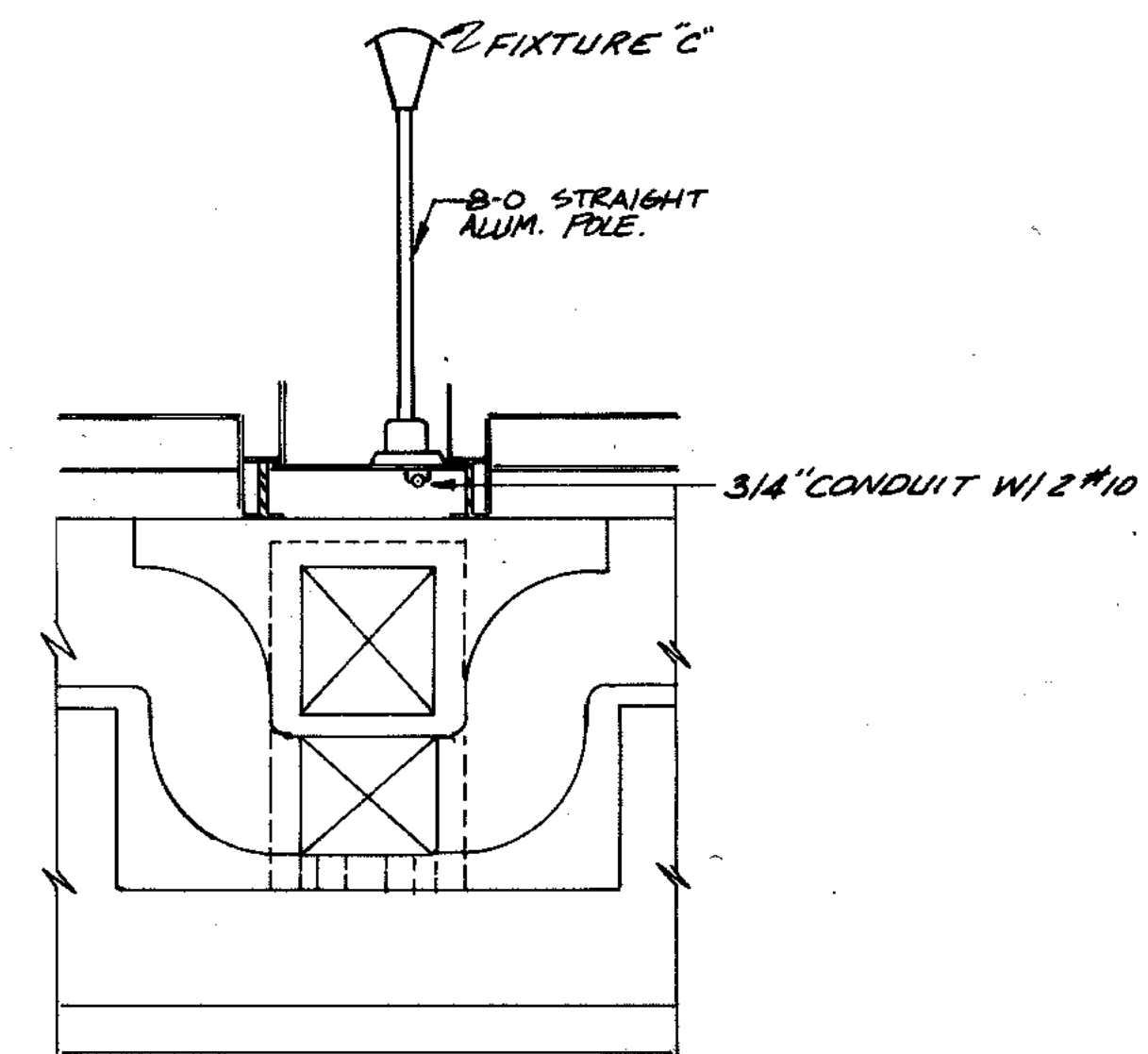


DETAIL J.B.M.1
NO SCALE



LOCATION PLAN
1" = 30'-0"

- NOTE:**
- SERVICE FOR C-4 SHALL BE FROM MCC-D ABOVE SAME CIRCUIT AS EXISTING SITE LIGHTING.
 - S-38 SHALL FEED FROM LP-5 TO BE INSTALLED IN PHASE 'X'.



SECTION B-1
3/16" = 1'-0"

OVERLAY IDENTIFICATION	COMPOSITE	78-47	N/C	5-87
PROJECT NO.	OVERLAY	78-47	N/C	5-87
DATE	SCREEN		S	

← R RECORD DRAWING 4-88 D.O.	
 STRAND ASSOCIATES INC. CONSULTING ENGINEERS 910 West Wingra Drive Madison, Wisconsin 53715 Tel: (608) 251-4843	CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT ELECTRICAL FINAL CLARIFIER
	SCALE: AS NOTED DATE: NOVEMBER, 1987 DRAWING NO. 255-230-47
 Being Consultants Hillcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 / (815) 729-1800	

MOTOR AND MOTOR CONTROL CENTER SCHEDULE

CONTROL DEVICES (OIL TIGHT, HEAVY DUTY)

EQUIPMENT NUMBER	EQUIPMENT AND NAMEPLATE TITLES		EQUIPMENT LOCATION	PANEL MCC	MOTOR INFORMATION				MOTOR STARTER INFORMATION				CONTROL & INTERLOCKS				REMARKS	
	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP KW	VOLTS	F.L.I. IN AMPS	RPM	KVAR REQD	SIZE	TYPE	BKR. TYPE	F.M. AMPS	CONTROL DEVICE (SEE INFO)	DESCRIPTION	FURN. IN INCH		WIRING BY INCH
P-604	POLYMER TRANSFER PUMP		SOLIDS PROCESSING		1.5HP	480		1180					NOTE 1			3/4", 3" 12	A, B	SEE NOTE 1, CONTROL PANEL #1
P-605			SOLIDS PROCESSING		1.5HP	480		1180					NOTE 1			3/4", 3" 12	A, B	SEE NOTE 1, CONTROL PANEL #1
P-606	POLYMER METERING PUMP		SOLIDS PROCESSING		1HP	480		1180					NOTE 2			3/4", 3" 12	A, B	SEE NOTE 3, CONTROL PANEL #1
P-607			SOLIDS PROCESSING		1HP	480		1180					NOTE 2			3/4", 3" 12	A, B	SEE NOTE 3, CONTROL PANEL #1
P-608			SOLIDS PROCESSING		1HP	480		1180					NOTE 2			3/4", 3" 12	A, B	SEE NOTE 3, CONTROL PANEL #2
P-609	THICKENED WASTE ACTIVATED/DOSEDED SLUDGE PUMP		SOLIDS PROCESSING	A, 1	30HP	480	40	1160	3	FVNR	H 80	L-R H-O-A, R	FLOAT/TRUCKFILL	1600	1600	3/4", 3" 6	A, B, D, E	FLOAT CONTROLLED INTERLOCK WITH TRUCK FILL WHEN IN "REMOTE". SEE INTERCONNECT AND ISA TABLE SHEET NO. 288-230-12
P-602			SOLIDS PROCESSING	A, 2	30HP	480	40	1160	3	FVNR	H 80	L-R H-O-A, R	FLOAT/TRUCKFILL			3/4", 3" 6	A, B, D, E	
P-603			SOLIDS PROCESSING	A, 3	30HP	480	40	1160	3	FVNR	H 80	L-R H-O-A, R	FLOAT/TRUCKFILL			3/4", 3" 6	A, B, D, E	
P-604	FINAL EFFLUENT WATER SYSTEM BOOSTER PUMP		SOLIDS PROCESSING	A, 4	3HP	480	4.8	3500	1	FVNR	H 15	L-R H-O-A, R	NOTE 2			3/4", 3" 12	A, B	SEE NOTE 6
P-611			SOLIDS PROCESSING	A, 5	3HP	480	4.8	3500	1	FVNR	H 15	L-R H-O-A, R	NOTE 2			3/4", 3" 12	A, B	SEE NOTE 7
P-612			SOLIDS PROCESSING	A, 6	3HP	480	4.8	3500	1	FVNR	H 15	L-R H-O-A, R	NOTE 2			3/4", 3" 12	A, B	SEE NOTE 8
MPE-601	GRAVITY BELT THICKENER DRIVE		SOLIDS PROCESSING	A, 7	3HP	480	4.8			A	30		NOTE 1, 9			3/4", 3" 12	A, B	STARTER W/GBT
MPE-602			SOLIDS PROCESSING	A, 8	3HP	480	4.8			A	30		NOTE 1, 9			3/4", 3" 12	A, B	STARTER W/GBT
MPE-603			SOLIDS PROCESSING	A, 9	3HP	480	4.8			A	30		NOTE 1, 9			3/4", 3" 12	A, B	STARTER W/GBT
MPE-610	HYDRAULIC POWER PACK		SOLIDS PROCESSING		1.5HP	480	2.6						NOTE 2, 9			3/4", 3" 12	A, B	STARTER W/GBT
MPE-611			SOLIDS PROCESSING		1.5HP	480	2.6						NOTE 2, 9			3/4", 3" 12	A, B	STARTER W/GBT
MPE-612			SOLIDS PROCESSING		1.5HP	480	2.6						NOTE 2, 9			3/4", 3" 12	A, B	STARTER W/GBT
MPE-613	TRANS. & LP-S		SOLIDS PROCESSING	A, 10	15KVA	480	18				40					3/4", 3" 12		
MPE-606	POLYMER MBR		SOLIDS PROCESSING		2HP	480	3.4						NOTE 1, 11		1600	3/4", 3" 12	A, B	CONTROL FROM POLY CONTROL PANEL 1
MPE-607			SOLIDS PROCESSING		2HP	480	3.4						NOTE 1, 11			3/4", 3" 12	A, B	CONTROL FROM POLY CONTROL PANEL 1
MPE-608			SOLIDS PROCESSING		2HP	480	3.4						NOTE 1, 11			3/4", 3" 12	A, B	CONTROL FROM POLY CONTROL PANEL 2
MPE-609			SOLIDS PROCESSING		2HP	480	3.4						NOTE 1, 11			3/4", 3" 12	A, B	CONTROL FROM POLY CONTROL PANEL 2
MPE-604	DRY FEEDER		SOLIDS PROCESSING	A, 11	1/8HP	480	.14				30		NOTE 11			3/4", 3" 12	A, B	
MPE-605	DRY FEEDER		SOLIDS PROCESSING	A, 12	1/8HP	480	.14				30		NOTE 11			3/4", 3" 12	A, B	
AMP-1	AIRLINE FAN		SOLIDS PROCESSING	A, 13	5HP	480	7.6		1	FVNR	H 15	ETM H-O-A, R, S, CR	DR. SWITCH	1700	1600	3/4", 3" 12		
AMP-2			SOLIDS PROCESSING	A, 14	5HP	480	7.6		1	FVNR	H 15	ETM H-O-A, R, S, CR				3/4", 3" 12		
AHU-2	AIR HANDLING UNIT		SOLIDS PROCESSING	A, 15	30HP	480	35		2	FVNR	H 40	ETM H-O-A, R, S, CR				3/4", 3" 12		
AHU-1			SOLIDS PROCESSING	A, 16	35HP	480	40		1	FVNR	H 15	ETM H-O-A, R, S, CR				3/4", 3" 12		
STF-1	STRAIGHT THROUGH FAN		SOLIDS PROCESSING	A, 17	3HP	480	4.8		1	FVNR	H 15	ETM H-O-A, R, S, CR				3/4", 3" 12		2 SPEED, 2 WINDING STARTER
P-613	DRAINAGE PUMPING STATION PUMPS		DRAINAGE PUMPING STATION	A, 18	7.5HP	480	11			A	30					3/4", 3" 10		CONTROL FROM CONTROL PANEL (ADDITIVE ALTERNATE NO.7)
P-614					7.5HP	480	11											

PUSHBUTTONS		INDICATING LIGHTS PUSH TO TEST, TRANSFER TYPE	
1 START	7 FAST	R RED (FAIL)	
2 STOP	8 SLOW	G GREEN (RUN)	
3 LOCK OUT STOP	9 JOG FWD.	A AMBER (CALL)	
4 TEST	0 JOG REV.	B BLUE	
5 FORWARD	Z SPECIAL	W WHITE	
6 REVERSE	M MAINT. CONT.	C CLEAR	

SELECTOR SWITCHES		BREAKER TYPE, CODE	SUPERVISORY INDICATION KEY
H-A HAND-AUTO	T-A TEST-AUTO	A AMB. COMP.	A STATUS
H-L HIGH-LOW	F-R FORW.-REV.	M MAG. ONLY	B FAILURE
U-D UP-DOWN	O-O ON-OFF	N NON AUTO	C CALL TO RUN
H-O-A HAND-OFF-AUTO	R3 LOCKOUT STOP AT MOTOR	P TRI PAC	F FAIL
F-O-R FORW.-OFF-REV.	L-R LOCAL - REMOTE	H MARK 75	D HIGH LEVEL
ETM ELAPSED TIME METER		S STATIC TRIP	E LOW LEVEL

- INTERLOCK MPE-601, 602 AND 603 TO STOP ON EMERGENCY SIGNAL FROM SAFETY CORD SHUT DOWN AT THICKENER.
- INTERLOCK WITH GRAVITY BELT THICKENER.
- CONTROL FROM POLYMER CONTROL PANEL INTERLOCK WITH GRAVITY BELT THICKENER.
- VARIABLE SPEED CONTROLLER
- ALL STARTERS SHALL MINIMUM OF 2 AUXILIARY SETS OF DRY CONTACTS, RUN AND OVERLOAD.
- INTERLOCK WITH MPE-602, 605 THRU MCC 2 POSITION SELECTOR SWITCH WHEN IN "AUTO"
- INTERLOCK WITH MPE-601, 602, 603 THRU MCC 3 POSITION SELECTOR SWITCH WHEN IN "AUTO"
- INTERLOCK WITH MPE-601, 602 THRU MCC 2 POSITION SELECTOR SWITCH WHEN IN "AUTO"
- CONTROL FROM GRAVITY BELT THICKENER (GBT) CONTROL PANEL
- WHERE NO STARTER SIZE OR STARTER TYPE IS INDICATED ON SCHEDULE, THIS INDICATES THAT STARTER IS FURNISHED WITH CONTROL PACKAGE BREAKER FOR PROTECTIVE PURPOSES.
- CONTROL FROM POLYMER PANEL
- POLYMER CONTROL PNL. 1 CONTROLS MPE-604, 606, 607, 608, 607, 604
- POLYMER CONTROL PNL. 2 CONTROLS MPE-605, 609, 609, P-605, 608, 609

9: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

10: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

11: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

12: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

13: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

14: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

15: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

16: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

17: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

18: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

19: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

20: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

21: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

22: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

23: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

24: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

25: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

26: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

27: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

28: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

29: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

30: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

31: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

32: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

33: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

34: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

35: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

36: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

37: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

38: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

39: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

40: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

41: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

42: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

43: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

44: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

45: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

46: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

47: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

48: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

49: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

50: REMOTE FOR FUTURE SCADA INTERFACE OR ALTERNATE CONTROL METHOD.

MOTOR AND MOTOR CONTROL CENTER SCHEDULE

313.2
221.8

CONTROL DEVICES (OIL TIGHT, HEAVY DUTY)

EQUIPMENT NUMBER	EQUIPMENT AND NAMEPLATE TITLES		EQUIPMENT LOCATION	PANEL MCC	MOTOR INFORMATION				MOTOR STARTER INFORMATION			CONTROL & INTERLOCKS			POWER CONDUIT WIRE	SUP. CONTROL CENTER INDICATION	REMARKS	
	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP / KW	VOLTS	F.L.L. IN AMPS	RPM	KVAR REQD	SIZE	TYPE	BKR. TYPE	I IN AMPS	CONTROL DEVICE (SEE INFO)				DESCRIPTION
MPE-707	GAS RECIRCULATION SYSTEM		EXISTING DIGESTER	B, 2	25HP	480	34		2	FVNR	H	70	H-O-A, G.R. L-R, ETM	1600	1800	3/4" 3#6	A, B	H.O.A. IN COVER FOR WIRING TO ROOF. EXPLOSION PROOF (ADDITIVE ALT. NO.4)
CP-9	SLUDGE HEATING HOT WATER CIRCULATION PUMP		DIGESTER NO. 2	B, 3	5 HP	480	7.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT 184 T FRAME, SEE NOTE 1,9
CP-10	SLUDGE HEATING HOT WATER CIRCULATION PUMP			B, 4	5 HP	480	7.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT 184 T FRAME, SEE NOTE 1,9
CP-11	SLUDGE HEATING HOT WATER CIRCULATION PUMP			B, 5	5 HP	480	7.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT 184 T FRAME, SEE NOTE 1,9
P-712	DIGESTED LIQUOR PUMP NO. 1			B, 6	5 HP	480	7.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT 215 TC FRAME, SEE NOTE 1,9
P-713	DIGESTED LIQUOR PUMP NO. 2			B, 7	5 HP	480	7.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT 215 TC FRAME, SEE NOTE 1,9
CP-13	SLUDGE HEATING HOT WATER CIRCULATION PUMP			B, 8	5 HP	480	7.6	1700	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT CENTURY PUMP, SEE NOTE 1,9
CP-12	SLUDGE HEATING HOT WATER CIRCULATION PUMP			B, 9	5 HP	480	7.6	1700	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT CENTURY PUMP, SEE NOTE 1,9
CP-8	SLUDGE HEATING HOT WATER CIRCULATION PUMP			B, 10	1.5 HP	480	2.6	1725	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT 145 T FRAME, SEE NOTE 1,9
CP-7	SLUDGE HEATING HOT WATER CIRCULATION PUMP			B, 11	1.5 HP	480	2.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT B & G PUMP NO. 102-B AK, SEE NOTE 1,9
P-702	SLUDGE RECIRC. PUMP NO. 2			B, 12	7.5HP	480	11	1200	1	FVNR	H	20	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT F254 U FRAME, SEE NOTE 1,9
P-701	SLUDGE RECIRC. PUMP NO. 1		B, 13	5HP	480	7.6	1150	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT 215 T FRAME, SEE NOTE 1,9 TRUCK FILL SELECTOR SWITCH IN "REMOTE"	
P-705	DIGESTED SLUDGE PUMP		B, 14	5HP	480	7.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	A, B	EXISTING EQUIPMENT F213 T FRAME, SEE NOTE 1,9	
MPE-709	GAS COMPRESSOR		B, 15	15 HP	480	21		2	FVNR	H	40	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#10	A, B	EXISTING EQUIPMENT, NOTE 8	
SP-2	SUMP PUMP		B, 16	1.5 HP	480	2.6		1	FVNR	H	15	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12	D	EXISTING EQUIPMENT SECONDARY DIGESTER	
EUH-8	UNIT HEATER		B, 17	12 KW	480	14.4		2	FVNR	H	20	H-O-A, G.R. L-R, ETM	EXIST.		3/4" 3#12		EXISTING EQUIPMENT SECONDARY DIGESTER	
P-706	DIGESTED SLUDGE PUMPS		B, 18	20HP	480	2.7	1160			H	60		1500		3/4" 3#8	A, B	NEW EQUIPMENT, SEE NOTE 4,5	
P-707	DIGESTED SLUDGE PUMPS		B, 19	20HP	480	2.7	1160			H	60		1500		3/4" 3#8	A, B	NEW EQUIPMENT, SEE NOTE 4,5	
TRANS. & LP-B	TRANSFORMER & PANEL LP-B		B, 20	5KW	480	6.0				H	15		1800		3/4" 3#12		NEW PANEL	
MPE-708	GAS RECIRCULATION SYSTEM		DIGESTER NO. 3	B, 21	25HP	480	34		2	FVNR	H	70	H-O-A, G.R. L-R, ETM	1600	1800	3/4" 3#6	A, B	H.O.A. IN COVER FOR WIRING TO ROOF. EXPLOSION PROOF INTERLOCK WITH "NEW" GAS COMPRESSOR CONTROL PANEL IN NEW DIGESTER
CP-1	SLUDGE HEATER CIRCULATING PUMP		B, 22	5HP	480	7.6	1750	1	FVNR	H	15	H-O-A, G.R. L-R, ETM	1700		3/4" 3#12	A, B	NEW EQUIPMENT COMPRESSOR CONTROLLED FROM CONTROL PANEL	
MPE-710	NEW GAS COMPRESSOR		B, 23	15 HP	480	21		2	FVNR	H	40	H-O-A, G.R. L-R, ETM	1800	1800	3/4" 3#10	A, B	NEW COMPRESSOR, SEE NOTE 8	
MCC-C																		
P-708	SLUDGE LOADING PUMP		NEW DIGESTER	C, 1	50HP	480	65	1160	3	FVNR	H	100	L-R, H-O-A, G.R. L-R, ETM			1" 3#4	A, B	INTERLOCK WITH TRUCK LOADING IN "REMOTE"
P-709	SLUDGE LOADING PUMP		C, 2	50HP	480	65	1160	3	FVNR	H	100	L-R, H-O-A, G.R. L-R, ETM			1" 3#4	A, B	INTERLOCK WITH TRUCK LOADING IN "REMOTE"	
P-710	THICKENED SLUDGE TRANSFER PUMP		C, 3	20HP	480	27	1160				60		1500		3/4" 3#8	A, B	SEPERATE CONTROL PANEL, SEE NOTE 3,4,5	
P-711	THICKENED SLUDGE TRANSFER PUMP		C, 4	20HP	480	27	1160				60		1500		3/4" 3#8	A, B	SEPERATE CONTROL PANEL, SEE NOTE 3,4,5	
EXH-2	EXHAUST FAN NO.2		C, 5	3.0HP	480	40/23		1	SPEED FVNR	H	15	H-O-A, T.A.S. G.R. L-R, ETM	1700		3/4" 3#12		2 WINDINGS	
P-703	SLUDGE RECIRCULATION PUMPS		C, 6	10HP	480	14	1800	1	FVNR	H	30	H-O-A, G.R. L-R, ETM	1600		3/4" 3#12	A, B	"A" FOR FUT. SCADA	
P-704	SLUDGE RECIRCULATION PUMPS		C, 7	10HP	480	14	1800	1	FVNR	H	30	H-O-A, G.R. L-R, ETM			3/4" 3#12	A, B	"A" FOR FUT. SCADA	
TRANS. & LP-D	TRANSFORMER & PANEL LP-D		NEW DIGESTER	C, 8	6 KW	480	7.2				H	20			3/4" 3#12			

PUSHBUTTONS		INDICATING LIGHTS PUSH TO TEST, TRANSFER TYPE	
1 START	7 FAST	R RED (FAIL)	
2 STOP	8 SLOW	G GREEN (RUN)	
3 LOCK OUT STOP	9 JOG FWD.	A AMBER (CALL)	
4 TEST	0 JOG REV.	B BLUE	
5 FORWARD	2 SPECIAL	W WHITE	
6 REVERSE	M MAINT. CONT.	C CLEAR	
SELECTOR SWITCHES		BREAKER TYPE, CODE	SUPERVISORY INDICATION KEY
H-A HAND-AUTO	T-A TEST-AUTO	A AMB. COMP.	A STATUS
H-L HIGH-LOW	F-R FORW.-REV.	M MAG. ONLY	B FAILURE
U-D UP-DOWN	O-O ON-OFF	N NON AUTO	C CALL TO RUN
H-O-A HAND-OFF-AUTO	R3 LOCKOUT STOP AT MOTOR	P TRI PAC	F FAIL
F-O-R FORW.-OFF-REV.	L-R LOCAL REMOTE	S MARK 75	D HIGH LEVEL
ETM ELAPSED TIME METER		S STATIC TRIP	E LOW LEVEL

NOTE 1. DISCONNECT, REMOVE AND REPLACE EXISTING MOTOR WITH NEW EXPLOSION PROOF MOTOR RATED FOR CLASS 1, DIVISION 2, GROUP D. ALL MOTORS, CONNECTIONS, BOXES AND CONDUIT SHALL BE APPROVED FOR THIS LOCATION. MOTORS NOTED ARE EXISTING FRAMES, RPM AND H.P. CONTRACTOR SHALL PROVIDE REPLACEMENT EXPLOSION PROOF MOTOR OF CORRECT FRAME SIZE, MOUNTING, AND SHAFT ADAPTERS, IF ANY, FOR DIRECT REPLACEMENT AND CONNECTION TO EXISTING DRIVEN EQUIPMENT. ALL CONNECTIONS TO MOTORS, CONDUITS, SEALS, ETC. SHALL BE EXPLOSION PROOF FOR THIS AREA.

NOTE 2. ALL STARTERS SHALL HAVE 2 SETS OF AUXILIARY DRY CONTACTS, RUN & OVERLOAD.

NOTE 3. INTERLOCK WITH MCC-A, B, C, AND D. PUMPS SHALL START AFTER ALL SYSTEMS ARE RUNNING. PUMPS SHALL SHUT DOWN ON SYSTEM FAILURE OR AUTOMATIC SHUT DOWN.

NOTE 4. PUMP CONTROLLED BY VARIABLE SPEED DRIVE. SEE SPECIFICATIONS, DIV. 15

NOTE 5. INTERLOCK WITH GRAVITY BELT THICKENER.

NOTE 6. SEE EXISTING SHOP DRAWING FOR CONTROL INTERLOCKS OF ALL EXISTING MOTORS.

NOTE 7. WHERE NO STARTER SIZE OR STARTER TYPE IS INDICATED ON SCHEDULE, THIS INDICATES THAT STARTER IS FURNISHED WITH CONTROL PACKAGE. BREAKER FOR PROTECTION REMAINS.

NOTE 8. PROVIDE A 1, 2, 182 SELECTOR SWITCH, PROVIDE GAS PRESSURE SWITCH, ON 8" ADJUSTABLE OR 8" 6"-8" ADJUSTABLE. MOUNT IN SECONDARY DIGESTER GAS PIPE LINE.


NOTE 9. CONTRACTOR SHALL RECONNECT ALL EXISTING CONTROLS TO NEW "MCC" EQUIPMENT.

NOTE 10. THIS CONTRACTOR SHALL REVIEW ALL EXISTING EQUIPMENT IN THE EXISTING MCC-P AND INCLUDE IN HIS BID ALL NEW CONTROL DEVICES AND INTERLOCKS AS REQUIRED TO MANUFACTURE MCC-B FOR INSTALLATION. REMOTE DEVICES, SOLENOID VALVES, PRESURE SWITCHES MAY BE REUSED IF THEY MEET THE SPACE RATING IN WHICH THEY ARE INSTALLED. IF NOT PROVIDE NEW DEVICES. SEE CONSOER, TOWNSEND DWG E-15-68096 FOR EXISTING EQUIPMENT CONTROL DRAWINGS. DRAWINGS ARE AVAILABLE AT THE SITE AND ENGINEERS OFFICE. DRAWINGS ARE NOT GUARANTEED AS "AS BUILTS"

NOTE 11. IF EXISTING MCC-B HAS START-STOP PUSH BOTTONS, NEW H-O-A SWITCH WILL ALLOW FOR SCADA CONTROL WHEN IN AUTO. THIS APPLIES TO CP-7,8,9,10,12,13.

← R ← SECOND DRAWING 2-10 S.O.

**CITY OF JOUET
EASTSIDE
WASTEWATER TREATMENT PLANT
MOTOR & MCC 'B' & 'C' SCHEDULES**

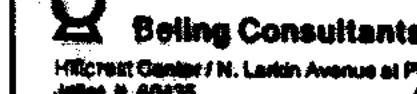


STRAND
ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843


SCALE: NONE

DATE: NOVEMBER, 1987

DRAWING NO. 200-20-00



Being Consultants
11501 West Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435



DRAWING NO. 200-20-00

SHEET 49 OF 60

MOTOR AND MOTOR CONTROL CENTER SCHEDULE

CONTROL DEVICES (OIL TIGHT, HEAVY DUTY)

EQUIPMENT NUMBER	EQUIPMENT AND NAMEPLATE TITLES		EQUIPMENT LOCATION	PANEL MCC	MOTOR INFORMATION				MOTOR STARTER INFORMATION				CONTROL & INTERLOCKS				REMARKS			
	FIRST LINE SECOND LINE WHEN EQUIPMENT NUMBER IS INDICATED	SECOND LINE THIRD LINE WHEN EQUIPMENT NUMBER IS INDICATED			HP / KW	VOLTS	F.L.L. IN AMPS	RPM	KVAR REQD	SIZE	TYPE	BREAKER BKR. TYPE	CONTROL DEVICE (SEE INFO)	DESCRIPTION	FURN. IN DIV.	WIRED BY DIV.		POWER CONDUIT WIRE	SUP. CONTROL CENTER INDICATION	
P-313	WASTE ACTIVATED SLUDGE PUMP		AERATION PIPE GALLERY	D, 1	10 HP	480	14	1160				H	40			1500	1600	3/4", 3# 10	A, B	SEE NOTE 2 INTERLOCK WITH GRAVITY BELT THICKENER
P-314	WASTE ACTIVATED SLUDGE PUMP			D, 2	10 HP	480	14	1160				H	40					3/4", 3# 10	A, B	SEE NOTE 2 INTERLOCK WITH GRAVITY BELT THICKENER
P-315	WASTE ACTIVATED SLUDGE PUMP NON-POTABLE			D, 3	10 HP	480	14					H	40					3/4", 3# 10	A, B	SEE NOTE 2 INTERLOCK WITH GRAVITY BELT THICKENER (ADDITIVE ALT. NO.3)
P-316	WATER PUMP NON-POTABLE		AERATION PIPE GALLERY	D, 4	20 HP	480	27	3500	2	FVNR	H	60	HO-A,GR,ETM					3/4", 3# 8	A, B	
P-317	WATER PUMP			D, 5	20 HP	480	27	3500	2	FVNR	H	60	HO-A,GR,ETM					3/4", 3# 8	A, B	
MOV-301	TEE VALVE OPERATOR		NEW RAS WELL		1/3 HP	480	1											3/4", 3# 10	A, B	SEE NOTE 1
MOV-302	TEE VALVE OPERATOR			D, 6	1/3 HP	480	1					H	30					3/4", 3# 10	A, B	SEE NOTE 1
MOV-303	TEE VALVE OPERATOR				1/3 HP	480	1											3/4", 3# 10	A, B	SEE NOTE 1
MOV-304	TEE VALVE OPERATOR				1/3 HP	480	1											3/4", 3# 10	A, B	SEE NOTE 1
MOV-305	TEE VALVE OPERATOR			D, 7	1/3 HP	480	1					H	30					3/4", 3# 10	A, B	SEE NOTE 1
MOV-306	TEE VALVE OPERATOR		NEW RAS WELL		1/3 HP	480	1											3/4", 3# 10	A, B	SEE NOTE 1
FLC-4	FINAL CLARIFIER DRIVE		NEW CLARIFIER	D, 8R	1/2HP	480	1.8		1	FVNR	H	15	O-O, R,G,ETM R3		1100		3/4", 3# 12	A, B	HIGH TORQUE ALARM HIGHER TORQUE SHUTDOWNS	
FLC-5	FINAL CLARIFIER DRIVE			D, 9R	1/2HP	480	1.8		1	FVNR	H	15	O-O, R,G,ETM R3		1100		3/4", 3# 12	A, B	HIGH TORQUE ALARM HIGHER TORQUE SHUTDOWNS	
FLC-6	FINAL CLARIFIER DRIVE		NEW CLARIFIER	D, 10R	1/2HP	480	1.8		1	FVNR	H	15	O-O, R,G,ETM R3		1100		3/4", 3# 12	A, B	HIGH TORQUE ALARM HIGHER TORQUE SHUTDOWNS	
P-318	NON-POTABLE WATER PUMP		AERATION GALLERY	D, 11	20 HP	480	27	3500	2	FVNR	H	60	HO-A,GR,ETM		1500		3/4", 3# 8	A, B		
P-319	NON-POTABLE WATER PUMP		AERATION GALLERY	D, 12	20 HP	480	27	3500	2	FVNR	H	60	HO-A,GR,ETM		1500		3/4", 3# 8	A, B		

PUSHBUTTONS		INDICATING LIGHTS PUSH TO TEST, TRANSFER TYPE	
1 START	7 FAST	R RED (FAIL)	
2 STOP	8 SLOW	G GREEN (RUN)	
3 LOCK OUT STOP	9 JOG FWD.	A AMBER (CALL)	
4 TEST	0 JOG REV.	B BLUE	
5 FORWARD	Z SPECIAL	W WHITE	
6 REVERSE	M MAINT. CONT.	C CLEAR	

SELECTOR SWITCHES		BREAKER TYPE, CODE	SUPERVISORY INDICATION KEY
H-A HAND-AUTO	T-A TEST-AUTO	A AMB. COMP.	A STATUS
H-L HIGH-LOW	F-R FORW.-REV.	M MAG. ONLY	B FAILURE
U-D UP-DOWN	O-O ON-OFF	N NON AUTO	C CALL TO RUN
H-O-A HAND-OFF-AUTO	R3 LOCKOUT STOP AT MOTOR	P TRI PAC	F FAIL
F-O-R FORW.-OFF-REV.		H MARK 75	D HIGH LEVEL
ETM ELAPSED TIME METER		S STATIC TRIP	E LOW LEVEL


NOTE 1. REVERSIBLE STARTER AND CONTROLS AT VALVE.

NOTE 2. PUMP CONTROLLED BY VARIABLE SPEED DRIVE, INTERLOCK WITH GRAVITY BELT THICKENER.

NOTE 3. ALL STARTERS SHALL HAVE 2 SETS EACH OF AUXILIARY DRY CONTACTS, RUN AND OVERLOAD.

NOTE 4. WHERE NO STARTER SIZE OR STARTER TYPE IS INDICATED ON SCHEDULE, THIS INDICATES THAT STARTER IS FURNISHED WITH CONTROL PACKAGE. BREAKER FOR PROTECTION REMAINS.

← R RECORD DRAWING 4-90 D.O.



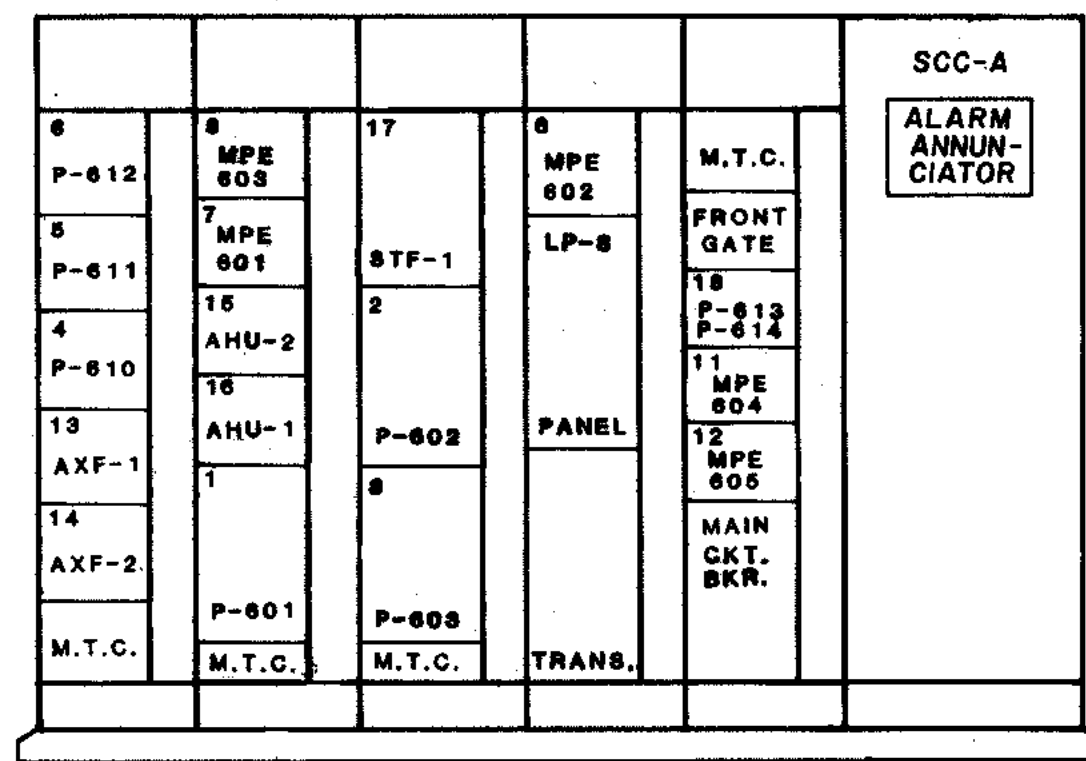
STRAND
ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

CITY OF JOLET
EASTSIDE
WASTEWATER TREATMENT PLANT
MOTOR & MCC 'D' SCHEDULES

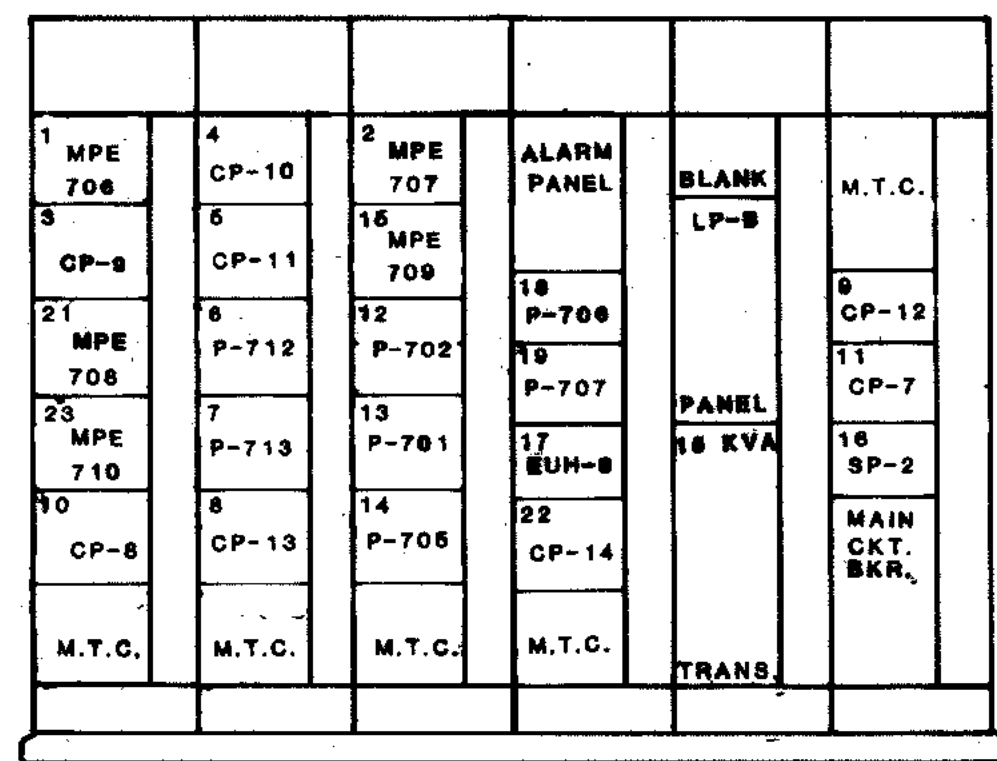
SCALE: *AS SHOWN* DATE: *NOVEMBER, 1987*

DRAWING NO. **255-230-100**

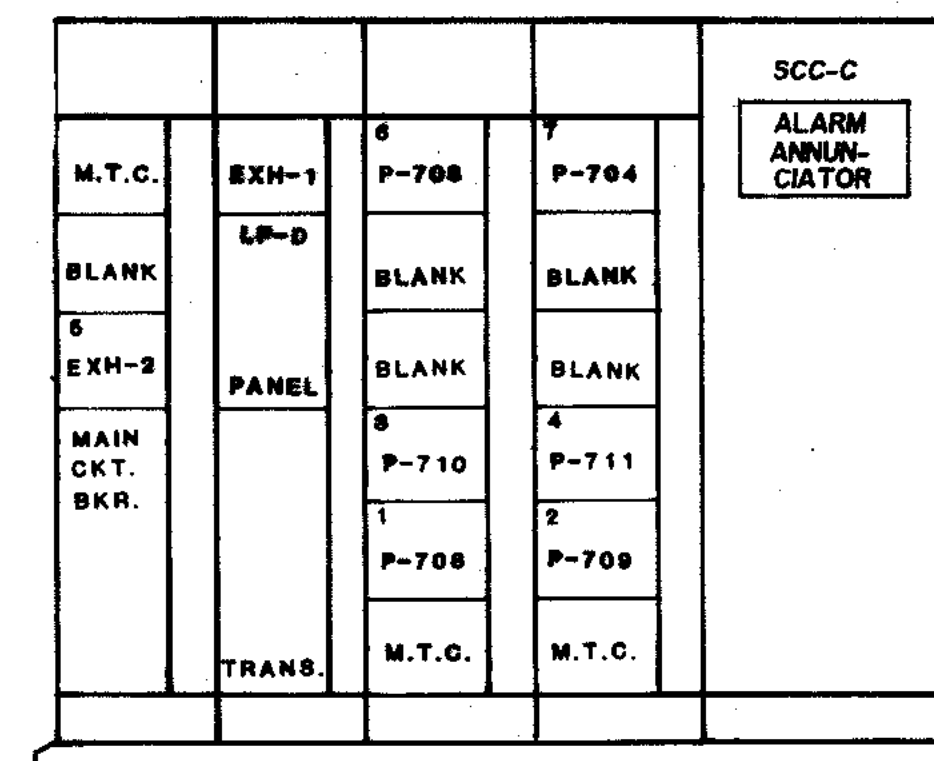
Belling Consultants
Hickory Center Pl. Larkin Avenue at Plainfield Road / JOLET, IL 60435 (815) 729-1800



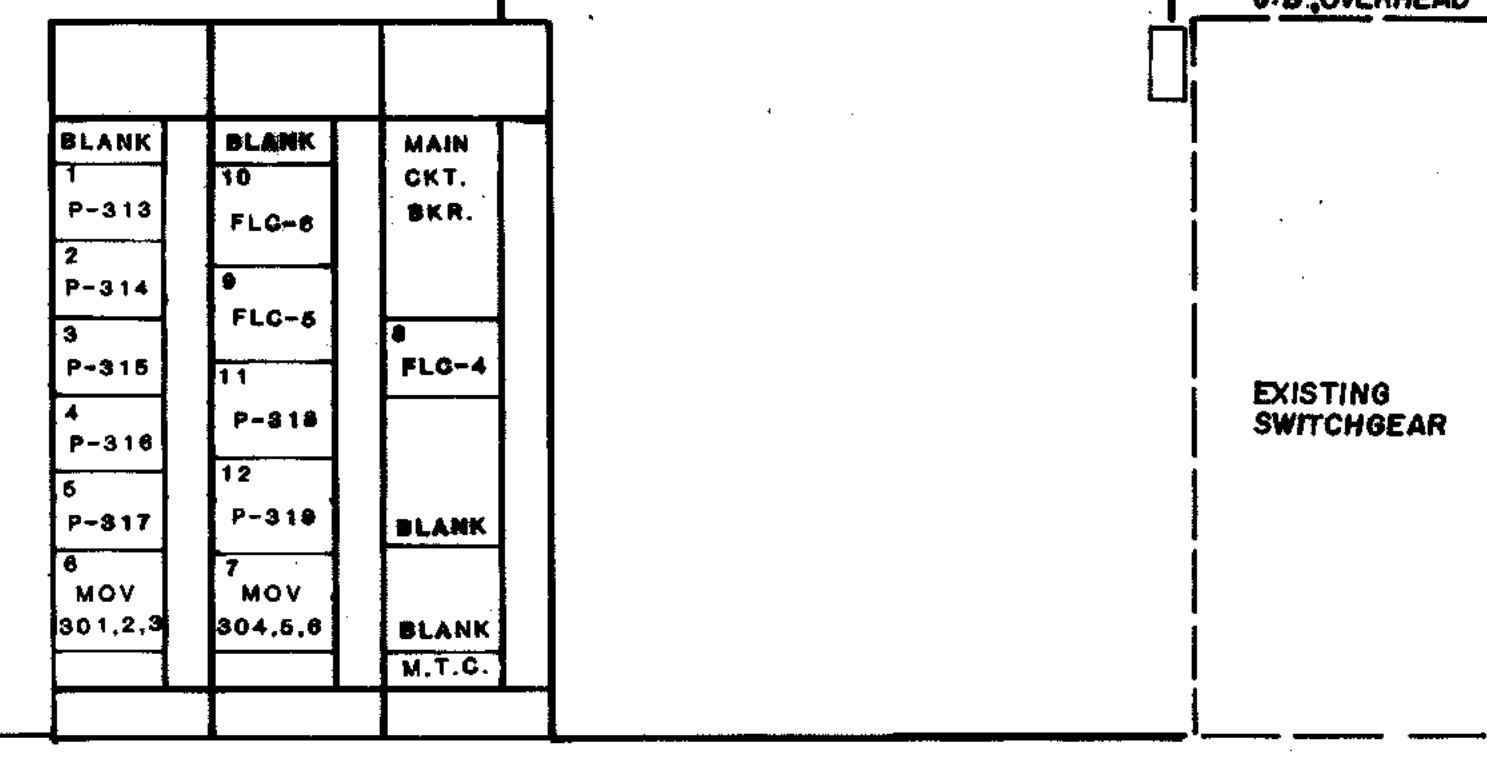
R MCC-A, SOLIDS PROCESSING BLDG.
SCALE 1/2" = 1'-0"



R MCC-B, EXISTING DIGESTER
SCALE 1/2" = 1'-0"



R MCC-C, NEW DIGESTER BLDG.
SCALE 1/2" = 1'-0"



R MCC-D, EXISTING BLOWER BLDG.
SCALE 1/2" = 1'-0"

NOTE:
EXISTING ALARM PANEL HAS INDICATION FOR:
1. PRIMARY DIGESTER NO. 1 HIGH LEVEL
2. " " " " LOW LEVEL
3. " " " " NO. 2 HIGH LEVEL
4. " " " " " " LOW LEVEL
5. SECONDARY DIGESTER NO. 1 HIGH LEVEL
6. " " " " " " LOW LEVEL
7. SPARE
8. SPARE
ABANDON ALL EXISTING ALARMS AND HARDWARE

NOTE: FOR ALL ADDITIVE ALTERNATIVES SPACE ONLY IN MCC'S SHALL BE INCLUDED IN BASE BID.

SERVICE: 120/208 3φ 4W		R PANEL LP-B		MOUNTING:	
MAIN BREAKER: 100/30		ENCLOSURE: NEMA		MAIN BUS: 100 3P	
LOCATION: IN MCC-B				FEEDER: 4#10	
CIRCUIT USE	L	VA	A P	SN	CIRCUIT USE
RECEPTS. BASEMENT	20 1			1-2	STORAGE SHED
LIGHTS BOILER ROOM	20 1			3-4	BASEMENT LIGHTS (NIGHT)
UNIT HTR. & FAN, COMP ROOM	20 1			5-8	BASEMENT LIGHTS
LIGHTS & RECEPTS BOILER RM.	20 1	1500		9-12	WASTE GAS BURNER
GAS METERS (HAGEN RBM.)	20 1			13-14	SCC-B
CP-5, CP-6	20 1			15-18	GAS COMP. PANEL
				19-22	AOV'S
				23-24	SECONDARY DIGESTER
BOILERS				25-28	FLOW METER
SOLENOID MPE 710				29-30	SPARE
LIGHTS, COMP. ROOM				31-32	SPARE
RECEPTS.				33-34	SPARE
FLOW METER				35-36	EXHAUST FAN
SPARE				37-38	SPARE
SPARE				39-40	SPARE
SPARE				41-42	SPARE
SPARE				43-44	SPACE
TOTAL PHASE A		5696 VA	1500		CONN. LOAD = 32.5 A
TOTAL PHASE B		3500 VA	0		CL - 25% = A
TOTAL PHASE C		2500 VA	1500		SPARE 25% = 8.1 A
TOTAL CONNECTED LOAD		11696 VA			FEEDER LOAD = 40.6 A

SERVICE: 120/208 3φ 4W		R PANEL LP-S		MOUNTING:	
MAIN BREAKER: 100/60		ENCLOSURE: NEMA		MAIN BUS: 100 3P	
LOCATION: IN MCC-A				FEEDER: 4#6	
CIRCUIT USE	L	VA	A P	SN	CIRCUIT USE
LIGHTS POLY. ROOM	20 1	1200		1-2	RECEPTS
LIGHTS GBT. ROOM	20 1	1100		3-4	RECEPTS, AIR DRYER
EXTERIOR LIGHTS	20 1	250		5-8	P-652 SUMP PUMP
BASEMENT LIGHTS	20 1	400		9-12	BASEMENT RECEPTS
SPARE	20 1			13-14	TEMP. CONT. COMP.
SPARE	20 1			15-18	SCC-A
P-651 SUMP PUMP	20 1	1176		19-22	CONTROL POWER TO POLYMER PANELS.
METERS F-4	20 1	1500		23-24	" "
METERS F-5	20 1	1500		25-28	SPARE
METERS F-6	20 1	1500		29-30	BULK POLYMER PNL.
GARAGE DOOR OPERATOR	20 1	500		31-32	SPARE
SPARE	20 1			33-34	" "
SPARE	20 1			35-36	" "
"	20 1			37-38	" "
TOTAL PHASE A		4276		5576 VA	CONN. LOAD = 45.1 A
TOTAL PHASE B				5740 VA	CL - 25% = A
TOTAL PHASE C		2250		4926 VA	SPARE 25% = 11.2 A
TOTAL CONNECTED LOAD				16242 VA	FEEDER LOAD = 56.3 A

SERVICE: 120/208 3φ 4W		R PANEL LP-D		MOUNTING:	
MAIN BREAKER: 100/30		ENCLOSURE: NEMA		MAIN BUS: 100 3P	
LOCATION: IN MCC-C				FEEDER: 4#10	
CIRCUIT USE	L	VA	A P	SN	CIRCUIT USE
BASEMENT LIGHTS	20 1	300		1-2	1ST FLOOR LIGHTS
BASEMENT RECEPT.	20 1	200		3-4	1ST FLOOR RECEPT.
P-751 SUMP PUMP	20 1	1176		5-8	EXH-1
UH-1	20 1	800		9-12	UH-2
EXH #2 DAMPERS	20 1			13-14	CONTROL PANEL FOR HEAT EXCHANGER MPE-705
P-752 SUMP PUMP	20 1	1176		15-18	F7 FLOW METER
SOLENOID PUMPS 706, 709	20 1			19-22	SCC-C
SPACE				23-24	LOADING STATION CONTROL
				25-28	SPACE
TOTAL PHASE A		1100		2200 VA	CONN. LOAD = 24 A
TOTAL PHASE B				3400 VA	CL - 25% = A
TOTAL PHASE C		2352		3048 VA	SPARE 25% = 6 A
TOTAL CONNECTED LOAD				8648 VA	FEEDER LOAD = 30.0 A

FIXTURE TYPE	LAMPS IN FIXTURE NO. / TYPE / SIZE	FIXTURE MOUNTING	MANUFACTURER	CATALOG NO.	REMARKS
A	2 / F / 40	SURFACE	METALUX	VT-240 DR-DL	
B	1 / HPS / 70	SURFACE	KENALL	5020	PHOTO CELL NO. 9051
C	1 / MH / 175	POLE	CROUSE HINDS	PT017MWN55A-460V	MOUNTED ON 20' POLE
D	1 / MH / 100	PENDENT	APPLETON	CMF1075-120	2' PENDENT
	2 / 4 W / AC	WALL	SILTRON	UX-ESC-SR-120	
	2 / FAR 36 / 25W	WALL	SILTRON	SE128-VN	

R RECORD DRAWING 4-90 P.D.

1 REVISED 6-23-88 PANELS LP-S & LP-D

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ELECTRICAL
MCC ELEVATIONS & SCHEDULES

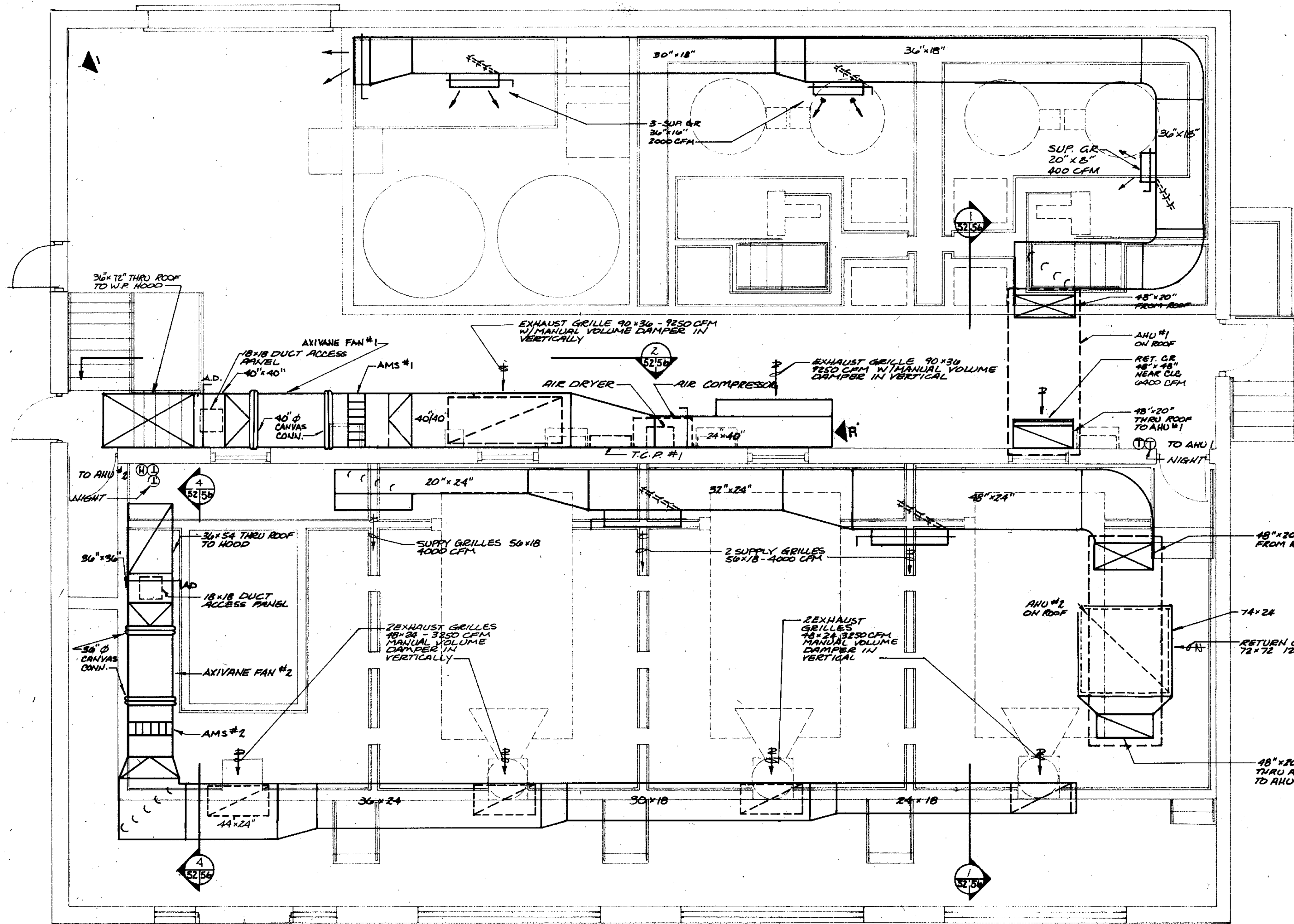
SCALE: AS NOTED DATE: NOVEMBER, 1987

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
340 West Wingra Drive
Madison, Wisconsin 53715
Tel: (608) 251-4843

Belting Consultants
Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435

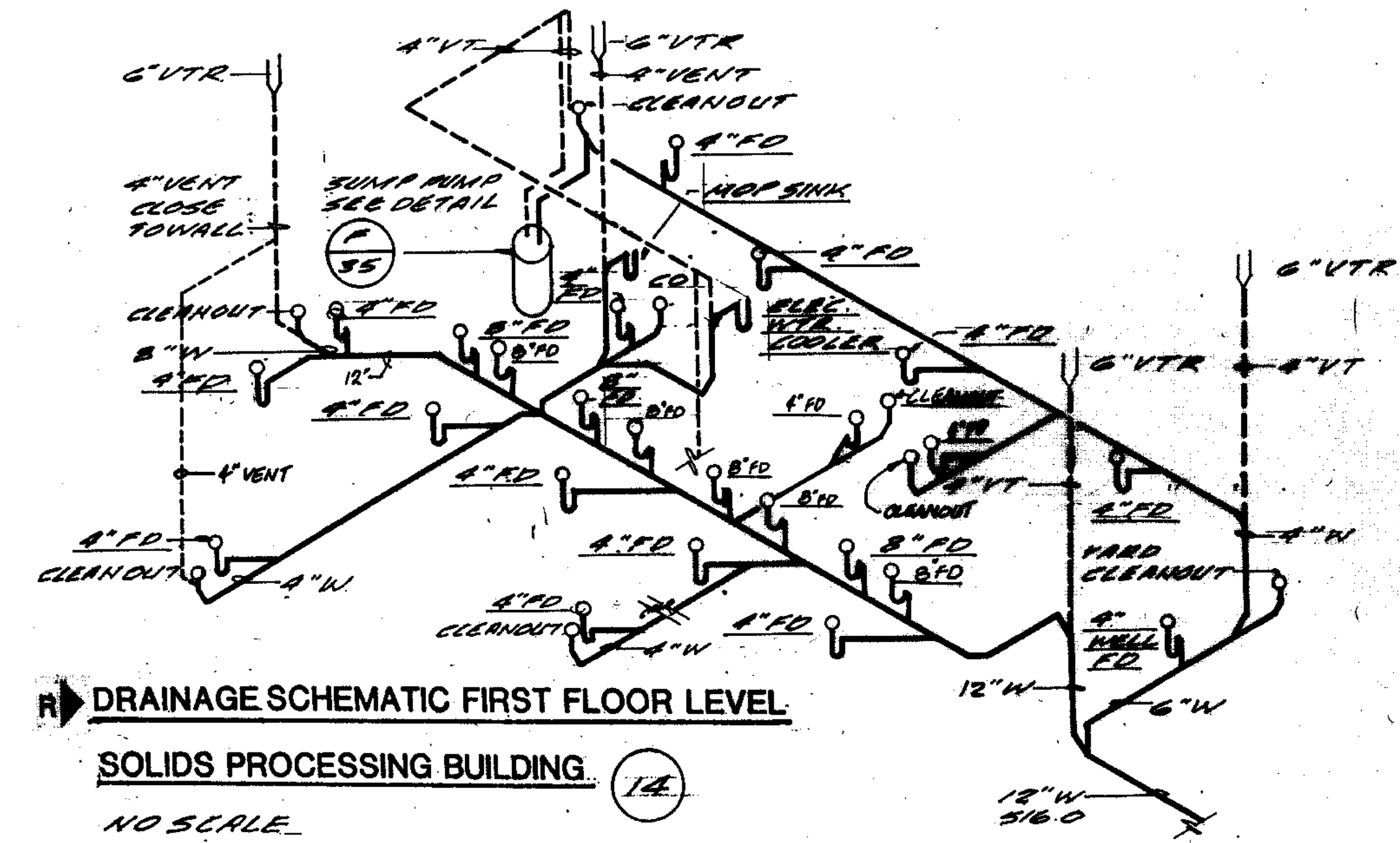
DRAWING NO. 255-230-51

COMPOSITE 78-57 E-S1
OVERLAY 78-57 E-S1
PROJECT NO. 78-57
DATE



SOLIDS PROCESSING BUILDING - UPPER LEVEL

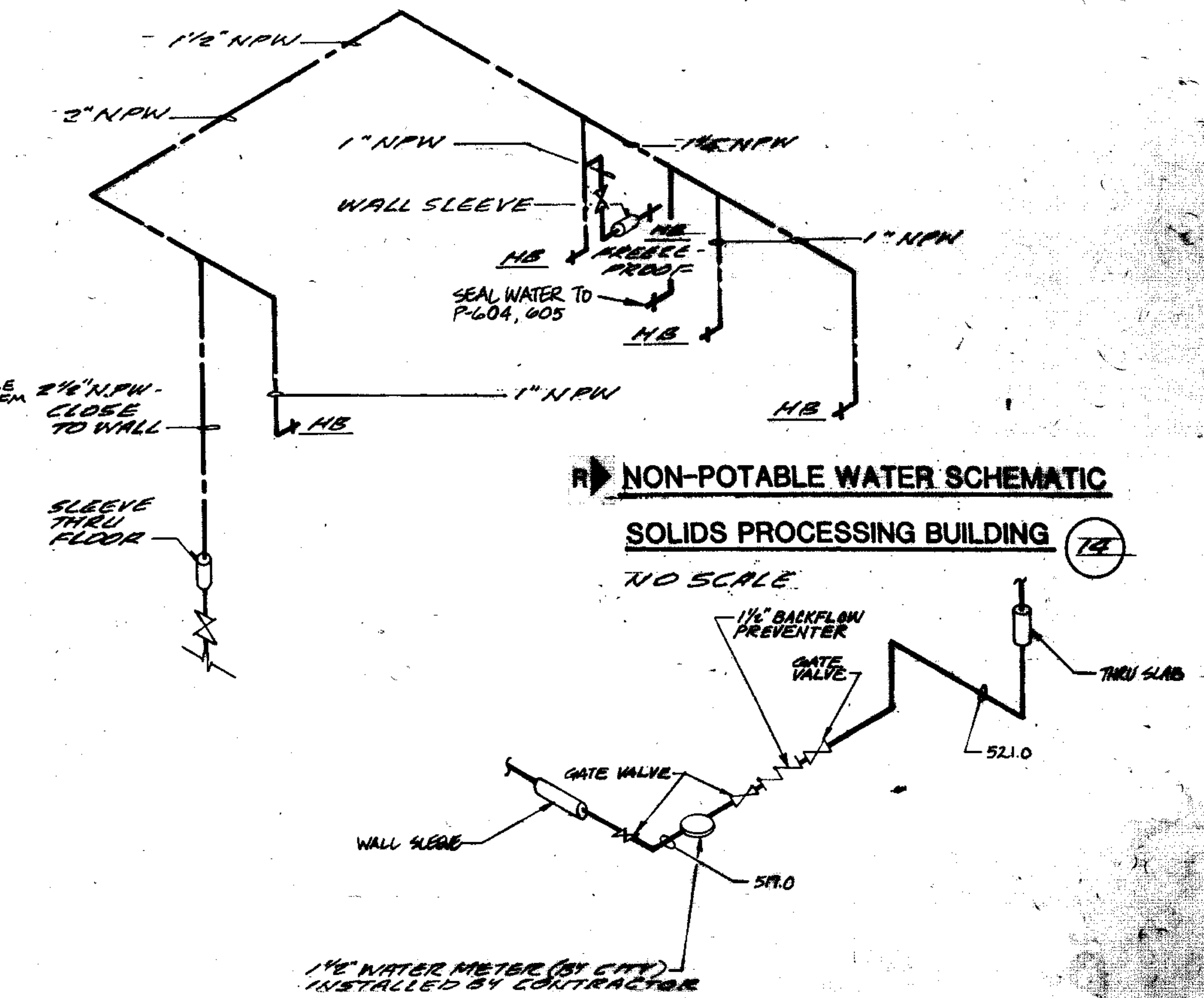
1/4" = 1'-0"



DRAINAGE SCHEMATIC FIRST FLOOR LEVEL

SOLIDS PROCESSING BUILDING 14

NO SCALE



NON-POTABLE WATER SCHEMATIC

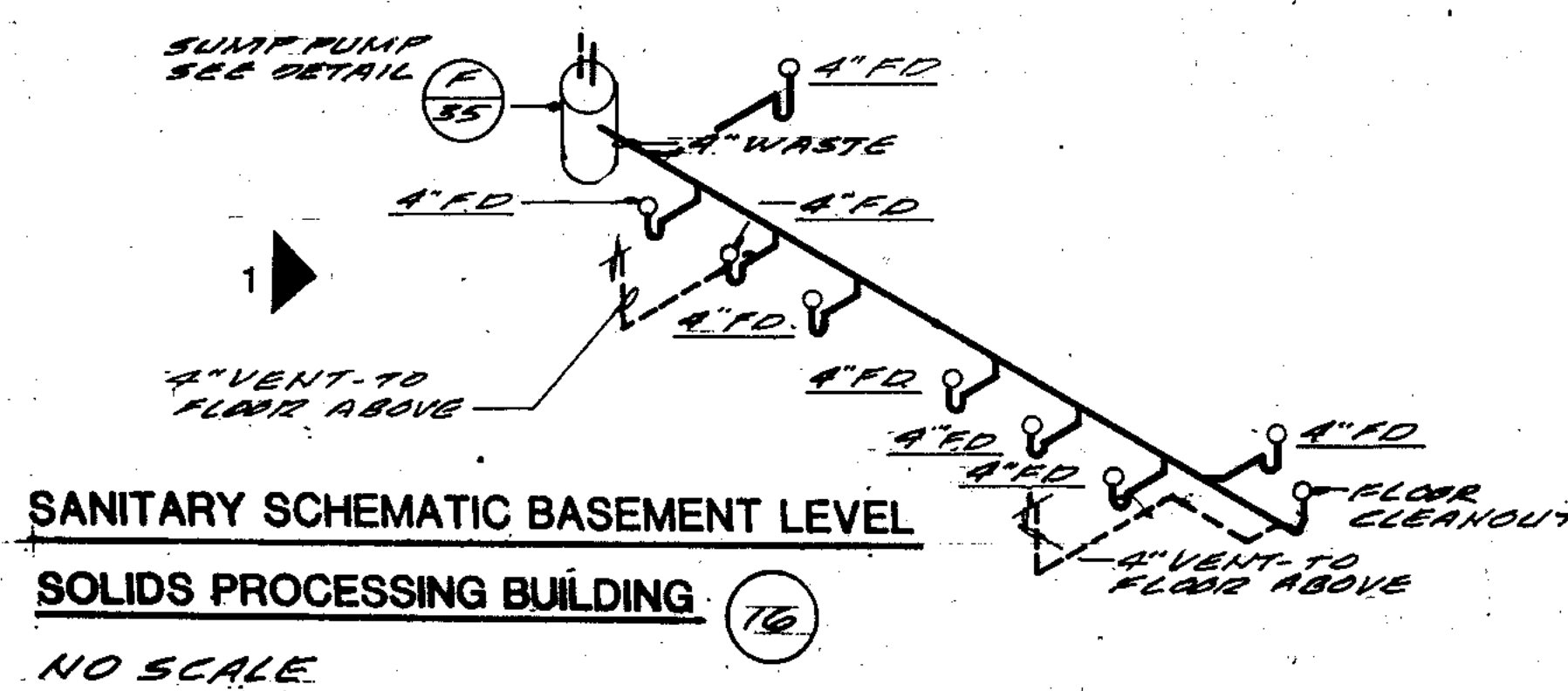
SOLIDS PROCESSING BUILDING 14

NO SCALE

POTABLE WATER SCHEMATIC

SOLIDS PROCESSING BUILDING 14

NO SCALE



SANITARY SCHEMATIC BASEMENT LEVEL

SOLIDS PROCESSING BUILDING 14

NO SCALE

OVERLAY IDENTIFICATION	78-52	N-HV-1
PROJECT NO.	78-52	N-HV-1
DATE	11-21-87	S

RECORD DRAWING 14

1 REVISED 8-23-88

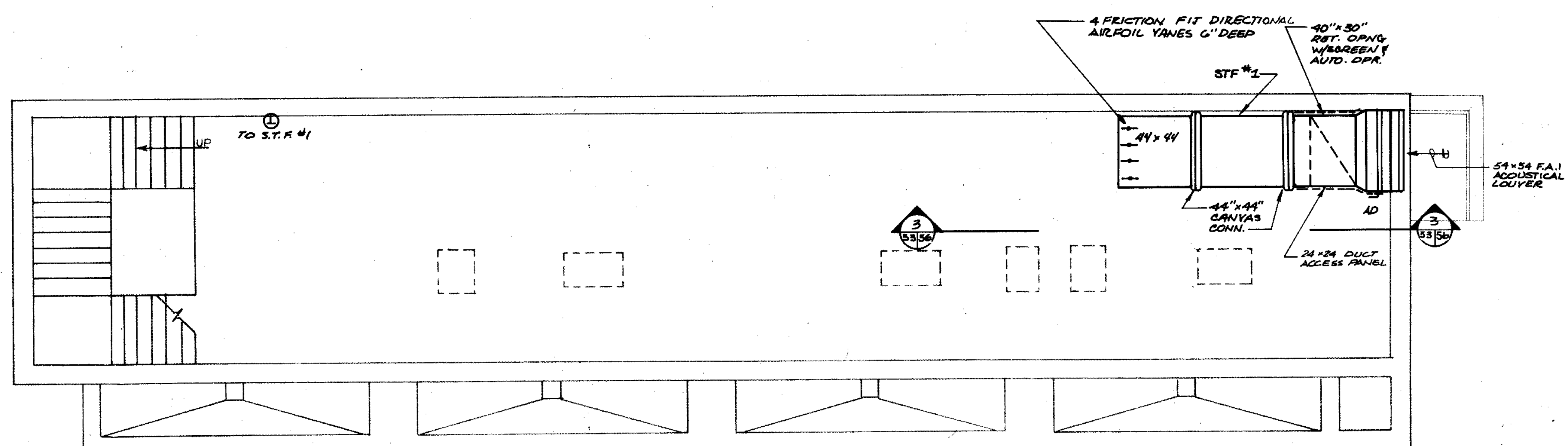
CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
HEATING VENTILATING & PLUMBING
SOLIDS PROCESSING - BLDG. UPPER LEVEL

SCALE: AS NOTED DATE: NOVEMBER, 1987

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

Being Consultants
1100 West Center / N. Larkin Ave. at 41st Street
Joliet, IL 60438

DRAWING NO. 255-230-62



SOLIDS PROCESSING BUILDING - LOWER LEVEL
1/4" = 1'-0"

STARTERS

- MAG. — ALL MAGNETIC STARTERS TO BE ALLEN BRADLEY BULLETIN 705 FORM 3, SQUARE D OR EQUAL, 3 POLE, 3 PHASE OF NEMA SIZE APPLICABLE WITH 3 MELTING ALLOY OVERLOAD RELAYS, 120 VOLT HOLDING COIL, CONTROL TRANSFORMER, THERMAL RESET BUTTON & GENERAL PURPOSE ENCLOSURE.
- MAN. — ALL MANUAL STARTERS TO BE ALLEN BRADLEY 600 TMS SQUARE D OR EQUAL, DOUBLE POLE TOGGLE SWITCH TYPE WITH THERMAL OVERLOAD RELAY & GENERAL PURPOSE ENCLOSURE.
- 2 SPD. M.S.P.L. — ALL TWO SPEED STARTERS WITH PILOT LIGHT WITH STAINLESS STEEL FLUSH PLATE TO BE ALLEN BRADLEY 600 TMS SQUARE D, OR EQUAL, DOUBLE POLE TOGGLE SWITCH TYPE WITH "HIGH" OFF "LOW" SELECTOR SWITCH SEPARATE THERMAL OVERLOAD RELAY PROTECTION IN EACH SPEED AND WITH NEON PILOT LIGHT FOR EACH SPEED & STAINLESS STEEL FLUSH PLATE.
- MAG. H.O.A. — ALL MAGNETIC STARTERS WITH HAND-OFF-AUTO SELECTOR SWITCH TO BE ALLEN BRADLEY BULLETIN 503, FORM 3, 3 PHASE OF NEMA SIZE APPLICABLE WITH 3 MELTING ALLOY OVERLOAD RELAY, 120 VOLT COIL, CONTROL TRANSFORMER, RESET BUTTON AND 3 POSITION H-O-A SWITCH IN COVER OF GENERAL PURPOSE ENCLOSURE.
- 2 SPD. MAG. — ALL TWO SPEED MAGNETIC STARTERS TO BE ALLEN BRADLEY BULLETIN 715, FORM 2, 3 POLE, 3 PHASE OF NEMA SIZE APPLICABLE WITH 3 MELTING ALLOY OVERLOAD RELAYS FOR EACH SPEED, 120 VOLT HOLDING COIL, EXTERNAL RESET BUTTON, ELECTRICALLY & MECHANICALLY INTERLOCKING AND GENERAL PURPOSE ENCLOSURE.

ABBREVIATIONS

- E.C. — ELECTRICAL CONTRACTOR
- T.C.F. — TEMPERATURE CONTROL FIRM
- P.E. SW. — PNEUMATIC SWITCH
- T.C.P. — TEMPERATURE CONTROL PANEL
- H.C. — HEATING CONTRACTOR
- E.P. — ELECTRICAL PNEUMATIC VALVE
- L.V. — 120 VOLT THERMOSTAT
- O.H.P. — OVERHEAT PROTECTION
- O.L.P. — OVER LOAD PROTECTION
- EX.P. — EXPLOSION PROOF

NOTE: ALL REFERENCES TO E.C., T.C.F., H.C. ETC. SHALL BE INTERPRETED AS THE CONTRACTOR.

MOTOR CONTROL SCHEDULE

UNIT NAME & NUMBER	H.P. OR KW	VOLTS & PHASE	STARTER TYPE	FURN. IN	LOCATION	CONTROL TYPE	FURN. BY	LOCATION	CONTROL WIRING IN DIV. 1600
AIR HANDLING UNIT #1	3	480/3	MAG. H.O.A.	DIV. 1600	MCC	RE. SW	T.C.F.	T.C.P. #1	
AIR HANDLING UNIT #2	10	480/3	MAG. H.O.A.	DIV. 1600	MCC	RE. SW	T.C.F.	T.C.P. #1	
AXIVANE FAN #1 AND #2	5	480/3	MAG. H.O.A.	DIV. 1600	MCC	RE. SW	T.C.F.	T.C.P. #1	
ROOF EXHAUSTER #3	1/4 EX.P.	120/1	2 SPD M.S.P.L.	DIV. 1600	NEAR UNIT	2 SPD M.S.P.L.	E.C.	NEAR UNIT	
STRAIGHT THRU FAN #1	3	480/3	2 SPD. MAG.	DIV. 1600	MCC	RE. SW	T.C.F.	NEAR UNIT	
ROOF EXHAUSTER #1	1/4 EX.P.	120/1	2 SPD M.S.P.L.	DIV. 1600	NEAR UNIT	2 SPD M.S.P.L.	E.C.	NEAR UNIT	
ROOF EXHAUSTER #2	3	480/3	2 SPD MAG.	DIV. 1600	MCC	L.V. THERM.	T.C.F.	NEAR UNIT	
UNIT HEATER #1	1/20 EX.P.	120/1	O.L.P.	DIV. 1600	ON UNIT	L.V. THERM.	T.C.F.	NEAR UNIT	WIRE THRU L.V. THERM.
UNIT HEATER #2	1/20	120/1	O.L.P.	DIV. 1600	ON UNIT	L.V. THERM.	T.C.F.	NEAR UNIT	WIRE THRU L.V. THERM.
TEMP. CONTROL AIR COMP.	1/2	120/1	O.L.P.	UNIT MFR	NEAR UNIT	INTEGRAL	UNIT MFR	NEAR UNIT	
AIR DRYER	1/5	120/1	MAN.	DIV. 1700	NEAR UNIT	INTEGRAL	UNIT MFR	IN UNIT	
TEMP. CONTROL PNL		120/1							PROVIDE 120/60/1 POWER TO PNL
PUMP NO. "CP-14"	5	480/3	MAG. H.O.A.	DIV. 1600	MCC	L.V. THERM.	E.C.	NEAR UNIT	

ROOF EXHAUSTER

UNIT NO.	SERVICE	CFM	EXT. SP. IN H ₂ O	FAN DIA. INCHES	HIGH SPEED RPM	MAX. TIP SPD RPM	DRIVE	MOTOR				DAMPER TYPE	PRE-FAB CURB STD	MFR.	MODEL	
								H.P.	VOLTS	PH	HZ					
1	DIGESTER	2000	1/4	15"	1140	4775	DIRECT	1/4 EX.P.	120	1	60	TWO	GRAVITY	YES	GREENHECK	G-150-B
2	DIGESTER	12300	1/2	42"	395	4369	BELT	3 EX.P.	480	3	60	TWO	GRAVITY	YES	GREENHECK	GS-4230
3	DIGESTER	2000	1/4	15"	1140	4775	DIRECT	1/4 EX.P.	120	1	60	TWO	GRAVITY	YES	GREENHECK	G-150-B

HOT WATER UNIT HEATER

UNIT NO.	SERVICE	TYPE	CFM	MBH	RPM	ENT. AIR TEMP °F	ENT. H ₂ O TEMP °F	L.V. H ₂ O TEMP °F	GPM	MOTOR				MFR.	MODEL
										H.P.	VOLTS	PH	HZ		
6	DIGESTOR	HORIZONTAL	590	15.7	1550	60	170	150	1.6	1/20 EX.P.	120	1	60	TRANE	425
7	DIGESTOR	HORIZONTAL	815	21.0	1550	60	170	140	1.4	1/20	120	1	60	TRANE	605

PUMPS AND CIRCULATORS

UNIT NO.	LOCATION	SERVICE	GPM	HEAD FT. OF H ₂ O	OPER. TEMP °F	RPM	MOTOR				TYPE	MFR.	MODEL	SIZE
							H.P.	VOLTS	PH	HZ				
CP-14	EXIST. DIGEST.	SLUDGE HTR.	173	50	170	1750	5	480	3	60	VERT. INLINE	3/4"	SERIES 80	3X3X4 1/2"

STRAIGHT THRU FAN (STF)

UNIT NO.	SERVICE	CFM	EXT. SP. IN H ₂ O	FAN TYPE	FAN DIA. INCHES	HIGH SPEED RPM	MAX. TIP SPD FPM	DRIVE	MOTOR				DPR TYPE	SUPPORT	MFR.	MODEL	
									H.P.	VOLTS	PH	HZ					
1	SOLIDS PUMP	11000	.250	CENT.	30"	610	4950	BELT	3	480	3	60	TWO	AUTO DMPR	HANDER ROD	GREENHECK	SAB-30-30

AIR HANDLING UNIT (AHU)

UNIT NO.	SERVICE	TYPE	UNIT ARRANGEMENT	TOTAL CFM	O-AIR CFM	EXT. SP. IN H ₂ O	MOTOR				DPR		ENT. AIR TEMP °F	L.V. AIR TEMP °F	MFR.	MODEL
							HP	VOLTS	PH	HZ	GAS INLET MBH	GAS OUTPUT MBH				
1	POLYMER IN GAS - ROOF TOP	HORIZONTAL	HORIZONTAL	6400	3000	1.40	3	480	3	60	800.0	616.0	36°	1250	REINOR	RAK-2
2	THICKENER IN GAS - ROOF TOP	HORIZONTAL	HORIZONTAL	12000	7500	3.20	10	480	3	60	1200.0	924.0	26°	97°	REINOR	RAK-3

AXIVANE FAN

UNIT NO.	CFM	EXT. SP. IN H ₂ O	FAN DIA.	OUT. VEL.	RPM	DRIVE	MOTOR			PITCH	MFR.	MODEL
							H.P.	VOLTS	PH			
1	18500	.75	36"	1839	885	DIRECT	5 EX.P.	480	3	60	CONTROL-ABLES	FLAKT 100-5-B
2	13000	.90	40"	2120	885	DIRECT	5 EX.P.	480	3	60	CONTROL-ABLES	FLAKT 90-5-B

AIR MEASURING STATION (AMS)

UNIT NO.	MAX. CFM	SIZE	VEL. F.P.M.	AIR RD. IN H ₂ O	MODEL	MFR.	REMARKS
1	18500	40" Ø	2120	.09	FMS-D		
2	13000	36" Ø	1840	.07	FMS-D		

FLOW METER (FM)

UNIT NO.	LOCATION	SERVES	GPM	SIZE IN.	REMARKS
1	EXIST. DIGEST.	CP-14	173	4	

COMPOSITE 78-53
 OVERLAY 78-53
 SCREEN
 A-2.1
 A-2.1
 N-HV-2
 N-HV-2
 5

RECORD DRAWING 488 D.O.
 REVISED 8-22-86 ORIENTATION OF BUILDING

CITY OF JOLIET
 EASTSIDE
 WASTEWATER TREATMENT PLANT
 HEATING & VENTILATING
 SOLIDS PROCESSING BLDG. LOWER LEVEL & SCHEDULE

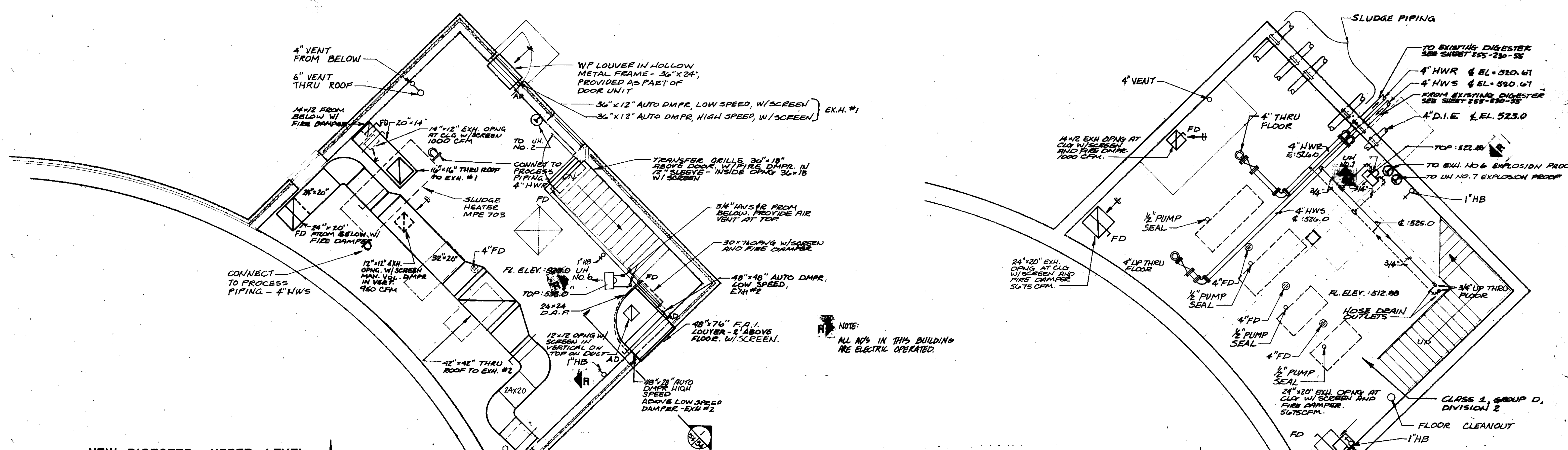
SCALE: AS NOTED DATE: NOVEMBER, 1987

DRAWING NO. 255-230-63

SHEET 63 OF 64



Beiling Consultants
 1400 West Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435 (815) 729-1800



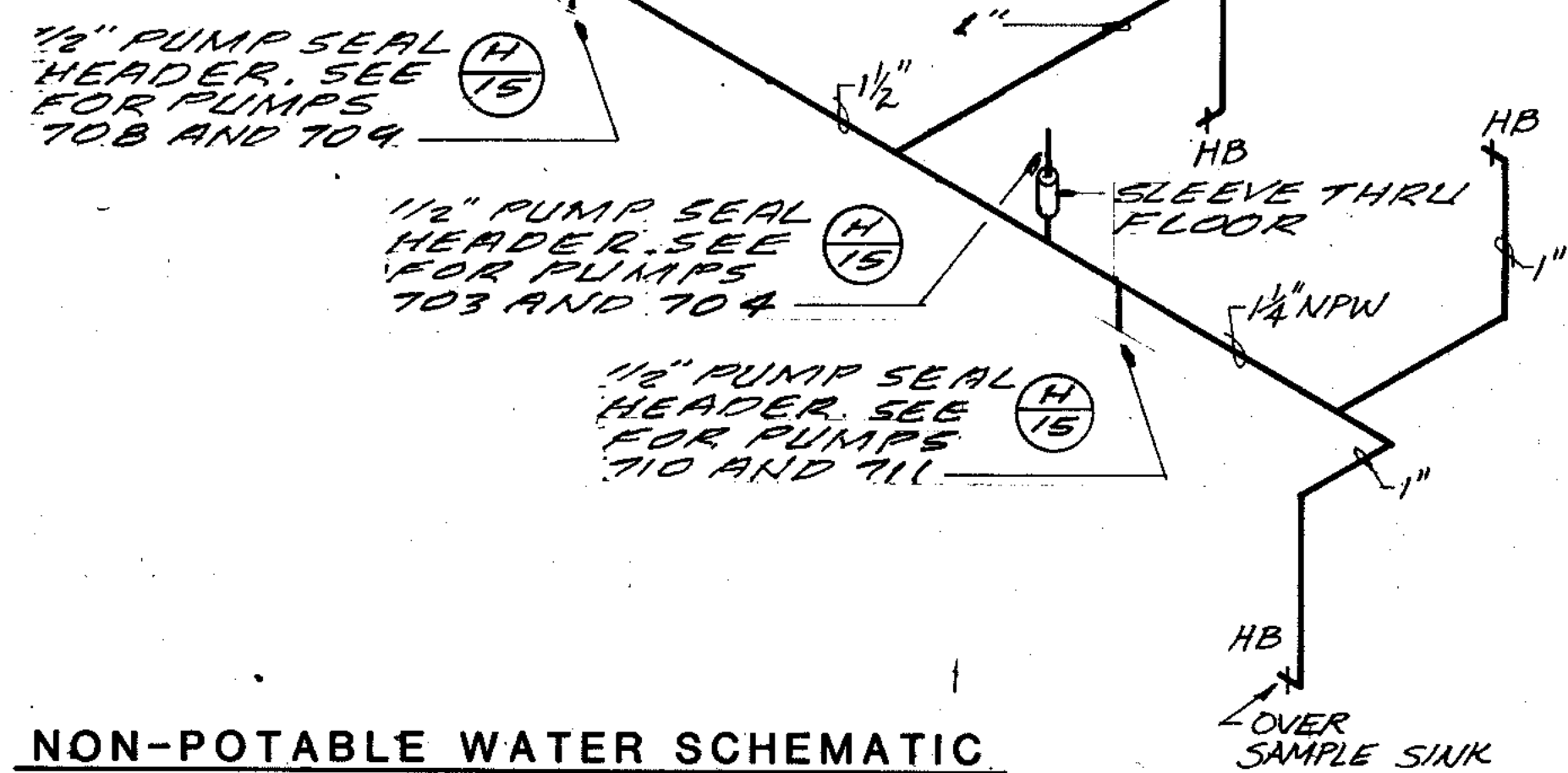
NOTE:
ALL A/D'S IN THIS BUILDING
ARE ELECTRIC OPERATED.

NEW DIGESTER - UPPER LEVEL

1/4" = 1'-0"

NEW DIGESTER - LOWER LEVEL

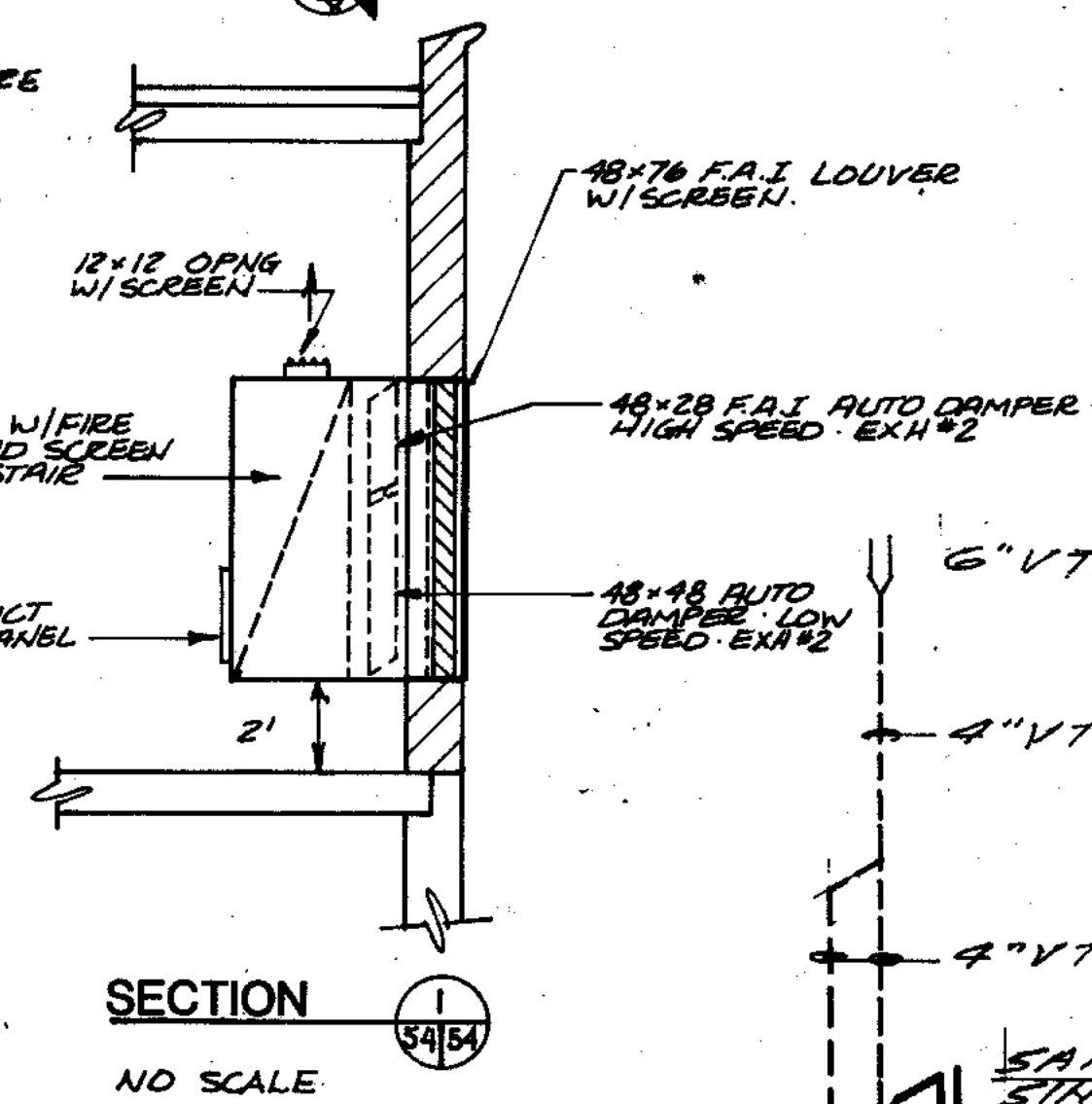
1/4" = 1'-0"



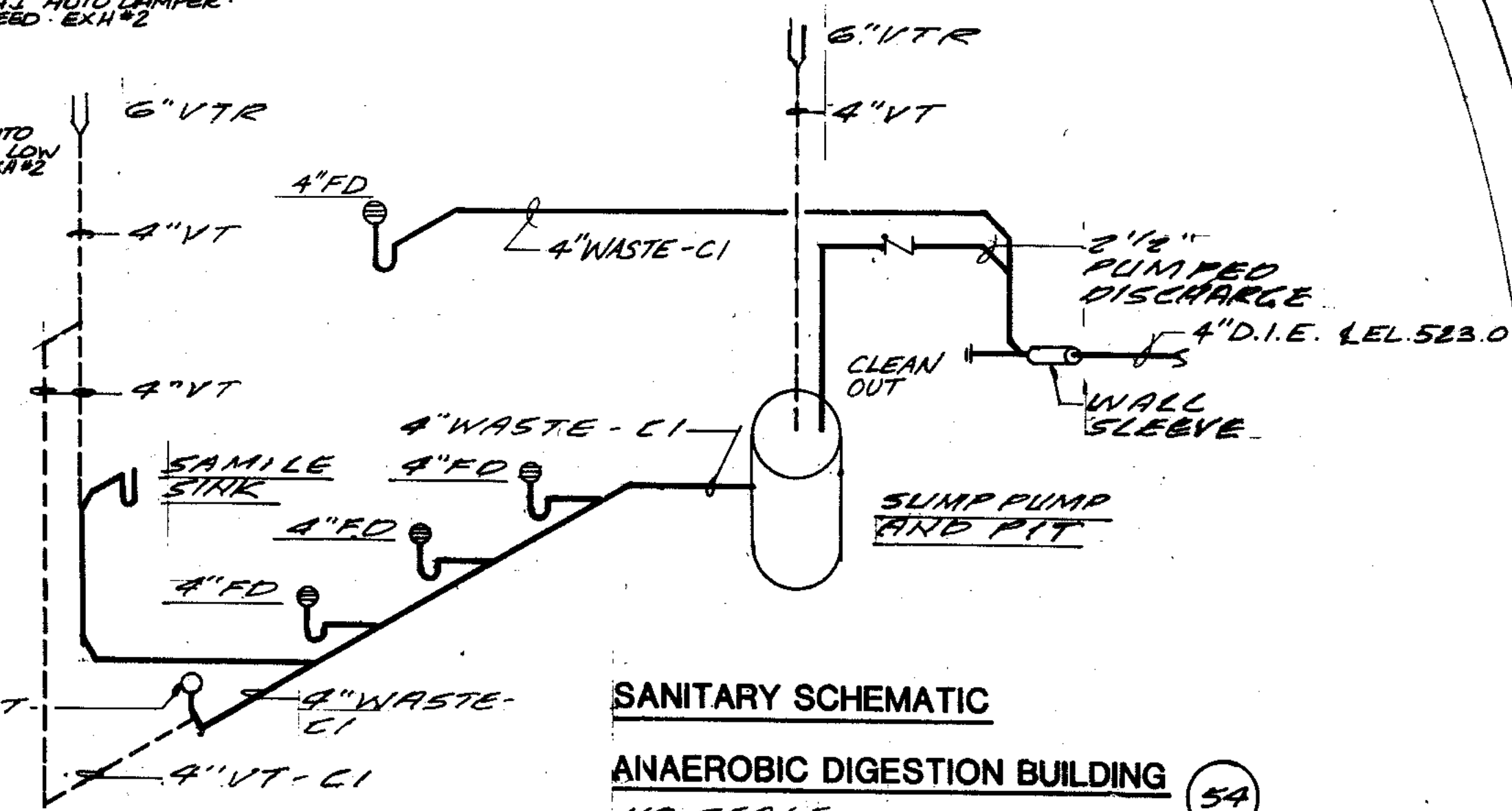
NON-POTABLE WATER SCHEMATIC

ANAEROBIC DIGESTION BUILDING

NO SCALE



SECTION
NO SCALE



SANITARY SCHEMATIC

ANAEROBIC DIGESTION BUILDING

NO SCALE

COMPOSITE	72-54	A-5	N-HV-3
OVERLAY	72-54	A-5	N-HV-3
SCREEN			
PROJECT NO.			
DATE			

RECORD DRAWING 4-90 D.O.

STRAND ASSOCIATES, INC.
CONSULTING ENGINEERS
910 West Wings Drive
Madison, Wisconsin 53715
Tel. (608) 251-4843

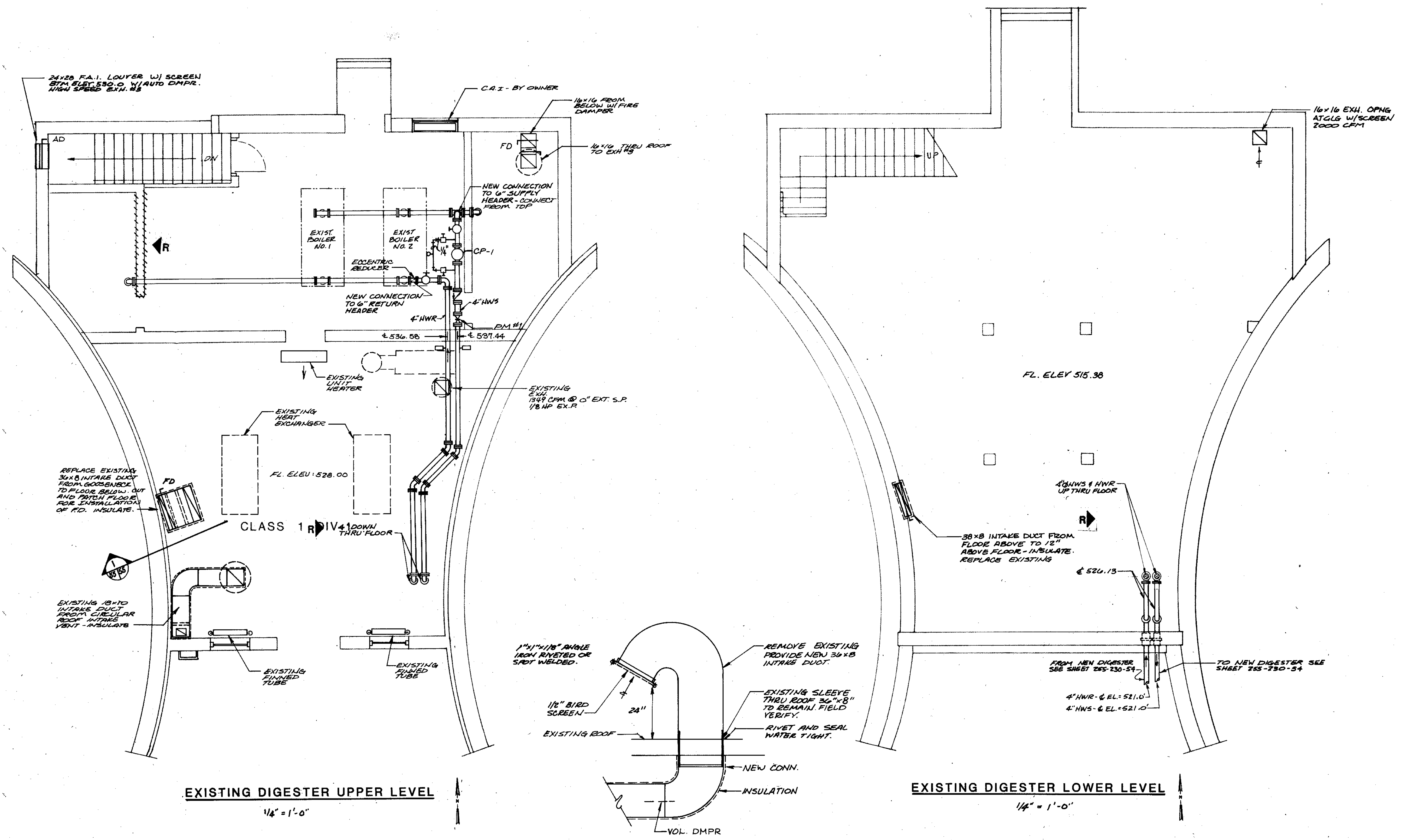
Beijing Consultants
1100 East Center / N. Larkin Avenue at Pleasant Road
Joliet, IL 60435

CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
HEATING & VENTILATING
NEW DIGESTER

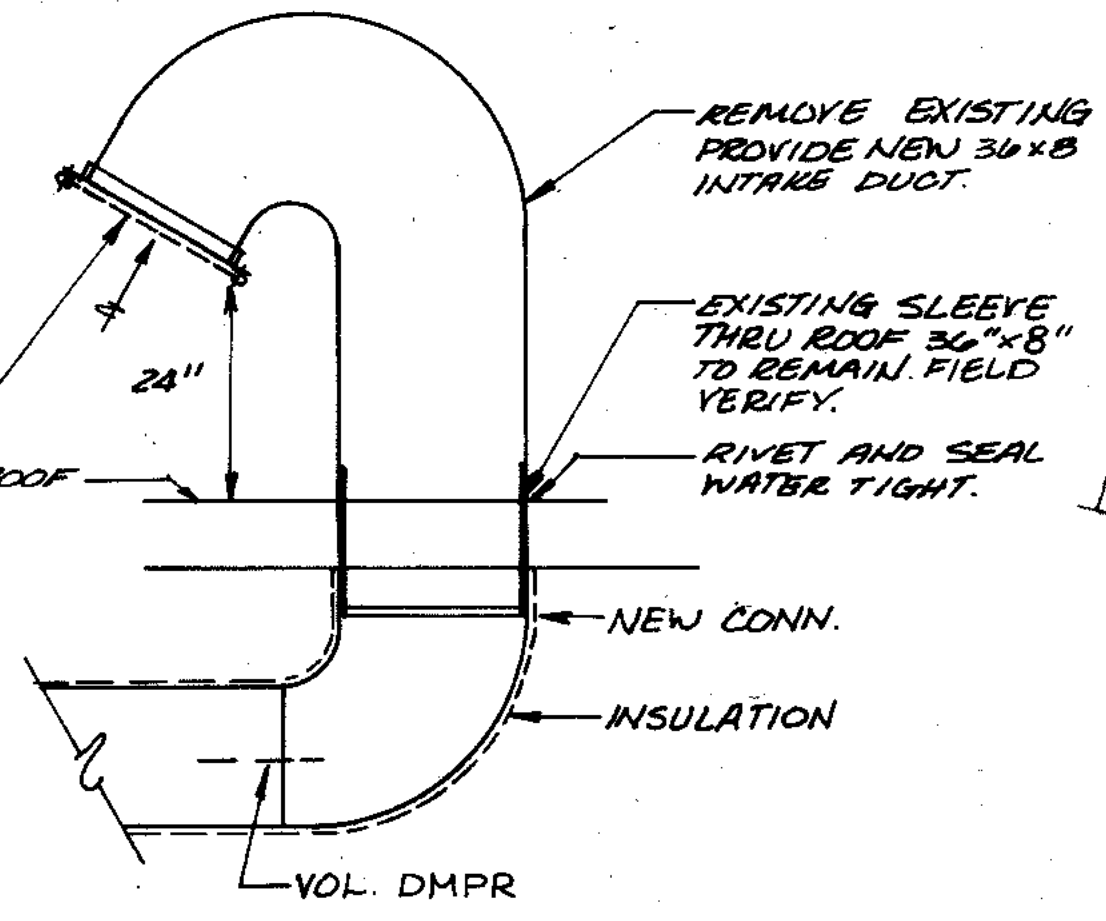
SCALE: AS NOTED DATE: NOVEMBER, 1987

DRAWING NO. 255-230-54

OVERLAY IDENTIFICATION	COMPOSITE	78-55	EX-D	IV-55
PROJECT NO.	OVERLAY	78-55	EX-D	IV-55
DATE	SCREEN		3	



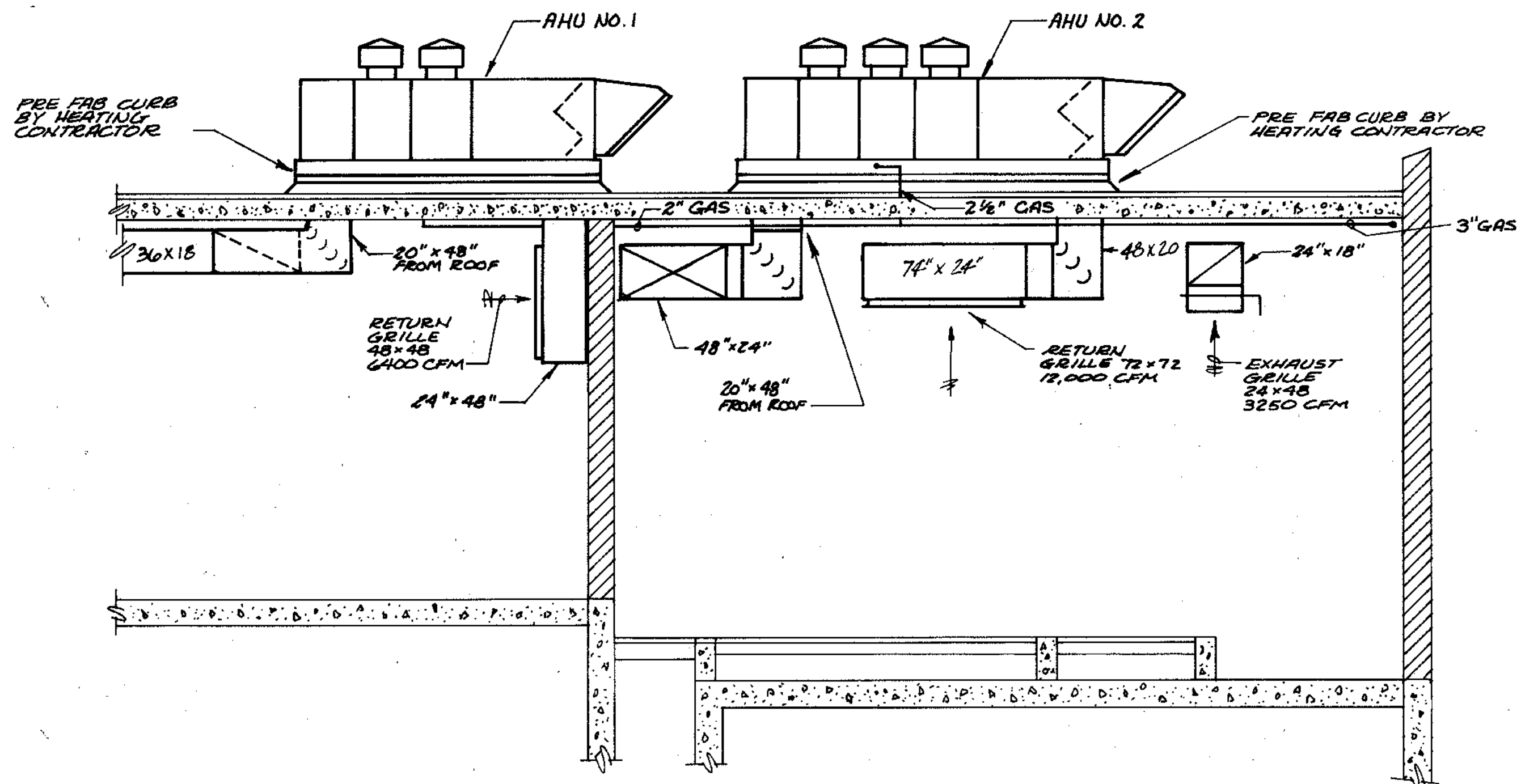
EXISTING DIGESTER UPPER LEVEL
1/4" = 1'-0"



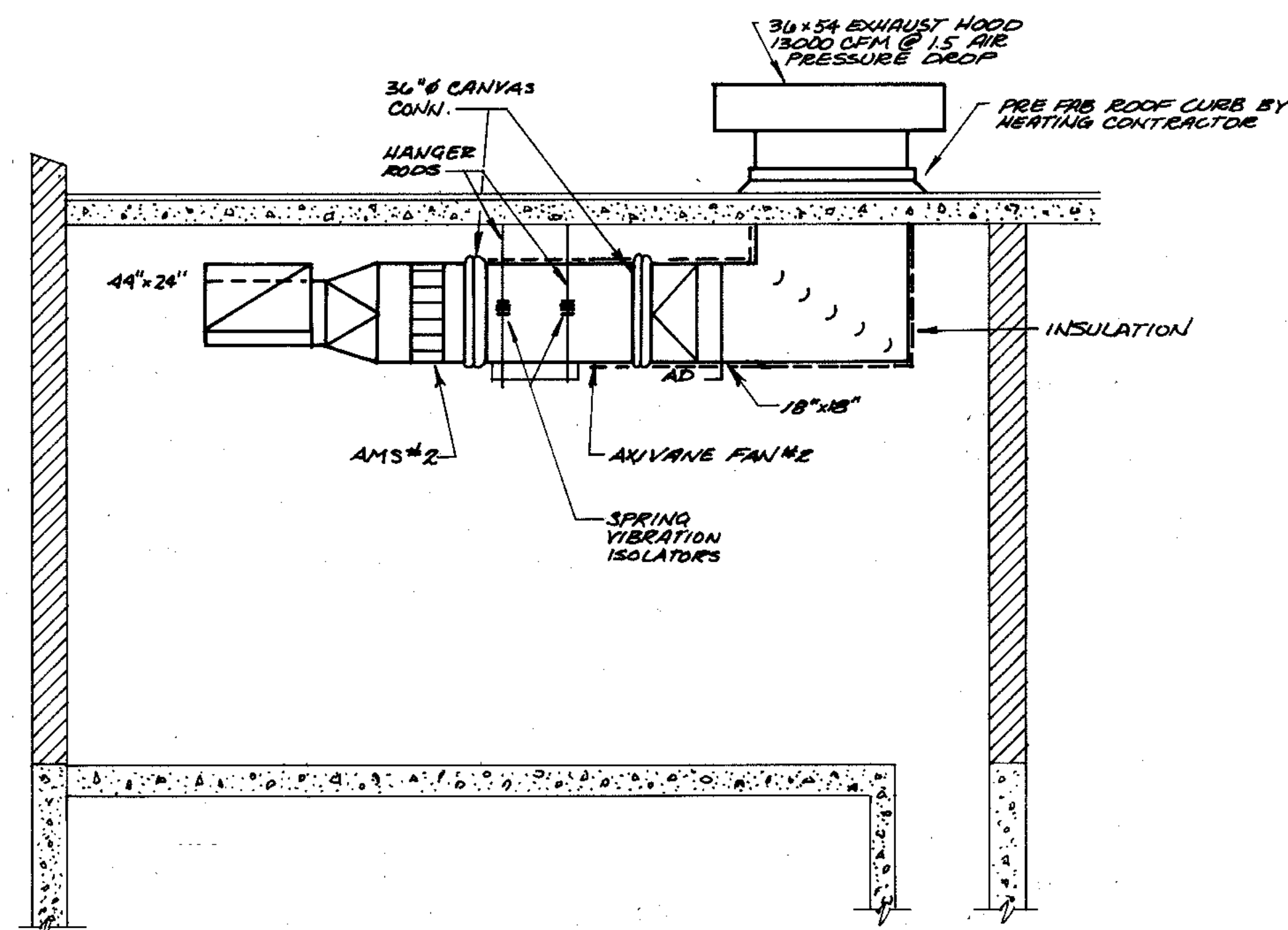
SECTION I
3/8" = 1'-0"

EXISTING DIGESTER LOWER LEVEL
1/4" = 1'-0"

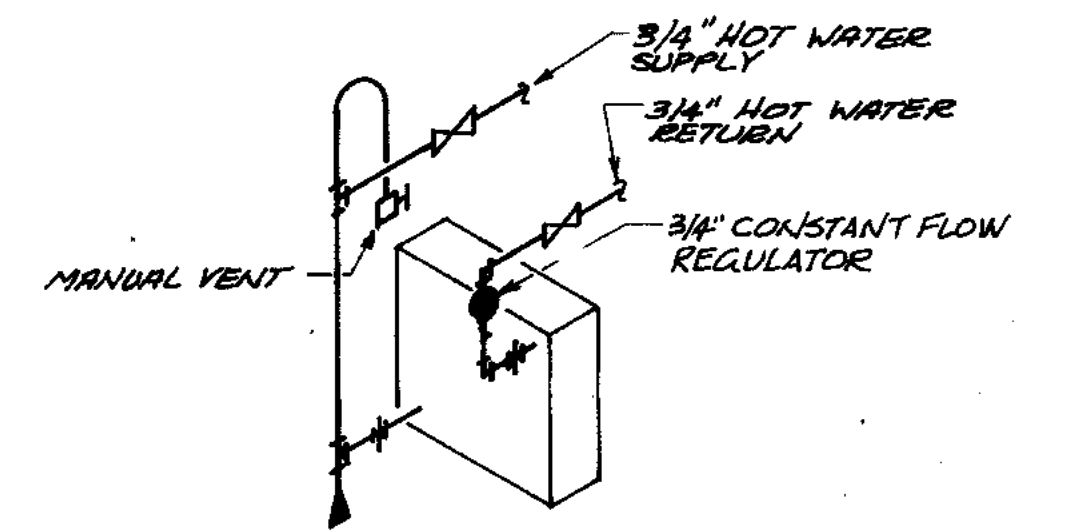
 STRAND ASSOCIATES INC. CONSULTING ENGINEERS 910 West Wingo Drive Madison, Wisconsin 53715 Tel: (608) 251-4843	CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT HEATING & VENTILATING EXISTING DIGESTER	
	SCALE AS NOTED DATE NOVEMBER, 1987	DRAWING NO 255-230-55
 Beiling Consultants Wilcrest Center, N. Larkin Avenue at Plainfield Road/ Joliet, IL 60435 (815) 729-1800	SHEET 55 OF 59	



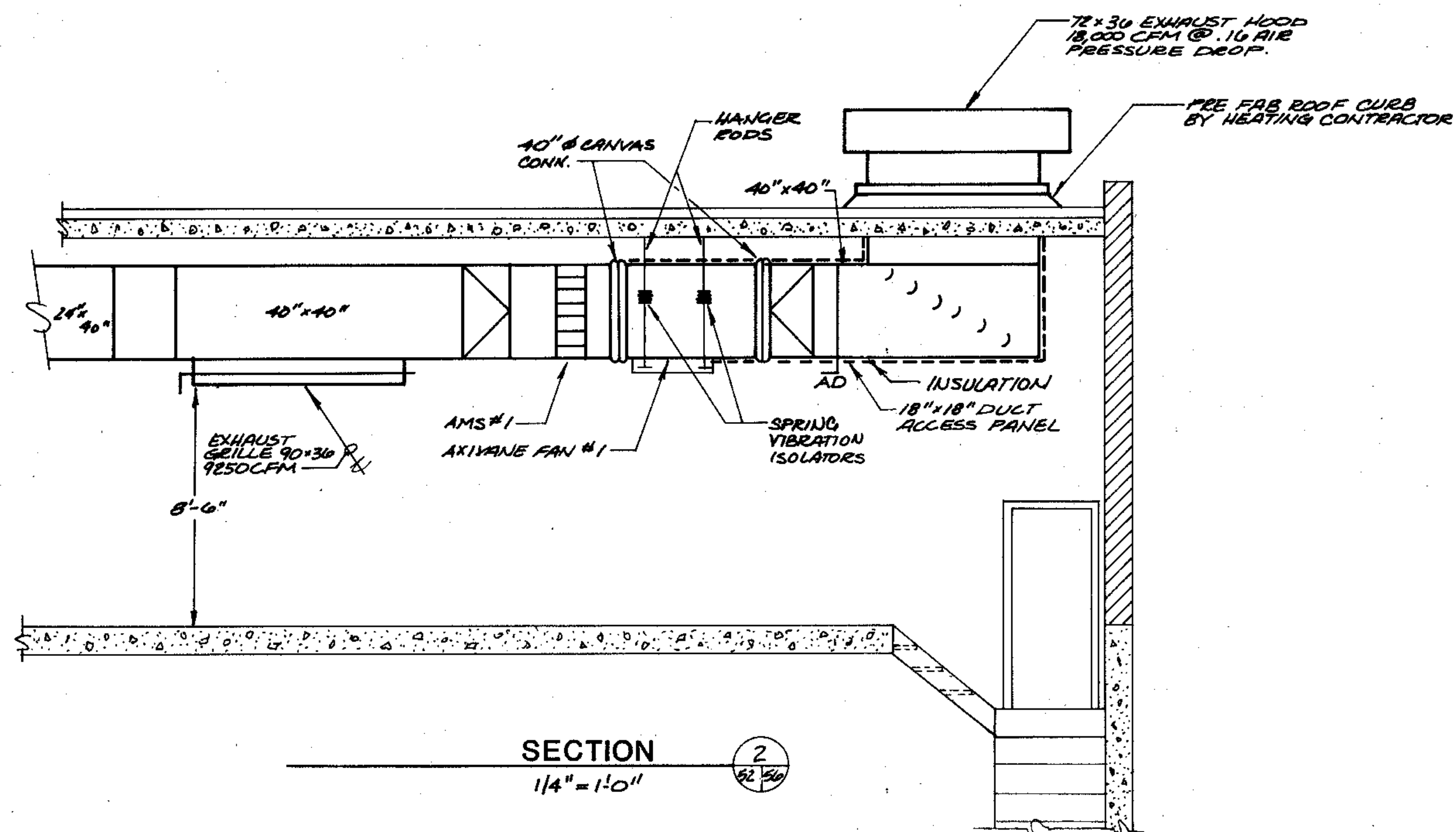
SECTION 1
1/4" = 1'-0"



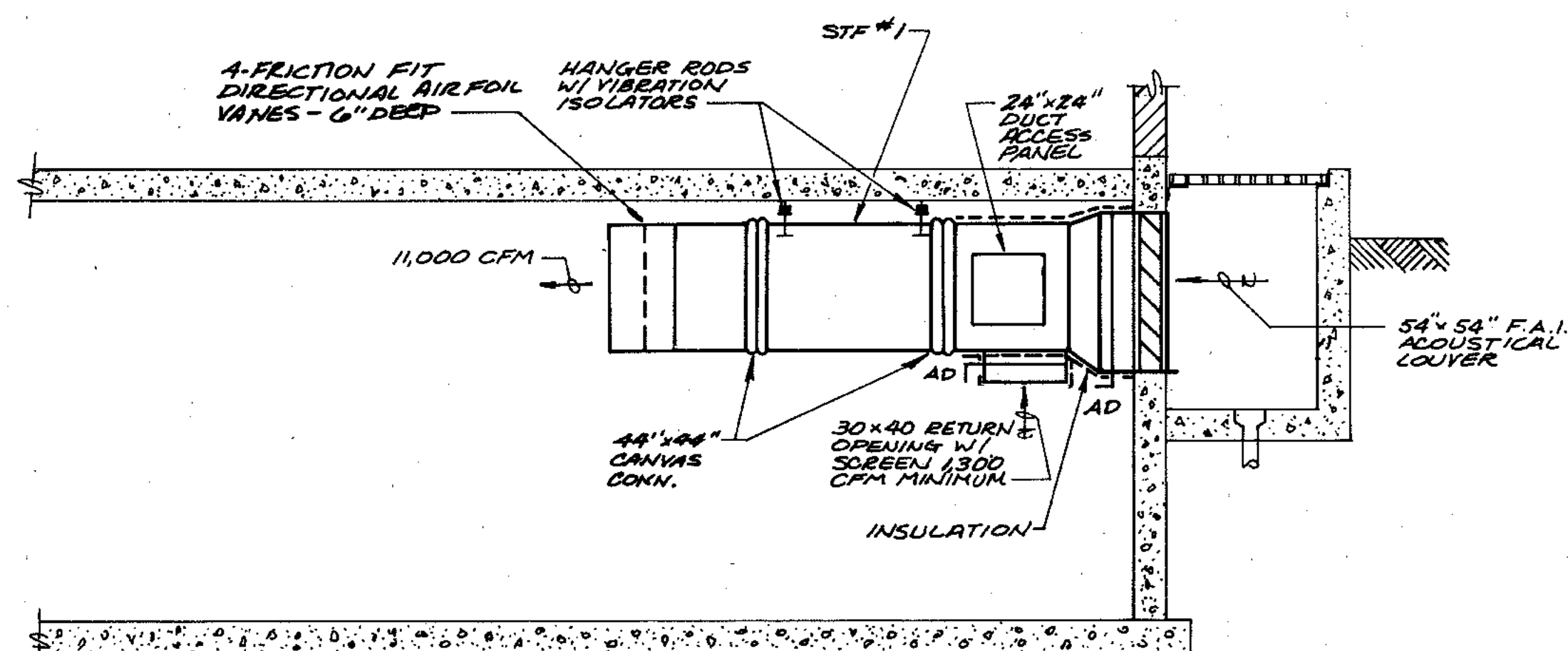
SECTION 4
1/4" = 1'-0"



DETAIL OF PIPING TO
HORIZONTAL UNIT HEATER
NO SCALE



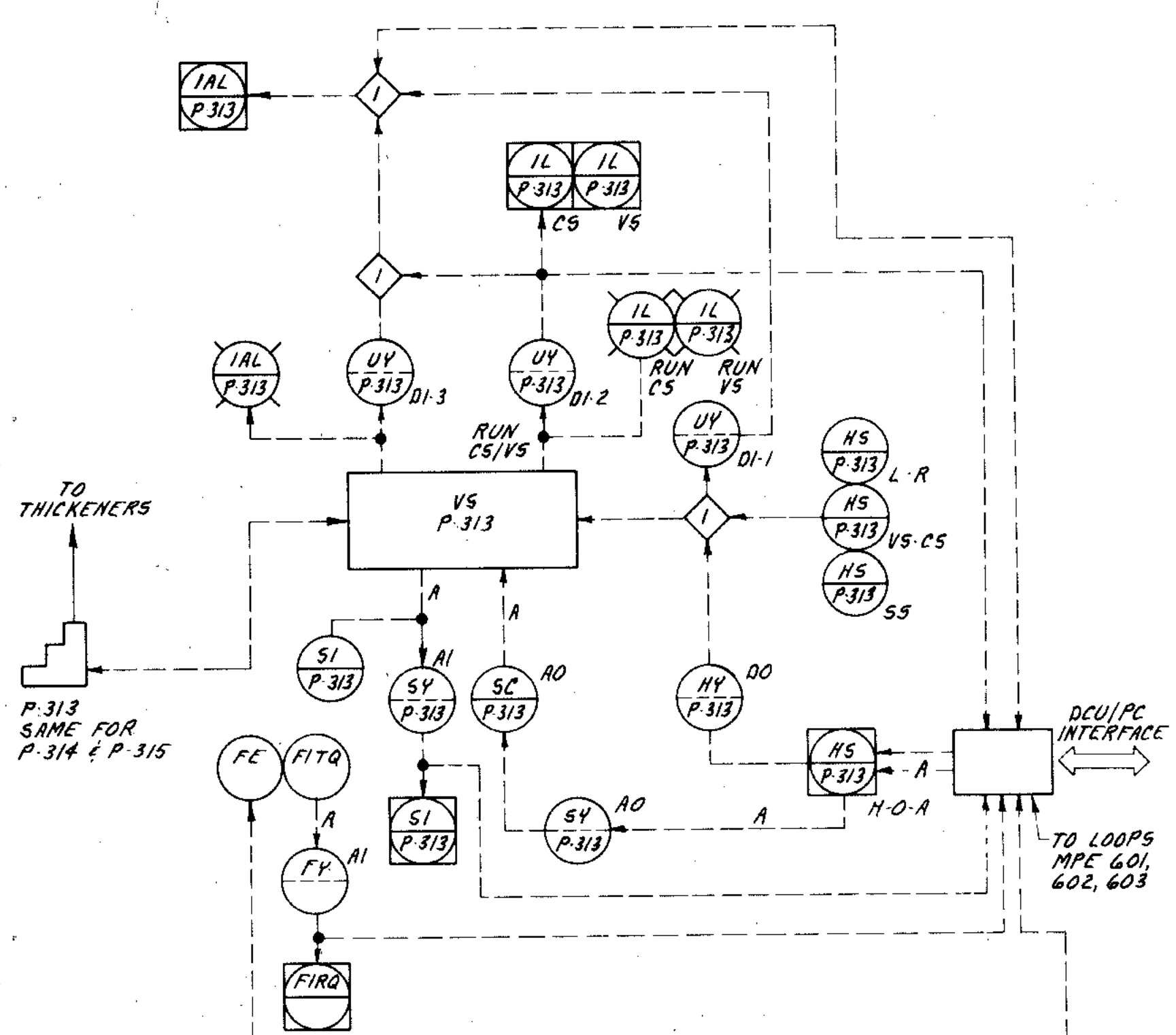
SECTION 2
1/4" = 1'-0"



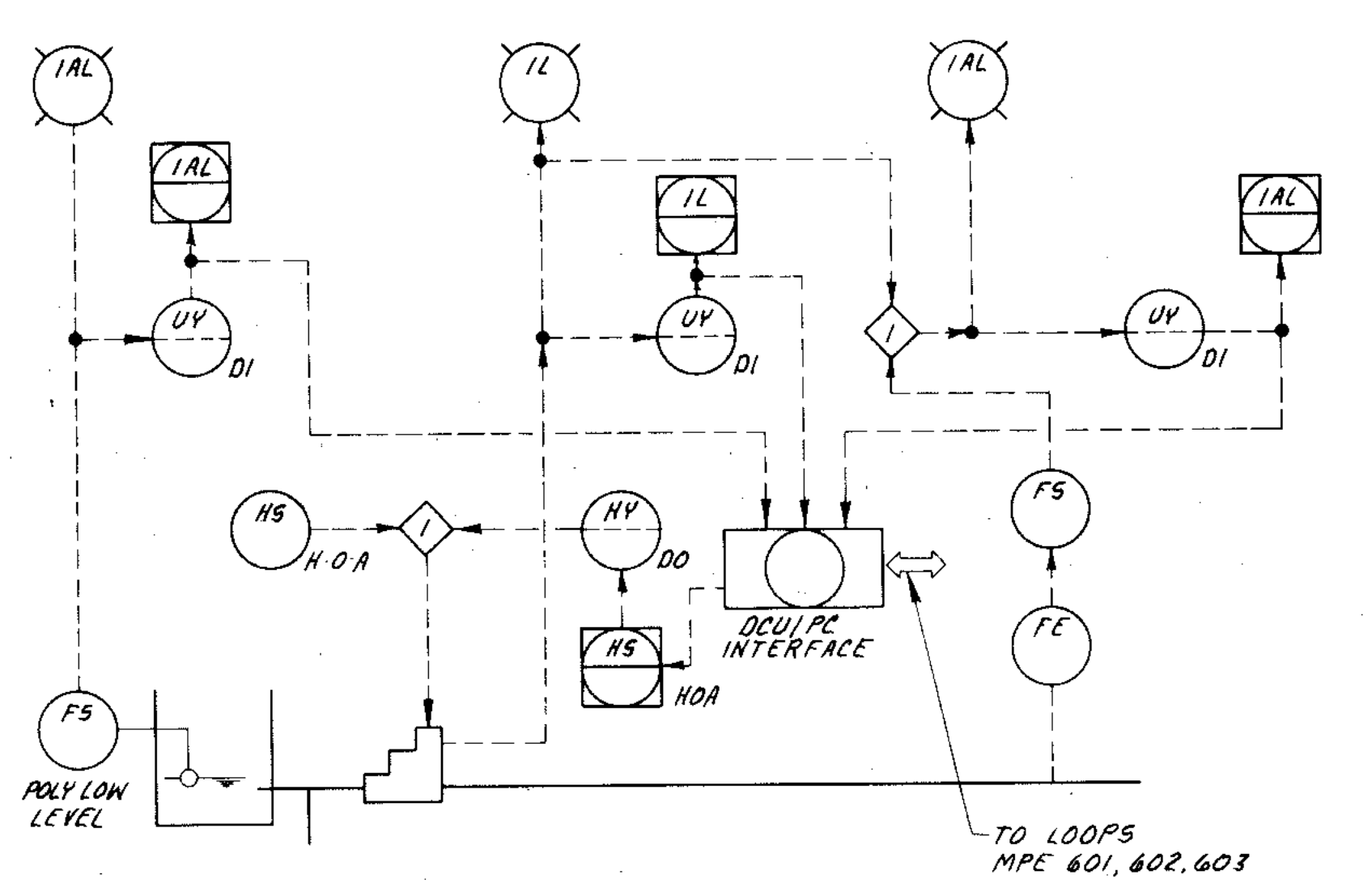
SECTION 3
1/4" = 1'-0"

OVERLAY IDENTIFICATION	COMPOSITE	78-50	4-11-84
	OVERLAY	78-56	11-11-84
	PROJECT NO.		
	DATE		

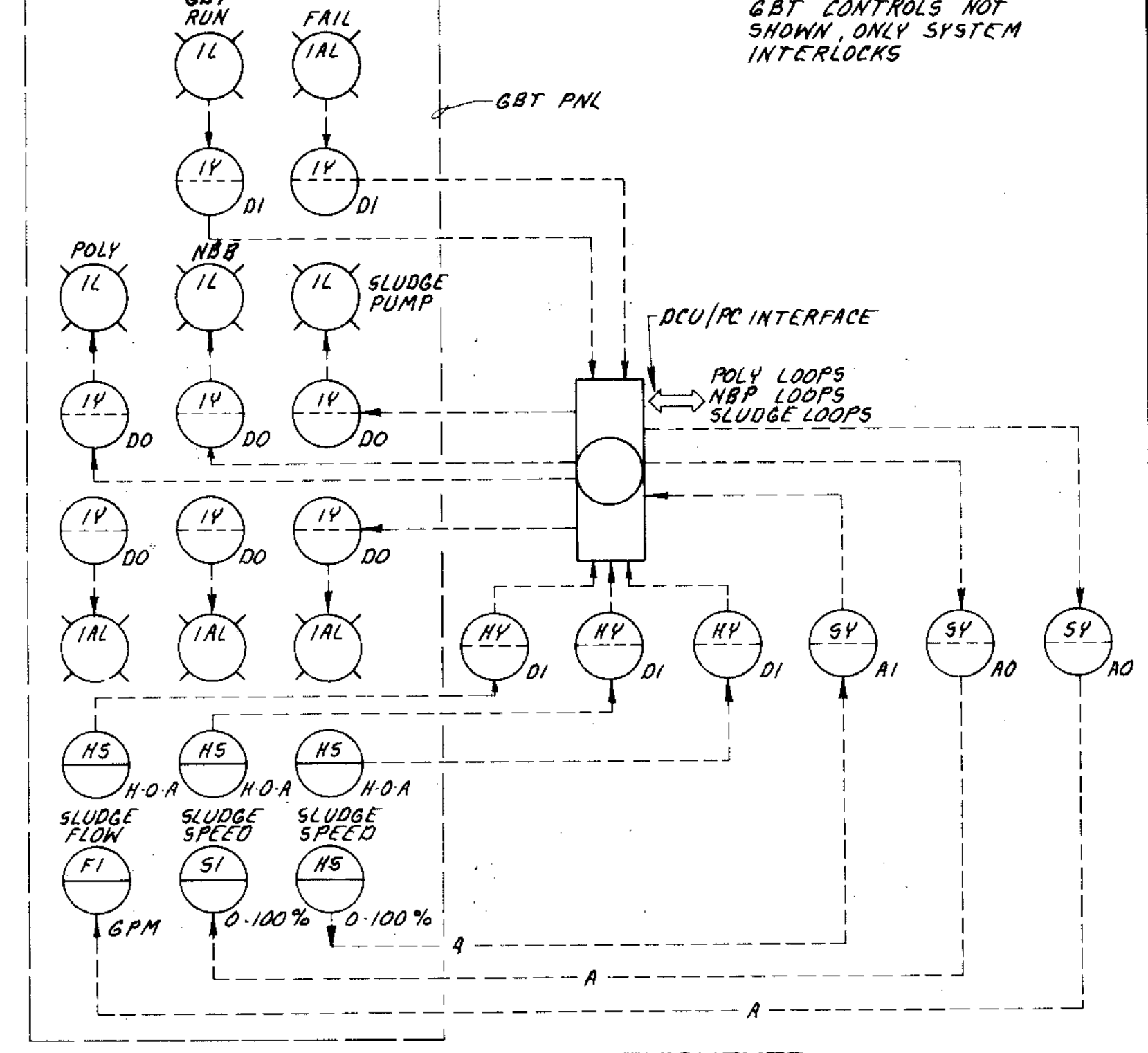
<p>STRAND ASSOCIATES INC. CONSULTING ENGINEERS 910 West Wingra Drive Madison, Wisconsin 53715 Tel. (608) 251-4943</p>	<p>CITY OF JOLIET, EASTSIDE WASTEWATER TREATMENT PLANT HEATING & VENTILATING SECTIONS & DETAILS</p>	
	<p>SCALE: AS NOTED</p>	<p>DATE: NOVEMBER, 1987</p>
<p> Belting Consultants Hilcrest Center / N. Larkin Avenue at Plainfield Road / Joliet, IL 60435</p>	<p>255-230-56</p>	



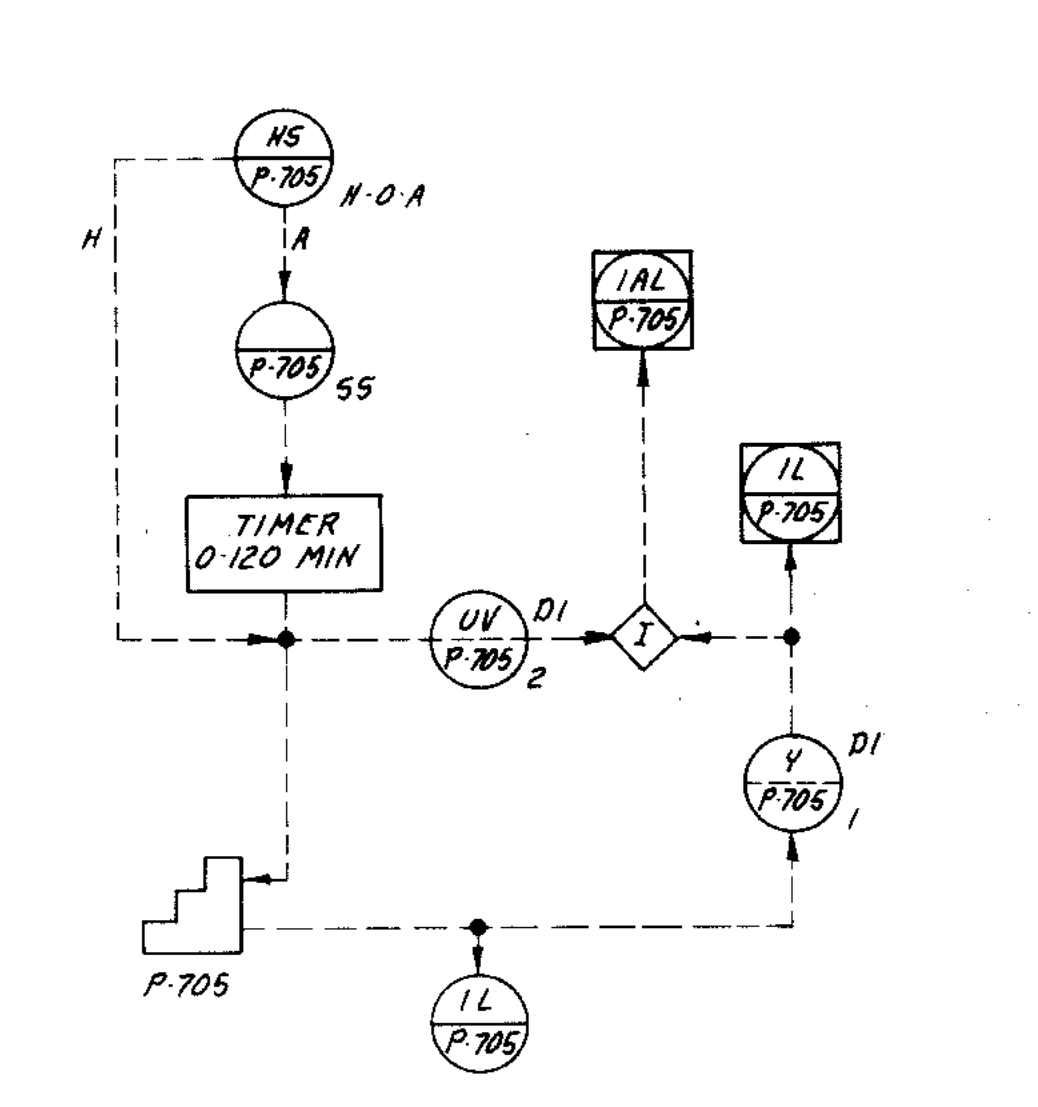
WASTE ACTIVATED SLUDGE
(DIGESTED SLUDGE, THICKENED DIGESTED SLUDGE)
P.313 SHOWN TYPICAL FOR P.314, 315, 706, 707, 710, 711



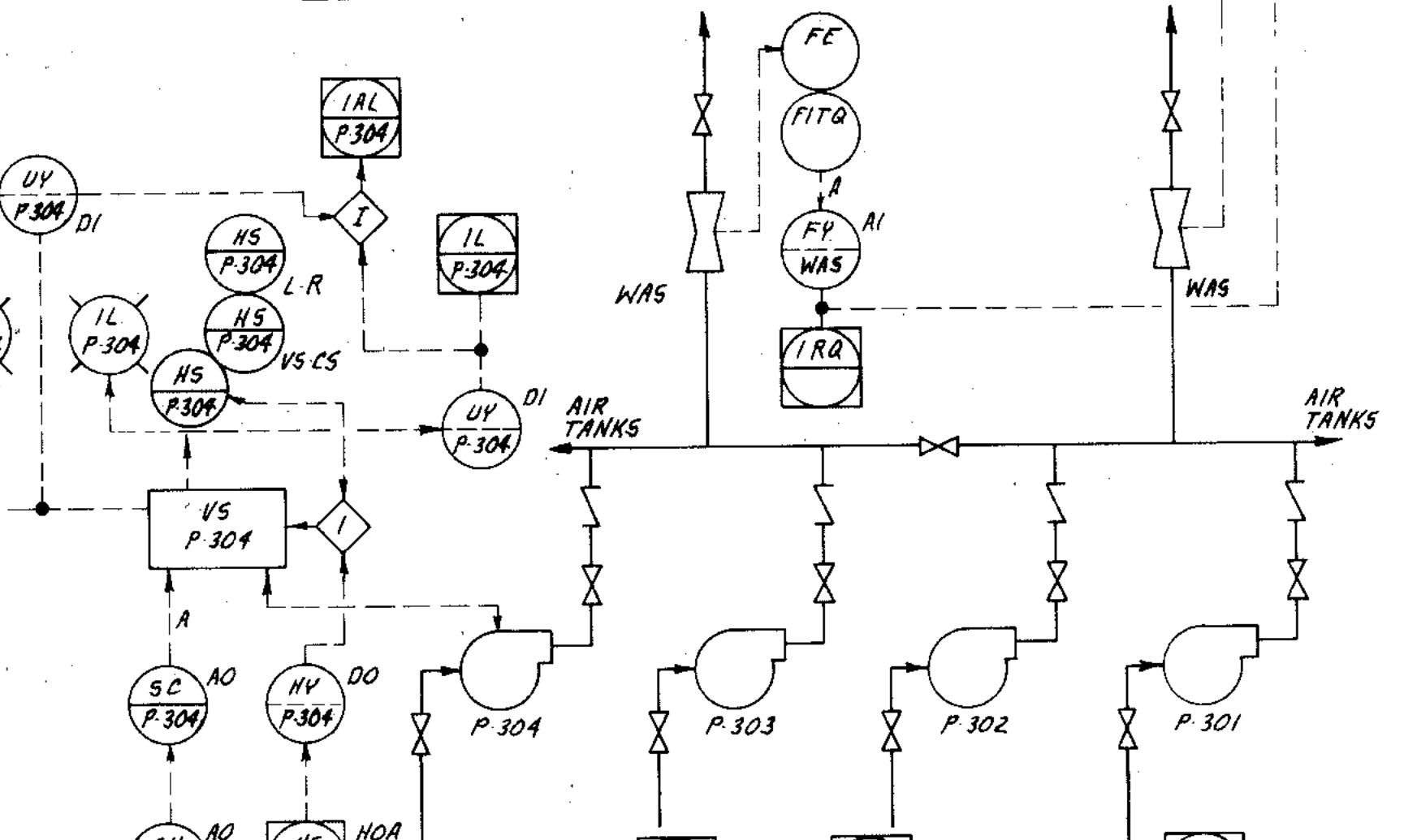
POLYMER FEED SYSTEM
TYPICAL P.606, P.607, P.608 & P.609



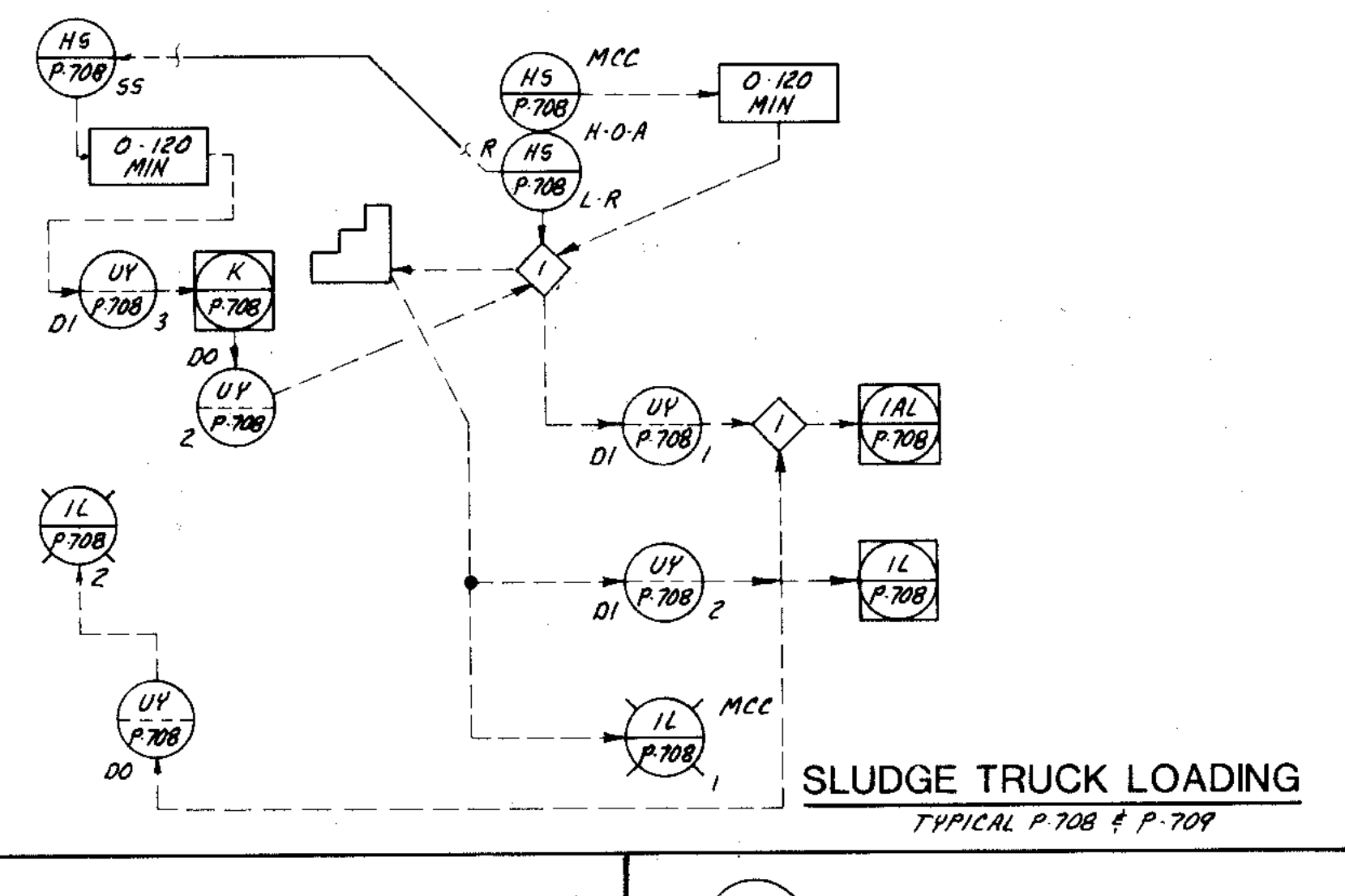
GRAVITY BELT THICKENER
TYP. LOOPS 601, 602, 603



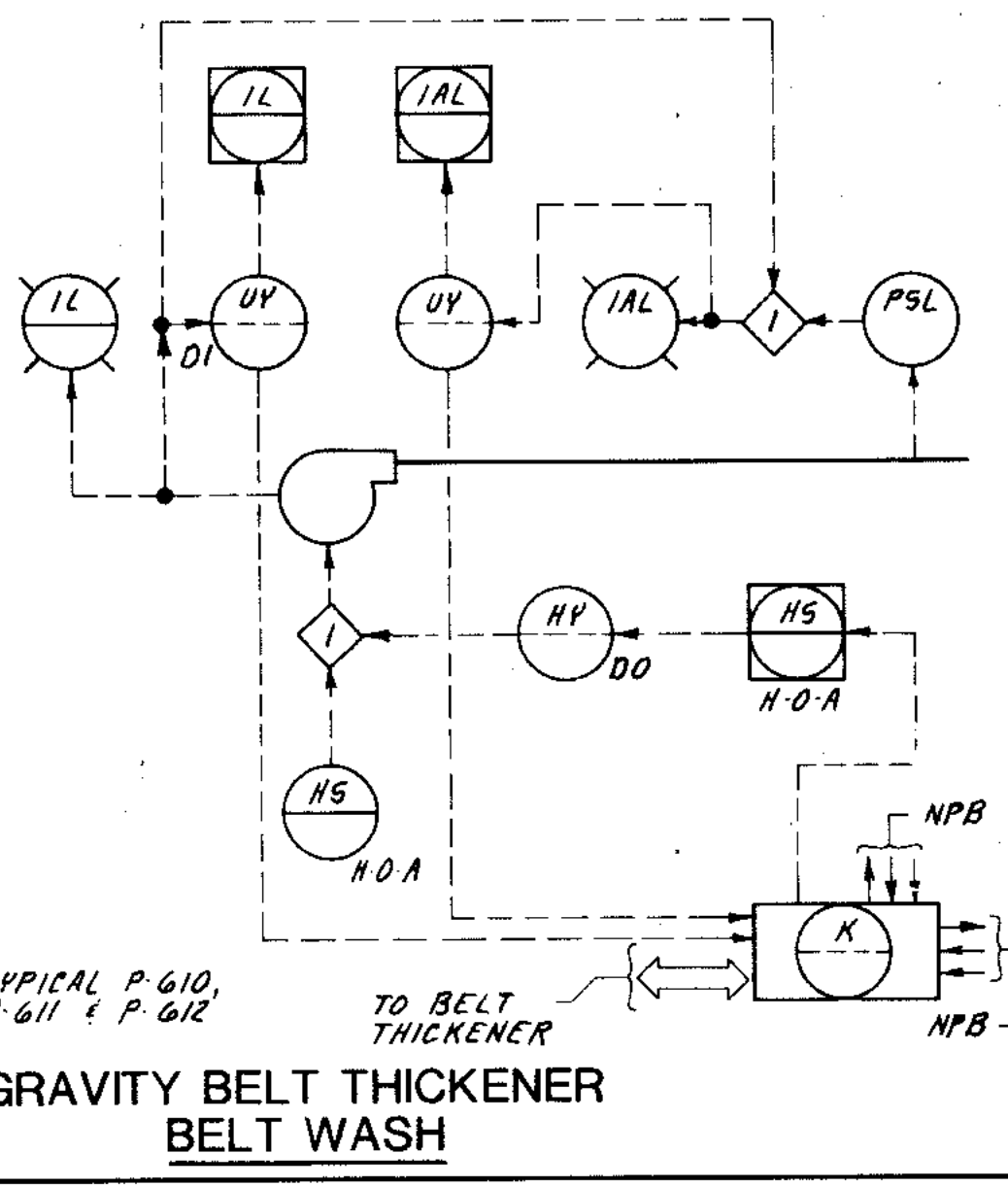
SLUDGE TRANSFER



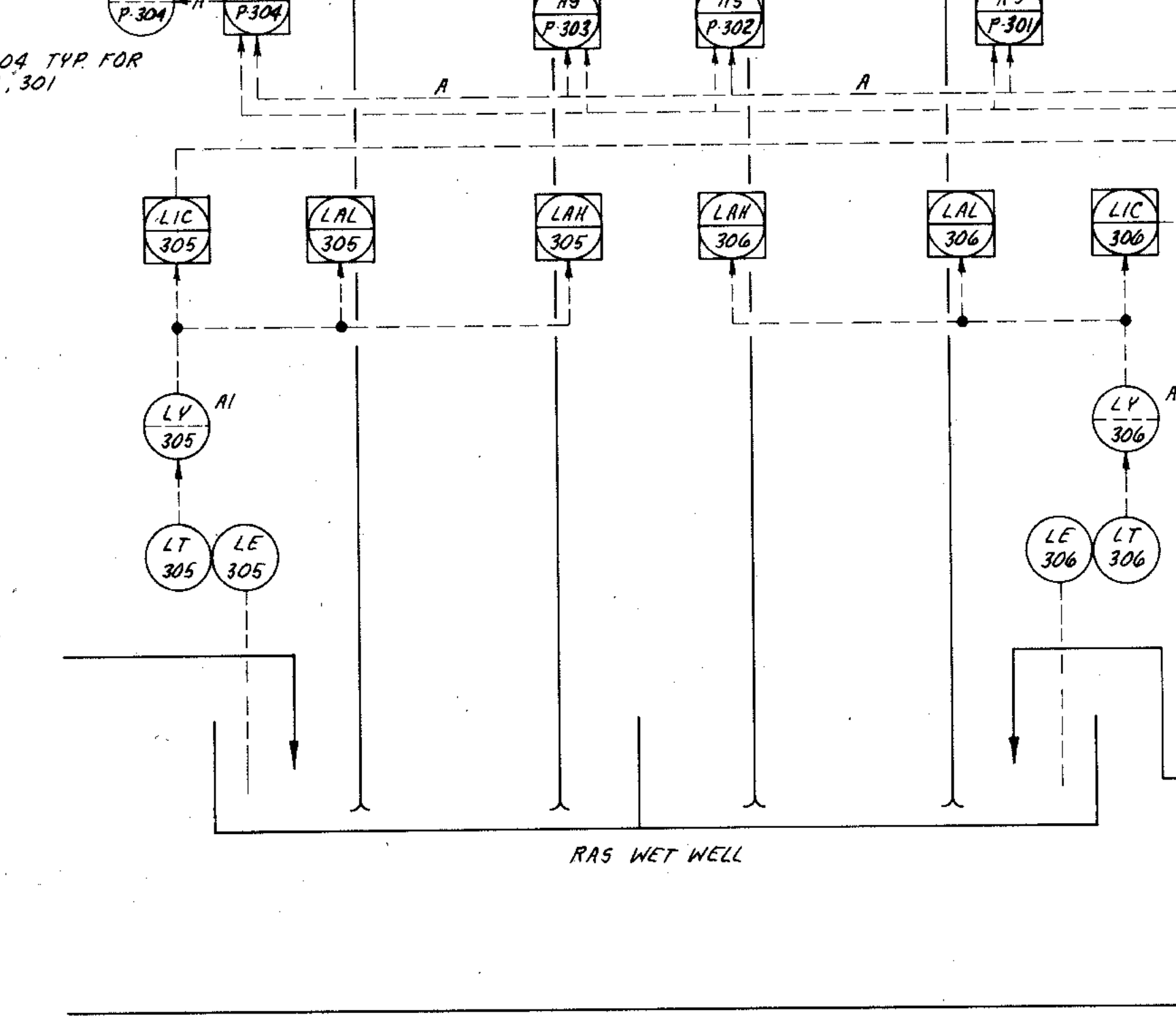
PRIMARY DIGESTER SLUDGE FEED
TYPICAL ADV. 701, ADV. 702 & ADV. 703



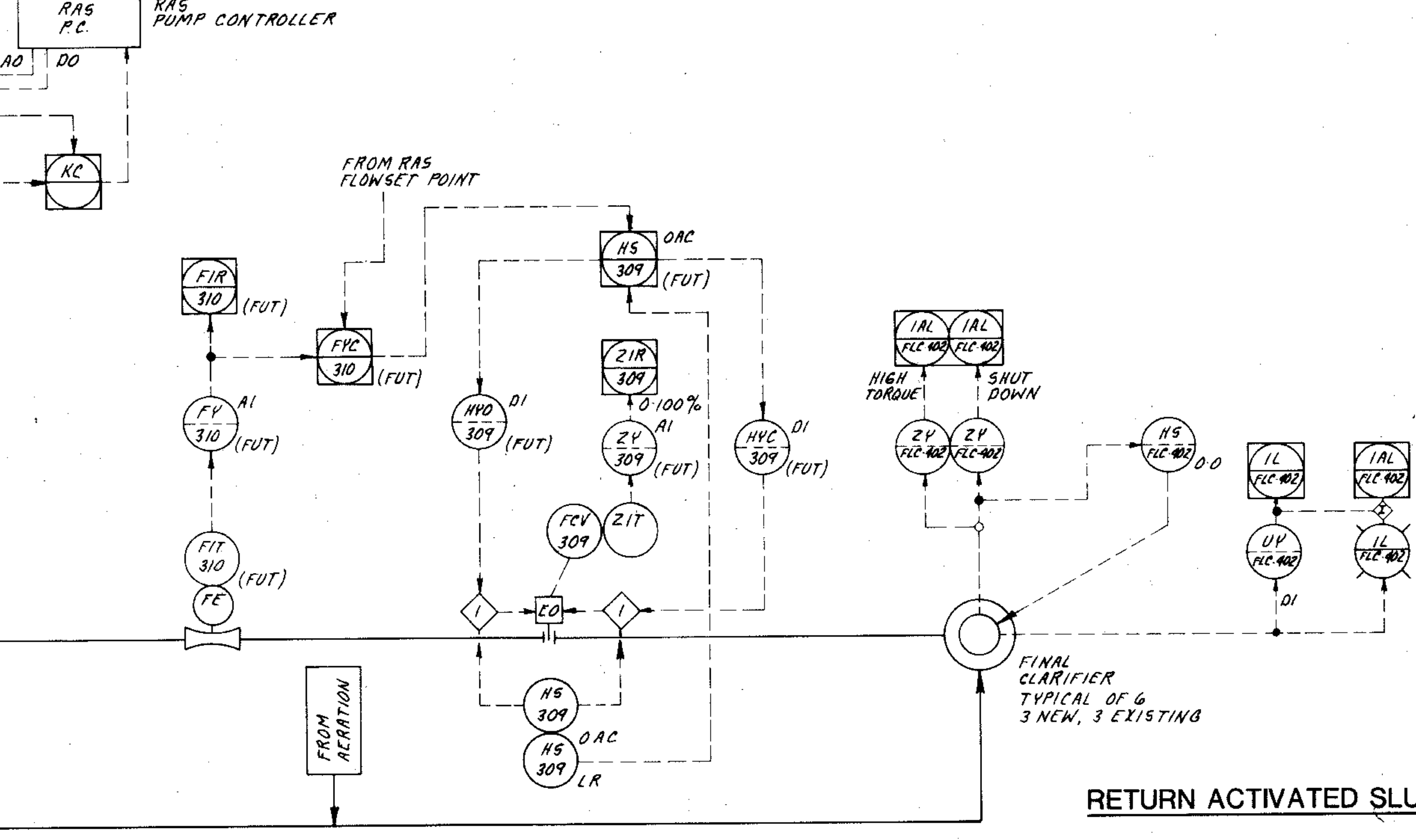
SLUDGE TRUCK LOADING
TYPICAL P.708 & P.709



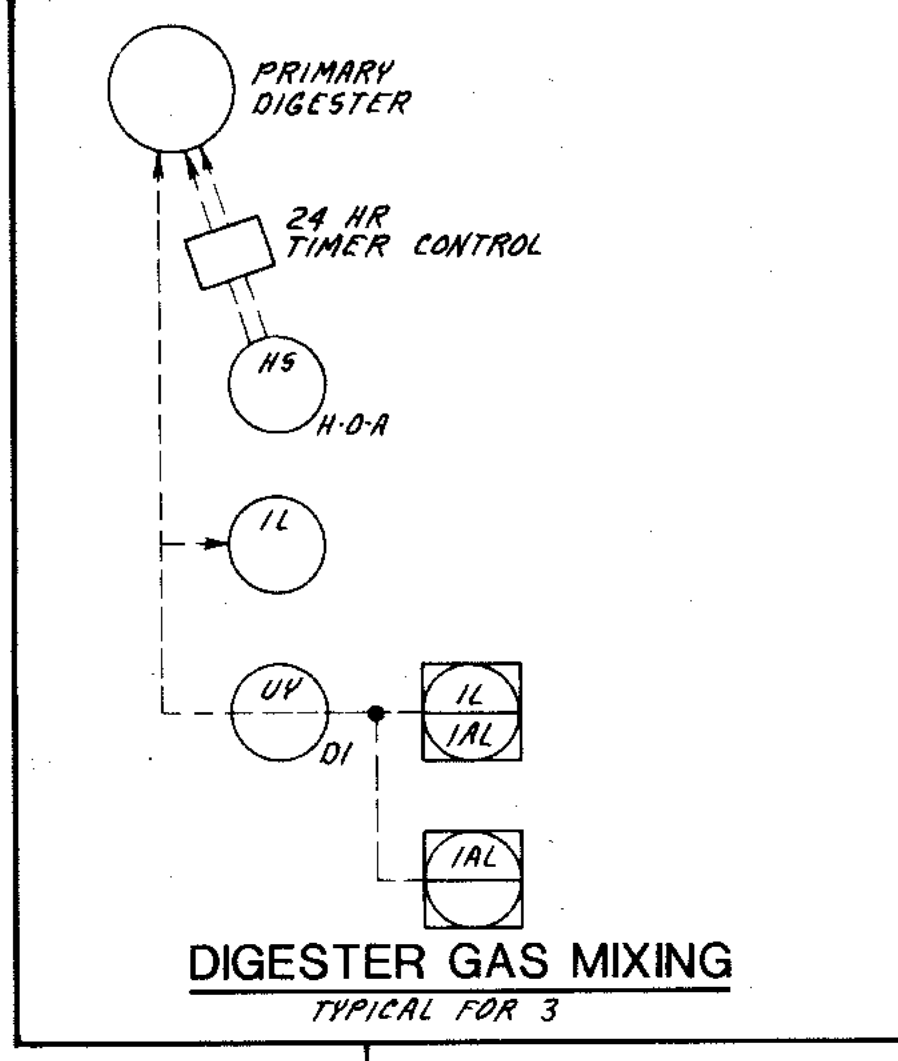
GRAVITY BELT THICKENER BELT WASH



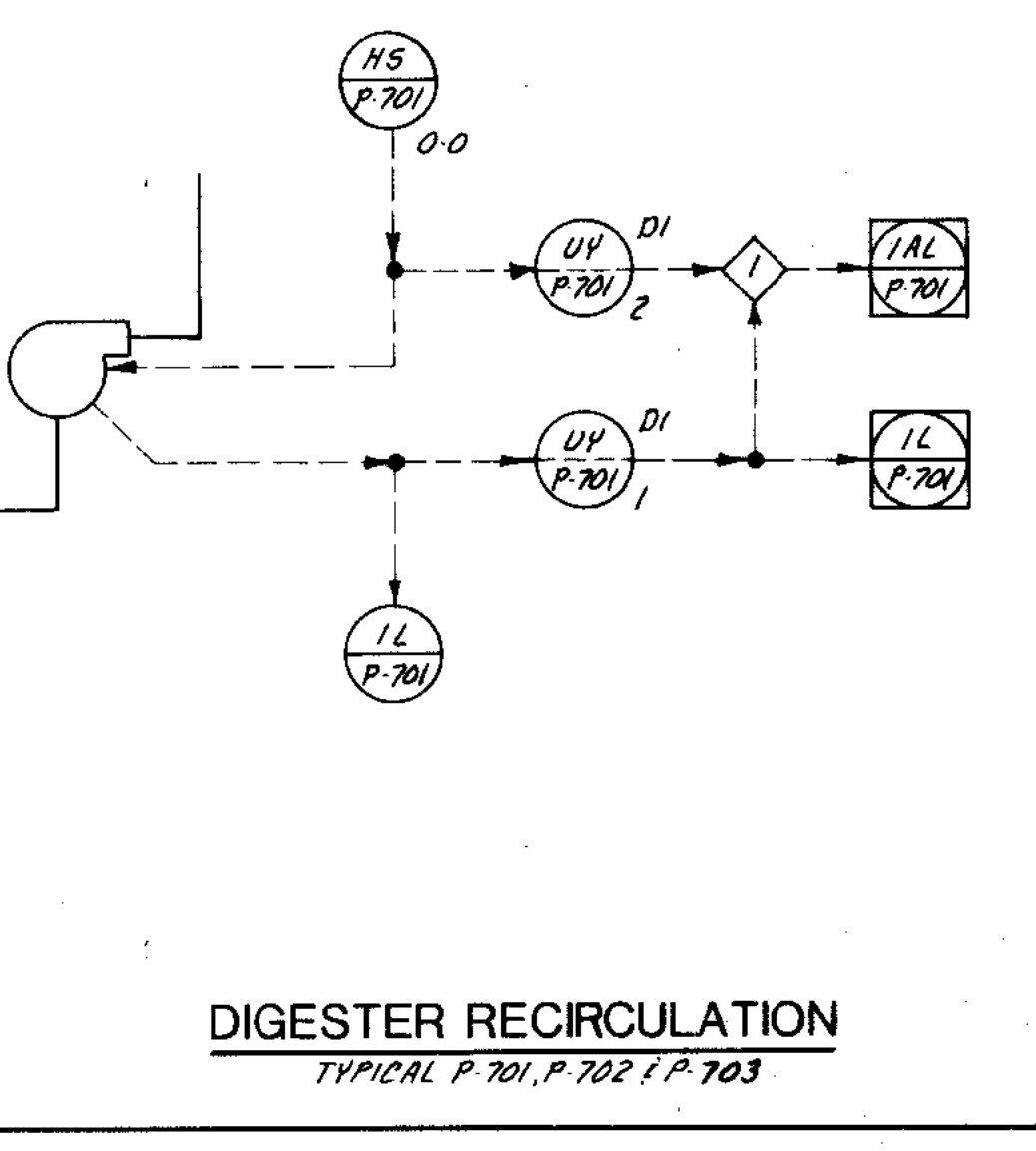
RAS WET WELL



RETURN ACTIVATED SLUDGE



DIGESTER GAS MIXING
TYPICAL FOR 3



DIGESTER RECIRCULATION
TYPICAL P.701, P.702 & P.703

COMPOSITE OVERLAY SCREEN
PROJECT NO. DATE



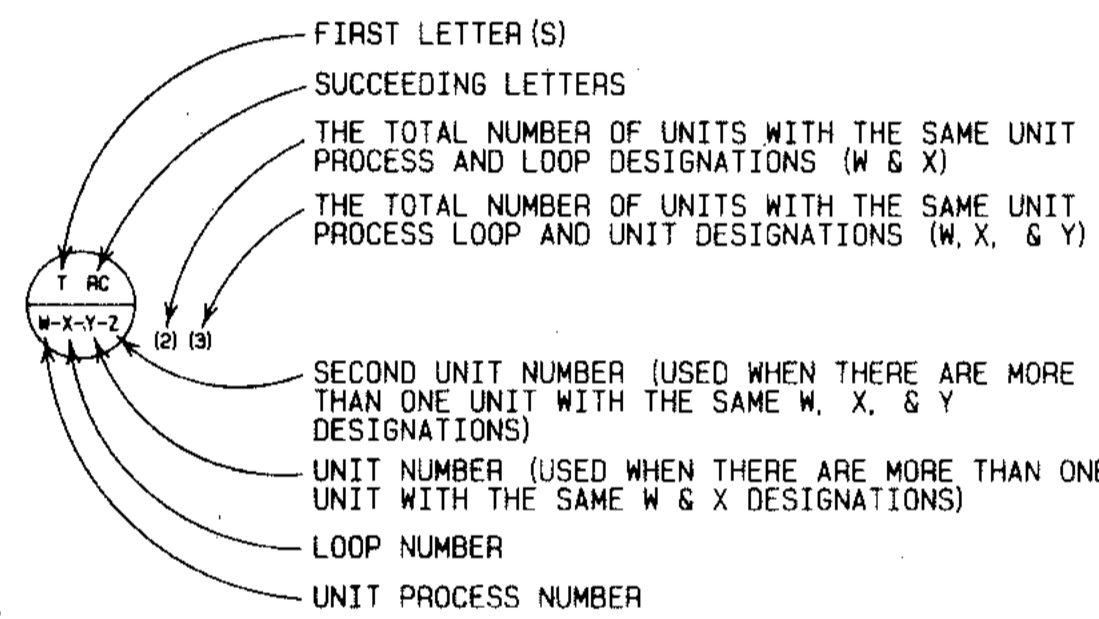
CITY OF JOLIET EASTSIDE WASTEWATER TREATMENT PLANT ELECTRICAL
PROCESS AND INSTRUMENTATION DIAGRAMS
SCALE: NO SCALE DATE: NOVEMBER, 1987
DRAWING NO. 255-230-57

INSTRUMENT SOCIETY OF AMERICA TABLE

LETTER	FIRST LETTER (S)		SUCCEEDING LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (+)		ALARM		
B	BURNER FLAME		USERS CHOICE (+)	USERS CHOICE (+)	USERS CHOICE (+)
C	CONDUCTIVITY			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION				MIDDLE
N	USERS CHOICE (+)		USERS CHOICE (+)	USERS CHOICE (+)	USERS CHOICE (+)
O	USERS CHOICE (+)		ORIFICE		
P	PRESSURE (OR VACUUM)		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT (+)	INTEGRATE	INTEGRATE		
R			RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (+)		MULTIFUNCTION (+)		
V	VISCOSITY			VALVE	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED (+)		UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED (+)
Y	USERS CHOICE (+)		RELAY OR COMPUTE (+)		
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.

INSTRUMENT IDENTIFICATION

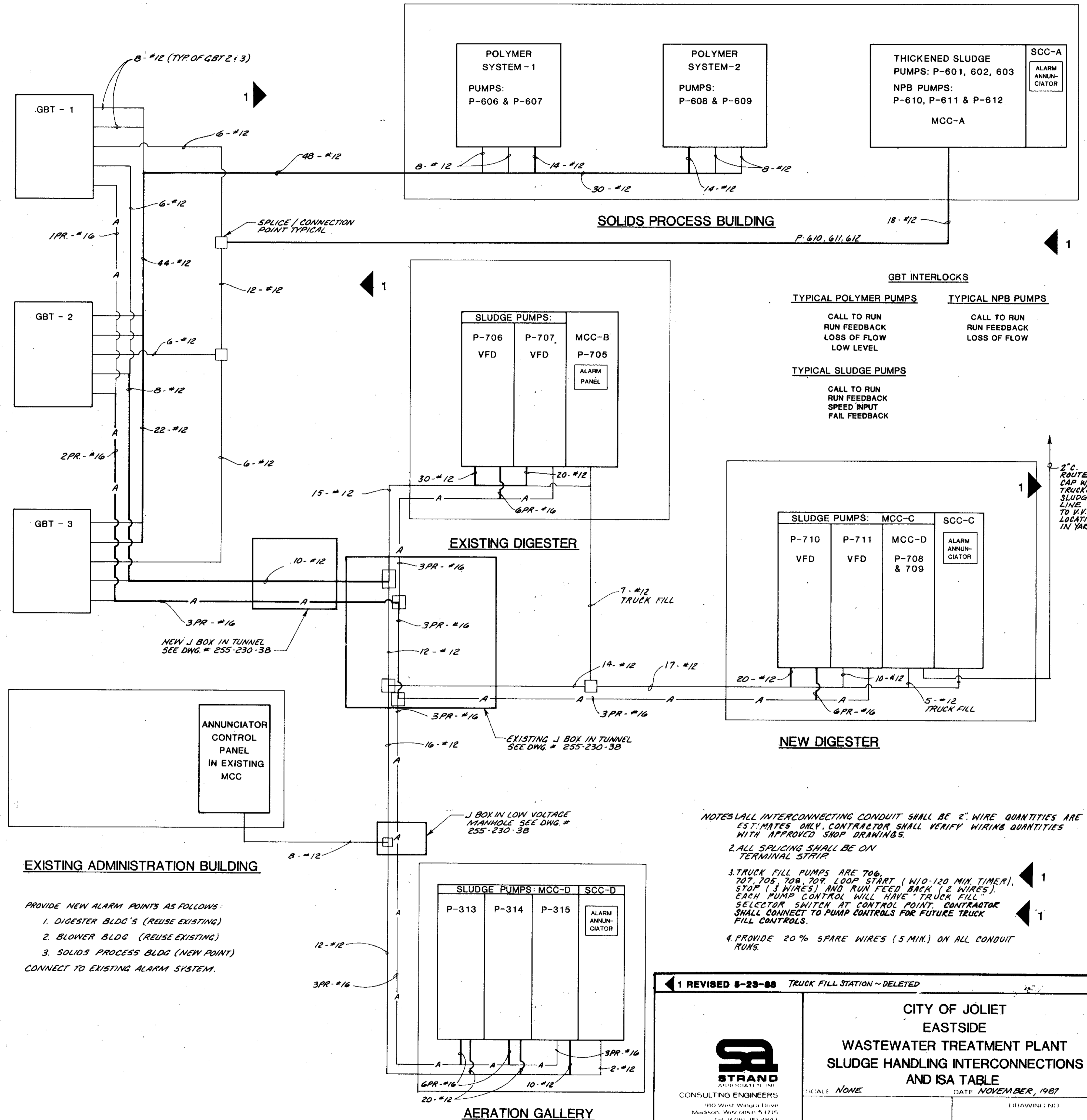


- TT FIELD MOUNTED INSTRUMENT
- I/P REAR-OF-PANEL MOUNTED INSTRUMENT
- FIC PANEL MOUNTED INSTRUMENT

SPECIAL CASES

- 00 ON AND OFF EVENT LIGHTS
- 0C OPENED AND CLOSED POSITION LIGHTS
- 0C OPENED AND CLOSED POSITION SWITCHES
- 00 ON-OFF HAND SWITCH, MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER FAILURE)
- SS STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER FAILURE)
- 00 ELAPSED TIME METER

* REFER TO TABLE FOR WIRE QUANTITIES



EXISTING ADMINISTRATION BUILDING

- PROVIDE NEW ALARM POINTS AS FOLLOWS:
- DIGESTER BLDG'S (REUSE EXISTING)
 - BLOWER BLDG (REUSE EXISTING)
 - SOLIDS PROCESS BLDG (NEW POINT)
- CONNECT TO EXISTING ALARM SYSTEM.

1 REVISED 6-23-88 TRUCK FILL STATION - DELETED

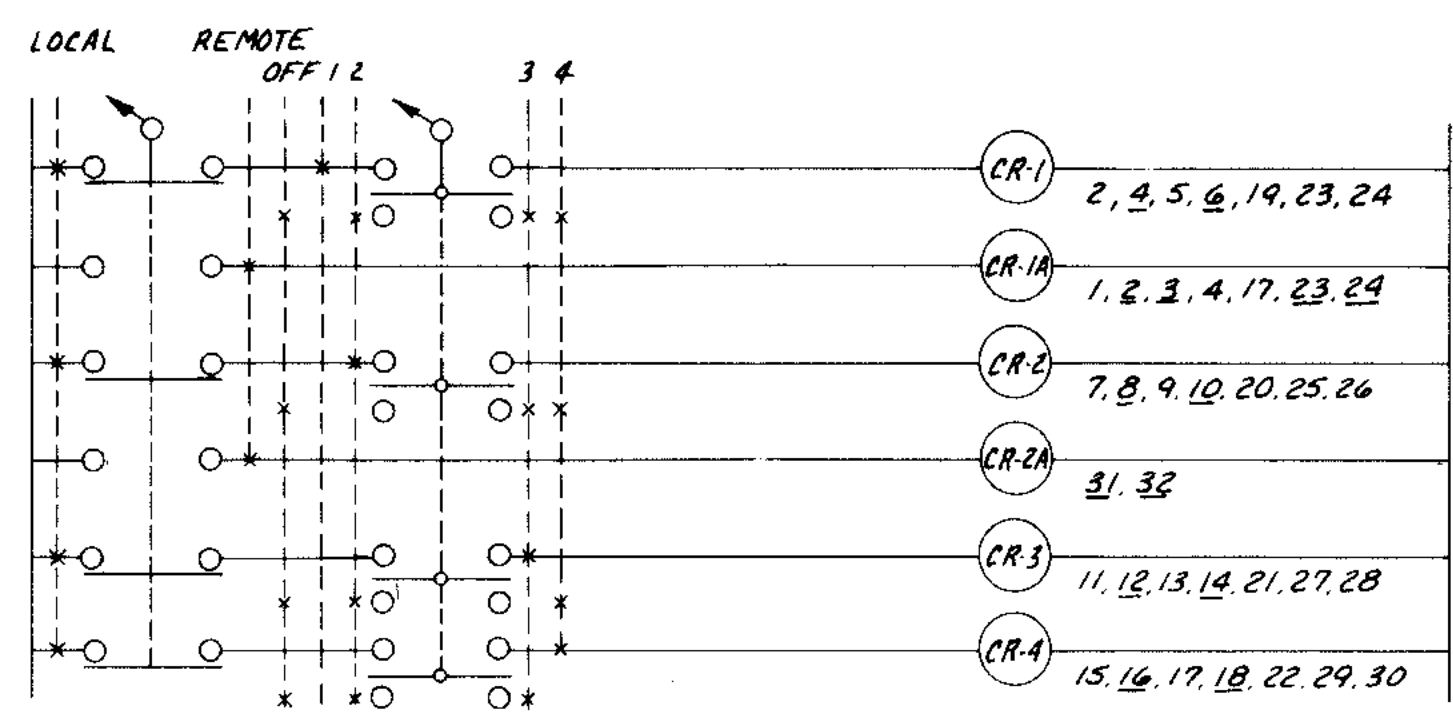


CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
SLUDGE HANDLING INTERCONNECTIONS
AND ISA TABLE

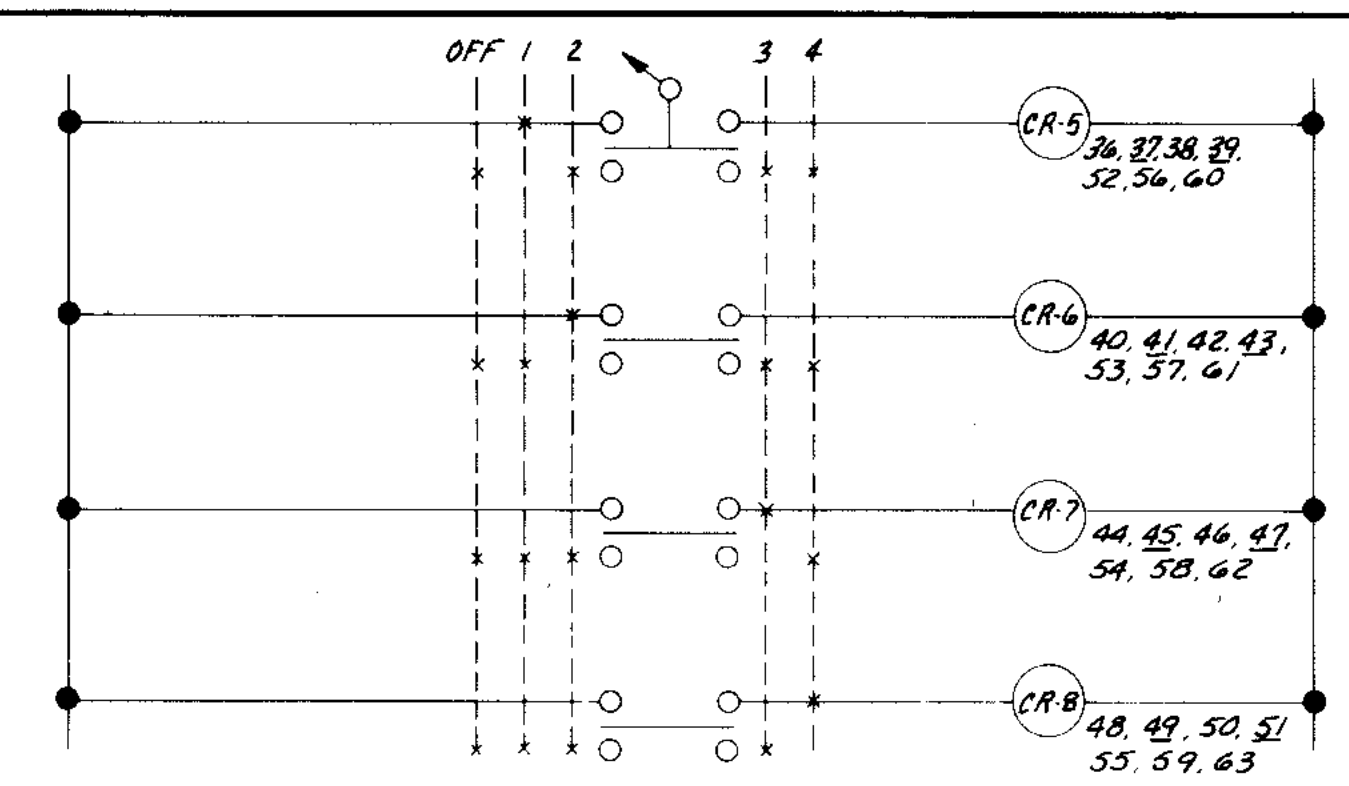
SCALE NONE

DATE NOVEMBER, 1987

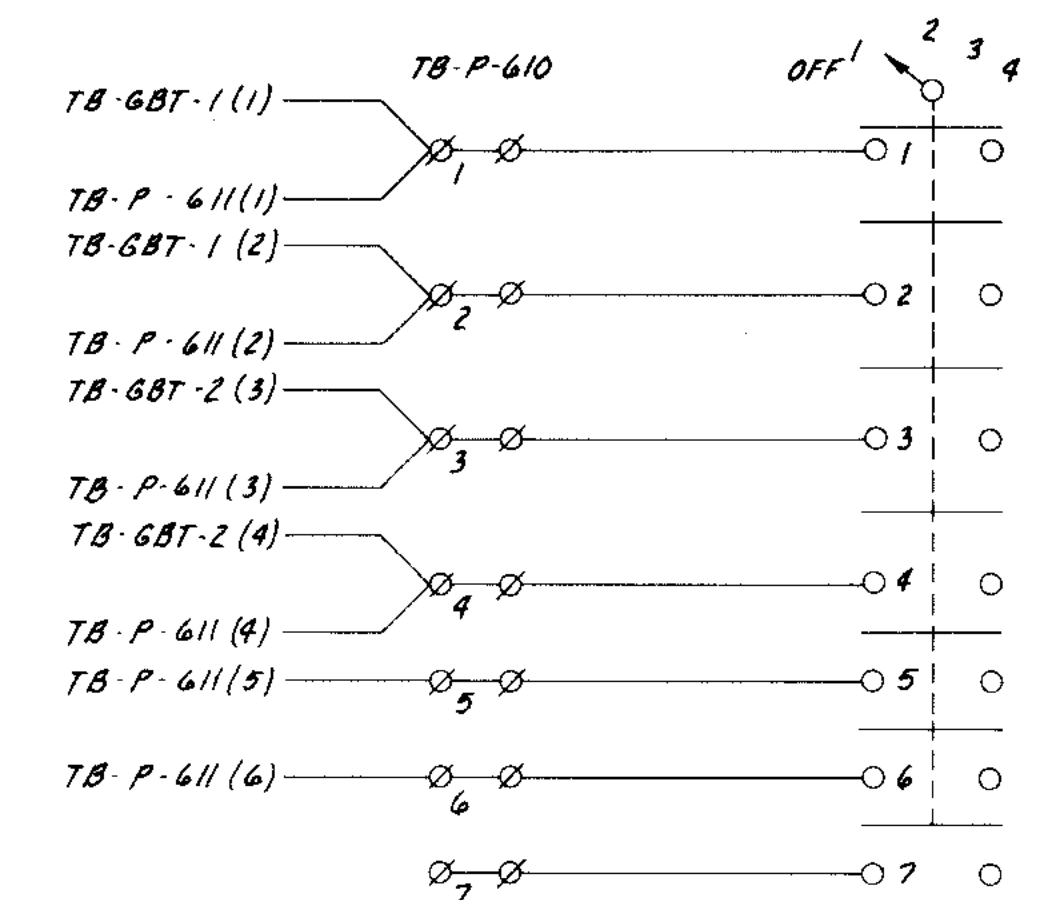
255-230-58



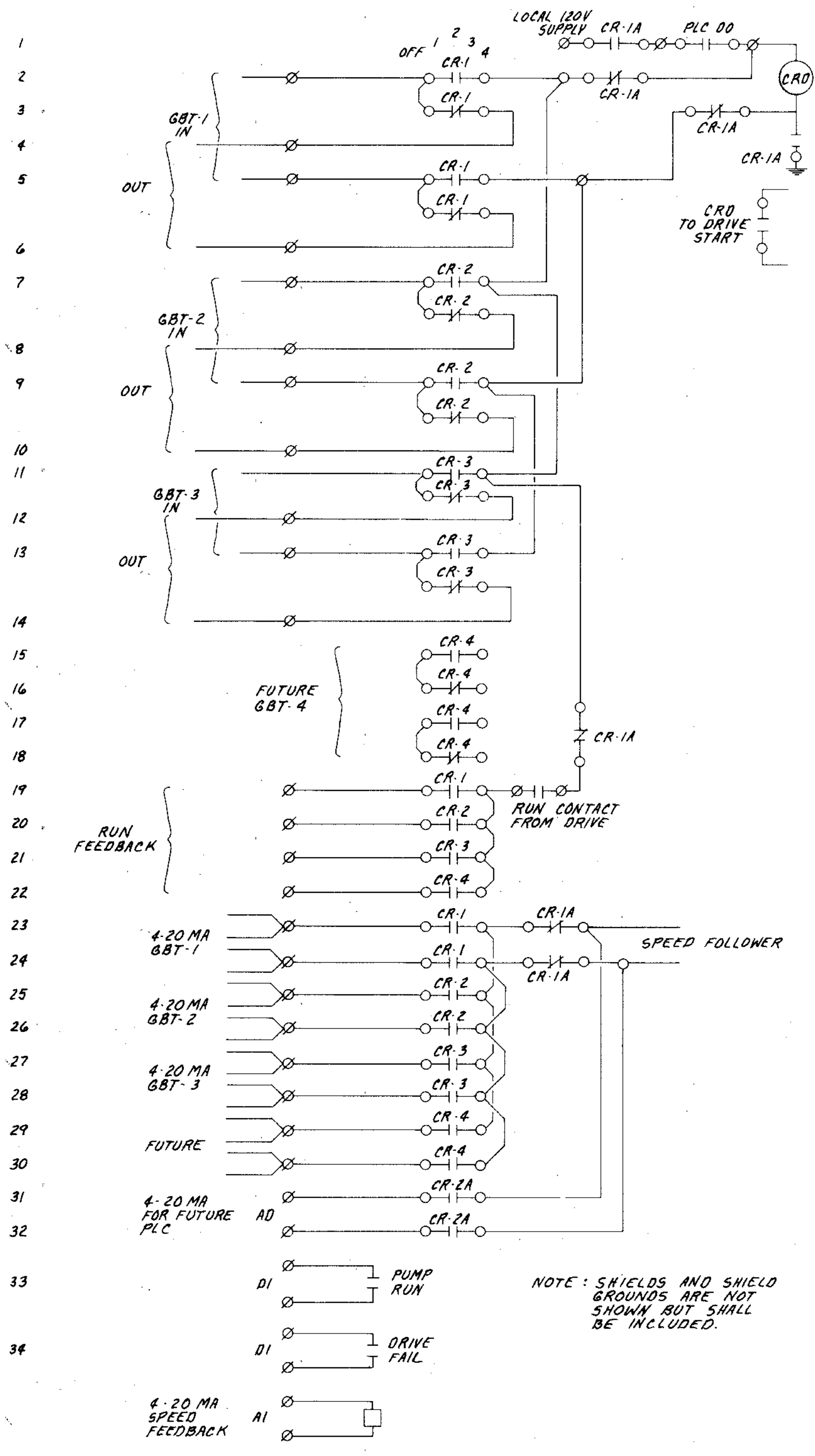
**SLUDGE PUMP
VARIABLE SPEED SELECTOR SWITCH**



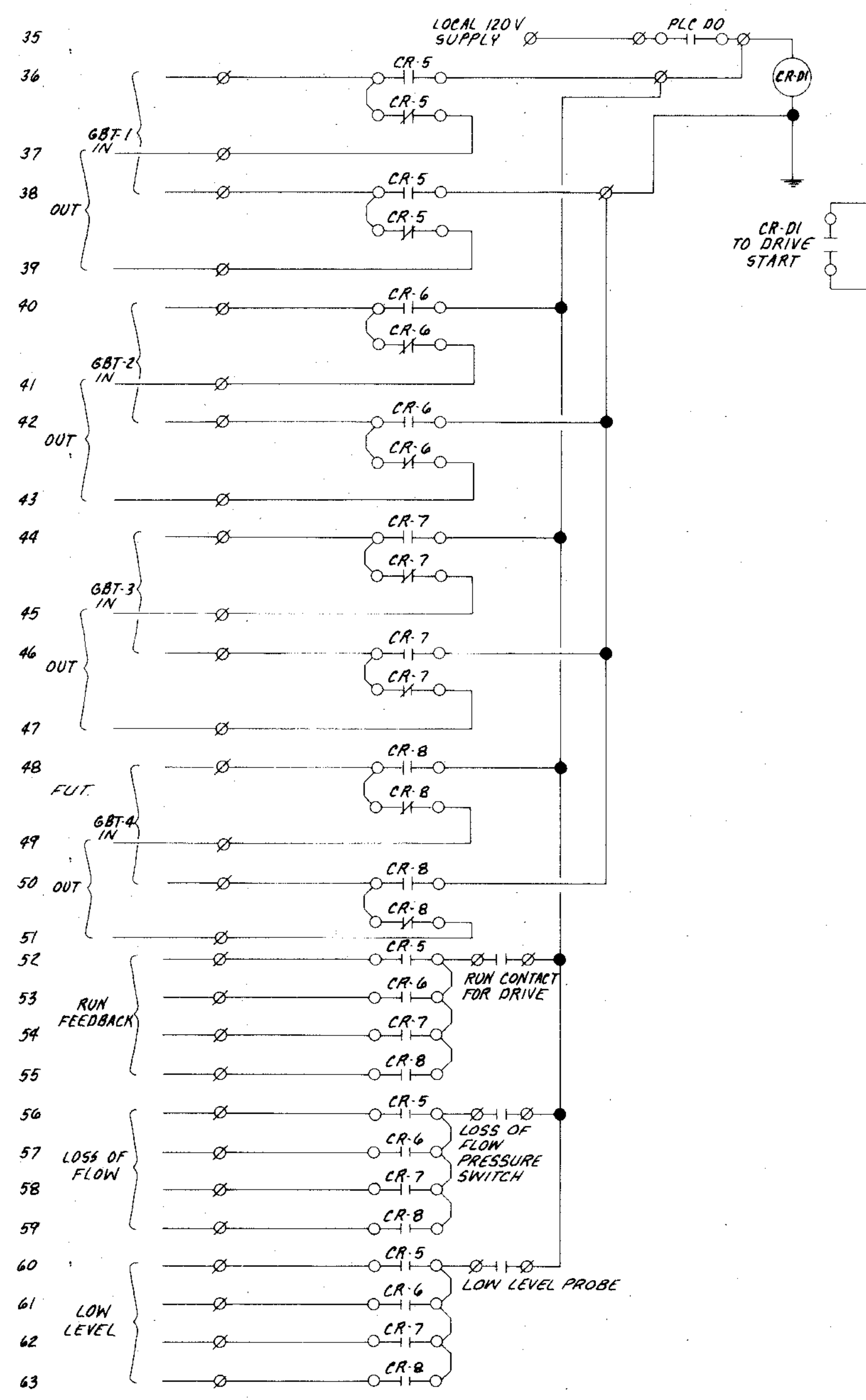
**GBT INTERCONNECTION
SELECTOR SWITCH**
TYP. OF PUMPS P.606, 607, 608, 609



**NONPOTABLE BOOSTER PUMP
SELECTOR SWITCH**
TYP. OF PUMPS P.610, 611, 612



**SLUDGE PUMP
VARIABLE SPEED CONTROL INTERCONNECTIONS**
TYP. OF 6 PUMPS & 1 ALTERNATE PUMP



**POLYMER PUMP
CONTROL INTERCONNECTIONS**
TYP. OF PANELS FOR P.606/607 & P.608/609

SCC-A
ALARM ANNUNCIATOR POINTS

ALARM	ACTUATING DEVICE
1. GRAVITY BELT THICKENER FAILURE/SHUT DOWN	COMMON FROM (3)
2. THICKENED SLUDGE PUMP FAIL	D.L. COMMON (3)
3. THICKENED SLUDGE HIGH SUMP	FLOAT SWITCH (3)
4. THICKENED SLUDGE LOW SUMP	FLOAT SWITCH (3)
5. POLYMER SYSTEM	COMMON ALARM FROM EACH PNL (2)
6. DRAINAGE PUMP STATION ALARM	FROM PNL FOR HML/LWL/PUMP FAIL
7. BASEMENT FLOODING	SUMP FLOAT
8. NPW BOOSTER PUMP FAIL	COMMON D.L. (3)
9. SEAL WATER LOW PRESSURE	PRESSURE SWITCH
10. POWER FAIL	PHASE FAIL RELAY
11. - 12. SPARE	

MCC-B
ALARM ANNUNCIATOR POINTS

ALARM	ACTUATING DEVICE
1. PRIMARY DIGESTER NO. 1 H.L.	EXISTING
2. PRIMARY DIGESTER NO. 1 L.L.	EXISTING
3. PRIMARY DIGESTER NO. 2 H.L.	EXISTING
4. PRIMARY DIGESTER NO. 2 L.L.	EXISTING
5. SECONDARY DIGESTER NO. 1 H.L.	EXISTING
6. SECONDARY DIGESTER NO. 1 L.L.	EXISTING

THE ABOVE ALARMS ARE TO BE ABANDONED AND THE FOLLOWING NEW ALARMS INSTALLED:

1. SUPERNATE STATION HWL	NEW FLOAT SWITCH
2. PUMP 706 FAIL	FROM DRIVE
3. PUMP 707 FAIL	FROM DRIVE
4. METHANE GAS LEAK BASEMENT	LEAK DETECTOR
5. METHANE GAS LEAK COMPRESSOR ROOM	LEAK DETECTOR
6. METHANE GAS LEAK BOILER ROOM	LEAK DETECTOR
7. POWER FAIL	PHASE FAIL RELAY

SCC-C
ALARM ANNUNCIATOR POINTS

ALARM	ACTUATING DEVICE
1. THICKENED SLUDGE TRANSFER PUMP FAIL	DRIVE (2)
2. SLUDGE LOADING PUMP FAIL	D.L. (2)
3. BASEMENT FLOODING	FLOAT SWITCH
4. METHANE LEAK BASEMENT	LEAK DETECTOR
5. METHANE LEAK MAIN FLOOR	LEAK DETECTOR
6. SLUDGE RECIRCULATION PUMP FAIL	D.L. (2)
7. SEAL WATER LOW PRESSURE	P.S.
8. POWER FAIL	PHASE FAIL RELAY
9. - 12. SPARE	

SCC-D (NEW)
ALARM ANNUNCIATOR POINTS

ALARM	ACTUATING DEVICE
1. PAS HML/LWL	COMMON FROM CONTROLLER
2. WAS PUMP/DRIVE FAIL	COMMON (3)
3. NPW HWP/LWP/PUMP FAIL	COMMON ALARM 6 POINTS
4. - 8. SPARE	

NOTE: PHASE FAIL ALARMS SHALL BE DIVERSIFIED ELECTRONICS SLD-440-ALE, OR EQUAL.

OVERLAY IDENTIFICATION COMPOSITE
 PROJECT NO. OVERLAY
 DATE 12-28-77
 SCREEN

STRAND ASSOCIATES INC.
CONSULTING ENGINEERS
910 West Wingra Drive
Madison, Wisconsin 53715
Tel: 608/251-4843

**CITY OF JOLIET
EASTSIDE
WASTEWATER TREATMENT PLANT
ELECTRICAL CONTROL AND ALARMS**

SCALE: NO SCALE DATE: NOVEMBER, 1987
DRAWING NO: 255-230-59