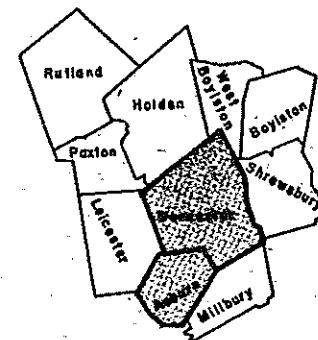


**UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT**

**DISTRICT MEMBERS: TOWN OF AUBURN,
AND CITY OF WORCESTER**

**REGIONAL WASTEWATER TREATMENT FACILITIES
MILLBURY - WORCESTER, MASSACHUSETTS**

**CONTRACT NO. 2
CONTRACT DRAWINGS**



FEBRUARY 1973

**FAY, SPOFFORD & THORNDIKE, INC.
ENGINEERS BOSTON, MASSACHUSETTS**

UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT

DISTRICT MEMBERS: TOWN OF AUBURN, AND CITY OF WORCESTER

REGIONAL WASTEWATER TREATMENT FACILITIES

MILLBURY - WORCESTER, MASSACHUSETTS

CONTRACT NO. 2

FEBRUARY 1973

UPPER BLACKSTONE WATER POLLUTION ABATEMENT BOARD
APPROVED:



Vincent M. Hynes
VINCENT M. HYNES, CHAIRMAN

Donald G. MacMillan
DONALD G. MacMILLAN, VICE - CHAIRMAN

Charles S. Woodbury
CHARLES S. WOODBURY, SECRETARY

FAY, SPOFFORD & THORNDIKE, INC.
ENGINEERS BOSTON, MASSACHUSETTS

APPROVED:

Eugene M. Cahaly
PRESIDENT



SHEET NO.	TITLE	SHEET NO.	TITLE	SHEET NO.	TITLE	SHEET NO.	TITLE	SHEET NO.	TITLE
G-1	TITLE SHEET	5M-1	SOUTH PUMPING STATION BASEMENT PLANS AND SECTION	10A-1	FIRST FLOOR PLAN - INCINERATOR BUILDING AND FILTER BUILDING	10M-7	INCINERATOR BUILDING CROSS SECTION AND MISCELLANEOUS DETAILS	L-19	STORM DRAINAGE PROFILE AND MISCELLANEOUS DETAILS
G-2	INDEX TO DRAWINGS	5M-2	SOUTH PUMPING STATION FIRST FLOOR PLAN AND SECTION	10A-2	SECOND FLOOR PLAN - INCINERATOR BUILDING AND FILTER BUILDING	10M-8	FILTER BUILDING BASEMENT FLOOR PLAN	L-20	DEMOLITION PLAN
G-3	GENERAL PLAN AND LOCATION MAP	5M-3	NORTH PUMPING STATION PLANS AND SECTION	10A-3	THIRD FLOOR PLAN - INCINERATOR BUILDING	10M-9	FILTER BUILDING FIRST FLOOR PLAN	L-21	DEMOLITION DETAILS PART I
G-4	PLANT PROFILE	5E-1	SOUTH PUMPING STATION PLANS AND DETAILS	10A-4	FIRST FLOOR PLAN - SLUDGE THICKENER BUILDING	10M-10	FILTER BUILDING SECOND FLOOR PLAN	L-22	DEMOLITION DETAILS PART II
SCREENINGS AND GRIT FACILITIES. F.N. -1									
1A-1	PLANS, ELEVATIONS AND SECTIONS	5E-2	NORTH PUMPING STATION PLANS AND DETAILS	10A-5	ROOF PLAN AND DETAILS	10M-11	FILTER BUILDING LONGITUDINAL SECTION		
1A-2	WALL SECTIONS	5E-3	NORTH AND SOUTH PUMPING STATIONS WIRING SCHEMATICS AND DETAILS	10A-6	DOOR SCHEDULE AND DETAILS	10M-12	FILTER BUILDING CROSS SECTIONS		
1S-1	PILE AND FOUNDATION PLANS AND DETAILS	CHLORINE CONTACT TANK. F.N. -6		10A-7	WINDOW SCHEDULE AND DETAILS	10M-13	FILTER BUILDING GRIT TRANSFER CONVEYOR		
1S-2	FLOOR AND ROOF PLANS	65M-1	PLAN, SECTIONS AND DETAILS	10A-8	ELEVATIONS - SOUTH AND EAST	10M-14	THICKENER BUILDING BASEMENT PLAN		
1S-3	MISCELLANEOUS DETAILS	CHLORINATION FACILITIES. F.N. -7		10A-9	ELEVATIONS - NORTH AND WEST	10M-15	THICKENER BUILDING FIRST FLOOR PLAN		
1S-4	GRIT REMOVAL AND PREAERATION TANKS	7A-1	PLANS, ELEVATIONS AND SECTIONS	10A-10	CROSS SECTIONS	10M-16	THICKENER BUILDING SECTIONS		
PRIMARY SETTLING TANKS. F.N. -2									
2S-1	PLANS	7A-2	WALL SECTIONS	10A-11	WALL SECTIONS I - INCINERATOR BUILDING	10E-1	INCINERATOR BUILDING POWER - SUB-BASEMENT PLAN		
2S-2	SECTIONS AND DETAILS	7S-1	PLANS AND DETAILS	10A-12	WALL SECTIONS II - INCINERATOR BUILDING	10E-2	INCINERATOR BUILDING POWER - BASEMENT PLAN		
2S-3	DETAILS	7S-2	MISCELLANEOUS DETAILS	10A-13	WALL SECTIONS - FILTER BUILDING	10E-3	INCINERATOR BUILDING POWER - FIRST FLOOR PLAN		
2A-1	PIPE GALLERY - SUPERSTRUCTURE	7M-1	PLANS, SECTIONS AND DETAILS	10A-14	WALL SECTIONS - SLUDGE THICKENER BUILDING	10E-4	INCINERATOR BUILDING POWER - SECOND FLOOR PLAN		
2A-2	PIPE GALLERY - AIR PIPING AND MISCELLANEOUS SECTIONS	7E-1	POWER AND LIGHTING PLANS AND DETAILS	10A-15	STAIR NO. 1 AND NO. 2	10E-5	INCINERATOR BUILDING POWER - THIRD FLOOR PLAN		
2A-3	PIPE GALLERY - AIR PIPING AND MISCELLANEOUS SECTIONS	7E-2	MOTOR CONTROL CENTER DETAILS AND WIRING DIAGRAMS	10A-16	STAIR NO. 3 AND DETAILS	10E-6	INCINERATOR BUILDING POWER - PENTHOUSE PLAN		
2A-4	PIPE GALLERY - AIR PIPING AND MISCELLANEOUS SECTIONS	8A-1	PLANS AND ELEVATIONS	10A-17	STAIR NO. 4 AND TOILET DETAILS	10E-7	INCINERATOR BUILDING LIGHTING - SUB-BASEMENT PLAN		
2E-1	PIPE GALLERY - POWER PLAN AND DETAILS	8A-2	WALL SECTIONS AND DETAILS	10S-1	FOUNDATION PLAN AND SECTION	10E-8	INCINERATOR BUILDING LIGHTING - BASEMENT PLAN		
2E-2	PIPE GALLERY - LIGHTING PLAN AND DETAILS	8S-1	FOUNDATION PLAN AND SECTIONS	10S-2	INCINERATOR AND FILTER BUILDINGS BASEMENT AND FIRST FLOOR FRAMING PLANS	10E-9	INCINERATOR BUILDING LIGHTING - FIRST FLOOR PLAN		
2E-3	PIPE GALLERY - MOTOR CONTROL CENTER DETAILS AND WIRING DIAGRAMS	8S-2	FIRST FLOOR FRAMING PLAN AND SECTIONS	10S-3	INCINERATOR AND FILTER BUILDINGS SECOND AND THIRD FLOOR FRAMING PLANS	10E-10	INCINERATOR BUILDING LIGHTING - SECOND FLOOR PLAN		
AERATION TANKS. F.N. -3									
3S-1	PLAN	8S-3	ROOF FRAMING PLAN AND SECTIONS	10S-4	INCINERATOR AND FILTER BUILDINGS ROOF FRAMING PLAN	10E-11	INCINERATOR BUILDING LIGHTING - THIRD FLOOR PLAN		
3S-2	SECTIONS - I	8M-1	PUMP ROOM AND WET WELL PLAN	10S-5	INCINERATOR AND FILTER BUILDINGS FRAMING ELEVATIONS - I	10E-12	INCINERATOR BUILDING POWER - BASEMENT PLAN		
3S-3	SECTIONS - II	8M-2	FIRST FLOOR PLAN	10S-6	INCINERATOR AND FILTER BUILDINGS FRAMING ELEVATIONS - II	10E-13	INCINERATOR BUILDING POWER - FIRST FLOOR PLAN		
3M-1	PLAN	8M-3	SECTIONS	10S-7	INCINERATOR AND FILTER BUILDINGS COLUMN SCHEDULE	10E-14	INCINERATOR BUILDING POWER - SECOND FLOOR PLAN		
3M-2	SECTIONS AND DETAILS	8E-1	POWER AND LIGHTING - BASEMENT PLAN	10S-8	INCINERATOR AND FILTER BUILDINGS MISCELLANEOUS FRAMING PLANS AND DETAILS	10E-15	INCINERATOR BUILDING MOTOR CONTROL CENTER ELEVATIONS AND DETAILS		
FINAL SETTLING TANKS. F.N. -4									
4S-1	STRUCTURAL	8E-2	POWER - FIRST FLOOR PLAN AND DETAILS	10S-9	INCINERATOR BUILDING CONCRETE DETAILS	10E-16	INCINERATOR BUILDING MISCELLANEOUS WIRING DIAGRAMS - PART I		
4M-1	MECHANICAL PROCESS AND ELECTRICAL	8E-3	LIGHTING - FIRST FLOOR PLAN AND DETAILS	10S-10	INCINERATOR BUILDING CONCRETE DETAILS	10E-17	INCINERATOR BUILDING MISCELLANEOUS WIRING DIAGRAMS - PART II		
4C-1	GROUND WATER DRAINAGE SYSTEM	SLUDGE HOLDING TANKS. F.N. -9		10S-11	THICKENER BUILDING FIRST FLOOR AND ROOF PLANS	10E-18	INCINERATOR BUILDING LIGHTING - BASEMENT PLAN		
5A-1	PLANS, ELEVATIONS AND SECTIONS	9A-1	PLANS, ELEVATIONS AND SECTIONS	10S-12	THICKENER BUILDING SECTIONS AND DETAILS	10E-19	INCINERATOR BUILDING LIGHTING - FIRST FLOOR PLAN		
5A-2	WALL SECTIONS AND DETAILS	9A-2	WALL SECTIONS AND DETAILS	10S-13	THICKENER BUILDING COLUMN SCHEDULE AND MISCELLANEOUS DETAILS	10E-20	INCINERATOR BUILDING LIGHTING - SECOND FLOOR PLAN		
5S-1	PLANS AND DETAILS	9S-1	PUMP HOUSE BASEMENT, FIRST FLOOR AND ROOF PLANS	10M-1	INCINERATOR BUILDING SUB-BASEMENT PLAN	10E-21	INCINERATOR BUILDING POWER - BASEMENT PLAN		
SLUDGE RECIRCULATION PUMPING STATIONS. F.N. -5									
5A-1	PLANS, ELEVATIONS AND SECTIONS	9S-2	HOLDING TANKS FOUNDATION PLAN AND SECTIONS	10M-2	INCINERATOR BUILDING BASEMENT PLAN	10E-22	INCINERATOR BUILDING POWER - FIRST FLOOR PLAN		
5A-2	WALL SECTIONS AND DETAILS	9S-3	HOLDING TANKS ROOF PLAN AND DETAILS	10M-3	INCINERATOR BUILDING FIRST FLOOR PLAN	10E-23	INCINERATOR BUILDING MOTOR CONTROL CENTER ELEVATIONS AND DETAILS		
5S-1	PLANS AND DETAILS	9M-1	BASEMENT PLAN	10M-4	INCINERATOR BUILDING SECOND FLOOR PLAN	10E-24	THICKENER BUILDING MISCELLANEOUS WIRING DIAGRAMS AND DETAILS		
5S-2	PLANS AND DETAILS	9M-2	FIRST FLOOR PLAN	10M-5	INCINERATOR BUILDING THIRD FLOOR PLAN	10E-25	THICKENER BUILDING LIGHTING - BASEMENT PLAN		
5E-1	POWER AND LIGHTING - LOWER AND UPPER LEVEL PLANS	9E-1	POWER AND LIGHTING - LOWER AND UPPER LEVEL PLANS	10M-6	INCINERATOR BUILDING LONGITUDINAL SECTION AT FRONT FACE	10E-26	THICKENER BUILDING LIGHTING - FIRST FLOOR PLAN		
5E-2	WIRING DIAGRAMS AND DETAILS	9E-2	WIRING DIAGRAMS AND DETAILS			11S-1	NIGHT SOIL FACILITY. F.N. -11		
						11M-1	MECHANICAL PROCESS AND ELECTRICAL		
						12A-1	FLOOR PLANS AND ROOF PLANS		
						12A-2	ELEVATIONS AND SECTIONS		
						12A-3	ROOM FINISH AND DOOR SCHEDULE AND DETAILS		
						12A-4	WALL SECTIONS		
						12A-5	STAIR DETAILS		
						12A-6	MISCELLANEOUS DETAILS		
						12A-7	LABORATORY PLAN AND DETAILS		
						12S-1	BASEMENT AND FIRST FLOOR PLANS AND DETAILS		
						12S-2	SECOND FLOOR AND ROOF PLANS AND DETAILS		

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2

INDEX TO DRAWINGS

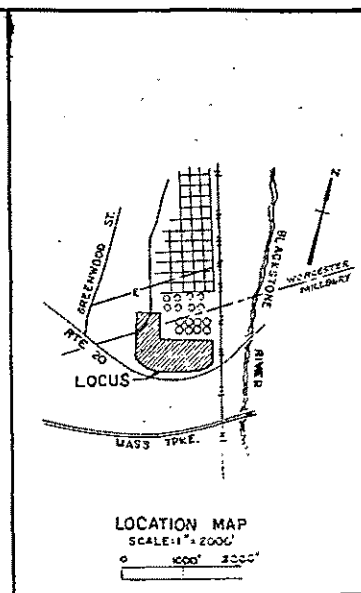
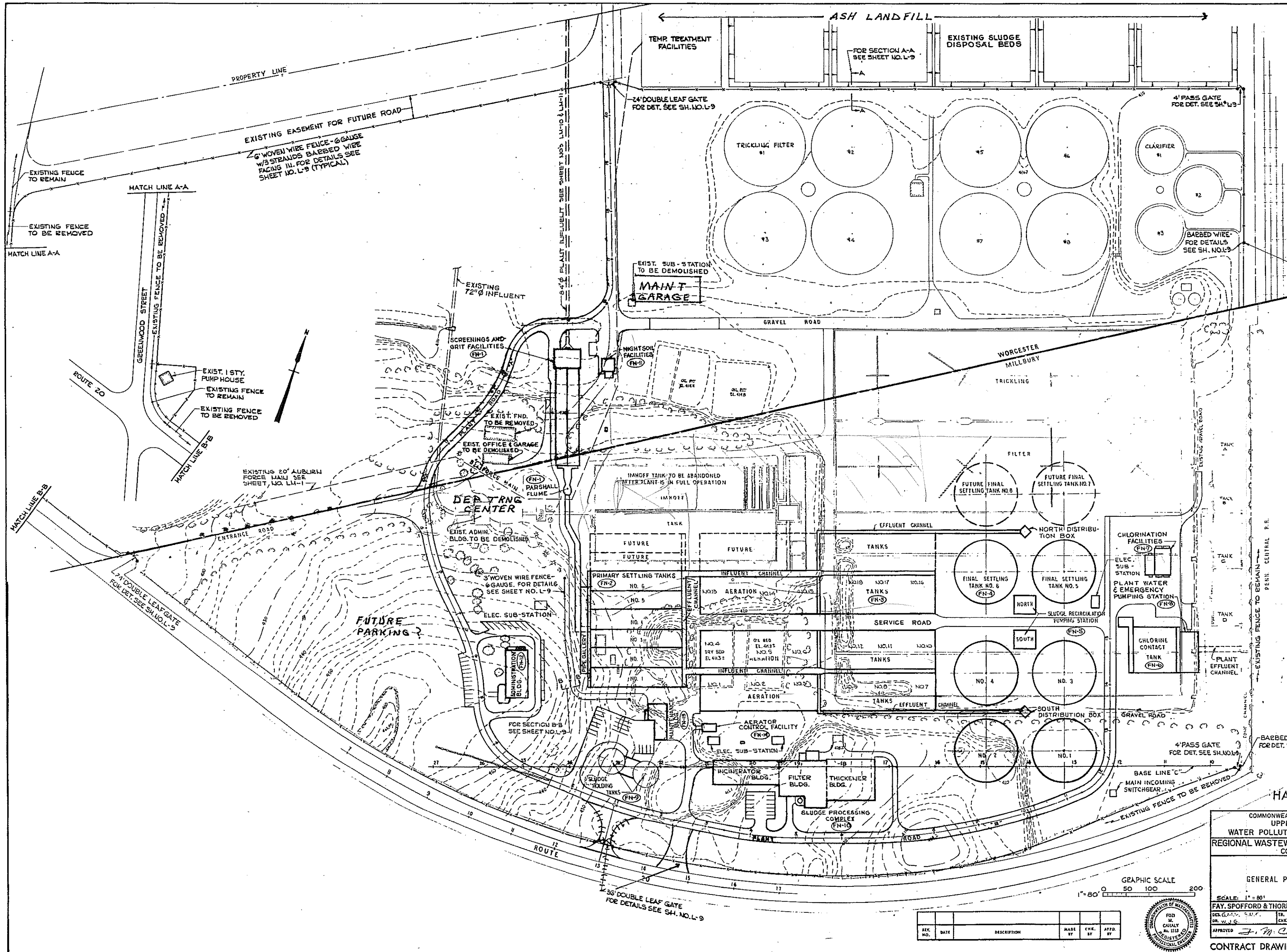
SCALE: AS NOTED FEBRUARY 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. BY: J.M.C.	TR. BY: D.G.D.	CHECKED BY: J.M.C.	DATE: 1/15/73
APPROVED: J.M.C.	DATE: 1/15/73	FILE NO.: JW-83	PLN. NO.: 22

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY





LOCATION MAP
SCALE: 1" = 2000'
0 1000' 2000'

NOTE:
(1) CONTOUR INTERVAL IS 2 FEET
(2) ALL ELEVATIONS ARE REFERRED TO U.S.G.S. M.S.L. ELEVATION 0.00

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CIVIL

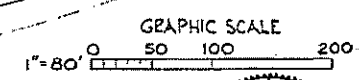
GENERAL PLAN AND LOCATION MAP

SCALE: 1" = 80' FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

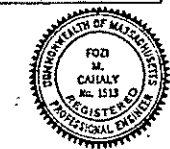
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CHK. W.J.S.	CHK. J.J.S.	DATE	23

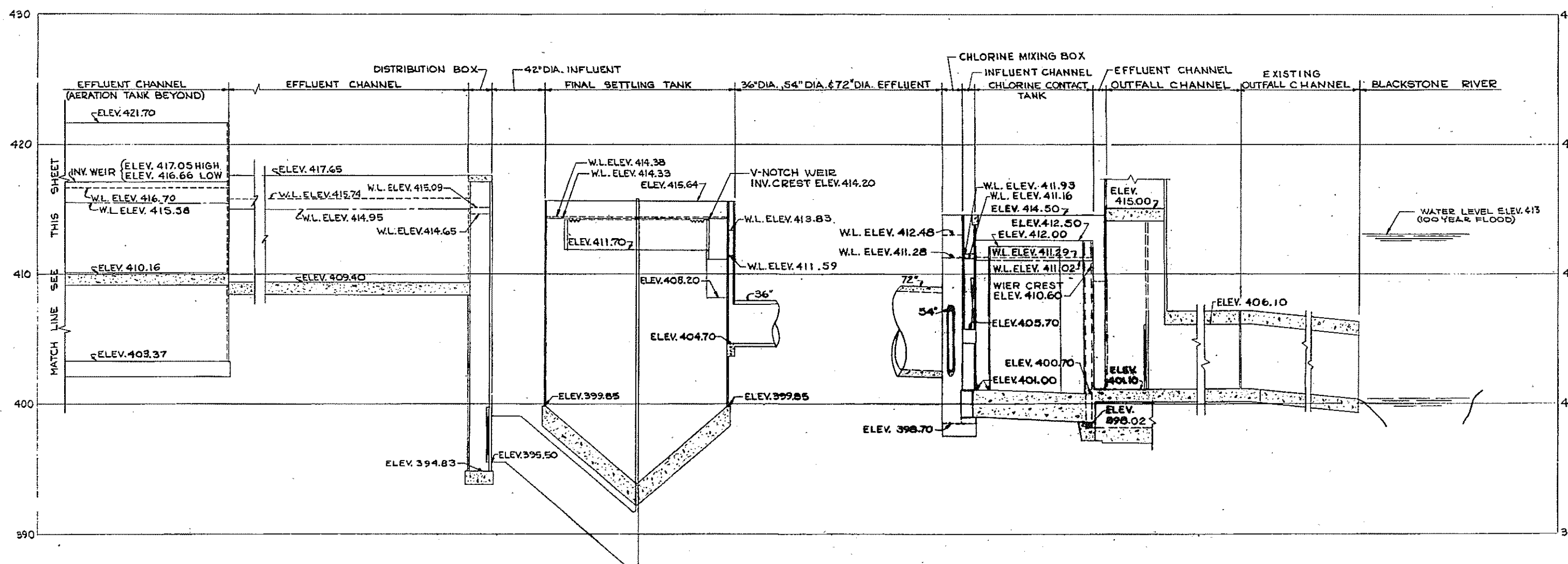
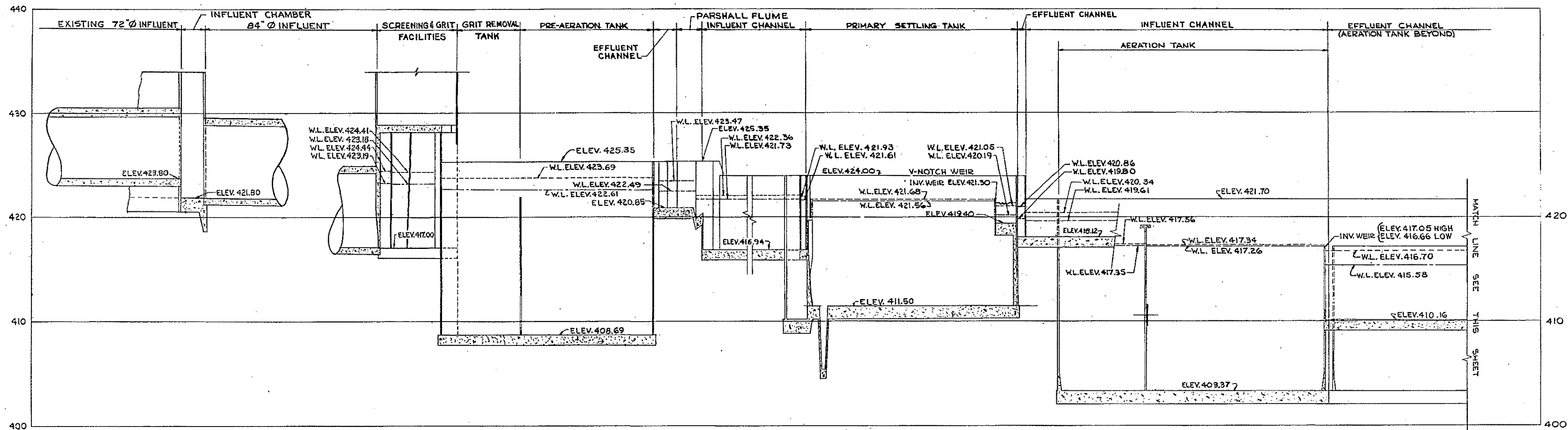
APPROVED: *J.M. Cahill*

CONTRACT DRAWING SHEET NO. G-3

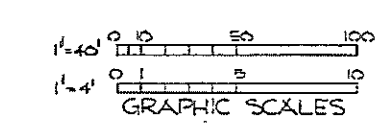


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY





LEGEND
 - - - - - PEAK HOURLY FLOW OF 119 MGD IN 1990, WITH 35.3% RECIRCULATION SLUDGE
 _____ AVERAGE DAILY FLOW OF 56 MGD IN 1990, WITH 75% RECIRCULATION SLUDGE

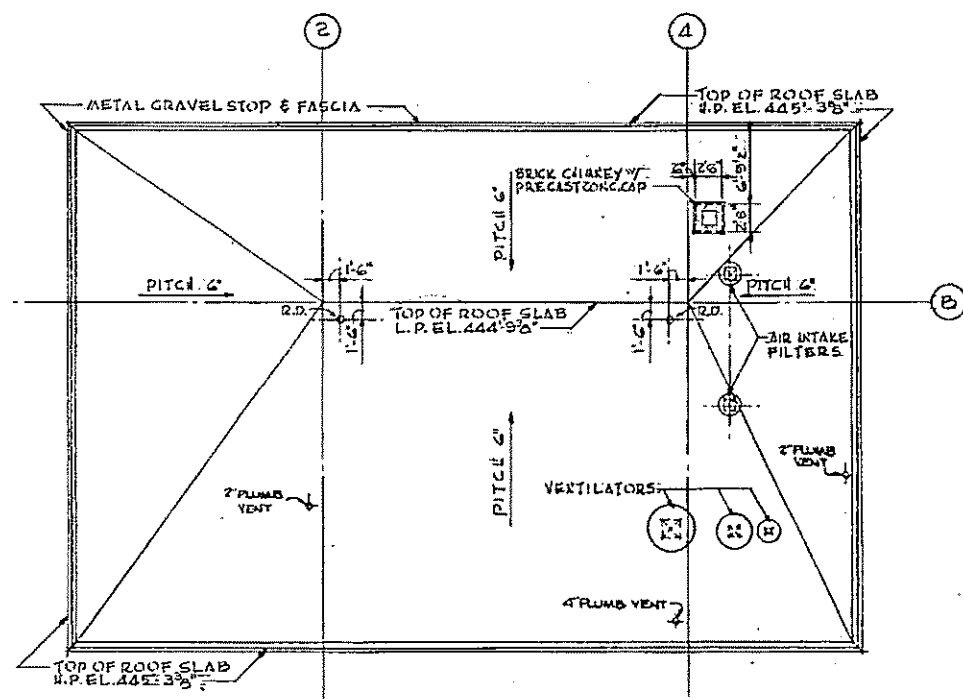


HALF-SIZE DRAWING

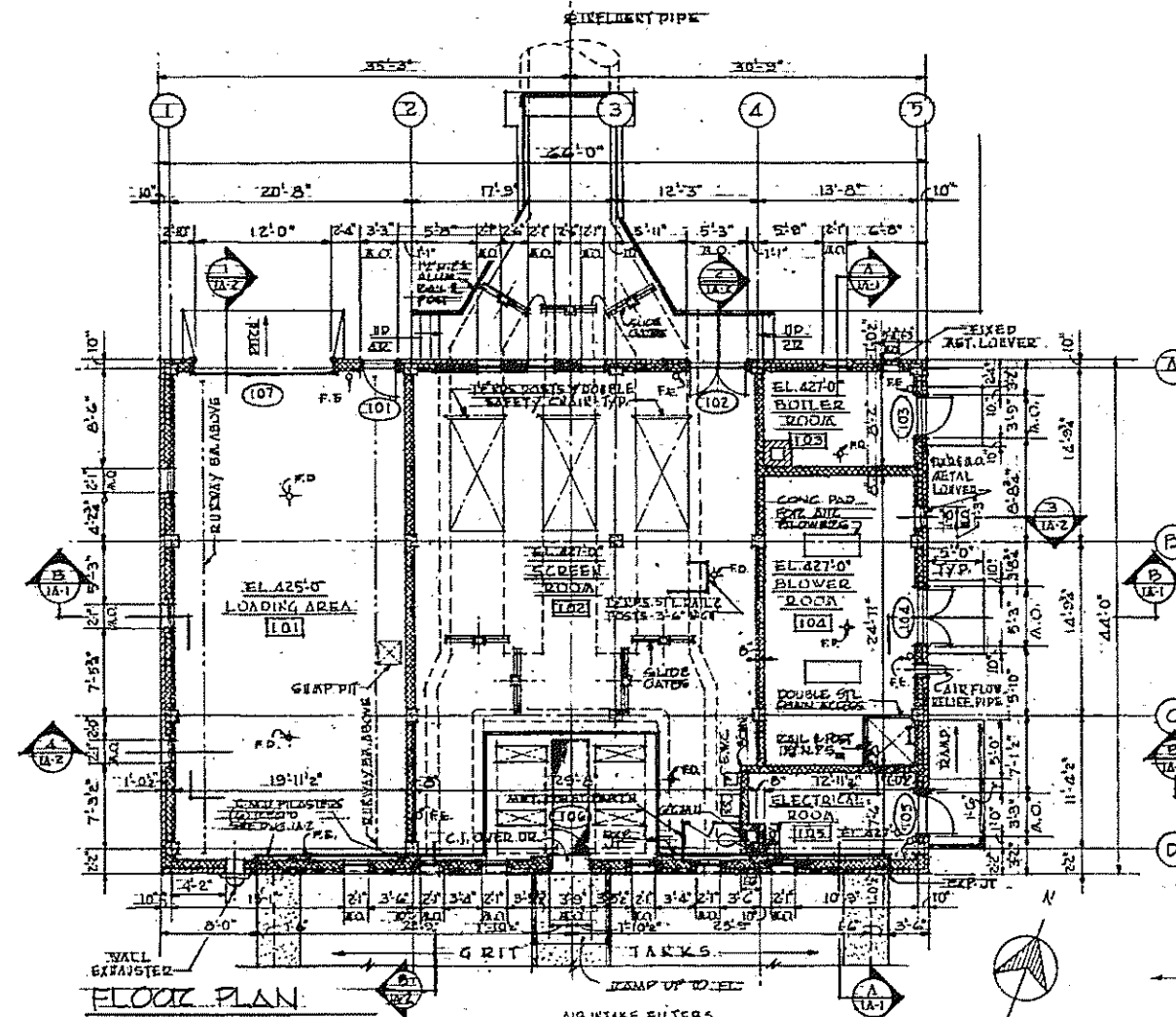
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL
 PLANT PROFILE
 SCALE: HORIZ. 1" = 40' VERT. 1" = 4' FEB. 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. H.C.L. CHK. J.J.S., H.C.L. FILE NO. JW-83
 APPROVED *F.M. Cahaly* DATE 24

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

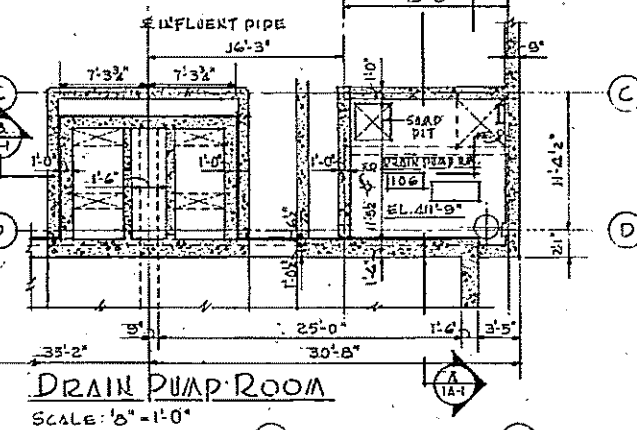




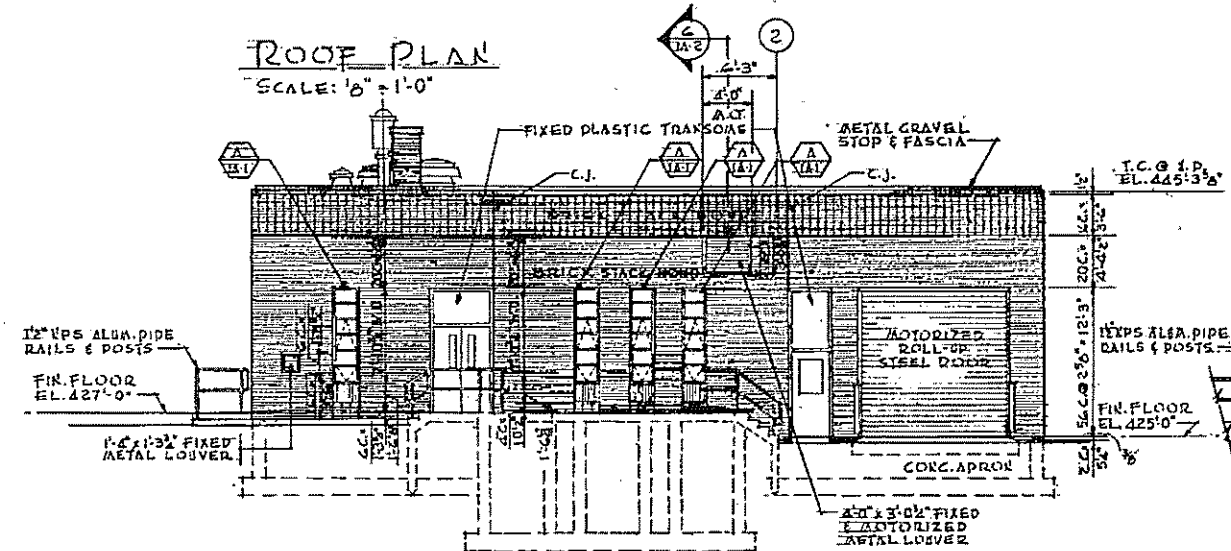
ROOF PLAN
SCALE: 6" = 1'-0"



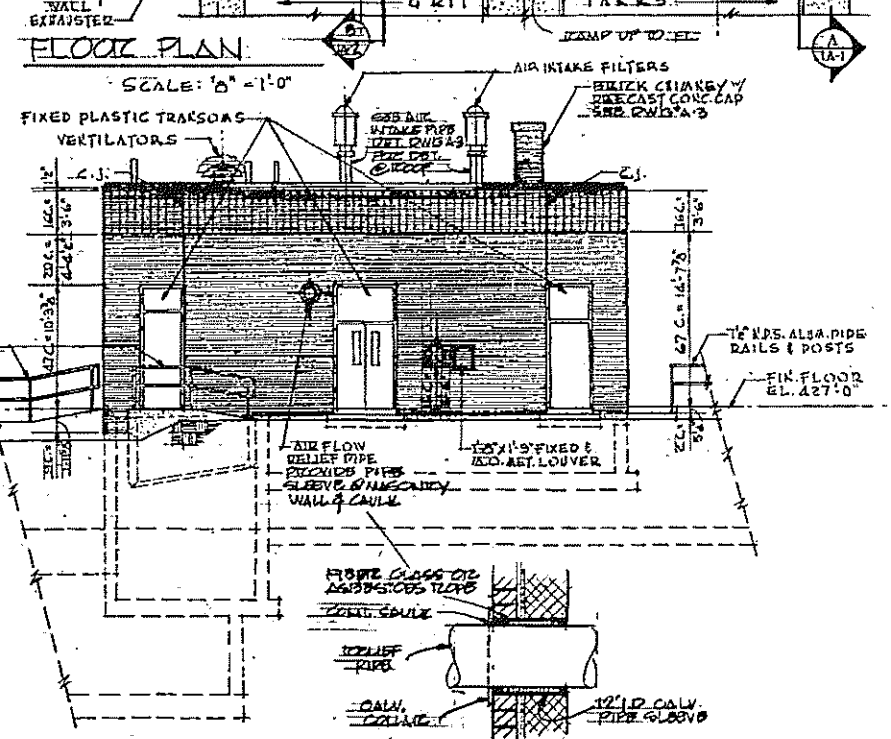
FLOOR PLAN
SCALE: 6" = 1'-0"



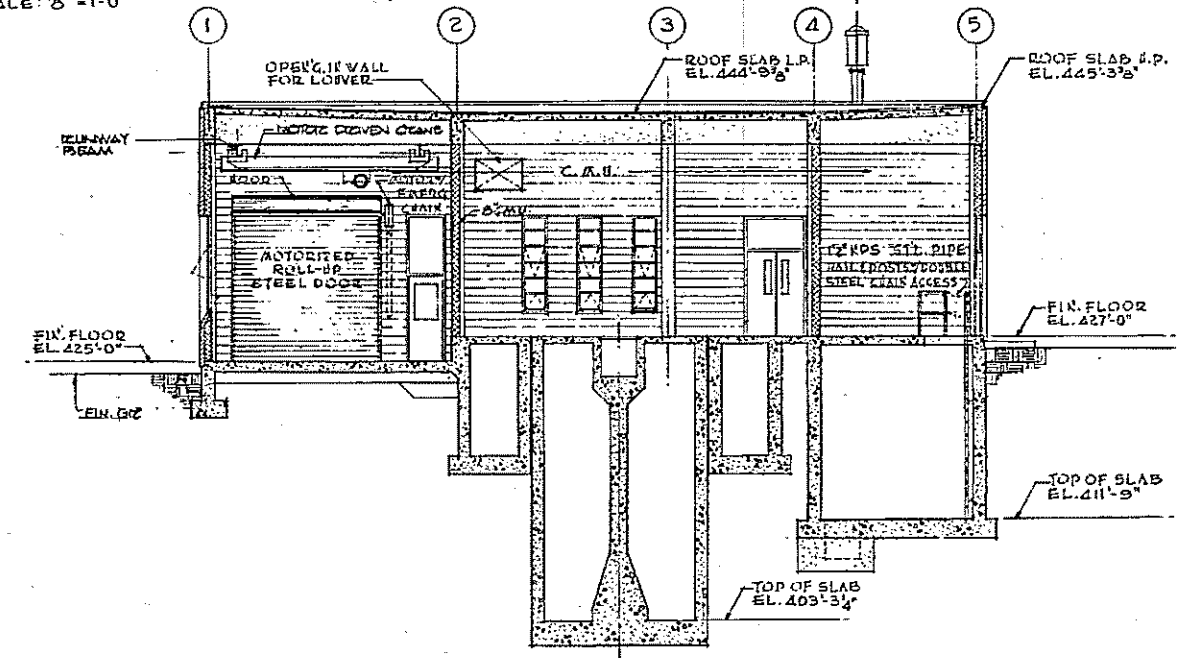
CROSS SECTION
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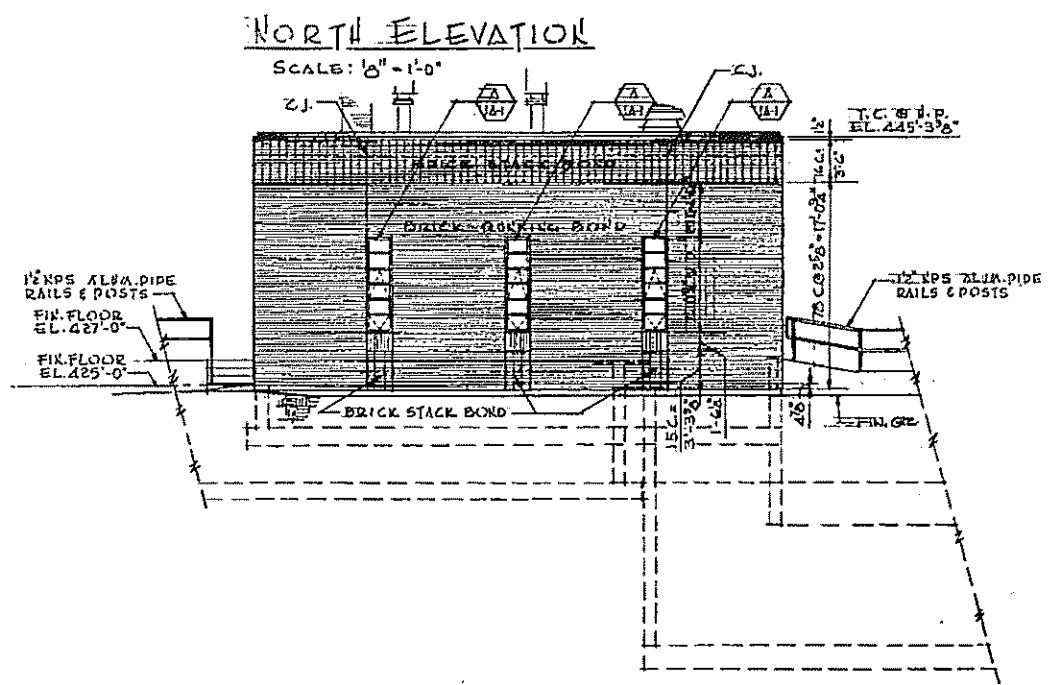
NORTH ELEVATION
SCALE: 6" = 1'-0"



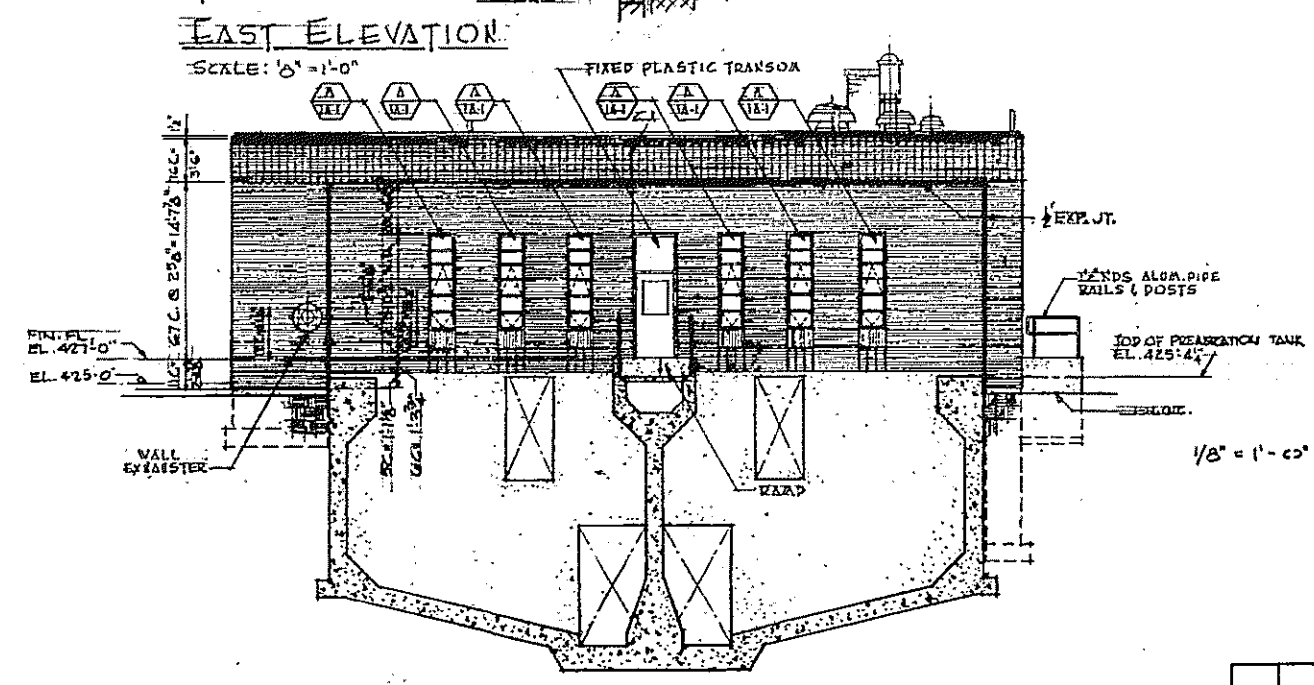
EAST ELEVATION
SCALE: 6" = 1'-0"



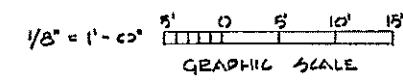
LONGITUDINAL SECTION
SCALE: 6" = 1'-0"



WEST ELEVATION
SCALE: 6" = 1'-0"



SOUTH ELEVATION
SCALE: 6" = 1'-0"

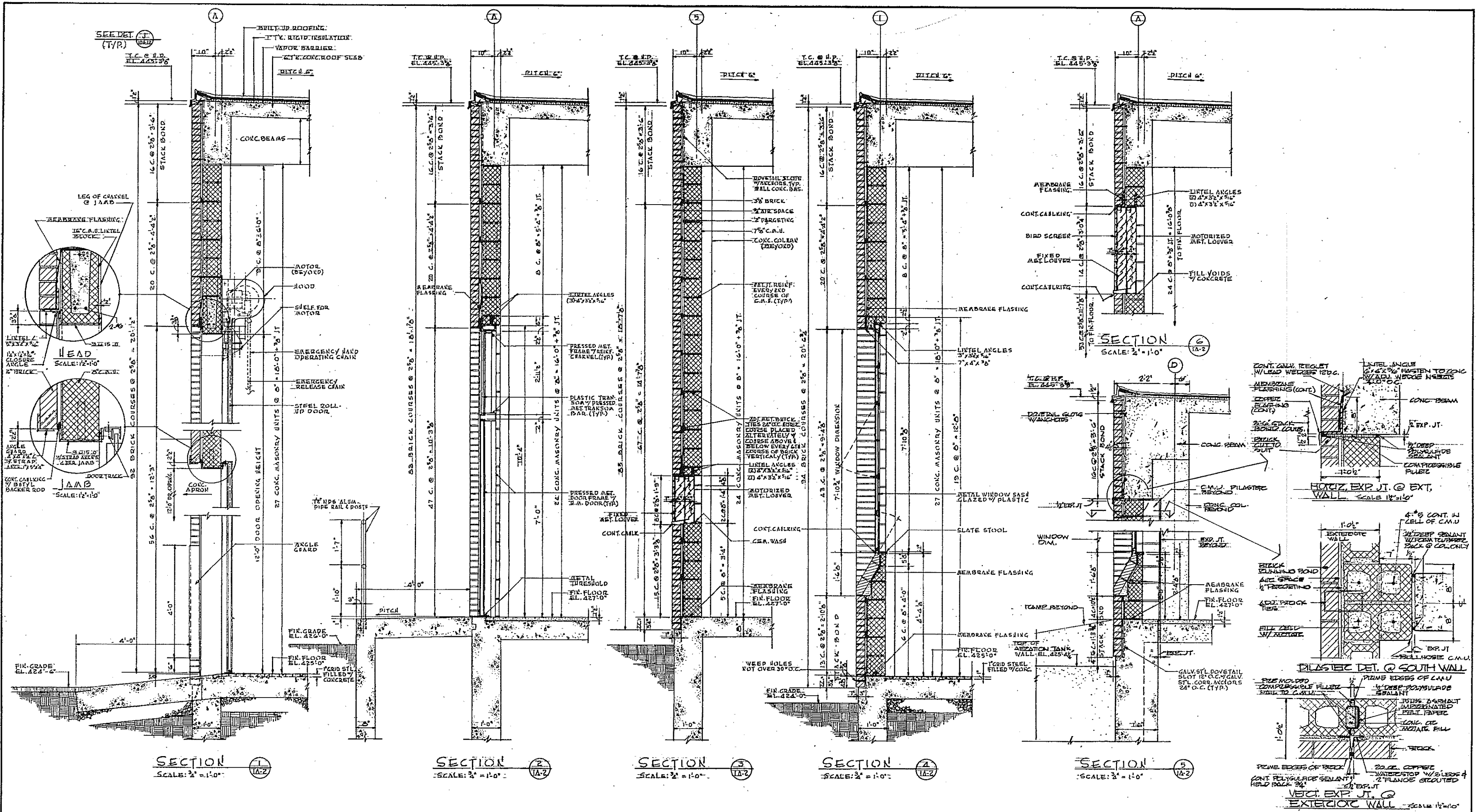


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N.-1
ARCHITECTURAL
PLANS, ELEVATIONS AND SECTIONS
SCALE: AS NOTED
FEBRUARY, 1973
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON ARCHITECTS, BOSTON, MASS.
DES. H.C.K. CHK. P.W. FILE NO. JW-83
APPROVED: J.M. Cahaly
CONTRACT DRAWING SHEET NO. 1A-1

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY





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

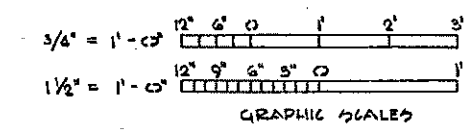
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SCALE: 3/4" = 1'-0"

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

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

SECTION 5
SCALE: 3/4" = 1'-0"

SECTION 6
SCALE: 3/4" = 1'-0"



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N.-1
ARCHITECTURAL

WALL SECTIONS

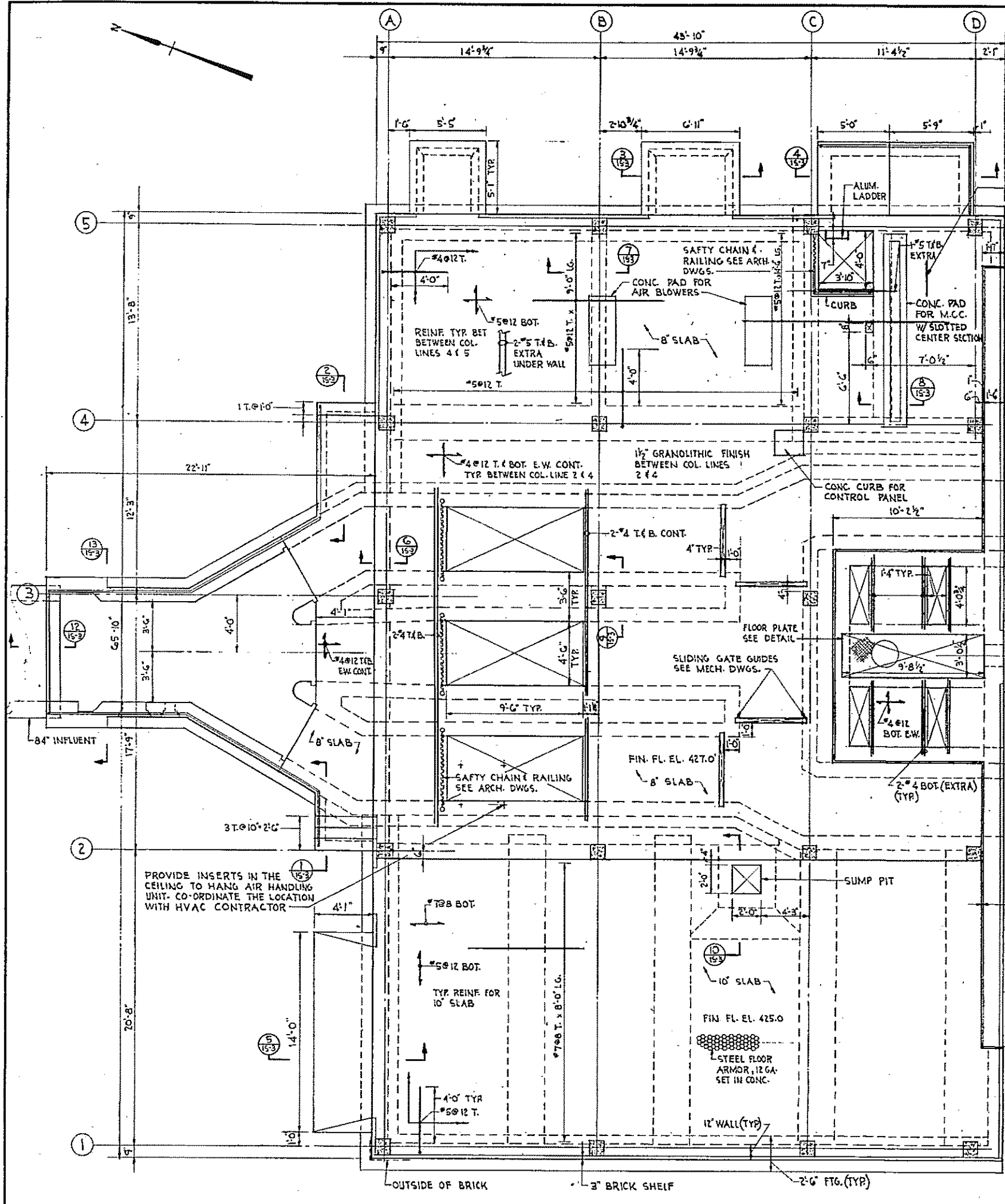
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FEBRUARY, 1975
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON ARCHITECTS, BOSTON, MASS.

NO. 134
J.W.M. DR. J.M.T. FILE JW-83
APPROVED: J.M. Cahaly
DATE: 26

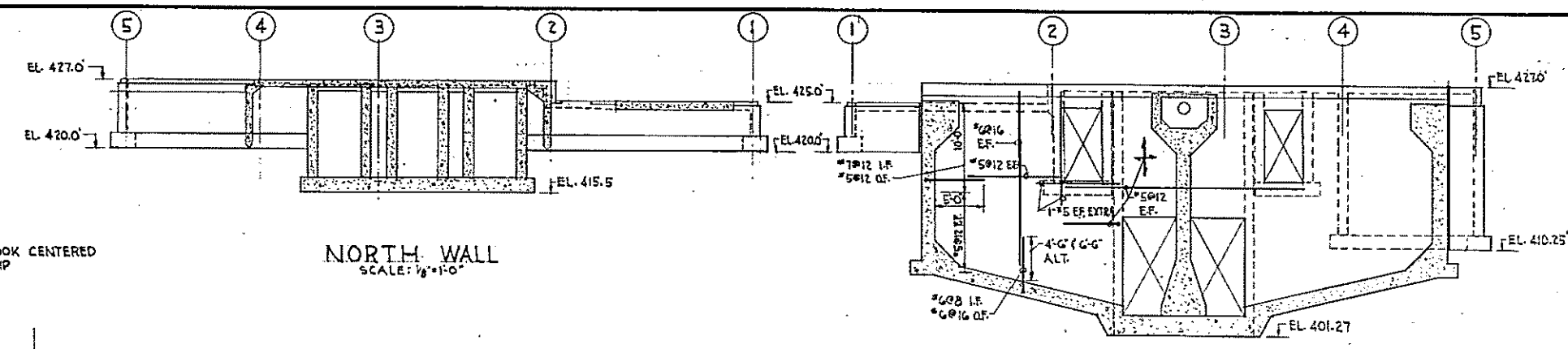
CONTRACT DRAWING SHEET NO. 1A-2

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



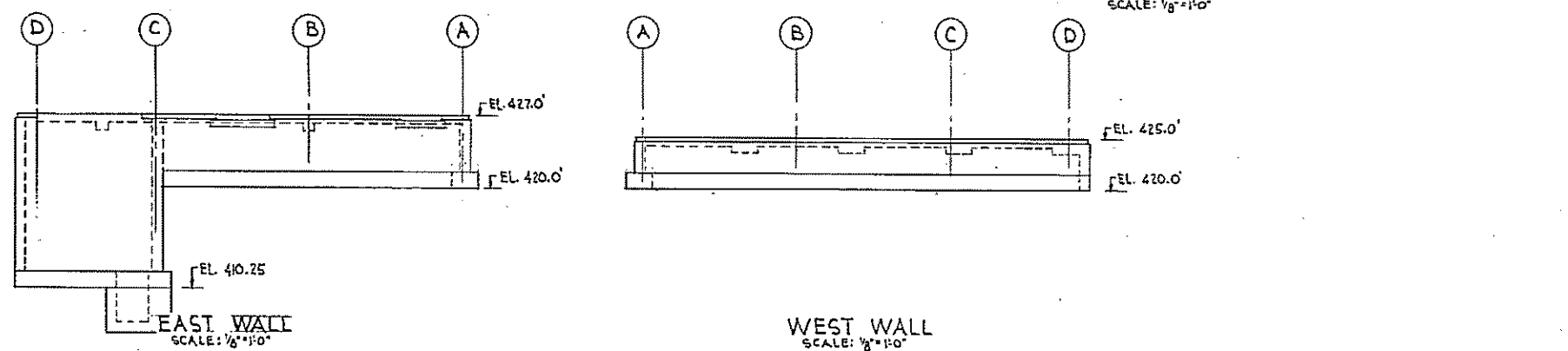


FLOOR PLAN
SCALE: 1/4"=1'-0"



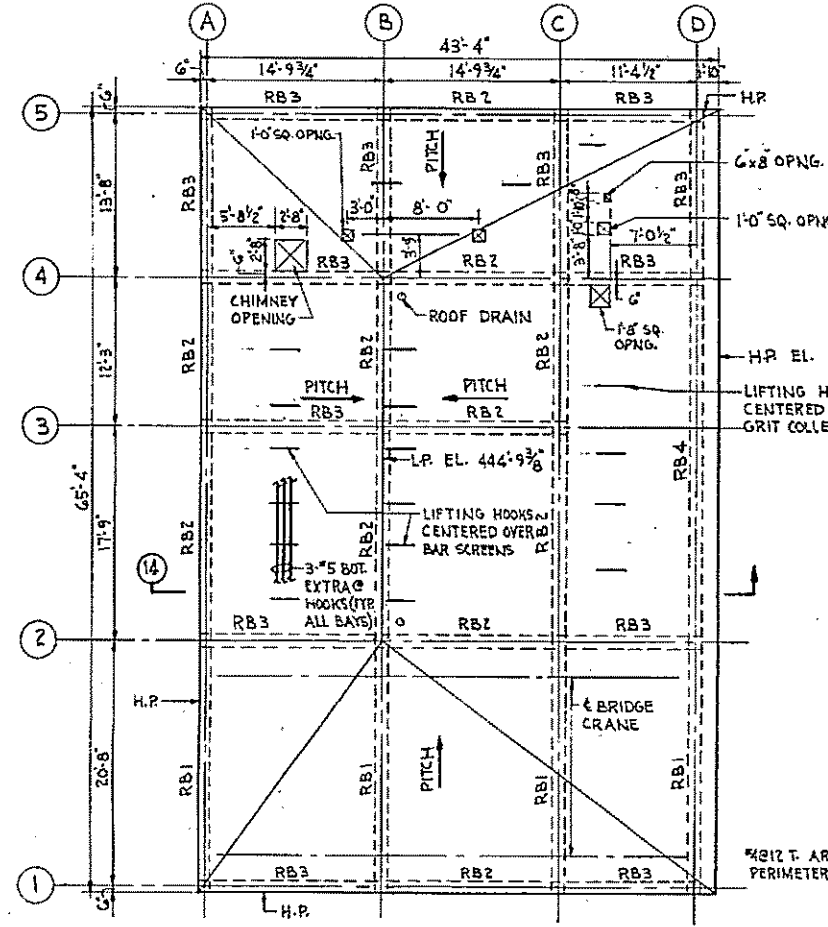
NORTH WALL
SCALE: 1/8"=1'-0"

SOUTH WALL
SCALE: 1/8"=1'-0"



EAST WALL
SCALE: 1/8"=1'-0"

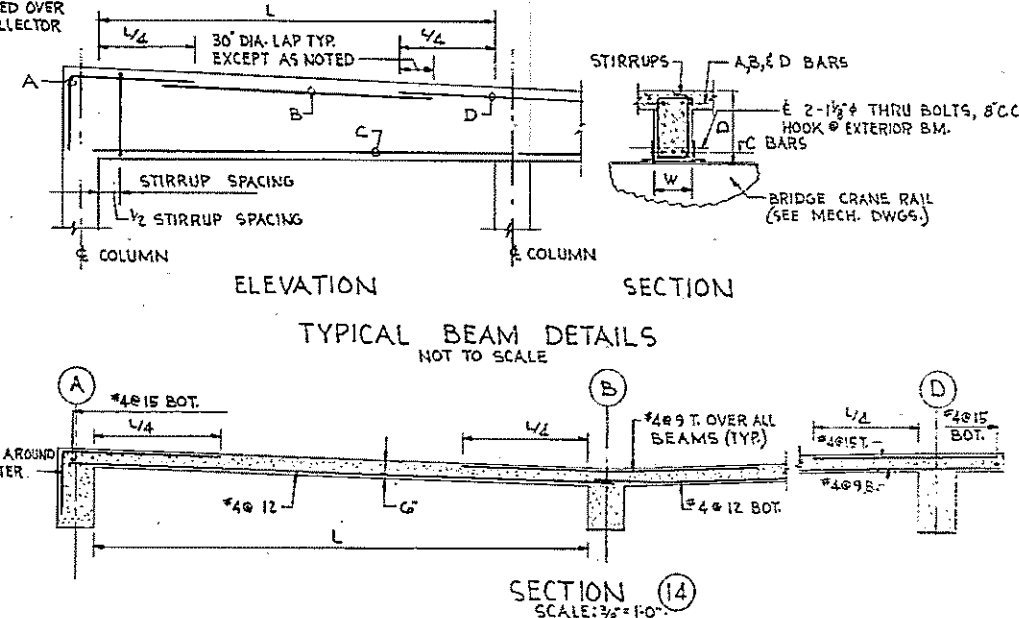
WEST WALL
SCALE: 1/8"=1'-0"



ROOF PLAN
SCALE: 1/8"=1'-0"

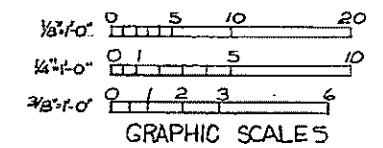
BEAM SCHEDULE								
MARK	W	D	REINFORCING				STIRRUP SPACING	REMARKS
			A	B	C	D		
RB1	12"	21"	2#6	2#6	2#7	4#7	#4@9"	BOT. OF ROOF BEAMS ARE LEVEL @ EL. 443'-0 3/8"
RB2	12"	21"	2#5	2#6	2#6	2#6	#3@9"	
RB3	12"	21"	2#5	2#5	2#6	2#6	#3@9"	
RB4	12"	21"	2#6	3#7	3#7	3#7	#3@9"	

* VARIES WITH ROOF PITCH FROM 21' TO 27'



TYPICAL BEAM DETAILS
NOT TO SCALE

COLUMN SCHEDULE				
COLUMN MARKS	1A, 1B, 1C, 1D	2A, 2B, 2C, 2D, 3A, 3B, 3C, 3D	2B, 3B, 4B	2C, 3C, 4C
HIGH POINT ROOF EL. 445.28	3'	3'	9" MIN. TYP.	5'-1"
LOW POINT ROOF EL. 444.78				
1ST FLOOR EL. 427.0				
GARAGE FLOOR EL. 425.0				
				HOOK INTO BM. # 3B
				ALL DOWELS TO MATCH VERT. REINF. TYP. EXTEND INTO PLASTER WHERE APPLICABLE.
COLUMN SIZE	12"x12"	12"x12"	12"x12"	12"x12"
VERT. REINF.	4#6	4#6	4#6	4#6
TIES & SPACING	#3@12"	#3@12"	#3@12"	#3@12"

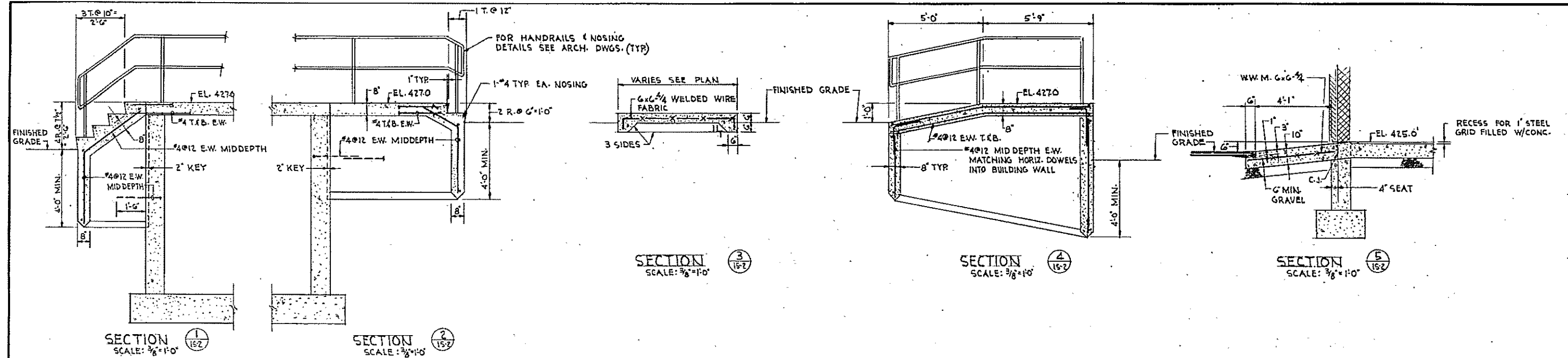


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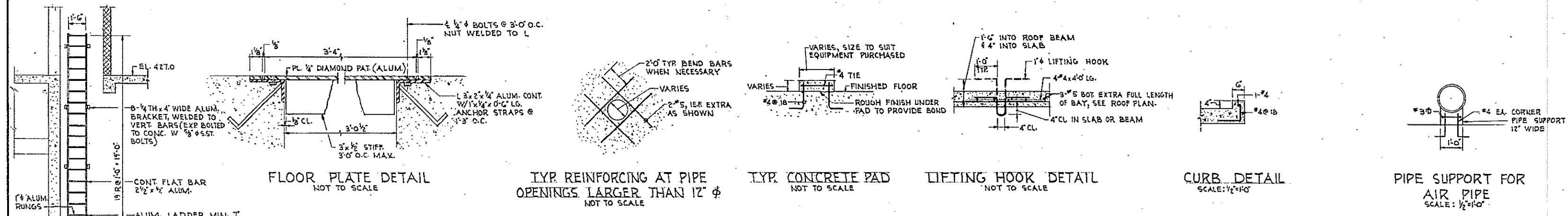
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N.-1
STRUCTURAL
FLOOR AND ROOF PLANS
SCALE: AS NOTED
FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REV. S.P.P. NO. 1513
DR. R.A.G. CHG. S.P.P. 16
JW-83
APPROVED: J. W. Cahaly
28
CONTRACT DRAWING SHEET NO. IS-2

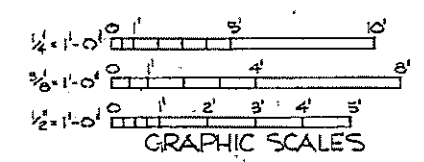
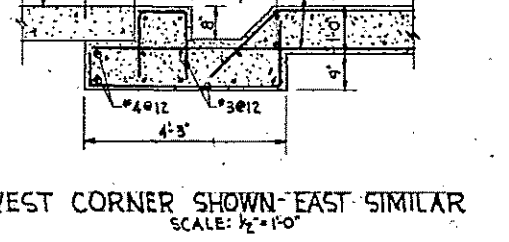
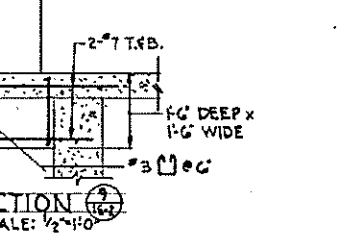
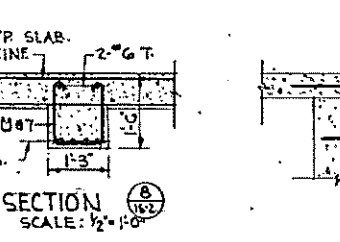
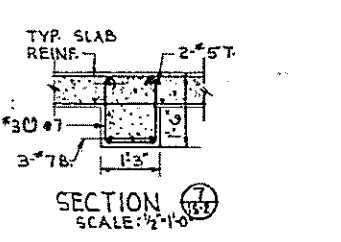
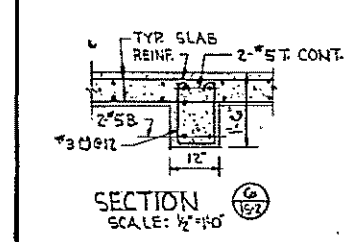
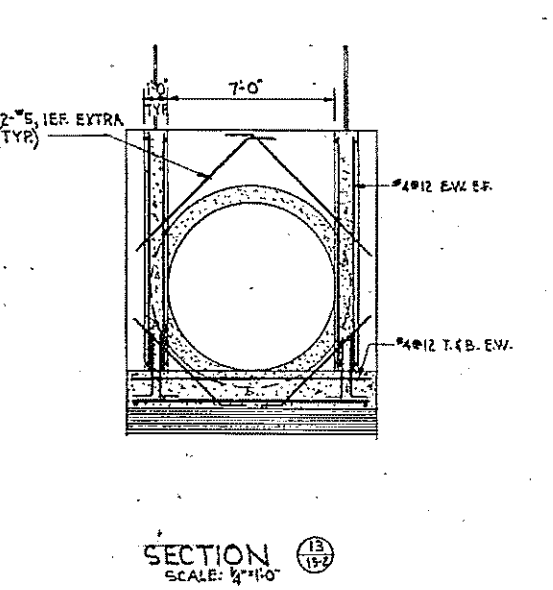
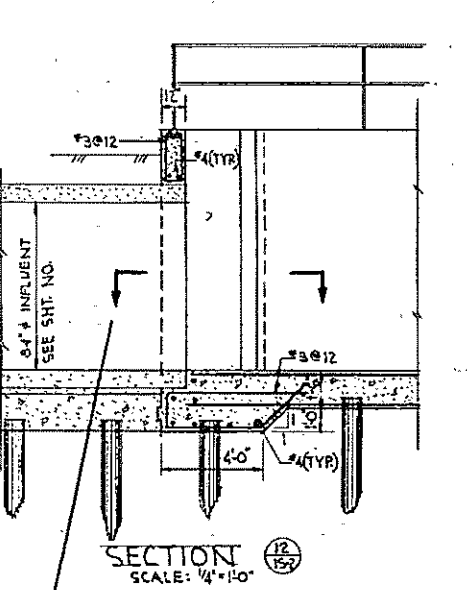
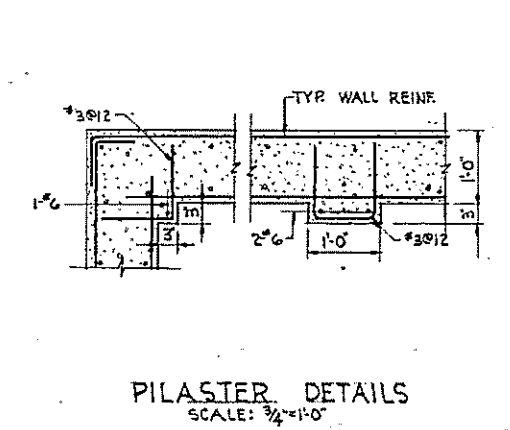
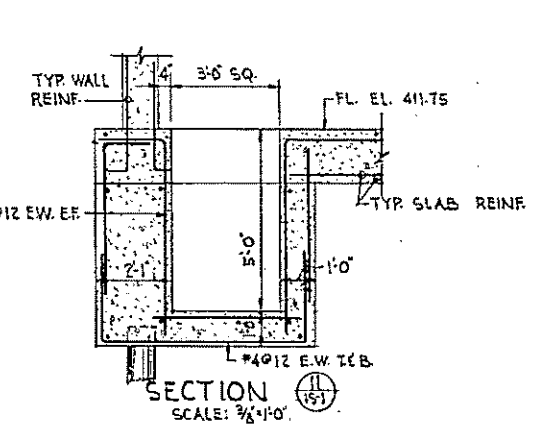
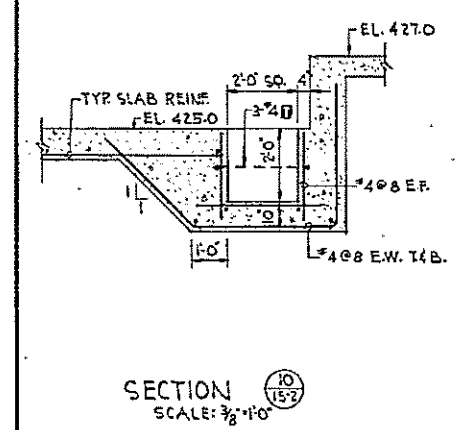




- NOTES
- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 103-1.
 - FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2.
 - DESIGN GROUND WATER ELEVATION 414.0.
 - LIVE LOADS:
 - GARAGE FLOOR - 200 PSF OR 16 KIP WHEEL LOAD (HS-20 TRUCK) OR 10 KIP GRIT CONTAINERS.
 - FIRST FLOOR - 200 PSF
 - BRIDGE CRANE - 10,000 LBS.
 - LIFTING ROOFS - 2,000 LBS.
 - PILES - TREATED WOOD PILES. DESIGN LOAD, 20 TON, INCLUDING DRAG.
 - THE GRIT REMOVAL TANK AND PREAERATION TANK STRUCTURE ALSO CHECKED AGAINST FLOTATION AT FLOOD WATER ELEVATION 414.0 WITH ONE TANK EMPTY.
 - UNSUITABLE MATERIAL AT GRIT REMOVAL TANKS AND PREAERATION TANKS INCLUDING ORGANIC PEAT ENCOUNTERED IN FOUNDATION EXCAVATION SHALL BE REMOVED AND REPLACED BY COMPACTED SELECTED MATERIAL WITHIN THE AREA AND TO THE DEPTH AS DIRECTED BY THE ENGINEER AND SHOWN APPROXIMATE ON THE DRAWINGS.
 - REINFORCING STEEL FOR THE BUILDING SHALL BE GRADE 60.



ALUM. LADDER DETAIL SCALE: 1/4"=1'-0"



HALF-SIZE DRAWING

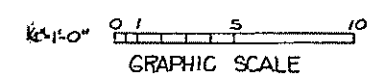
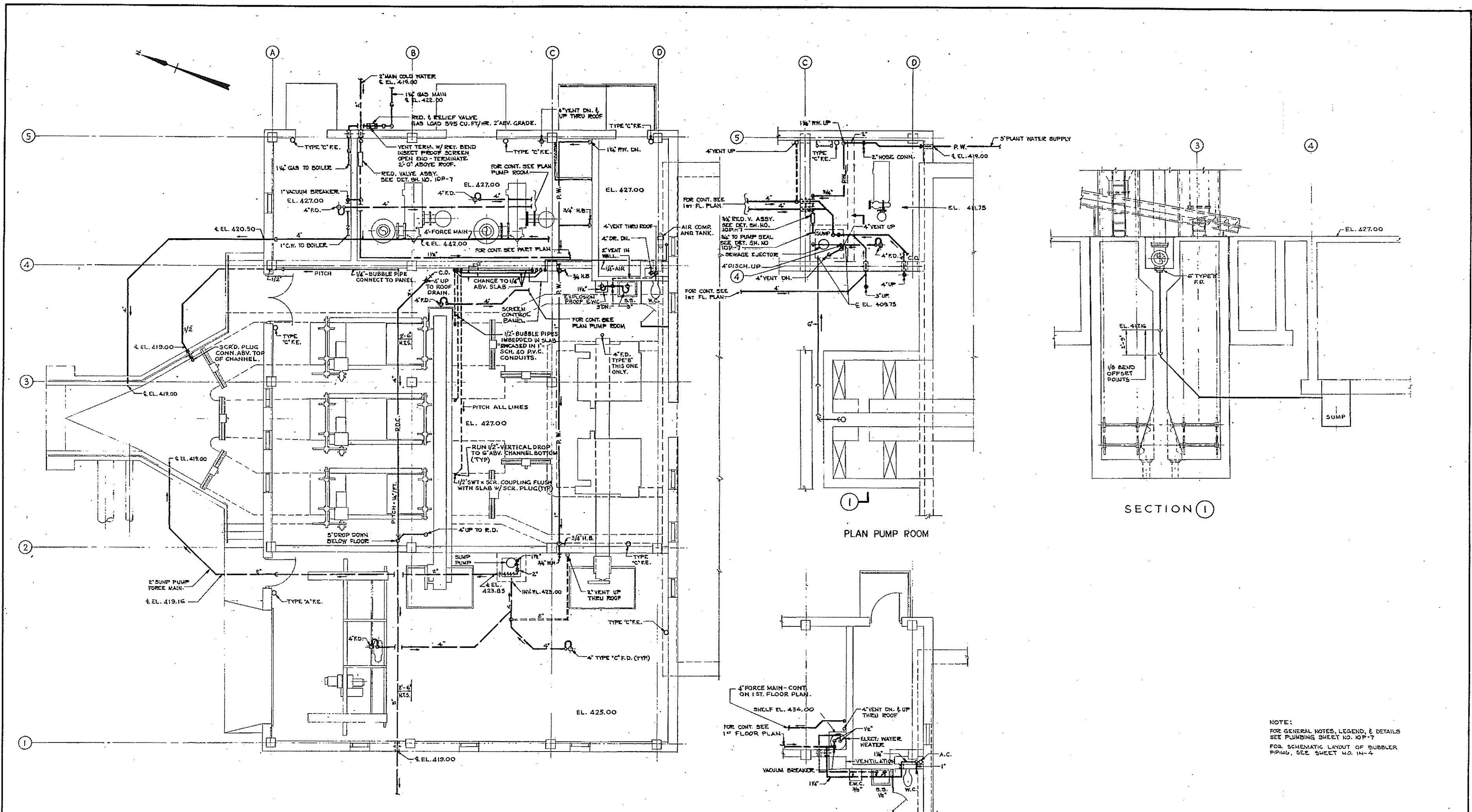
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SCREENINGS AND GRIT FACILITIES, F.N.-1
 STRUCTURAL
 MISCELLANEOUS DETAILS

SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. S.P.P. TR. J.G. H.S.F. JW-83
 DR. R.A.Q. CHK. S.P.P. J.G. H.S.F. JW-83
 APPROVED: *J.M. Cella* REG. P.E. NO. 29

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPR. BY





REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N. - 1
PLUMBING

PLAN AND DETAILS

SCALE: FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. J. H. DE V. C. IN. CH. C. L. M. DATE JW-83

APPROVED *F. M. Cahaly* PLAN NO. 31

CONTRACT DRAWING SHEET NO. 1P - 1

AIR HANDLING UNIT SCHEDULE (DRAW-THRU)

MARK	FILTER SECTION		HEATING COIL										FAN SECTION								
	TYPE	ΔP AIR	CFM	GPM	MBH	ΔT °F	NO. OF ROWS	SIZE	FINS PER FT.	WTR. PRESS. DROP FT. OF H ₂ O	AIR PRESS. DROP IN. OF H ₂ O	EAT. °F	LAT. °F	CFM	SP. IN. OF H ₂ O	O.V.	R.P.M.	H.P.	VOLT	PHASE	HERTZ
AH-1	MED. CAPACITY THROUGHWAY	0.11	3,000	21.2	212	20°	1	30x33	16	0.61	0.095	-5°	160°	3,000	5/8"	1,091	572	3/4	460	3	60

FAN MOTOR SHALL BE EXPLOSION PROOF.

UNIT HEATER SCHEDULE

MARK	MOUNTING HEIGHT	NO. REQ'D.	TYPE	CAPACITY MBH	G.R.M.	C.F.M.	R.P.M.	HP	ΔP FT. OF H ₂ O
UH-1	10'-0"	3	HORIZONTAL	2.0	2.06	591	1,550	1/20	0.08
UH-2	10'-0"	6	HORIZONTAL	1.9	1.97	543	1,550	1/20	0.08
UH-3	10'-0"	1	HORIZONTAL	6.3	0.87	280	1,050	1/45	0.01

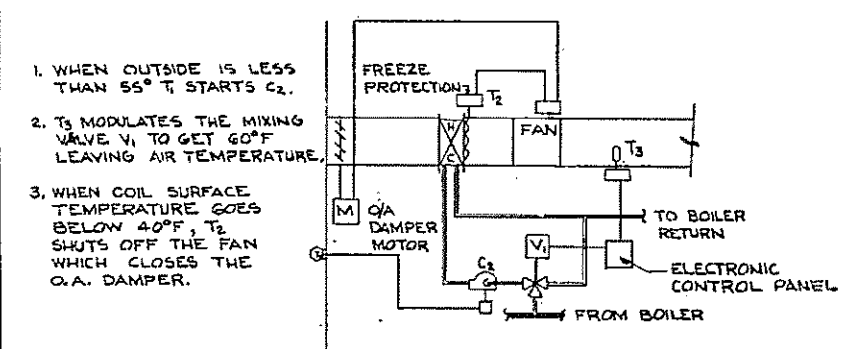
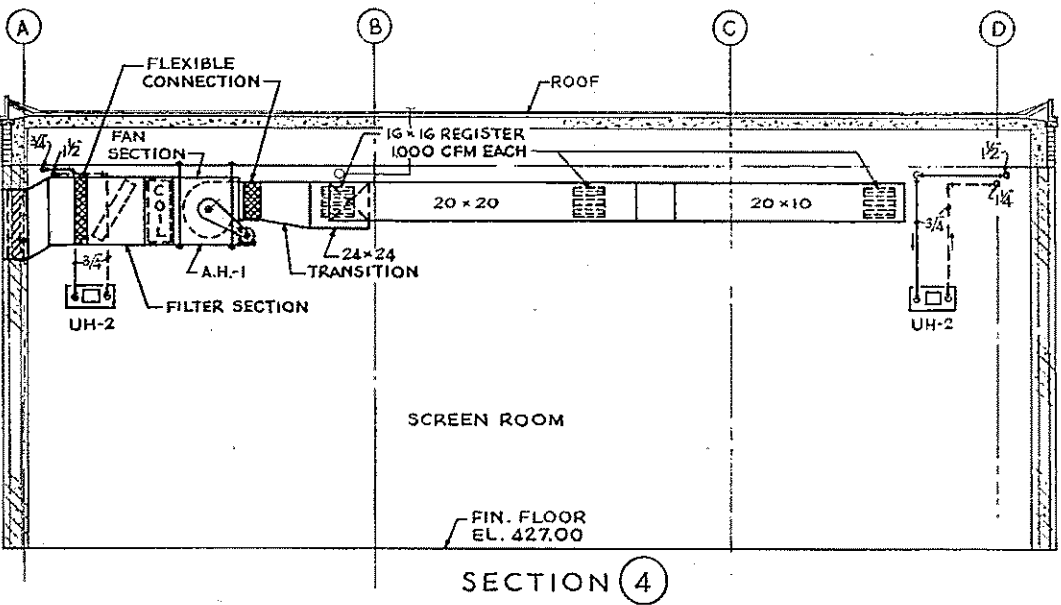
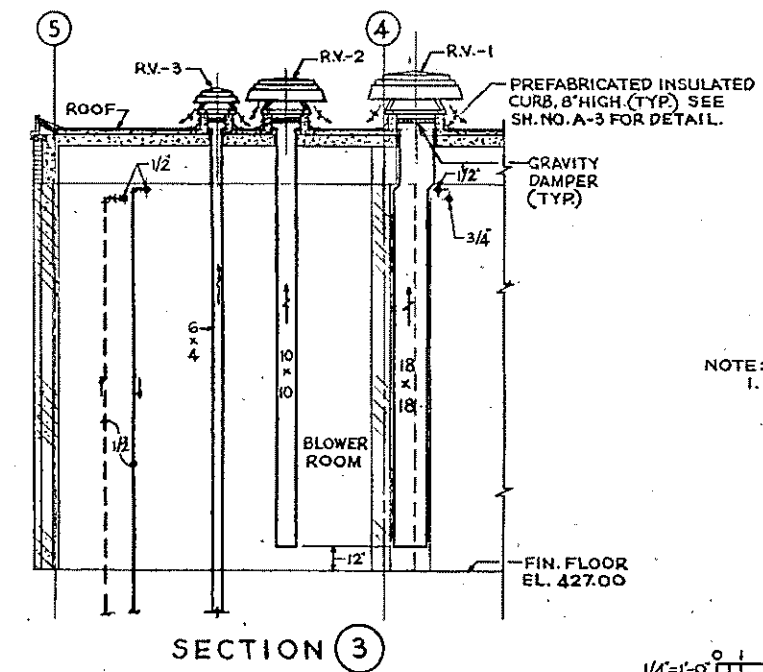
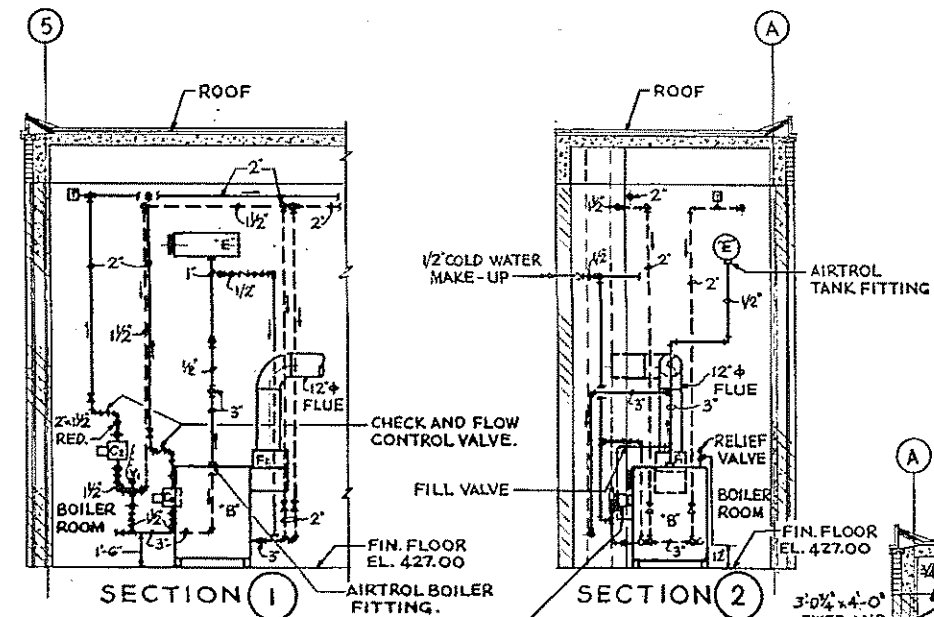
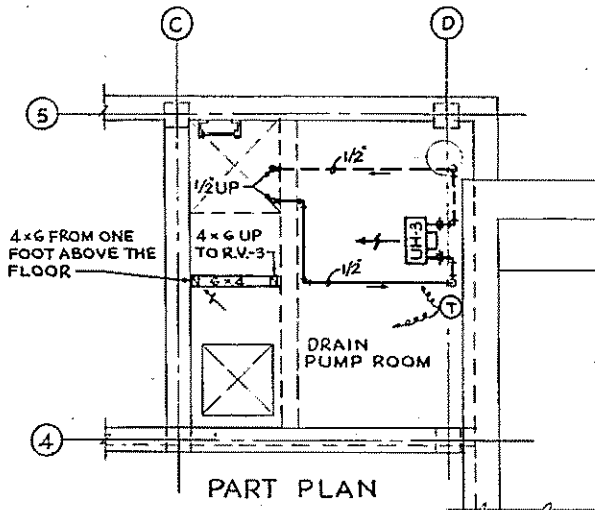
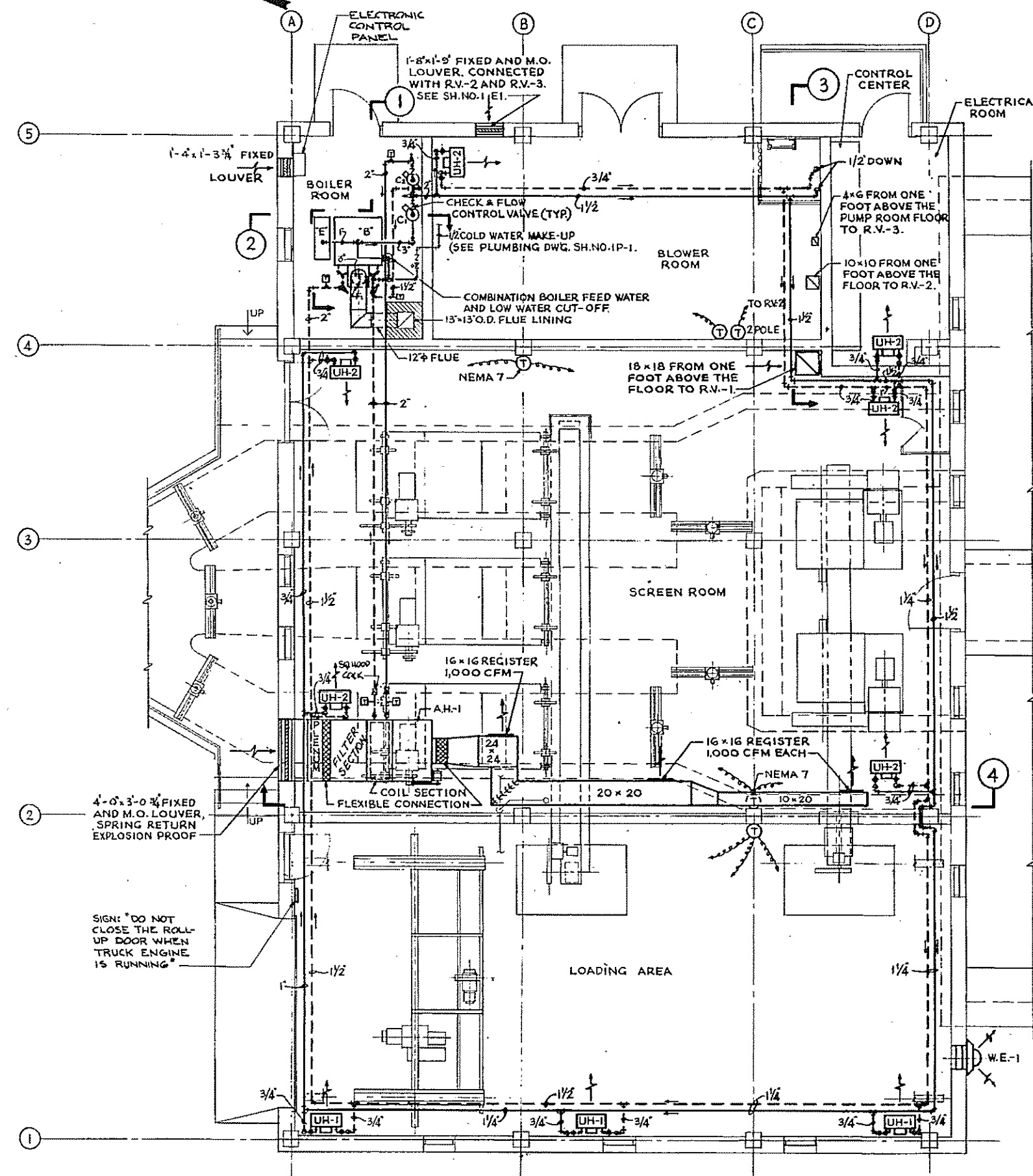
ALL RATINGS ARE BASED ON 200°F ENTERING WATER TEMPERATURE, 20°ΔT. EACH UNIT SHALL BE EQUIPPED WITH DIFFUSER AND HEAVY WALL TUBES. UNITS IN THE SCREEN ROOM SHALL HAVE EXPLOSION PROOF MOTORS. VOLTAGE SHALL BE 115 V. 1ϕ, 60~.

ROOF VENTILATOR SCHEDULE

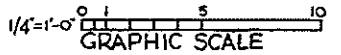
MARK	NO. REQ'D.	C.F.M.	S.P. INCHES OF H ₂ O	H.P.	R.P.M.	VOLTAGE	PHASE	HERTZ	SHUTTERS TYPE
RV-1	1	3,000	3/8	3/4	1,064	460	3	60	GRAVITY
RV-2	1	430	1/4	1/4	964	115	1	60	GRAVITY
RV-3	1	160	1/4	1/50	1,600	115	1	60	GRAVITY

ALL ROOF VENTILATORS SHALL BE PROVIDED WITH PRE-FABRICATED INSULATED CURB OF 8" HIGH AND GRAVITY SHUTTERS. RV-1 SHALL HAVE EXPLOSION PROOF MOTOR.

- EQUIPMENT SCHEDULE:**
- "B" - GAS FIRED HOT WATER BOILER, NET I.B.R. CAPACITY NOT LESS THAN 392.9 MBH.
 - "E" - EXPANSION TANK, CAPACITY 15 GALLONS - 12 3/4" x 33" LONG.
 - C1 - CIRCULATOR FOR UNIT HEATER CIRCUIT, 18.8 GPM @ 8 FT. HEAD, 1/6 H.P., 115 V., 1ϕ, 60~.
 - C2 - CIRCULATOR FOR A.H. UNIT, 21.2 GPM @ 7.8 FT. HEAD, 1/6 H.P., 115 V., 1ϕ, 60~.
 - F1 - INDUCED DRAFT FAN, SIZED, FURNISHED, INSTALLED AND WIRED BY HVAC CONTRACTOR. 115 VOLT, SINGLE PHASE.
 - T1 - THERMOMETER 30°F TO 240°F
 - V1 - 1/2" 3-WAY M.O. MIXING VALVE.
 - W.E.-1 - WALL EXHAUSTER, MOUNTED 3'-0" ABOVE THE FLOOR, 225 CFM @ 1/8" S.P., 100 R.P.M., 1/80 H.P., 115 V., 1ϕ, 60~, CONNECTED WITH THE LIMIT SWITCH AT ROLL-UP DOOR SO THAT IT STARTS WHEN DOOR IS OPEN.



- WHEN OUTSIDE IS LESS THAN 55° F T STARTS C2.
- T2 MODULATES THE MIXING VALVE V1 TO GET 60°F LEAVING AIR TEMPERATURE.
- WHEN COIL SURFACE TEMPERATURE GOES BELOW 40°F, T2 SHUTS OFF THE FAN WHICH CLOSES THE O.A. DAMPER.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY



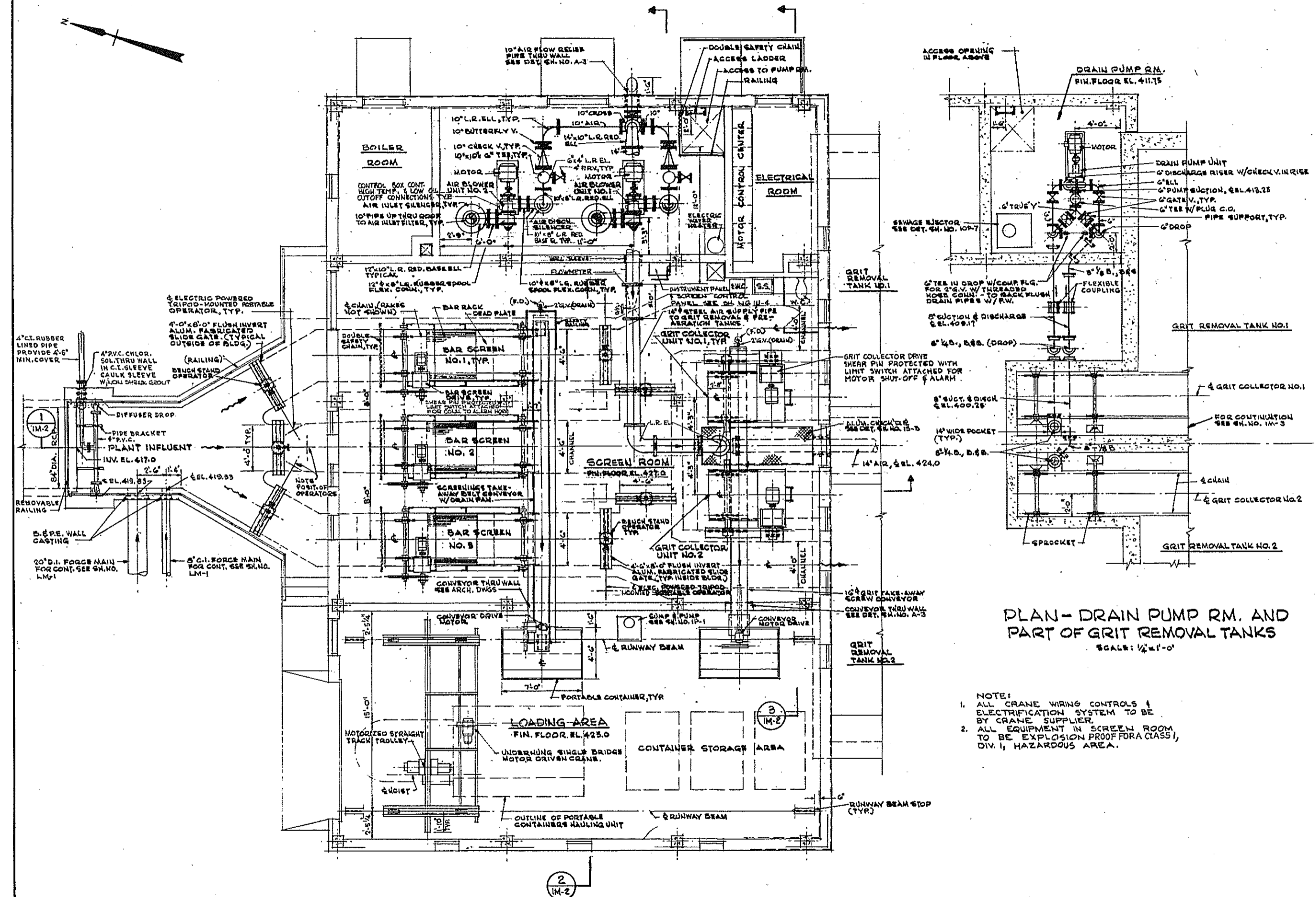
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N.-1
HEATING AND VENTILATION

PLAN AND DETAILS

SCALE: 1/4" = 1'-0" FEB. 28, 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. B.S.K. TR. CHE. F. J. T. DR. JW-83
APPROVED: *J. M. Cahaly* PLAN NO. 32

CONTRACT DRAWING SHEET NO. 1HV-1



PLAN - FIRST FLOOR
SCALE: 1/4" = 1'-0"

PLAN - DRAIN PUMP RM. AND PART OF GRIT REMOVAL TANKS
SCALE: 1/4" = 1'-0"

- NOTE:
1. ALL CRANE WIRING CONTROLS & ELECTRIFICATION SYSTEM TO BE BY CRANE SUPPLIER.
 2. ALL EQUIPMENT IN SCREEN ROOM, TO BE EXPLOSION PROOF FOR CLASS I, DIV. 1, HAZARDOUS AREA.

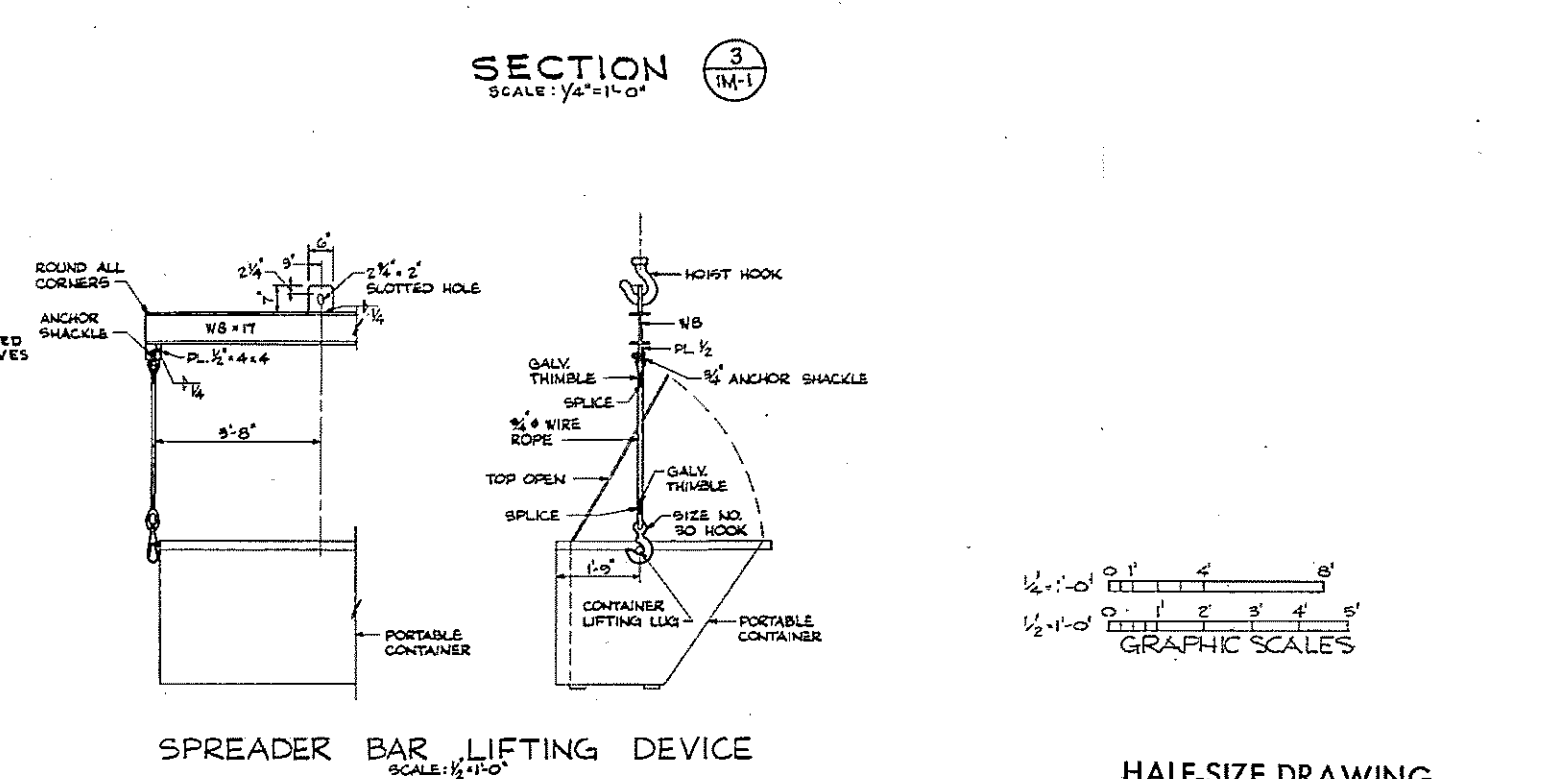
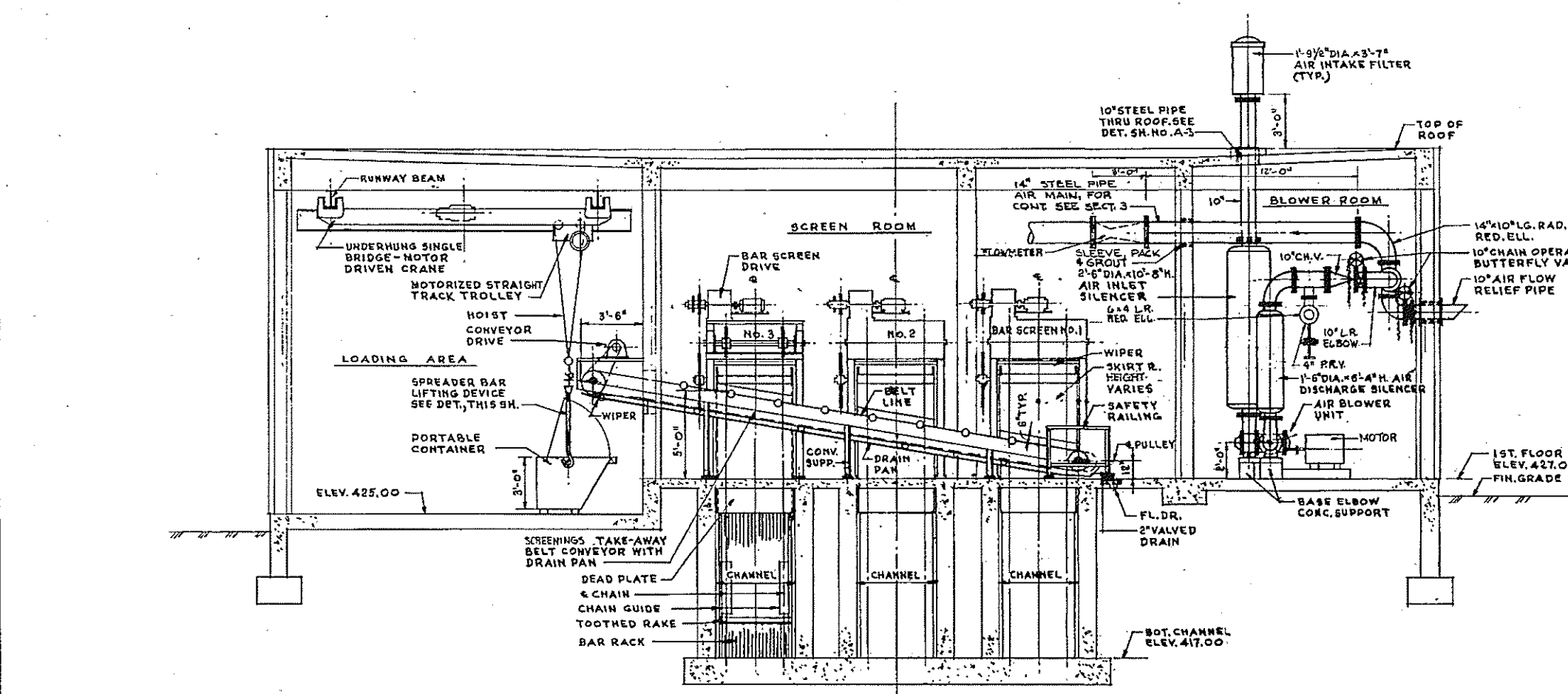
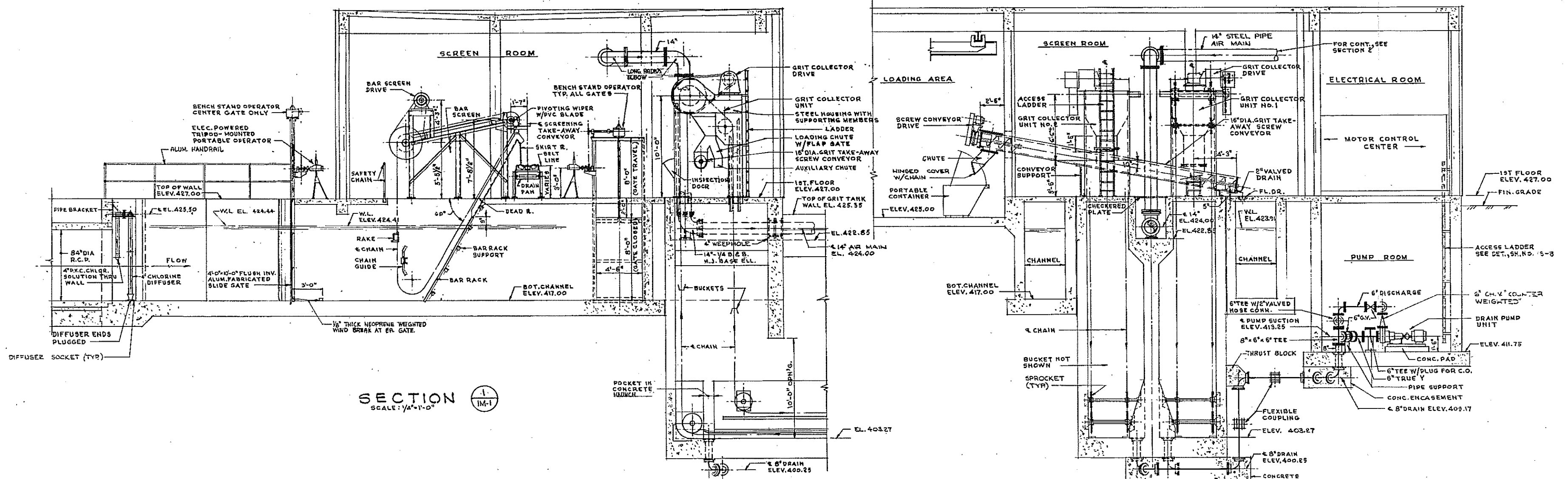


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SCREENINGS AND GRIT FACILITIES, F.N.-1 MECHANICAL PROCESS			
PLANS			
SCALE: AS NOTED		FEBRUARY 1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. G.M.S.	TR. C.W. R.P.M.	REC. JW-83	
DR. S.A., G.I.S.			
APPROVED <i>J.M. Cahaly</i>		PLAN NO. 33	



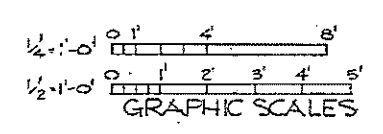
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



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

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

SPREADER BAR LIFTING DEVICE
SCALE: 1/2"=1'-0"

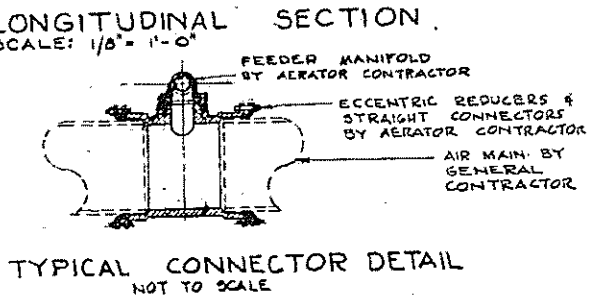
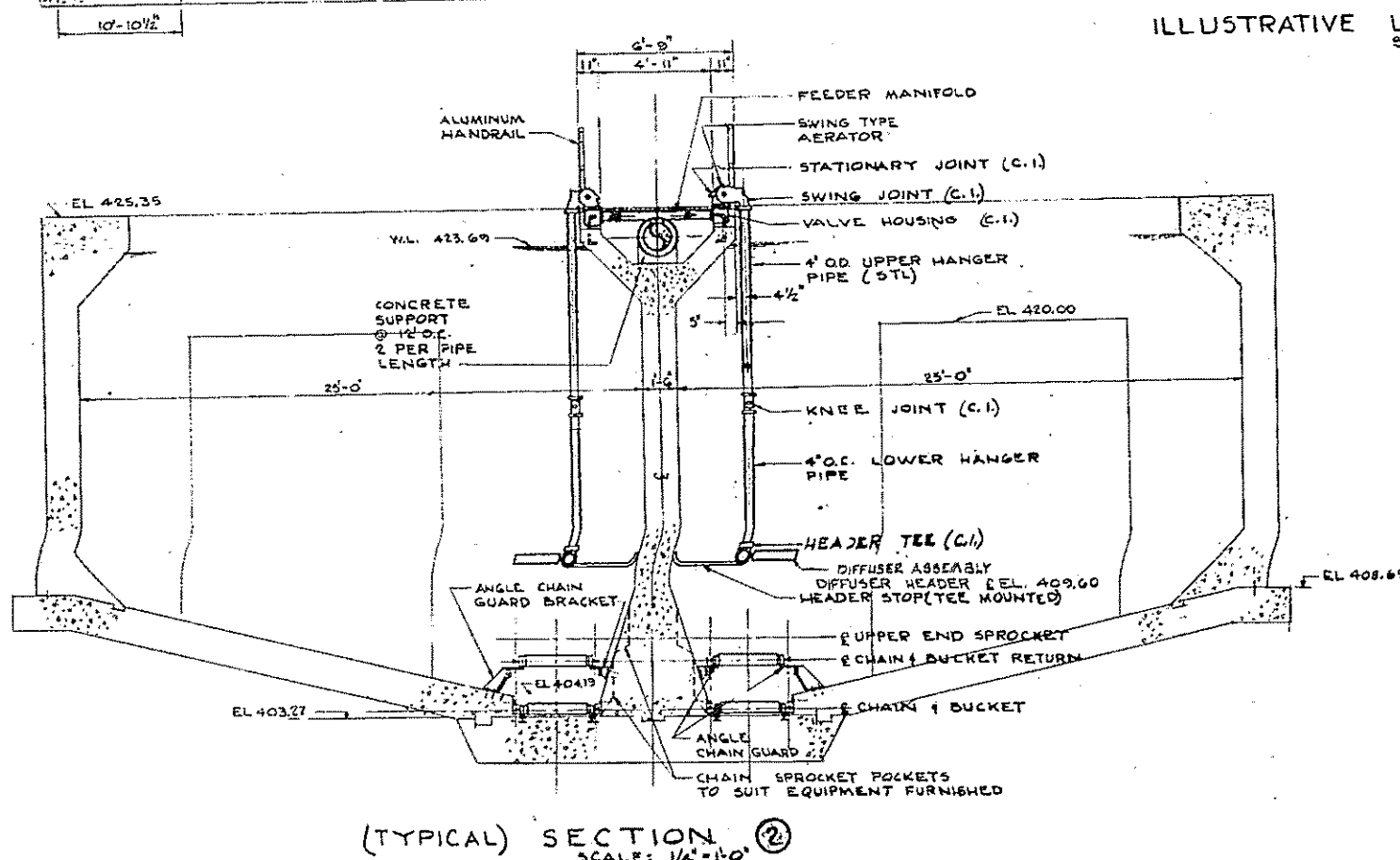
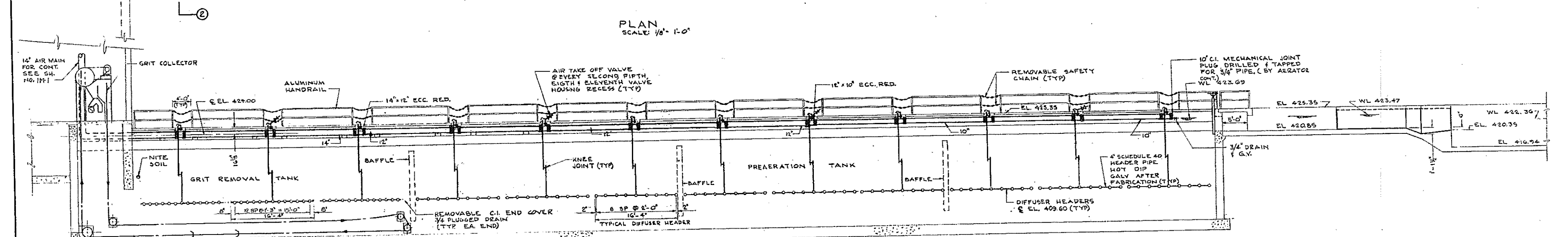
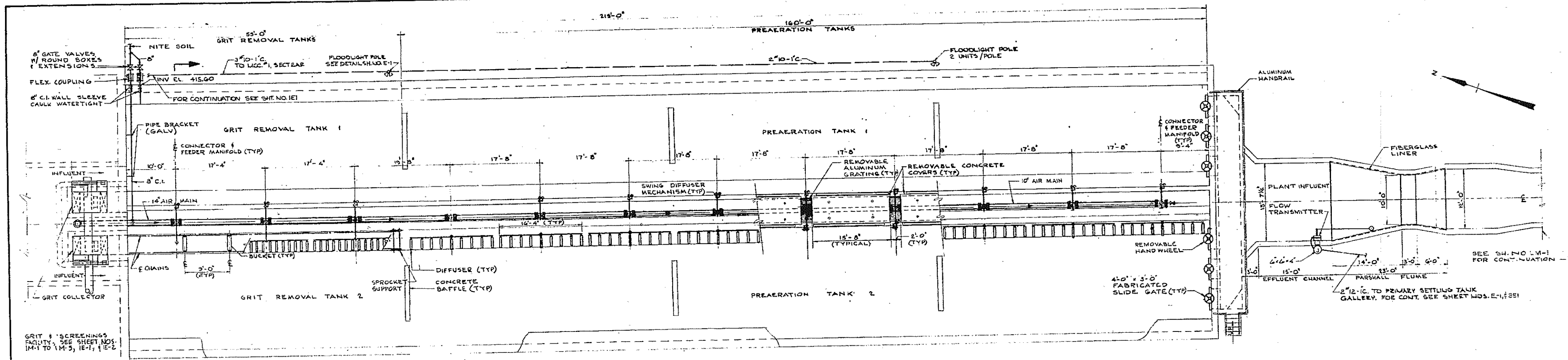


HALF-SIZE DRAWING
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N. - 1
MECHANICAL PROJECTS
SECTIONS

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REV. R.M.S. DATE CHK. R.H.S. FILE JW-83
APPROVED J.M. Cahaly
CONTRACT DRAWING SHEET NO. 1M-2

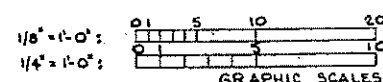
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY





NOTES
 1 AIR HEADER PIPE TO BE STEEL SCHEDULE 40

REFERENCE DRAWINGS
 SH. NO. - ALUMINUM HANDRAIL DETAIL
 - ALUMINUM GRATING DETAIL
 SH. NO. SME-2 - FABRICATED SLIDE GATE DETAIL



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SCREENINGS AND GRIT FACILITIES, F.N. -1
 MECHANICAL PROCESS
 GRIT REMOVAL AND PREAERATION TANKS
 AND ELECTRICAL

SCALE: AS NOTED FEBRUARY 1974
 FOR THE CANALY
 NO. 1313
 REGISTERED PROFESSIONAL ENGINEER

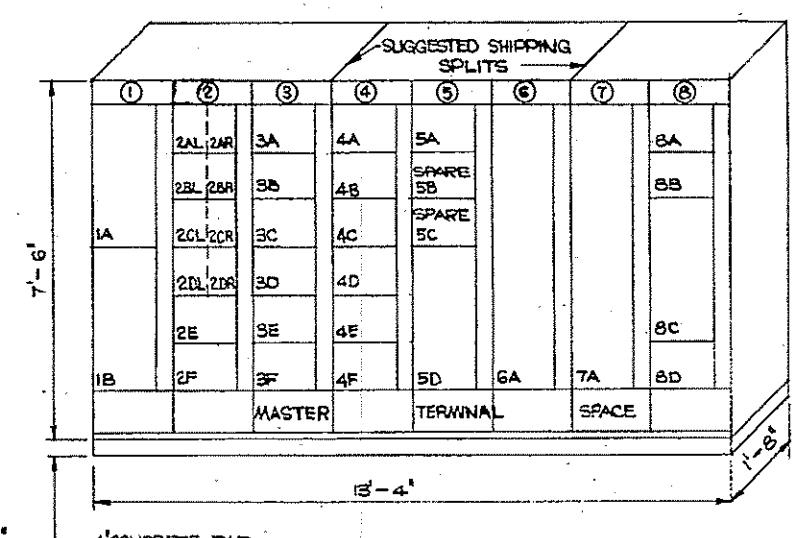
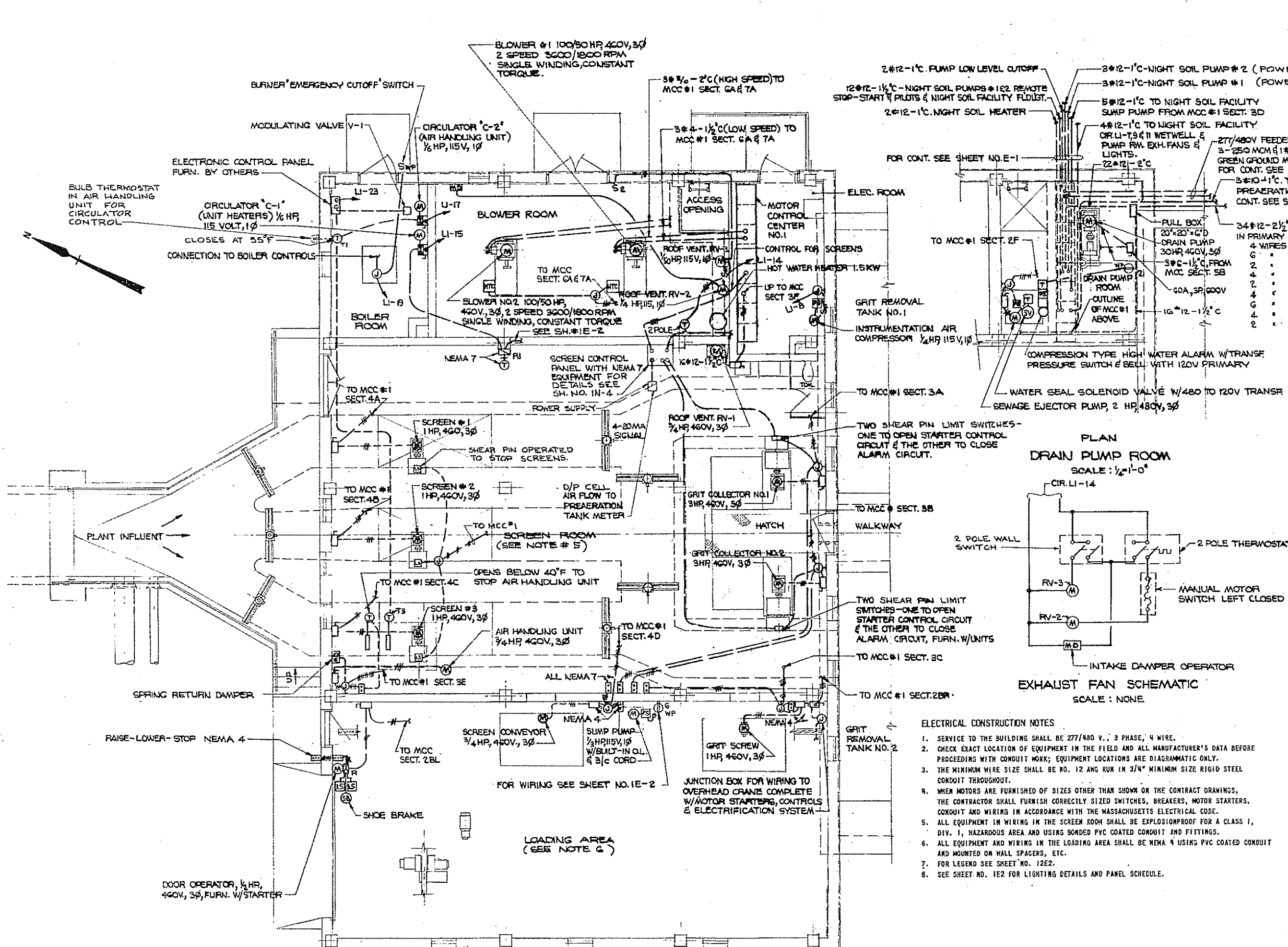
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. H.C.L. DR. P.Z.G. CHEK. D.S. APPR. M. CAHALY

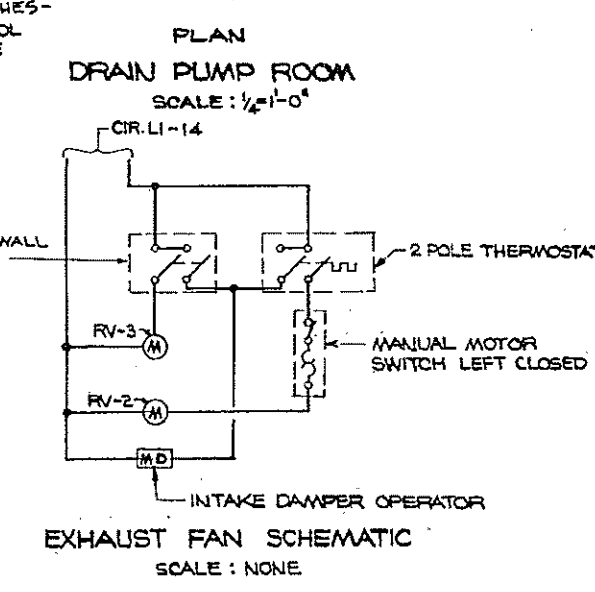
PL. NO. JW-83

APPROVED *M. Cahaly* PLAN NO. 35

CONTRACT DRAWING SHEET NO. 1M-3



MOTOR CONTROL CENTER NO. 1
SCALE: 1/2" = 1'-0"



EXHAUST FAN SCHEMATIC
SCALE: NONE

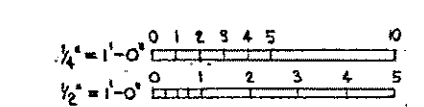
- ELECTRICAL CONSTRUCTION NOTES**
- SERVICE TO THE BUILDING SHALL BE 277/480 V., 3 PHASE, 4 WIRE.
 - CHECK EXACT LOCATION OF EQUIPMENT IN THE FIELD AND ALL MANUFACTURER'S DATA BEFORE PROCEEDING WITH CONDUIT WORK; EQUIPMENT LOCATIONS ARE DIAGRAMMATIC ONLY.
 - THE MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUM IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
 - WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT AND WIRING IN ACCORDANCE WITH THE MASSACHUSETTS ELECTRICAL CODE.
 - ALL EQUIPMENT IN WIRING IN THE SCREEN ROOM SHALL BE EXPLOSIONPROOF FOR A CLASS I, DIV. 1, HAZARDOUS AREA AND USING BONDED PVC COATED CONDUIT AND FITTINGS.
 - ALL EQUIPMENT AND WIRING IN THE LOADING AREA SHALL BE NEMA 4 USING PVC COATED CONDUIT AND MOUNTED ON WALL SPACERS, ETC.
 - FOR LEGEND SEE SHEET NO. 12E2.
 - SEE SHEET NO. 1E2 FOR LIGHTING DETAILS AND PANEL SCHEDULE.

MOTOR CONTROL CENTER NO. 1 SCHEDULE (277/480 V., 3 Ø, 4 W.)

SECT. NO.	NAMEPLATE	HP	NEMA SIZE	N.O.A.	S.S.	PILOT LOTS RED GREEN	MODIFICATIONS	FRAME	POLES	TRIP
1	1A LIGHTING PANELBOARD	-	-	-	-	-	24 CIRCUIT - SEE SCHEDULE	-	-	-
1	1B 208 V/120 V TRANSF.-15 KVA	-	-	-	-	-	500 TO 250/120 V. 1Ø, 3Ø, 4Ø, 5Ø, 6Ø, 7Ø, 8Ø, 9Ø, 10Ø, 11Ø, 12Ø, 13Ø, 14Ø, 15Ø, 16Ø, 17Ø, 18Ø, 19Ø, 20Ø, 21Ø, 22Ø, 23Ø, 24Ø, 25Ø, 26Ø, 27Ø, 28Ø, 29Ø, 30Ø, 31Ø, 32Ø, 33Ø, 34Ø, 35Ø, 36Ø, 37Ø, 38Ø, 39Ø, 40Ø, 41Ø, 42Ø, 43Ø, 44Ø, 45Ø, 46Ø, 47Ø, 48Ø, 49Ø, 50Ø, 51Ø, 52Ø, 53Ø, 54Ø, 55Ø, 56Ø, 57Ø, 58Ø, 59Ø, 60Ø, 61Ø, 62Ø, 63Ø, 64Ø, 65Ø, 66Ø, 67Ø, 68Ø, 69Ø, 70Ø, 71Ø, 72Ø, 73Ø, 74Ø, 75Ø, 76Ø, 77Ø, 78Ø, 79Ø, 80Ø, 81Ø, 82Ø, 83Ø, 84Ø, 85Ø, 86Ø, 87Ø, 88Ø, 89Ø, 90Ø, 91Ø, 92Ø, 93Ø, 94Ø, 95Ø, 96Ø, 97Ø, 98Ø, 99Ø, 100Ø	100	3	70
2	2A LIGHTING PANELBOARD MAIN	-	-	-	-	-	FED FROM TRANSF. SECONDARY	30	2	30
2	2B FLOODLIGHTS	-	-	-	-	-	6.0 KVA	30	3	15
2	2C DOOR OPERATOR	1/2	-	-	-	-	REMOTE STARTER	30	3	30
2	2D OVERHEAD CRANE	2-1/2	-	-	-	-	REMOTE STARTERS	30	3	30
2	2E HEATER - NIGHT SOIL	-	-	-	-	-	3 XM - 580 V. 1 Ø	30	2	15
2	2F FLOODLIGHT - NIGHT SOIL	-	-	-	-	-	1.5 KVA	30	1	15
2	2G BUILDING LIGHTING (FLUORESC.)	-	-	-	-	-	2.9 KVA	30	1	20
2	2H SPARE	-	-	-	-	-	-	30	3	-
2	2I SPACE	-	-	-	-	-	-	-	-	-
2	2J SEWAGE EJECTOR PUMP	2	1	-	-	-	REMOTE FS	-	-	-
3	3A GRIT COLLECTOR NO. 1	3	1	-	-	-	SEE NOTE B & H & I	-	-	-
3	3B GRIT COLLECTOR NO. 2	3	1	-	-	-	SEE NOTE B & H & I	-	-	-
3	3C GRIT SCREW	1	1	-	-	-	SEE NOTE B & I	-	-	-
3	3D SUMP PUMP - NIGHT SOIL	1/2	1	-	-	-	REMOTE FS	-	-	-
3	3E AIR HANDLING UNIT	3/4	1	-	-	-	REMOTE SS, SEE NOTE G	-	-	-
3	3F ROOF VENTILATOR RV-1	3/4	1	-	-	-	INTERLOCKED WITH A.H.U. SECT. 3E	-	-	-
4	4A SCREEN NO. 1	1	1	-	-	-	SEE NOTES B, C, & H	-	-	-
4	4B SCREEN NO. 2	1	1	-	-	-	SEE NOTES B, C, & H	-	-	-
4	4C SCREEN NO. 3	1	1	-	-	-	SEE NOTES B, C, & H	-	-	-
4	4D SCREEN CONVEYOR	3/4	1	-	-	-	SEE NOTE B & I	-	-	-
4	4E NIGHT SOIL PUMP NO. 1	10	1	-	-	-	SEE NOTE B & E	-	-	-
4	4F NIGHT SOIL PUMP NO. 2	10	1	-	-	-	SEE NOTE B & E	-	-	-
5	5A NIGHT SOIL PUMP CONTROLS	-	-	-	-	-	SEE NOTE F	-	-	-
5	5B DRAIN PUMP	30	3	-	-	-	-	-	-	-
6	6A BLOWER NO. 1	100	4-3	-	-	-	SEE NOTES B & D	-	-	-
6	6B BLOWER NO. 2	100	4-3	-	-	-	SEE NOTES B & D	-	-	-
7	7A SPACE	-	-	-	-	-	-	-	-	-
7	7B SPACE	-	-	-	-	-	-	-	-	-
7	7C MAIN INCOMING SERVICE	-	-	-	-	-	MULTIPLE LUGS ON INCOMING	600	3	500
8	8A SPACE	-	-	-	-	-	-	-	-	-
8	8B SPACE	-	-	-	-	-	-	-	-	-
8	8C SPACE	-	-	-	-	-	-	-	-	-

- S.S. = STOP-START PUSHBUTTON
F.S. = FLOAT SWITCH
N.O.A. = "HAND OFF AUTOMATIC SELECTOR SWITCH"
- MOTOR CONTROL CENTER NOTES:**
- FURNISH ALL STARTERS WITH FUSED 480 TO 120 V. CONTROL TRANSFORMERS.
 - PROVIDE AUX. N.O. CONTACT FOR REMOTE PILOT INDICATION THROUGH MULTIPLEXOR.
 - ON-OFF CONTROL BY DIFFERENTIAL PRESSURE FROM SCREEN CONTROL PANEL. REMOTE HAND OFF AUTO. SWITCH LOCATED IN SCREEN CONTROL PANEL.
 - FURNISH IN THIS SECTION A COMBINATION FUSED SWITCH TYPE, FULL VOLTAGE, NONREVERSING, 2ND SPEED, ONE WINDING CONSTANT TORQUE MAGNETIC MOTOR STARTER WITH AUTOMATIC SEQUENCE ACCELERATING RELAY. "HIGH-LOW-STOP" PUSHBUTTON CONNECT-REMOTE HIGH TEMPERATURE CUTOFF (H.T.C.) IN SERIES WITH STOP BUTTON. FURNISH AMBER PILOT FOR LOW SPEED, RED FOR HIGH.
 - PROVIDE FOR REMOTE STOP-START AND PILOT LIGHT. CONNECT TO LOW LEVEL RELAY IN SECT. 5A.
 - PROVIDE 100 VA - 120 TO 24 VOLT TRANSF., RELAY WITH 2 N.O. AND 1 N.C. CONTACT AND 24 VOLT COIL, AND AMBER "OFF ON LOW LEVEL" PILOT LIGHT. SEE WIRING ON SHEET NO. 11E-1.
 - FURNISH 2 AUX. N.O. CONTACTS - 1 FOR RV-1 AND 1 FOR INTAKE DAMPER. FEED DAMPER FROM CIR. LI-16 UNIT TO STOP THROUGH REMOTE FREEZE PROTECTION THERMOSTAT.
 - REMOTE OVERLOAD LIMIT SWITCH COLLECTED IN SERIES WITH STOP CIRCUIT.
 - REMOTE STOP-START PUSHBUTTONS ALSO.
 - ALL FUSES ARE CLASS "J" OR "L".

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



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

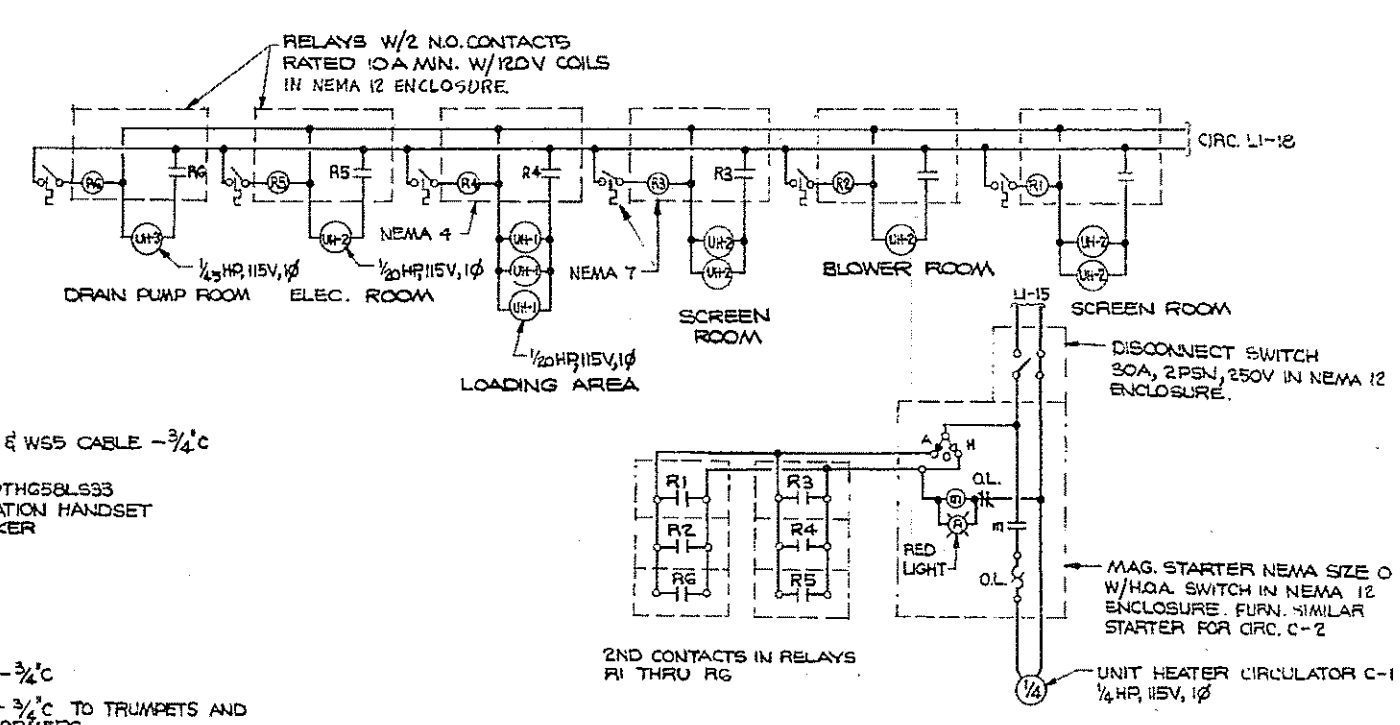
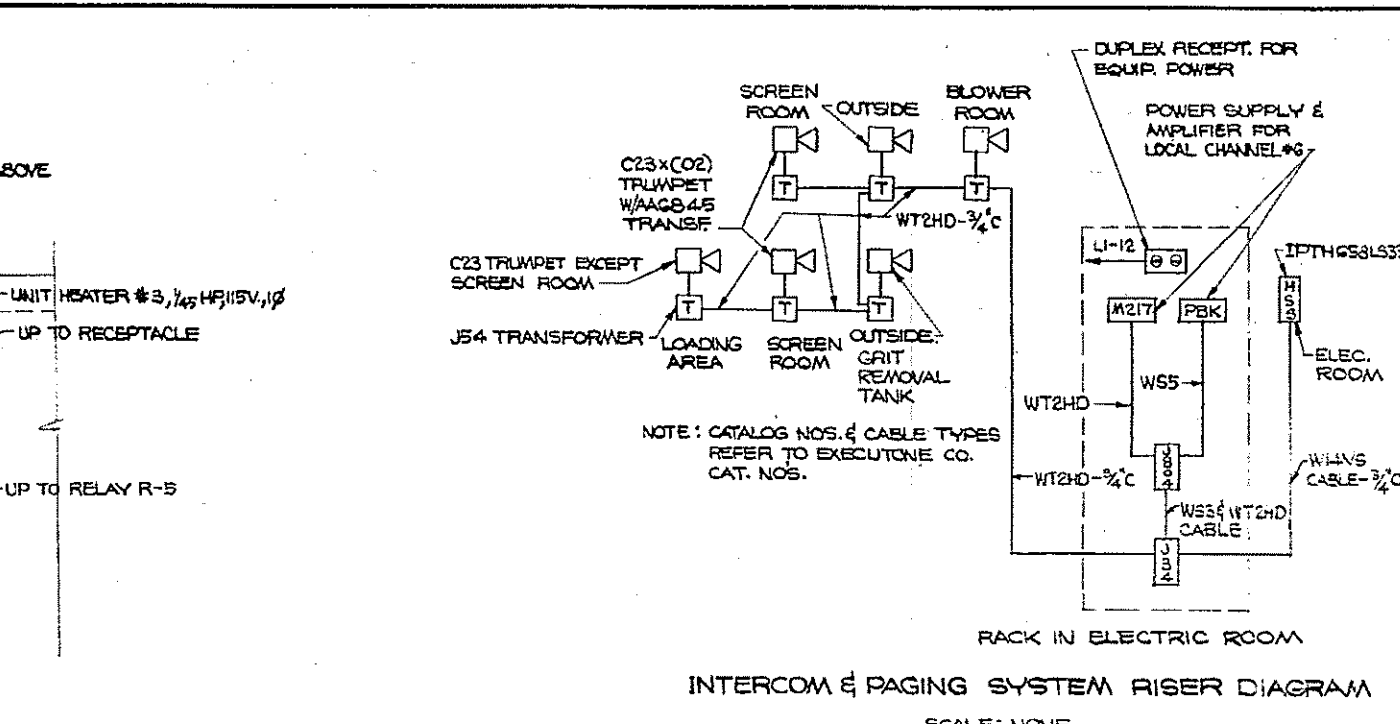
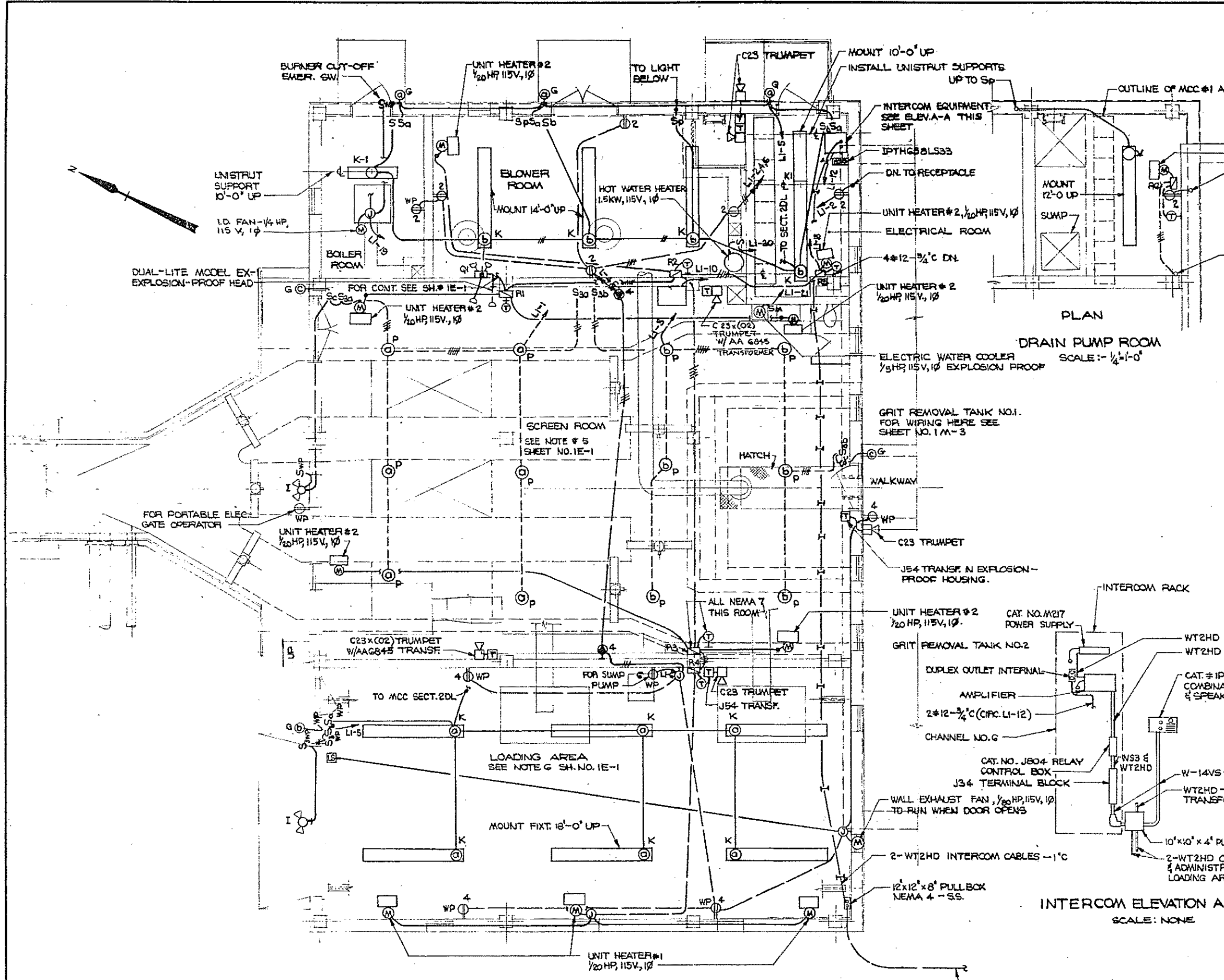


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N.-1
ELECTRICAL

POWER - PLAN AND DETAILS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
FILE NO. JW-83
APPROVED: *F. M. Cahaly*
DATE: FEBRUARY 1973



INTERCOM ELEVATION A-A
SCALE: NONE

UNIT HEATER SCHEMATIC DIAGRAM
SCALE: NONE

PANEL "L1" SCHEDULE (MCC SECT. 1A)

N.P.	V.A.	LOAD SERVED	120/200 V., 3 W, 4 WIRE	LOAD SERVED	V.A.	H.P.
-	1850	L.T.G. SCREEN RM.	2	RECEPT. BLWR. & ELEC.	1400	-
-	1350	L.T.G. SCREEN RM.	3	RECEPT. SCREEN ROOM	1200	1/80
-	450	L.T.G. ENTRANCES (NEST)	5	SUMP PP. LOADING AREA	830	1/3
1/4	668	NIGHT SOIL WET WELL	7	AIR COMPRESSOR	668	1/4
1/4	668	NIGHT SOIL PP. ROOM	9	SCREEN CONTROL PANEL	500	-
-	600	NIGHT SOIL L.T.G.	11	INTERCOM.	200	-
-	100	NIGHT SOIL PP. CONTR.	13	ROOF VENT RV-2, RV-3	700	3-1/50
1/4	668	CIRCULATOR C1	15	DAMPER FOR AIR HAND.	50	-
1/4	668	CIRCULATOR C2	17	UNIT HEATERS	1081	307/25
-	500	BOLLER	19	HOT WATER HEATER	1500	-
1/5	554	WATER COOLER	21	SPARE	-	-
-	50	ELECTRONIC HTG. CONTR.	23	SPARE	-	-

1 POLE 20 A. TRIP UNLESS OTHERWISE NOTED

PANELBOARD MAIN CONNECTED V.A. = 16,205
SPARE V.A. = 1,500
TOTAL = 17,705

* AND LOADING AREA AND EXHAUST FAN

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

FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA	MTG. HGT.
G	MCPHILBCK	66-21VTB	1 I 150	7'-6"
I	STERER	SI-3002	2 PAR 38 150	15'-0"
K	MILLER	KT-2110-C8*	4 RS 90	AS NOTED
K-1	MILLER	KT-2110-C4*	2 RS 90	AS NOTED
P	GROUSE HINDS	EVCK-2151	1 I 200	CEILING
Q1	DUAL-LITE	AC-145-3-V-C-MOH	3 I-6VOLT 25	0'-0"

FOR ALTERNATE FIXTURE MANUFACTURERS, SEE SHEET NO. E-9.
* 277 VOLT INPUT.

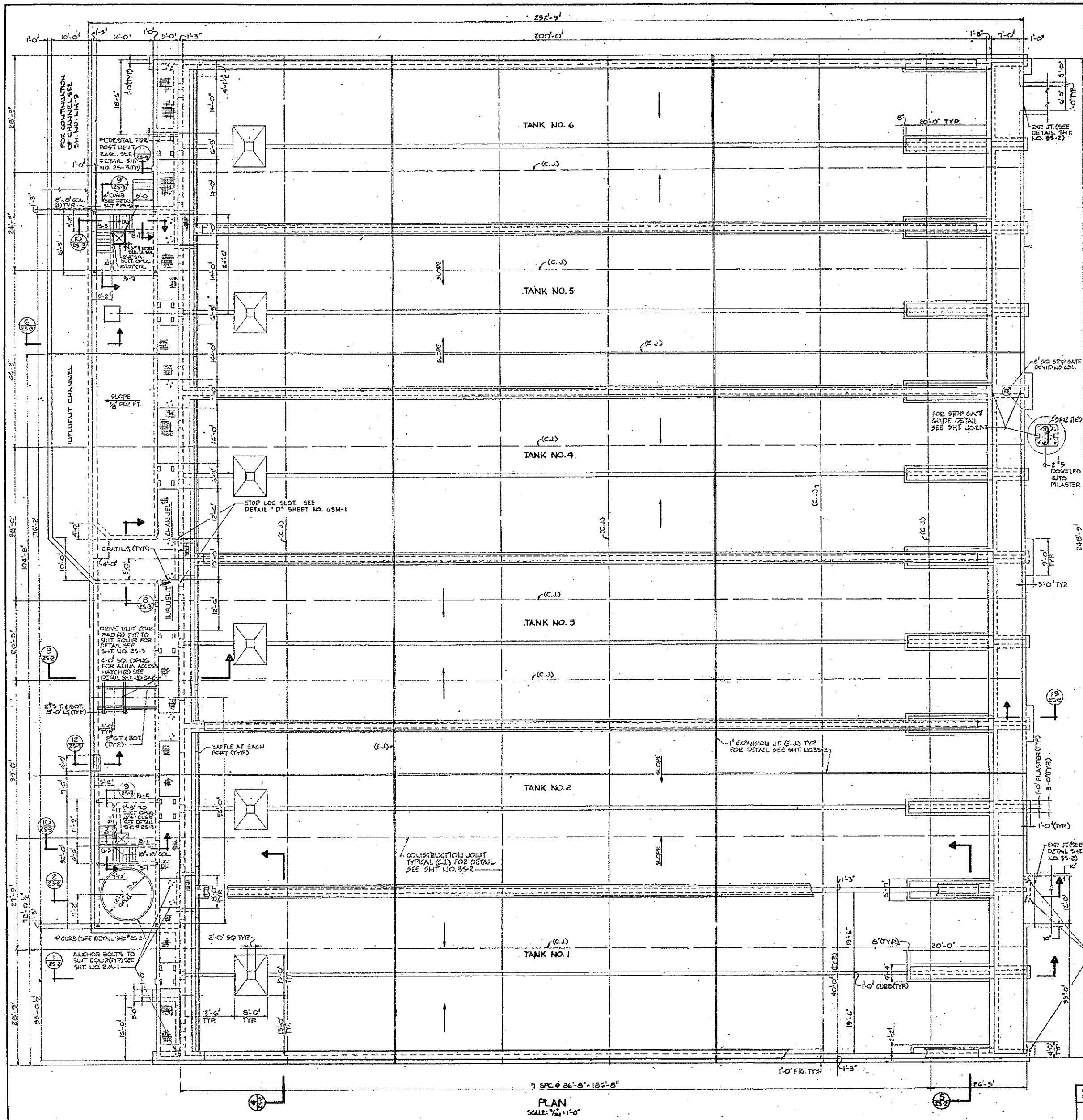
NOTE: FOR CONSTRUCTION NOTES, POWER PLAN AND DETAILS, SEE SHEET NO. 1E-1

HALF-SIZE DRAWING

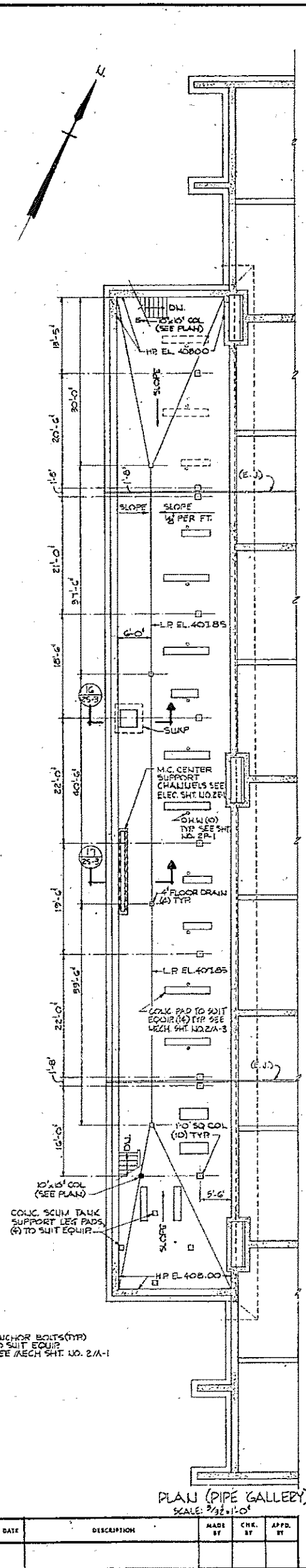
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SCREENINGS AND GRIT FACILITIES, F.N.-1-
ELECTRICAL
LIGHTING - PLAN AND DETAILS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REV. G. C. N. W. B. P. TR. CHS. W. B. E.
DR. N. G. H. J. W. B. E.
APPROVED: *J. M. Cahaly* JUN 30 1977
REV. NO. DATE DESCRIPTION MADE BY CHK. BY APPR. BY

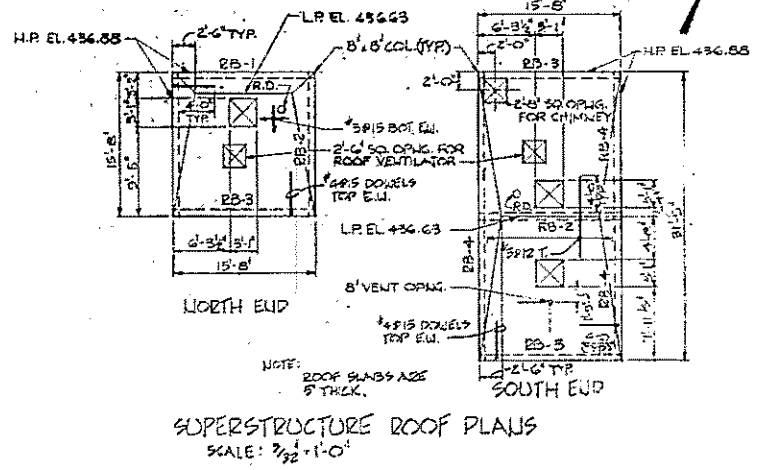
CONTRACT DRAWING SHEET NO. 1E-2



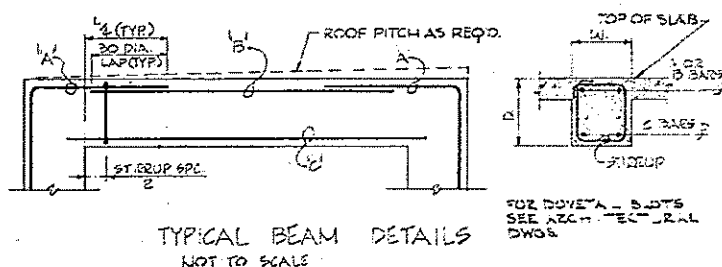
PLAN
SCALE: 3/32" = 1'-0"



PLAN (PIPE GALLERY)
SCALE: 3/32" = 1'-0"



SUPERSTRUCTURE ROOF PLANS
SCALE: 3/32" = 1'-0"

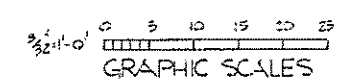


TYPICAL BEAM DETAILS
NOT TO SCALE

BEAM SCHEDULE						
MARK	W.	D.	REINFORCING	STIRROPS	SPACING	REMARKS
B-1	10	12	2#5 2#5 2#6	#3@6		
B-2	15	16	2#6 2#5 2#9	#3@6		
B-3	8	10	2#4 2#4 2#4	#3@2		
B-4	8	17	2#5 2#5 2#6	#3@6		
B-5	8	8	2#5 2#5 2#6	#3@6		#6 DEPTH VARIES 1" TO 20"
B-6	8	20	2#5 2#5 2#6	#3@6		#6 DEPTH VARIES 1" TO 20"
B-7	8	8	2#5 2#5 2#6	#3@6		#6 DEPTH VARIES 1" TO 20"
B-8	12	17	2#5 2#5 2#6	#3@6		#6 DEPTH VARIES 1" TO 20"

NOTES

- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 105-1.
- REINFORCING STEEL SHALL BE GRADE 60.
- FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2.
- STRUCTURE CHECKED AGAINST FLOTATION AT DESIGN GROUND WATER ELEVATION 413.0 WITH FLOOR SLAB IN PLACE AND TANKS EMPTY.
- BASE SLABS AND WALLS ARE DESIGNED FOR FLOOD ELEVATION 414.0 WITH TANKS EMPTY.
- LIVE LOADS:
FIRST FLOOR - - - - - 100 PSF
LIFTING HOOKS - - - - - 2,000 LBS.



HALF-SIZE DRAWING

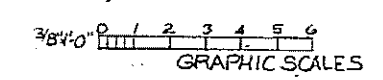
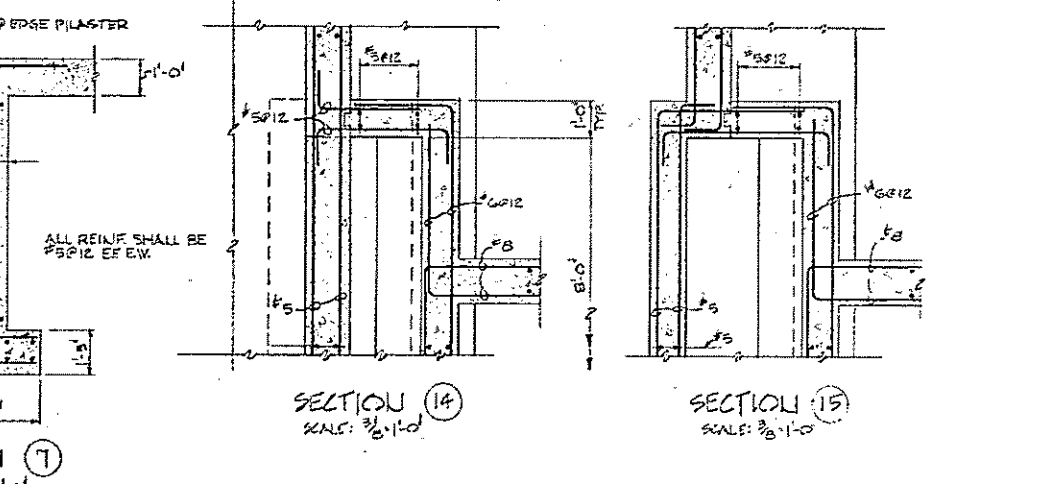
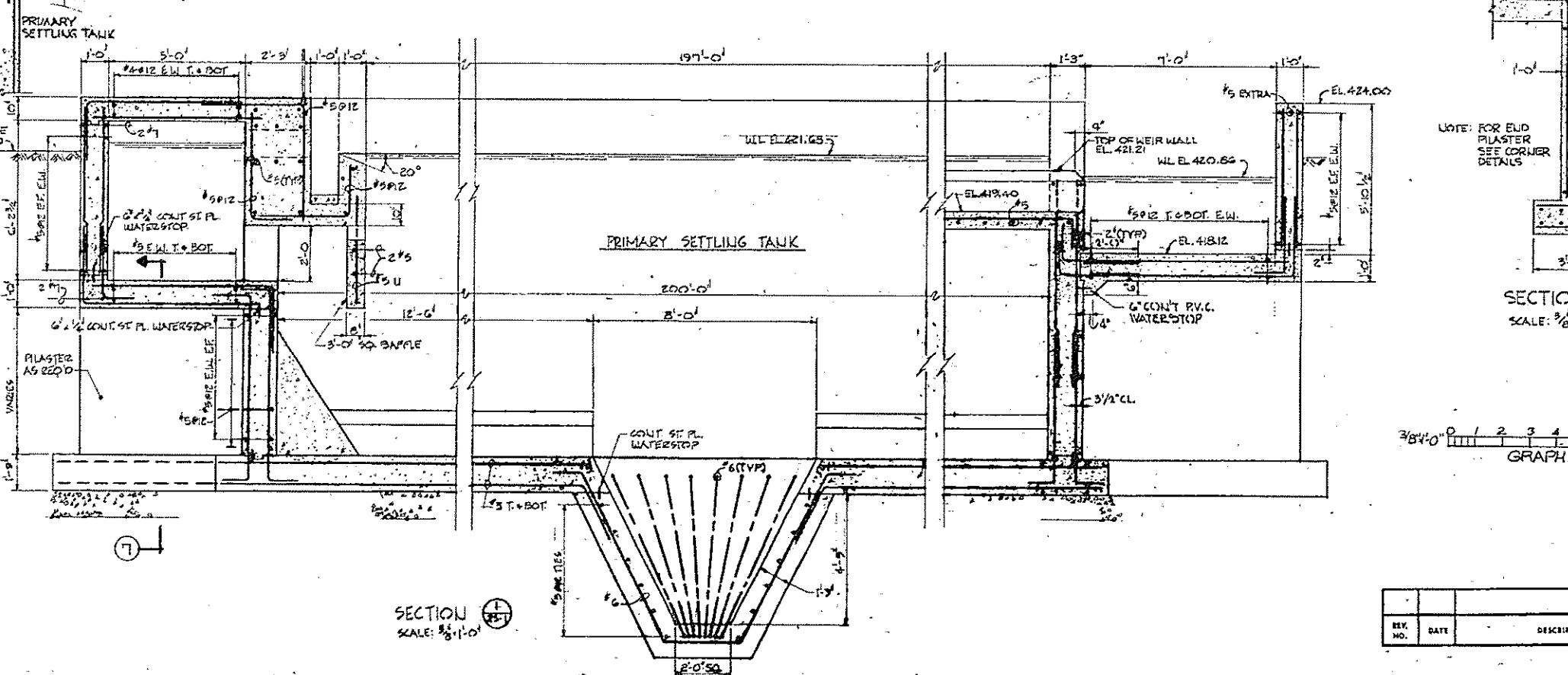
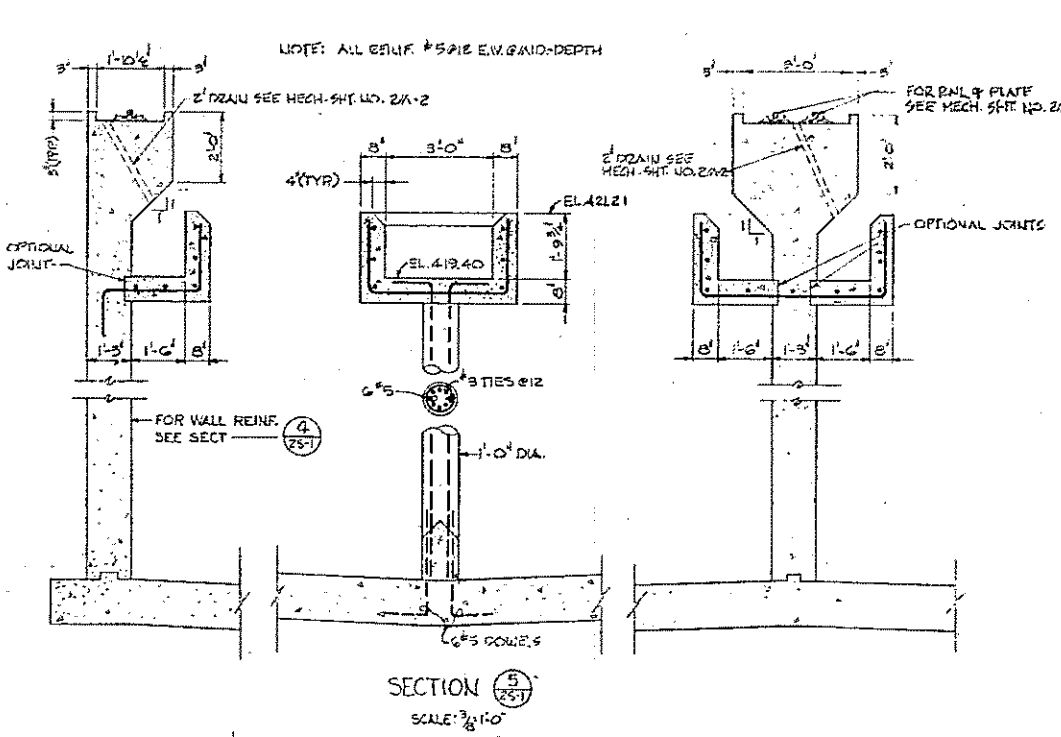
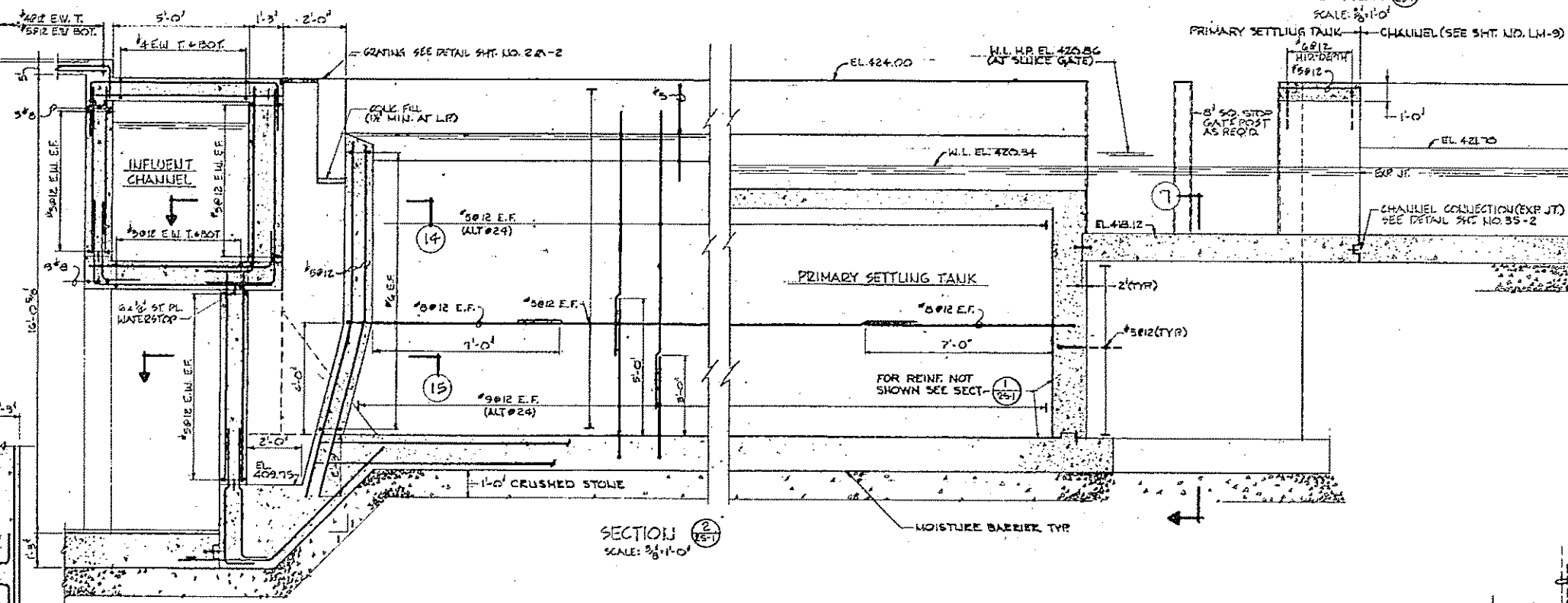
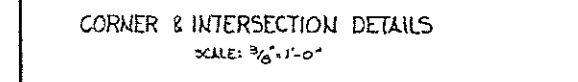
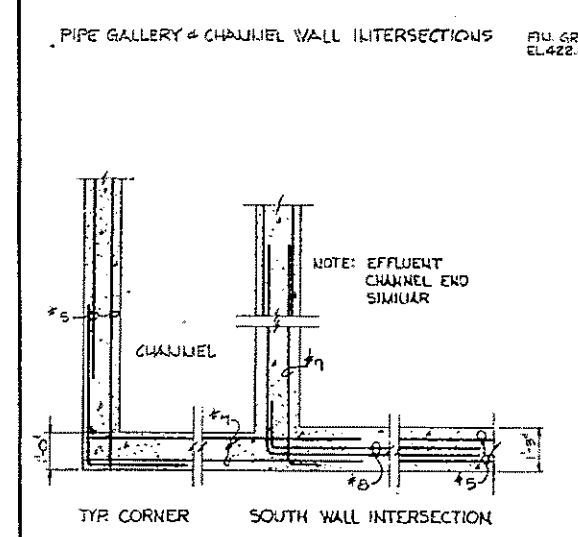
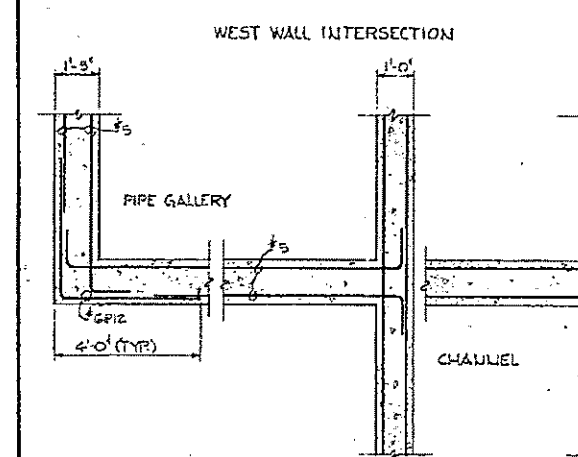
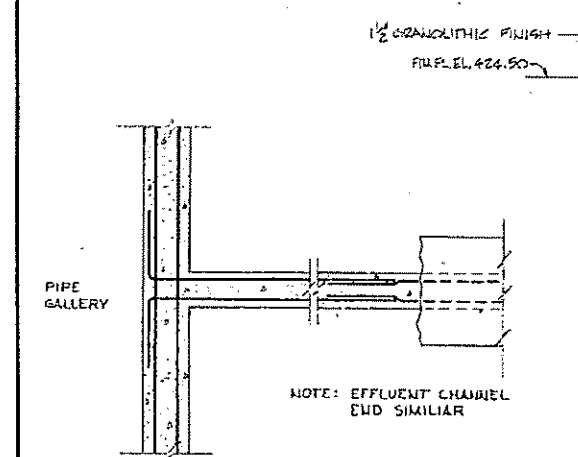
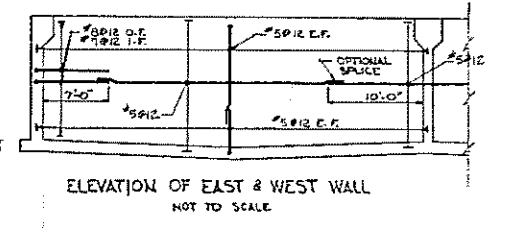
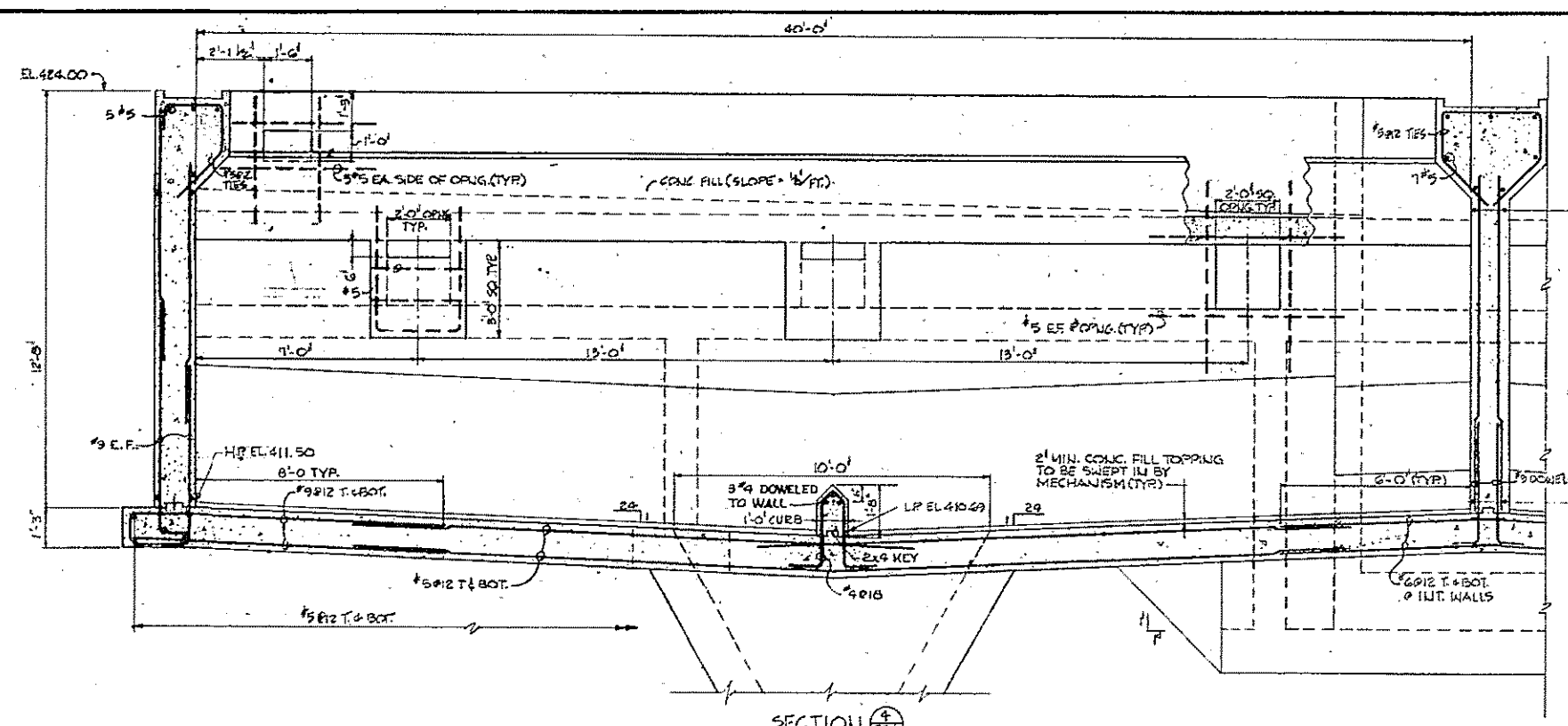
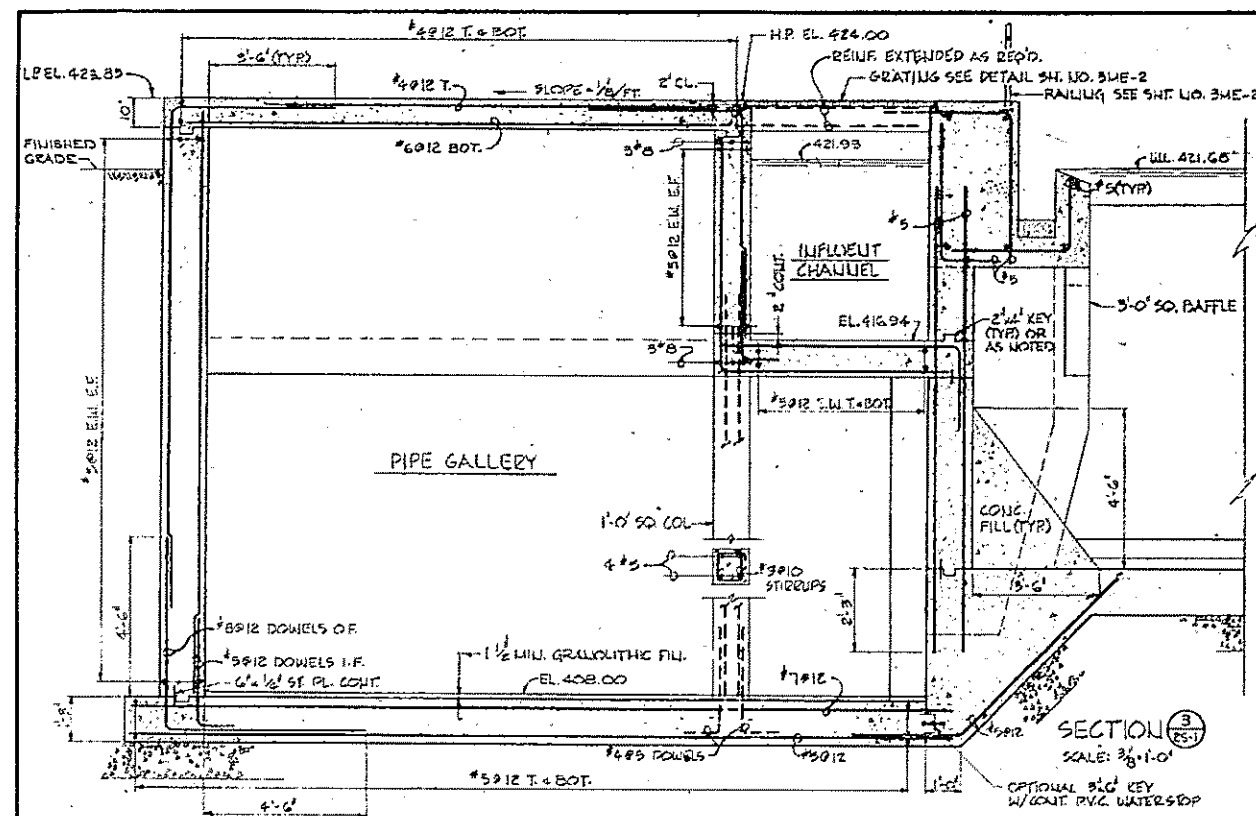
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PRIMARY SETTLING TANKS, F.N.-2.
STRUCTURAL
PLANS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. J.F.L. TR. C.H.J.F.L. J.G. DATE JW-83
REV. D.C.D. C.W.S. DATE
APPROVED *J.M. Cahaly* PLAN NO. 38

CONTRACT DRAWING SHEET NO. 25-1



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



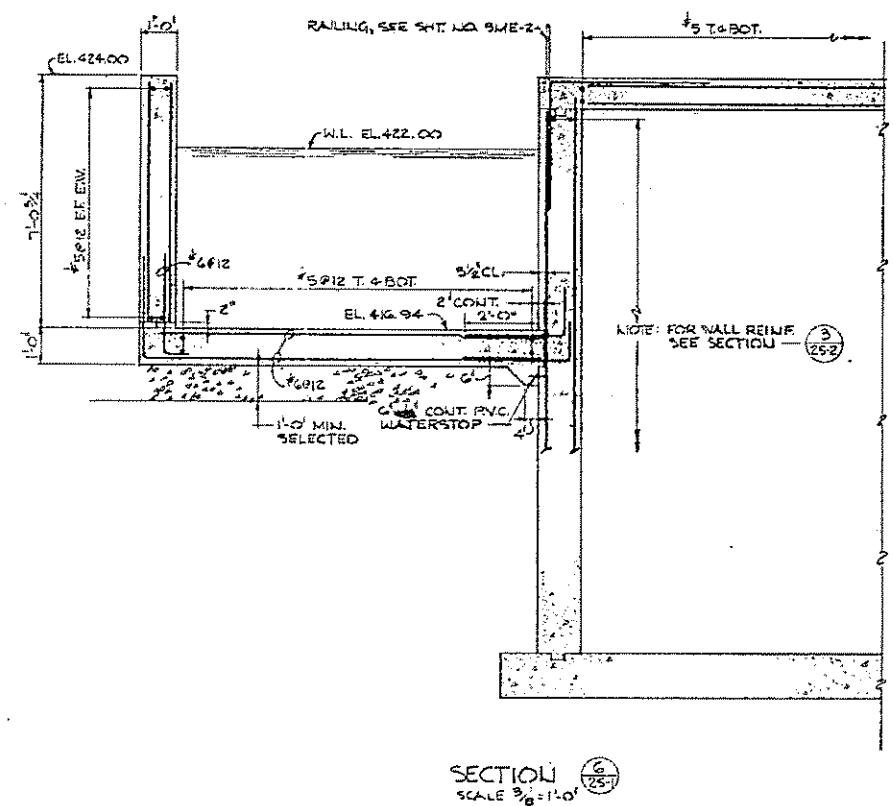
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 PRIMARY SETTLING TANKS, F.N.-2
 STRUCTURAL
 SECTIONS AND DETAILS

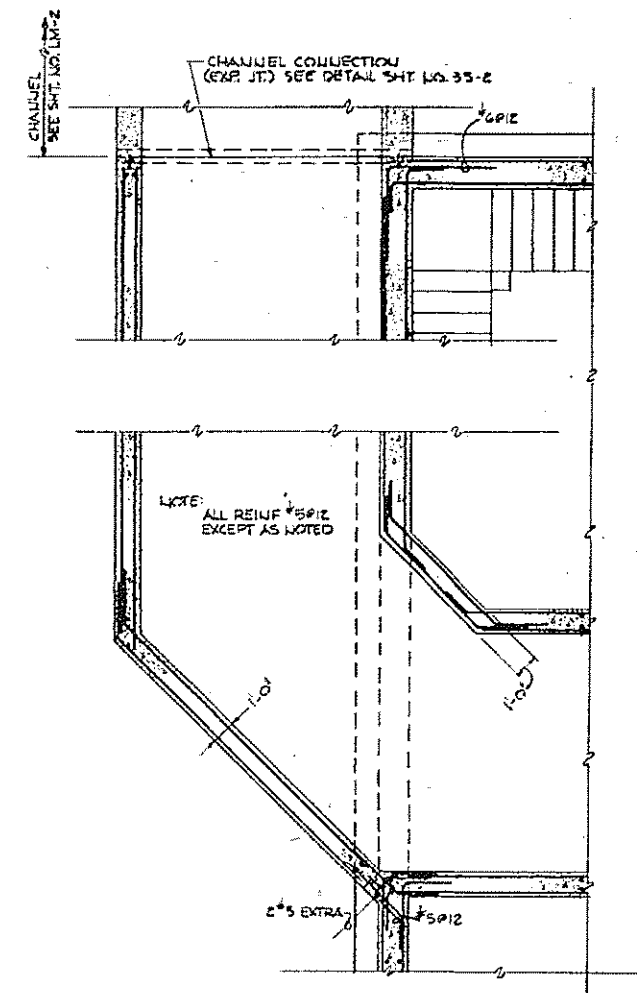
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 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 ED. J. F.L. JR. CH. J. F.L. JR. J.W.-83
 APPROVED: *J.M. Cady* DRAWN: 39

REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY

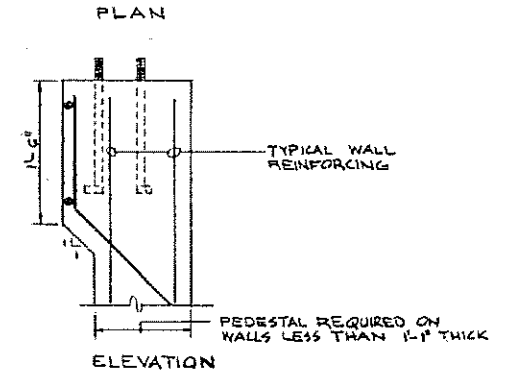
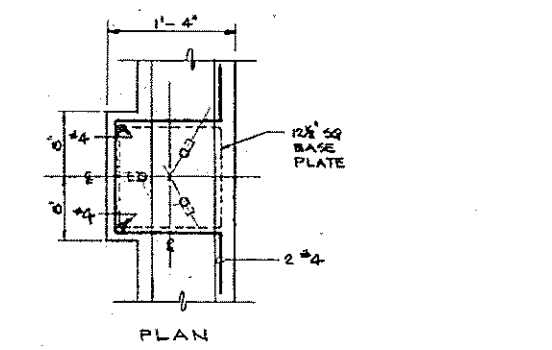




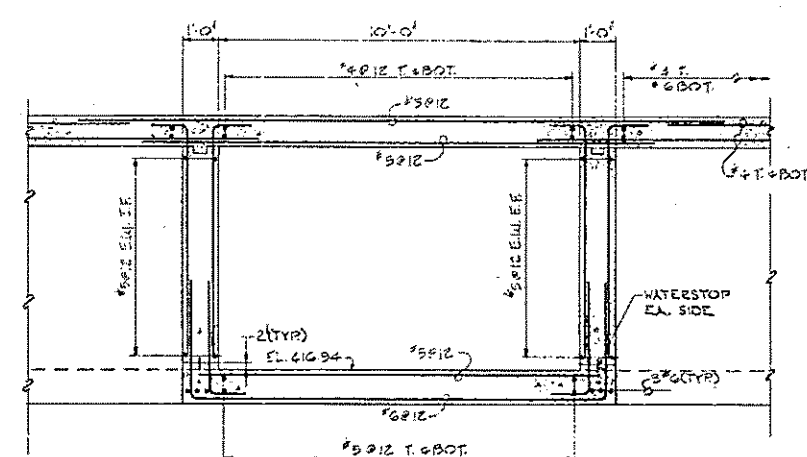
SECTION 1
SCALE: 3/8" = 1'-0"



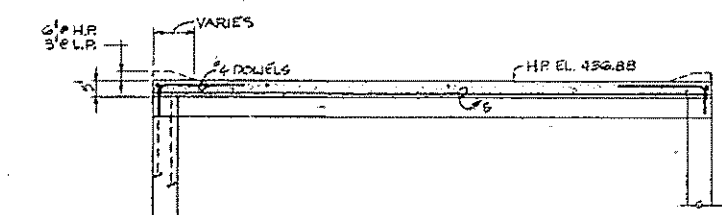
PARTIAL PLAN
NOT TO SCALE



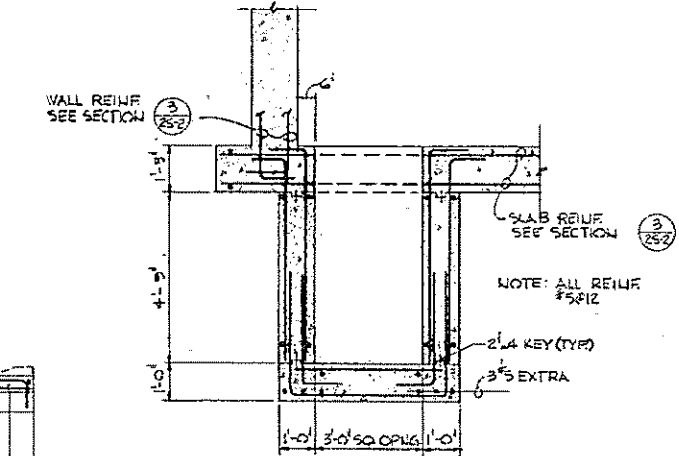
POSTLIGHT BASE DETAIL
SCALE: 1" = 1'-0"



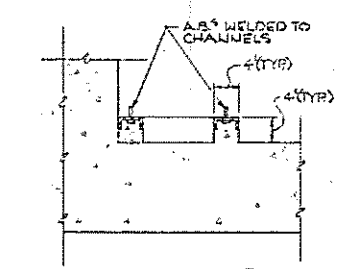
SECTION 2
SCALE: 3/8" = 1'-0"



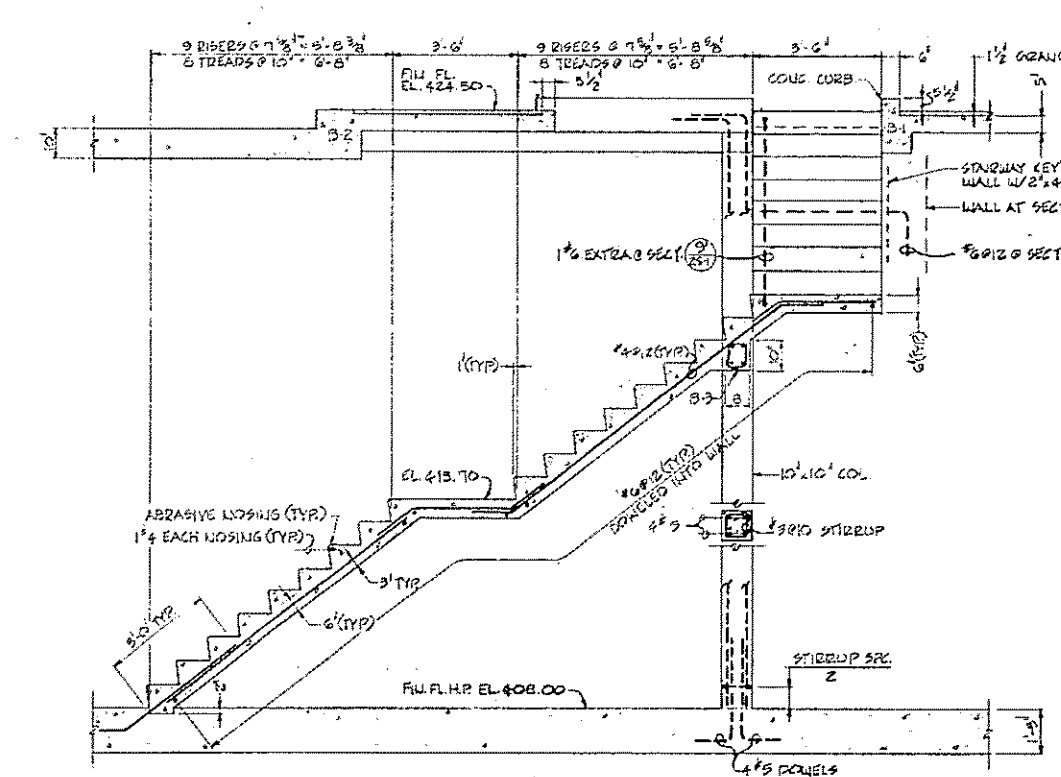
SECTION 3
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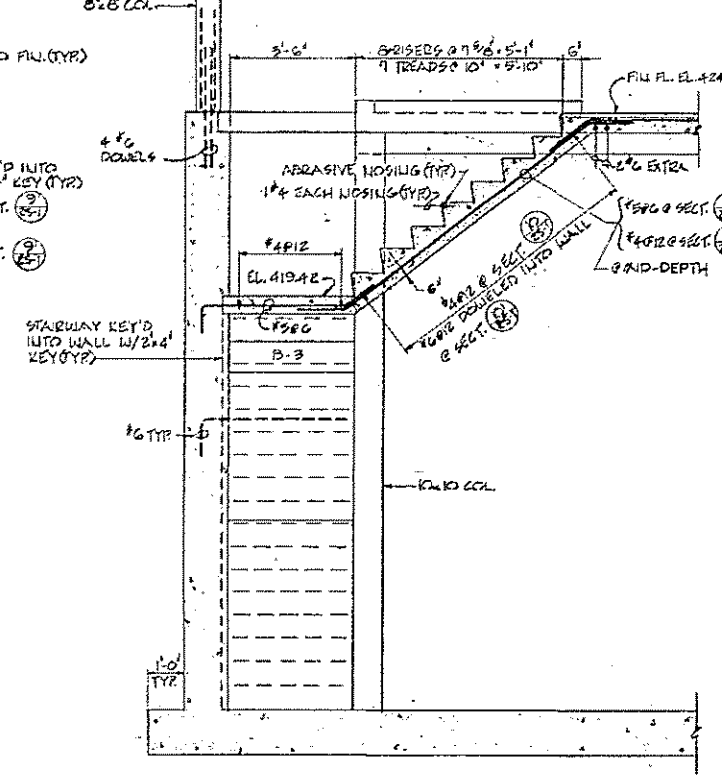
SECTION 4
SCALE: 3/8" = 1'-0"



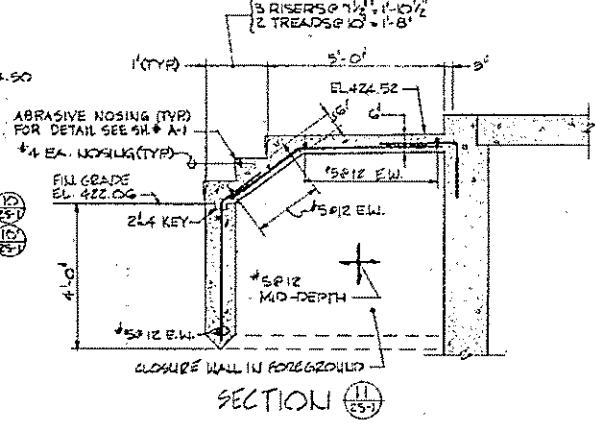
SECTION 5
SCALE: 3/8" = 1'-0"
(TYPICAL MOTOR CONTROL CONCRETE PAD)



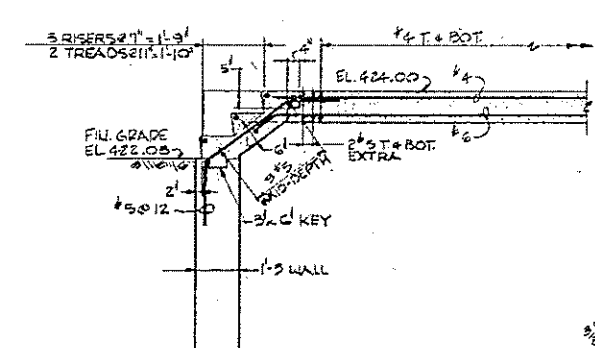
SECTION 6
SCALE: 3/8" = 1'-0"



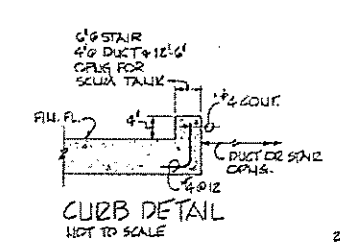
SECTION 7
SCALE: 3/8" = 1'-0"



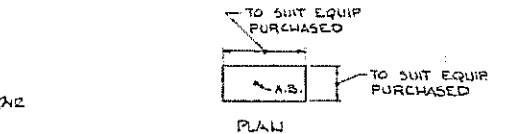
SECTION 8
SCALE: 3/8" = 1'-0"



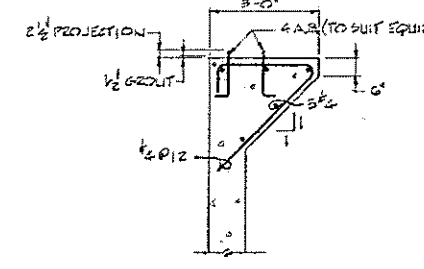
SECTION 9
SCALE: 3/8" = 1'-0"



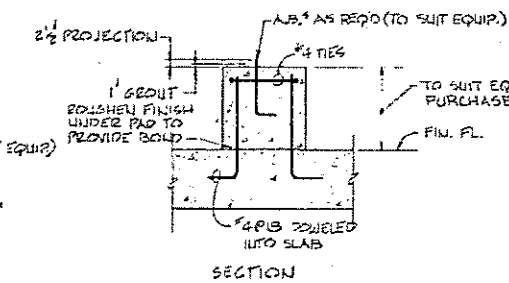
CURB DETAIL
NOT TO SCALE



CONC. PAD DETAIL
NOT TO SCALE

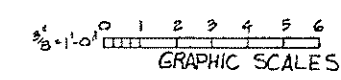


SECTION 10
SCALE: 3/8" = 1'-0"



CONC. PAD DETAIL
NOT TO SCALE

STAIRWAY DETAILS
SECTION 6 & 7 SIMILAR
SCALE: 3/8" = 1'-0"



HALF-SIZE DRAWING

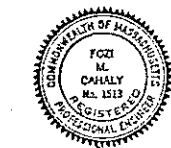
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PRIMARY SETTLING TANKS, F.N.-2
STRUCTURAL
DETAILS

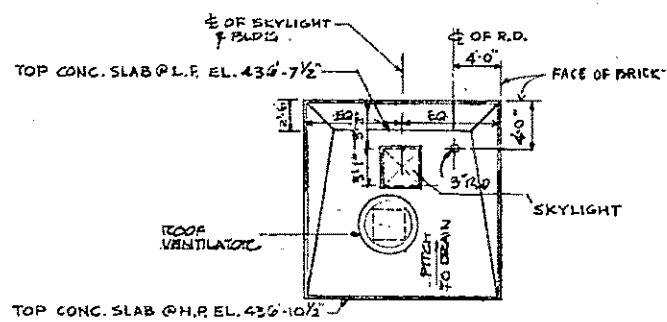
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

APPROVED: *F. M. Cabaly*
DATE: 1/6
FILE: JW-83
PLAN: 40

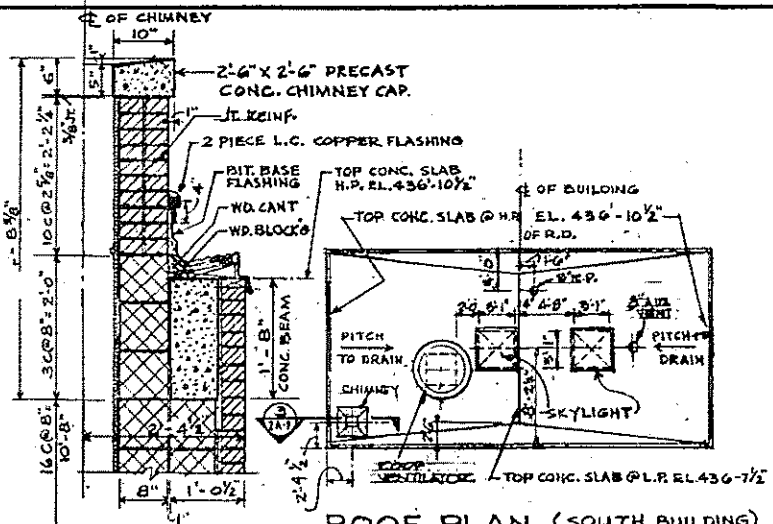
CONTRACT DRAWING SHEET NO. 25-3

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



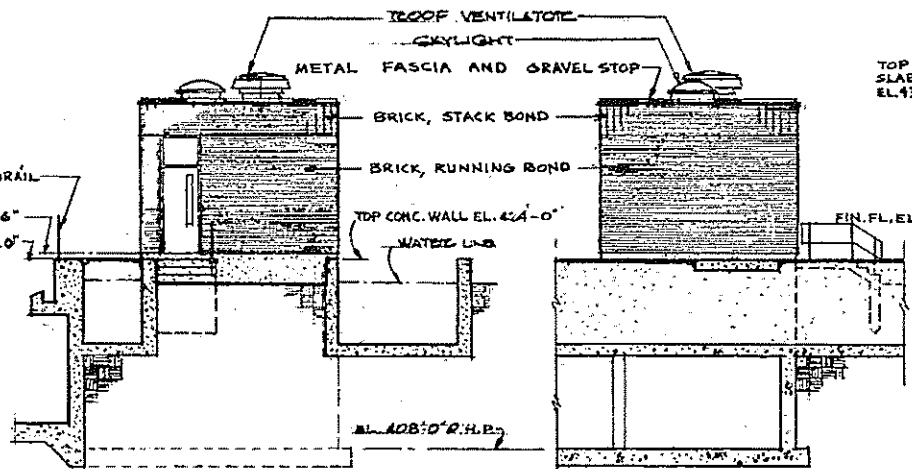


ROOF PLAN (NORTH BUILDING)
SCALE: 1/8" = 1'-0"

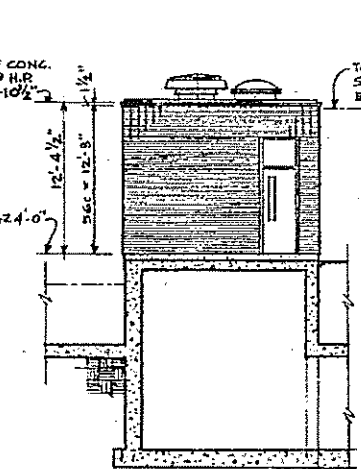


ROOF PLAN (SOUTH BUILDING)
SCALE: 1/8" = 1'-0"

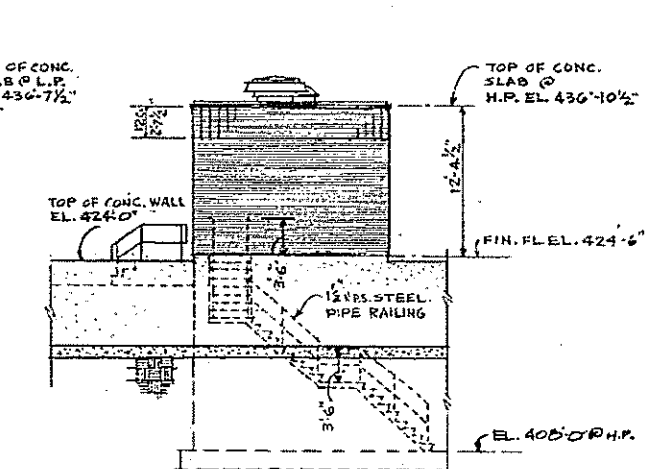
SECTION 3
SCALE: 3/4" = 1'-0" (2A-1)



NORTH ELEVATION
SCALE: 1/8" = 1'-0"



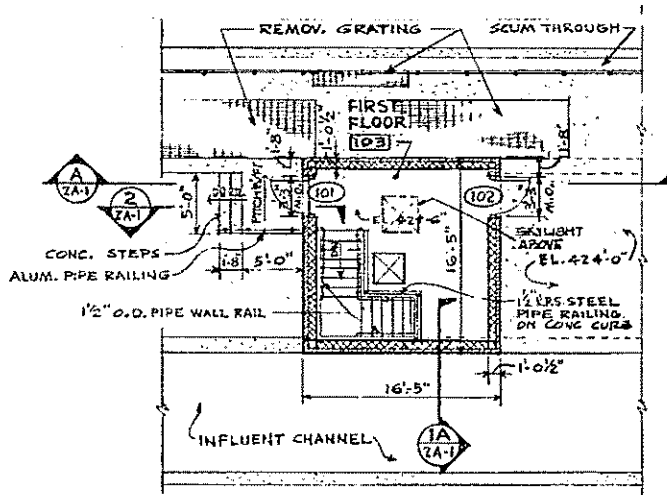
EAST ELEVATION
SCALE: 1/8" = 1'-0"



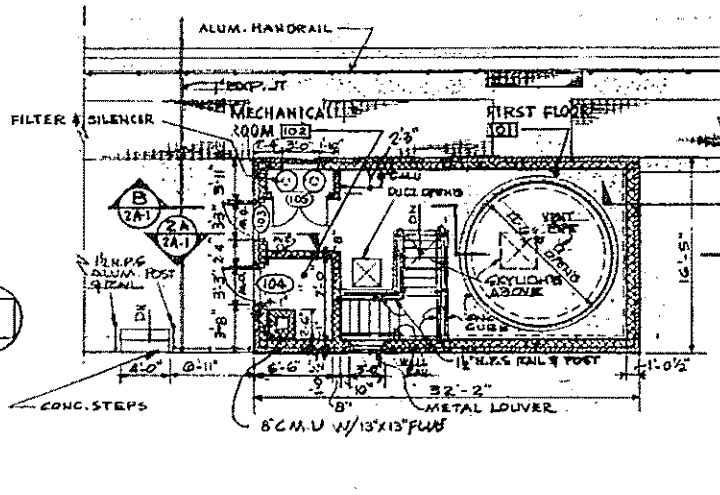
SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



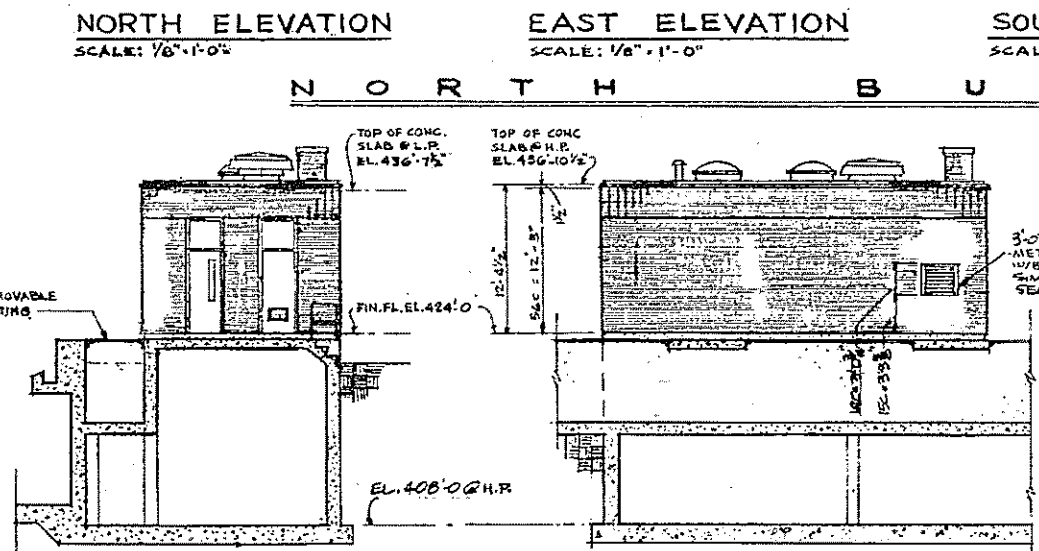
WEST ELEVATION
SCALE: 1/8" = 1'-0"



FLOOR PLAN @ EL. 424'-0" (NORTH BUILDING)
SCALE: 1/8" = 1'-0"

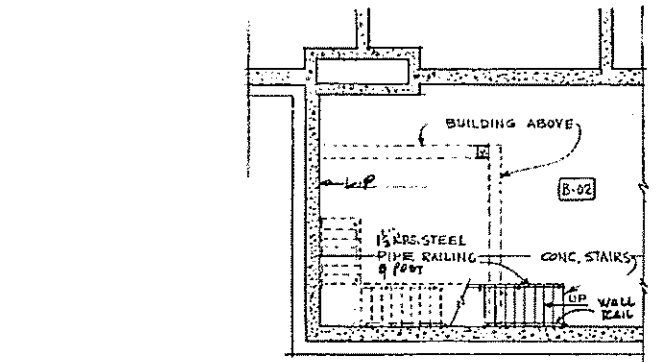


FLOOR PLAN @ EL. 424'-0" (SOUTH BUILDING)
SCALE: 1/8" = 1'-0"

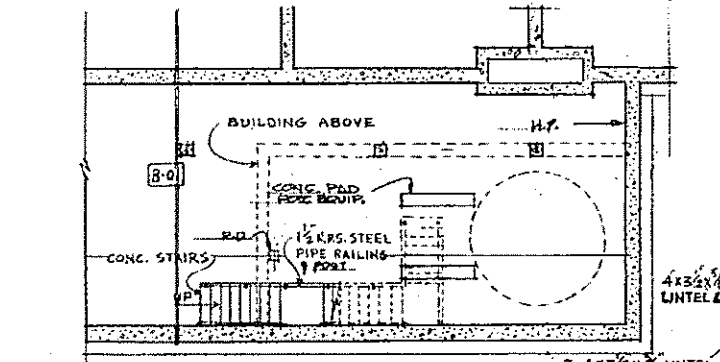


NORTH ELEVATION
SCALE: 1/8" = 1'-0"

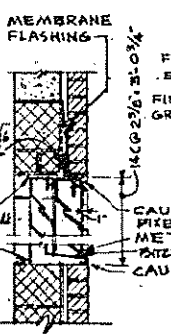
EAST ELEVATION
SCALE: 1/8" = 1'-0"



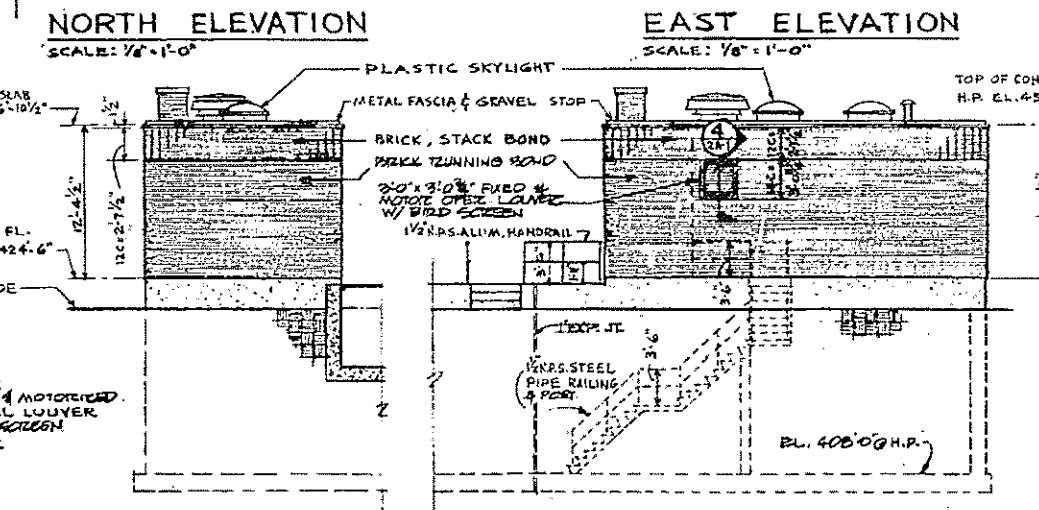
BASEMENT PLAN @ EL. 408'-0" @ H.P. (NORTH BUILDING)
SCALE: 1/8" = 1'-0"



BASEMENT PLAN @ EL. 408'-0" @ H.P. (SOUTH BUILDING)
SCALE: 1/8" = 1'-0"

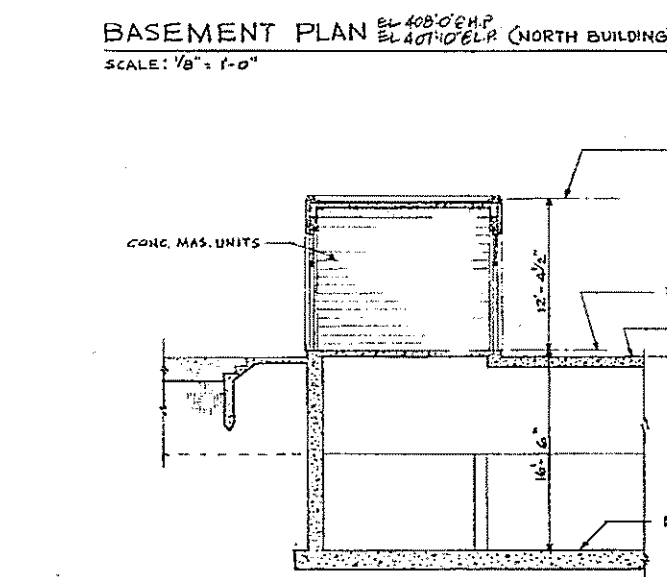


SECTION 4
SCALE: 3/4" = 1'-0" (2A-1)

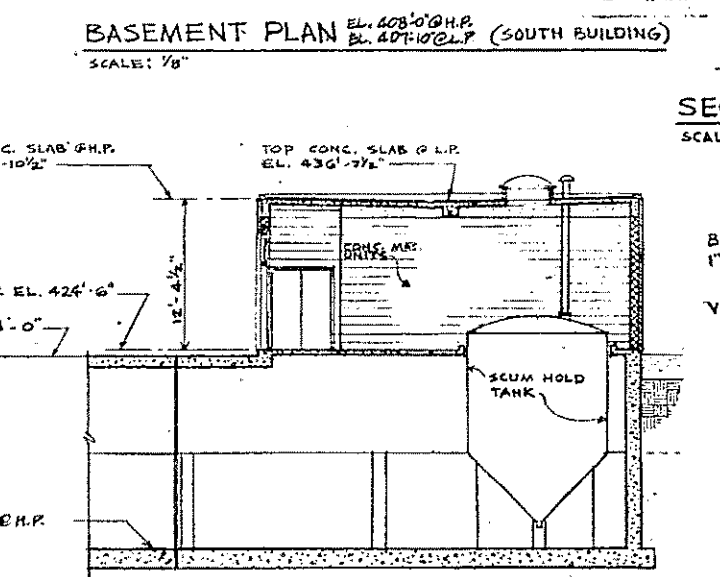


SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

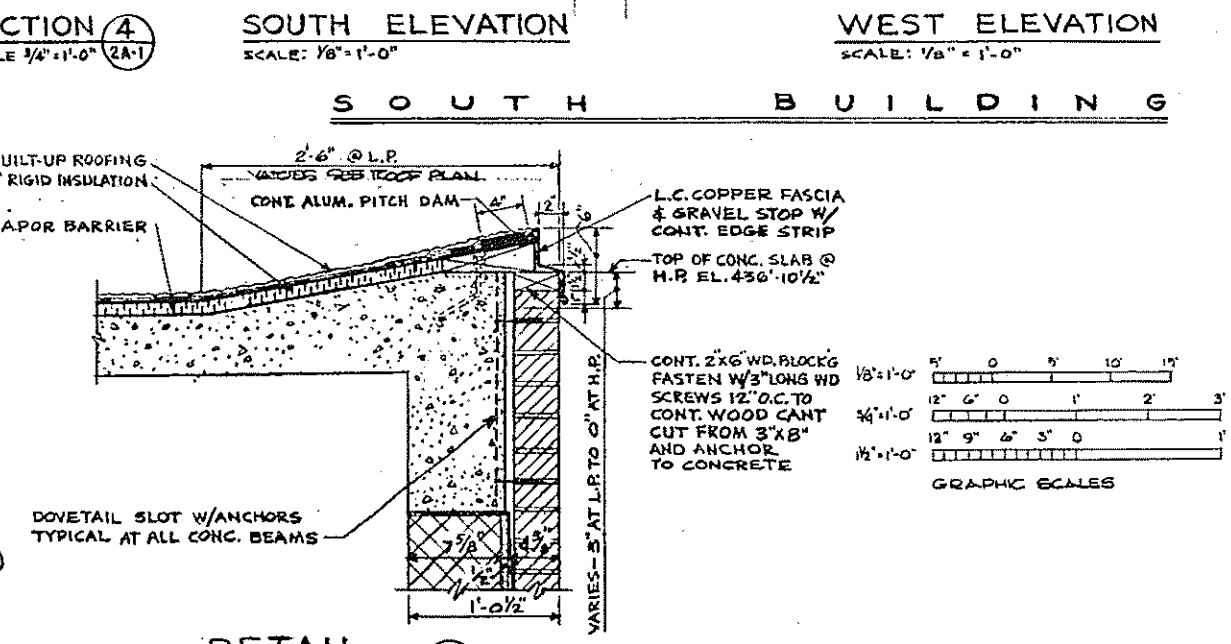
WEST ELEVATION
SCALE: 1/8" = 1'-0"



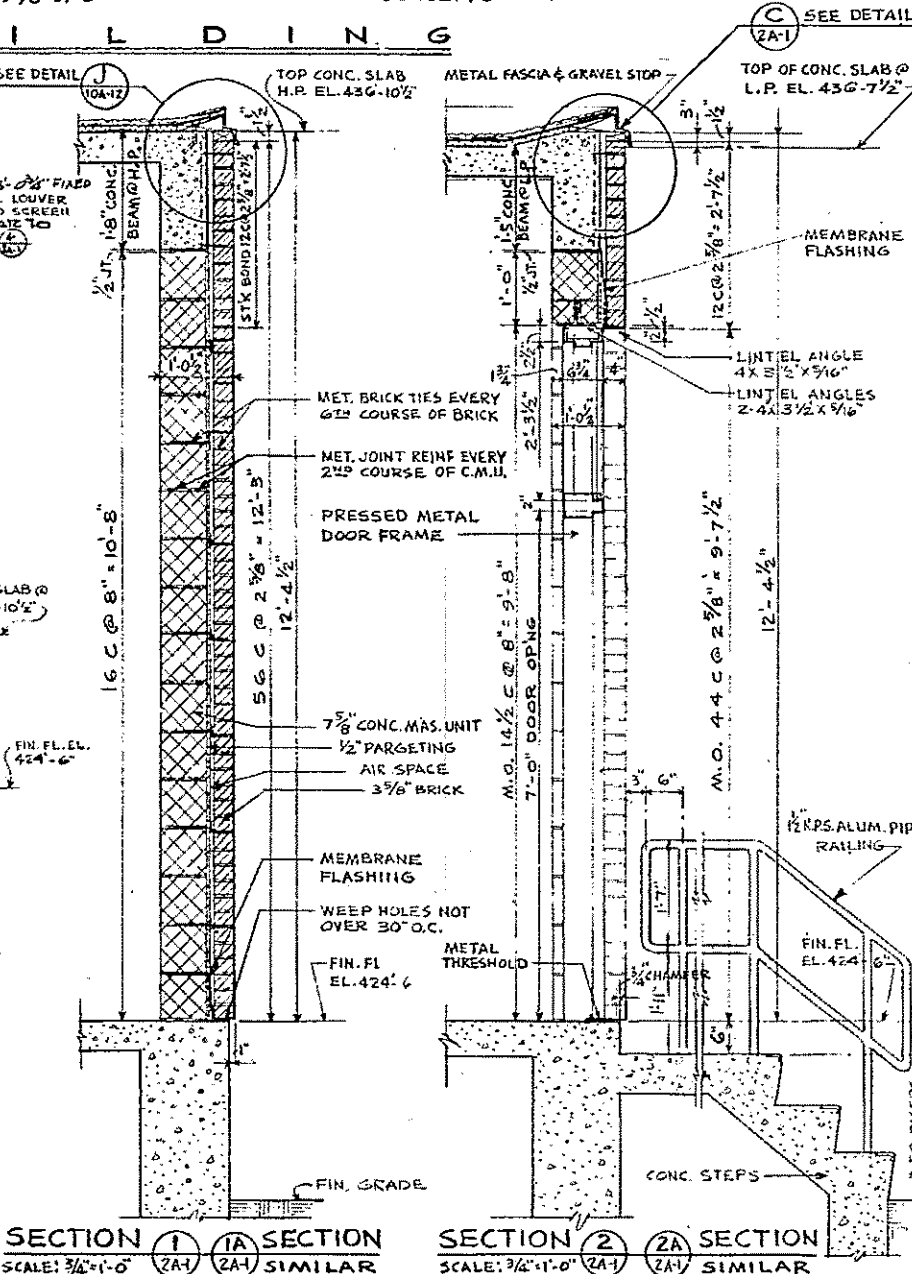
SECTION A (NORTH BUILDING)
SCALE: 1/8" = 1'-0" (2A-1)



SECTION B (SOUTH BUILDING)
SCALE: 1/8" = 1'-0" (2A-1)

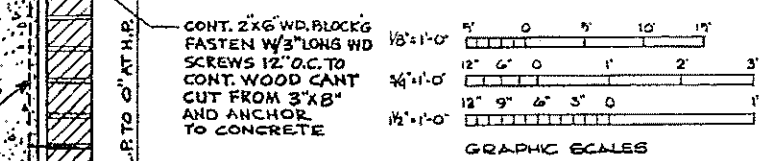


DETAIL C
SCALE: 1 1/2" = 1'-0" (2A-1)

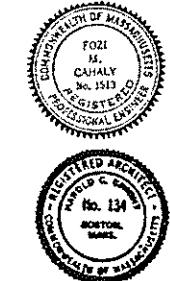


SECTION 1 (2A-1) SECTION 2 (2A-1) SIMILAR

SECTION 2 (2A-1) SECTION 3 (2A-1) SIMILAR

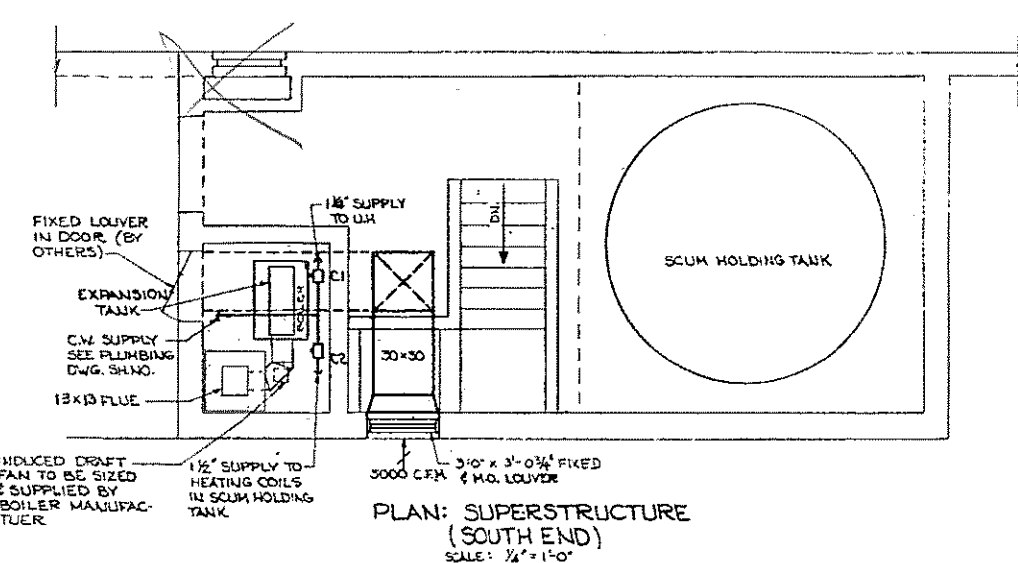
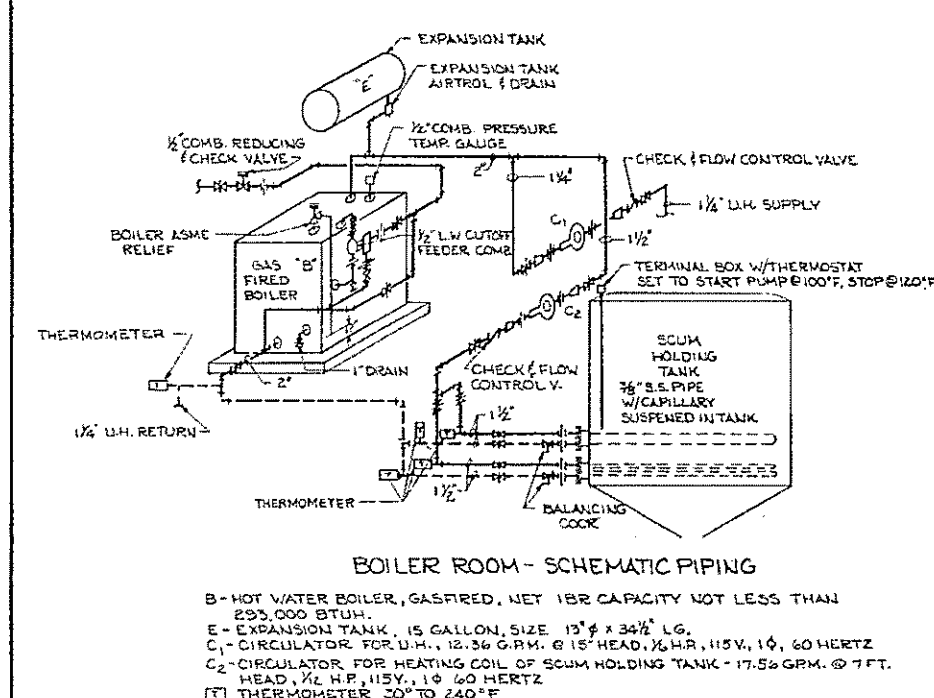
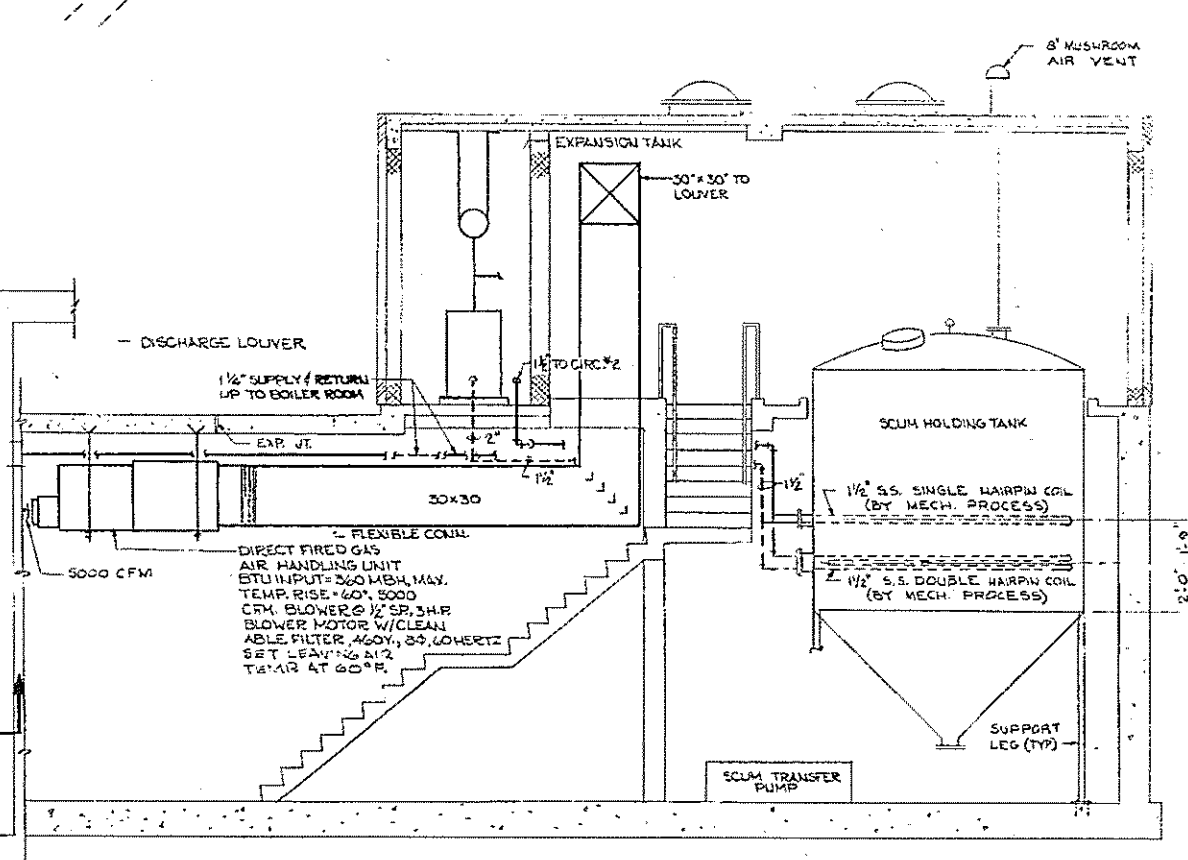
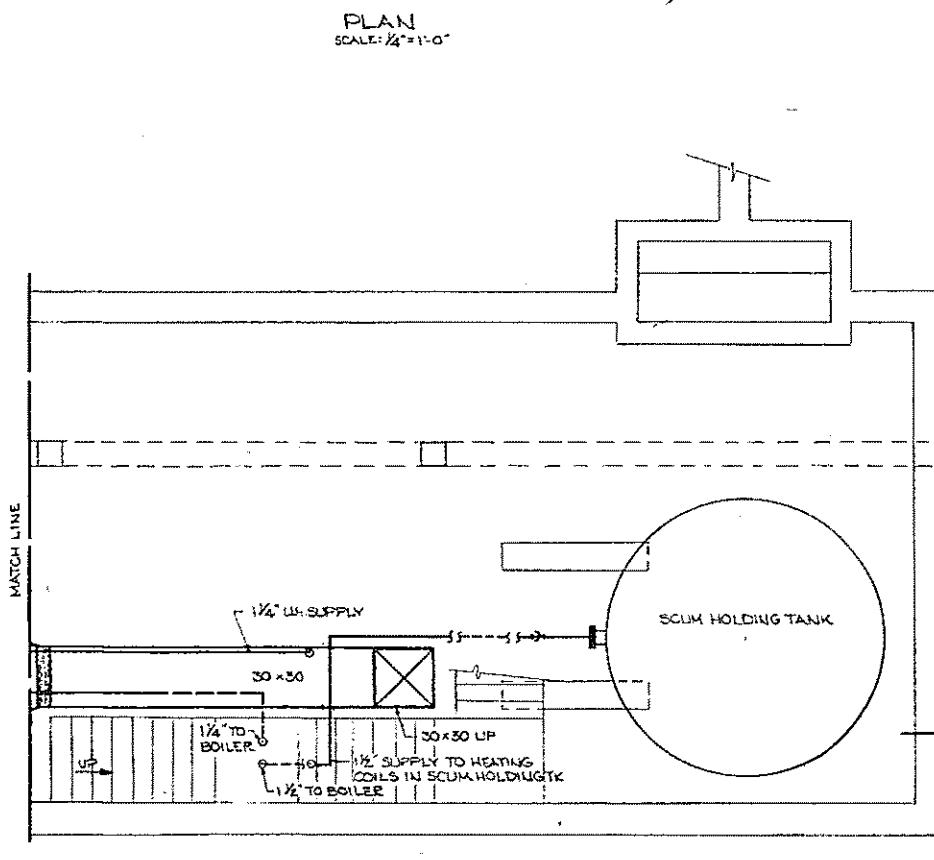
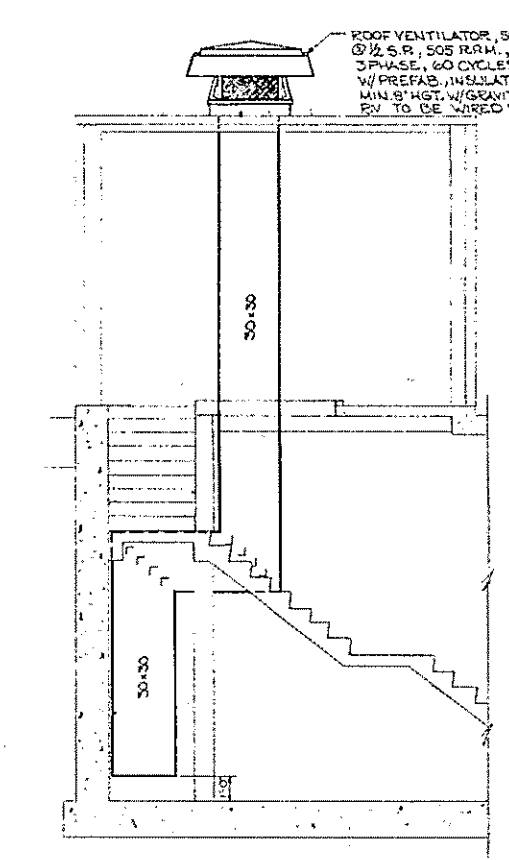
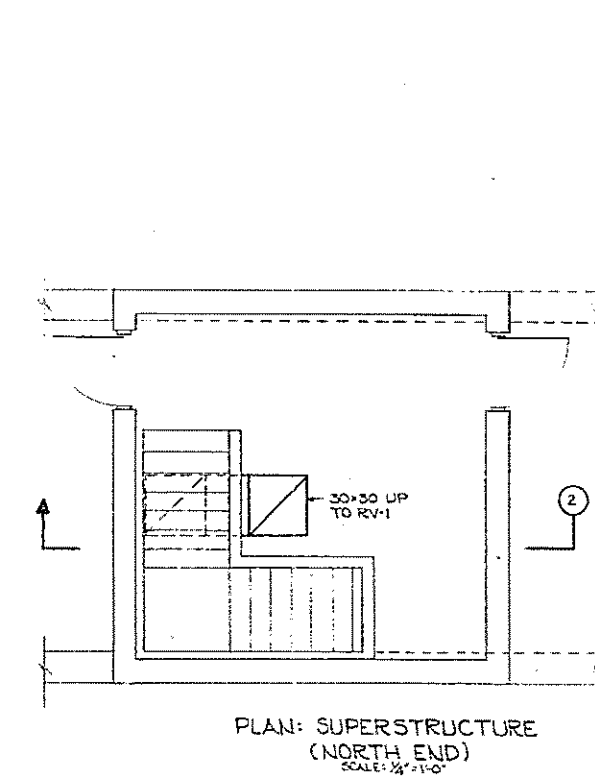
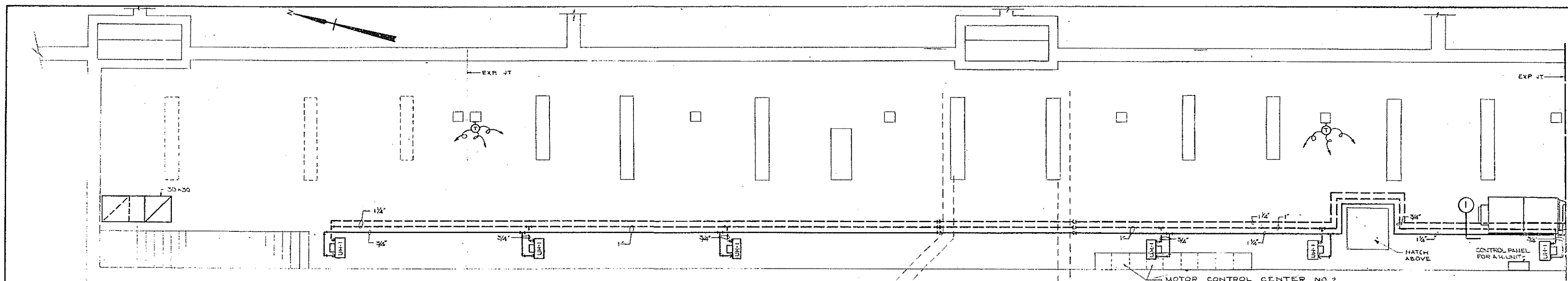


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

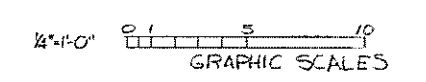


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PRIMARY SETTLING TANKS. F.N.-2
ARCHITECTURAL
PLANS, ELEVATIONS AND SECTIONS
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS. BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS. BOSTON, MASS.
DEC. 1972
APPROVED: F. M. Cahaly
CONTRACT DRAWING SHEET NO. 2A-1



NOTES:
FOR LEGEND, NOTES AND DETAIL SEE SH. NO. 10HV-9



UNIT HEATER SCHEDULE												
MARK	REQD	SPACE	TYPE	W.B.	GPM	C.F.M.	R.P.M.	H.P.	WATER	ETW.	OT	AP. FT.
UH-1	6	GALLERY	HORIZ	20 Ø	2.06	591	1520	1/20	15.36	200'	20°F	.08

EACH UNIT SHALL BE EQUIPPED W/ DIFFUSERS AND HEAVY WALL TUBES. SEE SH. NO. 10HV-9 FOR DETAILS OF UNIT HEATERS.

HALF-SIZE DRAWING

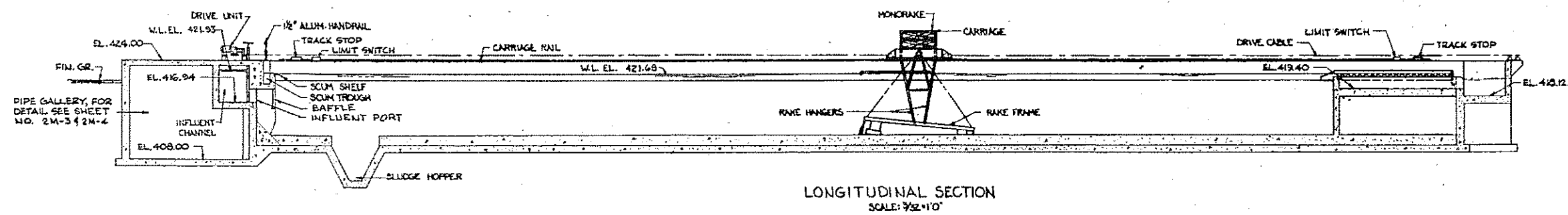


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 PRIMARY SETTLING TANKS, F.N.-2
 HEATING AND VENTILATING
 PIPE GALLERY - PLAN

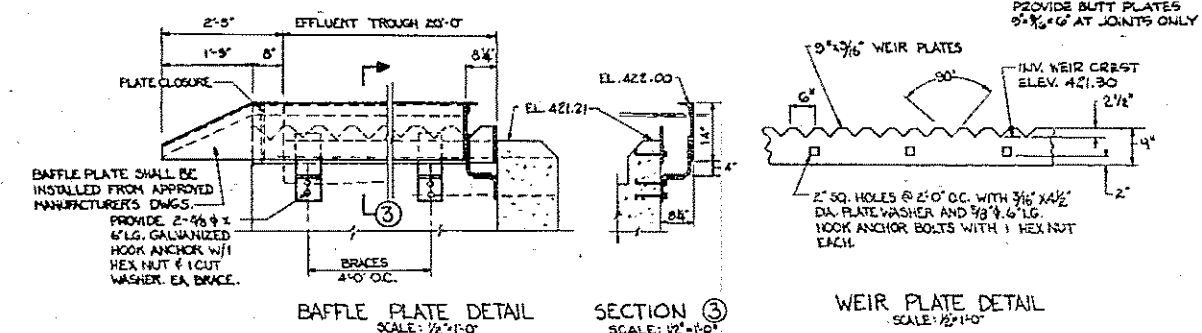
SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

REV. NO.	DATE	DESCRIPTION	MADE BY	CYC. BY	APPD. BY

DEL. B. S. R.
 DR. A. S. K.
 APPROVED: *A. S. Kelly*
 CONTRACT DRAWING SHEET NO. 2HV-1



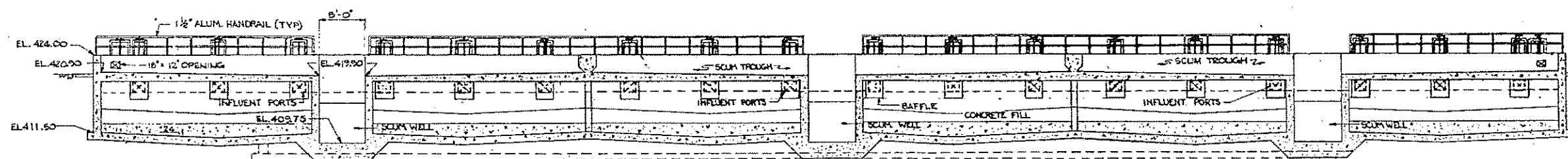
LONGITUDINAL SECTION
SCALE: 3/32"=1'-0"



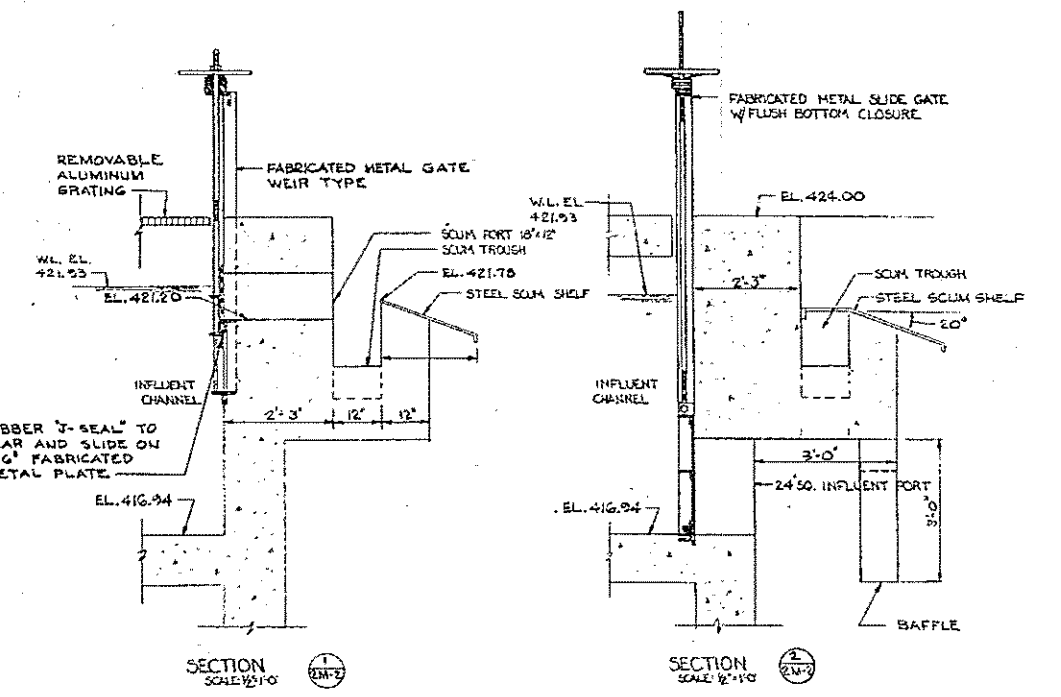
BAFFLE PLATE DETAIL
SCALE: 1/2"=1'-0"

SECTION 3
SCALE: 1/2"=1'-0"

WEIR PLATE DETAIL
SCALE: 1/2"=1'-0"

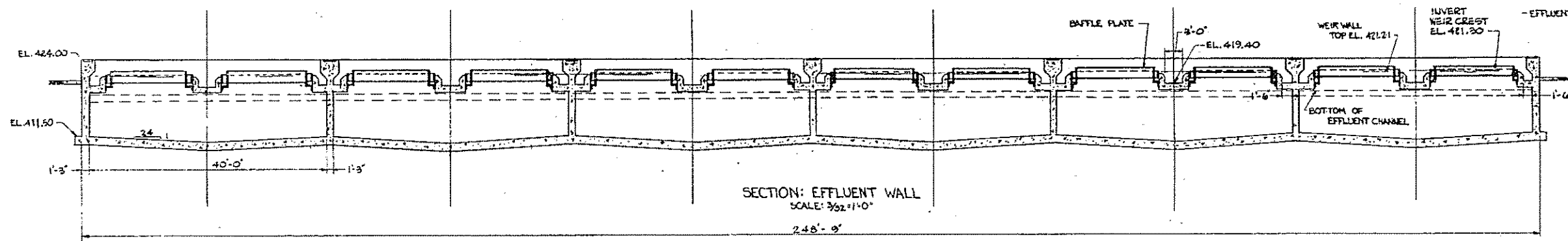


SECTION: INFLUENT WALL
SCALE: 3/32"=1'-0"

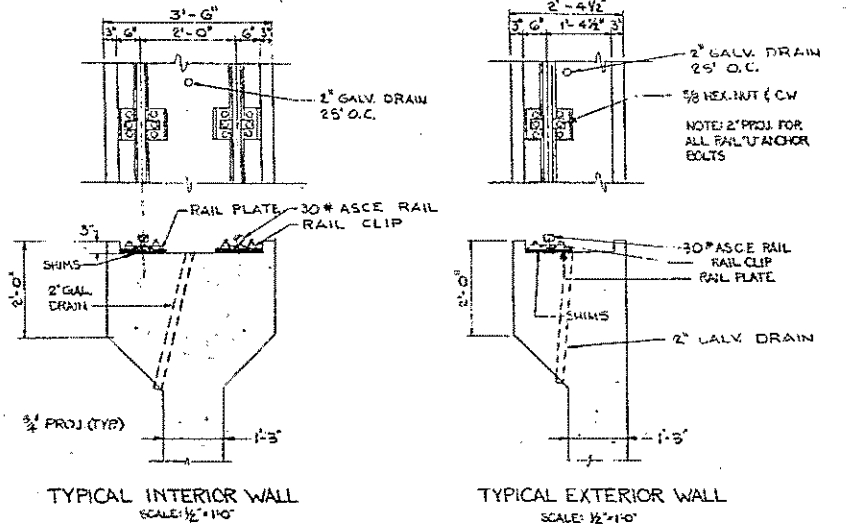


SECTION 1
SCALE: 1/2"=1'-0"

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

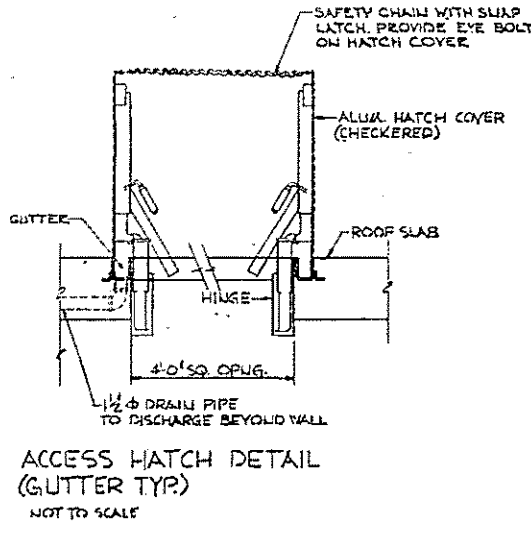


SECTION: EFFLUENT WALL
SCALE: 3/32"=1'-0"

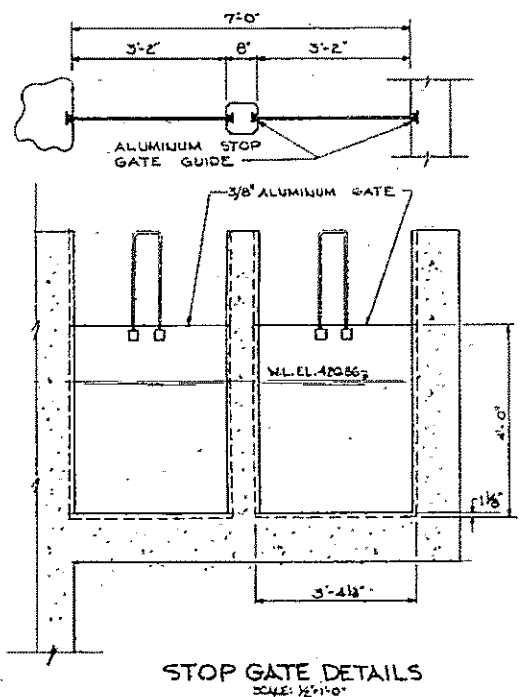


TYPICAL INTERIOR WALL
SCALE: 1/2"=1'-0"

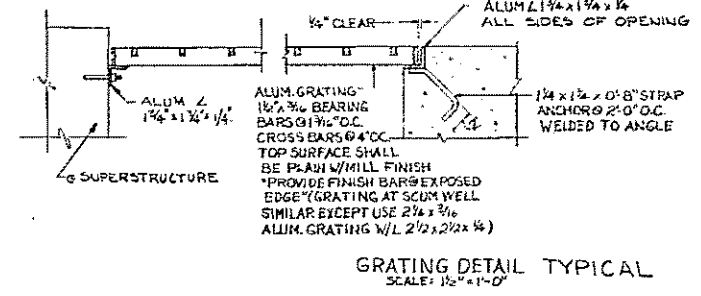
TYPICAL EXTERIOR WALL
SCALE: 1/2"=1'-0"



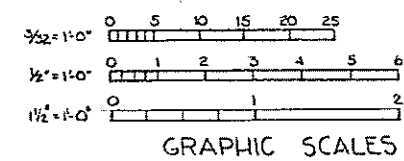
ACCESS HATCH DETAIL
(GUTTER TYP.)
NOT TO SCALE



STOP GATE DETAILS
SCALE: 1/2"=1'-0"



GRATING DETAIL TYPICAL
SCALE: 1/2"=1'-0"



GRAPHIC SCALES

HALF-SIZE DRAWING

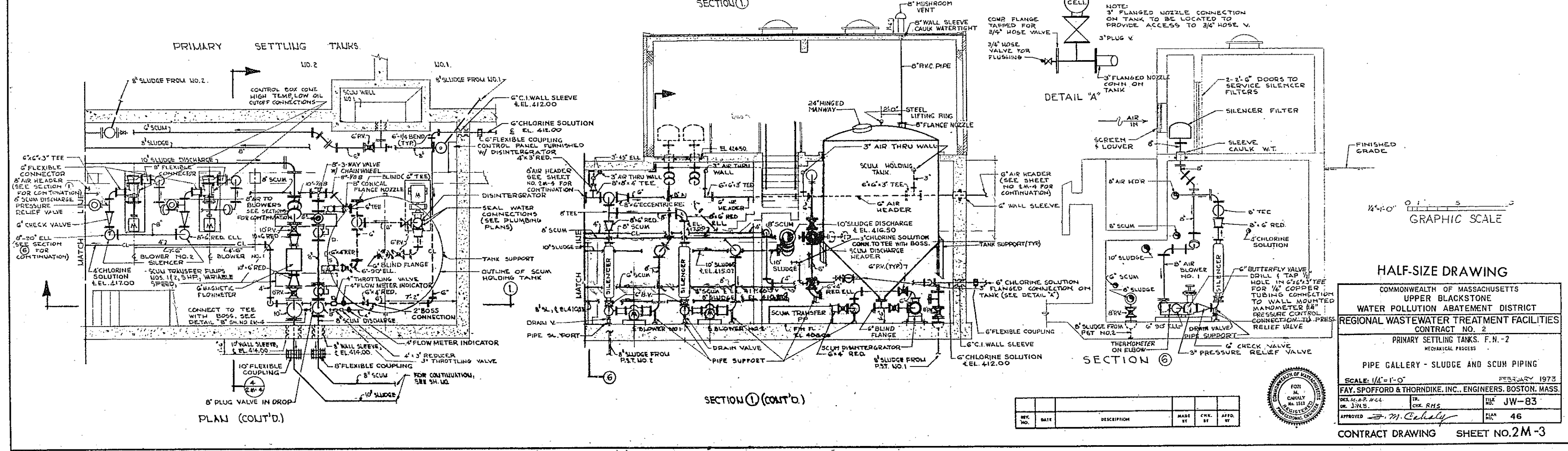
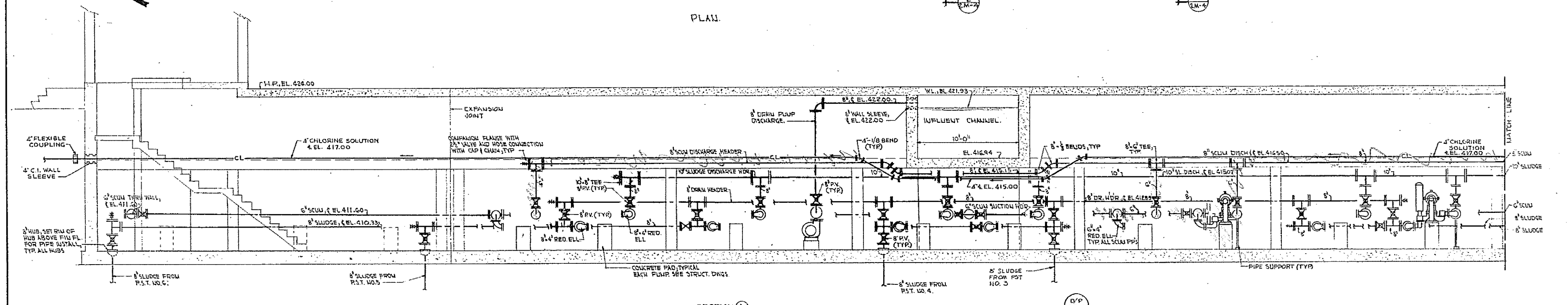
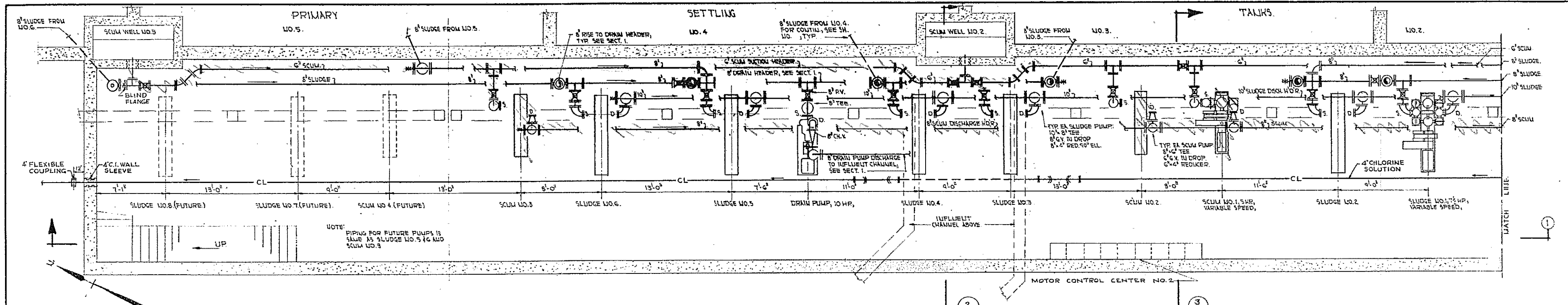
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PRIMARY SETTLING TANKS, F.N.-2
MECHANICAL PROCESS

SECTIONS

SCALE: AS NOTED FEBRUARY 1977

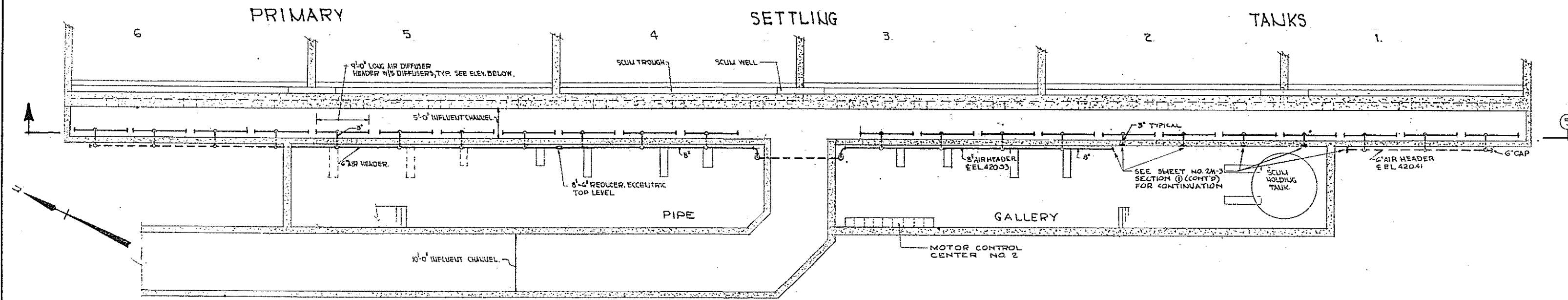
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. M.A.P.	TR. C.H.C.	CHEK. R.H.S.	FILE NO. JW-83
DR. ASK			
APPROVED: M. Cahaly			SHEET NO. 45

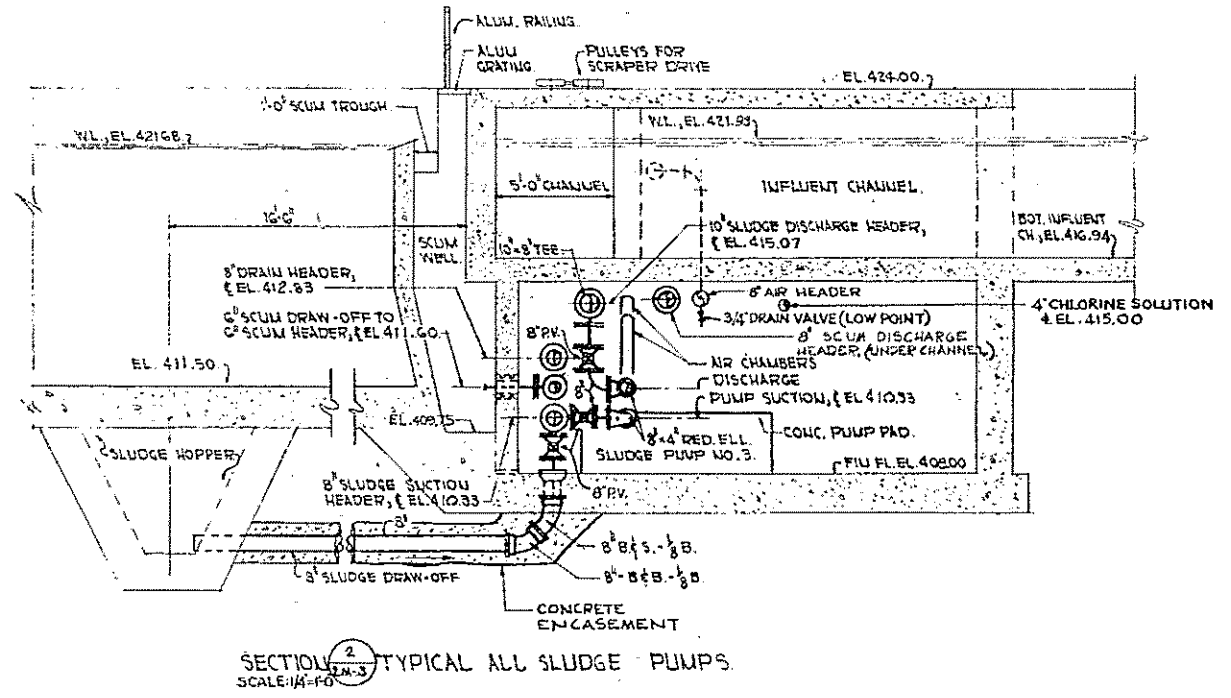
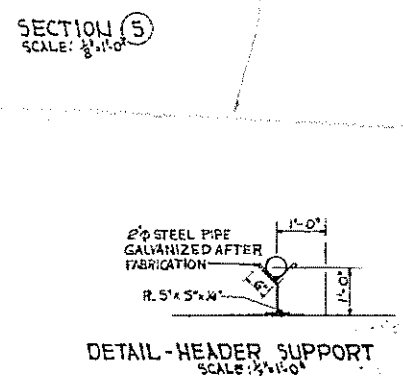
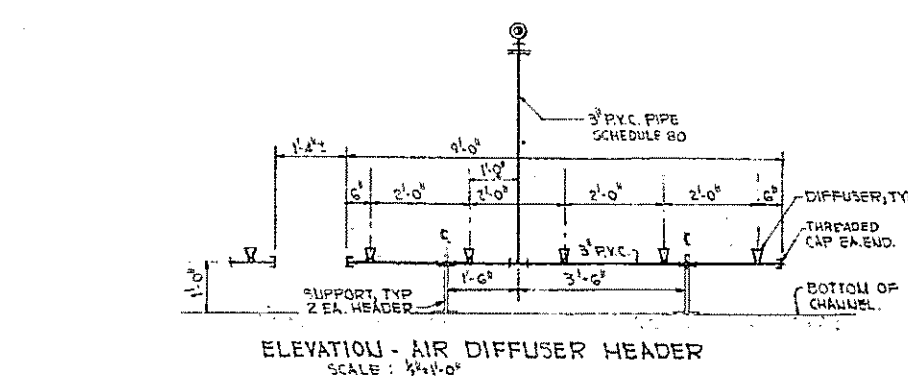
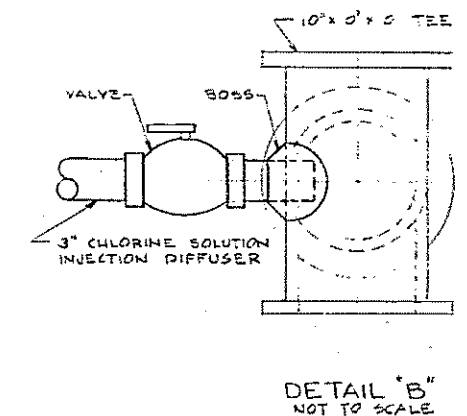
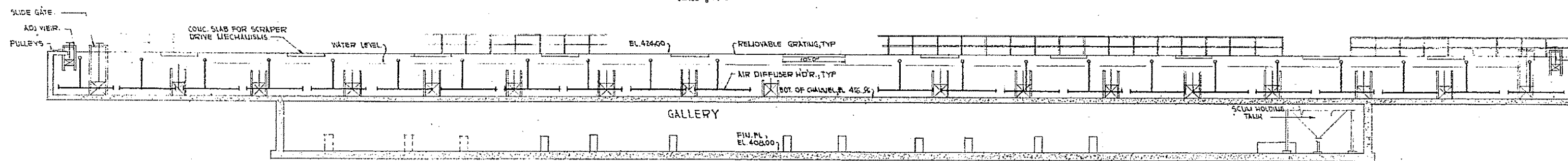


REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP'D BY

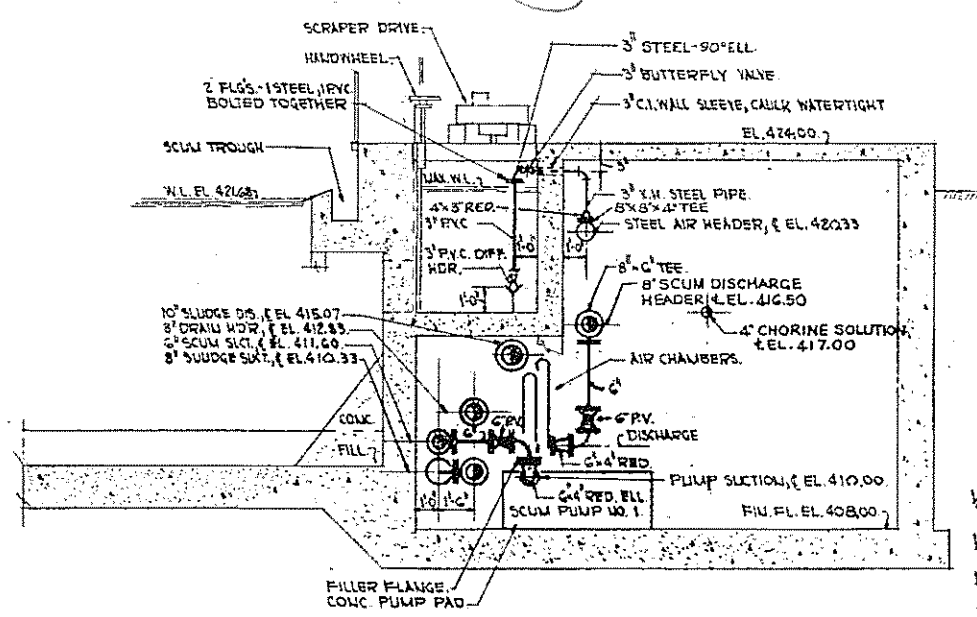




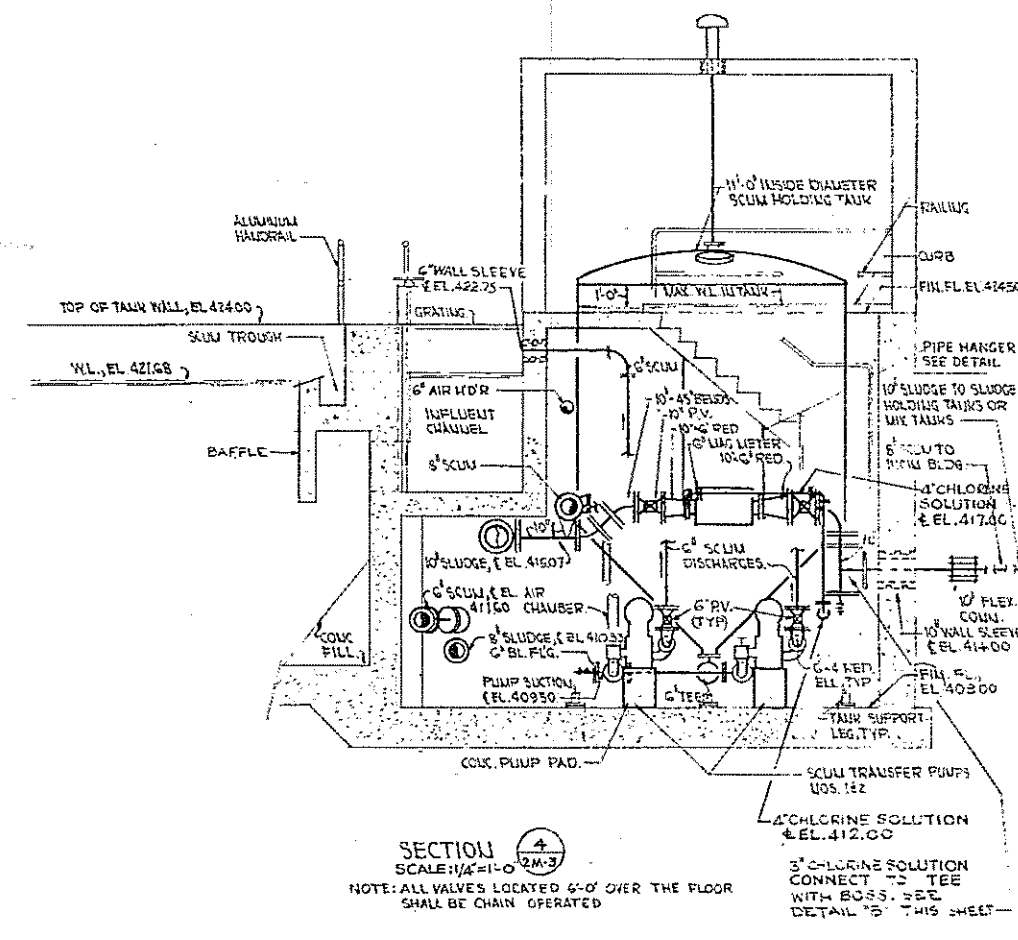
PLAN AT ELEVATION 423.00 - AIR PIPING
SCALE: 1/8" = 1'-0"



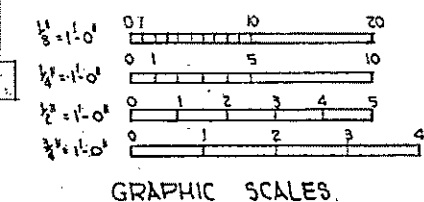
SECTION 2 TYPICAL ALL SLUDGE PUMPS
SCALE: 1/4" = 1'-0"



SECTION 3 TYPICAL ALL SCUM PUMPS
SCALE: 1/4" = 1'-0"



SECTION 4 TYPICAL CHLORINE SOLUTION INJECTION DIFFUSER
SCALE: 1/4" = 1'-0"
NOTE: ALL VALVES LOCATED 6'-0" OVER THE FLOOR SHALL BE CHAIN OPERATED



GRAPHIC SCALES

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2

PRIMARY SETTLING TANKS, F. N. - 2
MECHANICAL PROCESS
PIPE GALLERY
AIR PIPING AND MISCELLANEOUS SECTIONS

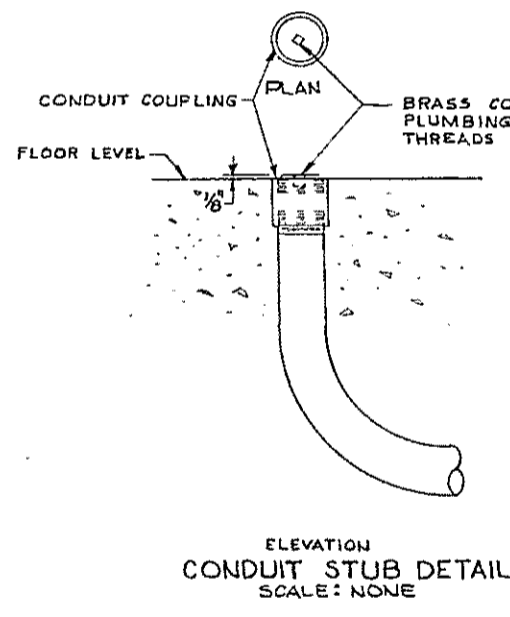
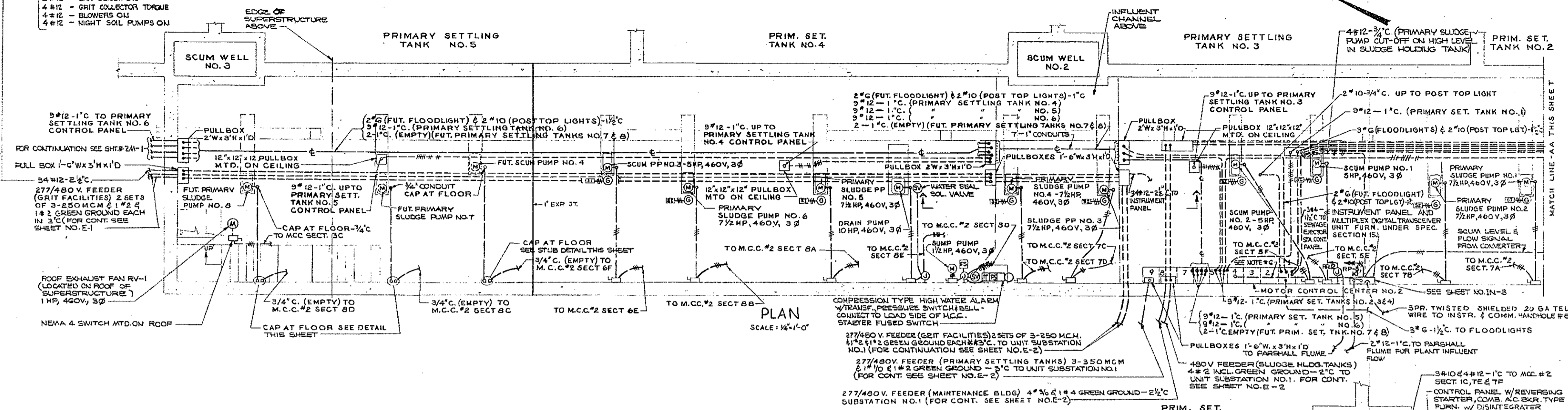
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. H.C.L. TR. CHE. R.H.S. EST. JW-83
APPROVED: *F. M. Cahaly* ELM. 47

REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY



- 2#12 - AIR FLOW TO PREAERATION TANKS
- 3#12 - SCREENS ON
- 2#12 - SCREEN CONVEYOR ON
- 6#12 - OFF ACROSS SCREENS
- 4#12 - GRIT COLLECTORS ON
- 2#12 - GRIT SCREW ON
- 4#12 - GRIT COLLECTOR TORQUE
- 4#12 - BLOWERS ON
- 4#12 - NIGHT SOIL PUMPS ON



MCC. SECT. 2A

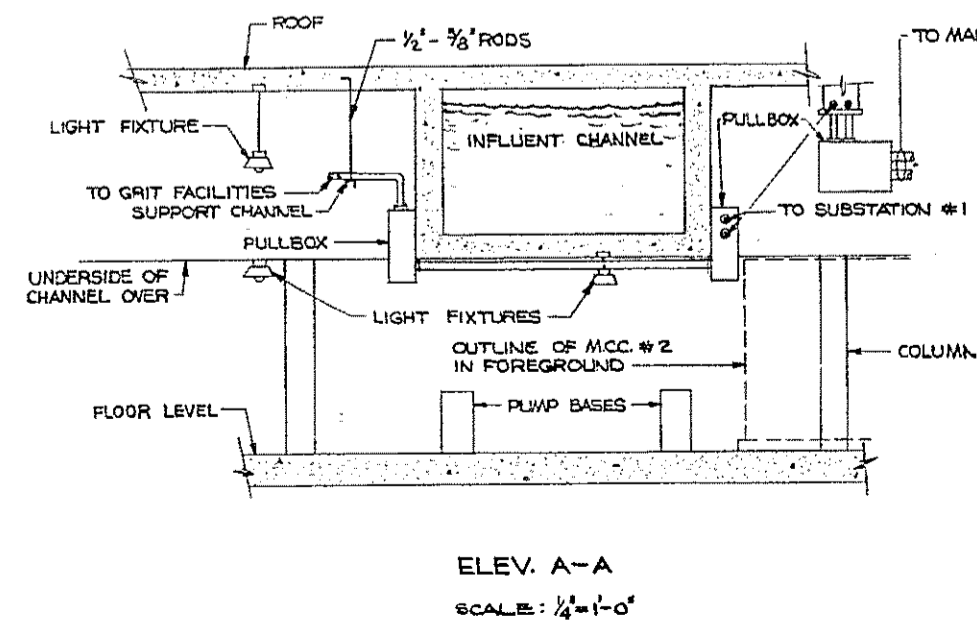
PANEL RP SCHEDULE		LOAD SERVED		LOAD SERVED	
N.P.	V.A.	120 / 208V., 3 Ø, 4 WIRE	LOAD SERVED	V.A.	H.P.
-	1300		RECEPT. (6)	1200	-
-	600		RECEPT. (5)	1000	-
-	250		SLDS.MAG FLOWMETER	1050	-
1/2	252		SCUM & SCUM TRANSFER P.P. FURN. UNDER SPEC.	700	1/4
1/6	506		PARSHALL FLUME	102	-
6	600		SEV. EJECTOR STA.	500	-
-	100		SPARE	500	-
-	500		SPARE	500	-
-	500		SPARE	500	-

ALL BKRS. ARE 1 POLE 20A. UNLESS OTHERWISE NOTED.

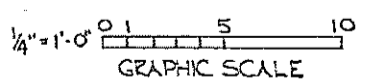
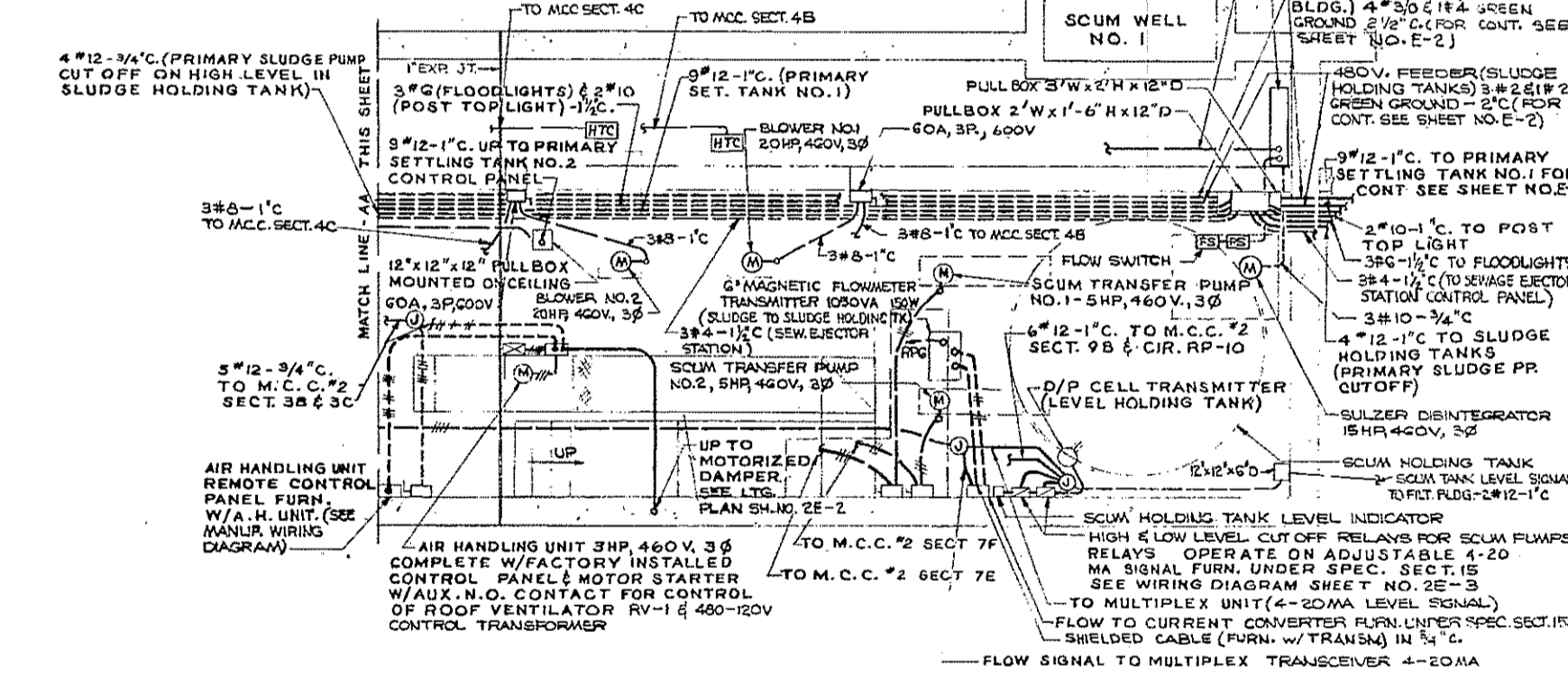
MOTOR CONTROL CENTER SECTION NO. 40 A. FUSES 60A. SWITCH

CONNECTED V.A. = 8,350
SPARE V.A. = 2,000
TOTAL = 10,350

120 / 208V., 3 Ø, 4 W. FROM TRANSFORMER M.C.C. 32 SECT. 2B



- ELECTRICAL CONSTRUCTION NOTES:**
- SERVICE TO THE BUILDING SHALL BE 277/480 VOLT, 3 PHASE, 4 WIRE.
 - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUM IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
 - WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT, AND WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 - FOR SITE PLAN, SEE SHEET NO. E-1 & E-2.
 - FOR LEGEND, SEE SHEET NO. 12E-2.
 - 54 #12-3" C TO MULTIPLEX PANEL FOR MOTOR RUN INDICATION FOR:
 - 12 #12-PRI. SET. TANK DRIVE
 - 12 #12-PRI. SET. TANK DRIVE TORQUE ALARM
 - 12 #12-PRI. SLUDGE PUMPS
 - 6 #12-SCUM PUMP
 - 4 #12-BLOWERS
 - 4 #12-SCUM TRANSFER PUMPS
 ALSO 4 #12 - 2 WIRES - 120 VOLT CIRCUIT RP-10 AND 2 WIRES FROM RELAYS CONTROLLED BY 4-20MA SIGNAL FROM SLUDGE HOLDING TANKS. SEE WIRING DIAGRAM SHEET NO. 9E-2.
 - WHEREVER POSSIBLE GROUP CONDUIT TOGETHER AND RACK FROM CEILING OR ON WALL AND LOCATE TO AVOID OTHER TRADES, ETC.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2

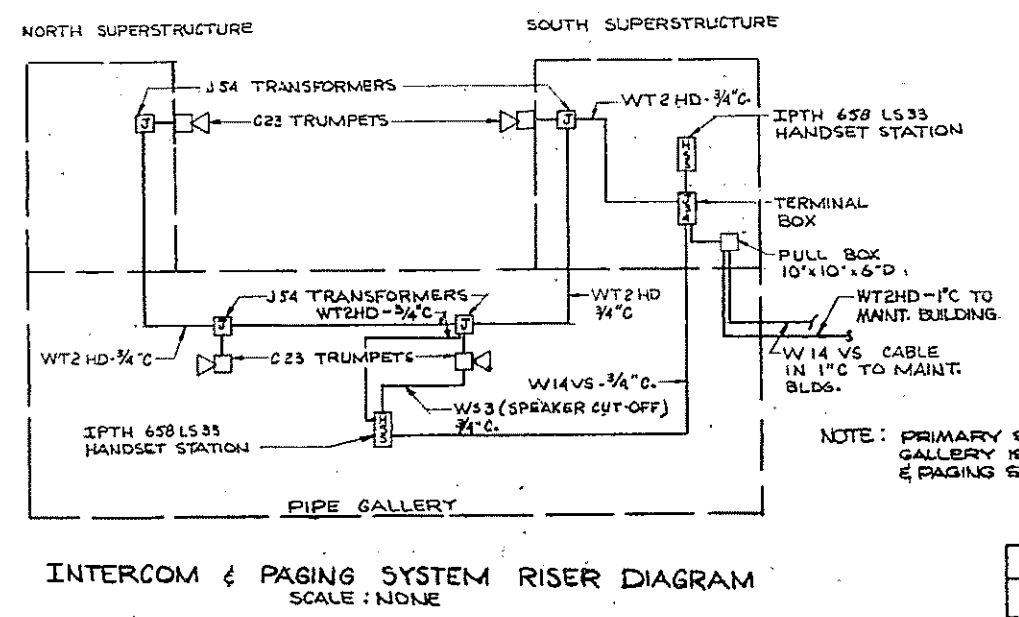
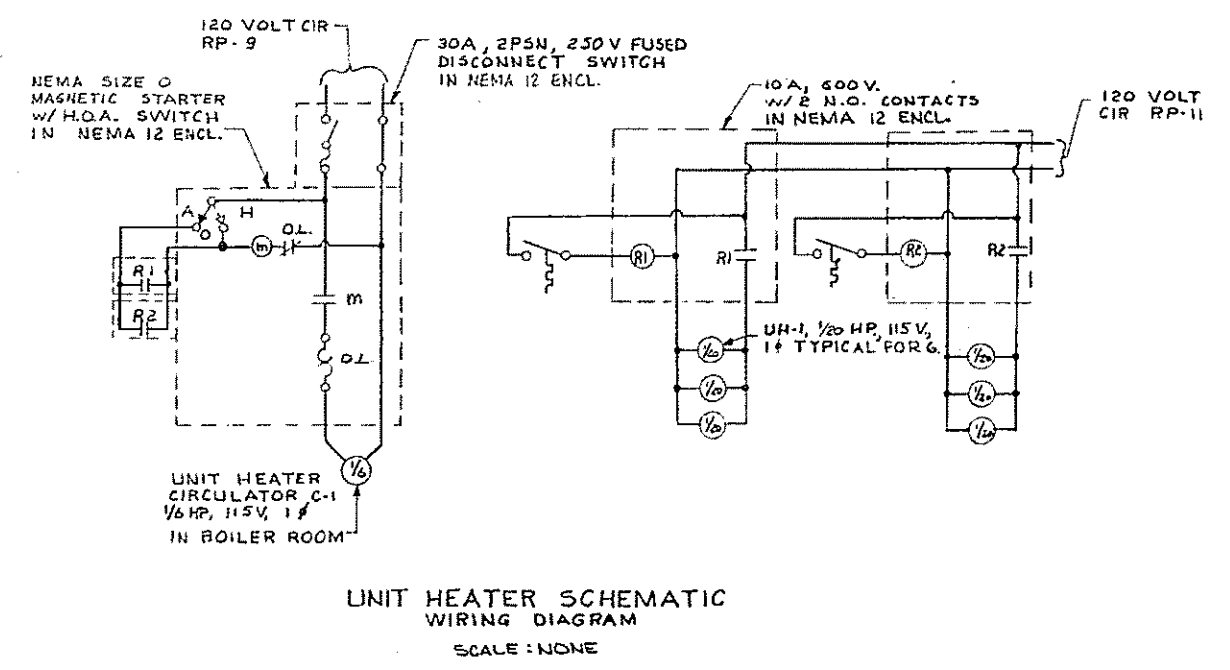
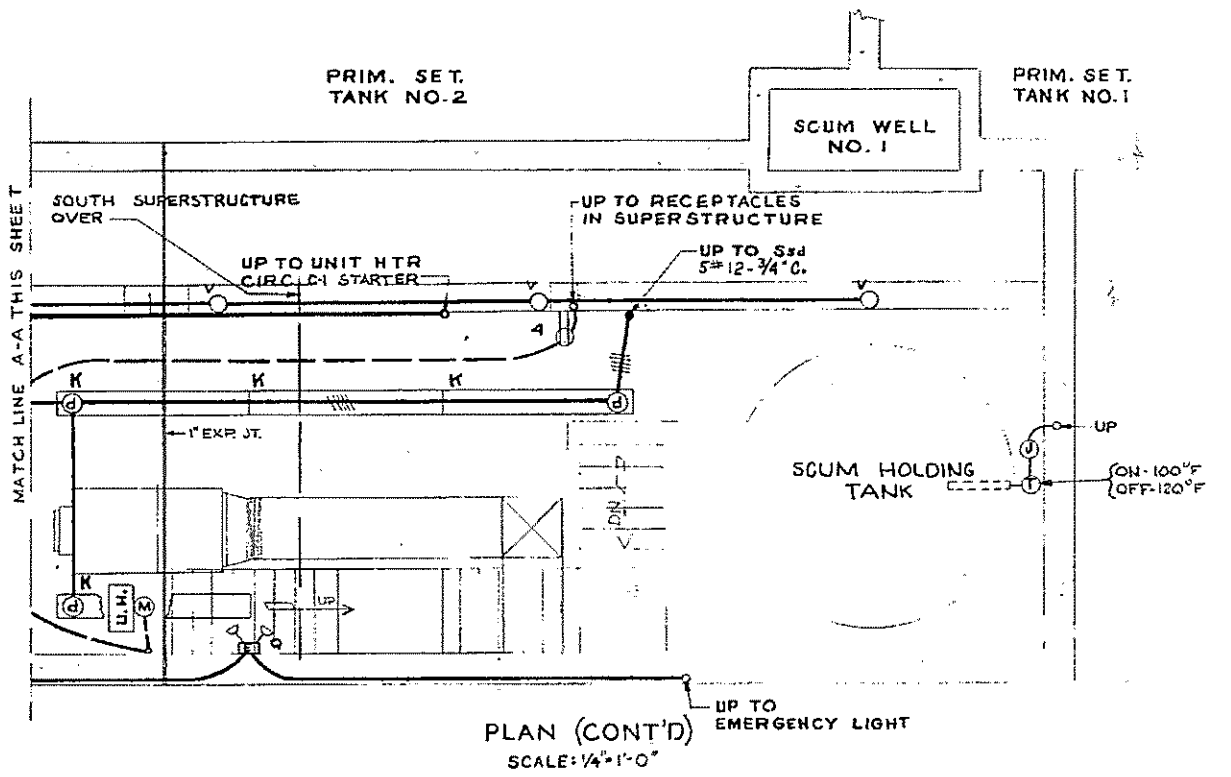
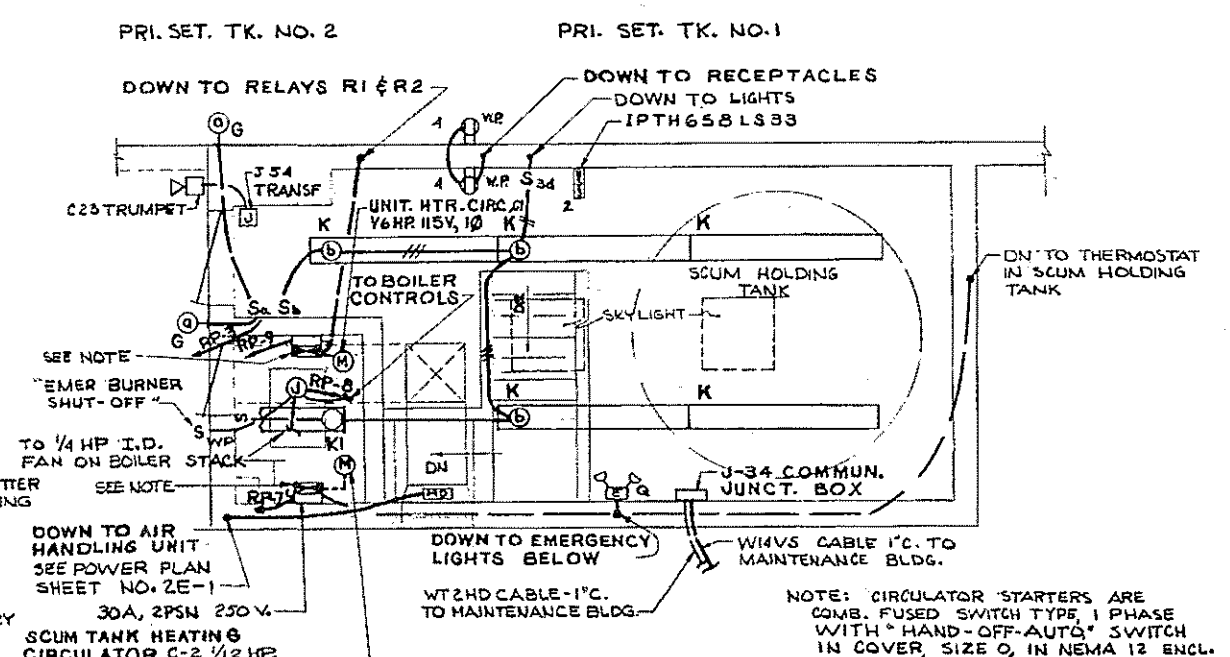
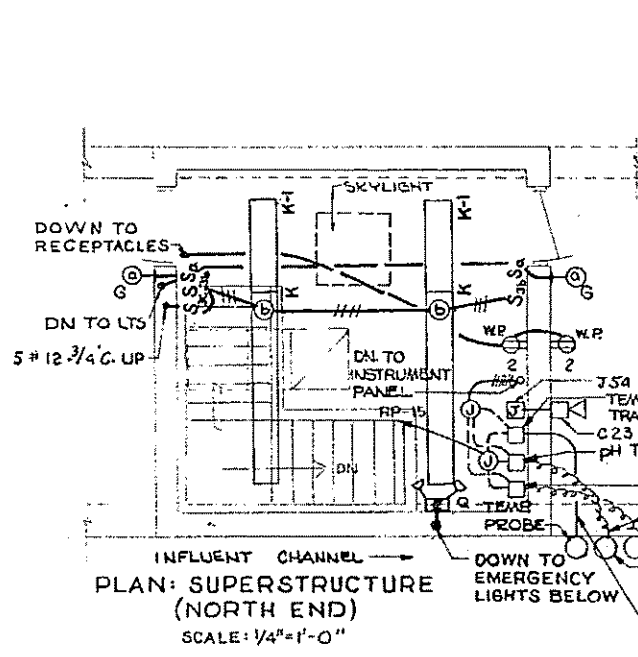
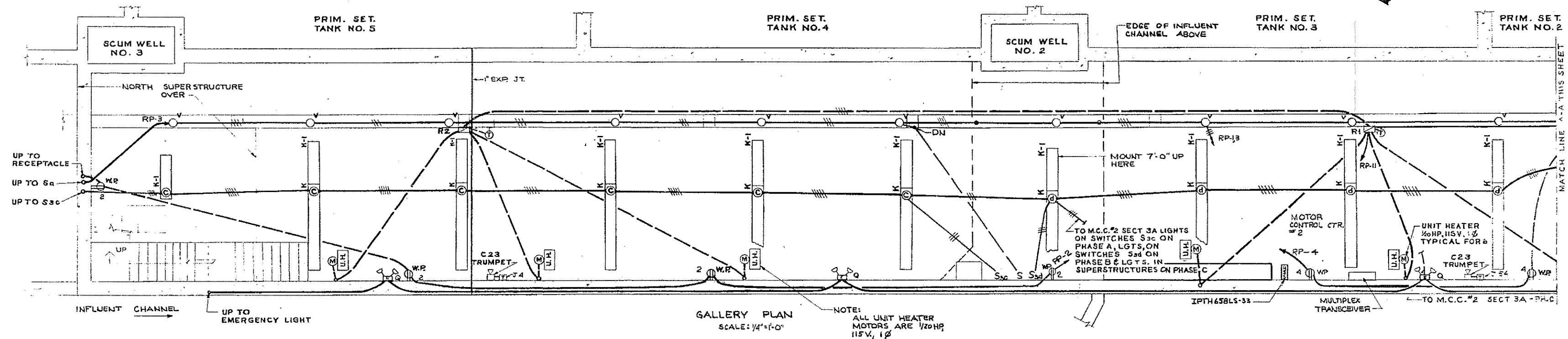
PRIMARY SETTLING TANKS, F.N.-2
ELECTRICAL
PIPE GALLERY
POWER PLAN AND DETAILS

SCALE: AS NOTED FEBRUARY 1973

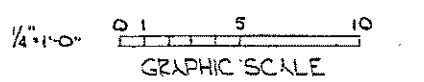
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DR. R. L. M. U. H. JR. CHK. T. J. B. FILE NO. JW-83
APPROVED *F. M. Cahaly* PLAN NO. 48

CONTRACT DRAWING SHEET NO. 2E-1



FIXTURE SCHEDULE				
TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA NO. TYPE WATTS	MTG. HGT.
G	MCPHILBEN	66-21V18	1 I 150	7'-0"
K	MILLER	KT-2110-CB	4 RS 80	12'-0" *
K-1	MILLER	KT-2110-CB	2 RS 80	12'-0" *
Q	DUAL-LITE	AS-15-2-V-CM-277	2 16V 25	9'-0"
V	MILLER	AC-2330	1 I 100	7'-0"



* MOUNT FIXTURES 9'-6" UP IN SUPERSTRUCTURES FOR ALTERNATE FIXTURE MANUFACTURERS. SEE SHEET NO. E-9.
NOTE: ALL FLUORESCENT FIXTURES HAVE 277 VOLT BALLASTS.

HALF-SIZE DRAWING

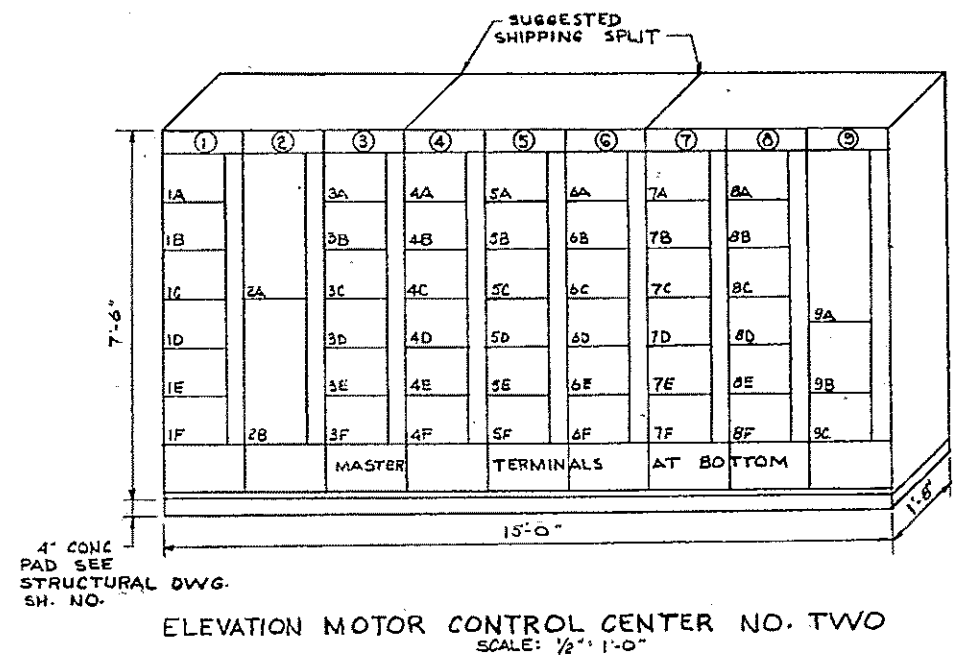
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PRIMARY SETTLING TANKS, F.N.-2
ELECTRICAL
PIPE GALLERY
LIGHTING PLAN AND DETAILS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.C.N., W.B.F.
CHK. T.J.S.
DATE 12-1973
JOB NO. JW-83
PLAN NO. 49

APPROVED: *F. M. Cahaly*

CONTRACT DRAWING SHEET NO. 2E-2

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

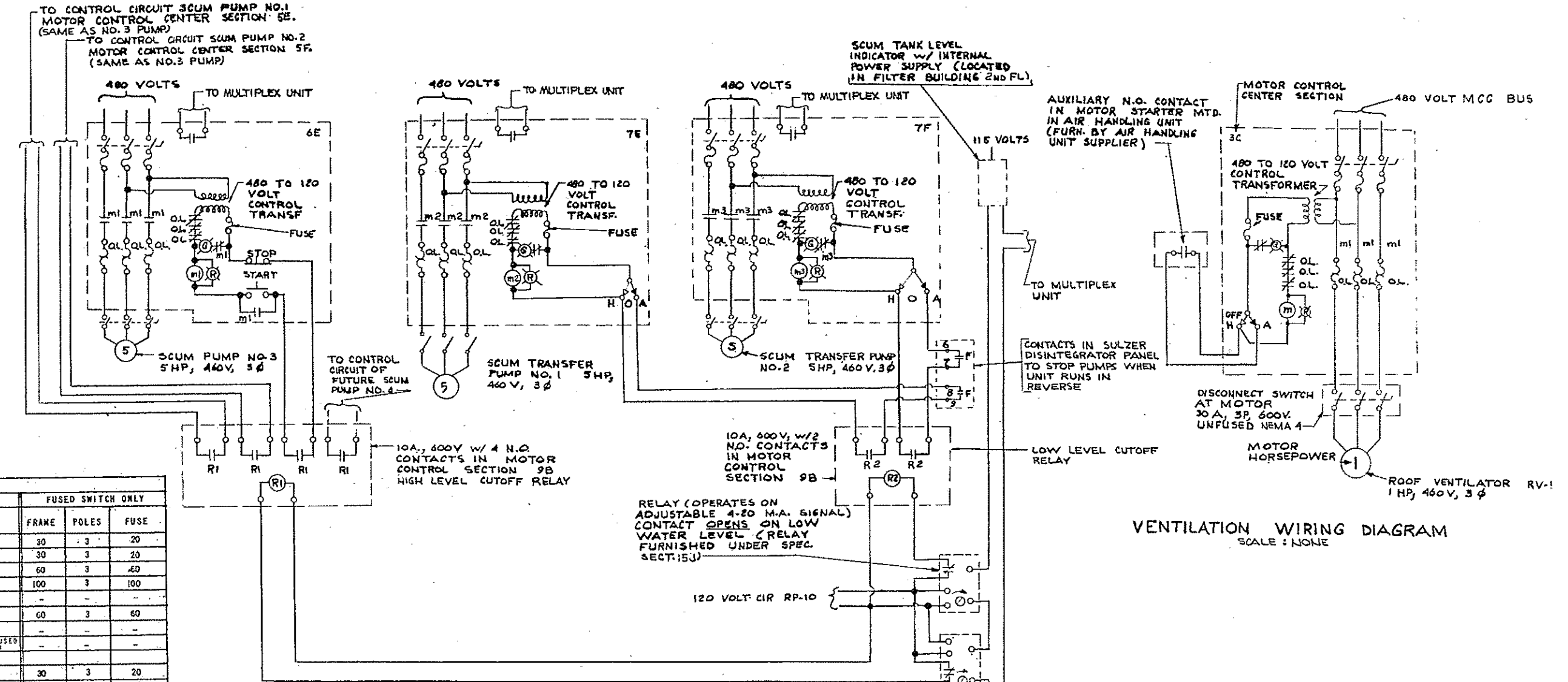


ELEVATION MOTOR CONTROL CENTER NO. TWO
SCALE: 1/2" = 1'-0"

HP= HOARSEPOWER
SF= STOP-START
HOAF= HAND-OFF-AUTOMATIC

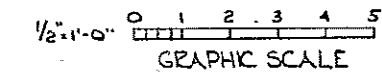
MOTOR CONTROL CENTER NO. 2 SCHEDULE (277/480V., 3Ø, 4W.)									
SECT. NO.	NAMEPLATE	COMB. FUSED SWITCH TYPE MAGNETIC STARTER N.R.			MODIFICATIONS	FUSED SWITCH ONLY			
		HP	NEMA SIZE	H.O.A.		S.S.	FRAME	POLES	FUSE
1A	FLOODLIGHTS				9.0 A.V.A.	30	3	20	
1B	POST TOP LIGHTS				1.0 A.V.A.	30	3	20	
1C	SULZER DISINTEGRATOR					60	3	40	
1D	SEWAGE EJECTOR STATION					100	3	100	
1E	SPACE								
1F	PANEL RP-MAIN				FED FROM 120/208V. TRANSF.	60	3	60	
2A	PANELBOARD RP 120/208V.				1Ø CIR. 120/208V., 3Ø, 4W SEE SCHEDULE				
2B	TRANSFORMER 480 TO 120/208V.				5Ø CIR., 480 TO 120/208V., V/FUSED V/METER SWITCH & TAPS 5Ø & 5Ø				
3A	BUILDING LIGHTING				9.2 A.V.A.	30	3	20	
3B	AIR HANDLING UNIT				REMOTE STARTER & CONTROLS SEE WIRING DIAGRAM	30	3	15	
3C	ROOF VENTILATOR RV-1				INTERLOCKED WITH AIR HANDLING UNIT-SEE WIRING DIAG.				
3D	SUMP PUMP				REMOTE FLOAT SWITCH-SEE NOTE G.				
3E	SPACE								
3F	SPACE								
4A	SPACE								
4B	BLOWER NO. 1	20	2		SEE NOTE "I" & "J"				
4C	BLOWER NO. 2	20	2		SEE NOTE "I" & "J"				
4D	SPACE								
4E	SPACE								
4F	SPACE								
5A	PRIMARY SETTLING TANK DRIVE NO. 1	3			REMOTE STARTER & CONTROLS SEE NOTE I	30	3	5	
5B	PRIMARY SETTLING TANK DRIVE NO. 2	3			REMOTE STARTER & CONTROLS SEE NOTE I	30	3	5	
5C	PRIMARY SETTLING TANK DRIVE NO. 3	3			REMOTE STARTER & CONTROLS SEE NOTE I	30	3	5	
5D	PRIMARY SETTLING TANK DRIVE NO. 4	3			REMOTE STARTER & CONTROLS SEE NOTE I	30	3	5	
5E	SCUM PUMP NO. 1	5	1		SEE WIRING DIAG. THIS SHEET NOTE I				
5F	SCUM PUMP NO. 2	5	1		SEE WIRING DIAG. THIS SHEET NOTE I				
6A	PRIMARY SETTLING TANK DRIVE NO. 5	3			REMOTE STARTER & CONTROLS NOTE I	30	3	5	
6B	PRIMARY SETTLING TANK DRIVE NO. 6	3			REMOTE STARTER & CONTROLS NOTE I	30	3	5	
6C	PRIMARY SETTLING TANK DRIVE NO. 7				FUTURE	30	3		
6D	PRIMARY SETTLING TANK DRIVE NO. 8				FUTURE	30	3		
6E	SCUM PUMP NO. 3	5	1		SEE WIRING DIAG. THIS SHEET NOTE I				
6F	SCUM PUMP NO. 4				FUTURE STARTER SECTION				
7A	PRIMARY SLUDGE PUMP NO. 1	7 1/2	1		SEE NOTE "F" & "I"				
7B	PRIMARY SLUDGE PUMP NO. 2	7 1/2	1		SEE NOTE "F" & "I"				
7C	PRIMARY SLUDGE PUMP NO. 3	7 1/2	1		SEE NOTE "F" & "I"				
7D	PRIMARY SLUDGE PUMP NO. 4	7 1/2	1		SEE NOTE "F" & "I"				
7E	SCUM TRANSFER PUMP NO. 1	5	1		SEE WIRING DIAG. THIS SHEET NOTE I				
7F	SCUM TRANSFER PUMP NO. 2	5	1		SEE WIRING DIAG. THIS SHEET NOTE I				
8A	PRIMARY SLUDGE PUMP NO. 5	7 1/2	1		SEE NOTE "F" & "I"				
8B	PRIMARY SLUDGE PUMP NO. 6	7 1/2	1		SEE NOTE "F" & "I"				
8C	PRIMARY SLUDGE PUMP NO. 7				FUTURE STARTER SECTION				
8D	PRIMARY SLUDGE PUMP NO. 8				FUTURE STARTER SECTION				
8E	DRAIN PUMP	10	1		SEE NOTE "G"				
8F	SPACE								
9A	MAIN INCOMING SERVICE					400	3	300	
9B	SLUDGE & SCUM PUMPS EMER. CUTOFF RELAYS				SEE NOTE "H"				
9C	SPACE								

- MOTOR CONTROL CENTER NOTES:
- FURNISH ALL STARTERS WITH FUSED 480 TO 120 VOLT CONTROL TRANSFORMERS.
 - FURNISH 8 EXTRA TERMINAL BLOCKS IN MASTER TERMINAL SPACE IN EACH MOTOR CONTROL CENTER CUBICLES 5 AND 6 FOR CONNECTION OF AUX. N.O. CONTACTS IN SETTLING TANK CONTROL PANELS TO CONNECTIONS TO MULTIPLEX INSTRUMENTATION CABINET.
 - M.C.C. BUS WORK SHALL BE RATED 600A., 4 POLE NEUTRAL AND ALL BUS WORK SHALL BE BRACED FOR 50,000 A.I.C.
 - SEE ONE LINE DIAGRAM ON SHEET NO. E-4.
 - ALL FUSES SHALL BE CLASS "J" OR "L" AS REQUIRED.
 - SLUDGE PUMP STARTERS ARE TO BE WIRED TO AUX. CONTACTS IN PRIMARY SETTLING TANK CONTROL PANELS HTO. REMOTE AT TANKS, AND TO HIGH LEVEL CUT OFF RELAY IN SECT. 9B, WHICH OPENS ON HIGH LEVEL AT SLUDGE HOLDING TANKS. SEE SHEET NOS E-2&3 FOR WIRING.
 - PROVIDE AUX. N.O. CONTACT FOR WATER SEAL SOLENOID VALVES & FEED FROM CIR. RP-13.
 - FURNISH 1-Ø POLE RELAY W/120V. COIL FOR SLUDGE PUMPS - SEE WIRING DIAGRAM ON SHEET #9E-2 FURNISH 1-4 POLE RELAY W/120V. COIL FOR SCUM PP. HIGH LEVEL & 1-2 POLE RELAY FOR SCUM TRANSFER PUMP LOW LEVEL SEE WIRING DIAGRAM THIS SHEET.
 - PROVIDE AUX. N.O. CONTACT FOR MULTIPLEX UNIT.
 - PROVIDE FOR REMOTE HIGH TEMPERATURE CUTOFF.



SCUM & SCUM TRANSFER PUMPS CONTROL WIRING DIAGRAM
SCALE: NONE

VENTILATION WIRING DIAGRAM
SCALE: NONE



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPR. BY



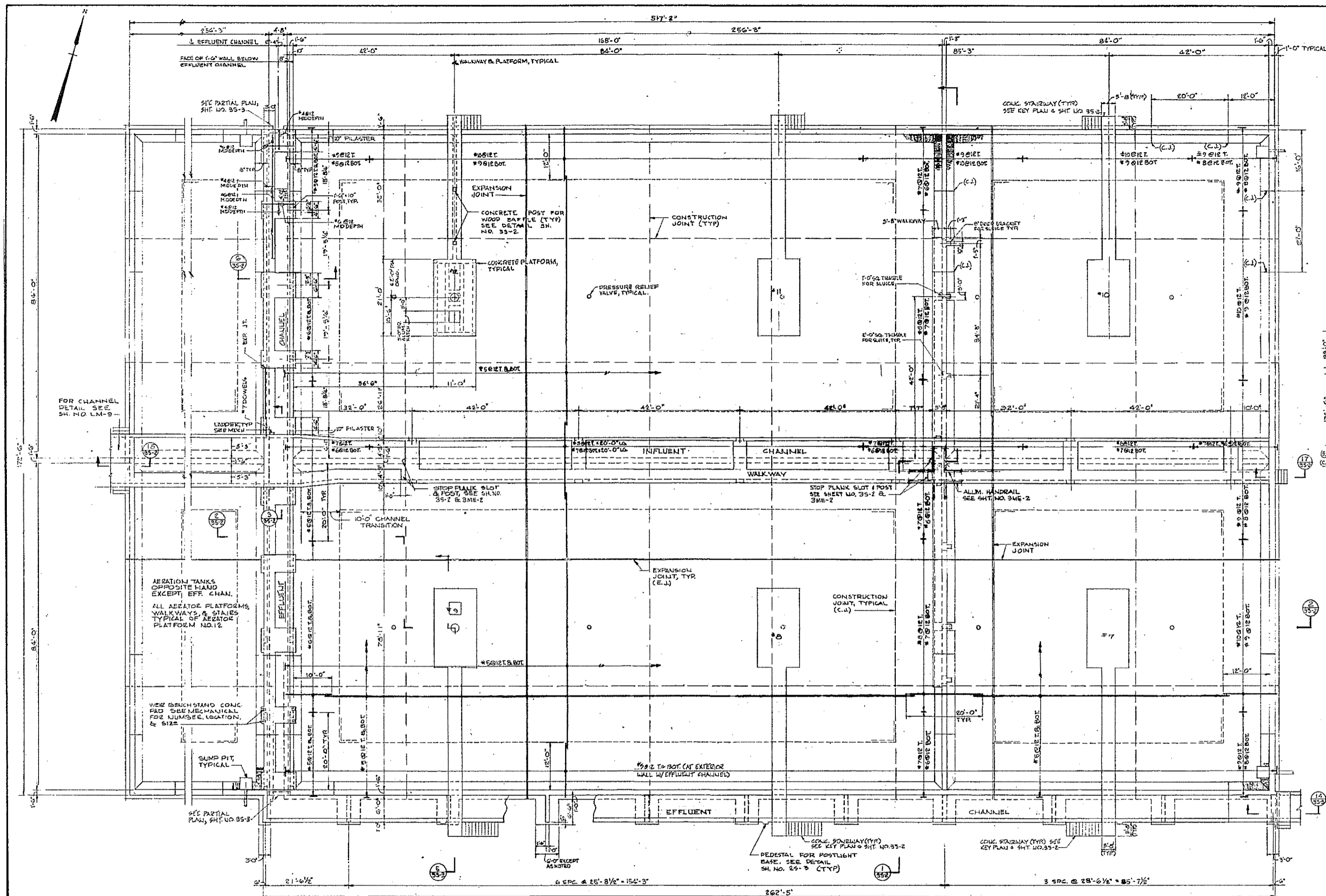
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PRIMARY SETTLING TANKS, F.N.-2
ELECTRICAL
PIPE GALLERY
MOTOR CONTROL CENTER DETAILS
AND WIRING DIAGRAMS

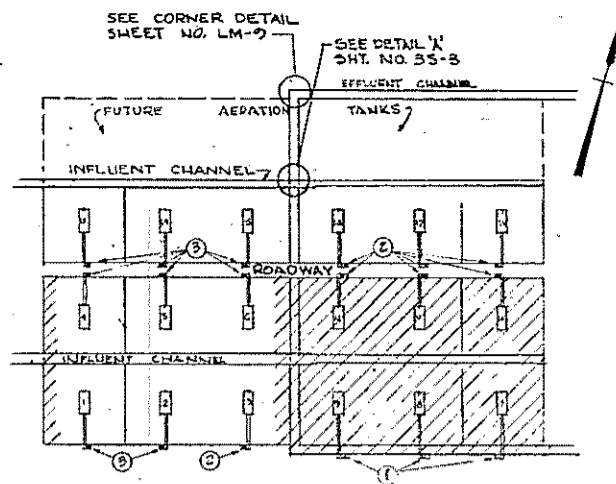
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
PREPARED BY: F.M. Cahaly
DATE: JAN 1972
DRAWING NO.: JW-83
SHEET NO.: 50

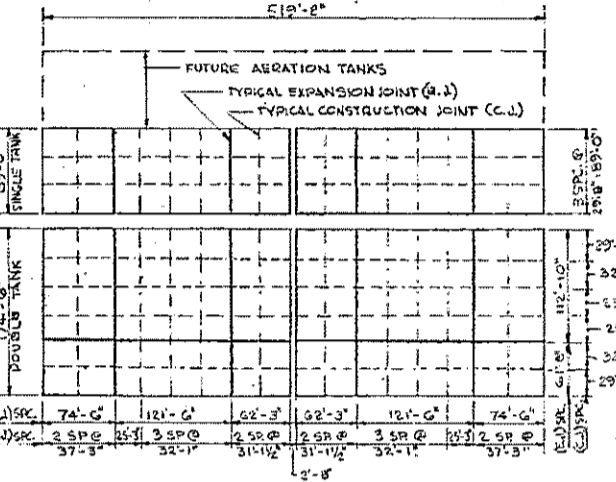
CONTRACT DRAWING SHEET NO. 2 E-3



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



KEY PLAN
SCALE: 1" = 100'



BASE SLAB JOINT LAYOUT PLAN
SCALE: 1" = 100'

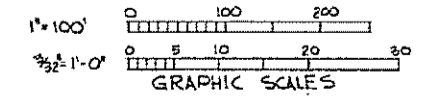
NOTES: WALL JOINTS IN LINE WITH SLAB JOINTS EXCEPT AS SHOWN ON PLAN.
BASE SLAB REINFORCING FOR SINGLE TANK SIMILAR TO DOUBLE TANK.

NOTES

1. FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 105-1.
2. FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2.
3. DESIGN GROUND WATER AT ELEVATION 410.0.
4. STRUCTURE DESIGNED AND CHECKED AGAINST FLOTATION AT GROUND WATER ELEVATION 405.0 WITH TANKS EMPTY.
5. WHEN THE GROUND WATER EXCEEDS 405.0, THE TANKS WILL BE FLOODED BY THE PRESSURE RELIEF VALVES.
6. WHEN EMPTYING THE TANKS, THE INSIDE WATER LEVEL SHALL NOT BE LOWERED MORE THAN 1'-6" BELOW THE GROUND WATER LEVEL OUTSIDE THE TANKS.
7. LIVE LOADS:
AERATOR PLATFORM - 50 PSF
CRANK OPERATOR FLOOR STAND AND BENCH STAND - 15,000 LBS.
AERATOR DRIVE UNIT - 10,000 LBS.

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
AERATION TANKS, F.N.-3
STRUCTURAL
PLAN
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
G.S.P. J.S.P. C.H.K. S.P.D. 1/6
FILE NO. JW-83
APPROVED: J.M. Cahaly
DATE: 1/6
SHEET NO. 51



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



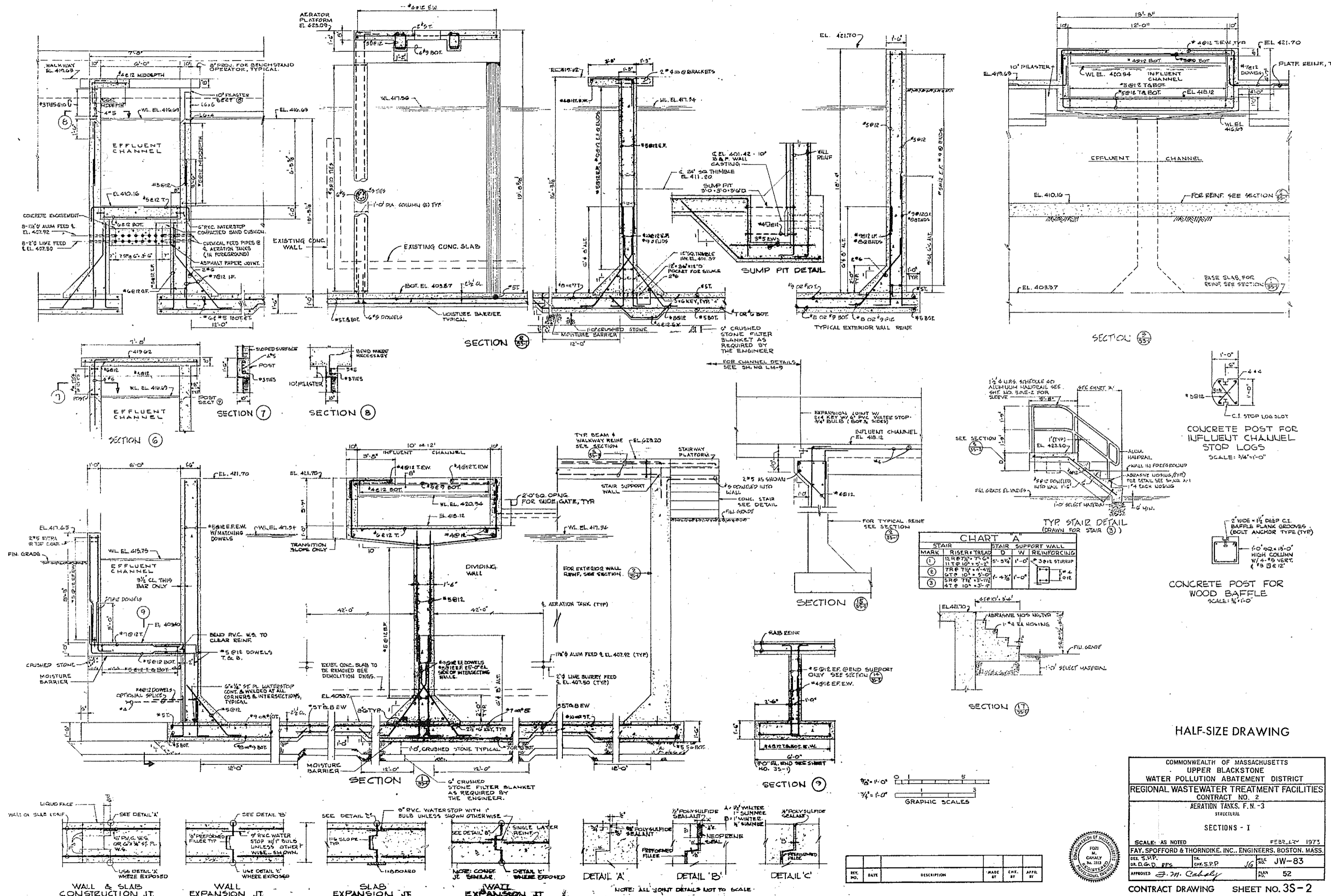


CHART A

MARK	RISE	TREAD	D	W	REINFORCING
(1)	12"	18"	5'-5 1/2"	1'-0"	3#12 STURRP
(2)	TR	TR	4'-4 1/2"	1'-0"	4#10
(3)	5R	TR	3'-3 1/2"	1'-0"	4#10

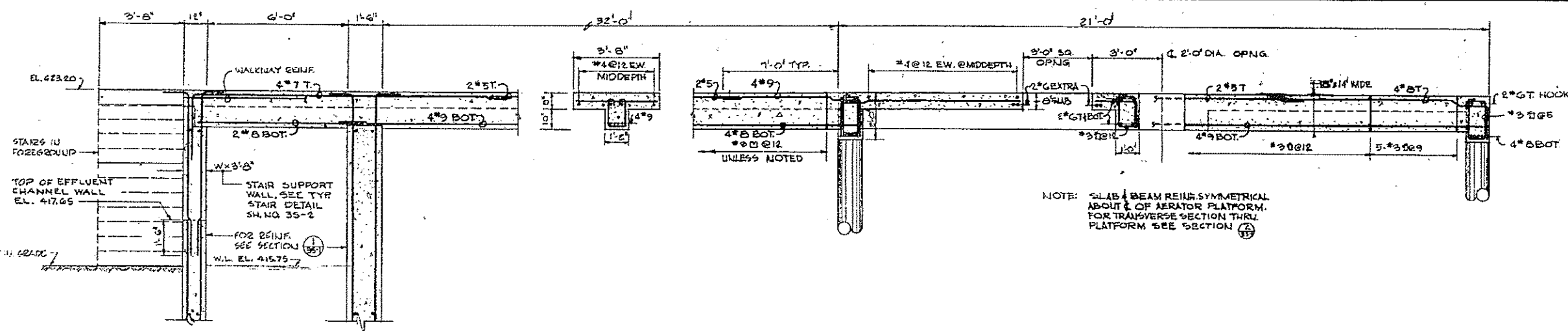
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 AERATION TANKS, F.H.-3
 STRUCTURAL

SCALE: AS NOTED FEBR. 12, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. S.P.P. TR. CHM.S.P.P. 16
 DR. D.G.D. R.P.S. 16
 APPROVED *E.M. Cahaly* JAN 52

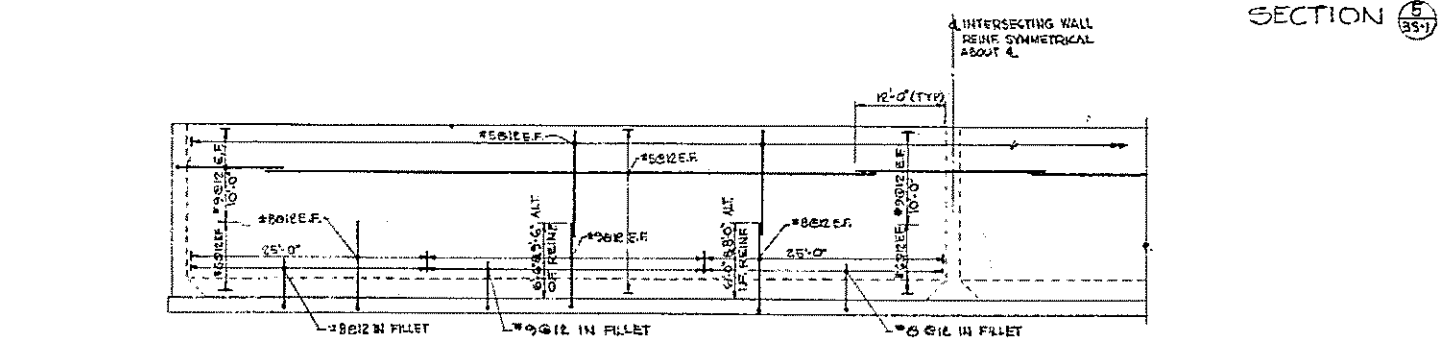
CONTRACT DRAWING SHEET NO. 35-2

REV.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

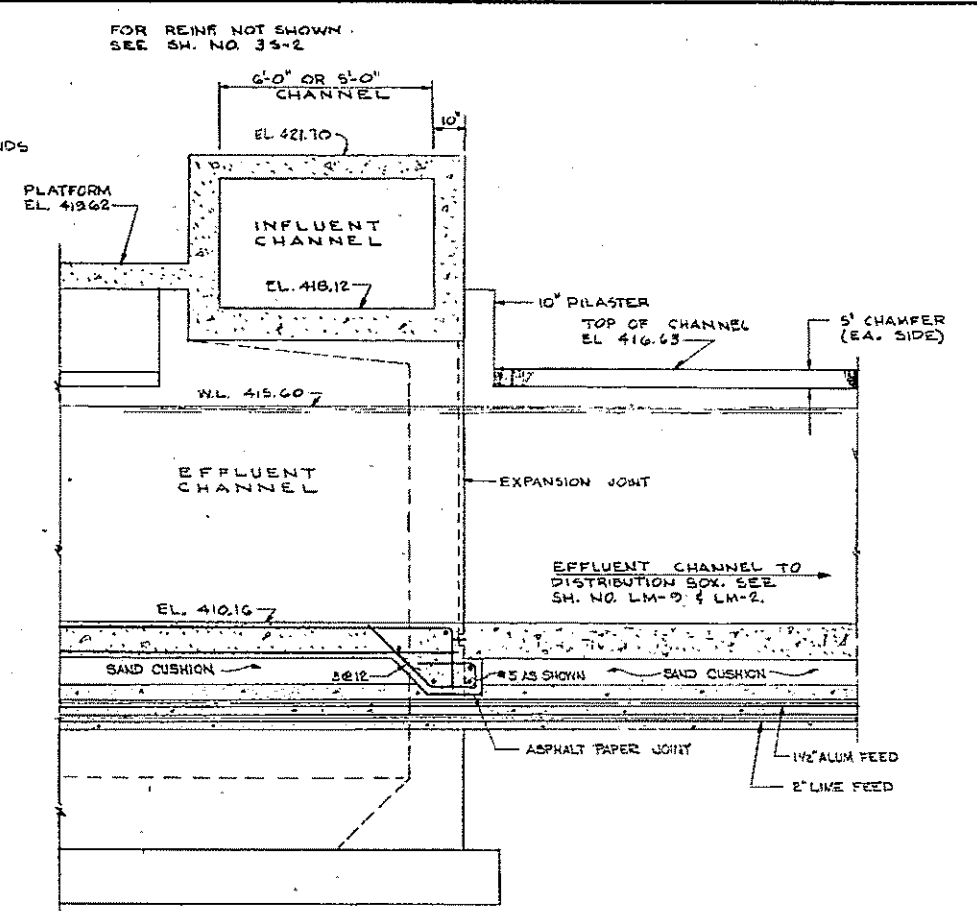
10-28-72 10-28-72



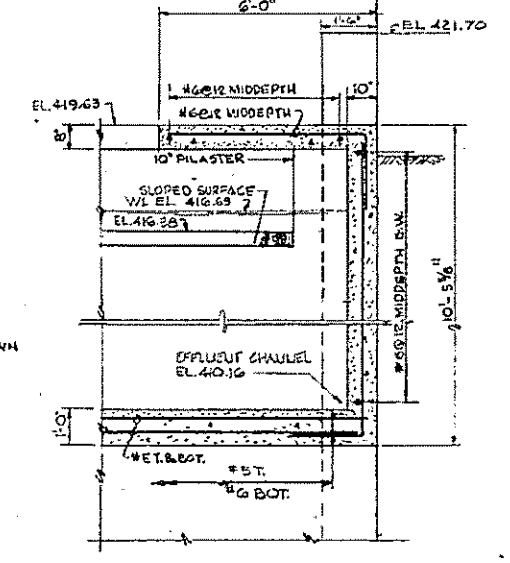
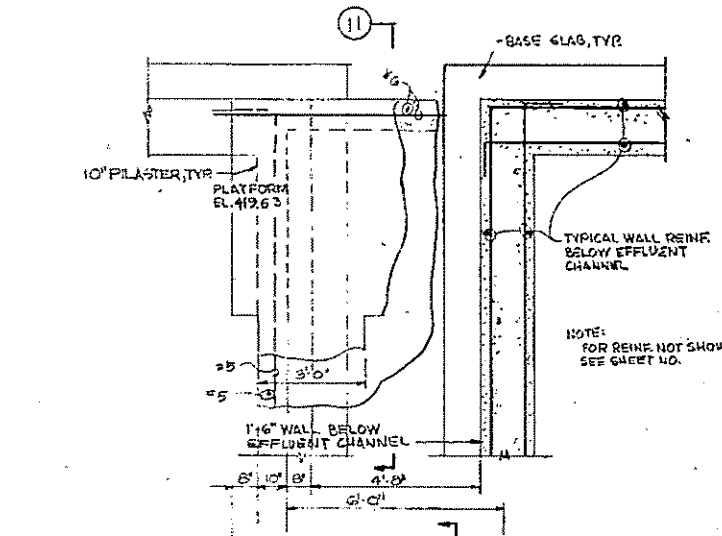
NOTE: SLAB & BEAM REINFORCEMENT SYMMETRICAL ABOUT CENTER OF AERATOR PLATFORM. FOR TRANSVERSE SECTION THROUGH PLATFORM SEE SECTION 10.



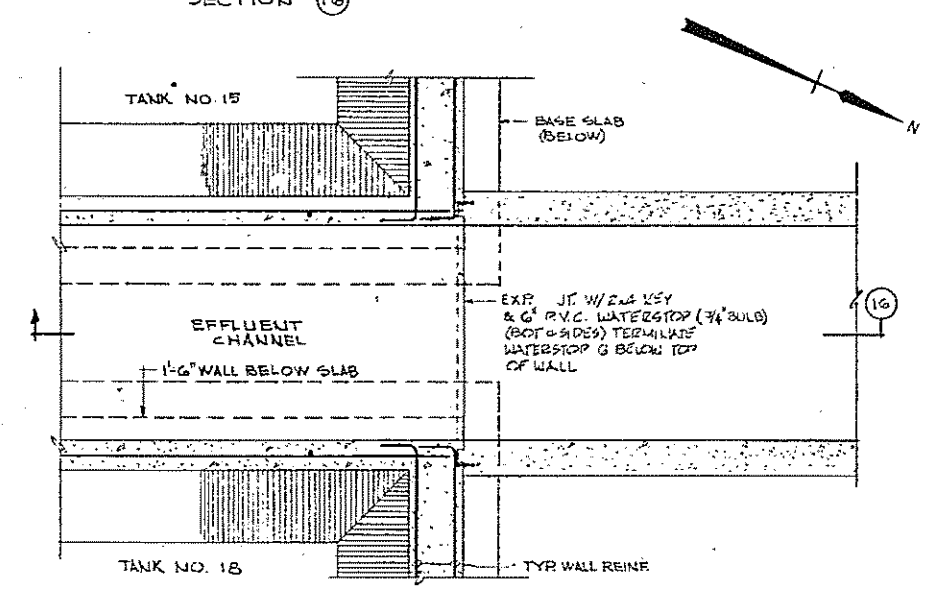
TYPICAL EXTERIOR WALL ELEVATION (EXCEPT AT EFFLUENT CHANNEL) NOT TO SCALE



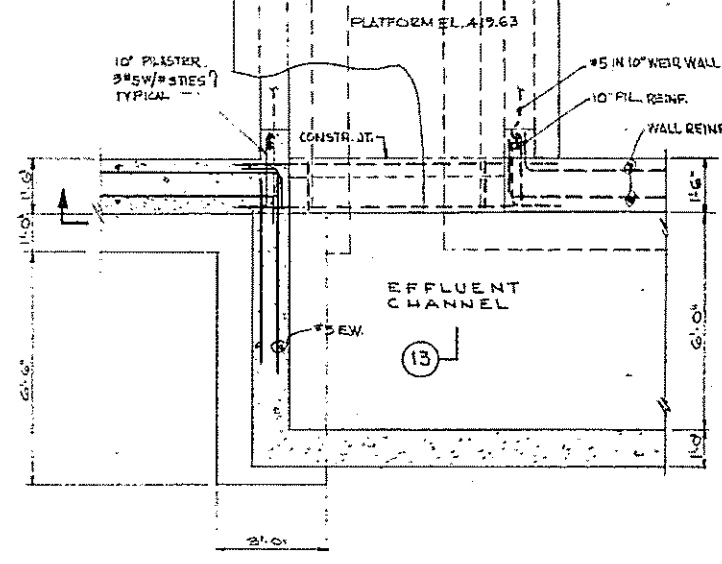
SECTION 16



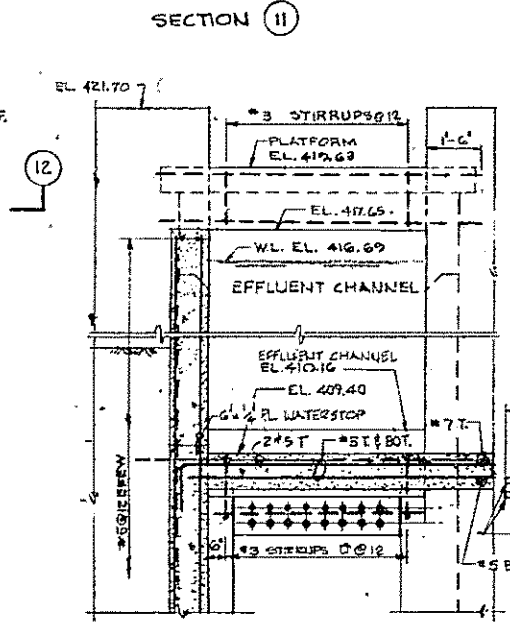
TYPICAL CORNER & INTERSECTION REINFORCING NOT TO SCALE



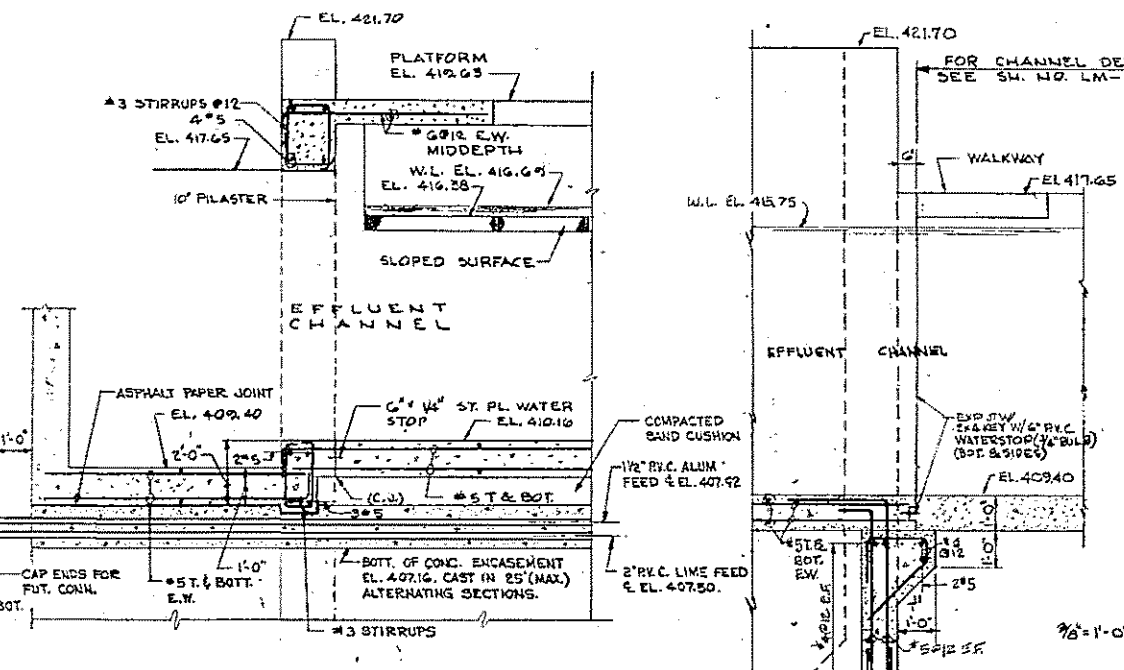
SECTIONAL PLAN @ EFFLUENT CHANNEL DETAIL K



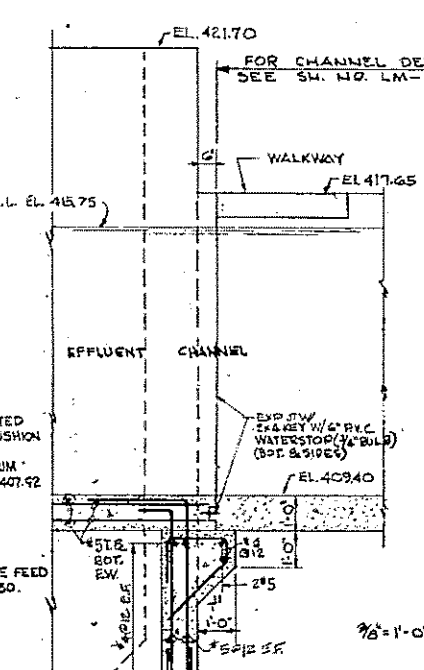
PARTIAL PLAN



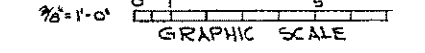
SECTION 12



SECTION 13



SECTION 14



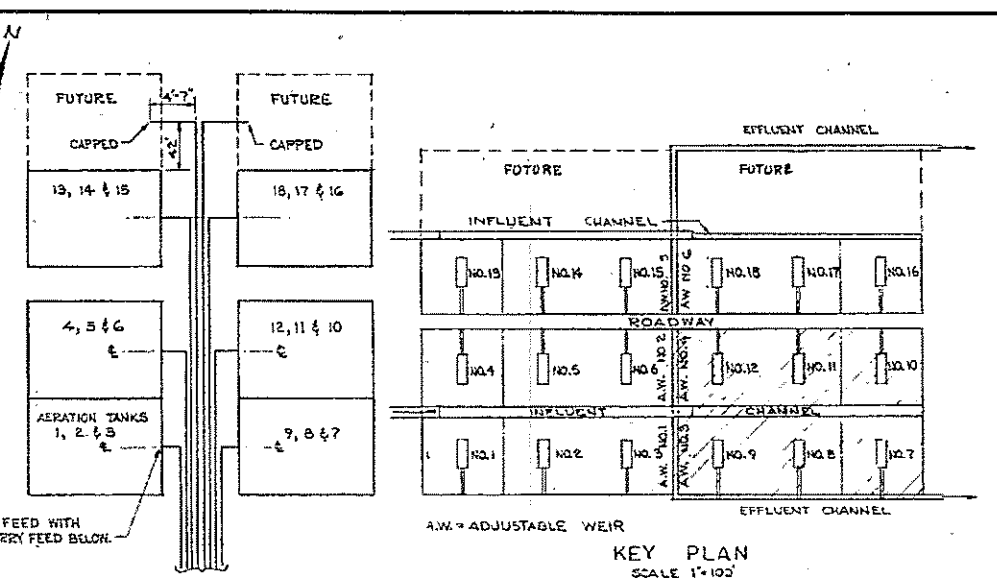
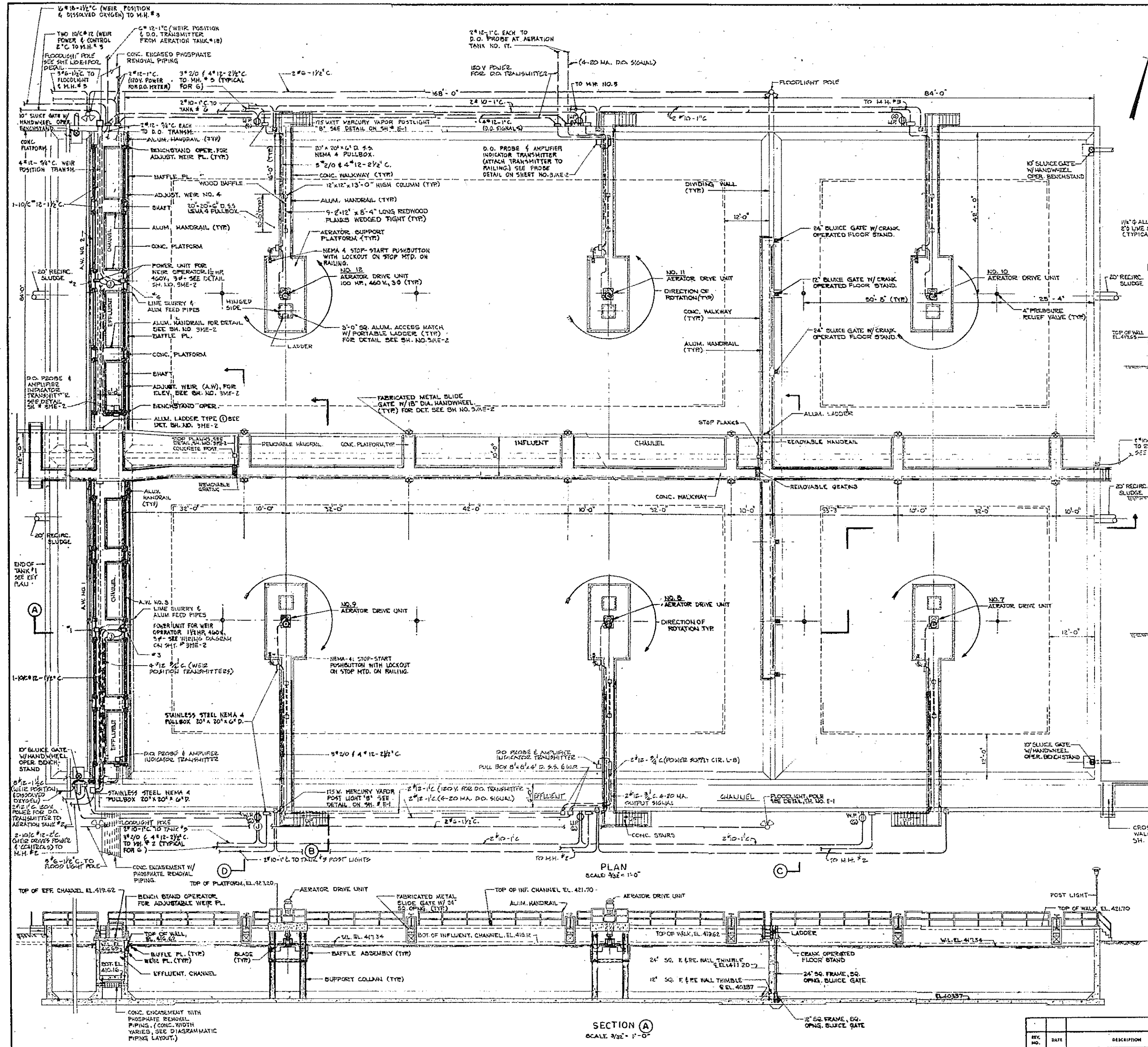
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 AERATION TANKS, F.N.-3
 STRUCTURAL
 SECTIONS - II

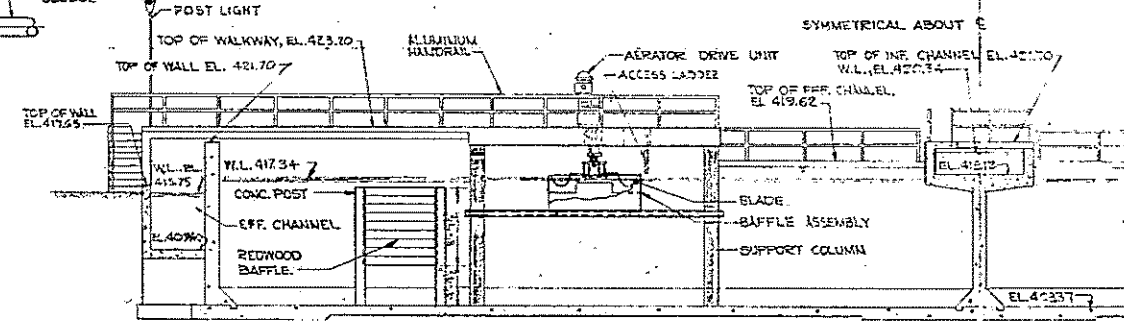
SCALE: 3/8" = 1'-0" FEBRUARY 1972
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. S.P.P. DR. R.P.S. IN. C.H.S.P.P. 1/6 FILE NO. JW-83
 APPROVED: J.M. Cahaly 53

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD BY

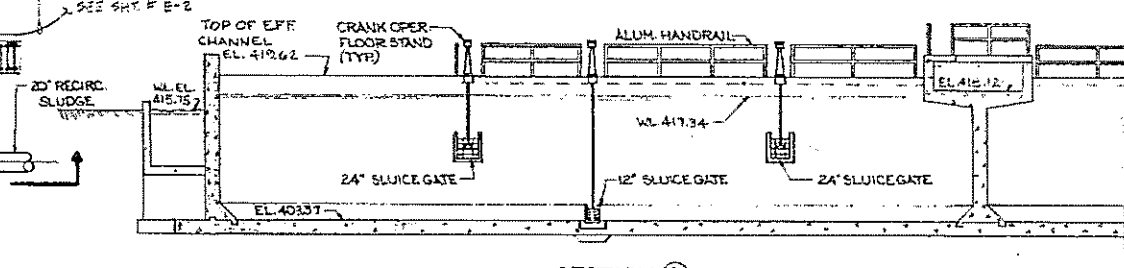




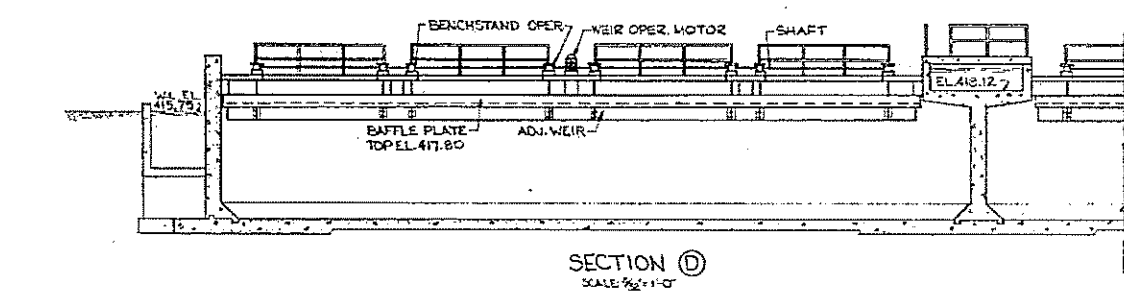
PHOSPHATE REMOVAL DIAGRAMMATIC PING LAYOUT (FOR FUTURE USE)



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

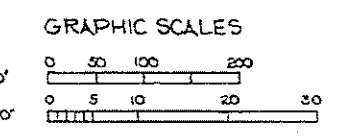


SECTION C SCALE 3/8" = 1'-0"



SECTION D SCALE 3/8" = 1'-0"

NOTE: 1. FOR ELECTRICAL CONSTRUCTION NOTES SEE SH. # 2-1.
2. FOR SITE PLAN & CONTINUATION OF CONDUIT RUNS SEE SH. # 2-E-C

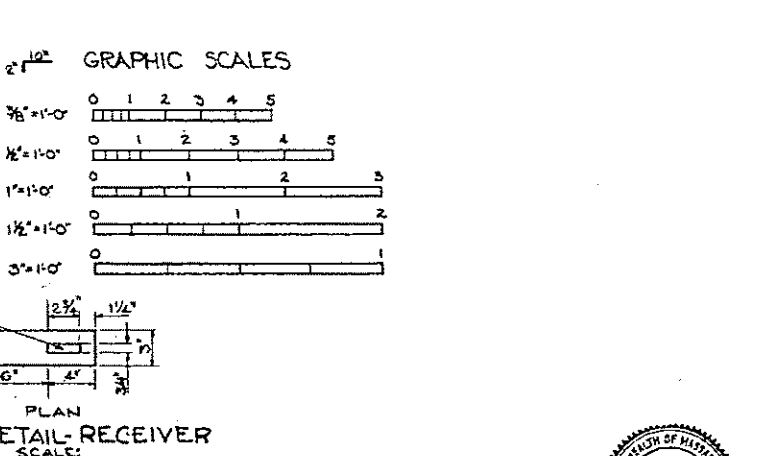
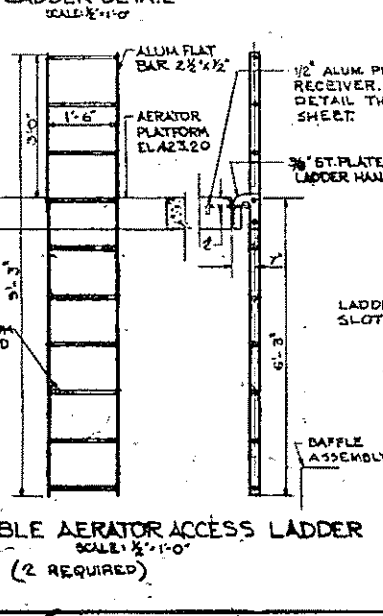
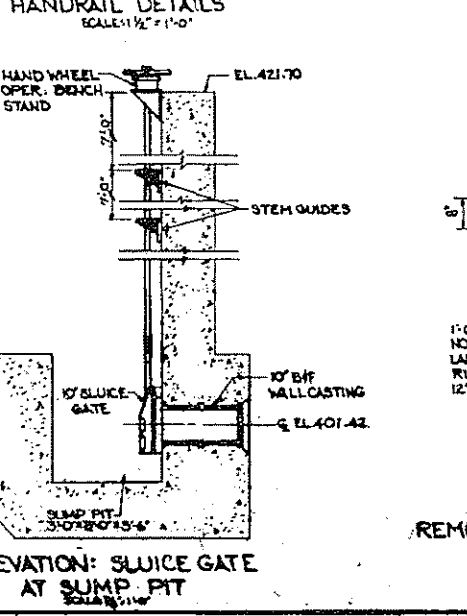
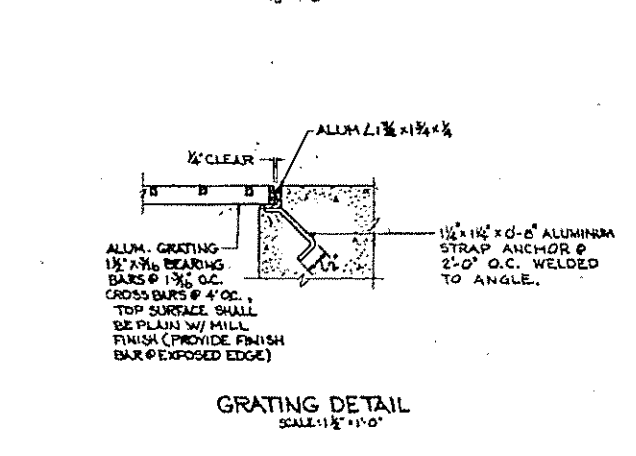
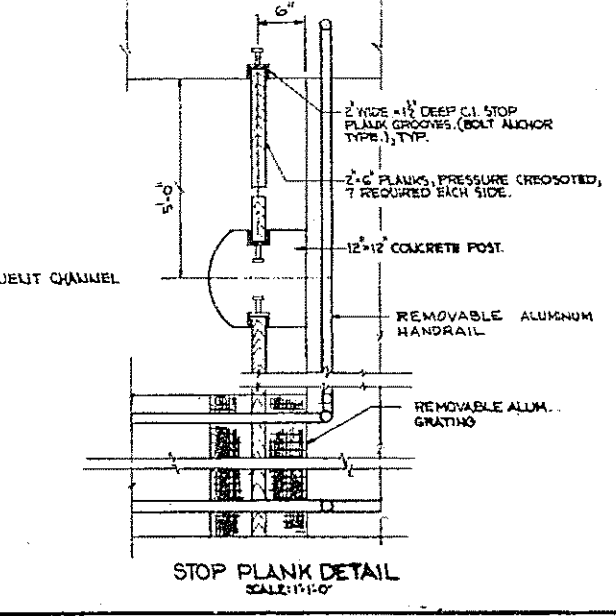
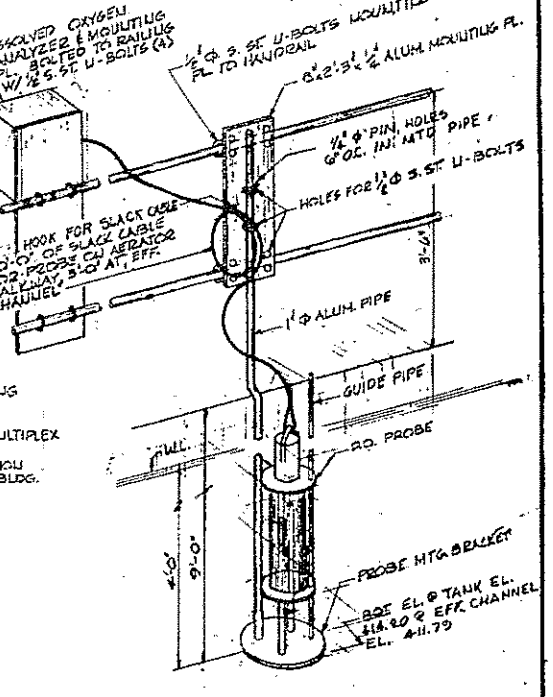
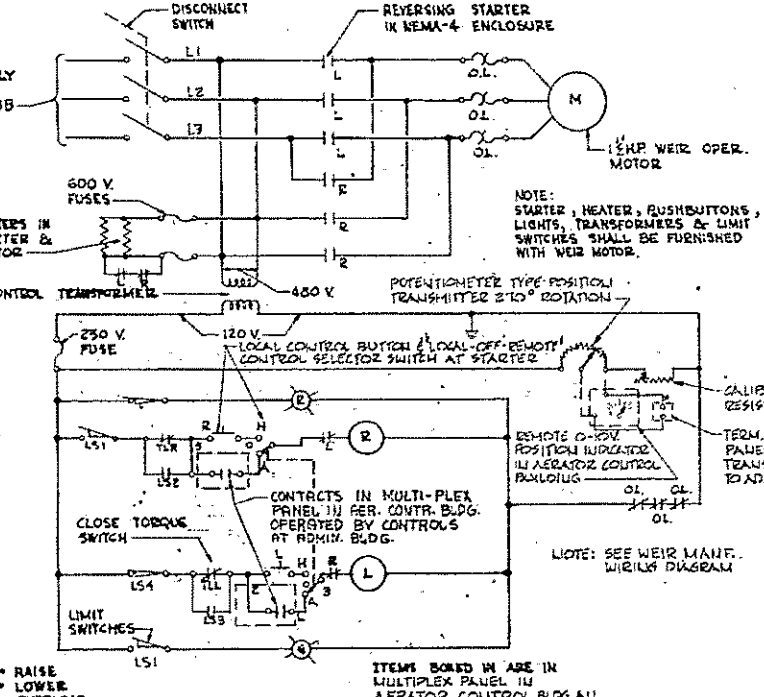
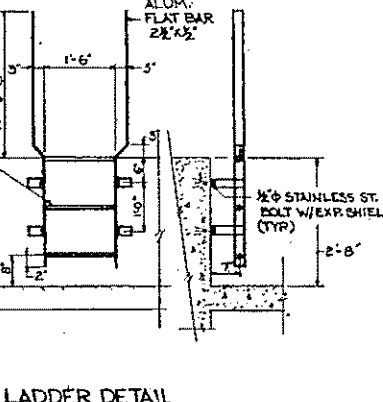
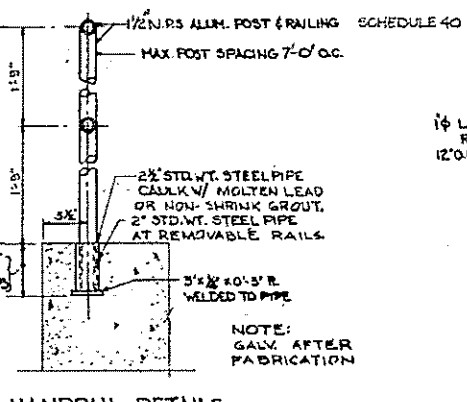
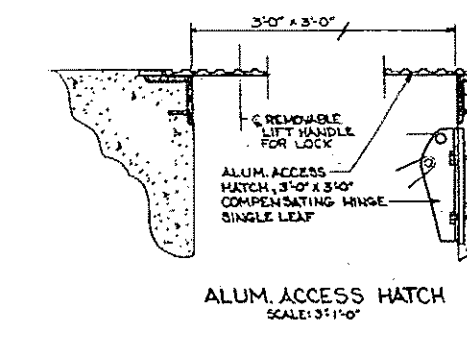
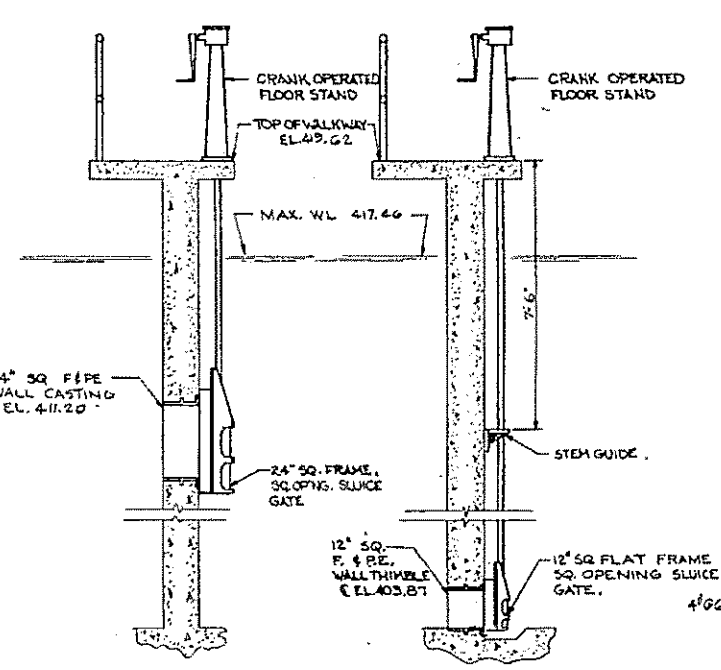
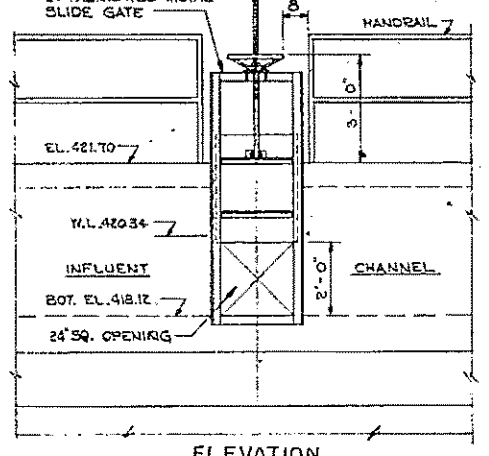
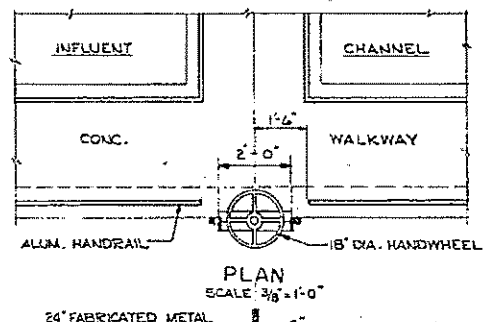
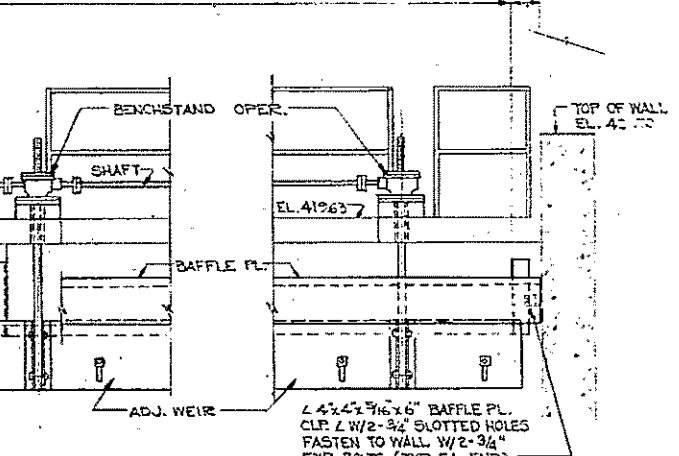
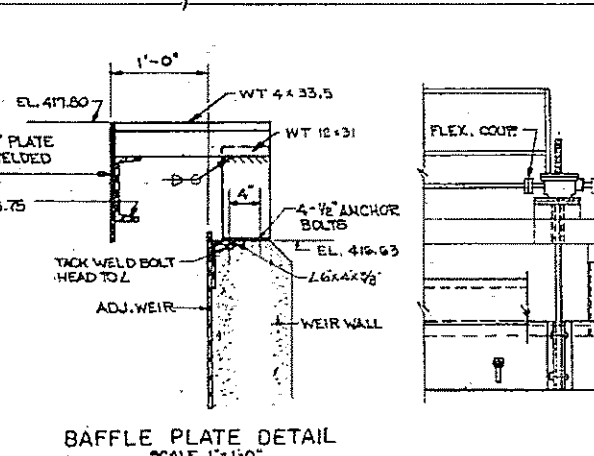
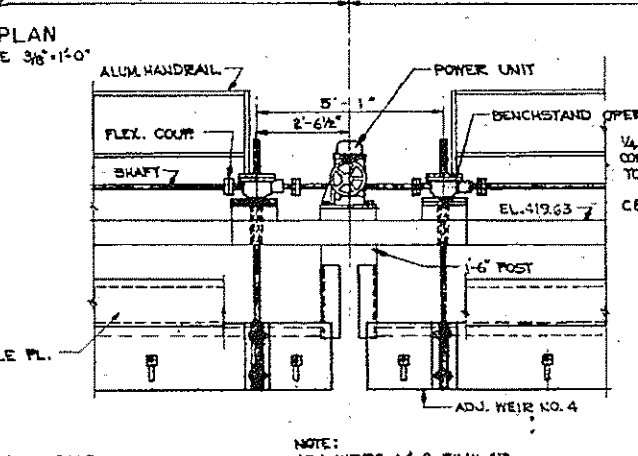
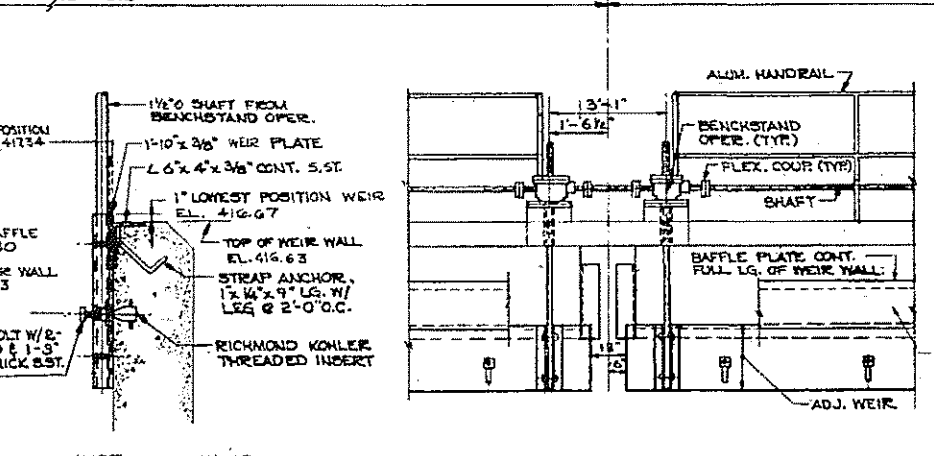
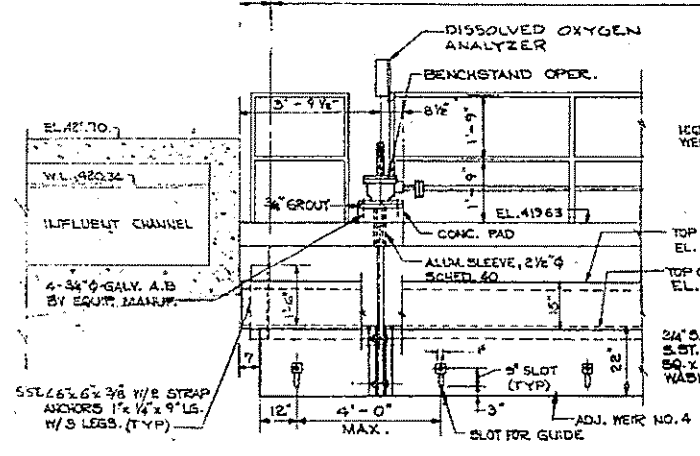
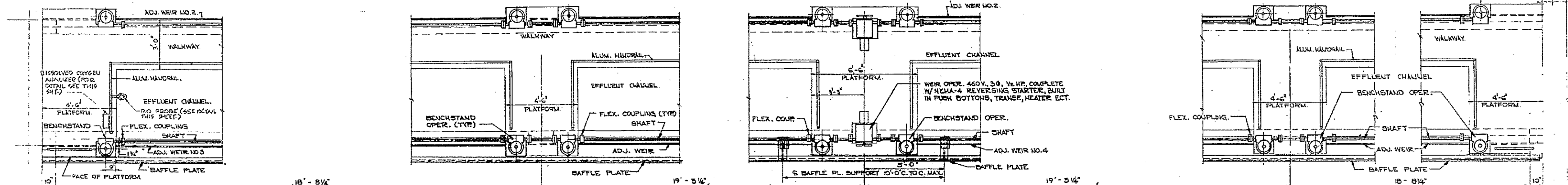


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 AERATION TANKS, F.N.-3
 MECHANICAL PROCESS AND ELECTRICAL
 PLAN
 SCALE: AS NOTED
 FEBRUARY, 1975
 FOR M. CAVALLI
 DESIGNED BY: J.C. ASK
 DRAWN BY: J.C. ASK
 CHECKED BY: J.C. ASK
 APPROVED BY: J.M. Cabaly
 FILE NO. JW-83
 SHEET NO. 54

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

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



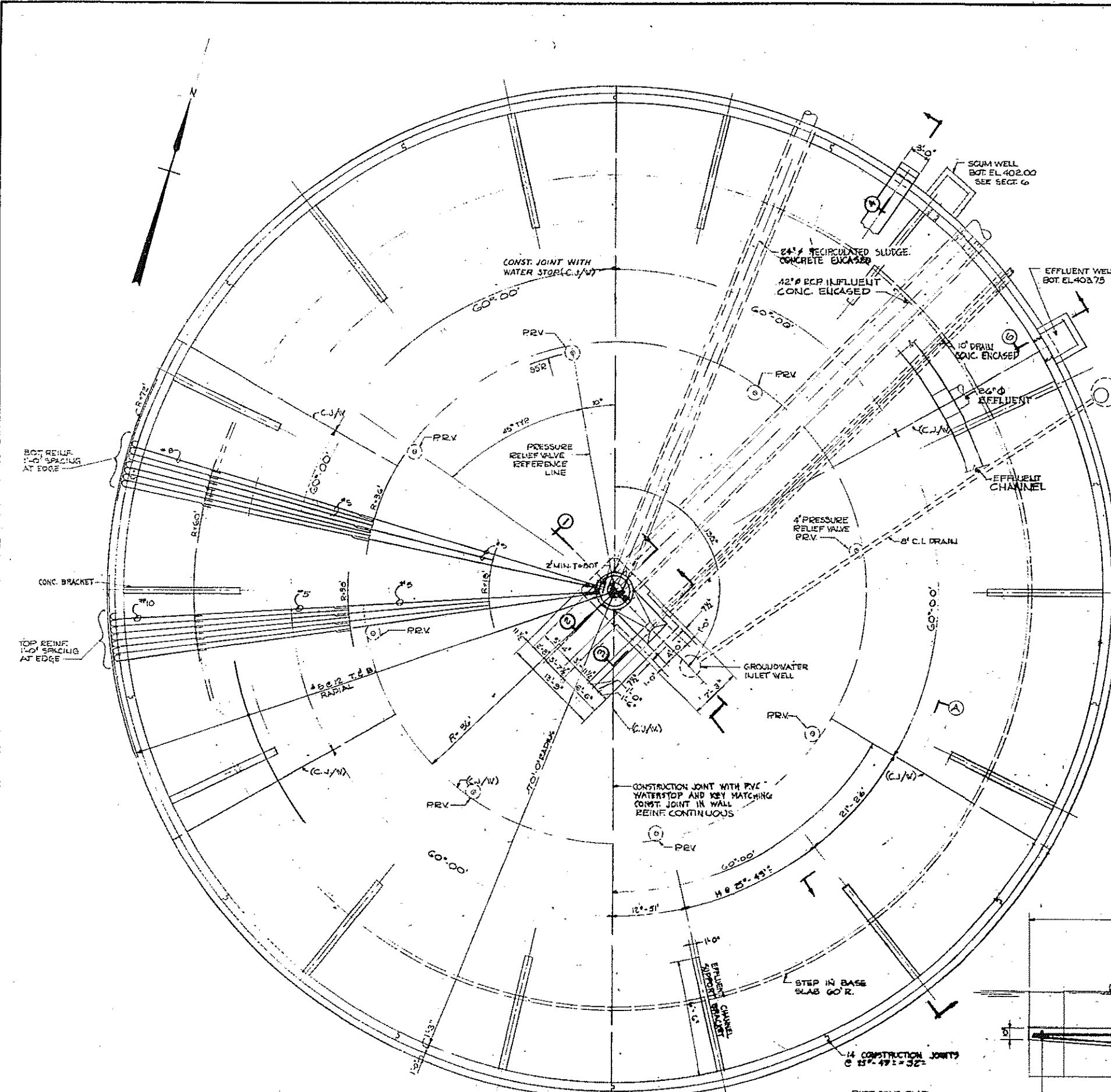
REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

- ELECTRICAL NOTES**
- ALL MOUNTING BOXES ARE UEM-A STAINLESS STEEL AS SHOWN WITH METERS TYPE THUR.
 - ALL SAFETY SWITCHES ARE 90 AMP 600 V LIFUSED UEM-A STAINLESS STEEL MTD. 0L O.C. 3/4\"
 - ALL CONDUITS SHALL BE PVC COATED GALV STEEL PER CONTRACT SPEC.
 - MINIMUM CONDUIT SIZE SHALL BE 1\"

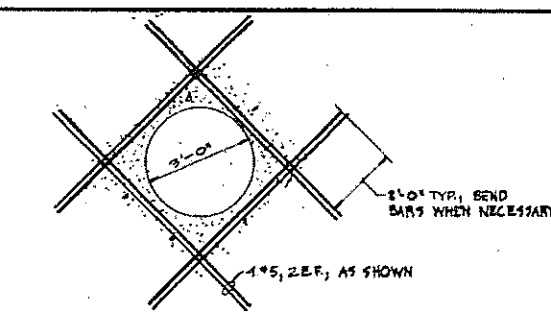
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 AERATION TANKS, F.N.-3
 MECHANICAL PROCESS AND ELECTRICAL
 SECTIONS AND DETAILS

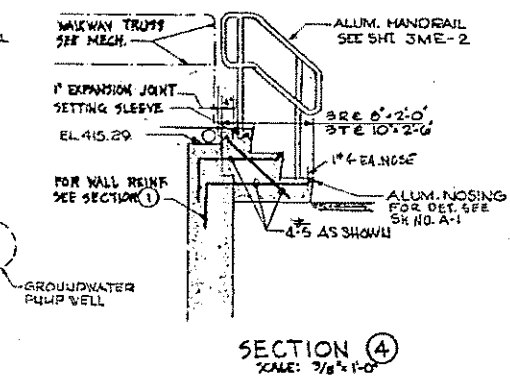
SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. BY: J.M.C. CHK. BY: R.H.S. APP. BY: J.W.-83
 APPROVED: J.M. Cahaly
 CONTRACT DRAWING SHEET NO. 3ME-2



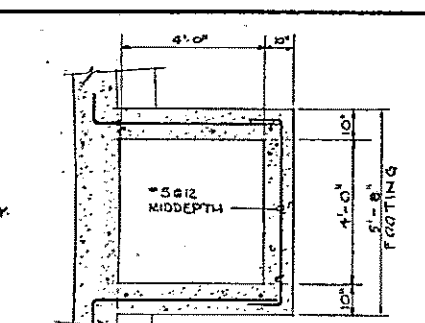
PLAN - TANK NO. 2
 (REMAINDER OF TANKS SIMILAR, SEE YARD
 PIPING PLAN, SHEET NO. 14-2 FOR ORIENTATION)
 SCALE: 1/8" = 1'-0"



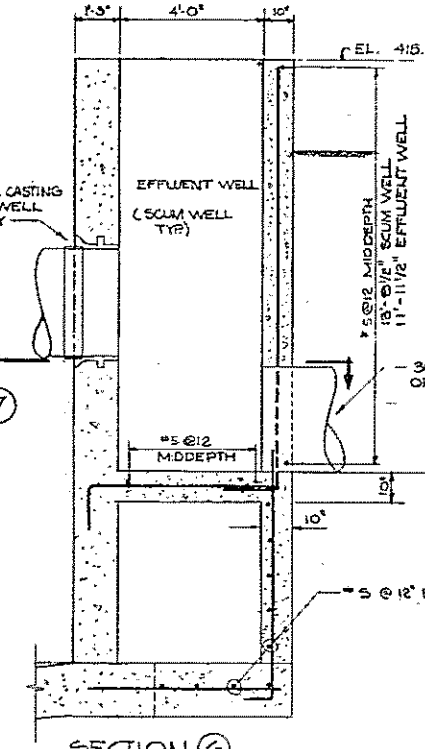
REINFORCING AT EFFLUENT
 PIPE OPENING
 SCALE: 3/8" = 1'-0"



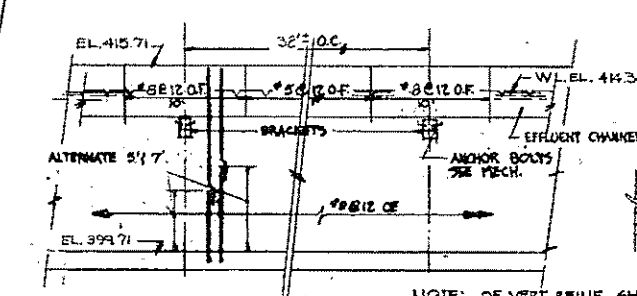
SECTION 4
 SCALE: 3/8" = 1'-0"



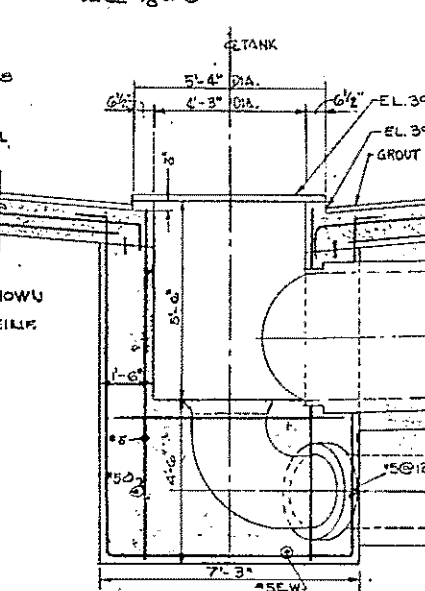
SECTION 7
 SCALE: 3/8" = 1'-0"



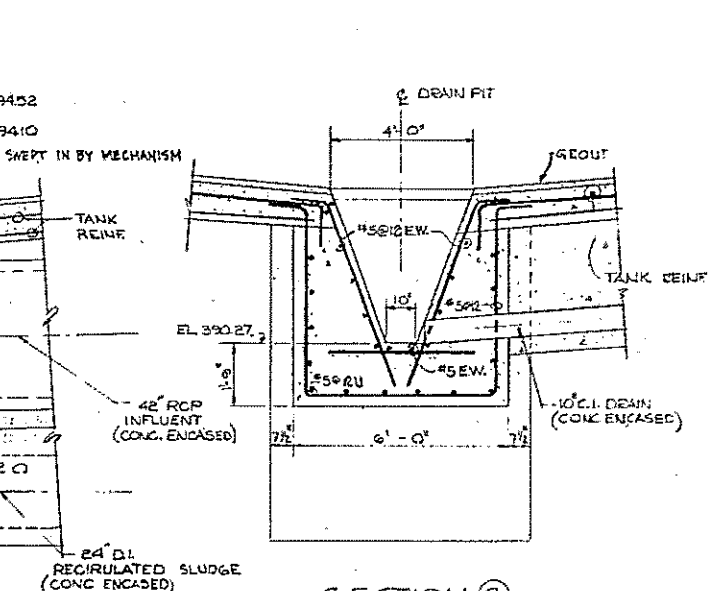
SECTION 6
 SCALE: 3/8" = 1'-0"



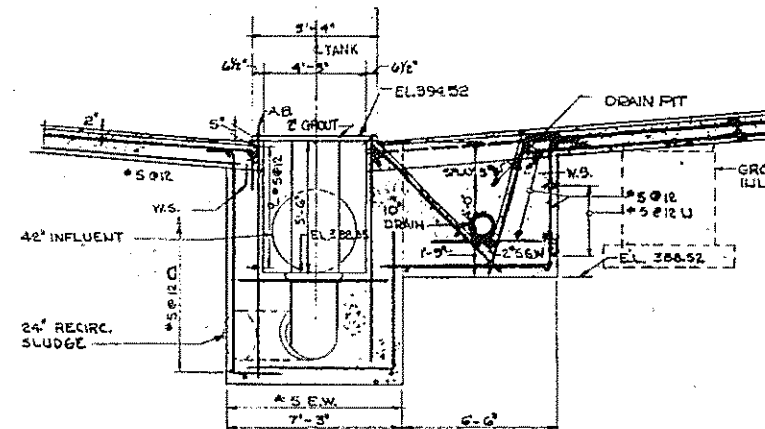
ELEVATION A
 SCALE: 1/8" = 1'-0"



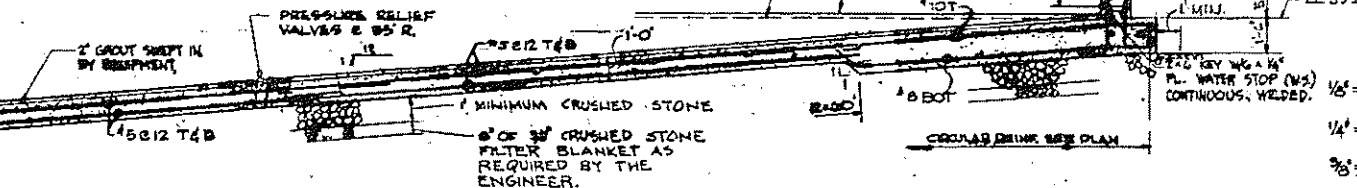
SECTION 2
 SCALE: 3/8" = 1'-0"



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



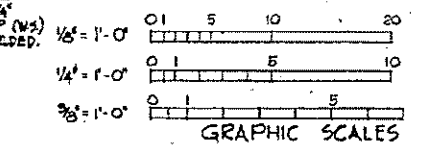
SECTION 1
 SCALE: 3/8" = 1'-0"



SECTION 5
 SCALE: 3/8" = 1'-0"

- NOTES:
- FOR TYPICAL NOTES SEE SHEET NO. 105-1
 - FOR TYPICAL JOINT DETAILS SEE SHEET NO. 35-2
 - STRUCTURE CHECKED AGAINST FLOTATION AT GROUNDWATER ELEVATION 398.5 WITH TANKS EMPTY.
 - BASE SLABS AND WALLS ARE DESIGNED WITH GROUND WATER ELEVATION 398.5 WITH TANKS EMPTY.
 - LIVE LOADS - STAIRS - 100 PSE
 - CONCRETE ENCASUREMENT FOR PIPES IS 3" AT BOTTOM AND SIDES, TOP VARIES FROM TOP OF PIPE TO BOTTOM OF TANK.

- NOTES:
- FOR CONCRETE GENERAL NOTES, SEE SHEET NO. 105-1
 - EQUIPMENT ANCHOR BOLTS AND PIPE SLEEVES SHALL BE SET FROM MANUFACTURERS DRAWINGS, SEE SHEET NO. 105-1
 - MINIMUM SPACE FOR CIRCULAR HORIZONTAL BARS IN WALL AND SLAB SHALL BE 4x DIA. FOR SQUARE BARS 5x DIA. AND LARGER.
 - CONCRETE ENCASUREMENT FOR PIPES IS 3" AT BOTTOM AND SIDES, TOP VARIES FROM TOP OF PIPE TO BOTTOM OF TANK.

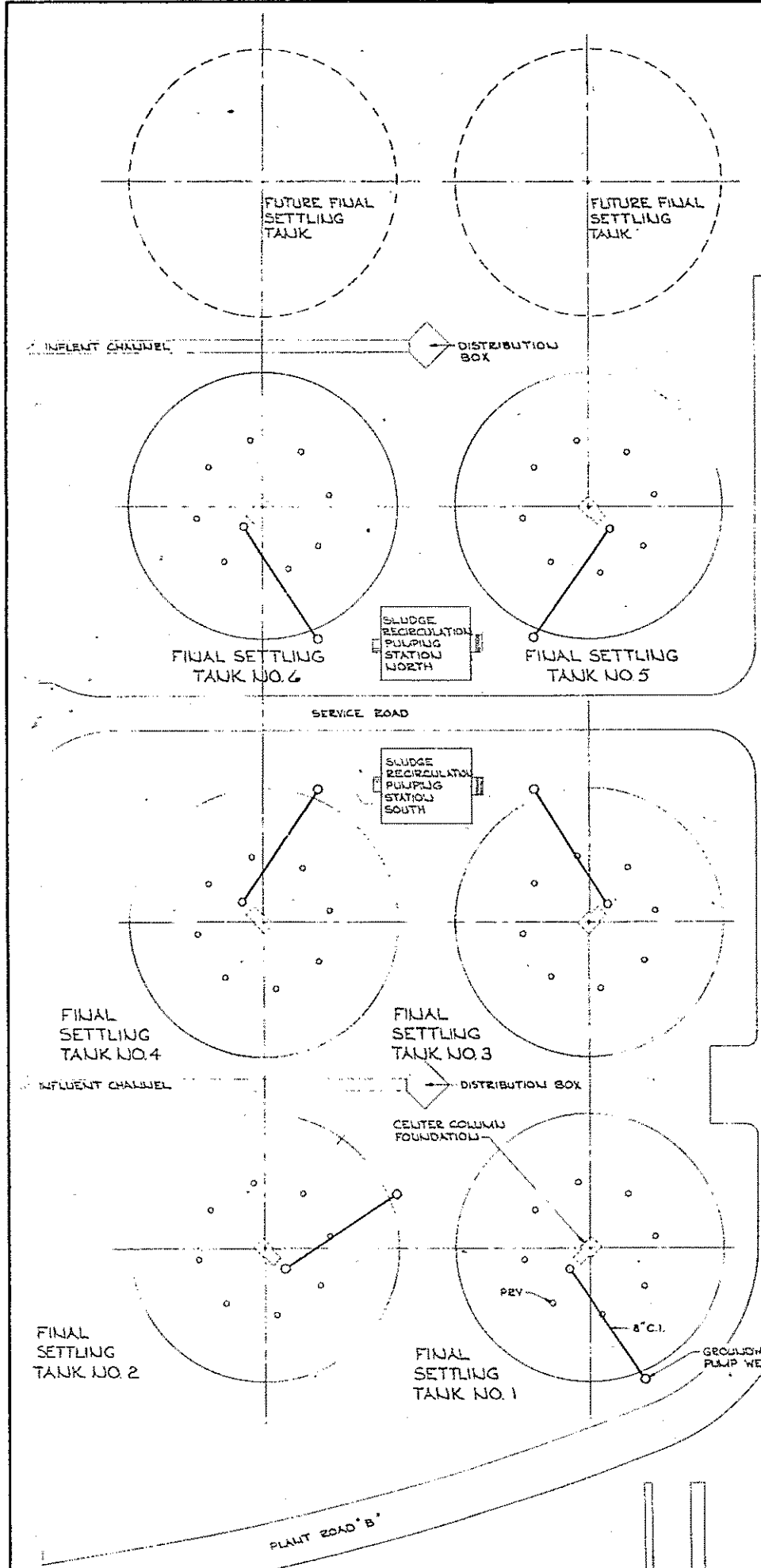


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

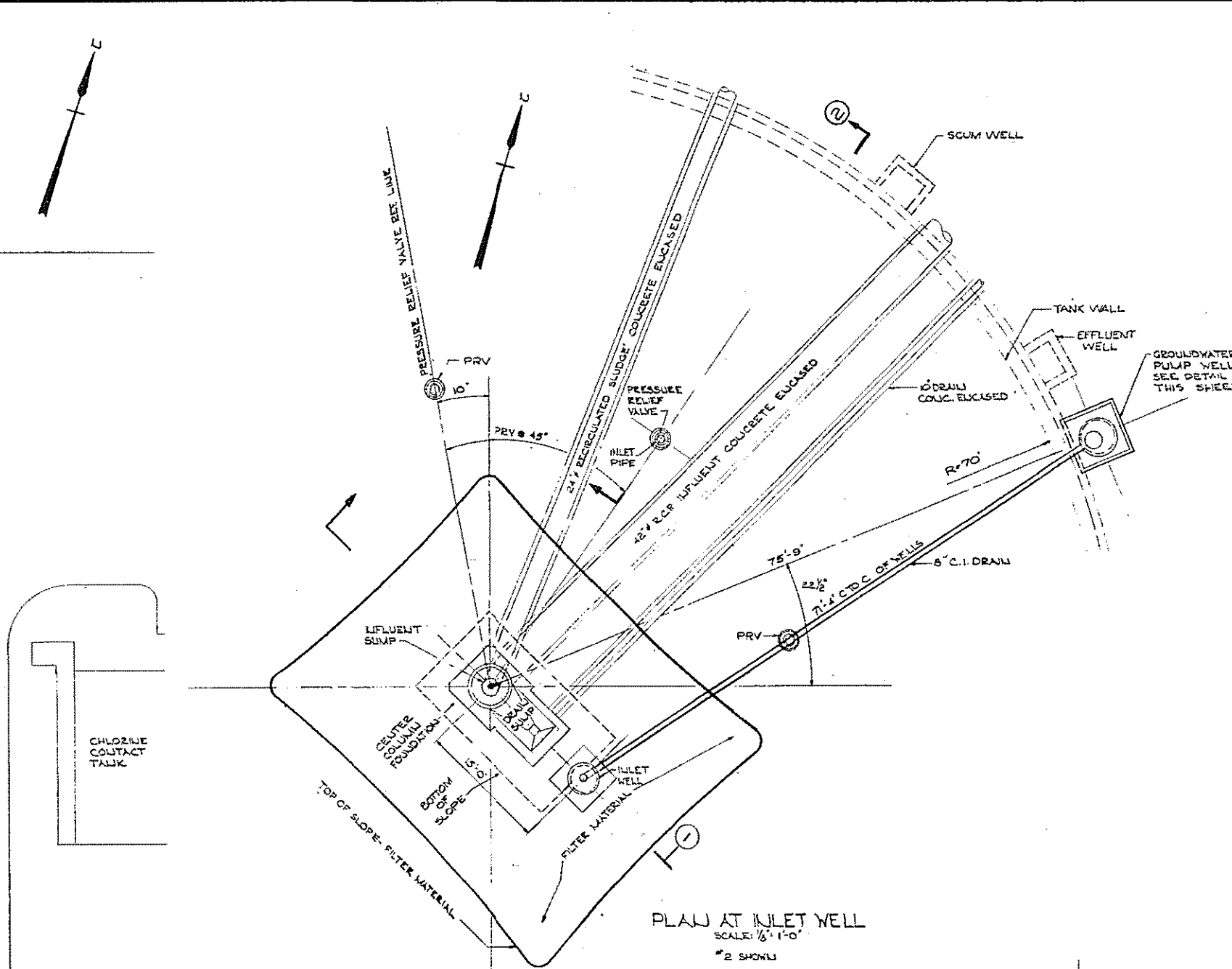


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 FINAL SETTLING TANKS, F.N.-4
 STRUCTURAL

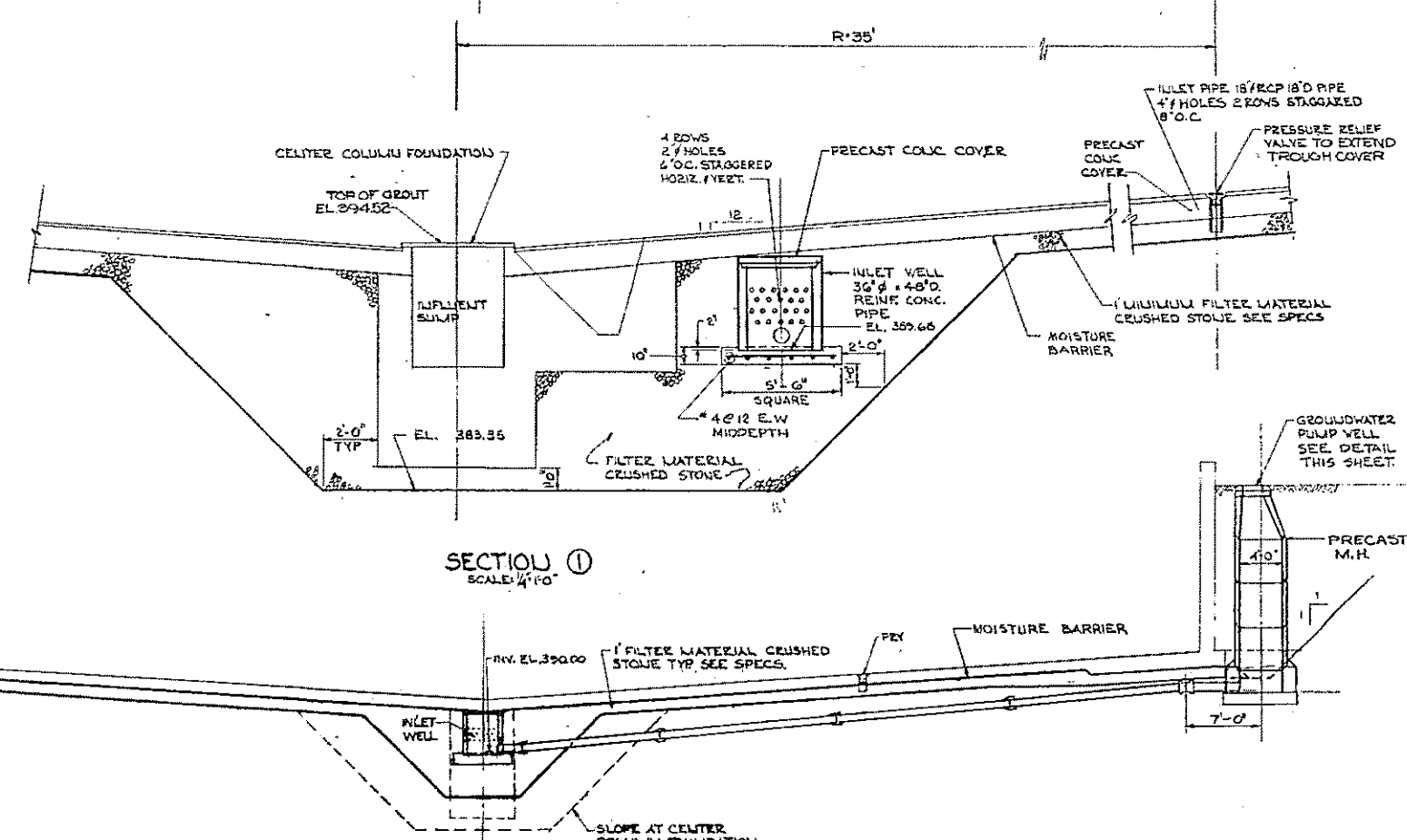
SCALE: AS NOTED
 FEBRUARY 1975
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 D.L.S.P.P. 16 FILE NO. JW-83
 DE D.G.D. 278 16 CHK. S.P.P.
 APPROVED: *M. Cahaly* PLAN NO. 56



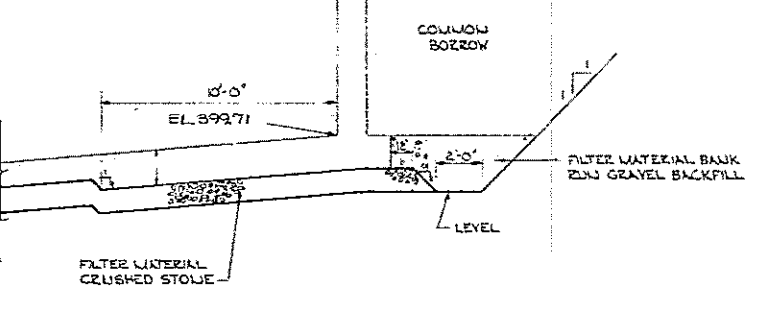
PLAN FINAL SETTLING TANKS
SCALE: 1/4" = 1'-0"



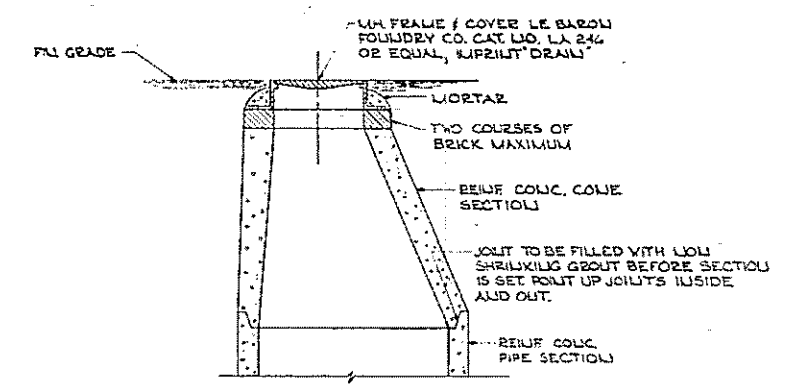
PLAN AT INLET WELL
SCALE: 1/8" = 1'-0"
#2 SHOWN



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

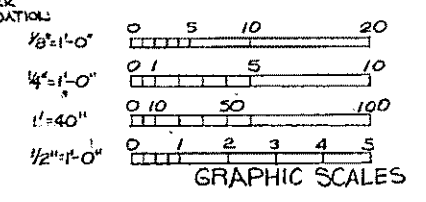


SECTION 2
SCALE: 1/2" = 1'-0"



GROUNDWATER PUMP WELL DETAIL
SCALE: 1/2" = 1'-0"

TYPICAL SECTION
SCALE: 1/8" = 1'-0"



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

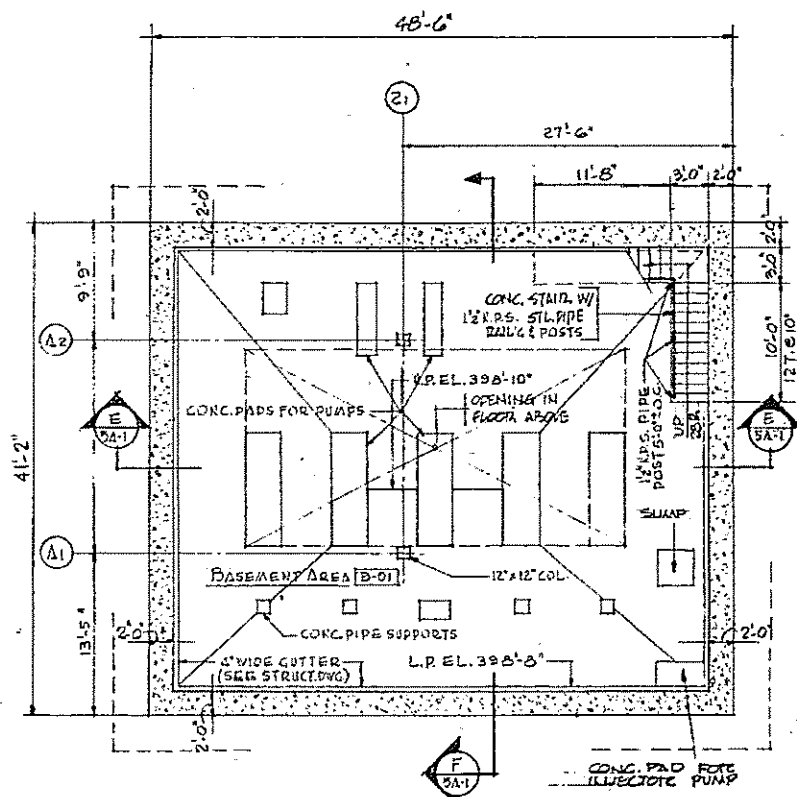


HALF-SIZE DRAWING

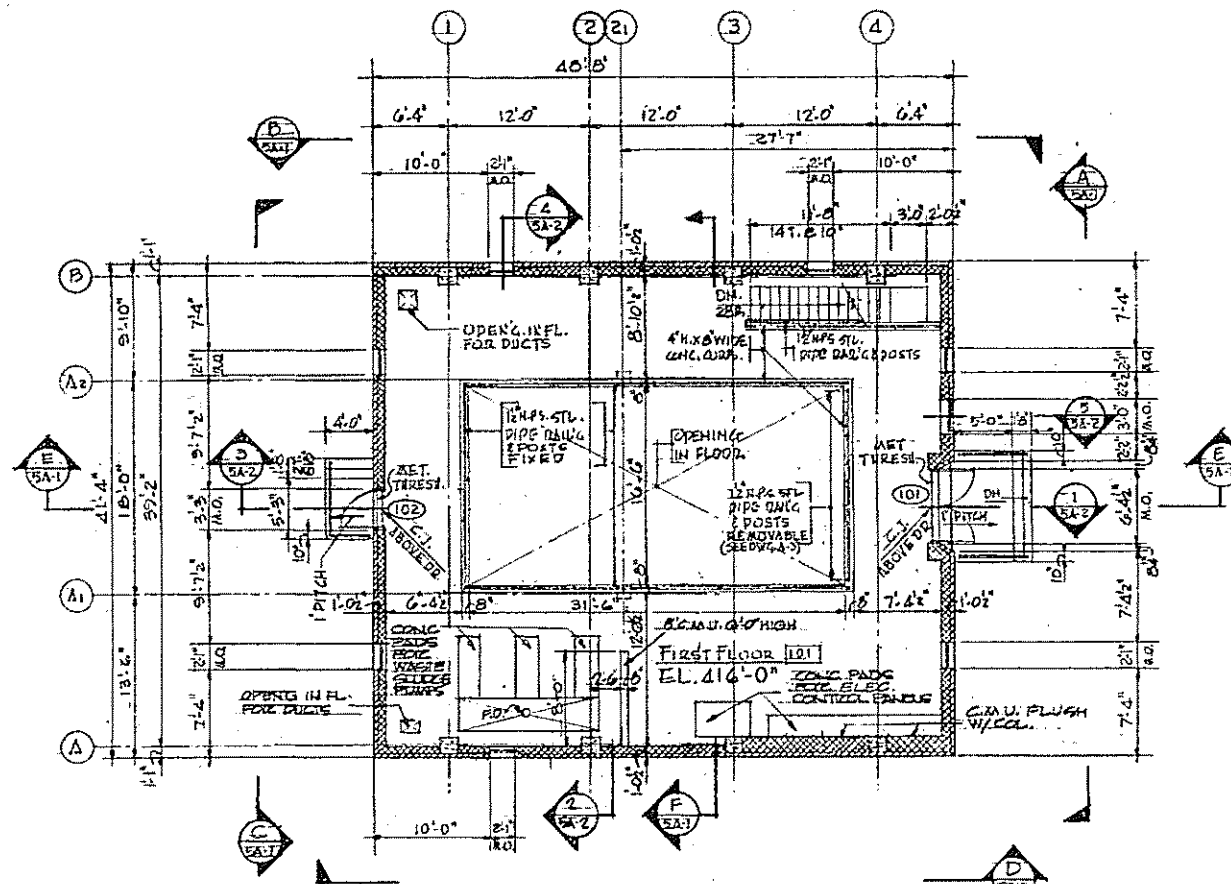
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
FINAL SETTLING TANKS, F.N.-4
GROUND WATER DRAINAGE SYSTEM

SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. J.C. BAZUC CHK. G.V.E. J.S.C. FILE NO. JW-83
APPROVED *F. M. Cahaly* PLAN NO. 58

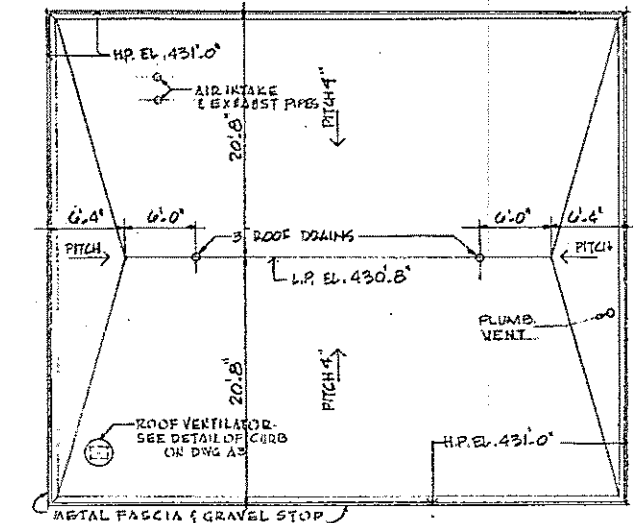
CONTRACT DRAWING SHEET NO. 4C-1



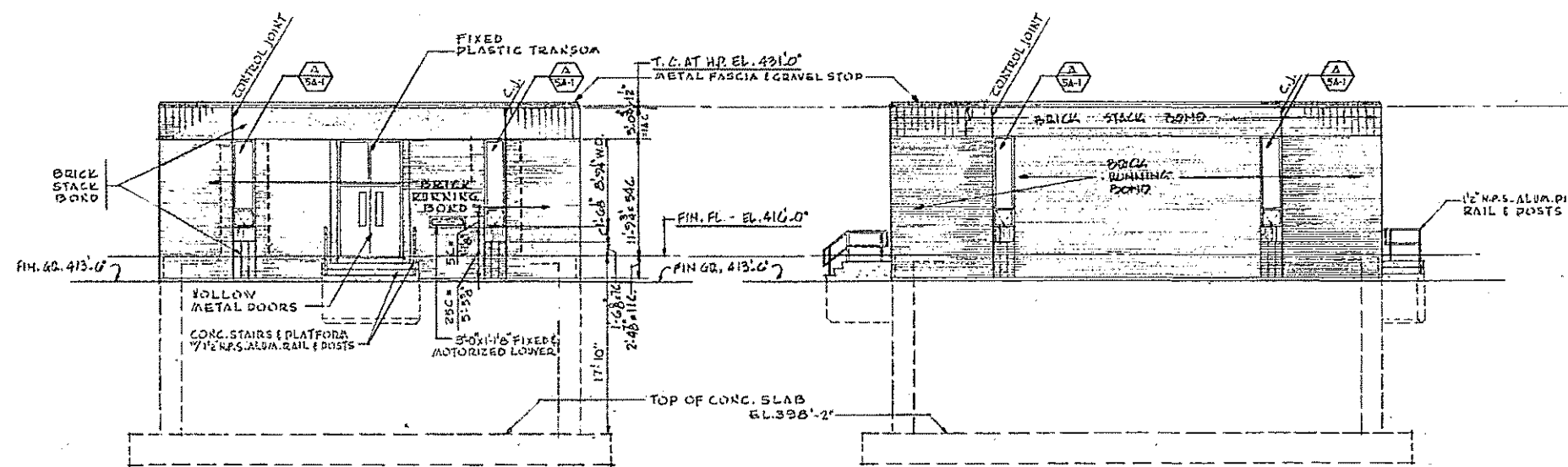
BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"



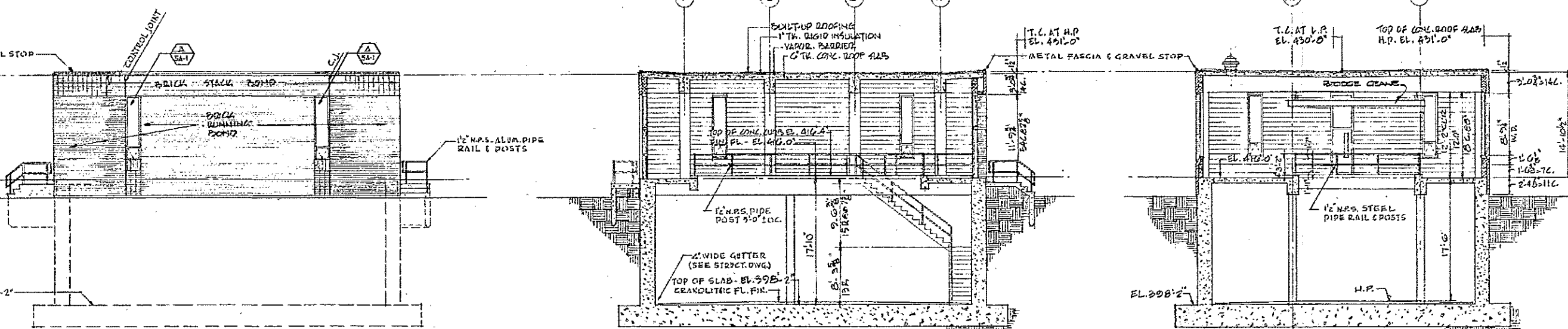
FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



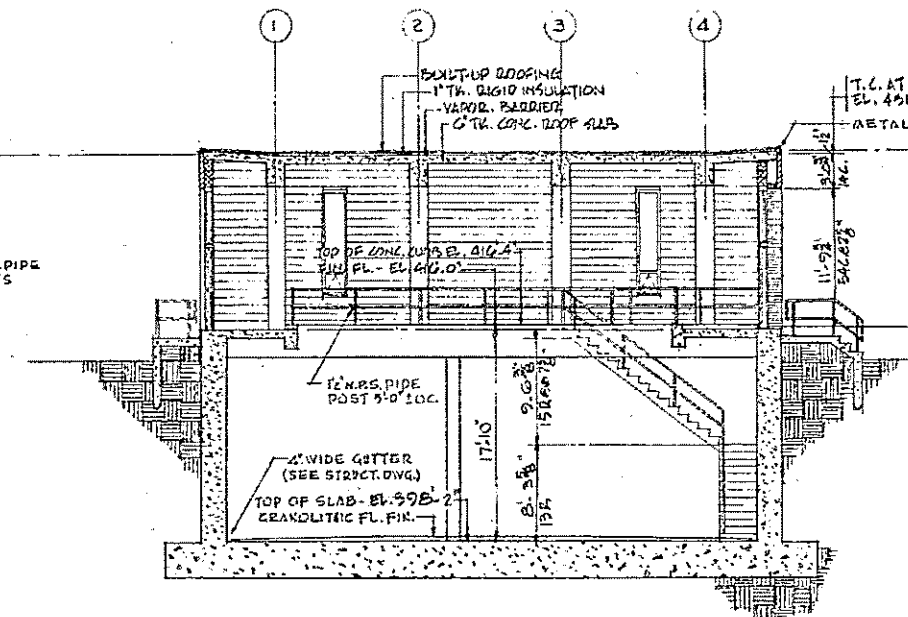
ROOF PLAN
SCALE: 1/8" = 1'-0"



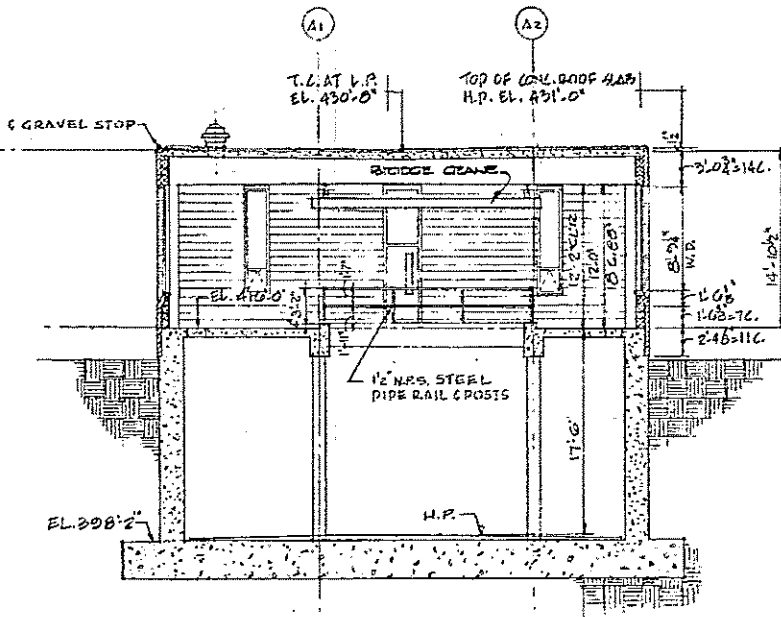
ELEVATION A
SCALE: 1/8" = 1'-0"



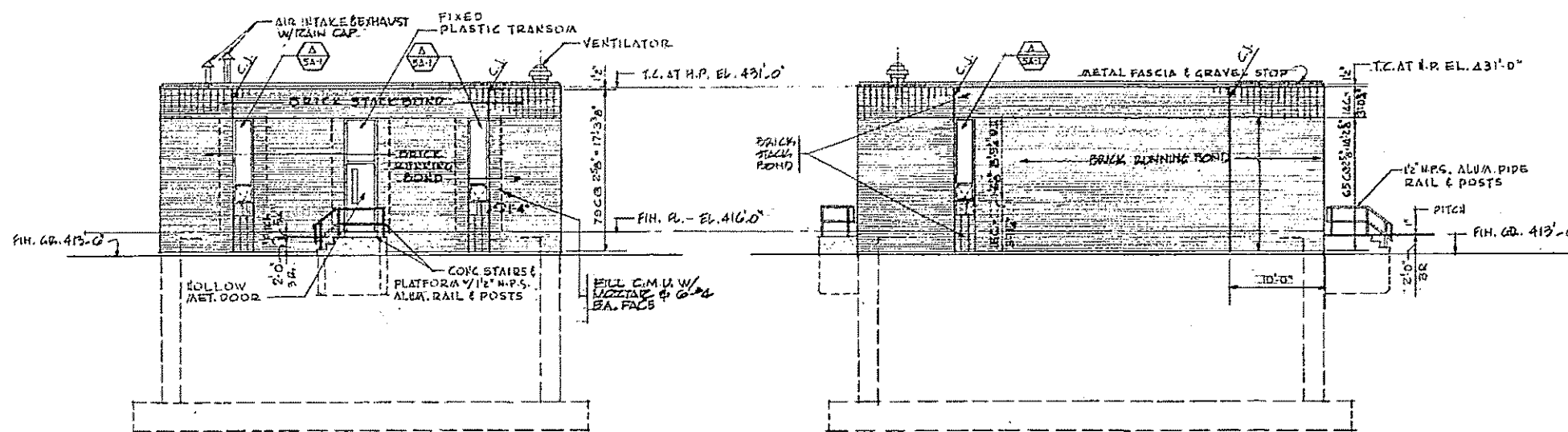
ELEVATION B
SCALE: 1/8" = 1'-0"



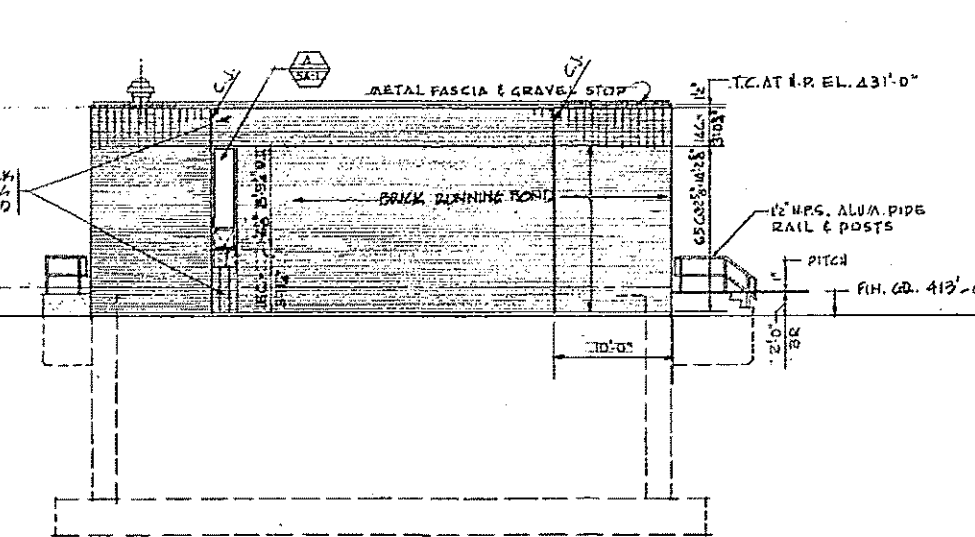
BUILDING SECTION E
SCALE: 1/8" = 1'-0"



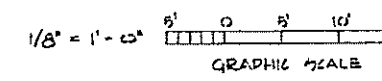
BUILDING SECTION F
SCALE: 1/8" = 1'-0"



ELEVATION C
SCALE: 1/8" = 1'-0"



ELEVATION D
SCALE: 1/8" = 1'-0"



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE RECIRCULATION PUMPING STATIONS, F.N. 5
SOUTH SHOWN, NORTH OPPOSITE HAND.
ARCHITECTURAL

PLANS, ELEVATIONS AND SECTIONS

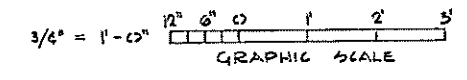
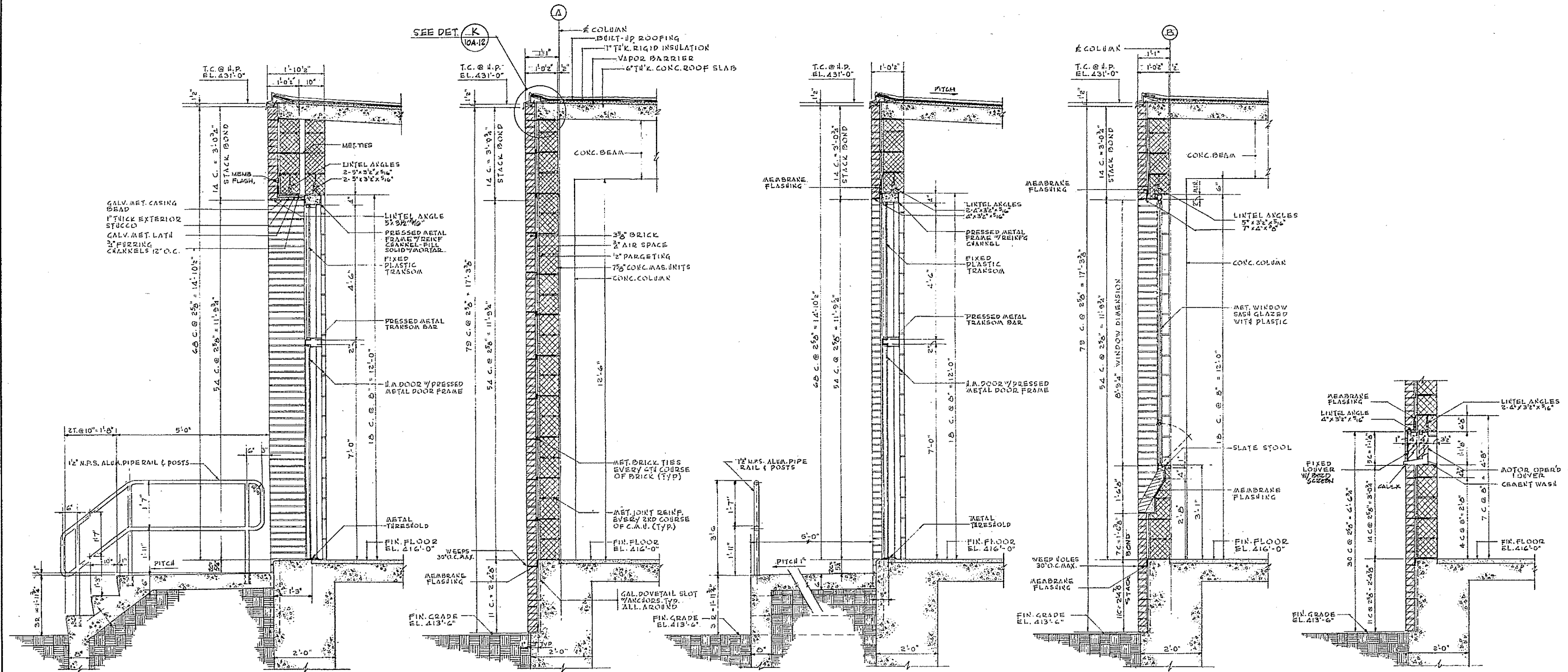
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. BY: J.M.C. IN CHARGE: J.M.C. DATE: 10-83
CHECKED: J.M.C. DATE: 10-83

APPROVED: *F. M. Cahaly* DATE: 10-83

CONTRACT DRAWING SHEET NO. 5A-1



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
ARCHITECTURAL

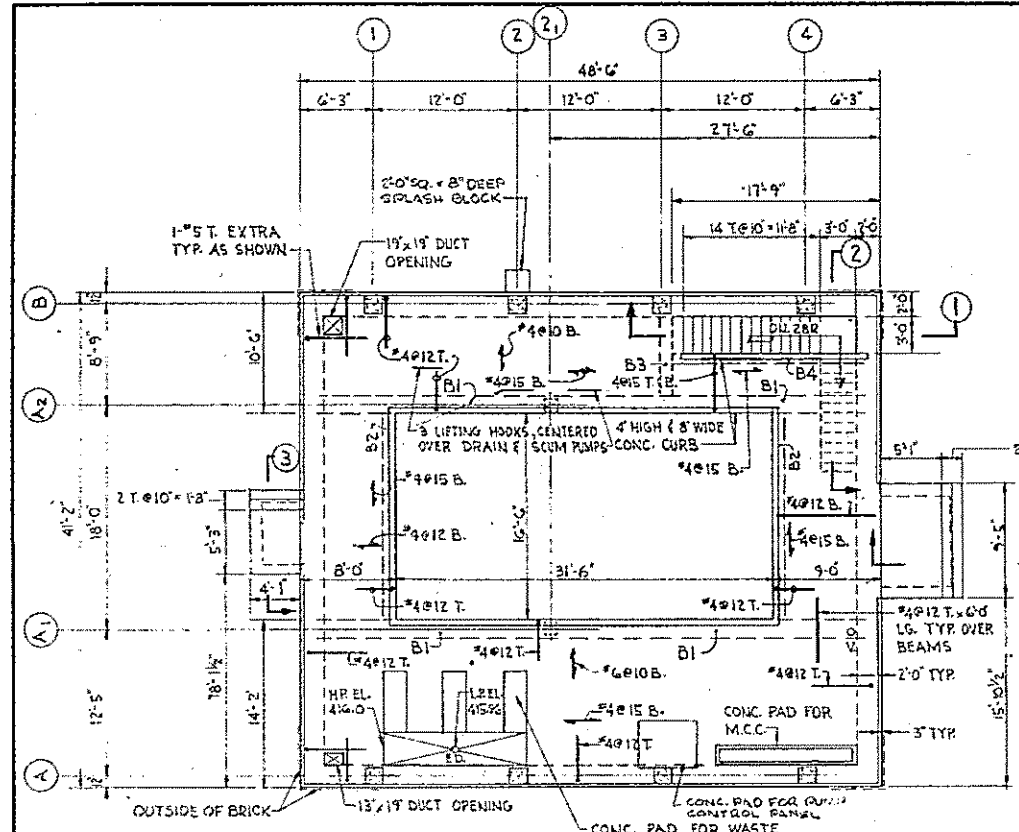
WALL SECTIONS AND DETAILS

SCALE: AS NOTED FEBRUARY, 1973

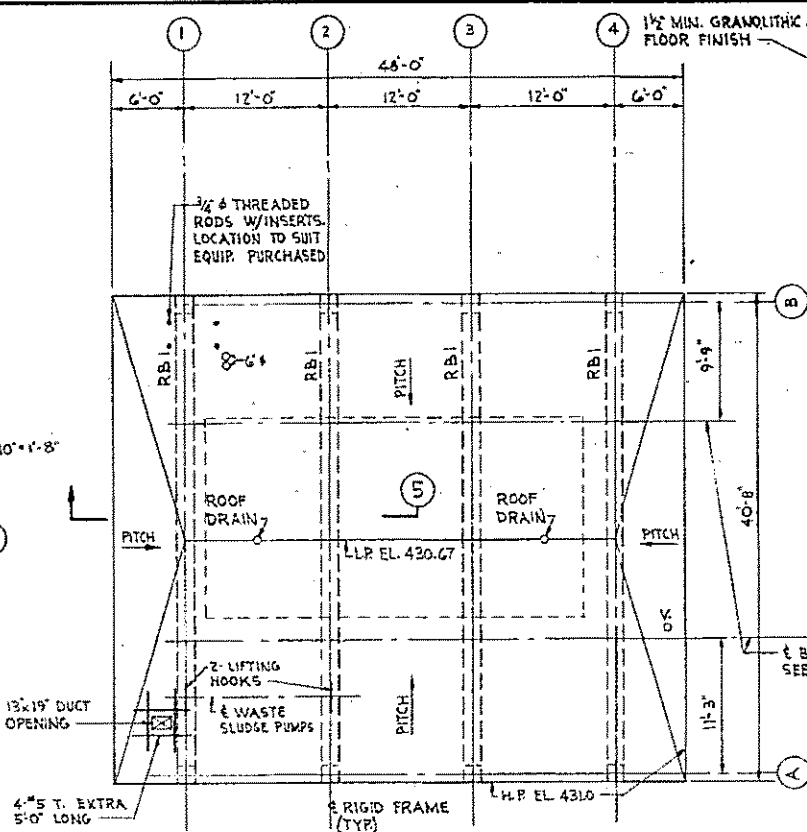
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. HCK
DR. JMT
APPD. *F. W. Cahaly*
FILE NO. JW-83
PLAN NO. 60

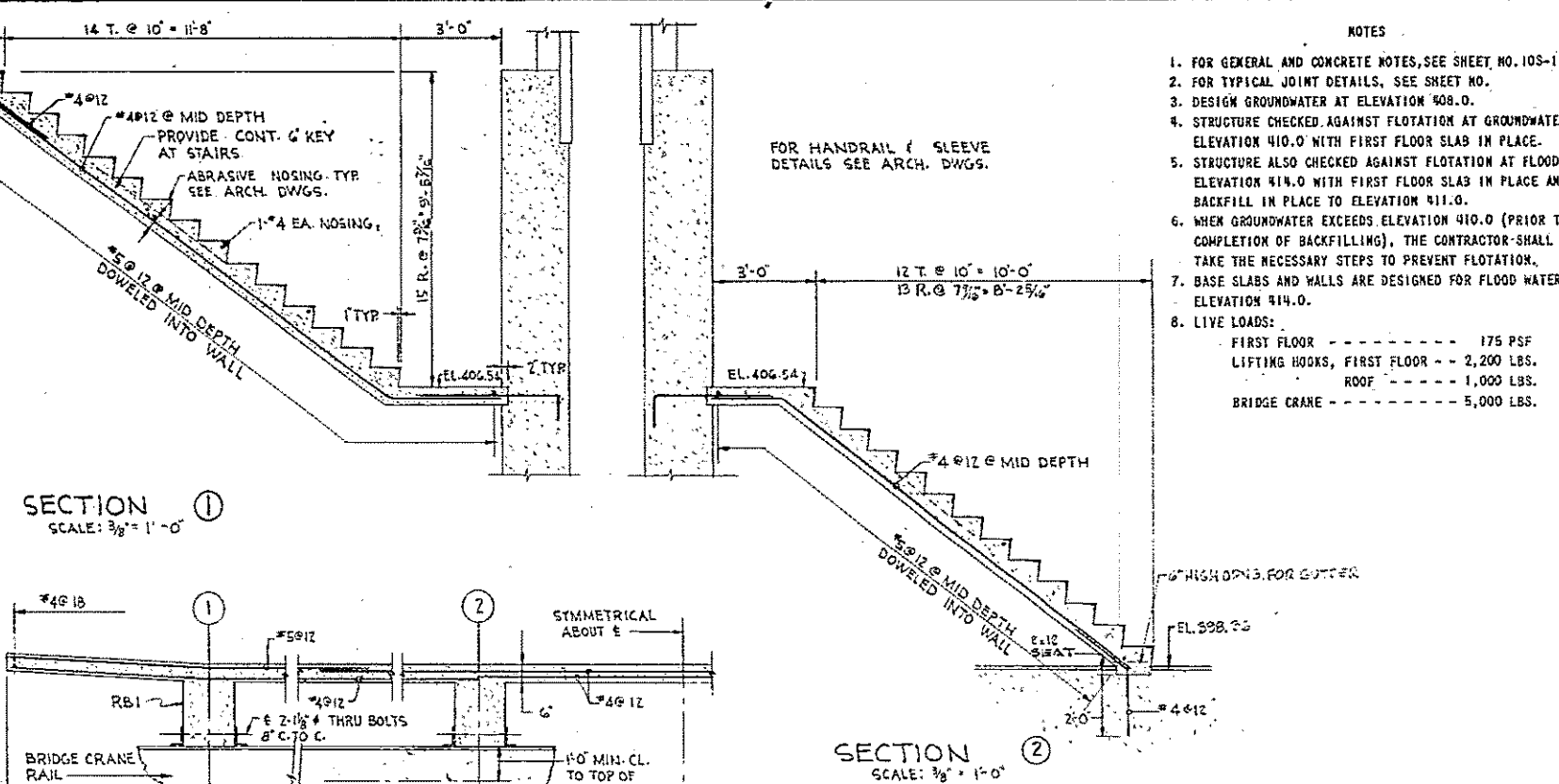
CONTRACT DRAWING SHEET NO. 5A-2



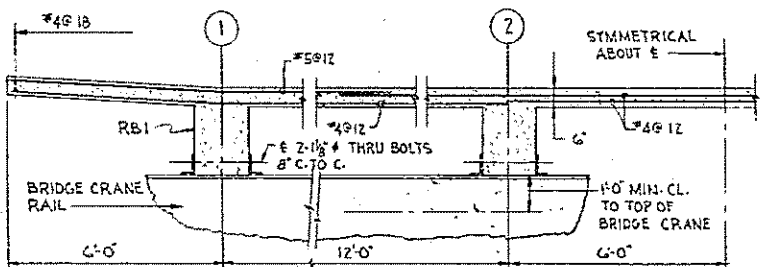
1ST FLOOR PLAN
SCALE: 1/8" = 1'-0"



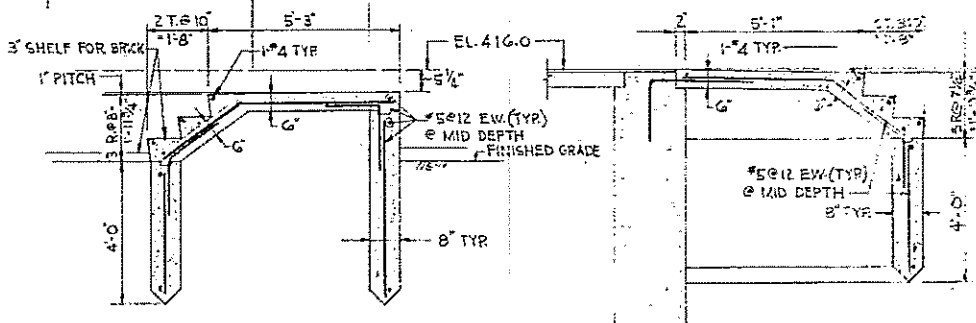
ROOF PLAN
SCALE: 1/8" = 1'-0"



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

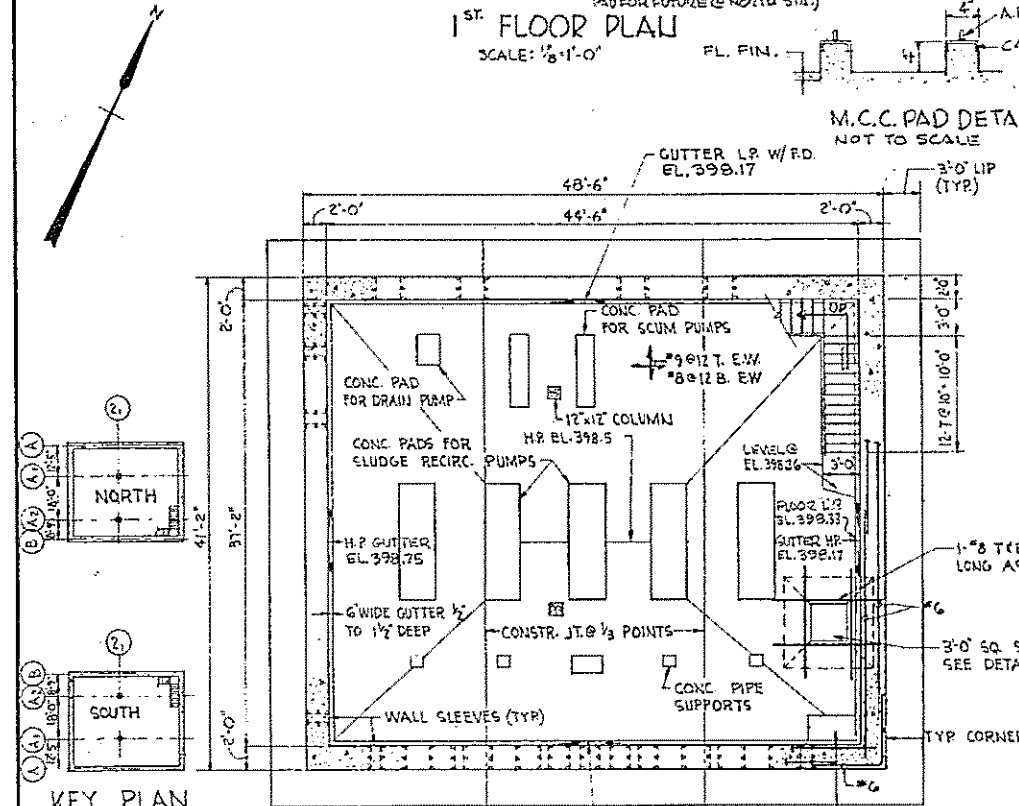


SECTION 2
SCALE: 3/8" = 1'-0"

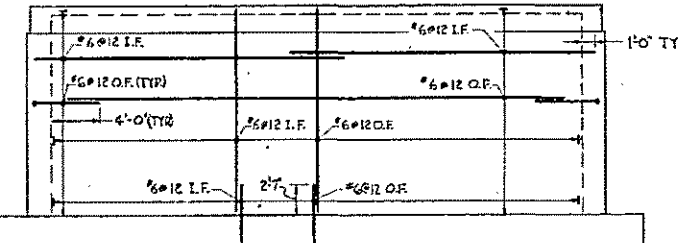


SECTION 3
SCALE: 3/8" = 1'-0"

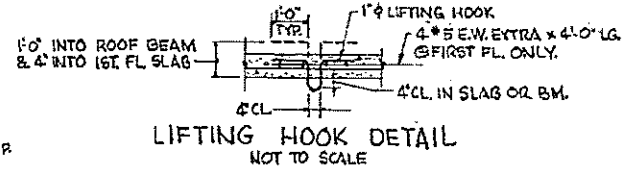
SECTION 4
SCALE: 3/8" = 1'-0"



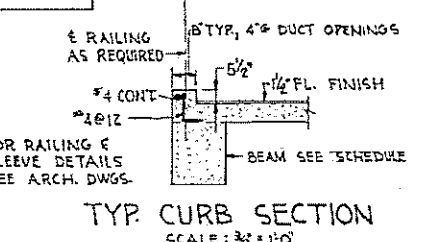
BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"



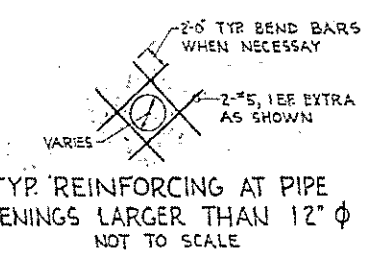
TYP. WALL ELEVATION
SCALE: 1/8" = 1'-0"



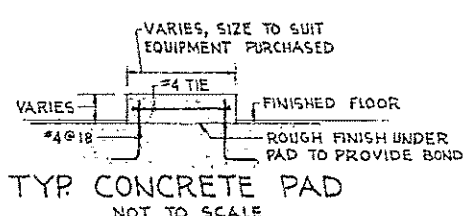
LIFTING HOOK DETAIL
NOT TO SCALE



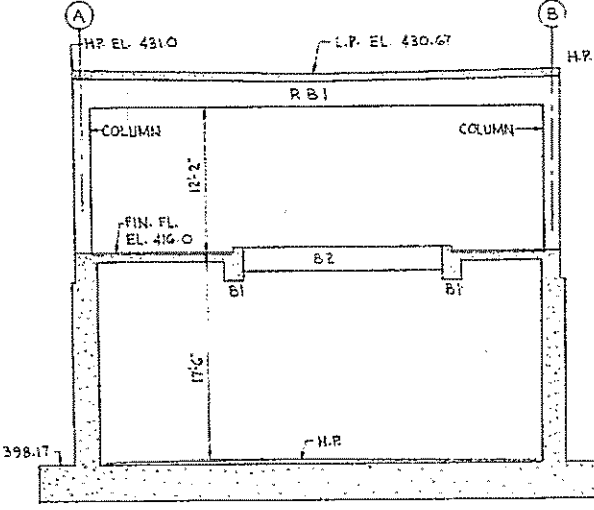
TYP. CURB SECTION
SCALE: 3/8" = 1'-0"



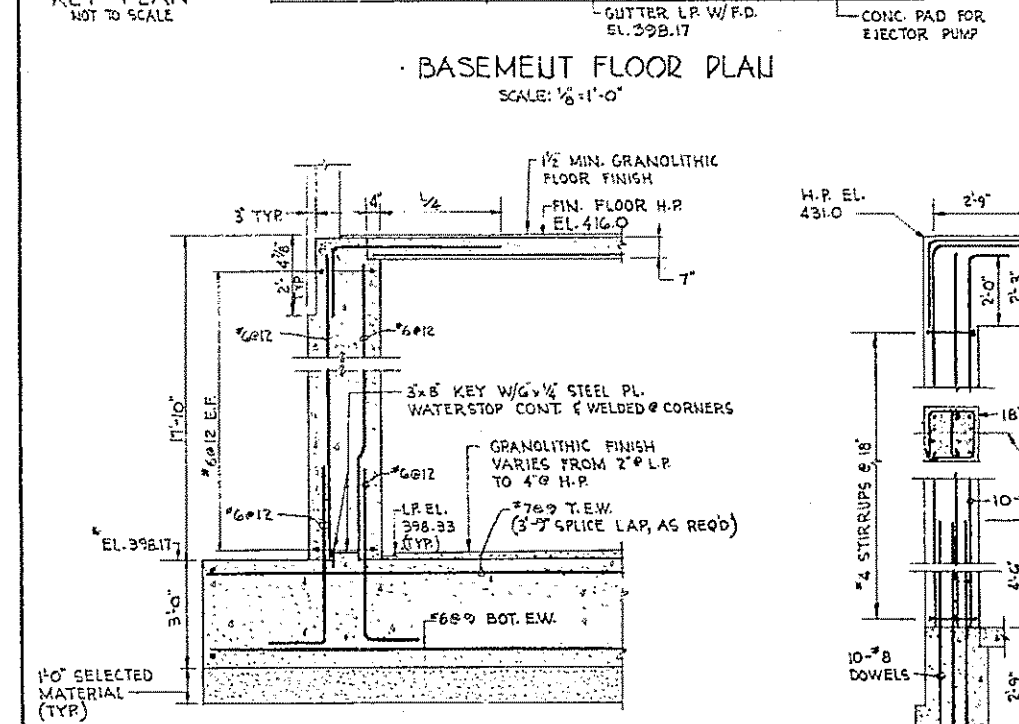
TYP. REINFORCING AT PIPE OPENINGS LARGER THAN 12" Ø
NOT TO SCALE



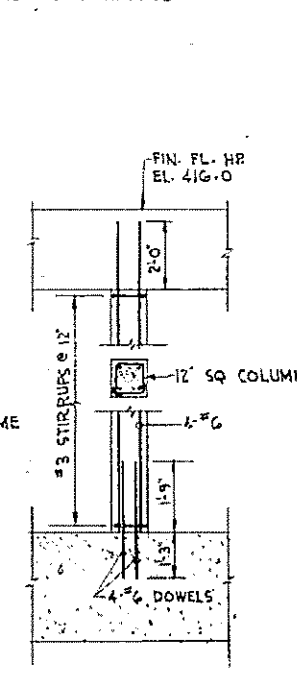
TYP. CONCRETE PAD
NOT TO SCALE



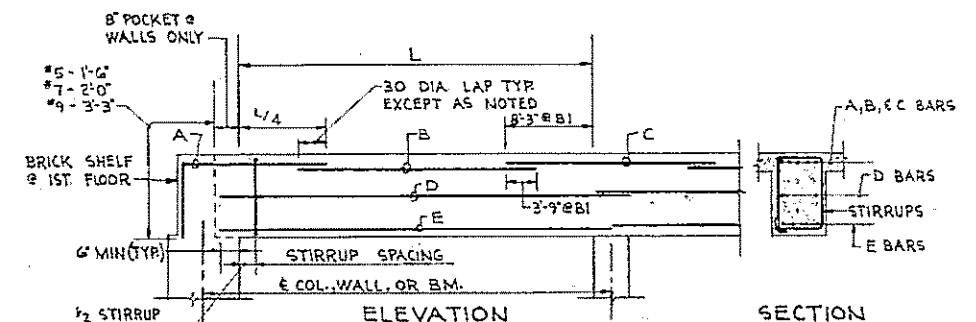
TYPICAL CROSS SECTION
SCALE: 1/8" = 1'-0"



TYP. WALL SECTION
SCALE: 1/8" = 1'-0"

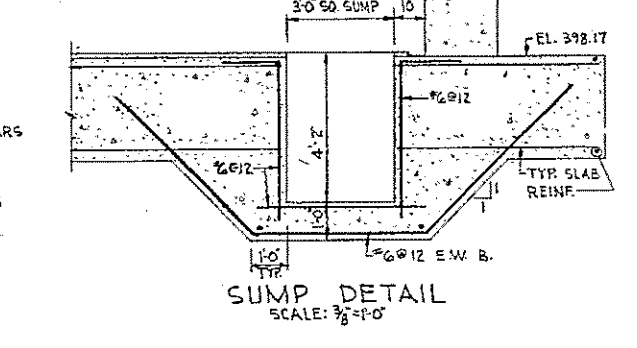


RIGID FRAME COLUMN DETAILS
SCALE: 3/8" = 1'-0"

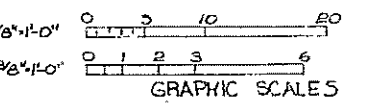


TYPICAL BEAM DETAILS
NOT TO SCALE

BEAM SCHEDULE									
MARK	W	D	A	B	C	D	E	STIRRUP SPACING	REMARKS
B1	18	27	3"7	2"7	5"4	2"5	4"3	#4 @ 12"	
B2	12	18	2"5	2"5	-	-	3"7	#3 @ 8"	SEE SECTION 1
B3	12	14	2"5	2"5	-	-	2"6	#3 @ 6"	
B4	12	14	2"5	2"5	-	-	3"6	#3 @ 6"	
RB1	18	30	4"3	4"3	-	2"5	4"3	#4 @ 12"	BOT. OF BEAM, LEVEL @ EL. 428.17



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

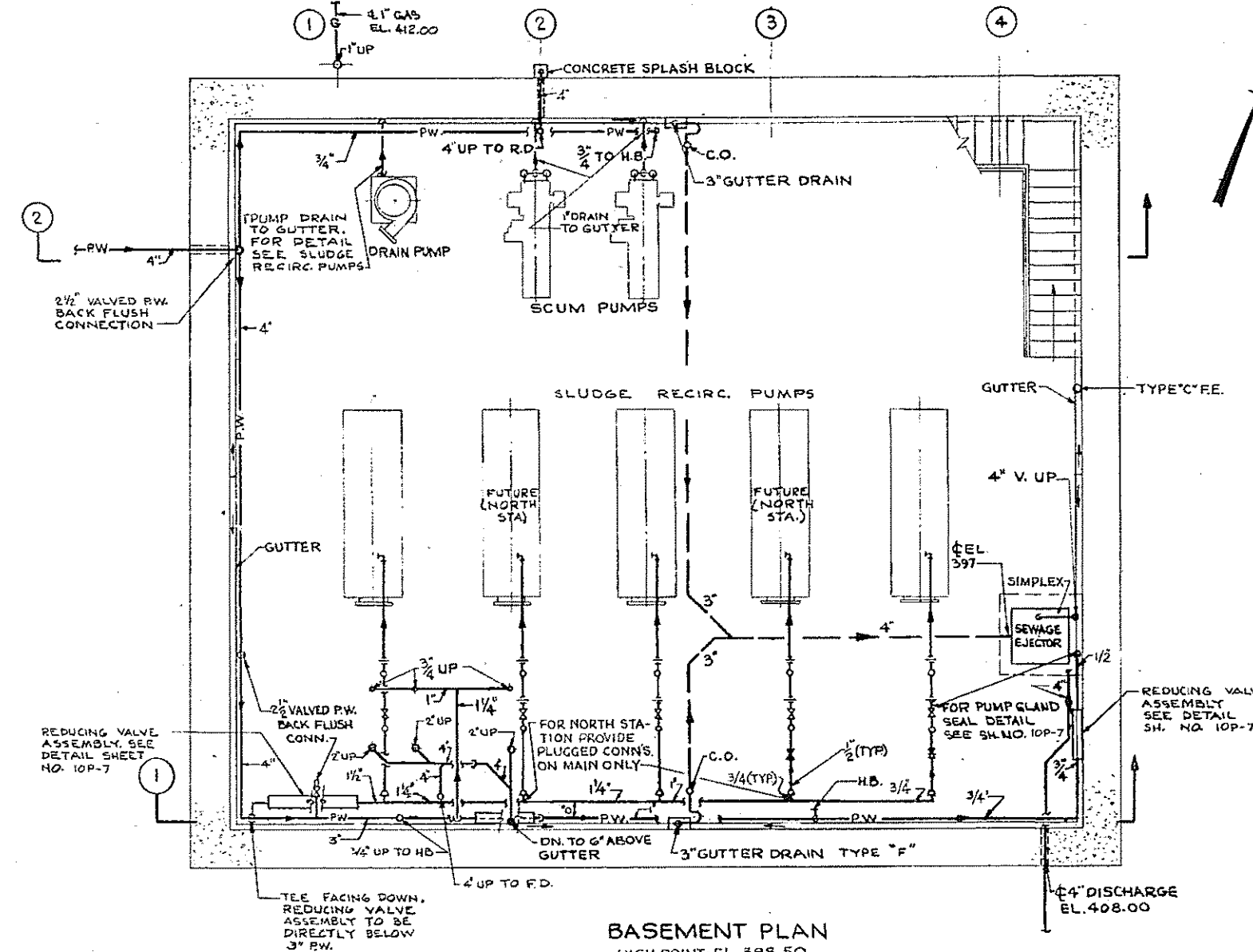


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

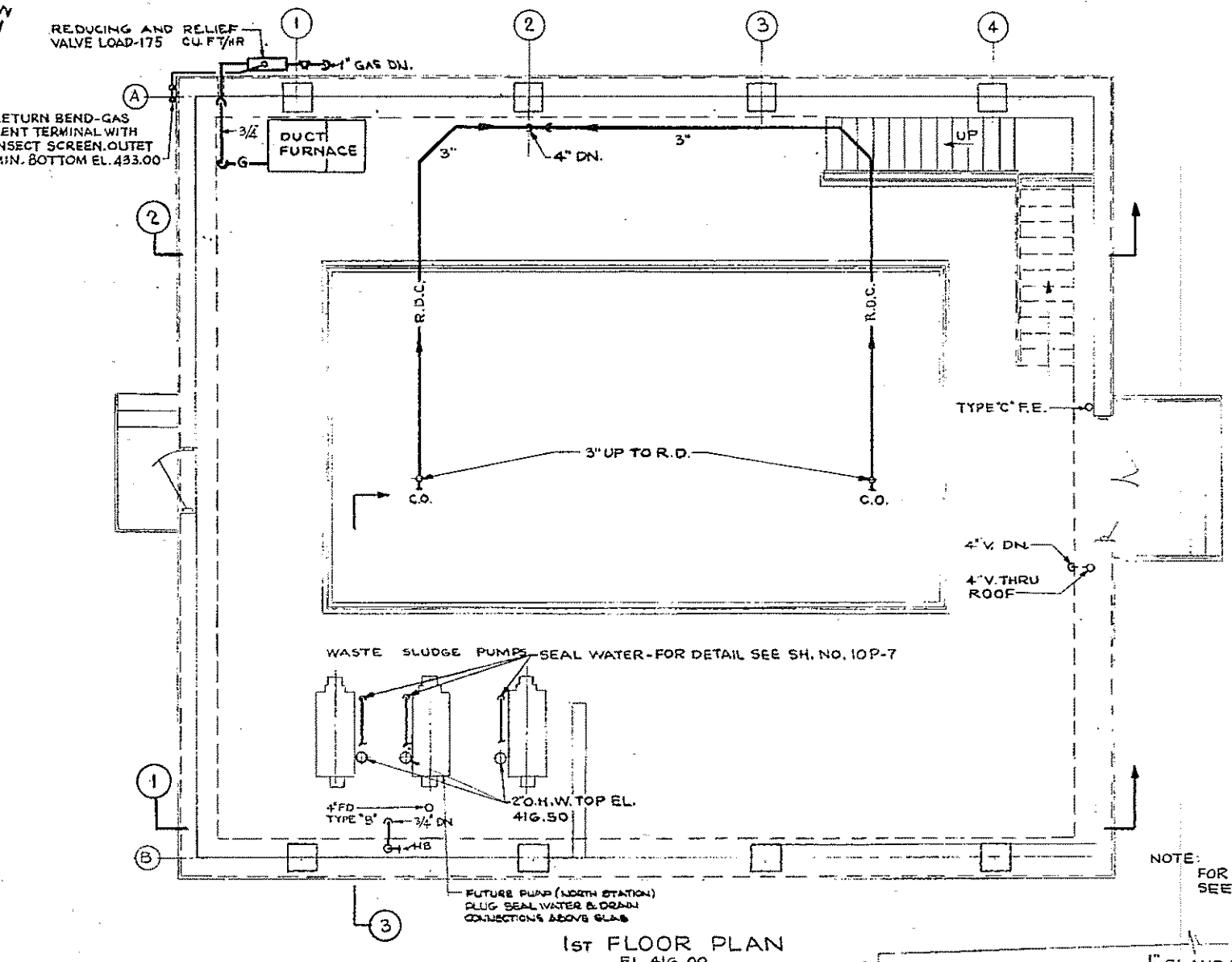


COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
SOUTH SIDE, NORTH OPPOSITE HAWK
STRUCTURAL
PLANS AND DETAILS
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REV. NO. 16
DATE 1/6
APPROVED: *F. M. Cahaly*
DATE 61
CONTRACT DRAWING SHEET NO. 5S-1

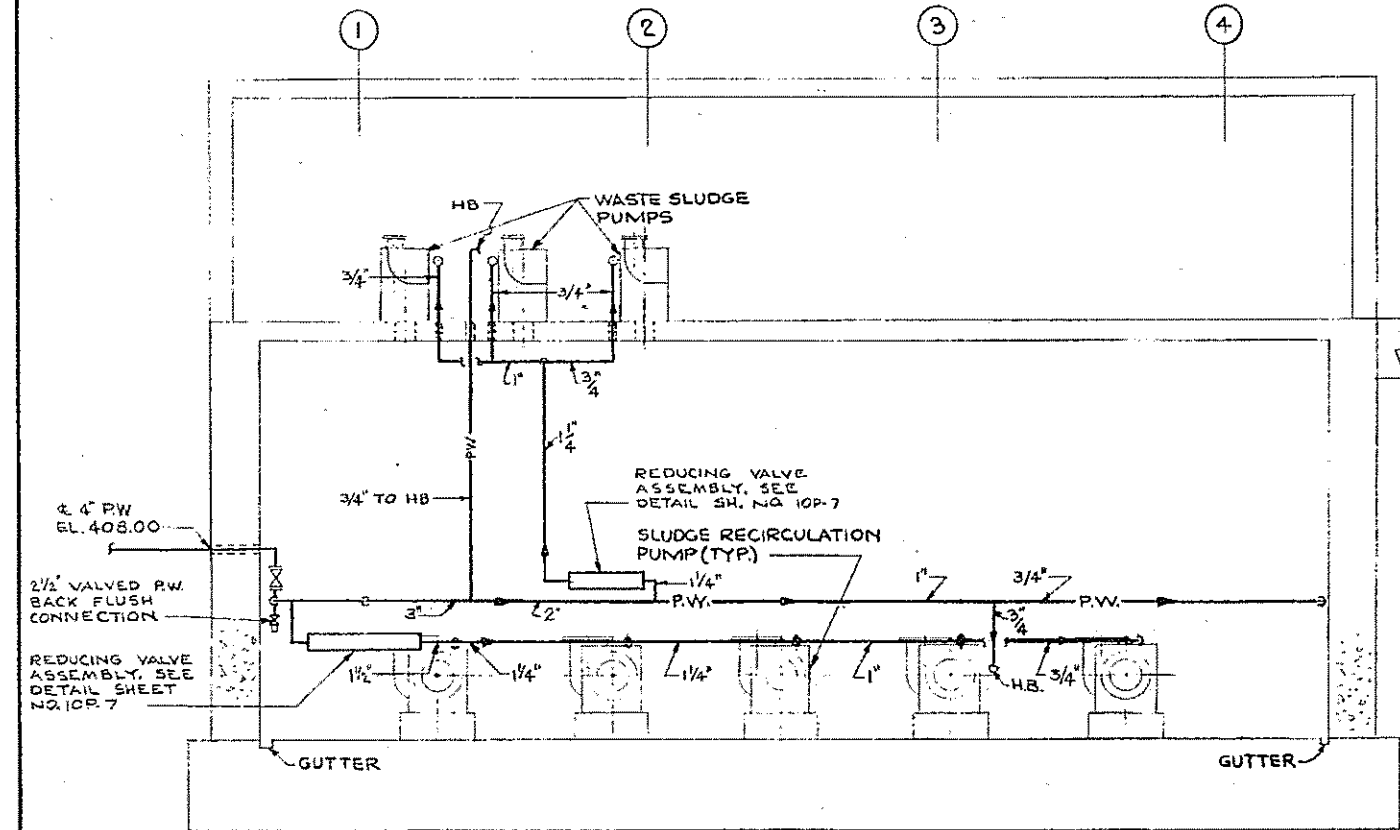
- NOTES
- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 10S-1.
 - FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 10S-2.
 - DESIGN GROUNDWATER AT ELEVATION 408.0.
 - STRUCTURE CHECKED AGAINST FLOTATION AT GROUNDWATER ELEVATION 410.0 WITH FIRST FLOOR SLAB IN PLACE.
 - STRUCTURE ALSO CHECKED AGAINST FLOTATION AT FLOOD ELEVATION 414.0 WITH FIRST FLOOR SLAB IN PLACE AND BACKFILL IN PLACE TO ELEVATION 411.0.
 - WHEN GROUNDWATER EXCEEDS ELEVATION 410.0 (PRIOR TO COMPLETION OF BACKFILLING), THE CONTRACTOR SHALL TAKE THE NECESSARY STEPS TO PREVENT FLOTATION.
 - BASE SLABS AND WALLS ARE DESIGNED FOR FLOOD WATER ELEVATION 414.0.
 - LIVE LOADS:
FIRST FLOOR - 175 PSF
LIFTING HOODS, FIRST FLOOR - 2,200 LBS.
ROOF - 1,000 LBS.
BRIDGE CRANE - 5,000 LBS.



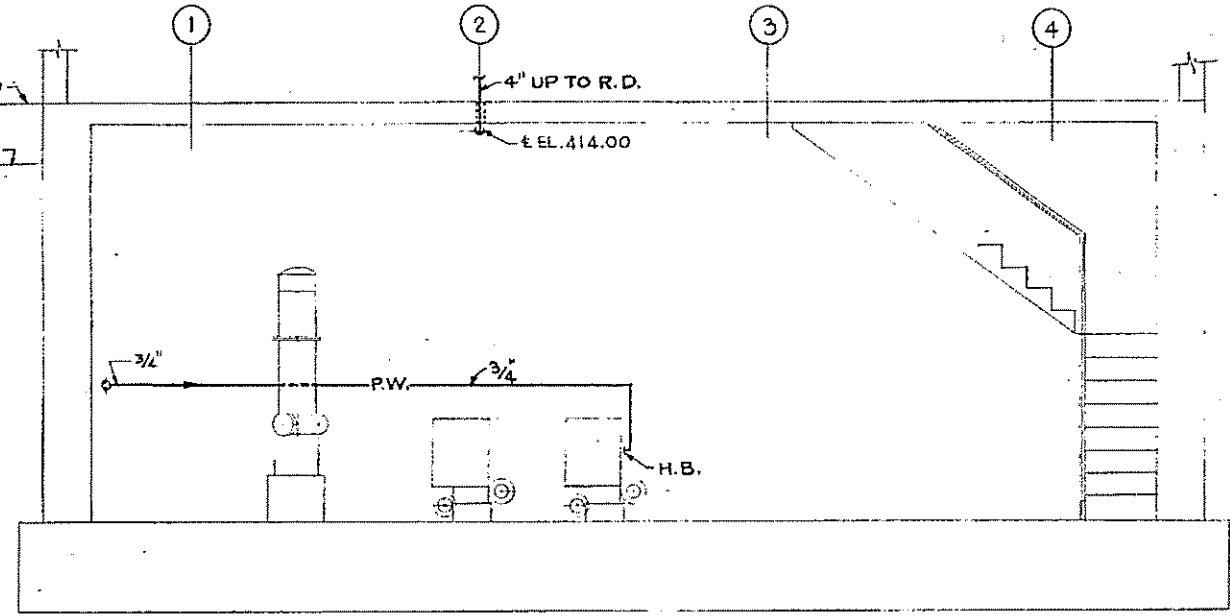
BASEMENT PLAN
HIGH POINT-EL. 398.50



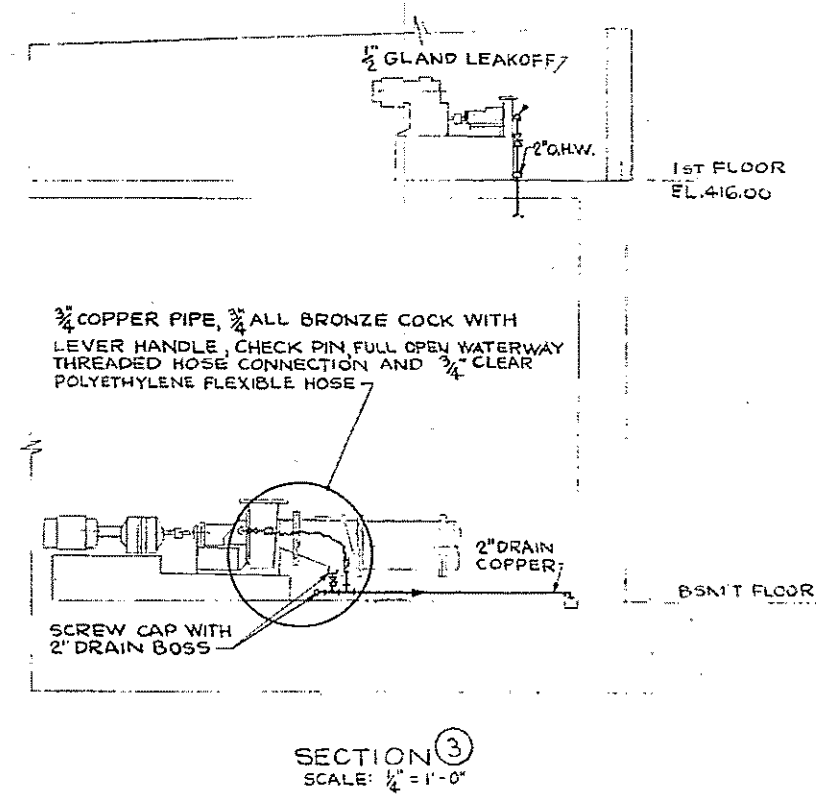
1ST FLOOR PLAN
EL. 416.00



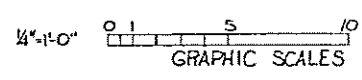
SECTION 1



SECTION 2



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

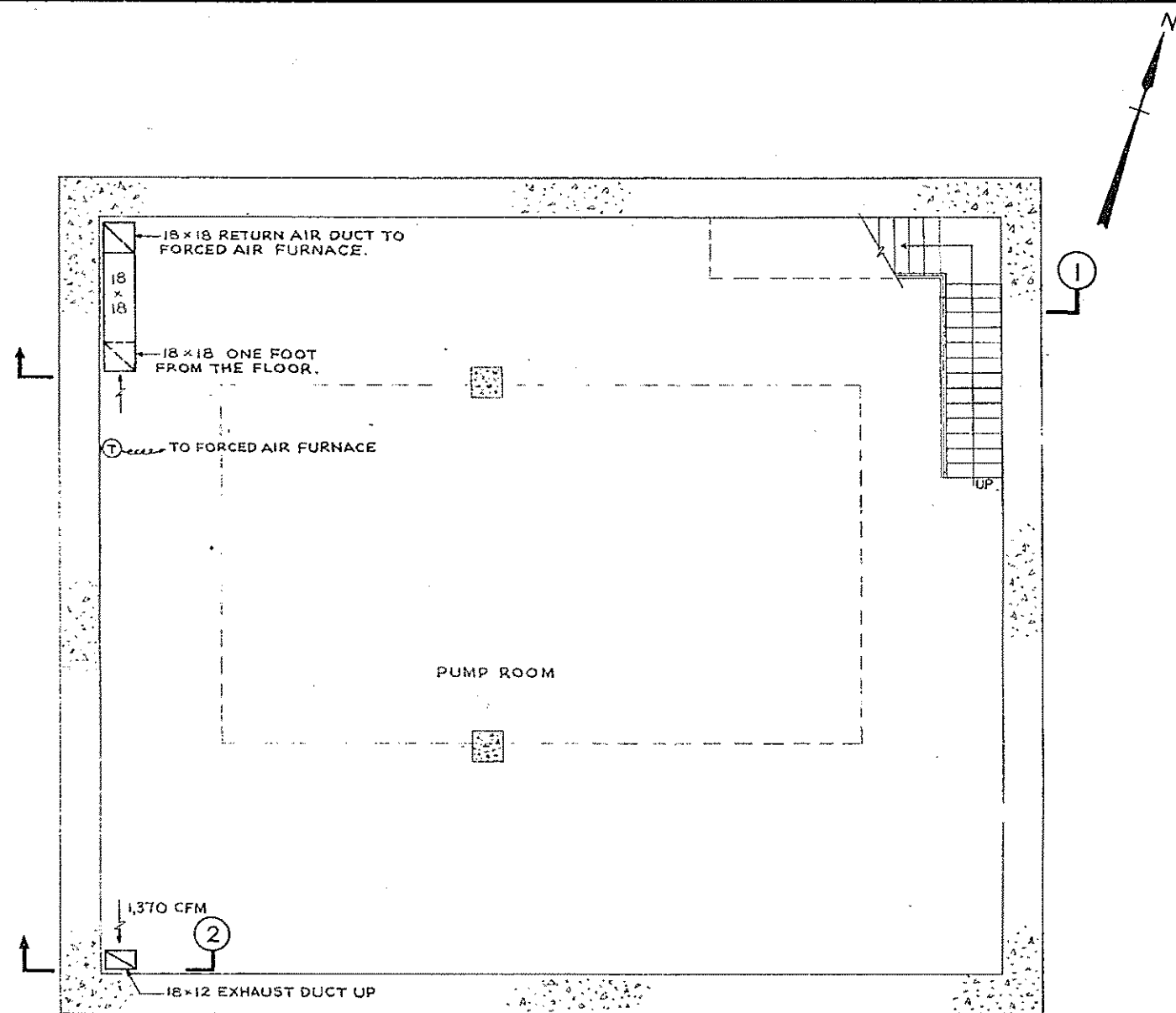


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY

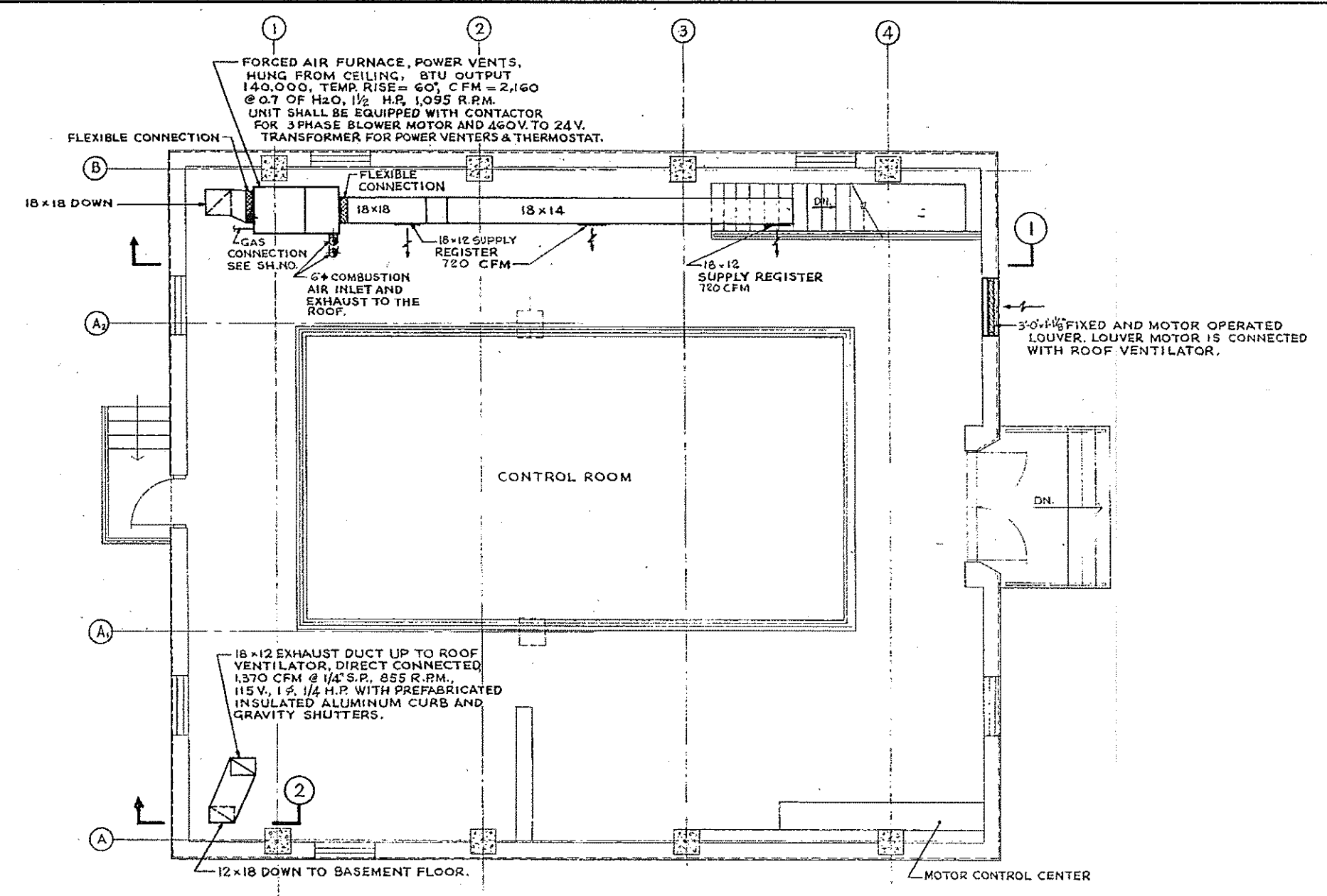


HALF-SIZE DRAWING

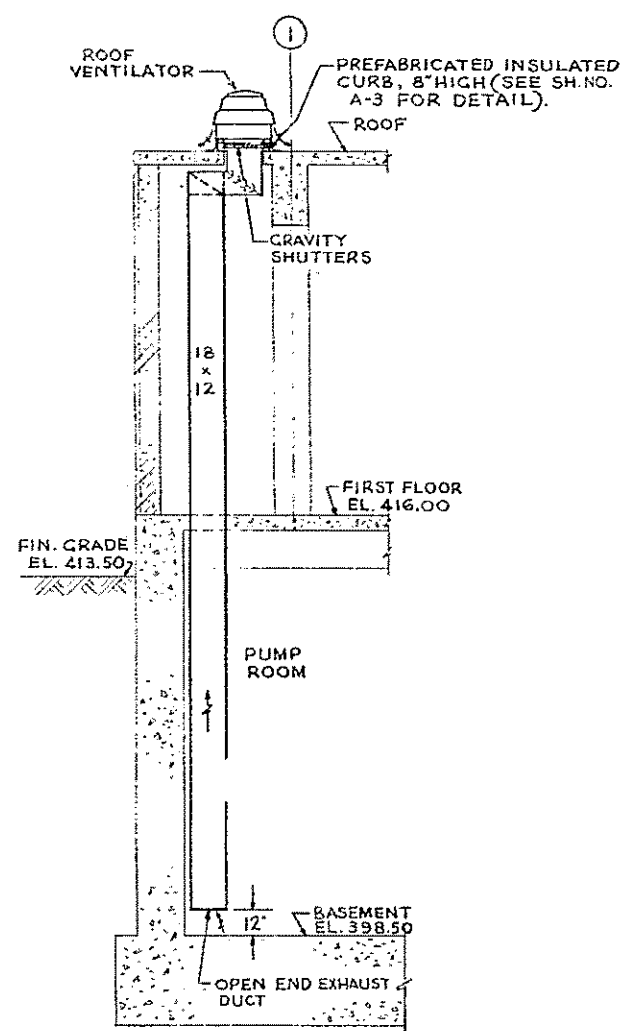
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
SCHEMATIC, NORTH OPPOSITE HAND
FLOWING
PLANS AND DETAILS
SCALE: 1/4" = 1'-0" FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. W. J. H. IN. C. L. M. P.L.C. JW-83
APPROVED *J. M. Colady* PLAN 62
CONTRACT DRAWING SHEET NO. 5P-1



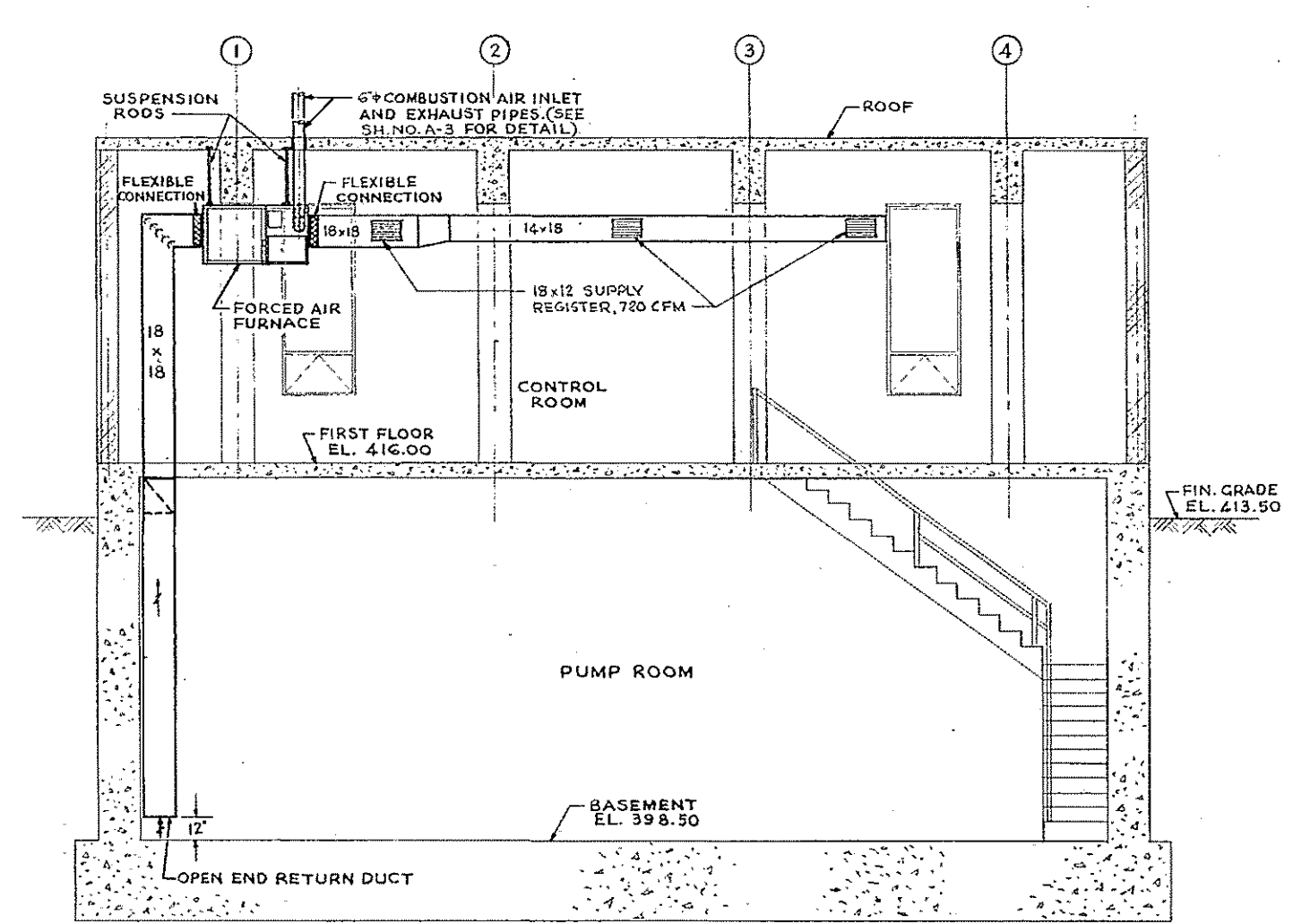
BASEMENT PLAN
(FIN. FL. EL. 398.50)



1ST. FLOOR PLAN
(FIN. FL. EL. 416.00)

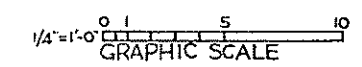


SECTION ②



SECTION ①

NOTE:
1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10 HV-9.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY



HALF-SIZE DRAWING

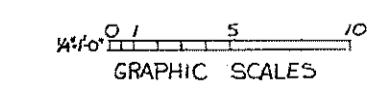
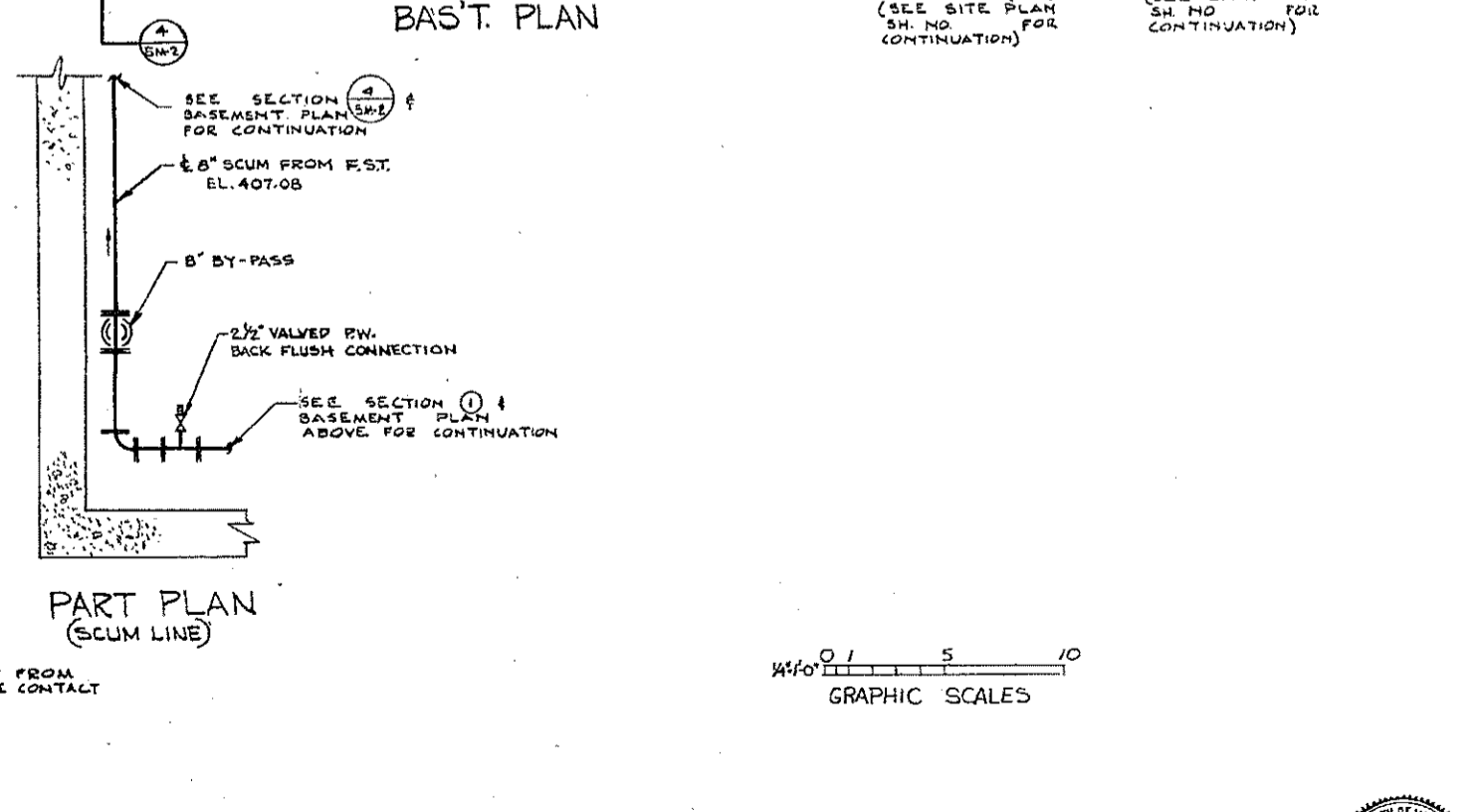
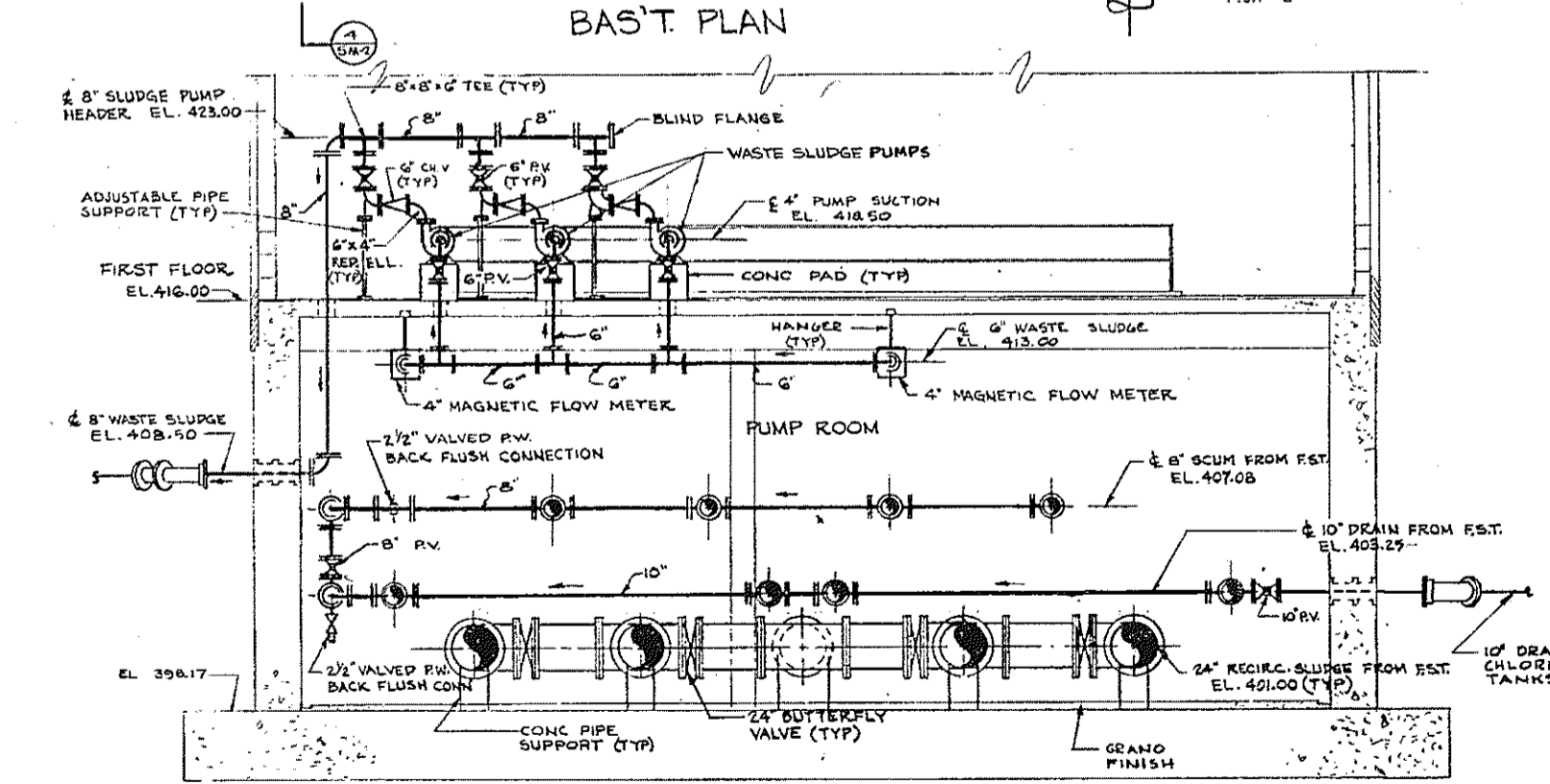
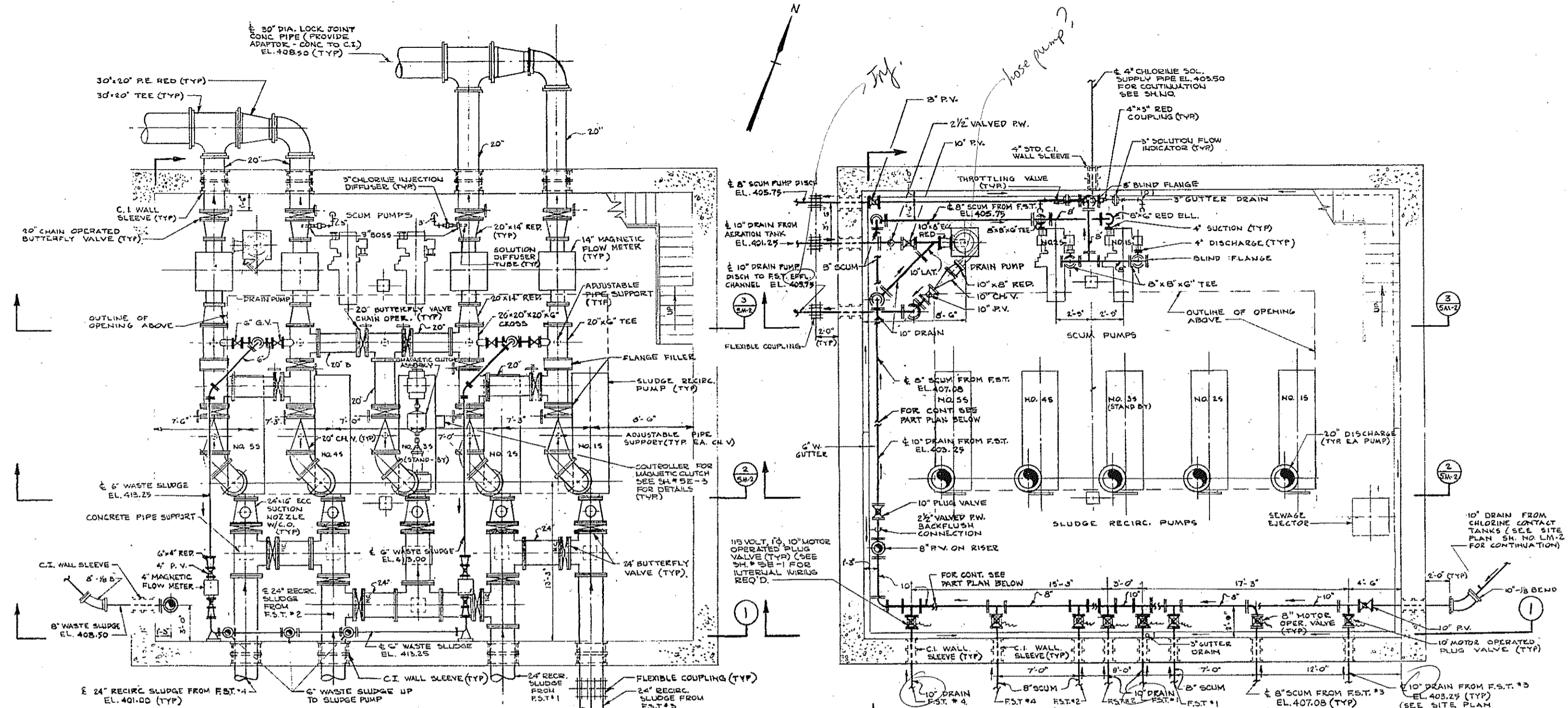
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
SOUTH BRIDGE, NORTH OPPOSITE PARK
HEATING AND VENTILATING
PLANS AND SECTION

SCALE: 1/4" = 1'-0" FEBRUARY 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. B. S. K. TR. CHEK. F. J. T. FILE NO. JW-83

APPROVED *F. M. Cahill* PLAN NO. 63



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING

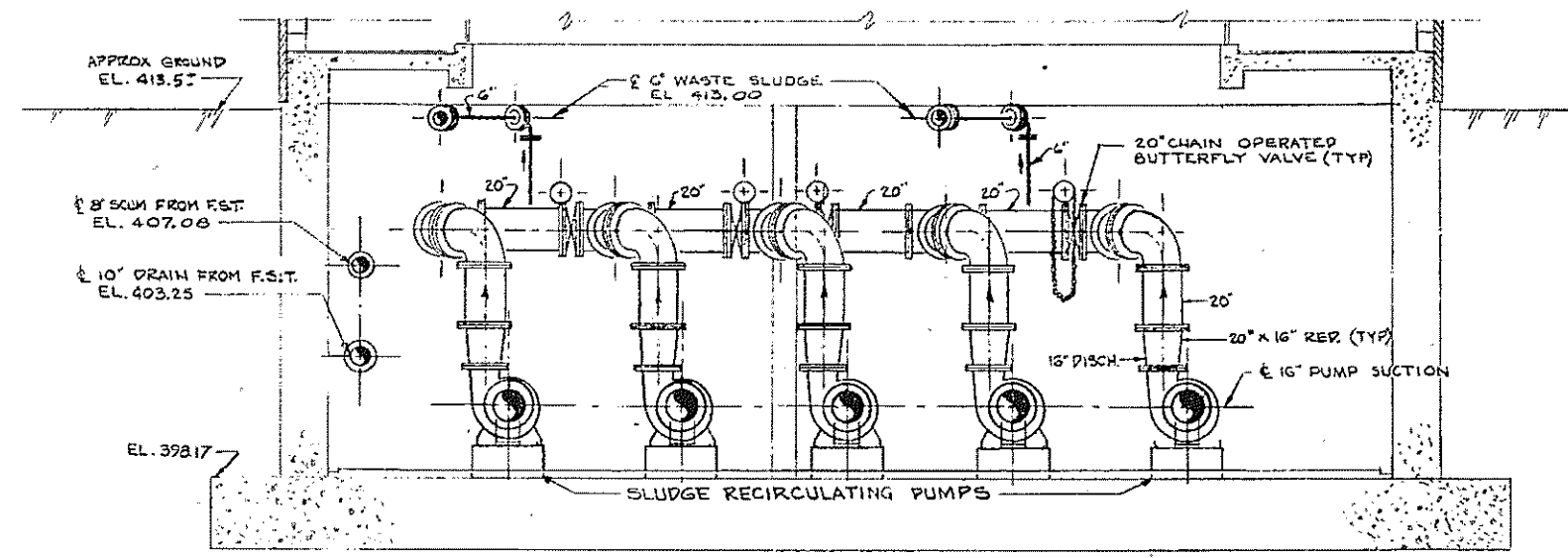
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
 SOUTH PUMPING STATION
 MECHANICAL PROCESS
 BASEMENT PLANS AND SECTION

SCALE: AS NOTED
 FEBRUARY 1973

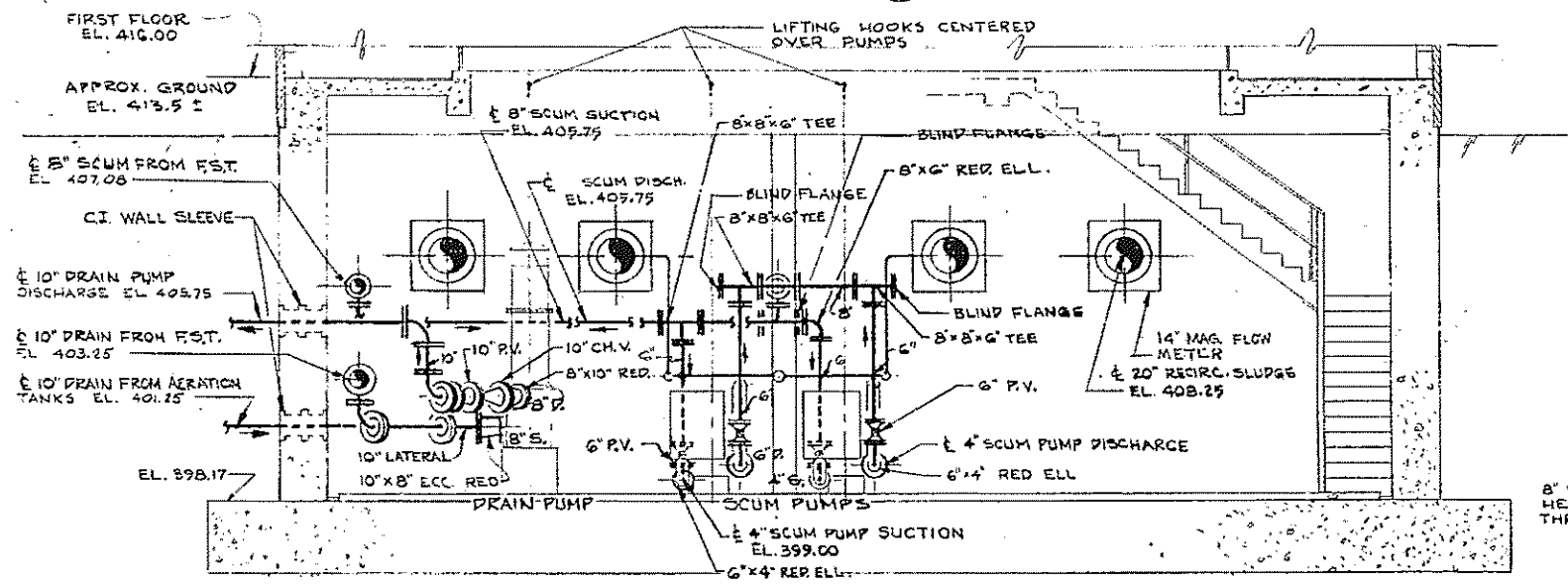
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. M.F.P., G.-J.S. TR. CHE. M.A.P.
 DR. W.F. FILE NO. JW-83
 APPROVED J.M. Cahaly PLAN NO. 64

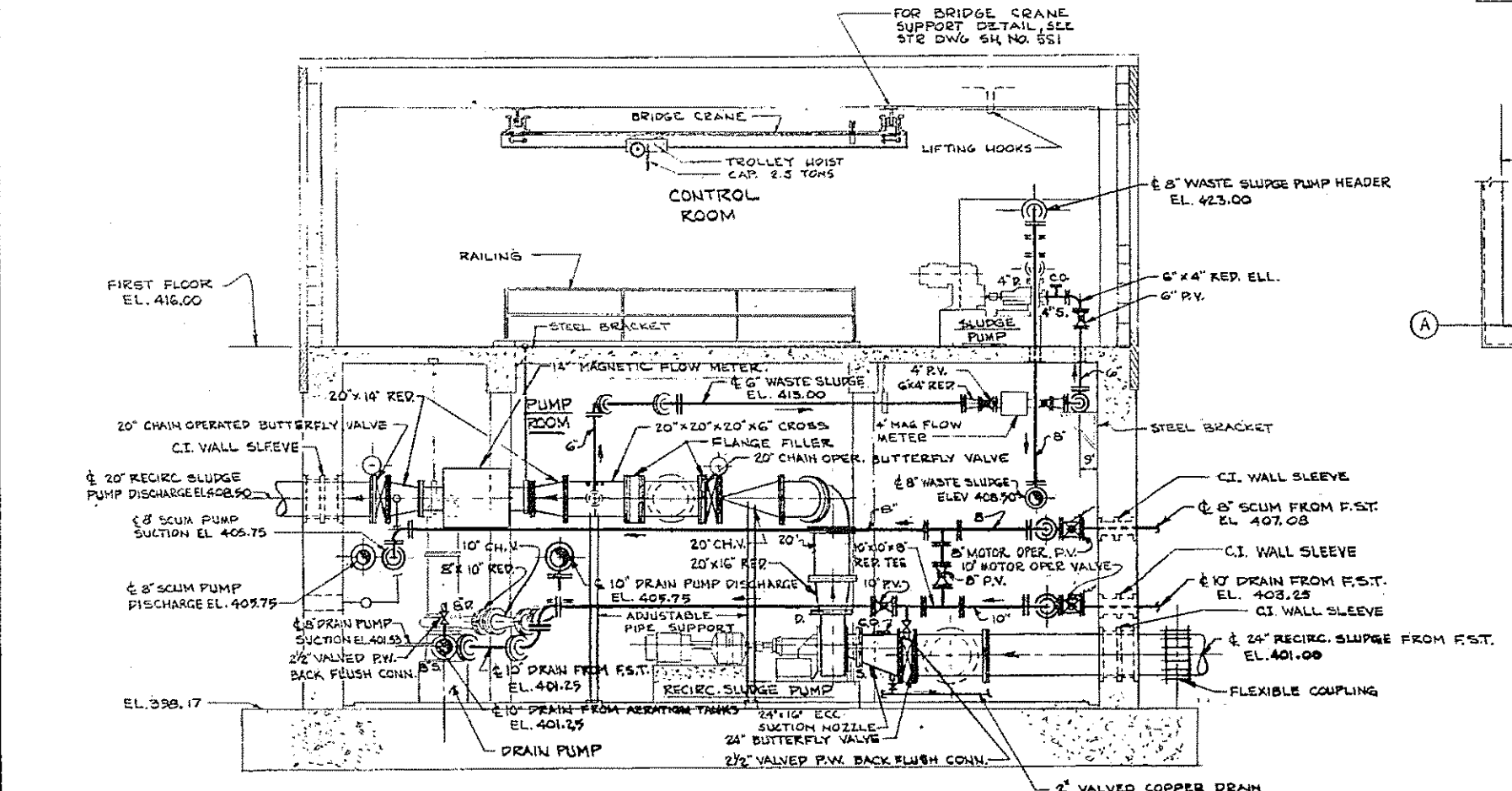
CONTRACT DRAWING SHEET NO. 5M-1



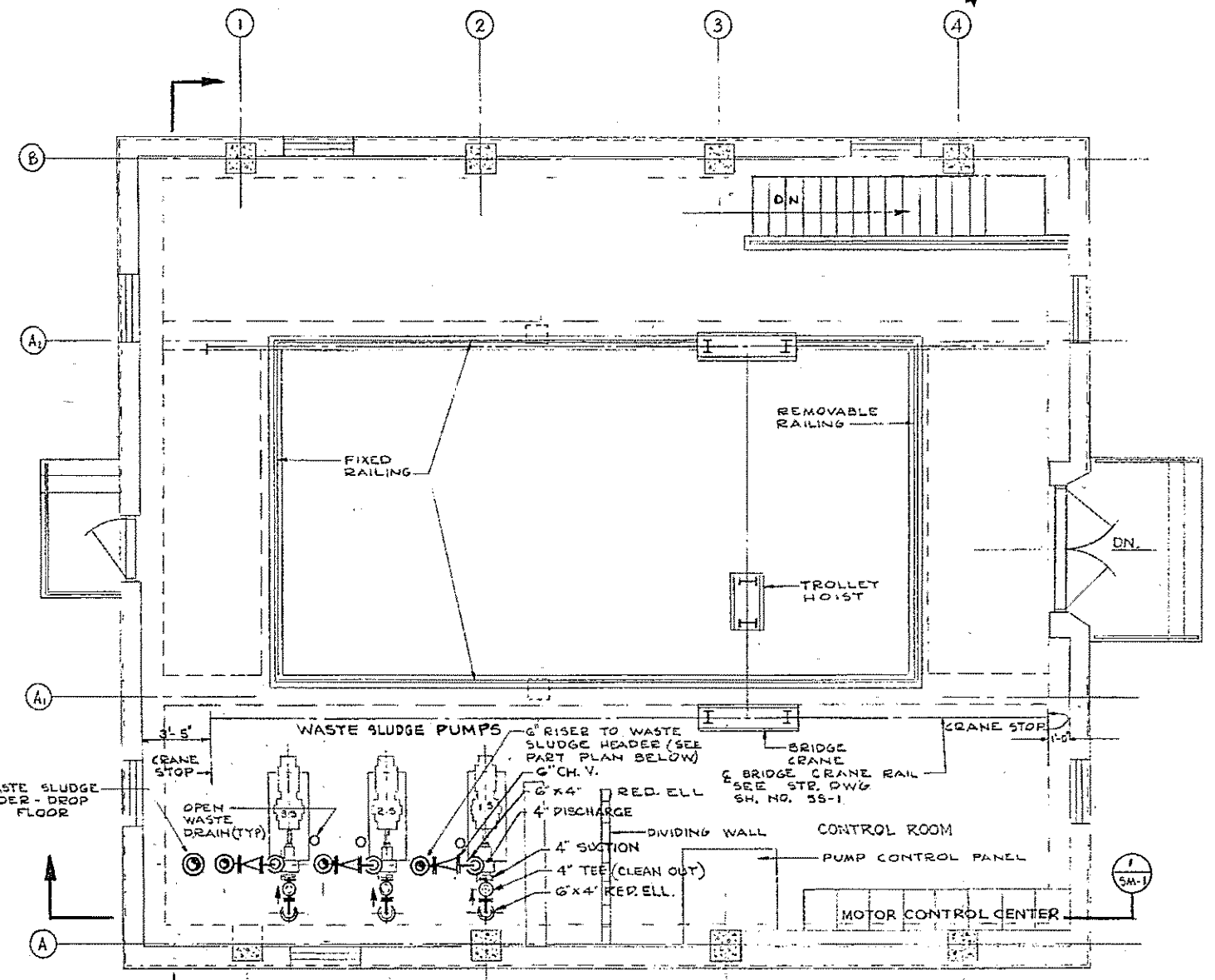
SECTION 2



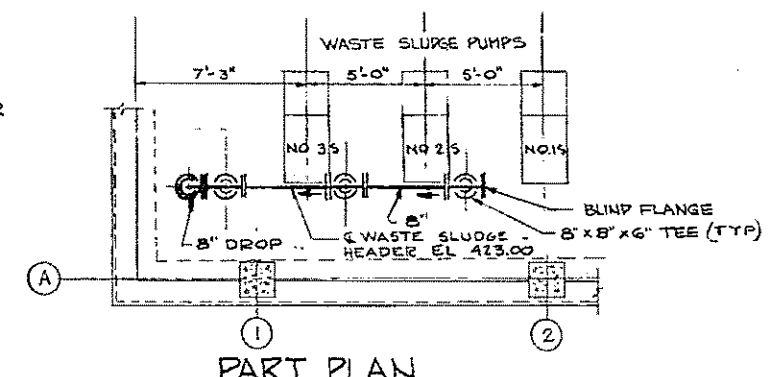
SECTION 3



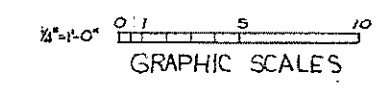
SECTION 4



1ST. FLOOR PLAN



PART PLAN



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2

SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
SOUTH PUMPING STATION
MECHANICAL PROCESS

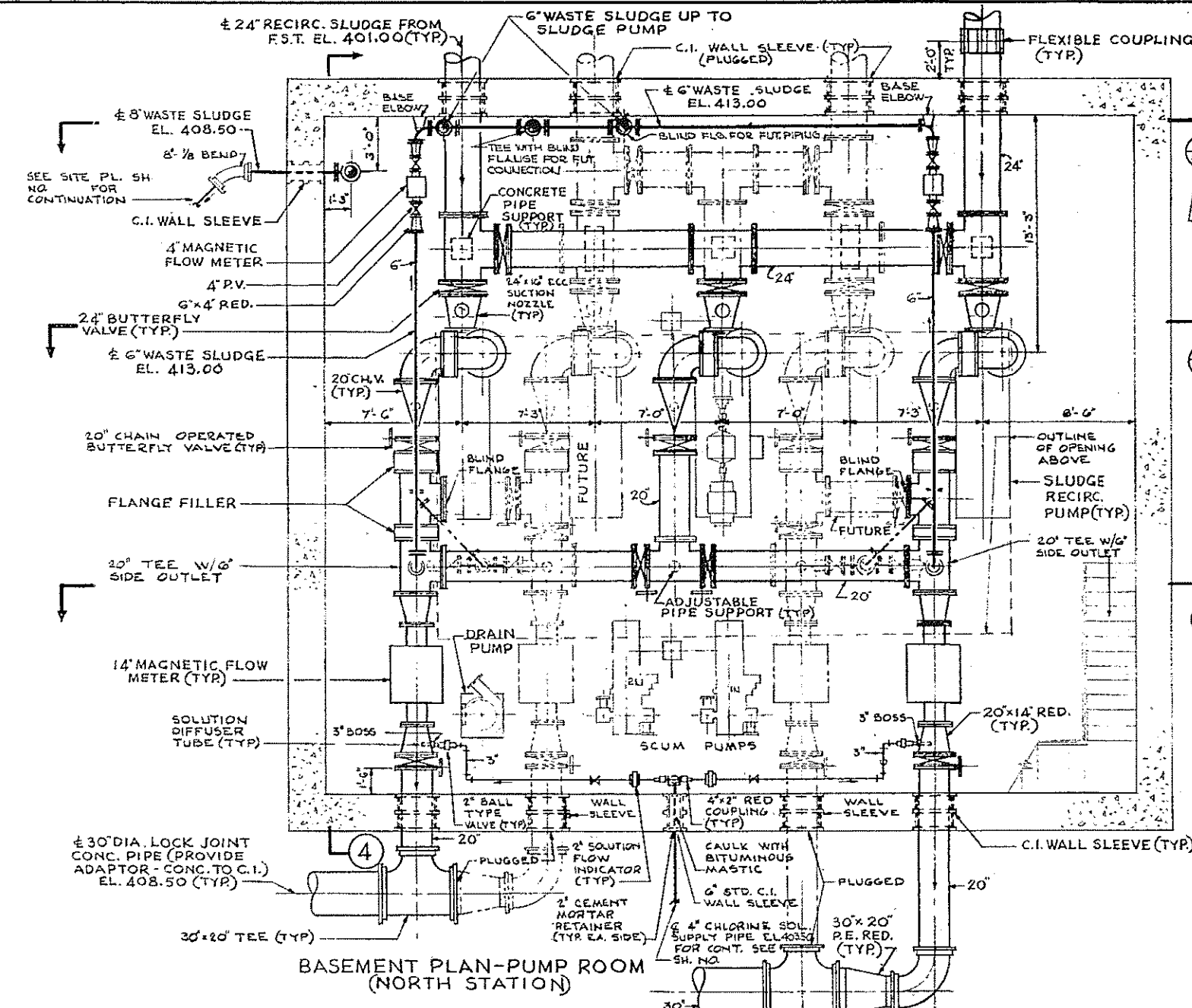
FIRST FLOOR PLAN AND SECTION

SCALE: AS NOTED FEB. 1975

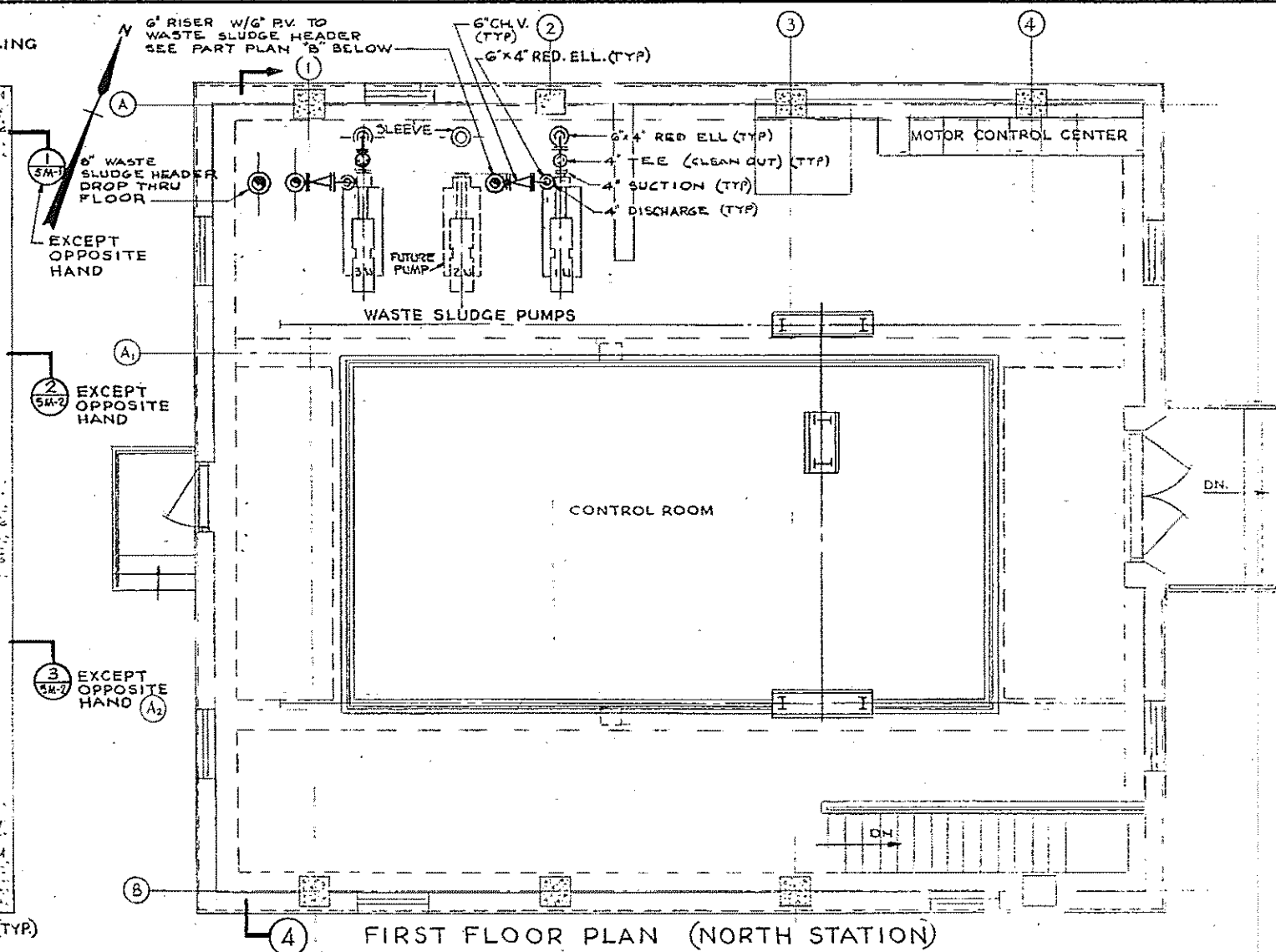
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. M.A.R. G.J.P.	TR. DR. L.J.M. P. MACIEL	CHK. M.A.D.	REV. JW-83
APPROVED <i>J.M. Cahaly</i>	DATE MAY 65		

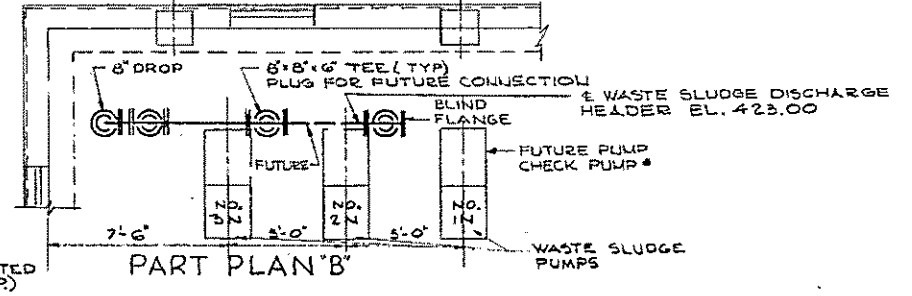
CONTRACT DRAWING SHEET NO. 5M-2



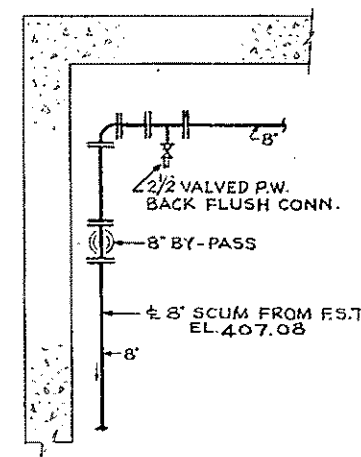
BASEMENT PLAN - PUMP ROOM (NORTH STATION)



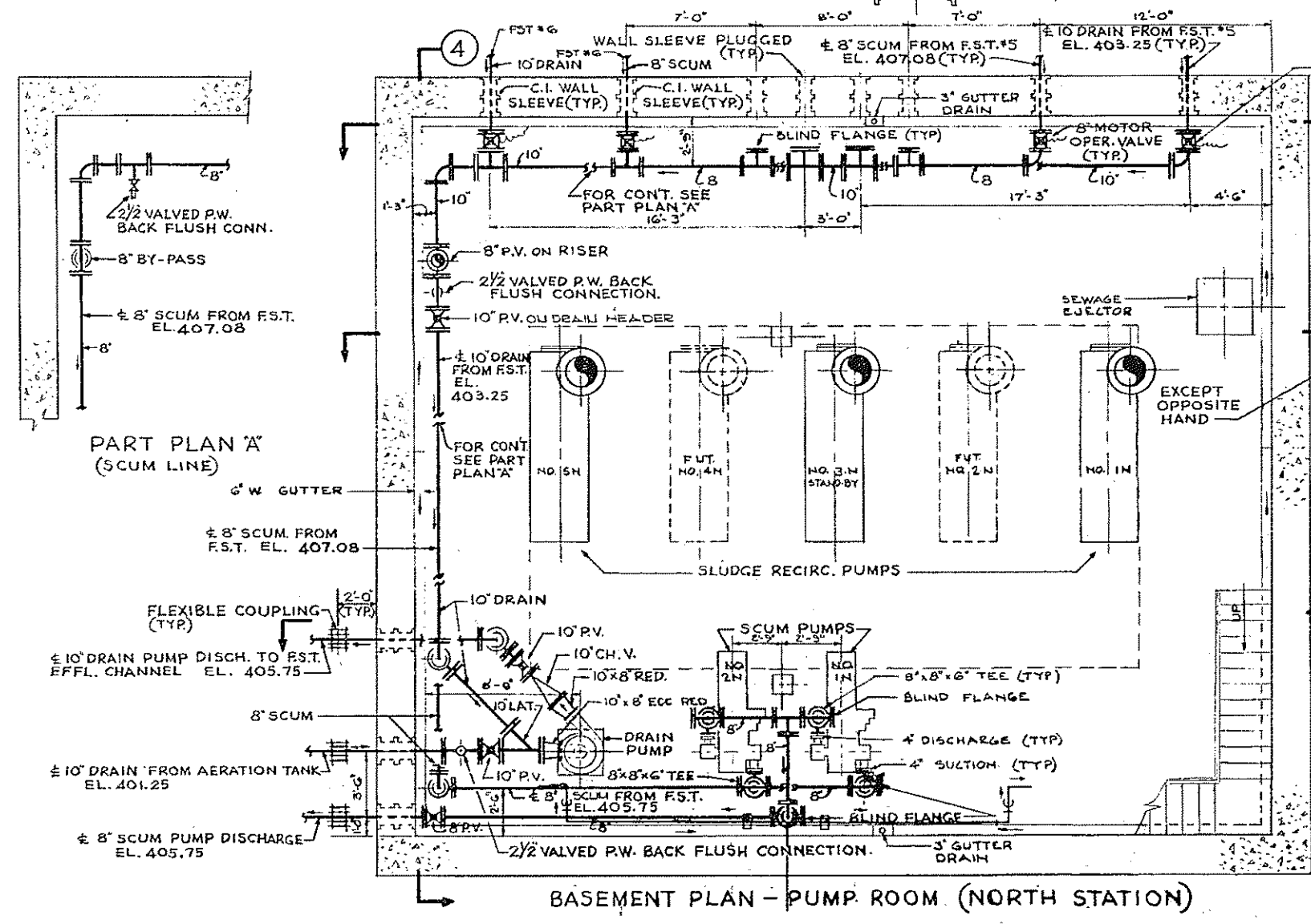
FIRST FLOOR PLAN (NORTH STATION)



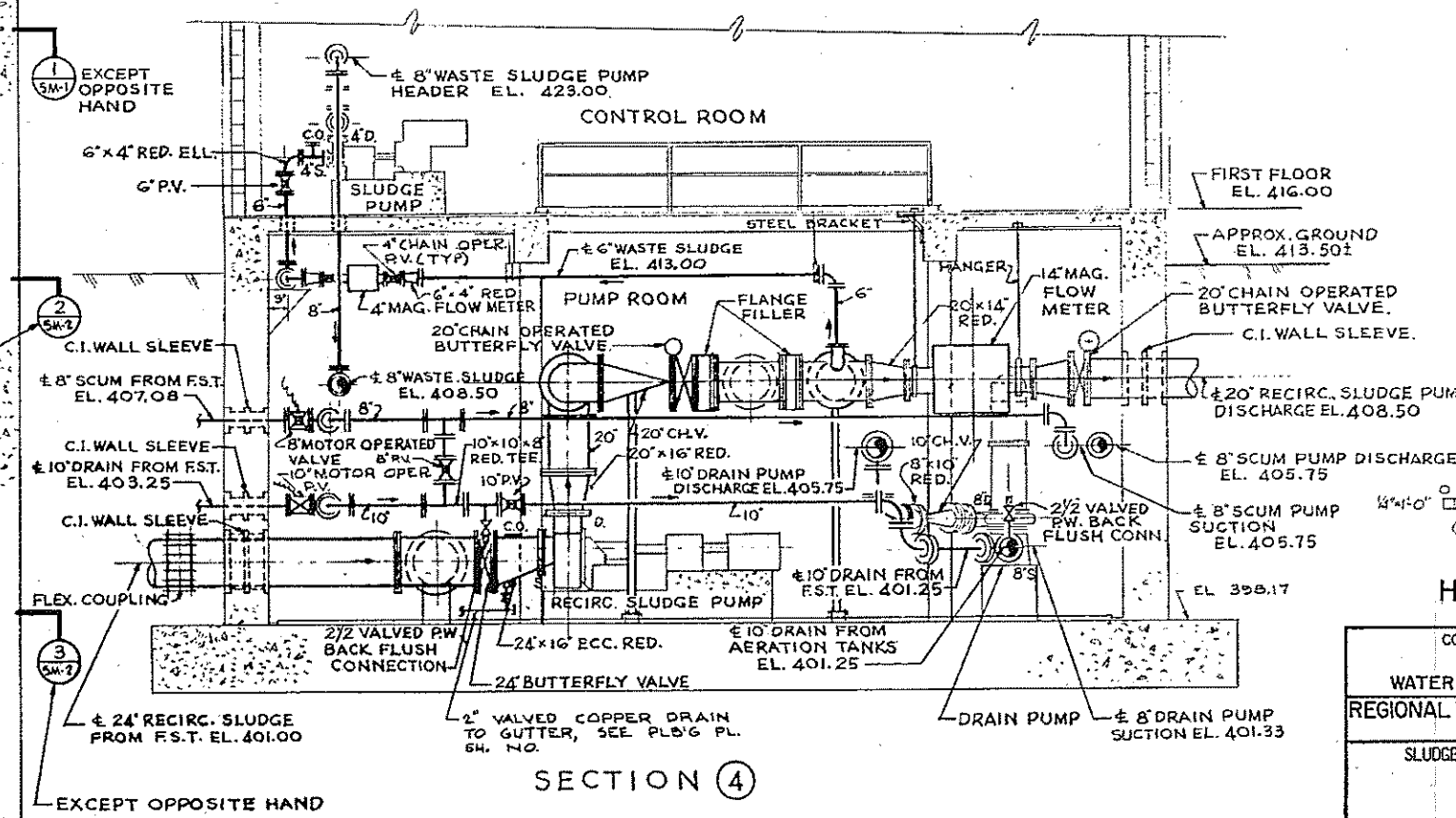
PART PLAN B



PART PLAN A (SCUM LINE)



BASEMENT PLAN - PUMP ROOM (NORTH STATION)



SECTION 4

NOTE: 1. FOR SECTIONS 1, 2 AND 3 SEE SH. NO.

GRAPHIC SCALES

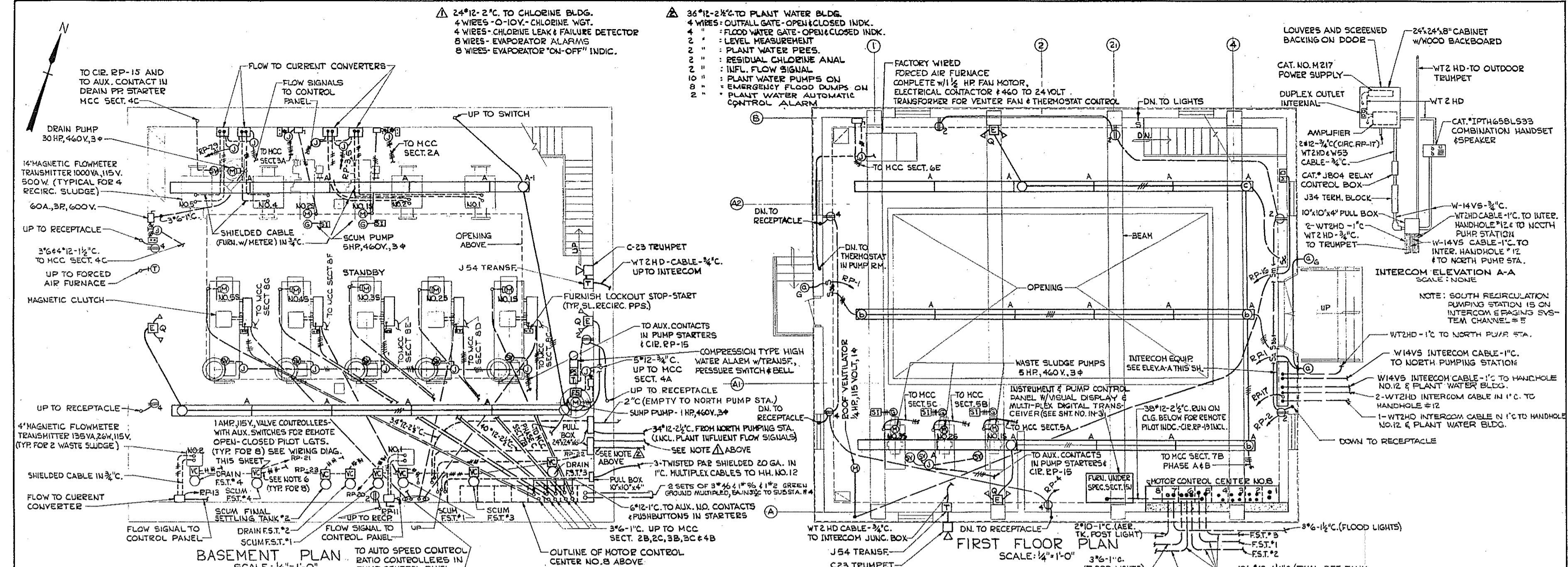
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE RECIRCULATION STATIONS, F.N.-5
 NORTH PUMPING STATION
 MECHANICAL PROCESS
 PLANS AND SECTION

SCALE: AS NOTED
 FEBRUARY 1975
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. S.A. M.A.P. DR. L.M. W.F.
 IN CH. R.N.S. M.A.P.
 FILE NO. JW-83
 APPROVED *F.M. Cahaly* PLAN NO. 66

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY

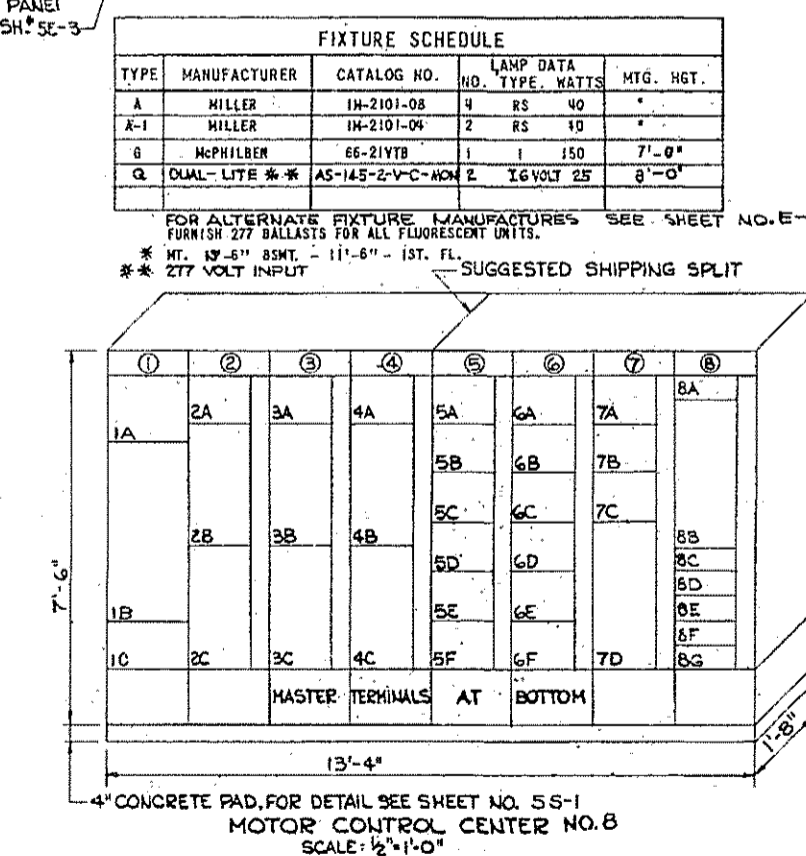




MOTOR CONTROL CENTER NO. 8 SCHEDULE (277/480 V. 3 Ø, 4 W.)

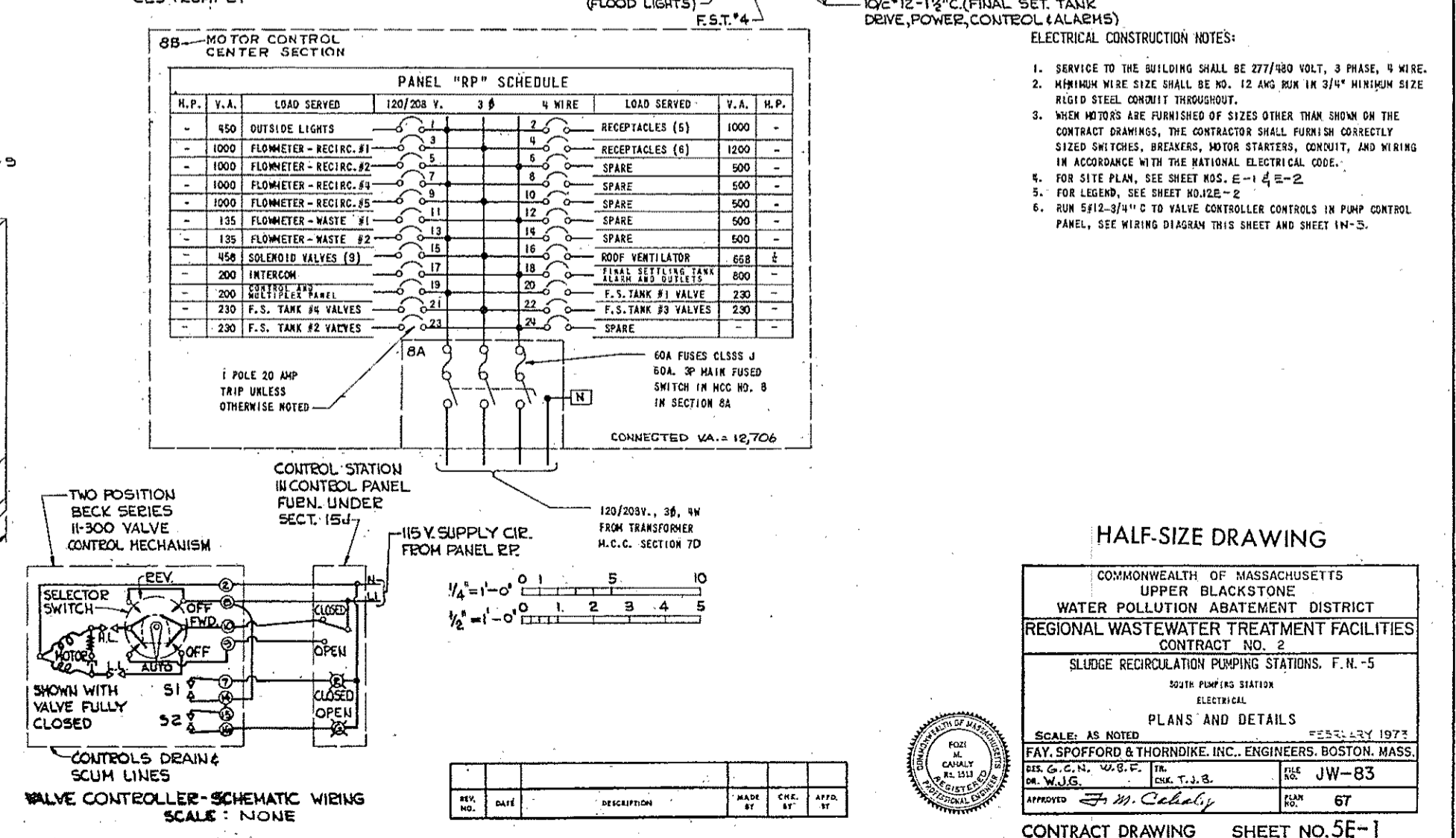
SECT. NO.	NAMEPLATE	HP	NEMA SIZE	H.O.A.	S.S.	PILOT LGTS. RED/GREEN	MODIFICATIONS	FRAME	POLES	FUSE
1A	SPACE	-	-	-	-	-	-	-	-	-
1B	MAIN INCOMING SERVICE	-	-	-	-	-	-	600	3	450
1C	SPACE	-	-	-	-	-	-	-	-	-
2A	SCUM PUMP NO. 15	5	1	-	-	-	PULLING SPACE	-	-	-
2B	SLUDGE RECIRC. PUMP NO. 15	50	3	-	-	-	REMOTE SS-SEE NOTE C	-	-	-
2C	SLUDGE RECIRC. PUMP NO. 25	40	3	-	-	-	SEE NOTE B	-	-	-
3A	SCUM PUMP NO. 25	5	1	-	-	-	REMOTE SS-SEE NOTE C	-	-	-
3B	SLUDGE RECIRC. PUMP NO. 35	40	3	-	-	-	SEE NOTE B	-	-	-
3C	SLUDGE RECIRC. PUMP NO. 45	40	3	-	-	-	SEE NOTE B	-	-	-
4A	SUMP PUMP	1	1	-	-	-	REMOTE START SWITCH	-	-	-
4B	SLUDGE RECIRC. PUMP NO. 55	40	3	-	-	-	SEE NOTE B	-	-	-
4C	DRAIN PUMP	30	3	-	-	-	KEYOVS AND AUX. N.O. CONTACTS FOR WATER SEAL	-	-	-
5A	WASTE SLUDGE PUMP NO. 15	5	1	-	-	-	SEE NOTE C	-	-	-
5B	WASTE SLUDGE PUMP NO. 25	5	1	-	-	-	SEE NOTE C	-	-	-
5C	WASTE SLUDGE PUMP NO. 35	5	1	-	-	-	SEE NOTE C	-	-	-
5D	SPACE	-	-	-	-	-	-	-	-	-
5E	SPACE	-	-	-	-	-	-	-	-	-
5F	SPACE	-	-	-	-	-	-	-	-	-
6A	SETTLING TANK DRIVE NO. 1	1/2	1	-	-	-	REMOTE TORQUE SWAS-SEE NOTE C	-	-	-
6B	SETTLING TANK DRIVE NO. 2	1/2	1	-	-	-	REMOTE TORQUE SWAS-SEE NOTE C	-	-	-
6C	SETTLING TANK DRIVE NO. 3	1/2	1	-	-	-	REMOTE TORQUE SWAS-SEE NOTE C	-	-	-
6D	SETTLING TANK DRIVE NO. 4	1/2	1	-	-	-	REMOTE TORQUE SWAS-SEE NOTE C	-	-	-
6E	FURNACE	1/2	1	-	-	-	REMOTE TORQUE SWAS-SEE NOTE C	-	-	-
6F	SPACE	-	-	-	-	-	-	-	-	-
7A	FLOODLIGHTS SETTLING TANKS	-	-	-	-	-	12.0 KVA (INCLUDES ONE AIR)	30	3	20
7B	BUILDING LIGHTING	-	-	-	-	-	4.0 KVA	30	3	20
7C	SPACE	-	-	-	-	-	-	-	-	-
7D	208Y/120V. TRANSF.-15 KVA	-	-	-	-	-	480 TO 277/120 V., 3Ø, 4W. N.O. 2 1/2S 1475 AND ON AND W/MAIN FUSIBLE SWITCH	-	-	-
8A	PANELBOARD "RP" MAIN	-	-	-	-	-	-	60	3	60
8B	PANELBOARD "RP"	-	-	-	-	-	24 CIRCUIT-SEE SCHEDULE	-	-	-
8C	RECIRC. PP. NO. 15 CONTROL	-	-	-	-	-	-	30	2	15
8D	RECIRC. PP. NO. 25 CONTROL	-	-	-	-	-	-	30	2	15
8E	RECIRC. PP. NO. 35 CONTROL	-	-	-	-	-	-	30	2	15
8F	RECIRC. PP. NO. 45 CONTROL	-	-	-	-	-	-	30	2	15
8G	RECIRC. PP. NO. 55 CONTROL	-	-	-	-	-	-	30	2	15

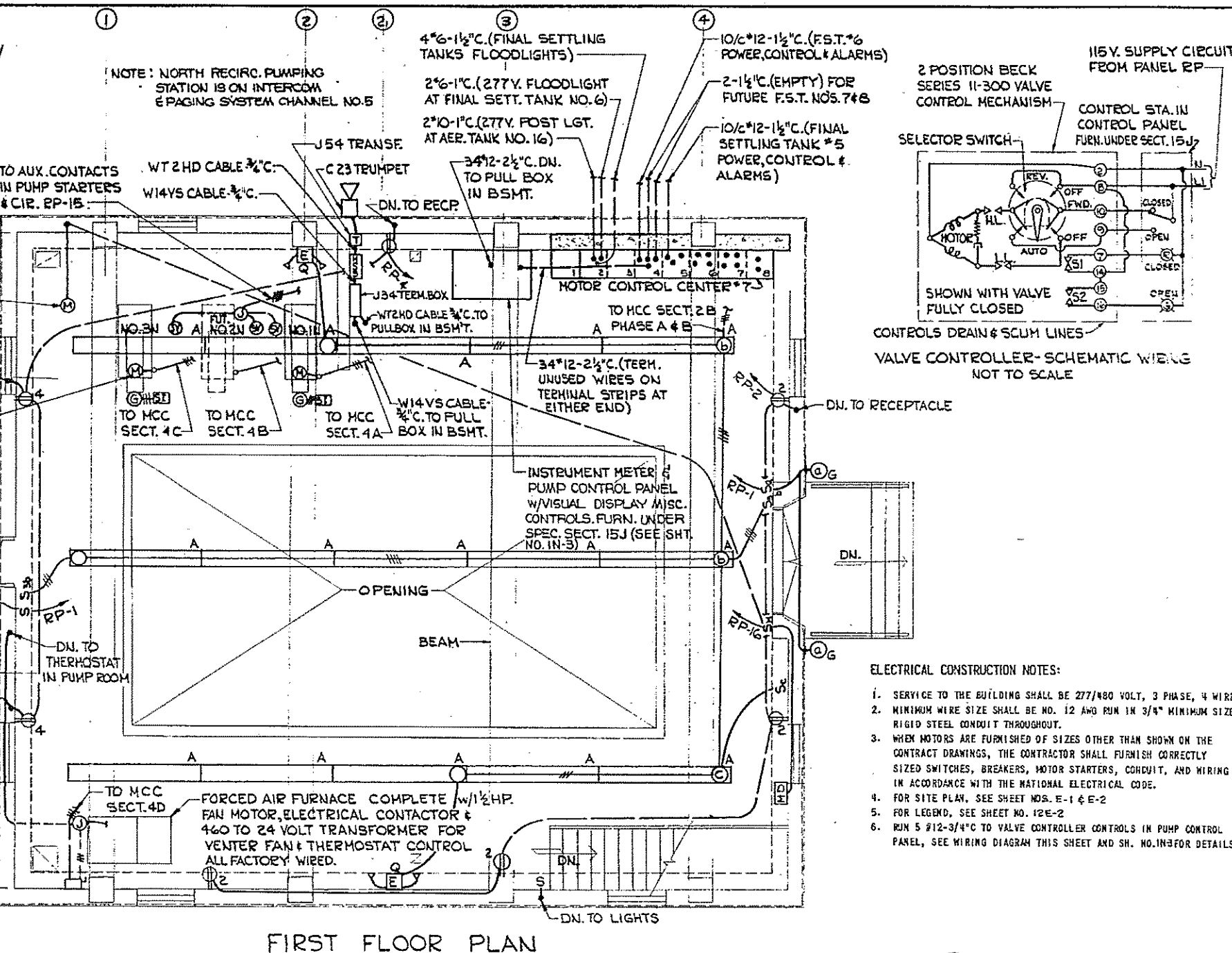
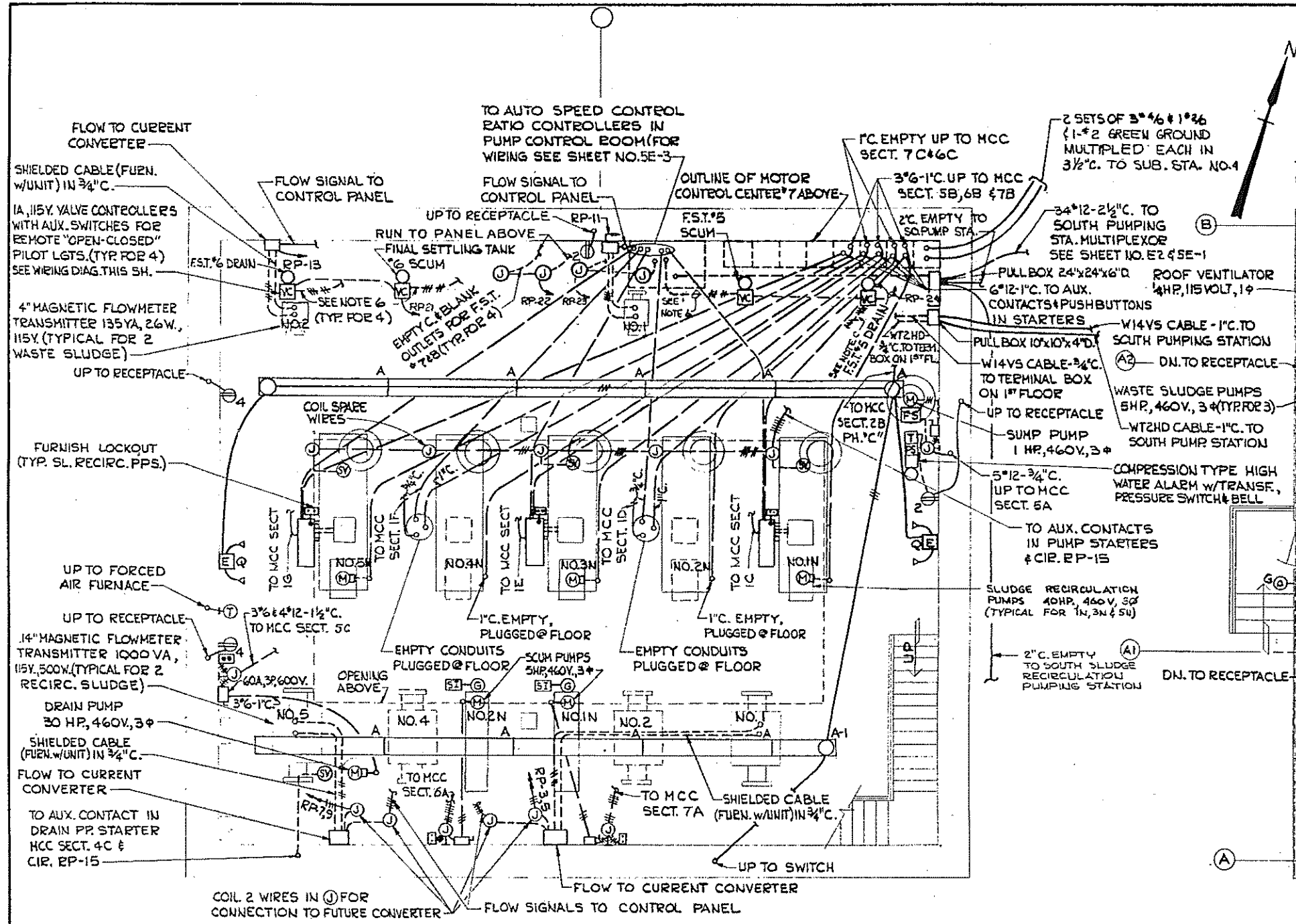
E. ALL FUSES SHALL BE CLASS "J" OR "L" AS REQ'D



MOTOR CONTROL CENTER NOTES:

- FURNISH ALL STARTERS WITH FUSED 480 TO 120 V. CONTROL TRANSFORMERS.
- FURNISH IN THIS SECTION 4 AUXILIARY N.O. CONTACTS FOR REMOTE SOLENOID VALVE, WATER SEAL CONTROL, SPEED CONTROLLER, AND REMOTE PILOT INDICATION, SEE SCHEMATIC DIAGRAM ON SHEET NO. 5E-3
- PROVIDE AUX. N.O. CONTACT FOR REMOTE PILOT INDICATION THROUGH MULTIPLEXER.

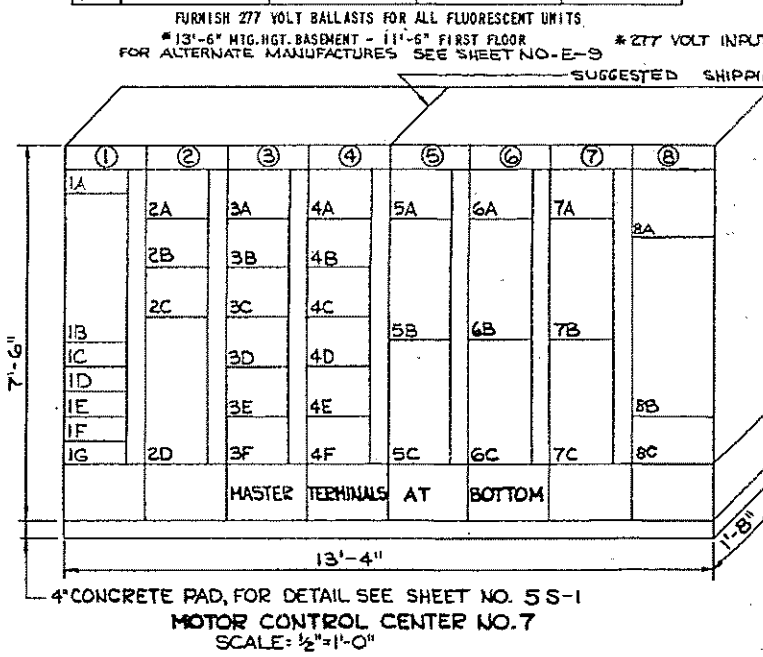
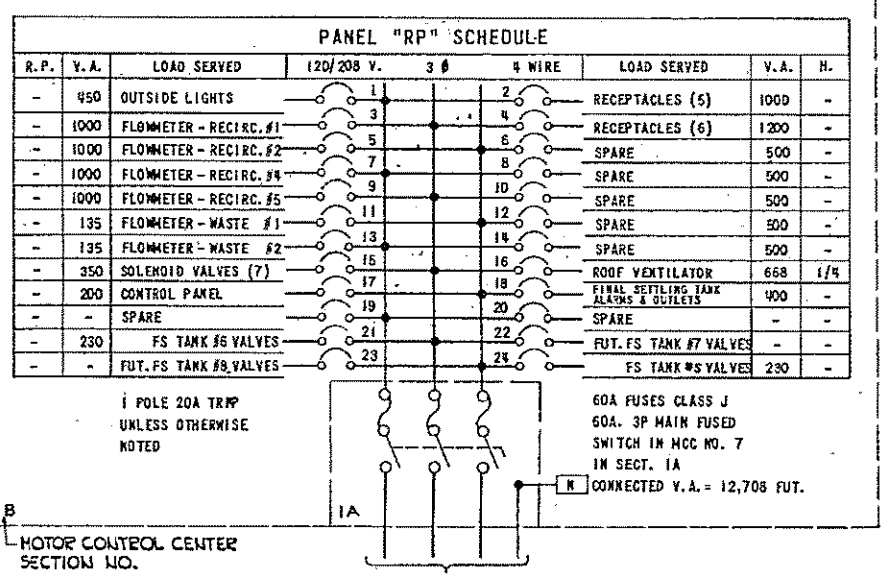




FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA NO. TYPE WATTS	MTG. HGT.
A	MILLER	1M-2101-03	4 RS 40	*
A-1	MILLER	1M-2101-04	2 RS 40	*
G	HCPHILSEN	66-21YB	1 I 150	7'-0"
Q	DUALITE	45-145 2-W-C-140A	2 I-6VOLT 25	8'-0"

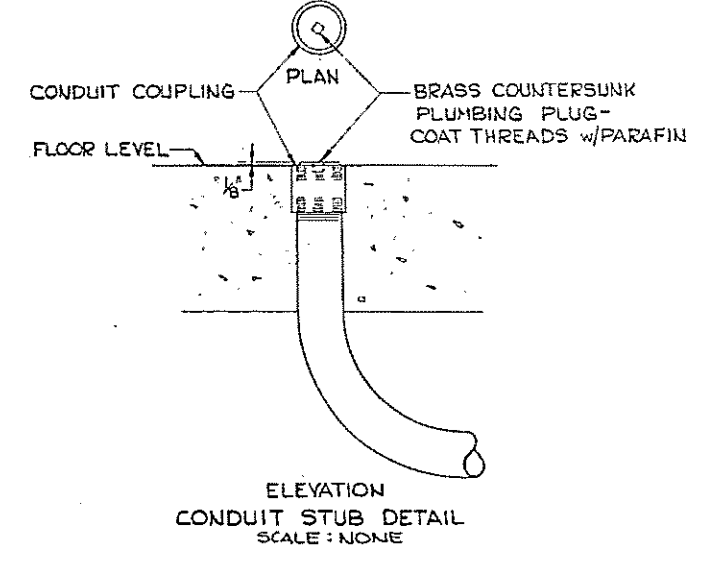
FURNISH 277 VOLT BALLASTS FOR ALL FLUORESCENT UNITS.
* 13'-6" MTG. HGT. BASEMENT - 11'-6" FIRST FLOOR
FOR ALTERNATE MANUFACTURERS SEE SHEET NO. E-3
* 277 VOLT INPUT
- - - SUGGESTED SHIPPING SPLIT



MOTOR CONTROL CENTER NOTES:

- FURNISH ALL STARTERS WITH FUSED 480 TO 120 V. CONTROL TRANSFORMERS.
- FURNISH IN THIS SECTION 4 AUXILIARY H.O. CONTACTS FOR REMOTE SOLENOID VALVE AND WATER SEAL CONTROL AND SPEED CONTROLLER AND REMOTE PILOT INDICATION. SEE SCHEMATIC DIAGRAM ON SHEET NO. 5E-3.
- PROVIDE AUX. H.O. CONTACT FOR REMOTE PILOT INDICATION THROUGH MULTI-PLEXED.

D. ALL FUSES SHALL BE CLASS "J" OR "L" AS REQ'D.

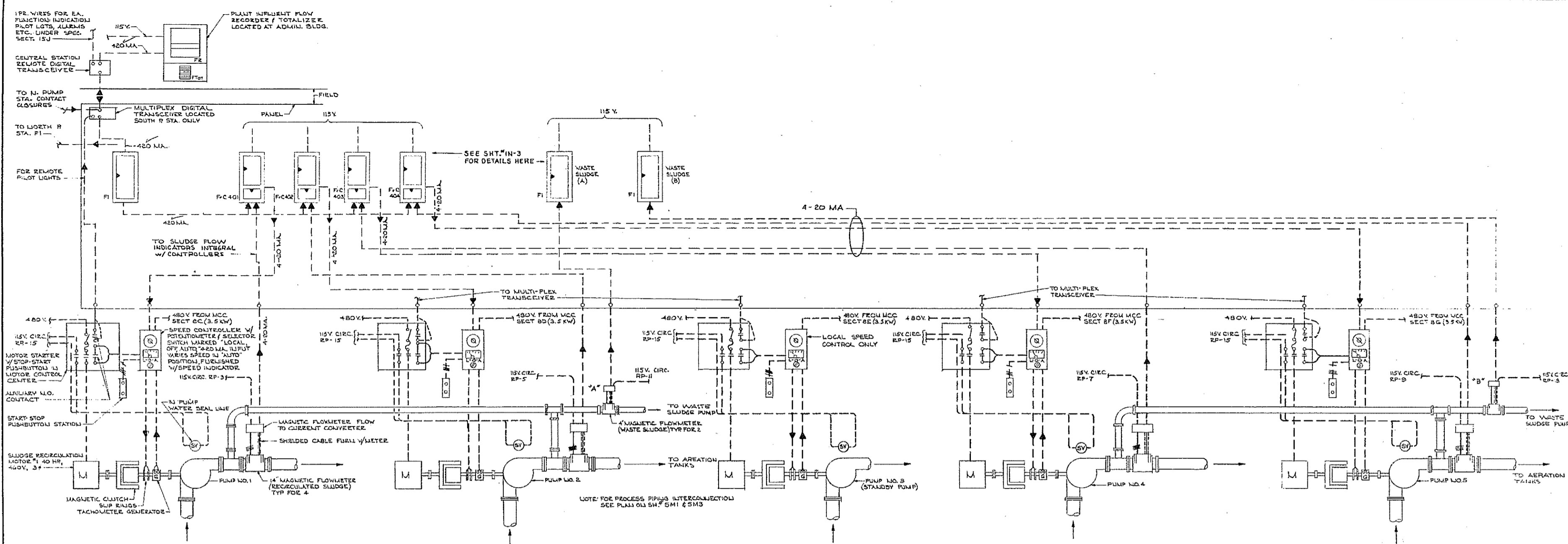


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
NORTH PHOENIX STATION
ELECTRICAL
PLANS AND DETAILS

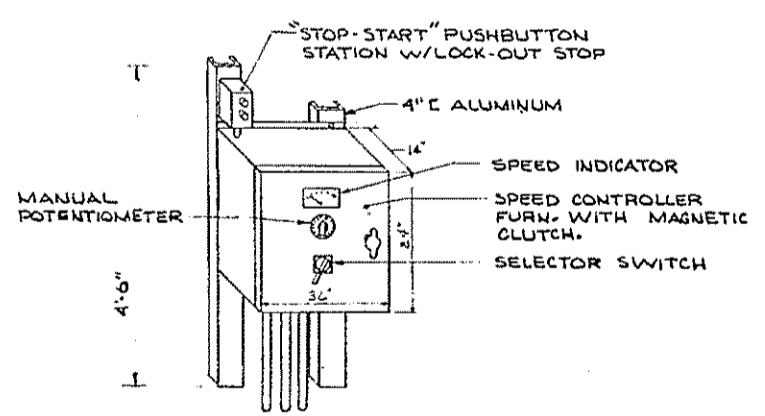
SCALE: AS NOTED
FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.C.N., W.B.P., JR.
CHK. T.J.B.
FILE NO. JW-83
APPROVED: J.M. Calahy
68

CONTRACT DRAWING SHEET NO. 5E-2



SLUDGE RECIRCULATION PUMPS CONTROL SCHEMATIC
SCALE: NONE

NOTE: WIRING IS SHOWN FOR THE SOUTH SLUDGE RECIRCULATION PUMP STATION. UNITS 2 & 4 ARE OMITTED IN THE NORTH SLUDGE RECIRCULATION PUMP STATION



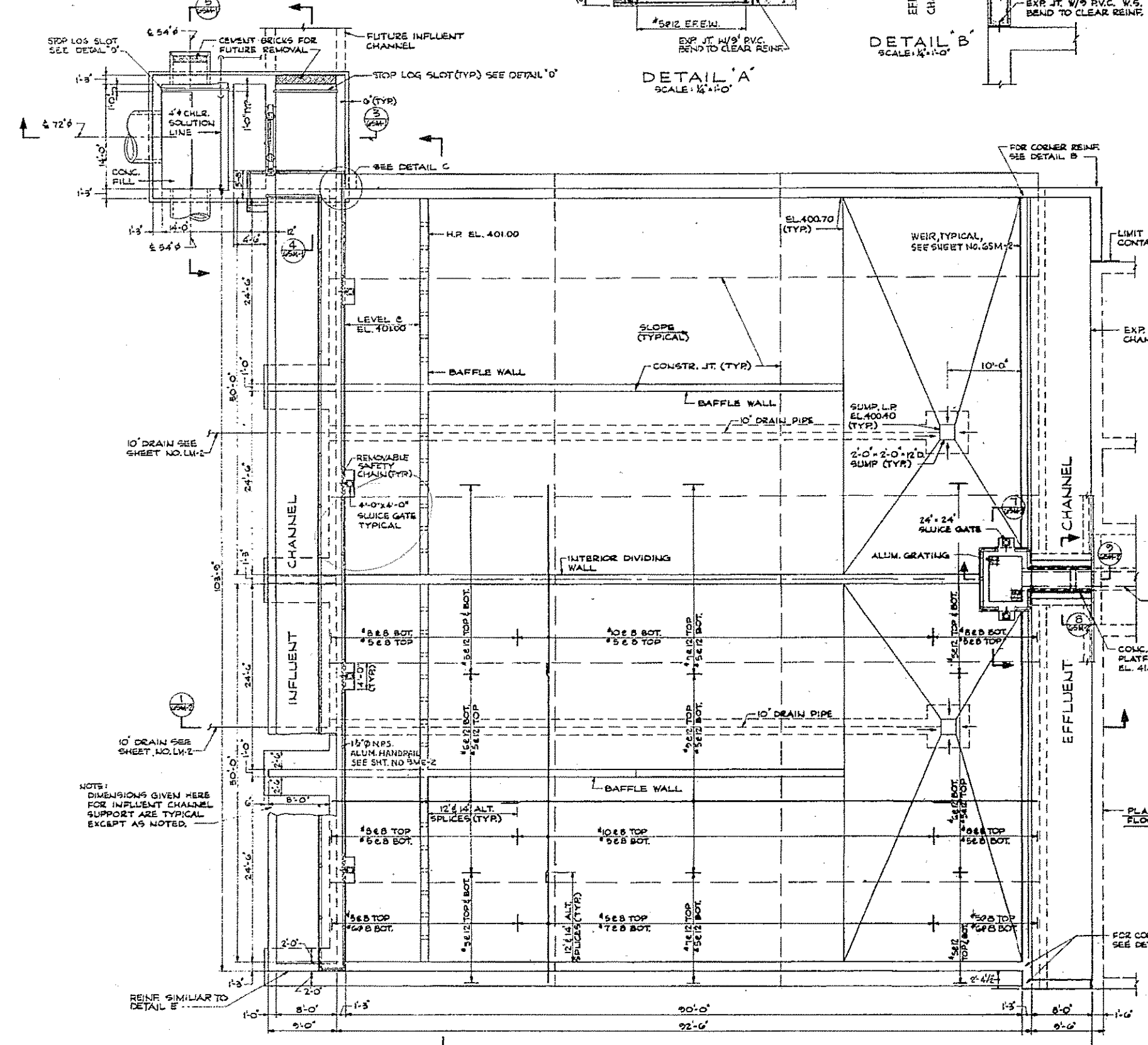
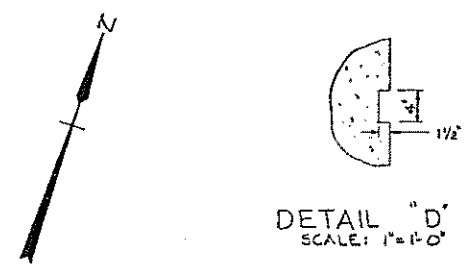
SLUDGE RECIRCULATION PUMP SPEED CONTROLLER MOUNTING DETAIL
SCALE: NONE

HALF-SIZE DRAWING

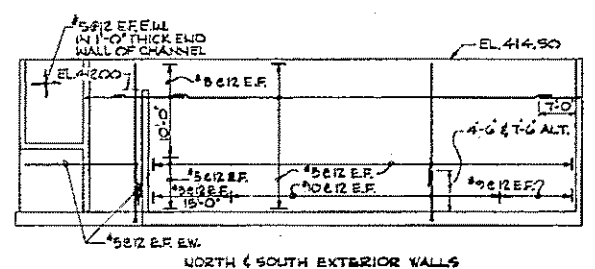
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE RECIRCULATION PUMPING STATIONS, F.N.-5
ELECTRICAL
NORTH AND SOUTH PUMPING STATIONS
WIRING SCHEMATICS AND DETAILS
SCALE: NONE
FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.C.N., W.B.F. FILE NO. JW-83
DR. G.H. CHK. T.S.B.
APPROVED *F. M. Cahaly* JUN 69

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

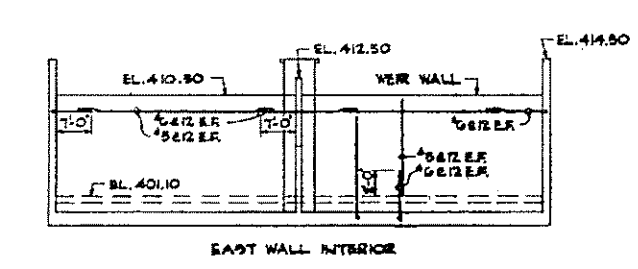




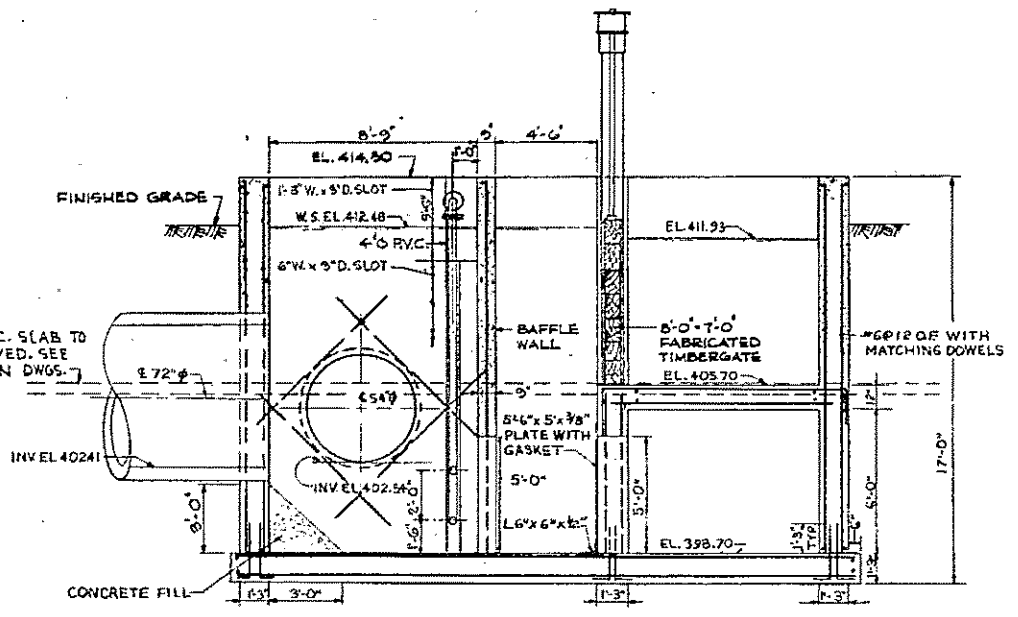
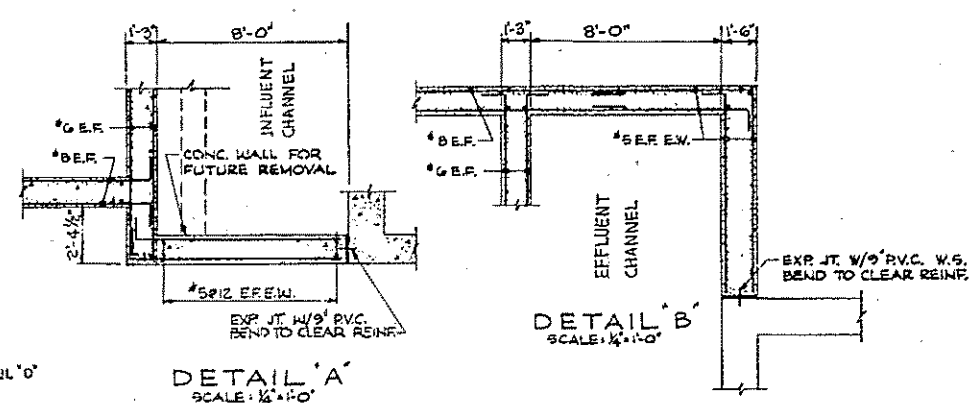
PLAN, SCALE: 1/4"=1'-0"



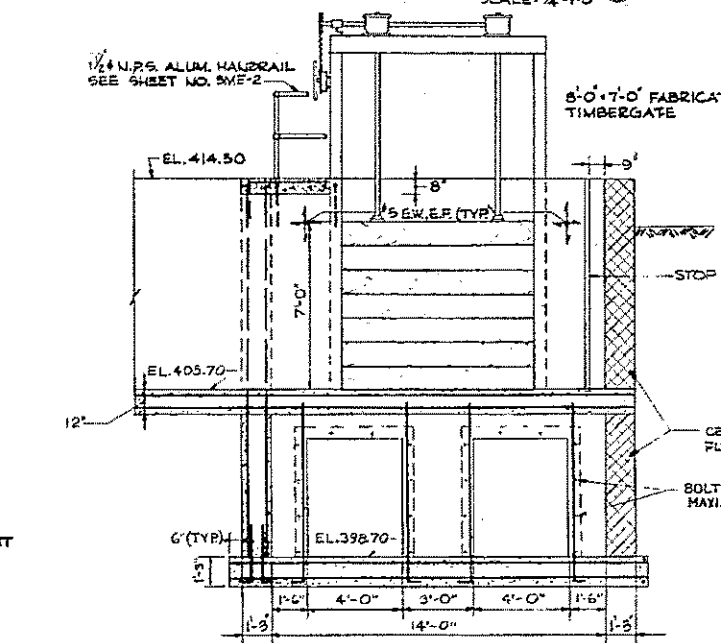
TYPICAL WALL ELEVATIONS NOT TO SCALE



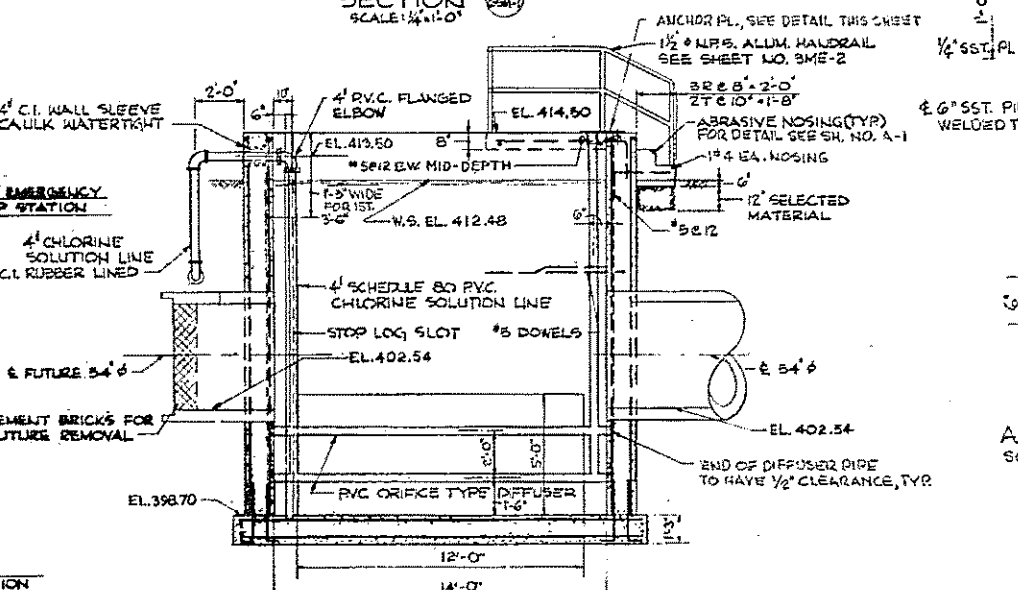
EAST WALL INTERIOR



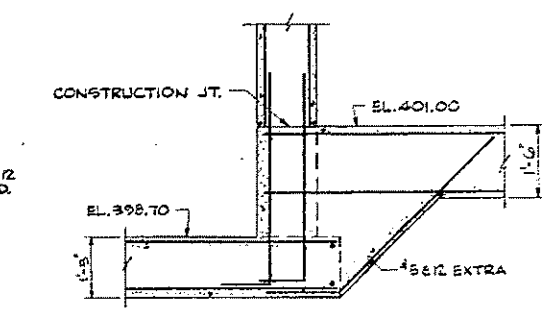
SECTION 3, SCALE: 1/4"=1'-0"



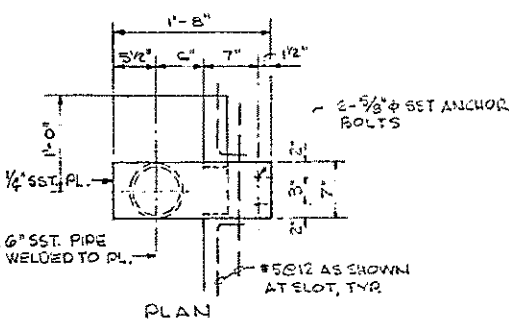
SECTION 4, SCALE: 1/4"=1'-0"



SECTION 5, SCALE: 1/4"=1'-0"

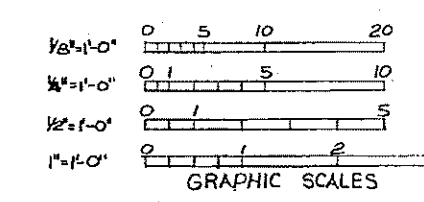


DETAIL 'C', SCALE: 1/4"=1'-0"



ANCHOR PLATE DETAIL, SCALE: 1"=1'-0"

- NOTES
1. FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 105-1.
 2. FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2.
 3. STRUCTURE DESIGNED AND CHECKED AGAINST FLOTATION AT DESIGN GROUND WATER ELEVATION 405.0 WITH TANKS EMPTY AND BACKFILL IN PLACE UP TO ELEVATION 412.0.
 4. STRUCTURE ALSO CHECKED AGAINST FLOTATION AT FLOOD WATER ELEVATION 414.0 WITH BACKFILL IN PLACE UP TO ELEVATION 412.0 AND WATER IN BOTH TANKS AND CHANNELS UP TO ELEVATION 411.3.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CHLORINE CONTACT TANK, F.N.-6
STRUCTURAL AND MECHANICAL PROCESS

PLAN, SECTIONS AND DETAILS

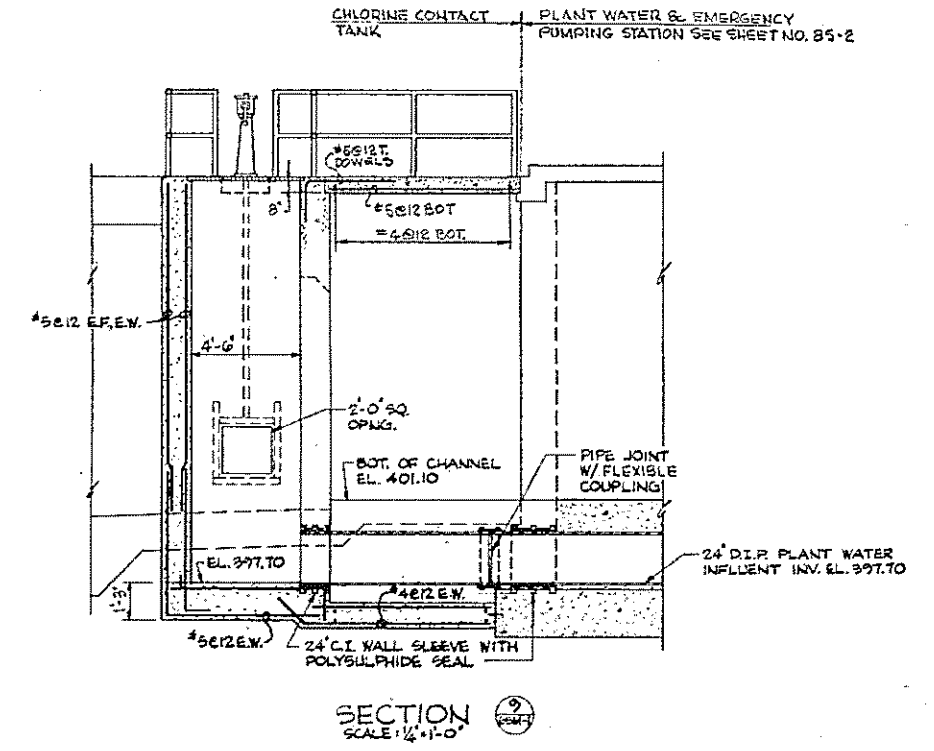
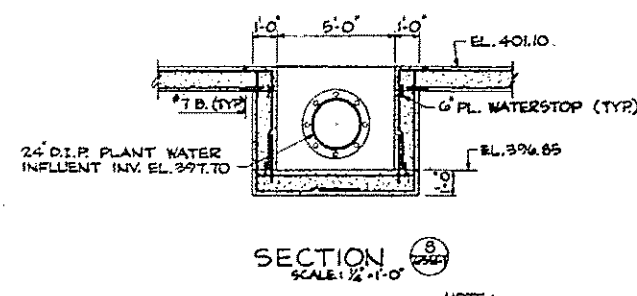
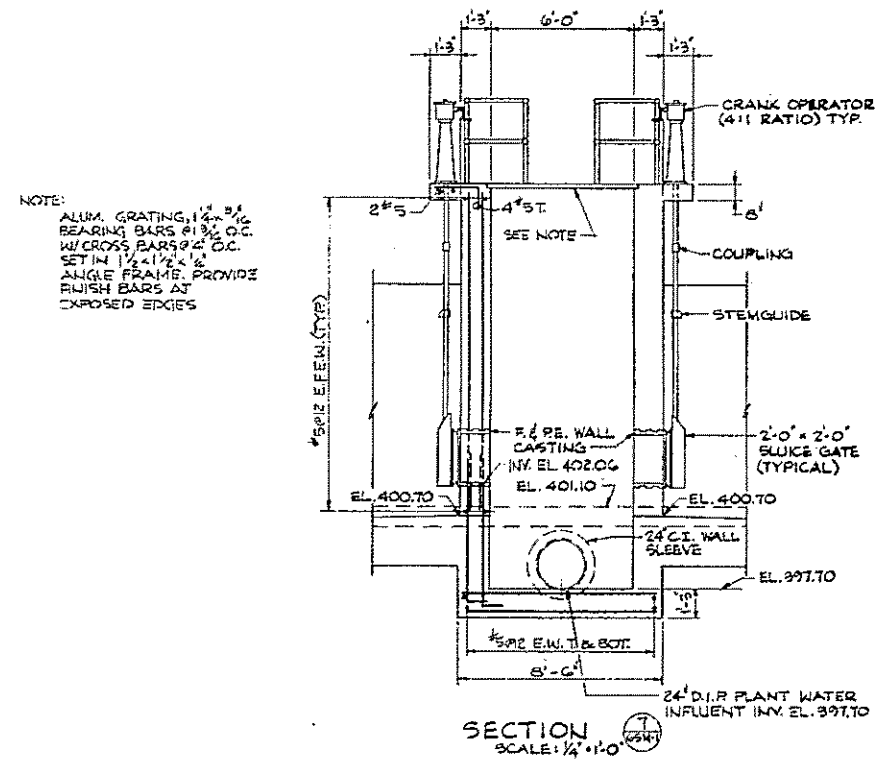
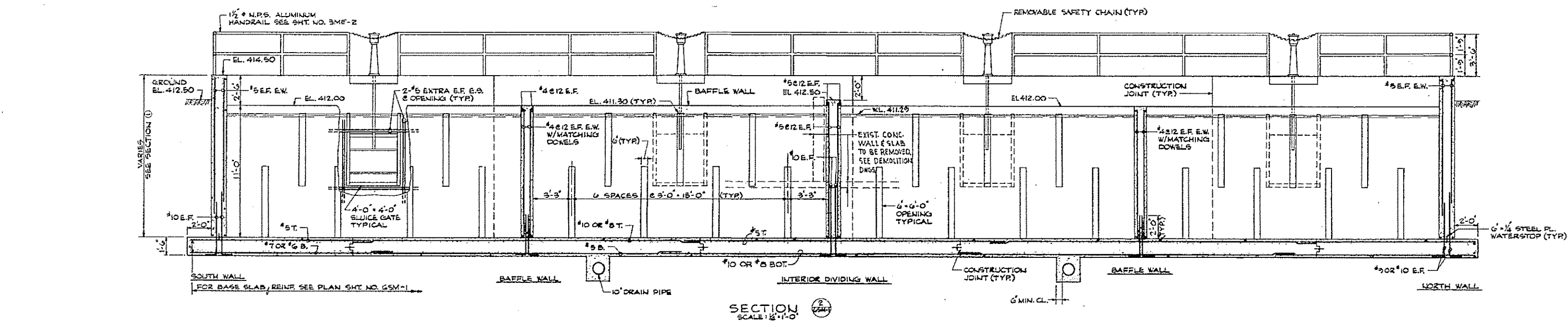
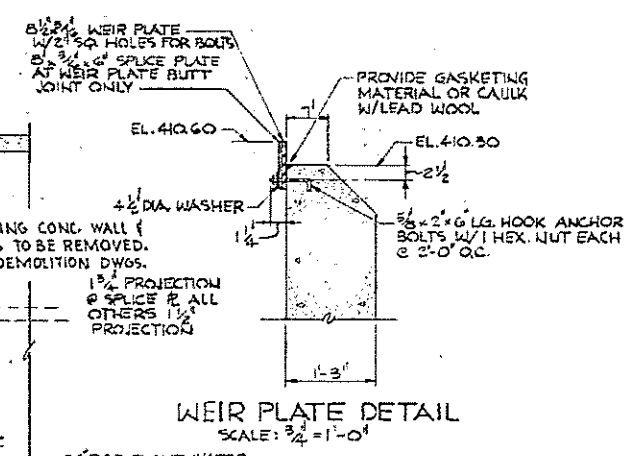
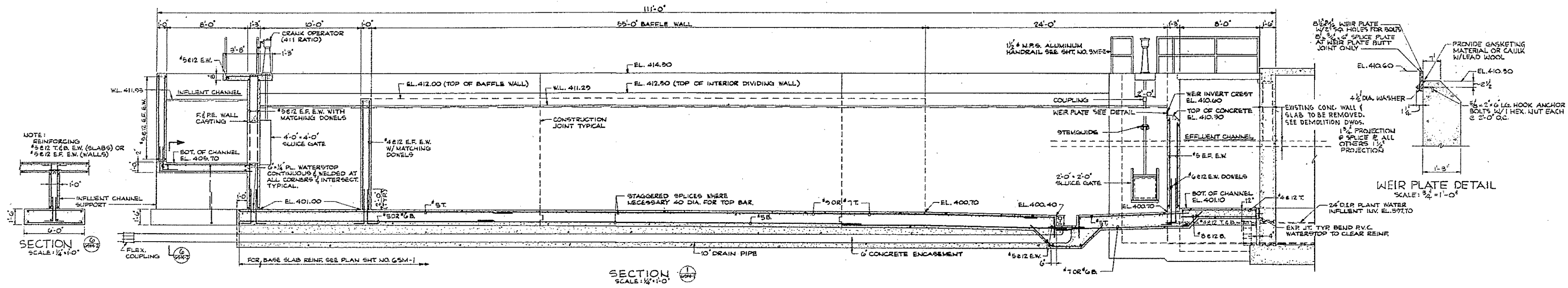
SCALE: AS NOTED FEBRUARY 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DR. S.M.G. IR. S.P.P. FILE NO. JW-83

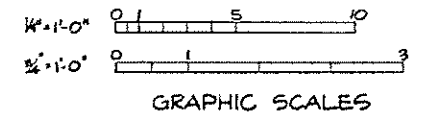
APPROVED: *F.M. Cabaly* PLAN NO. 70

CONTRACT DRAWING SHEET NO. 65M-1



NOTE:
ALUM. GRATING 1/2" x 1/2" BARS @ 1/2" O.C. W/ CROSS BARS @ 2" O.C. SET IN 1/2" x 1/2" x 1/2" ANGLE FRAME. PROVIDE FINISH BARS AT EXPOSED EDGES

NOTE:
ALL REINFORCING #4 E.F. E.W. (TYP) EXCEPT AS NOTED.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CHLORINE CONTACT TANK, F.N.-6
STRUCTURAL AND MECHANICAL PROCESS

SECTIONS.

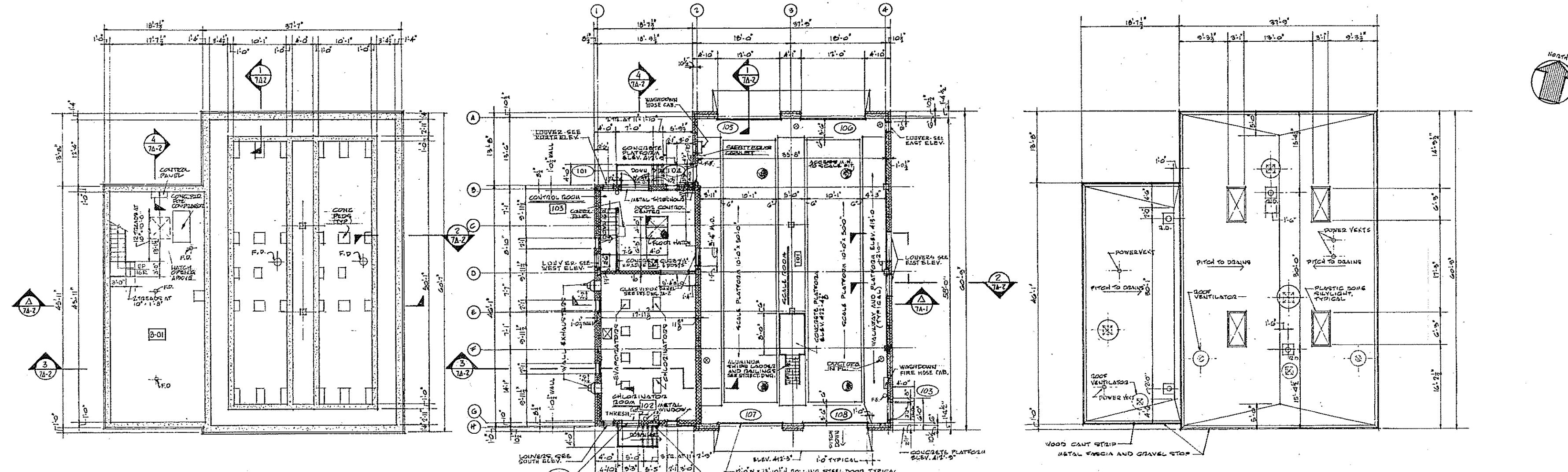
SCALE: AS NOTED FEB. 1977

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. S.P.P. M.A.F. TR. DATE JW-83
DR. S.L.G. CHK. S.P.P. 16

APPROVED *J. M. Cahaly* SIGN. 71

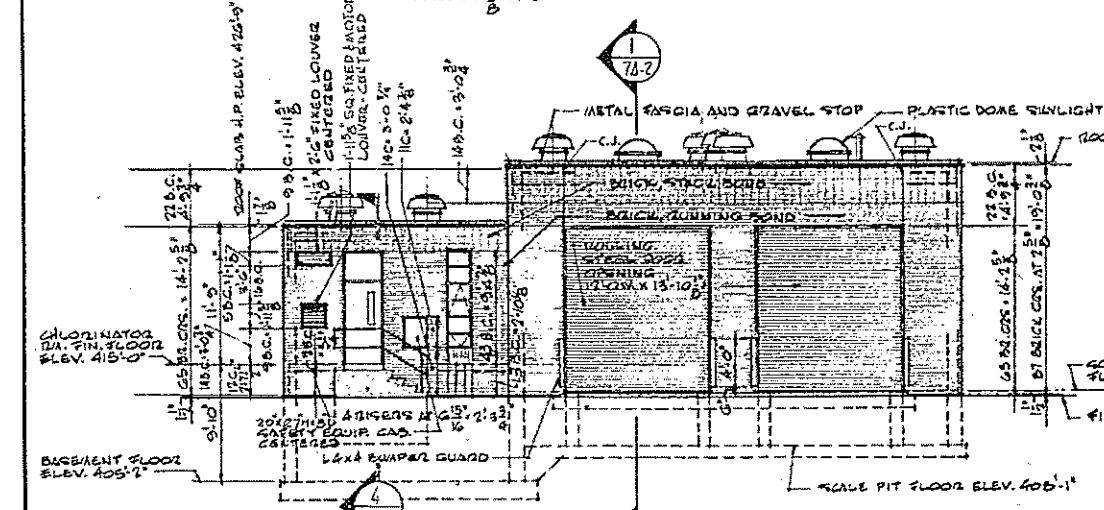
CONTRACT DRAWING SHEET NO. 65M-2



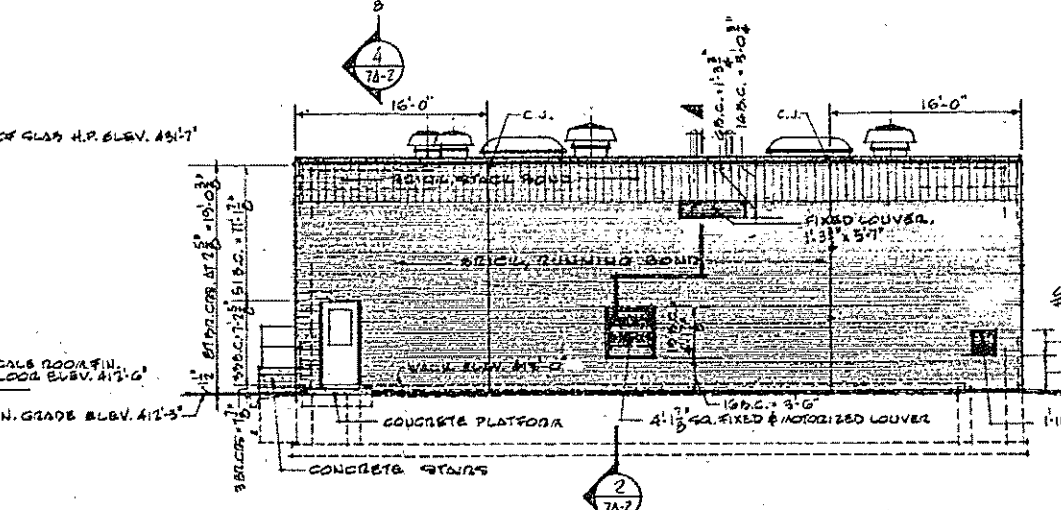
BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"

UPPER FLOOR PLAN
SCALE: 1/8" = 1'-0"

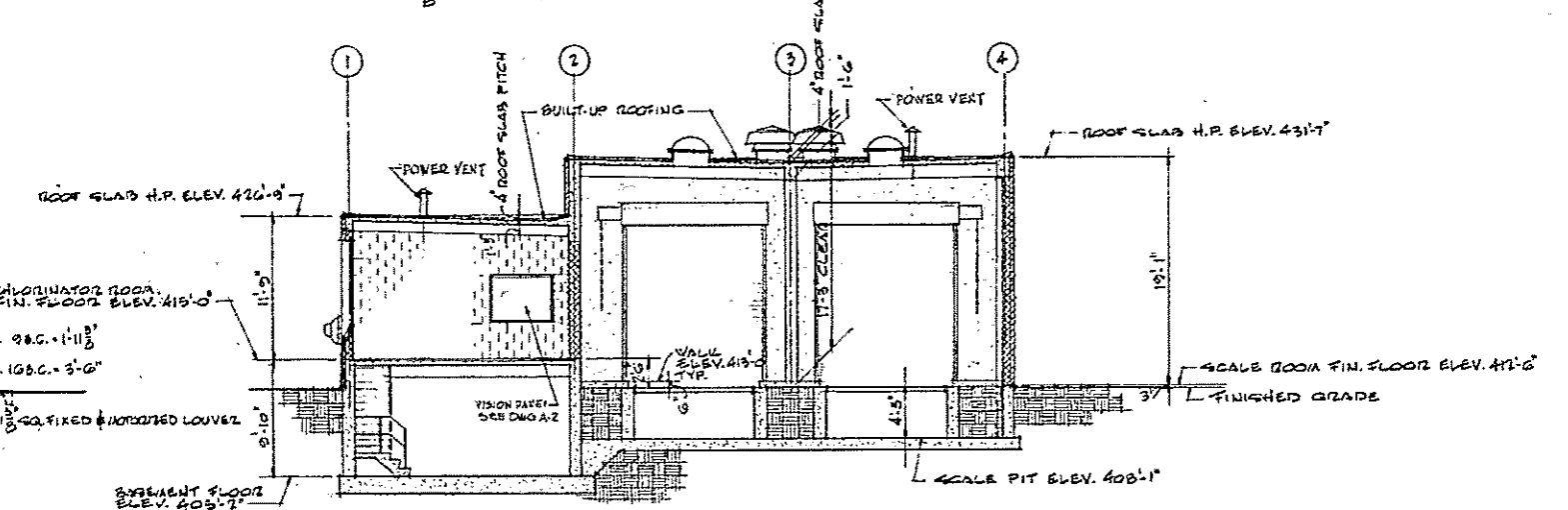
ROOF PLAN
SCALE: 1/8" = 1'-0"



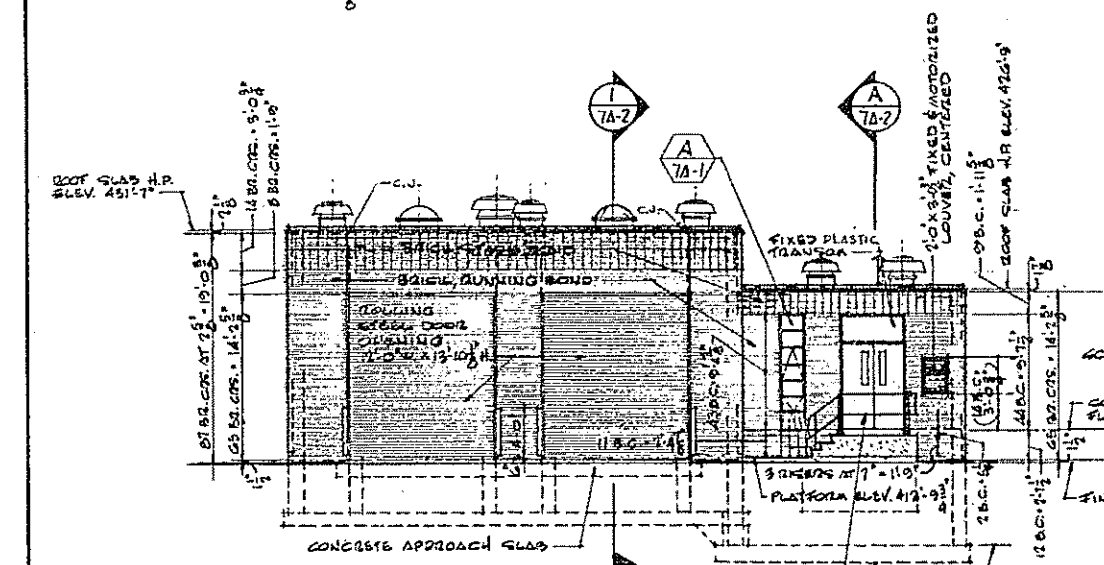
SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



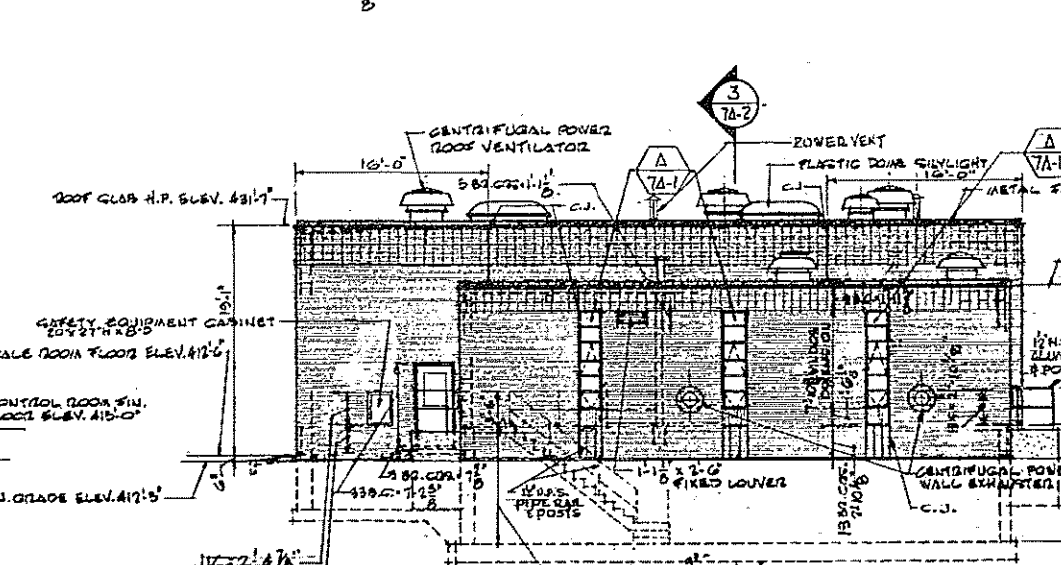
EAST ELEVATION
SCALE: 1/8" = 1'-0"



CROSS SECTION (LOOKING NORTH)
SCALE: 1/8" = 1'-0"

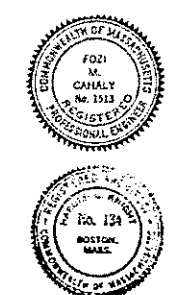


NORTH ELEVATION
SCALE: 1/8" = 1'-0"



WEST ELEVATION
SCALE: 1/8" = 1'-0"

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CHLORINATION FACILITIES, F.N-7
 ARCHITECTURAL

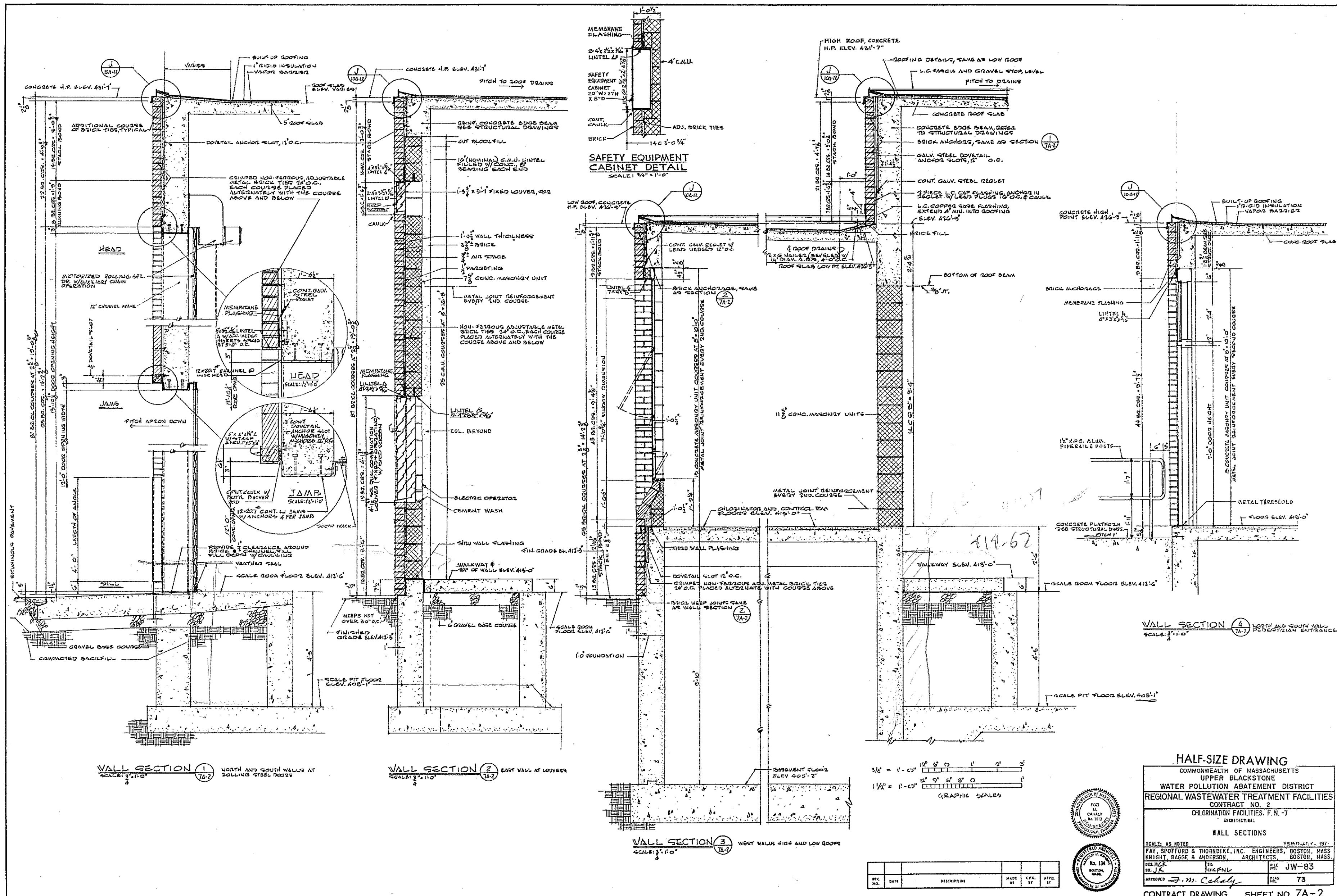
PLANS, ELEVATIONS AND SECTION

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

APPROVED: *F.M. Cahaly* JUN 72
 DRAWN: JW-83

CONTRACT DRAWING SHEET NO. 7A-1

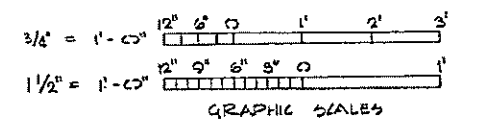


WALL SECTION 1
 NORTH AND SOUTH WALLS AT BOLLING STEEL DOORS
 SCALE: 3/8" = 1'-0"

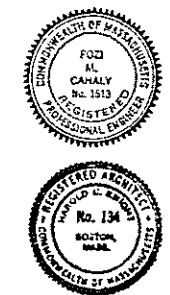
WALL SECTION 2
 EAST WALL AT LOUVERS
 SCALE: 3/8" = 1'-0"

WALL SECTION 3
 WEST WALLS HIGH AND LOW ROOFS
 SCALE: 3/8" = 1'-0"

WALL SECTION 4
 NORTH AND SOUTH WALL PEDESTRIAN ENTRANCE
 SCALE: 3/8" = 1'-0"



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING
 COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CHLORINATION FACILITIES, F.N.-7
 ARCHITECTURAL

WALL SECTIONS

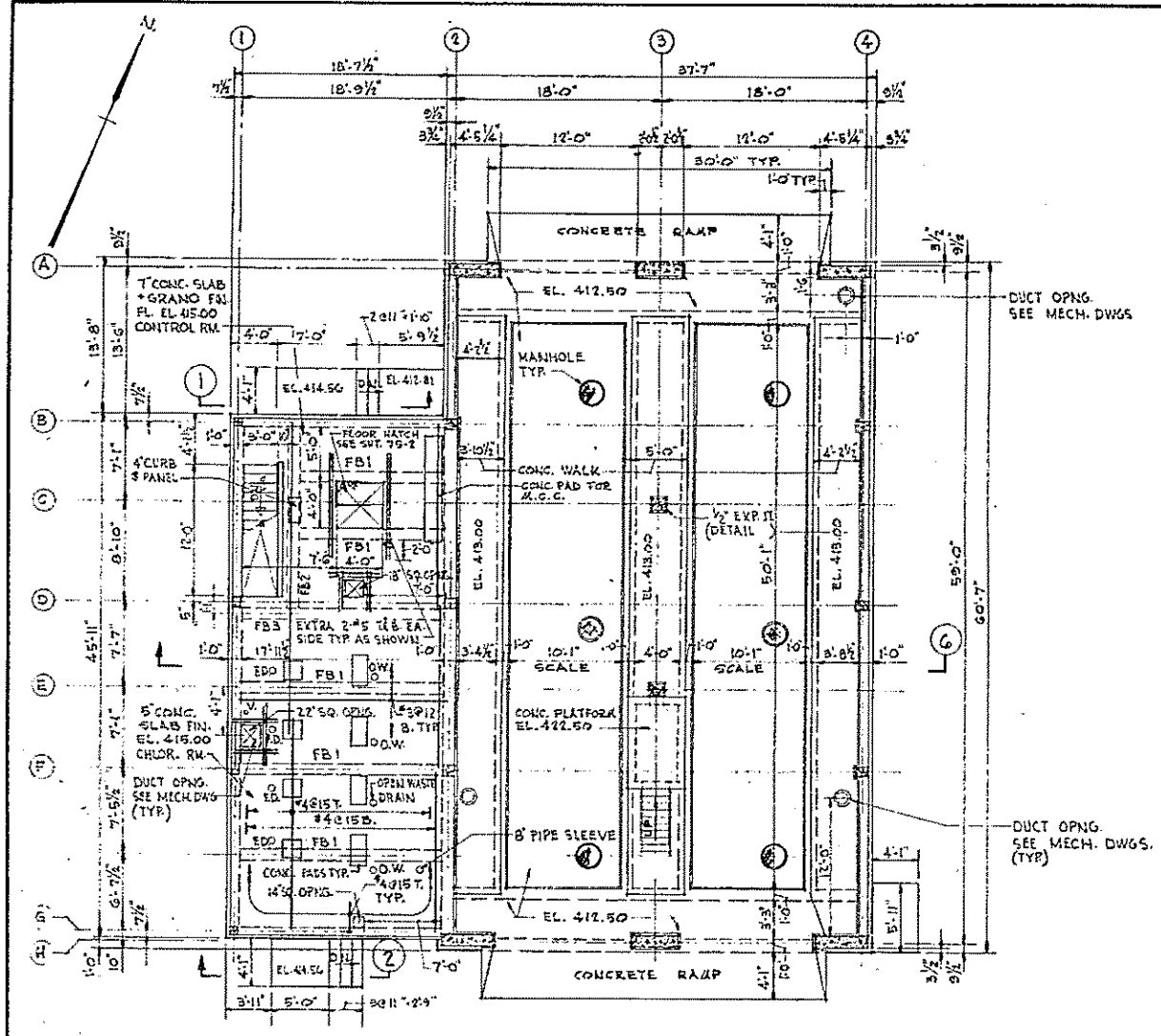
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

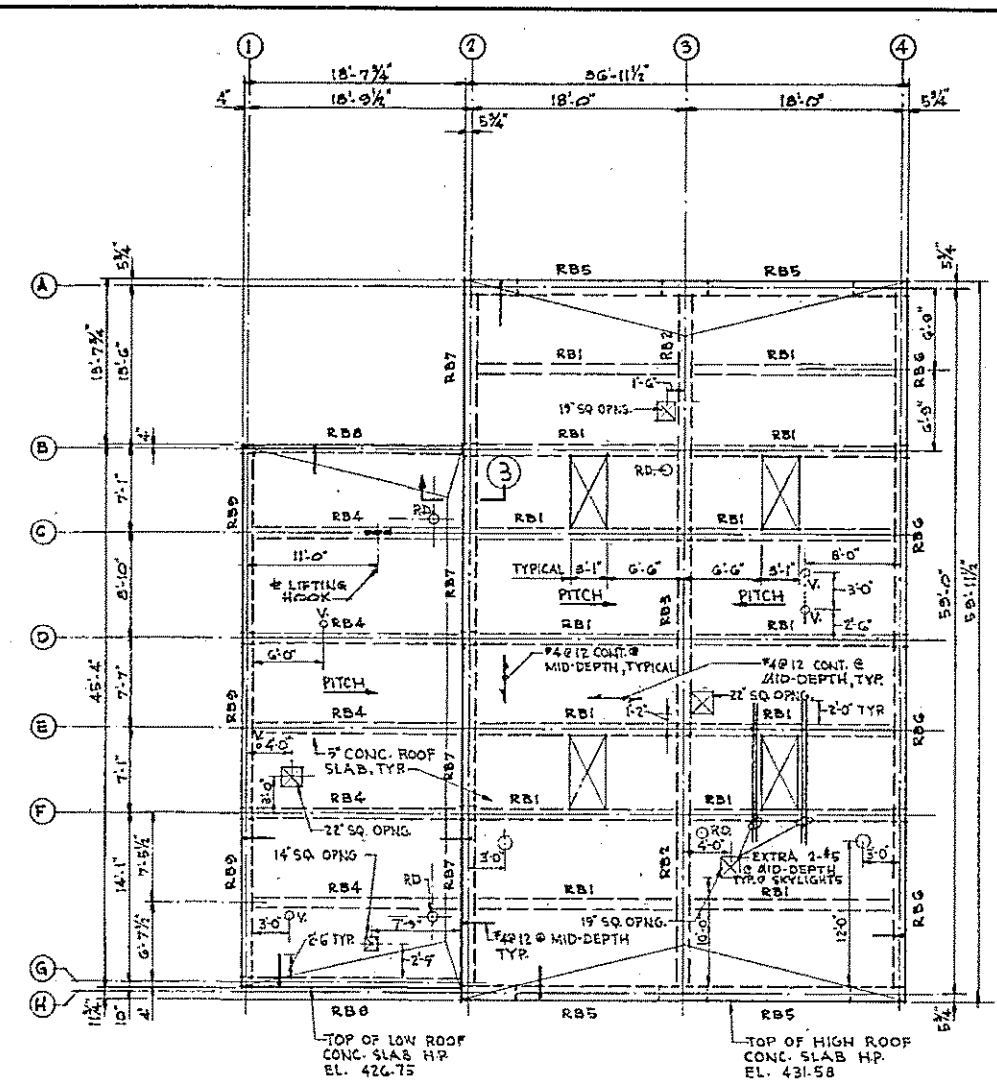
DES. H.C.K. TEL. CHK.F.N.L. FILE NO. JW-83
 DR. J.R. DATE 10/11/83 PLAN 73

APPROVED: *J. J. Cahaly*

CONTRACT DRAWING SHEET NO. 7A-2

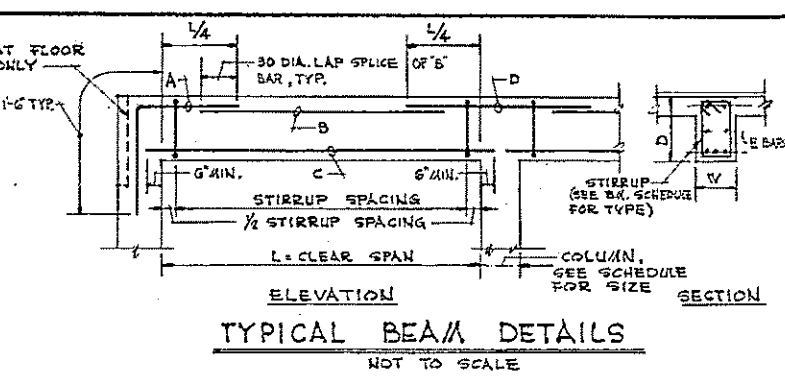


FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"



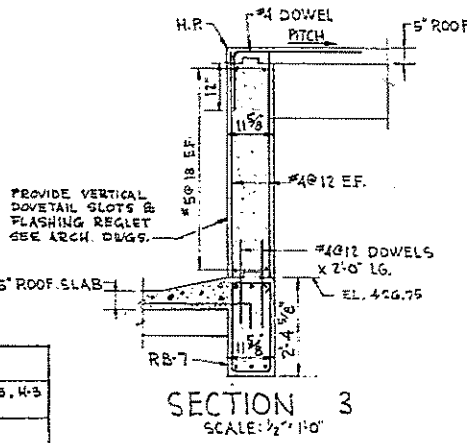
ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

ROOF & FLOOR BEAM SCHEDULE							
MARK	W	D	REINFORCING			STIRRUP SIZE TYPE & SPACING	REMARKS
			A	B	C		
RB1	10	18	2-#5	2-#5	2-#5	#3 @ 9"	
RB2	12	18	2-#6	2-#5	3-#5	#4 @ 9"	
RB3	12	18	-	2-#6	2-#6	#4 @ 9"	
RB4	10	15	2-#6	2-#5	3-#5	#3 @ 9"	
RB5	12	58	2-#5	2-#5	2-#6	#3 @ 12"	1" BARS 5" SPICH
RB6	11 1/2	18	2-#5	2-#5	2-#6	#3 @ 9"	
RB7	11 1/2	25 1/2	2-#6	2-#5	3-#6	#3 @ 12"	
RB8	8	20 1/2	2-#5	2-#5	2-#6	#3 @ 9"	
RB9	8	20 1/2	2-#5	2-#5	2-#6	#3 @ 9"	

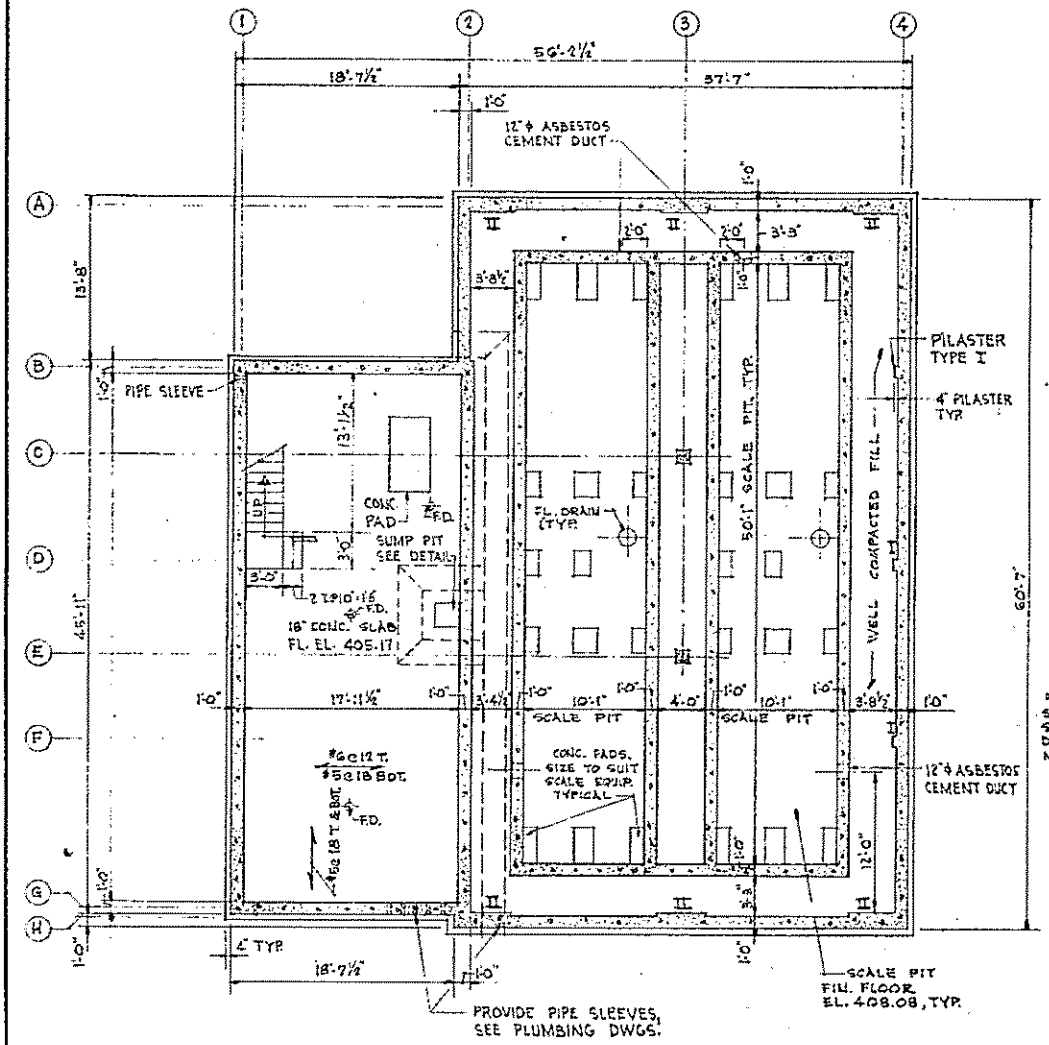


TYPICAL BEAM DETAILS
NOT TO SCALE

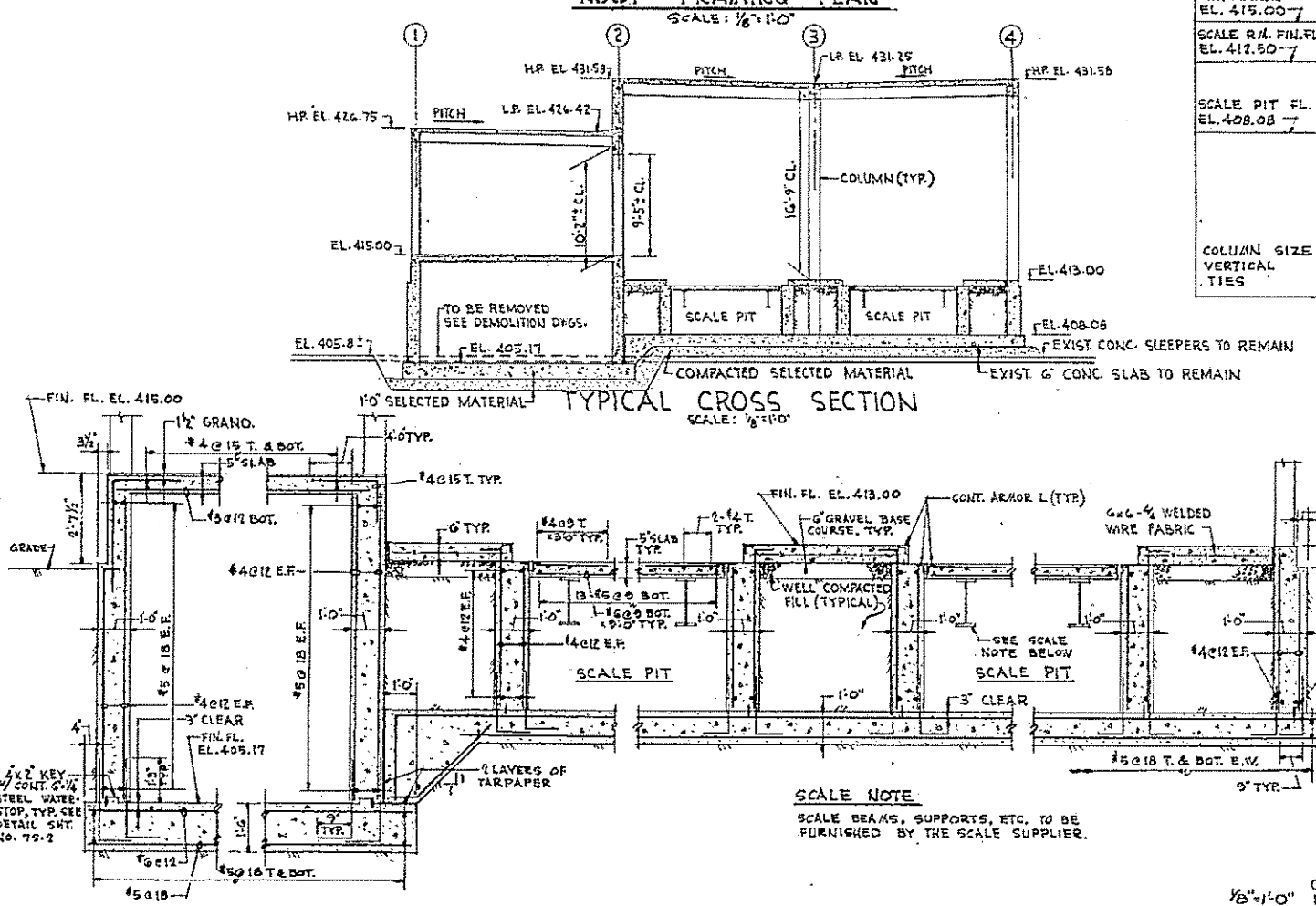
COLUMN SCHEDULE										
MARK	B-1, G-1	D-1, F-1	B-2, D-2	C-5, E-5	B-4, D-4	A-1, A-4	A-2, H-2	A-5, H-5		
HIGH ROOF H.P. EL. 431.58										
LOW ROOF H.P. EL. 426.75										
CHLORINATOR RM. FIN. FLOOR EL. 415.00										
SCALE R.M. FIN. FL. EL. 412.50										
SCALE PIT FL. EL. 408.08										
COLUMN SIZE	8 x 8	10 x 8	10 x 11 1/2	12 x 12	10 x 11 1/2	12 x 5 1/2	12 x 4 1/2	12 x 4 1/2	SAME	
VERTICAL TIES	2-#6	2-#6	2-#6	2-#6	2-#6	2-#6	2-#6	2-#6	SAME	



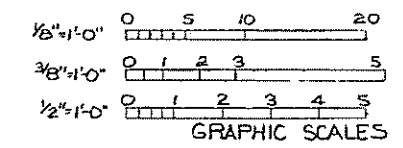
SECTION 3
SCALE: 1/2" = 1'-0"



BASEMENT FLOOR PLAN
SCALE: 1/8" = 1'-0"



SECTION 6
SCALE: 1/8" = 1'-0"



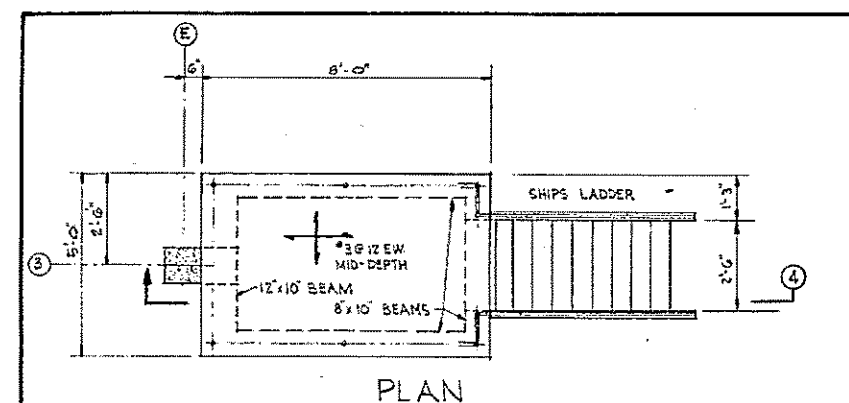
- NOTES
- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 105-1.
 - FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2.
 - DESIGN GROUNDWATER AT ELEVATION 405.0.
 - STRUCTURE (INCLUDING SCALE PITS) CHECKED AGAINST FLOTATION AT FLOOD WATER ELEVATION 414.0 WITH FIRST FLOOR AND SCALE PIT SLABS IN PLACE.
 - BASE SLABS AND WALLS ARE DESIGNED FOR FLOOD WATER ELEVATION 414.0.
 - LIVE LOADS:
FIRST FLOOR --- 150 PSF
SCALE SLAB --- 16,000 LBS. WHEEL LOAD (HS20 TRUCK)

HALF-SIZE DRAWING

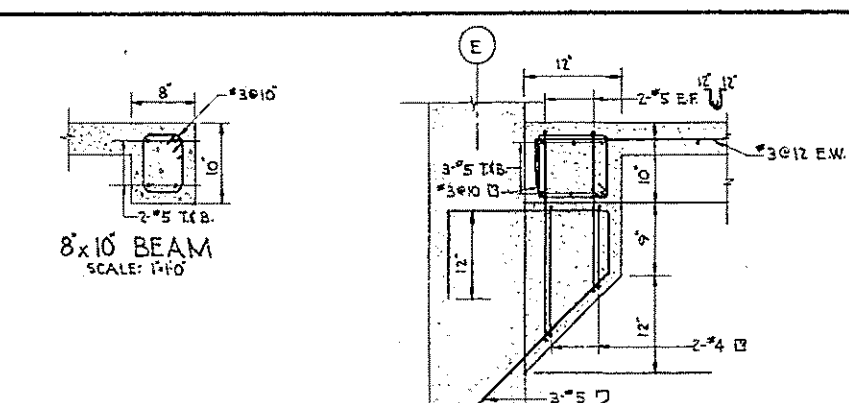
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CHLORINATION FACILITIES, F.N.-7
STRUCTURAL
PLANS AND DETAILS

SCALE: AS NOTED
FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. L.D.W. JR. DR. A.R.D. JR. DR. L.D.W. JR. DR. A.R.D. JR.
APPROVED: J.M. Cahaly
SCALE: AS NOTED
DATE: FEBRUARY 1977
DRAWN: JW-83
CHECKED: JW-83
APPROVED: JW-83

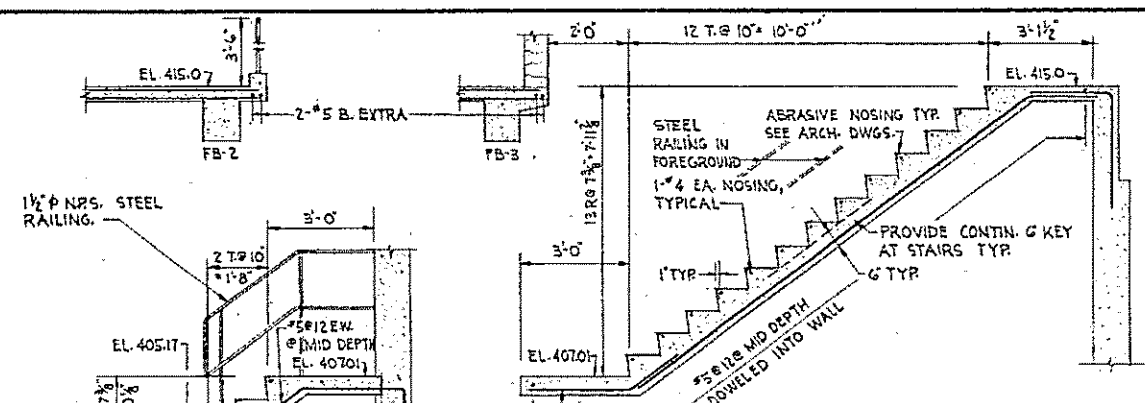
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



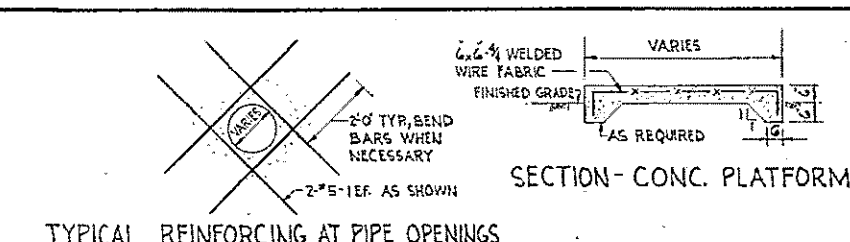
PLAN



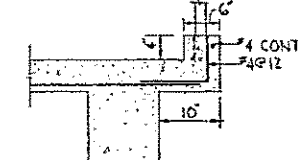
CORBEL DETAIL
SCALE: 1/4"=1'-0"



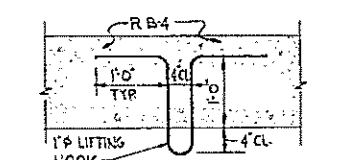
INTERIOR STAIR DETAILS
SCALE: 3/8"=1'-0"



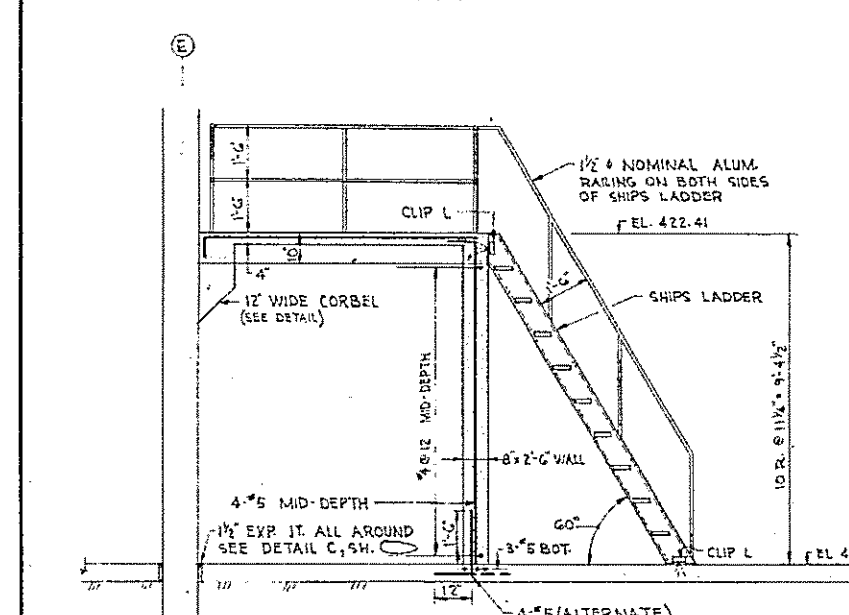
TYPICAL REINFORCING AT PIPE OPENINGS
NOT TO SCALE



CURB DETAIL
SCALE: 3/4"=1'-0"

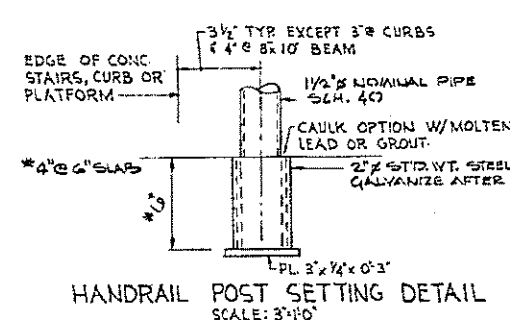


LIFTING HOOK DETAIL
SCALE: 3/4"=1'-0"

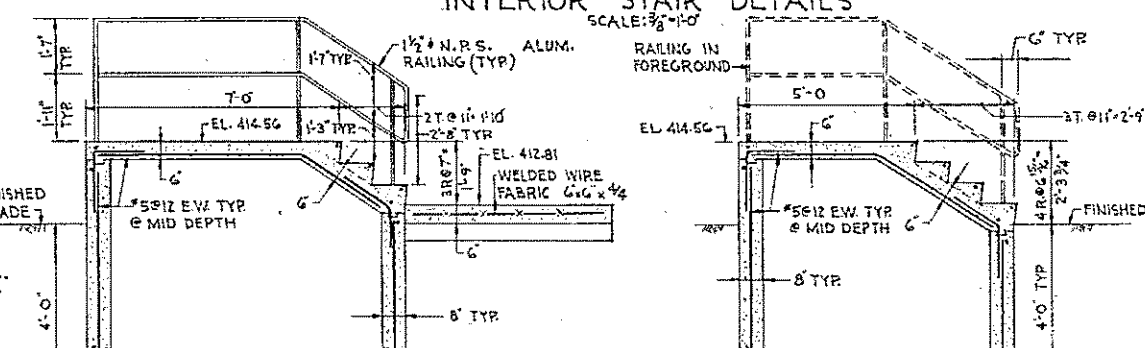


SECTION 4

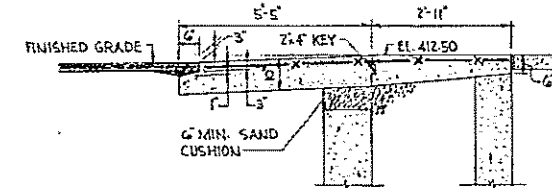
MATERIAL TO BE ALUMINUM
STRINGERS - C8x 2-C 5-T0-B.
TREADS - 2" RETICULATED GRATING 2'-0" WIDE W/ ABRASIVE NOSING, 3/4" BEARING BARS
CLIP L'S - 1/2"
EXP BOLTS - 3/4"



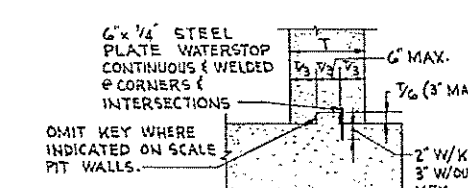
HANDRAIL POST SETTING DETAIL
SCALE: 3/8"=1'-0"



EXTERIOR STAIR DETAILS
SCALE: 3/8"=1'-0"

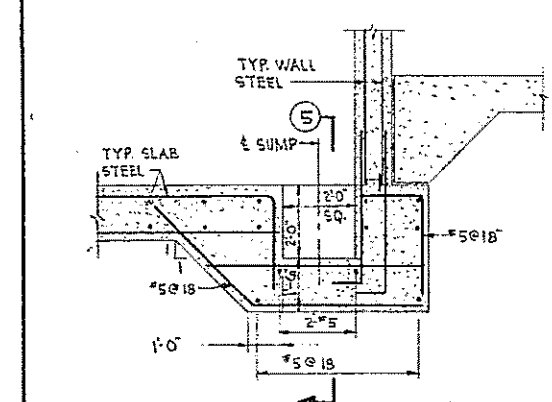


TYPICAL RAMP DETAIL

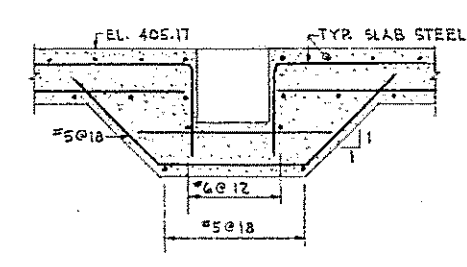


KEY & WATERSTOP DETAIL
NOT TO SCALE

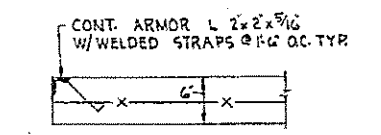
PLATFORM AND SHIPS LADDER DETAILS
SCALE: 3/8"=1'-0"



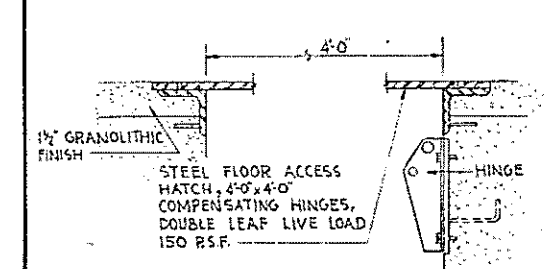
SUMP DETAIL
SCALE: 3/8"=1'-0"



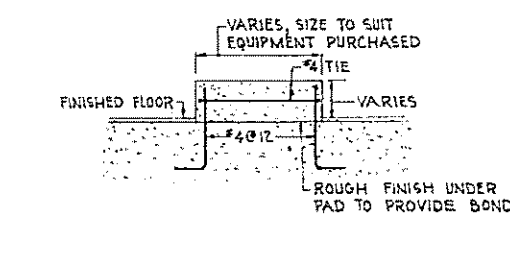
SECTION 5
SCALE: 3/8"=1'-0"



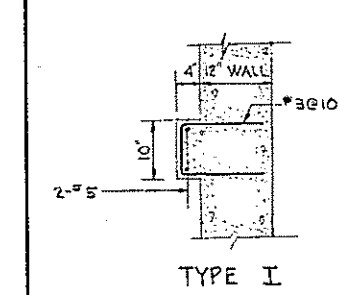
TYP. ARMOR ANGLE DETAIL
SCALE: 1"=1'-0"



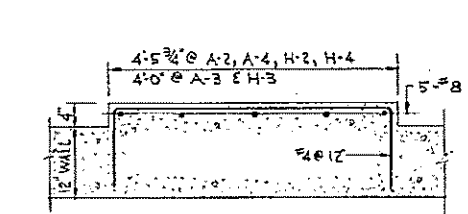
FLOOR HATCH COVER DETAIL
NOT TO SCALE



TYP. CONC PAD
NOT TO SCALE

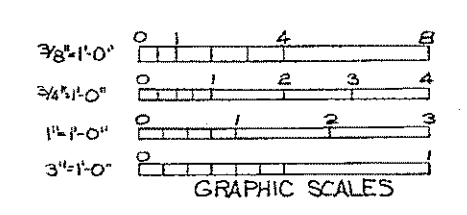


TYPE I



TYPE II

PILASTER DETAILS
SCALE: 3/4"=1'-0"



HALF-SIZE DRAWING

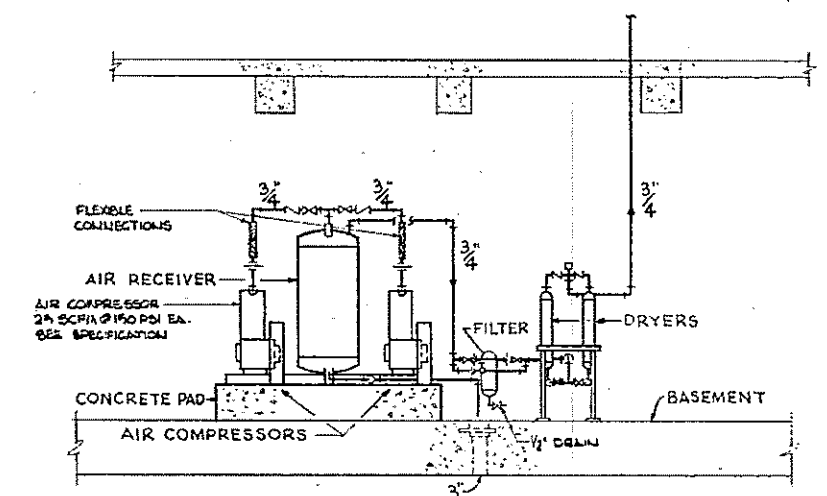
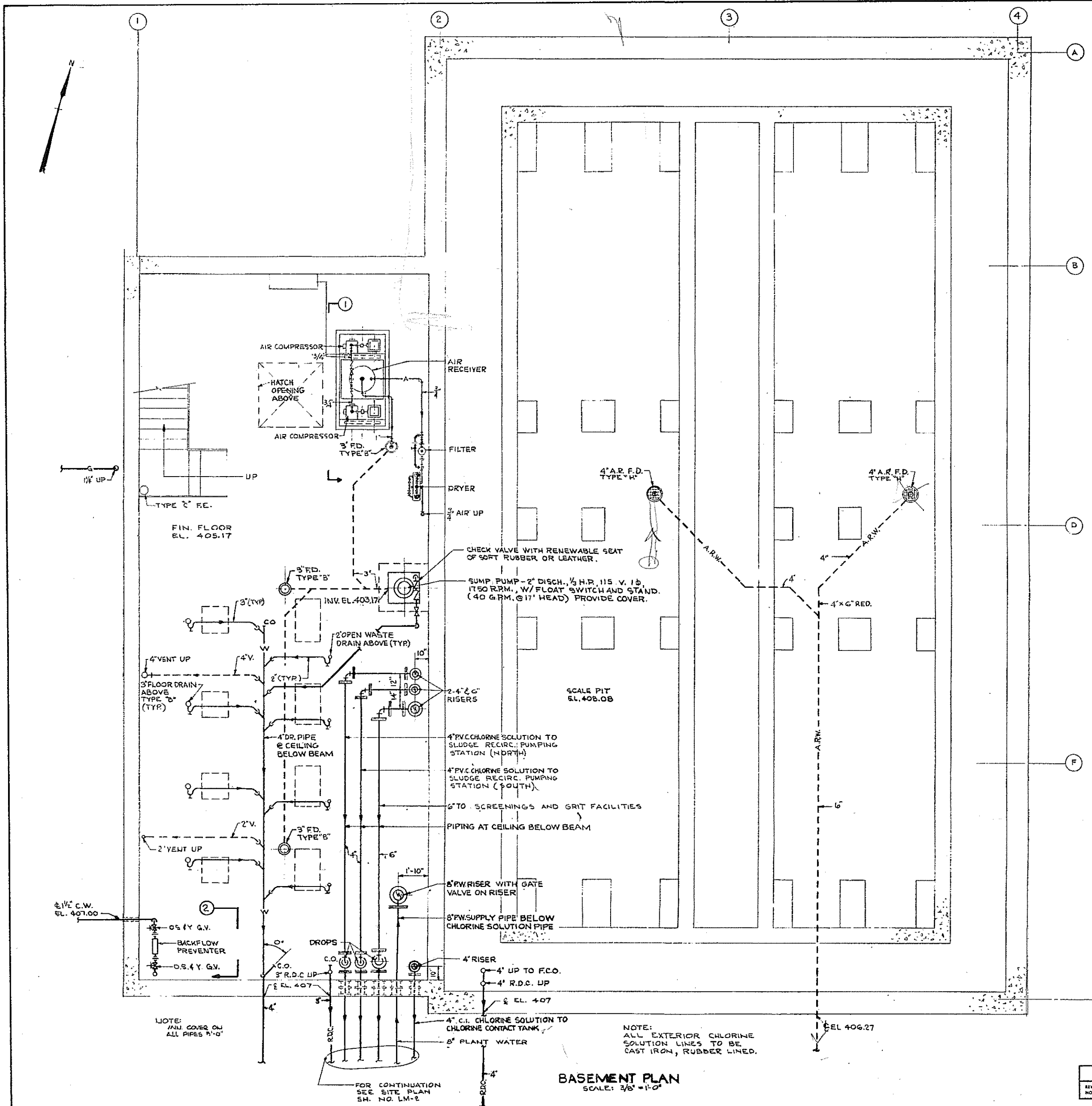
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CHLORINATION FACILITIES, F.N.-7
STRUCTURAL
MISCELLANEOUS DETAILS

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

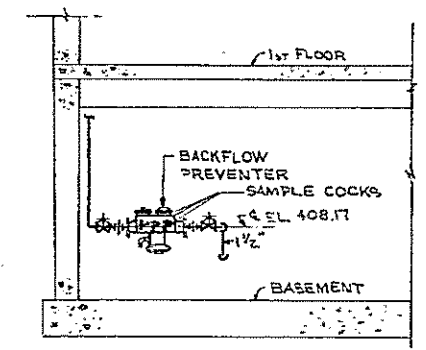
DES. L. D. W. TR. CHK. L. D. W. 10
REV. JW-83
APPROVED: *E. M. Cahaly* 75

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY





NOTES:
 1. ALL PIPES TO EXTEND 10'-0" FROM ANY OUTSIDE WALL AND HAVE A 5'-0" MINIMUM COVER.
 2. ALL DRAIN LINES TO SLOPE 1/4" PER FOOT, UNLESS NOTED OTHERWISE.
 3. NOTE RE: DETAIL SHEET.



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CHLORINATION FACILITIES, F.H.-7
 PLYMOUTH

BASEMENT PLAN AND DETAILS

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

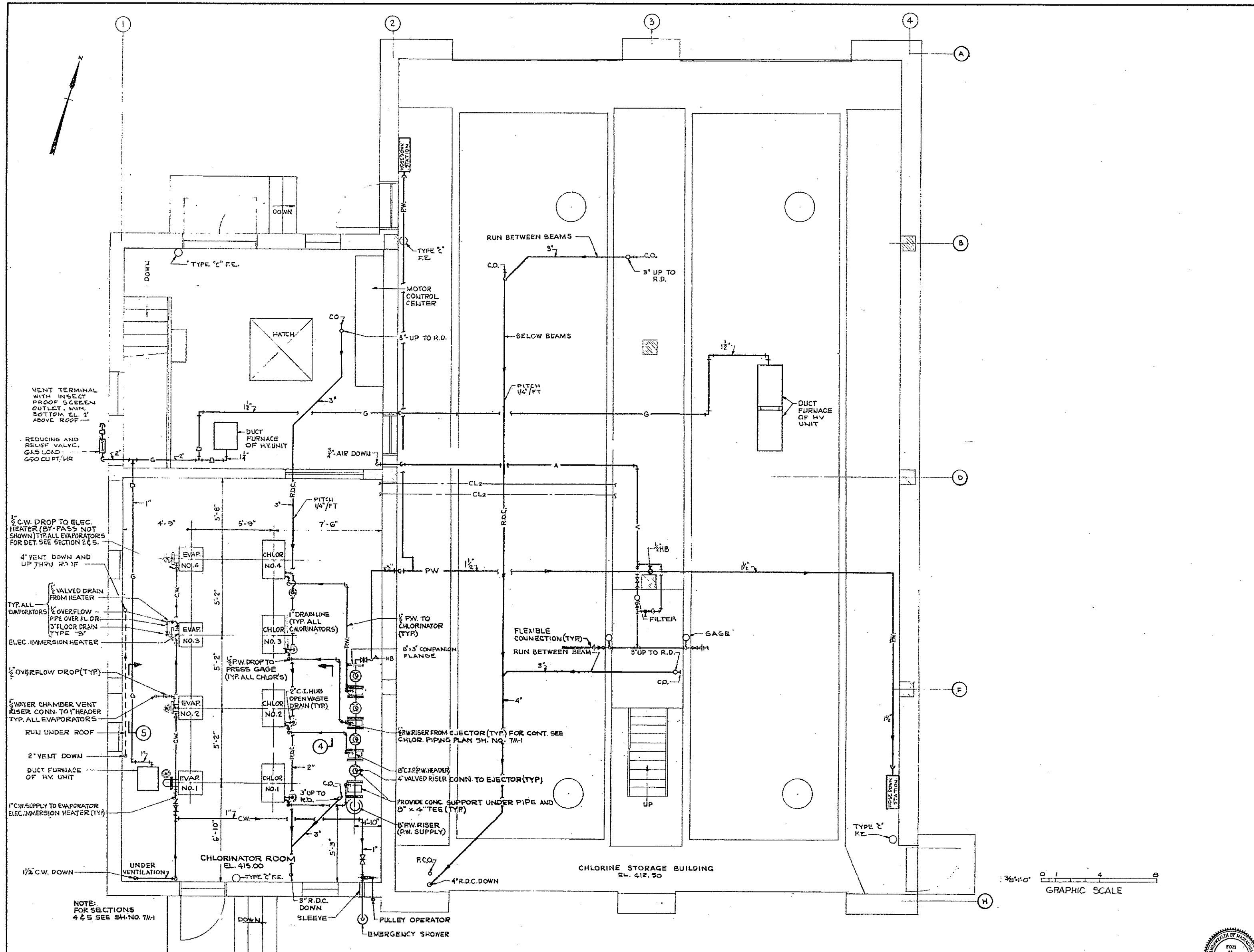
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY

APPROVED: *M. Cahaly*

FILE NO. JW-83
 PLAN NO. 76

CONTRACT DRAWING SHEET NO. 7P-1





VENT TERMINAL WITH INSECT PROOF SCREEN. OUTLET MIN. BOTTOM EL. 2' ABOVE ROOF.

1/2" C.W. DROP TO ELEC. HEATER (BY-PASS NOT SHOWN) TYP. ALL EVAPORATORS FOR DET. SEE SECTION 2 & 5.

4" VENT DOWN AND UP THRU ROOF

1/2" OVERFLOW DROP (TYP.)

2" VENT DOWN

1/2" C.W. DOWN

NOTE: FOR SECTIONS 4 & 5 SEE SH. NO. 7A-1

1st. FLOOR PLAN
SCALE: 3/8"=1'-0"



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CHLORINATION FACILITIES, F.H.-7
PLUMBING

FIRST FLOOR PLAN

SCALE: AS NOTED FEBRUARY 1977

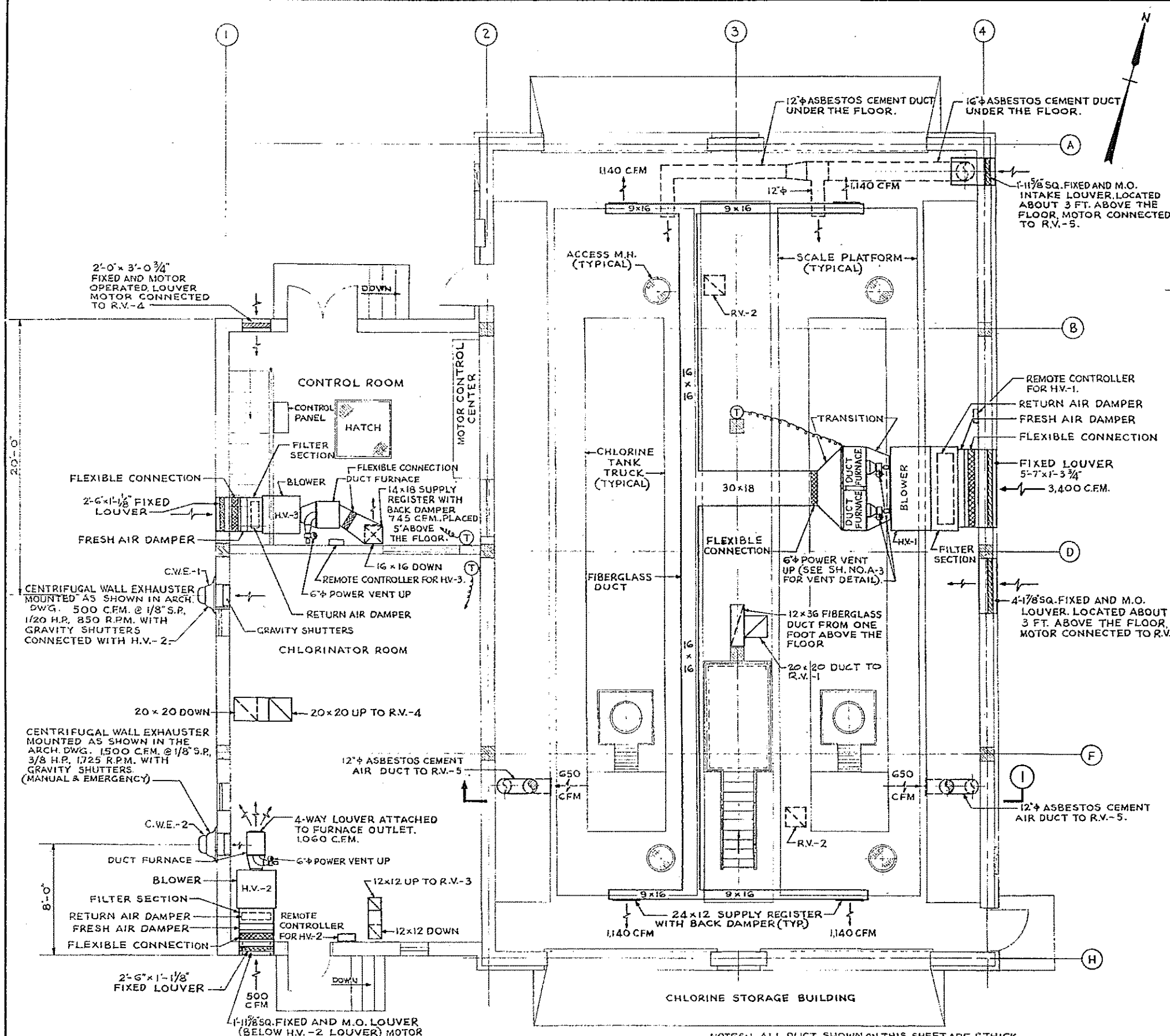
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. W. J. H.	TR. CHG. C. L. M.	REV. JW-83	
APPROVED <i>J. M. Cahaly</i>		PLAN NO. 77	

CONTRACT DRAWING SHEET NO. 7P-2

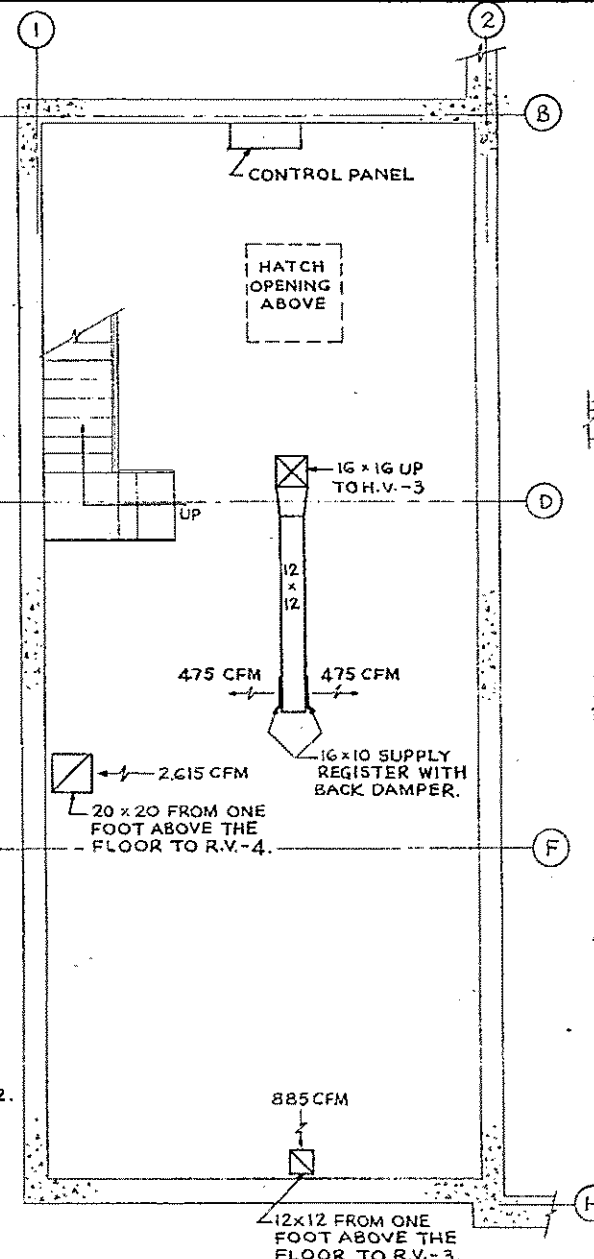


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

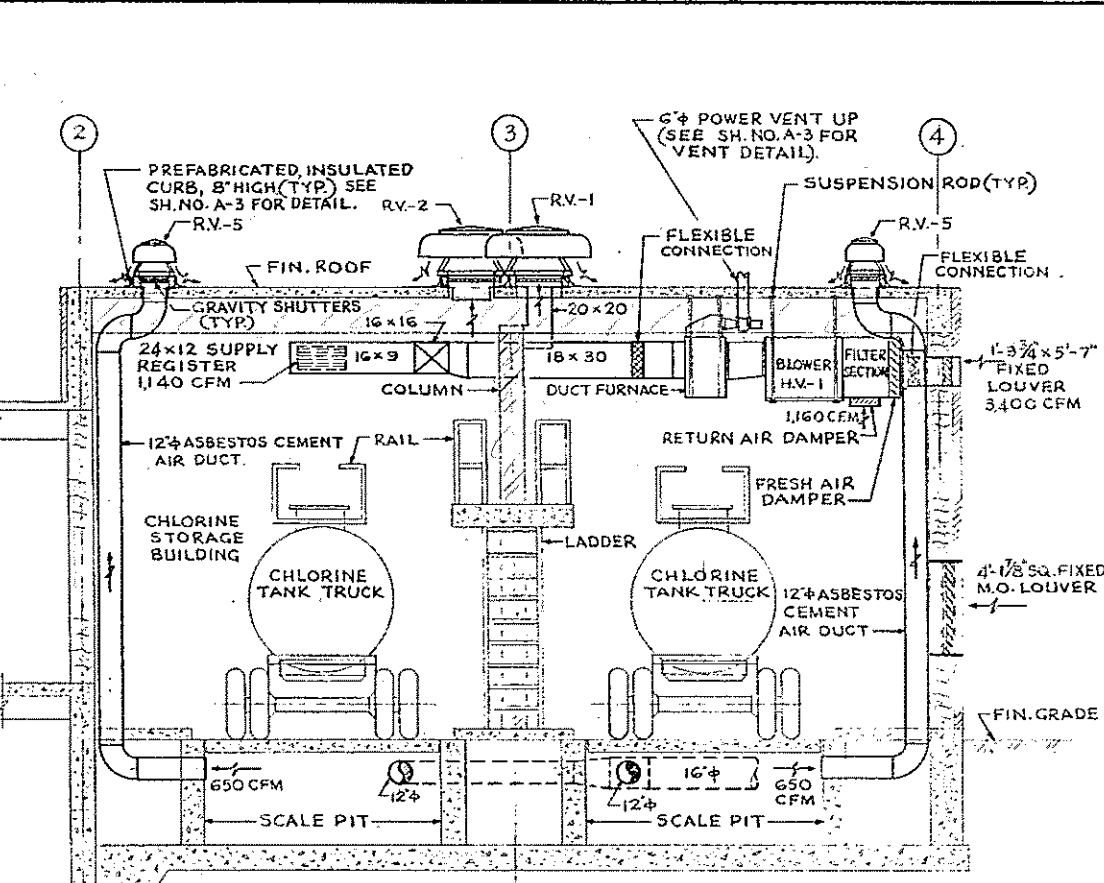


1ST FLOOR PLAN
SCALE: 1/4" = 1'-0"

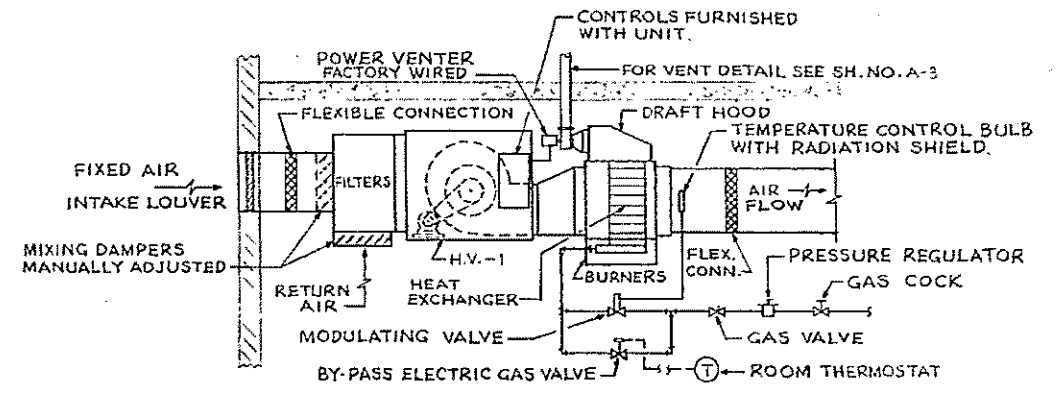
NOTES: 1. ALL DUCT SHOWN ON THIS SHEET ARE 1" THICK FIBERGLASS DUCT, EXCEPT WHERE NOTED OTHERWISE.
2. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10 HV-9.
3. SEE DWG. 7E-2 FOR EXTERIOR CONNECTION DIAGRAM FOR HEATING AND VENTILATING UNITS.



PART BASEMENT PLAN
SCALE: 1/4" = 1'-0"



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



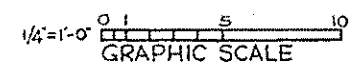
SCHEMATIC DETAIL FOR HEATING AND VENTILATING UNIT
NOT TO SCALE

- CONTROLS AND SEQUENCE OF OPERATION:
- MIXING DAMPER IS ADJUSTED ONCE MANUALLY TO ALLOW REQUIRED C.F.M. OF FRESH AIR AND RETURN AIR.
 - IN COLD WEATHER, BURNER SWITCH IS TURNED ON TO COMPLETE CIRCUIT TO POWER VENTERS AND DUCT FURNACES. ELECTRIC GAS VALVE REMAINS OPEN UNLESS CIRCUIT IS INTERRUPTED BY ANY SAFETY OR LIMIT SWITCH.
 - MODULATING VALVE PROPORTIONS GAS FLOW IN RESPONSE TO SENSING BULB IN DISCHARGE DUCT TO MAINTAIN A MINIMUM LEAVING AIR TEMPERATURE (USUALLY ABOUT SAME AS ROOM TEMPERATURE).
 - WHEN SPACE HEAT IS REQUIRED, ROOM THERMOSTAT OPENS BY-PASS SOLENOID VALVE. FULL GAS INPUT IS THEN ADMITTED TO THE HEATER.
 - IN WARM WEATHER, BURNER SWITCH IS TURNED OFF TO ALLOW VENTILATION WITHOUT HEATING.

MARK	NO. REQD.	C.F.M.	S.P.	H.P.	R.P.M.	VOLT.	PHASE	HERTZ	SHUTTER TYPE	OPERATION
RV-1	1	3,400	3/8"	3/4	910	460	3	60	GRAVITY	CONNECTED WITH HV-1
RV-2	2	5,050	1/8"	1	875	460	3	60	GRAVITY	MANUAL & EMERGENCY
RV-3	1	885	1/4"	1/4	1,184	115	1	60	GRAVITY	CONNECTED WITH HV-3
RV-4	1	2,615	1/4"	1/2	1,251	460	3	60	GRAVITY	MANUAL & EMERGENCY
RV-5	2	650	1/4"	1/4	964	115	1	60	GRAVITY	MANUAL & EMERGENCY

MARK	SPACE	BTU		FRESH AIR C.F.M.	RETURN AIR C.F.M.	OUTSIDE AIR TEMP. °F	RETURN AIR TEMP. °F	LEAVING AIR TEMP. °F	BLOWER				VENT TYPE	IGNITION		
		PER HR. INPUT	PER HR. OUTPUT						C.F.M.	S.P.	H.P.	VOLT.			HERTZ	PHASE
H.V.-1	CHLOR. STOR. BLDG.	430,000	344,000	3,400	1,160	-5°	50°	79°	4,560	.79	1.5	460	60	3	POWER VENT	ELECTRIC
H.V.-2	CHLOR. ROOM	100,000	80,000	500	560	-5°	70°	104°	1,060	.33	1/4	115	60	1	POWER VENT	ELECTRIC
H.V.-3	CONTROL ROOM	160,000	128,000	885	810	-5°	70°	102.8°	1,695	.80	3/4	460	60	3	POWER VENT	ELECTRIC

ALL H.V. UNITS SHALL BE COMPLETELY FACTORY ASSEMBLED AND PRE-WIRED INCLUDING POWER VENTERS. FRESH AIR DAMPER AND RETURN AIR DAMPER ARE SET MANUALLY TO GET REQUIRED C.F.M.



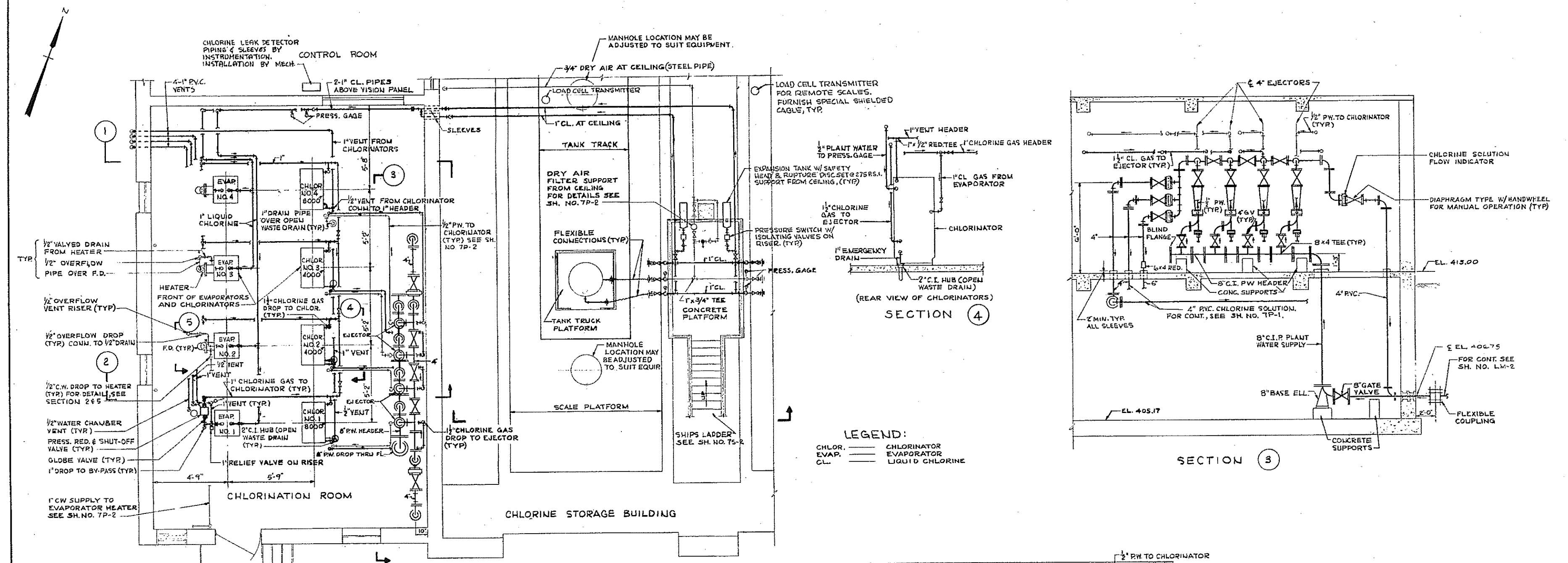
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CHLORINATION FACILITIES, F.N.-7
HEATING AND VENTILATING
PLANS AND SECTIONS

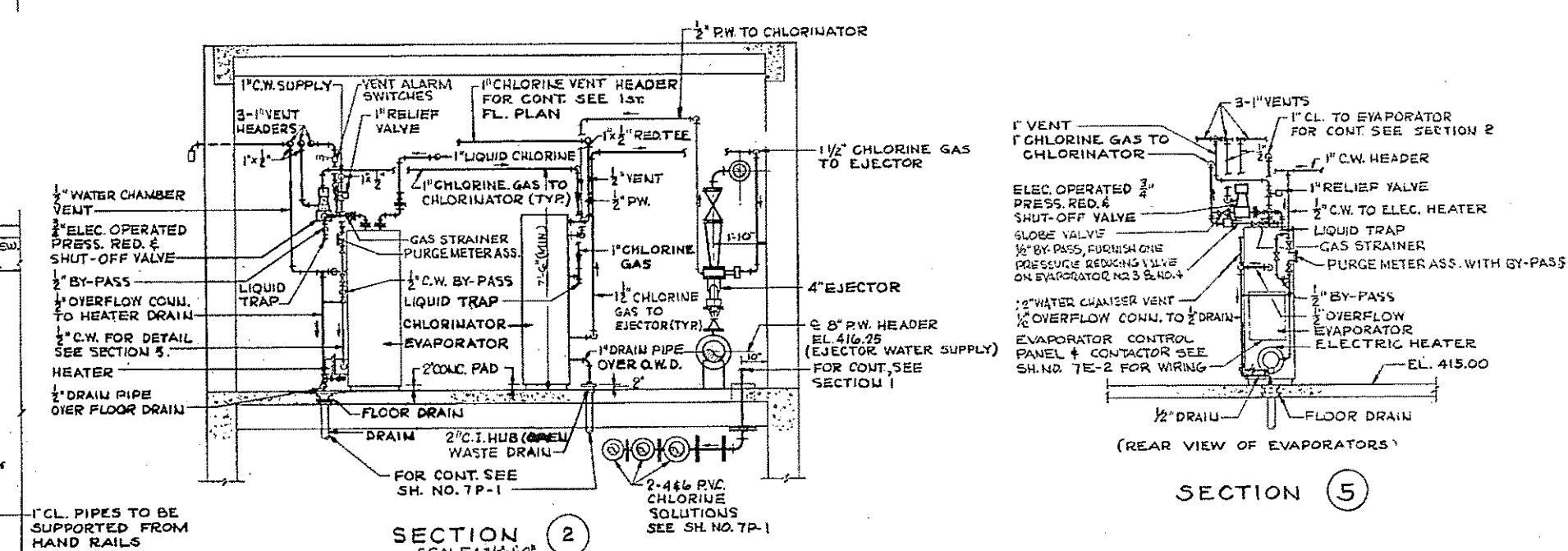
SCALE: AS NOTED
FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REV. S.K. BY P.K.F.J.T. FILE NO. JW-83
APPROVED BY *F.M. Cahoy* REG. NO. 78

CONTRACT DRAWING SHEET NO. 7HV-1

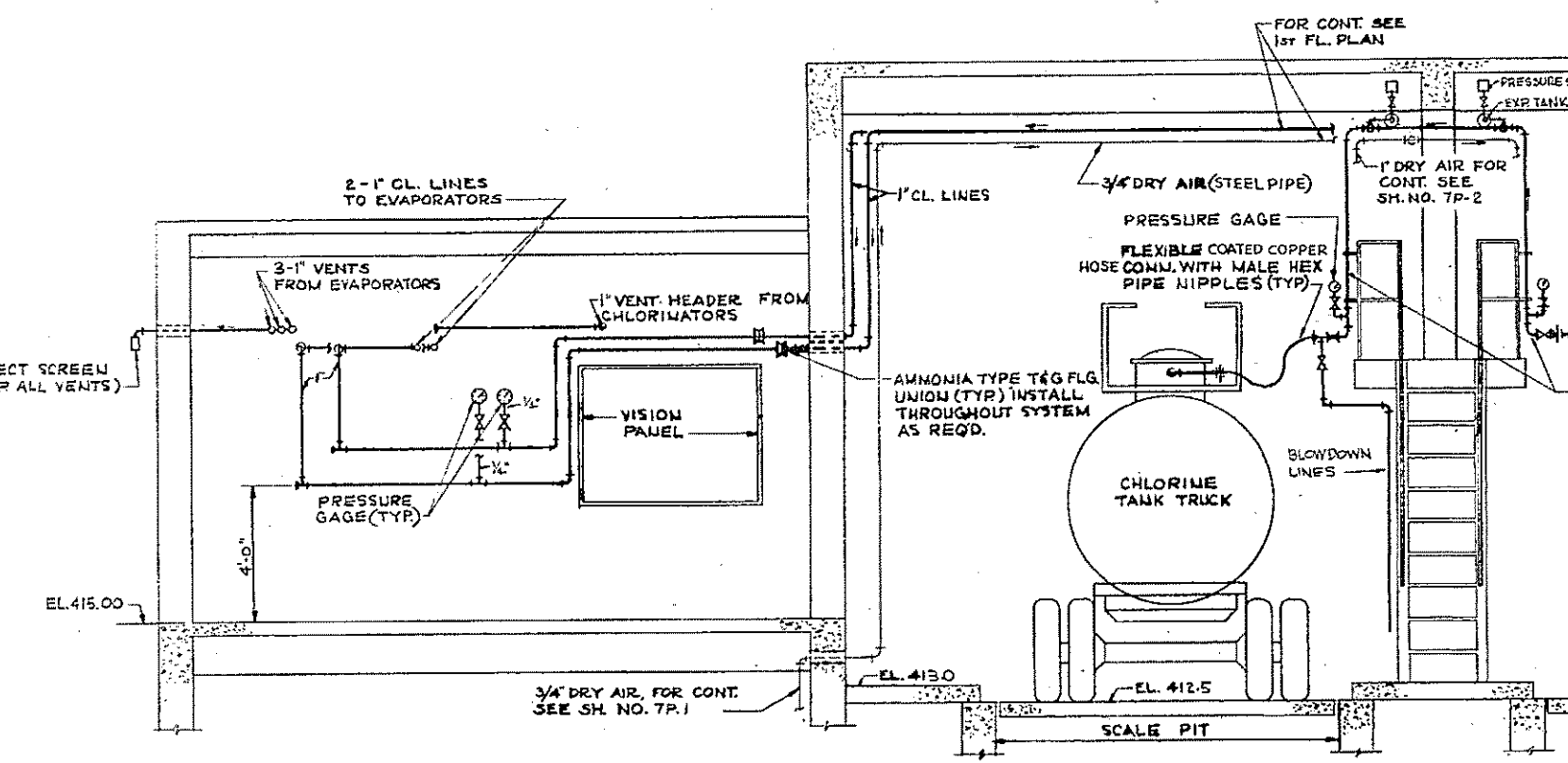
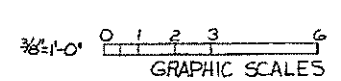


NOTE: PROVIDE SLEEVES FOR ALL PIPES THRU WALLS AND FLOORS, CAULK WATER AND GAS TIGHT.

1st FLOOR PLAN

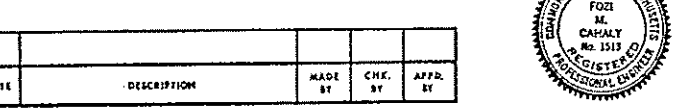


SECTION 2
SCALE: 1/8" = 1'-0"



SECTION 1

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY



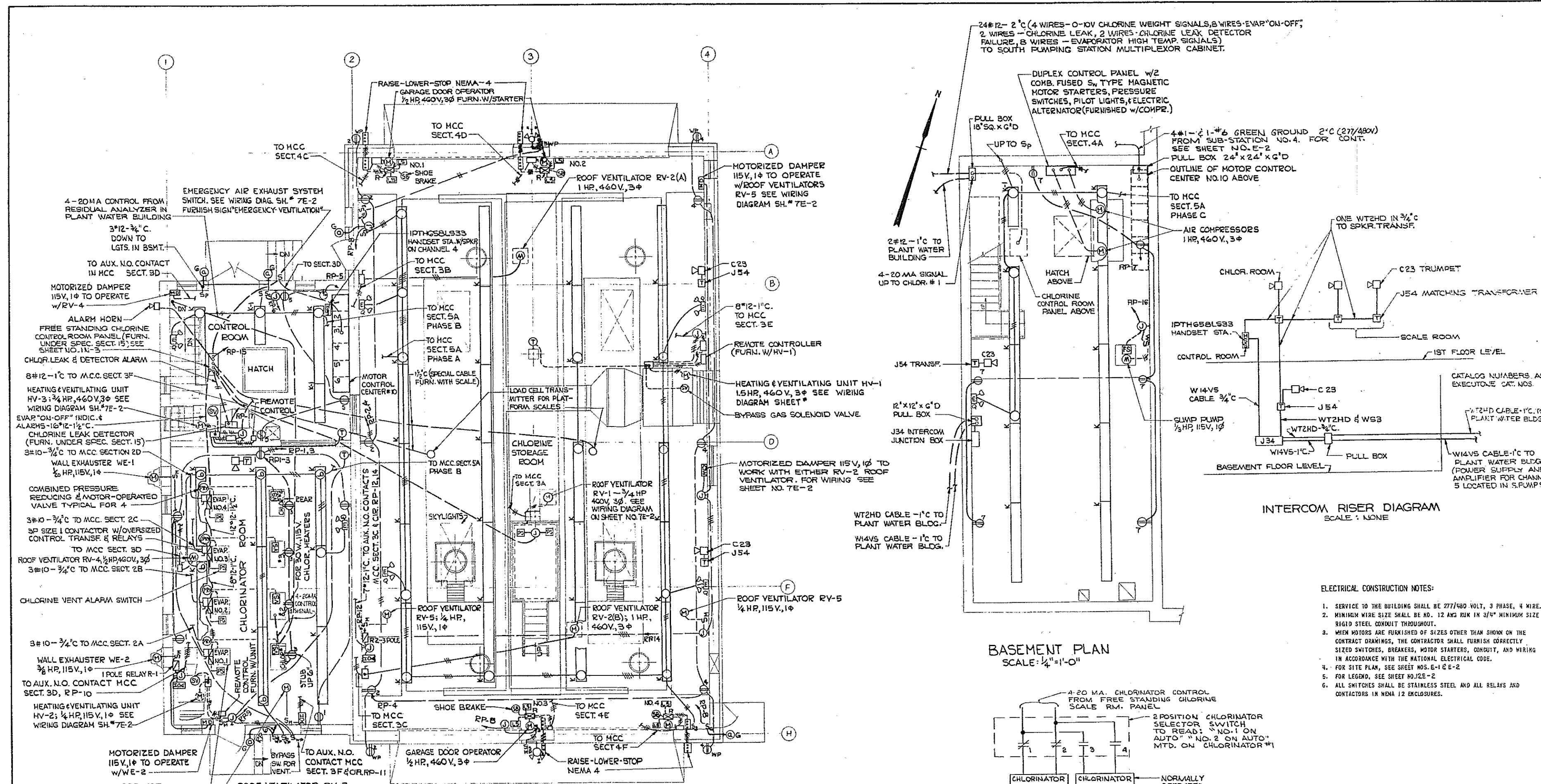
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CHLORINATION FACILITIES, F.N. -7
 MECHANICAL PROCESS

PLANS, SECTIONS AND DETAILS

SCALE: 3/8" = 1'-0" FEBRUARY 1977
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 SEE J.C.C. 5.2.5
 DR. J.L.M. IN CHG. RMS
 APPROVED: *m. Celaly* DATE: JW-83
 SHEET NO. 79

CONTRACT DRAWING SHEET NO. 7M-1



NOTE: CHLORINATORS NOS. 2, 3 & 4 ARE MANUALLY CONTROLLED. CHLORINATOR NO. 1 IS CONTROLLED BY RESIDUAL CHLORINE ANALYZER IN PLANT WATER BLDG. FROM 4-20 MA. SIGNAL. NO. 2 CHLORINATOR CAN BE OPERATED ON 4-20 MA. SIGNAL. SEE SELECTOR SWITCH WIRING SCHEMATIC.

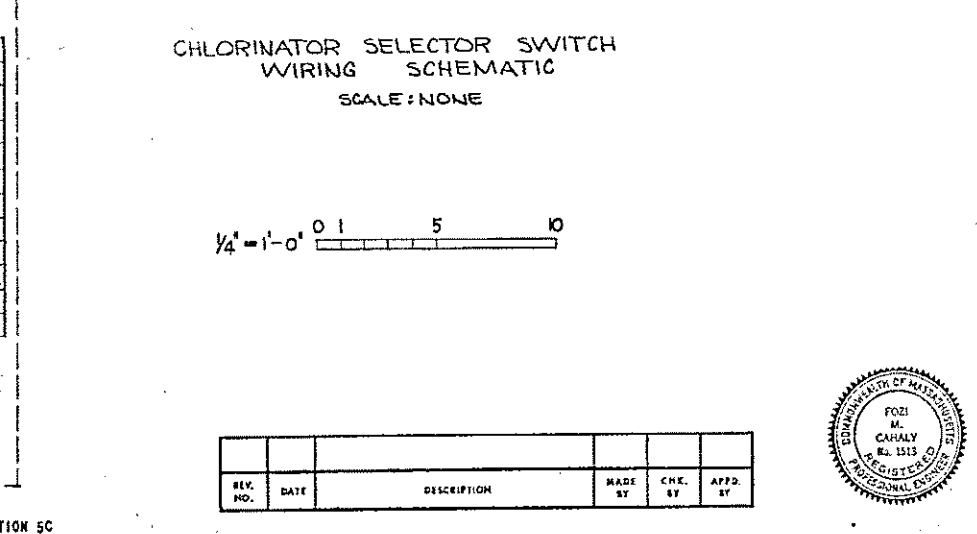
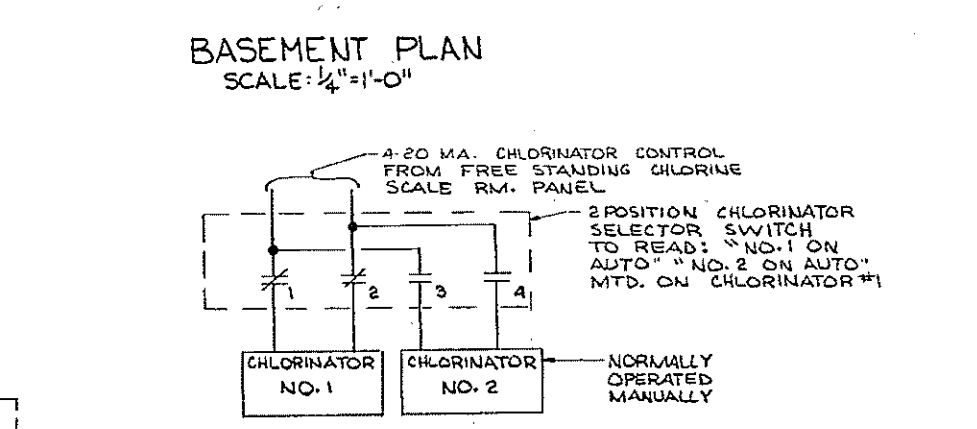
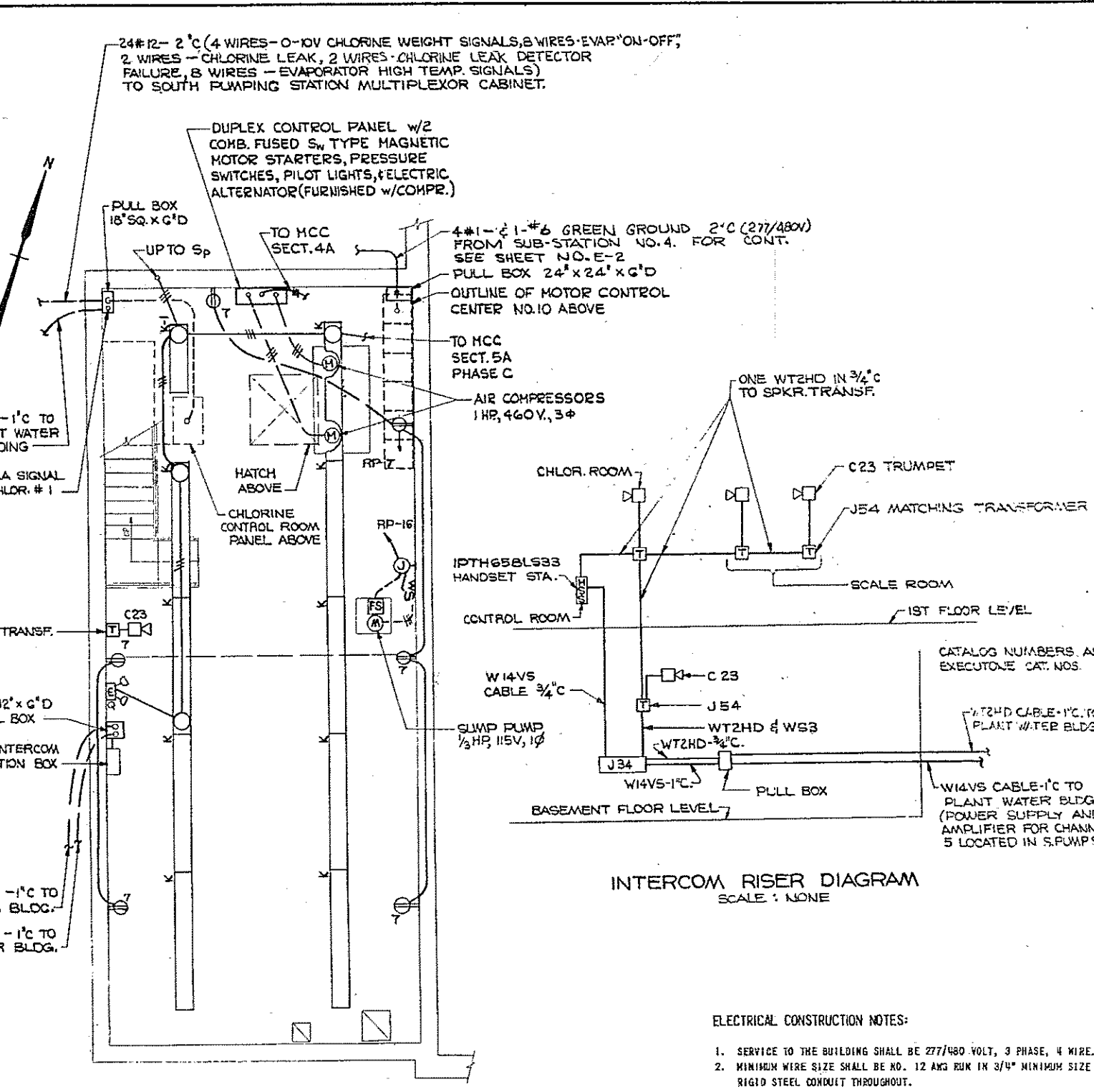
FIXTURE SCHEDULE				
TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA NO. TYPE WATTS	MTG. HGT.
K	Miller	XT-2110-C8	4 RS 50	*
K-1	Miller	XT-2110-C4	2 RS 50	*
G	McPhibben	66-21VTB	1 I 150	7'-6"
I	Stebor	SI-3002	2 PAR BB 150	15'-0"

* Mount 8'-0" in Control and Chlorinator Rooms and 15'-0" in Scale Room. Furnish 277 Volt ballasts for all Fluorescent Fixtures. For alternate manufacturers, see sheet no. 7E-2

PANEL "RP" SCHEDULE (IN MCC SECT. 6B)									
H.P.	V.A.	LOAD SERVED	120/208 V.	3 Ø	4 WIRE	LOAD SERVED	V.A.	HP	
-	1200	RECEPT.-CHLOR. RM. (6)	1	2	6	RECEPT.-SCALE RM. (5)	1000	-	
-	120	CHLOR. HEATERS	3	4	6	RECEPT.-SCALE RM. (5)	1000	-	
-	600	RECEPT.-CONTR. RM. (3)	5	6	6	OUTSIDE LIGHTS	450	-	
-	1200	RECEPT.-BSMT. (6)	7	8	6	OUTSIDE LGTS.-SCALE RM.	900	-	
1/4-1/2	777	H & V. CHLOR. RM. (NY-2)	9	10	6	WALL EXH. WE-2	800	3/8	
1/4	668	RV-3 BSM'T.	11	12	6	RV-5 SCALE RM.	668	1/2	
-	100	RV-4 BSM'T. (CONT. & MD)	13	14	6	RV-5 SCALE RM.	668	1/4	
-	200	CHLORINE SCALE RM. PKL	15	16	6	SUMP PUMP	850	1/3	
-	100	CHLORINE LEAK DETECTOR	17	18	6	SPARE	-	-	
-	-	SPARE	19	20	6	SPARE	-	-	

1 POLE 20 A. TRIP UNLESS OTHERWISE NOTED

CONNECTED V.A. = 11,281



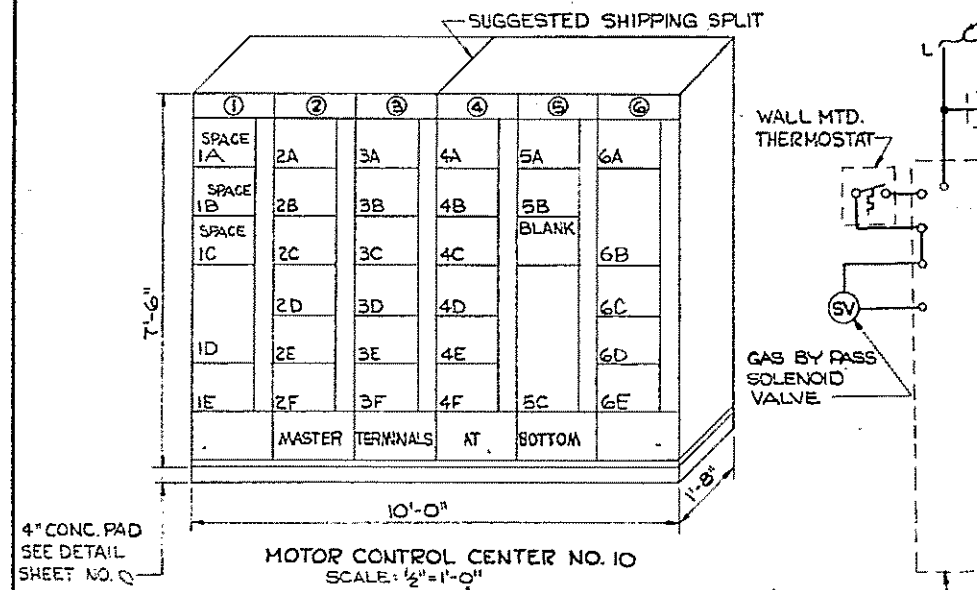
ELECTRICAL CONSTRUCTION NOTES:

- SERVICE TO THE BUILDING SHALL BE 277/480 VOLT, 3 PHASE, 4 WIRE.
- MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUM IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
- WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT, AND WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- FOR SITE PLAN, SEE SHEET NOS. E-1 & E-2
- FOR LEGEND, SEE SHEET NO. 7E-2
- ALL SWITCHES SHALL BE STAINLESS STEEL AND ALL RELAYS AND CONTACTORS IN NEMA 12 ENCLOSURES.

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

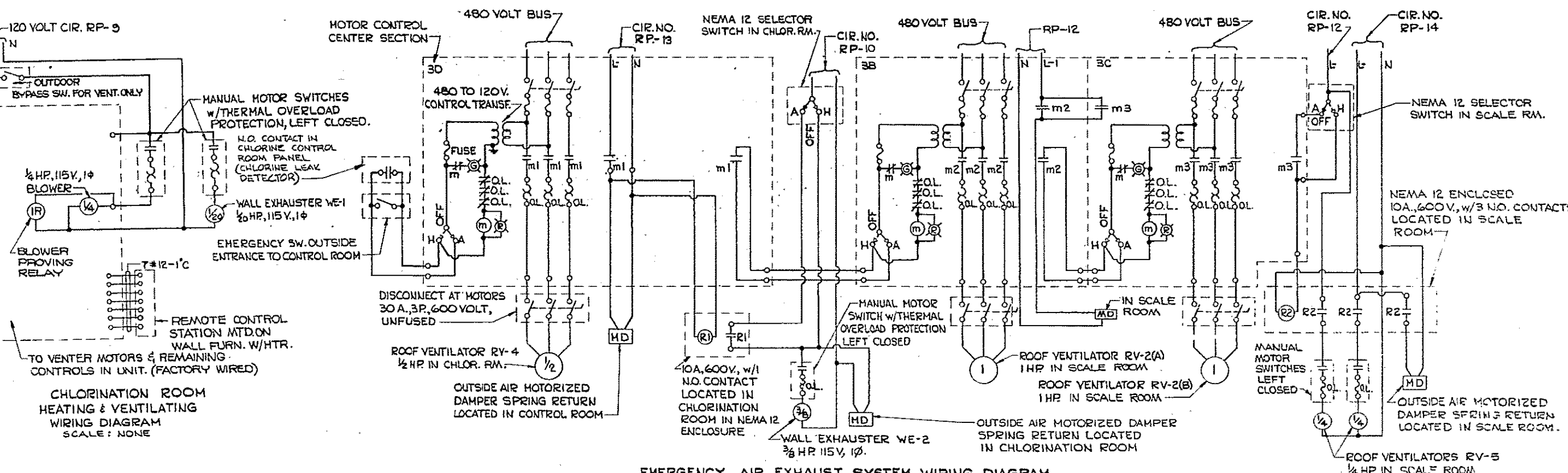
CONTRACT DRAWING SHEET NO. 7E-1



MOTOR CONTROL CENTER NO. 10
SCALE: 1/2" = 1'-0"

4" CONC. PAD SEE DETAIL SHEET NO. 7

GAS FIRED HEATING & VENTILATING UNIT HV-2 w/ 1/4 HP, 115V, 1Ø BLOWER. WIRING IS SHOWN FOR HASTINGS INDUSTRIES UNIT & MAY VARY WITH OTHER MANUFACTURER'S UNITS



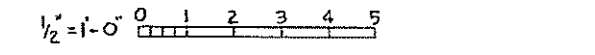
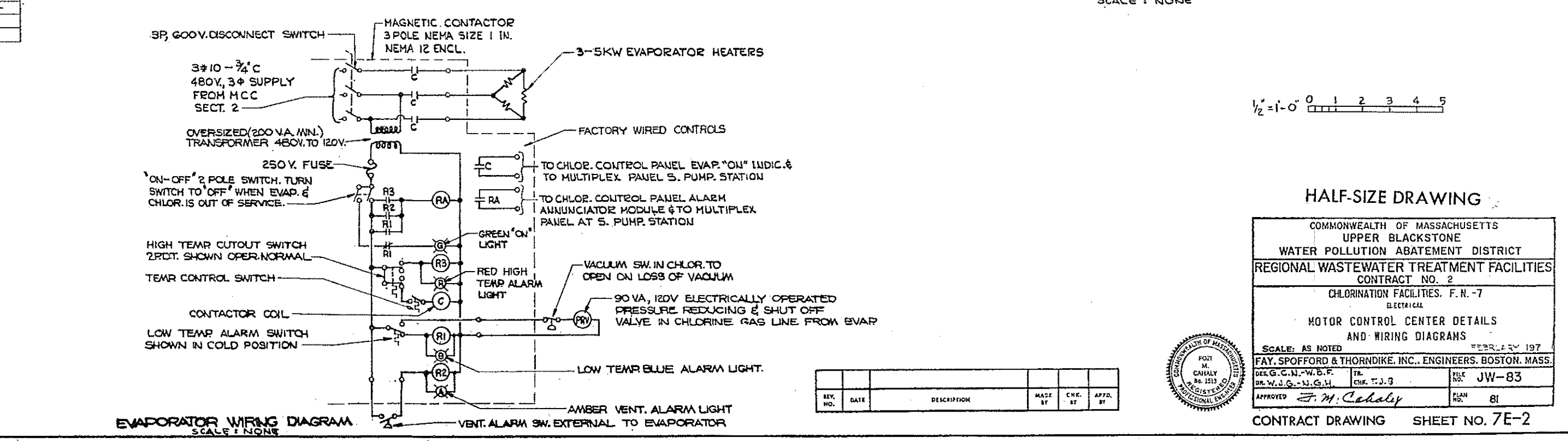
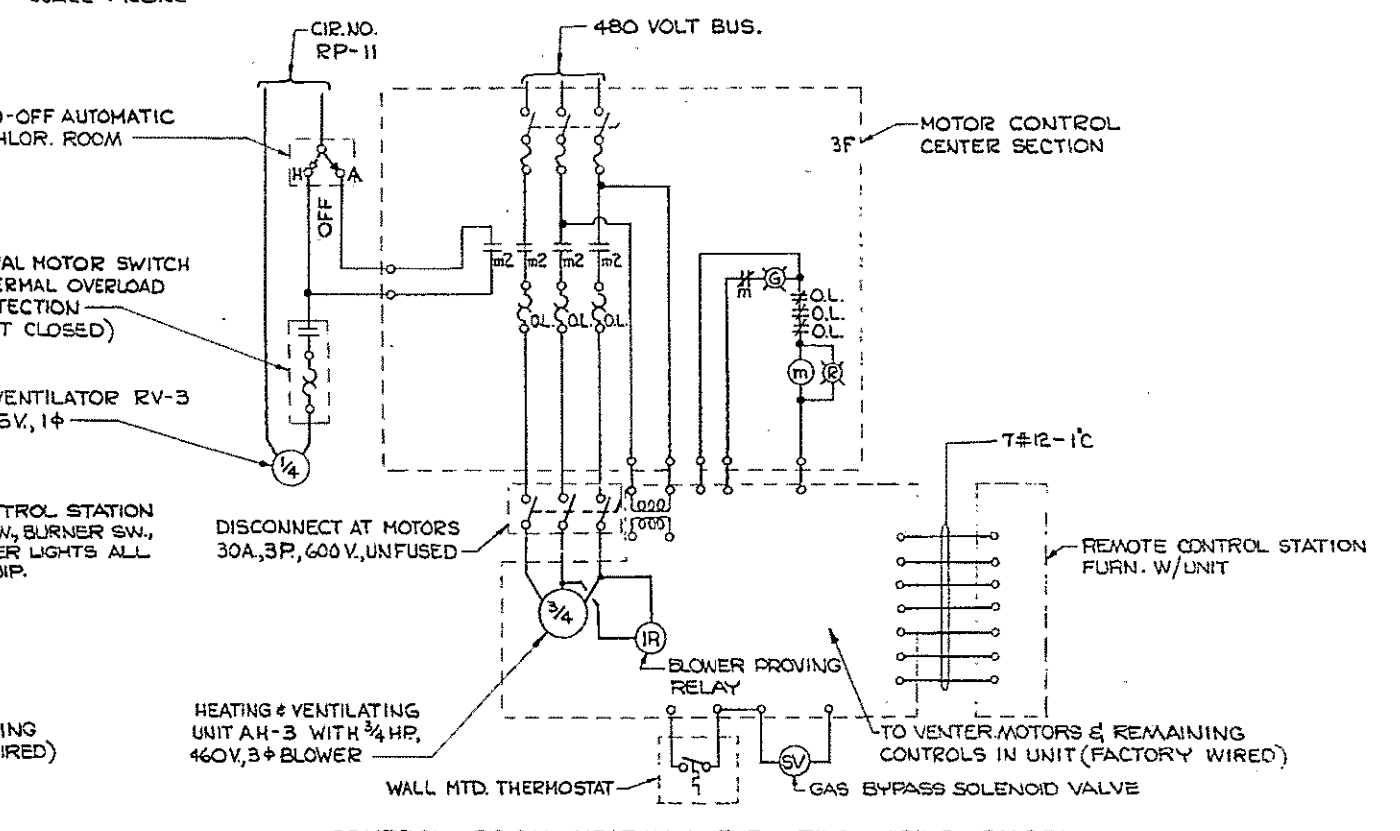
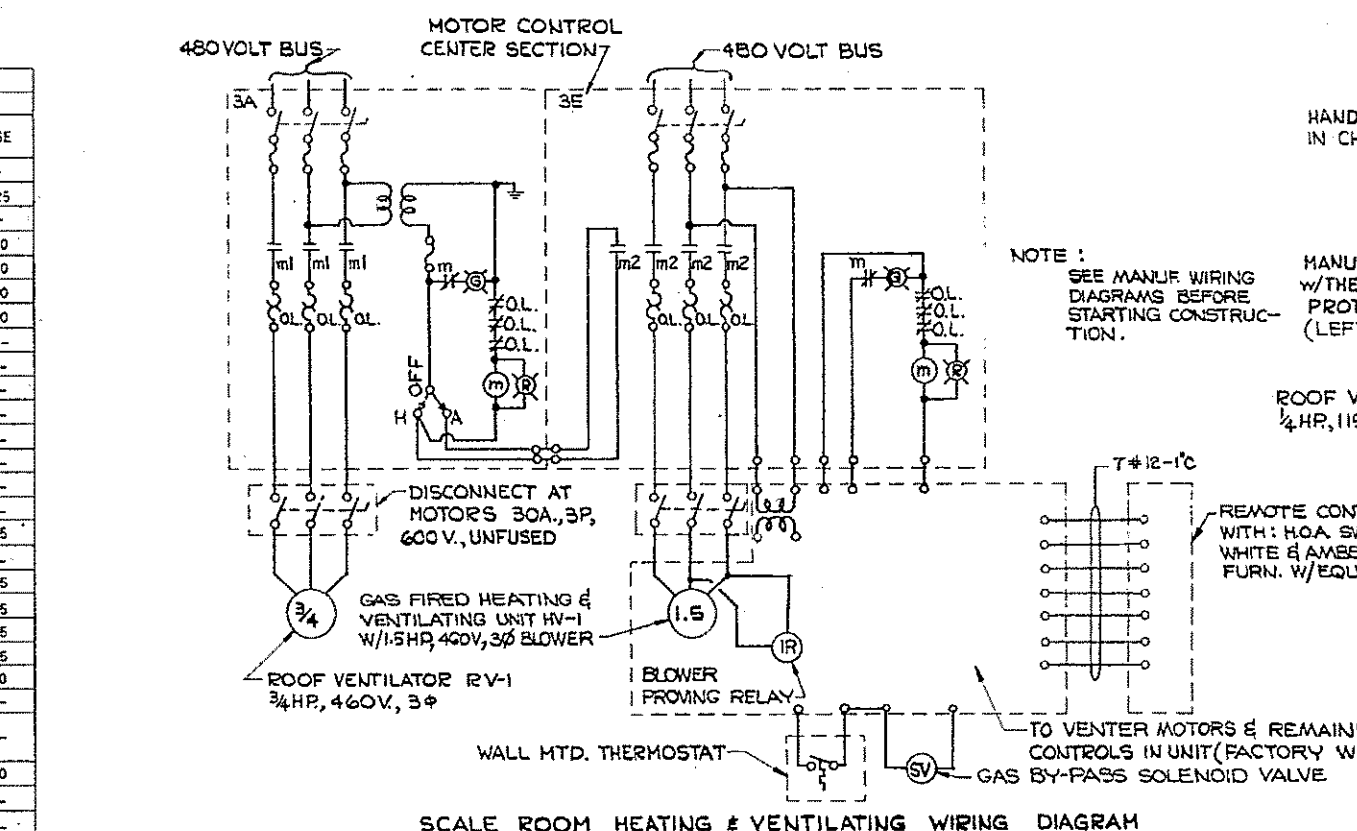
S.S. = STOP-START PUSHBUTTON F.S. = FLOAT SWITCH
H.O.A. = HAND-OFF-AUTOMATIC SELECTOR SWITCH N.R. = NON-REVERSING

MOTOR CONTROL CENTER NO. 10 SCHEDULE (277/480 V., 3 Ø, 4 W.)

SECT. NO.	NAMEPLATE	COMB. FUSED SWITCH TYPE MAGNETIC STARTER N.R.						FUSED SWITCH ONLY		
		HP	NEMA SIZE	H O A	S.S.	PILOT LIGHTS RED GREEN	MODIFICATIONS	FRAME	POLES	FUSE
1A-1C	SPACE	-	-	-	-	-	-	-	-	-
1C	MAIN INCOMING SERVICE	-	-	-	-	-	-	200	3	125
1D	BLANK	-	-	-	-	-	SERVICE PULLING SPACE	-	-	-
2A	EVAPORATOR NO. 1	-	-	-	-	-	15 KW	30	3	30
2B	EVAPORATOR NO. 2	-	-	-	-	-	15 KW	30	3	30
2C	EVAPORATOR NO. 3	-	-	-	-	-	15 KW	30	3	30
2D	EVAPORATOR NO. 4	-	-	-	-	-	15 KW	30	3	30
2E	SPACE	-	-	-	-	-	-	-	-	-
2F	SPACE	-	-	-	-	-	-	-	-	-
3A	ROOF VENTILATOR RV-1	3/4	I	-	-	-	SEE WIRING DIAGRAM THIS SHEET	-	-	-
3B	ROOF VENTILATOR RV-2(A)	1	I	-	-	-	SEE NOTES C & E	-	-	-
3C	ROOF VENTILATOR RV-2(B)	1	I	-	-	-	SEE NOTES C & E	-	-	-
3D	ROOF VENTILATOR RV-4	1/2	I	-	-	-	SEE NOTES C & E	-	-	-
3E	HEAT. & VENT. UNIT HV-1	1/2	J	-	-	-	SEE NOTE B	-	-	-
3F	HEAT. & VENT. UNIT HV-3	3/4	I	-	-	-	SEE NOTE B	-	-	-
4A	DUPLEX AIR COMPRESSOR	2-1	-	-	-	-	SEE NOTE D	30	3	15
4B	SPACE	-	-	-	-	-	-	-	-	-
4C	GARAGE DOOR OPERATOR #1	1/2	-	-	-	-	REMOTE STARTER	30	3	15
4D	GARAGE DOOR OPERATOR #2	1/2	-	-	-	-	REMOTE STARTER	30	3	15
4E	GARAGE DOOR OPERATOR #3	1/2	-	-	-	-	REMOTE STARTER	30	3	15
4F	GARAGE DOOR OPERATOR #4	1/2	-	-	-	-	REMOTE STARTER	30	3	15
5A	BUILDING LIGHTING	-	-	-	-	-	8.7 KVA	30	3	20
5B	SPACE	-	-	-	-	-	-	-	-	-
5C	208Y/120 V. TRANSF. - 15 KVA	-	-	-	-	-	480 TO 208 V/120 V. 3Ø, 4 W. W/2 - 2 1/2% TAPS 4Ø & 6Ø WITH MAIN FUSEBLE SWITCH	-	-	-
6A	PANELBOARD "RP" MAIN	-	-	-	-	-	2Ø CIRCUIT-SEE SCHEDULE SHEET 1	60	3	60
6B	SPACE	-	-	-	-	-	-	-	-	-
6C	SPACE	-	-	-	-	-	-	-	-	-
6D	SPACE	-	-	-	-	-	-	-	-	-
6E	SPACE	-	-	-	-	-	-	-	-	-
6F	SPACE	-	-	-	-	-	-	-	-	-

MOTOR CONTROL CENTER NOTES:

- FURNISH ALL STARTERS WITH FUSED 480 TO 120 V. CONTROL TRANSFORMERS.
- FURNISH 1 EXTRA N.O. CONTACT. SEE WIRING DIAGRAM THIS SHEET.
- FURNISH 2 EXTRA N.O. CONTACTS. SEE WIRING DIAGRAM THIS SHEET.
- REMOTE DUPLEX CONTROL PANEL WILL BE FURNISHED BY COMPRESSOR SUPPLIER AND SHALL BE MOUNTED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL WIRE FROM DUPLEX CONTROLLER TO COMPRESSORS AND MOTOR CONTROL CENTER.
- EMERGENCY AIR EXHAUST SYSTEM - ALL SELECTOR SWITCHES SHALL BE LEFT EITHER ON HAND-OR AUTO. POSITION.
- ALL AUX. CONTACTS CONTROLLING MOTOR LOADS SHALL BE OF ADEQUATE CAPACITY FOR THIS DUTY.
- ALL FUSES SHALL BE CLASS "J" OR "L" AS REQUIRED.



HALF-SIZE DRAWING

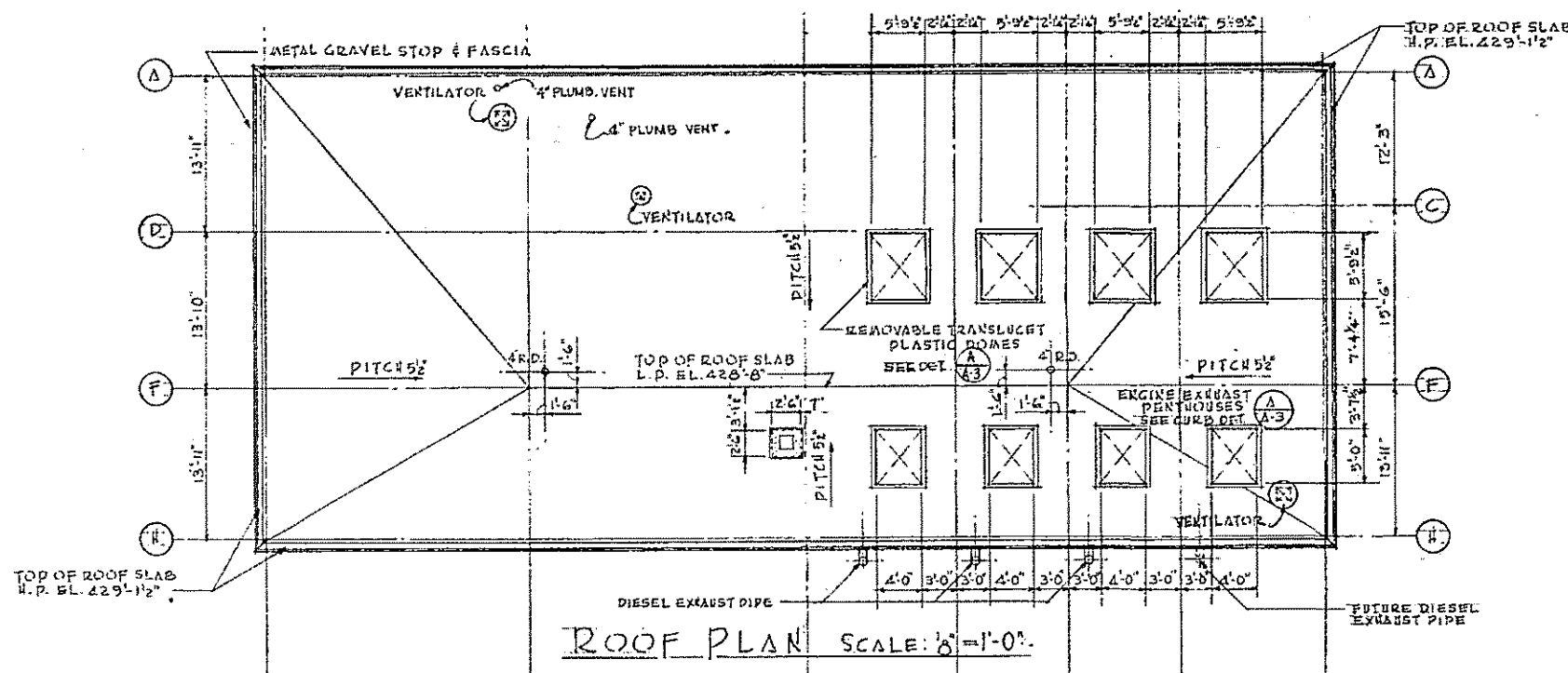
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CHLORINATION FACILITIES, F.N.-7
ELECTRICAL
MOTOR CONTROL CENTER DETAILS
AND WIRING DIAGRAMS

SCALE: AS NOTED

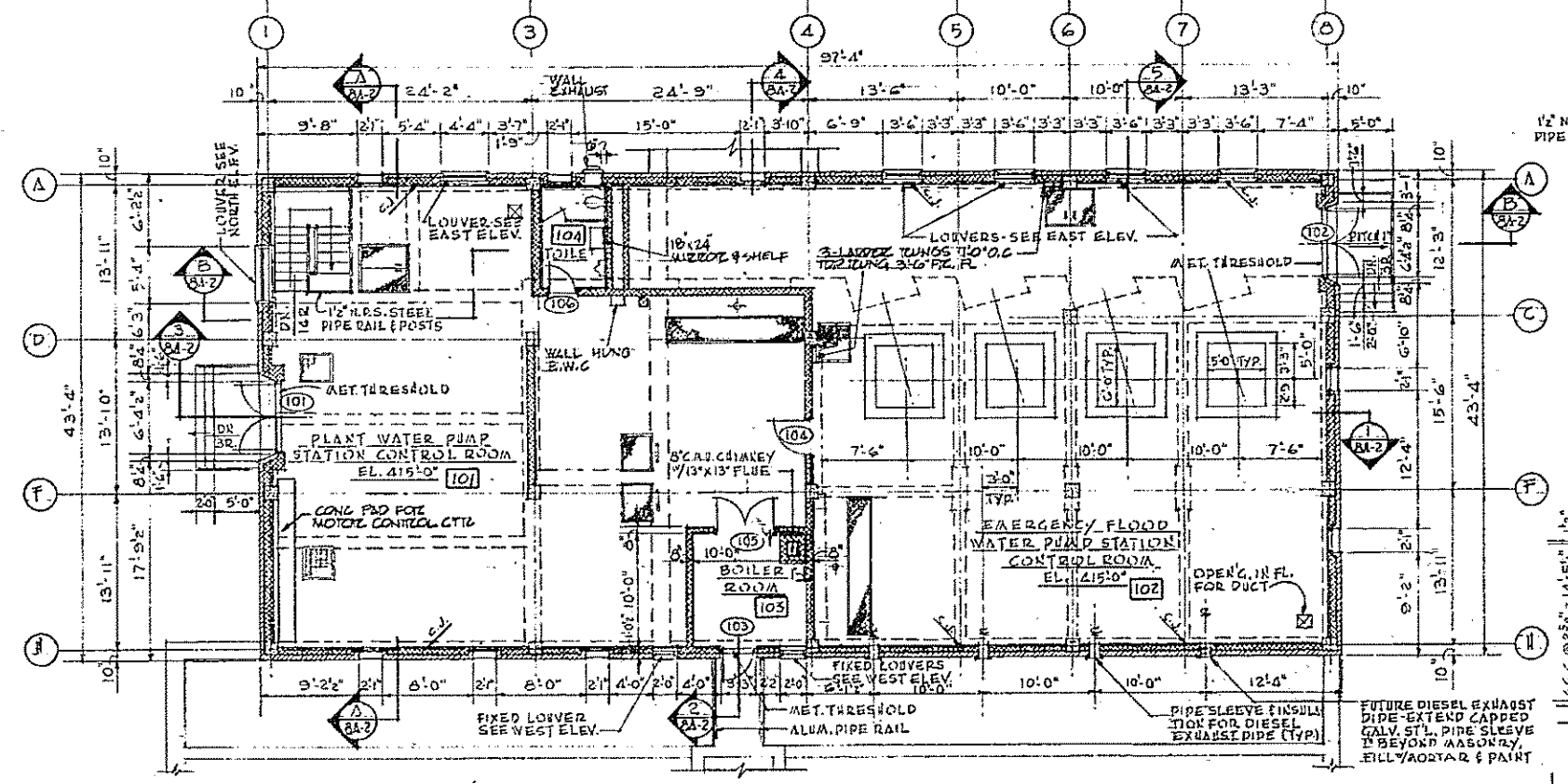
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. G. C. N. W. B. F. TR. J. J. B. DATE: 12/13/83
CHK. J. J. B. APPR. J. W. 83
APPROVED: F. M. Cahaly

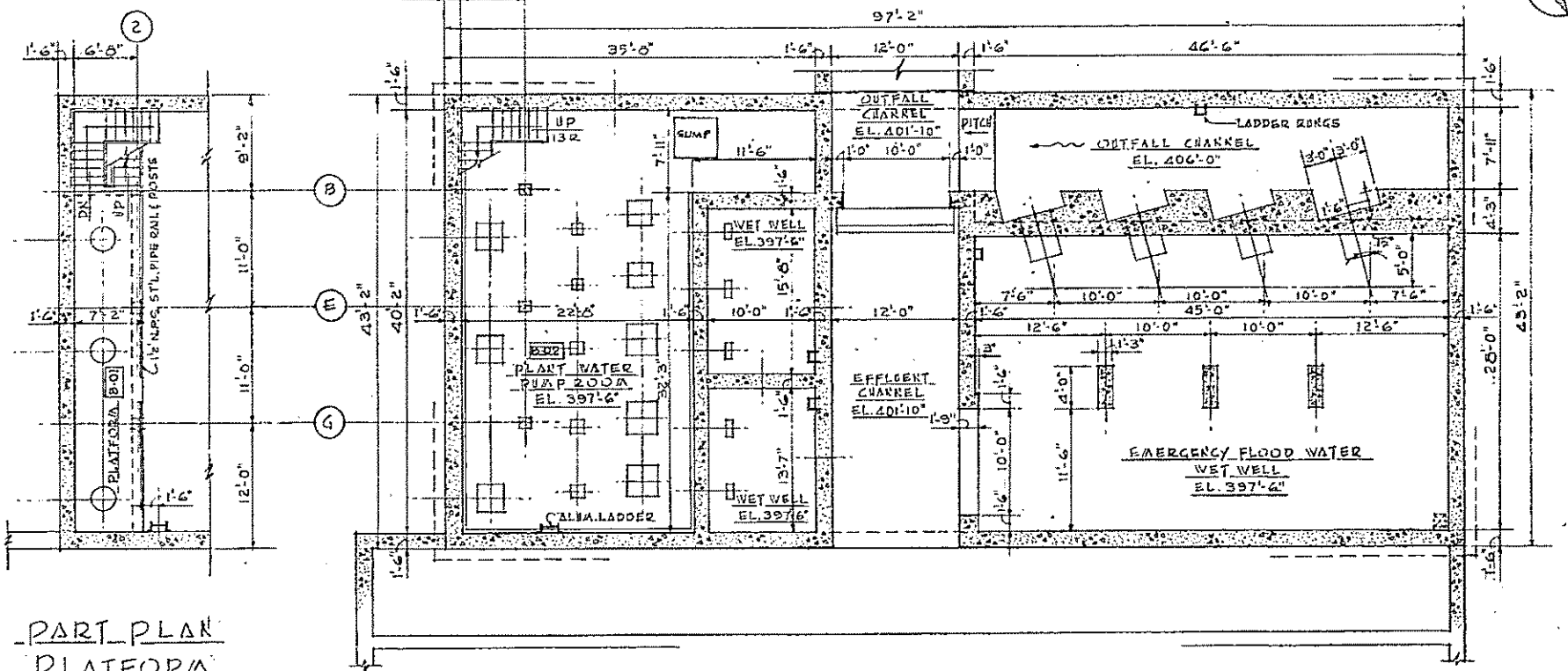
CONTRACT DRAWING SHEET NO. 7E-2



ROOF PLAN SCALE: 1/8" = 1'-0"

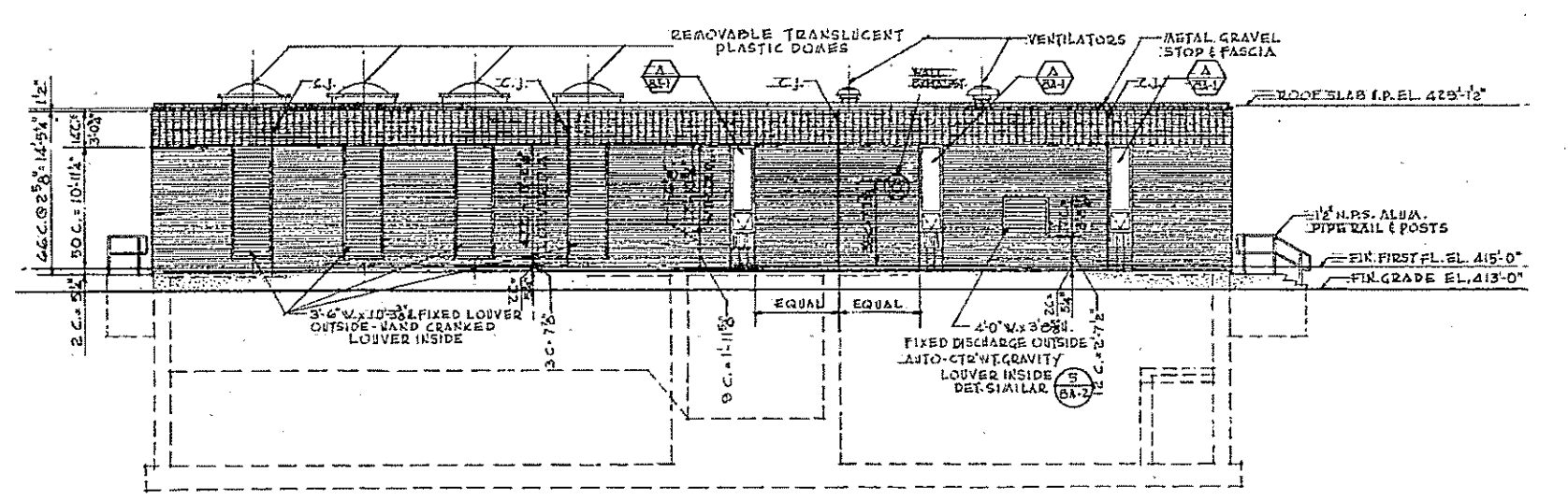


FIRST FLOOR PLAN SCALE: 1/8" = 1'-0"

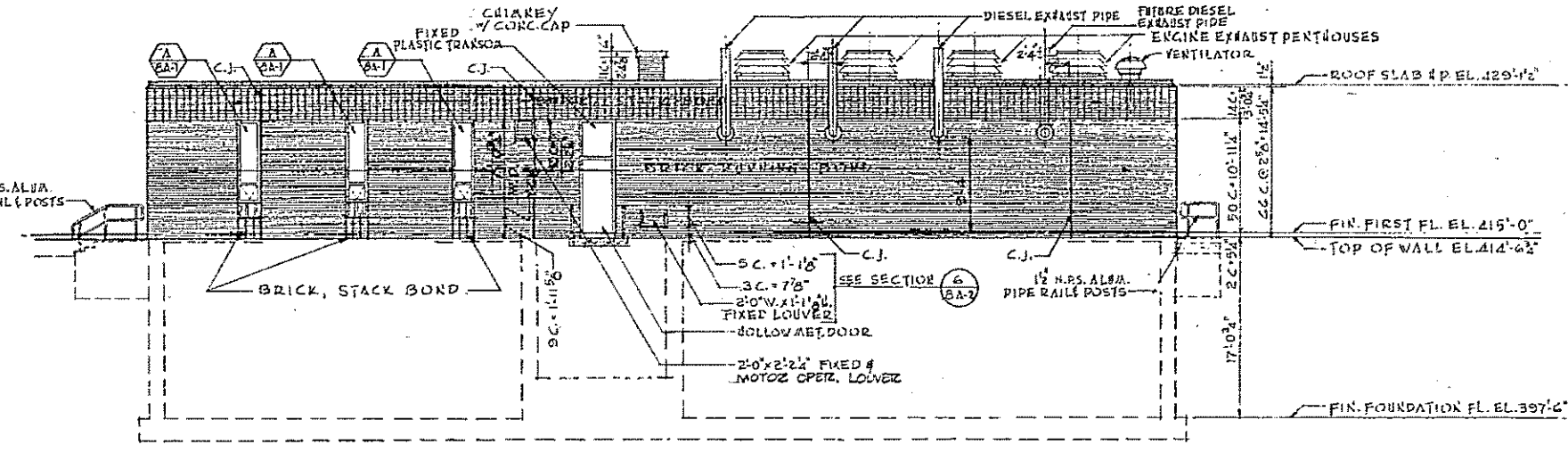


PUMP ROOM & WET WELL PLAN SCALE: 1/8" = 1'-0"

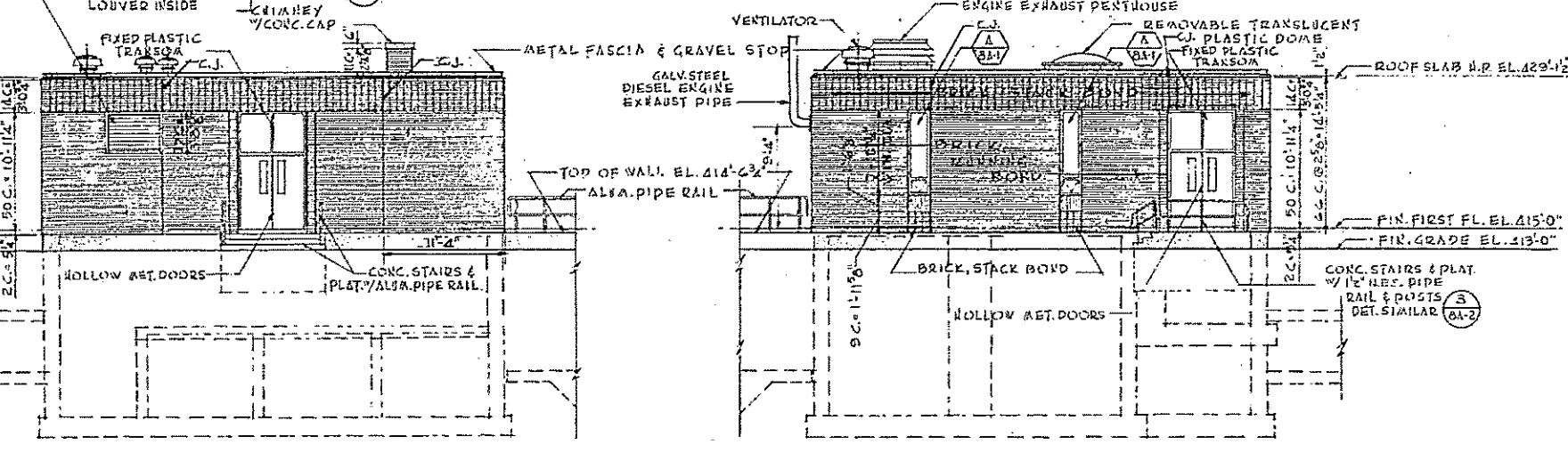
PART PLAN PLATFORM SCALE: 1/8" = 1'-0"



EAST ELEVATION SCALE: 1/8" = 1'-0"

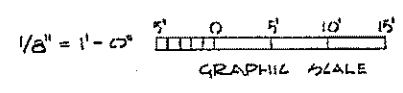


WEST ELEVATION SCALE: 1/8" = 1'-0"



NORTH ELEVATION SCALE: 1/8" = 1'-0"

SOUTH ELEVATION SCALE: 1/8" = 1'-0"

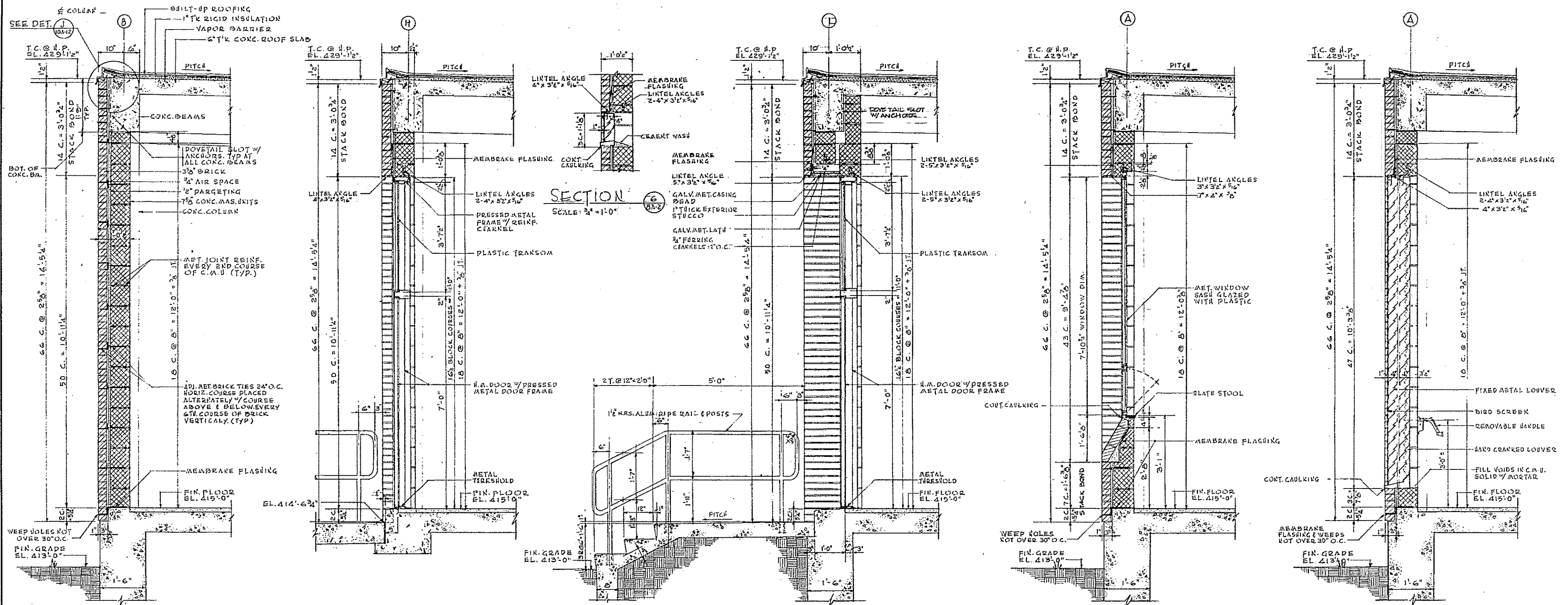


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
 ARCHITECTURAL
 PLANS AND ELEVATIONS
 SCALE: AS NOTED
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
 DESIGNED BY: H.C.E. / DRAWN BY: J.M.T. / CHECKED BY: J.W.-83 / APPROVED BY: J.M. Cahaly
 CONTRACT DRAWING SHEET NO. 8A-1



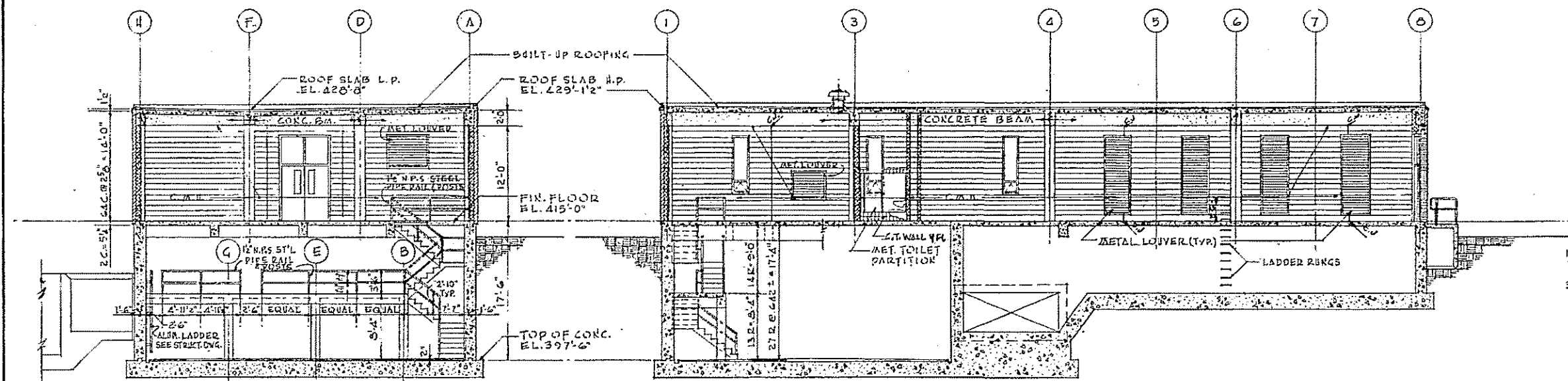
SECTION 1
SCALE: 3/4" = 1'-0"

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

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

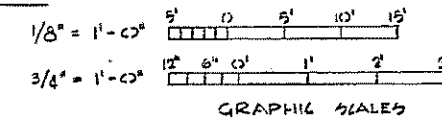
SECTION 4
SCALE: 3/4" = 1'-0"

SECTION 5
SCALE: 3/4" = 1'-0"



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

LONGITUDINAL SECTION B
SCALE: 1/8" = 1'-0"



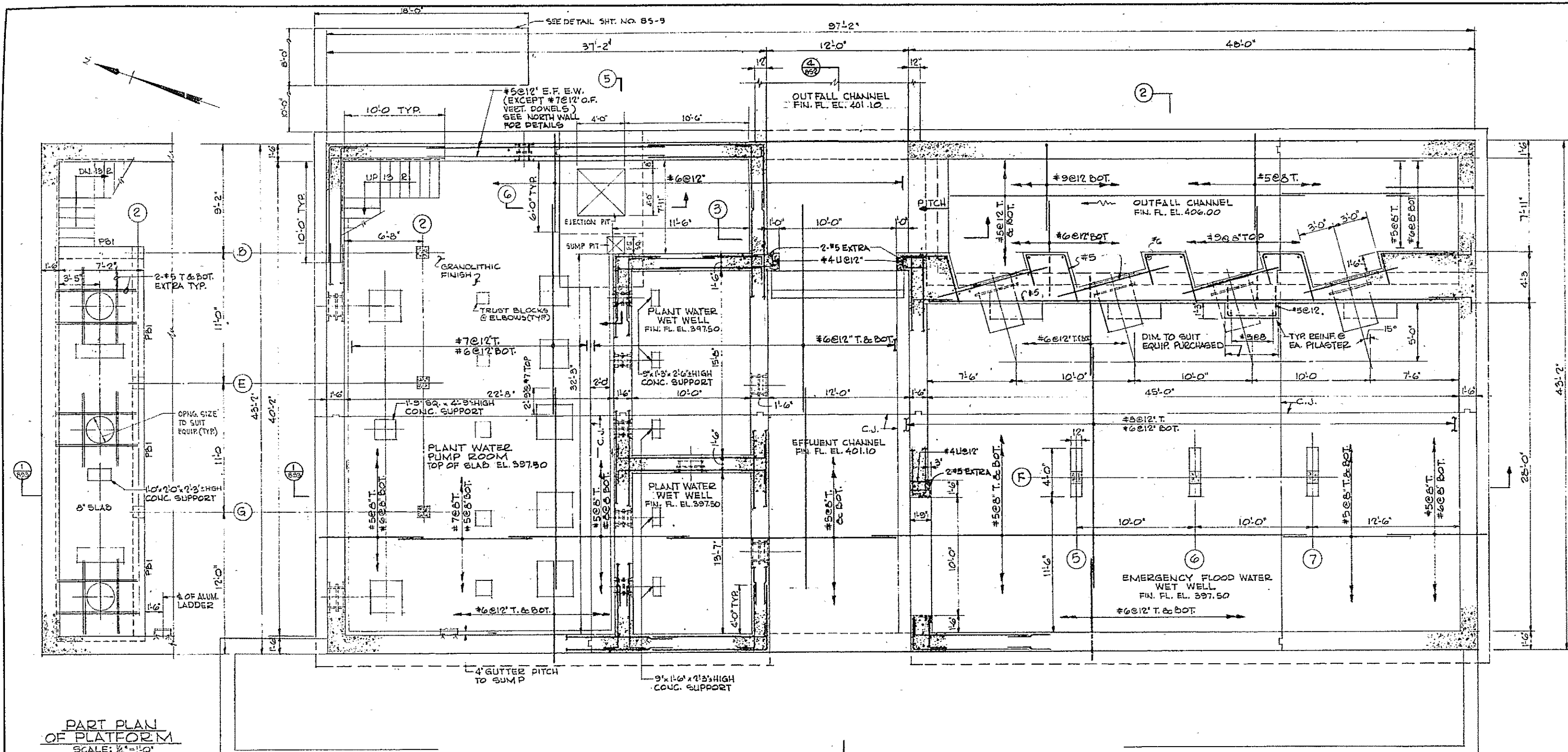
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
ARCHITECTURAL
WALL SECTIONS AND DETAILS

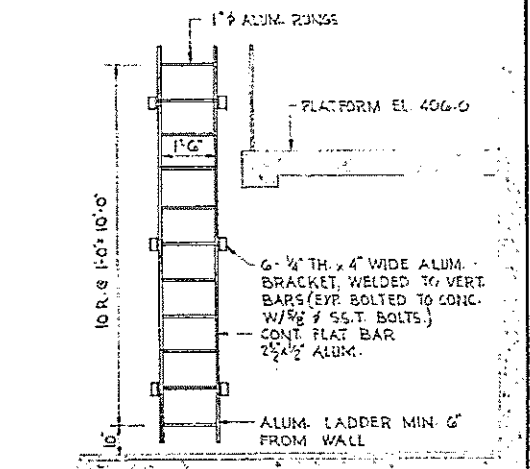
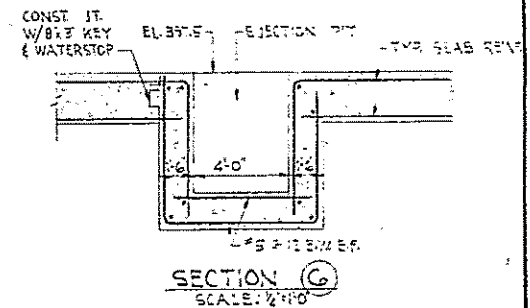
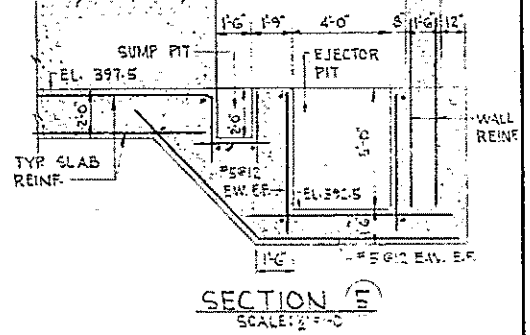
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FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DATE: [Date]
APPROVED BY: [Signature]
NO. 134
83

CONTRACT DRAWING SHEET NO. 8A-2



PART PLAN OF PLATFORM
SCALE: 1/4" = 1'-0"

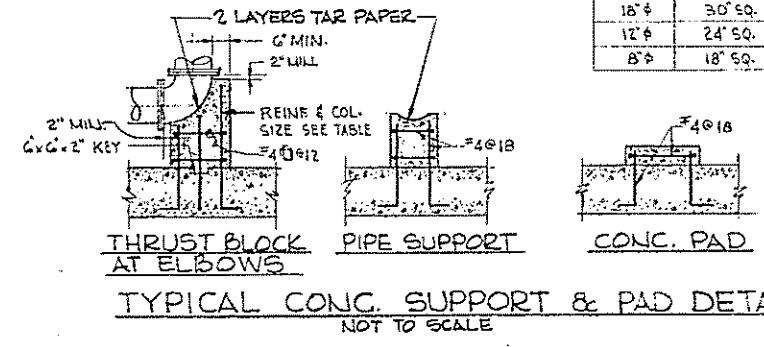
FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



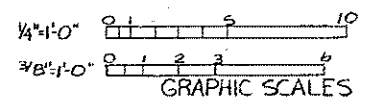
ALUM. LADDER DETAIL
SCALE: 3/8" = 1'-0"

LADDER RUNG DETAIL
NOT TO SCALE

ELBOW SIZE	COL. SIZE MINIMUM	VERT. REINF.
18" x 18"	30" SQ.	12" #7
12" x 12"	24" SQ.	8" #6
8" x 8"	18" SQ.	8" #5



TYPICAL CONC. SUPPORT & PAD DETAILS
NOT TO SCALE



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
STRUCTURAL

FOUNDATION PLAN AND SECTIONS

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

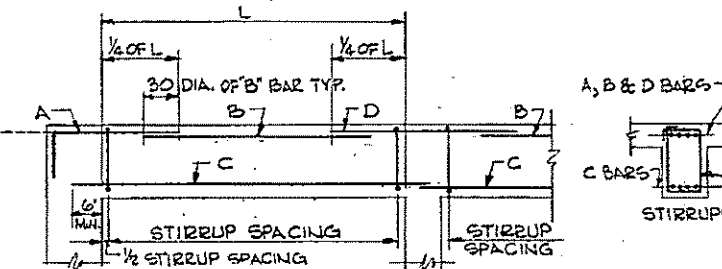
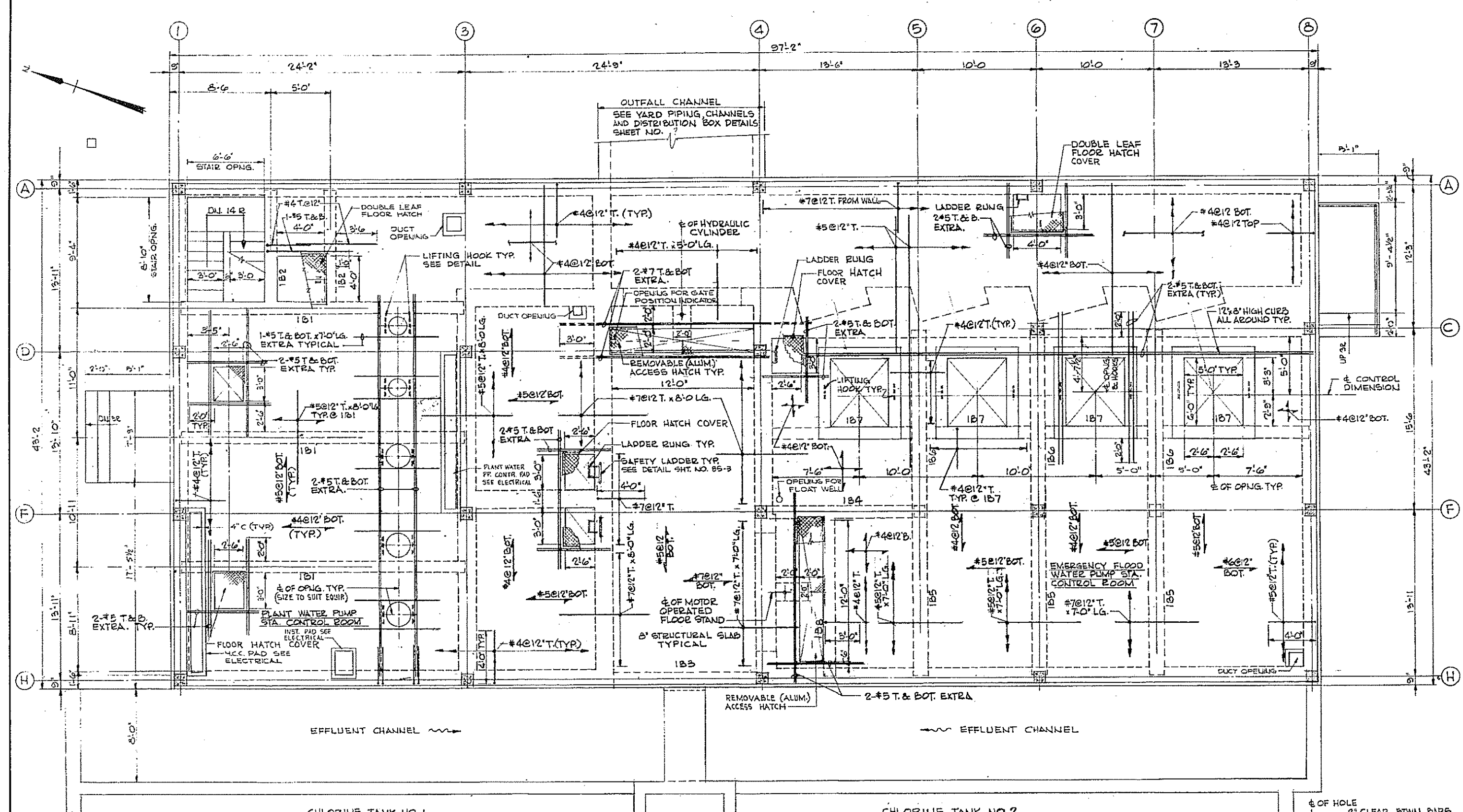
DES. S.P.P. DATE 10/11/84
CHK. W.G.H. DATE 10/11/84

APPROVED: *F. M. Cahaly* DATE 10/11/84

CONTRACT DRAWING SHEET NO. 85-1

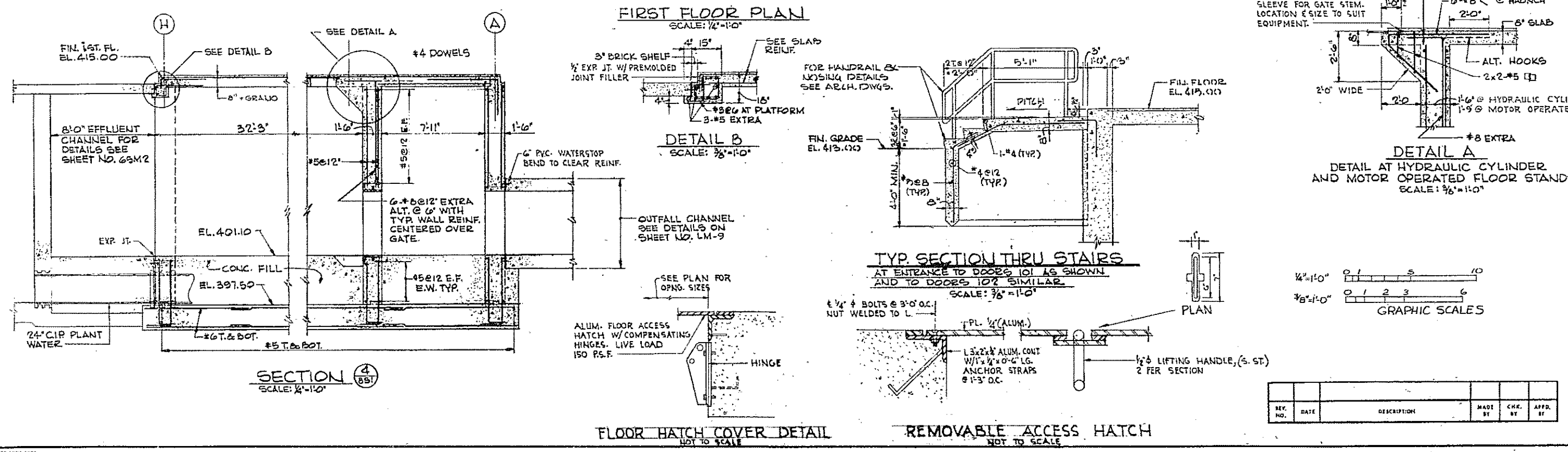
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BEAM SCHEDULE									
MARK	W	D	REINFORCING			STIRRUP SPACING	REMARKS		
			A	B	C			D	
1B1	12'	24'	4-#8	2-#7	4-#9	11-#3 @ 8" EA END	REMAINDER @ 10"		
1B2	12'	12'	2-#5	2-#5	2-#5	#3 @ 12"			
1B3	15'	18'	3-#6	2-#6	4-#8	#3 @ 12"	SEE DETAIL B		
1B4	12'	18'	2-#6	2-#6	4-#8	#3 @ 12"			
1B5	15'	24'	3-#7	2-#6	4-#7	#3 @ 10"			
1B6	15'	24'	3-#7	2-#7	5-#9	11-#3 @ 8" EA END	REMAINDER @ 10"		
1B7	12'	18'	3-#7	3-#7	3-#6	#3 @ 12"			
1B8	12'	18'	2-#6	2-#6	3-#8	#3 @ 12"			
B1	12'	12'	3-#5	3-#5	3-#5	#2 @ 12"			SEE SECTION (1)

COLUMN SCHEDULE						
COLUMN MARKS	B2, E2 & G2	A1, A3, A4, A6, A8, C2, D1, F1, F2, H1, H3, H4, H6 & H8	F5 & F7	F6	F3 & F4	D3, D4 & C6
HIGH POINT ROOF EL. 428.12						
LOW POINT ROOF EL. 428.61						
1ST FLOOR EL. 415.0						
PLATFORM EL. 406.0						
PUMP ROOM EL. 297.5						
ALL DOWELS TO MATCH VERT. REINF. TYP EXCEPT AS NOTED.						
COLUMN SIZE	12'x12'	12'x12'	UPPER COL. 12'x12' LOWER COL. 12'x12'	12'x12'	12'x12'	12'x12'
VERT. REINF.	4-#5	4-#7	AS SHOWN	4-#7	4-#7	4-#7
TIES & SPACING	#3 @ 12"	#3 @ 12"	#3 @ 12"	#3 @ 12"	#3 @ 12"	#3 @ 12"



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F. H. - B
STRUCTURAL

FIRST FLOOR FRAMING PLAN AND SECTIONS

SCALE: AS NOTED

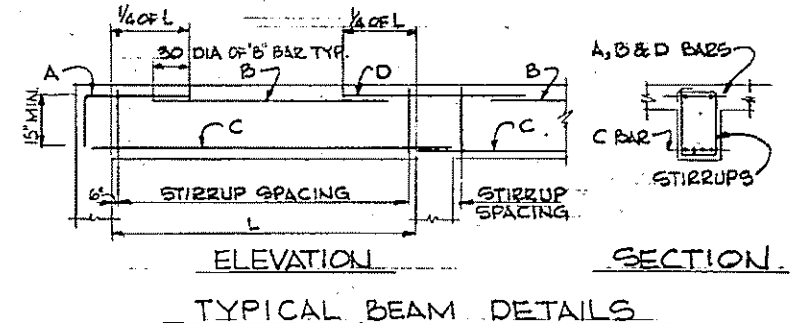
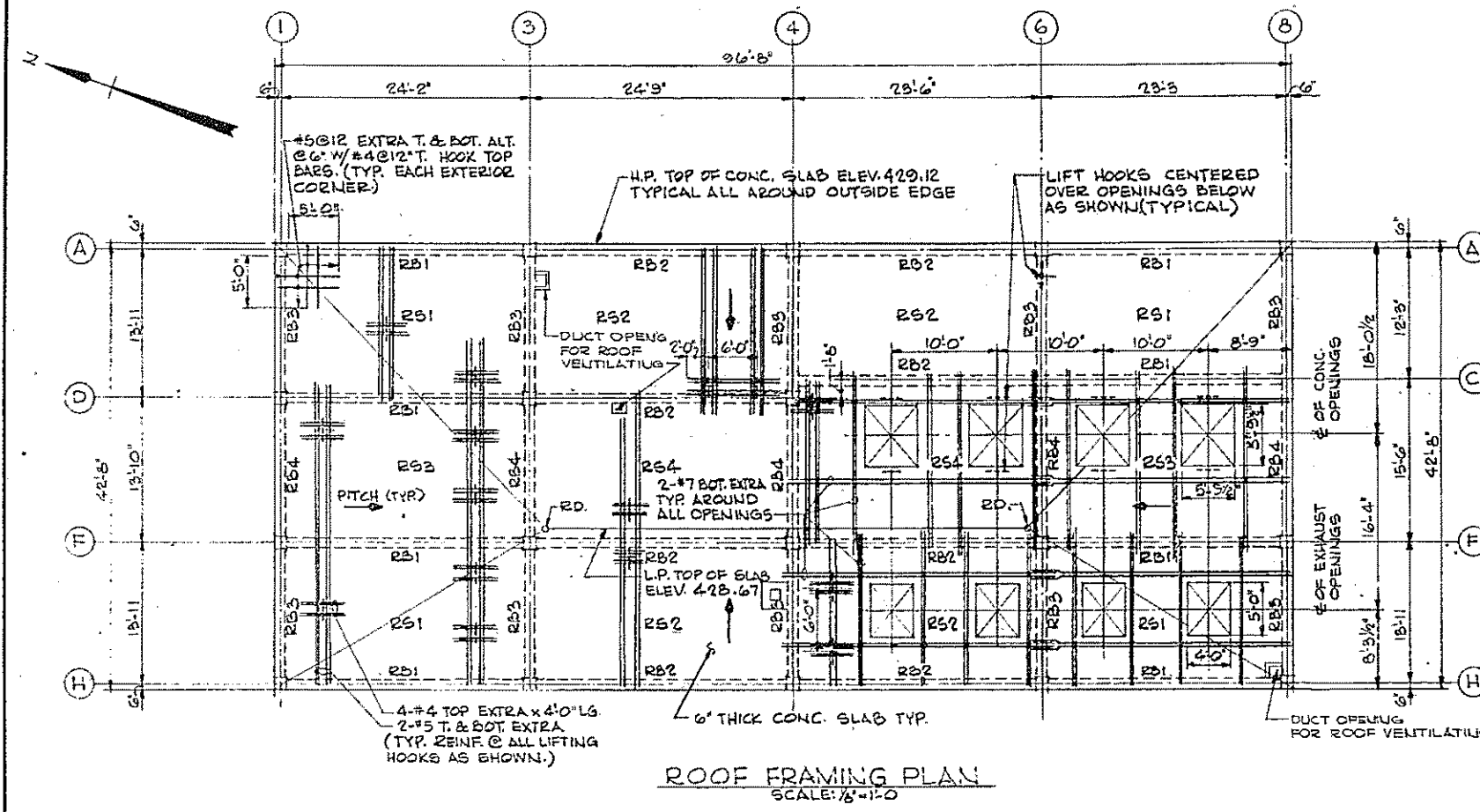
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

PREP. S.P.P. DR. HIGH DR. COLBY, JR. JG
APPROVED: F. W. Cabaly
85

CONTRACT DRAWING SHEET NO. 85-2

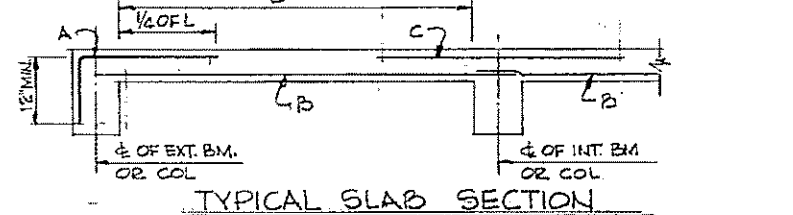
NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

155-9607170-0974 12-77



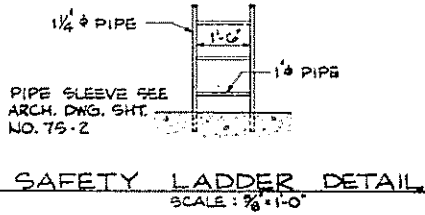
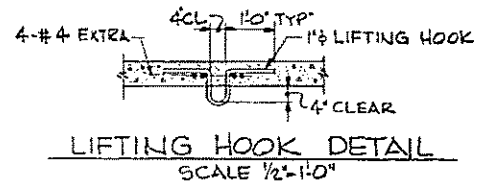
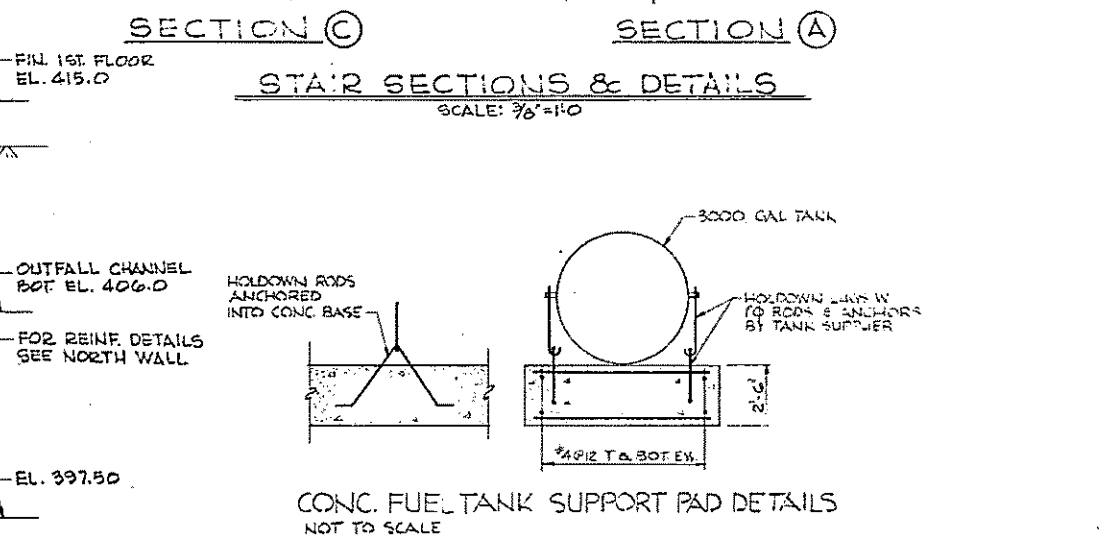
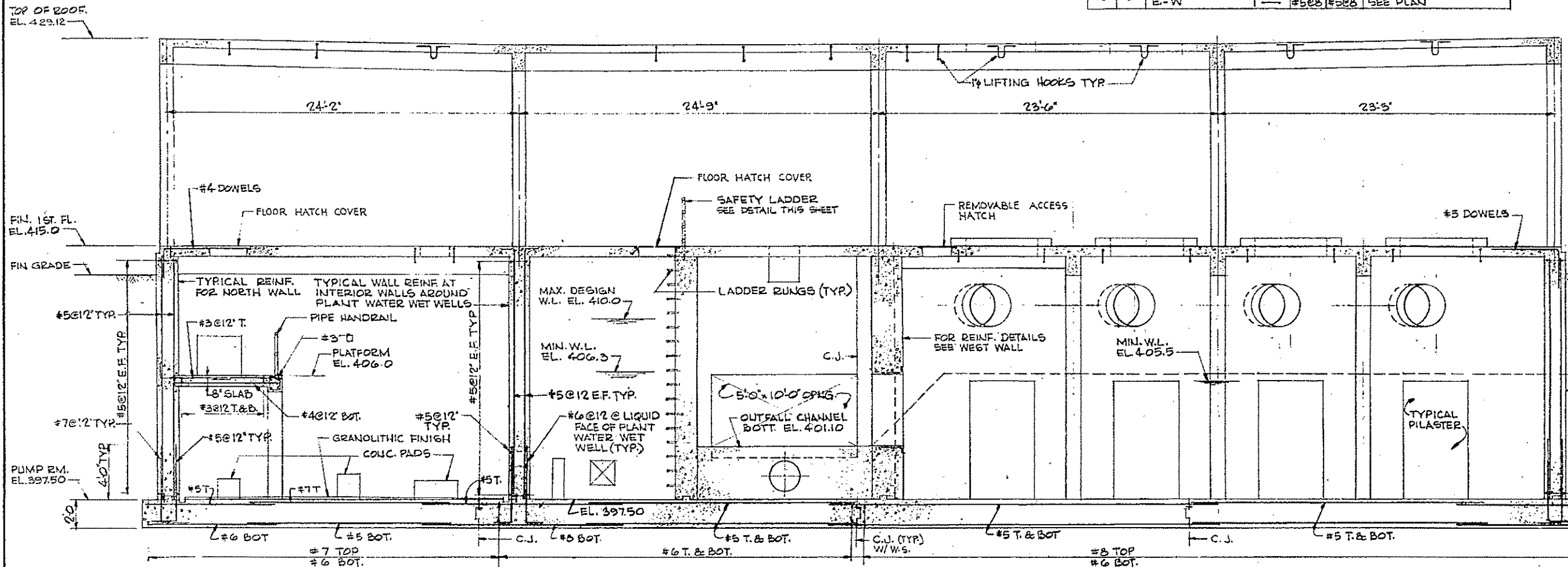
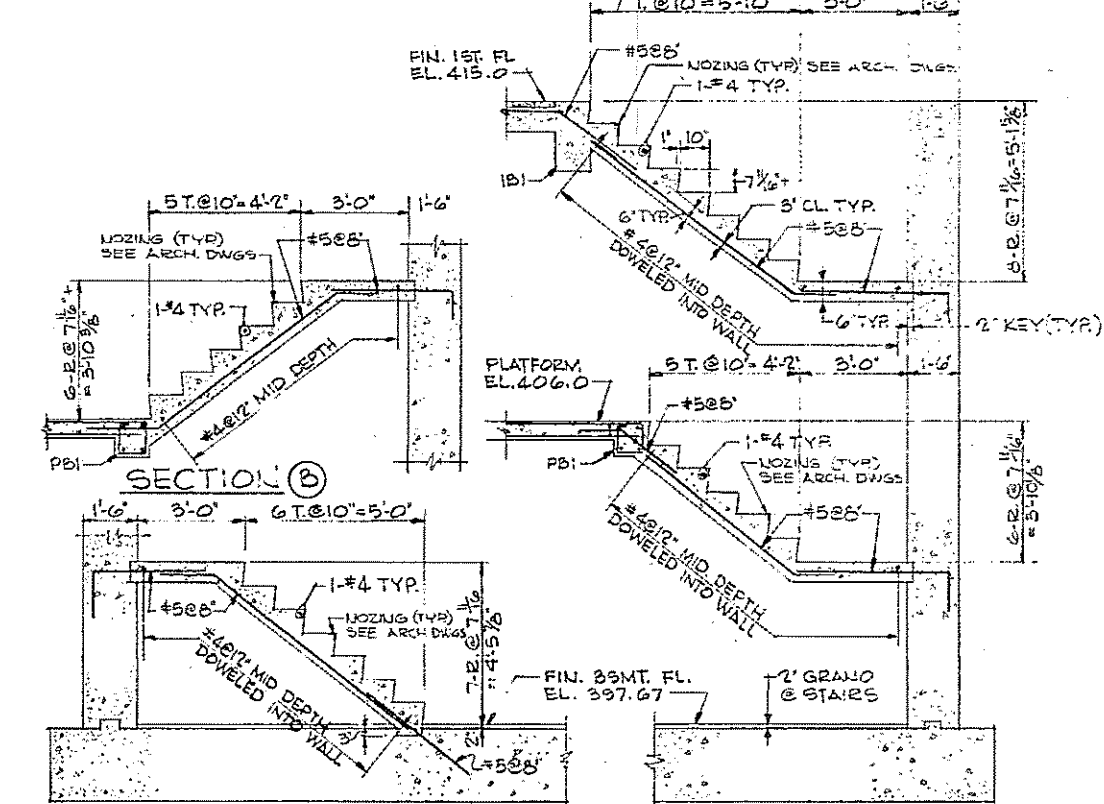
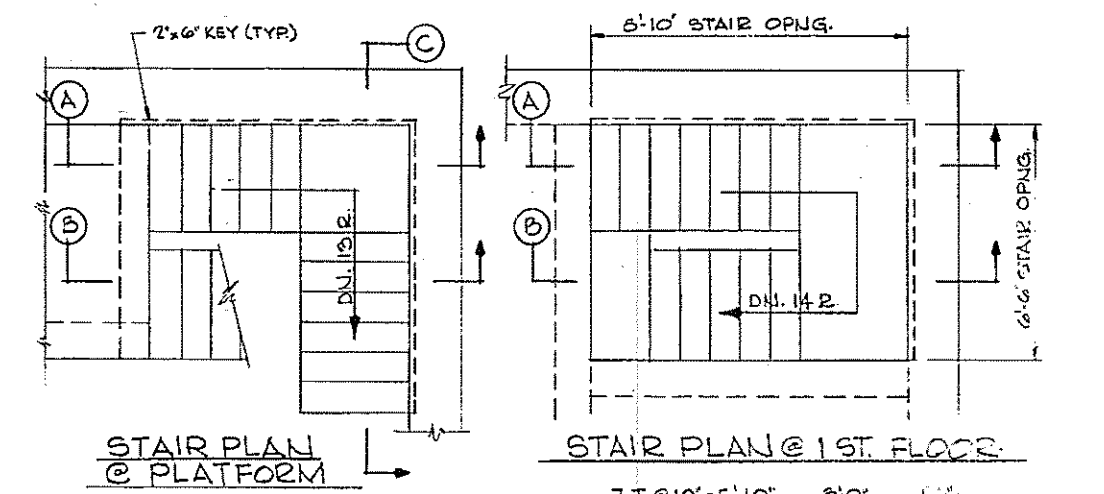
BEAM SCHEDULE

MARK	W	D	REINFORCING			STIRRUP	REMARKS
			A	B	C		
RB1	12"	21"	2#6	2#5	4#7	4#8	#3@12"
RB2	12"	21"	—	2#5	4#7	4#8	#3@12"
RB3	12"	21"	2#6	2#5	3#6	3#6	#3@12"
RB4	12"	21"	—	2#5	3#6	3#6	#3@12"



ROOF SLAB SCHEDULE

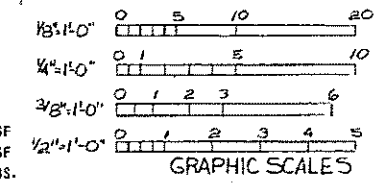
MARK	DEPTH	DIRECTION	REINFORCING			REMARKS
			A	B	C	
RS1	6"	NORTH-SOUTH	#4@12"	#4@12"	#5@12"	FOR EXTRA REINFORCING SEE PLAN
RS2	6"	E-W	#4@12"	#4@12"	#5@12"	FOR EXTRA REINFORCING SEE PLAN
RS3	6"	E-W	#4@12"	#4@12"	#5@12"	FOR EXTRA REINFORCING SEE PLAN
RS4	6"	E-W	#4@12"	#4@12"	#5@12"	FOR EXTRA REINFORCING SEE PLAN



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

NOTES

- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 105-1.
- FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2.
- STRUCTURE DESIGNED AND CHECKED AGAINST FLOTATION AT DESIGN GROUND WATER ELEVATION 405.0 WITH WET WELLS AND CHANNELS EMPTY, AND FIRST FLOOR SLAB IN PLACE.
- WHEN GROUND WATER ELEVATION OF 405.0 IS EXCEEDED (PRIOR TO COMPLETION OF THE SUPERSTRUCTURE) THE CONTRACTOR SHALL TAKE THE NECESSARY STEPS (BY FLOODING THE WET WELLS AND CHANNELS TO ADEQUATE LEVELS) TO PREVENT FLOTATION. STRUCTURE ALSO CHECKED AGAINST FLOTATION AT FLOOD WATER ELEVATION 412.0 AND WATER UP TO MINIMUM LEVELS (AS INDICATED ON DRAWINGS) IN THE EMERGENCY FLOOD WATER NET WELL, AND IN ONE OF THE PLANT WATER NET WELLS.
- AT THE EMERGENCY FLOOD WATER NET WELL, THE BASE SLAB AND WALLS ARE DESIGNED FOR WATER ELEVATION 414.0, WITH WATER IN THE NET WELL UP TO MINIMUM LEVEL. AT OTHER AREAS, THE BASE SLABS AND WALLS DESIGNED FOR WATER ELEVATION 414.0 WITH WET WELLS AND CHANNELS EMPTY.
- LIVE LOADS:
FIRST FLOOR AND PLATFORM - 200 PSF
HATCHWAYS - 150 PSF
LIFTING HOOKS - 2,000 LBS.
MOTOR OPERATED FLOOR STAND AND HYDRAULIC CYLINDER - 75,000 LBS.
CRANK OPERATED FLOOR STAND - 15,000 LBS.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

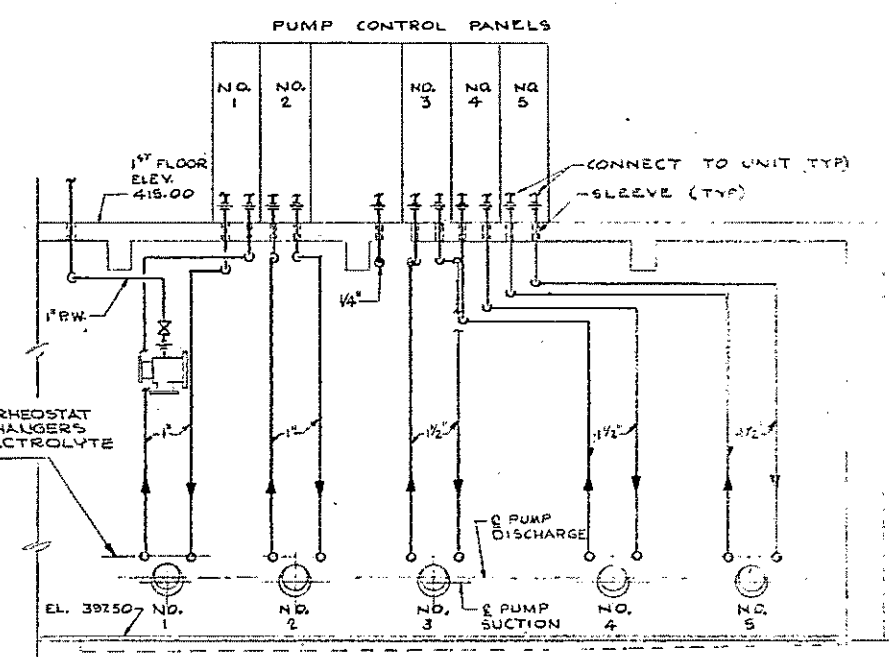
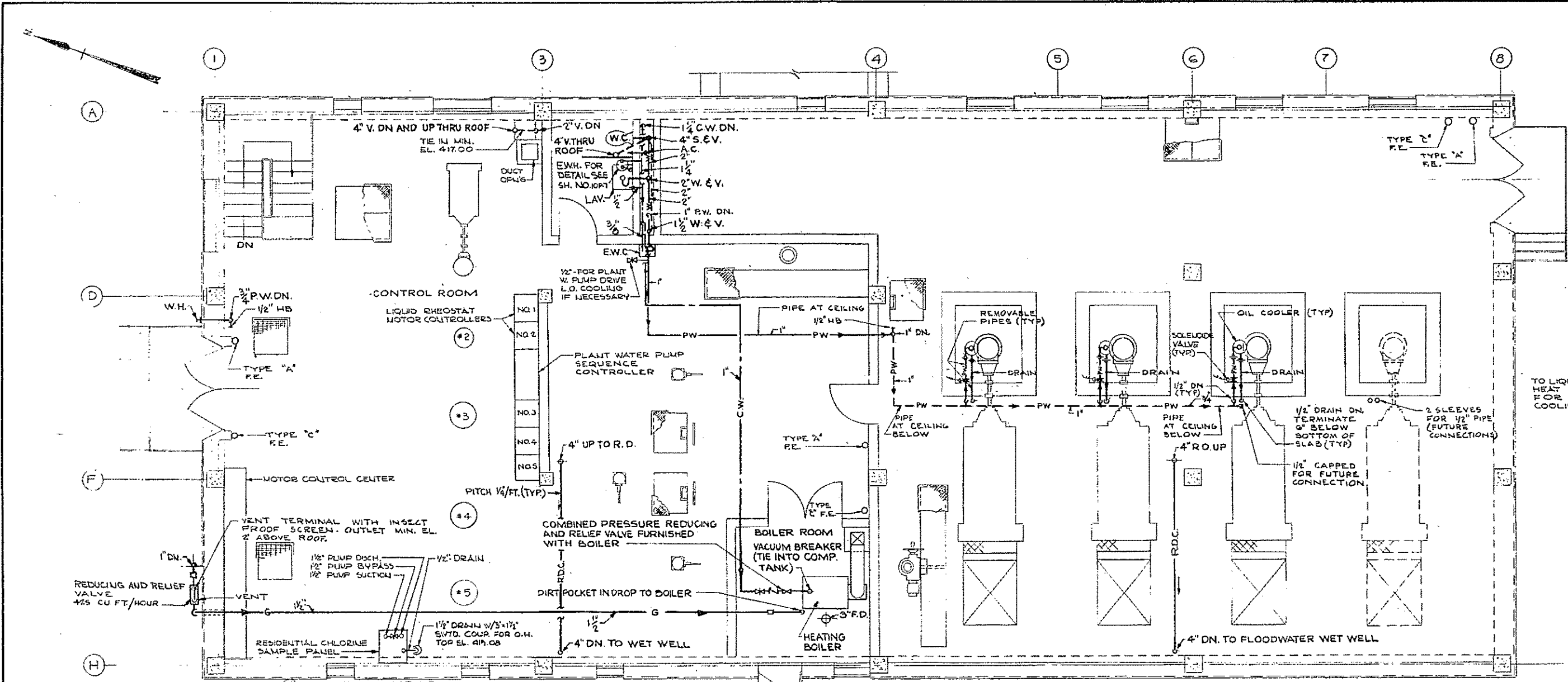


HALF-SIZE DRAWING

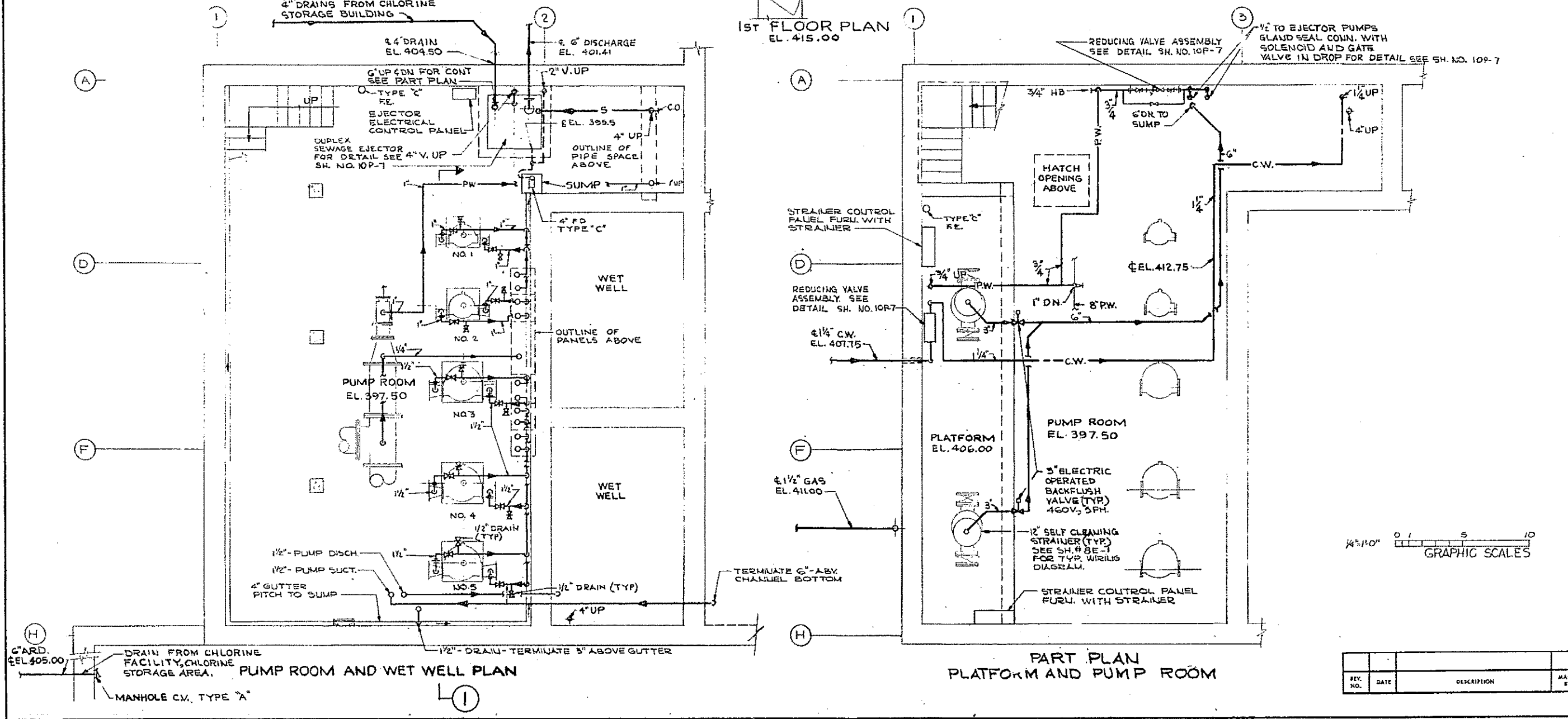
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
STRUCTURAL

ROOF FRAMING PLAN AND SECTIONS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REV. 2/88
APPROVED: *F. M. Cahaly*
CONTRACT DRAWING SHEET NO. 85-3



SECTION 1



NOTE: FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10P-7

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
 PLANS

SCALE: 1/4" = 1'-0"
 FEBRUARY 1977
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. W. J. H. DR. C. L. M. DR. J. W. B. DR. J. W. B.
 DESIGNED BY: F. M. Cahaly
 DRAWN BY: JW-83
 CHECKED BY: 87

REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPR. BY

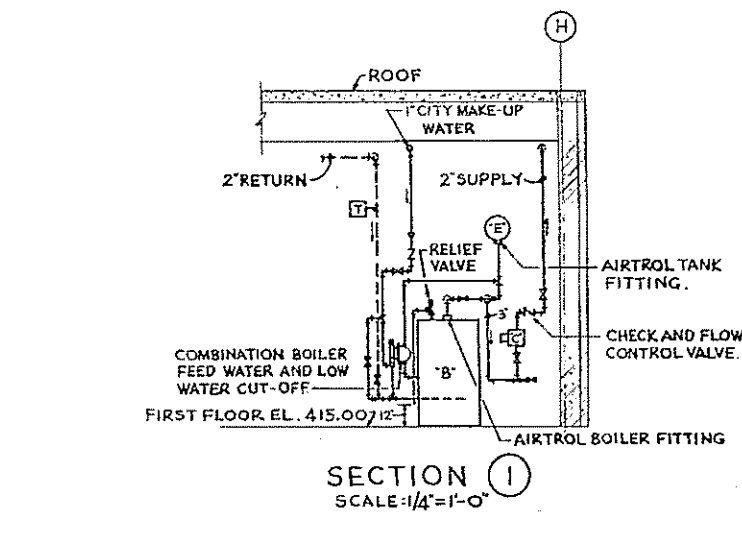
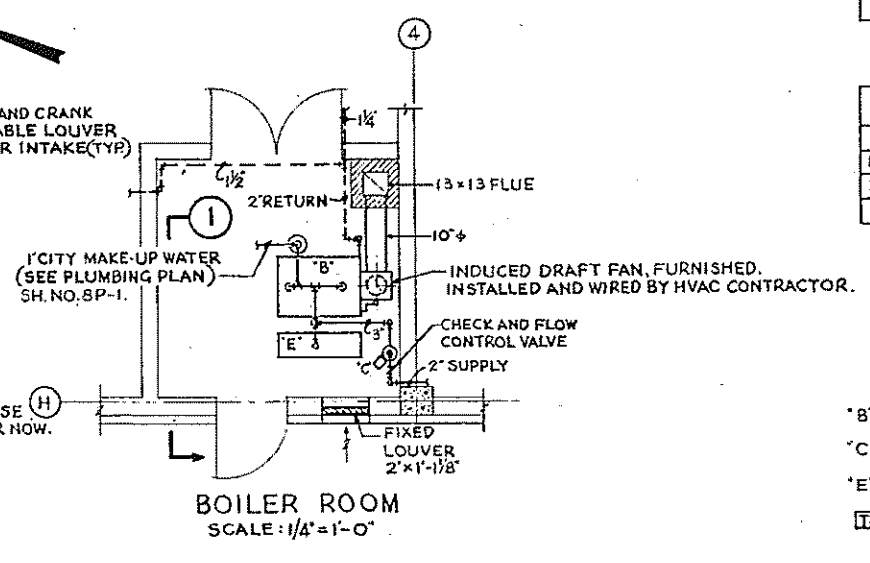
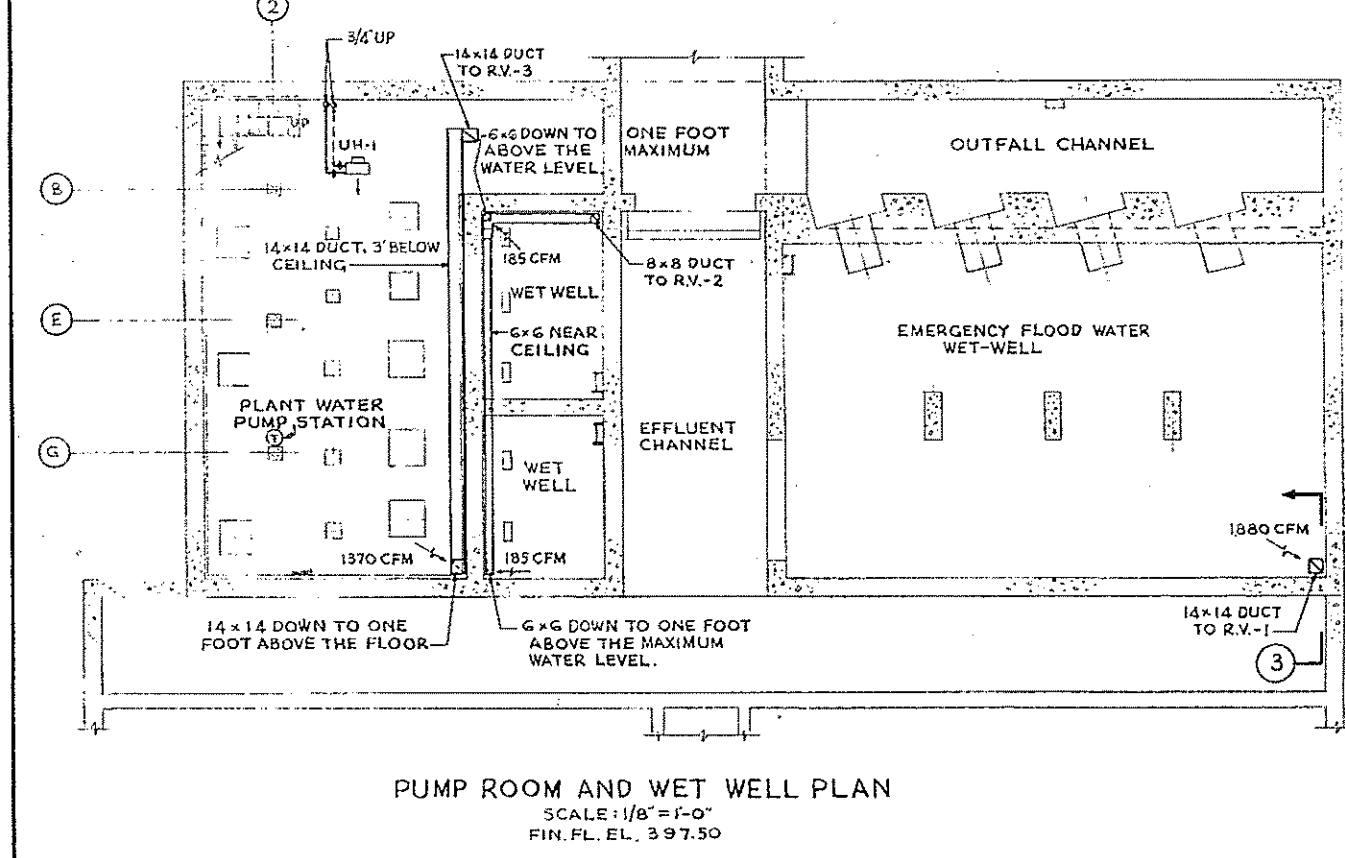
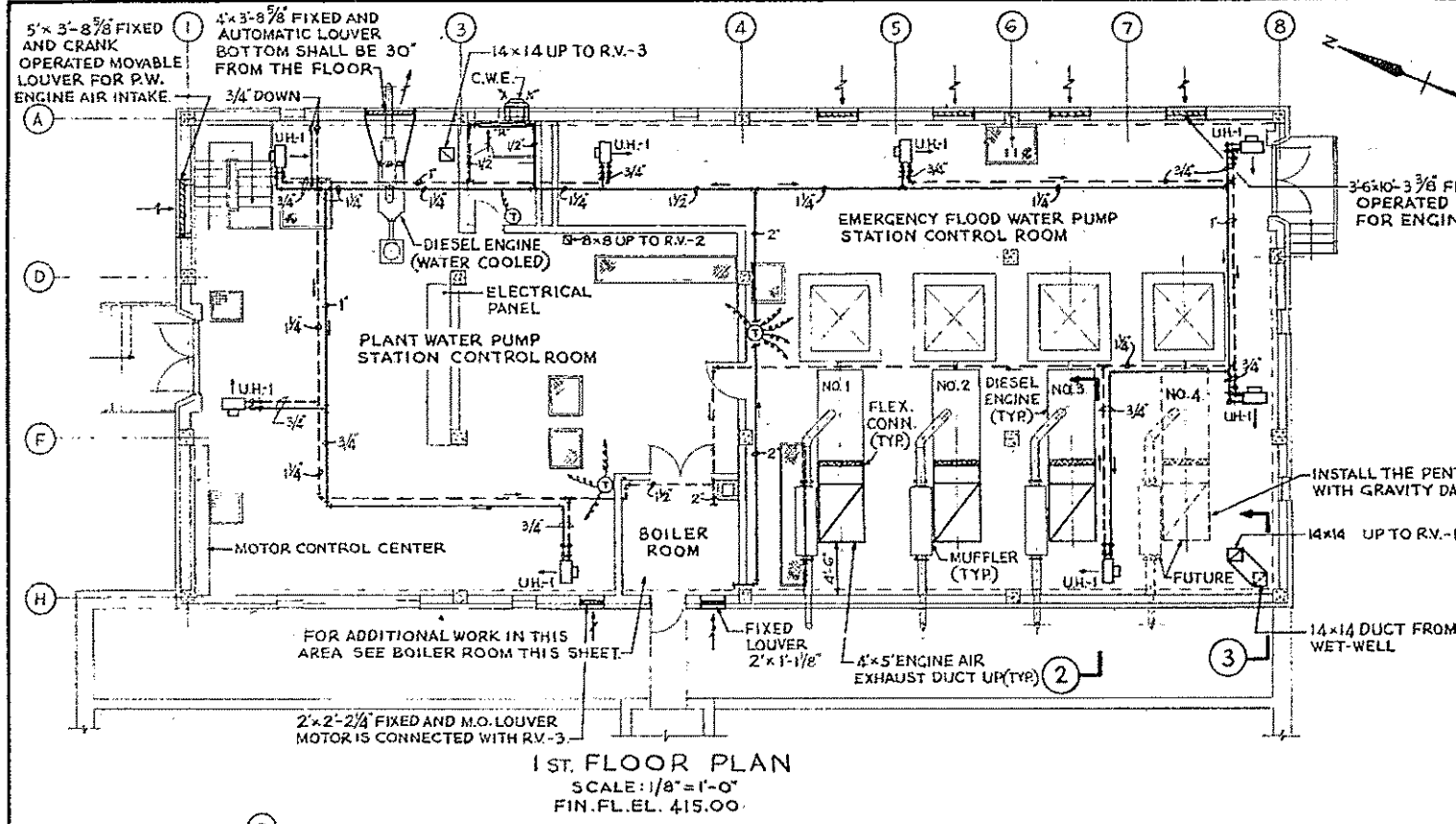
CONTRACT DRAWING SHEET NO. 8P-1



CARD. EL. 405.00

PUMP ROOM AND WET WELL PLAN

PART PLAN PLATFORM AND PUMP ROOM



UNIT HEATER SCHEDULE

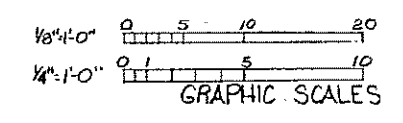
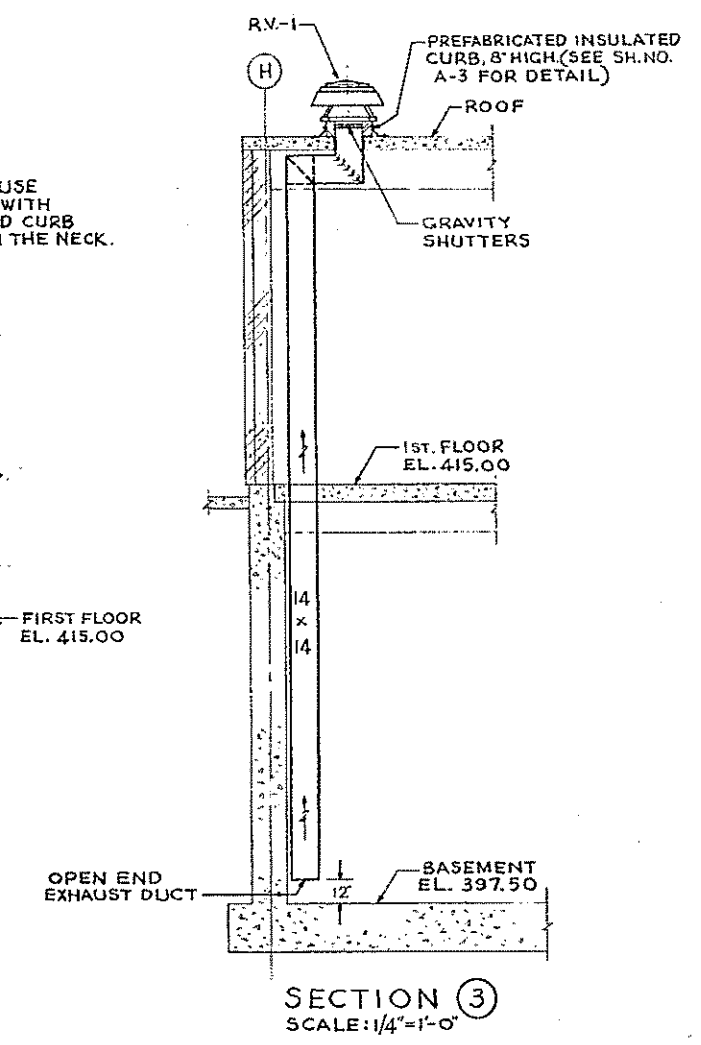
MARK	HTG. HGT.	NO.	TYPE	CAPACITY M.B.T.U.	G.P.M.	CFM	R.P.M.	H.P.	SP. FT. H ₂ O
U.H.-1	8'-0"	9	HORIZONTAL	27.2	2.80	514	1550	1/30	0.28

ROOF VENTILATOR SCHEDULE

MARK	SPACE	VENTILATING	CFM	5" P. IN. OR H ₂ O	H.P.	R.P.M.	VOLT	PHASE	HERTZ	SHUTTERS
RV-1	FLOOD WATER	1,880	3/8"	1/2	1,227	460	3	60	GRAVITY	
RV-2	PLANT WATER WET WELL	370	1/4"	1/4	852	115	1	60	GRAVITY	
RV-3	PLANT WATER PUMP ROOM	1,370	1/4"	1/4	1,170	115	1	60	GRAVITY	

- EQUIPMENT SCHEDULE:**
- *B- HOT WATER BOILER, GAS FIRED, CAPACITY NOT LESS THAN 250,000 BTUH NET I.B.R. RATING.
 - *C- CIRCULATOR, 25.5 G.P.M. @ 9.7 FT. HEAD, 1/6 H.P., 115 VOLT, 60 CYCLE, SINGLE PHASE.
 - *E- EXPANSION TANK, CAPACITY 15 GALLONS.
 - THERMOMETER 30°F TO 240°F.
 - *R- 1-ROW HOT WATER FIN TUBE RADIATOR, AVERAGE WATER TEMPERATURE = 190°F, 4 FT. ACTIVE FIN LENGTH, 0.2 G.P.M./1050 BTU/FT. WITH STYLE "F" COVER, 4 1/2" SQ. FIN ON 1/4" STEEL PIPE, 33 FINS/FT. RADIATOR SHALL BE EQUIPPED WITH 2-WAY MOTORIZED VALVE WHICH WILL BE CYCLED BY THERMOSTAT IN TOILET ROOM.
 - C.W.E.- CENTRIFUGAL WALL EXHAUSTER, 111 CFM @ 1/8" S.R. 1/200 H.P., 1100 R.P.M., 115 VOLT, 60 CYCLE, SINGLE PHASE WITH GRAVITY SHUTTERS AND SHALL BE MOUNTED 6"± ABOVE THE FLOOR AND SHALL BE CONNECTED WITH TOILET LIGHTS.

NOTE: 1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-9.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITY
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-3
HEATING AND VENTILATING
PLANS

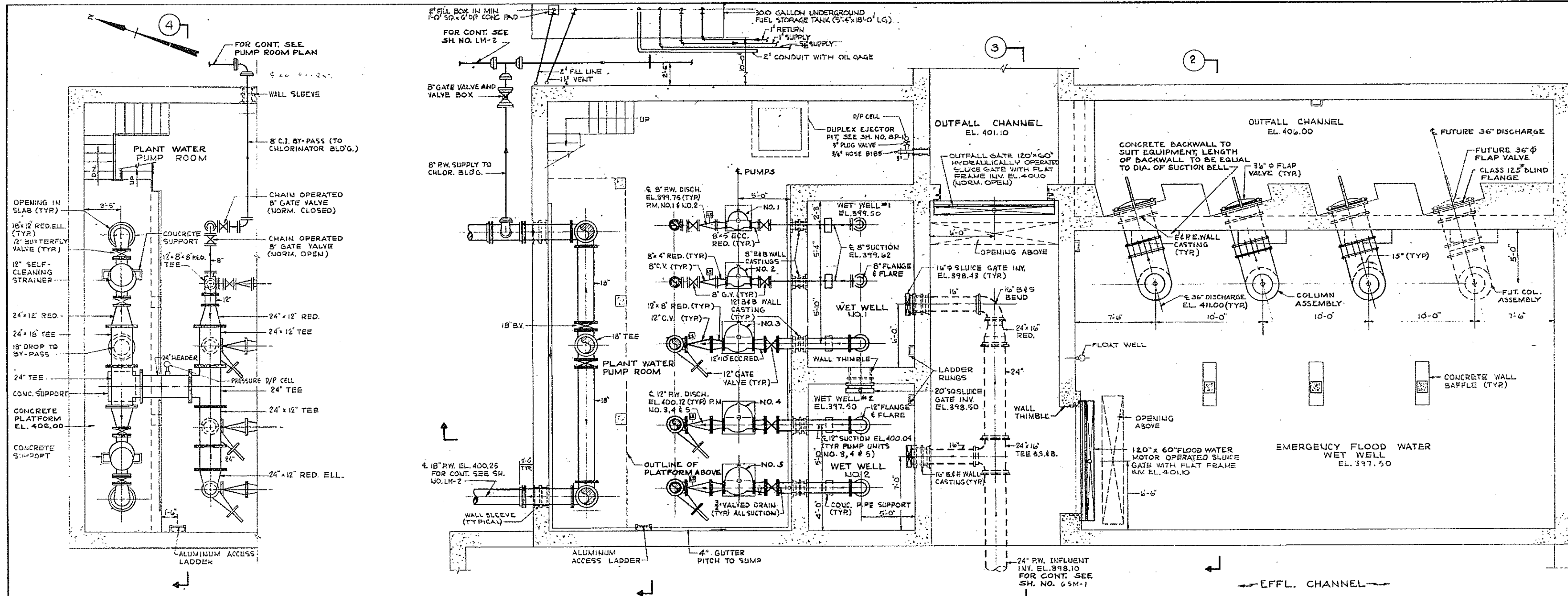
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. B.S.K. DR. L.M. CHG. F.J.T. E.C.S. JW-83

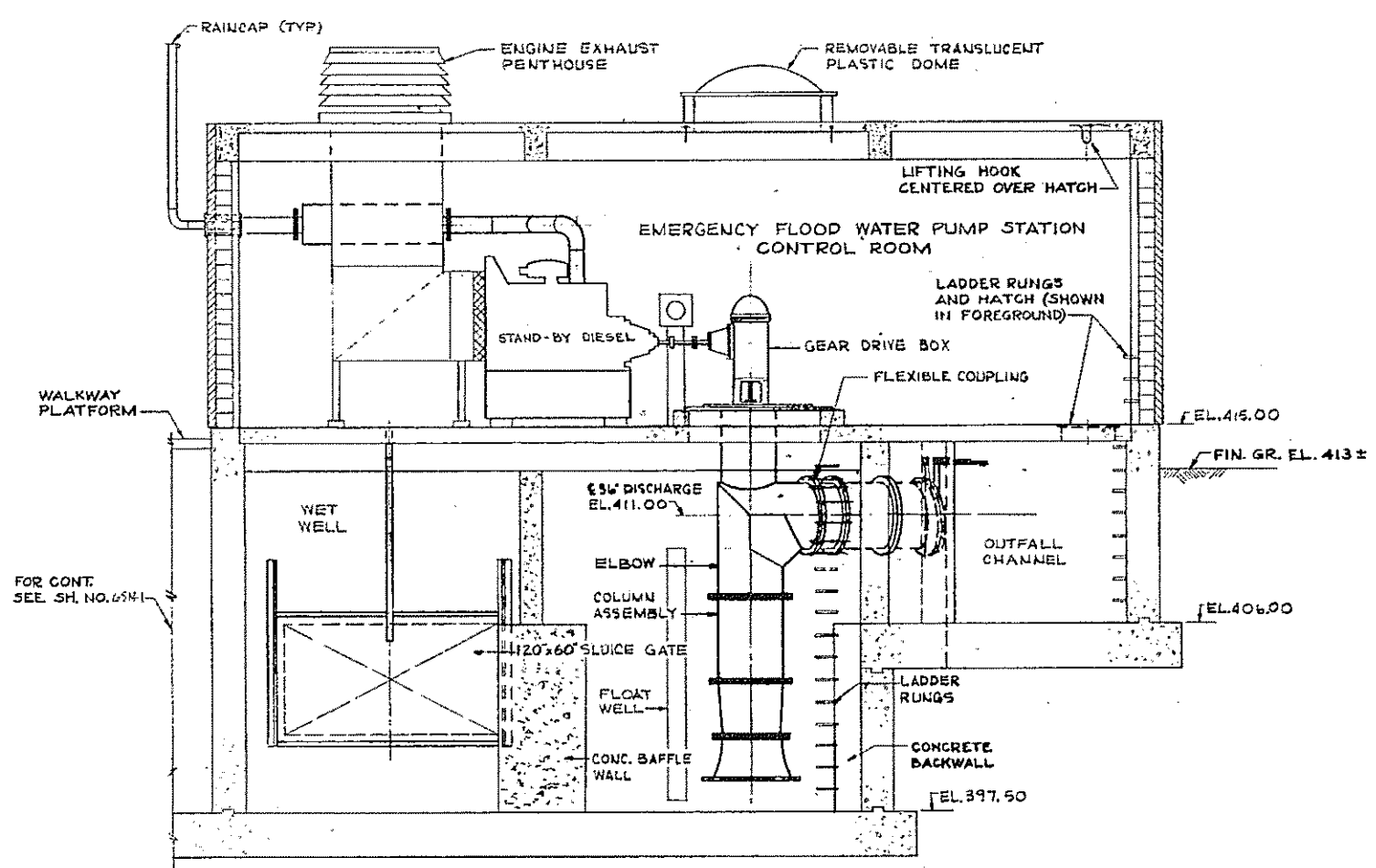
APPROVED *F.M. Celsky* REG. NO. 88

CONTRACT DRAWING SHEET NO. 8HV-1



PART PLAN OF PLATFORM

PUMP ROOM AND WET WELL PLAN



SECTION 2



REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
MECHANICAL PROCESS

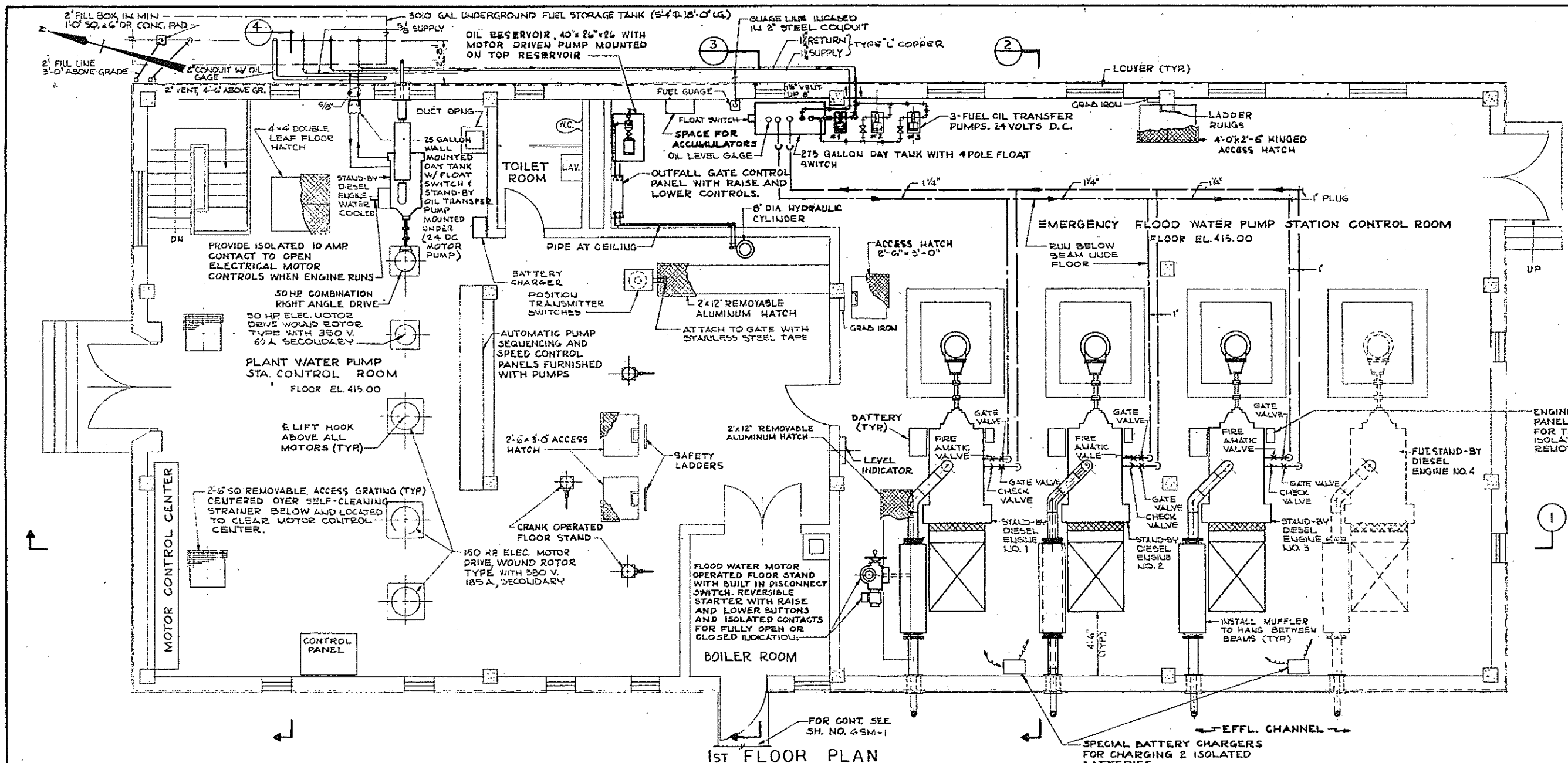
PUMP ROOM AND WET WELL PLAN

SCALE: AS NOTED 1/8" = 1'-0" 197

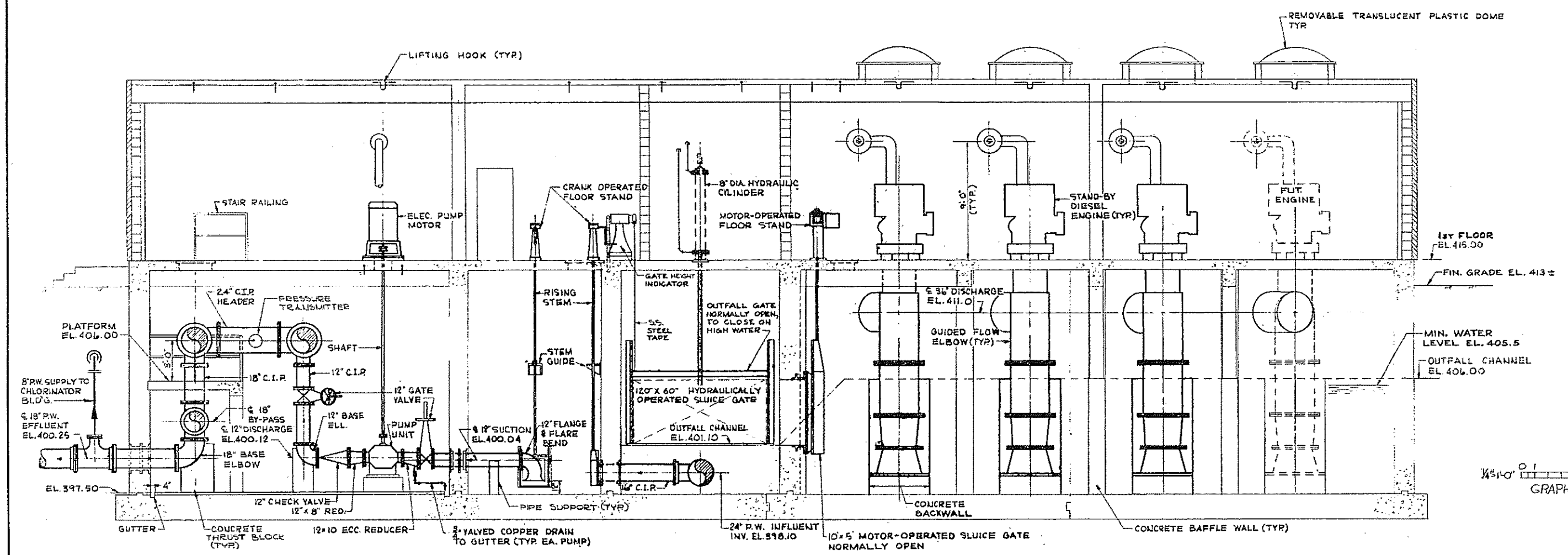
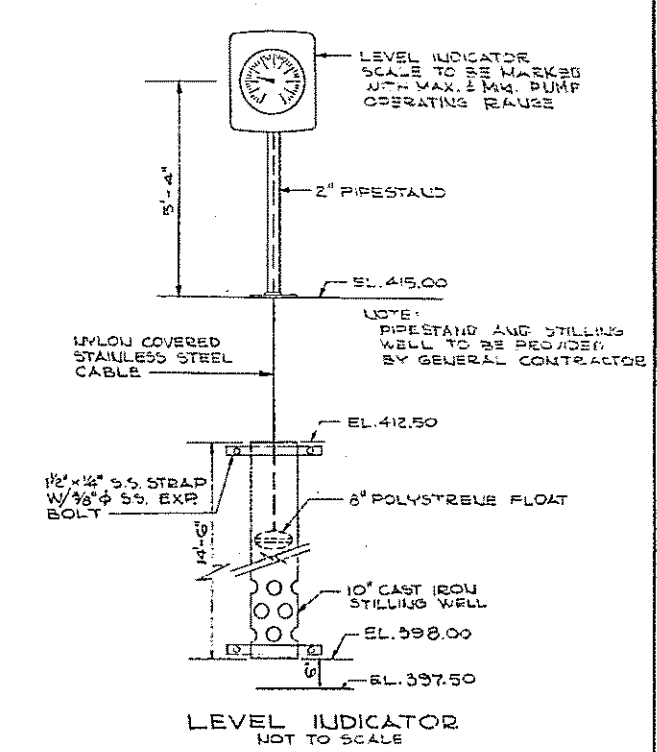
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. BY: J.L.M.	TR. BY: R.H.S.	CHK. BY: R.H.S.	PLN. NO. JW-83
APPROVED: F.W. Cahaly	DATE: 89	REV. NO. 89	

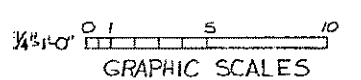
CONTRACT DRAWING SHEET NO. 8M-1



1ST FLOOR PLAN



SECTION I



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
 MECHANICAL PROCESS

FIRST FLOOR PLAN

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

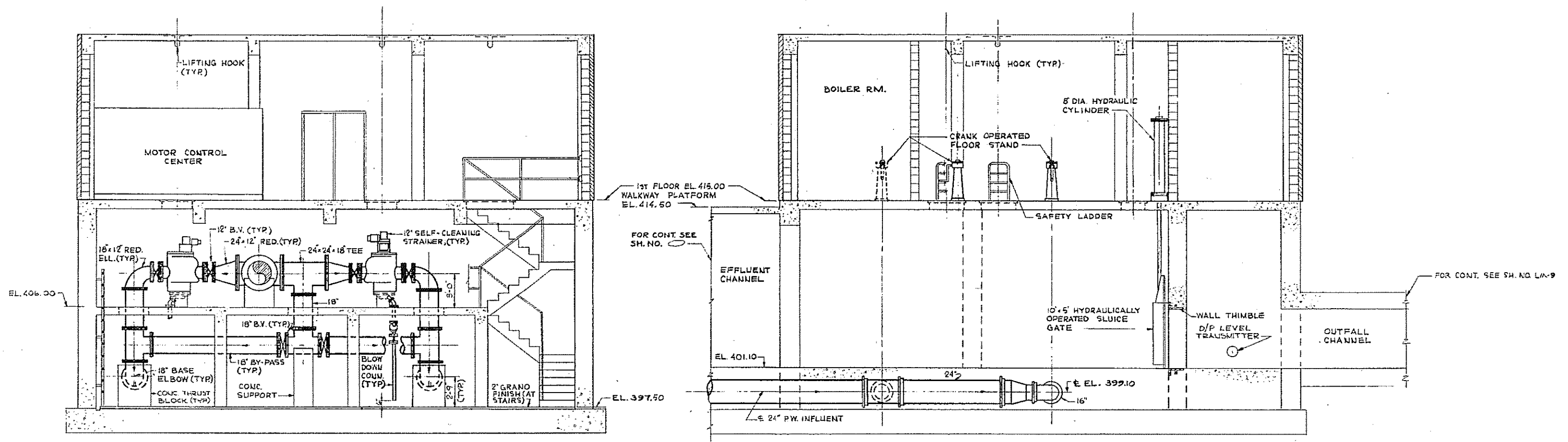
DESIGNED BY	CHK. BY	DATE
DRAWN BY	DATE	

APPROVED: *F. M. Cahaly* 90

CONTRACT DRAWING SHEET NO. 8M-2

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY





SECTION 4
8M2

SECTION 3
8M2



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY



HALF-SIZE DRAWING

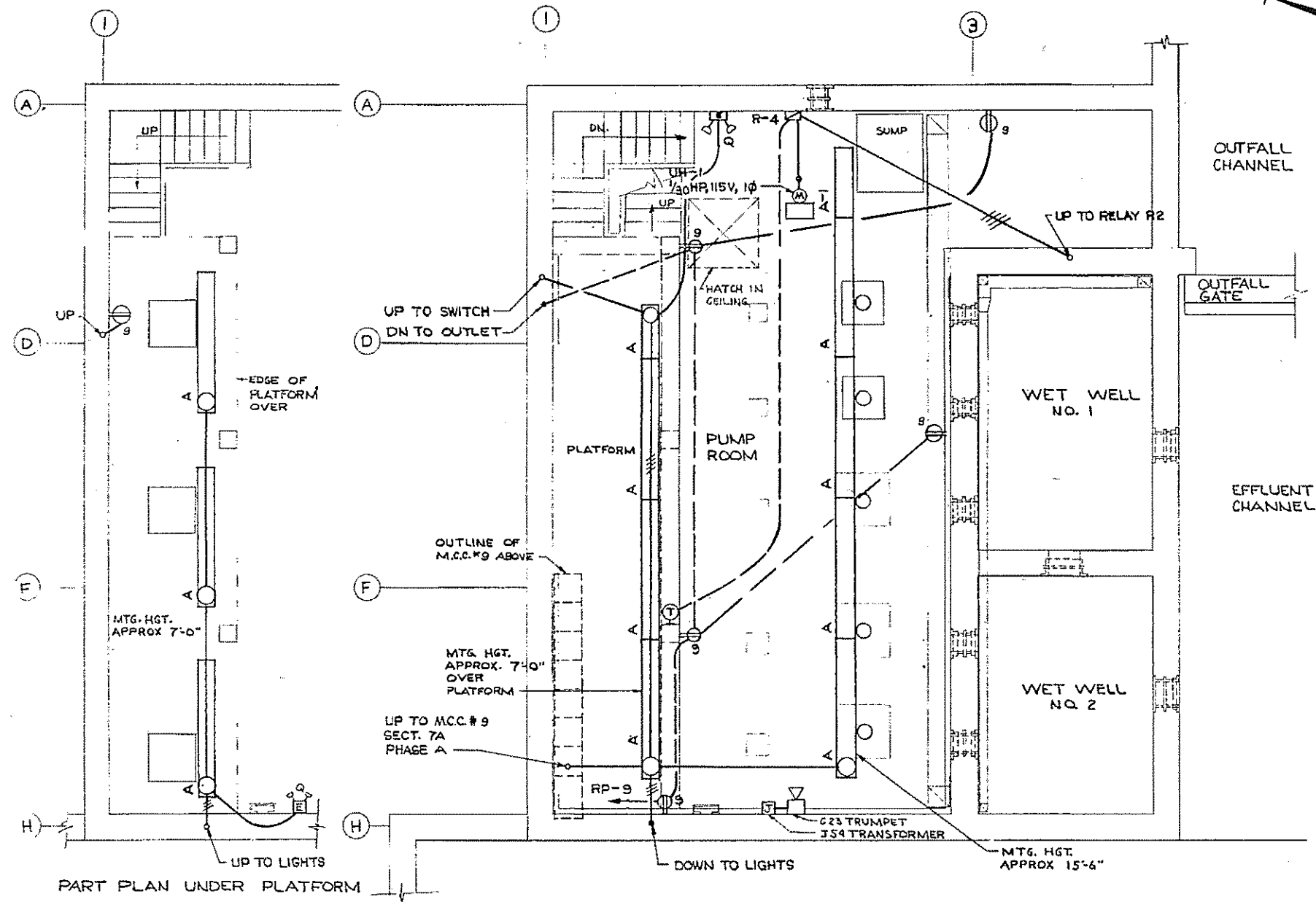
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F.N. - 8
MECHANICAL PROCESS

SECTIONS

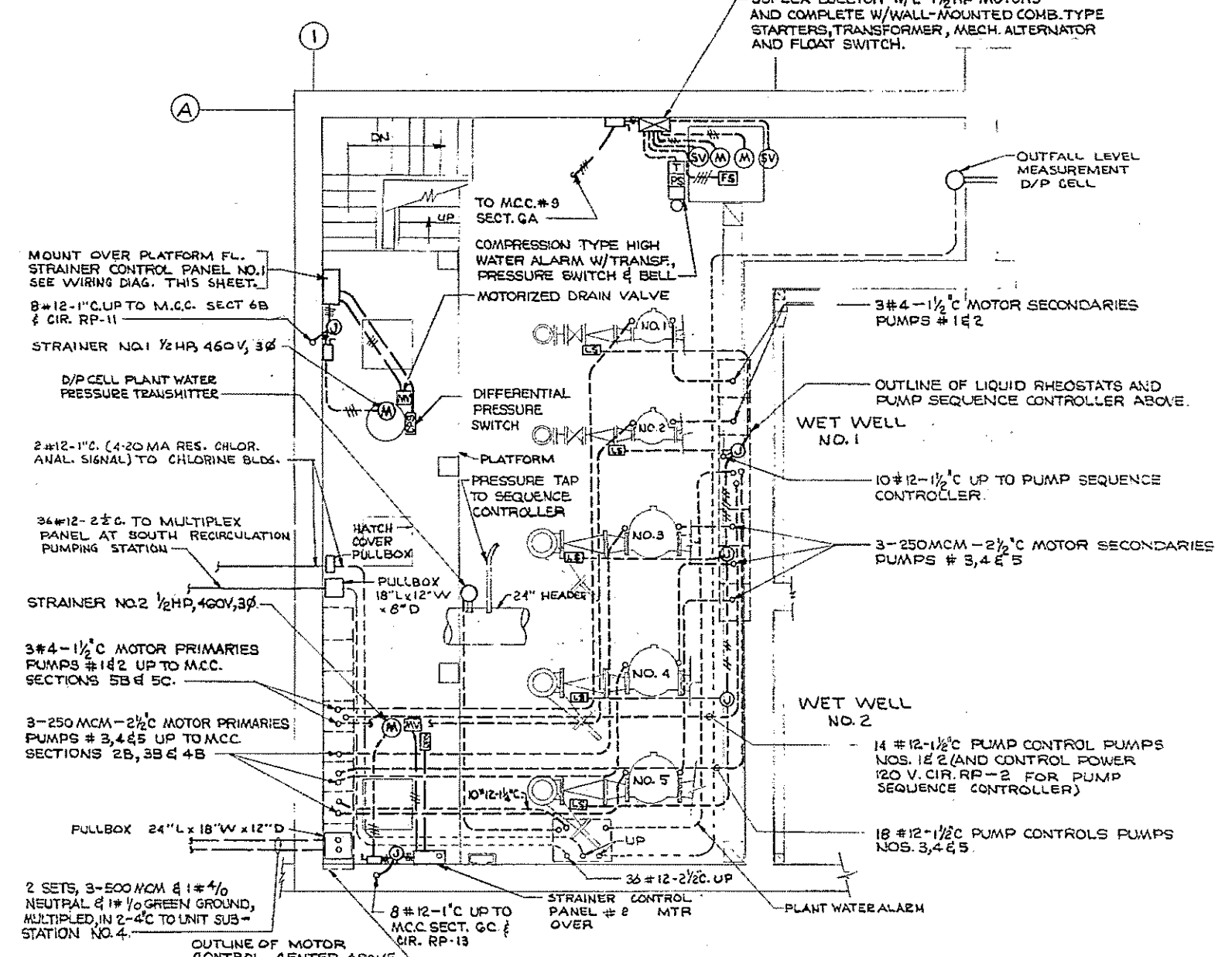
SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. BY: P.P.	IN. CHG. R.H.S.	FILE NO. JW-83
APPROVED: <i>F.M. Cahaly</i>	DATE: 91	

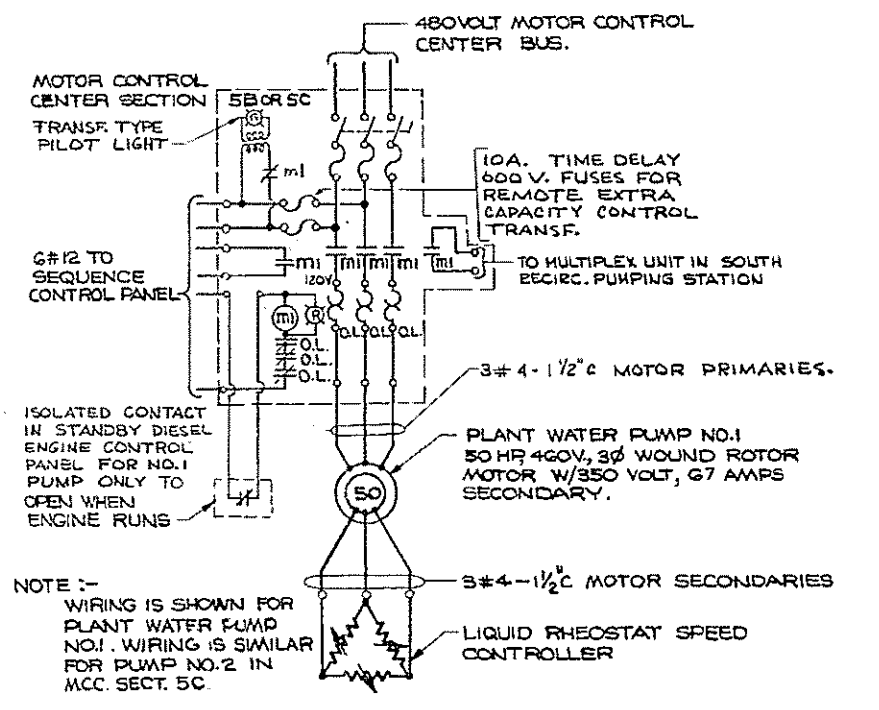
CONTRACT DRAWING SHEET NO. 8M-3



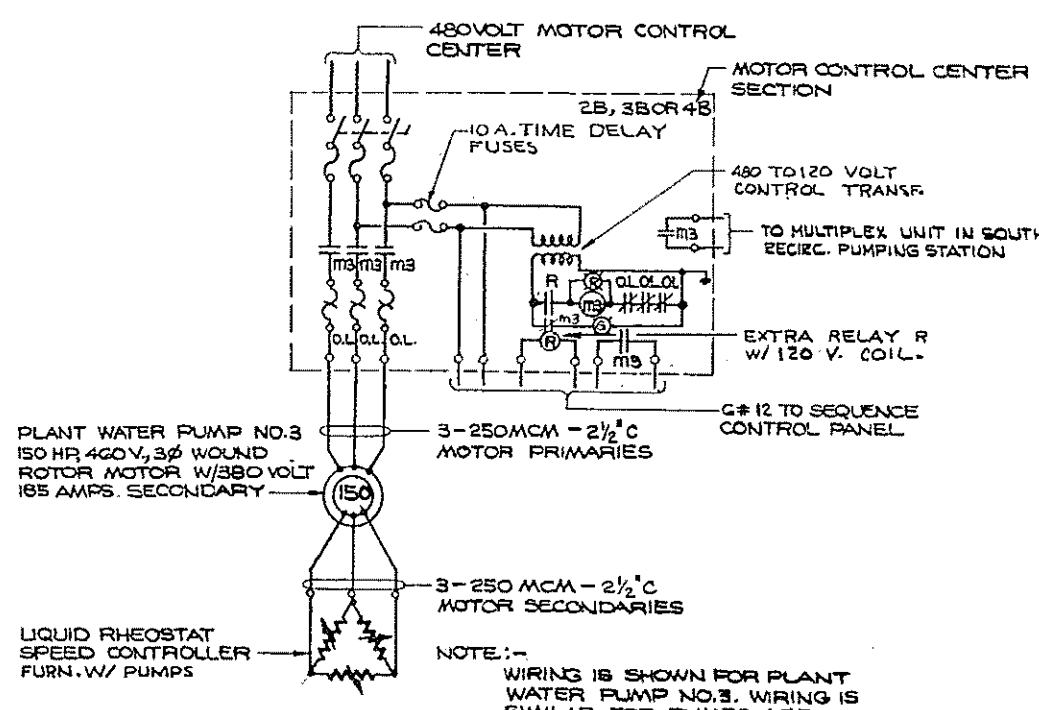
LIGHTING PLAN
SCALE: 1/4" = 1'-0"



POWER PLAN
SCALE: 1/4" = 1'-0"

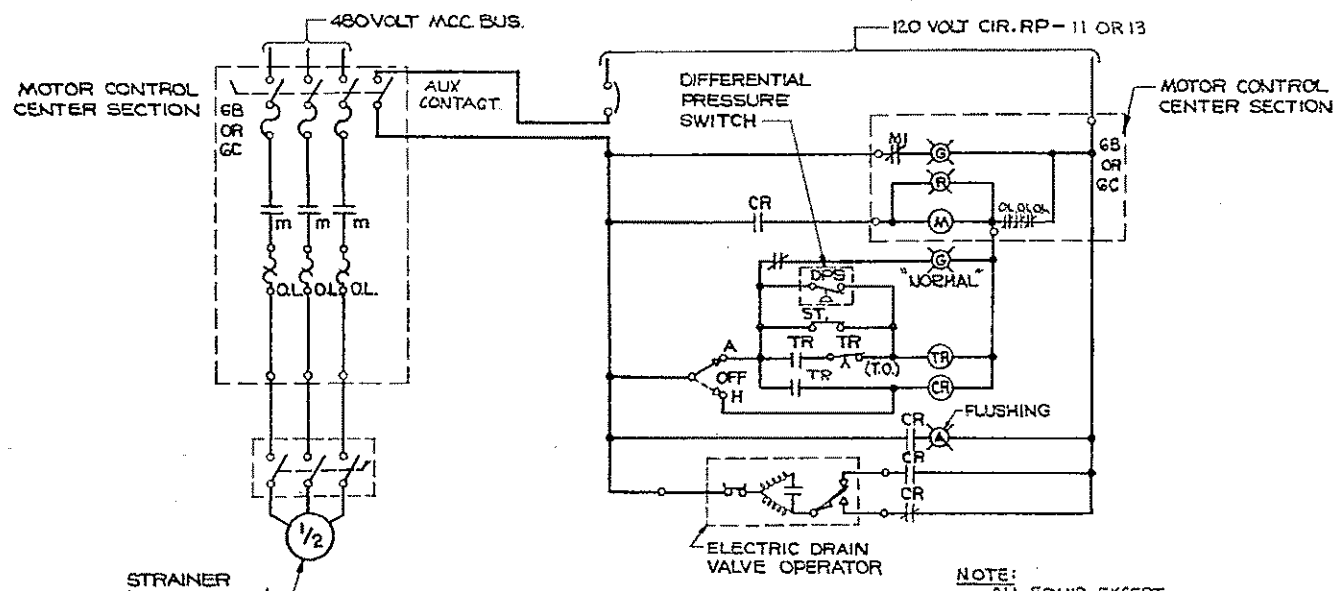


PLANT WATER PUMPS NOS. 1 & 2



PLANT WATER PUMPS NOS. 3, 4 & 5

WIRING DIAGRAM
SCALE: NONE



SELF CLEANING STRAINER WIRING SCHEMATIC DIAGRAM
SCALE: NONE

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

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY

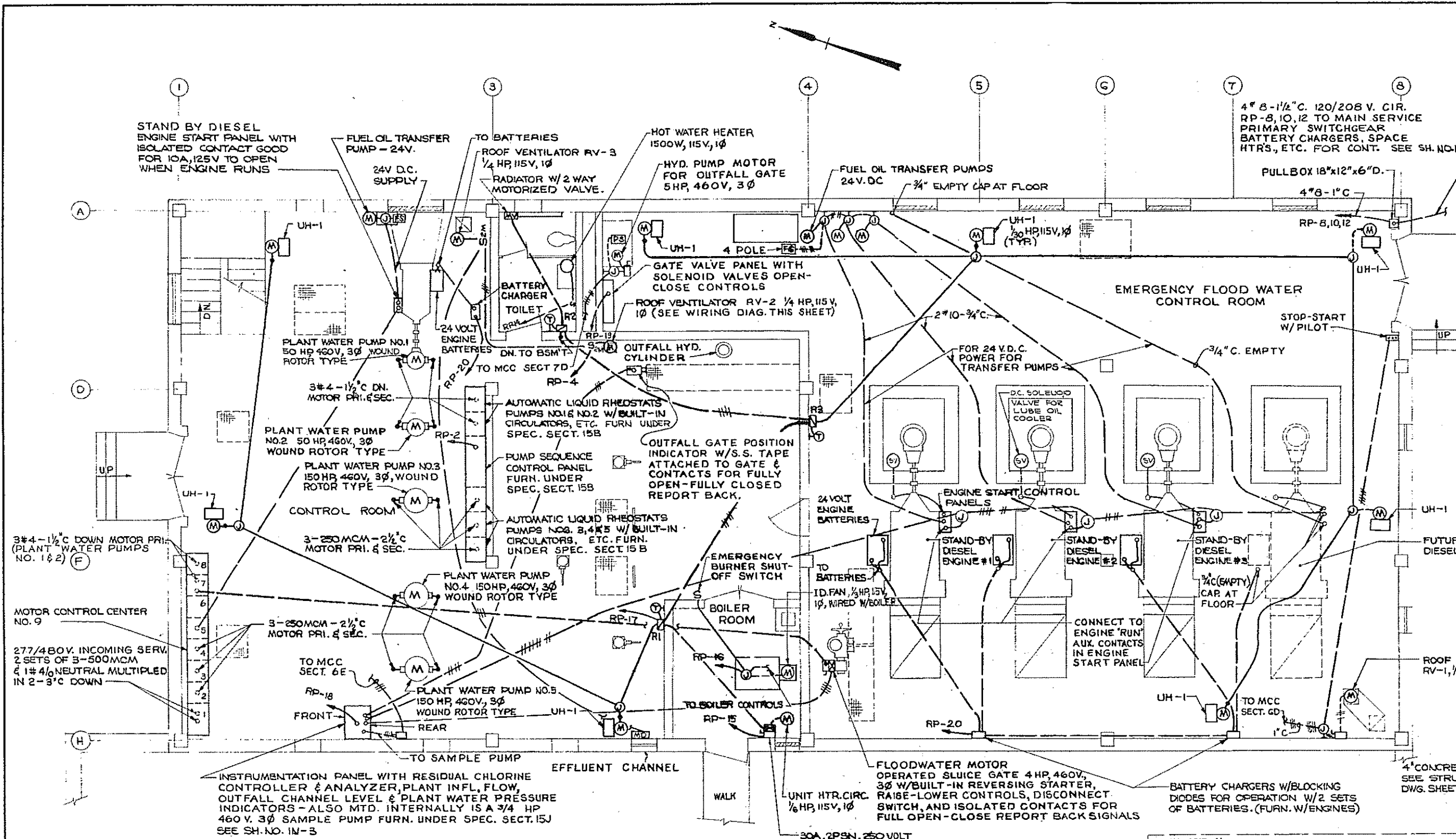


HALF-SIZE DRAWING

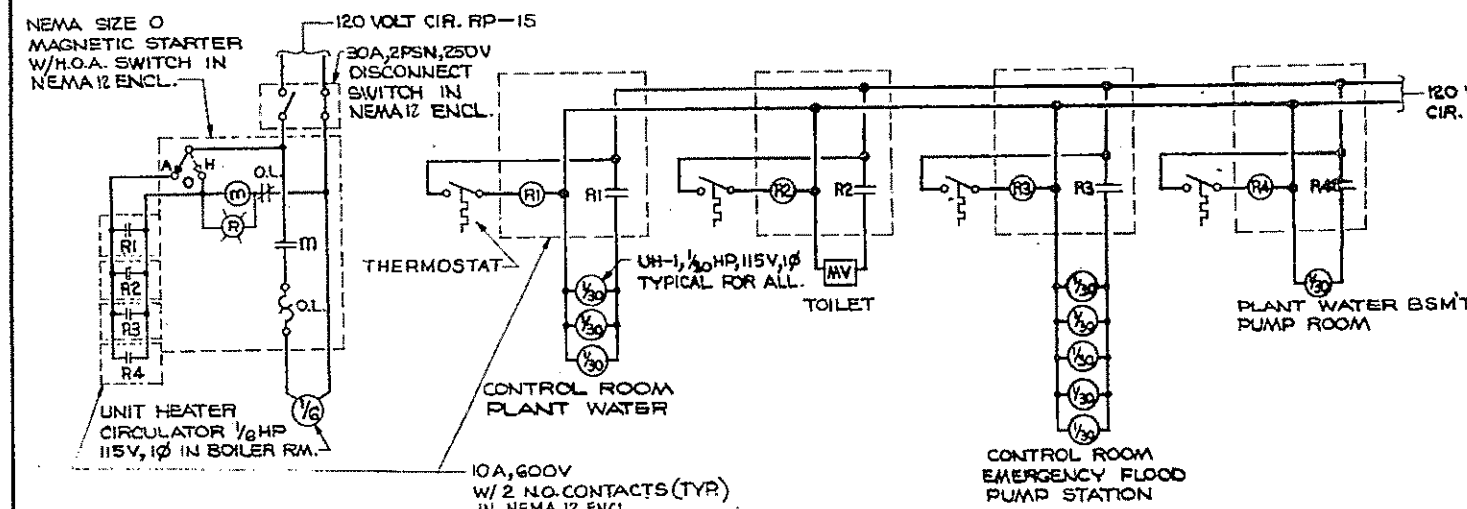
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F N 6
ELECTRICAL
POWER AND LIGHTING
BASEMENT PLAN

SCALE: AS NOTED

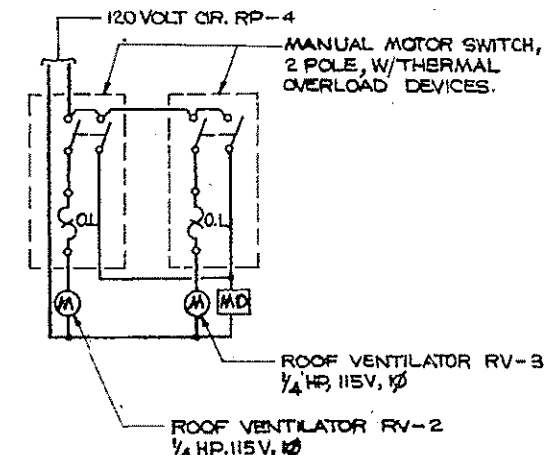
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REG. E. N. - W. B. P. FILE NO. JW-83
CHAS. T. J. G. PLAN NO. 92



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



UNIT HEATER SCHEMATIC DIAGRAM
SCALE: NONE



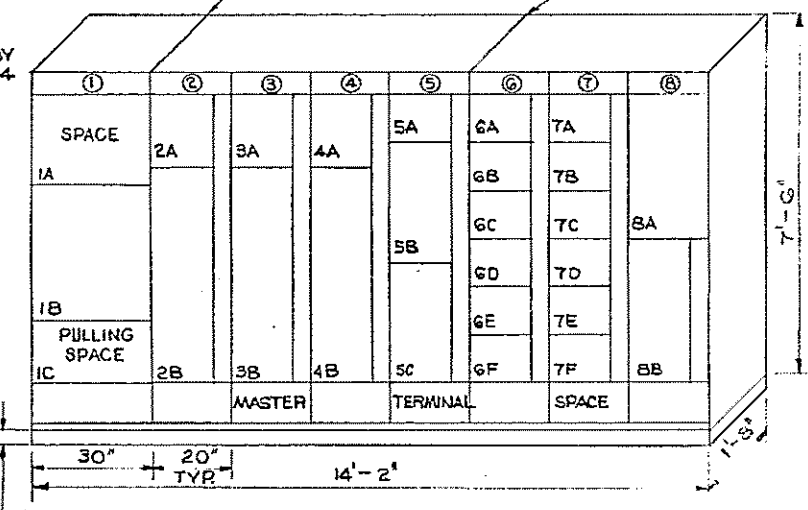
VENTILATING WIRING DIAGRAM
SCALE: NONE

S.S. = STOP-START PUSHBUTTON
H.O.A. = HAND-OFF-AUTOMATIC SELECTOR SWITCH

NO. 9 MOTOR CONTROL CENTER SCHEDULE (277/480 V., 3 Ø, 4 W.)

SECT. NO.	NAMEPLATE	CONB. FUSED SM. TYPE MAGNETIC STARTER N.R.			MODIFICATIONS	FUSED SWITCH ONLY		
		HP	KVA SIZE	H.O.A.		FRAME	POLES	FUSE
1	1B MAIN INCOMING SERVICE	-	-	-	-	800	3	800
2	2A SPACE	-	-	-	-	-	-	-
2B	PLANT WATER PUMP NO. 5	150	5	-	FURNISH 120 VOLT RELAY SEE WIRING DIAGRAM ON SH. #25-1	-	-	-
3	3A SPACE	-	-	-	-	-	-	-
3B	PLANT WATER PUMP NO. 4	150	5	-	FURNISH 120 VOLT RELAY SEE WIRING DIAGRAM ON SH. #25-1	-	-	-
4	4A SPACE	-	-	-	-	-	-	-
4B	PLANT WATER PUMP NO. 3	150	5	-	FURNISH 120 VOLT RELAY SEE WIRING DIAGRAM ON SH. #25-1	-	-	-
5	5A SPACE	-	-	-	-	-	-	-
5B	PLANT WATER PUMP NO. 2	50	3	-	SEE WIRING DIAG. ON SH. #25-1	-	-	-
5C	PLANT WATER PUMP NO. 1	50	3	-	SEE WIRING DIAG. ON SH. #25-1	-	-	-
6	6A DUPLEX EJECTOR	2-1/2	1	-	REMOTE STARTERS	30	3	15
6B	STRAINER NO. 1	1/2	1	-	-	-	-	-
6C	STRAINER NO. 2	1/2	1	-	-	-	-	-
6D	ROOF VENTILATOR RV-1	1/2	1	-	REMOTE SS & PILOT ALSO	-	-	-
6E	RESIDUAL CHLORINE SAMPL. PP.	3/4	1	-	-	-	-	-
6F	SPACE	-	-	-	-	-	-	-
7	7A BUILDING LIGHTING	-	-	-	-10.2 KVA	30	3	20
7B	FLOODWATER GATE	4	-	-	REMOTE STARTER	30	3	20
7C	120/208V. PANELBOARD MAIN	-	-	-	-	60	3	60
7D	OUTFALL GATE HYDR. PUMP	5	-	-	REMOTE PS. FOR HYDR. GATE	-	-	-
7E	SPACE	-	-	-	-	-	-	-
7F	SPACE	-	-	-	-	-	-	-
8	8A PANELBOARD 120/208 V.	-	-	-	25 CIR. 120/208 V., 3Ø, 4W SEE SPEC. SHEET	-	-	-
8B	TRANSFORMER 480 TO 120/208V	-	-	-	1Ø, 2Ø, 4Ø, 1Ø 120/208 V. W/ 1Ø, 2Ø, 4Ø, 1Ø 120/208 V. W/ 1Ø, 2Ø, 4Ø, 1Ø	-	-	-

- M.C.C. NOTES:
- FURNISH ALL STARTERS WITH 480-120V. FUSED CONTROL TRANSFORMERS EXCEPT FOR PLANT WATER PUMPS NOS. 1 & 2 AND STRAINERS NOS. 1 & 2. PROVIDE AUX. SWITCH CONTACTS ON STARTER DISC. SWITCH FOR STRAINERS NOS. 1 & 2. SEE WIRING DIAG. ON SH. NO. 25-1.
 - FURNISH RELAY WITH 120V. COIL AND I.H.O. CONTACT FOR PLANT WATER PUMPS 3, 4 AND 5. SEE WIRING DIAGRAM ON SHEET NO. 25-1.
 - FURNISH FOR EACH PLANT WATER PUMP 2 AUX. I.O. CONTACTS. ONE FOR SEQUENCE CONTROLLER & ONE FOR MULTIPLEXOR.



ELEVATION MOTOR CONTROL CENTER NO. 9
SCALE: 1/2" = 1'-0"

MCC. SECT. 8A

PANEL RP SCHEDULE

H.P.	V.A.	LOAD SERVED	120/208 V.	3 Ø	4 WIRE	LOAD SERVED	V.A.	H.P.
-	750	OUTSIDE LIGHTS	1	2	3	PUMP CONTROL PANEL	1000	*
-	1200	RECEPT. CONTR. RN. (G)	4	5	6	ROOF VENT RV-2, 3	1336	1, 1
-	1200	RECEPT. ENER. FLD. (G)	7	8	9	TOILET FAN & ENC.	800	1/5
-	1200	RECEPT. ENER. FLD. (G)	10	11	12	PRIM. SMGR. LGTS. OUTLETS	800	-
-	1200	RECEPT. B.SMT. (G)	13	14	15	PRIM. SMGR. BATT. CHGR.	150	*
-	250	STRAINER #1 CONTROLS	16	17	18	PRIM. SMGR. HEATERS	1500	*
-	250	RECEPT. B.SMT. (G)	19	20	21	HOT WATER HTR.	1500	*
1/8	508	UNIT HTR. CIRC.	22	23	24	BOILER & ID. FAN	930	1/2
3/4	936	UNIT HTR. CIRC.	25	26	27	INSTRUM. PANEL	1000	*
-	100	GATE VALVE PANEL	28	29	30	ENGINE BATT. CHGR.	600	-
-	-	SPARE	31	32	33	SPARE	-	-
-	-	SPARE	34	35	36	SPARE	-	-

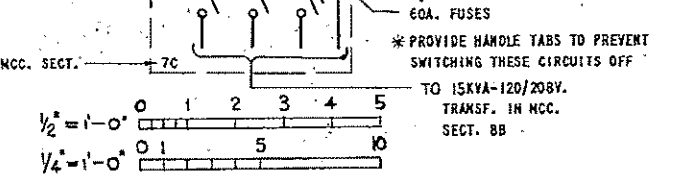
1 POLE 20A. TRIP UNLESS OTHERWISE NOTED

CONNECTED V.A. = 17,008

EQD. FUSES

* PROVIDE HANDLE TABS TO PREVENT SWITCHING THESE CIRCUITS OFF

TO 15KVA-120/208V. TRANSF. IN MCC. SECT. 8B



HALF-SIZE DRAWING

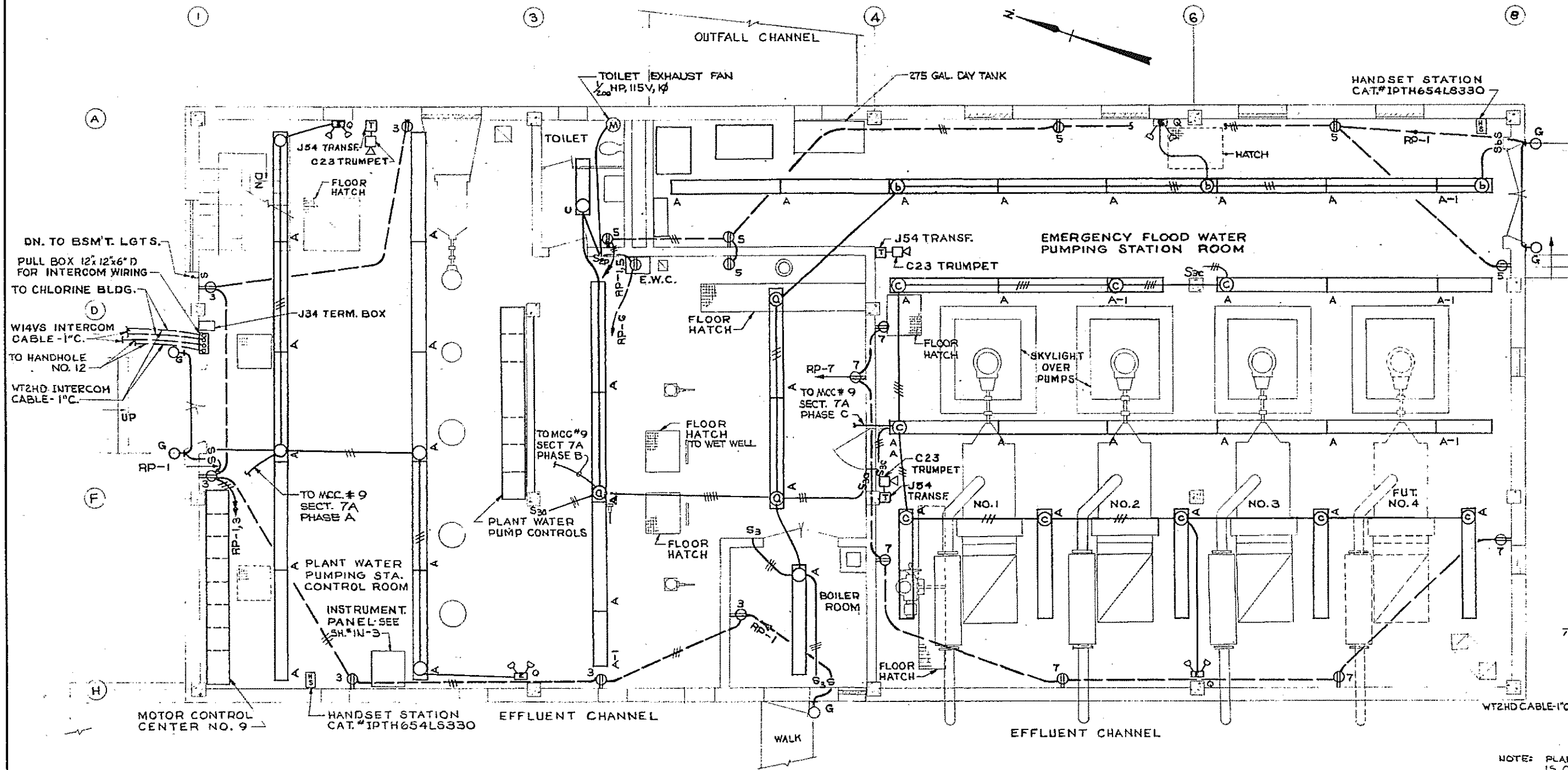
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITY
CONTRACT NO. 2
PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-8
ELECTRICAL

POWER - FIRST FLOOR PLAN AND DETAILS

SCALE: AS NOTED FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. G.C.N.-W.B.F. JR. DR. T.J.B. JW-83
APPROVED *F.M. Cahaly* PLAN NO. 93

CONTRACT DRAWING SHEET NO. 8E-2

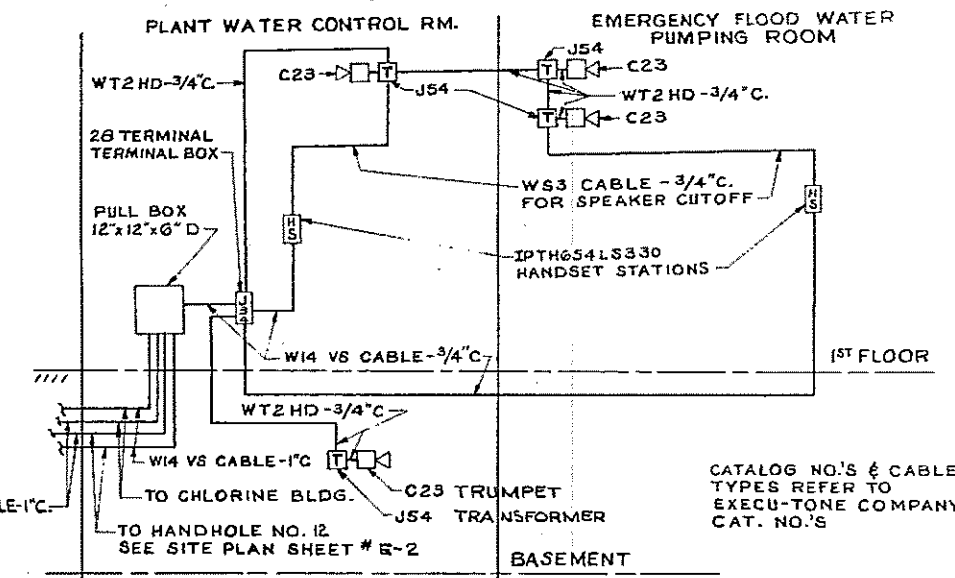
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



LIGHTING PLAN
SCALE: 1/4" = 1'-0"

FIXTURE SCHEDULE				
TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA NO. TYPE WATTS	MTG. HGT.
A	MILLER	IM-210-L-08	4 RS 40	AS NOTED
A-1	MILLER	IM-210-L-08	2 RS 40	AS NOTED
C	MILLER	DB-210-L-04	2 RS 40	10'-0"
G	McPHILBEN	66-21VFB	1 T 150	7'-6"
Q	DUAL-LITE	AS-195-2-V-C-M2	2 I 6 VOLT 25	8'-0"

* 277 V - INPUT FOR ALTERNATE FIXTURE MANUFACTURERS, SEE SHEET NO. E-9
 ** NOTE: ALL FLUORESCENT BALLASTS ARE 277 VOLT.
 MOUNT ALL TYPE A, A-1 FIXTURES ON 1ST FLOOR APPROX. 1'-0" UP.



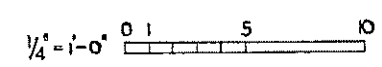
INTERCOM & PAGING SYSTEM
RISER DIAGRAM - PLANT WATER BLDG.

GENERAL NOTES

- SERVICE TO THE BUILDING SHALL BE 277/480 V., 3 PHASE, 4 WIRE, FROM SUBSTATION #4.
- CHECK EXACT LOCATION OF EQUIPMENT IN THE FIELD AND ALL MANUFACTURER'S DATA BEFORE PROCEEDING WITH CONDUIT WORK. EQUIPMENT LOCATIONS ARE DIAGRAMATIC ONLY.
- THE MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUN IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
- WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWING, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT, AND WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- FOR SITE PLAN, SEE SHEET NOS. E-1 & E-2
- FOR LEGEND, SEE SHEET NO. E-2

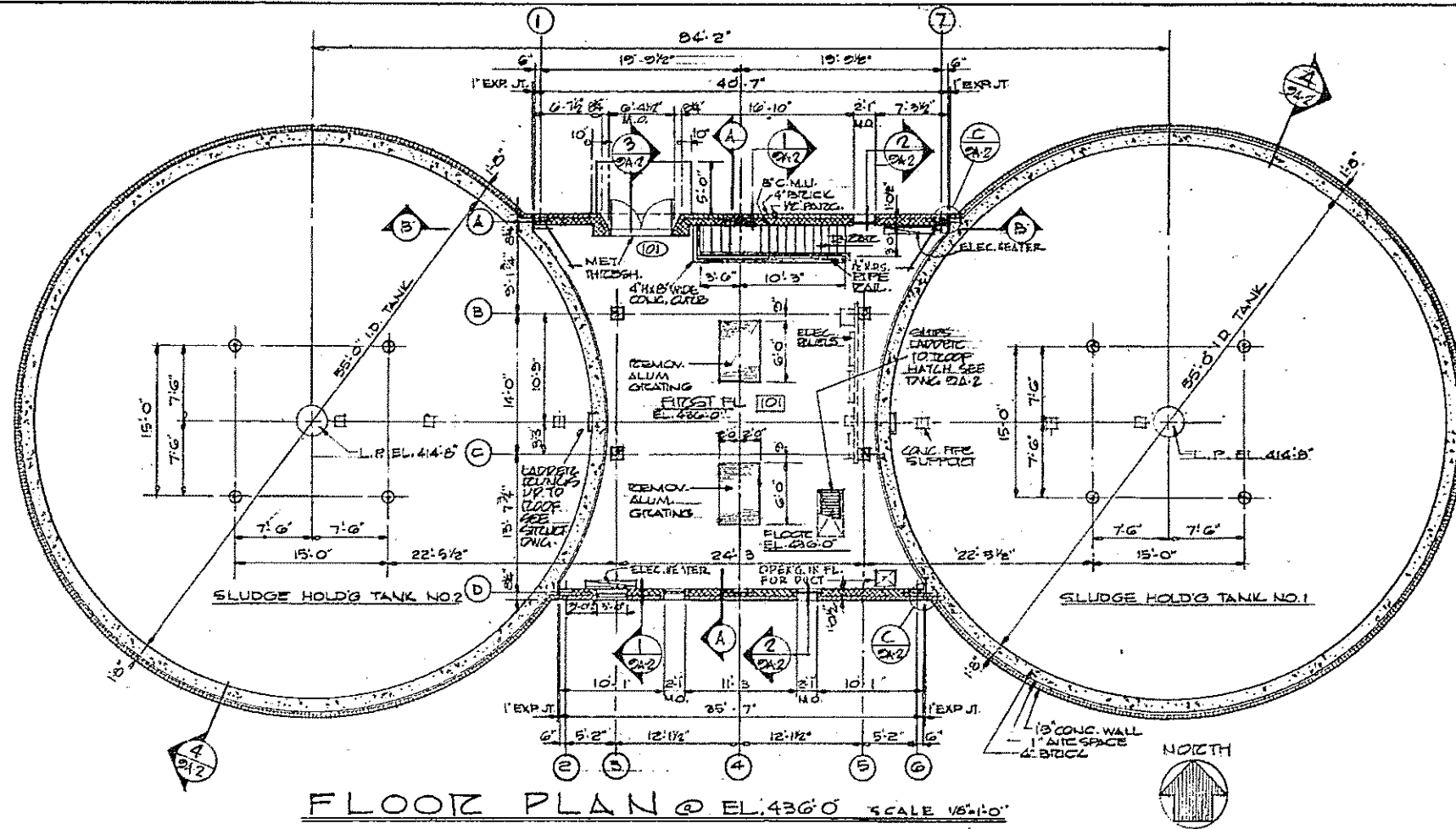
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 PLANT WATER AND EMERGENCY PUMPING STATION, F.N.-B
 ELECTRICAL
 LIGHTING - FIRST FLOOR PLAN AND DETAILS
 SCALE: AS NOTED
 FEBRUARY 1977
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. G.C.W. - W.B.P. IN CHG. T.J.B. PLAN JW-83
 APPROVED *J.M. Cahaly* PLAN 94

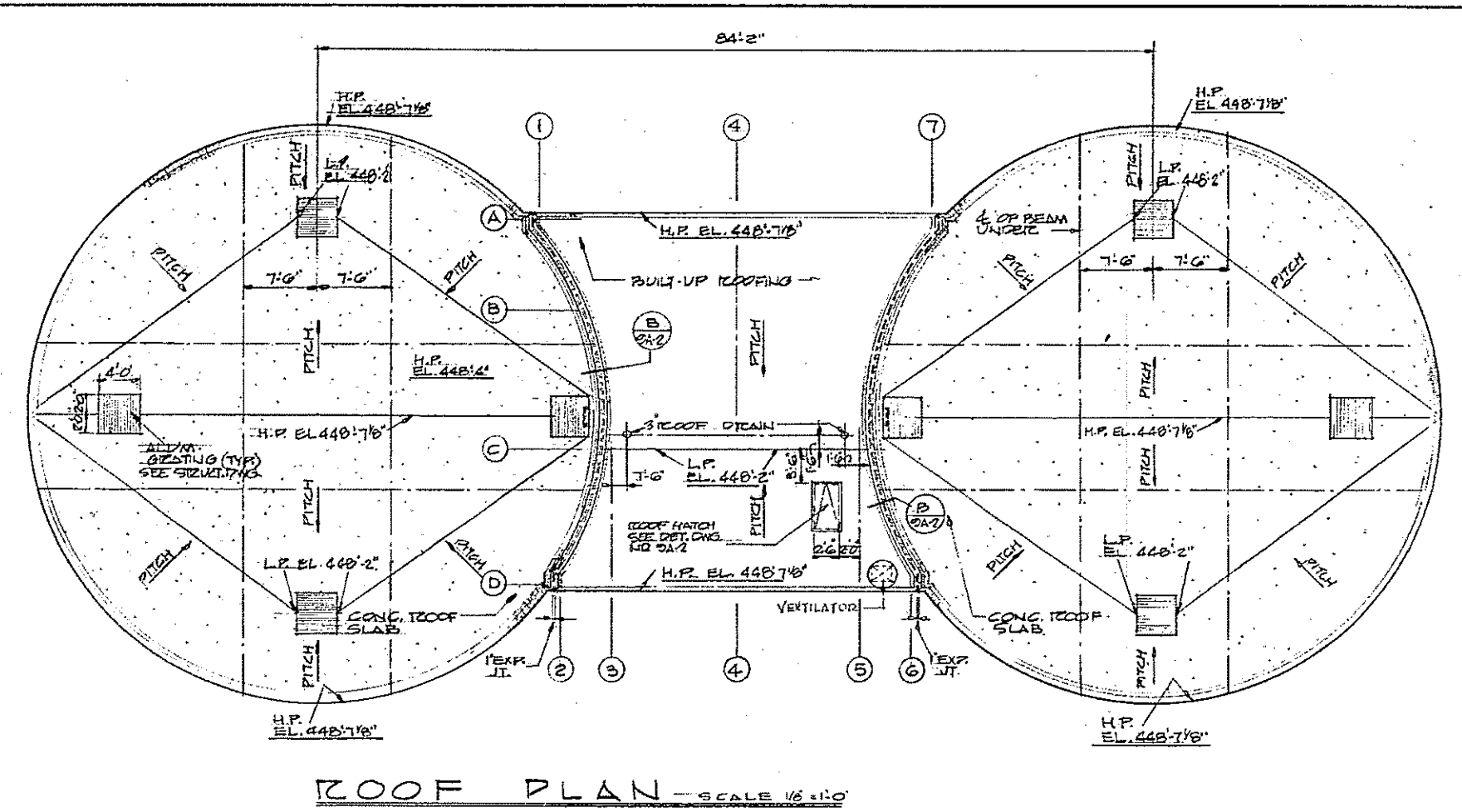


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

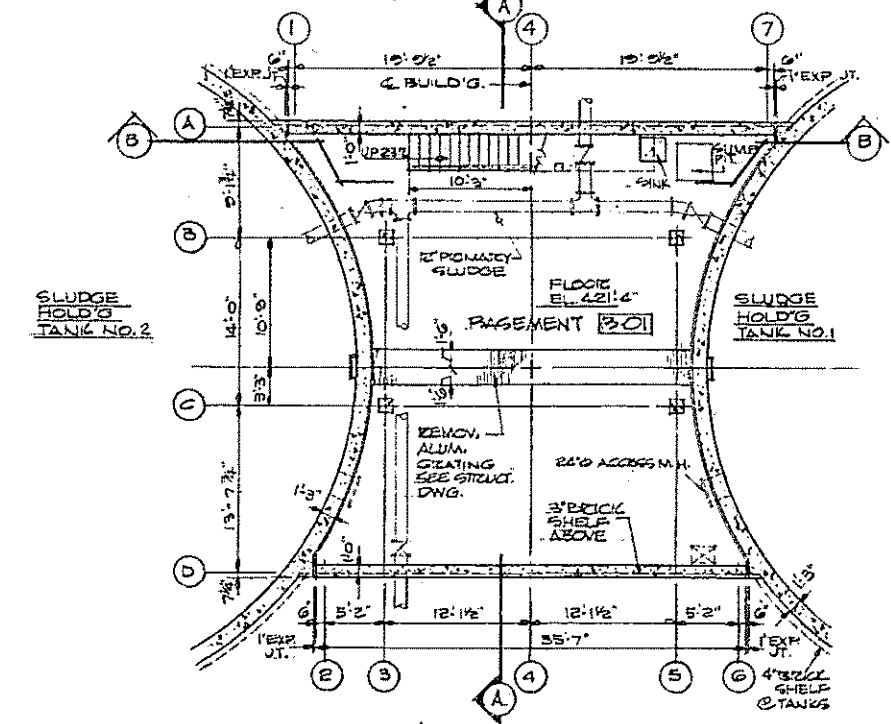




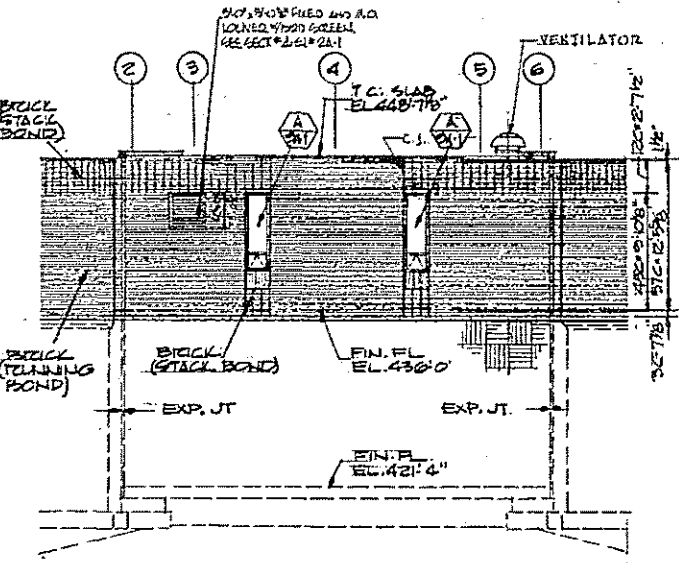
FLOOR PLAN @ EL. 436'0" SCALE 1/8" = 1'-0"



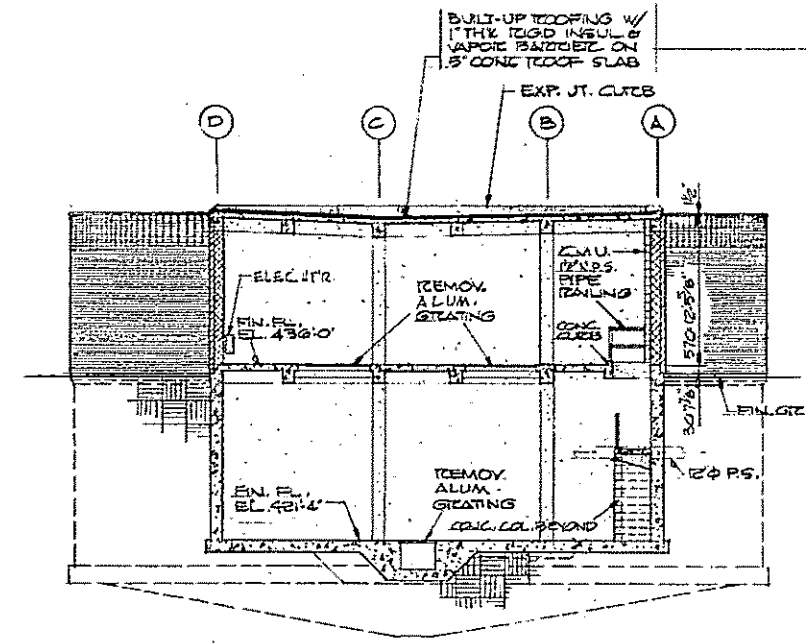
ROOF PLAN - SCALE 1/8" = 1'-0"



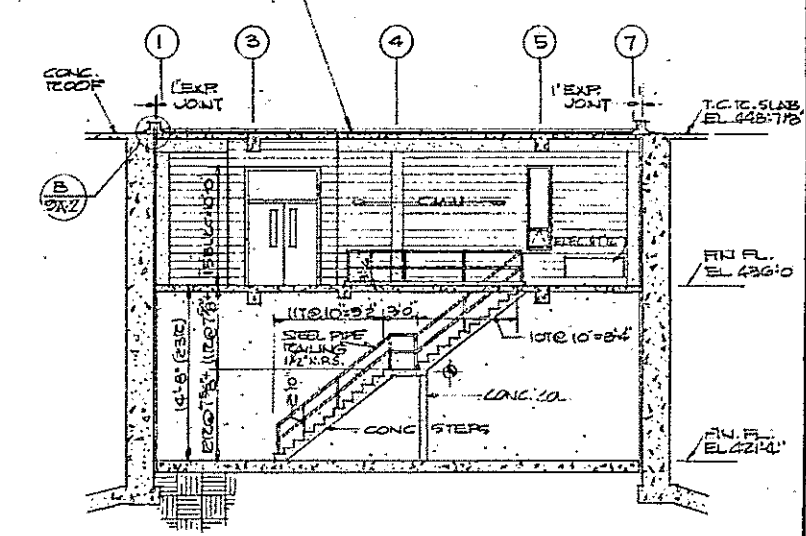
FLOOR PLAN @ EL. 421'4" SCALE 1/8" = 1'-0"



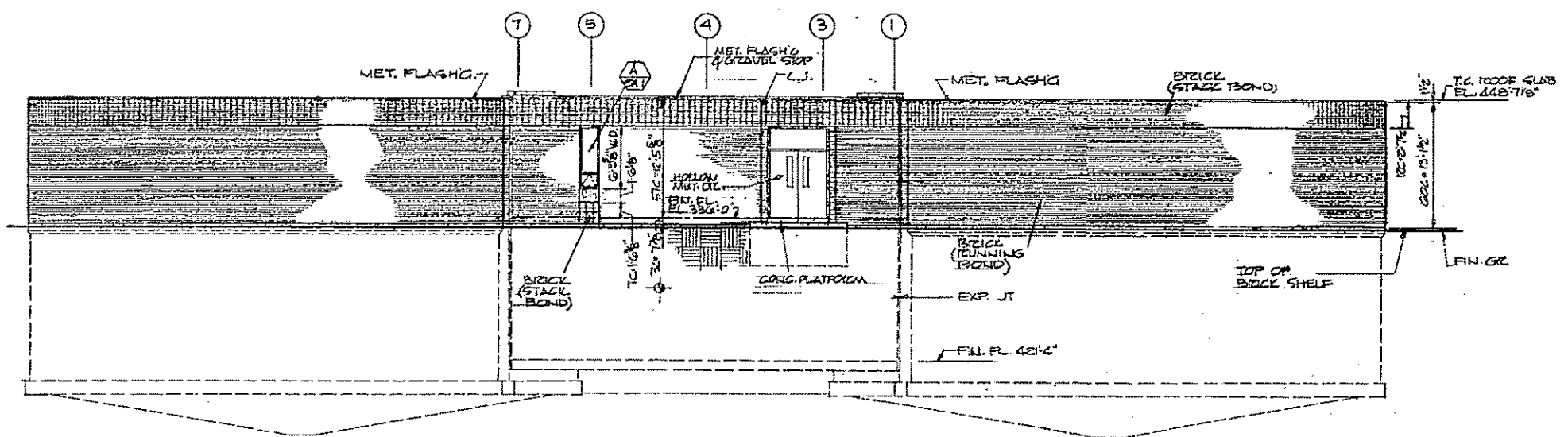
PART. SOUTH ELEV. SCALE 1/8" = 1'-0"



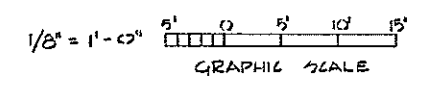
THRU-SECTION A-A SCALE 1/8" = 1'-0"



THRU-SECTION B-B SCALE 1/8" = 1'-0"



NORTH ELEV. SCALE 1/8" = 1'-0"



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



HALF-SIZE DRAWING

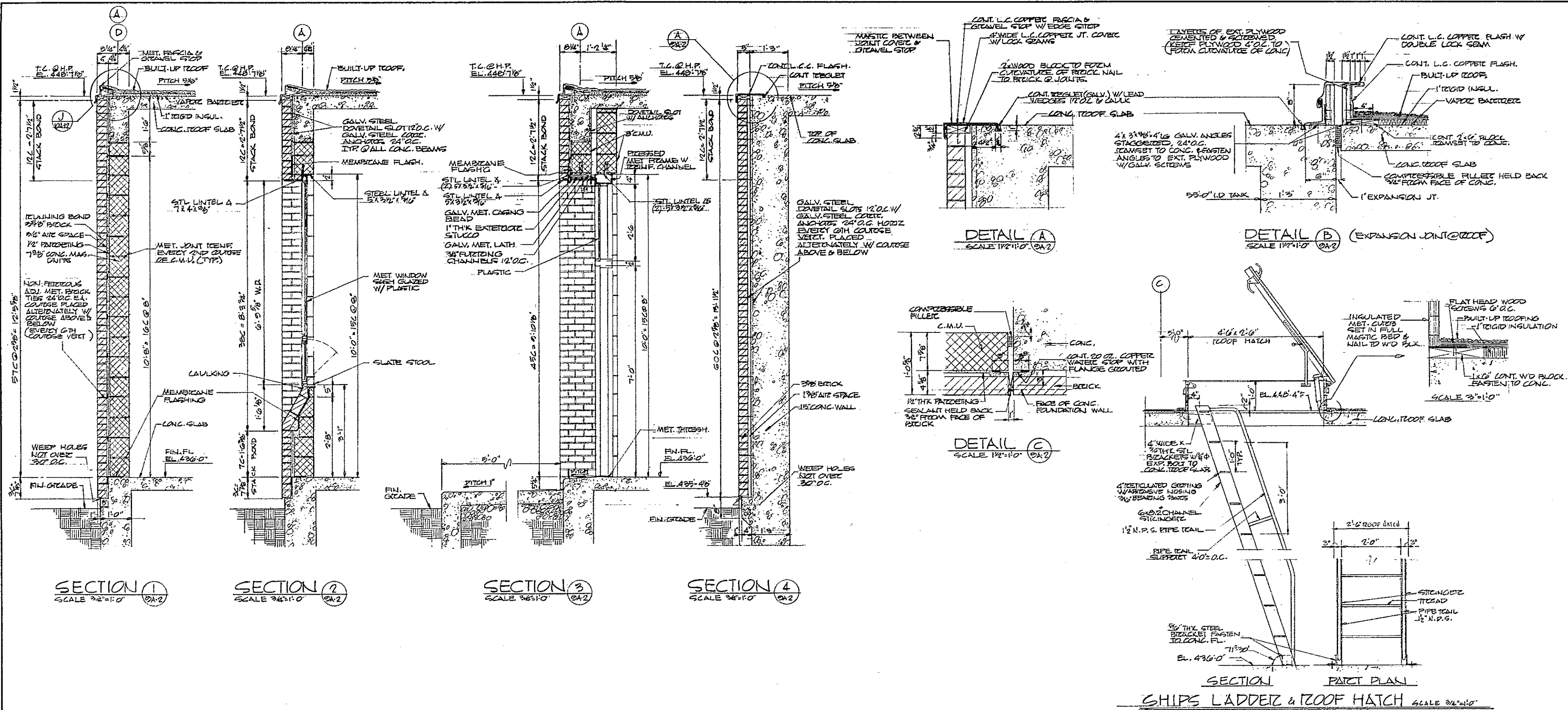
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE HOLDING TANKS, F.N. - 9
ARCHITECTURAL

PLANS, ELEVATIONS AND SECTIONS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. H.C.P.
APP. F.M.C.
DATE 1-15-59
JOB NO. JW-83
SHEET NO. 95

CONTRACT DRAWING SHEET NO. 9A-1



SECTION 1
SCALE 3/8"=1'-0" (9A-2)

SECTION 2
SCALE 3/8"=1'-0" (9A-2)

SECTION 3
SCALE 3/8"=1'-0" (9A-2)

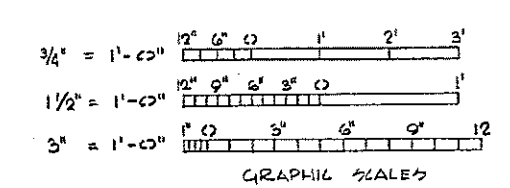
SECTION 4
SCALE 3/8"=1'-0" (9A-2)

DETAIL A
SCALE 1/2"=1'-0" (9A-2)

DETAIL B (EXPANSION JOINT @ ROOF)
SCALE 1/2"=1'-0" (9A-2)

DETAIL C
SCALE 1/2"=1'-0" (9A-2)

SECTION PART PLAN
SHIPS LADDER & ROOF HATCH SCALE 3/8"=1'-0"



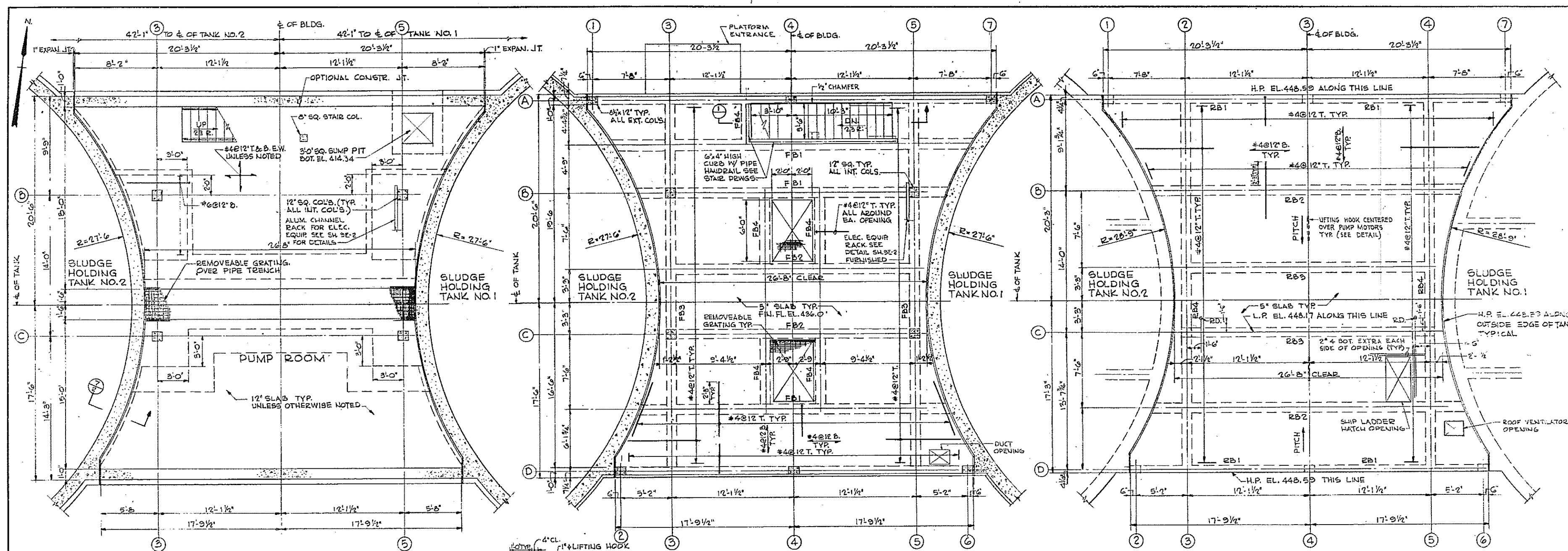
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE HOLDING TANKS. F.N.-9 ARCHITECTURAL	
WALL SECTIONS AND DETAILS	
SCALE: AS NOTED	FEB 27 1977
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS. KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.	
CHK: HGF OR: FNL	FILE: JW-83
APPROVED: <i>F. W. Cahaly</i>	DATE: 96

CONTRACT DRAWING SHEET NO. 9A-2

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

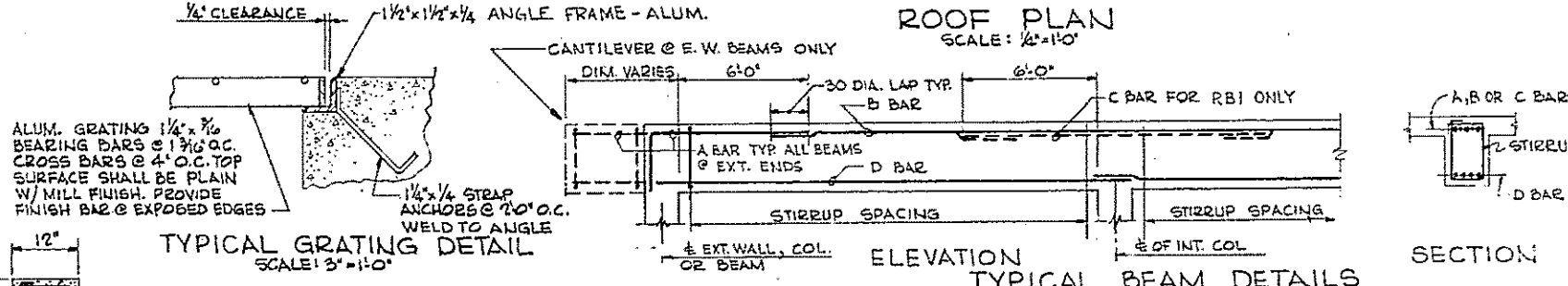
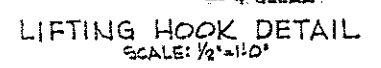




BASEMENT PLAN
SCALE: 1/4" = 1'-0"

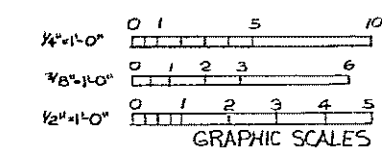
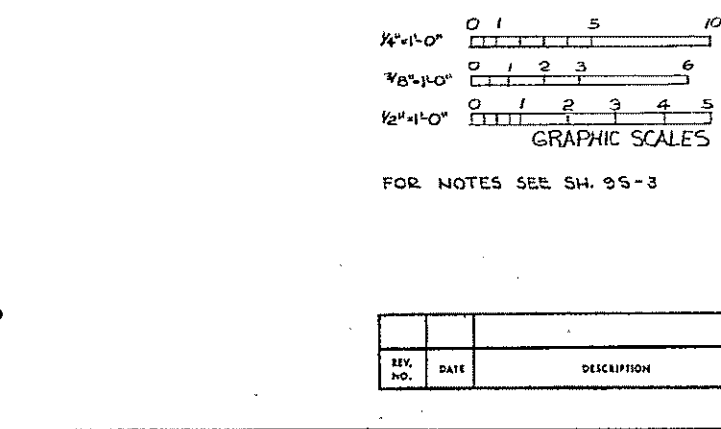
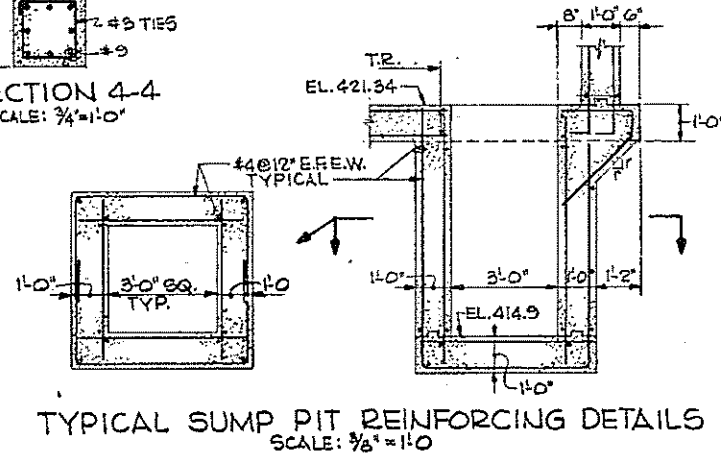
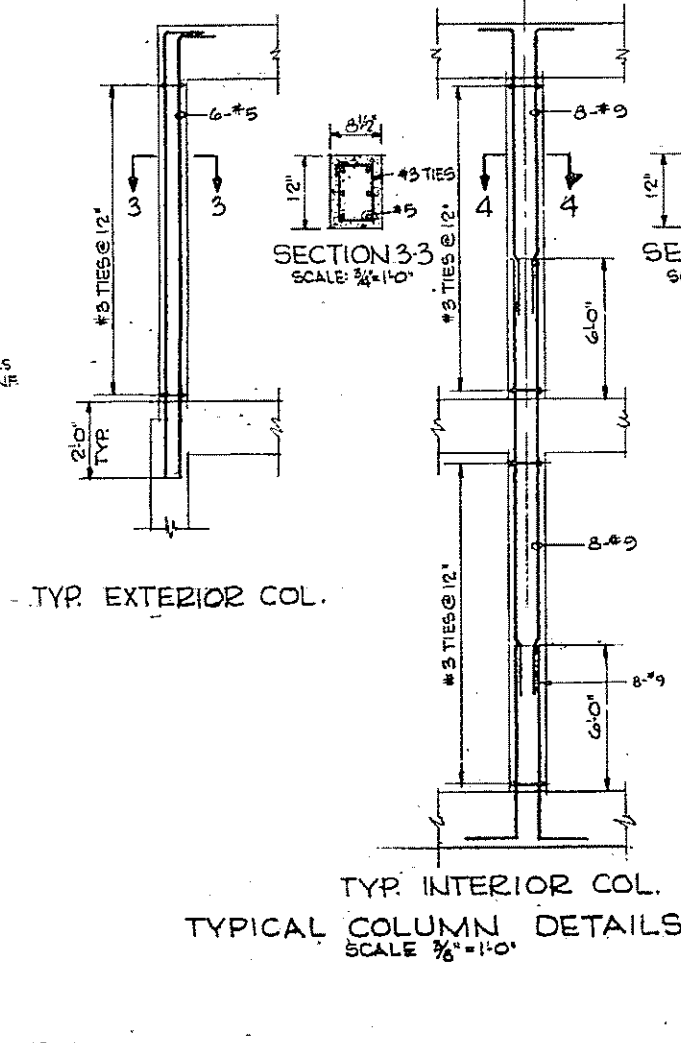
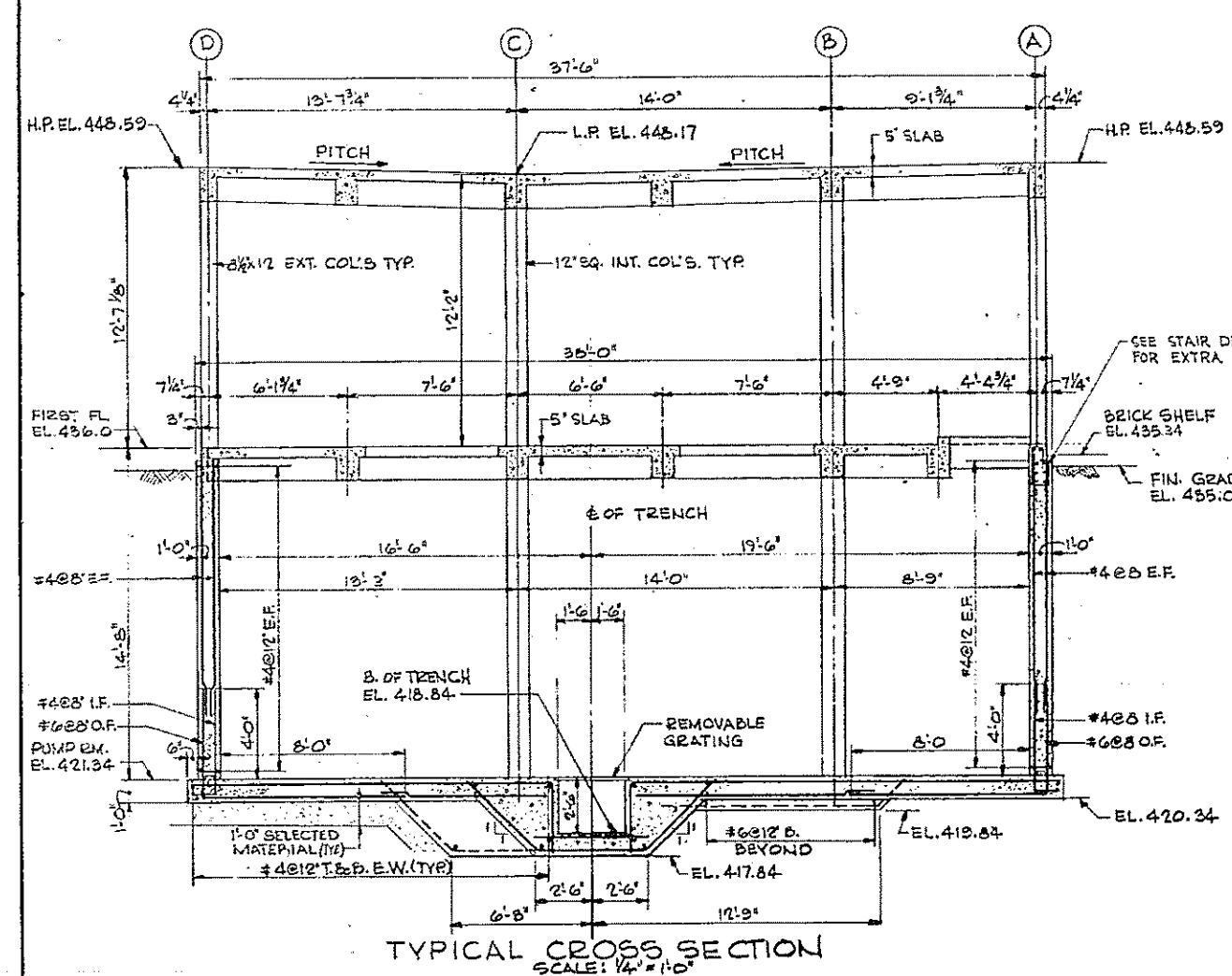
FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

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



BEAM SCHEDULE

MARK	W	D	REINFORCING				STIRRUP SPACING	REMARKS
			A	B	C	D	E	
FB1	12'	18"	3-#8	2-#5			4-#9	7-#50ST FROM EACH END
FB2	12'	18"	3-#8	2-#5			4-#9	BRANDERBUSH
FB3	12'	18"	3-#8	3-#5			3-#8	#3@6" 7"
FB4	12'	12"	2-#5	5 CONT. T. & BOT.			#3@6" 12"	BEND TOP BAR @ EA. END
RB1	8'	18"	2-#9	2-#5	2-#9	2-#9		#3@6" 12"
RB2	12'	18"	3-#8	2-#5			4-#9	#3@6" 12"
RB3	12'	18"	3-#8	2-#5			4-#9	#3@6" 12"
RB4	12'	18"	3-#8	3-#5			3-#8	#3@6" 12"

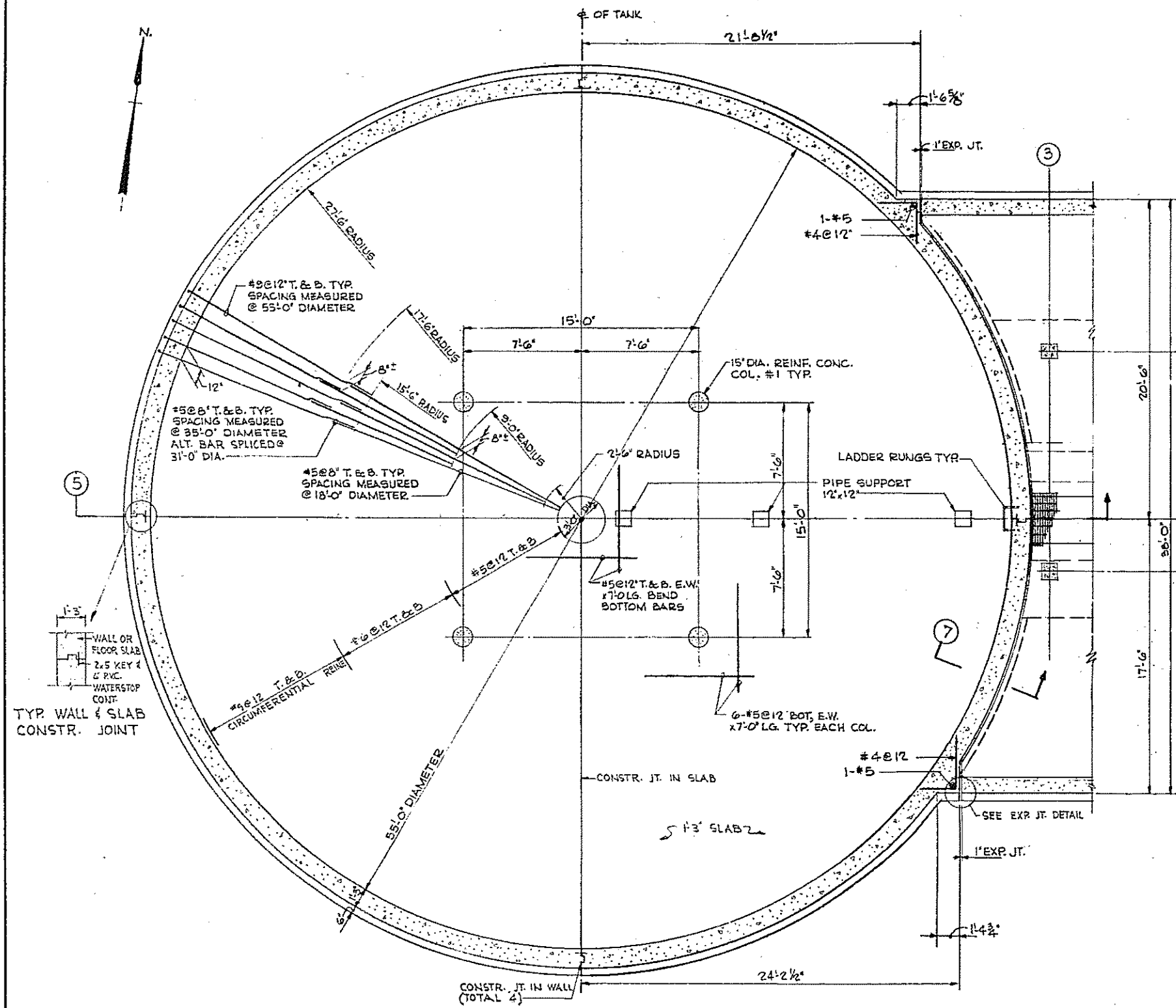


FOR NOTES SEE SH. 95-3

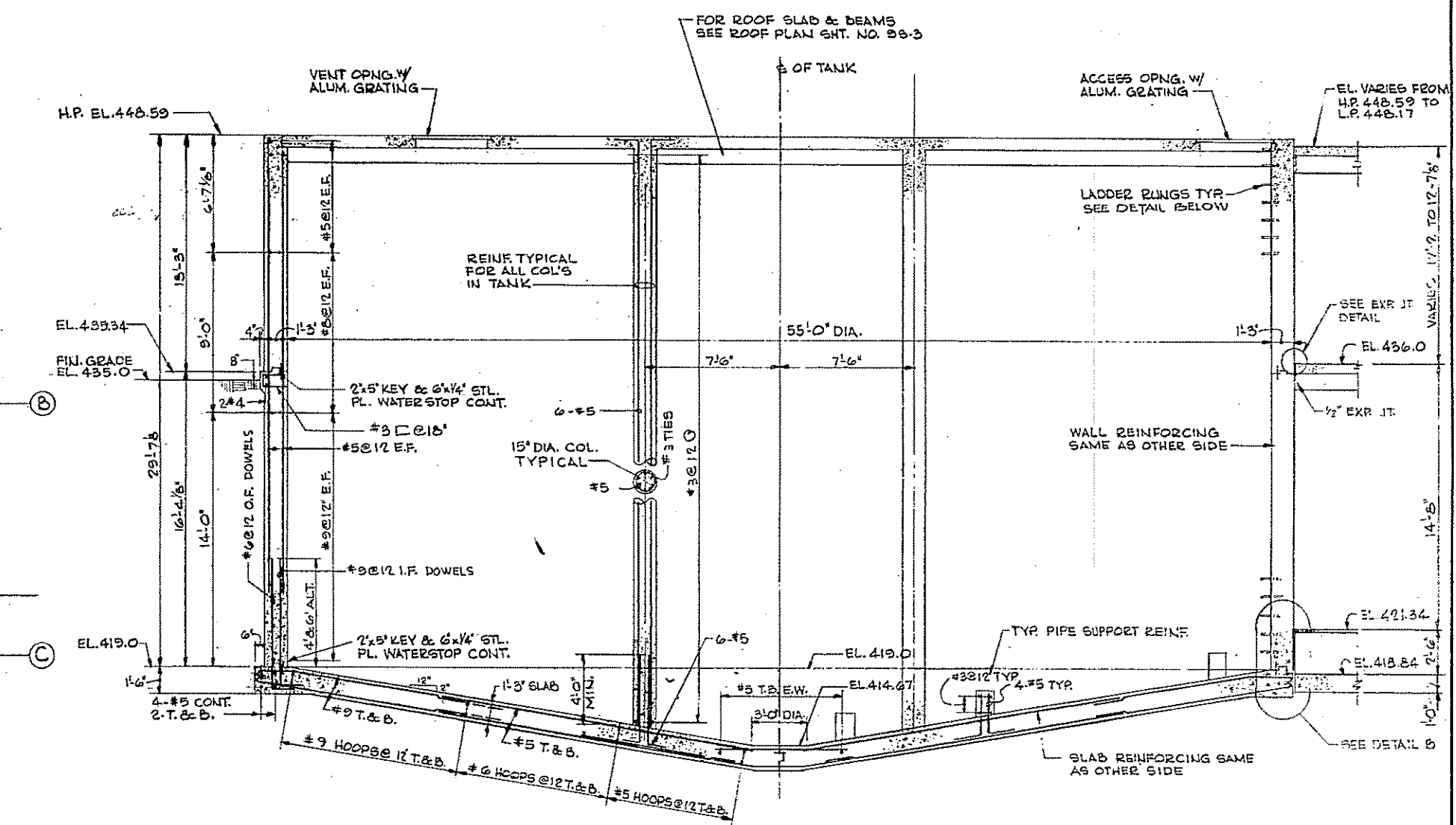
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



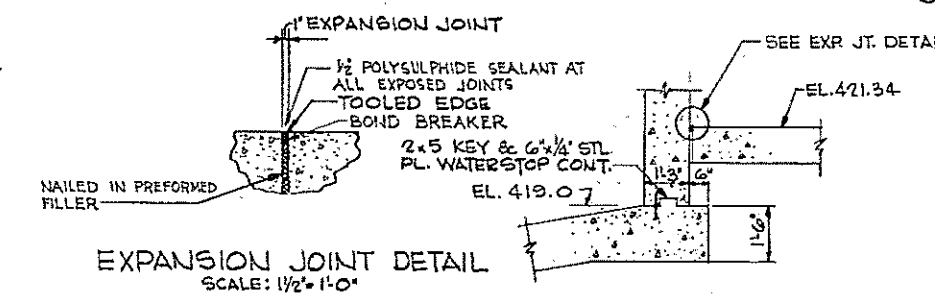
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE HOLDING TANKS, F.N.-9
PUMP HOUSE
BASEMENT, FIRST FLOOR AND ROOF PLANS
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DEC. 5, 1977
APPROVED: *J. M. Cahaly*
CONTRACT DRAWING SHEET NO. 95-1



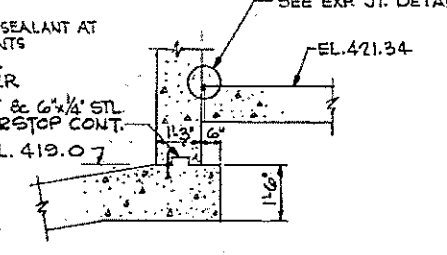
SECTIONAL PLAN
 SLUDGE HOLDING TANK NO. 2 (AS SHOWN)
 SLUDGE HOLDING TANK NO. 1 (OPP. HAND)
 SCALE: 1/4" = 1'-0"



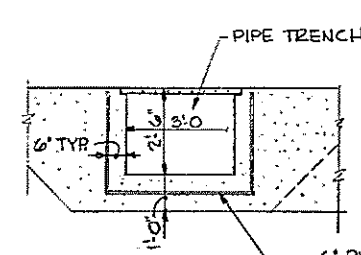
SECTION 5
 SCALE: 1/4" = 1'-0"



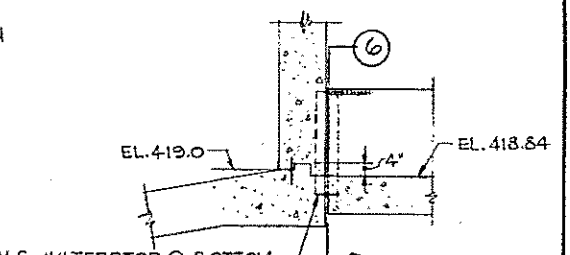
EXPANSION JOINT DETAIL
 SCALE: 1/2" = 1'-0"



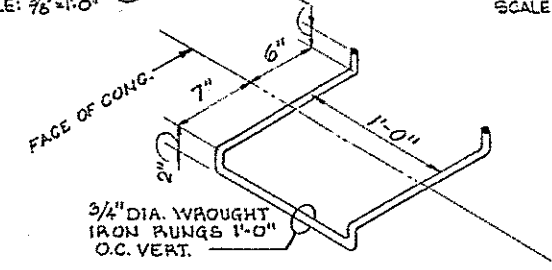
SECTION 7
 SCALE: 3/8" = 1'-0"



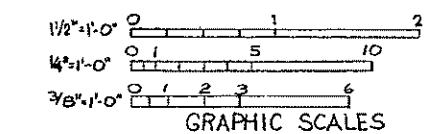
SECTION 6
 SCALE: 3/8" = 1'-0"



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



LADDER RUNG DETAIL
 SCALE: 1/2" = 1'-0"



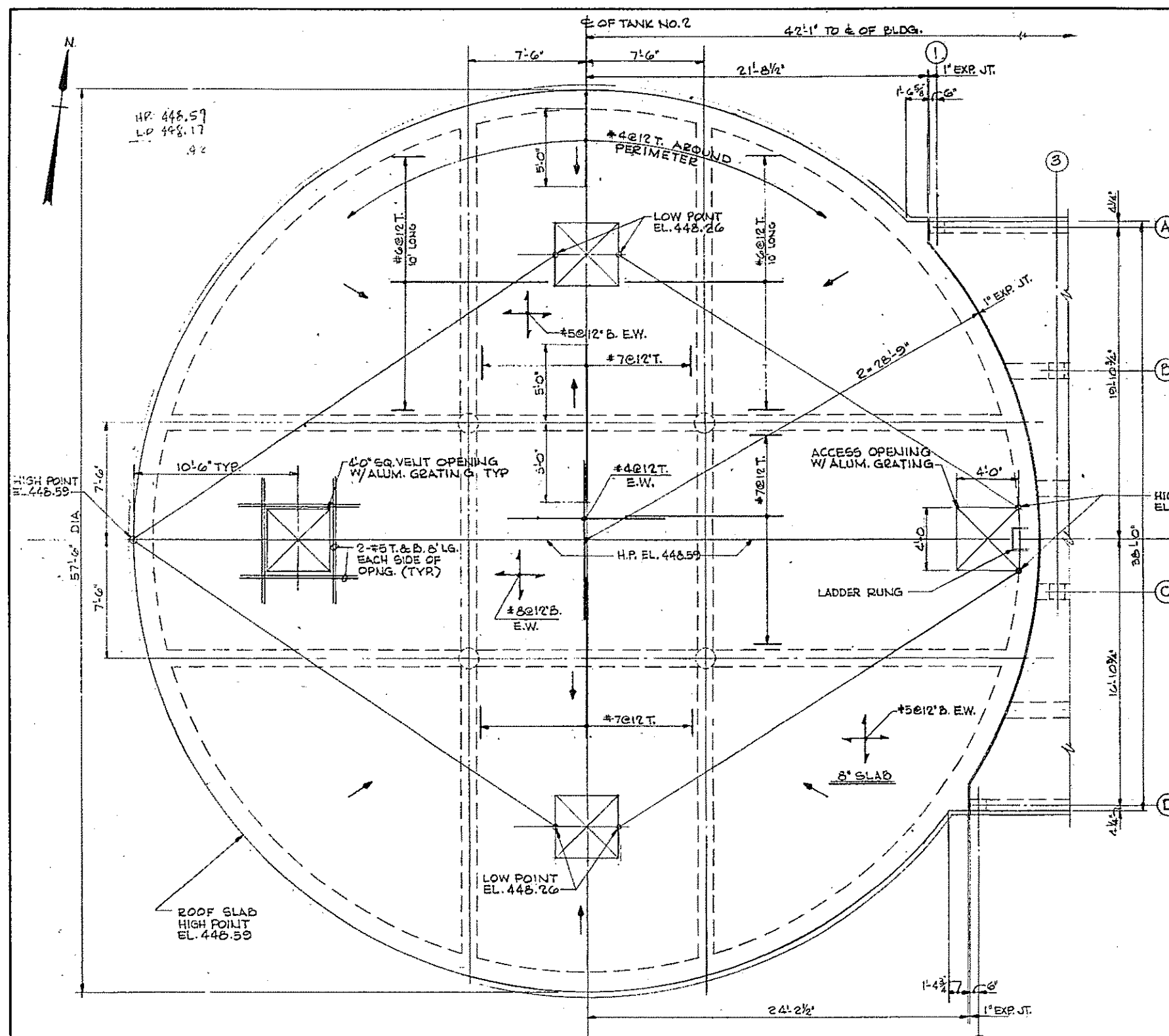
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



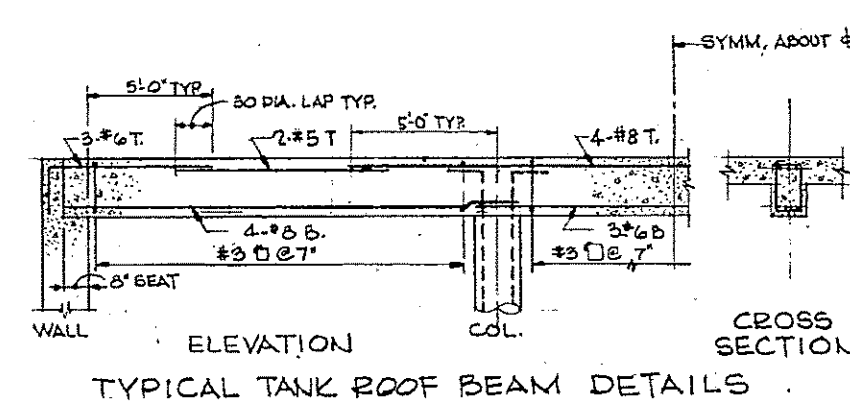
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE HOLDING TANKS, F.N.-9
 STRUCTURAL
 HOLDING TANKS
 FOUNDATION PLAN AND SECTIONS
 SCALE: AS NOTED
 FEBRUARY 1977
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. S.P.P. FILE NO. JW-83
 DR. H.G.H. CHK. S.R.P. 1/6
 APPROVED *F.W. Cahaly* PLAN NO. 98

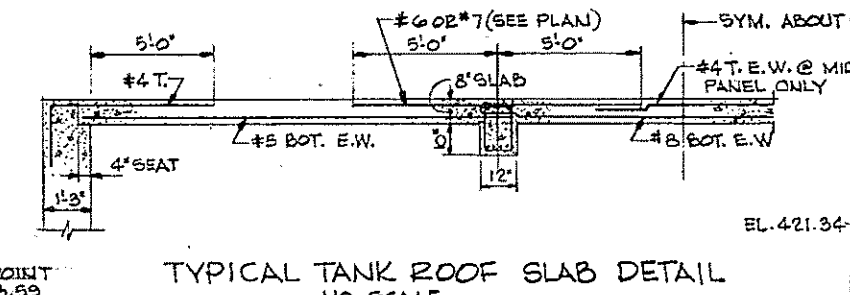
CONTRACT DRAWING SHEET NO. 95-2



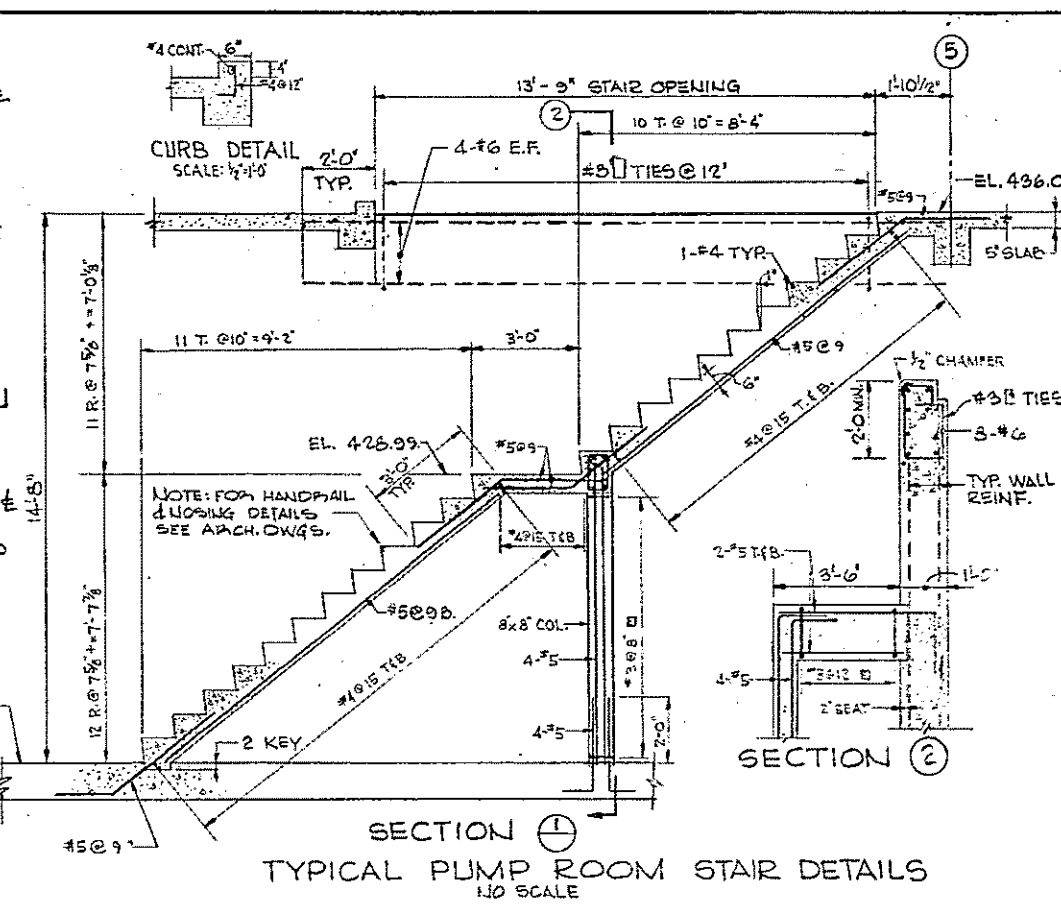
ROOF PLAN
 SLUDGE HOLDING TANK NO. 2 AS SHOWN
 SLUDGE HOLDING TANK NO. 1 OPP. HAND
 SCALE: 1/4" = 1'-0"



ELEVATION
 CROSS SECTION
 TYPICAL TANK ROOF BEAM DETAILS
 NO SCALE

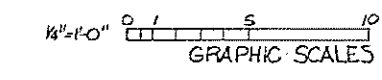


TYPICAL TANK ROOF SLAB DETAIL
 NO SCALE



SECTION 1
 SECTION 2
 TYPICAL PUMP ROOM STAIR DETAILS
 NO SCALE

- NOTES
1. FOR TYPICAL NOTES, SEE SHEET NO. 104-1
 2. FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2
 3. STRUCTURE CHECKED AGAINST FLOTATION AT NORMAL GROUNDWATER ELEVATION 419.0 WITH TANKS EMPTY.
 4. BASE SLABS AND WALLS ARE DESIGNED FOR GROUNDWATER ELEVATION 419.0 WITH TANKS EMPTY.
 5. LIVE LOADS
 STAIRS AND PLATFORMS - 100 PSF (TYPICAL)
 PUMP HOUSE
 ROOF - 30 PSF (SNOW)
 WIND - 15 PSF (67 MPH)
 FIRST FLOOR SLAB - 100 PSF
 LIFTING HOOK - 5000 LBS.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

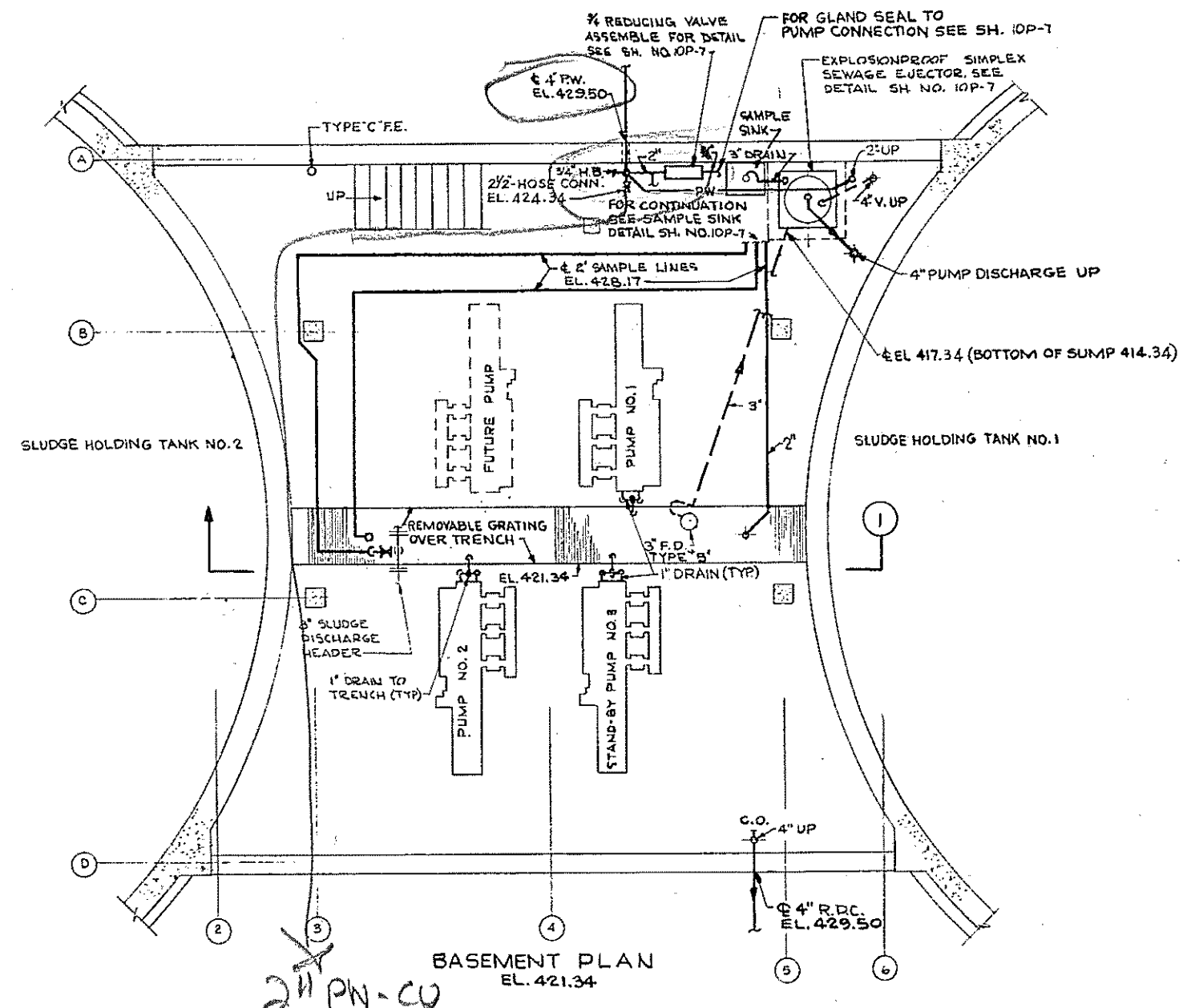


HALF-SIZE DRAWING

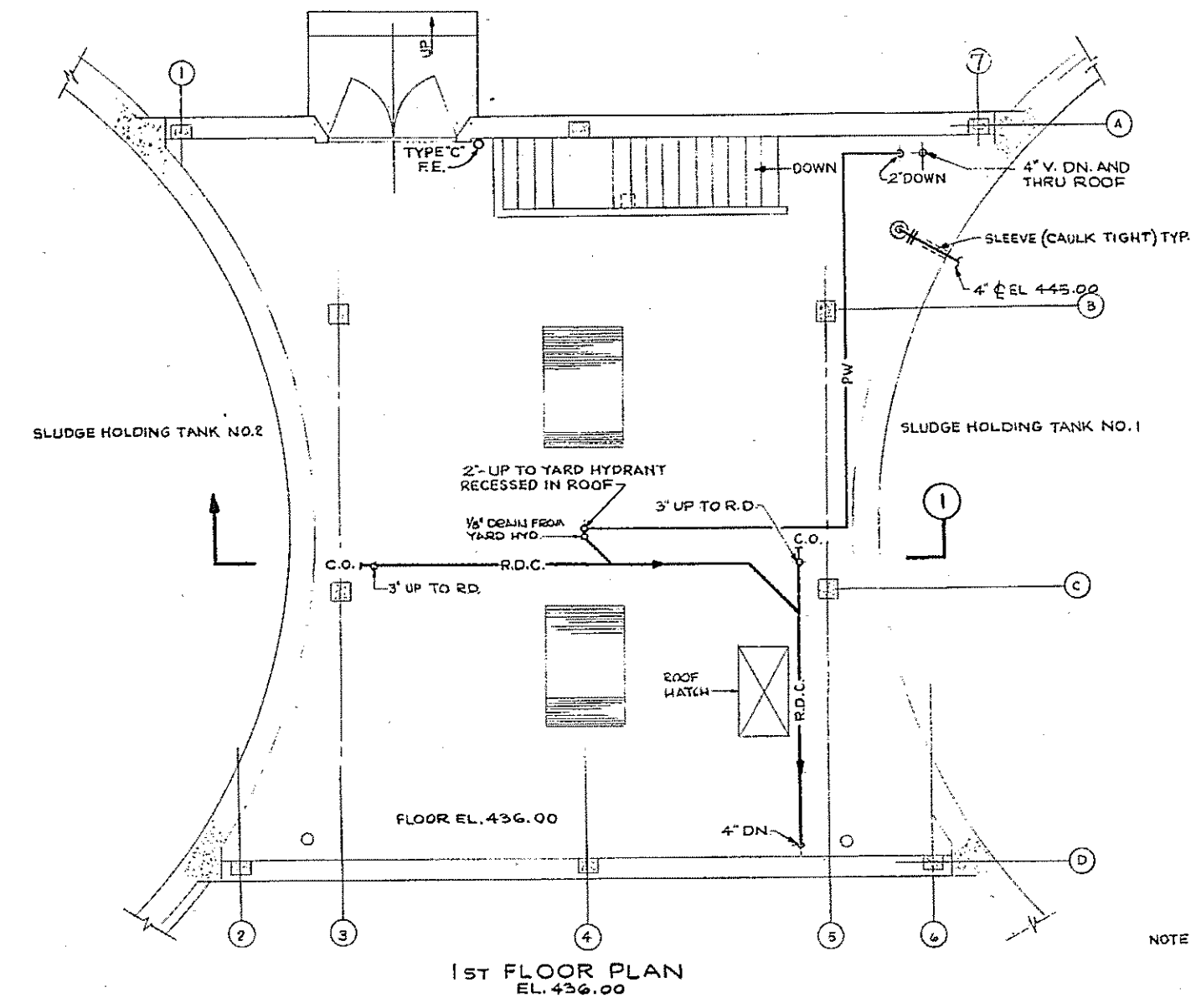
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE HOLDING TANKS, F.N.-9
 STRUCTURAL
 HOLDING TANKS
 ROOF PLAN AND DETAILS

SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. S.P.P. TR. FILE NO. JW-83
 DR. HGH CHK. S.P.P. 16
 APPROVED *J. M. Cahaly* REG. NO. 99

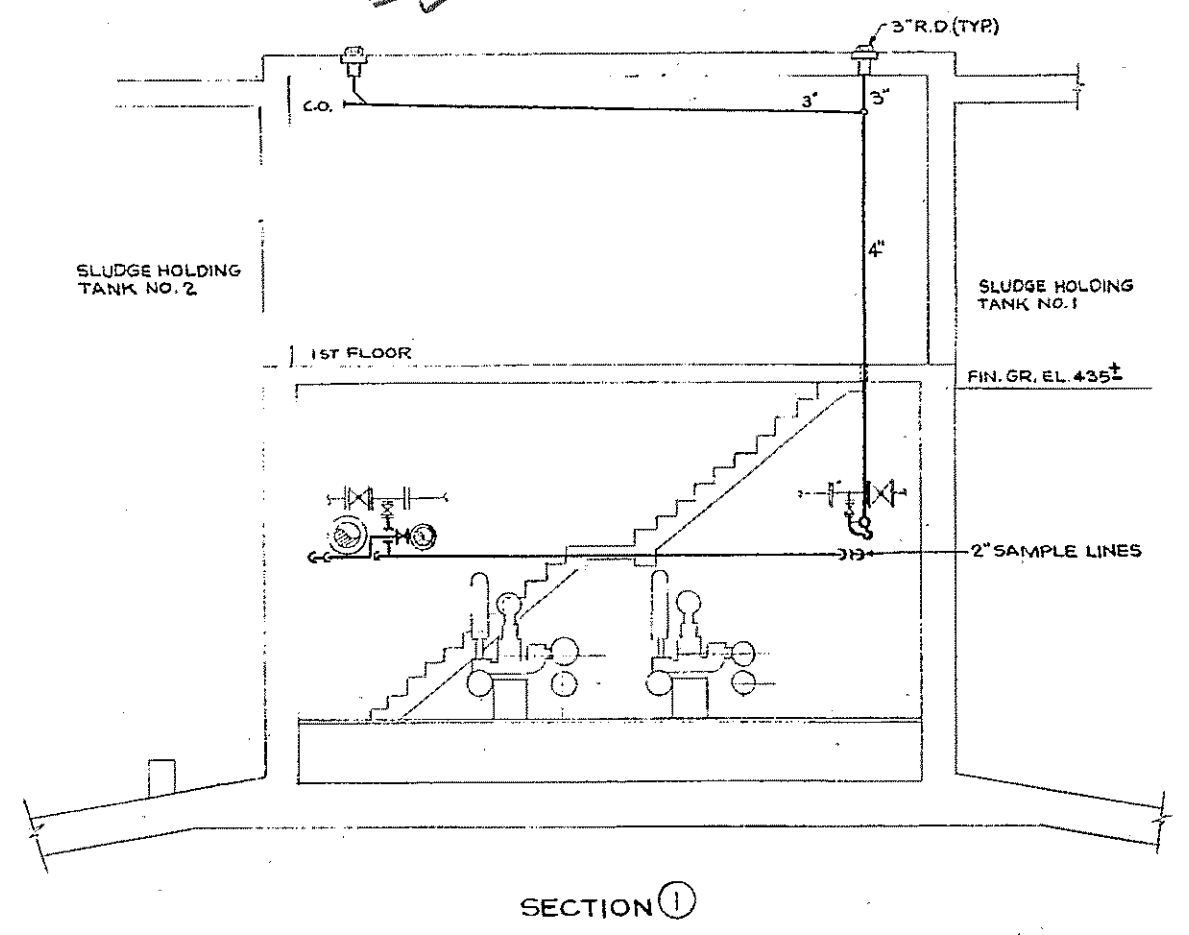
CONTRACT DRAWING SHEET NO. 9S-3



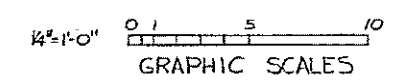
2 1/2" PN-CU



NOTE: FOR LEGEND AND NOTES SEE SH. NO. 10P-7



SECTION I



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2

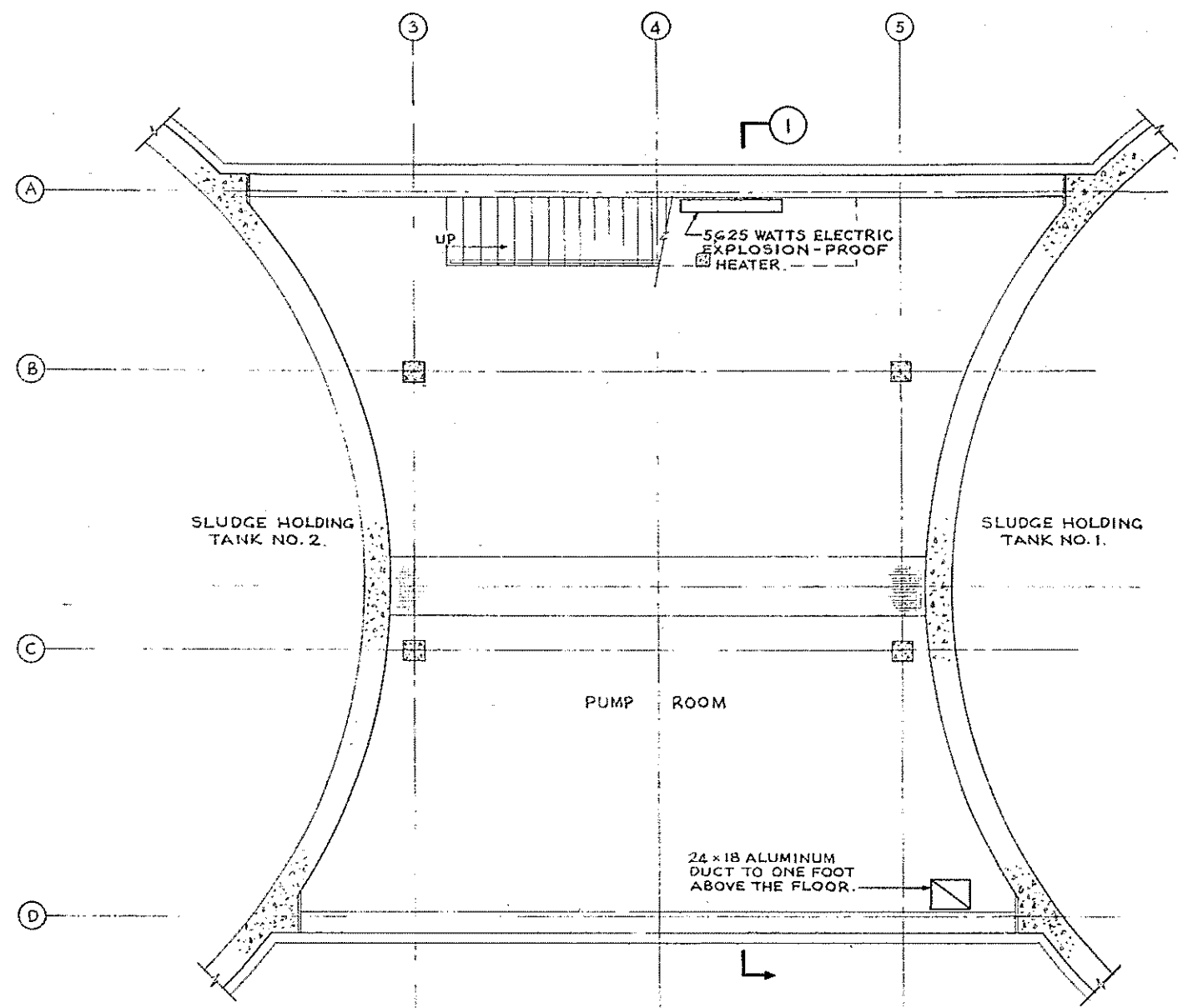
SLUDGE HOLDING TANKS, F.N.-9
PLUMBING
PUMP HOUSE
BASEMENT AND FIRST FLOOR PLANS

SCALE: AS NOTED FEBRUARY 1973

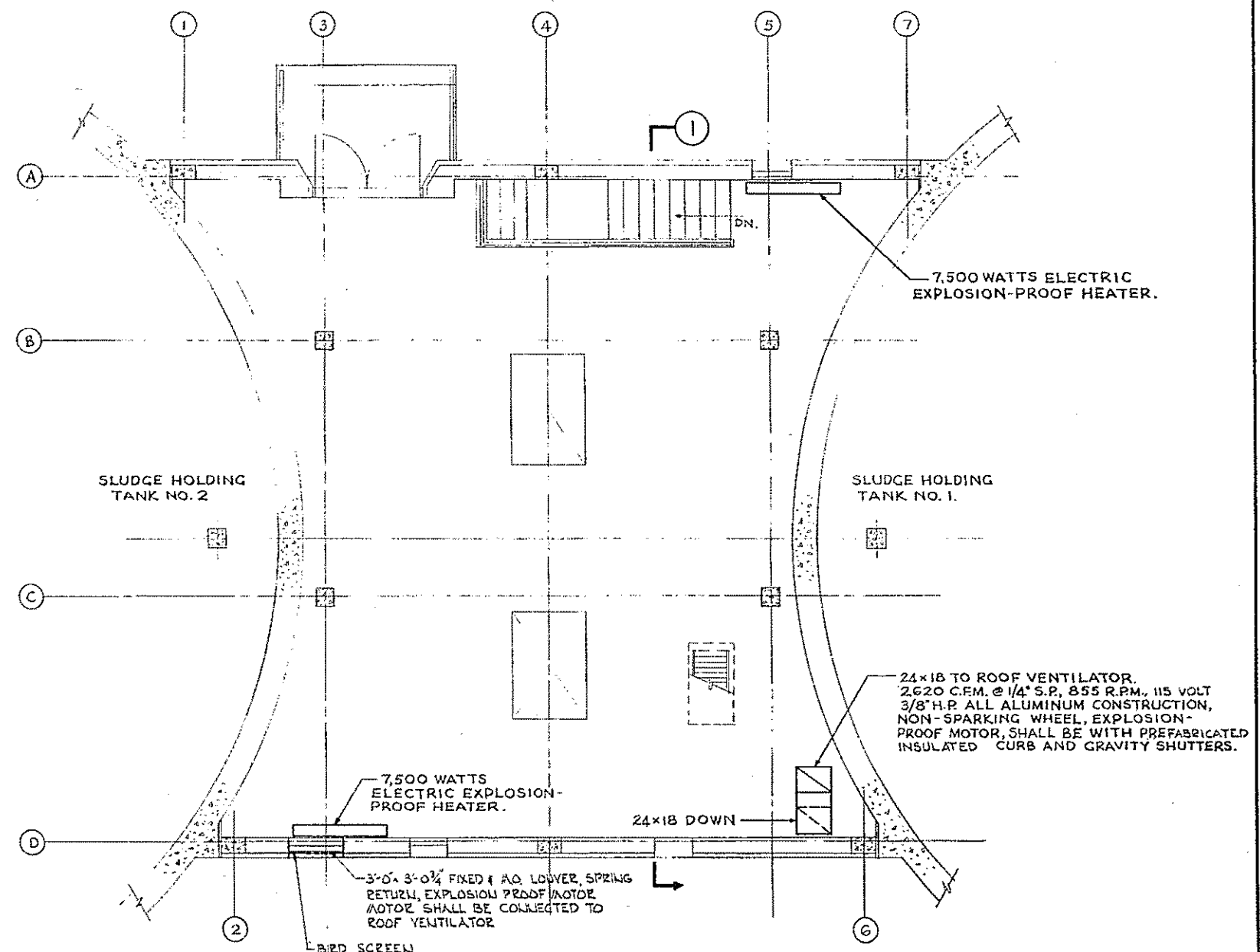
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. W.J.H.	DR. J.L.M.	PLN. JW-83
APPROVED <i>J.M. Cahaly</i>	CHK. C.L.M.	PLAN NO. 100

CONTRACT DRAWING SHEET NO. 9P-1

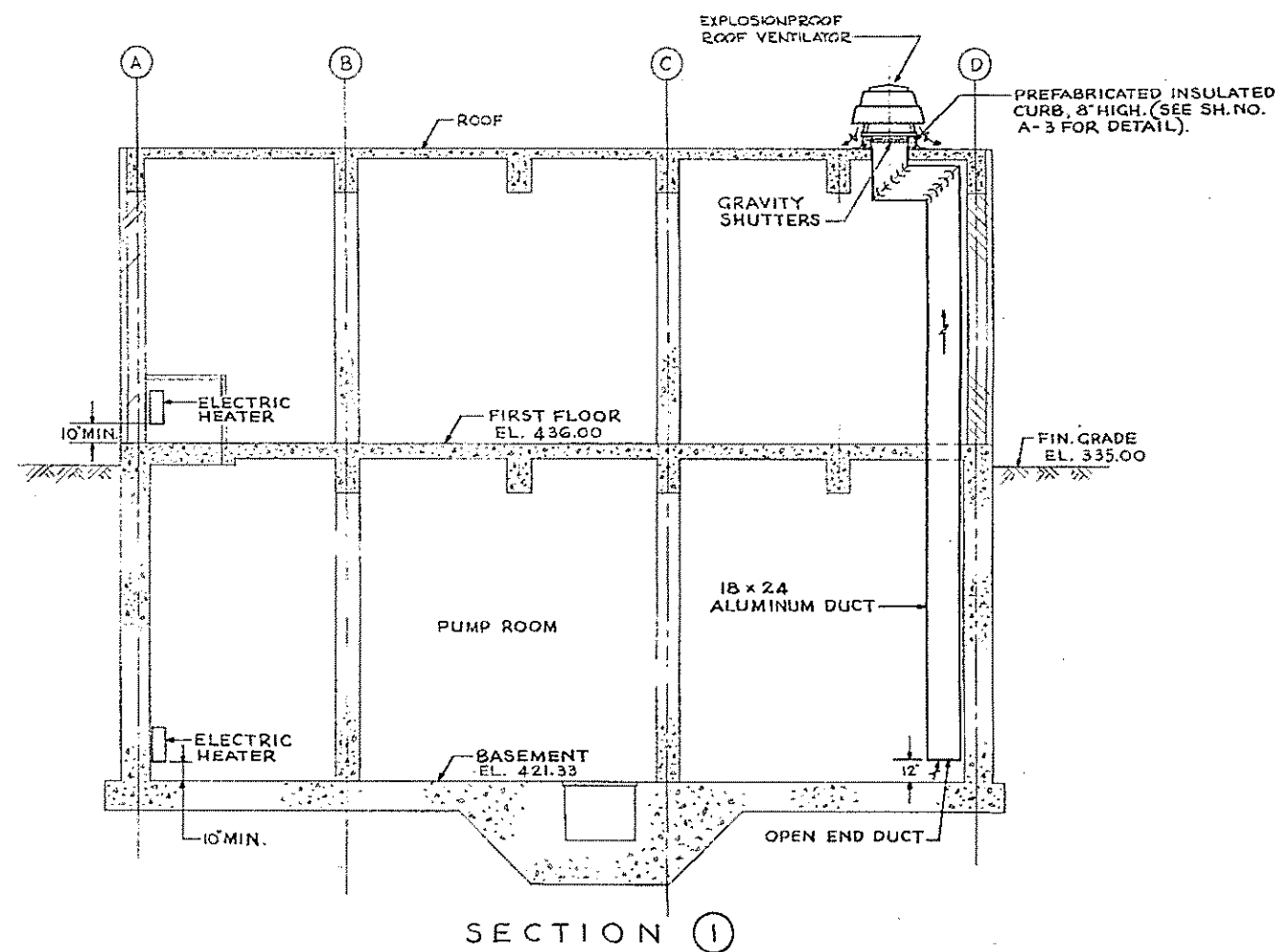


BASEMENT PLAN
(FIN. FL. EL. 421.33)



1ST FLOOR PLAN
(FIN. FL. EL. 436.00)

NOTE:
1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-9.
2. ELECTRICAL CONVECTION HEATERS ARE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

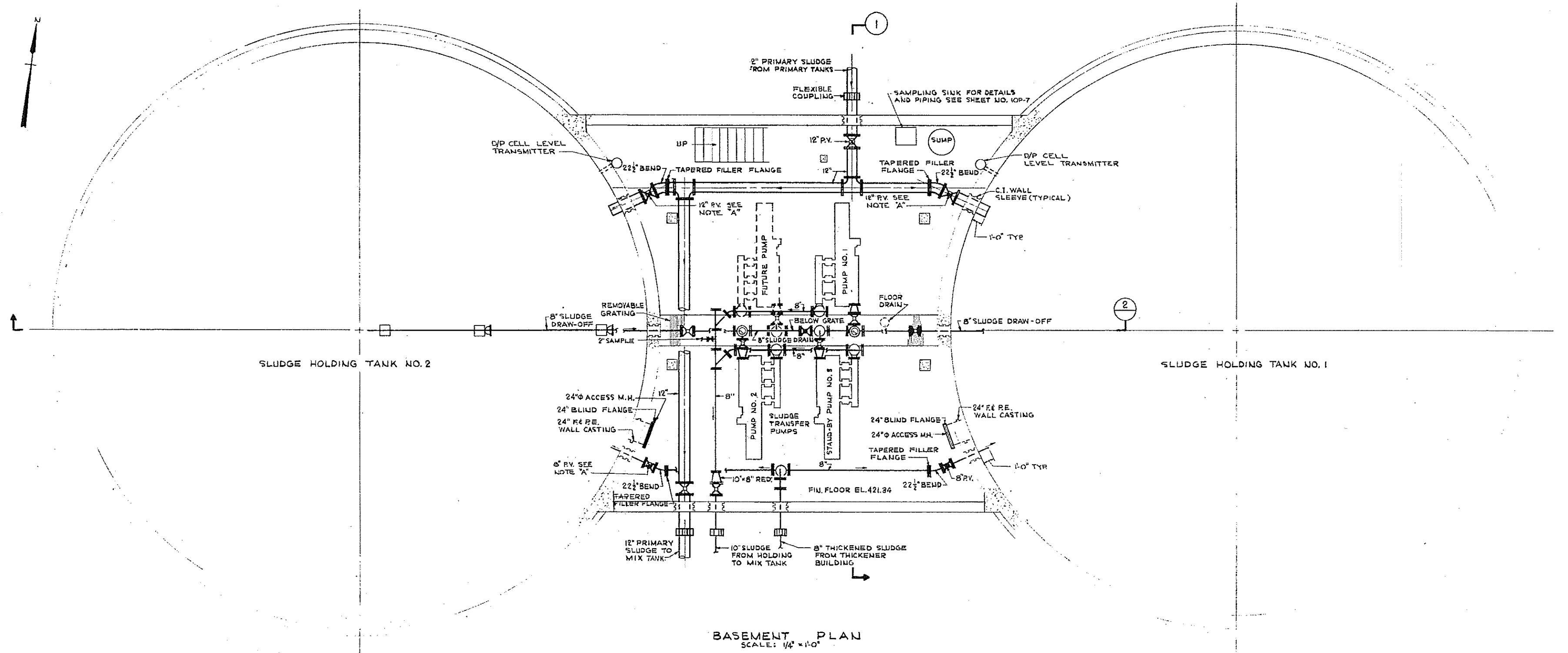


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING

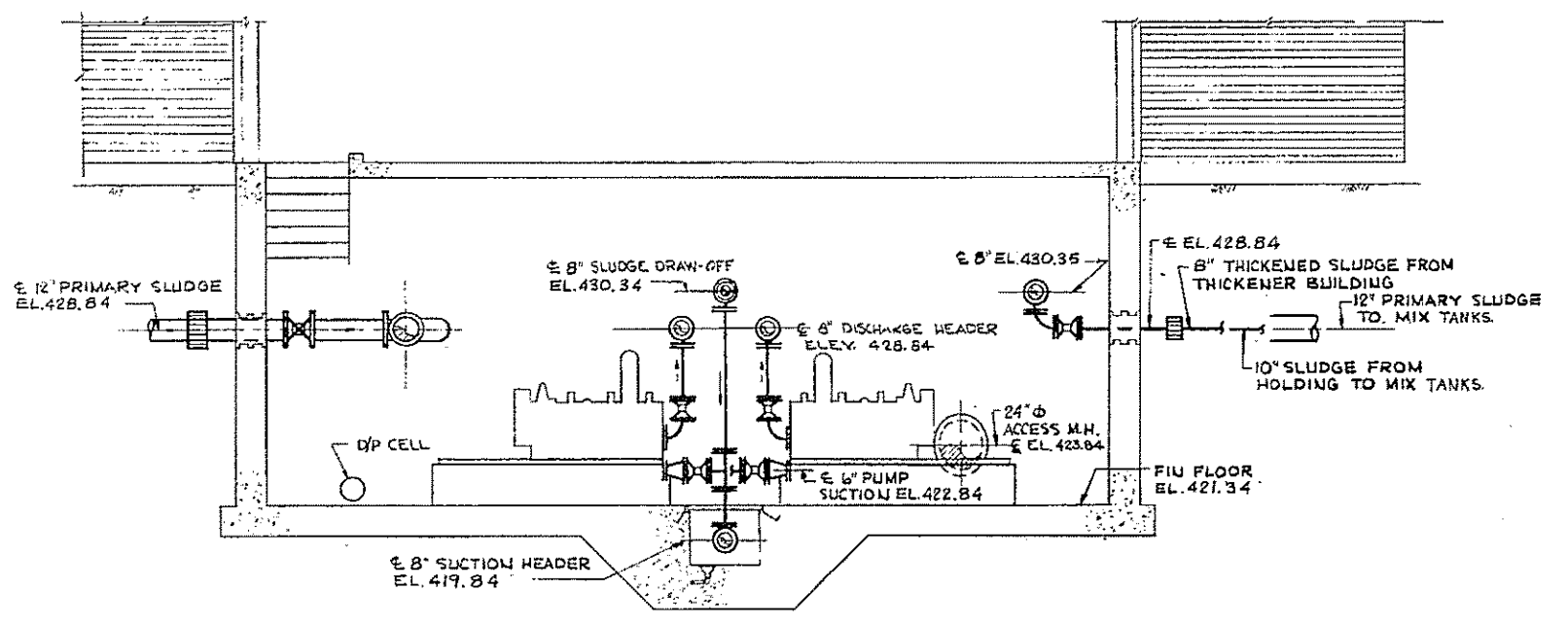
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE HOLDING TANKS, F.M. -9
HEATERS AND VENTILATORS
PUMP HOUSE
BASEMENT AND FIRST FLOOR PLANS
SCALE: 1/4" = 1'-0" FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. B.S.K. TR. FILE NO. JW-83
DR. L.M. CHK. F.J.T. 101
APPROVED *S. M. Cahaly* 101
CONTRACT DRAWING SHEET NO. 9HV-1



BASEMENT PLAN
SCALE: 1/4" = 1'-0"

NOTE:
 A. PROVIDE EXPLOSIONPROOF LIMIT SWITCHES TO CLOSE ON FULL OPEN OR CLOSED POSITION OF VALVES.
 B. ALL PLUG VALVES 6"-6" AND HIGHER ABOVE THE FLOOR SHALL BE CHAIN OPERATED

NOTE:
 1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO.



SECTION I



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE HOLDING TANKS, F. N. -9
 MECHANICAL PROCESS

BASEMENT PLAN

SCALE: AS NOTED
 FEBRUARY, 1973

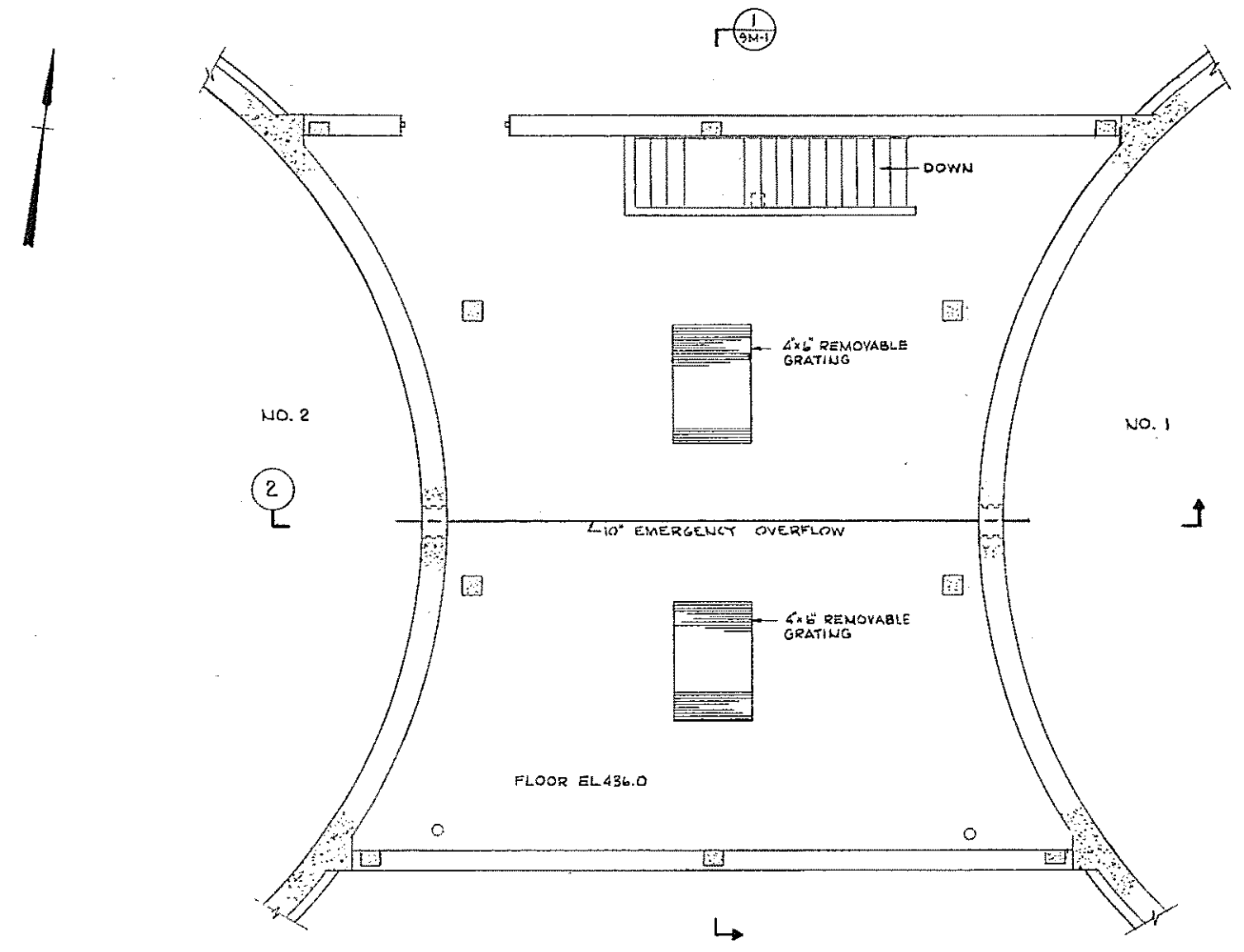
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. P.L.P. CHK. E.H.S. PLAN JW-83
 DR. J.L.M. APPROVED J.M. Cahaly PLAN NO. 102

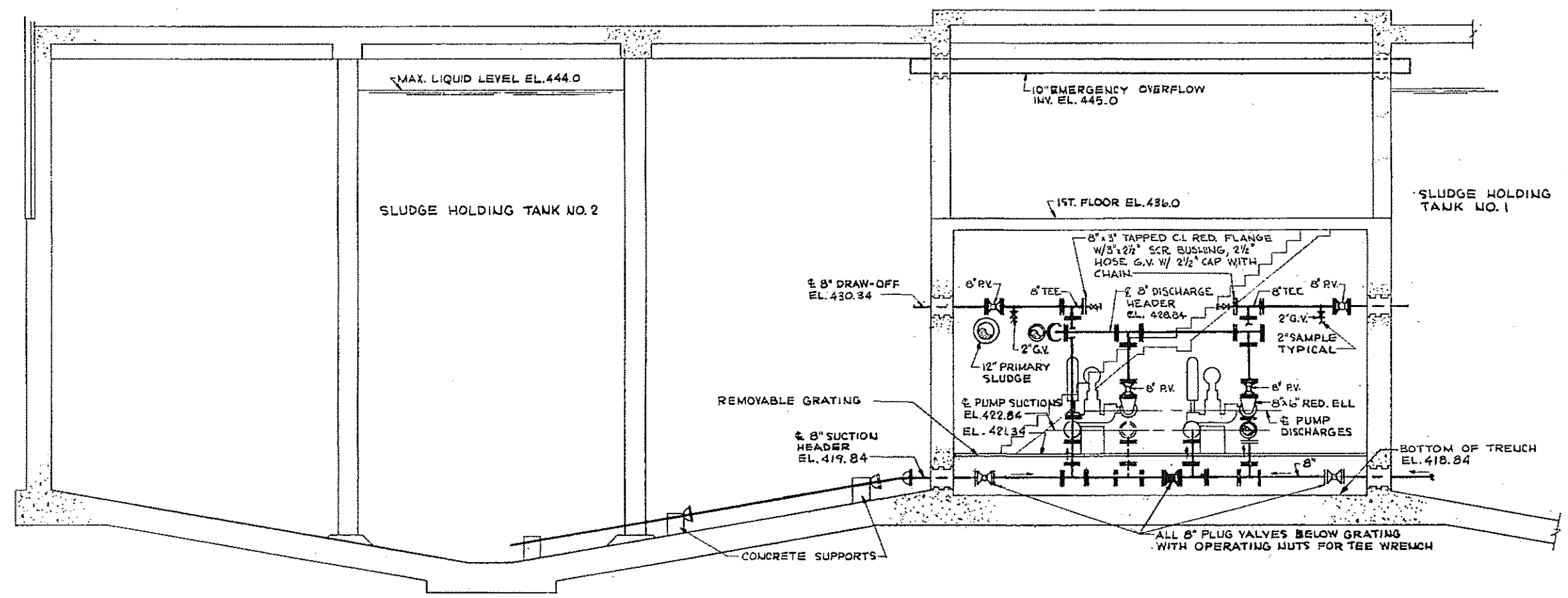
CONTRACT DRAWING SHEET NO. 9M-1

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

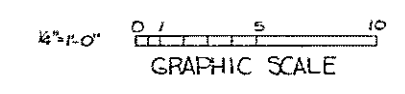




1ST FLOOR PLAN



SECTION 2



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE HOLDING TANKS, F.N.-9
 MECHANICAL PROCESS
 FIRST FLOOR PLAN.

SCALE: AS NOTED FEBRUARY 1983
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

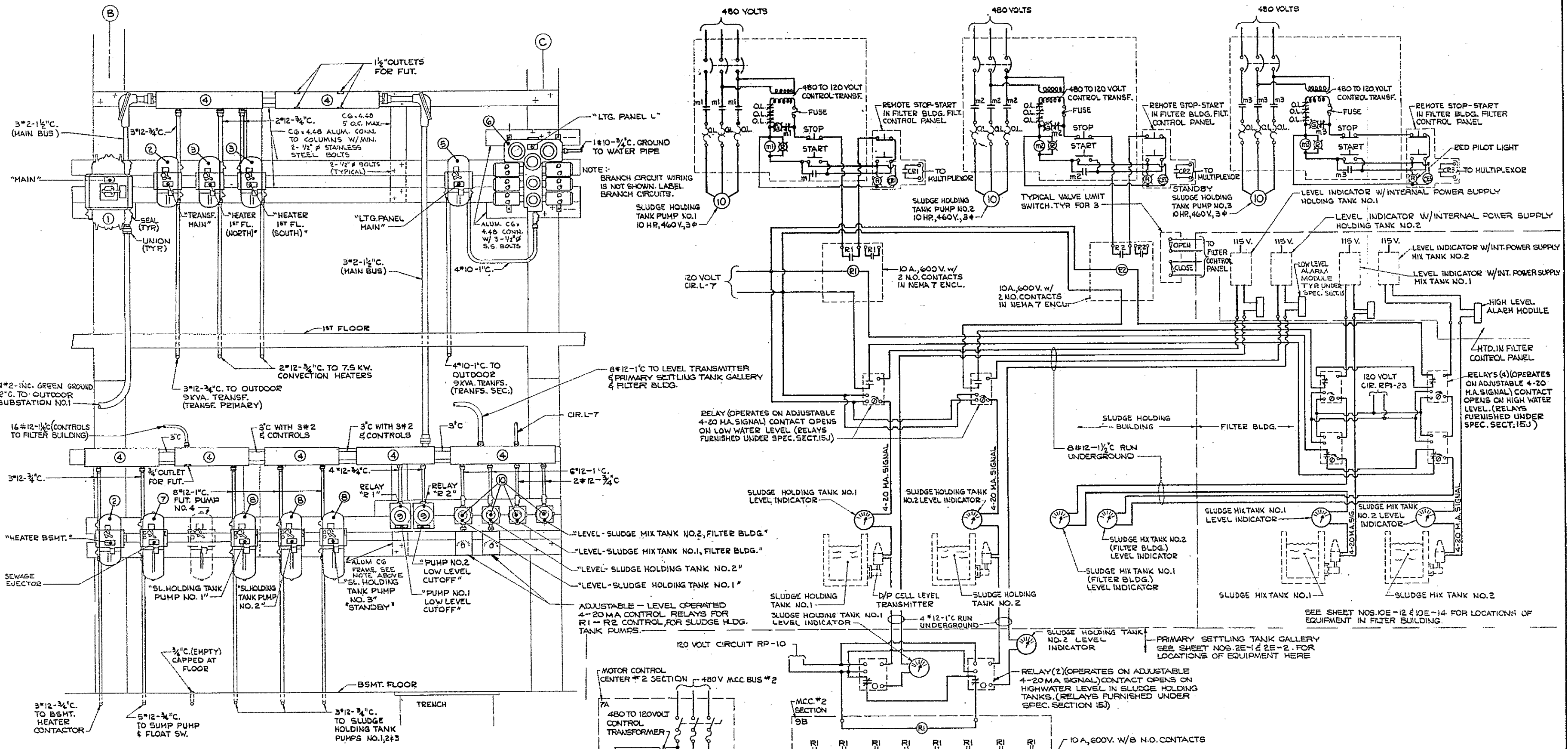
DES. P.A.P.	TR. G.W. R.Y.S.	PLN. JW-83
DR. J.L.M.		NO. 103

APPROVED *E.M. Cahaly*
 CONTRACT DRAWING SHEET NO. 9M-2



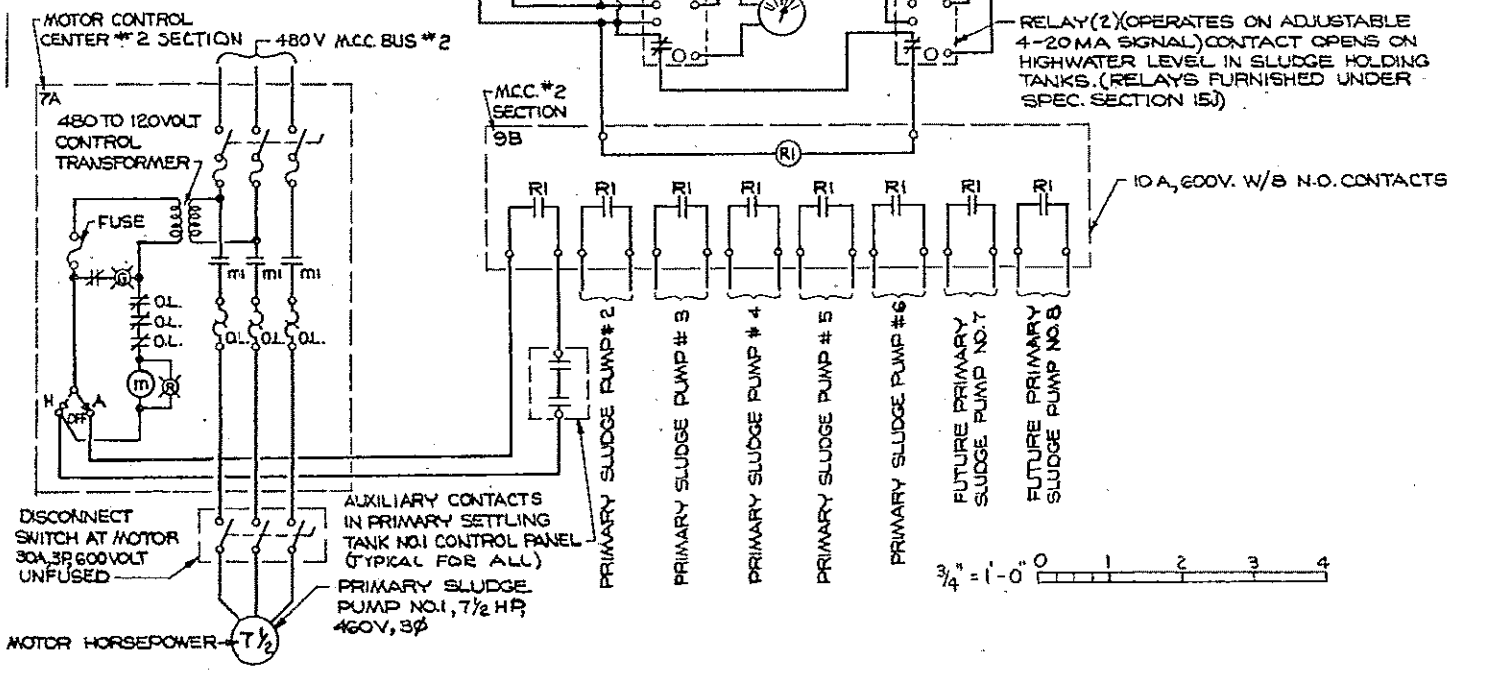
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY

250-NEXT TO APRIL 1973.



ITEM NO.	DESCRIPTION
1	225 AMP, 3 POLE, 600 V. "KA" CIR. BRK. W/125 AMP. TRIP IN NEMA 7 ENCL. W/SCREEN DOVE TYPE COVERS TOP AND BOTTOM.
2	100 AMP, 3 POLE, 600 V. "FB" CIR. BRK. W/20 AMP. TRIP W/ENCL. SAME AS (1)
3	100 AMP, 2 POLE, 600 V. "FB" CIR. BRK. W/20 AMP. TRIP W/ENCL. SAME AS (1)
4	CABLE BUS (OUTTER) BOX, NEMA 7
5	100 AMP, 3 POLE, 600 V. "FB" CIR. BRK. W/30 AMP. TRIP W/ENCL. SAME AS (1)
6	CIRCUIT BREAKER PANELBOARD (LIGHTING PANEL "L") 12 CIRCUIT, 120/208 V., 3 φ, 1" W. W/THREADED COVERS TO ALL TERMINALS. CIR. BRKS. FACTORY WIEED TO TERMINALS AND INDIVIDUAL BRK. HOUSINGS FACTORY SEALED
7	CONB. AIR. CIR. BRK. TYPE MAGNETIC MOTOR STARTER NEMA SIZE 1 W/3 OVERLOADS AND CONTROL TRANSFORMER IN NEMA 7 ENCL. W/SCREEN DOVE TYPE COVERS TOP AND BOTTOM
8	CONB. AIR. CIR. BRK. TYPE MAGNETIC MOTOR STARTER NEMA SIZE 1 W/3 OVERLOADS, CONTROL TRANSFORMER, STOP-START PUSHBUTTONS AND EXTRA N.D. CONTACT IN ENCL. SAME AS (7)
9	RELAY (R1) 10 AMP, 600 V. W/2 N.O. CONTACTS IN NEMA 7 ENCL.
10	LEVEL INDICATORS FURNISHED UNDER SPEC. SECT. NO. 15J

NOTE: FURNISH NAMEPLATES - BLACK WITH WHITE ENGRAVED LETTERS FOR THE ABOVE EQUIPMENT PER NOMENCLATURE OF ELEVATION.



PRIMARY SLUDGE CONTROL WIRING DIAGRAM
SCALE: NONE

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



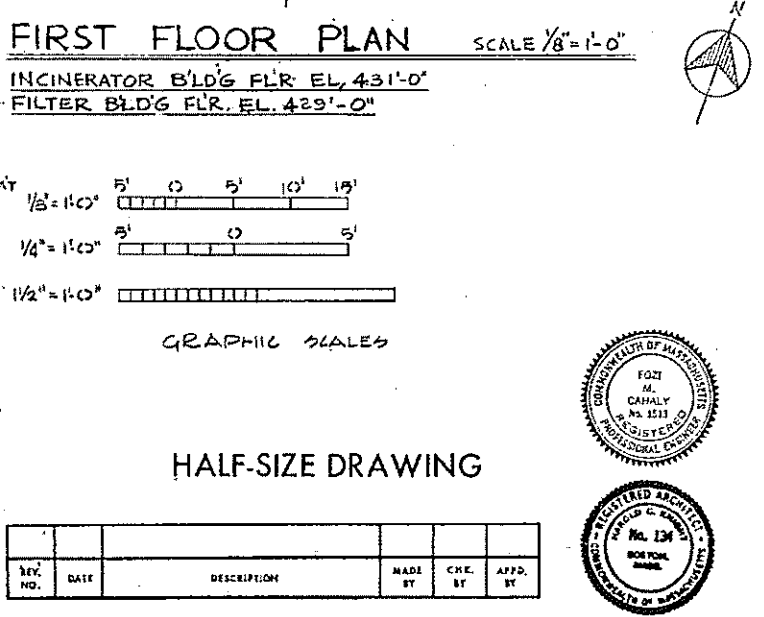
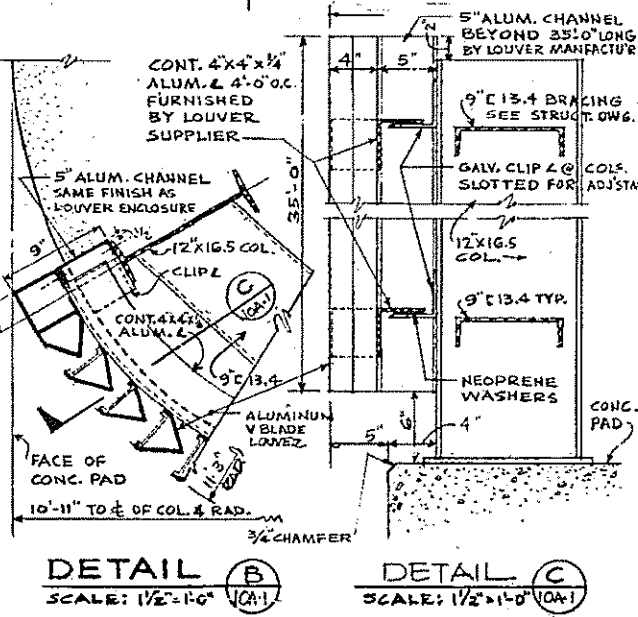
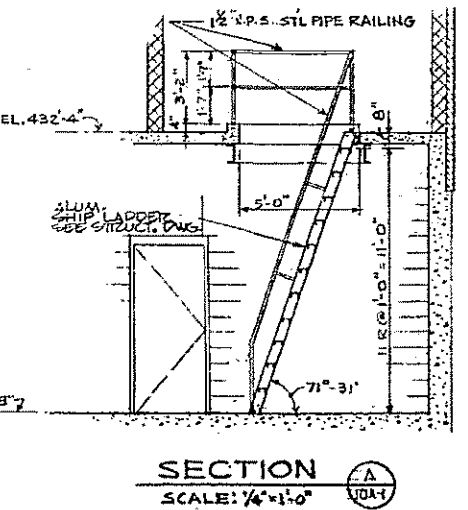
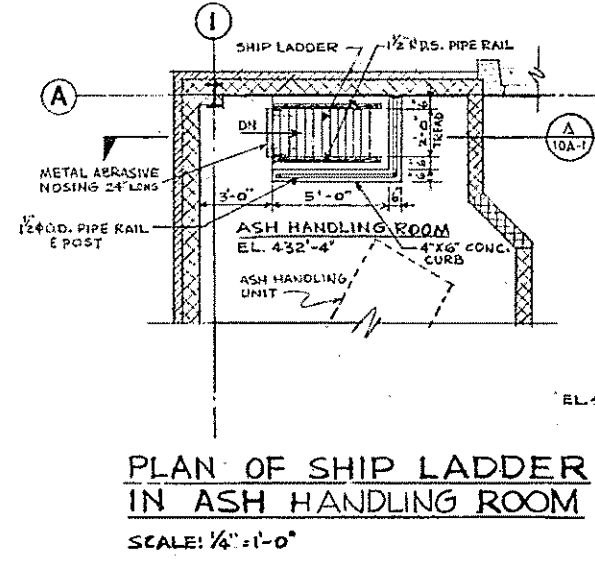
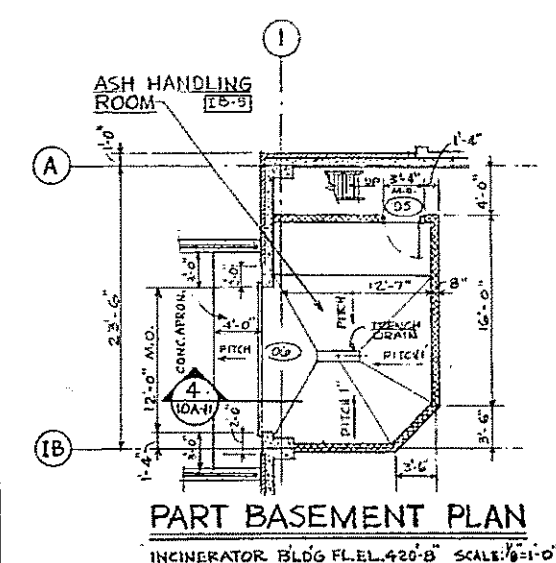
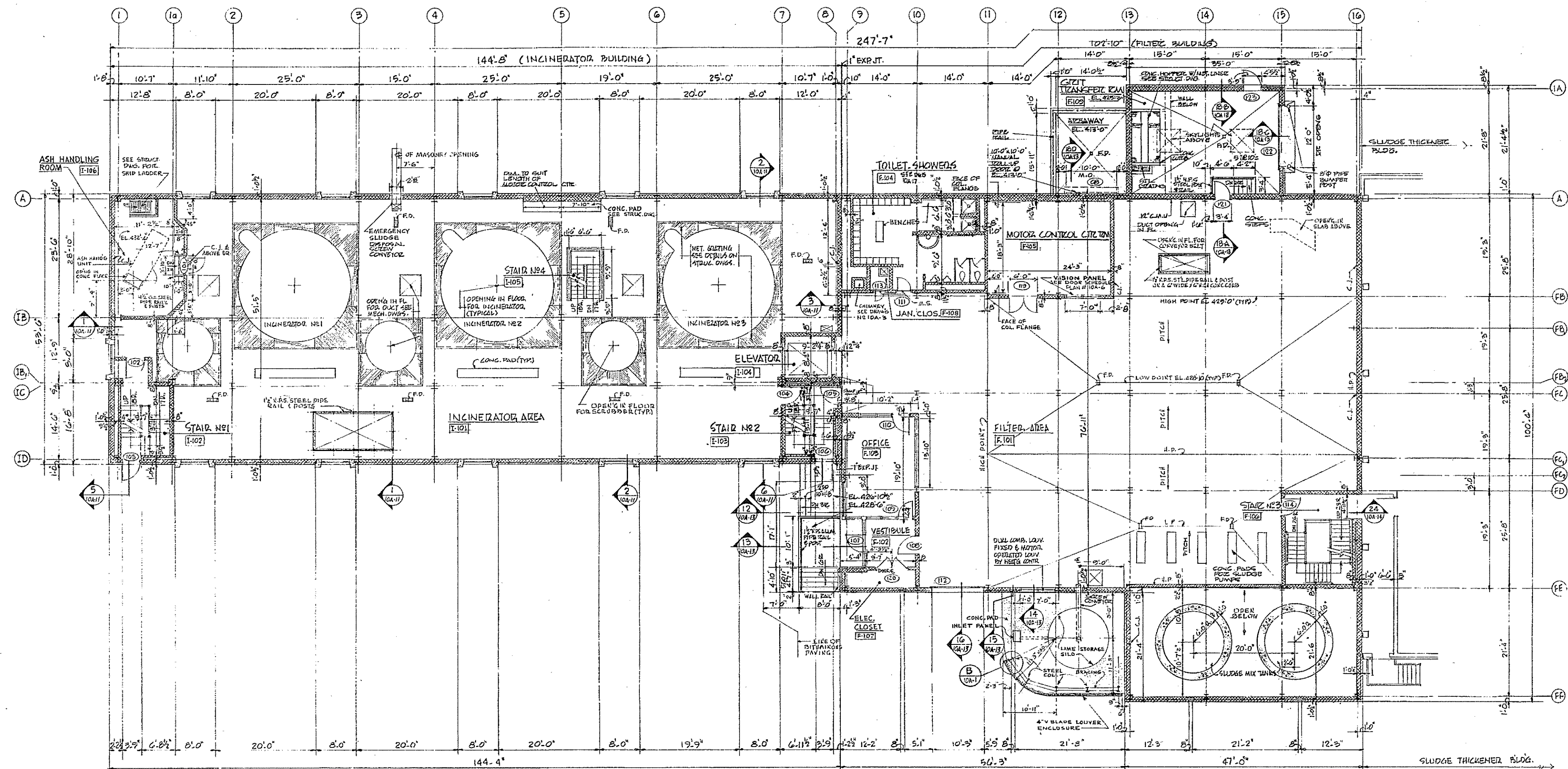
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE HOLDING TANKS, F.N.-9
ELECTRICAL

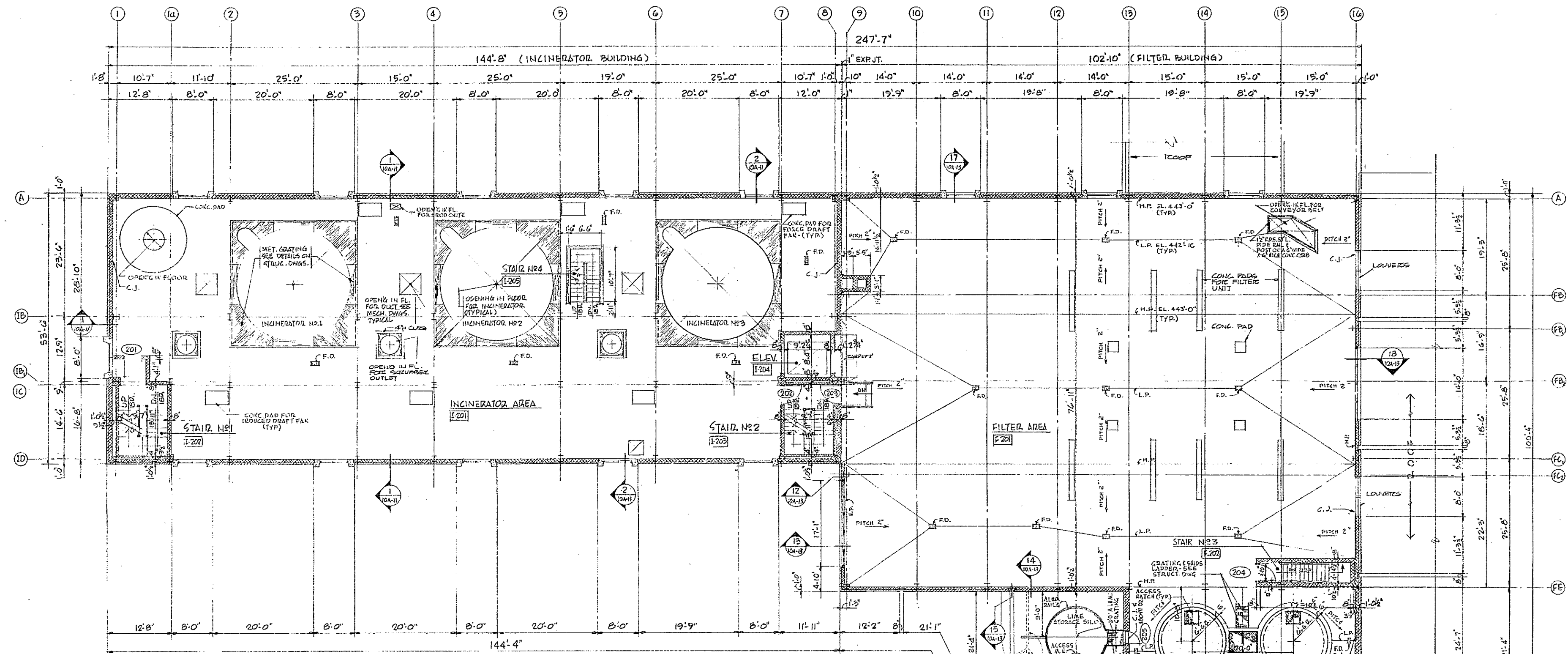
WIRING DIAGRAMS AND DETAILS

SCALE: AS NOTED
APPROVED: *F. M. Cahaly*
DATE: JAN 1973
DRAWN: JW-83
CHECKED: T. J. B.
PROJECT NO.: 105

CONTRACT DRAWING SHEET NO. 9E-2



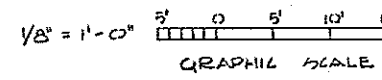
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. - 10
ARCHITECTURAL
FIRST FLOOR PLAN
INCINERATOR BUILDING AND FILTER BUILDING
SCALE: AS NOTED
FEBRUARY, 1973
FAY SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
SMIGHT, BAGGE & ANDERSON ARCHITECTS, BOSTON, MASS.
DESIGNED BY: [Signature]
CHECKED BY: [Signature]
DATE: [Signature]
APPROVED BY: [Signature]
CONTRACT DRAWING SHEET NO. 10A-1



ROOM FINISH SCHEDULE																						
BLDG.	Rm No.	DESIGNATION	FLOOR	WALLS	PAINT	WAINST	BASE	CEIL.	HT.	REMARKS	BLDG.	Rm No.	DESIGNATION	FLOOR	WALLS	PAINT	WAINST	BASE	CEIL.	HT.	REMARKS	
																						MAT.
INCINERATOR	I-901	INCIN. AREA	CONC.	CONC.				EXP. CONST.		STEEL GRATING & F.L.	FILTER	F-901	INCIN. AREA	CONC.	CONC.				EXP. CONST.			STEEL GRATING & F.L.
	I-902	STAIR NO. 1	CONC.	CONC.				EXP. CONST.		GRAND FILLED TREADS & INTERMEDIATE LANDING		F-902	STAIR NO. 1	CONC.	CONC.				EXP. CONST.			GRAND FILLED TREADS & INTERMEDIATE LANDING
	I-903	OIL TANK	CONC.	CONC.				EXP. CONST.		GRAND FILLED TREADS & INTERMEDIATE LANDING		F-903	STAIR NO. 2	CONC.	CONC.				EXP. CONST.			GRAND FILLED TREADS & INTERMEDIATE LANDING
	I-904	OIL TANK	CONC.	CONC.				EXP. CONST.		GRAND FILLED TREADS & INTERMEDIATE LANDING		F-904	ELEVATOR	C.M.U.					EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING
	I-905	OIL TANK	CONC.	CONC.				EXP. CONST.		GRAND FILLED TREADS & INTERMEDIATE LANDING		F-905	STAIR NO. 4	CONC.	CONC.				EXP. CONST.			GRAND FILLED TREADS & INTERMEDIATE LANDING
	I-906	STAIR NO. 2	CONC.	CONC.				EXP. CONST.		GRAND FILLED TREADS & INTERMEDIATE LANDING		F-401	STAIR NO. 2	CONC.	CONC.				EXP. CONST.			GRAND FILLED TREADS & INTERMEDIATE LANDING
	I-907	ELEVATOR	C.M.U.					EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING		F-402	ELEVATOR	C.M.U.					EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING
	I-908	STAIR NO. 4	CONC.	CONC.				EXP. CONST.		STEEL GRATING & F.L.		F-101	INCIN. AREA	CONC.	CONC.				EXP. CONST.			STEEL GRATING & F.L.
	I-101	INCIN. AREA	CONC.	CONC.				EXP. CONST.		STEEL GRATING & F.L.		F-102	STAIR NO. 1	CONC.	CONC.				EXP. CONST.			GRAND FILLED TREADS & INTERMEDIATE LANDING
	I-102	STAIR NO. 1	CONC.	CONC.				EXP. CONST.		GRAND FILLED TREADS & INTERMEDIATE LANDING		F-103	STAIR NO. 2	CONC.	CONC.				EXP. CONST.			GRAND FILLED TREADS & INTERMEDIATE LANDING
SLUDGE TREATMENT	F-201	FILTER AREA	CONC.	CONC.				EXP. CONST.		GRAND FILLED TREADS & INTERMEDIATE LANDING	F-201	FILTER AREA	CONC.	CONC.				EXP. CONST.			GRAND FILLED TREADS & INTERMEDIATE LANDING	
	F-202	STAIR NO. 3	CONC.	CONC.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-202	STAIR NO. 3	CONC.	CONC.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-103	OFFICE	V.A.T.	C.M.U.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-103	OFFICE	V.A.T.	C.M.U.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-104	TOILET	C.T.	C.M.U.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-104	TOILET	C.T.	C.M.U.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-105	MOTOR CONTROL CENTER	CONC.	CONC.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-105	MOTOR CONTROL CENTER	CONC.	CONC.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-106	STAIR NO. 3	CONC.	CONC.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-106	STAIR NO. 3	CONC.	CONC.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-107	ELEC. CLOS.	C.T.	C.M.U.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-107	ELEC. CLOS.	C.T.	C.M.U.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-108	JAN. CLOS.	C.T.	C.M.U.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-108	JAN. CLOS.	C.T.	C.M.U.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-109	SLUDGE TREATMENT AREA	CONC.	CONC.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-109	SLUDGE TREATMENT AREA	CONC.	CONC.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	
	F-110	PASSAGE	CONC.	CONC.				EXP. CONST.		STEEL GRATING TREADS & INTERMEDIATE LANDING	F-110	PASSAGE	CONC.	CONC.				EXP. CONST.			STEEL GRATING TREADS & INTERMEDIATE LANDING	

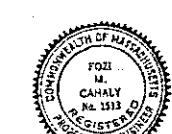
SECOND FLOOR PLAN SCALE 1/8"=1'-0"
 (INCINERATOR BLDG FL. EL. 442'-0")
 (FILTER BLDG FL. EL. 443'-0")

NOTE: FOR LIST OF ABBREVIATIONS SEE DWG 10A-3

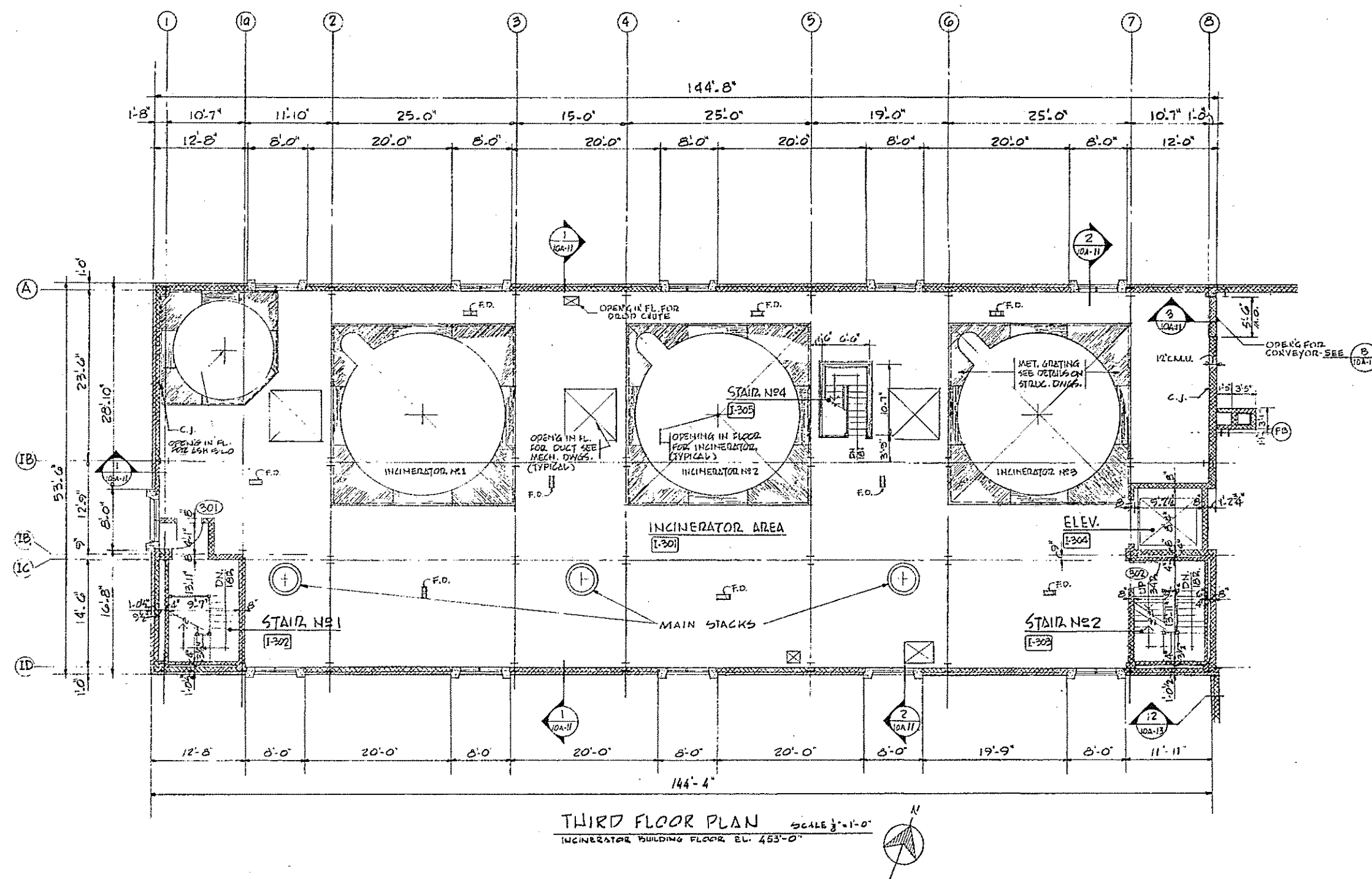


HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ARCHITECTURAL
SECOND FLOOR PLAN
 INCINERATOR BUILDING AND FILTER BUILDING
 SCALE: AS NOTED FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON ARCHITECTS, BOSTON, MASS.
 DES. BY J.M.C. FR. J.P.N. CHK. J.W.-83
 APPROVED J. M. Cahaly
 CONTRACT DRAWING SHEET NO. 10A-2



THIRD FLOOR PLAN SCALE 3/8"=1'-0"
INCINERATOR BUILDING FLOOR EL. 453'-0"

LIST OF ABBREVIATIONS:

A.B.	ANCHOR BOLT
A.C.	AIR CONDITIONING
ACT	ACOUSTIC TILE
ADJ.	ADJUSTABLE
ALUM.	ALUMINUM
BLK.	BLOCKING
PMNT.	BASEMENT
CL.	CLOSET
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
C.T.	CERAMIC TILE
CONC.	CONCRETE
C.J.	CONTROL JOINT
DET.	DETAIL
D.F.	DRINKING FOUNTAIN
DIAM.	DIAMETER
DIM.	DIAMENSION

EL. or ELEV.	ELEVATION
E.P.	ELECTRIC PANEL
E.W.C.	ELECTRIC WATER COOLER
EXP.	EXPANSION
EXPO.	EXPOSED
F.T.R.	FIN TUBE RADIATOR
F.D.	FLOOR DRAIN
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
FIN.	FINISH or FINISHED
GL.	GLASS
GRANO.	GRANOLITHIC
GA.	GAUGE
GALV.	GALVANIZED
H.M.	HOLLOW METAL
H.P.	HIGH POINT
J.T.	JOINT
L.C.C.	LEAD COATED COPPER
L.P.	LOW POINT

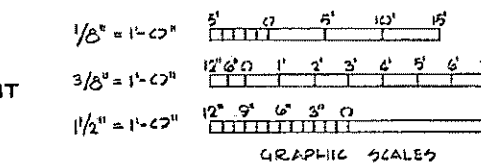
M.S.	METAL STRIP
M.A.	METALLIC AGGREGATE
MET.	METAL
M.O.	MASONRY OPENING
MONO.	MONOLITHIC
N.I.C.	NOT IN CONTRACT
N.P.S.	NOMINAL PIPE SIZE
P.C.	PLAIN CONCRETE
PL.	PLATE
PLS.	PLASTER
P.R.V.	POWER ROOF VENT
R.	RISER
R.B.	RUBBER BASE
R.D.	ROOF DRAIN
T.	TREAD
T.C.	TOP OF CONCRETE
TK.	THICKNESS
TYP.	TYPICAL
U.E.	UNIT EXHAUSTER
U.V.	UNIT VENTILATOR
V.A.T.	VINYL ASBESTOS TILE
W.C.	WATER COOLER
WD.	WOOD
W.D.	WINDOW DIMENSION

SYMBOLS:

(Circle with horizontal line)	NUMBER OF DETAIL OR SECTION
(Circle with vertical line)	SHEET NO. WHERE DETAIL IS DRAWN
(Circle with dot)	DOOR NUMBER
(Square with dot)	ROOM NUMBER
(Hexagon with dot)	WINDOW NUMBER

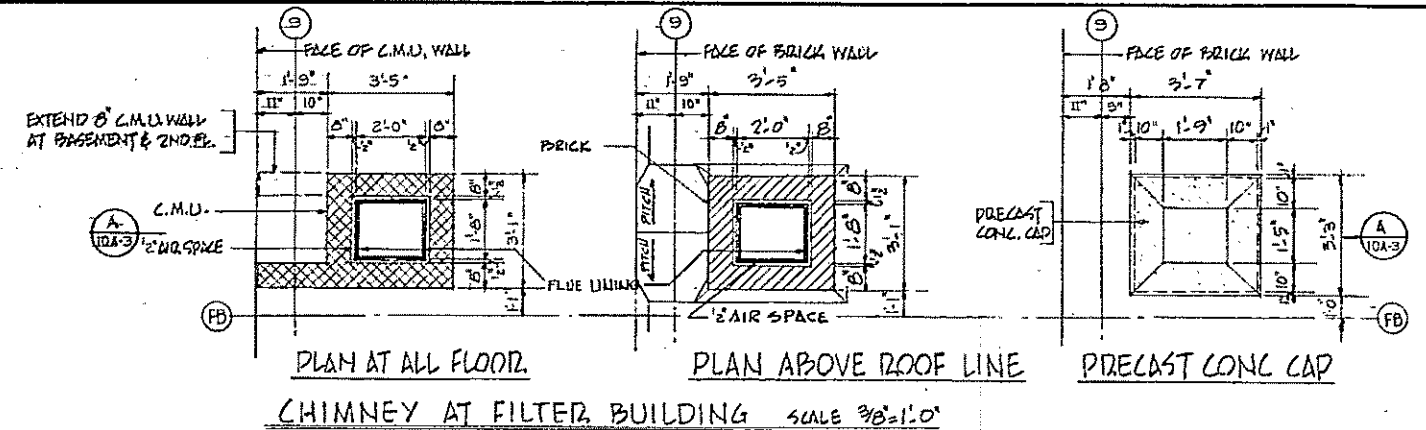
MATERIALS:

(Stippled pattern)	CONCRETE
(Cross-hatched pattern)	CONCRETE MASONRY UNIT
(Diagonal lines)	BRICK
(Wavy lines)	INSULATION

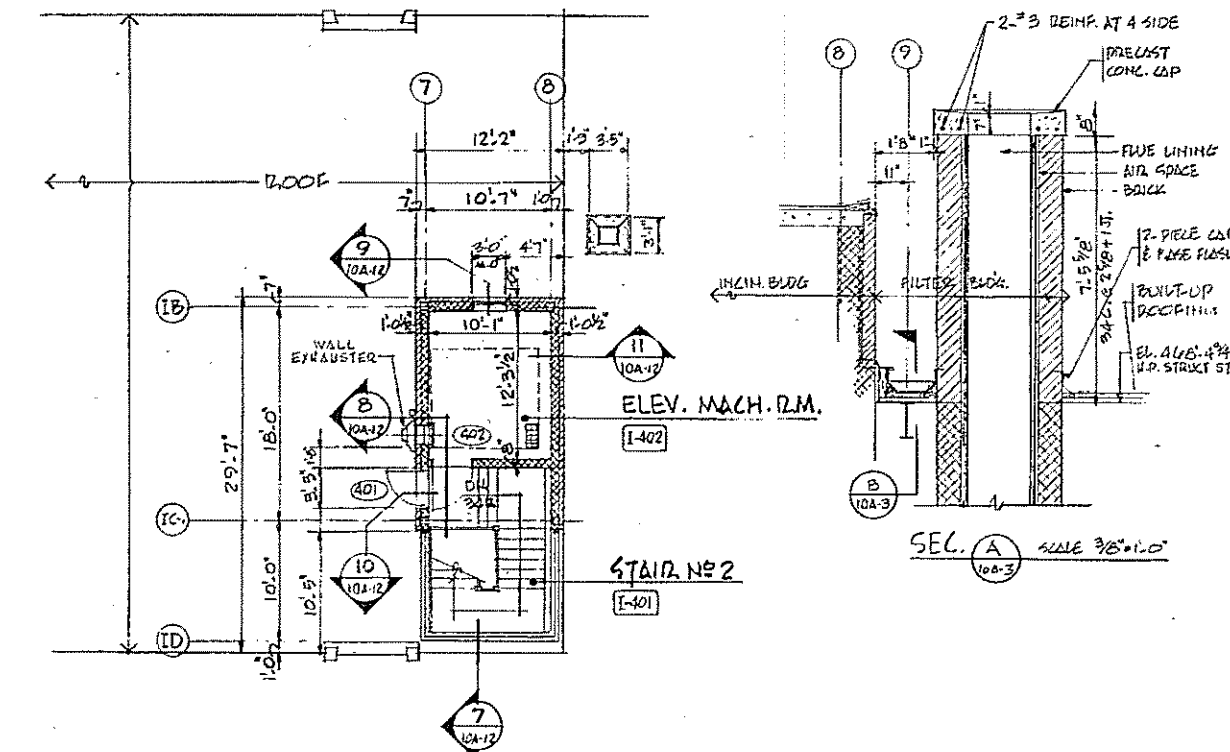


HALF-SIZE DRAWING

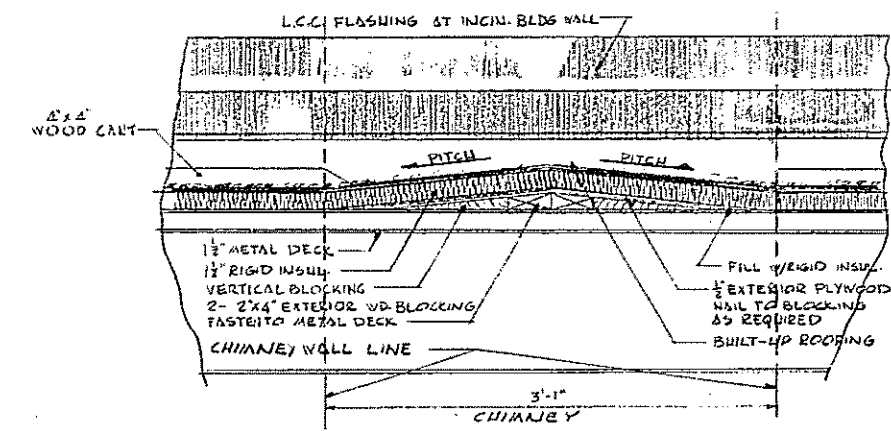
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



CHIMNEY AT FILTERED BUILDING SCALE 3/8"=1'-0"



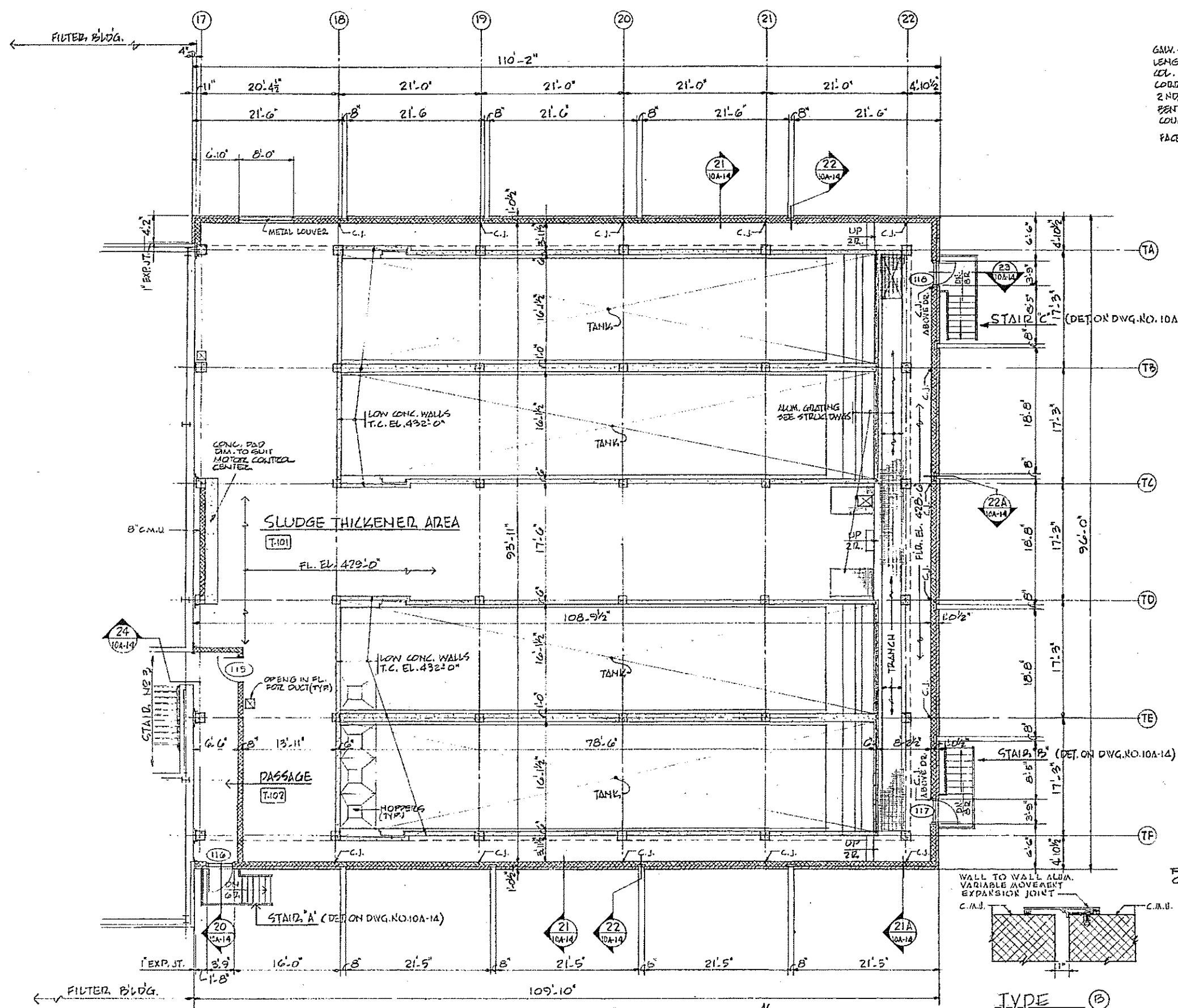
PENTHOUSE FLOOR PLAN SCALE 3/8"=1'-0"
INCINERATOR BUILDING FLOOR EL. 473'-0"



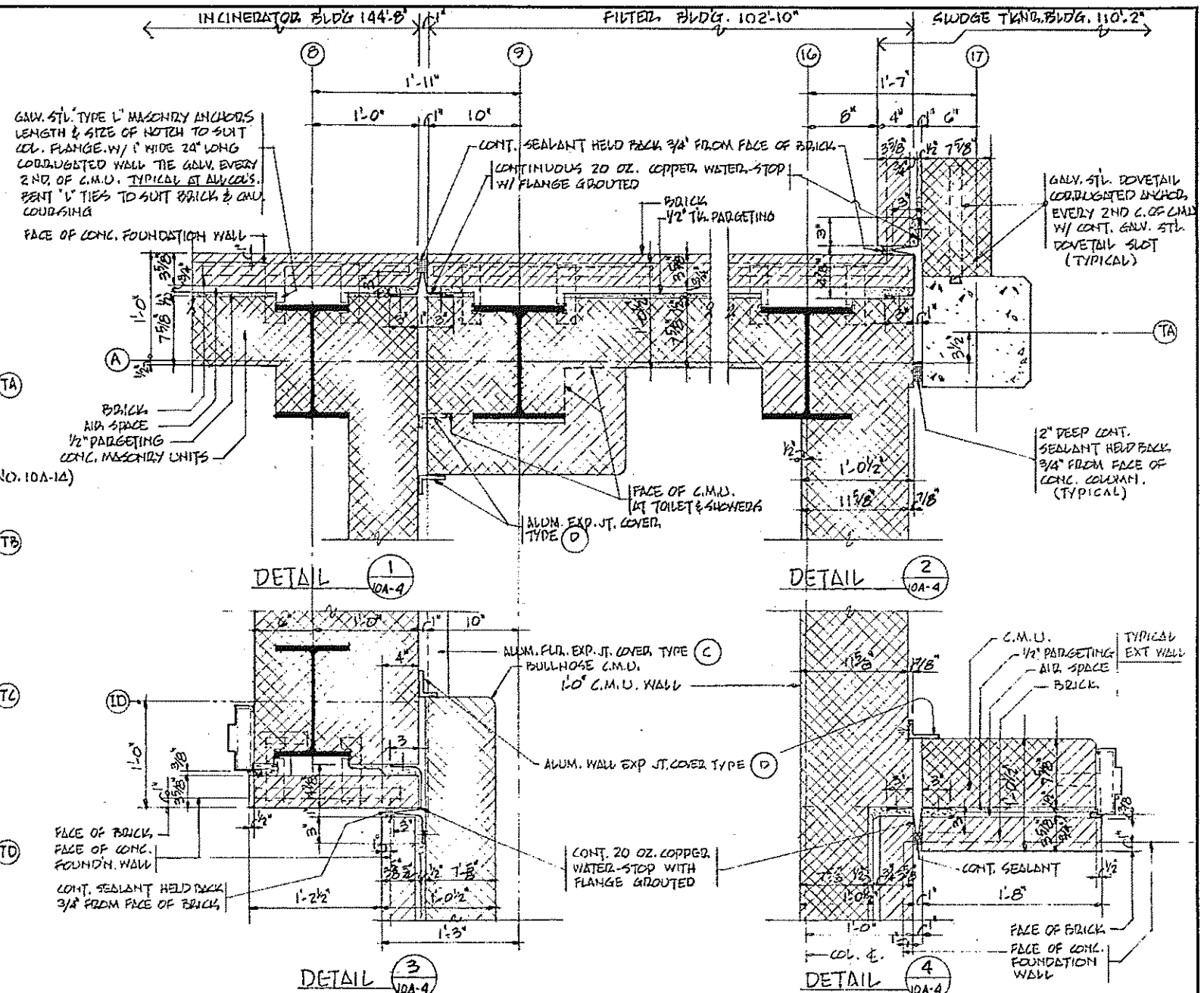
DETAIL B SCALE 1 1/2"=1'-0"



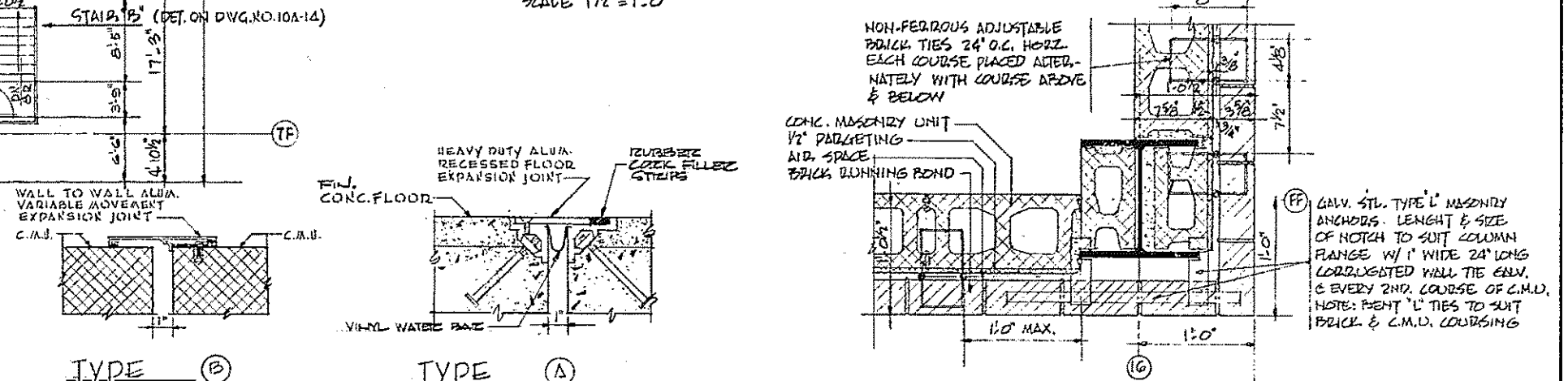
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ARCHITECTURAL
THIRD FLOOR PLAN
INCINERATOR BUILDING
SCALE: AS NOTED FEBRUARY, 1975
FRY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
DES. PRG. BY: M.J.A. CHK. BY: P.H.L. DATE: JW-83
APPROVED BY: J.W. Cahill DATE: 108
CONTRACT DRAWING SHEET NO. 10A-3



FIRST FLOOR PLAN SCALE: 1/8" = 1'-0"
 SLUDGE THICKENER BLDG. FL. EL. 429'-0"



TYPICAL PLAN DETAILS OF EXPANSION JOINTS AT EXTERIOR WALLS
 SCALE 1/2" = 1'-0"

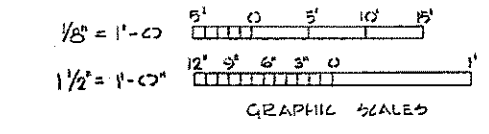


TYPICAL EXPANSION JOINT DETAILS
 SCALE: 3" = 1'-0"

TYPE E
 FOR DET. & LOCATION
 SEE DWG. 10A-15

TYPE D
 USE THE ABOVE EXPANSION JOINT
 COVERS IN THE FOLLOWING AREAS: F101 F101 F101 F101 F101 F101 F101 F101 F101 F101

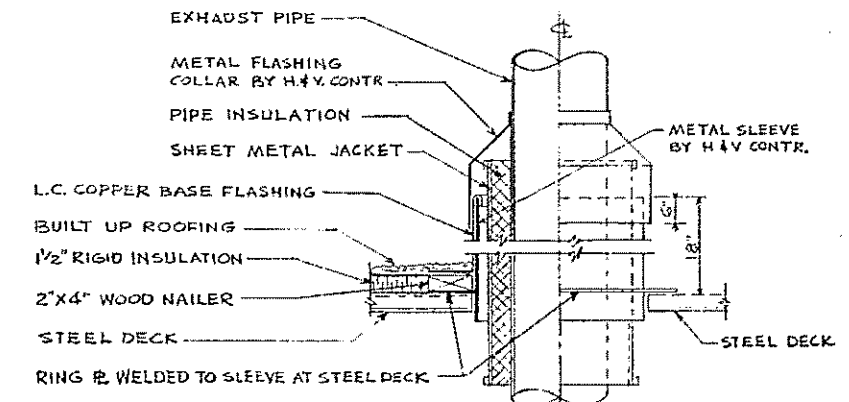
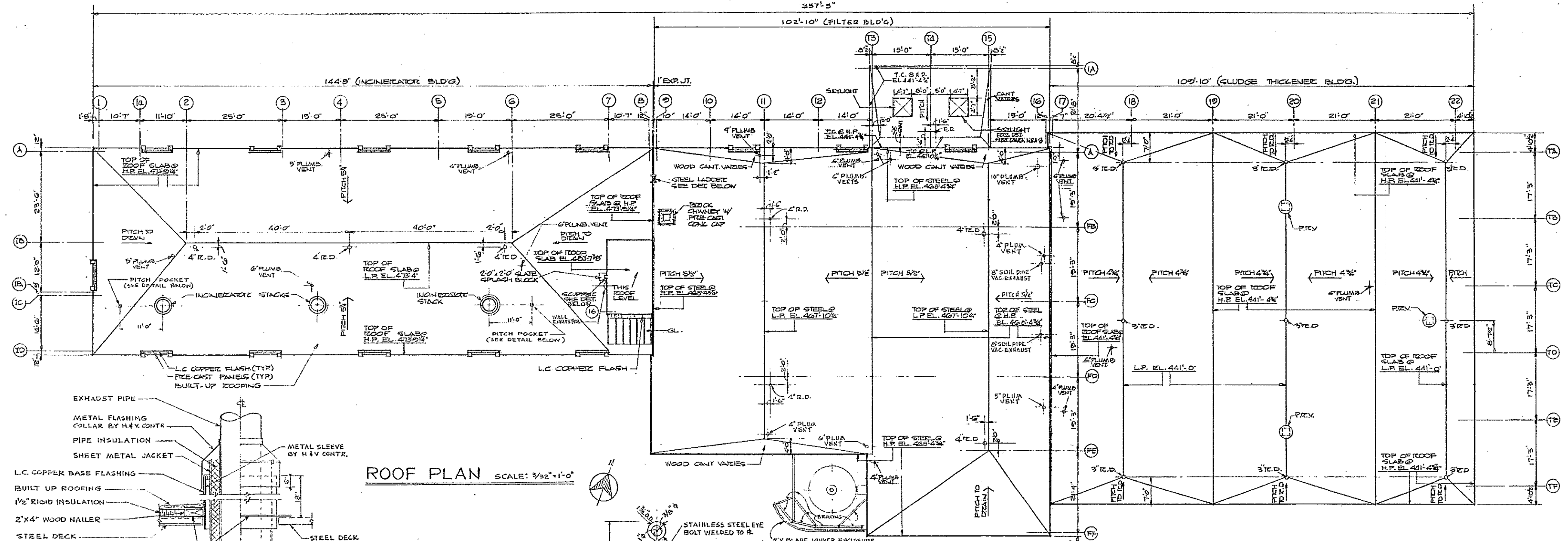
TYPE C
 USE THE ABOVE EXPANSION JOINT
 COVERS IN THE FOLLOWING AREAS: F101 F101 F101 F101 F101 F101 F101 F101 F101 F101



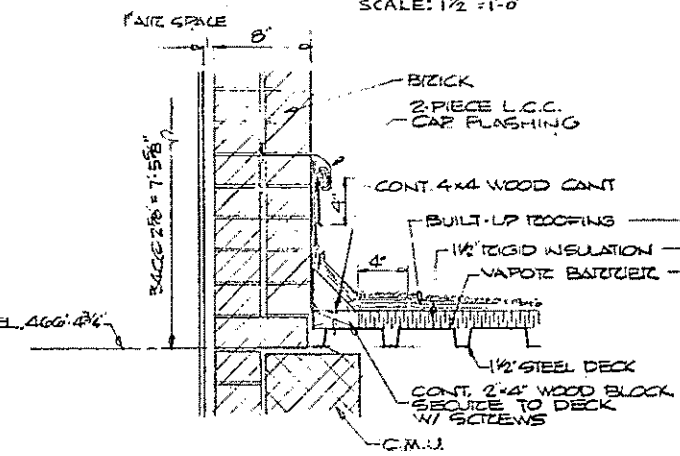
HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

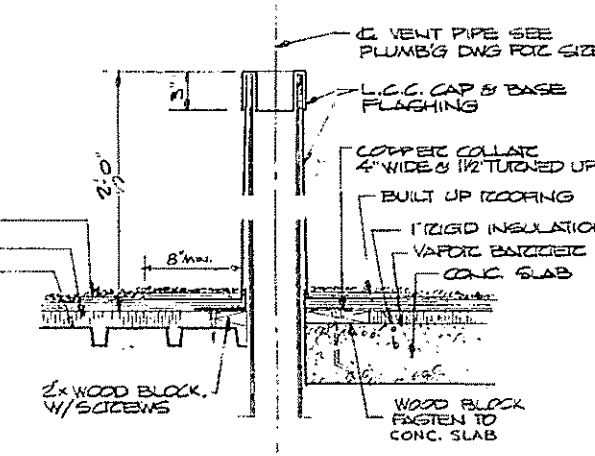
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX F.N. - 10
 ARCHITECTURAL
 FIRST FLOOR PLAN
 SLUDGE THICKENER BUILDING
 SCALE: AS NOTED FEBRUARY, 1975
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
 DES. BY DR. RJA TR. CHG. FNL FILE NO. JW-83
 APPROVED J.M. Cahaly SEAL NO. 134 CONTRACT DRAWING SHEET NO. 10A-4



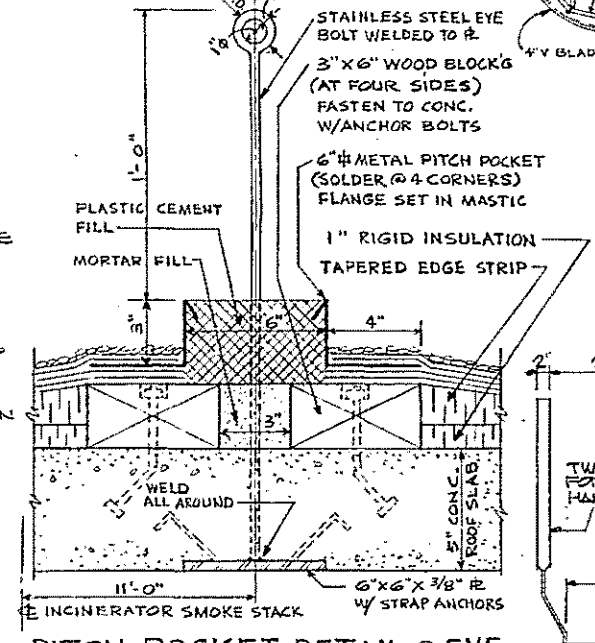
EXHAUST PIPE DETAIL AT FILTER BLDG
SCALE: 1/2" = 1'-0"



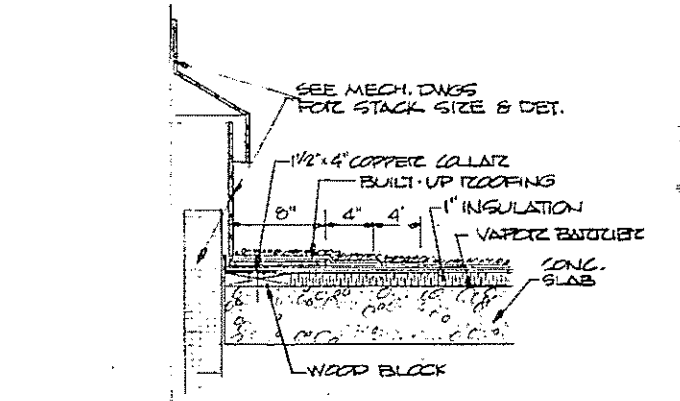
CHIMNEY @ ROOF
SCALE: 1/2" = 1'-0"



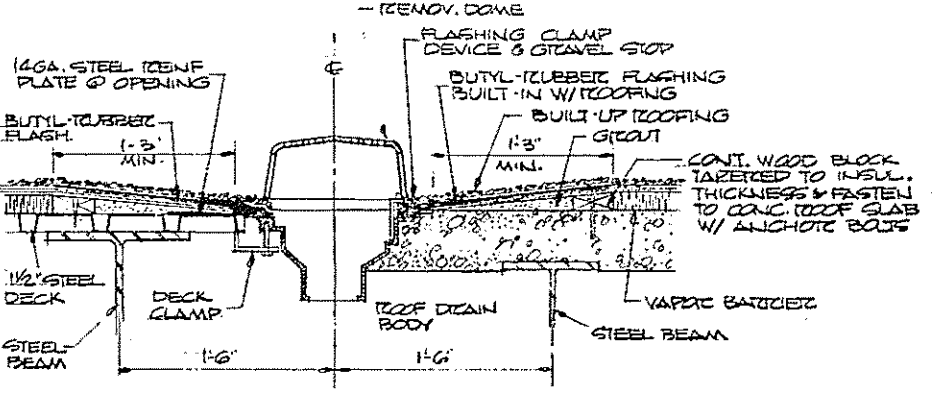
PLUMBING VENT @ ROOF
SCALE: 1/2" = 1'-0"



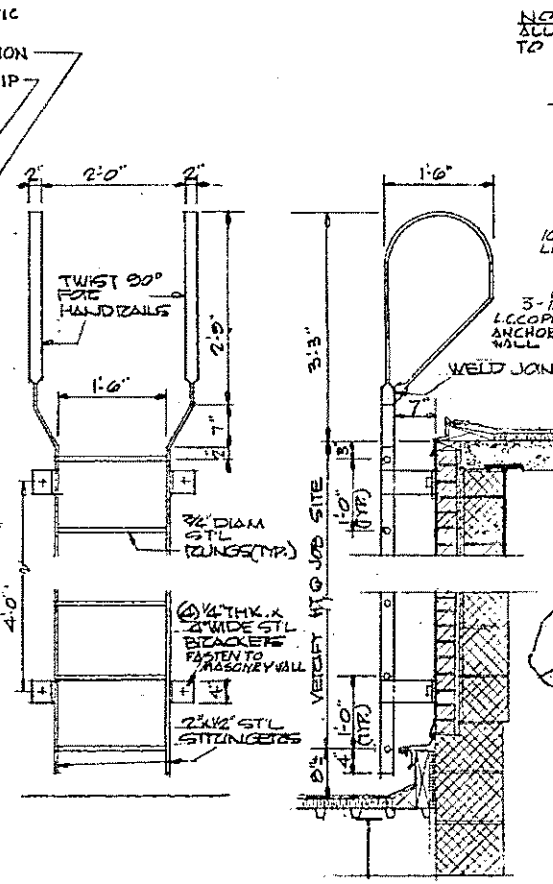
PITCH POCKET DETAIL @ EYE BOLTS FOR OBSTRUCTION LIGHTS
SCALE: 3/32" = 1'-0"



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

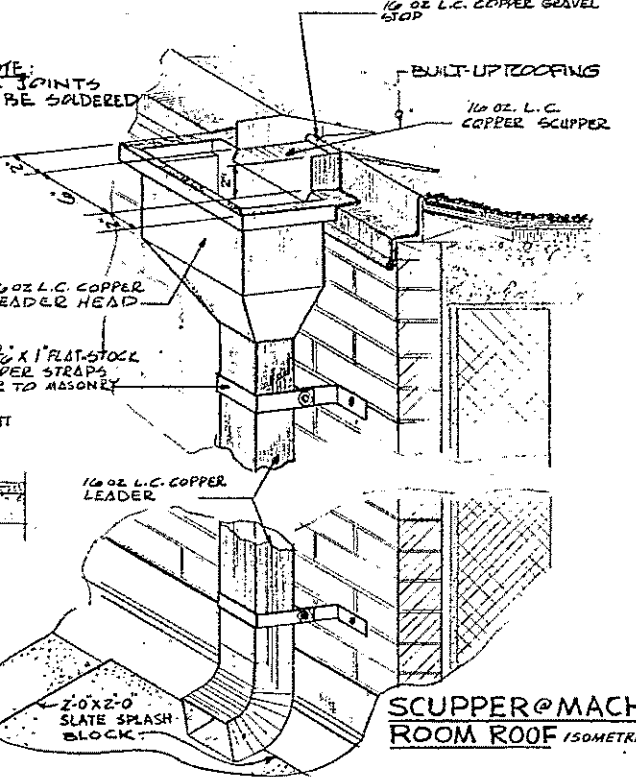


ROOF DRAIN @ STEEL DECK OR CONC. SLAB
SCALE: 1/2" = 1'-0"



ELEV. SECT.

ROOF LADDER 1.2.20
SCALE: 3/4" = 1'-0"



SCUPPER @ MACH. ROOM ROOF ISOMETRIC



GRAPHIC SCALES

HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N.-10
ARCHITECTURAL

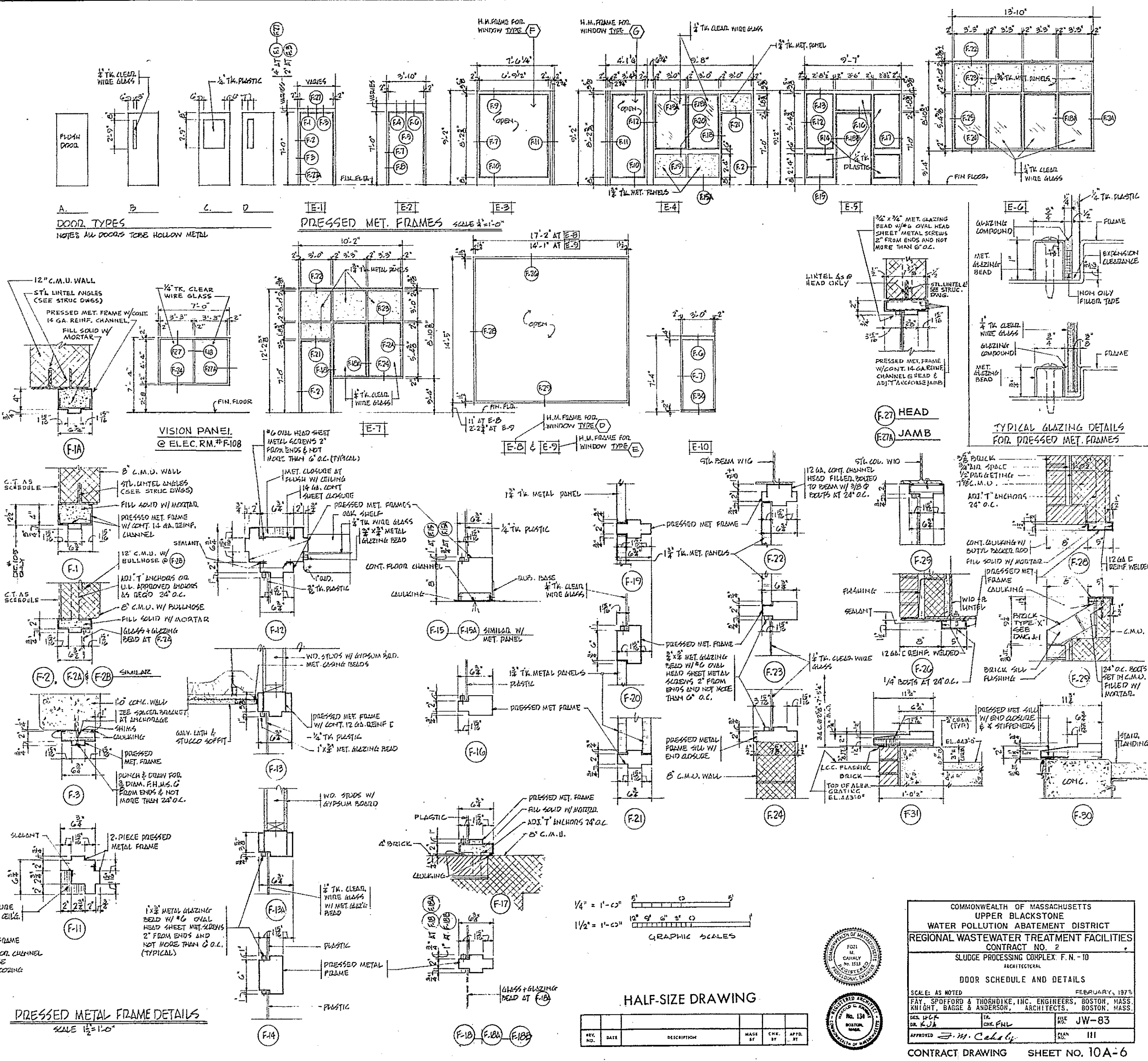
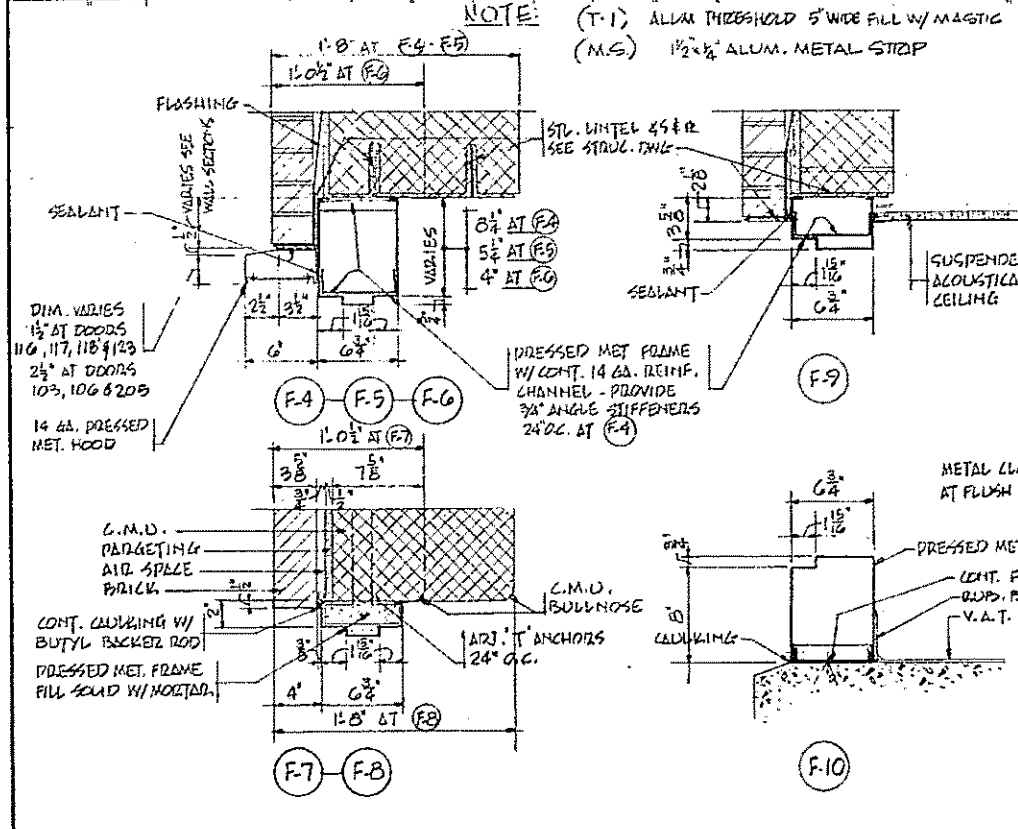
SCALE: AS NOTED FEBRUARY, 1975
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. H.C.K. IN. CH. F.J.L. FILE NO. JW-83
DR. F.J.L. CH. F.J.L. CHK. F.J.L. PLOT NO. 110

APPROVED *F.M. Cahaly*

CONTRACT DRAWING SHEET NO 10A-5

DOOR SCHEDULE										
LOCATION	NO.	SIZE	TYPE	HOW.	TYPE	FRAME	HEAD	JAMB	SILL	REMARKS
SEE SCHEDULE	001	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	002	3'-0" x 7'-0" x 1 3/4"	A	17	E-1	F-3	F-3		A	
SEE SCHEDULE	003	3'-0" x 7'-0" x 1 3/4"	A	10A	E-1	F-3	F-3		A	
SEE SCHEDULE	004	3'-0" x 7'-0" x 1 3/4"	A	10A	E-1	F-3	F-3		A	
SEE SCHEDULE	005	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	08	SEE WALL SECTION								METAL ROLL-UP DOOR
SEE SCHEDULE	01	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	02	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	03	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-3	F-3		B	
SEE SCHEDULE	04	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	05	3'-0" x 7'-0" x 1 3/4"	A		E-1	F-1	F-2			
SEE SCHEDULE	06	SEE WALL SECTION								METAL ROLL-UP DOOR
SEE SCHEDULE	07	2'-3" x 7'-0" x 1 3/4"	A	12A	E-1	F-1	F-2		A	
SEE SCHEDULE	101	3'-0" x 7'-0" x 1 3/4"	A	17	E-1	F-1	F-2			
SEE SCHEDULE	102	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	103	3'-6" x 7'-0" x 1 3/4"	C	1A	E-2	F-5	F-8	T-1		W/ PRESSED METAL HOOD
SEE SCHEDULE	104	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	105	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	106	3'-6" x 7'-0" x 1 3/4"	C	1A	E-2	F-4	F-8	T-1		W/ PRESSED METAL HOOD
SEE SCHEDULE	107	3'-6" x 7'-0" x 1 3/4"	D	19	E-5	F-16	F-18B	T-1		
SEE SCHEDULE	108	3'-6" x 7'-0" x 1 3/4"	A	18	E-1	F-1	F-2			
SEE SCHEDULE	109	3'-0" x 7'-0" x 1 3/4"	A	48	E-4	F-21	F-2, F-18			
SEE SCHEDULE	110	3'-0" x 7'-0" x 1 3/4"	A	48	E-7	F-21	F-2, F-18			
SEE SCHEDULE	111	3'-0" x 7'-0" x 1 3/4"	A	14	E-1	F-1	F-2	M.S.		
SEE SCHEDULE	112	SEE WALL SECTION								METAL ROLL-UP DOOR
SEE SCHEDULE	113	2'-6" x 7'-0" x 1 3/4"	A	8A	E-1	F-1	F-2	M.S.		
SEE SCHEDULE	114	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	115	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	116	3'-6" x 7'-0" x 1 3/4"	C	19	E-2	F-6	F-7	T-1		W/ PRESSED METAL HOOD
SEE SCHEDULE	117	3'-6" x 7'-0" x 1 3/4"	C	19	E-2	F-6	F-7	T-1		W/ PRESSED METAL HOOD
SEE SCHEDULE	118	3'-6" x 7'-0" x 1 3/4"	C	19	E-2	F-6	F-7	T-1		W/ PRESSED METAL HOOD
SEE SCHEDULE	119	2'-3" x 7'-0" x 1 3/4"	C	15	E-1	F-1	F-2			
SEE SCHEDULE	120	2'-3" x 7'-0" x 1 3/4"	A	22	E-1	F-1	F-2			
SEE SCHEDULE	121	3'-0" x 7'-0" x 1 3/4"	C	19	E-1	F-1A	F-2B			
SEE SCHEDULE	122	SEE WALL SECTION								METAL ROLL-UP DOOR
SEE SCHEDULE	123	3'-6" x 7'-0" x 1 3/4"	C	19	E-2	F-6	F-7	T-1		W/ PRESSED MET. HOOD
SEE SCHEDULE	201	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	202	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	203	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	204	3'-6" x 7'-0" x 1 3/4"	B	17	E-1	F-1	F-2		B	
SEE SCHEDULE	205	2'-6" x 7'-0" x 1 3/4"	A	16	E-1	F-6	F-7	F-31		W/ PRESSED METAL HOOD
SEE SCHEDULE	301	3'-6" x 7'-0" x 1 3/4"	D	17	E-1	F-1	F-2		D	
SEE SCHEDULE	302	3'-6" x 7'-0" x 1 3/4"	D	17	E-1	F-1	F-2		D	
SEE SCHEDULE	401	3'-0" x 6'-10" x 1 3/4"	A	20	E-10	F-6	F-7	F-30		
SEE SCHEDULE	402	3'-0" x 7'-0" x 1 3/4"	A	21	E-1	F-1	F-2		D	



PRESSED METAL FRAME DETAILS
SCALE 1/2" = 1'-0"

HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APTD. BY

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX F.N. - 10
ARCHITECTURAL

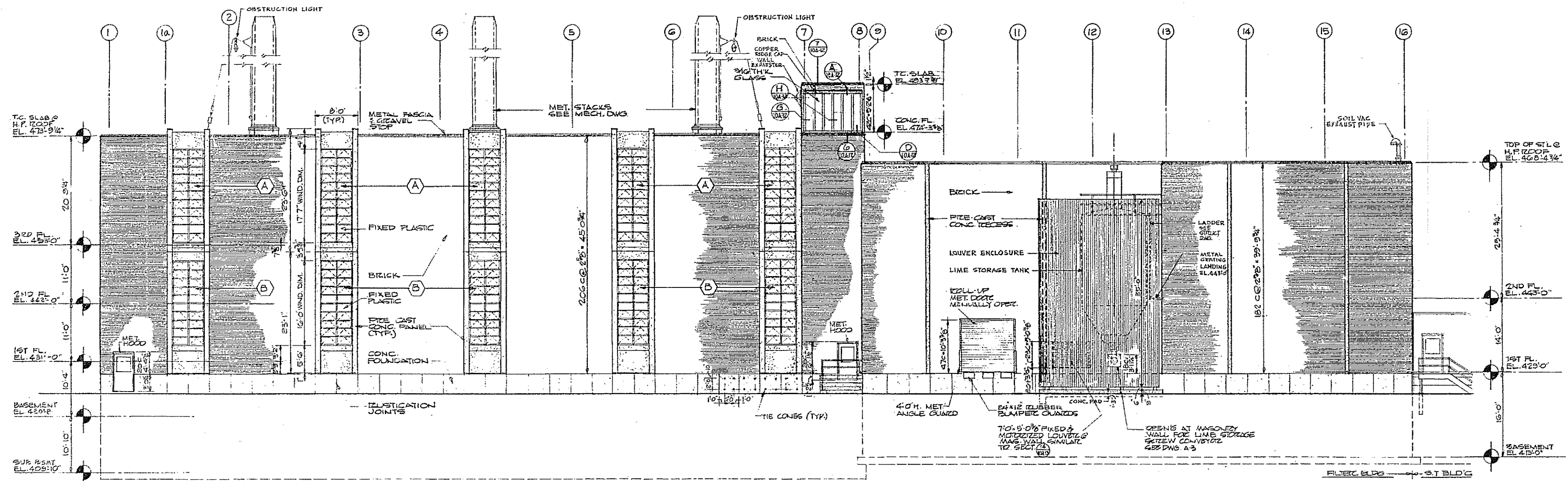
DOOR SCHEDULE AND DETAILS

SCALE: AS NOTED FEBRUARY, 1975
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KING, BARGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

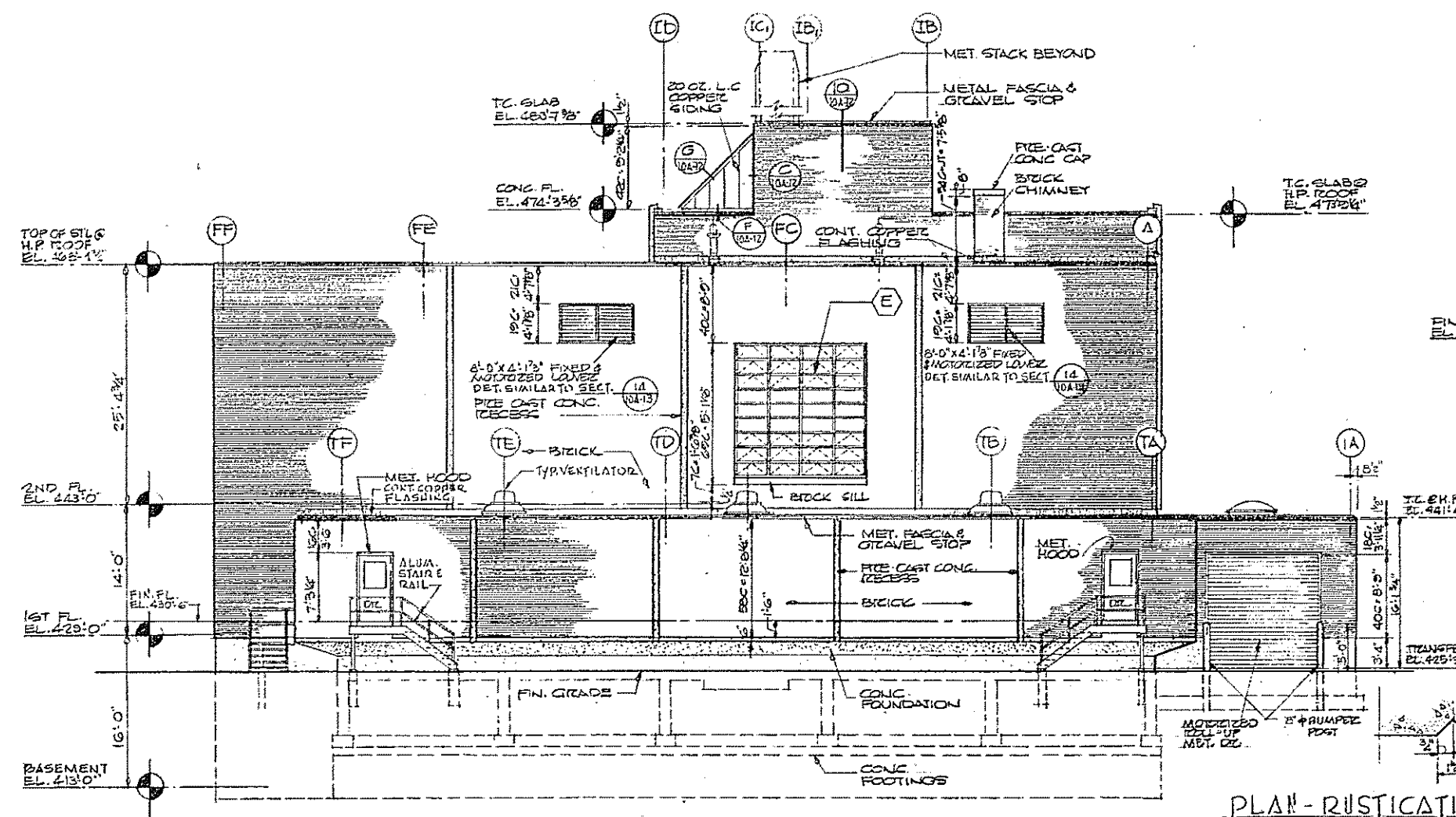
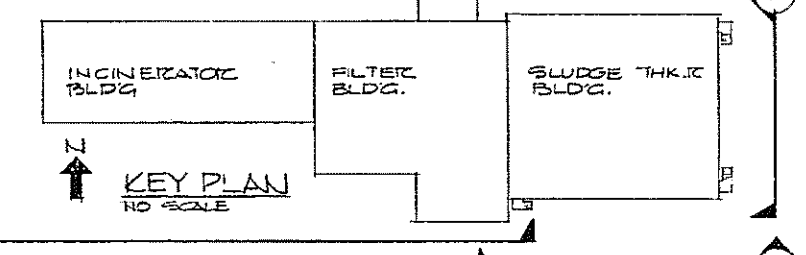
DES. D.C.F. OR C.J.B. DR. C.J.B. CHK. P.M.L. INCH. JW-83

APPROVED: J.W. Cahaly
NO. 134
BOSTON, MASS.
REGISTERED PROFESSIONAL ENGINEER

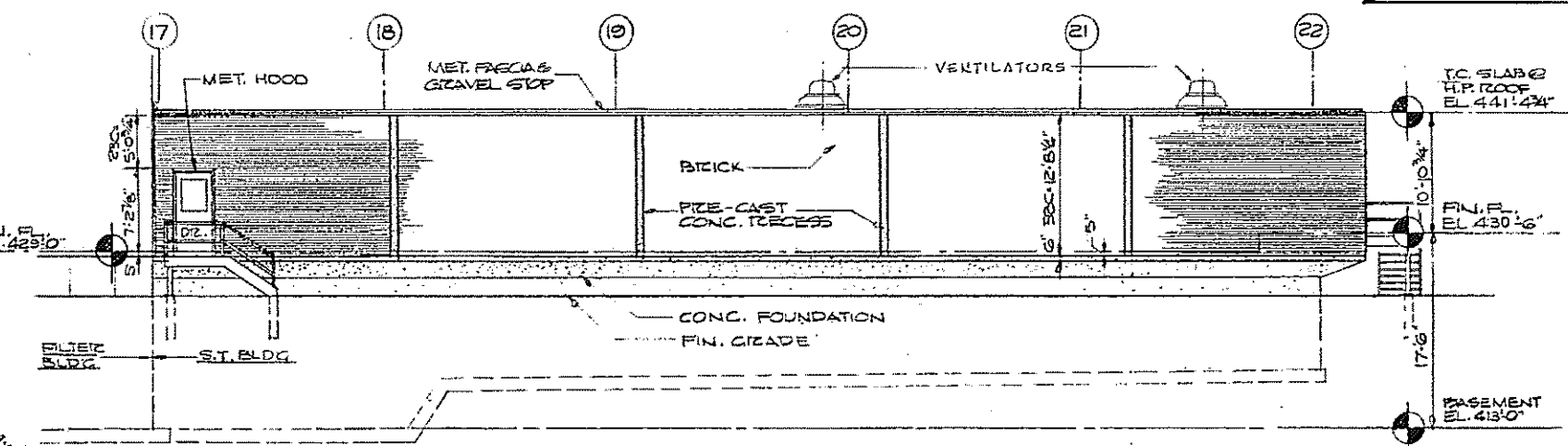
CONTRACT DRAWING SHEET NO. 10A-6



SOUTH ELEV. (A)
SCALE 1/8"=1'-0"



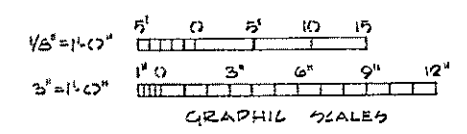
EAST ELEV. (B)
SCALE 1/8"=1'-0"



SOUTH ELEV. (C)
SCALE 1/8"=1'-0"

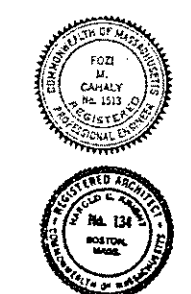
PLAN - RUSTICATION & CHAMFER @ CORNERS
SCALE 3/8"=1'-0"

PLAN - TIE CONES AT EXTERIOR CONC. WALLS

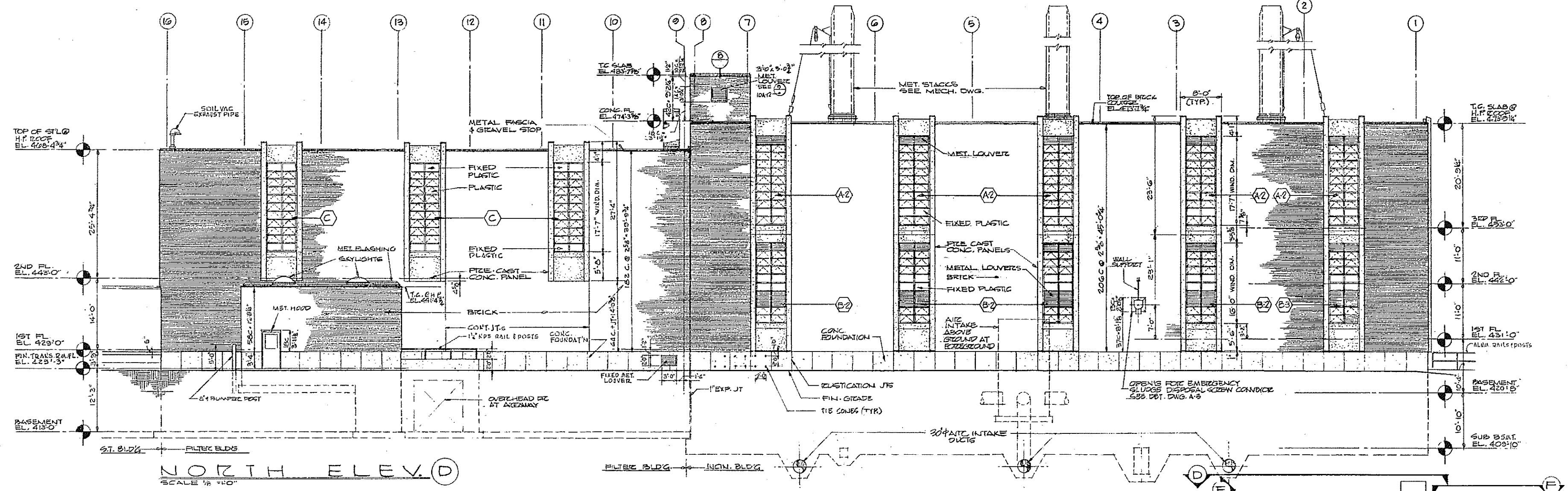


HALF-SIZE DRAWING

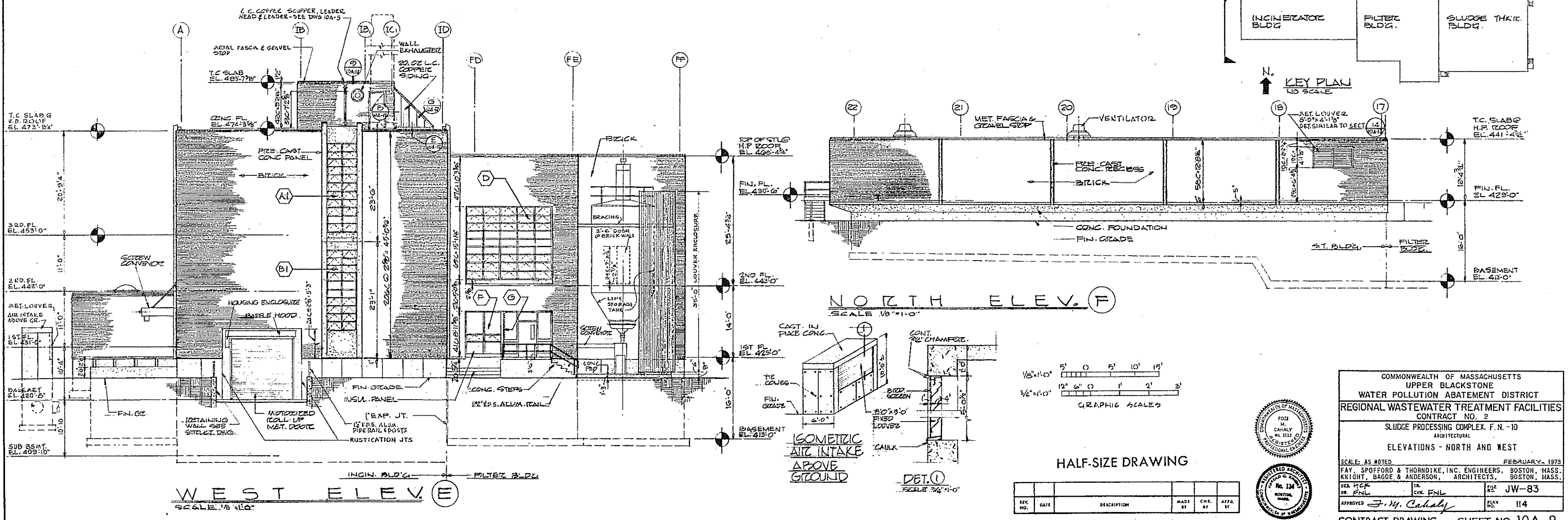
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ARCHITECTURAL
ELEVATIONS - SOUTH AND EAST
SCALE: AS NOTED
FEBRUARY, 1975
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
DES. BY: J.E.H. CHK. BY: F.N.L. DATE: JW-83
APPROVED: F.W. Cahaly DATE: 113
CONTRACT DRAWING SHEET NO. 10A-8



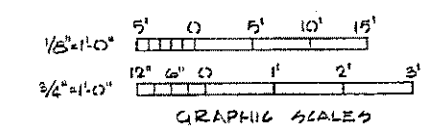
NORTH ELEV. (D)
SCALE 1/8"=1'-0"



WEST ELEV. (E)
SCALE 1/8"=1'-0"

KEY PLAN
1/8"=1'-0"

NORTH ELEV. (F)
SCALE 1/8"=1'-0"



HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY

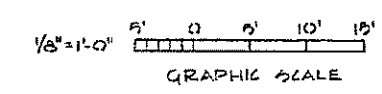
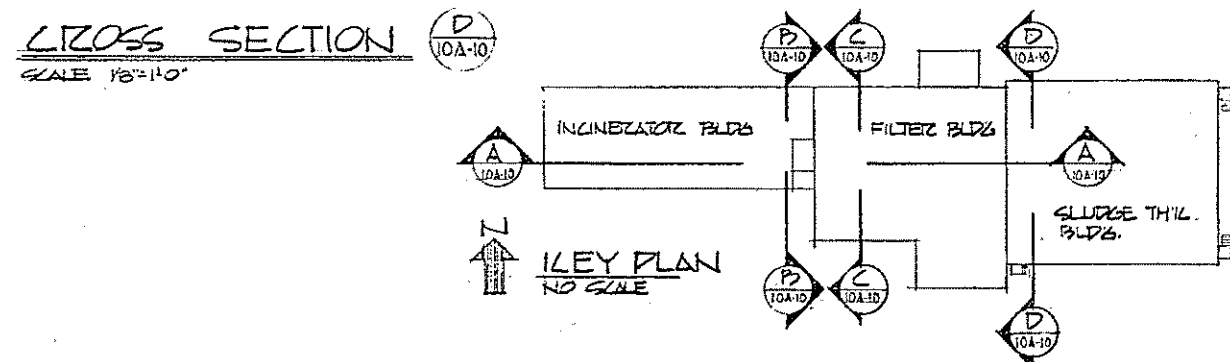
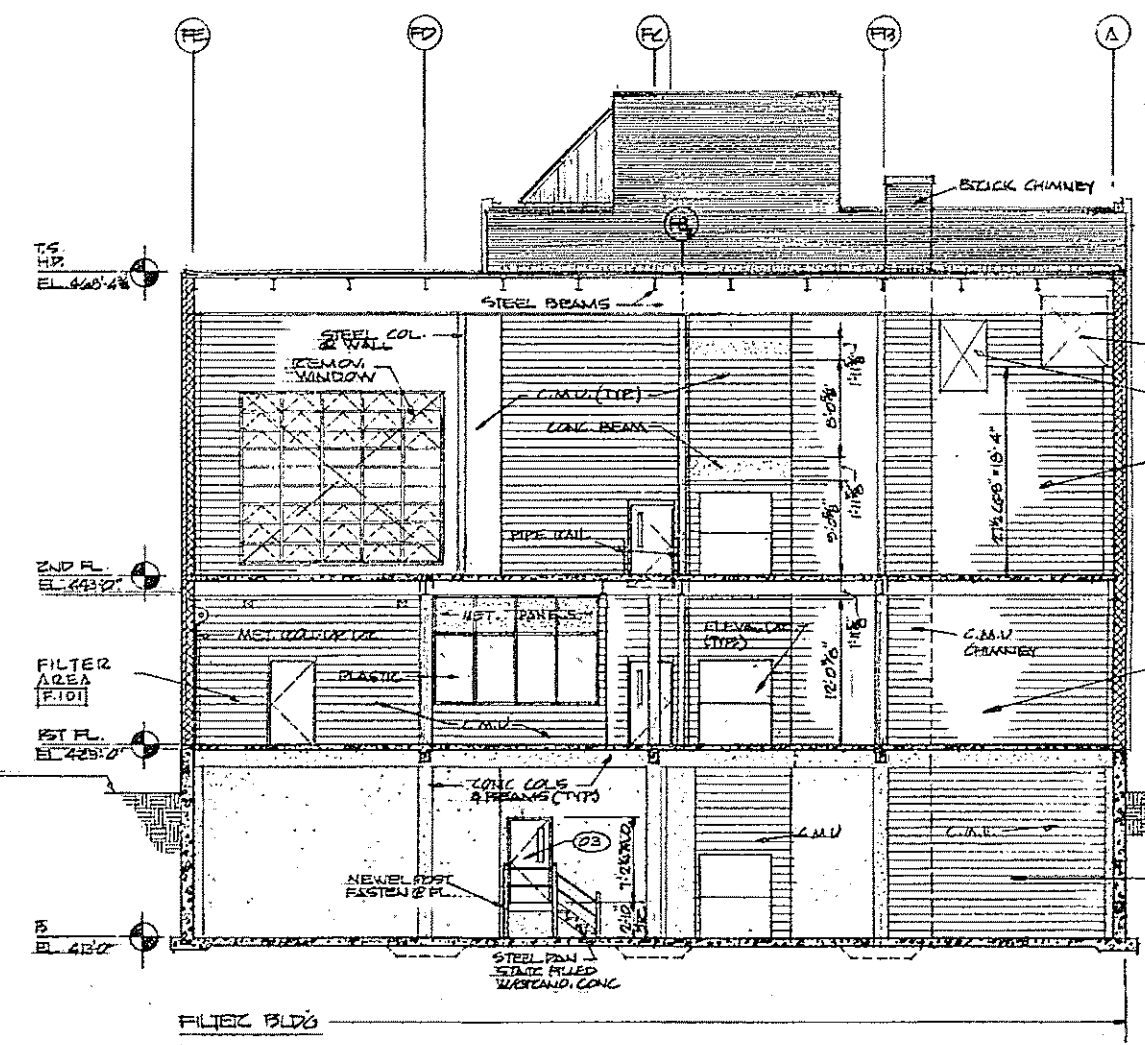
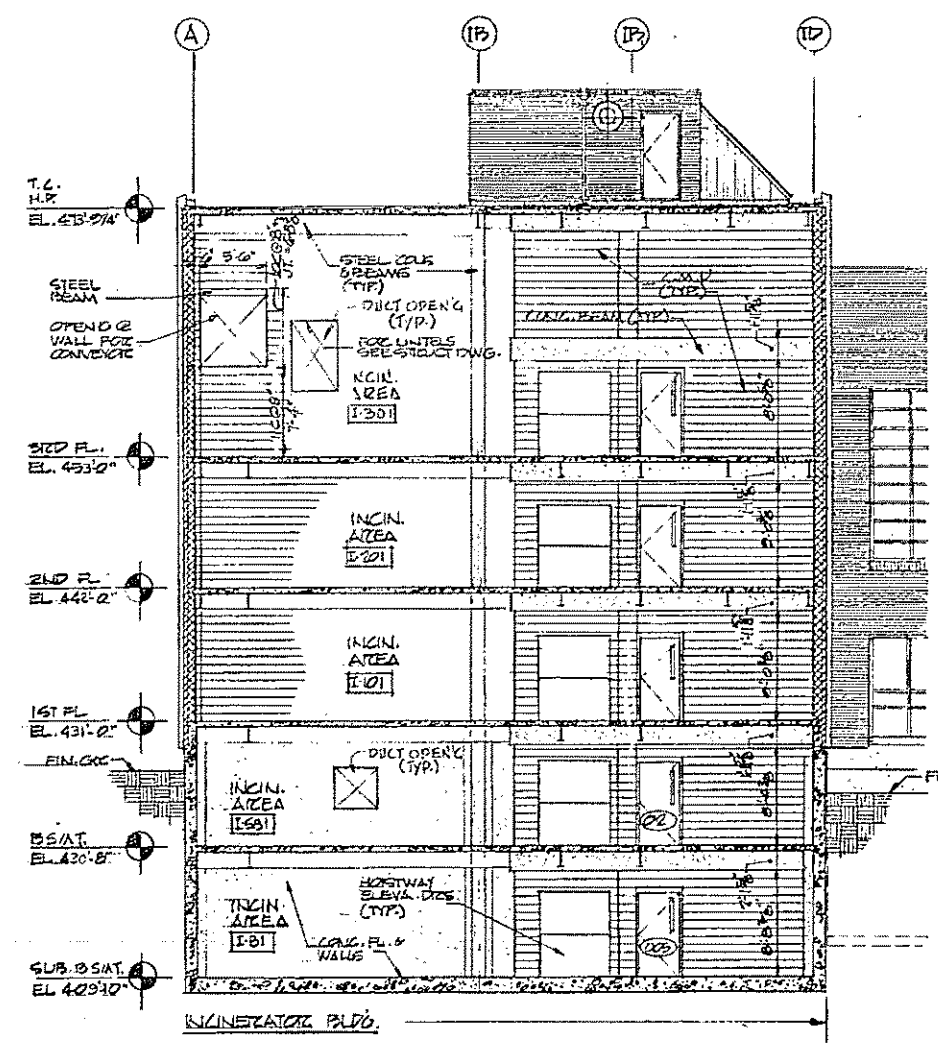
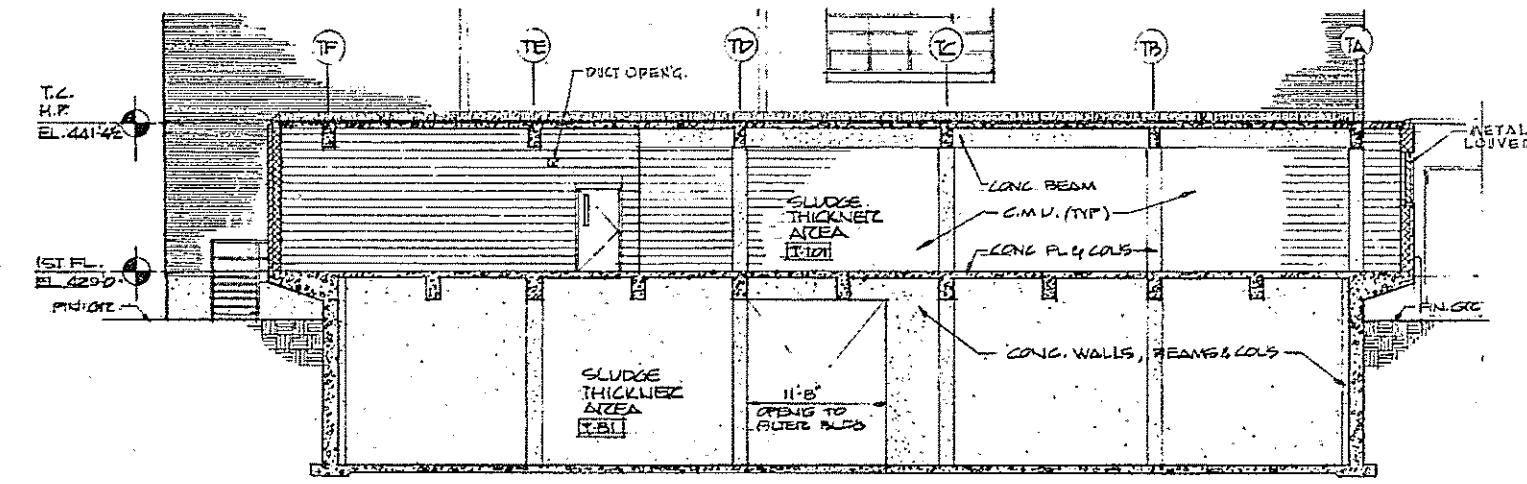
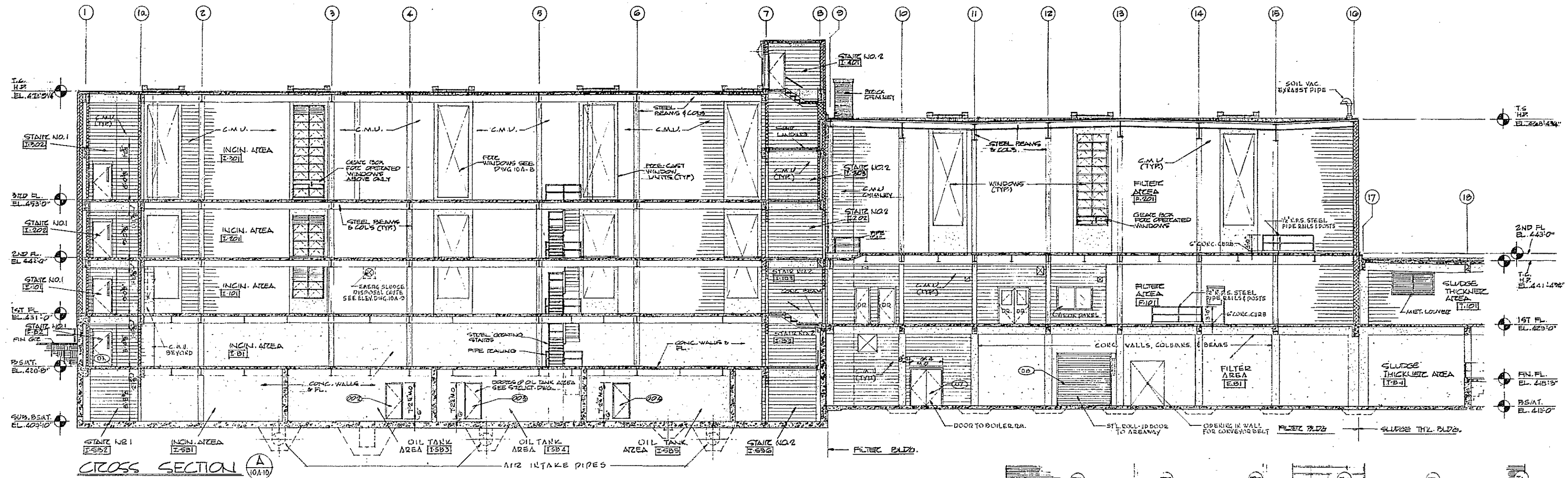
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ARCHITECTURAL
ELEVATIONS - NORTH AND WEST

SCALE: AS NOTED
FEBRUARY, 1973
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. HCF
DR. FNL
APPROVED: J.M. Cahaly

NO. 124
REG. ARCHT.
NO. 114

CONTRACT DRAWING SHEET NO. 10A-9



HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ARCHITECTURAL
CROSS SECTIONS

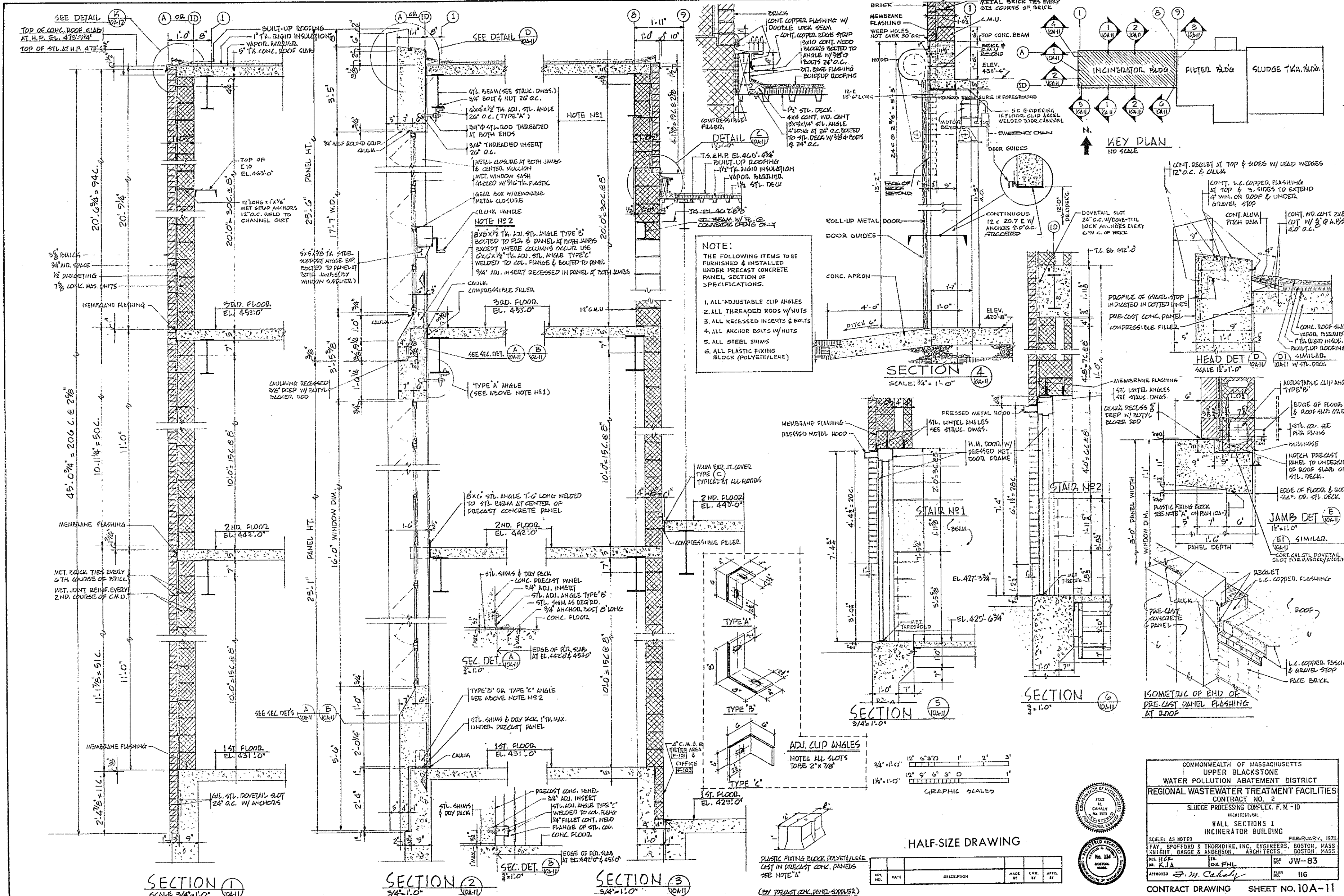
SCALE: AS NOTED
FEBRUARY, 1973

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. HGF
DR. PHL
INTRODUCED *F. M. Cahaly*

TR. F.M.C.
CHK. PHL
RAN. JW-83
APPD. IIS

CONTRACT DRAWING SHEET NO. 10A-10



NOTE:
 THE FOLLOWING ITEMS TO BE FURNISHED & INSTALLED UNDER PRECAST CONCRETE PANEL SECTION OF SPECIFICATIONS.

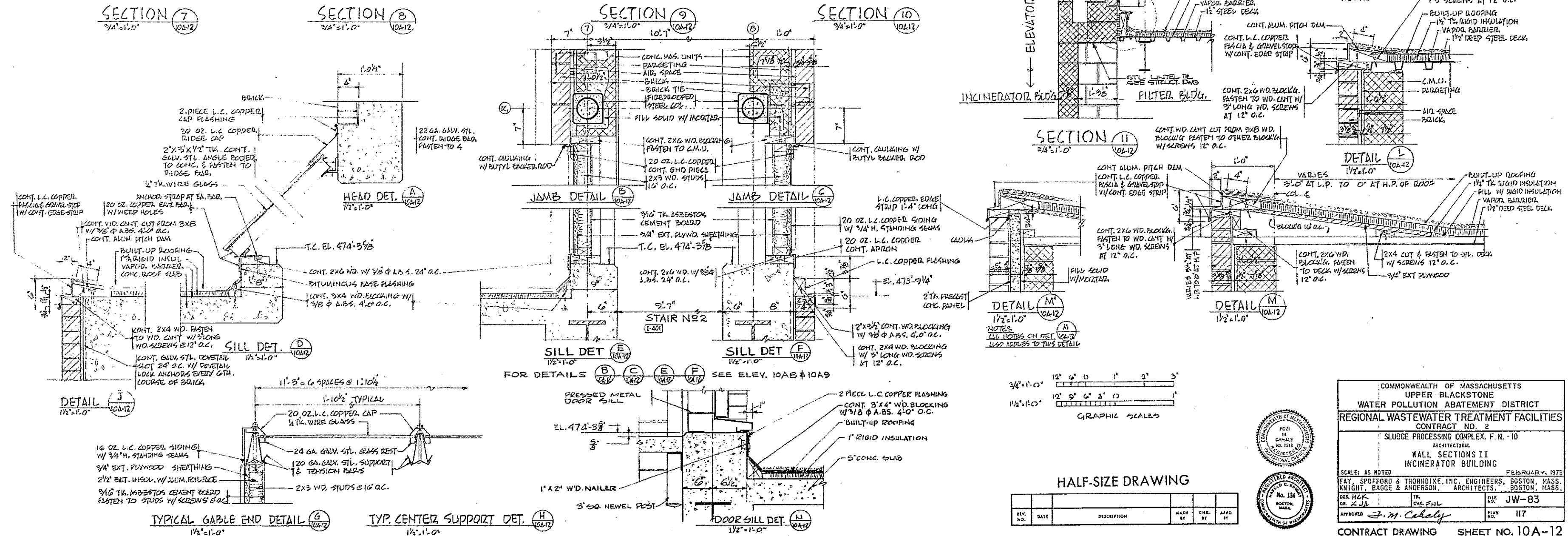
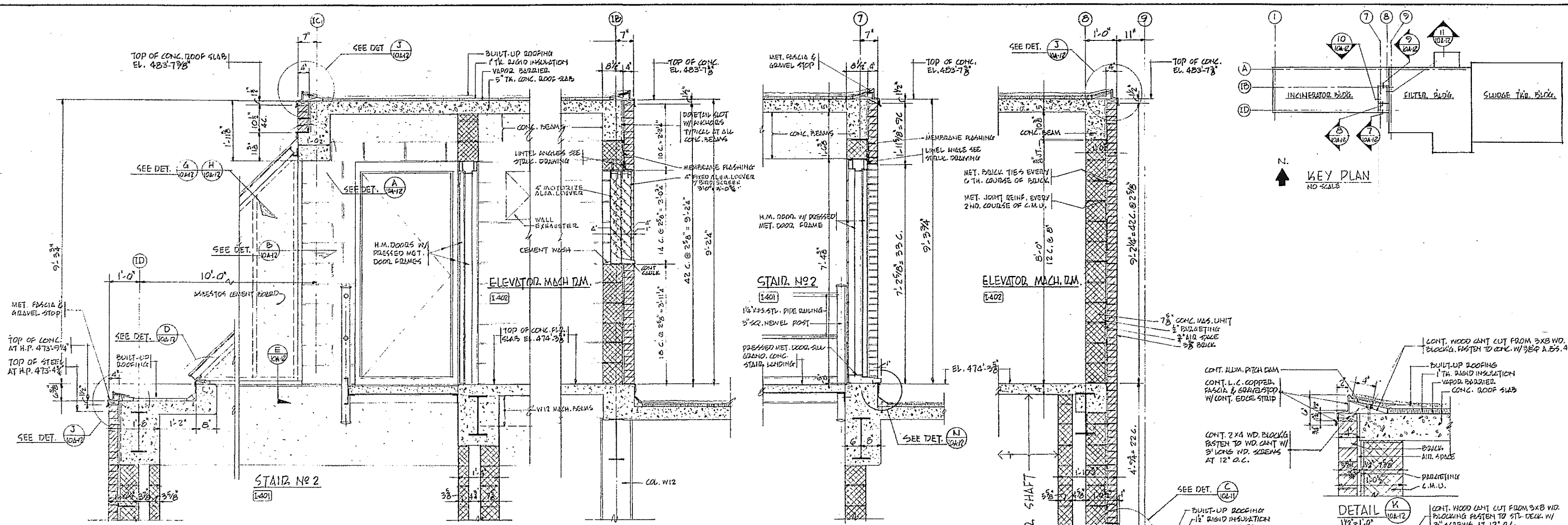
1. ALL ADJUSTABLE CLIP ANGLES
2. ALL THREADED RODS W/ NUTS
3. ALL RECESSED INSERTS & BOLTS
4. ALL ANCHOR BOLTS W/ NUTS
5. ALL STEEL SHIMS
6. ALL PLASTIC FIXING BLOCK (POLYETHYLENE)

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ARCHITECTURAL
 WALL SECTIONS I
 INCINERATOR BUILDING
 SCALE: AS NOTED
 FEBRUARY, 1973
 PREPARED BY: SPORFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 ARCHITECTS: BOSTON, MASS.
 DR. H.C.P. DR. R.J.A. DR. C.H. F.N.L.
 APPROVED BY: F.W. Cahaly
 SHEET NO. 10A-11

GRAPHIC SCALES
 3/4" = 1'-0"
 1/8" = 1'-0"

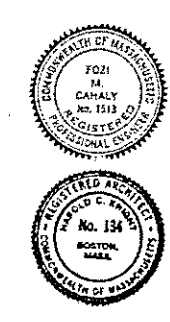
HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY



HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY

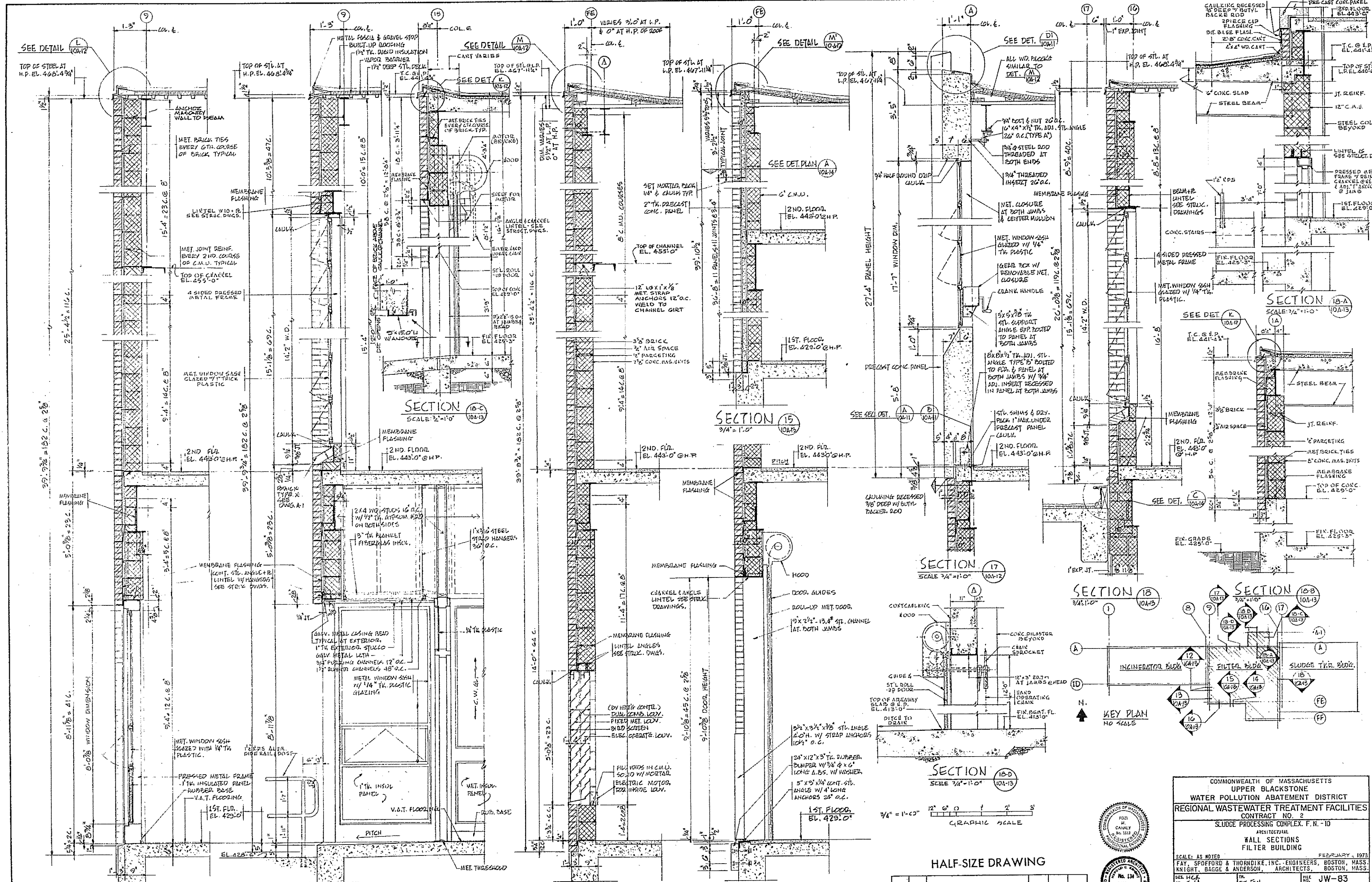


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ARCHITECTURAL
 WALL SECTIONS II
 INCINERATOR BUILDING

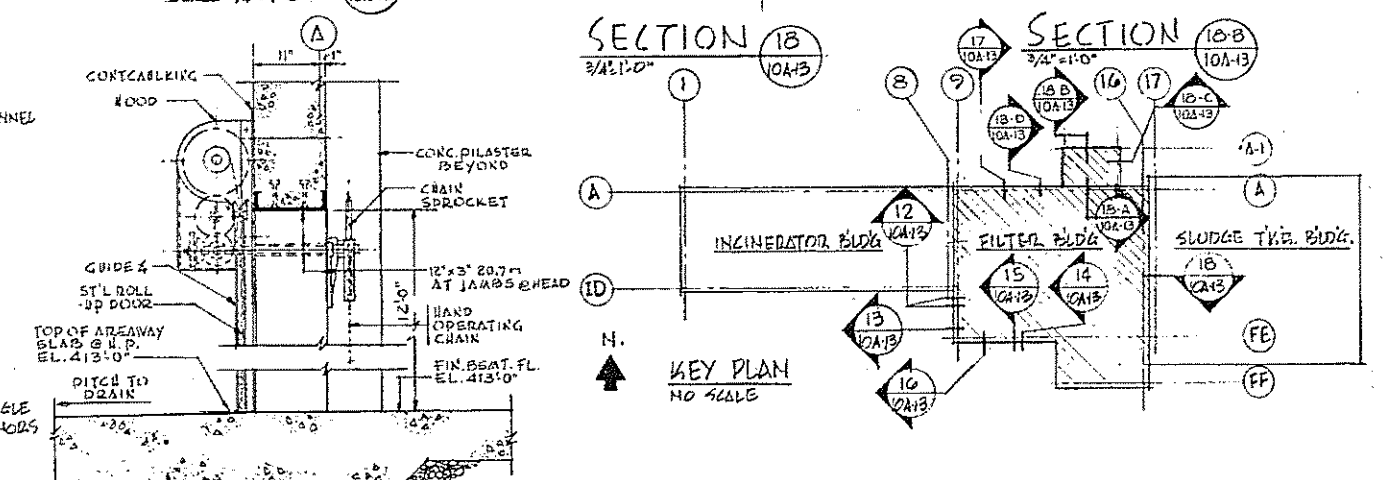
SCALE: AS NOTED
 FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. H.C.K.
 DR. C.J.B.
 TR. C.H. FILL
 PLS. JW-83
 DATE JAN
 PLAN 117

CONTRACT DRAWING SHEET NO. 10A-12



SECTION 12 SCALE 3/4" = 1'-0" (10A-12)
 SECTION 13 SCALE 3/4" = 1'-0" (10A-13)
 SECTION 14 SCALE 3/4" = 1'-0" (10A-14)
 SECTION 15 SCALE 3/4" = 1'-0" (10A-15)
 SECTION 16 SCALE 3/4" = 1'-0" (10A-16)
 SECTION 17 SCALE 3/4" = 1'-0" (10A-17)
 SECTION 18 SCALE 3/4" = 1'-0" (10A-18)



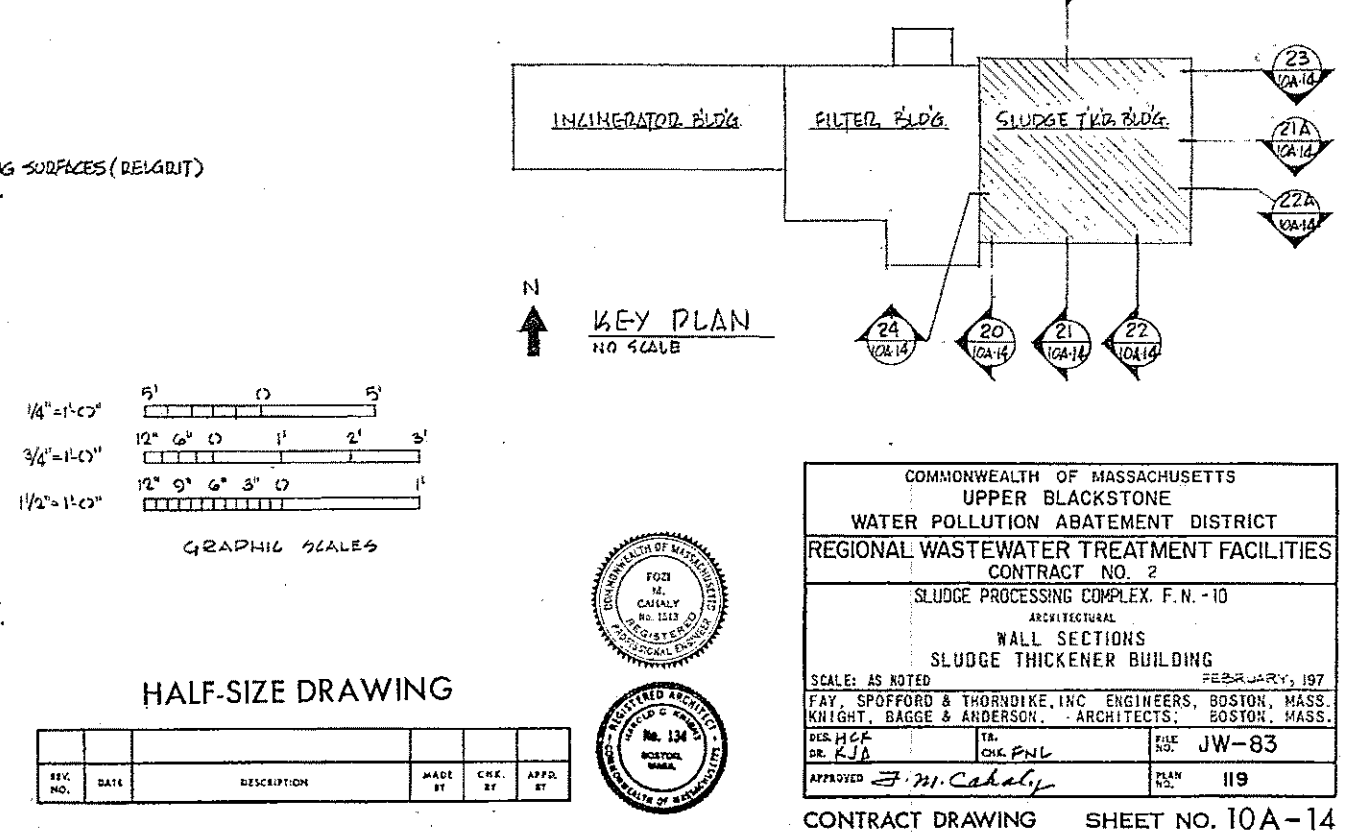
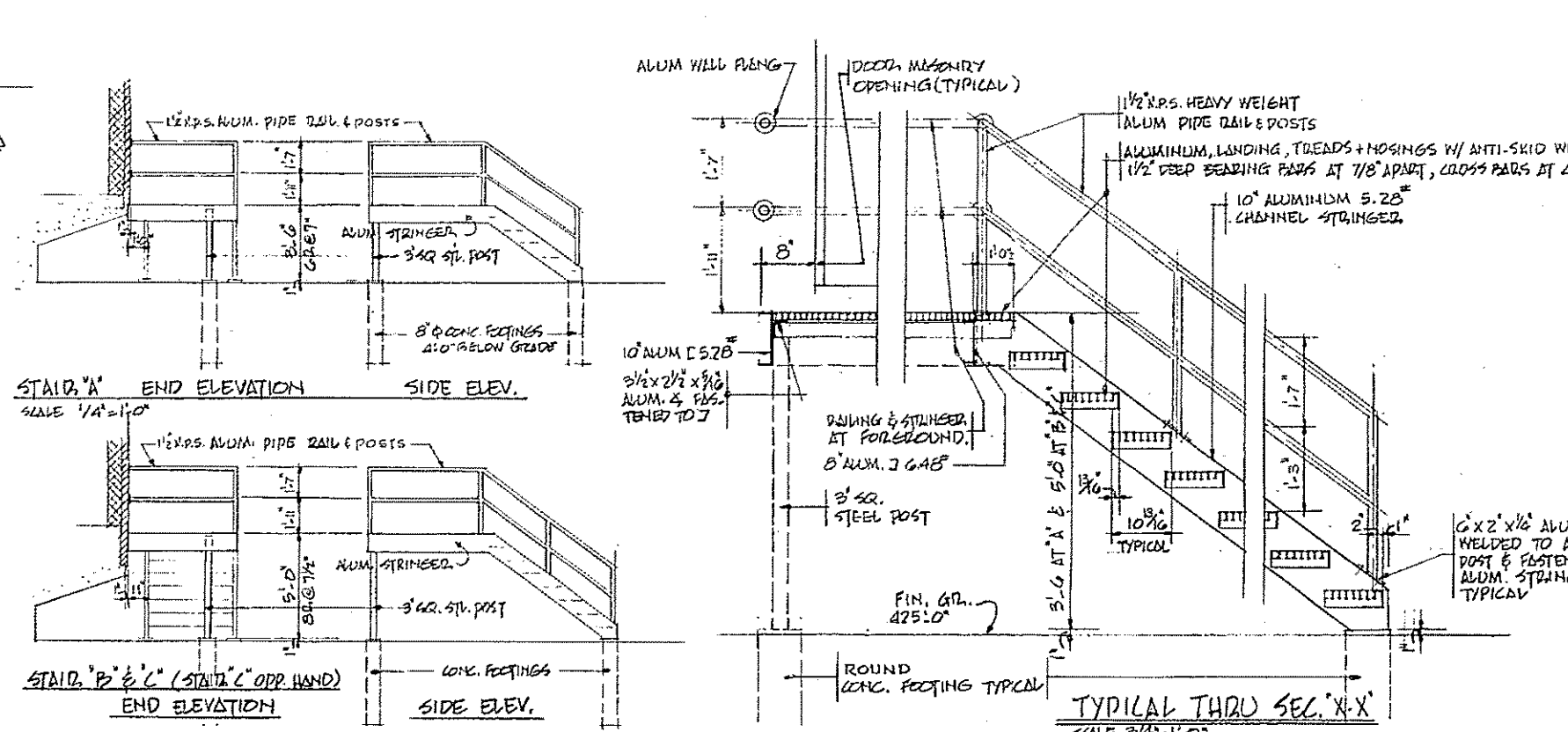
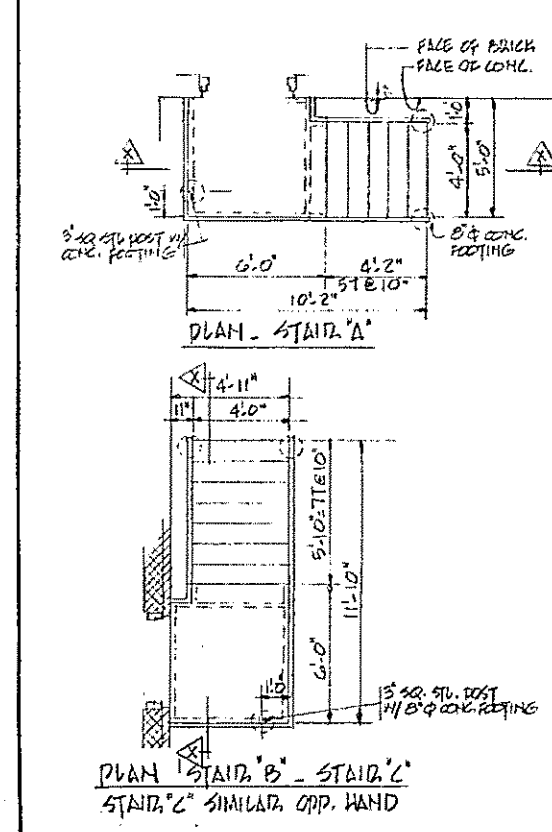
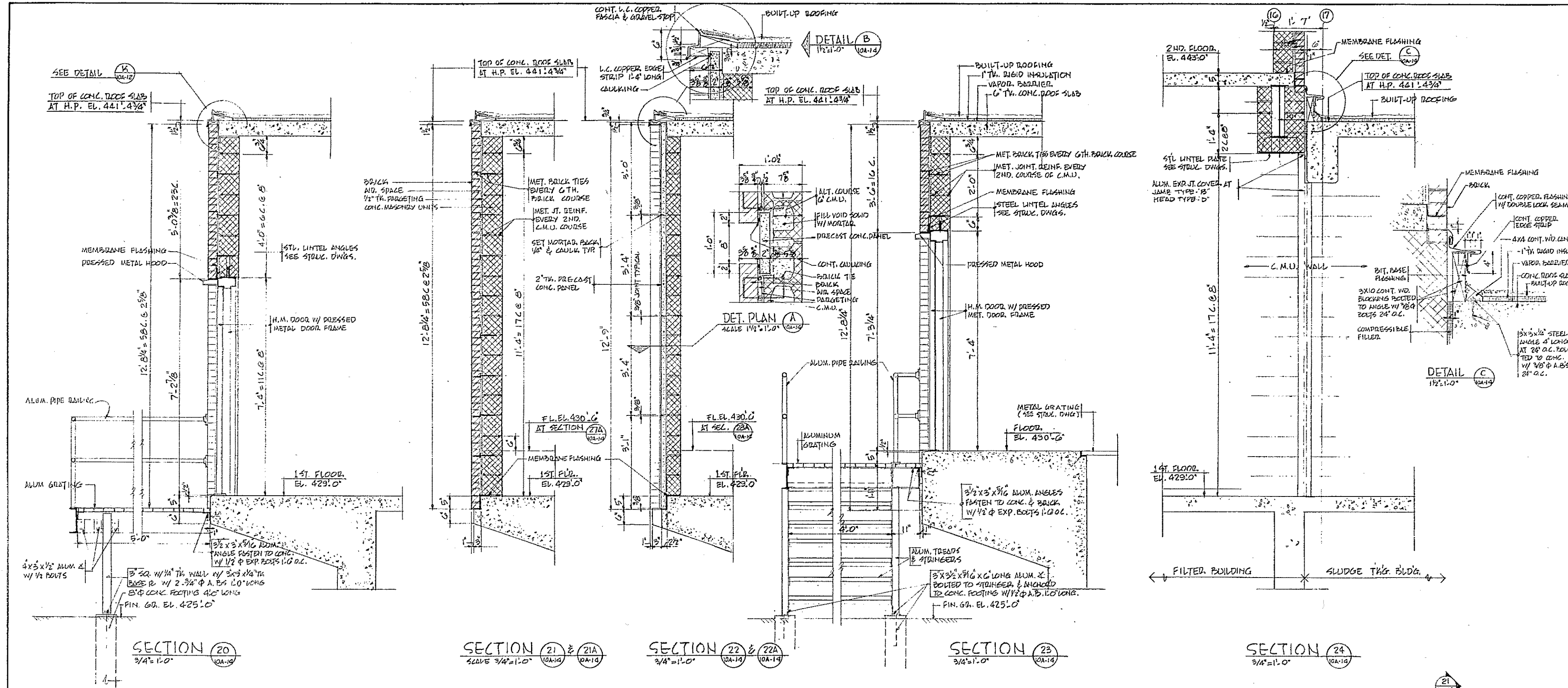
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE DISTRICT
 WATER POLLUTION ABATEMENT FACILITIES
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N.-10
 ARCHITECTURAL
 WALL SECTIONS
 FILTER BUILDING

SCALE: AS NOTED
 FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

REV. NO. DATE DESCRIPTION MADE BY CHK. BY APP. BY

APPROVED: *[Signature]* DATE: *[Date]*

CONTRACT DRAWING SHEET NO. 10A-13

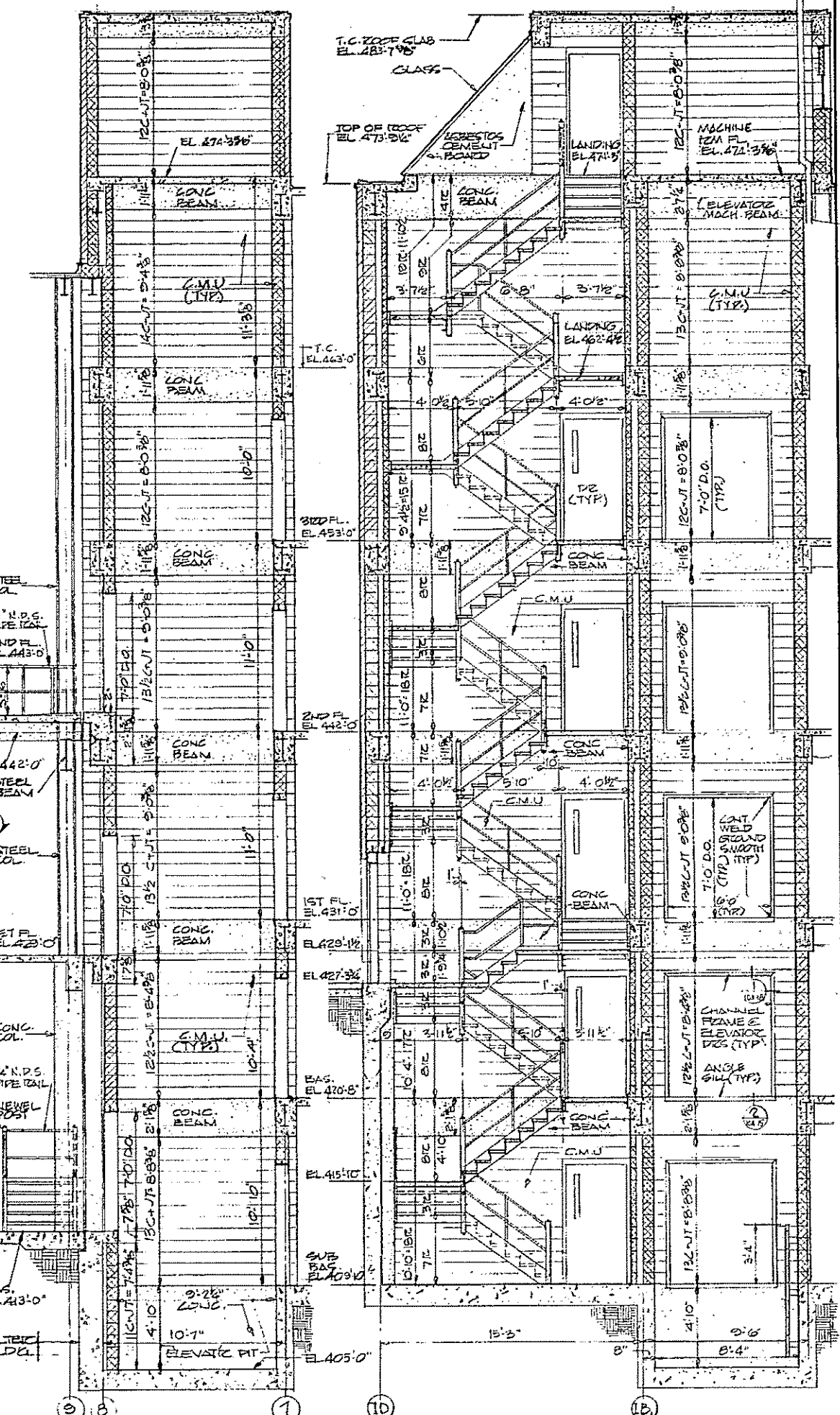
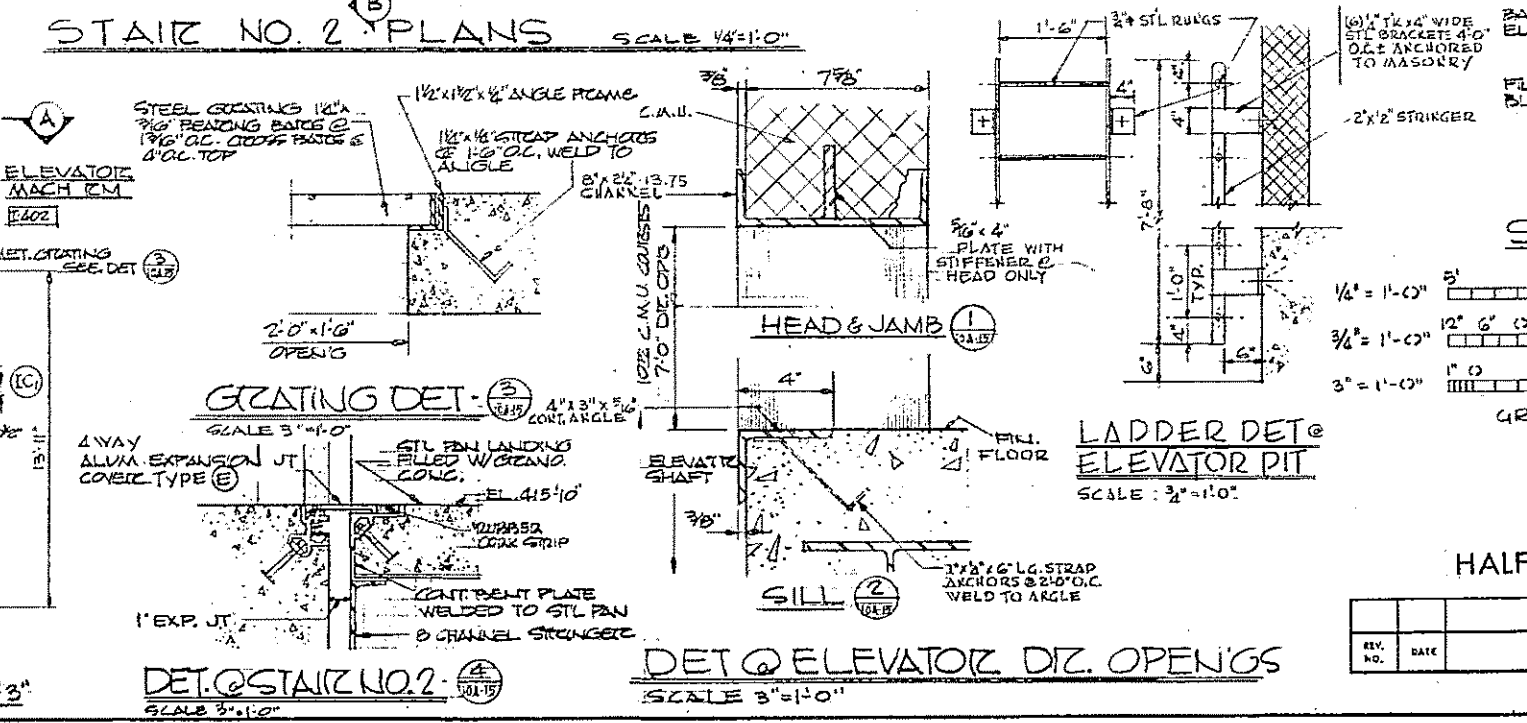
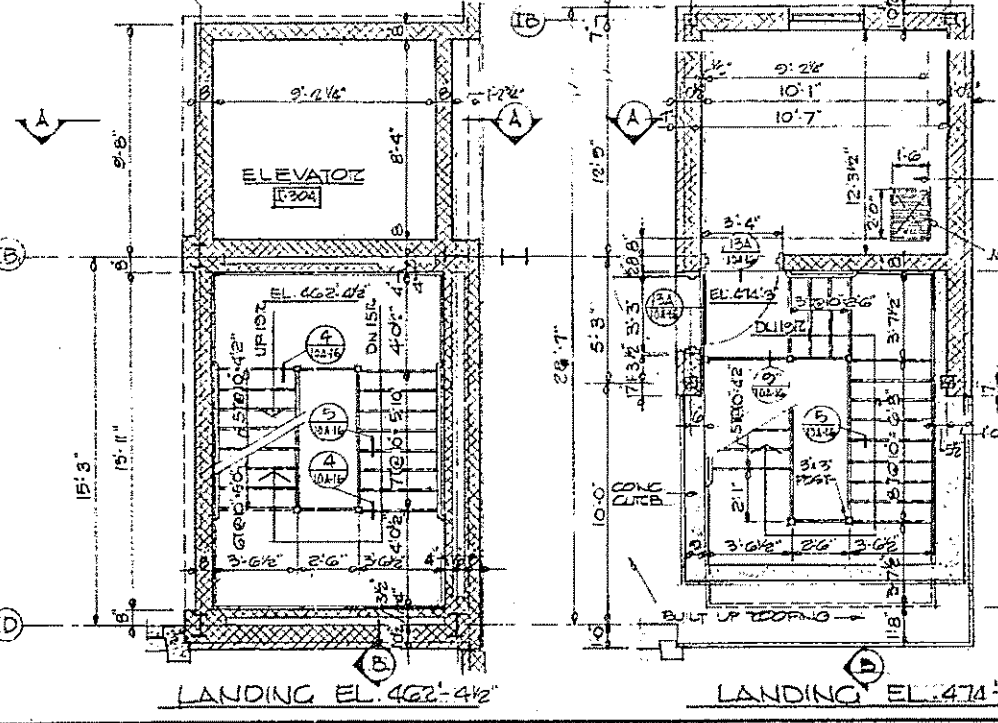
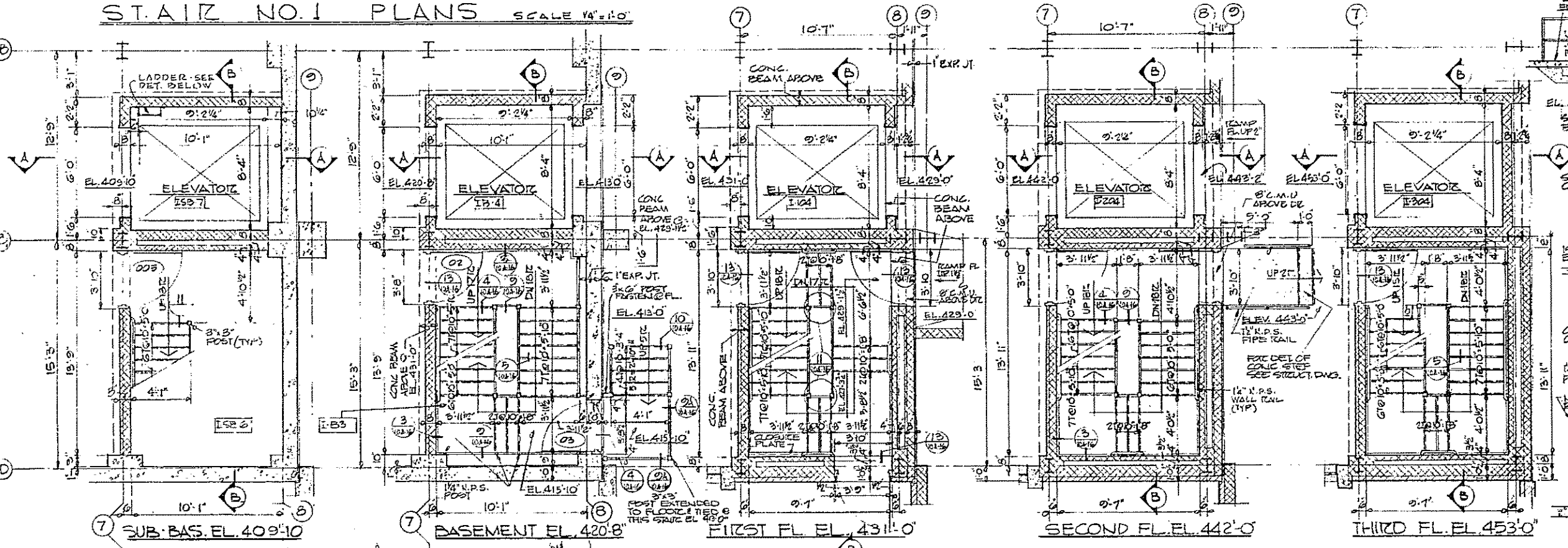
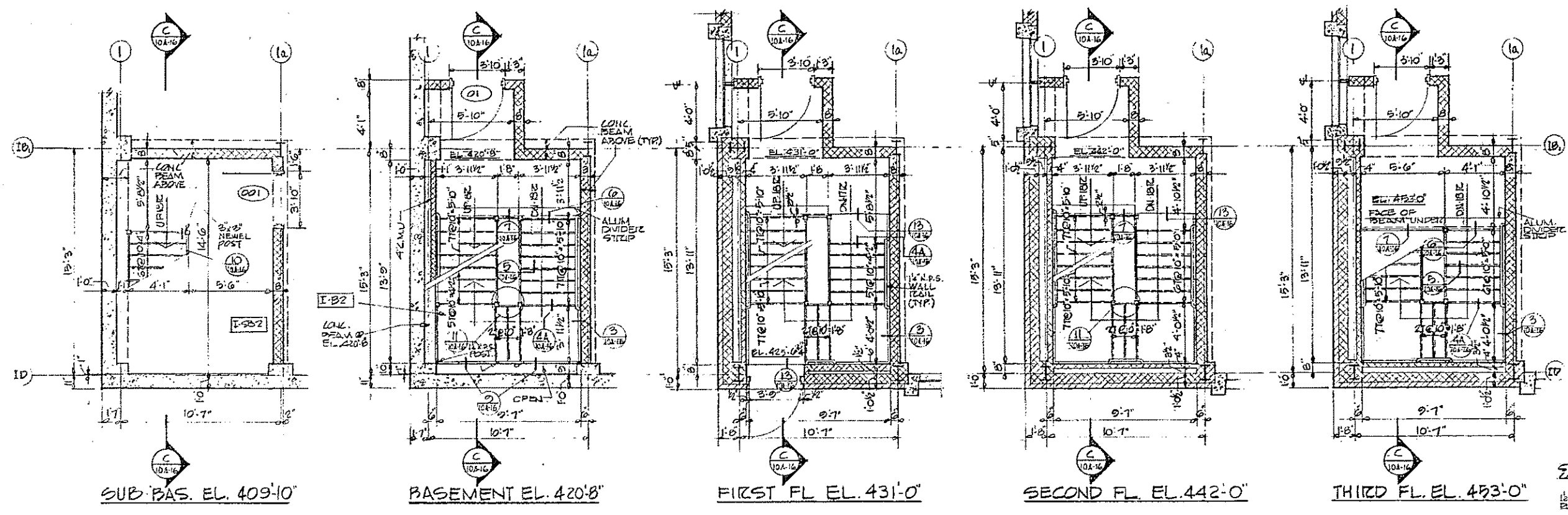


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. -10
 ARCHITECTURAL
 WALL SECTIONS
 SLUDGE THICKENER BUILDING

SCALE: AS NOTED
 FEBRUARY, 1977
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. FILE NO. E-10
 DES. E-10
 DATE ENL. 1/11/77
 DATE ENL. 1/11/77
 APPR. BY J.W. 83
 APPR. BY J.W. 83

CONTRACT DRAWING SHEET NO. 10A-14



GRAPHIC SCALES

1/4" = 1'-0"
 3/8" = 1'-0"
 1/2" = 1'-0"

HALF-SIZE DRAWING

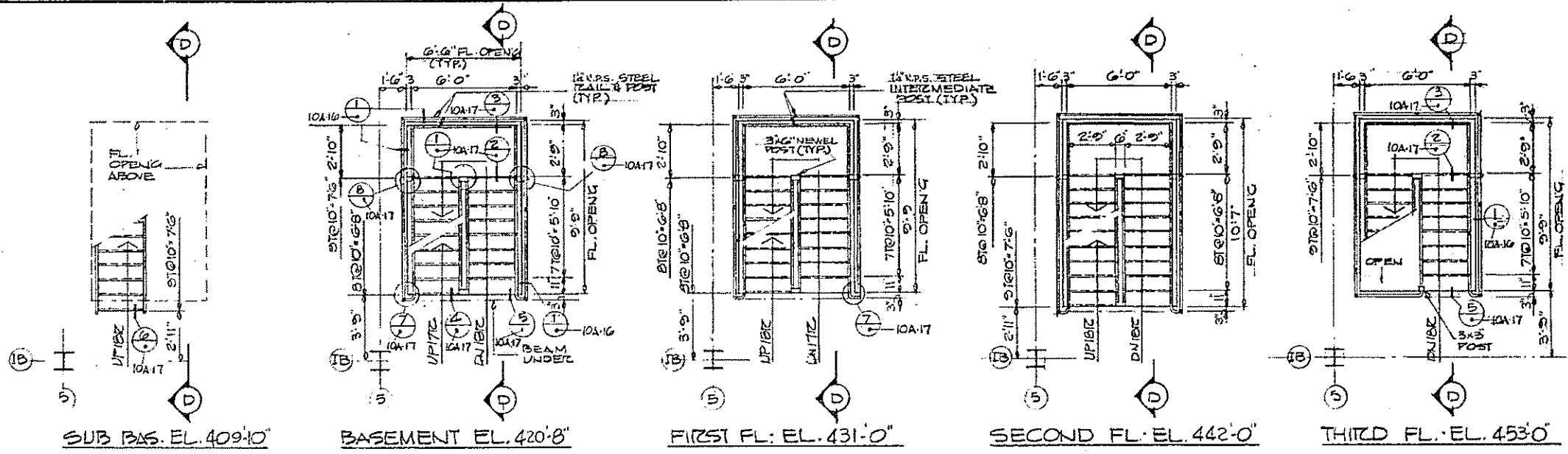
REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP'D BY

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N.-10
 ARCHITECTURAL
 STAIR NO. 1 AND NO. 2

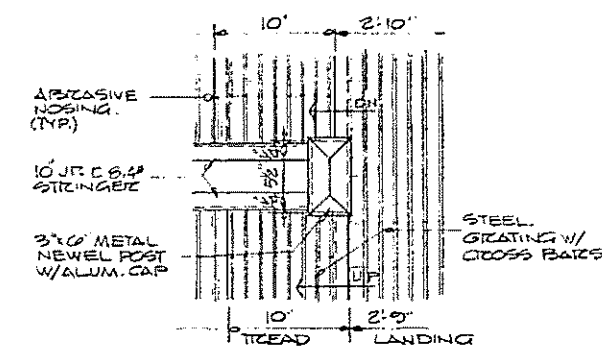
SCALE: AS NOTED
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

REV. P.C.F. FULL
 TR. C.E. ENL.
 J.W.-83
 120

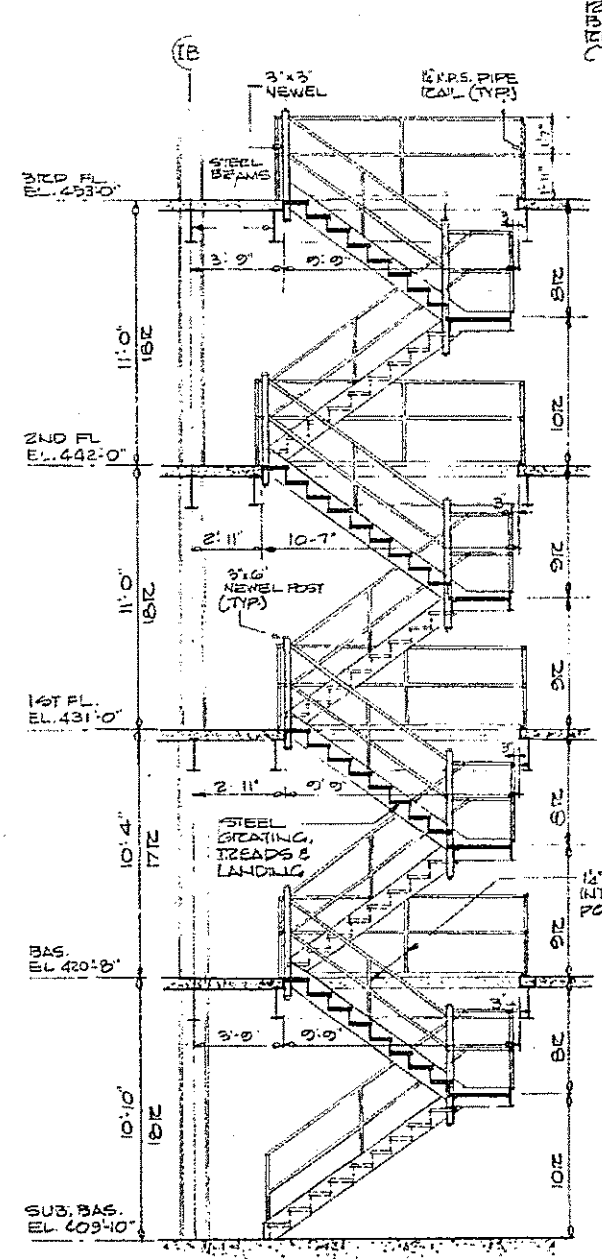
CONTRACT DRAWING SHEET NO. 10A-15



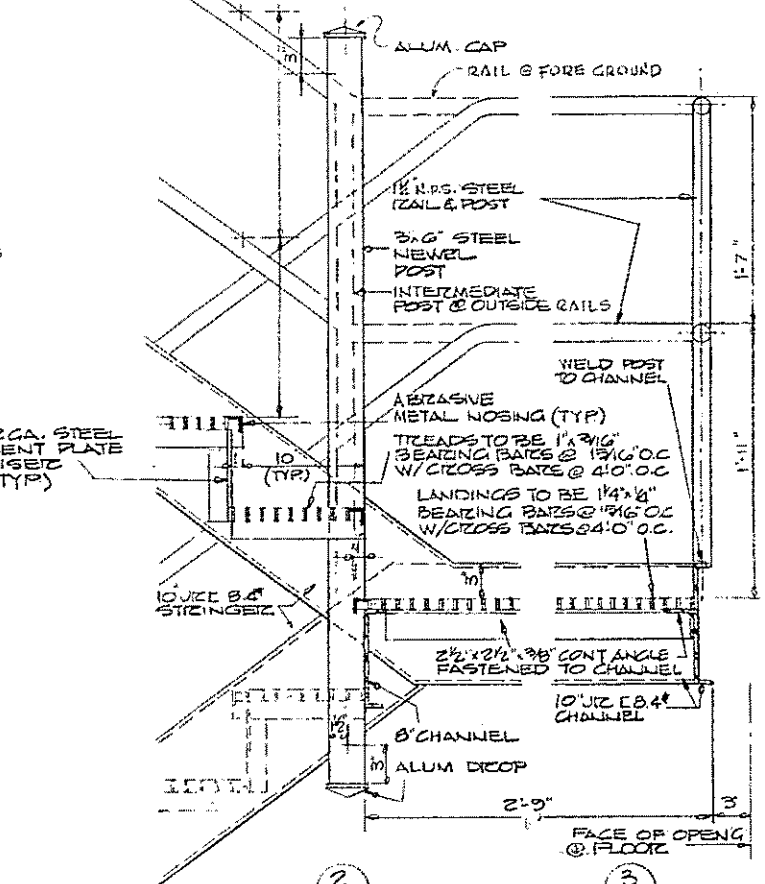
STAIR NO. 4 PLANS SCALE 1/4"=1'-0"



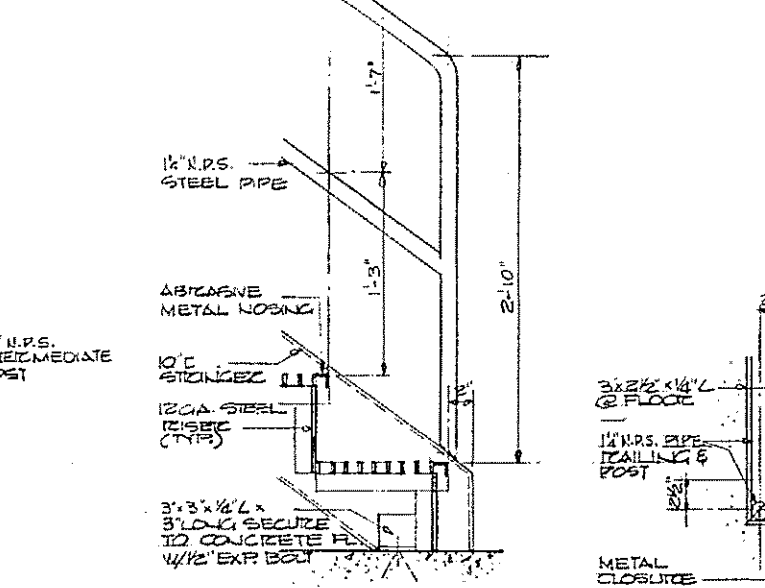
LANDING DETAIL SCALE 1/2"=1'-0"



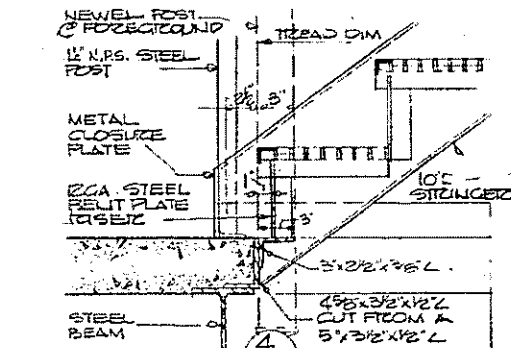
STAIR NO. 4 SECT. D-D SCALE 1/4"=1'-0"



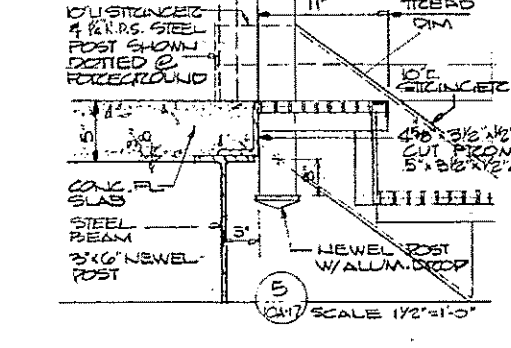
RAILING DETAIL SCALE 1/2"=1'-0"



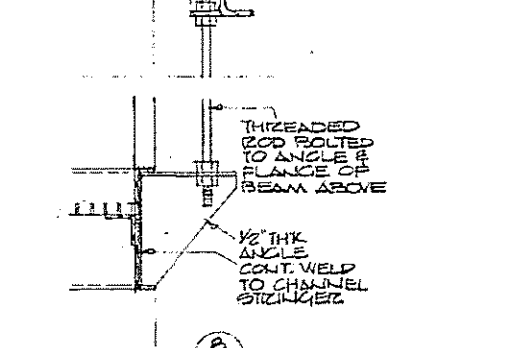
STRINGER DETAIL SCALE 1/2"=1'-0"



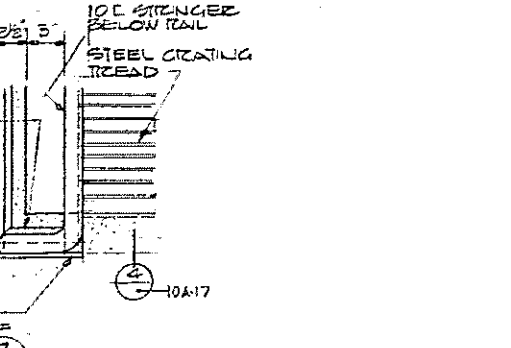
NEWEL POST DETAIL SCALE 1/2"=1'-0"



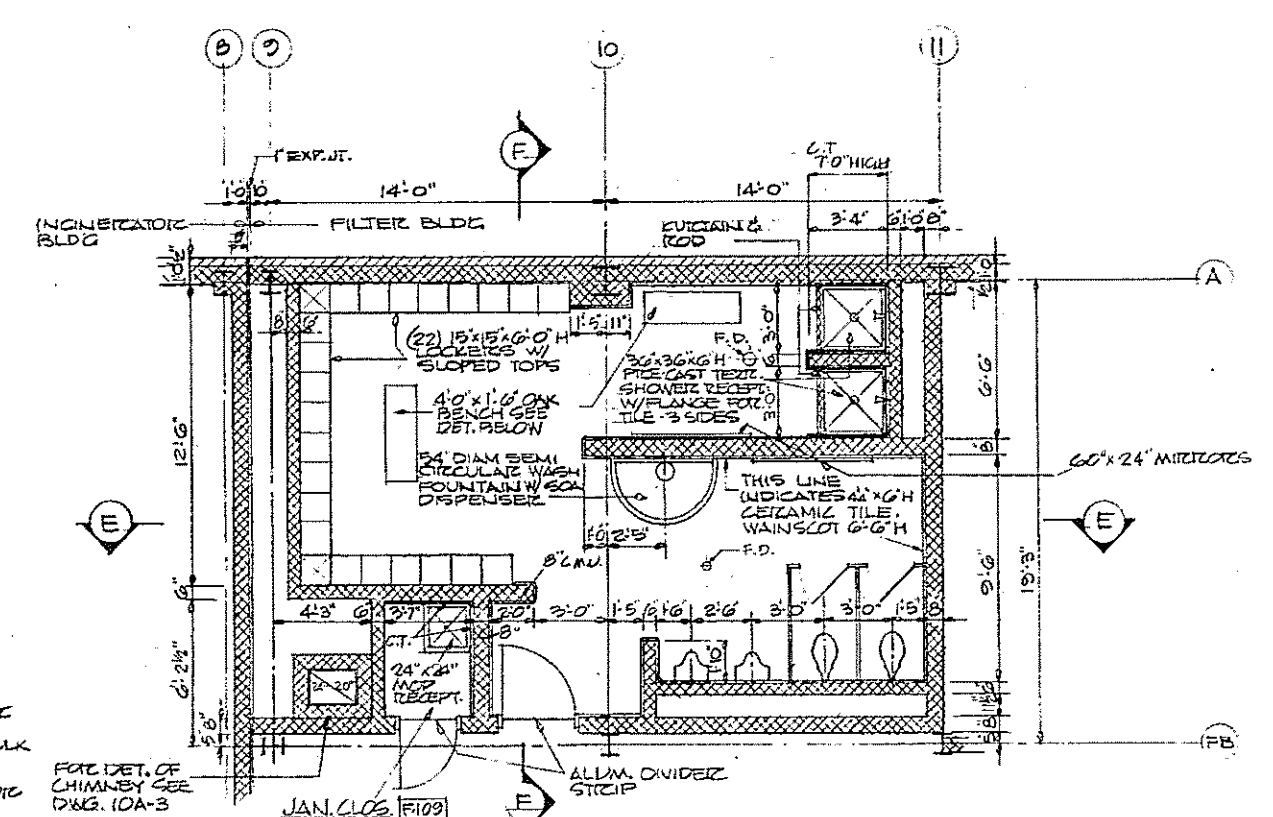
FLOOR OPENING DETAIL SCALE 1/2"=1'-0"



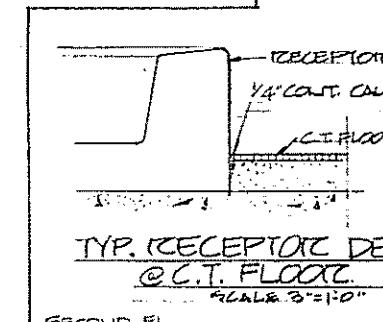
STEEL BEAM DETAIL SCALE 1/2"=1'-0"



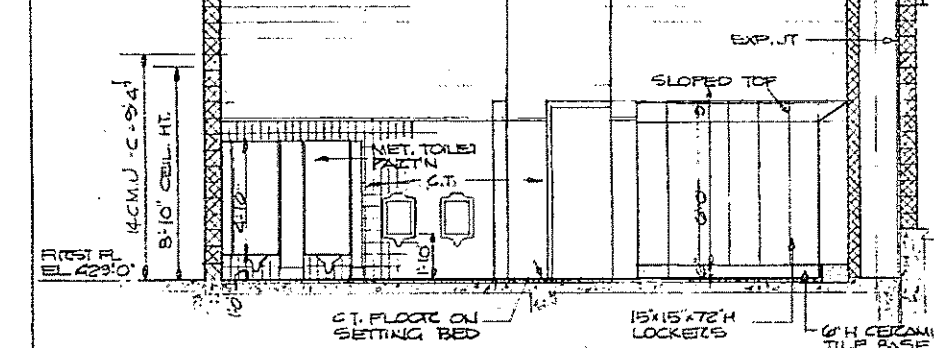
METAL CLOSURE PLATE DETAIL SCALE 1/2"=1'-0"



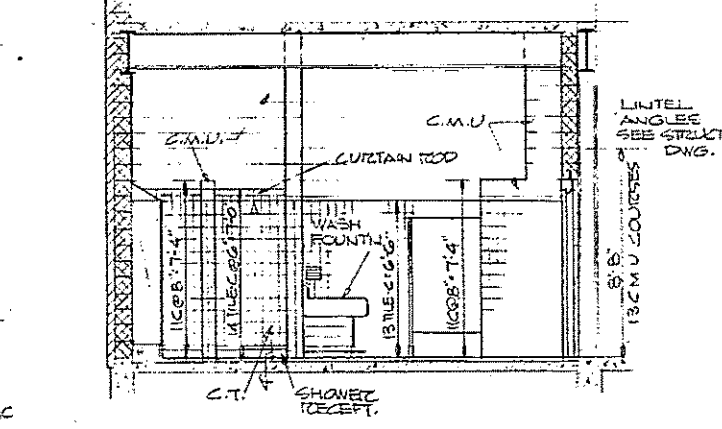
PLAN TOILET SHOWERS SCALE 1/4"=1'-0"



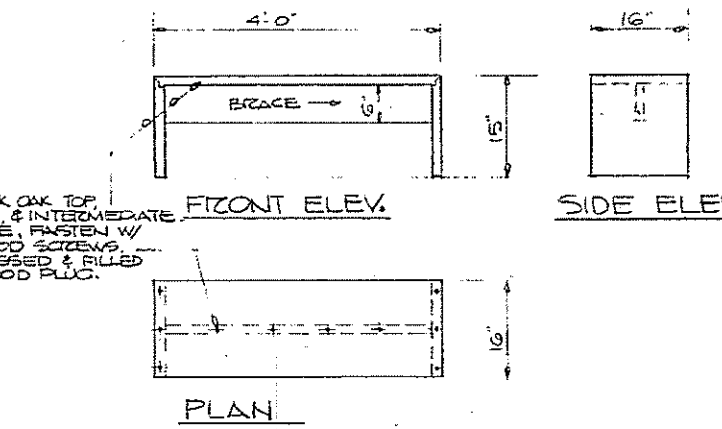
TYP. RECEPTOR DET. @ C.T. FLOOR SCALE 1/2"=1'-0"



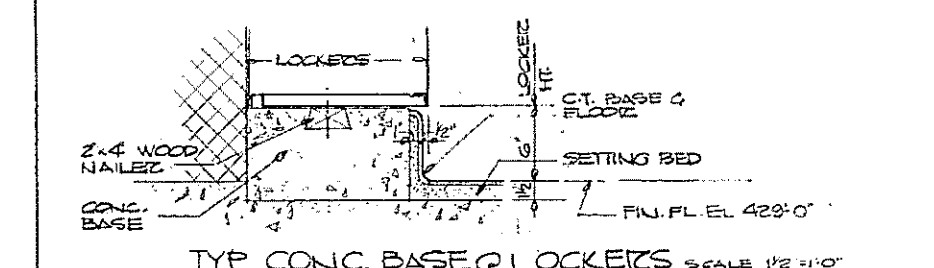
SECTION E-E SCALE 1/4"=1'-0"



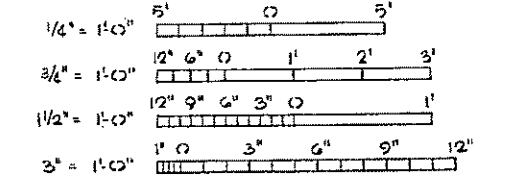
SECTION F-F SCALE 1/4"=1'-0"



OAK BENCH SCALE 3/4"=1'-0" (2-REQD)



TYP. CONC. BASE & LOCKERS SCALE 1/2"=1'-0"



GRAPHIC SCALES HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ARCHITECTURAL

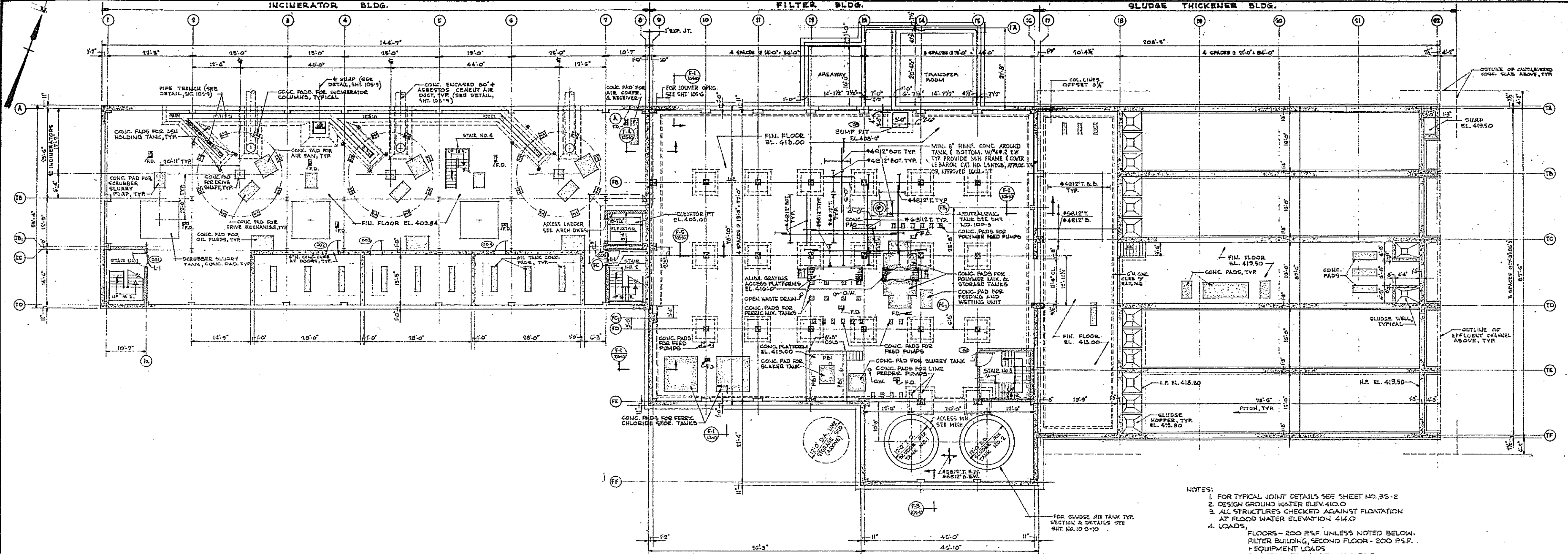
STAIR NO. 4 AND TOILET DETAILS

SCALE: AS NOTED FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. CHK. BY: F.M.C. IN CHARGE: F.M.C. DATE: JAN 83
 DR. FILED: F.M.C. DATE: JAN 83

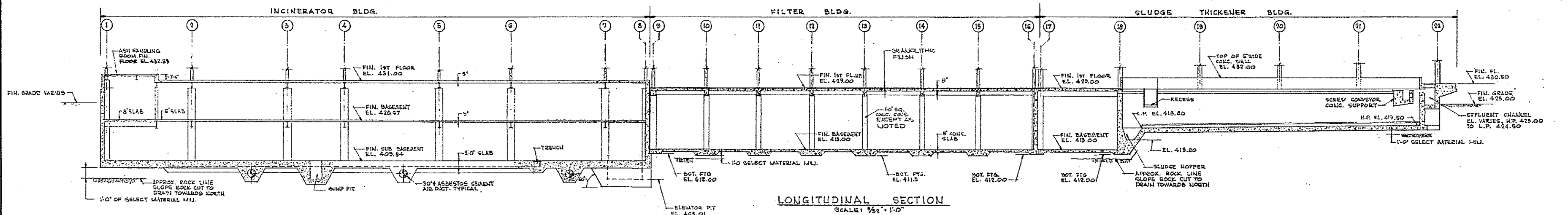
APPROVED: F. M. Cahaly DATE: JAN 83
 NO. 122

CONTRACT DRAWING SHEET NO. 10A-17



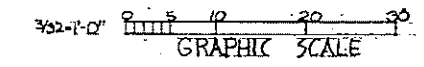
FOUNDATION PLANS
SCALE: 3/32" = 1'-0"

NOTES:
 1. FOR TYPICAL JOINT DETAILS SEE SHEET NO. 85-2
 2. DESIGN GROUND WATER ELEV. 410.0
 3. ALL STRUCTURES CHECKED AGAINST FLOATION AT FLOOD WATER ELEVATION 414.0
 4. LOADS:
 FLOORS - 200 P.S.F. UNLESS NOTED BELOW.
 FILTER BUILDING, SECOND FLOOR - 200 P.S.F.
 EQUIPMENT LOADS
 SLUDGE MIX TANK AREA - 100 P.S.F.
 THICKENER BUILDING, CANTILEVER WALKWAY AROUND THE TANKS - 100 P.S.F.
 INCINERATOR BUILDING, GRATINGS - 200 P.S.F.
 WIND LOADS ON CHIMNEY - 20 P.S.F.



LONGITUDINAL SECTION
SCALE: 3/32" = 1'-0"

- GENERAL NOTES**
- SIZE AND LOCATION OF EQUIPMENT ANCHOR BOLTS AND OF CONCRETE PADS SHALL BE LOCATED FROM CERTIFIED MANUFACTURERS DRAWINGS.
 - LOCATE ALL SLEEVES AND WALL CASTINGS FROM PLUMBING, MECHANICAL, ELECTRICAL, HEATING AND VENTILATING, AND APPLICABLE SHOP DRAWINGS.
 - FILL SUPPORTING PARTS OF STRUCTURES SHALL BE OF WELL COMPACTED GRANULAR MATERIAL.
 - BACKFILL MAY BE PLACED AGAINST BUILDING FOUNDATION OR BASEMENT WALLS AFTER THE FLOOR SLABS ARE COMPLETED.
 - DURING CONSTRUCTION, PARTICULARLY WHILE TANKS OR WET WELLS ARE EMPTY OR PARTIALLY FULL, THE CONTRACTOR MUST MAINTAIN THE GROUNDWATER BELOW THE LEVEL AT WHICH A TANK OR STRUCTURE WILL BECOME BUOYANT.
 - THE CONTRACTOR SHALL NOT STORE MATERIALS OR CONSTRUCTION EQUIPMENT EXCEEDING THE DESIGN FLOOR OR ROOF LIVE LOADS.
 - FOR DESIGN CRITERIA AND LIVE LOADS OTHER THAN LISTED BELOW, SEE NOTES ON DRAWINGS FOR EACH STRUCTURE:
 ROOF - 30 PSF
 STAIRS AND PLATFORMS - 100 PSF
 WIND LOAD - 15 PSF (67 MPH)
 - GROUNDWATER ELEVATIONS:
 FLOOD - ELEVATION 414.0
 NORMAL - SEE DRAWINGS FOR EACH STRUCTURE
- CONCRETE NOTES**
- ALL CONCRETE CONSTRUCTION SHALL BE IN CONFORMITY WITH ACI 318-71 CODE.
 - CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS, EXCEPT THAT 2500 PSI CONCRETE IS PERMITTED FOR CONCRETE FILL AND PIPE ENCASMENT BELOW THE STRUCTURAL SLAB.
 - REINFORCING STEEL SHALL BE A615 WITH GRADES AS FOLLOWS, UNLESS OTHERWISE NOTED:
 GRADE 60 - IN BUILDINGS AND SLUDGE RECIRCULATION PUMPING STATIONS.
 GRADE 40 - IN TANKS, THICKENER BUILDING AND OTHER STRUCTURES EXPOSED TO LIQUIDS.
 GRADE 60 MAY BE SUBSTITUTED FOR GRADE 40 AT CONTRACTOR'S CHOICE, AND SO INDICATED ON SHOP DRAWINGS PRIOR TO ENGINEER'S REVIEW.
 - MAXIMUM DESIGN STRESSES OF GRADE 60 REINFORCING IN BUILDINGS ARE 24,000 PSI. MAXIMUM DESIGN STRESSES IN STRUCTURES EXPOSED TO LIQUIDS, FOR ALL GRADES OF STEEL, ARE AS FOLLOWS:
 MEMBERS IN DIRECT TENSION, AND CIRCUMFERENTIAL REINFORCING OF CIRCULAR TANKS - 19,000 PSI
 MEMBERS IN BENDING AT LIQUID-CONTAINING FACE - 16,000 PSI
 MEMBERS IN BENDING AT FACES REMOTE FROM LIQUID - 20,000 PSI
 - REINFORCING STEEL SHALL HAVE A CONCRETE COVER AS FOLLOWS, EXCEPT AS OTHERWISE SHOWN ON DRAWINGS:
 BOTTOMS OF FOOTINGS, AND OTHER SURFACES CAST-IN-PLACE AGAINST EARTH - 3"
 SURFACES PROTECTED FROM WEATHER, EARTH OR LIQUIDS - SLABS 3/4", BEAMS AND COLUMNS 1-1/2", WALLS AND TOPS OF FOOTINGS AND FOUNDATION SLABS 1"
 SURFACES EXPOSED TO WEATHER, EARTH OR CONDENSATION - 2"
 SURFACES EXPOSED TO LIQUIDS - 2-1/2"
 IN NO CASE SHALL THE COVER BE LESS THAN 1-1/2 TIMES THE BAR DIAMETER.
 - LAPS IN CONTINUOUS REINFORCING SHALL BE A MINIMUM OF 30 DIAMETERS OR 12", EXCEPT AS OTHERWISE NOTED ON DRAWING. WELDING OR SPOT WELDING OF REINFORCING BARS IN GRADE 60 IS NOT PERMITTED. CIRCUMFERENTIAL REINFORCING IN CIRCULAR TANK WALLS MAY BE WELDED TO DEVELOP FULL STRENGTH OF BAR INSTEAD OF LAPS, IF GRADE NO USED.
 - ALL EXPOSED CONCRETE EDGES SHALL HAVE 3/4" CRAMFER, EXCEPT AT ADJUTING WALLS AND PARTITIONS.
 - FOR REINFORCING IN MASONRY WALL BOND BEAMS, SEE ARCHITECTURAL DRAWINGS.
 - IN WALLS, BEAMS SHALL BE POKETED A MINIMUM OF 6", AND SLABS 3", UNLESS OTHERWISE SHOWN ON DRAWINGS.
 - IN CONTINUOUS NON-CIRCULAR TANK WALLS AND SLABS, CONSTRUCTION JOINTS SHALL BE SPACED A MAXIMUM OF 30 FEET, UNLESS OTHERWISE NOTED ON DRAWINGS.
 - SHOP DRAWINGS SHALL BE COMPLETED AND CHECKED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ENGINEER'S APPROVAL.
 - CONTRACTOR SHALL SUBMIT FOR APPROVAL, DETAILS AND LOCATIONS OF ANY ADDITIONAL CONSTRUCTION JOINTS, INCLUDING PROVISION FOR PROPER DOWELING AND FLASHING.

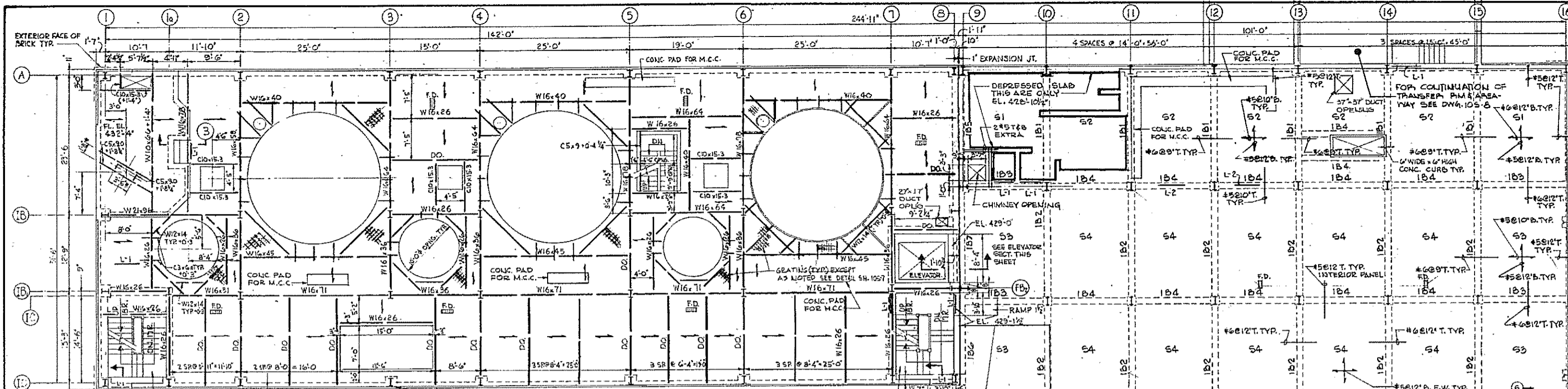


HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY

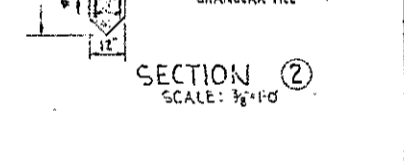
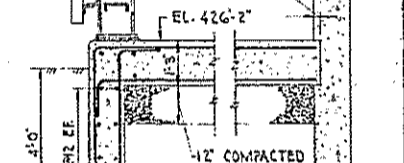
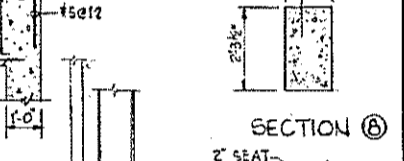
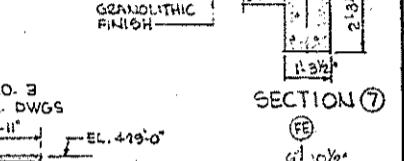
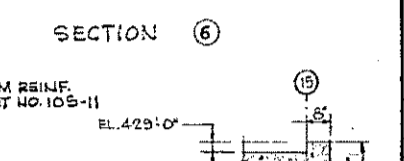
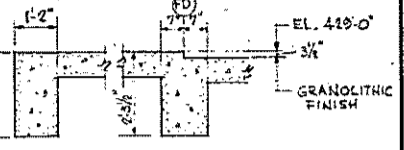


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 STRUCTURAL
 FOUNDATION PLAN AND SECTION
 SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DRAWN BY J.W. 83
 CHECKED BY J.E.L.
 APPROVED BY J.M. Cahaly
 SHEET NO. 105-1

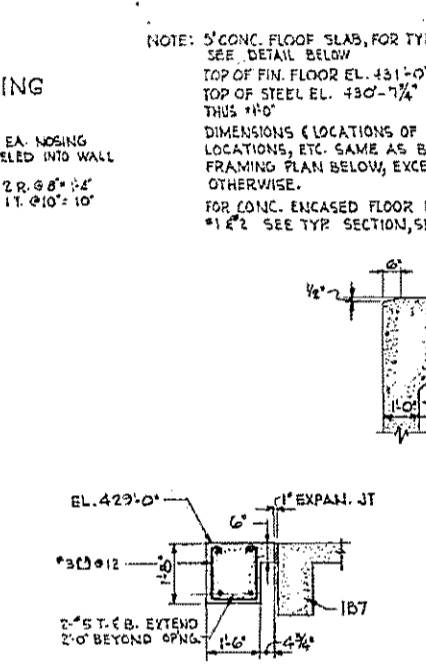
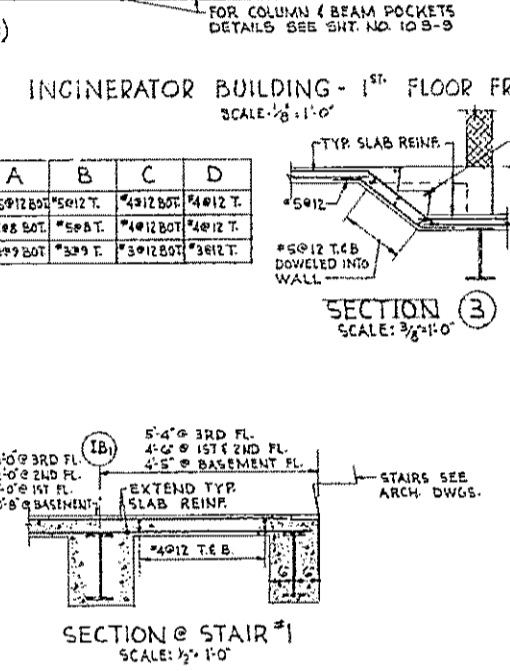
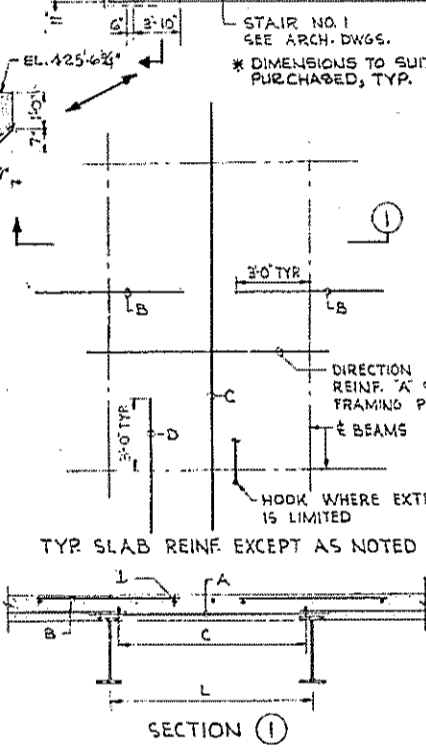


DESIGNATION	SIZE	REMARKS
L-1	1 1/2" x 3 1/2" x 1/2"	SEE NOTES BELOW
L-2	1 1/2" x 3 1/2" x 1/2"	DO.
L-3	1 1/2" x 3 1/2" x 1/2"	DO.
L-4	1 1/2" x 3 1/2" x 1/2"	SEE SECT. 1 SH. NO. 105-6
L-5	1 1/2" x 3 1/2" x 1/2"	SEE SECT. 2 " 105-6
L-6	1 1/2" x 3 1/2" x 1/2"	" " 105-6
L-7	1 1/2" x 3 1/2" x 1/2"	" " 105-5

LINTEL NOTES:
 1. FOR NUMBER OF ANGLES REQUIRED & MAGNIFY OPENING, SEE ARCH. DWGS.
 2. PROVIDE 4" MIN. END BEARING.



L	A	B	C	D
LESS THAN 8"	#5 @ 12"	#5 @ 12"	#4 @ 12"	#4 @ 12"
BETWEEN 8" & 12"	#5 @ 12"	#5 @ 12"	#4 @ 12"	#4 @ 12"
ROOF-ALL PANELS	#5 @ 12"	#5 @ 12"	#4 @ 12"	#4 @ 12"

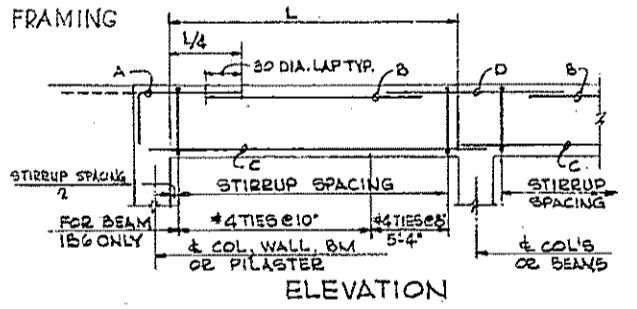


SECTION AT ELEVATOR
SCALE: 1/2" = 1'-0"

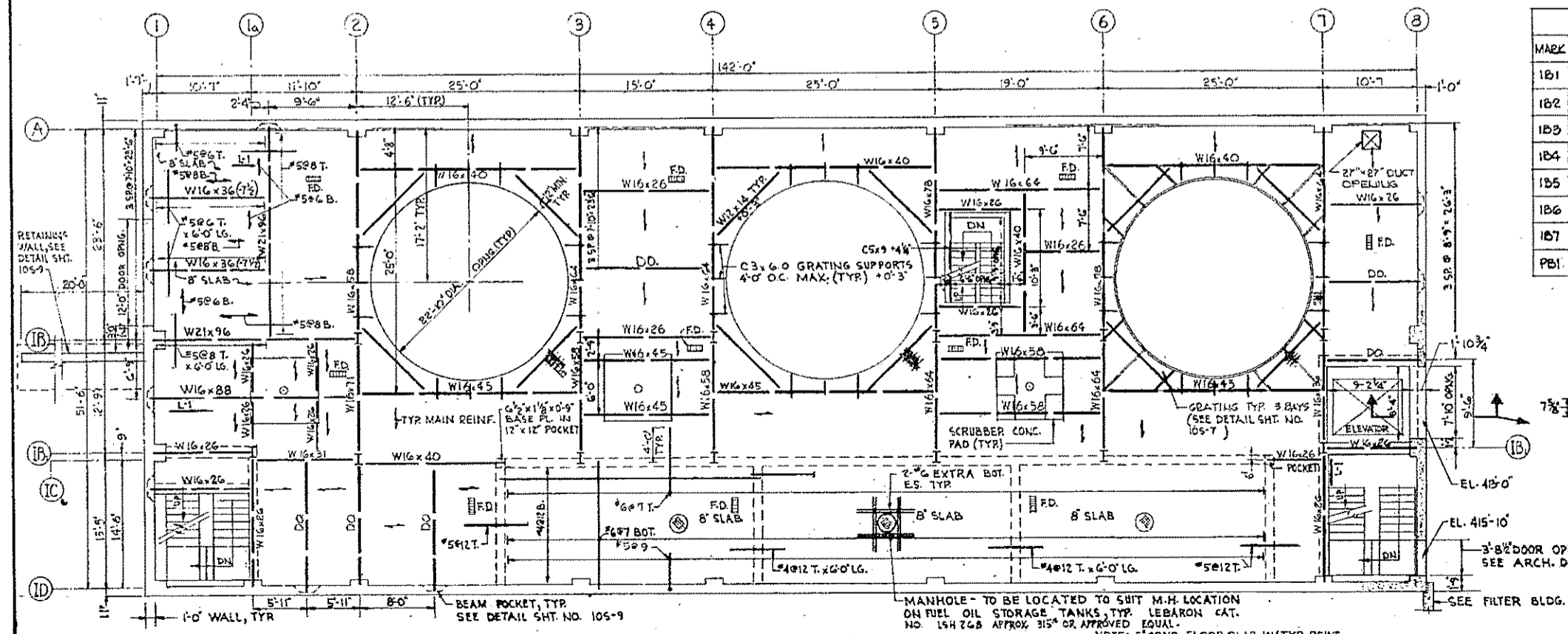
NOTE: 5" CONC. FLOOR SLAB, FOR TYR REINF. SEE DETAIL BELOW.
 TOP OF FIN. FLOOR EL. 431'-0" UNLESS NOTED.
 TOP OF STEEL EL. 430'-7 1/2" UNLESS NOTED.
 THIS "10"
 DIMENSIONS (LOCATIONS OF OPENINGS, BEAM LOCATIONS, ETC. SAME AS BASEMENT FLOOR FRAMING PLAN BELOW, EXCEPT AS NOTED OTHERWISE.
 FOR CONC. ENCASED FLOOR BEAMS @ STAIR #1 & 2 SEE TYR SECTION, SHE. NO. 105-9

FILTER BUILDING - 1st FLOOR FRAMING
SCALE: 1/8" = 1'-0"

MARK	W	D	REINFORCING				STIRRUP SPACING	REMARKS
			A	B	C	D		
1B1	15	24	4#7	2#5	4#9	4#9	4@10	VARIABLE @ STAIR #5
1B2	15	24	-	2#5	3#9	4#9	4@10	
1B3	12	24	3#6	2#5	3#7	3#8	4@10	VARIABLE @ STAIR #3
1B4	12	24	-	2#5	3#7	3#8	4@10	
1B5	12	24	3#6	2#5	3#5	3#8	4@10	
1B6	12	24	3#6	2#5	3#8	4#8	SEE ELEV.	
1B7	12	24	-	2#5	3#5	3#8	4@10	
PB1	12	12	2#5	2#5	2#7	-	3@12	PLATFORM @ ELEV. 410'-0"

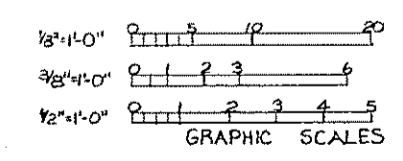


TYPICAL BEAM REINFORCING DETAILS
NO SCALE



INCINERATOR BUILDING - BASEMENT FLOOR FRAMING
SCALE: 1/8" = 1'-0"

NOTE: 5" CONC. FLOOR SLAB W/TYR REINF. SEE SHEET 105-2 EXCEPT AS OTHERWISE SHOWN.
 - INDICATES DIRECTION OF MAIN REINF. IN SLABS.
 TOP OF FIN. FLOOR EL. 420'-0"
 TOP OF STEEL EL. 420'-5 1/2" UNLESS NOTED. THIS "10"
 MEANS 421'-3 1/2"



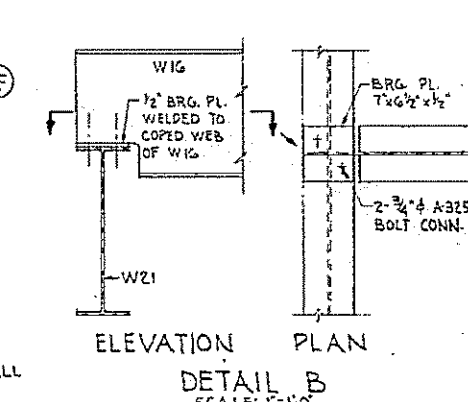
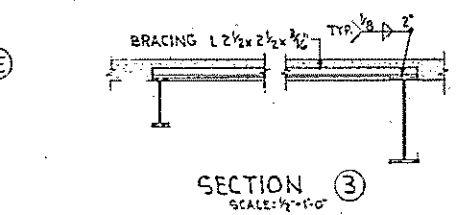
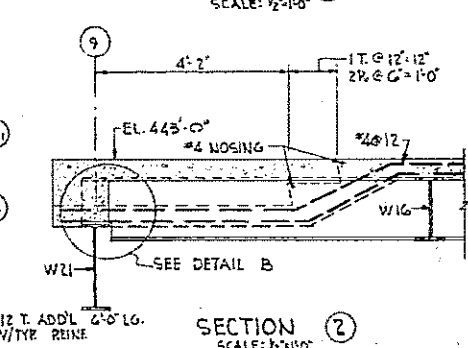
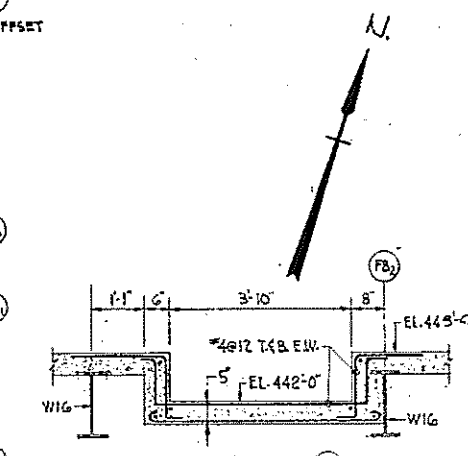
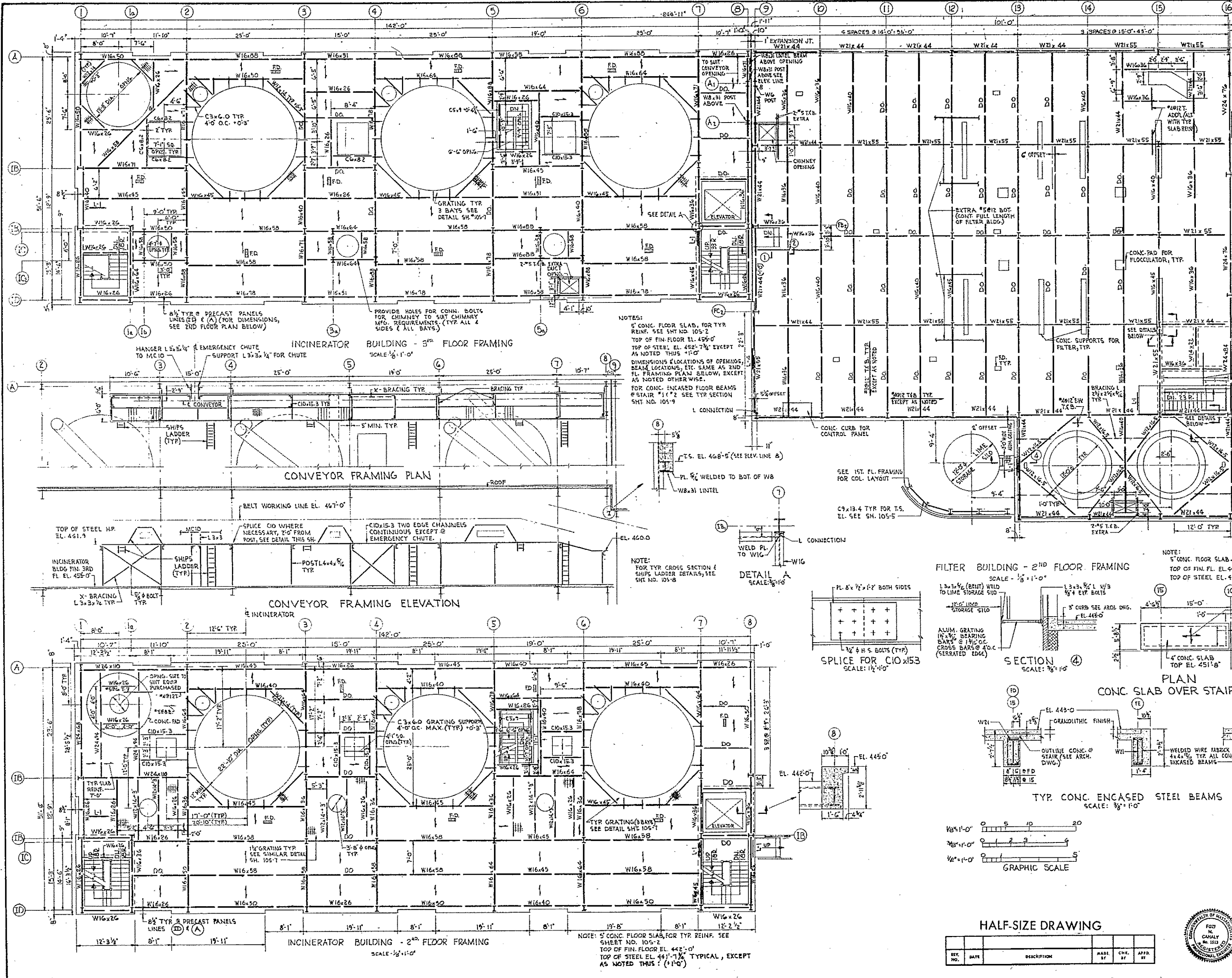
HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. N. - 10



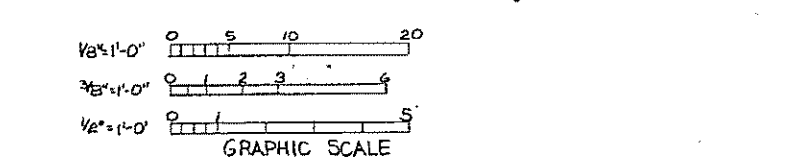
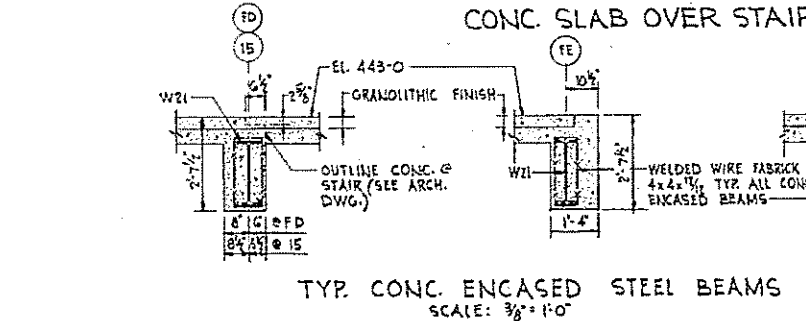
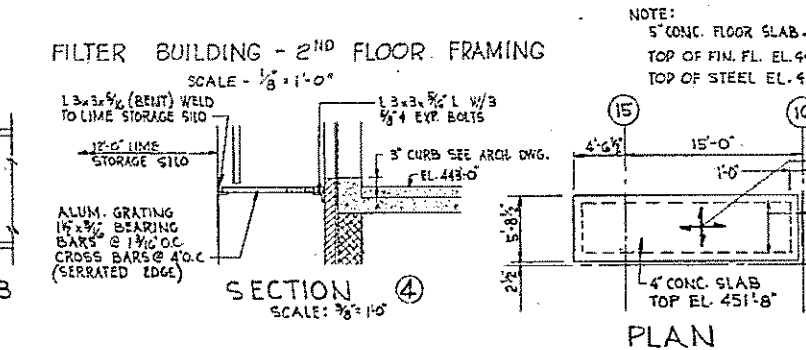
INCINERATOR AND FILTER BUILDINGS
 BASEMENT AND FIRST FLOOR FRAMING PLANS
 SCALE: AS NOTED
 FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. S.P.P., J.F.L.
 DR. C. J. B.
 JW-83
 APPROVED: J. M. Cahaly
 CONTRACT DRAWING SHEET NO. 105-2



NOTES:
 5" CONC. FLOOR SLAB, FOR TYP. REINF. SEE SHT NO. 105-2
 TOP OF FIN. FLOOR EL. 442'-0"
 TOP OF STEEL EL. 442'-7 1/2" EXCEPT AS NOTED THIS (1'-10")
 DIMENSIONS & LOCATIONS OF OPENINGS, BEAM LOCATIONS, ETC. SAME AS 2ND FL. FRAMING PLAN BELOW, EXCEPT AS NOTED OTHERWISE.
 FOR CONC. ENCASED FLOOR BEAMS @ STAIR #1 & 2 SEE SECTION SHT NO. 105-9

NOTE:
 FOR TYP. CROSS SECTION & SHIP LADDER DETAILS, SEE SHT NO. 105-8

NOTE: 5" CONC. FLOOR SLAB, FOR TYP. REINF. SEE SHEET NO. 105-2
 TOP OF FIN. FLOOR EL. 442'-0"
 TOP OF STEEL EL. 442'-7 1/2" TYPICAL, EXCEPT AS NOTED THIS (1'-10")

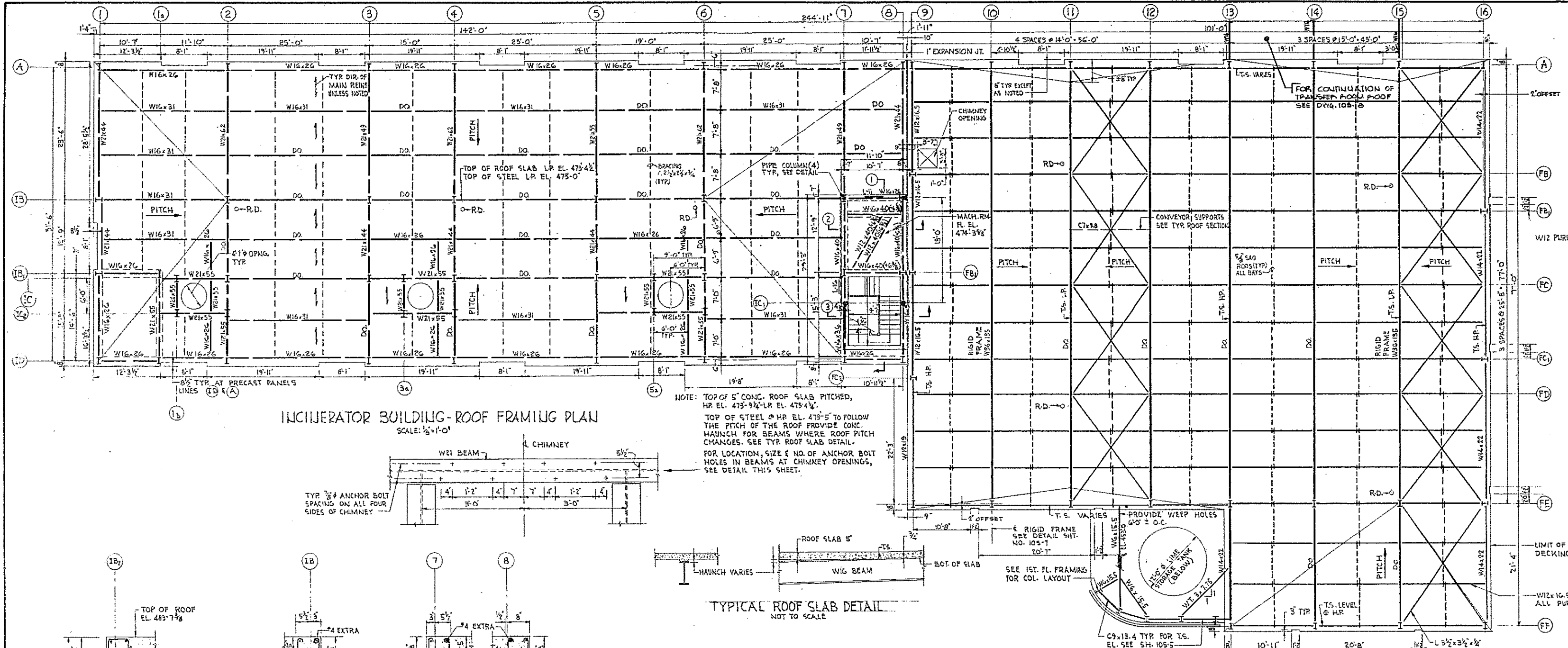


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. N. - 10
 STRUCTURAL
 INCINERATOR AND FILTER BUILDINGS
 SECOND AND THIRD FLOOR FRAMING PLANS
 SCALE: AS NOTED
 FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DEL. SPP, JPL
 DR. C. U. B.
 APPROVED: J. M. Cahaly
 PLAN NO. 125

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

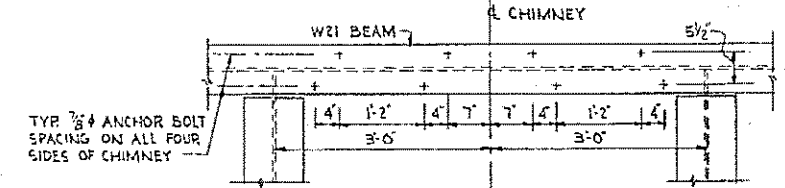
HALF-SIZE DRAWING

CONTRACT DRAWING SHEET NO. 105-3

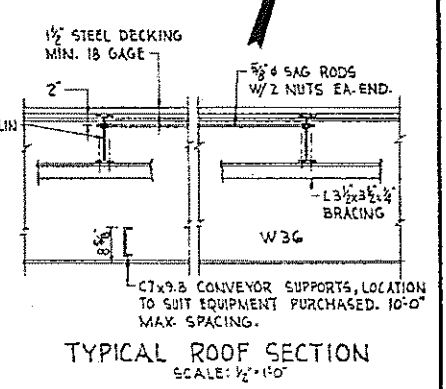


INCINERATOR BUILDING-ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"

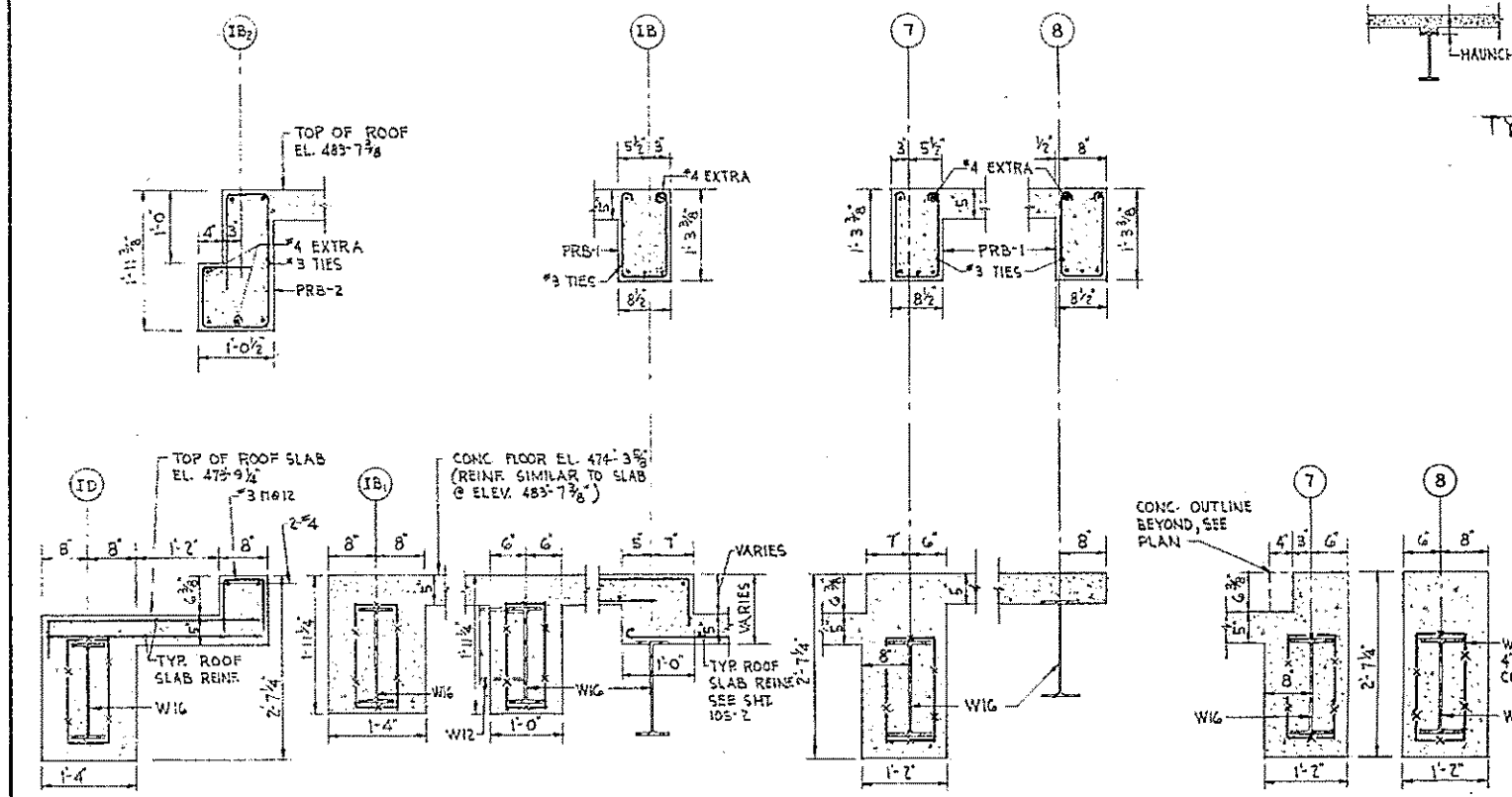
NOTE: TOP OF 5" CONC. ROOF SLAB PITCHED, HR EL. 475-9 1/2 L.R. EL. 475-4 1/4.
TOP OF STEEL @ HR EL. 475-5 TO FOLLOW THE PITCH OF THE ROOF PROVIDE CONC. HAUNCH FOR BEAMS WHERE ROOF PITCH CHANGES. SEE TYP. ROOF SLAB DETAIL.
FOR LOCATION, SIZE & NO. OF ANCHOR BOLT HOLES IN BEAMS AT CHIMNEY OPENINGS, SEE DETAIL THIS SHEET.



TYPICAL ROOF SLAB DETAIL
NOT TO SCALE



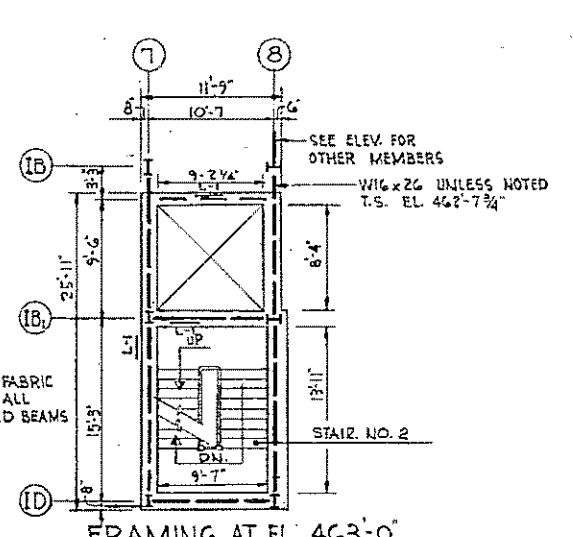
TYPICAL ROOF SECTION
SCALE: 1/2"=1'-0"



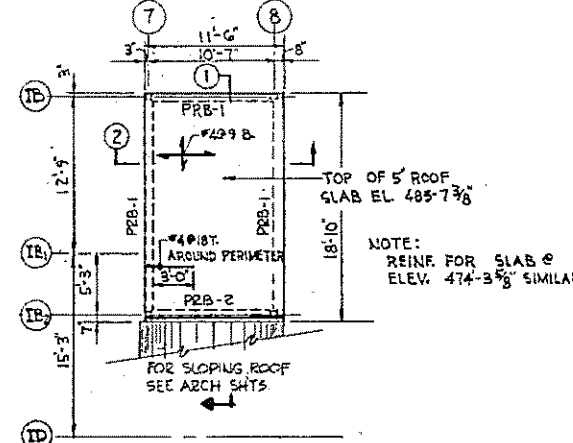
SECTION 1
SCALE: 3/4"=1'-0"

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

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



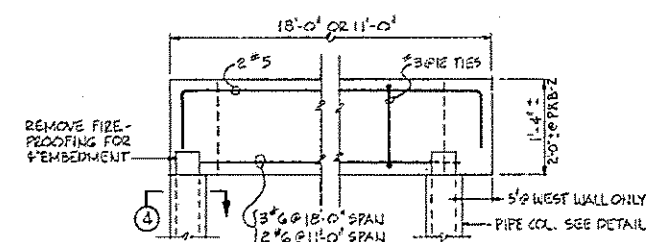
FRAMING AT EL. 463'-0"
SCALE: 1/4"=1'-0"



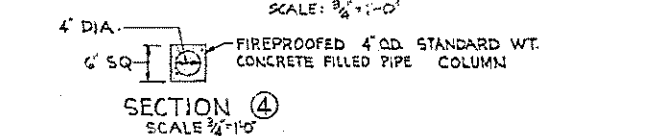
PENTHOUSE ROOF PLAN
SCALE: 1/4"=1'-0"

FILTER BUILDING-ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"

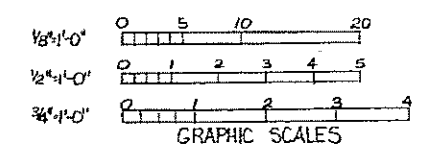
NOTE: TOP OF STEEL HIGH POINT EL. 468-4 1/4 L.R. EL. 467-11 1/2
1 1/2" METAL ROOF DECK MIN. 18 GAGE.



TYP. CONC. BEAM DETAIL
SCALE: 3/8"=1'-0"



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

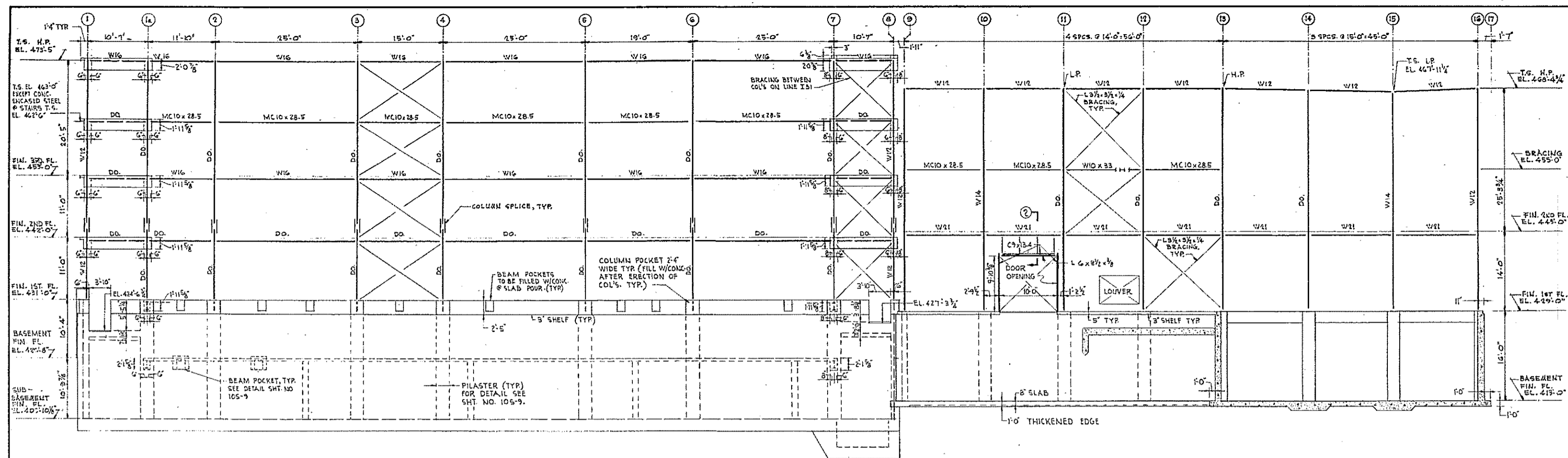


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REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

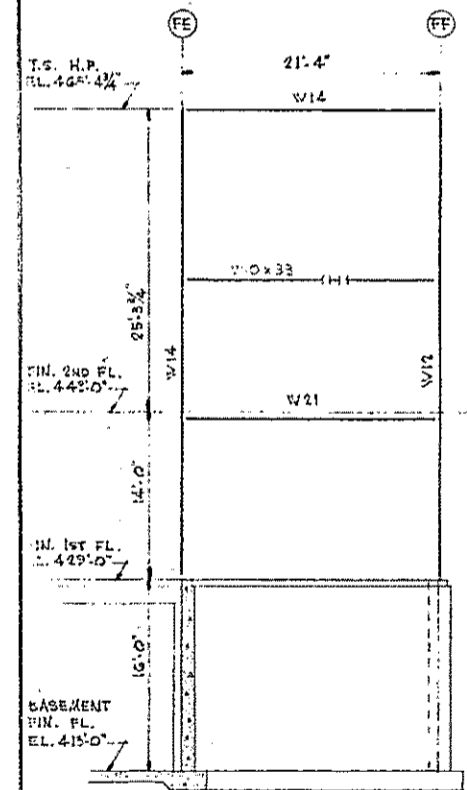
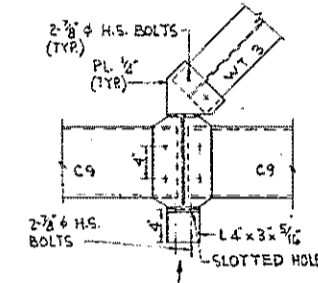


COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. - 10
STRUCTURAL
INCINERATOR AND FILTER BUILDINGS
ROOF FRAMING PLAN
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. S.P.R. J.F.L. 16
CHK. S.P.R. J.F.L. 16
APP. J.W.-83
APPROVED *J. M. Cahaly*
126
CONTRACT DRAWING SHEET NO. 105-4

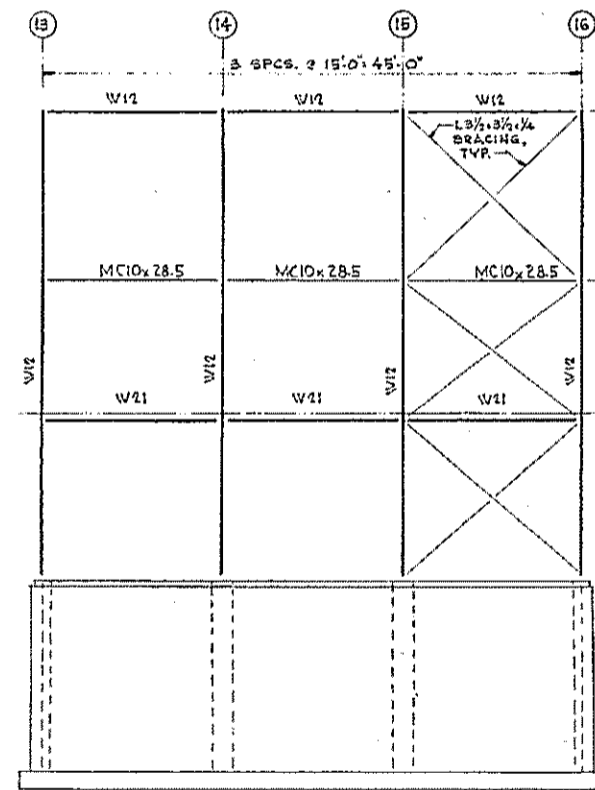


INCINERATOR BLDG. ELEVATION - LINE 1D
SCALE: 1/8" = 1'-0"

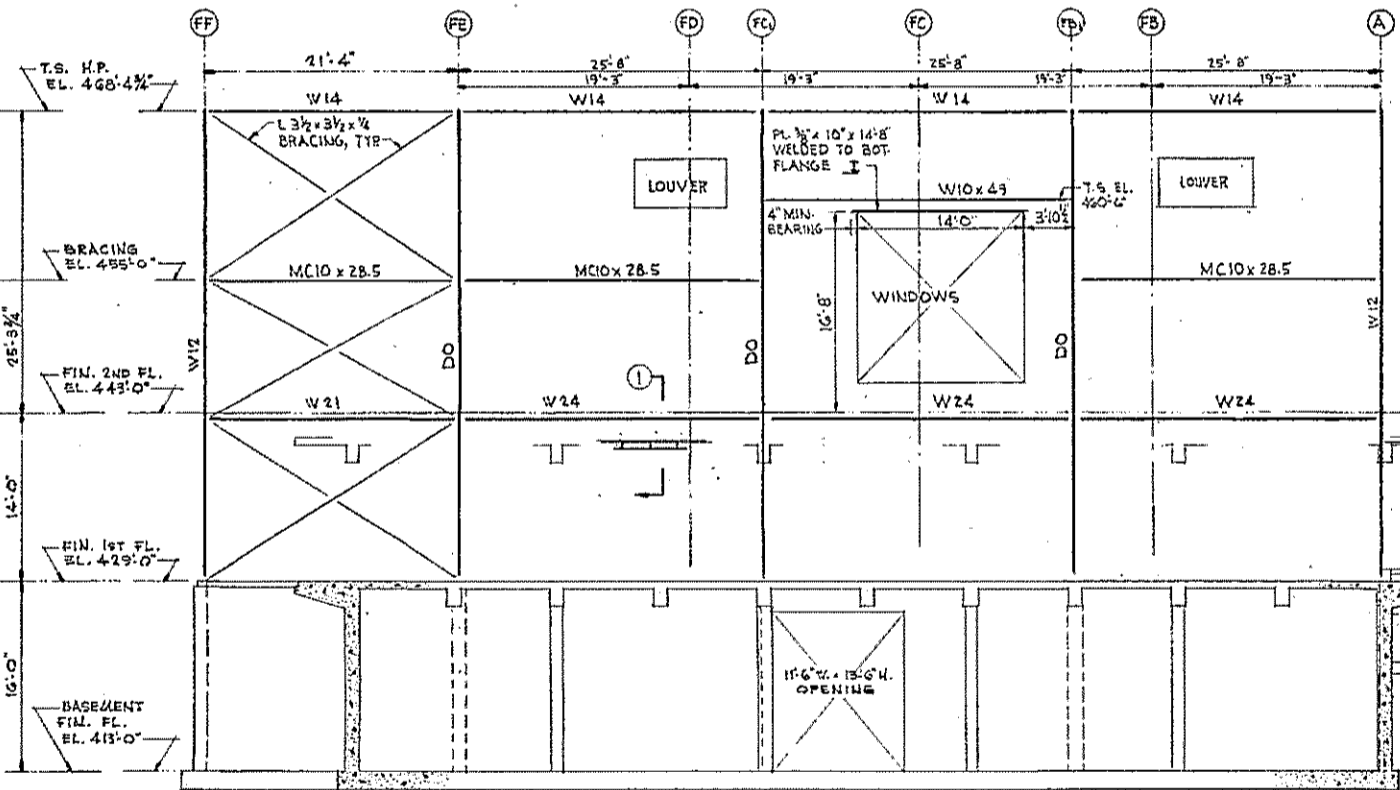
FILTER BLDG. ELEVATION - LINE 1E
SCALE: 1/8" = 1'-0"



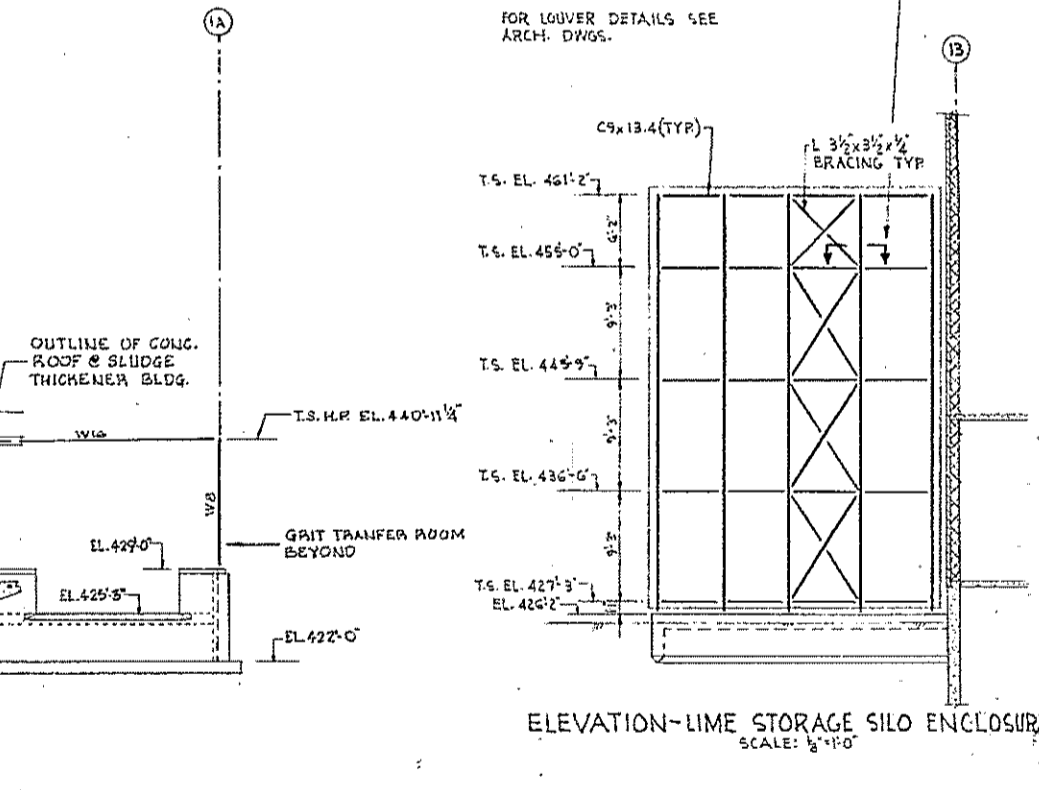
LINE 1B



LINE 1F



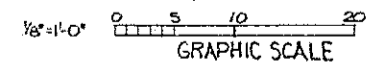
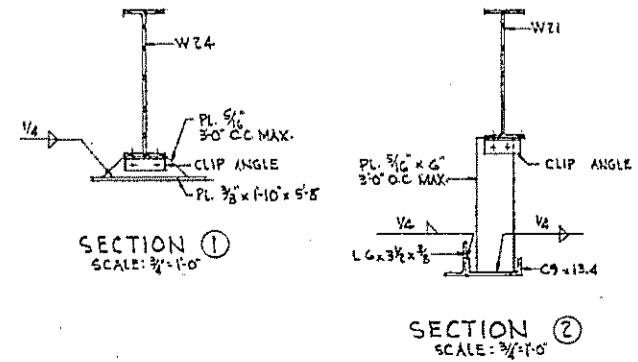
LINE 1G



ELEVATION-LIME STORAGE SILO ENCLOSURE
SCALE: 1/8" = 1'-0"

FILTER BLDG. ELEVATIONS
SCALE: 1/8" = 1'-0"

- STRUCTURAL STEEL NOTES
- STEEL CONSTRUCTION SHALL BE TYPE 2 OR TYPE 1 WHERE SHOWN IN ACCORDANCE WITH "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS," AMERICAN INSTITUTE OF STEEL CONSTRUCTION - 1969 EDITION AND SUPPLEMENTS.
 - WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR WELDING IN BUILDING CONSTRUCTION - 1969.
 - STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 STANDARD.
 - COLUMNS SHALL BE SET PLUMB. EKOS OF COLUMNS BEARING ON BASE PLATES SHALL BE MILLED.
 - STRUCTURAL STEEL SHALL BE ERECTED WITH THE NATURAL BOW UPWARD.
 - CONNECTIONS:
 - CONNECTION BOLTS SHALL BE ASTM A325 HIGH STRENGTH BOLTS.
 - CONNECTIONS, EXCEPT AS NOTED, SHALL SUPPORT HALF THE TOTAL UNIFORM LOAD CAPACITY SHOWN IN TABLES FOR ALLOWABLE LOADS ON BEAMS FOR THE GIVEN SIMPLE SPAN FOR A36 STEEL AS PER AISC MANUAL OF STEEL CONSTRUCTION - 1969 EDITION.
 - CONNECTIONS SHALL BE DESIGNED AS BEARING TYPE WITH THREADS IN SHEAR PLANES AND WITH A MINIMUM 2-3/4" BOLTS PER CONNECTION.
 - ANCHOR BOLTS AND TIE RODS SHALL BE ASTM A307 STANDARD.



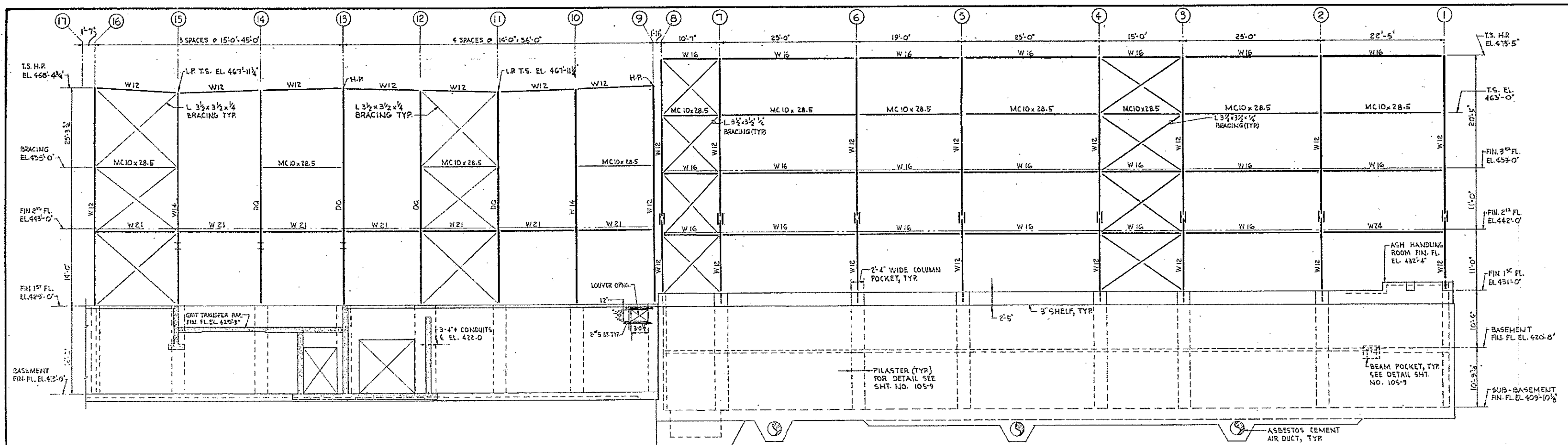
HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



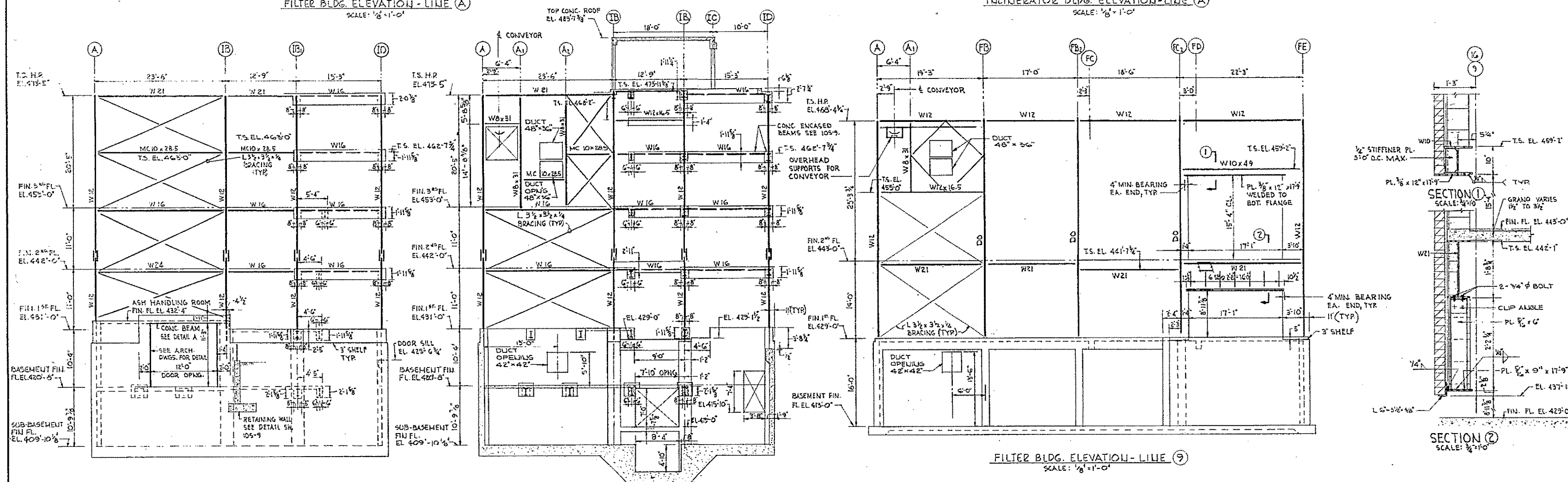
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
STRUCTURAL
INCINERATOR AND FILTER BUILDINGS
FRAMING ELEVATIONS - 1

SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DEL. S.P.P. J.R.C. TR. C.M.S.P.P. J.E.L. JR. FILE NO. JW-83
APPROVED *F. M. Cahaly* 127
CONTRACT DRAWING SHEET NO. 10S-5



FILTER BLDG. ELEVATION - LINE A
SCALE: 1/8" = 1'-0"

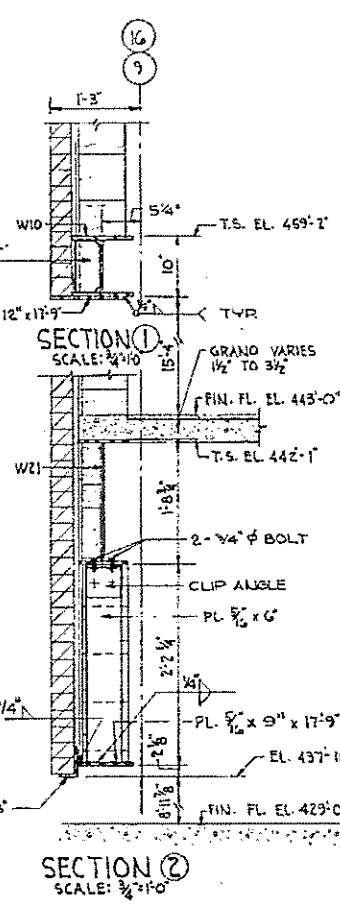
INCINERATOR BLDG. ELEVATION - LINE A
SCALE: 1/8" = 1'-0"



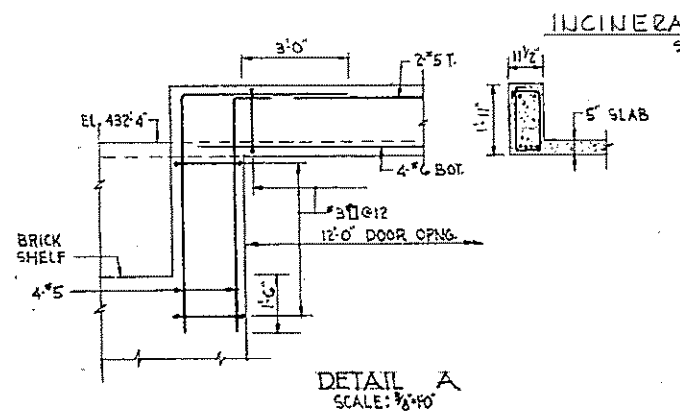
LINE 1

LINE 8

FILTER BLDG. ELEVATION - LINE 9
SCALE: 1/8" = 1'-0"

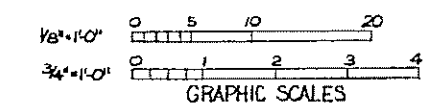


SECTION 2
SCALE: 3/8" = 1'-0"



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

INCINERATOR BLDG. ELEVATIONS
SCALE: 1/8" = 1'-0"



HALF-SIZE DRAWING

REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N.-10
STRUCTURAL
INCINERATOR AND FILTER BUILDINGS
FRAMING ELEVATIONS - II
SCALE: AS NOTED
FEBRUARY, 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. BY: J.M.C. TR. BY: J.F.L. SDR. 16
CHK. BY: J.W. JW-83
APPROVED: J. M. Cahaly
CONTRACT DRAWING SHEET NO. 105-6

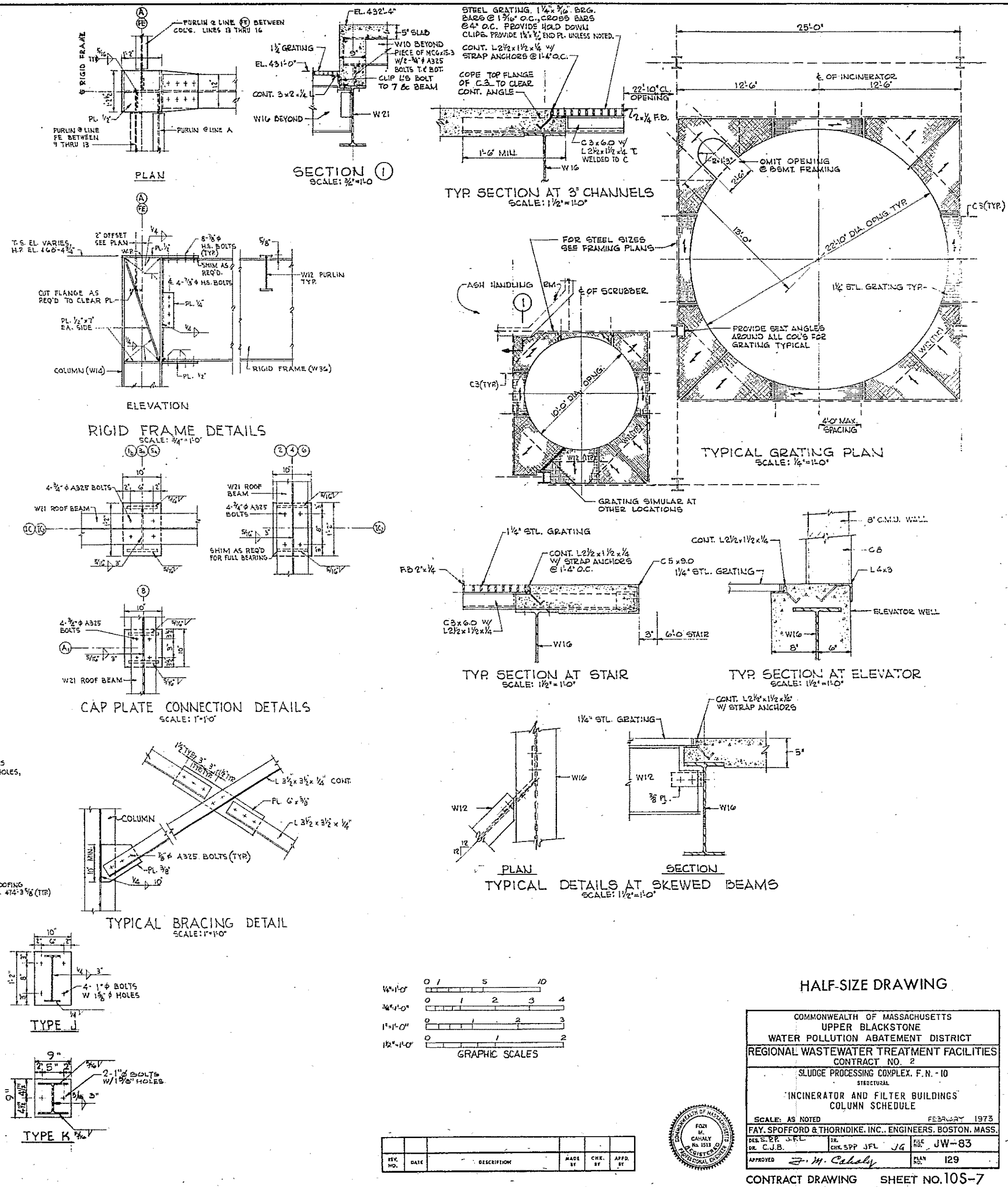
COLUMN DESIGNATION	COLUMN SIZE	BASE PLATE SIZE OR BASE CONNECTION	INCINERATOR BUILDING		FILTER BUILDING	
			BASE PLATE SIZE	BASE CONNECTION	BASE PLATE SIZE	BASE CONNECTION
HP T.S. EL. 415'-5"	11'-0"	1'-3" x 1'-2" (A)	15'-0" FL. H.P.	W12x45	15'-0" FL. H.P.	W14x87
TOP OF PLATFORM EL. 462'-0"	11'-0"	10' x 1'-1" (A)	15'-0" FL. H.P.	W12x50	15'-0" FL. H.P.	W12x55
FIN. 2 nd FL. EL. 453'-0"	11'-0"	10' x 2'-0" (B)	15'-0" FL. H.P.	W12x58	15'-0" FL. H.P.	W14x87
FIN. 1 st FL. EL. 442'-0"	11'-0"	10' x 2'-0" (B)	15'-0" FL. H.P.	W12x58	15'-0" FL. H.P.	W14x87
BASEMENT FIN. FL. EL. 429'-0"	11'-0"	10' x 2'-0" (B)	15'-0" FL. H.P.	W12x58	15'-0" FL. H.P.	W14x87
SUB-BASEMENT EL. 409'-10 1/2"	11'-0"	10' x 2'-0" (B)	15'-0" FL. H.P.	W12x58	15'-0" FL. H.P.	W14x87

STEEL COLUMN SCHEDULE

INCINERATOR BUILDING	FILTER BUILDING
HP T.S. EL. 415'-5"	W14x87
TOP OF PLATFORM EL. 462'-0"	W12x55
FIN. 2 nd FL. EL. 453'-0"	W14x87
FIN. 1 st FL. EL. 442'-0"	W14x87
BASEMENT FIN. FL. EL. 429'-0"	W14x87
SUB-BASEMENT EL. 409'-10 1/2"	W14x87

BASE PLATE DETAILS

NOTE: PROVIDE 3/16" THICK SETTING PL'S UNDER ALL BASE PL'S, EXCEPT UNDER BASE PL'S BOLTED TO STEEL BEAMS.



GRAPHIC SCALES

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

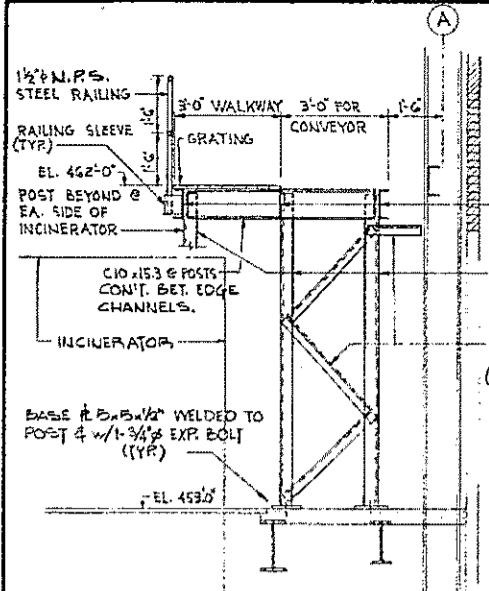
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 STRUCTURAL
 'INCINERATOR AND FILTER BUILDINGS'
 COLUMN SCHEDULE

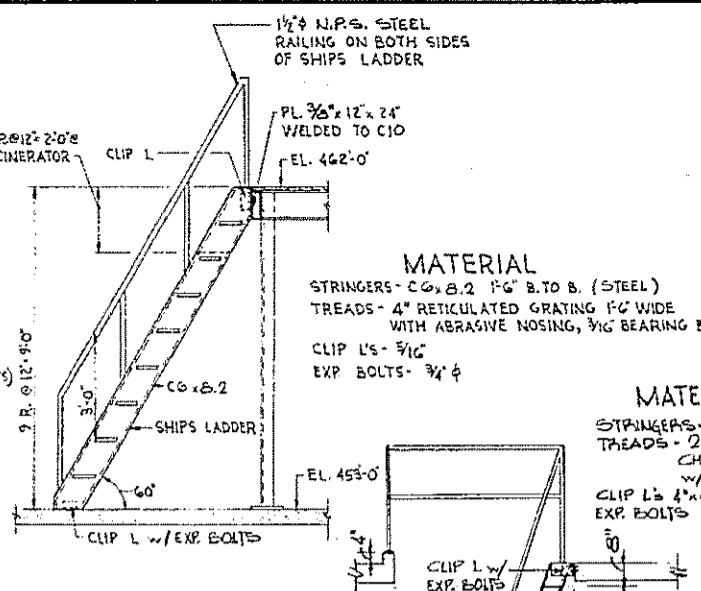
SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. BY: J.F.L. CHK. BY: J.P.L. J.G. JW-83
 DR. C.J.B. DR. S.P.P. J.F.L. J.G.

APPROVED: *J.M. Cahaly* 129

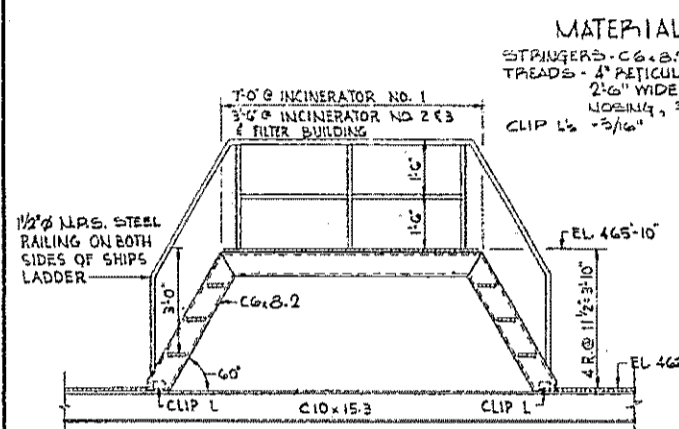
CONTRACT DRAWING SHEET NO. 10S-7



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



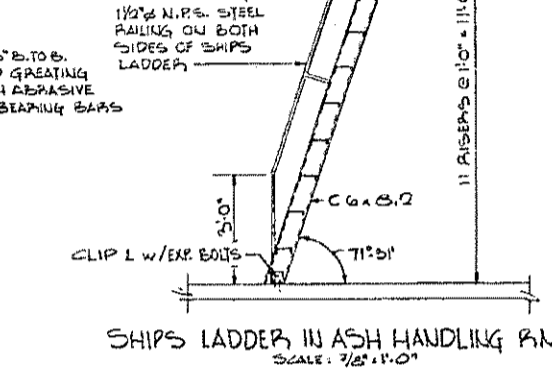
SHIPS LADDER
SCALE: 3/8" = 1'-0"



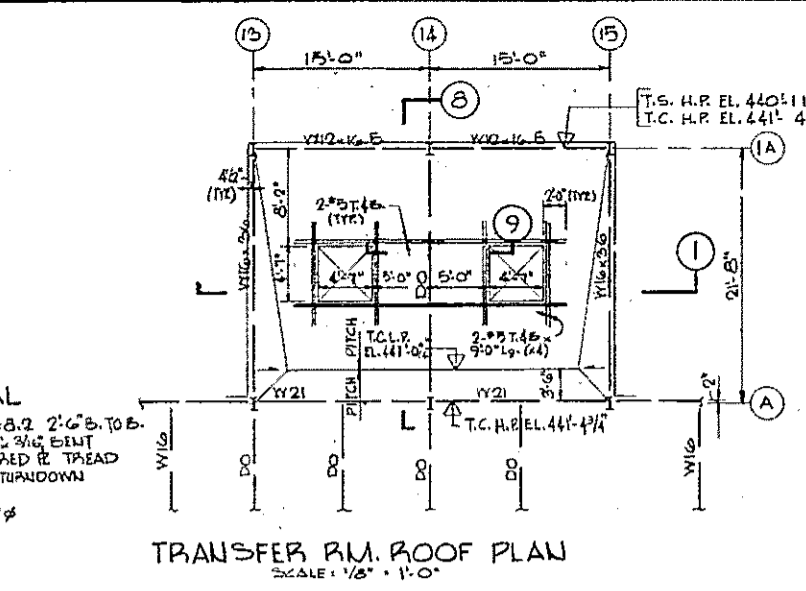
CROSSOVER
SCALE: 3/8" = 1'-0"

NOTE: DETAILS FOR CROSSOVER IN FILTER BUILDING SIMILAR, EXCEPT SHALL BE ALUM. SIDES OF MEMBERS SAME AS PLATFORM FOR MIXERS

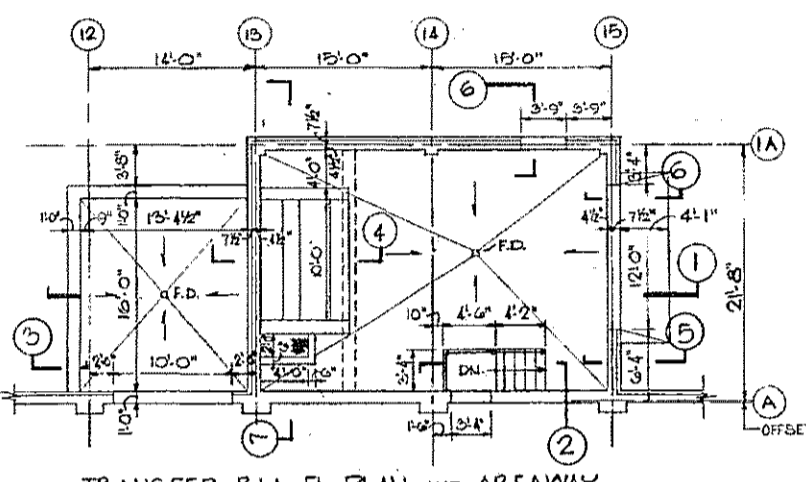
CONVEYOR FRAMING DETAILS



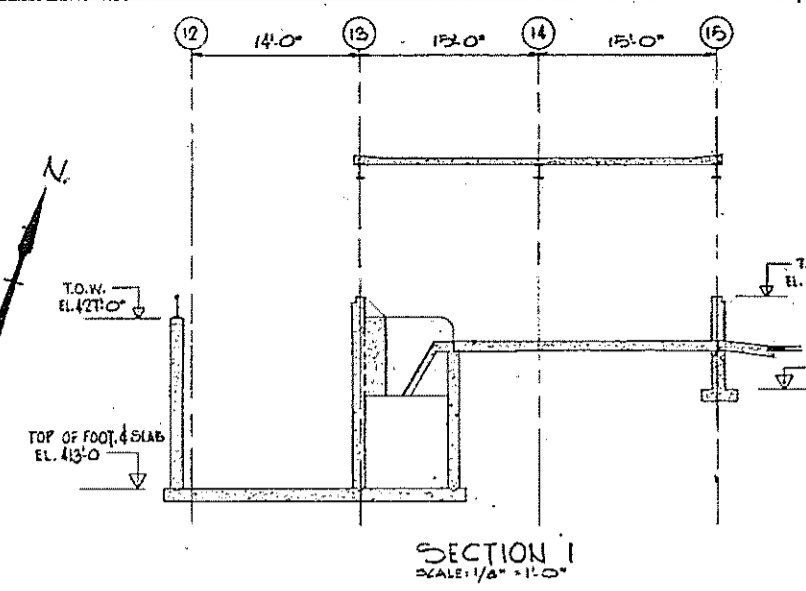
SHIPS LADDER IN ASH HANDLING P.M.
SCALE: 3/8" = 1'-0"



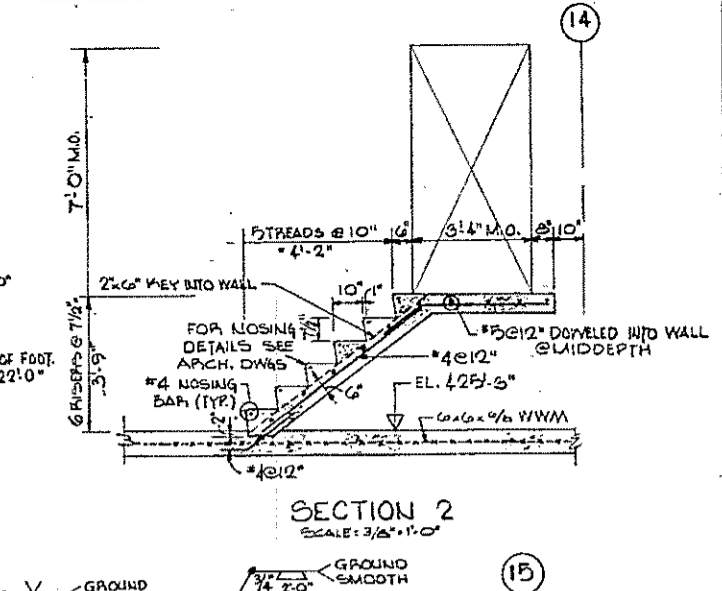
TRANSFER R.M. ROOF PLAN
SCALE: 1/8" = 1'-0"



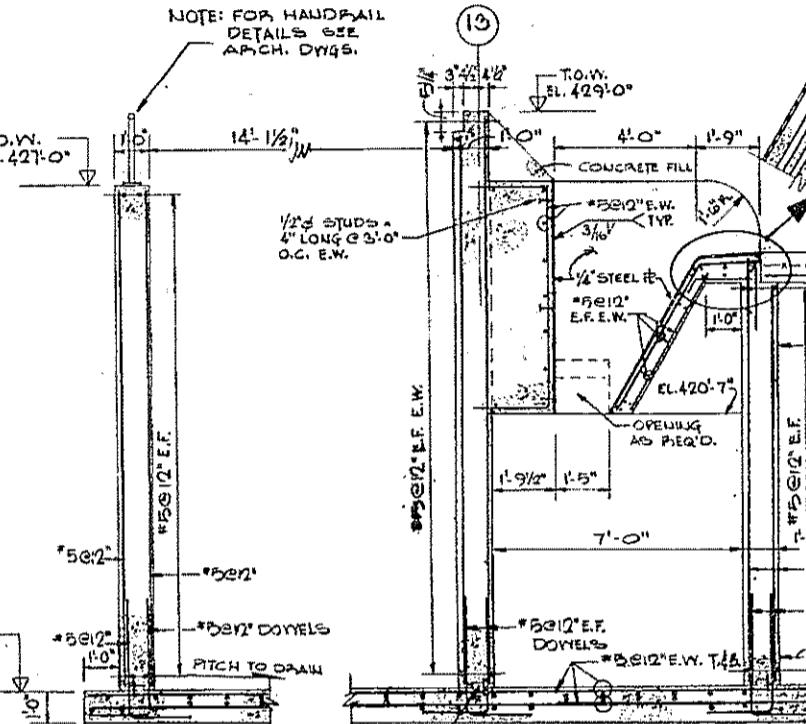
TRANSFER R.M. FL. PLAN AND AREAWAY
SCALE: 1/8" = 1'-0"



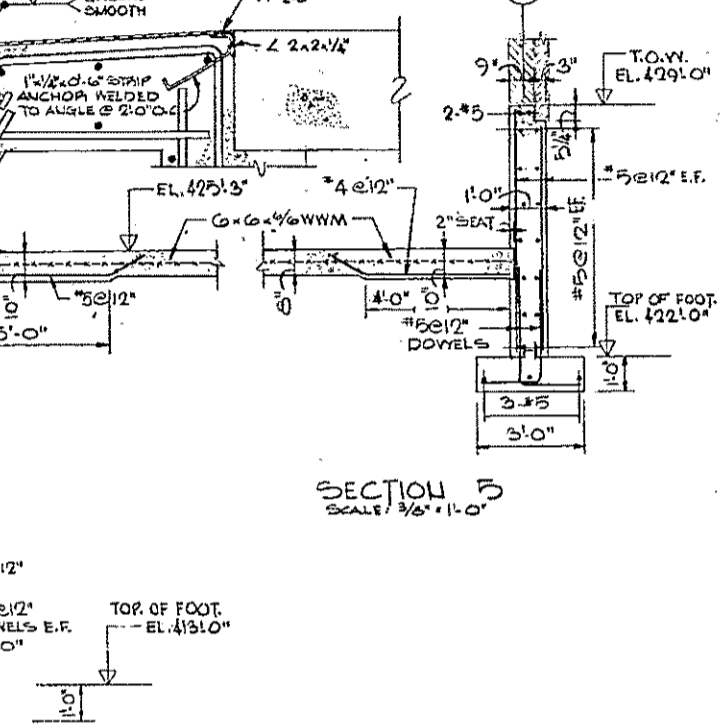
SECTION 1
SCALE: 1/4" = 1'-0"



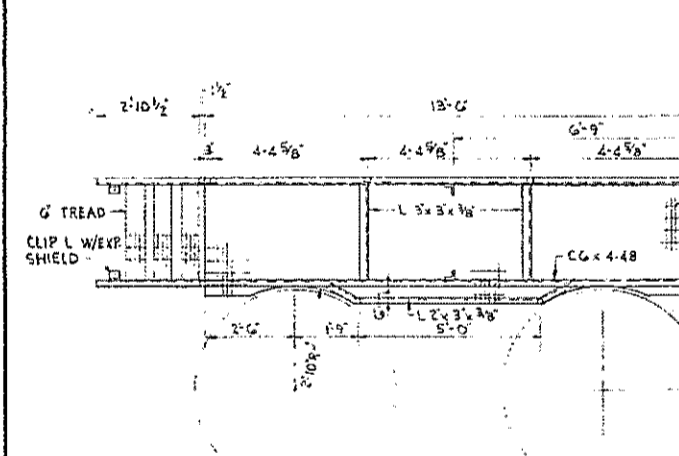
SECTION 2
SCALE: 3/8" = 1'-0"



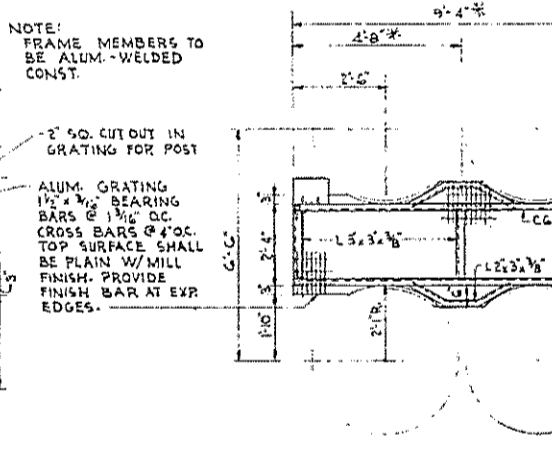
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SCALE: 3/8" = 1'-0"



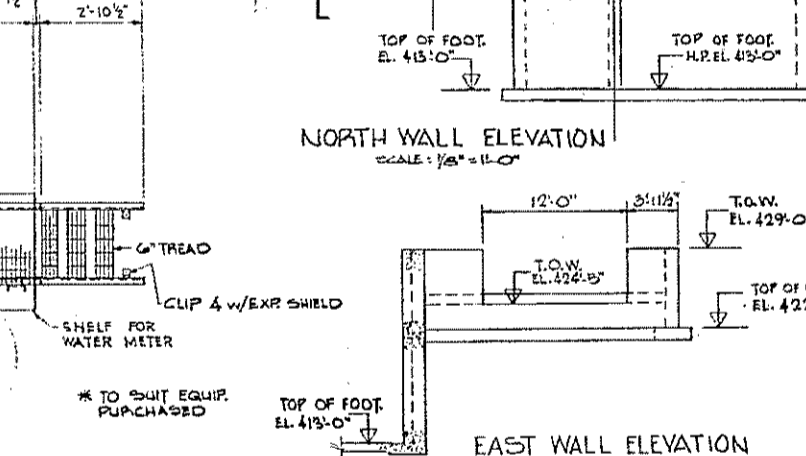
SECTION 4
SCALE: 3/8" = 1'-0"



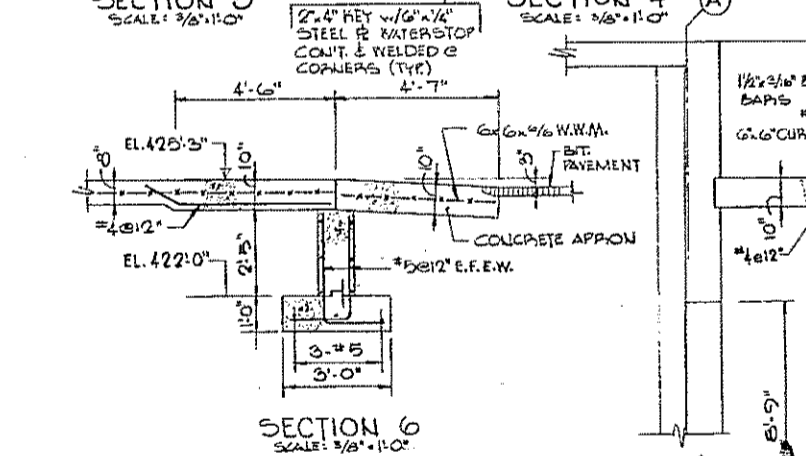
PLAN



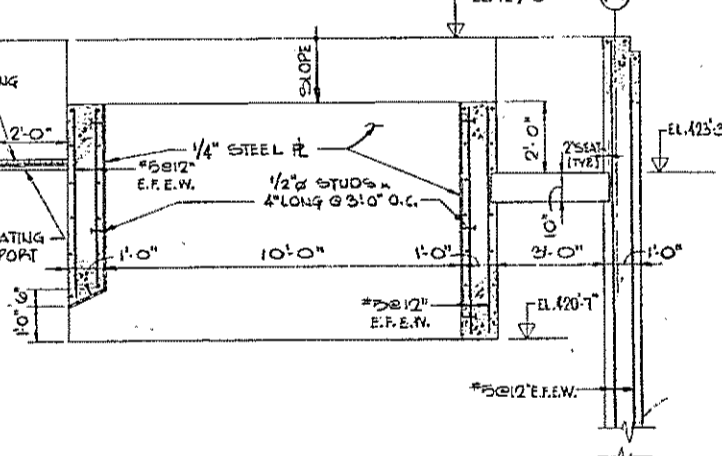
PLAN



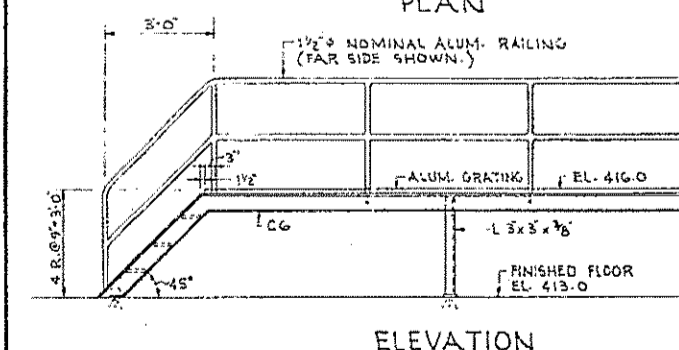
NORTH WALL ELEVATION
SCALE: 1/8" = 1'-0"



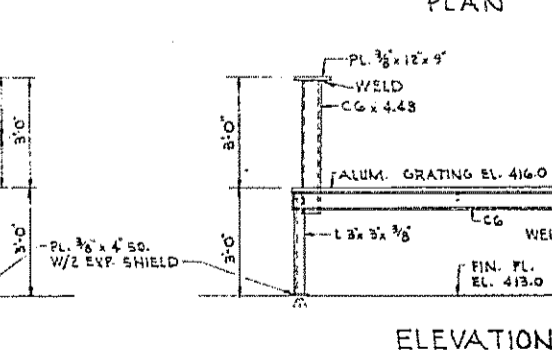
SECTION 5
SCALE: 3/8" = 1'-0"



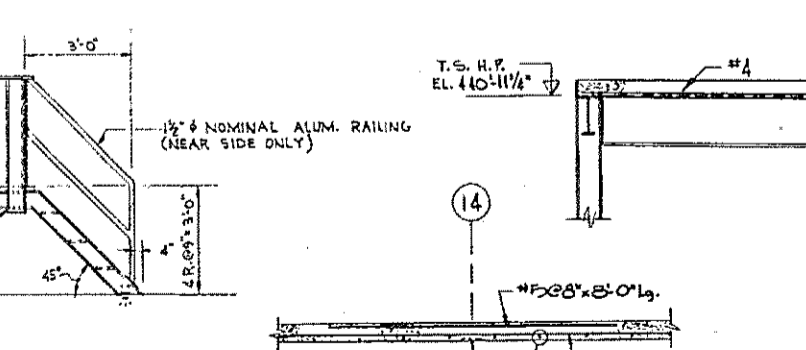
SECTION 6
SCALE: 3/8" = 1'-0"



ELEVATION



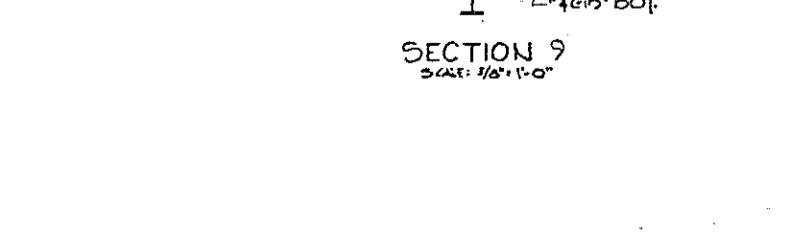
ELEVATION



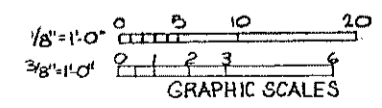
SECTION 7
SCALE: 3/8" = 1'-0"



PLATFORM DETAILS FOR MIXERS
SCALE: 3/8" = 1'-0"



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

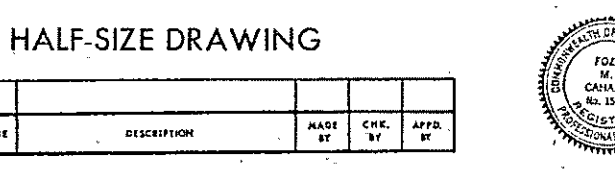
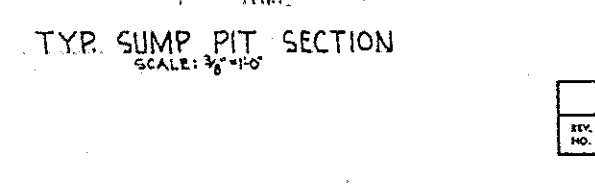
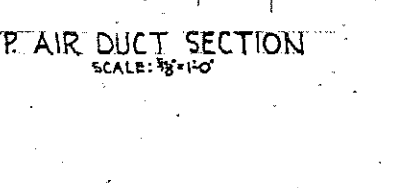
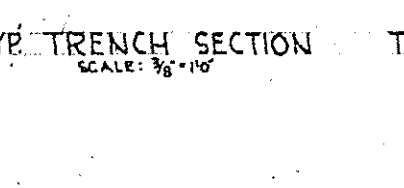
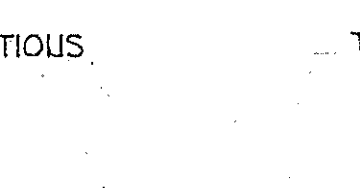
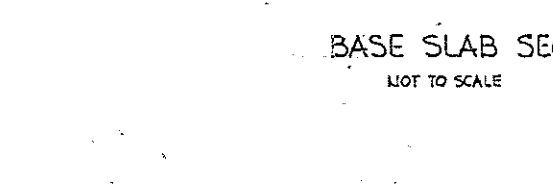
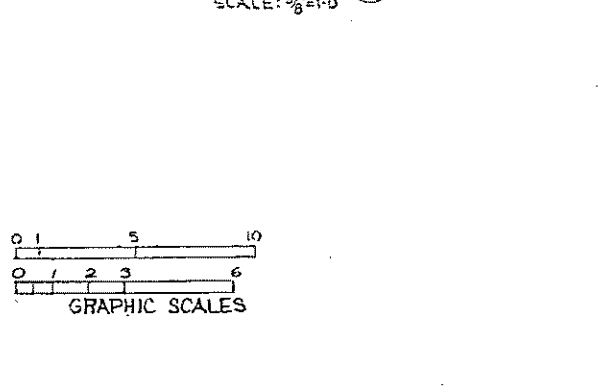
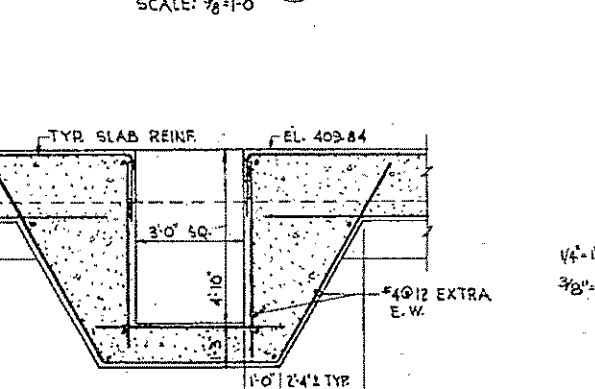
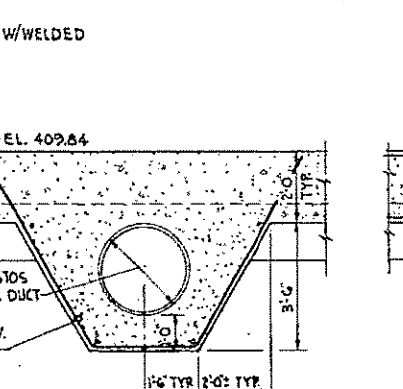
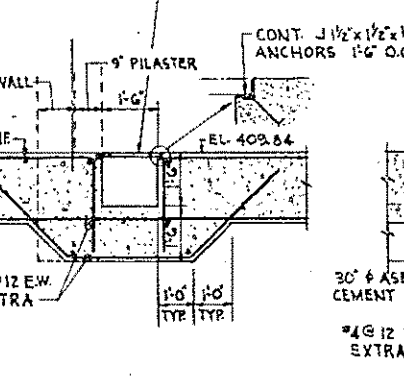
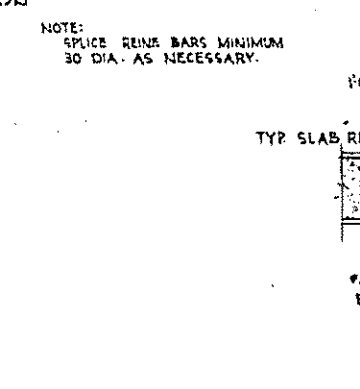
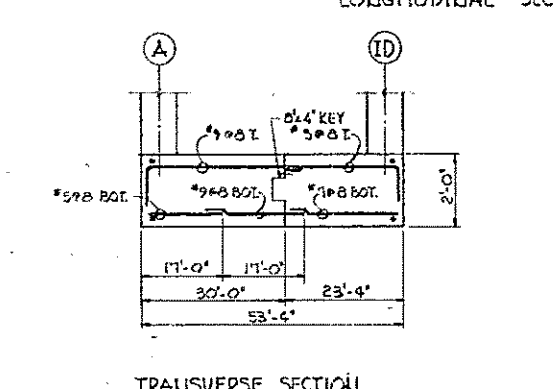
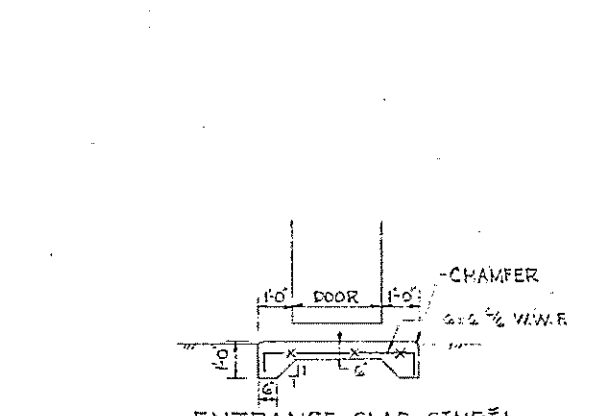
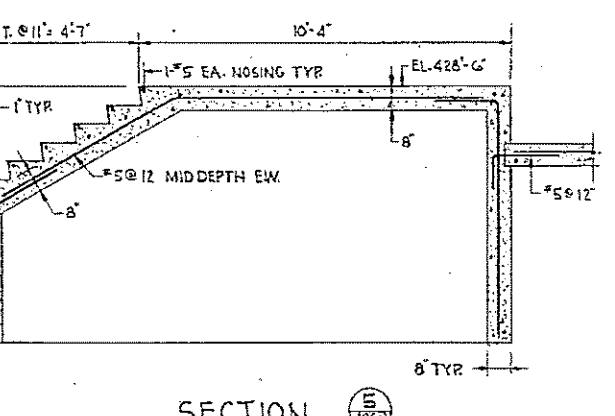
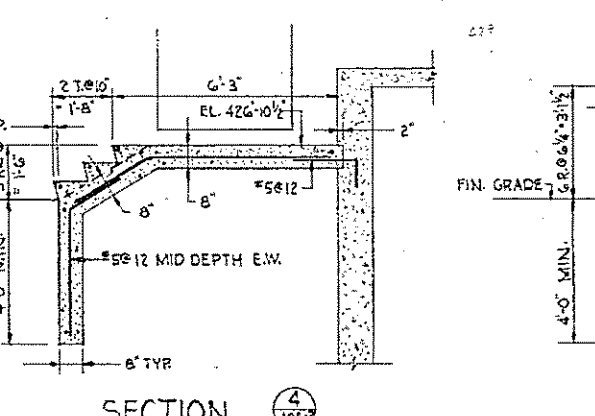
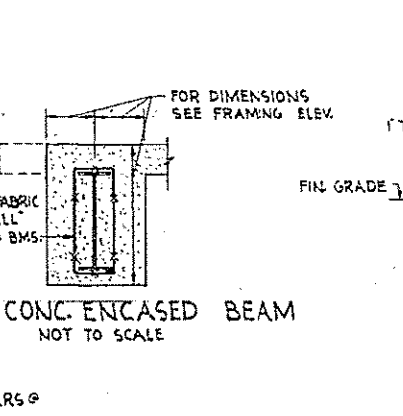
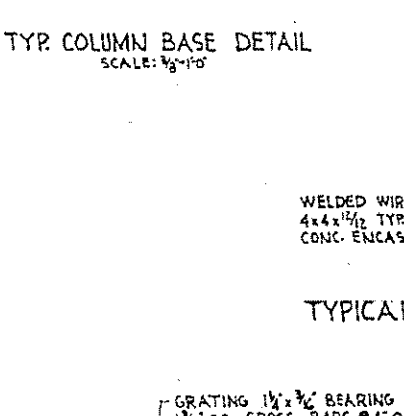
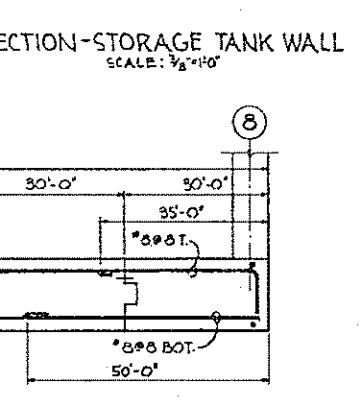
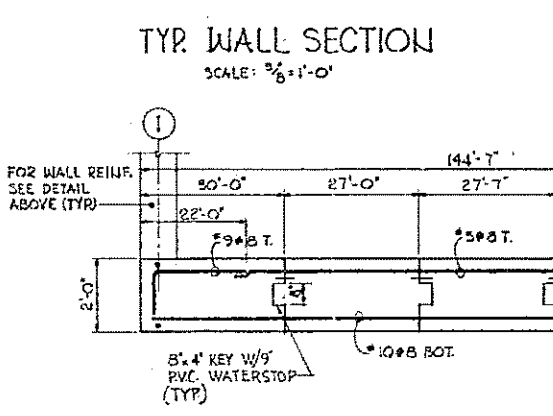
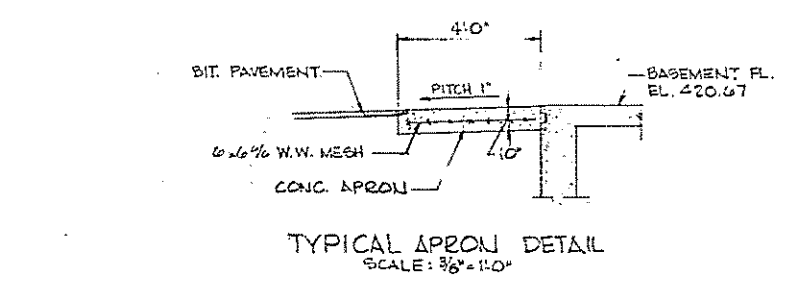
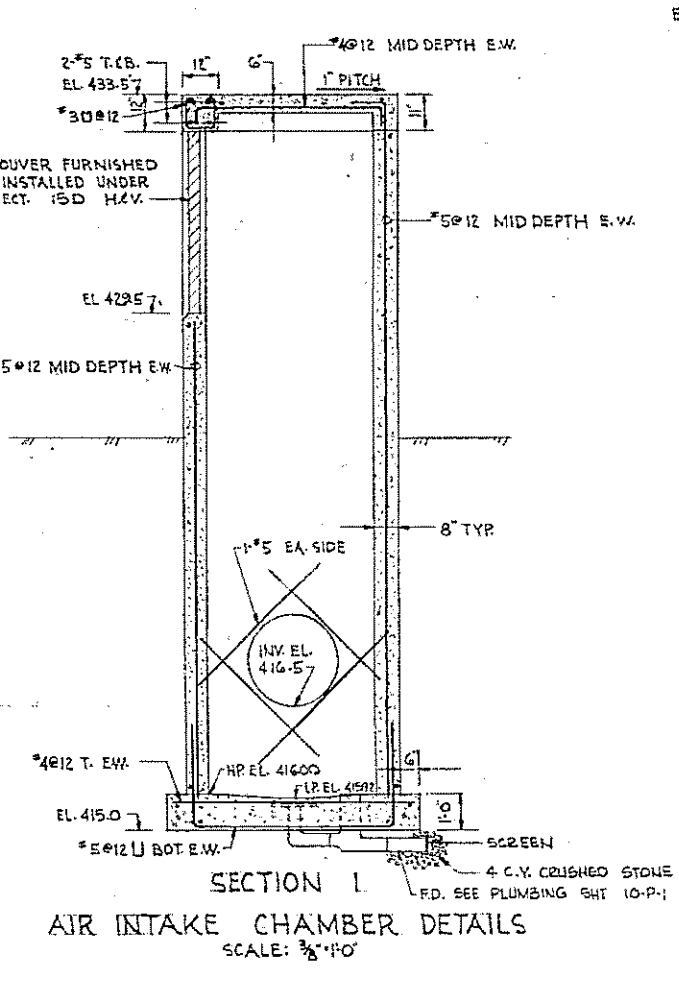
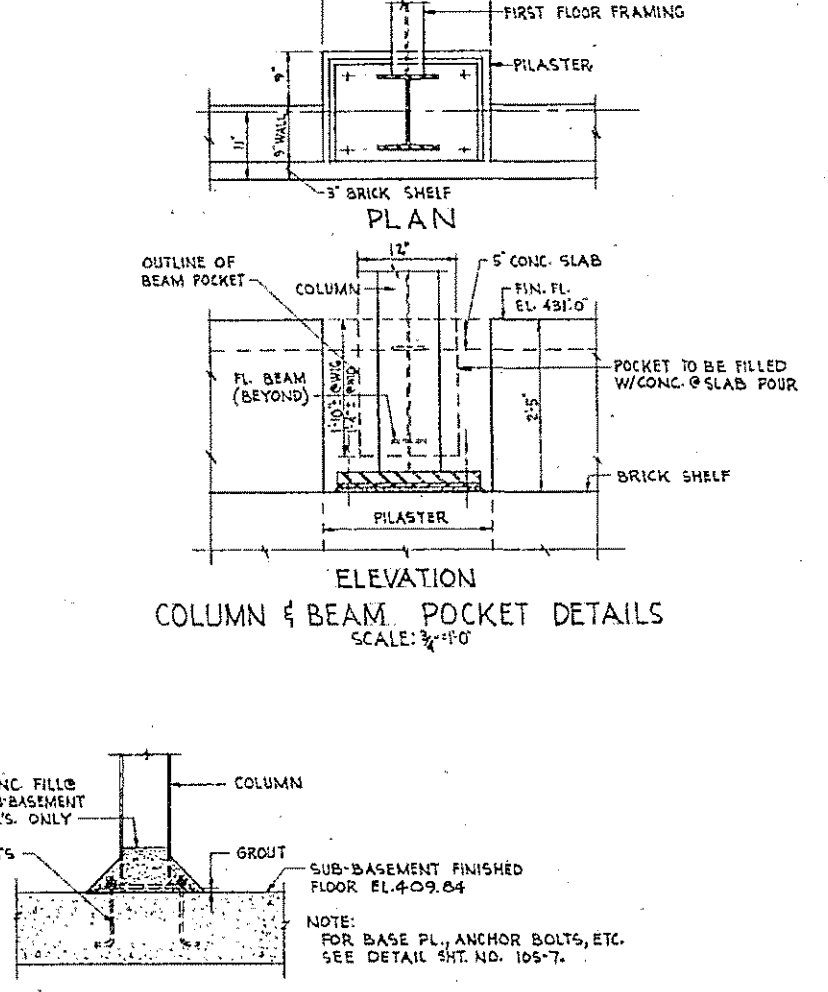
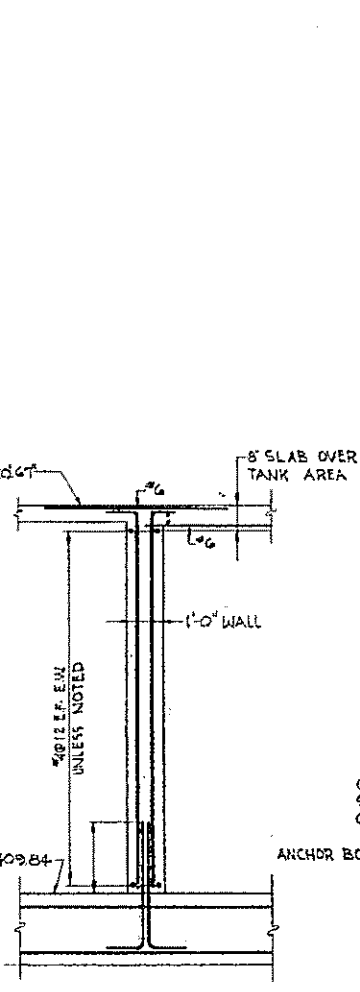
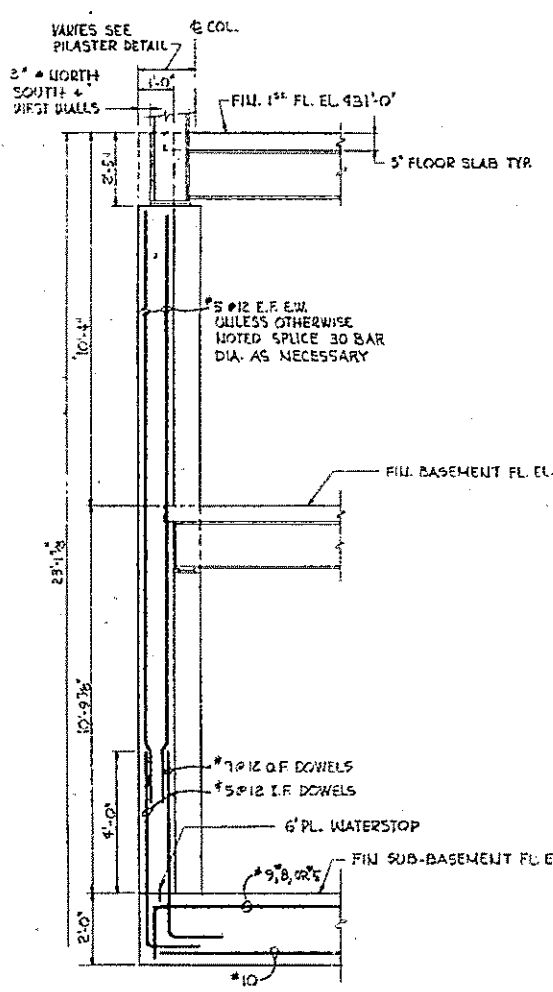
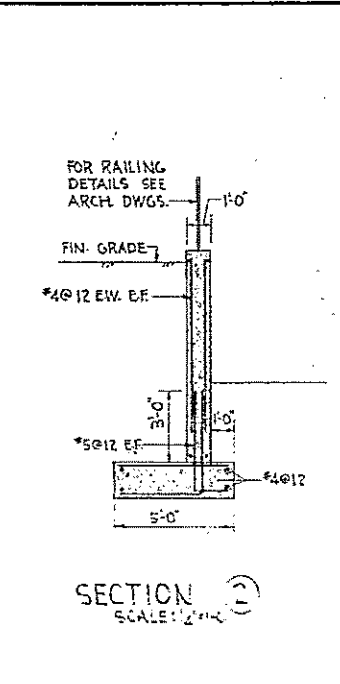
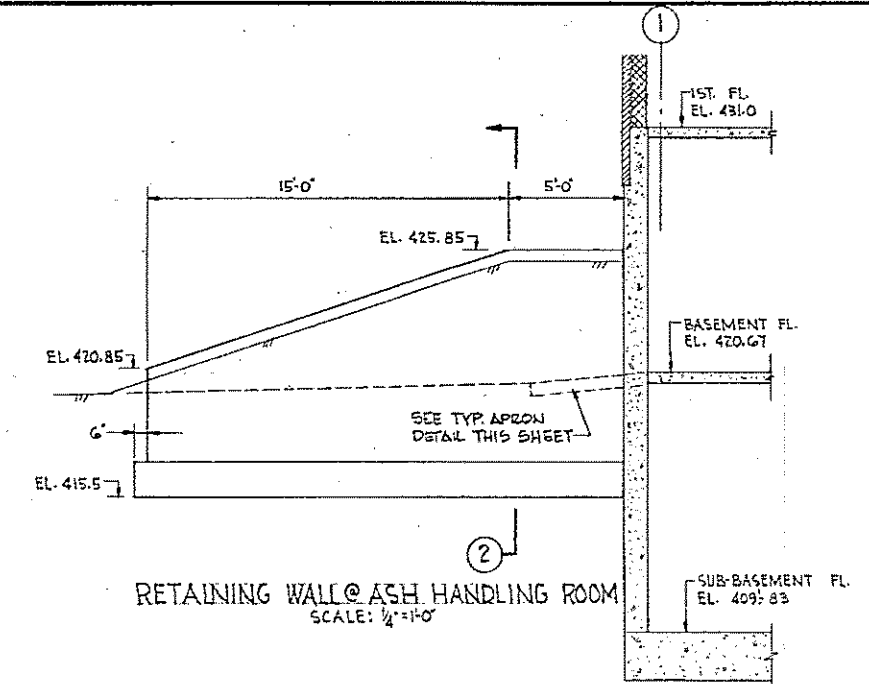
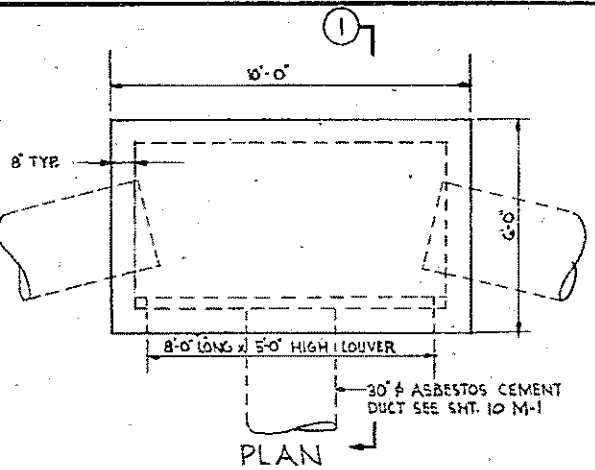
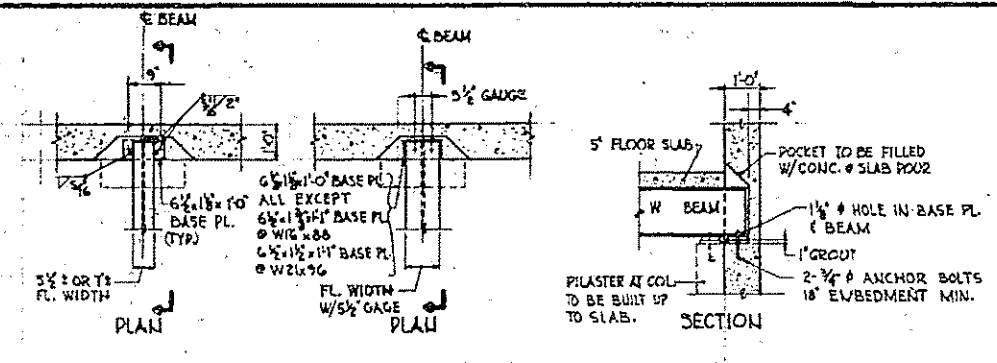
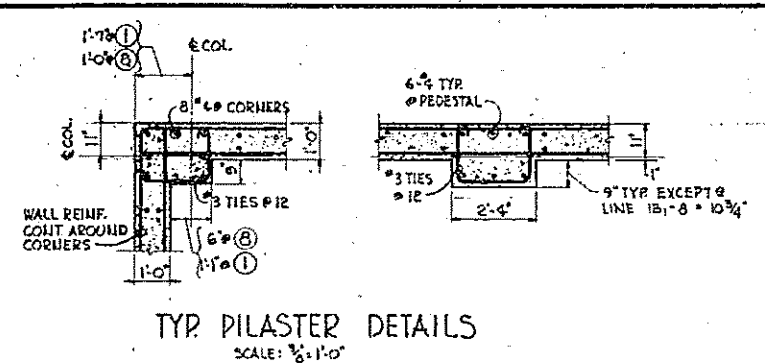


HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



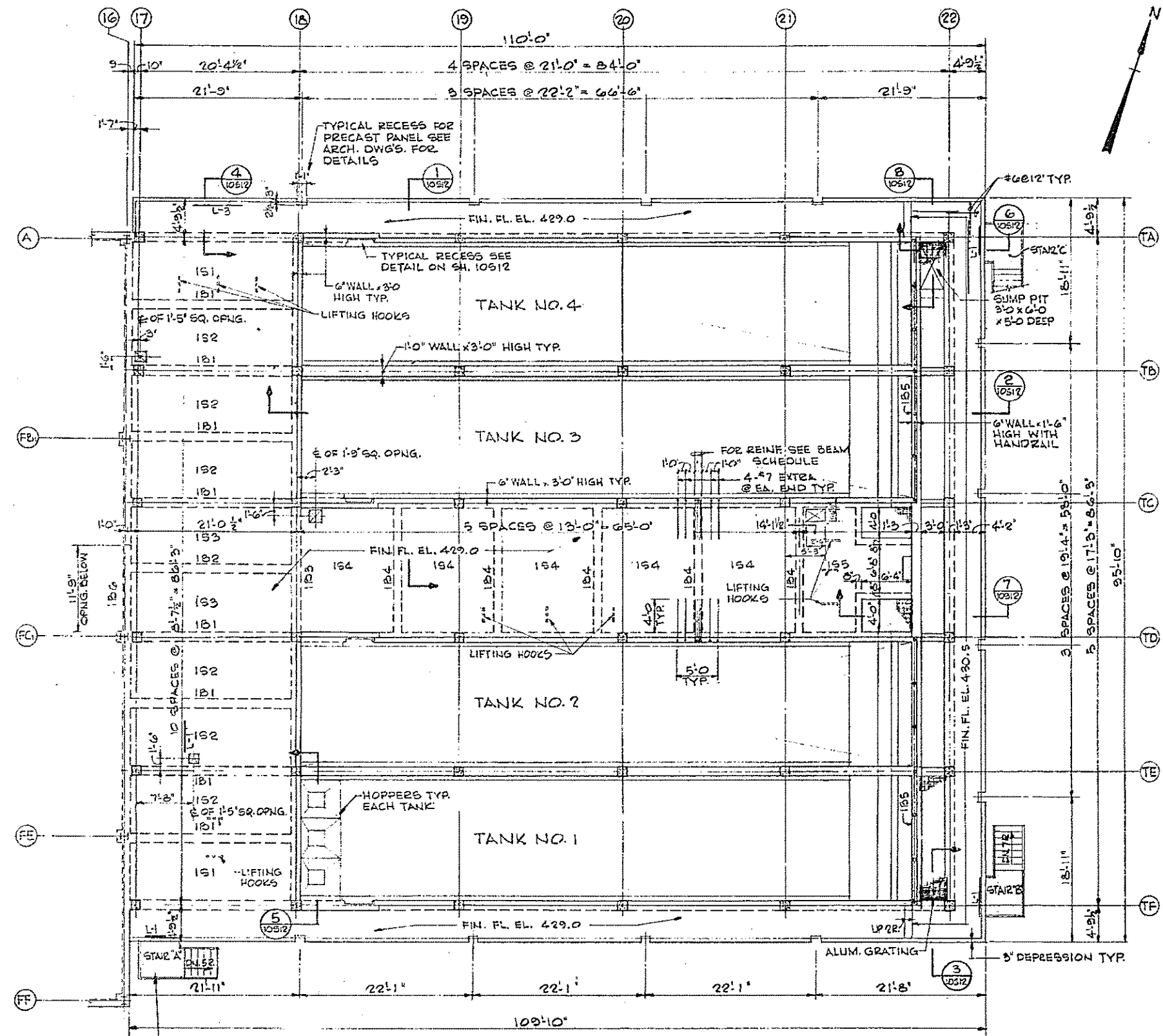
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 STRUCTURAL
 INCINERATOR AND FILTER BUILDINGS
 MISCELLANEOUS FRAMING PLANS AND DETAILS
 SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 PREPARED BY: J.M.S. SRP 12
 CHECKED BY: J.W. SRP 12
 DATE: 2/1/73
 DRAWING NO.: JW-83
 APPROVED: F. M. Cahaly
 SHEET NO. 105-8



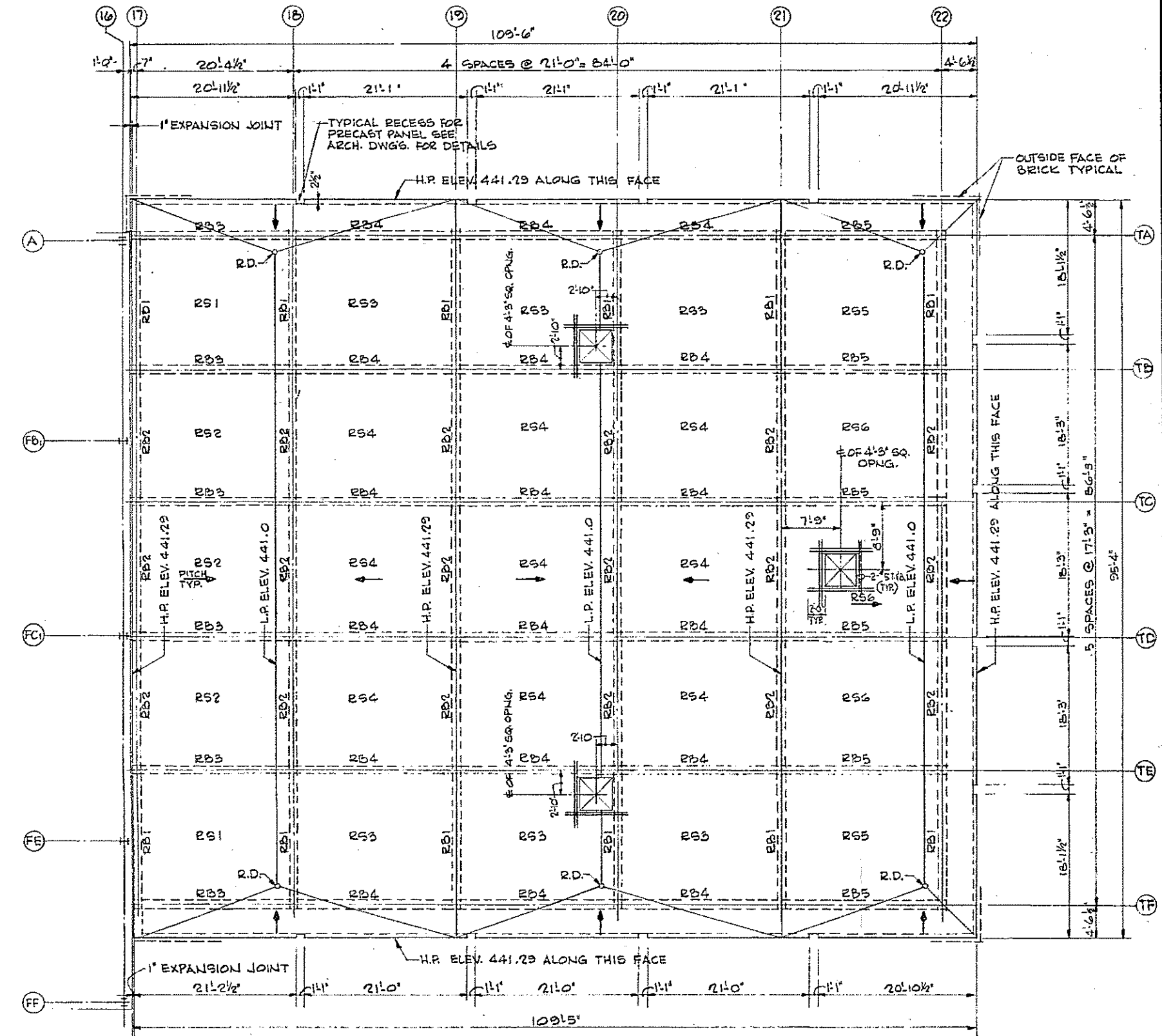
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. 10
 STRUCTURAL
 INCINERATOR BUILDING
 CONCRETE DETAILS

SCALE: AS NOTED FEBRUARY 1975
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. SPP. CHK. SPP. - 16
 DR. C.J.S. DR. J.W.-83
 APPROVED *F. M. Cahaly* PLAN NO. 131

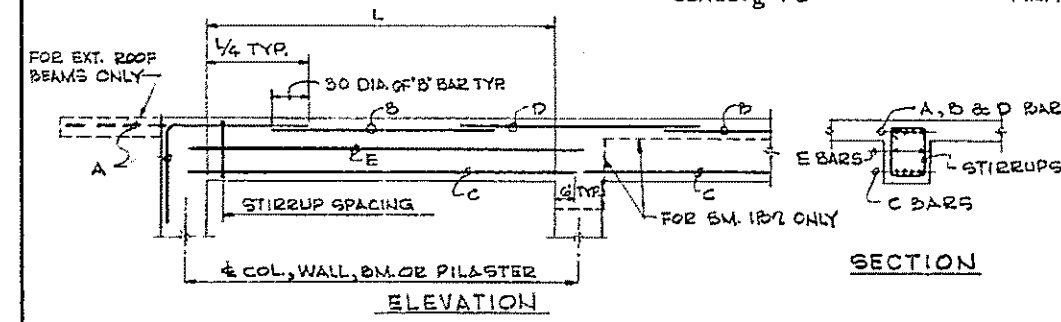
CONTRACT DRAWING SHEET NO. 10 S-9



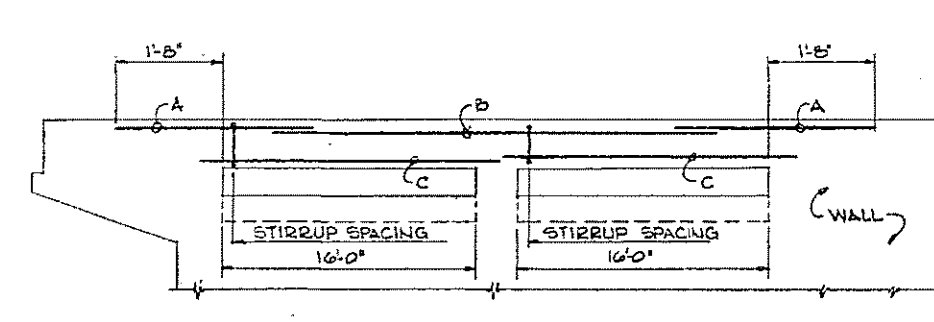
FIRST FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"
FIN. FL. 429.0



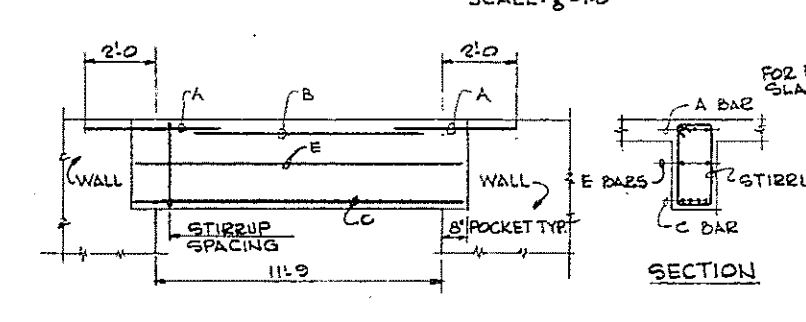
ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



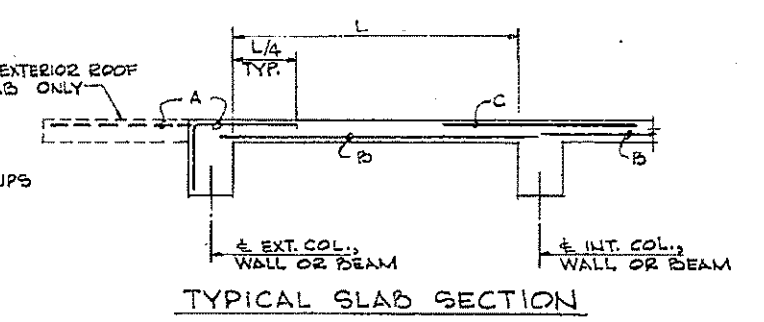
TYPICAL BEAM DETAILS



ELEVATION OF 1B5 BEAM

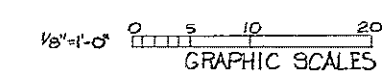


ELEVATION OF 1B6 BEAM



TYPICAL SLAB SECTION

FIRST FLOOR BEAM SCHEDULE				FIRST FLOOR SLAB SCHEDULE				ROOF BEAM SCHEDULE				ROOF SLAB SCHEDULE									
MARK	W	D	REINFORCING	STIRRUP SPACING	REMARKS	MARK	MILL. DEPTH	DIRECTION	REINFORCING	REMARKS	MARK	W	D	REINFORCING	STIRRUP SPACING	REMARKS	MARK	MILL. DEPTH	DIRECTION	REINFORCING	REMARKS
1B1	15'	24"	3#3 2#5 5#3	—	#3 @ 12	1S1	6"	NORTH-SOUTH EAST-WEST	#5 @ 12 #3 @ 12		RB1	12	24	3#6 2#5 4#7 4#6	#3 @ 12		RS1	6"	NORTH-SOUTH EAST-WEST	#5 @ 12 #3 @ 12	
1B2	15'	24"	3#3 2#5 5#3	—	#3 @ 12	1S2	6"	E-W	#5 @ 12 #3 @ 12		RB2	12	24	— 2#5 3#6 4#6	#3 @ 12		RS2	6"	E-W	#5 @ 12 #3 @ 12	
1B3	15'	30"	2#3 2#5 4#3	—	2#5 #3 @ 12	1S3	6"	N-S	#5 @ 12 #3 @ 12		RB3	12	24	4#6 2#5 4#3 4#3	#3 @ 12		RS3	6"	N-S	#5 @ 12 #3 @ 12	
1B4	12'	24"	4#7 2#5 4#7	—	#3 @ 12	1S4	6"	N-S	#5 @ 12 #3 @ 12	SEE PLAN FOR LOCATION	RB4	12	24	— 2#5 4#7 4#6	#3 @ 12		RS4	6"	E-W	#5 @ 12 #3 @ 12	
1B5	15'	18"	2#6 2#6 3#6	—	#3 @ 12	1S5	6"	E-W	#5 @ 12 #3 @ 12	SEE ELEV.	RB5	12	24	— 2#5 4#6 4#7	#3 @ 12		RS5	6"	N-S	#5 @ 12 #3 @ 12	
1B6	15'	30"	3#7 2#6 4#7	—	2#5 #3 @ 12	1S6	6"	E-W	#5 @ 12 #3 @ 12	SEE ELEV.	RB6	12	24	— 2#5 4#6 4#7	#3 @ 12		RS6	6"	E-W	#5 @ 12 #3 @ 12	



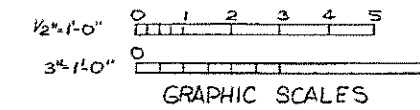
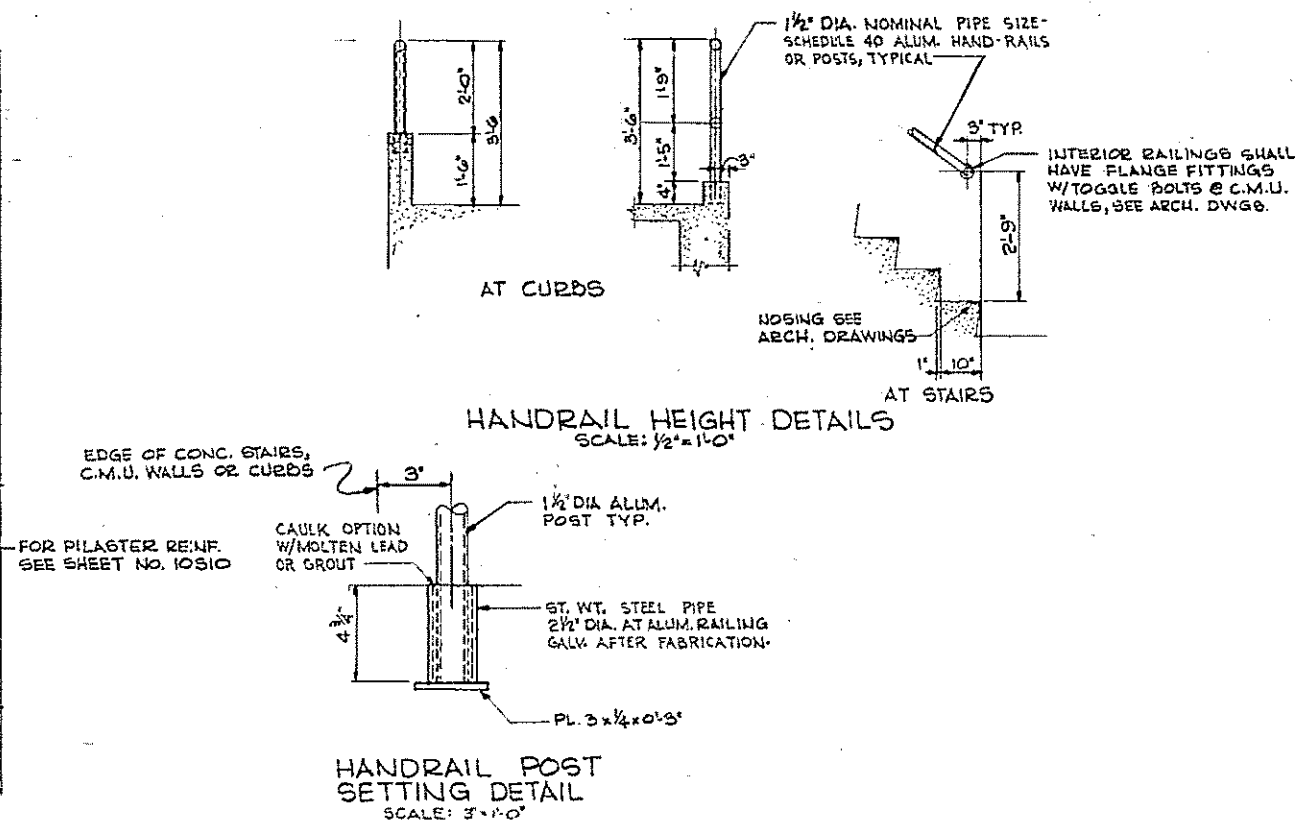
HALF-SIZE DRAWING

REV.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. -10
STRUCTURAL
THICKENER BUILDING
FIRST FLOOR AND ROOF PLANS
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. H.C.H. TR. C.W.P.H. JW-83
APPROVED: F. M. Cahaly
CONTRACT DRAWING SHEET NO. 10S-11

COLUMN SCHEDULE						
COLUMN MARK	TA22, TB22 TC22, TD22 TE22 & TF22	TA17, TF17 TA19, TF19 TA21 & TF21	TA16, TA20 TF16 & TF20	TB16, TC16 TD16, TE16 TB20, TC20 TD20 & TE20	TB19, TC19 TD19, TE19 TB21, TC21 TD21 & TE21	TB17, TC17 TD17 & TE17
HIGH POINT ROOF ELEV. 441.29	1'-0" TYR					
LOW POINT ROOF ELEV. 441.0						
FINISH FLOOR ELEV. 430.5	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"
FINISH 1ST FLOOR ELEV. 429.0	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"
	ALL DOWELS SAME SIZE OF VERTICAL REINFORCING					
	SAME	SAME	SAME	SAME	SAME	
SIZE OF COL. VERT. REINF. TIES	12" x 12" 4-#9 #3 TIES @ 12"	12" x 12" 4-#9 #3 TIES @ 12"	12" x 12" 4-#9 #3 TIES @ 12"	12" x 12" 4-#6 #3 TIES @ 12"	12" x 12" 4-#6 #3 TIES @ 12"	12" x 12" 4-#9 #3 TIES @ 12"



HALF-SIZE DRAWING

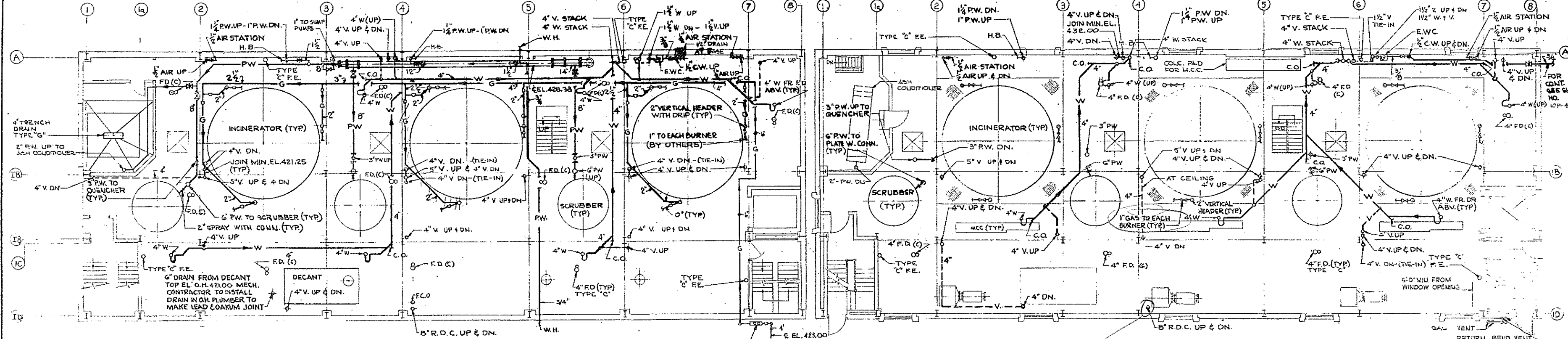
REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD BY



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N.-1D
STRUCTURAL
THICKENER BUILDING
COLUMN SCHEDULE AND MISCELLANEOUS DETAILS
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. PM	TR.	CHK.	JW-83
DR. HGH	CHK. MH		
APPROVED	<i>J.M. Cahaly</i>		135

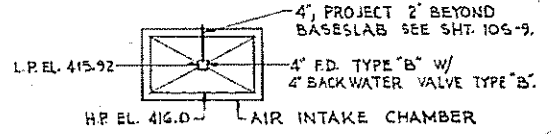
CONTRACT DRAWING SHEET NO. 10S-13



BASEMENT PLAN
EL. 420.7
SCALE 1/8"=1'-0"

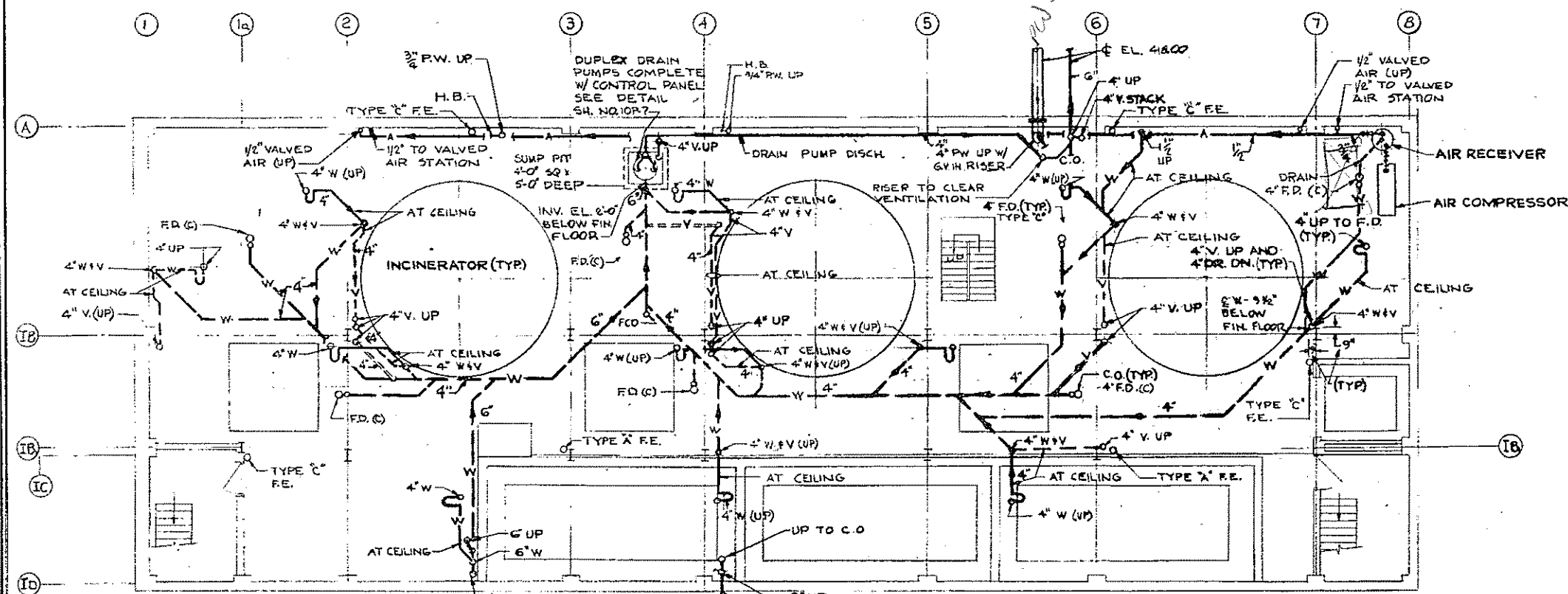
1ST FLOOR PLAN
EL. 431.0
SCALE 1/8"=1'-0"

- NOTE:
- FOR DETAILS, NOTES AND LEGEND SEE SH. NO. 10P-7
 - ALL GAS PIPING FROM TERMINATION OF YARD PIPING TO INCINERATORS INCLUDING REDUCING AND RELIEF ASSEMBLY SHALL BE INSTALLED BY THE INCINERATOR CONTRACTOR. IT IS SHOWN ON PLANS FOR ORIENTATION ONLY.
 - ALL AIR STATIONS TO COME WITH SCREW PLUG AND BE 5'-0" ABOVE FLOOR.

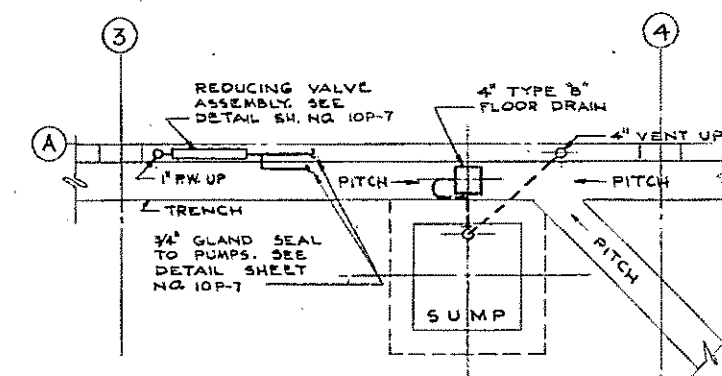


new shown on plans also new shown - 1

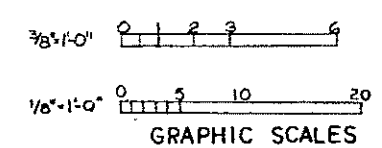
Boy out in hood control room?



SUB-BASEMENT PLAN
EL. 409.84
SCALE 1/8"=1'-0"



DETAIL AT DRAIN PUMPS
SCALE: 3/8"=1'-0"

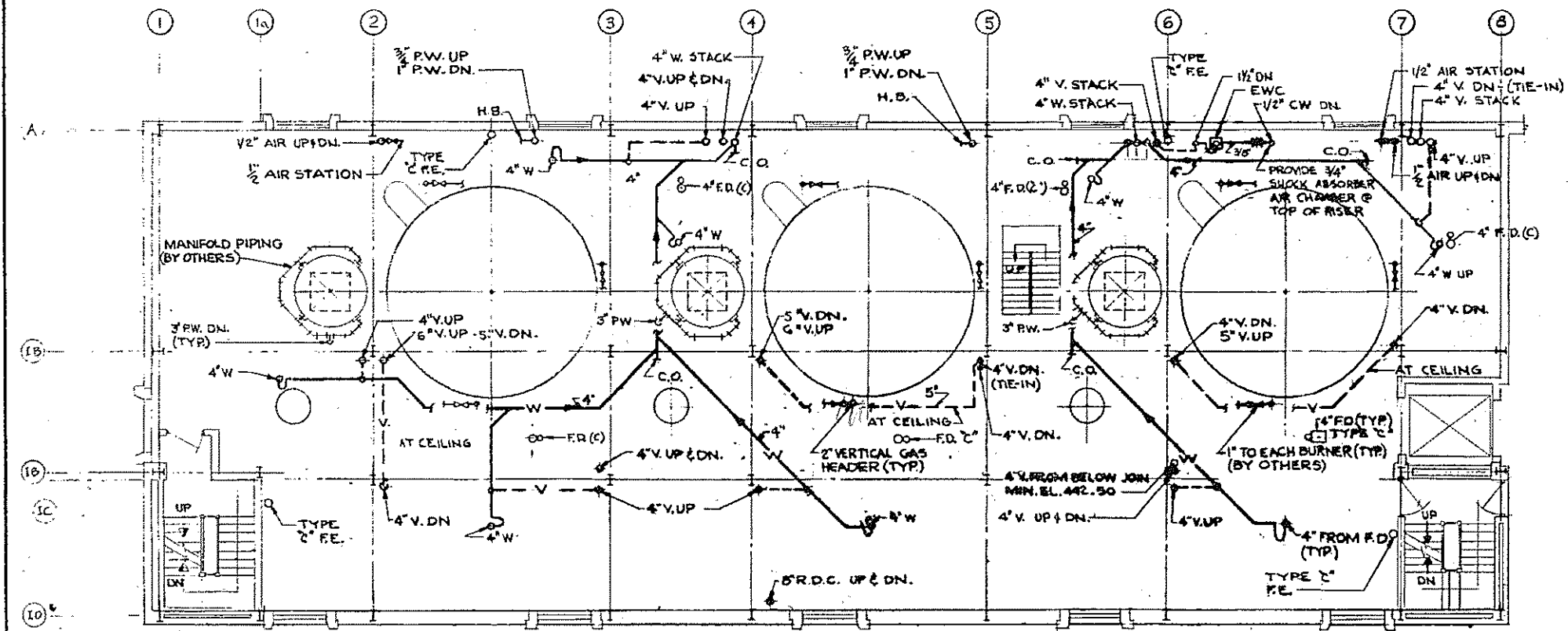
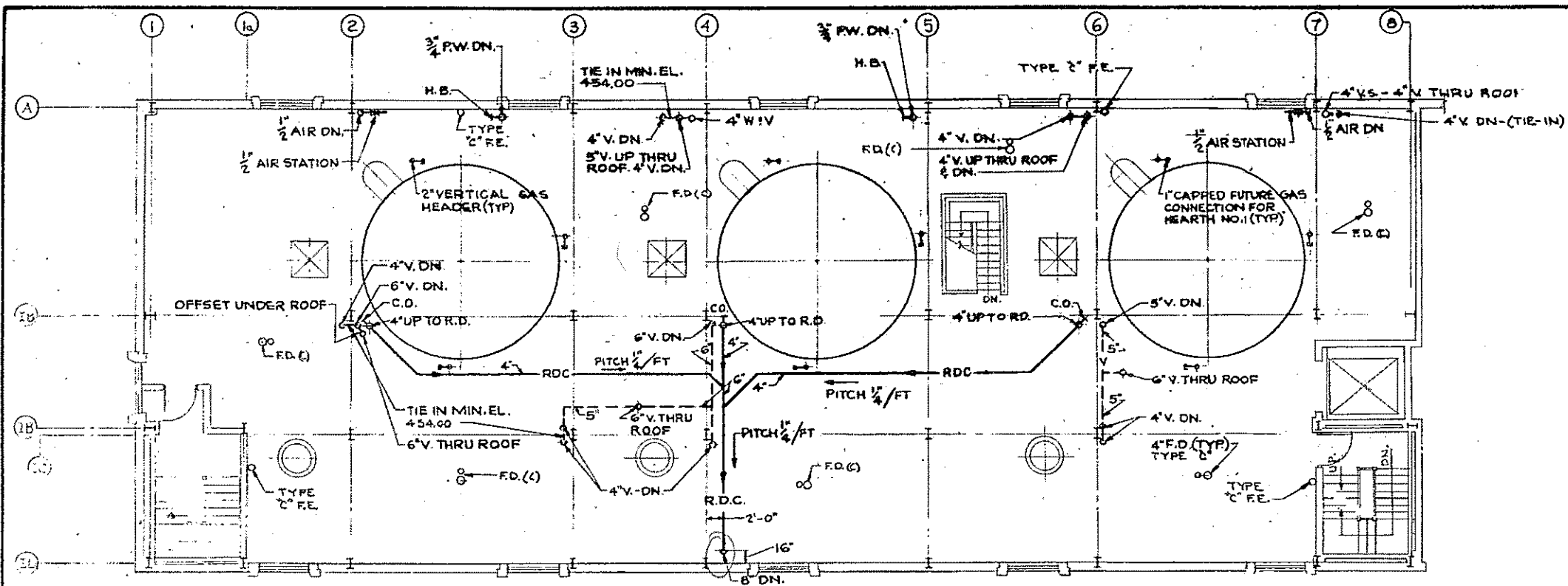


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
PLUMBING
INCINERATOR BUILDING
SUB-BASEMENT, BASEMENT AND FIRST FLOOR PLANS
SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. W.J.H. DR. SH. IN. CH. C.L.A. FILE NO. JW-83
APPROVED *F. W. Cahaly* PLAN NO. 136





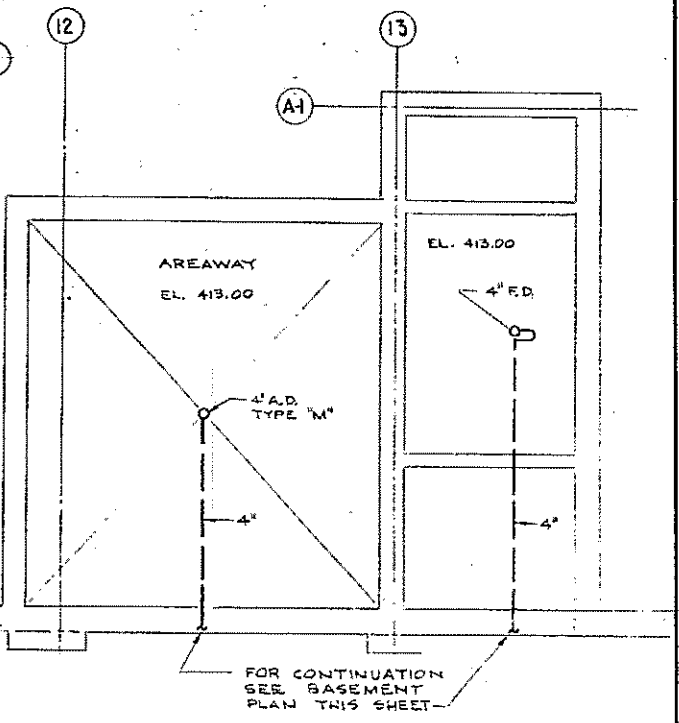
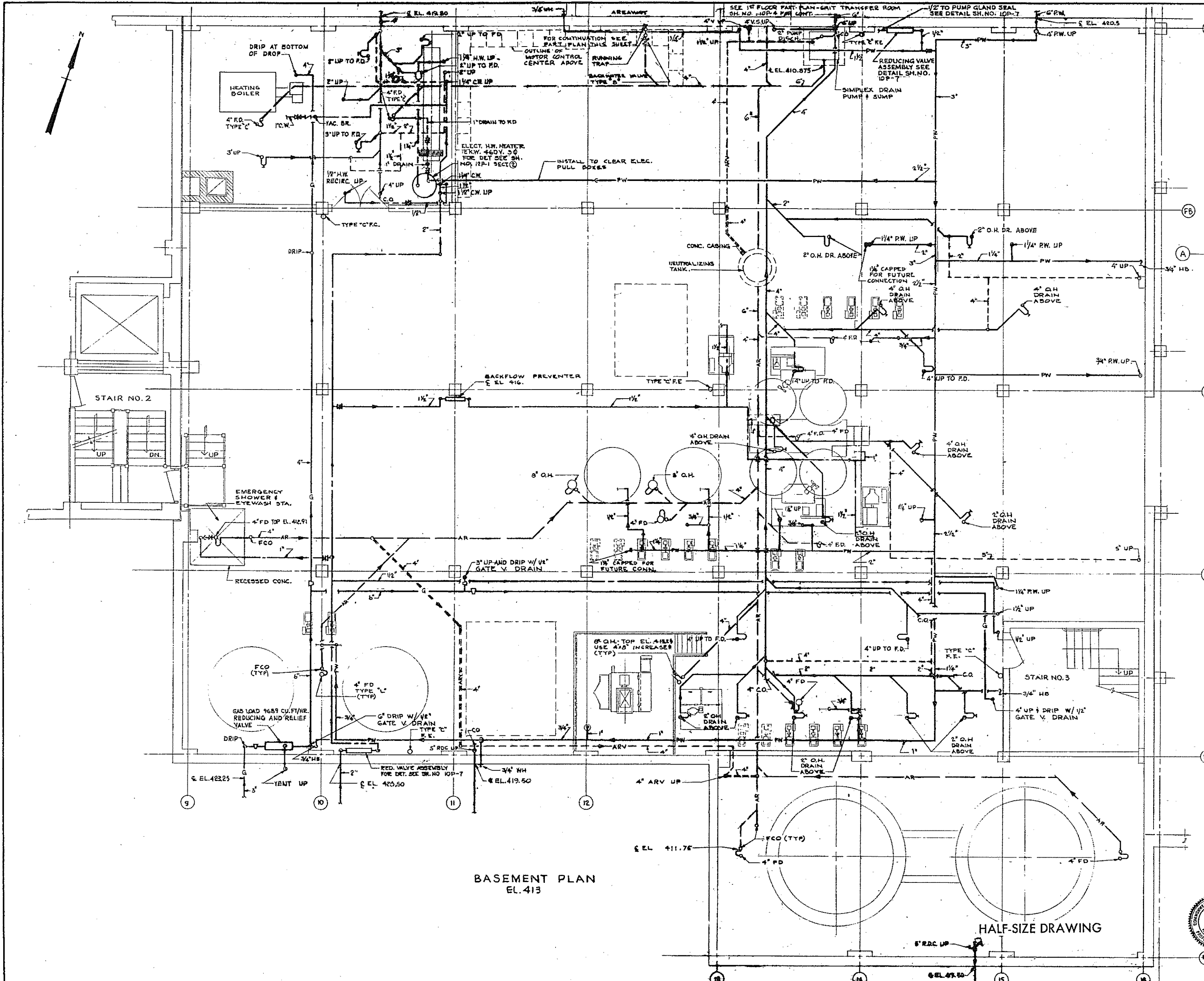
NOTE:
FOR GENERAL NOTES & LEGEND, SEE
SHEET NO. 10P-7

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.H. -10 PLUMBERS INCINERATOR BUILDING SECOND AND THIRD FLOOR PLANS SCALE: 1/8" = 1'-0" FEBRUARY 1973 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. BY M.S.H.	CHK. BY C.M.C.L.A.	DATE JW-83	REV. 137
APPROVED <i>F. M. Celsky</i>		DRAWN 137	
CONTRACT DRAWING SHEET NO. 10P-2			

HALF-SIZE DRAWING

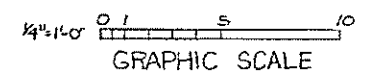
REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY





PART PLAN- GRIT TRANSFER ROOM
SCALE: 1/4" = 1'-0"

NOTES:
THE NEUTRALIZING TANK SHALL HAVE A CONCRETE ENCASMENT FOR SIDES & BOTTOM.
FOR GENERAL NOTES, TYPICAL DETAILS & LEGEND SEE SH. NO. 10P-7

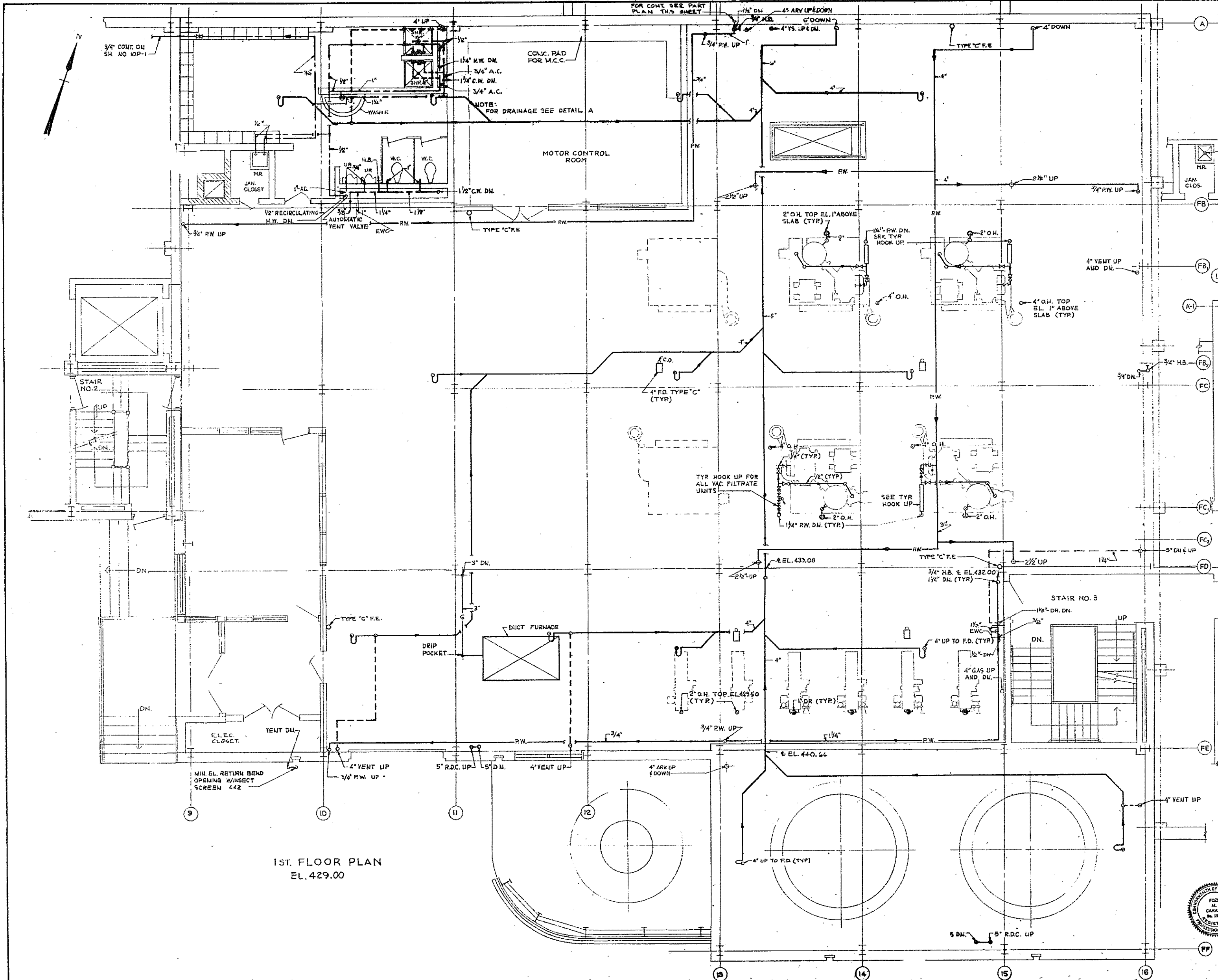


BASEMENT PLAN
EL. 413

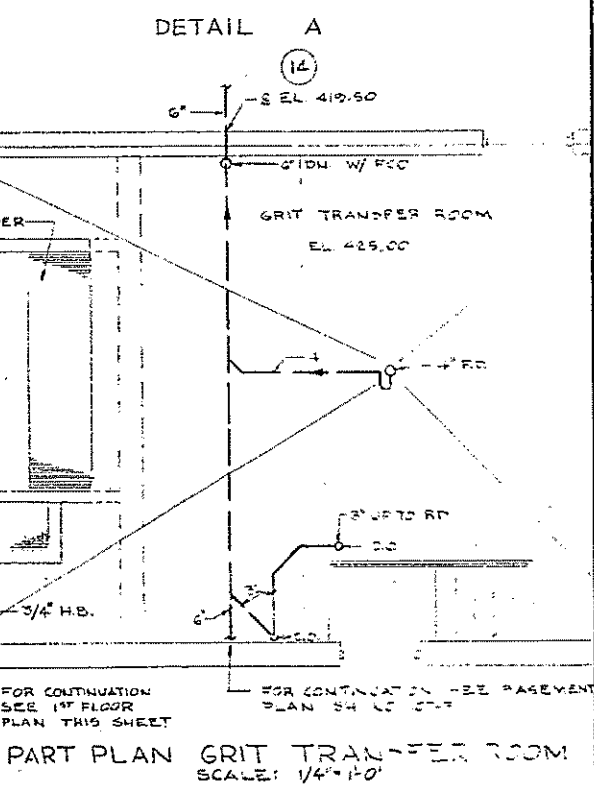
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N.-10 FLOORING FILTER BUILDING BASEMENT PLAN		
SCALE: 1/4" = 1'-0"		FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.		
DES. BY: J.L.H.	IN. BY: C.H.C.L.M.	FILE NO. JW-83
CHK. BY: J.C.J.	APPROVED: <i>F.M. Cahaly</i>	PLAN NO. 138

CONTRACT DRAWING SHEET NO. 10P-3

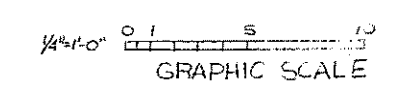


1ST. FLOOR PLAN
EL. 429.00



PART PLAN GRIT TRANSFER ROOM
SCALE: 1/4\"/>

NOTES:
FOR GENERAL NOTES, TYPICAL DETAILS
& LEGEND SEE SH. NO. 10P-7

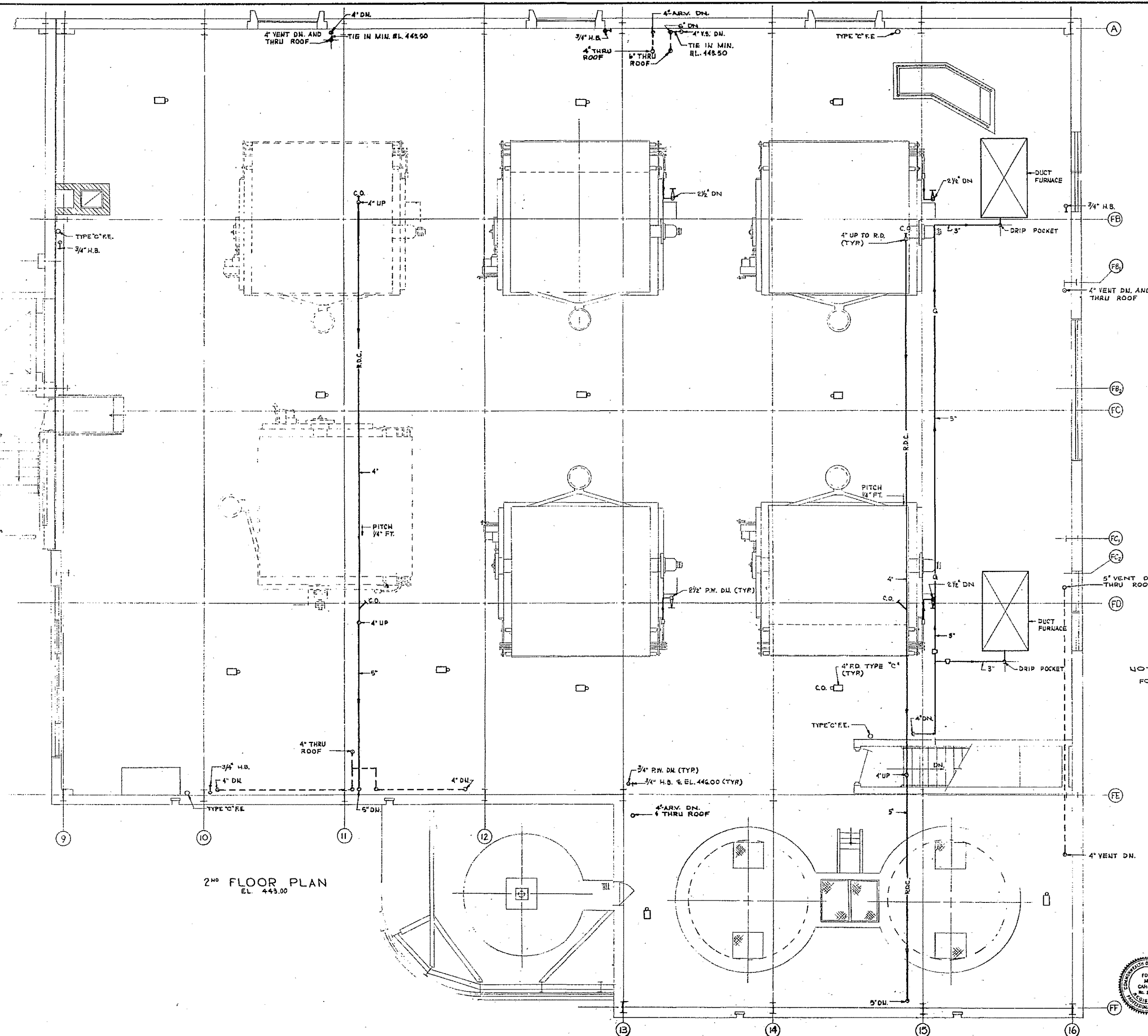


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. -10
PLUMBING
FILTER BUILDING
FIRST FLOOR PLAN

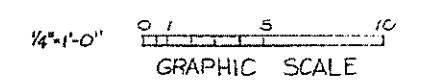
SCALE: 1/2\"/>

FEBRUARY 1975
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. N.J.H. TEL. CHK. C.L.M. FILE NO. JW-83
DR. J.L.G. APPROVED *J.M. Cahaly* PLAN NO. 139



2ND FLOOR PLAN
EL. 443.00

NOTE:
FOR GENERAL NOTES, TYP. DETAILS & LEGEND SEE 101-10P-7

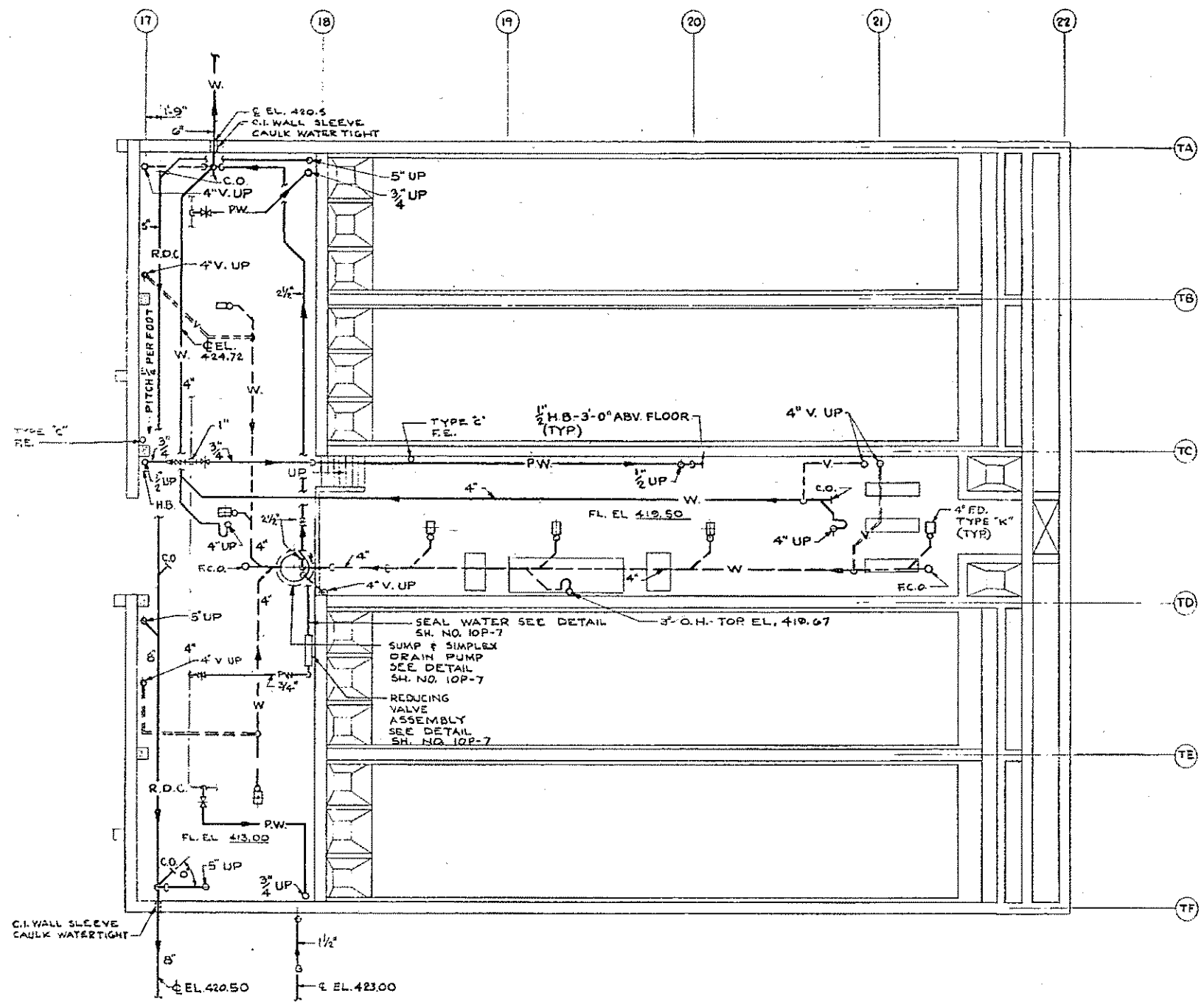


HALF-SIZE DRAWING

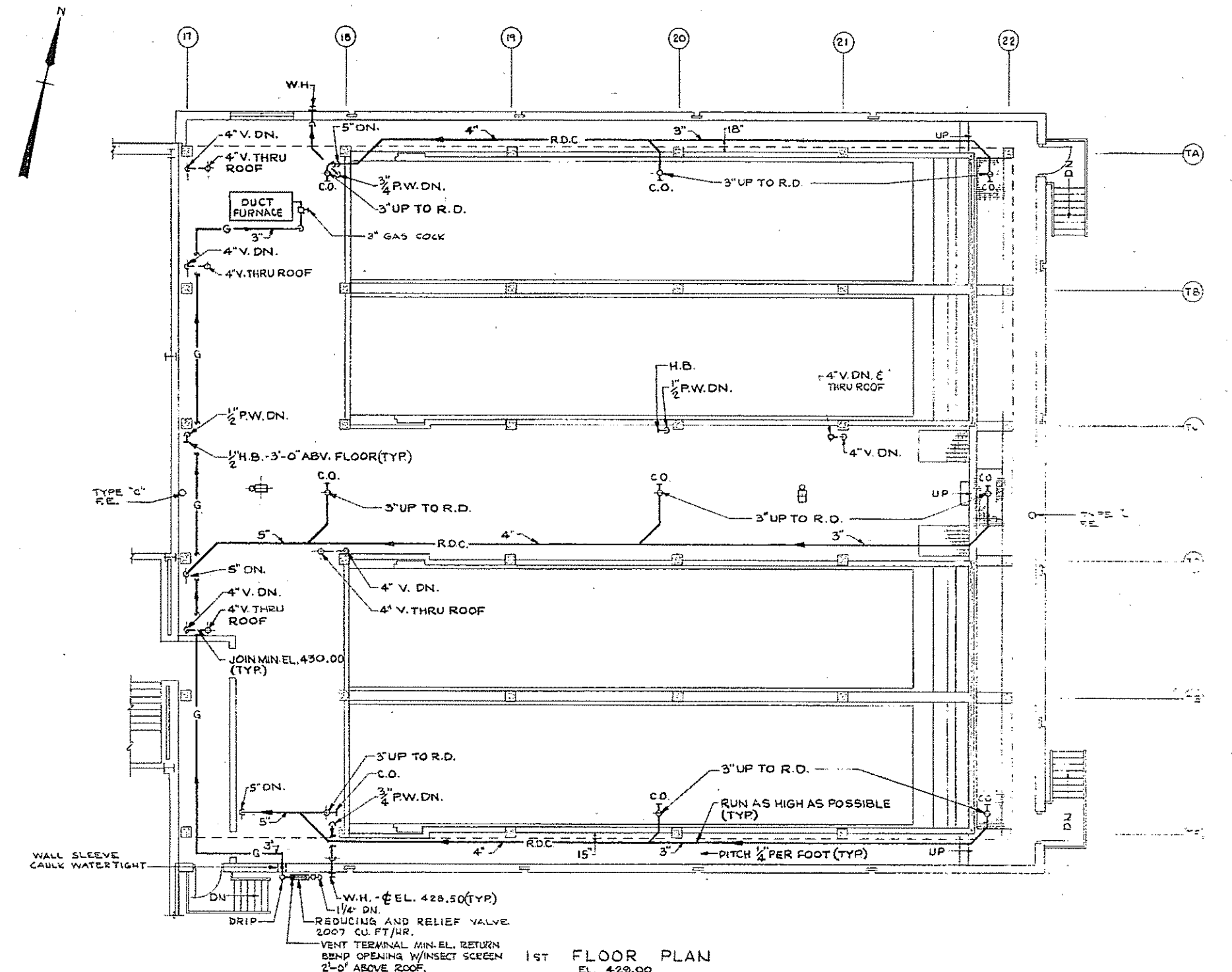
COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N. - 10 PLUMBING			
FILTER BUILDING SECOND FLOOR PLAN		FEBRUARY 1973.	
SCALE: 1/4" = 1'-0"			
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. W.J.H.	DR. B.H.	CHK. C.L.M.	REV. JW-83
APPROVED <i>J.M. Cahaly</i>			REV. 140



CONTRACT DRAWING SHEET NO. 10P-5

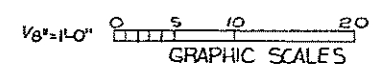


BASEMENT PLAN



1ST FLOOR PLAN
EL. 429.00

- NOTES:
 1. PLANT WATER MAINS SHOWN ON SH. NO. 10V-1
 2. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10P-7

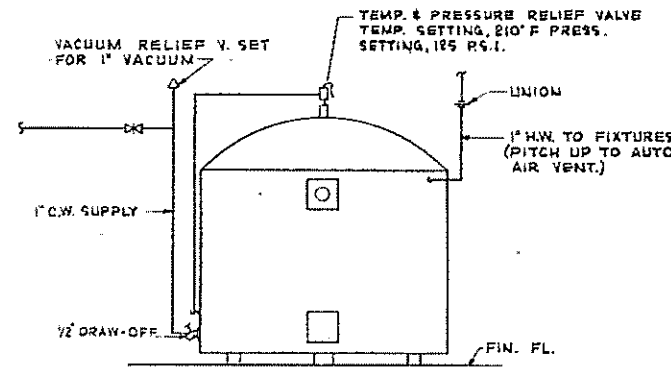


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

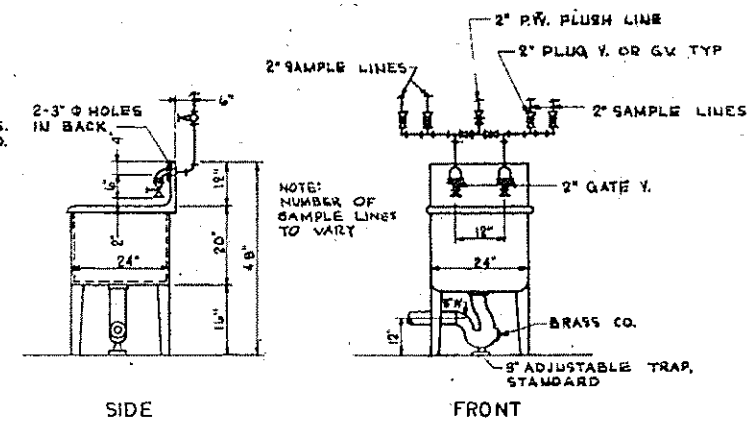


HALF-SIZE DRAWING

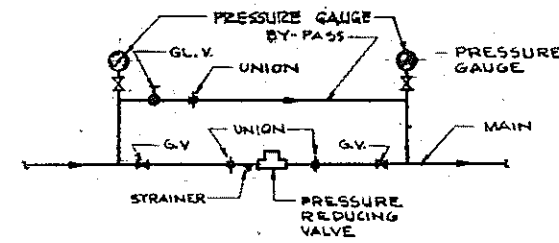
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. -10
 PLUMBING
 THICKENER BUILDING
 BASEMENT AND FIRST FLOOR PLANS
 SCALE: 1/8" = 1'-0" FEBRUARY 1973
 DES. W.J.H. TR. C.C.L.M. PLAN NO. JW-83
 APPROVED *F. M. Cahaly* PLAN NO. 141



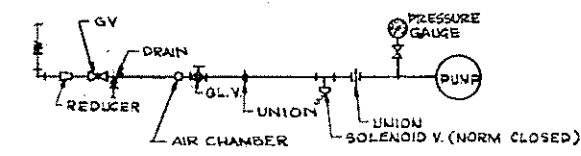
ELECTRIC HOT WATER HEATER DETAIL
NO SCALE



SAMPLE SINK DETAILS
SCALE 1/2" = 1'-0"



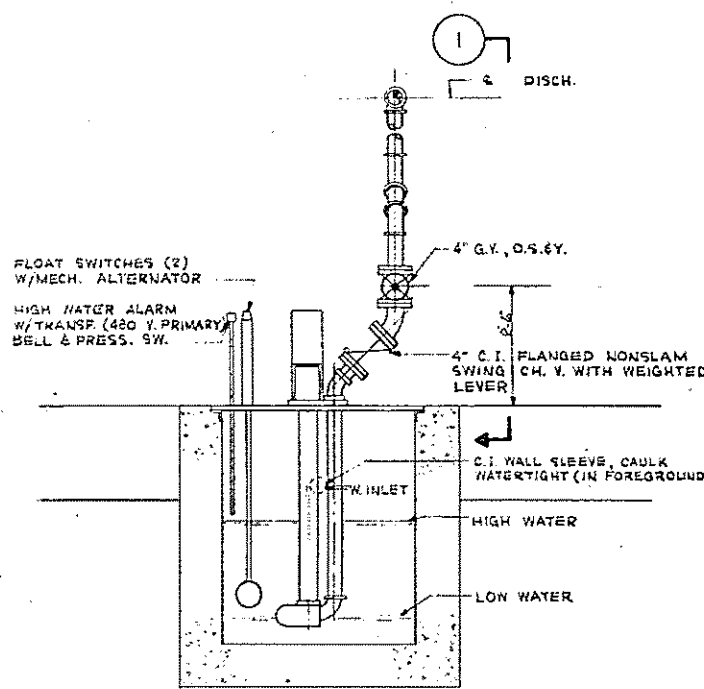
DETAIL OF PRESSURE REDUCING VALVE ASSEMBLY
NO SCALE



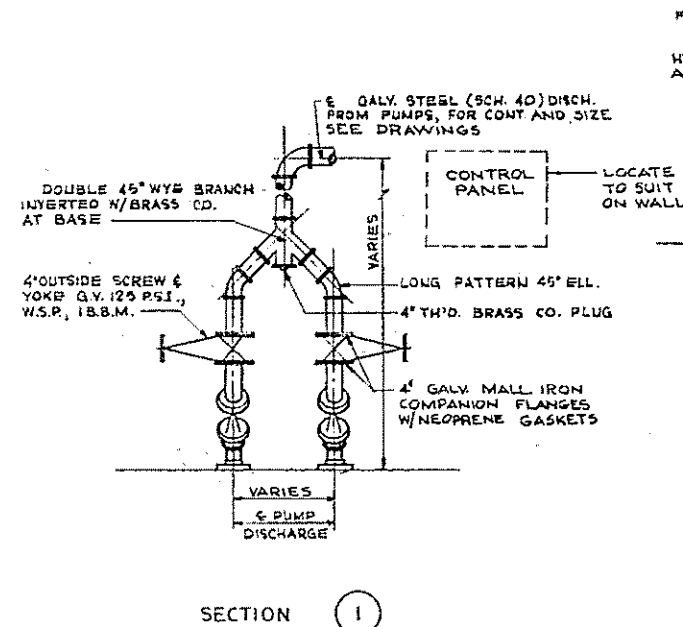
DETAIL OF TYPICAL WATER SUPPLY FOR PUMP GLANDS
NO SCALE

LEGEND

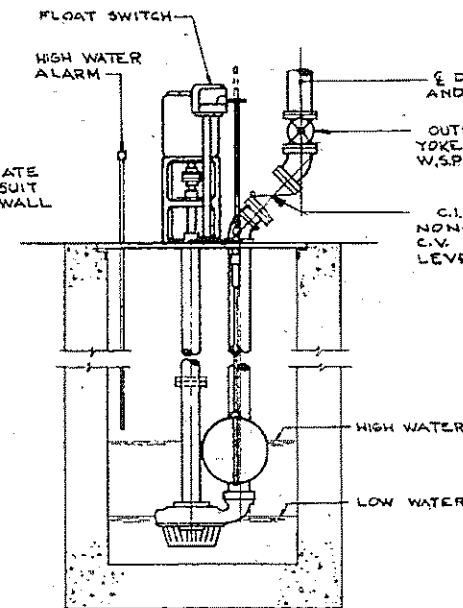
---	(S., W., COND.)	SOIL, WASTE, AND CONDUCTOR ABOVE FLOOR
---	(S., W., COND.)	SOIL, WASTE, AND CONDUCTOR BELOW FLOOR
---	(V.)	VENT ABOVE FLOOR
---	(V.)	VENT BELOW FLOOR
---	AR	ACID RESISTANT WASTE
---	AR	ACID RESISTANT VENT
---	(C.W.)	COLD WATER (DOMESTIC)
---	(H.W.)	HOT WATER (DOMESTIC)
---	(P.W.)	PLANT WATER
---	A-G-VAC	(A)(G)(VAC) COMPRESSED AIR, GAS, OR VACUUM
---	---	RISE IN PLAN
---	---	DROP IN PLAN
---	(F.C.O.)	FLUSH FLOOR CLEANOUT
---	---	TRAP IN PLAN
---	(C.O.)	CLEANOUT
---	(H.B.)	HOSE BIBB
---	---	UNION
---	(G.V.)	GATE VALVE
---	(C.V.)	CHECK VALVE
---	(G.L.V.)	GLOBE VALVE
---	---	GAS COCK
---	---	SOLENOID VALVE
---	(F.D.)	FLOOR DRAIN (TYPE NOTED SEE SPEC.)
---	(R.D.)	ROOF DRAIN
---	(A.C.)	AIR CHAMBER
---	(M.C.)	WATER CLOSET
---	(U.R.)	URINAL
---	(LAV.)	LAVATORY
---	(SH.)	SHOWER
---	(E.W.C.)	ELECTRIC WATER COOLER
---	(S.S.)	SERVICE SINKS
---	(W.H.)	WALL HYDRANT
---	(P.R.V.)	PRESSURE REDUCING VALVE
---	(O.H.W.)	OPEN HUB WASTE
---	(H.W.R.)	HOT WATER RECIRCULATION
---	(R.D.C.)	ROOF DRAIN CONDUCTOR
---	(E.W.H.)	ELECTRIC WATER HEATER
---	(M.R.)	MOP RECEPTOR
---	(F.E.)	FIRE EXTINGUISHER



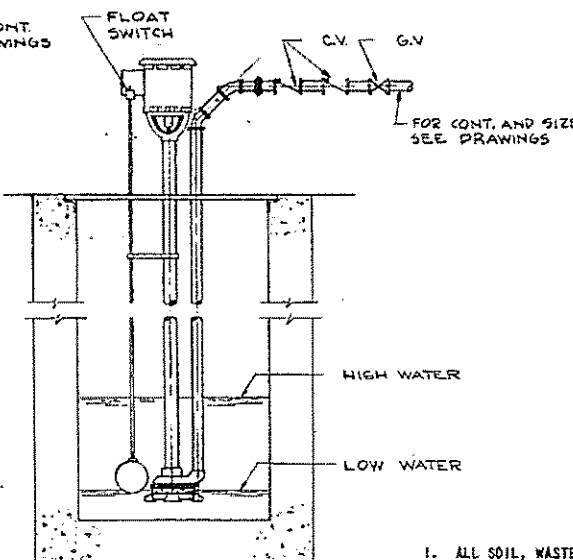
SECTION - DUPLEX



SECTION 1

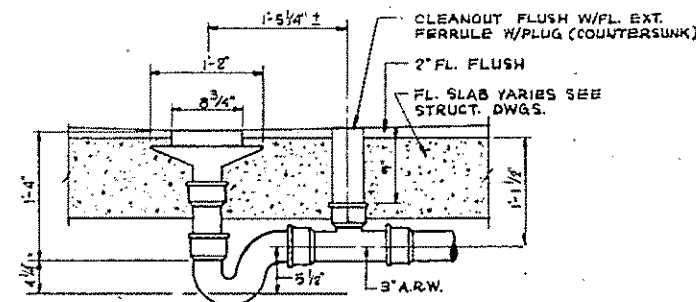


SECTION - SIMPLEX



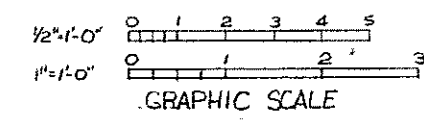
SUMP PUMP
SCALE 1/2" = 1'-0"

SEWAGE EJECTORS & DRAIN PUMPS
SCALE 1/2" = 1'-0"



ACID RESISTANT FLOOR DRAIN
SCALE 1" = 1'-0"

- NOTES
- ALL SOIL, WASTE, VENT AND CONDUCTOR PIPE SHALL SLOPE NOT LESS THAN 1/8" PER FT. TOWARD THE POINT OF DISCHARGE, UNLESS OTHERWISE NOTED.
 - ALL COLD WATER AND PLANT WATER PIPING SHALL PITCH BACK TOWARD THE METER OR MAIN GATE VALVE AND DRAINS AT BASE OF DROPS.
 - ALL HOT WATER PIPING SHALL PITCH BACK TOWARD THE WATER HEATER AND DRAINS AT BASE OF DROPS.
 - PROVIDE FULL SIZE SCALE AND DRIP POCKETS 12" LONG WITH THREADED CAPS AT THE BASE OF ALL GAS AND COMPRESSED AIR DROPS AND RISERS.
 - PITCH ALL GAS, VACUUM AND COMPRESSED AIR PIPING TOWARD THE MAIN SHUT-OFFS AND DRIP POCKETS AT BASE OF DROPS.
 - ALL OPEN WASTE DRAINS SHALL BE INSTALLED AS NOTED. EXACT LOCATIONS OF OPEN WASTE AND FLOOR DRAINS SHALL BE DETERMINED FROM EQUIPMENT LAYOUT, BEFORE SETTING.
 - DEPRESS ALL FLOOR DRAIN INLETS ONE INCH BELOW THE FINISHED FLOOR ELEVATIONS SHOWN ON DRAWINGS AND GRADE ALL FLOORS WITH A POSITIVE PITCH DOWNWARD TOWARDS THE INLETS.
 - ALL CLEANOUTS ON UNDERGROUND PIPING SHALL BE EXTENDED AND MADE FLUSH WITH FINISHED FLOOR ABOVE BY MEANS OF TWO 1/8 BENDS OR A LONG SWEEP 1/4 BEND, AND C.O.'S ON EXPOSED PIPING WHERE INACCESSIBLE SHALL BE MADE FLUSH WITH FLOOR ABOVE.
 - ALL CONCEALED CLEANOUTS, VALVES AND AIR CHAMBERS SHALL BE MADE ACCESSIBLE BY MEANS OF ACCESS PANELS OR FLOOR PLATES OF ADEQUATE SIZE. SEE THIS SHEET FOR LAYOUT OF SLUDGE SAMPLE PIPING, FITTINGS AND VALVES.
 - PROVIDE FLASHING CLAMP SLEEVES BELOW ELEV. 414.00 WITH 16 OZ. COPPER FLASHING EXTENDED 8" IN ALL DIRECTIONS FROM SLEEVE ON ALL PIPES PASSING THROUGH WALLS OR FLOOR.
 - ALL HOSE BIBBS AND WALL HYDRANTS TO BE 3/4". INSTALL HOSE BIBBS 3'-0" ABOVE FINISHED FLOOR AND WALL HYDRANTS 2'-0" ABOVE FINISHED GRADE.
 - ALL PIPES TO EXTEND 10'-0" BEYOND OUTSIDE FACE OF BUILDING.
 - GAS REGULATORS ARE SIZED ON A BASIS OF 10 PSIG INLET NORMAL PRESSURE WITH A MINIMUM INLET PRESSURE OF 5 PSIG AND A REDUCED PRESSURE OF 7" OF WATER COLUMN. SIZE OF RELIEF LINES SHALL BE AS PER MANUFACTURERS RECOMMENDATIONS.
 - FOR ROOF DRAIN INSTALLATION, SEE ARCHITECTURAL DRAWING SHEET NO. A-3.
 - INSTALL ALL HORIZONTAL PIPING TO AVOID INTERFERENCE WITH LARGE EQUIPMENT PIPING WHERE POSSIBLE.
 - LABORATORY EQUIPMENT FURNISHED AND INSTALLED BY OTHERS. PLUMBING CONTRACTOR TO MAKE ALL WASTE, WATER AND PIPING CONNECTIONS.
 - FURNISH AND INSTALL AT EACH HOSE BIBB AND WALL HYDRANT OR HOSE OUTLET CONNECTED TO THE PLANT WATER SYSTEM, A CONSPICUOUS SIGN, LABELED, "DO NOT DRINK" AS PER SPECIFICATIONS.
 - IN GENERAL, WHERE PIPES PASS THROUGH WALL SLEEVES, THE ANNULAR SPACE SHALL BE PACKED WITH OAKUM AND THEN FILLED WITH A MINIMUM 2-INCH DEPTH OF POURED AND CAULKED LEAD, BOTH FACES.
 - ALL CAULKING SLEEVES THROUGH OUTSIDE OR WET WELL WALLS SMALLER THAN 3" SHALL BE SCHEDULE 40 STEEL PIPE WITH A STEEL RING CONTINUOUSLY WELDED AROUND THE OUTSIDE CIRCUMFERENCE OF SLEEVE FOR USE AS A WATER STOP. RING SHALL BE LOCATED AT CENTER OF SLEEVE AND SHALL BE 1/2" THICK BY 1 1/2" WIDE. STEEL SLEEVES SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION. SLEEVES USED FOR COPPER TUBING SHALL BE INTERNALLY COATED WITH COAL-TAR PITCH OR PLASTIC. SLEEVES SHALL BE TWO SIZES LARGER IN DIAMETER THAN PIPE OR TUBING PASSING THROUGH THEM.



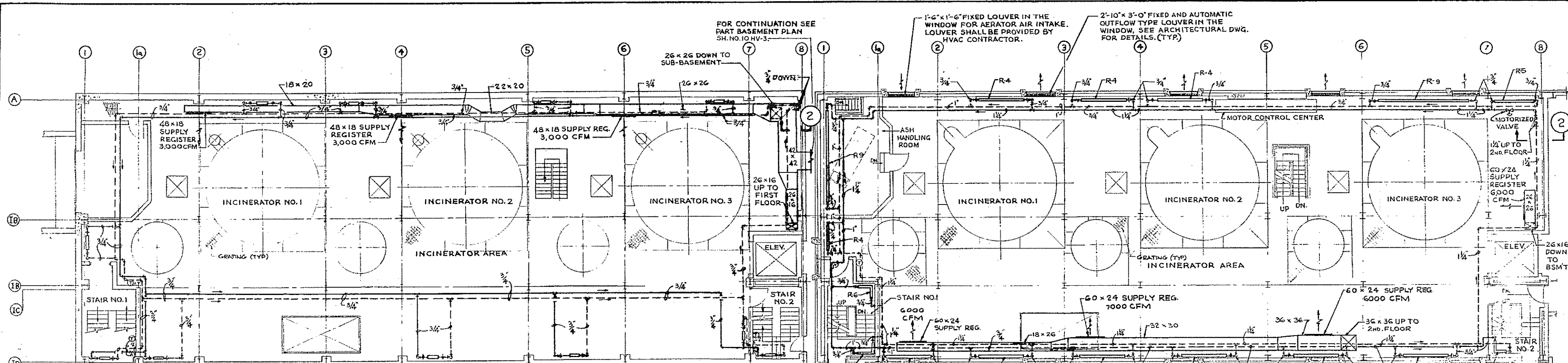
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. - 10
PLSMB115
TYPICAL DETAILS

SCALE: AS NOTED
FEBRUARY, 1975
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. W.J.H. IN CHARGE C.L.M. DATE JW-83
APP. E.M. Cady DATE 142

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY





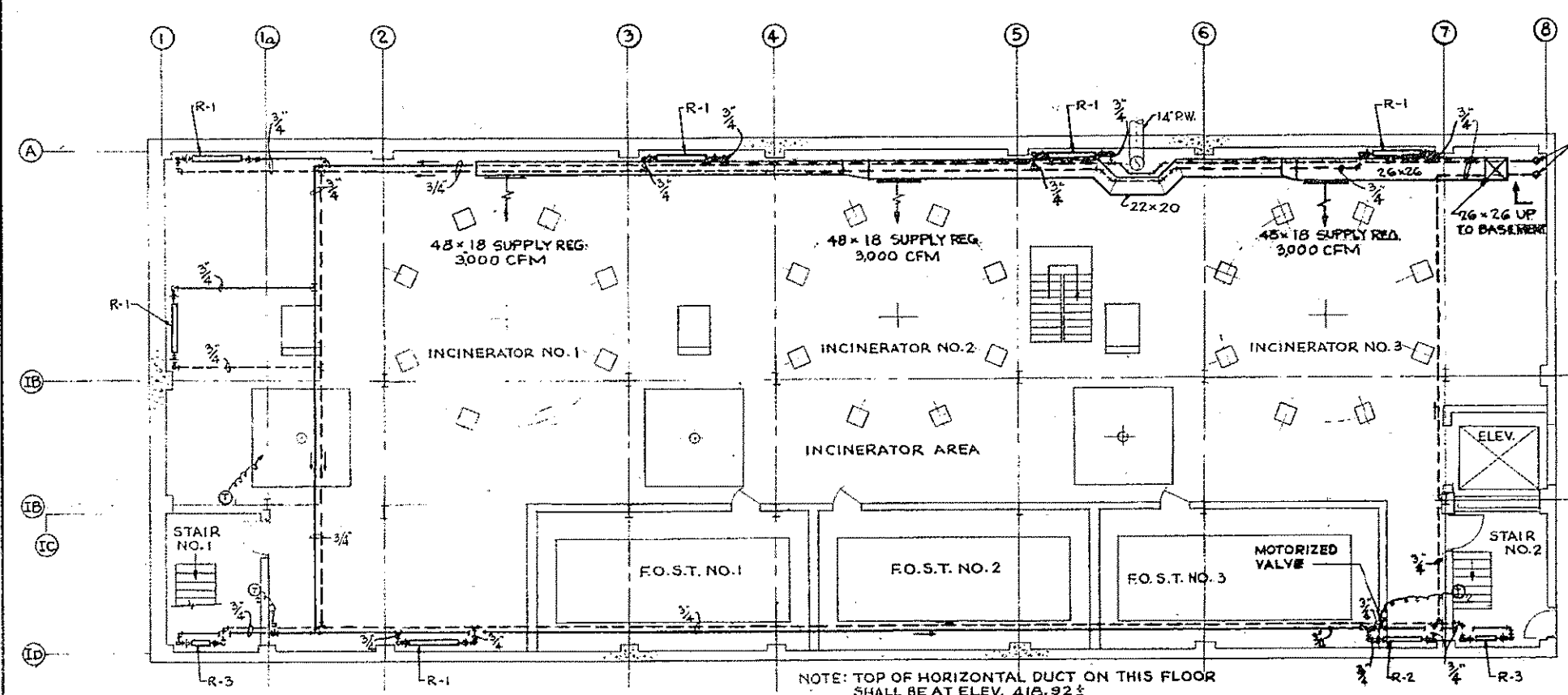
NOTES: 1. TOP OF HORIZONTAL DUCT ON THIS FLOOR SHALL BE AT ELEV. 429.25±.
 2. ALL RADIATORS IN BASEMENT ARE TYPE R-3.

BASEMENT PLAN
 SCALE: 1/8" = 1'-0"
 FIN. FL. EL. 420.67

NOTE: TOP OF HORIZONTAL DUCT ON THIS FLOOR SHALL BE AT ELEV. 440.25±

1ST. FLOOR PLAN
 SCALE: 1/8" = 1'-0"
 FIN. FL. EL. 431.00

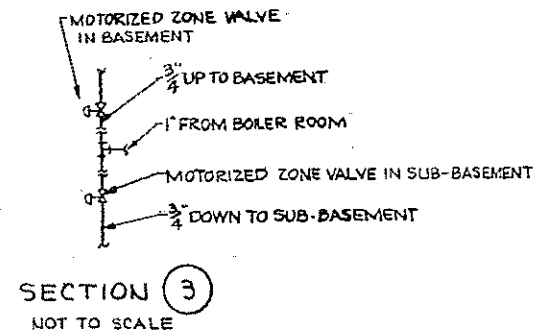
SECTION 2
 NOT TO SCALE



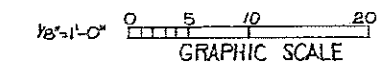
NOTE: TOP OF HORIZONTAL DUCT ON THIS FLOOR SHALL BE AT ELEV. 418.92±

SUB BASEMENT PLAN
 SCALE: 1/8" = 1'-0"
 FIN. FL. EL. 409.53

- ① THERMOSTAT TO OPEN MOTORIZED VALVE IN RISER VALVE TO START CIRCULATOR FOR THIS AREA.
- ② THERMOSTAT TO OPEN MOTORIZED VALVE IN STAIR WELL ONLY.



- NOTES:
- 1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-9.
 - 2. FOR SCHEDULE SEE SH. NO. 10HV-2.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 HEATING AND VENTILATING

INCINERATOR BUILDING
 SUB-BASEMENT, BASEMENT AND FIRST FLOOR PLANS
 SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DESIGNED BY DR. B.H. L.M.	DRAWN BY C.H.F.J.T.	CHECKED BY J.W. 83
APPROVED <i>J. M. Cahaly</i>		PLAN NO. 143

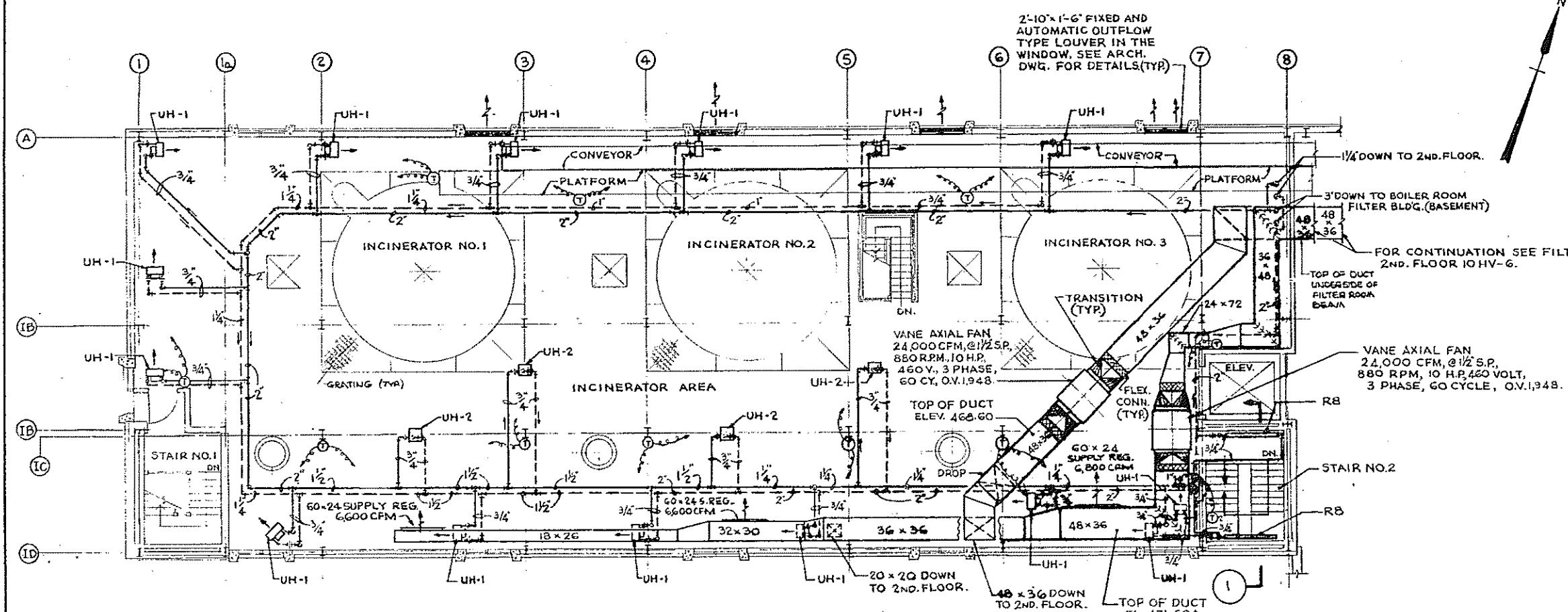
CONTRACT DRAWING SHEET NO. 10HV-1

UNIT HEATER SCHEDULE

MARK	NO.	TYPE	CAPACITY	GPM	CFM	RPM	HP	SP. HGT.
UH-1	15	HORIZONTAL	19.1	1.97	543	1550	1/30	.08
UH-2	4	PROJECTION	22.7	2.34	598	1550	1/35	.08

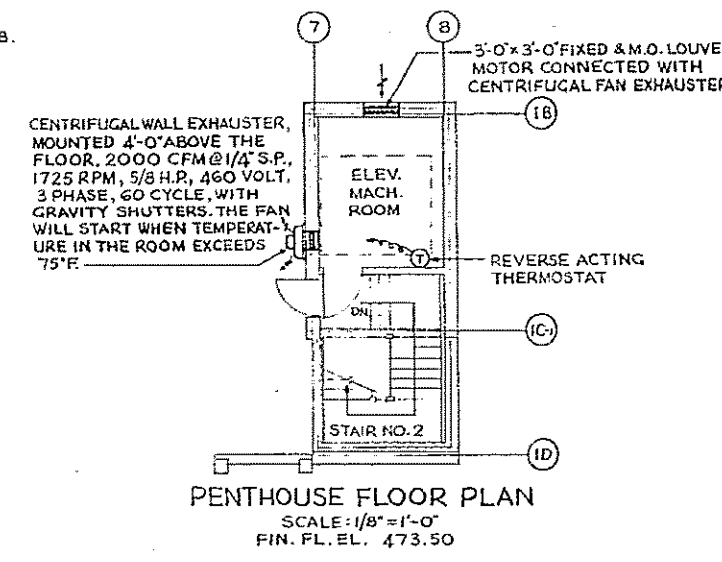
RADIATOR SCHEDULE

MARK	NO. OF	ACTIVE	BTU/H.F.T.	GPM
	TRISERS	FINNED	E. 100' AVG. TEMP.	
R-1	ONE	5'-0"	1050	0.53
R-2	ONE	4'-0"	1050	0.42
R-3	ONE	2'-0"	1050	0.21
R-4	ONE	9'-0"	1050	0.95
R-5	ONE	8'-0"	1050	0.85
R-6	ONE	5'-6"	1050	0.58
R-7	ONE	10'-0"	1050	1.06
R-8	ONE	6'-6"	1050	1.09
R-9	ONE	18'-0"	1050	1.09



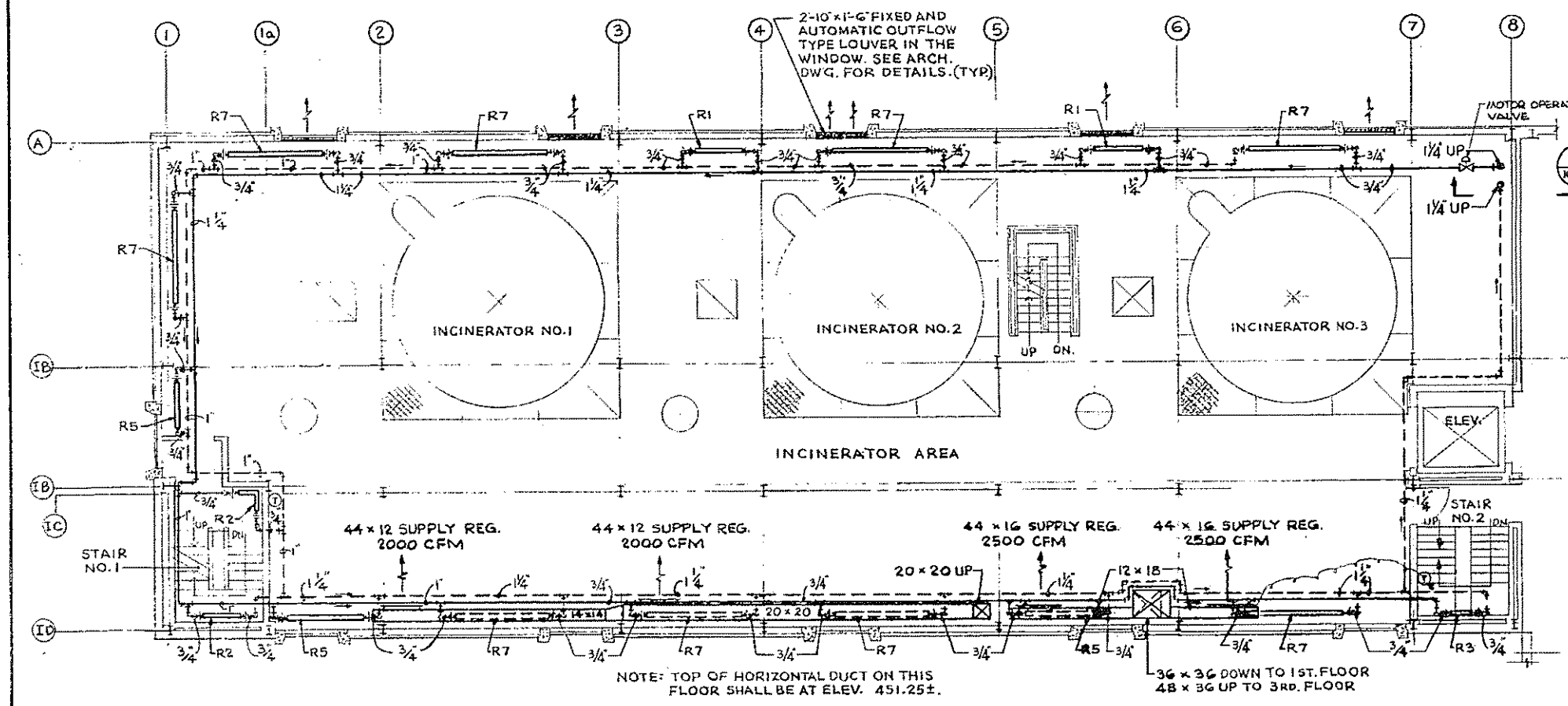
NOTE: UNIT HEATERS BELOW PLATFORM ARE AT EL. 460.25 TO BOTTOM OF HEATER. ALL OTHER UNIT HEATERS ARE AT EL. 462.00 TO BOTTOM OF HEATER.

3RD FLOOR PLAN
SCALE: 1/8"=1'-0"
FIN. FL. EL. 453.00

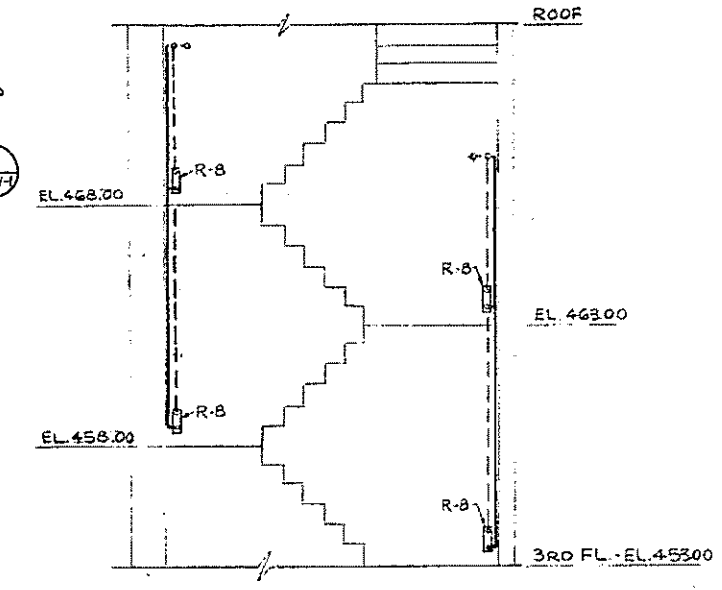


PENTHOUSE FLOOR PLAN
SCALE: 1/8"=1'-0"
FIN. FL. EL. 473.50

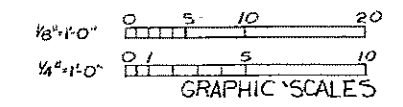
NOTE: I. FOR NOTES, LEGEND AND DETAILS SEE SH NO. IOHV-9.



2ND FLOOR PLAN
SCALE: 1/8"=1'-0"
FIN. FL. EL. 442.00



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



HALF-SIZE DRAWING

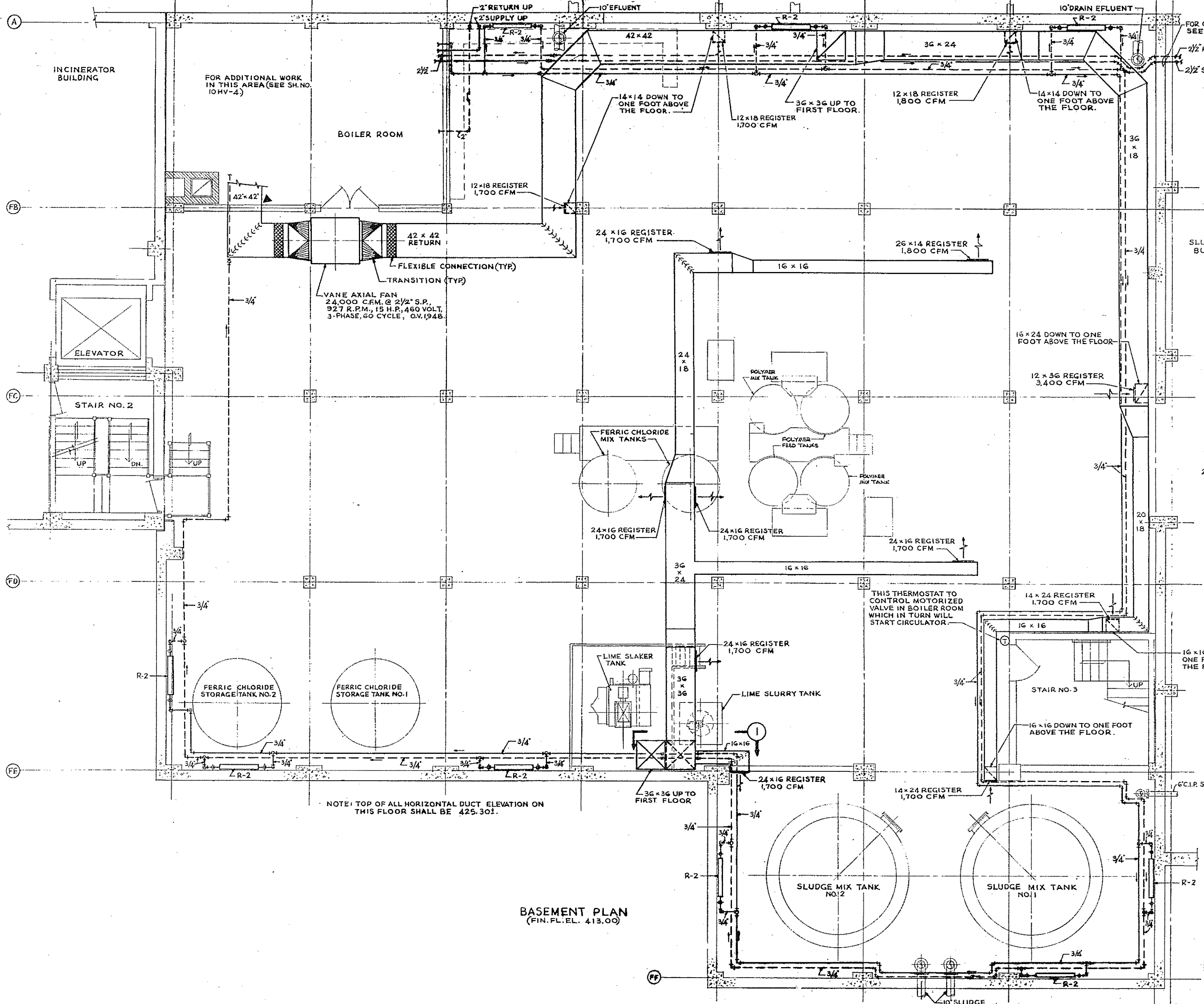
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
HEATING AND VENTILATING
INCINERATOR BUILDING
SECOND AND THIRD FLOOR PLANS
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

REV. B.S.K. DATE: 1/15/73
REV. D.H.L. DATE: 1/15/73
REV. J.W.T. DATE: 1/15/73
REV. J.W. DATE: 1/15/73

APPROVED: *E.M. Cahaly*
CONTRACT DRAWING SHEET NO. IOHV-2

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD BY





INCINERATOR BUILDING

FOR ADDITIONAL WORK IN THIS AREA (SEE SH. NO. 10HV-4)

BOILER ROOM

ELEVATOR

STAIR NO. 2

FERRIC CHLORIDE STORAGE TANK NO. 2

FERRIC CHLORIDE STORAGE TANK NO. 1

LIME SLAKER TANK

LIME SLURRY TANK

SLUDGE MIX TANK NO. 2

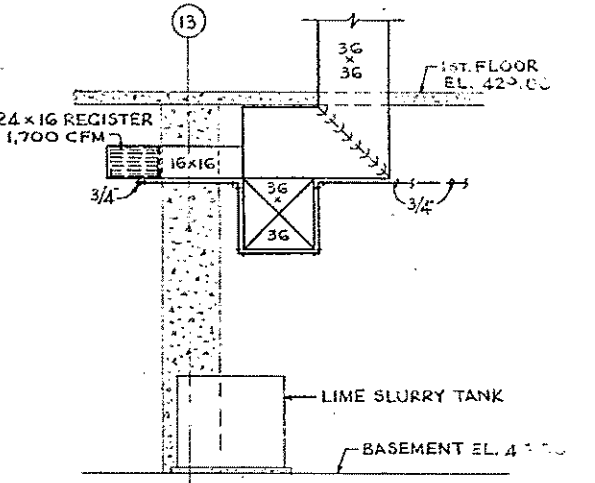
SLUDGE MIX TANK NO. 1

FOR CONTINUATION SEE SH. NO. 10HV-2

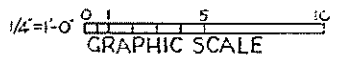
SLUDGE THICKENER BUILDING

RADIATOR SCHEDULE				
MARK	NO. OF TIERS	ACTIVE FINNED LENGTH	BTUH/FT. @ 190° AVG. TEMP.	G.P.M.
R-2	ONE	4'-0"	1,050	0.12

NOTE: 1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-3



SECTION 1

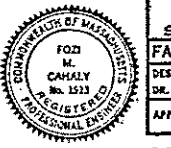


NOTE: TOP OF ALL HORIZONTAL DUCT ELEVATION ON THIS FLOOR SHALL BE 425.301.

BASEMENT PLAN (FIN. FL. EL. 413.00)

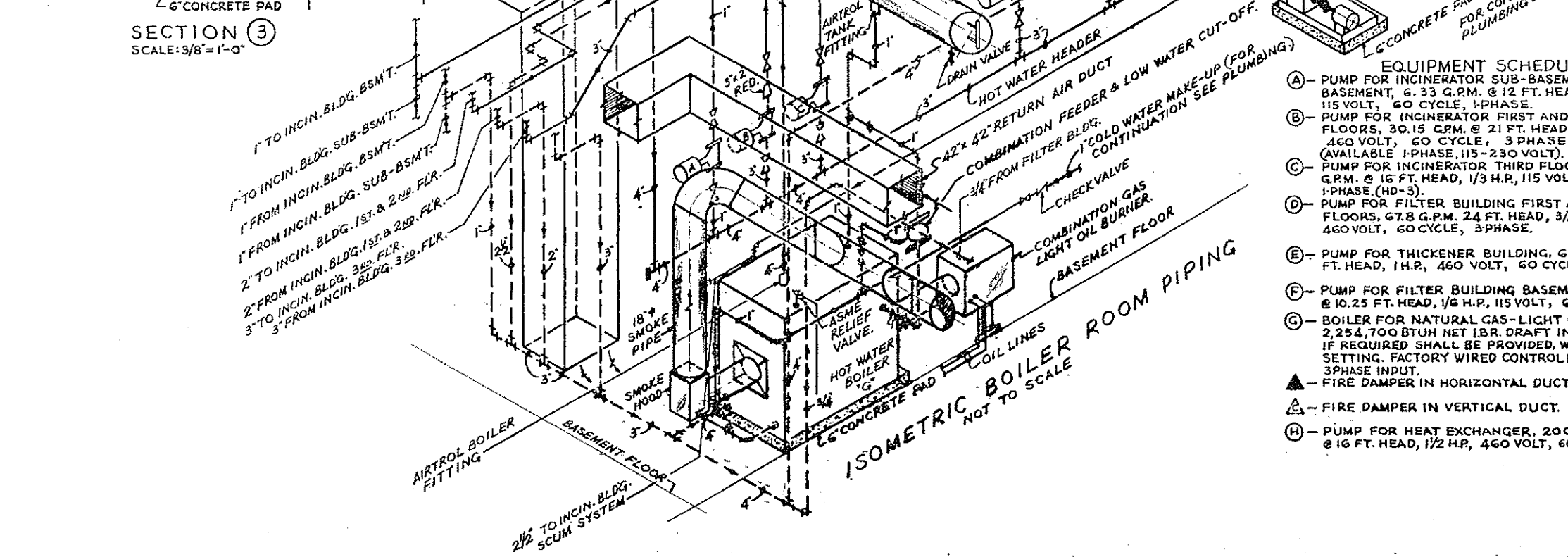
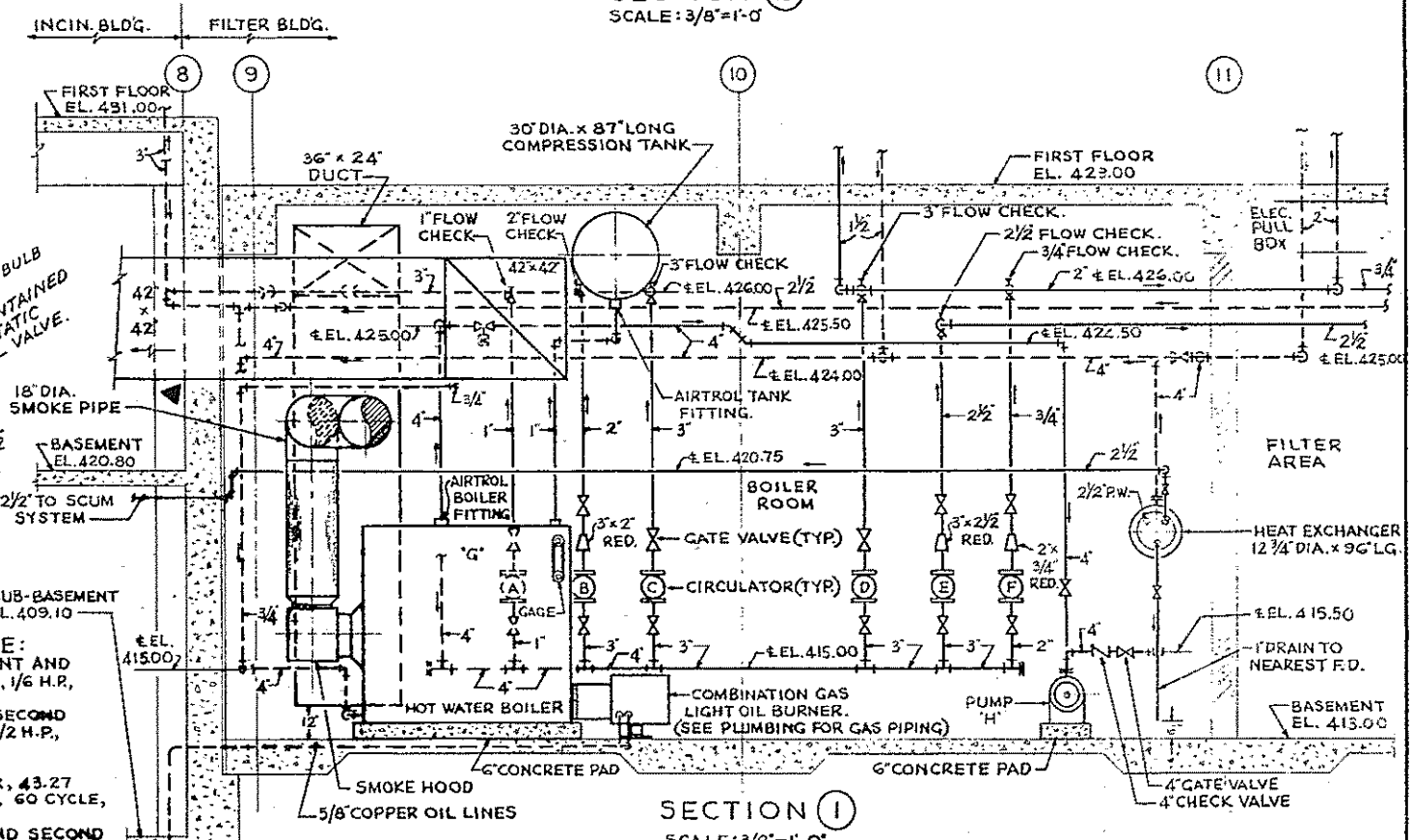
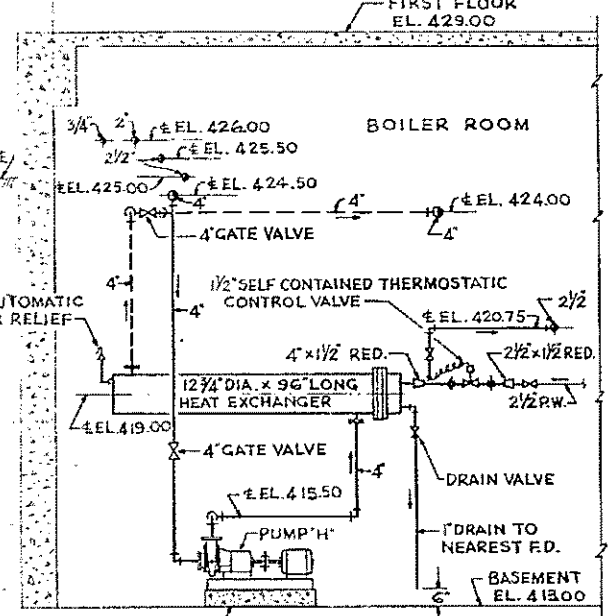
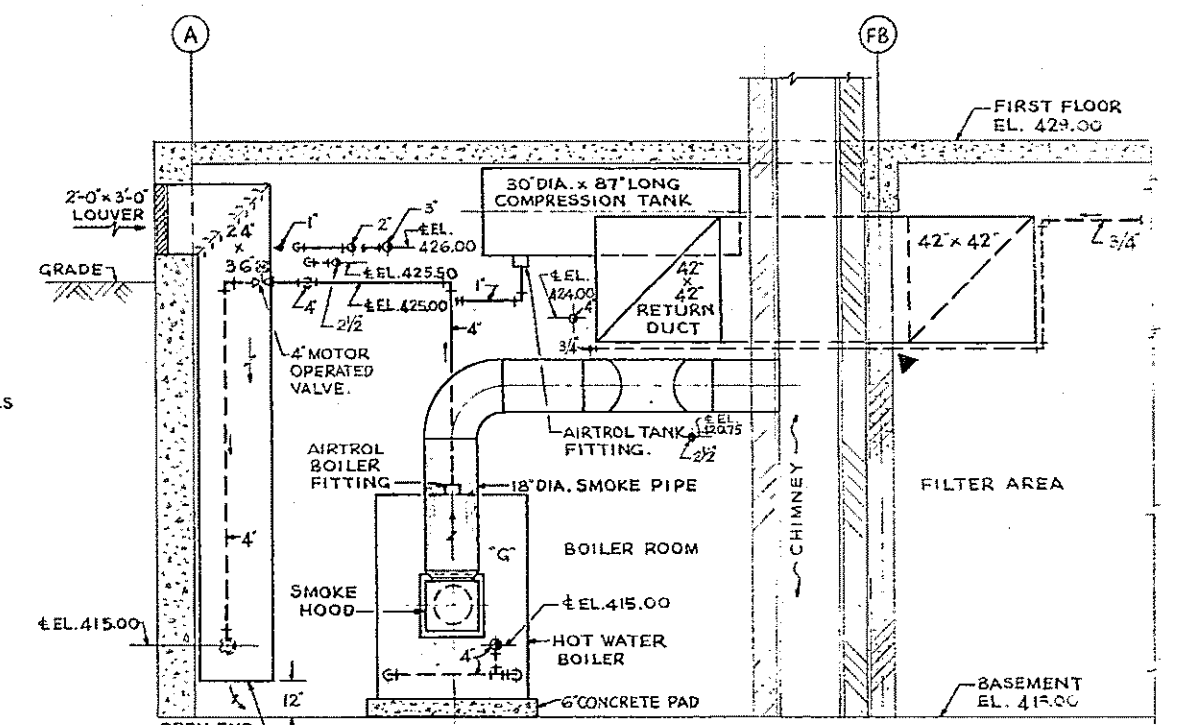
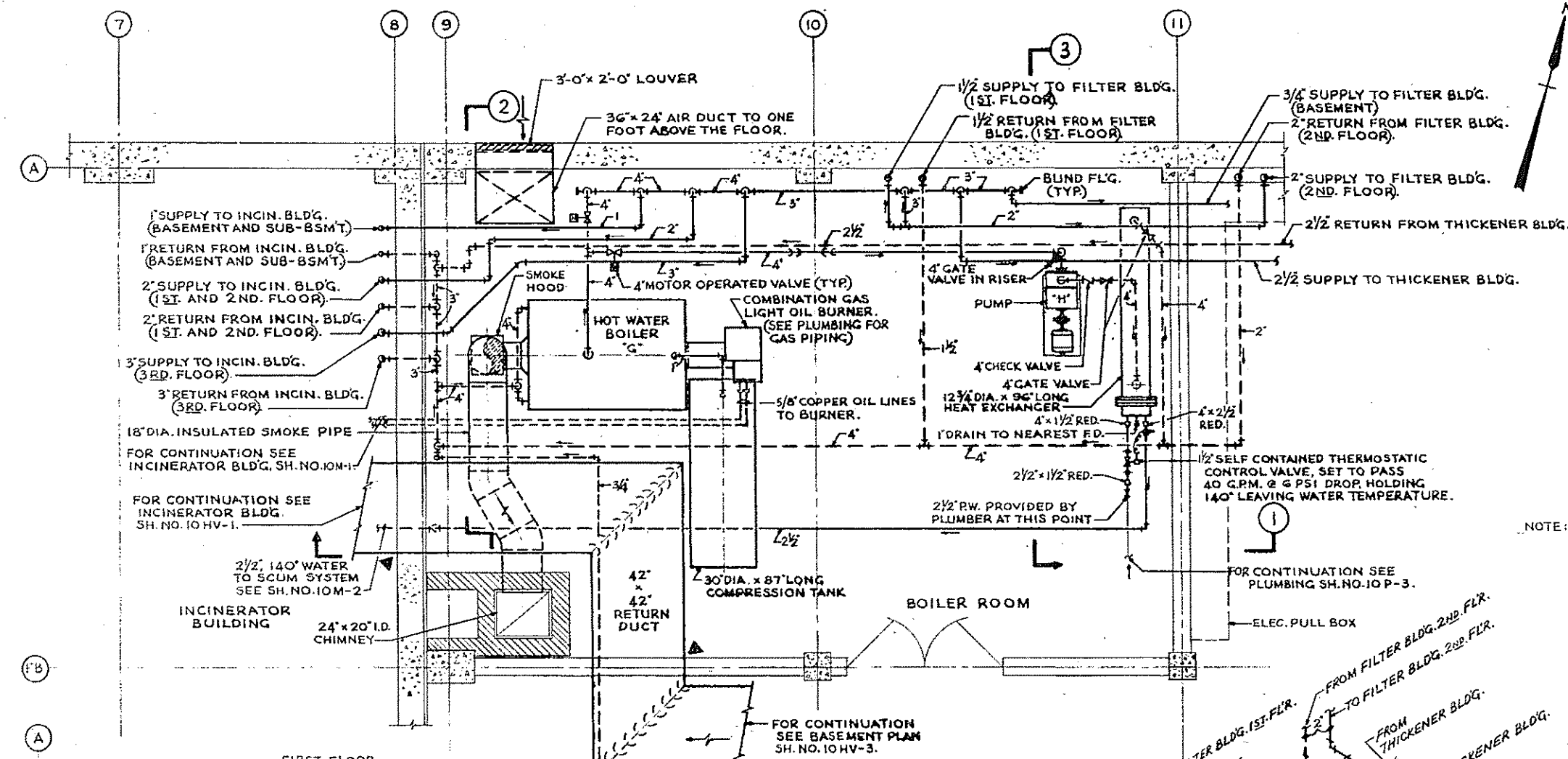
HALF-SIZE DRAWING.

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N. - 10 HEATING AND VENTILATING FILTER BUILDING BASEMENT PLAN	
SCALE: 1/4" = 1'-0"	FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.	DEC. 5, 1972
DR. S.S.K. DR. L.M.	DR. F.J.T. DR. J.W.
APPROVED <i>F.M. Cahaly</i>	PLAN NO. 145

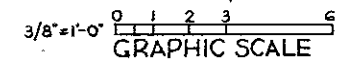


CONTRACT DRAWING SHEET NO. 10HV-3

HEAT EXCHANGER SCHEDULE											
SHELL SIDE (WATER)						TUBE SIDE (WATER)					
GRM.	TEMP. IN	TEMP. OUT	BTUH	PRESSURE DROP	WORKING PRESSURE	G.P.M.	TEMP. IN	TEMP. OUT	BTUH	PRESSURE DROP	WORKING PRESSURE
200	200°F	180°F	1,940,000	5 FT.	125	40	40°	140°	1,940,000	1.4 FT.	125

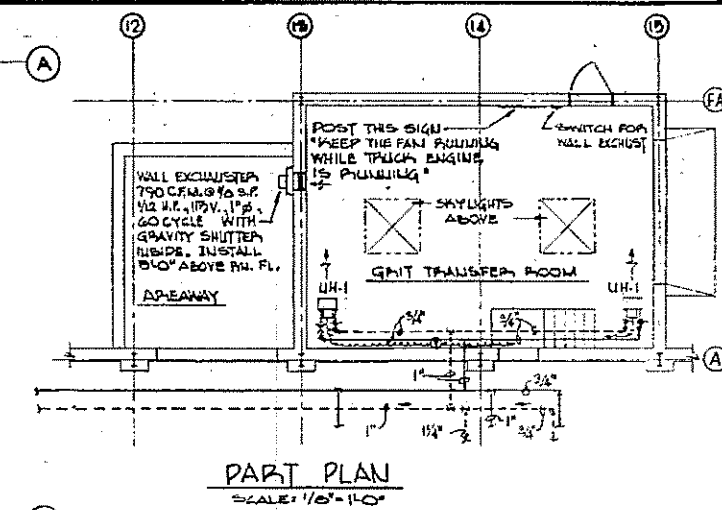
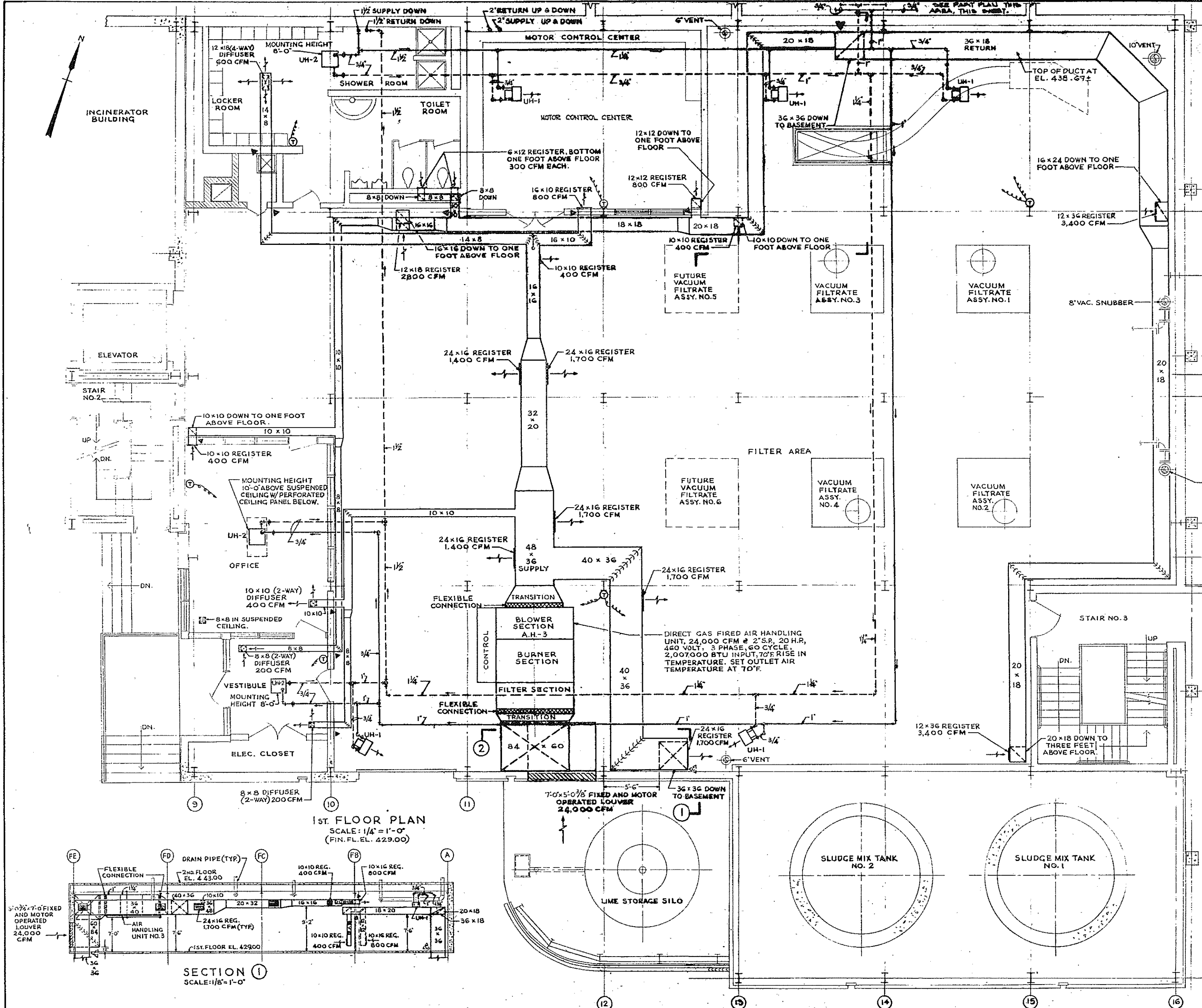


- EQUIPMENT SCHEDULE:**
- (A) PUMP FOR INCINERATOR SUB-BASEMENT AND BASEMENT, 6.33 G.P.M. @ 12 FT. HEAD, 1/6 H.P., 115 VOLT, 60 CYCLE, 1-PHASE.
 - (B) PUMP FOR INCINERATOR FIRST AND SECOND FLOORS, 30.15 G.P.M. @ 21 FT. HEAD, 1/2 H.P., 460 VOLT, 60 CYCLE, 3-PHASE. (AVAILABLE 1-PHASE, 115-230 VOLT).
 - (C) PUMP FOR INCINERATOR THIRD FLOOR, 43.27 G.P.M. @ 16 FT. HEAD, 1/3 H.P., 115 VOLT, 60 CYCLE, 1-PHASE, (HD-3).
 - (D) PUMP FOR FILTER BUILDING FIRST AND SECOND FLOORS, 67.8 G.P.M. @ 24 FT. HEAD, 3/4 H.P., 460 VOLT, 60 CYCLE, 3-PHASE.
 - (E) PUMP FOR THICKENER BUILDING, 63.6 G.P.M. @ 34 FT. HEAD, 1 H.P., 460 VOLT, 60 CYCLE, 3-PHASE, (RD-39).
 - (F) PUMP FOR FILTER BUILDING BASEMENT, 3.78 G.P.M. @ 10.25 FT. HEAD, 1/6 H.P., 115 VOLT, 60 CYCLE, 3-PHASE.
 - (G) BOILER FOR NATURAL GAS-LIGHT OIL RATED 2,254,700 BTUH NET I.B.R. DRAFT INDUCER (NOT SHOWN) IF REQUIRED SHALL BE PROVIDED, WITH 50 PSI RELIEF SETTING. FACTORY WIRED CONTROL PANEL WITH 460 VOLT, 3-PHASE INPUT.
 - (H) PUMP FOR HEAT EXCHANGER, 200 G.P.M. @ 16 FT. HEAD, 1/2 H.P., 460 VOLT, 60 CYCLE, 3-PHASE.
- ▲ - FIRE DAMPER IN HORIZONTAL DUCT.
 - ▲ - FIRE DAMPER IN VERTICAL DUCT.



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. N. - 10
 HEATING AND VENTILATING
 FILTER BUILDING
 BOILER ROOM PLAN AND DETAILS.
 SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. B.S.K. DR. L.M. CHC. F. J.T. FILE NO. JW-83
 APPROVED *F.M. Cahaly* PLAN NO. 146

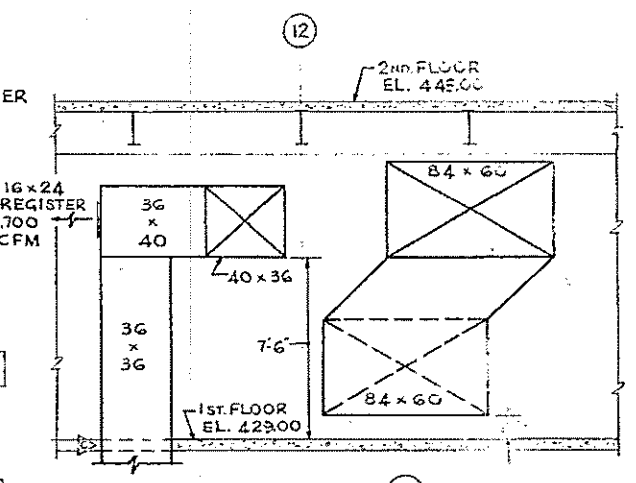
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



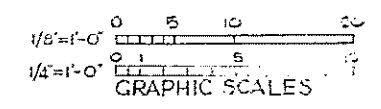
UNIT HEATER SCHEDULE

MARK	MTG. HGT. (FT.)	NO. REQD.	TYPE	CAPACITY M.B.H.	G.P.M.	C.F.M.	R.P.M.	H.P.	ΔP FT.H ₂ O
UH-1	10'	7	HORIZONTAL	19.1	1.97	543	1,550	1/30	.08
UH-2	AS MARKED	3	PROJECTION	22.7	2.34	595	1,550	1/35	.08
UH-3	10'	4	DO	48.4	4.99	1,200	1,550	1/15	.25
UH-4	10'	3	DO	22.7	2.34	595	1,550	1/35	.08
UH-5	10'	3	DO	31.5	3.24	706	1,150	1/20	.17

NOTE:
1. FOR LEGEND, NOTES AND DETAILS SEE DRAWING NO. 10HV-5



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



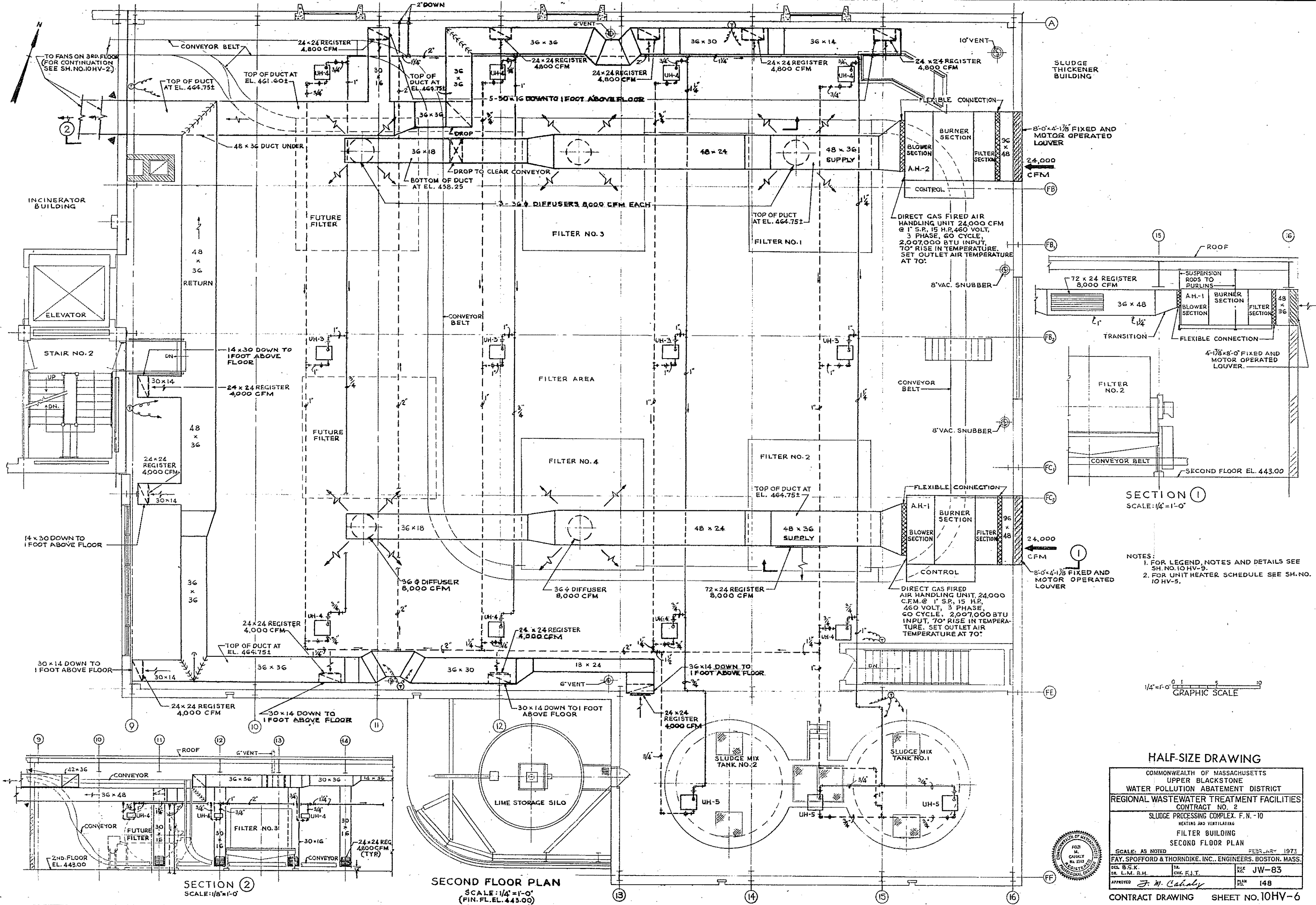
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
HEATING AND VENTILATING
FILTER BUILDING
FIRST FLOOR PLAN

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. B.S.K. TR. CHG. F.J.T. PLOT. JW-83
APPROVED: *F. M. Cahaly* DRAWN: 147

CONTRACT DRAWING SHEET NO. 10HV-5

310-982719-APR 1973



SECTION ①
SCALE: 1/4" = 1'-0"

- NOTES:
1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-9.
 2. FOR UNIT HEATER SCHEDULE SEE SH. NO. 10HV-5.



SECTION ②
SCALE: 1/8" = 1'-0"

SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"
(FIN. FL. EL. 443.00)

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. - 10
HEATING AND VENTILATING
FILTER BUILDING
SECOND FLOOR PLAN

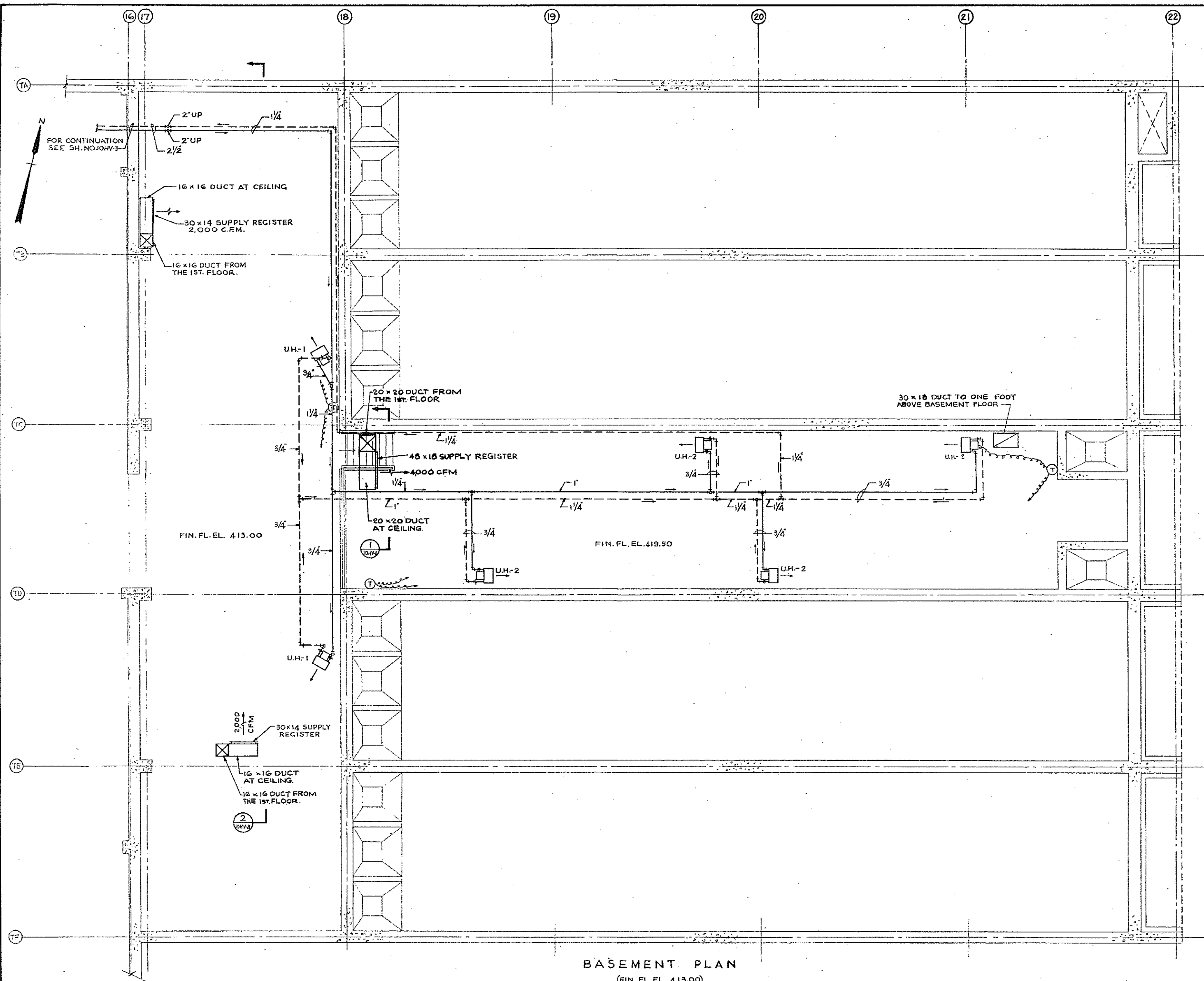
SCALE: AS NOTED FEB. 28, 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. B.S.K. IN CHG. F.J.T. PK. JW-83
DR. L.M.B.H. APPROVED J. M. Cahaly PLAN NO. 148

CONTRACT DRAWING SHEET NO. 10HV-6

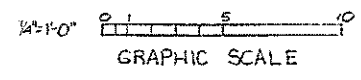
UNIT HEATER SCHEDULE									
MARK	MTG. HGT. FT.	NO.	TYPE	CAPACITY M.B.H.	SPM	CFM	RPM	HP	ΔP FT. H ₂ O
UH-1	8'-0"	2	HORIZONTAL	34.6	356	815	1550	1/20	.28
UH-2	8'-0"	4	HORIZONTAL	19.1	197	543	1550	1/30	.08
UH-3	8'-0"	15	PROJECTION	31.5	324	706	1150	1/20	.17

ROOF VENTILATOR SCHEDULE									
MARK	NO. REGD.	CFM	S.P.	H.P.	R.P.M.	VOLT	PHASE	HERTZ	SHUTTER TYPE
RV-1	3	8,000	3/4"	3	435	460	3	60	GRAVITY

NOTE:
1. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-8



BASEMENT PLAN
(FIN. FL. EL. 413.00)



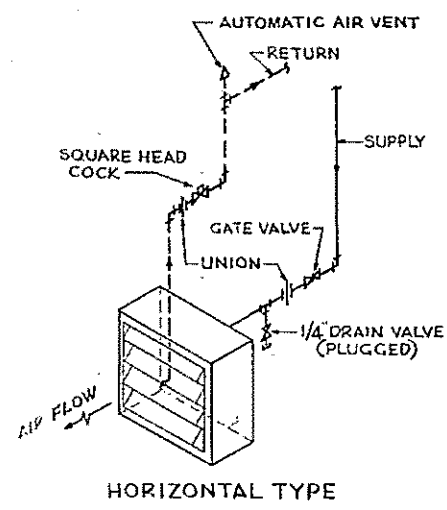
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. -10
HEATING AND VENTILATION
THICKENER BUILDING
BASEMENT PLAN

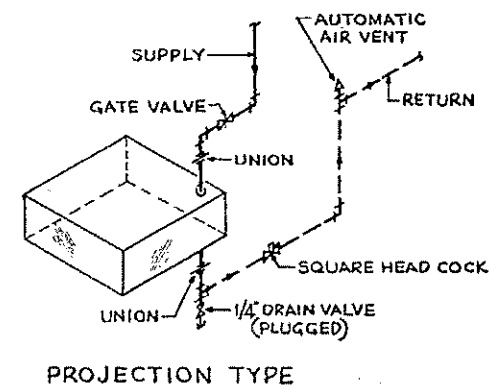
SCALE: 1/8" = 1'-0" FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. S. S. K. TR. CNR. F. J. T. FILE NO. JW-83
APPROVED *F. M. Cahaly* PLAN NO. 149



REV.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY

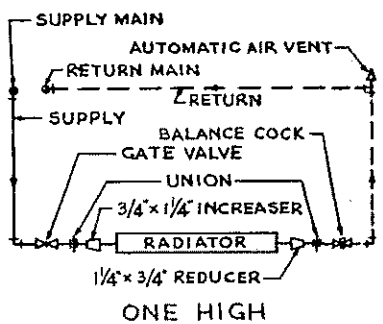


HORIZONTAL TYPE

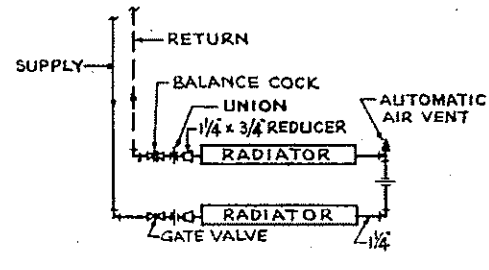


PROJECTION TYPE

UNIT HEATER DETAILS
NOT TO SCALE

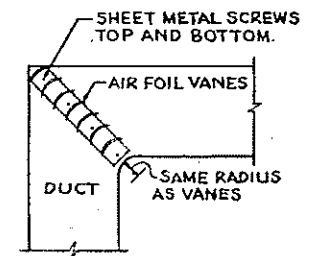


ONE HIGH



TWO HIGH

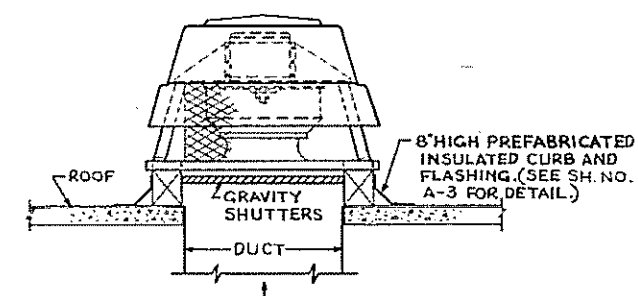
RADIATOR PIPING DETAILS
NOT TO SCALE



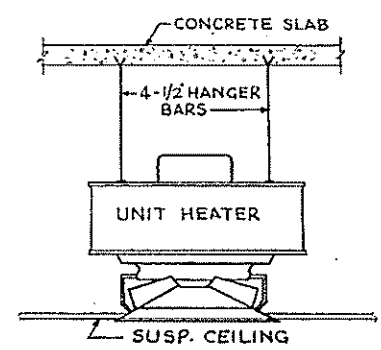
TYPICAL SQUARE
ELBOW DETAIL
NOT TO SCALE

LEGEND :

—	HOT WATER SUPPLY
—	HOT WATER RETURN
—	RISER
—	DROP
⊕	THERMOMETER
⊖	THERMOSTAT
⊕	SUPPLY AIR DUCT
⊖	RETURN AIR DUCT
⊕	SPLITTER DAMPER IN DUCT
R.V.	ROOF VENTILATOR
M.O.	MOTOR OPERATED
REG.	REGISTER
U.H.	UNIT HEATER
∅	DIAMETER
TYP.	TYPICAL
H.V.	HEATING AND VENTILATING UNIT
C.W.E.	CENTRIFUGAL WALL EXHAUSTER
EL.	ELEVATION
A.H.	AIR HANDLING UNIT
RED.	REDUCER
SW SWITCH	SLUICER WATER SWITCH



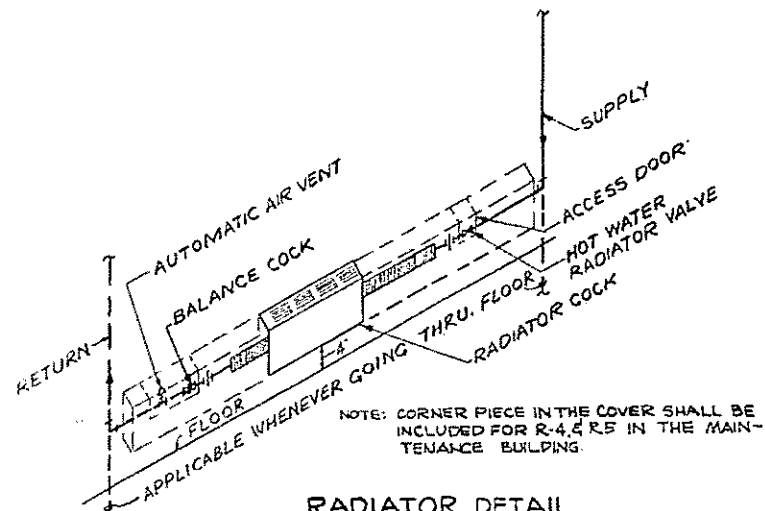
ROOF VENTILATOR DETAIL
NOT TO SCALE



PROJECTION UNIT HEATER IN
SUSPENDED CEILING AREAS
NOT TO SCALE

GENERAL NOTES :

1. ALL SUPPLY AND RETURN AIR REGISTERS SHALL BE MADE OF HEAVY GAGE ALUMINUM WITH DOUBLE DEFLECTION ALUMINUM BARS. EACH REGISTER SHALL BE FURNISHED WITH AN INTEGRAL VOLUME DAMPER WITH A REMOVABLE KEY OPERATOR.
2. THERMOSTATS MOUNTED ON EXTERIOR COLD WALL SHALL BE MOUNTED ON AN INSULATED PAD.
3. ROOF VENTILATORS FOR CHLORINATION FACILITIES SHALL BE PROVIDED WITH MOLDED FIBERGLASS HOUSING, PREFABRICATED CURB AND GRAVITY SHUTTERS. THE FAN SHALL HAVE AIR DRY PLASTIC COATING WITH VINYL RESIN BASE.
4. ALL RADIATORS SHALL BE 1 1/4" STEEL PIPE WITH 33-4 1/4" X 4 1/4" FINS PER FOOT WITH SLOTTED SLOPING COVER, 12" HIGH ON ONE TIER UNITS AND 18" HIGH ON TWO TIER UNITS. RATINGS BASED ON 180° AVERAGE WATER TEMPERATURE AND LOW WATER VELOCITY.
5. ALL UNIT HEATER RATINGS ARE BASED ON 200° ENTERING WATER, 20° T., EACH UNIT SHALL BE EQUIPPED WITH DIFFUSERS AND HEAVY WATER TUBES, VOLTAGE SHALL BE 115 VOLT, 1 PHASE, 60 CYCLE.
6. THE LOUVER DIMENSIONS SHOWN ON THE HV DRAWINGS ARE NOMINAL. FOR ACTUAL SIZE AND WALL OPENING, SEE CORRESPONDING ARCHITECTURAL DRAWINGS.



RADIATOR DETAIL
NOT TO SCALE

NOTE: CORNER PIECE IN THE COVER SHALL BE INCLUDED FOR R-4, R-5 IN THE MAINTENANCE BUILDING.
APPLICABLE WHENEVER GOING THRU FLOOR

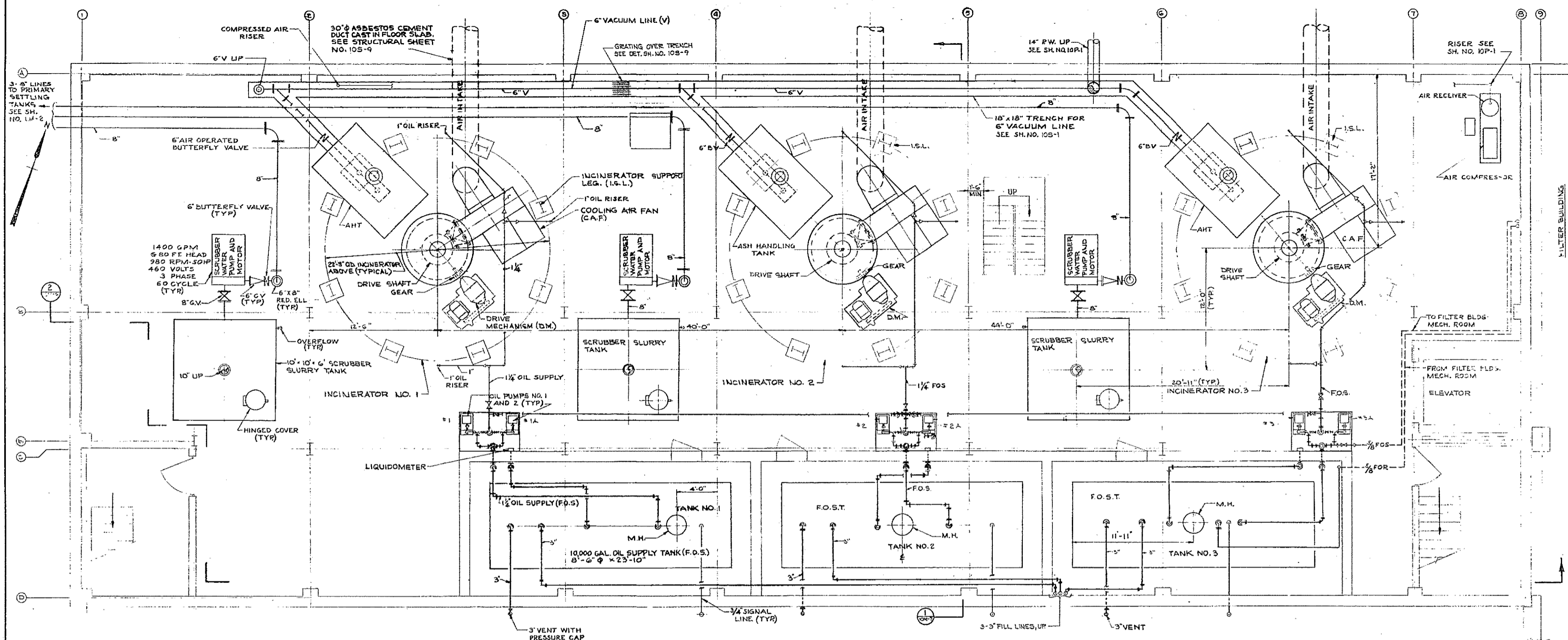
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT			
REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2			
SLUDGE PROCESSING COMPLEX, F.N. - 10 HEATING AND VENTILATING			
MISCELLANEOUS DETAILS			
SCALE: NOT TO SCALE		FEBRUARY, 1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DR. S.R.K.	IN CHG. E.J.T.	DATE	JW-83
DR. L.M.			
APPROVED	<i>F. W. Cahaly</i>	PLAN NO.	151

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

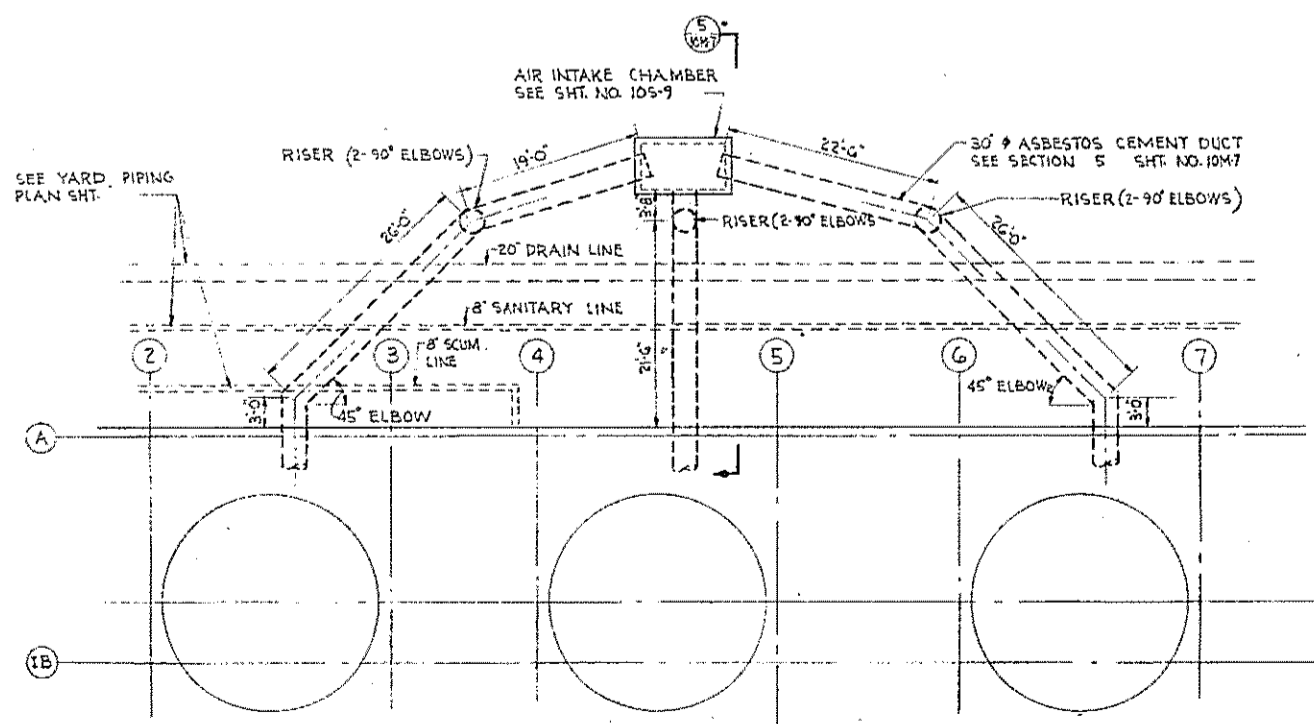


CONTRACT DRAWING SHEET NO. 10HV-9

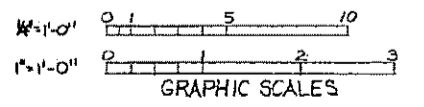


SUB-BASEMENT PLAN
 EL. 409.83
 SCALE: 1/4"=1'-0"

NOTE:
 1. FOR LEGEND AND NOTES SEE SH. NO. 10-1



SUB-BASEMENT PART PLAN
 SCALE: 1"=1'-0"

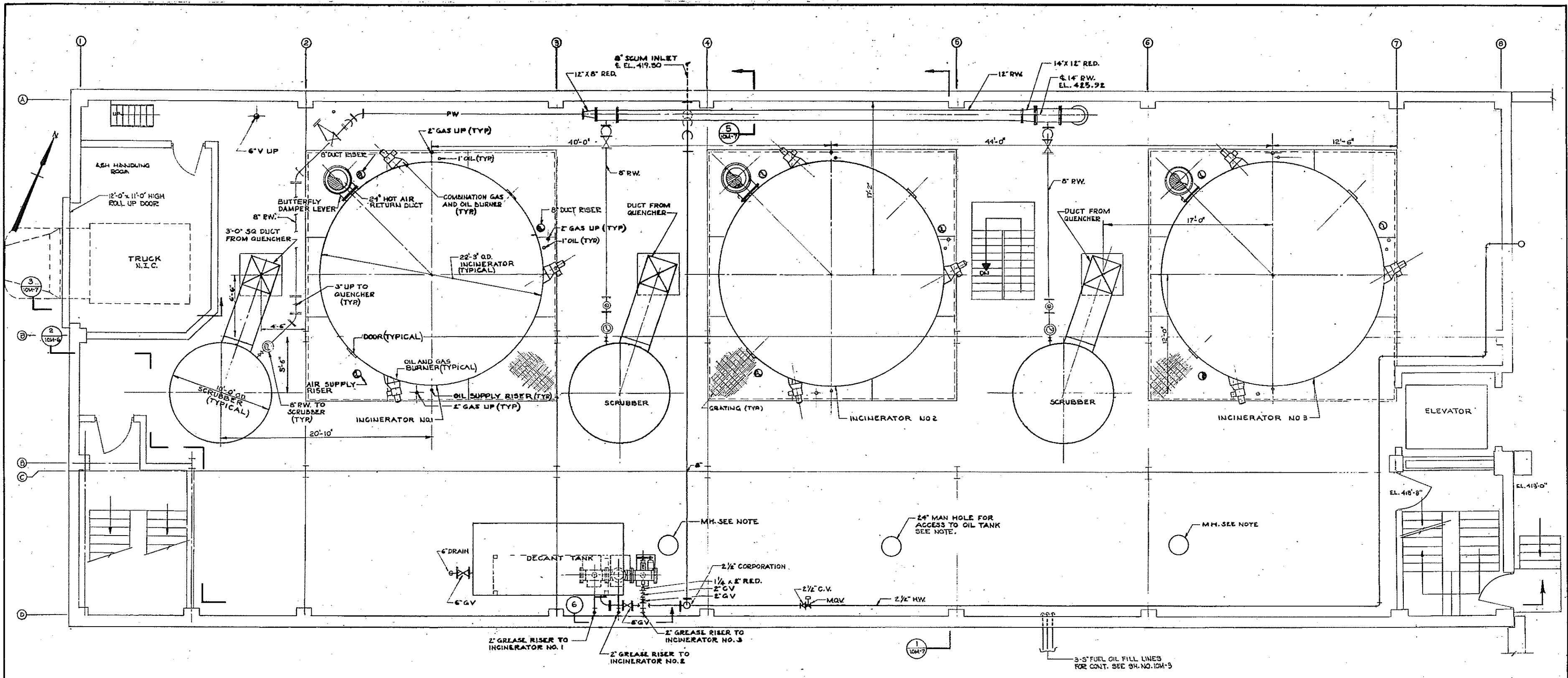


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F. N. -10 MECHANICAL PROCESS			
INCINERATOR BUILDING SUB-BASEMENT PLAN		SCALE: AS NOTED	FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. B. G. K.	TR. CHELSEA	FILE NO. JW-83	
DR. A. D. G. S.			
APPROVED: <i>F. M. Cahaly</i>		PLAN NO. 152	

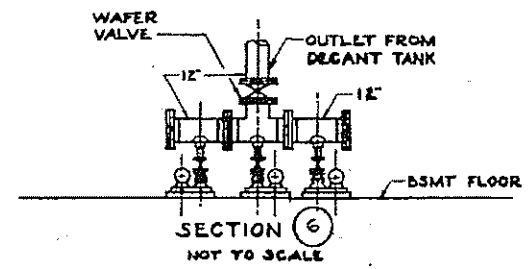


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP'D. BY



BASEMENT PLAN
 EL. 420.67
 SCALE: 1/4" = 1'-0"

NOTE:
 M.H. SHALL LINE UP WITH TANK M.H.
 IN SUB-BASEMENT

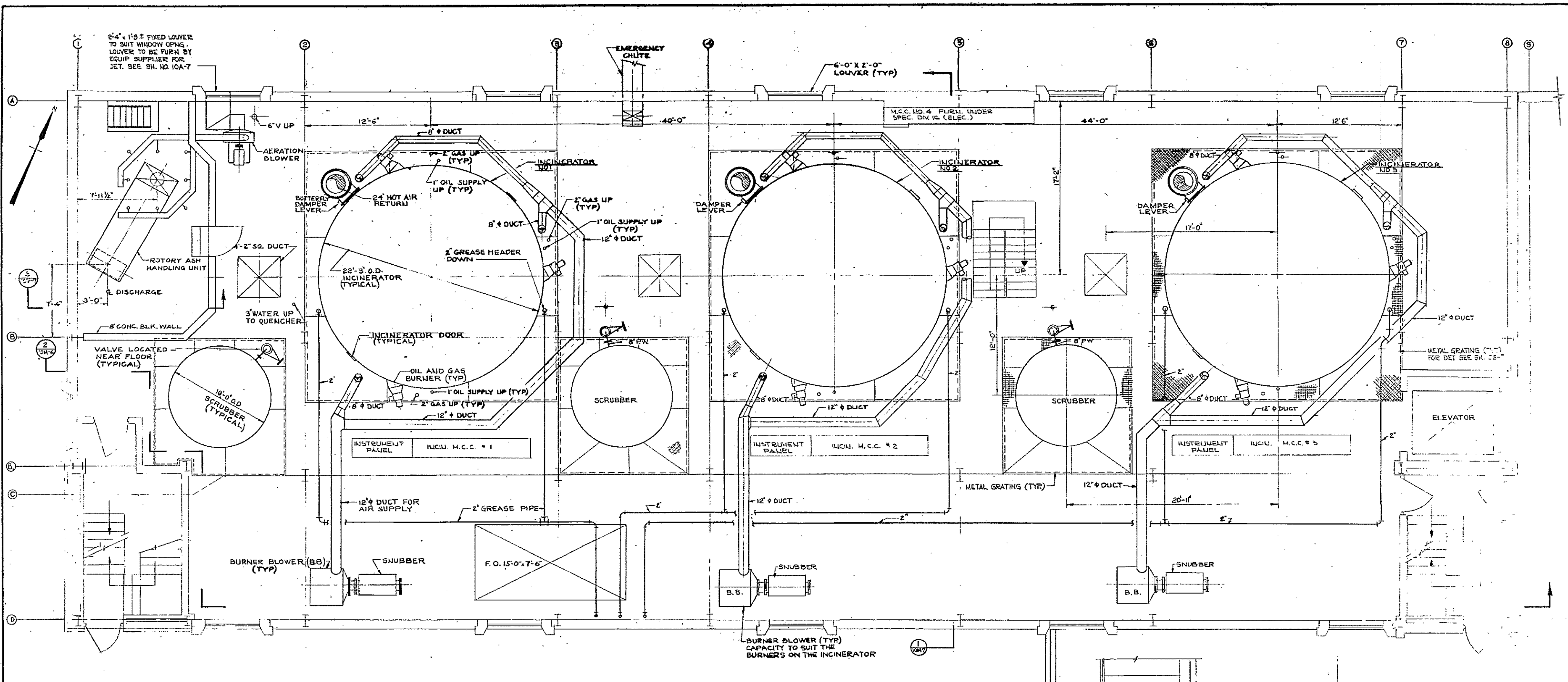


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F. N. - 10 MECHANICAL PROCESS INCINERATOR BUILDING BASEMENT PLAN			
SCALE: AS NOTED		REVISION 1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. B. S. K.	TR. C. W. P. K.	FILE NO.	JW-83
DR. A. D. L.		PLAN NO.	153
APPROVED	<i>F. M. Celaly</i>		

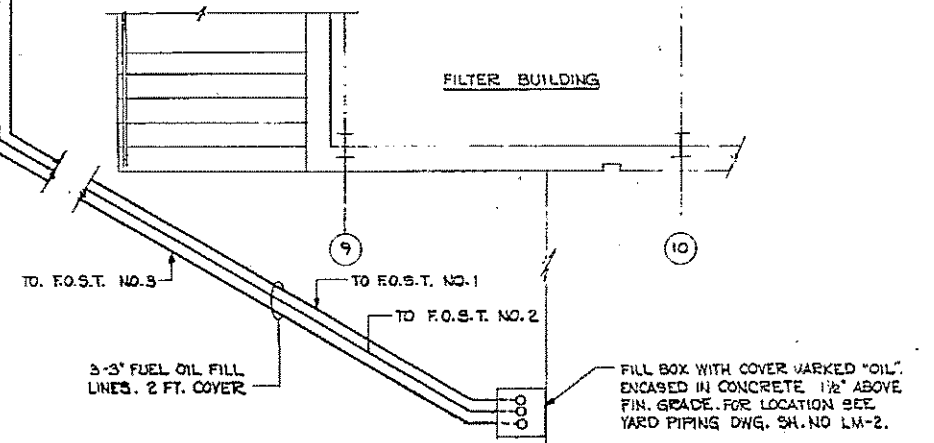
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



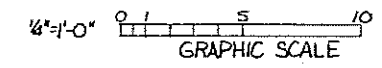


1ST FLOOR PLAN
 EL. 431.0'
 SCALE: 1/4"=1'-0"

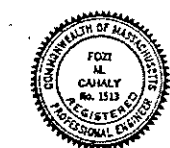
NOTE:
 1. FOR LEGEND AND NOTES SEE SH. NO. 10M-8
 2. ALL MECHANICAL EQUIPMENT IN THE INCINERATION BLDG. EXCEPT AS NOTED ON ELECTRICAL CONTRACT DWGS. ARE TO BE FURNISHED AND WIRED UNDER SPEC. SECT. 15A.



HALF-SIZE DRAWING

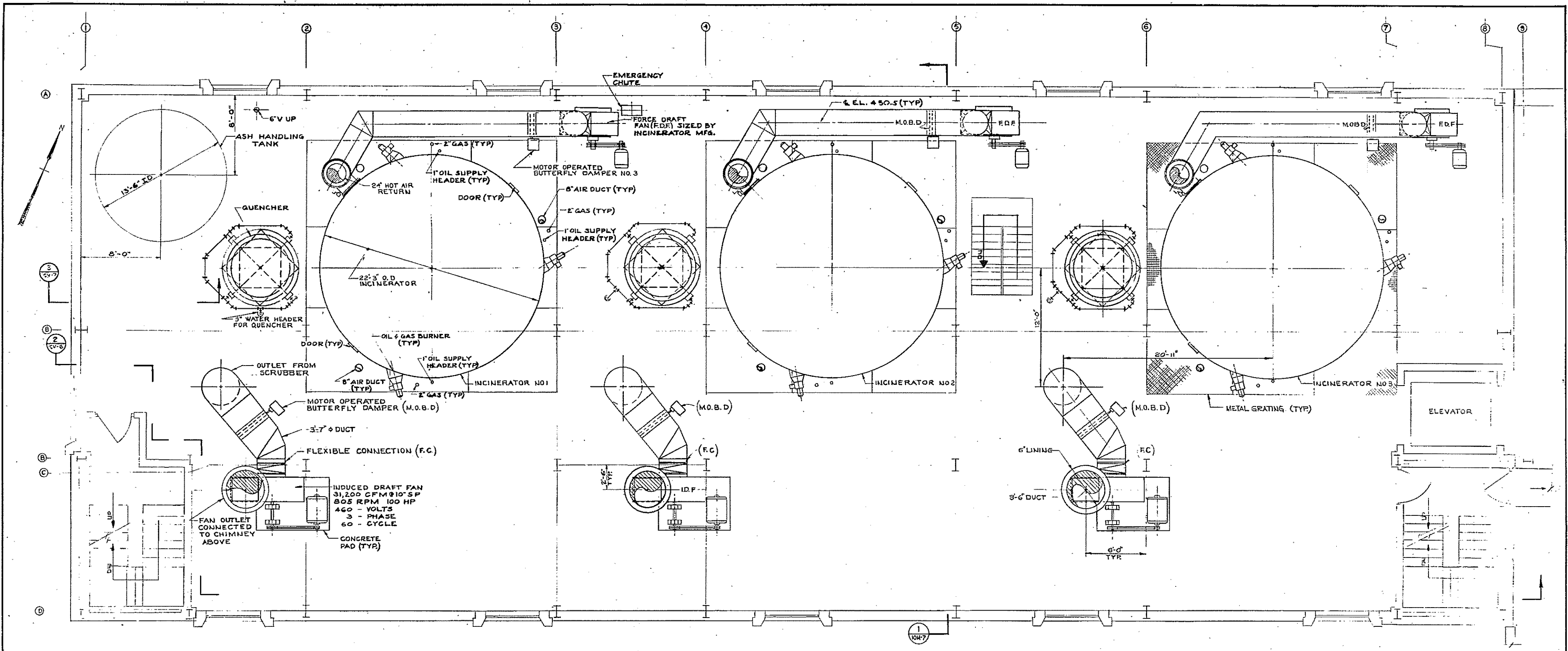


REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APPD. BY



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. N. - 10
 MECHANICAL PROCESS
 INCINERATOR BUILDING
 FIRST FLOOR PLAN
 SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. IS. S. K. TR. CHE. W. B. K. FILE NO. JW-83
 DR. A. D. G. J. APPROVED *F. W. Cahaly* PLAN NO. 154

CONTRACT DRAWING SHEET NO. 10M-3



2ND FLOOR PLAN
 E.L. 442.0
 SCALE: 1/8"=1'-0"



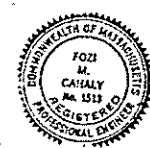
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. H. - 10
 MECHANICAL PROCESS
 INCINERATOR BUILDING
 SECOND FLOOR PLAN

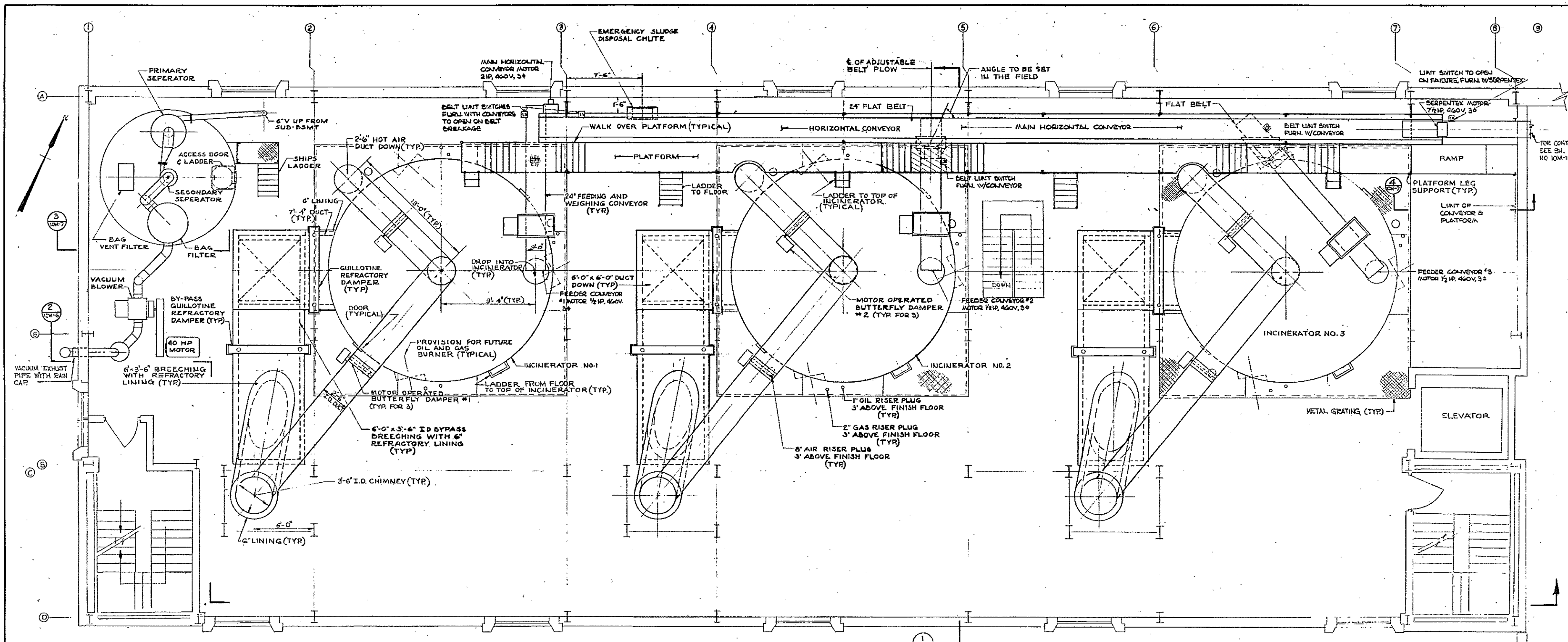
SCALE: AS NOTED FEBRUARY, 1972
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. B. S. K.	TA. C. W. P. K.	FILE NO. JW-83
DR. A. D. G. J.		PL. NO. 155

APPROVED: *F. M. Cahaly*

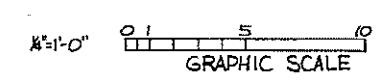


REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY



3RD FLOOR PLAN
 EL. 453.0
 SCALE: 1/4"=1'-0"

NOTES:
 MAIN HORIZONTAL CONVEYOR SHALL BE 24" FLAT BELT

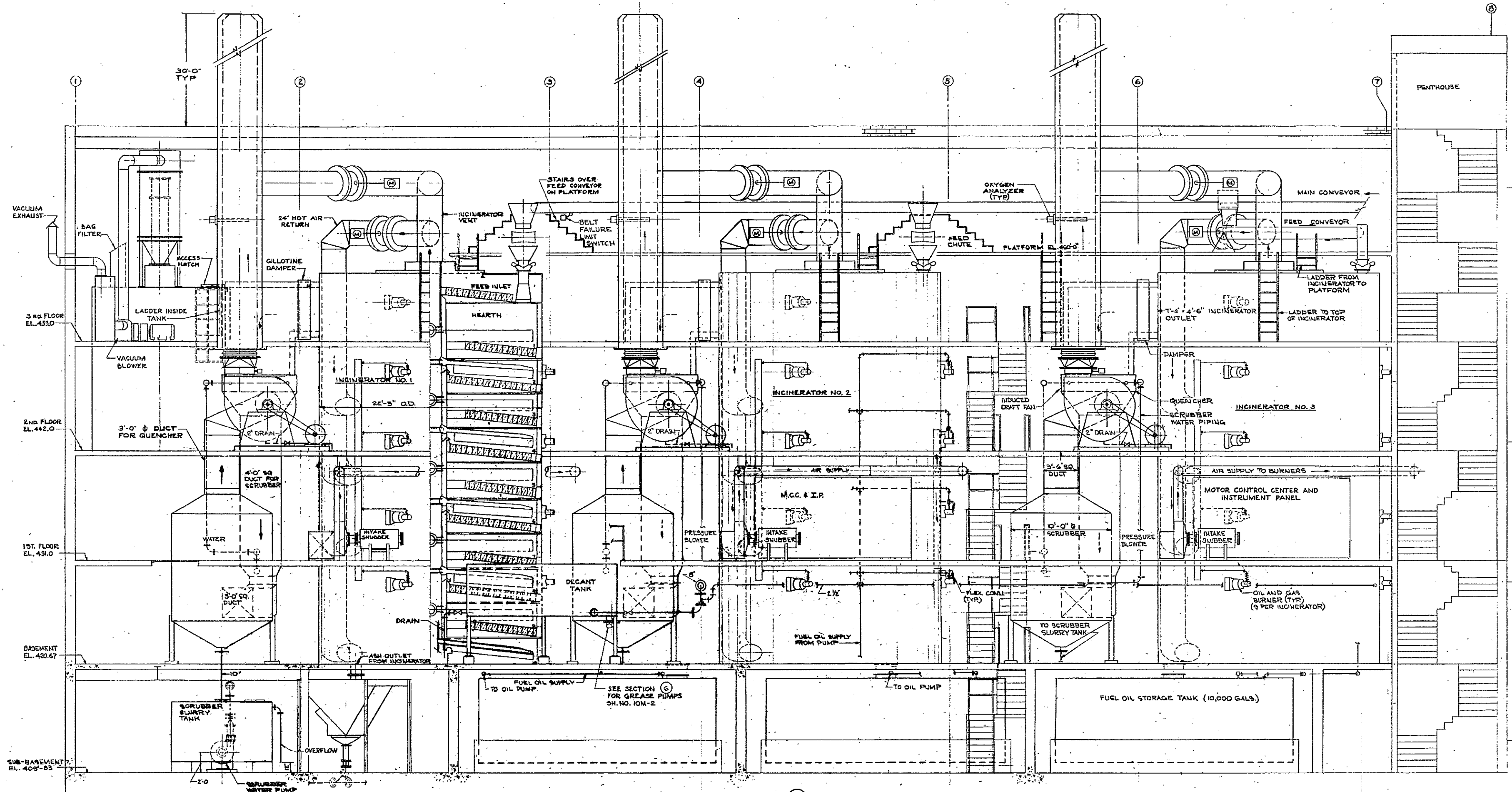


HALF-SIZE DRAWING

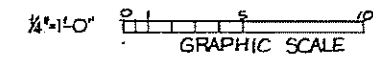
COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N.-10 MECHANICAL PROCESS INCINERATOR BUILDING THIRD FLOOR PLAN			
SCALE: AS NOTED	FEBRUARY 1973		
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DESIGNED BY: J.W.	CHECKED BY: J.W.	DATE: JW-83	SCALE: 1/4"=1'-0"
APPROVED: J.M. Cahaly	DATE: 156		



REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY



SECTION (2)
SCALE: 1/4"=1'-0"

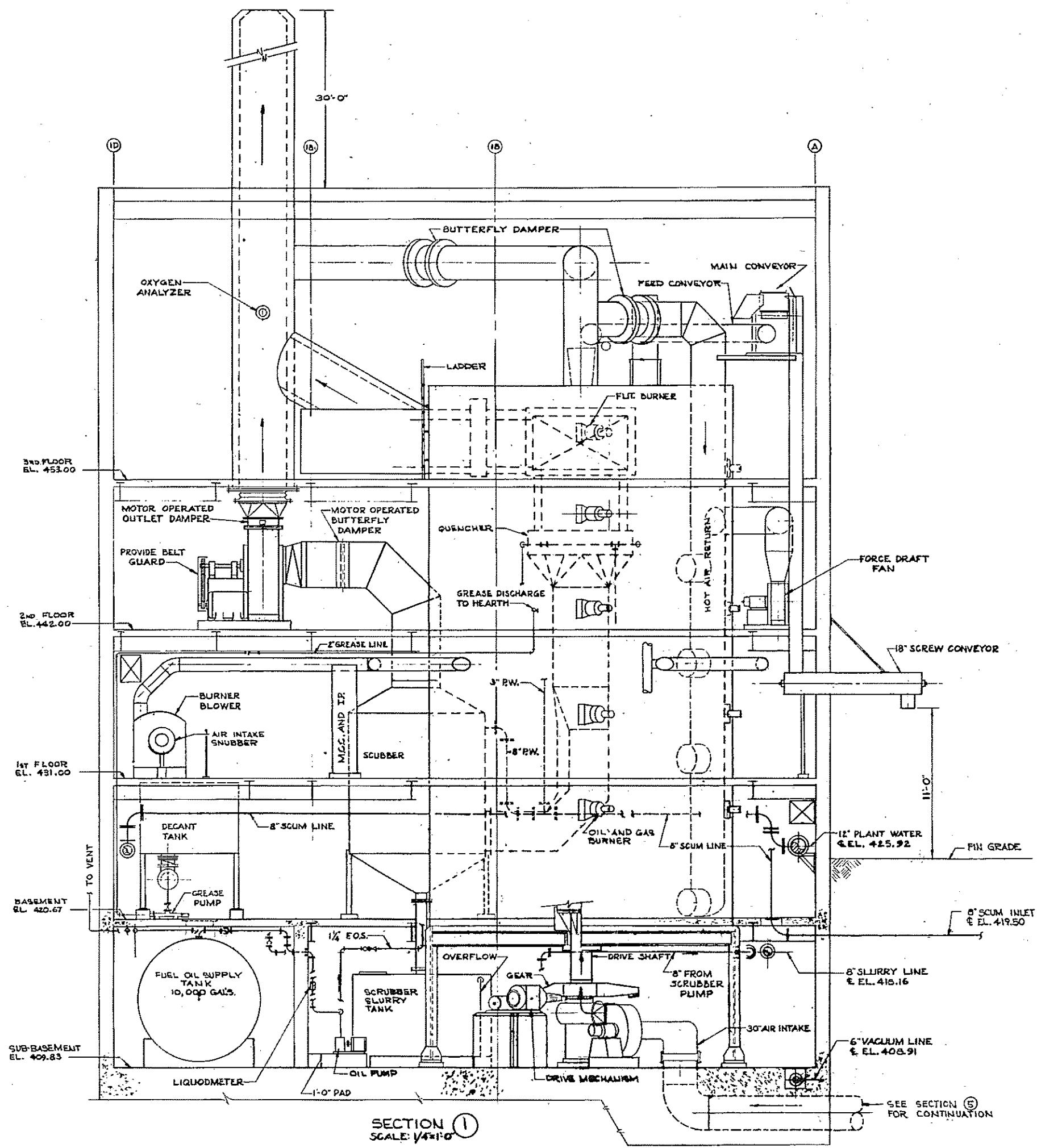


HALF-SIZE DRAWING

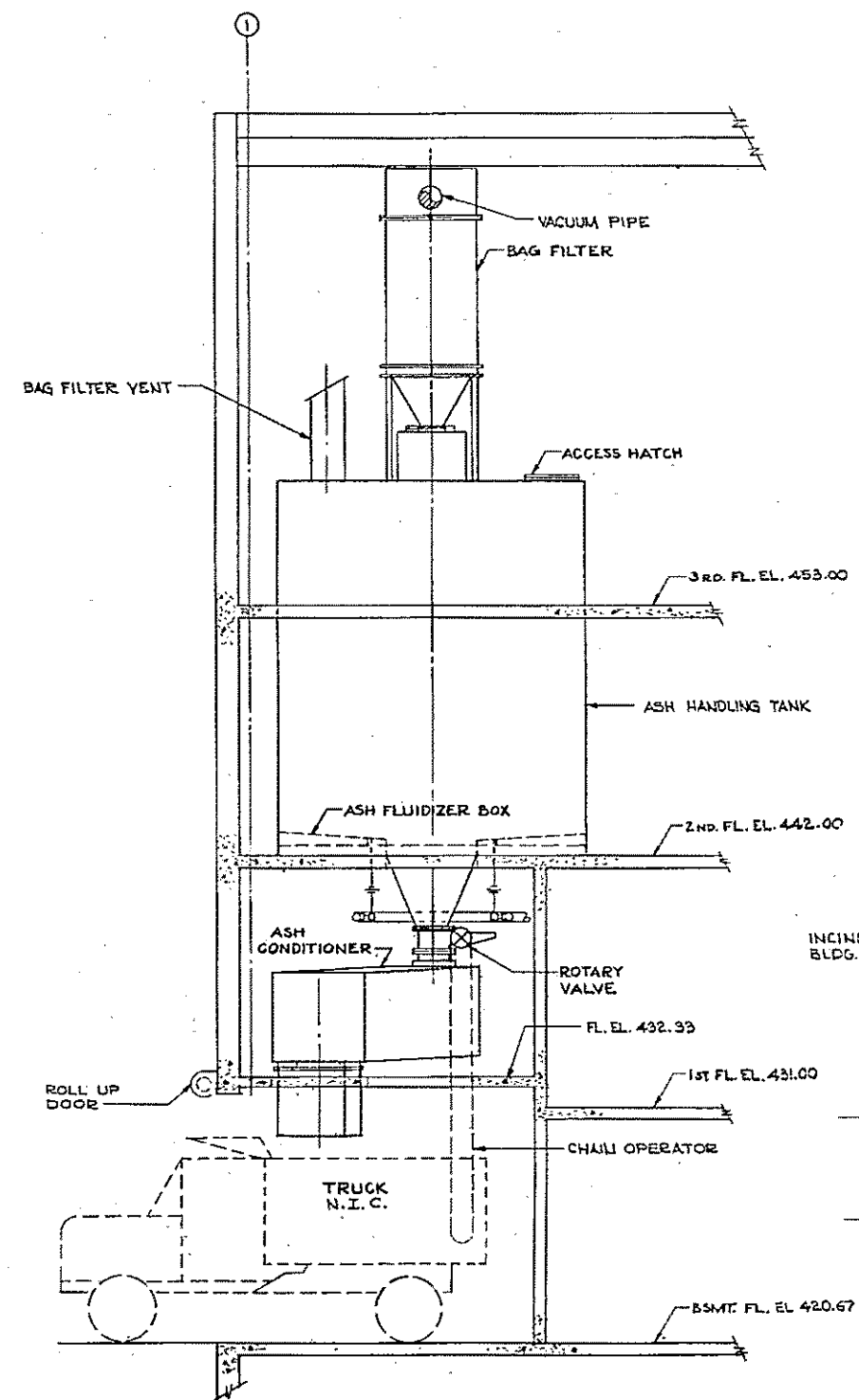
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. -10
MECHANICAL PROCESS
INCINERATOR BUILDING
LONGITUDINAL SECTION AT FRONT FACE
SCALE: AS NOTED FEBRUARY, 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. B. S. K. TR. OK. V. P. K. FILE NO. JW-83
APP'D. *F. W. Cahaly* PLAN NO. 157

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP'D. BY

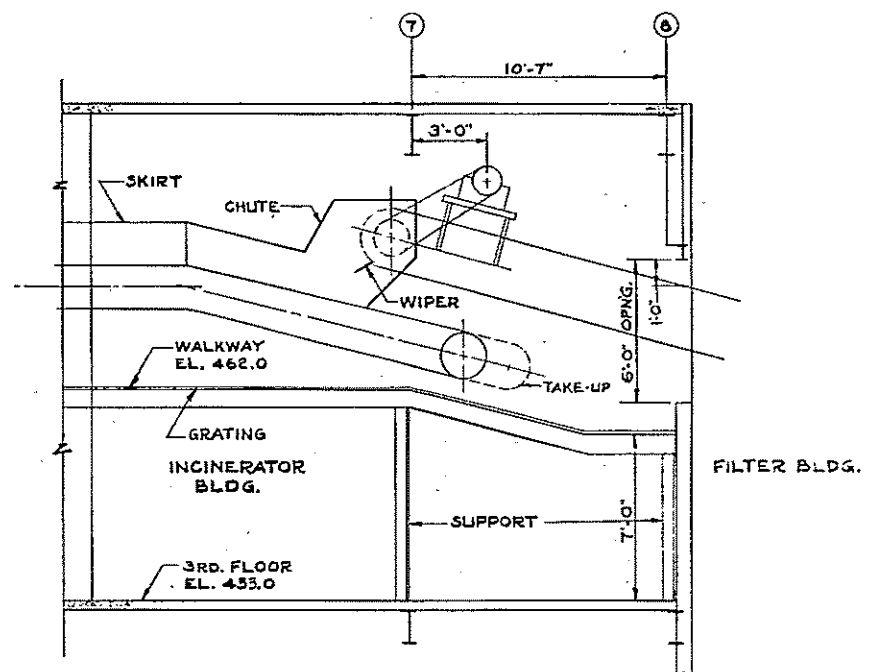




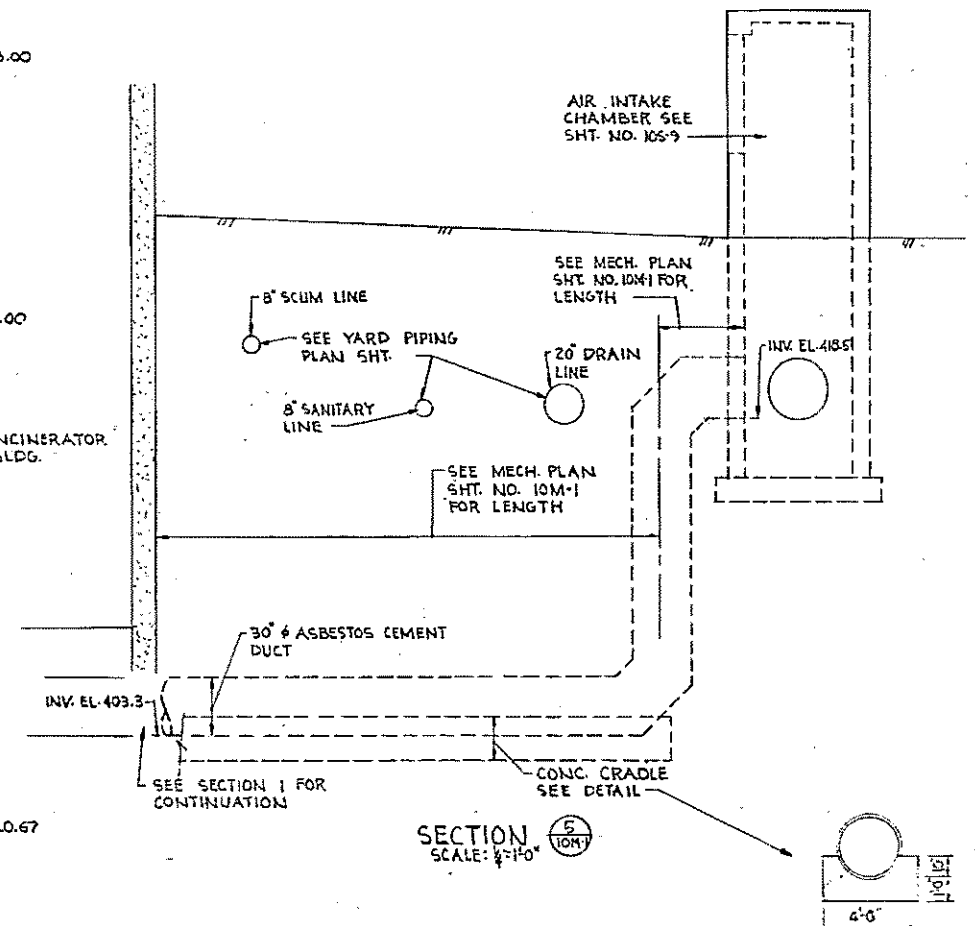
SECTION 1
SCALE: 1/4"=1'-0"



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



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



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



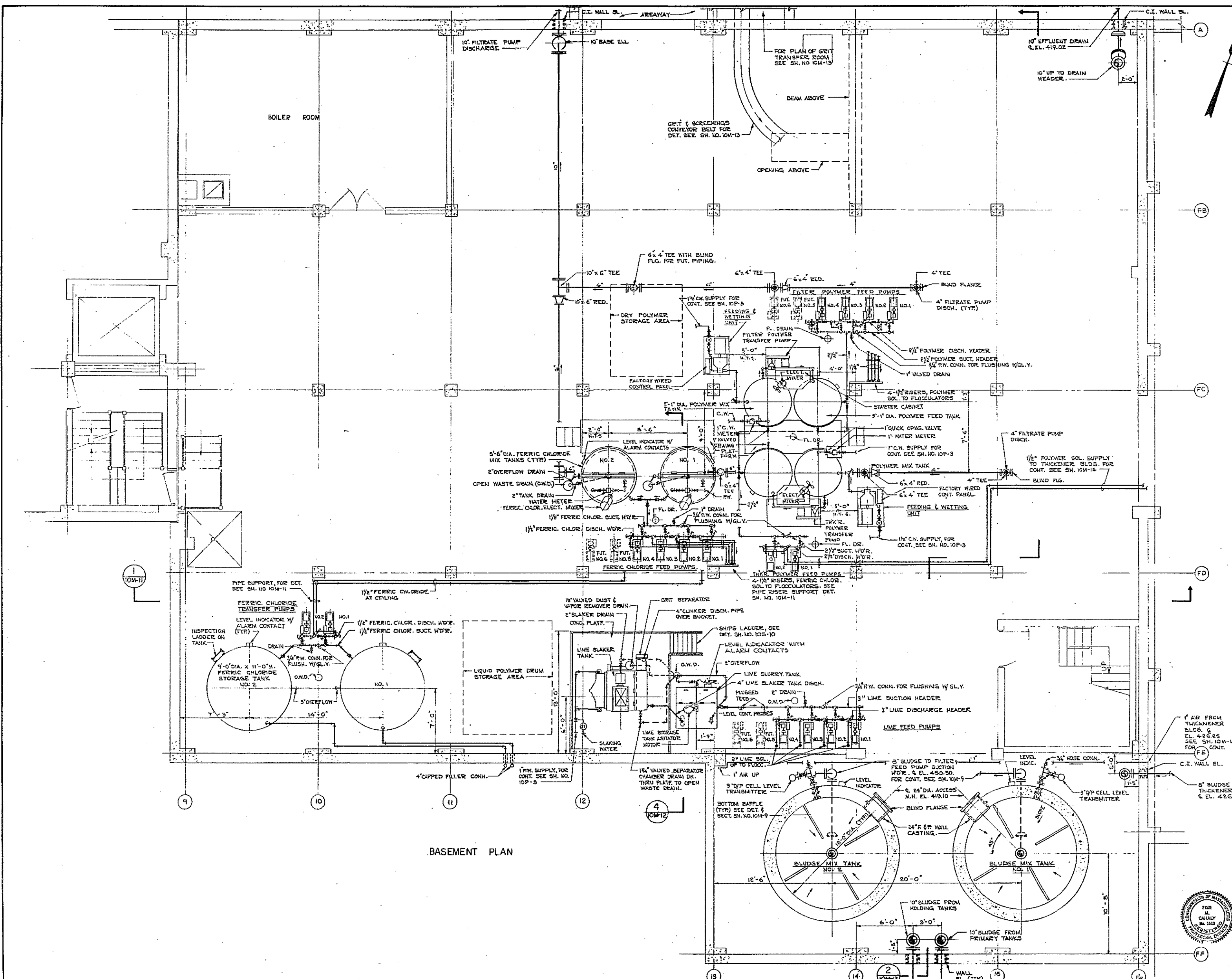
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N.-10 MECHANICAL PROCESS INCINERATOR BUILDING CROSS SECTION AND MISCELLANEOUS DETAILS SCALE: AS NOTED FEBRUARY 1973			
DESIGNED BY DR. A.D. GILBERT	IN CHARGE ONE T.P.K.	CHECKED BY JW-83	DATE FEB 73
APPROVED <i>J.M. Cahaly</i>		PLANNED BY 158	

CONTRACT DRAWING SHEET NO. 10M-7

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY





- LEGEND**
- ⊕ P.V., PLUG VALVE
 - ⊕ G.V., GATE VALVE
 - ⊕ C.H.V., CHECK VALVE
 - ⊕ RED., REDUCER
 - ⊕ RISE IN PLAN
 - ⊕ DROP IN PLAN
 - ⊕ UNION
 - ⊕ S.L., SLUDGE
 - ⊕ S.E.C., SECTION
 - ⊕ S.D., SCHEDULE
 - ⊕ S.D., CLEAN OUT

- NOTES:**
1. IN GENERAL ALL PIPES PASSING THRU C.I. WALL SLEEVES SHALL BE CAULKED WATER TIGHT.
 2. ALL PUMPS SHALL BE PROVIDED WITH DRAIN PIPING.
 3. ALL PLUG VALVES MORE THAN 6 FT. ABOVE FINISHED FLOOR SHALL BE CHAIN OPERATED.
 4. METERS ON WATER SUPPLIES TO FEEDING CHAMBER & POLYMER TANKS AND ALL TYPING BETWEEN METERS & MIX TANKS SHALL BE FURNISHED AND INSTALLED UNDER WORK OF GENERAL CONTRACTOR.

GRAPHIC SCALE
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
MECHANICAL PROCESS
FILTER BUILDING
BASEMENT FLOOR PLAN

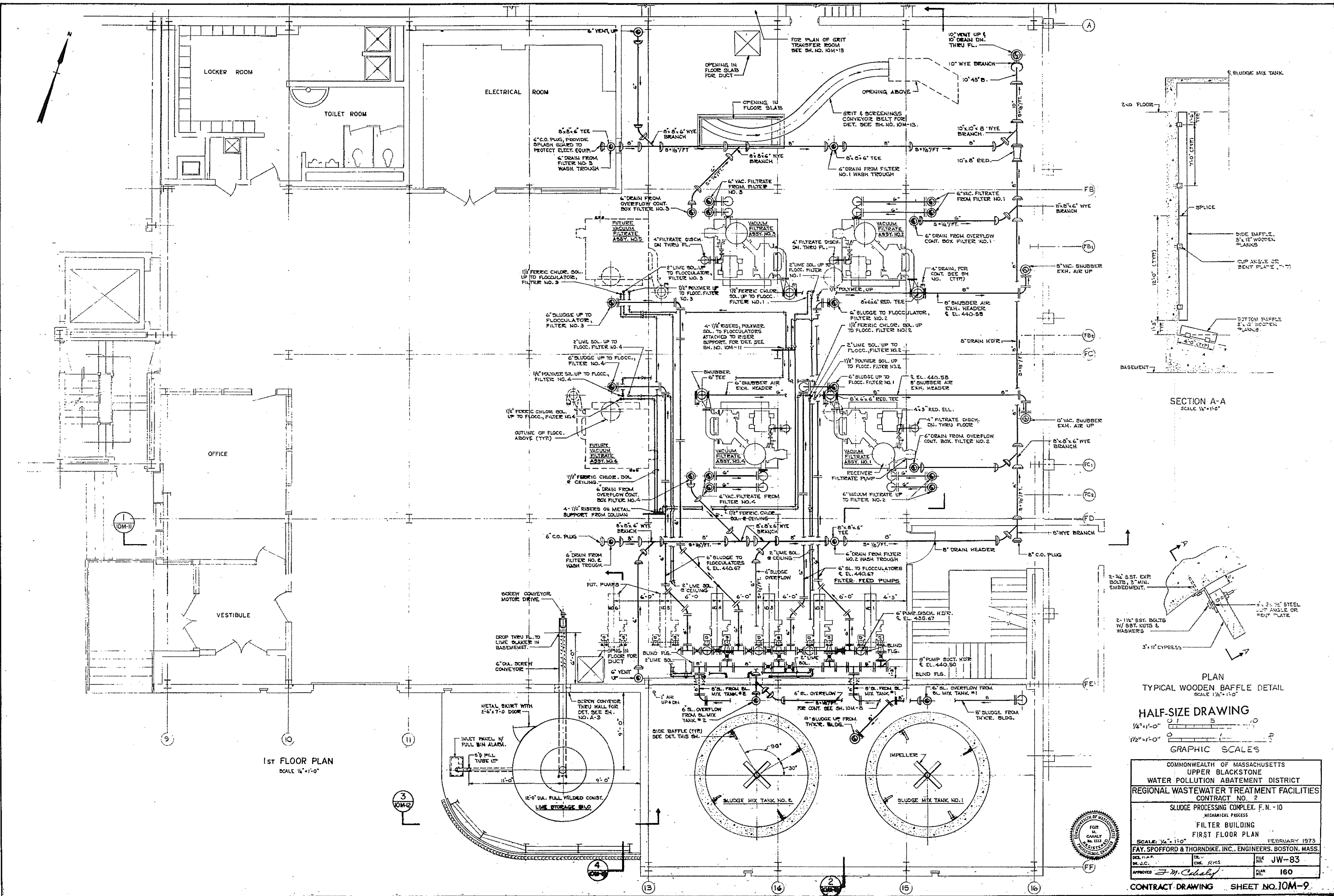
SCALE: 1/8" = 1'-0" FEBRUARY, 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. H.A.P.	IN. CHG. R.M.S.	DWG. NO. JW-83
DR. J.C.		159

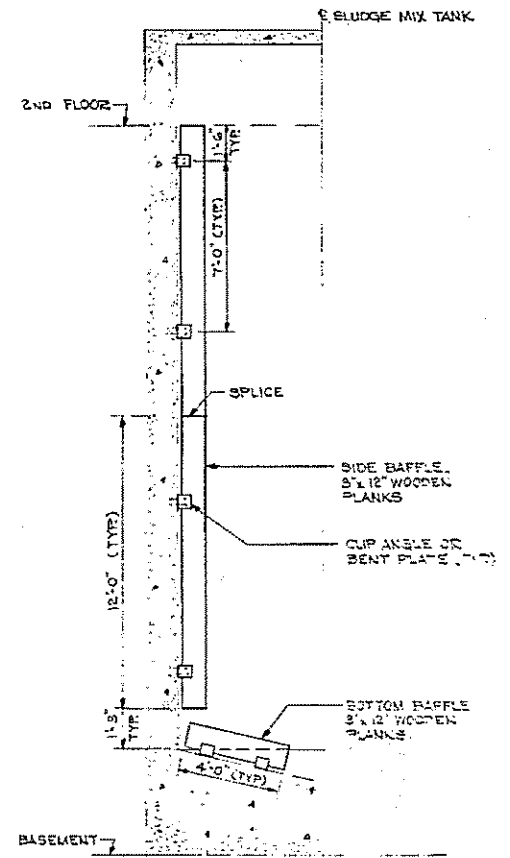
APPROVED *F.M. Cahaly*

CONTRACT DRAWING SHEET NO. 10M-8

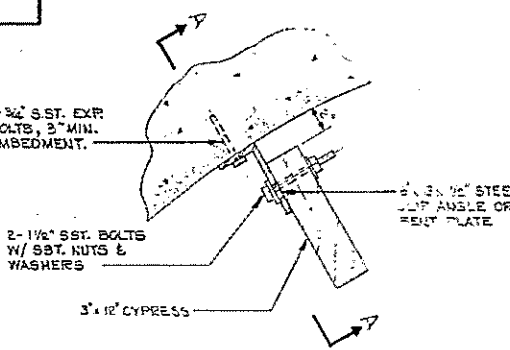
BASEMENT PLAN



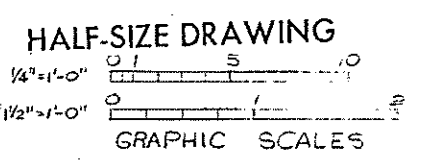
1st FLOOR PLAN
SCALE 1/4"=1'-0"



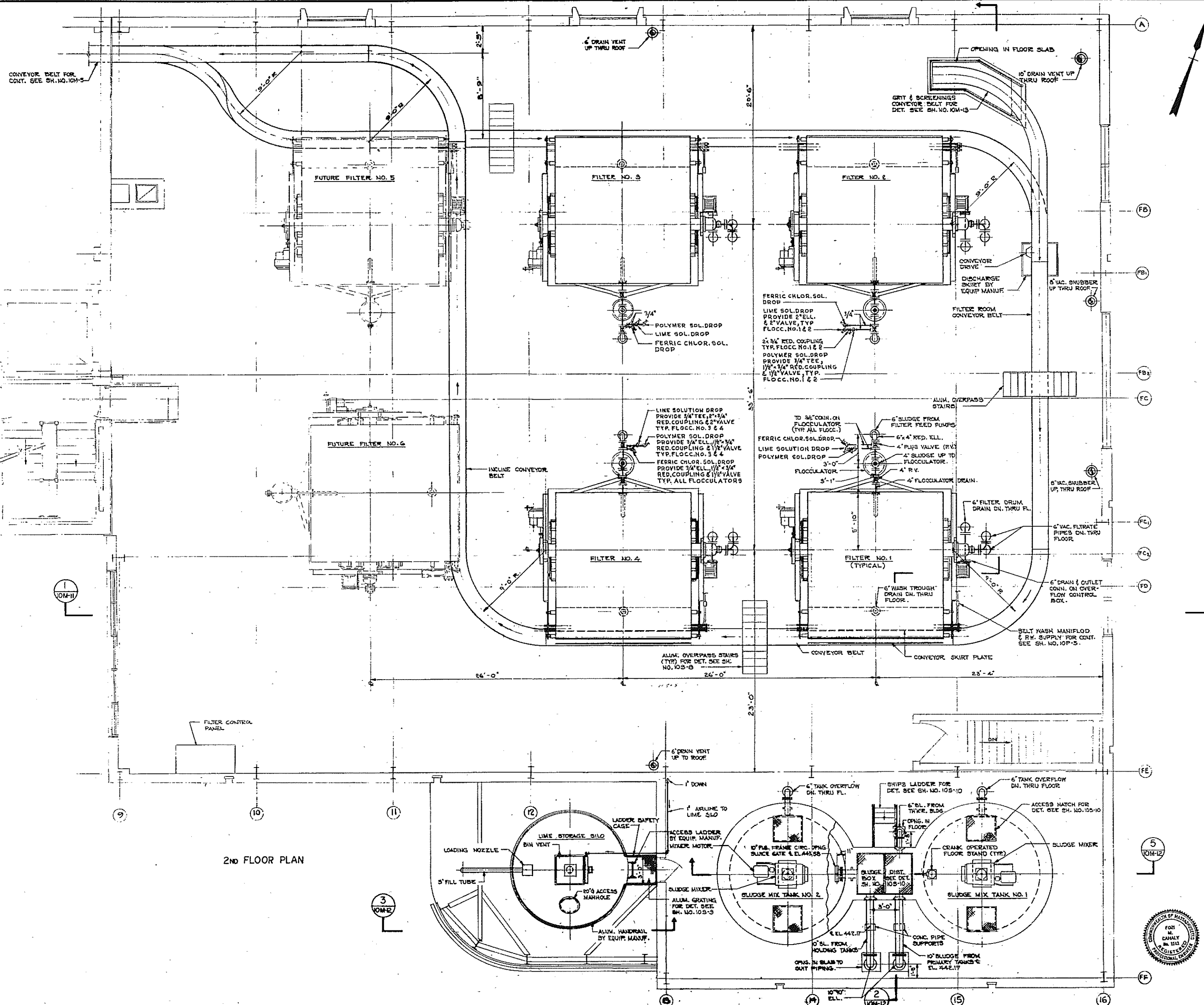
SECTION A-A
SCALE 1/2"=1'-0"



PLAN
TYPICAL WOODEN BAFFLE DETAIL
SCALE 1/4"=1'-0"



COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N. - 10 MECHANICAL PROCESS FILTER BUILDING FIRST FLOOR PLAN			
SCALE: 1/4"=1'-0"		FEBRUARY 1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. BY M.J.C.	TR. BY RMS	FILE NO. JW-83	SHEET NO. 160
APPROVED: <i>F. M. Cahaly</i>			

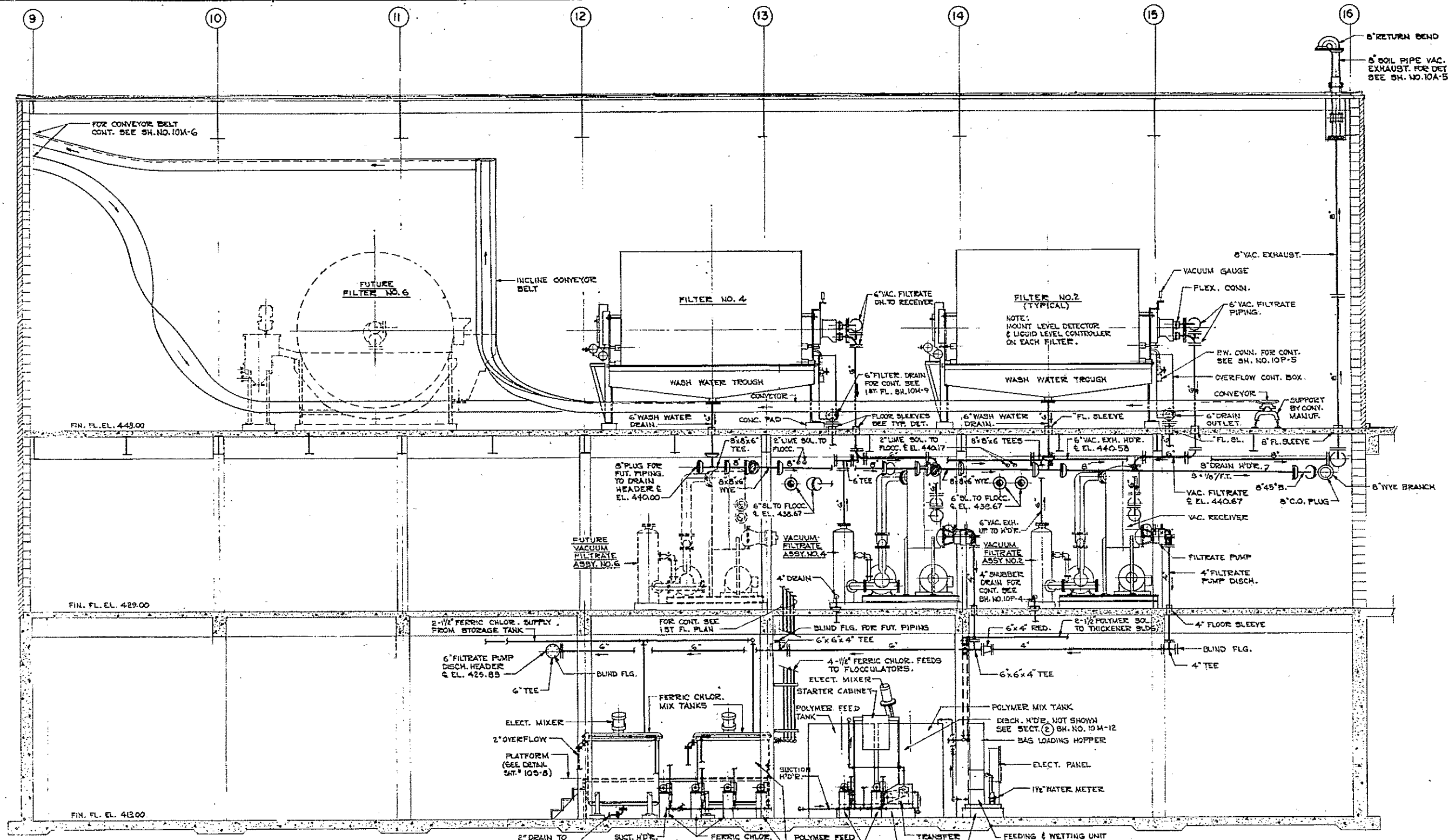


2ND FLOOR PLAN

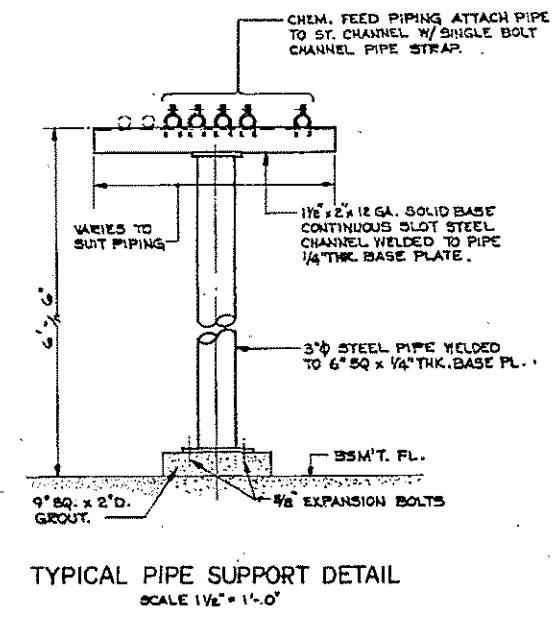
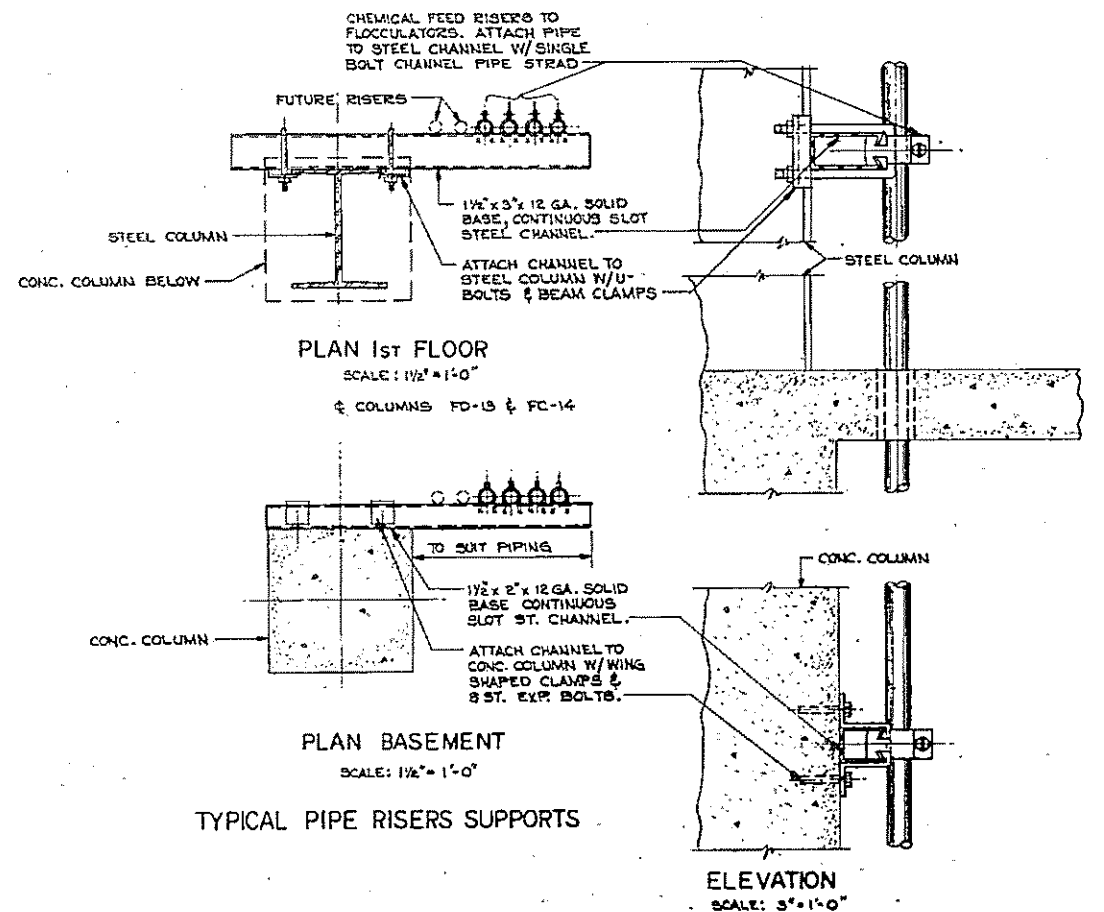
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F. H. - 10 MECHANICAL PROCESS FILTER BUILDING SECOND FLOOR PLAN		
SCALE: 1/4" = 1'-0"	FEBRUARY 1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.		
DES. M.A.R.	TR. C.M.C. R.M.S.	FILE NO. JW-83
DR. J.C.C.		DATE 1/16/73
APPROVED <i>J.M. Cahaly</i>		161
CONTRACT DRAWING SHEET NO. 10M-10		

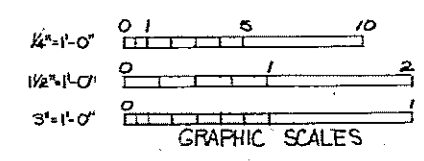
100-8827170-APP. 127



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



TYPICAL PIPE SUPPORT DETAIL
SCALE: 1/2" = 1'-0"

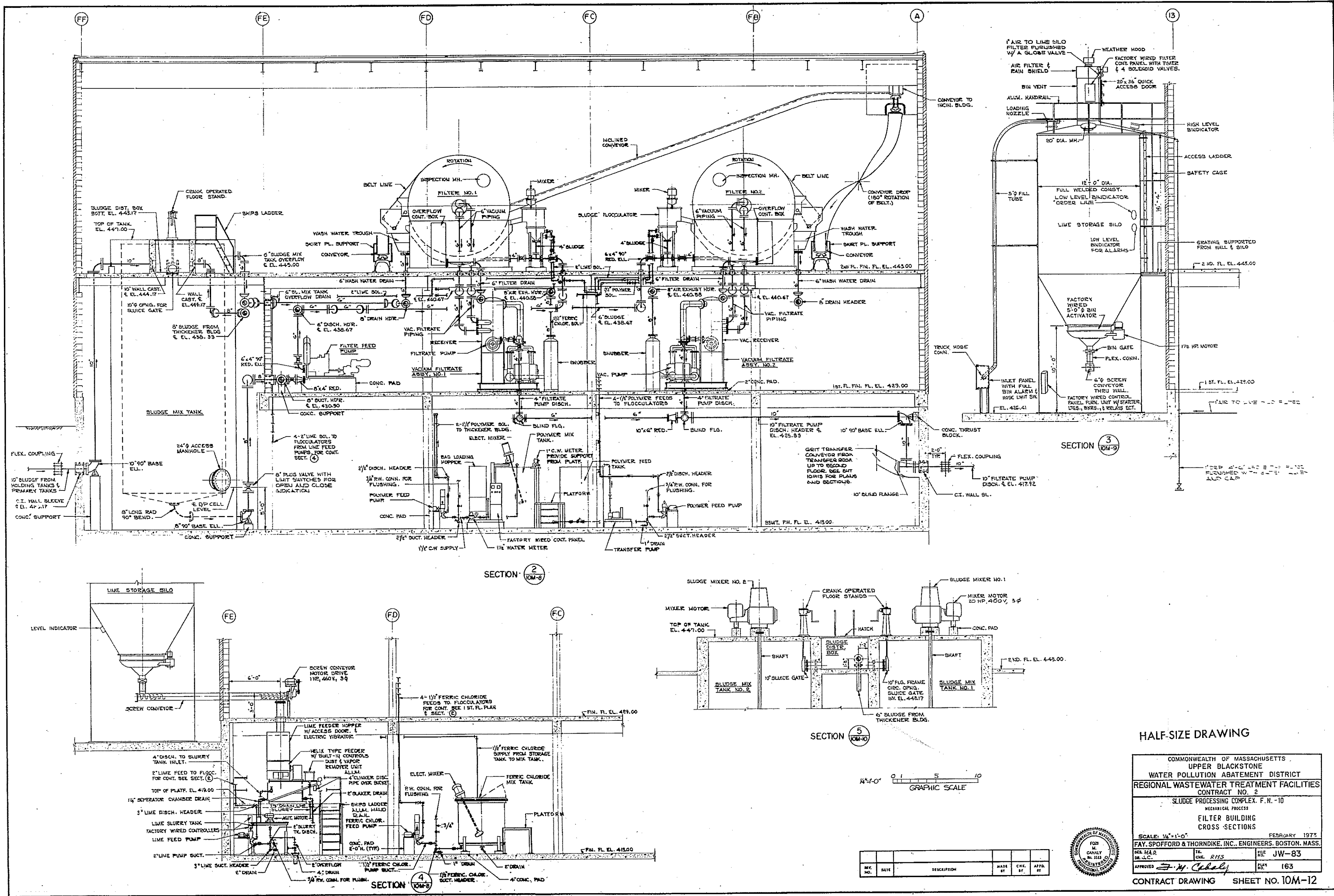


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. -10
MECHANICAL PROCESS
FILTER BUILDING
LONGITUDINAL SECTION
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. H.A.P. TR. C.M.R.H.S. FILE NO. JW-83
DR. J.C. CHK. R.H.S. REG. NO. 162
APPROVED *F. M. Cahaly*

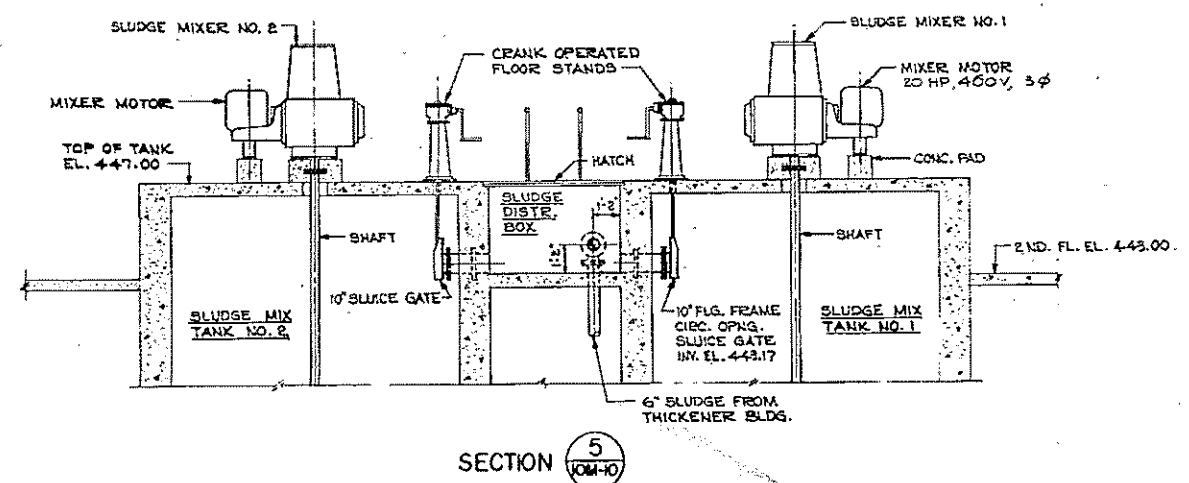
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



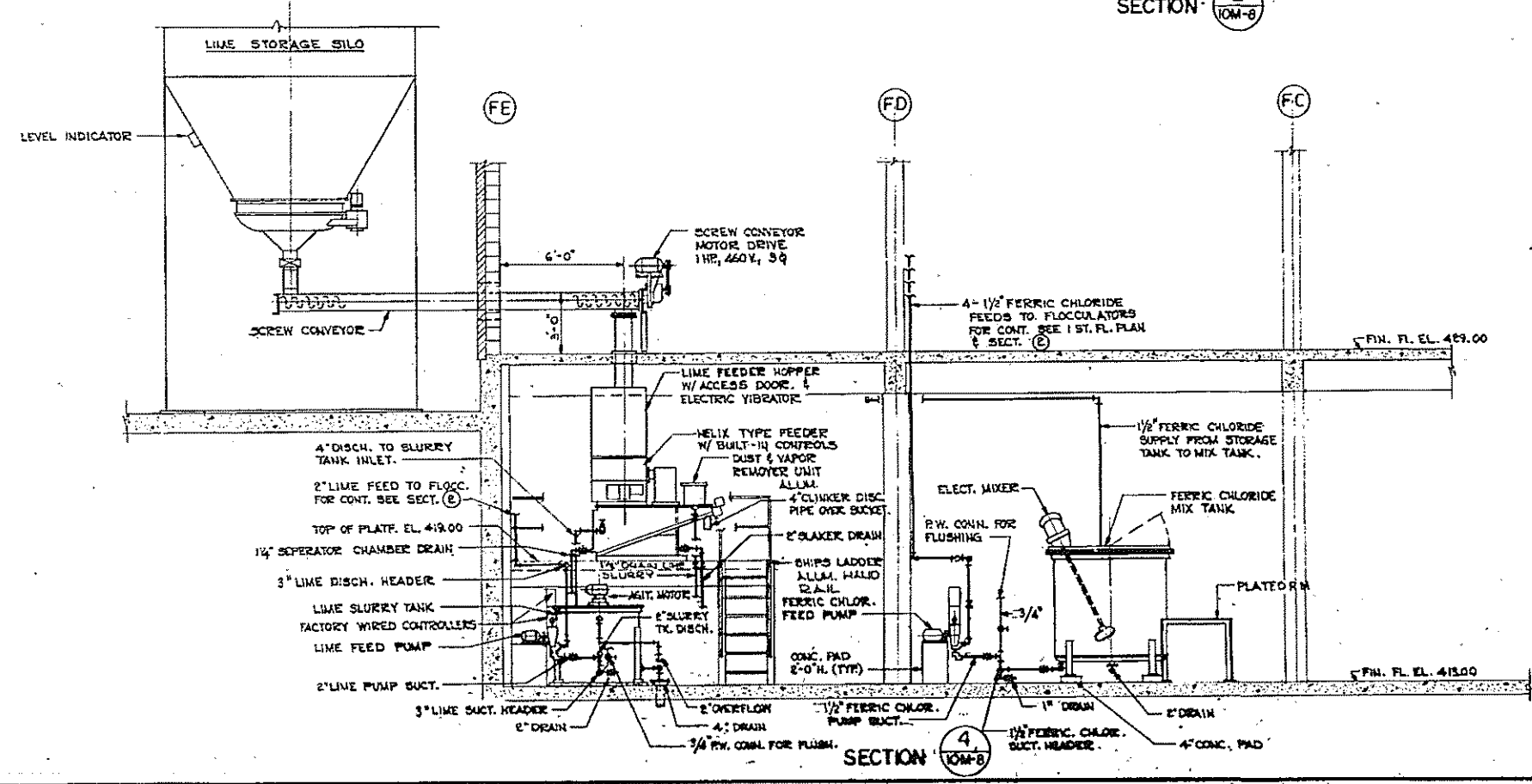


SECTION 2
10M-8

SECTION 3
10M-9



SECTION 5
10M-10



SECTION 4
10M-5

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N.-10
 MECHANICAL PROCESS
 FILTER BUILDING
 CROSS SECTIONS

SCALE: 1/8" = 1'-0" FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. H.A.D.	TR. C.M. RITS	FILE NO. JW-83
DR. J.C.		REV. NO. 163

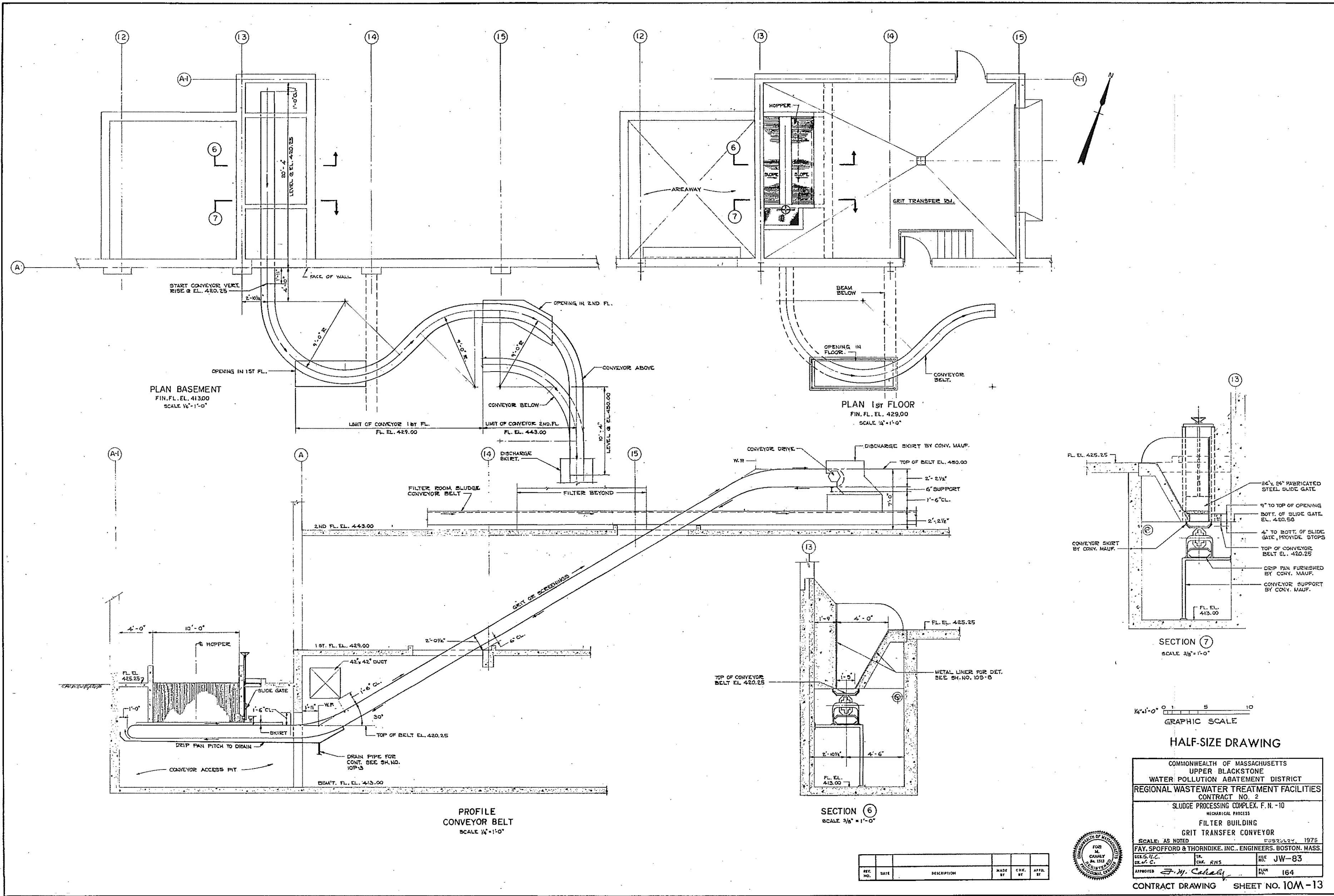
APPROVED: *W. Cahaly*

CONTRACT DRAWING SHEET NO. 10M-12



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY





1/4" = 1'-0"
GRAPHIC SCALE

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
MECHANICAL PROCESS
FILTER BUILDING
GRIT TRANSFER CONVEYOR

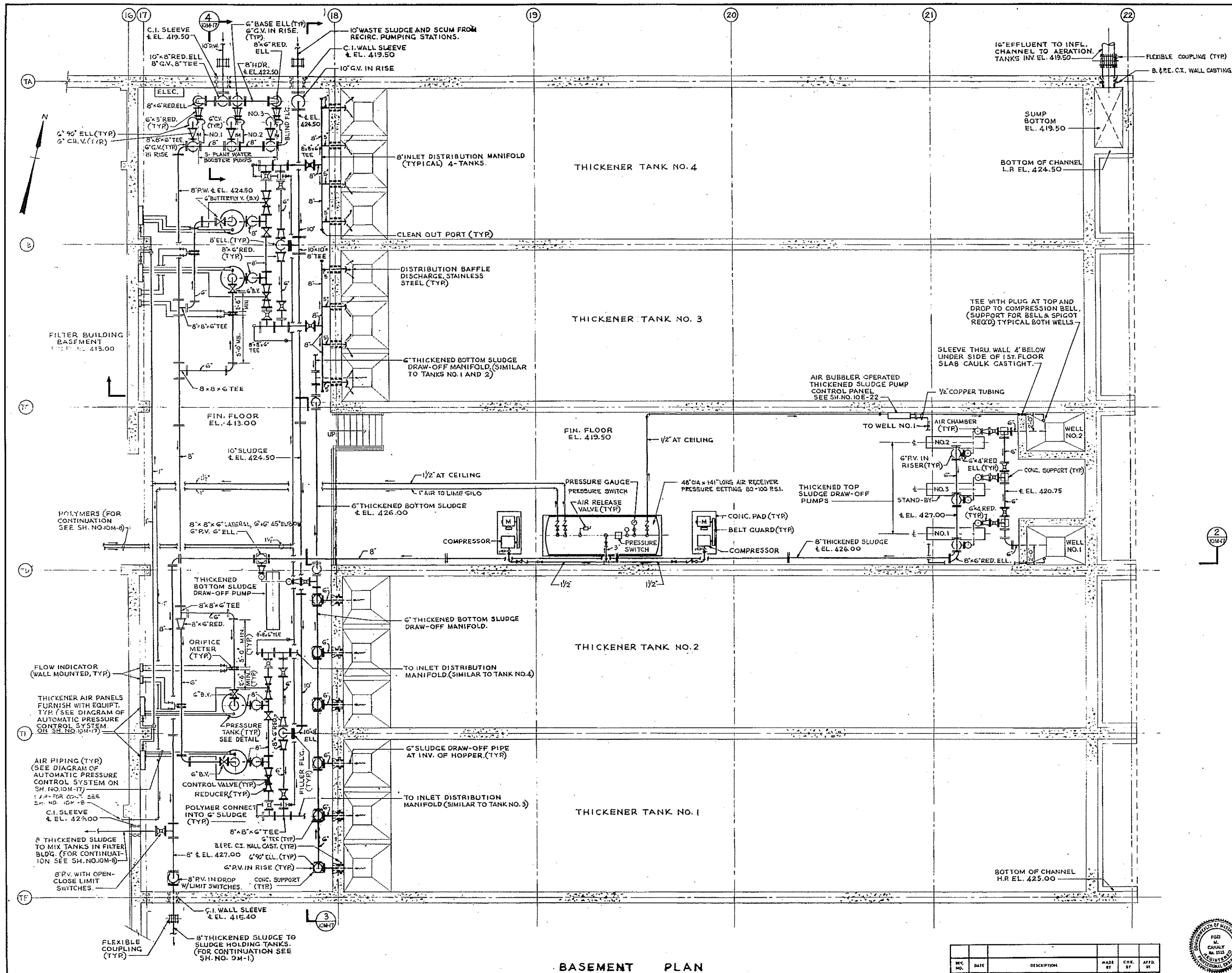
SCALE: AS NOTED
FEBRUARY, 1975

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DESIGNED BY D.E.S.N.C.	TR. C.M.C. R.H.S.	DRAWN BY J.W.-83
APPROVED F.W. Cahaly	DATE	NO. 164

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY





NOTES:
 1. FOR LEGEND, NOTES AND TIT. SEE SH. NO. 10M-8

1/4" = 1'-0"
 GRAPHIC SCALE

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. N. - 10
 MECHANICAL PROCESS
 THICKENER BUILDING
 BASEMENT PLAN

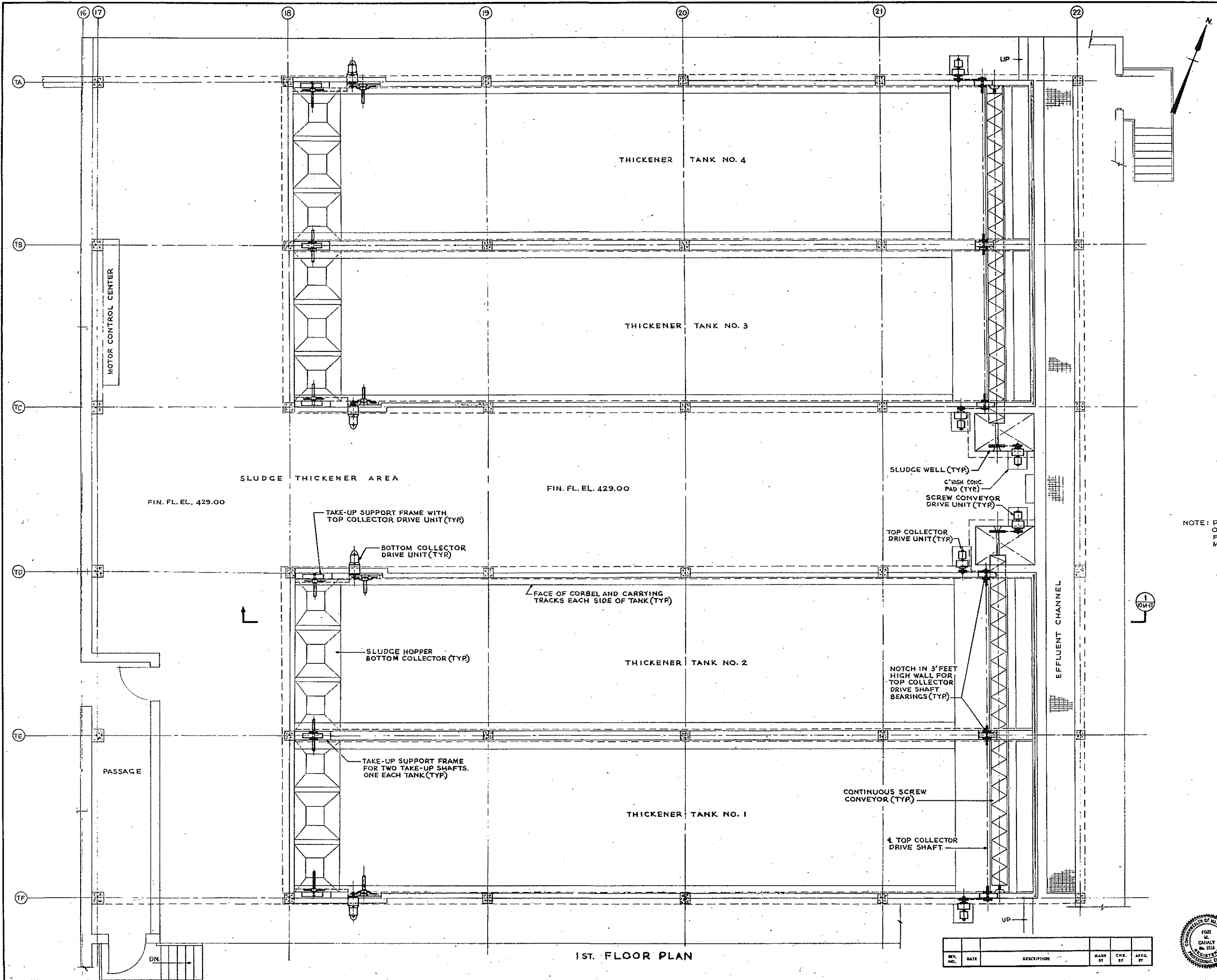
SCALE: 1/4" = 1'-0" FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. G. S. HARRIS JR. [initials] [initials] [initials] JW-83
 DR. L. M. [initials] [initials] [initials] 165
 APPROVED *F. M. Cahaly* [initials]

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



BASEMENT PLAN

CONTRACT DRAWING SHEET NO. 10M-14



NOTE: PROVIDE 2-POLE LIMIT SWITCHES ON SHEAR PIN TO OPEN CIRCUIT TO MOTOR AND CLOSE ALARM CIRCUIT FOR TOP AND BOTTOM COLLECTOR AND SCREW CONVEYOR MOTORS.

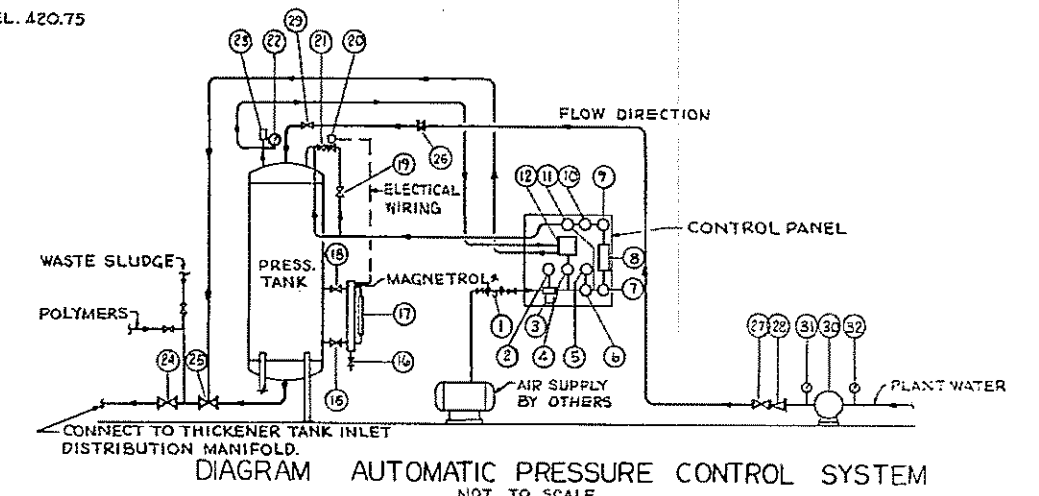
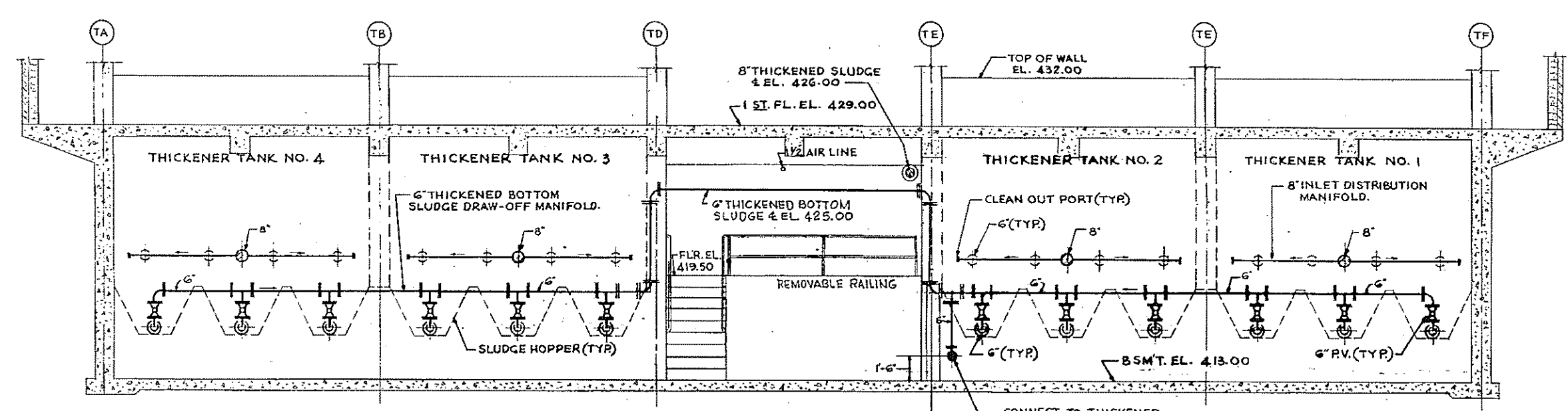
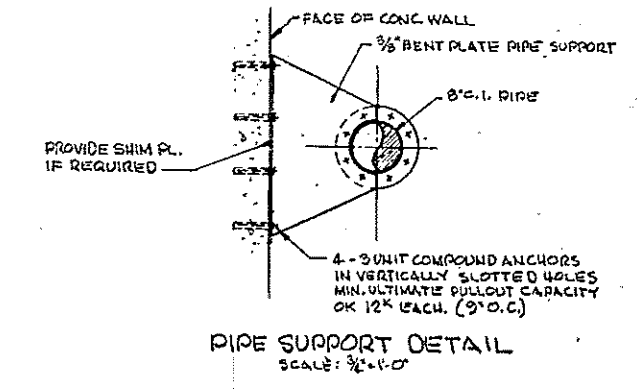
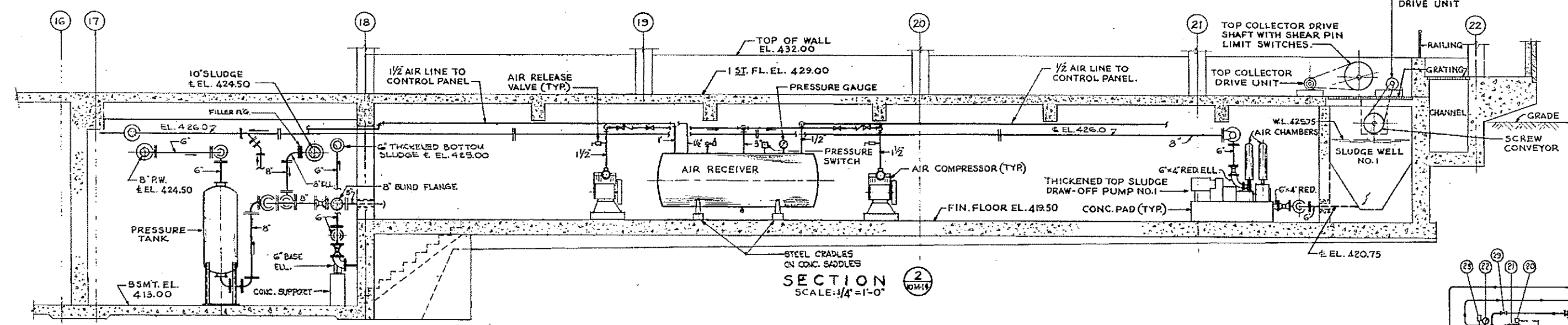
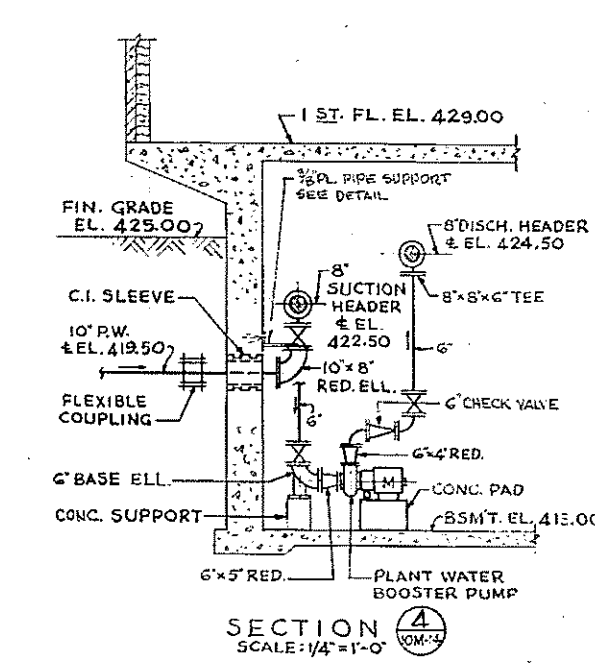
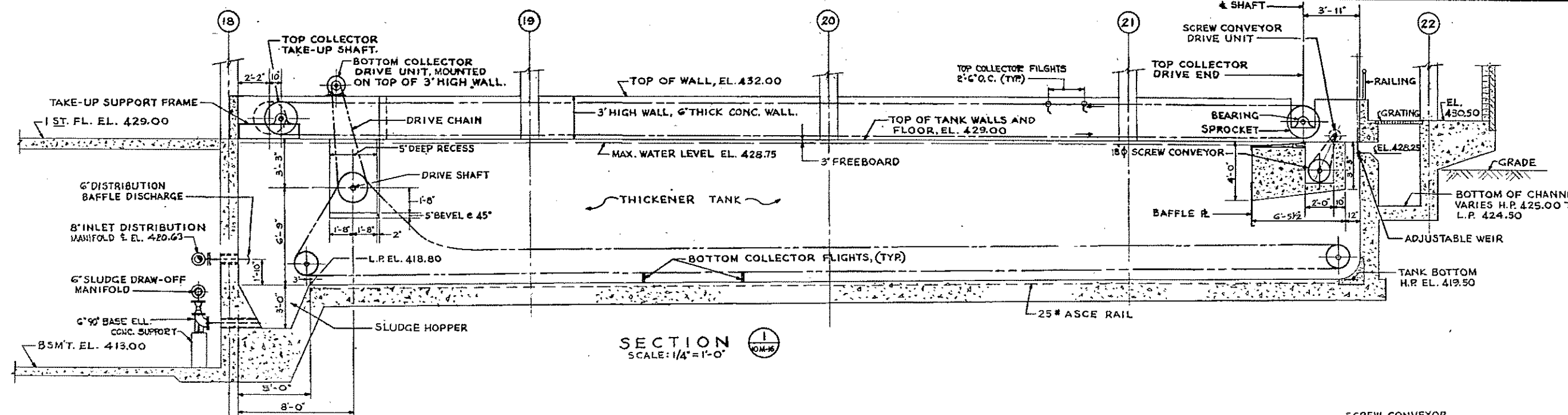
1/4" = 1'-0" GRAPHIC SCALE

HALF-SIZE DRAWING

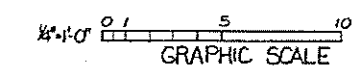
COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N. - 10 MECHANICAL PROCESS THICKENER BUILDING FIRST FLOOR PLAN			
SCALE: 1/4" = 1'-0"	FEBRUARY, 1973		
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DR. G. S. H.A.P.	TR.	FILE NO.	JW-83
DR. L.M.	CONV. R.H.S.	PLAN NO.	166
APPROVER: <i>J.M. Cahaly</i>			DATE: 1973
CONTRACT DRAWING SHEET NO. 10M-15			

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY

1ST. FLOOR PLAN



- 1 AIR SUPPLY LINE CUT-OFF VALVE
 - 2 PRESS. GAUGE
 - 3 AIR FILTER
 - 4 AIR REGULATOR
 - 5 PRESS. GAUGE
 - 6 AIR REGULATOR
 - 7 NEEDLE VALVE
 - 8 VAREA-METER
 - 9 NEEDLE VALVE
 - 10 PRESS. GAUGE
 - 11 BY-PASS VALVE
 - 12 PRESS. INDICATING CONTROLLER
 - 13
 - 14
 - 15 BOTTOM VALVE
 - 16 DRAIN VALVE
 - 17 SIGHT GLASS
 - 18 TOP VALVE
 - 19 FINE CONTROL VALVE
 - 20 SOLENOID VALVE
 - 21 SHUT-OFF VALVE
 - 22 PRESS. TANK GAUGE
 - 23 SAFETY VALVE
 - 24 GATE VALVE
 - 25 DIAPHRAGM CONTROL VALVE
 - 26 CRIFICE METER
 - 27 GATE VALVE
 - 28 CHECK VALVE
 - 29 GATE VALVE
 - 30 BOOSTER PUMP
 - 31 PRESS. GAUGE
 - 32 PRESSURE GAUGE
- * - FURNISH 2 SWITCHES ON MAGNETROL ONE TO OPERATE SOLENOID VALVE IN AIR LINE, OTHER TO CLUSE ALARM ON HIGH WATER.



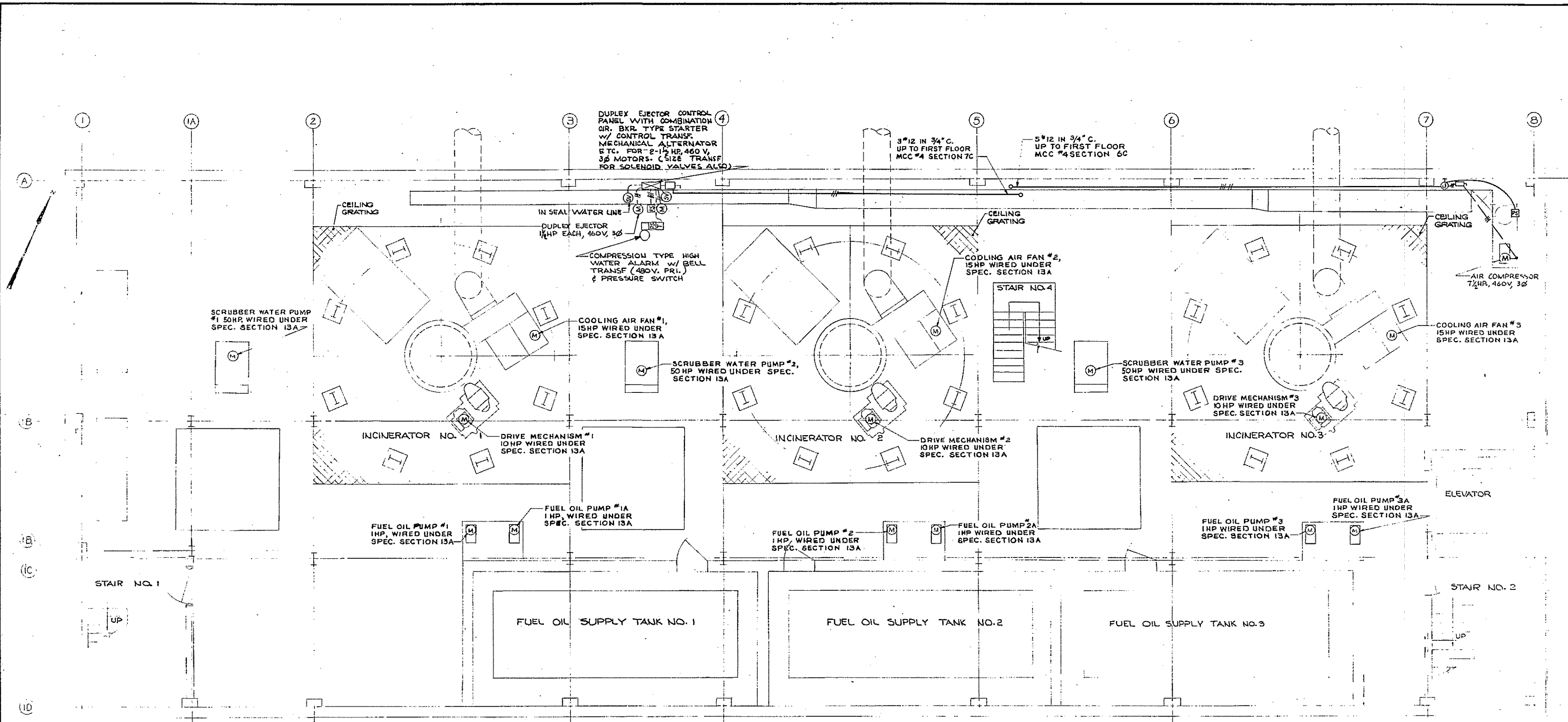
REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. - 10
MECHANICAL PROCESS
THICKENER BUILDING
SECTIONS

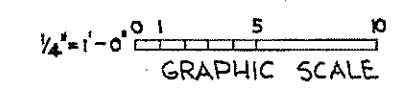
SCALE: AS NOTED FEBRUARY, 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. L. M. CHC. R. M. S. J. W. - 83
APPROVED: *J. M. Cahaly* PLAN NO. 167
CONTRACT DRAWING SHEET NO. 10M-16



ELECTRICAL CONSTRUCTION NOTES:

1. FOR LEGEND, SEE SHEET NO. 12E-2.
2. ALL WIRING CONTROLS AND EQUIPMENT HAVING ANYTHING TO DO WITH INCINERATOR EQUIPMENT SHALL BE DONE UNDER SPEC. SECT. 13A "INCINERATORS" EXCEPT AS SHOWN ON THESE ELECTRICAL DRAWINGS.
3. ALL WIRING FOR THE ELEVATOR SHALL BE DONE UNDER A SECT. OF THE CONTRACT SPEC. OTHER THAN SECT. 16, EXCEPT AS SHOWN ON THESE ELECTRICAL DRAWINGS.
4. SERVICE TO THE BUILDING SHALL BE 277/480 VOLT, 3 PHASE, 4 WIRE.
5. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUN IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
6. WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT, AND WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
7. FOR SITE PLAN, SEE SHEET NO. E-1 AND E-2.
8. CONDUIT RUNS ARE DIAGRAMMATIC ONLY. WHEREVER POSSIBLE GROUP CONDUIT RUNS TOGETHER AND RACK NEATLY ON CHANNEL SUPPORTS.
9. MOUNT ALL SWITCHES, PUSHBUTTONS, ETC. ON 6" ALUMINUM CHANNELS 4'-0" UP FASTENED SECURELY TO OR IN FLOOR WHERE NO STRUCTURAL BUILDING SURFACE IS LOCATED CLOSE BY.
10. INSTALL PULL BOXES AS REQUIRED FOR CONVENIENCE AND CONTROL.

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



HALF-SIZE DRAWING

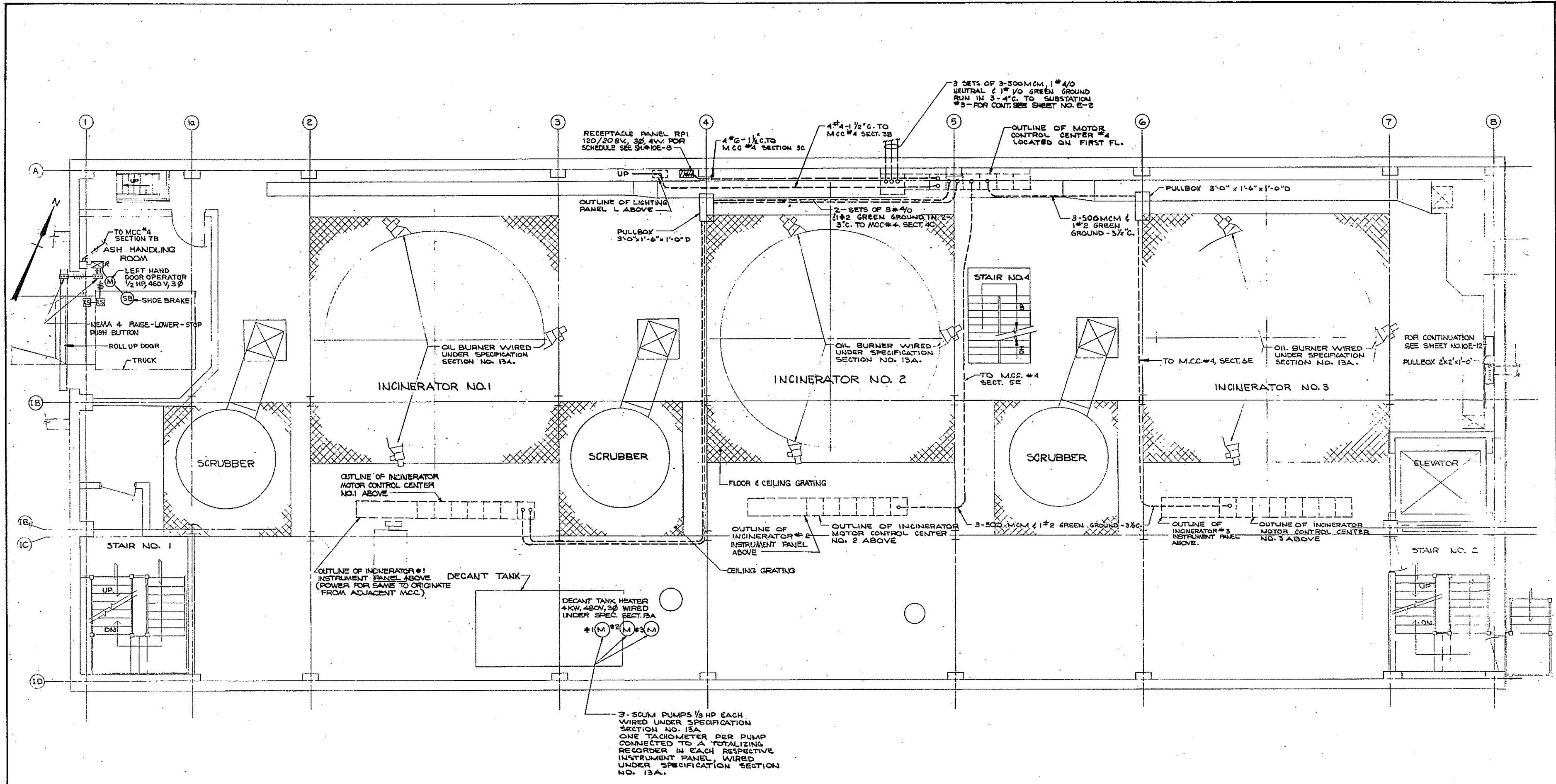
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
INCINERATOR BUILDING
POWER - SUB-BASEMENT PLAN

SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.C.M.-W.B.F. TR. FILE NO. JW-83
DR. R.L.M. CHK. G.C.M.-W.B.F. PLAN NO. 168

APPROVED: *F. M. Cahaly*



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



3 SETS OF 3-500MCM, 1# 4/0 NEUTRAL & 1# 1/0 GREEN GROUND RUN IN 3-4" C. TO SUBSTATION #3 - FOR CONT. SEE SHEET NO. E-2

RECEPTACLE PANEL RPI 120/208V, 3Ø, 4W, FOR SCHEDULE SEE SHEET NO. E-2

4# 4-1/2" G. TO MCC #4 SECTION 3C

4# 4-1/2" G. TO MCC #4 SECT. 3B

OUTLINE OF MOTOR CONTROL CENTER #4 LOCATED ON FIRST FL.

PULLBOX 3'-0" x 1'-6" x 1'-0" D

2-SETS OF 3# 4/0 #2 GREEN GROUND IN 2" 3" C. TO MCC #4, SECT. 4C

3-500MCM & 1# 2 GREEN GROUND - 3/4" C.

TO MCC #4 SECTION 7B ASH HANDLING ROOM

LEFT HAND DOOR OPERATOR 1/2 HP, 460V, 3Ø

SHOE BRAKE

NEMA 4 RAISE-LOWER-STOP PUSH BUTTON

ROLL UP DOOR TRUCK

INCINERATOR NO. 1

INCINERATOR NO. 2

INCINERATOR NO. 3

SCRUBBER

SCRUBBER

SCRUBBER

OIL BURNER WIRED UNDER SPECIFICATION SECTION NO. 13A.

OIL BURNER WIRED UNDER SPECIFICATION SECTION NO. 13A.

OIL BURNER WIRED UNDER SPECIFICATION SECTION NO. 13A.

OUTLINE OF INCINERATOR MOTOR CONTROL CENTER NO. 1 ABOVE

OUTLINE OF INCINERATOR #2 INSTRUMENT PANEL ABOVE

OUTLINE OF INCINERATOR MOTOR CONTROL CENTER NO. 2 ABOVE

OUTLINE OF INCINERATOR #3 INSTRUMENT PANEL ABOVE

OUTLINE OF INCINERATOR MOTOR CONTROL CENTER NO. 3 ABOVE

STAIR NO. 1

STAIR NO. 2

STAIR NO. 4

ELEVATOR

DECANT TANK

DECANT TANK HEATER 4KW, 480V, 3Ø WIRED UNDER SPEC. SECT. 13A

#1 #2 #3 M

3-500MCM PUMPS 1/3 HP EACH WIRED UNDER SPECIFICATION SECTION NO. 13A. ONE TACHOMETER PER PUMP CONNECTED TO A TOTALIZING RECORDER IN EACH RESPECTIVE INSTRUMENT PANEL, WIRED UNDER SPECIFICATION SECTION NO. 13A.

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

FOR CONTINUATION SEE SHEET NO. 10E-12

PULLBOX 2'x2'x1'-0"

FLOOR & CEILING GRATING

CEILING GRATING

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

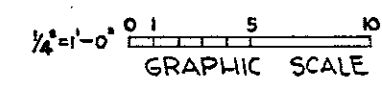
TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

TO MCC #4 SECT. 5E

TO MCC #4 SECT. 6E

HALF-SIZE DRAWING

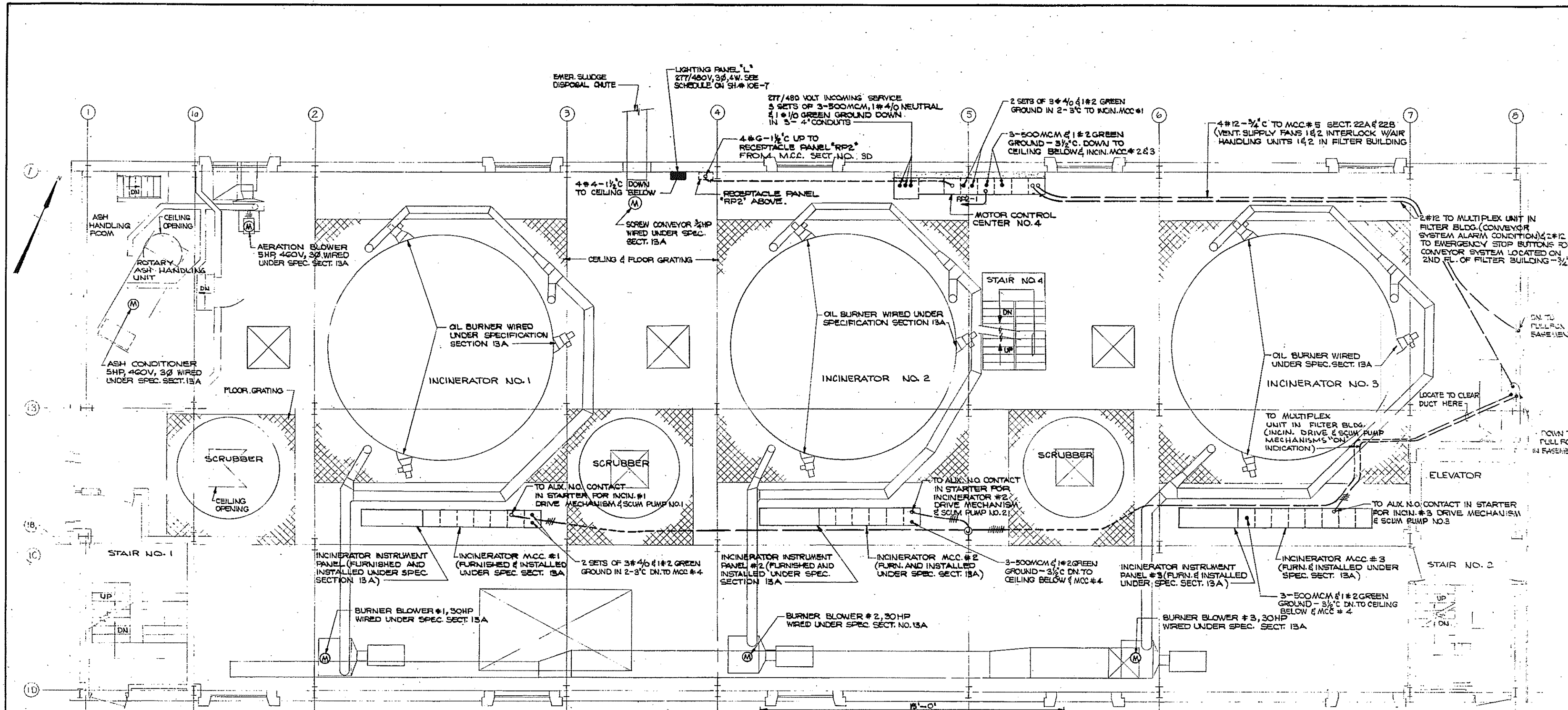


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. R. - 10
 ELECTRICAL
 INCINERATOR BUILDING
 POWER - BASEMENT PLAN
 SCALE: 1/4" = 1'-0" FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DEC. G.C.M. - W.B.T. TR. FILE NO. JW-83
 DR. R.L.M. CHE. G.C.M. - W.B.T. PLAN 169
 APPROVED *S. M. Cahaly*

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



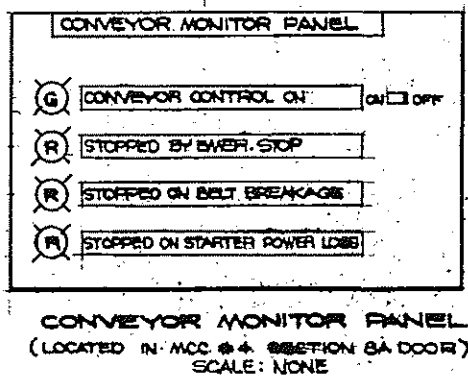
CONTRACT DRAWING SHEET NO. 10E-2



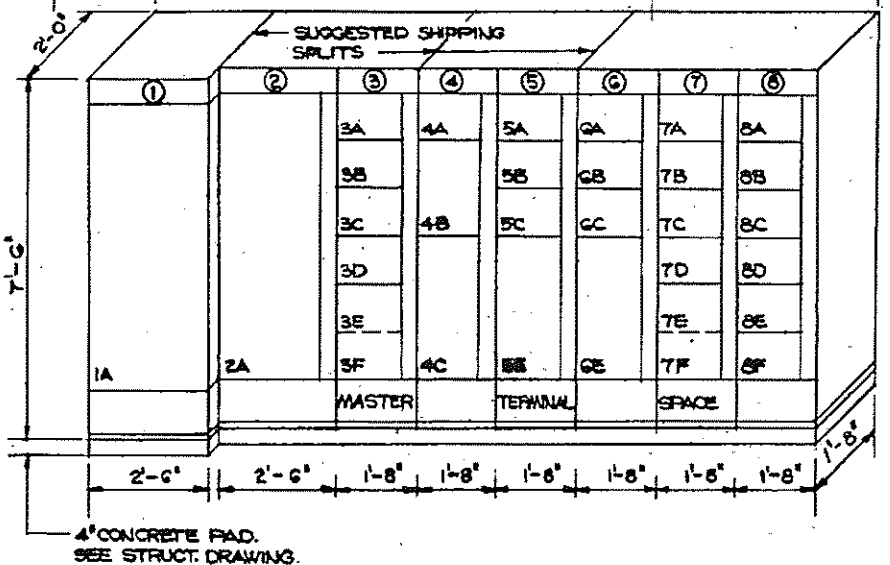
S.S. = STOP-START PUSHBUTTON
 H.O.A. = "HAND-OFF-AUTOMATIC SELECTOR SWITCH"
 HP = HORSEPOWER
 N.R. = NON-REVERSING

MOTOR CONTROL CENTER NO. 4 SCHEDULE (277/480 V. 3 Ø, 4 W.)

SECT. NO.	NAMEPLATE	COMB. FUSED SWITCH TYPE MAGNETIC STARTER N.R.				FUSED SWITCH ONLY			
		HP	HP	H.O.A.	S.S.	FRAME	POLES	FUSE	
1	1A MAIN INCOMING SERVICE	-	-	-	-	AK 3-50 POWER CIR. BKR.	1600	3	1200
2	2A 208Y/120 V. TRANSF. 30 KVA	-	-	-	-	SEE NOTE H	-	-	-
3	3A SPACE	-	-	-	-	-	-	-	-
3	3B LIGHTING PANEL "L" MAIN	-	-	-	-	SEE NOTE H	100	3	80
3	3C RECEPT. PANEL "RP1" MAIN	-	-	-	-	SEE NOTE H	60	3	50
3	3D RECEPT. PANEL "RP2" MAIN	-	-	-	-	SEE NOTE H	60	3	50
3	3E SPACE	-	-	-	-	-	-	-	-
3	3F SPACE	-	-	-	-	-	-	-	-
4	4A PENTHOUSE EXH. FAN	5/8	1	-	-	SEE NOTE H	-	-	-
4	4C INCIN. MOTOR CONT. CENTER #1	-	-	-	-	-	600	3	500
4	4A SPACE	-	-	-	-	-	-	-	-
4	4B VENT. SUPPLY FAN NO. 1	10	2	-	-	SEE NOTE F	-	-	-
4	4C VENT. SUPPLY FAN NO. 2	10	2	-	-	SEE NOTE K	-	-	-
4	4D SPACE	-	-	-	-	-	-	-	-
4	4E INCIN. MOTOR CONT. CENTER #2	-	-	-	-	-	600	3	150
4	4A SPACE	-	-	-	-	-	30	3	20
4	4B SPACE	-	-	-	-	-	-	-	-
4	4C AIR COMPRESSOR	7 1/2	1	-	-	REMOTE PRESSURE SW.	-	-	-
4	4D SPACE	-	-	-	-	-	-	-	-
4	4E INCIN. MOTOR CONT. CENTER #3	-	-	-	-	-	600	3	150
4	4A SPACE	-	-	-	-	-	30	3	30
4	4B ELEVATOR	6	-	-	-	REMOTE STARTER PENTHOUSE	30	3	15
4	4C DOOR OPERATOR (ASH HAND.)	1/2	-	-	-	REMOTE STARTER	30	3	15
4	4D DUPLEX EJECTOR	2-1/2	-	-	-	REMOTE STARTER	30	3	20
4	4E SPACE	-	-	-	-	-	-	-	-
4	4F SPACE	-	-	-	-	-	-	-	-
4	4G CONVEYOR MONITOR PANEL	-	-	-	-	SEE NOTES A & E	-	-	-
4	4H SERPENTIX	7 1/2	1	-	-	SEE NOTES C & E	-	-	-
4	4I MAIN HORIZ. CONVEYOR	2	1	-	-	SEE NOTES D & E	-	-	-
4	4J FEEDING CONVEYOR NO. 1	1	1	-	-	SEE NOTES D & E	-	-	-
4	4K FEEDING CONVEYOR NO. 2	1	1	-	-	SEE NOTES D & E	-	-	-
4	4L FEEDING CONVEYOR NO. 3	1	1	-	-	SEE NOTES D & E	-	-	-

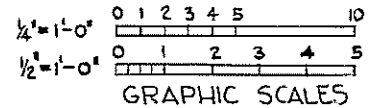


- MOTOR CONTROL CENTER NOTES:**
- PROVIDE AUX. N.O. CONTACT FOR REMOTE PILOT INDICATION THROUGH MULTIPLEXOR. (RELAY RE)
 - FURNISH ALL STARTERS WITH FUSED 480/120 V. CONTROL TRANSFORMERS.
 - FURNISH TIME DELAY RELAY, 3 MINUTES ON DE-ENERGIZING WITH 5 NORMALLY OPEN CONTACTS, TIMED OPENING.
 - FURNISH 120 V. AC RELAY WITH ONE NORMALLY OPEN CONTACT.
 - SEE CONVEYOR SYSTEM CONTROLS AND WIRING SCHEMATIC DIAGRAM, SHEET NO. 10E-5.
 - INTERLOCKED WITH A.N. UNIT NO. 1 THROUGH SECT. 22A OF M.C.C. NO. 5 IN FILTER BUILDING.
 - PROVIDE 1200 AMPERE BUS WORK BRACED FOR 50,000 AMPERES.
 - THESE FUSED SWITCHES ARE TO BE FED FROM TRANSF. SECONDARY AT 120/208 VOLTS AND ARE NOT CONNECTED TO M.C.C. BUS.
 - INTERLOCKED WITH A.N. UNIT NO. 2 THROUGH SECT. 22B OF M.C.C. NO. 5 IN FILTER BUILDING.
 - ALL FUSES SHALL BE CLASS "J" OR "L" AS REQUIRED.
 - 480-208Y/120V., 3Ø, 4W. WITH FULL CAPACITY 2-2 1/2 TAPS AND AN 8W WITH MAIN FUSIBLE SWITCH.
 - CONTROLLED BY REVERSE ACTING THERMOSTAT PROVIDE AUX. N.O. CONTACT FOR DAMPER MOTOR ON CIR. NO. RP-2-1.



ELEVATION OF MCC #4
 SCALE: 1/4" = 1'-0"

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

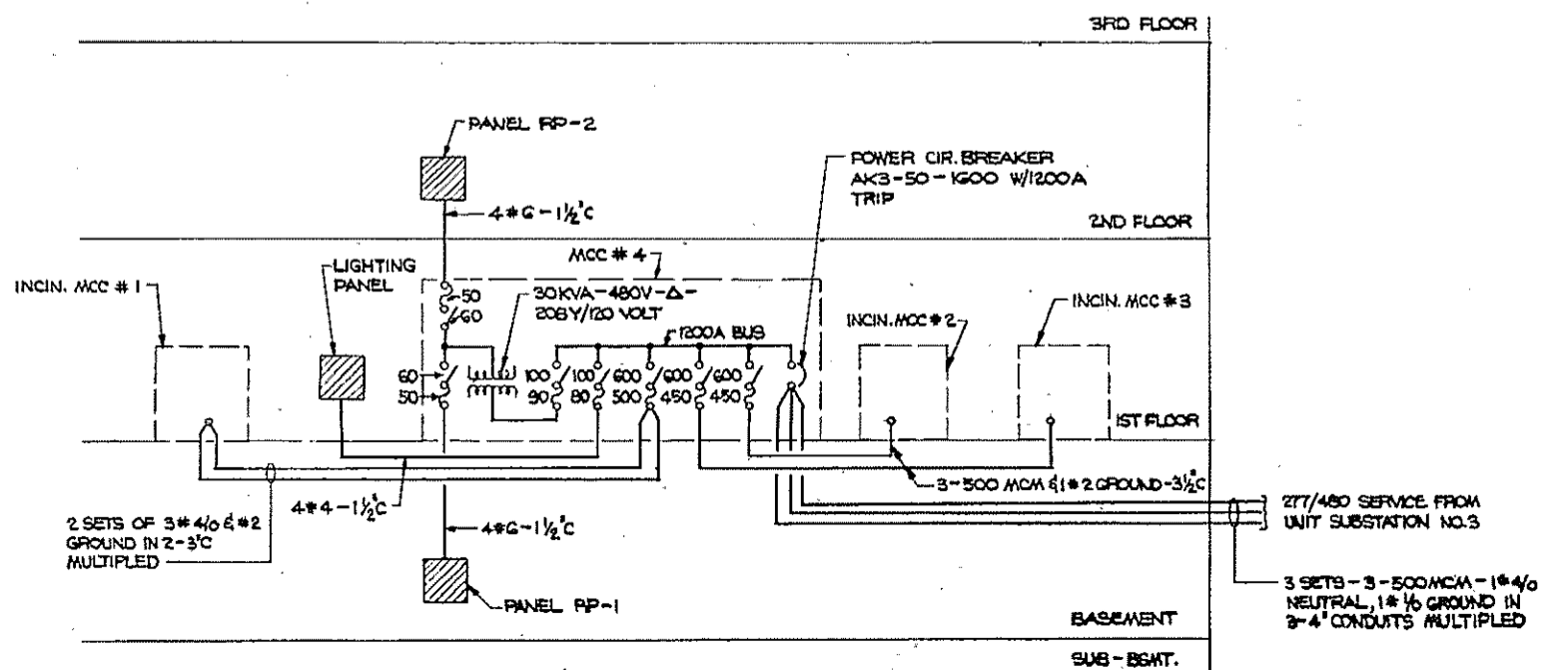
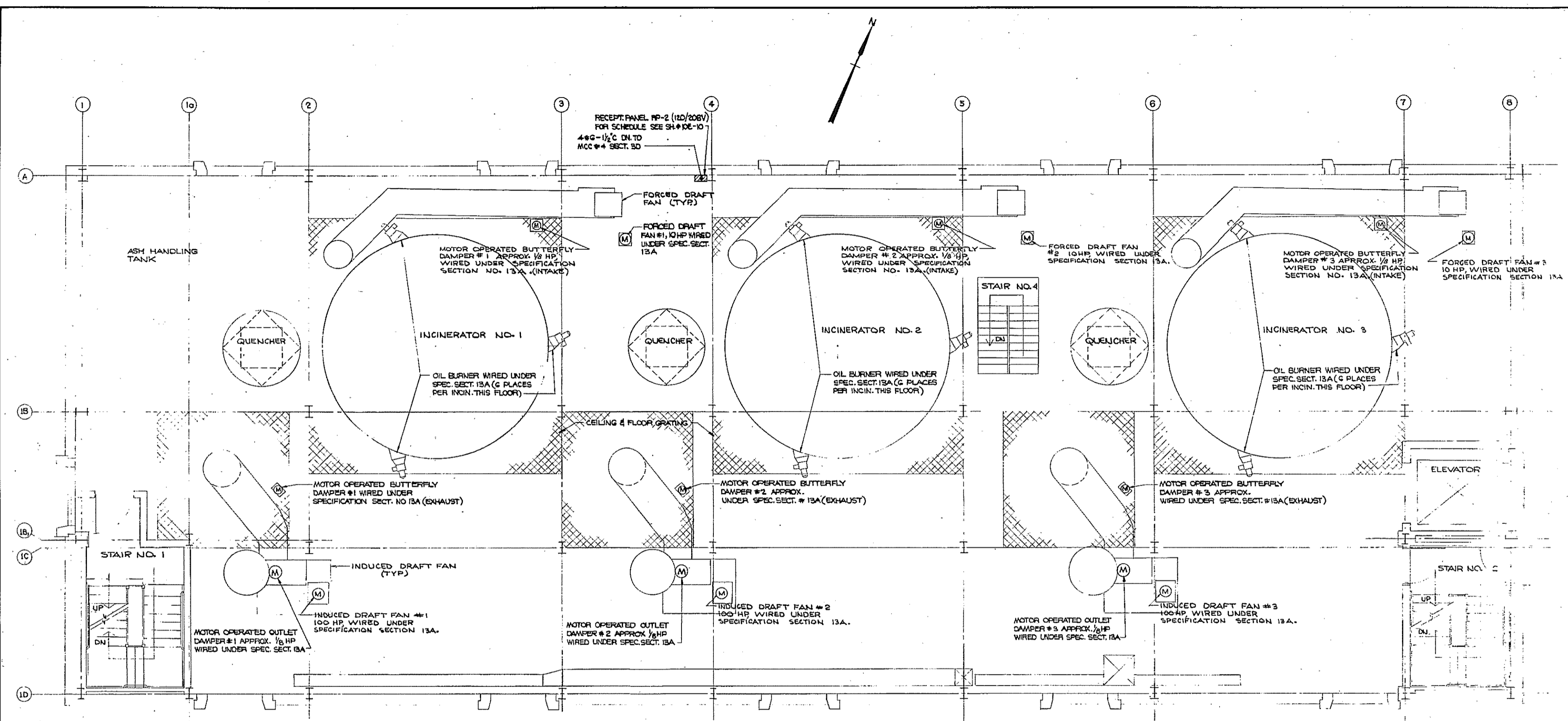


HALF-SIZE DRAWING

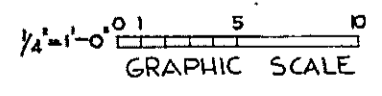
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ELECTRICAL
 INCINERATOR BUILDING
 POWER - FIRST FLOOR PLAN
 SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DESIGNED BY: W.B.R. DRAWN BY: J.M.C. CHECKED BY: J.W.-83
 APPROVED: J.M. Cahaly
 CONTRACT DRAWING SHEET NO. 10E-3



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY



RISER DIAGRAM
SCALE: NONE



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY



HALF-SIZE DRAWING

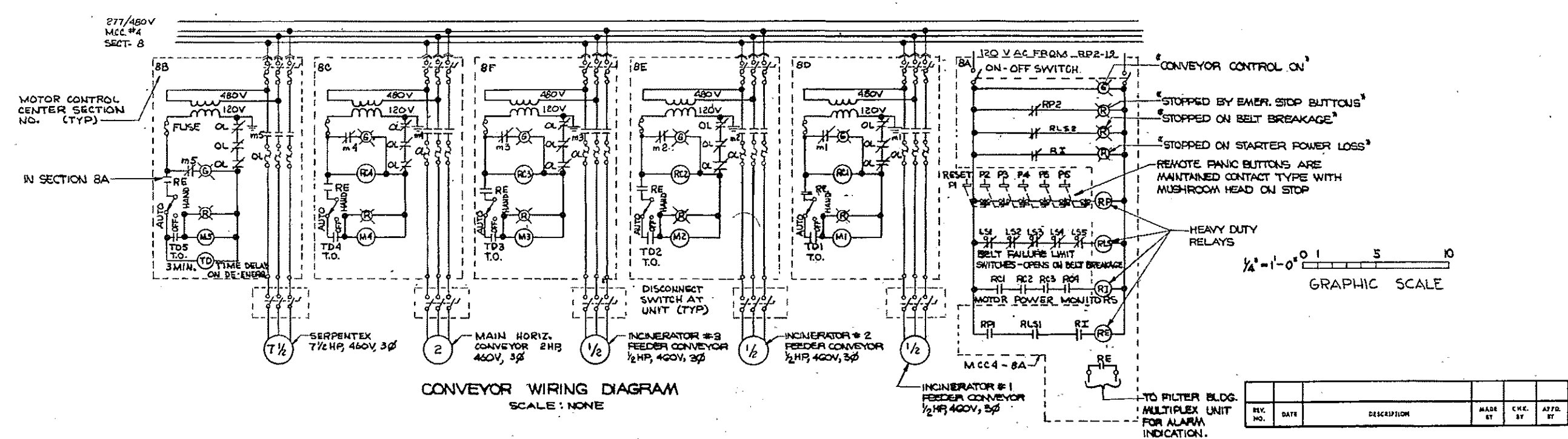
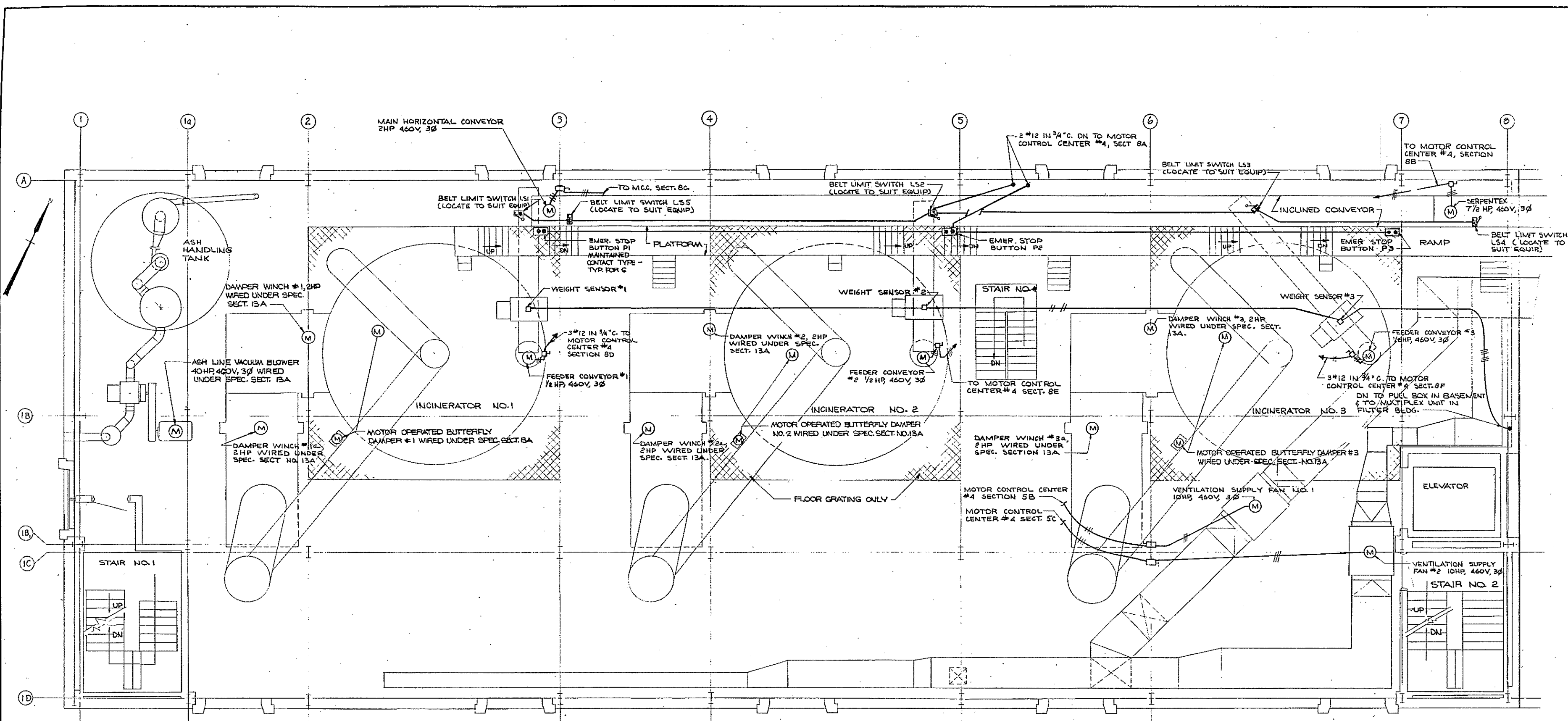
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
INCINERATOR BUILDING
POWER - SECOND FLOOR PLAN

SCALE: AS NOTED FEBRUARY 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DESIGNED BY DR. N.G.H.	CHECKED BY CHG.C.N.-W.B.T.	DATE JW-83
APPROVED <i>F. M. Cahaly</i>	PLANNED BY 171	

CONTRACT DRAWING SHEET NO. 10E-4



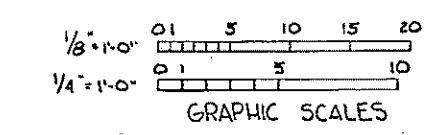
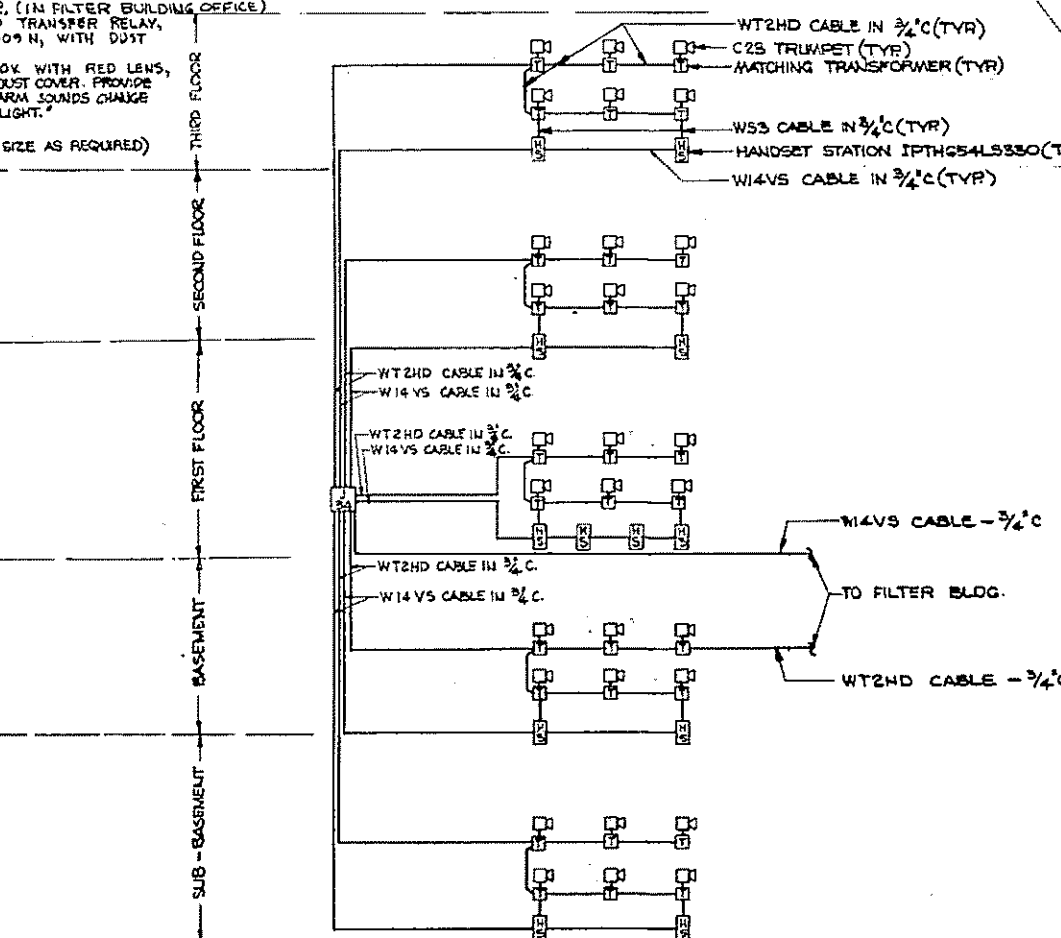
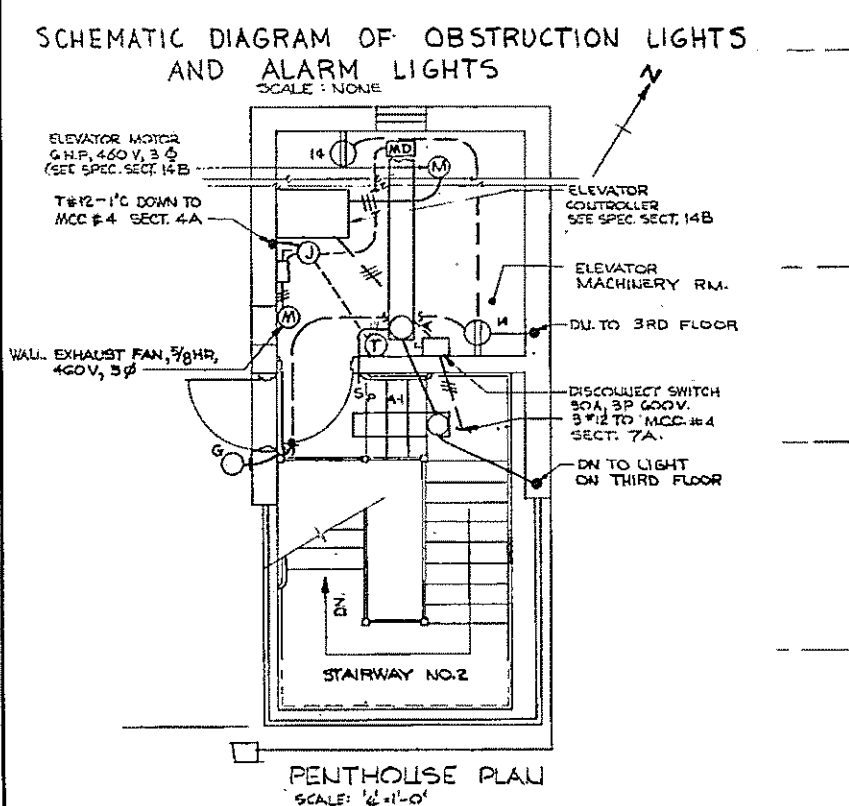
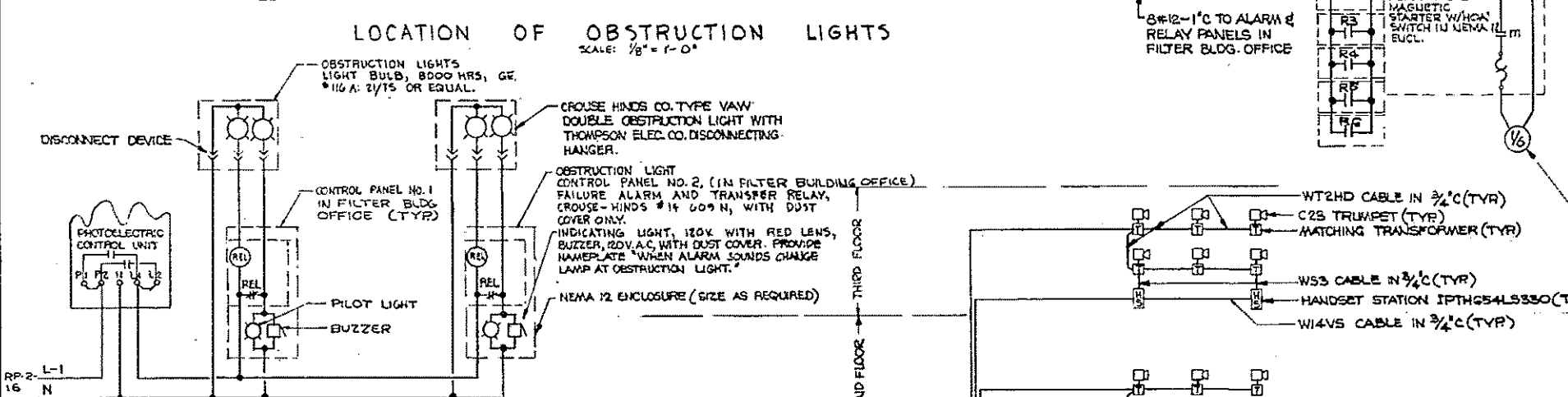
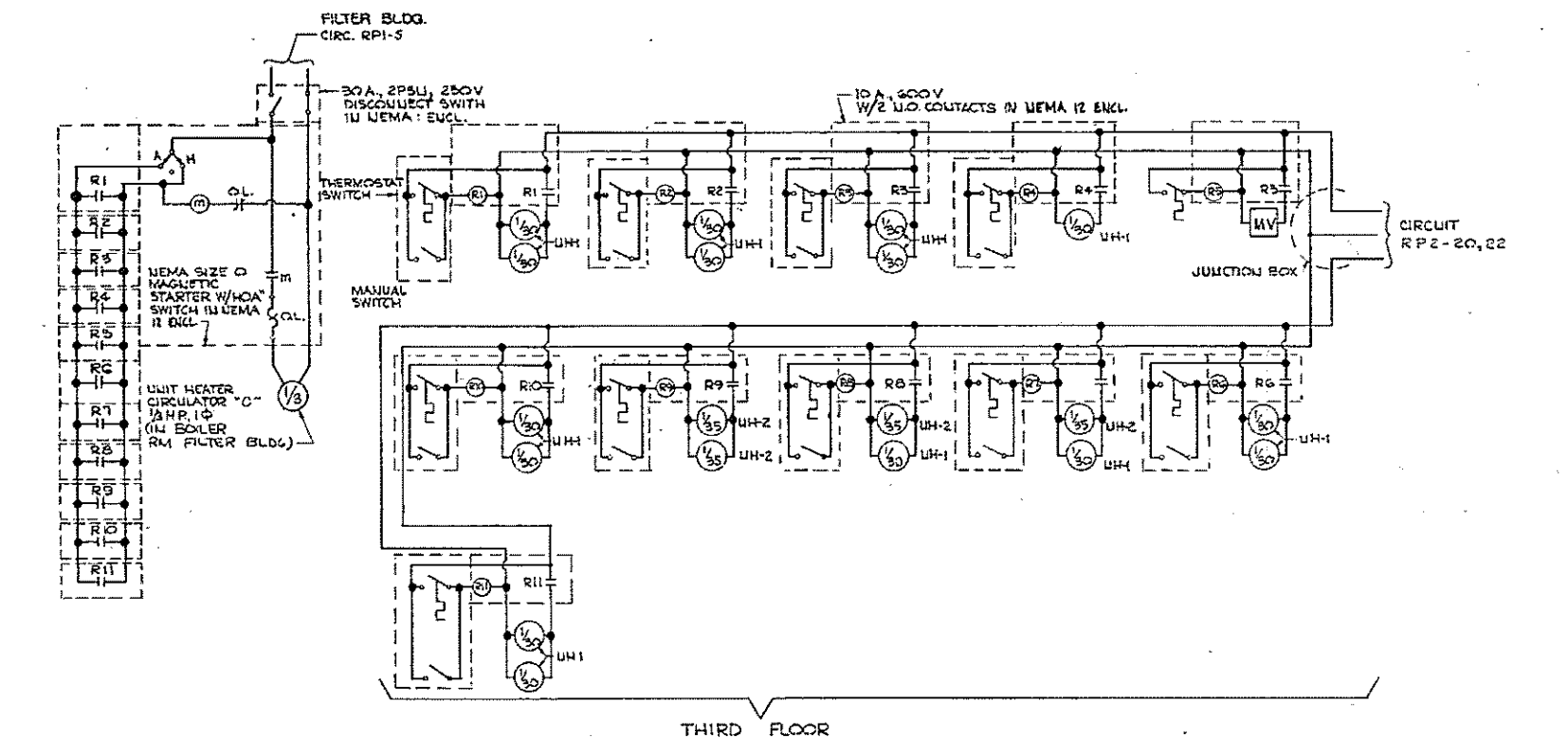
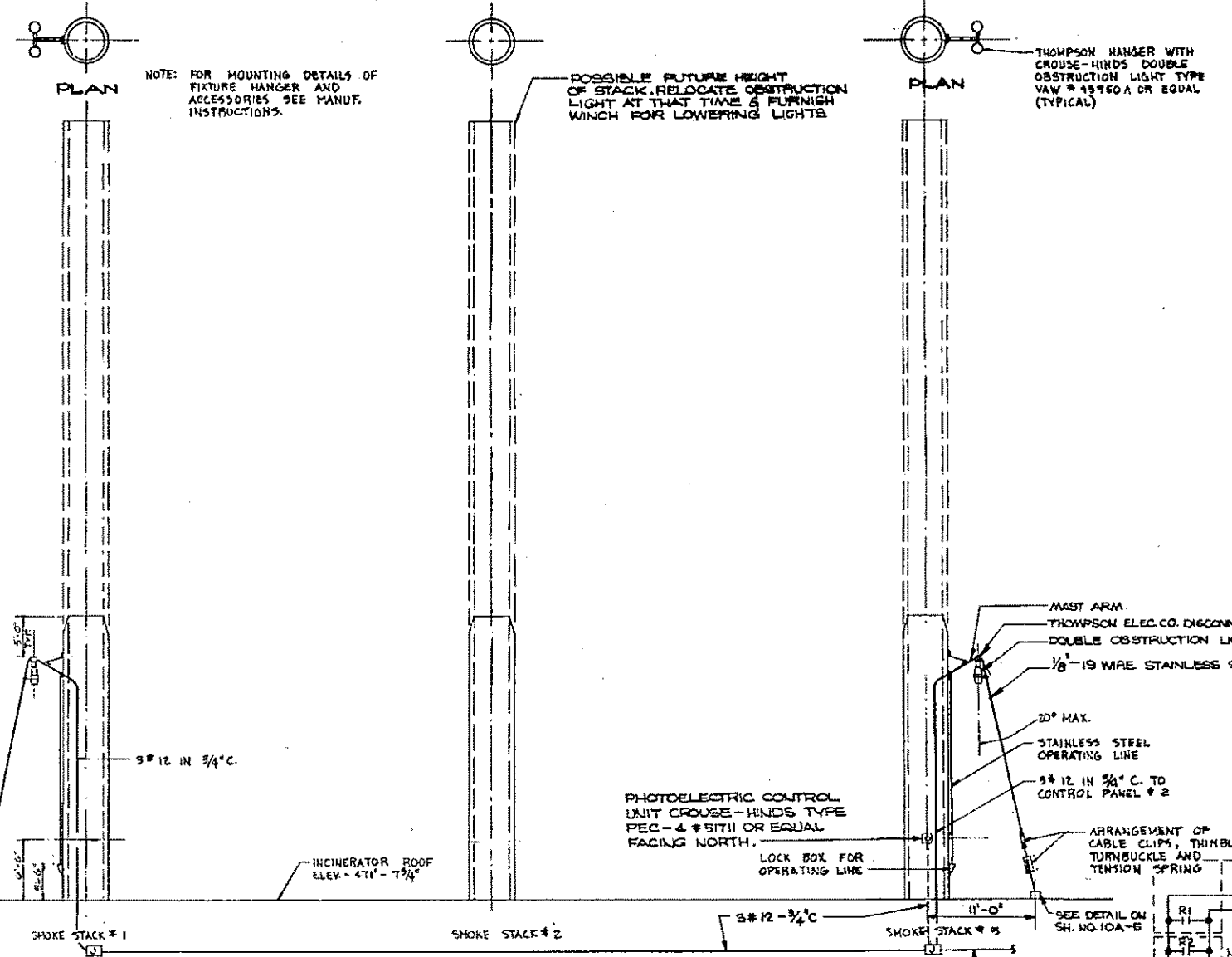
NOTE: FOR POWER WIRING TO ELEVATOR CONTROLLER SEE SHEET NO. 10E-2

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ELECTRICAL
 INCINERATOR BUILDING
 POWER - THIRD FLOOR PLAN
 SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 REG. C.N. - W.B.F. TR. C.N.S.C.H. - W.B.F.
 DR. R.L.M. - R.G.H. DESIGNED BY
 APPROVED *J.M. Celsky* DRAWN BY
 NO. 172
 CONTRACT DRAWING SHEET NO. 10E-5

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY





REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPV. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N.-10
ELECTRICAL
INCINERATOR BUILDING - PENTHOUSE PLAN
OBSTRUCTION LIGHTS AND MISCELLANEOUS DETAILS
SCALE: AS NOTED
FEBRUARY 1975

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DR. G.C.N.-W.B.F. DR. N.S.H. DR. G.C.N.-W.B.F. DR. G.C.N.-W.B.F.

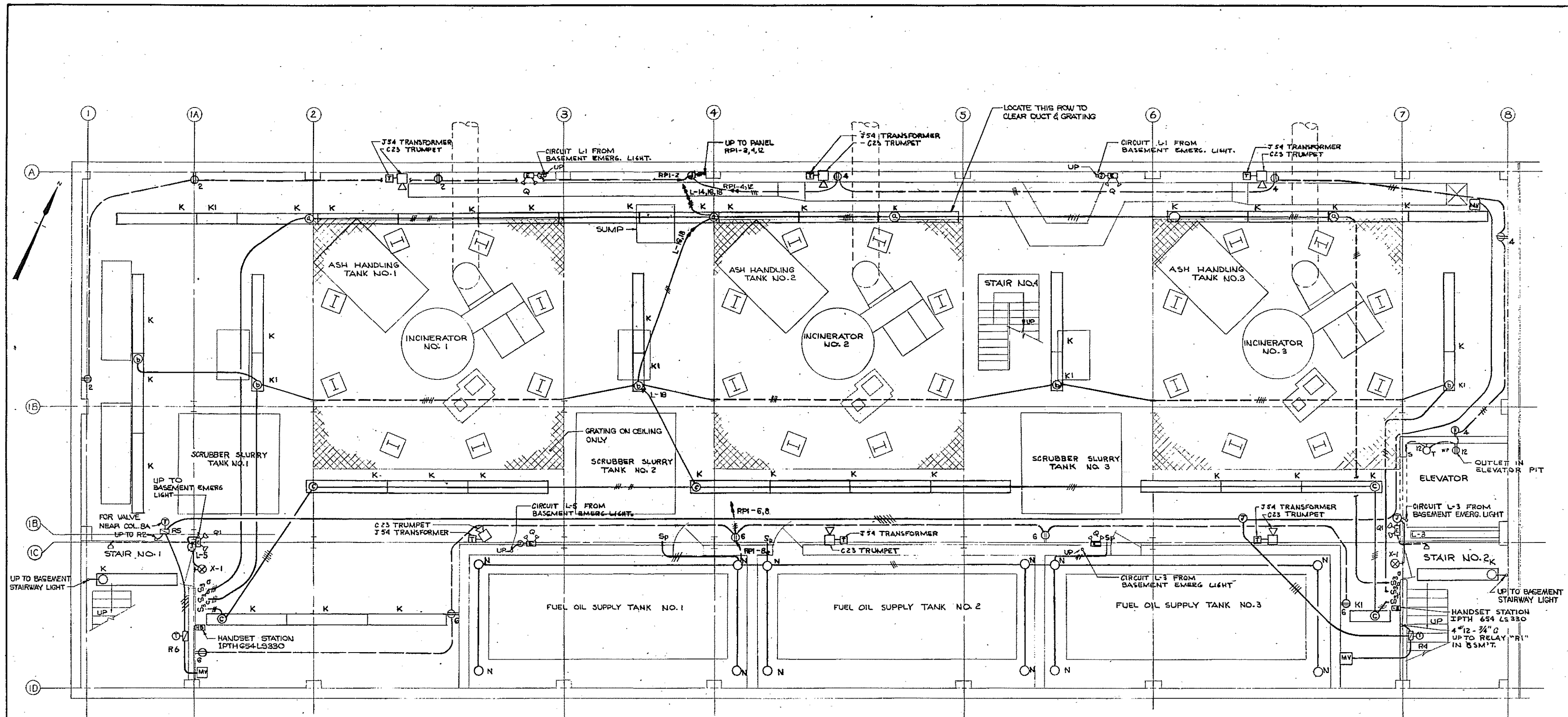
APPROVED: *F. W. Cahaly* REGISTERED PROFESSIONAL ENGINEER

JW-83

173

CONTRACT DRAWING SHEET NO. 10E-6

150-8807120-APPK (175)



- NOTES:
- FOR LEGEND SEE SHEET NO. 12E-2.
 - FOR INTERCOM & PAGING SYSTEM WIRING SEE WIRING DIAGRAM SHEET NO. 10E-6.



PANEL "L" SCHEDULE

V.A.	LOAD SERVED	277/480 V.	3 #	W WIRE	LOAD SERVED	V.A.
850	EMERG. LTG. W WALL	1	2	2	SECOND FLOOR LTG.	3000
850	EMERG. LTG. E WALL	3	4	4	SECOND FLOOR LTG.	3000
850	EMERG. LTG. W WALL	5	6	6	SECOND FLOOR LTG.	2900
2555	STAIRWAY LTG.	7	8	8	BASEMENT LTG.	1700
3300	FIRST FLOOR LTG.	9	10	10	BASEMENT LTG.	2900
2800	FIRST FLOOR LTG.	11	12	12	BASEMENT LTG.	3600
2900	FIRST FLOOR LTG.	13	14	14	SUB-BASEMENT LTG.	2900
2730	THIRD FLOOR LTG.	15	16	16	SUB-BASEMENT LTG.	1800
3690	THIRD FLOOR LTG.	17	18	18	SUB-BASEMENT LTG.	2700
4095	THIRD FLOOR LTG.	19	20	20	SPARE	
3690	THIRD FLOOR LTG.	21	22	22	SPARE	
	SPARE	23	24	24	SPARE	
	SPARE	25	26	26	SPARE	
	SPARE	27	28	28	SPARE	
	SPARE	29	30	30	SPARE	

1 POLE 20 A. TRIP UNLESS OTHERWISE NOTED

CONNECTED V.A. = 52,210

* FOR STAIRS NO. 1 AND NO. 4 - LEAVE ON 24 HOURS/DAY

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

FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA	MTG. HGT.
			NO. TYPE WATTS	FEET
K-1	MILLER	KT-2110-C4	2 RS 90	8
K	MILLER	KT-2110-C6	4 RS 90	8
N	CROUSE-HINDS	YDMA 2199	1 I 100	CEILING
Q-1	DUAL-LITE	AS-145-2-Y-C-MONK	2 I-6 VOLT 25	7
R	MILLER	IM-2501-08	2 PG 215	17
G	McPHILLEN	66-21-VTR.	1 I 150	7-8
S	MILLER	AC-2012	1 I 200	CEILING
U	CROUSE-HINDS	YAM-N9950 A	2 I 100	SMOKE STACK
T	CROUSE-HINDS	YKRB 12 6P	1 I 200	8"
X-1	DUAL-LITE	C-600 STP 277 V.	* * *	ABOVE DOOR
X-2	DUAL-LITE	C-601 STP 277 V.	* * *	ABOVE DOOR
Q	DUAL-LITE	AS-145-2-Y-C-MONK	2 I-6 VOLT 25	8'-0"
Q-1	DUAL-LITE	AS-145-3-Y-C-MONK		8'-0"
I	STEBER	SI-3002	2 PAR-38 150	10'-0"
A	MILLER	IM-2101-08	4 RS 90	10'-0"
AI	MILLER	IM-2101-04	2 RS 90	10'-0"

FOR ALTERNATE FIXTURE MANUFACTURERS, SEE SHEET NO. E9.

* 277 V. BALLAST/INPUT

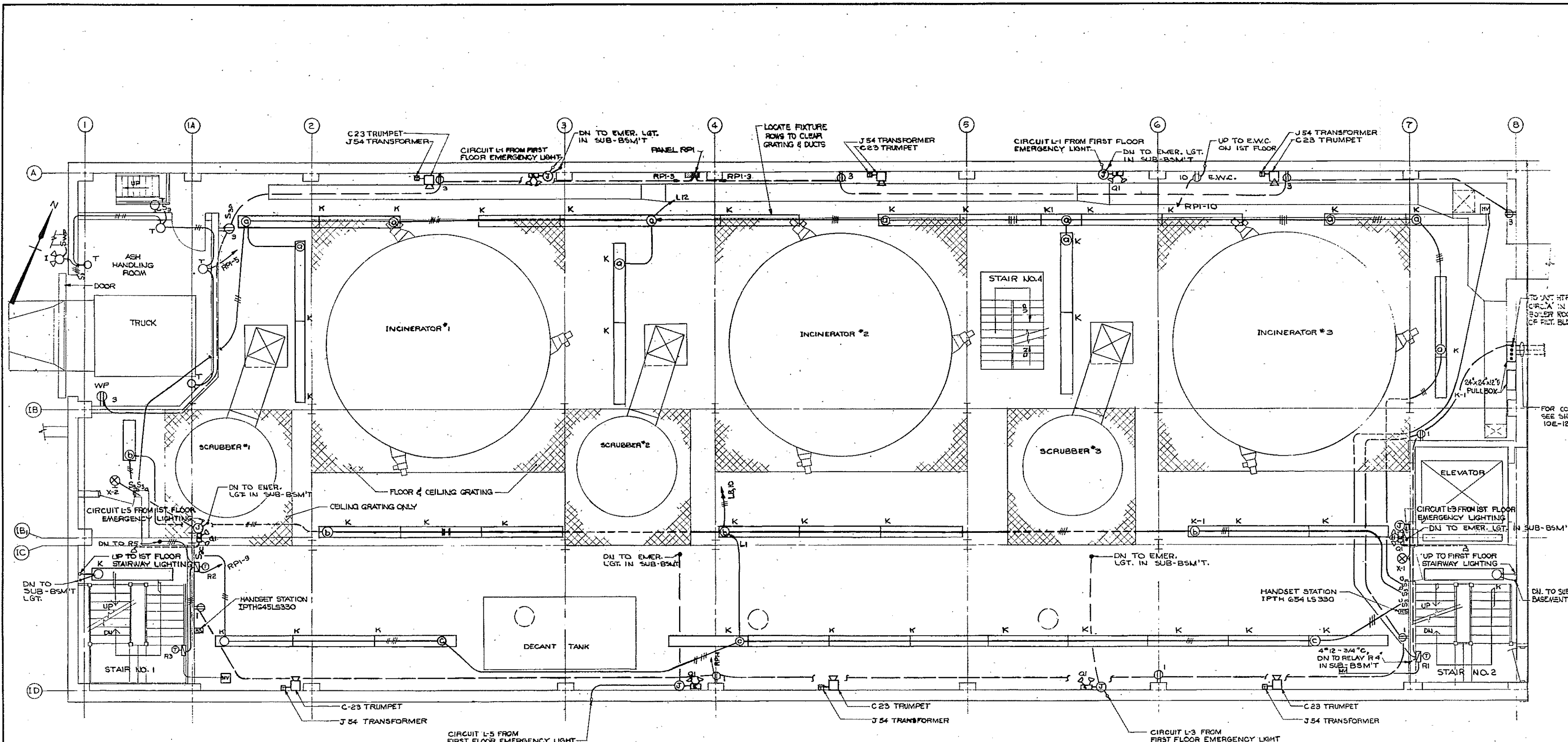
* * * BEHIND SIGN: 2-5/8 W. D.C.
2-1/8 W. A.C.

IN DOWNLIGHT: 1-5/8 W. D.C.
2-5/8 W. A.C.

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
INCINERATOR BUILDING
LIGHTING - SUB-BASEMENT PLAN
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DESIGN: W.B.F. / TR. / W.B.F. / JW-83
APPROVED: J.M. Cebalga / 174
CONTRACT DRAWING SHEET NO. 10E-7

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



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

PANEL "RP1" SCHEDULE					
N.P.	V.A.	LOAD SERVED	120/208 V., 3Ø, 4 WIRE	LOAD SERVED	V.A. N.P.
-	1000	BASEMENT RECEPT (5)	1	SUB BASEMENT RECEPT (2) 600	-
-	1200	BASEMENT RECEPT (6)	2	SUB BASEMENT RECEPT (4) 800	-
-	1800	ASH REMOVAL RM. LTG.	3	SUB BASEMENT RECEPT (8) 1000	-
-	-	SPARE	4	SUB BASEMENT LTG. 1200	-
-	300	MOTORIZED VALVES (6)	5	WATER COOLERS 1108	241/5
-	-	SPARE	6	ELEVATOR PIT RECEPT. 900	-
-	-	SPARE	7	SPARE	-
-	-	SPARE	8	SPARE	-
-	-	SPARE	9	SPARE	-
-	-	SPARE	10	SPARE	-
-	-	SPARE	11	SPARE	-
-	-	SPARE	12	SPARE	-
-	-	SPARE	13	SPARE	-
-	-	SPARE	14	SPARE	-
-	-	SPARE	15	SPARE	-
-	-	SPARE	16	SPARE	-
-	-	SPARE	17	SPARE	-
			MAIN LUGS ONLY CONNECTED V.A. = 9,908		

1 POLE 20A. TRIP UNLESS OTHERWISE NOTED

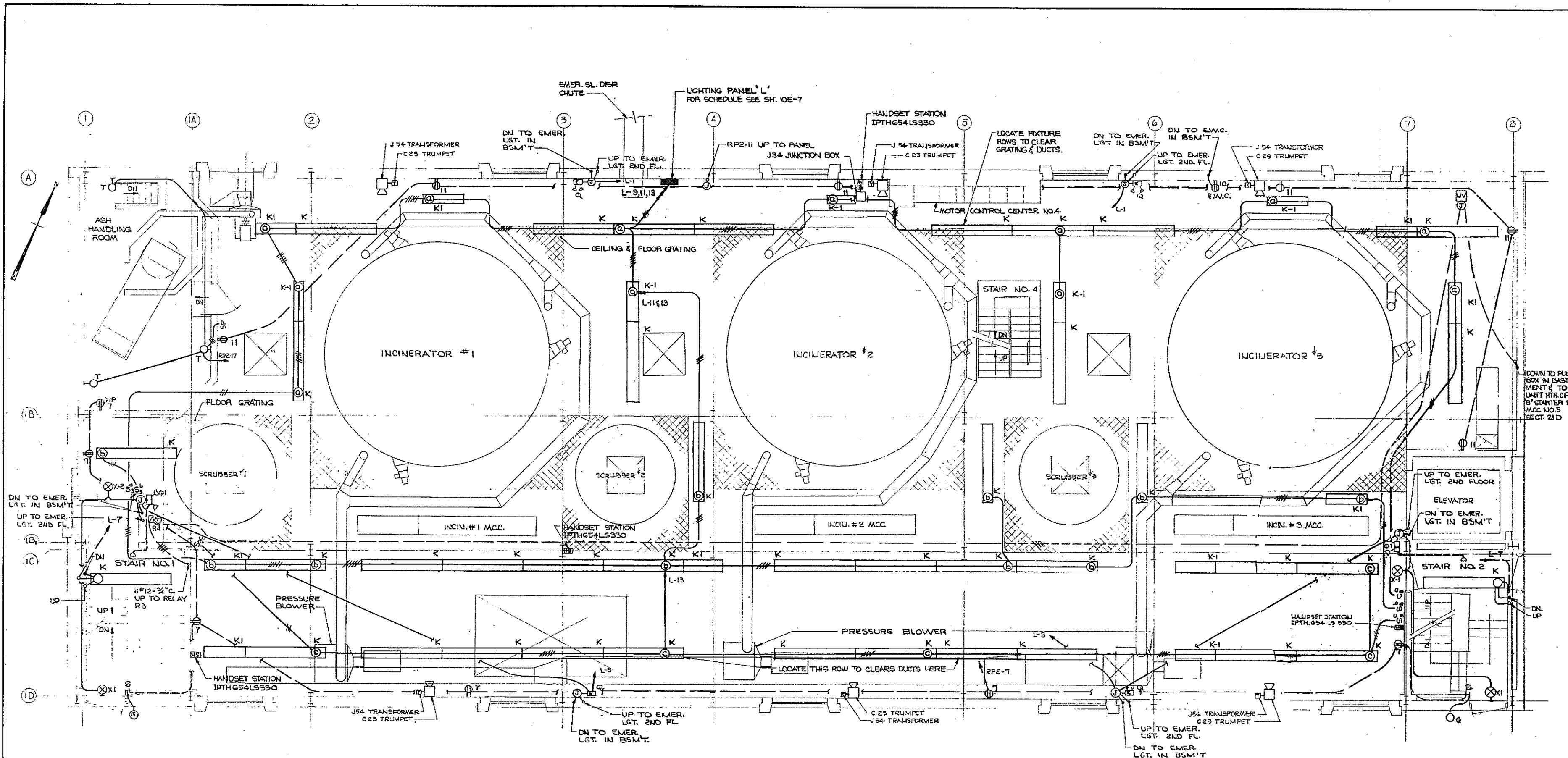


HALF-SIZE DRAWING

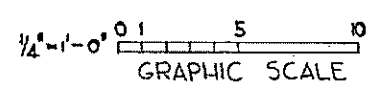
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N.-10
ELECTRICAL
INCINERATOR BUILDING
LIGHTING - BASEMENT PLAN
SCALE: AS NOTED FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.C.H.-W.B.F. TR. G.C.H.-W.B.F. J.W.-83
APPROVED *E. W. Cahaly* 175
CONTRACT DRAWING SHEET NO. 10E-8

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY





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

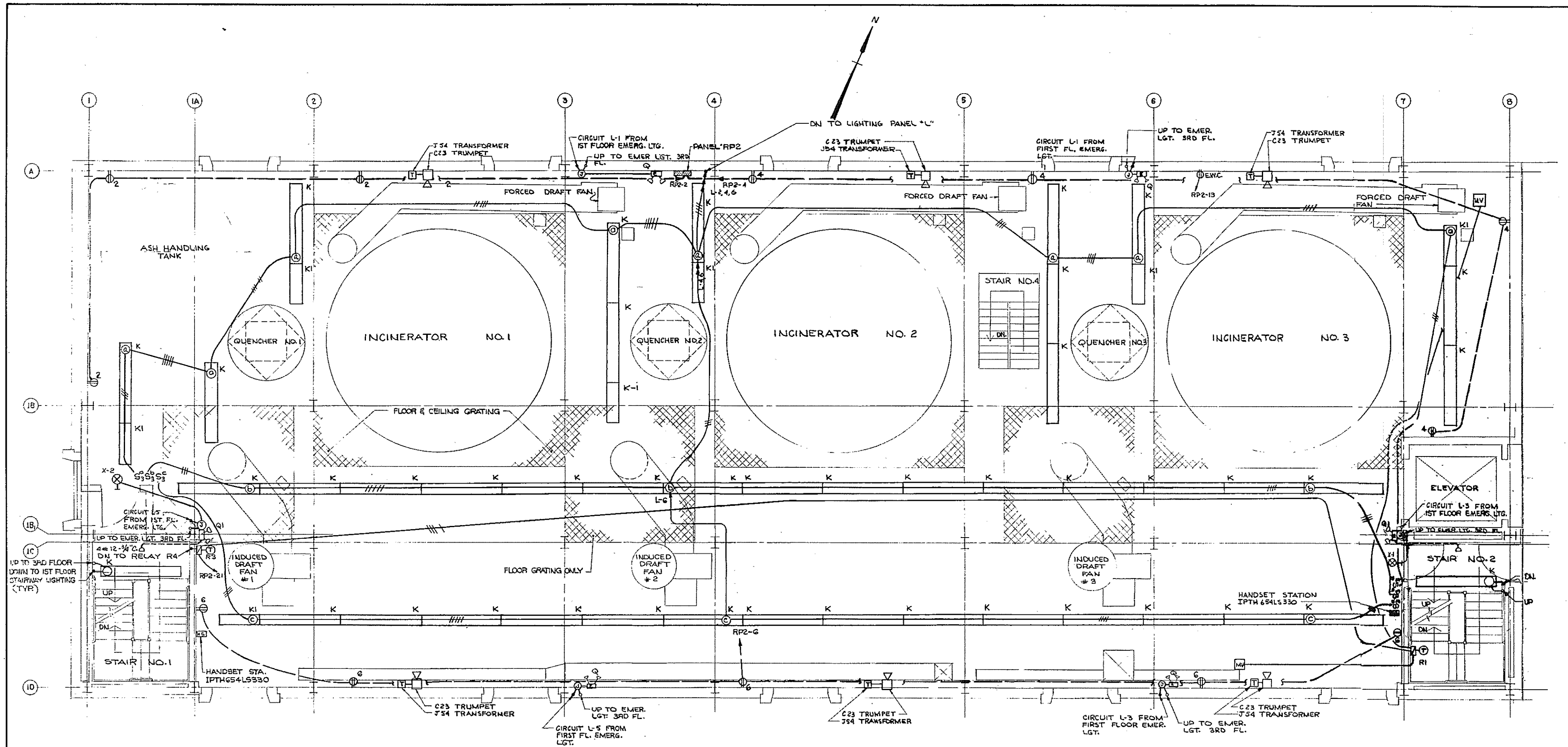


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. - 10
ELECTRICAL
INCINERATOR BUILDING
LIGHTING - FIRST FLOOR PLAN
SCALE: AS NOTED FEBRUARY 1975
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.C.N.-W.D.F. DR. G.C.N.-W.D.F. FILE NO. JW-83
APPROVED *F. W. Cahaly* PLAN NO. 176





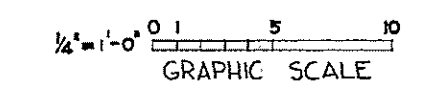
PLAN
SCALE: 1/4" = 1'-0"

PANEL "RP2" SCHEDULE
120/208V., 3Ø, 4 WIRE

H.P.	V.A.	LOAD SERVED	LOAD SERVED	V.A.	H.P.
-	50	PENTHOUSE DAMPER	2ND FL. RECEPT (3)	600	-
-	-	SPARE	2ND FL. RECEPT (4)	600	-
-	-	SPARE	2ND FL. RECEPT (5)	1000	-
-	1500	1ST. FLR. RECEPT. (6)	3RD FL. RECEPT (3)	600	-
-	-	SPARE	3RD FL. RECEPT (4)	600	-
-	1200	1ST. FLR. RECEPT (6)	3RD FL. RECEPT (4)	800	-
1/5	554	WTR. COOLER 3RD. FLR.	ELEV. MACH. RECEPT (2)	550	-
-	-	SPARE	SMOKE STACK LGT.	200	-
-	600	ASH HANDLING RL.TG.	SPARE	-	-
-	200	CONVEYOR CONTROLS	UNIT HEATERS	778	700/300
-	150	MOT. VALVES (3)	UNIT HEATERS	1232	800/300
-	-	SPARE	SPARE	-	-
-	-	SPARE	SPARE	-	-
-	-	SPARE	SPARE	-	-
-	-	SPARE	SPARE	-	-
-	-	SPARE	SPARE	-	-
-	-	SPARE	SPARE	-	-

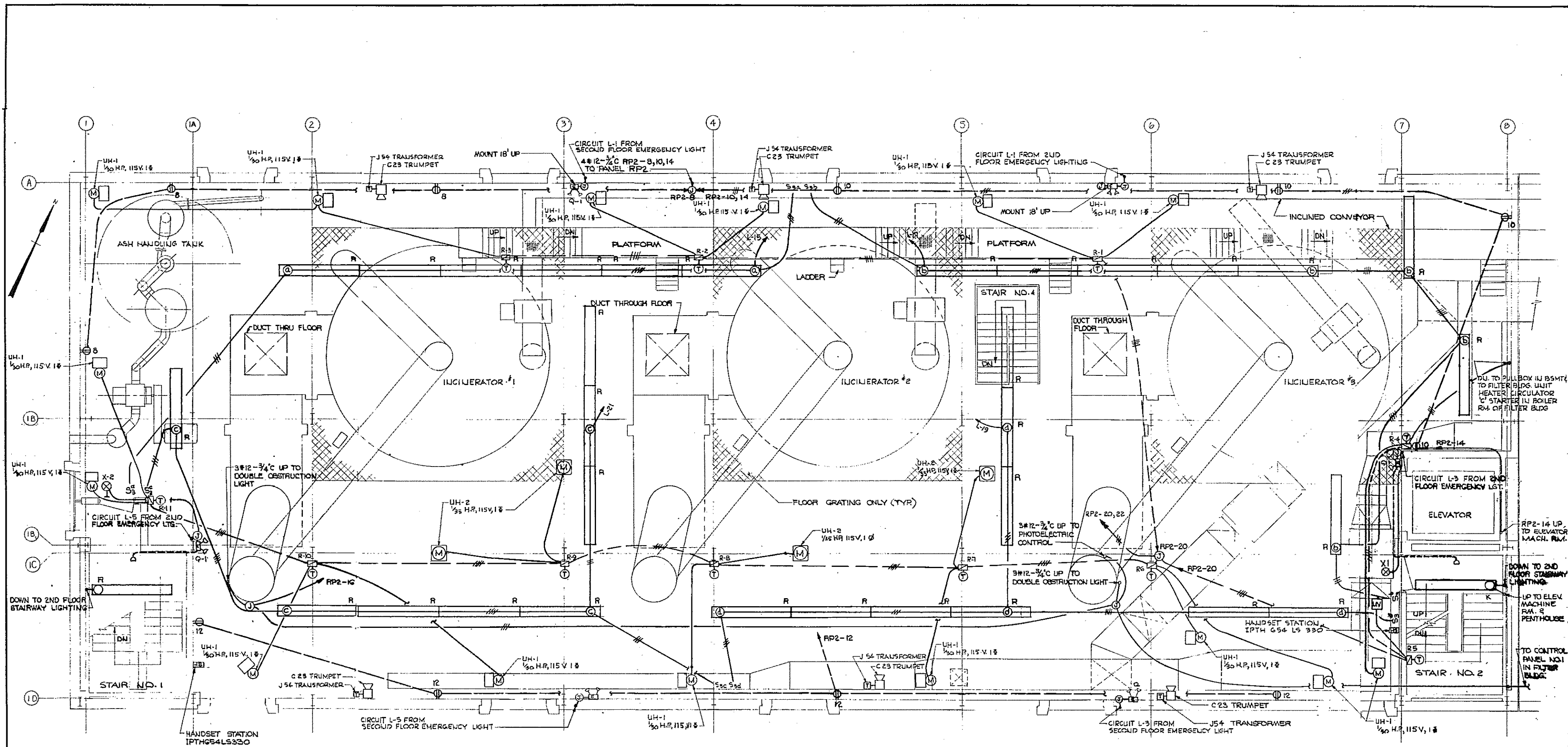
1 POLE 20A. TRIP UNLESS OTHERWISE NOTED

CONNECTED V.A. = 11,564

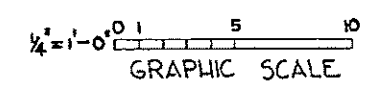


COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. -10
ELECTRICAL
INCINERATOR BUILDING
LIGHTING - SECOND FLOOR PLAN
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DIA. G.C.N.-W.D.F. FILE NO. JW-83
DR. N.G.H. CHK. G.C.N.-W.D.F.
APPROVED: J.H. Cahaly
CONTRACT DRAWING SHEET NO. 10E-10

REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



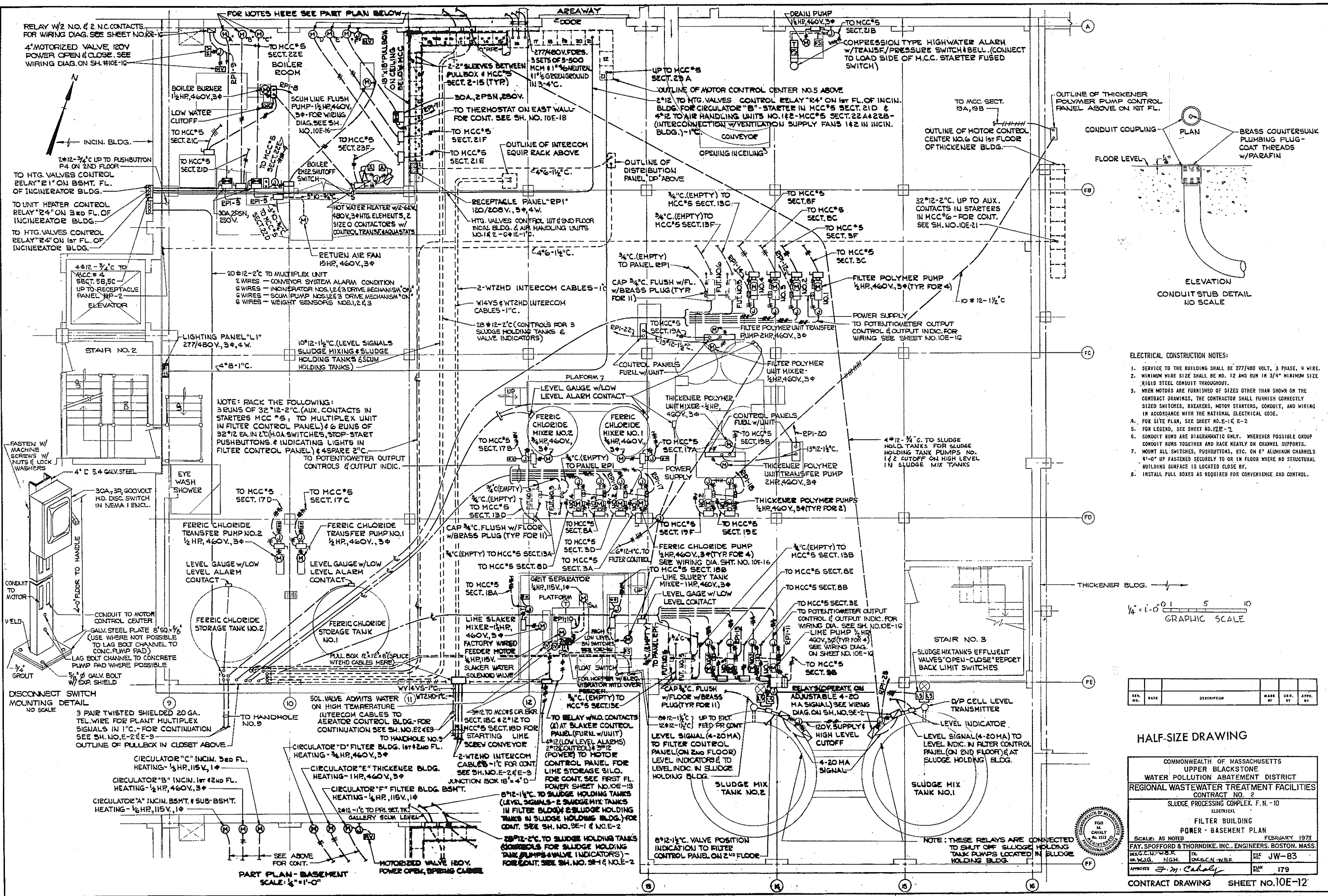
PLAN
SCALE: 1/4" = 1'-0"



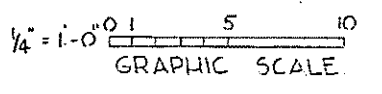
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
INCINERATOR BUILDING
LIGHTING - THIRD FLOOR PLAN
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DEL. G.C.N. - W.B.R. TEL. FILE NO. JW-83
DE. N.G.M. CHK. G.C.N. - W.B.F.
APPROVED *F. M. Cahaly* PLAN NO. 178
CONTRACT DRAWING SHEET NO. 10E-11



- ELECTRICAL CONSTRUCTION NOTES:**
- SERVICE TO THE BUILDING SHALL BE 277/480 VOLT, 3 PHASE, 4 WIRE.
 - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUN IN 3/4\"/>



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

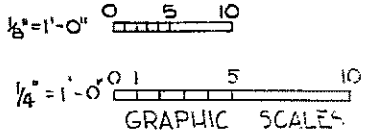
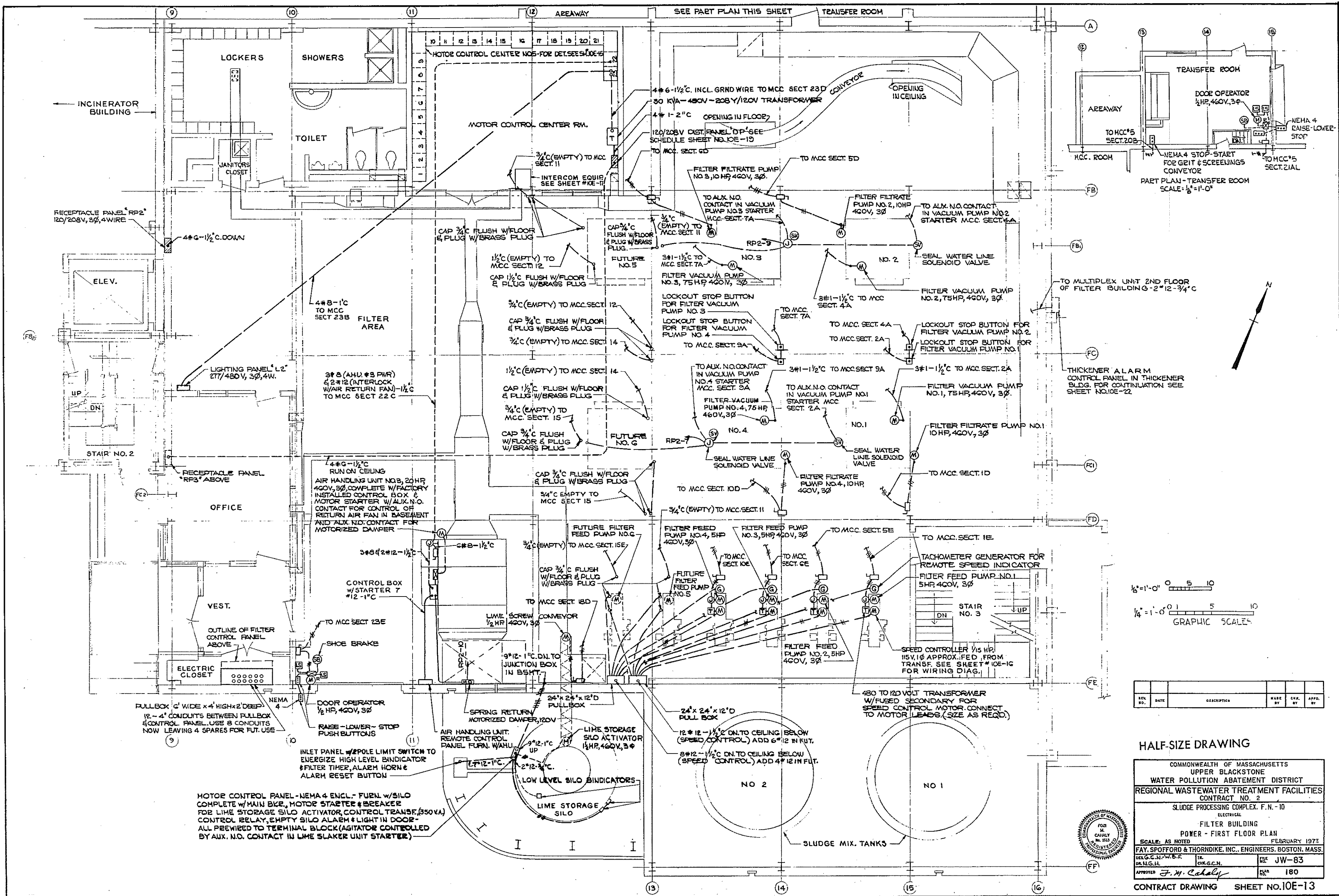
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. N. - 10

ELECTRICAL
 FILTER BUILDING
 POWER - BASEMENT PLAN

SCALE: AS NOTED
 FEBRUARY 1972
 PAY, SPROFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 REG. NO. 10178
 DR. W. J. NGH. DR. C. N. NEE. REC. JW-83
 APPROVED: *F. M. Cahaly* ELEC. 179

CONTRACT DRAWING SHEET NO. 10E-12

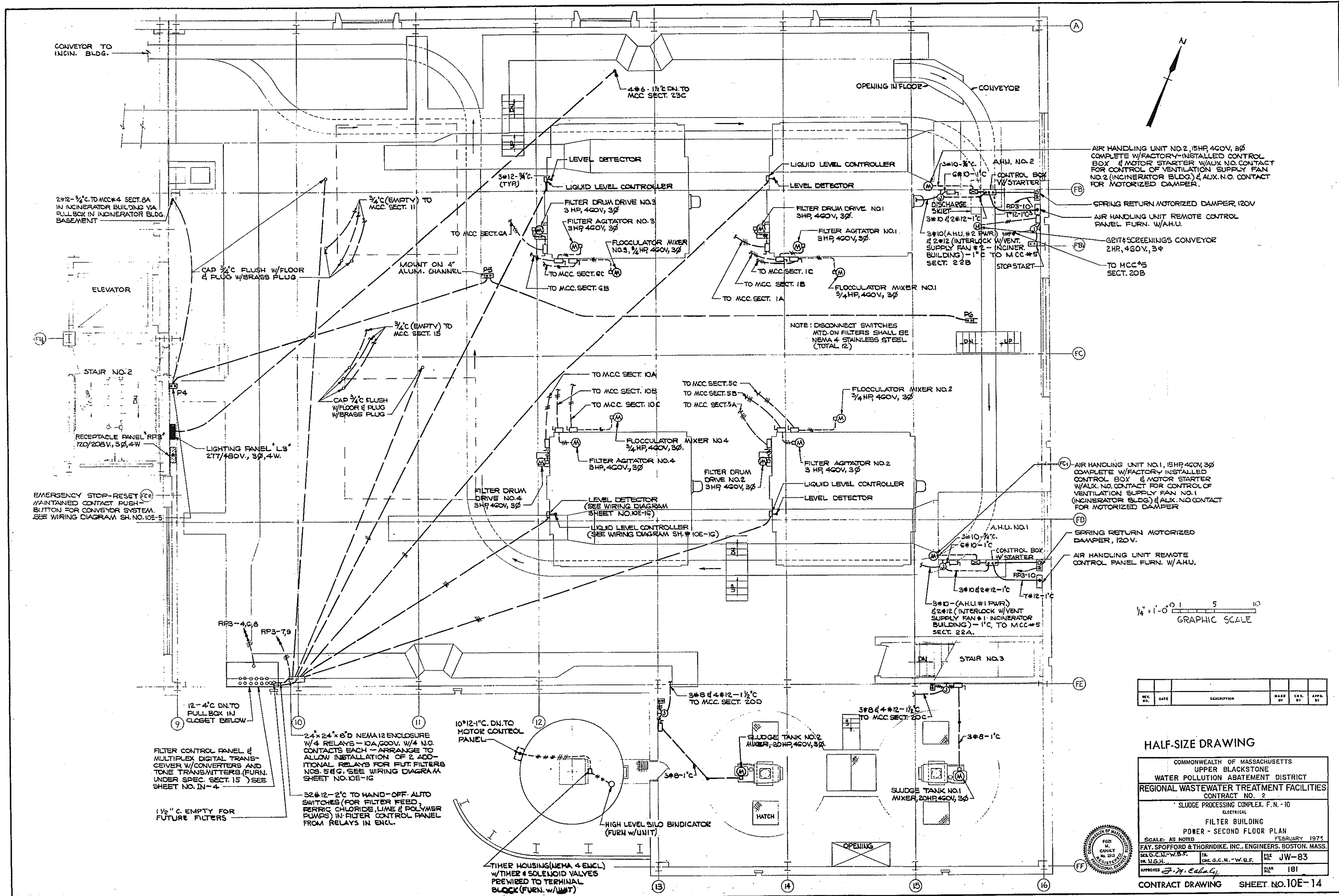


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ELECTRICAL
 FILTER BUILDING
 POWER - FIRST FLOOR PLAN
 SCALE: AS NOTED
 FEBRUARY 1975
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DESIGNED BY: W.B.F. DRAWN BY: C.H.G.C.M. CHECKED BY: J.W.-83
 APPROVED BY: J.M. Cahaly

3-MAR-77-07-00X 1371



CONVEYOR TO INCIN. BLDG.

2#12-3/4" C. TO MCC#4 SECT. 8A IN INCINERATOR BUILDING VIA PULL BOX IN INCINERATOR BLDG. BASEMENT

ELEVATOR

STAIR NO. 2

RECEPTACLE PANEL RPS 120/208V, 3#4, 4-W

LIGHTING PANEL L3 277/480V, 3#4, 4-W

EMERGENCY STOP-RESET MAINTAINED CONTACT PUSH-BUTTON FOR CONVEYOR SYSTEM. SEE WIRING DIAGRAM SH. NO. 10E-5

RPS-4, 6, 8

RPS-7, 9

12-4" C. DN. TO PULL BOX IN CLOSET BELOW

FILTER CONTROL PANEL & MULTIPLEX DIGITAL TRANSMITTER W/ CONVERTERS AND TONE TRANSMITTERS. (FURN. UNDER SPEC. SECT. 15) SEE SHEET NO. 10E-4

1 1/2" C. EMPTY FOR FUTURE FILTERS

24" x 24" x 6" D NEMA 12 ENCLOSURE W/ 4 RELAYS - 10A, 600V. W/ 4 N.O. CONTACTS EACH - ARRANGE TO ALLOW INSTALLATION OF 2 ADDITIONAL RELAYS FOR FUT. FILTERS NOS. 5 & 6. SEE WIRING DIAGRAM SHEET NO. 10E-16

3#12-2" C. TO HAND-OFF AUTO SWITCHES (FOR FILTER FEED FERRIC CHLORIDE, LIME & POLYMER PUMPS) IN FILTER CONTROL PANEL FROM RELAYS IN ENCL.

10" 12-1" C. DN. TO MOTOR CONTROL PANEL

TIMER HOUSING (NEMA 4 ENCL.) W/ TIMER & SOLENOID VALVES PREWIRED TO TERMINAL BLOCK (FURN. W/ UNIT)

LEVEL DETECTOR

LIQUID LEVEL CONTROLLER

FILTER DRUM DRIVE NO. 3 3 HP, 460V, 3#

FILTER AGITATOR NO. 3 3 HP, 460V, 3#

FLOCCULATOR MIXER NO. 3 3/4 HP, 460V, 3#

TO MCC SECT. 6C

TO MCC SECT. 6B

TO MCC SECT. 10A

TO MCC SECT. 10B

TO MCC SECT. 10C

FLOCCULATOR MIXER NO. 4 3/4 HP, 460V, 3#

FILTER AGITATOR NO. 4 3 HP, 460V, 3#

FILTER DRUM DRIVE NO. 4 3 HP, 460V, 3#

LEVEL DETECTOR (SEE WIRING DIAGRAM SHEET NO. 10E-16)

LIQUID LEVEL CONTROLLER (SEE WIRING DIAGRAM SH. # 10E-16)

TO MCC SECT. 5C

TO MCC SECT. 5B

TO MCC SECT. 5A

FLOCCULATOR MIXER NO. 2 3/4 HP, 460V, 3#

FILTER AGITATOR NO. 2 3 HP, 460V, 3#

LIQUID LEVEL CONTROLLER

LEVEL DETECTOR

3#8-4#12-1 1/2" C. TO MCC SECT. 20D

3#8-1" C.

OPENING IN FLOOR

CONVEYOR

NOTE: DISCONNECT SWITCHES MTD. ON FILTERS SHALL BE NEMA 4 STAINLESS STEEL (TOTAL 12)

FLOCCULATOR MIXER NO. 2 3/4 HP, 460V, 3#

FILTER AGITATOR NO. 2 3 HP, 460V, 3#

LIQUID LEVEL CONTROLLER

LEVEL DETECTOR

3#10-3/4" C. 6#10-1" C.

CONTROL BOX W/ STARTER

RPS-10

3#10-2#12-1" C. 7#12-1" C.

3#10-(A.H.U.#1 FWR) 2#12 (INTERLOCK W/ VENT. SUPPLY FAN #1 - INCINERATOR BUILDING) - 1" C. TO MCC#5 SECT. 22A.

3#8-1" C.

3#8-4#12-1 1/2" C. TO MCC SECT. 20C

SLUDGE TANK NO. 2 MIXER, 20 HP, 460V, 3#

HATCH

SLUDGE TANK NO. 1 MIXER, 20 HP, 460V, 3#

OPENING

AIR HANDLING UNIT NO. 2, 15HP, 460V, 3# COMPLETE W/ FACTORY-INSTALLED CONTROL BOX & MOTOR STARTER W/ AUX. N.O. CONTACT FOR CONTROL OF VENTILATION SUPPLY FAN NO. 2 (INCINERATOR BLDG.) & AUX. N.O. CONTACT FOR MOTORIZED DAMPER.

SPRING RETURN MOTORIZED DAMPER, 120V

AIR HANDLING UNIT REMOTE CONTROL PANEL FURN. W/ A.H.U.

6#12 SCREENINGS CONVEYOR 2 HR, 460V, 3#

TO MCC#5 SECT. 20B

AIR HANDLING UNIT NO. 1, 15HP, 460V, 3# COMPLETE W/ FACTORY-INSTALLED CONTROL BOX & MOTOR STARTER W/ AUX. N.O. CONTACT FOR CONTROL OF VENTILATION SUPPLY FAN NO. 1 (INCINERATOR BLDG.) & AUX. N.O. CONTACT FOR MOTORIZED DAMPER.

SPRING RETURN MOTORIZED DAMPER, 120V.

AIR HANDLING UNIT REMOTE CONTROL PANEL FURN. W/ A.H.U.

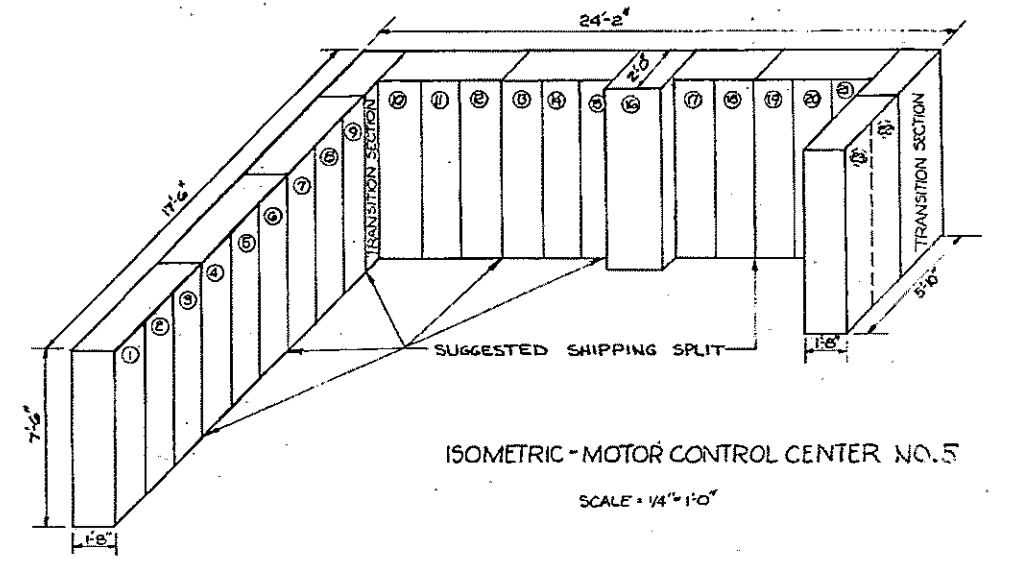
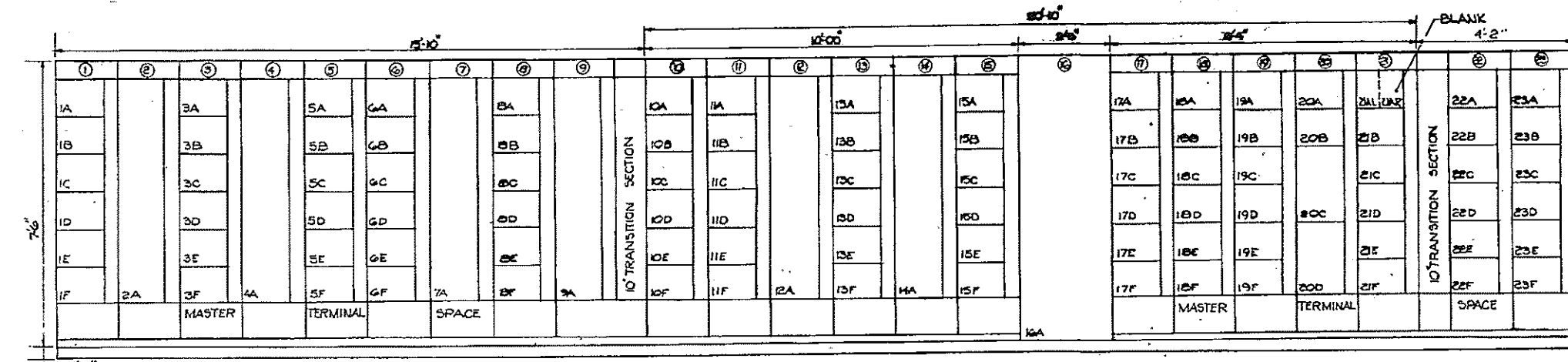
1/4" = 1'-0" GRAPHIC SCALE

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. - 10
 ELECTRICAL
 FILTER BUILDING
 POWER - SECOND FLOOR PLAN
 SCALE: AS NOTED FEBRUARY, 1975
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. G.C.N.-W.B.F. TR. G.C.N.-W.B.F. SHEET JW-83
 DR. J.G.H. DR. G.C.N.-W.B.F. PLAN 181
 APPROVED: J.M. Cabaly

CONTRACT DRAWING SHEET NO. 10E-14



4" CONCRETE PAD
SEE STRUCTURAL DWG.

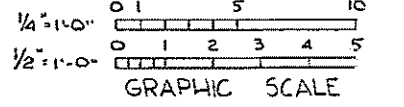
ELEVATION
MOTOR CONTROL CENTER
SCALE: 1/2" = 1'-0"

NOTE: FOR FUTURE SPACES PROVIDE INDIVIDUAL DOORS AS SHOWN & NOT A SINGLE DOOR SPANNING SEVERAL SPACES.

ISOMETRIC - MOTOR CONTROL CENTER NO. 5
SCALE: 1/4" = 1'-0"

SECT. NO.		NAMEPLATE	HP	NEMA SIZE	H.O.A.	S.S.	PILOT LOTS	MODIFICATIONS	FRAME	POLES	FUSE	FUSED SWITCH ONLY #	FILTER CONTROL	PANEL CONTROL	MOTOR	ELSEWHERE
1A	1A	FILTER DRUM DRIVE NO. 1	3	1	-	-	-	SEE NOTE E	-	-	-	-	S.S.	-	-	-
1B	1B	FILTER AGITATOR NO. 1	3	1	-	-	-	SEE NOTE E	-	-	-	-	S.S.	-	-	-
1C	1C	FLOCCULATOR MIXER NO. 1	3/4	1	-	-	-	SEE NOTE E	-	-	-	-	S.S.	-	-	-
1D	1D	FILTER FILTRATE PUMP NO. 1	10	1	-	-	-	SEE NOTE E	-	-	-	-	S.S.	-	-	-
1E	1E	FILTER FEED PUMP NO. 1	5	1	-	-	-	SEE NOTES C AND E	-	-	-	-	H.O.A.	R.L.	-	-
1F	1F	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-

SECT. NO.		NAMEPLATE	HP	NEMA SIZE	H.O.A.	S.S.	PILOT LOTS	MODIFICATIONS	FRAME	POLES	FUSE	FUSED SWITCH ONLY #	FILTER CONTROL	PANEL CONTROL	MOTOR	ELSEWHERE
18A	18A	LIME SLAKER MIXER	1 1/2	1	-	-	-	SEE NOTE E	-	-	-	-	-	-	-	-
18B	18B	LIME SLURRY TANK MIXER	1	1	-	-	-	-	-	-	-	-	-	-	-	-
18C	18C	LIME STORAGE SILO ACTIVATOR	1 1/2	1	-	-	-	-	30	3	20	-	-	-	-	-
18D	18D	LIME SCREEN CONVEYOR	1	1	-	-	-	SEE NOTE H	-	-	-	-	-	-	-	-
18E	18E	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-



- MOTOR CONTROL CENTER NOTES:**
- A. FURNISH ALL STARTERS WITH FUSED 480 TO 120 VOLT CONTROL TRANSFORMERS.
 - B. ALL BUS WORK SHALL BE RATED 1200 AMP. AND ALL BUS WORK SHALL BE BRACED FOR 50,000 A.I.C.
 - C. SIZE OVERLOADS TO ACCOMMODATE SPEED CONTROL MOTOR ON MOTOR LEADS, REMOTE SPEED CONTROLS AND INDICATION AT FILTER CONTROL PANEL.
 - D. FURNISH 1 EXTRA H.O. CONTACT FOR REMOTE SEAL WATER LINE SOLENOID VALVE.
 - E. PROVIDE 1 EXTRA H.O. CONTACT FOR MOTOR RUN SIGNAL TO MULTIPLEX UNIT ON 2ND FLOOR.
 - F. PROVIDE 2 TERMINAL BLOCKS IN MASTER TERMINAL SPACE FOR INTERCONNECTION WIRING WITH VENTILATION SUPPLY FAN IN INCINERATOR BUILDING.
 - G. PROVIDE A REDUCED VOLTAGE, CLOSED TRANSITION AUTO-TRANSFORMER TYPE STARTER.
 - H. STARTERS INTERLOCKED TO RUN FROM RELAY CONTACTS CONTROLLED BY SLAKER CONTROLLER. SEE SH-10E-10

- M.C.C. LEGEND:**
- S.S. = STOP-START PUSHBUTTON
 - H.O.A. = HAND-OFF-AUTO. SELECTOR SWITCH
 - R.L. = RAISE-LOWER PUSHBUTTON
 - S. = STOP BUTTON WITH LOCKOUT FEATURE
 - POT = POTENTIOMETER

REV.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY

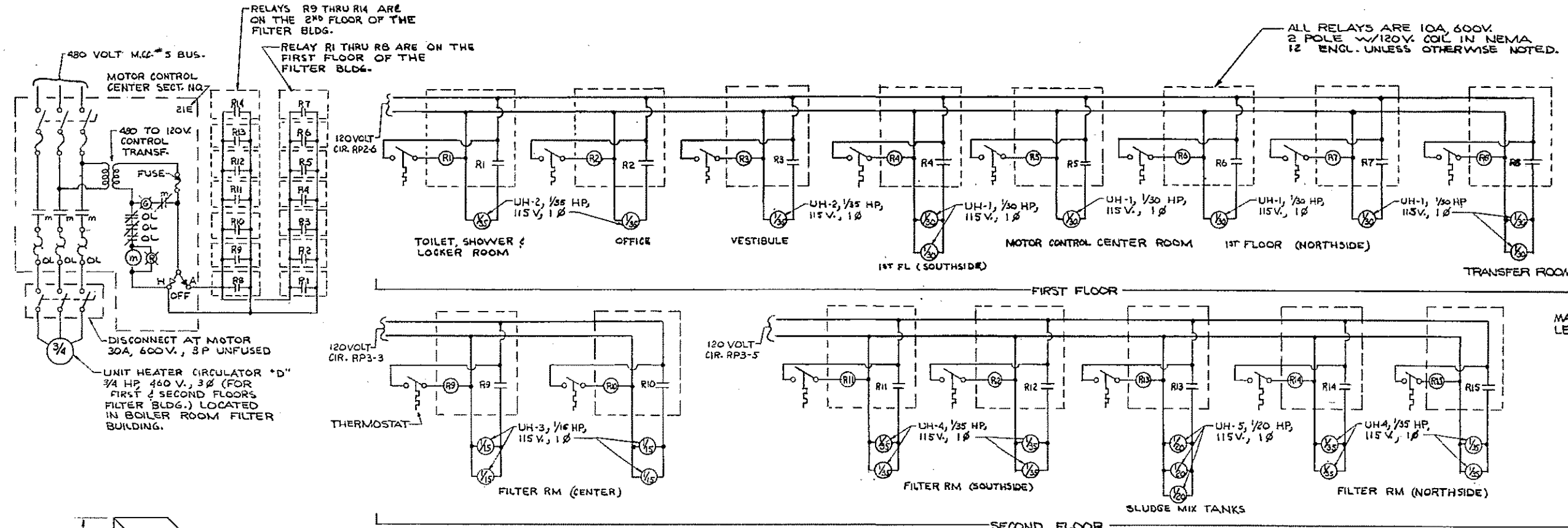


HALF-SIZE DRAWING

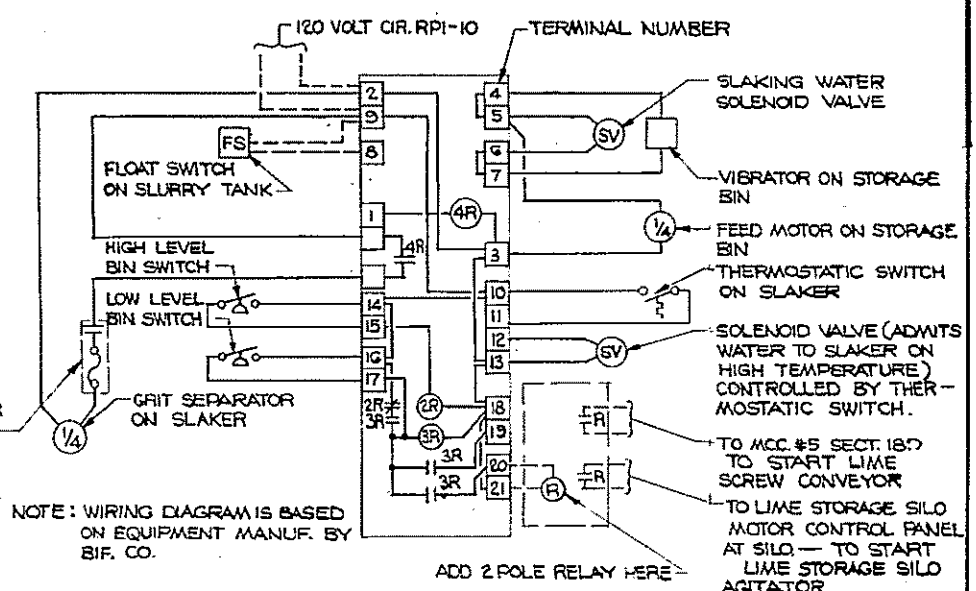
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.H. - 10
ELECTRICAL
FILTER BUILDING
MOTOR CONTROL CENTER ELEVATIONS AND DETAILS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DESIGNED BY: R.C. CAHILL
CHECKED BY: R.C. CAHILL
DRAWN BY: J.W. 83
APPROVED BY: J.M. Cahill
FILE NO. 182

CONTRACT DRAWING SHEET NO. 10E-15

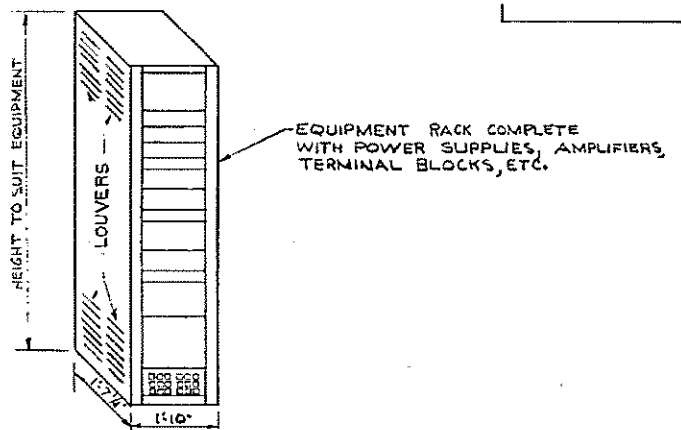


UNIT HEATER SCHEMATIC DIAGRAM
SCALE: NONE

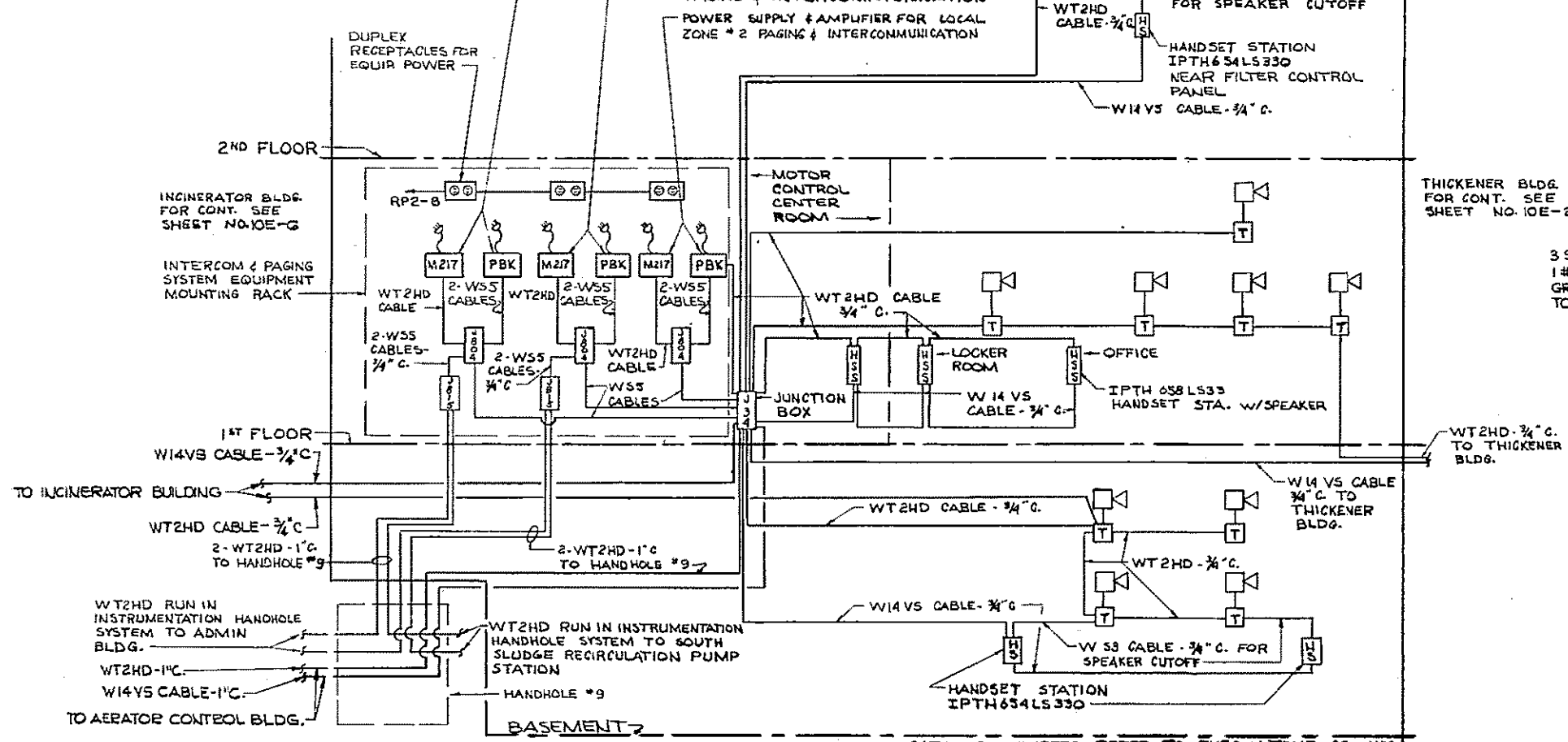


LIME SLAKER CONTROL
WIRING DIAGRAM

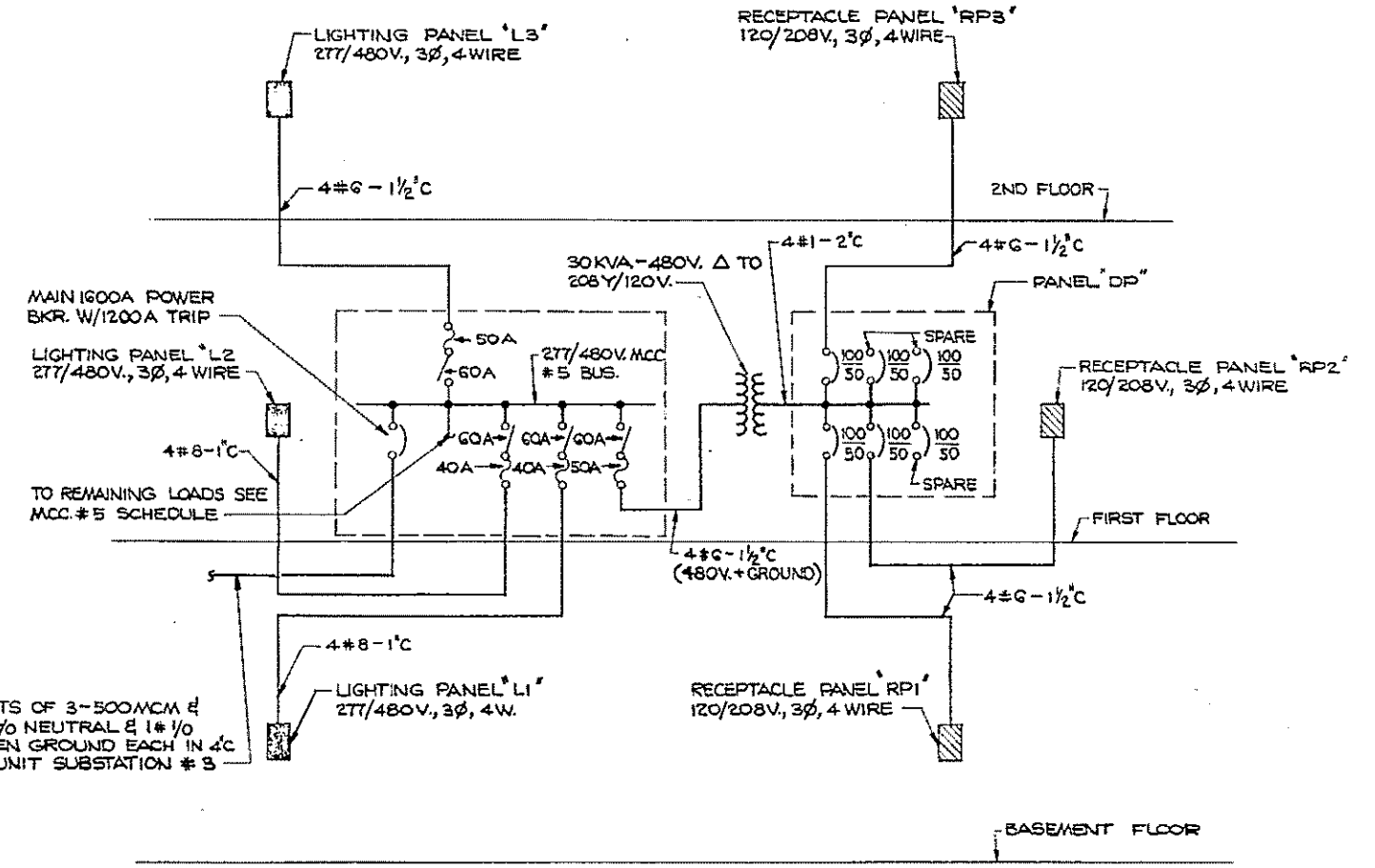
--- WIRING BY ELECTRICAL CONTRACTOR
--- WIRING BY SLAKER MANUFACTURER



INTERCOM & PAGING SYSTEM
EQUIPMENT MOUNTING RACK
SCALE: NONE



INTERCOM & PAGING SYSTEM
RISER DIAGRAM - FILTER BUILDING
SCALE: NONE



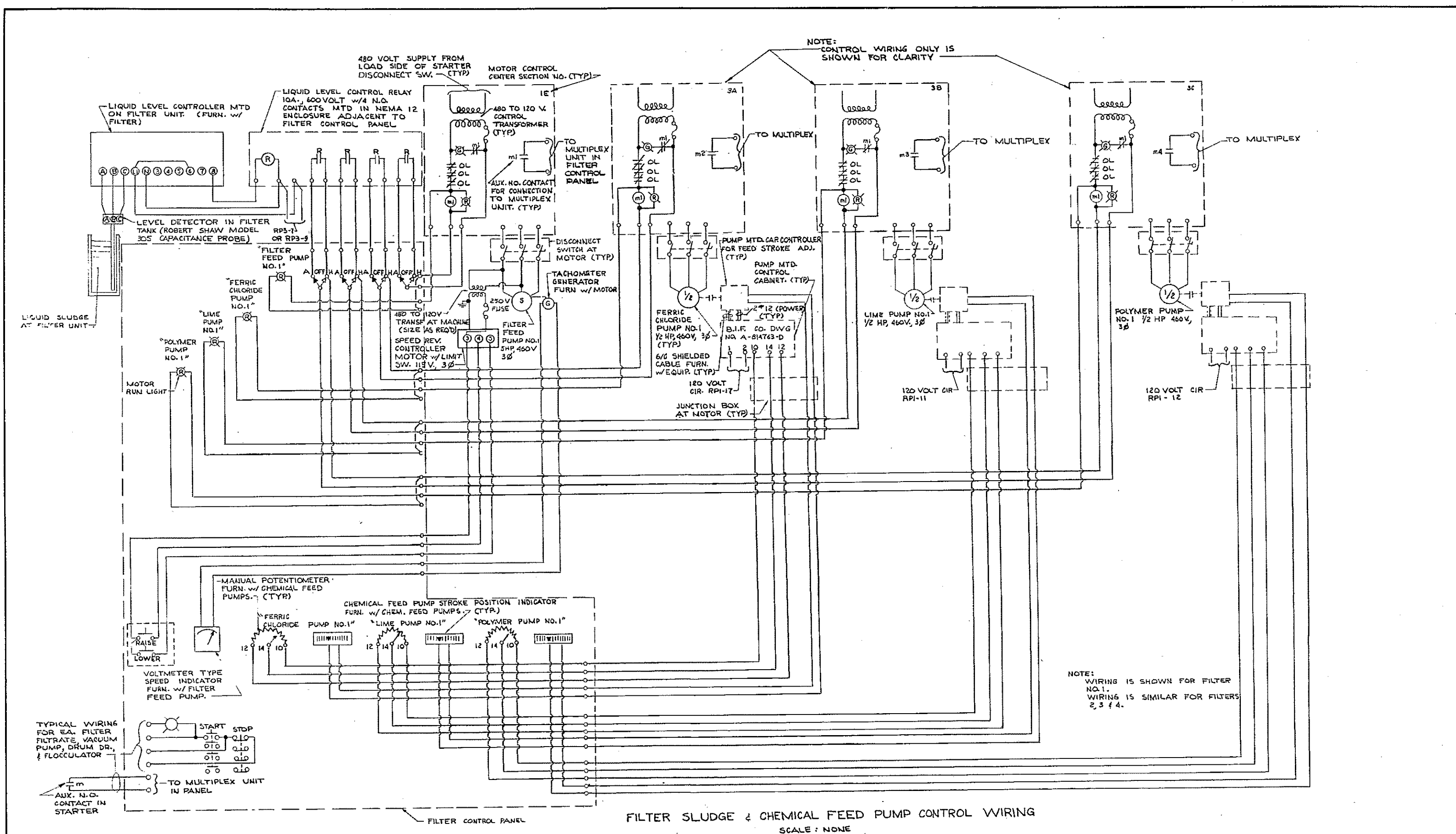
RISER DIAGRAM
SCALE: NONE

HALF-SIZE DRAWING

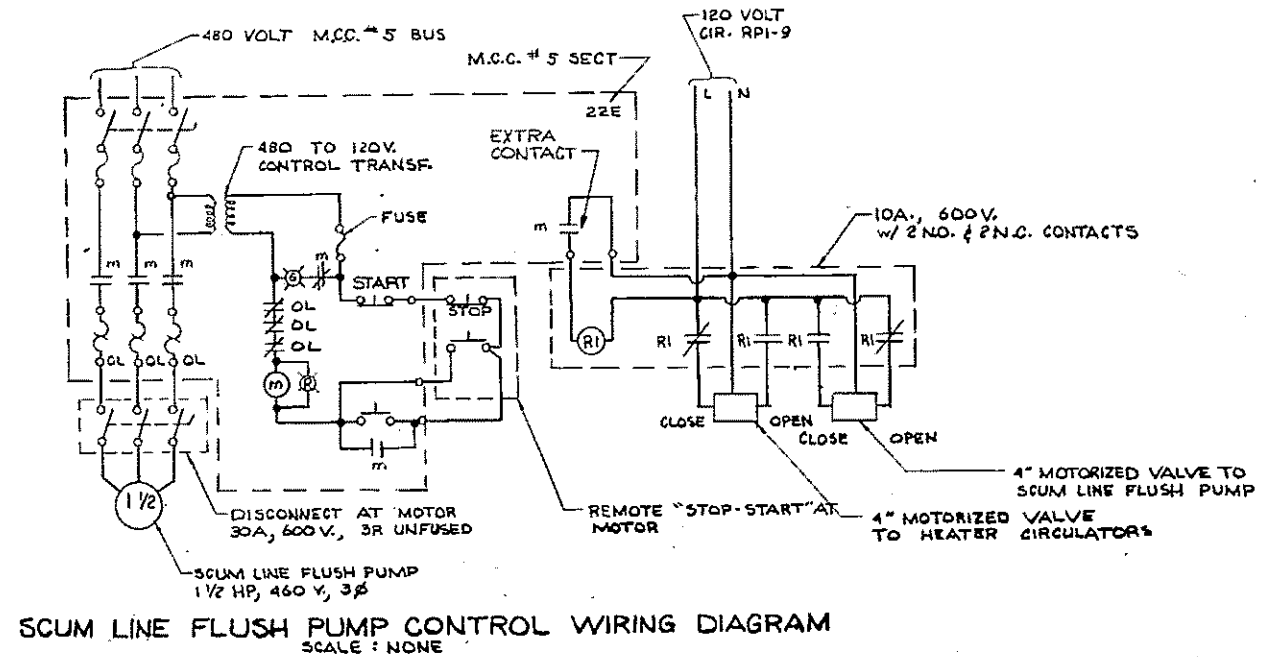
COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N. - 10 ELECTRICAL FILTER BUILDING MISCELLANEOUS WIRING DIAGRAMS - PART I SCALE: NONE FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS. DEC. G.C.U.-W.B.F. E. E. H. - U.G.H.				FEBRUARY 1972 JW-83 183	
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REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY





FILTER SLUDGE & CHEMICAL FEED PUMP CONTROL WIRING
SCALE: NONE



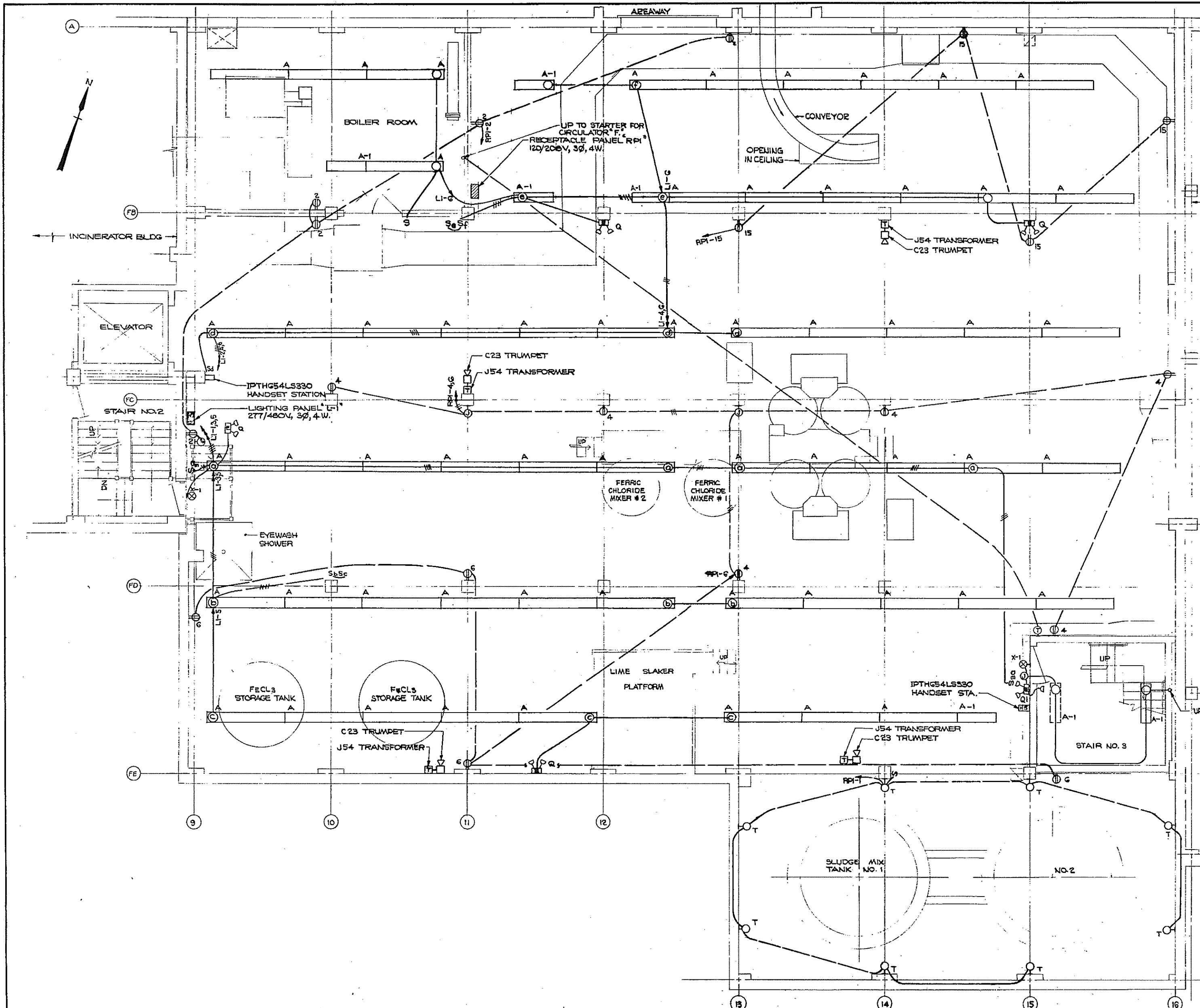
SCUM LINE FLUSH PUMP CONTROL WIRING DIAGRAM
SCALE: NONE

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. -10
ELECTRICAL
FILTER BUILDING
MISCELLANEOUS WIRING DIAGRAMS - PART II
SCALE: NONE
FEBRUARY 1975
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REG. EN. - W.S.F. JR. CHL. G.C.A. - W.B.F. JR. JW-83
APPROVED: J.M. Cahaly
184
CONTRACT DRAWING SHEET NO. 10E-17



PANEL "LI" SCHEDULE

N.P. V.A.	LOAD SERVED	277/480V., 3Ø, 4 WIRE	LOAD SERVED	V.A. V.P.
-	2200	LIGHTING BSM'T	1-2	2200
-	2200	LIGHTING BSM'T	3-4	2200
-	1700	LIGHTING BSM'T	5-6	1700
-	-	SPARE	7-8	-
-	-	SPARE	9-10	-
-	-	SPARE	11-12	-

1 POLE 20A. TRIP UNLESS OTHERWISE NOTED

CONNECTED V.A. 12,000

PANEL "RPI" SCHEDULE

N.P. V.A.	LOAD SERVED	120/208V., 3Ø, 4 WIRE	LOAD SERVED	V.A. V.P.
-	1600	L.T.G. SL. MIX TANKS	1-2	1600
1/8	506	H.T.G. CIRC. "A"	3-4	1200
1/8	830	H.T.G. CIRC. "C"	5-6	800
1/8	550	H.T.G. CIRC. "E"	7-8	100
-	100	MOTORIZED VALVES (2)	9-10	100
-	100	LINE PP. 162 CONTROL	11-12	100
-	100	LINE PP. 344 CONTROL	13-14	100
-	800	RECEPT. BASEMENT (4)	15-16	-
-	100	FERR. CHLOR. PP. 162 CONT.	17-18	100
-	100	FERR. CHLOR. PP. 344 CONT.	19-20	100
-	-	SPARE	21-22	-
-	50	SLUDGE MIX TANK LEAK CONTROL	23-24	100
-	-	SPARE	25-26	-
-	-	SPARE	27-28	-
-	-	SPARE	29-30	-

1 POLE 20A. TRIP UNLESS OTHERWISE NOTED

MAIN LUGS ONLY CONNECTED V.A. = 9,942

FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA	MTG. HGT.
A	MILLER	1M-2101-03	4 RS 40	11'-6" 1ST. FL.
A-1	MILLER	1M-2101-04	2 RS 40	13'-0" BSM'T.
R	MILLER	1M-2501-08	2 PG 215	21' - 0"
R-1	MILLER	1M-2501-04	2 PG 110	21' - 0"
T	CROUSE HINDS	YXB 12 6P	1 I 200	12' - 0"
C-1	MILLER	DB-4101-04E	4 RS 40	8' - 0"
J	McPHILBEN	3-205 E	1 PAR38 150	FLUSH
I	STEBER	SI-3002	2 PAR38 150	15' - 0"
Q	DUAL-LITE	AS-145-2-Y-COM	2 L-6VOLT 25	8' - 0"
K	MILLER	KT-2110-CB	4 RS 40	8' - 0"
K-1	MILLER	KT-2110-C4	2 RS 40	8' - 0"
W	McPHILBEN	43-93-SVTA	2 I 60	CEILING
X-1	DUAL-LITE	C-600STP 277 V.		ABOVE DOOR
Q-1	DUAL-LITE	AS-145-3-Y-COM	3 I-6 VOLT 25	8' - 0"
F	PASS & SEYMOUR	AL-2335	1 I 100	7' - 6"

* 277 VOLT INPUT
 ** BEHIND SIGN 2-1/2" V.O.C.
 2-15 W.A.C.

NOTE: SEE ALTERNATE FIXTURE MANUFACTURER'S LIST ON SHEET E-9.
 NOTE: FOR LEGEND SEE SHEET NO. 12E-2.

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

HALF-SIZE DRAWING

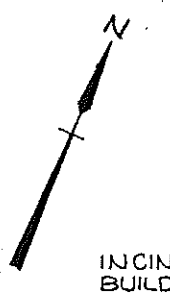
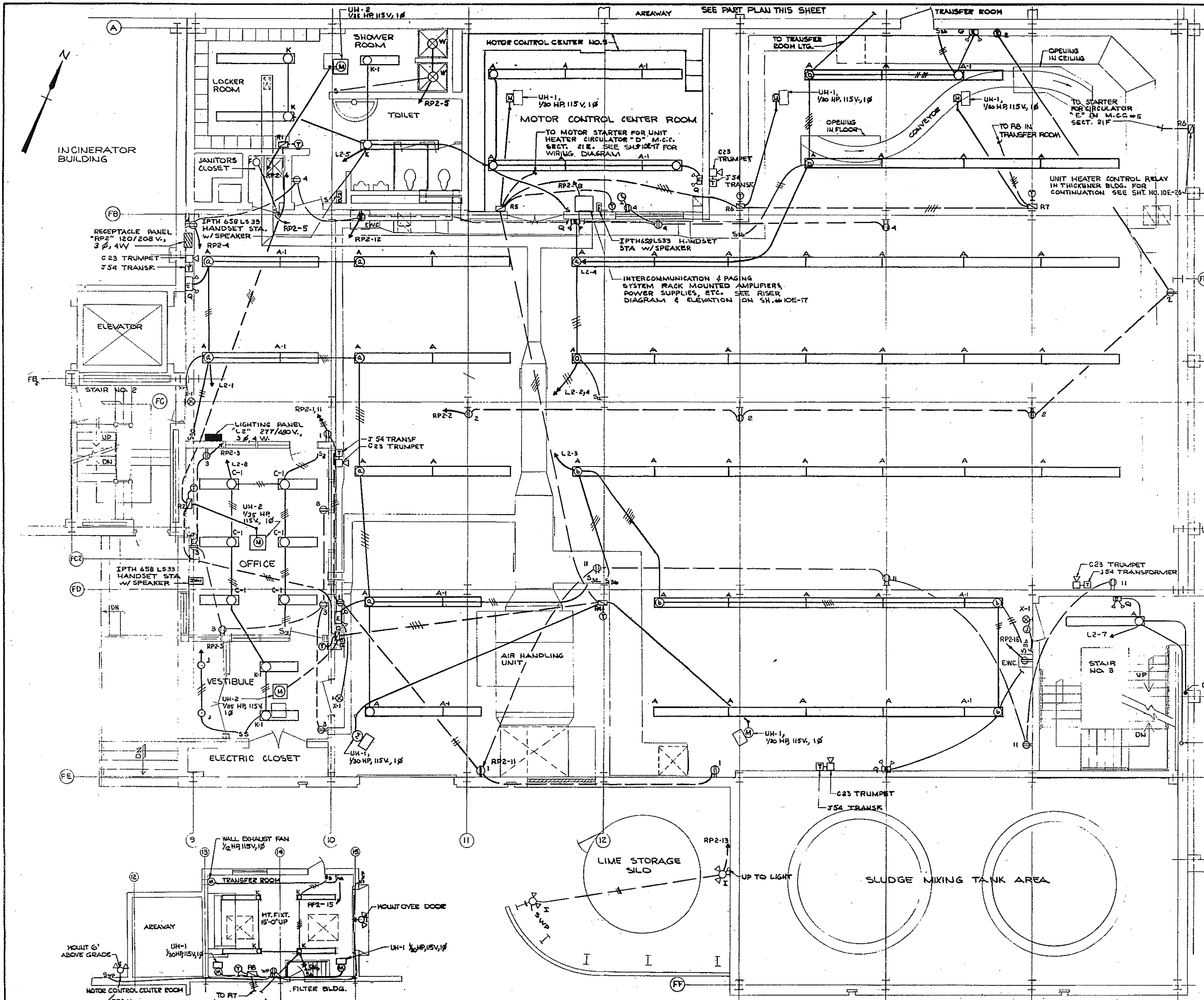
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX. F.N. - 10
 ELECTRICAL
 FILTER BUILDING
 LIGHTING - BASEMENT PLAN

SCALE: AS NOTED FEBRUARY, 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

APPROVED: *J. H. Cahaly* 185

CONTRACT DRAWING SHEET NO. 10E-18



INCINERATOR BUILDING

SEE PART PLAN THIS SHEET

V.A.	LOAD SERVED	120/208 V., 3 Ø, 4 WIRE	LOAD SERVED	V.A.
8942	RECEPTACLE PANEL "RP1"	32 1 2 3 4 5 6 7 8 9 10 11 12	SPARE	-
8922	RECEPTACLE PANEL "RP2"	32 1 2 3 4 5 6 7 8 9 10 11 12	SPARE	-
8951	RECEPTACLE PANEL "RP3"	32 1 2 3 4 5 6 7 8 9 10 11 12	SPARE	-

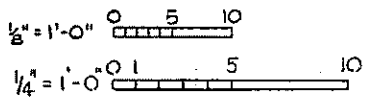
100 F 25,965
100 F 25,965
120/208 V. FROM LOAD SIDE OF 30 KVA.
3 Ø, 480∆ - 208Y/120 V. DISTRIBUTION TRANSFORMER.

V.A.	LOAD SERVED	277/480 V., 3 Ø, 4 WIRE	LOAD SERVED	V.A.
2600	LIGHTING PUMP ROOM	1 2 3 4 5 6 7 8 9 10 11 12	LIGHTING PUMP ROOM	2600
3200	LIGHTING PUMP ROOM	1 2 3 4 5 6 7 8 9 10 11 12	LIGHTING PUMP ROOM	-
1700	LIGHTING M.C.C. & TOLL	1 2 3 4 5 6 7 8 9 10 11 12	SPARE	-
800	LIGHTING STAIRWELL	1 2 3 4 5 6 7 8 9 10 11 12	L.T.O. OFFICE & VEST	1400
-	SPARE	1 2 3 4 5 6 7 8 9 10 11 12	SPARE	-
-	SPARE	1 2 3 4 5 6 7 8 9 10 11 12	SPARE	-

1 POLE 20A. TRIP
UNLESS OTHERWISE NOTED
100 F 13, 00
CONNECTED V.A. = 13, 00
#8, 1" C (277/480 V.)
FROM M.C.C. #5 SECT. 23B

H.P.	V.A.	LOAD SERVED	120/208 V., 3 Ø, 4 WIRE	LOAD SERVED	V.A.	H.P.
-	800	RECEPT. S. WALL (4)	1 2 3 4 5 6 7 8 9 10 11 12	RECEPT. CENTER (5)	1000	-
-	1200	RECEPT. OFFICE (6)	1 2 3 4 5 6 7 8 9 10 11 12	RECEPT. M.C.C. & TOLL	1000	-
-	540	L.T.G. SHOWER & ENTRANCE	1 2 3 4 5 6 7 8 9 10 11 12	UNIT FAN	1028	5.72
-	200	SHOWER & ENTRANCE	1 2 3 4 5 6 7 8 9 10 11 12	INTERCOM & PAGING	300	-
-	200	SHOWER & ENTRANCE	1 2 3 4 5 6 7 8 9 10 11 12	A.H.U. #3 MOTOR DAMP	100	-
-	800	RECEPT. (4)	1 2 3 4 5 6 7 8 9 10 11 12	WATER COOLER	554	1/5
-	900	L.T.G. LINE STORAGE	1 2 3 4 5 6 7 8 9 10 11 12	AREAWAY	-	-
-	252	WALL EXHAUST FAN	1 2 3 4 5 6 7 8 9 10 11 12	WATER	-	-
-	-	SPARE	1 2 3 4 5 6 7 8 9 10 11 12	SPARE	-	-

1 POLE 20A. TRIP
UNLESS OTHERWISE NOTED
CONNECTED V.A. = 13, 00
#8-1 1/2" C. FROM PANEL DP

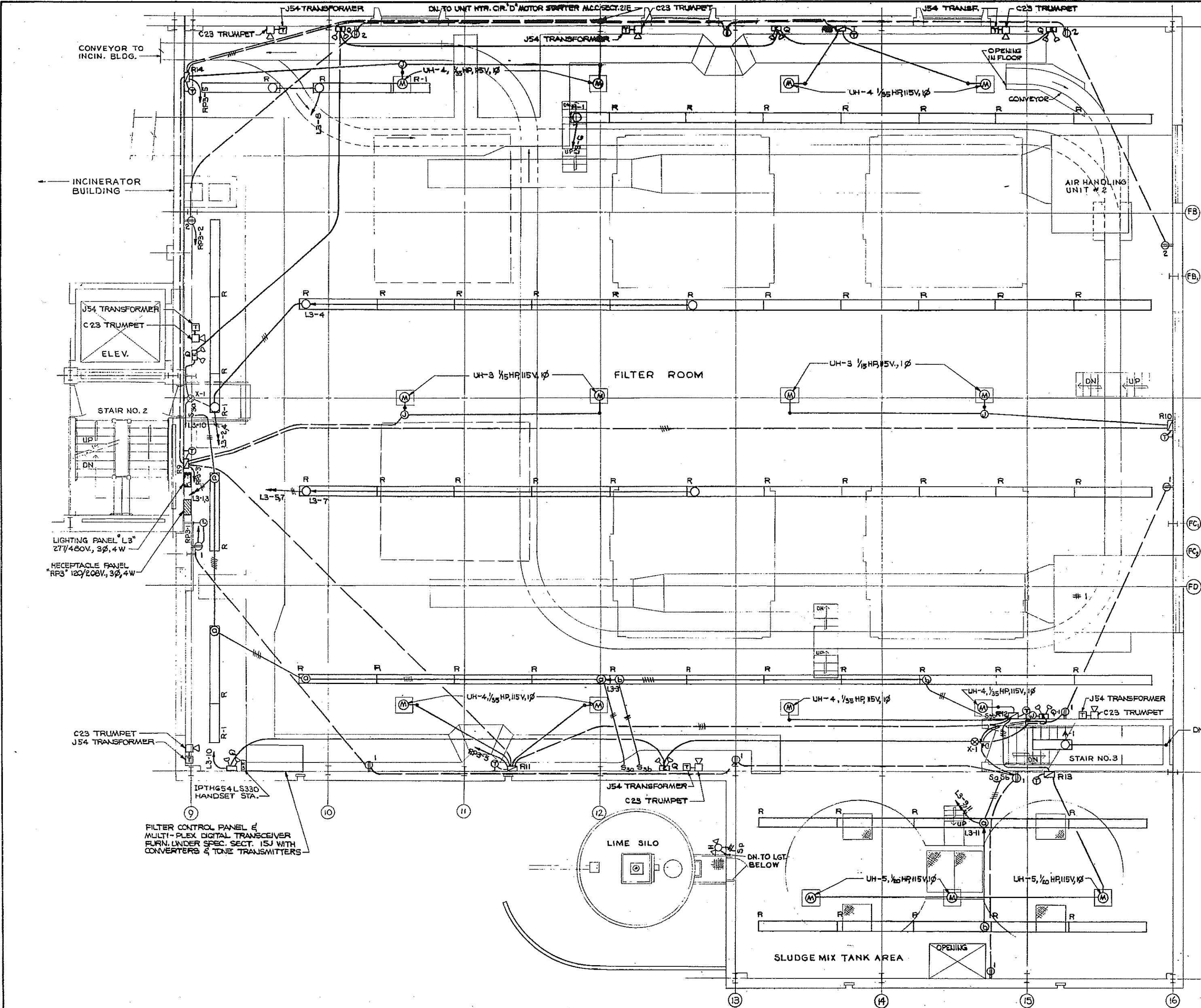


- NOTES:
- FOR FIXTURE SCHEDULE, SEE SHEET NO. LC-1B
 - FOR LEGENDS SEE SHEET NO. LC-2

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
FILTER BUILDING
LIGHTING - FIRST FLOOR PLAN
SCALE: AS NOTED PERIODICITY, 1972
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REG. C.E.I. - 4460
DR. M.S.H.
IN CHARGE - W.S.P.
JW-83
186'
CONTRACT DRAWING SHEET NO. 10E-19



PANEL "L3" SCHEDULE

H.P.	V.A.	LOAD SERVED	277/480V., 3Ø, 4 WIRE	LOAD SERVED	V.A.	H.P.
-	2965	LIGHTING FILT. RM.	1-5	LIGHTING FILT. RM.	3020	-
-	3185	LIGHTING FILT. RM.	3-5	LIGHTING FILT. RM.	2730	-
-	2275	LIGHTING FILT. RM.	5-5	LIGHTING FILT. RM.	3420	-
-	2730	LIGHTING FILT. RM.	8-5	LIGHTING FILT. RM.	1145	-
-	2275	LTG. SL. MIX THK.	9-5	EMER. LGTS.	400	-
-	2275	LTG. SL. MIX THK.	11-5	SPARE	-	-
-	-	SPARE	13-5	SPARE	-	-
-	-	SPARE	15-5	SPARE	-	-

1 POLE 20A. TRIP UNLESS OTHERWISE NOTED

CONNECTED V.A. = 26,820

4 EG. 1" C. (277/480V.) FROM M.C.C. #5 SECT. 23C

PANEL "RP3" SCHEDULE

H.P.	V.A.	LOAD SERVED	120/208V., 3Ø, 4 WIRE	LOAD SERVED	V.A.	H.P.
-	1400	RECEPT. (SOUTH SIDE)	1-5	RECEPT. (NORTH SIDE)	1000	-
4-17/28	1024	UNIT HTR. FANS	2-5	FILTER CONTROL PANEL	1000	-
8-17/33	1127	UNIT HTR. FANS	3-5	FILTER CONTROL PANEL	1000	-
-	400	FILTER NO. 1&2 CONTROL	7-5	FILTER CONTROL PANEL	1000	-
-	400	FILTER NO. 3&4 CONTROL	8-5	A/H UNITS 1 & 2 M.V.	100	-
-	-	SPARE	10-5	SPARE	-	-
-	-	SPARE	11-5	SPARE	-	-
-	-	SPARE	12-5	SPARE	-	-
-	-	SPARE	13-5	SPARE	-	-

1 POLE 20A. TRIP UNLESS OTHERWISE NOTED

CONNECTED V.A. = 8,351

HAIR LUGS ONLY

NOTES: FOR FIXTURE SCHEDULE SEE SHEET #10E-13
FOR LEGEND SEE SHEET #10E-2



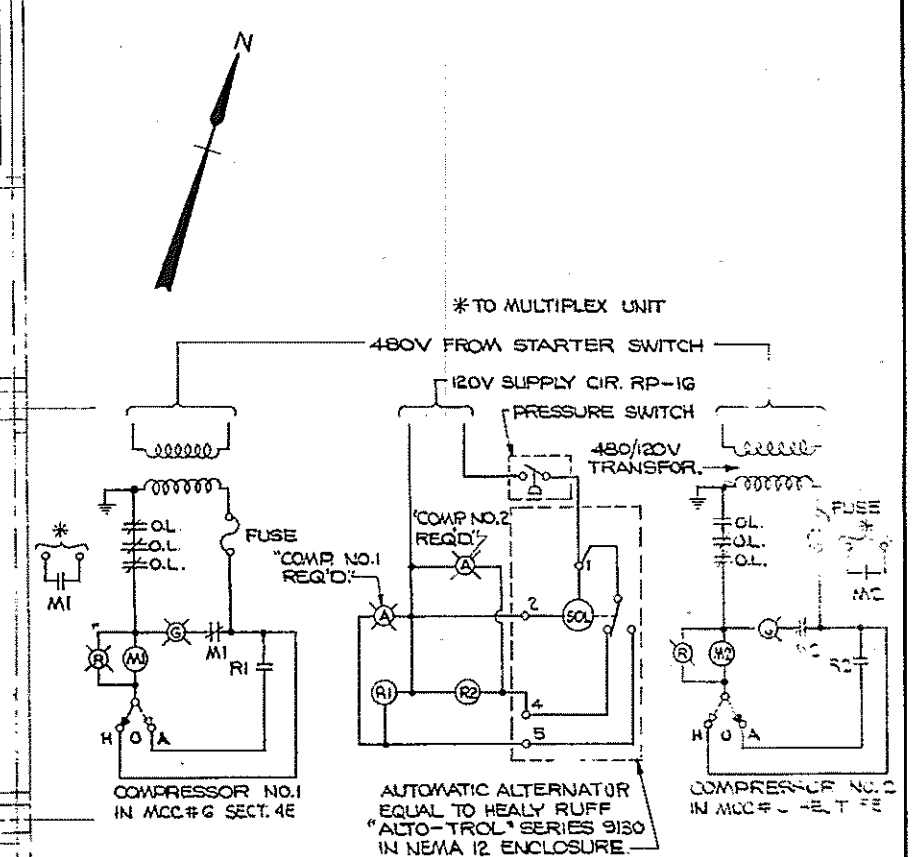
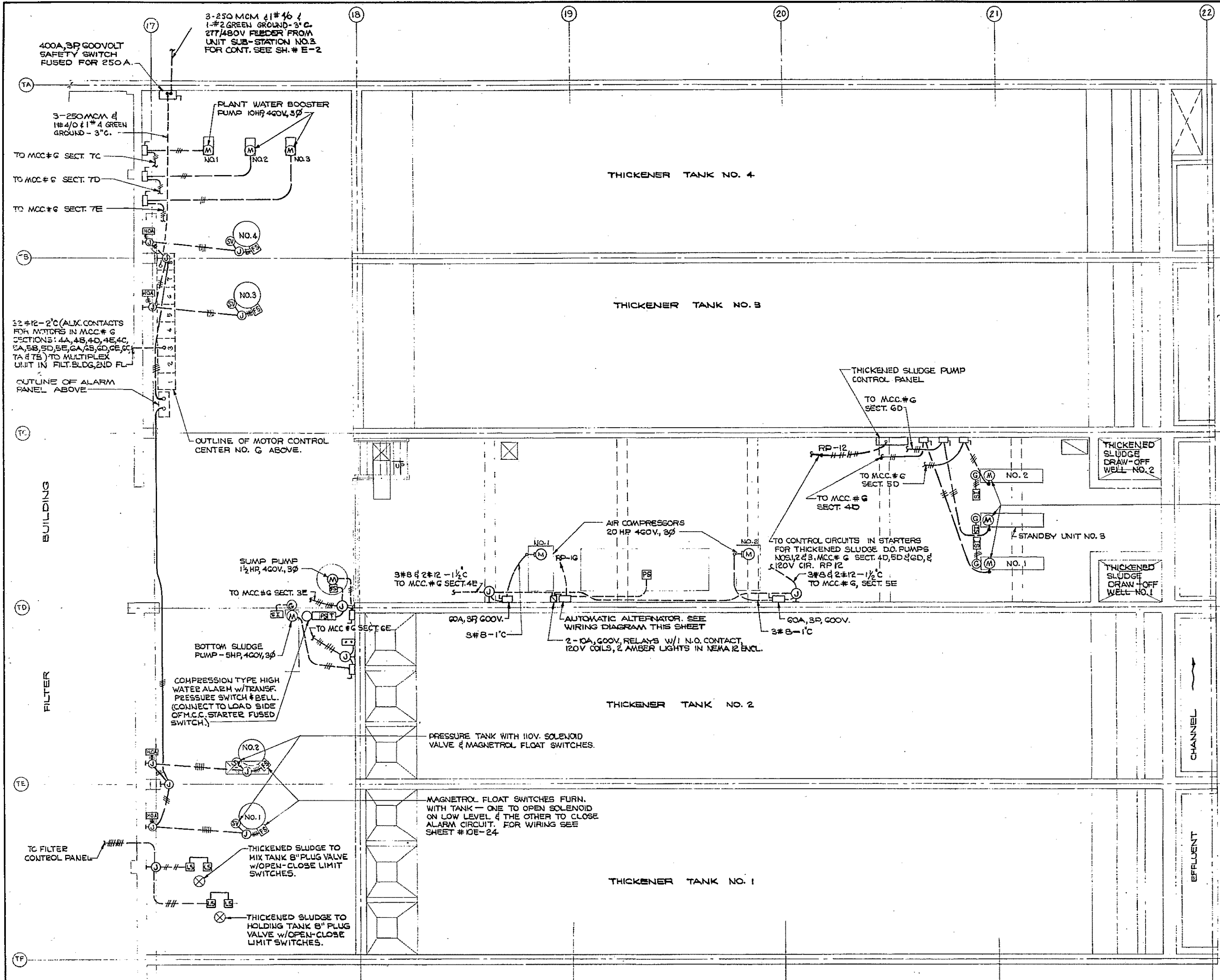
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
FILTER BUILDING
LIGHTING - SECOND FLOOR PLAN
SCALE: AS NOTED
FEBRUARY 1973

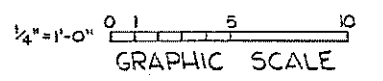
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
SCALE: AS NOTED
DESIGNED BY: W.B.F. TR. C.M.G.C.N.-W.B.F. DATE: JW-83
CHECKED BY: M.S.D. DATE: 187
APPROVED: J.M. Cahaly DATE: 187

CONTRACT DRAWING SHEET NO. 10E-20



COMPRESSOR WIRING DIAGRAM

- ELECTRICAL CONSTRUCTION NOTES:
- SERVICE TO THE BUILDING SHALL BE 277/480 VOLT, 3 PHASE, 4 WIRE.
 - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUN IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
 - WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT, AND WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 - FOR SITE PLAN, SEE SHEET NO. E-1 & E-2
 - FOR LEGEND, SEE SHEET NO. 12E-2



HALF-SIZE DRAWING

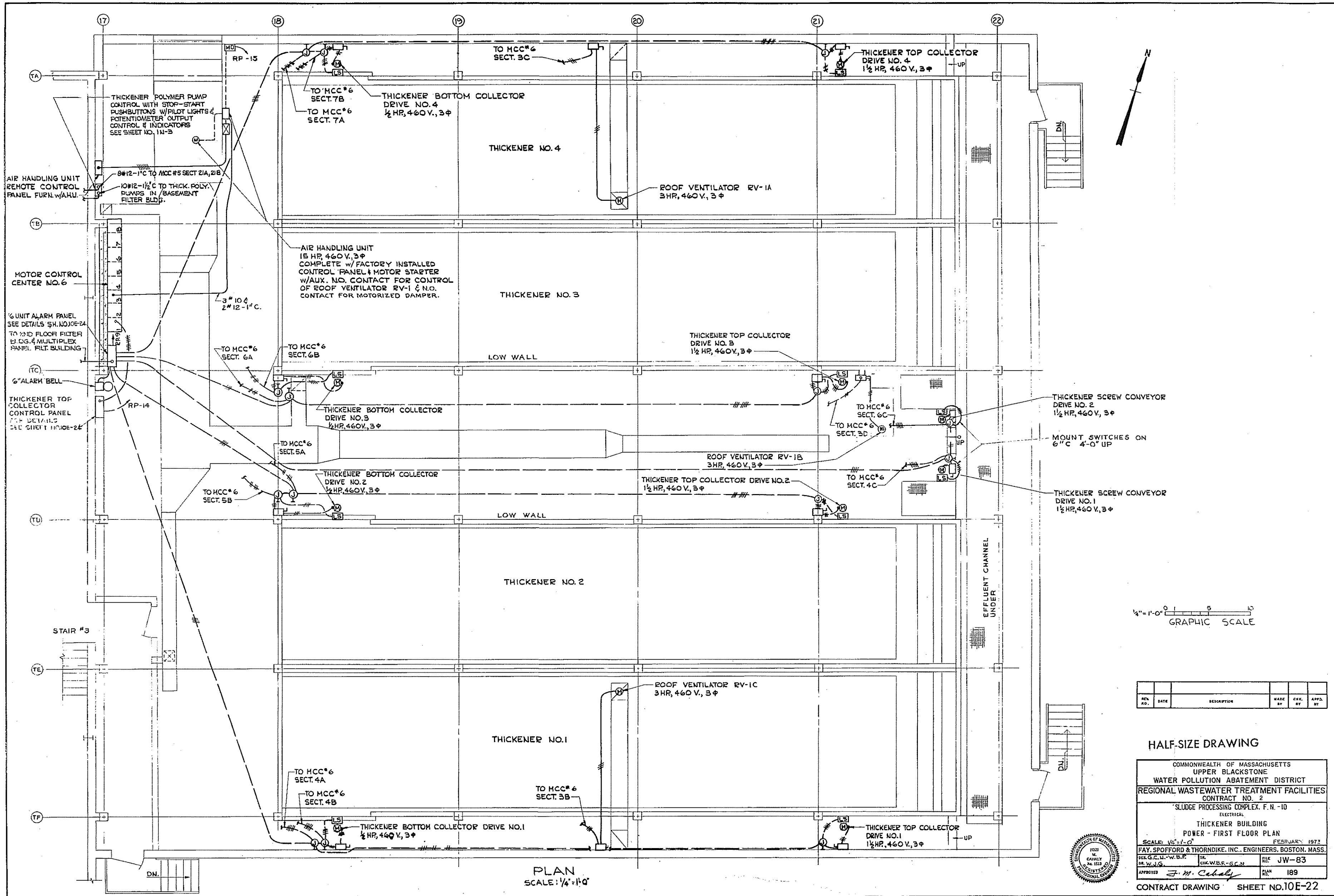
COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 SLUDGE PROCESSING COMPLEX, F.N. -10 ELECTRICAL THICKENER BUILDING POWER - BASEMENT PLAN			
SCALE: AS NOTED		FEBRUARY 1972	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. G. J. C. W. B. F.	DR. M. G. H.	CHK. W. E. F. G. E. N.	FILE NO. JW-83
APPROVED <i>J. M. Cahaly</i>			PLAN NO. 188

CONTRACT DRAWING SHEET NO. 10E-21

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

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY





1/4" = 1'-0" GRAPHIC SCALE

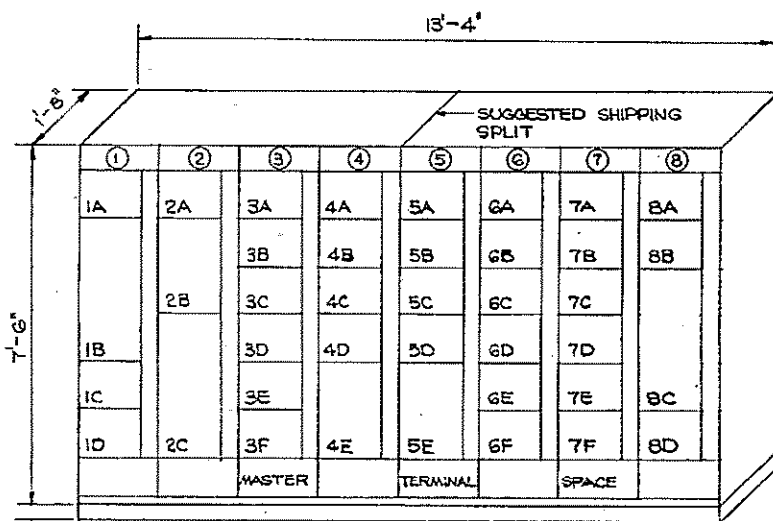
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F. N. - 10
 ELECTRICAL
 THICKENER BUILDING
 POWER - FIRST FLOOR PLAN
 SCALE: 1/4" = 1'-0" FEBRUARY, 1972
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. G.C.U. - W.B.P. TR. CH. W.B.F. - G.C.N. FILE NO. JW-83
 APPROVED *J. M. Cahaly* PER. 189



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



4" CONC. PAD.
SEE STRUCTURAL
SHEET NO. 25-3

MOTOR CONTROL CENTER NO. 6

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

S.S. = STOP-START PUSHBUTTON
H.O.A. = HAND-OFF-AUTOMATIC SELECTOR SWITCH

MOTOR CONTROL CENTER NO. 6 SCHEDULE (277/480 V. 3 Ø 4 W.)										
SECT. NO.	NAMEPLATE	HP	MDA SIZE	H.O.A.	S.S.	PILOT LOTS RED GREEN	MODIFICATIONS	FRAME	POLES	FUSE
1A	PANELBOARD "RP" MAIN	-	-	-	-	-	20 277/480 V. 3 Ø 4 W.	60	3	50
1B	PANELBOARD "RP"	-	-	-	-	-	20 277/480 V. 3 Ø 4 W.	-	-	-
1C	SPACE	-	-	-	-	-	-	-	-	-
1D	SPACE	-	-	-	-	-	-	-	-	-
2A	LIGHTING PANELBOARD MAIN	-	-	-	-	-	27.9 KVA	60	3	50
2B	LIGHTING PANELBOARD	-	-	-	-	-	12 CIRCUIT - 277/480 V. 3 Ø 4 W.	-	-	-
2C	208Y/120 V. TRANSFORMER, 15 KVA	-	-	-	-	-	480 TO 208Y/120 V. 3 Ø 4 W. WITH 2-2 1/2" TAPS IN 400 54 AND WITH MAIN FUSIBLE SWITCH	-	-	-
3A	AIR HANDLING UNIT	15	-	-	-	-	REMOTE STARTER FURNISHED WITH THIS	60	3	60
3B	ROOF VENTILATOR RV-1A	3	1	-	-	-	SEE NOTE B	-	-	-
3C	ROOF VENTILATOR RV-1B	3	1	-	-	-	SEE NOTE B	-	-	-
3D	ROOF VENTILATOR RV-1C	3	1	-	-	-	SEE NOTE B	-	-	-
3E	PUMP	1-1/2	1	-	-	-	REMOTE FLOAT SWITCH	-	-	-
3F	SPACE	-	-	-	-	-	-	-	-	-
4A	THICKENER TOP COLLECTOR DRIVE NO. 1	1-1/2	1	-	-	-	SEE NOTES D, E & F	-	-	-
4B	THICKENER BOTTOM COLLECTOR DRIVE NO. 1	1-1/2	1	-	-	-	SEE NOTES E & F	-	-	-
4C	THICKENER SCREW CONVEYOR DRIVE NO. 1	1-1/2	1	-	-	-	SEE NOTES D, E & F	-	-	-
4D	THICKENED SLUDGE DRAW-OFF PUMP NO. 1	5	1	-	-	-	SEE NOTES C & F	-	-	-
4E	AIR COMPRESSOR NO. 1	20	2	-	-	-	REMOTE F.S. & ALTERNATOR SEE SHEET 10 FOR WIRING SEE NOTE E	-	-	-
5A	THICKENER TOP COLLECTOR DRIVE NO. 2	1-1/2	1	-	-	-	SEE NOTE D, E & F	-	-	-
5B	THICKENER BOTTOM COLLECTOR DRIVE NO. 2	1-1/2	1	-	-	-	SEE NOTE E & F	-	-	-
5C	SPACE	-	-	-	-	-	-	-	-	-
5D	THICKENED SLUDGE DRAW-OFF PUMP NO. 2	5	1	-	-	-	SEE NOTE C & F	-	-	-
5E	AIR COMPRESSOR NO. 2	20	2	-	-	-	REMOTE F.S. & ALTERNATOR SEE SHEET 10 FOR WIRING SEE NOTE E	-	-	-
6A	THICKENER TOP COLLECTOR DRIVE NO. 3	1-1/2	1	-	-	-	SEE NOTE D, E & F	-	-	-
6B	THICKENER BOTTOM COLLECTOR DRIVE NO. 3	1-1/2	1	-	-	-	SEE NOTES E & F	-	-	-
6C	THICKENER SCREW CONVEYOR DRIVE NO. 2	1-1/2	1	-	-	-	SEE NOTE D, E & F	-	-	-
6D	THICKENED SLUDGE DRAW-OFF PUMP NO. 3	5	1	-	-	-	SEE NOTE C & F	-	-	-
6E	THICKENED BOTTOM SLUDGE DRAW-OFF PUMP	5	1	-	-	-	REMOTE F.S. ALSO SEE NOTE F	-	-	-
6F	SPACE	-	-	-	-	-	-	-	-	-
7A	THICKENER TOP COLLECTOR DRIVE NO. 4	1-1/2	1	-	-	-	SEE NOTE D, E & F	-	-	-
7B	THICKENER BOTTOM COLLECTOR DRIVE NO. 4	1-1/2	1	-	-	-	SEE NOTE E & F	-	-	-
7C	PLANT WATER BOOSTER PUMP NO. 1	10	1	-	-	-	SEE NOTE E & F	-	-	-
7D	PLANT WATER BOOSTER PUMP NO. 2	10	1	-	-	-	-	-	-	-
7E	PLANT WATER BOOSTER PUMP NO. 3	10	1	-	-	-	-	-	-	-
7F	SPACE	-	-	-	-	-	-	-	-	-
8A	SPACE	-	-	-	-	-	-	-	-	-
8B	SPACE	-	-	-	-	-	-	-	-	-
8C	MAIN INCOMING SERVICE	-	-	-	-	-	-	100	3	250
8D	SPACE	-	-	-	-	-	-	-	-	-

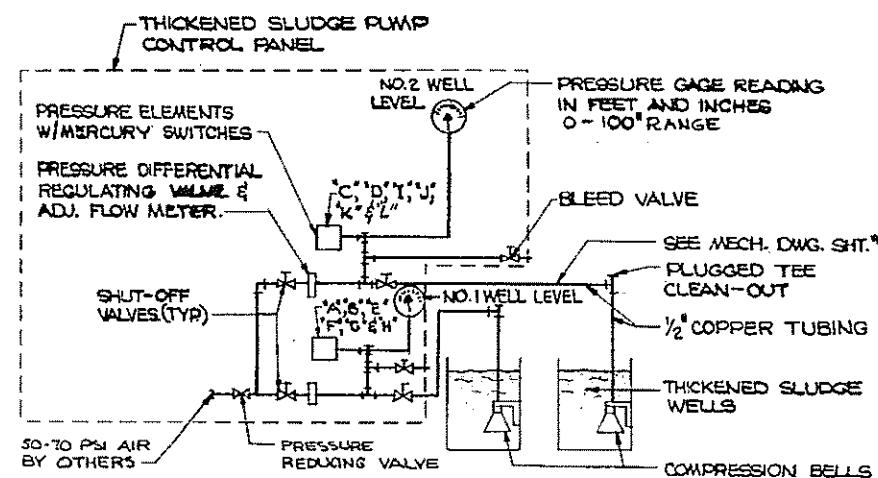
MOTOR CONTROL CENTER NOTES:

- FURNISH ALL STARTERS WITH FUSED 480 TO 120 VOLT CONTROL TRANSFORMER.
- FURNISH 1 EXTRA N.O. CONTACT. SEE WIRING DIAGRAM THIS SHEET.
- CONTROLLED THROUGH REMOTE RELAY, BUBBLER OPERATED. SEE WIRING DIAGRAM THIS SHEET.
- THICKENER TOP COLLECTOR DRIVES SHALL BE CONTROLLED BY REPEAT CYCLE TIMERS. PROVIDE ONE EXTRA N.O. CONTACT IN EACH STARTER AND PARALLEL CONTACTS IN EACH STARTER FOR DRIVES NO. 1 AND 2 TO CONTROL THICKENER SCREW COLLECTOR DRIVE NO. 1 AND PARALLEL CONTACTS IN EACH STARTER FOR DRIVES NO. 3 AND 4 TO CONTROL THICKENER SCREW COLLECTOR DRIVE NO. 2. SEE SHEET 10-26 FOR WIRING.
- MOTORS WILL ALSO BE STOPPED THROUGH REMOTE SHEAR PIN LIMIT SWITCHES ON DRIVE MECHANISM.
- PROVIDE 1 EXTRA N.O. AUX. CONTACT FOR MOTOR RUN SIGNAL TO MULTIPLEX UNIT IN FILTER BUILDING 2ND FLOOR.
- ALL FUSES SHALL BE CLASS "J" OR "L" AS REQ'D.

PUMP CONTROL ELEVATIONS		
EQUIPMENT CONTROLLED	START	STOP
THICKENED SLUDGE DRAWOFF PUMP #1	425.75 A	422.00 B
	#2 425.75 C	422.00 D
LOW LEVEL ALARM WET WELL #1		E F
HIGH		H G
LOW	#2	I J
HIGH	#2	L K

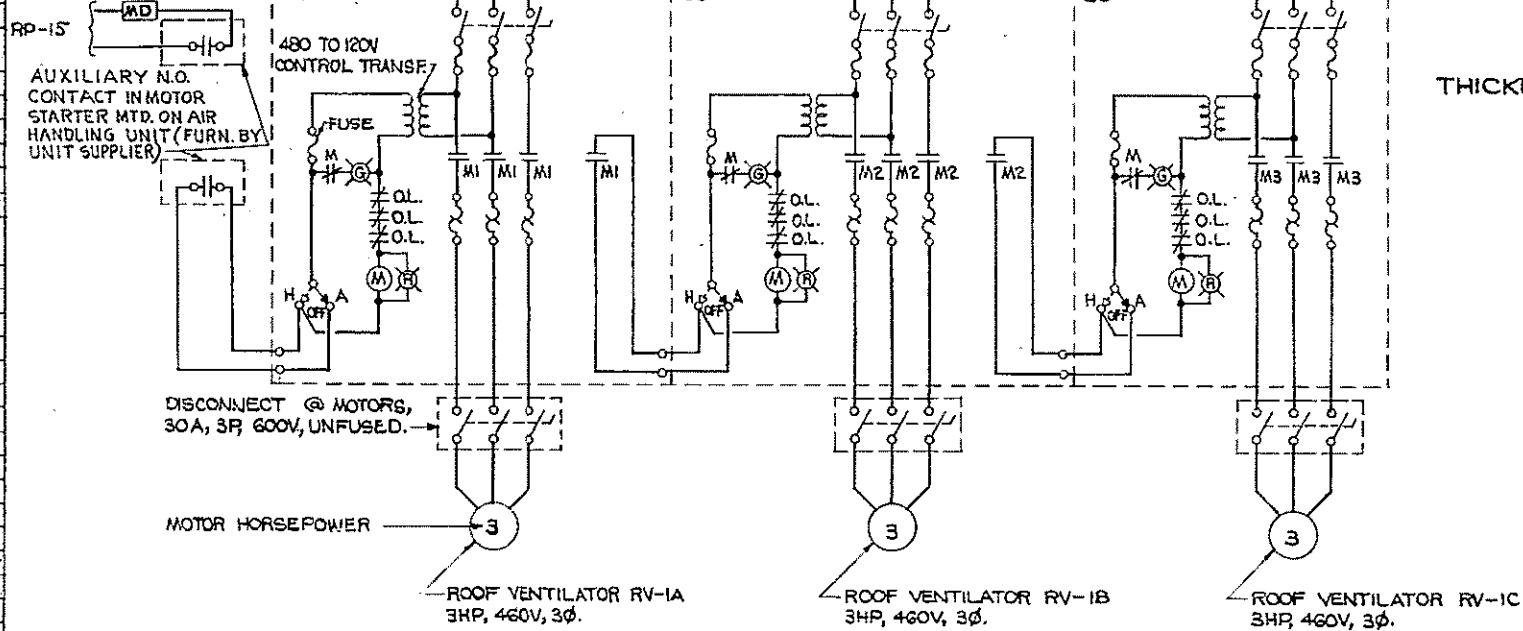
PRESSURE SWITCH DESIGNATIONS

SELECTOR SWITCH SEQUENCE SCHEDULE		
NAMEPLATE	POS.	CONTACTS
PUMP NO. 3 STANDBY FOR PUMP NO. 1	1	1
PUMP NO. 3 STANDBY FOR PUMP NO. 2	2	2

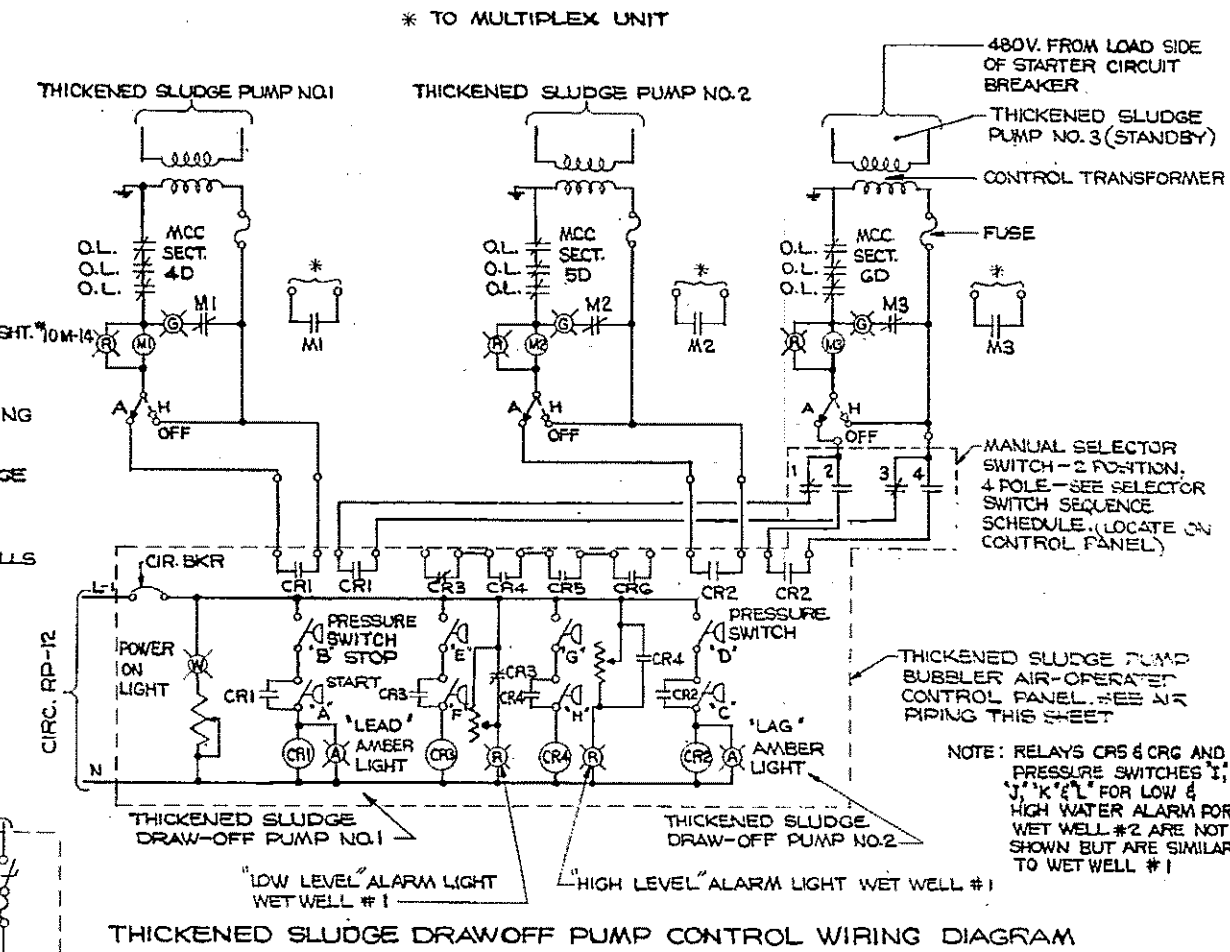


PUMP CONTROLLER PIPING FOR THICKENED SLUDGE DRAWOFF PUMPS
SCALE: NONE

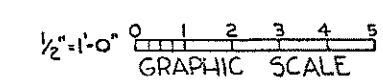
MOTOR CONTROL CENTER SECTION NUMBER 35B



ROOF VENTILATOR WIRING DIAGRAM
SCALE: NONE



THICKENED SLUDGE DRAWOFF PUMP CONTROL WIRING DIAGRAM
SCALE: NONE



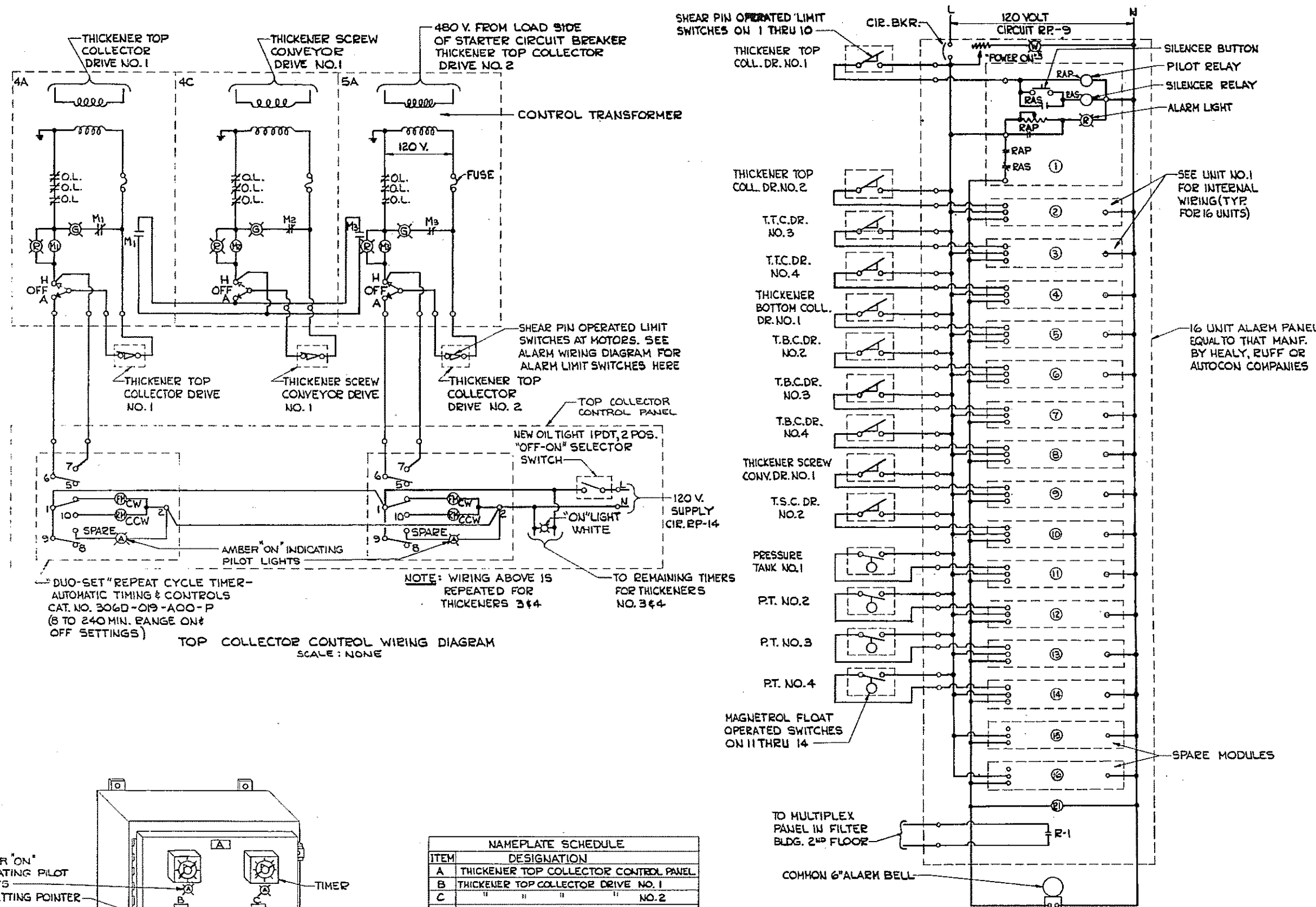
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
THICKENER BUILDING
MOTOR CONTROL CENTER ELEVATIONS AND DETAILS
SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.C.N.-W.B.F. TR. G.C.N.-W.B.F. REC. JW-83
APPROVED *J.M. Cahaly* PLAN NO. 190

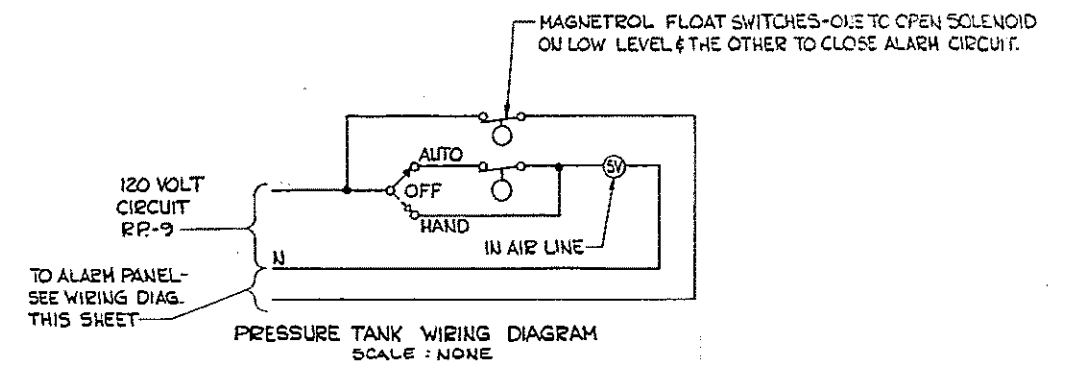
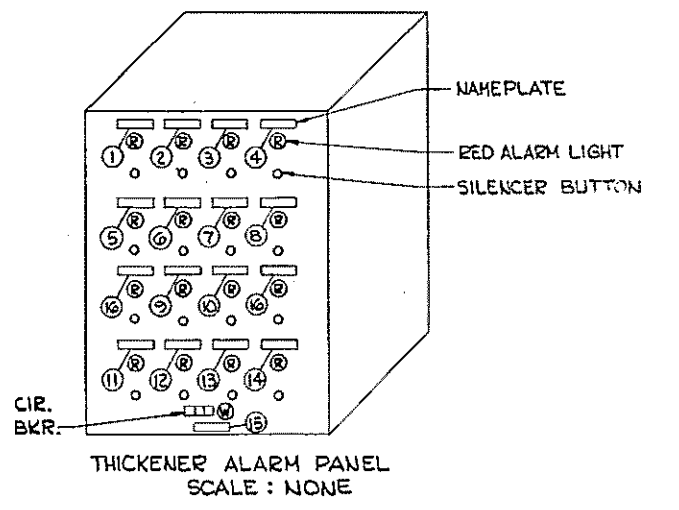
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



CONTRACT DRAWING SHEET NO. 10E-23

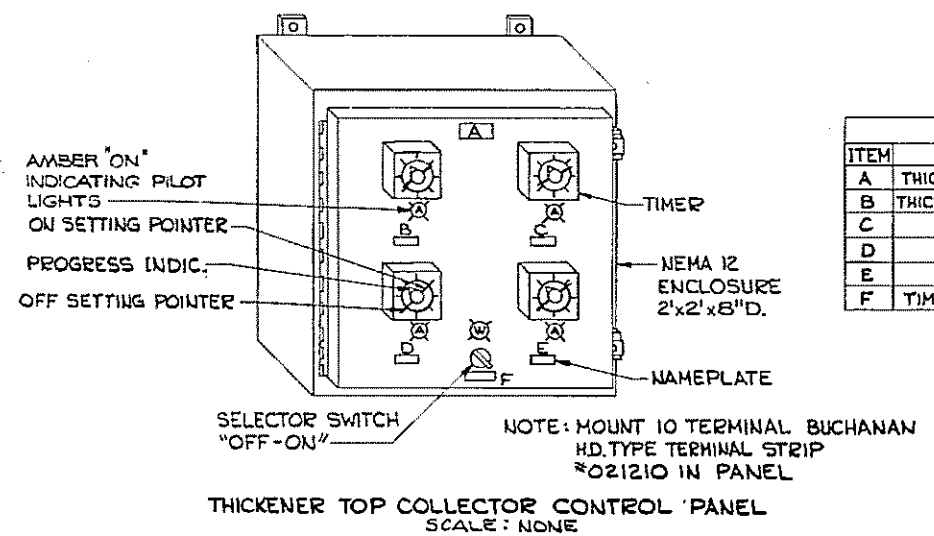


NAMEPLATE SCHEDULE	
ITEM	DESIGNATION
1	THICKENER TOP COLLECTOR DRIVE NO. 1
2	" " " " NO. 2
3	" " " " NO. 3
4	" " " " NO. 4
5	THICKENER BOTTOM COLLECTOR DRIVE NO. 1
6	" " " " NO. 2
7	" " " " NO. 3
8	" " " " NO. 4
9	THICKENER SCREW CONVEYOR DRIVE NO. 1
10	" " " " NO. 2
11	PRESSURE TANK NO. 1 HIGH LEVEL
12	" " NO. 2 " "
13	" " NO. 3 " "
14	" " NO. 4 " "
15	POWER ON
16	BLANK UNITS



DUO-SET "REPEAT CYCLE TIMER - AUTOMATIC TIMING & CONTROLS CAT. NO. 306D-019-A00-P (8 TO 240 MIN. RANGE ON# OFF SETTINGS)

TOP COLLECTOR CONTROL WIRING DIAGRAM SCALE: NONE



NAMEPLATE SCHEDULE	
ITEM	DESIGNATION
A	THICKENER TOP COLLECTOR CONTROL PANEL
B	THICKENER TOP COLLECTOR DRIVE NO. 1
C	" " " " NO. 2
D	" " " " NO. 3
E	" " " " NO. 4
F	TIMER POWER SUPPLY

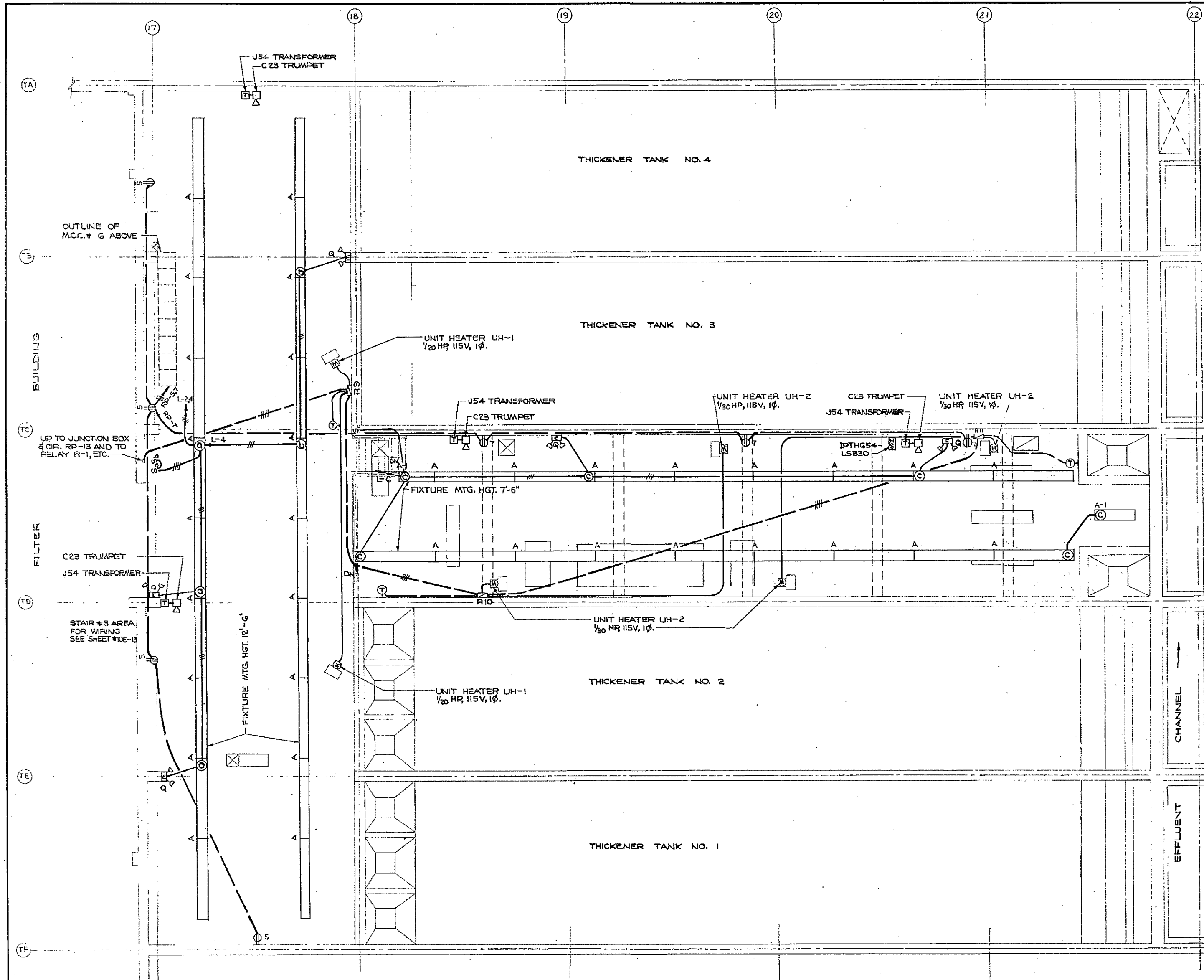
THICKENER ALARM PANEL WIRING DIAGRAM SCALE: NONE

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F.N. - 10
ELECTRICAL
THICKENER BUILDING
MISCELLANEOUS WIRING DIAGRAMS AND DETAILS
SCALE: AS NOTED
FEBRUARY 1977
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
D.R. G.C.N.-W.B.F. IN. CHG. G.C.N.-W.B.F. FILE NO. JW-83
APPROVED *F. M. Cahaly* 191

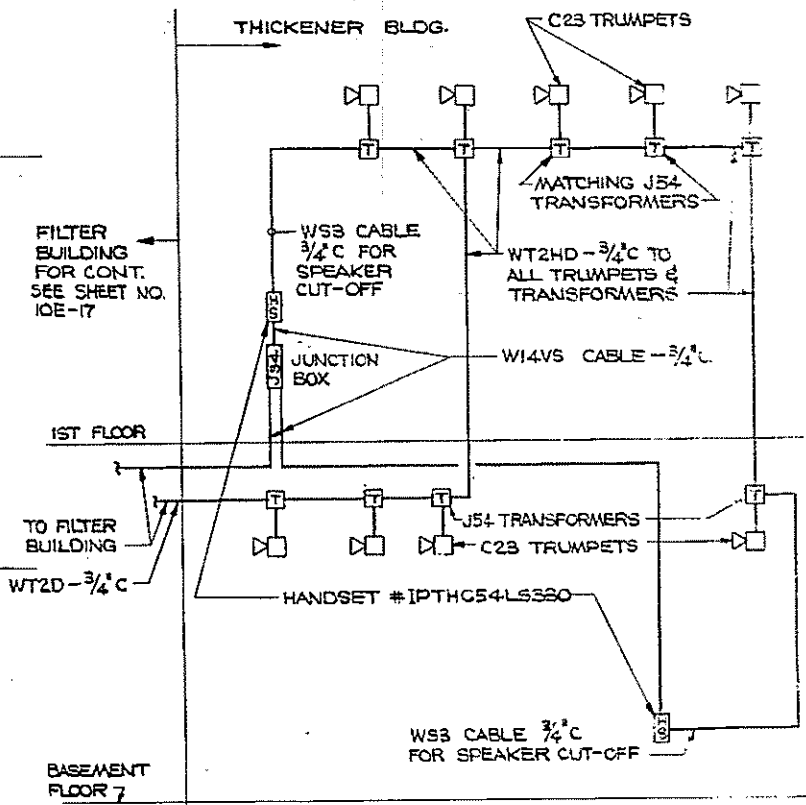
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY



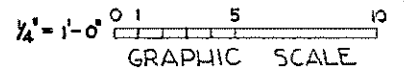


FIXTURE SCHEDULE					
TYPE	MANUFACTURER	CATALOG NO.	NO.	LAMP DATA TYPE WATTS	HGT. HGT.
A	MILLER	1M-2101-08 #	4	RS 40	SEE DWGS.
A-J	MILLER	1M-2101-04 #	2	RS 40	SEE DWGS.
G	McPHILBEN	66-21VTB	1	T 150	7'-0"
H	STEBER	SS-3332-A	2	PAR38 150	9'-0"
Q	DUALITE	AS-145-2-V-4-MQW	2	I-6VOLT 25	8'-0"
Q-1	DUALITE	AS-145-3-V-4-MQW	3	I-4VOLT 25	8'-0"
X-1	DUALITE	C-600-STP-27V #	#		OVER DOOR

** BEHIND SIGN 2-5 1/2 W.D.C. & 2-11 1/2 W.A.C.
 277 VOLT INPUT
 * FOR ALTERNATE FIXTURE MANUFACTURERS
 SEE SHEET NO. E-9



INTERCOMMUNICATIONS & PAGING SYSTEM
 RISER DIAGRAM
 SCALE: NONE



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

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 SLUDGE PROCESSING COMPLEX, F.N. -10
 ELECTRICAL

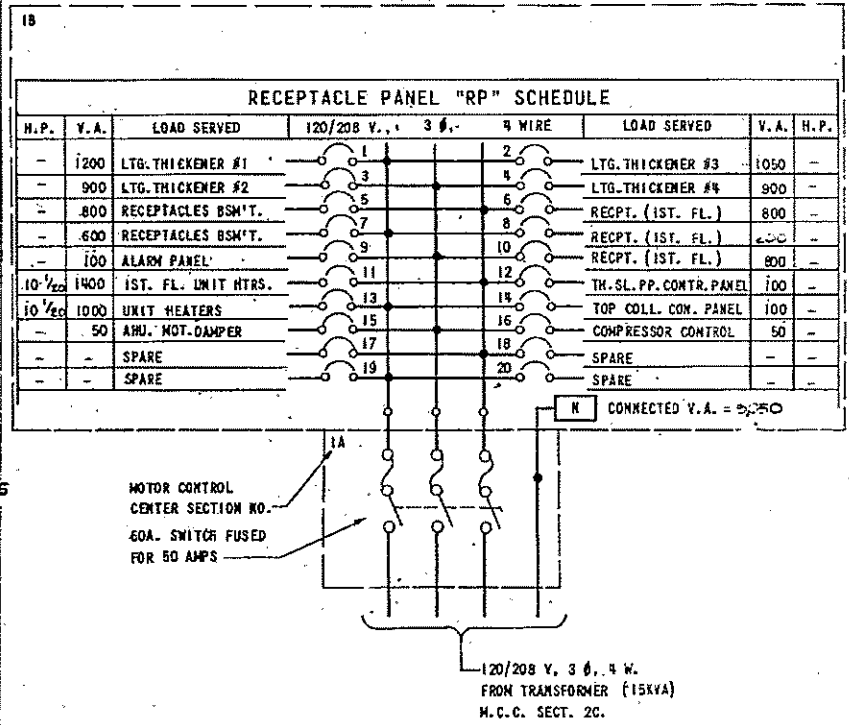
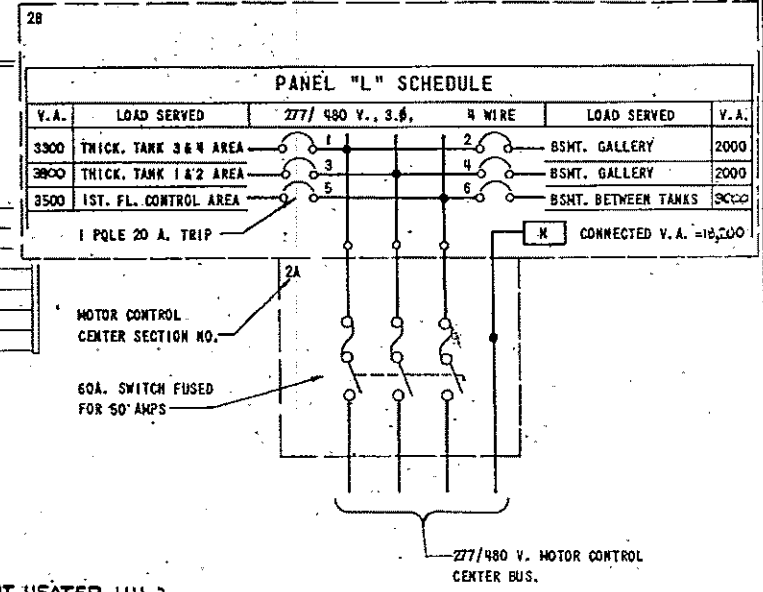
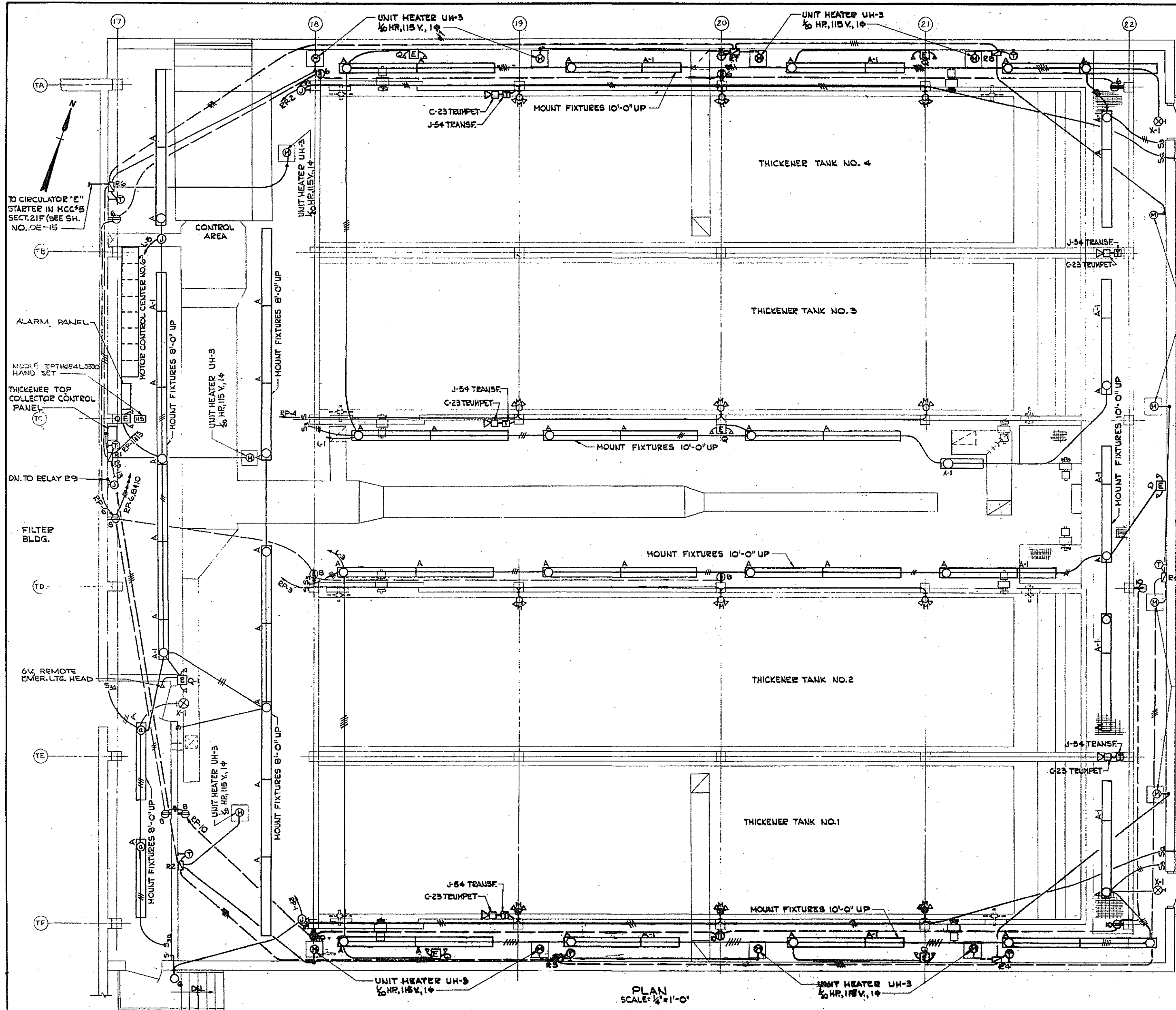
THICKENER BUILDING
 LIGHTING - BASEMENT PLAN

SCALE AS NOTED FEBRUARY 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DESIGNER: W.B.F. TEL. CHE. G.C.N. - W.B.F. FILE NO. JW-83
 DRAWN BY: J.M.C. PLAN NO. 192

CONTRACT DRAWING SHEET NO. 10E-25



1/4" = 1'-0" GRAPHIC SCALE

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

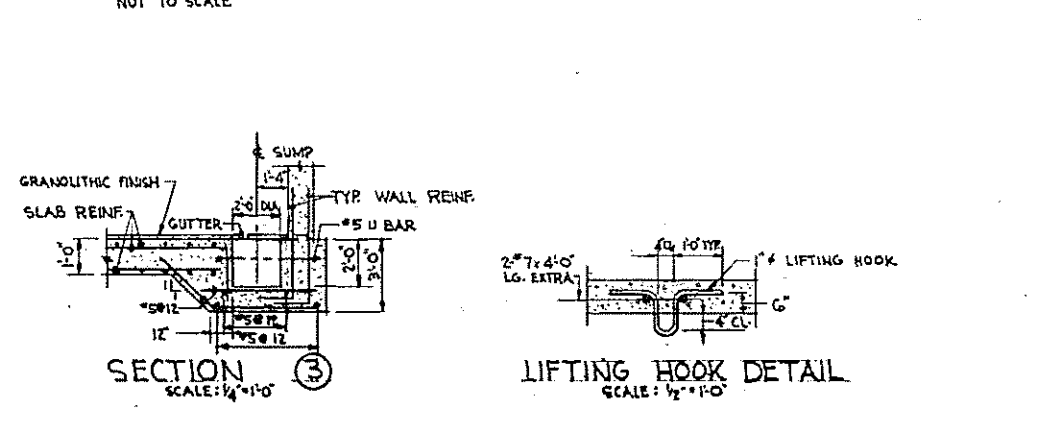
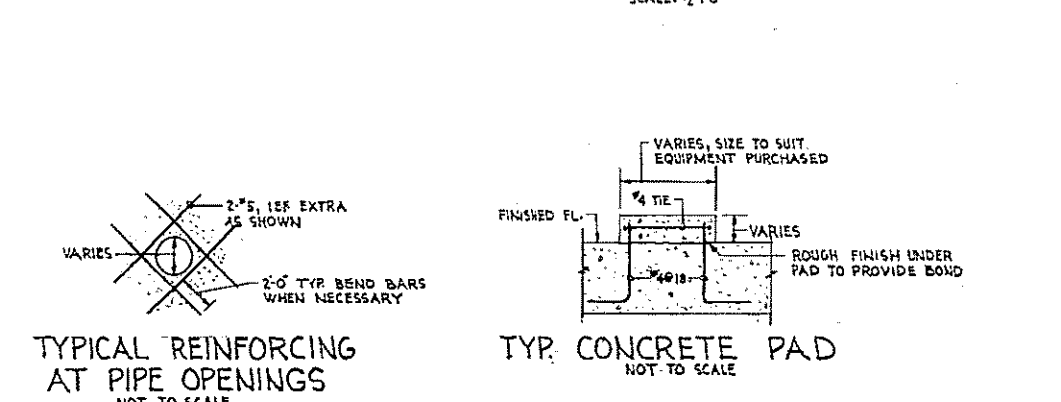
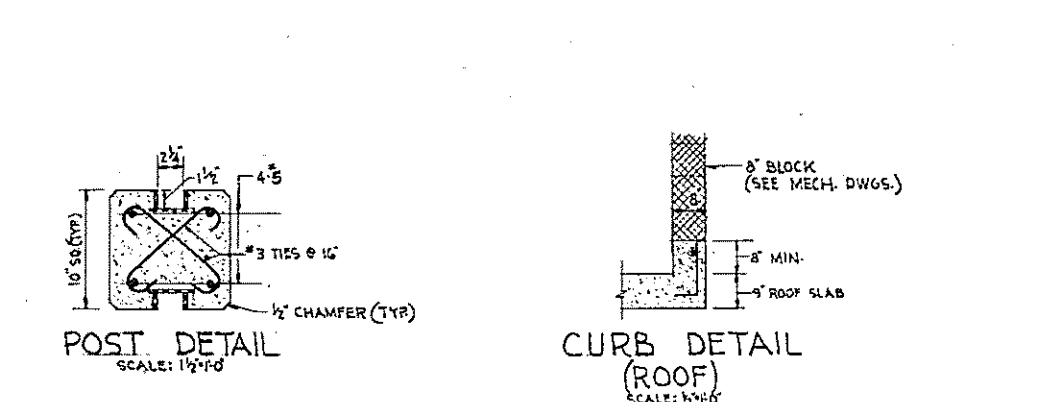
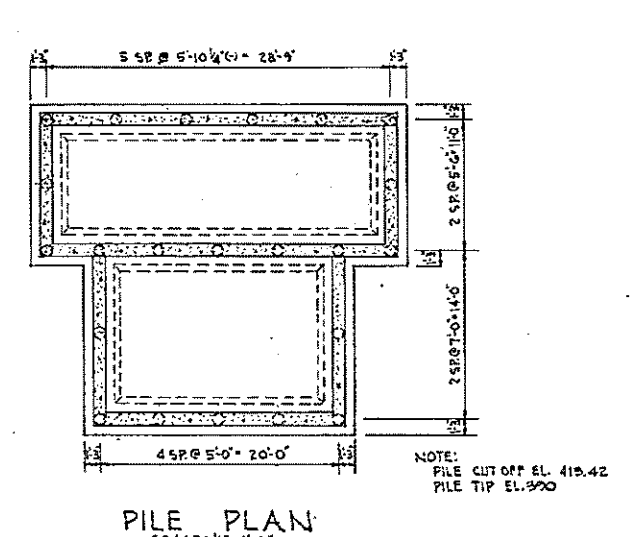
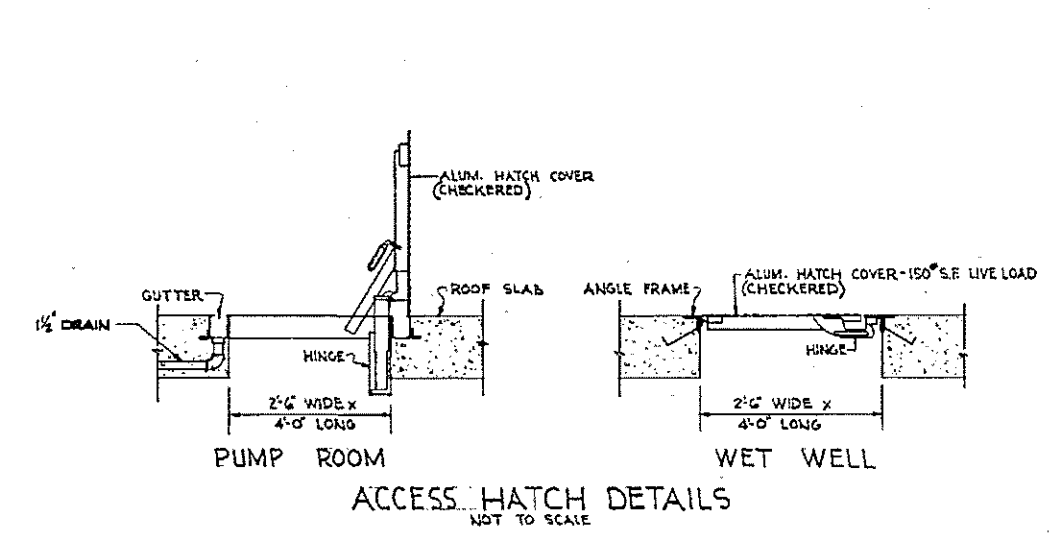
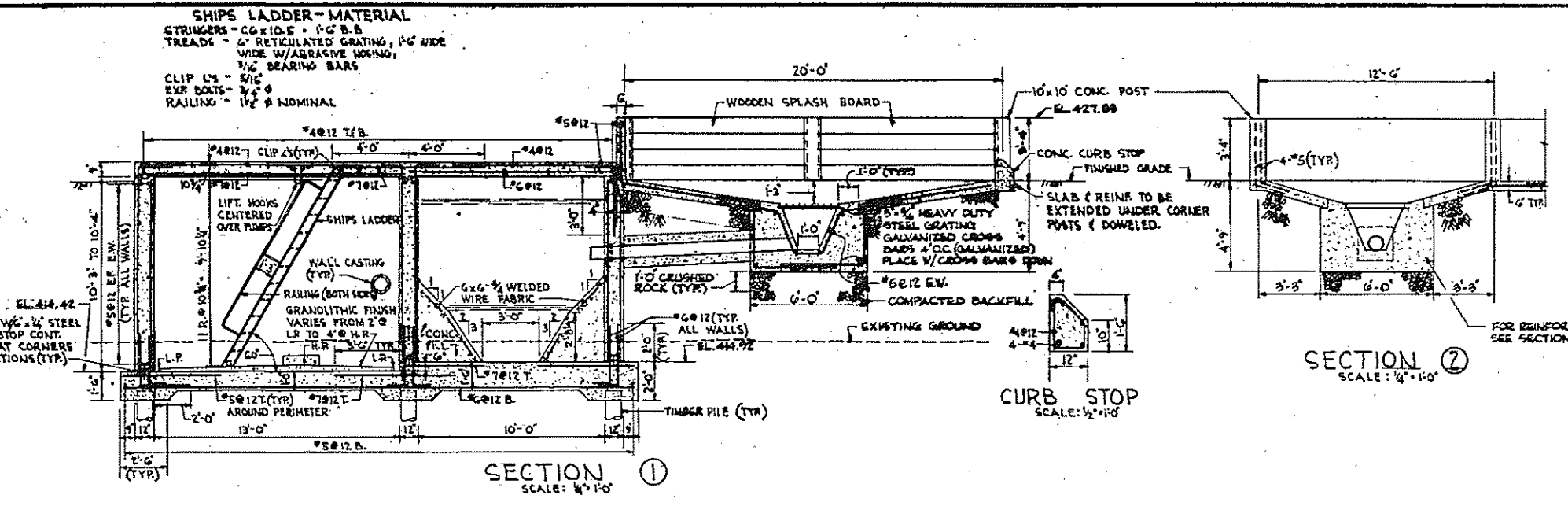
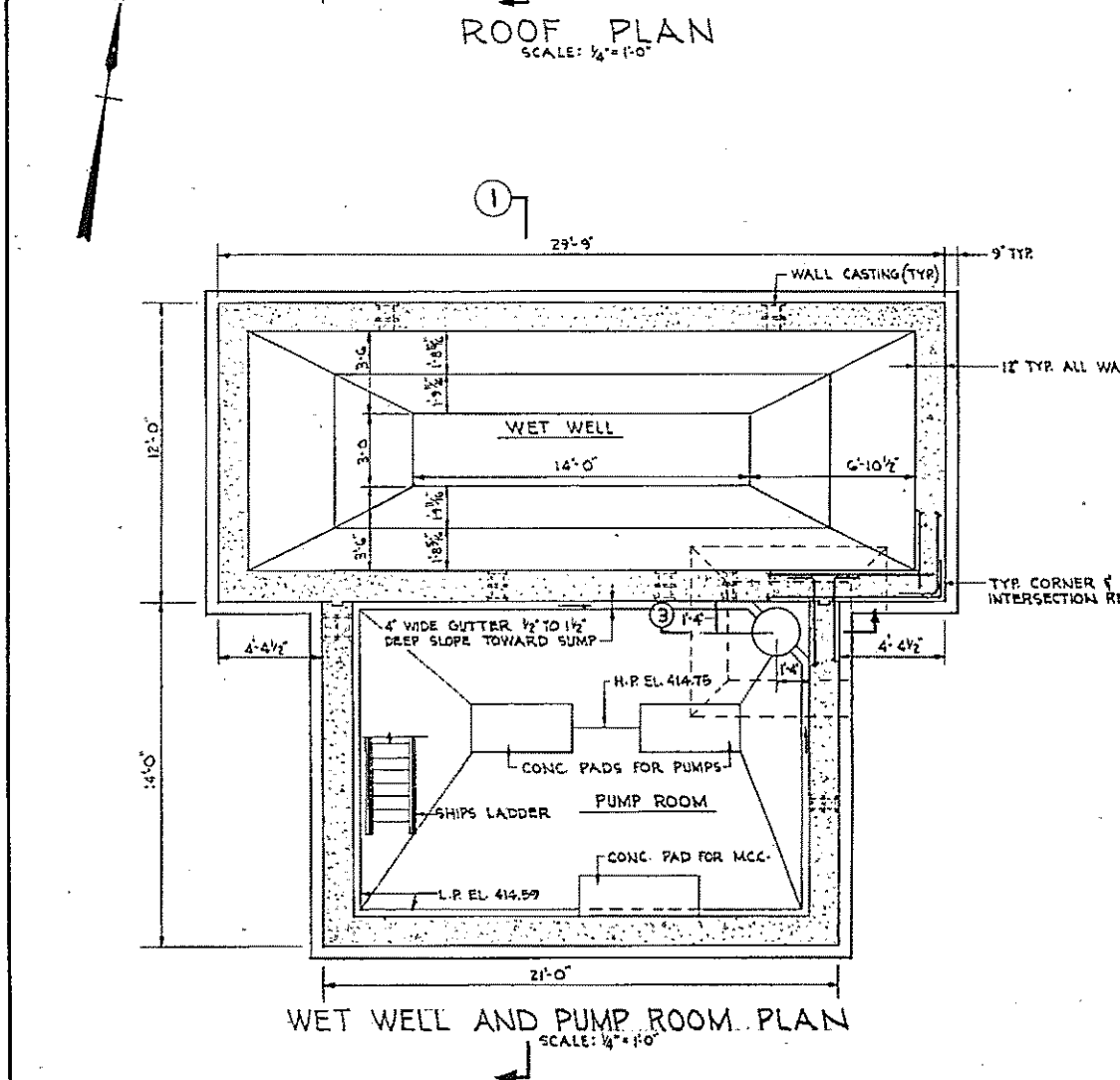
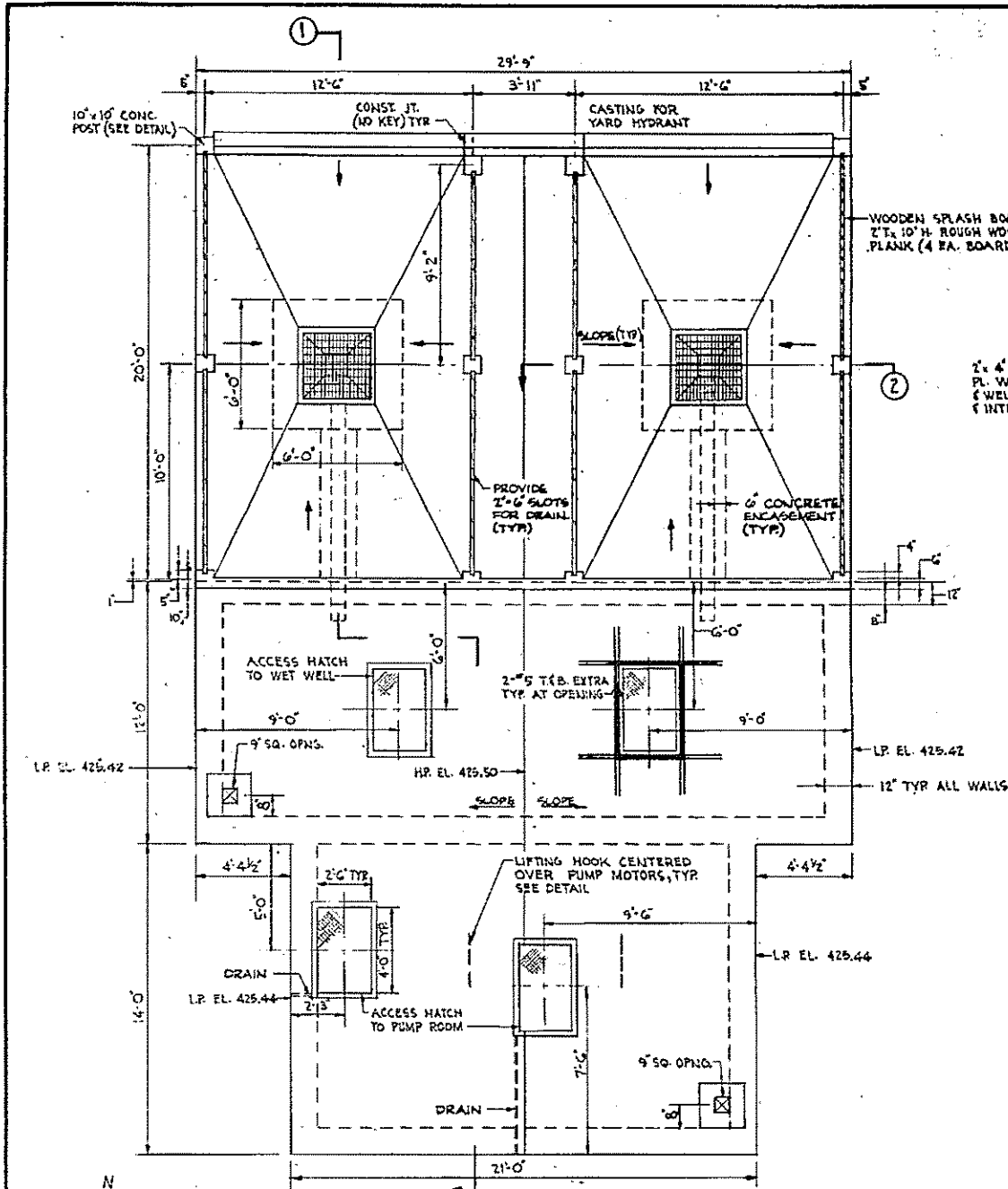
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
SLUDGE PROCESSING COMPLEX, F. N. - 10
ELECTRICAL
THICKENER BUILDING
LIGHTING - FIRST FLOOR PLAN

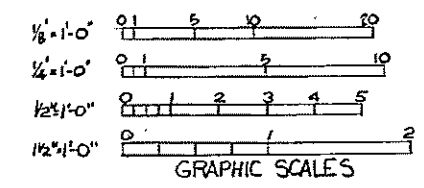
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DEC. G.C.N. - W.B.P. TR. CHE. G.C.N. - W.B.P. REV. JW-83
OK W.B.P. REV. _____
APPROVED *J. W. Cahaly* DRAWING NO. 193

CONTRACT DRAWING SHEET NO. 10E-26

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



- NOTES**
- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 10S-1.
 - FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 36-2.
 - DESIGN GROUND WATER AT ELEVATION 409.5.
 - STRUCTURE CHECKED AGAINST FLOTATION AT FLOOD ELEVATION 414.0 WITH WET WELL EMPTY AND ROOF SLAB IN PLACE.
 - BASE SLABS AND WALLS ARE DESIGNED FOR FLOOD ELEVATION 414.0 WITH WET WELL EMPTY.
 - LIVE LOADS:
ROOF SLAB AT GROUND LEVEL -- 150 PSF.
LIFTING HOOKS -- 2,000 LBS.
 - PILES - TREATED WOOD PILES. DESIGN LOAD, 20 TON, INCLUDING DRAG.



HALF-SIZE DRAWING

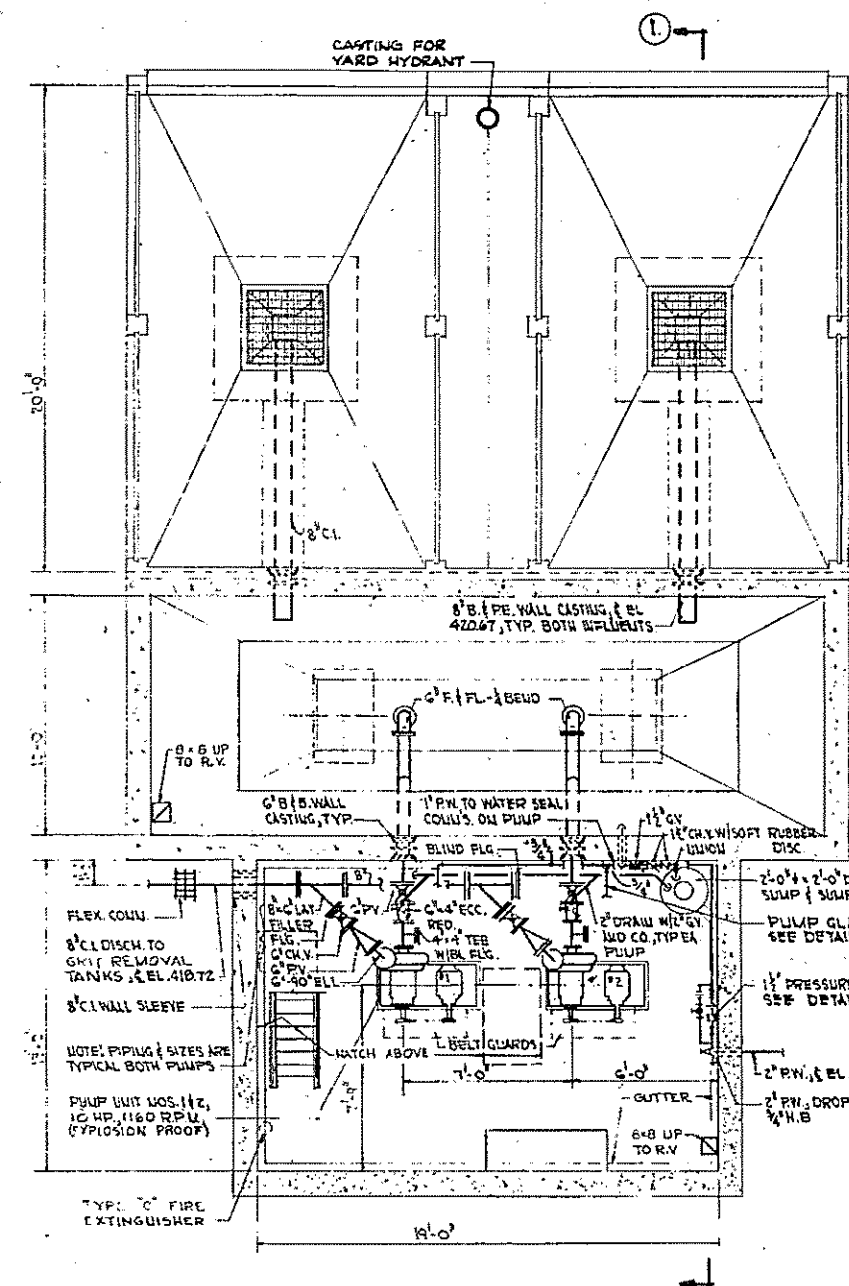
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
NIGHT SOIL FACILITY, F.N.-11
STRUCTURAL

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

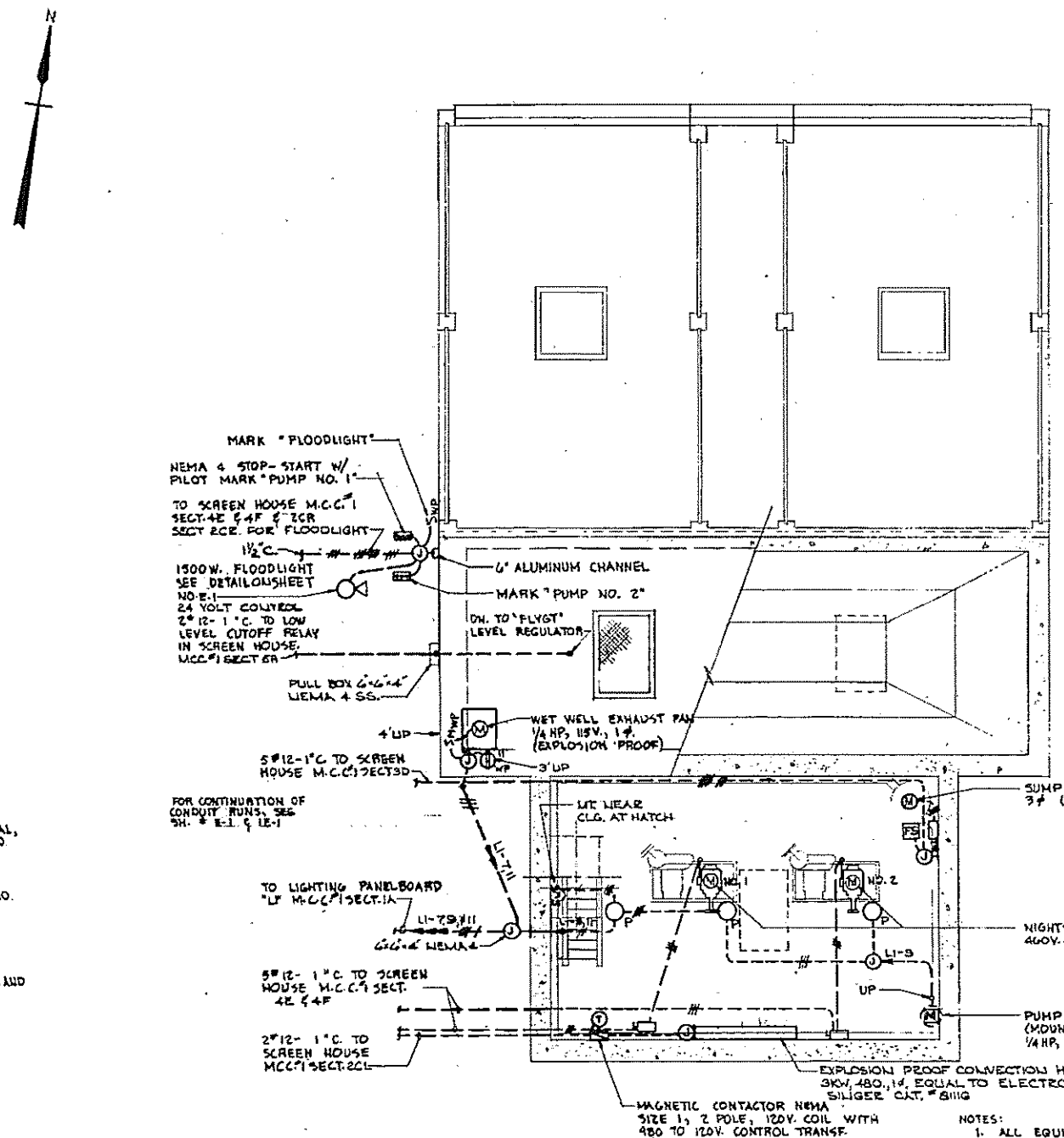
DR. I.D. TR. JR. FILE NO. JW-83
DR. R.A.G. CHK. M.H. 194
APPROVED: *F. W. Cahaly* PLAN NO. 194

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY

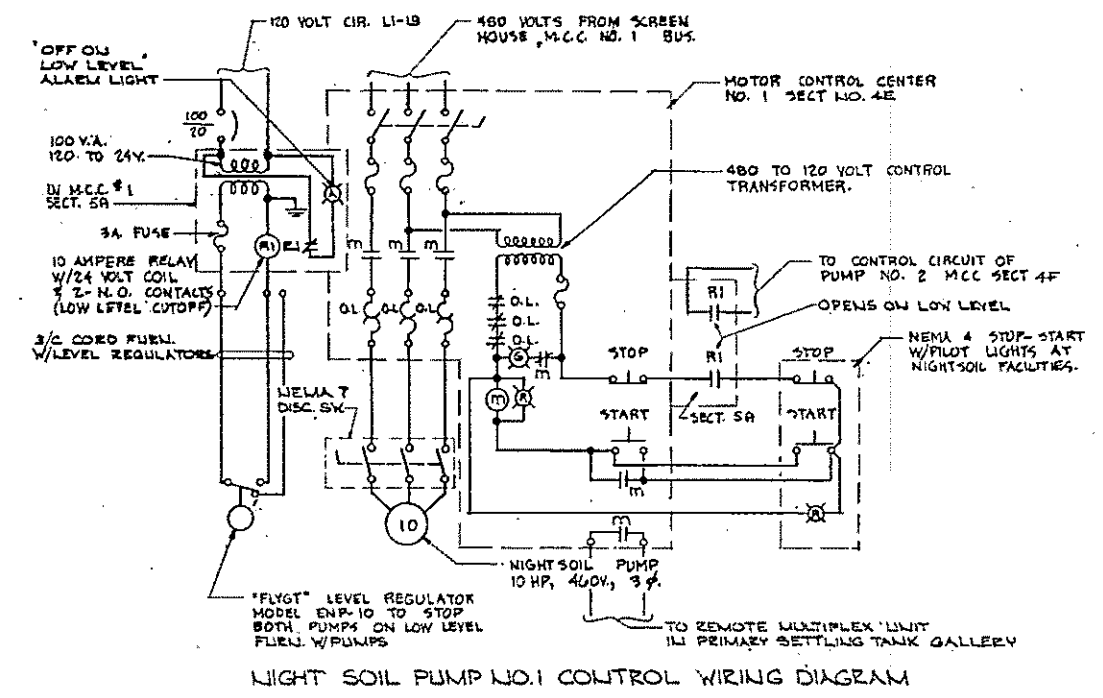




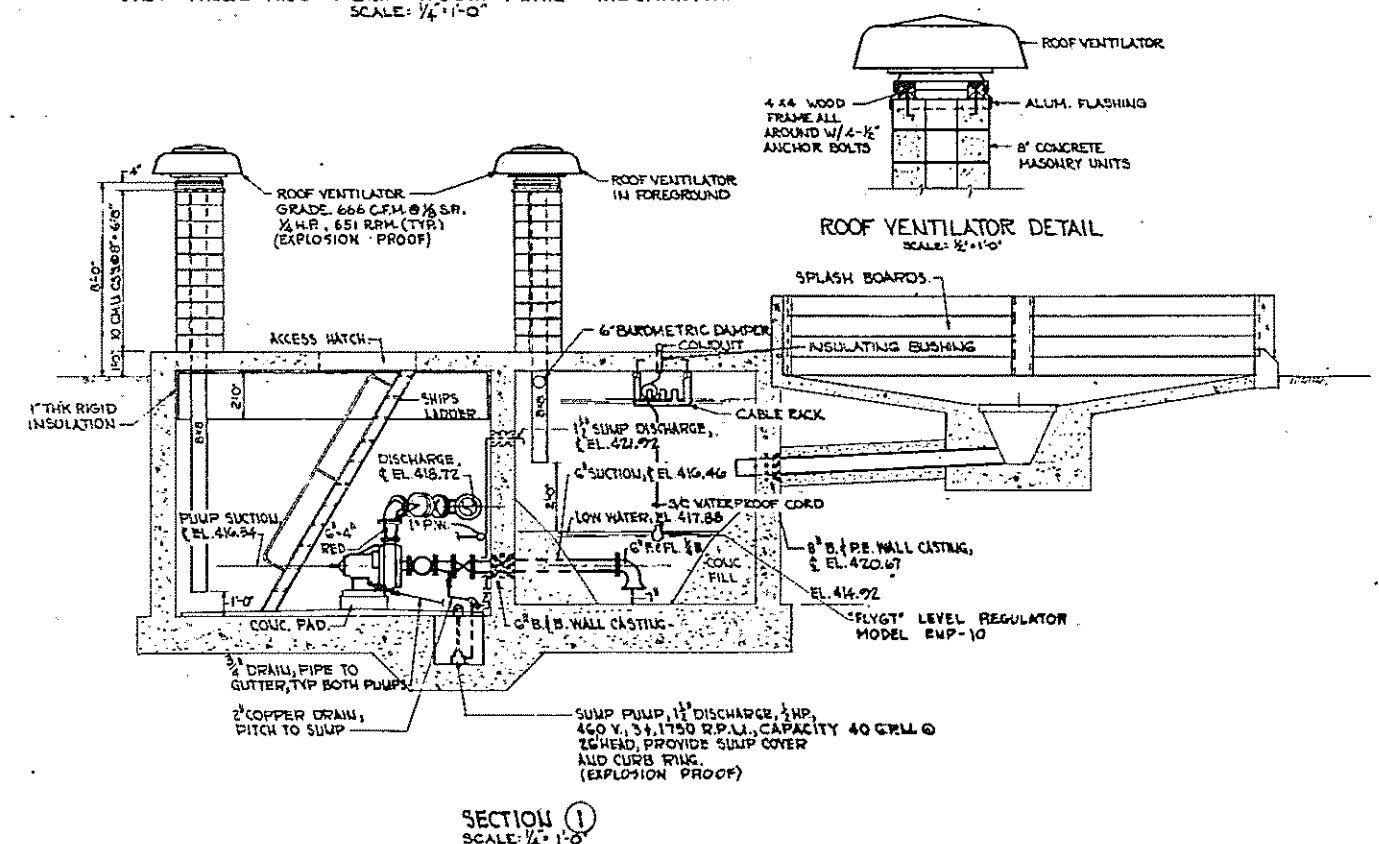
WET WELL AND PUMP ROOM PLAN - MECHANICAL
SCALE: 1/4" = 1'-0"



WET WELL AND PUMP ROOM PLAN - ELECTRICAL
SCALE: 1/4" = 1'-0"



NIGHT SOIL PUMP NO. 1 CONTROL WIRING DIAGRAM



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

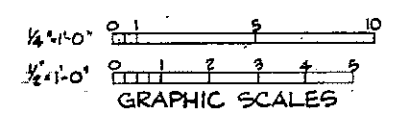
- NOTES:
1. ALL EQUIPMENT & WIRING IN THE NIGHTSOIL PUMP ROOM & WET WELL SHALL BE FOR A CLASS I, DIVISION 2 HAZARDOUS ATMOSPHERE.
 2. FUTURE TYPEP W/200 WATT LAUP INSTALLED AT CEILING.

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
NIGHT SOIL FACILITY, F.N.-11
MECHANICAL PROCESS AND ELECTRICAL

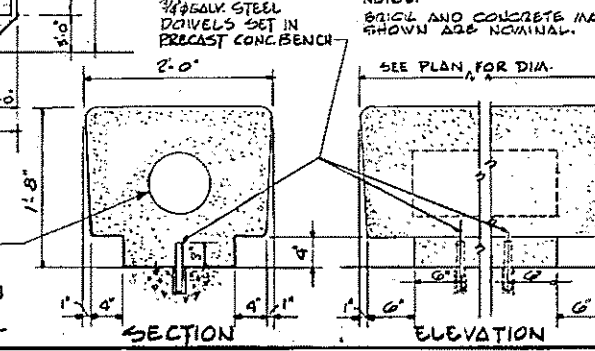
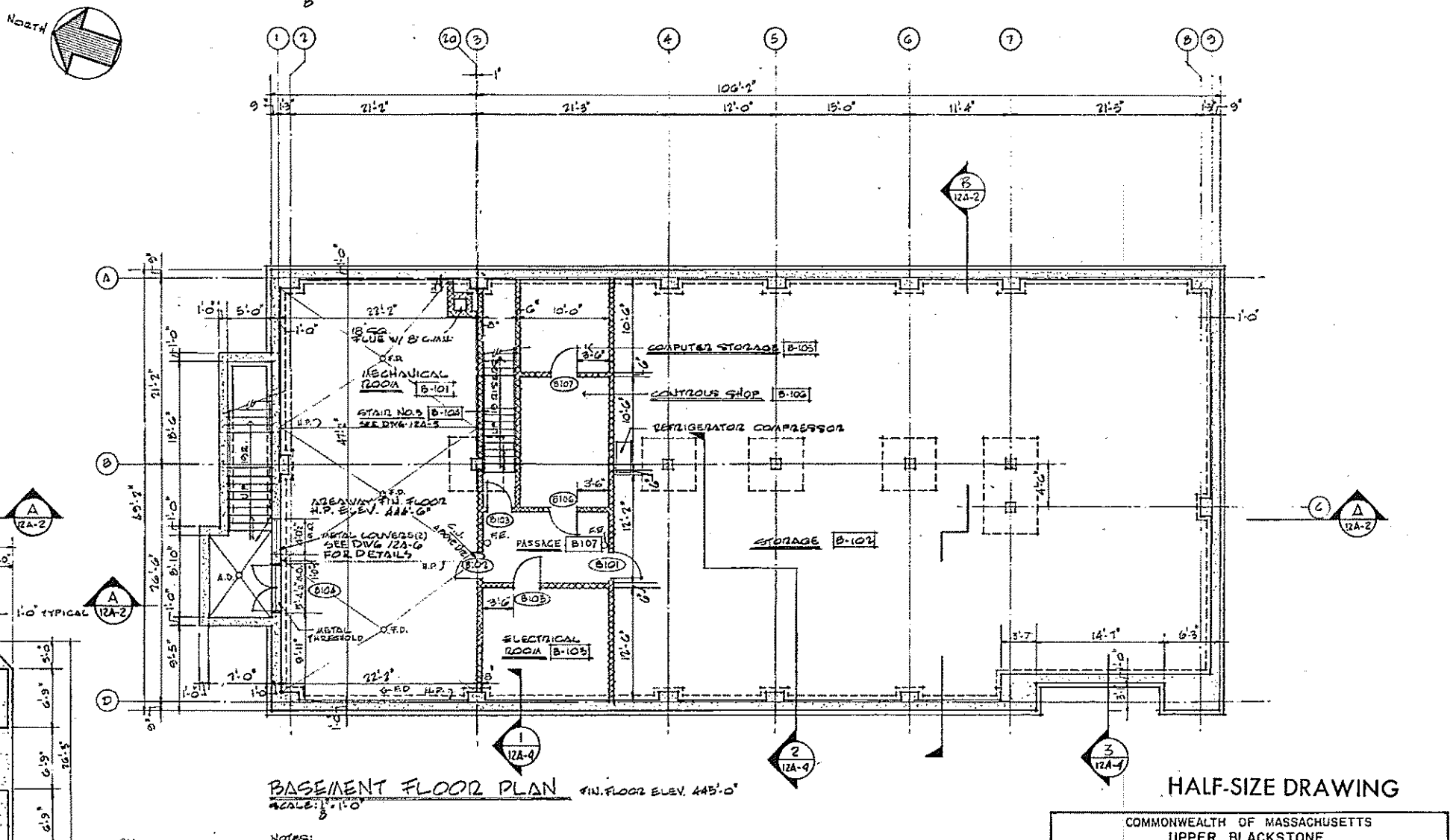
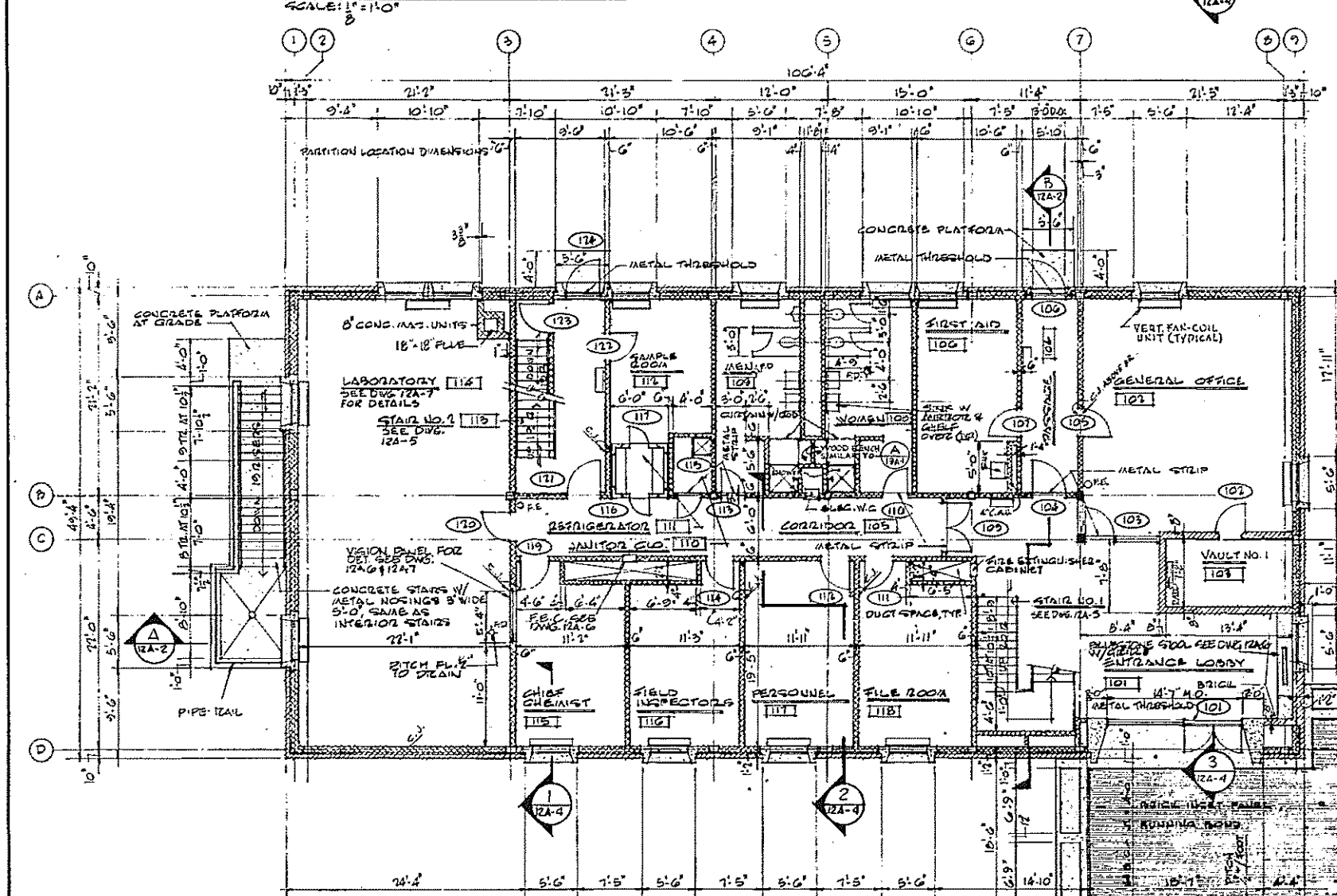
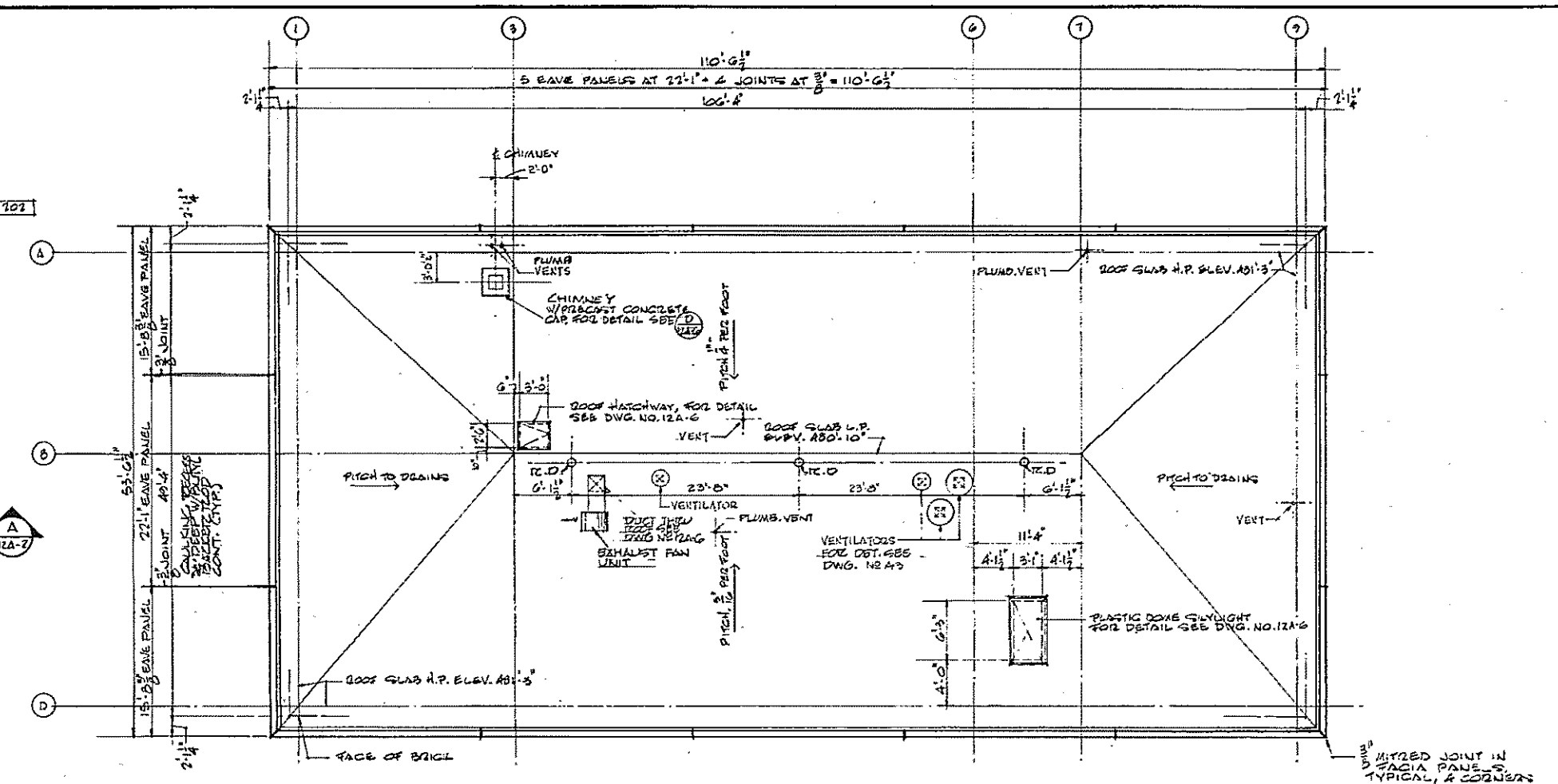
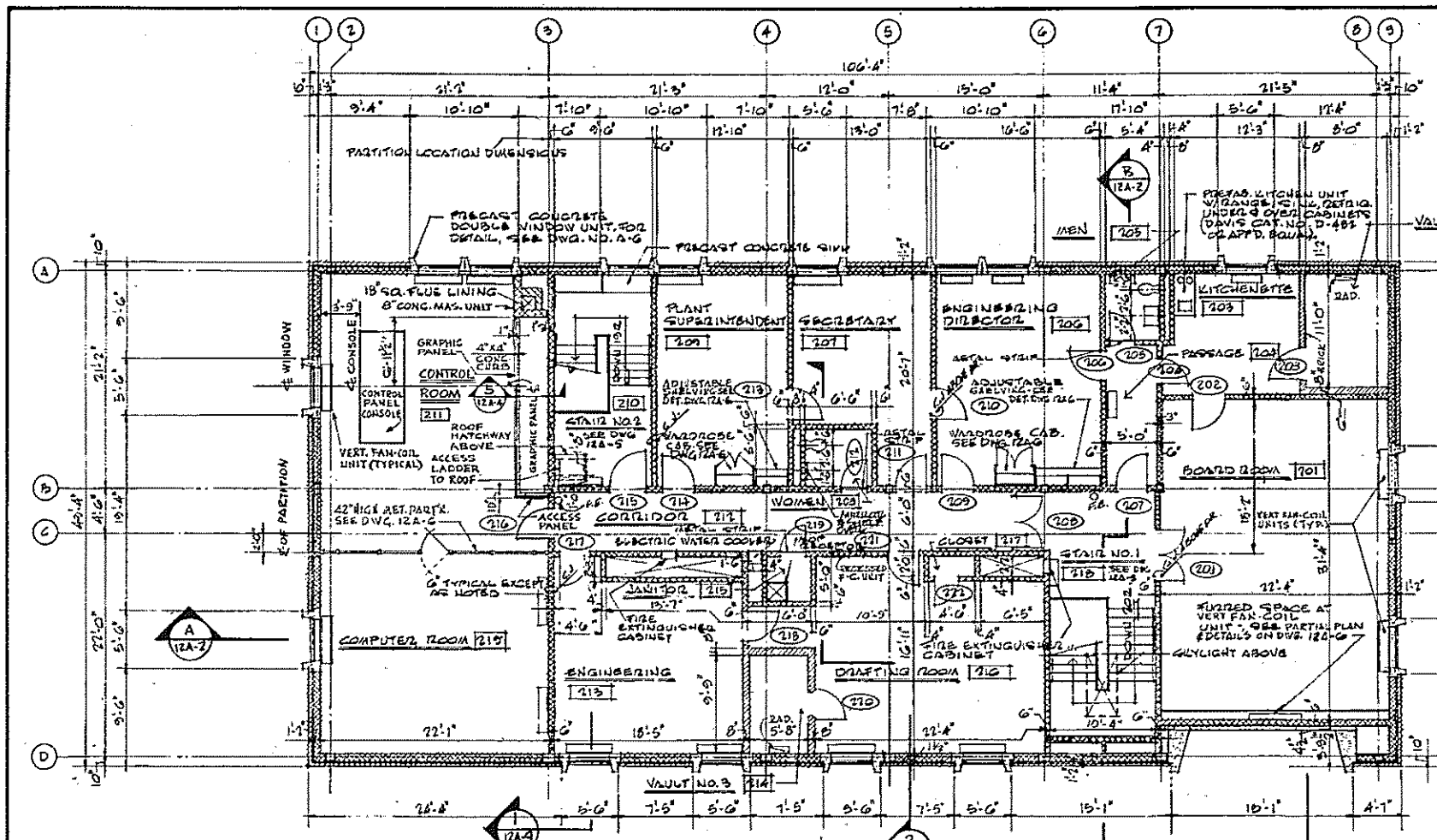
SCALE: AS NOTED
FEBRUARY, 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DESIGNED BY DR. J.W.B.	IN CHARGE CH. R.M.S., F.J.B.	FILE NO. JW-83
APPROVED F.M. Cahaly	DATE 1973	



REV.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY





NOTES:
BRICK AND CONCRETE MASONRY UNITS PARTITION THICKNESSES SHOWN ARE NOMINAL.

3/8" GALV. STEEL DOVELES SET IN PRECAST CONCR. BENCH

SEE PLAN FOR DIA.

8" SONOTUBE (LIGHTING VOID) 6" CLEAR ALL AROUND

PRECAST CONCR. BENCH (SEVEN REQUIRED)
SCALE: 1/8" = 1'-0"

GRAPHIC SCALES
1/8" = 1'-0"
1/4" = 1'-0"

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N.-12
ARCHITECTURAL
FLOOR PLANS AND ROOF PLANS

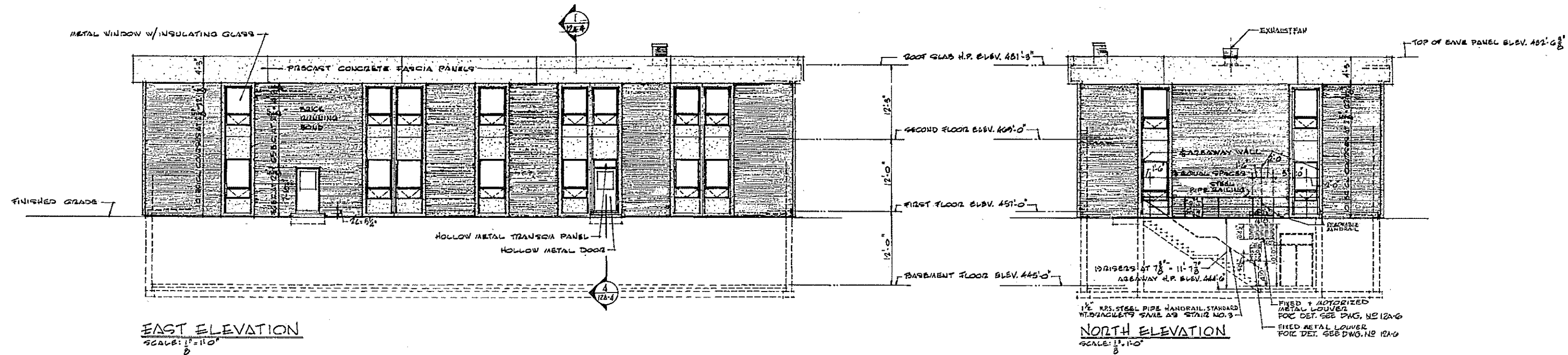
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DESIGNED BY: J.F. [Signature]
DRAWN BY: J.F. [Signature]
CHECKED BY: J.F. [Signature]
APPROVED BY: J.W. [Signature]

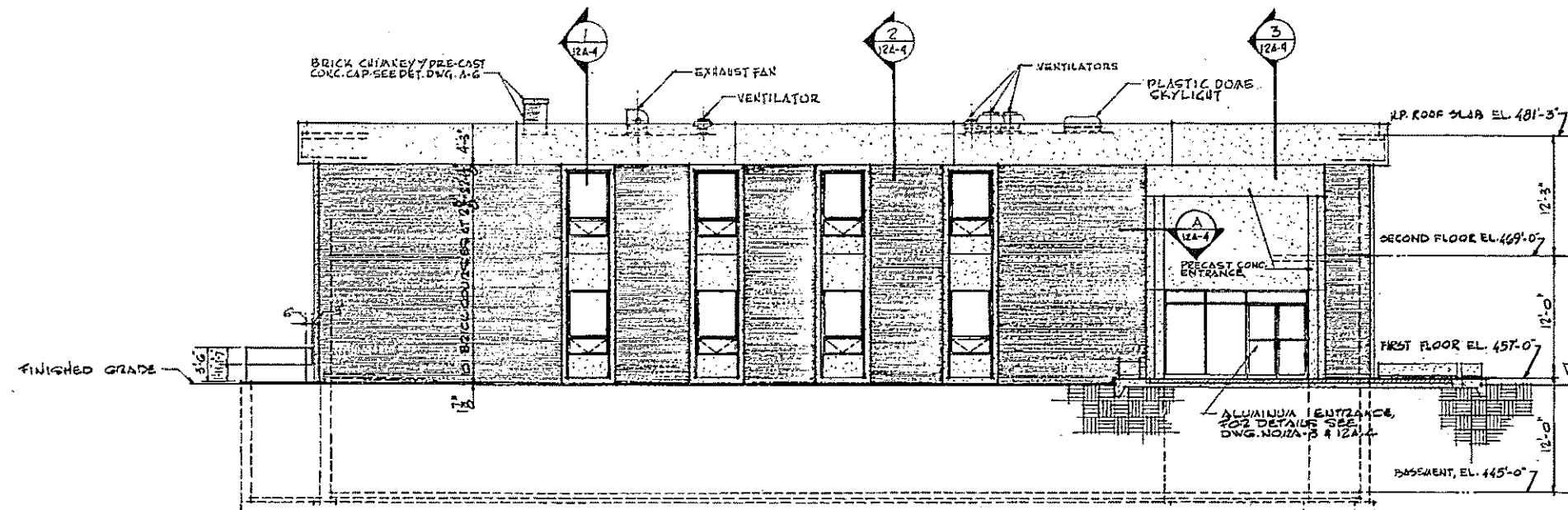
DATE: 196 [Signature]

CONTRACT DRAWING SHEET NO. 12A-1

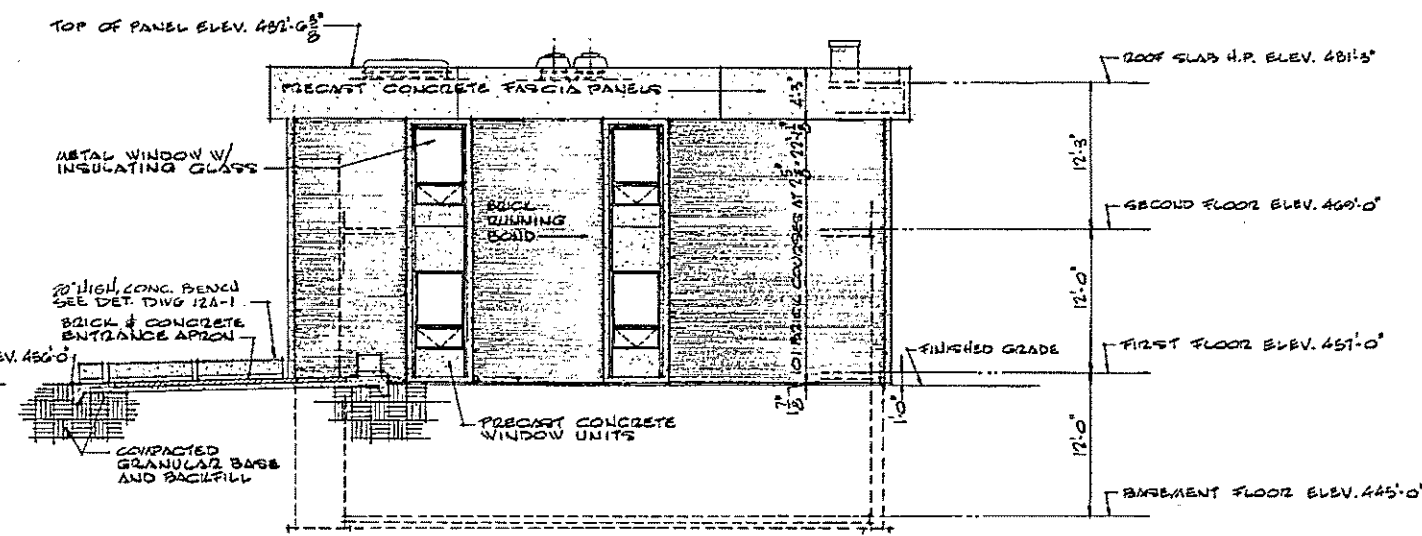


EAST ELEVATION
SCALE: 1/8"=1'-0"

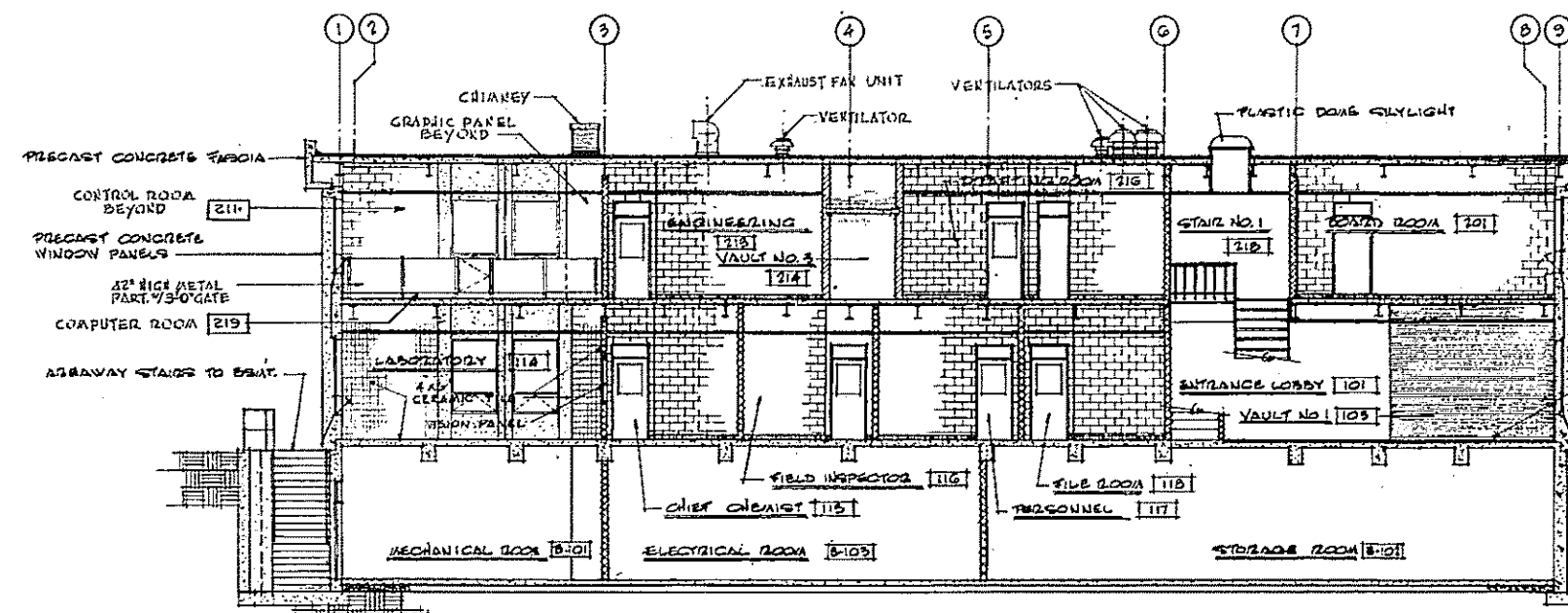
NORTH ELEVATION
SCALE: 1/8"=1'-0"



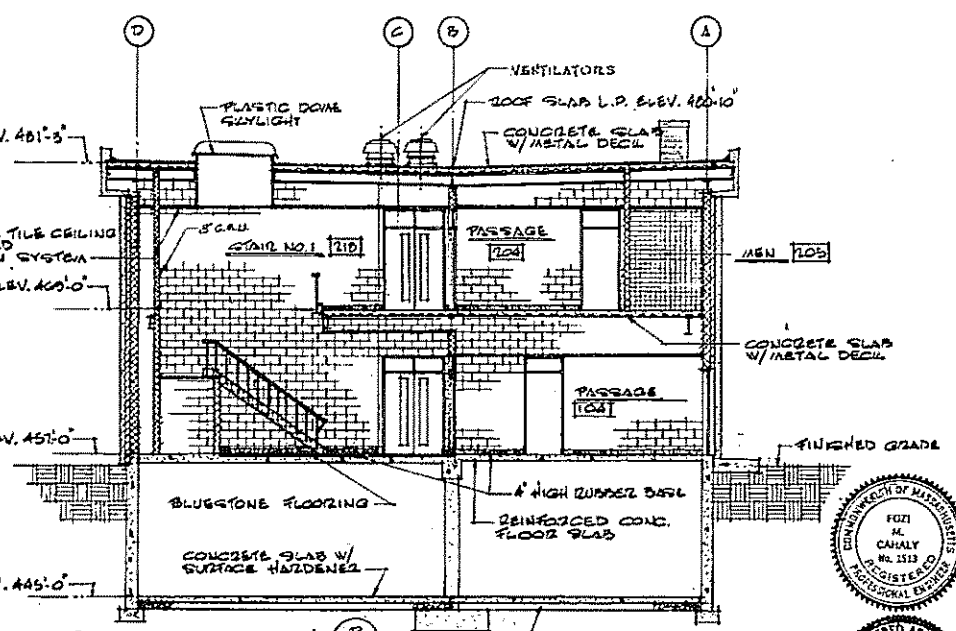
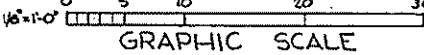
WEST ELEVATION
SCALE: 1/8"=1'-0"



SOUTH ELEVATION
SCALE: 1/8"=1'-0"



LONGITUDINAL SECTION
SCALE: 1/8"=1'-0"



CROSS SECTION
SCALE: 1/8"=1'-0"

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITY
CONTRACT NO. 2
ADMINISTRATION BUILDING, F. N. - 121
ARCHITECTURAL
ELEVATIONS AND SECTIONS

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

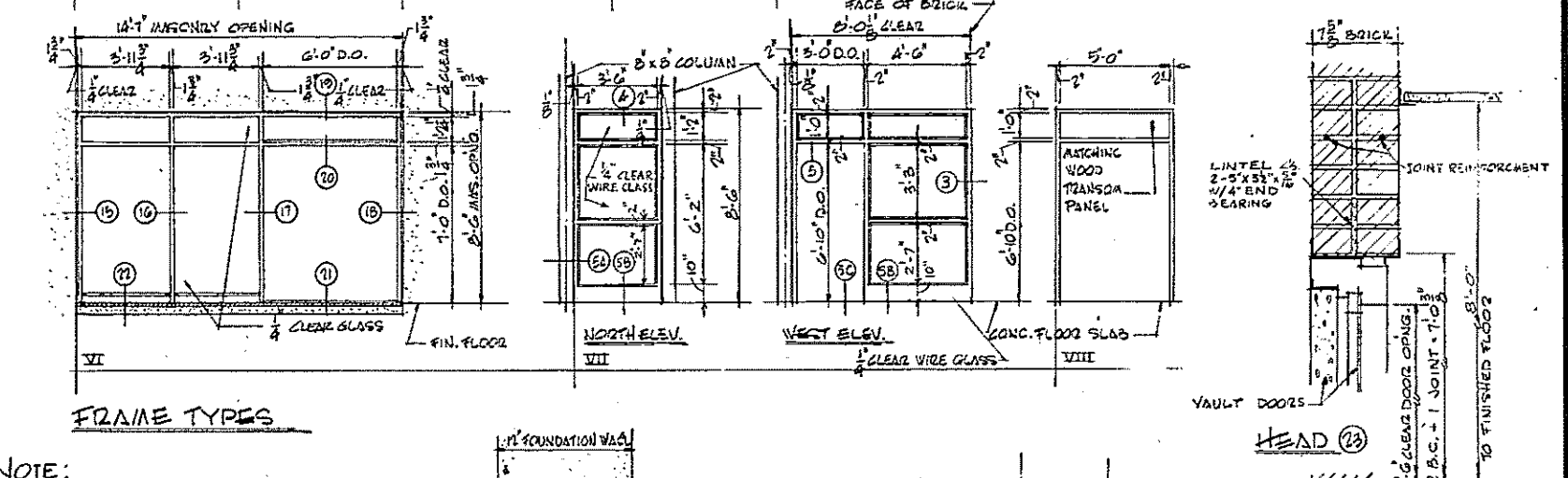
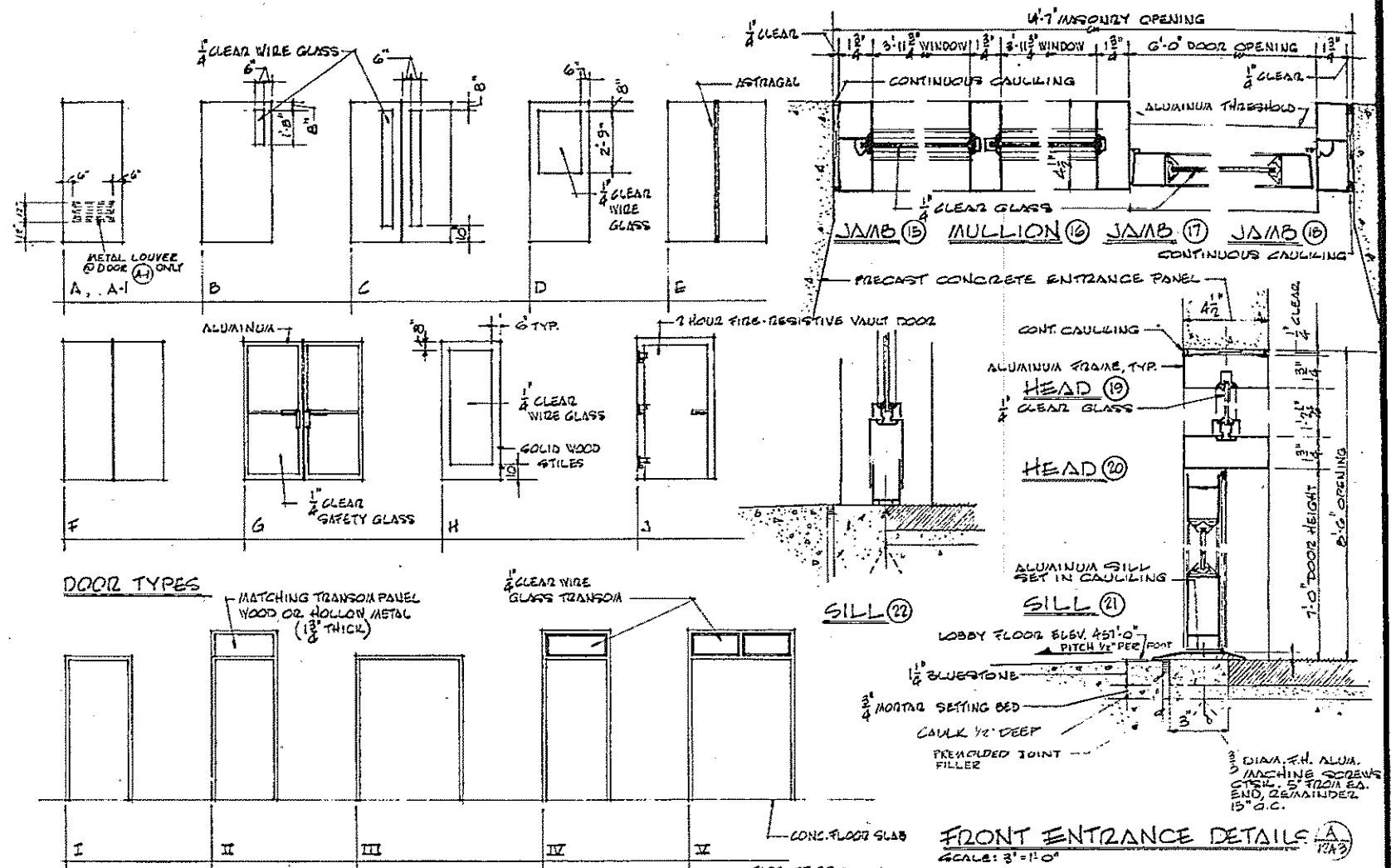
DESIGNED BY: J.F.K. DRAWN BY: C.H.F. DATE: JW-83
APPROVED: F.M. Calabry DATE: 197

FLOOR NO.	DESIGNATION	FLOOR	WALLS	PAINT	WAINSCOT	BASE	CEILING	HEIGHT	REMARKS
B-101	Mechanical Room	1ST	CONC./C.M.U.			EXPO. CONC.			
B-102	Storage	1ST	CONC./C.M.U.			EXPO. CONC.			
B-103	Electrical Room	1ST	CONC./C.M.U.			EXPO. CONC.			
B-104	Stair No. 3	1ST	CONC./C.M.U.			EXPO. CONC.			
B-105	Computer Dept.	1ST	CONC./C.M.U.			EXPO. CONC.			
B-106	Contiguous Shop	1ST	C.M.U.			EXPO. CONC.			
B-107	Passage	1ST	C.M.U.			EXPO. CONC.			
101	Entrance Lobby	1ST	BRICK/C.M.U.			RUBBER	A.T.	10'-0"	BLUESTONE BASE AT BRICK TRANSOM PANEL
102	General Office	V.A.T.	BRICK/CLAU.			RUBBER	A.T.	9'-0"	
103	Vault No. 1	V.A.T.	BRICK			RUBBER	A.T.	8'-0"	
104	Passage	V.A.T.	C.M.U.			RUBBER	A.T.	8'-2"	
105	Corridor	V.A.T.	C.M.U.			RUBBER	A.T.	8'-2"	
106	First Aid	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
107	OMITTED								
108	Women	C.T.	C.T.			C.T.	A.T.	9'-0"	
109	Men	C.T.	C.T.			C.T.	A.T.	9'-0"	
110	Janitor Closet	C.T.	C.T.			C.T.	A.T.	8'-2"	
111	Refrigerator	BY REFRIGERATOR MANUFACTURER							
112	Sample Room	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
113	Stair No. 2	V.A.T.	C.M.U.			RUBBER	A.T.	10'-0"	
114	Laboratory	V.A.T.	C.T.			C.T.	A.T.	9'-0"	
115	Chief Clerk	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
116	Field Inspector	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
117	Personnel	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
118	File Room	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
201	Board Room	CARPET	WD. PANEL/C.M.U.			RUBBER	A.T.	9'-0"	
202	Vault No. 2	V.A.T.	BRICK/CLAU.			RUBBER	A.T.	8'-0"	
203	Kitchenette	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
204	Passage	V.A.T.	C.M.U.			RUBBER	A.T.	8'-2"	
205	Men	C.T.	C.T.			C.T.	A.T.	8'-2"	
206	Engineering Office	CARPET	C.M.U.			RUBBER	A.T.	9'-0"	
207	Secretary	CARPET	C.M.U.			RUBBER	A.T.	9'-0"	
208	Women	C.T.	C.T.			C.T.	A.T.	8'-2"	
209	Plant Office	CARPET	C.M.U.			RUBBER	A.T.	9'-0"	
210	Stair No. 2	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
211	Control Room	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
212	Corridor	V.A.T.	C.M.U.			RUBBER	A.T.	8'-2"	
213	Engineering	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
214	Vault No. 3	V.A.T.	BRICK/CLAU.			RUBBER	A.T.	8'-0"	
215	Janitor Closet	C.T.	C.T.			C.T.	A.T.	8'-2"	
216	Drafting Room	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
217	Closet	V.A.T.	C.M.U.			RUBBER	A.T.	8'-2"	
218	Stair No. 1	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	
219	Computer Room	V.A.T.	C.M.U.			RUBBER	A.T.	9'-0"	

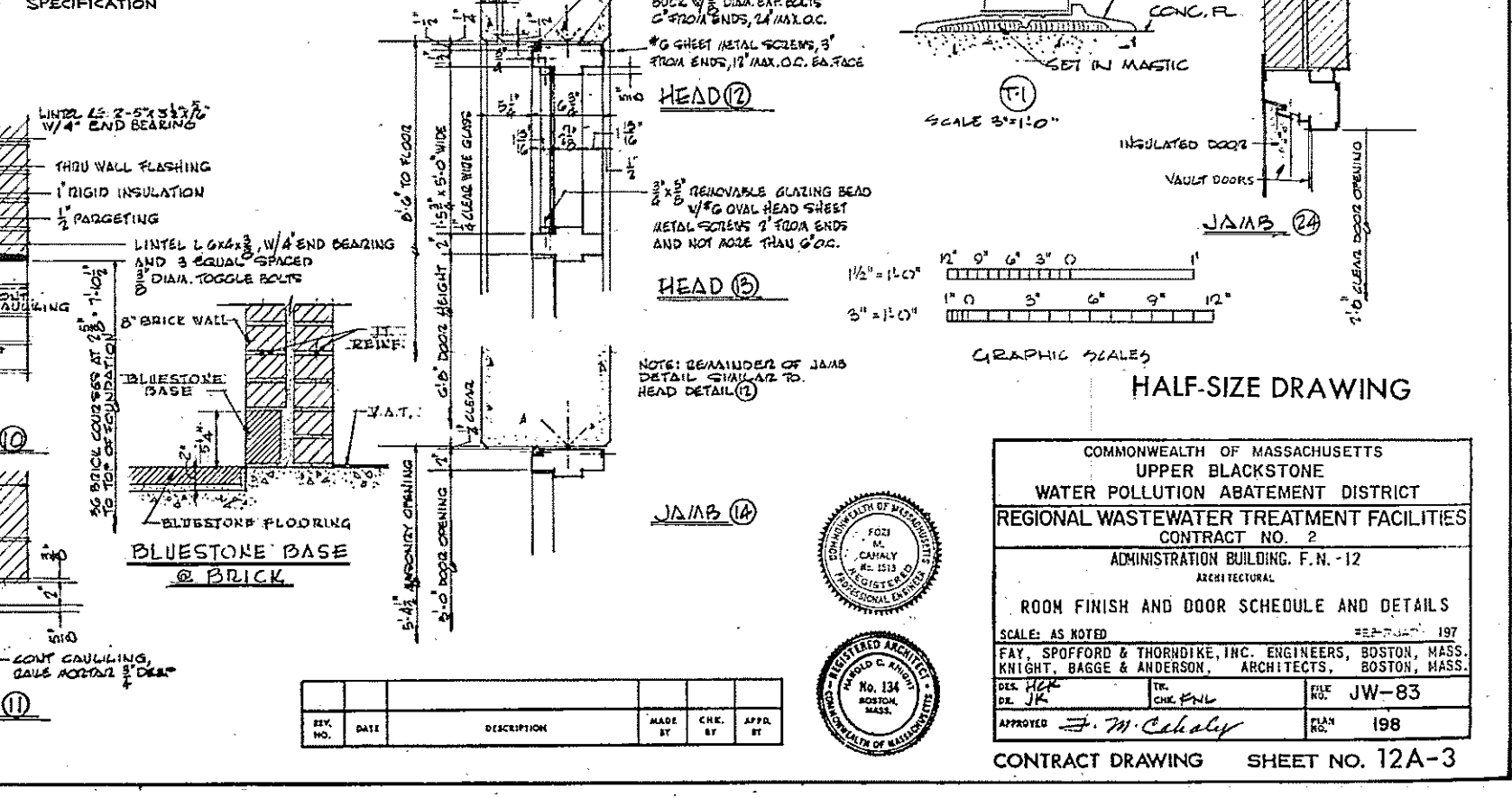
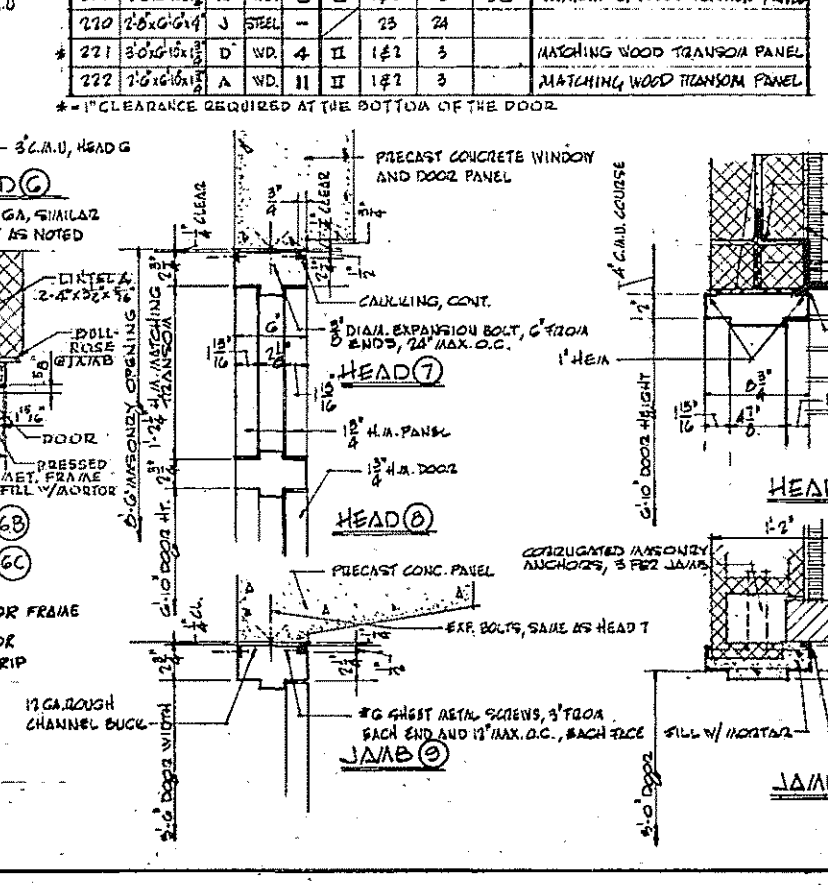
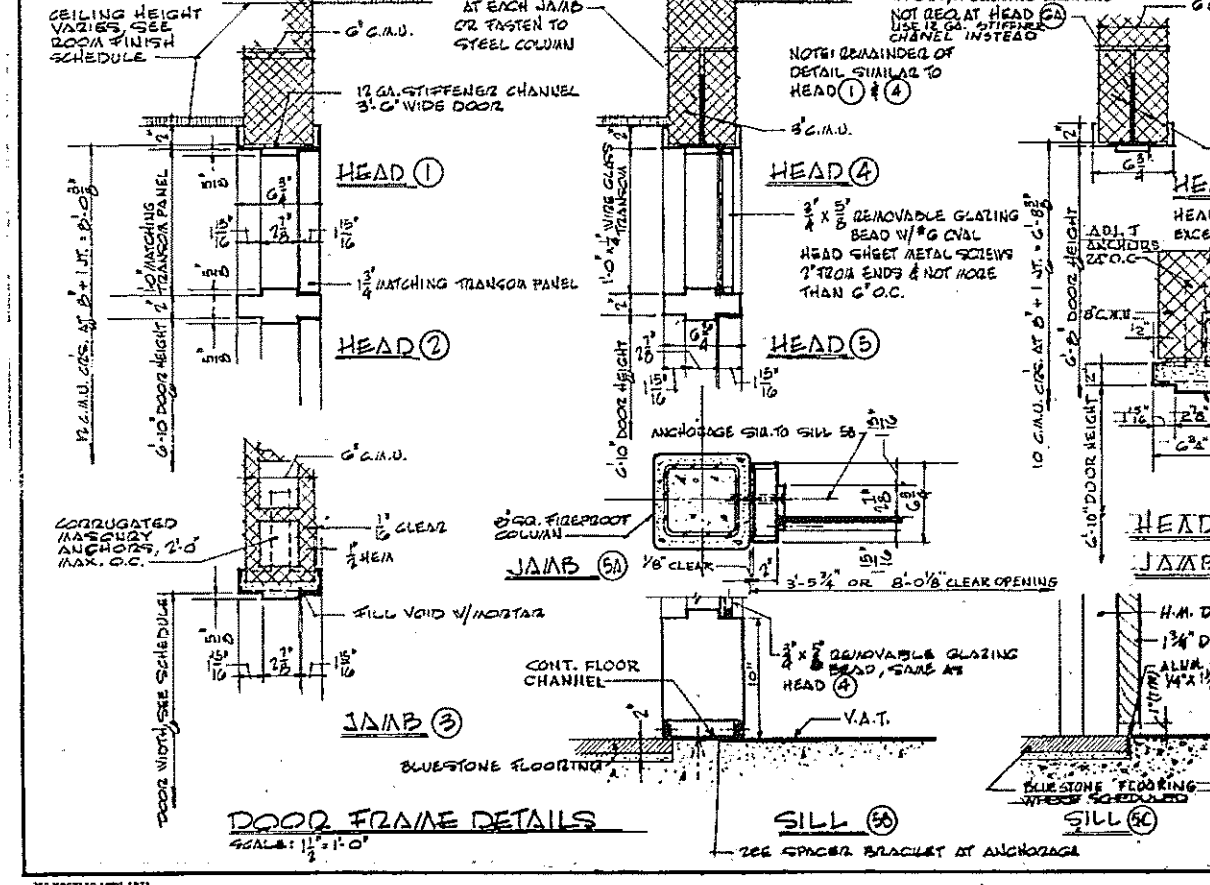
NOTE: FOR A LIST OF ABBREVIATIONS SEE DWG. 10A-3

DOOR NO.	SIZE	TYPE	MAT.	H.W.	FRAME	HEAD	JAMB	SILL	REMARKS		
101	2'-0" x 8'-0"	A	H.M.	4	I	GA			SEE FRONT ENTRANCE DETAILS THIS DWG.		
102	2'-0" x 8'-0"	A	H.M.	12	I	GA			A LABEL DOOR		
103	2'-0" x 8'-0"	A	H.M.	3	I	GA			B LABEL DOOR AND FRAME		
104	2'-0" x 8'-0"	E	H.M.	2	III	GA					
105	2'-0" x 8'-0"	A	H.M.	4	I	GA					
106	2'-0" x 8'-0"	A	H.M.	4	I	GA					
107	2'-0" x 8'-0"	B	ALUM.	23	VI	F					
108	2'-0" x 8'-0"	J	STEEL	-	-	-	23	24			
109	2'-0" x 8'-0"	H	VD.	4	VIII	A	5	3	5	SC	MATCHING WD. TRANSOM PANEL
104	2'-0" x 8'-0"	D	VD.	3	II	1	2	3	5	SC	MATCHING WD. TRANSOM PANEL
105	2'-0" x 8'-0"	D	VD.	4	II	1	2	3	5	SC	MATCHING WD. TRANSOM PANEL
106	2'-0" x 8'-0"	D	H.M.	1	I	10	11			T-1	
107	2'-0" x 8'-0"	A	VD.	4	II	1	2	3		T-1	
108	OMITTED										
109	2'-0" x 8'-0"	C	VD.	10	V	A	6	3		5C	CLEAR WIRE GLASS TRANSOM
110	2'-0" x 8'-0"	A	VD.	7	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
111	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
112	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
113	2'-0" x 8'-0"	A	VD.	7	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
114	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
115	2'-0" x 8'-0"	A	VD.	8	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
116	BY REFRIGERATOR M.F.C.										
117	BY REFRIGERATOR M.F.C.										
118	OMITTED										
119	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
120	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
121	2'-0" x 8'-0"	B	VD.	3	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
122	2'-0" x 8'-0"	B	VD.	4A	II	1	2	3		5C	MATCHING WD. TRANSOM PANEL
123	2'-0" x 8'-0"	B	VD.	3	I	GA				5C	MATCHING WD. TRANSOM PANEL
124	2'-0" x 8'-0"	D	H.M.	1	II	7	8	9		T-1	HOLLOW METAL TRANSOM PANEL
201	2'-0" x 8'-0"	PLF	VD.	9	VIII	A	2	3		5C	MATCHING WOOD TRANSOM PANEL
202	2'-0" x 8'-0"	A	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
203	2'-0" x 8'-0"	J	STEEL	-	-	-	23	24			
204	2'-0" x 8'-0"	A	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
205	2'-0" x 8'-0"	A	VD.	6	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
206	2'-0" x 8'-0"	A	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
207	2'-0" x 8'-0"	A	VD.	3	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
208	2'-0" x 8'-0"	C	VD.	10	V	A	6	3		5C	CLEAR WIRE GLASS TRANSOM
209	2'-0" x 8'-0"	A	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
210	2'-0" x 8'-0"	A	VD.	5	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
211	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
212	2'-0" x 8'-0"	A	VD.	6	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
213	2'-0" x 8'-0"	A	VD.	5	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
214	2'-0" x 8'-0"	A	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
215	2'-0" x 8'-0"	B	VD.	3	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
216	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
217	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
218	2'-0" x 8'-0"	D	VD.	5	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
219	2'-0" x 8'-0"	A	VD.	8	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
220	2'-0" x 8'-0"	J	STEEL	-	-	-	23	24			
221	2'-0" x 8'-0"	D	VD.	4	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL
222	2'-0" x 8'-0"	A	VD.	11	II	1	2	3		5C	MATCHING WOOD TRANSOM PANEL

* 1" CLEARANCE REQUIRED AT THE BOTTOM OF THE DOOR



NOTE:
1. FOR HARDWARE HQS REFER TO SPECIFICATION



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N. - 12
ARCHITECTURAL

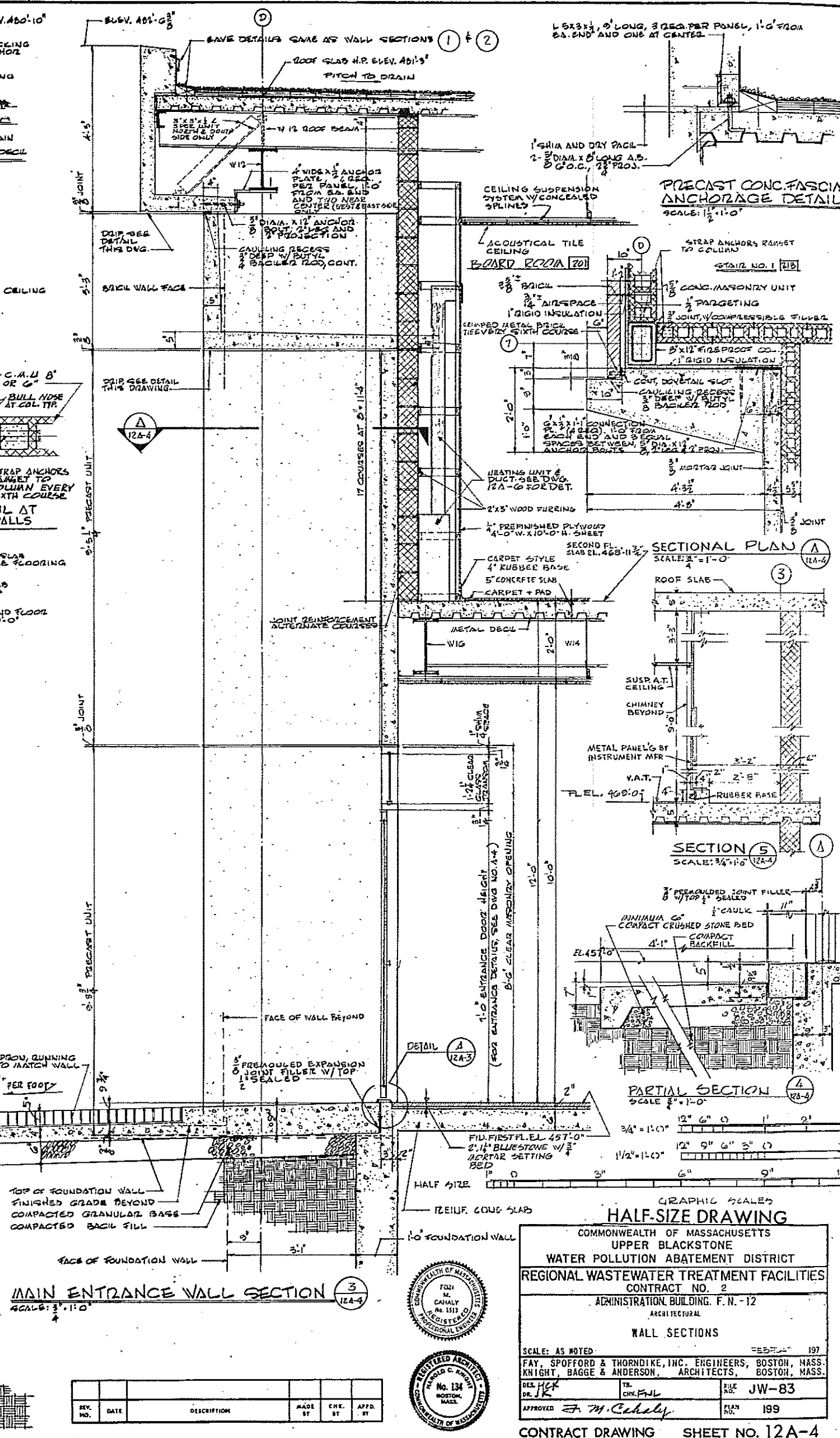
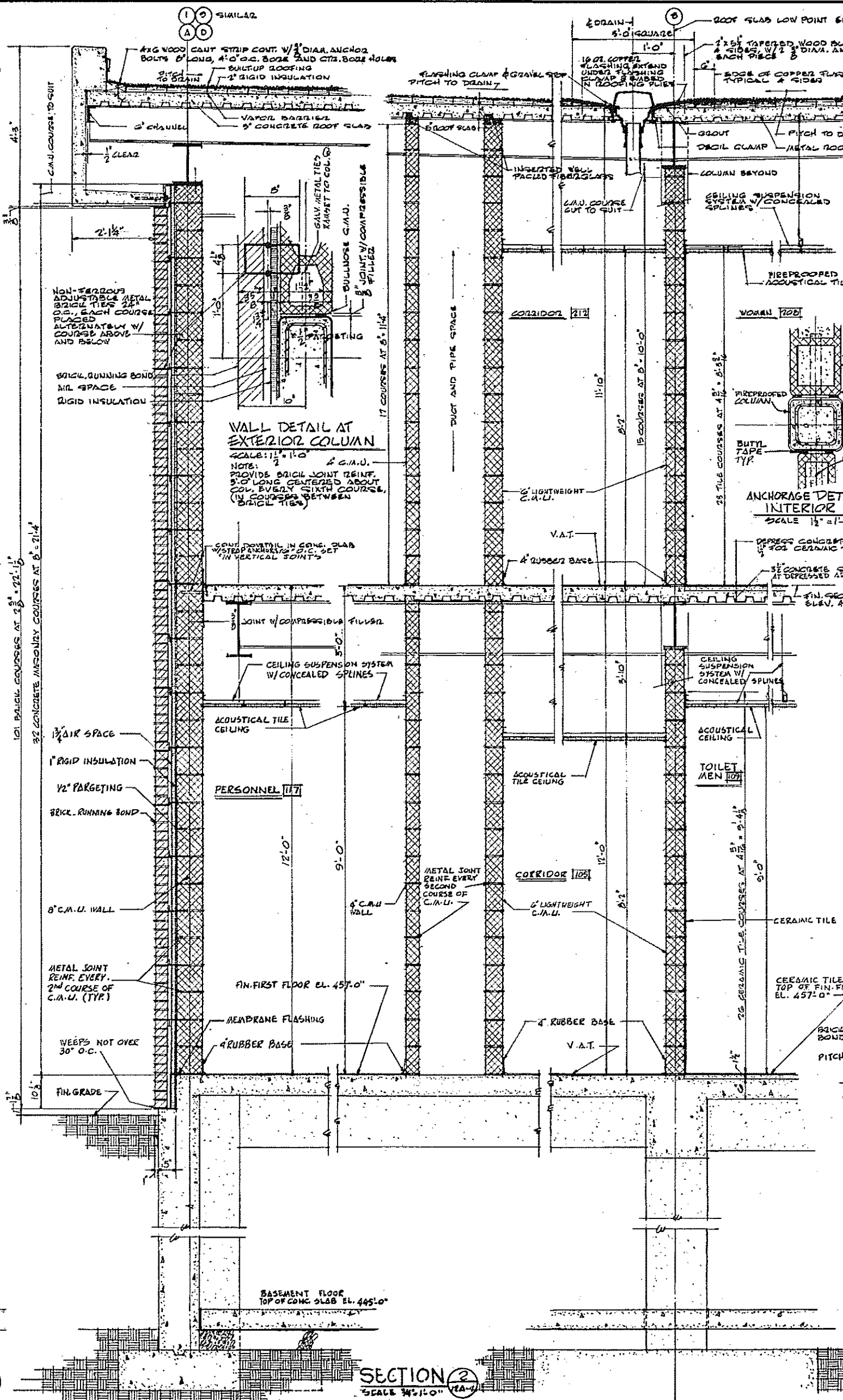
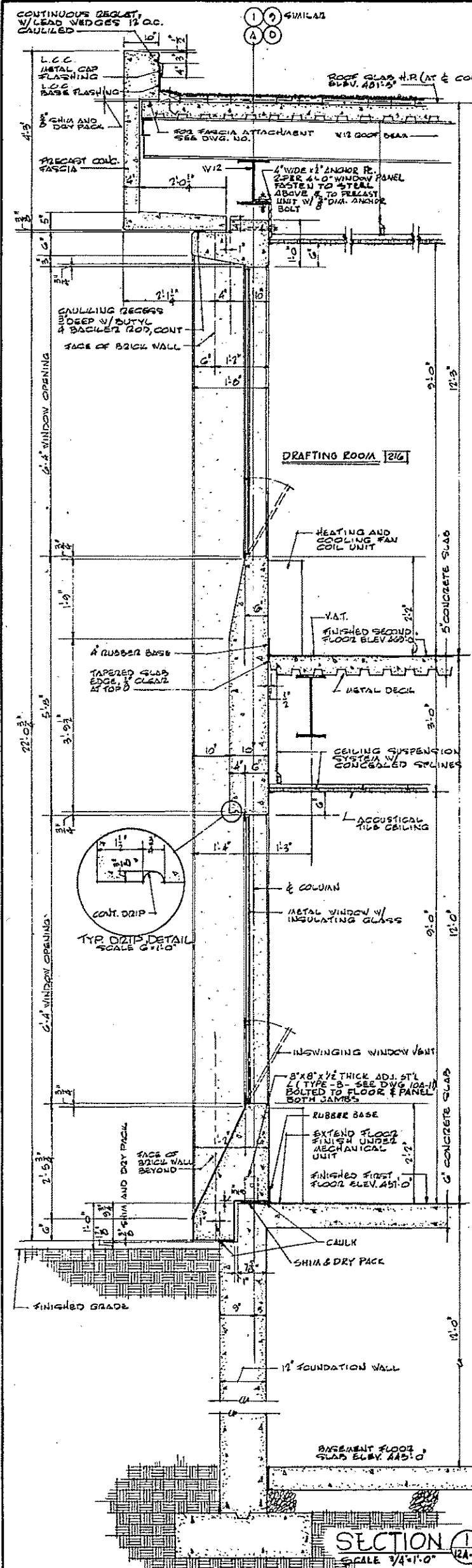
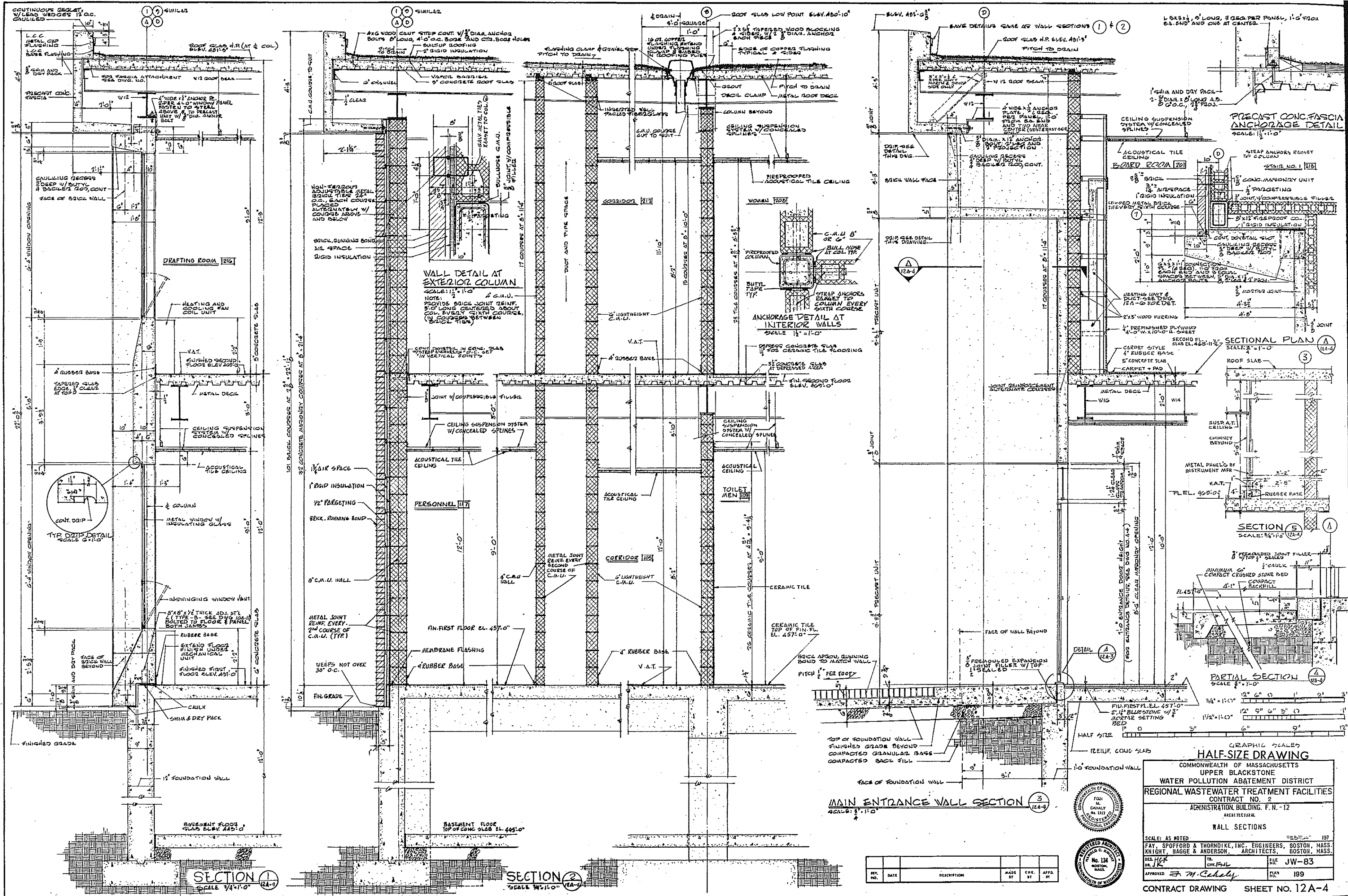
ROOM FINISH AND DOOR SCHEDULE AND DETAILS

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DATE: 10/24/64
DRAWN BY: J.W. JR.
CHECKED BY: J.W. JR.
APPROVED BY: J.W. JR.

CONTRACT DRAWING SHEET NO. 12A-3



GRAPHIC SCALES
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N.-12
AREA 100-100A

WALL SECTIONS

SCALE: AS NOTED

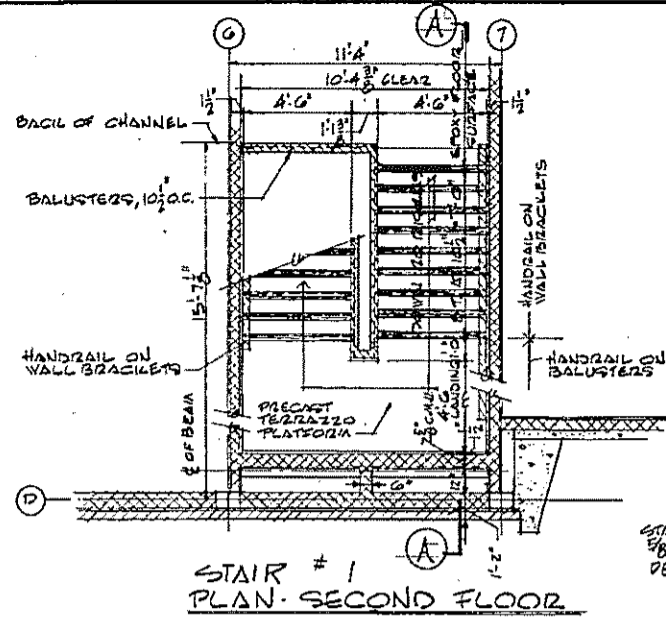
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DATE: 11/2/64
DRAWN BY: J.W. JR.
CHECKED BY: J.W. JR.
APPROVED BY: J.W. JR.

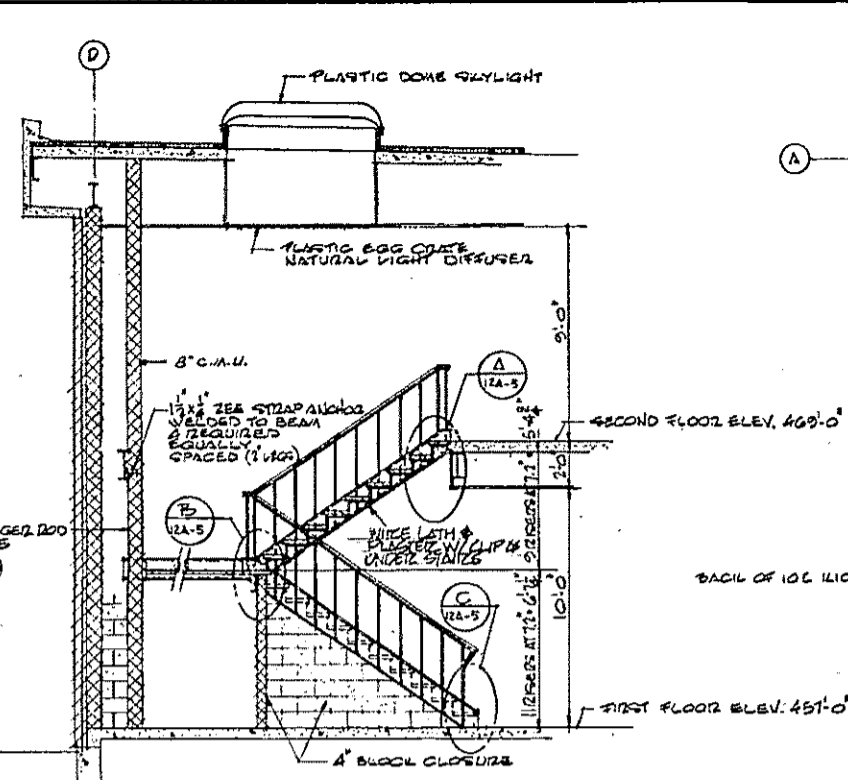
FILE NO. JW-83
PLAN NO. 199

CONTRACT DRAWING SHEET NO. 12A-4

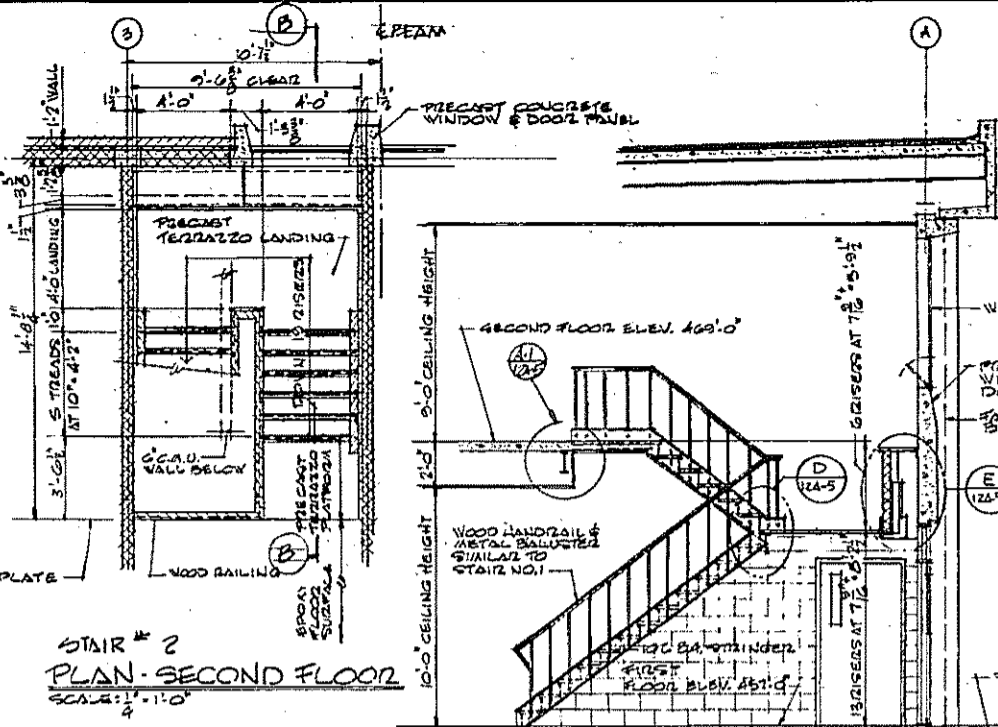
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



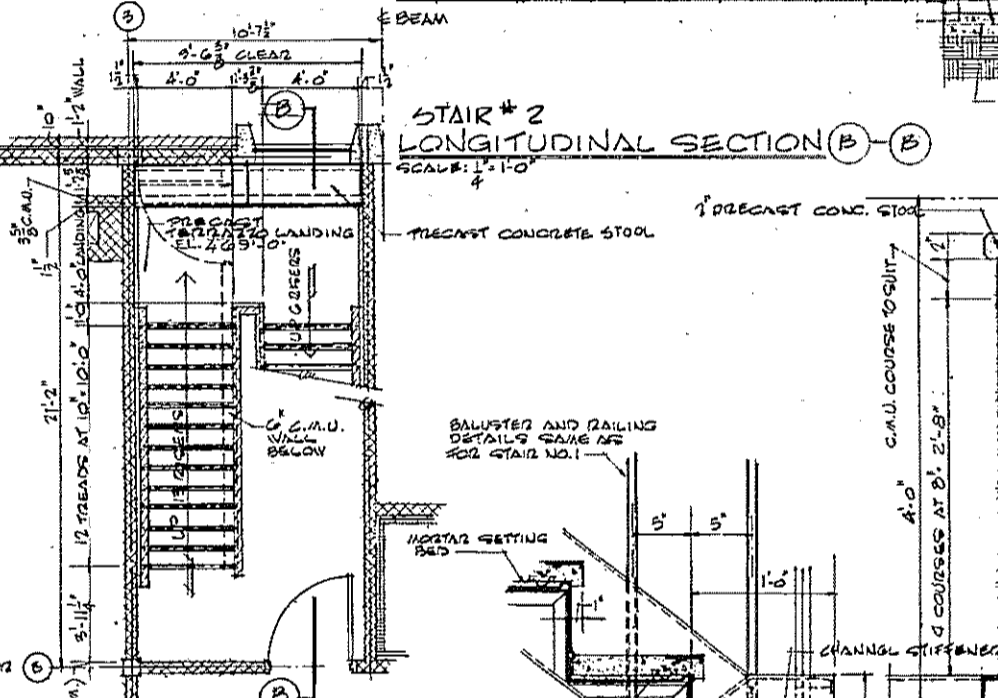
STAIR #1
PLAN - SECOND FLOOR



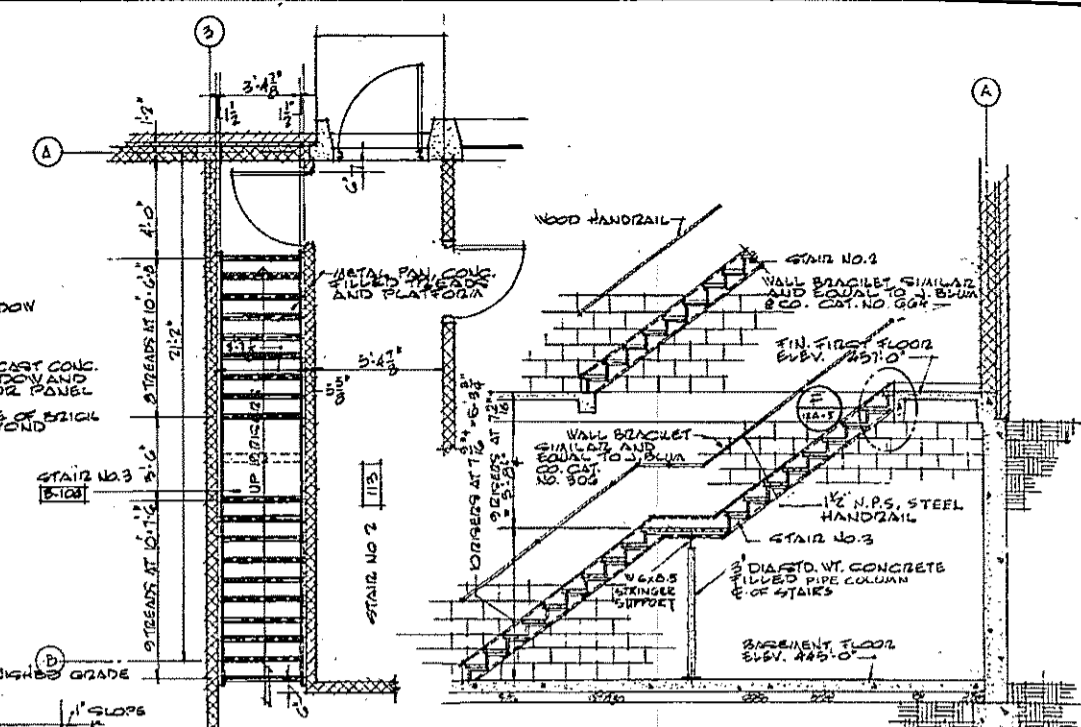
STAIR #1
LONGITUDINAL SECTION (A-A)



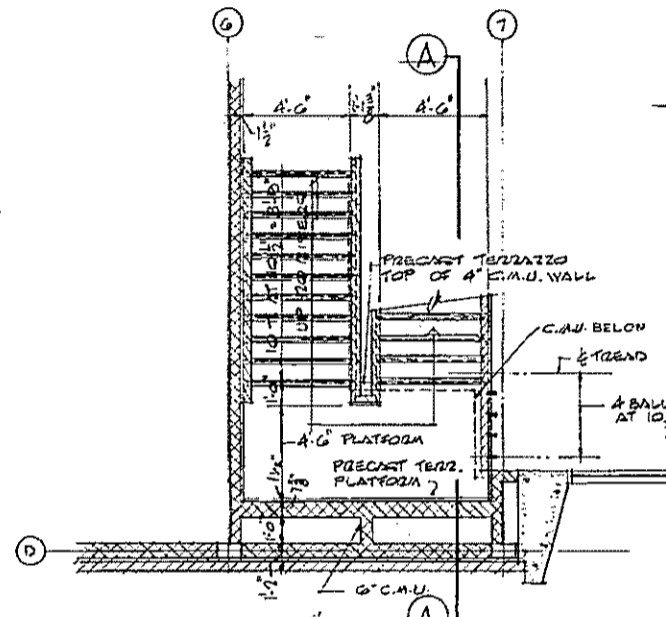
STAIR #2
PLAN - SECOND FLOOR



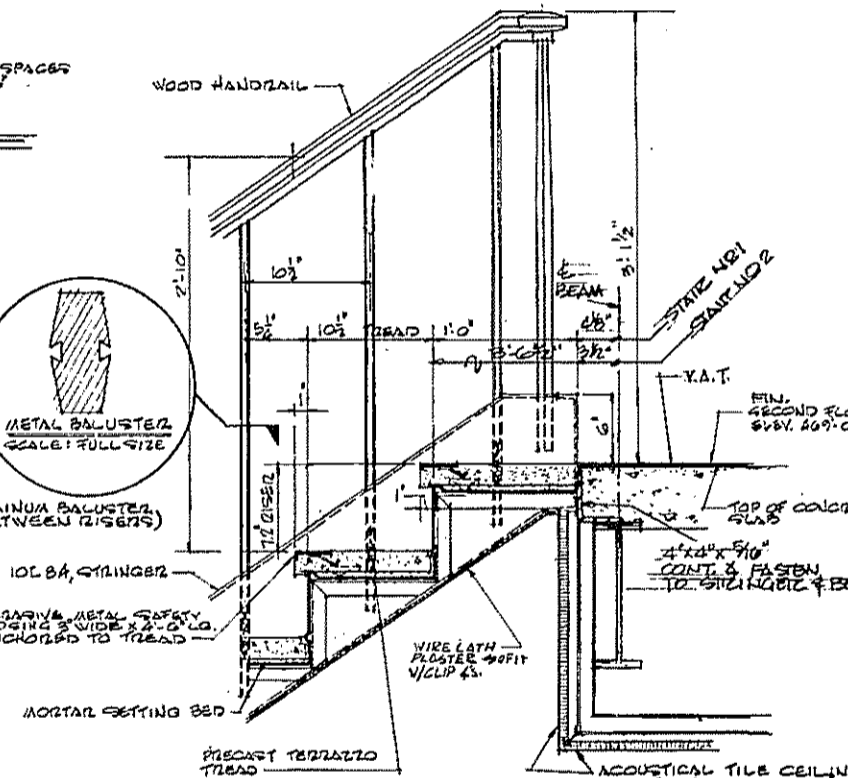
STAIR #2
LONGITUDINAL SECTION (B-B)



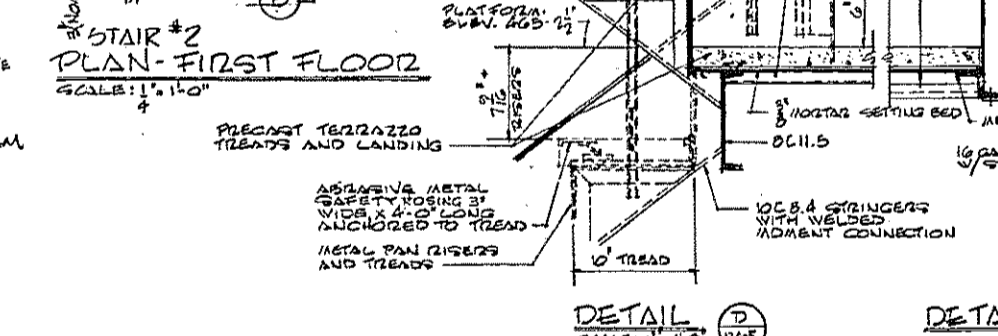
PLAN - STAIR NO. 3
LONGITUDINAL SECTION (A-A)



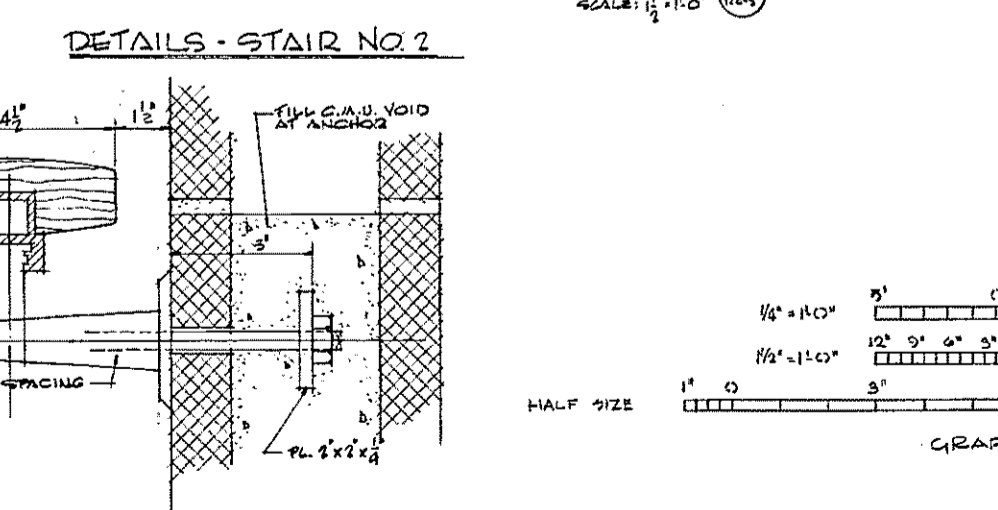
STAIR #1
PLAN - FIRST FLOOR



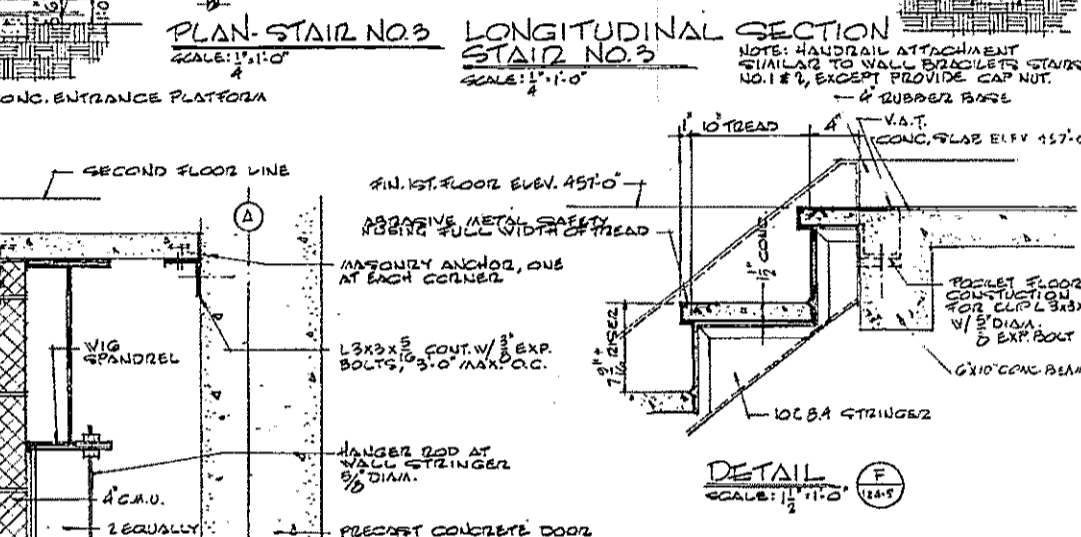
DETAIL (A)



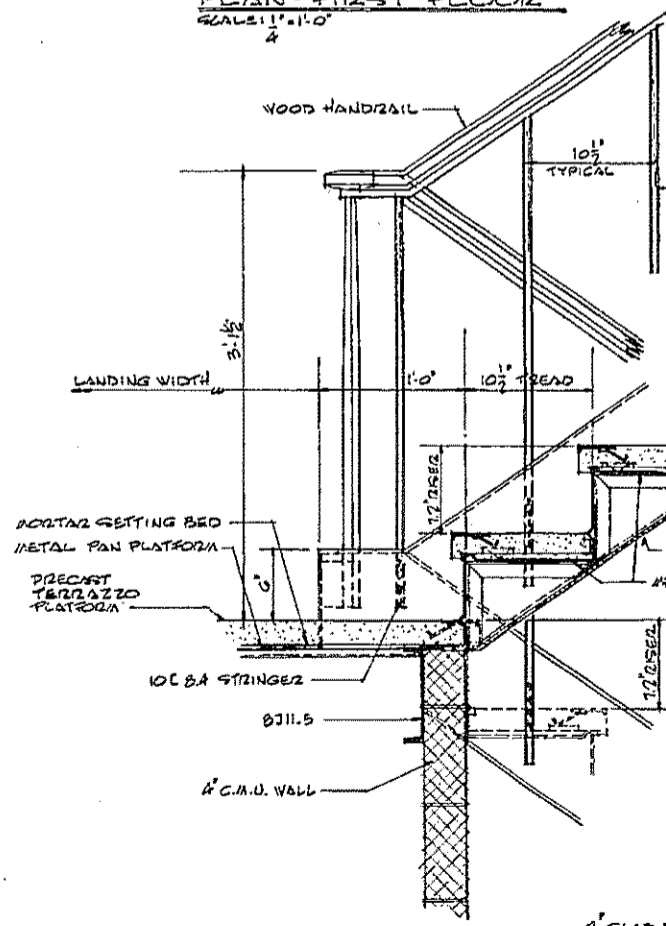
STAIR #2
PLAN - FIRST FLOOR



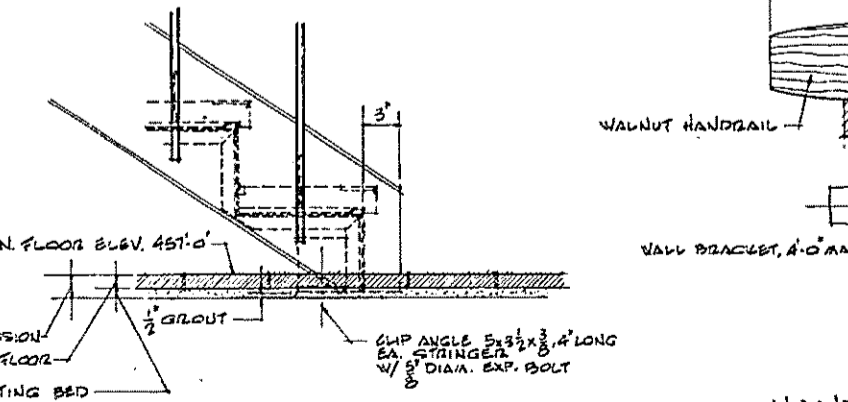
DETAILS - STAIR NO. 2



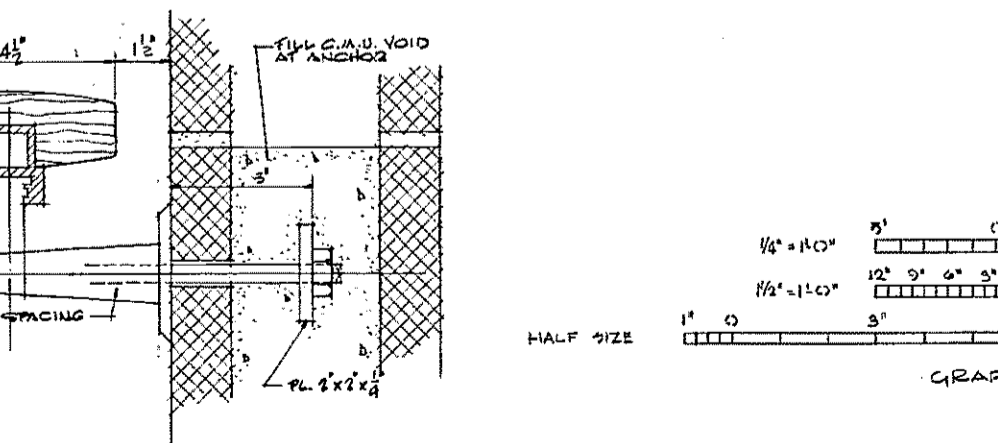
DETAIL (F)



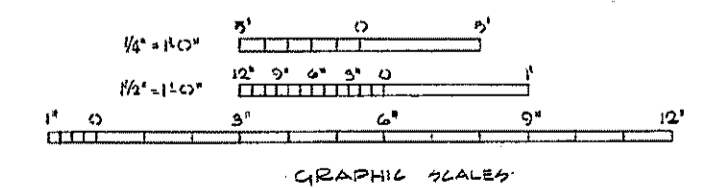
DETAIL (B)



DETAIL (C)



HANDRAIL & WALL BRACKET - STAIRS NO. 1 & NO. 2



HALF SIZE

GRAPHIC SCALES

HALF-SIZE DRAWING

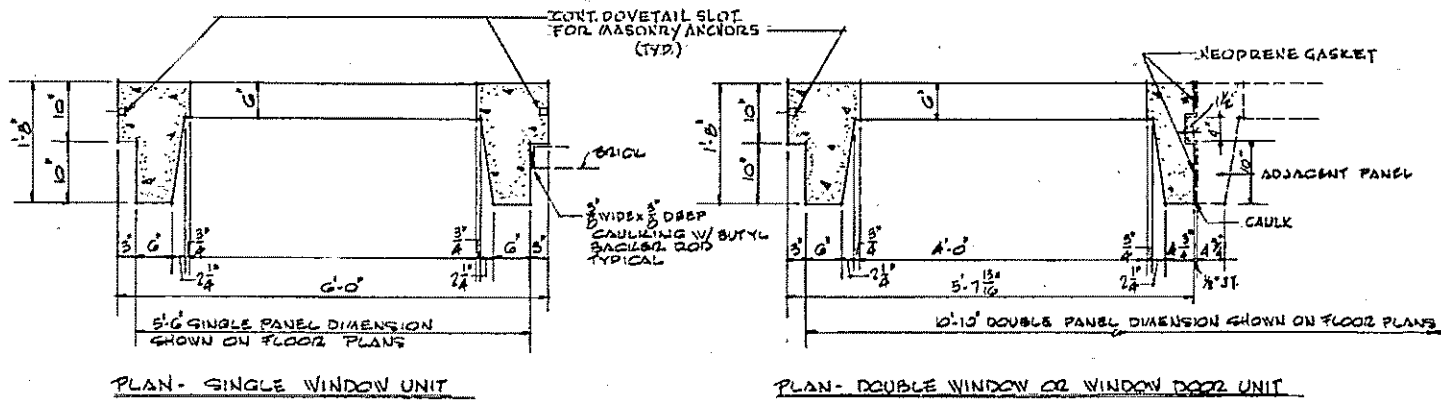
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N. -12
ARCHITECTURAL

STAIR DETAILS
SCALE: AS NOTED
FEB - 1977
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
DES. BY: J.F. CHK. BY: J.W. 83
APPROVED: J.M. Cahaly PLAN NO. 200

CONTRACT DRAWING SHEET NO. 12A-5

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

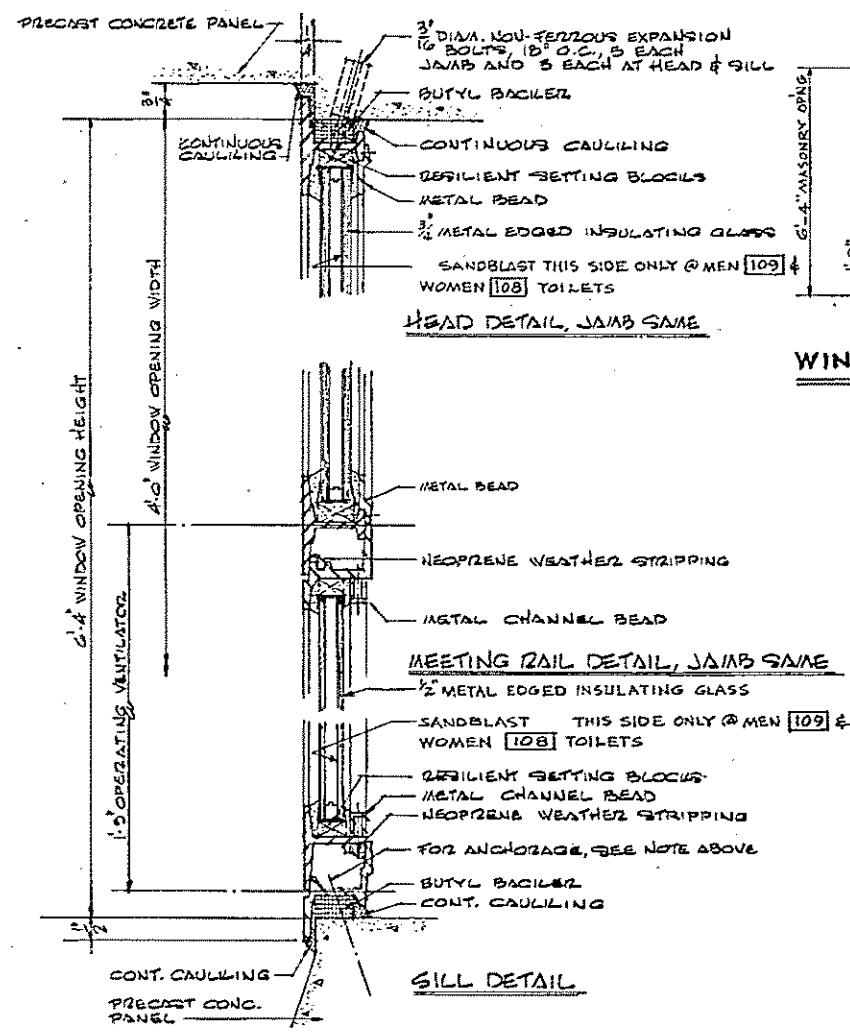




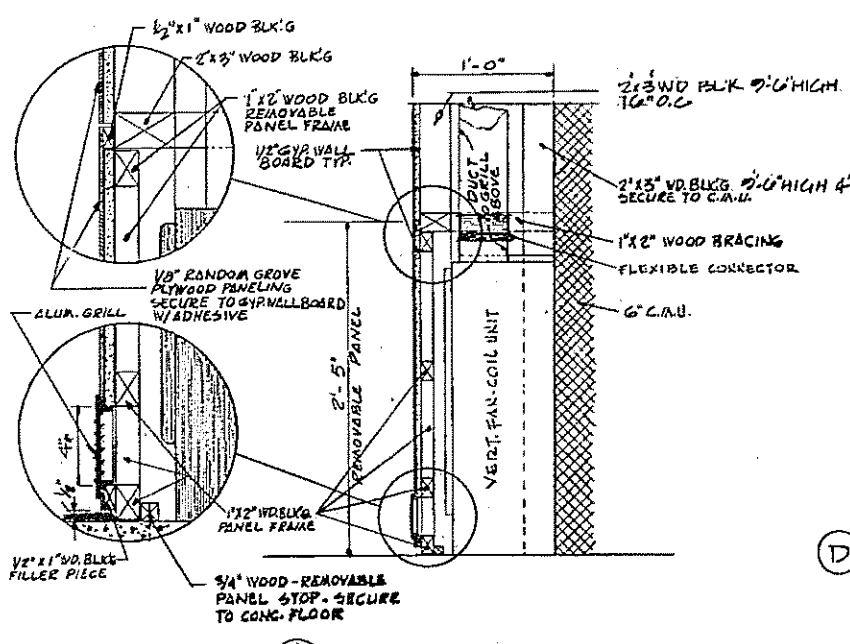
PLAN - SINGLE WINDOW UNIT

PLAN - DOUBLE WINDOW OR WINDOW DOOR UNIT

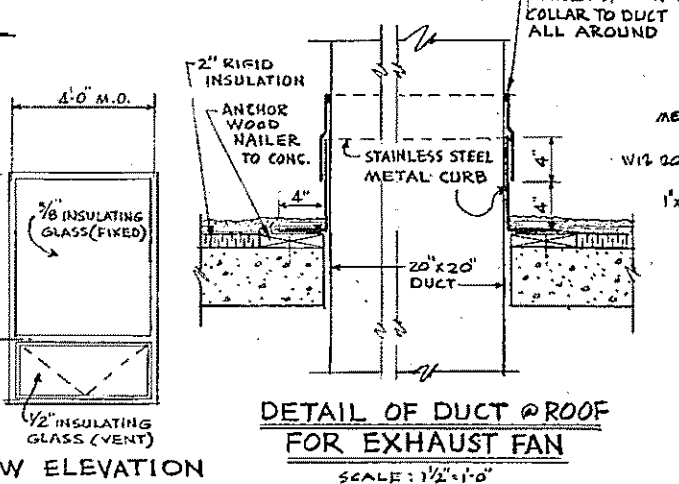
PRECAST CONCRETE PANEL DETAILS
SCALE: 3/8"=1'-0"



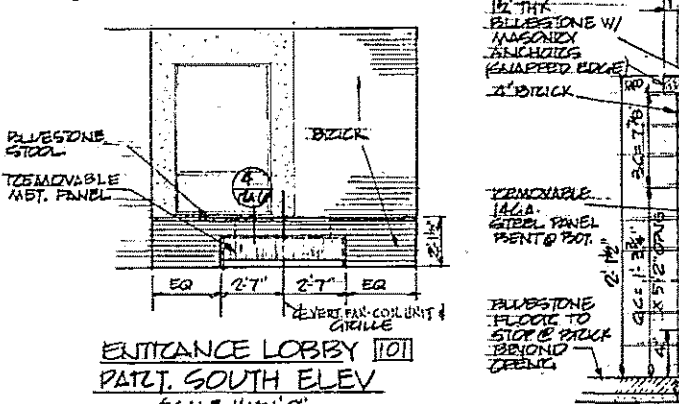
WINDOW DETAILS
SCALE: ONE HALF FULL SIZE



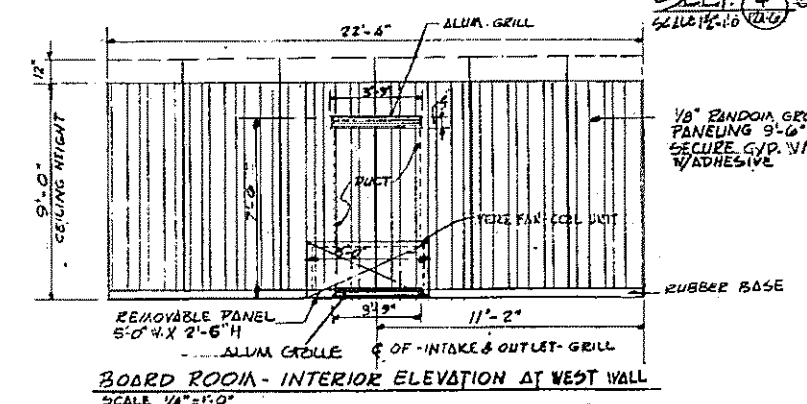
SECTION & DETAILS
SCALE 1/4"=1'-0"



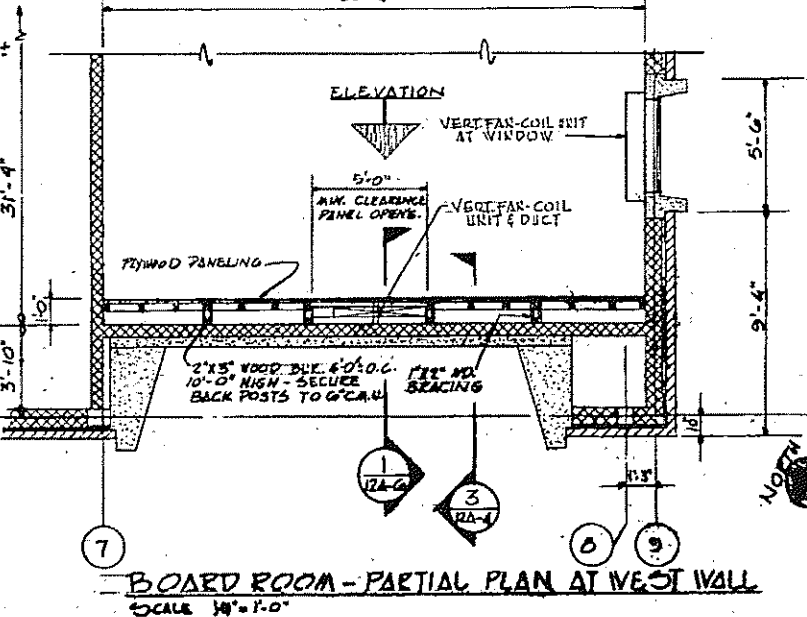
DETAIL OF DUCT @ ROOF FOR EXHAUST FAN
SCALE: 1/2"=1'-0"



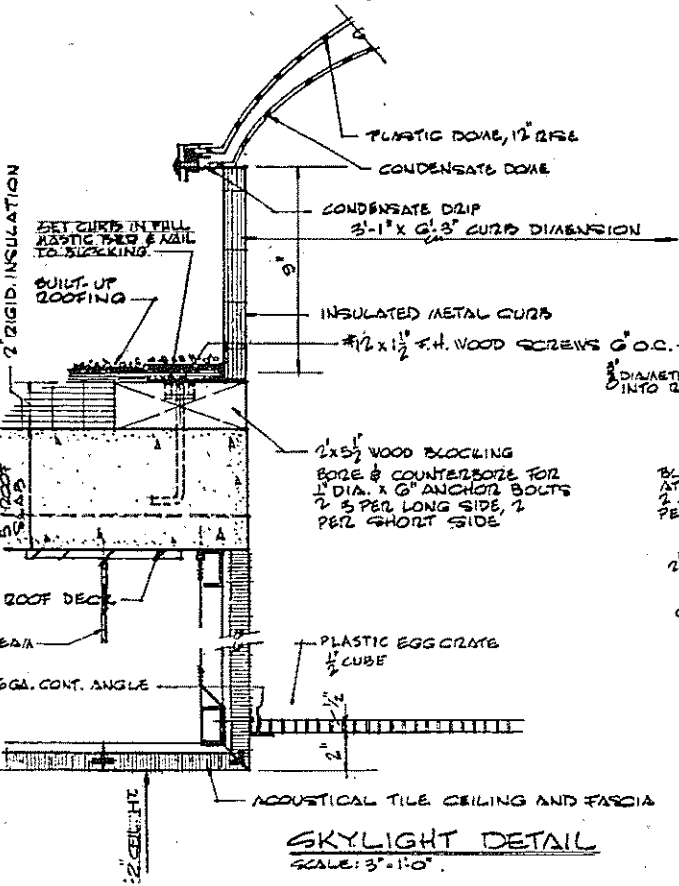
ENTRANCE LOBBY PART. SOUTH ELEV
SCALE 1/4"=1'-0"



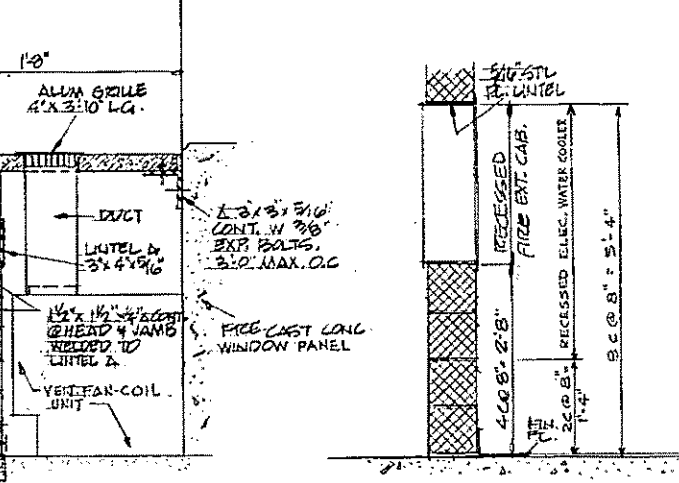
BOARD ROOM - INTERIOR ELEVATION AT WEST WALL
SCALE 1/4"=1'-0"



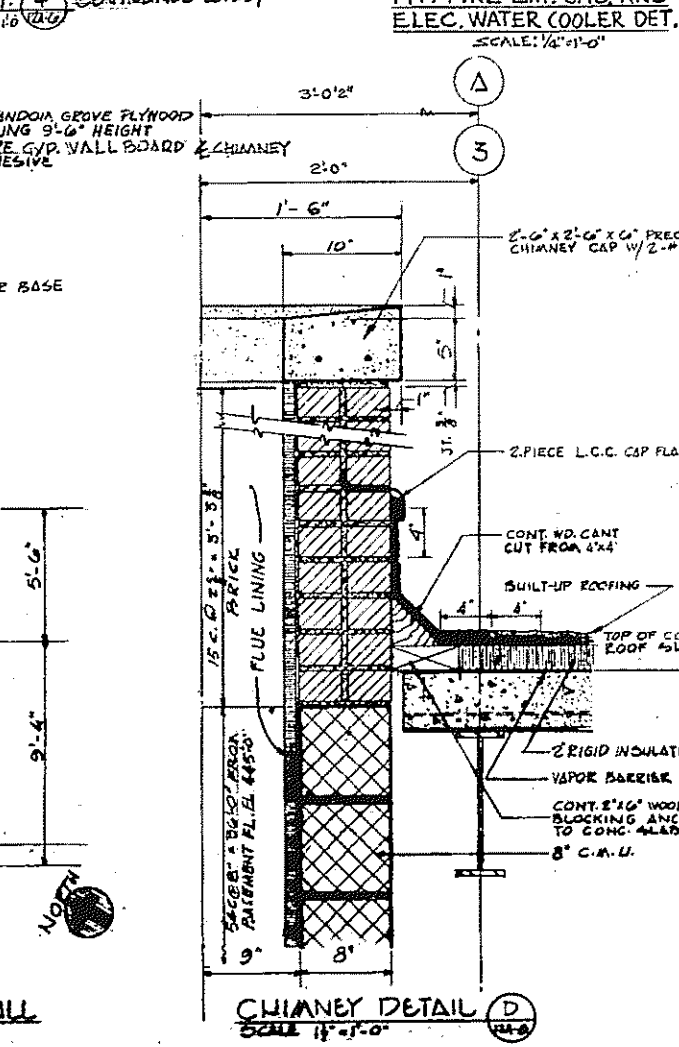
BOARD ROOM - PARTIAL PLAN AT WEST WALL
SCALE 1/4"=1'-0"



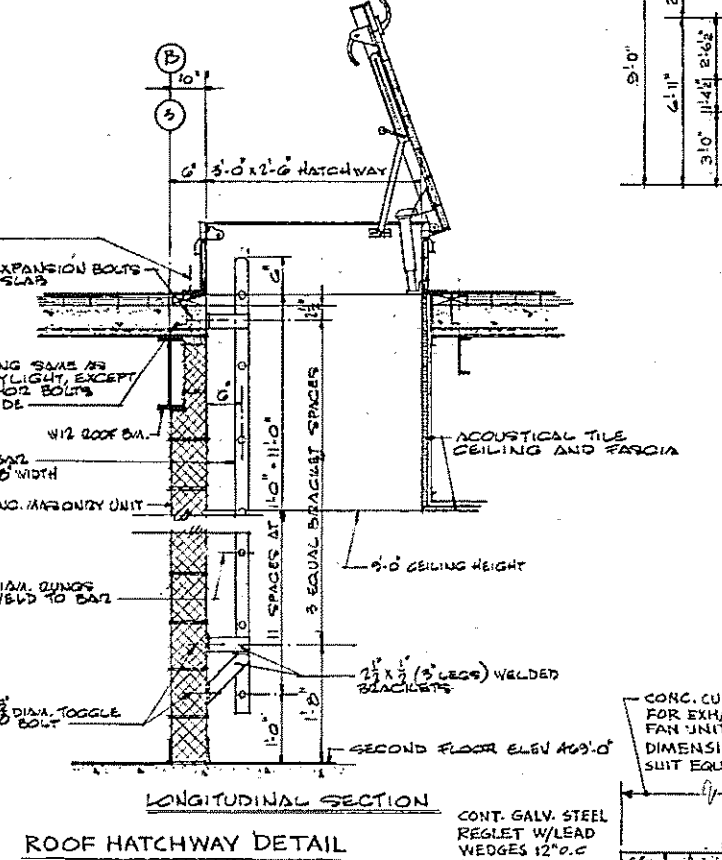
SKYLIGHT DETAIL
SCALE: 3/8"=1'-0"



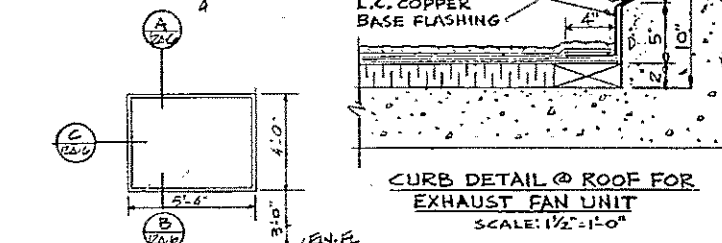
TYP. FIRE EXT. CAB AND ELEC. WATER COOLER DET.
SCALE: 1/2"=1'-0"



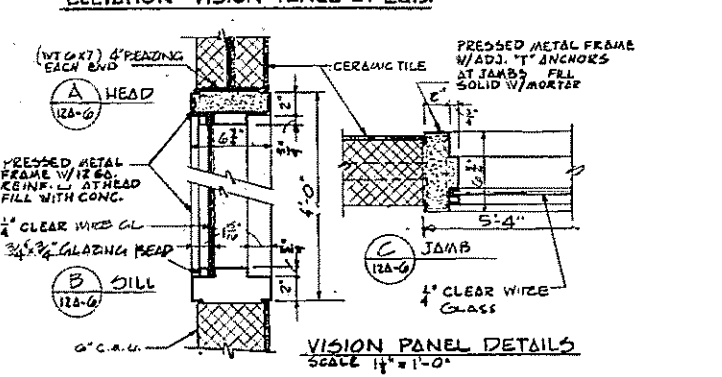
CHIMNEY DETAIL
SCALE 1/2"=1'-0"



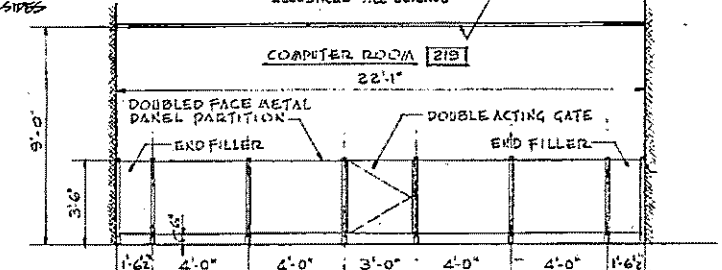
ROOF HATCHWAY DETAIL
SCALE: 3/8"=1'-0"



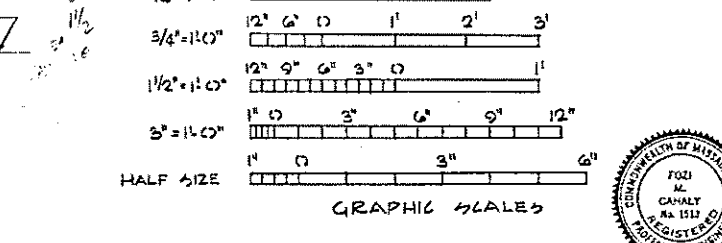
CURB DETAIL @ ROOF FOR EXHAUST FAN UNIT
SCALE: 1/2"=1'-0"



ELEVATION - VISION PANEL AT LAB.
SCALE: 1/2"=1'-0"



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



GRAPHIC SCALES

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N.-12
ARCHITECTURAL

MISCELLANEOUS DETAILS

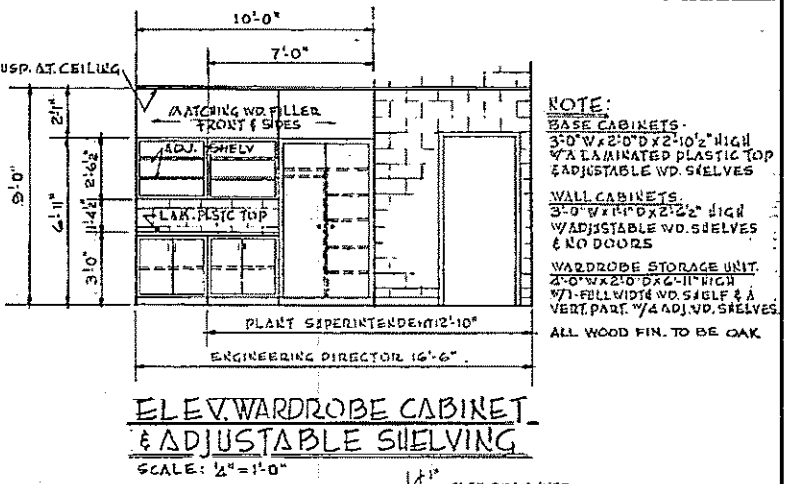
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

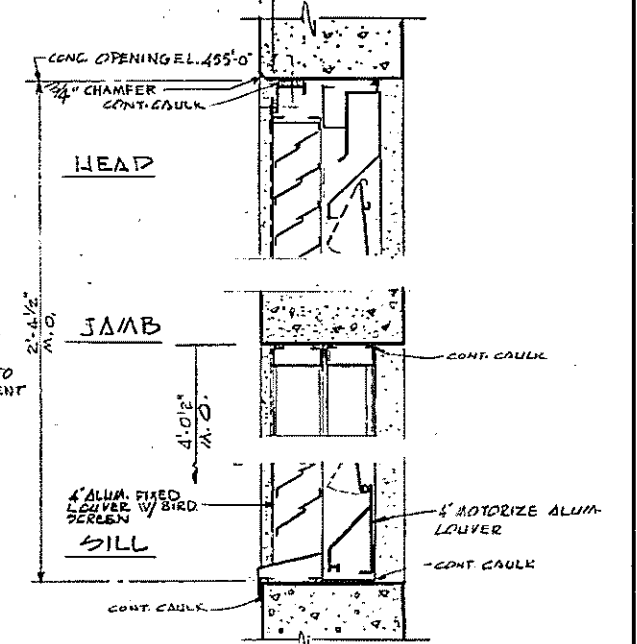
DES. H.P.C.
DR. J.F.
APPROVED *F. W. Cahaly*

FILE NO. JW-83
PLAN NO. 201

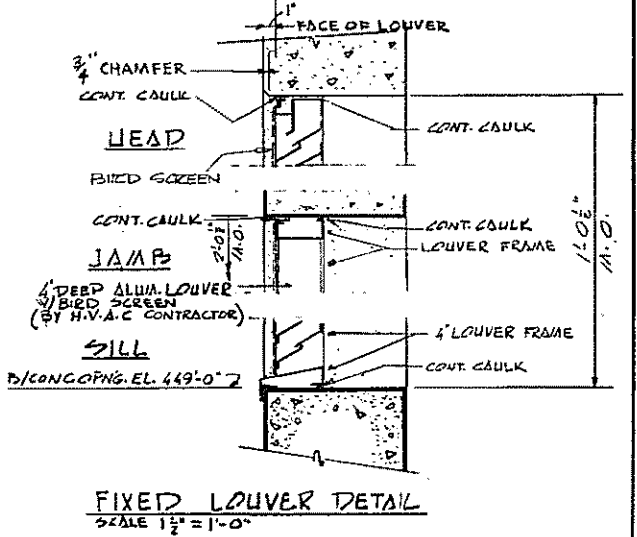
CONTRACT DRAWING SHEET NO. 12A-6



ELEV. WARDROBE CABINET & ADJUSTABLE SHELVING
SCALE: 1/2"=1'-0"

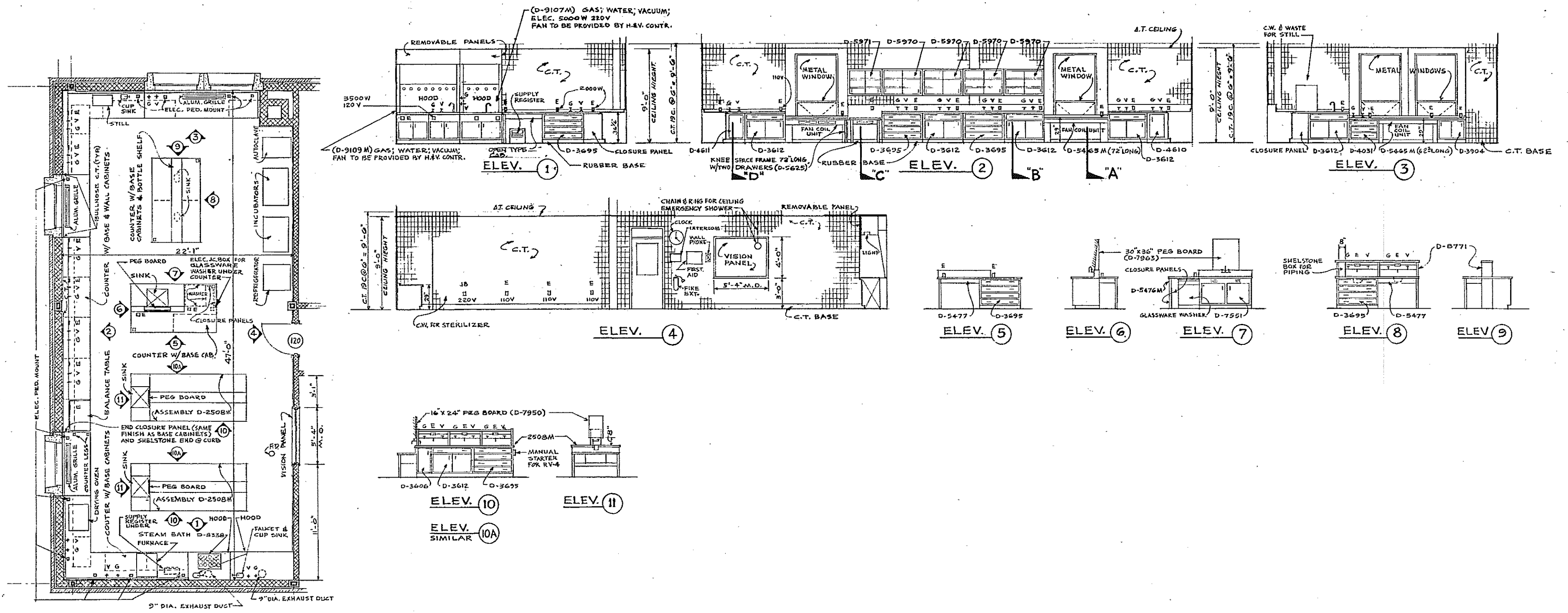


FIXED & MOTORIZED LOUVER DETAIL
SCALE: 1/2"=1'-0"



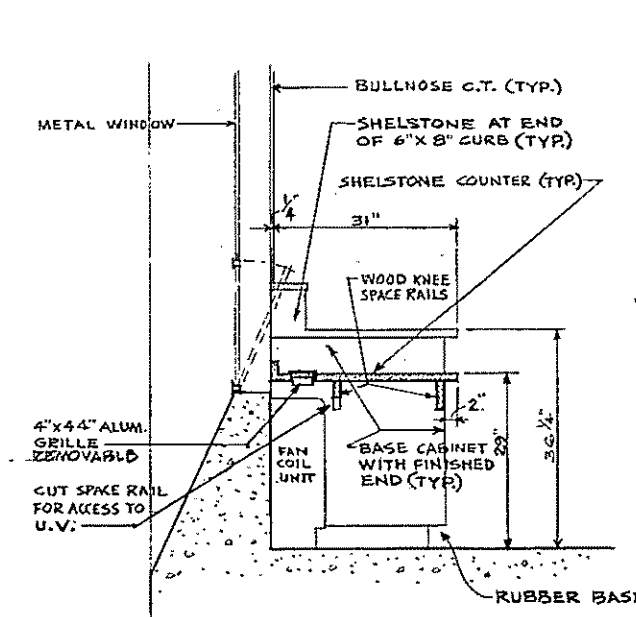
FIXED LOUVER DETAIL
SCALE: 1/2"=1'-0"

NOTE:
BASE CABINETS - 3/4" W x 21" D x 21" H x 10" D HIGH
7/8" LAMINATED PLASTIC TOP
ADJUSTABLE WD. SHELVES
WALL CABINETS - 3/4" W x 17" D x 21" H x 10" D HIGH
ADJUSTABLE WD. SHELVES & 20 DOORS
WARDROBE STORAGE UNIT - 20" W x 20" D x 21" H x 10" D HIGH
7/8" LAMINATED PLASTIC TOP & 2 VERT. PART. 1/4" ADJ. WD. SHELVES
ALL WOOD FIN. TO BE OAK



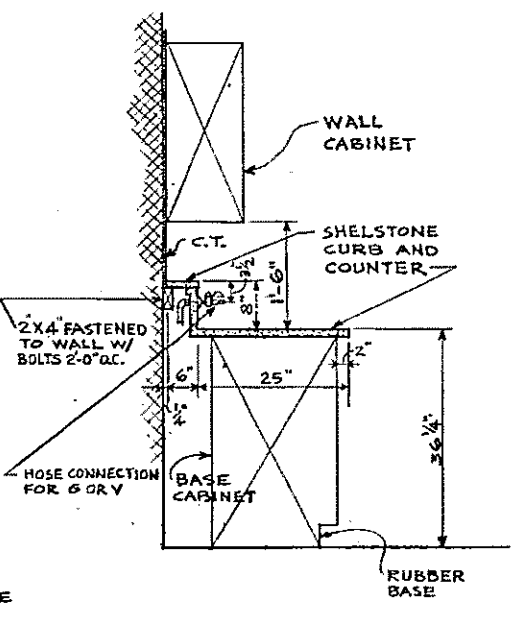
LABORATORY LAYOUT PLAN

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



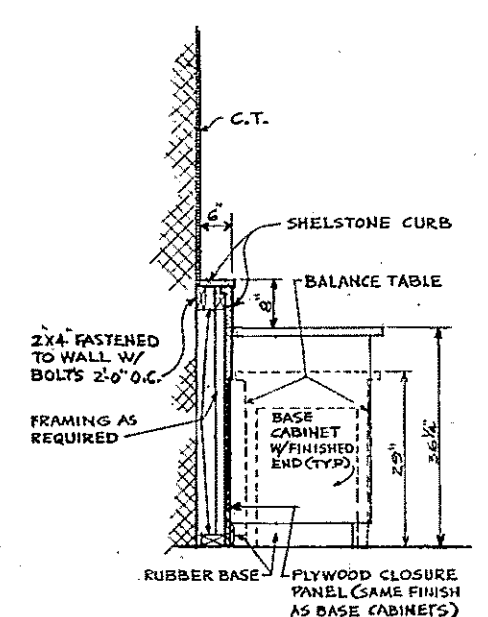
SECTION "A"

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



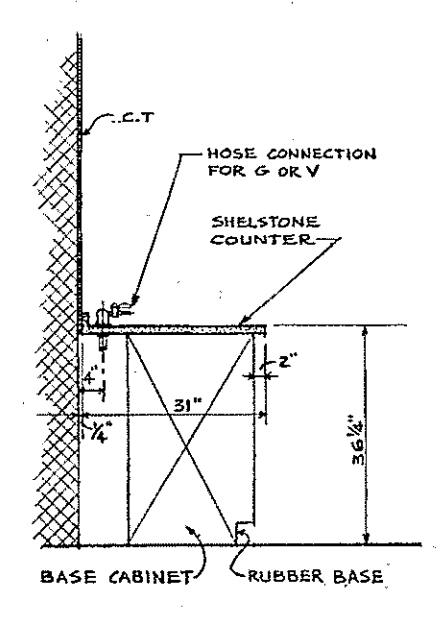
SECTION "B"

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



SECTION "C"

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



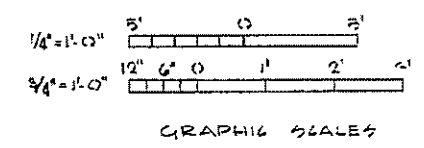
SECTION "D"

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

GEN. NOTES:

- 1) SCALE OF ALL ELEVATIONS ARE 1/4" = 1'-0"
- 2) EQUIPMENT NUMBERS ARE FROM CATALOG OF LABORATORY FURNITURE BY E.H. SHELDON EQUIPMENT CO., MUSKEGON, MICH.
 - * D-8000 SINGLE COLD WATER GOOSENECK FIXTURE FOR DECK MOUNTING
 - * D-8040 HOT AND COLD WATER MIXING SPOUT FAUCET FOR MOUNTING ON END OF BOTTLE RACK UPRIGHT
 - * D-8044 WATER COCK WITH STRAIGHT HOSE CONNECTION, PIPE MOUNTING
 - D-8060 UNIVERSAL COCK FOR GAS AND VACUUM DECK MOUNTED
 - D-8061 UNIVERSAL COCK FOR GAS AND VACUUM PANEL MOUNTED
 - D-8128 COCKS FOR GAS AND VACUUM, PIPE MOUNTED
- 3) EXHAUST FAN FOR THE HOODS SHALL BE SUPPLIED BY HOOD SUPPLIER AND SHALL BE INSTALLED BY H.V. A.C. CONTRACTOR. FOR DETAIL SEE SHEET NO. 12 HV-3

* - FURNISH WITH COMMONWEALTH OF MASSACHUSETTS APPROVED VACUUM BREAKER.



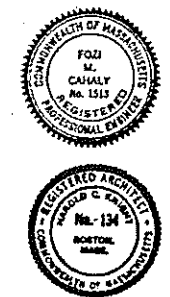
SYMBOLS:

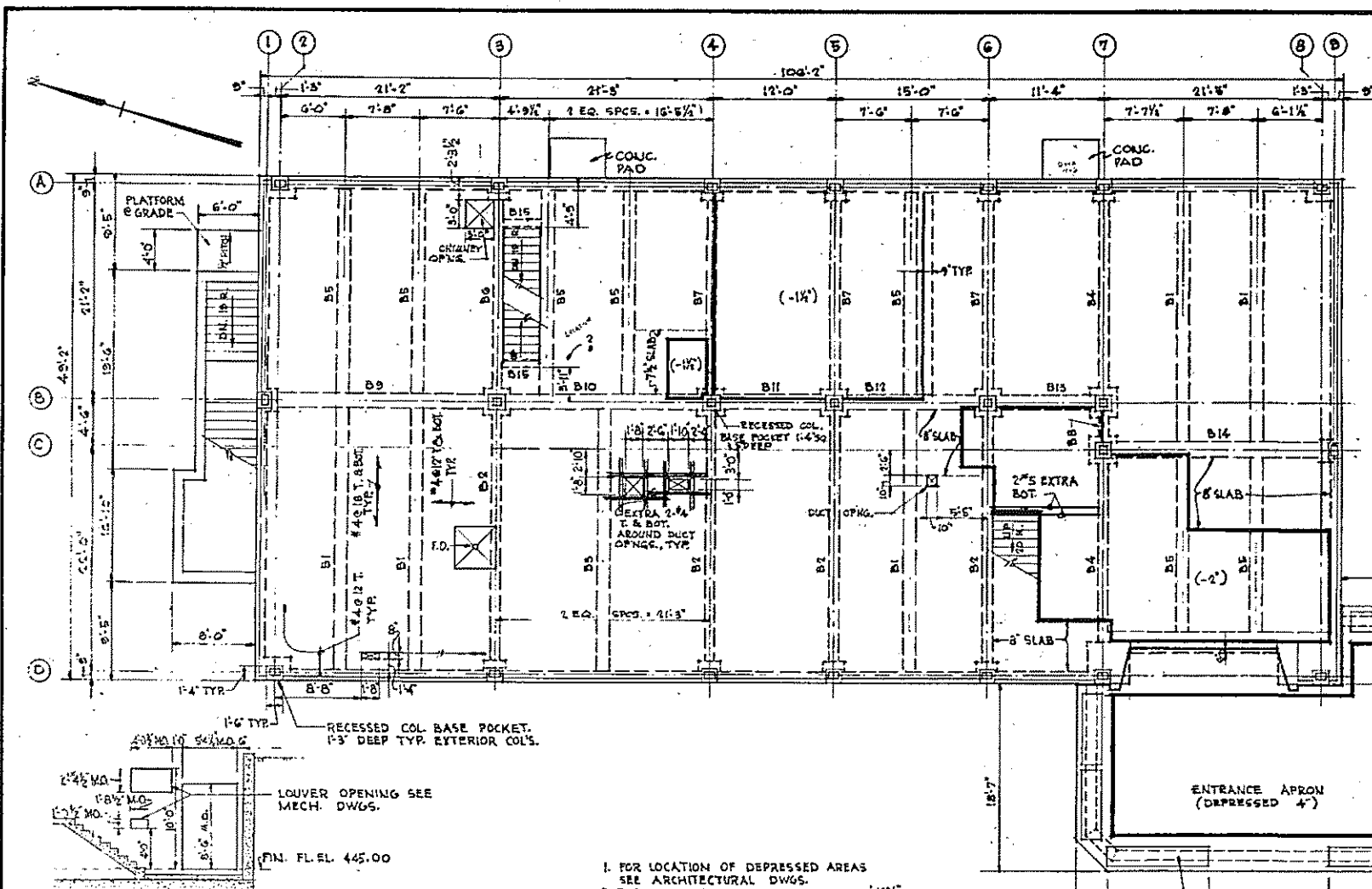
- G = GAS
- V = VACUUM
- E = ELECTRIC OUTLET
- M = MODIFIED
- J.B. = JUNCTION BOX

HALF-SIZE DRAWING

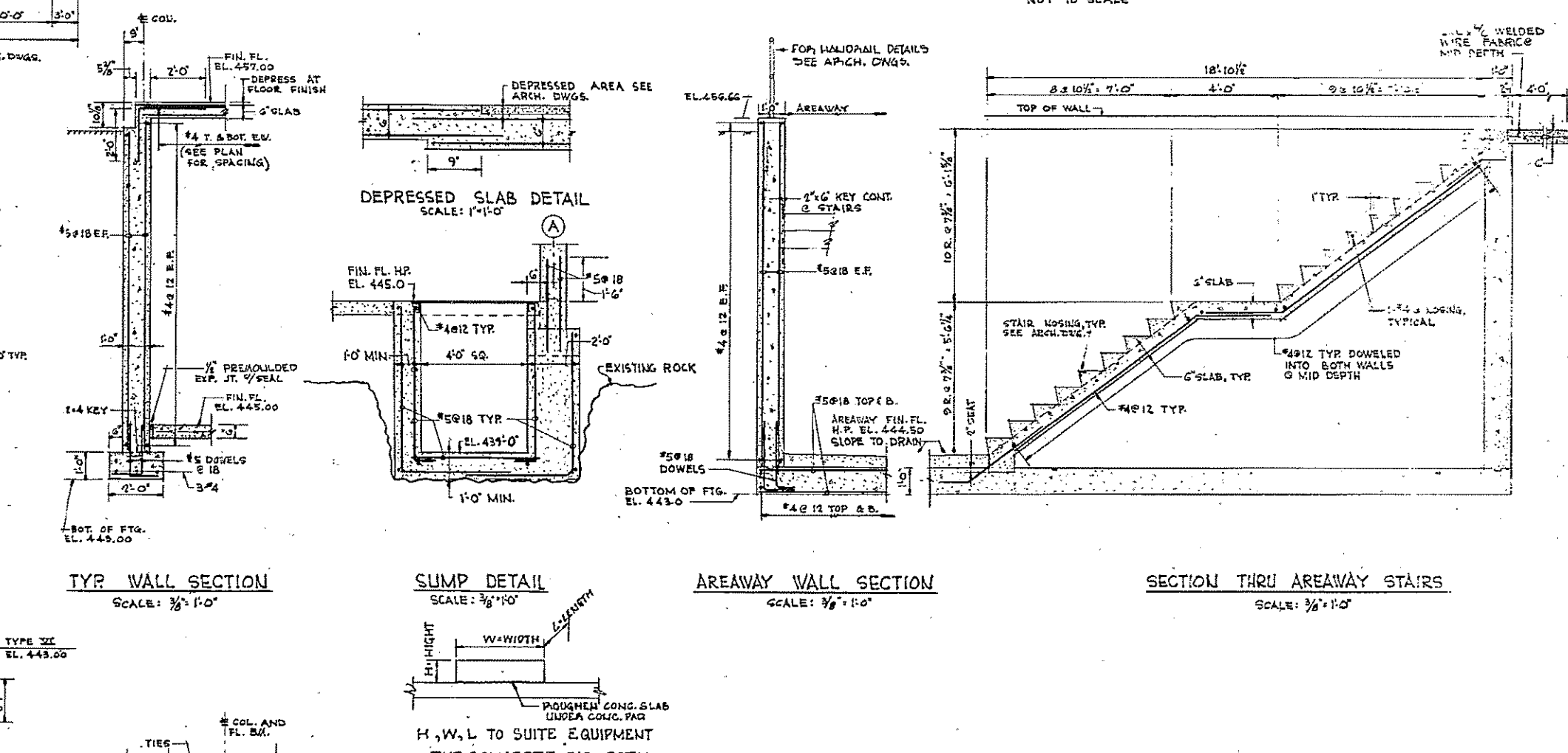
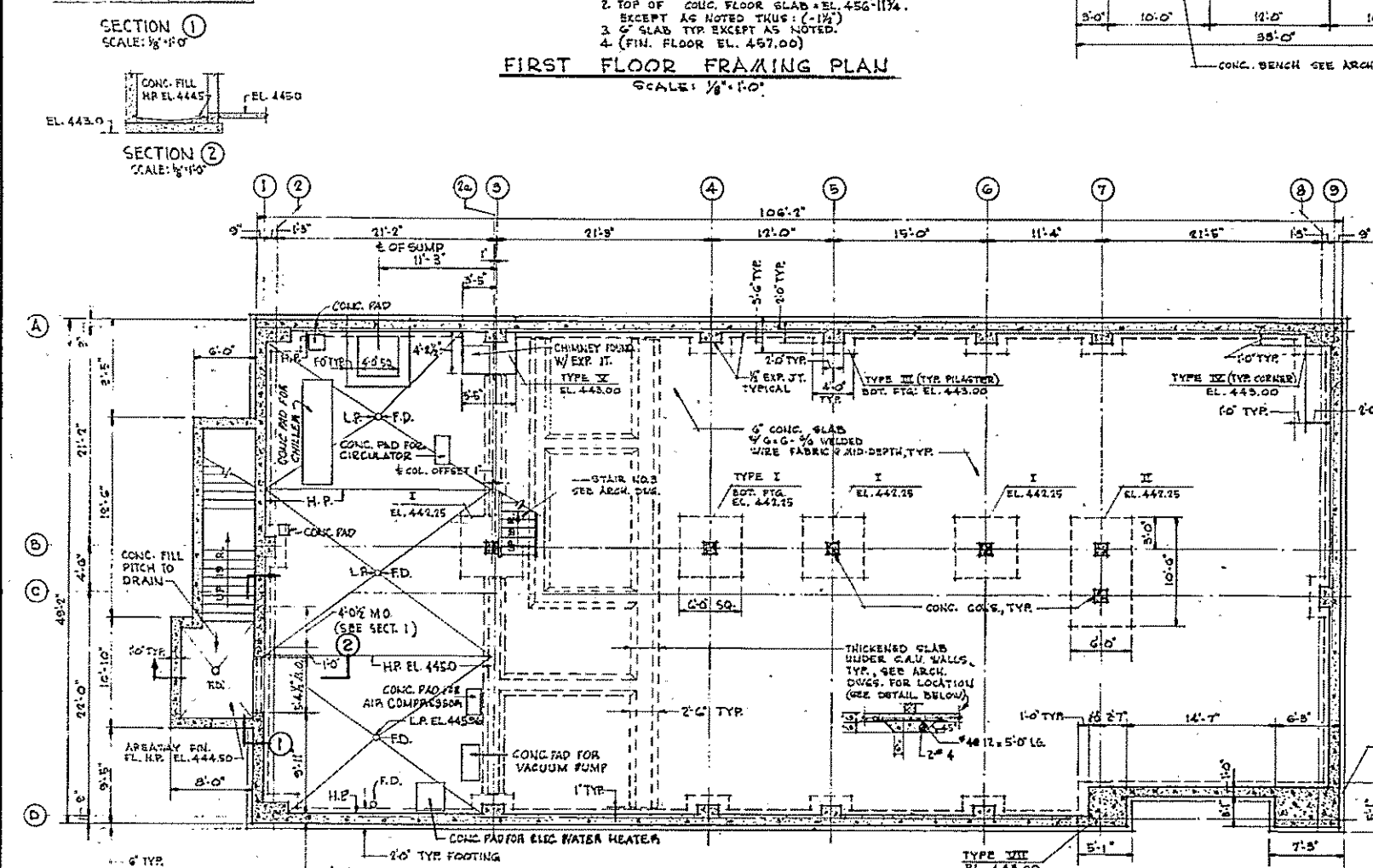
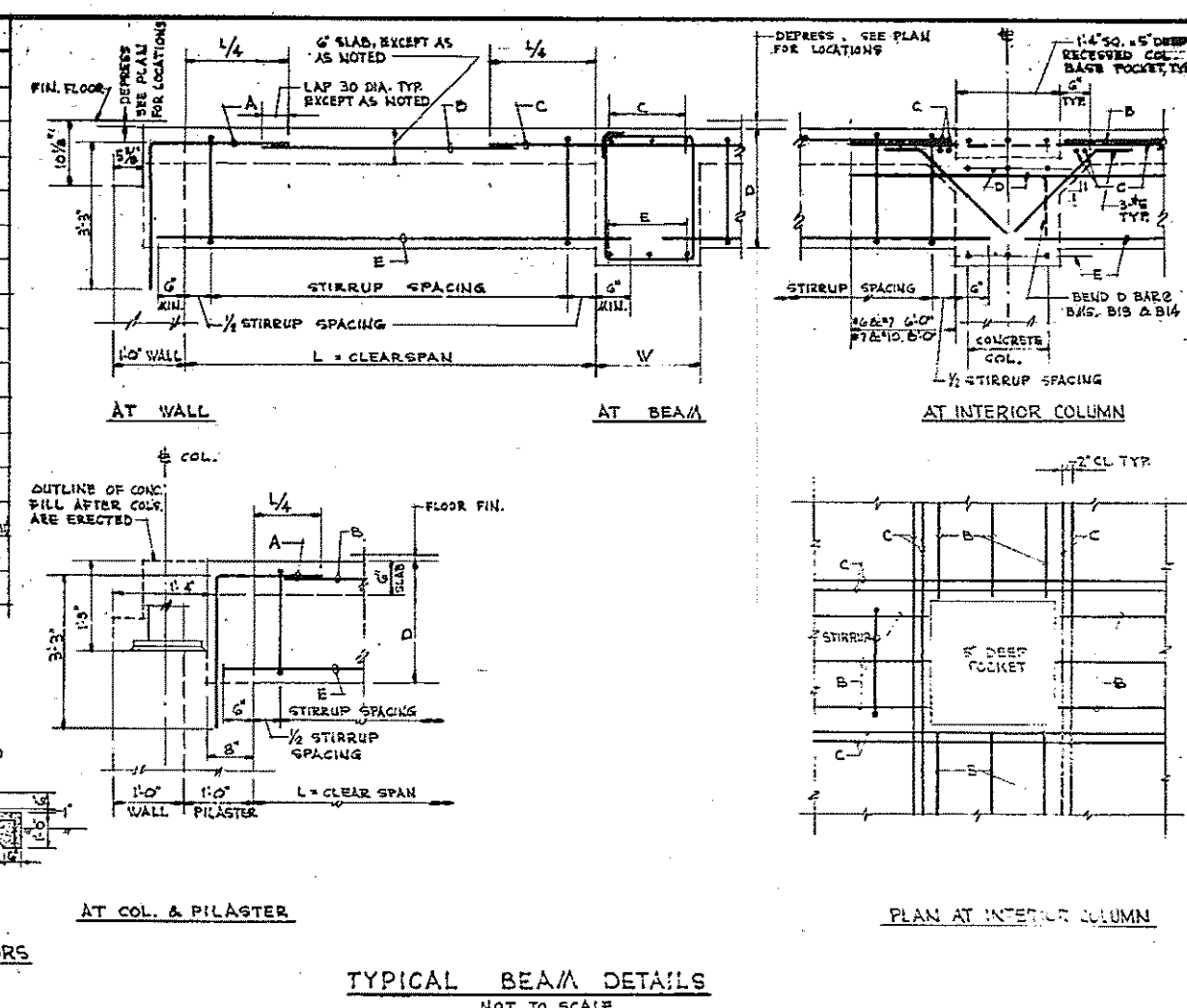
COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 ADMINISTRATION BUILDING, F.N. - 12 ARCHITECTURAL LABORATORY PLAN AND DETAILS	
SCALE AS NOTED	PERMITS: 1873
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS. KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.	
SYS. H.C.P. DR. 12.11	TR. CHK. F.H.L. DATE JW-83 202
APPROVED: F.W. Cahaly	DATE: 202
CONTRACT DRAWING SHEET NO. 12A-7	

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



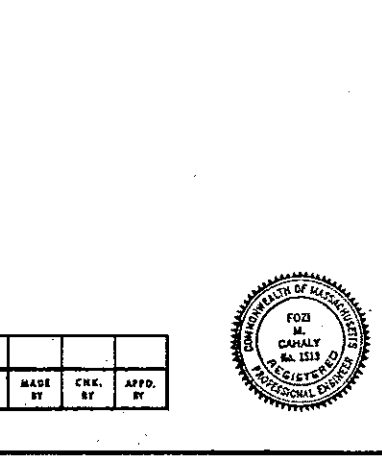
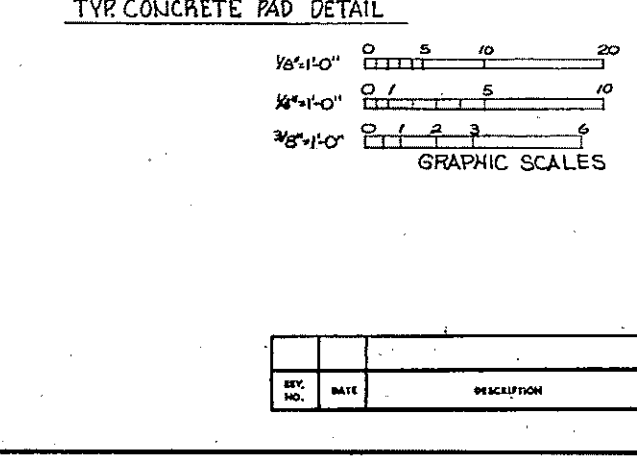
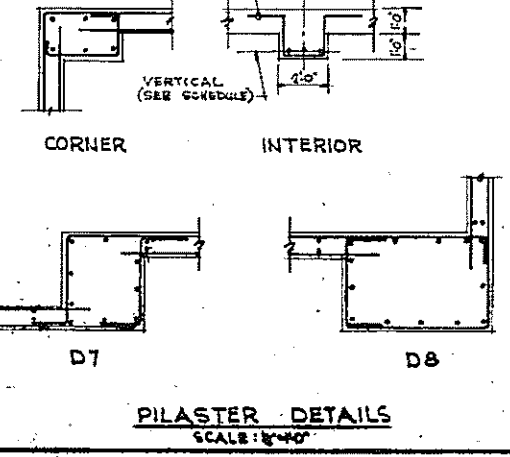
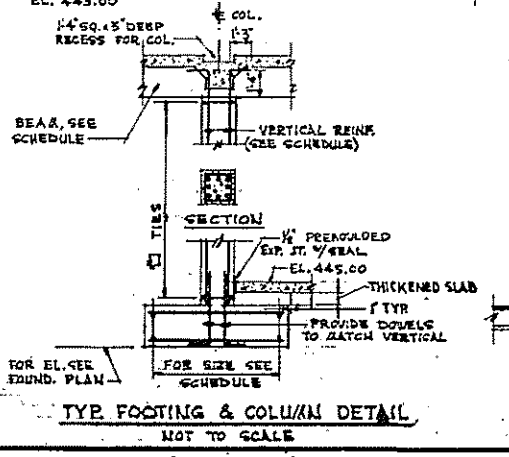


MARK	W	D	REINFORCING					STIRRUP SPACING	REMARKS
			A	B	C	D	E		
B1	19	21	3-#6	3-#6	3-#7	-	4-#8	4x9	
B2	15	21	3-#6	3-#6	3-#7	-	4-#8	4x9	
B3	15	21	3-#6	3-#6	3-#7	-	4-#8	4x9	
B4	15	21	3-#6	3-#6	3-#7	-	4-#8	4x9	
B5	15	21	3-#6	3-#6	3-#7	-	4-#8	4x9	
B6	12	21	3-#6	3-#6	3-#7	-	4-#8	4x9	SEE B2
B7	15	21	3-#6	3-#6	3-#7	-	4-#8	4x9	SEE B2
B8	15	21	2-#5	4-#7	3-#6	3-#7	-	4x9	SEE B4, BAR C CONT. (SEE BILL)
B9	15	24	4-#6	4-#6	4-#7	3-#6	5-#9	4x9	
B10	18	24	-	3-#6	4-#7	3-#6	4-#8	4x9	
B11	18	24	-	2-#5	4-#6	3-#6	3-#5	4x9	SEE B2
B12	18	24	-	2-#5	4-#6	3-#6	5-#9	4x9	SEE B2
B13	18	24	-	2-#5	4-#6	3-#6	3-#5	4x9	SEE B2
B14	18	24	4-#6	4-#6	4-#7	3-#6	6-#9	4x9	SEE B2
B15	6	10	-	2-#5	-	-	2-#5	-	B BAR CONT. OVER BEAMS

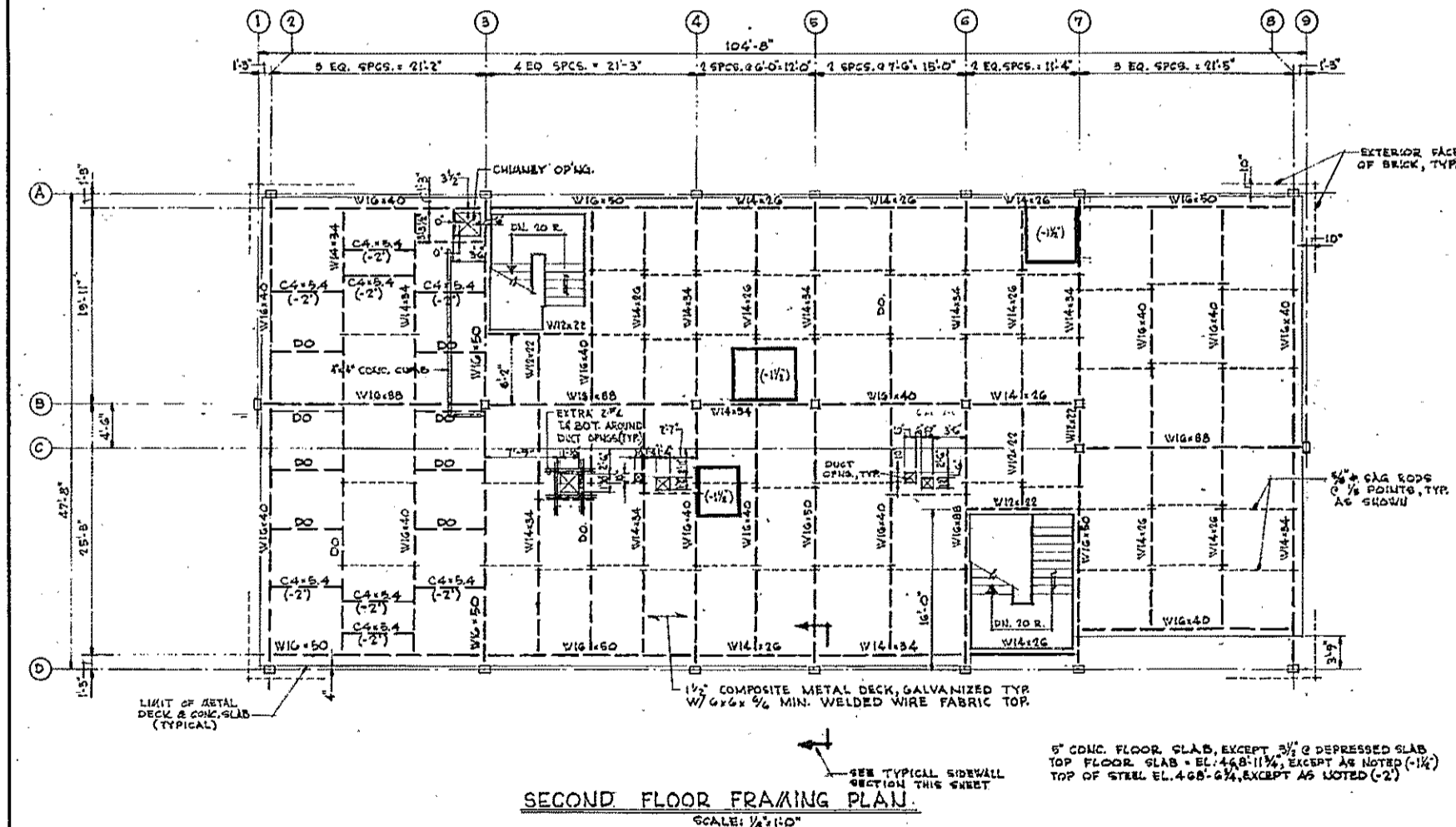
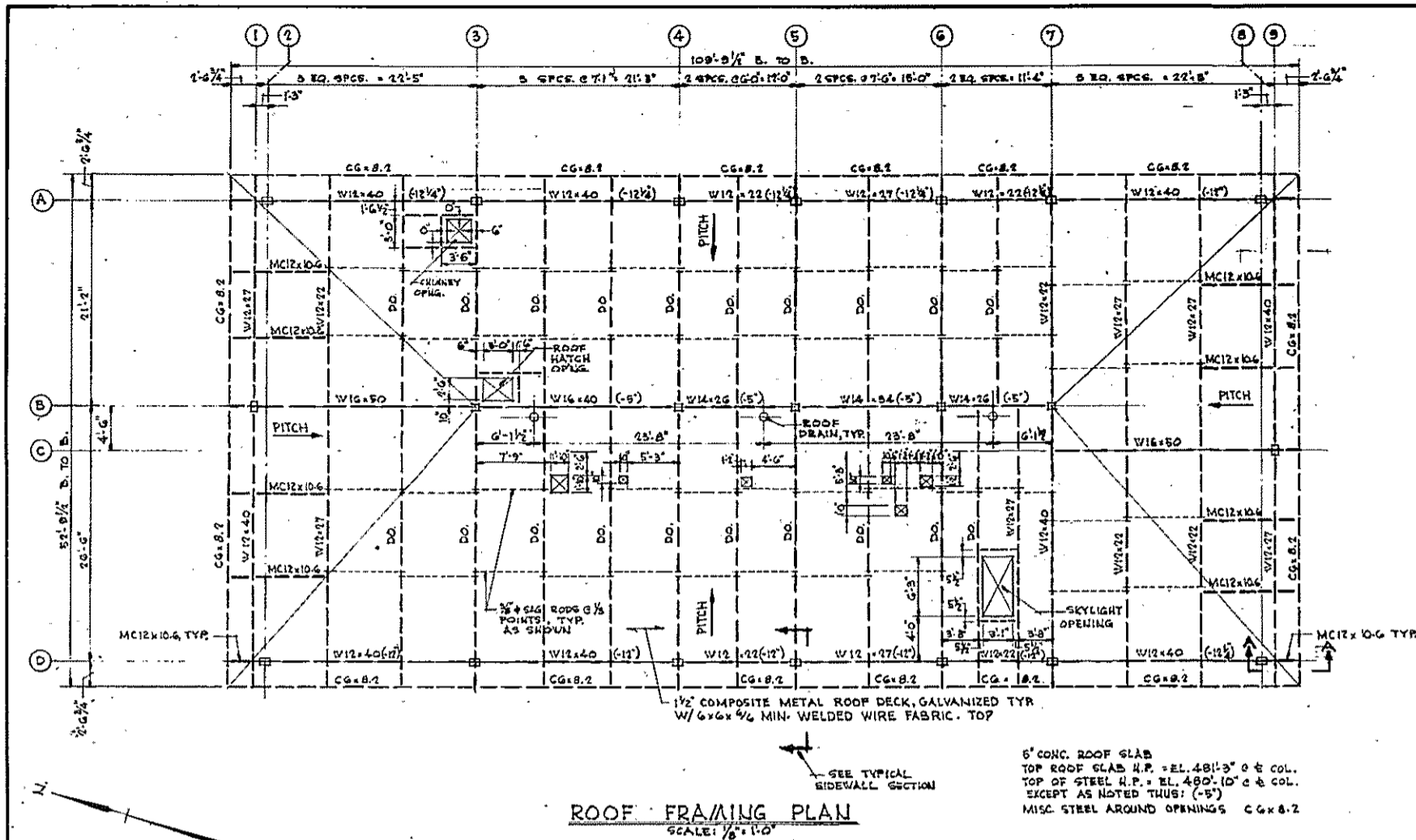


TYPE	SIZE	REINF.	REMARKS
I	60 x 10 x 10	7-#5 EW. TOP 7-#7 EW. B.	
II	10 x 10 x 10	4-#4 TOP EW. 4-#4 BOT. EW.	
III	4 x 4 x 10	4-#4 B. (L TO WALL)	
IV	4 x 4 x 10	5-#4 E. (L-W) 4-#4 B. (L-W)	
V	5-8 x 5-5 x 10	6-#4 (E-W) 6-#4 (L-W)	
VI	7-8 x 5-1 x 10	6-#4 B. (E-W) 6-#4 B. (L-W)	
VII	5-1 x 5-1 x 10	6-#4 B. (L-W)	

DESIGNATION	SIZE	VERTICAL TIES	REMARKS
05, 04, 05, 06, 07 & 07	14 x 14	8-#10	4x14
A1, A2 & D2	AS SHOWN	4-#10	SEE CORNER PILE DETAIL
A3, A4, A5, A6, A7, B1, C1, D3 & D5, D6	AS SHOWN	4-#12	SEE INTERIOR PILE DETAIL
D1 & D8	AS SHOWN	4-#12	BEAM AS SHOWN

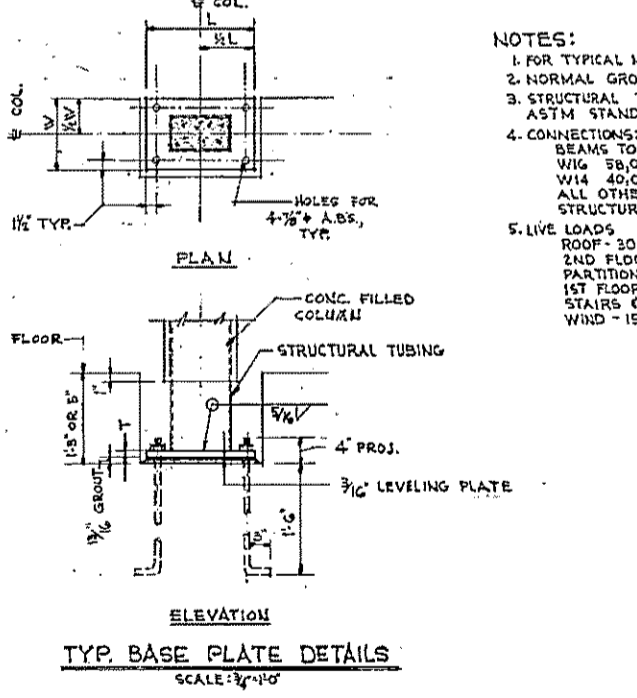
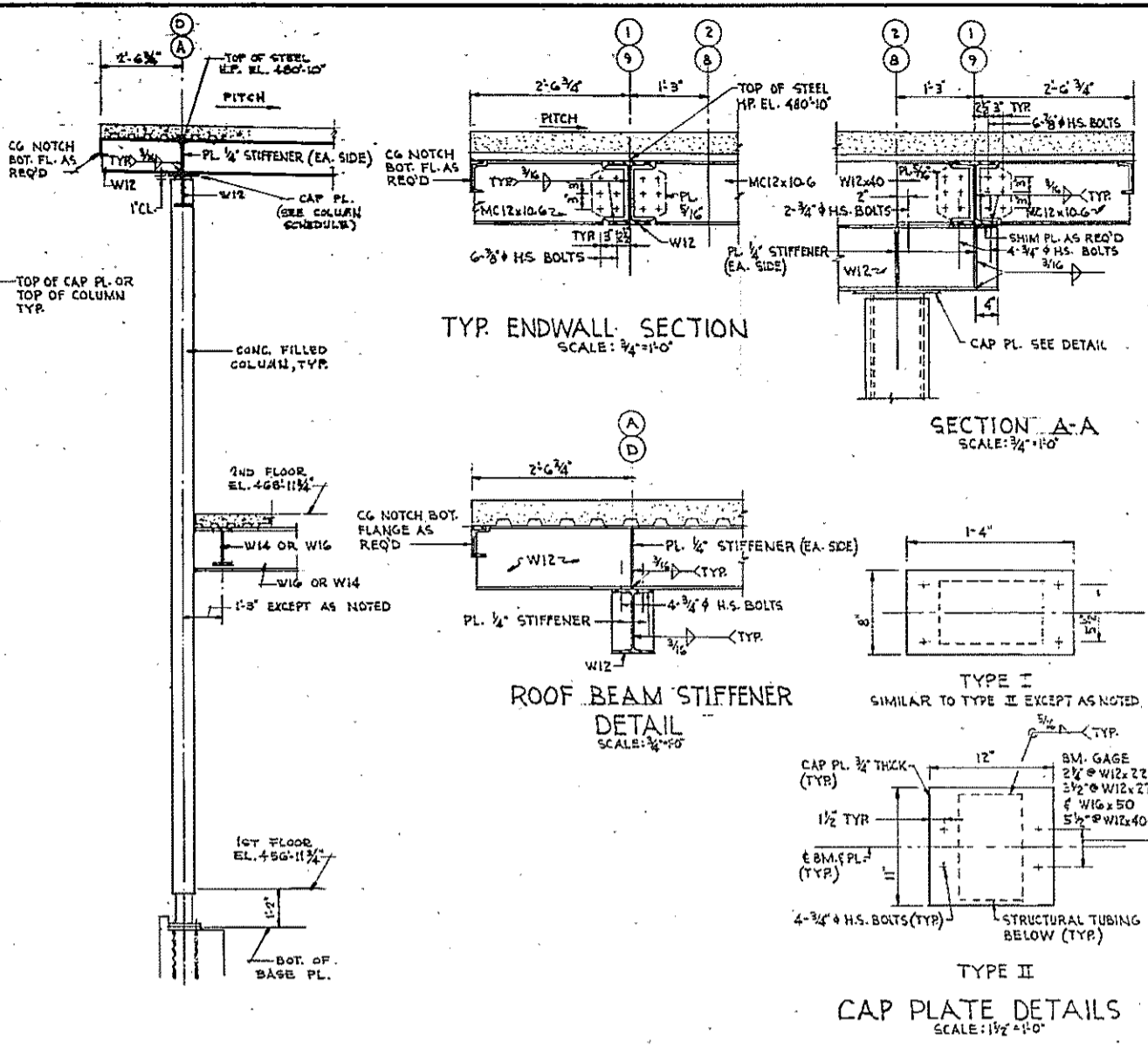


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 ADMINISTRATION BUILDING, F.N.-12
 STATION
**BASEMENT AND FIRST FLOOR
 PLANS AND DETAILS**
 SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DEL. J.F.L. TR. C.S.J.F.L. JB FILE NO. JW-83
 APPROVED: J.M. Cahaly
 CONTRACT DRAWING SHEET NO. 12S-1



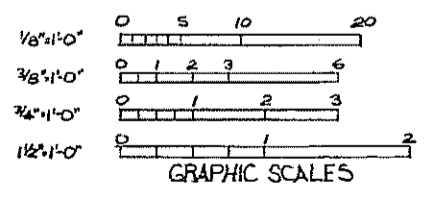
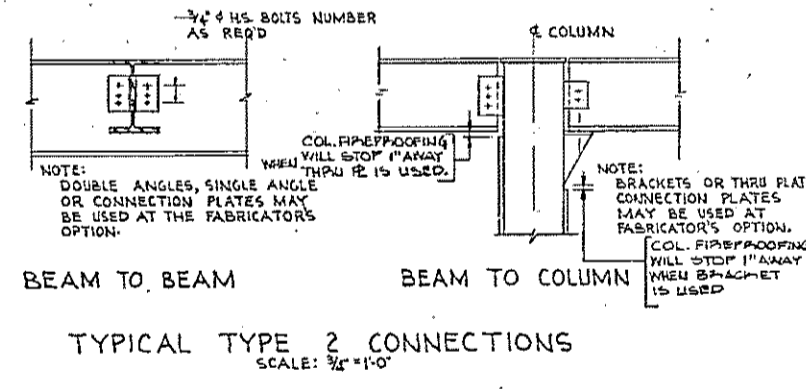
COLUMN SCHEDULE	
COLUMN DESIGNATION	DESCRIPTION
A-B, D-1	PREPROF CONC. FILLED 10" C.V. STRUCTURAL TUBING (APPROX. WT. 119 LBS.) W/CAP PLATE TYPE I
A-3, A-4, A-6, A-9, A-7	DO W/CAP PLATE TYPE II
D-2, D-4, D-5, D-6, D-7	DO W/CAP PLATE TYPE II
B-1, C-9	FIREPROOFED CONC. FILLED 10" C.V. STRUCTURAL TUBING (APPROX. WT. 80 LBS.)
B-3, B-4, B-5, B-6, B-7	FIREPROOFED CONC. FILLED 8" C.V. STRUCTURAL TUBING (APPROX. WT. 80 LBS.)
C-7	FIREPROOFED CONC. FILLED 8" C.V. STRUCTURAL TUBING (APPROX. WT. 80 LBS.)
A-2, D-8	FIREPROOFED CONC. FILLED 10" C.V. STRUCTURAL TUBING (APPROX. WT. 119 LBS.) W/CAP PLATE TYPE I

NOTE: TOP OF CAP PLATE SHOWN THIS INDICATES TOP OF COLUMN SHALL BE SKEW CUT W/ 1/4" SLOPE ON @ LINE & 1/4" SLOPE ON @ LINE.



TYP. SIDEWALL SECTION
SCALE: 3/8"=1'-0"

- NOTES:**
- FOR TYPICAL NOTES SEE SHEET NO. 1
 - NORMAL GROUND WATER REL. 442.0
 - STRUCTURAL TUBING SHALL CONFORM TO ASTM STANDARD A501
 - CONNECTIONS:
BEAMS TO EXTERIOR COLUMNS (REACTIONS)
W12 58,000 LBS (2ND FLOOR ONLY)
W14 40,000 LBS
ALL OTHER CONNECTIONS SEE GENERAL STRUCTURAL STEEL NOTES.
 - LIVE LOADS:
ROOF - 20 PSF (SNOW)
2ND FLOOR - 100 PSF (PLUS ALLOWANCES FOR PARTITIONS AND EQUIPMENT)
1ST FLOOR - 100 PSF (PLUS ALLOWANCES FOR PARTITIONS)
STAIRS & PLATFORM - 100 PSF
WIND - 15 PSF



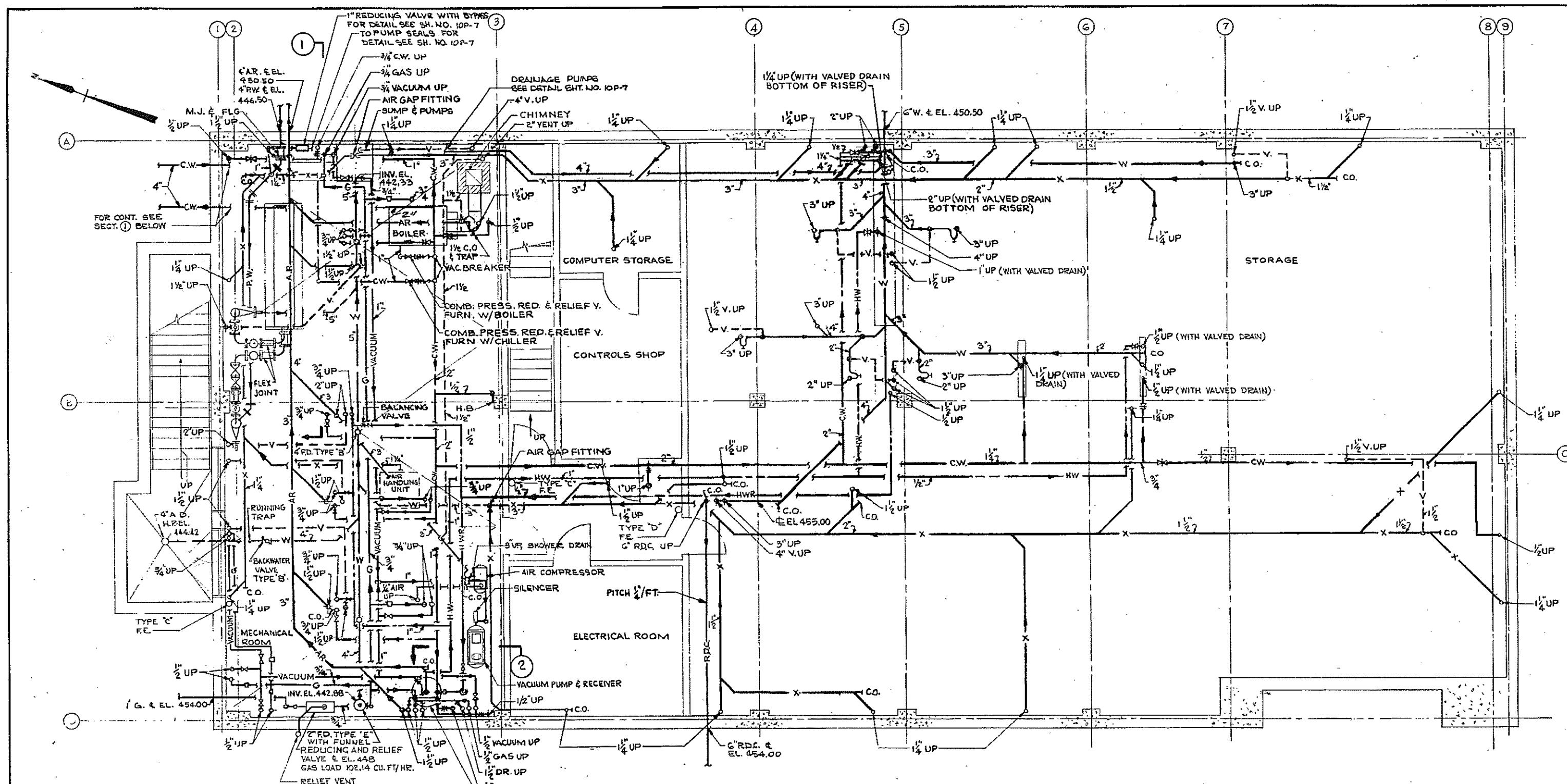
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N.-12
STRUCTURAL
SECOND FLOOR AND ROOF
PLANS AND DETAILS

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. J.F.L. TR. CHK. J.F.L. J.G. FILE NO. JW-83
APPROVED: J.M. Cahaly
REV. 204

REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY

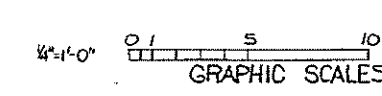
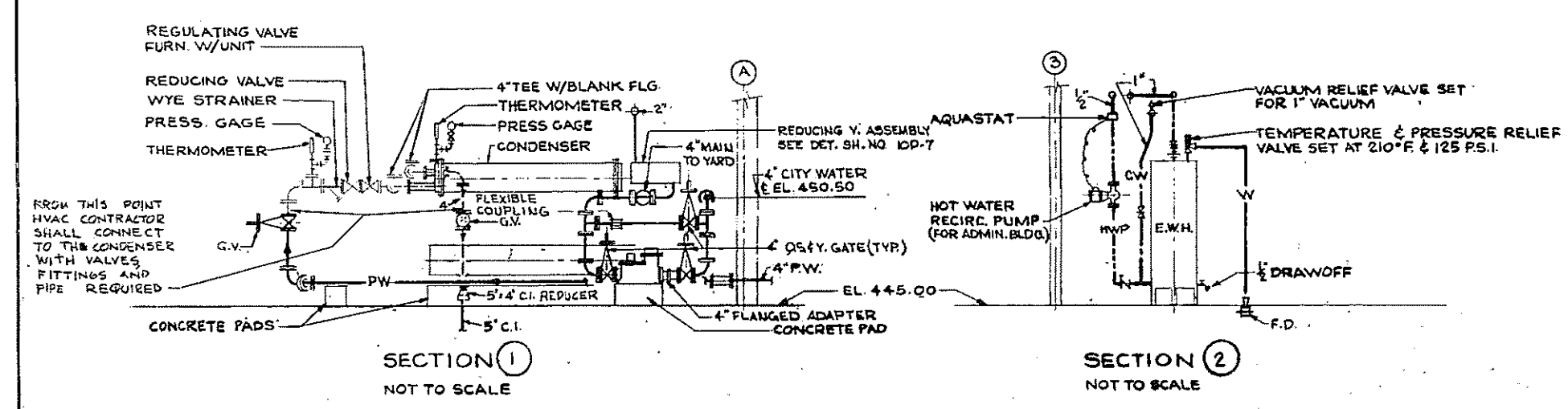




LEGEND:
 H.W.R. HOT WATER RETURN
 E.W.H. ELECTRIC WATER HEATER

BASEMENT PLAN
 FIN. FL. EL. 445.00
 SCALE: 1/8" = 1'-0"

- NOTES:
- FOR NOTES AND LEGEND SEE SH. NO. 10P-7
 - SERVICES TO LABORATORY FURNITURE THROUGH FIRST FLOOR SLAB SHALL BE LOCATED TO SUIT FURNITURE DWGS.



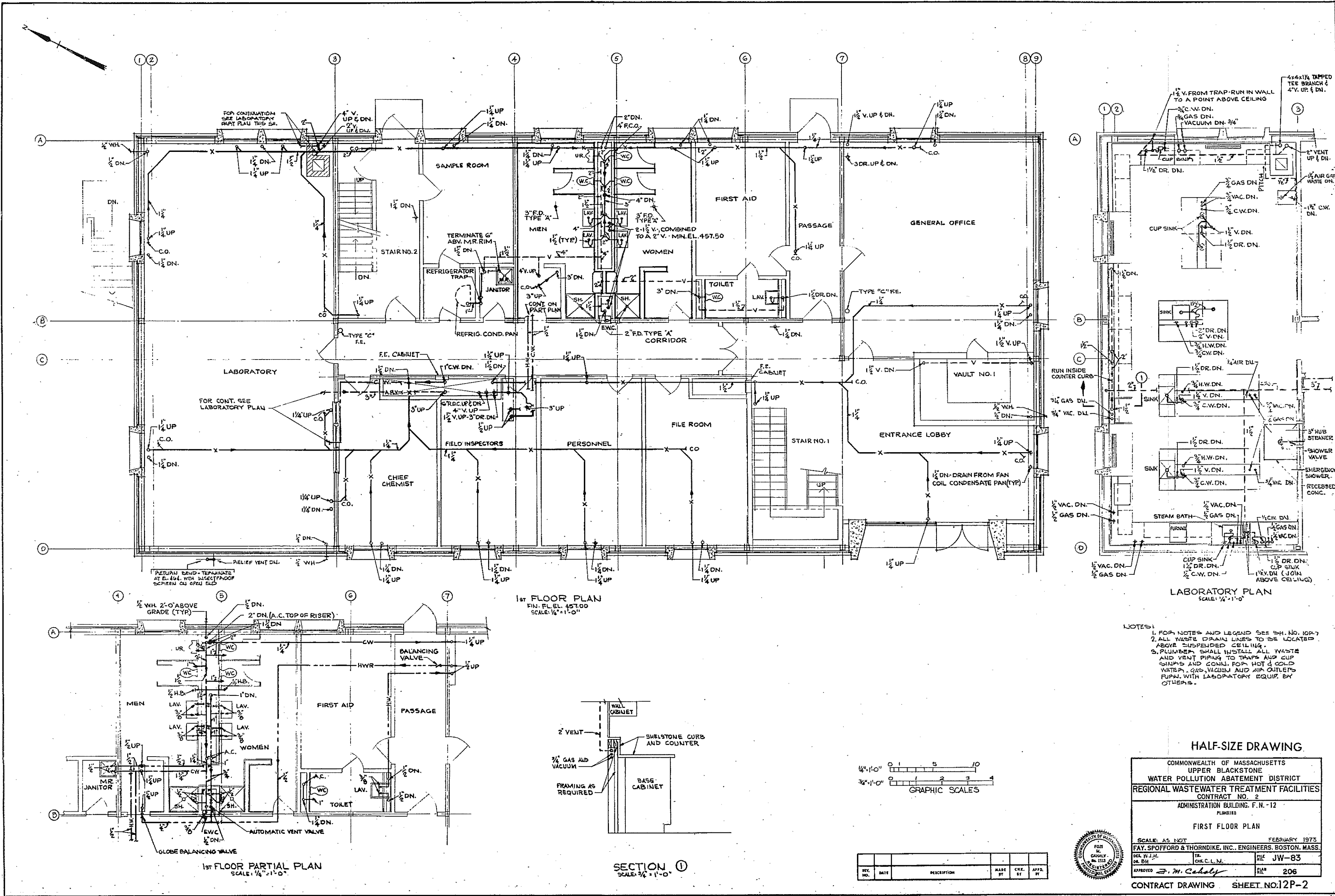
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 ADMINISTRATION BUILDING, F.N. - 12
 PLUMBING

BASEMENT PLAN
 SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. W. J. H. JR. IN CH. C. L. M.
 DR. B. H. DR. C. L. M.
 APPROVED: J. M. Colady
 PLAN NO. 205



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



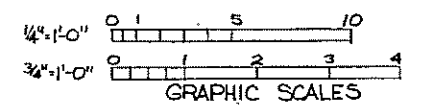
1st FLOOR PLAN
FIN. F.L.E.L. 457.00
SCALE: 1/4" = 1'-0"

LABORATORY PLAN
SCALE: 1/4" = 1'-0"

1st FLOOR PARTIAL PLAN
SCALE: 1/4" = 1'-0"

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

- NOTES:
- FOR NOTES AND LEGEND SEE SH. NO. 104-7
 - ALL WASTE DRAIN LINES TO BE LOCATED ABOVE SUSPENDED CEILING.
 - PLUMBER SHALL INSTALL ALL WASTE AND VENT PIPING TO TRAPS AND CUP SINKS AND CONJ. FOR HOT & COLD WATER, GAS, VACUUM AND AIR OUTLETS SUPPL. WITH LABORATORY EQUIP. BY OTHERS.

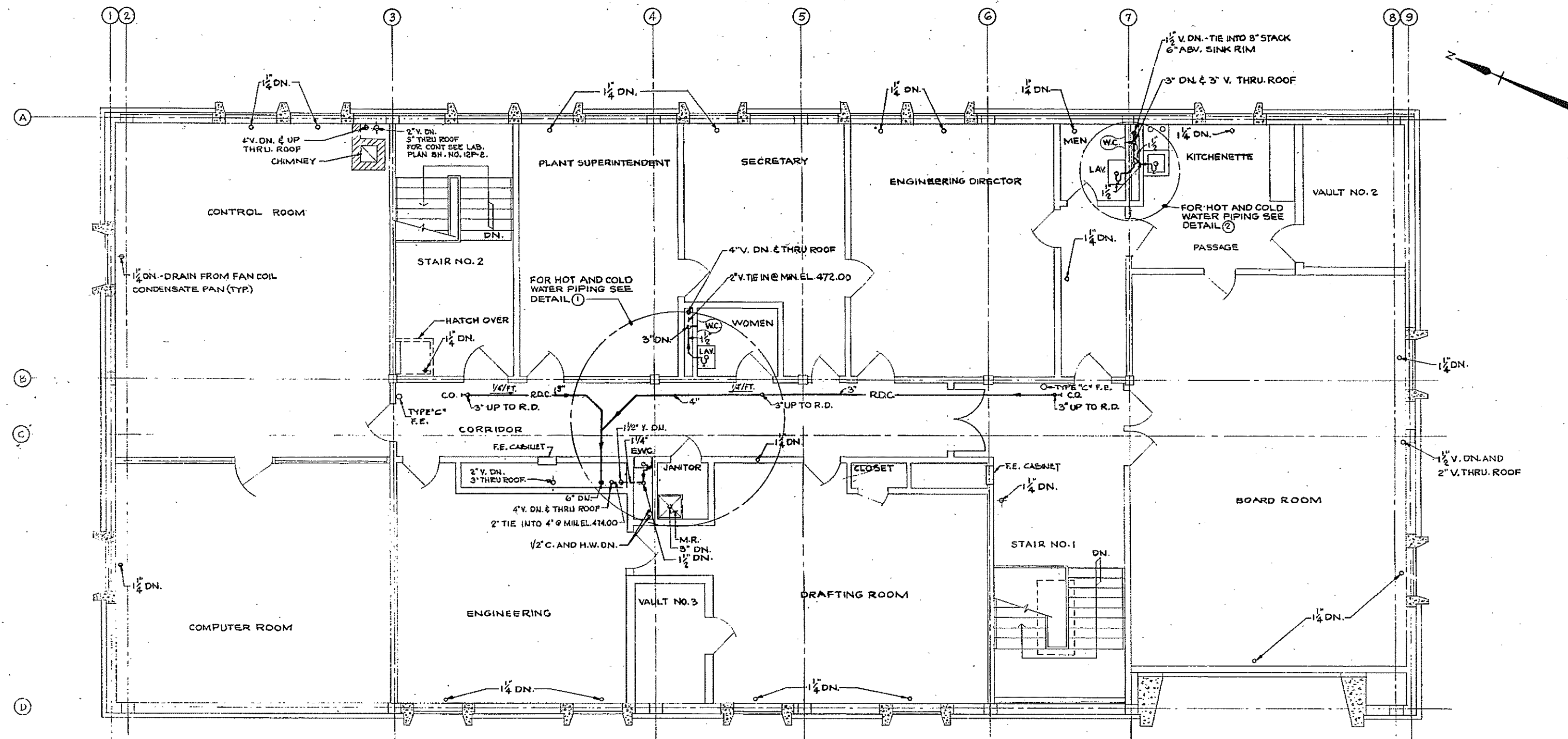


HALF-SIZE DRAWING

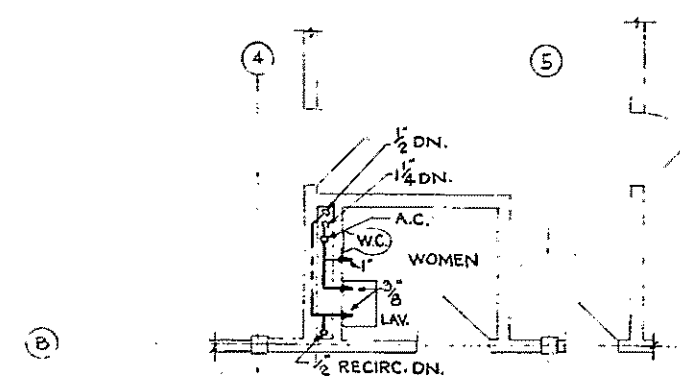
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F. N. - 12
PLUMBING
FIRST FLOOR PLAN
SCALE: AS NOT FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. BY J.H. CANALE No. 1533
CHK. BY C.L.L.N.
FILE NO. JW-83
APPROVED J. M. Cahely
PLAN NO. 206

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

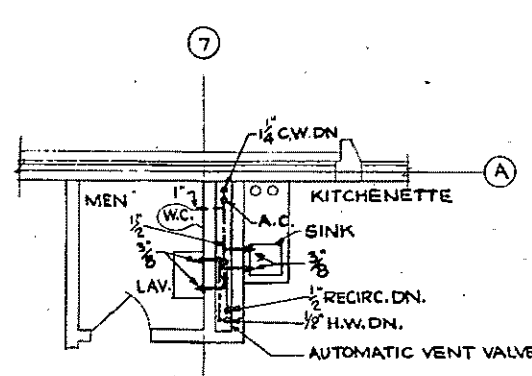




2ND FLOOR PLAN
FIN. FL. GL. 468.98

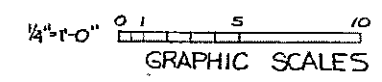


DETAIL 1



DETAIL 2

NOTE:
1. FOR LEGEND AND NOTES SEE SH. NO. 10P-7

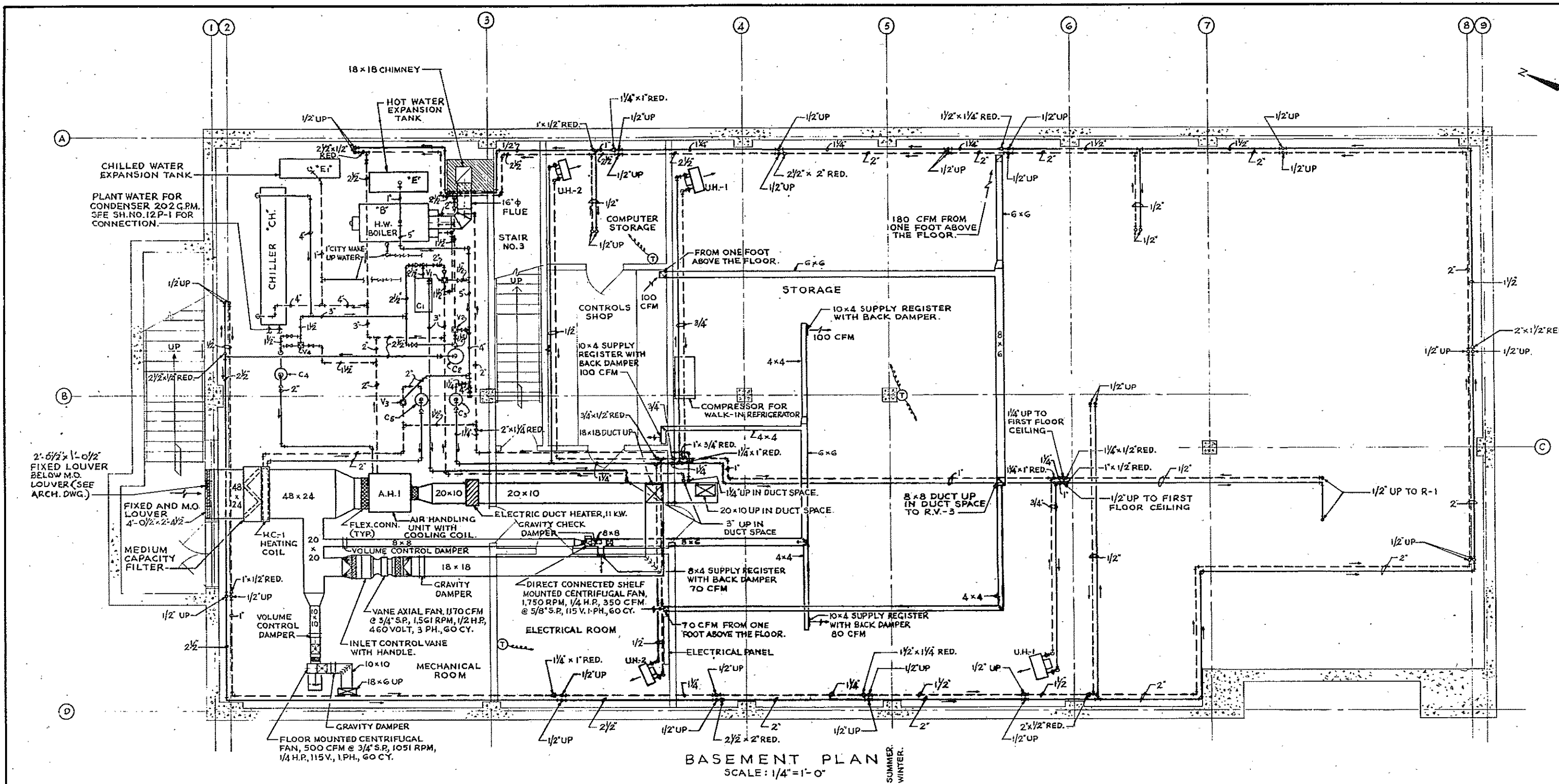


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 ADMINISTRATION BUILDING, F. N. -12 PLUMBING			
SCALE: AS NOTED		FEBRUARY 1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. W. J. H.	TR. C. L. M.	FILE NO. JW-83	PLAN NO. 207
DR. BH	APPROVED <i>F. M. Cahaly</i>		



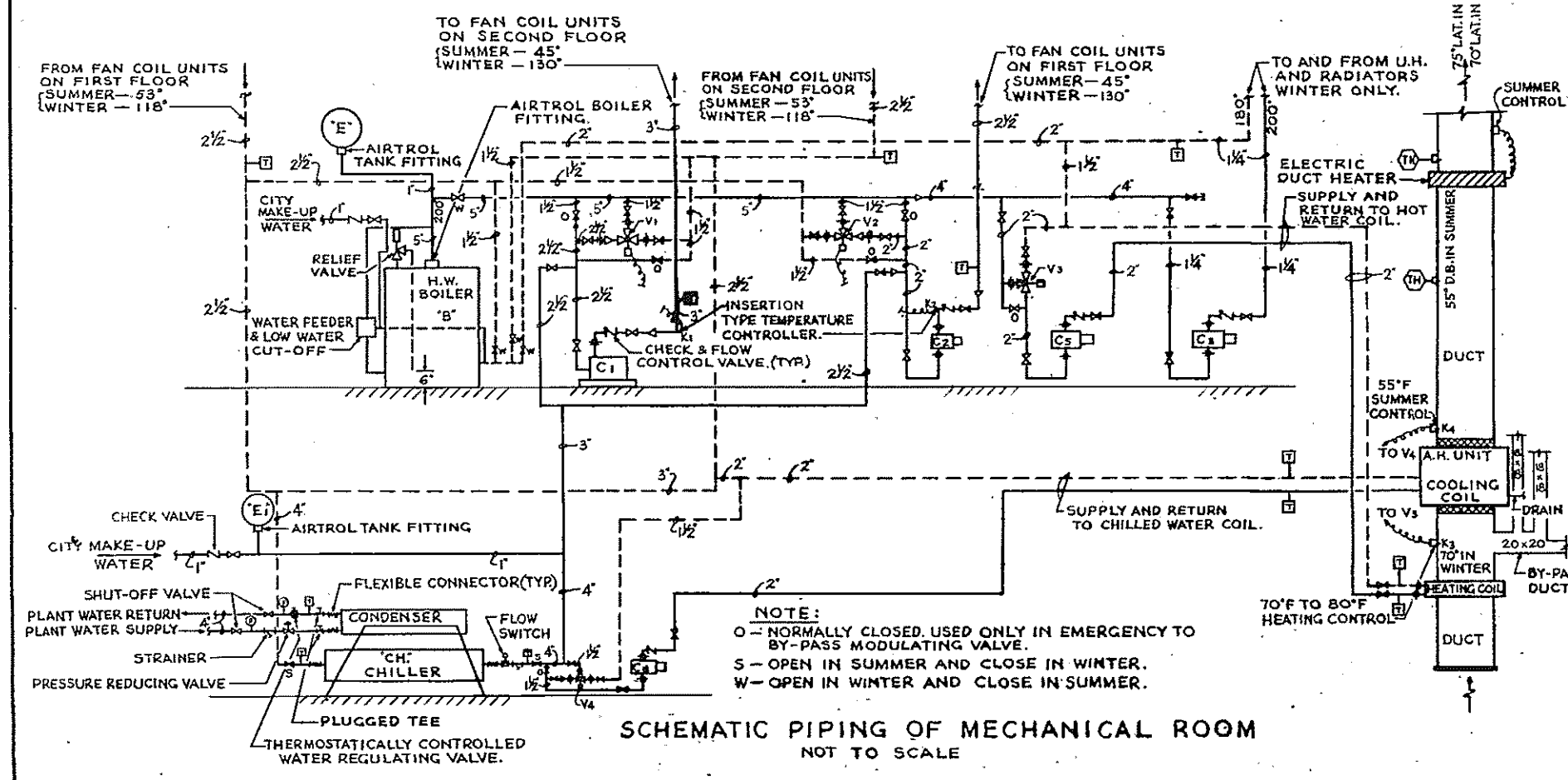
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



NOTES:
 1. FOR LEGEND, NOTES AND DETAILS SEE SH.NO.10HV-9.
 2. FOR SCHEDULES SEE SH.NO.12HV-2.

- AIR HANDLING UNIT CONTROL:**
- SUMMER/WINTER SWITCH (SW.) KEEPS EITHER C₄ OR C₅ RUNNING ALL THE TIME. (C₄ IN SUMMER AND C₅ IN WINTER).
 - A.H. FAN OR BASEMENT VENTILATION FAN OR HOOD SUPPLY FAN OPENS THE OUTSIDE M.O. DAMPER.
 - FOUR MANUAL VALVE ON BOILER (M) SHALL BE OPENED IN WINTER AND CLOSED IN SUMMER.
 - TWO MANUAL VALVES ON CHILLER (S) SHALL BE OPENED IN SUMMER AND CLOSED IN WINTER.
 - A.H. FAN IS CONNECTED WITH RV-1 AND RV-2. BASEMENT VENTILATION FAN IS CONNECTED WITH RV-3. HOOD SUPPLY FANS ARE CONNECTED WITH HOOD EXHAUST FAN.
 - WHEN C₂ IS RUNNING (SW. SWITCH ON WINTER POSITION) K₃ WILL MODULATE V₃ SO THAT HEATING COIL LEAVING AIR TEMPERATURE IS AT 70°F.
 - WHEN C₄ IS RUNNING (SW. SWITCH ON SUMMER POSITION) K₄ WILL MODULATE V₄ SO THAT COOLING COIL LEAVING AIR TEMPERATURE IS AT 55° F. D.B.
 - WHEN SW. SWITCH IS ON SUMMER POSITION AND IF A.H. FAN IS RUNNING, THEN ELECTRIC DUCT HEATER WILL HEAT THE COOLING COIL LEAVING AIR FROM 55° D.B. TO 75° D.B.
 - THERMOSTATIC ELEMENT FOR FREEZE PROTECTION IN CONTACT WITH HEATING COIL STOPS ALL THE FANS AND CLOSES OUTSIDE AIR DAMPER WHEN COIL SURFACE TEMPERATURE FALLS BELOW 40° F.

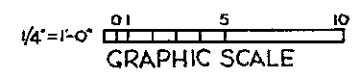
BASEMENT PLAN
 SCALE: 1/4" = 1'-0"



EQUIPMENT SCHEDULE:

- CH - CHILLER RATED 64.9 TONS WHEN COOLING 156 G.P.M. OF WATER, FROM 53° TO 45°F. WITH 202 G.P.M. OF CONDENSER WATER, ΔP IN EVAPORATOR = 13.5 FT. (FOR 156 G.P.M.) ΔP IN CONDENSER = 11.5 FT. (FOR 202 G.P.M.) 460 VOLT, 60 CY, 3 PHASE.
- B - HOT WATER BOILER, GAS FIRED, CAPACITY NOT LESS THAN 794,770 BTUH NET 1BR RATING.
- C1 - CIRCULATOR FOR SECOND FLOOR FAN COIL UNITS, 62.5 G.P.M. AT 45 FT. HEAD, 2 H.P., 460 VOLT, 60 CY, 3 PHASE.
- C2 - CIRCULATOR FOR FIRST FLOOR FAN COIL UNITS, 44 G.P.M. AT 48 FT. HEAD, 1 1/2 H.P., 460 VOLT, 60 CY, 3 PHASE.
- C3 - CIRCULATOR FOR UNIT HEATERS AND RADIATORS CIRCUIT, 8.3 G.P.M. AT 10.1 FT. HEAD, 1/8 H.P., 115 VOLT, 60 CY, 1 PHASE.
- C4 - CIRCULATOR FOR AIR HANDLING COOLING COIL, 36 G.P.M. AT 13 FT. HEAD, 1/4 H.P., 115 VOLT, 60 CY, 1 PHASE.
- C5 - CIRCULATOR FOR AIR HANDLING HEATING COIL, 29.2 G.P.M. AT 14 FT. HEAD, 1/4 H.P., 115 VOLT, 60 CY, 1 PHASE.
- V1, V2, V3 AND V4 - 1/2" - 3 WAY MOTOR OPERATED MODULATING VALVE.
- T - THERMOMETER, 30°F TO 240°F
- TH - 4 1/2" DIAL TYPE THERMOMETER FOR AIR DUCT, RANGE 0°F TO 160°F
- E - HOT WATER EXPANSION TANK, CAPACITY - 40 GALLONS.
- E1 - CHILLED WATER EXPANSION TANK, CAPACITY - 30 GALLONS.
- P - PRESSURE GAUGE
- F - FIRE DAMPER IN HORIZONTAL RUN OF DUCT.
- V - FIRE DAMPER IN VERTICAL DUCT.

- FAN COIL UNITS CONTROL:**
- C₁ AND C₂ RUNS ALL THE TIME.
 - FOR WINTER, K₁ AND K₂ (TEMPERATURE CONTROLLER) MODULATES 3-WAY VALVE V₁ AND V₂ TO DELIVER WATER AT 130° F.
 - THE FAN COIL UNITS SHALL HAVE ELECTRIC THERMOSTAT, MOTOR SPEED SWITCH AND SUMMER/WINTER SWITCH. THE THERMOSTAT SHALL CYCLE ELECTRIC 3-WAY TWO POSITION VALVE. THE FAN SHALL RUN CONTINUALLY, UNLESS SWITCH IS IN "OFF" POSITION.
- THE SPEED SWITCH SHALL HAVE AIR AUXILIARY CONTACT THAT CAN BE USED TO OPEN THE ELECTRIC VALVE WHEN SWITCH IS IN "ON" POSITION (IF THERMOSTAT CALLS FOR HEATING OR COOLING) AND CLOSE THE VALVE WHEN SWITCH IS IN THE "OFF" POSITION.



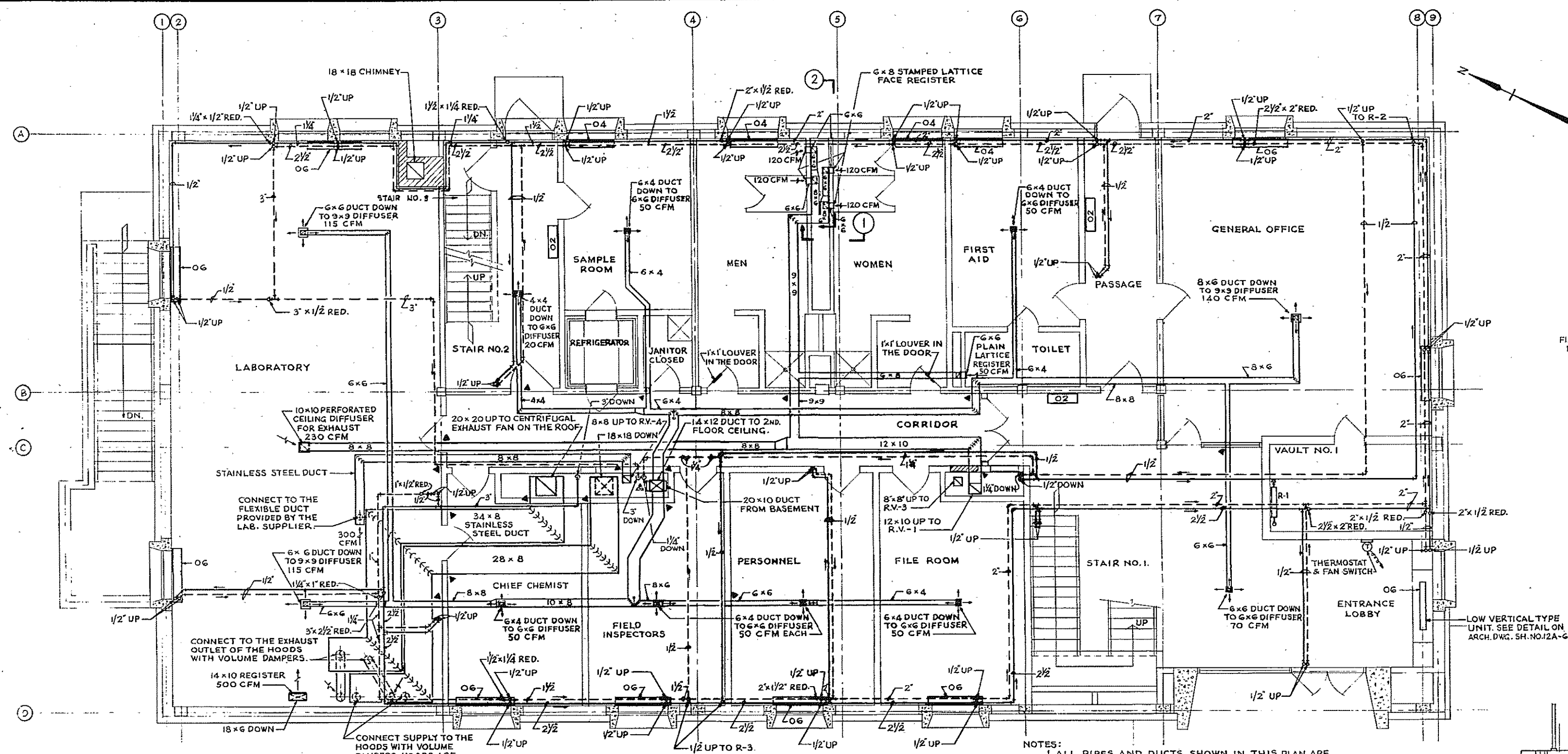
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 ADMINISTRATION BUILDING, F. N. - 12
 HEATING, VENTILATING AND AIR CONDITIONING

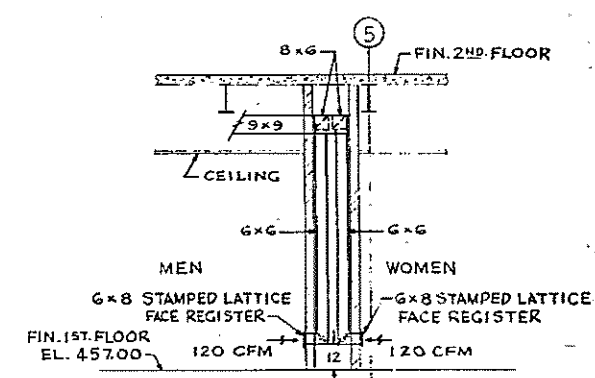
SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. B. S. K. JR. FILE NO. JW-83
 DR. L. M. CHK. F. J. T.
 APPROVED: *J. M. Cahaly* SIGN. 208

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

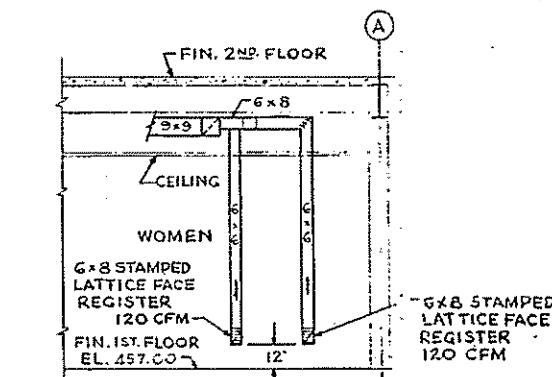




1ST. FLOOR PLAN
SCALE: 1/4" = 1'-0"

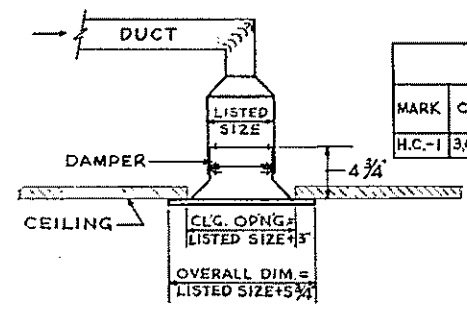


SECTION 1
SCALE: 1/4" = 1'-0"



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

NOTES:
1. ALL PIPES AND DUCTS SHOWN IN THIS PLAN ARE ABOVE FIRST FLOOR HUNG CEILING.
2. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-9.



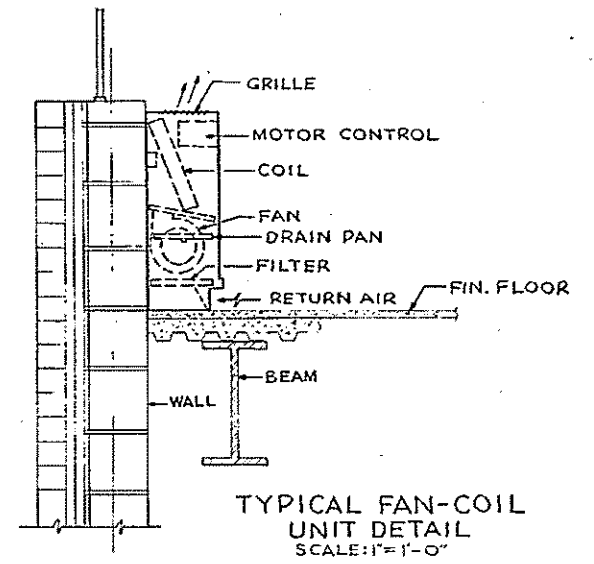
TYPICAL DETAIL FOR CEILING DIFFUSER
NOT TO SCALE

HEATING COIL SCHEDULE											
MARK	NO. REQ'D	CFM	SIZE	E.D.B.	L.D.B.	M.B.H.	AT	NO. OF ROWS	G.P.M.	AP WATER THRU. COIL IN. OF H ₂ O	AP AIR THRU. COIL IN. OF H ₂ O
H.C.-1	1	360	48x24	5'	70" MIN	29.2	20'	1	29.2	0.65	0.15

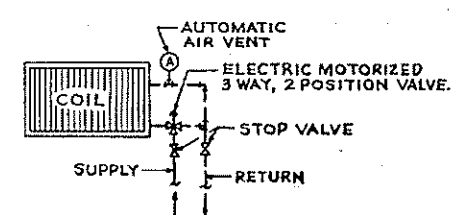
ROOF VENTILATOR SCHEDULE											
MARK	NO. REQ'D	R.P.M.	C.F.M.	S.P.	SHUTTER TYPE	H.P.	DRIVE	VOLTS	PHASE	HERTZ	DIR. OF AIR FLOW
R.V.-1	1	1,140	760	1/2"	GRAVITY	1/4	DO	115	1	60	UP
R.V.-2	1	1,140	830	1/2"	GRAVITY	1/4	DO	115	1	60	UP
R.V.-3	1	1,400	350	1/2"	GRAVITY	1/7	DO	115	1	60	UP
R.V.-4	1	1,400	300	1/2"	GRAVITY	1/7	DO	115	1	60	UP

RADIATION SCHEDULE					
MARK	SPACE	ACTIVE FIN LENGTH	BTU PER FT.	G.P.M.	AVG. WATER TEMP.
R-1	VAULT NO. 1	2'-6"	1,050	.196	190°
R-2	VAULT NO. 2	3'-0"	1,050	.227	190°
R-3	VAULT NO. 3	2'-0"	1,050	.175	190°

UNIT HEATER SCHEDULE											
MARK	NO. REQ'D	SPACE	TYPE	CAPACITY MB.H.	G.P.M.	C.F.M.	R.P.M.	H.P.	FT. H ₂ O	WATER TEMP.	AIR TEMP.
U.H.-1	2	STORAGE	HORIZ.	27.2	2.80	514	1550	1/30	0.24		
U.H.-2	2	ELECTRICAL ROOM & COMM. STORAGE	HORIZ.	10.1	1.08	315	1050	1/45	0.04		



TYPICAL FAN-COIL UNIT DETAIL
SCALE: 1" = 1'-0"

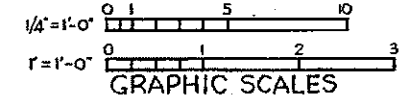


SCHEMATIC PIPING DIAGRAM OF TYPICAL FAN COIL UNIT
NOT TO SCALE

AIR HANDLING UNIT SCHEDULE (DRAW-THRU)																				
MARK	NO. REQ'D	FAN SECTION						COOLING COIL 18" WIDE x 24" LONG												
		C.F.M.	HP	Q.A.	R.P.M.	H.P.	VOLTS	E.D.B.	E.W.B.	E.W.T.	AT	NO. OF ROWS	M.B.H.	L.Q.B.	L.W.B.	G.P.M.	FT. H ₂ O	AP WATER THRU. COIL IN. OF H ₂ O	AP AIR THRU. COIL IN. OF H ₂ O	
A.H.-1	1	1,590	2.25	100%	2164	1/2	1460	3	91'	77'	45'	6.7'	6'	22.7'	55.4'	55'	36	528	2.50	1.37

VERTICAL FAN-COIL UNIT SCHEDULE												
MARK	NO. REQ'D	COOLING CAPACITY MB.H.		HEATING OR COOLING CAPACITY 130° EWT		AIR CAPACITY C.F.M.		P.D. FT.	ENT. AIR 100% INSIDE			
		A.S.EWT.	B.T.H.	S.H.	T.H.	G.P.M.	M.B.H.		T.D.	COOLING	HEATING	H ₂ O
O2	6	4.4	4.4	1.2	6	10.3'	200	90	1.7	75'	61'	70'
O3	4	6.5	6.7	1.8	10	11.4'	300	135	5.2	75'	61'	70'
O4	4	8.3	8.6	2.2	12	11.2'	400	180	4.5	75'	61'	70'
OG	26	11.6	12.3	3.2	20	12.8'	600	270	11.9	75'	61'	70'

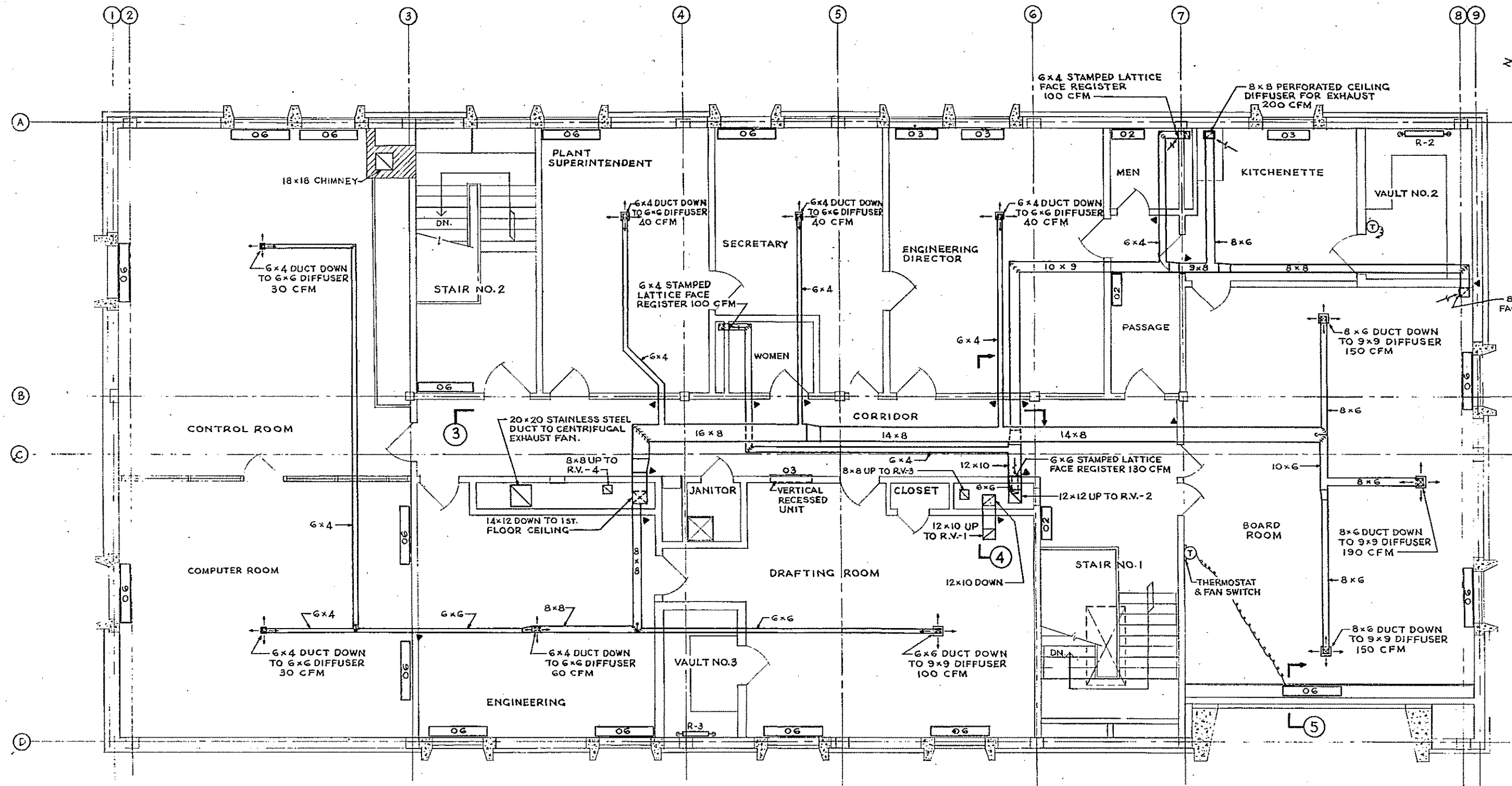
EACH UNIT SHALL BE EQUIPPED WITH A MANUALLY OPERATED 2-SPEED FAN MOTOR SWITCH, ELECTRIC THERMOSTAT, AUTOMATIC SUMMER-WINTER SWITCH WITH MOTOR OPERATED 3-WAY, 2-POSITION VALVE, TRAME CO. CONTROL H-27 OR EQUAL, ALL FACTORY WIRED.



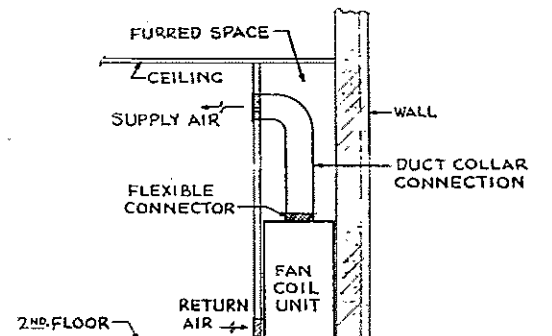
REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP'D. BY



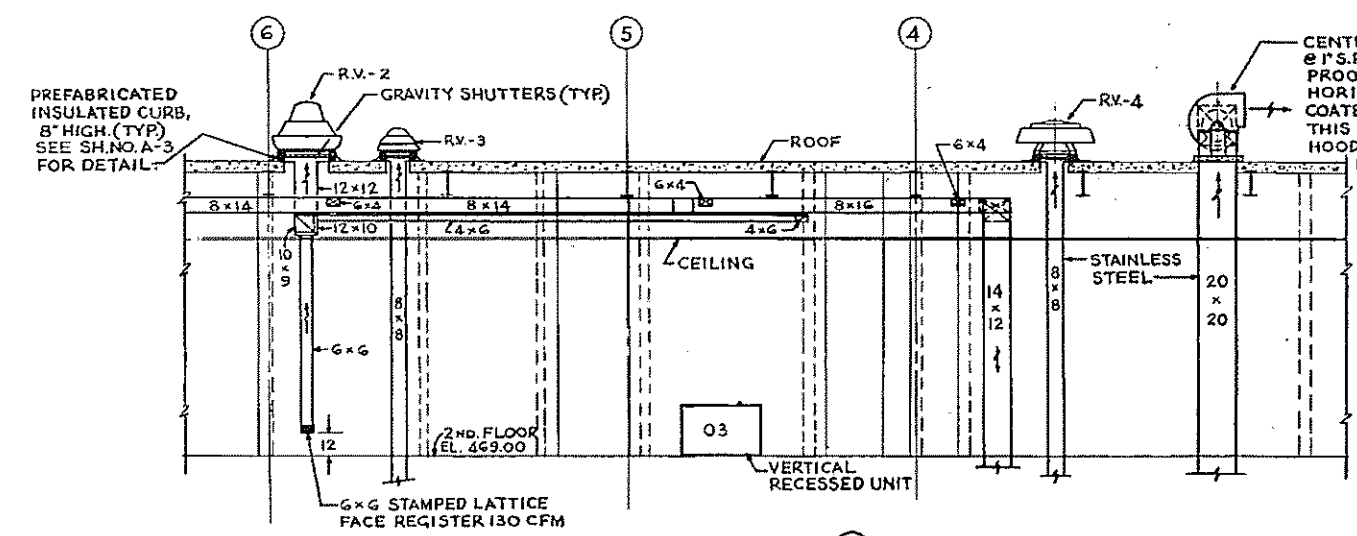
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N.-12
HEATING, VENTILATING AND AIR CONDITIONING
FIRST FLOOR PLAN AND SCHEDULES
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. B.S.K. DR. L.M. CH. F.J.T. DR. J.W.-83
APPROVED: J. M. Cahaly PLAN NO. 209
CONTRACT DRAWING SHEET NO. 12 HV-2



NOTES:
 1. ALL DUCTS SHOWN IN THIS PLAN ARE ABOVE SECOND FLOOR CEILING.
 2. FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-9.
 3. FOR SCHEDULES SEE SH. NO. 12HV-2

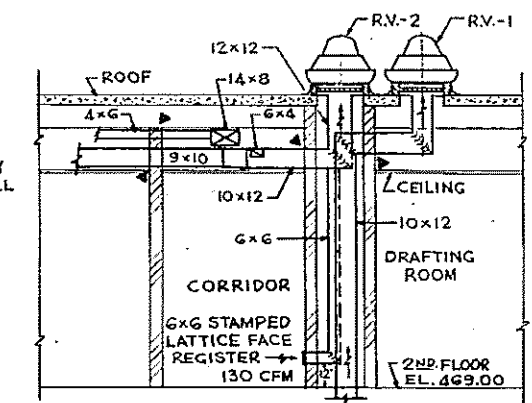


SECOND FLOOR PLAN
 SCALE: 1/4"=1'-0"



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

CENTRIFUGAL EXHAUST FAN, 1270 CFM @ 1/2 H.P., 101 RPM, 1/2 H.P., COMPLETELY WEATHER-PROOF FOR OUTDOOR INSTALLATION. (TOP HORIZONTAL DISCHARGE) FAN SHALL BE COATED WITH ACID RESISTANCE COATING. THIS FAN SHALL BE SUPPLIED BY LABORATORY HOOD MANUFACTURER. HVAC CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION.



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

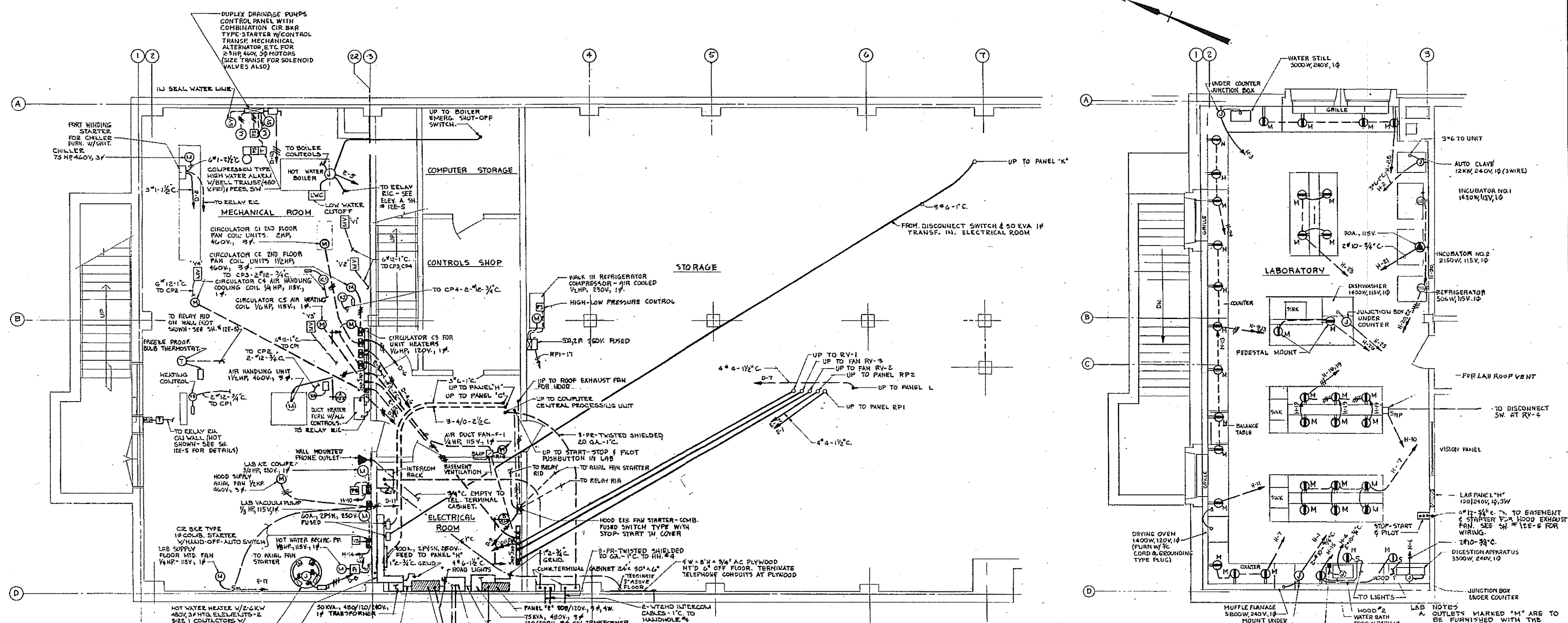


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 ADMINISTRATION BUILDING, F.N.-12
 HEATING, VENTILATING AND AIR CONDITIONING
 SECOND FLOOR PLAN AND SECTIONS
 SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. B. S. K. TR. CHC. F. J. T. FILE NO. JW-83
 APPROVED *J. M. Cabaly* PLAN NO. 210



REV. NO.	DATE	DESCRIPTION	MADR. BY	CHEK. BY	APP. BY



PLAN - BASEMENT
SCALE: 1/4" = 1'-0"

PANEL "E" SCHEDULE

H.P.	V.A.	LOAD SERVED	120/200V, 3φ, 4WIRE	LOAD SERVED	V.A.	H.P.
15,771		PANEL RPI		PANEL RPE	4,614	
		SPARE		SPARE		
200		BOILER		HOT WATER RECUM. PP.	554	1/2
1000		RECEPTACLES STORAGE		STOCK UNIT INTERCOM. CAB.	500	
800		RECEPT. (CONTROLS SHOP)		ROOF VENT RY-3, F-1	1083	3/4
1/2	660	ROOF VENT FAN RH		RECEPT-MECH RLA	1,000	
1/2	660	ROOF VENT FAN RV-2		INTERCOM	500	
1/4	800	H.V. CONTROLS (CALC)		SECTION PREVIOUSLY		
1/4	660	LAB SUPPLY FAN		SPARE		

1 POLE 20A TRIP UNLESS OTHERWISE NOTED.

DISTRIBUTION PANEL "D" SCHEDULE

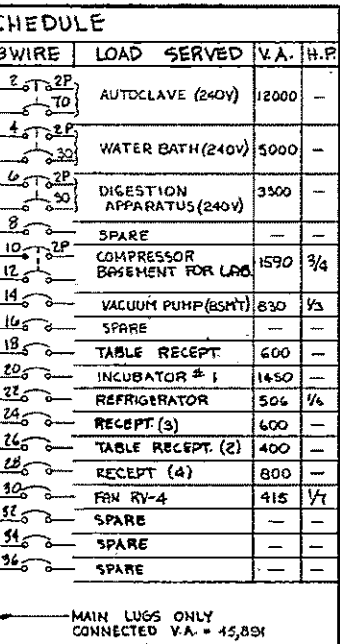
H.P.	V.A.	LOAD SERVED	277/480V, 3φ, 4WIRE	LOAD SERVED	V.A.	H.P.
42,554		TRANSF. 120/200V		CHILLER	7040	75
32,000		DUCT HEATER		AIR HANDLING	1903	1 1/2
4,604		TRANSF. 120/240		CIRCULATORS C1 & C2	4377	1/2
33,360		LIGHTING PANEL "L"		WATER HEATER	18,000	
1/2	450	ROOF EXHAUST FAN FOR HOOD		DUPLEX SEWAGE EJECTOR	6850	20 1/2
1/2	450	VALE AXIAL FAN HOOD SUPPLY		ROAD LIGHTS	11,400	
		SPARE		SPARE		

3 POLE, 20A TRIP UNLESS OTHERWISE NOTED.

PANEL "H" SCHEDULE

H.P.	V.A.	LOAD SERVED	120/240V, 1φ, 3WIRE	LOAD SERVED	V.A.	H.P.
5800		MUFFLE FURNACE (240)		AUTOCCLAVE (240V)	12000	
3000		WATER STILL (240V)		WATER BATH (240V)	5000	
		SPACE		DIGESTION APPARATUS (240V)	3500	
600		DUPLEX RECEPT (1)		SPARE		
600		DUPLEX RECEPT (2)		COMPRESSOR BASEMENT FOR LAB	1590	3/4
1400		DRYING OVEN		VACUUM PUMP (85MT)	830	1/2
600		DUPLEX RECEPT (3)		SPARE		
600		HOOD #1 & 2 LIGHTS		TABLE RECEPT	600	
800		TABLE RECEPT (4)		INCUBATOR # 1	1450	1/2
600		TABLE RECEPT (2)		REFRIGERATOR	504	1/2
230		INCUBATOR # 2		RECEPT (3)	600	
800		TABLE RECEPT (4)		TABLE RECEPT (2)	400	
1450		DISHWASHER		RECEPT (4)	800	
		SPARE		FAN RV-4	415	1/2
		SPARE		SPARE		
		SPARE		SPARE		
		SPARE		SPARE		
		SPARE		SPARE		

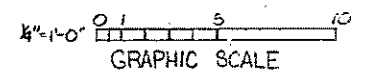
1 POLE 20A TRIP UNLESS OTHERWISE NOTED.



PANEL "H" SCHEDULE

PART PLAN - LABORATORY
SCALE: 1/4" = 1'-0"

- ELECTRICAL CONSTRUCTION NOTES**
- SERVICE TO THE BUILDING SHALL BE 277/480V, 3 PHASE, 4 WIRE MULTIPLED.
 - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUN IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
 - WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT, & WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 - FOR SITE PLAN SEE SHEET NOS. E-1 & E-2
 - FOR LEGEND, SEE SHEET NO. 12E-2



GRAPHIC SCALE

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F. N. - 12
ELECTRICAL

POWER - BASEMENT PLAN AND LABORATORY

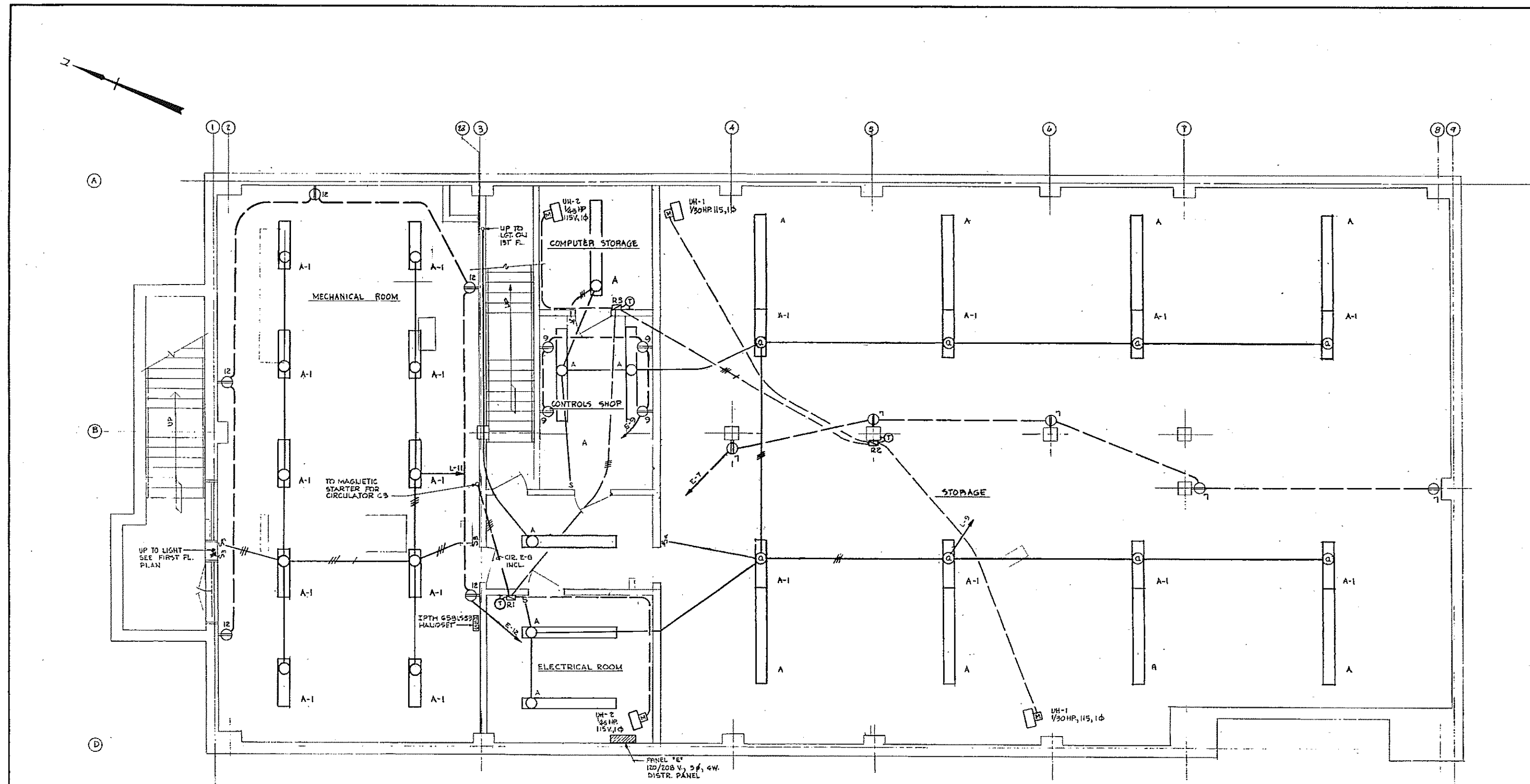
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. W. R. B. IN CHARGE
APPROVED *F. M. Cahaly*

FEBRUARY 1973
REV. JW-83
211

CONTRACT DRAWING SHEET NO. 12E-1

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

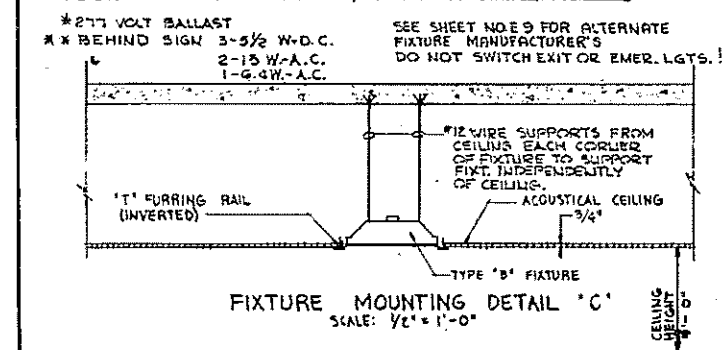




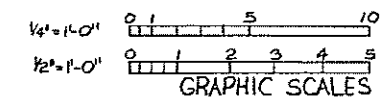
- ### ELECTRICAL LEGEND
- FLUORESCENT FIXTURE OUTLET
 - CEILING OUTLET
 - WALL OUTLET
 - EXIT LIGHT - CEILING MOUNTED
 - EXIT LIGHT - WALL MOUNTED
 - RECESSED INCANDESCENT OUTLET
 - WALL OUTLET WITH SEALED BEAM FLOOD LAMPS
 - OUTLET FURNISHED WITH EQUIPMENT
 - CLOCK OUTLET WITH CLOCK
 - JUNCTION BOX
 - THERMOSTAT
 - MOTOR
 - MANUAL MOTOR SWITCH WITH PILOT LIGHT
 - DUPLEX CONVENIENCE OUTLET, 3 POLE, 2 WIRE GROUNDED TYPE, CIRCUIT NO.
 - DUPLEX CONVENIENCE OUTLET, WEATHERPROOF
 - SPECIAL PURPOSE OUTLET AS DESCRIBED
 - SINGLE POLE SWITCH
 - SINGLE POLE SWITCH CONTROLLING OUTLET MARKED "a"
 - THREE-WAY SWITCH
 - TWO POLE SWITCH
 - FOUR-WAY SWITCH
 - SINGLE POLE SWITCH AND PILOT LIGHT
 - SINGLE POLE SWITCH, WEATHERPROOF
 - MANUAL MOTOR SWITCH WITH THERMAL OVERLOAD DEVICE
 - MANUAL MOTOR SWITCH WITH THERMAL OVERLOAD DEVICE AND PILOT LIGHT
 - SAFETY SWITCH, 30 A., 600 V., UNFUSED UNLESS OTHERWISE NOTED
 - LIGHTING PANELBOARD - SURFACE
 - LIGHTING PANELBOARD - FLUSH
 - POWER PANELBOARD - SURFACE
 - POWER PANELBOARD - FLUSH
 - MAGNETIC CONTACTOR OR RELAY (AS NOTED)
 - MAGNETIC MOTOR STARTER INDICATES REVERSING
 - MAGNETIC MOTOR STARTER WITH HAND-OFF-AUTO. SWITCH IN COVER
 - MAGNETIC MOTOR STARTER COMBINATION FUSED SWITCH TYPE WITH CLASS "J" FUSES
 - FLOAT SWITCH
 - AQUASTAT
 - VACUUM SWITCH
 - LIMIT SWITCH
 - BULB THERMOSTAT
 - PRESSURE SWITCH
 - MOMENTARY CONTACT PUSHBUTTON
 - STOP-START PUSHBUTTON STATION
 - 3-POINT PUSHBUTTON STATION AS NOTED: "RAISE-LOWER-STOP" "STOP-START AND PILOT" ETC.
 - SOLENOID VALVE
 - SIDE BRAKE
 - CIRCUIT BREAKER
 - TRANSFORMER
 - TELEPHONE OUTLET
 - MOTORIZED DAMPER
 - MOTORIZED VALVE
 - BELL
 - TELEPHONE CONDUIT, WITH PULLING WIRE
 - GROUND WIRE
 - CONDUIT RUN CONCEALED IN CEILING OR WALL
 - CONDUIT RUN EXPOSED
 - CONDUIT RUN CONCEALED IN OR UNDER FLOOR
 - VALVE CONTROLLER
 - HIGH TEMPERATURE CUT-OUT

PLAN - BASEMENT
SCALE: 1/4" = 1'-0"

FIXTURE SCHEDULE		LAMP DATA		MOUNTING HGT.	
TYPE	MANUFACTURER	CATALOG NO.	NO.	TYPE	WATT
A	MILLER	41-201-08 *	4	RS	40
A-1	MILLER	41-201-04 *	2	RS	40
B	MILLER	TU-192A-4N *	4	RS	40
B-1	MILLER	TU-192A-4N *	2	RS	40
C	MILLER	58-251-04B *	2	RS	40
E	MCPHILBEN	37-70A-HPF *	2	TS	20
F	PASS/SEYMOUR	A1 2335	1	F	100
G	MCPHILBEN	46-21-YTB	1	I	150
I	STEBER	51-2002	2	PAR 38	150
J	MCPHILBEN	3-205-E	1	PAR 38	150
K	DUALITE	C-5115T P 277V.	*	*	OVERDOOR
X-1	DUALITE	C-6095T P 277V.	*	*	OVERDOOR
L	MCPHILBEN	16-22-PF 100	1	I	150
Q	DUALITE	AS-145-2V-C-L010	2-1	I-4VOLT	25
W	MCPHILBEN	43-89-3VTA	2	I	40
H	CROUSE HINDS	VXHF-256P	1	I	150



- ### ELECTRICAL LEGEND (CONT.)
- HOME RUN TO PANELBOARD. ARROW HEADS INDICATE NUMBER OF CIRCUITS. NOTE: ANY CIRCUIT WITHOUT FURTHER DESIGNATION INDICATES A TWO-WIRE CIRCUIT. A GREATER NUMBER OF WIRES ARE INDICATED: (---) THREE WIRES, (---) FOUR WIRES, ETC.
 - CONDUIT TURNING UP
 - CONDUIT TURNING DOWN
 - INTERCOM HANDSET - DESK MTD.
 - WALL SPEAKER - CAT. NO. SR-5
 - FLUSH WALL SPEAKER - CAT. NO. SR6W22
 - INTERCOM HANDSET WITH SPEAKER
 - INTERCOM HANDSET WITHOUT SPEAKER
 - PAGING TRUMPET, CAT. NO. C23 WITH J54 TRANSFORMER
 - TACHOMETER GENERATOR FOR SPEED INDICATOR
 - SPEED INDICATOR
 - FIXTURE SUPPORT CHANNEL
 - INTERCOM SYSTEM CONDUIT - WIRE TYPES AS LISTED
 - VALVE CONTROLLER
 - AUTOMATIC BATTERY POWERED EMERGENCY LIGHT UNIT
 - DIFFERENTIAL PRESSURE TRANSMITTER
 - MAGNETIC FLOWMETER TRANSMITTER
 - UNIT HEATER - PROJECTION TYPE
 - U.H. - HOT WATER TYPE WITH FAN MOTOR AS NOTED
 - E.U.H. - ELECTRIC UNIT HEATER
 - VERTICAL DISCHARGE UNIT HEATER
 - FAN COIL UNIT



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

HALF-SIZE DRAWING

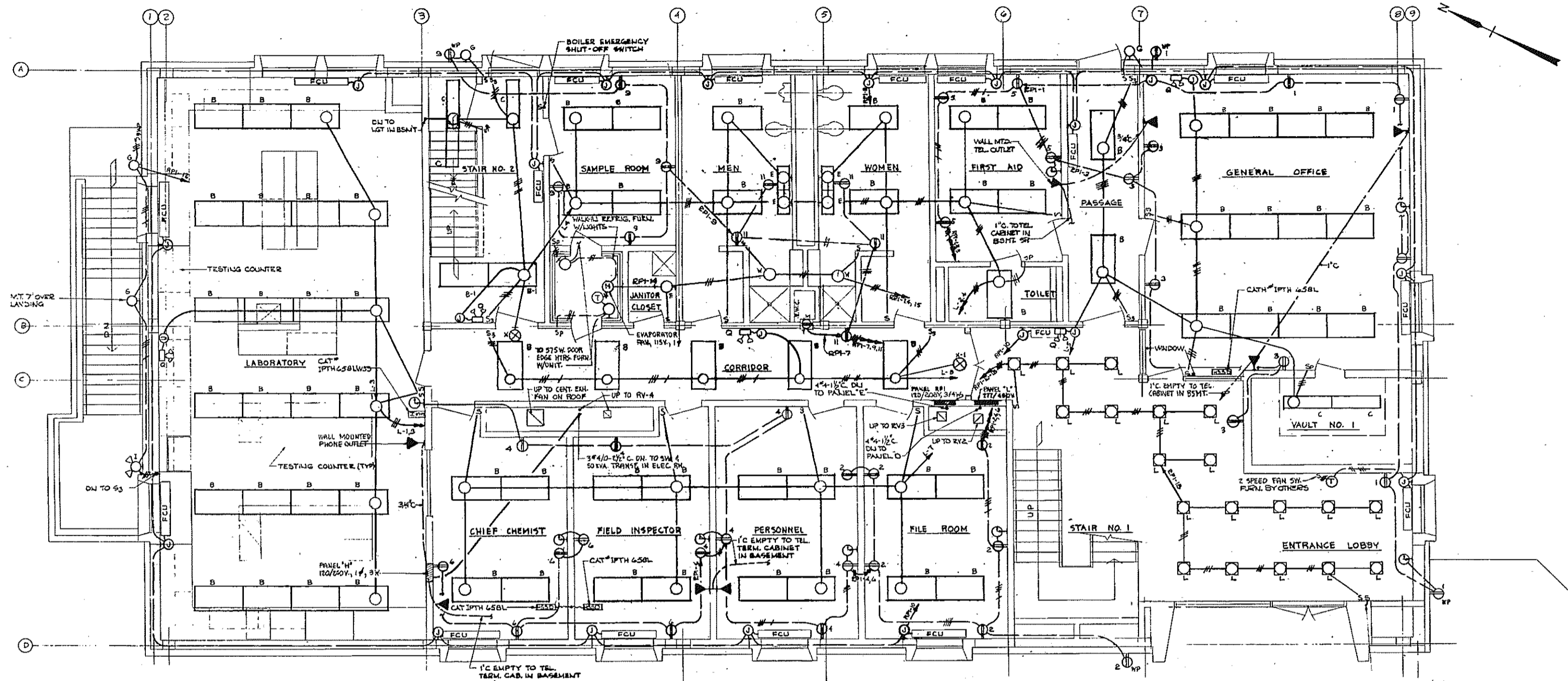
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N.-12
ELECTRICAL

LIGHTING - BASEMENT PLAN

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. W. R. S. JR. CHG. T.J.B. PLAN NO. JW-83
APPROVED: *F.M. Cahaly* REG. NO. 212

CONTRACT DRAWING SHEET NO. 12E-2





FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"

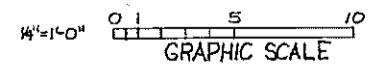
NOTE: ALL TELEPHONE CONDUIT RUNS TO TELEPHONE TERMINAL BACKBOARD SHOULD HAVE NOT MORE THAN 2-90° BENDS & SHALL TERMINATE ABOVE THE BACKBOARD.

H.R.	V.A.	LOAD SERVED	277/480 V., 3Φ, 4 WIRE	LOAD SERVED	V.A.	H.R.
2400	LABORATORY	1	2	FIRST AID, TOILETS	5840	
2200	LABORATORY	3	4	STAIR 2	900	
3000	GENERAL OFFICE	5	6	SPACE		
3200	OFFICE FILES	7	8	CORRIDOR 1ST FL.	1000	
3200	STORAGE/ELECT.	9	10	BOARD ROOM	2400	
1000	MECHANICAL RM.	11	12	STAIR 1	1340	
1800	ENG. DIRECTOR	13	14	CORRIDOR 2ND FL.	1800	
1400	SECRETARY	15	16	SPACE		
1800	SUPERINTENDENT	17	18	ENGINEERING	1700	
2400	CONTROL ROOM	19	20	DRAFTING	2400	
2500	CONTROL ROOM	21	22	SPACE		
	SPACE	23	24	SPACE		

1 POLE 20A. TRIP UNLESS OTHERWISE NOTED
 MAIN LUGS ONLY CONNECTED VA: 39,660

H.R.	V.A.	LOAD SERVED	120/208 V., 3Φ, 4 WIRE	LOAD SERVED	V.A.	H.R.
1350	RECEPT GENERAL OFFICE(S)	1	2	RECEPT FILE-PERS(?)	1400	
1000	RECEPT GENERAL OFFICE(S)	3	4	RECEPT OFFICES (?)	1400	
800	RECEPT FIRST AID(S)	5	6	RECEPT OFFICES (S)	1000	
1/2 554	WATER COOLER	7	8	F.C.U. SOUTHEAST	1455	
1300	RECEPT SAMPLE RM(S)	9	10	F.C.U. NORTHWEST	1335	
1000	TOILET RECEPT	11	12	OUTSIDE STAIR LTS.	600	
	SPACE	13	14	WALK-IN REFRIG.	1155	
340	L.T.G. SHOWERS	15	16	LOBBY LTG.	1355	
1/2 1120	REFRIG. COMPRESSOR	17	18	LOBBY LTG.	1500	
	SPACE	19	20	SPACE		
	SPACE	21	22	SPACE		
	SPACE	23	24	SPACE		

1 POLE 20A. TRIP UNLESS OTHERWISE NOTED
 MAIN LUGS ONLY CONNECTED VA: 18,751



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2

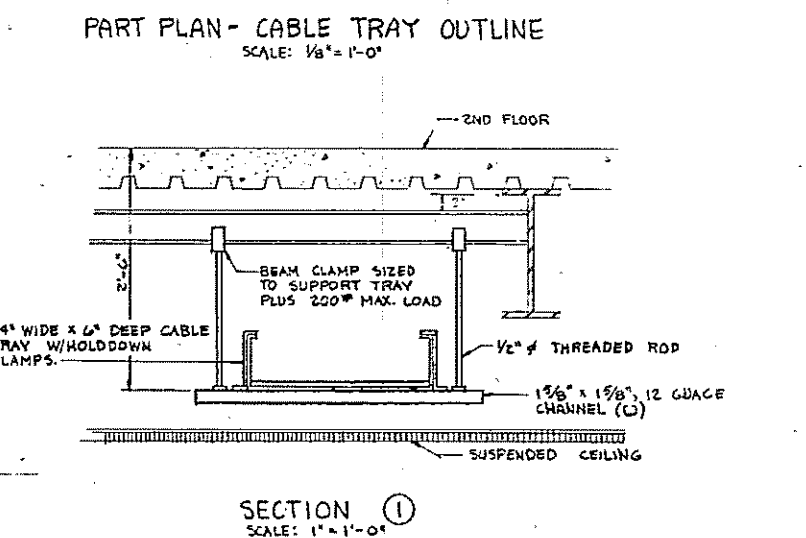
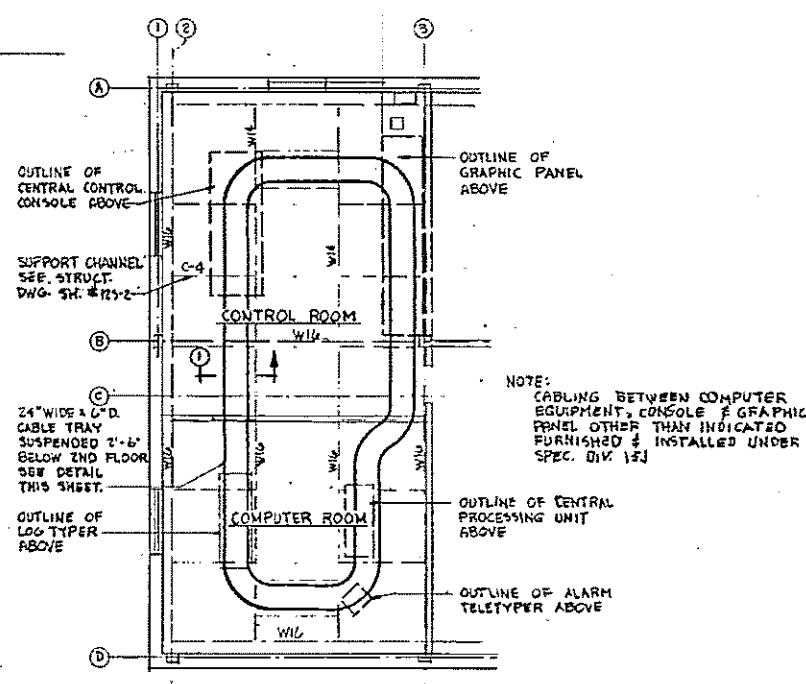
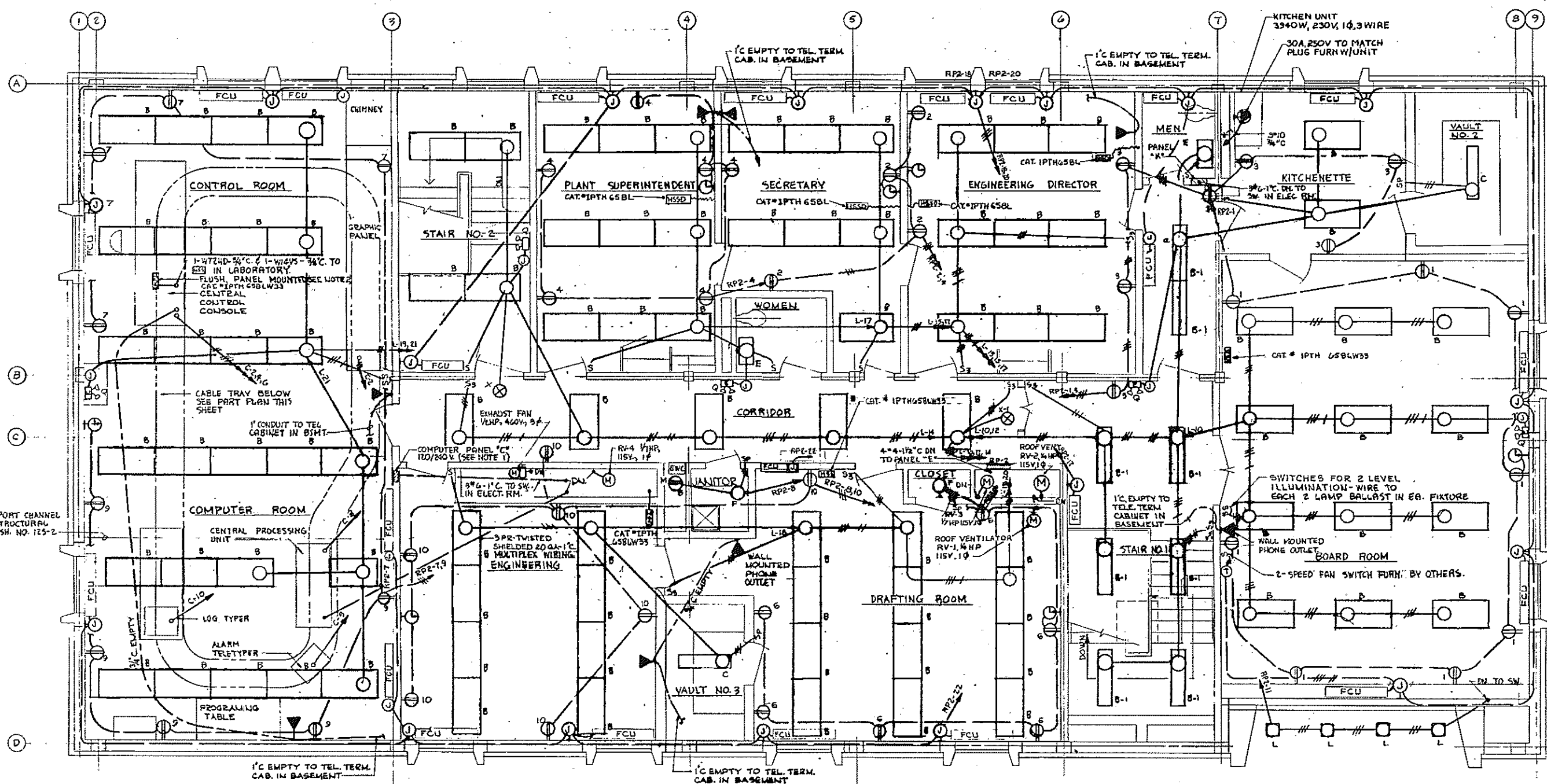
ADMINISTRATION BUILDING, F.N.-12
 ELECTRICAL

LIGHTING - FIRST-FLOOR PLAN

SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. W. R. B. TR. CLK. T. J. G. FILE NO. JW-83
 DR. D. S. APPROVED *F. W. Cahill* REG. NO. 213

CONTRACT DRAWING SHEET NO. 12E-3

REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



PANEL 'K' SCHEDULE

HP	V.A.	LOAD SERVED	120/240V, 1φ, 3 WIRE	LOAD SERVED	V.A.	H.P.
3340		KITCHEN UNIT	1	SPARE		
		SPARE	2	SPARE		
		SPARE	3	SPARE		
		SPARE	4	SPARE		
		SPARE	5	SPARE		
		SPARE	6	SPARE		
		SPARE	7	SPARE		
		SPARE	8	SPARE		
		SPARE	9	SPARE		
		SPARE	10	SPARE		
		SPARE	11	SPARE		

1 POLE 20A TRIP UNLESS OTHERWISE NOTED.

MAIN LUGS ONLY CONNECTED V.A. = 3,340

PANEL 'C' SCHEDULE

HP	V.A.	LOAD SERVED	120/240V, 1φ, 3 WIRE	LOAD SERVED	V.A.	H.P.
		SPARE	1	GRAPHIC PANEL	1600	
		SPARE	2	GRAPHIC PANEL	1600	
		SPARE	3	GRAPHIC PANEL	1600	
		SPARE	4	GRAPHIC PANEL	1600	
		SPARE	5	GRAPHIC PANEL	1600	
		SPARE	6	GRAPHIC PANEL	1600	
		SPARE	7	GRAPHIC PANEL	1600	
		SPARE	8	GRAPHIC PANEL	1600	
		SPARE	9	GRAPHIC PANEL	1600	
		SPARE	10	GRAPHIC PANEL	1600	
		SPARE	11	GRAPHIC PANEL	1600	
		SPARE	12	GRAPHIC PANEL	1600	
		SPARE	13	GRAPHIC PANEL	1600	
		SPARE	14	GRAPHIC PANEL	1600	
		SPARE	15	GRAPHIC PANEL	1600	
		SPARE	16	GRAPHIC PANEL	1600	
		SPARE	17	GRAPHIC PANEL	1600	
		SPARE	18	GRAPHIC PANEL	1600	
		SPARE	19	GRAPHIC PANEL	1600	
		SPARE	20	GRAPHIC PANEL	1600	
		SPARE	21	GRAPHIC PANEL	1600	
		SPARE	22	GRAPHIC PANEL	1600	
		SPARE	23	GRAPHIC PANEL	1600	
		SPARE	24	GRAPHIC PANEL	1600	
		SPARE	25	GRAPHIC PANEL	1600	
		SPARE	26	GRAPHIC PANEL	1600	
		SPARE	27	GRAPHIC PANEL	1600	
		SPARE	28	GRAPHIC PANEL	1600	
		SPARE	29	GRAPHIC PANEL	1600	
		SPARE	30	GRAPHIC PANEL	1600	

1 POLE 20A TRIP UNLESS OTHERWISE NOTED.

MAIN LUGS ONLY CONNECTED V.A. = 3,400

ISOLATED GROUND BUS

PANEL RP 2 SCHEDULE

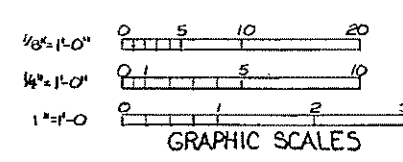
HP	V.A.	LOAD SERVED	120/208 V, 3φ, 4 WIRE	LOAD SERVED	V.A.	H.P.
1600		RECEPT (8) BOARD	1	RECEPT (4) SECTRY	800	
1600		RECEPT (7) ENG. DIR.	2	RECEPT (4) SUPT	1200	
		SPARE	3	RECEPT (4) DRAFT	1300	
800		RECEPT (4) CONTROL	4	WATER COOLER & LGT	654	1/5
1000		RECEPT (5) COMPUTER	5	RECEPT (7) ENGIN	1400	
600		ELECTRANCE LTS.	6	SPARE		
		SPARE	7	SPARE		
		SPARE	8	SPARE		
		SPARE	9	SPARE		
		SPARE	10	SPARE		
		SPARE	11	SPARE		
		SPARE	12	SPARE		
		SPARE	13	SPARE		
		SPARE	14	SPARE		
		SPARE	15	SPARE		
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		SPARE	24	SPARE		
		SPARE	25	SPARE		
		SPARE	26	SPARE		
		SPARE	27	SPARE		
		SPARE	28	SPARE		
		SPARE	29	SPARE		
		SPARE	30	SPARE		

1 POLE 20A TRIP UNLESS OTHERWISE NOTED.

MAIN LUGS ONLY CONNECTED V.A. = 14,674

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

- NOTES:**
- FURNISH 6-3/4" FROM PANEL C TO 4" x 4" x 2'-0" WAREWAY IN LABORATORY HUNG CEILING SPACE
 - FURNISH INTERCOM UNIT TO CONTROL CONSOLE MANUFACTURER FOR FURNISH MOUNTING IN PANEL
 - A SEPARATE GREEN GROUND WIRE TO ALL COMPUTER & CONTROL ROOM EQUIPMENT FROM PANEL C
 - ALL FAN COIL UNITS ARE FACTORY WIRED EXCEPT FOR A SINGLE UNIT IN BOARD ROOM & LOBBY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
ADMINISTRATION BUILDING, F.N.-12
ELECTRICAL

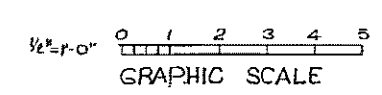
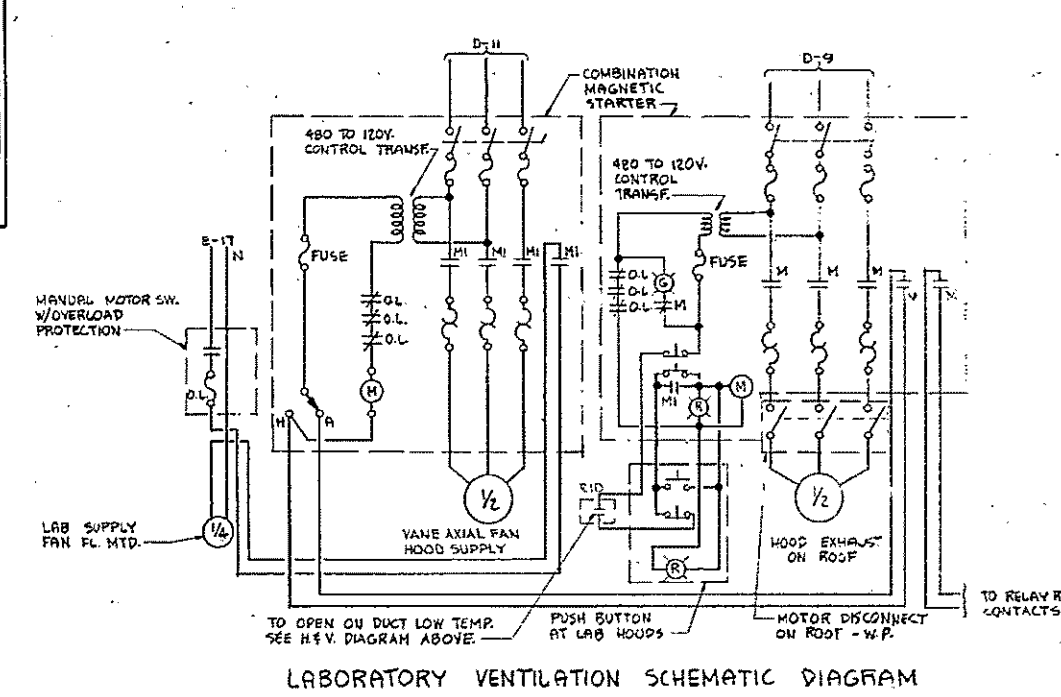
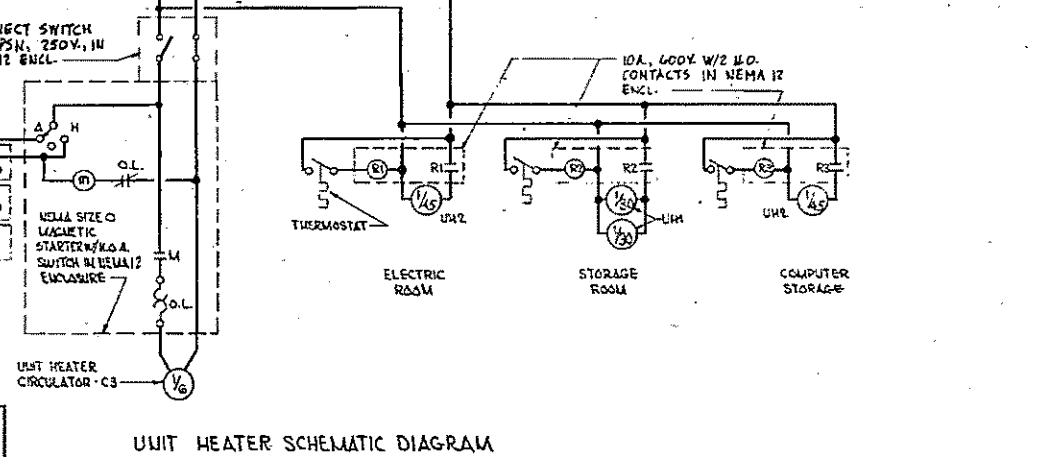
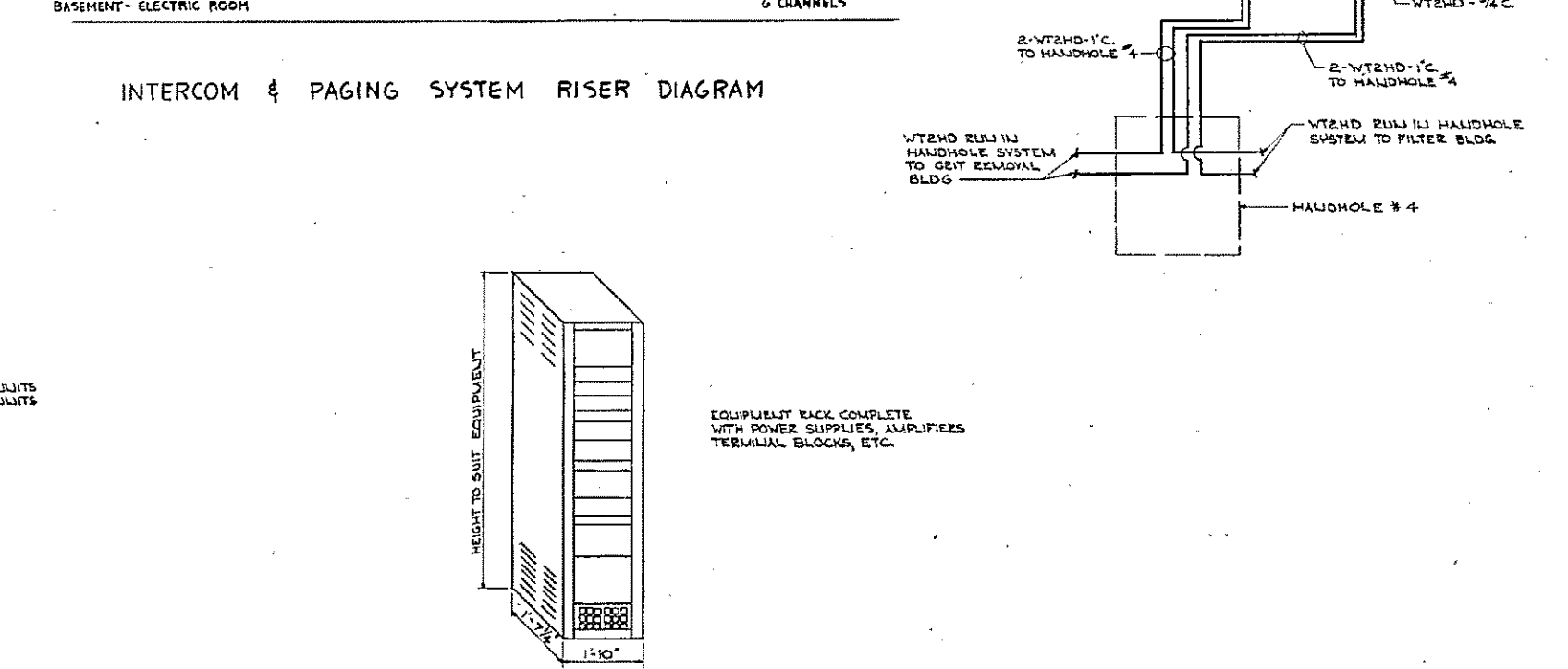
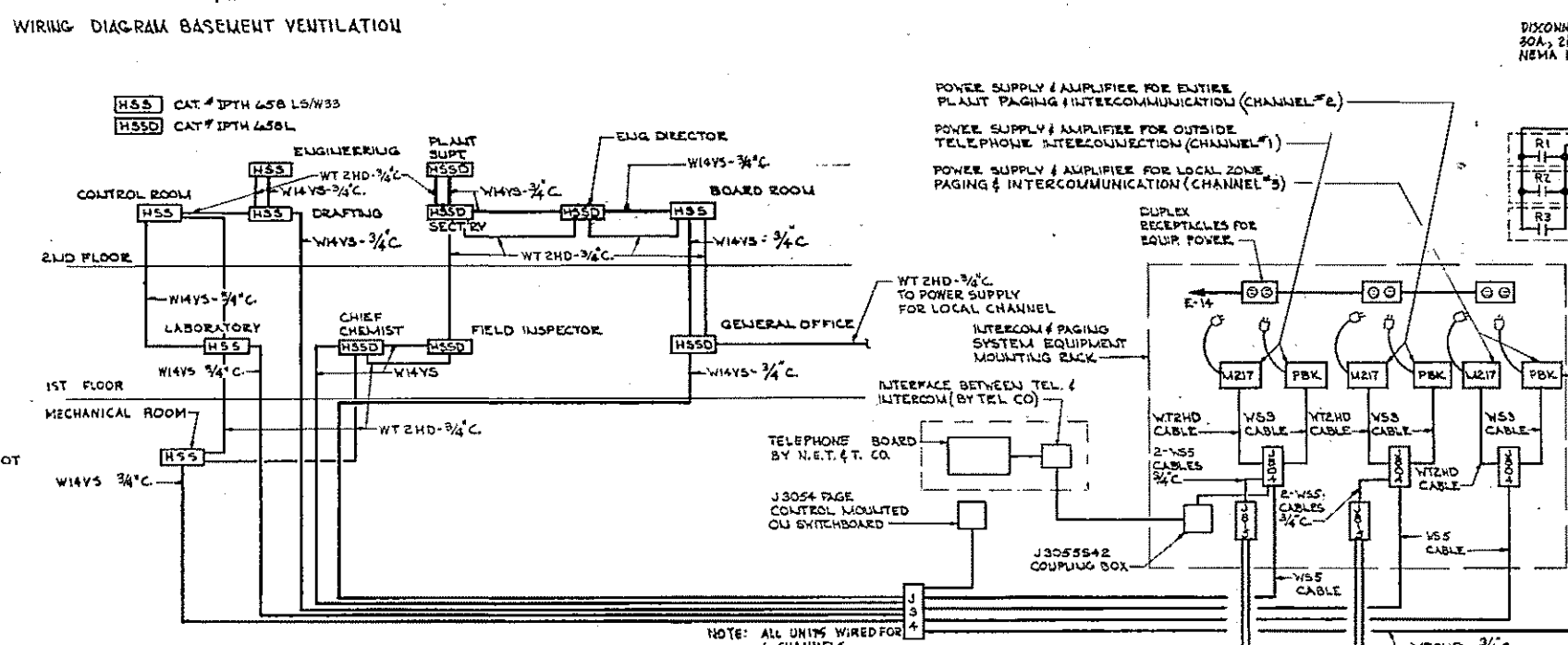
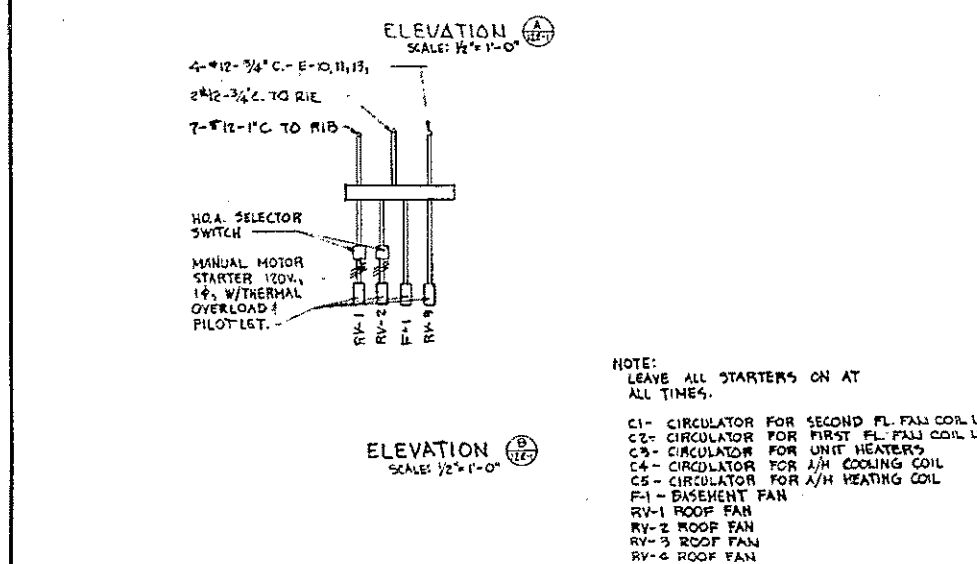
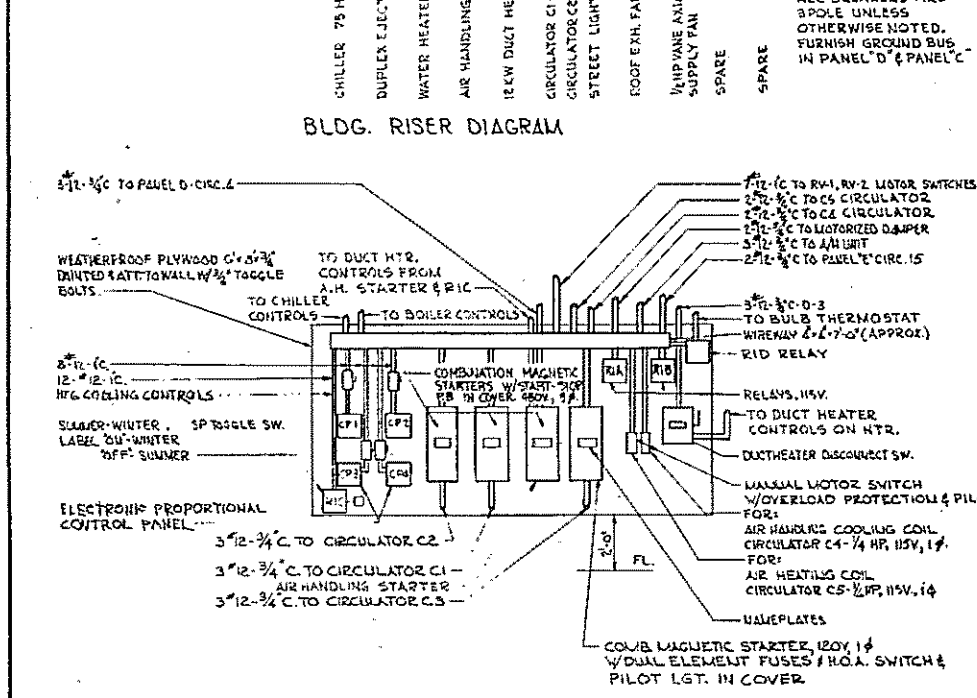
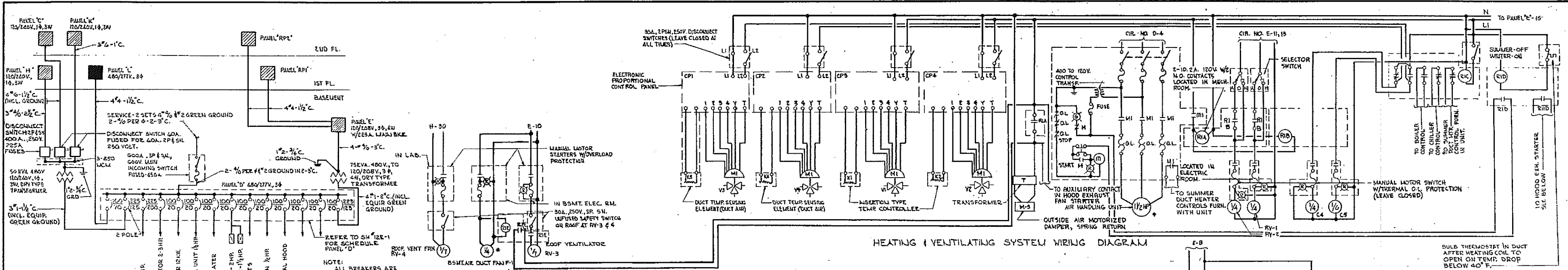
LIGHTING - SECOND FLOOR PLAN

SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. W.P.B. IN. CH. T.J.B. PLOT JW-83
APPROVED: J.M. Cahaly PLAN NO. 214

CONTRACT DRAWING SHEET NO. 12E-4

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



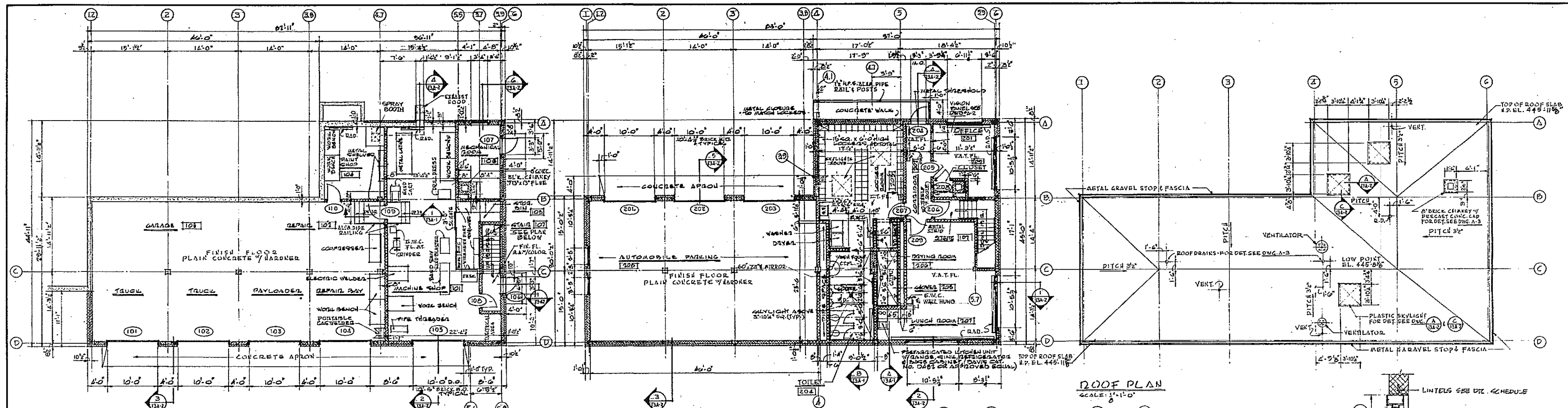


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 ADMINISTRATION BUILDING, F.N.-12
 ELECTRICAL
 WIRING DIAGRAMS

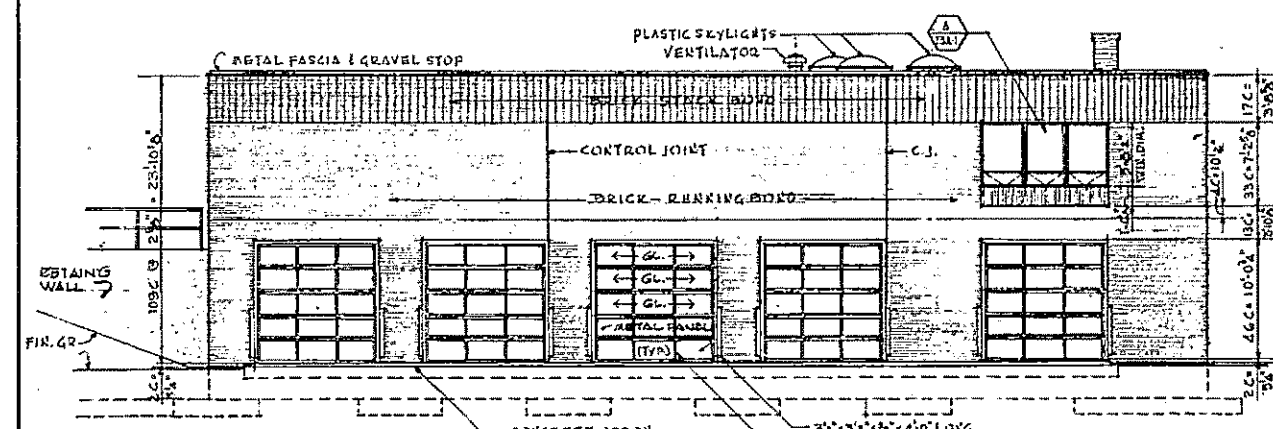
SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. W. J. G. - N.C.H. TR. CHEK. T. J. B. ERF. JW-83
 APPROVED: F. M. Cahaly
 CONTRACT DRAWING SHEET NO. 12E-5



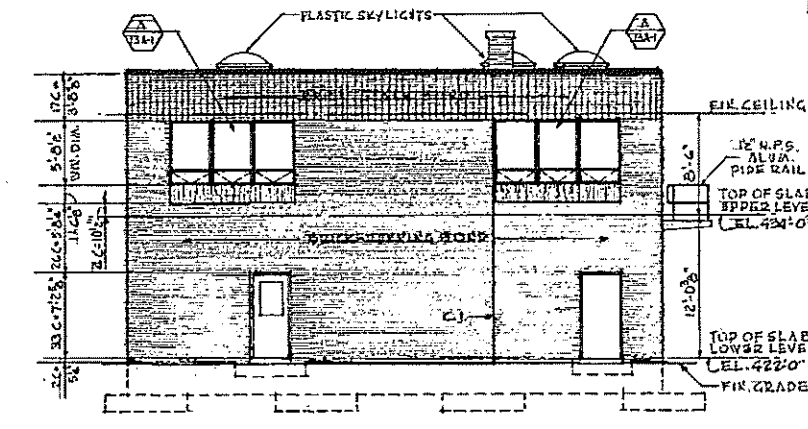
LOWER LEVEL FLOOR PLAN
SCALE: 1/8" = 1'-0" (FIN. FLOOR ELEV. 422'-0")

UPPER LEVEL FLOOR PLAN
SCALE: 1/8" = 1'-0" (FIN. FLOOR ELEV. 434'-0")

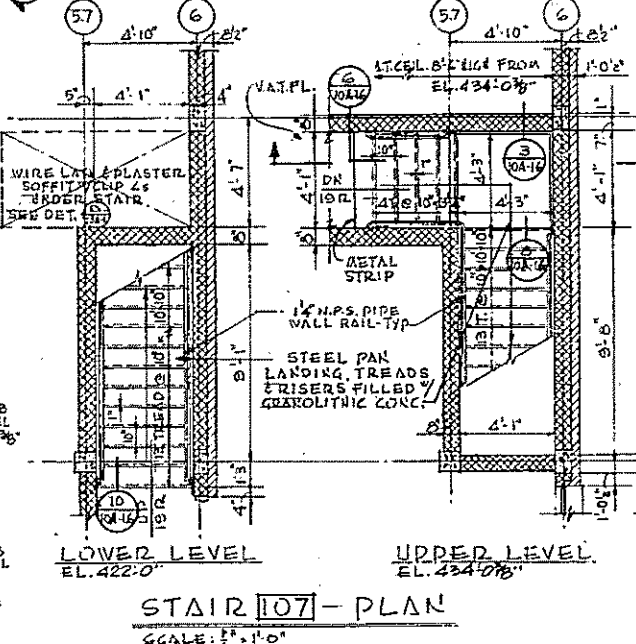
ROOF PLAN
SCALE: 1/8" = 1'-0"



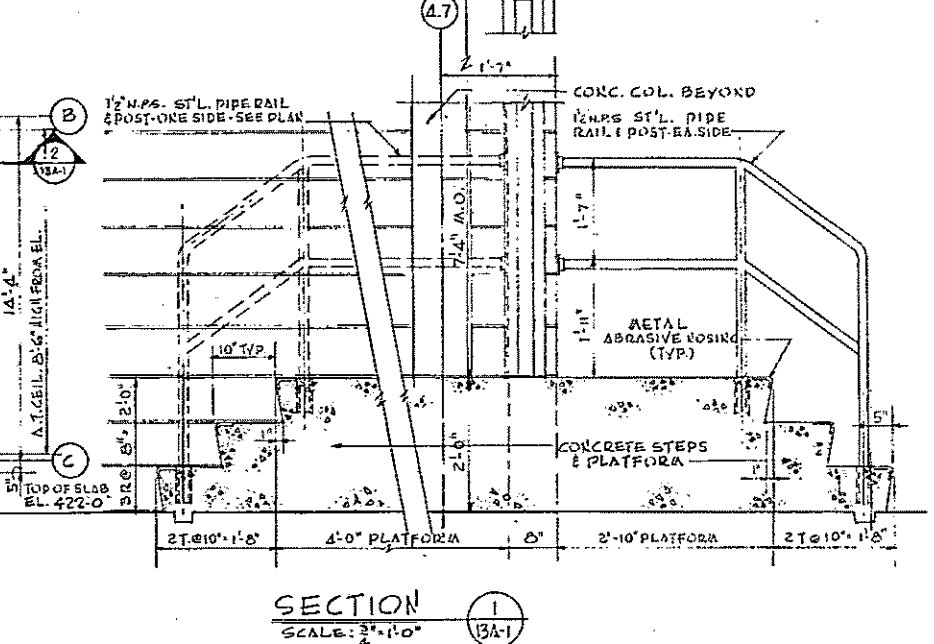
EAST ELEVATION
SCALE: 1/8" = 1'-0"



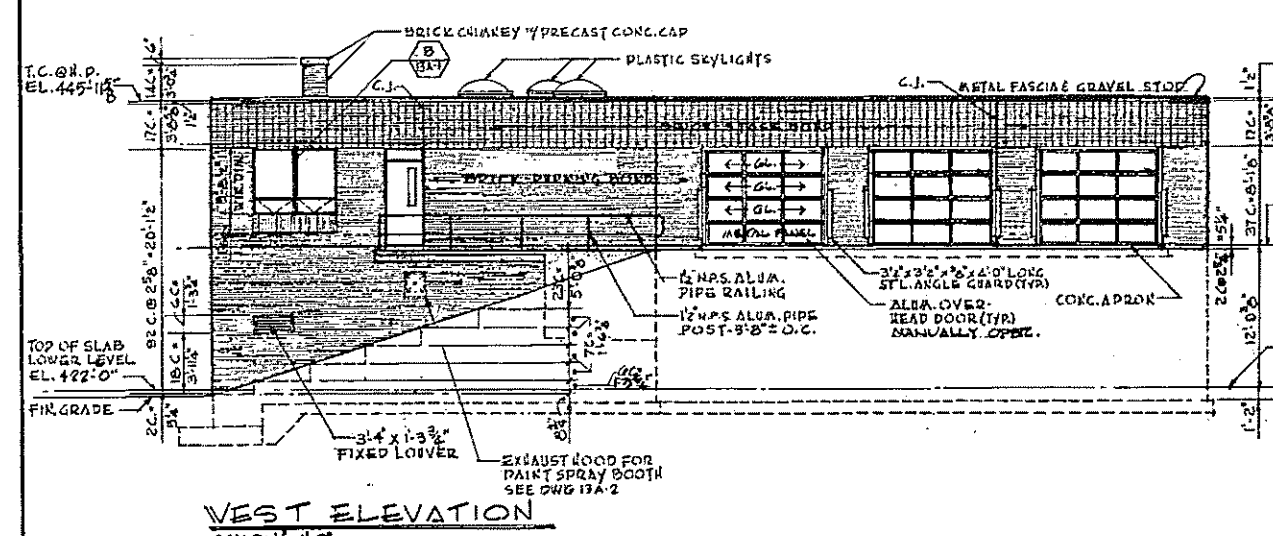
NORTH ELEVATION
SCALE: 1/8" = 1'-0"



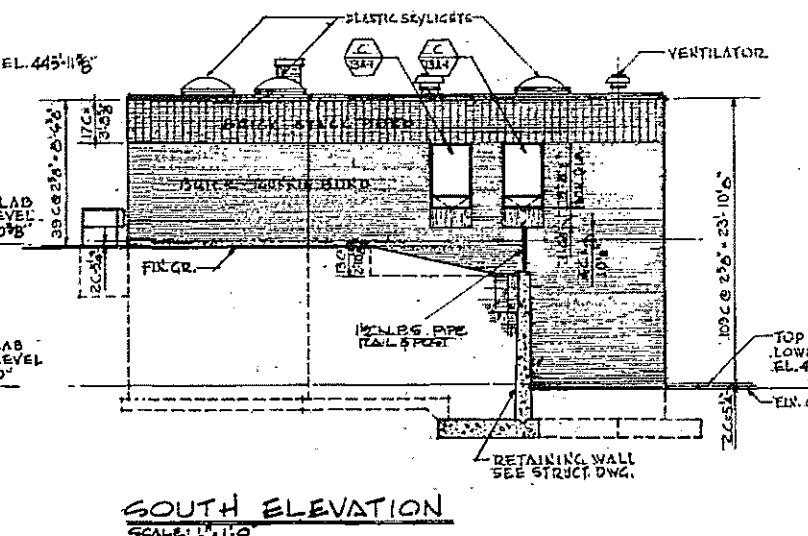
STAIR 107 - PLAN
SCALE: 1/8" = 1'-0"



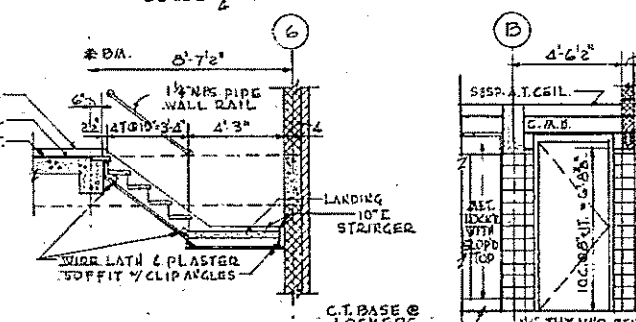
SECTION 1
SCALE: 1/4" = 1'-0"



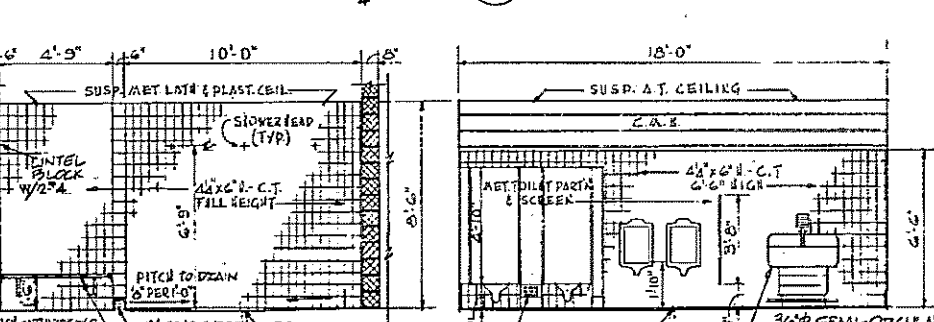
WEST ELEVATION
SCALE: 1/8" = 1'-0"



SOUTH ELEVATION
SCALE: 1/8" = 1'-0"

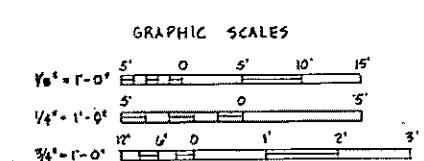


SECTION 2
SCALE: 1/4" = 1'-0"



NORTH ELEV. SLOWER 205 & DRYING RA 206
SCALE: 1/4" = 1'-0"

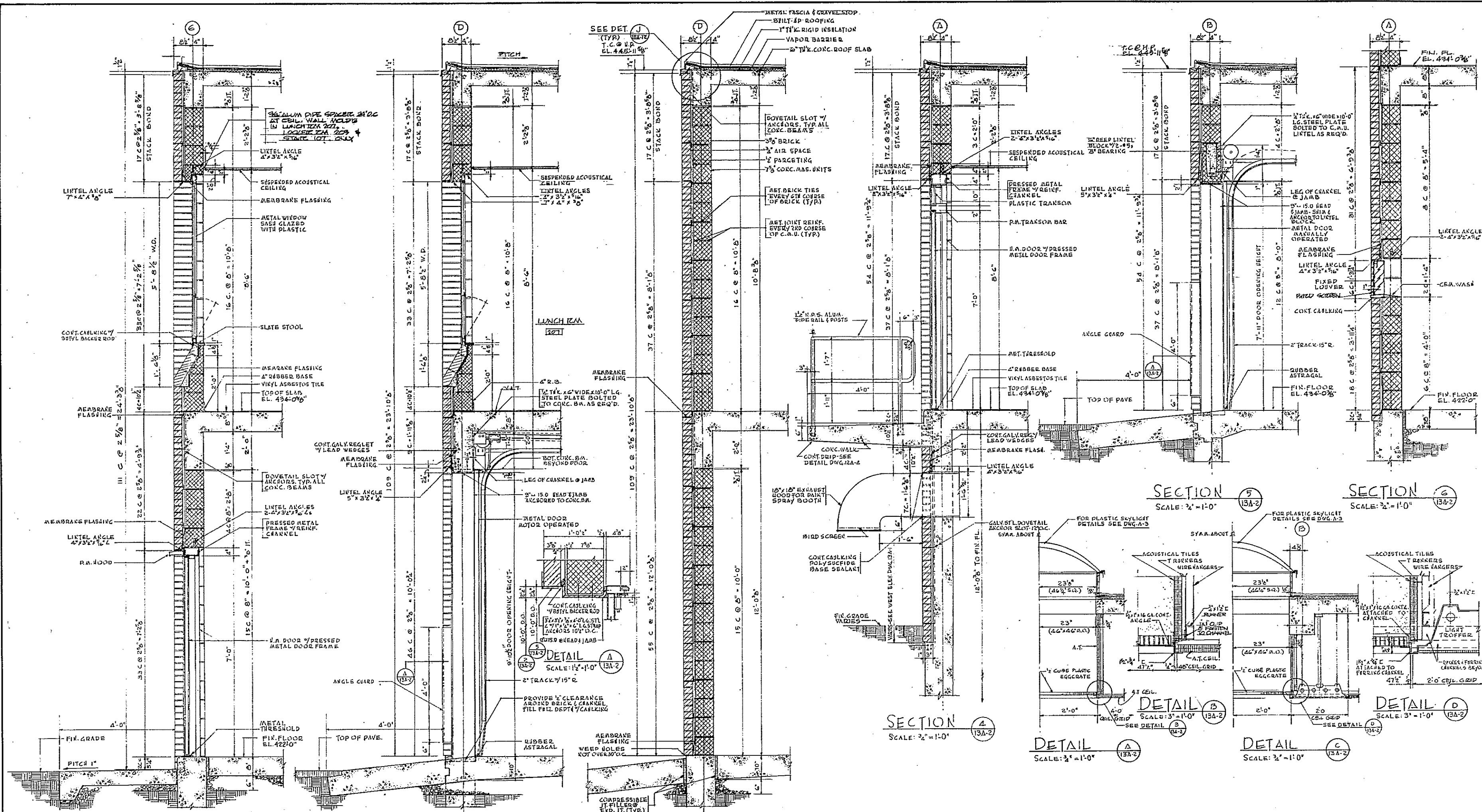
SOUTH ELEV. TOILET 204
SCALE: 1/4" = 1'-0"



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 MAINTENANCE BUILDING F.N.-13
 ARCHITECTURAL
 PLANS, ELEVATION, AND STAIR DETAILS
 SCALE: AS NOTED
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
 DEC 1972
 DR. J.M.T. J.C. CHELSEA
 APPROVED: J.M. Cahaly
 CONTRACT DRAWING SHEET NO. 13A-1



SECTION 1
SCALE: 3/4" = 1'-0" (13A-2)

SECTION 2
SCALE: 3/4" = 1'-0" (13A-2)

SECTION 3
SCALE: 3/4" = 1'-0" (13A-2)

SECTION 4
SCALE: 3/4" = 1'-0" (13A-2)

DETAIL A
SCALE: 3" = 1'-0" (13A-2)

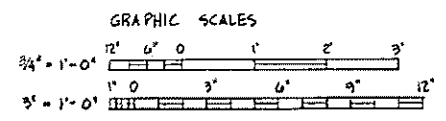
DETAIL B
SCALE: 3" = 1'-0" (13A-2)

DETAIL C
SCALE: 3" = 1'-0" (13A-2)

DETAIL D
SCALE: 3" = 1'-0" (13A-2)

SECTION 5
SCALE: 3/4" = 1'-0" (13A-2)

SECTION 6
SCALE: 3/4" = 1'-0" (13A-2)



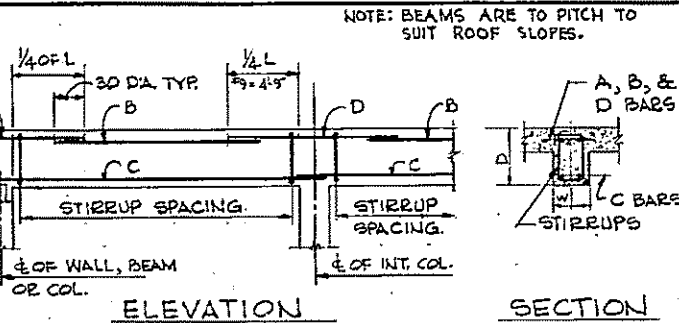
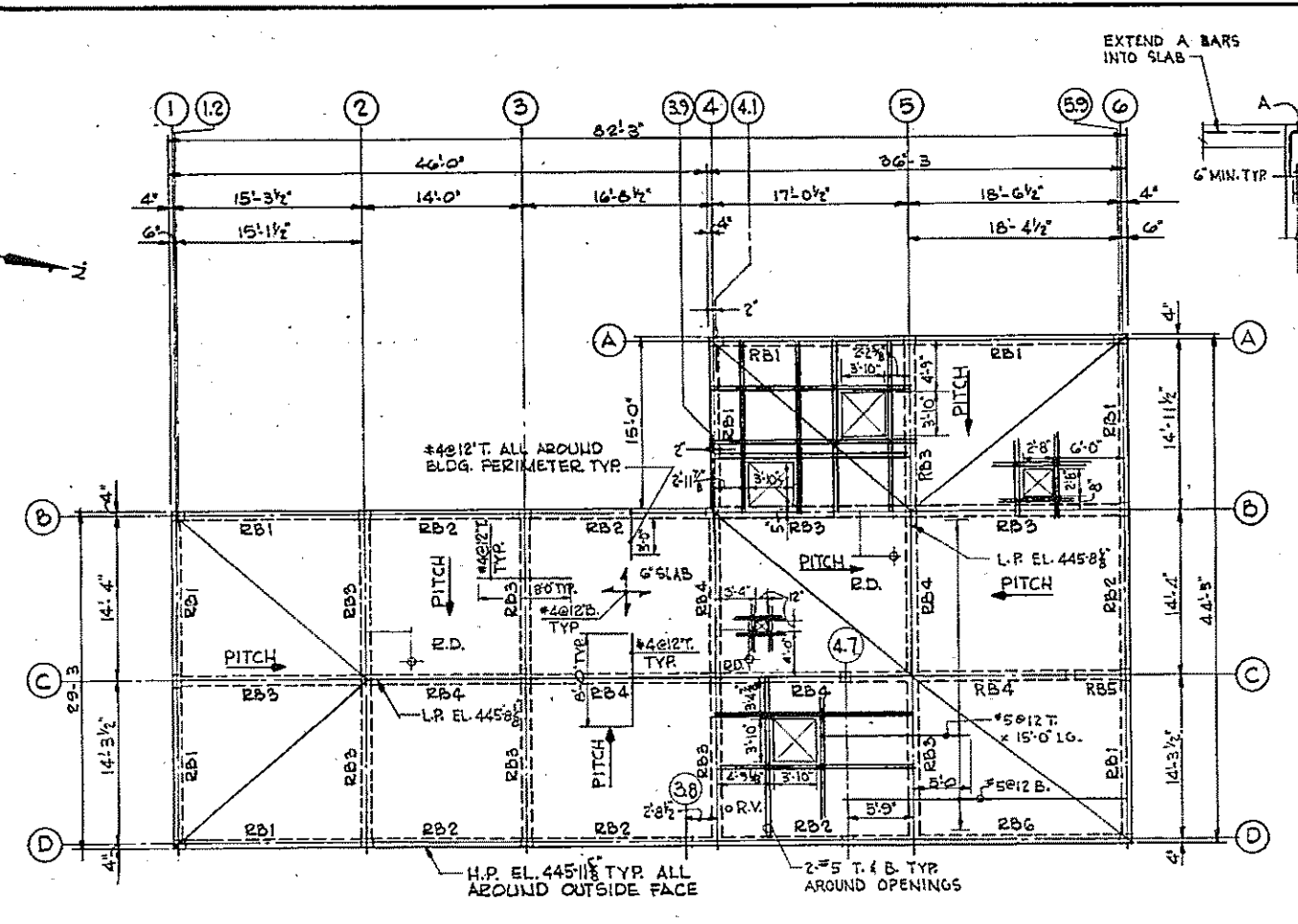
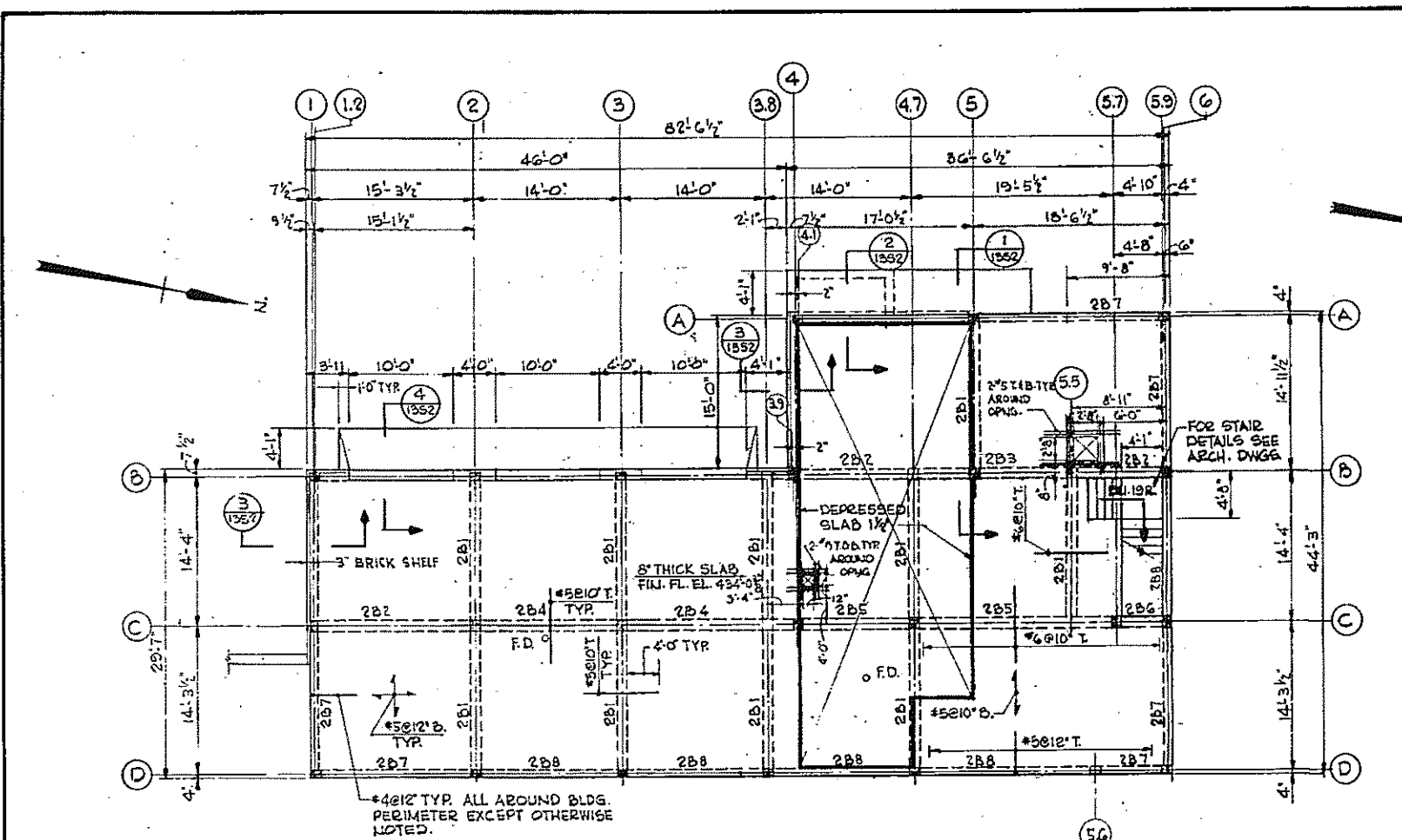
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 MAINTENANCE BUILDING, F.N.-13
 ARCHITECTURAL
 WALL SECTIONS AND DETAILS

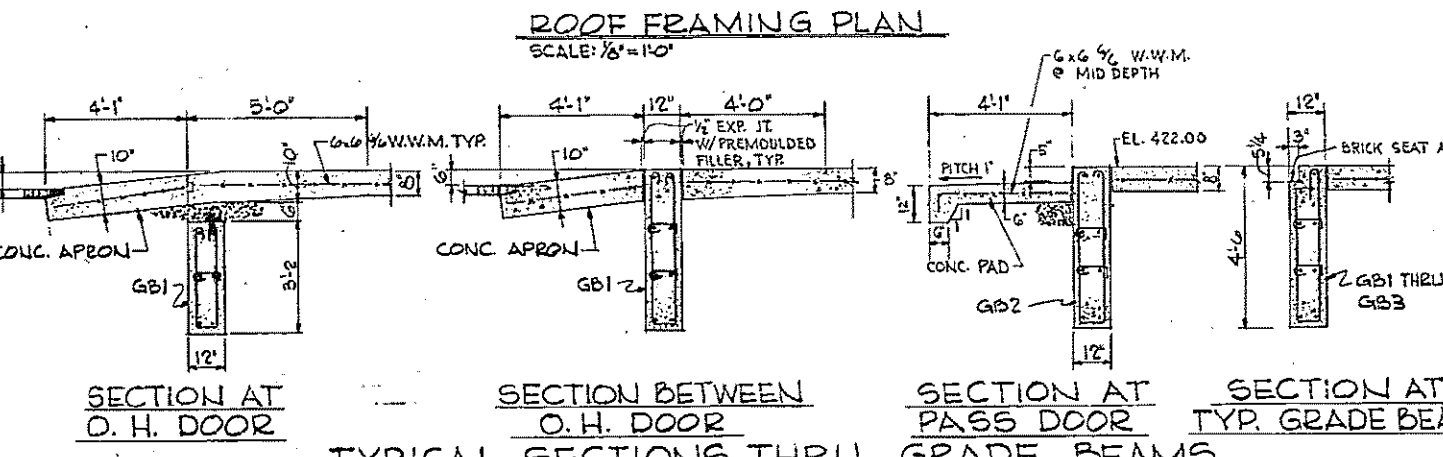
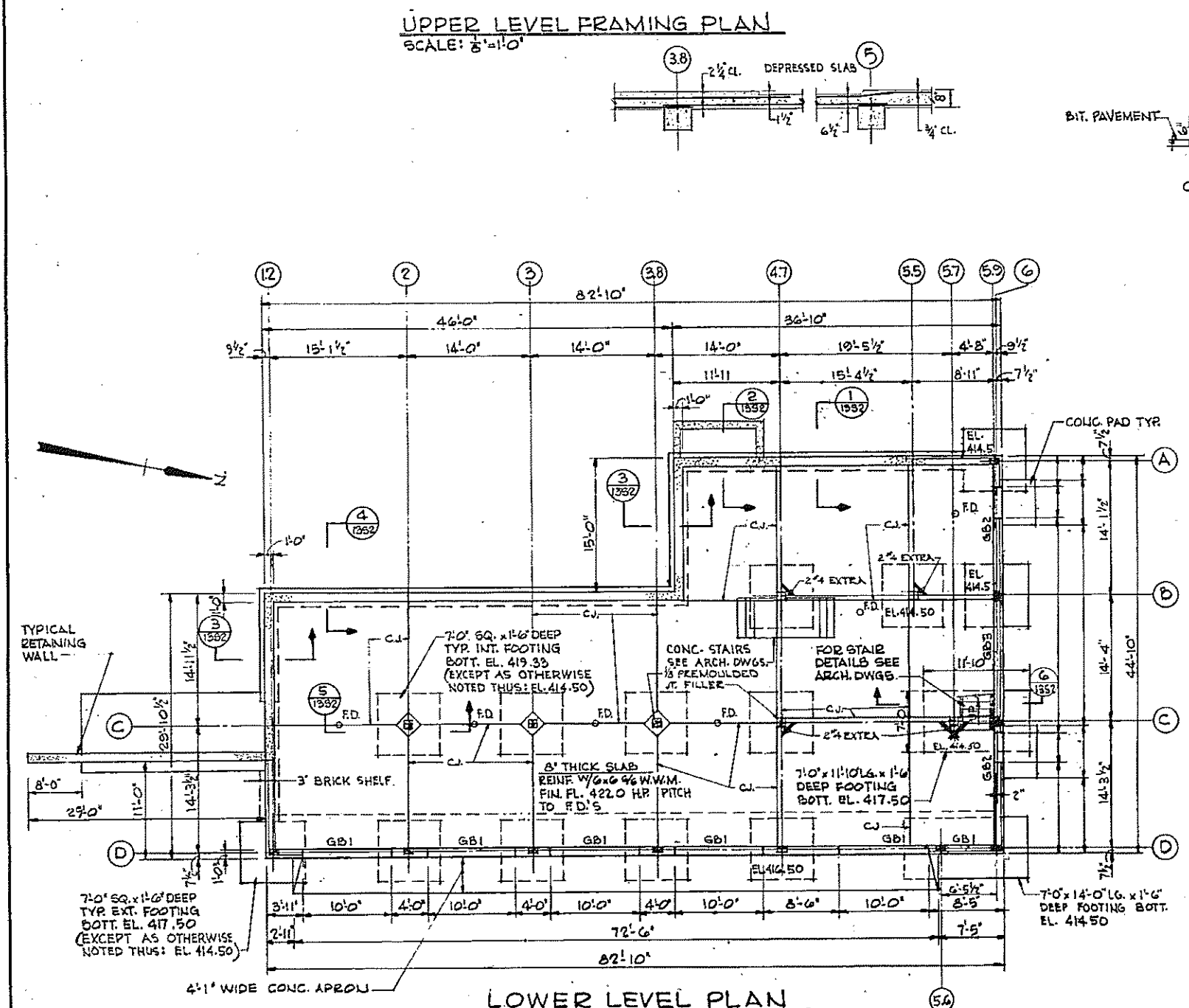
SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

DES. H.C.K. DR. J.M.T. IN CH. P.H.L. FILE JW-83
 APPROVED J.M. Cahaly R.N. 217

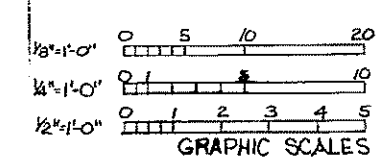
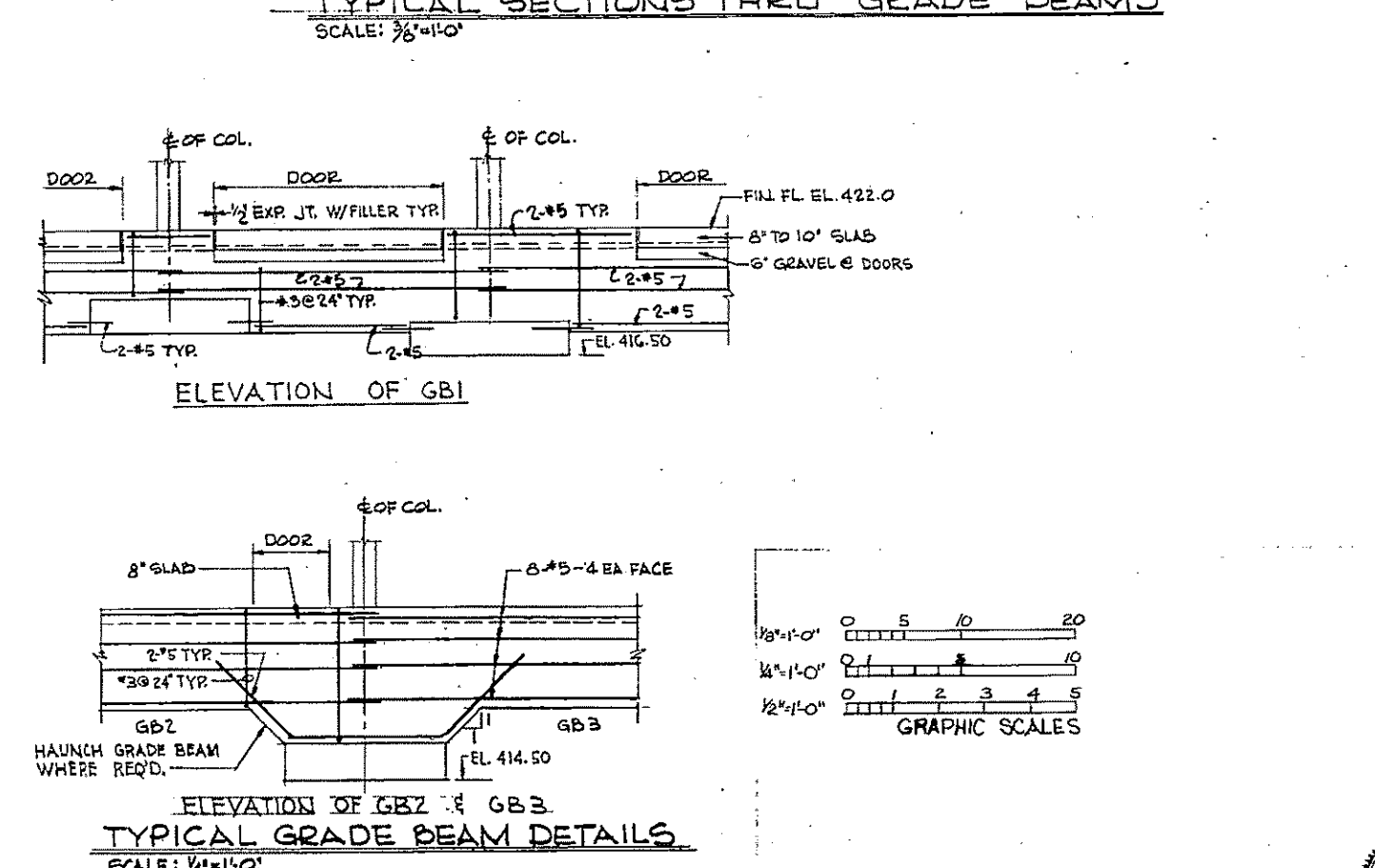
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



BEAM SCHEDULE					
MARK	W	D	REINFORCING	STIRRUP SPACING	REMARKS
2B1	12"	16"	2#6	2#6 @ 4#6	#4 @ 7'
2B2	14"	24"	3#6	4#6 @ 4#6	#4 @ 10'
2B3	14"	24"	3#6	5#6 @ 4#6	#4 @ 8'
2B4	14"	24"	3#6	4#6 @ 4#6	#4 @ 10'
2B5	14"	24"	3#6	4#6 @ 4#6	#4 @ 10'
2B6	14"	24"	3#6	4#6 @ 4#6	#4 @ 10'
2B7	8"	24"	2#6	2#6 @ 2#6	#4 @ 10'
2B8	8"	24"	2#6	2#6 @ 2#6	#4 @ 10'
RB1	8"	14"	2#5	2#6	#3 @ 6'
RB2	8"	14"	2#5	2#6	#3 @ 6'
RB3	10"	14"	2#5	2#6	#3 @ 6'
RB4	10"	14"	2#5	2#6	#3 @ 6'
RB5	10"	14"	2#5	2#6	#3 @ 6'
RB6	8"	14"	2#5	2#6	#3 @ 6'



COLUMN SCHEDULE									
COL. MARK	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4	A4, A5, B4, B5, C1, C2, C3, C4
HIGH POINT ROOF ELEV. 445'-11 1/2"									
FINISHED UPPER LEVEL ELEV. 434'-0 3/8"									
FINISHED LOWER LEVEL ELEV. 422'-0"									
COLUMN SIZE	8"x12"	8"x12"	10"x10"	10"x10"	10"x10"	10"x10"	10"x10"	10"x10"	10"x10"
VERTICAL REINF. TIES	#3 @ 6'	#3 @ 6'	#3 @ 10'	#3 @ 10'	#3 @ 10'	#3 @ 10'	#3 @ 10'	#3 @ 10'	#3 @ 10'



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
MAINTENANCE BUILDING, F.N.-13
STRUCTURAL
FOUNDATION, UPPER LEVEL AND
ROOF FRAMING PLANS

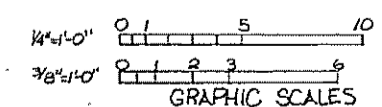
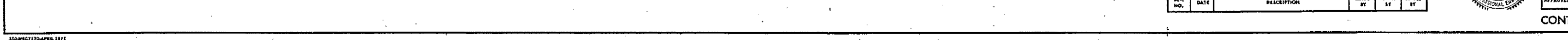
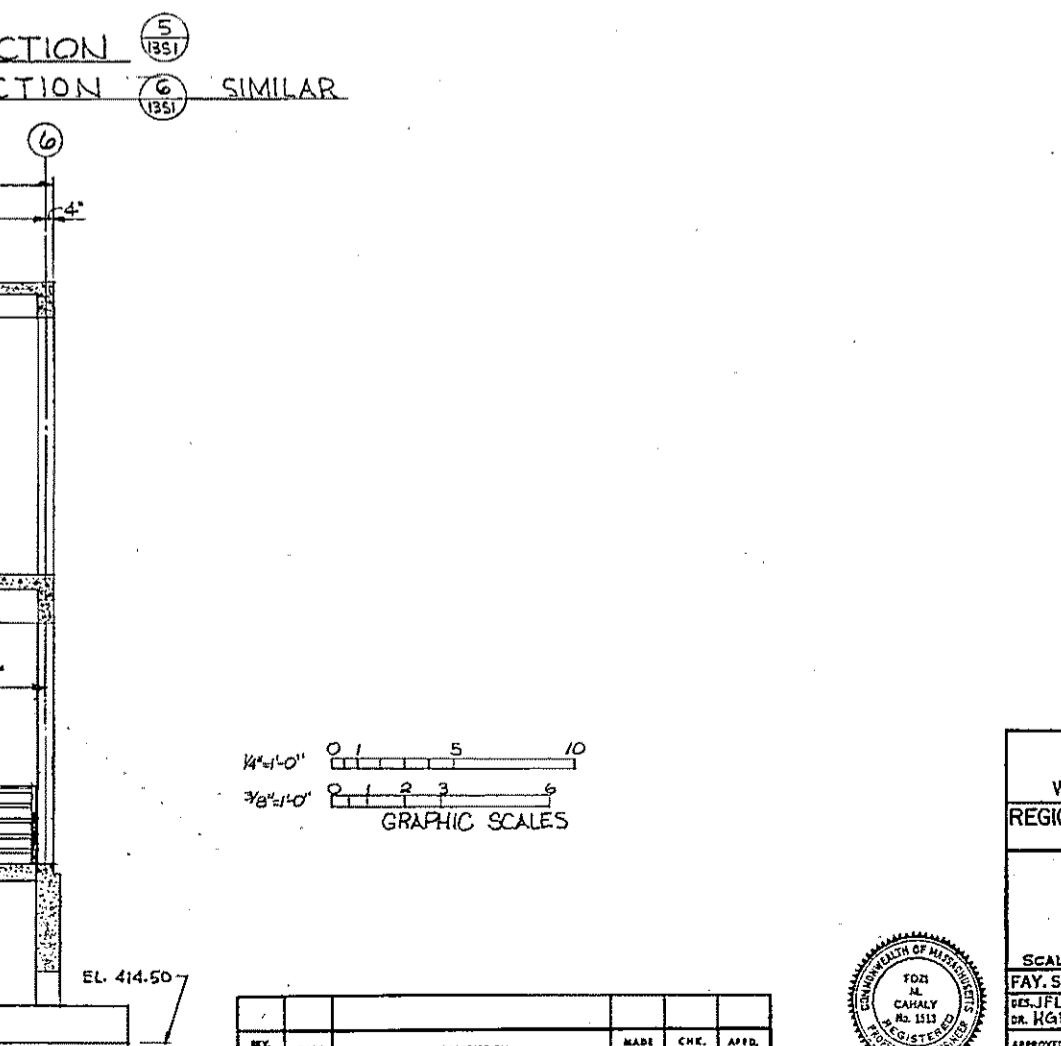
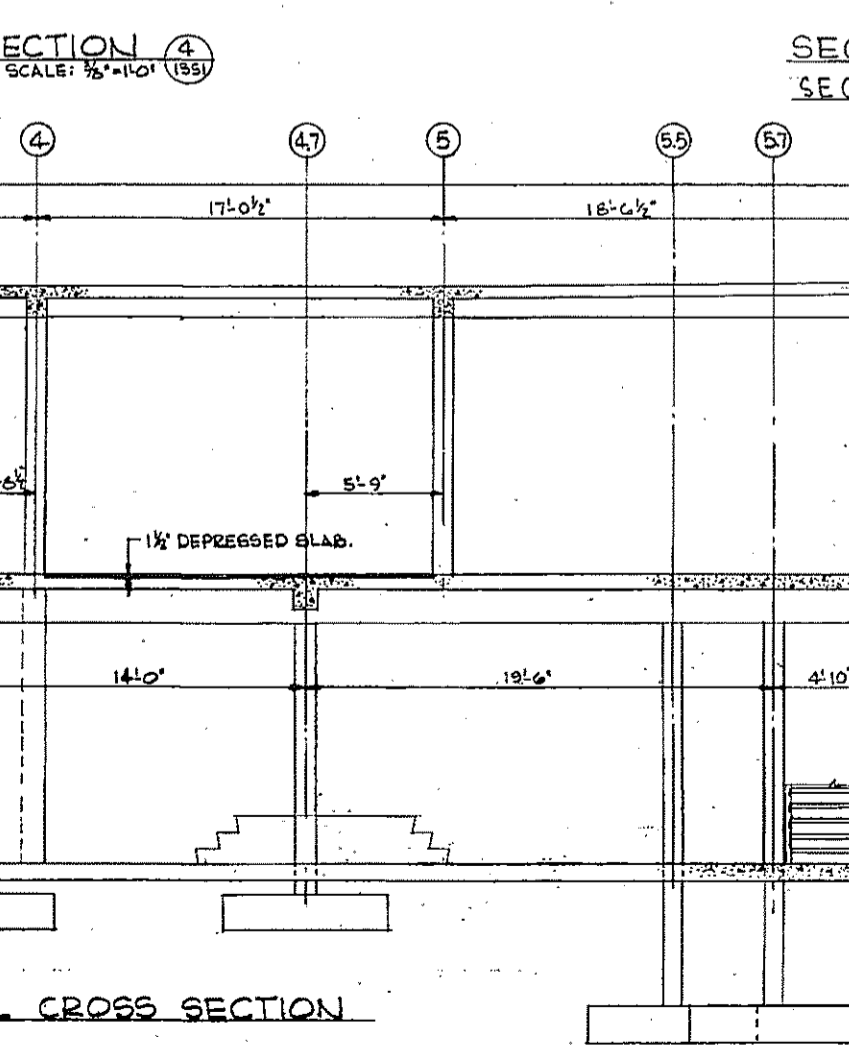
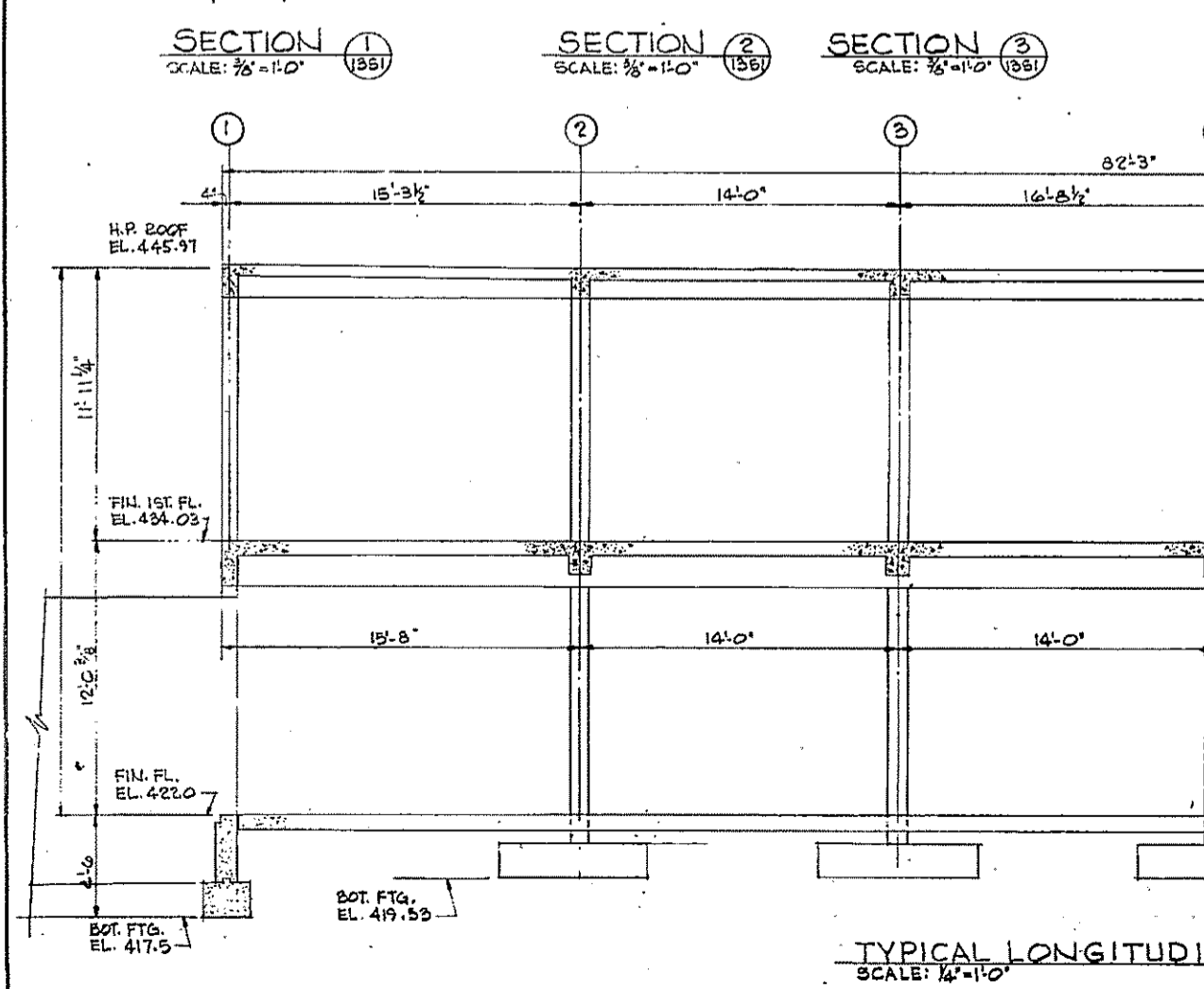
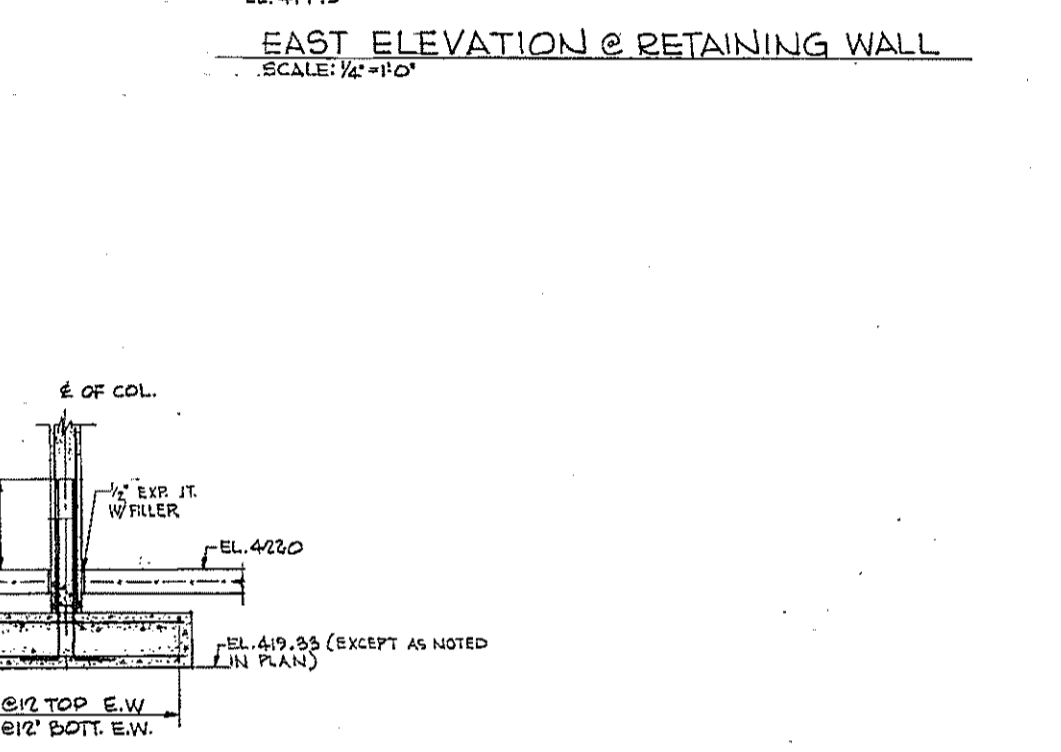
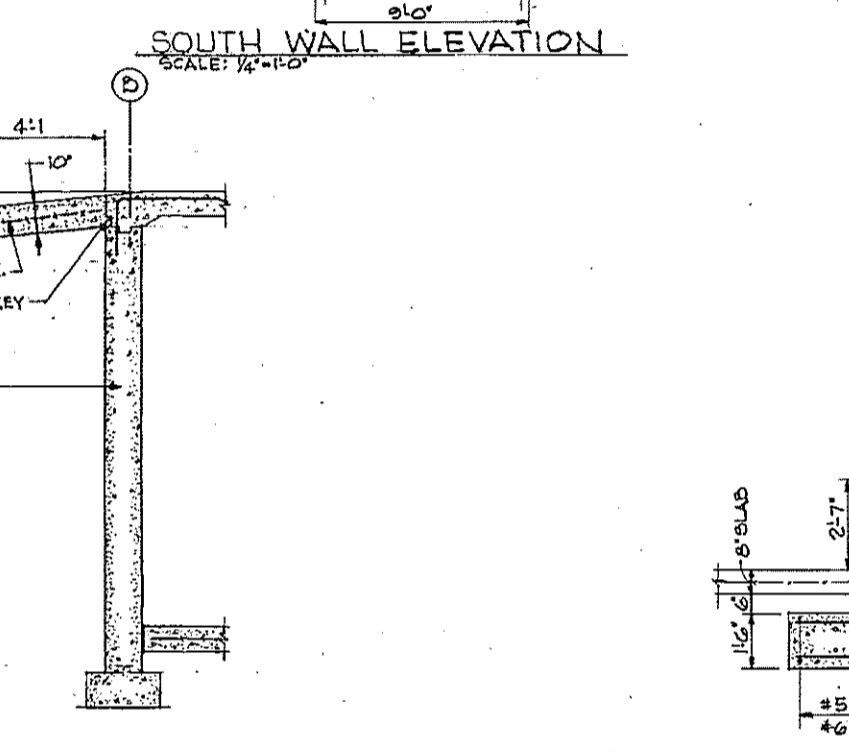
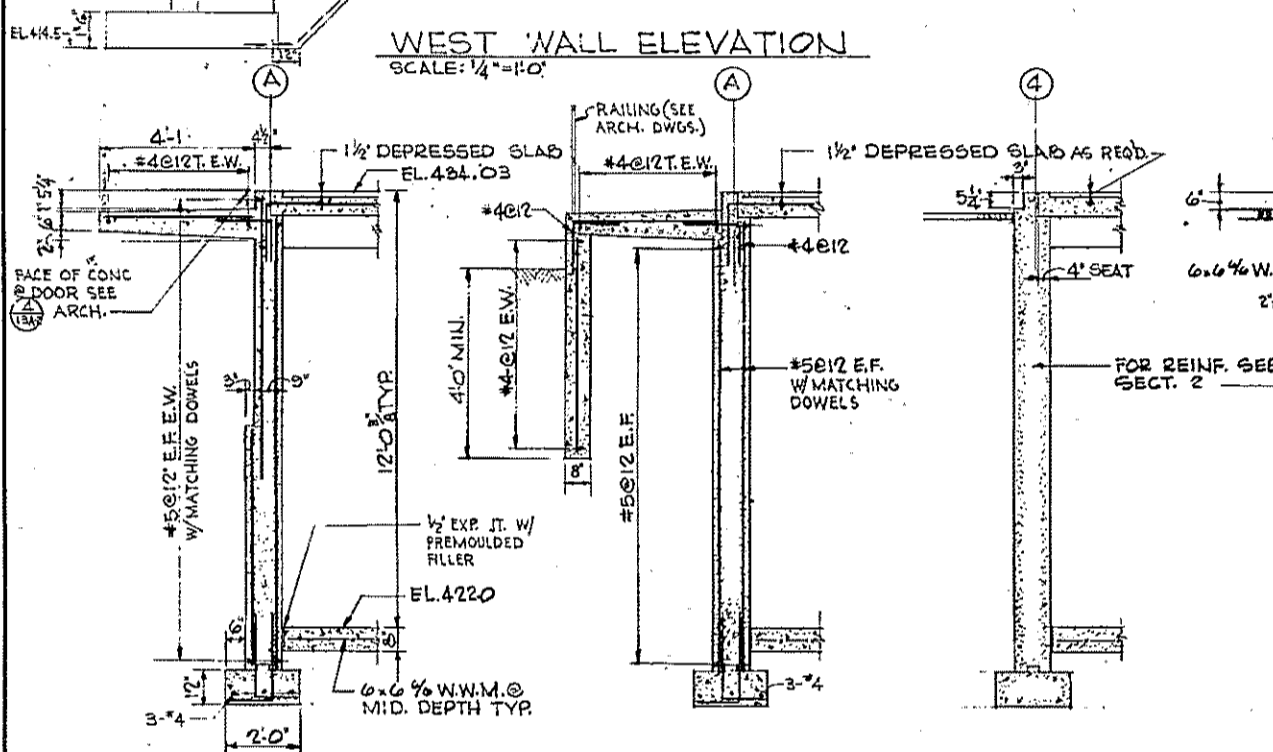
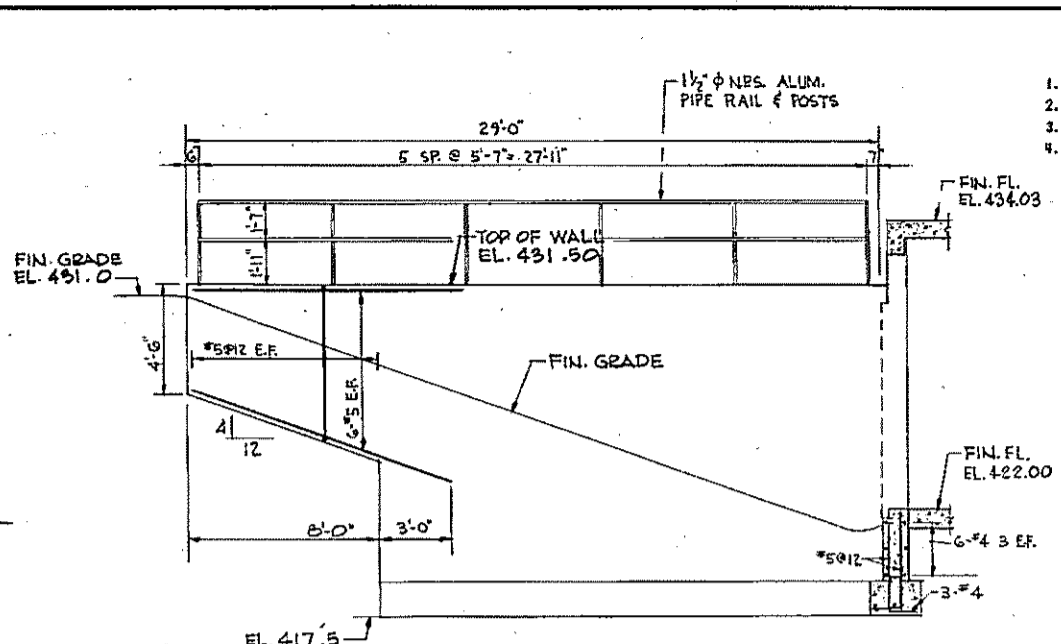
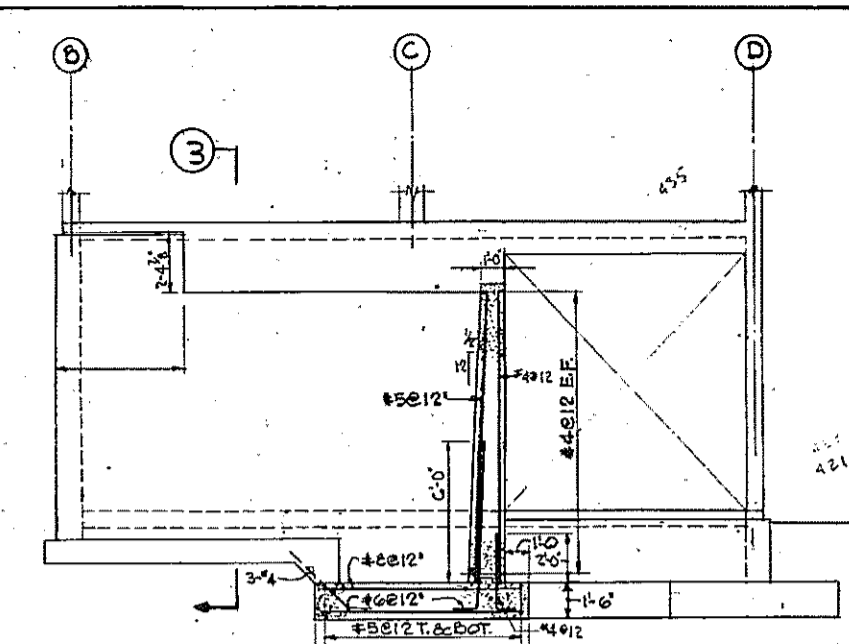
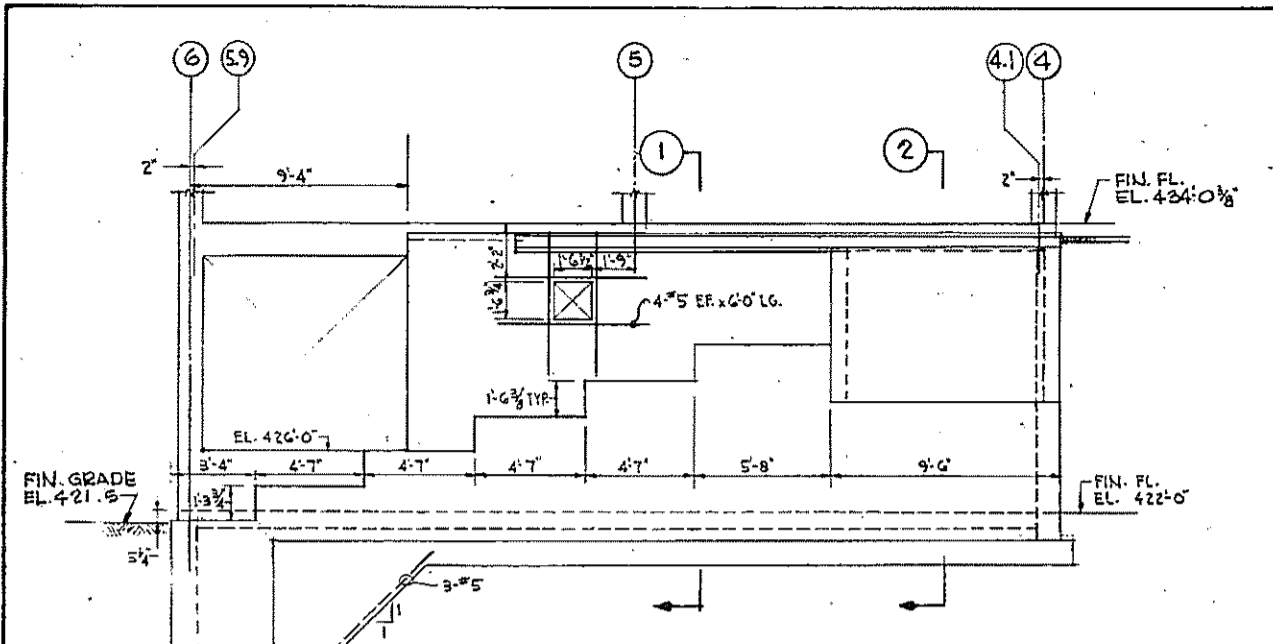
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. JFL
CHK. JFL
APP. J.M. Cahaly
218

NOTE:
FOR PIPES EMBEDDED OR
BELOW FLOOR SLAB SEE
SHT. NO. 13-P-1.

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

NOTES

1. FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 103-1.
2. FOR TYPICAL JOINT DETAILS SEE SHEET NO. 35-2
3. DESIGN GROUNDWATER AT ELEVATION 416.0.
4. LIVE LOADS:
UPPER LEVEL
AUTOMOBILE PARKING - 150 PSF
TOILET, LOCKER, LUNCH AND OFFICE AREAS - 130 PSF
(INCLUDING PARTITIONS)



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
MAINTENANCE BUILDING, F.N. - 13
STRUCTURAL

SECTIONS AND DETAILS

SCALE: AS NOTED FEBRUARY 1973

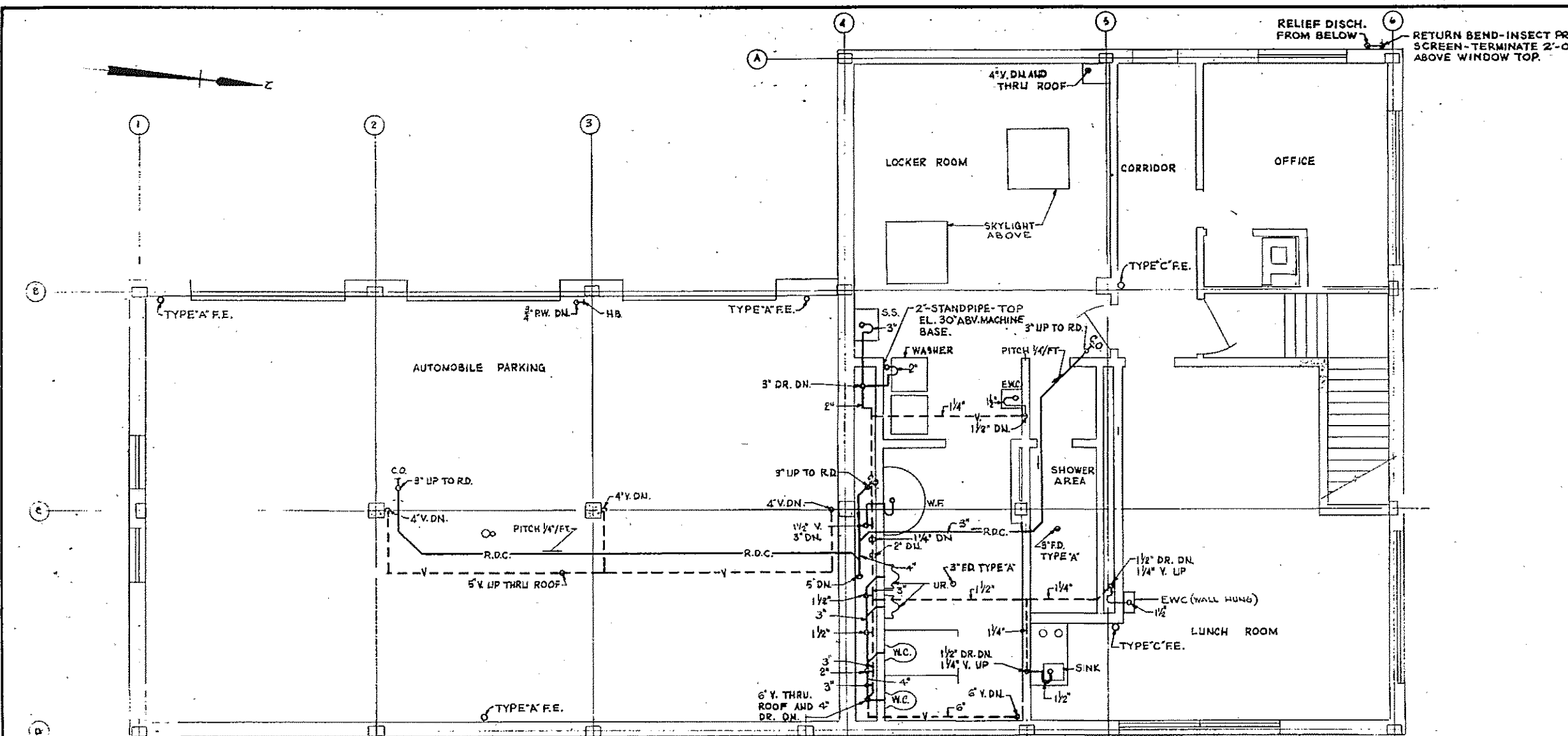
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. JFL	TR.	REV. NO.
DR. HGH	CHK. JFL	16
APPROVED	<i>M. Cahaly</i>	PLAN NO. 219

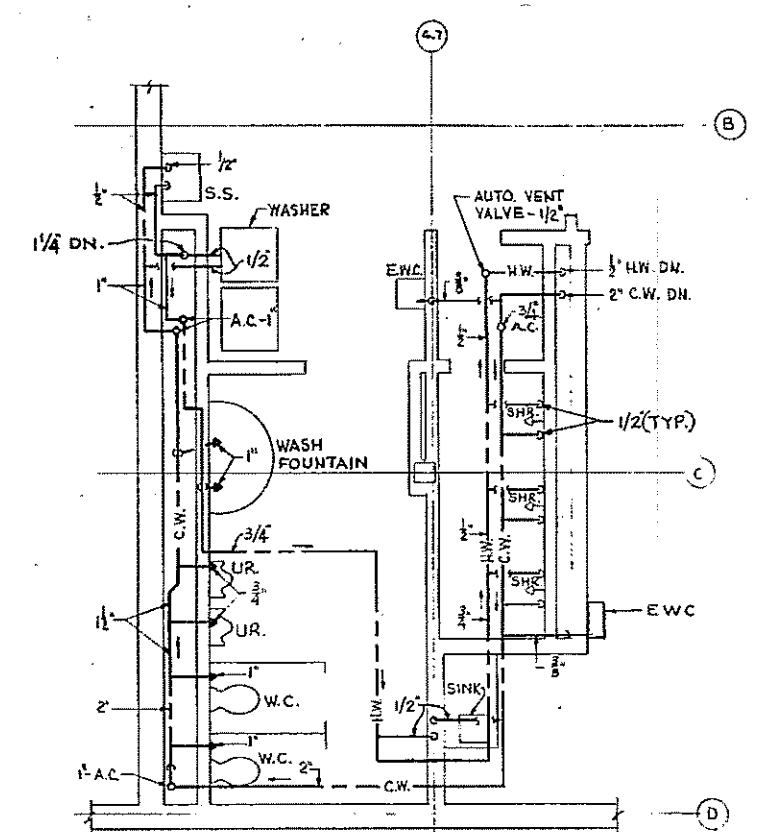
CONTRACT DRAWING SHEET NO. 13S-2

REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP'D. BY

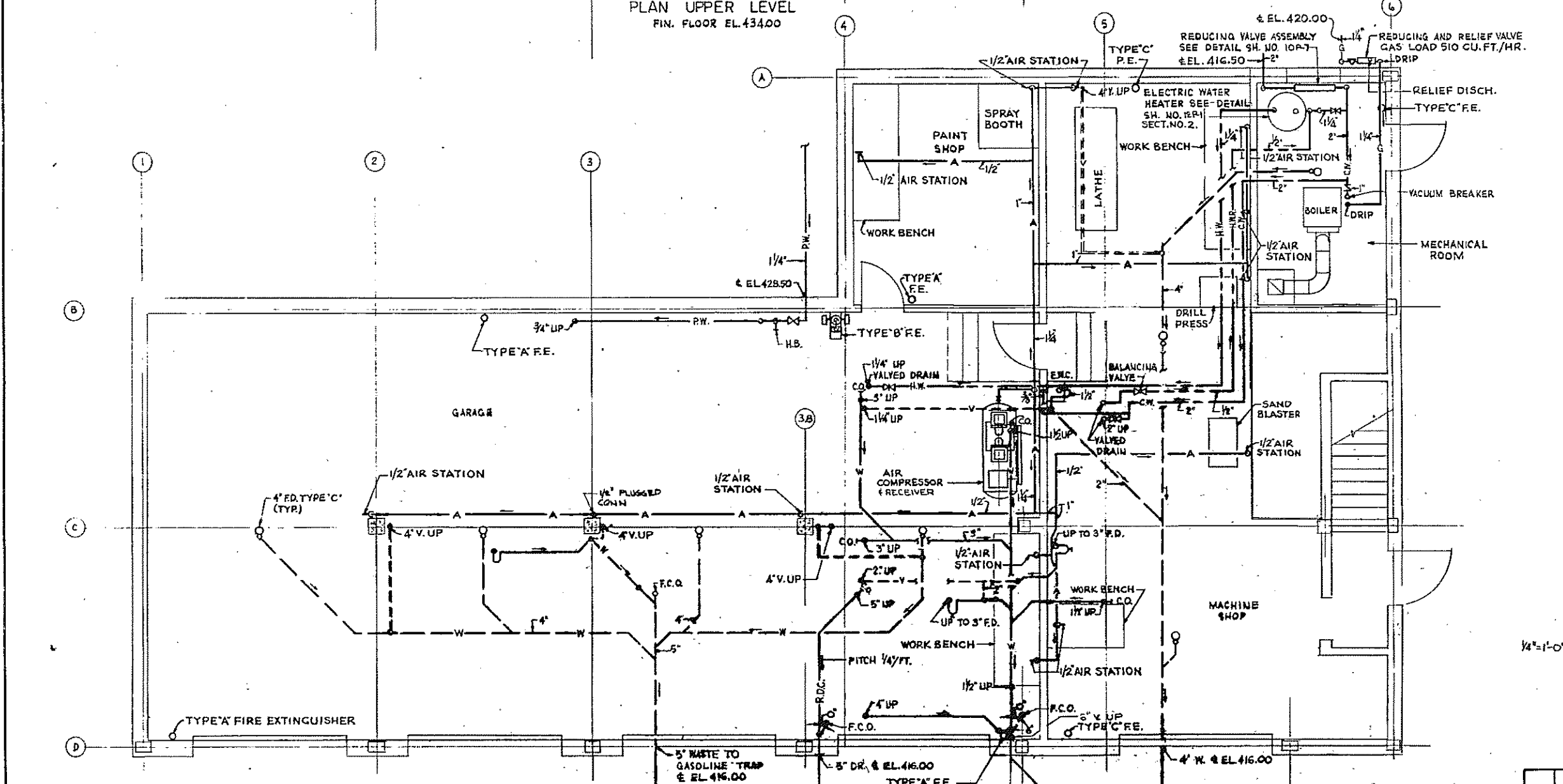




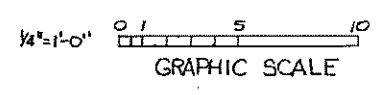
PLAN UPPER LEVEL
FIN. FLOOR EL. 434.00



PART PLAN UPPER LEVEL



PLAN LOWER LEVEL
FIN. FLOOR EL. 422.00



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPR. BY



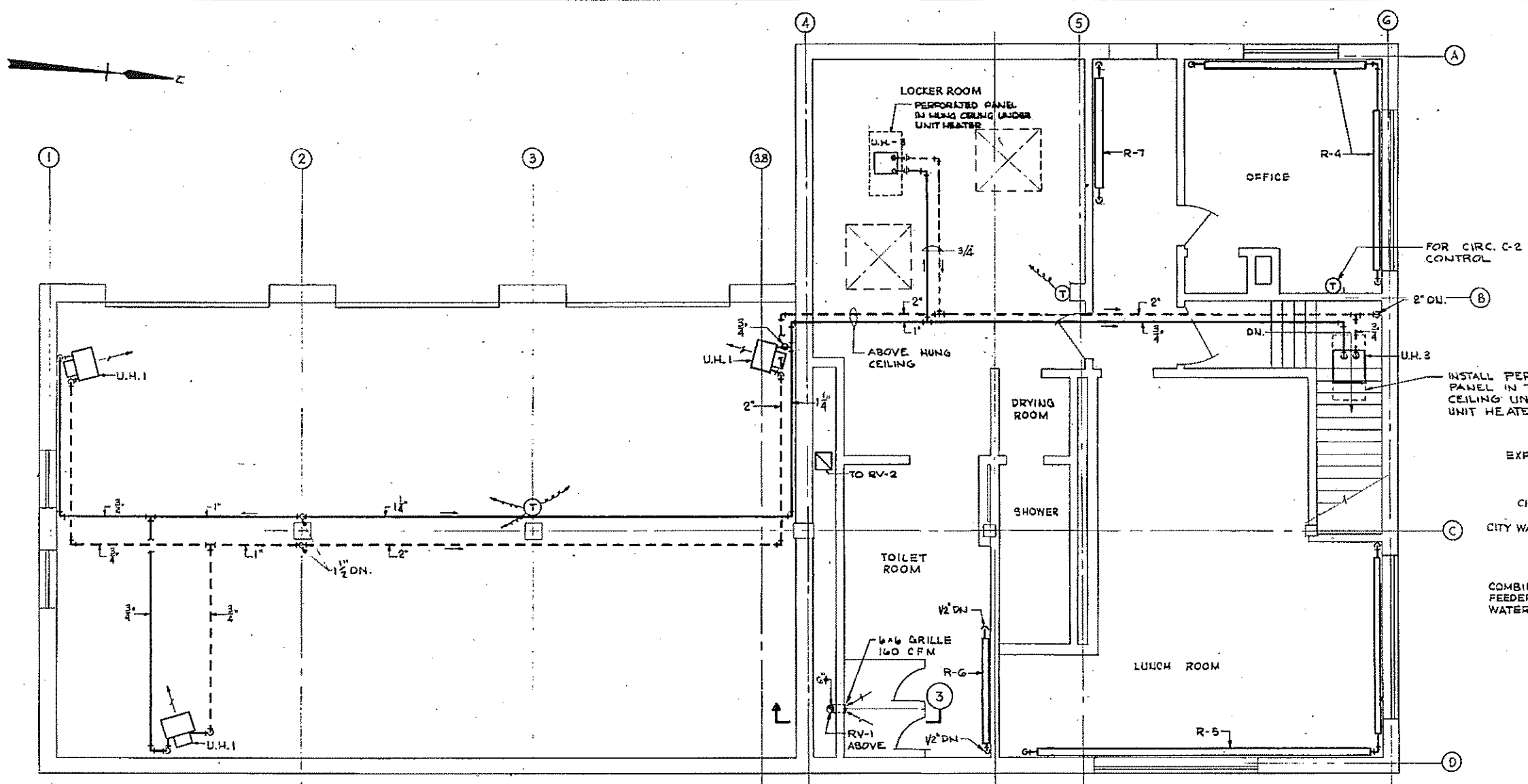
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
MAINTENANCE BUILDING, F.N. - 13
FLOORING

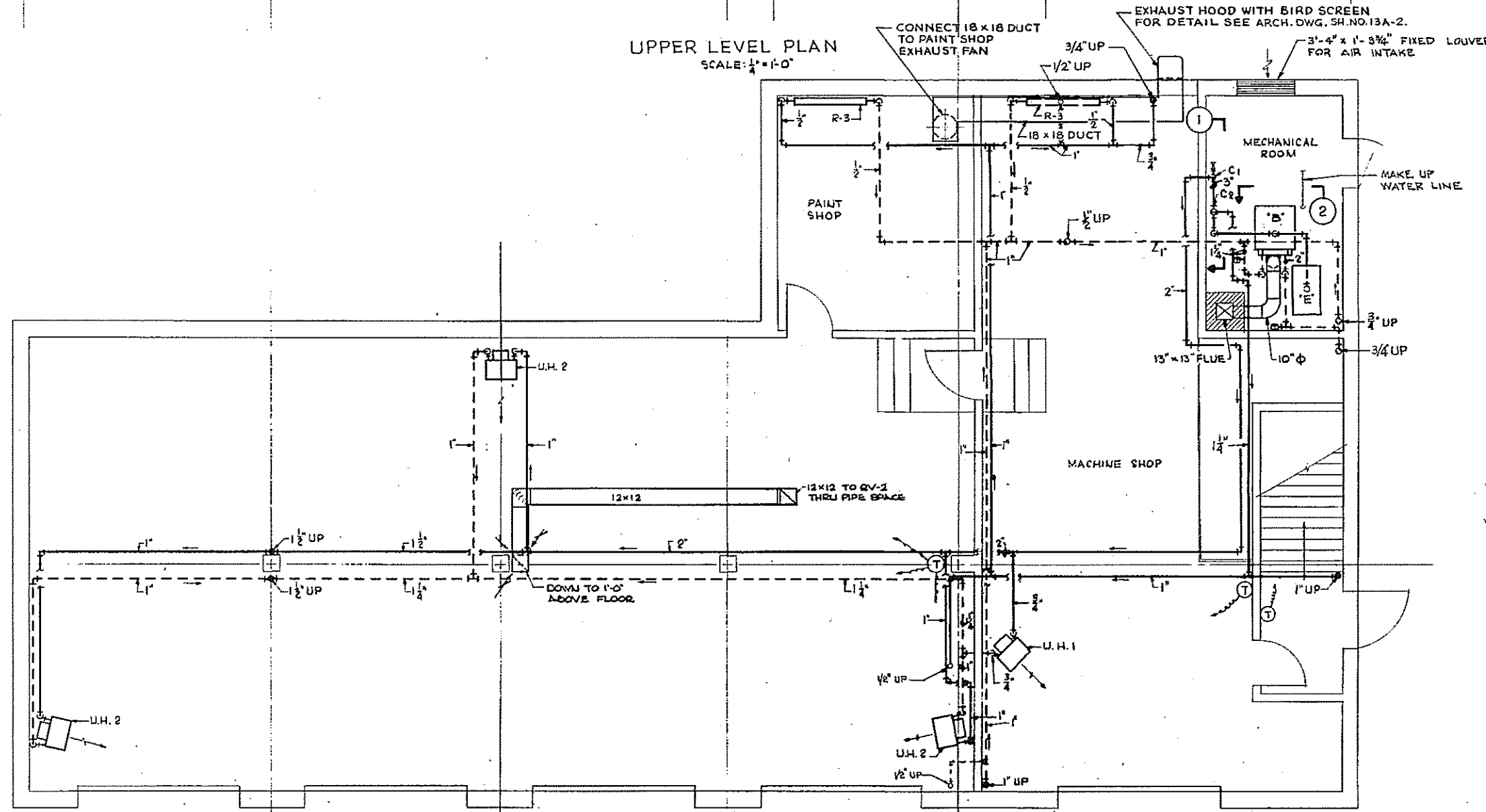
LOWER AND UPPER LEVEL PLANS

SCALE: 1/4" = 1'-0" FEBRUARY 1975
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
S.E. W. J. H. TR. FILE NO. JW-83
S.R. G. C.R.C. L. M. PROJECT NO. 220
APPROVED *F. M. Chely* PLAN NO. 220

CONTRACT DRAWING SHEET NO. 13P-1



UPPER LEVEL PLAN
SCALE: 1/4" = 1'-0"

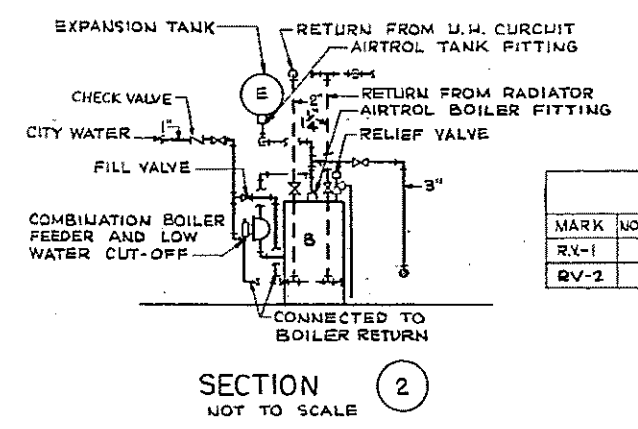
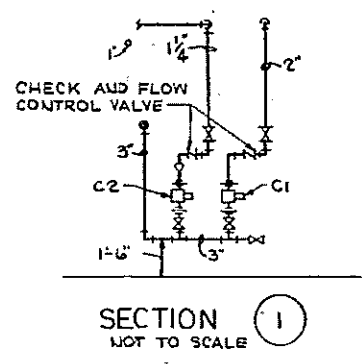


LOWER LEVEL PLAN
SCALE: 1/4" = 1'-0"

UNIT HEATER SCHEDULE										
MARK	HT. WGT. ET	NO.	TYPE	CAPACITY B.B.H.	GPM	CFM	RPM	HP	SP. ET. H.C.	
U.H. 1	8'-0"	4	HORIZ.	27.6	2.85	530	1150	2.0	.29	
U.H. 2	8'-0"	3	HORIZ.	34.6	3.56	815	1150	2.0	.29	
U.H. 3	ABOVE HUNG CEILING	2	PROJ.	22.7	2.34	595	1150	1.5	.08	

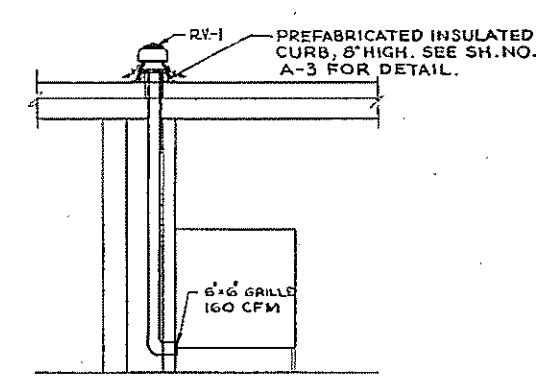
RADIATION SCHEDULE						
MARK	NO. OF TIERS	ACTIVE FINNER LENGTH	BTU/H/FT. @ 180° AVG. TEMP.	GPM		
R-1	1	5'-0"	1050	0.27		
R-2	1	1'-6"	1050	0.15		
R-3	1	4'-6"	1050	0.45		
R-4	1	26'-0"	1050	2.02		
R-5	1	31'-0"	1050	3.1		
R-6	1	6'-0"	1050	0.66		
R-7	1	7'-0"	1050	0.70		

NOTE:
1. FOR LEGEND, NOTES AND DETAILS SEE SHEET NO. 10HV-9.
2. PAINT HOOD EXHAUST FAN SHALL BE SUPPLIED BY HOOD MANUFACTURER. HVAC CONTRACTOR SHALL INSTALL THE DUCT AND HOOD EXHAUST.

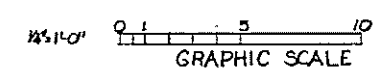


ROOF VENTILATOR SCHEDULE										
MARK	NO. REQ'D	R.P.M.	CFM	SP	SHUTTER TYPE	H.P.	DRIVE	VOLTS	PHASE	HERTZ
RV-1	1	1600	160	1/4"	GRAVITY	V50	STREET CONNECTED	115	1	60
RV-2	1	1600	380	1/4"	GRAVITY	1/20	STREET CONNECTED	115	1	60

NOTE: FOR LEGEND, NOTES AND DETAILS SEE SH. NO. 10HV-9.



- EQUIPMENT SCHEDULE:
- "B" — HOT WATER BOILER, GAS FIRED, NET 1BR CAPACITY NOT LESS THAN 524,120 BTU/H.
 - "E" — EXPANSION TANK, CAPACITY 80 GALLONS.
 - C1 — CIRCULATOR FOR UNIT HEATER CIRCUIT 26.65 GPM AT 9.5 FT. HEAD, 1/2 HP, 115 VOLT, 60 HERTZ, SINGLE PHASE.
 - C2 — CIRCULATOR FOR RADIATOR CIRCUIT 7.3 GPM AT 7.1 FT. HEAD, 1/2 HP, 115 VOLT, 60 HERTZ SINGLE PHASE.
 - T — THERMOMETER, 80° TO 240° F.



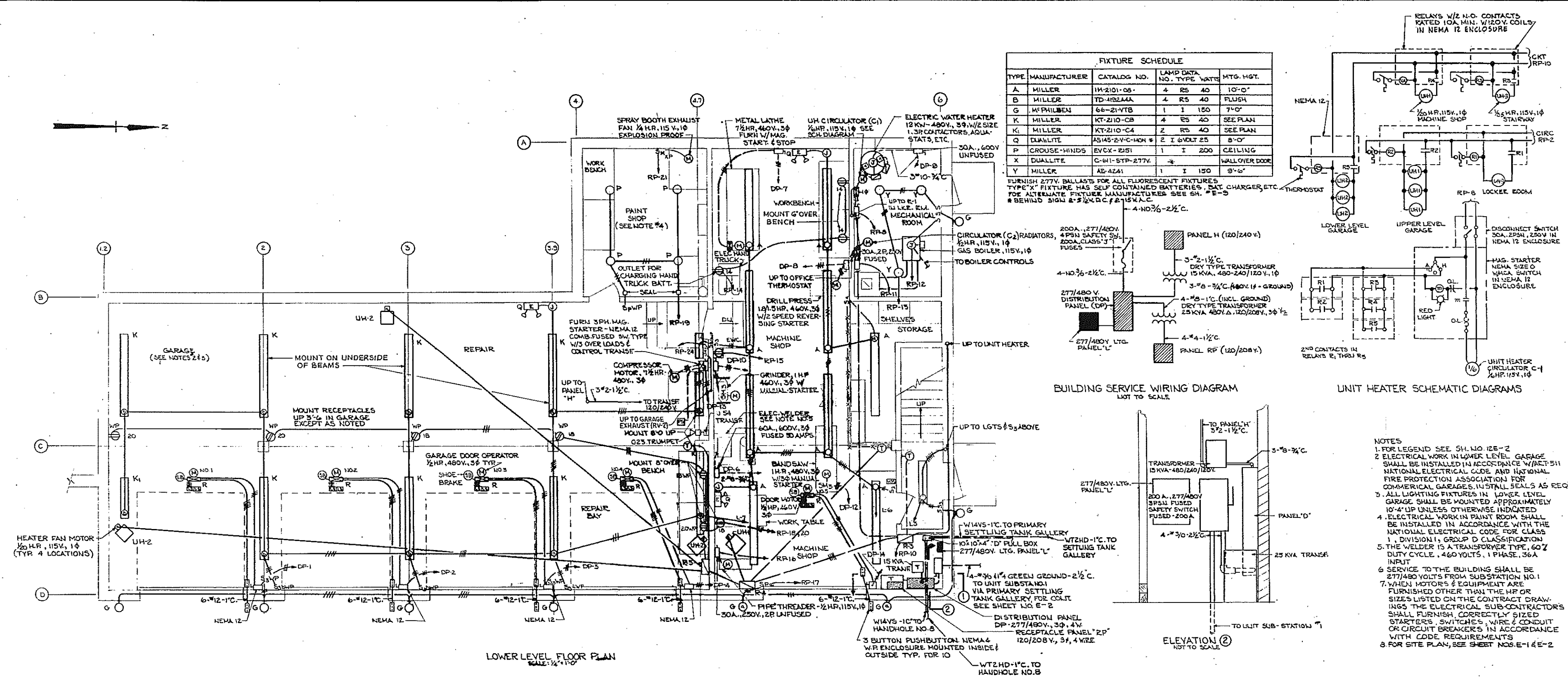
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
MAINTENANCE BUILDING, F.N. - 13
HEATING AND VENTILATING
LOWER AND UPPER LEVEL PLANS

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. B.S.K.
DR. J.L.M.
CHK. F.J.T.
115° JW-83
APPROVED *J.M. Cahaly* 221

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY





PANEL "DP" SCHEDULE

HP	VA	LOAD SERVED	277/480 V., 3Ø, 4 WIRE	LOAD SERVED	VA	HP
1/2	761	GARAGE DOOR OPER.	1/2	GARAGE DOOR OPER.	761	1/2
1/2	761	GARAGE DOOR OPER.	1/2	GARAGE DOOR OPER.	761	1/2
15,000		PANEL "H" TRANSF. 1Ø		WELDER-1Ø-460V	16,300	
7 1/2	8373	LATHE		DRILL PRESS	2300	1 1/2
19,000		WATER HEATER		GRINDER	1333	1
25,000		PANEL "RP" TRANSF.		BANDSAW	1855	1
7 1/2	8373	COMPRESSOR		DOOR OPER. #3	761	1/2
11,030		LIGHTING PANEL "L"		SPARE		

60A TRIP UNLESS OTHERWISE NOTED
1Ø OF POLES AS NOTED
PROVIDE GROUND BUS FOR TRANSFORMERS - DO NOT GROUND 277/480V. NEUTRAL BUS

PANEL "RP" SCHEDULE

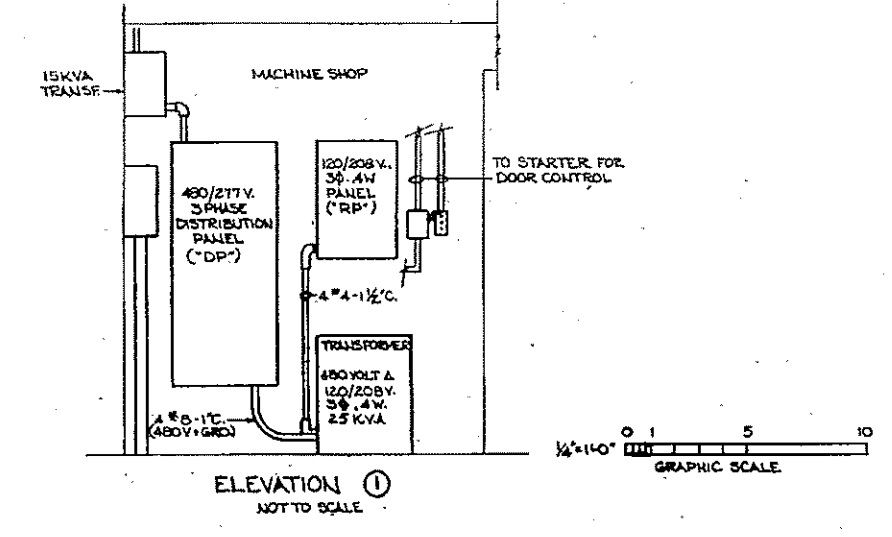
HP	VA	LOAD SERVED	120/208V., 3Ø, 4 WIRE	LOAD SERVED	VA	HP
1200		UPPER LEVEL GARAGE OUTLETS		UPPER LEVEL UNIT HEATERS	434	4 1/2
1150		UPPER LEVEL OUTSIDE LGS.		OFFICE & HALL OUTLETS	1000	
100		ROOF EXHAUST FAN		LUNCH RM. OUTLETS	1000	
1000		LOCKER LUNCH RM. OUTLETS		CIRCULATOR (C1)	500	1/2
554		WATER COOLER LOCKER RM.		LOWER LEVEL GARAGE REFR.	556	1 1/2
232		RADIATOR CIRC. C-2		BOILER	500	
600		BOILER RM. LIGHTS		FOCK LIFT OUTLETS	600	
554		WATER COOLER WASH DOWN		PIPE THREADER	1128	1/2
1050		LOWER LEVEL OUTSIDE LIGHTS		UPPER LEVEL GARAGE REFR.	800	
800		PAINT SHOP LIGHTS		LOWER LEVEL GARAGE REFR.	400	
668		SPRAY BOOTH FAN		WATER COOLER LUNCH ROOM	500	1 1/2
500		SPARE		SAFETY EXHAUST FAN #2	109	1/20
500		SPARE		SPARE	500	
500		SPARE		SPARE	500	

TRIP 20 FRAME 120V. UNLESS OTHERWISE NOTED
CONNECTED VA. 15,543
SPARE VA. 3,000

PANEL "L" SCHEDULE (LIGHTING)

VA	LOAD SERVED	277/480V., 3Ø, 4 WIRE	LOAD SERVED	VA
2400	UPPER LEVEL GARAGE		LOCKER ROOM	1400
1850	OFFICE, HALL, STAIRS		TOILET & SHOWER	1100
1800	LUNCH ROOM		MACHINE SHOP	1800
1800	LOWER LEVEL GARAGE		SPARE	
	SPARE		SPARE	
	SPARE		SPARE	

1 POLE 20 AMP TRIP UNLESS OTHERWISE NOTED
CONNECTED VA. 11,850



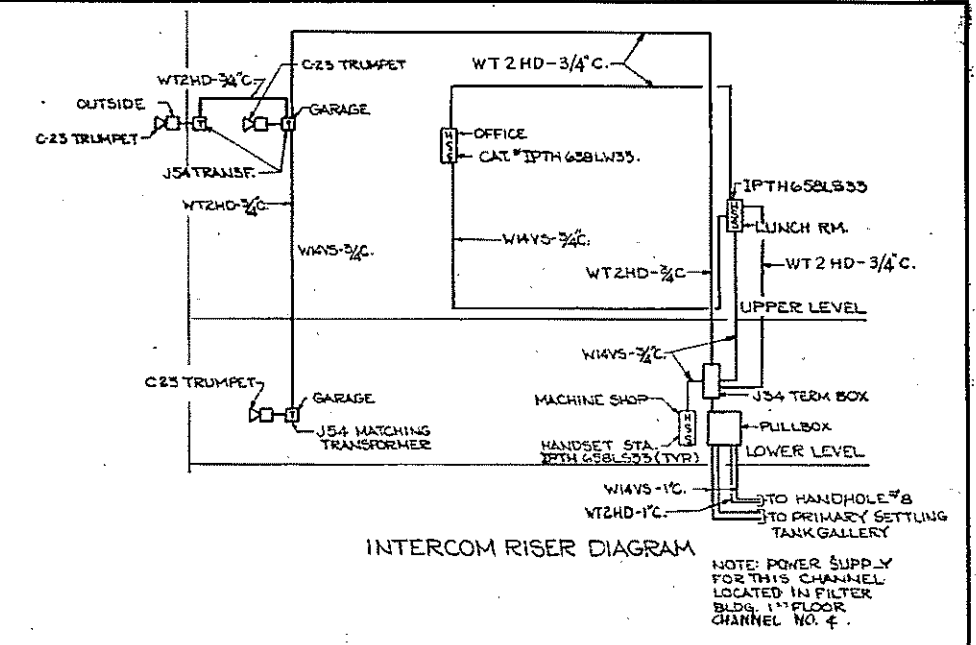
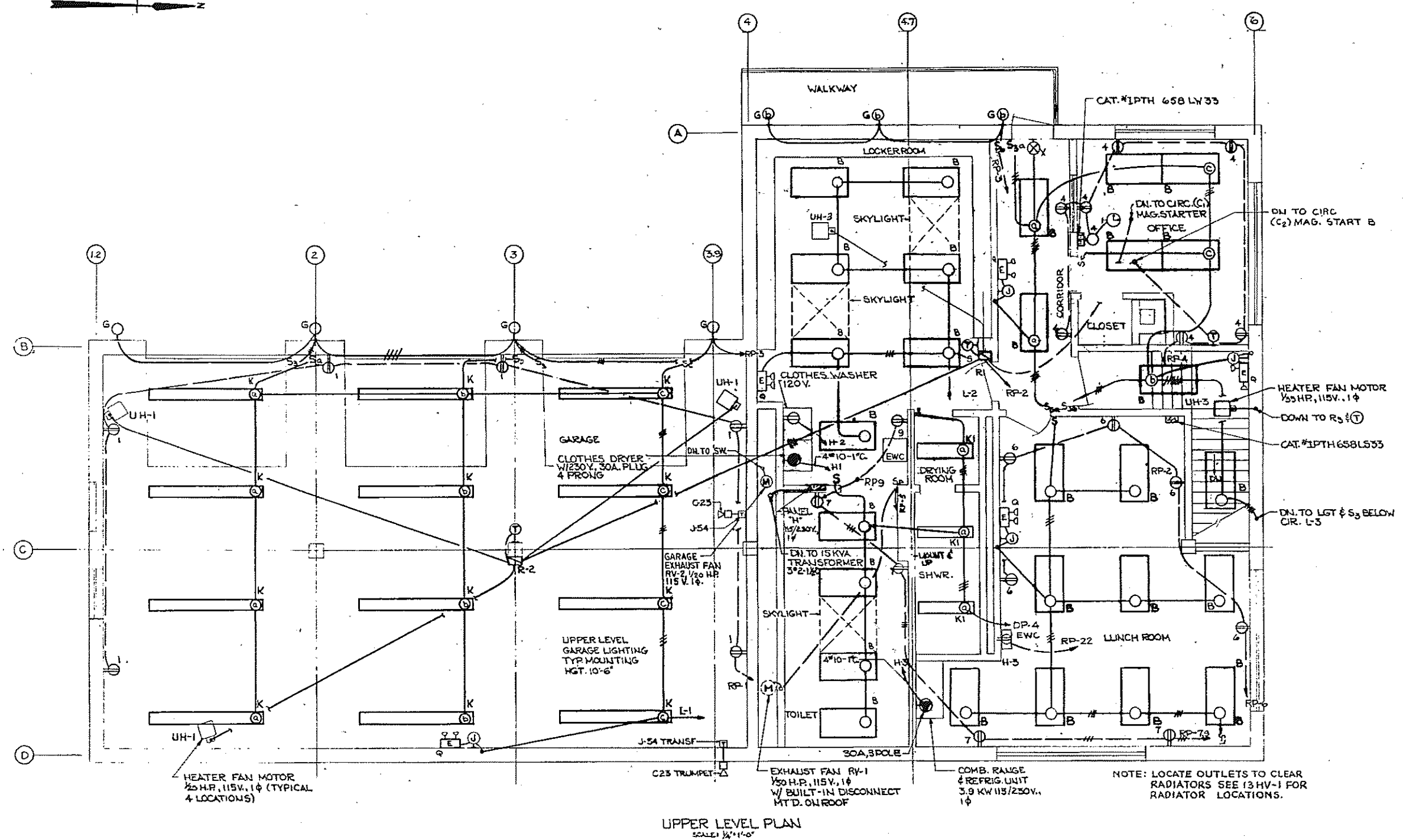
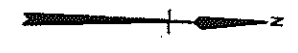
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
MAINTENANCE BUILDING, F.H. -13
ELECTRICAL

LOWER LEVEL PLAN AND DETAILS

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REV. T.J.B. DATE T.J.B. BY JW-83
APPROVED: F.W. Cahaly DATE T.J.B. BY 222

CONTRACT DRAWING SHEET NO. 13E-1



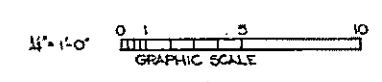
PANEL #1 SCHEDULE

VA	LOAD SERVED	115/230V, 1Ø, 3WIRE	LOAD SERVED	VA
1200	WASHER	1	CLOTHES DRYER	6000
3000	RANGE & REFRIG UNIT 230V, 1Ø	2	SPARE	1000
1000	SPARE	3	SPARE	1000

1 POLE 2Ø TRIP UNLESS OTHERWISE NOTED
MAIN CIRCUIT BKR

70-TRIP 100-FRAME
CONNECTED VA: 12000
SPARE VA: 3000

UPPER LEVEL PLAN
SCALE: 1/4" = 1'-0"



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

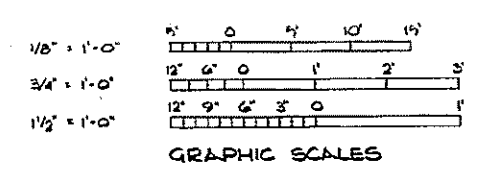
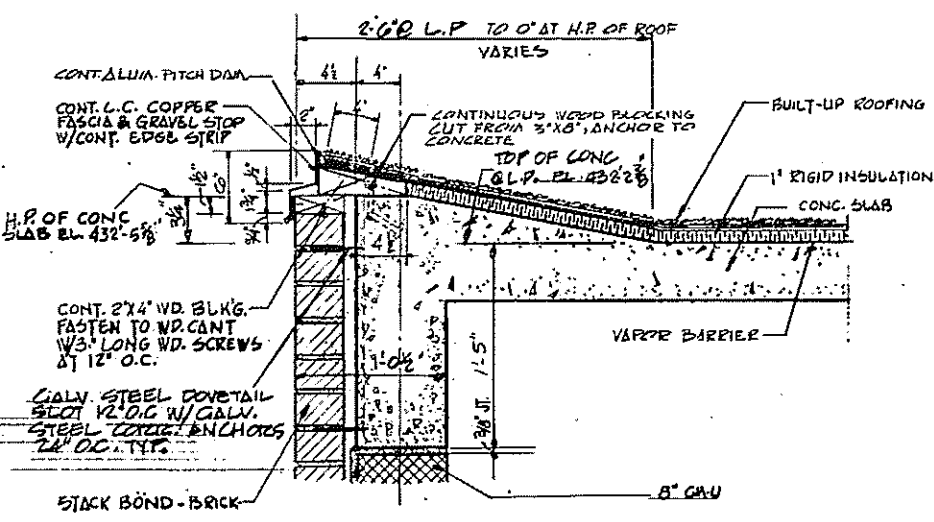
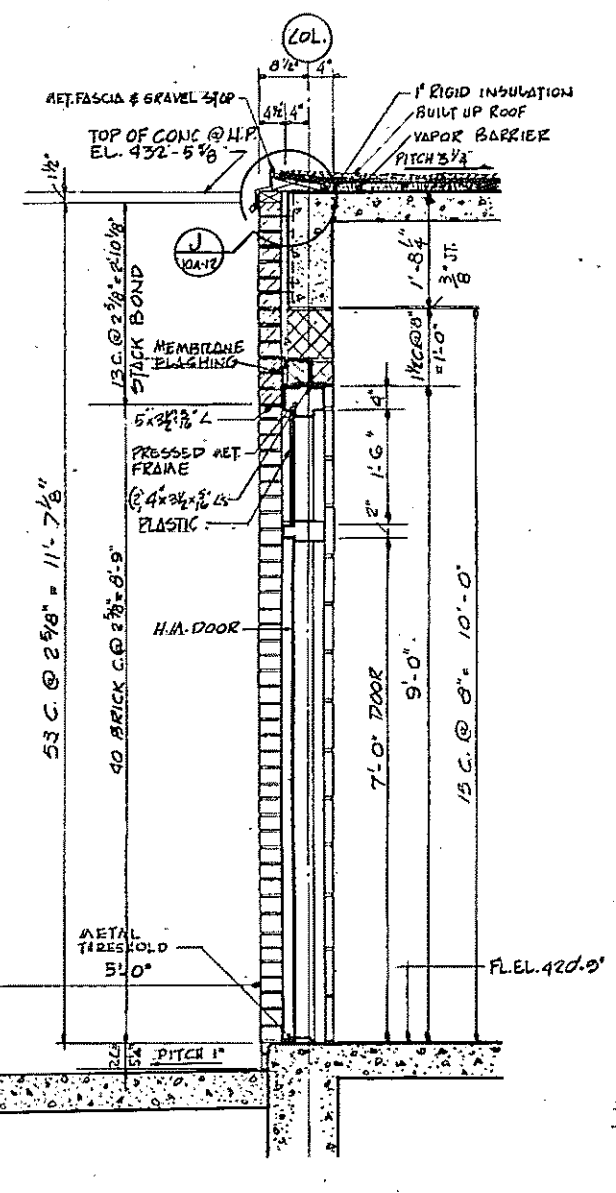
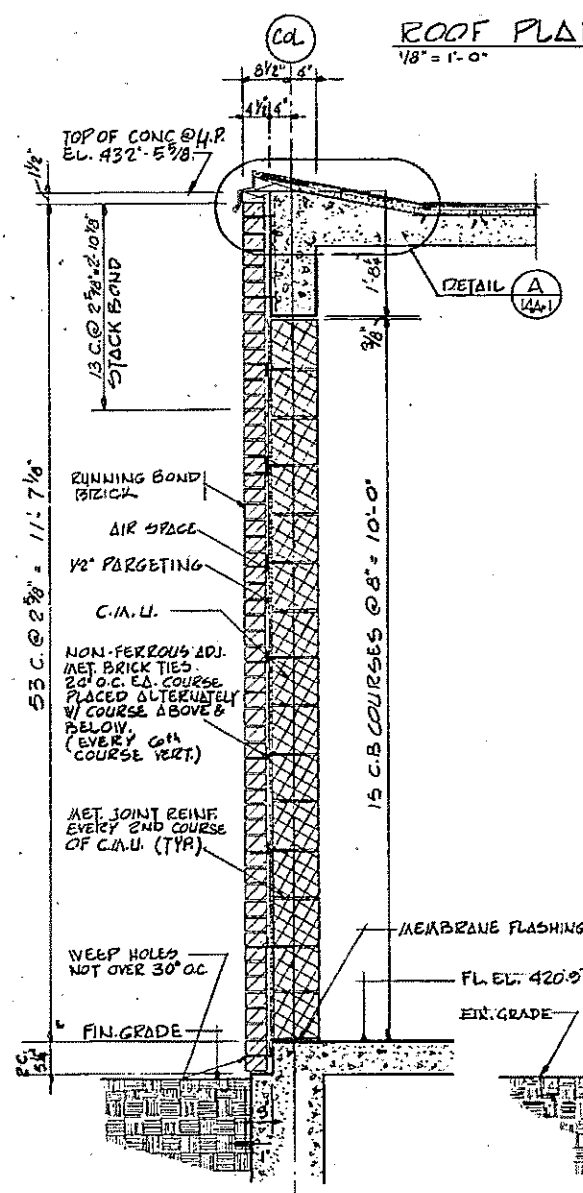
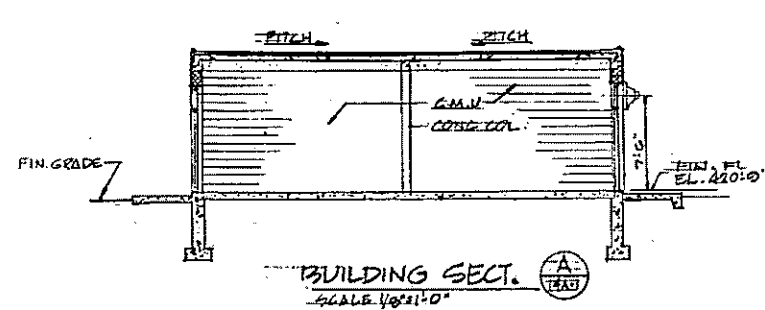
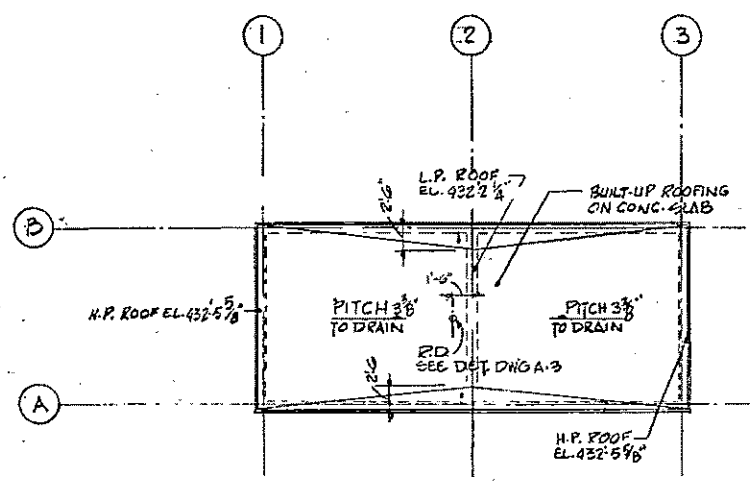
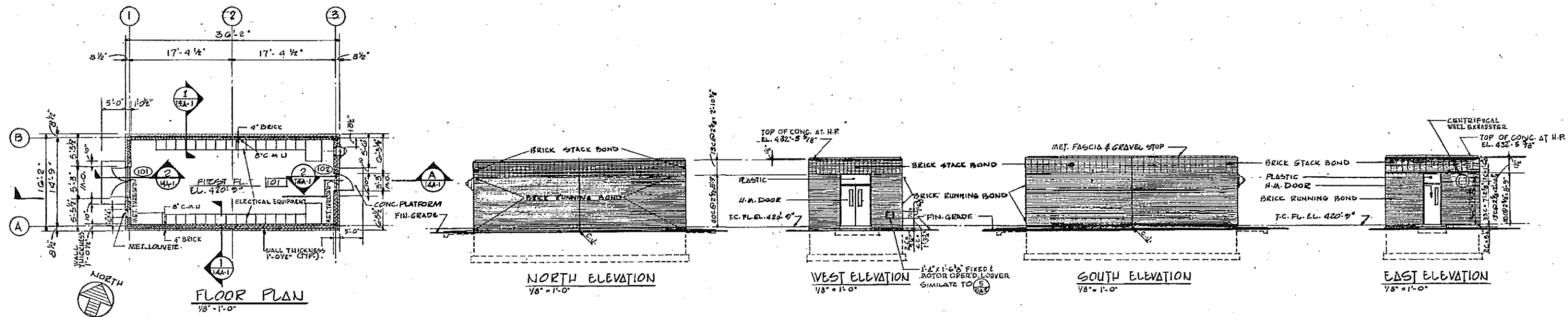


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
MAINTENANCE BUILDING, F.N. -13
ELECTRICAL
UPPER LEVEL PLAN

SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. T.J.B. N.G.H. CR. T.J.G. REV. JW-83
APPROVED: J.M. Cahaly
223

CONTRACT DRAWING SHEET NO. 13E-2



SECTION 1
SCALE 3/4" = 1'-0" (14A)

SECTION 2
SCALE 3/4" = 1'-0" (14A)

DETAIL A
SCALE 1/2" = 1'-0" (14A)

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
AERATOR CONTROL FACILITY, F.N.-14
ARCHITECTURAL

PLANS, ELEVATIONS, SECTIONS AND DETAILS

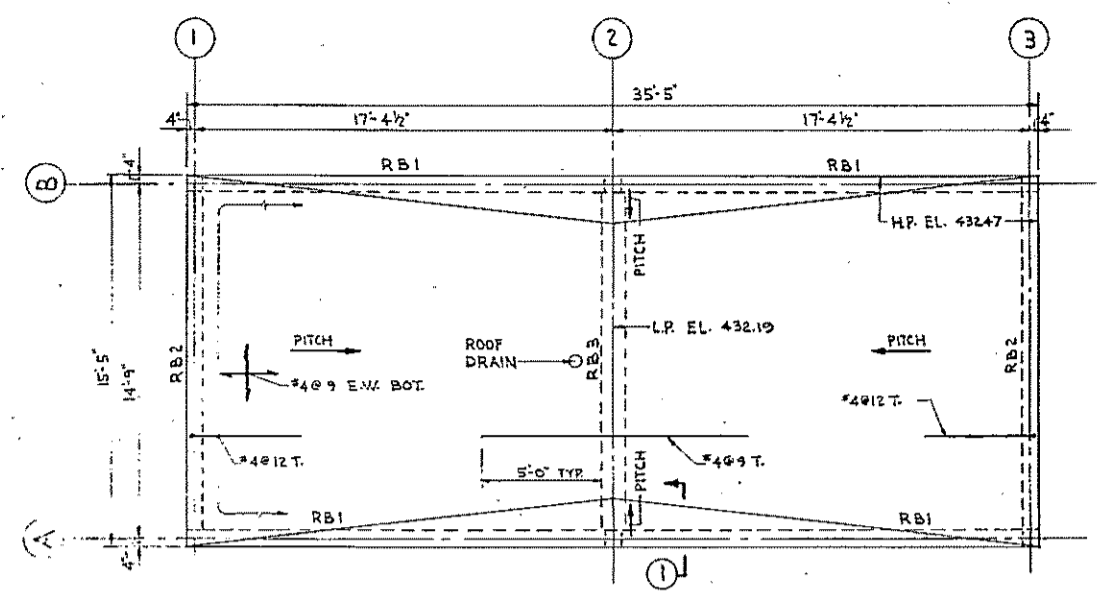
SCALE: AS NOTED FEBRUARY, 1975

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

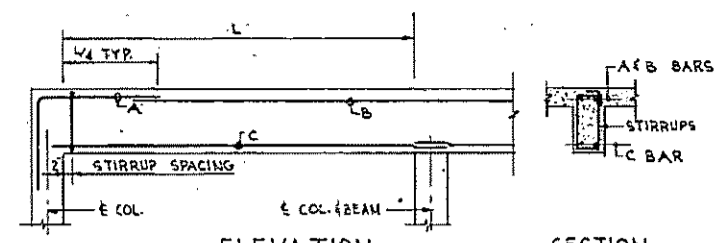
DES. H.C.F. IN CH. P.W.L. REV. J.W.-83
DR. J.A. CHK. P.W.L. DATE 224

APPROVED *M. Cahaly*

CONTRACT DRAWING SHEET NO. 14A-1

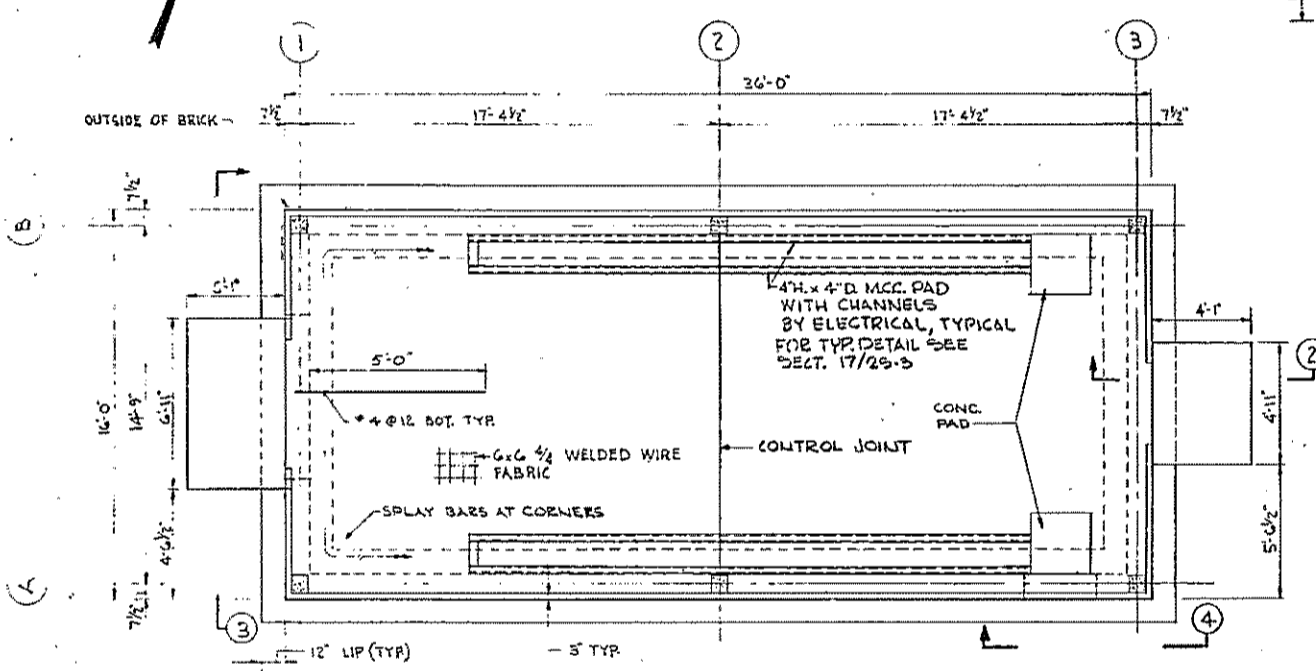


ROOF PLAN
SCALE: 1/4"=1'-0"

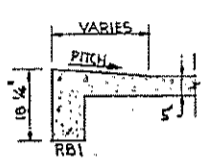


ELEVATION
TYPICAL BEAM DETAILS
NOT TO SCALE

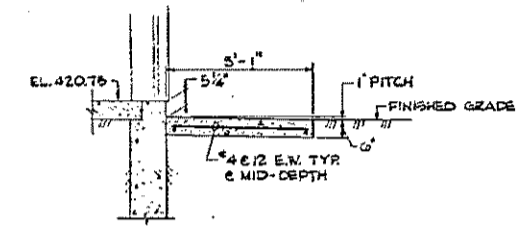
MARK	W	D	REINFORCING			STIRRUP SPACING	REMARKS
			A	B	C		
RB1	8"	18 1/2"	2#5	2#8	2#6	#3@7	
RB2	8"	18 1/2"	2#5	2#5	2#6 CONT.	#3@7	
RB3	12"	16"	2#5	2#5	3#7 CONT.	#3@7	



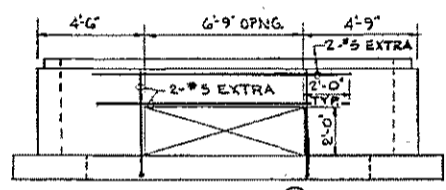
FLOOR PLAN
SCALE: 1/4"=1'-0"



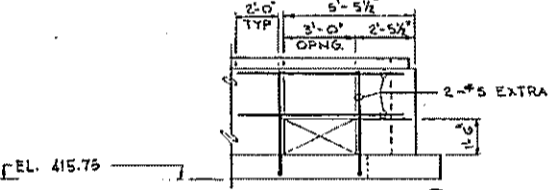
SECTION 1
SCALE: 1/4"=1'-0"



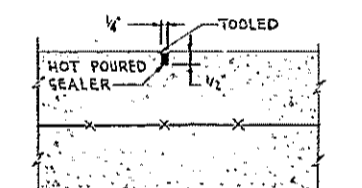
SECTION 2
SCALE: 1/8"=1'-0"



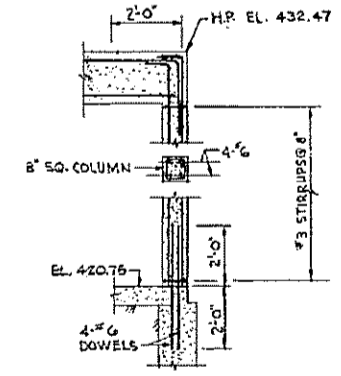
SECTION 3
SCALE: 1/2"=1'-0"



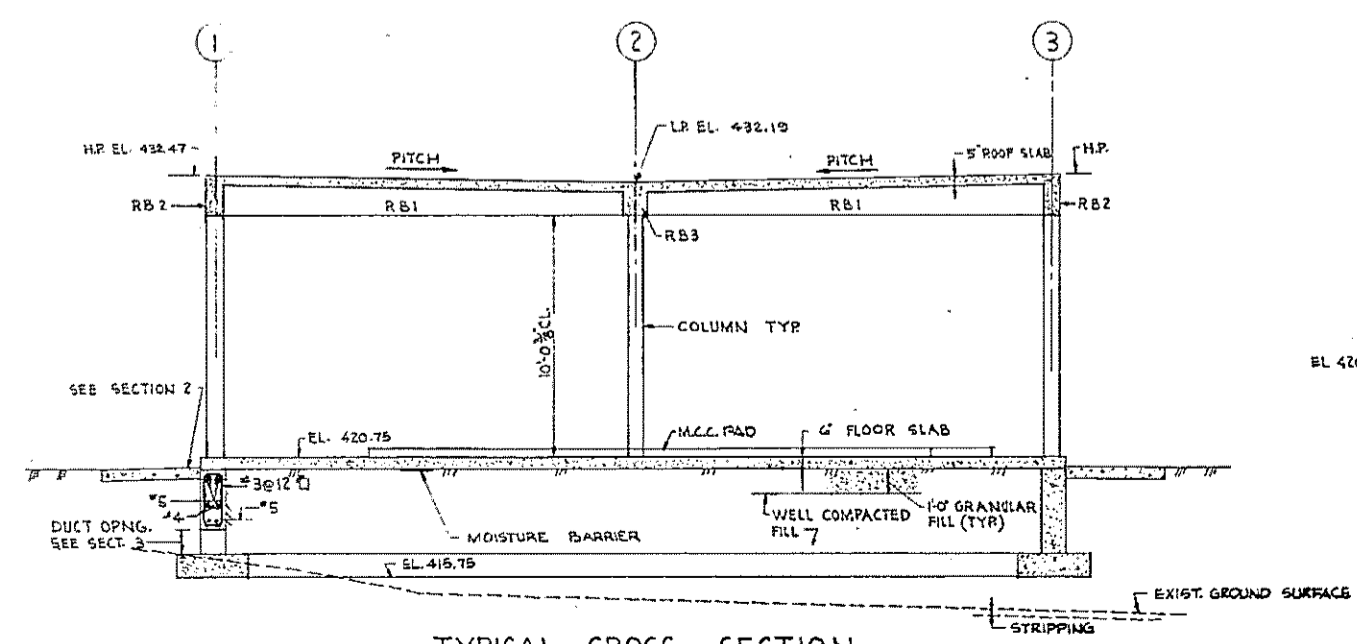
SECTION 4
SCALE: 1/4"=1'-0"



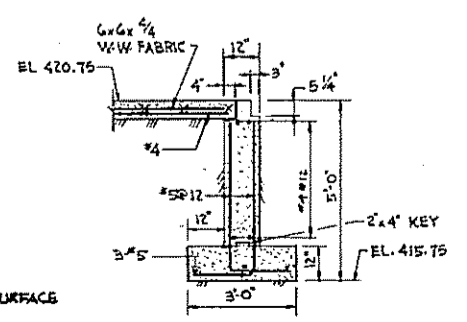
CONTROL JOINT DETAIL
SCALE: 3/4"=1'-0"



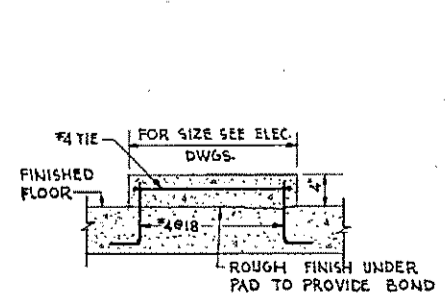
COLUMN DETAIL
SCALE: 1/2"=1'-0"



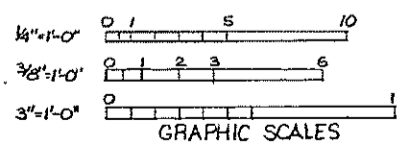
TYPICAL CROSS SECTION
SCALE: 1/4"=1'-0"



TYR WALL SECTION
SCALE: 1/8"=1'-0"



TYPICAL CONCRETE PAD
NOT TO SCALE



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY

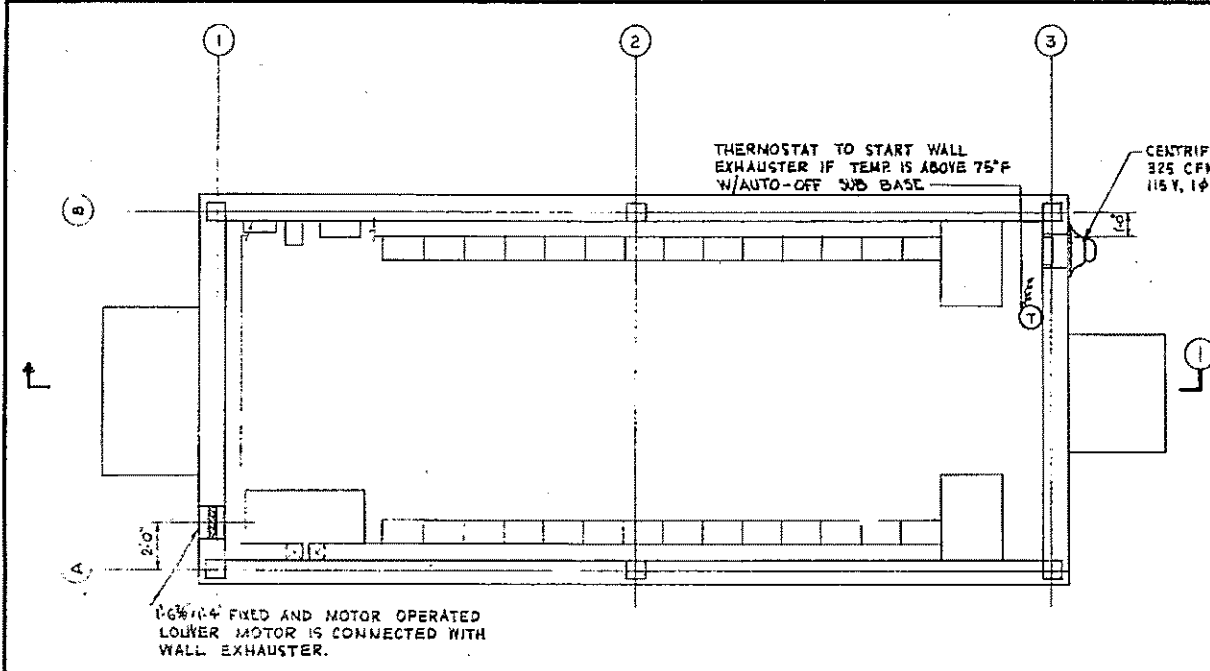
- NOTES
- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 105-1.
 - FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 33-2.
 - LIVE LOADS:
FIRST FLOOR - - - - - 250 PSF

HALF-SIZE DRAWING

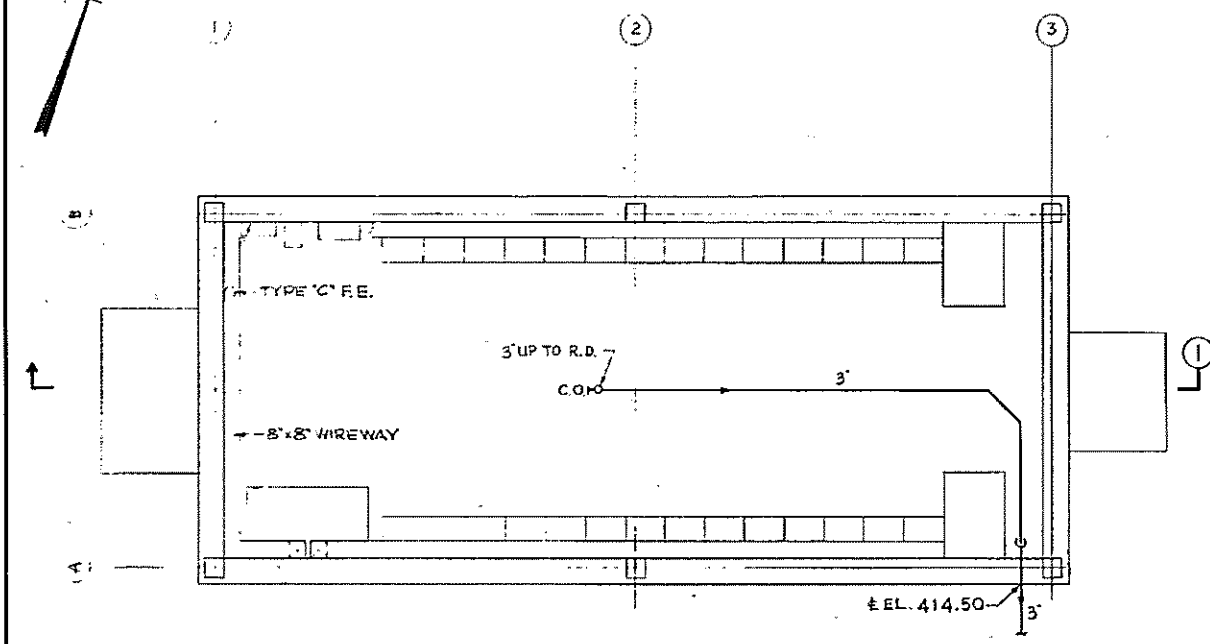
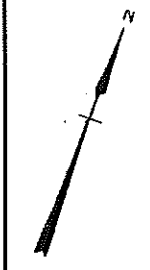
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
AERATOR CONTROL FACILITY. F.N.-14
STRUCTURAL
PLANS, SECTION AND DETAILS

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. I.D. TR. CHG. M.H. 16
DWG. NO. JW-83
APPROVED: *J.M. Cady* REG. NO. 225
CONTRACT DRAWING SHEET NO. 14S-1

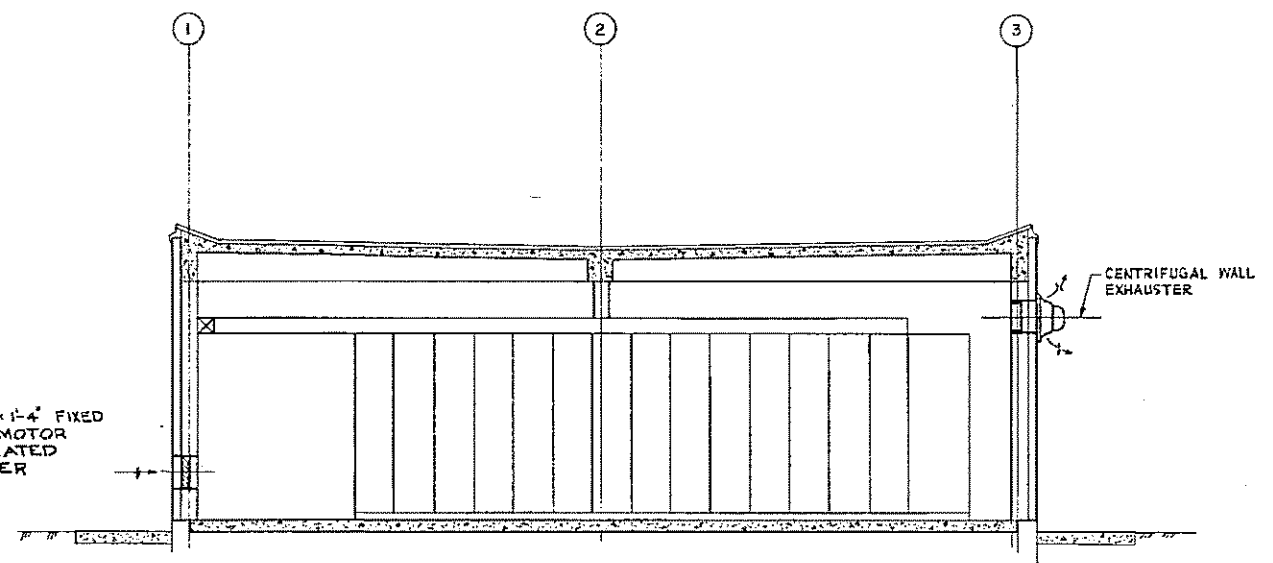




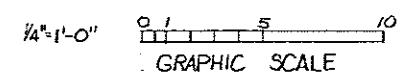
VENTILATING PLAN



PLUMBING PLAN



SECTION 1



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
AERATOR CONTROL FACILITY, F.N.-14
PLUMBING AND VENTILATING
PLAN AND DETAILS

SCALE: 1/2"=1'-0" FEBRUARY 1973

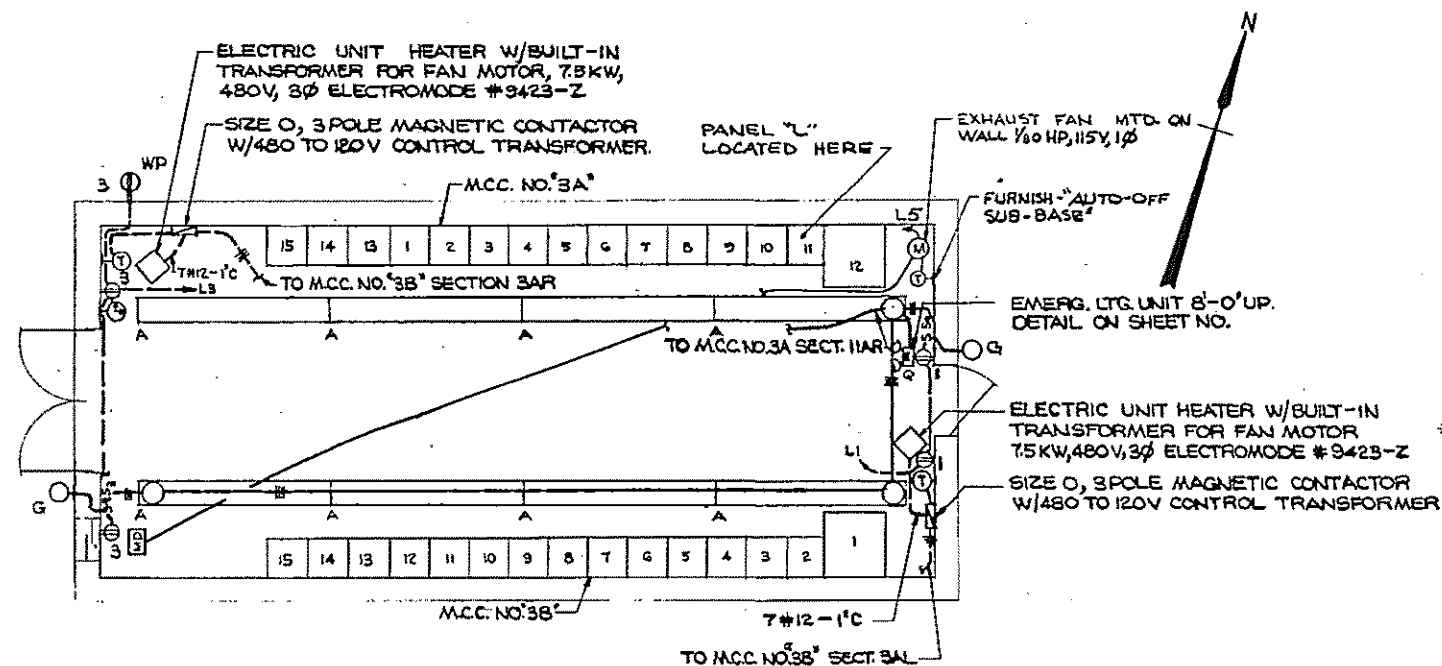
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. BY: J.M.	TR. BY: C.L.M.	DATE: JW-83
APPROVED: <i>F. M. Cahaly</i>	DATE: 226	

CONTRACT DRAWING SHEET NO. 14PV-1

- 37 34 1 2 3 4 5 6 7 8 9 10 11
 38 35 12 13 14 15 16 17 18 19 20 21 22
 39 36 23 24 25 26 27 28 29 30 31 32 33

SECTION A-A
 SCALE: NONE



FIXTURE SCHEDULE

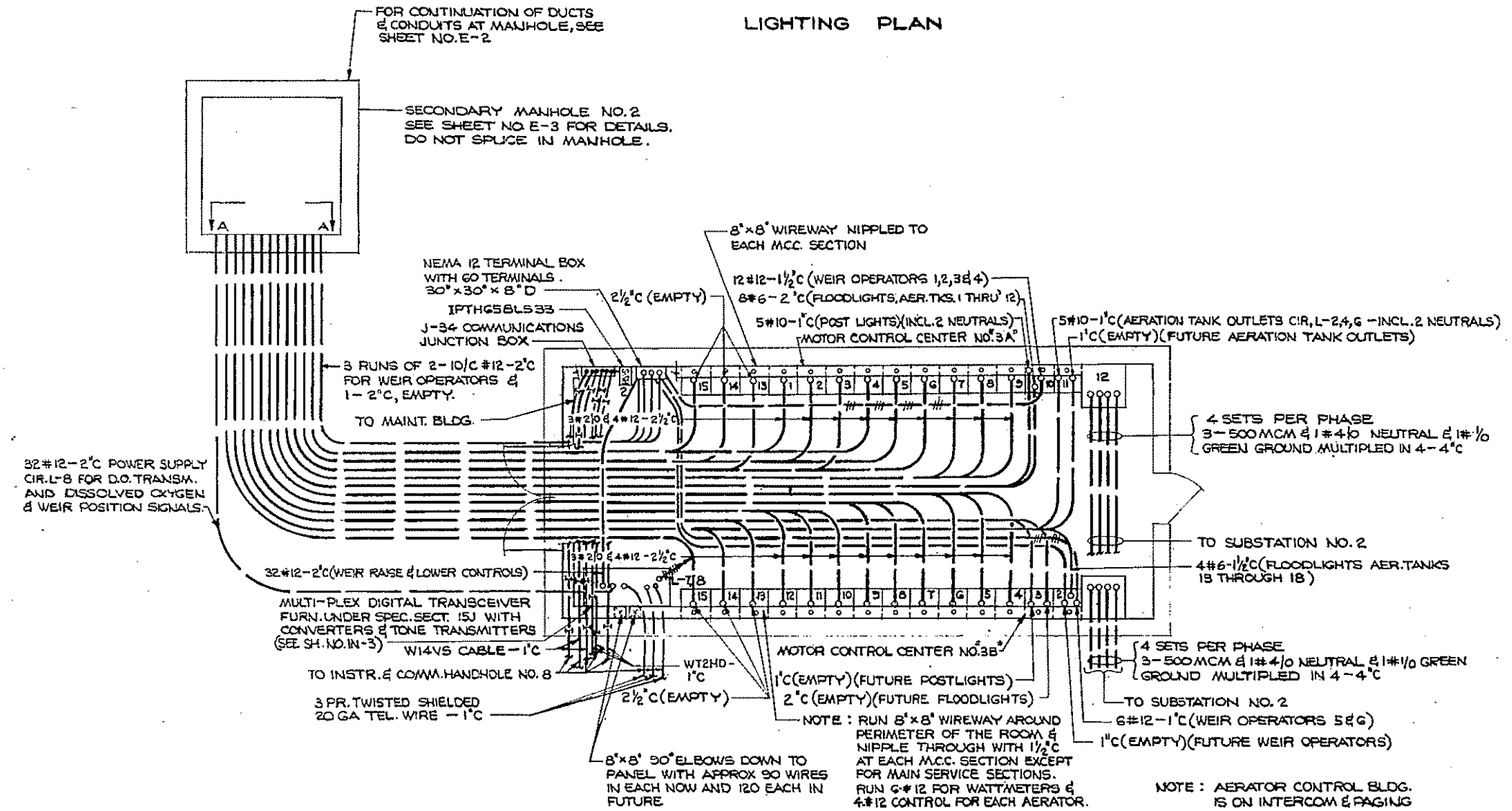
TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA NO.	TYPE	WATTS	MTG. HGT.
A	MILLER	IM-2101-08	4	RS	40	9'-0"
G	McPHILBEN	66-21-VTB	1	I	200	7'-0"
Q	DUAL-LITE**	AS-145-2-V-C-MON	2	I	6VOLT 25	8'-0"

* FURNISH 277 VOLT BALLASTS ** 277 VOLT INPUT
 FOR ALTERNATE FIXTURE MANUFACTURERS, SEE SHEET NO. E-9

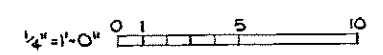
AERATOR MANHOLE CONDUIT SCHEDULE SECTION A-A

CONDUIT NO.	SIZE	WIRES		EQUIPMENT SERVED
		NO.	SIZE	
1	2 1/2"	-	-	FUTURE AERATOR DRIVE UNIT
2	2 1/2"	-	-	FUTURE AERATOR DRIVE UNIT
3	2 1/2"	-	-	FUTURE AERATOR DRIVE UNIT
4	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 4
5	1"	5	10	POST LIGHTS (277/480 V. INCL. 2 WED.)
6	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 12
7	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 16
8	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 18
9	2 1/2"	-	-	FUTURE AERATOR DRIVE UNIT
10	2 1/2"	-	-	FUTURE AERATOR DRIVE UNIT
11	2 1/2"	-	-	FUTURE AERATOR DRIVE UNIT
12	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 1
13	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 2
14	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 3
15	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 5
16	2"	6	6	FLOODLIGHTS AER. TKS. 1 THRU 12
17	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 11
18	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 17
19	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 14
20	2"	-	-	FUTURE FLOODLIGHTS
21	1"	5	10	AERATION TANK OUTLETS
22	1"	-	-	FUTURE WEIR OPERATORS
23	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 7
24	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 8
25	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 9
26	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 6
27	2"	-	-	SPARE
28	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 10
29	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 18
30	2 1/2"	2	2/0	AERATOR DRIVE UNIT NO. 15
31	1"	-	-	FUTURE POST LIGHTS
32	1"	-	-	FUTURE AERATION TANK OUTLETS
33	2"	-	-	SPARE
34	2"	2-10/C	12	WEIR OPERATORS 1 AND 2
35	2"	2-10/C	12	WEIR OPERATORS 3 AND 4
36	2"	2-10/C	12	WEIR OPERATORS 5 AND 6
37	2"	-	-	FUTURE WEIR OPERATORS
38	2"	32	12	DISSOLVED OXYGEN AND WEIR POSITION SIGNALS 3ØS. CABLES FOR 3ØS. TRANS.
39	1 1/2"	4	6	FLOODLIGHTS AER. TKS. 13 THRU 18

- ELECTRICAL CONSTRUCTION NOTES:**
- SERVICE TO THE BUILDING SHALL BE 277/480 VOLT, 3 PHASE, 4 WIRE.
 - MINIMUM WIRE SIZE SHALL BE NO. 12 AWG RUN IN 3/4" MINIMUM SIZE RIGID STEEL CONDUIT THROUGHOUT.
 - WHEN MOTORS ARE FURNISHED OF SIZES OTHER THAN SHOWN ON THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL FURNISH CORRECTLY SIZED SWITCHES, BREAKERS, MOTOR STARTERS, CONDUIT, AND WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 - FOR SITE PLAN, SEE SHEET NO. E-1 & E-2
 - FOR LEGEND, SEE SHEET NO. E-2
 - FOR INTERCOM CONDUIT DIAGRAM, SEE SHEET NO. E-9
 - FOR INSTRUMENTATION DETAILS, SEE SHEET NO. E-9



POWER PLAN
AERATOR CONTROL BUILDING
 SCALE: 1/4" = 1'-0"



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 AERATOR CONTROL FACILITY, F.N.-14
 ELECTRICAL

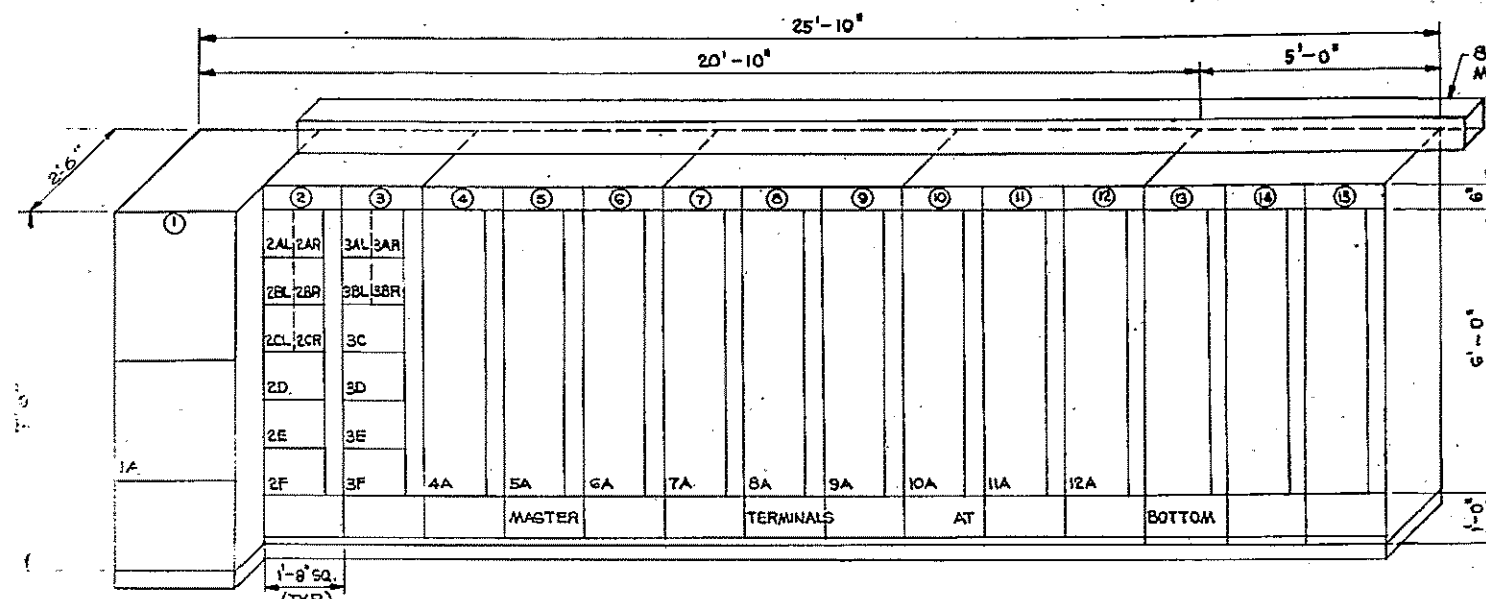
PLAN AND DETAILS
 SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

REV. G. C. W. - W. B. R. T. B. J. B. J. W. - 83
 C. S. N. G. H. C. S. T. J. B. C. S. T. J. B. C. S. T. J. B.

APPROVED *F. M. Cahaly* 227
 CONTRACT DRAWING SHEET NO. 14 E-1

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY



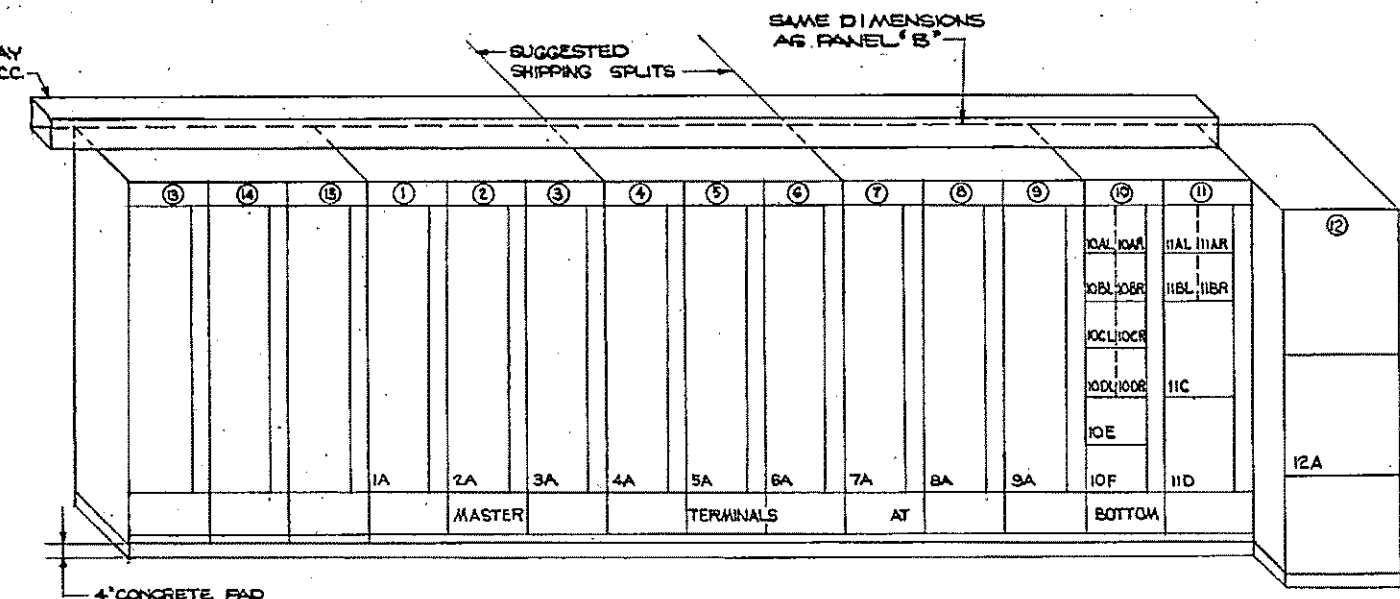


MOTOR CONTROL CENTER NO. 3B

S.S. = STOP-START PUSHBUTTON
H.O.A. = HAND-OFF-AUTOMATIC SELECTOR SWITCH H.R. = NON-REVERSING
SCALE 1/2"=1'-0" * EXCEPT FOR MAIN BKR.

SECT. NO.	NAMEPLATE	HP	WMA SIZE	H.O.A.	S.S.	PILOT LGTS RED GREEN	MODIFICATIONS	FRAME	POLES	FUSE
1	1A MAIN INCOMING SERVICE	-	-	-	-	-	AK-50 POWER BREAKER	1600	3	1600
2	2AL WEIR OPERATOR NO. 5	1/2	-	-	-	-	REMOTE STARTER	30	3	10
2	2AR WEIR OPERATOR NO. 6	1/2	-	-	-	-	REMOTE STARTER	30	3	10
2	2BL WEIR OPERATOR NO. 7	-	-	-	-	-	FOR FUTURE OPERATOR	30	3	10
2	2BR WEIR OPERATOR NO. 8	-	-	-	-	-	FOR FUTURE OPERATOR	30	3	10
2	2CL FLOODLGTS-AER. TK. 13 THRU 18	-	-	-	-	-	-	30	3	20
2	2CR FUTURE FLOODLIGHTS	-	-	-	-	-	-	30	3	20
2	2D SPACE	-	-	-	-	-	-	-	-	-
2	2E SPACE	-	-	-	-	-	-	-	-	-
2	2F SPACE	-	-	-	-	-	-	-	-	-
3	3AL ELECTRIC HEATER	-	-	-	-	-	7.5 KW, 480 V., 3 ϕ	30	3	15
3	3AR ELECTRIC HEATER	-	-	-	-	-	7.5 KW, 480 V., 3 ϕ	30	3	15
3	3BL FUTURE POST LIGHTS	-	-	-	-	-	-	30	3	15
3	3BR SPARE	-	-	-	-	-	-	30	3	15
3	3C SPACE	-	-	-	-	-	-	-	-	-
3	3D SPACE	-	-	-	-	-	-	-	-	-
3	3E SPACE	-	-	-	-	-	-	-	-	-
3	3F SPACE	-	-	-	-	-	-	-	-	-
4	4A AERATOR DRIVE NO. 10	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	5A AERATOR DRIVE NO. 11	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	6A AERATOR DRIVE NO. 12	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	7A AERATOR DRIVE NO. 16	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	8A AERATOR DRIVE NO. 17	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	9A AERATOR DRIVE NO. 18	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	10A AERATOR DRIVE NO. 13	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	11A AERATOR DRIVE NO. 14	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	12A AERATOR DRIVE NO. 15	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	13A AERATOR DRIVE NO. 22	-	4	-	-	-	PROVIDE SPACE FOR	-	-	-
4	14A AERATOR DRIVE NO. 23	-	4	-	-	-	FUTURE	-	-	-
4	15A AERATOR DRIVE NO. 24	-	4	-	-	-	STARTERS	-	-	-

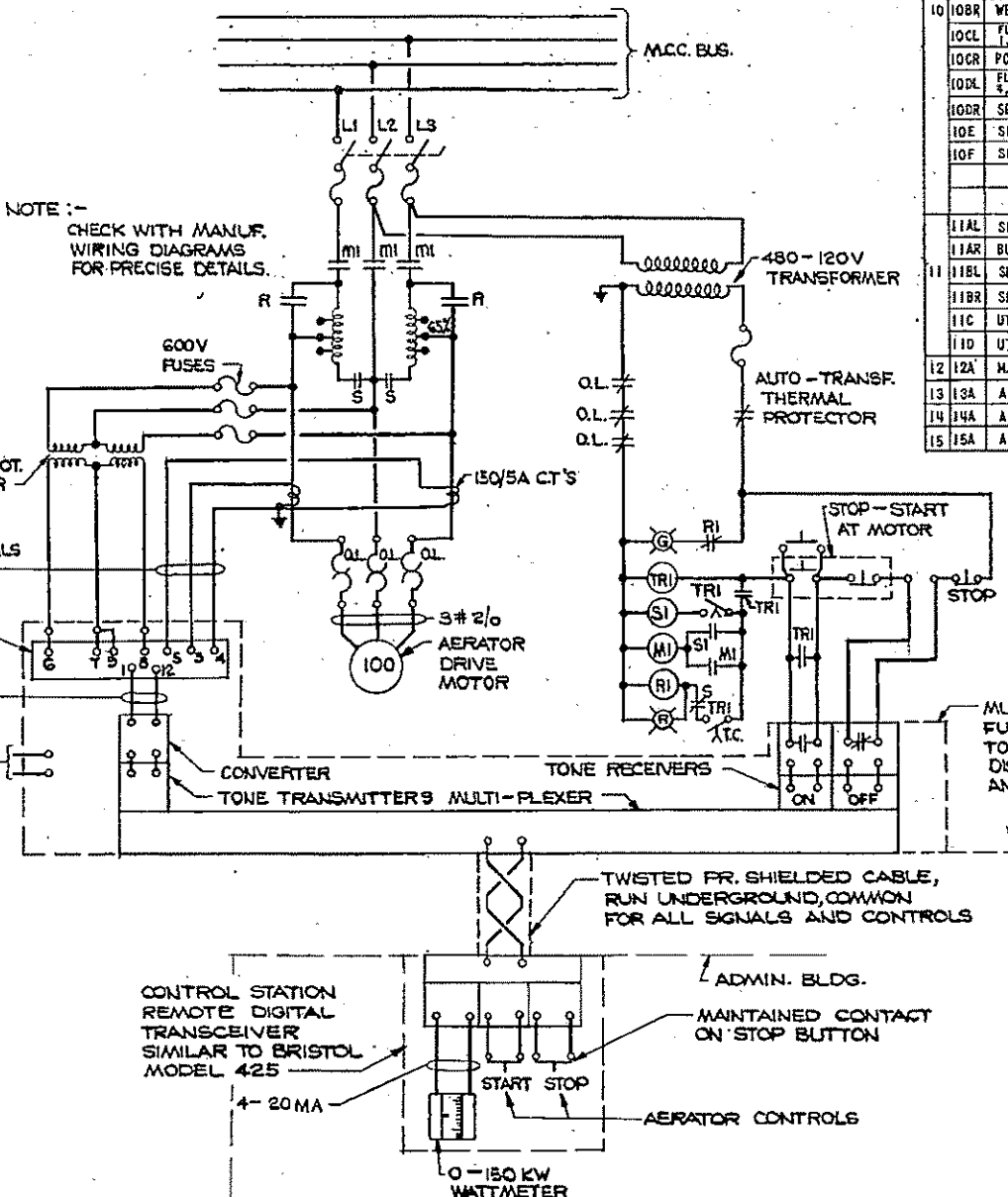
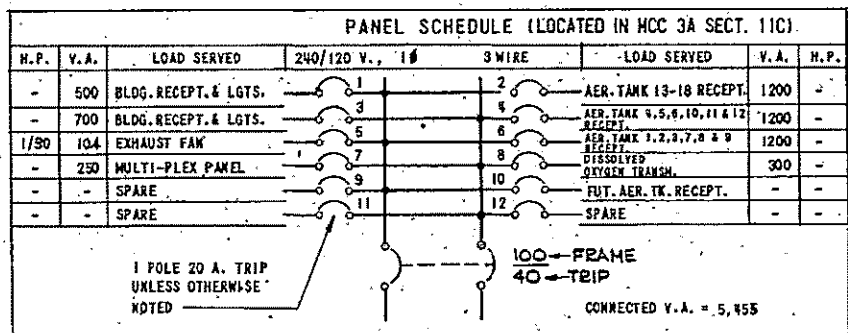
- NOTE: A. AERATOR DRIVE STARTERS ARE FUSIBLE SWITCH, COMBINATION STARTERS, REDUCED VOLTAGE, NONREVERSING, AUTO-TRANSFORMER-CLOSED TRANSITION WITH THERMAL OVERLOAD PROTECTION IN TRANSF. WINDINGS
B. M.C.C. BUS WORK SHALL BE RATED 1600 AMP., 4 POLE 1/2 NEUTRAL, AND ALL BUS WORK SHALL BE BRACED FOR 50,000 A.I.C.
C. SEE ONE LINE DIAGRAM ON SHEET NO. E-4
D. MOTOR STARTERS ARE REMOTE FOR AERATION TANK WEIR MOTORS. DUPLICATE "RAISE-LOWER" PUSHBUTTONS ARE TO BE PROVIDED IN THE CONTROL CONSOLE AT ADMIN. BLDG. SEE WIRING DIAGRAM ON SHEET NO. 3A-E-2
E. AERATOR MOTORS ALSO REQUIRE A REMOTE STOP-START PUSHBUTTON IN THE CONTROL CONSOLE IN ADDITION TO LOCATIONS LISTED. TWO 150:5 AMP. CURRENT TRANSFORMERS SHALL BE FURNISHED FOR EACH AERATOR STARTER AND DIRECT WIRED WITH NO TERMINAL BLOCKS FOR A REMOTE WATTMETER THREE 600 V. FUSES AND 2-480-120 VOLT POTENTIAL TRANSFORMERS SHALL ALSO BE WIRED ON LOAD SIDE OF EACH STARTER TO THE REMOTE .3 ϕ WATTMETER IN THE INSTRUMENT METER PANEL THROUGH A TRANSFORMER AND TONE MULTIPLEXER. SEE THIS SHEET.
F. FURNISH ALL STARTERS WITH FUSED 480 TO 120 V. CONTROL TRANSFORMERS AND SIZED FOR ALL ACCESSORIES.
G. ALL FUSES SHALL BE CLASS "J" OR "L" AS REQUIRED.



MOTOR CONTROL CENTER NO. 3A

S.S. = STOP-START PUSHBUTTON
H.O.A. = HAND-OFF-AUTOMATIC SELECTOR SWITCH
SCALE 1/2"=1'-0" * EXCEPT FOR MAIN BKR.

SECT. NO.	NAMEPLATE	HP	WMA SIZE	H.O.A.	S.S.	PILOT LGTS RED GREEN	MODIFICATIONS	FRAME	POLES	FUSE
1	1A AERATOR DRIVE NO. 1	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
2	2A AERATOR DRIVE NO. 2	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
3	3A AERATOR DRIVE NO. 3	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
4	4A AERATOR DRIVE NO. 7	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
5	5A AERATOR DRIVE NO. 8	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
6	6A AERATOR DRIVE NO. 9	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
7	7A AERATOR DRIVE NO. 4	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
8	8A AERATOR DRIVE NO. 5	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
9	9A AERATOR DRIVE NO. 6	100	4	-	-	-	REMOTE S.S. SEE NOTE A & E	-	-	-
10	10AL WEIR OPERATOR NO. 1	1/2	-	-	-	-	REMOTE STARTER	30	3	10
10	10AR WEIR OPERATOR NO. 2	1/2	-	-	-	-	REMOTE STARTER	30	3	10
10	10BL WEIR OPERATOR NO. 3	1/2	-	-	-	-	REMOTE STARTER	30	3	10
10	10BR WEIR OPERATOR NO. 4	1/2	-	-	-	-	REMOTE STARTER	30	3	10
10	10CL FLOODLIGHTS AER. TK. 13, 14, 15 & 16	-	-	-	-	-	-	30	3P	20
10	10CR POST LIGHTS AERATION TANKS	-	-	-	-	-	-	30	3P	20
10	10DL FLOODLIGHTS AER. TK. 5, 6, 7, 8, 9, 10, 11 & 12	-	-	-	-	-	-	30	3P	20
10	10ER SPARE	-	-	-	-	-	-	30	3P	-
10	10F SPACE	-	-	-	-	-	-	-	-	-
11	11AL SPARE	-	-	-	-	-	-	30	3P	-
11	11AR BUILDING LIGHTING	-	-	-	-	-	277 V. LTG.	30	1P	10
11	11BL SPARE	-	-	-	-	-	-	30	3P	-
11	11BR SPARE	-	-	-	-	-	-	30	3P	-
11	11C UTILITY PANELBOARD	-	-	-	-	-	SEE PANEL SCHEDULE FOR THIS UNIT	-	-	-
11	11D UTILITY TRANSFORMER	-	-	-	-	-	SEE PANEL SCHEDULE FOR THIS UNIT	-	-	-
12	12A MAIN INCOMING SERVICE	-	-	-	-	-	AK-50 POWER BREAKER	1600	3	1600
13	13A AERATOR DRIVE NO. 19	-	4	-	-	-	PROVIDE SPACE	-	-	-
14	14A AERATOR DRIVE NO. 20	-	4	-	-	-	FOR FUTURE	-	-	-
15	15A AERATOR DRIVE NO. 21	-	4	-	-	-	STARTERS	-	-	-



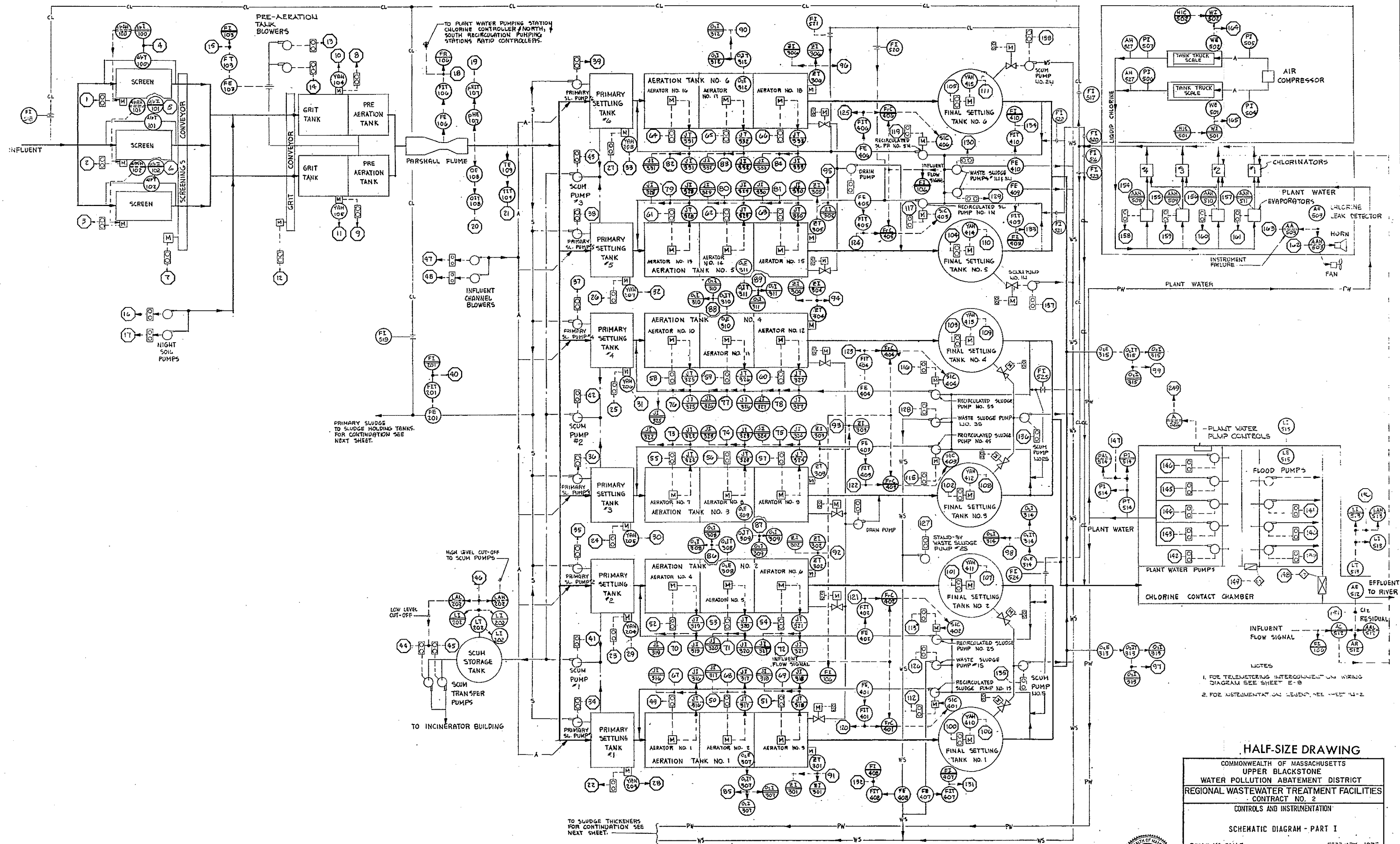
* TYPICAL AERATOR SCHEMATIC WIRING DIAGRAM

SCALE 1"=NONE
* TYPICAL FOR 18 PRESENT, 24 ULTIMATE

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
AERATOR CONTROL FACILITY, F.N.-14
ELECTRICAL
MOTOR CONTROL CENTER DETAILS
AND WIRING DIAGRAM
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DATE: FEBRUARY 1973
BY: G.C.A. W.D.F. IN CHARGE: T.J.B.
CHECKED: J.W.-83
APPROVED: J.M. Cahaly PLAN NO. 228
CONTRACT DRAWING SHEET NO. 14E-2

REV. NO.	DATE	DESCRIPTION	BY	CHK. BY	APP. BY



PRIMARY SLUDGE TO SLUDGE HOLDING TANKS. FOR CONTINUATION SEE NEXT SHEET.

TO SLUDGE THICKENERS FOR CONTINUATION SEE NEXT SHEET.

- NOTES
1. FOR TELEMETERING INTERCONNECTING WIRING DIAGRAM SEE SHEET E-8
 2. FOR INSTRUMENTATION LEGEND, SEE SHEET W-2

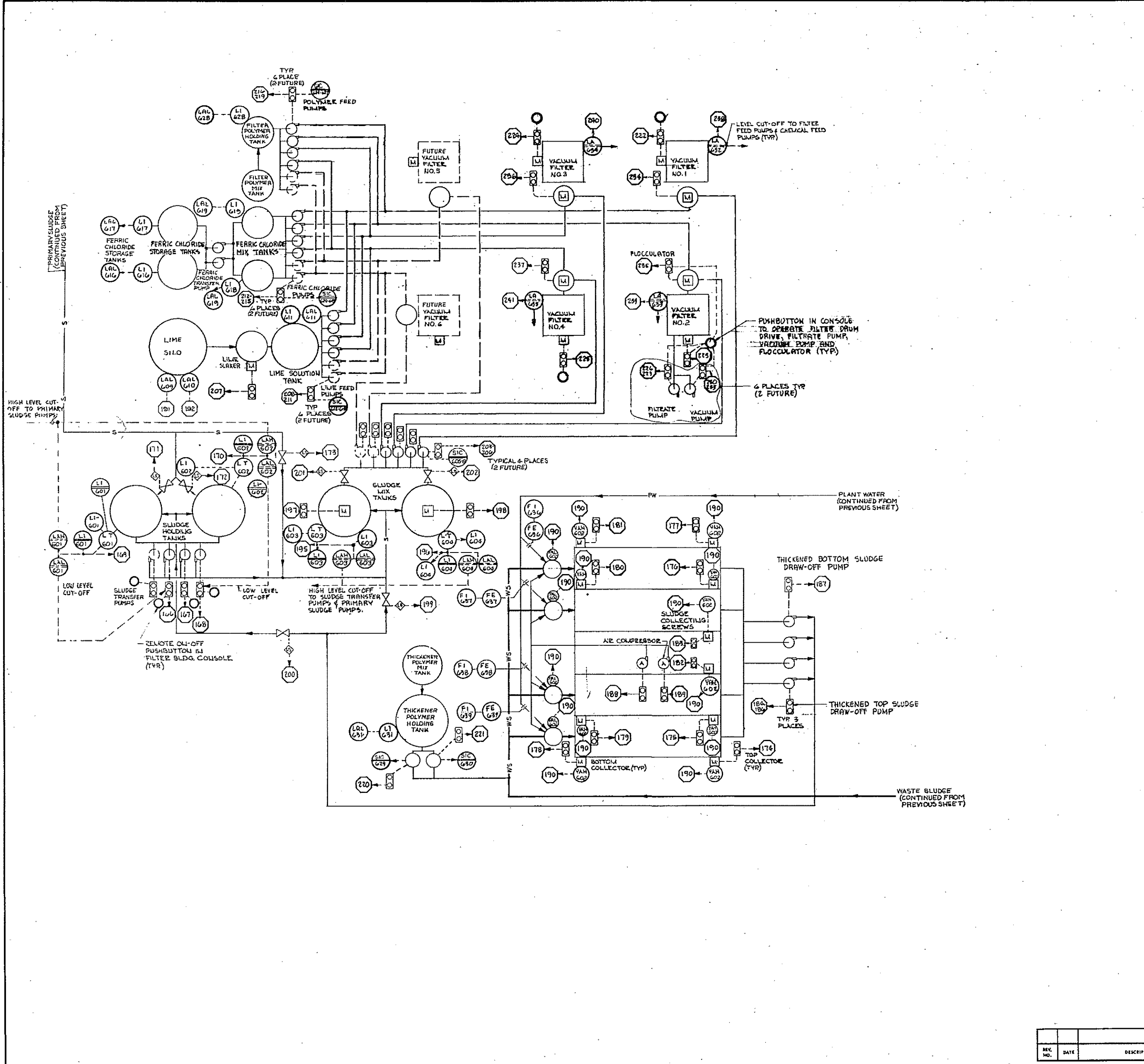
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CONTROLS AND INSTRUMENTATION

SCHEMATIC DIAGRAM - PART I

SCALE: 1/4" = 1'-0" FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. E.T.W. TR. E.T.W. M.F. JW-83
 CHECKED BY: E.T.W. REGISTERED PROFESSIONAL ENGINEER
 APPROVED: *F.M. Cahaly* REG. NO. 229

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



INSTRUMENTATION IDENTIFICATION LEGEND

PROCESS VARIABLES	FIRST LETTER	SECOND AND THIRD LETTER																			
		TRANSMITTER								MEASURING DEVICES				CONTROLLERS				ALARM			
		MEASURING ELEMENT	BLIND	INDICATING	RECORDING	INDICATING	RECORDING	TOTALIZING	BLIND	INDICATING	RECORDING	RATIO	HIGH	LOW	VALVE	SWITCH	LIGHT (PILOT)				
ANALYSIS (CONCENTRATION)	A	AE	AT	AIT	ART	AI	AR	AC	AIC	ARC	Arc	AAH	AAL	AV	AS	AL					
CONDUCTIVITY	C	CE	CT	CIT	CRT	C1	CR	CC	CIC	CRc	Crc	CAH	CAL	CV	CS	CL					
DENSITY	D	DE	DT	DIT	DRT	D1	DR	DC	DIC	DRc	Drc	DAH	DAL	DV	DS	DL					
DIFFERENTIAL PRESSURE	D ₂	D ₂ E	D ₂ T	D ₂ IT	D ₂ RT	D ₂ I	D ₂ R	D ₂ C	D ₂ IC	D ₂ RC	D ₂ rc	D ₂ AH	D ₂ AL	D ₂ V	D ₂ S	D ₂ L					
VOLTAGE (EMF), FLOW*	E	EE	ET	EIT	ERT	E1	ER	EC	EIC	ERC	Erc	EAH	EAL	EV	ES	EL					
HAND (MANUALLY OPERATED)	H	HE	HT	HIT	HRT	H1	HR	HC	HIC	HRC	Hrc	HAH	HAL	HV	HS	HL					
CURRENT	I	IE	IT	IT	IRT	I1	IR	IC	IIC	IRC	Irc	IAH	IAL	IV	IS	IL					
POWER (WATTAGE)	J	JE	JT	JIT	JRT	J1	JR	JC	JIC	JRC	Jrc	JAH	JAL	JV	JS	JL					
TIME	K	KE	KT	KIT	KRT	K1	KR	KC	KIC	KRC	Krc	KAH	KAL	KV	KS	KL					
LEVEL	L	LE	LT	LIT	LRT	L1	LR	LC	LIC	LRC	Lrc	LAH	LAL	LV	LS	LL					
MOISTURE OR HUMIDITY	M	ME	MT	MIT	MRT	M1	MR	MC	MIC	MRC	Mrc	MAH	MAL	MV	MS	ML					
ORP (OXIDATION-REDUCTION POTENTIAL)	O	OE	OT	OIT	ORT	O1	OR	OC	OIC	ORc	Orc	OAH	OAL	OV	OS	OL					
DISSOLVED OXYGEN	O ₂	O ₂ E	O ₂ T	O ₂ IT	O ₂ RT	O ₂ I	O ₂ R	O ₂ C	O ₂ IC	O ₂ RC	O ₂ rc	O ₂ AH	O ₂ AL	O ₂ V	O ₂ S	O ₂ L					
PRESSURE	P	PE	PT	PIT	PRT	P1	PR	PC	PIC	PRc	Prc	PAH	PAL	PV	PS	PL					
HYDROGEN ION CONCENTRATION	pH	pH _E	pH _T	pH _{IT}	pH _{RT}	pH _I	pH _R	pH _C	pH _{IC}	pH _{RC}	pH _{rc}	pH _{AH}	pH _{AL}	pH _V	pH _S	pH _L					
RUNNING (STATUS)	R	RE	RT	RIT	RRT	R1	RR	RC	RIC	RRC	Rrc	RAH	RAL	RV	RS	RL					
SPEED	S	SE	ST	SIT	SRT	S1	SR	SC	SIC	SRC	Src	SAH	SAL	SV	SS	SL					
TEMPERATURE	T	TE	TT	TIT	TRT	T1	TR	TC	TIC	TRc	Trc	TAH	TAL	TV	TS	TL					
TURBIDITY	T	TE	TT	TIT	TRT	T1	TR	TC	TIC	TRc	Trc	TAH	TAL	TV	TS	TL					
WEIGHT	W	WE	WT	WIT	WRT	W1	WR	WC	WIC	WRC	Wrc	WAH	WAL	WV	WS	WL					
TORQUE	Y	YE	YT	YIT	YRT	Y1	YR	YC	YIC	YRC	Yrc	YAH	YAL	YV	YS	YL					
POSITION	Z	ZE	ZT	ZIT	ZRT	Z1	ZR	ZC	ZIC	ZRC	Zrc	ZAH	ZAL	ZV	ZS	ZL					

*MANUAL LOADING STATION. Δ-FD=INTEGRATOR, FOI=COUNTER
 EXAMPLE: FIRST LETTER SUCCEEDING LETTERS INSTRUMENT NUMBER
 F IR 501
 INSTRUMENT NUMBER 501 IS A FLOW INDICATING RECORDING

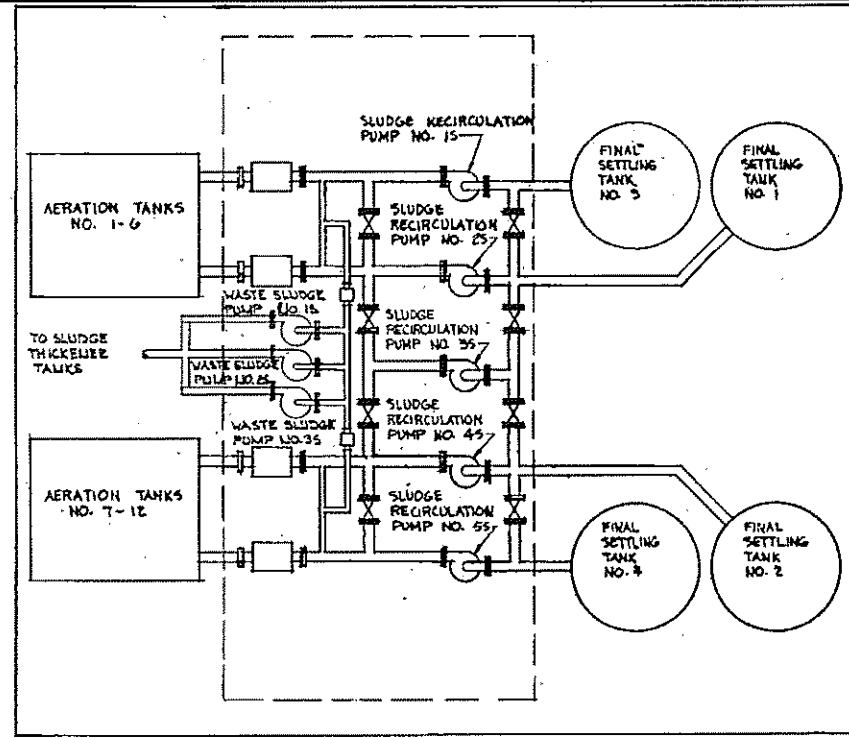
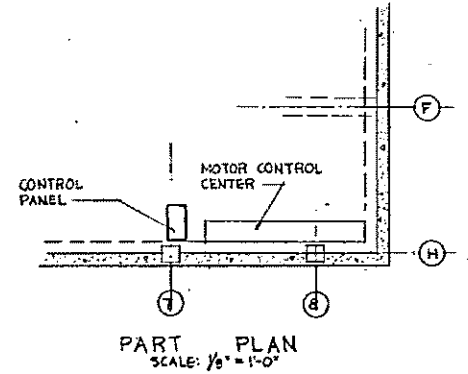
INSTRUMENTATION SYMBOLS	
LINE SYMBOLS	INSTRUMENT SYMBOLS
— PNEUMATIC SIGNAL	○ LOCALLY MOUNTED
--- ELECTRIC SIGNAL	○ PANEL MOUNTED - CENTRAL CONTROL PANEL
— PROCESS LINE	○ LOCAL PANEL MOUNTED
—PW— PLANT WATER	○ RACK MOUNTED (REAR OF PANEL)
—CL— CHLORINE	○ PILOT LIGHT
—A— AIR	○ ALARM LIGHT
—S— SLUDGE	○ PUSHBUTTON (PANEL MOUNTED)
—WS— WASTE SLUDGE	○ PUSHBUTTON (FIELD MOUNTED)
	○ SELECTOR SWITCH
	○ HAND-OFF-AUTOMATIC SELECTOR SWITCH
	○ LIMIT SWITCH
	○ COMPUTER INPUT

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CONTROLS AND INSTRUMENTATION
 SCHEMATIC DIAGRAM - PART II
 SCALE: 1/2" = 1'-0"
 FEBRUARY 1971
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. E.T.W. INCH. E.T.W. REC. JW-83
 DR. R.W.C. D.A.S. DR. E.T.W.
 APPROVED *J.M. Cahaly* PLAN NO. 230
 CONTRACT DRAWING SHEET NO. IN-2



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY

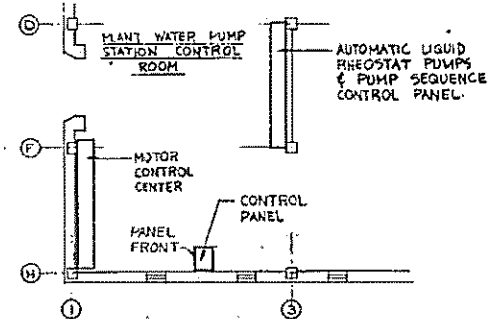


NO.	TAG	NAMEPLATE
1	FI-106	PLANT INFLUENT FLOW
2	FR-401	RECIRCULATED SLUDGE FLOW-PUMP NO.13
3	FR-402	RECIRCULATED SLUDGE FLOW-PUMP NO.25
4	FR-403	RECIRCULATED SLUDGE FLOW-PUMP NO.43
5	FR-404	RECIRCULATED SLUDGE FLOW-PUMP NO.55
6	FR-407	WASTE SLUDGE FLOW-PUMPS NO.18/25
7	FR-408	WASTE SLUDGE FLOW-PUMPS NO.45/55
8		FINAL SETTLING TANK W/104 SCUM VALVE OPEN-CLOSE
9		DO DEAN VALVE OPEN-CLOSE

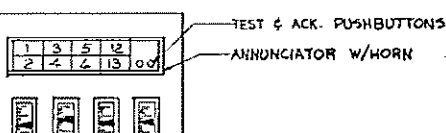
OPTIONAL DIGITAL MULTIPLEXING UNIT

ELEVATION - CONTROL PANEL SCALE: 1\"/>

SLUDGE RECIRCULATION PUMPING STATION - SOUTH FN-5 (SEE SHEET NO. SE-1)



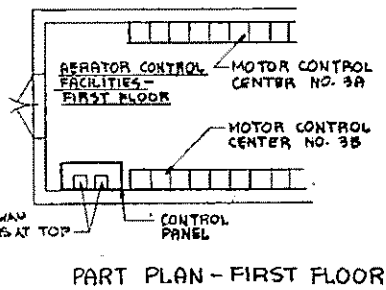
PART PLAN SCALE: 3/16\"/>



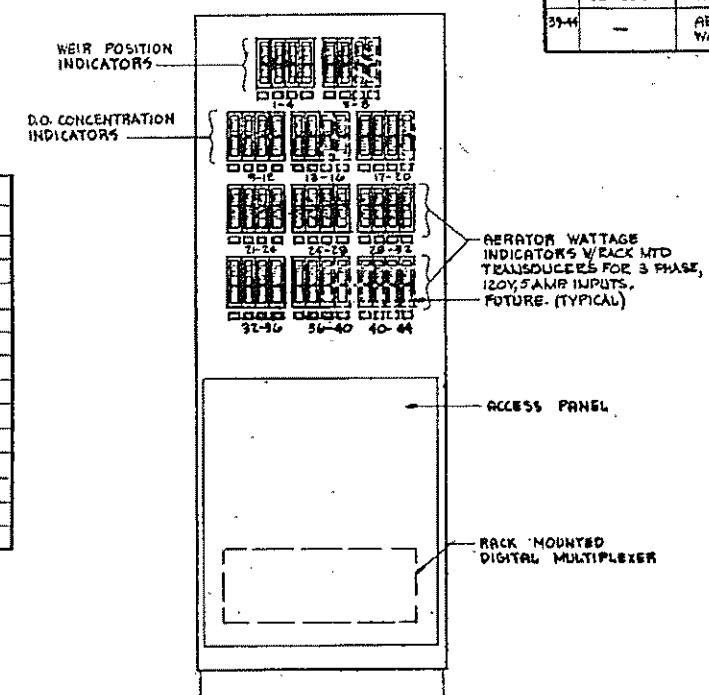
SAMPLE PUMP 1/2\"/>

ELEVATION - CONTROL PANEL (SEE SHEET NO. SE-2) SCALE: 1\"/>

PLANT WATER & EMERGENCY PUMPING STATION FN-6

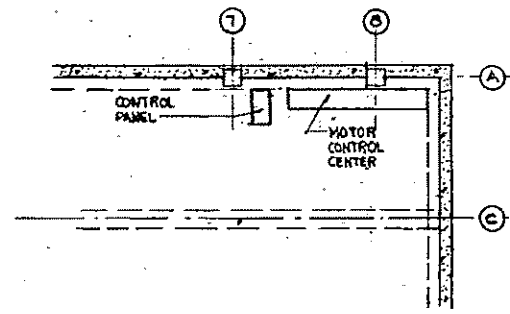


PART PLAN - FIRST FLOOR

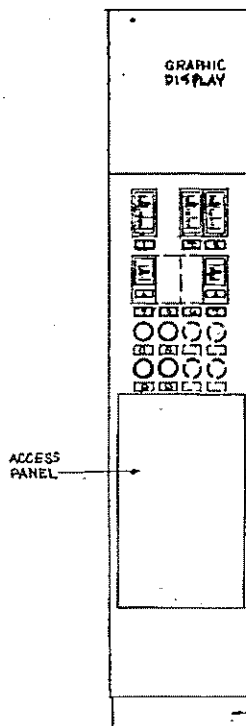


ELEVATION - CONTROL PANEL (SEE SHEET NO. SE-1) SCALE: 1\"/>

AERATION CONTROL FACILITIES FN-14



PART PLAN SCALE: 1/8\"/>

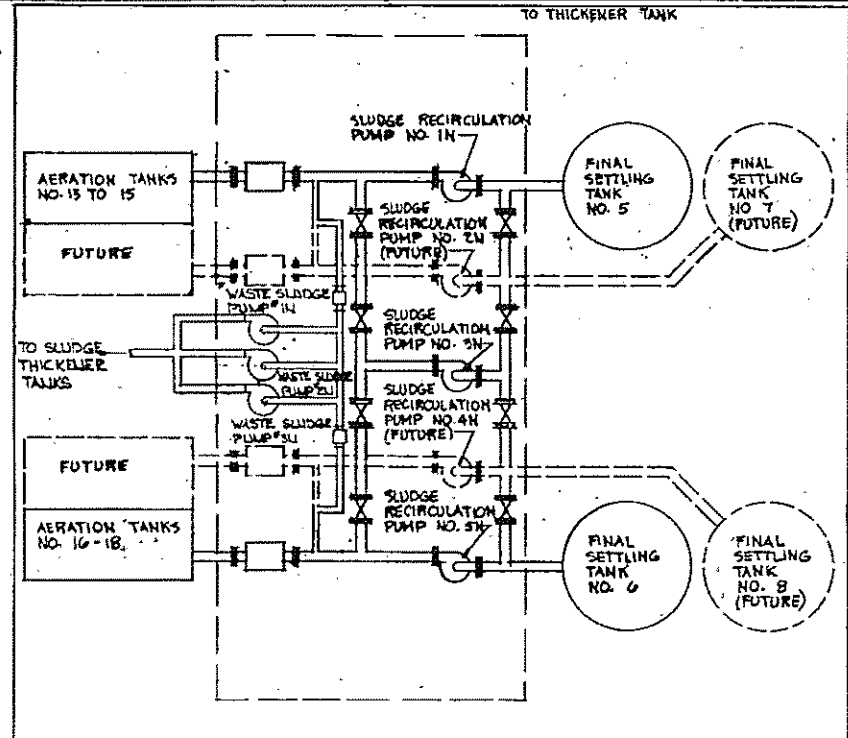


ELEVATION - CONTROL PANEL SCALE: 1\"/>

NO.	TAG	NAMEPLATE
1-6	SI-301 TO SI-306	WEIR POSITION - AERATION TANKS NO. 1 TO NO. 6
7-8		WEIR POSITION - AERATION TANKS NO. 7 & NO. 8 (FUTURE)
9-14	OI-501 TO OI-512	DISSOLVED OXYGEN LEVEL - AERATION TANKS NO. 1 TO NO. 6
15-16		DISSOLVED OXYGEN LEVEL - AERATION TANKS NO. 7 & NO. 8 (FUTURE)
17-19	OI-513 TO OI-515	DISSOLVED OXYGEN LEVEL - EFF. CHANNEL TANKS NO. 1 & 2, NO. 3 & 4, & NO. 5 & 6
20		DISSOLVED OXYGEN LEVEL - EFF. CHANNEL TANKS NO. 7 & 8 (FUTURE)
21-23	JI-316 TO JI-318	AERATOR NO. 1 TO NO. 18 - MOTOR WATTAGE (FUTURE)
24		AERATOR NO. 19 TO NO. 24 - MOTOR WATTAGE (FUTURE)

ELEVATION - CONTROL PANEL SCALE: 1\"/>

PRIMARY SETTLING TANK FN-2

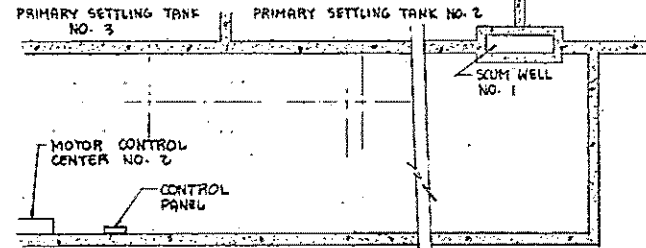


NO.	TAG	NAMEPLATE
1	FI-106	PLANT INFLUENT FLOW
2	FR-409	WASTE SLUDGE FLOW-PUMP NO.1N
3	FR-410	WASTE SLUDGE FLOW-PUMP NO.2N
4	FR-405	RECIRCULATED SLUDGE FLOW-PUMP NO.1N
5		FUTURE
6		FUTURE
7	FR-406	RECIRCULATED SLUDGE FLOW-PUMP NO.5N
8		FINAL SETTLING TANK W/574 SCUM VALVE OPEN-CLOSE
9		DO DEAN VALVE OPEN-CLOSE

4\"/>

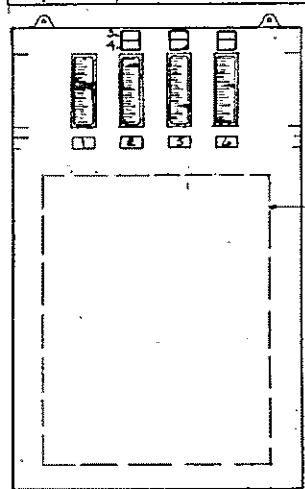
ELEVATION - CONTROL PANEL SCALE: 1\"/>

SLUDGE RECIRCULATION PUMPING STATION - NORTH FN-5 (SEE SHEET NO. SE-2)



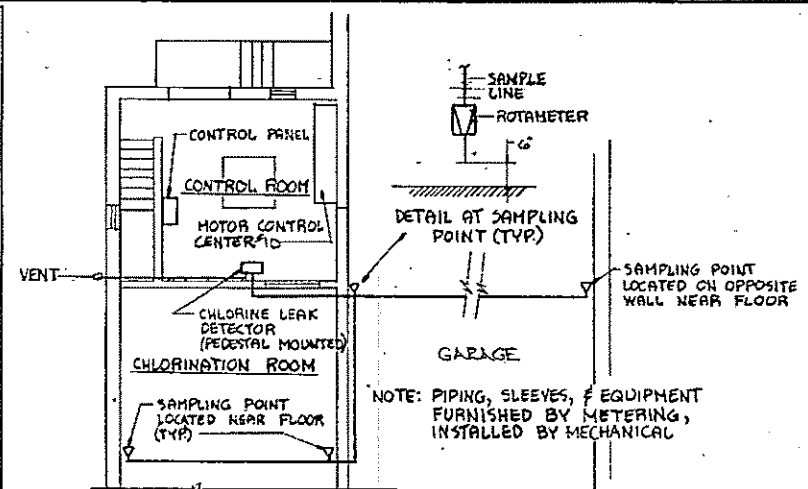
PART PLAN - PIPE GALLERY SCALE: 3/32\"/>

NO.	TAG	NAMEPLATE
1	FI-201	PRIMARY SLUDGE FLOW
2	LI-202	SCUM STORAGE TANK LEVEL
3		HIGH LEVEL ALARM
4		LOW LEVEL ALARM
5	LI-201	SLUDGE HOLDING TANK #1 - LEVEL
6	LI-202	SLUDGE HOLDING TANK #2 - LEVEL

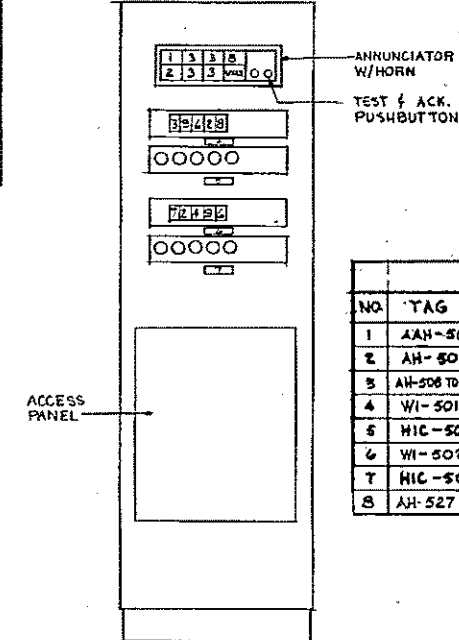


ELEVATION - CONTROL PANEL SCALE: 1\"/>

THICKENER BUILDING FN-10



PART PLAN SCALE: 1/8\"/>

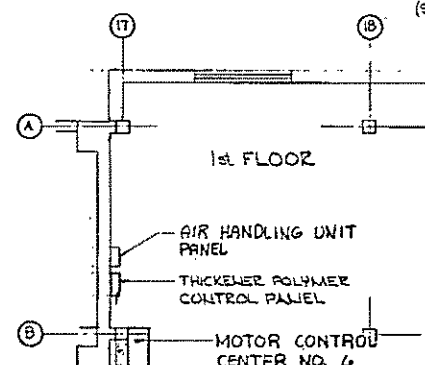


ELEVATION - CONTROL PANEL SCALE: 1\"/>

CHLORINATION FACILITIES FN-7 (SEE SHEET NO. 7E-1)

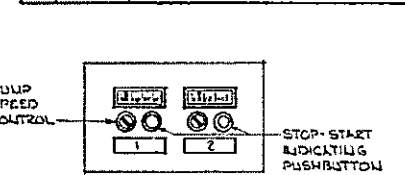
NO.	TAG	NAMEPLATE
1	AH-503	CHLORINE LEAK
2	AH-503	CHLORINE LEAK DETECTOR FAILURE
3	AH-504	EVAPORATOR NO. 1 - ALARM
4	WI-501	CHLORINE WEIGHT-SCALE NO.1
5	WIC-501	TARE WEIGHT-SCALE NO.1
6	WI-502	CHLORINE WEIGHT-SCALE NO.2
7	WIC-502	TARE WEIGHT-SCALE NO.2
8	AH-527	LIQUID CHLORINE - HIGH PRESSURE

* CHLORINATORS 2,3,4 SIMILAR



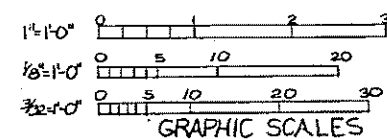
PART PLAN SCALE: 1/8\"/>

NO.	TAG	NAMEPLATE
1	SIC-429	THICKENER POLYMER SPEED CONTROL PUMP NO. 1
2	SIC-430	THICKENER POLYMER SPEED CONTROL PUMP NO. 2



ELEVATION - CONTROL PANEL SCALE: 1\"/>

THICKENER BUILDING FN-10 (SEE SHEET NO. 10E-22)



REV.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

NOTES FOR LEGEND SEE SHEET NO. IN-2

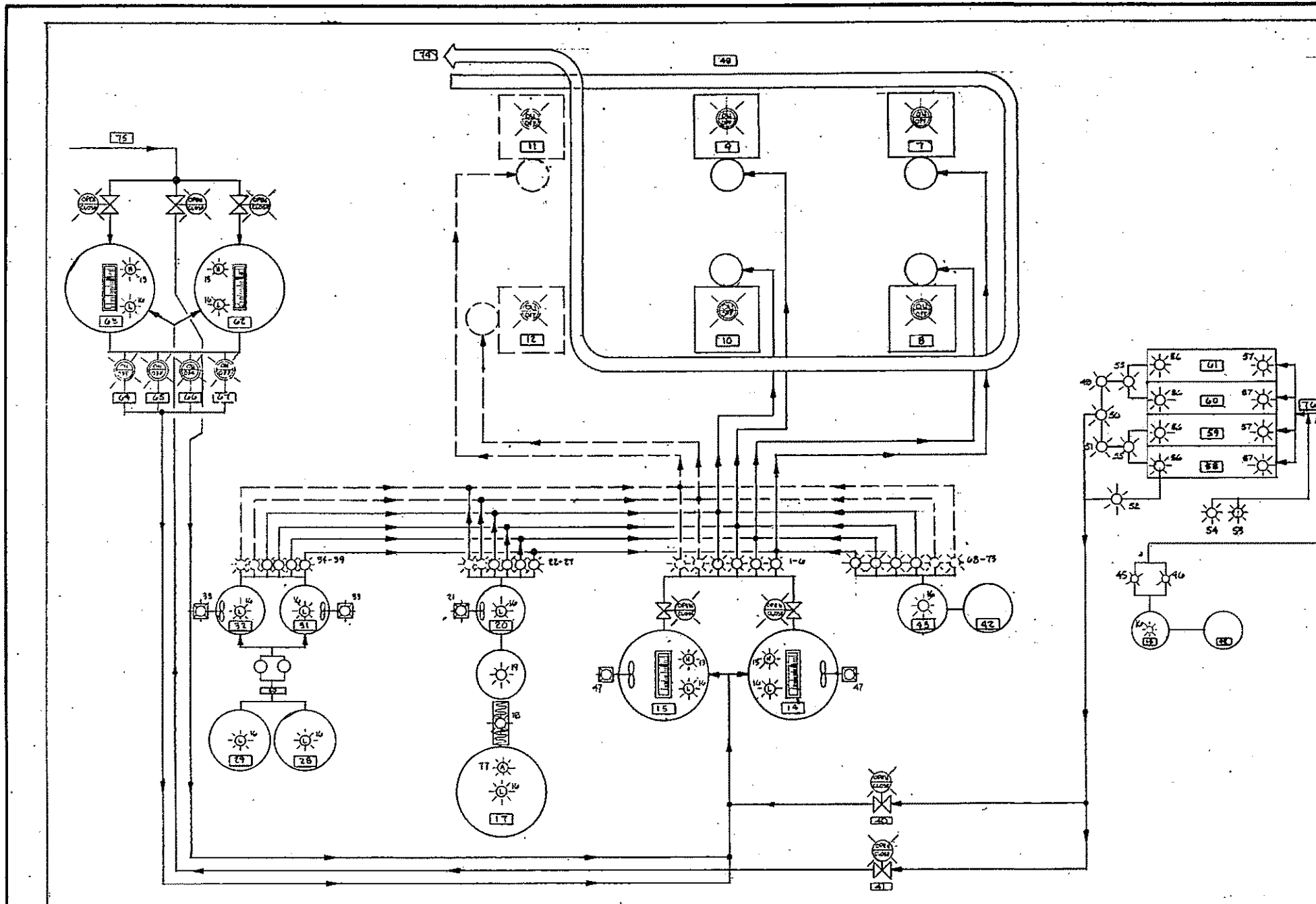
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2

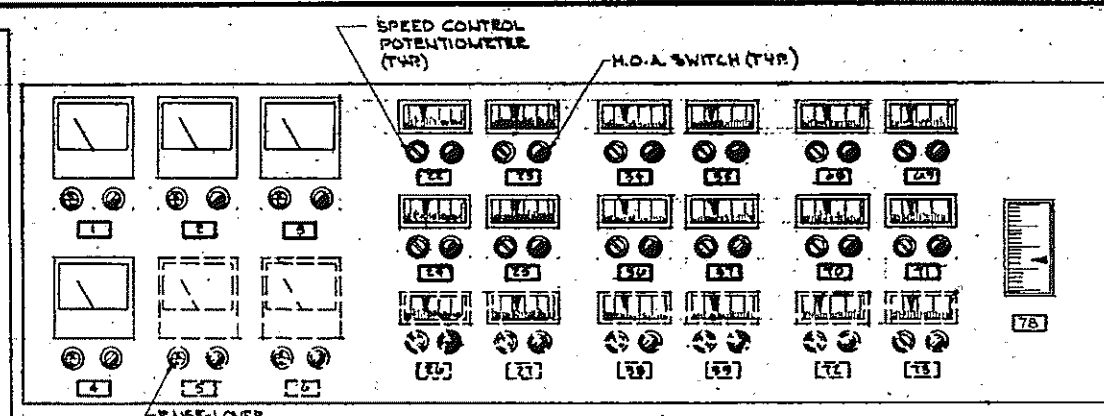
CONTROLS AND INSTRUMENTATION CONTROL PANELS FN-2, FN-5, FN-7, FN-8, FN-10, THICKENERS AND FN-14

SCALE: AS NOTED FEBRUARY 1977
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. E.T.W. / DR. D.C.S. / CHK. E.T.W. / FILE JW-83
 APPROVED: *F.M. Cahaly* / 231

CONTRACT DRAWING SHEET NO. IN-3

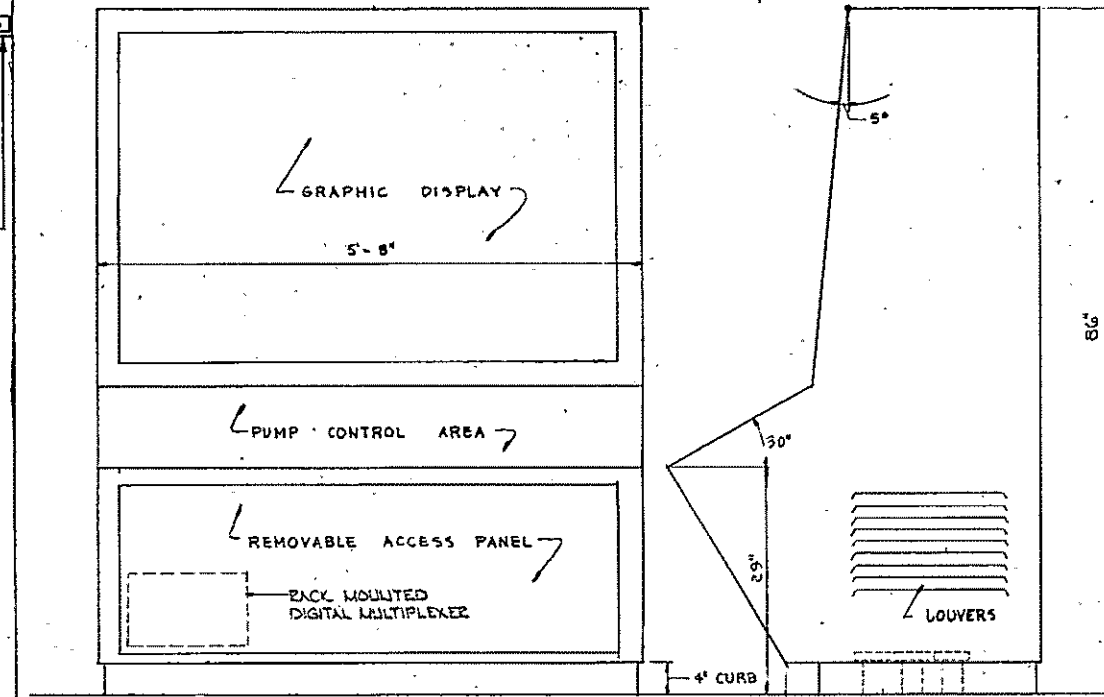


GRAPHIC DISPLAY - FILTER BUILDING CONSOLE

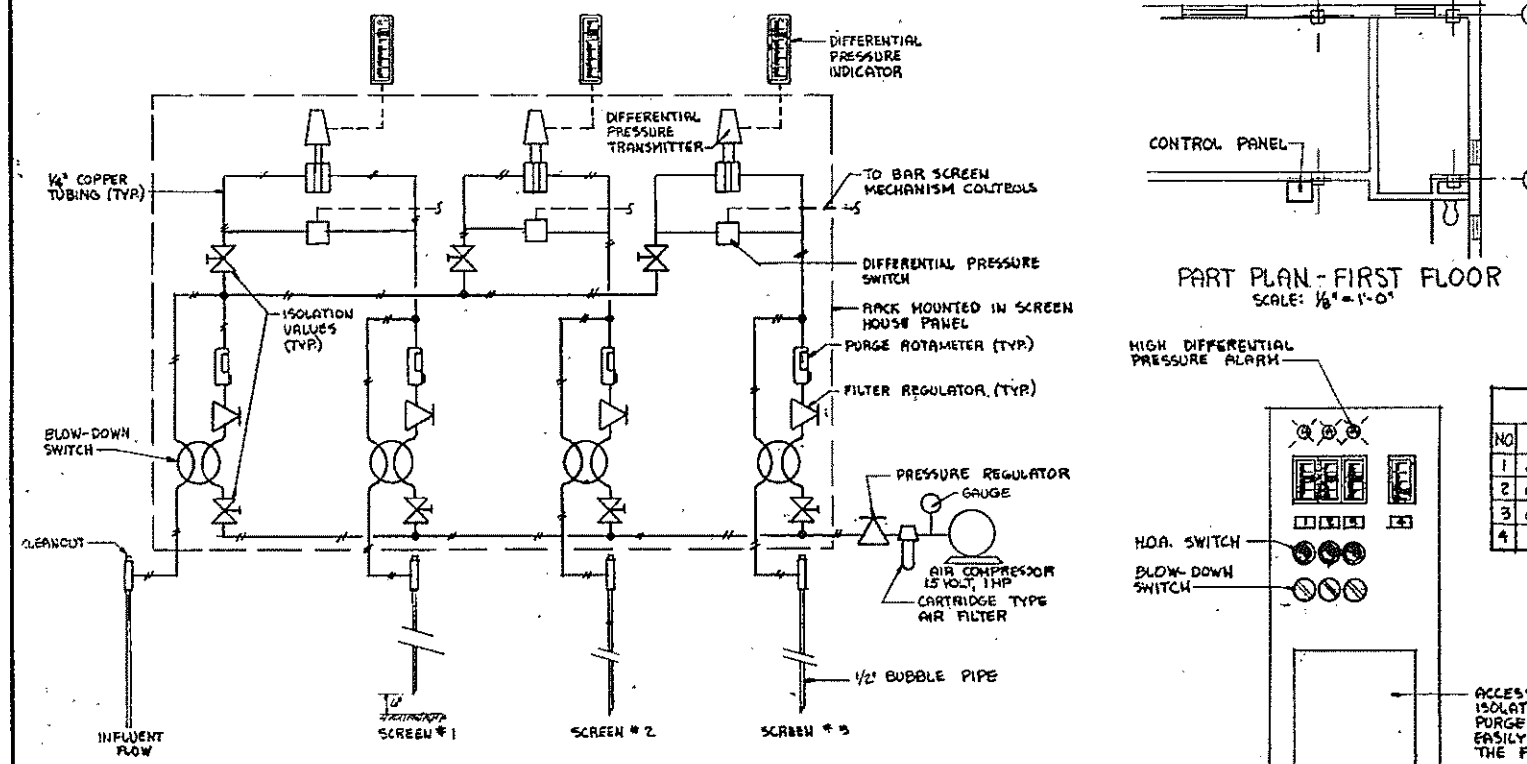


PLAN OF PUMP CONTROL AREA
SCALE: 2" = 1'-0"

FOR ELECTRIC WIRING DIAGRAM SEE SHEET 10E-17

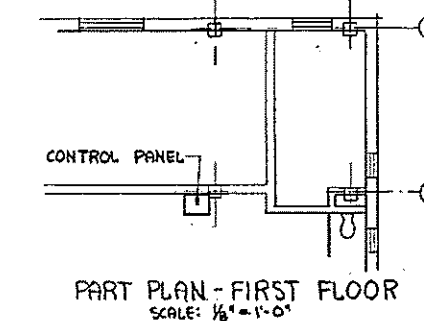


FRONT ELEVATION
END ELEVATION
ELEVATIONS - FILTER BUILDING CONSOLE
SCALE: 1" = 1'-0"



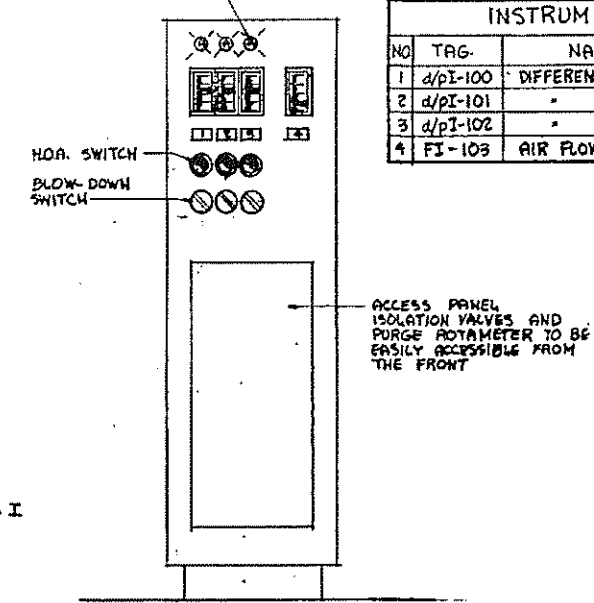
SCHEMATIC OF BUBBLER PIPING AT SCREENS*

* NOTE: ALL EQUIPMENT TO BE EXPLOSION-PROOF CLASS I DIV. 1, HAZARDOUS AREA



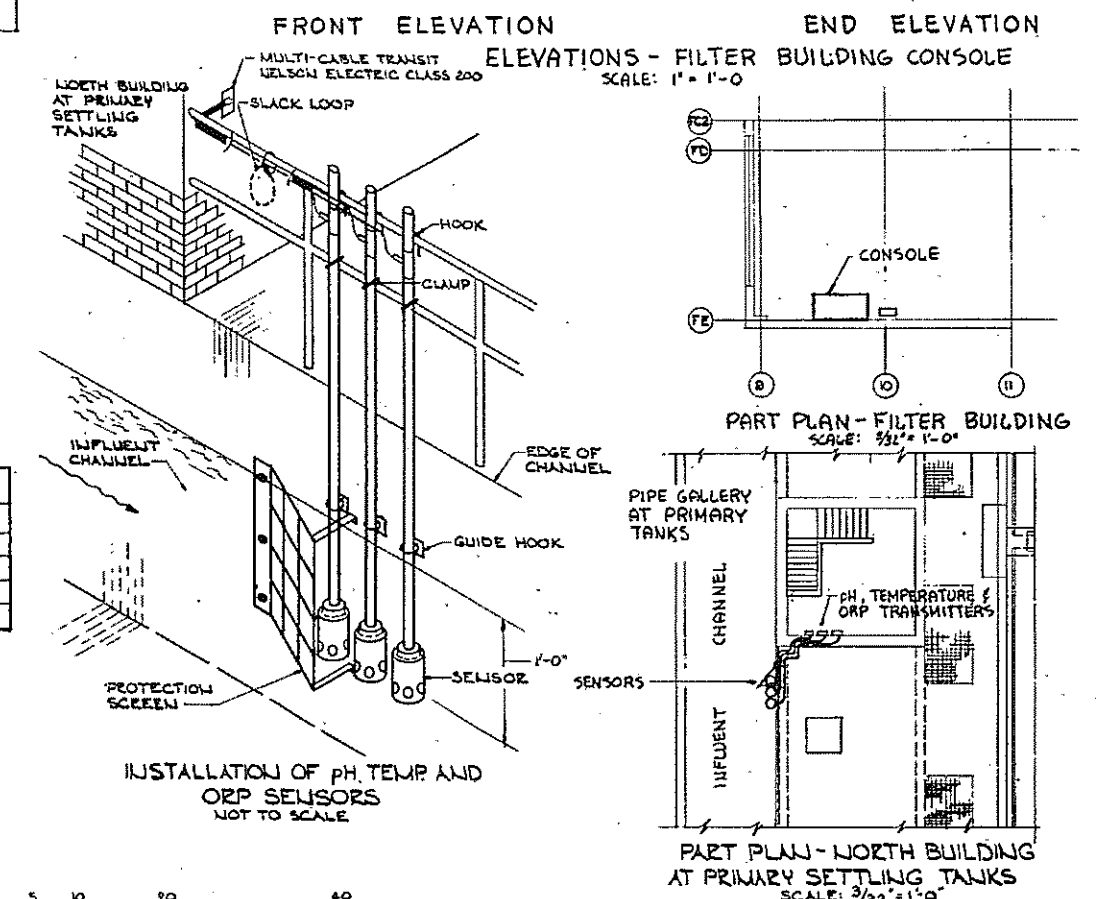
PART PLAN - FIRST FLOOR
SCALE: 1/8" = 1'-0"

NO.	TAG.	NAMEPLATE
1	d/pI-100	DIFFERENTIAL ACROSS SCREEN NO. 1
2	d/pI-101	" " " " NO. 2
3	d/pI-102	" " " " NO. 3
4	FJ-103	AIR FLOW TO PREPARATION TANK



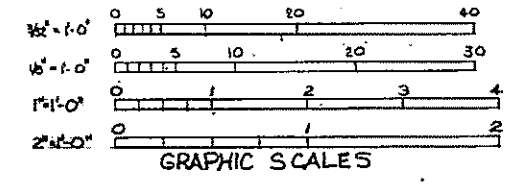
ELEVATION - CONTROL PANEL*
SCALE: 1" = 1'-0"

SCREENINGS AND GRIT FACILITIES FN-1
(SEE SHEET NO. 1E)



INSTALLATION OF pH, TEMP AND ORP SENSORS
NOT TO SCALE

PART PLAN - NORTH BUILDING AT PRIMARY SETTLING TANKS
SCALE: 3/32" = 1'-0"



NO.	TAG	NAMEPLATE OR PUSHBUTTON
1	SIC-605	FILTER FEED PUMP NO. 1
2	SIC-606	" " " " NO. 2
3	SIC-607	" " " " NO. 3
4	SIC-608	" " " " NO. 4
5	"	" " " " NO. 5 - FUTURE
6	"	" " " " NO. 6 - FUTURE
7	"	VACUUM FILTER NO. 1
8	"	" " NO. 2
9	"	" " NO. 3
10	"	" " NO. 4
11	"	" " NO. 5 - FUTURE
12	"	" " NO. 6 - FUTURE
13	"	HIGH LEVEL
14	LI-609	SLUDGE MIX TANK NO. 1
15	LI-604	" " " " NO. 2
16	"	LOW LEVEL
17	"	LIME SILO
18	"	LIME CONVEYOR
19	"	LIME SLAKER
20	"	LIME SOLUTION TANK
21	"	LIME MIXER
22	SIC-612	LIME PUMP NO. 1
23	SIC-613	" " " " NO. 2
24	SIC-614	" " " " NO. 3
25	SIC-615	" " " " NO. 4
26	"	" " " " NO. 5 - FUTURE
27	"	" " " " NO. 6 - FUTURE
28	"	FERRIC CHLORIDE STORAGE TANK NO. 1
29	"	" " " " NO. 2
30	"	FERRIC CHLORIDE TRANSFER PUMP
31	"	FERRIC CHLORIDE MIX TANK NO. 1
32	"	" " " " NO. 2
33	"	FERRIC CHLORIDE MIXER
34	SIC-620	FERRIC CHLORIDE PUMP NO. 1
35	SIC-621	" " " " NO. 2
36	SIC-622	" " " " NO. 3
37	SIC-623	" " " " NO. 4
38	"	" " " " NO. 5 - FUTURE
39	"	" " " " NO. 6 - FUTURE
40	"	THICKENED SLUDGE TO UX TANK
41	"	THICKENED SLUDGE TO FLOCC TANK
42	"	POLYMER MIX TANK
43	"	POLYMER HOLDING TANK
44	"	THICKENER ASSEMBLY
45	"	THICKNER POLYMER PUMP NO. 1
46	"	" " " " NO. 2
47	"	SLUDGE MIXER
48	"	SLUDGE CONVEYOR
49	"	THICKENED TOP SLUDGE DRAW-OFF PUMP
50	"	" " " " NO. 2
51	"	" " " " NO. 3
52	"	THICKENED BOTTOM SLUDGE DRAW-OFF PUMP
53	"	AIR COMPRESSOR NO. 1
54	"	" " " " NO. 2
55	"	THICKENED SLUDGE COLLECTING REEL
56	"	TOP SCUMMER MECHANISM
57	"	BOTTOM COLLECTOR
58	"	SLUDGE THICKENER NO. 1
59	"	" " " " NO. 2
60	"	" " " " NO. 3
61	"	" " " " NO. 4
62	LI-601	SLUDGE HOLDING TANK NO. 1
63	LI-602	" " " " NO. 2
64	"	SLUDGE TRANSFER PUMP NO. 1
65	"	" " " " NO. 2
66	"	" " " " NO. 3
67	"	" " " " NO. 4 - FUTURE
68	SIC-624	FILTER POLYMER PUMP NO. 1
69	SIC-625	" " " " NO. 2
70	SIC-626	" " " " NO. 3
71	SIC-627	" " " " NO. 4
72	"	" " " " NO. 5 - FUTURE
73	"	" " " " NO. 6 - FUTURE
74	"	SLUDGE TO THE INCINERATOR
75	"	PRIMARY SLUDGE
76	"	SECONDARY SLUDGE
77	"	ORDER LIME ALARM
78	LI-202	SCUM STORAGE TANK LEVEL

NOTE: FOR LEGEND SEE SHEET 10E-17

HALF-SIZE DRAWING

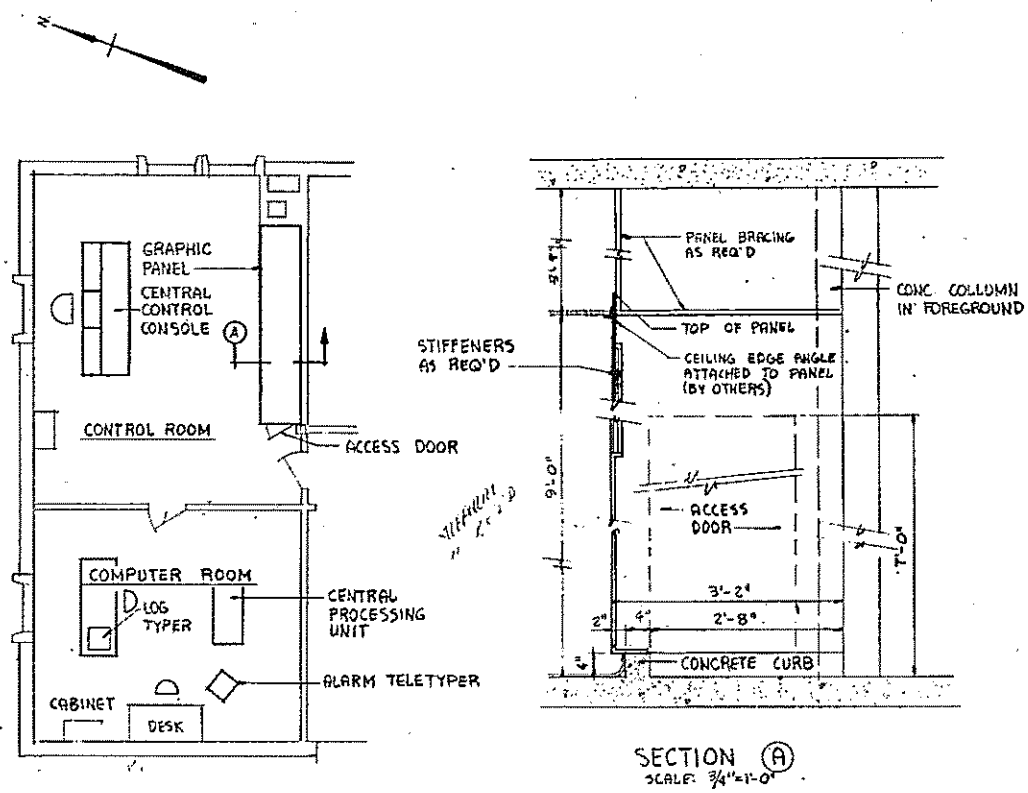
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CONTROLS AND INSTRUMENTATION

SLUDGE DISPOSAL COMPLEX CONTROL CONSOLE.
FN-1 CONTROL PANEL AND MISCELLANEOUS DETAILS
SCALE: AS NOTED
FEBRUARY 1974

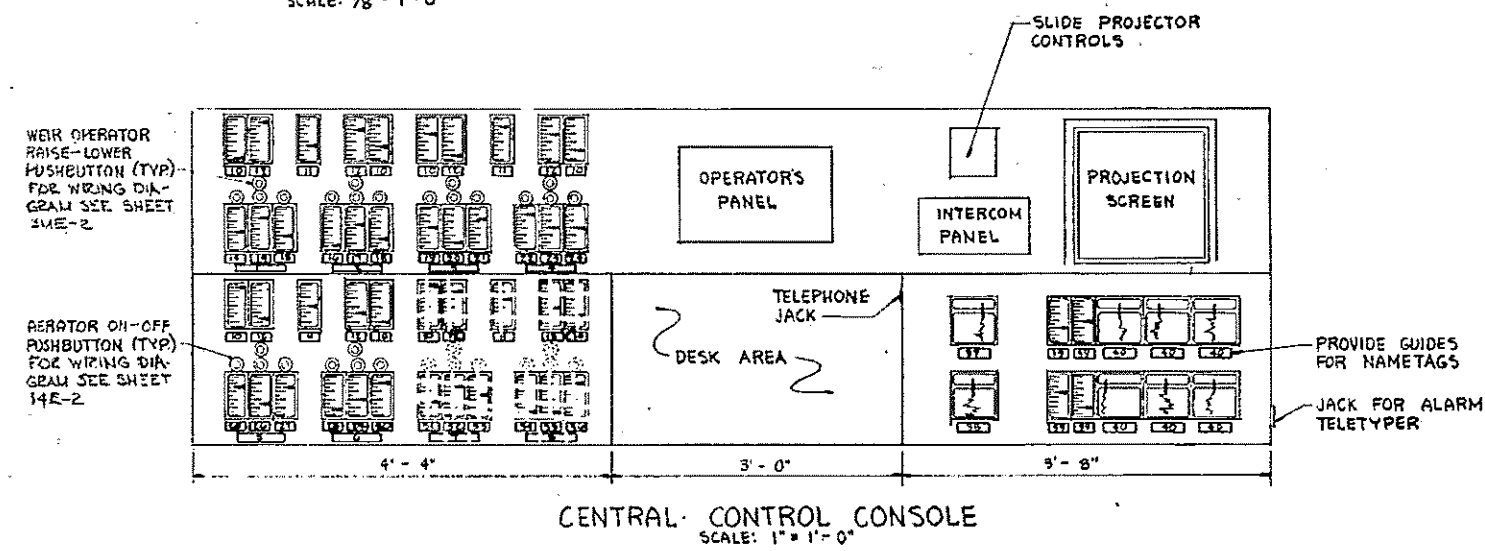
SEE E.T.W. NO. 1413
DR. P.A.S. R.H.C. INC. E.T.W. JW-83
APPROVED: *J.M. Chelley* DATE: 2/22



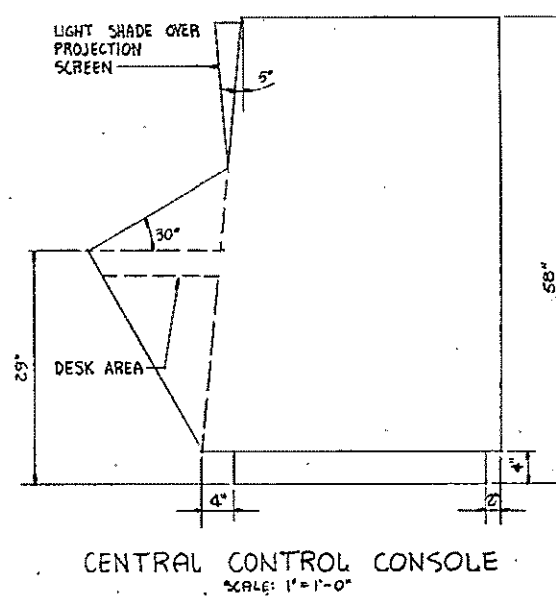
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



PART PLAN - ADMINISTRATION BLDG.
SCALE: 1/8" = 1'-0"



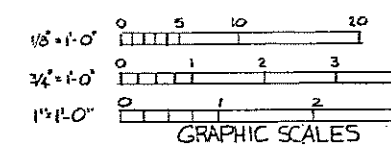
CENTRAL CONTROL CONSOLE
SCALE: 1" = 1'-0"



CENTRAL CONTROL CONSOLE
SCALE: 1" = 1'-0"

INSTRUMENTATION		
NO.	TAG	NAMEPLATE
1		AERATION TANK NO. 1
2		" NO. 2
3		" NO. 3
4		" NO. 4
5		" NO. 5
6		" NO. 6
7	FUTURE	" NO. 7
8	FUTURE	" NO. 8
9		WEIR OPERATOR: RAISE-LOWER
10	O.I.-501-512	DISSOLVED OXYGEN CONC.
11	O.I.-513-515	DISSOLVED OXYGEN CONC. - EFFLUENT CHANNEL
12	W.I.-501-504	WEIR LEVEL
13-16	J.I.-516-519	WATTS - AERATOR NO. 1 TO AERATOR NO. 18
17-20	FUTURE	WATTS - AERATOR NO. 19 TO AERATOR NO. 24
21	FR-106	INFLUENT FLOW
22	RR-517	EFFLUENT RESIDUAL CHLORINE
23		TREND INDICATOR } ASSIGNED BY
24		TREND RECORDER } COMPUTER
25		AERATOR NO. 1 TO NO. 18: ON-OFF
26		AERATOR NO. 19 TO NO. 24: ON-OFF
27	FUTURE	AERATOR NO. 19 TO NO. 24: ON-OFF

REFERENCE NO.	NAMEPLATE & PILOT LIGHT ENGRAVING
1-3	BAR SCREEN #1, 2, & 3
4	SCREENINGS CONVEYOR
5 & 6	GRIT COLLECTOR #1 & 2
7	GRIT CONVEYOR
8 & 9	PRE-AERATION TANK BLOWERS #1 & 2
10 & 11	NIGHT SOIL PUMPS #1 & 2
12-17	PRIMARY SETTLING TANKS #1-6
18-23	PRIMARY SLUDGE PUMPS #1-6
24-26	PRIMARY SCUM PUMPS #1-3
27 & 28	SCUM TRANSFER PUMPS #1 & 2
29 & 30	INFLUENT CHANNEL BLOWERS #1 & 2
31-48	AERATOR #1-18
49-54	FINAL SETTLING TANK #1-6
55-62	SLUDGE RECIRCULATION PUMPS #1-7, IN, EN, & SN
63-67	WASTE SLUDGE PUMPS
68-71	FINAL SETTLING TANK SCUM PUMPS
72-74	EMERGENCY FLOOD PUMPS
75-79	PLANT WATER PUMPS
80	OUTFALL SLICE GATE: OPEN-CLOSE
81	ROODWATER SLICE GATE: OPEN-CLOSE
82-85	EVAPORATOR #1-4
86-88	SLUDGE HOLDING TANK PUMPS #1-3
89 & 90	PRIMARY SLUDGE TO SLUDGE HOLDING TANK NO. 1 & 2
91	PRIMARY SLUDGE TO SLUDGE MIX TANKS VALVE
92-95	SLUDGE THICKENER #1-4 TOP COLLECTOR
96-99	SLUDGE THICKENER #1-4 BOTTOM COLLECTOR
100 & 101	SLUDGE THICKENER COLLECTING SCREW #1 & 2
102-104	THICKENED TOP SLUDGE DRAW-OFF PUMP #1-3
105	THICKENED BOTTOM SLUDGE DRAW-OFF PUMP #1-3
106 & 107	THICKENER AIR COMPRESSOR #1 & 2
108 & 109	SLUDGE MIX TANK #1 & 2 - MIXER
110	THICKENED SLUDGE TO MIX TANK VALVE
111	THICKENED SLUDGE TO HOLDING TANK VALVE
112 & 113	SLUDGE MIX TANK #1 & 2 - EFFLUENT VALVE
114-117	FILTER FEED PUMP #1-3
118	LIME SLAKER
119-122	LIME FEED PUMPS #1-4
123-126	FERRIC CHLORIDE FEED PUMPS #1-4
127-130	FILTER POLYMER FEED PUMPS #1-4
131 & 132	THICKENER POLYMER FEED PUMP #1 & 2
133-136	VACUUM FILTER DRUM DRIVE #1-4
137-139	INCINERATOR #1-3 FEED CONVEYOR
140-142	INCINERATOR #1-3

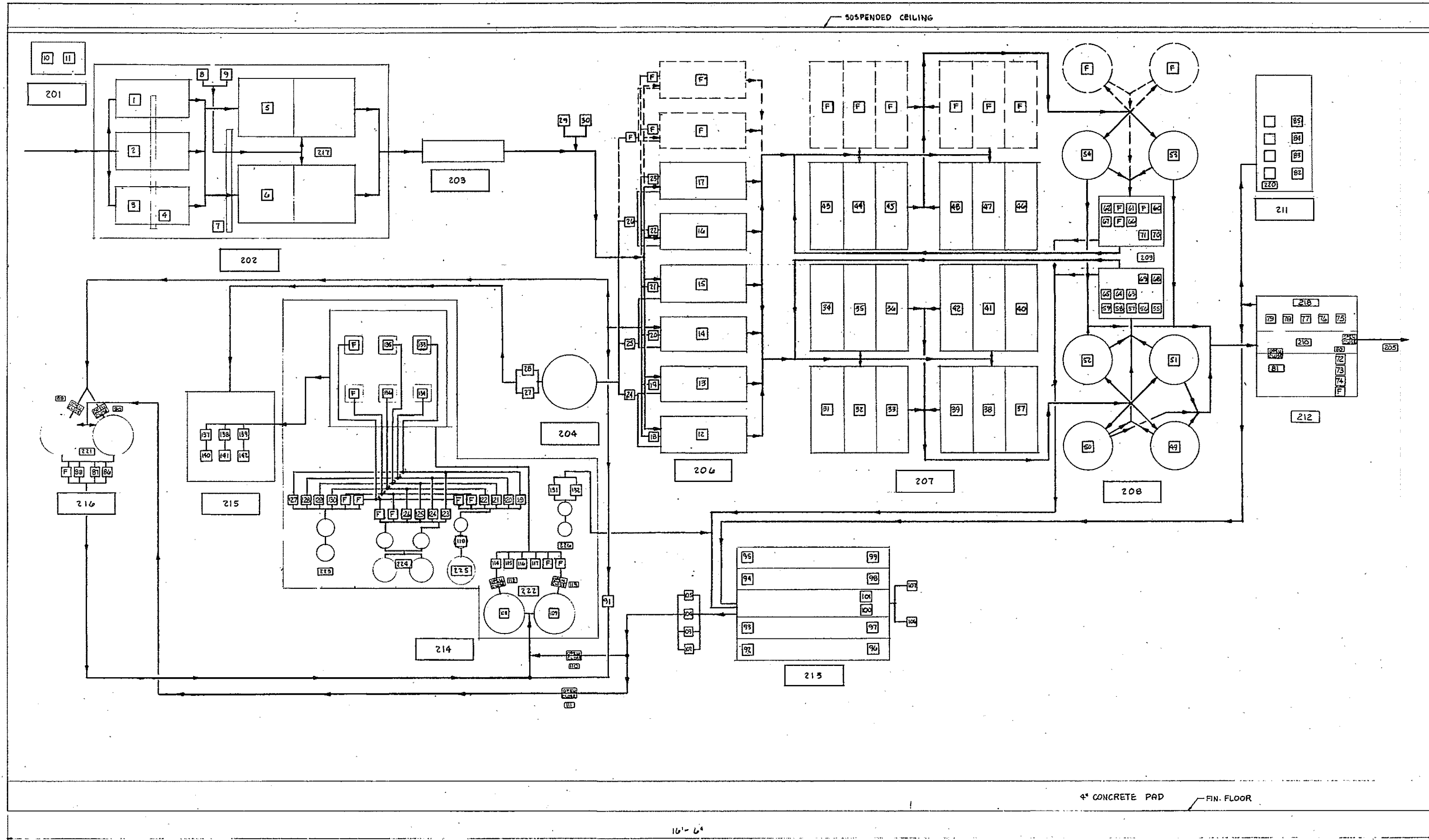


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CONTROLS AND INSTRUMENTATION
CENTRAL CONTROL CONSOLE, GRAPHIC PANEL
AND COMPUTER EQUIPMENT, FN-12
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
APPROVED: *F. M. Cahaly*
CONTRACT DRAWING SHEET NO. 1N-5

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY





NAMEPLATE		LEGEND	
NO.	NAMEPLATE	NO.	NAMEPLATE
201	NIGHT SOIL FACILITY	218	PLANT WATER WET WELL
202	SCREENINGS AND GRIT FACILITIES	219	EMERGENCY FLOODWATER WET WELL
203	PARSHALL FLUME	220	CHLORINATORS
204	VACUUM STORAGE TANK	221	SLUDGE HOLDING TANKS
205	PLANT EFFLUENT	222	SLUDGE MIX TANKS
206	PRIMARY SETTLING TANKS	223	FILTER POLYMER TANKS
207	AERATION TANKS	224	FERRIC CHLORIDE STORAGE TANKS
208	FINAL SETTLING TANKS	225	LIME SILO
209	SLUDGE RECIRCULATION PUMPING STATIONS	226	THICKENER POLYMER TANKS
210	CHLORINE CONTACT CHAMBER		
211	CHLORINATION FACILITIES		
212	PLANT WATER AND EMERGENCY PUMPING STATION		
213	SLUDGE THICKENER BUILDING		
214	FILTER BUILDING		
215	INCINERATOR BUILDING		
216	SLUDGE HOLDING TANKS		
217	PREAERATION TANKS		

NOTE:
L FOR PILOT LIGHT ENGRAVING
LEGEND SEE SHEET 113-5



REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CONTROLS AND INSTRUMENTATION
GRAPHIC PANEL ELEVATION

SCALE: AS NOTED FEB 27 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

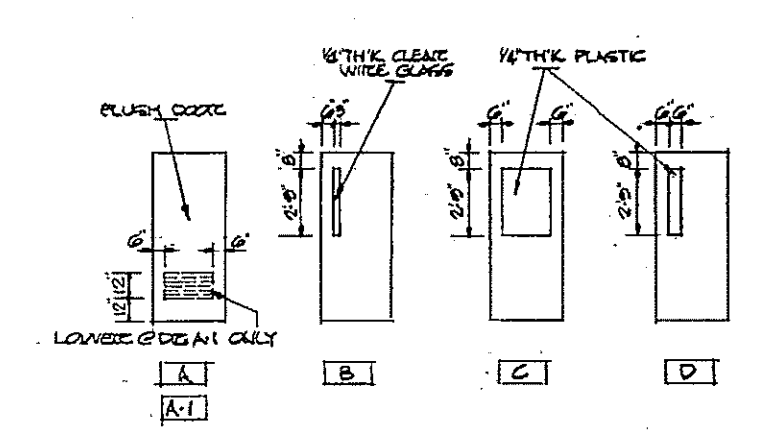
DES. E.T.W.	TR. GUC E.T.W.	FILE NO. JW-83
DR. D.A.S.		PLAN NO. 234

APPROVED *J. M. Cahaly*

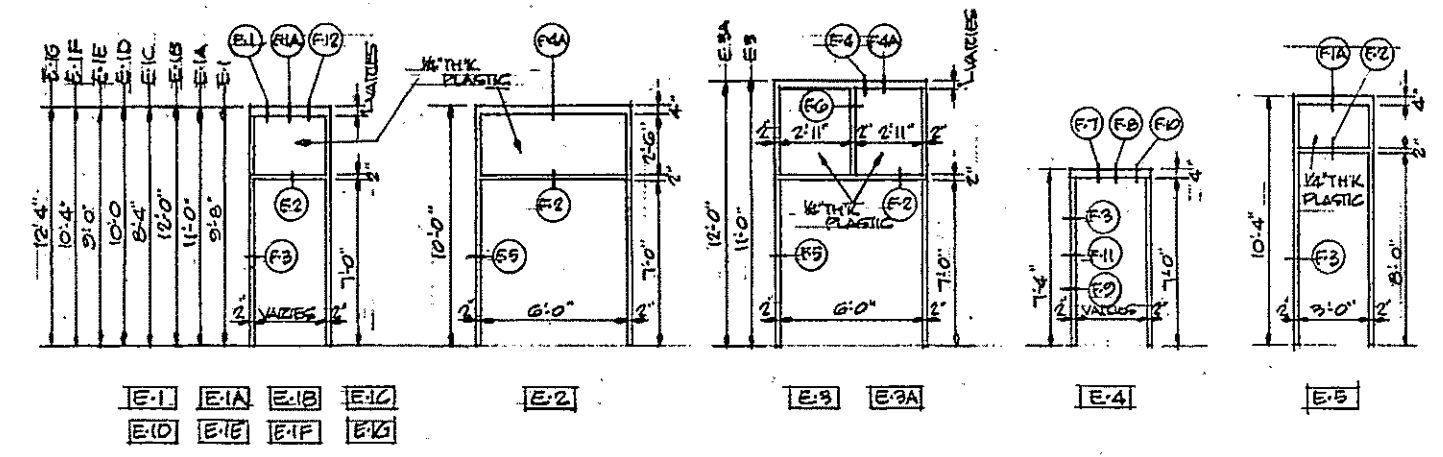
CONTRACT DRAWING SHEET NO. IN-6

BUILDING	DOOR SCHEDULE								REMARKS
	NO.	SIZE	TYPE	HDW	FRAME	HEAD	JAMB	GL	
IA - FACILITY TRAINS	101	3'0" x 7'0" x 1 1/2"	D	13	E-1	F-1, F-2	F-3	T-1	
	102	3'0" x 7'0" x 1 1/2"	D	13	E-1	F-1, F-2	F-3	T-1	
	103	3'0" x 7'0" x 1 1/2"	D	13	E-1	F-1, F-2	F-3	T-1	
	104	3'0" x 7'0" x 1 1/2"	A-1	13	E-1	F-1, F-2	F-3	T-1	
	105	2'2" x 7'0" x 1 1/2"	A	22	E-4	F-8	F-9, F-10		
IA SURFACE REGULATORY PUMPING STATION	101	(2) 3'0" x 7'0" x 1 1/2"	D	2	E-3A	F-2, F-4A	F-5	T-1	
	102	3'0" x 7'0" x 1 1/2"	D	13	E-1B	F-2, F-4A	F-3	T-1	
IA - CHEMICAL FACILITIES	101	(2) 2'6" x 7'0" x 1 1/2"	D	2	E-10	F-2, F-2	F-3	T-1	
	102	3'0" x 7'0" x 1 1/2"	D	13	E-10	F-2, F-2	F-3	T-1	
	103	3'0" x 7'0" x 1 1/2"	C	13	E-4	F-7	F-3	T-1	W/ RECESSED MET. HOOD
	104	3'0" x 7'0" x 1 1/2"	C	13	E-4	F-7	F-3	T-1	W/ RECESSED MET. HOOD
	105	SEE WALL SECT. 12A.2							ROLL-UP MET. D.C.
	106	SEE WALL SECT. 12A.2							ROLL-UP MET. D.C.
	107	SEE WALL SECT. 12A.2							ROLL-UP MET. D.C.
	108	SEE WALL SECT. 12A.2							ROLL-UP MET. D.C.
IA PLANT WAREHOUSE ELECTRICAL PUMPING STATION	101	(2) 3'0" x 7'0" x 1 1/2"	D	2	E-3	F-2, F-4	F-5	T-1	
	102	(2) 3'0" x 7'0" x 1 1/2"	D	2	E-3	F-2, F-4	F-5	T-1	
	103	3'0" x 7'0" x 1 1/2"	A	13	E-1A	F-2, F-1	F-3	T-1	
	104	3'0" x 7'0" x 1 1/2"	C	10	E-4	F-10	F-11		
	105	(2) 3'0" x 7'0" x 1 1/2"	A	15	E-4	F-10	F-11		
	106	2'6" x 7'0" x 1 1/2"	A	14	E-4	F-10	F-11	*	* MET. STRIP 1/2" x 1/4" ALUM.
IA SURFACE HOLDING TANKS	101	(2) 3'0" x 7'0" x 1 1/2"	D	2	E-2	F-2, F-4A	F-5	T-1	
	102	SEE WALL SECT. 12A.2							OVERHEAD MET. D.C.
	103	SEE WALL SECT. 12A.2							OVERHEAD MET. D.C.
	104	SEE WALL SECT. 12A.2							OVERHEAD MET. D.C.
	105	SEE WALL SECT. 12A.2							OVERHEAD MET. D.C.
	106	3'0" x 7'0" x 1 1/2"	C	1A	E-4	F-7	F-3	T-1	W/ RECESSED MET. HOOD
	107	3'0" x 7'0" x 1 1/2"	A	13	E-4	F-7	F-3	T-1	W/ RECESSED MET. HOOD
	108	3'0" x 7'0" x 1 1/2"	B	4B	E-4	F-10	F-11		B
	109	3'0" x 7'0" x 1 1/2"	C	4B	E-4	F-10	F-11		
	110	3'0" x 7'0" x 1 1/2"	A	4B	E-4	F-10	F-11		
	IA - MAINTENANCE BUILDING	201	SEE WALL SECT. 12A.2						
202		SEE WALL SECT. 12A.2							OVERHEAD MET. D.C.
203		SEE WALL SECT. 12A.2							OVERHEAD MET. D.C.
204		3'0" x 7'0" x 1 1/2"	D	1A	E-10	F-1A, F-2	F-3	T-1	
205		3'0" x 7'0" x 1 1/2"	C	4B	E-4	F-8	F-9		
206		3'0" x 7'0" x 1 1/2"	B	2A	E-4	F-8	F-9		B
207		3'0" x 7'0" x 1 1/2"	A	10	E-4	F-8	F-9	*	* METAL STRIP 1/2" x 1/4" ALUM.
208		2'6" x 7'0" x 1 1/2"	A	11A	E-4	F-8	F-9		
209		3'0" x 7'0" x 1 1/2"	C	4B	E-4	F-8	F-9		
IA - RESEARCH BUILDINGS	101	(2) 2'6" x 7'0" x 1 1/2"	D	2	E-1E	F-2, F-4A	F-3	T-1	
	102	3'0" x 7'0" x 1 1/2"	D	13	E-1E	F-2, F-4A	F-3	T-1	
IA SCREEN & GRET BLDG.	101	3'0" x 7'0" x 1 1/2"	C	10	E-10	F-2, F-1A	F-3	T-1	
	102	(2) 2'6" x 7'0" x 1 1/2"	D	24	E-1F	F-2, F-1A	F-3	T-1	
	103	3'6" x 7'0" x 1 1/2"	A	13	E-1F	F-2, F-1A	F-3	T-1	
	104	(2) 2'6" x 7'0" x 1 1/2"	D	23	E-1F	F-2, F-1A	F-3	T-1	
	105	3'0" x 8'0" x 1 1/2"	D	13	E-5	F-2, F-4	F-3	T-1	
	106	3'0" x 7'0" x 1 1/2"	C	10	E-1F	F-2, F-1A	F-3	T-1	
	107	SEE WALL SECT. 12A.2							ROLL-UP MET. D.C.

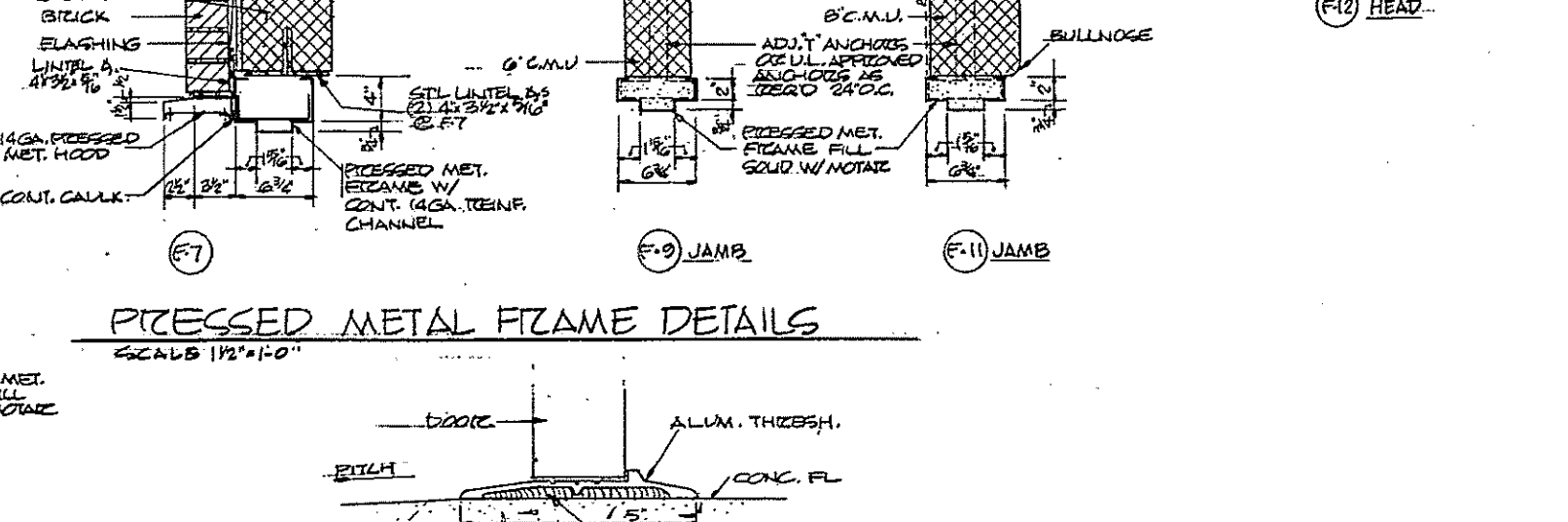
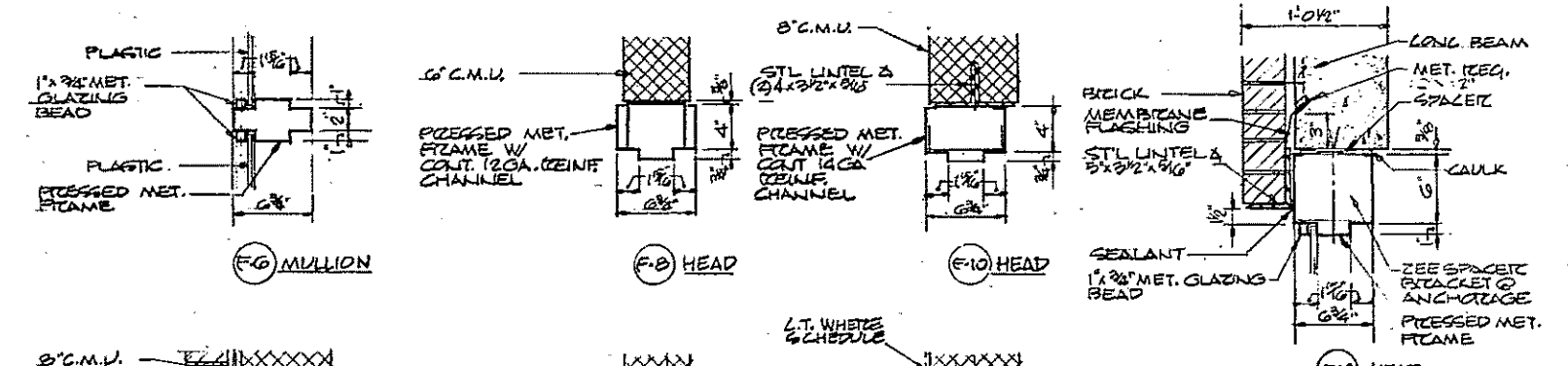
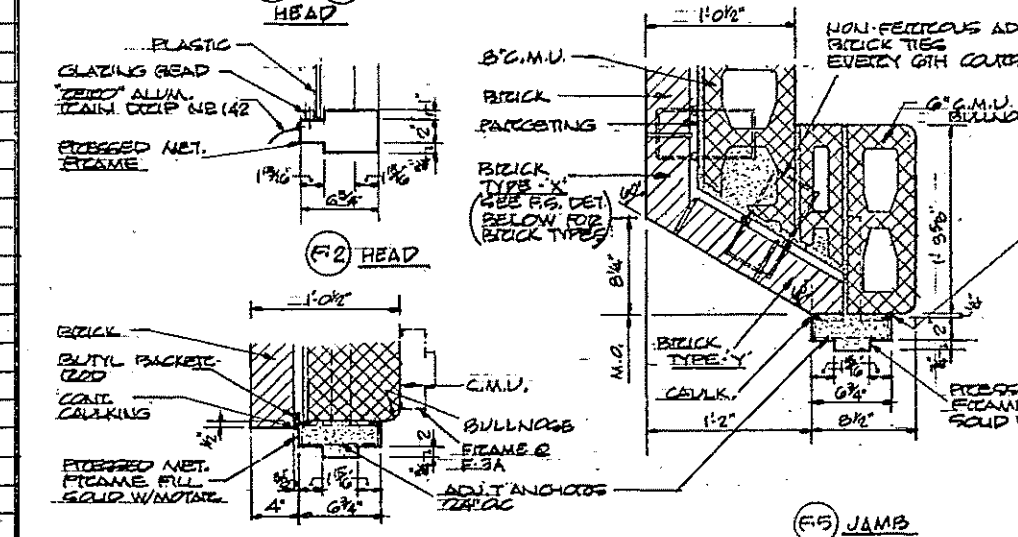
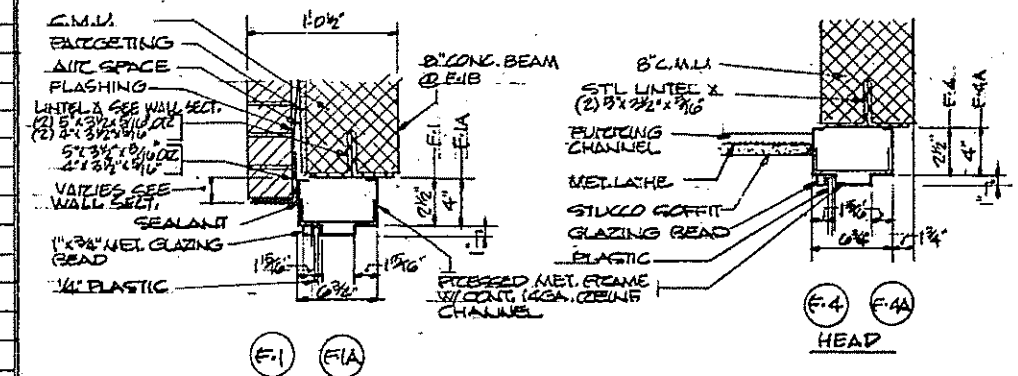
NOTES:
 1. FOR DOOR SCHEDULE - INCINERATOR COMPLEX SEE DWG. NO. 12A-6
 2. FOR DOOR SCHEDULE - ADMINISTRATION BLDG. SEE DWG. NO. 12A-3
 3. HANDWRITE NBS REFER TO SPECS.



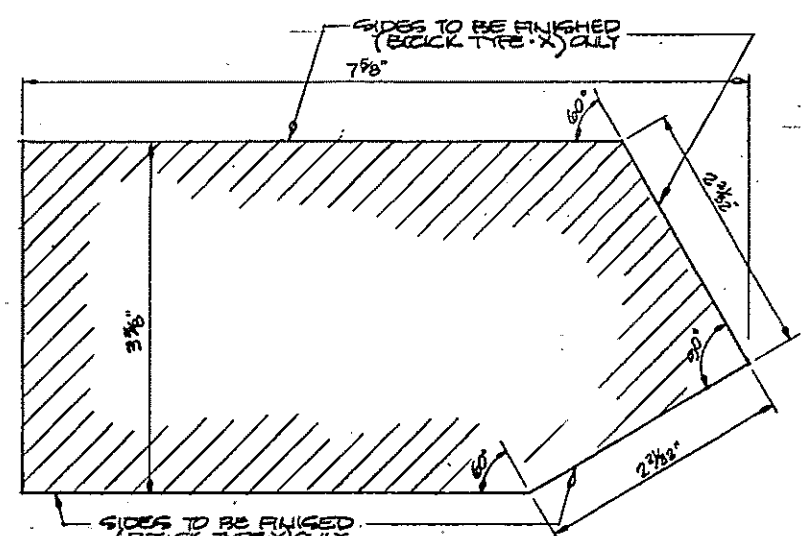
DOOR TYPES
 NOTE: ALL DOORS TO BE HOLLOW METAL



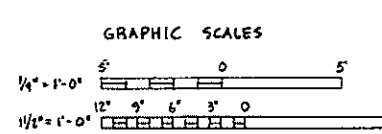
PRESSED METAL FRAMES
 SCALE 1/4" = 1'-0"



PRESSED METAL FRAME DETAILS
 SCALE 1/2" = 1'-0"



F.S. BRICK TYPE X & Y (SEE JAMB DET. F-3 DWG. 12A-6 WIND. DET. 4, 4A & 4B DWG. 12A-7)



REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 TYPICAL DETAILS
 ARCHITECTURAL
 DOOR SCHEDULE AND DETAILS

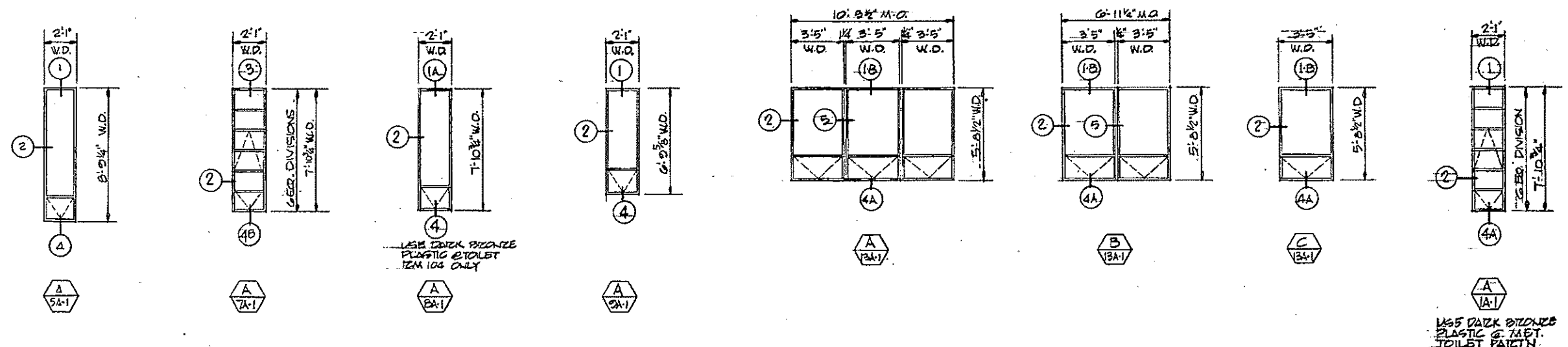
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.

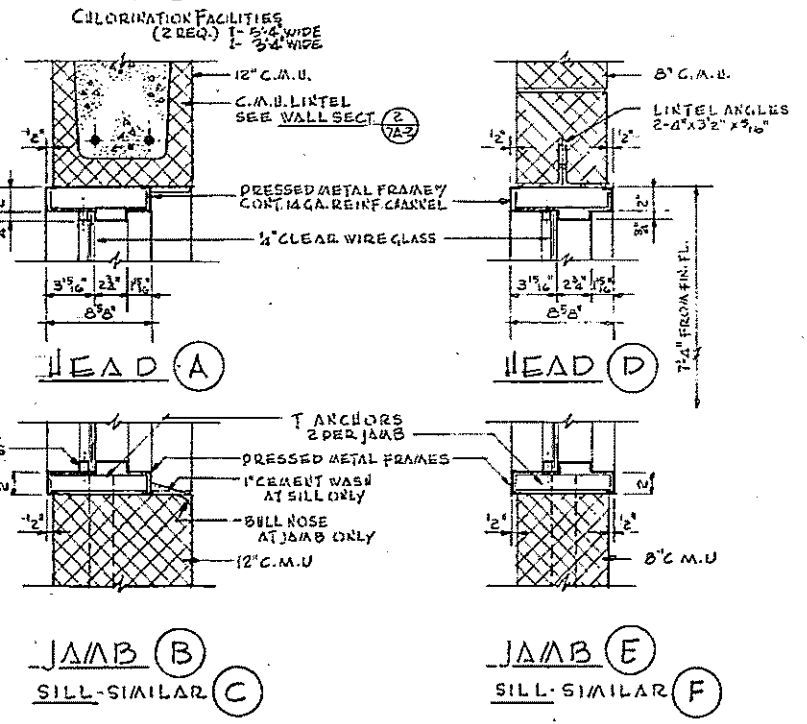
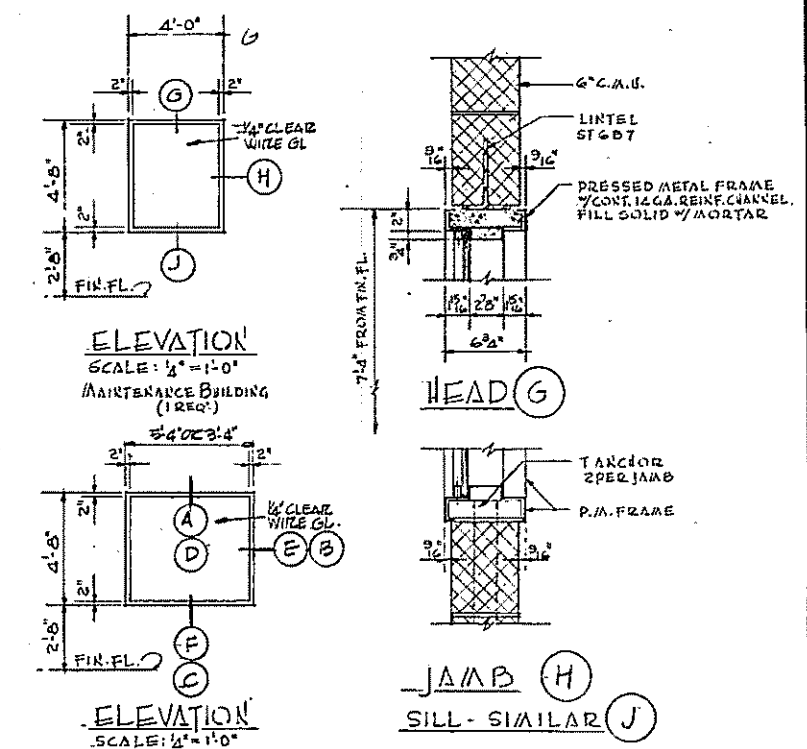
DES. M.C. DR. F.S. APP. M. CAHALY

APPROVED *M. Cahaly* 235

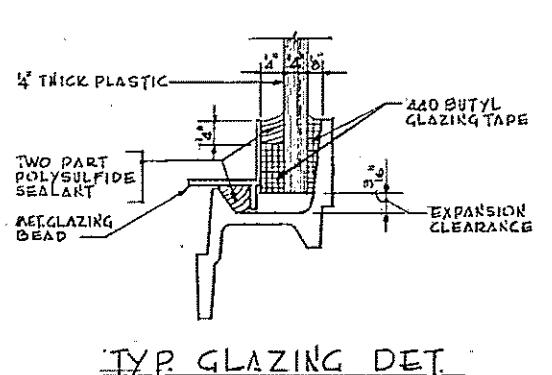
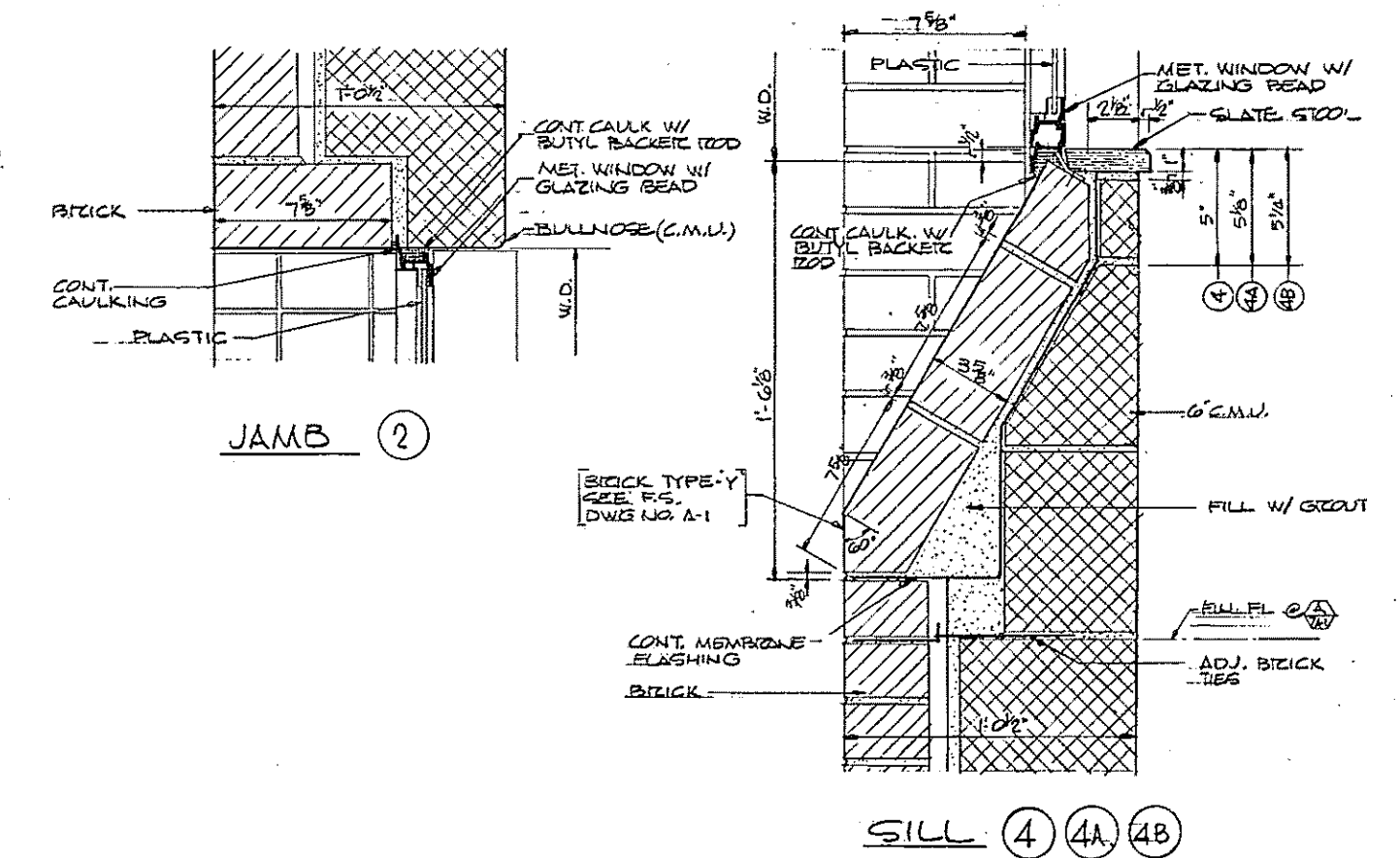
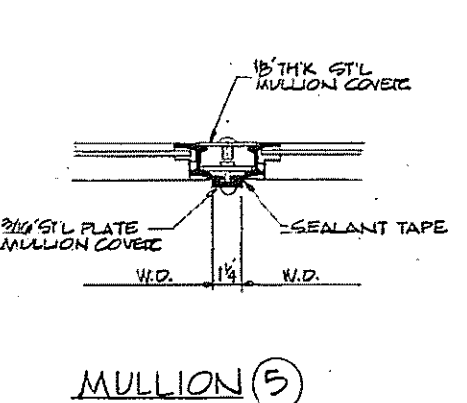
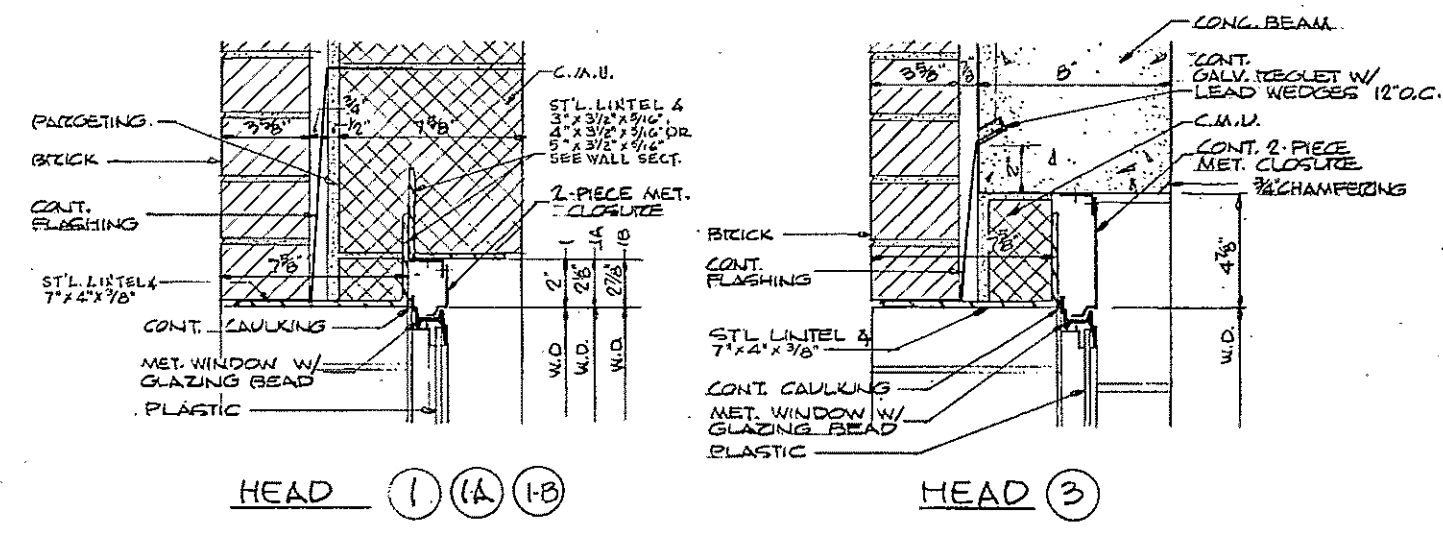
CONTRACT DRAWING SHEET NO. A-1



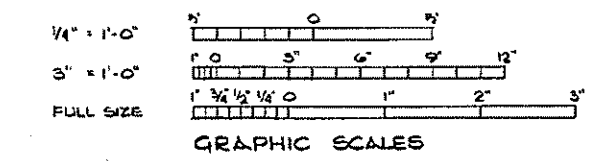
WINDOW TYPES SCALE 1/4" = 1'-0"



VISION PANEL DETAILS SCALE: 1/2" = 1'-0"



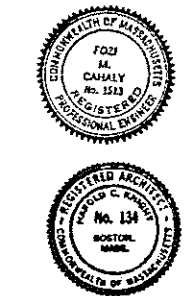
NOTES:
 1. ALL DET. UNLESS OTHERWISE NOTED ARE DRAWN TO SCALE 3" = 1'-0"
 2. ALL WINDOWS TO BE STEEL & GLAZED WITH 1/4" THICK PLASTIC
 3. FOR WINDOW SCHEDULE - INCORPORATE COMPLEX SEE DWG. NO. 12A-3
 4. FOR WINDOW SCHEDULE - ADMINISTRATION BLDG. SEE DWG. NO. 12A-3



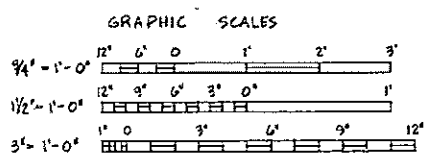
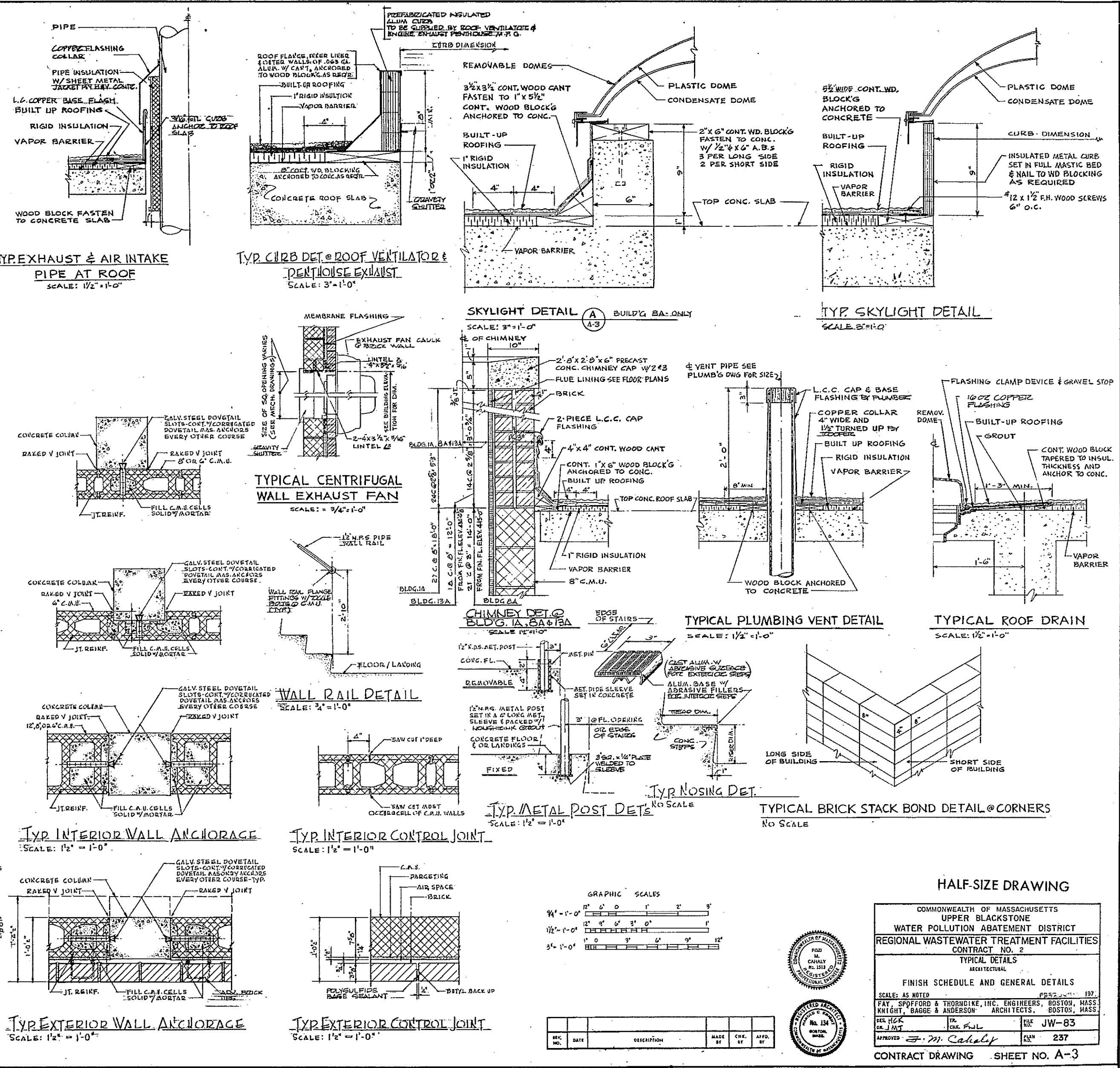
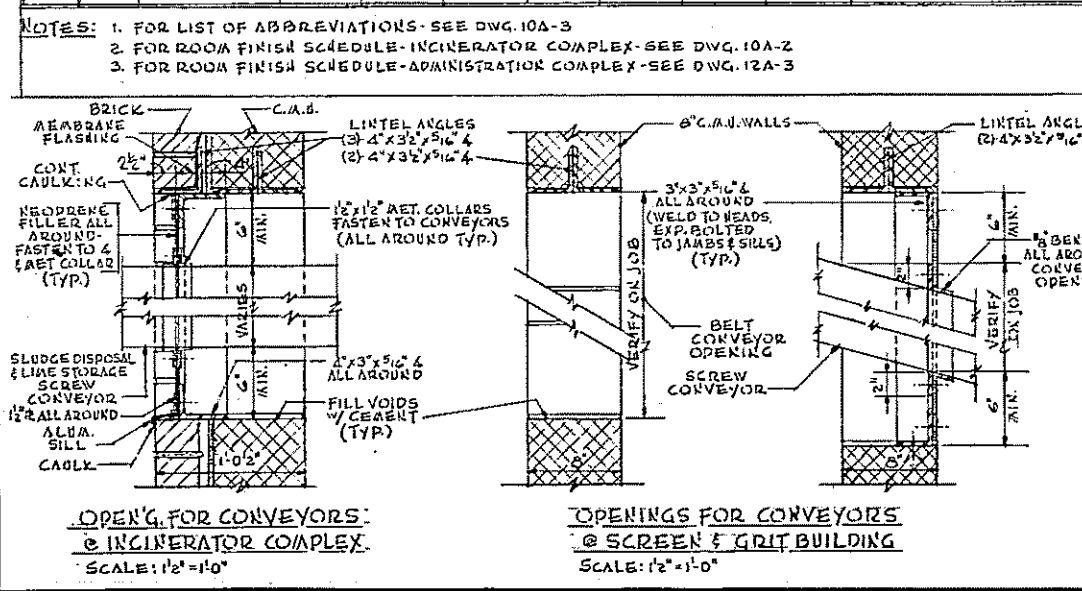
REV. NO.	DATE	DESCRIPTION	MADE BY	CHECK BY	APP'D BY

HALF-SIZE DRAWING

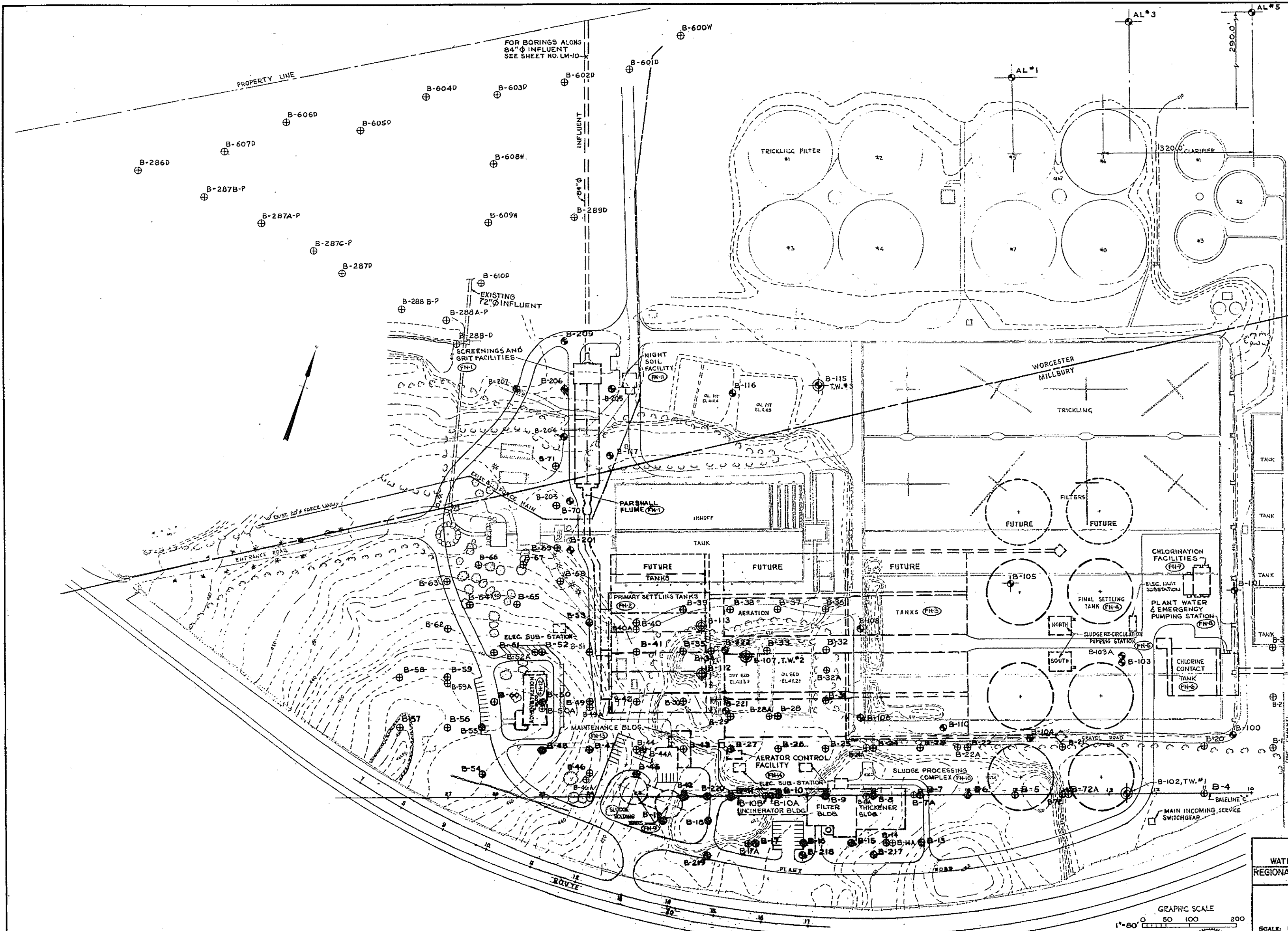
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 TYPICAL DETAILS
 ARCHITECTURAL
 WINDOW SCHEDULE AND DETAILS
 SCALE: AS NOTED
 FEBRUARY 1977
 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
 KNIGHT, BAGGE & ANDERSON, ARCHITECTS, BOSTON, MASS.
 DES. BY PNL
 DR. BY PNL
 CHECKED BY PNL
 APPROVED BY M. Cahill
 DRAWING NO. JW-83
 SHEET NO. 236
 CONTRACT DRAWING SHEET NO. A-2



BLDG.	ROOM FINISH SCHEDULE							REMARKS
	RA-NO	DESIGNATION	FLOOR	WALLS	PAINT	WAINSCOT	BASE	
2A-PRIMARY SETTLING TANKS	B-01	BASMENT (K.BUILD)	CRAND. ALL COLOR	CONCRETE			EXPO. CONC.	
	B-02	BASMENT (K.BUILD)	CRAND. ALL COLOR	CONCRETE			EXPO. CONC.	
	101	FIRST FL. (S.BUILD)	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
	102	MED. RA. (S.BUILD)	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
2B-SLUDGE PLUMBING STAIRS	B-01	BASMENT	CRAND. ALL COLOR	CONCRETE			EXPO. CONC.	
	101	FIRST FLOOR	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
	B-01	BASMENT AREA	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	101	SCALE 12A	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
7A-CLORINATION FACILITIES	101	CLORINATOR RA.	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
	102	CONTROL ROOM	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
	103	CONTROL ROOM	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
	104	TOILET	C.T.	C.A.U.			EXPO. CONC.	
8A-PLANT WATER PUMPING STAIRS	B-01	PLATFORM	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	B-02	PUMP ROOM	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	101	CONTROL ROOM	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
	102	CONTROL ROOM	CRAND. ALL COLOR	C.A.U.			EXPO. CONC.	
9A-SLUDGE HOLDING TANK	B-01	BASMENT	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	101	FIRST FLOOR	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	101	MACHINE SHOP	M.A.	CONCRETE			EXPO. CONC.	WIRE MESH PARTN'Y SLIDING GATE-NORTH WALL
	102	REPAIR	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
13A-MAINTENANCE BUILDING	103	GARAGE	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	104	PAINT SHOP	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	105	STORAGE BIN	M.A.	WIRE MESH			EXPO. CONC.	PLASTER SOFFIT UNDER STAIRS & LANDING
	106	MECHANICAL RA.	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	107	STAIR	V.A.T./A.S.	C.A.U.			RUBBER	GRAND FILLED TREADS ENTER AREBATE LANDING
	201	OFFICE	V.A.T.	C.A.U.			RUBBER	A.T. 8'-6"
	202	CORRIDOR	V.A.T.	C.A.U.			RUBBER	A.T. 8'-6"
	203	LOCKER ROOM	C.T.	C.A.U.			C.T.	A.T. 8'-6"
	204	TOILET	C.T.	C.A.U.			C.T.	A.T. 8'-6"
	205	SHOWER	C.T.	C.T.			C.T.	PLASTER 8'-6"
14-AERATOR BUILDING	101	FIRST FLOOR	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	101	LOADING AREA	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	102	SCREEN ROOM	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	103	BOILER ROOM	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
SCREEN AND GRIT BUILDING	104	BLOWER ROOM	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	105	ELECTRIC ROOM	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	
	106	DRAIN PIP ROOM	RYTHMER CONCRETE	CONCRETE			EXPO. CONC.	



COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
TYPICAL DETAILS
ARCHITECTURAL
FINISH SCHEDULE AND GENERAL DETAILS
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MASS.
KNIGHT, BAGGE & ANDERSON ARCHITECTS, BOSTON, MASS.
REV. H.C.K. DATE: 1/11/57
APPROVED: M. Cahaly
CONTRACT DRAWING SHEET NO. A-3

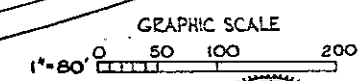


NOTE:
 CONTOUR INTERVAL IS 2 FEET
 BORING NUMBERS B-1 TO B-72A
 TAKEN NOVEMBER TO
 DECEMBER 1970. B-100 TO
 B-117 TAKEN MARCH TO APRIL
 1971. B-201 TO B-222 TAKEN
 NOVEMBER TO DECEMBER 1971.
 B-1 TO B-8 TAKEN MAY 1972
 BORINGS 284 THRU 289 TAKEN
 JAN. 1970
 BORINGS B-600 TO B-603 TAKEN
 MAY 1970

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

BORING LOCATION PLAN

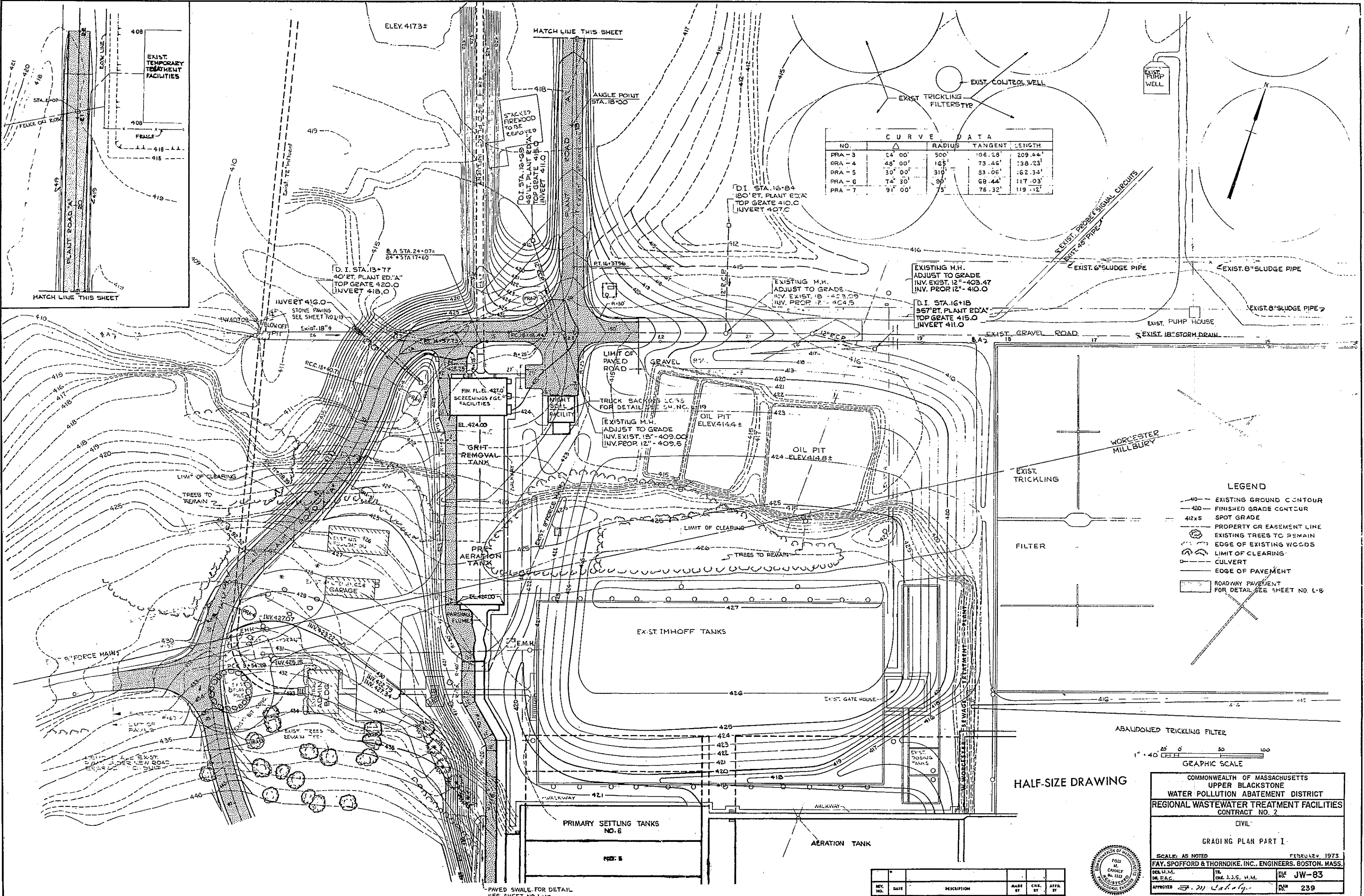


SCALE: 1" = 80'
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. G.N.C. (R. D.J.M.)
 DR. W.J.D. (CH. J.S. G.H.C.)
 APPROVED: *F. W. Cahaly* (R. W.)
 SHEET NO. 238

REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



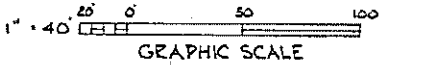
CONTRACT DRAWING SHEET NO. L-1



CURVE DATA

NO.	Δ	RADIUS	TANGENT	LENGTH
PRA-3	24° 00'	500'	106.28'	209.44'
PRA-4	48° 00'	165'	73.46'	138.23'
PRA-5	30° 00'	310'	83.06'	162.34'
PRA-6	14° 30'	90'	68.44'	117.03'
PRA-7	91° 00'	75'	76.32'	119.12'

- LEGEND
- 40 - EXISTING GROUND CONTOUR
 - 420 - FINISHED GRADE CONTOUR
 - 412x5 - SPOT GRADE
 - - - - - PROPERTY OR EASEMENT LINE
 - ⊙ - EXISTING TREES TO REMAIN
 - ⊙ - EDGE OF EXISTING WOODS
 - - - - - LIMIT OF CLEARING
 - ⊖ - CULVERT
 - — — — — EDGE OF PAVEMENT
 - ▨ - ROADWAY PAVEMENT FOR DETAIL SEE SHEET NO. L-8



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2

CIVIL

GRADING PLAN PART I

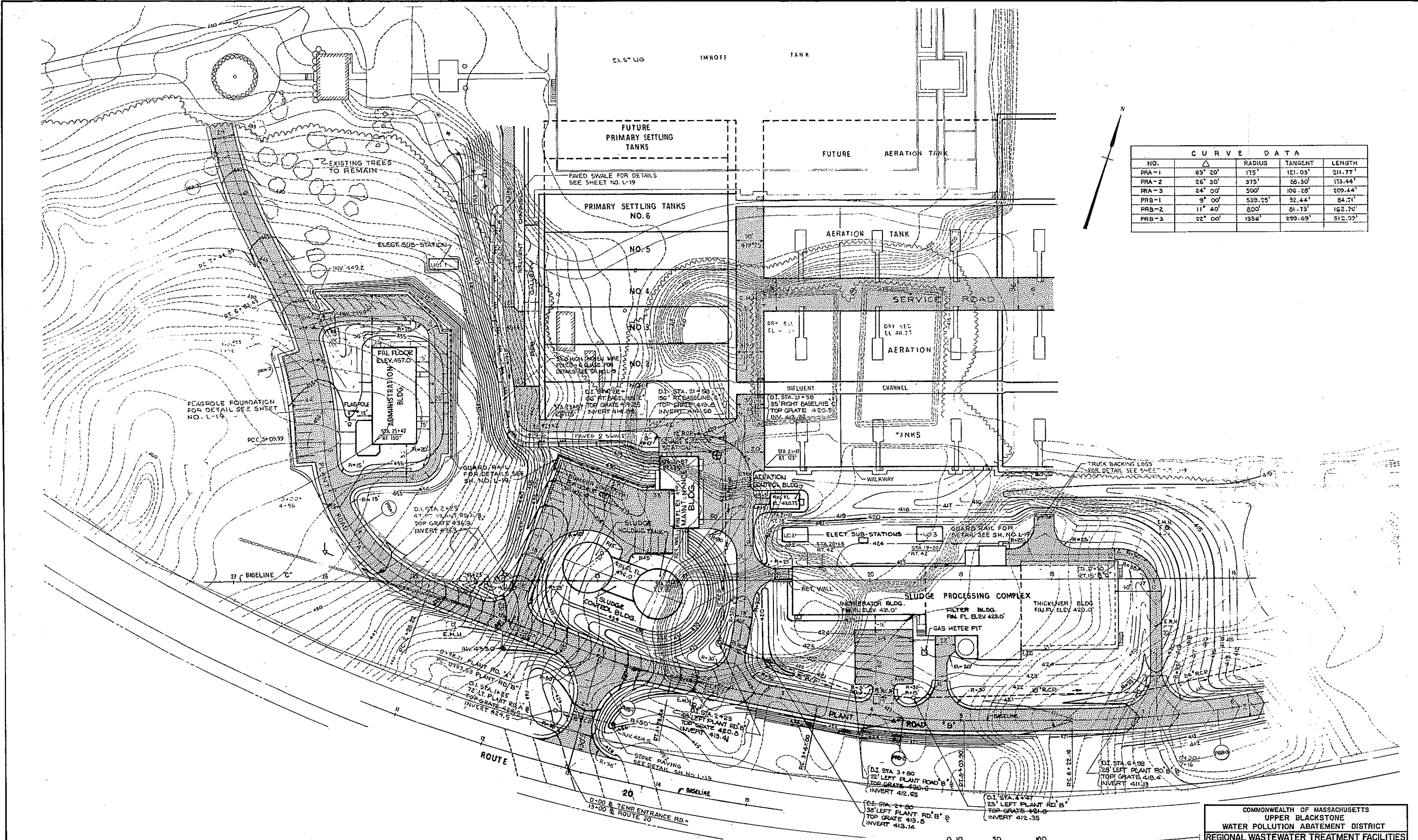
SCALE: AS NOTED FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. H.M.	TR. CHG. J.J.S., H.M.	DWG. JW-83
DR. P.A.C.		REV. 239

APPROVED: *F.W. Cahaly*

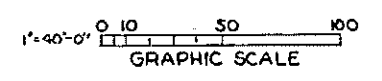
REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY





CURVE DATA				
NO.	Δ	RADIUS	TANGENT	LENGTH
PRA-1	69° 20'	175'	121.03'	211.77'
PRA-2	26° 30'	375'	58.30'	173.44'
PRA-3	24° 00'	500'	106.28'	209.44'
PRB-1	9° 00'	539.25'	92.44'	84.71'
PRB-2	11° 40'	200'	81.73'	162.20'
PRB-3	22° 00'	1336'	299.69'	512.09'

NOTE: FOR LEGEND SEE SHEET NO. L-2



HALF-SIZE DRAWING

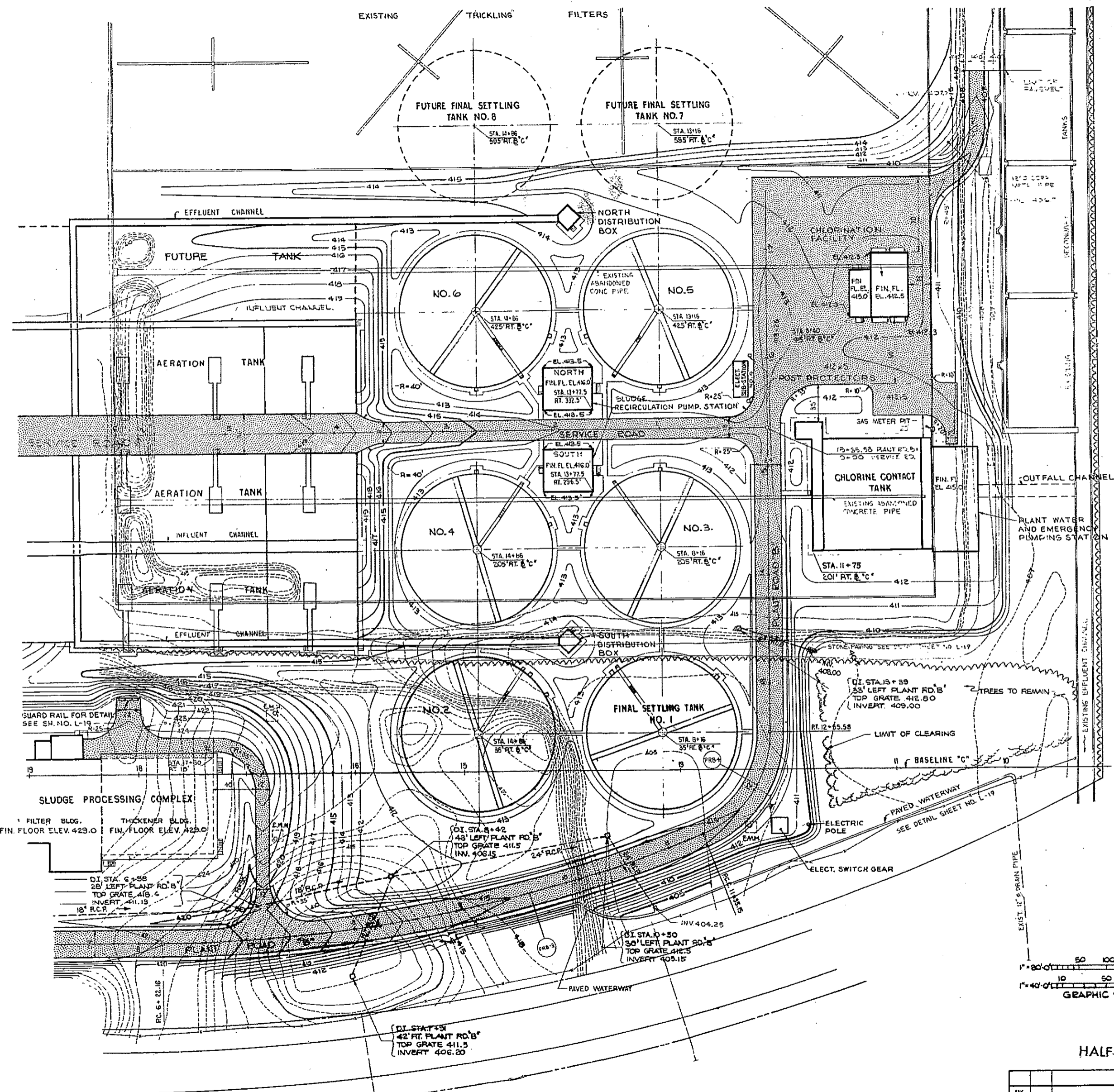
REV.	DATE	DESCRIPTION	MADE BY	CHECK BY	APPR. BY



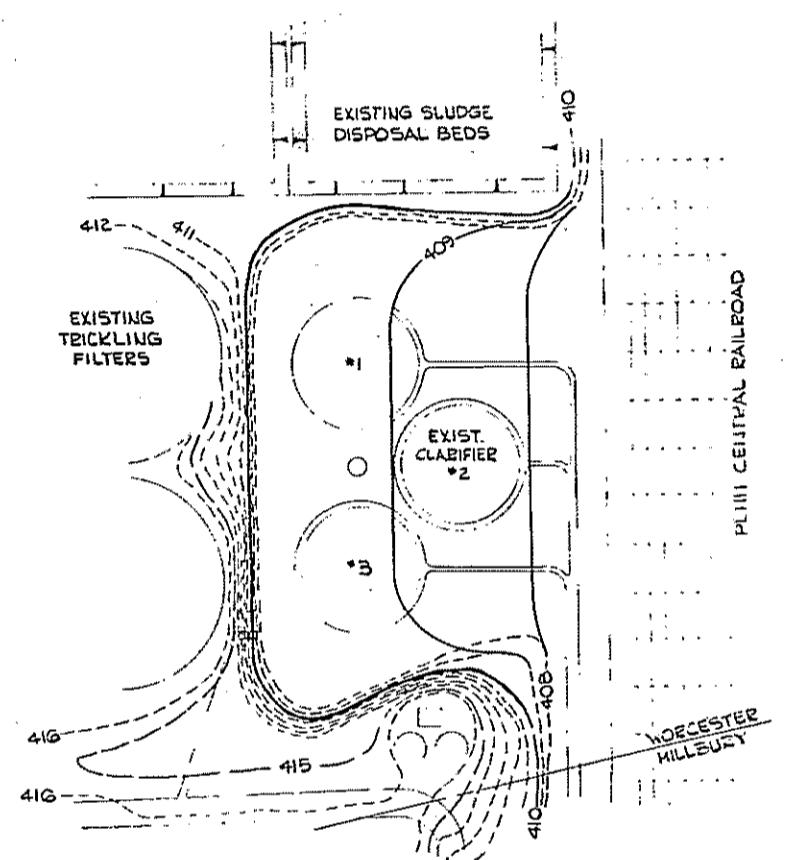
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL
 GRADING PLAN PART II

SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DESIGNED BY: J.M.C. DRAWN BY: J.J.S. CHECKED BY: J.J.S. PROJECT NO.: JW-83
 APPROVED: J.M. Cahaly DATE: JAN 24 1973

CONTRACT DRAWING SHEET NO. L-3

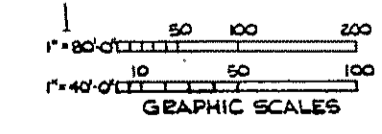


CURVE DATA				
NO.	Δ	RADIUS	TANGENT	LENGTH
PRB - 3	22° 00'	1336'	259.69'	512.99'
PRB - 4	68° 00'	100'	67.45'	120.43'



PART PLAN - CLARIFIERS
SCALE: 1" = 80'-0"

FOR LEGEND SEE SHEET NO. L-2



HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

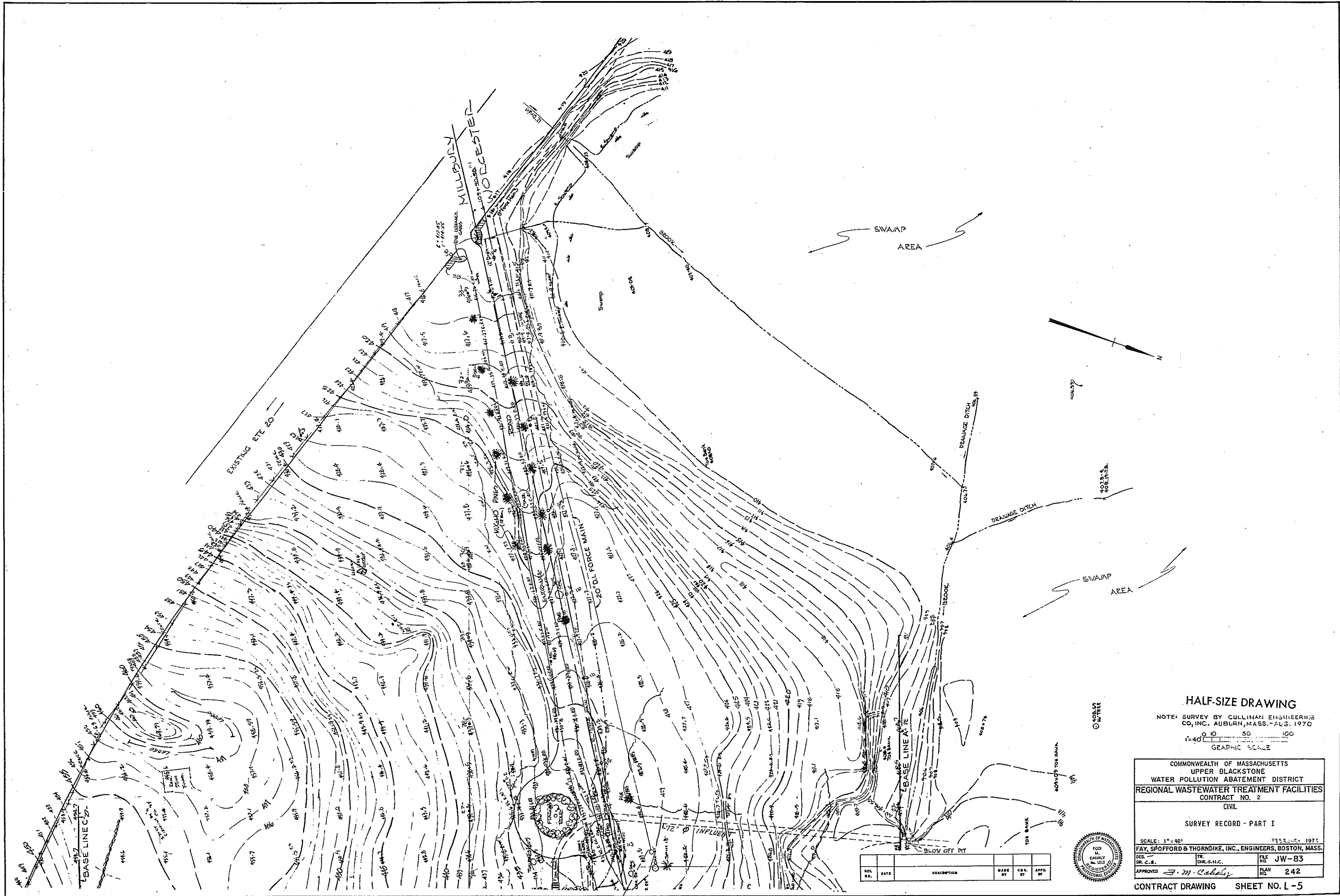


COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

GRADING PLAN PART III

SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. BY: J.J.S. DR. P.E.C. CHK. BY: J.J.S. DATE: JW-83
 APPROVED: J.M. Cady PLM NO. 241

CONTRACT DRAWING SHEET NO. L-4



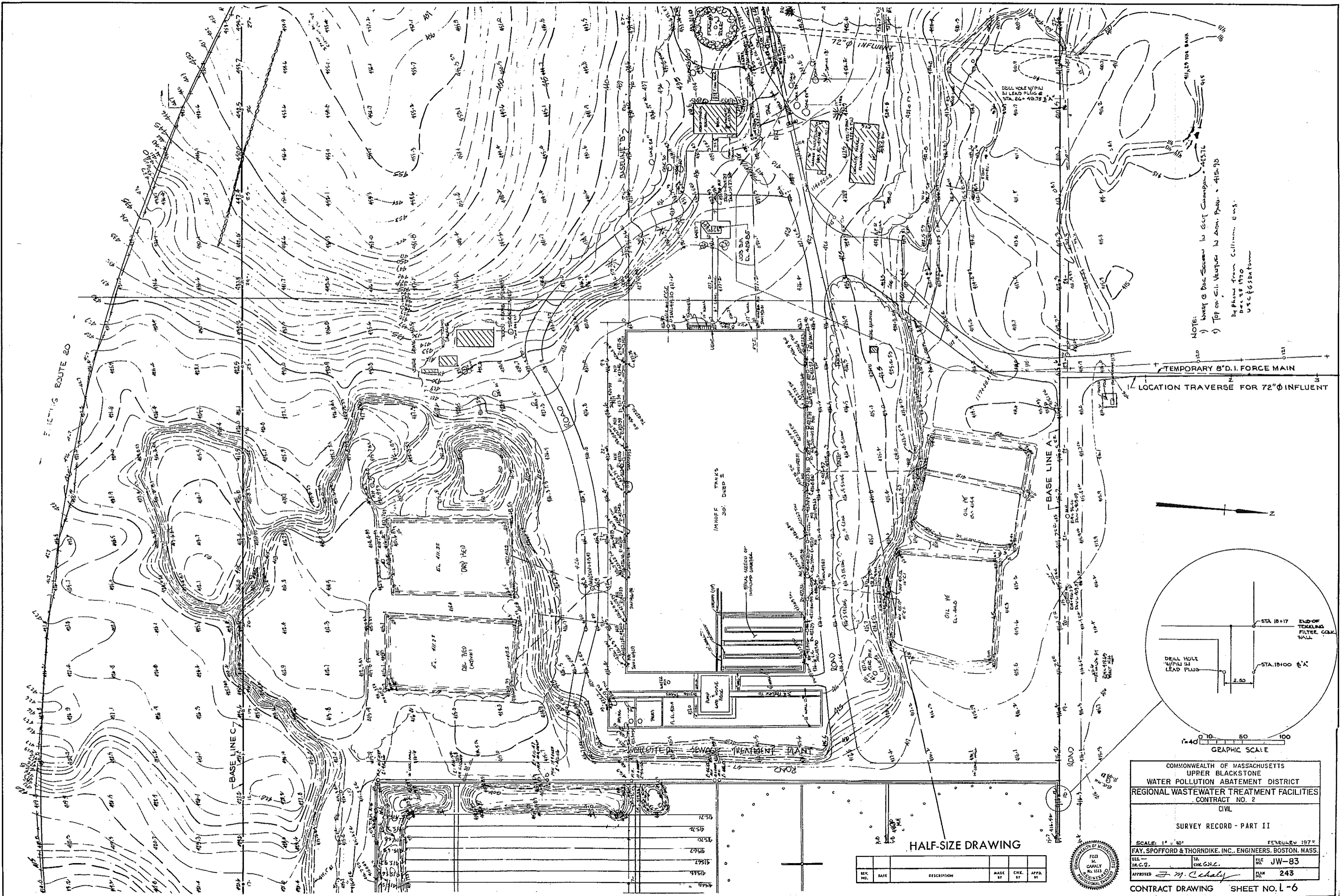
HALF-SIZE DRAWING

NOTE: SURVEY BY CULLINAN ENGINEERING CO., INC., AUBURN, MASS. - JULY, 1970
 1"=40'
 GRAPHIC SCALE

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2			
CIVIL			
SURVEY RECORD - PART I			
SCALE: 1"=40'		REVISION: 1977	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. BY DR. C.B.	TR. CHG. G.H.C.	FILE NO. JW-83	PLAN NO. 242
APPROVED: <i>J. M. Cahaly</i>			

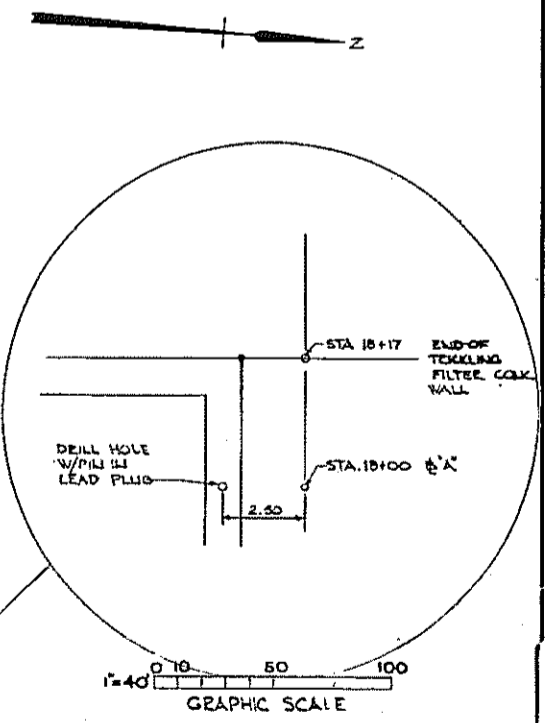


REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY



NOTE:
 1) Street & Box Section in East Cambridge - 415.76
 2) Top of City Vertical in Adm. Bldg. - 415.93
 (By Phone from Collinsville, Eng.)
 Date 10/17/70
 U.S.C.G. Station

TEMPORARY 8" D.I. FORCE MAIN
 LOCATION TRAVERSE FOR 72" INFLUENT



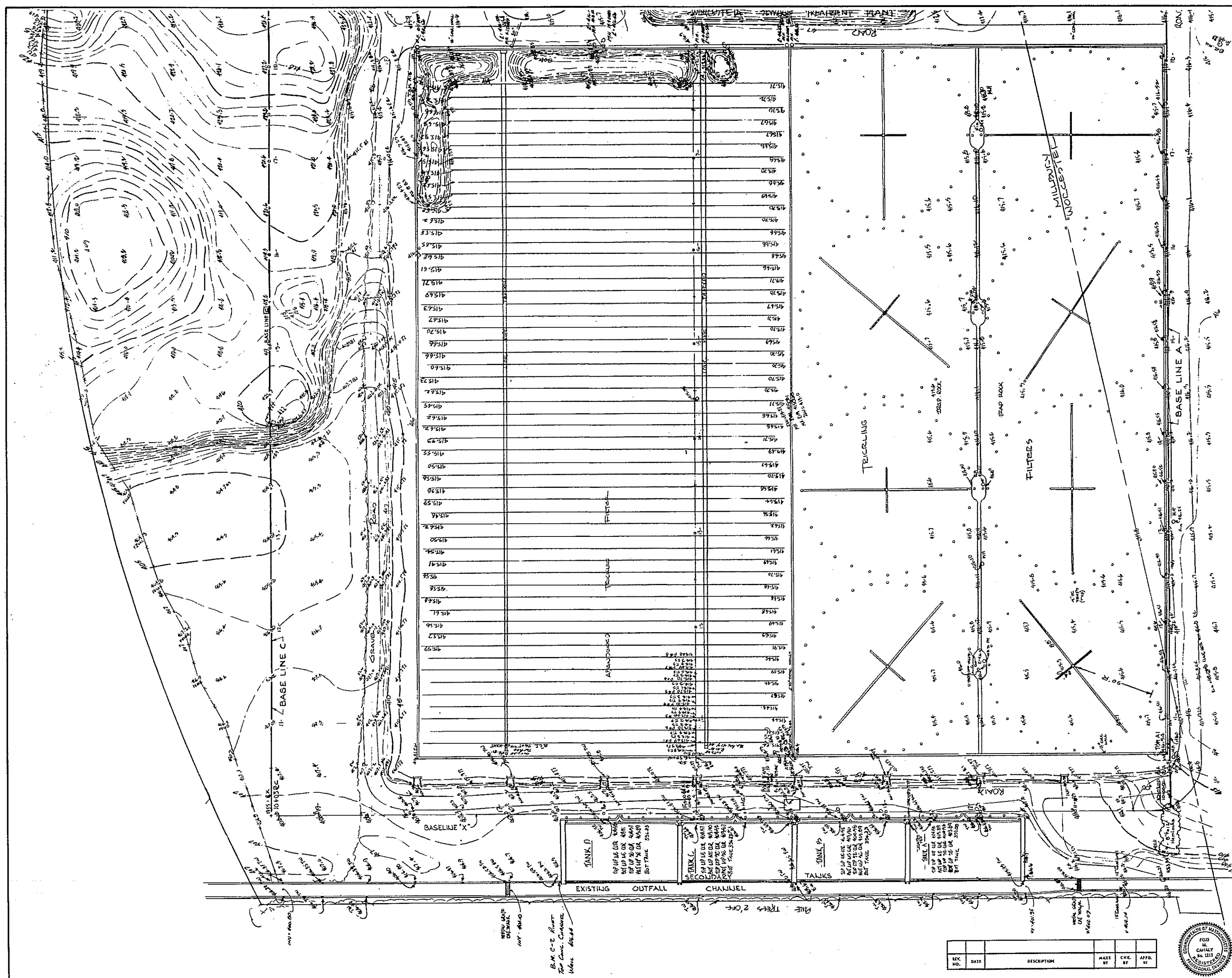
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL
 SURVEY RECORD - PART II
 SCALE: 1" = 40' FEBRUARY 1970
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. C. G. CHASE, JR. CHIEF ENGINEER
 APPROVED *J. M. Cahaly* ENGINEER
 FILE NO. JW-83
 SHEET NO. 243
 CONTRACT DRAWING SHEET NO. L-6

HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



415.71
415.72
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HALF-SIZE DRAWING

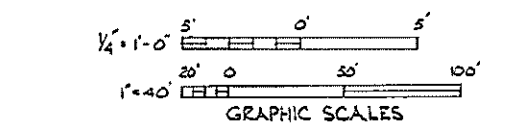
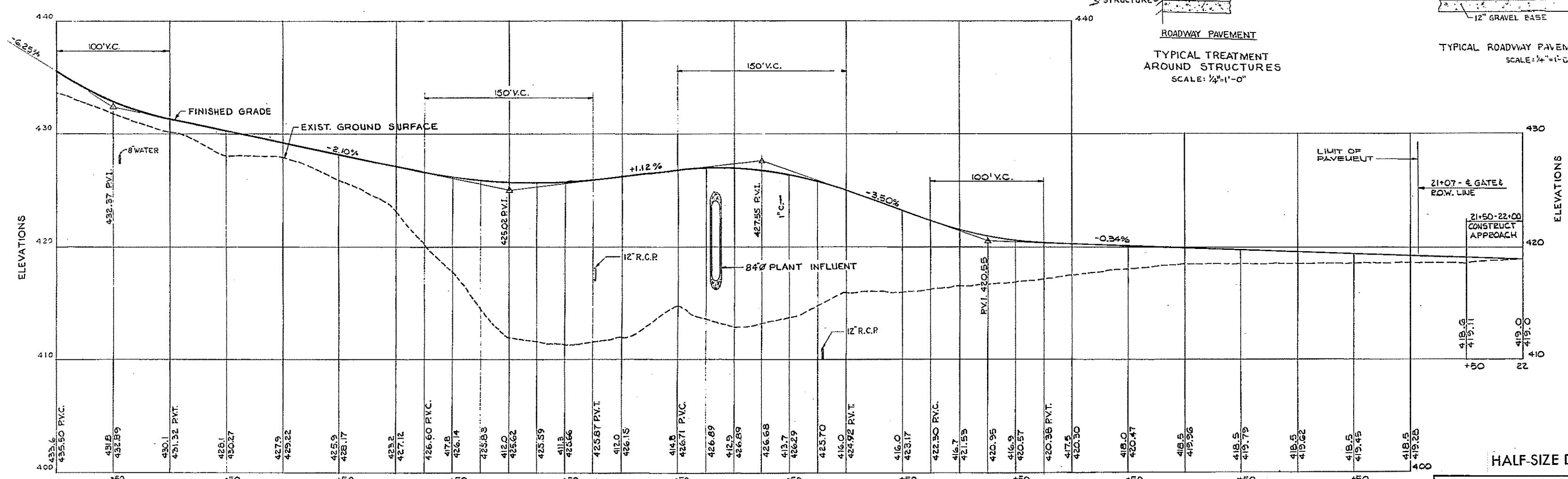
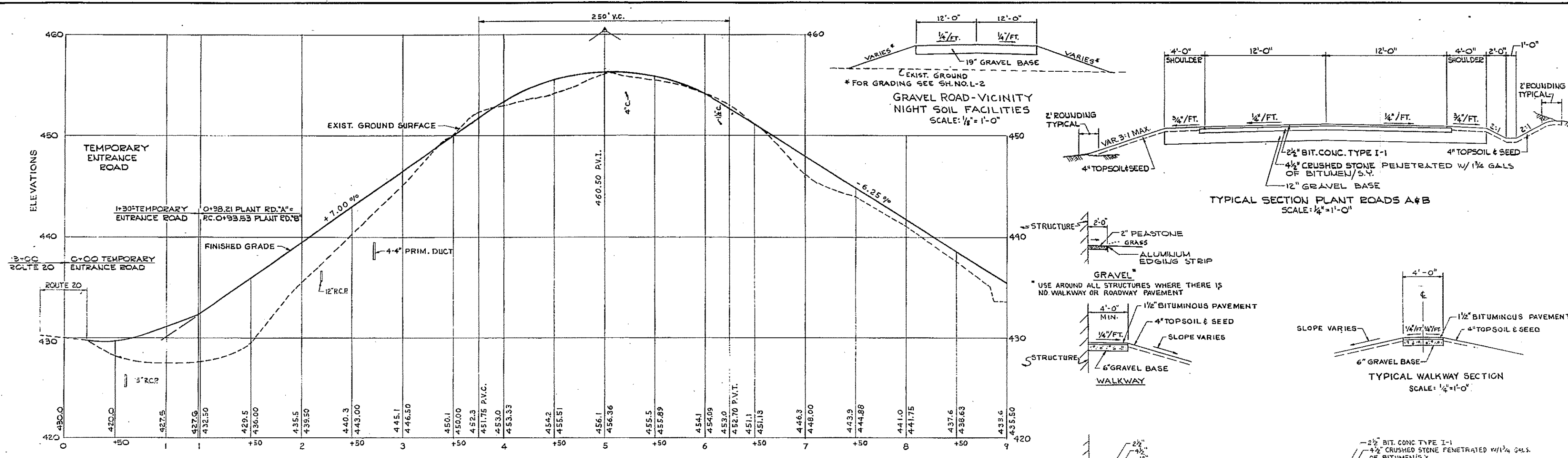
1"=40' 0 10 20 30 40 50 60 70 80 90 100

GRAPHIC SCALE

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2			
CIVIL			
SURVEY RECORD - PART III			
SCALE: 1" = 50'		REVISED: FEBRUARY 1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
BY: DR. C. B.	BY: G. G. N. C.	DATE: JULY 83	NO. JW-83
APPROVED: <i>J. M. Cahaly</i>		DATE: 244	
CONTRACT DRAWING		SHEET NO. L-7	

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY





REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2

CIVIL
PROFILE - PLANT ROAD A,
TEMPORARY ENTRANCE ROAD
AND TYPICAL SECTIONS

SCALE: AS NOTED
FEBRUARY 197

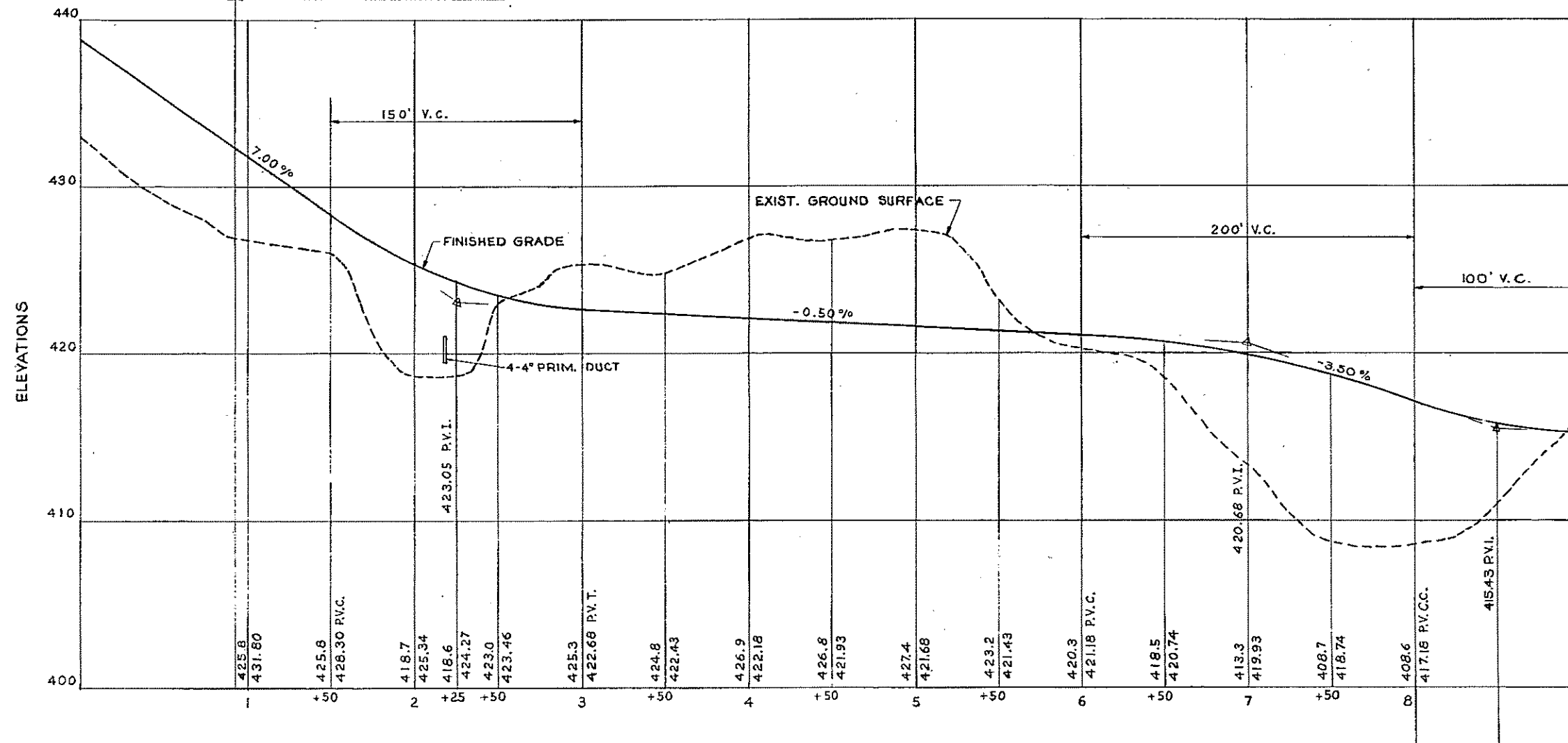
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. H.M.
CHK. J.J.S. H.M.
FILE NO. JW-83

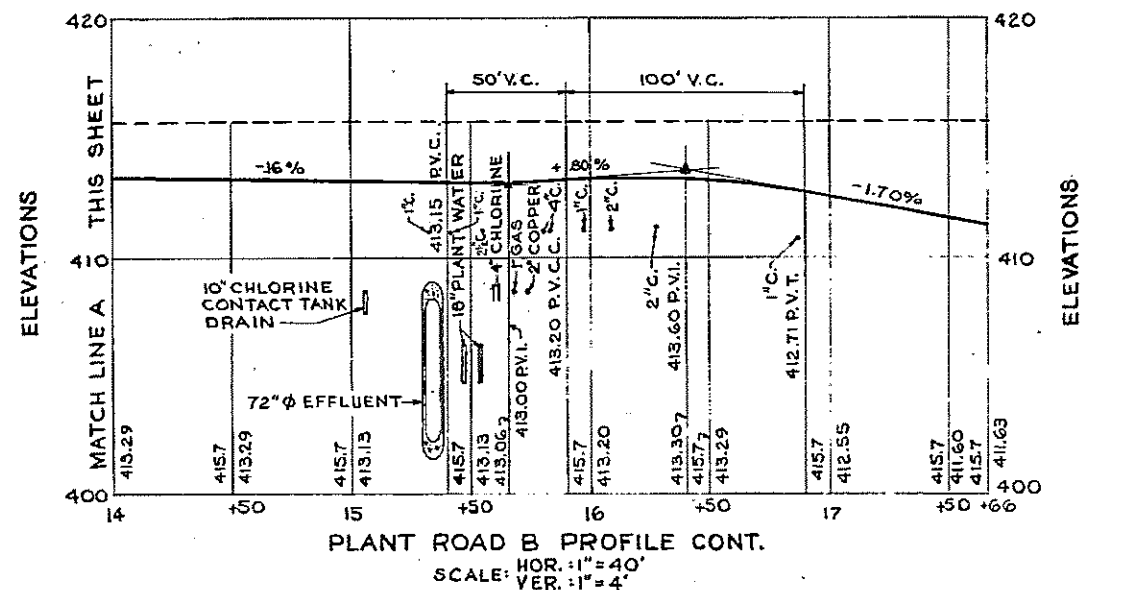
APPROVED *M. Cahaly*
PLAN NO. 245

CONTRACT DRAWING SHEET NO. 1-8

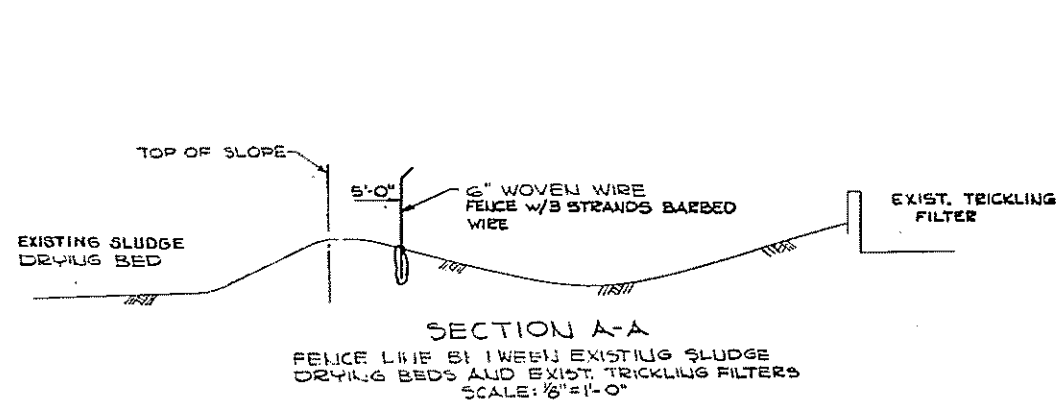
EQUATION
 0+98.21 PLANT ROAD A BACK = 0+93.53 PLANT ROAD B AHEAD



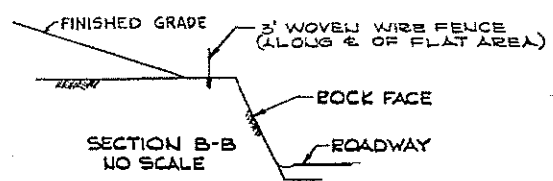
PLANT ROAD B PROFILE
 SCALE: HOR. 1"=40'
 VERT. 1"=4'



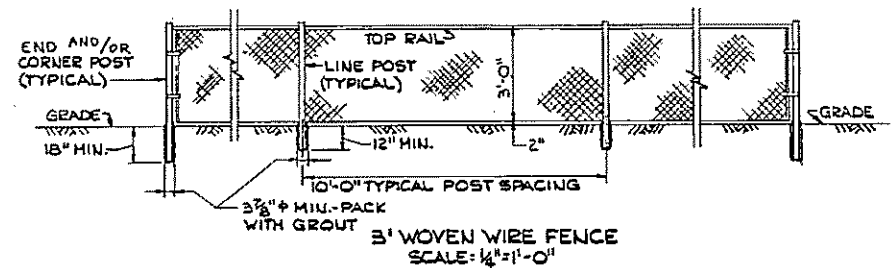
PLANT ROAD B PROFILE CONT.
 HOR. 1"=40'
 VER. 1"=4'



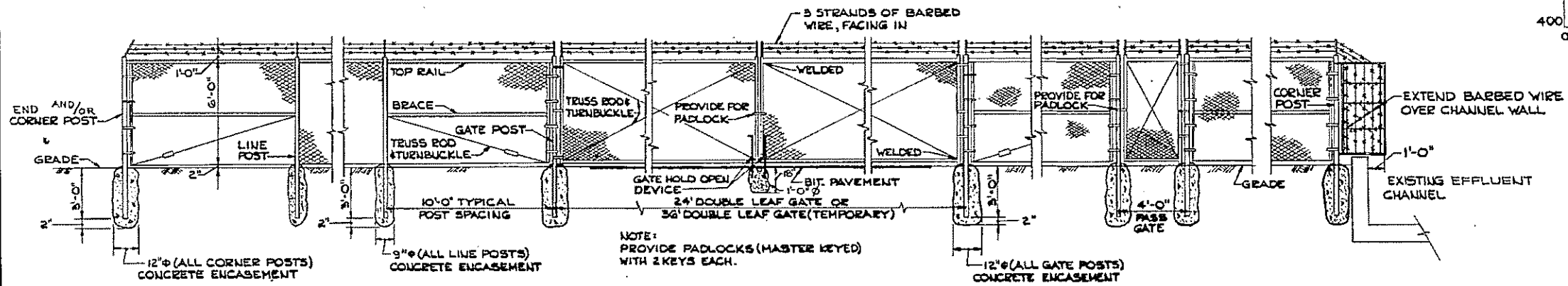
SECTION A-A
 FENCE LINE 5' W/3 EXISTING SLUDGE DRYING BEDS AND EXIST. TRICKLING FILTERS
 SCALE: 1/2"=1'-0"



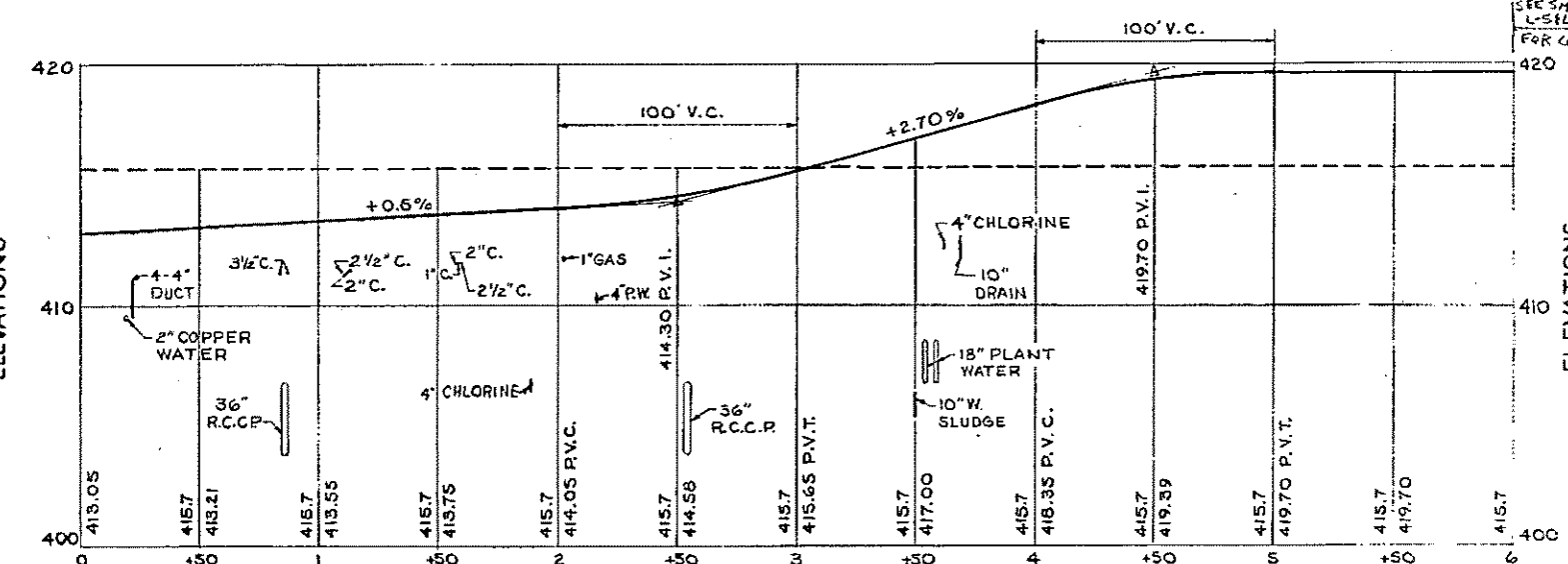
SECTION B-B
 NO SCALE



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

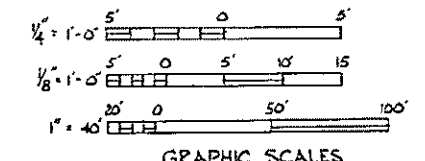


NOTE: SEE 3' WOVEN WIRE FENCE DETAILS FOR POSTS EMBEDDED IN ROCK
 6' WOVEN WIRE FENCE
 NOTE: PROVIDE PADLOCKS (MASTER KEYS) WITH 2 KEYS EACH.



SERVICE ROAD PROFILE
 SCALE: HOR. 1"=40'
 VER. 1"=4'

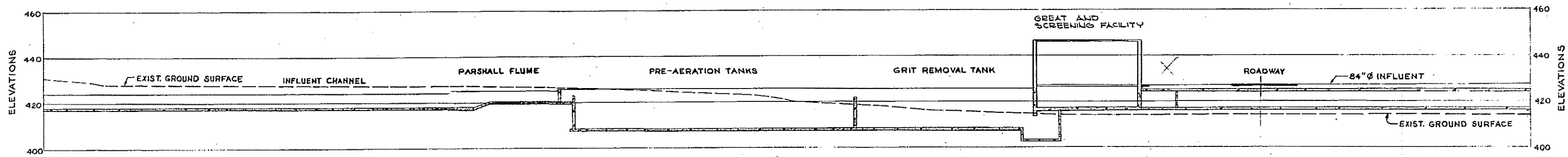
HALF-SIZE DRAWING



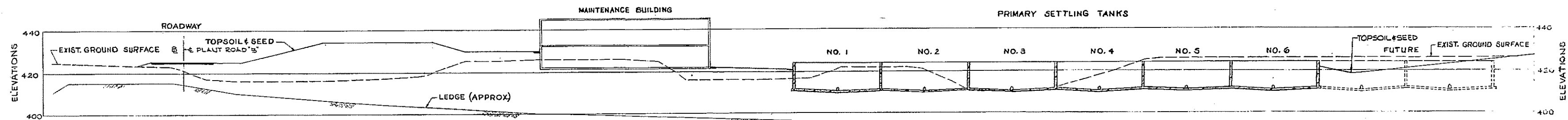
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY



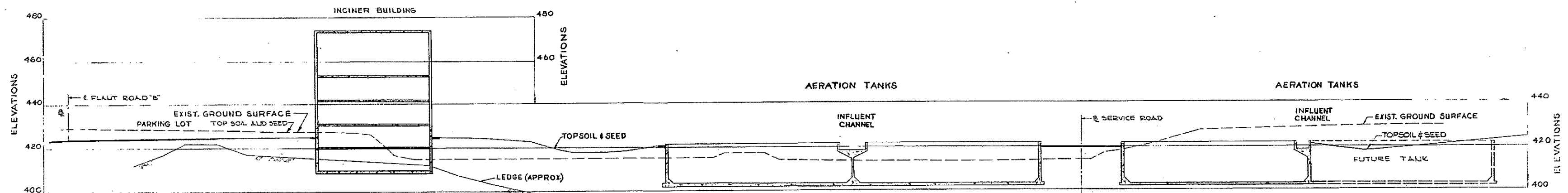
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL
 PROFILE - PLANT ROAD B,
 SERVICE ROAD AND
 FENCING DETAILS
 SCALE: AS NOTED
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DRAWN BY: J.W.83
 CHECKED BY: J.W.83
 APPROVED BY: [Signature]
 CONTRACT DRAWING SHEET NO. L-9



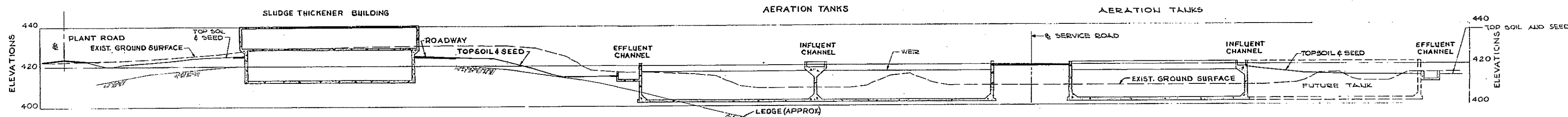
LONGITUDINAL SECTION AT PARSHALL FLUME AND GRIT FACILITY
SCALE: 1"=20'



LONGITUDINAL SECTION FROM MAINTENANCE BUILDING TO PRIMARY SETTLING TANKS
SCALE: 1"=20'



LONGITUDINAL SECTION FROM INCINERATOR BUILDING TO AERATION TANKS
SCALE: 1"=20'



LONGITUDINAL SECTION FROM SLUDGE THICKENER BUILDING TO AERATION TANKS
SCALE: 1"=20'



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CIVIL

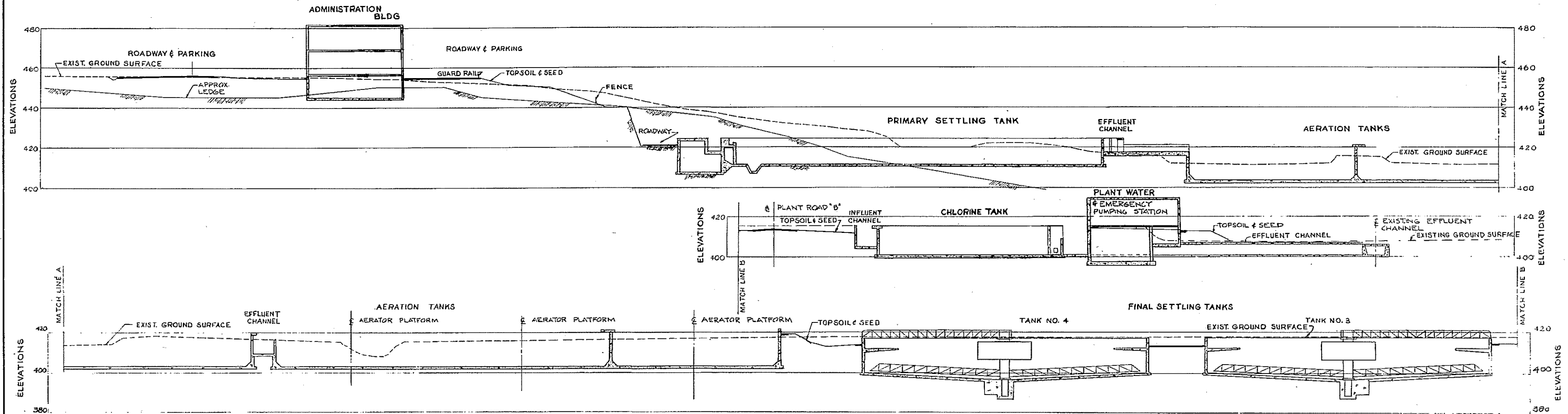
GRADING CROSS SECTIONS - PART I

SCALE: AS NOTED DESIGNED BY: 197

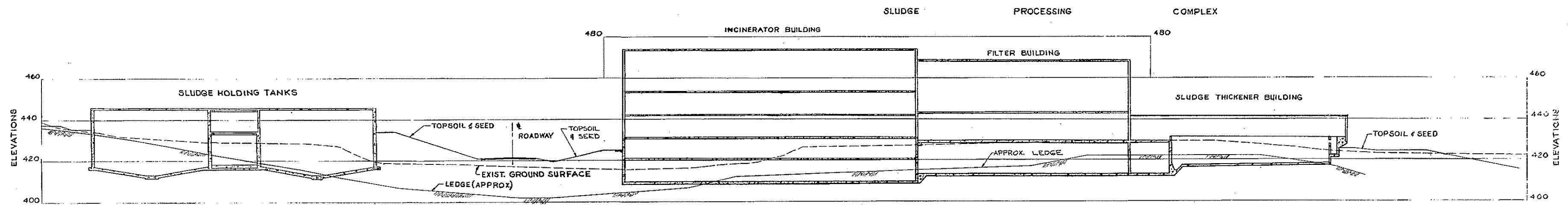
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DESIGNED BY: J.J.S.	CHECKED BY: J.J.S.	DATE: JW-83
APPROVED: <i>J.M. Cusick</i>	DATE: 247	

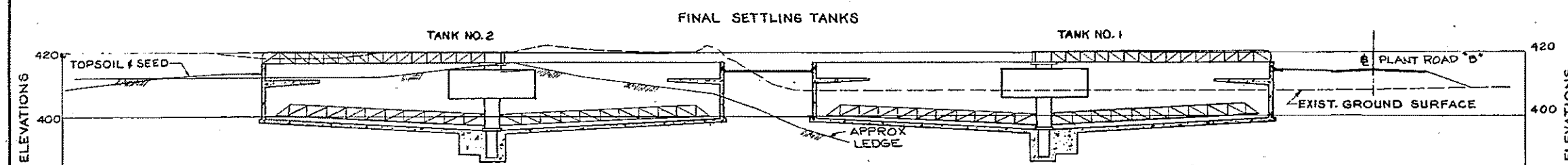
CONTRACT DRAWING SHEET NO. L-10



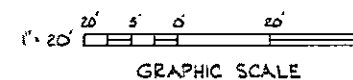
TRANSVERSE SECTION FROM ADMINISTRATION BUILDING TO CHLORINE CONTACT TANK
LOOKING NORTH
SCALE: 1"=20'



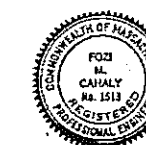
TRANSVERSE SECTION FROM SLUDGE HOLDING TANKS TO SLUDGE THICKENER BUILDING
LOOKING NORTH
SCALE: 1"=20'



TRANSVERSE SECTION AT FINAL SETTLING TANKS
LOOKING NORTH
SCALE: 1"=20'



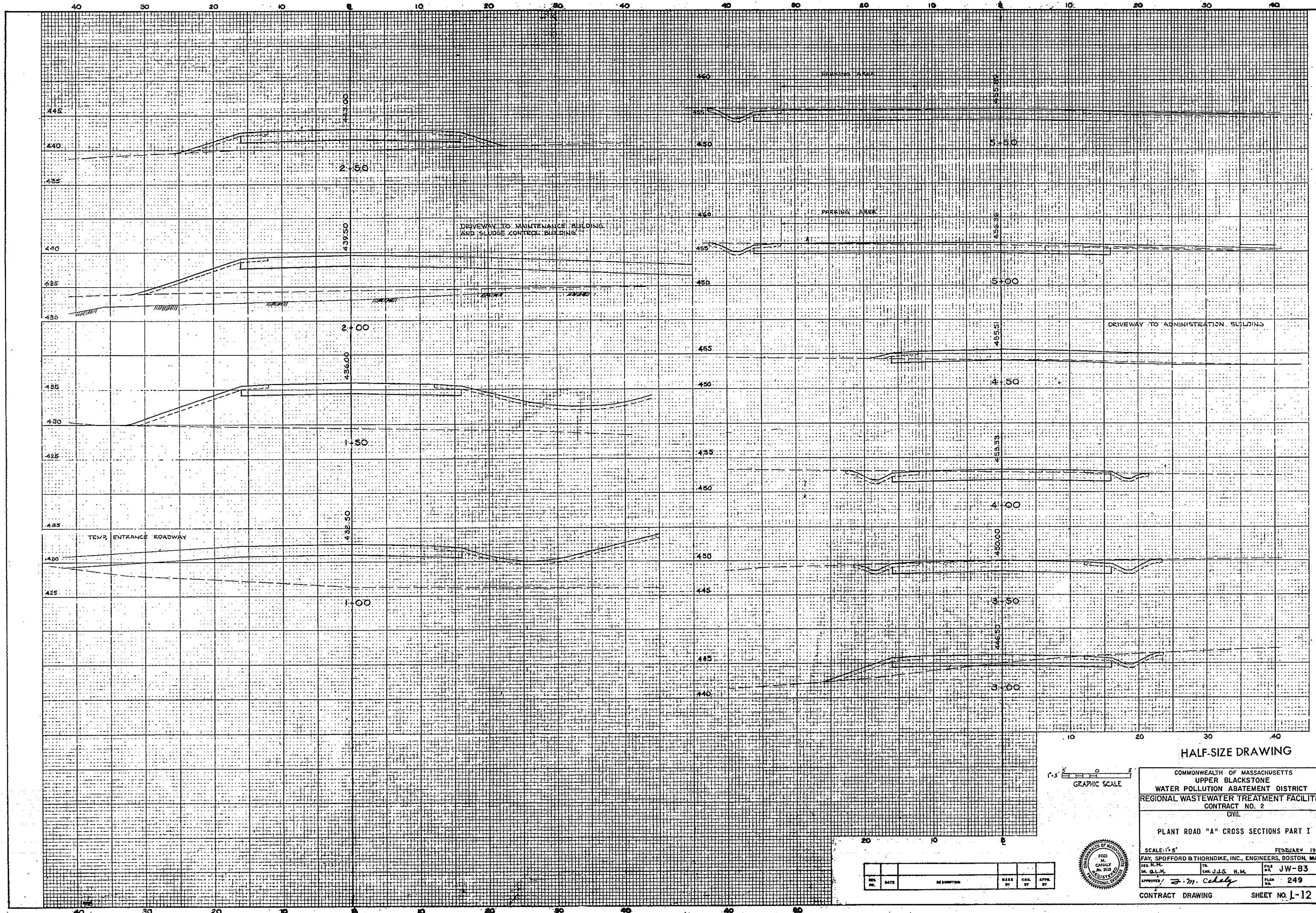
REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP'D. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 CIVIL			
SCALE: AS NOTED		F552-JAE-1973	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. BY DR. G. H.	TR. BY J. J. S.	CHECKED BY JW-83	DATE 248
APPROVED		DATE	

CONTRACT DRAWING SHEET NO. L-11



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

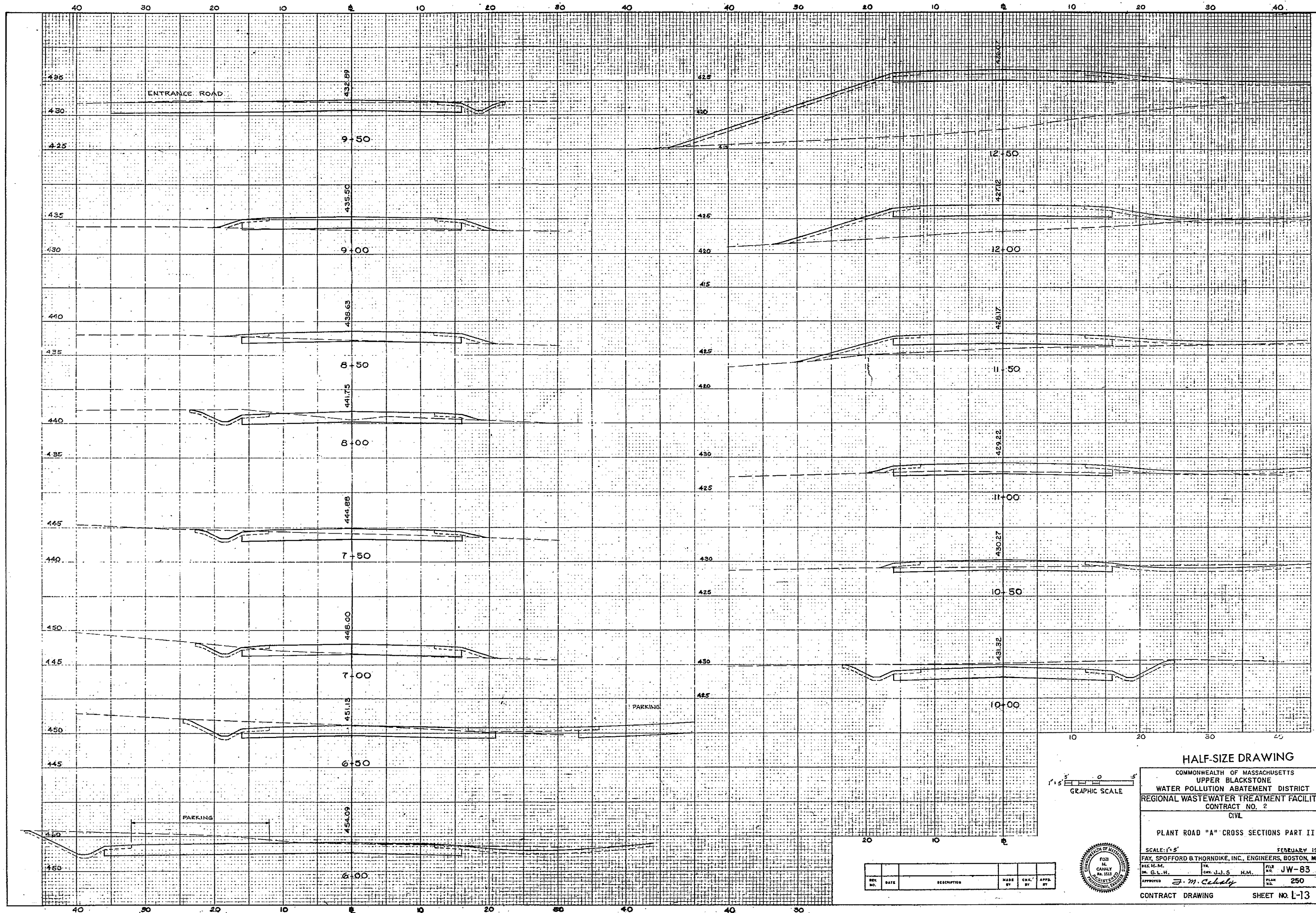
PLANT ROAD "A" CROSS SECTIONS PART I

SCALE: 1"=5'
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 SEE PLAN FOR
 DR. G.L.H. CIV. J.S. H.M. PLAN NO. JW-83
 APPROVED BY: *M. Celady* PLAN NO. 249



REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR. BY

CONTRACT DRAWING SHEET NO. L-12



HALF-SIZE DRAWING

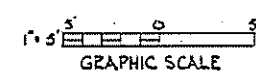
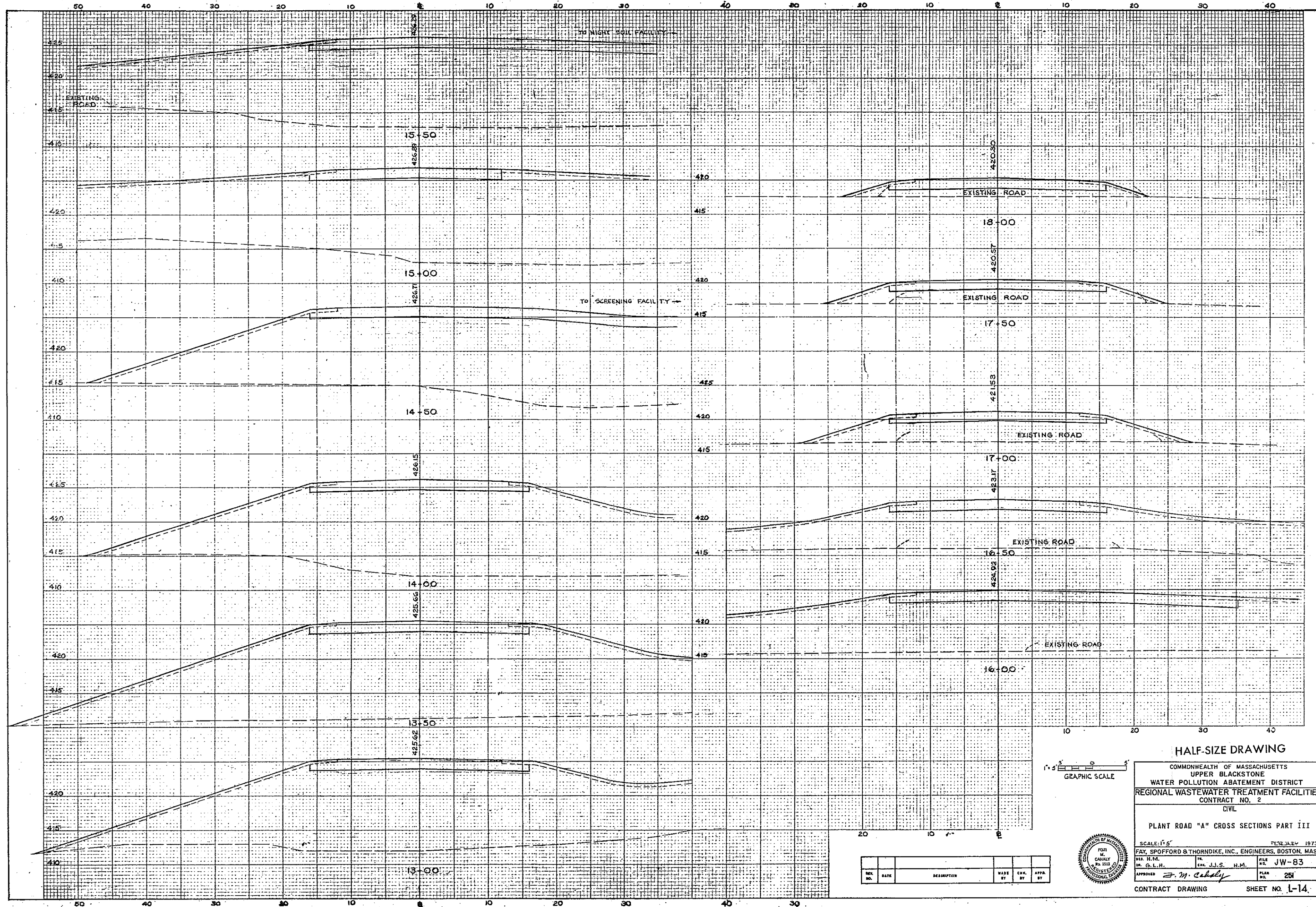
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

PLANT ROAD "A" CROSS SECTIONS PART II

SCALE: 1" = 5' FEBRUARY 1973
 FILE NO. FILE NO. JW-83
 DRAWN BY: G.L.H. CHECKED BY: J.J.S. H.M.
 APPROVED: *J.M. Cuddy* PLAN NO. 250

CONTRACT DRAWING SHEET NO. L-13





HALF-SIZE DRAWING

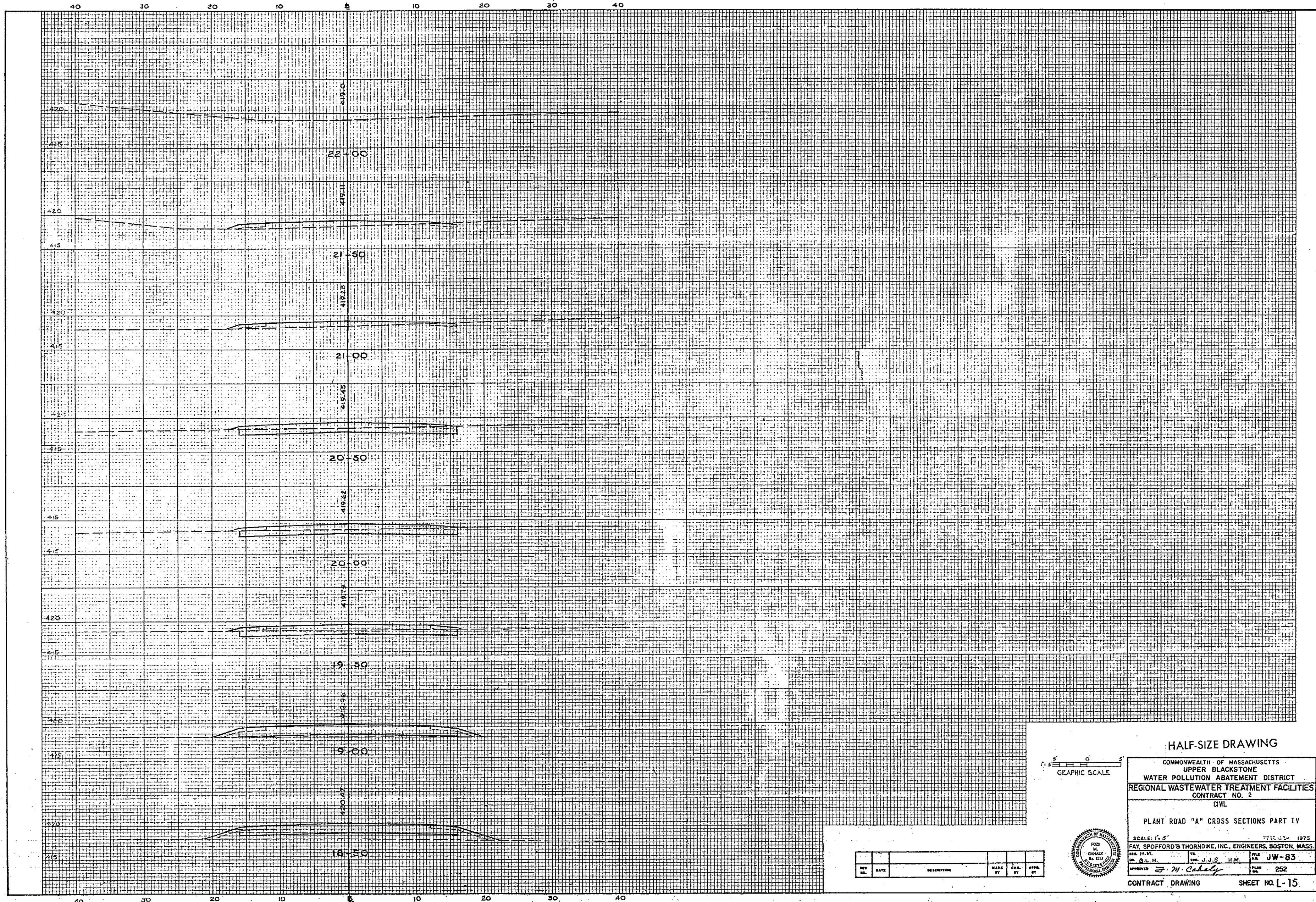
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

PLANT ROAD "A" CROSS SECTIONS PART III

SCALE: 1" = 5'
 FEB. 24, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. H.M. CHANLY REG. NO. 15112
 DR. G.L.H. CHANLY REG. NO. 15112
 APPROVED: *J.J.S. H.M.* PLAN NO. JW-83
 APPROVED: *J.M. Cahaly* PLAN NO. 251



REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



HALF-SIZE DRAWING

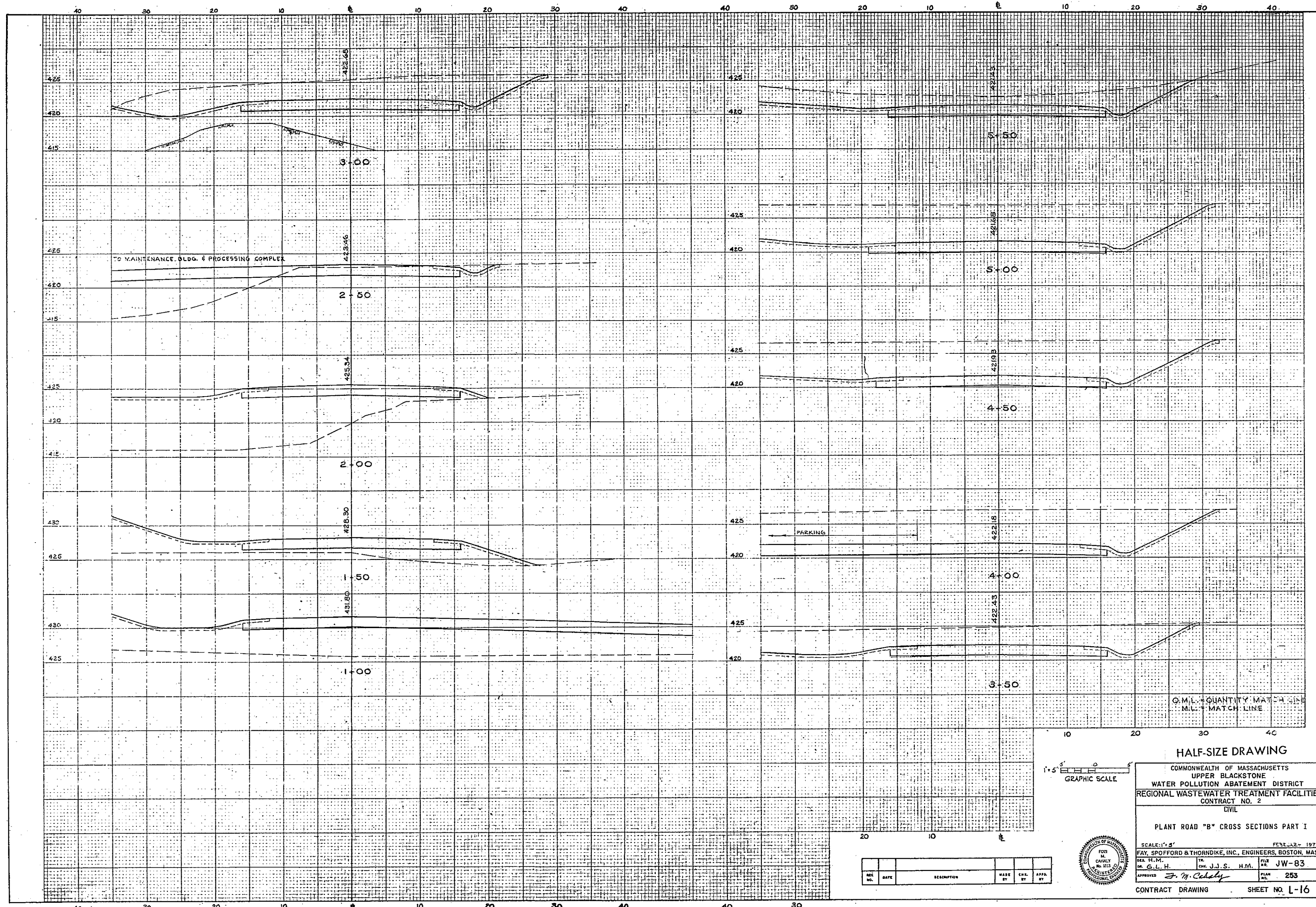
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

PLANT ROAD "A" CROSS SECTIONS PART IV

SCALE: 1" = 5'
 FEB 12 1975
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. H. M. CHASEY JR. IN CHARGE
 DR. G. L. H. J. J. S. H. M.
 APPROVED: *J. W. Cahaly* PLAN NO. 252



REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

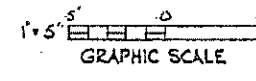


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

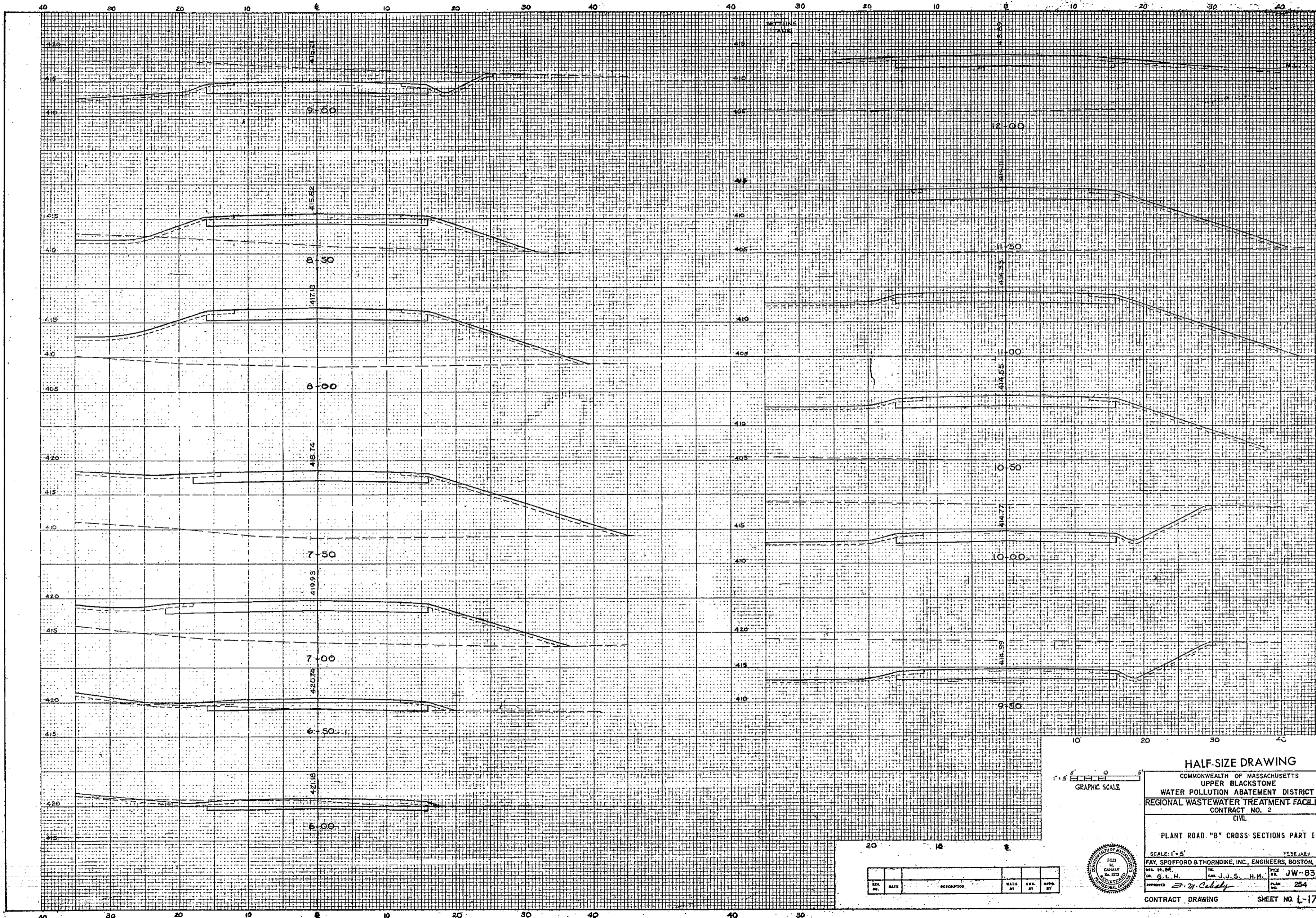
PLANT ROAD "B" CROSS SECTIONS PART I

SCALE: 1" = 3'
 FEB. 22 - 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. H. M. FILE JW-83
 DR. G. L. H. CHG. J. J. S. H.M.
 APPROVED *J. M. Cahaly* PLAN NO. 253
 CONTRACT DRAWING SHEET NO. L-16



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP'D. BY





HALF-SIZE DRAWING

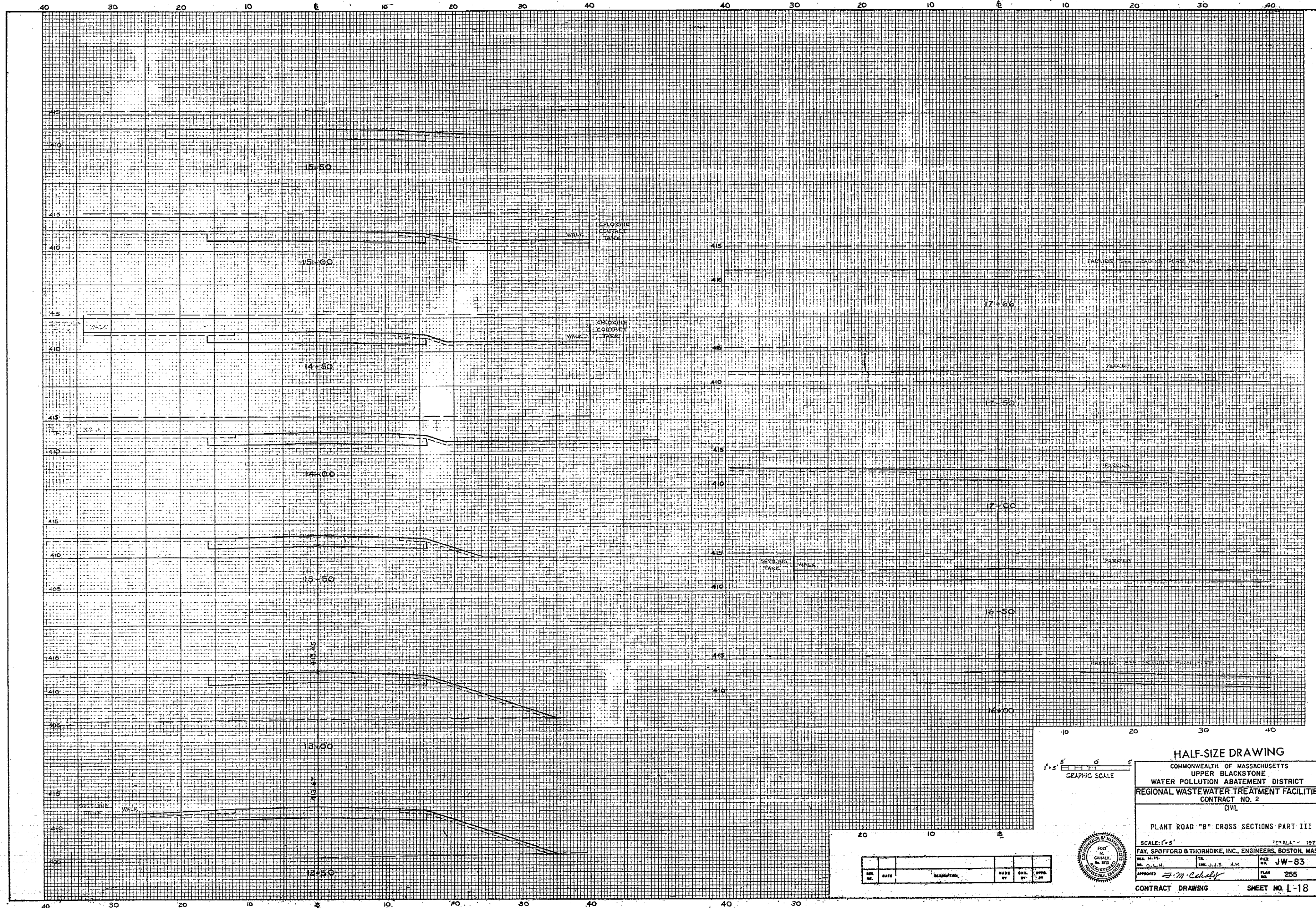
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

PLANT ROAD "B" CROSS SECTIONS PART II

SCALE: 1" = 5'
 FEB. 28, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DR. H. M. JR. IN CHARGE
 DR. S. L. H. CIVIL ENGINEER
 APPROVED: *E. M. Cahaly*
 TITLE: JW-83
 PLAN NO. 254



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY



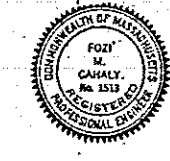
HALF-SIZE DRAWING
 COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

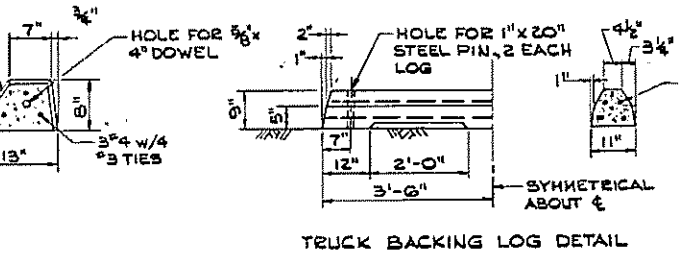
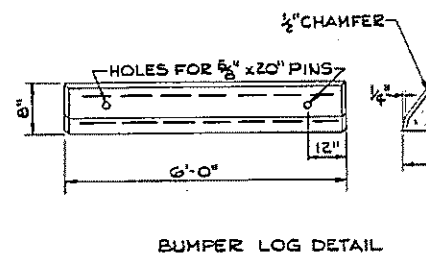
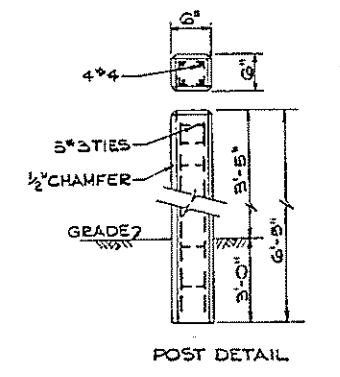
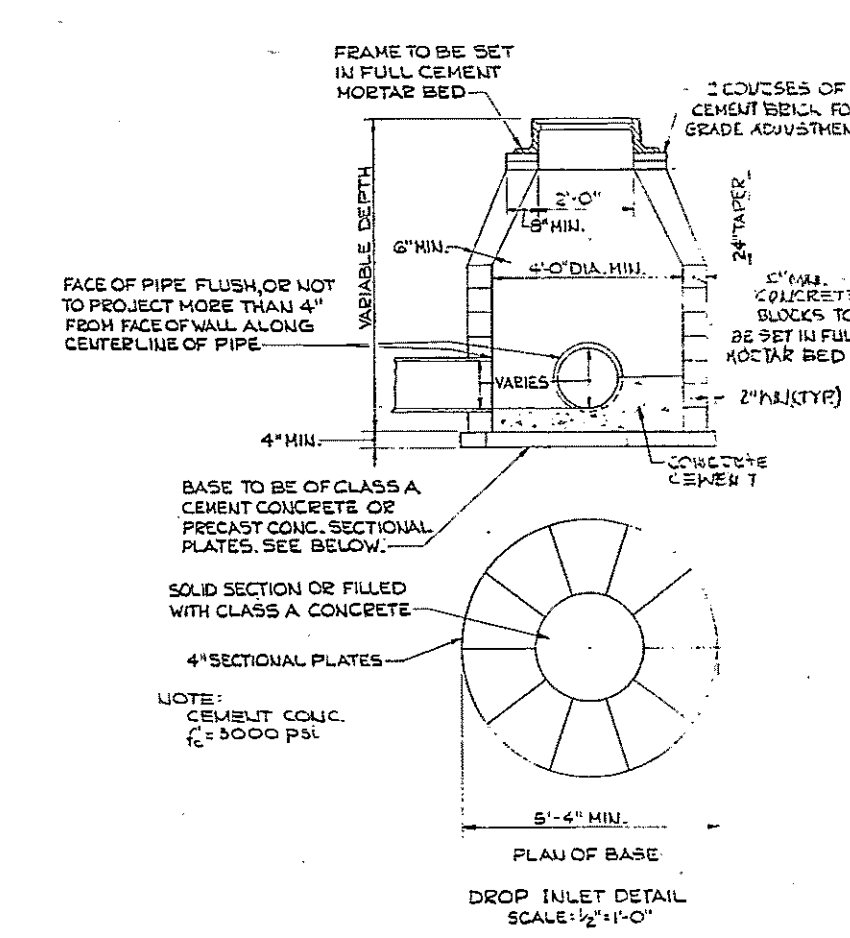
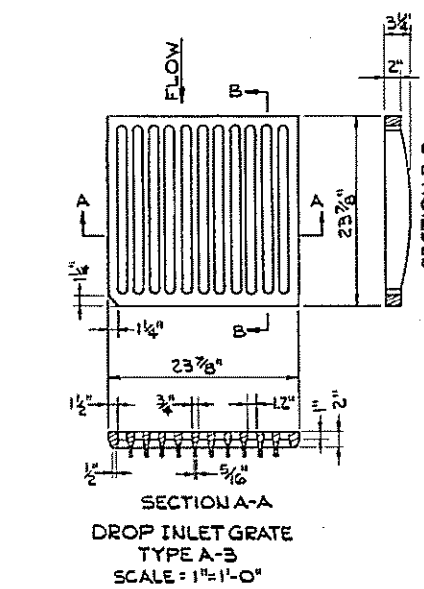
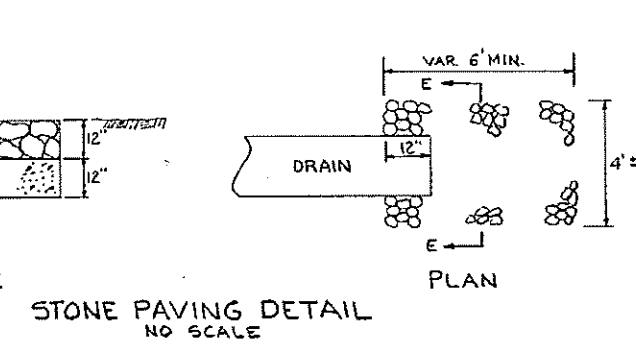
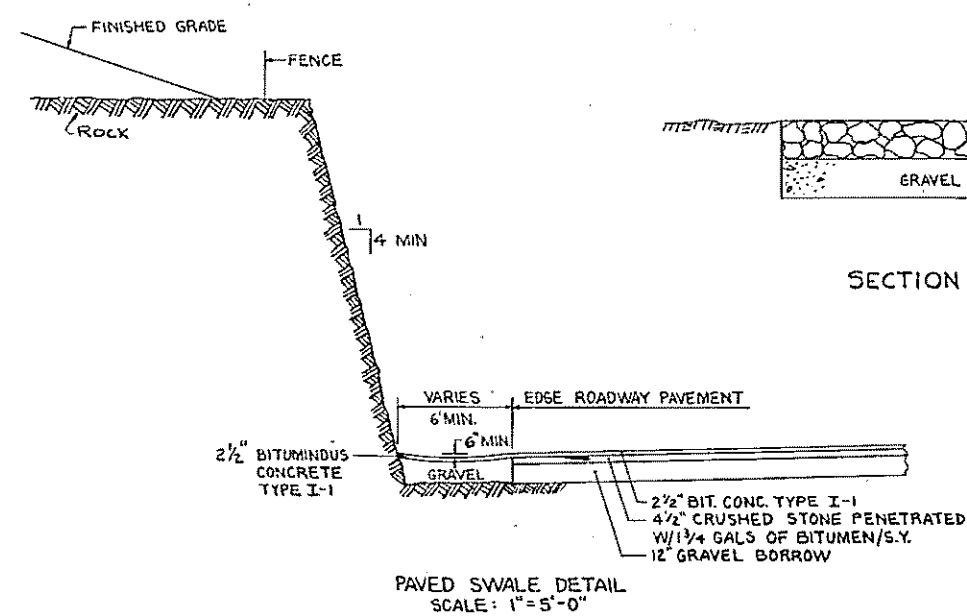
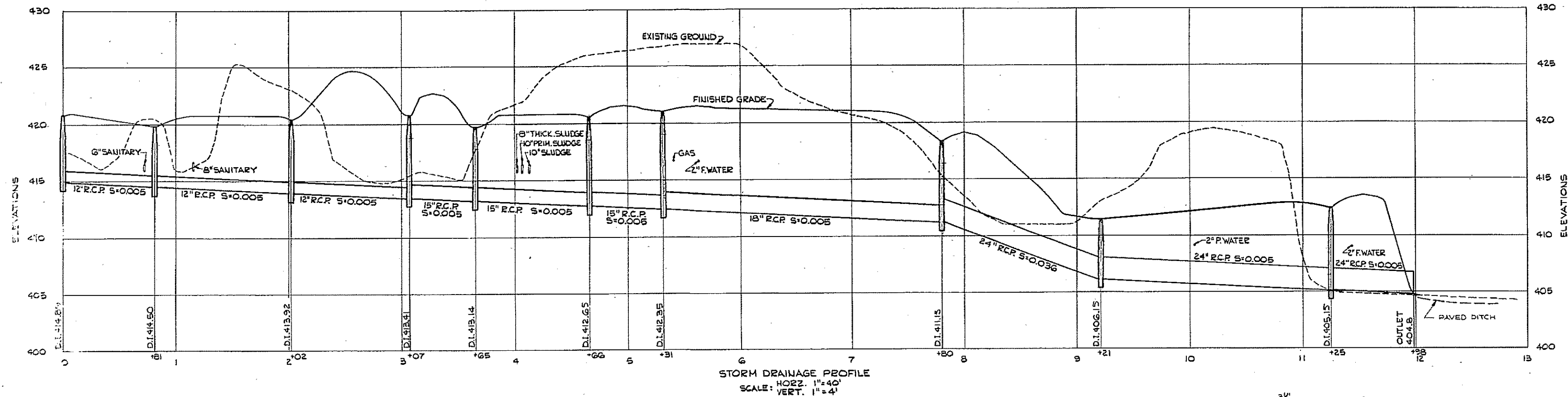
PLANT ROAD "B" CROSS SECTIONS PART III

SCALE: 1" = 5'
 FEB 21, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. BY: J.M. C. DATE: 1/13/73
 CHECKED BY: J.J.S. DATE: 1/13/73
 APPROVED BY: J.M. C. DATE: 1/13/73
 FILE NO. JW-83
 PLAN NO. 255

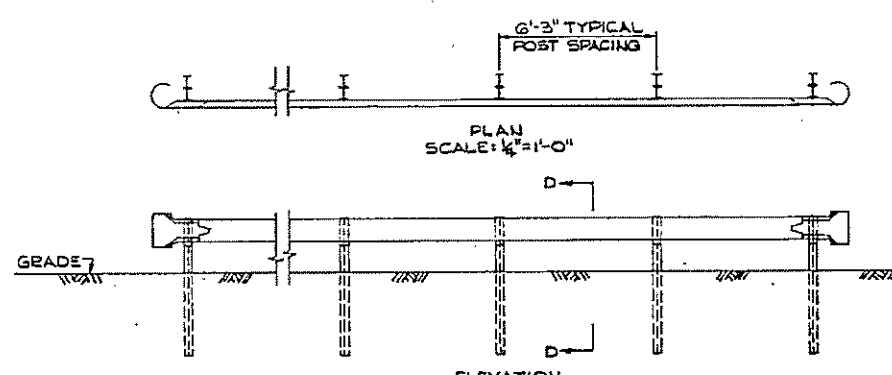
CONTRACT DRAWING SHEET NO. L-18

NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY

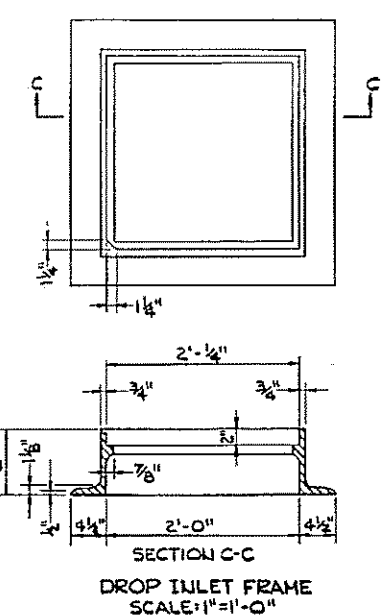
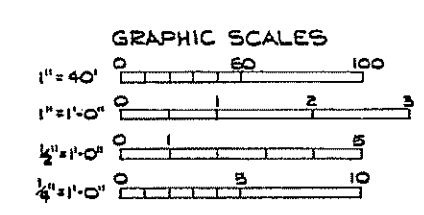
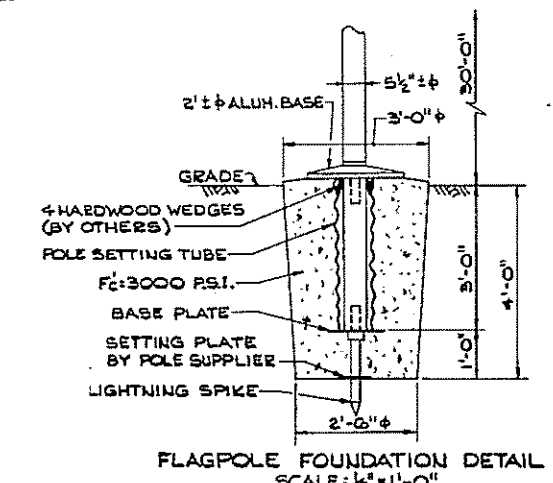
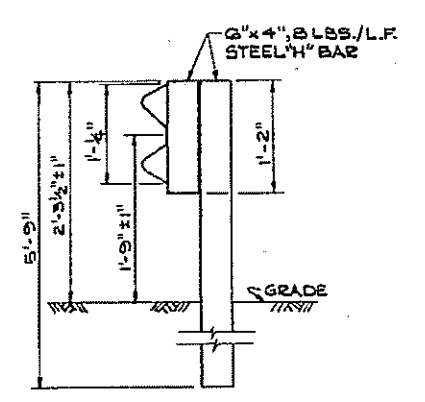




PRECAST CONCRETE POST AND LOGS
 NOTE: ALL CONC. 3000 PSI AIR ENTRAINED
 NO SCALE



STEEL BEAM HIGHWAY GUARD RAIL TYPE SS.



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



HALF-SIZE DRAWING

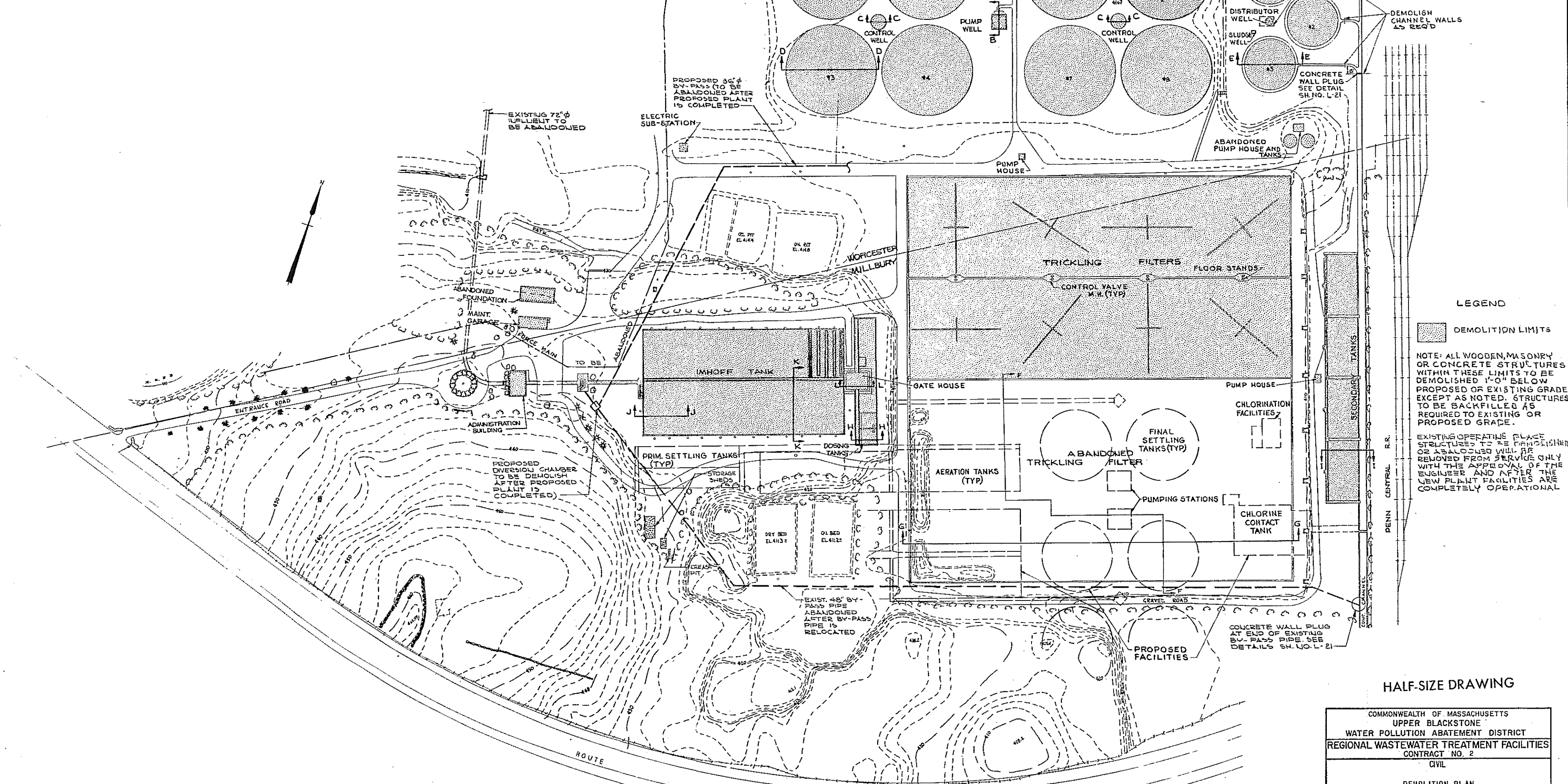
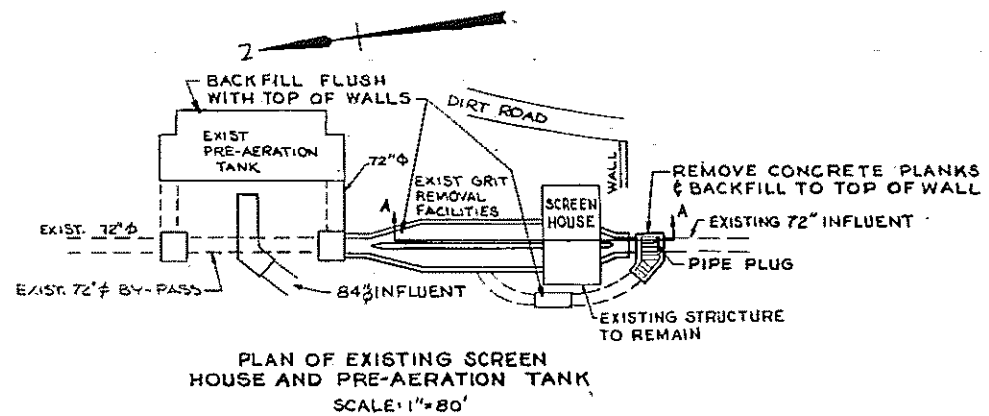
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 CIVIL

**STORM DRAINAGE PROFILE
 AND MISCELLANEOUS DETAILS**

SCALE: AS NOTED
 FEBRUARY 1972
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. H.M. FILE JW-83
 DR. V.L.G. CHK. J.J.S., H.M.
 APPROVED *F. W. Cahaly* PLAN NO. 256

CONTRACT DRAWING SHEET NO. L-19



HALF-SIZE DRAWING

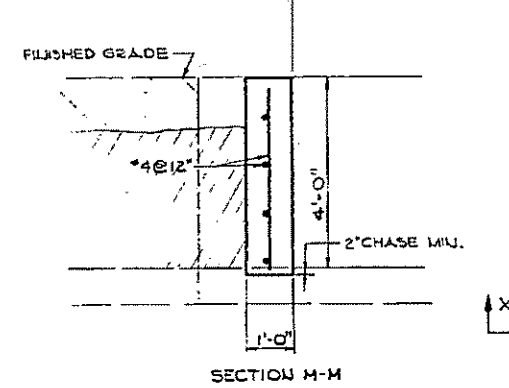
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CIVIL
DEMOLITION PLAN

SCALE: 1" = 80' FEBRUARY 1973
RAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DR. G.L.W. IN CHARGE
APP. J.W.-83
257

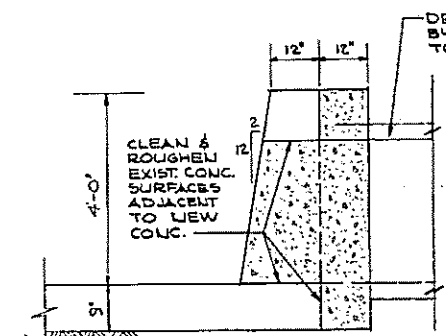
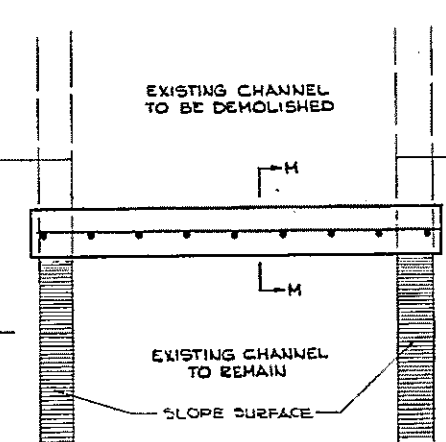
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



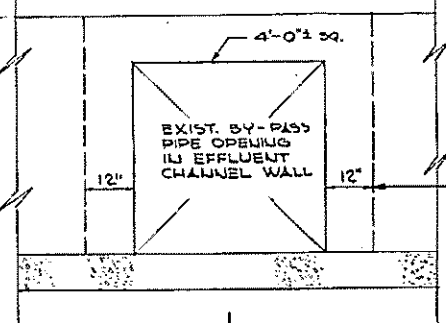
EXISTING CHANNEL TO BE DEMOLISHED
EXISTING CHANNEL TO REMAIN



CONCRETE WALL PLUG FOR LOCATION SEE SHEET NO. L-20 SCALE: 1/2" = 1'-0"

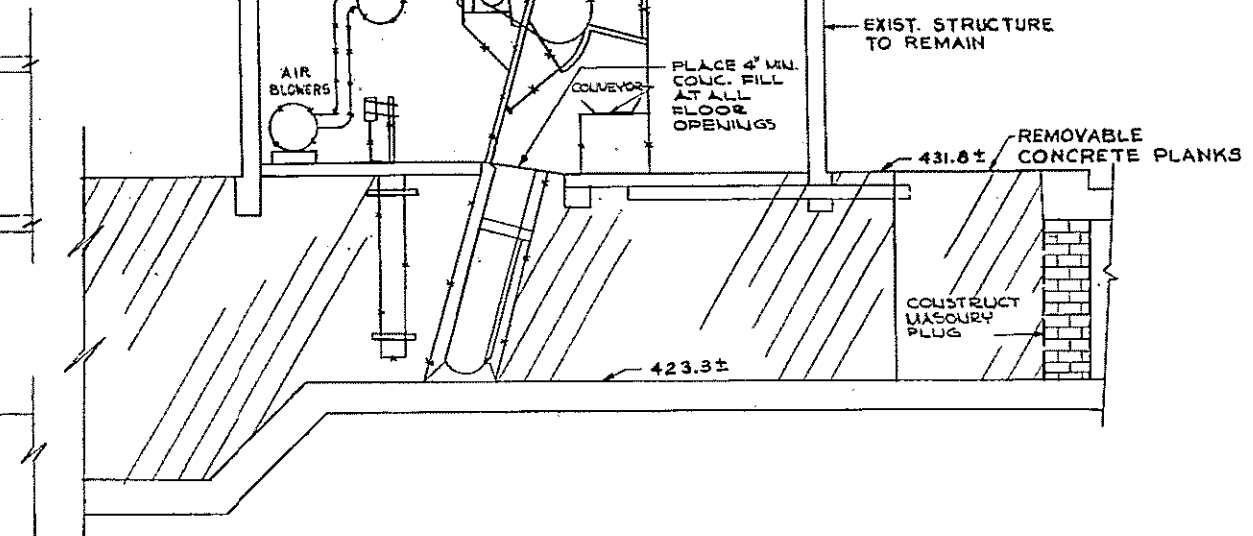


SECTION Y-Y

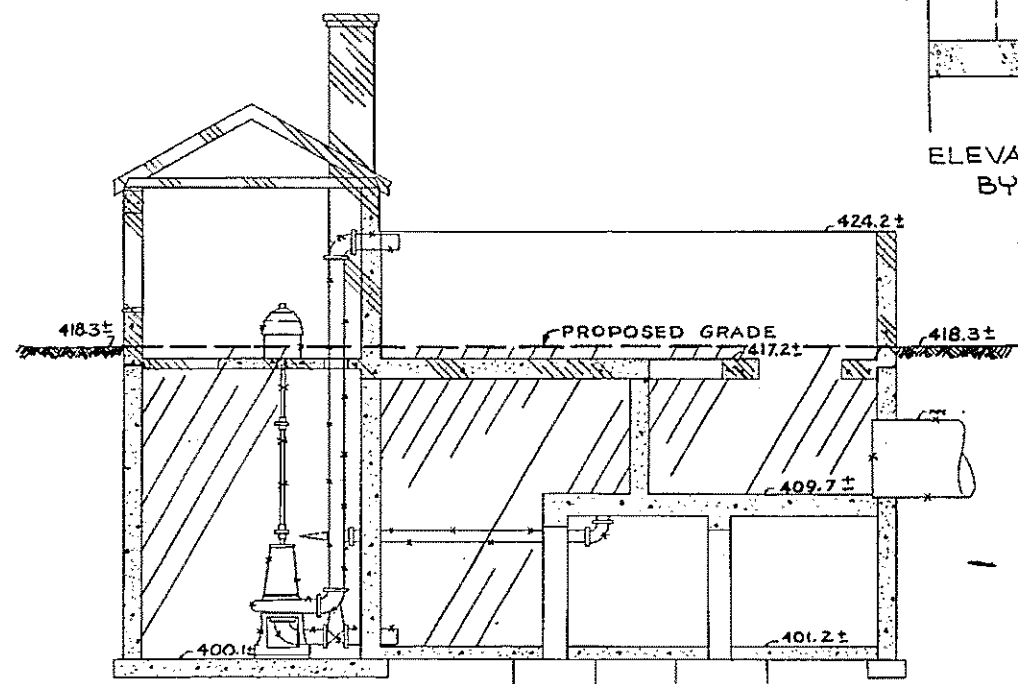


ELEVATION OF EXISTING BY-PASS WALL PLUG SCALE: 1/2" = 1'-0"

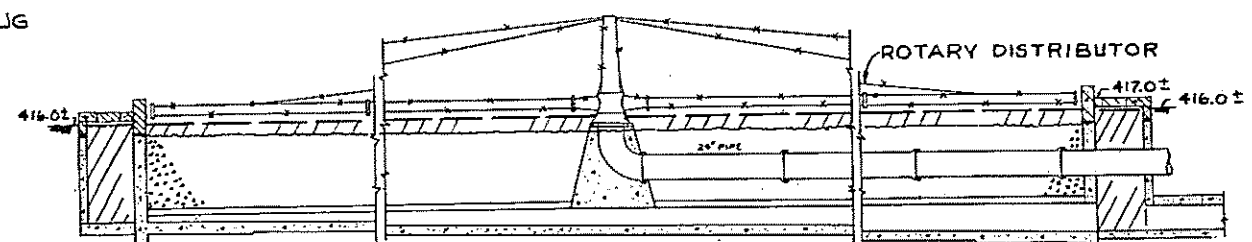
DEMOLISH EXIST. BY-PASS AS REQ'D TO INSTALL PLUG



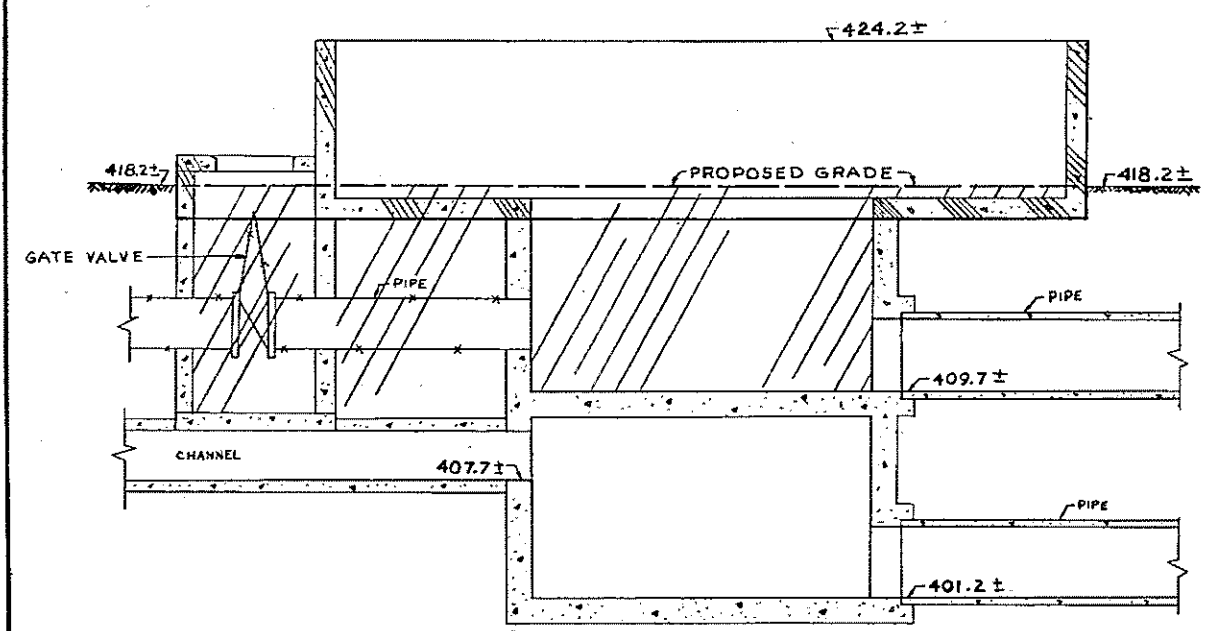
SECTION A - SCREEN HOUSE SCALE: 1/4" = 1'-0"



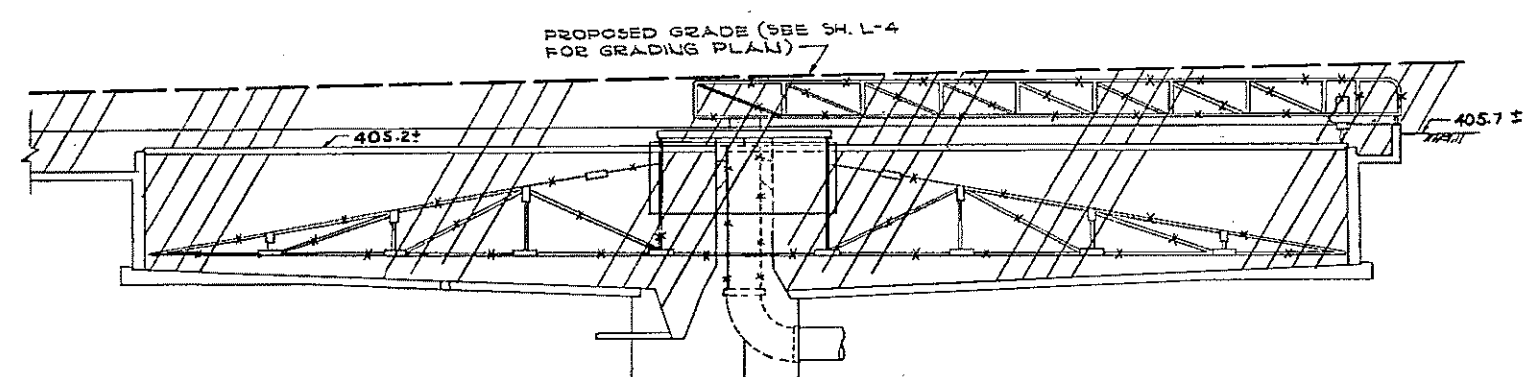
SECTION B - PUMP WELL SCALE: 3/16" = 1'-0"



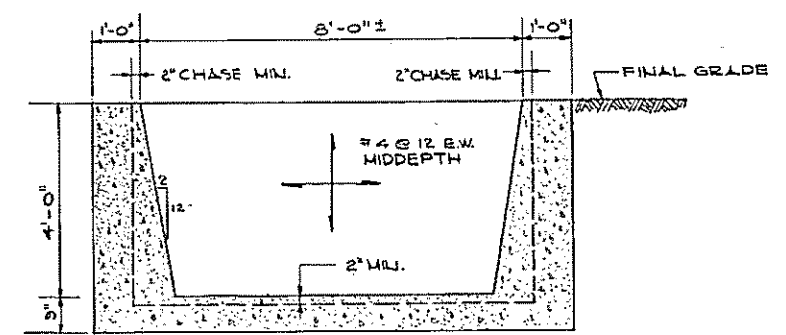
SECTION D - TRICKLING FILTER SCALE: 1/8" = 1'-0"



SECTION C - CONTROL WELL SCALE: 1/4" = 1'-0"



SECTION E - CLARIFIER SCALE: 1/8" = 1'-0"



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

STRUCTURE	ITEMS TO BE SALVAGED AND STORED
1. EXISTING SCREEN HOUSE	SCREENINGS EQUIPMENT, CONVEYOR AIR BLOWERS AND APPURTENANCES SLUICE GATES.
2. GATE HOUSE	1. FLOW INDICATOR RECORDER AND INTEGRATOR, SLUICE GATES
3. TRICKLING FILTERS	16 ROTARY DISTRIBUTORS AND ALL APPURTENANCES GATE VALVES AND FLOOR STANDS
4. PUMP WELL	1. ELECTRIC MOTORS AND PUMPS ELECTRIC CONTROL PANEL, ALL GATE VALVES
5. CONTROL WELLS	GATE VALVES
6. SLUDGE WELL	1. MOTOR AND PUMP; GATE VALVES
7. ADMINISTRATION BUILDING	1. LABORATORY EQUIPMENT
8. MAINTENANCE GARAGE	1. CHLORINE EQUIPMENT AND APPURTENANCES

LEGEND

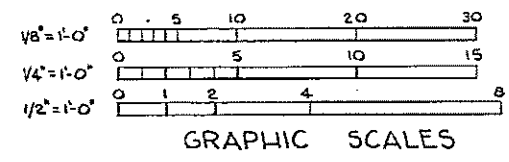
- BACKFILL WITH SUITABLE MATERIAL SEE DEMOLITION SPECIFICATIONS.
- EXISTING STRUCTURES OUTSIDE THE EXCAVATION LIMITS OF PROPOSED STRUCTURES ARE TO BE DEMOLISHED 1'-0" BELOW PROPOSED GRADE OR 1'-0" BELOW EXISTING GRADE WHERE NO GRADING IS REQUIRED.
- EXISTING EQUIPMENT TO BE REMOVED.

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CIVIL
DEMOLITION DETAILS - PART I

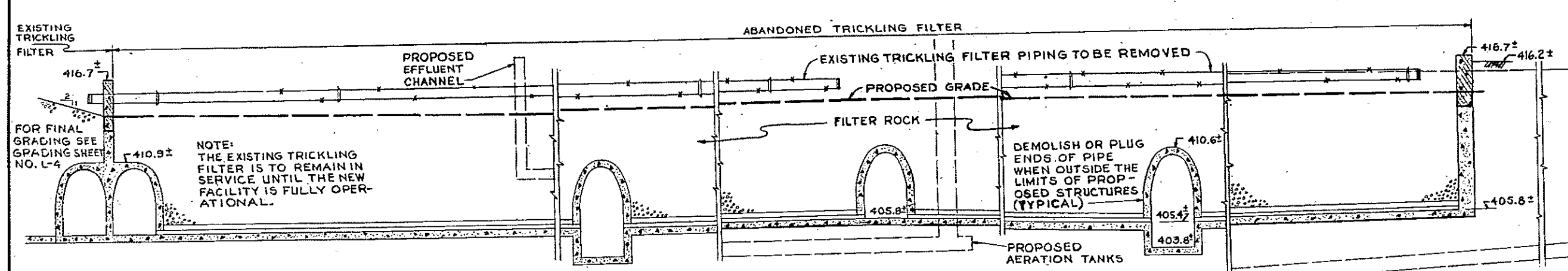
SCALE: AS NOTED FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. BY	CHK. BY	DATE
G.L.H.	CHE J.J.S. S.N.C.	12-83
APPROVED	DATE	
<i>F.M. Cahaly</i>	258	

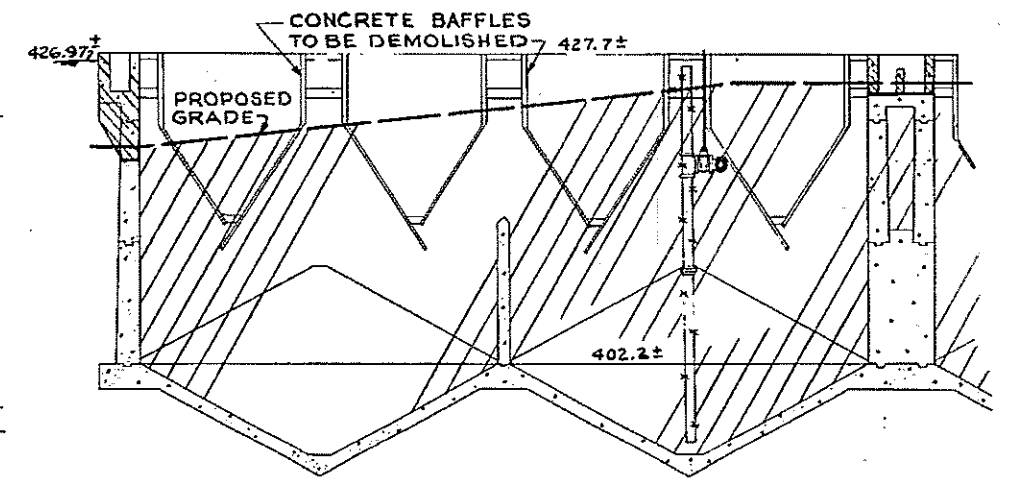


REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPR. BY

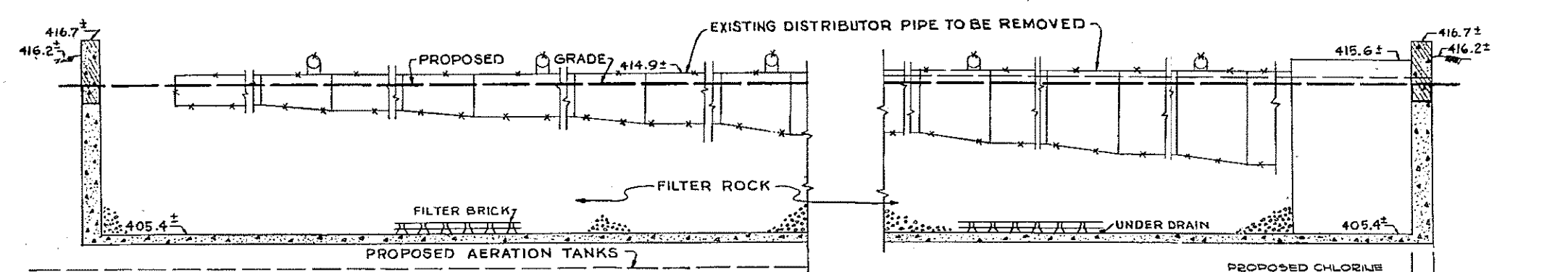




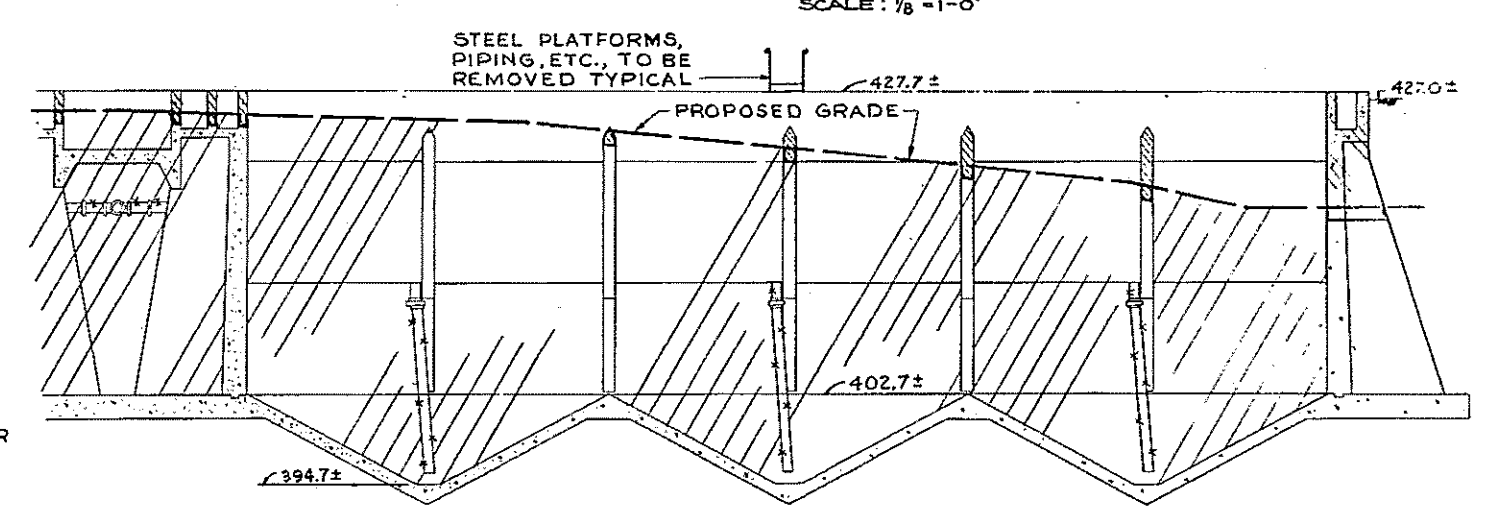
SECTION F - ABANDONED TRICKLING FILTER
SCALE: 1/4" = 1'-0"



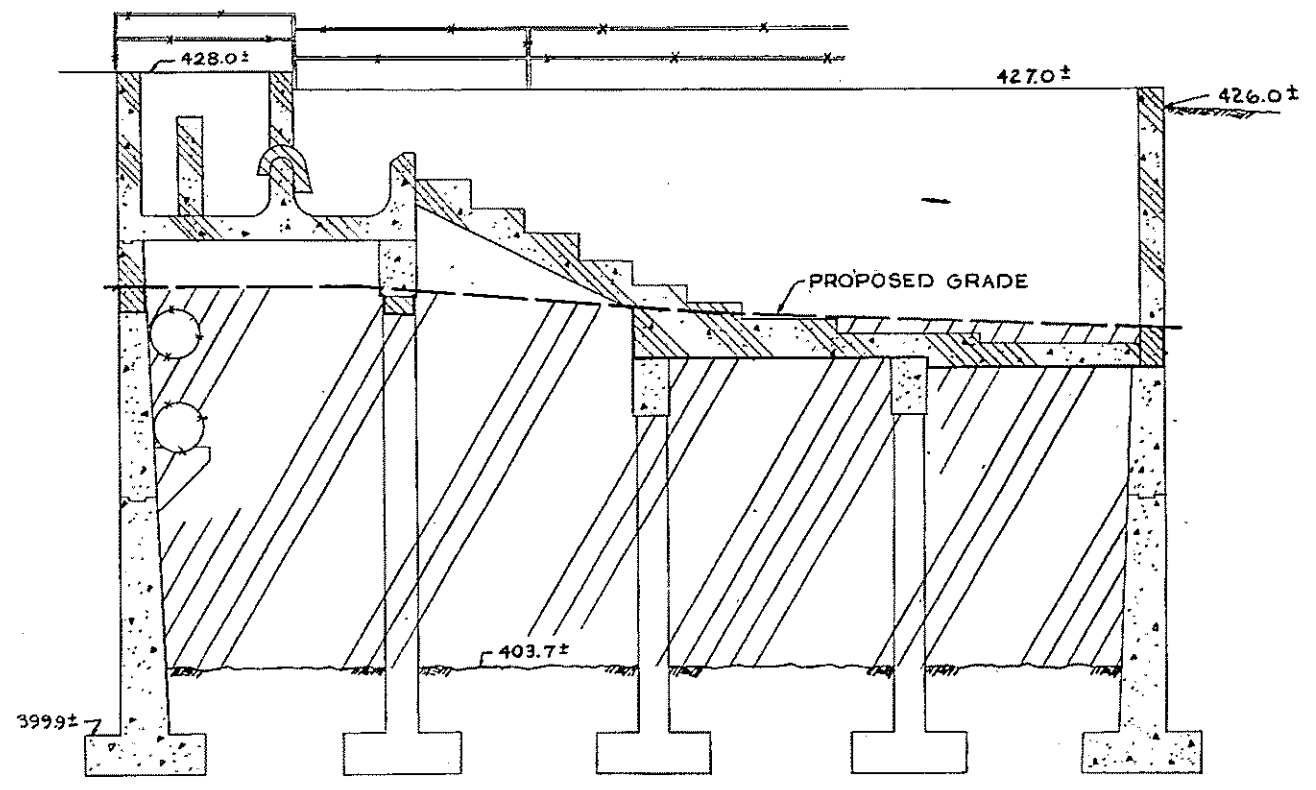
SECTION J - IMHOFF TANK
SCALE: 1/8" = 1'-0"



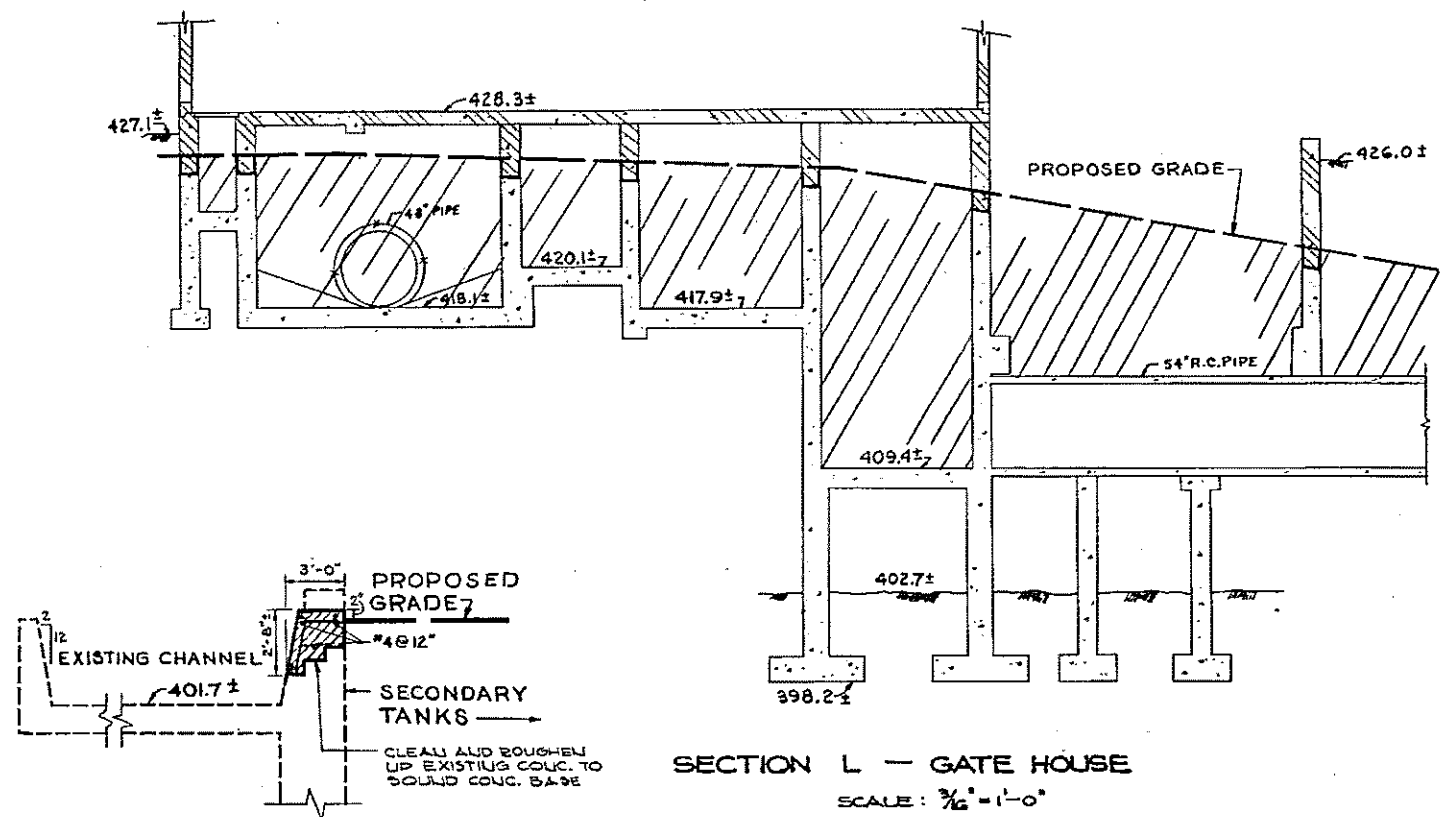
SECTION G - ABANDONED TRICKLING FILTER
SCALE: 1/4" = 1'-0"



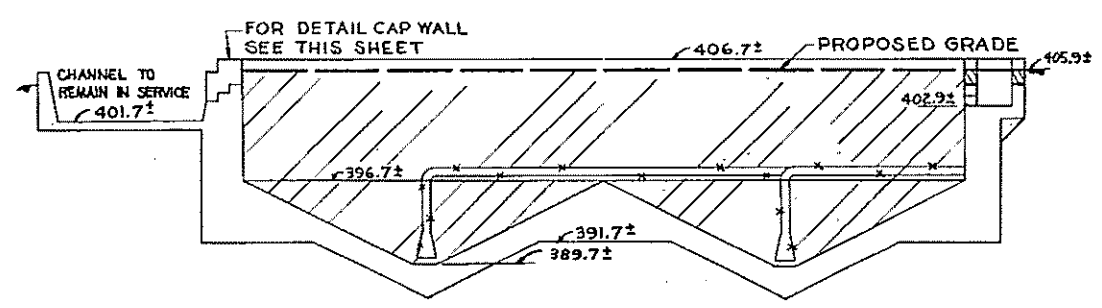
SECTION K - IMHOFF TANK
SCALE: 1/8" = 1'-0"



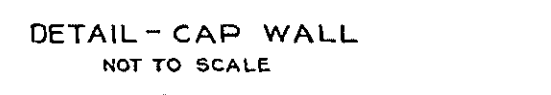
SECTION H - DOSING TANKS
SCALE: 1/4" = 1'-0"



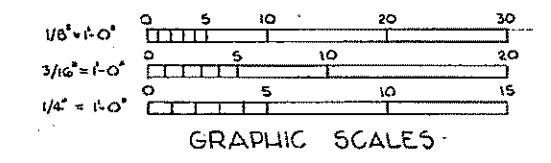
SECTION L - GATE HOUSE
SCALE: 3/16" = 1'-0"



SECTION I - SECONDARY TANKS
SCALE: 1/8" = 1'-0"



DETAIL - CAP WALL
NOT TO SCALE



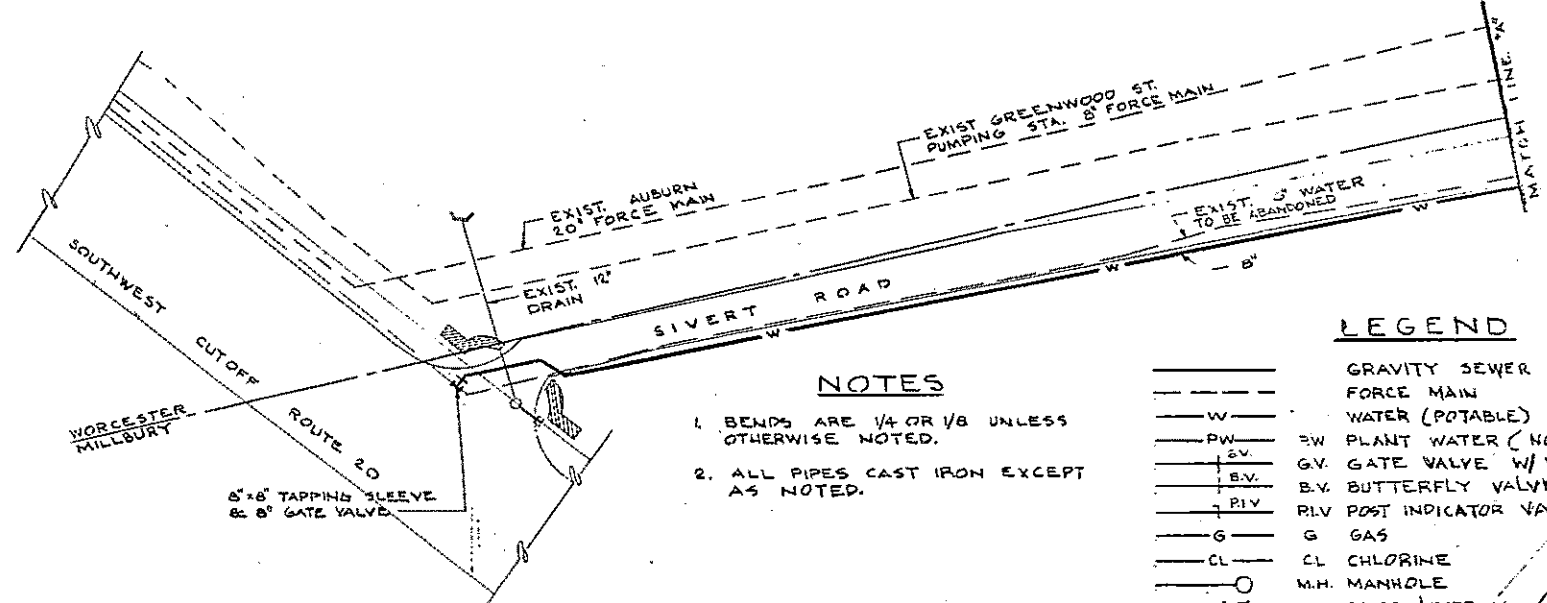
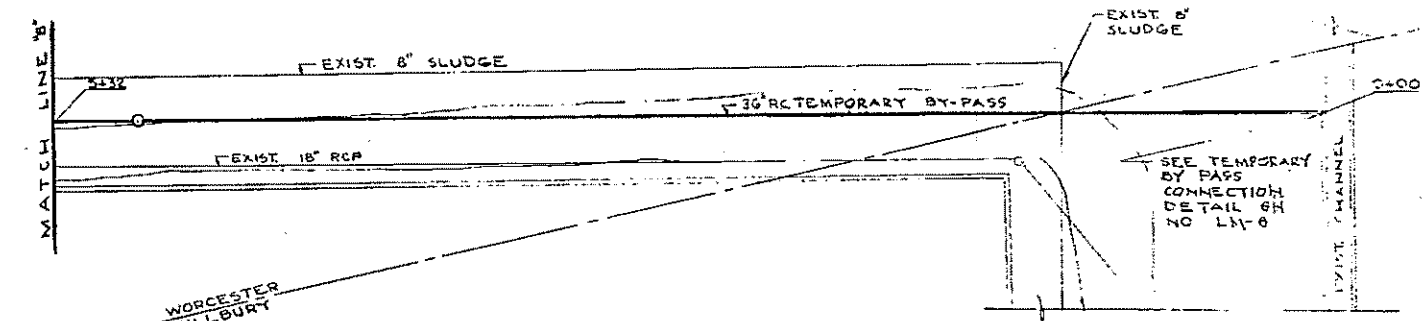
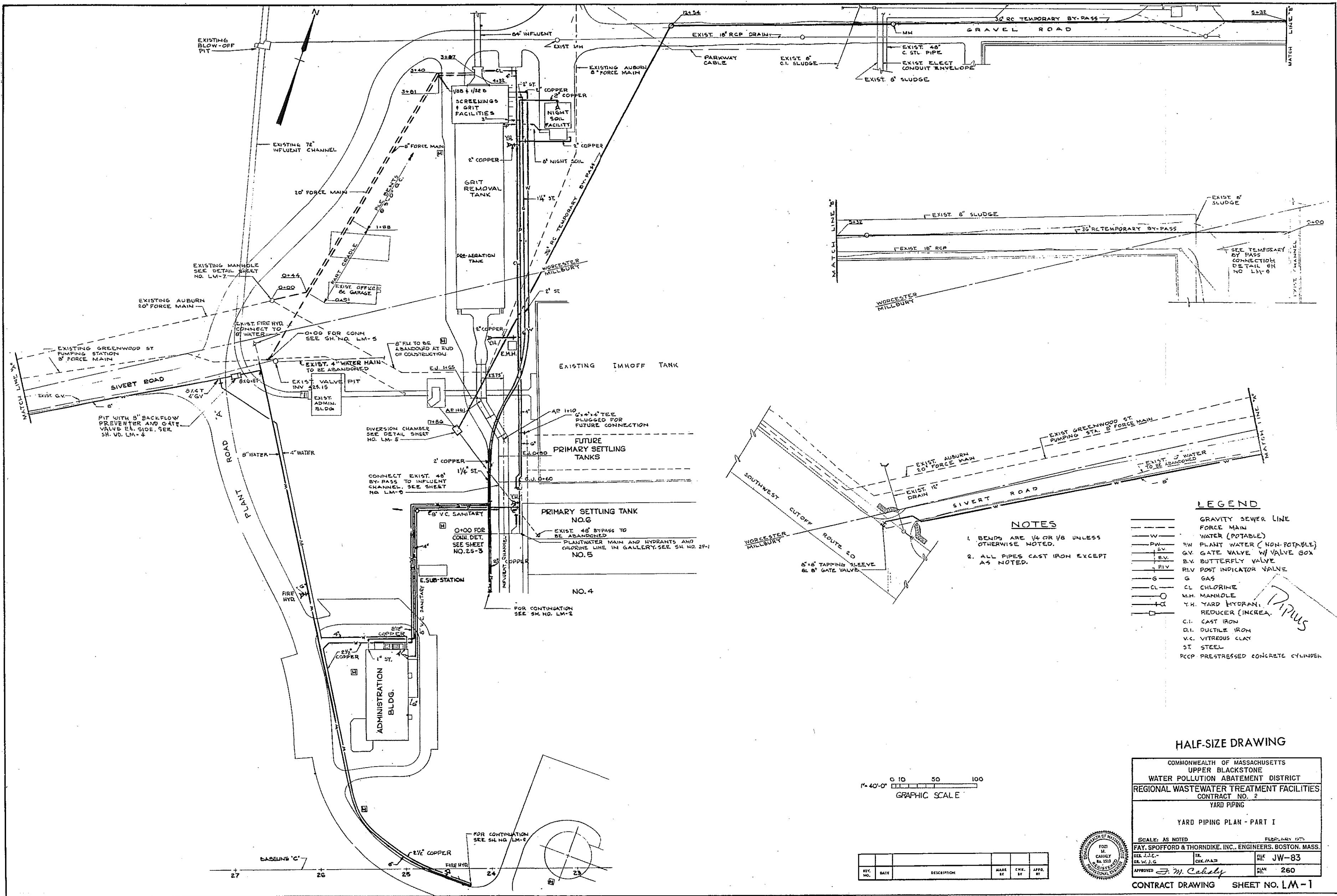
REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR BY

HALF-SIZE DRAWING

FOR LEGEND SEE SHEET NO. L-20
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
CIVIL

DEMOLITION DETAILS - PART II
SCALE: AS NOTED
FEBRUARY 1973
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. G.L.H. INC. J.J.S. G.N.C. FILE JW-83
APPROVED [Signature] PLAN 259





LEGEND

- GRAVITY SEWER LINE
- FORCE MAIN
- WATER (POTABLE)
- PW — PLANT WATER (NON-POTABLE)
- G.V. — GATE VALVE W/ VALVE BOX
- B.V. — BUTTERFLY VALVE
- R.I.V. — POST INDICATOR VALVE
- G — GAS
- CL — CHLORINE
- M.H. — MANHOLE
- Y.H. — YARD HYDRANT
- R — REDUCER (INCREASING)
- C.I. — CAST IRON
- D.I. — DUCTILE IRON
- V.C. — VITREOUS CLAY
- ST — STEEL
- PCCP — PRESTRESSED CONCRETE CYLINDER

NOTES

1. BENDS ARE 1/4 OR 1/8 UNLESS OTHERWISE NOTED.
2. ALL PIPES CAST IRON EXCEPT AS NOTED.

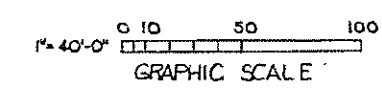
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 YARD PIPING
 YARD PIPING PLAN - PART I

SCALE: AS NOTED
 FEB. 24, 1975

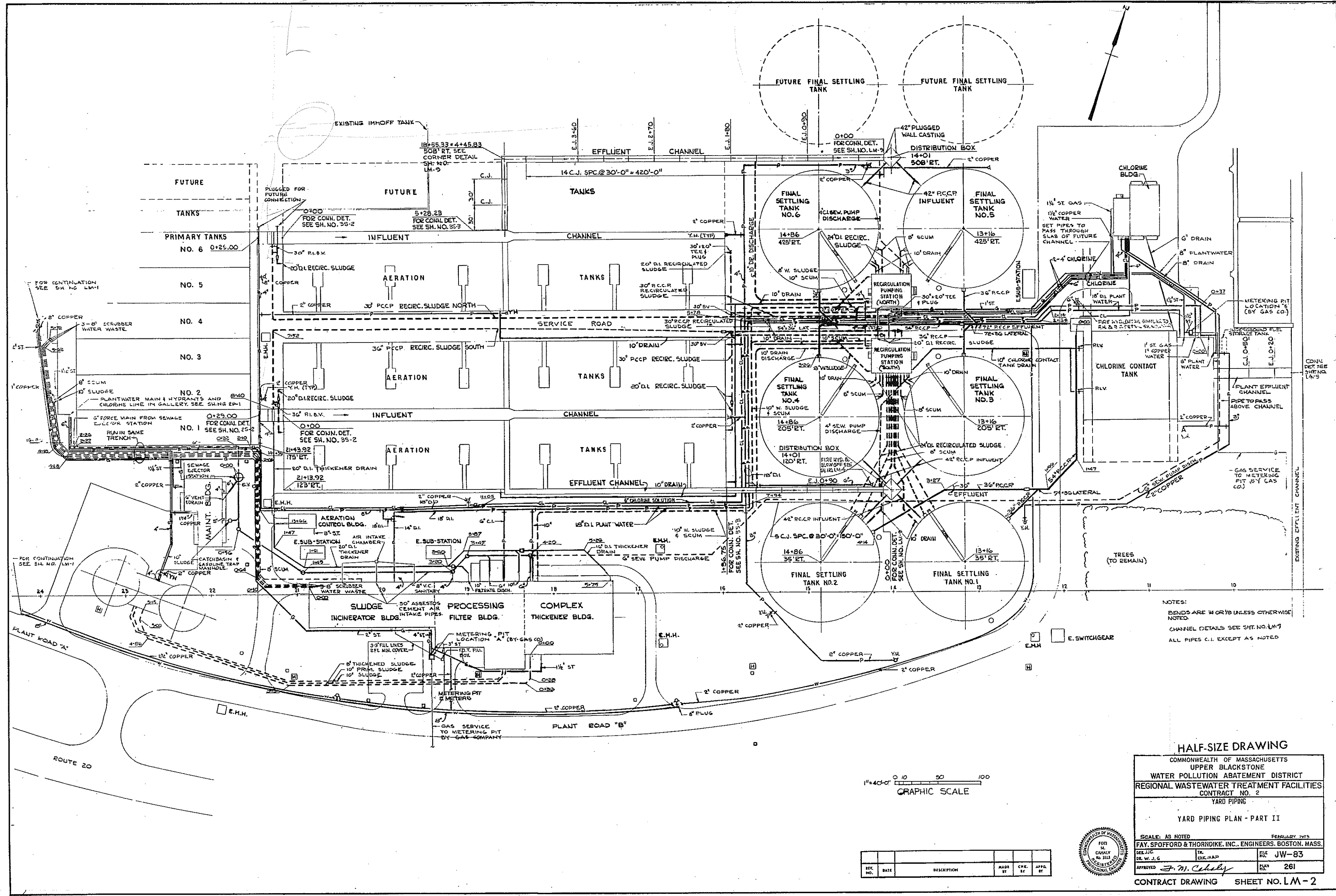
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DR. W. J. G.	TR. C. H. M. A. S.	FILE NO.	JW-83
APPROVED	<i>F. W. Cahaly</i>	PLAN NO.	260



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY





NOTES:
 BENDS ARE 90° UNLESS OTHERWISE NOTED.
 CHANNEL DETAILS SEE SHEET NO. LM-1
 ALL PIPES C.I. EXCEPT AS NOTED

HALF-SIZE DRAWING

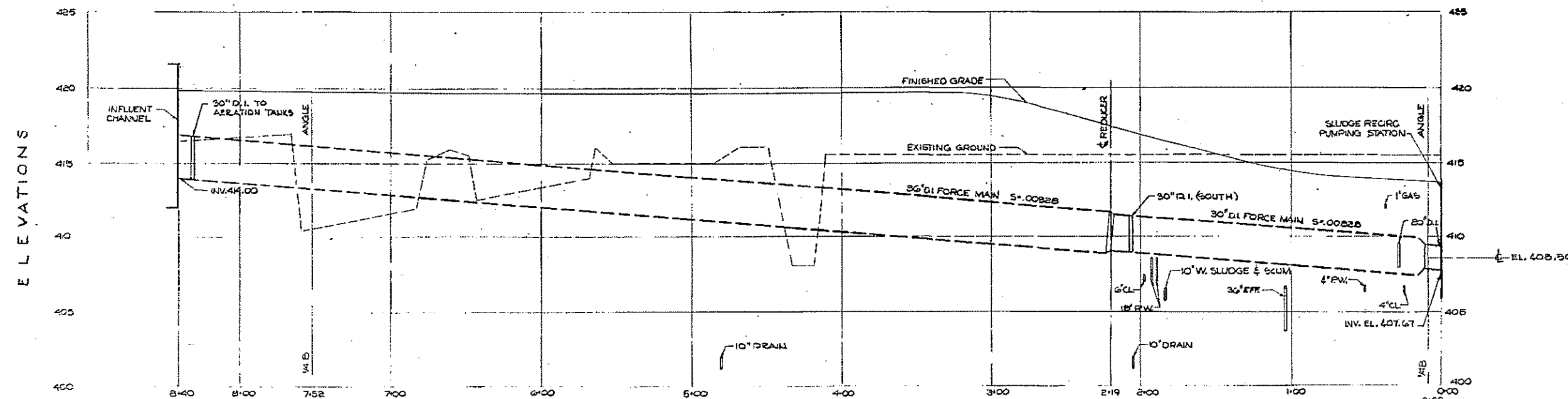
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 YARD PIPING
 YARD PIPING PLAN - PART II

SCALE: AS NOTED
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. J.J.C. TR. C.K./M.A.P. FILE NO. JW-83
 APPROVED *F. M. Colby* PLAN NO. 261
 CONTRACT DRAWING SHEET NO. LM-2

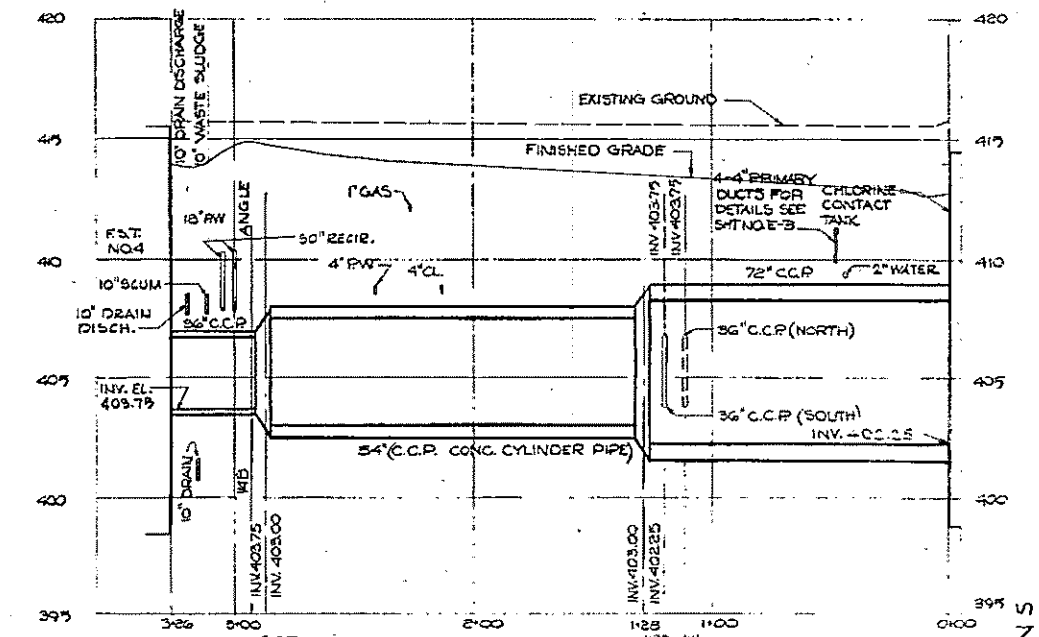


REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY

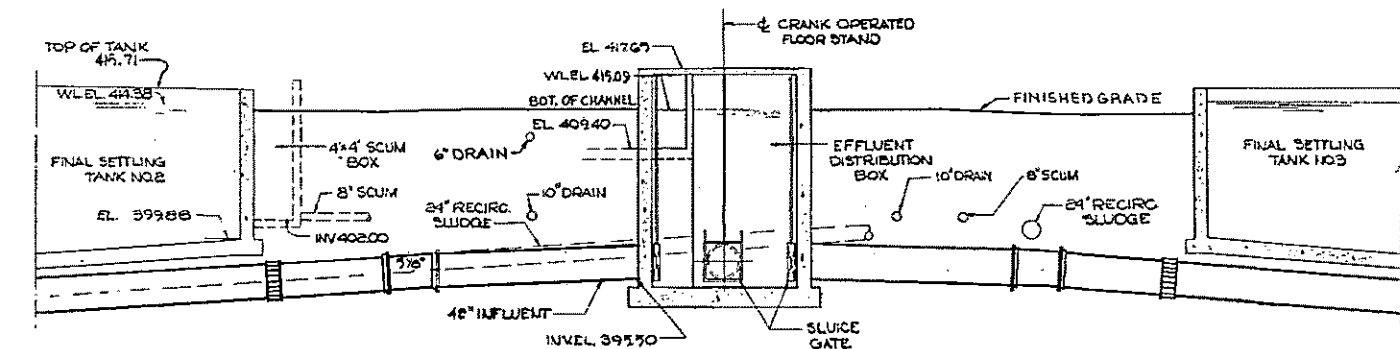




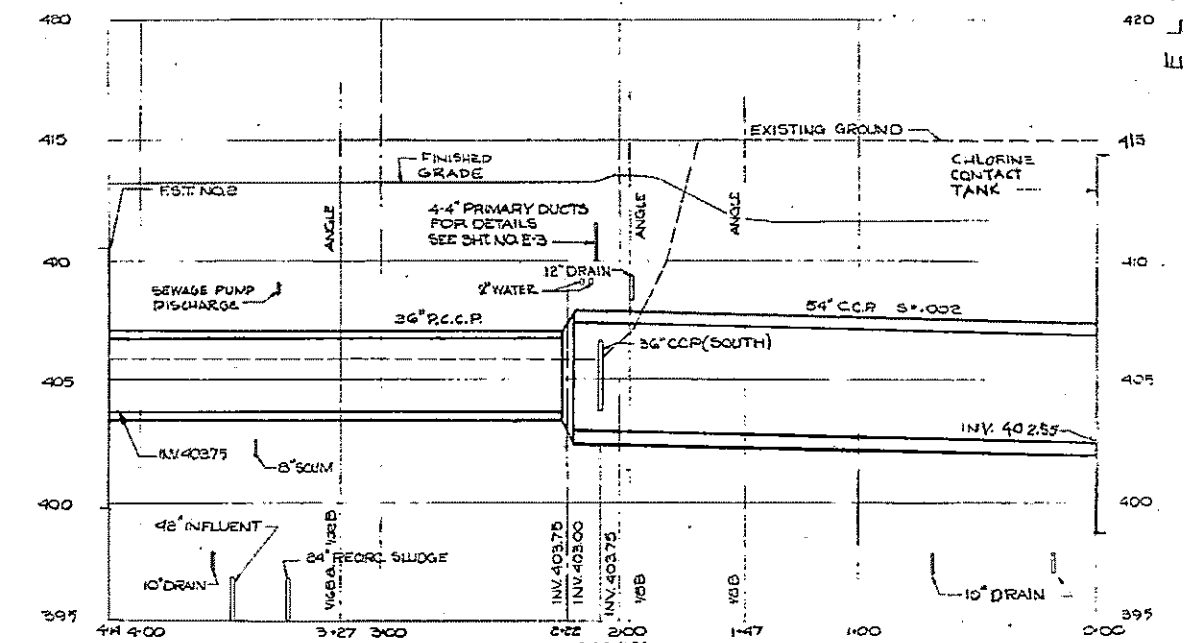
PROFILE - RECIRCULATED SLUDGE
 SCALE: HOR. 1"=40'
 VERT. 1"=4'
 (SOUTHERLY LINE SHOWN, NORTHERLY LINE SIMILAR)



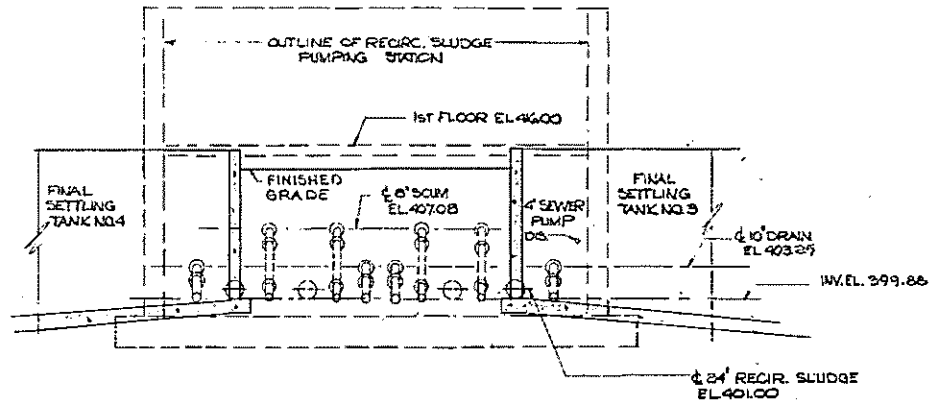
PROFILE - FINAL SETTLING TANK NO. 4 - EFFLUENT
 SCALE: HOR. 1"=40'
 VERT. 1"=4'



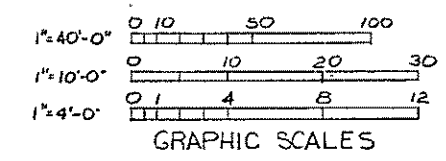
SECTION THRU DISTRIBUTION BOX
 SCALE: 1"=10'



PROFILE - FINAL SETTLING TANK NO. 2 - EFFLUENT
 SCALE: HOR. 1"=40'
 VERT. 1"=4'



SECTION THRU SETTLING TANKS NO. 3 & NO. 4
 SCALE: 1"=10'



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY



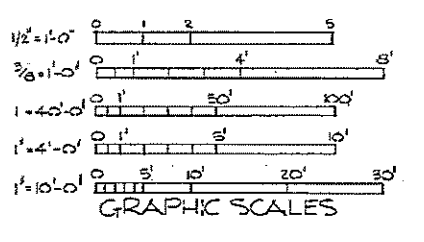
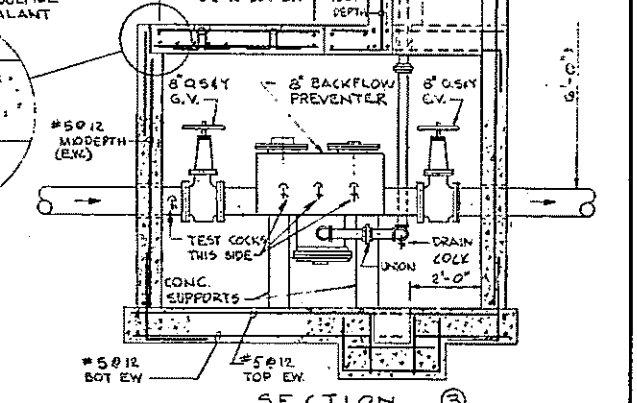
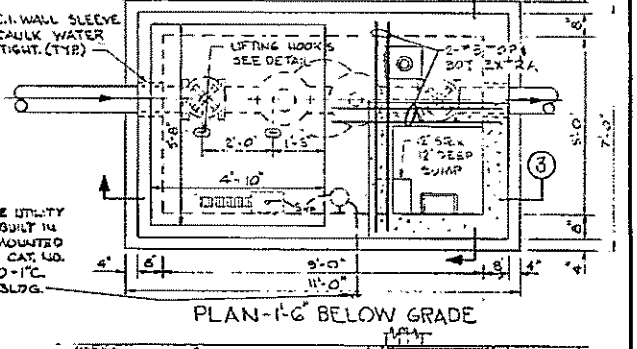
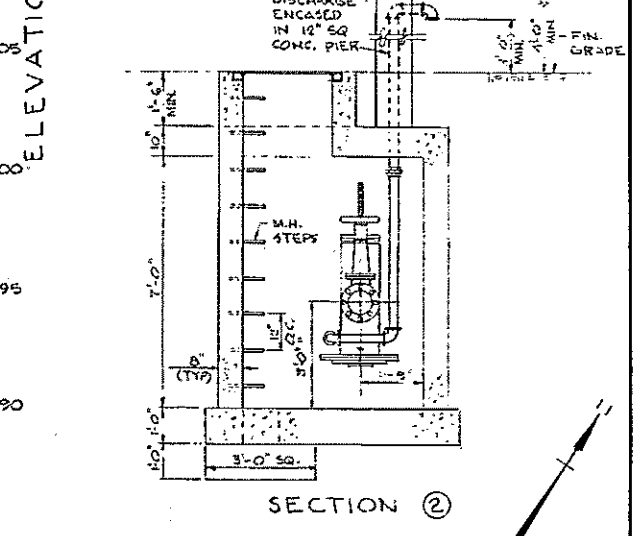
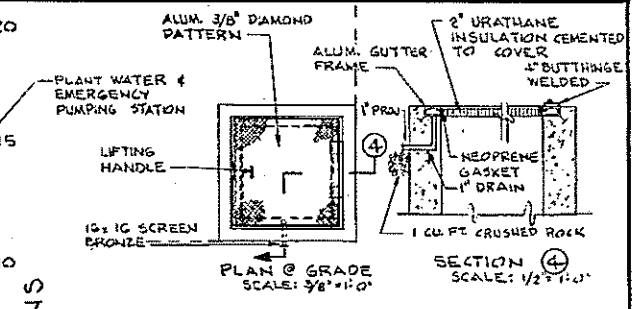
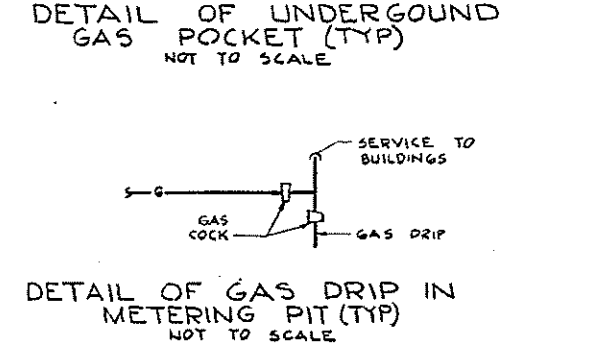
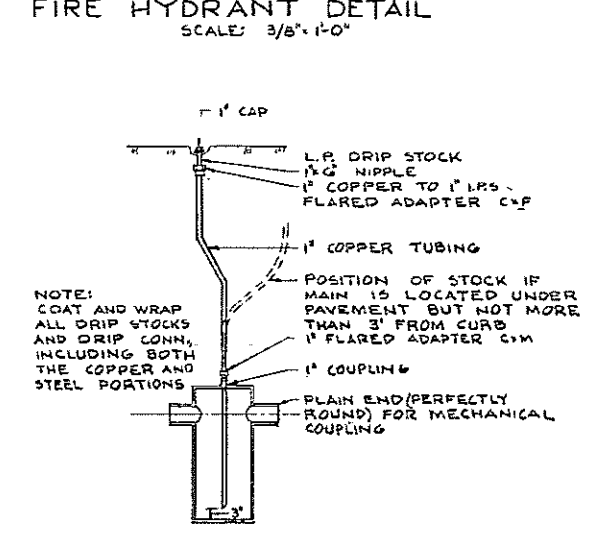
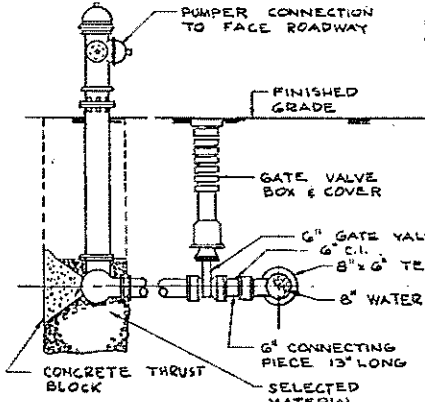
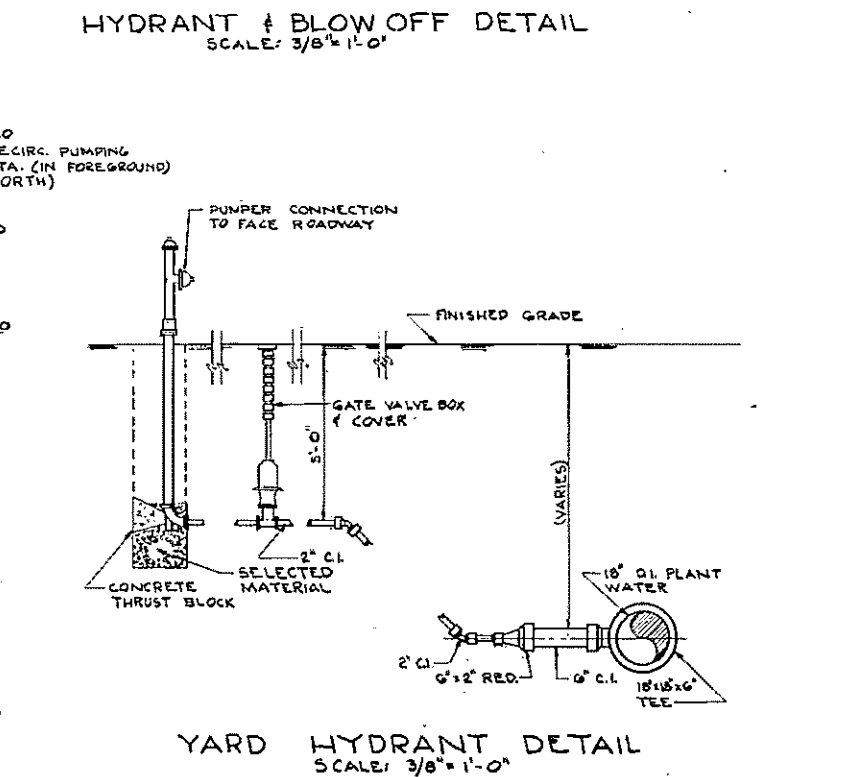
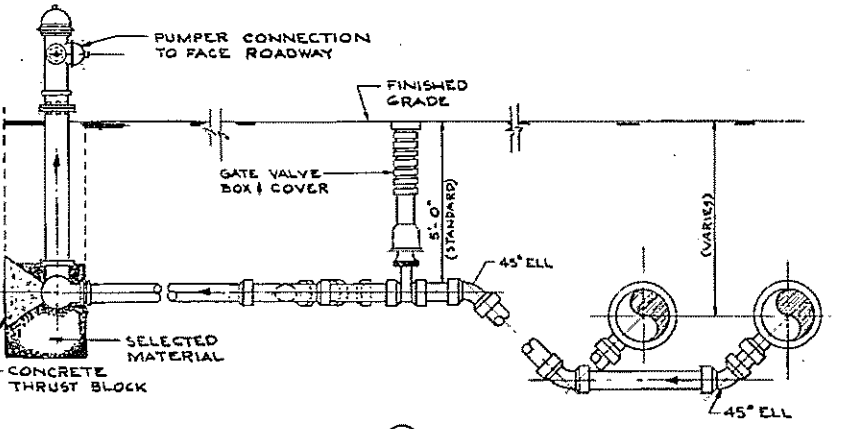
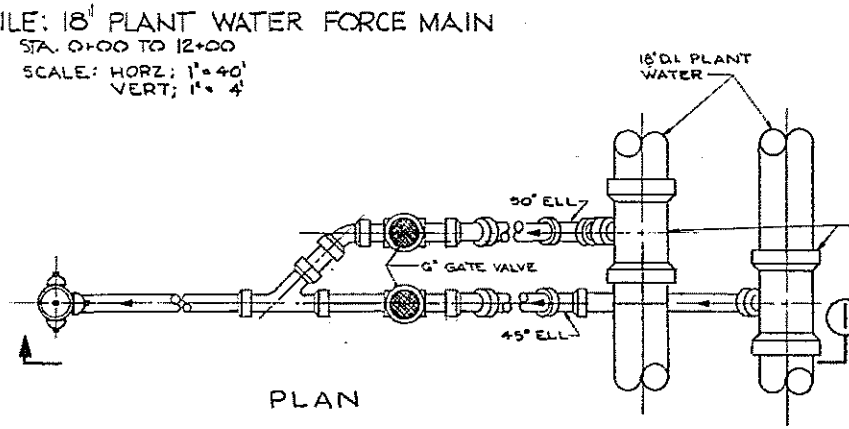
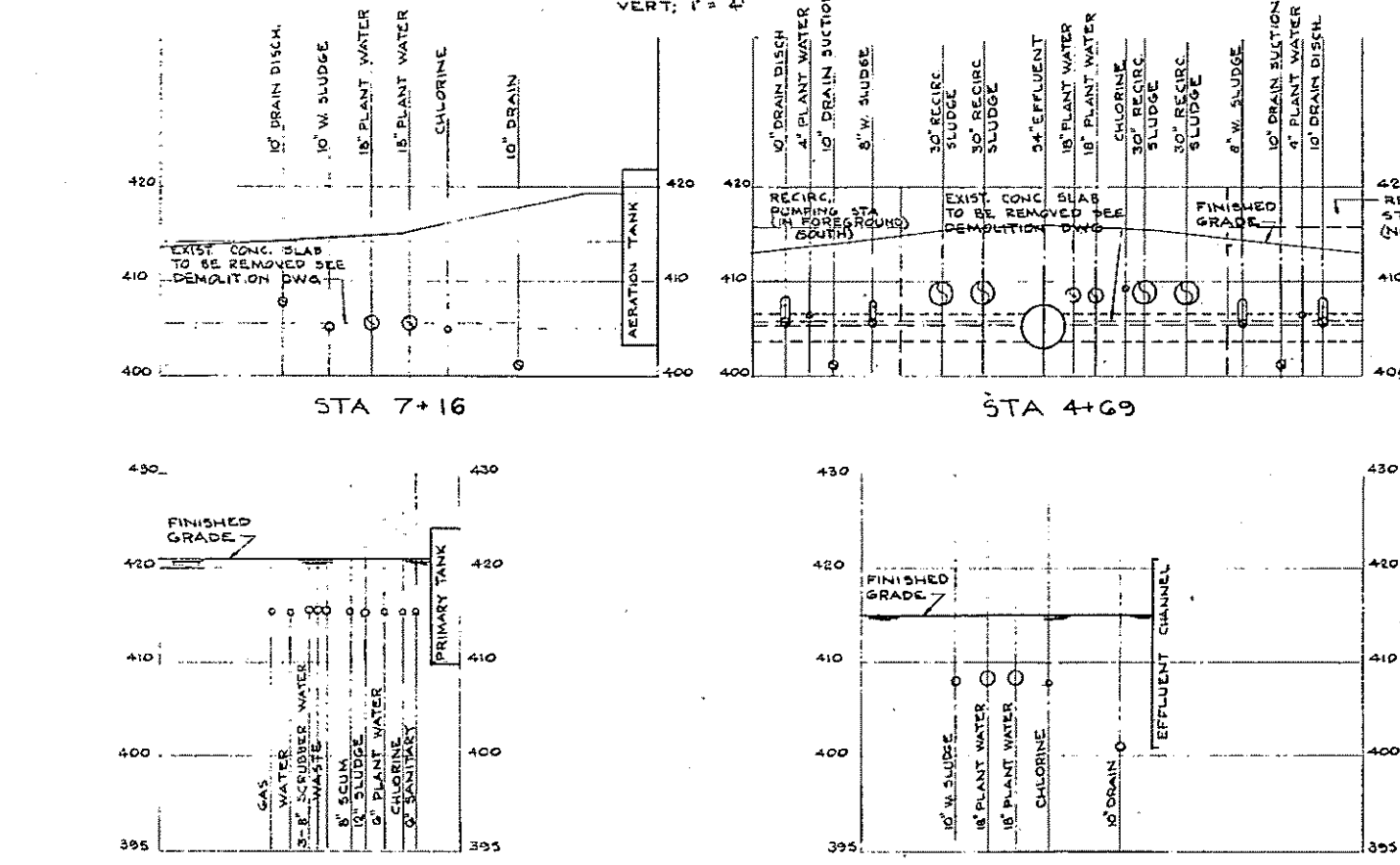
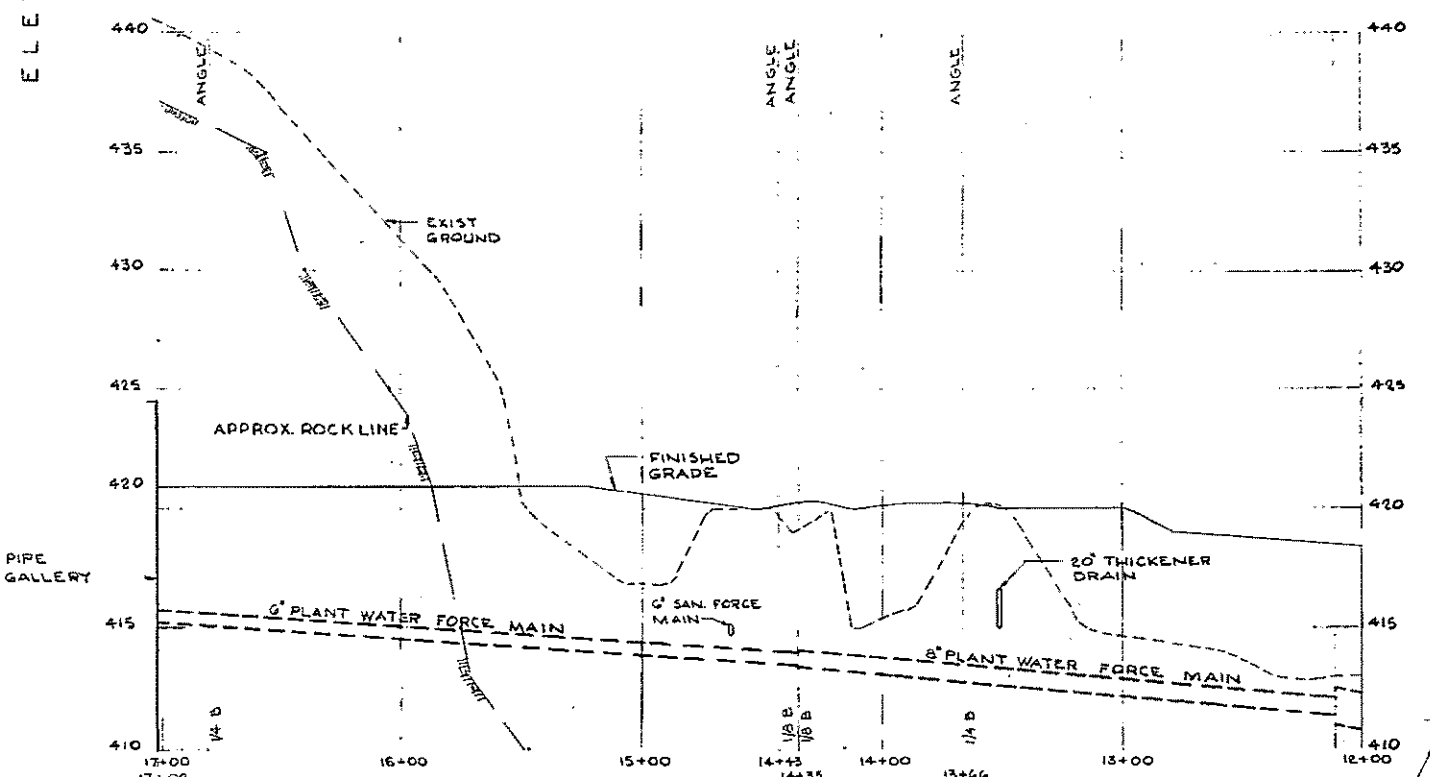
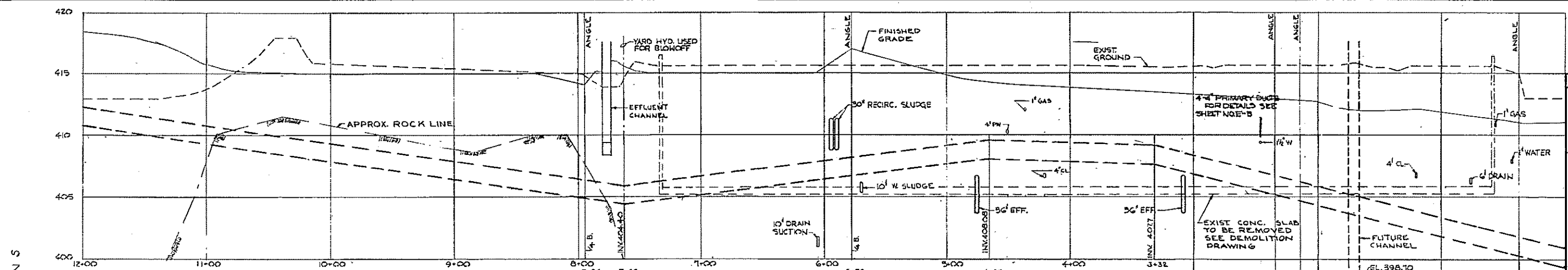
HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2

YARD PIPING
 PROFILES - RECIRCULATED SLUDGE AND
 FINAL SETTLING TANK EFFLUENT AND
 MISCELLANEOUS CROSS SECTIONS

SCALE: AS NOTED FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DEL. L.L.C. IN CHARGE
 DE. K.W.D. IN CHARGE
 APPROVED: *J.M. Cahaly* PLAN NO. JW-83
 SHEET NO. 262

CONTRACT DRAWING SHEET NO. LM-3

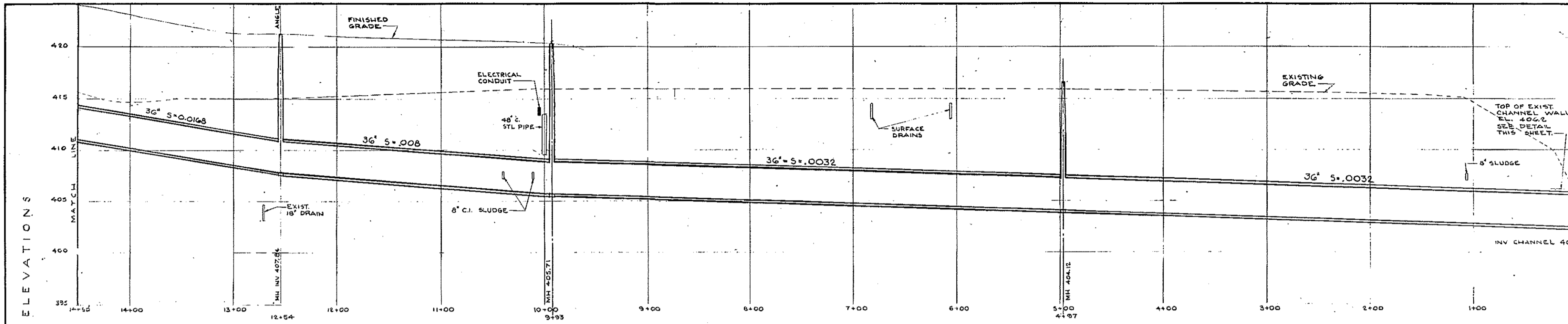


HALF-SIZE DRAWING

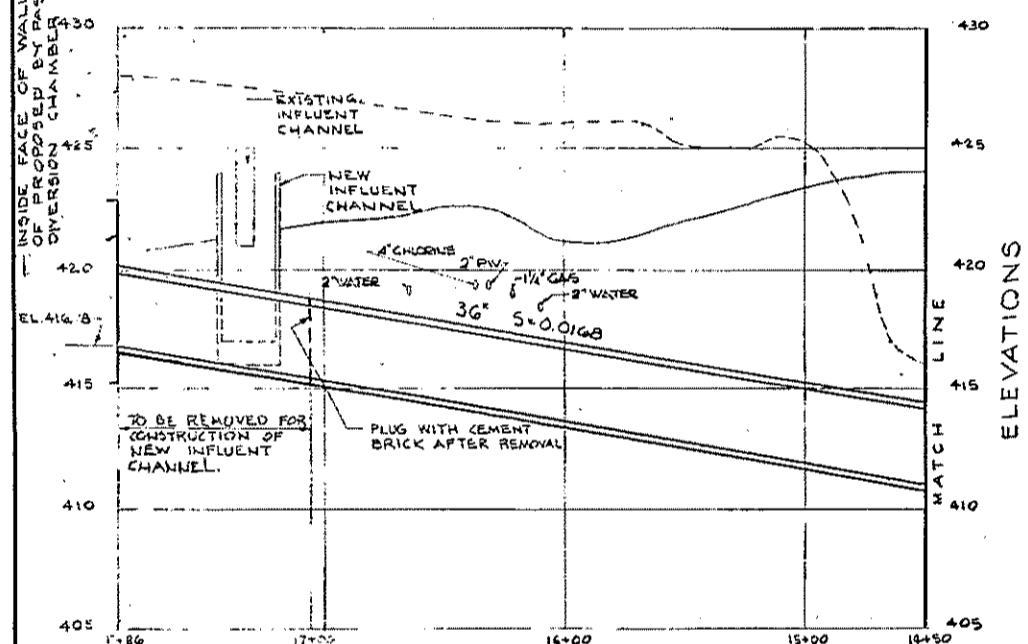
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPD. BY



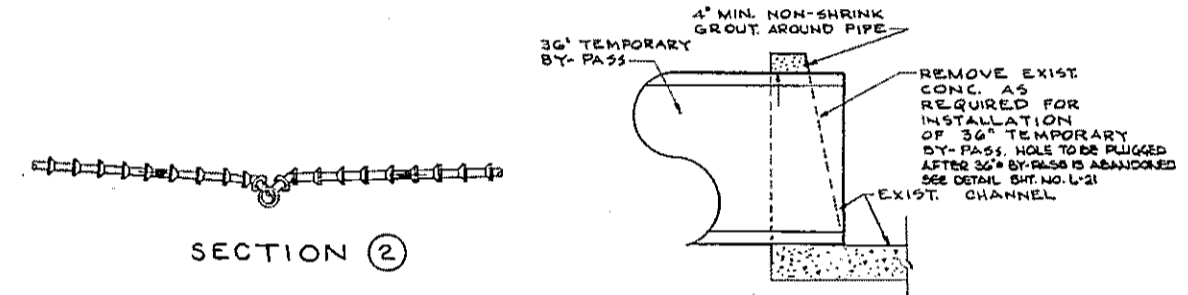
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
YARD PIPING
PROFILE - 18" PLANT WATER
AND MISCELLANEOUS DETAILS
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
APPROVED: *F. W. Cahaly* JUN 1973
CONTRACT DRAWING SHEET NO. LM-4



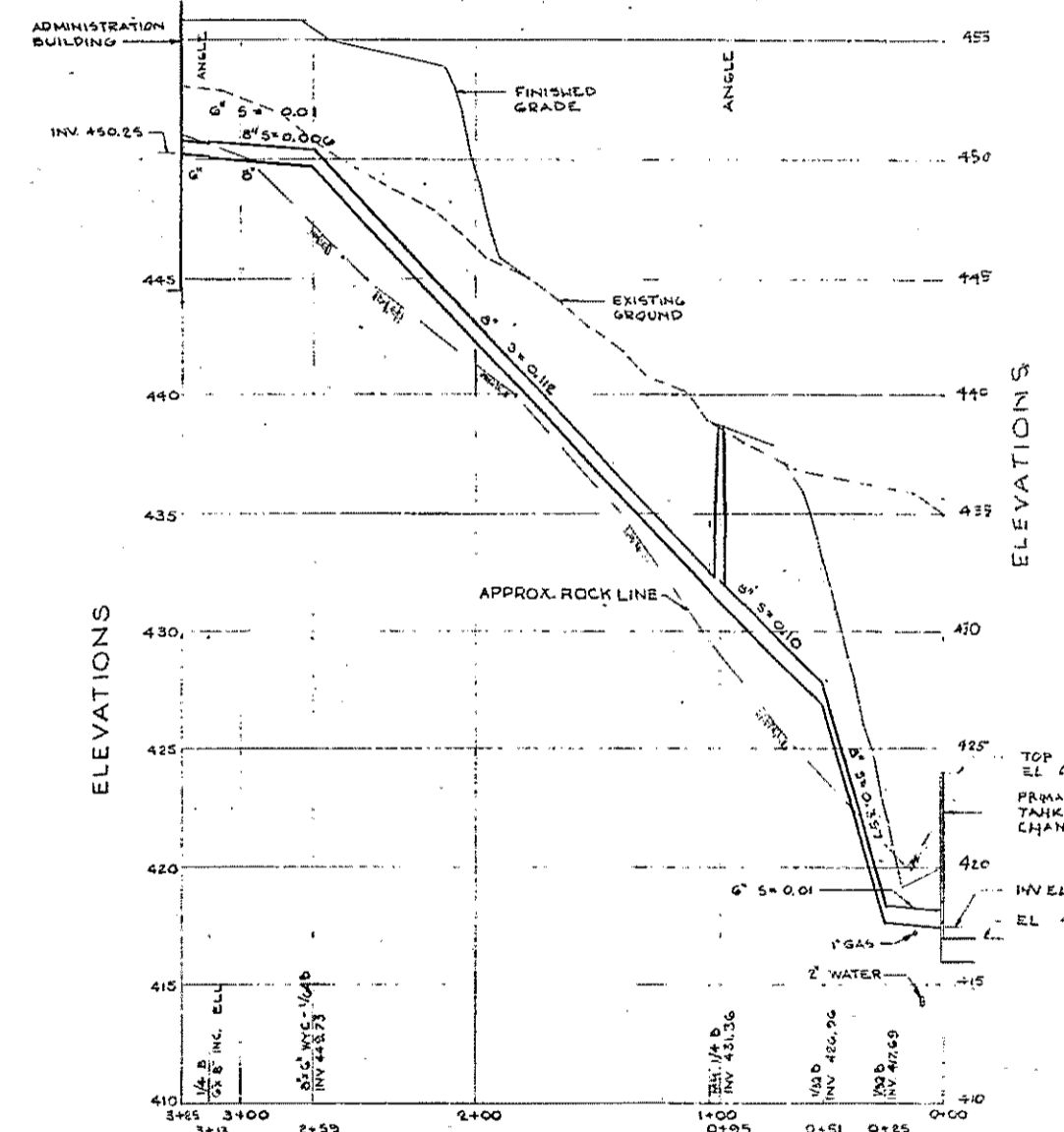
PROFILE-TEMPORARY BY-PASS
SCALE: HORZ: 1"=40'
VERT: 1"=4'



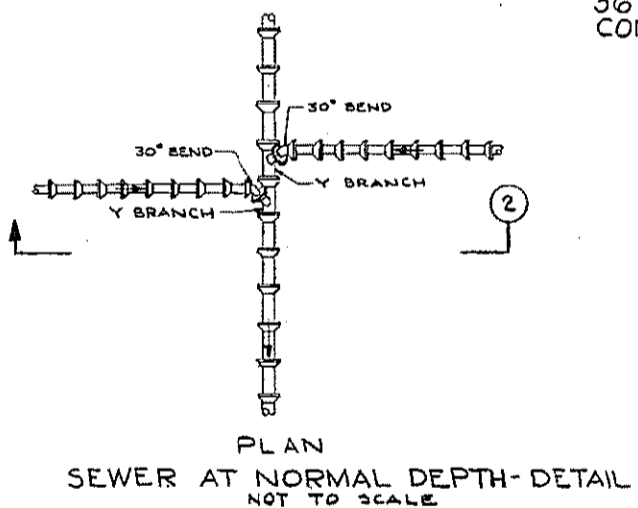
PROFILE-TEMPORARY BY-PASS
(CONTINUED)



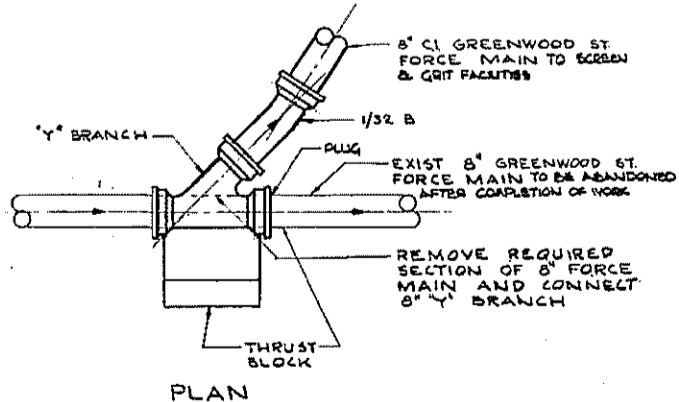
36" TEMPORARY BY-PASS
CONNECTION DETAIL
SCALE: 1/2"=1'-0"



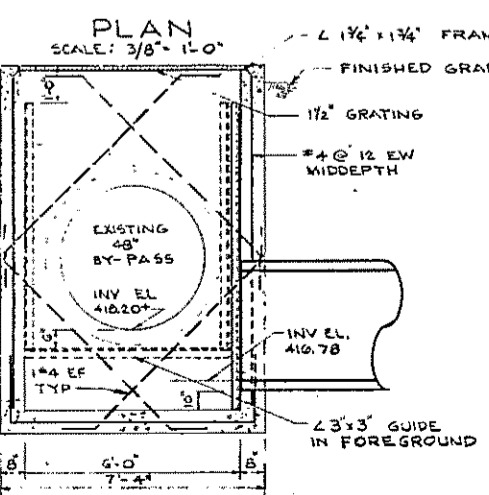
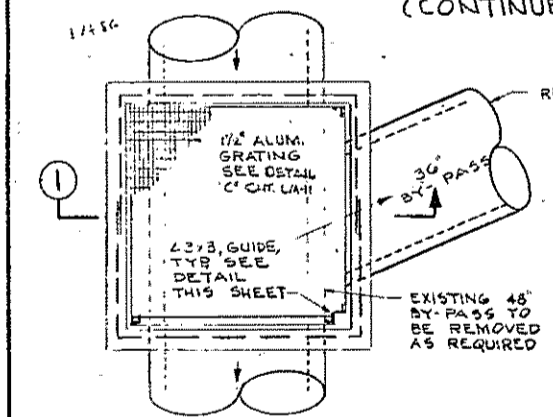
PROFILE - 8" SANITARY
SCALE: HORZ. 1"=40'
VERT. 1"=4'



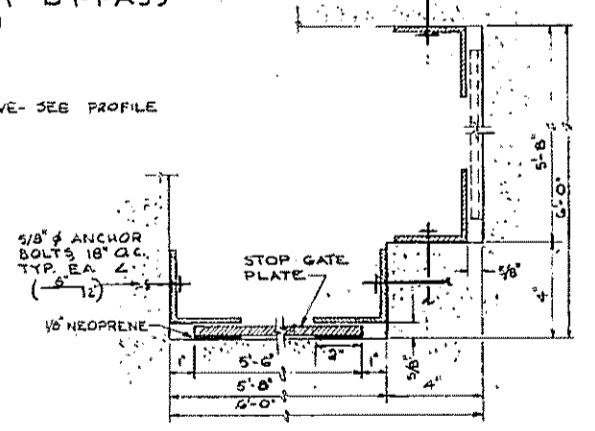
PLAN
SEWER AT NORMAL DEPTH-DETAIL
NOT TO SCALE



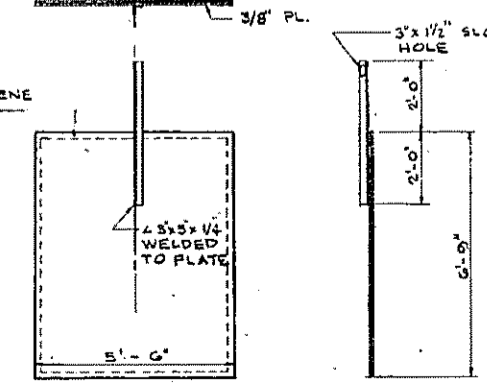
PLAN
GREENWOOD ST. FORCE MAIN
CONNECTION DETAIL
SCALE: 1/2"=1'-0"



SECTION ①
SCALE: 3/8"=1'-0"

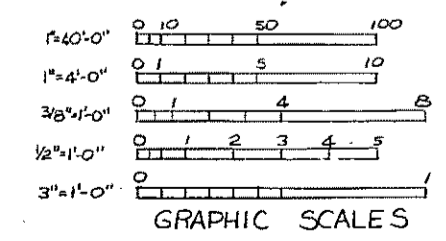


GUIDE - PLAN
SCALE: 3/8"=1'-0"



STOP GATE DETAILS
SCALE: 3/8"=1'-0"

BY-PASS DIVERSION CHAMBER DETAILS
SCALE: AS NOTED



REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY



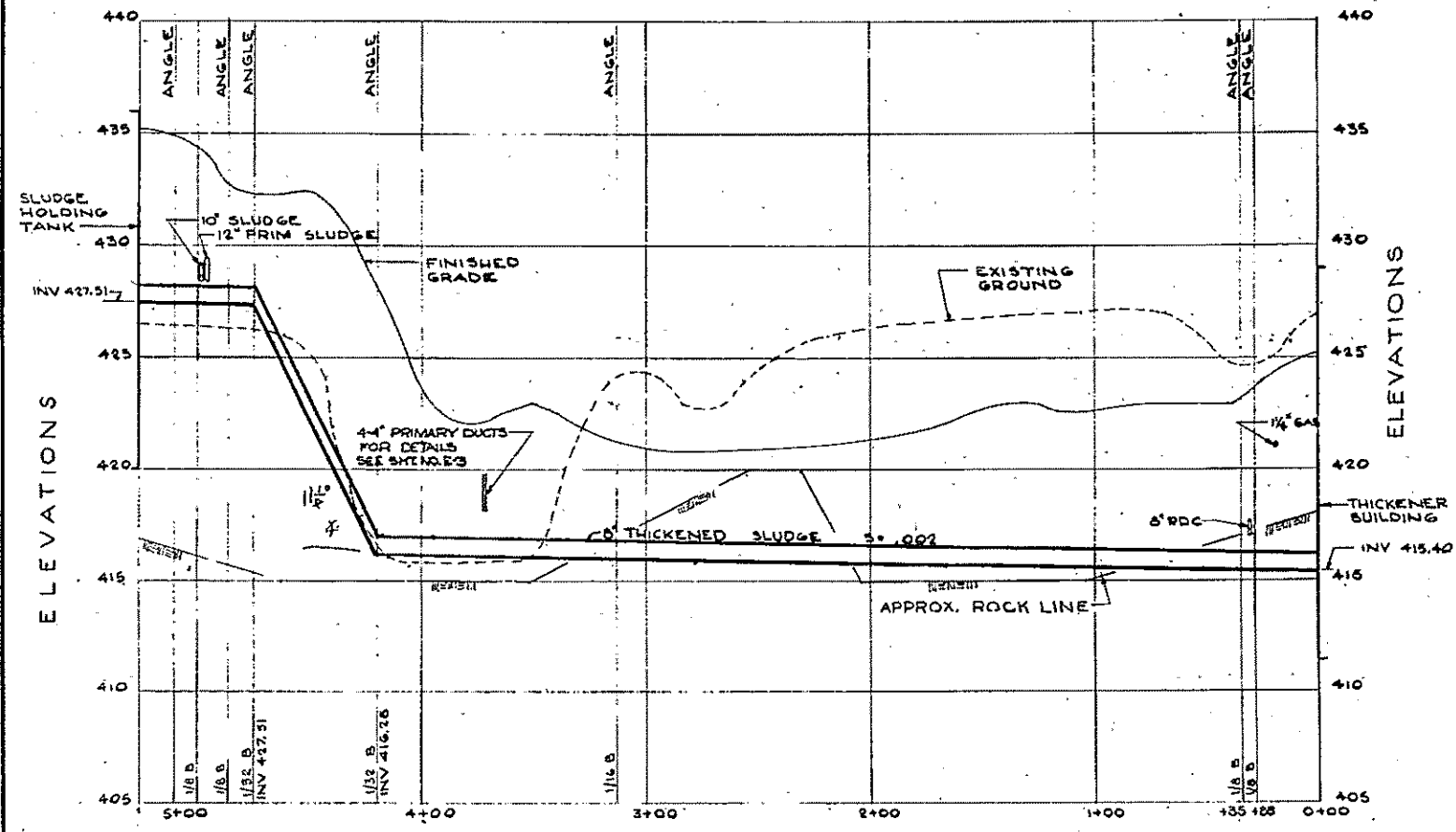
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITY
CONTRACT NO. 2

YARD PIPING
PROFILE - TEMPORARY BY-PASS
AND MISCELLANEOUS DETAILS

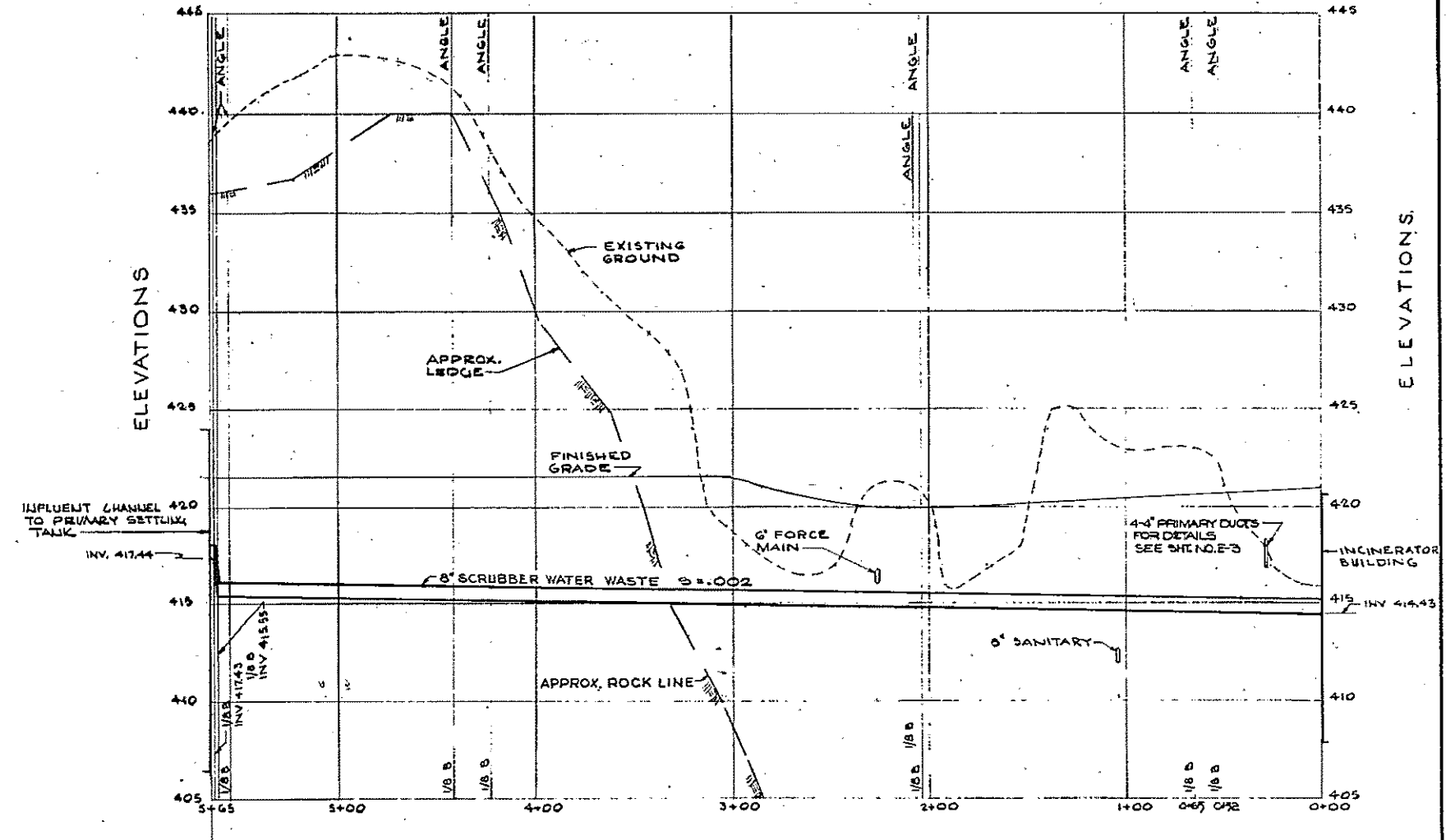
SCALE: AS NOTED
FEBRUARY 1968
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON

DES. J.I.C. TR. C.H. J.A.P.
DR. R.F.G. FILE NO. JW-8
APPROVED: M. Cahaly
DATE: 2/6/68
SHEET NO. 264

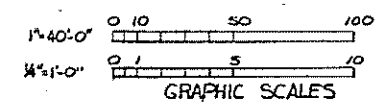
CONTRACT DRAWING SHEET NO. LM



PROFILE - 8" THICKENED SLUDGE
 SCALE: HORIZ. 1" = 40'
 VERT. 1" = 4'



PROFILE - 8" SCRUBBER WATER WASTE
 SCALE: HORIZ. 1" = 40'
 VERT. 1" = 4'



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2

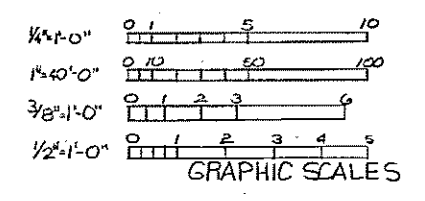
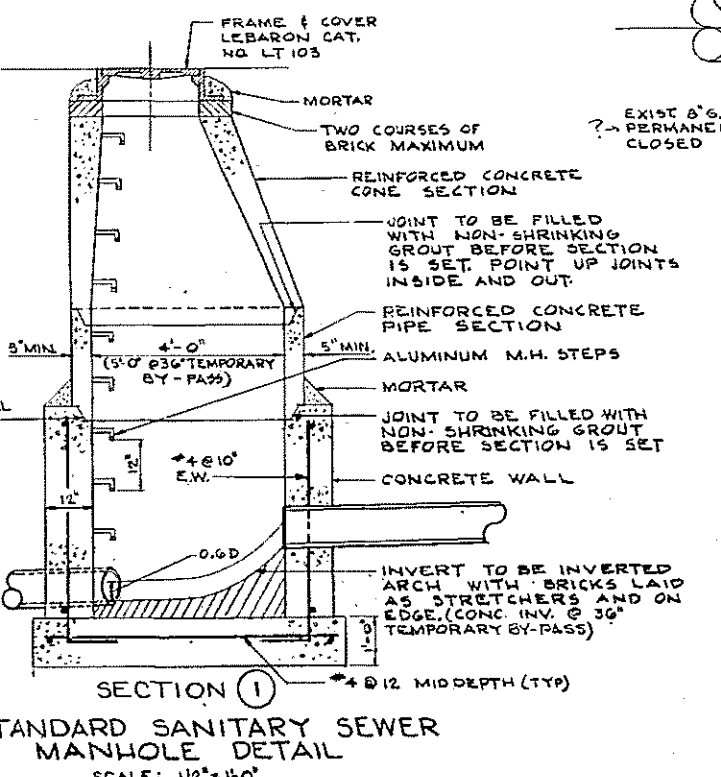
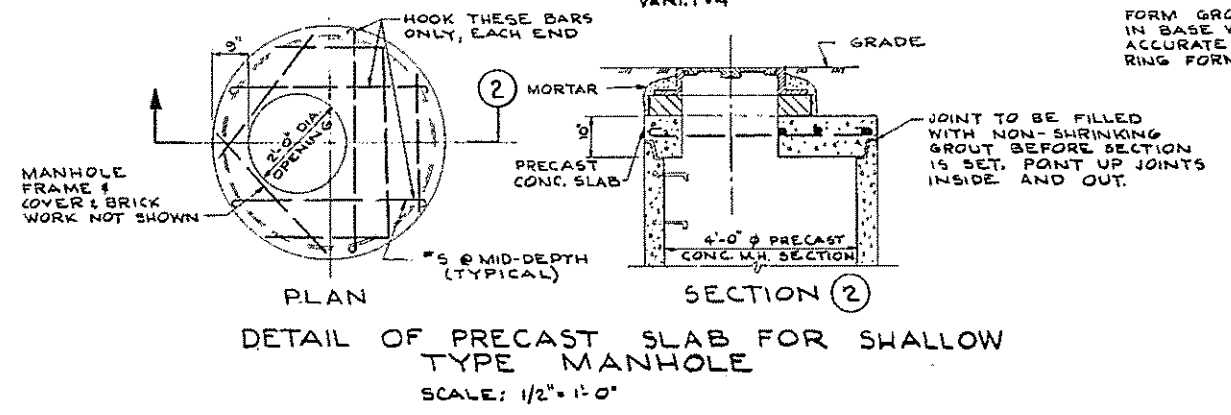
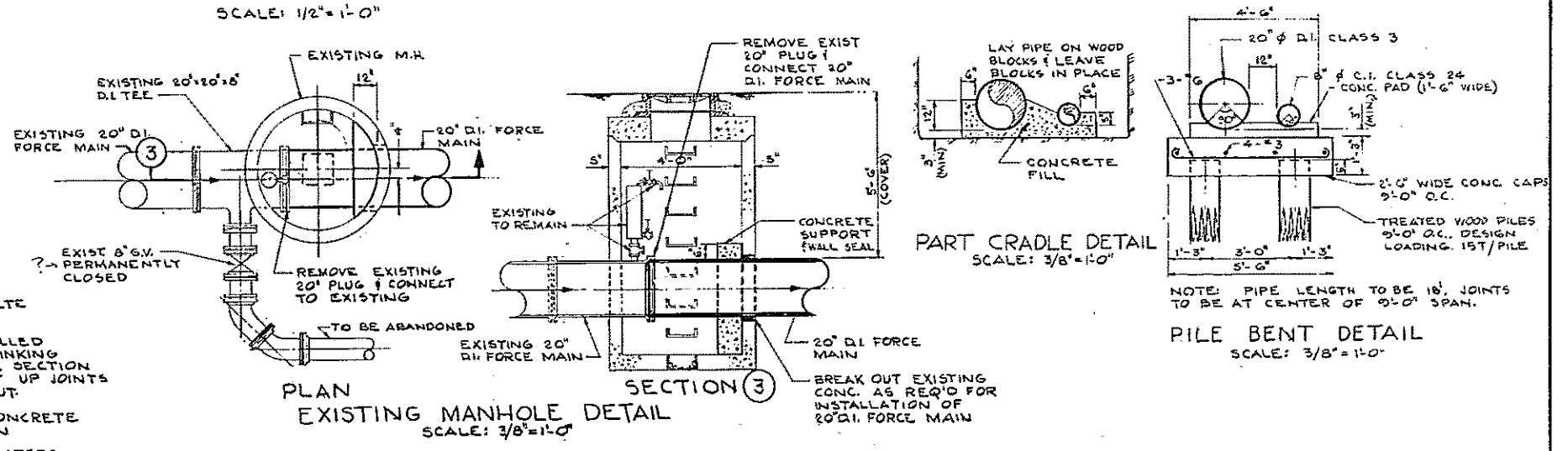
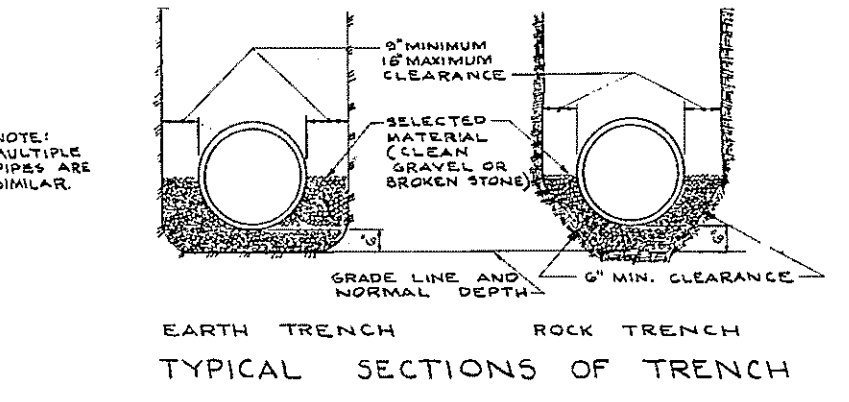
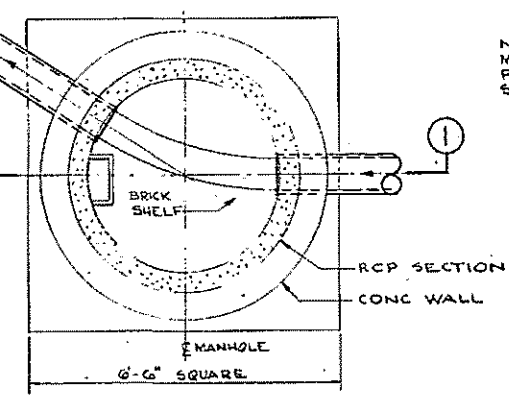
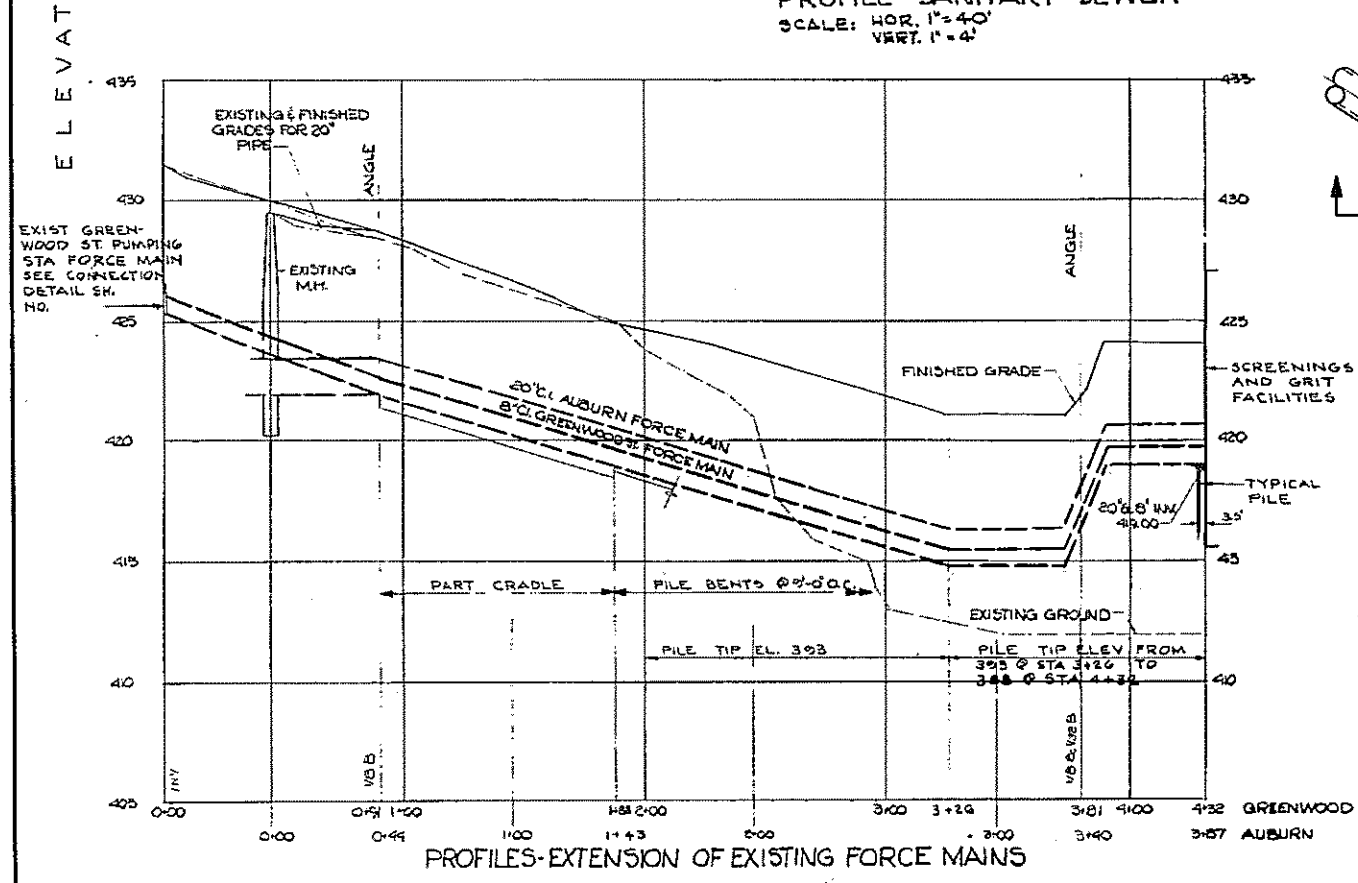
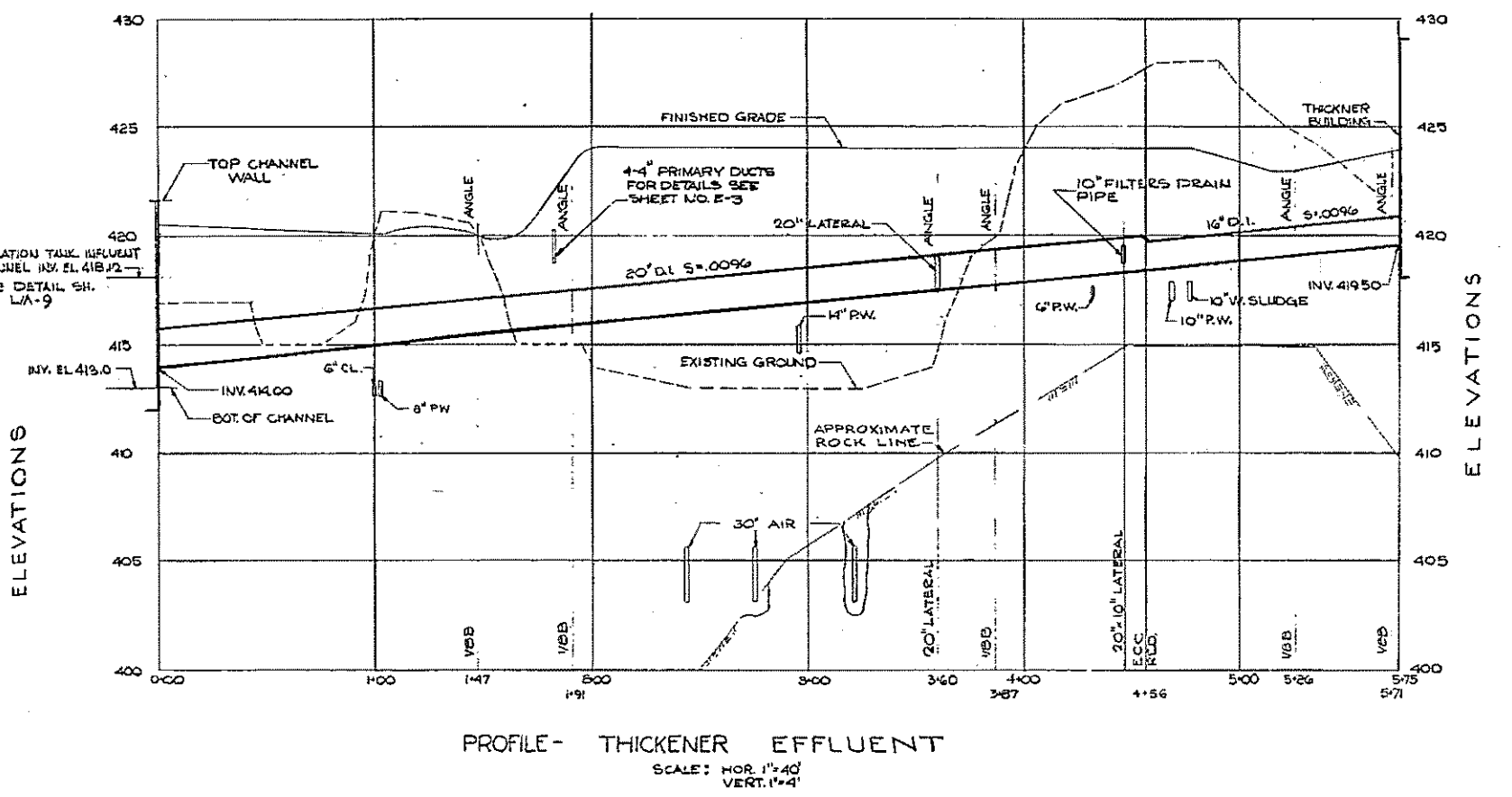
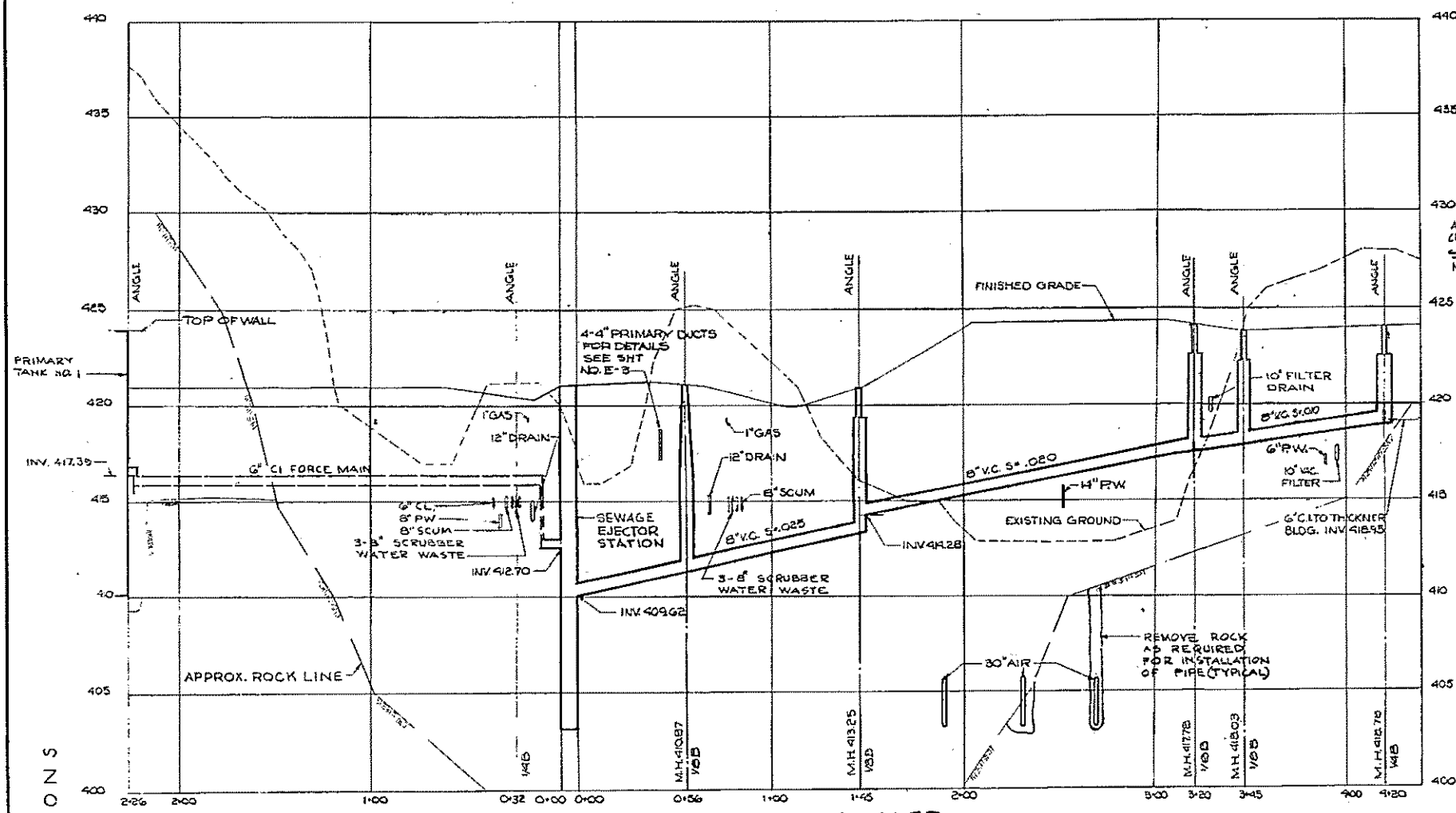
YARD PIPING
 PROFILES - THICKENED SLUDGE
 AND SCRUBBER WATER WASTE

SCALE: AS NOTED
 FEB 22 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. J.J.C. TR. CHE. M.A.P. FILE NO. JW-83
 APPROVED J.M. Cahaly PLAN NO. 265

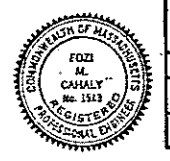


REV. NO.	DATE	DESCRIPTION	MADE BY	CHE. BY	APP. BY

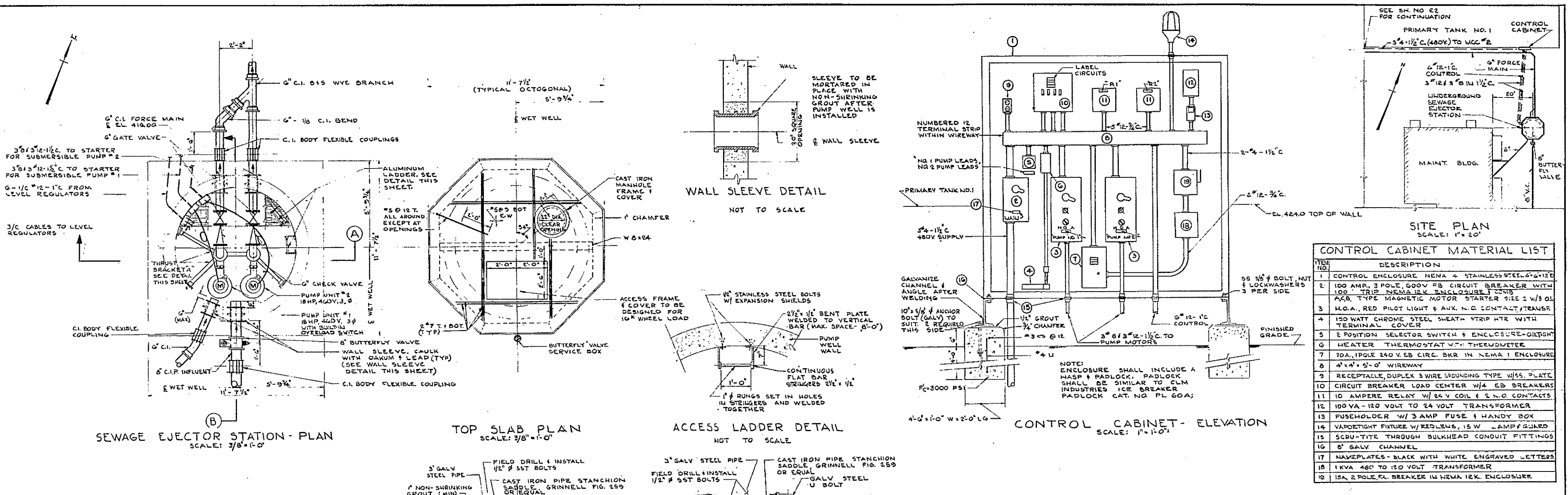


HALF-SIZE DRAWING

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP'D BY

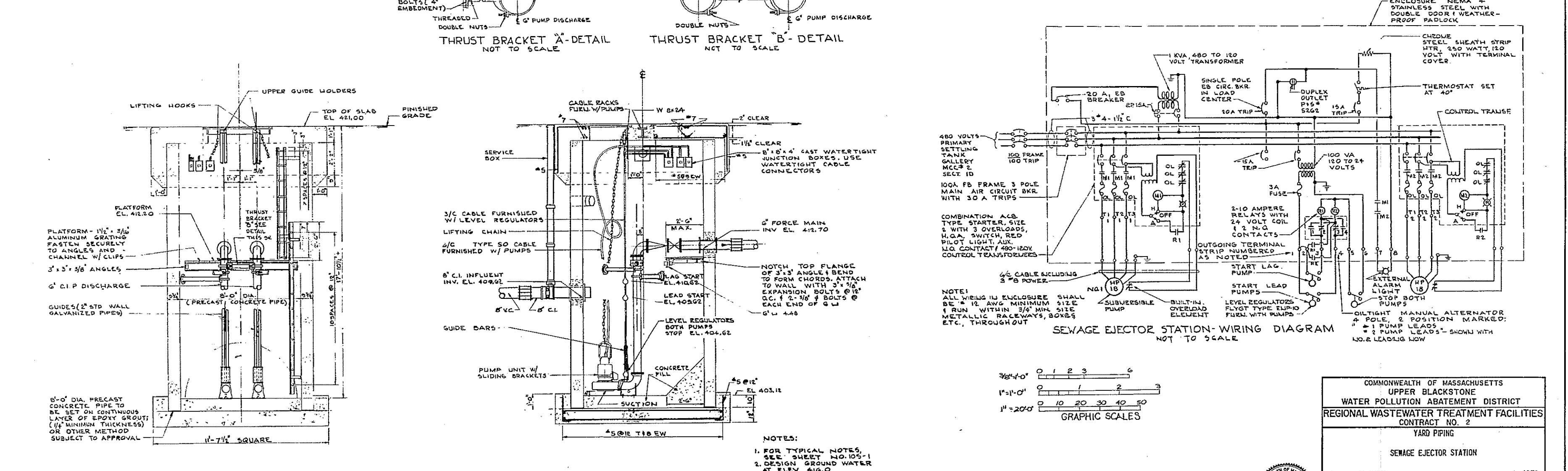


COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
YARD PIPING
PROFILES - SANITARY SEWER,
THICKENER EFFLUENT AND EXTENSION
OF EXISTING FORCE MAINS
SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
FEBRUARY 1, 1975
REV. J.J.Z. DATE 12-1-75
APP. J.M.C. REG. NO. 1343
REV. J.W. 83
APP. J.M.C. REG. NO. 1343
REV. 266
CONTRACT DRAWING SHEET NO. LM-7



CONTROL CABINET MATERIAL LIST

ITEM NO.	DESCRIPTION
1	CONTROL ENCLOSURE NEMA 4 STAINLESS STEEL 6'-0" x 12'-0"
2	100 AMP, 3 POLE, 480V EB CIRCUIT BREAKER WITH 100 TRIP NEMA 12 ENCL. 3/4" 100 TRIP
3	H.Q.A. RED PILOT LIGHT & AUX. N.C. CONTACT/TRANS.
4	150 WATT CHROME STEEL SEAT-STRIP HTR WITH TERMINAL COVER
5	2 POSITION SELECTOR SWITCH & ENCL. 3/4" 100 TRIP
6	HEATER THERMOSTAT W/ THERMIST
7	20A, 1 POLE 240 V. EB CIRC. BKR IN NEMA 1 ENCL.
8	4" x 4" x 5'-0" WIREWAY
9	RECEPTACLE, DUPLEX 3 WIRE GROUNDING TYPE W/ 55 PLATE
10	CIRCUIT BREAKER LOAD CENTER W/ 4 EB BREAKERS
11	10 AMPERE RELAY W/ 24 V. COIL & 2 N.O. CONTACTS
12	100 VA - 120 VOLT TO 24 VOLT TRANSFORMER
13	FUSEHOLDER W/ 3 AMP FUSE & HANDY BOX
14	VAPORTIGHT FITTING W/ REDUCERS, 1 1/2 W. LAMP GUARD
15	SCRUB-TITE THROUGH BULKHEAD CONDUIT FITTINGS
16	8' GALV CHANNEL
17	NAMEPLATES - BLACK WITH WHITE ENGRAVED LETTERS
18	1 KVA 480 TO 120 VOLT TRANSFORMER
19	15A, 2 POLE, FL. BREAKER IN NEMA 12K ENCL.



COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2

YARD PIPING
 SEWAGE EJECTOR STATION

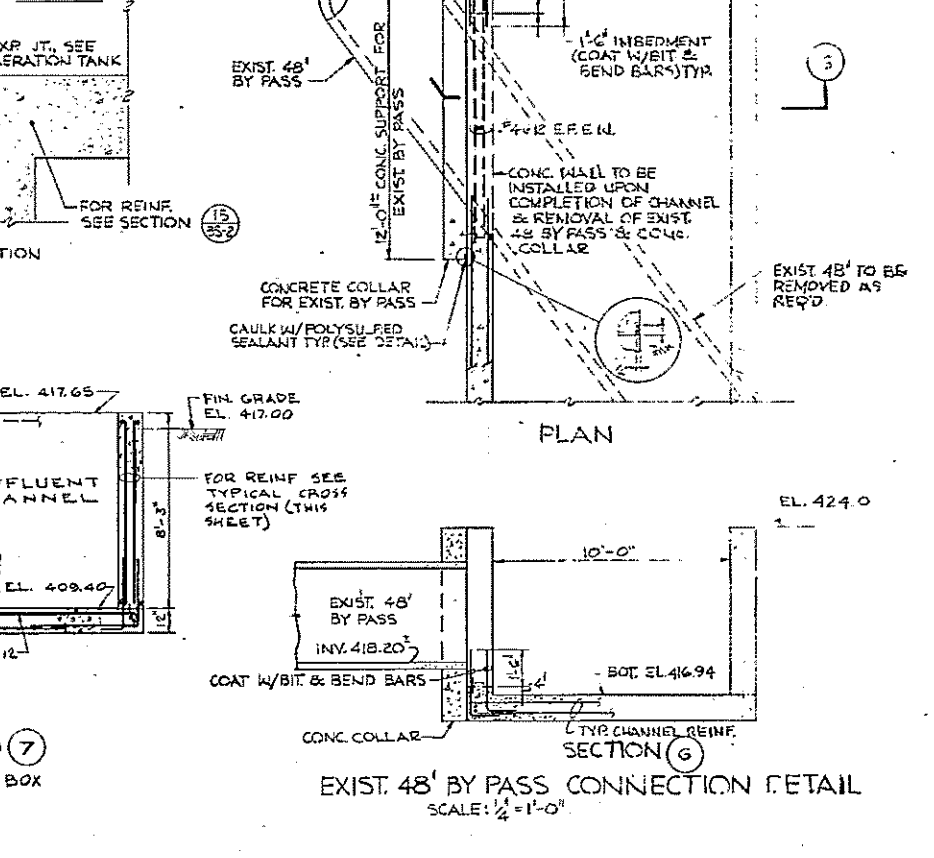
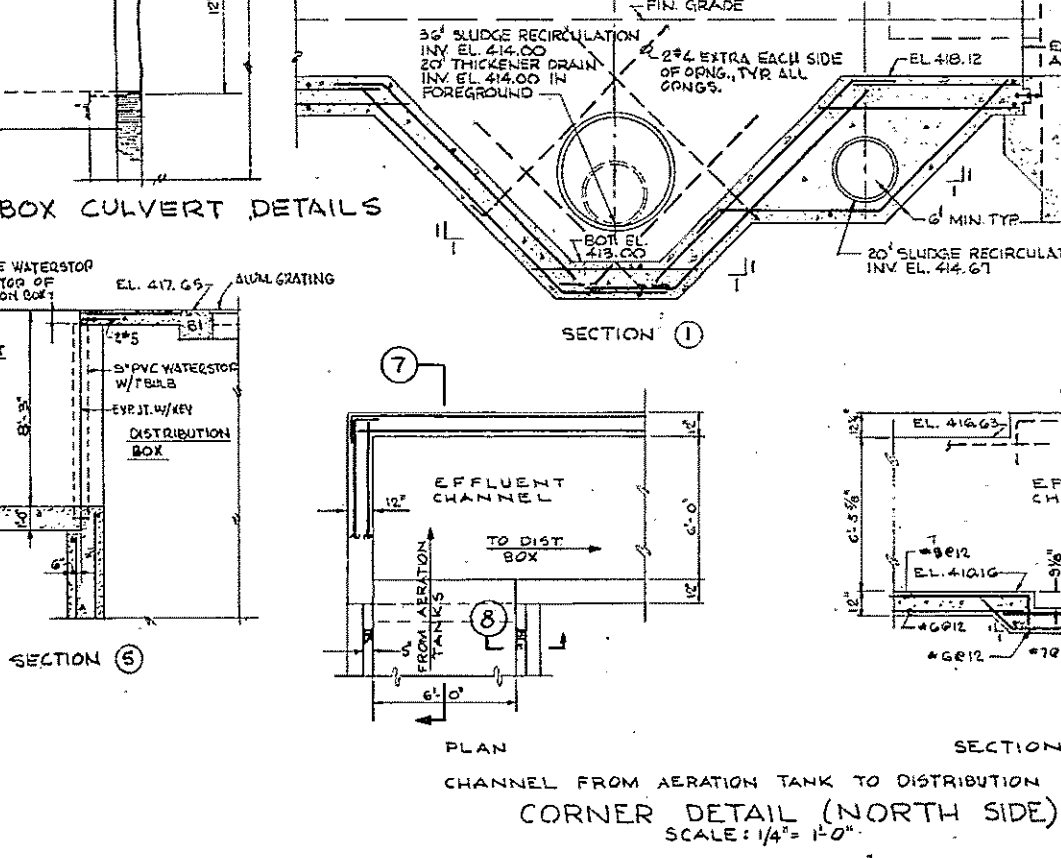
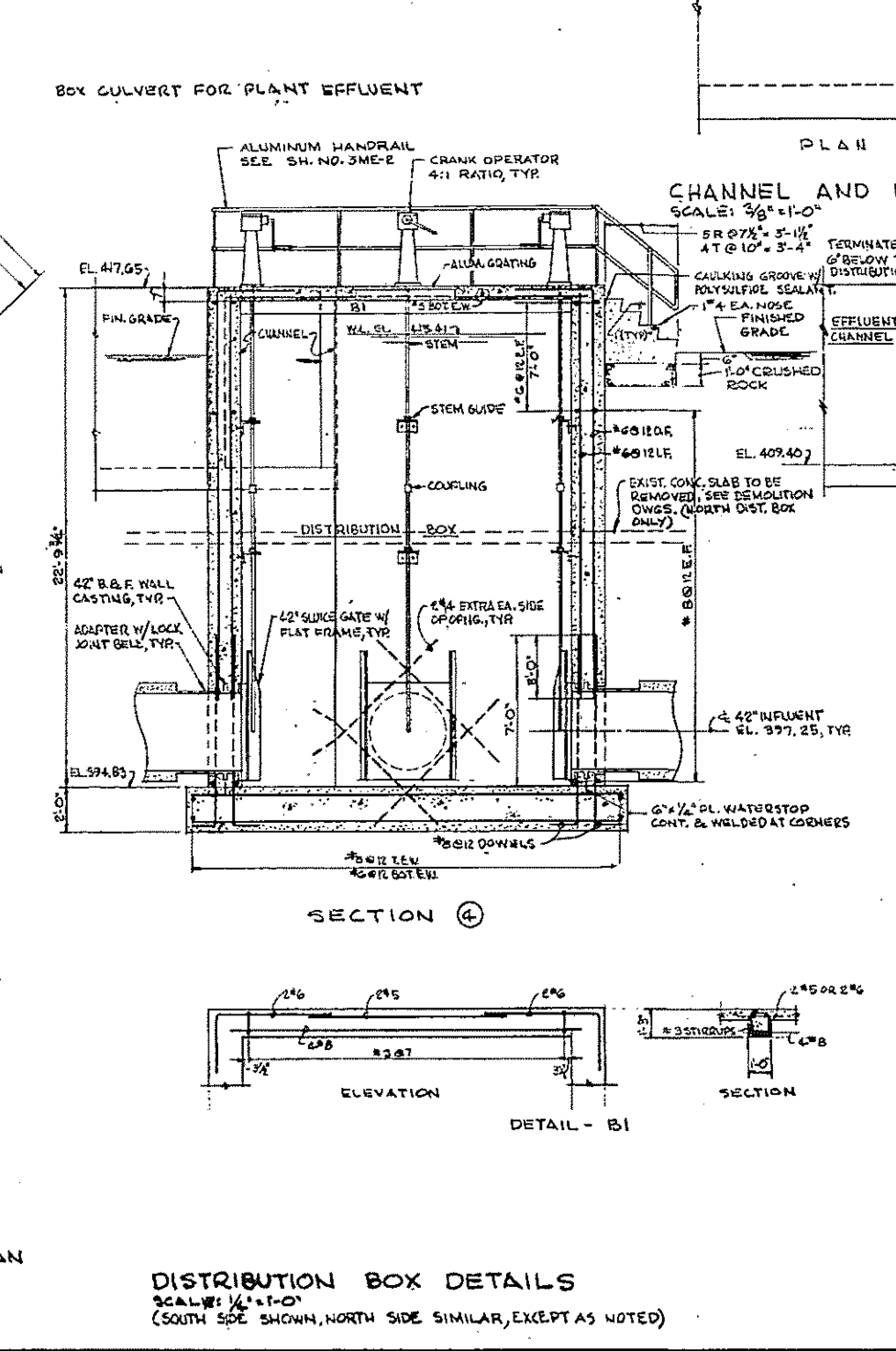
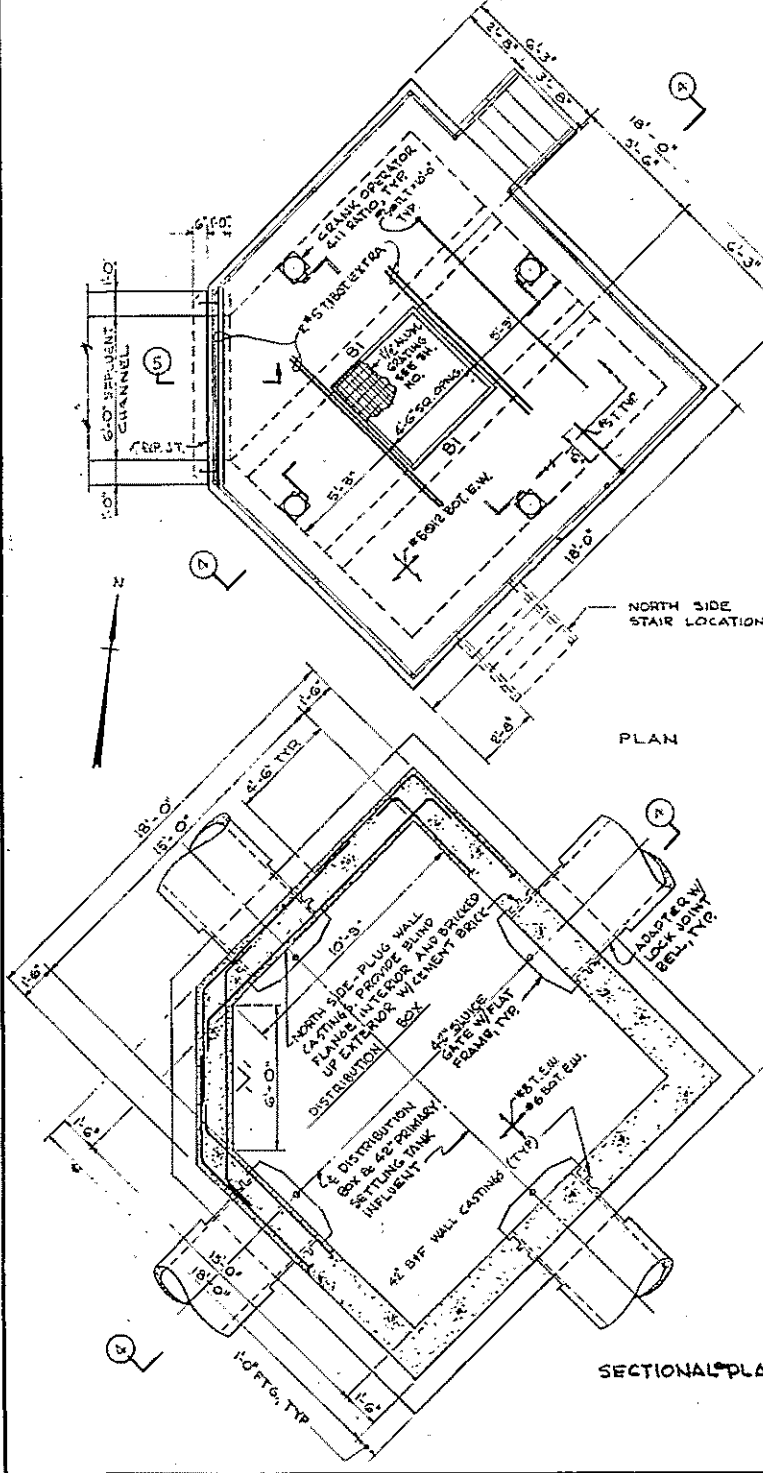
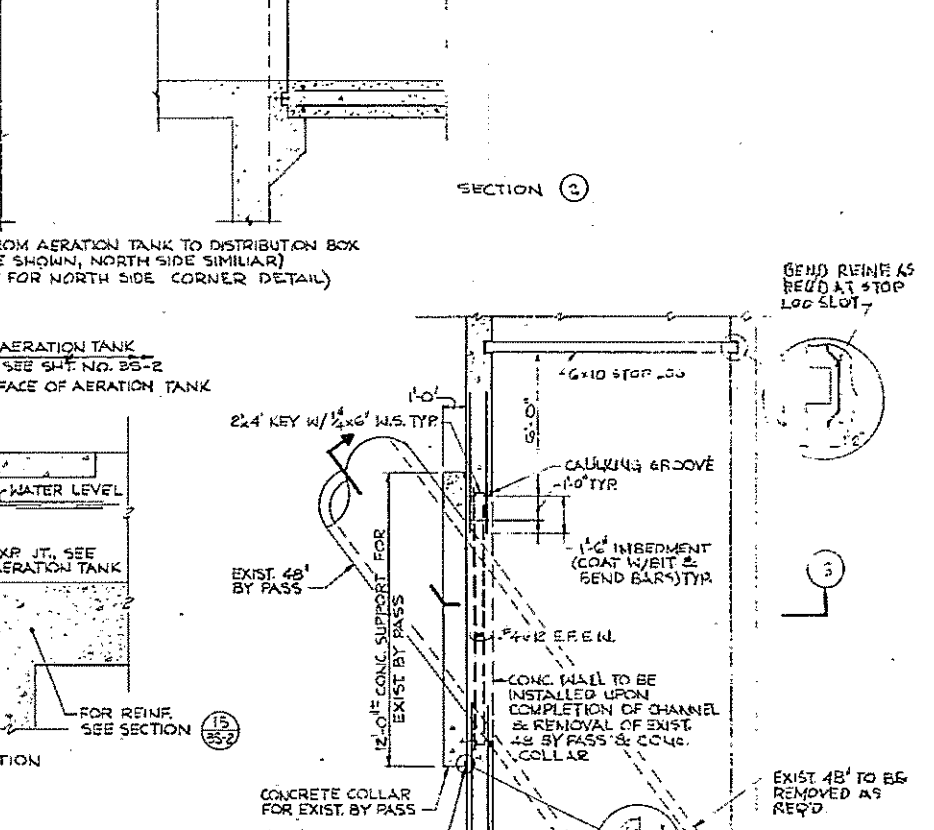
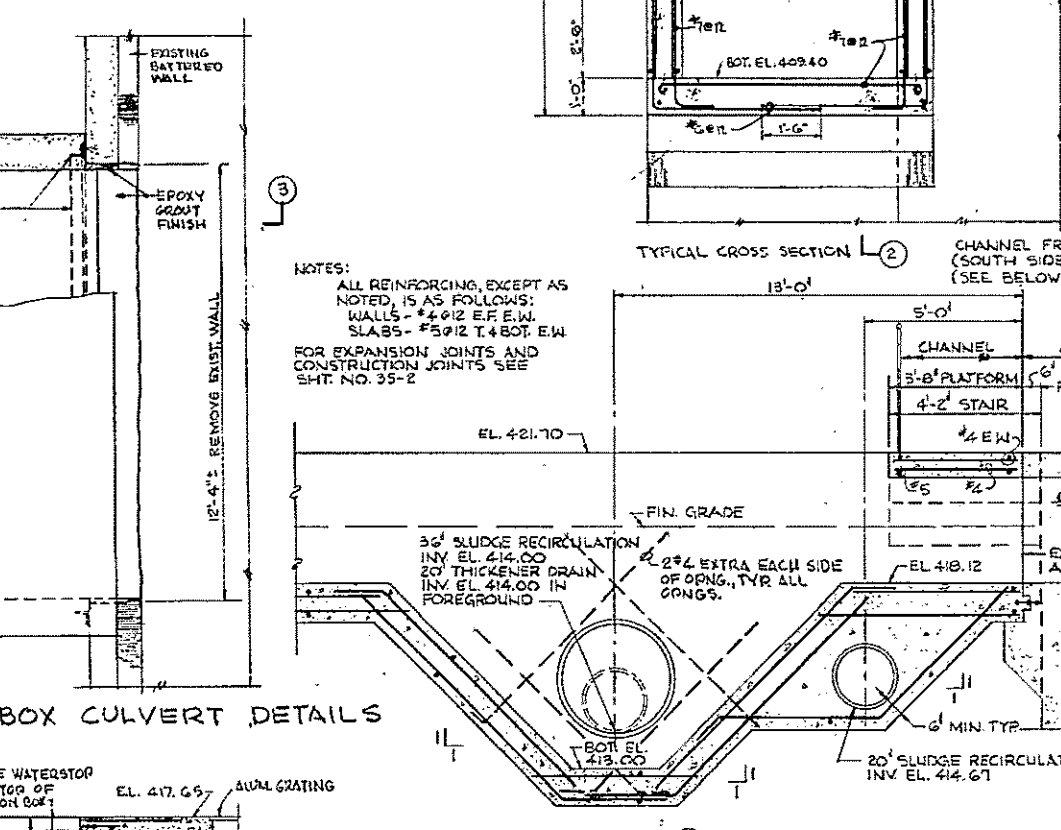
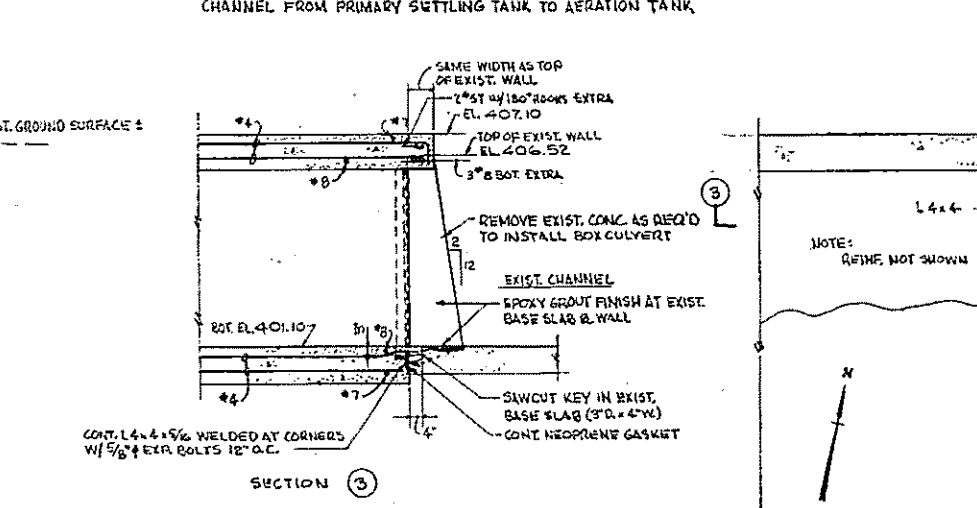
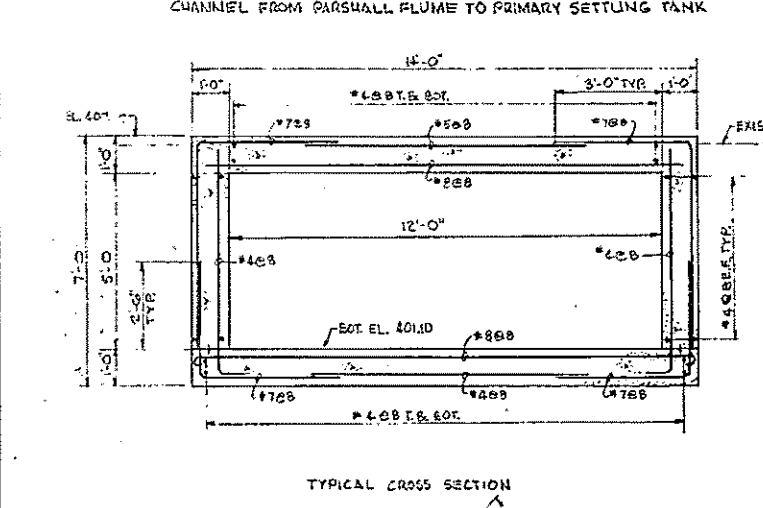
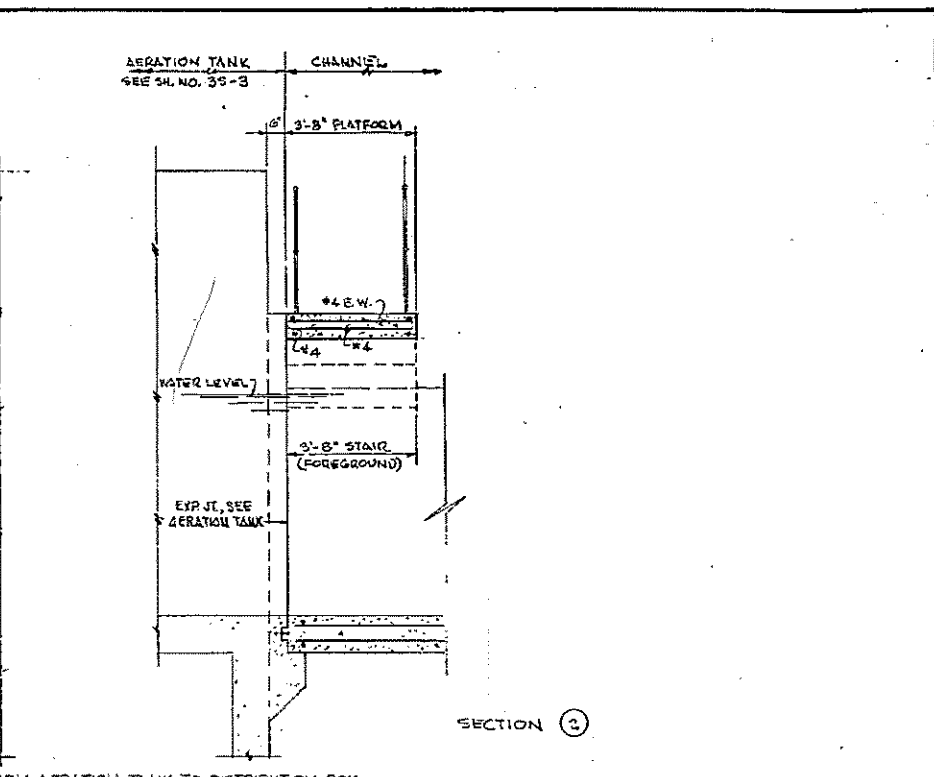
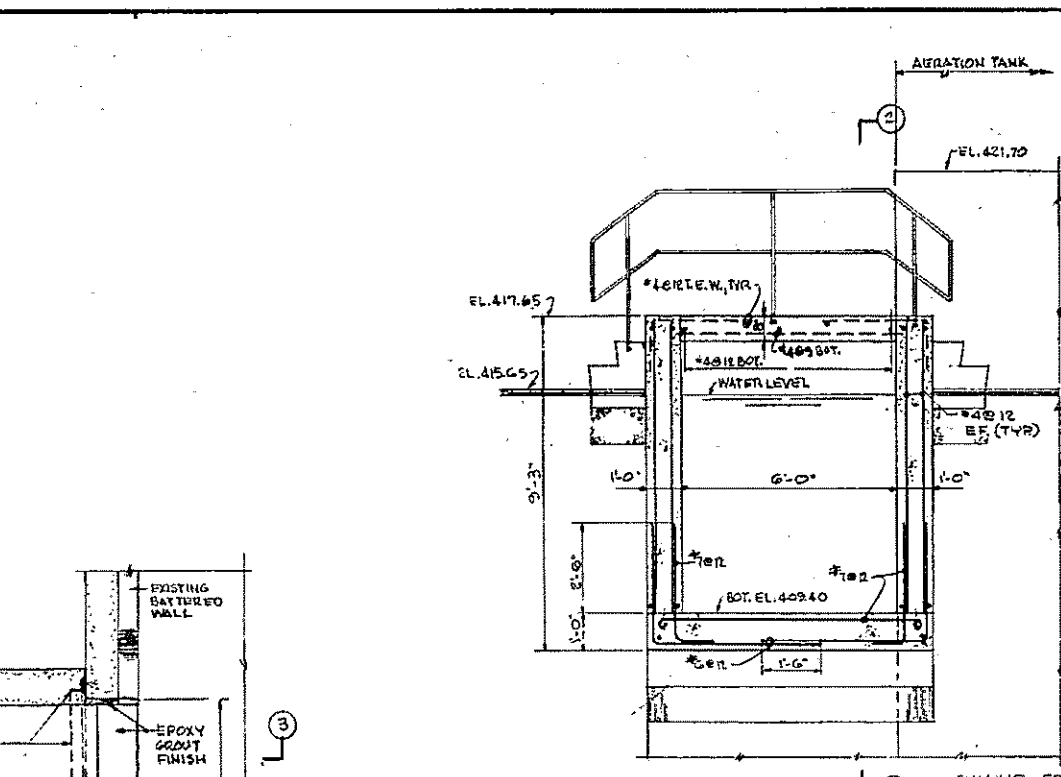
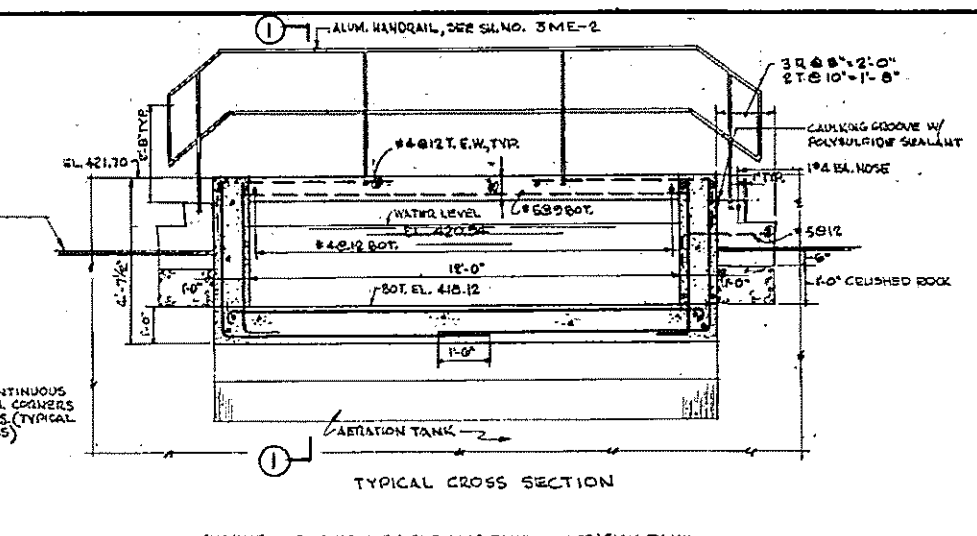
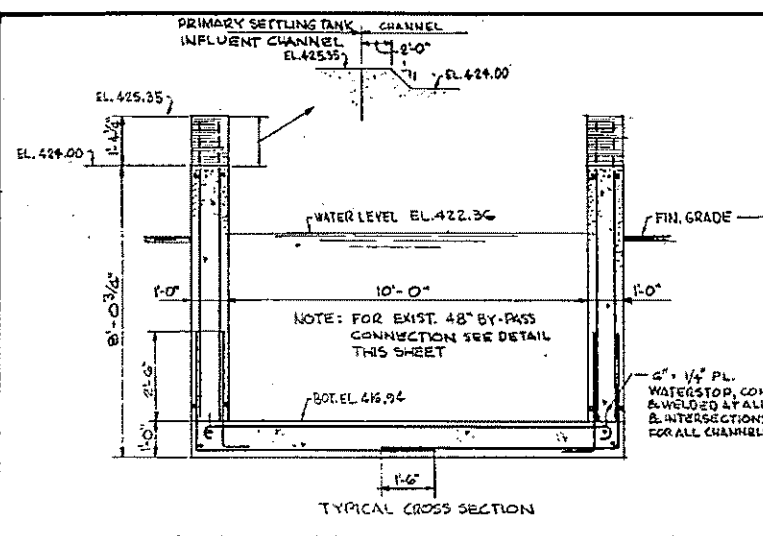
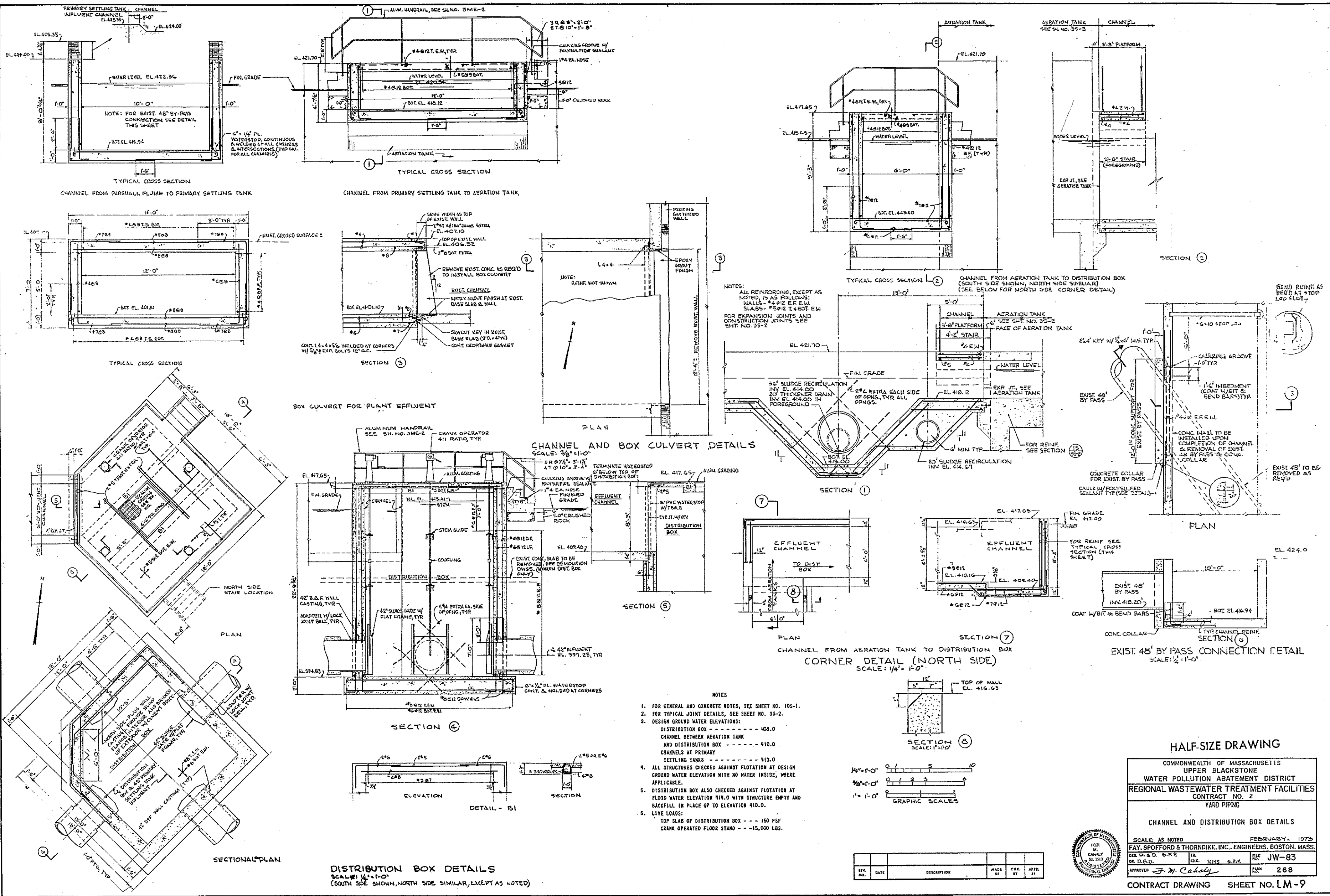
SCALE: AS NOTED
 FEBRUARY, 1975

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. J.C.C. W.S.F. TR. M.E. 255
 CH. J.C.C. T.L.B. FILE JW-83

APPROVED *F. M. Cahaly* P.E. 267

CONTRACT DRAWING SHEET NO. LM-8



NOTES

- FOR GENERAL AND CONCRETE NOTES, SEE SHEET NO. 105-1.
- FOR TYPICAL JOINT DETAILS, SEE SHEET NO. 35-2.
- DESIGN GROUND WATER ELEVATIONS:
 DISTRIBUTION BOX ----- 408.0
 CHANNEL BETWEEN AERATION TANK AND DISTRIBUTION BOX ----- 410.0
 CHANNELS AT PRIMARY SETTLING TANKS ----- 413.0
- ALL STRUCTURES CHECKED AGAINST FLOTATION AT DESIGN GROUND WATER ELEVATION WITH NO WATER INSIDE, WHERE APPLICABLE.
- DISTRIBUTION BOX ALSO CHECKED AGAINST FLOTATION AT FLOOD WATER ELEVATION 414.0 WITH STRUCTURE EMPTY AND BACKFILL IN PLACE UP TO ELEVATION 410.0.
- LIVE LOADS:
 TOP SLAB OF DISTRIBUTION BOX --- 150 PSF
 CRANK OPERATED FLOOR STAND --- 15,000 LBS.

REV.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 YARD PIPING

CHANNEL AND DISTRIBUTION BOX DETAILS

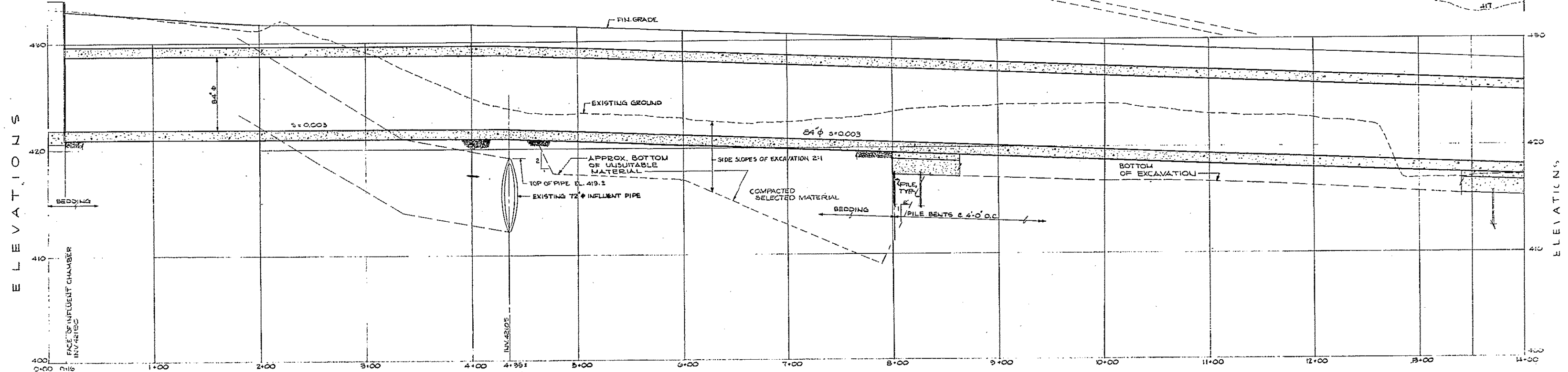
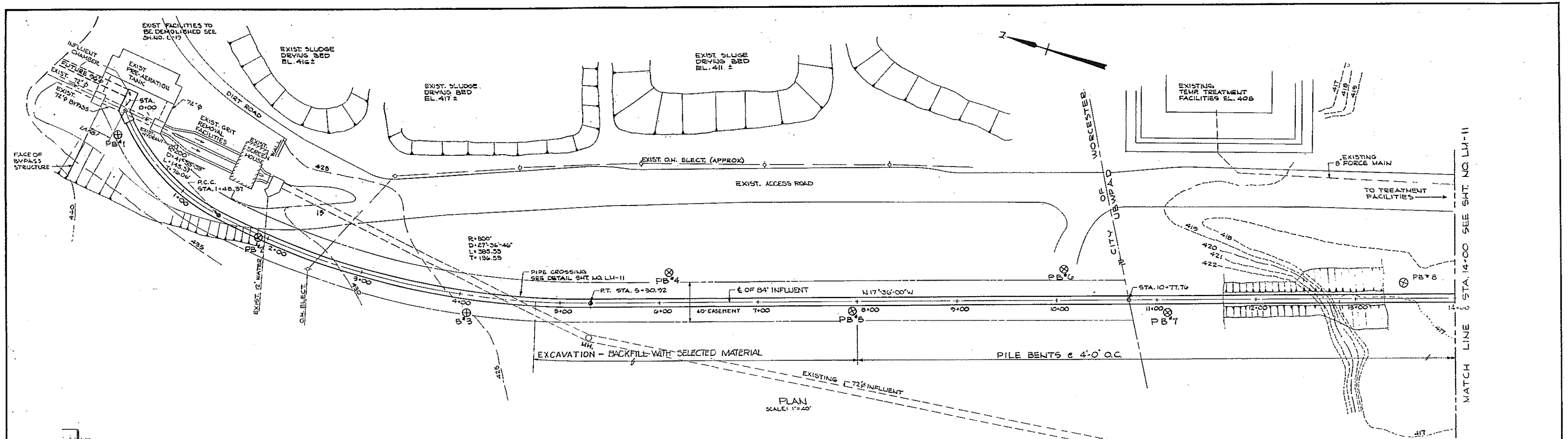
SCALE: AS NOTED FEBRUARY, 1973

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DR. D.G.D. TR. CDR. S.H.S. G.P.R. REV. JW-83

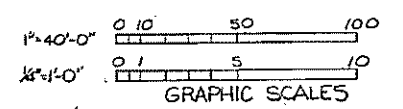
APPROVED: *J. D. Cahaly* PLAN NO. 268

CONTRACT DRAWING SHEET NO. LM-9



NOTES:
 1. BORINGS SHOWN THUS \odot_{B-2}
 2. ESTIMATED PIPE TIP ELEV.
 STA. 8+00 TO 11+00 = EL. 392.0
 STA. 11+00 TO 12+00 = EL. 381.5
 STA. 12+00 TO 15+00 = EL. 370.25
 STA. 15+00 TO 17+50 = EL. 363.50

PROFILE - 84" ϕ INFLUENT LINE
 SCALE: VERT. 1"=4'
 HORIZ. 1"=40'

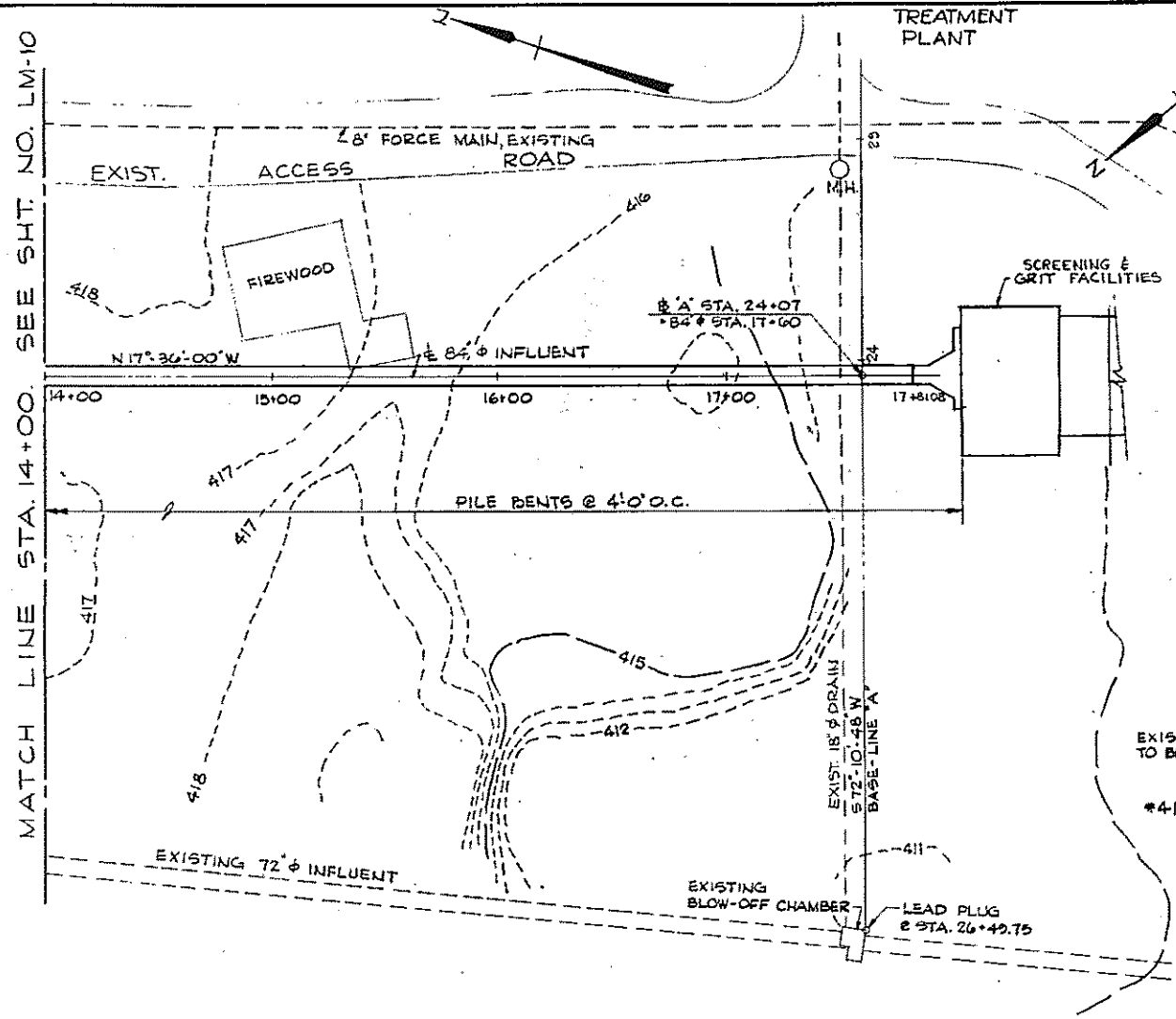


REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

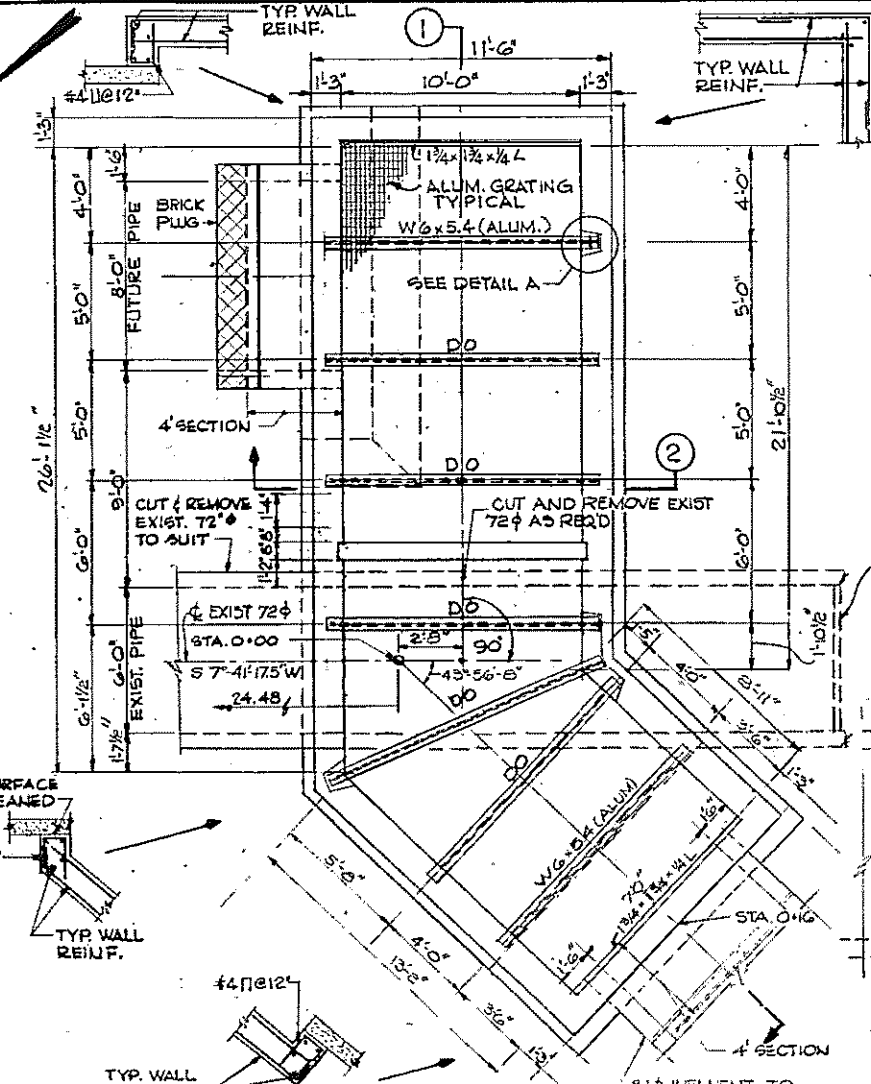


HALF-SIZE DRAWING

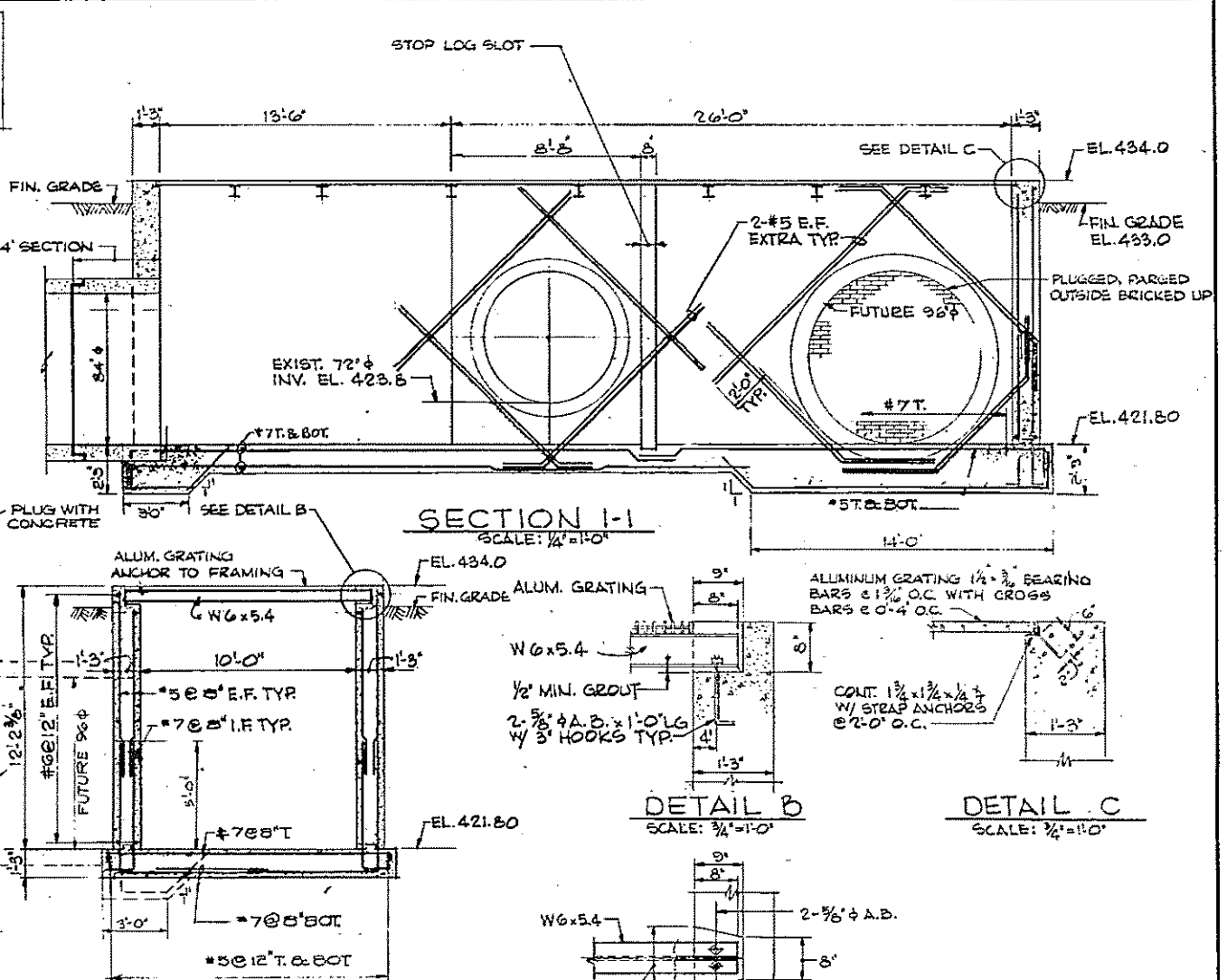
COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 YARD PIPING
 PLANT INFLUENT
 PLAN AND PROFILE - PART I
 SCALE: AS NOTED FEBRUARY, 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. G.L.C. INK. R.H.S. FILE JW-83
 DR. S.M.G., H.G.H. ENG. R.H.S. FILE JW-83
 APPROVED *J. M. Cahaly* SIGN. 269
 CONTRACT DRAWING SHEET NO. LM-10



PLAN OF 84" ϕ INFLUENT
SCALE: 1" = 40'-0"



PLAN OF INFLUENT CHAMBER
SCALE: 1/4" = 1'-0"



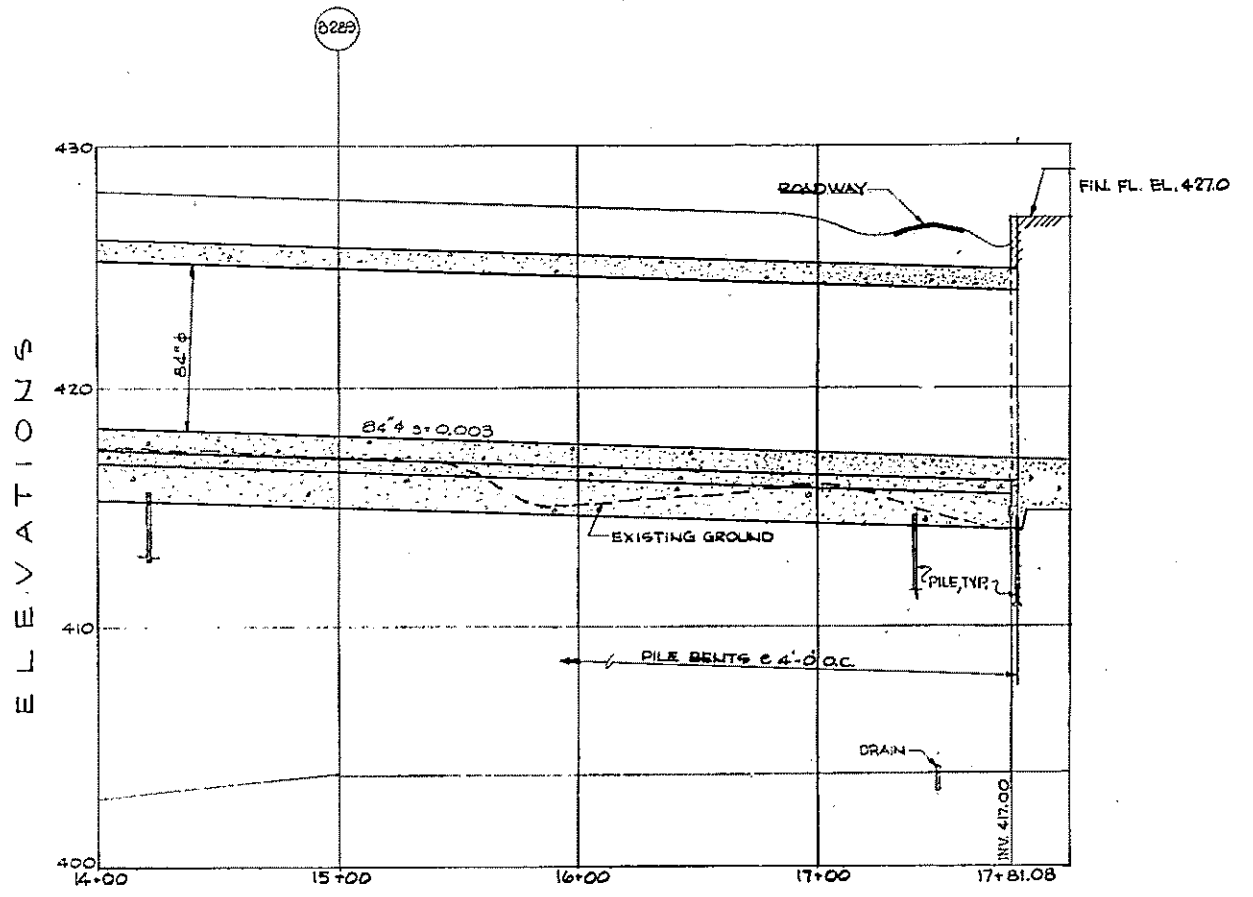
SECTION I-1
SCALE: 1/4" = 1'-0"

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

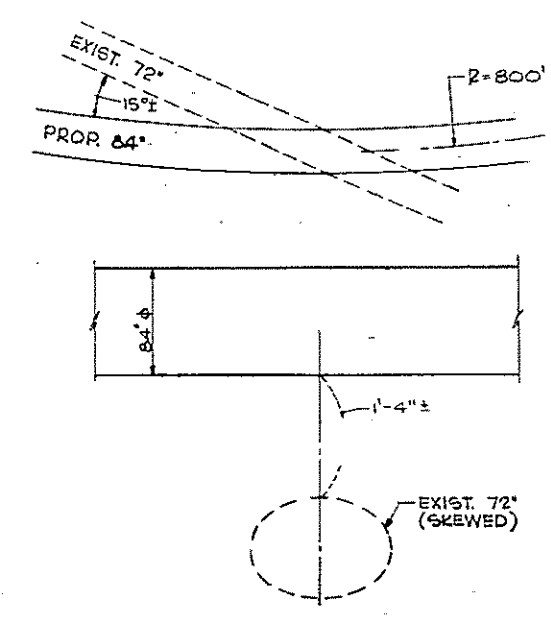
DETAIL B
SCALE: 3/8" = 1'-0"

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

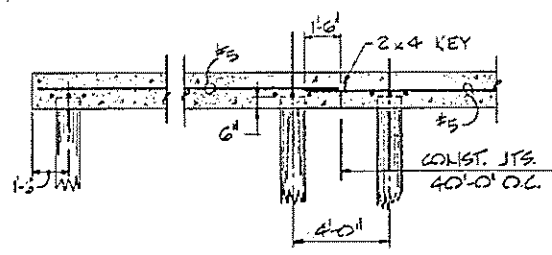
DETAIL A
SCALE: 3/8" = 1'-0"



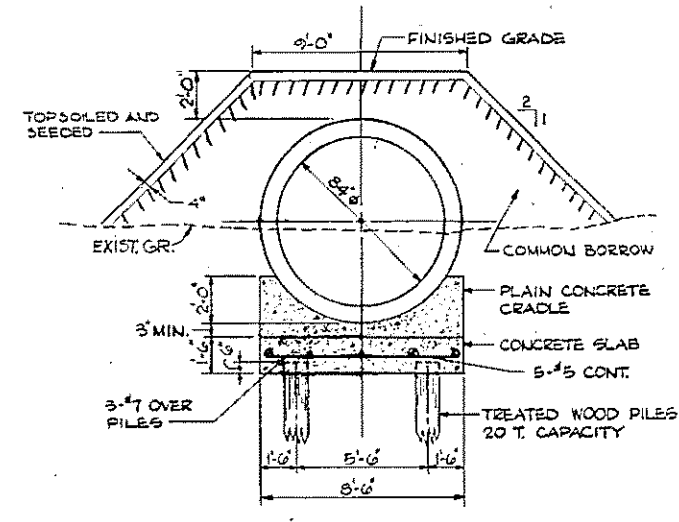
PROFILE
HOR. 1" = 40'
VERT. 1" = 4'-0"



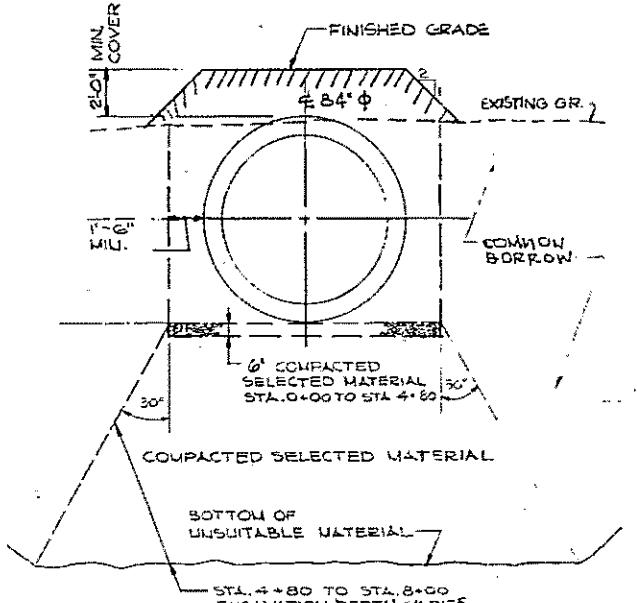
ELEVATION CROSSING DETAIL
NOT TO SCALE



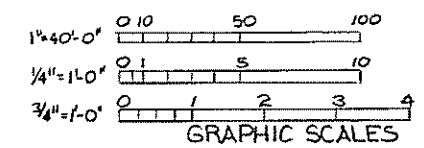
LONGITUDINAL SECTION AT PILE BENT
SCALE: 1/2" = 1'-0"



TYPICAL CROSS SECTION AT PILE BENT
SCALE: 1/2" = 1'-0"



CROSS SECTION STA. 0+00 TO 8+00
SCALE: 1/4" = 1'-0"

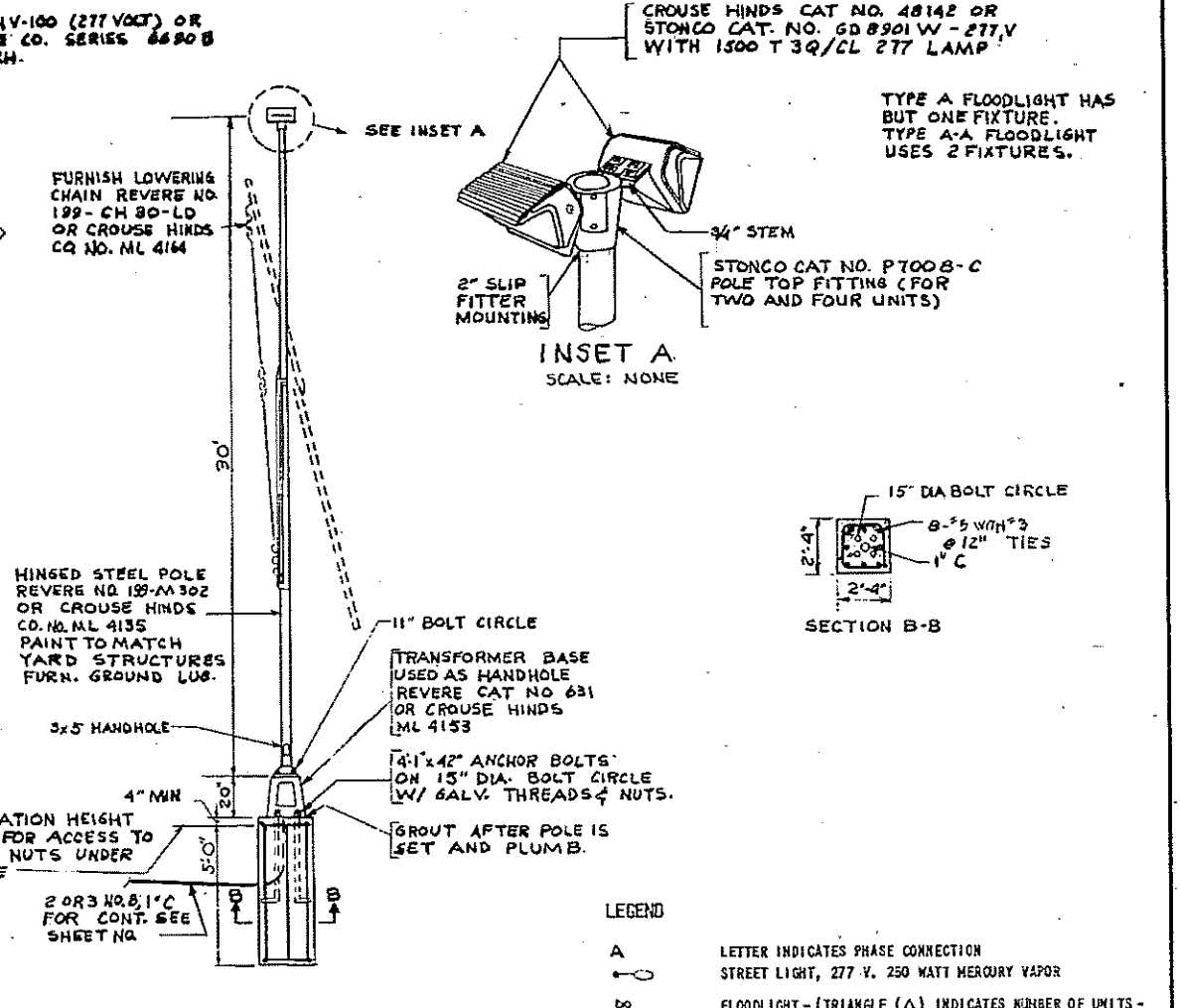
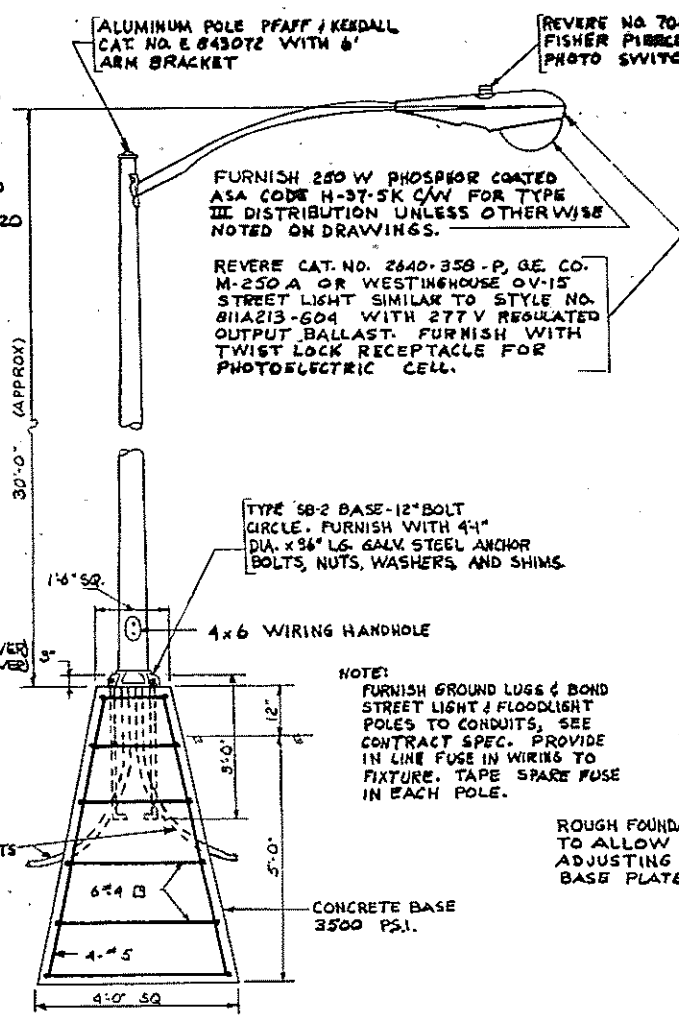
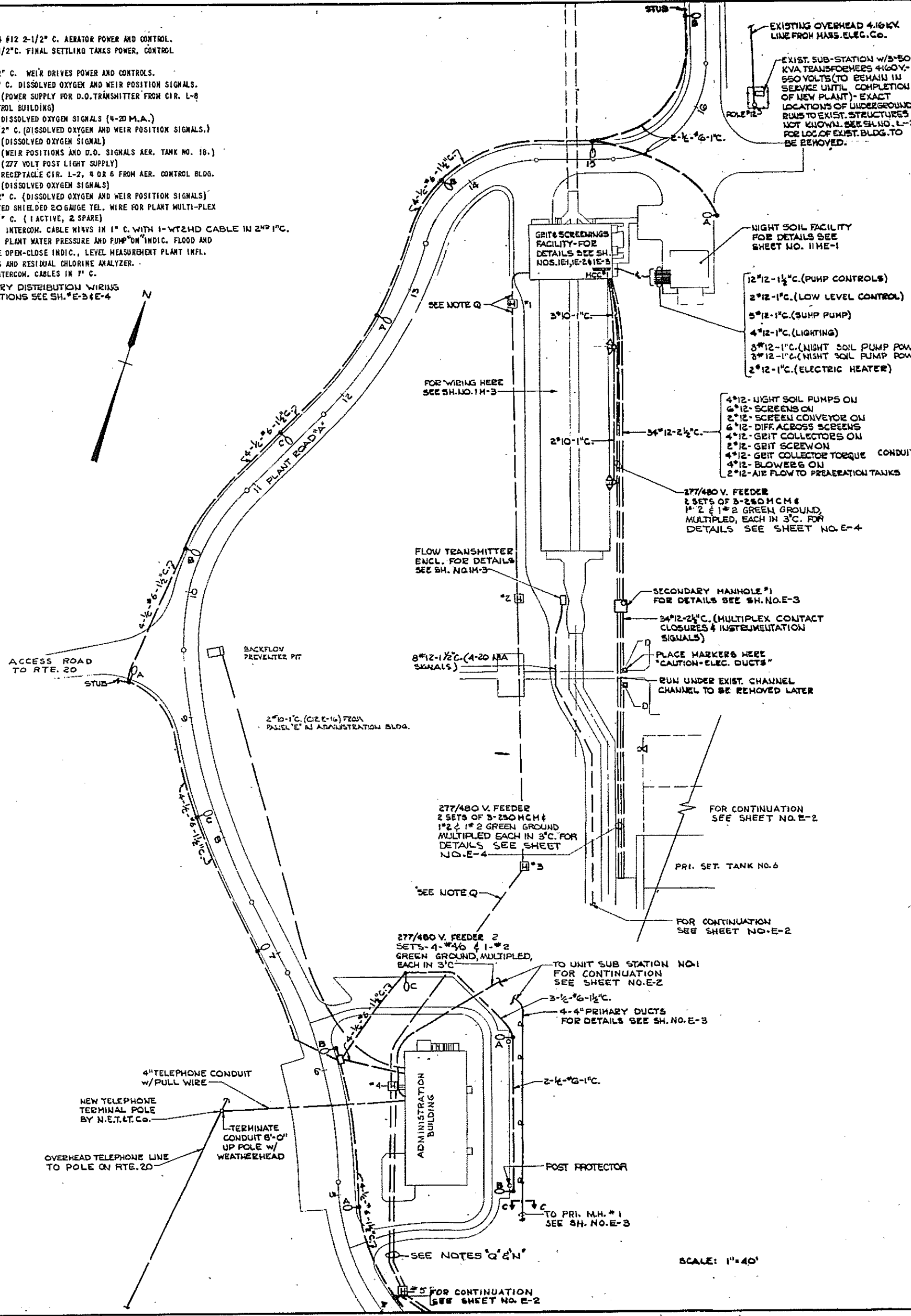
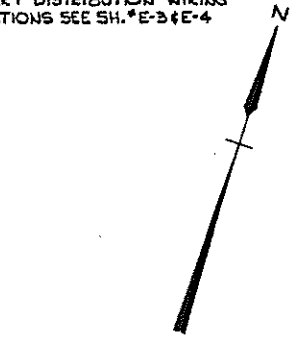


HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS UPPER BLACKSTONE WATER POLLUTION ABATEMENT DISTRICT REGIONAL WASTEWATER TREATMENT FACILITIES CONTRACT NO. 2 YARD PIPING			
PLANT INFLUENT PLAN AND PROFILE - PART II			
SCALE: AS NOTED		FEBRUARY, 1972	
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.			
DES. G.H.C.	CHK. R.H.S.	REV. JW-83	
DR. M.G.H. S.M.C.	CHK. R.H.S.	APPROVED: [Signature]	
APPROVED: [Signature]	DATE: []	REV. 270	

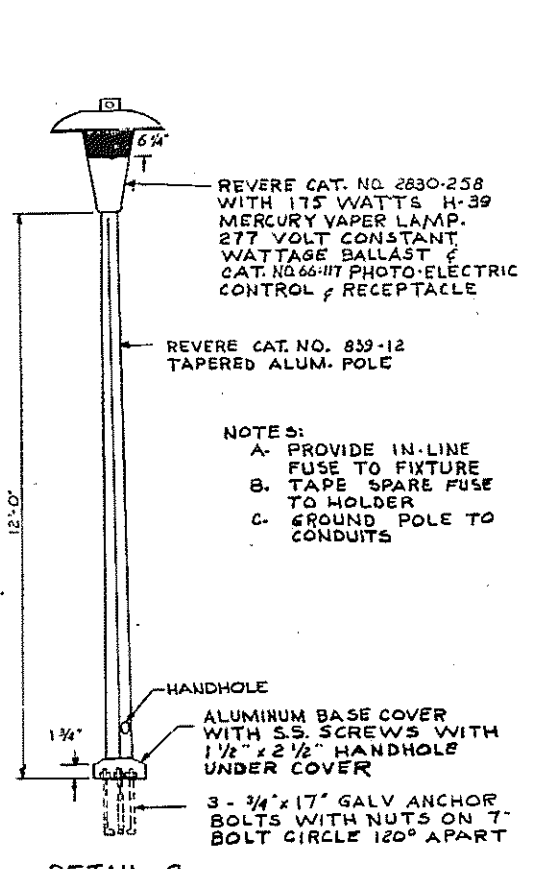
NOTES:

- A. 3 #2/0 AND 4 #12 2-1/2" C. AERATOR POWER AND CONTROL.
- B. 10/C #12 1-1/2" C. FINAL SETTLING TANKS POWER, CONTROL AND ALARM.
- C. 2-10/C #12-2" C. WEIR DRIVES POWER AND CONTROLS.
- D. 8 #12-1 1/2" C. DISSOLVED OXYGEN AND WEIR POSITION SIGNALS.
- E. 2 #12-1" C. (POWER SUPPLY FOR D.O. TRANSMITTER FROM CIR. L-8 IN AER. CONTROL BUILDING)
- F. 4 #12-1" C. DISSOLVED OXYGEN SIGNALS (4-20 M.A.)
- G. 16 #12-1 1/2" C. (DISSOLVED OXYGEN AND WEIR POSITION SIGNALS.)
- H. 2 #12-1" C. (DISSOLVED OXYGEN SIGNAL)
- I. 6 #12-1" C. (WEIR POSITIONS AND D.O. SIGNALS AER. TANK NO. 18.)
- J. 2 #10-1" C. (277 VOLT FOST LIGHT SUPPLY)
- K. 2 #10-1" C. RECTANGLE CIR. L-2, 4 OR 6 FROM AER. CONTROL BLDG.
- L. 4 #12-1" C. (DISSOLVED OXYGEN SIGNALS)
- M. 20 #12-1 1/2" C. (DISSOLVED OXYGEN AND WEIR POSITION SIGNALS)
- N. 3 PAIR TWISTED SHIELDED 20 GAUGE TEL. WIRE FOR PLANT MULTI-PLEX SIGNALS IN 1" C. (1 ACTIVE, 2 SPARE)
- O. ONE 28 COND. INTERCOM. CABLE MINUS IN 1" C. WITH 1-VT2HD CABLE IN 2ND 1" C.
- P. 36 #12-2 1/2" C. PLANT WATER PRESSURE AND PUMP ON INDIC. FLOOD AND OUTFALL GATE OPEN-CLOSE INDIC., LEVEL MEASUREMENT PLANT INFL. FLOW SIGNALS AND RESIDUAL CHLORINE ANALYZER.
- Q. TWO VT2HD INTERCOM. CABLES IN 1" C.
- R. FOR PRIMARY DISTRIBUTION WIRING & DUCT SECTIONS SEE SH. E-3 & E-4

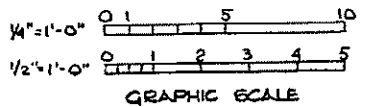


STREET LIGHT
SCALE: 1/2" = 1'-0"

FLOODLIGHT A
SCALE: 1/4" = 1'-0"



DETAIL C POSTLIGHT
SCALE: 1/2" = 1'-0"



- LEGEND**
- A LETTER INDICATES PHASE CONNECTION
 - STREET LIGHT, 277 V. 250 WATT MERCURY VAPOR
 - △ FLOODLIGHT - (TRIANGLE (Δ) INDICATES NUMBER OF UNITS - DOTTED UNIT ARE FUTURE)
 - UNDERGROUND CONDUIT RUN AS DESCRIBED LOW VOLTAGE (600 VOLTS AND UNDER)
 - UNDERGROUND TELEPHONE CONDUIT WITH FULL WIRE
 - P- UNDERGROUND PRIMARY DUCT LINE WITH 12,800 VOLT WIRING SEE SECTIONS FOR DETAILS AND CABLES
 - UNDERGROUND LOW VOLTAGE SECONDARY DUCT LINE
 - MANHOLE
 - MANHOLE FOR COMMUNICATIONS AND TONE MULTIFLEXING - SIGNAL WIRING
 - DUCT MARKER
 - CONDUIT MARKER
 - POST PROTECTOR - (CONCRETE FILLED LALLY COLUMN)
 - MOTOR CONTROL CENTER
 - CAPPED CONDUIT
 - DOWN GUY
 - OVERHEAD PRIMARY LINE

- GENERAL ELECTRIC NOTES**
1. PROVIDE 2 POST PROTECTORS FOR EACH STREET OR FLOODLIGHT LOCATED WITHIN 2 FEET FROM OR IN PAVED AREAS.
 2. ALL UNDERGROUND CONDUITS SHALL BE HOT DIPPED GALVANIZED WITH AN ADDITIONAL BONDED 40 MIL THICK PVC COATING ON THE OUTSIDE.
 3. CHECK WITH MASS. ELEC. CO., WORCESTER, MASS. FOR CO-ORDINATING HAIR PRIMARY SERVICE AND METERING ARRANGEMENTS.
 4. CHECK WITH N.E.T. & T. CO. FOR CO-ORDINATING TELEPHONE LINE ARRANGEMENTS.
 5. PITCH CONDUITS AWAY FROM BUILDINGS AT APPROX. 2" PER 100 FT. MIN. DO NOT SPLICE WIRING WITHIN MANHOLES.
 6. ALL CONDUITS SHALL HAVE APPROX. 2'-6" OF COVER WHERE POSSIBLE.
 7. FOR YARD ELECTRICAL DETAILS, SEE SHEET NO. E-5
 8. FOR DUCT SECTIONS WITH WIRE SCHEDULES, SEE SHEET NO. E-3
 9. FOR FLOODLIGHT WIRING DIAGRAMS AND DETAILS, SEE SHEET NO. E-9
 10. FOR INTERCOMMUNICATIONS SYSTEM INTERCONNECTION DIAGRAM, SEE SHEET NO. E-9
 11. FOR MULTIPLEX TELEMEETER SYSTEM INTERCONNECTION DIAGRAM, SEE SHEET NO. E-9
 12. FOR DUCT LINE PROFILES SEE SHEET NO. E-4

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
YARD ELECTRICAL

PLAN AND DETAILS - PART I

SCALE: AS NOTED FEBRUARY 1973

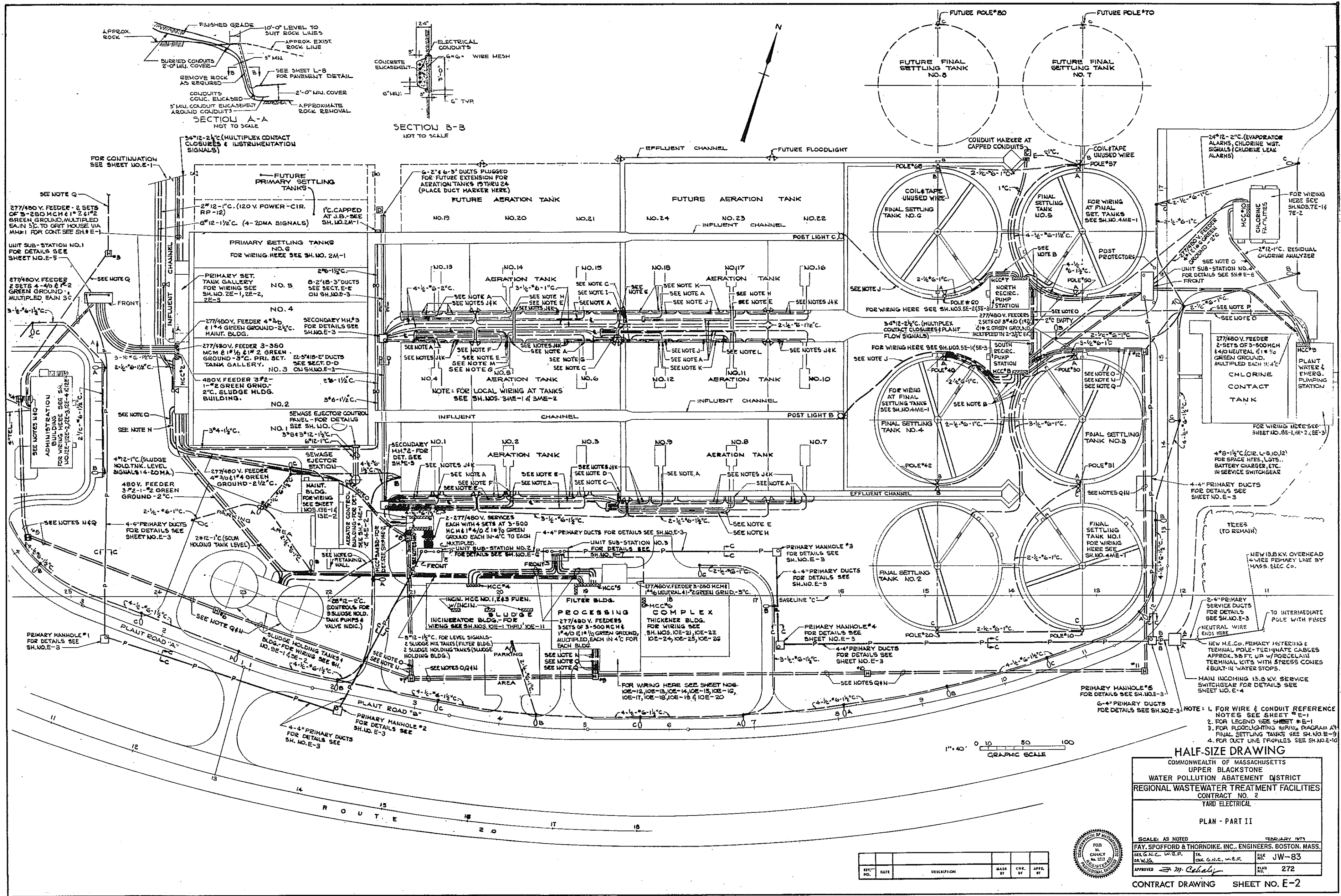
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DR. G.L.C. W.S.R. IN CHARGE DR. G.L.C. W.S.R. REC. NO. JW-83

APPROVED: *J. H. Cahaly* PLAN NO. 271

CONTRACT DRAWING SHEET NO. E-1

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APP. BY



HALF-SIZE DRAWING
 COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 YARD ELECTRICAL
 PLAN - PART II

SCALE: AS NOTED
 FEBRUARY 1973
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
 DES. G.N.C., W.B.P. DR. G.N.C., W.B.P. FILE NO. JW-83
 INV. J.G. CHK. G.N.C., W.B.P. PLAN NO. 272
 APPROVED *M. Cahaly*

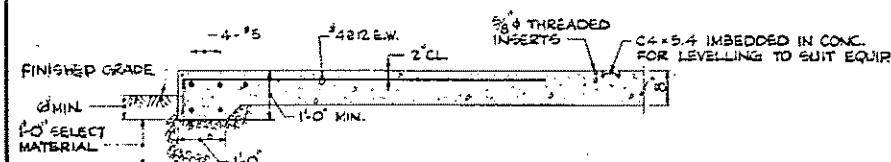
REV.	DATE	DESCRIPTION	MADE BY	CHK. BY	APP. BY

CONTRACT DRAWING SHEET NO. E-2

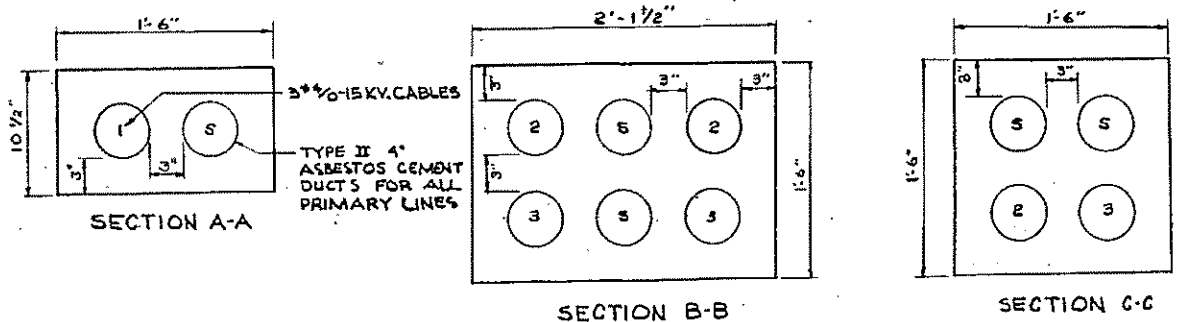
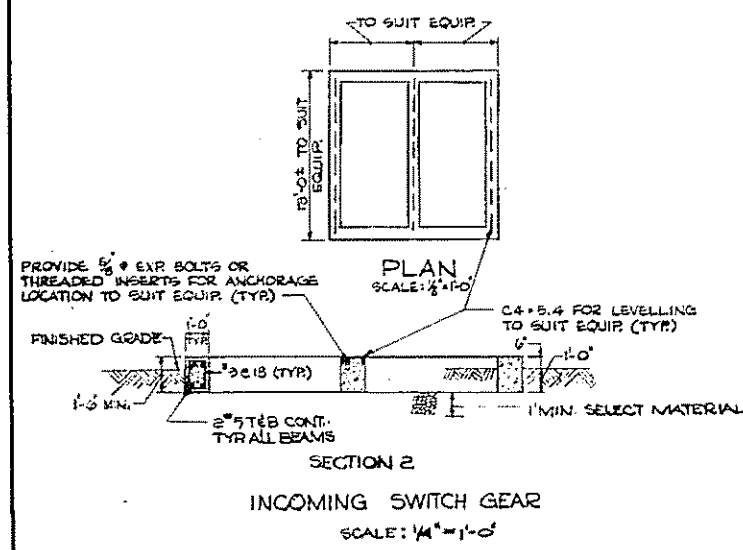
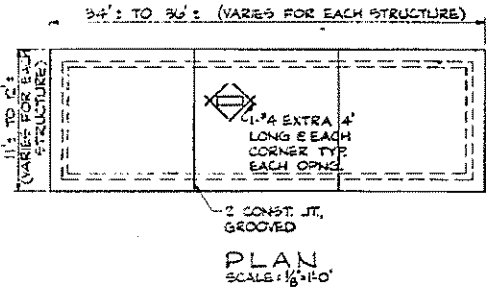
YARD DUCT SCHEDULE

DUCT IDENT. REFER.	DUCT SIZE	WIRES		EQUIPMENT SERVED
		NO.	SIZE	
11	3"	-	-	SPARE
12	3"	-	-	FUTURE EQUIPMENT
A	3"	-	-	FUTURE AERATOR DRIVE UNIT #19
B	3"	-	-	FUTURE AERATOR DRIVE UNIT #20
C	3"	-	-	FUTURE AERATOR DRIVE UNIT #21
D	3"	-	-	FUTURE AERATOR DRIVE UNIT #22
E	3"	-	-	FUTURE AERATOR DRIVE UNIT #23
F	3"	-	-	FUTURE AERATOR DRIVE UNIT #24
G	2"	-	-	FUTURE WEIR OPERATORS
H	2"	-	-	FUTURE POST LIGHTS
I	2"	-	-	FUTURE AERATOR TANK OUTLETS & PUMP SUPPLY FOR 3.0. WEIR
J	2"	-	-	FUTURE FLOODLIGHTS
K	2"	-	-	FUTURE DIS. ST. & WEIR POSIT. SIGNALS
1	3"	3	#4/0-15KV	MAIN FEEDING SERVICE FROM MASS. ELEC. CO.
2	3"	3	#4/0-15KV	PRIMARY 13.8K.V. FEEDER NO. 1A
3	3"	3	#4/0-15KV	PRIMARY 13.8K.V. FEEDER NO. 2B
4	3"	3	#2	AERATOR DRIVE UNIT NO. 4
5	3"	3	#2	AERATOR DRIVE UNIT NO. 5
6	3"	3	#2	AERATOR DRIVE UNIT NO. 6
7	3"	3	#2	AERATOR DRIVE UNIT NO. 12
8	3"	3	#2	AERATOR DRIVE UNIT NO. 11
9	3"	3	#2	AERATOR DRIVE UNIT NO. 10
10	3"	3	#2	AERATOR DRIVE UNIT NO. 13
11	3"	3	#2	AERATOR DRIVE UNIT NO. 15
12	3"	3	#2	AERATOR DRIVE UNIT NO. 16
13	3"	3	#2	AERATOR DRIVE UNIT NO. 17
14	3"	3	#2	AERATOR DRIVE UNIT NO. 18
15	3"	3	#2	AERATOR DRIVE UNIT NO. 18
16	2"	3	#10	POST LIGHTS (277/480V. 1XCL. 2 NEUTRALS)
17	2"	4	#6	FLOODLIGHTS AER. TKS. 4 TRKJ 32
18	2"	5	#10	FEEDER FOR 13.8KV. POWER SUPPLY FOR 3.0. WEIR
19	2"	2-10/C	#12	WEIR OPER. #3 & 4
20	2"	2-10/C	#12	WEIR OPER. #5 & 6
21	2"	22	#12	DIS. ST. & WEIR POSIT. SIGNALS
22	2"	4	#6	FLOODLIGHTS AER. TKS. 13 THRU 18

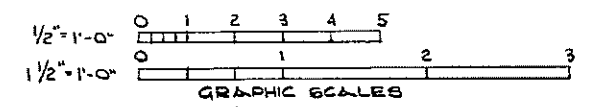
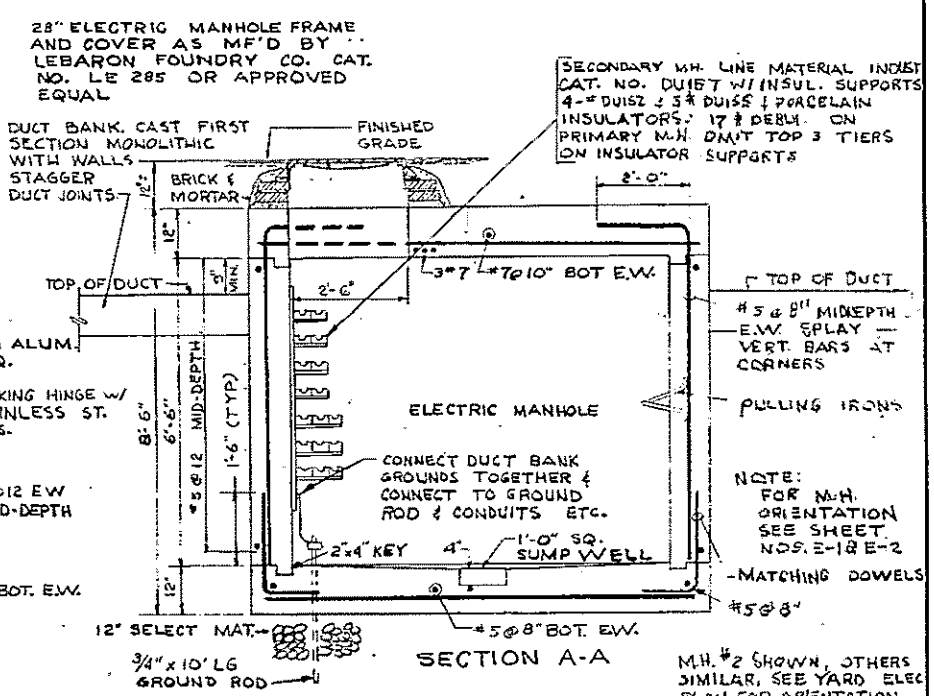
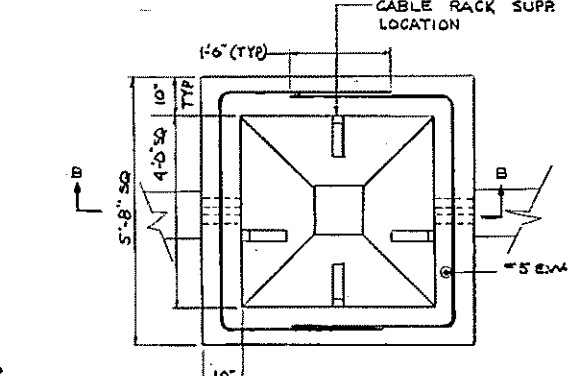
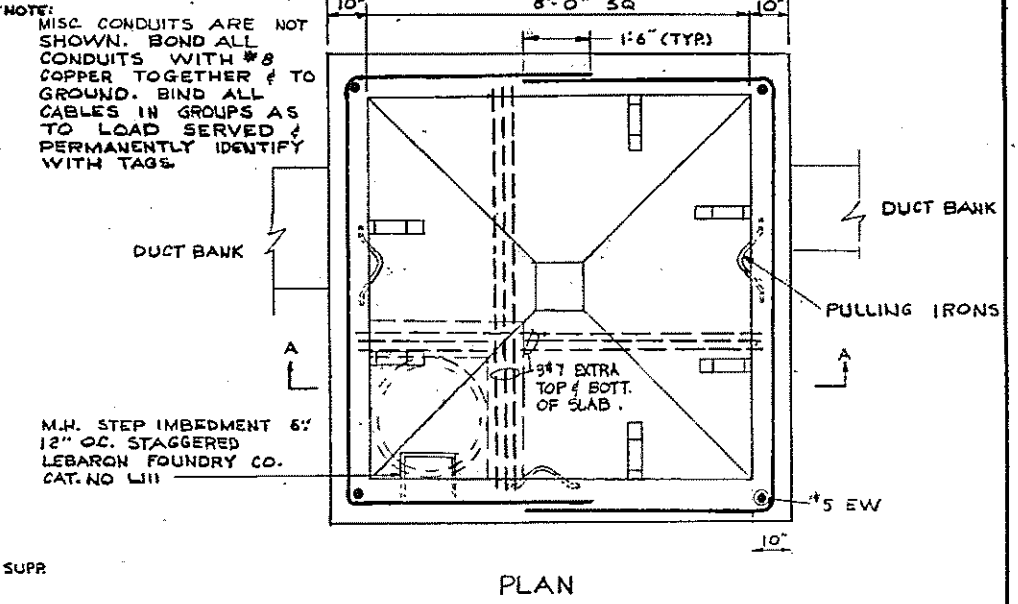
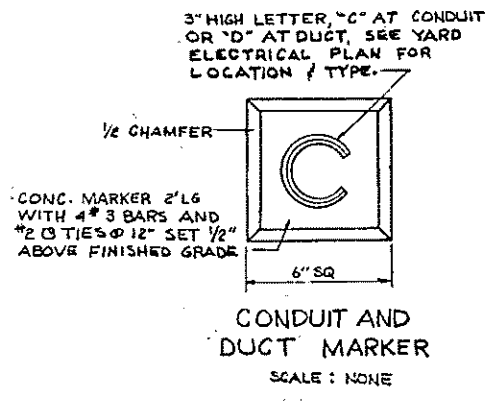
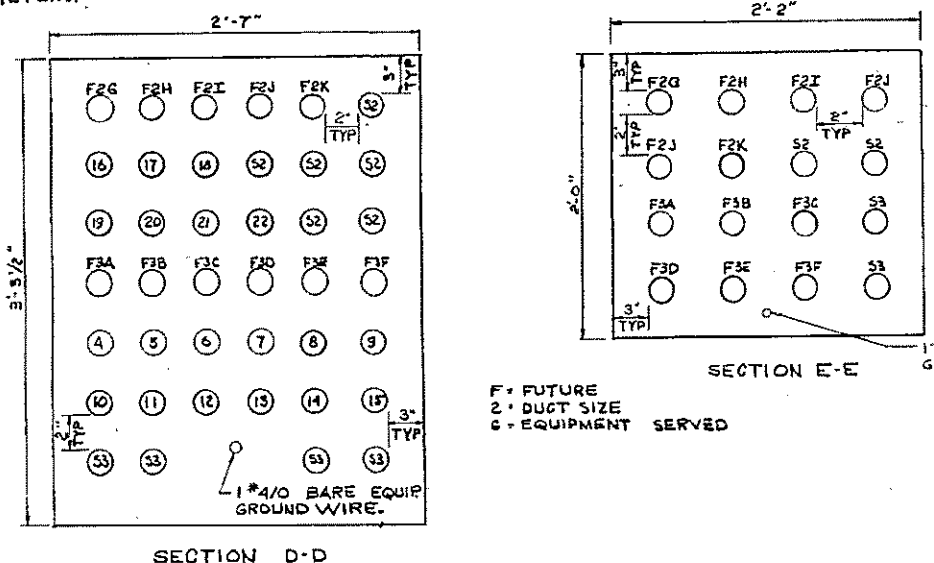
*CROSS LINKED POLYETHYLENE UNGROUNDED 15KV INSULATED AND SHIELDED COPPER CONDUCTORS



CROSS SECTION @ SUB-STATION SLAB
SCALE: 1/2" = 1'-0"



NOTE:
ALL DUCTS ARE TYPE I ASBESTOS CEMENT 2" OR 3" SIZE AS NOTED WITH 2"(SECONDARY) OR 3"(PRIMARY) PLASTIC SPACERS BETWEEN DUCTS. NUMBERS IN CIRCLES REFER TO DUCT SCHEDULE. PROVIDE 3" OF CONCRETE AT DUCT PERIMETERS.



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
YARD ELECTRICAL

NISCELLANEOUS DETAILS

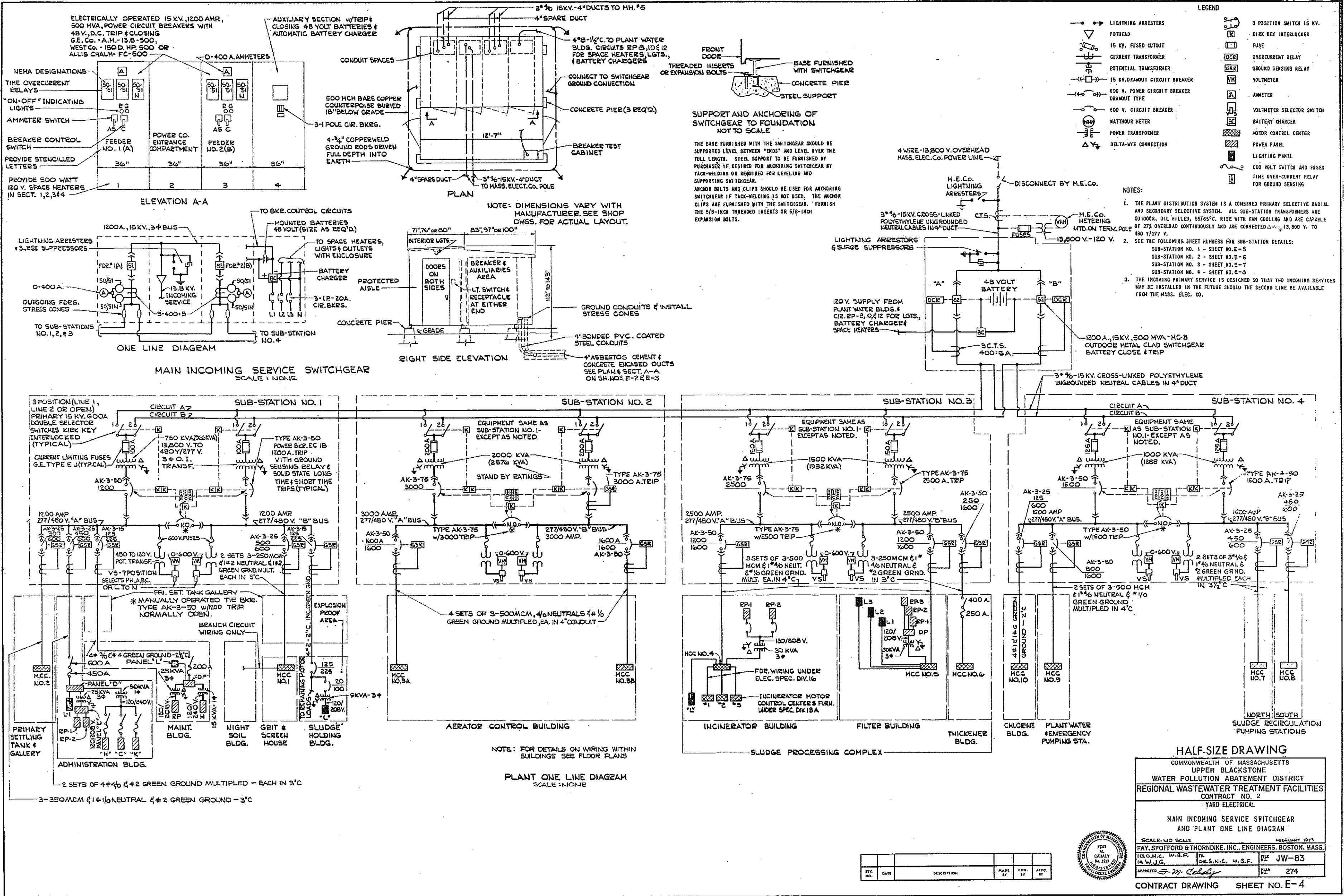
SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. G.H.C., U.G.F., S.E. R.L.M. TR. G.H.C., U.G.F. PLS. JW-83

APPROVED: *M. Cahaly* PLAN NO. 273

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



- LEGEND**
- LIGHTNING ARRESTERS
 - POTHOLES
 - 15 KV. FUSED CUTOUT
 - CURRENT TRANSFORMER
 - POTENTIAL TRANSFORMER
 - 15 KV. DRAWOUT CIRCUIT BREAKER
 - 600 V. POWER CIRCUIT BREAKER DRAWOUT TYPE
 - 600 V. CIRCUIT BREAKER
 - WATT-HOUR METER
 - POWER TRANSFORMER
 - DELTA-WYE CONNECTION
 - 3 POSITION SWITCH 15 KV.
 - KIRK KEY INTERLOCKED
 - FUSE
 - OVERCURRENT RELAY
 - GROUND SENSING RELAY
 - VOLTMETER
 - AMMETER
 - VOLTMETER SELECTOR SWITCH
 - BATTERY CHARGER
 - MOTOR CONTROL CENTER
 - POWER PANEL
 - LIGHTING PANEL
 - 600 VOLT SWITCH AND FUSES
 - TIME OVER-CURRENT RELAY FOR GROUND SENSING

NOTES:

- THE PLANT DISTRIBUTION SYSTEM IS A COMBINED PRIMARY SELECTIVE RADIAL AND SECONDARY SELECTIVE SYSTEM. ALL SUB-STATION TRANSFORMERS ARE OUTDOOR, OIL FILLED, 55/65°C. RISE WITH FAN COOLING AND ARE CAPABLE OF 27% OVERLOAD CONTINUOUSLY AND ARE CONNECTED Δ-Y, 13,800 V. TO 480 V/277 V.
- SEE THE FOLLOWING SHEET NUMBERS FOR SUB-STATION DETAILS:
 SUB-STATION NO. 1 - SHEET NO. E-5
 SUB-STATION NO. 2 - SHEET NO. E-6
 SUB-STATION NO. 3 - SHEET NO. E-7
 SUB-STATION NO. 4 - SHEET NO. E-8
- THE INCOMING PRIMARY SERVICE IS DESIGNED SO THAT TWO INCOMING SERVICES MAY BE INSTALLED IN THE FUTURE SHOULD THE SECOND LINE BE AVAILABLE FROM THE MASS. ELEC. CO.

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DISTRICT
 REGIONAL WASTEWATER TREATMENT FACILITIES
 CONTRACT NO. 2
 YARD ELECTRICAL

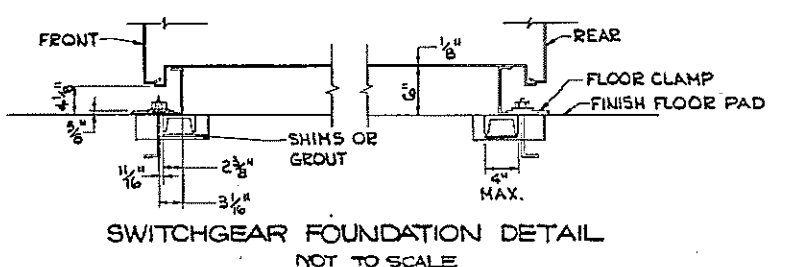
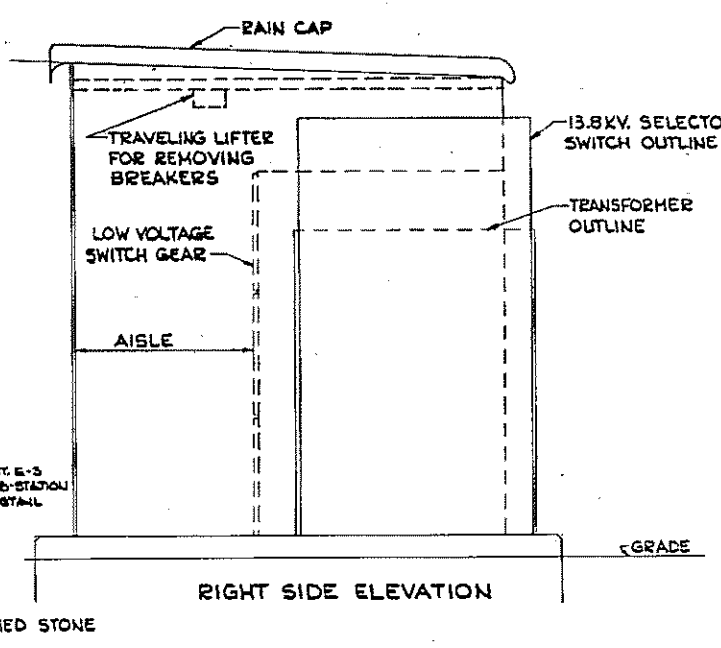
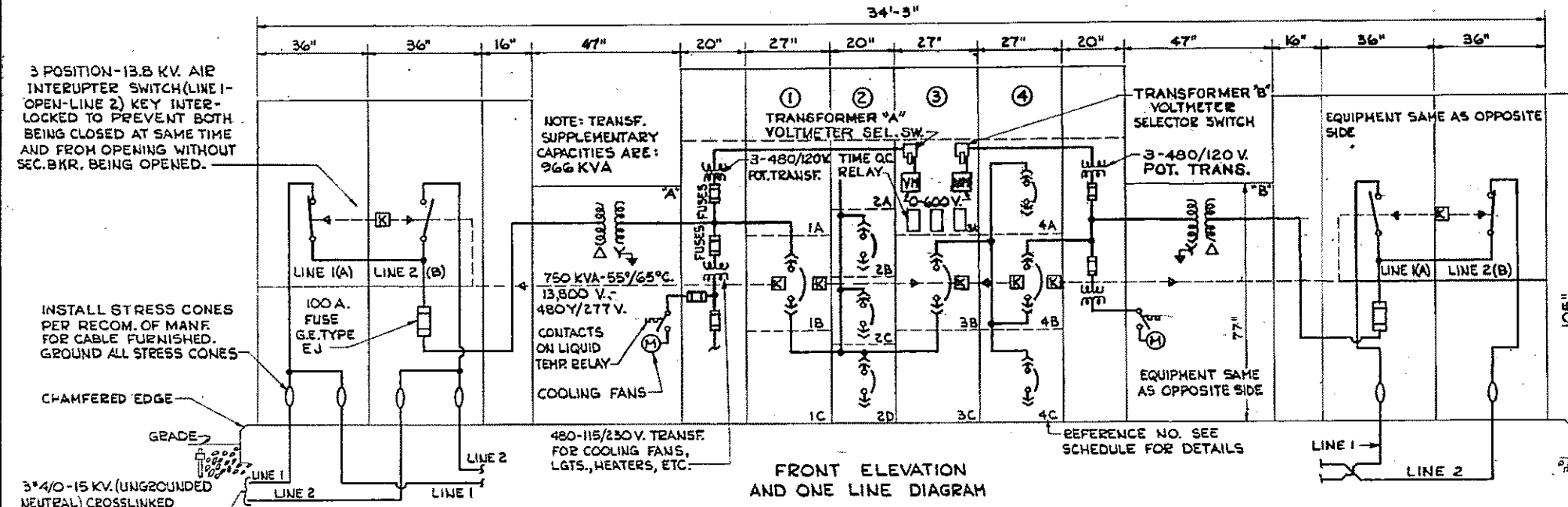
MAIN INCOMING SERVICE SWITCHGEAR AND PLANT ONE LINE DIAGRAM

SCALE: 1/4" = 1'-0" FEBRUARY 1977

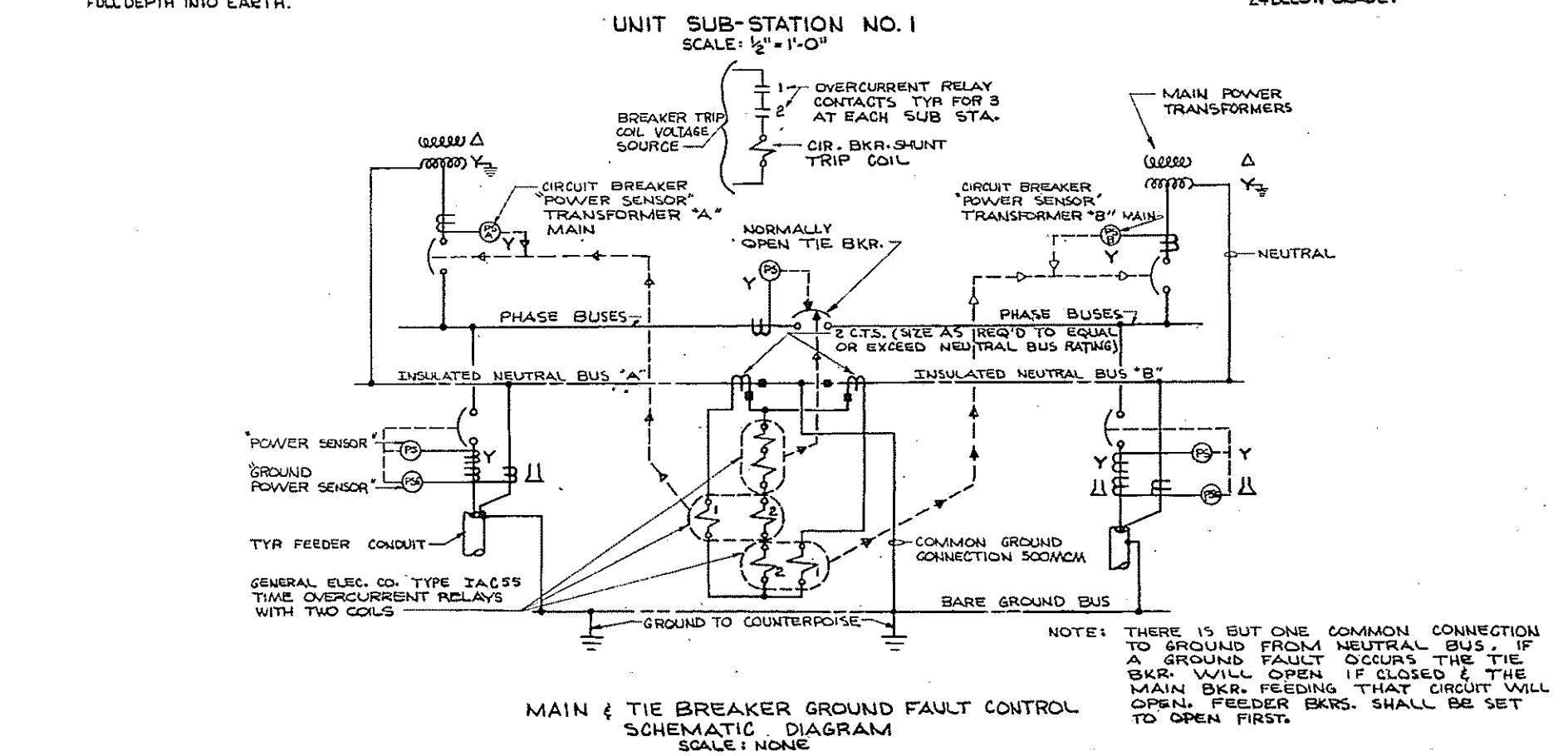
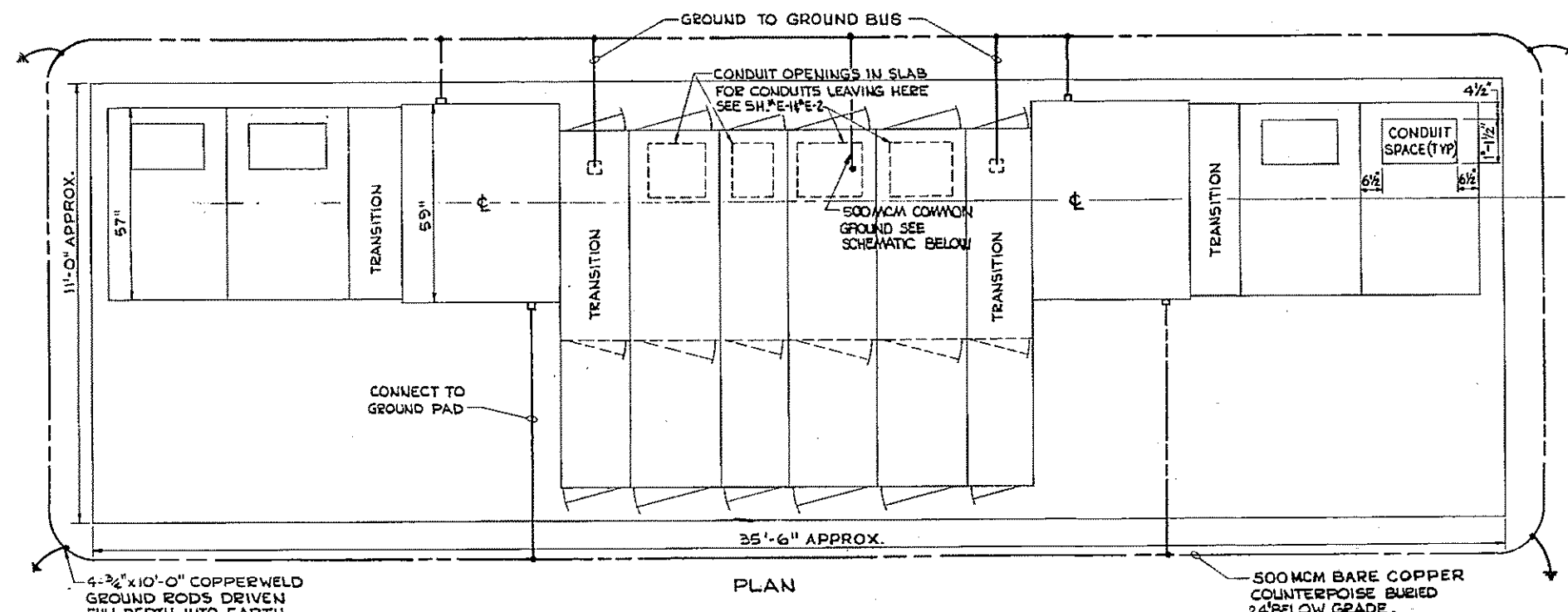
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. G.N.C. W.B.P.	TR. DR. W.J.G.	CHK. G.N.C. W.B.P.	APP. JW-83
APPROVED <i>F.M. Cahaly</i>	DATE	BY	NO. 274

CONTRACT DRAWING SHEET NO. E-4

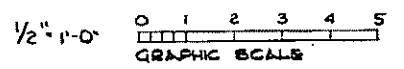


EQUIPMENT IS FURNISHED WITH BUILT-IN CHANNEL, THUS ELIMINATING THE NEED FOR FLOOR STEEL, WHEN MOUNTING DIRECTLY ON SMOOTH, LEVEL FLOOR. EMBEDDED CHANNELS SHOULD BE SET LEVEL WITH EACH OTHER AND SHOULD BE LEVEL OVER THEIR ENTIRE LENGTH. 4" X 5.48/FT CHANNELS ARE RECOMMENDED FOR LEVELING PURPOSES. FINISH FLOOR SHOULD HAVE SLIGHT PITCH AWAY FROM MOUNTING CHANNELS AND IN NO CASE SHOULD THE FINISH FLOOR BE HIGHER THAN MOUNTING CHANNELS.



REFER. NO.	NAMEPLATE	POWER CIRCUIT BREAKER				REMARKS	PROVIDE TRIPS WITH:	
		FRAME	POLES	TRIP	TRIP		SHORT	INSTANT. GROUND
1	1A SPACE	-	-	-	-	-	-	-
	1B TRANSFORMER "A"	1600	3	1200	*	KIRK INTERLOCKED WITH PRI. SW. AND TIE BKR.	-	-
	1C SPACE	-	-	-	-	-	-	-
2	2A SPACE	-	-	-	-	-	-	-
	2B PRIMARY SETTLING TANK GALLERY	600	3	300	70	-	-	-
	2C ADMINISTRATION BUILDING	600	3	450	125	-	-	-
3	3A TRANSF. "A"-VOLTS-TRANSF."B"	-	-	-	*	PISTON GRIP HANDLE SELECTOR SWITCH TO READ PHASE TO PHASE AND PHASE TO NEUTRAL	-	-
	3B TIE BREAKER (N.O.)	1600	3	1200	*	KIRK INTERLOCKED WITH TRANSFORMER BREAKERS	-	-
	3C SPACE	-	-	-	-	-	-	-
4	4A GRIT AND SCREEN HOUSE	600	3	500	125	-	-	-
	4B TRANSFORMER "B"	1600	3	1200	*	KIRK INTERLOCKED WITH PRI. SW. AND TIE BREAKER	-	-
	4C SLUDGE HOLDING BUILDING	225	3	125	45	-	-	-

- NOTES:
- ALL CIRCUIT BREAKERS TO BE SELECTIVELY CO-ORDINATED AND PROVIDED WITH SOLID STATE LONG TIME AND SHORT TIME, AND/OR INSTANTANEOUS TIME TRIPPING ELEMENTS AS NOTED ABOVE. BREAKERS WITH GROUND TRIP SETTINGS ARE TO BE PROVIDED WITH 4 GROUND TRIPPING CURRENT MONITORS AND ADJUSTABLE GROUND SENSING RELAYS. ALL SHALL BE DRAW-OUT TYPE.
 - SEE ONE LINE DIAGRAM ON SHEET NO. E-4
 - SUB-STATION BREAKERS SHALL BE EQUAL TO: GENERAL ELECTRIC COMPANY TYPE AK-3, ALLIS CHALMERS TYPE LA, OR WESTINGHOUSE ELECTRIC CORPORATION TYPE DS.
 - PROVIDE LIGHT SOCKETS FOR AISLE ILLUMINATION, CONVENIENCE OUTLETS, SPACE HEATERS AND SWITCHES FOR CONTROL OF SAME.
 - ALL DIMENSIONS ARE APPROXIMATE AND FOR ONE PARTICULAR MANUFACTURER, USE MANUFACTURERS SHOP DRAWING DATA BEFORE ROUGHING OUT CONDUITS AND CONCRETE.
 - SPECIAL GROUND - FAULT TRIPPING ARRANGEMENT - SEE SCHEMATIC DIAGRAM THIS SHEET. INSTALL THREE, TWO COIL TIME OVERCURRENT RELAYS AND CONNECT COILS TO TWO CURRENT TRANSFORMERS CONNECTED IN THE NEUTRAL BUS AS SHOWN.
 - PROVIDE ALL MAIN & TIE BREAKERS WITH SHUNT TRIPS FOR USE WITH IACSS OVERCURRENT RELAYS.
 - PROVIDE 1200 AMP, 4-POLE BUS



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APP. BY



HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. _____

YARD ELECTRICAL

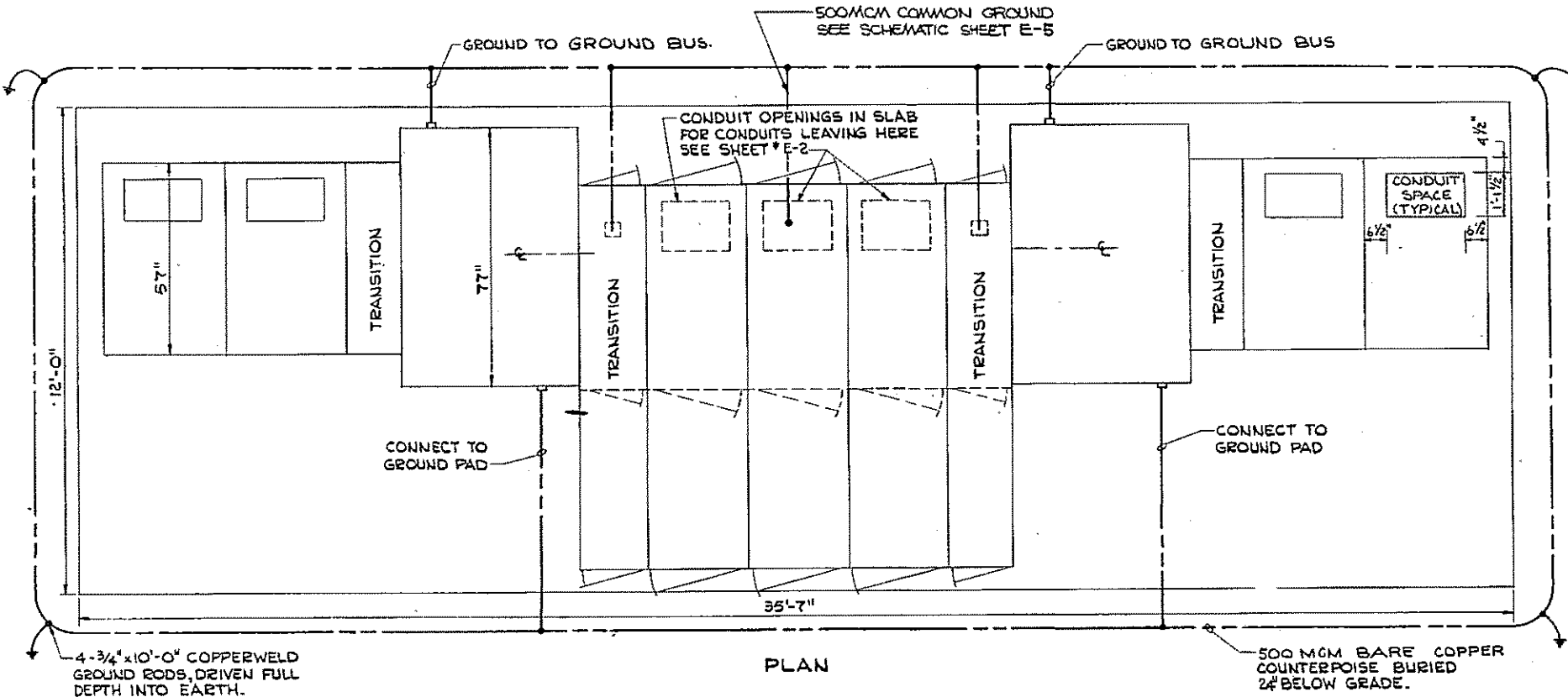
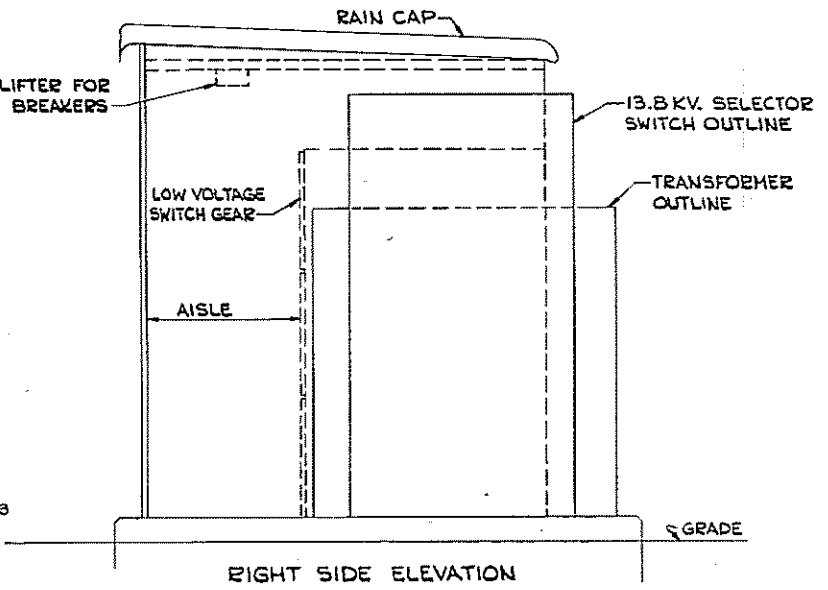
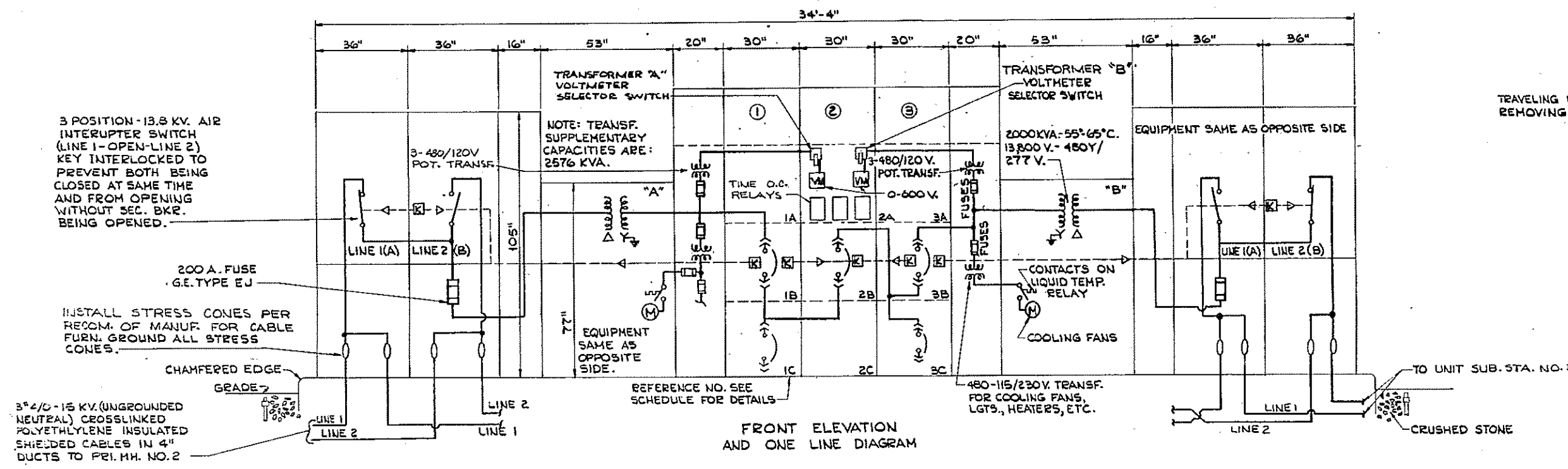
UNIT SUB-STATION NO. 1
PLAN AND DETAILS

SCALE: AS NOTED

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

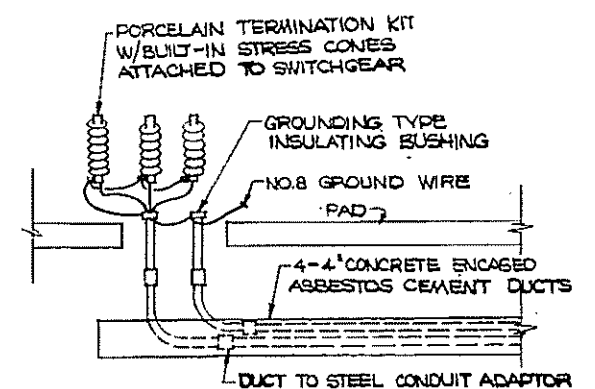
APPROVED: *F. M. Cabaly*

CONTRACT DRAWING SHEET NO. E-5

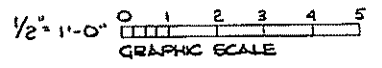


REFER. NO.	NAMEPLATE	POWER CIRCUIT BREAKER				REMARKS	PROVIDE TRIPS WITH:	
		FRAME	POLES	TRIP	TRIP		SHORT	INSTANT. SHORT
1	1A SPACE							
1	1B TRANSFORMER "A"	3000	3	3000	*	KIRK INTERLOCKED WITH PRI. SW. AND TIE BKR.		
	1C AERATOR CON. BLDG. MCC 3A	1600	3	1600	600			
	2A TRANSF. "A"-VOLTS-TRANSF. "B"				*			
2	2B TIE BREAKER (N.O.)	3000	3	3000	*	KIRK INTERLOCKED WITH TRANSFORMER BREAKERS		
	2C SPACE							
3	3A SPACE					KIRK INTERLOCKED WITH PRI. SW. AND TIE BREAKER		
	3B TRANSFORMER "B"	3000	3	3000	*			
	3C AERATOR CONTROL BLDG. MCC 3B	1600	3	1600	600			

- NOTES:
- ALL CIRCUIT BREAKERS TO BE SELECTIVELY CO-ORDINATED AND PROVIDED WITH SOLID STATE LONG TIME AND SHORT TIME, AND/OR INSTANTANEOUS TIME TRIPPING ELEMENTS AS NOTED ABOVE. BREAKERS WITH GROUND TRIP SETTINGS ARE TO BE PROVIDED WITH 4 GROUND TRIPPING CURRENT MONITORS AND ADJUSTABLE GROUND SENSING RELAYS. ALL SHALL BE DRAW-OUT TYPE.
 - SEE ONE LINE DIAGRAM ON SHEET NO. E-4
 - SUB-STATION BREAKERS SHALL BE EQUAL TO: GENERAL ELECTRIC COMPANY TYPE AK-3, ALLIS CHALMERS TYPE LA, OR WESTINGHOUSE ELECTRIC CORPORATION TYPE DS.
 - PROVIDE LIGHT SOCKETS FOR AISLE ILLUMINATION, CONVENIENCE OUTLETS, SPACE HEATERS AND SWITCHES FOR CONTROL OF SAME.
 - ALL DIMENSIONS ARE APPROXIMATE AND FOR ONE PARTICULAR MANUFACTURER, USE MANUFACTURERS SHOP DRAWING DATA BEFORE ROUGHING OUT CONDUITS AND CONCRETE.
 - SEE SHEET NO. E-5 FOR SWITCHGEAR FOUNDATION DETAIL.
 - SPECIAL GROUND-FAULT TRIPPING ARRANGEMENT - SEE SCHEMATIC DIAGRAM SHEET NO. E-5. INSTALL THREE, TWO COIL TIME OVERCURRENT RELAYS AND CONNECT COILS TO TWO CURRENT TRANSFORMERS CONNECTED IN THE NEUTRAL BUS AS SHOWN.
 - PROVIDE ALL MAIN & TIE BREAKERS WITH SHUNT TRIPS FOR USE WITH IAC95 OVERCURRENT RELAYS.
 - PROVIDE 3000 AMP, 4-POLE BUS WITH 1/2 NEUTRAL CAPACITY.



TYPICAL PRIMARY TERMINATION DETAIL
SCALE: NONE



REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPR. BY



HALF-SIZE DRAWING

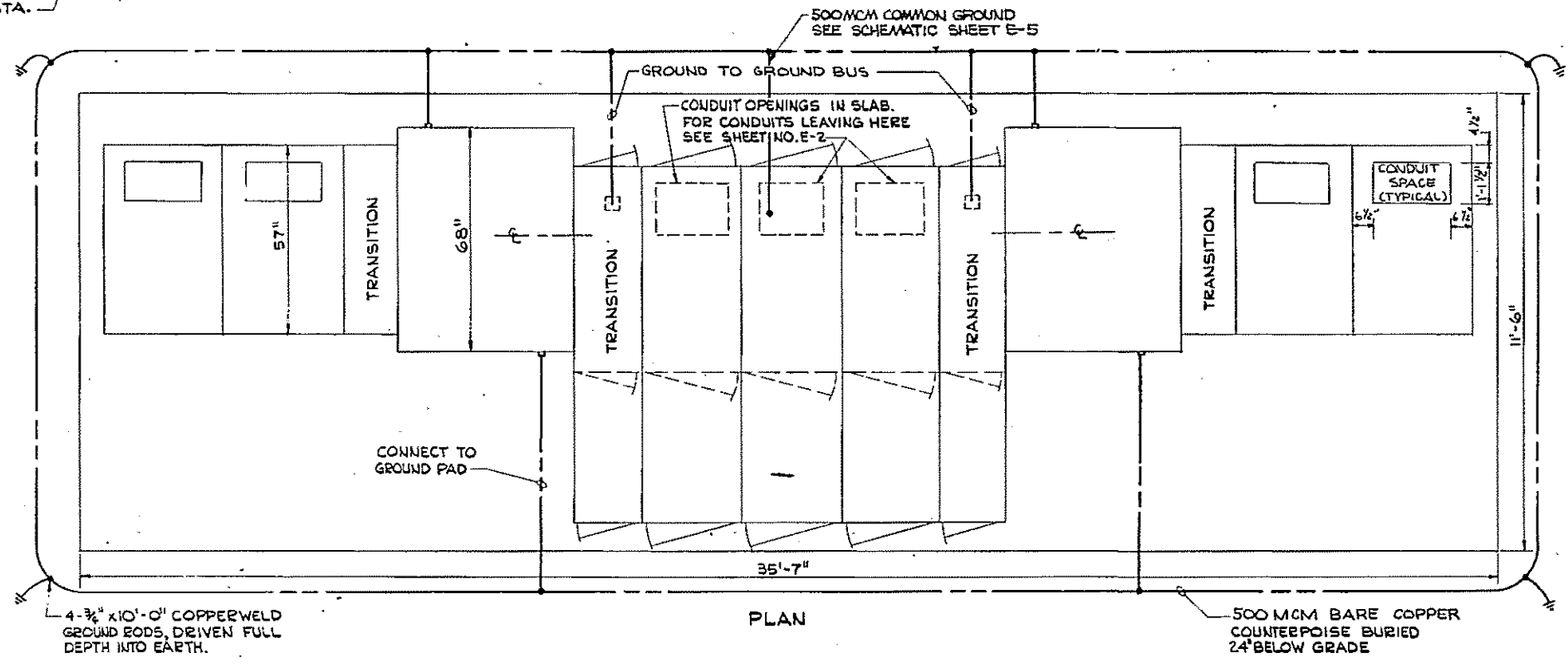
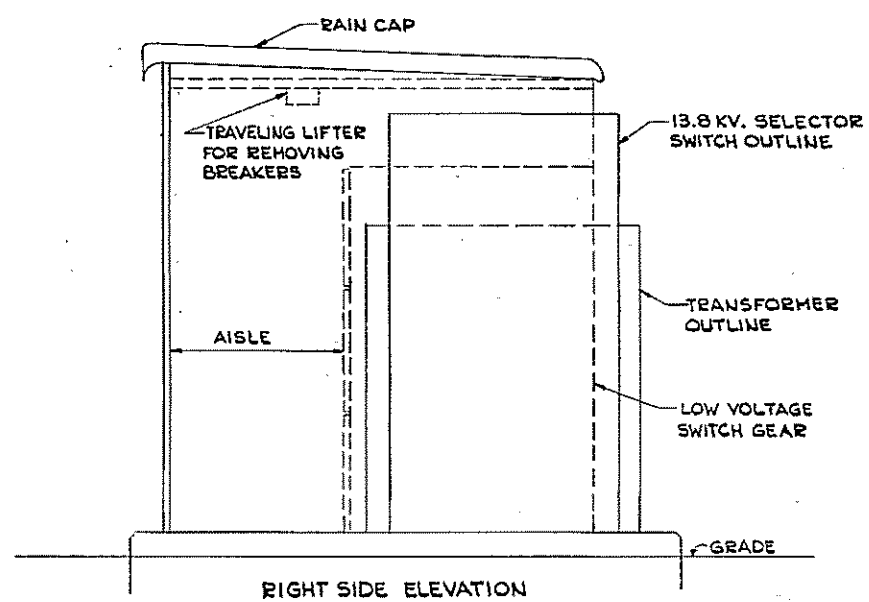
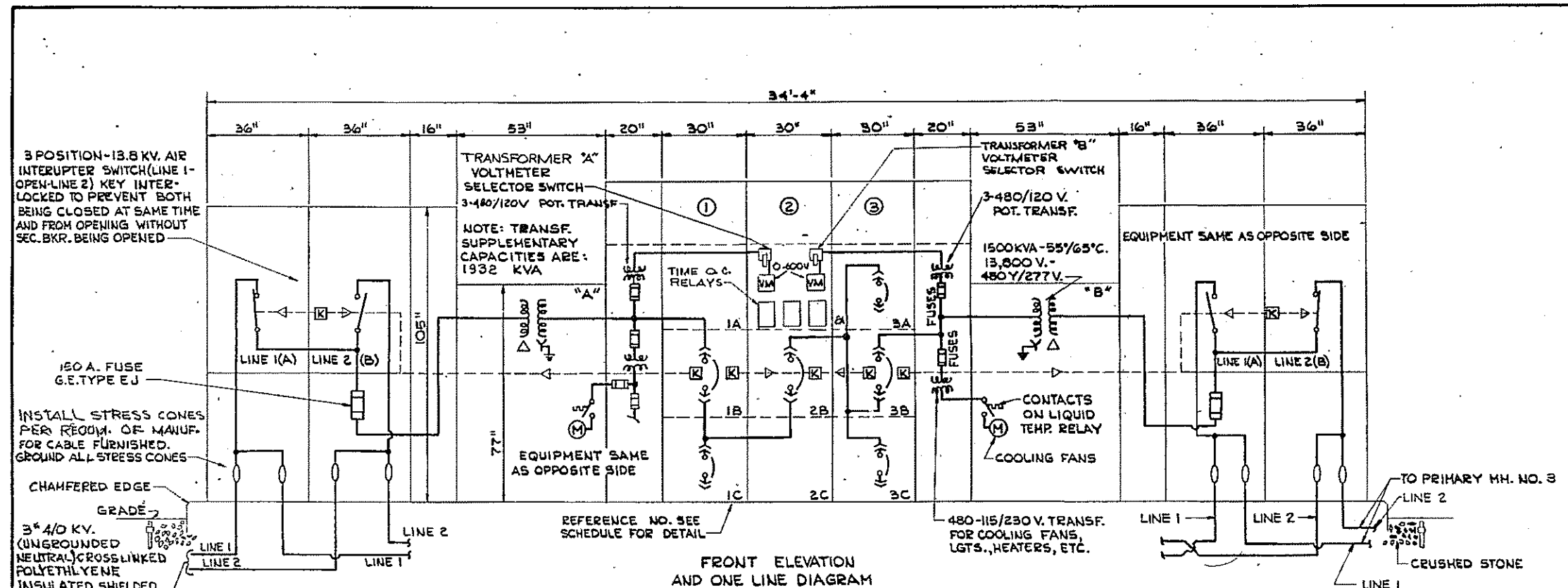
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
YARD ELECTRICAL
UNIT SUB-STATION NO. 2
PLAN AND DETAILS

SCALE: AS NOTED
FEBRUARY 1975
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

DES. G.N.E. W.S.P. PL. C.H.C. W.B.F. G.N.C. REV. JW-83
DR. 3376

APPROVED: [Signature] 276

CONTRACT DRAWING SHEET NO. E-6



UNIT SUB-STATION NO. 3
SCALE: 1/2" = 1'-0"

SECONDARY SWITCHGEAR - SCHEDULE (277/480V) SUBSTATION NO. 3						
REFER. NO.	NAMEPLATE	POWER CIRCUIT BREAKER			REMARKS	PROVIDE TRIPS WITH: SHORT TRIP (TRIP) (TRIP)
		FRM.	TRIP	GRD. TRIP		
1A	SPACE	-	-	-		
1B	TRANSFORMER "A"	3000	3	2500	* KIRK INTERLOCKED WITH PRI. SW. AND TIE BRK.	
1C	INCINERATOR BUILDING	1600	3	1200	600	
2A	TRANSF. "A"-VOLTS-TRANSF. "B"	-	-	-	* PISTOL GRIP HANDLE SELECTOR SWITCH TO READ PHASE TO PHASE AND PHASE TO NEUTRAL	
2B	TIE BREAKER (N.O.)	3000	3	2500	*	* KIRK INTERLOCKED WITH/TRANSFORMER BREAKERS
2C	SPACE	-	-	-		
3A	THICKENER BUILDING	1600	3	250	70	
3B	TRANSFORMER "B"	3000	3	2500	*	* KIRK INTERLOCKED WITH/PRI. SW. AND TIE BREAKER
3C	FILTER BUILDING	1600	3	1200	600	

- NOTES:
1. ALL CIRCUIT BREAKERS TO BE SELECTIVELY CO-ORDINATED AND PROVIDED WITH SOLID STATE LONG TIME AND SHORT TIME, AND/OR INSTANTANEOUS TIME TRIPPING ELEMENTS AS NOTED ABOVE. BREAKERS WITH GROUND TRIP SETTINGS ARE TO BE PROVIDED WITH * GROUND TRIPPING CURRENT MONITORS AND ADJUSTABLE GROUND SENSING RELAYS. ALL SHALL BE DRAW-OUT TYPE.
 2. SEE ONE LINE DIAGRAM ON SHEET NO. E-4
 3. SUB-STATION BREAKERS SHALL BE EQUAL TO: GENERAL ELECTRIC COMPANY TYPE AK-3, ALLIS CHALMERS TYPE LA, OR WESTINGHOUSE ELECTRIC CORPORATION TYPE DS.
 4. PROVIDE LIGHT SOCKETS FOR AISLE ILLUMINATION, CONVENIENCE OUTLETS, SPACE HEATERS AND SWITCHES FOR CONTROL OF SAME.
 5. ALL DIMENSIONS ARE APPROXIMATE AND FOR ONE PARTICULAR MANUFACTURER, USE MANUFACTURERS SHOP DRAWING DATA BEFORE ROUGHING OUT CONDUITS AND CONCRETE.
 6. SEE SHEET NO. E-5 FOR SWITCHGEAR FOUNDATION DETAIL.
 7. SPECIAL GROUND-FAULT TRIPPING ARRANGEMENT - SEE SCHEMATIC DIAGRAM SHEET NO. E-5. INSTALL THREE, TWO COIL TIME OVERCURRENT RELAYS AND CONNECT COILS TO TWO CURRENT TRANSFORMERS CONNECTED IN THE NEUTRAL BUS AS SHOWN.
 8. PROVIDE ALL MAIN & TIE BREAKERS WITH SHUNT TRIPS FOR USE WITH IACBS OVERCURRENT RELAYS.
 9. PROVIDE 2500 AMP, 4 POLE BUS.



1/2" = 1'-0" HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2

YARD ELECTRICAL
UNIT SUB-STATION NO. 3
PLAN AND DETAILS

SCALE: AS NOTED
FEBRUARY 1977

FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.

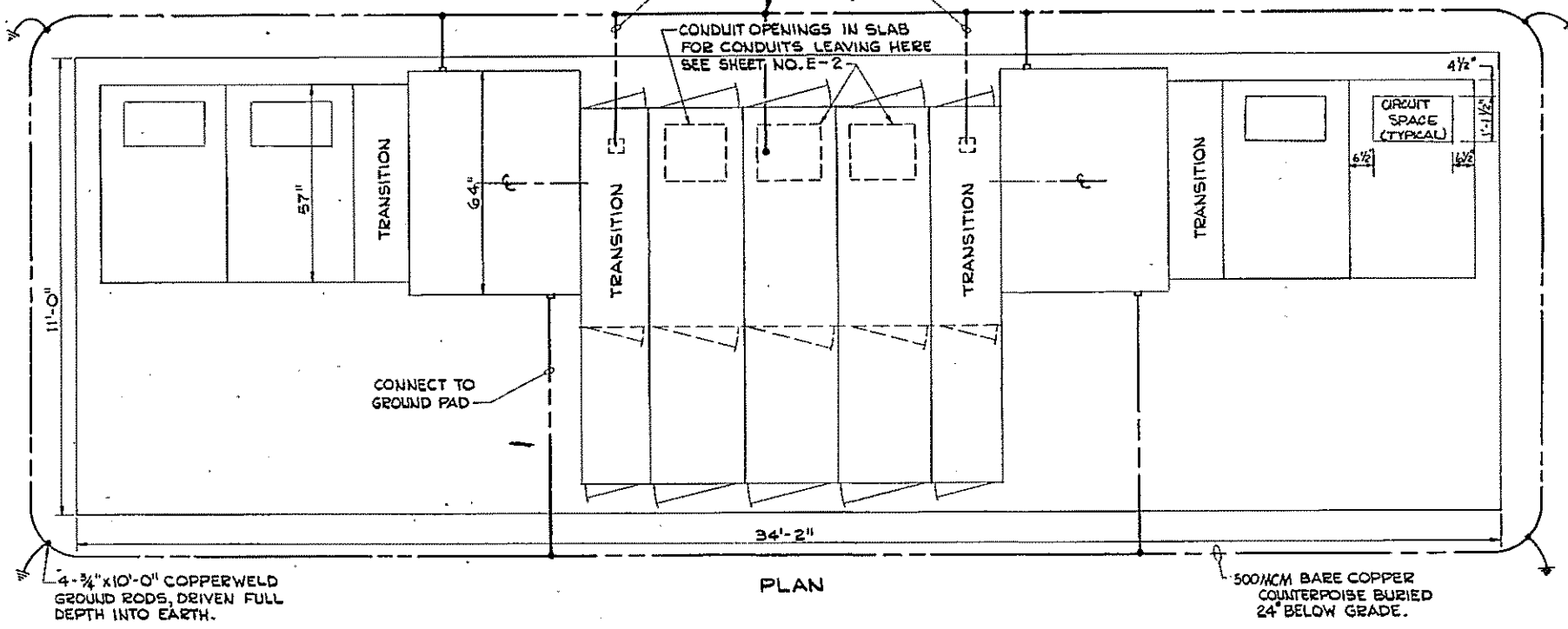
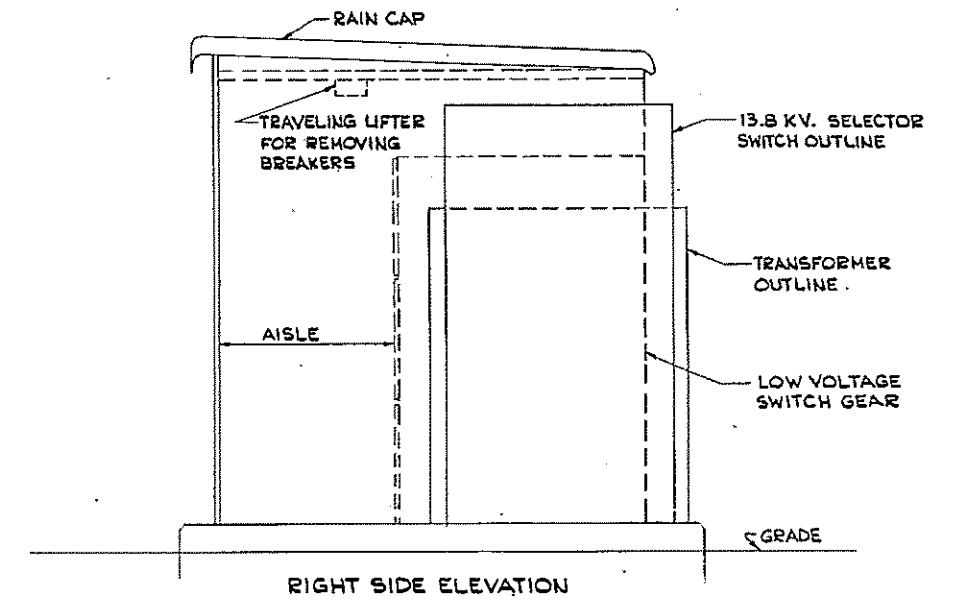
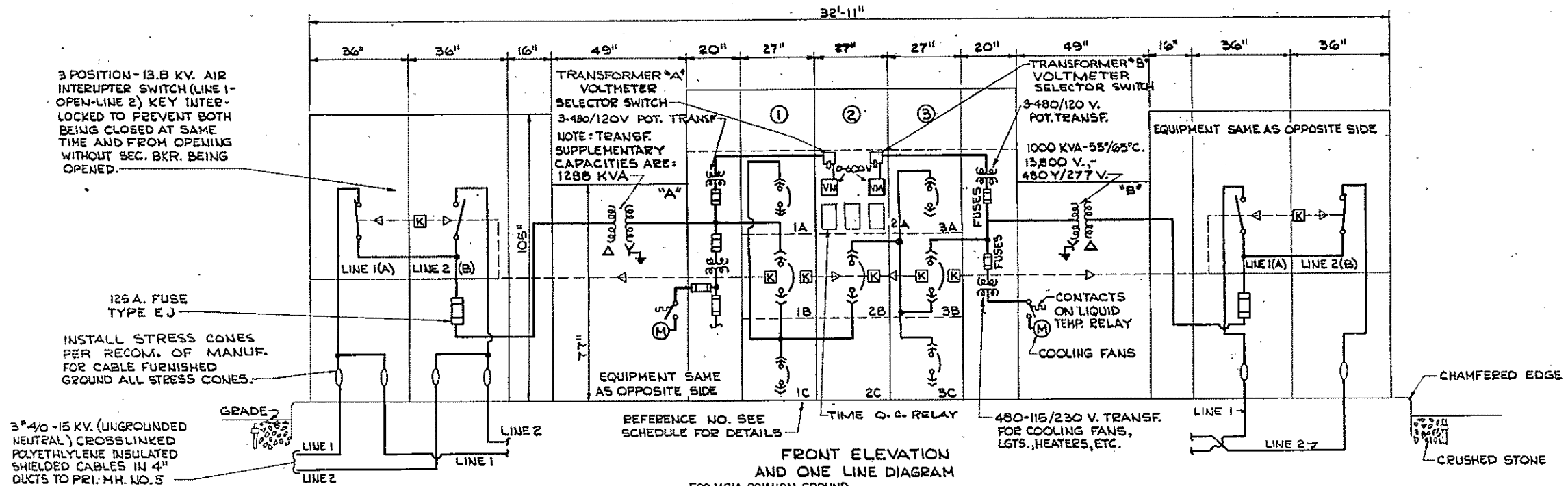
DES. W. S. F., G. N. C. TR. C. W. B. F., G. N. C. PLAN NO. JW-83

APPROVED *M. Cahaly* CHK. BY: [Signature] PLAN NO. 277

CONTRACT DRAWING SHEET NO. E-7

REV. NO.	DATE	DESCRIPTION	MADE BY	CHK. BY	APPD. BY



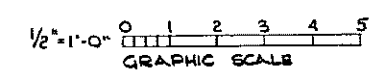


SECONDARY SWITCHGEAR SCHEDULE (277/480 V.) SUB-STATION NO. 4

REFER NO.	NAMEPLATE	POWER CIRCUIT BREAKERS				REMARKS	PROVIDE TRIPS WITH: (CHECK EITHER)
		FRAME	POLES	TRIP	SR. TRIP		
1	1A CHLORINATION BLDG.	600	3	125	200		
	1B TRANSFORMER "A"	1600	3	1600	*	KIRK INTERLOCKED WITH PRI. SW. & TIE BAR.	
	1C PLANT WATER & EFFL. PUMP STA.	1600	3	800	500		
2	2A TRANSF. "A" - VOLTS - TRANSF. "B"	-	-	-	*	PHASE TO PHASE SELECTION SWITCH TO KEYS PHASE TO PHASE AND PHASE TO NEUTRAL.	
	2B TIE BREAKER (N.O.)	1600	3	1600	*	KIRK INTERLOCKED WITH TRANSF. BKRS.	
	2C SPACE	-	-	-	-		
3	3A NORTH RECIRC. PUMP STA.	600	3	450	125		
	3B TRANSFORMER "B"	1600	3	1600	*	KIRK-INTERLOCKED WITH PRI. SW. AND TIE BAR.	
	3C SOUTH RECIRC. PUMP STA.	600	3	450	125		

- NOTES:
- ALL CIRCUIT BREAKERS TO BE SELECTIVELY CO-ORDINATED AND PROVIDED WITH SOLID STATE LONG TIME AND SHORT TIME, AND/OR INSTANTANEOUS TIME TRIPPING ELEMENTS AS NOTED ABOVE. BREAKERS WITH GROUND TRIP SETTINGS ARE TO BE PROVIDED WITH GROUND TRIPPING CURRENT MONITORS AND ADJUSTABLE GROUND SENSING RELAYS. ALL SHALL BE DRAW-OUT TYPE.
 - SEE ONE LINE DIAGRAM ON SHEET NO. E-4
 - SUB-STATION BREAKERS SHALL BE EQUAL TO: GENERAL ELECTRIC COMPANY TYPE AK-3, ALLIS CHALMERS TYPE LA, OR WESTINGHOUSE ELECTRIC CORPORATION TYPE DS.
 - PROVIDE LIGHT SOCKETS FOR AISLE ILLUMINATION, CONVENIENCE OUTLETS, SPACE HEATERS AND SWITCHES FOR CONTROL OF SAME.
 - ALL DIMENSIONS ARE APPROXIMATE AND FOR ONE PARTICULAR MANUFACTURER, USE MANUFACTURER'S SHOP DRAWING DATA BEFORE ROUGHING OUT CONDUITS AND CONCRETE.
 - SEE SHEET NO. E-5 FOR SWITCHGEAR FOUNDATION DETAILS.
 - SPECIAL GROUND - FAULT TRIPPING ARRANGEMENT - SEE SCHEMATIC DIAGRAM SHEET NO. E-5 INSTALL THREE, TWO COIL TIME OVERCURRENT RELAYS AND CONNECT COILS TO TWO CURRENT TRANSFORMERS CONNECTED IN THE NEUTRAL BUS AS SHOWN.
 - PROVIDE ALL MAIN & TIE BREAKERS WITH SHUNT TRIPS FOR USE WITH IACSS OVERCURRENT RELAYS.
 - PROVIDE 1600 AMP, 4 POLE BUS.

UNIT SUB-STATION NO. 4
SCALE: 1/2" = 1'-0"



HALF-SIZE DRAWING

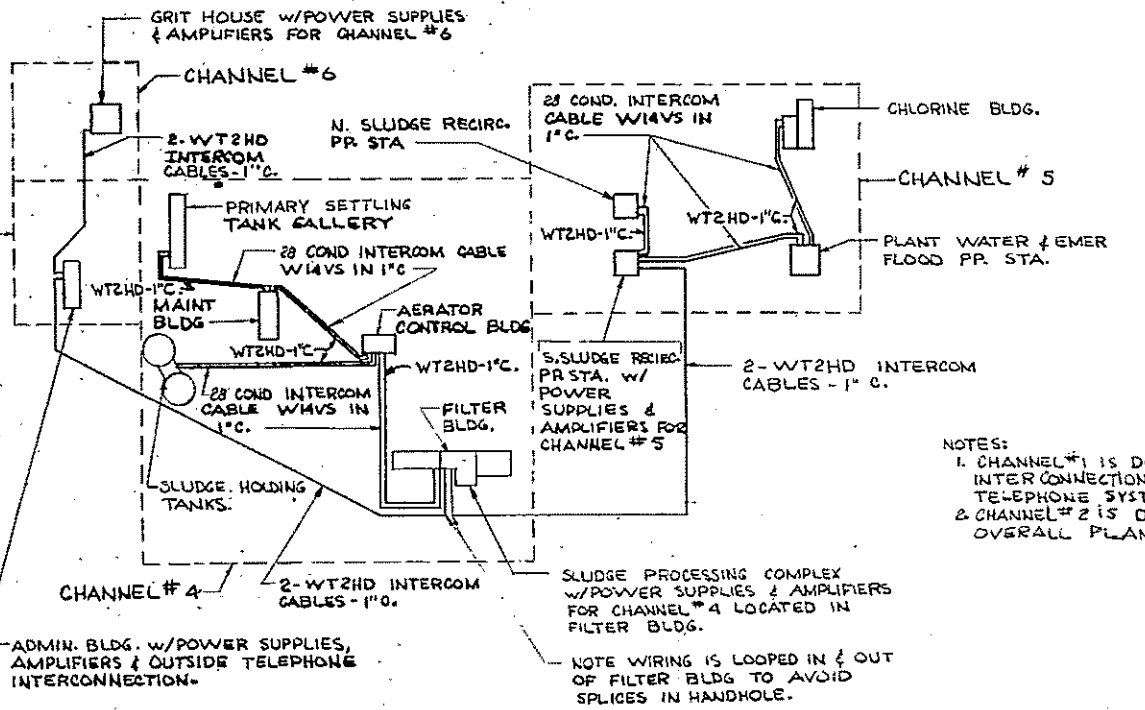
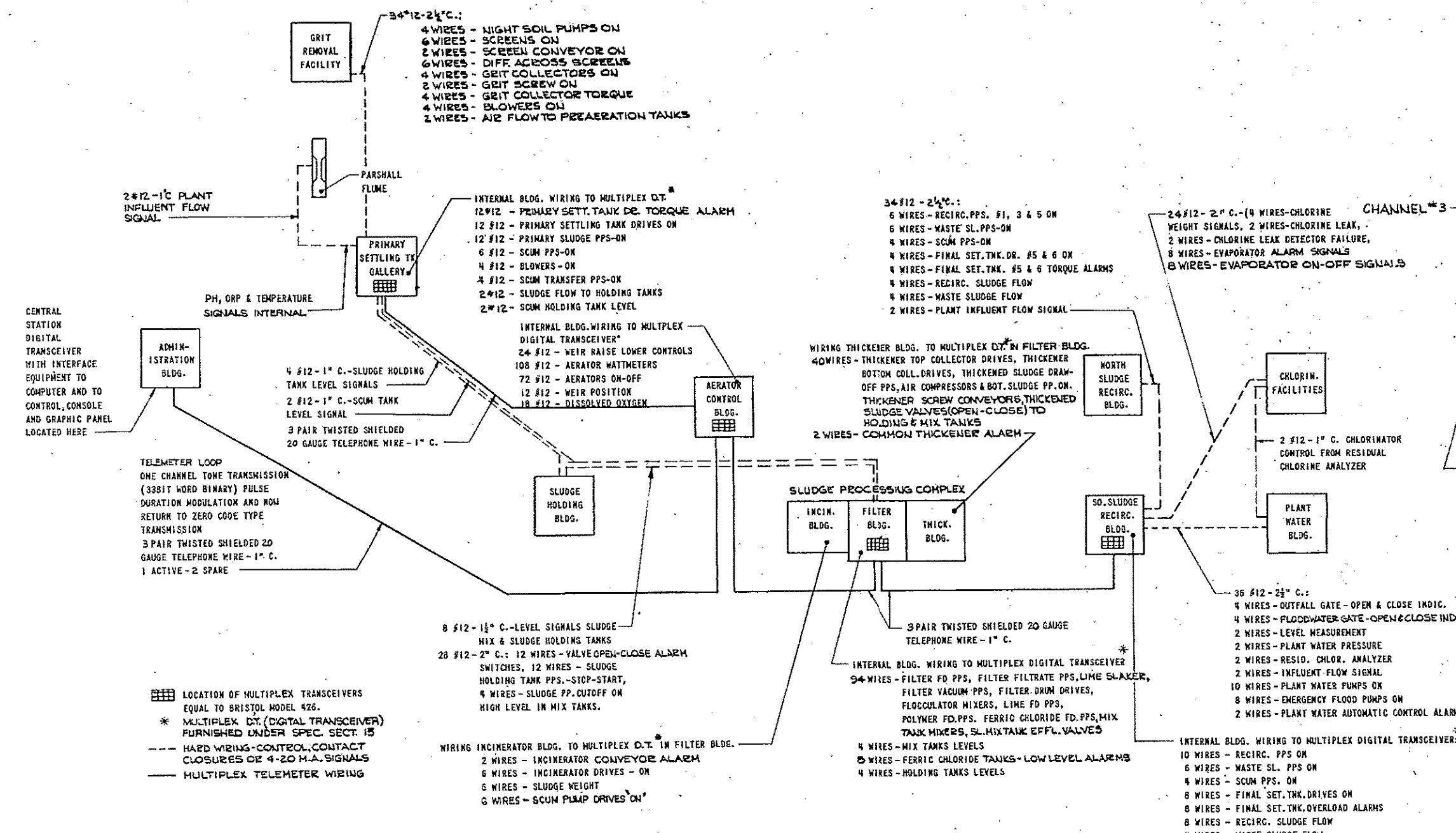
COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
YARD ELECTRICAL
UNIT SUB-STATION NO. 4
PLAN AND DETAILS

SCALE: AS NOTED
FEBRUARY 1978
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
DES. BY: J. P. O'NEILL JR. IN CHARGE: G. M. C. W. B. F. REV. NO. JW-83
APPROVED: J. M. Cahaly REG. NO. 278

CONTRACT DRAWING SHEET NO. E-8

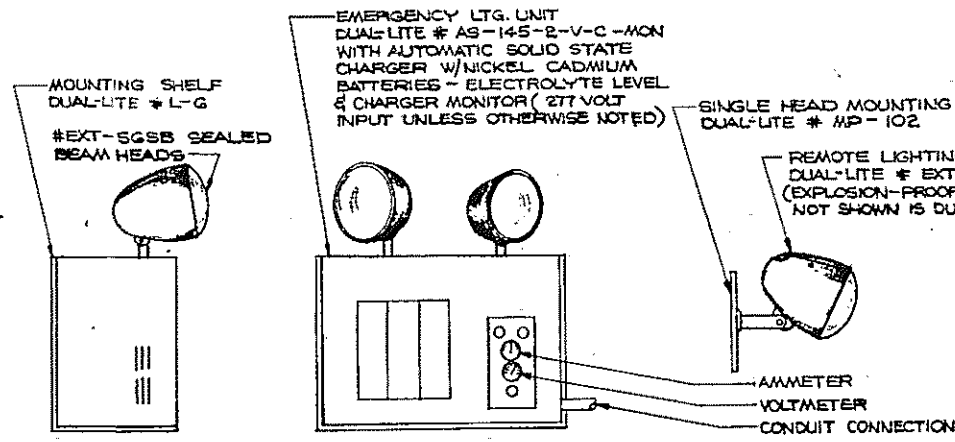
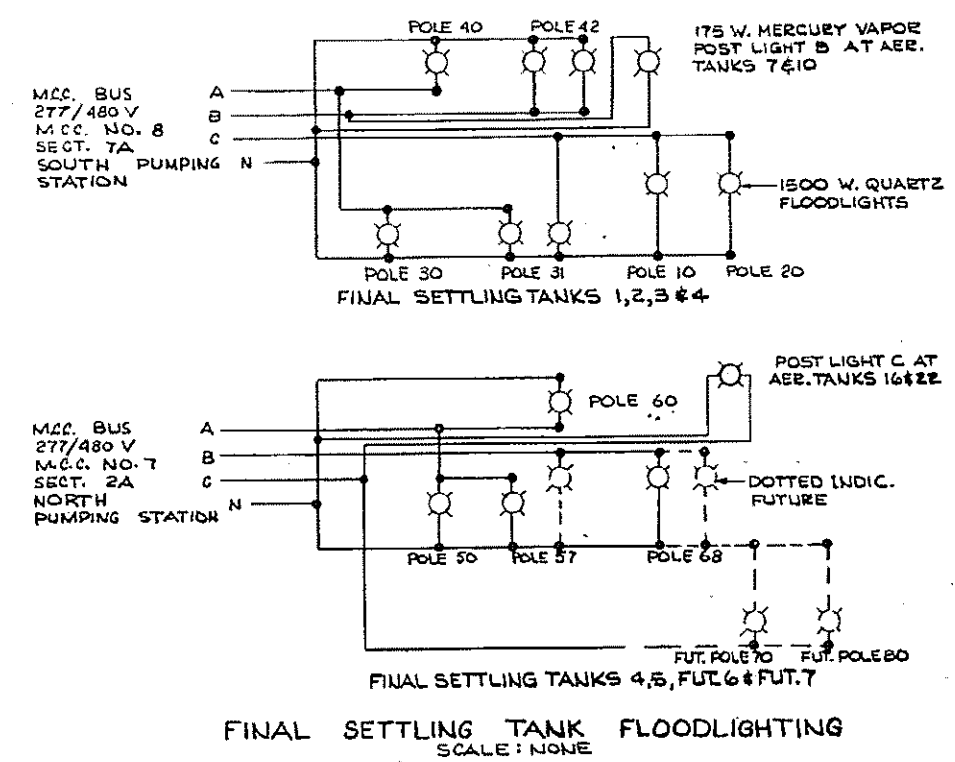
REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK. BY	APPD. BY





LOCATION OF MULTIPLEX TRANSCIEVERS EQUAL TO BRISTOL MODEL 426.
 * MULTIPLEX DT. (DIGITAL TRANSCIEVER) FURNISHED UNDER SPEC. SECT. 15
 --- HARD WIRING - CONTROL CONTACT CLOSURES OF 4-20 M.A. SIGNALS
 --- MULTIPLEX TELEMETER WIRING

INSTRUMENTATION SCHEMATIC LOCATION PLAN SCALE: NONE



MASTER FIXTURE SCHEDULE

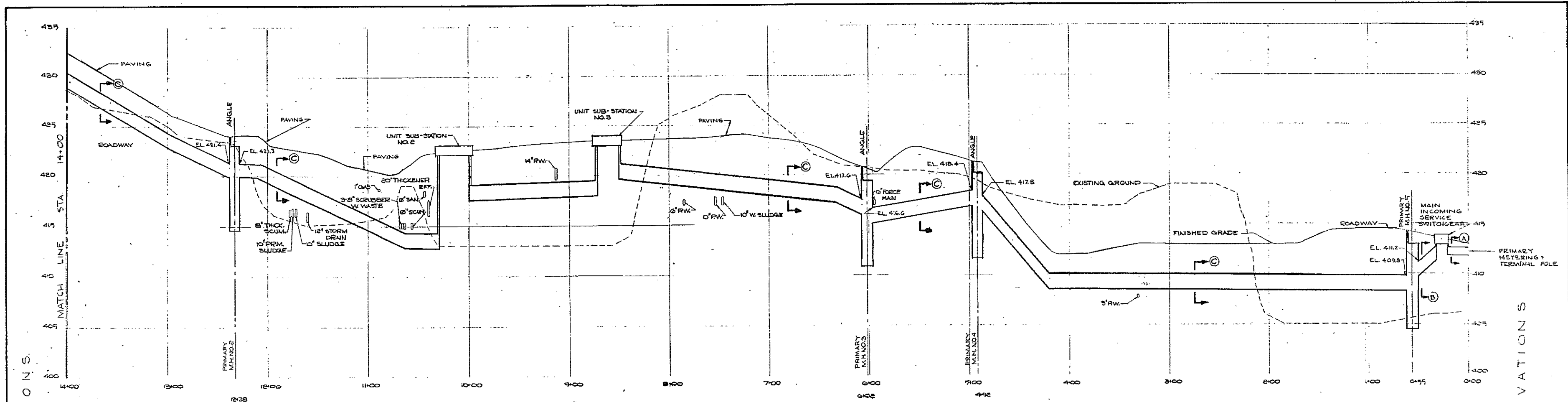
TYPE	MANUFACTURER	CATALOG NO.	LAMP DATA	ALTERNATES
			NO. TYPE WATTS	MANUFACTURER CATALOG NO. MANUFACTURER CATALOG NO.
A	MILLER	IM-2101-08	4 RS 40	DAY-BRITE R-41452-8 BENJAMIN FL-2024-BU
A-1	MILLER	IM-2101-04	2 RS 40	DAY-BRITE R-41452-4 BENJAMIN FL-2024-U
B	MILLER	TD4192AAM	4 RS 40	DAY-BRITE G42A-W868-4 LITE CONTROL 9444RSKA
B-1	MILLER	TC2192AAM	2 RS 40	DAY-BRITE G21-WF818-U LITE CONTROL 9624RSXA
C	MILLER	DS-2101-04B	2 RS 40	DAY-BRITE 45257-4-BL LITE CONTROL 9E44RS-A-SLK 2-40W
C-1	MILLER	DS-404-04-B	4 RS 40	DAY-BRITE 45457-4 LITE CONTROL 9B44RS-A-SLK 4-40W
D	MC PHILBEN	37-70AHPF	2 TS 20	DAY-BRITE A22205 MILLER FM-2121-C2
E	PASS & SEYMOUR	AL-2935	1 I 100	BRYANT 5228 LEVITON 9875
G	MC PHILBEN	66-21-VTB	1 I 150	-
H	CROUSE-HINDS	VXHF-256P	1 I 150	RUSSELL & STOLL 6334A MILLER AC-2012 CAST ALUM.
I	STEBER	S1-3002	2 PAR-38 150	-
J	MC PHILBEN	3-205E	1 PAR-38 150	-
K	MILLER	KT-2110-CB	4 RS 40	KEENE SCL2400P PORCELAIN -
K-1	MILLER	KT-2110-CB	2 RS 40	KEENE SCL2400P PORCELAIN -
L	MC PHILBEN	16-22-PF100	1 I 150	-
M	STEBER	SS-3332-A	2 PAR-38 150	STONCO HOLW/4-8
N	CROUSE-HINDS	VXHA2189	1 I 100	-
P	CROUSE-HINDS	EVCX2151	1 I 200	RUSSELL & STOLL E20J03 APPLETON AC2075STG
Q	DUAL-LITE ***	AS-145-2-V-C-MON	2 I-6 VOLT 25	-
Q-1	DUAL-LITE ***	AS-145-2-V-C-MON	2 I-6 VOLT 25	-
R	MILLER	IM-2501-08	2 PG 215	DAY-BRITE R-71252-8 BENJAMIN FL-2026-BU
R-1	MILLER	IM-2501-04	2 PG 110	DAY-BRITE R-71252-4 BENJAMIN FL-2026-U
S	MILLER	AC-2012	1 I 200	-
T	CROUSE-HINDS	VXHB126P	1 I 200	-
U	CROUSE-HINDS	VAM-19350A	2 I 100	-
V	MILLER	AC-2330	1 I 100	CROUSE-HINDS VDA252PRS RUSSELL & STOLL 6369A
W	MC PHILBEN	43-99-3YTA	2 I 60	-
X	DUAL-LITE	C-611STP-277 V.	*	DAY-BRITE 2-EDC8016BL-277V **
X-1	DUAL-LITE	C-600STP-277 V.	*	DAY-BRITE EDC8016BL-277 V. ***
X-2	DUAL-LITE	C-601STP-277 V.	1 I 45	-
Y	MILLER	AE-4241	1 I 150	BENJAMIN Y-7642

* 2-15 WATT AND 1-6.4 WATT A-C AND 3-5.5 WATT EMERGENCY D-C
 ** 2-18.3 WATT A-C AND 8 MIN. EMER. LAMPS
 *** 1-18.3 WATT A-C AND 4 MIN. EMER. LAMPS
 **** FURNISH w/ MOUNTING SHELF & REMOTE HEAD #EXT-SCSB
 FURNISH ALL FLUORESCENT FIXTURES WITH 277V. BALLAST, UNLESS OTHERWISE INDICATED.

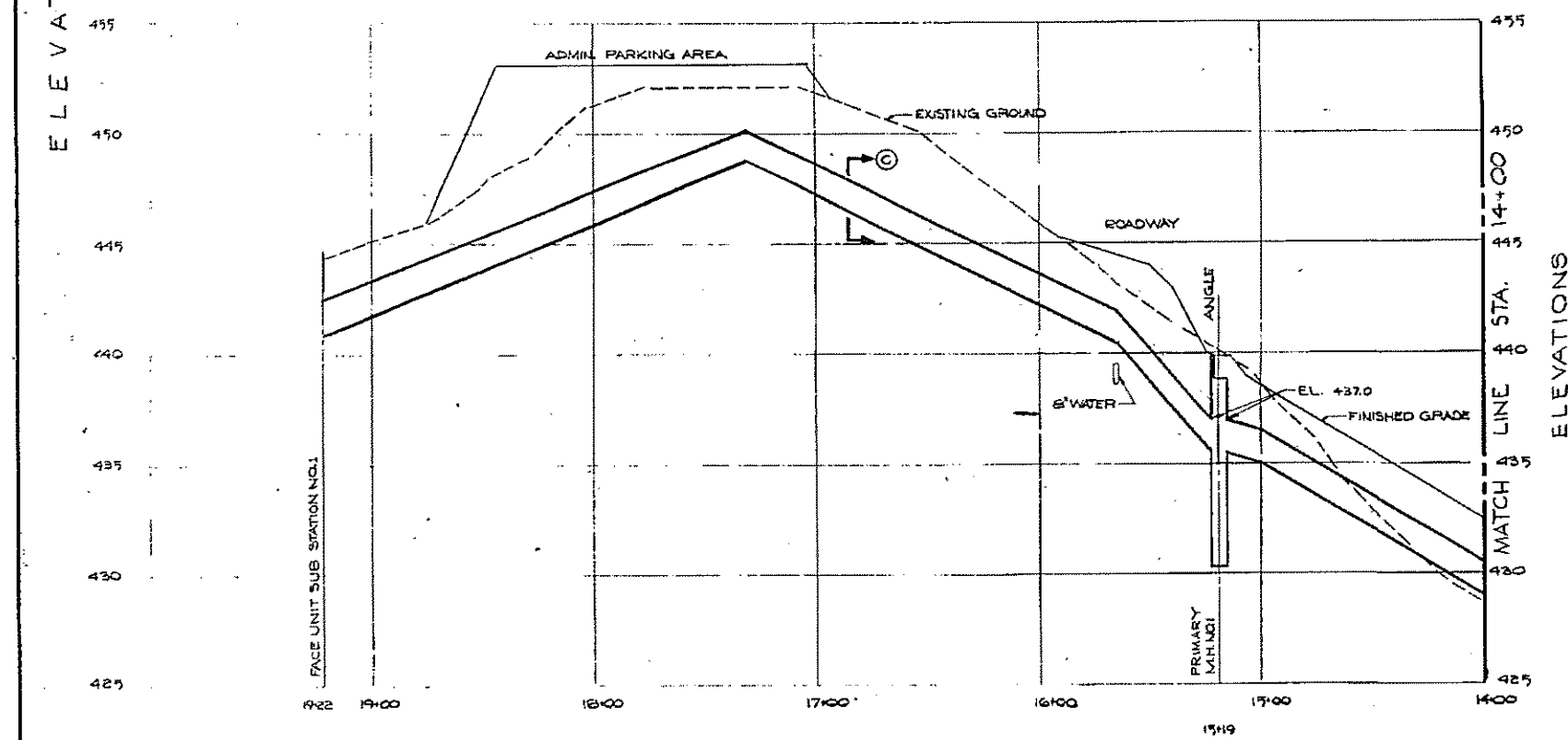
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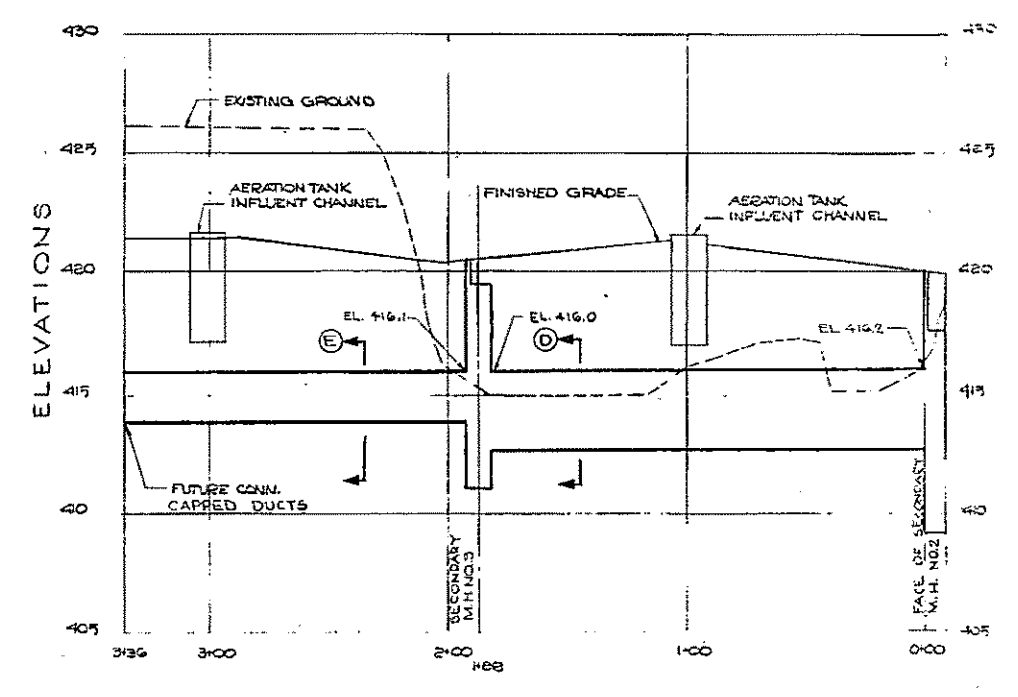
HALF-SIZE DRAWING
 COMMONWEALTH OF MASSACHUSETTS
 UPPER BLACKSTONE
 WATER POLLUTION ABATEMENT DIST.
 REGIONAL WASTEWATER TREATMENT PLANT
 CONTRACT NO. 2
 YARD ELECTRICAL
 YARD SCHEMATICS
 AND MISCELLANEOUS DETAILS
 SCALE: NO SCALE
 FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, ARCHITECTS & PLANNERS
 100 STATE STREET, BOSTON, MASSACHUSETTS 02109
 PREPARED BY: J.V.
 CHECKED BY: J.V.
 APPROVED BY: F. W. Spofford
 CONTRACT DRAWING SHEET NO.



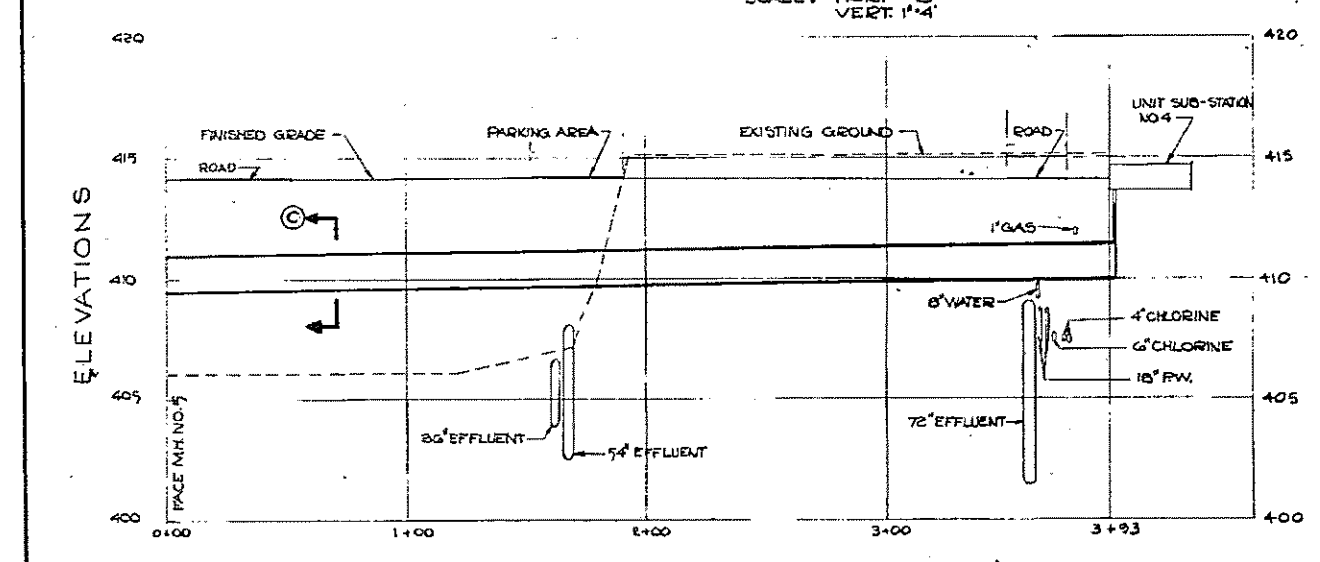
PROFILE - PRIMARY DUCT LINE
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



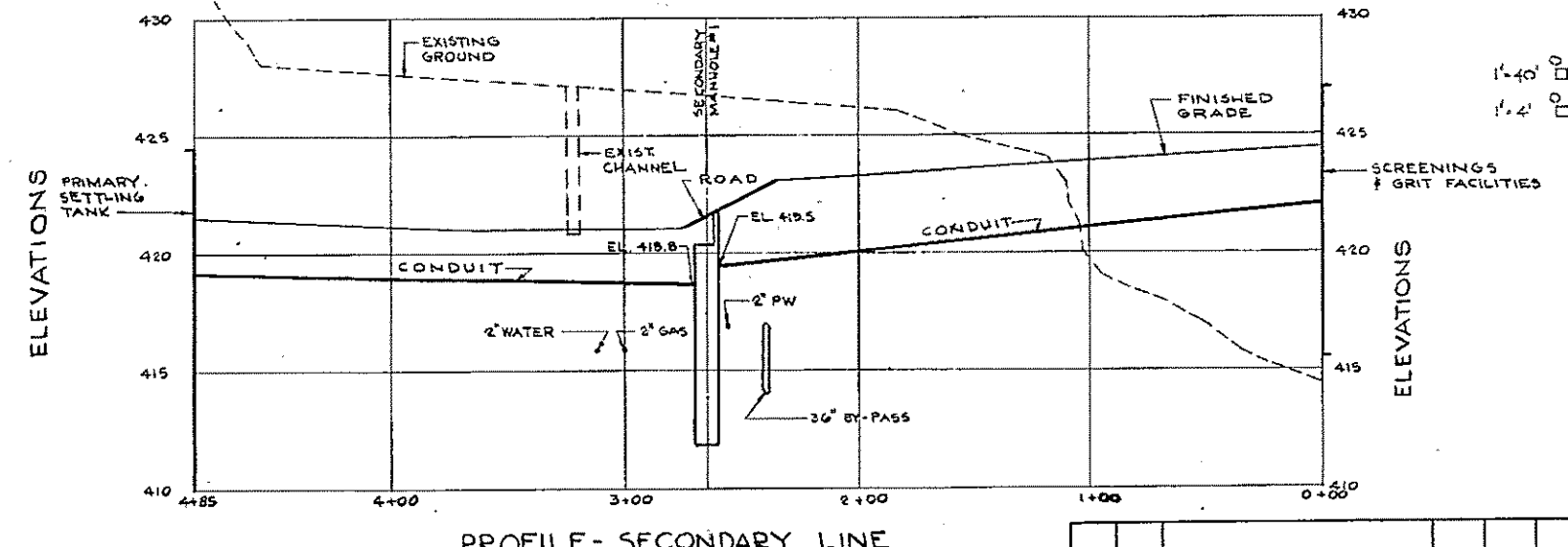
PROFILE - PRIMARY DUCT LINE CONT'D.
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



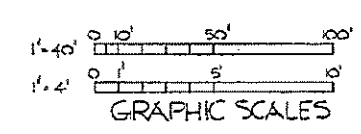
PROFILE - SECONDARY DUCT LINE
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



PROFILE - PRIMARY DUCT LINE CONT'D
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



PROFILE - SECONDARY DUCT LINE
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



NOTE:
SEE SH. NOS. E1+E2 FOR SITE
PLANS AND SH. NO. E3 FOR
DUCT SECTIONS + MANHOLE DETAILS

HALF-SIZE DRAWING

COMMONWEALTH OF MASSACHUSETTS
UPPER BLACKSTONE
WATER POLLUTION ABATEMENT DISTRICT
REGIONAL WASTEWATER TREATMENT FACILITIES
CONTRACT NO. 2
YARD ELECTRICAL
DUCT PROFILES

SCALE: AS NOTED
FAY, SPOFFORD & THORNDIKE, INC., ENGINEERS, BOSTON, MASS.
REG. G.E.C. W.B.F. JR. (S.E.)
REG. W.B.F. G.N.C. (S.E.)
APPROVED: *J.M. Cahaly* 280
CONTRACT DRAWING SHEET NO. E-10

REV. NO.	DATE	DESCRIPTION	MADE BY	CHEK BY	APPR BY

