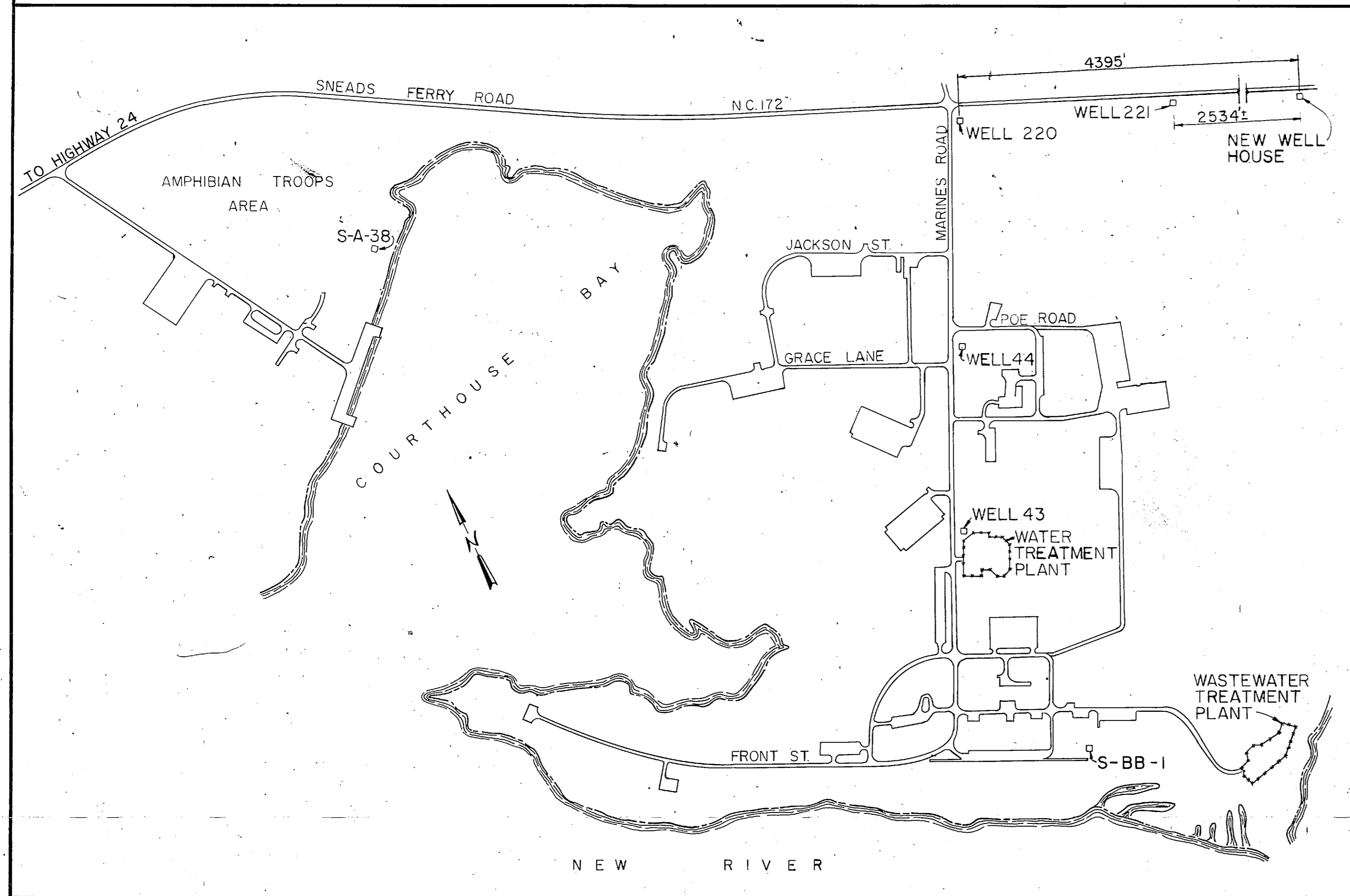


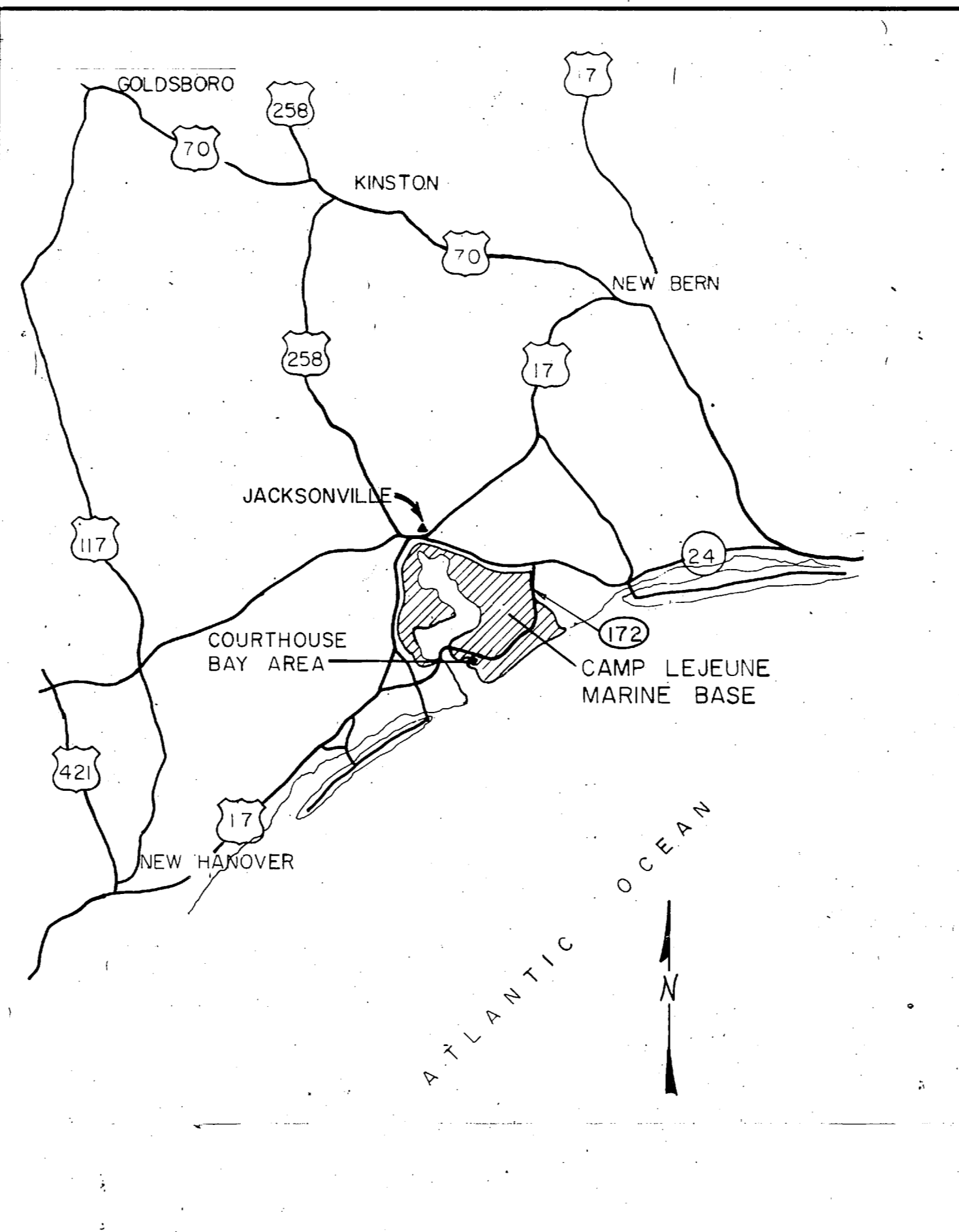
UTILITIES IMPROVEMENTS

NUMBER INDICATES SECTION
 LETTER INDICATES ELEVATION OR DETAIL
 SHEET NUMBER WHERE ELEVATION, SECTION, OR DETAIL IS DRAWN
 ELEVATION, SECTION, OR DETAIL SYMBOL

MARINE CORPS BASE COURTHOUSE BAY AREA CAMP LEJEUNE NORTH CAROLINA



LOCATION MAP SCALE: 1" = 800'



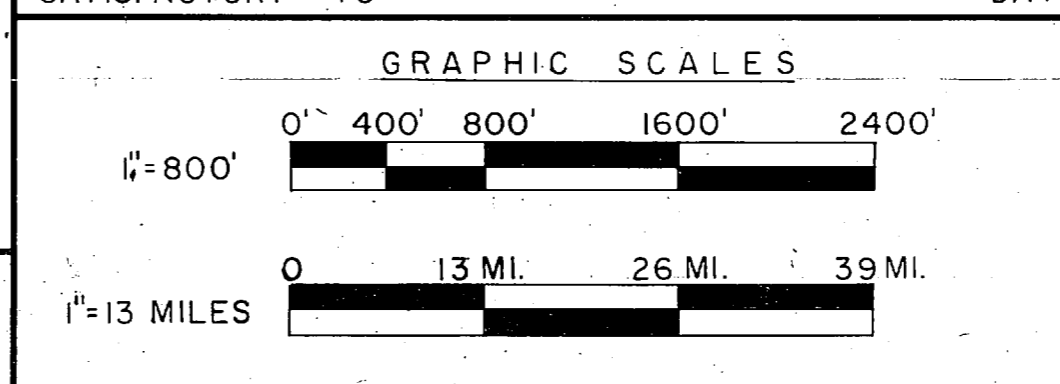
VICINITY MAP SCALE: 1" = 13 MILES

MATERIALS			
	BRICK		WOOD IN ROUGH
	C M U		EARTH
	INSULATION		

**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**

SCHEDULE OF DRAWINGS	
TITLE SHEET	C-27 AEROBIC DIGESTER / IMHOFF TANK DEMOLITION
TS-1 LOCATION MAP - VICINITY MAP - SCHEDULE OF DRAWINGS	C-28 AEROBIC DIGESTER / IMHOFF TANK CONVERSION
	C-29 SLUDGE DRYING BEDS
	C-30 MISCELLANEOUS DETAILS
CIVIL	
WATER SYSTEM	
C-1 NEW WELL SITE PLAN & DETAILS EXISTING WELL RENOVATIONS	
C-2 RAW WATER LINE - PLAN & PROFILE, DOOR DETAIL, & WINDOW SECTION	
C-3 WATER PLANT SITE PLAN & BORING LOG	
C-4 SUMMARY OF WORK	
C-5 PROCESS PIPING - FLOOR PLAN	
C-6 PROCESS PIPING - ELEVATION & DETAILS	
C-7 NEW FILTER & SOFTENER CONTROL PANEL & FLOW SCHEMATIC	
ARCHITECTURAL	
WATER SYSTEM	
A-1 FLOOR PLAN, ELEVATION & DRAINAGE PIPING	
A-2 ELEVATIONS & SECTIONS	
A-3 ROOF PLAN, GENERATOR PAD, SECTIONS & DETAILS	
H V A C	
WASTE WATER SYSTEM	
M-1 CONTROL BUILDING - MECHANICAL	
ELECTRICAL	
WATER SYSTEM	
E-1 ELECTRICAL PLAN & DETAILS	
E-2 ELECTRICAL PLAN & DETAILS - NEW & EXISTING WELLS	
WASTE WATER SYSTEM	
E-3 ELECTRICAL SITE PLAN & SYMBOL SCHEDULE	
E-4 ELECTRICAL PLANS & SCHEDULE	
E-5 ELECTRICAL PLANS & DETAILS	
E-6 PANEL & EQUIPMENT SCHEDULE	
E-7 CONTROL WIRING SITE PLAN	
E-8 LIGHTING FIXTURE DETAILS	

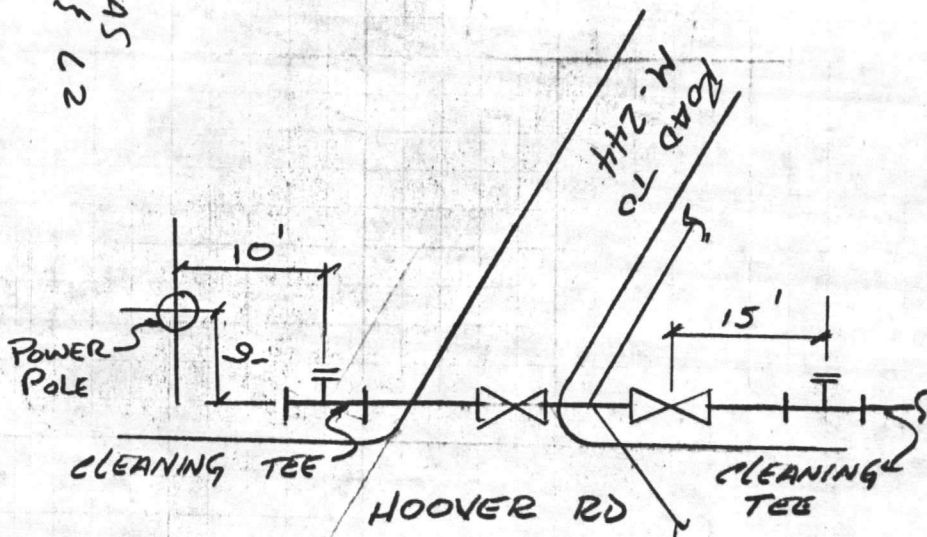
PREFINAL SUBMITTAL DECEMBER 21, 1982		TS-1
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NORFOLK VIRGINIA
PROJECT NO. 80091		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT LOCATION MAP - VICINITY MAP SCHEDULE OF DRAWINGS
SUBMITTED BY: DATE:		NAVFAC DRAWING NO.
FIRM MEMBERS: PRINCIPAL:		F 80091
APPROVED: DATE:		SHEET OF
OFFICER IN CHARGE: DATE:		SCALE AS NOTED SPEC. 05-BI-1478
TOB 510 FOR COMMANDER NAVFAC		SHEET OF



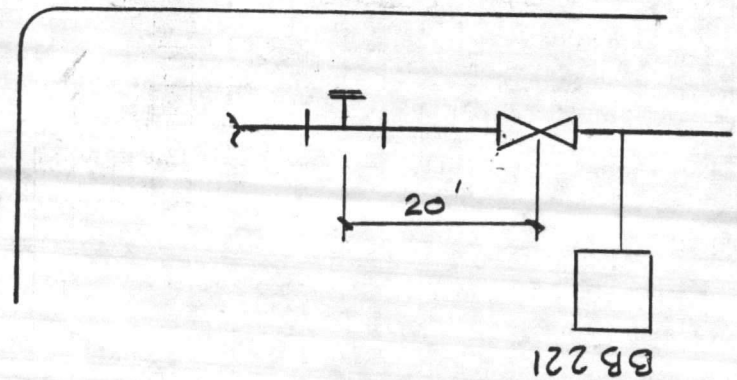


42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE

AREAS
L1 & L2

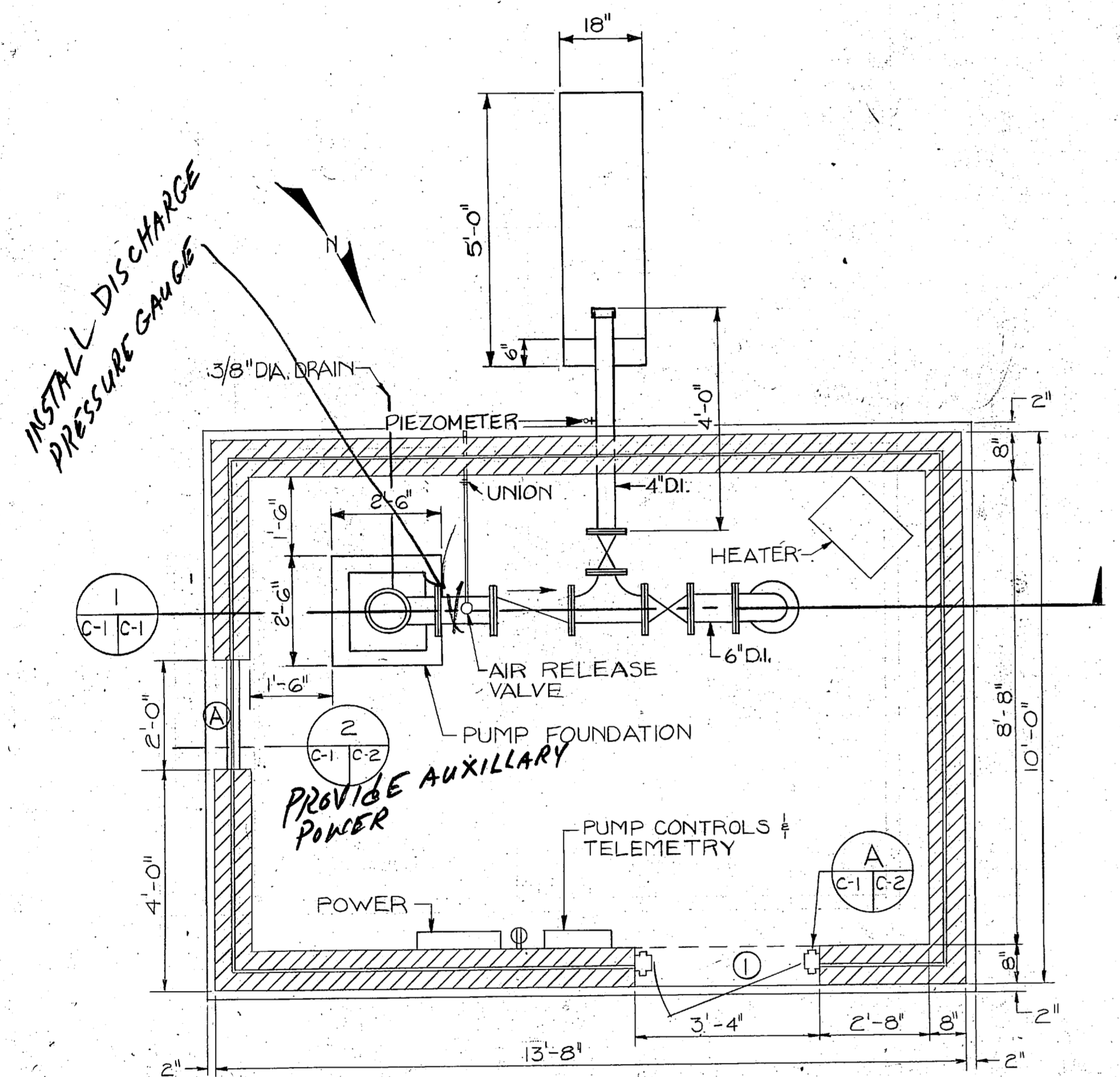
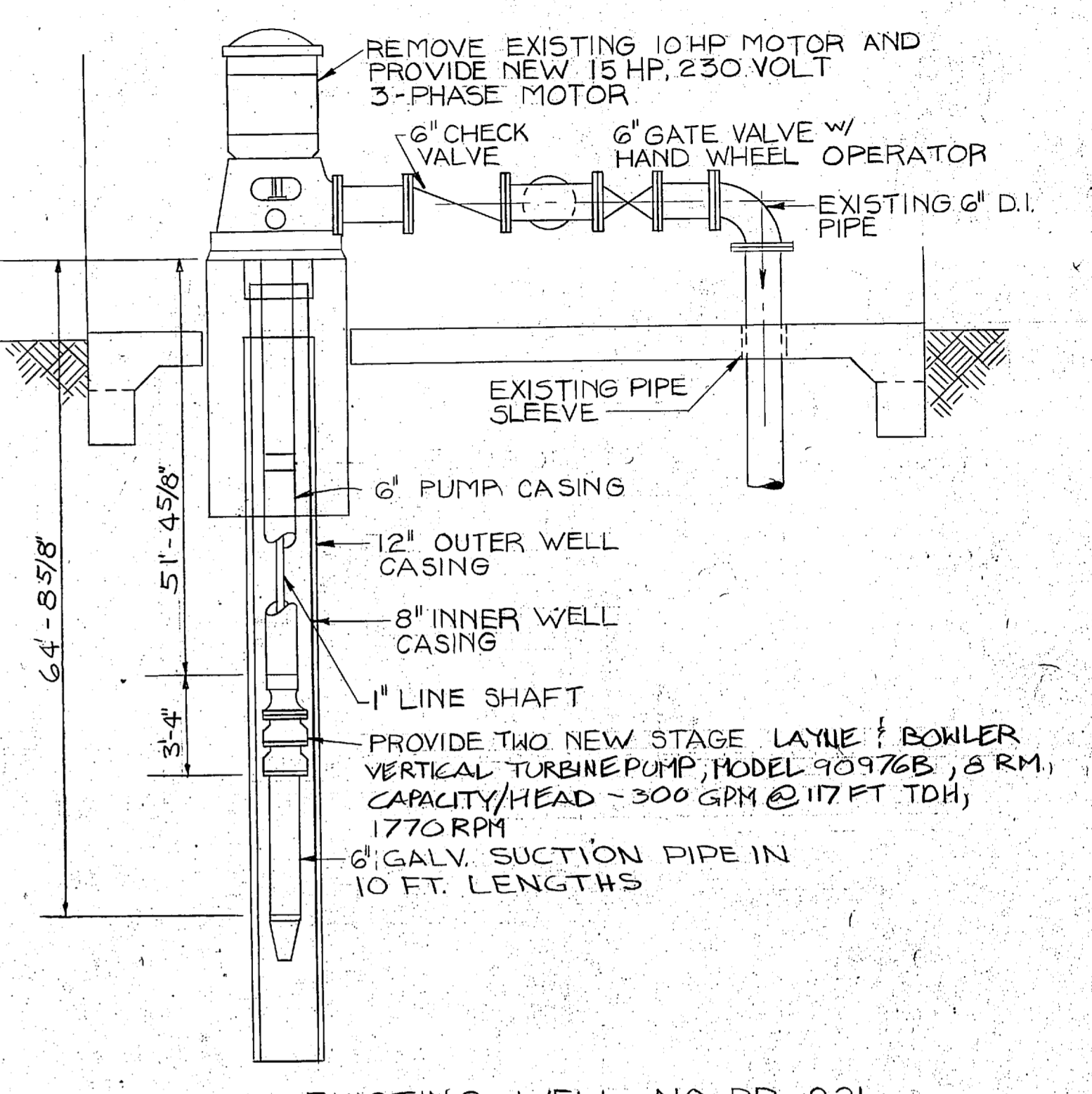
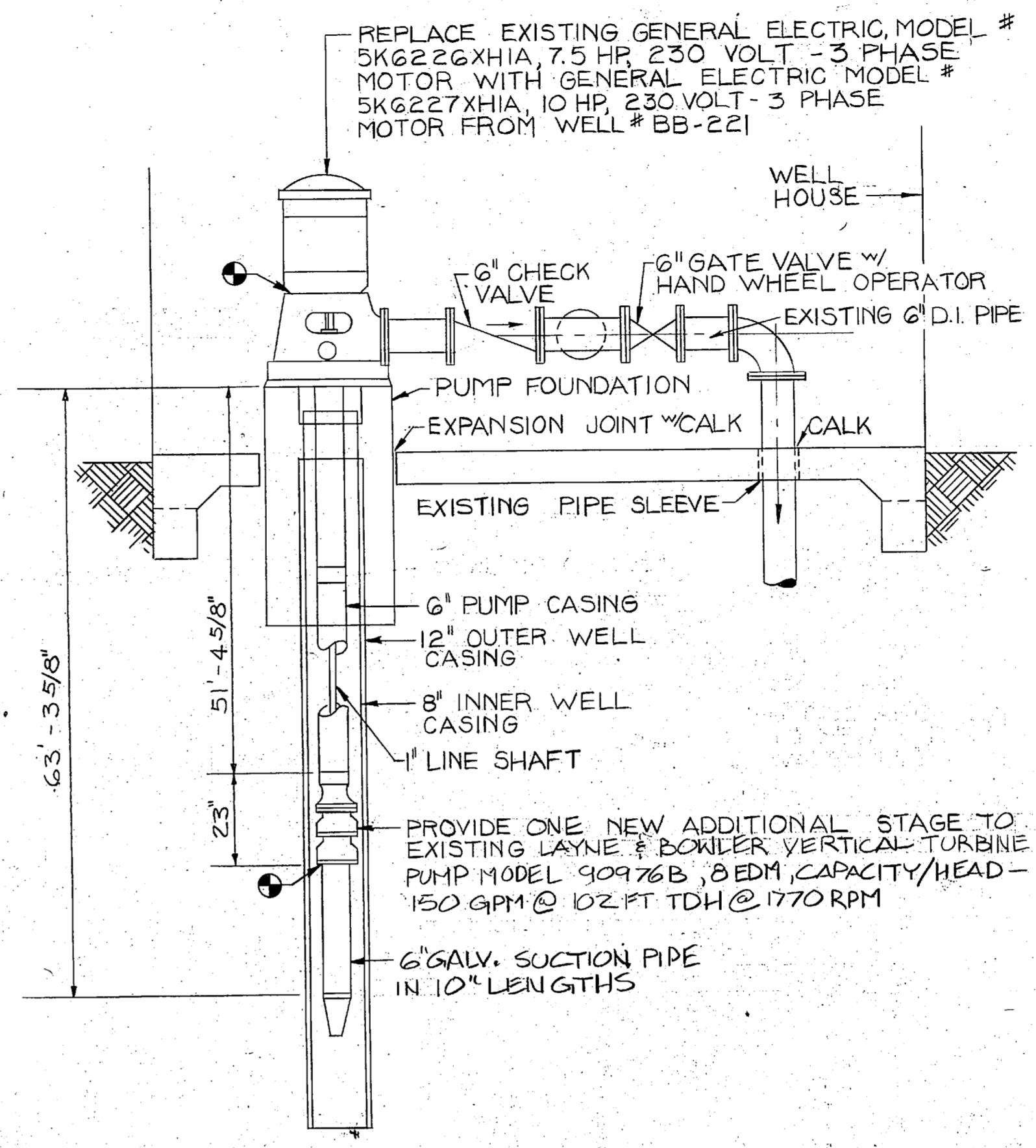
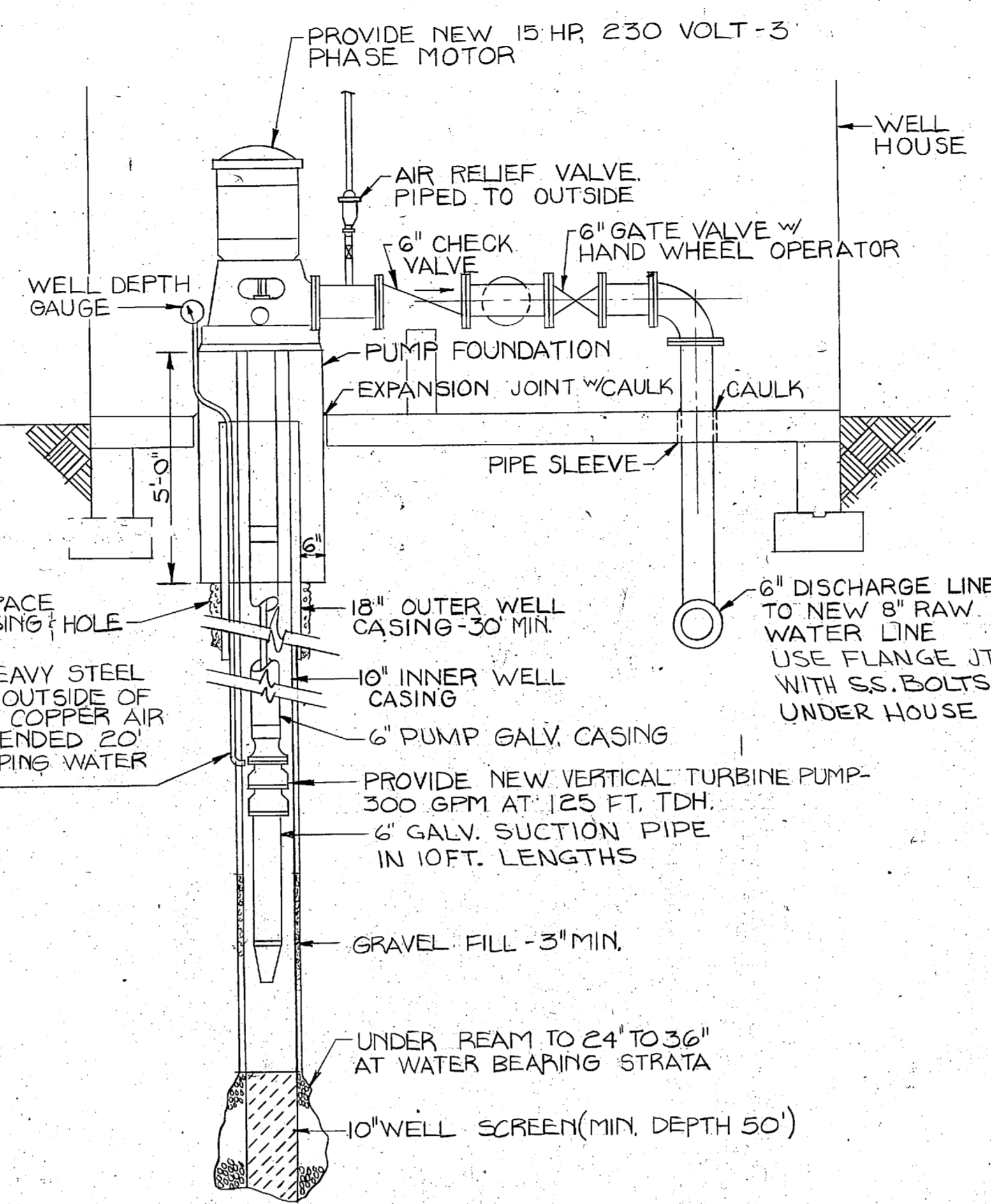
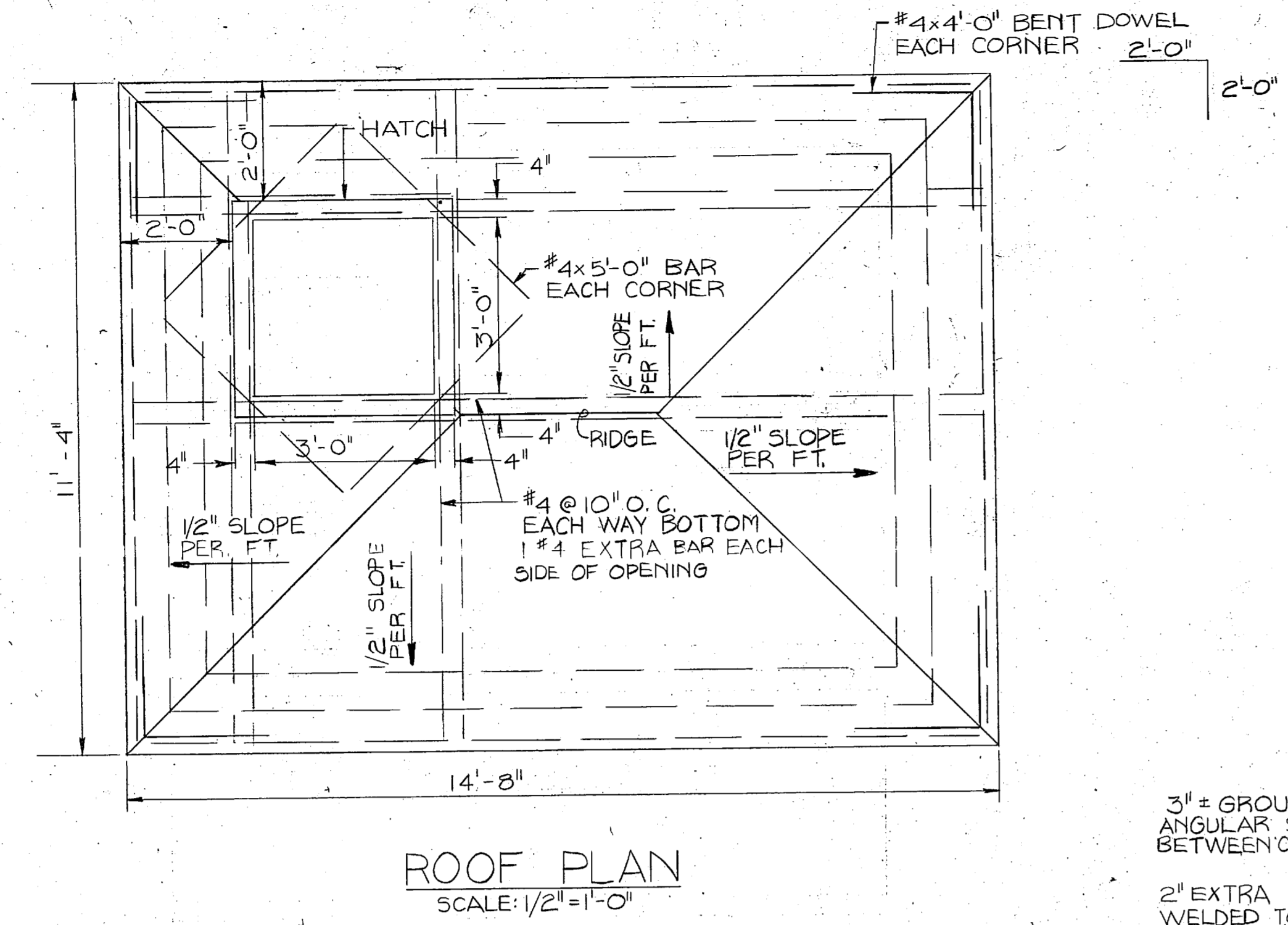


AREA
M-1





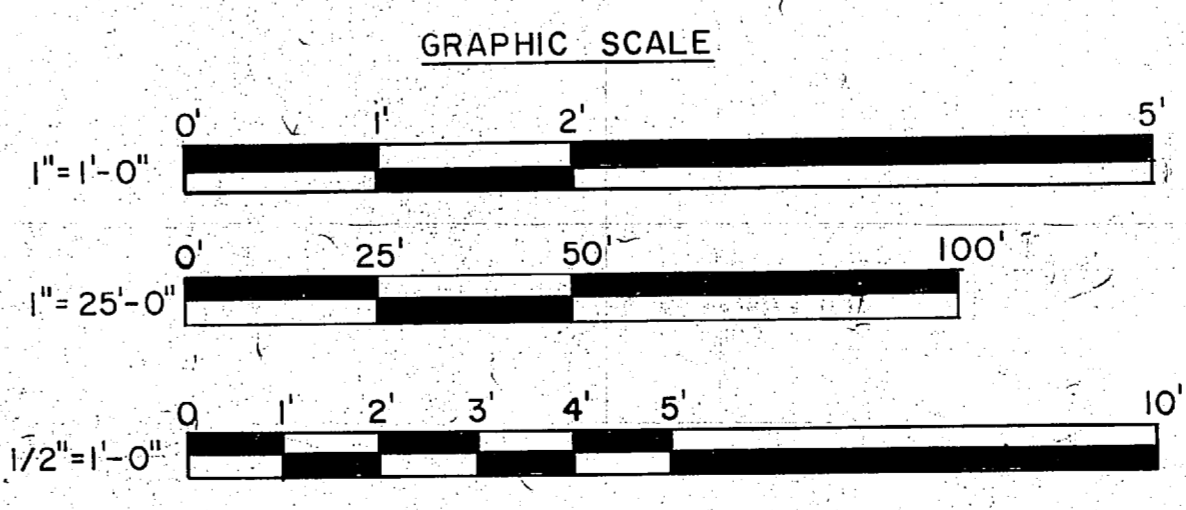
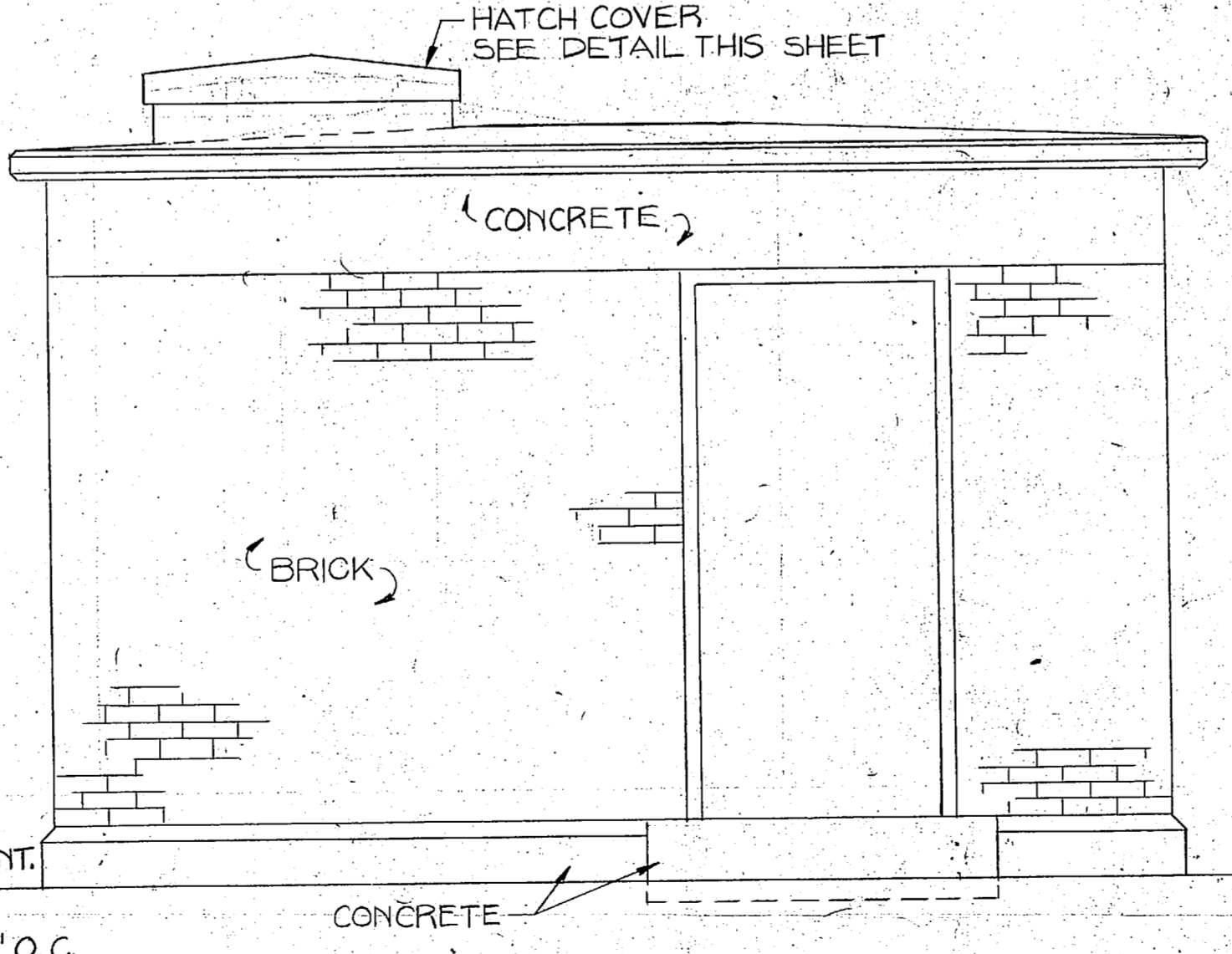
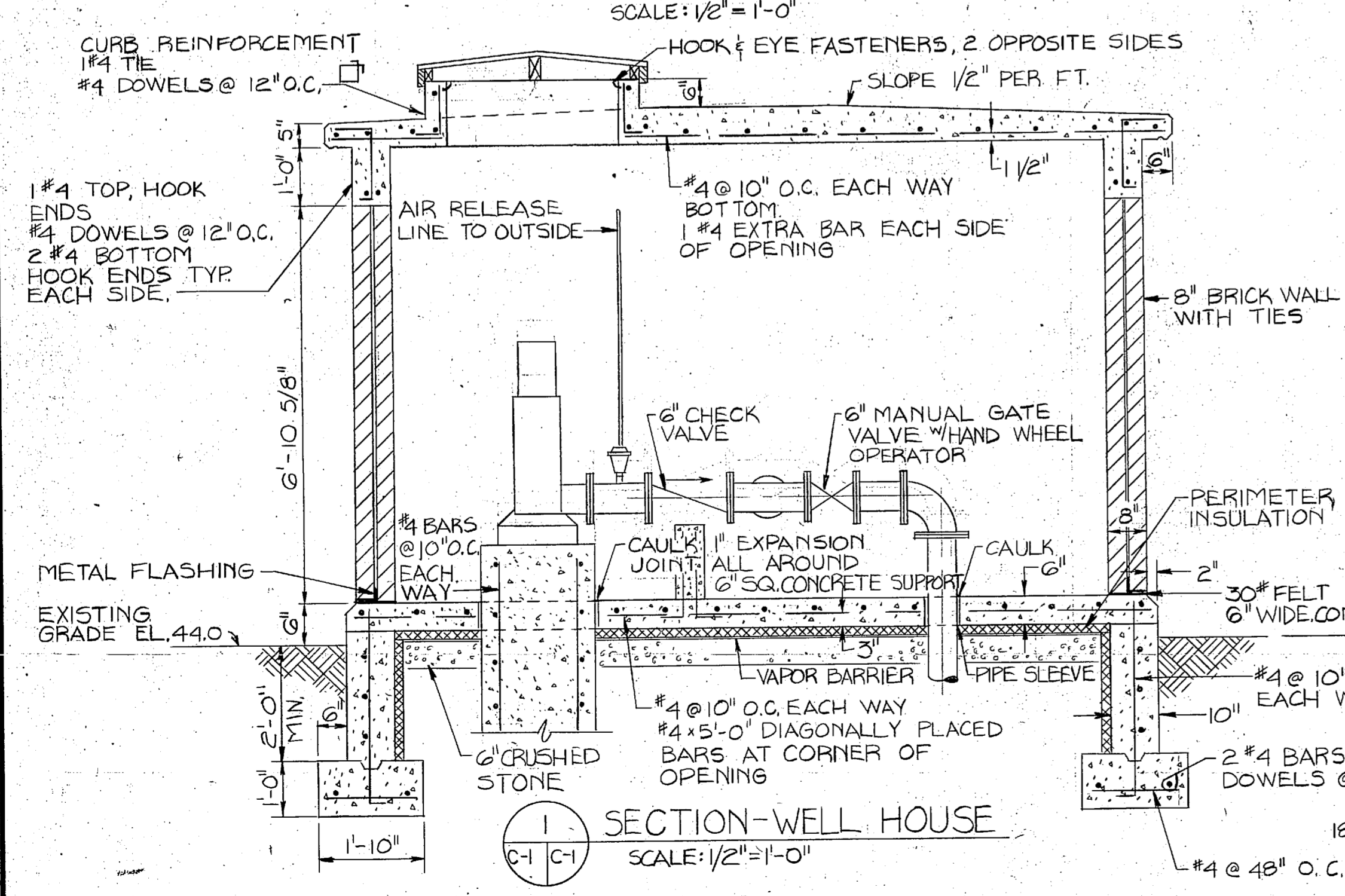
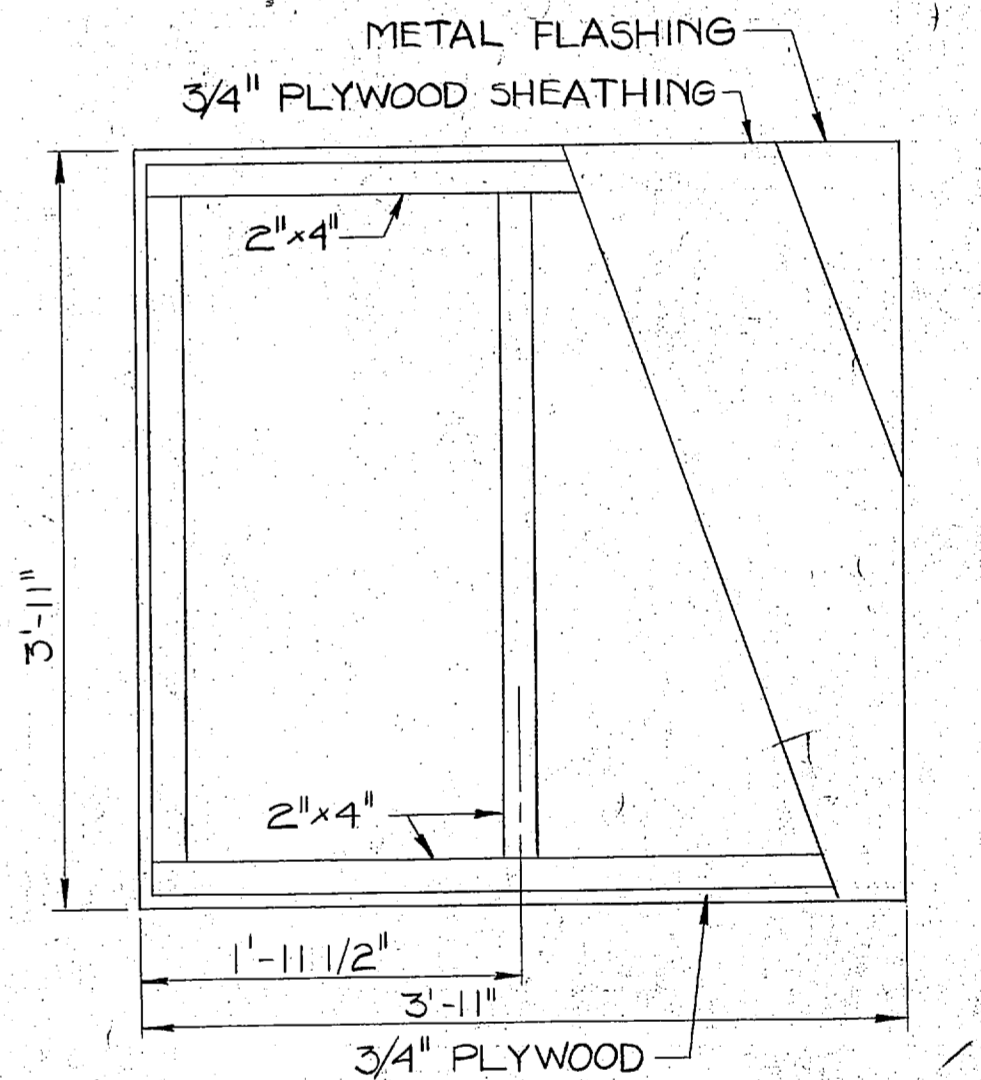
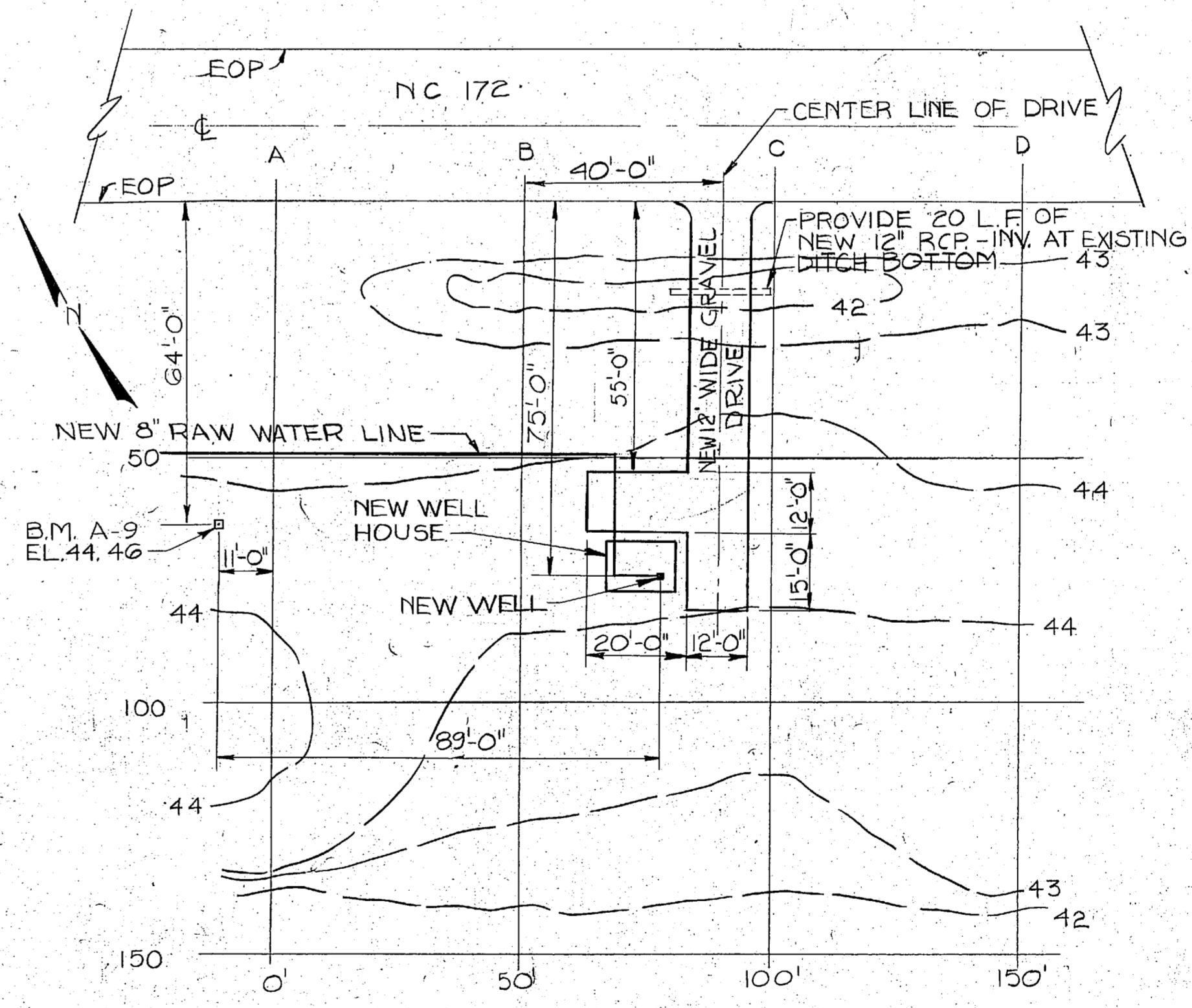
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



WINDOW SCHEDULE				
WINDOW NOTATION	SIZE	MATERIAL	TYPE	REMARKS
A	2'-0" x 2'-9"	METAL	COMB. (PROJ. FIXED)	

DOOR SCHEDULE				
DOOR NO.	SIZE	MATERIAL	FRAME	REMARKS
1	3'-0" x 7'-0" x 1 3/4"	METAL	METAL	

NOTE: SEE DWG C-2 FOR WINDOW SECTION & DOOR DETAIL



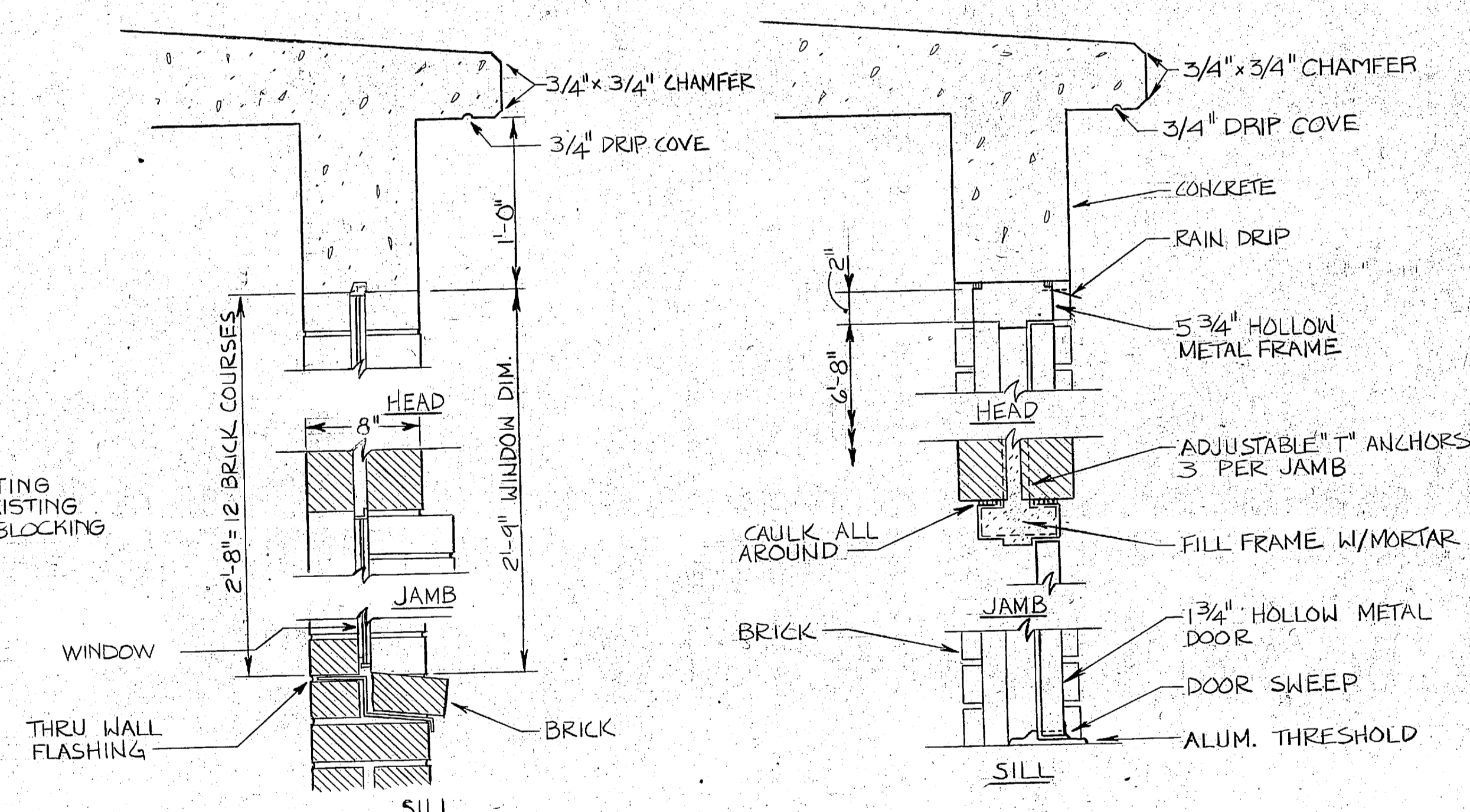
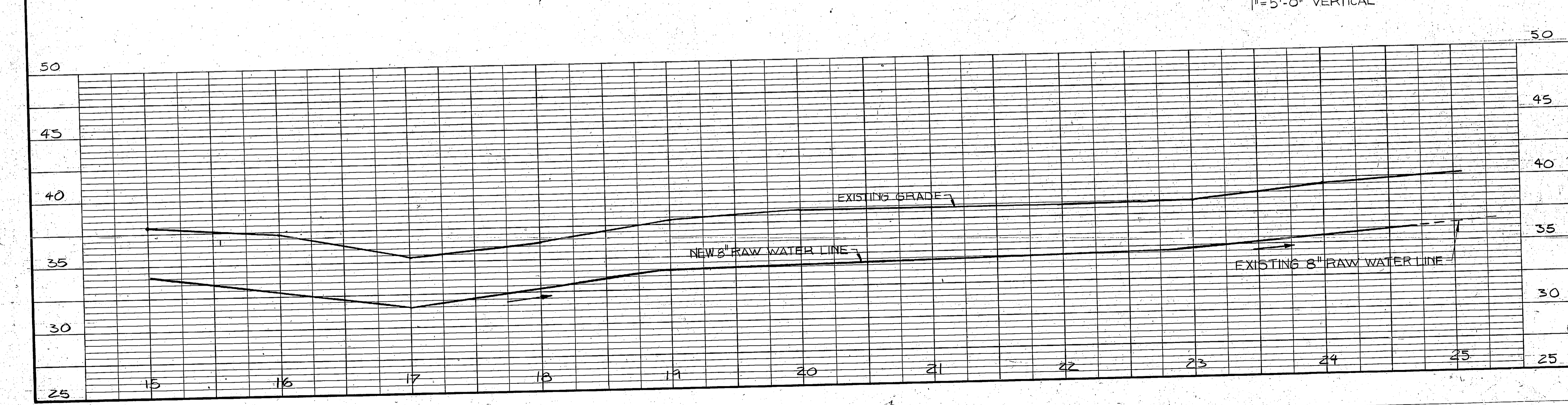
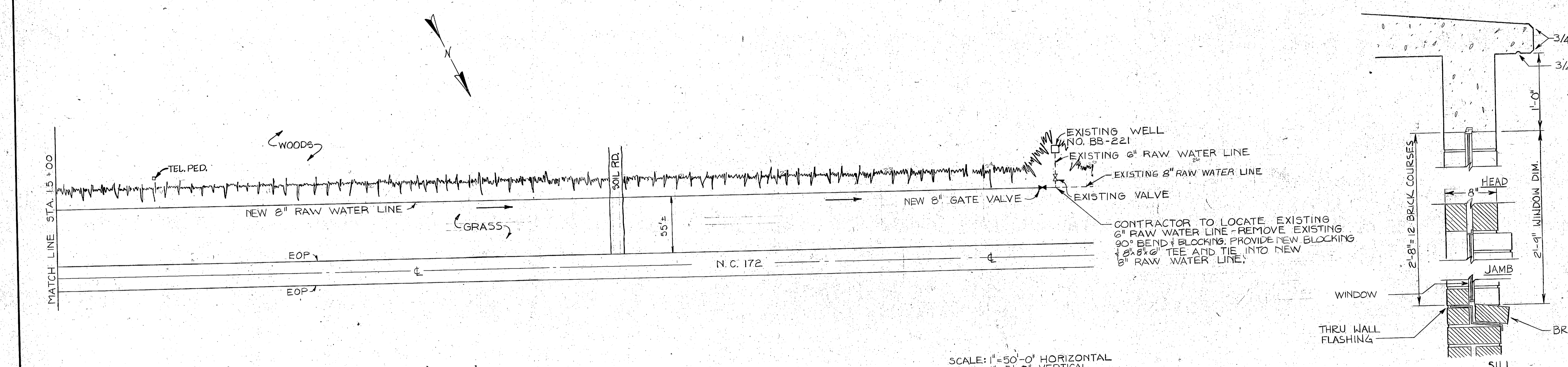
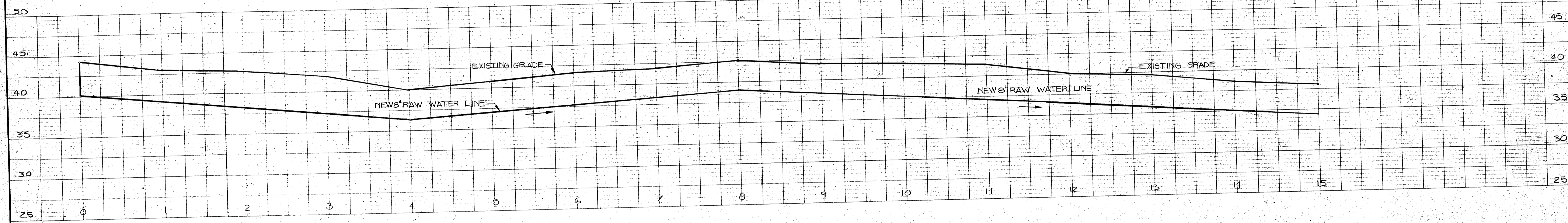
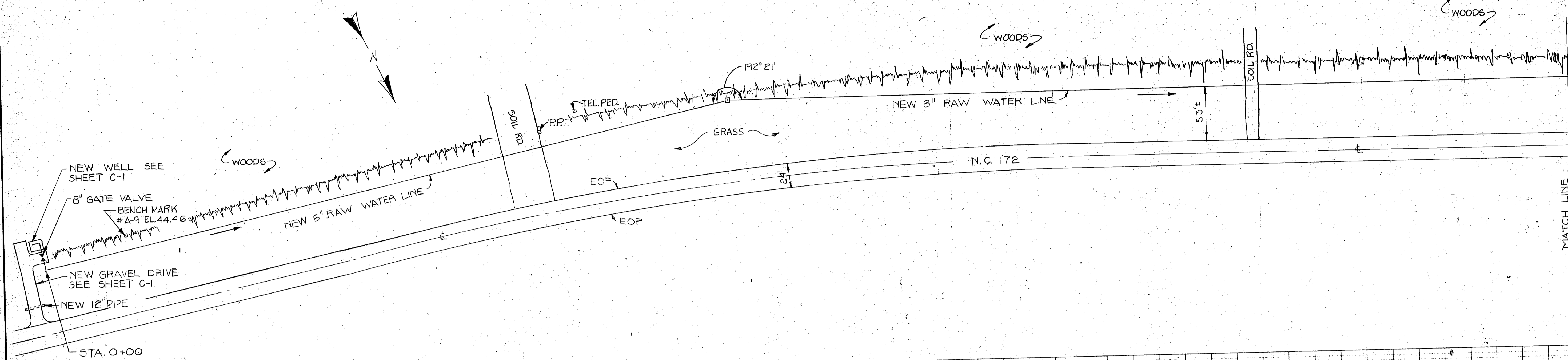
L. E. WOOTE & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT NEW WELL SITE PLAN & DETAILS EXISTING WELLS RENOVATIONS	
DES. BY: [Signature] SUBMITTED BY: [Signature] FIRM MEMBER: [Signature] NO. [Signature]	DR. [Signature] CH. ENGR. [Signature] RVD [Signature] DIR [Signature]	DATE: [Date] DATE: [Date] DATE: [Date]	DATE: [Date] DATE: [Date]
APPROVED: [Signature] OFFICER IN CHARGE: [Signature]		SIZE: CODE IDENT NO. F 80091 NAVFAC DRAWING NO. CONSTR. COMR. NO. N62470-81-B-1478 SHEET OF	
FOR EFD FOR COMMANDER NAVFAC		SCALE AS NOTED SPEC. 05-81-1478 EFD DWG. NO.	

C-1



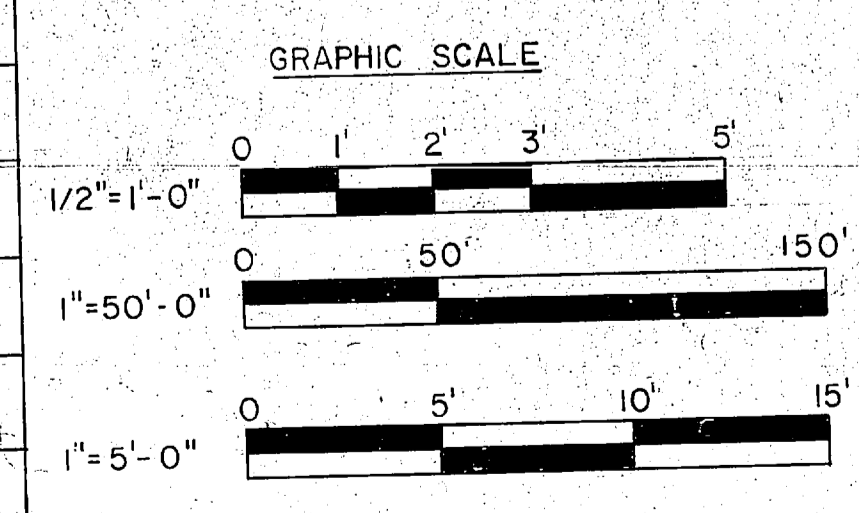
REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED

**PRELIMINARY DRAWINGS
NOT FOR USE FOR
CONSTRUCTION**



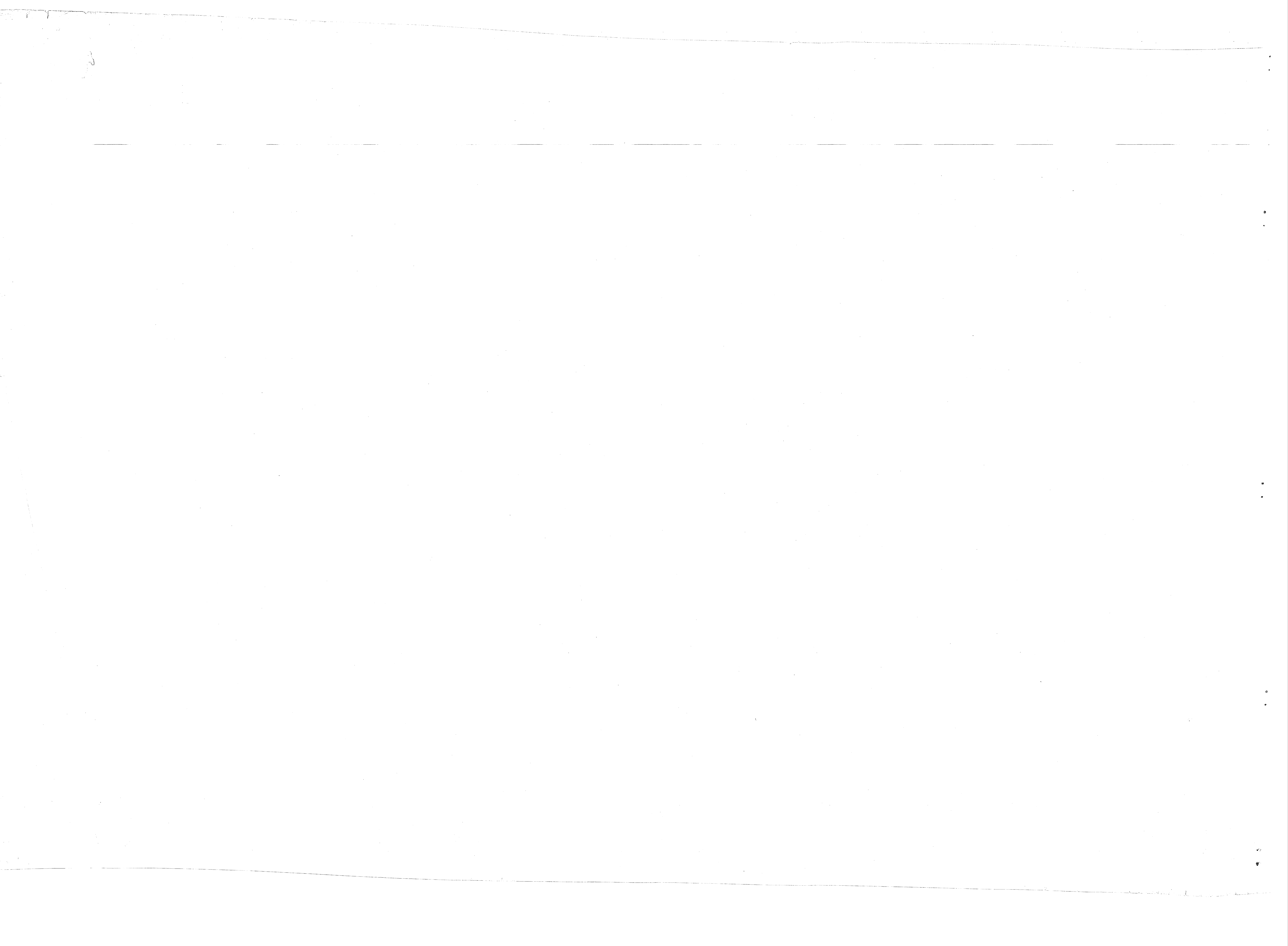
SECTION 2 (C-1/C2) SCALE: 1/2"=1'-0"

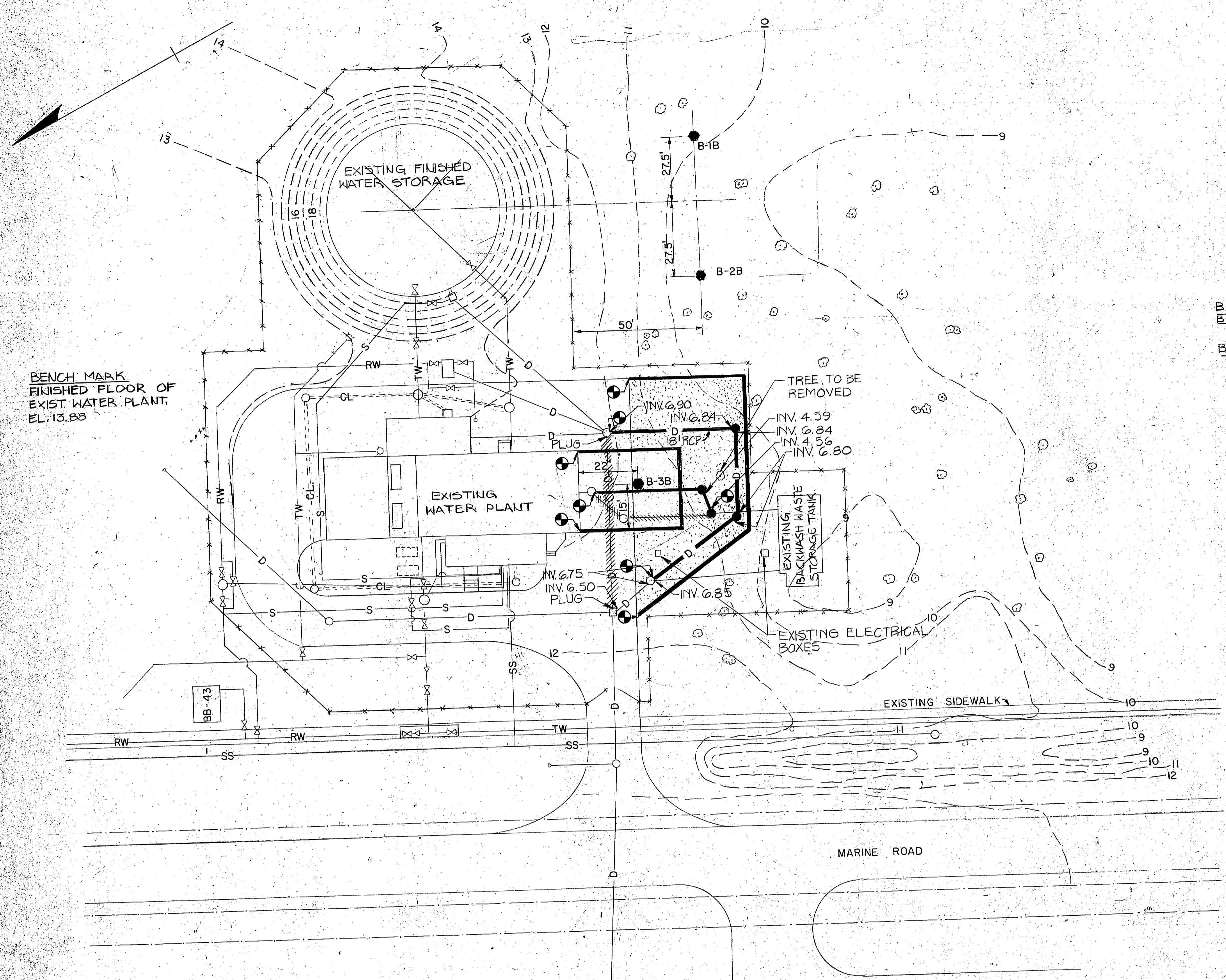
DETAIL A (C-1/C2) SCALE: 1/2"=1'-0"



L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT RAW WATER LINE - PLAN & PROFILE, DOOR DETAIL, & WINDOW SECTION	
DES. DR. CHK.	DATE	SIZE	CODE IDENT NO.
PROJ. MGR. CH. ENGR.	DATE	F	80091
SUBMITTED BY: FIRM MEMBER	DATE	APPROVED	DATE
PRINCIPAL	DATE	OFFICER IN CHARGE	DATE
RVD	DATE	APPROVED	DATE
NAVY	DATE	FOR EFD FOR COMMANDER NAVFAC	DATE
SCALE AS NOTED SPEC. 05-81-1478		SHEET OF	

C-2





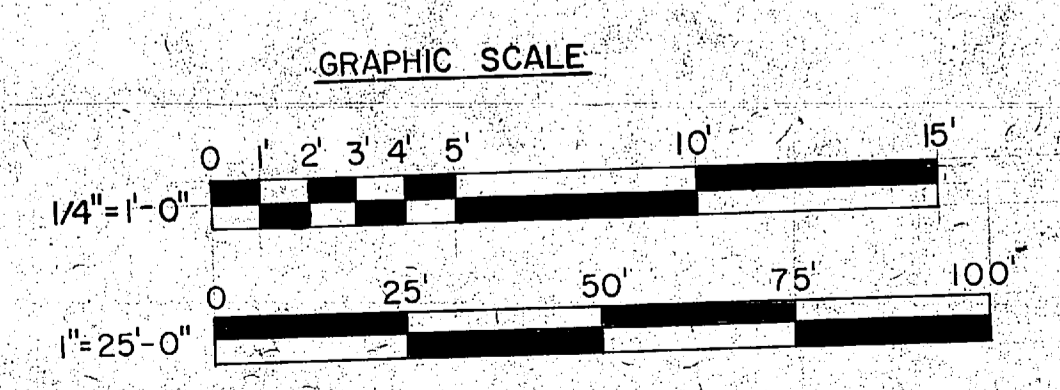
WATER TREATMENT PLANT SITE PLAN
SCALE: 1" = 25'-0"

- LEGEND**
- | | | | |
|------|-----------------------------------|-----|-----------------------------------|
| -D- | EXISTING DRAIN LINES | -S- | EXISTING SAMPLE LINES |
| -D- | NEW DRAIN LINES | -S- | EXISTING FIRE HYDRANT |
| -D- | DRAIN LINE UNDER CONSTRUCTION | -S- | EXISTING REDUCER |
| -O- | EXISTING CATCH BASIN | -S- | EXISTING CONSTRUCTION |
| -V- | EXISTING VALVES | -S- | PROJECT UNDER CONSTRUCTION |
| -SS- | EXISTING SEWER LINES | -S- | NEW PROJECT |
| -O- | EXISTING MANHOLE | -S- | EXISTING FENCE |
| -O- | NEW MANHOLE | -S- | POINT OF CONNECTION TO EXIST WORK |
| -D- | EXISTING DRAIN LINE TO BE REMOVED | -S- | TREES |
| -FM- | FORCE MAIN UNDER CONSTRUCTION | -S- | NEW ASPHALT PAVEMENT |
| -RW- | EXISTING RAW WATER LINE | -S- | EXISTING CONTOUR |
| -CL- | EXISTING CHLORINE CONDUIT LINE | -S- | NEW CONTOUR |
| -TW- | EXISTING TREATED WATER LINE | -S- | TEST BORING LOCATIONS |

- GENERAL BORING NOTES**
- BLOWS COLUMN INDICATES THE NUMBER OF BLOWS OF A 140 LB. HAMMER FALLING 30" REQUIRED TO DRIVE A 2" O.D. SAMPLER ONE FOOT.
 - B.P.O. INDICATES WATER LEVEL ELEVATIONS WHICH ARE APPROXIMATE AND BASED ON THE CAVE-IN ELEVATIONS OF ALL TEST HOLES IMMEDIATELY AFTER PULLING THE AUGER OUT OF THE TEST HOLES.
 - BORINGS MADE BY EZRA MEIR ASSOCIATES, INC. NOVEMBER 1981
 - SP, SM, SC FROM UNIFIED SOIL CLASSIFICATION SYSTEM. DESCRIPTION OF SOIL IN ACCORDANCE WITH BURMISTERS CLASSIFICATION ON BASIS OF VISUAL ESTIMATE BY DRILLER.

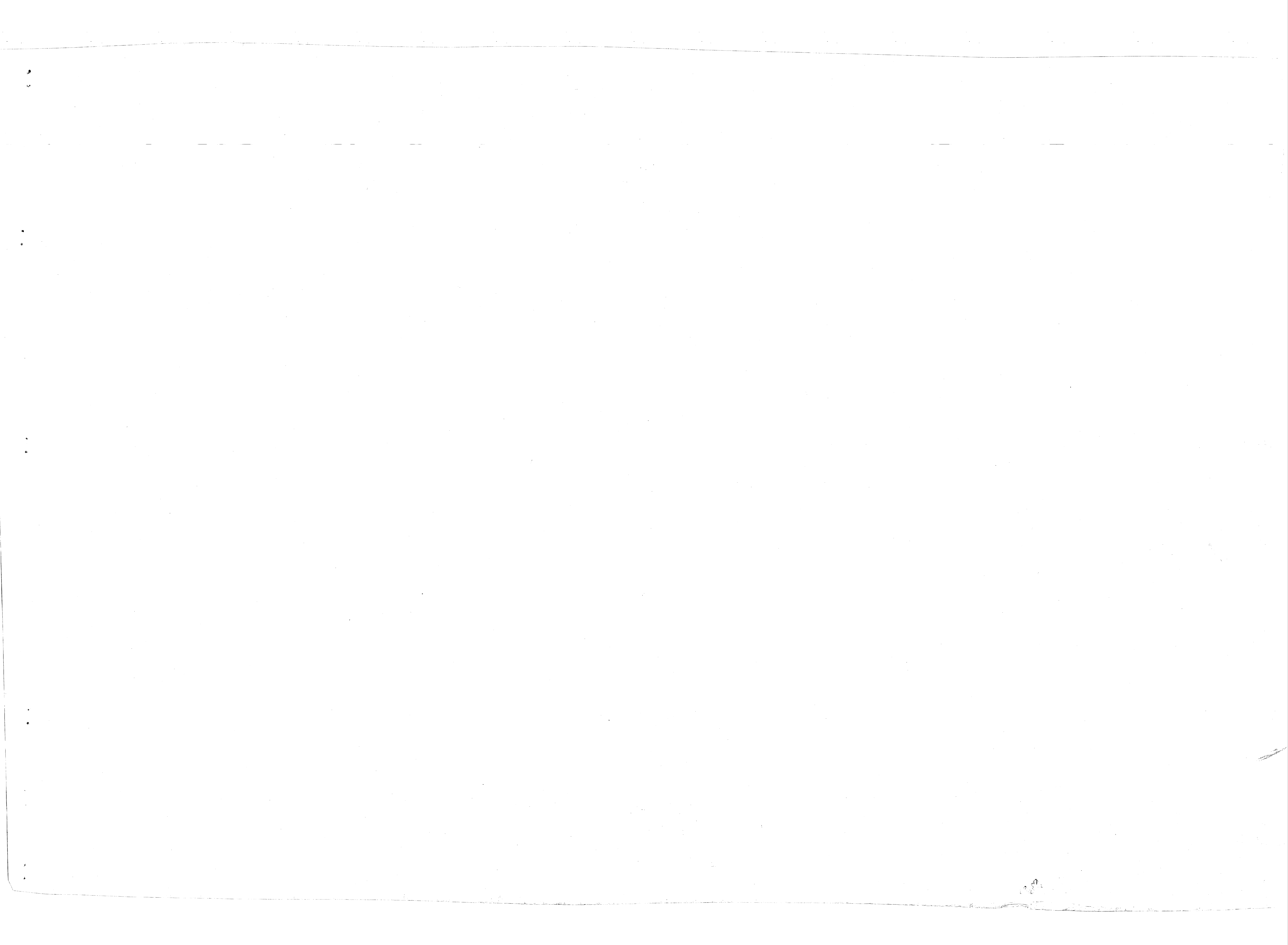
BORING NO. B-1B ELEVATION		BORING NO. B-2B ELEVATION		BORING NO. B-3B ELEVATION	
DEPTH 0.00	DESCRIPTION	BLOW	DESCRIPTION	BLOW	DEPTH 0.00
0.0	TOPSOIL	7	TOPSOIL	7	0.0
1.0	SP-TANNISH GRAY FINE SAND-LOOSE	7	SP-TAN FINE SAND, TRACE OF ORGANIC MATERIAL-LOOSE (WET)	5	1.0
2.0	SM-SP-LIGHT GRAY, SLIGHTLY SILTY FINE SAND-LOOSE	9		5	5.0
3.0				3	10.0
4.0	SP-LIGHT TANNISH WHITE AND LIGHT GRAY FINE SAND-LOOSE (SATURATED)	8			
5.0			SP-LIGHT GRAY FINE SAND, TRACE OF ORGANIC MATERIAL-LOOSE (SATURATED)	10	15.0
6.0	SP-TANNISH WHITE FINE SAND-LOOSE (SATURATED)	8			
7.0				4	20.0
8.0	SP-TANNISH WHITE FINE SAND-VERY LOOSE (SATURATED)	3			
9.0			SC-LIGHT TAN AND LIGHT GRAY SILTY AND CLAYEY FINE SAND-SOFT (WET)	5	25.0
10.0	SM-SP-SLIGHTLY SILTY FINE SAND-LOOSE (SATURATED)	5			
11.0			BORING TERMINATED		30.0
12.0	SP-LIGHT GRAY AND LIGHT TAN FINE SAND-LOOSE (SATURATED)	4			
13.0					35.0
14.0	SP-GRAYISH TAN AND YELLOWISH TAN FINE SAND-VERY LOOSE (SATURATED)	2			
15.0					40.0
16.0					
17.0	SM-SP-LIGHT TAN SLIGHTLY SILTY MEDIUM TO FINE SAND-MEDIUM (SATURATED)	22			45.0
18.0					
19.0	SM-SP-LIGHT GRAYISH TAN SLIGHTLY SILTY FINE SAND-VERY DENSE	50/10			50.0
20.0					
21.0	SM-LIGHT GRAY SILTY COARSE TO FINE SAND-VERY DENSE	50/10			55.0
22.0					
23.0	BORING TERMINATED				60.0

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



L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES: Dr. [Signature]	CHK: [Signature]	MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT	
PROJ. NO.:	CH. ENGR.:	WATER PLANT SITE PLAN & BORING LOG	
SUBMITTED BY:	DATE:	FIRM MEMBER: RVD - PRINCIPAL	
NO.:	DIR.:	NAVFAC DRAWING NO.	
APPROVED:	DATE:	SIZE: F	CODE IDENT NO.
OFFICER IN CHARGE:	DATE:	80091	NAVFAC DRAWING NO.
APPROVED:	DATE:	SCALE: AS NOTED	CONST. CONTR. NO. N62470-81-B-147B
FOR EPD FOR COMMANDER NAVFAC:		SPEC. 05-81-147B	SHEET OF

C-3

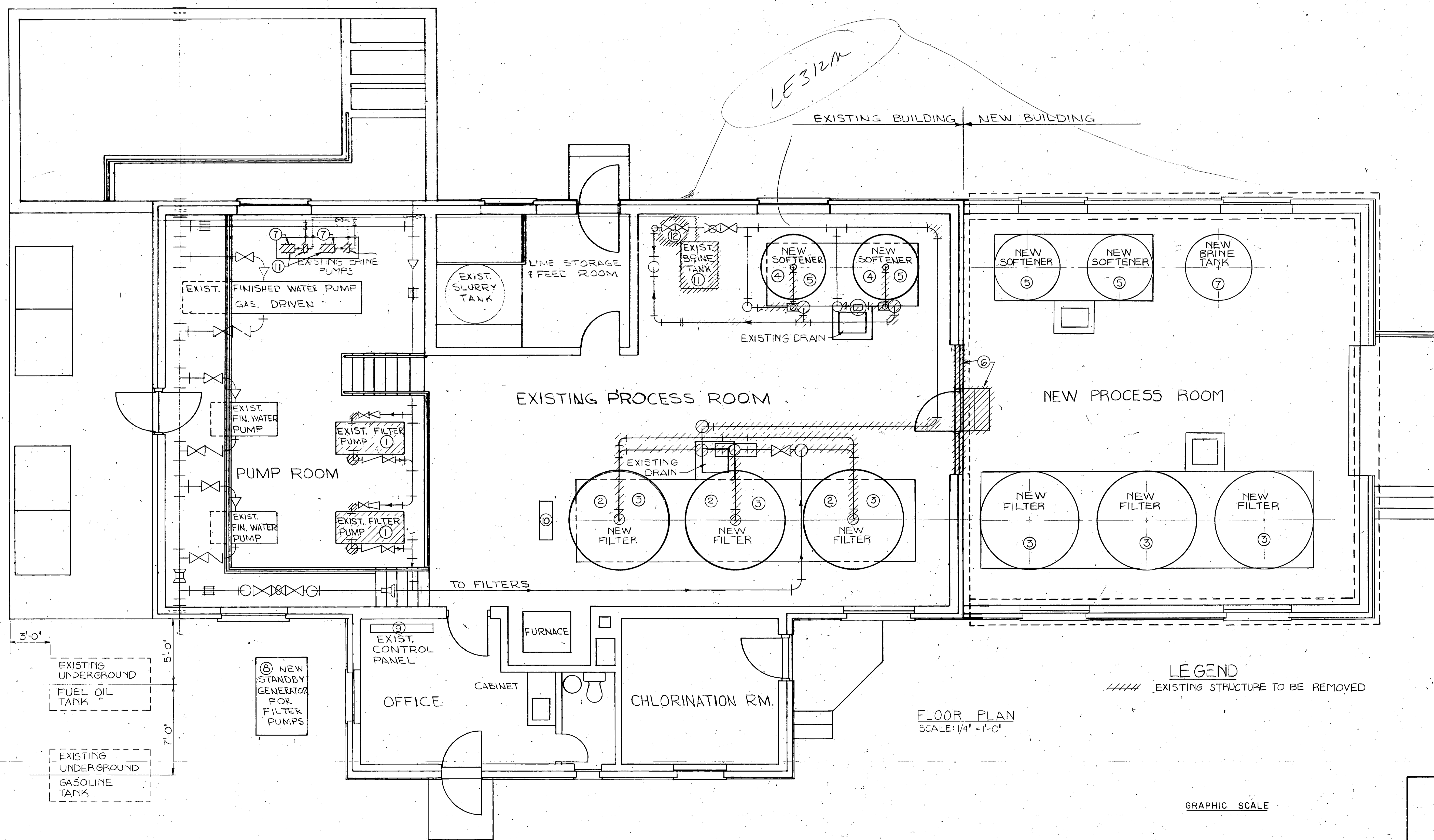


SUMMARY OF WORK WITHIN WATER PLANT

- ① REMOVE EXISTING FILTER PUMPS, INSTALL NEW PUMPS, NEW MOTORS, NEW CONTROLS. SEE DWG. NO. C-5.
- ② REMOVE EXISTING FILTERS, PIPING, VALVES, CONTROLS. SEE DWG. NO. C-5 & C-6.
- ③ PROVIDE NEW FILTERS, PIPING, VALVES & CONTROLS. SEE DWG. NO. C-5 & C-6.
- ④ REMOVE EXISTING SOFTENERS, VALVES, CONTROLS. SEE DWG. NO. C-5 & C-6.
- ⑤ PROVIDE NEW SOFTENERS; PIPING, VALVES & CONTROLS. SEE DWG. NO. C-5 & C-6.
- ⑥ REMOVE WALL (KNOCK OUT SECTION) & EXISTING CONC. STEPS.
- ⑦ PROVIDE NEW BRINE TANK, PIPING, VALVES, BRINE PUMPS, MOTORS, CONTROLS. SEE DWG. NO. C-5 & C-6.
- ⑧ PROVIDE NEW STAND-BY GENERATOR & PAD FOR ONE 15 HP. FILTER PUMP. SEE DWG. NO.
- ⑨ EXISTING CONTROL PANEL TO BE MODIFIED AS SHOWN. SEE DWG. NO. C-7.

- ⑩ PROVIDE NEW FILTER & SOFTENER CONTROL PANEL WITH CONTROLS - SEE DWG. NO. C-7
- ⑪ REMOVE EXISTING BRINE PUMPS, MOTORS, CONTROLS, BRINE TANK, PIPING
- ⑫ ~~REMOVE EXISTING CHEMICAL FEED TANK~~
WHY IS THIS TO BE REMOVED? Leave

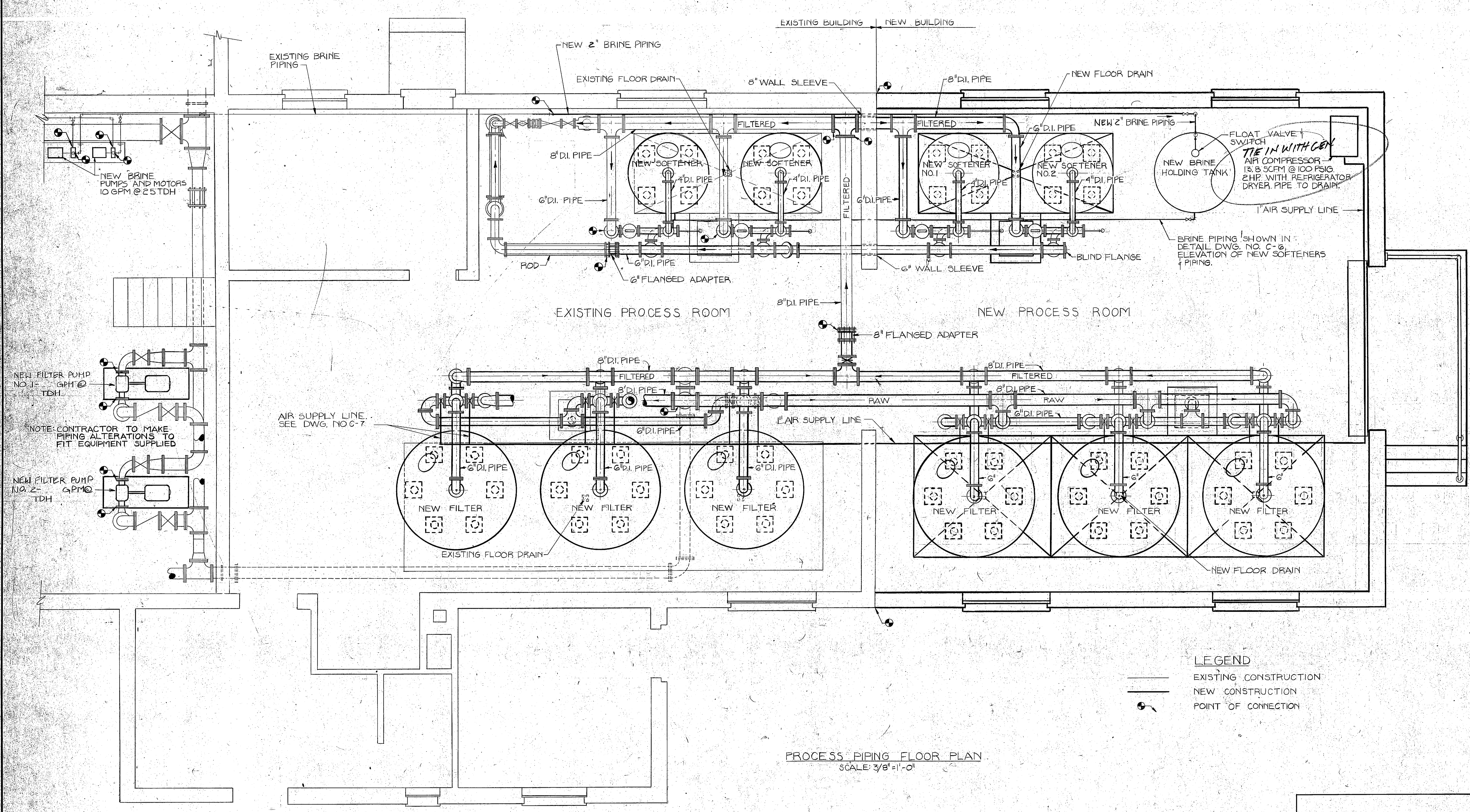
REVISIONS			
SYM.	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT WATER PLANT - SUMMARY OF WORK		C-4
DESIGNED BY	DATE	CHECKED BY	DATE	NAVFAC DRAWING NO.
PROJECT NO.	DATE	PRINCIPAL	DATE	NAVFAC DRAWING NO.
APPROVED	DATE	DATE	DATE	NAVFAC DRAWING NO.
OFFICER IN CHARGE	DATE	SCALE AS NOTED	SPEC. 05-BI-1478	SHEET NO.
FOR ETD FOR COMMANDER NAVFAC				ETD DWG. NO.



REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



NEW BRINE PUMPS AND MOTORS 10 GPM @ 25 TDH

NEW FILTER PUMP NO. 1 - 6 GPM @ TDH

NOTE: CONTRACTOR TO MAKE PIPING ALTERATIONS TO FIT EQUIPMENT SUPPLIED

NEW FILTER PUMP NO. 2 - 6 GPM @ TDH

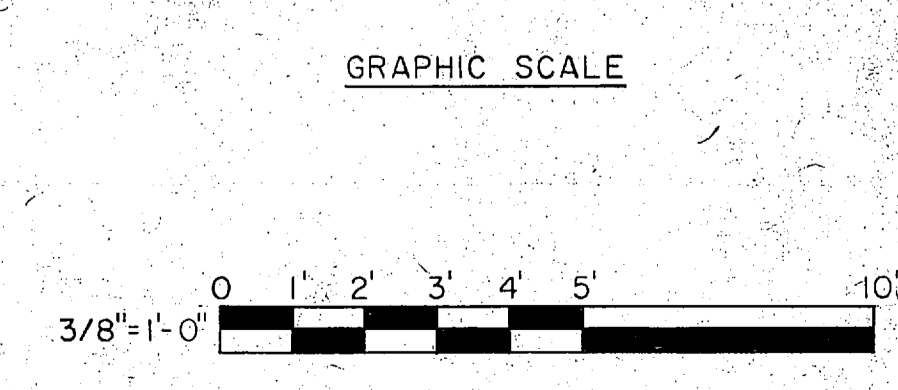
LEGEND

— EXISTING CONSTRUCTION

— NEW CONSTRUCTION

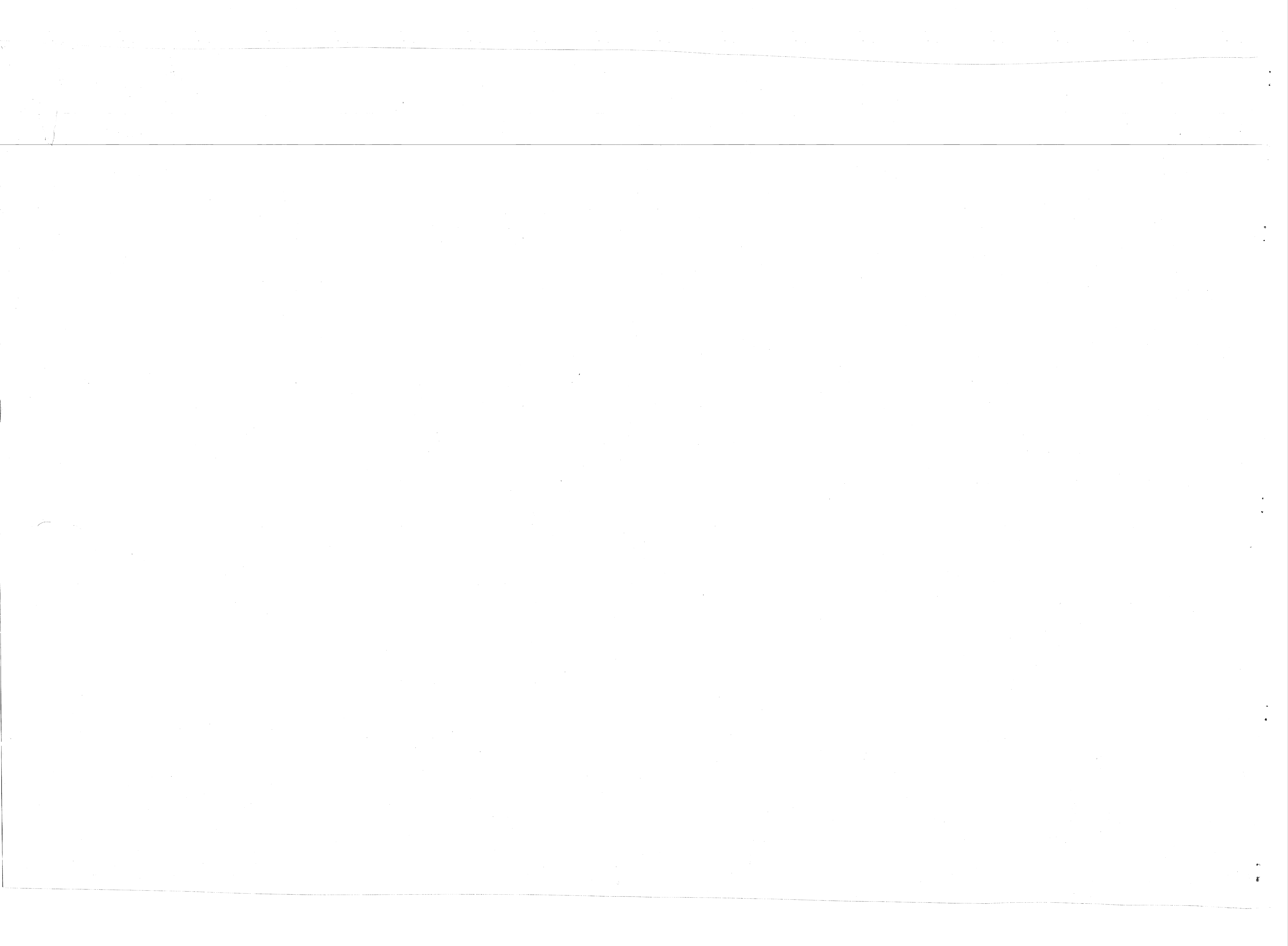
● POINT OF CONNECTION

PROCESS PIPING FLOOR PLAN
SCALE: 3/8" = 1'-0"

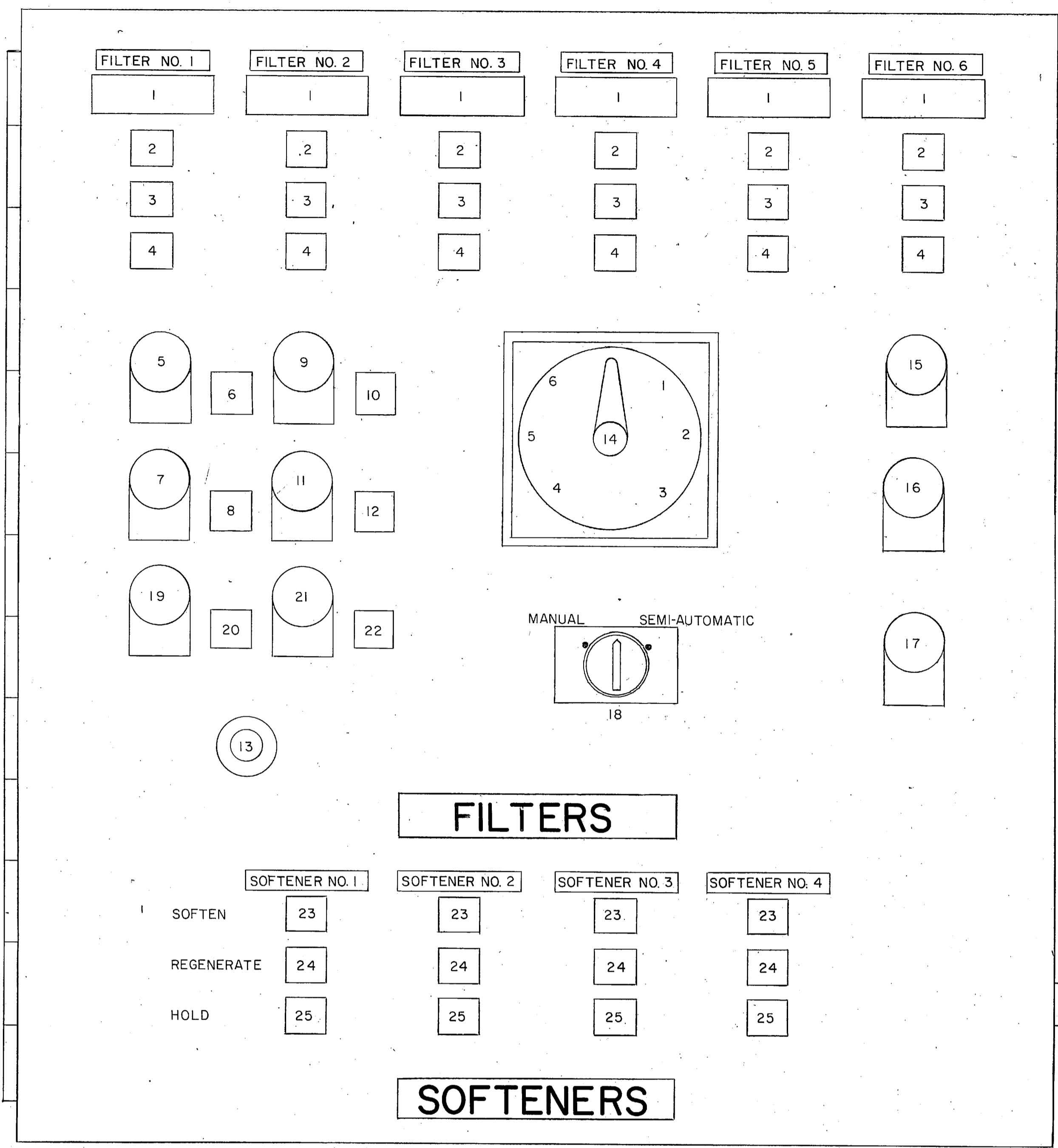


C-5 L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION - NORFOLK, VIRGINIA	
		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT WATER PLANT - PROCESS PIPING FLOOR PLAN	
DES: _____ PROJ. MGR: _____ SUBMITTED BY: _____ FIRM MEMBER: _____ EFD: _____ NO.: _____ APPROVED: _____ OFFICER IN CHARGE: _____ APPROVED: _____ FOR ESD FOR COMMANDER NAVFAC: _____	CHK: _____ CH ENGR: _____ DATE: _____ PRINCIPAL: _____ RVD: _____ DATE: _____ DATE: _____ DATE: _____	SIZE: _____ F 80091 SCALE AS NOTED SPEC: 05-81-1478	NAVFAC DRAWING NO.: _____ CONSTR. CONTR. NO. N62470-81-B-1478 SHEET _____ OF _____ EFD DWG. NO.: _____

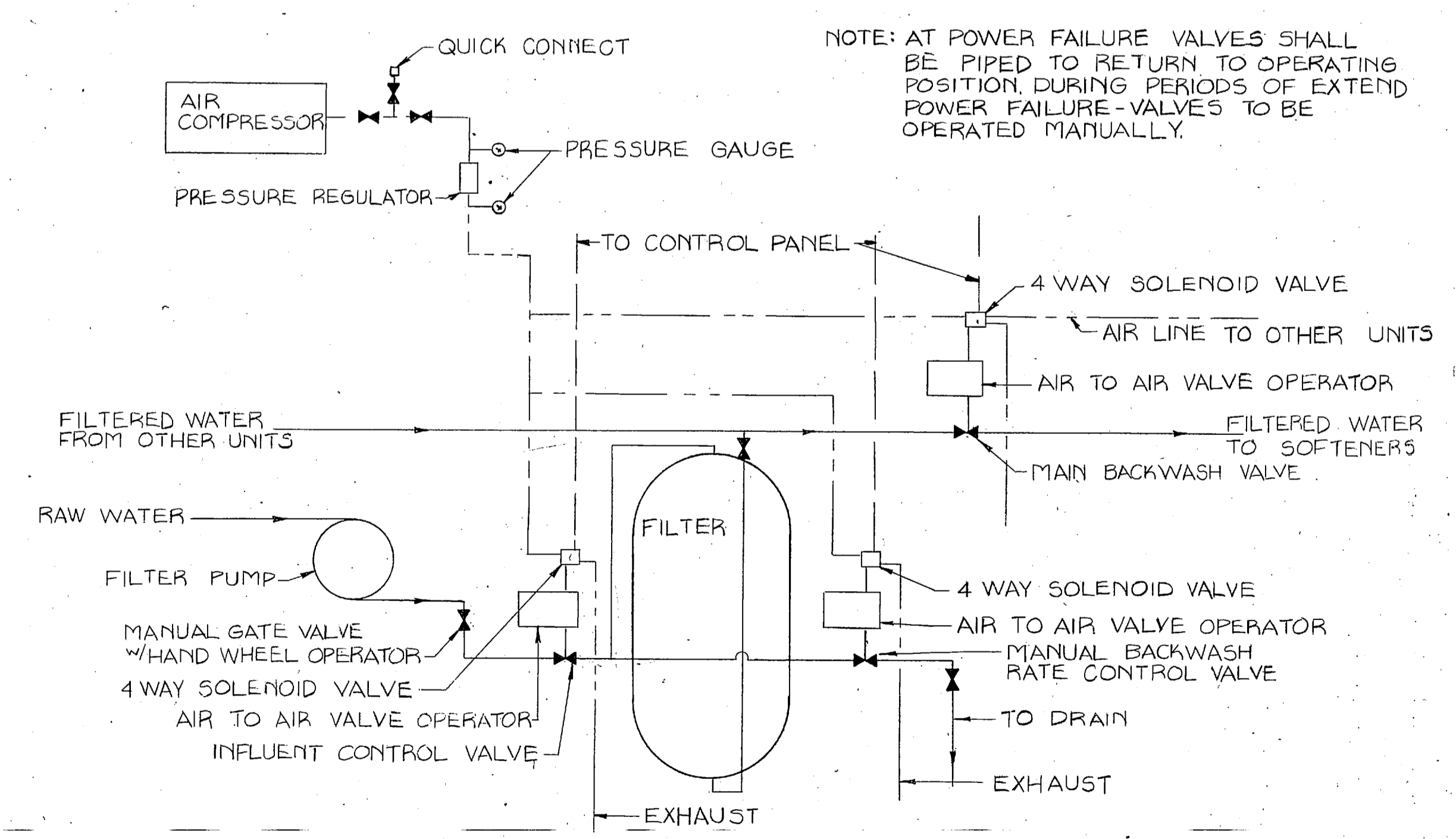




REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



NEW FILTER AND SOFTENER CONTROL PANEL
NO SCALE



FILTER CONTROL AND FLOW SCHEMATIC
TYPICAL EACH UNIT
NO SCALE

LIST OF CONTROLS ON CONTROL PANEL

- 1 LAPSE TIMER
- 2 TIME LAPSE INDICATOR (YELLOW)
- 3 FILTER MODE INDICATOR (GREEN)
- 4 BACKWASH MODE INDICATOR (RED)
- 5 INFLUENT VALVE SWITCH OPEN
- 6 INFLUENT VALVE OPEN INDICATOR (GREEN)
- 7 INFLUENT VALVE SWITCH CLOSED
- 8 INFLUENT VALVE CLOSED INDICATOR (RED)
- 9 BACKWASH VALVE SWITCH OPEN
- 10 BACKWASH VALVE OPEN INDICATOR (RED)
- 11 BACKWASH VALVE SWITCH CLOSED
- 12 BACKWASH VALVE CLOSED INDICATOR (GREEN)
- 13 AUDIBLE ALARM
- 14 UNIT BACKWASH SELECT SWITCH
- 15 BACKWASH START SWITCH
- 16 BACKWASH END SWITCH
- 17 BACKWASH ABORT SWITCH
- 18 MANUAL OR SEMIAUTOMATIC SELECT SWITCH
- 19 MAIN BACKWASH SWITCH - OPEN
- 20 MAIN BACKWASH VALVE OPEN INDICATOR (GREEN)
- 21 MAIN BACKWASH SWITCH - CLOSED
- 22 MAIN BACKWASH VALVE CLOSED INDICATOR (RED)
- 23 SOFTEN MODE INDICATOR (GREEN)
- 24 REGENERATE MODE INDICATOR (RED)
- 25 HOLDING FOR REGENERATION MODE (YELLOW)

SOFTENER CONTROLS

A. BATCH TOTALIZER PRE-SET FOR NUMBER OF GALLONS TO BE SOFTENED IN EACH SOFTENING CYCLE. TOTALIZER TO BE AUTOMATIC RESET AFTER EACH REGENERATION CYCLE.

B. TOTALIZER, AT COMPLETED SOFTENING CYCLE - SIGNAL TO CONTROL PANEL THAT UNIT NEEDS TO BE REGENERATED; CONTROL PANEL INDICATES THIS BY FLASHING LIGHT.

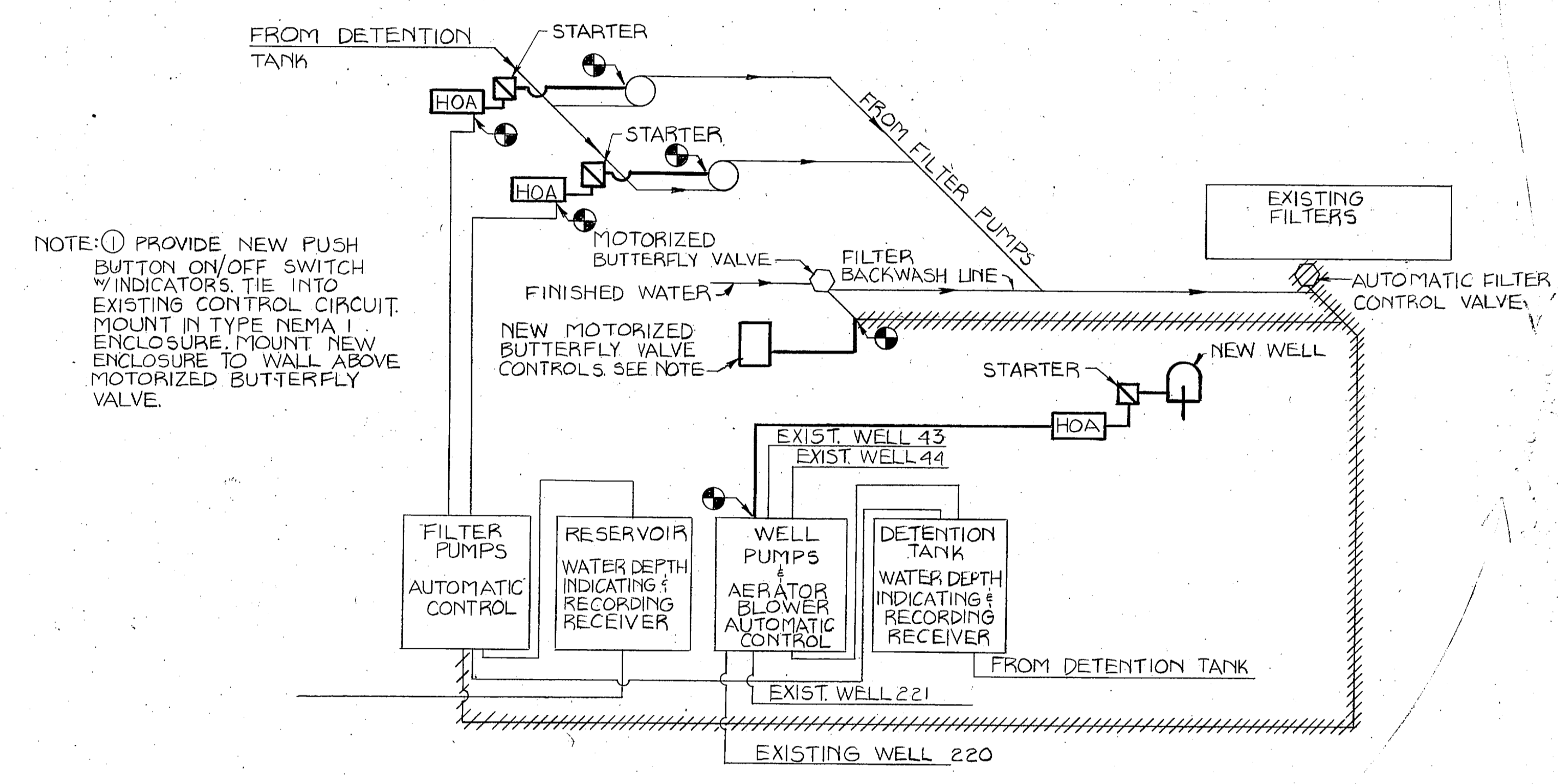
C. IF NO OTHER UNITS ARE IN REGENERATION CYCLE, UNIT WILL GO INTO REGENERATION CYCLE. IF A UNIT IS IN REGENERATION CYCLE, THEN INTERLOCK WILL PREVENT UNIT CALLING TO BE REGENERATED FROM DOING SO UNTIL THE UNIT IN REGENERATION CYCLE HAS GONE BACK INTO SOFTENING CYCLE. SYSTEM ALSO WILL OVERRIDE ANY UNIT WHICH IS MANUALLY OFF LINE AND CONTINUE TO CYCLE.

D. AFTER UNIT HAS REGENERATED, IT WILL RETURN TO SOFTENING CYCLE WHICH WILL BE INDICATED ON THE CONTROL PANEL BY INDICATOR LIGHT AND THE NEXT UNIT TO BE REGENERATED WILL CYCLE.

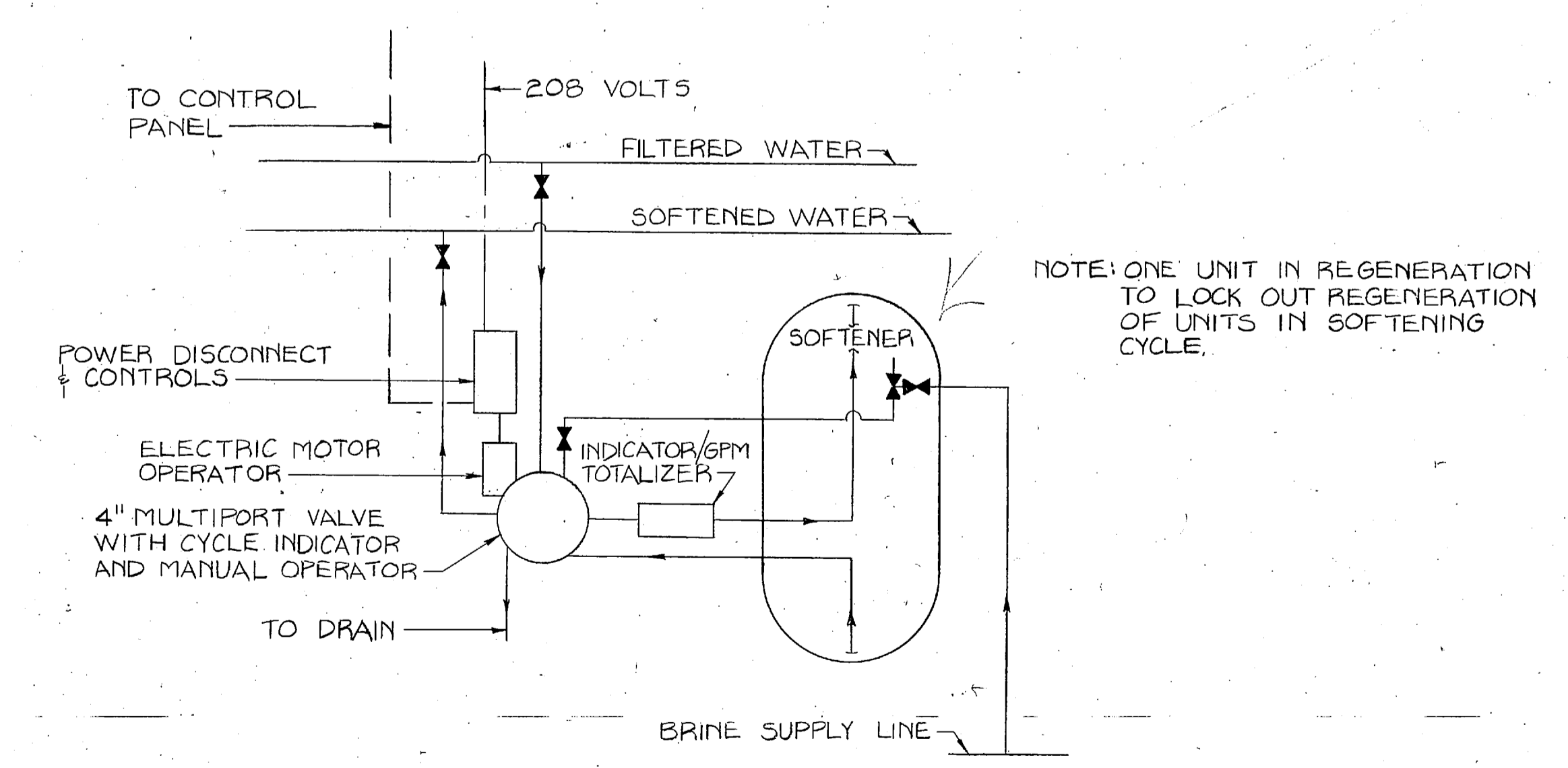
NOTE: DURING PERIODS OF POWER FAILURE, MULTIPORT VALVES WILL BE OPERATED BY MANUALLY ROTATING VALVES TO DESIRED CYCLE.

NEED CONTINUOUS TOTALIZER WITH RESET COUNTER

Change



EXISTING CONTROL PANEL
NO SCALE



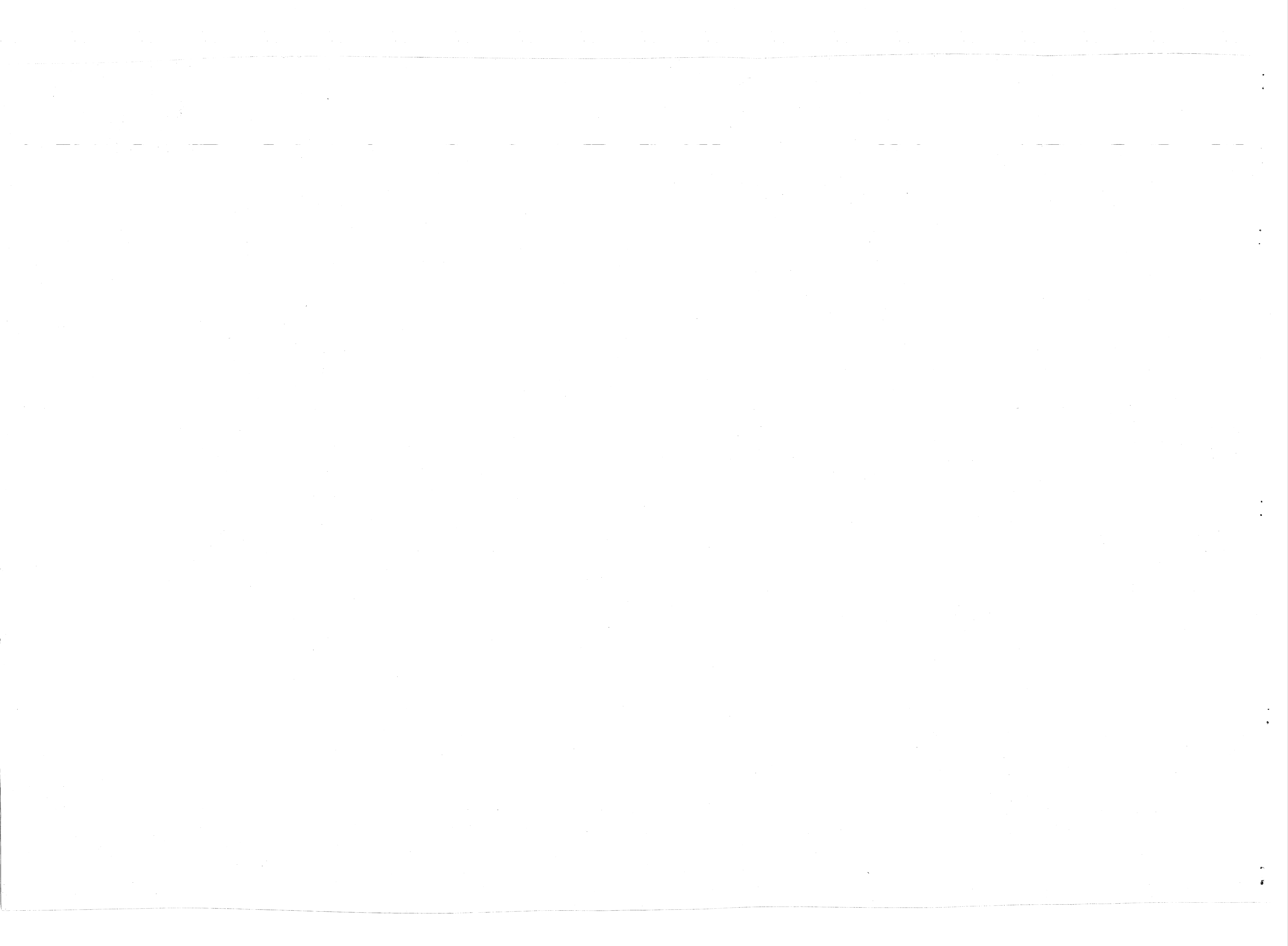
SOFTENER CONTROL AND FLOW SCHEMATIC
TYPICAL EACH UNIT
NO SCALE

- BACKWASH - SEMI-AUTOMATIC OPERATION FROM CONTROL PANEL
- A. FILTER TIMES OUT ON LAPSE TIMER. AT ZERO TIME ON LAPSE TIMER, TIME LAPSED LIGHT INDICATES UNIT TO BE BACKWASHED.
 - B. SET BACKWASH SELECT SWITCH TO UNIT TO BE BACKWASHED.
 - C. SET BACKWASH MODE SWITCH TO SEMI-AUTO.
 - D. PUSH START BACKWASH SWITCH. SEMI-AUTO SYSTEM WILL:
 1. CLOSE INFLUENT VALVE ON UNIT SELECTED FOR BACKWASH; HOLDING THIS POSITION FOR ONE MIN. (ADJUSTABLE ZERO TO THREE MIN. TIMER), ALLOWING SYSTEM TO REACH HYDRAULIC BALANCE. LIGHT WILL INDICATE VALVE CLOSED.
 2. OPEN UNIT BACKWASH VALVE ON UNIT SELECTED FOR BACKWASH. LIGHT INDICATES COMPLETED FUNCTION.
 3. ADJUSTABLE ZERO TO THIRTY MIN. TIMER STARTS TIMING OUT BACKWASH CYCLE (LOCATED INSIDE CONTROL PANEL).
 4. CLOSE MAIN BACKWASH VALVE, SET CLOSING TIMER ONE MIN. (ADJUSTABLE ZERO TO THREE MIN.), LIGHT INDICATES FUNCTION COMPLETE.
 5. BACKWASH TIMER AT TIME ZERO. OPEN MAIN BACKWASH VALVE. LIGHT WILL INDICATE FUNCTION COMPLETE.
 6. FOLLOWING MAIN BACKWASH VALVE OPEN, UNIT BACKWASH VALVE WILL CLOSE. LIGHT INDICATES FUNCTION COMPLETE.
 7. UNIT FILTER VALVE OPEN. LIGHT INDICATES FUNCTION COMPLETE.
 8. LAPSE TIMER WILL BE RESET BY OPERATOR TO TIME OUT FILTER CYCLE. *SHOULD BE RESET AUTOMATICALLY*
- NOTES:
- A. FAILURE IN SEQUENCE TO SOUND AUDIBLE ALARM LOCATED ON CONTROL PANEL. SYSTEM TO HOLD POSITION UNTIL FAILURE IS CORRECTED.
 - B. IF BACKWASH SELECT SWITCH IS MOVED FROM ONE UNIT NUMBER TO ANOTHER, IT WILL NOT AFFECT THE POSITIONING OF ANY VALVES ON ANY UNITS.
 - C. DURING POWER FAILURE, VALVES WILL FAIL IN NORMAL FILTER CONDITION. AUTOMATIC VALVES WILL BE OPERATED MANUALLY.
- BACKWASH - MANUAL OPERATION FROM CONTROL PANEL
- A. FILTER TIMES OUT ON LAPSE TIMER LOCATED ON OUTSIDE OF CONTROL PANEL; AT TIME ZERO ON LAPSE TIMER LIGHT WILL INDICATE UNIT TO BE BACKWASHED.
 - B. BACKWASH SELECT SWITCH TO UNIT TO BE BACKWASHED.
 - C. BACKWASH MODE SWITCH TO MANUAL.
 - D. ACTUATE CLOSE INFLUENT VALVE PUSH BUTTON SWITCH. LIGHT WILL INDICATE FUNCTION COMPLETE. PAUSE ONE MIN. TO ALLOW SYSTEM TO REACH HYDRAULIC BALANCE.
 - E. ACTUATE CLOSE MAIN BACKWASH VALVE SWITCH PUSH BUTTON SWITCH. LIGHT WILL INDICATE FUNCTION COMPLETE.
 - F. ACTUATE OPEN UNIT BACKWASH VALVE SWITCH PUSH BUTTON SWITCH. LIGHT WILL INDICATE FUNCTION COMPLETE.
 - G. AFTER BACKWASH IS COMPLETE, ACTUATE OPEN MAIN BACKWASH VALVE PUSH BUTTON SWITCH. LIGHT WILL INDICATE FUNCTION COMPLETE.
 - H. ACTUATE CLOSE UNIT BACKWASH VALVE PUSH BUTTON SWITCH. LIGHT WILL INDICATE FUNCTION COMPLETE.
 - I. ACTUATE INFLUENT VALVE OPEN PUSH BUTTON SWITCH. LIGHT WILL INDICATE FUNCTION COMPLETE.
 - J. RESET LAPSED FILTER TIMER.

LEGEND

- EXISTING TO BE REMOVED
- ===== NEW STRUCTURE & PIPING
- EXISTING STRUCTURE & PIPING
- NEW MAIN BACKWASH VALVE w/ NEW AIR TO AIR VALVE OPERATOR & NEW 4 WAY SOLENOID VALVE
- MANUAL GATE VALVE w/ HAND WHEEL OPERATOR
- AIR SUPPLY LINE
- ELECTRICAL TO CONTROL PANEL
- POINT OF CONNECTION

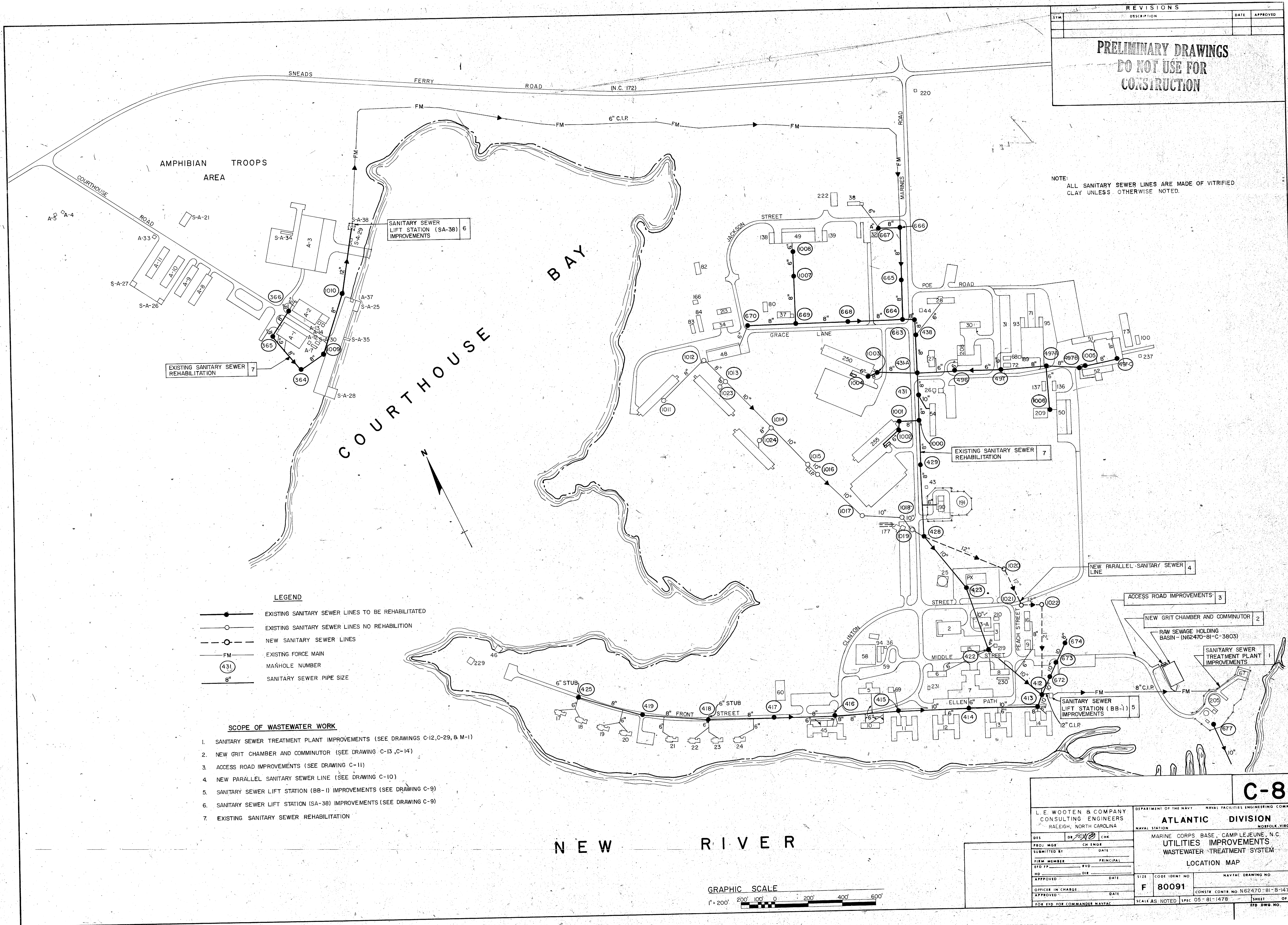
C-7	
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT SOFTENER CONTROL PANEL AND FLOW SCHEMATIC
DES. _____	CHK. _____
PROJ. MGR. _____	CH. ENGR. _____
SUBMITTED BY: _____	DATE: _____
FIRM MEMBER _____	PRINCIPAL _____
NO. _____	DIR. _____
APPROVED _____	DATE _____
OFFICER IN CHARGE _____	DATE _____
APPROVED _____	DATE _____
FOR EFD FOR COMMANDER NAVFAC	SCALE AS NOTED SPEC. 05-81-1478
NAVAC DRAWING NO. F 80091	
CONST. CONTR. NO. N62470-81-B-1478	
SHEET _____ OF _____	



REVISIONS		
NO.	DESCRIPTION	DATE

**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**

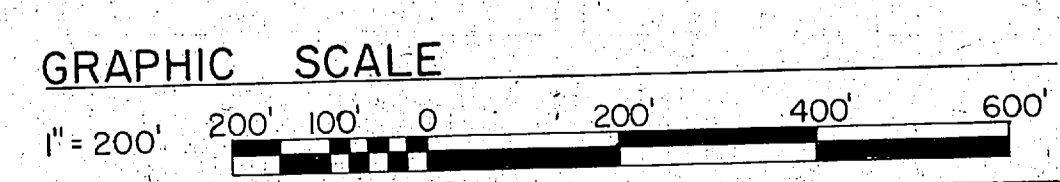
NOTE:
ALL SANITARY SEWER LINES ARE MADE OF VITRIFIED CLAY UNLESS OTHERWISE NOTED.



- LEGEND**
- EXISTING SANITARY SEWER LINES TO BE REHABILITATED
 - EXISTING SANITARY SEWER LINES NO REHABILITATION
 - - - ○ - - - NEW SANITARY SEWER LINES
 - FM EXISTING FORCE MAIN
 - (431) MANHOLE NUMBER
 - 8" SANITARY SEWER PIPE SIZE

- SCOPE OF WASTEWATER WORK**
1. SANITARY SEWER TREATMENT PLANT IMPROVEMENTS (SEE DRAWINGS C-12, C-29, & M-1)
 2. NEW GRIT CHAMBER AND COMMUNUTOR (SEE DRAWING C-13, C-14)
 3. ACCESS ROAD IMPROVEMENTS (SEE DRAWING C-11)
 4. NEW PARALLEL SANITARY SEWER LINE (SEE DRAWING C-10)
 5. SANITARY SEWER LIFT STATION (BB-1) IMPROVEMENTS (SEE DRAWING C-9)
 6. SANITARY SEWER LIFT STATION (SA-38) IMPROVEMENTS (SEE DRAWING C-9)
 7. EXISTING SANITARY SEWER REHABILITATION

NEW RIVER

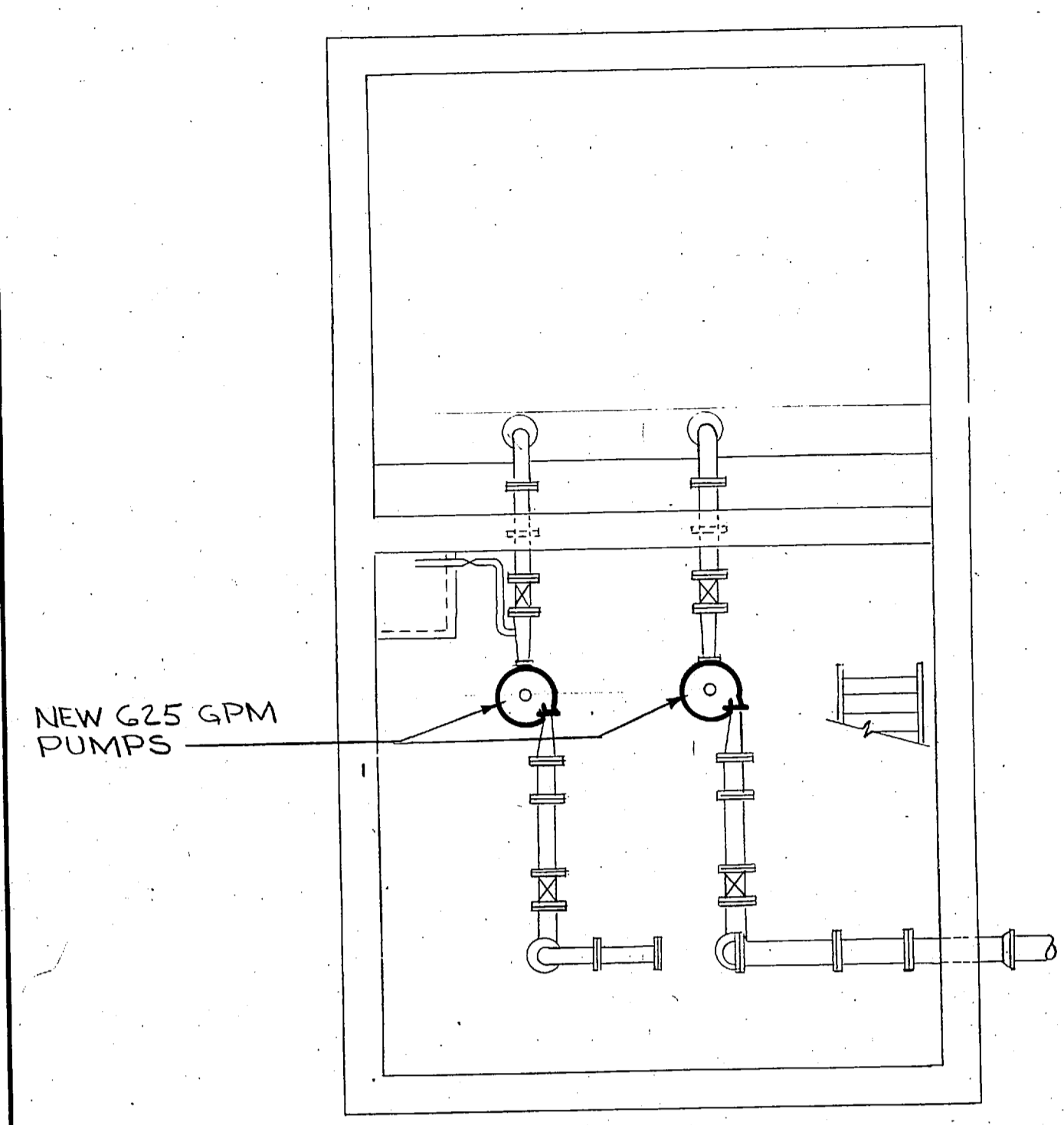


C-8

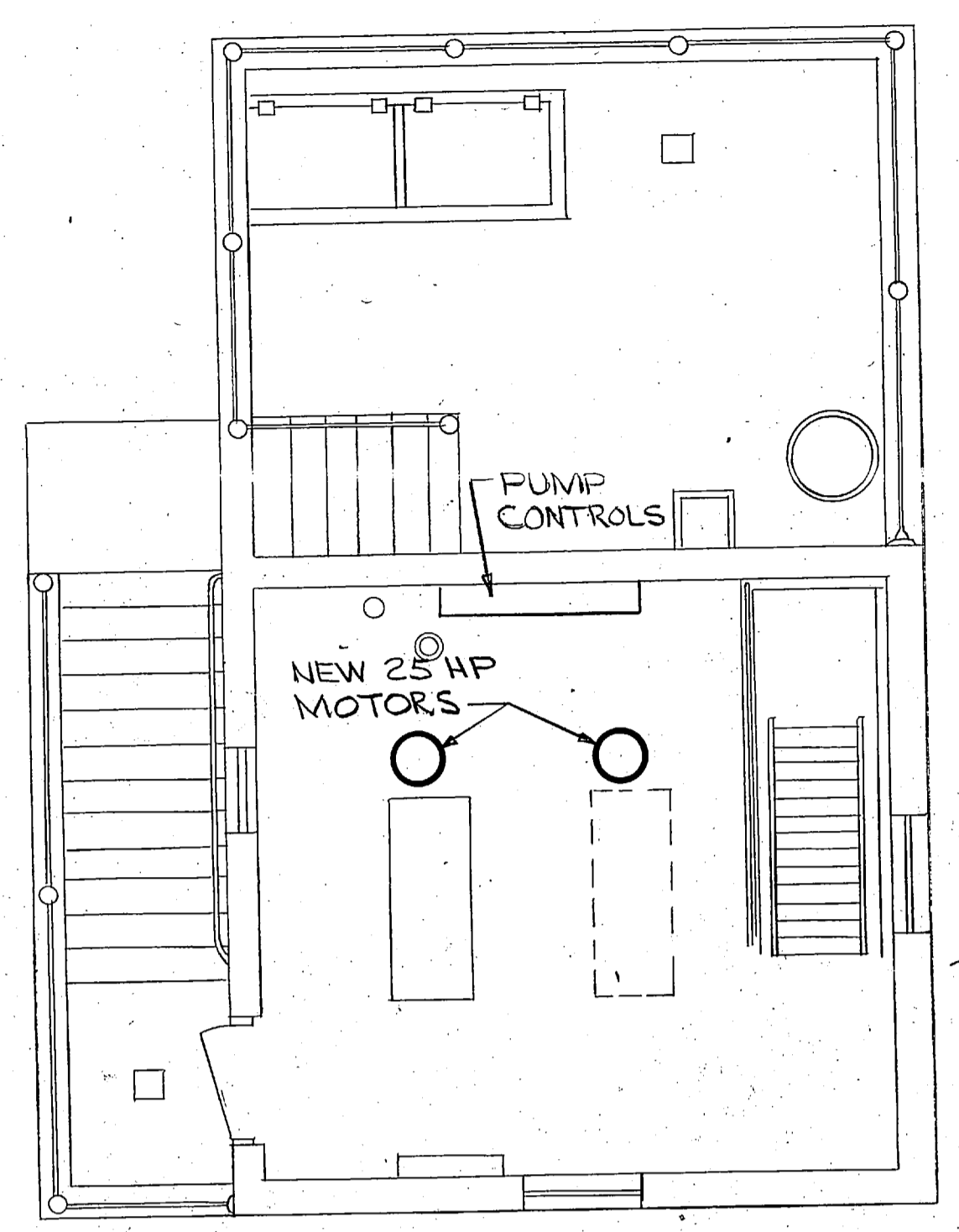
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT SYSTEM LOCATION MAP	
DESIGNED BY: DR. [Signature]	CHECKED BY: [Signature]	DATE: [Blank]	SCALE: AS NOTED
APPROVED: [Signature]	DATE: [Blank]	SIZE: F	CODE IDENT NO: 80091
OFFICER IN CHARGE: [Blank]	DATE: [Blank]	CONSISTENT NO: N62470-81-B-1478	SHEET OF: [Blank]
FOR EFD FOR COMMANDER NAVAL		EFD DWG. NO. [Blank]	



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
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PLAN - PUMP LEVEL

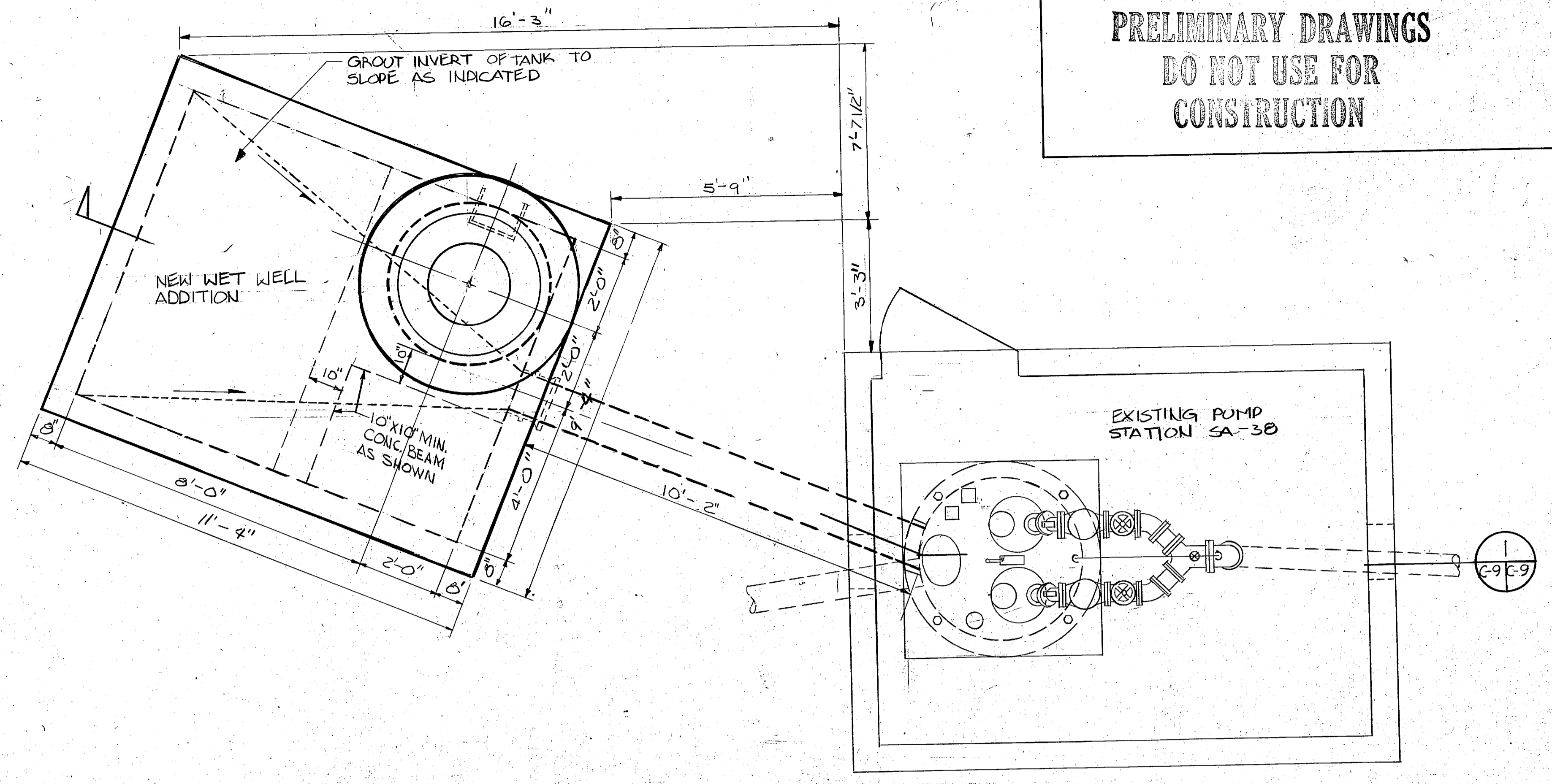


PLAN - MOTOR LEVEL

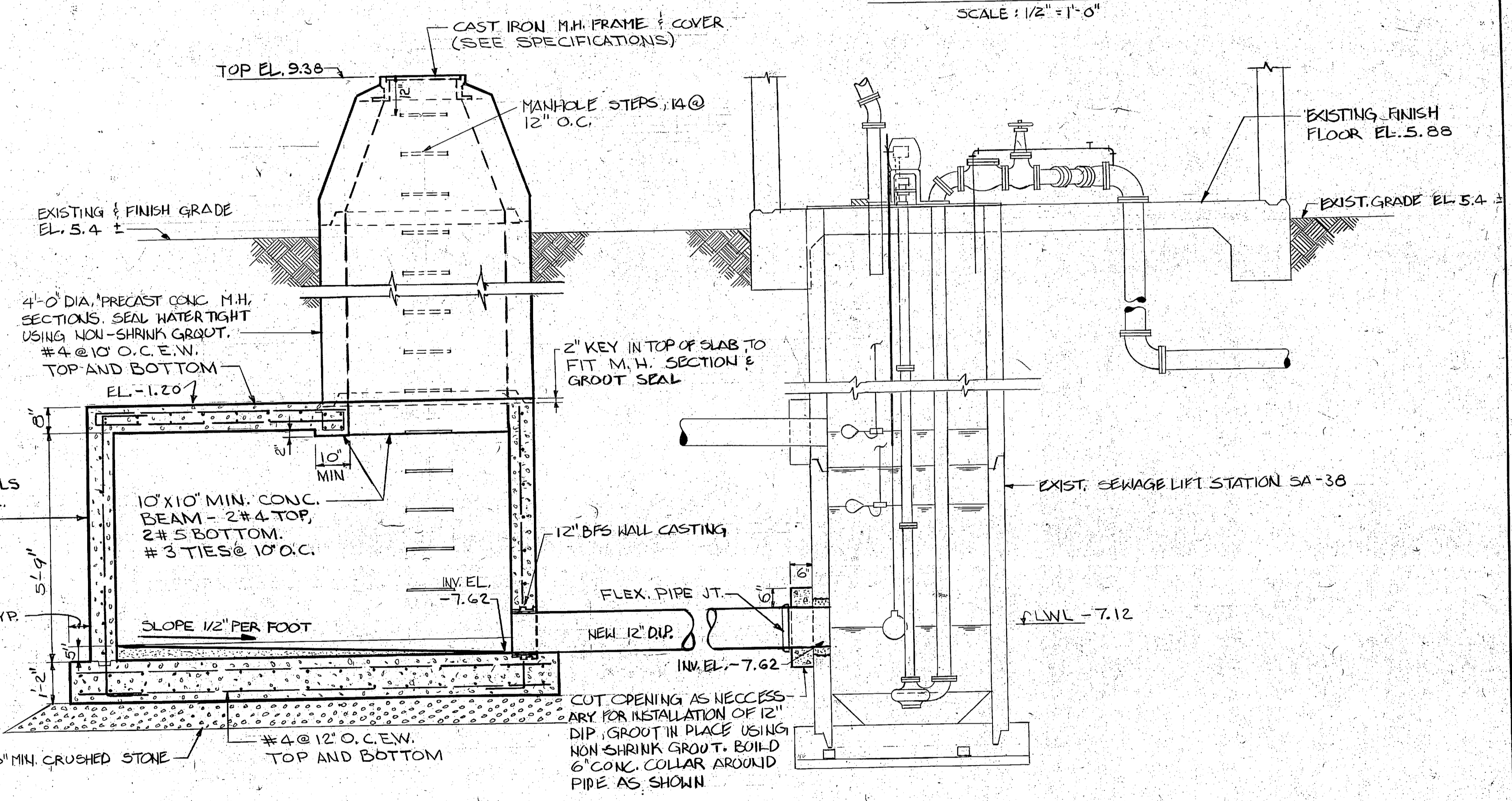
SEWAGE LIFT STATION BB-1
SCALE: 1/4" = 1'-0"

RETROFIT LIFT STATION BB-1

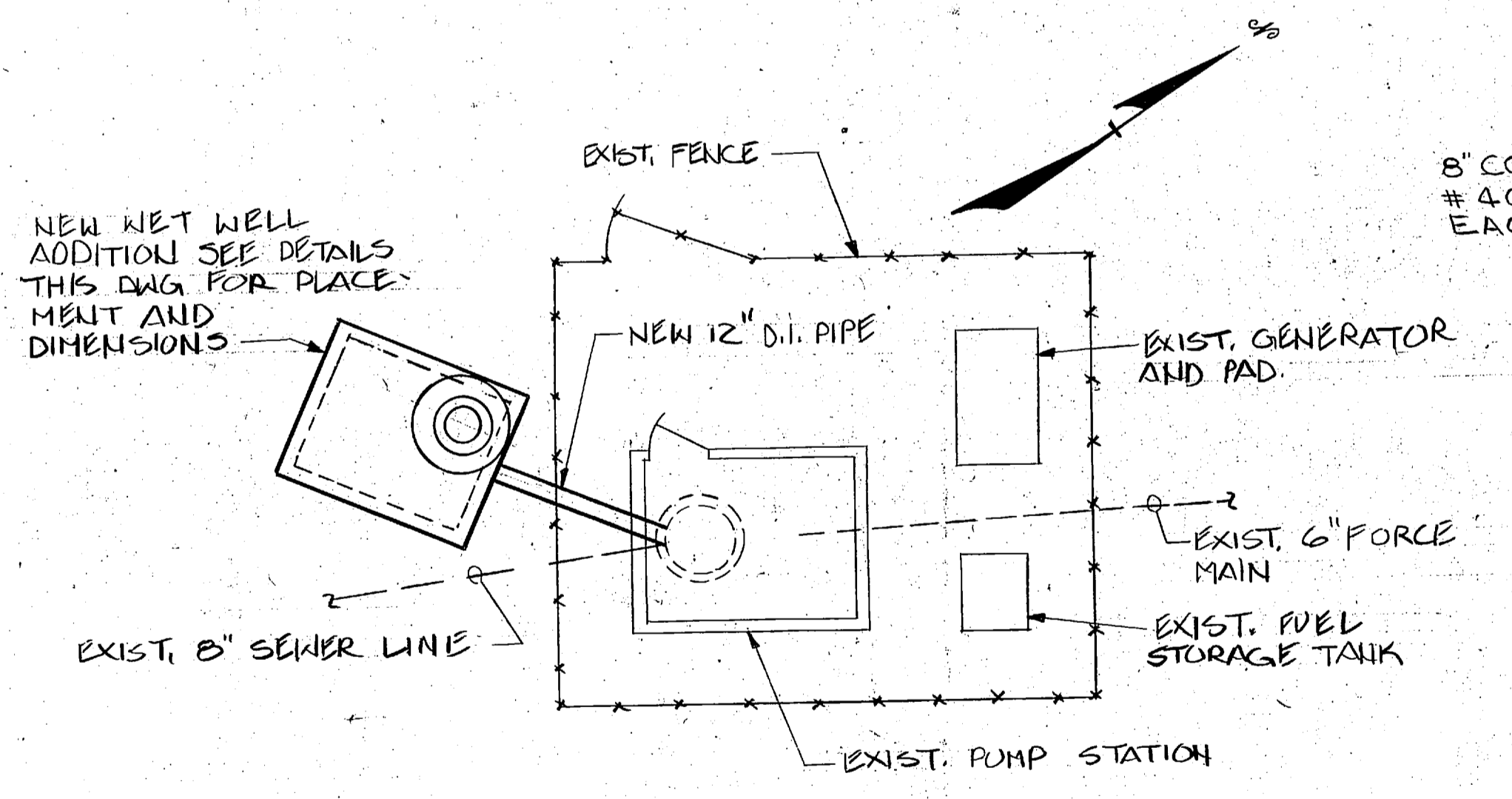
REMOVE EXISTING PUMPS, MOTORS, STARTERS, DISCONNECT SWITCHES AND PUMP CONTROLS. PROVIDE IN PLACE TWO NEW PUMPS, MOTORS, DRIVE SHAFT STARTERS, DISCONNECT SWITCHES AND PUMP CONTROLS.
PUMPS - 625 GPM @ 72' TDH @ 1800RPM
MOTORS - 25HP SEE SHEET E-4
CONTRACTOR TO MODIFY ANY AND ALL PIPING TO MAKE HOOK-UP TO NEW PUMPS.



SEWAGE LIFT STATION SA-38
SCALE: 1/2" = 1'-0"

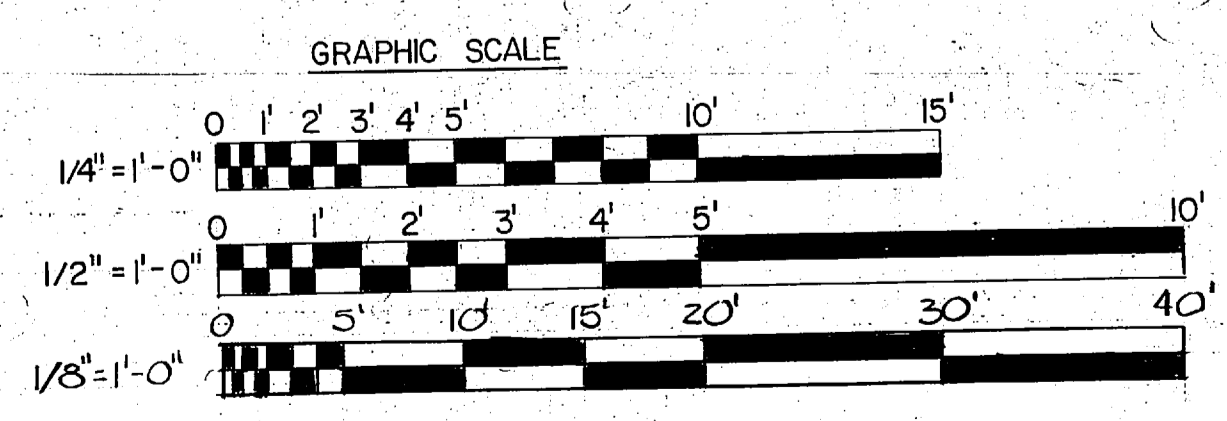


SECTION
SCALE: 1/2" = 1'-0" (C-9)



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

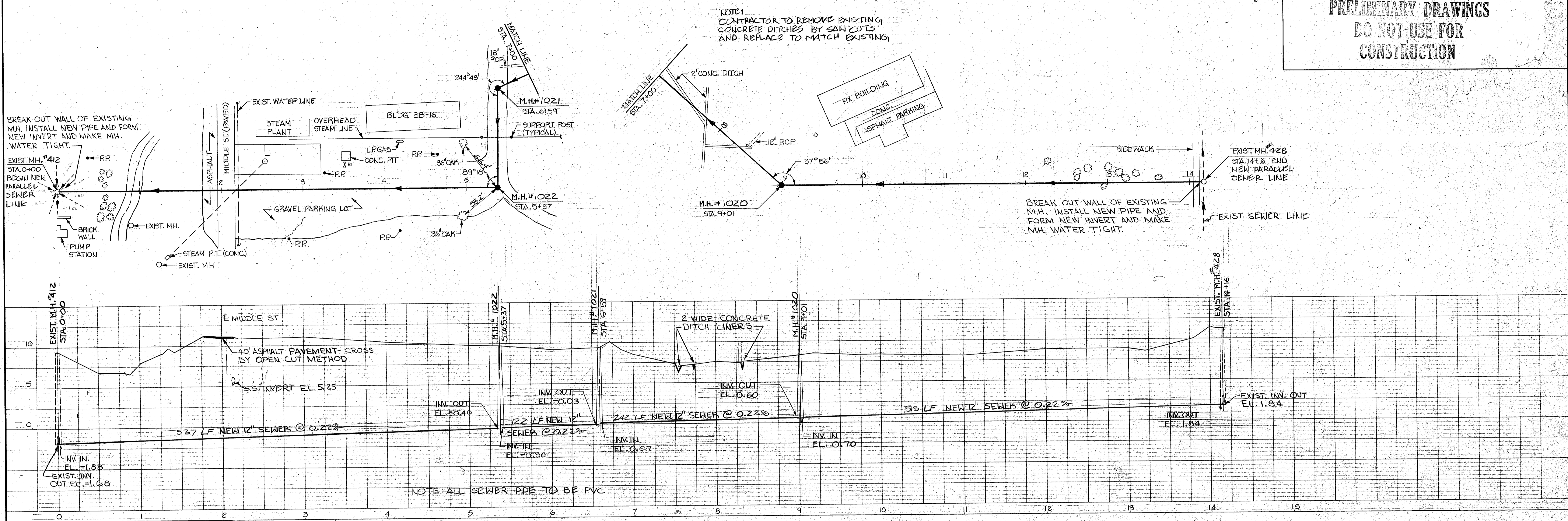
NEW WET WELL ADDITION TO EXISTING PUMP STATION SA-38



L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
PROJECT NO. 80091		ATLANTIC DIVISION	
SUBMITTED BY: [Signature]		MARINE CORPS BASE, CAMP LEJEUNE, N.C.	
FIRM MEMBER: [Signature]		UTILITIES IMPROVEMENTS	
APPROVED: [Signature]		PUMP STATIONS	
OFFICER IN CHARGE: [Signature]		MODIFICATIONS TO SEWAGE LIFT STATIONS	
APPROVED: [Signature]		BB-1, SA-38	
FOR EFD FOR COMMANDER NAVFAC		NAVFAC DRAWING NO.	
SCALE AS NOTED		SPEC. 05-81-1478	
SHEET		OF	
EFD DWG. NO.		C-9	

REVISIONS			
STM	DESCRIPTION	DATE	APPROVED

**PRELIMINARY DRAWINGS
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CONSTRUCTION**



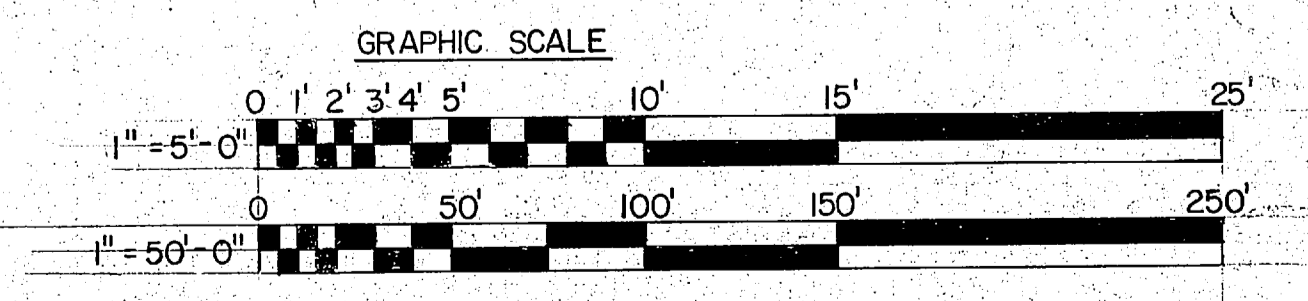
NOTE: CONTRACTOR TO REMOVE EXISTING CONCRETE DITCHES BY SAW CUTS AND REPLACE TO MATCH EXISTING

BREAK OUT WALL OF EXISTING M.H. INSTALL NEW PIPE AND FORM NEW INVERT AND MAKE M.H. WATER TIGHT.

BREAK OUT WALL OF EXISTING M.H. INSTALL NEW PIPE AND FORM NEW INVERT AND MAKE M.H. WATER TIGHT.

PARALLEL SANITARY SEWER LINE PLAN & PROFILE

SCALE: 1" = 50' HORIZONTAL
1" = 5' VERTICAL



L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NORFOLK, VIRGINIA	
DES.	DR.	CHK.	
PROJ. MGR.	CH. ENGR.	DATE	
SUBMITTED BY			
FIRM MEMBER	PRINCIPAL		
ED. BY	RVD		
HD.	DIR	DATE	
APPROVED		DATE	
OFFICER IN CHARGE		DATE	
APPROVED		DATE	
FOR ETD FOR COMMANDER NAVFAC			

SIZE	CODE IDENT NO	NAVFAC DRAWING NO
F	80091	
SCALE AS NOTED	SPEC. 05-81-147B	CONSTR. CONTR. NO. N62470-81-B-147B
		SHEET 01 OF 01

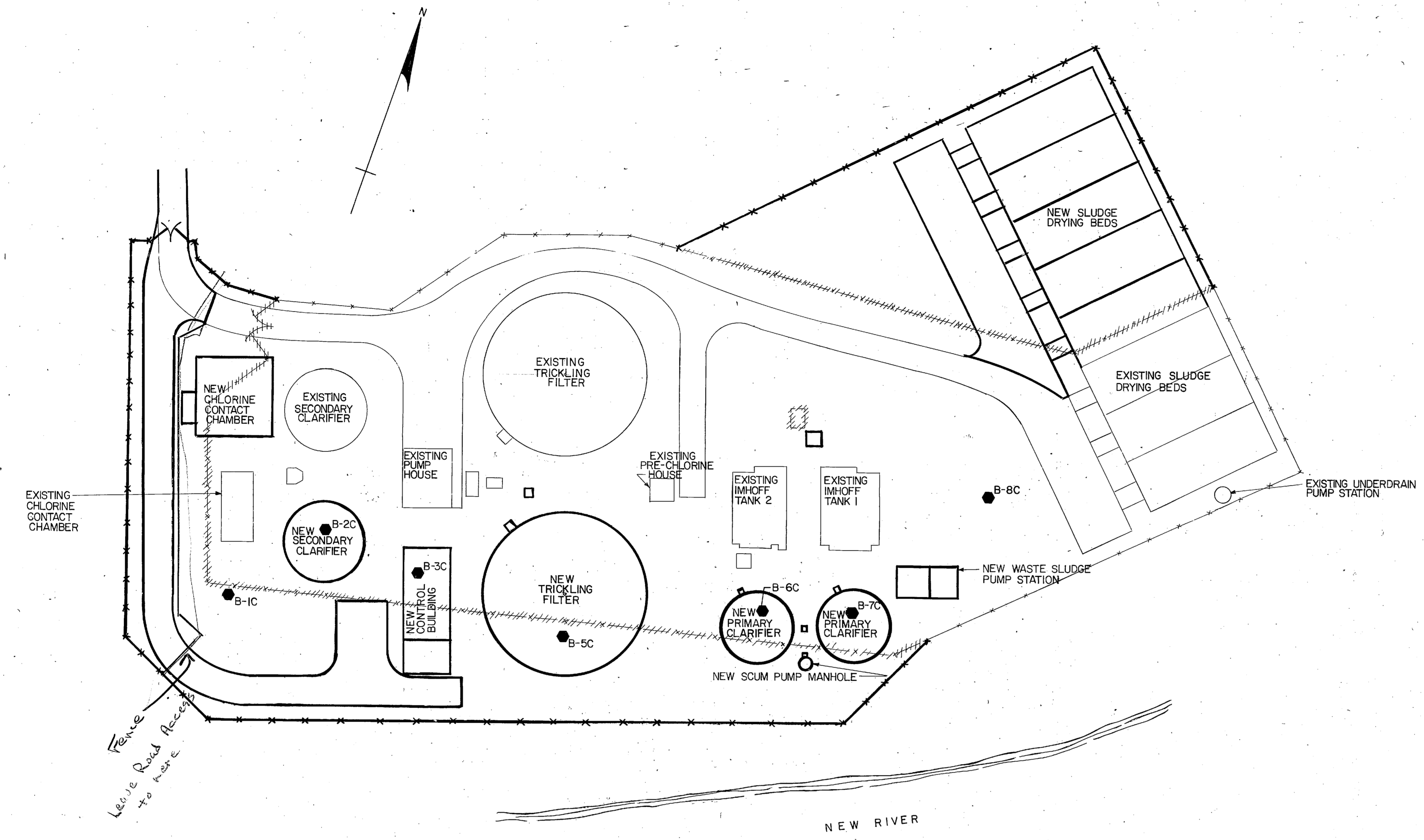
C-10





REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

**PRELIMINARY DRAWINGS
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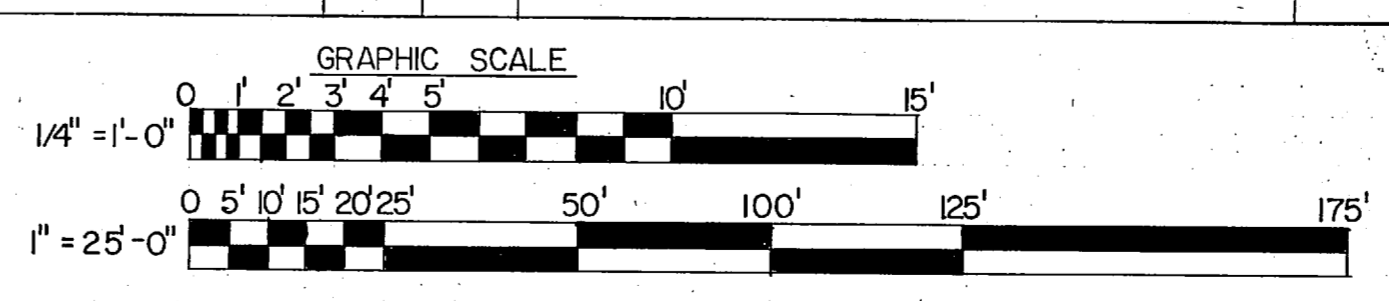


SITE PLAN
SCALE: 1"=25'-0"

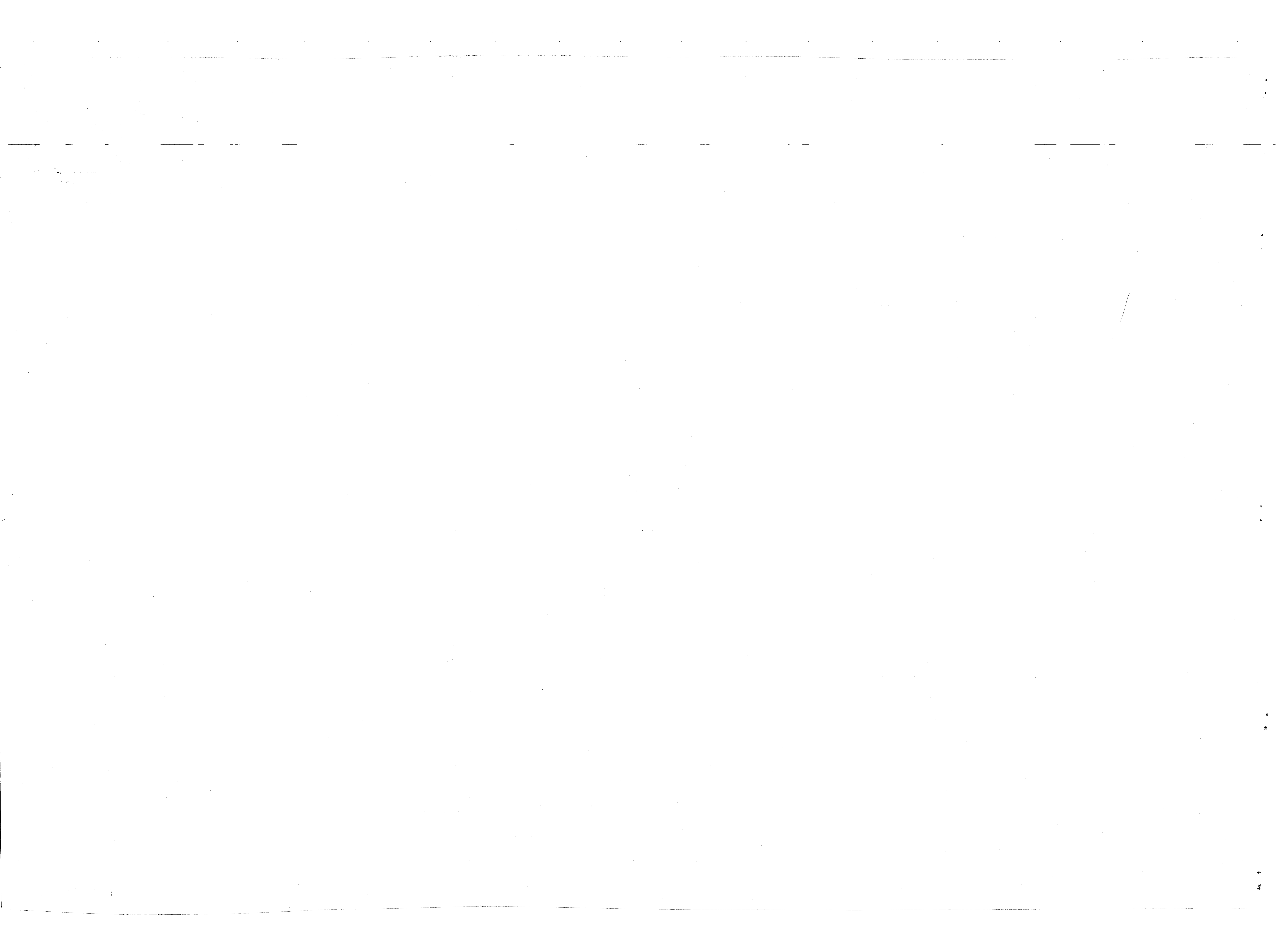
BORING NO. B-1C ELEVATION			BORING NO. B-2C ELEVATION		
DEPTH	DESCRIPTION	BLOW	DEPTH	DESCRIPTION	BLOW
0.00	TOPSOIL		0.00	TOPSOIL	
5.0	SP - YELLOW TAN FINE SAND - LOOSE.	9	5.0	SP - TAN COURSE TO FINE SAND, TRACE OF GRAVEL & ORGANIC MAT'L., LOOSE	5
	SP - TAN FINE SAND, TRACE OF GRAVEL - LOOSE.	9	13.0	SP - LIGHT TAN FINE SAND - MEDIUM.	13
10.0	CL - GRAY SILTY CLAY WITH SAND - SOFT.	4	10.0	SP - TAN FINE SAND - LOOSE. (WET)	6
15.0	SP - LIGHT TAN FINE SAND - LOOSE. (WET)	5	15.0	SC - TAN SILTY AND GRAY FINE SAND - SOFT.	3
20.0	SP - LIGHT TAN FINE SAND - VERY LOOSE. (WET)	2	20.0	SP - LIGHT TAN FINE SAND - VERY LOOSE. (WET)	11/12
25.0	BORING TERMINATED.		25.0	SM - GREENISH GRAY SILTY FINE SAND - VERY LOOSE. (WET)	2
30.0			30.0	SM - GREENISH GRAY SILTY FINE SAND - LOOSE. (SATURATED)	5
35.0			35.0	BORING TERMINATED.	

BORING NO. B-3C ELEVATION		BORING NO. B-5C ELEVATION		BORING NO. B-6C ELEVATION		BORING NO. B-7C ELEVATION		BORING NO. B-8C ELEVATION	
DEPTH	DESCRIPTION	BLOW	DEPTH	DESCRIPTION	BLOW	DEPTH	DESCRIPTION	BLOW	DEPTH
0.00	TOPSOIL		0.00	TOPSOIL		0.00	TOPSOIL		0.00
5.0	SP - TAN FINE SAND - LOOSE.	8	5.0	SP - TAN FINE SAND - LOOSE.	6	5.0	SP - GRAYISH TAN FINE SAND - VERY LOOSE.	3	5.0
	SP - LIGHT TAN FINE SAND - VERY LOOSE.	3		SP - LIGHT TAN FINE SAND - VERY LOOSE.	3		SP - LIGHT TAN FINE SAND - LOOSE. (WET)	4	
10.0	SC - TAN CLAYEY FINE SAND - SOFT.	3	10.0	SP - LIGHT TAN FINE SAND - VERY LOOSE. (WET)	2	10.0	SP - LIGHT TAN FINE SAND - VERY LOOSE. (WET)	3	10.0
15.0	SM - TAN SILTY FINE SAND - LOOSE. (WET)	4	15.0	SP - TAN FINE SAND - VERY LOOSE. (WET)	3	15.0	SP - LIGHT TAN FINE SAND - LOOSE. (WET)	4	15.0
20.0	SP - LIGHT TAN FINE SAND - LOOSE. (WET)	6	20.0	SP - TAN FINE SAND - MEDIUM. (WET)	16	20.0	SP - LIGHT GRAYISH TAN FINE SAND - MEDIUM. (WET)	16	20.0
25.0	BORING TERMINATED.		25.0	BORING TERMINATED.		25.0	ML - LIGHT GRAY SILT AND FINE SAND - VERY SOFT. (WET)	1/18	25.0
30.0			30.0			30.0	SM - LIGHT GRAY - SILTY, COARSE TO FINE SAND, TRACE OF GRAVEL - MEDIUM. (WET)	16	30.0
35.0			35.0			35.0	BORING TERMINATED.		35.0

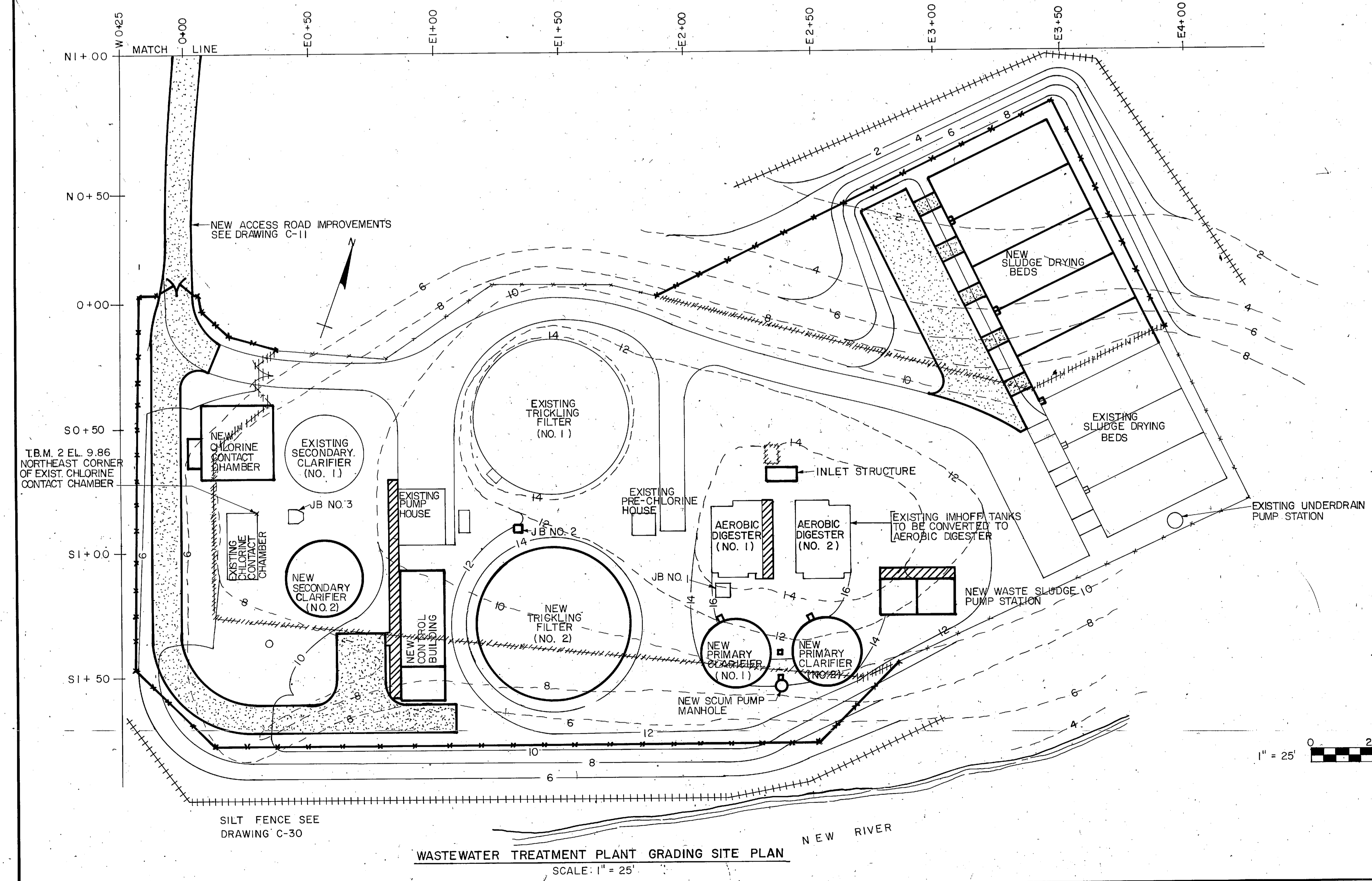
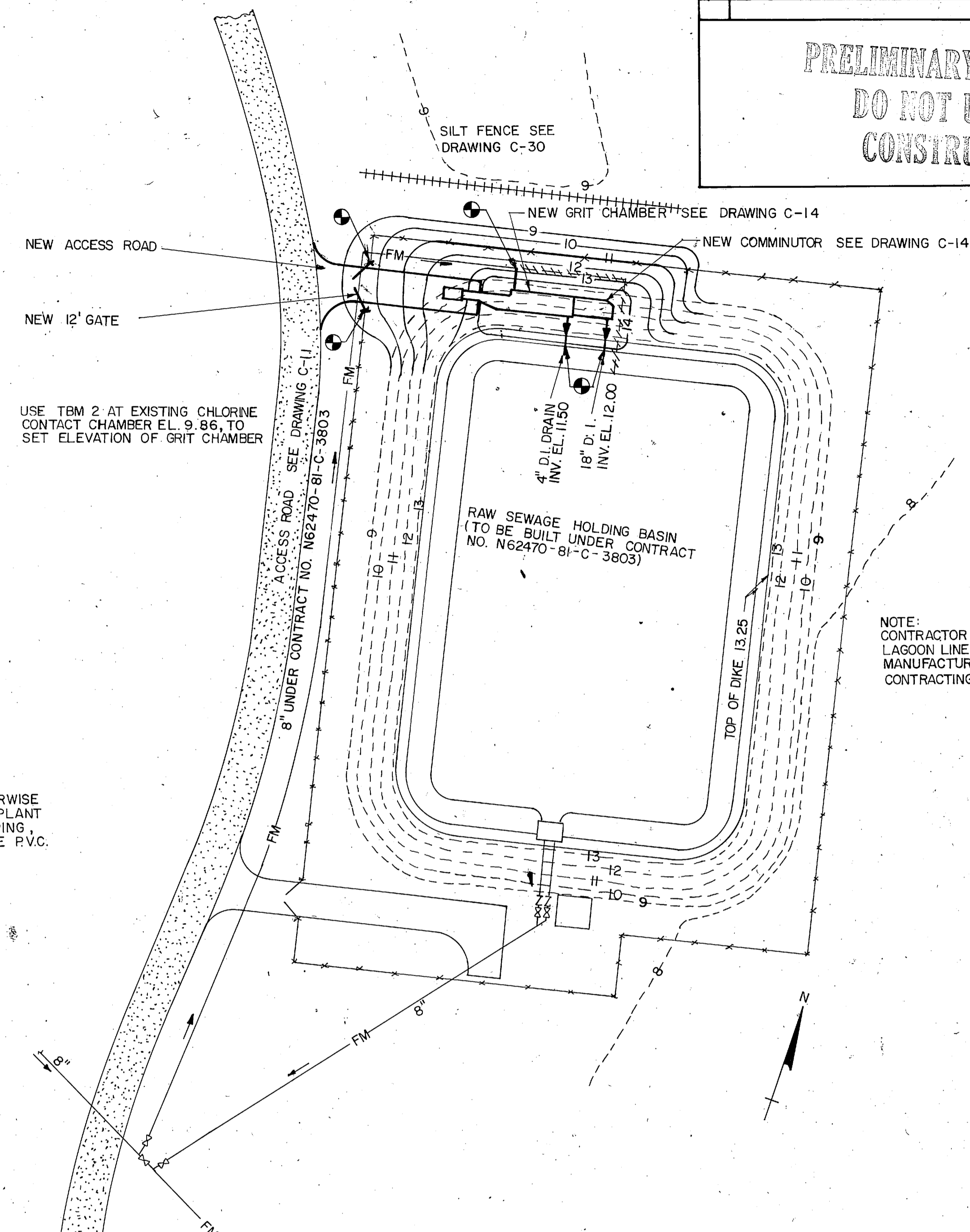
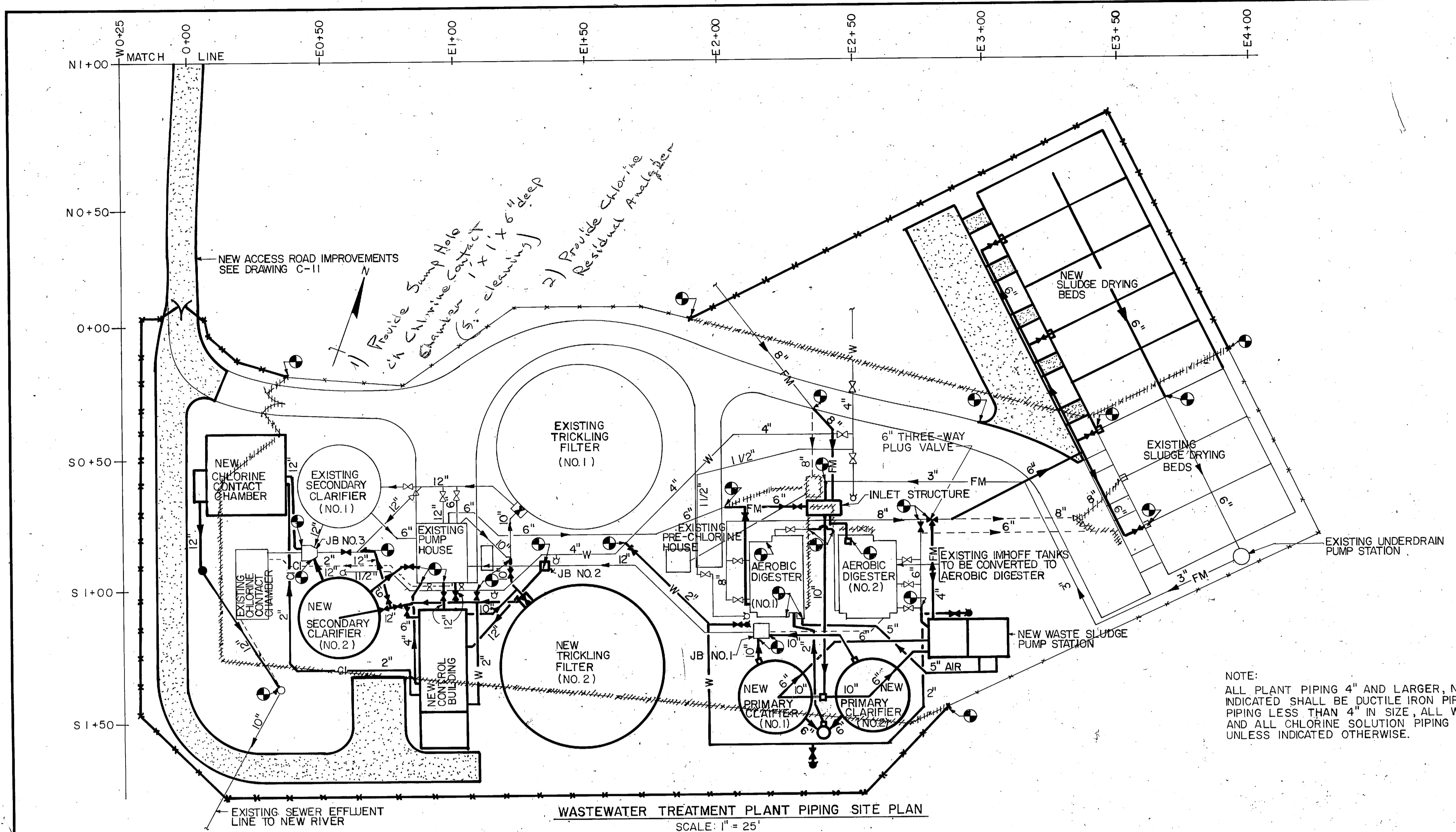
- GENERAL BORING NOTES**
- BLOWS COLUMN INDICATES THE NUMBER OF BLOWS OF A 140 LB. HAMMER FALLING 30" REQUIRED TO DRIVE A 2" O.D. SAMPLER ONE FOOT.
 - BORINGS MADE BY EZRA MIER ASSOCIATES, INC., NOVEMBER 1981.
 - SP, SM, SC, CL, CM, FROM UNIFIED SOIL CLASSIFICATION SYSTEM. DESCRIPTION OF SOIL IN ACCORDANCE WITH BURMISTERS CLASSIFICATION ON BASIS OF VISUAL ESTIMATE BY DRILLER.



L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION - NORFOLK VIRGINIA	
		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT BORING LOGS	
DES: _____ PROJ. MGR: _____ SUBMITTED BY: _____ FIRM MEMBER: _____ TYPED BY: _____ NO. _____ APPROVED: _____ OFFICER IN CHARGE: _____ APPROVED: _____ FOR STD FOR COMMANDER NAVFAC	CHK: _____ CH. ENGR: _____ DATE: _____ PRINCIPAL: _____ DATE: _____ DATE: _____ NAVFAC DRAWING NO. _____ CONST. CONTR. NO. N62470-81-B-1478 SCALE AS NOTED SPEC. 05-81-1478	C-12	SHEET _____ OF _____ STD DWG. NO. _____

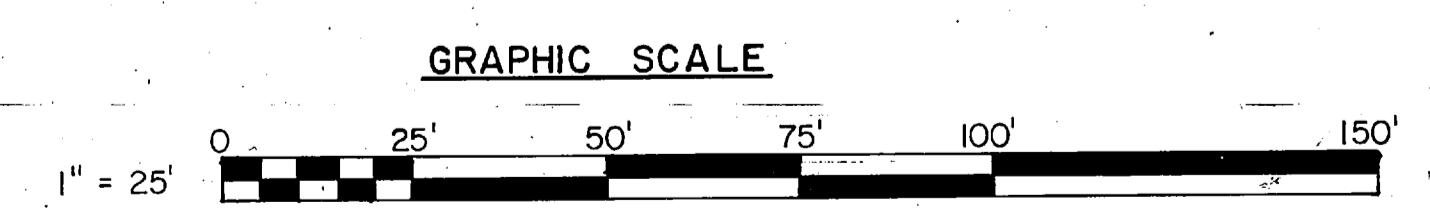


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
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LEGEND

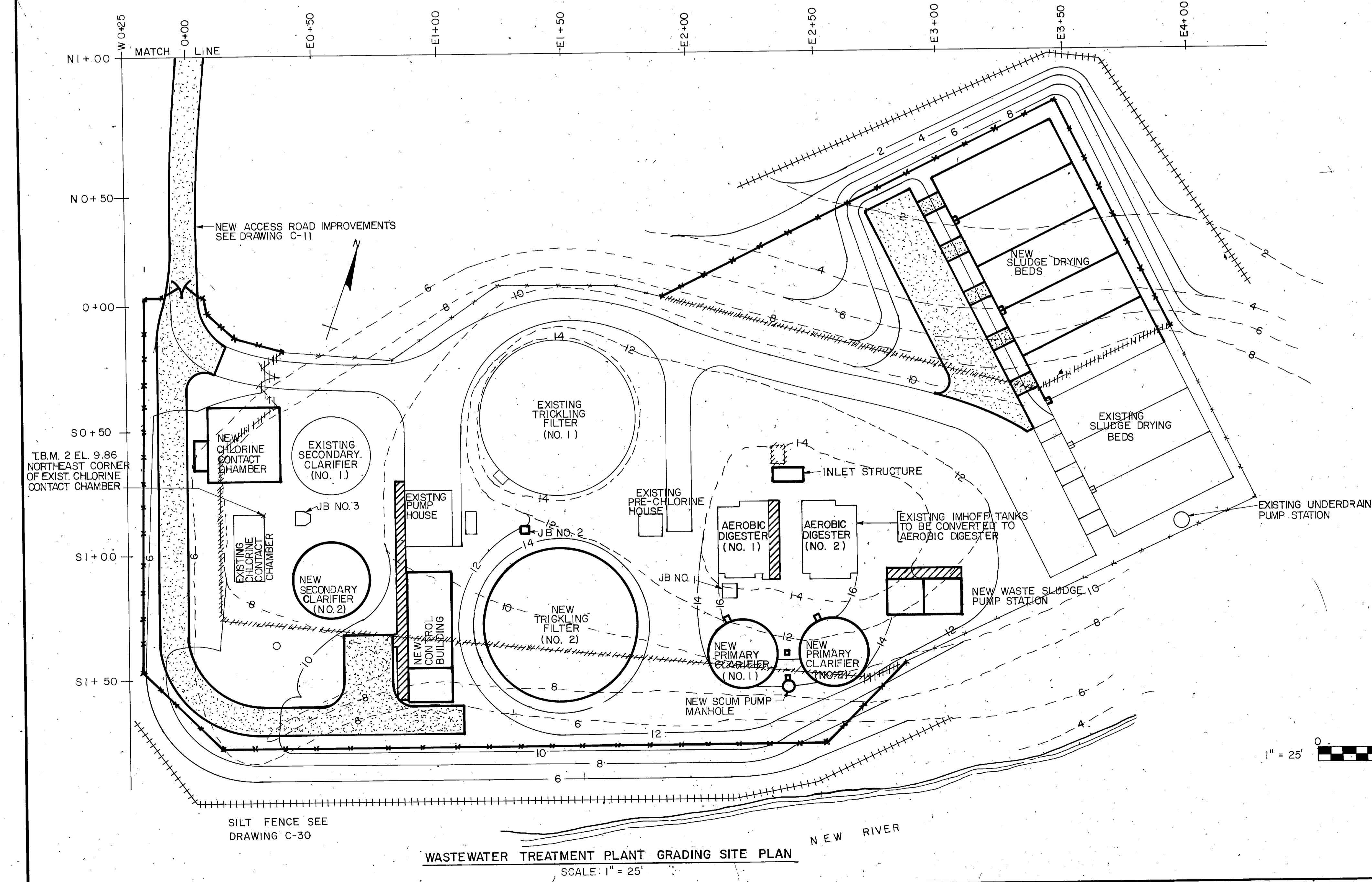
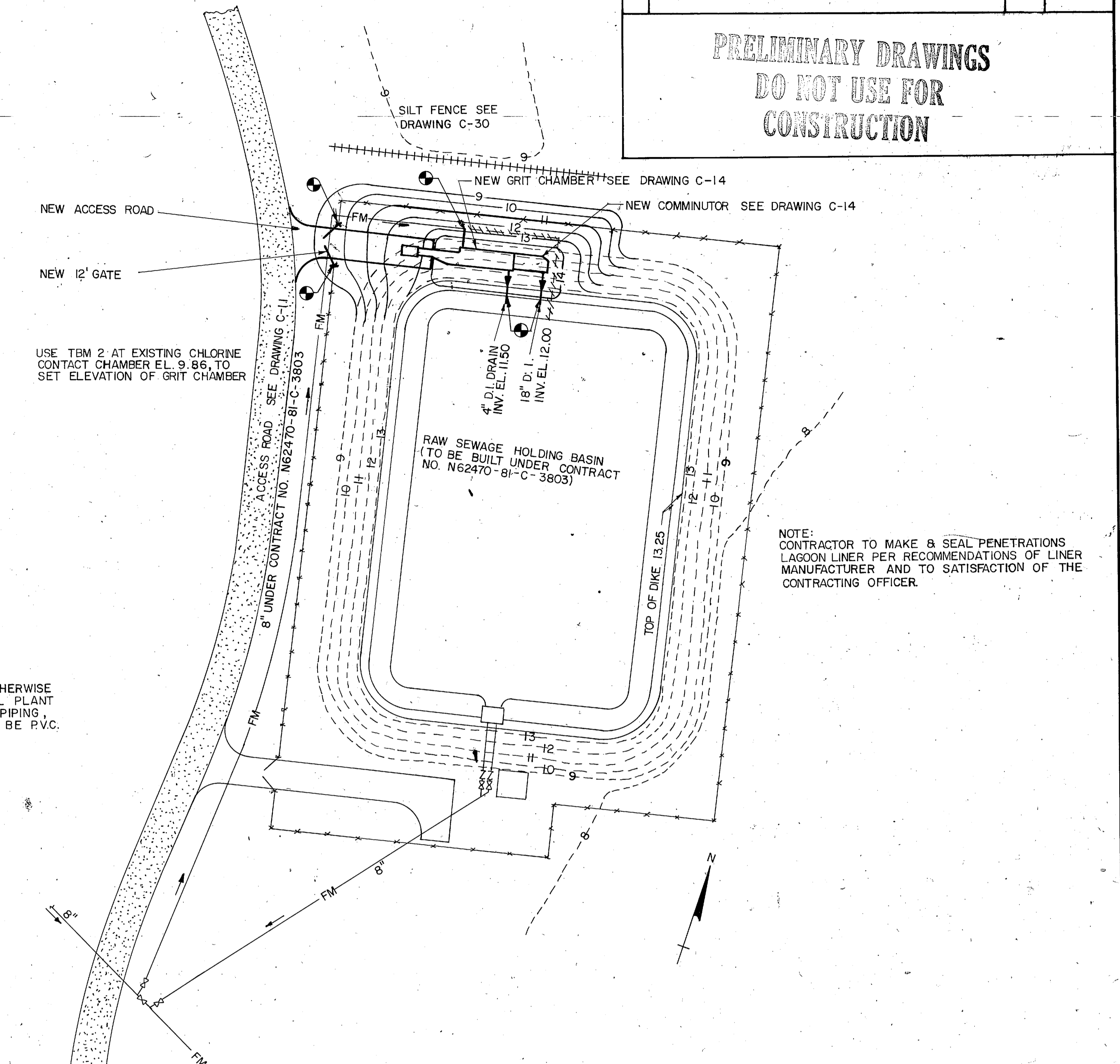
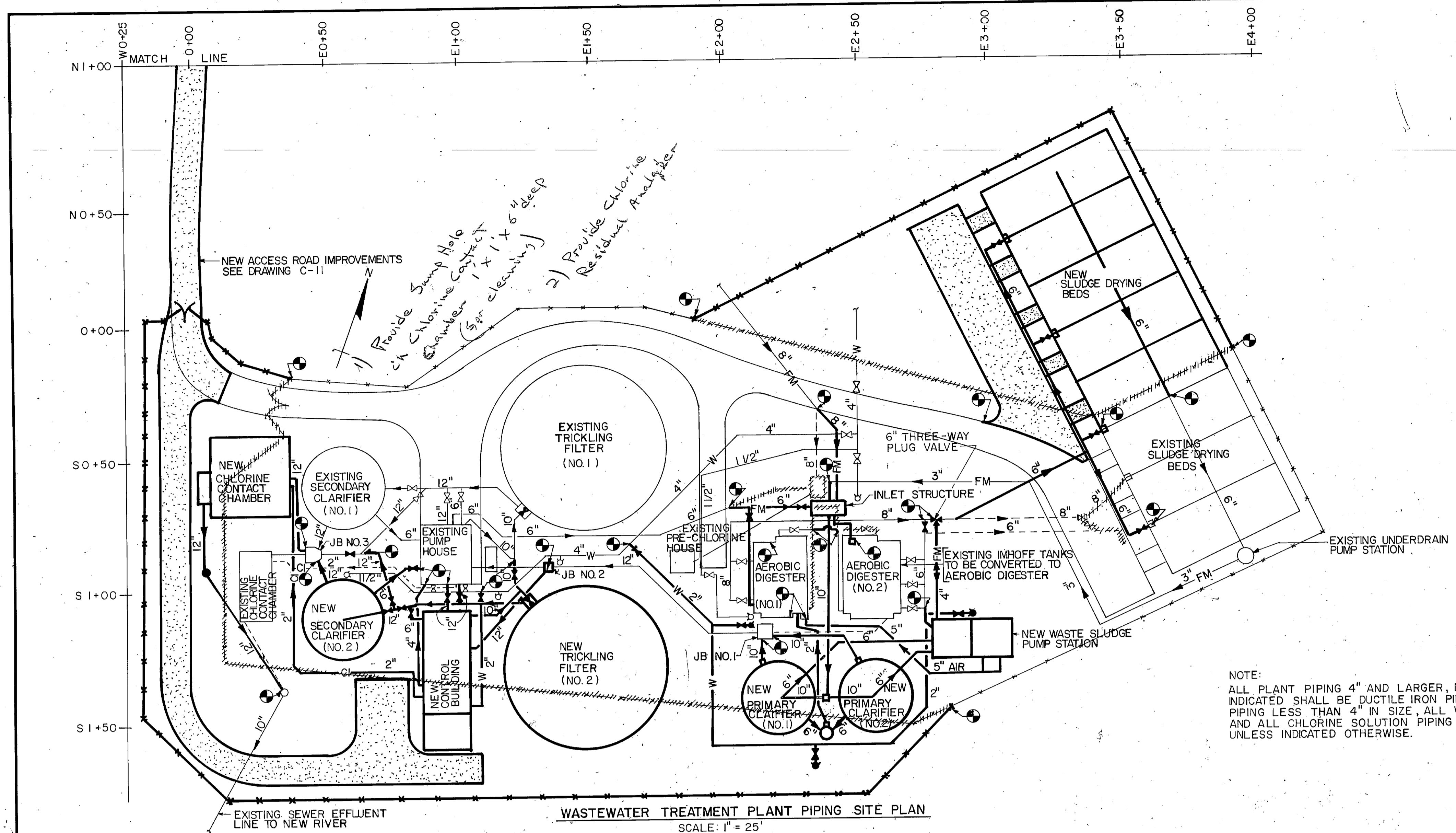
—○—	EXISTING YARD HYDRANT	—+—+—	EXISTING FENCE
—○—	NEW YARD HYDRANT	—+—+—	EXISTING FENCE TO BE REMOVED
—W—	EXISTING WATER LINE	—+—+—	NEW FENCE
—W—	NEW WATER LINE	—+—+—	EXISTING CONSTRUCTION
—CI—	EXISTING CHLORINE CONDUIT LINE	—+—+—	EXISTING CONSTRUCTION TO BE ABANDONED
—CI—	NEW CHLORINE CONDUIT LINE	—+—+—	EXISTING CONSTRUCTION TO BE REMOVED
—FM—	EXISTING FORCE MAIN	—+—+—	NEW CONSTRUCTION
—FM—	NEW FORCE MAIN	—+—+—	EXISTING ASPHALT PAVEMENT
—6—	EXISTING CONTOURS	—+—+—	NEW ASPHALT PAVEMENT
—6—	NEW CONTOURS	—+—+—	EXISTING MANHOLE
—○—	POINT OF CONNECTION	—+—+—	NEW MANHOLE
—JB—	JUNCTION BOX	—+—+—	EXISTING VALVE
		—+—+—	NEW VALVE
		—+—+—	SILT FENCE
		—+—+—	NEW CONCRETE WALK



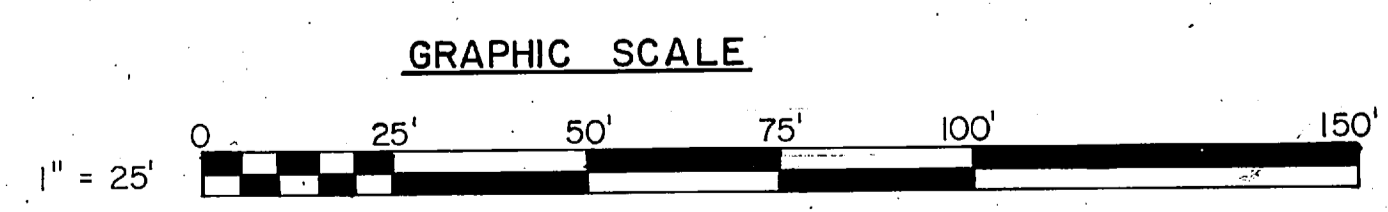
C-13 L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT GRIT CHAMBER AND COMMUNOTOR SITE PLAN	
DES. <i>[Signature]</i>	CHK. <i>[Signature]</i>	S124	CODE IDENT NO.
PROJ. MGR.	CH. ENGR.	F 80091	NAVFAC DRAWING NO.
SUBMITTED BY:	DATE:	CONST. CONTR. NO. N62470-B1-B-1478	
FIRM MEMBER	PRINCIPAL	SHEET	
APPROVED	DATE	OF	
OFFICER IN CHARGE	DATE	EFD DWG. NO.	
APPROVED	DATE		
FOR EFD FOR COMMANDER NAVFAC		SCALE: AS NOTED 1"=25'-0"	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

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CONSTRUCTION**



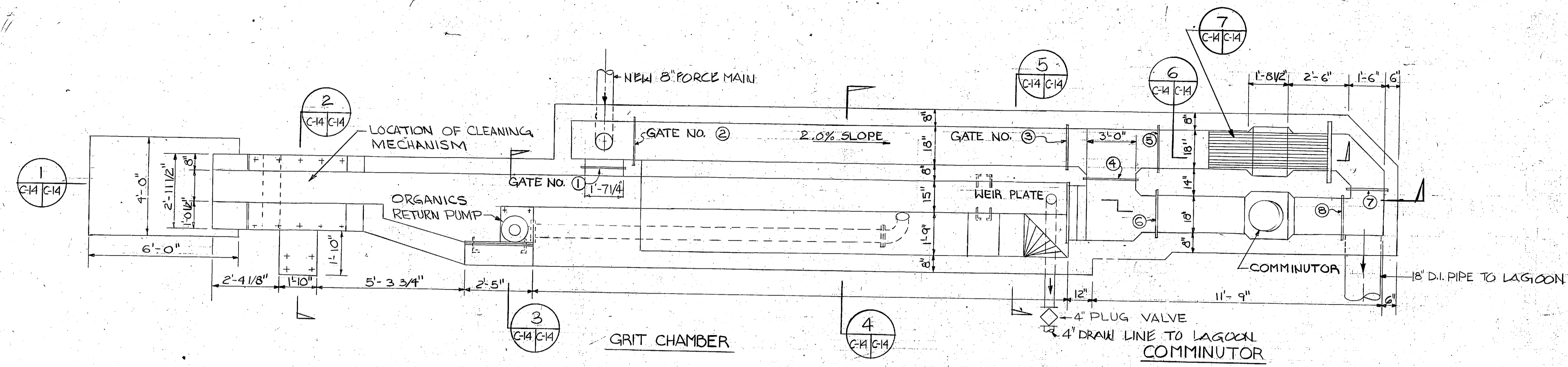
- LEGEND**
- EXISTING YARD HYDRANT
 - NEW YARD HYDRANT
 - W— EXISTING WATER LINE
 - W— NEW WATER LINE
 - CI— EXISTING CHLORINE CONDUIT LINE
 - CI— NEW CHLORINE CONDUIT LINE
 - FM— EXISTING FORCE MAIN
 - FM— NEW FORCE MAIN
 - 8— EXISTING CONTOURS
 - 6— NEW CONTOURS
 - POINT OF CONNECTION
 - JB JUNCTION BOX
 - +— EXISTING FENCE
 - +— EXISTING FENCE TO BE REMOVED
 - +— NEW FENCE
 - +— EXISTING CONSTRUCTION
 - +— EXISTING CONSTRUCTION TO BE ABANDONED
 - +— EXISTING CONSTRUCTION TO BE REMOVED
 - +— NEW CONSTRUCTION
 - +— EXISTING ASPHALT PAVEMENT
 - +— NEW ASPHALT PAVEMENT
 - EXISTING MANHOLE
 - NEW MANHOLE
 - EXISTING VALVE
 - NEW VALVE
 - +— SILT FENCE
 - +— NEW CONCRETE WALK



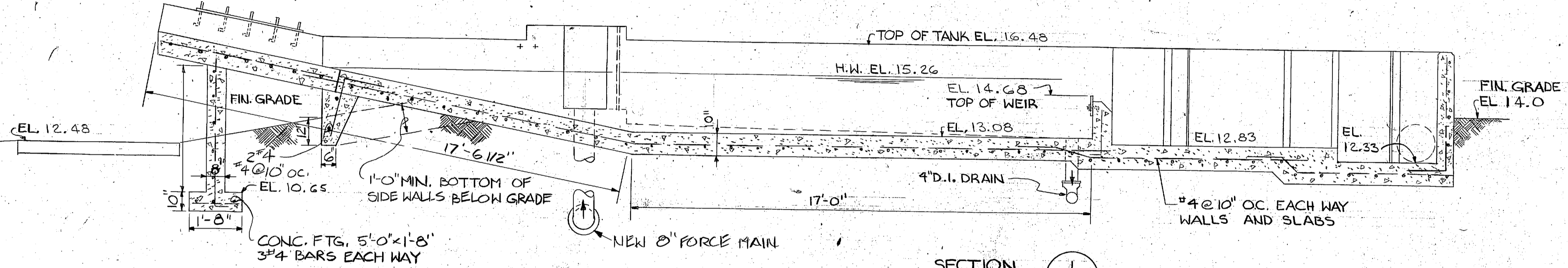
C-13 L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL STATION ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C.	
		UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT GRIT CHAMBER AND COMMUNOTOR SITE PLAN	
PROJ. NO. DB-100 SUBMITTED BY: CH ENGR. DATE:	CH ENGR. CH ENGR. DATE:	SIZE: 11" x 17" CODE IDENT NO.:	NAVFAC DRAWING NO.:
MEM. NO. BYD TYP. NO. BYD NO. BYD DATE:	PRINCIPAL: BYD DATE:	F 80091 CONSTR. CONTR. NO. N62470-BI-B-1478	SHEET 07 OF 07

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

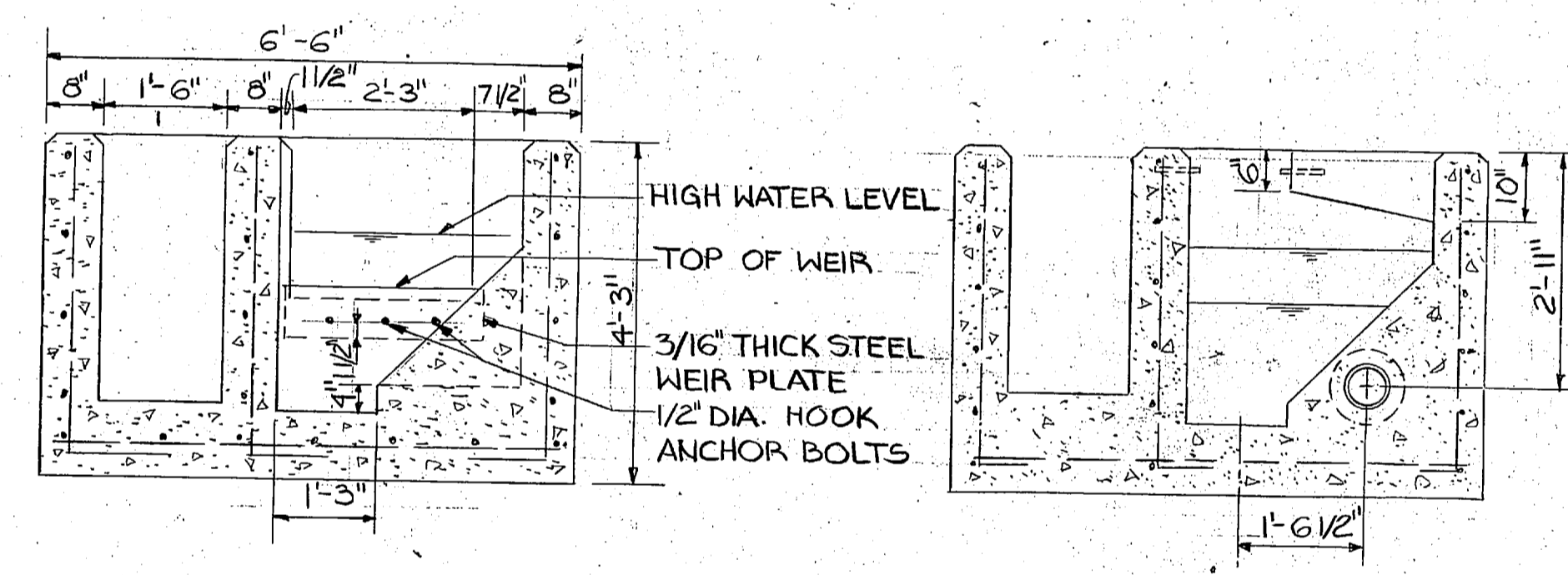
**PRELIMINARY DRAWINGS
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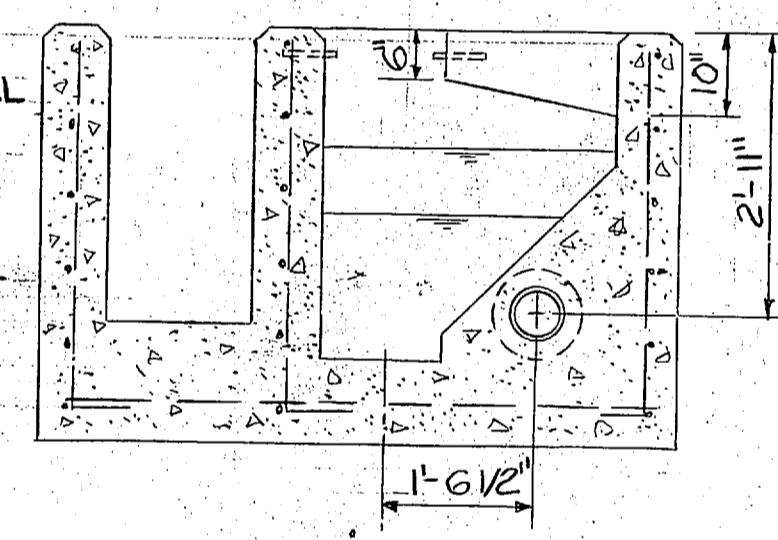
PLAN
SCALE: 3/8" = 1'-0"



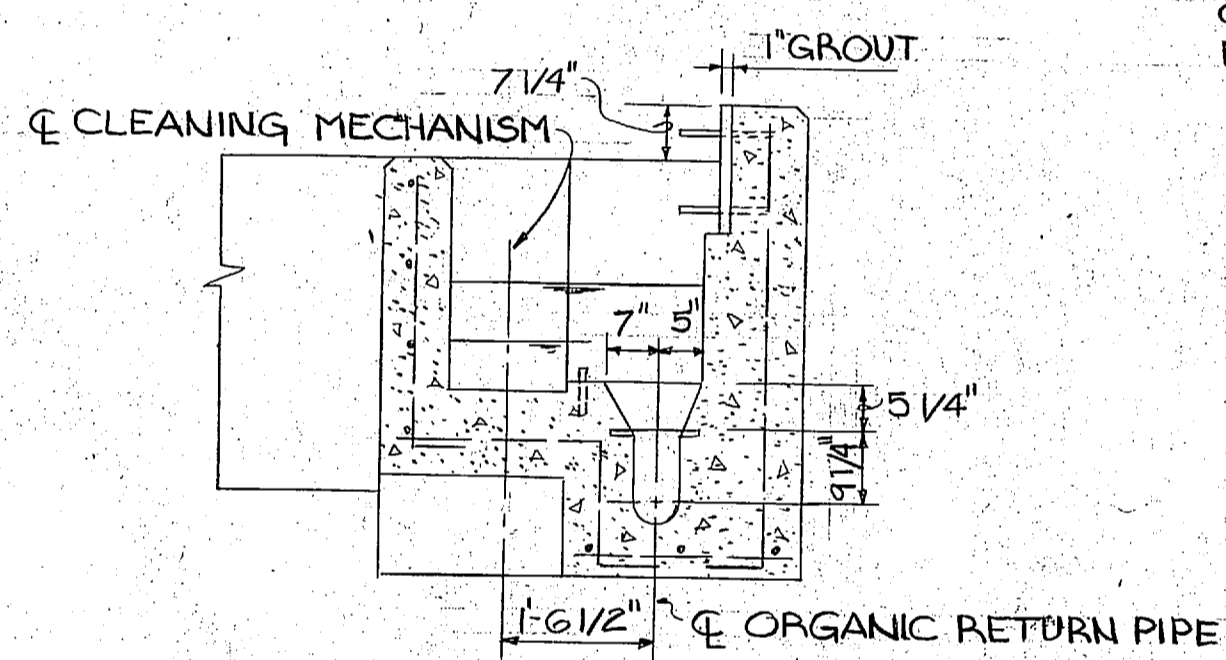
SECTION I
SCALE: 3/8" = 1'-0"



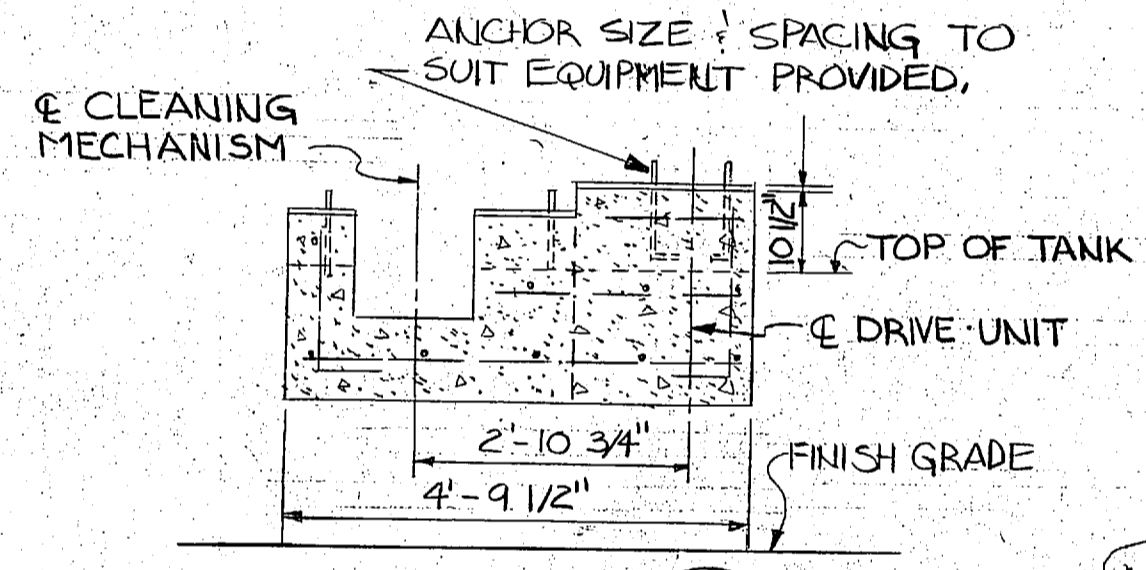
SECTION 5
SCALE: 1/2" = 1'-0"



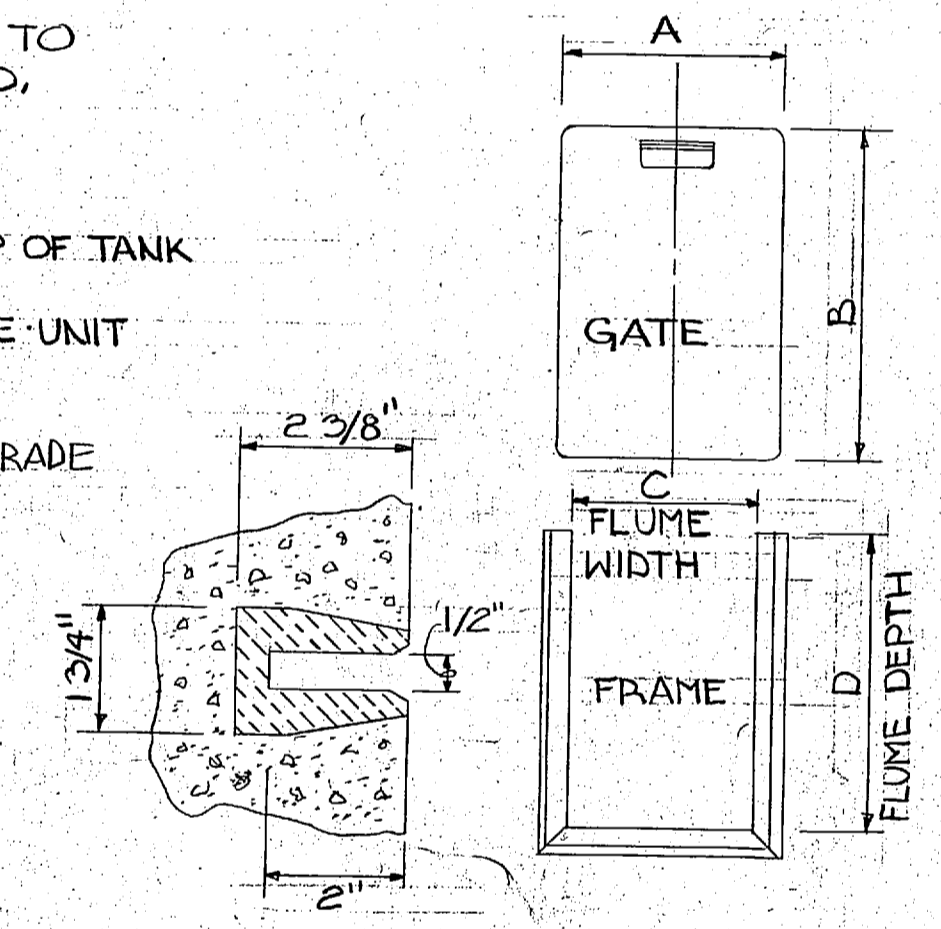
SECTION 4
SCALE: 1/2" = 1'-0"



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

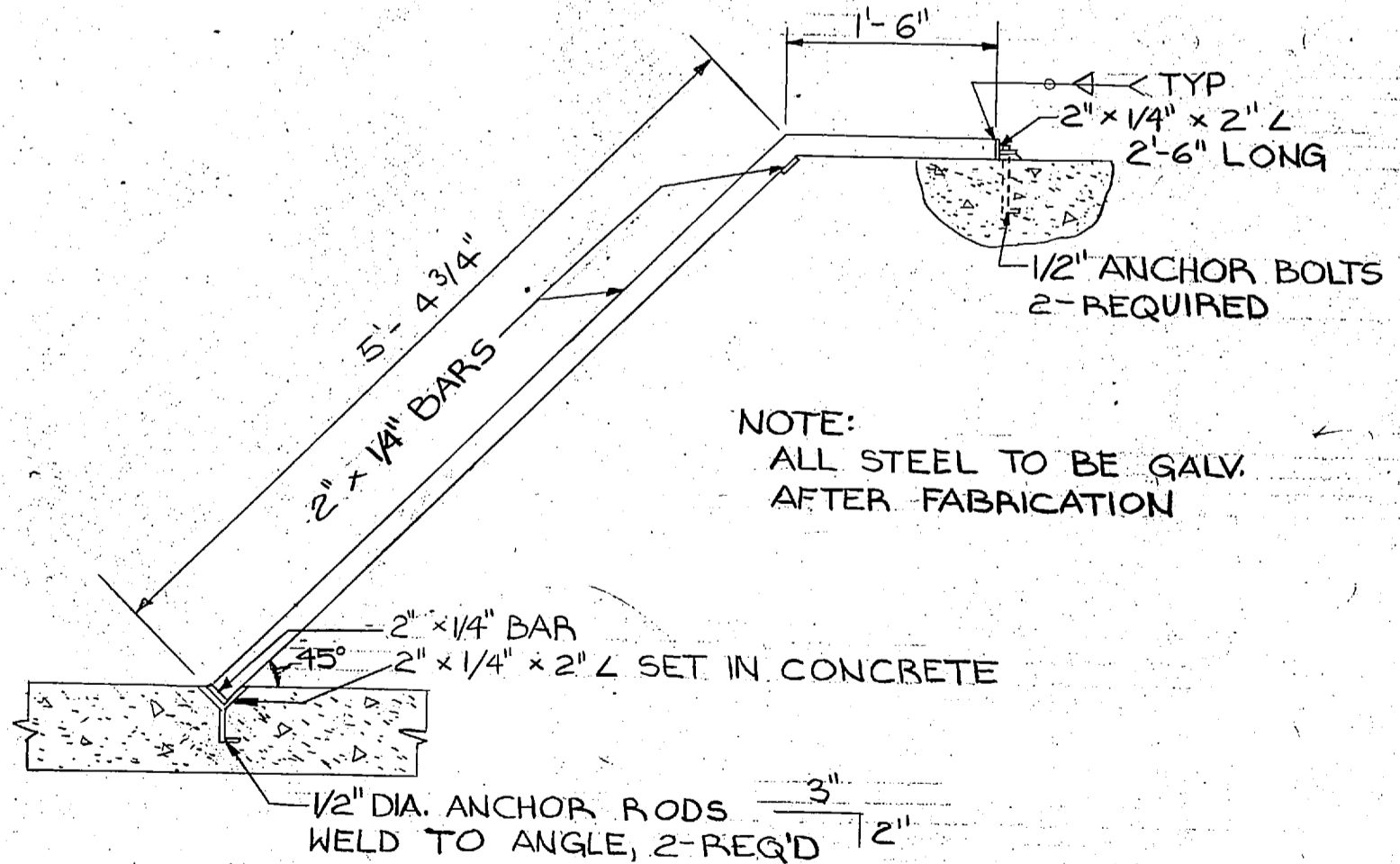


SECTION 2
SCALE: 1/2" = 1'-0"

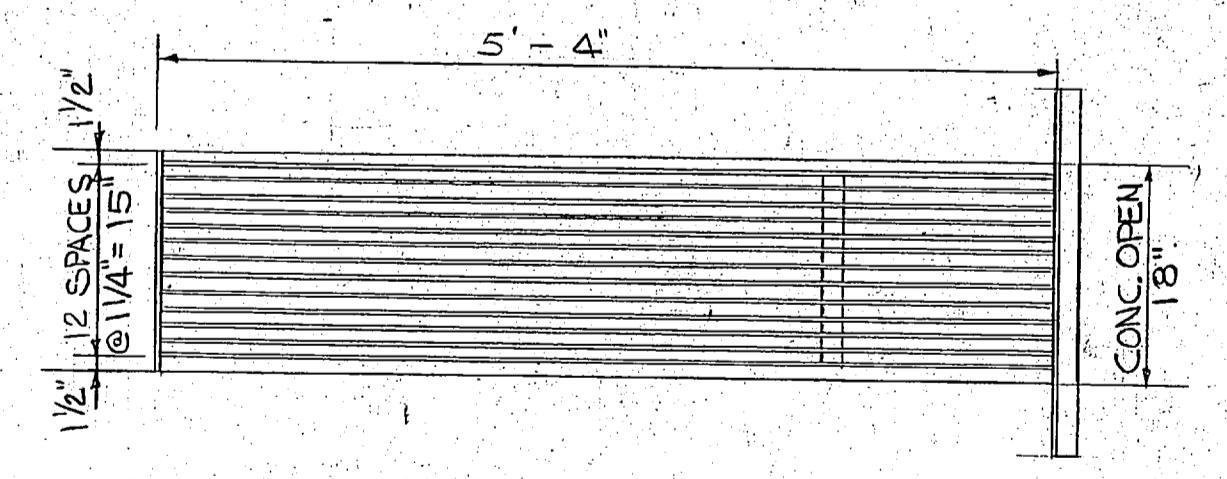


SECTION
STOP GATE DETAIL
NO SCALE

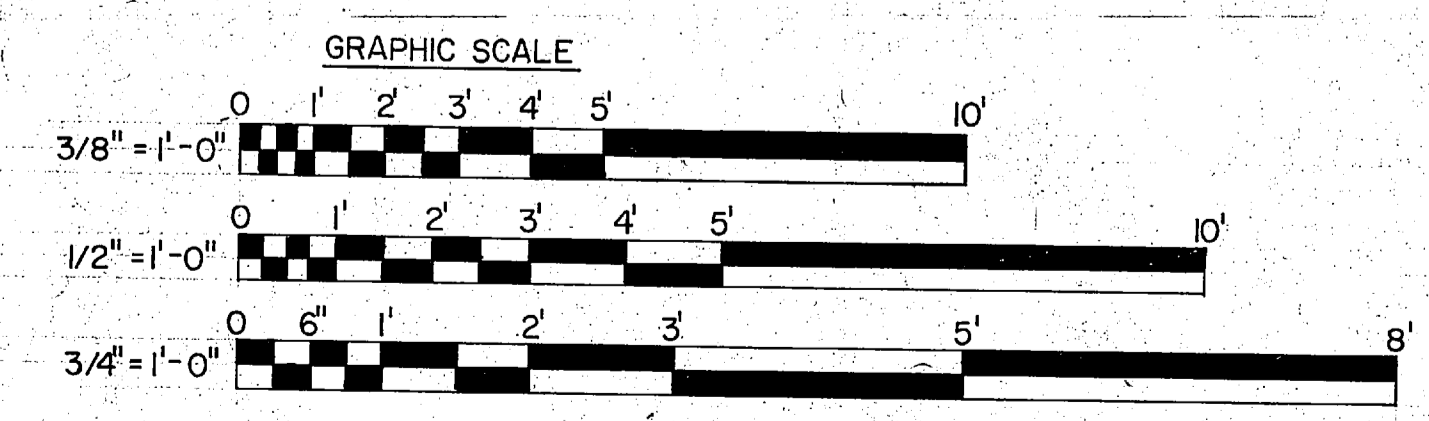
GATE NO.	A	B	C	D	WHERE USED
1	1'-11"	3'-2"	1'-7 1/4"	3'-1"	GRIT CHAMBER
2	1'-9 3/4"	3'-2"	1'-6"	3'-1"	GRIT CHAMBER
3	1'-9 3/4"	3'-6 1/2"	1'-6"	3'-4 3/4"	GRIT CHAMBER
4	3'-3 3/4"	3'-9 1/2"	3'-0"	3'-7 3/4"	COMMINUTOR
5	1'-9 3/4"	3'-9 1/2"	1'-6"	3'-7 3/4"	COMMINUTOR
6	1'-9 3/4"	3'-9 1/2"	1'-6"	3'-7 3/4"	COMMINUTOR
7	1'-9 3/4"	4'-3 1/2"	1'-6"	4'-1 3/4"	COMMINUTOR
8	1'-9 3/4"	4'-3 1/2"	1'-6"	4'-1 3/4"	COMMINUTOR



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



PLAN BAR SCREEN 7
SCALE: 3/4" = 1'-0"

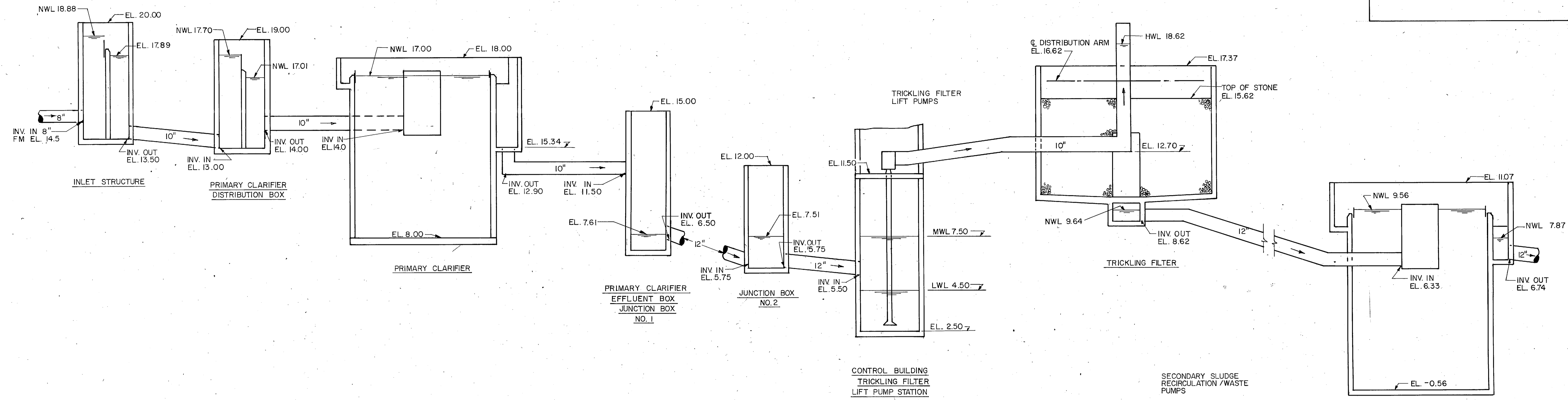


L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DIS: <i>DW</i> CHK: <i>CH</i> PROJ. MGR: <i>CH</i> ENGR: <i>CH</i> SUBMITTED BY: <i>CH</i> DATE: <i> </i> FIRM MEMBER: <i> </i> PRINCIPAL: <i> </i> NO. <i> </i> RVD: <i> </i> DIR: <i> </i>		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT GRIT CHAMBER	
APPROVED: <i> </i> DATE: <i> </i> OFFICER IN CHARGE: <i> </i> DATE: <i> </i> APPROVED: <i> </i> DATE: <i> </i>		SIZE: F CODE IDENT NO: 80091 NAVFAC DRAWING NO: <i> </i>	CONST. CONTR. NO. N62470-B1-B-1478 SHEET NO. <i> </i> OF <i> </i> EFD DWG. NO. <i> </i>
FOR EFD FOR COMMANDER NAVFAC		SCALE AS NOTED SPEC. 05-B1-1478	

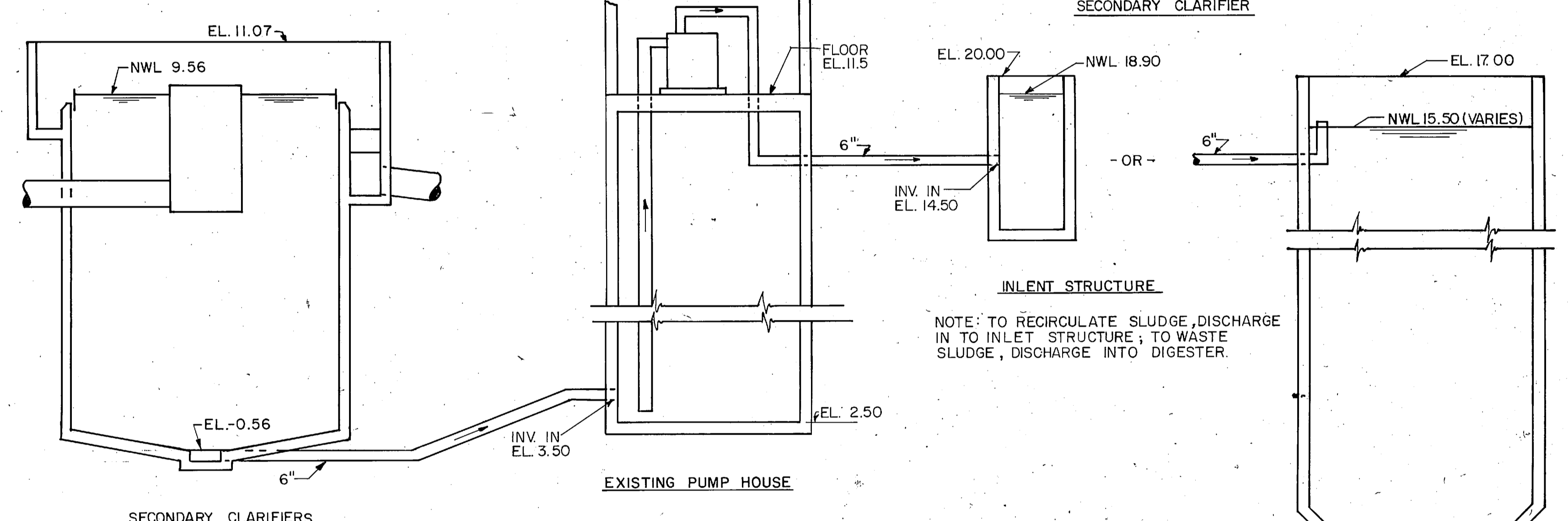
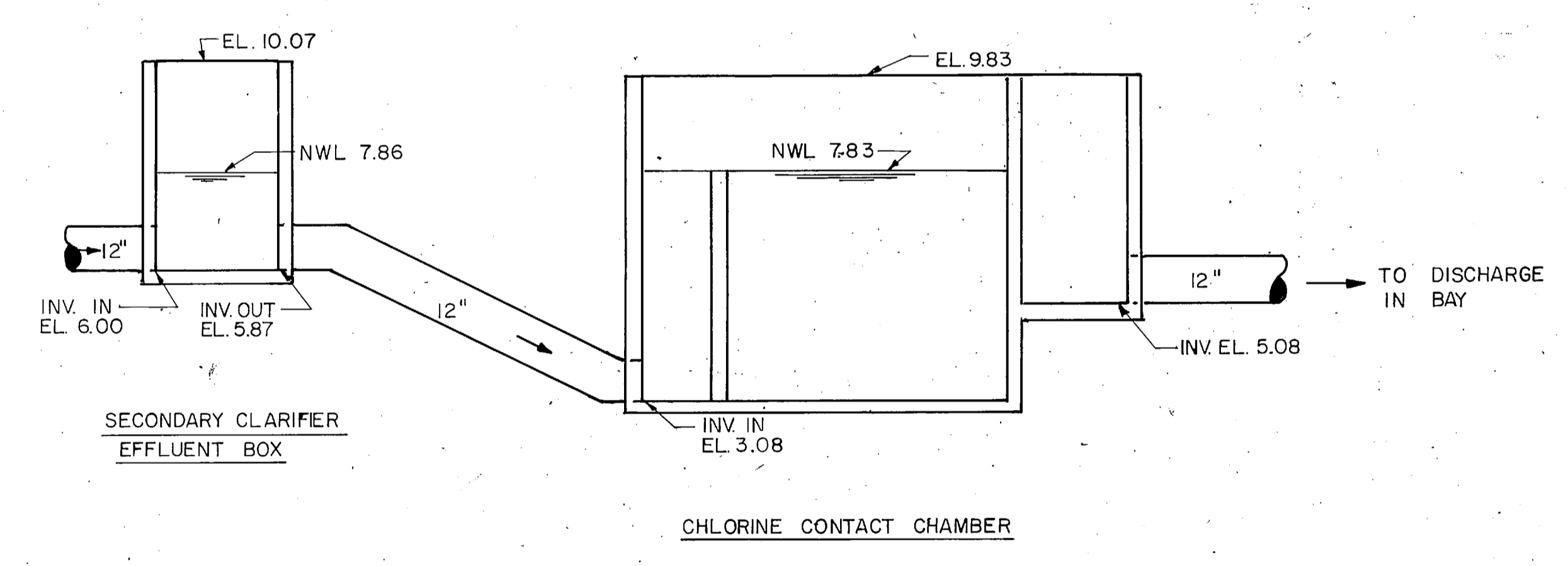
C-14



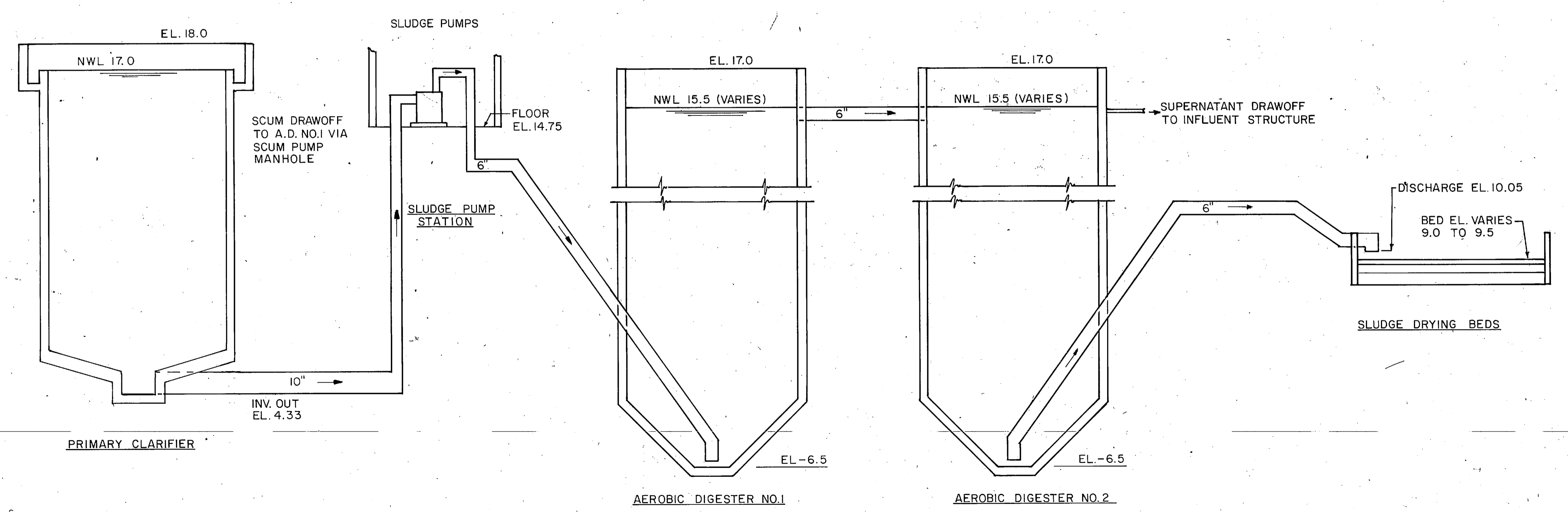
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



PLANT PROCESS
NO SCALE



SECONDARY SLUDGE
NO SCALE

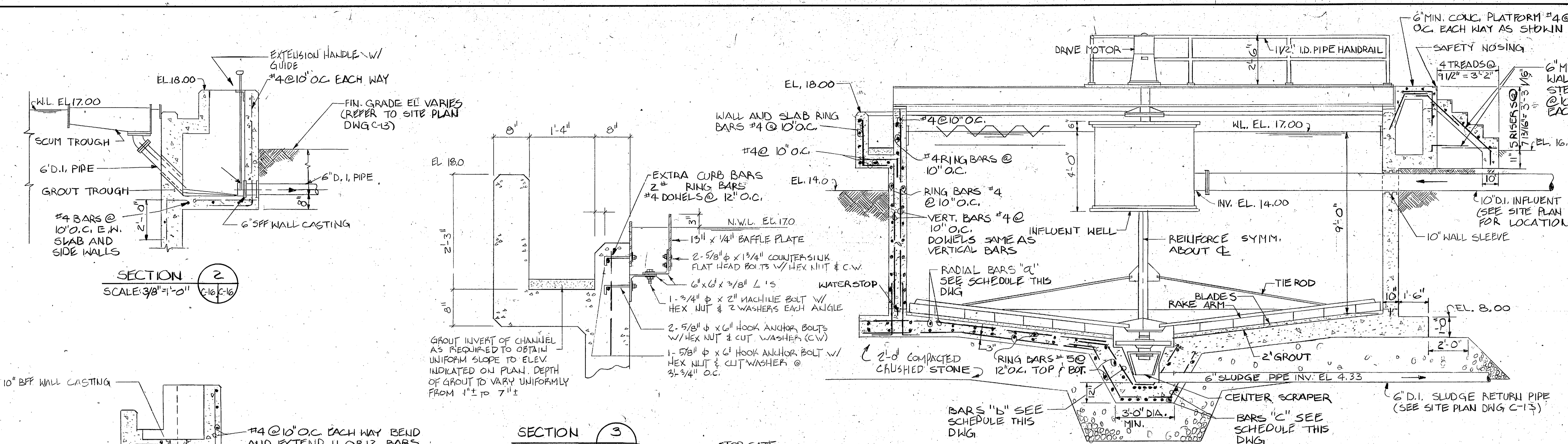


WASTE SLUDGE HANDLING
NO SCALE

C-15 L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT HYDRAULIC PROFILE	
		DES. DR. <i>[Signature]</i> CHK. PROJ. MGR. CH. ENGR. SUBMITTED BY: DATE FIRM MEMBER: EVD. PRINCIPAL HD. DIR.	APPROVED: DATE OFFICER IN CHARGE: DATE APPROVED: DATE FOR EPD FOR COMMANDER NAVFAC



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



NOTES:

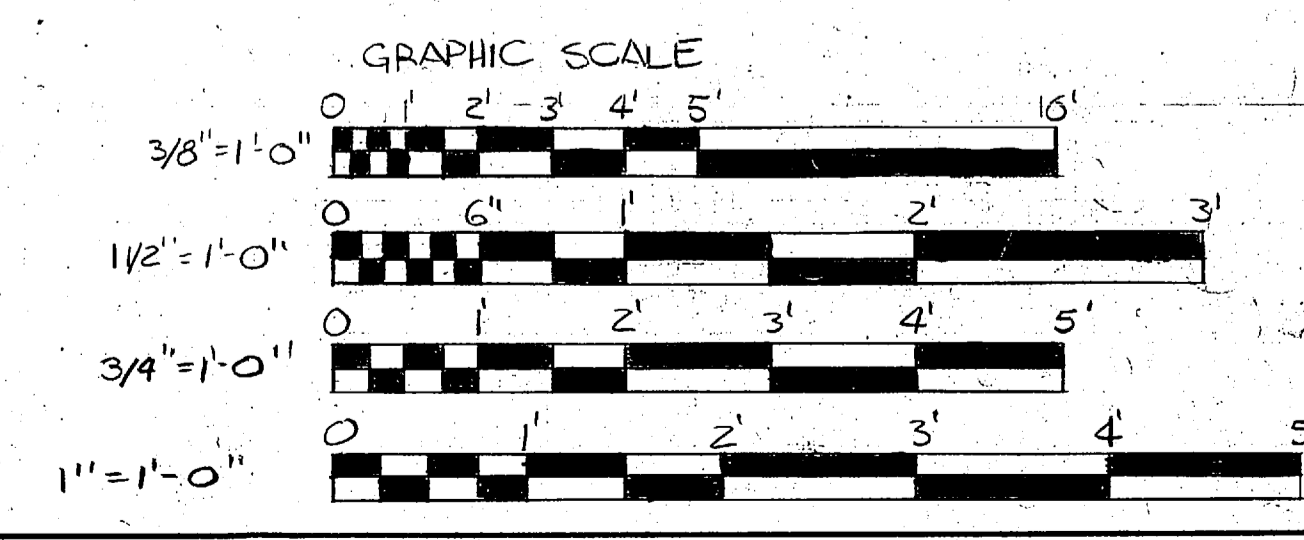
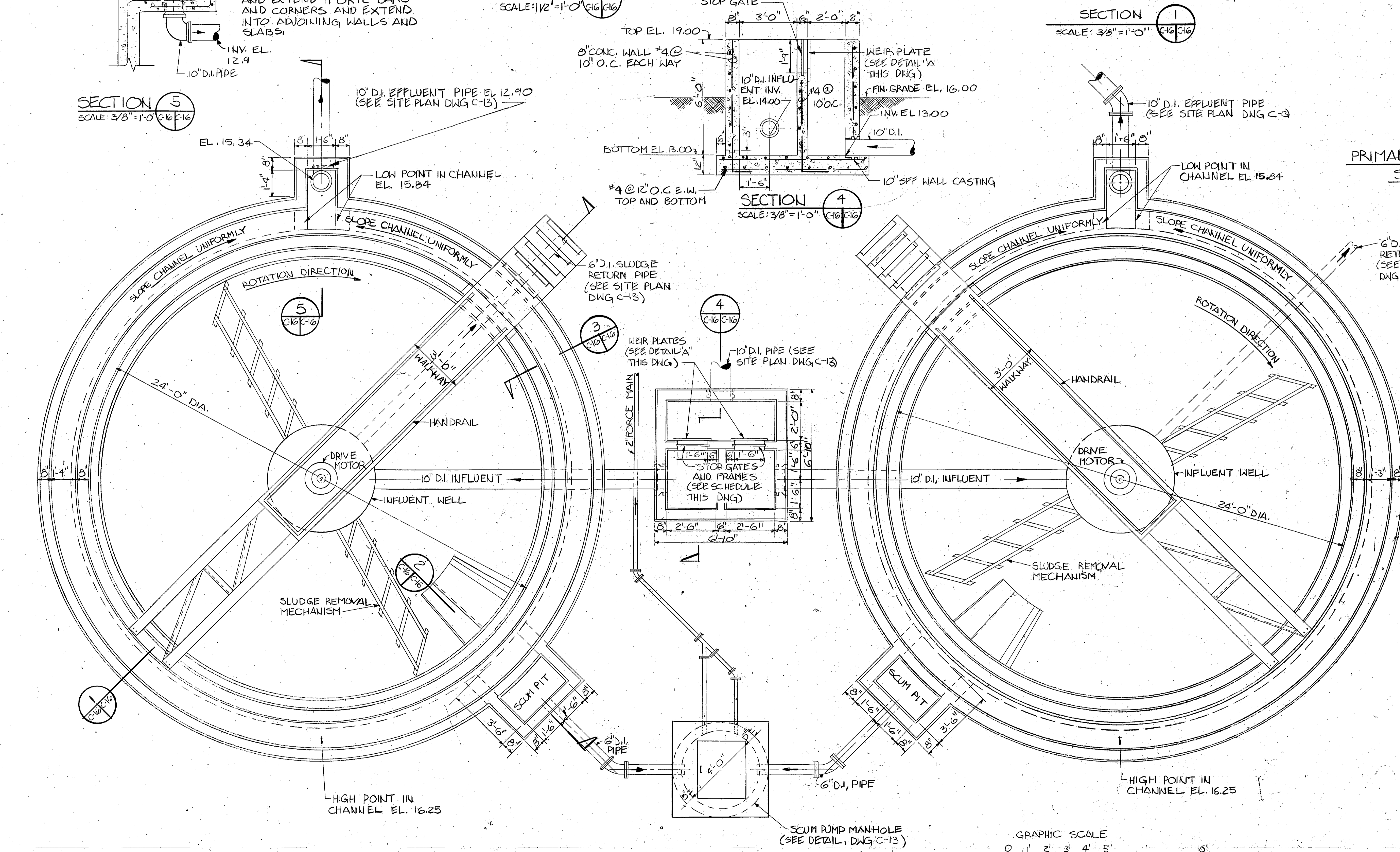
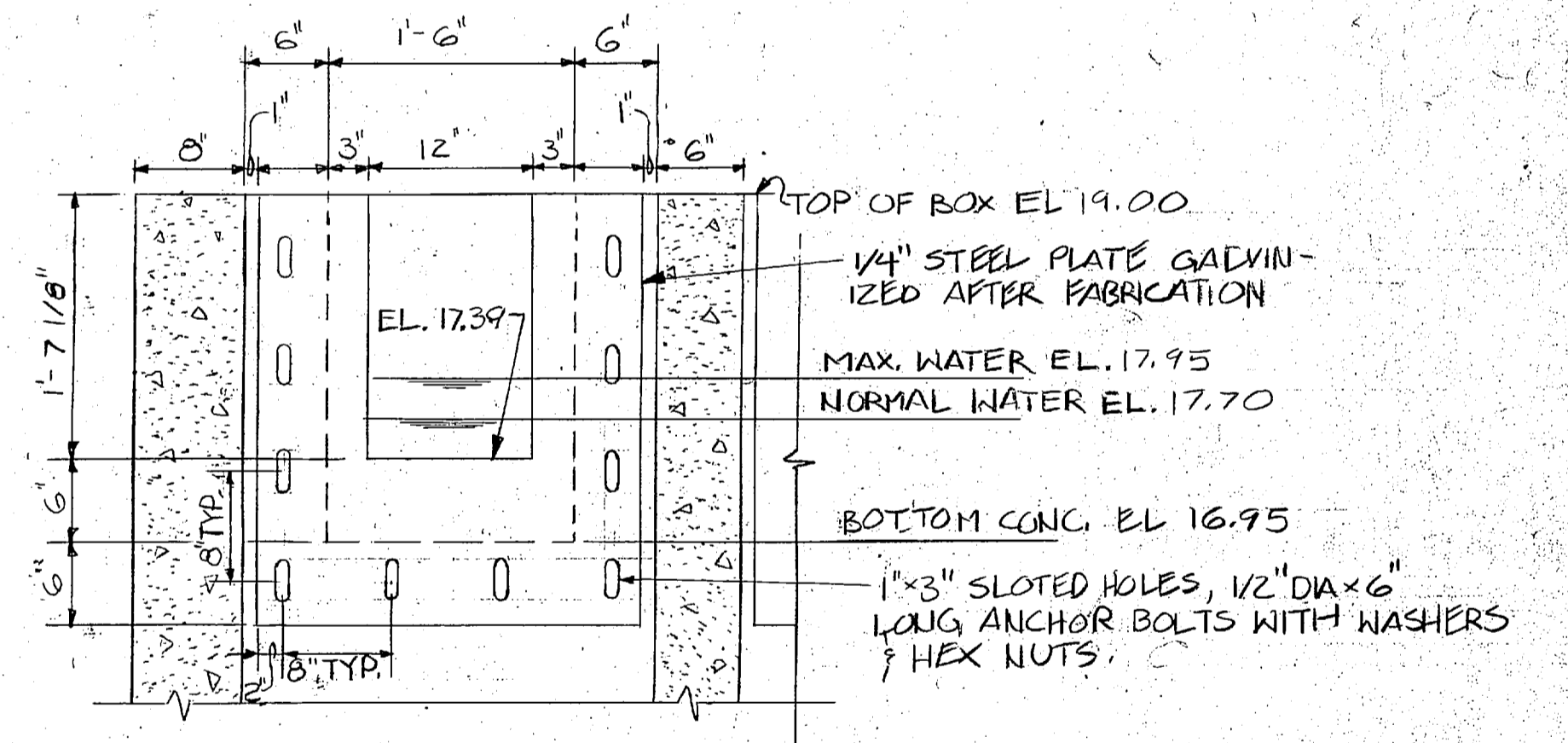
- 4 TYPES OF BENT BARS ARE REQUIRED FOR BARS "B" AND "C". LAYOUT OF BARS "A", "B" AND "C" SIMILAR TO LAYOUT SHOWN FOR SECONDARY CLARIFIER ON DWG C-1.
- BARS "A"
C4 #5 BARS AT 14" O.C. SPACED RADIALY ALONG INSIDE WALL FACE WITH ALTERNATING BARS STOPPING VARYING DISTANCES FROM THE CENTER WITH BAR LENGTH AS FOLLOWS
1 ST BAR CONTINUOUS AS SHOWN
2 ND BAR 11'-2"
3 RD BAR 9'-2"
4 TH BAR 7'-2"
- BARS "B"
16 #5 BARS (TOTAL) EQUALLY SPACED ALL AROUND RADIAL DIRECTION EXCEPT B BARS SPACED 2 1/2" O.C. EACH WAY AT BOTTOM.
- BARS "C"
16 #5 BARS (TOTAL) EQUALLY SPACED ALL AROUND RADIAL DIRECTION EXCEPT B BARS SPACED 4" O.C. EACH WAY AT BOTTOM.

**SCHEDULE - REINFORCING BARS
"A", "B" AND "C" FOR PRIMARY CLARIFIERS**

A	B	C	D
1'-9"	1'-7"	1'-5 1/4"	1'-9"

REFER TO DWG C-14 FOR PLAN AND SECTION OF STOP GATE. 2 STOP GATES REQ'D. BOTH SAME SIZE AS INDICATED ABOVE.

**PRIMARY CLARIFIER INFLUENT BOX
STOP GATE SCHEDULE**
NO SCALE

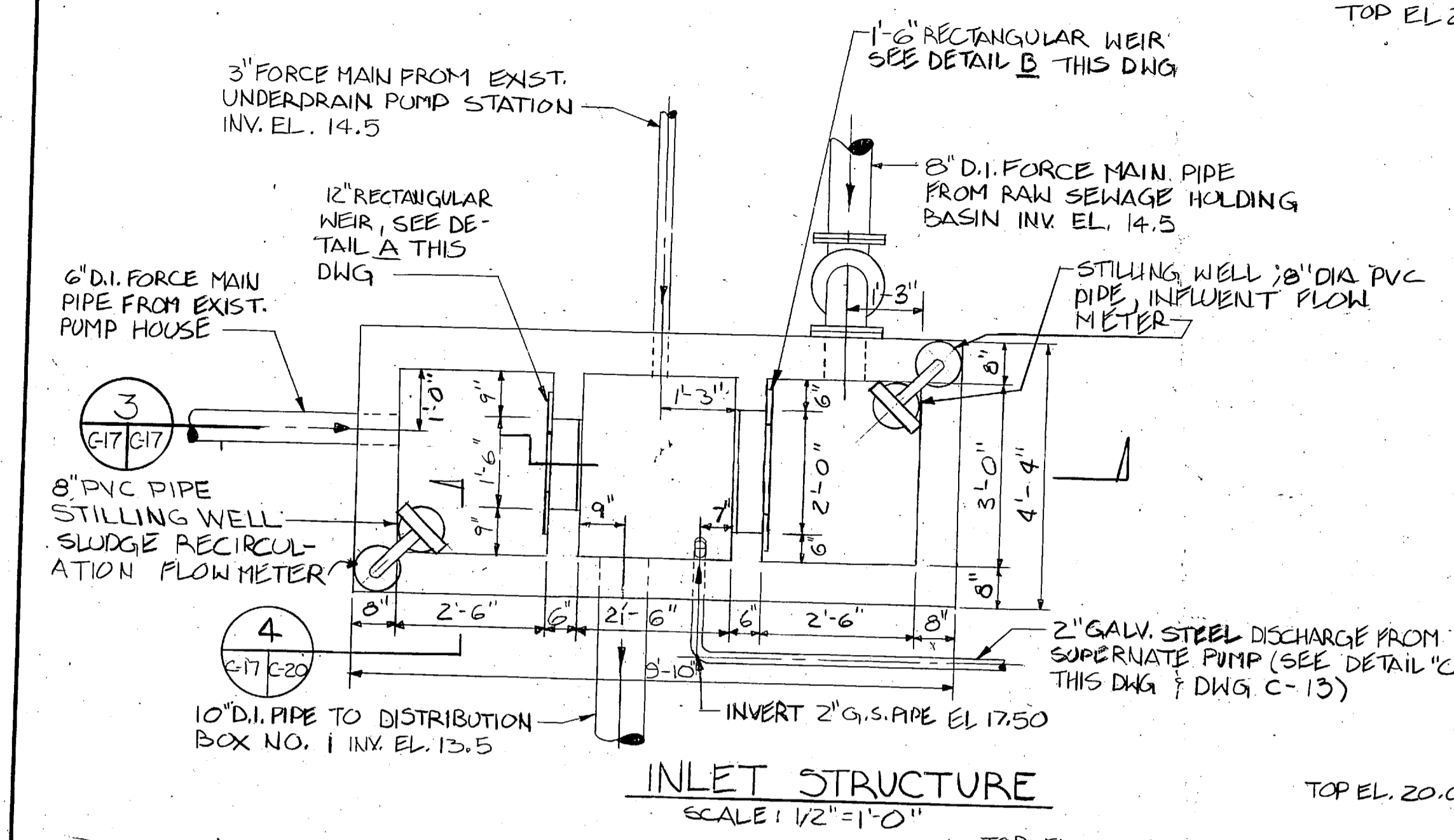


L.E. WOOTEN AND COMPANY CONSULTING ENGINEERS RALEIGH, N.C.		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES. DW CHK.	MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT PRIMARY CLARIFIERS - PLAN & SECTIONS		
PROJ. MGR. CH. ENGR.	SUBMITTED BY: DATE	SIZE: F	CODE IDENT. NO.: 80091
FIRM MEMBER: PRINCIPAL	REV. NO.:	OFFICER IN CHARGE: DATE	NAVFAC DRAWING NO.:
HD. DIR.	APPROVED:	APPROVED:	CONSTR. CONTR. NO. N6270-81-B-1478
FOR EFD FOR COMMANDER NAVFAC	SCALE AS NOTED SPEC. 05-81-1478	SHEET OF	EFD DWG. NO.

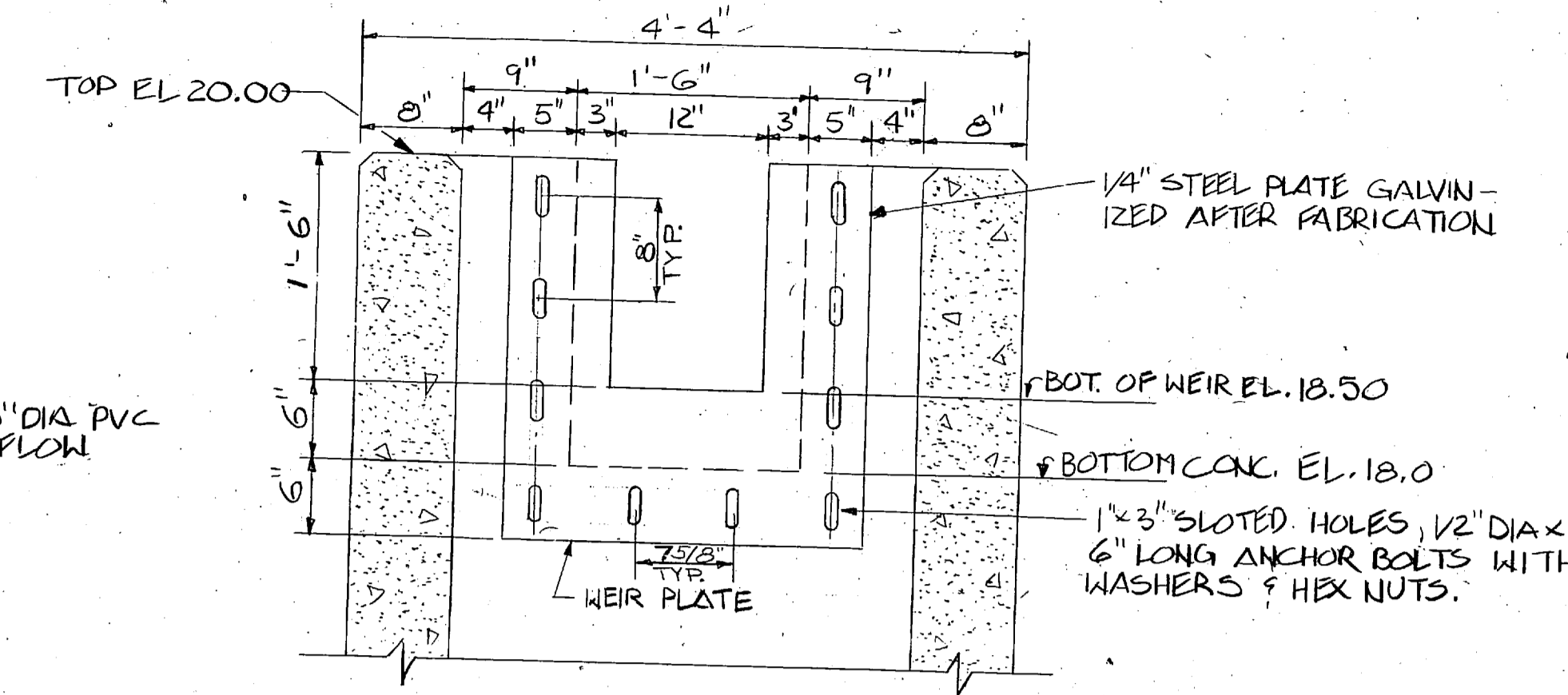


NO.	DESCRIPTION	DATE	APPROVED

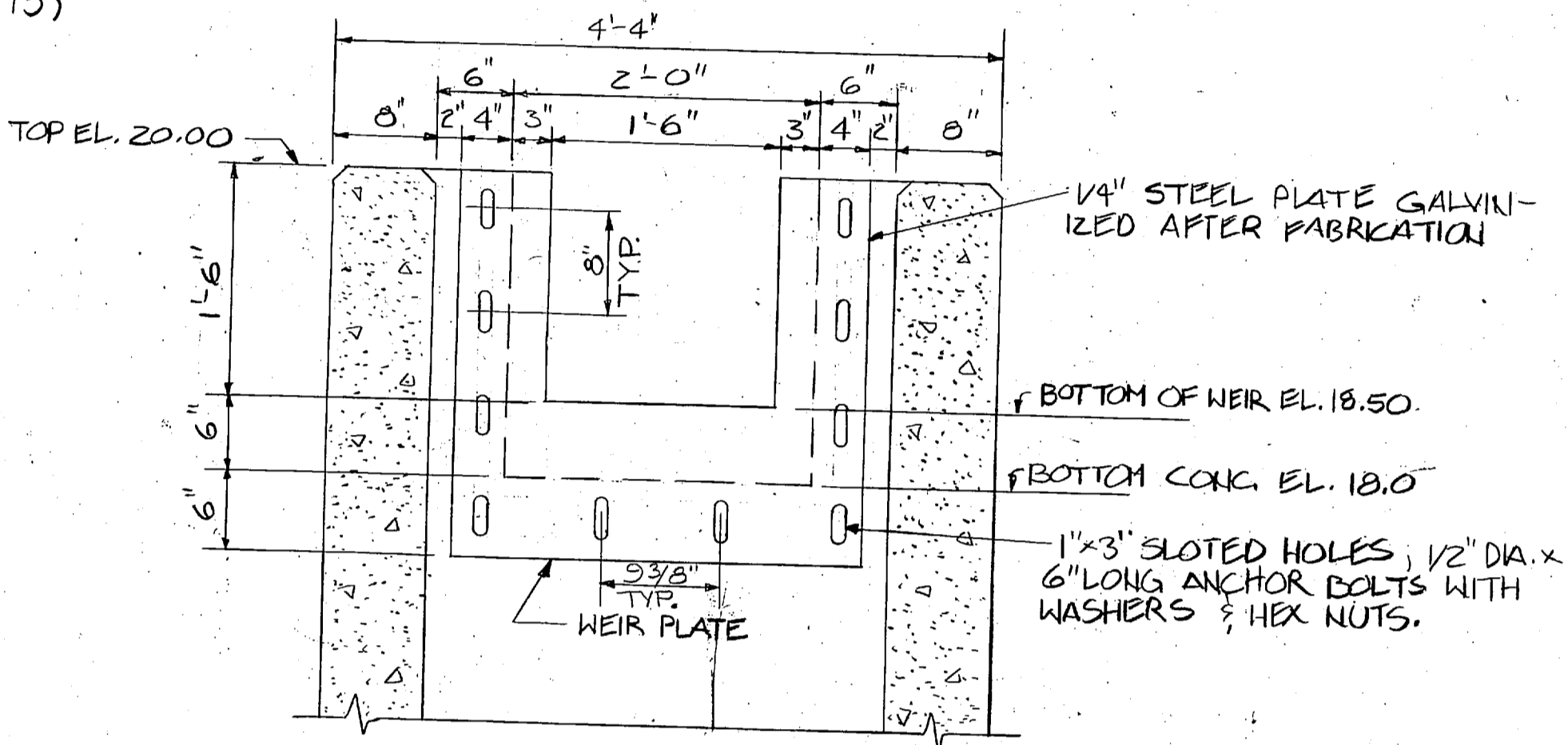
**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**



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

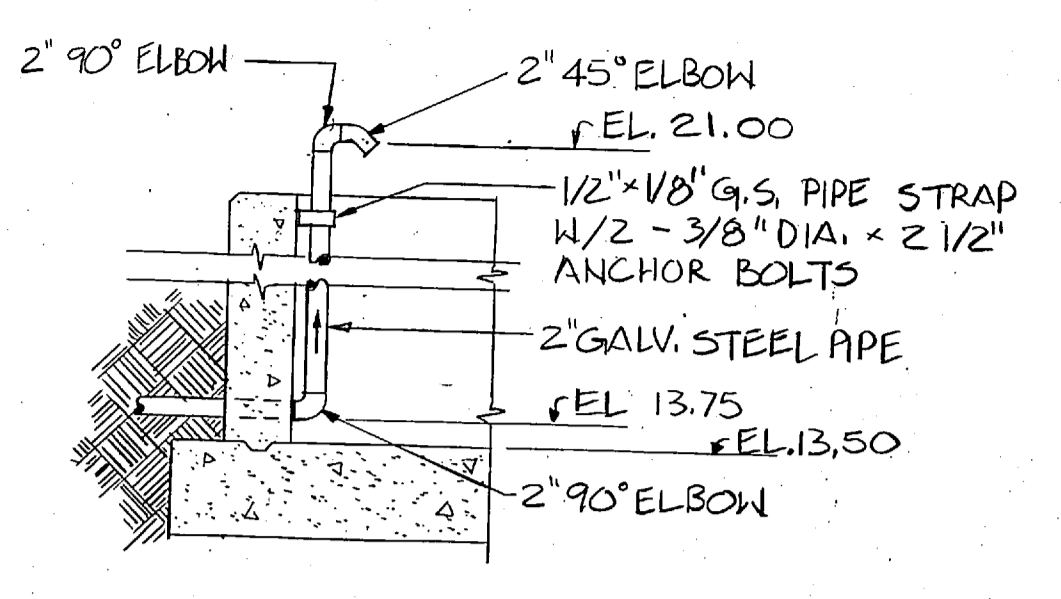


DETAIL "A"

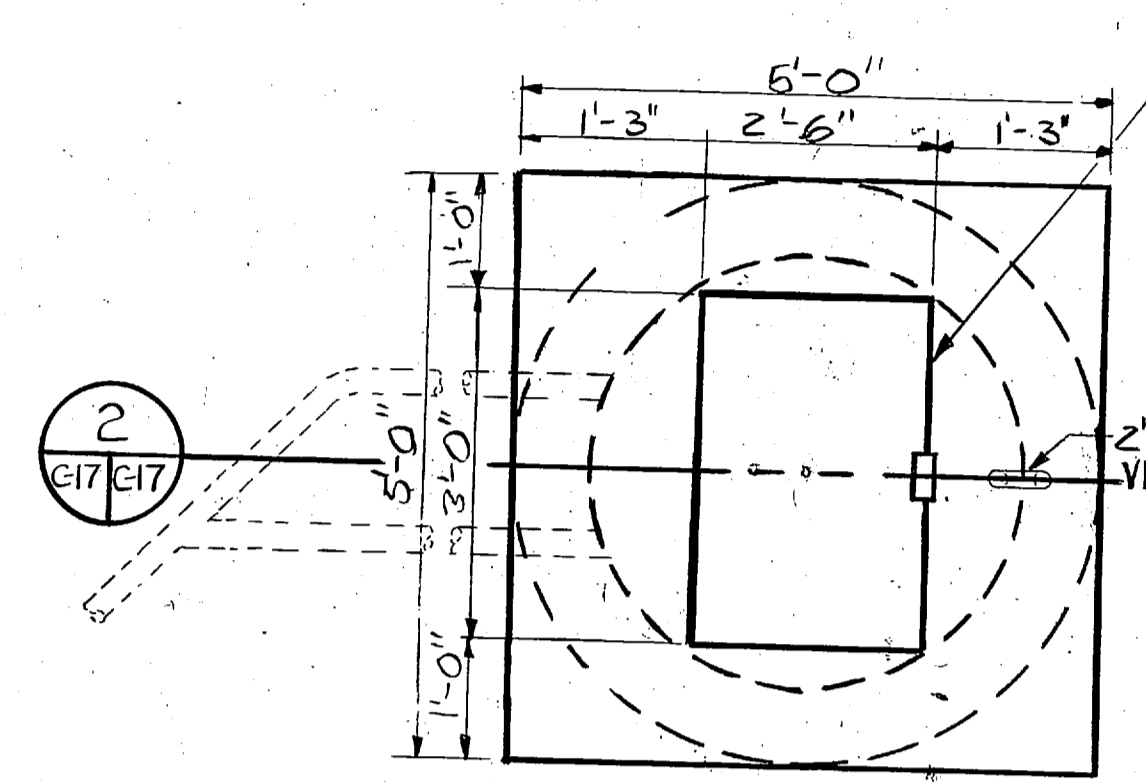


DETAIL "B"

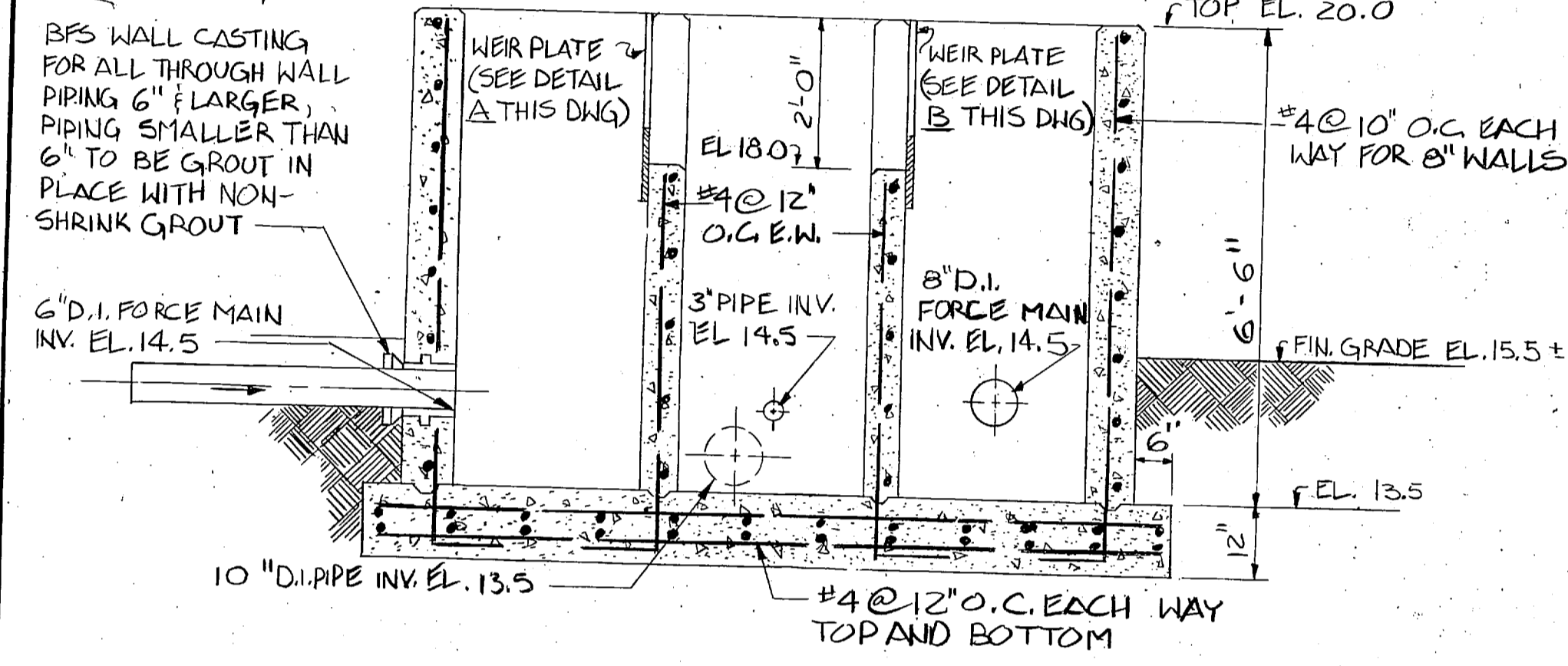
WEIR PLATE DETAILS
SCALE: 1" = 1'-0"



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

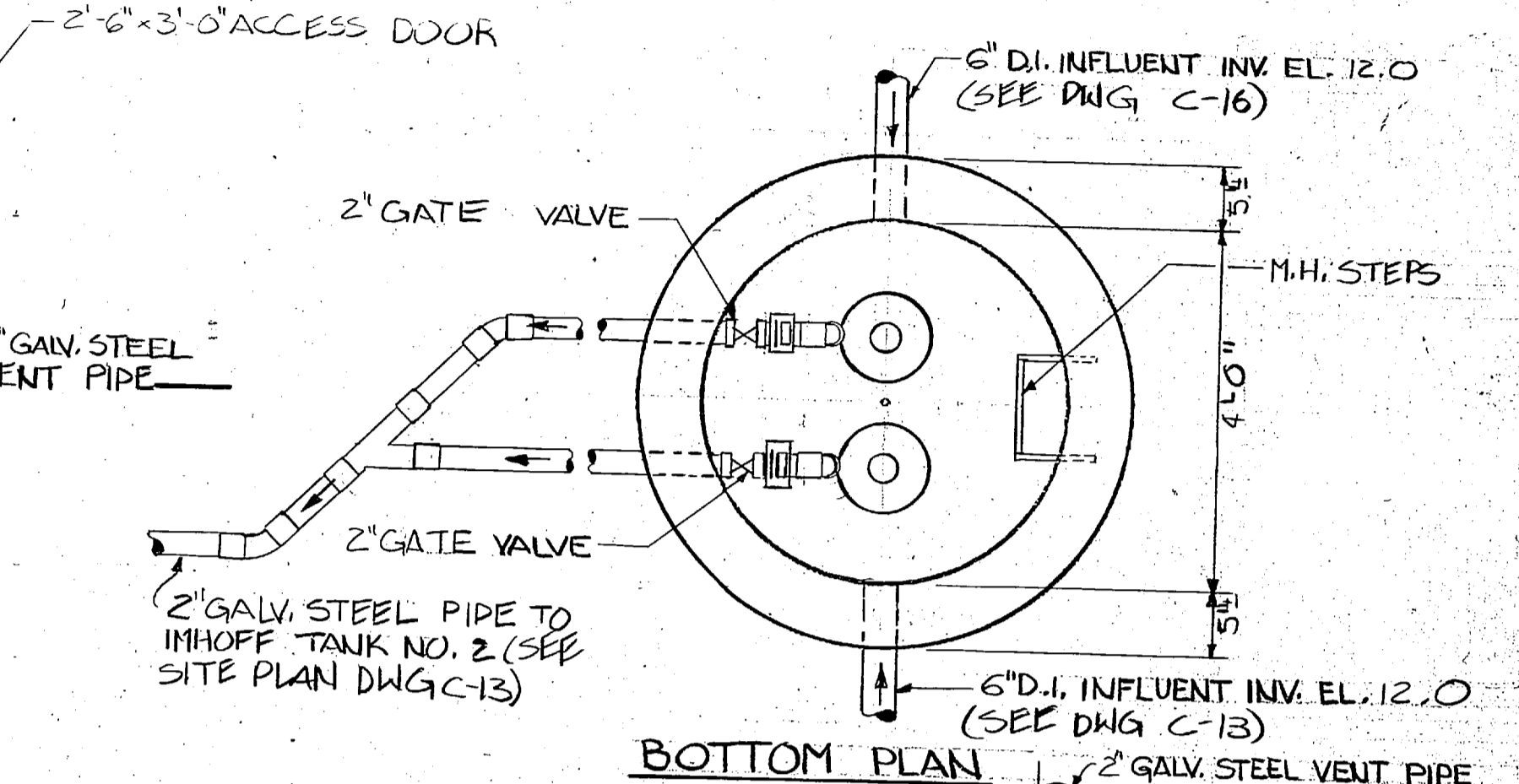


TOP PLAN
NO SCALE

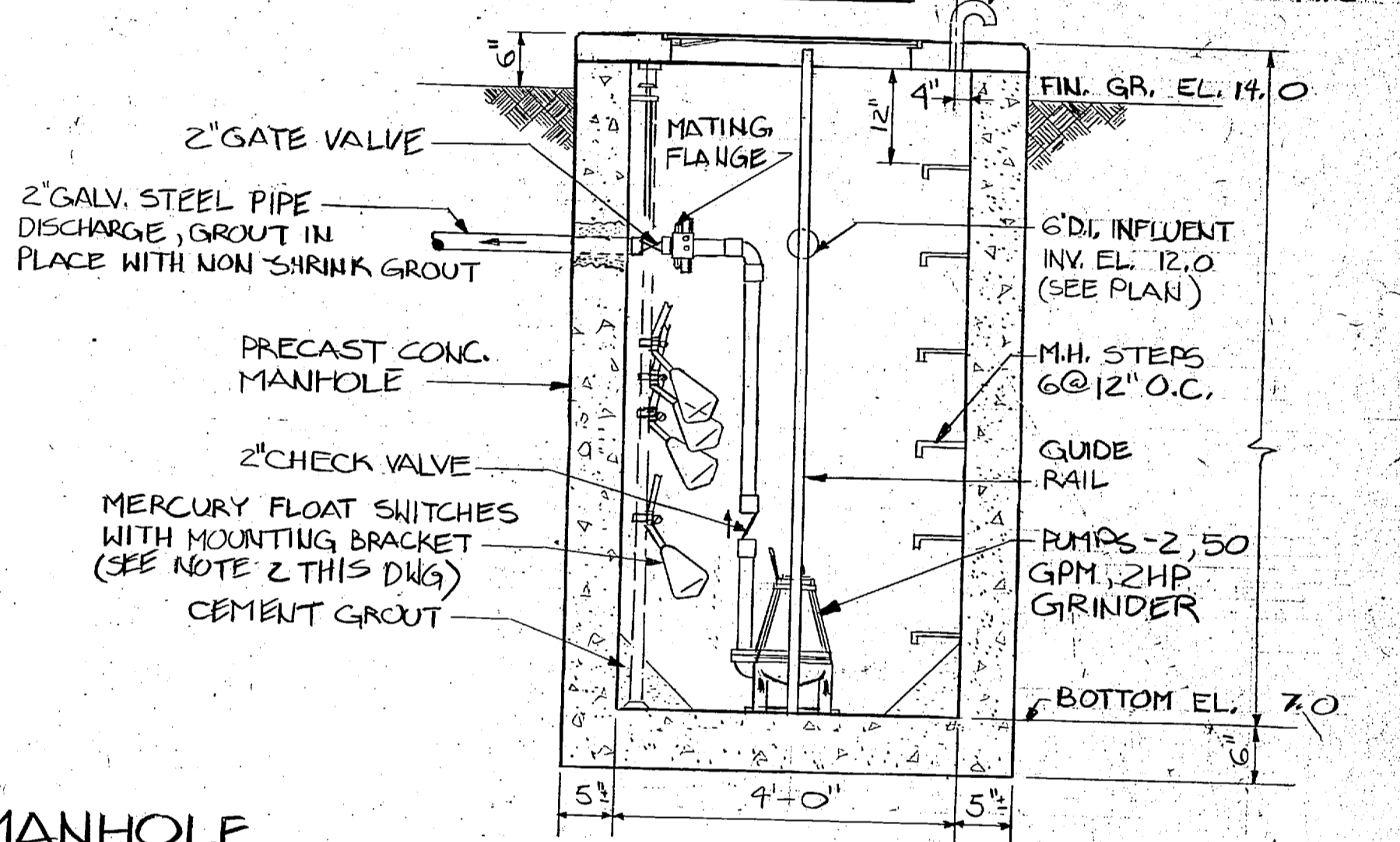


SECTION 3
SCALE: 1/2" = 1'-0"

- NOTE 1:** ALL THROUGH WALL PIPING TO BE GROUTED IN PLACE WATER TIGHT USING NON-SHRINK GROUT.
- NOTE 2:** SET MERCURY FLOAT SWITCH ASSEMBLIES AS FOLLOWS:
 A) ALARM : 11.00
 B) 2ND RUMP ON : 10.50
 C) 1ST RUMP ON : 10.00
 D) PUMP OFF : 8.00

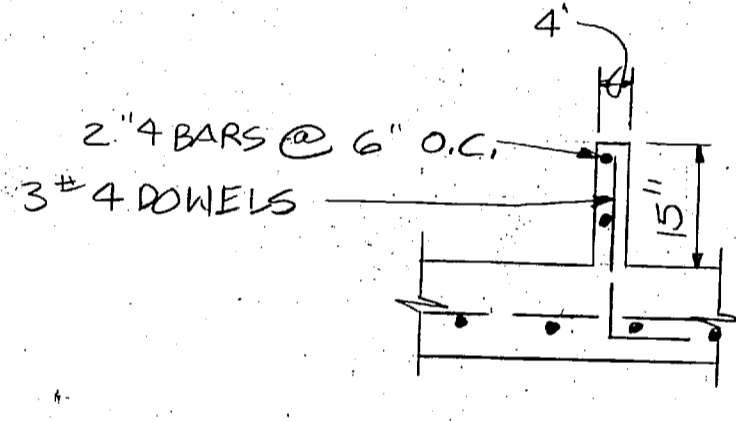


BOTTOM PLAN

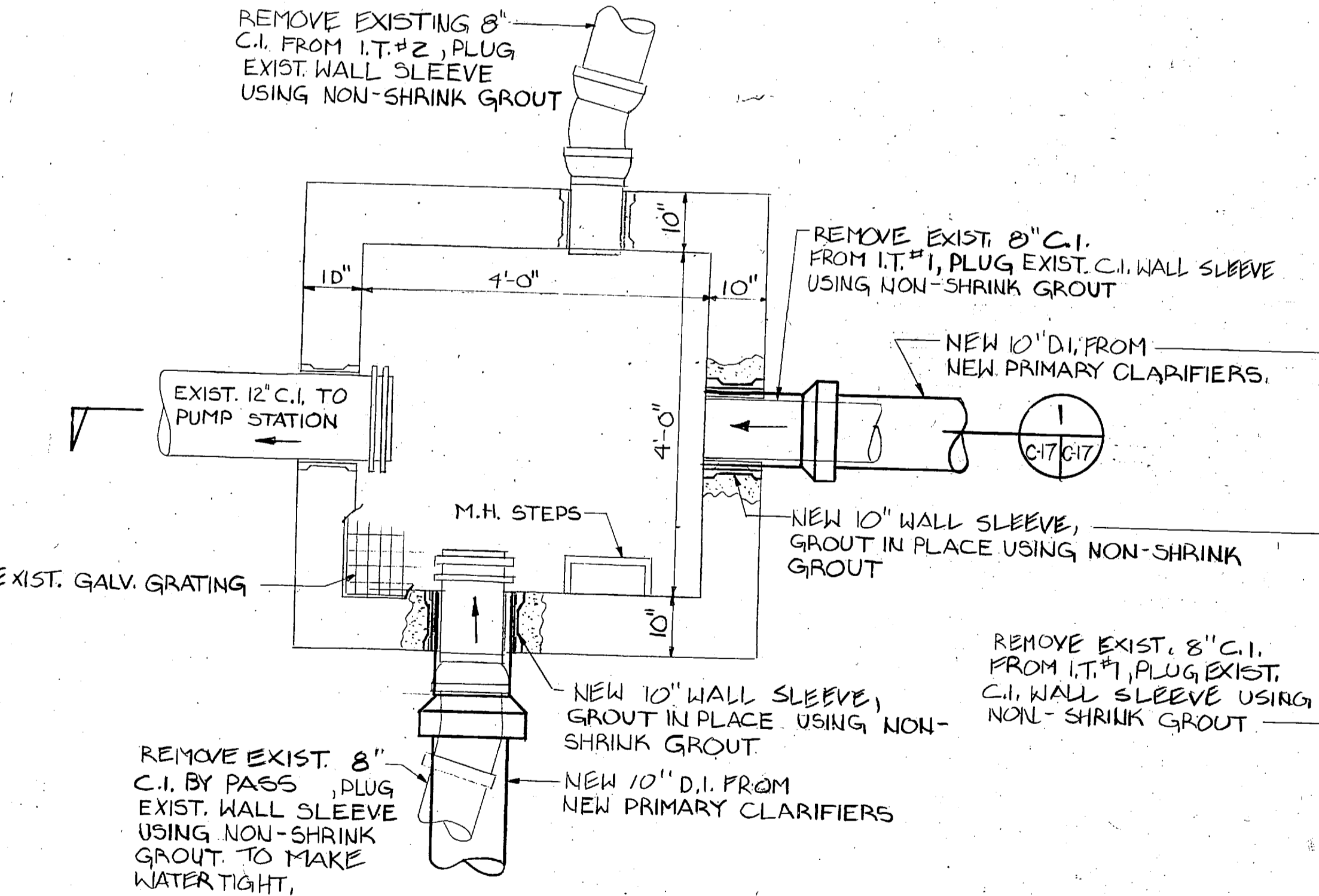


SECTION 2
NO SCALE

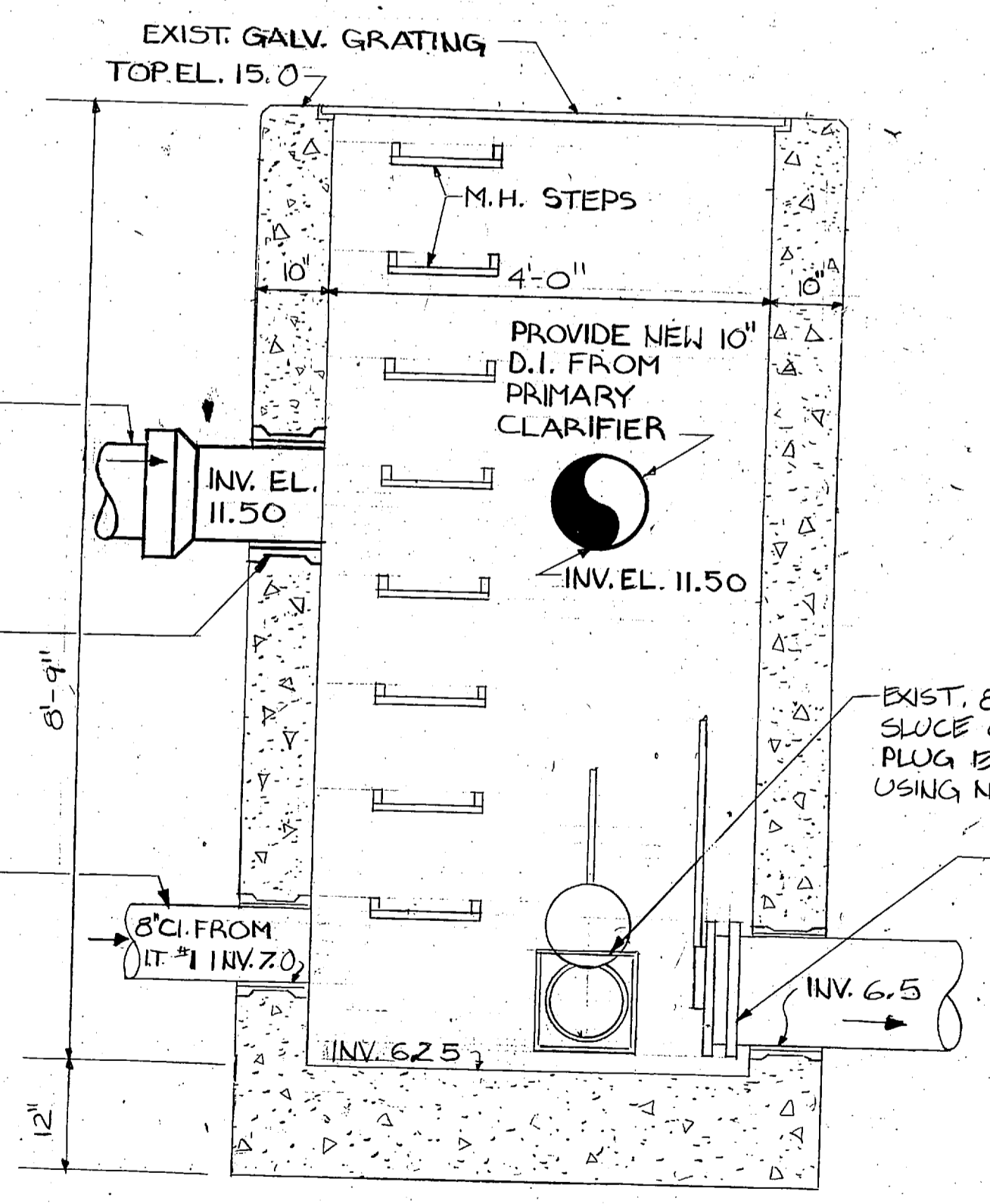
SCUM PUMP MANHOLE
NO SCALE



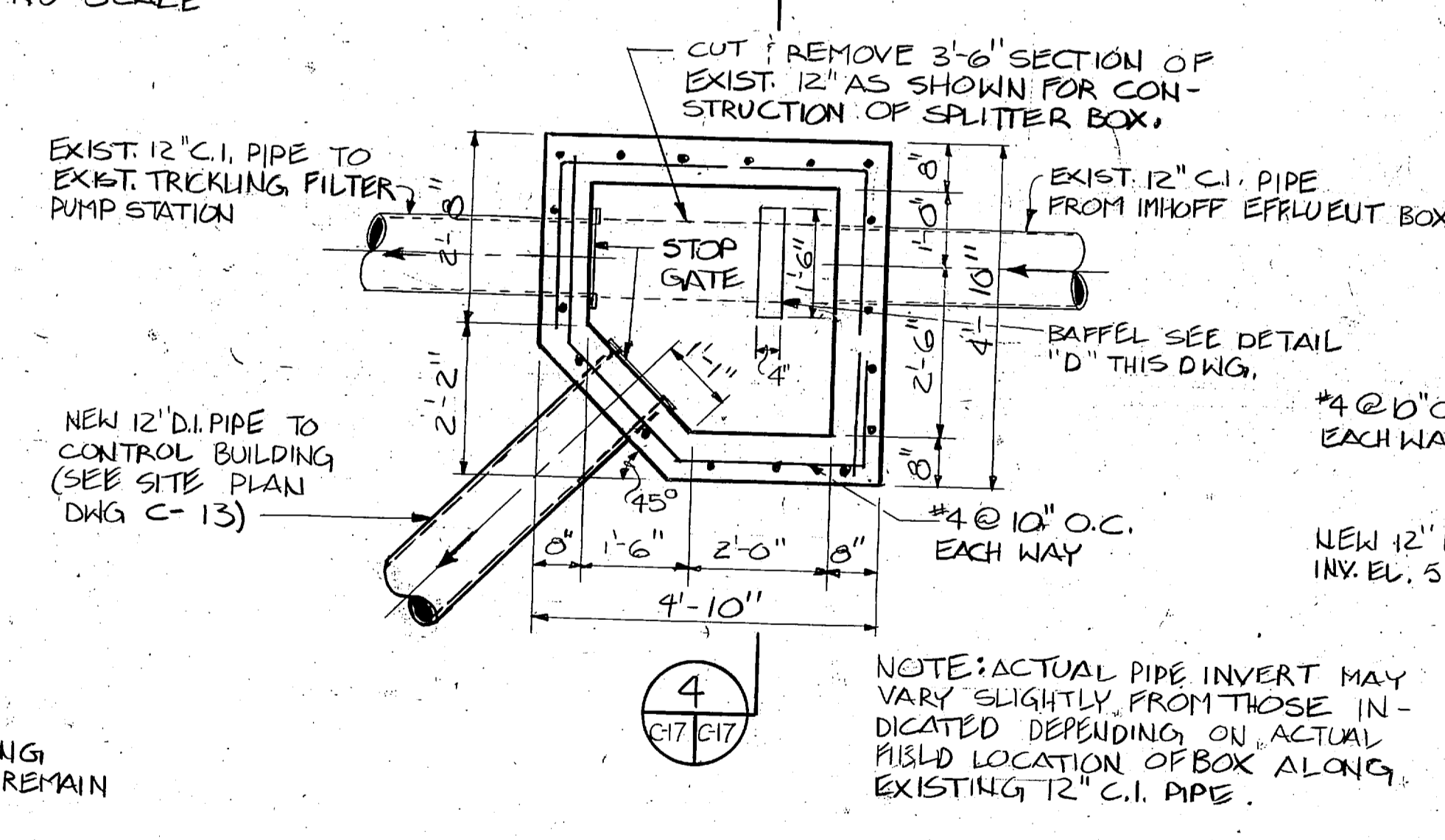
DETAIL "D"
NO SCALE



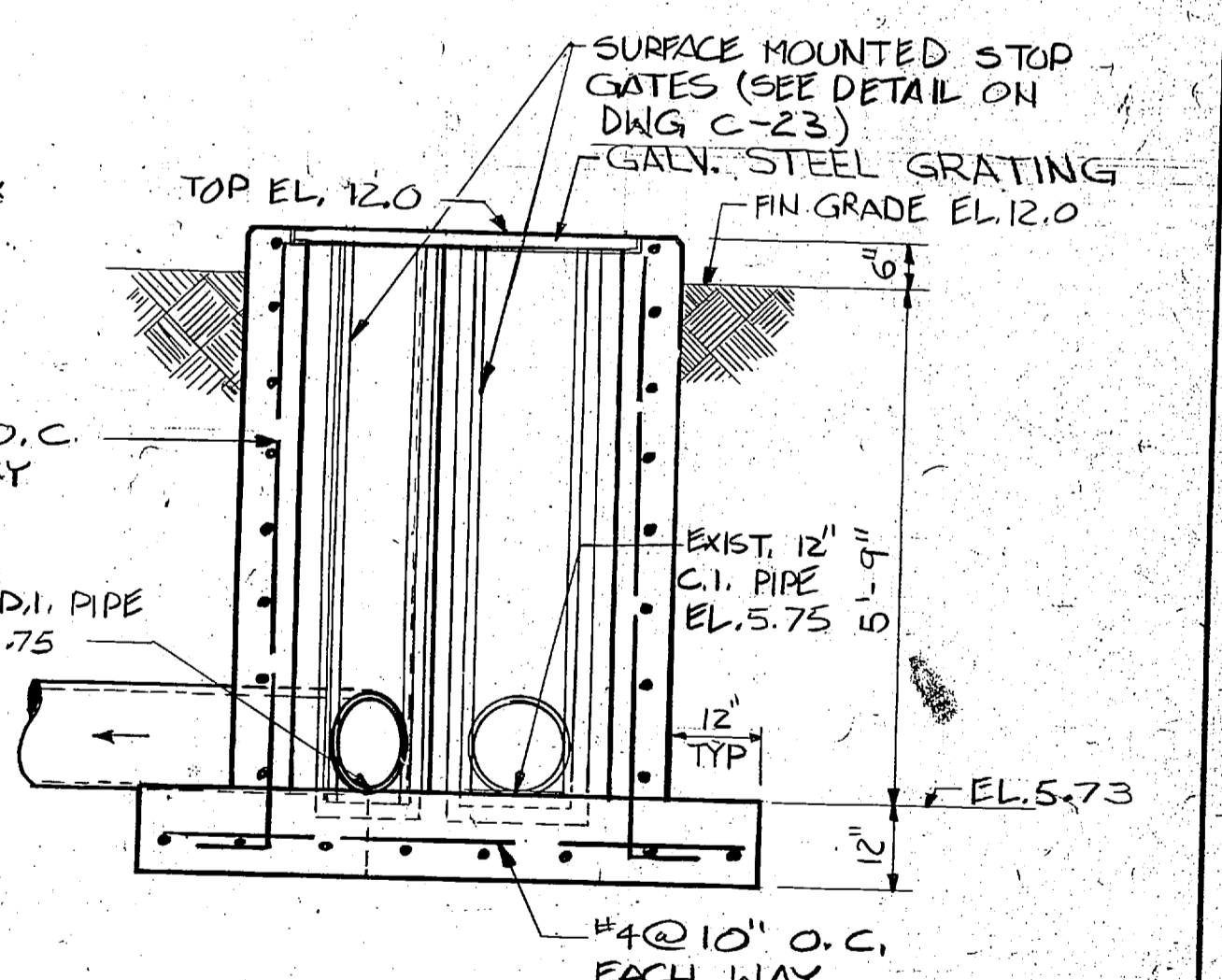
**JUNCTION BOX NO. 1
MODIFICATIONS TO EXIST.
(PRIMARY CLARIFIER EFFLUENT BOX)**
SCALE: 3/4" = 1'-0"



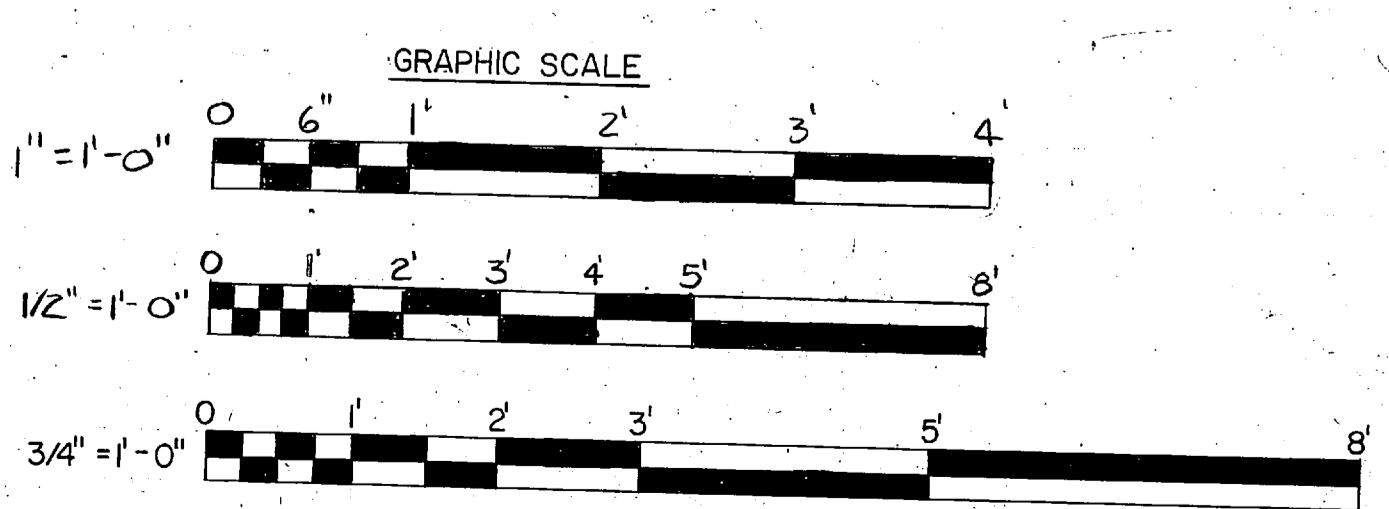
SECTION 1
SCALE: 3/4" = 1'-0"



SPLITTER BOX (J.B. NO. 2)
SCALE: 1/2" = 1'-0"



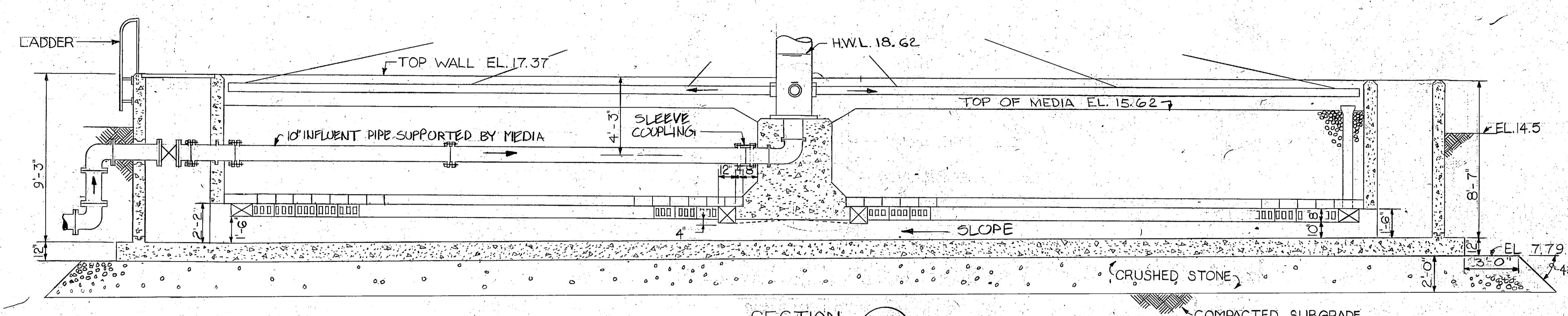
SECTION 4
SCALE: 1/2" = 1'-0"



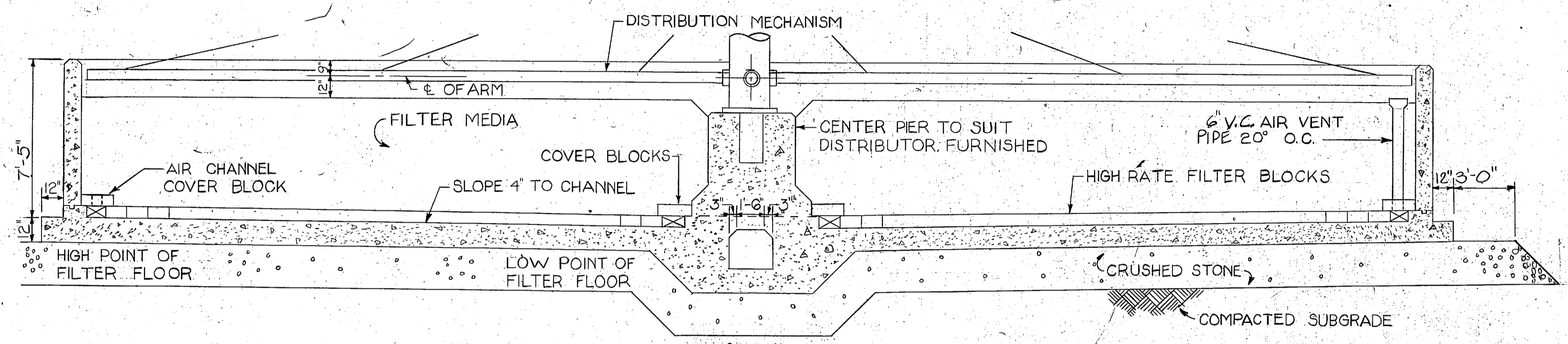
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
PROJ. NO. 05208 SUBMITTED BY: CH. ENGR. DATE: _____ FIRM MEMBERS: RVD PRINCIPAL EPD FF: _____ ND: _____ APPROVED: _____ DATE: _____ OFFICER IN CHARGE: _____ APPROVED: _____ DATE: _____ FOR EPD FOR COMMANDER NAVFAC		ATLANTIC DIVISION NAVAL STATION NORFOLK VIRGINIA MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT SCUM PUMP, PRIMARY CLARIFIER EFFLUENT BOX	
SIZE: F CODE IDENT. NO.: 80091	NAVFAC DRAWING NO.: _____ CONST. CONTR. NO.: N62470-B1-B-1478 SCALE AS NOTED SPEC. 05-B-1478 SHEET: _____ OF _____ EPD DWG. NO.: _____	C-17	



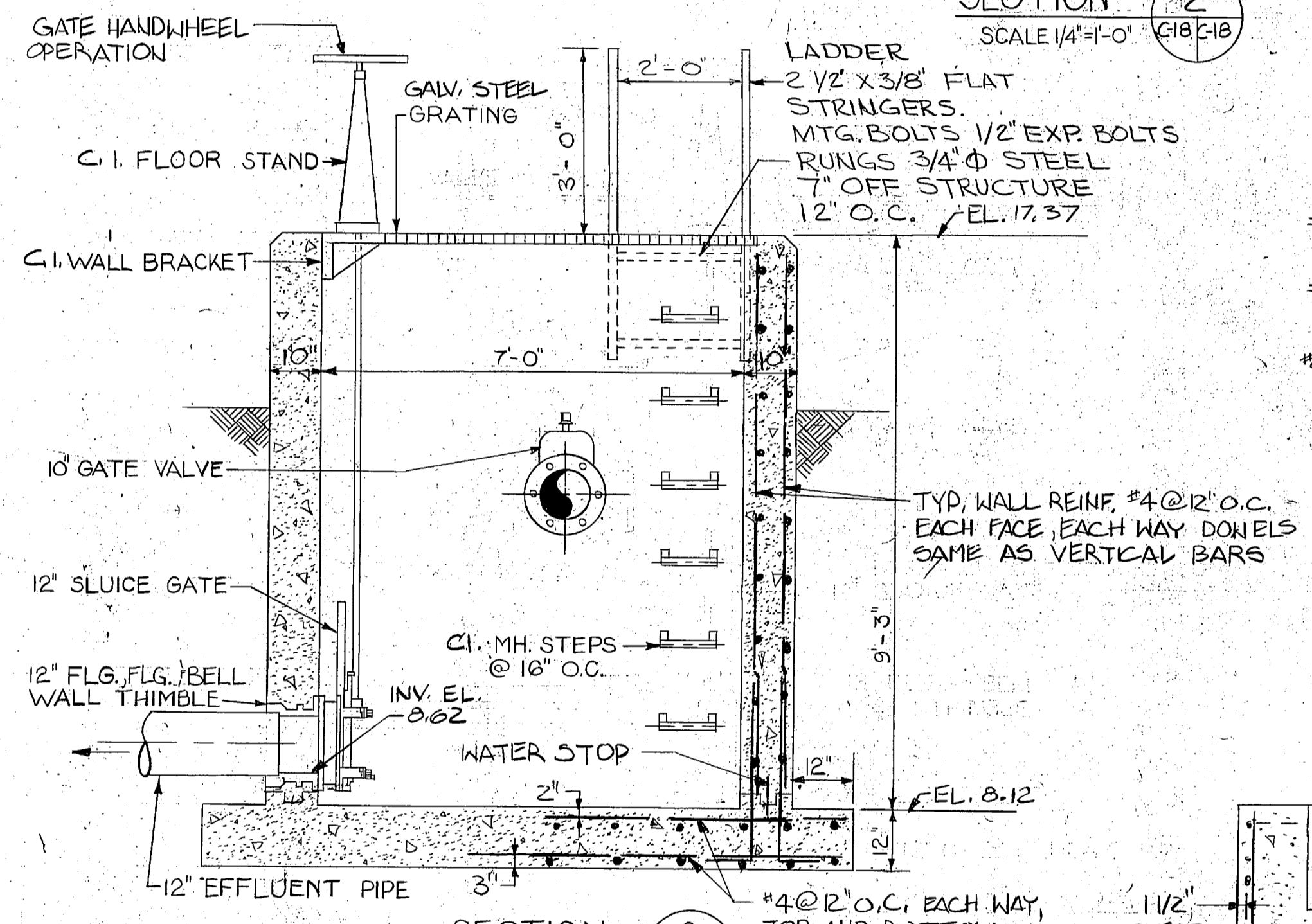
REVISIONS		
SYM	DESCRIPTION	DATE APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION		



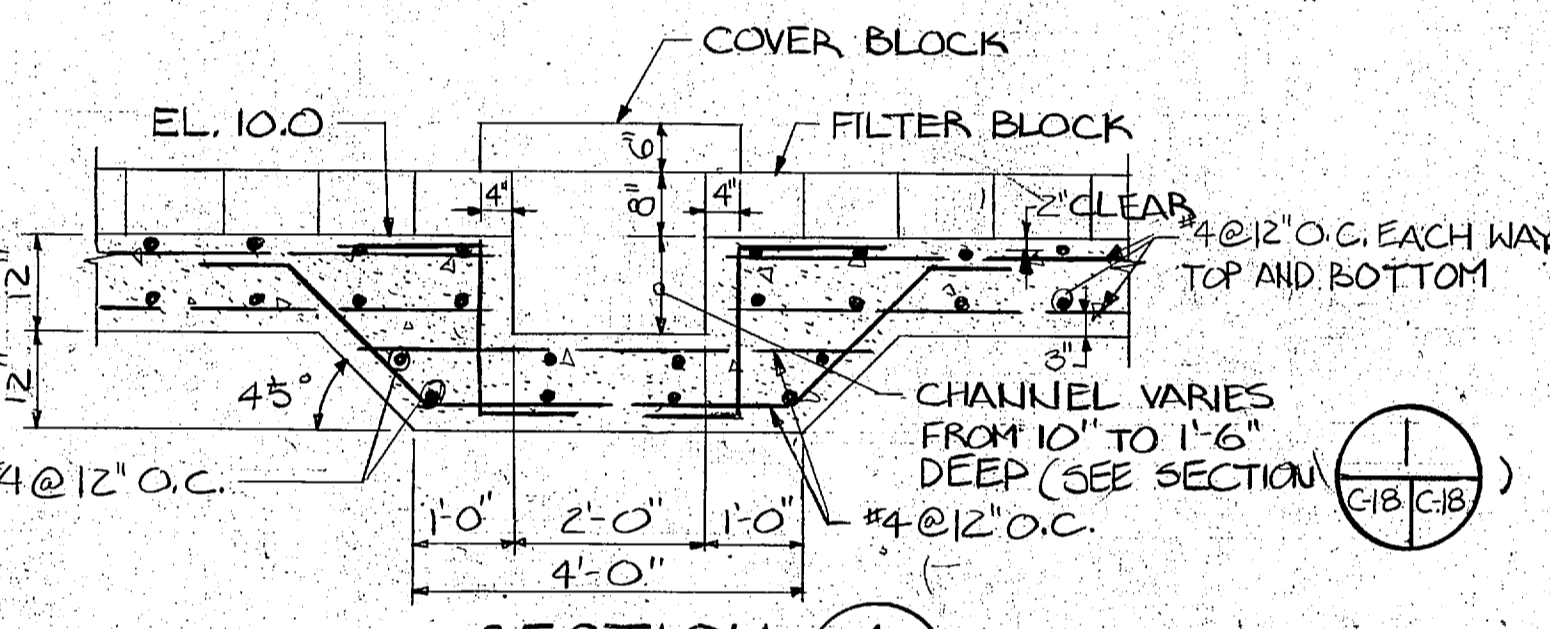
SECTION 1
SCALE 1/4" = 1'-0"
C18/C18



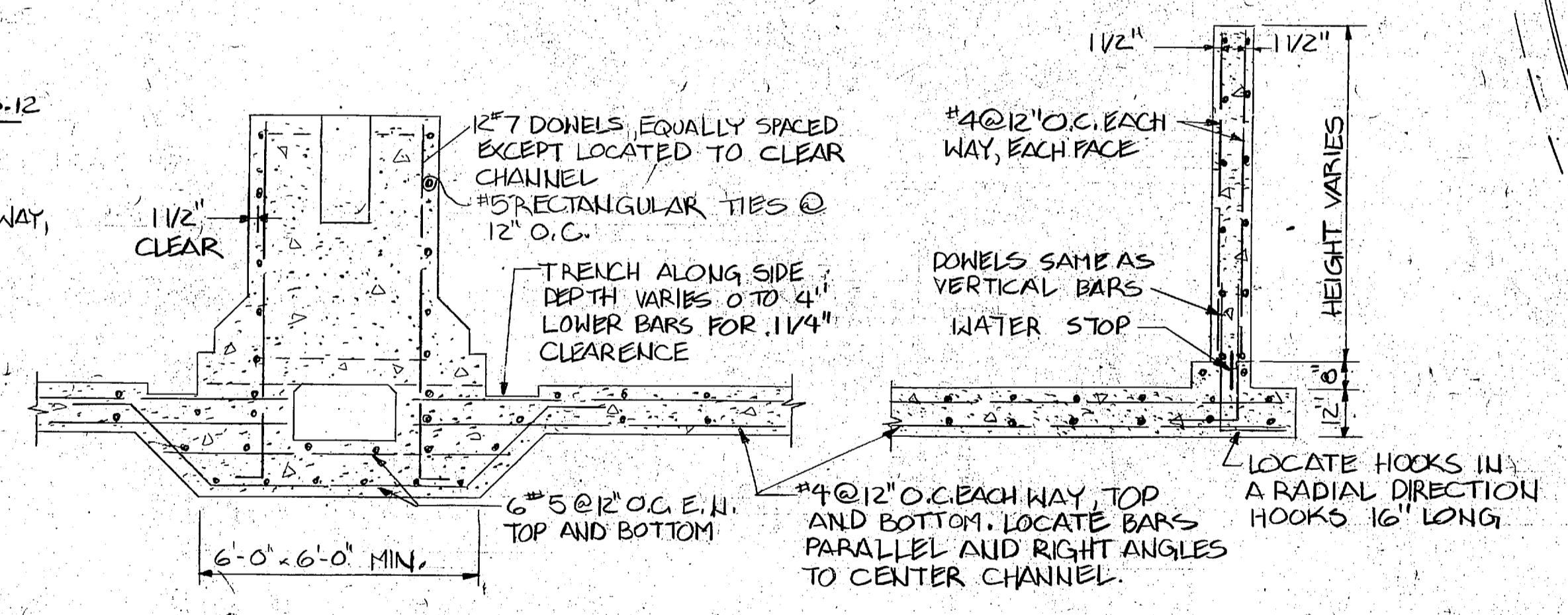
SECTION 2
SCALE 1/4" = 1'-0"
C18/C18



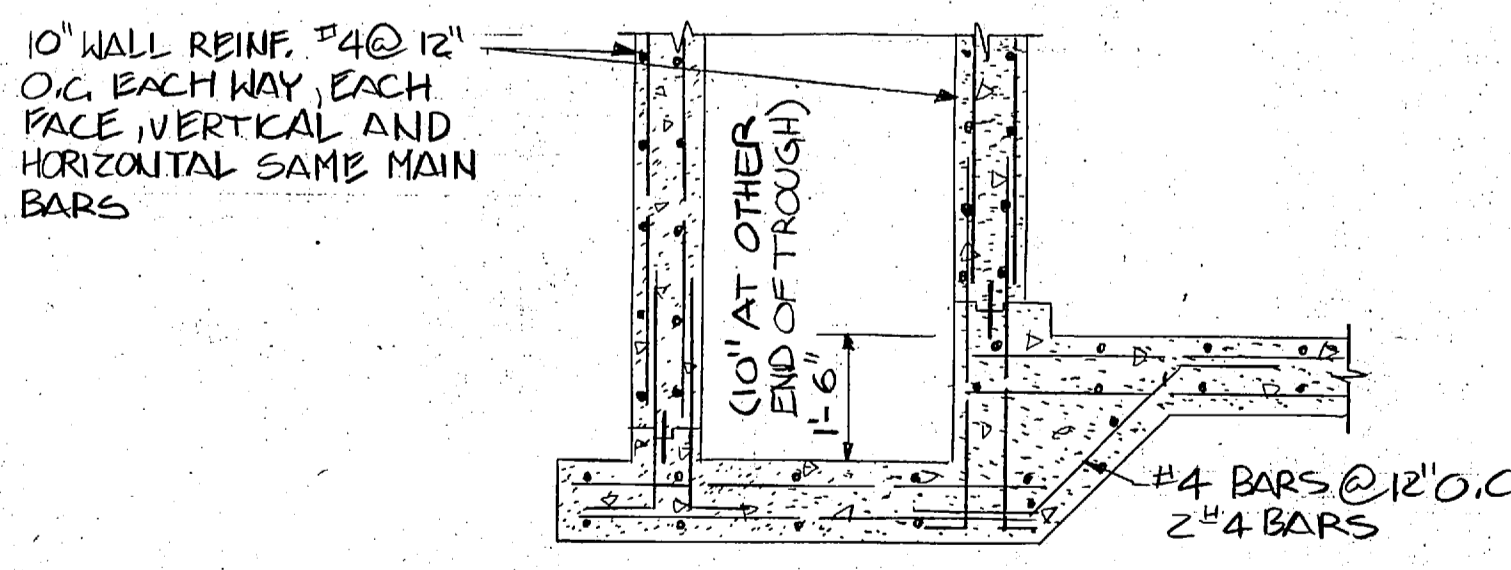
SECTION 3
SCALE 1/2" = 1'-0"
C18/C18



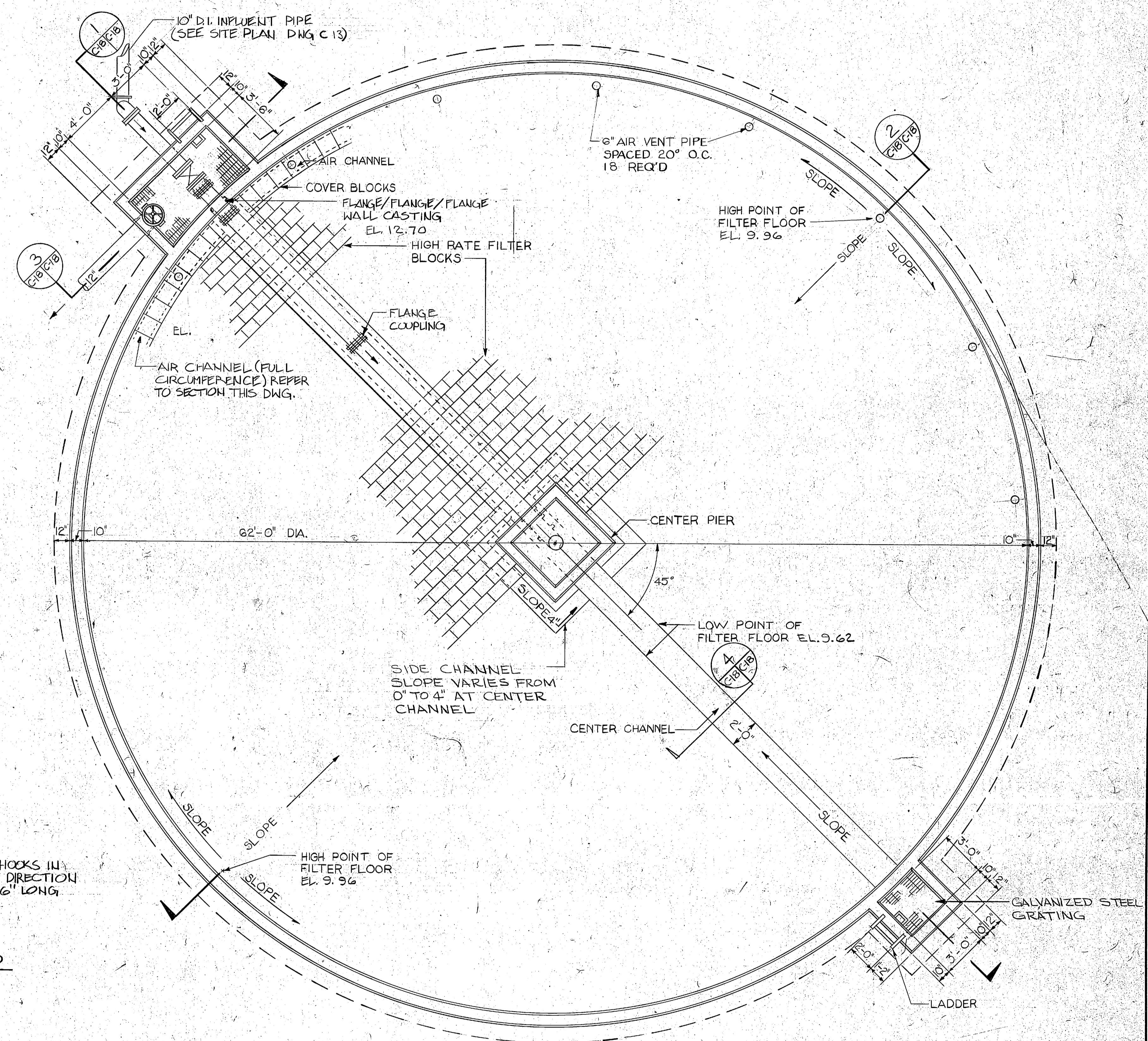
SECTION 4
SCALE 1/2" = 1'-0"
C18/C18



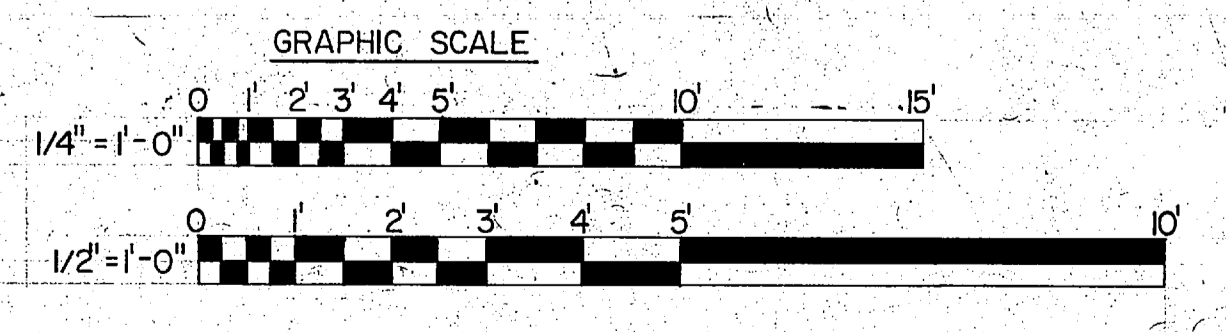
TYPICAL SECTIONS SHOWING REINFORCEMENTS
NO SCALE



NO SCALE



TRICKLING FILTER PLAN
SCALE 1/4" = 1'-0"

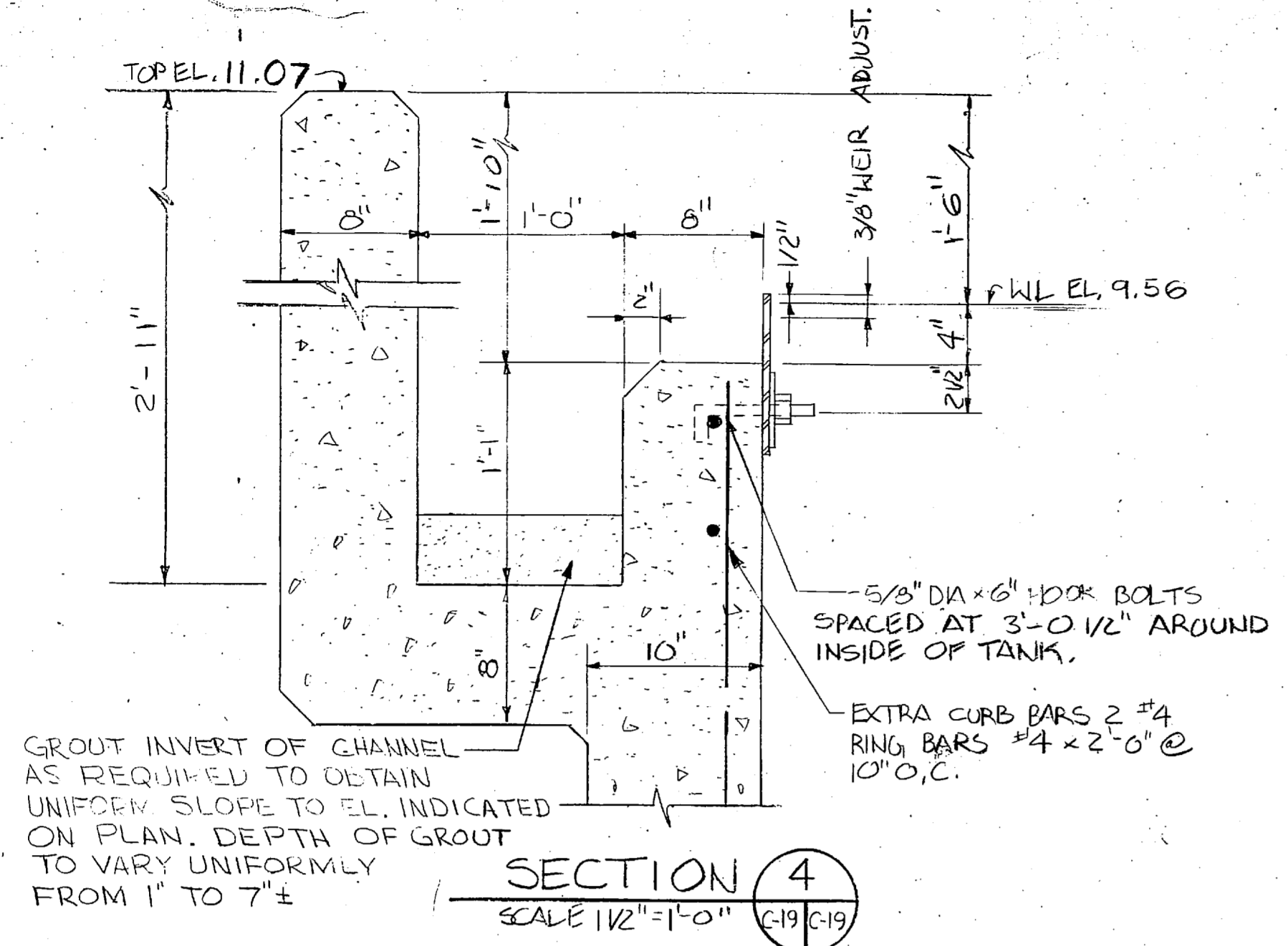


L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES. <input checked="" type="checkbox"/> DREW. <input checked="" type="checkbox"/> CHK. <input checked="" type="checkbox"/> PROJ. MGR. <input type="checkbox"/> CH. ENGR. <input type="checkbox"/> SUBMITTED BY: _____ DATE: _____ FIRM MEMBER <input type="checkbox"/> PRINCIPAL <input type="checkbox"/> EFD. NO. _____ RVD. _____ NO. _____	MARINE CORPS BASE, CAMP LEJUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT TRICKLING FILTER		SIZE: _____ F 80091 NAVFAC DRAWING NO.
APPROVED _____ DATE: _____ OFFICER IN CHARGE APPROVED _____ DATE: _____	SCALE AS NOTED SPEC. 05-81-1478	CONSTR. CONTR. NO. N62470-81-B-1478 SHEET 107 EFD. DWG. NO. _____	

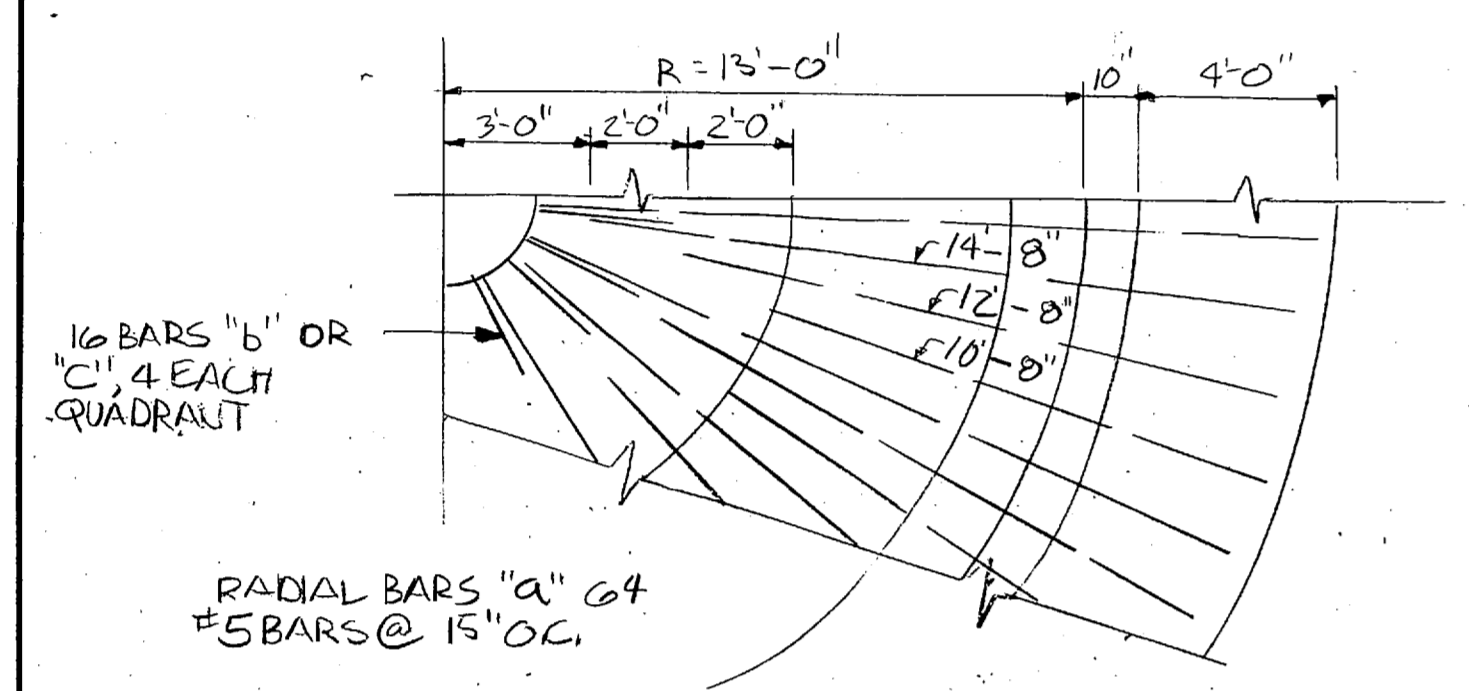
C-18



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SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



SECTION 4
SCALE: 1/2" = 1'-0" (C-19/C-19)



**PART FOUNDATION PLAN SHOWING
BARS "a", "b" AND "c"**
NO SCALE

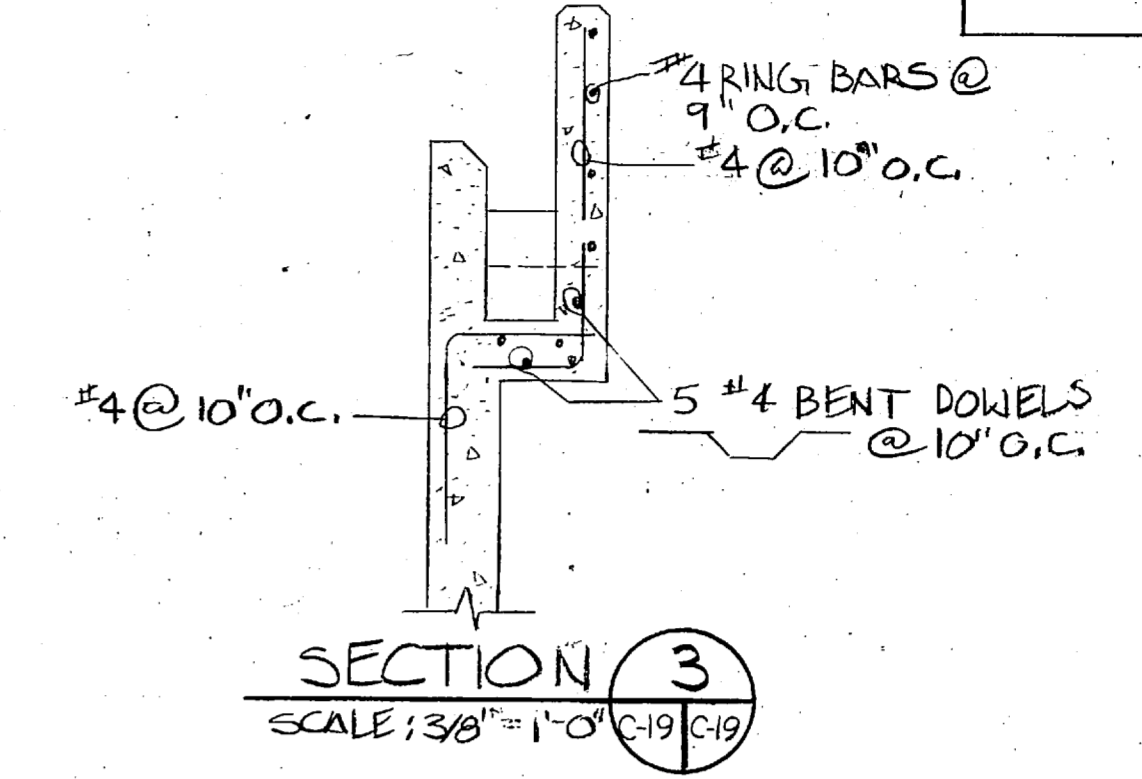
BARS "a"
6 #5 BARS AT 15" O.C. SPACED RADIALLY ALONG INSIDE WALL FACE WITH ALTERNATING BARS STOPPING VARYING DISTANCE FROM THE CENTER WITH BAR LENGTHS AS FOLLOWS:
1 ST. BAR CONTINUOUS AS SHOWN
2 ND. BAR 14'-8"
3 RD. BAR 12'-8"
4 TH. BAR 10'-8"

BARS "b"
16 #5 BARS (TOTAL) EQUALLY SPACED ALL AROUND RADIAL DIRECTION EXCEPT 8 BARS SPACED 4" O.C. EACH WAY AT BOTTOM

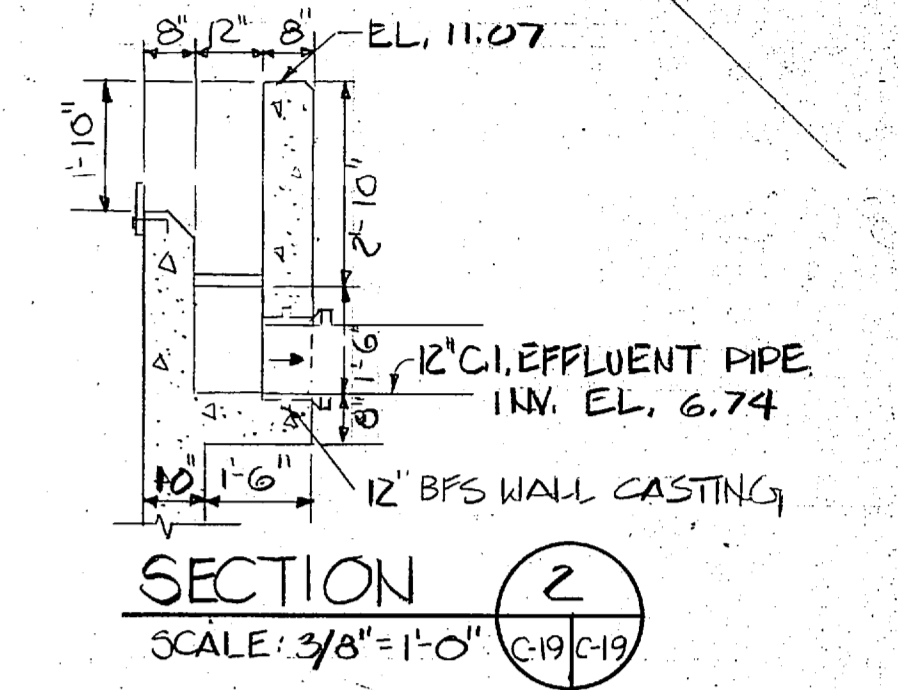
BARS "c"
16 #5 BARS (TOTAL) EQUALLY SPACED ALL AROUND RADIAL DIRECTION EXCEPT 8 BARS SPACED 4" O.C. EACH WAY AT BOTTOM

NOTE:
4 TYPES OF BENT BARS ARE REQUIRED FOR BARS "b" AND "c"

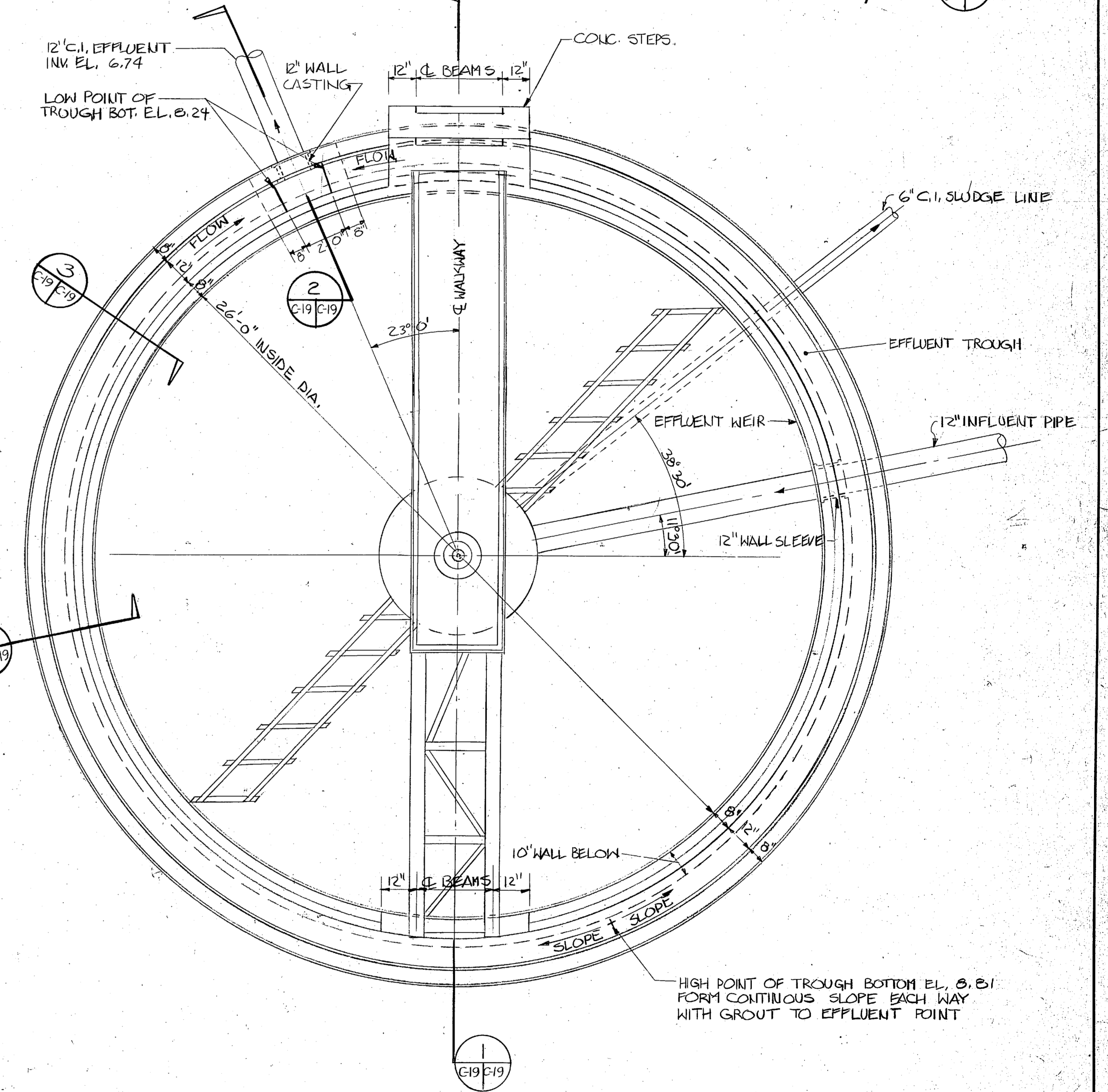
**SCHEDULE - REINFORCING BARS "a", "b" AND "c"
FOR SECONDARY CLARIFIER SLAB**



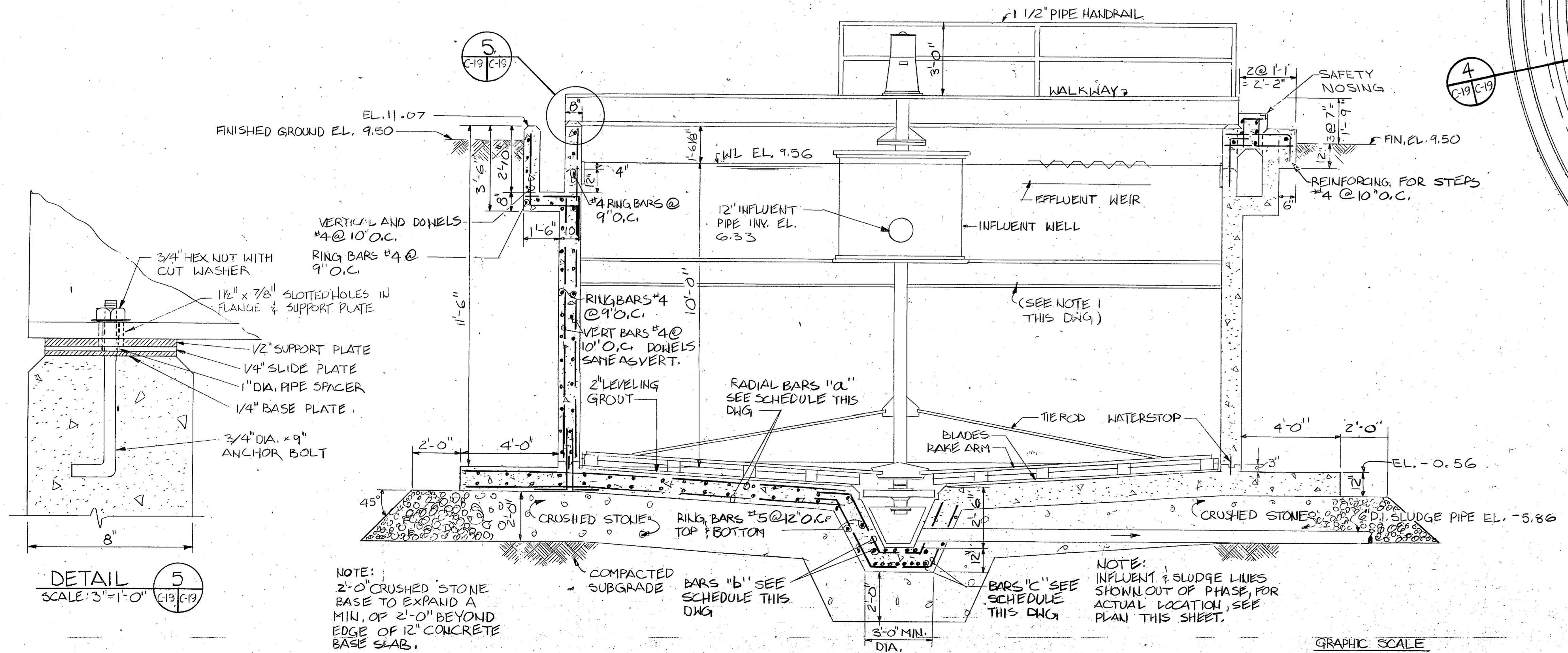
SECTION 3
SCALE: 3/8" = 1'-0" (C-19/C-19)



SECTION 2
SCALE: 3/8" = 1'-0" (C-19/C-19)



PLAN SECONDARY CLARIFIER
SCALE: 3/8" = 1'-0" (C-19/C-19)

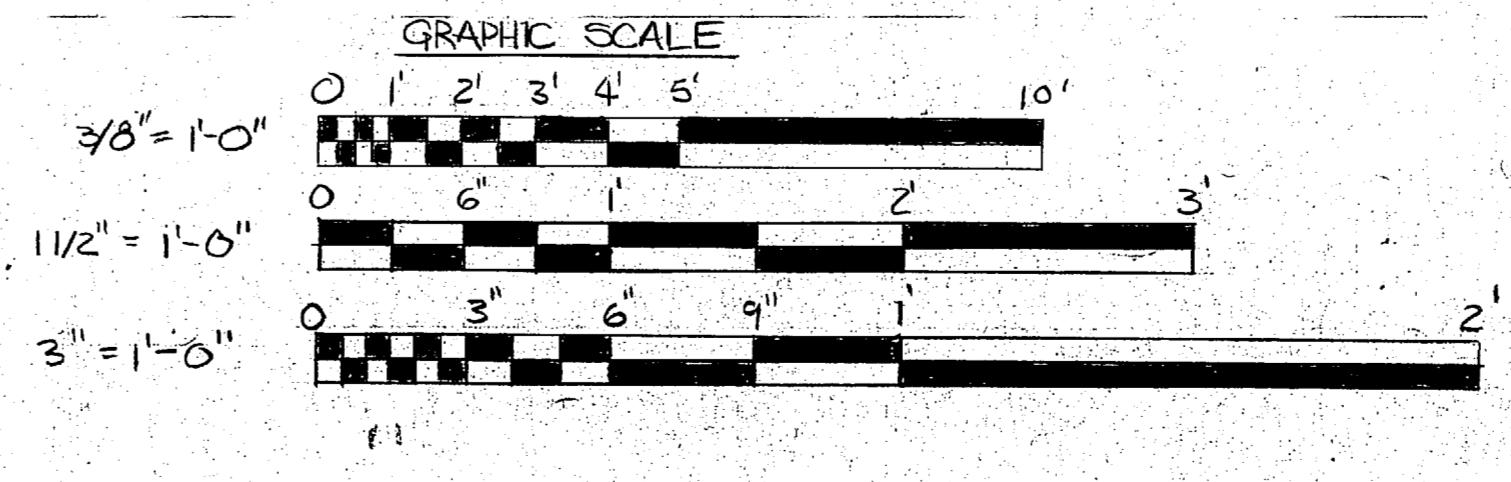


SECTION 1
SCALE: 3/8" = 1'-0" (C-19/C-19)

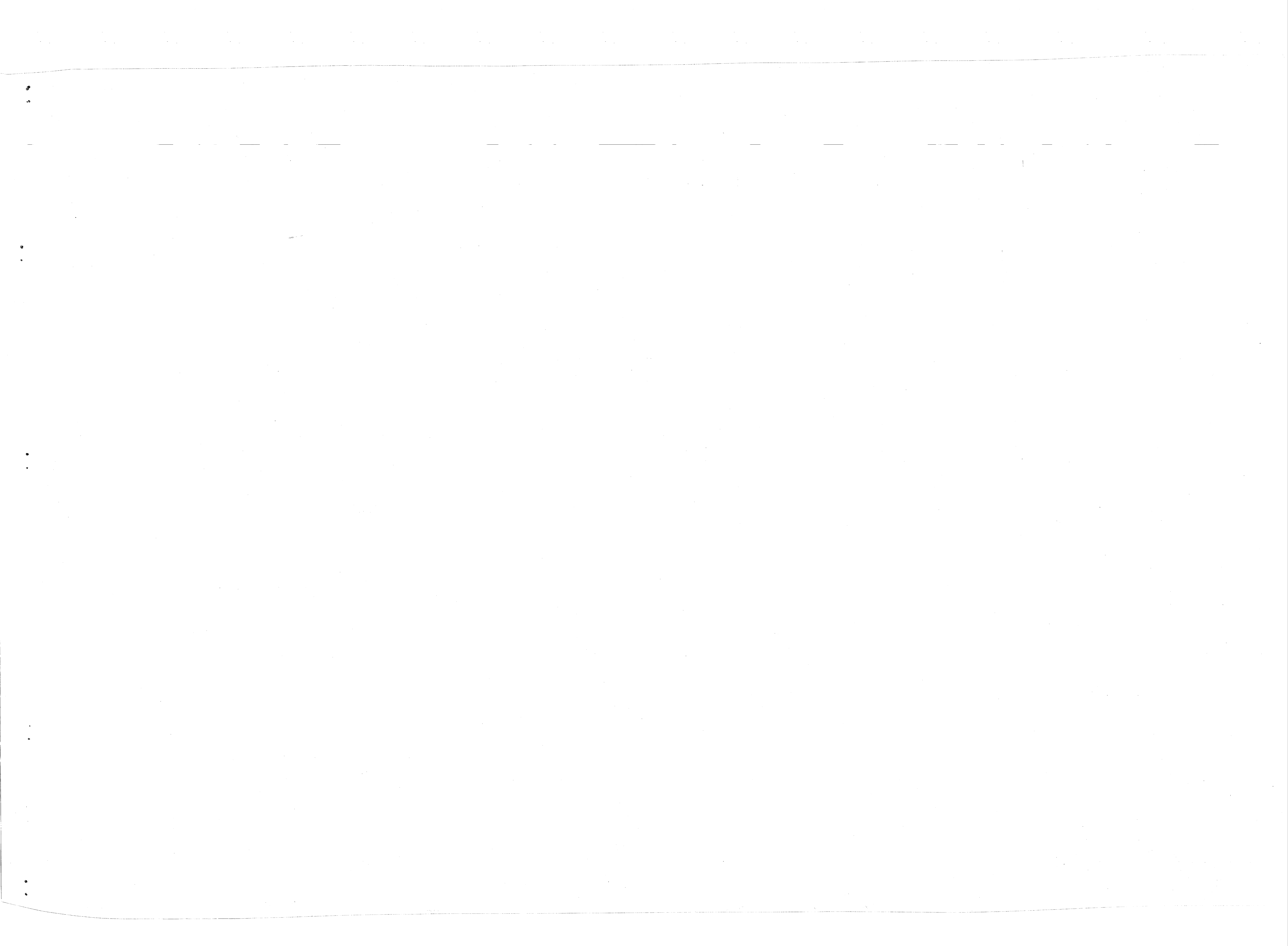
DETAIL 5
SCALE: 3" = 1'-0" (C-19/C-19)

NOTE:
2'-0" CRUSHED STONE BASE TO EXPAND A MIN. OF 2'-0" BEYOND EDGE OF 12" CONCRETE BASE SLAB.

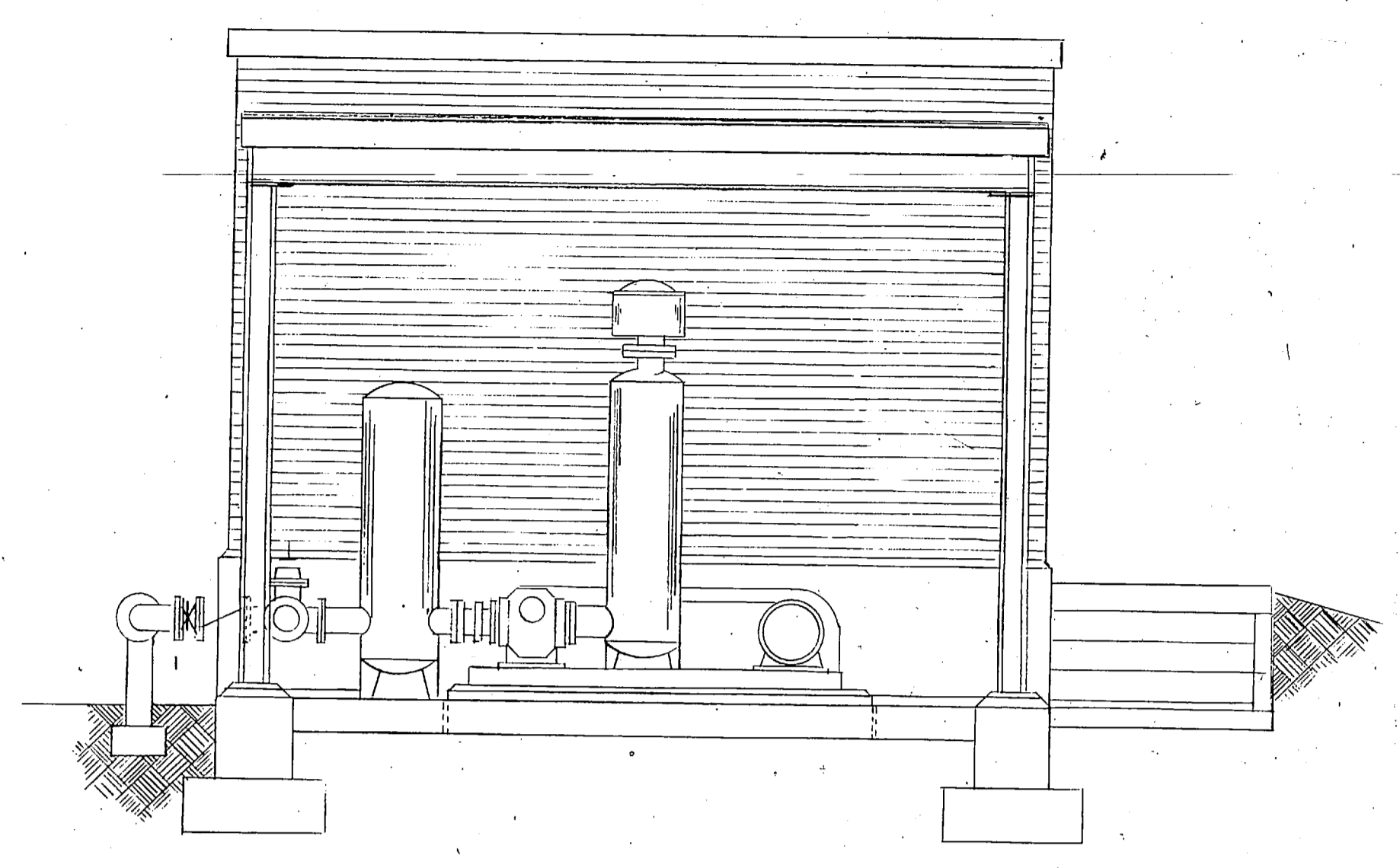
NOTE:
INFLUENT & SLUDGE LINES SHOWN OUT OF PHASE, FOR ACTUAL LOCATION, SEE PLAN THIS SHEET.



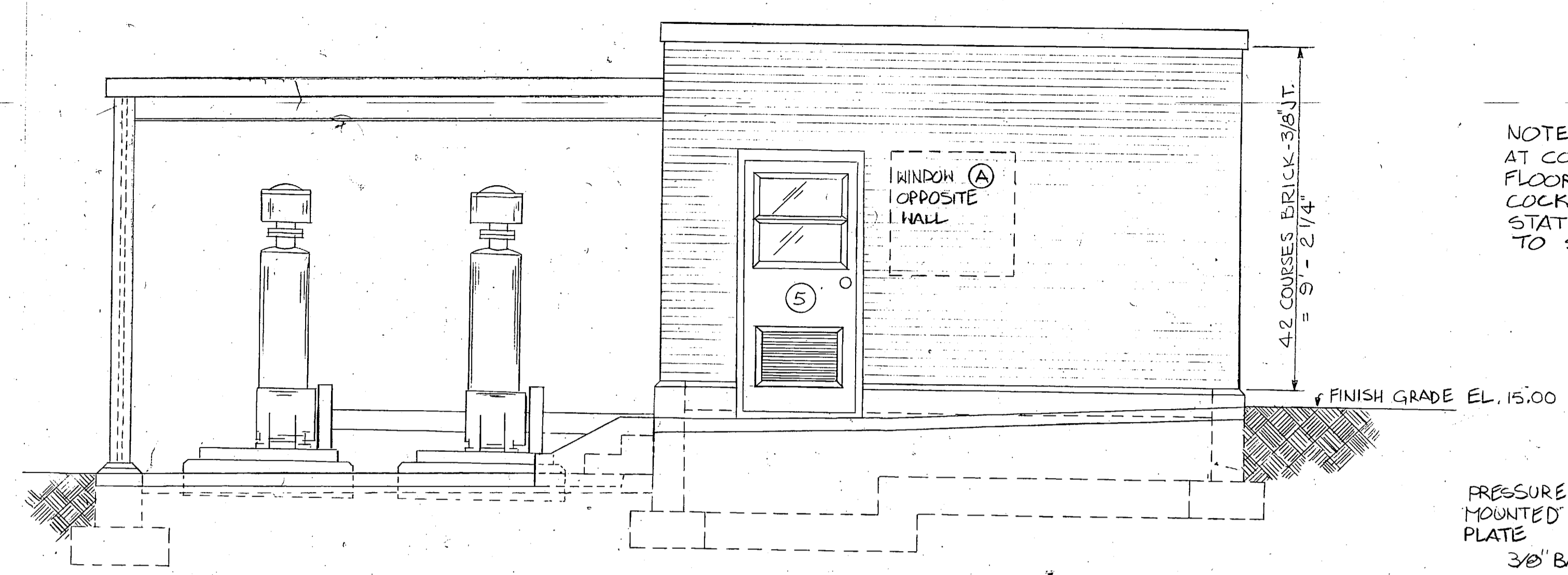
L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT SECONDARY CLARIFIER	
DES. BY: [Signature] PROJ. MGR. [Signature] SUBMITTED BY: [Signature] FIRM MEMBER: [Signature] EFD: FF [Signature] NO. [Signature]	CHK. [Signature] DATE [Signature] PRINCIPAL [Signature] RVD [Signature] DIR [Signature]	SIZE: F CODE IDENT. NO.: 80091 NAVFAC DRAWING NO.:	C-19 SHEET OF
APPROVED IN CHARGE: [Signature] DATE:		CONSTR. CONTR. NO. N62470-81-B-1478 SCALE AS NOTED SPEC. 05-81-1478	EFD DWG. NO.



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
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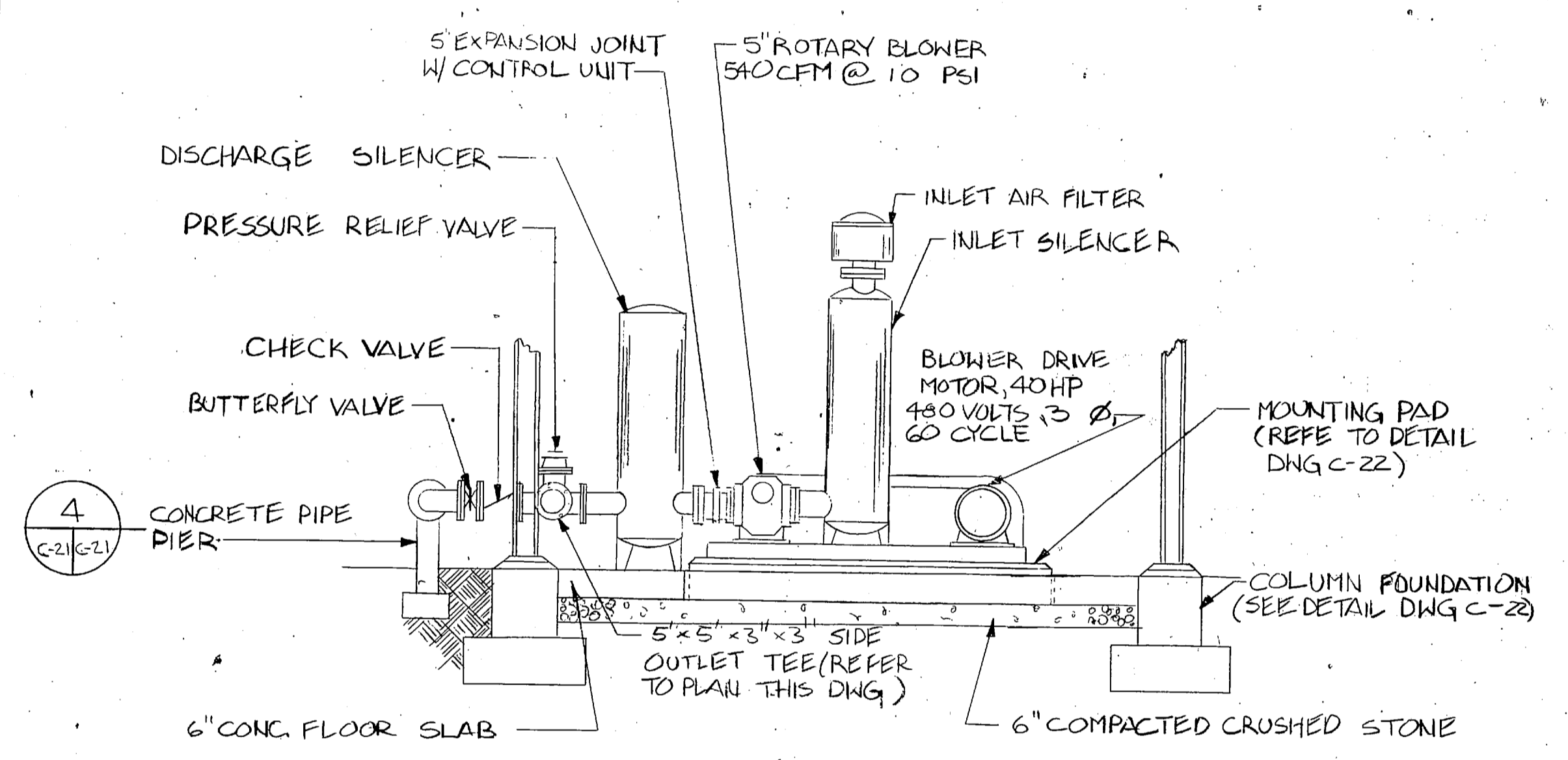


LEFT ELEVATION
SCALE: 3/8" = 1'-0"

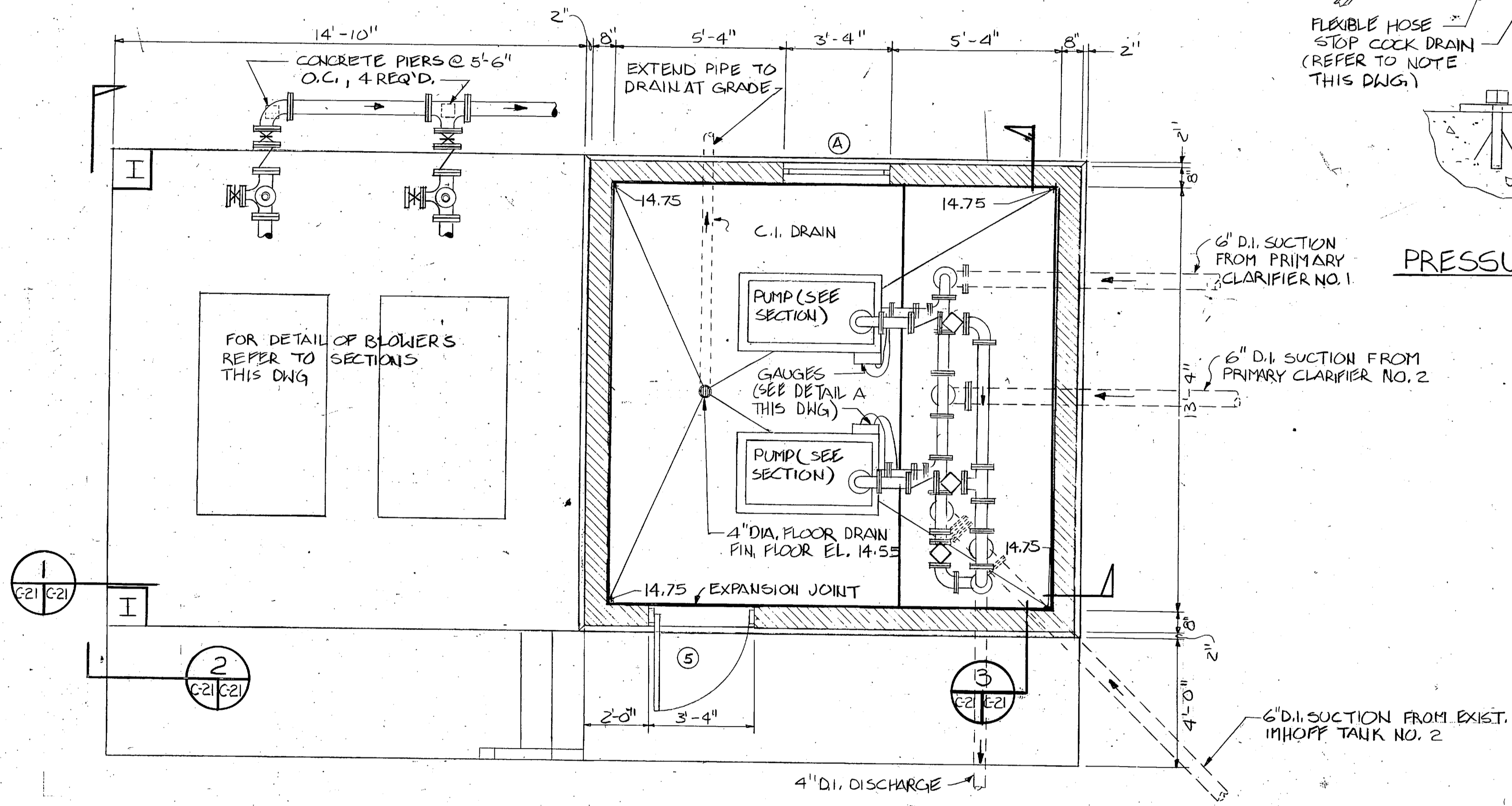


FRONT ELEVATION
SCALE: 3/8" = 1'-0"

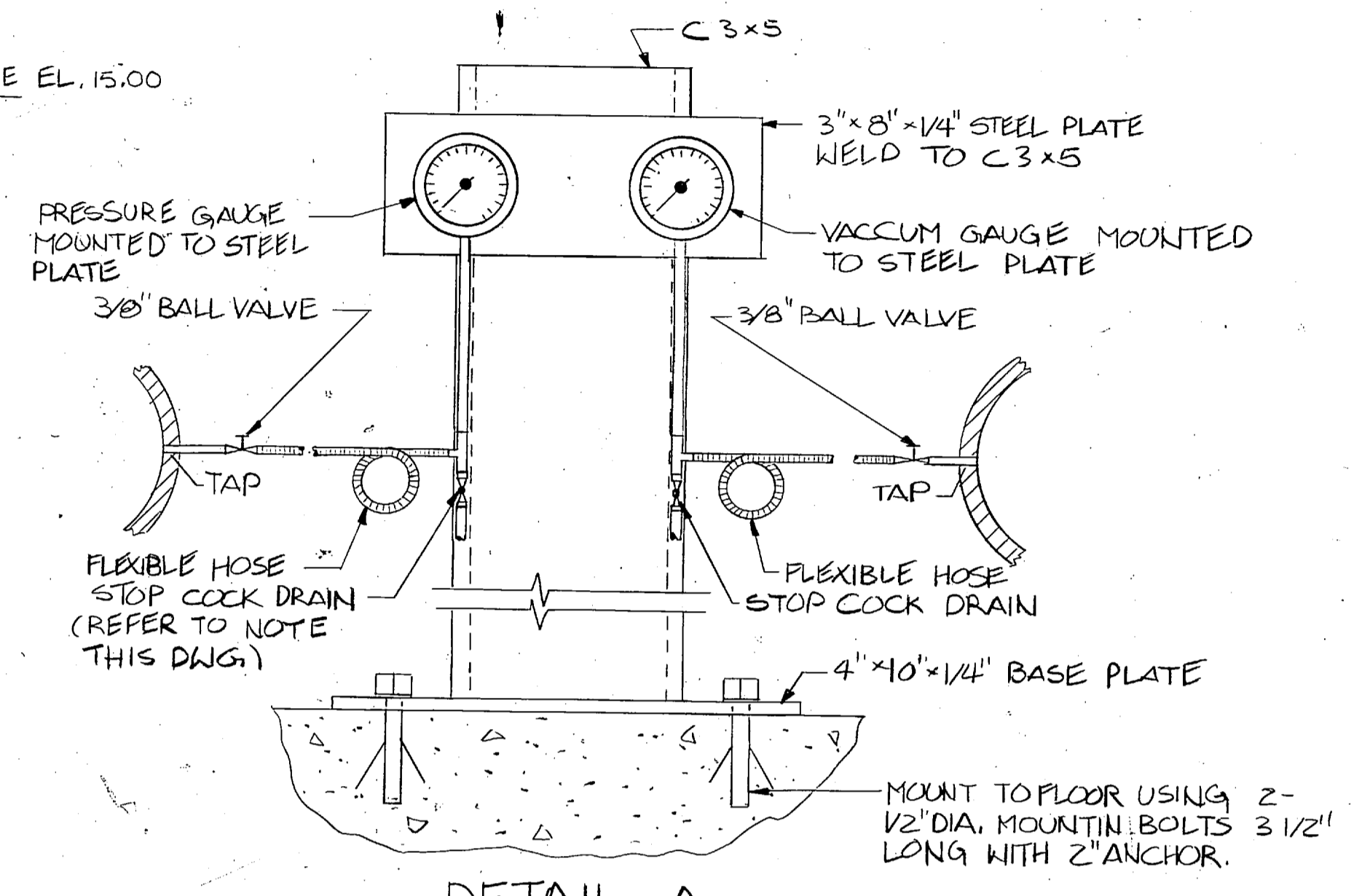
NOTE:
AT CONTROL BUILDING PROVIDE TWO (2) 3/4" I.D. PIPE SLEEVES THROUGH FLOOR AT EACH GAUGE STAND. EXTEND 3/8" FLEXIBLE HOSE FROM STOP COCK DRAIN THROUGH SLEEVE CAULK WATER TIGHT, AT SLUDGE PUMP STATION, EXTEND 3/8" FLEX HOSE TO 2" ABOVE FINISH FLOOR, SECURE TO STAND.



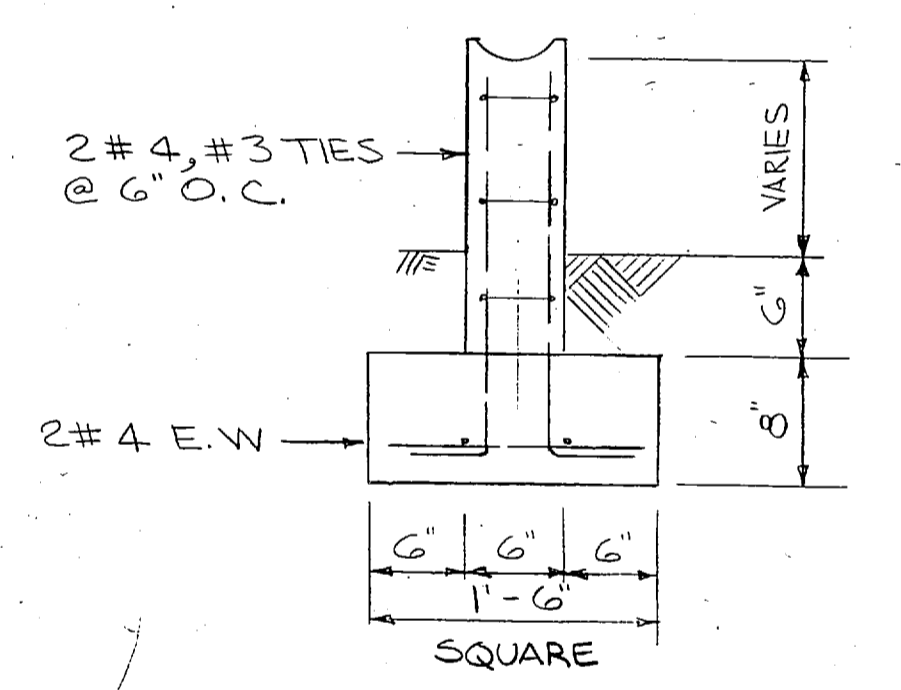
PARTIAL SECTION 2
SCALE: 3/8" = 1'-0"



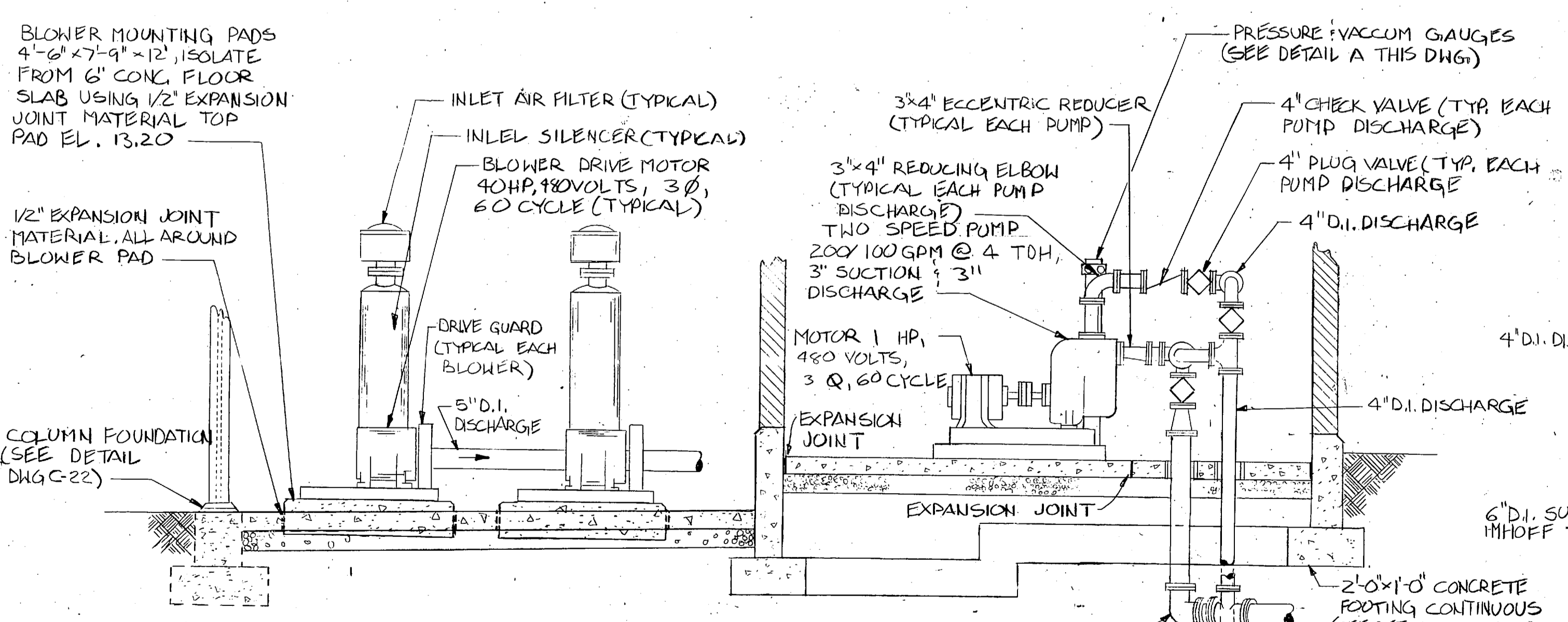
FLOOR PLAN
SCALE: 3/8" = 1'-0"



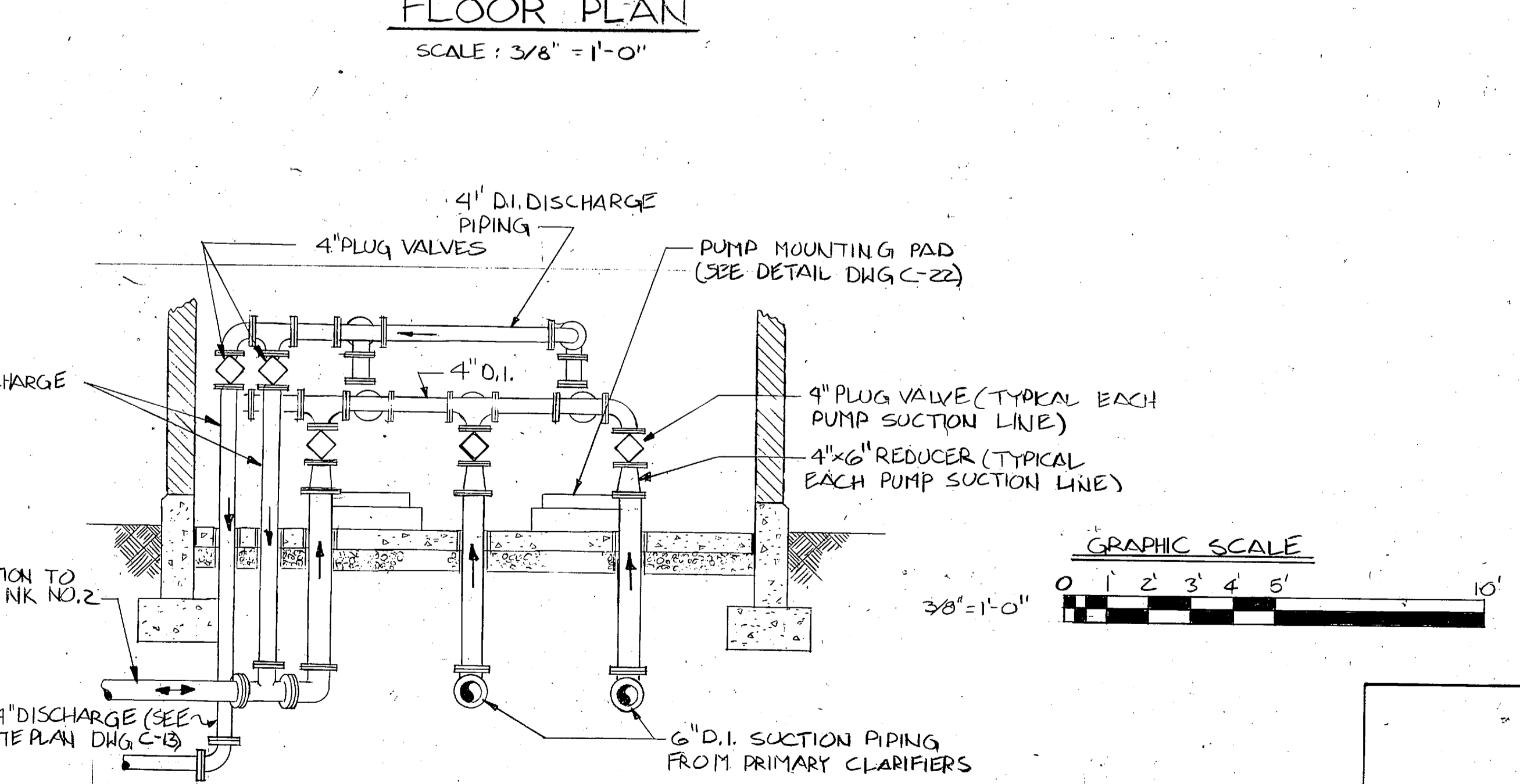
DETAIL-A
PRESSURE & VACUUM GAUGE MOUNTING DETAIL
NO SCALE



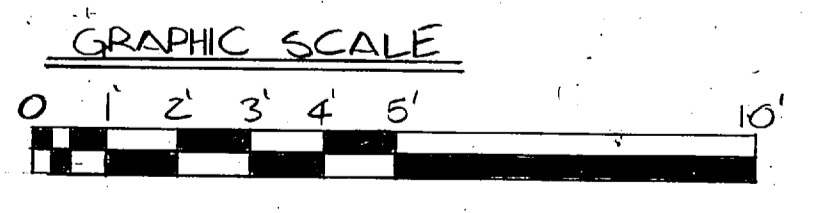
DETAIL 4
SCALE: 1" = 1'-0"



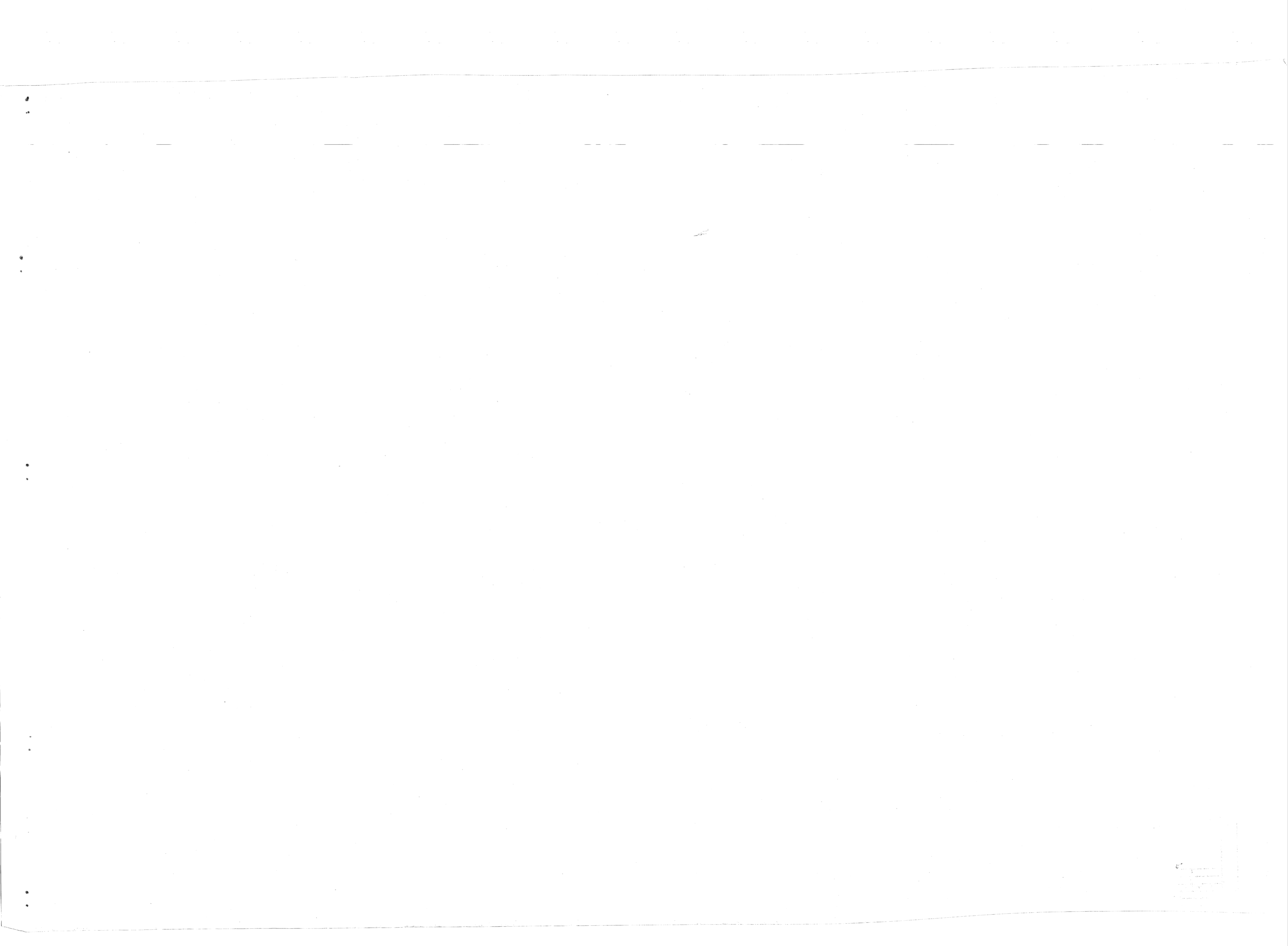
PARTIAL SECTION 1
SCALE: 3/8" = 1'-0"



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

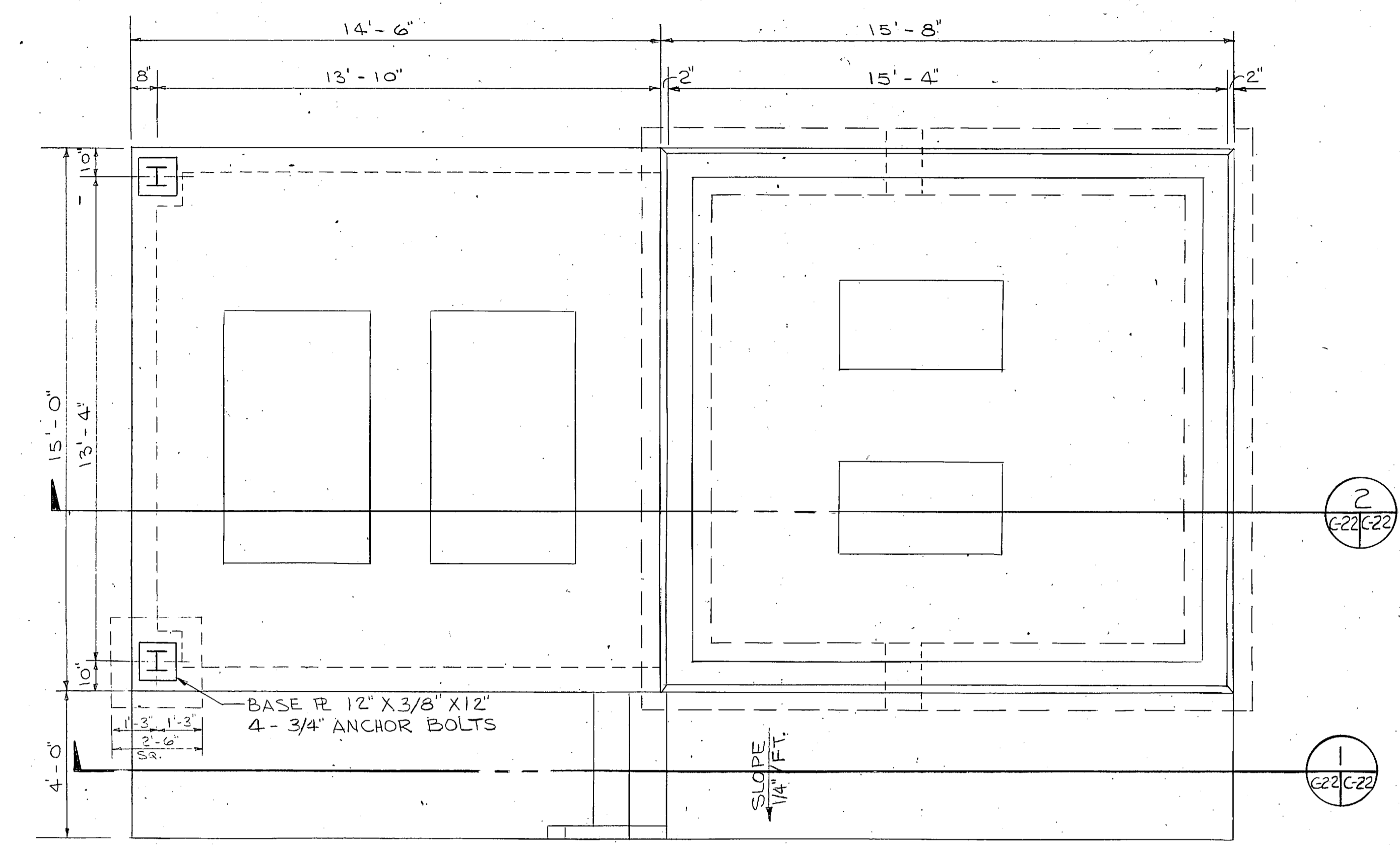


C-21 L. E. WOOLLEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	
		ATLANTIC DIVISION	
PROJ. MGR. _____ SUBMITTED BY _____ FIRM NUMBER _____ NO. _____		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT WASTE SLUDGE PUMP STATION EQUIPMENT, ELEVATIONS AND SECTIONS	
APPROVED _____ OFFICER IN CHARGE APPROVED _____		DATE _____ 5/22 CODE IDENT. NO. F 80091 NAVFAC DRAWING NO. _____ CONSTR. CONTR. NO. N62470-B-1478	
FOR EXP. FOR COMMANDER NAVFAC		SCALE AS NOTED SPEC. 05-BI-1478 SHEET _____ OF _____ STD. DWG. NO. _____	

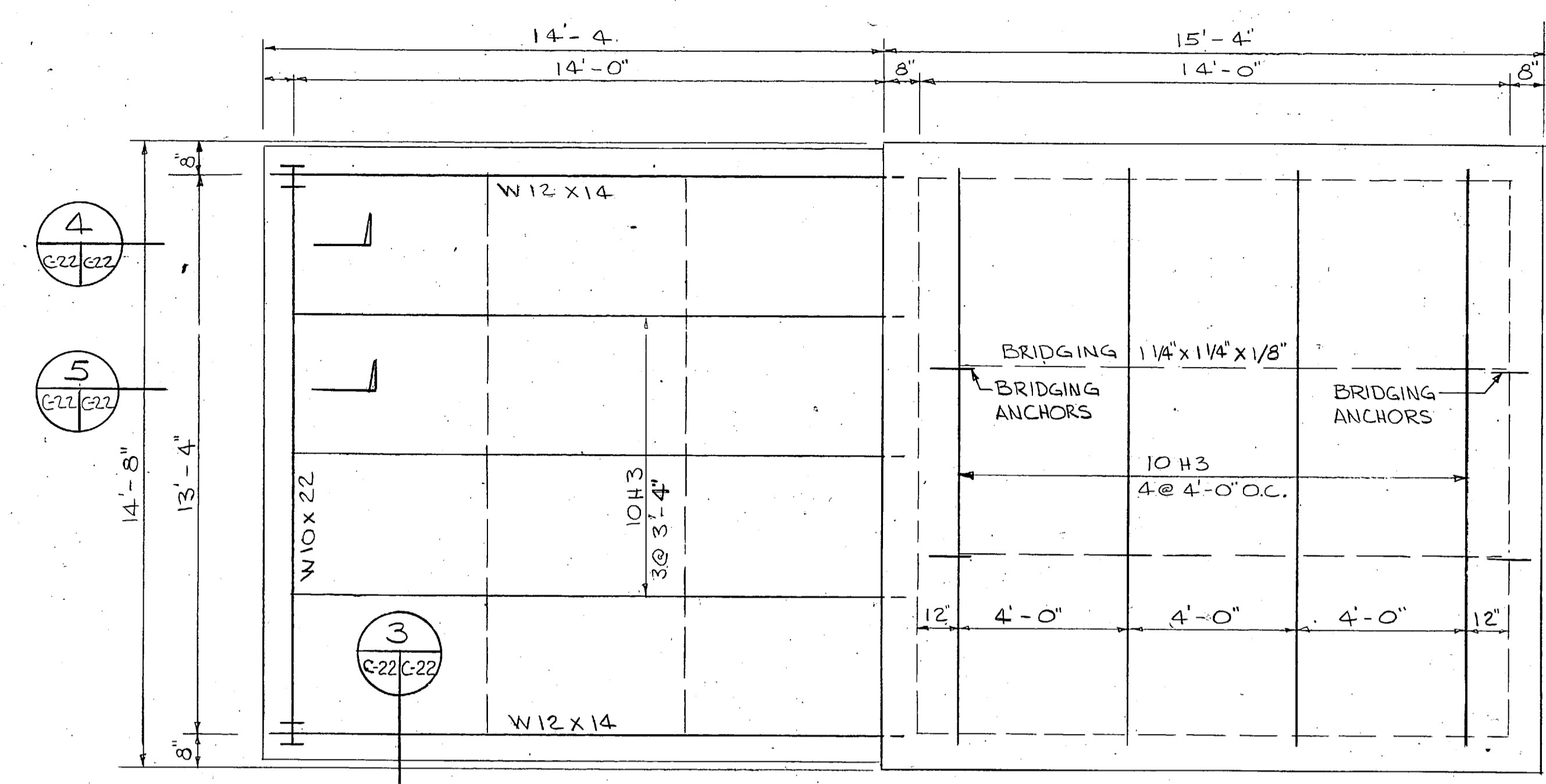


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

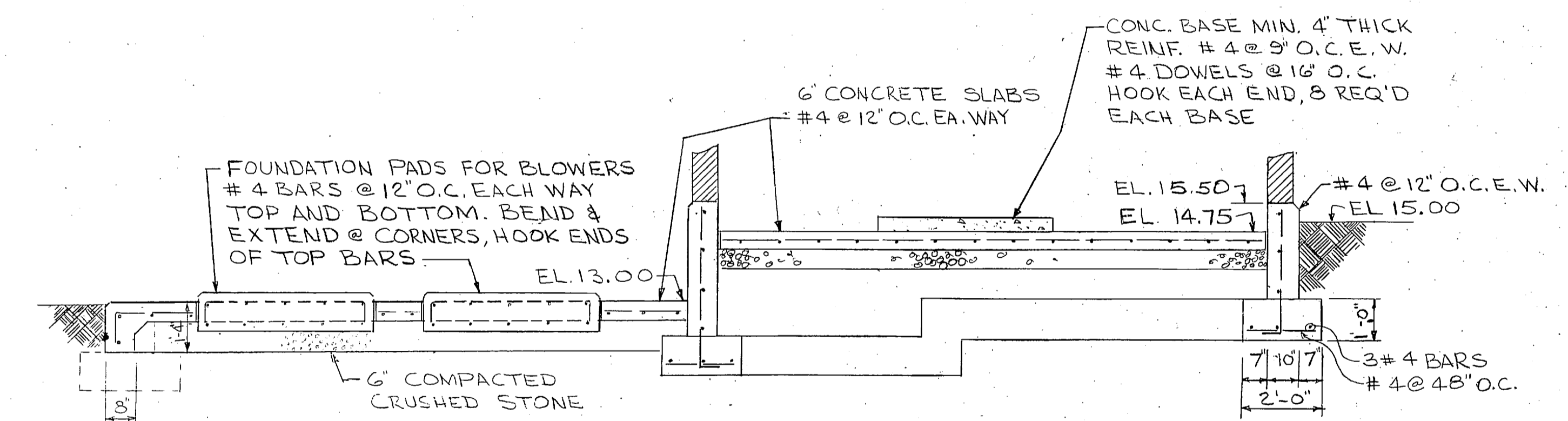
**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**



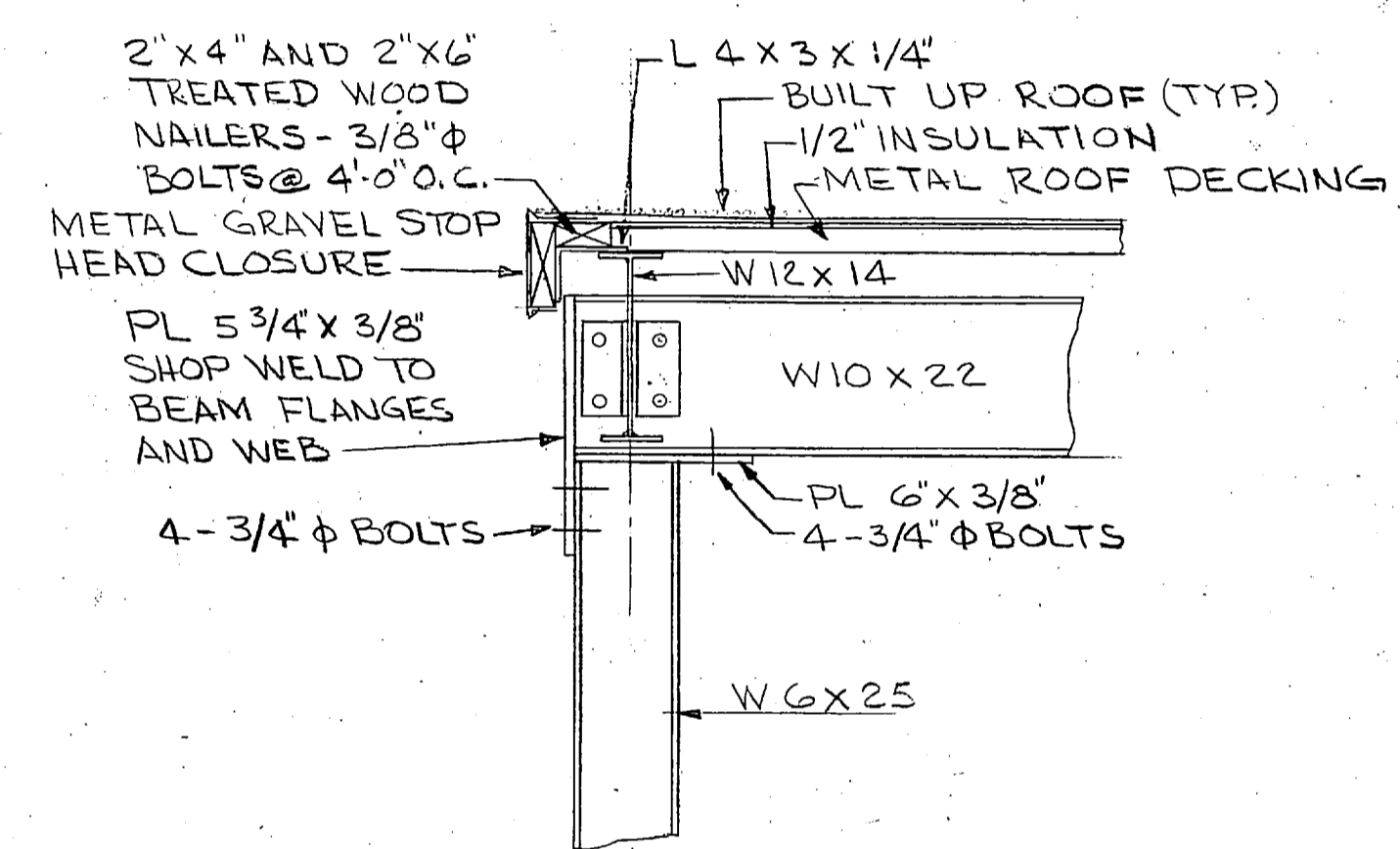
FOUNDATION PLAN
SCALE - 3/8" = 1'-0"



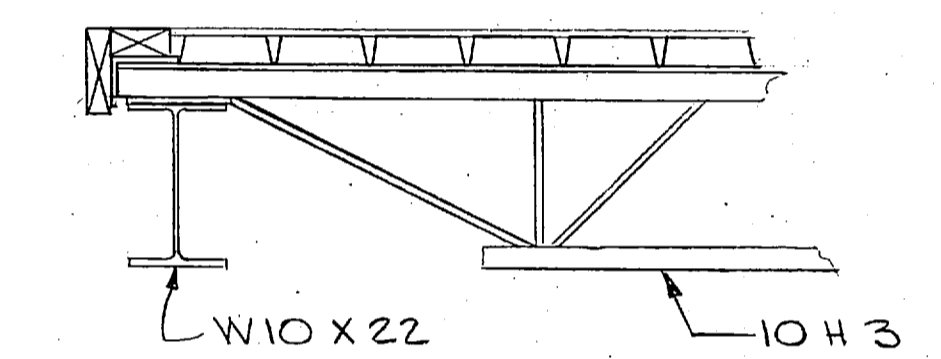
ROOF PLAN
SCALE - 3/8" = 1'-0"



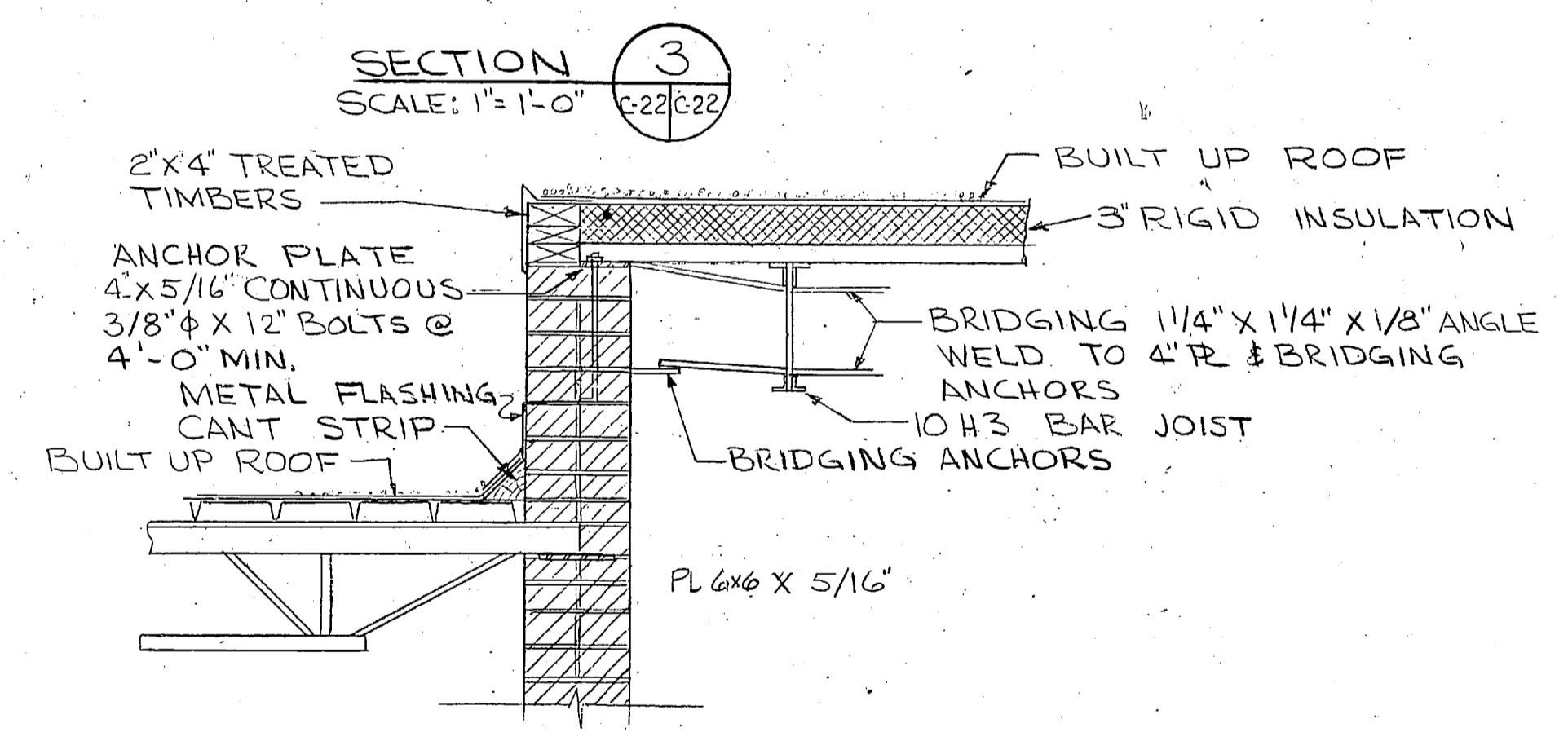
SECTION 2
SCALE: 1" = 1'-0"



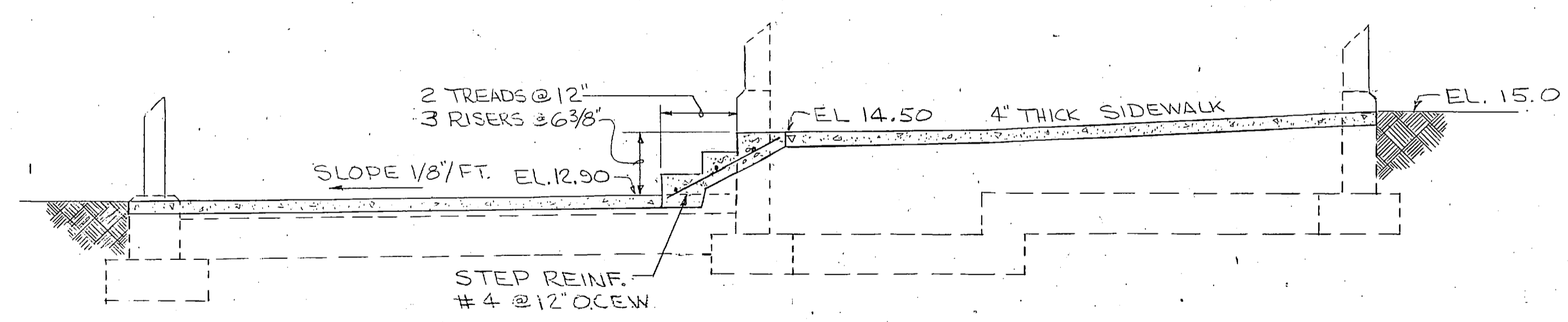
SECTION 4
SCALE: 1" = 1'-0"



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

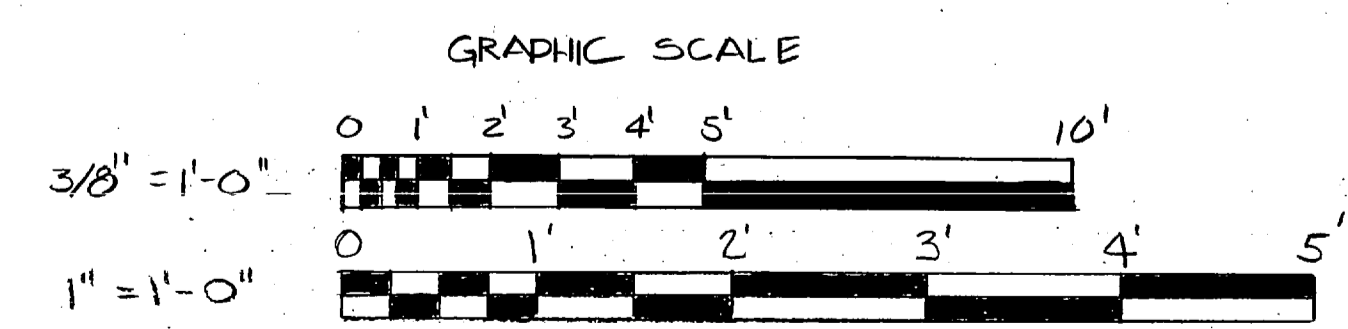


SECTION 3
SCALE: 1" = 1'-0"



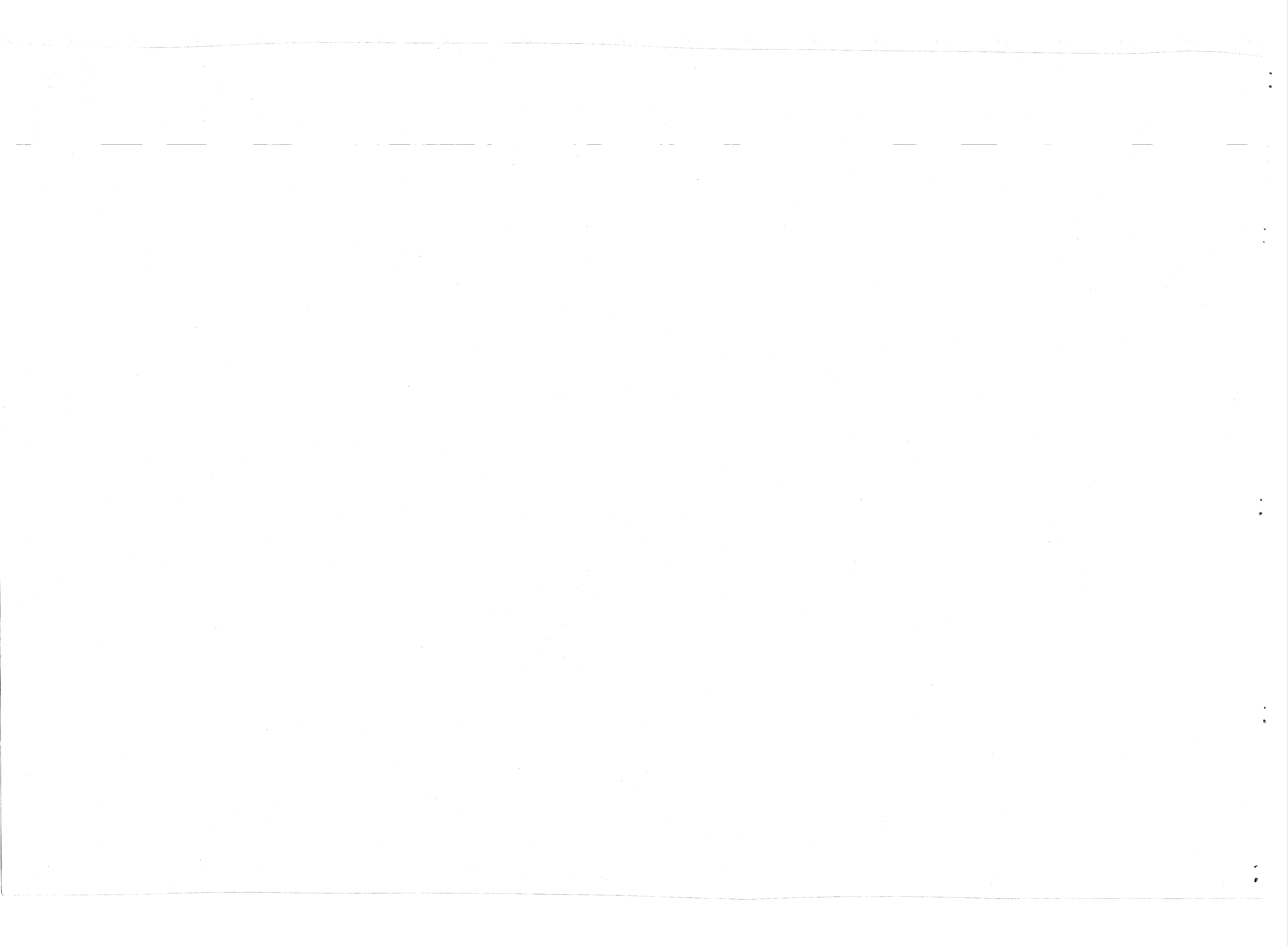
SECTION 1
SCALE: 1" = 1'-0"

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

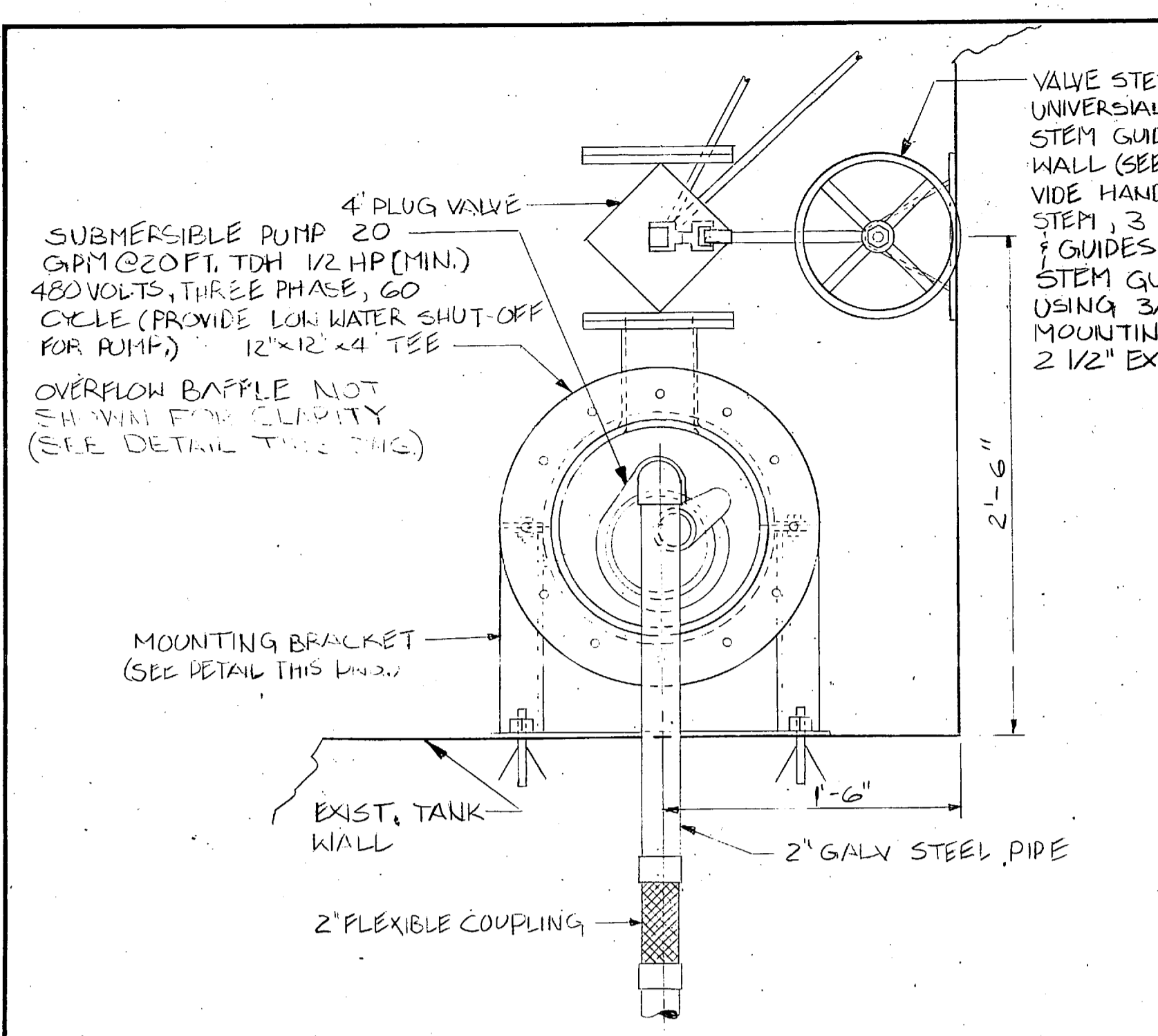


L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT NEW WASTE SLUDGE PUMP STATION FOUNDATION AND ROOF PLANS AND SECTIONS	
DES.	CHK.	SIZE	CODE IDENT NO.
PROJ. MGR.	CH. ENGR.	F 80091	NAVAC DRAWING NO.
SUBMITTED BY	DATE	CONSTR. CONTR. NO. N62470-BI-B-1478	
TEAM MEMBER	PRINCIPAL	SCALE	SPEC. 05-BI-1478
APP. MEMBER	BYD.	SHEET OF	
MD.	DIE.	SHEET NO.	
APPROVED	DATE	SHEET OF	
OFFICER IN CHARGE	DATE	SHEET OF	
APPROVED	DATE	SHEET OF	
FOR EFD FOR COMMANDER NAVAC	DATE	SHEET OF	

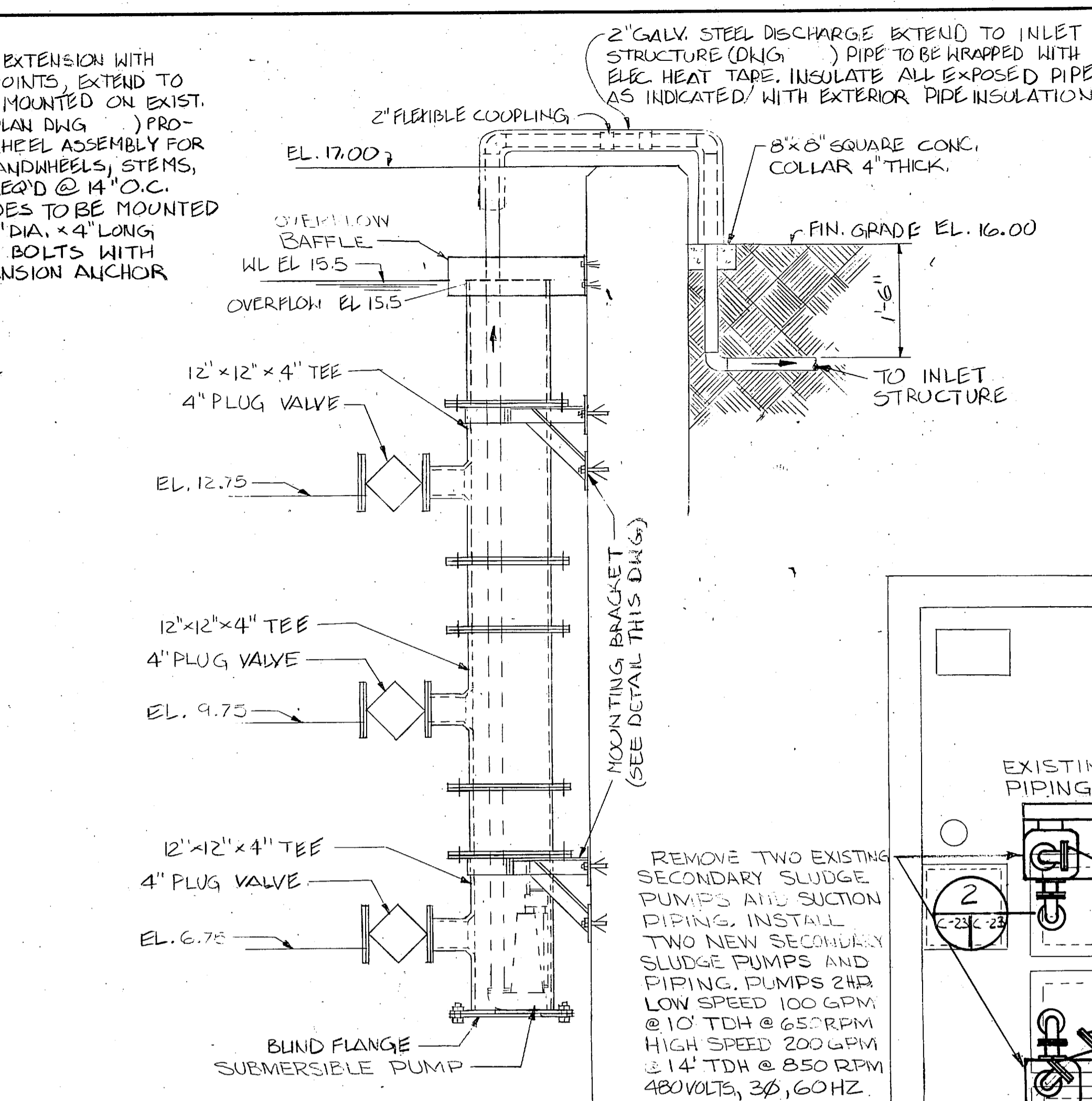
C-22



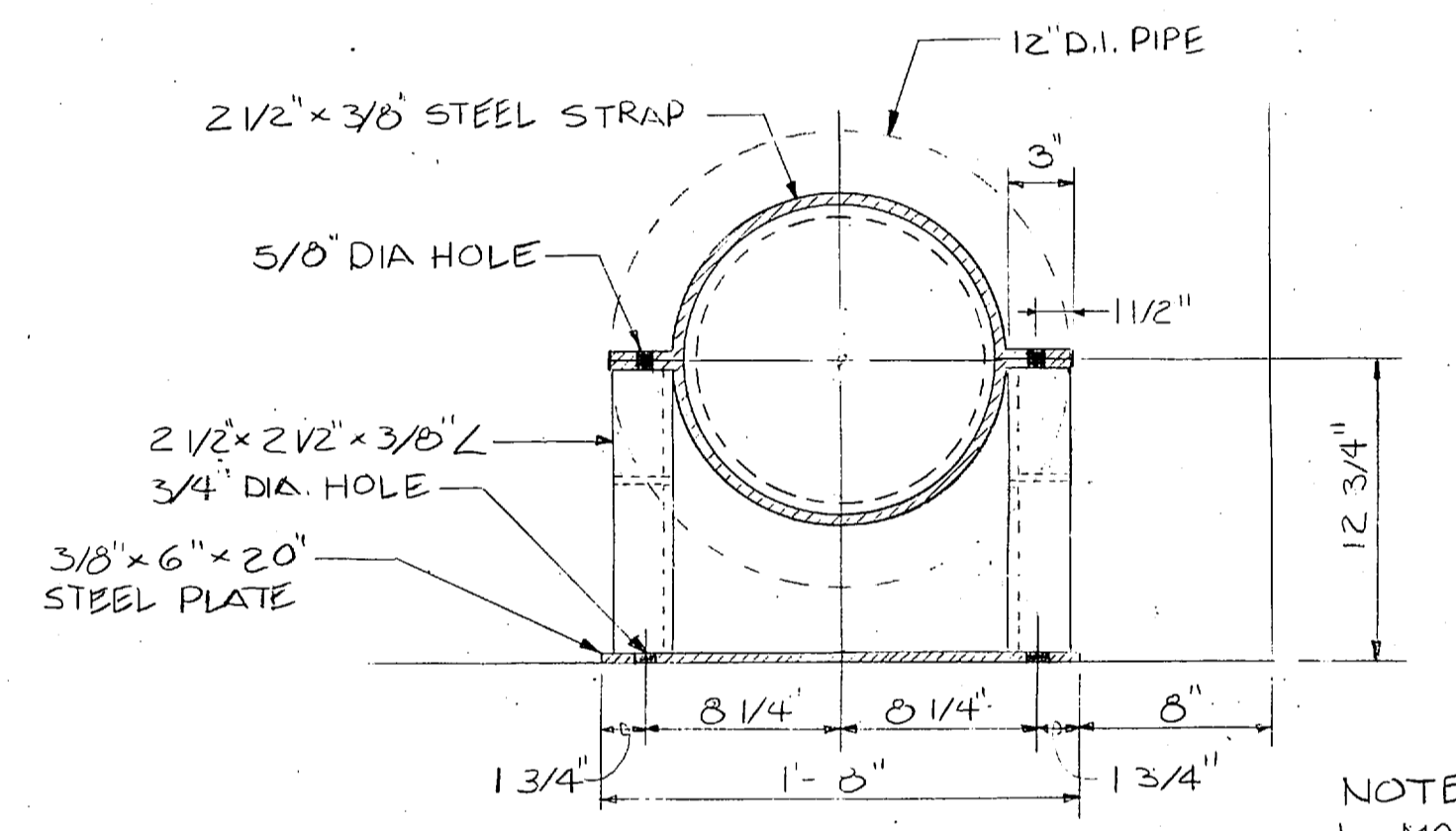
REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



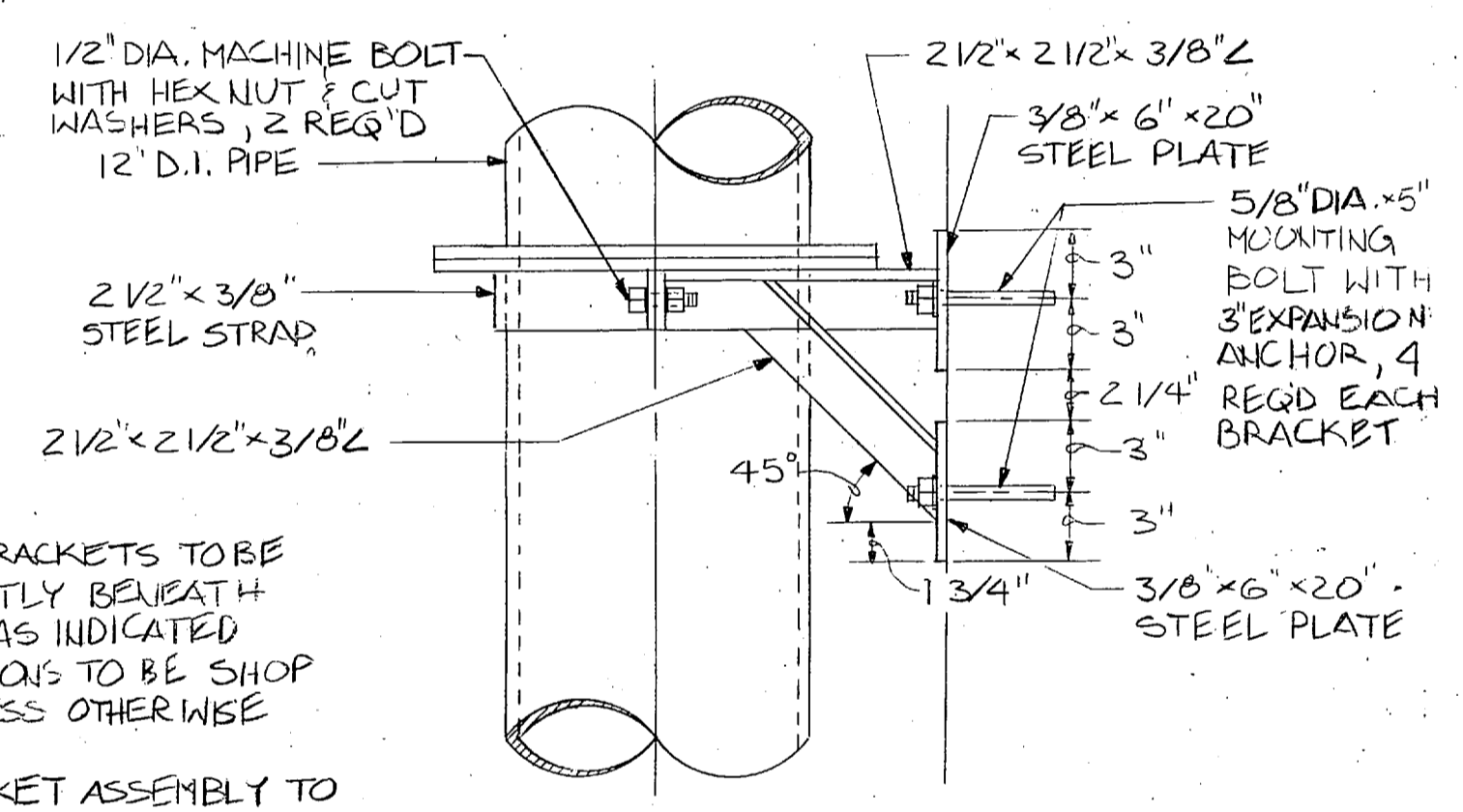
SUPERNATANT PUMP PLAN
SCALE: 1/2" = 1'-0"



SUPERNATANT PUMP ELEVATION
SCALE: 3/4" = 1'-0"

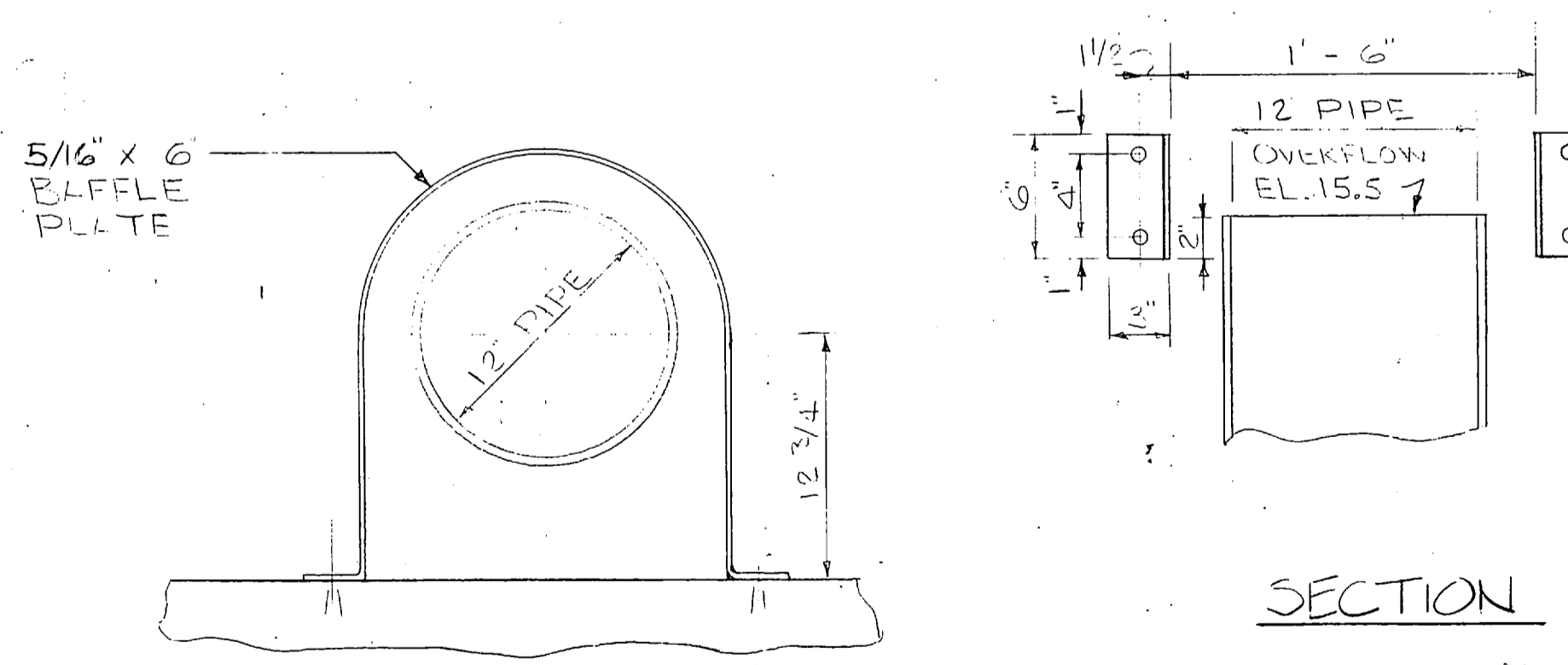


PLAN
SCALE: 1/2" = 1'-0"

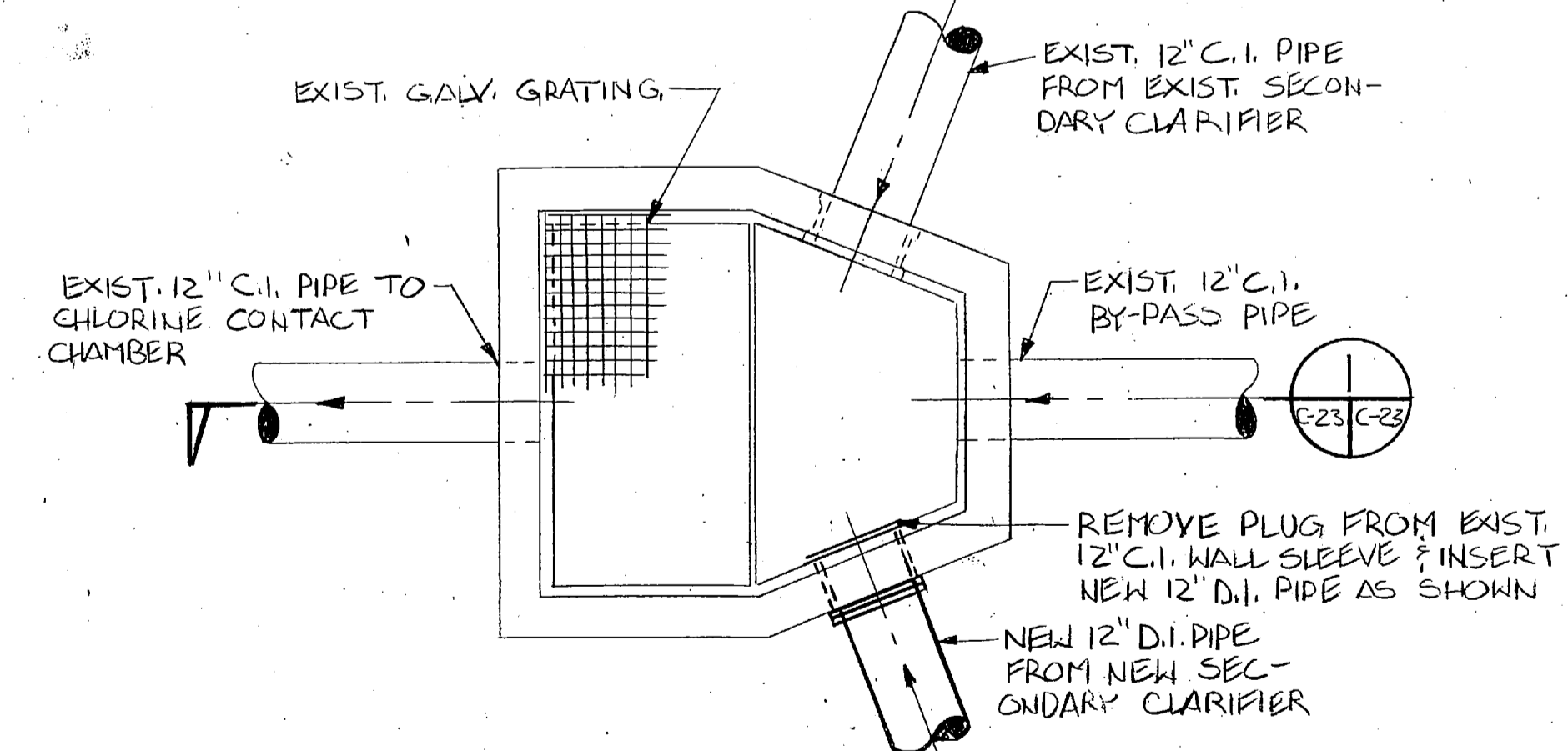


ELEVATION
SCALE: 1/2" = 1'-0"

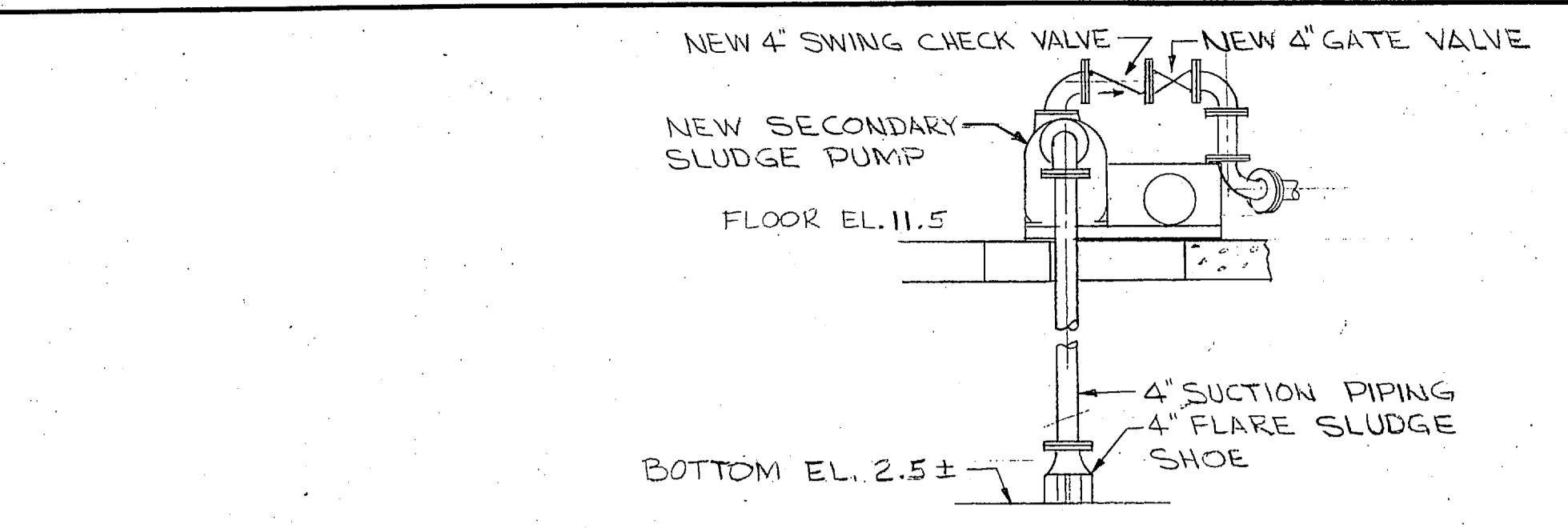
PIPE WALL MOUNTING BRACKET DETAILS



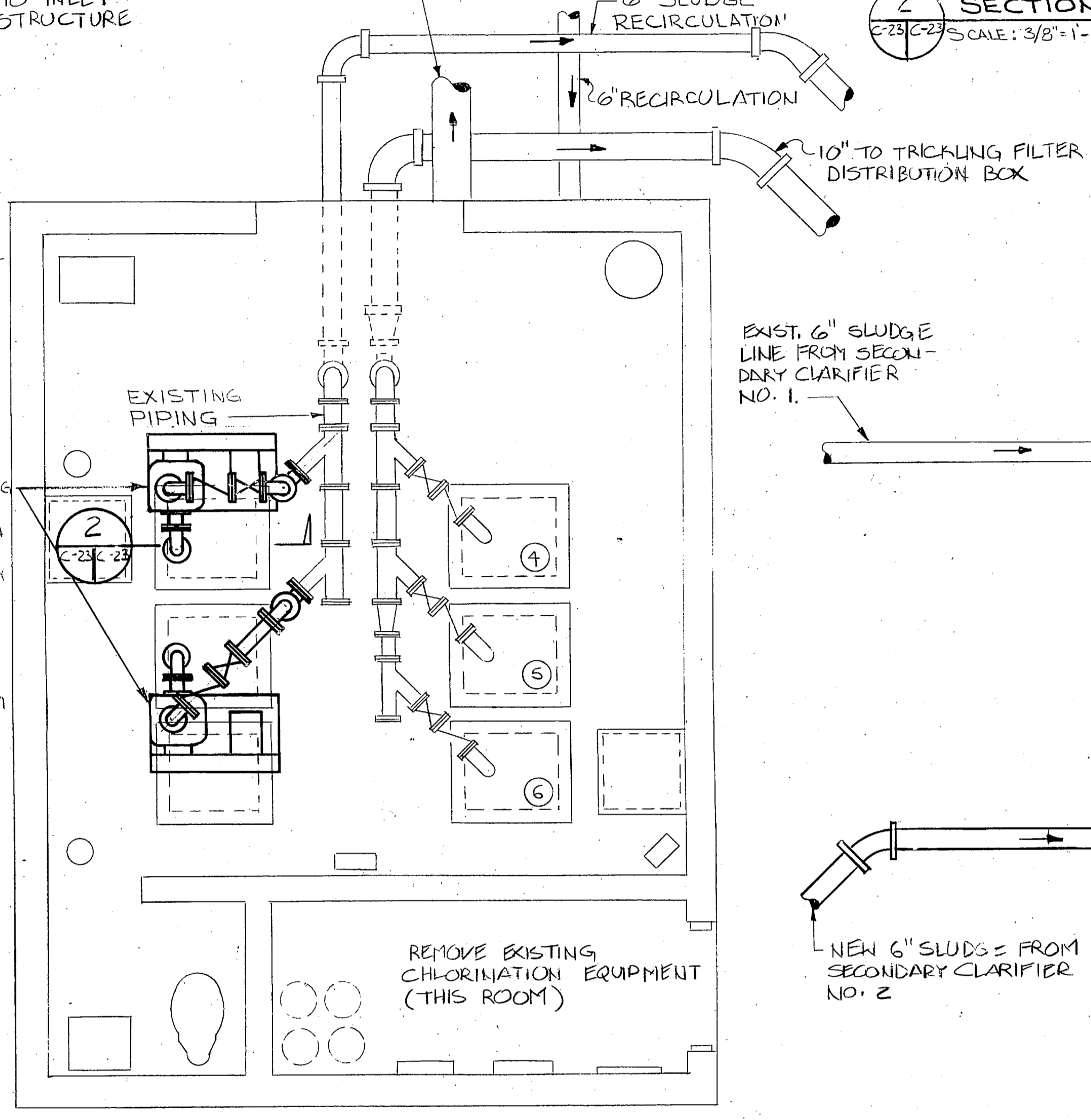
PLAN
OVERFLOW BAFFLE DETAILS
SCALE: 1/2" = 1'-0"



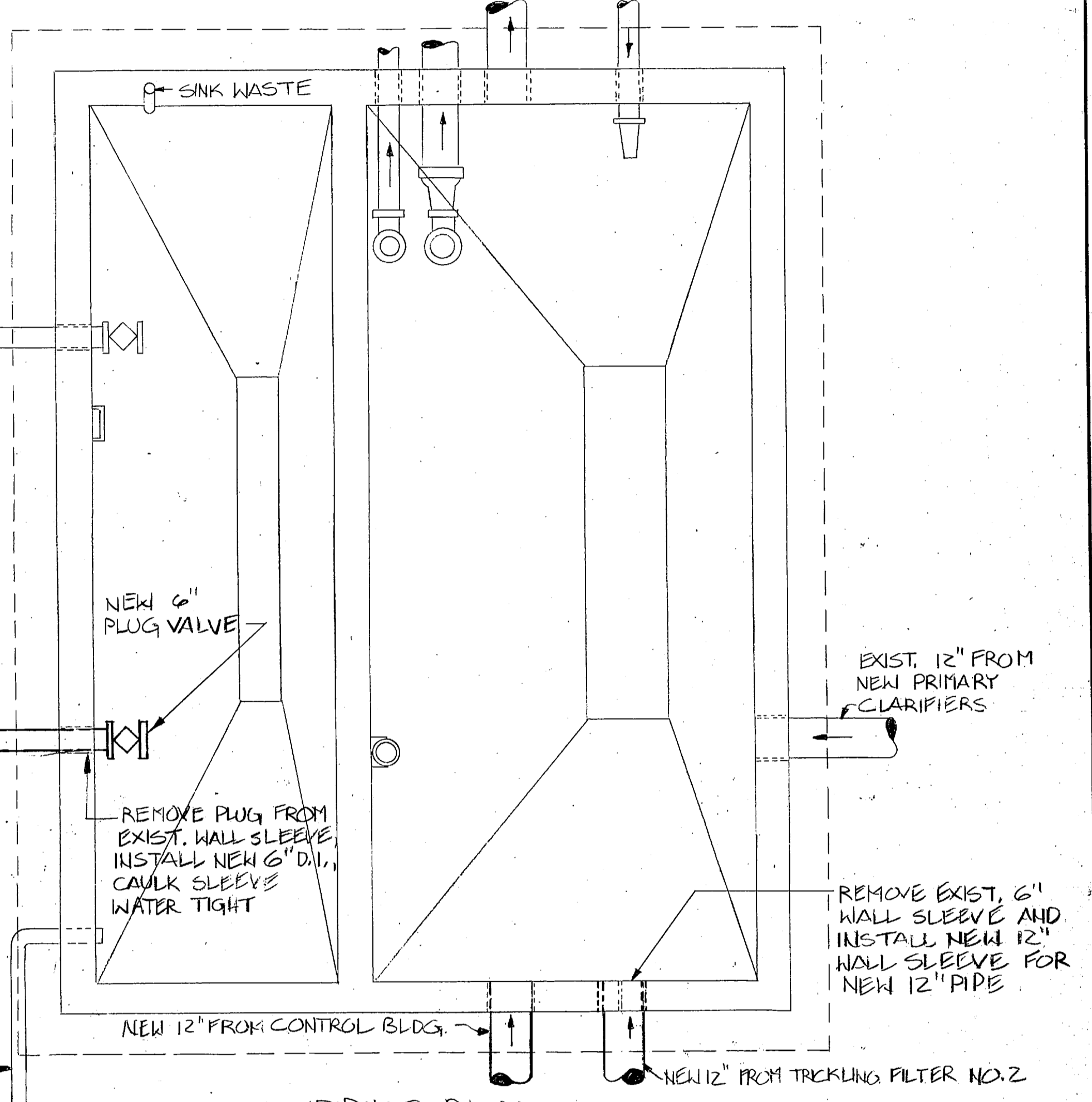
**JUNCTION BOX NO. 3
EXISTING SECONDARY CLARIFIER
EFFLUENT BOX**
SCALE: 1/2" = 1'-0"



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

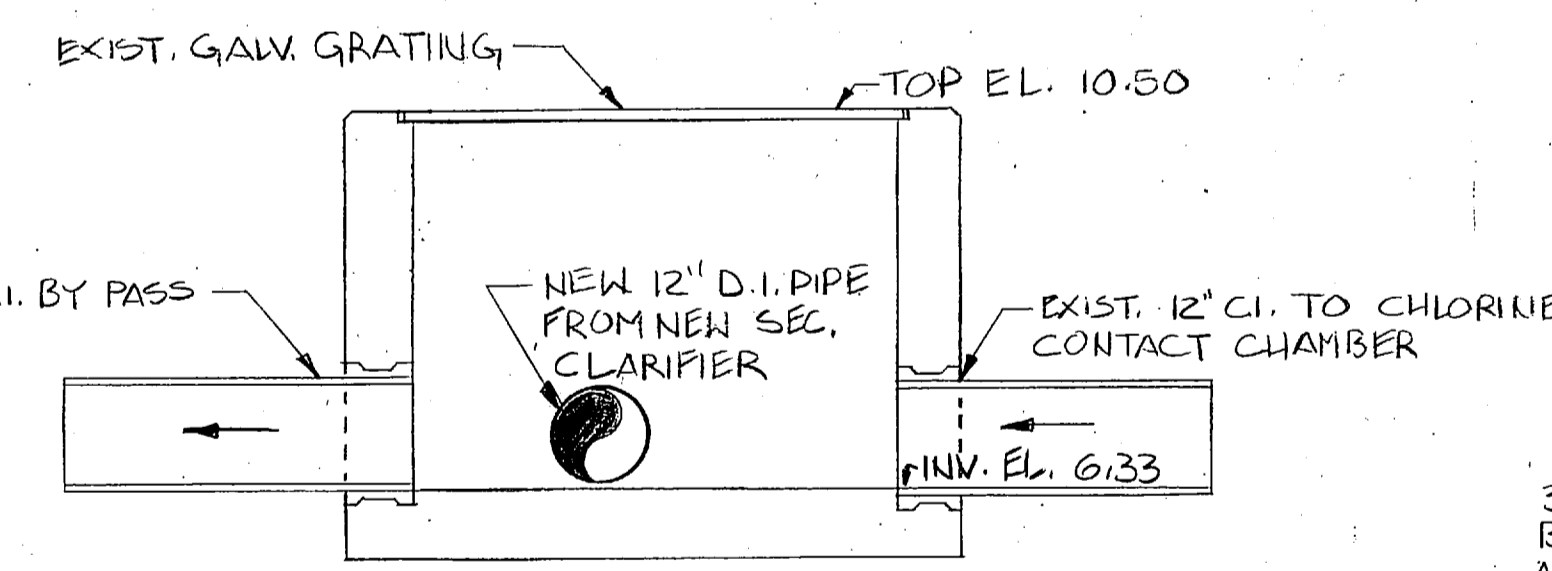


PUMP PLAN
SCALE: 3/8" = 1'-0"

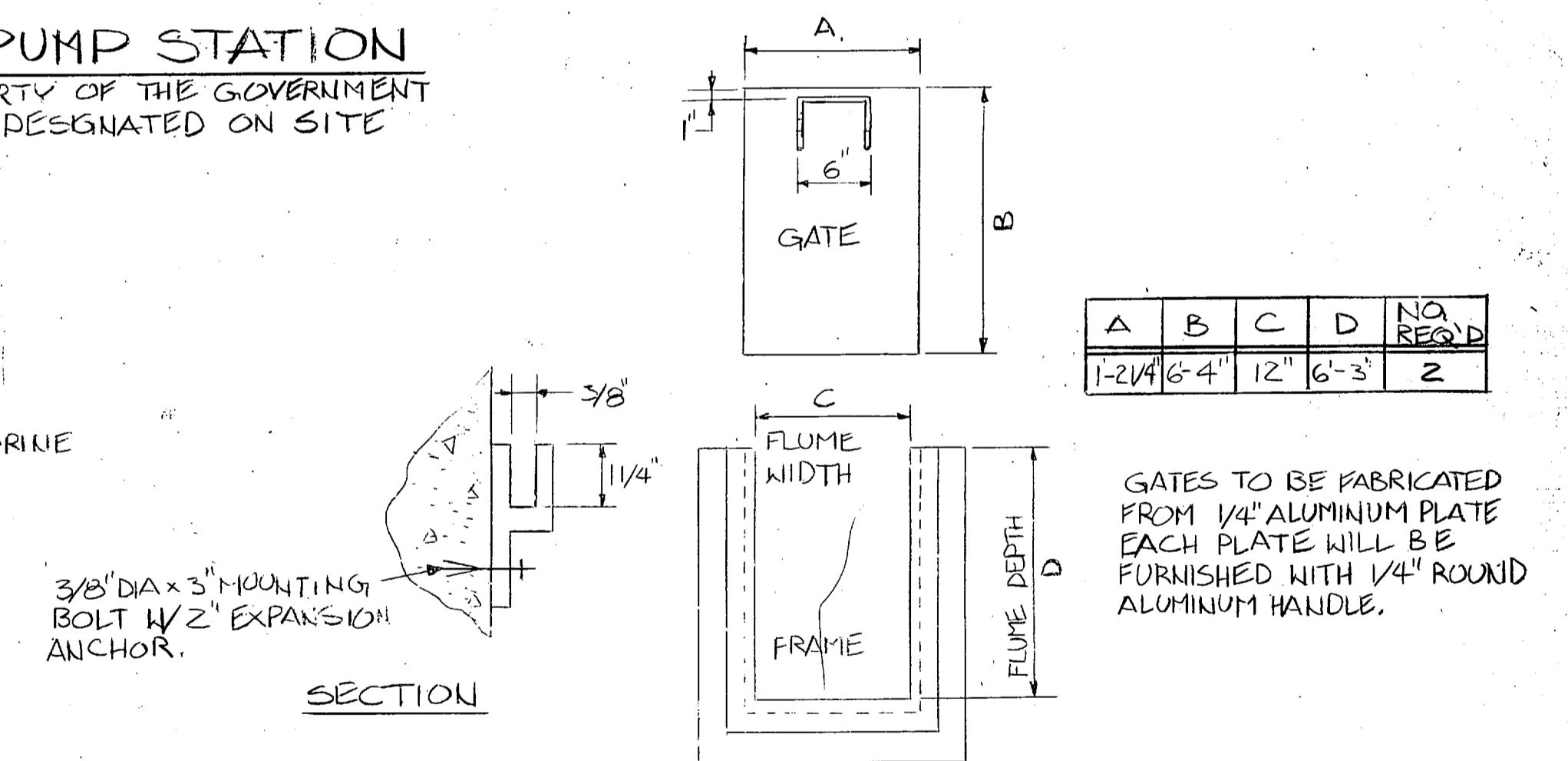


PIPING PLAN
SCALE: 3/8" = 1'-0"

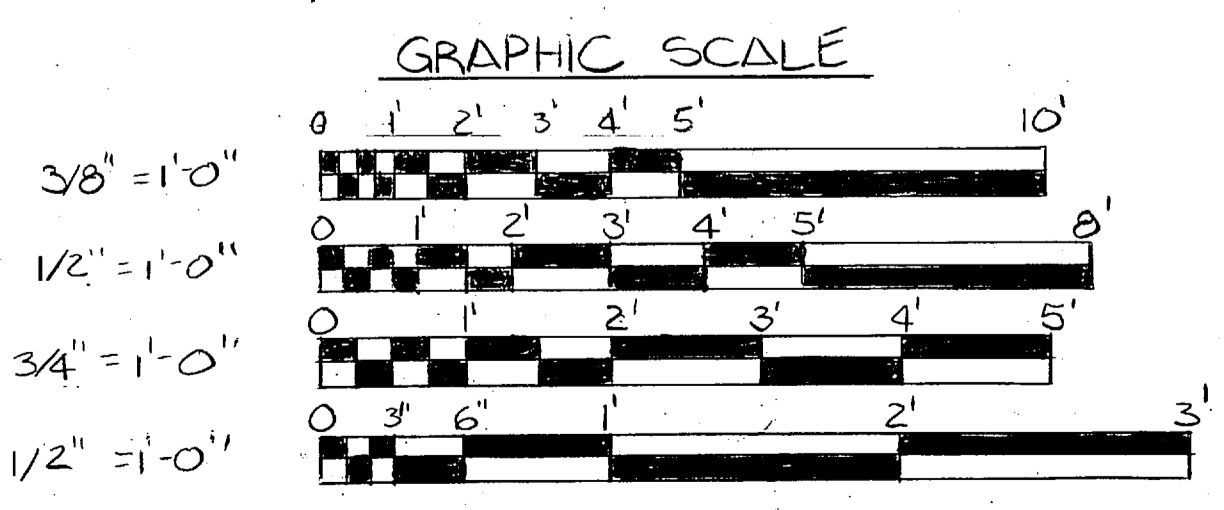
EXISTING TRICKLING FILTER PUMP STATION
ALL EQUIPMENT REMOVED REMAINS THE PROPERTY OF THE GOVERNMENT AND IS TO BE STORED AT A LOCATION AS DESIGNATED ON SITE BY THE CONTRACTING OFFICER.



SECTION 1
SCALE: 1/2" = 1'-0" C23/C23



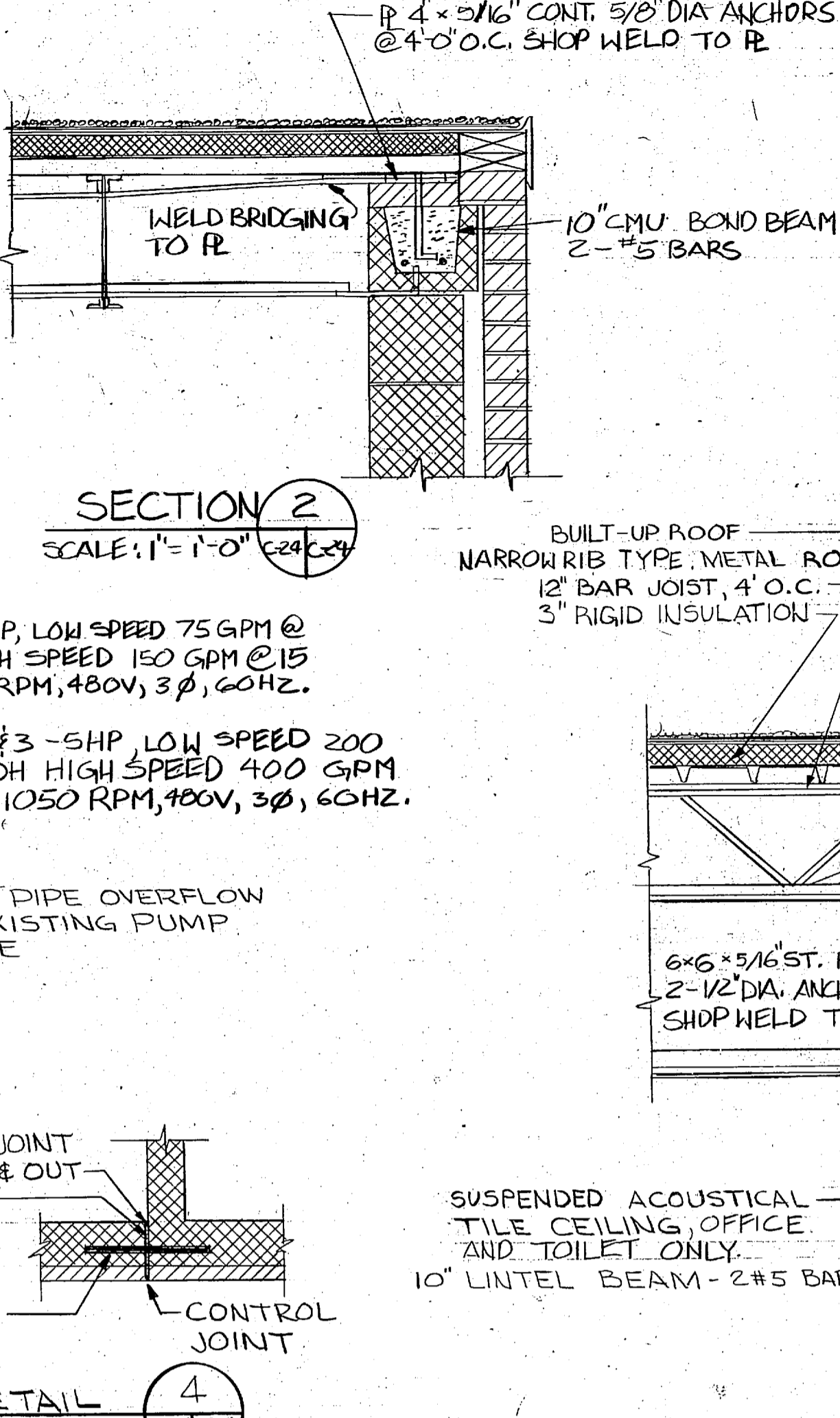
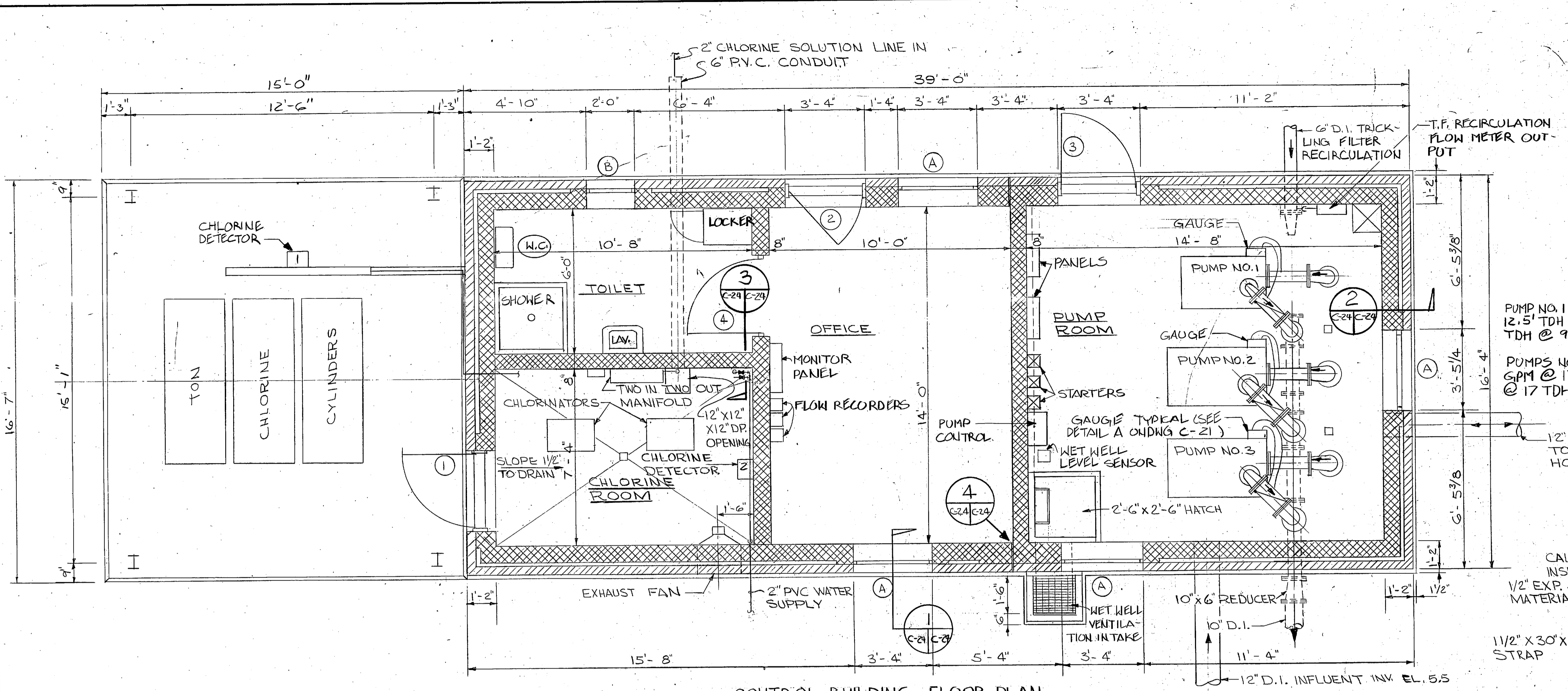
SURFACE MOUNTED STOP GATE
NO SCALE



C-23 L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION - NORFOLK, VIRGINIA	
		MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT EXISTING CONTROL BUILDING - WORK & AEROBIC DIGESTER SUPERNATANT PUMP	
DIS. BY: [Signature] PROJ. MGR. CH. ENGR. DATE: FIRM MEMBER RVD PRINCIPAL EPD/FP DATE: NO. DIR. DATE: APPROVED DATE: OFFICER IN CHARGE DATE: APPROVED DATE: FOR ETD FOR COMMANDER NAVAL	SIZE: F 80091 CODE IDENT NO.: NAVFAC DRAWING NO.: CONSTR. CONTR. NO. NS2470-B1-B-147B SCALE AS NOTED SPIC 05-B-147B SHEET NO. OF:	NAVFAC DIVISION WASTEWATER TREATMENT PLANT EXISTING CONTROL BUILDING - WORK & AEROBIC DIGESTER SUPERNATANT PUMP CONSTRUCTION CONTRACT NO. NS2470-B1-B-147B SHEET NO. OF:	

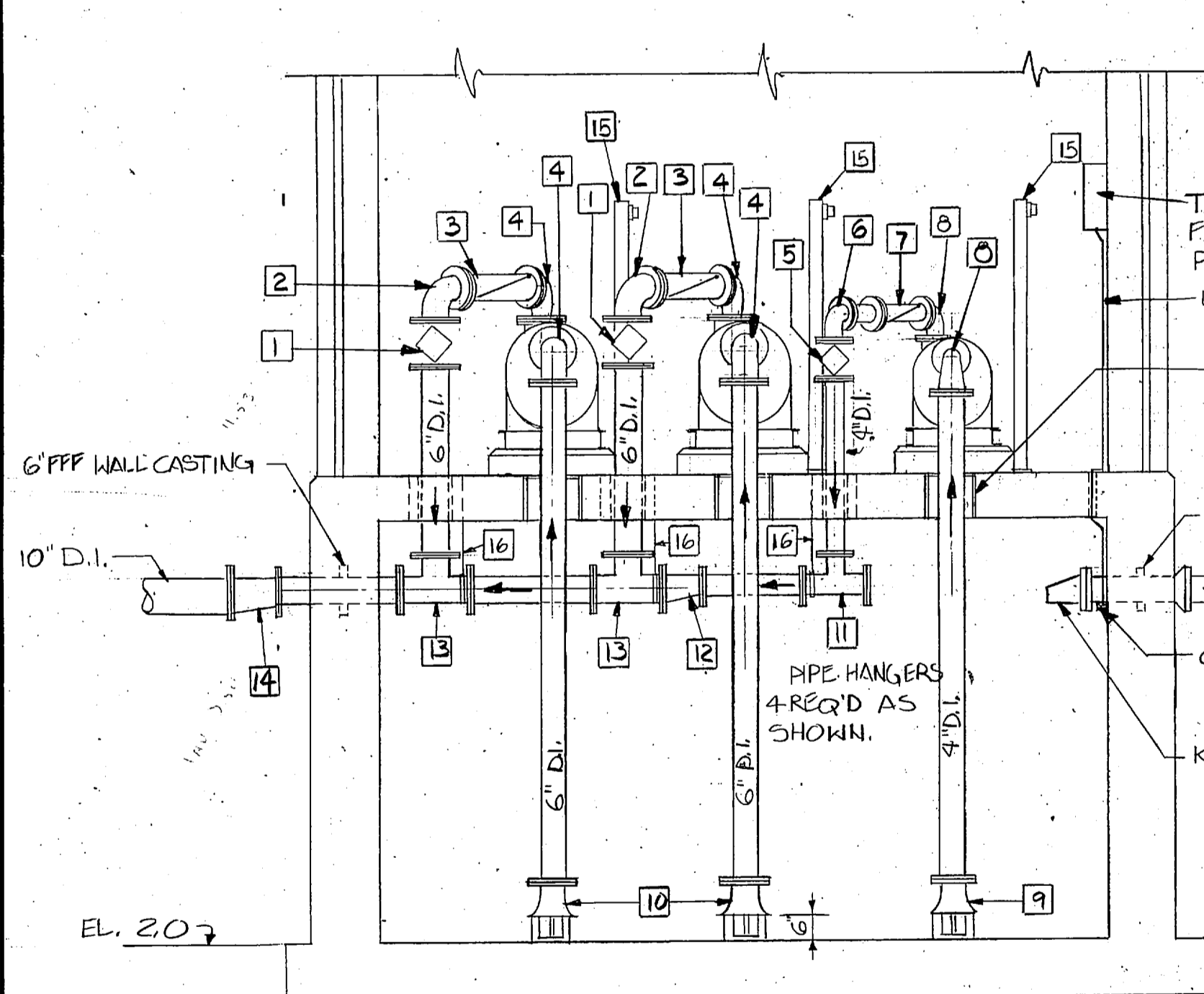
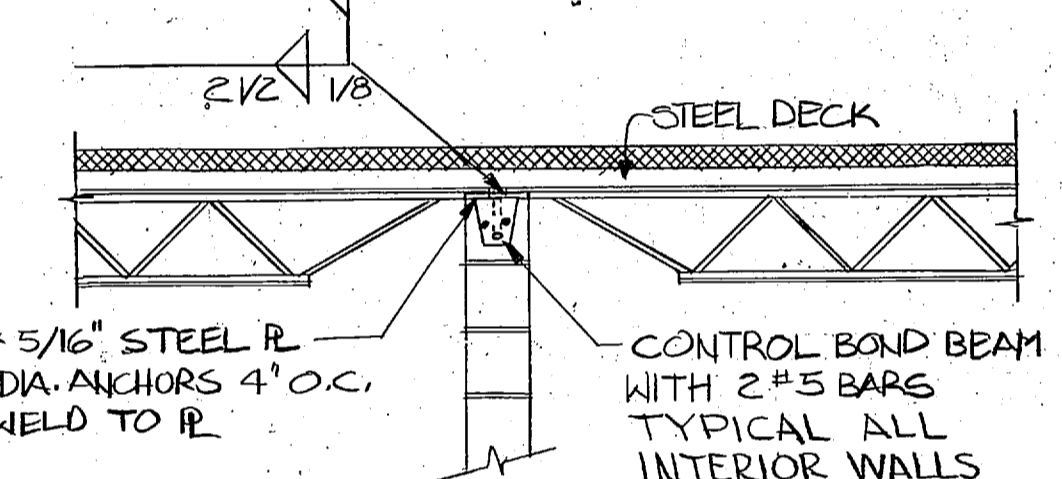
REVISIONS		
NO.	DESCRIPTION	DATE

**PRELIMINARY DRAWINGS
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CONSTRUCTION**

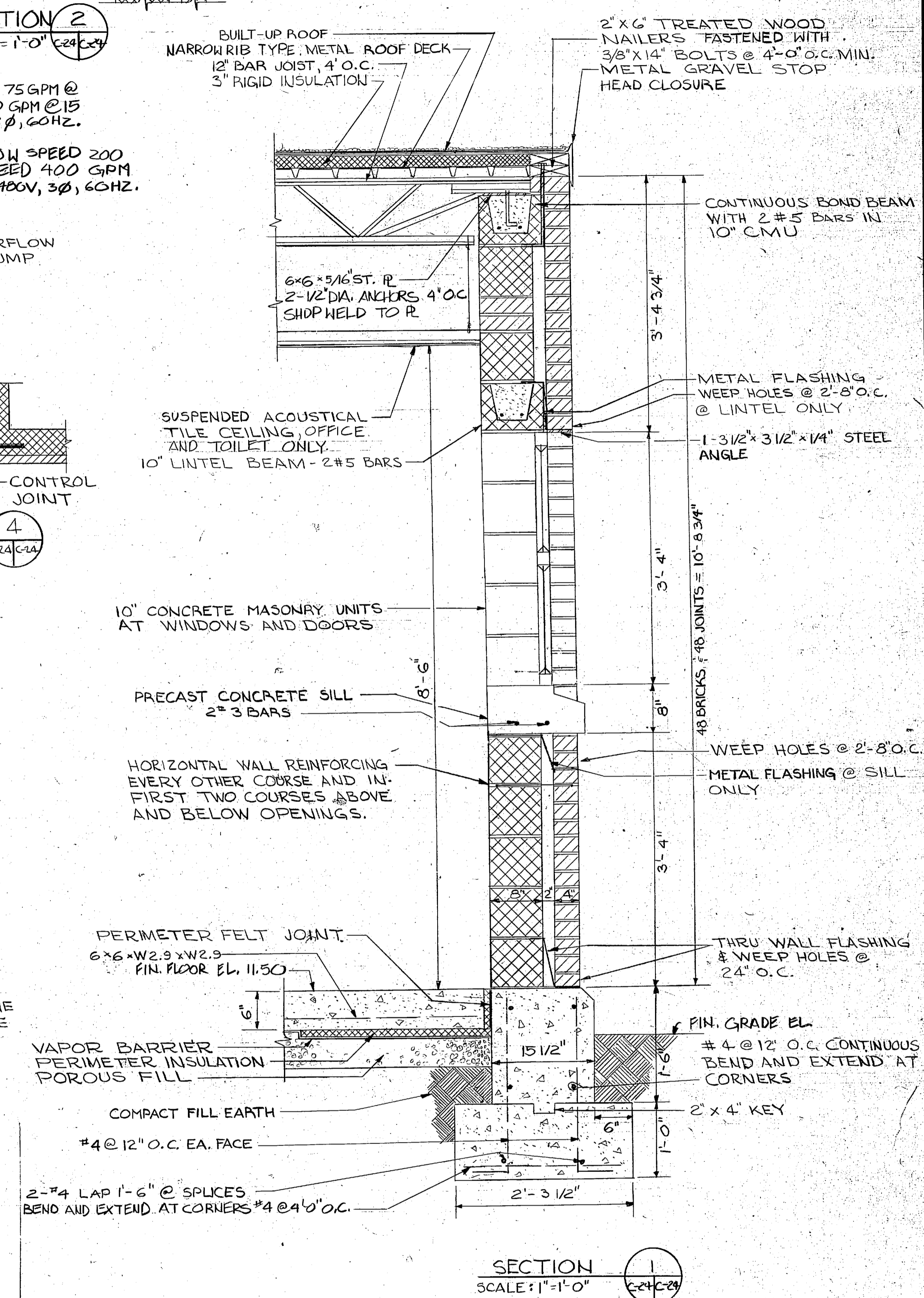
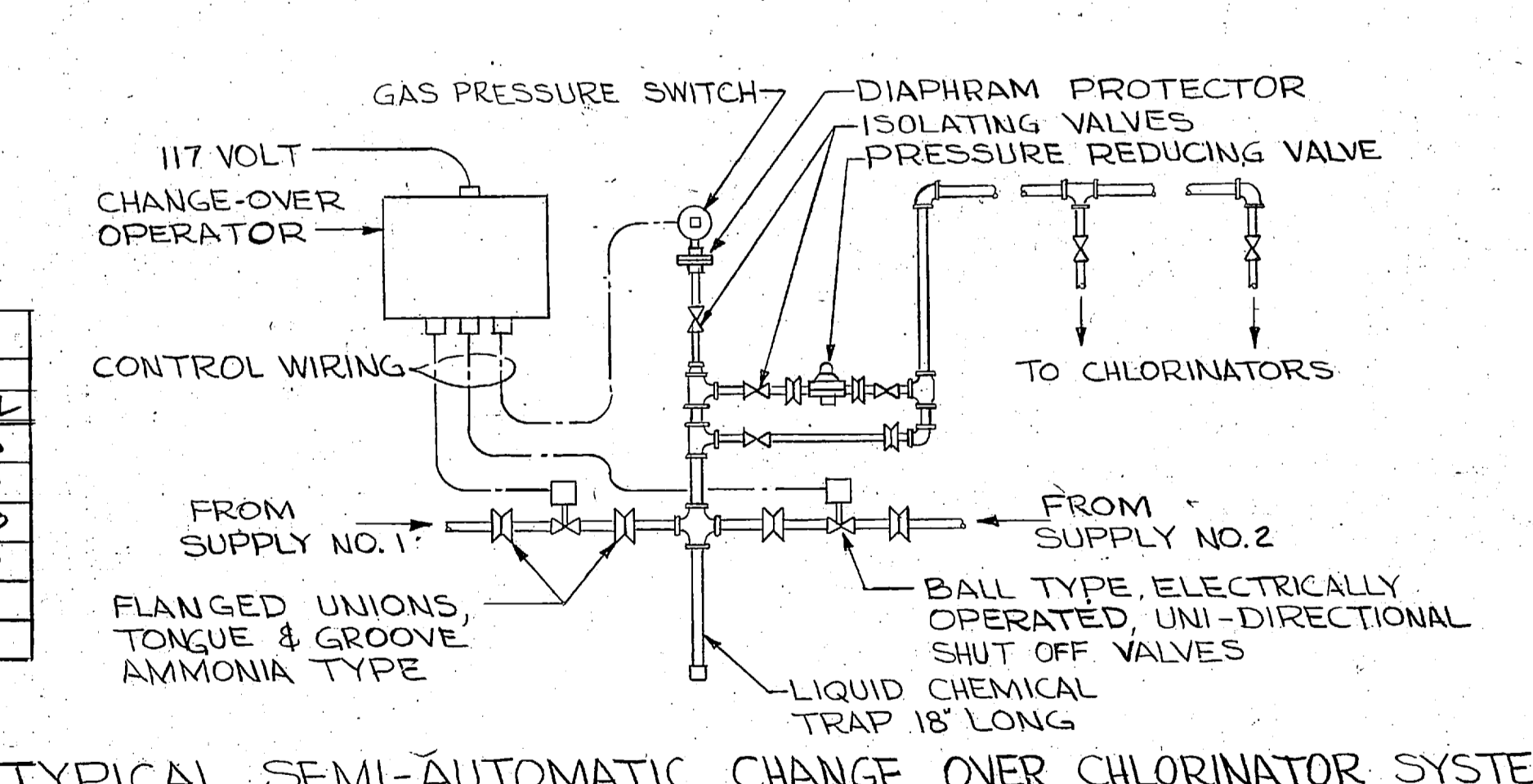
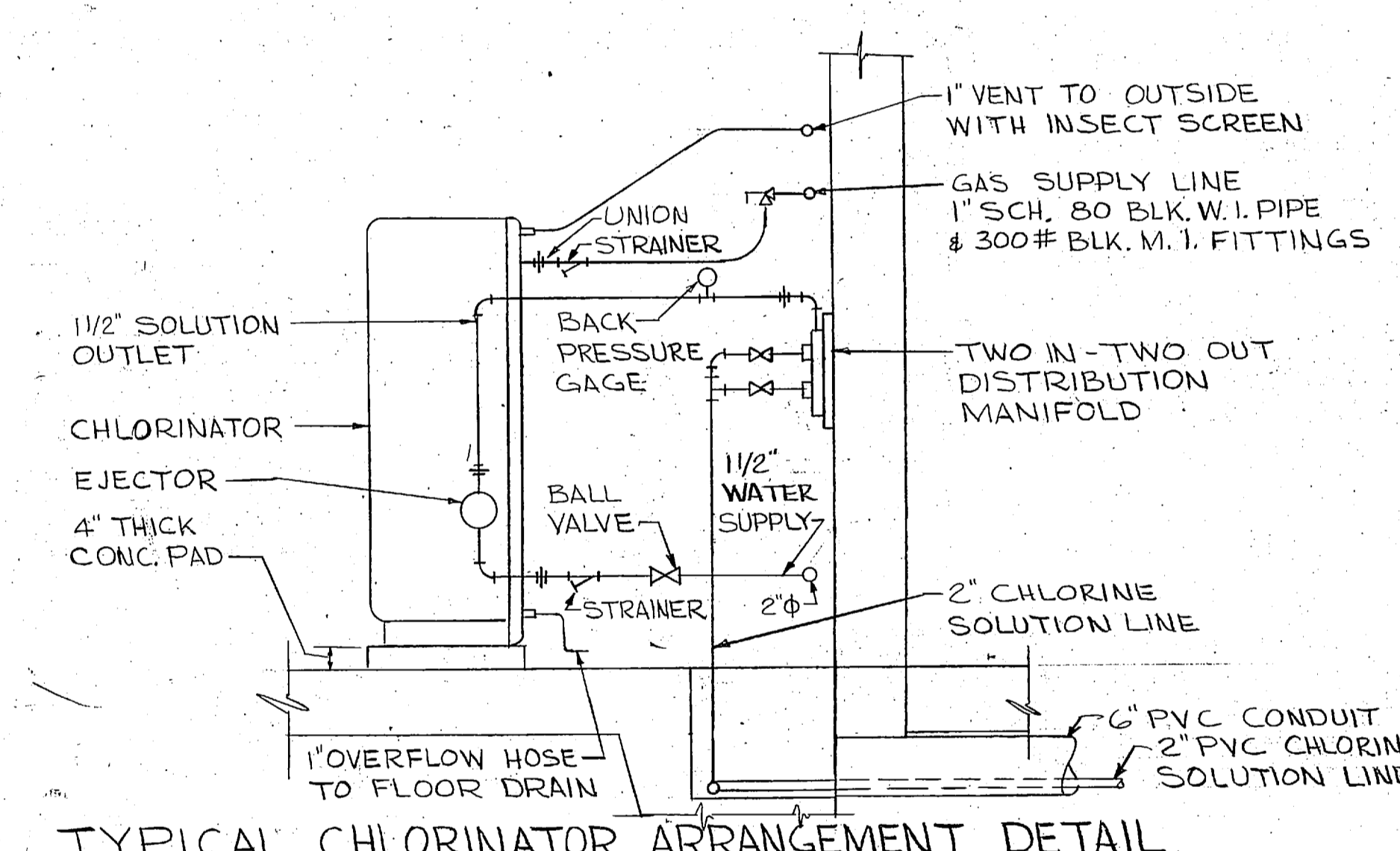


NOTE: CHLORINE DETECTORS
1. SHALL ACTIVATE ALARM HORN ONLY ON CHLORINE DETECTION.
2. SHALL ACTIVATE ALARM HORN AND START EXHAUST FAN UPON CHLORINE DETECTION.

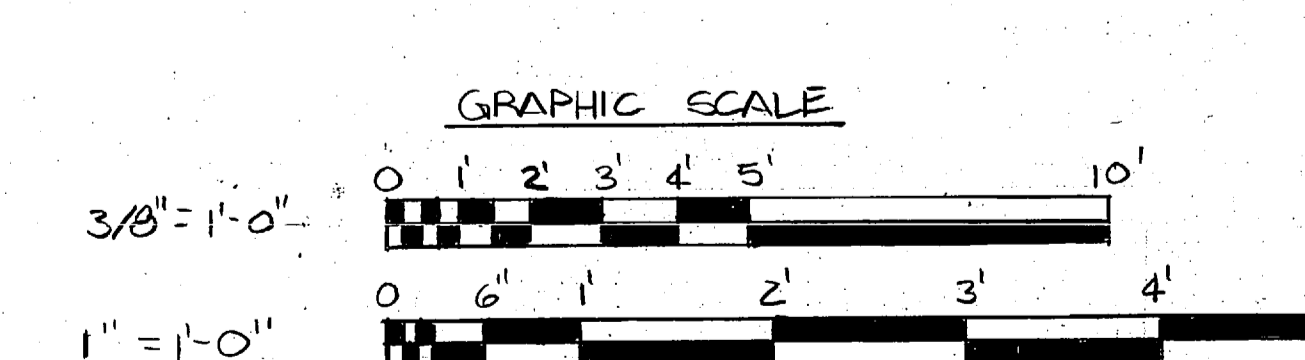
NOTE: SEE DWG C-26 FOR FLOOR SLAB AND FOUNDATION PLAN AND DETAILS



WATER LEVEL EL. - FT.	RISEING LEVEL - READ UP START PUMP	TRALLING LEVEL - READ DOWN STOP PUMP	6 PM TOTAL
7.5	#3 HI SPEED	PUMPS 2 & 3 RUNNING	806
6.5	#2 HI SPEED	#3	400
6.0	#2 LO SPEED #1	#2 LO SPEED #2 HI SPEED	200
5.5	#1 HI SPEED	#1 HI SPEED #2	150
5.0	#1 LO SPEED	#1 LO SPEED #1 HI SPEED	75
4.5	NO PUMPS RUNNING	#1	0



NO.	DESCRIPTION	NO. REQ'D	NO.	DESCRIPTION	NO. REQ'D
1	6" PLUG VALVE	2	9	4" FLARE SLUDGE SHOE	1
2	6" ELBOW	2	10	6" FLARE SLUDGE SHOE	2
3	6" CHECK VALVE	2	11	4" x 4" x 4" TEE	1
4	4" x 6" REDUCING ELBOW	4	12	4" x 6" REDUCER (ECCENTRIC)	1
5	4" PLUG VALVE	1	13	6" x 6" x 6" TEE	2
6	4" ELBOW	1	14	6" x 10" REDUCER (ECCENTRIC)	1
7	4" CHECK VALVE	1	15	PRESSURE & VACUUM GAUGE	3
8	3" x 4" REDUCING ELBOW	2	16	PIPE HANGER	3

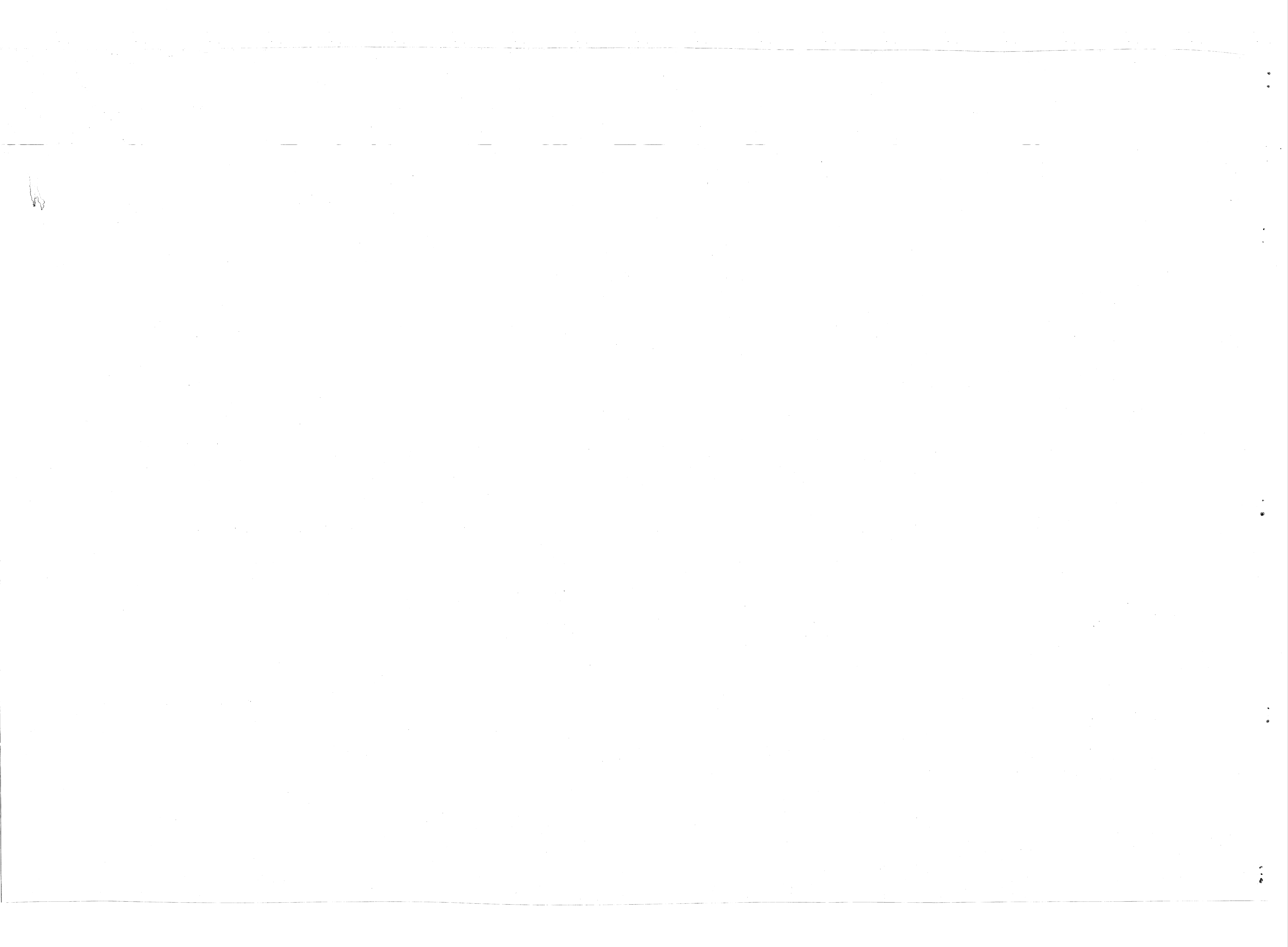


L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT	
DIS.	DR.	CHE.	
PROJ. MGR.	CH. ENGR.	DATE	
SUBMITTED BY	DATE		
FIRM MEMBER	PRINCIPAL		
APP'D BY	DATE		
OFFICER IN CHARGE	DATE		

C-24

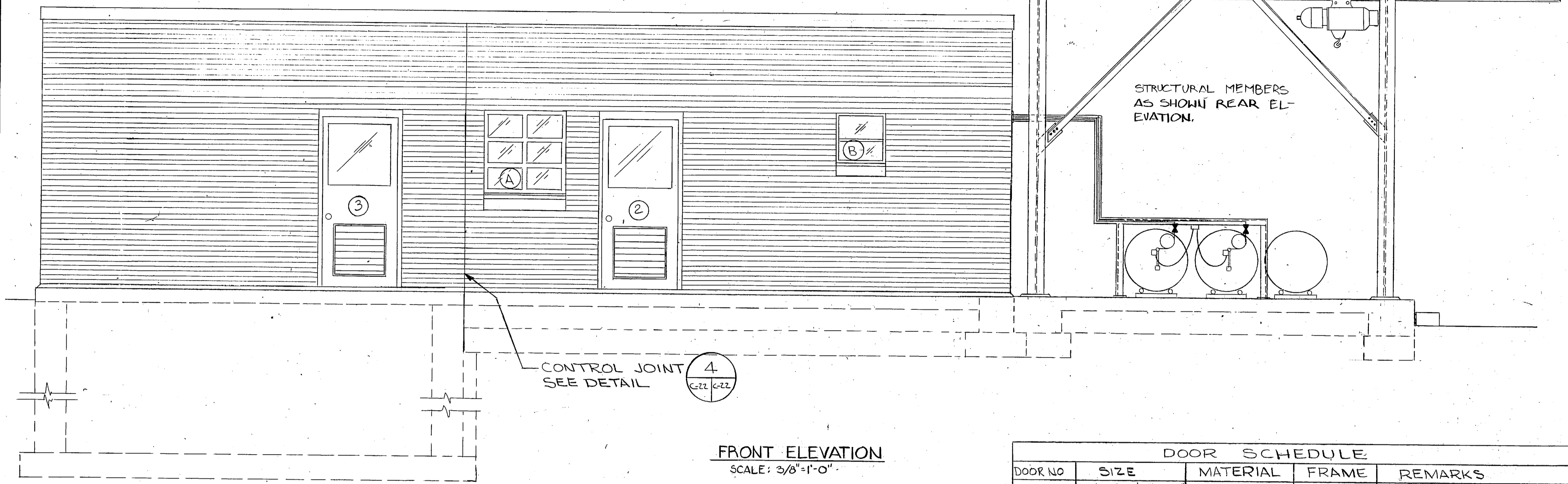
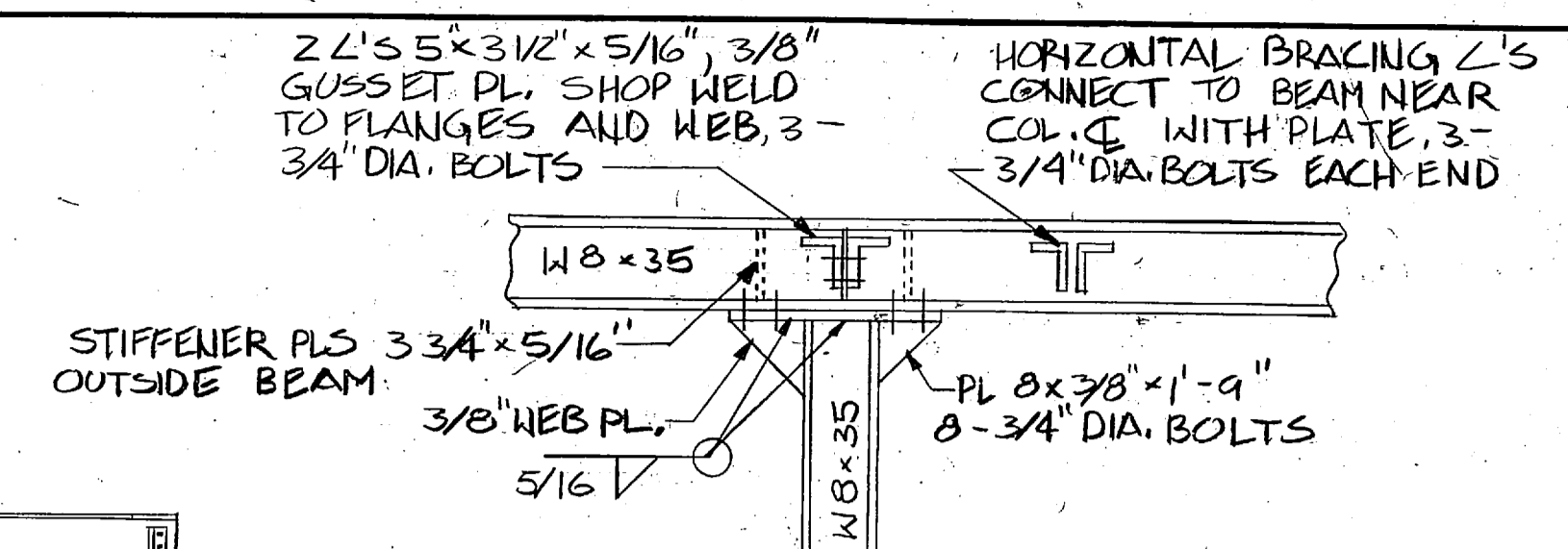
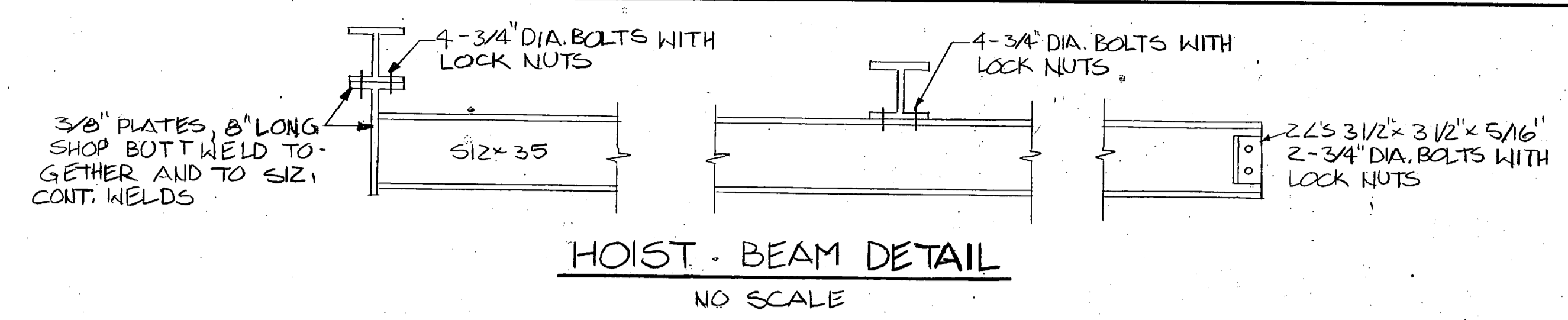
CONTROL BUILDING

SCALE AS NOTED SPEC. 05-81-1478

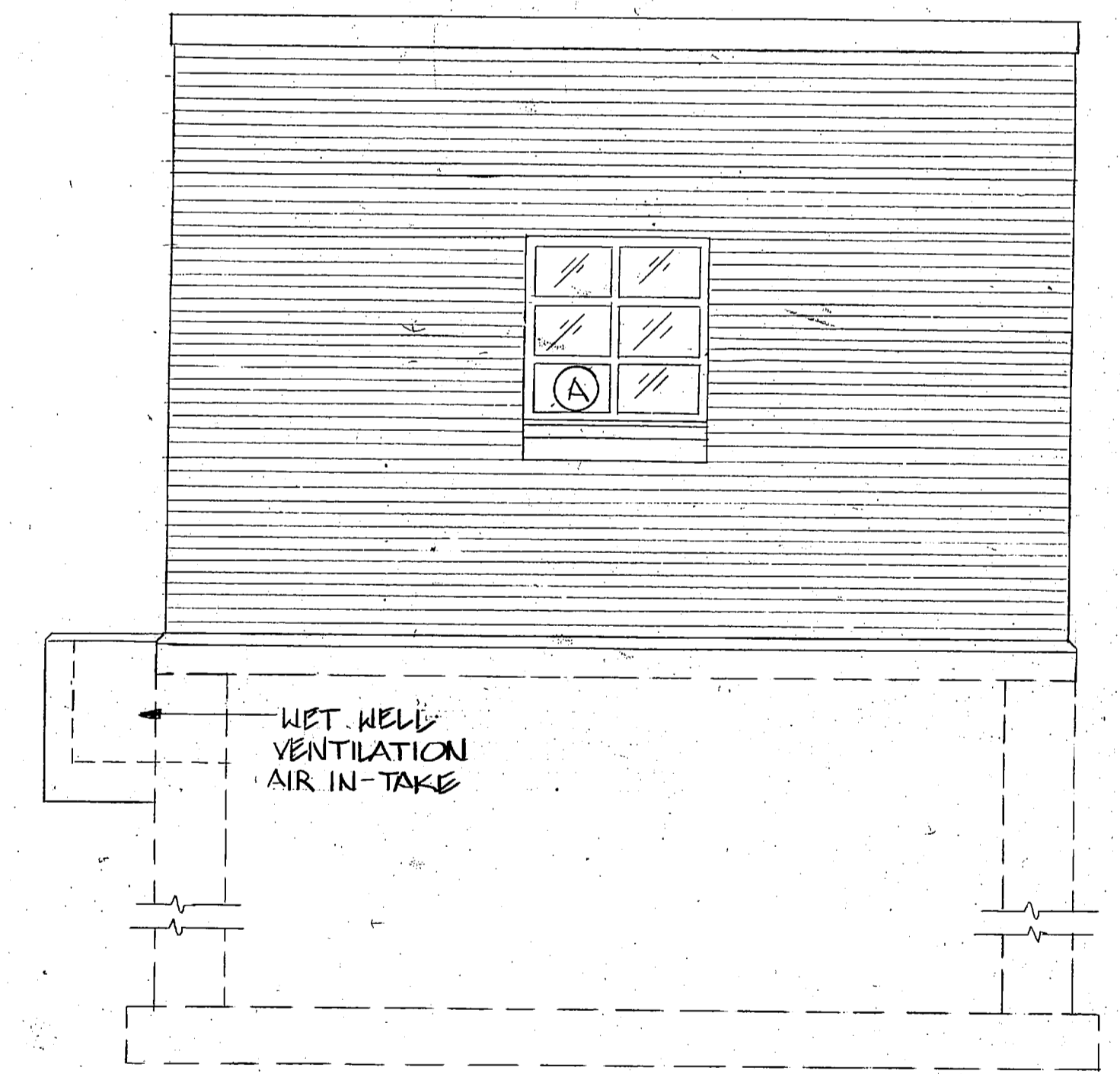
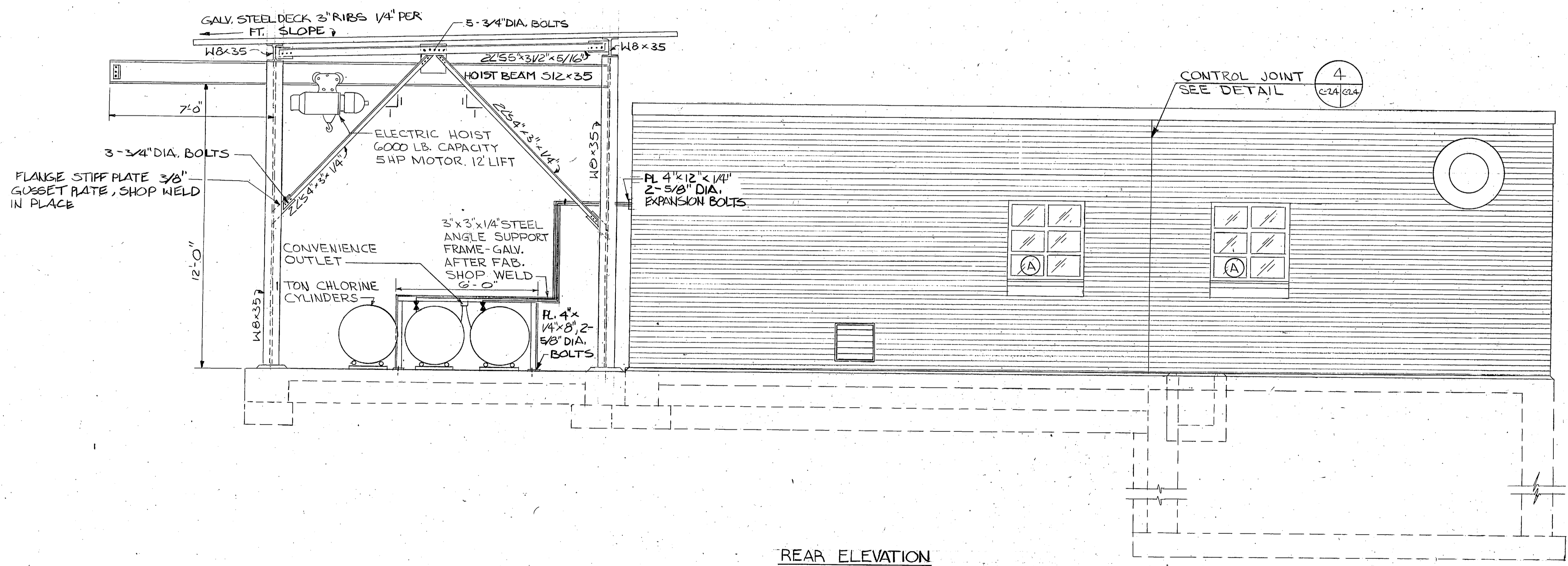
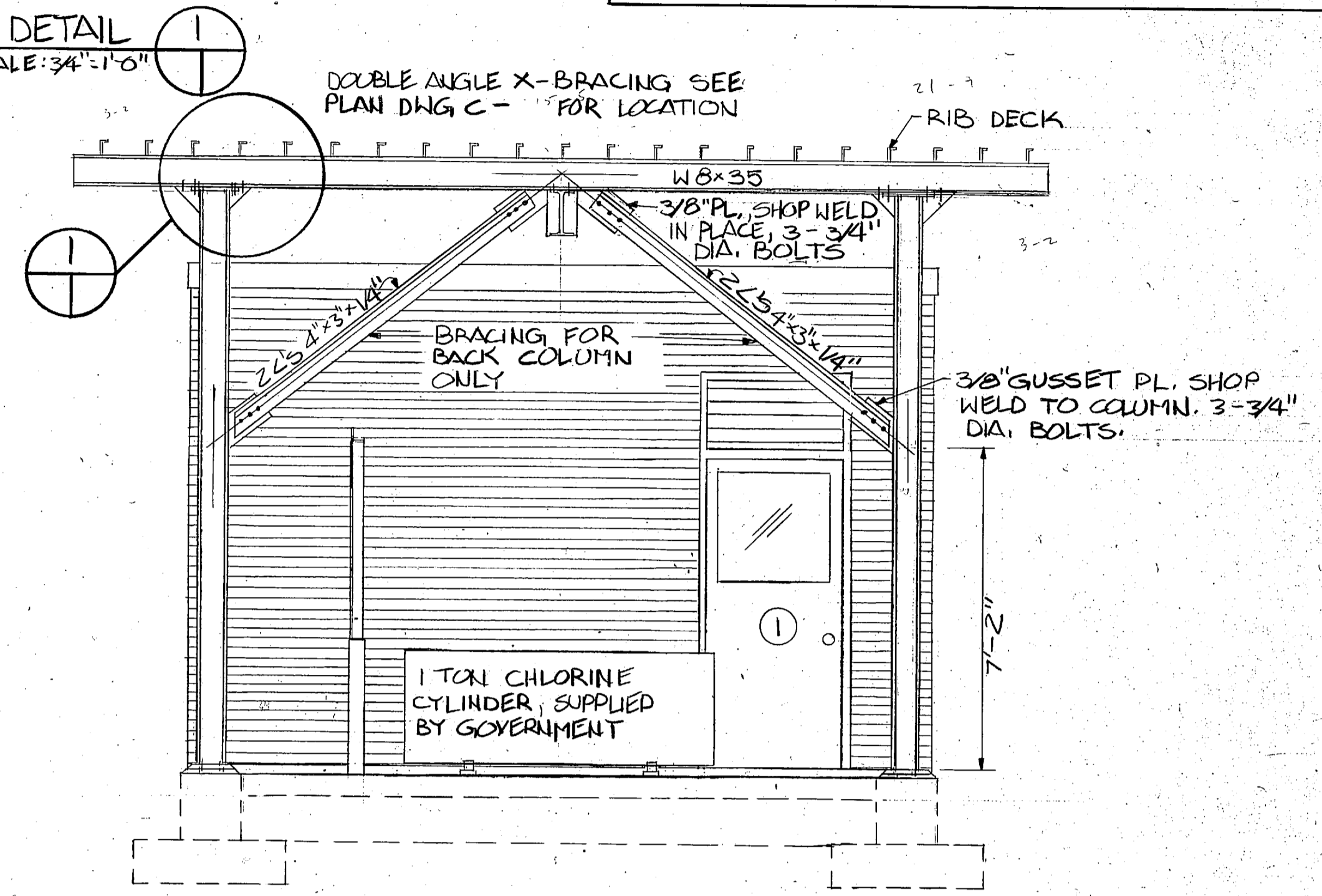


REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED

**PRELIMINARY DRAWINGS
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CONSTRUCTION**

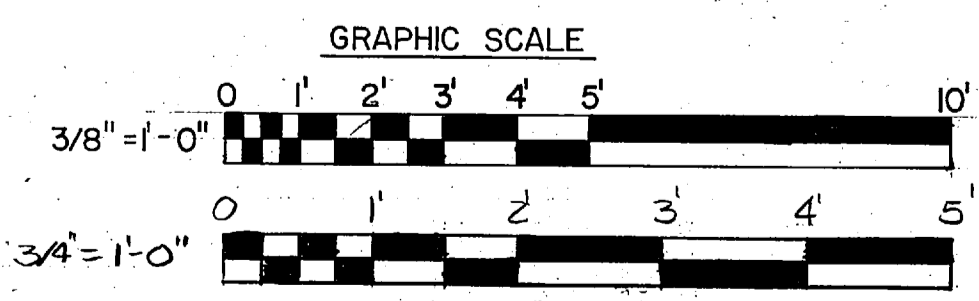


DOOR NO.	SIZE	MATERIAL	FRAME	REMARKS	HDW. NO.
1	3'-0" x 7'-0" x 1 3/4"	METAL	METAL	TRANSOM W/ LOWER DAMPER, GLASS TOP HALF	
2	3'-0" x 7'-0" x 1 3/4"	METAL	METAL	GLASS TOP HALF, LOWER, GRN. DAMPER BOTT.	
3	3'-0" x 7'-0" x 1 3/4"	METAL	METAL	GLASS TOP HALF, LOWER, GRN. DAMPER BOTT.	
4	3'-0" x 7'-0" x 1 3/4"	WOOD	METAL	GLASS TOP HALF, LOWER, GRN. DAMPER BOTT.	
5	3'-0" x 7'-0" x 1 3/4"	METAL	METAL	GLASS TOP HALF, LOWER, GRN. DAMPER BOTT.	



WINDOW NOTATION	SIZE	MATERIAL	TYPE	REMARKS
A	3'-4" x 3'-4"	STEEL	COMB (PROJ. FIXED)	
B	2'-0" x 2'-0"	STEEL	PROJ.	

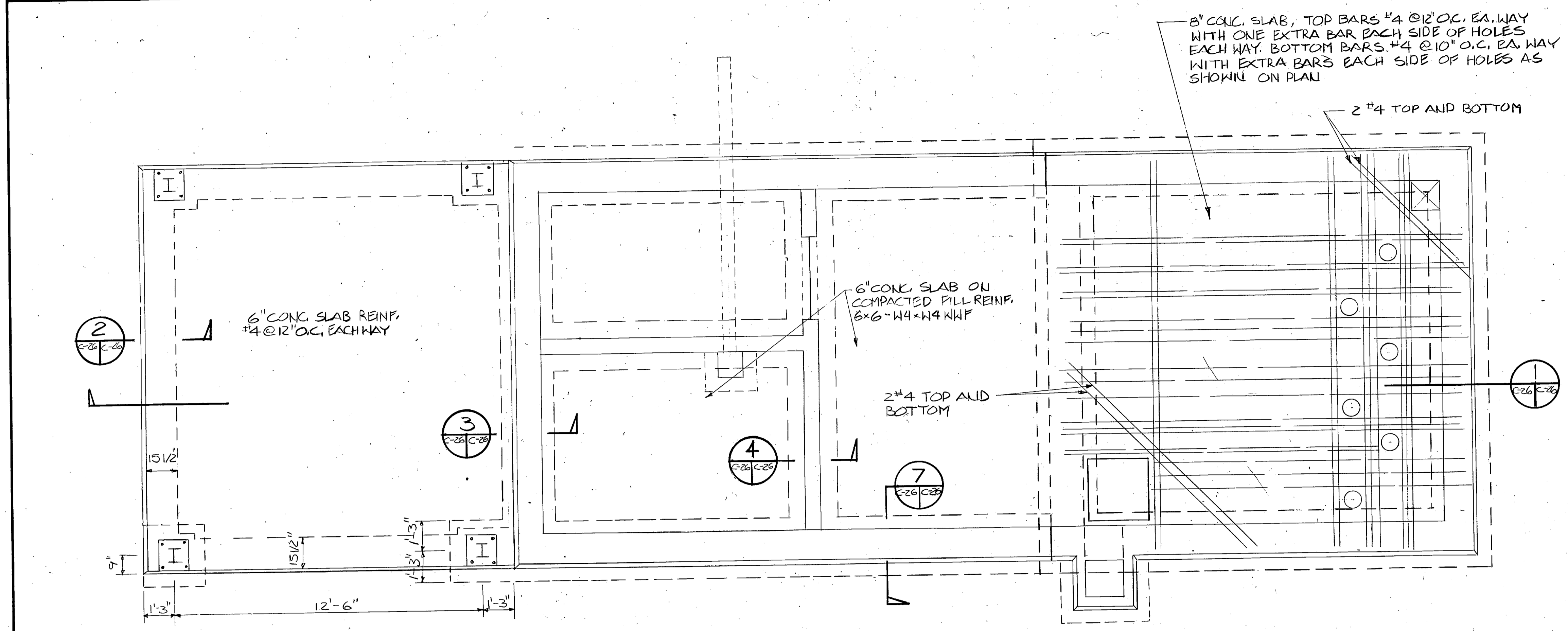
ROOM	FLOOR		BASE		WALLS		CEILING	
	FINISH	COLOR	FINISH	COLOR	FINISH	COLOR	FINISH	COLOR
CHLORINE RM.	PAINTED CONC.				PAINTED MASONRY		PAINTED JOIST & DECK	
OFFICE	VINYL ASBESTOS TILE		VINYL		PAINTED MASONRY		LAY IN ACOUSTIC TILE	
TOILET	VINYL ASBESTOS TILE		VINYL		PAINTED MASONRY		LAY IN ACOUSTIC TILE	
PUMP RM.	PAINTED CONC.				PAINTED MASONRY		PAINTED JOIST & DECK	



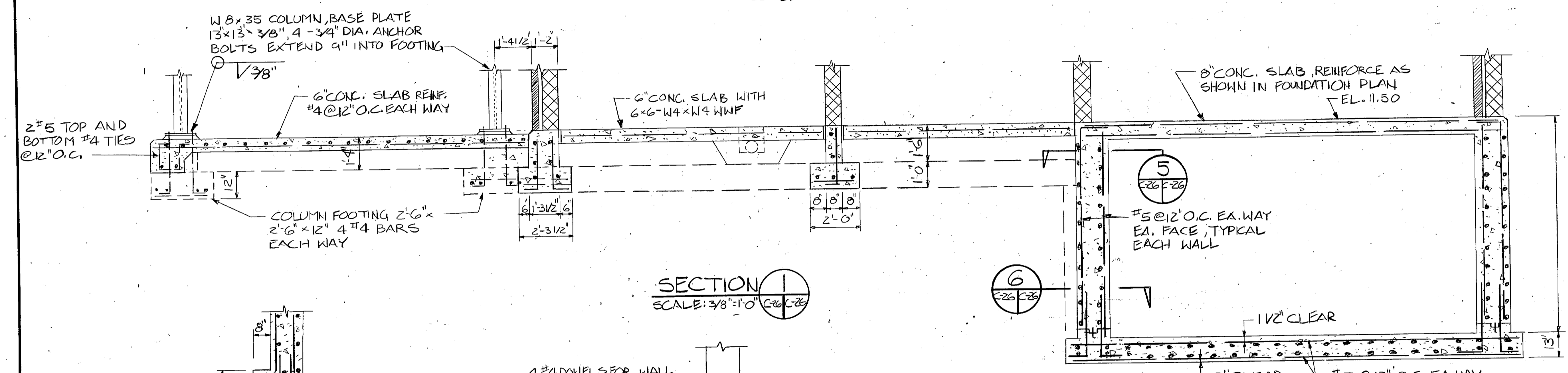
C-25 L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT CONTROL BUILDING ELEVATIONS	
DESIGNED BY: [Signature] CHECKED BY: [Signature] SUBMITTED BY: [Signature] FIRM MEMBER: [Signature] HD: [Signature]	DATE: [Date] DATE: [Date] DATE: [Date]	SIZE: F 80091 CODE IDENT NO: [Code] NAVFAC DRAWING NO: [Code]	CONSTE. CONIS. NO. N62470-BI-B-1478 SCALE AS NOTED SPEC. 05-BI-1478 SHEET: OF



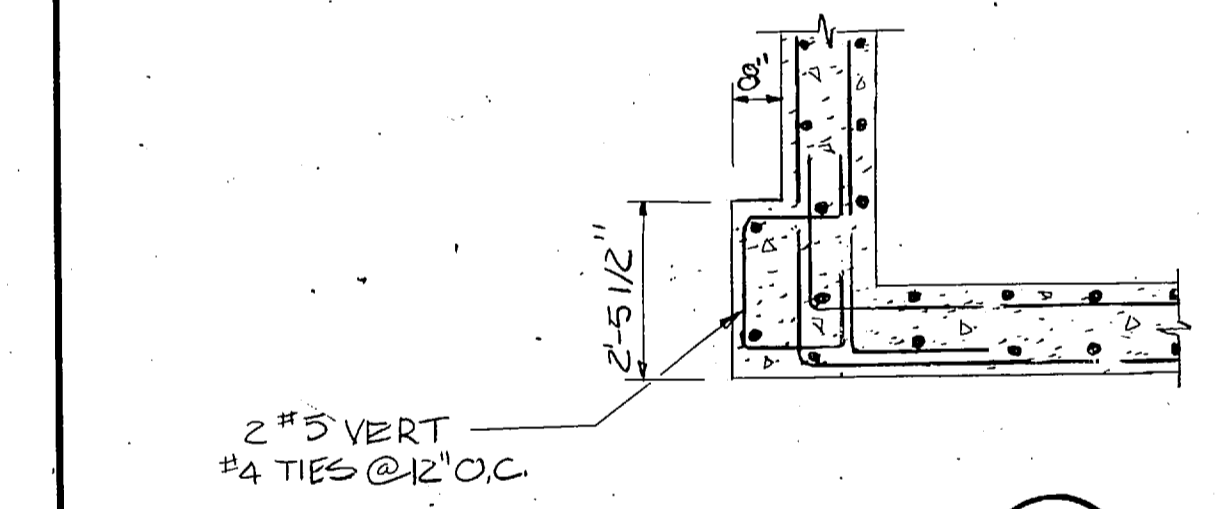
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



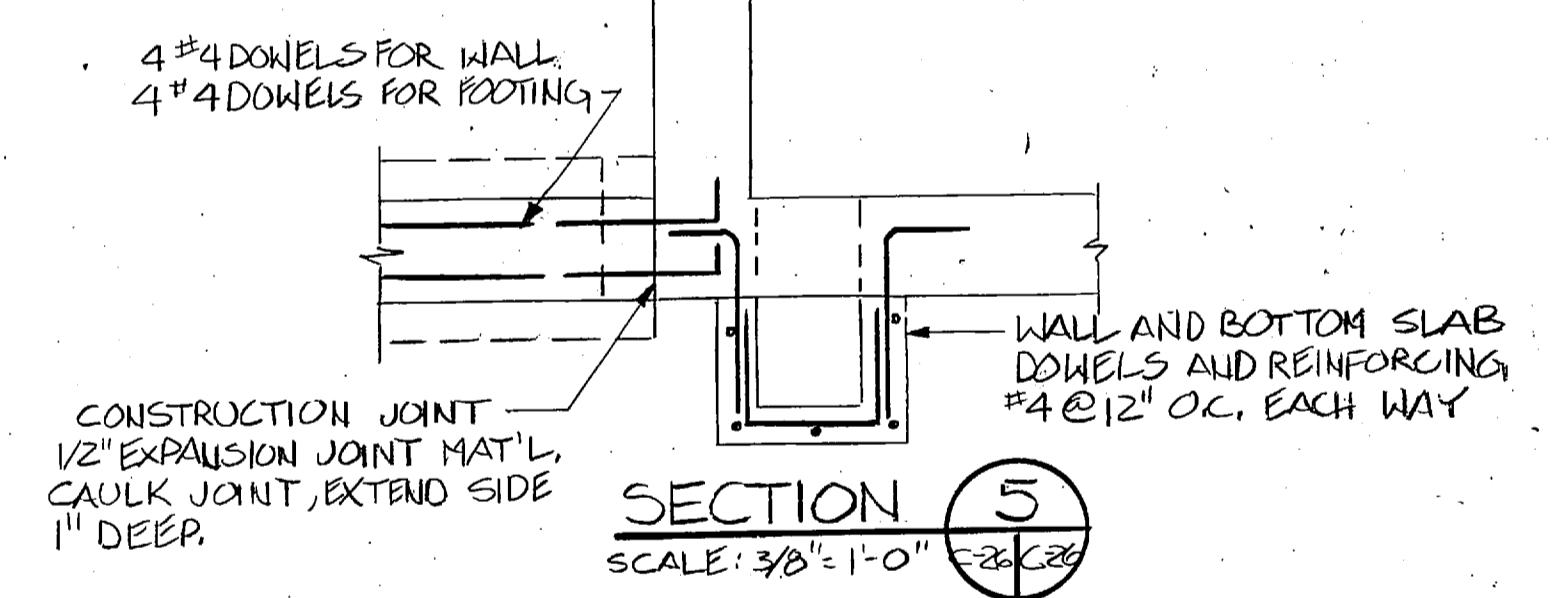
FOUNDATION PLAN
SCALE: 3/8" = 1'-0"



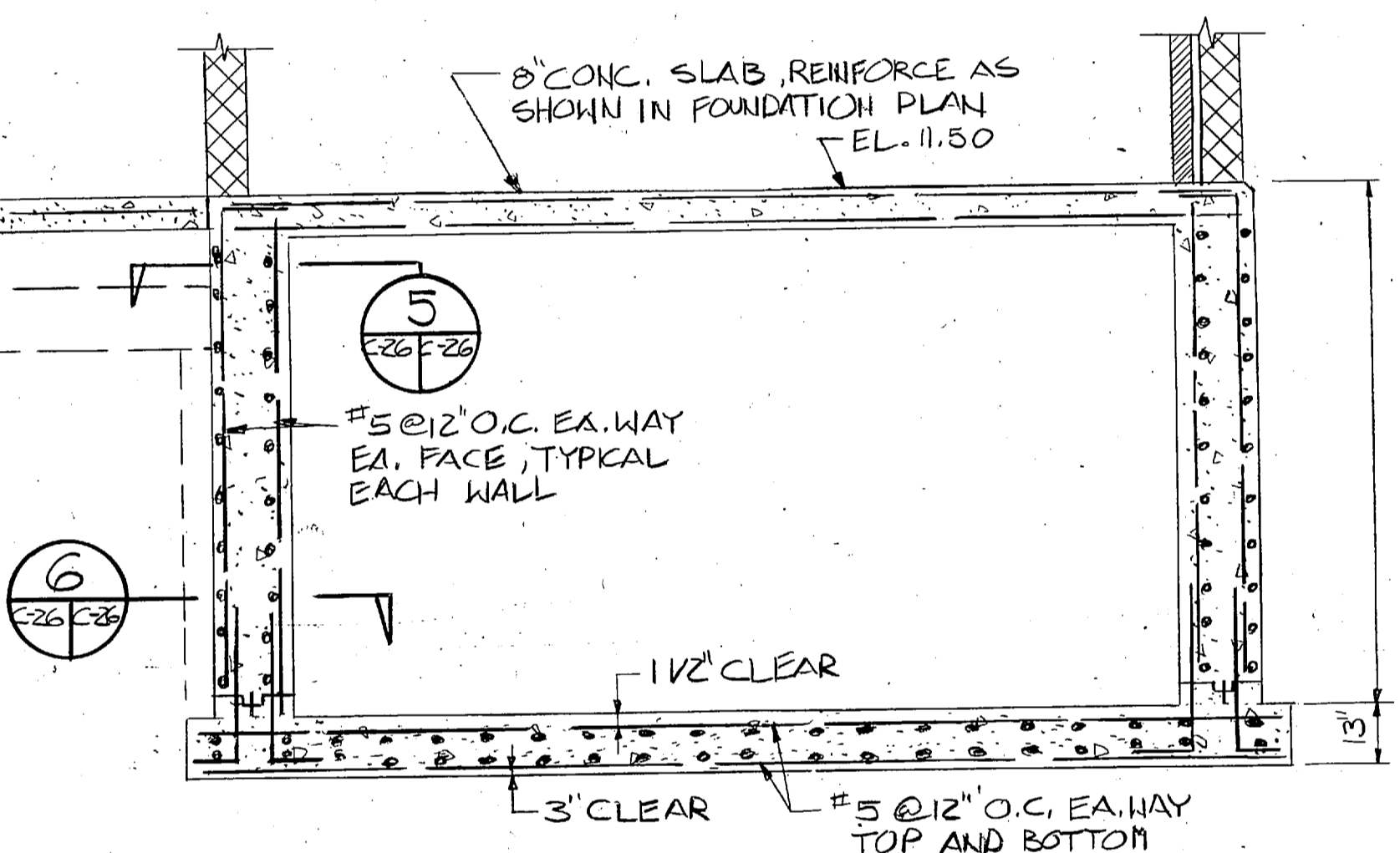
SECTION 1
SCALE: 3/8" = 1'-0"



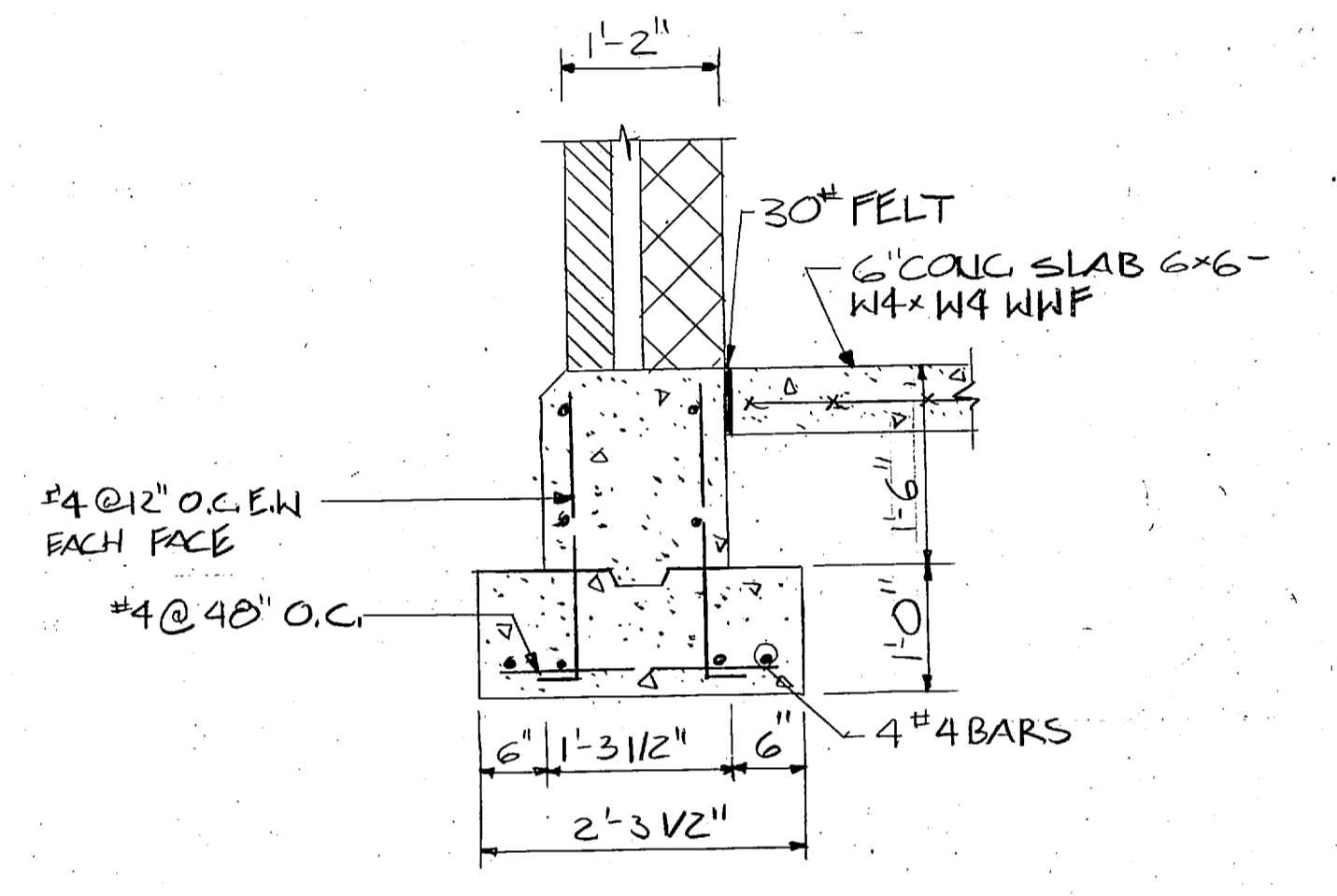
SECTION 6
SCALE: 3/8" = 1'-0"



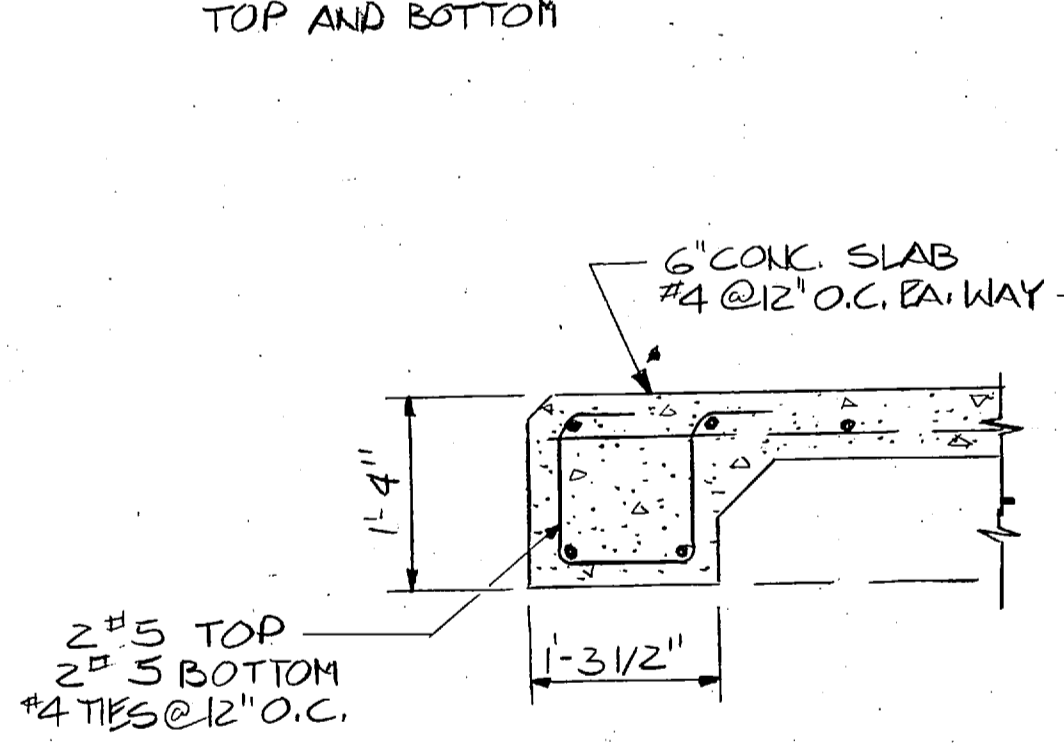
SECTION 5
SCALE: 3/8" = 1'-0"



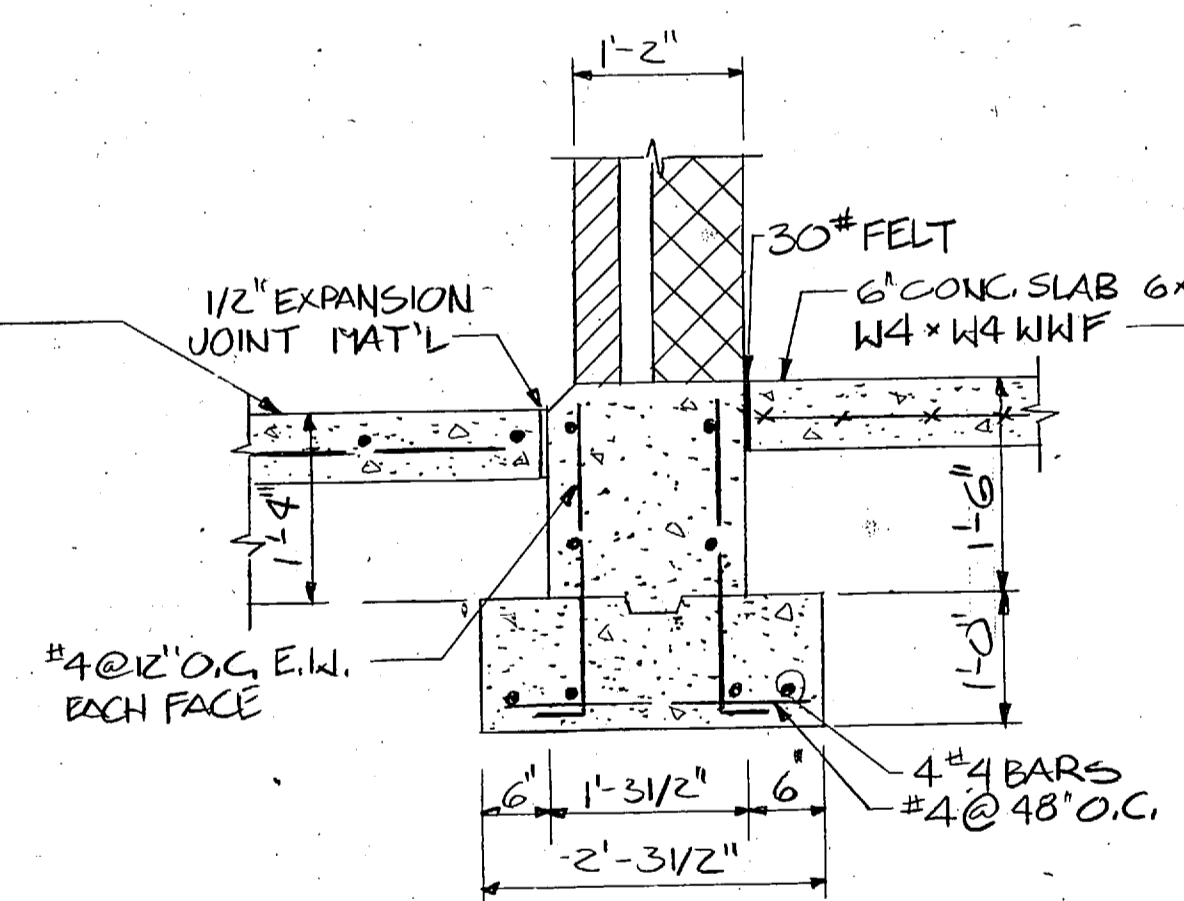
SECTION 7
SCALE: 3/4" = 1'-0"



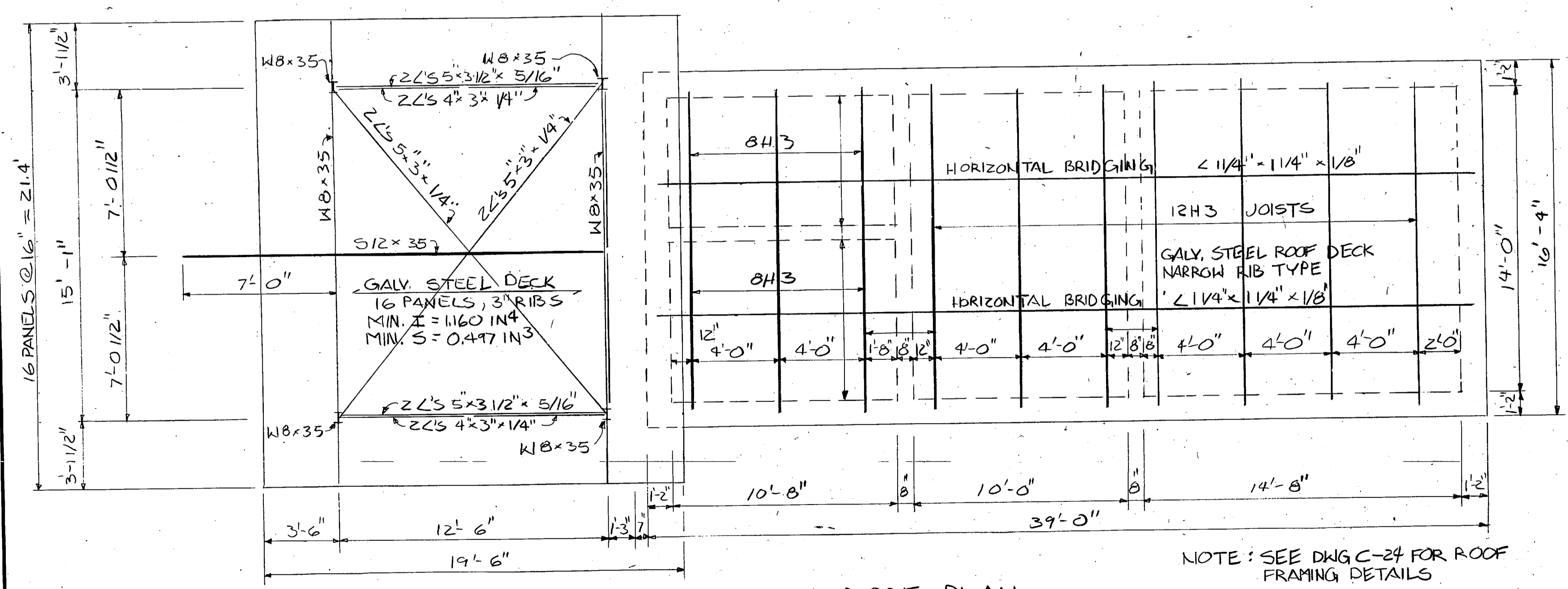
SECTION 4
SCALE: 3/4" = 1'-0"



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

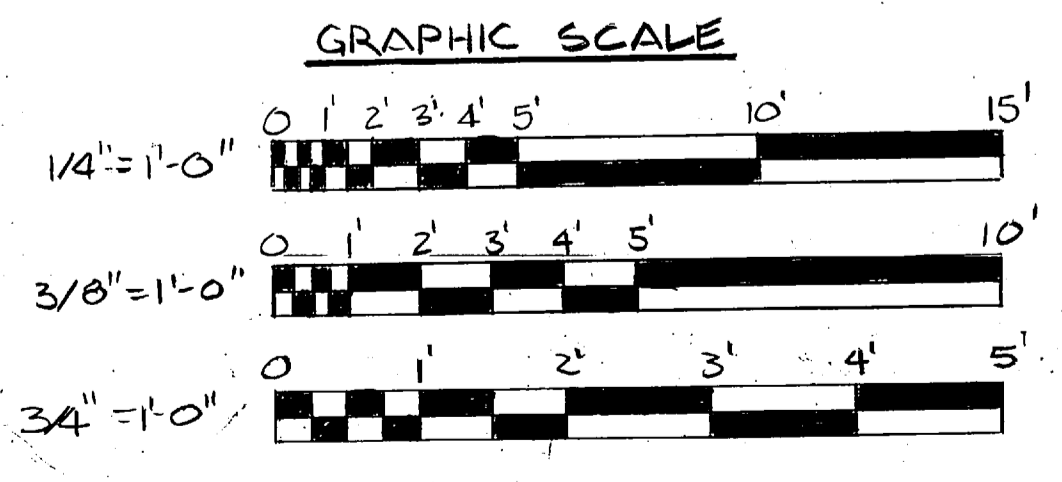


SECTION 3
SCALE: 3/4" = 1'-0"



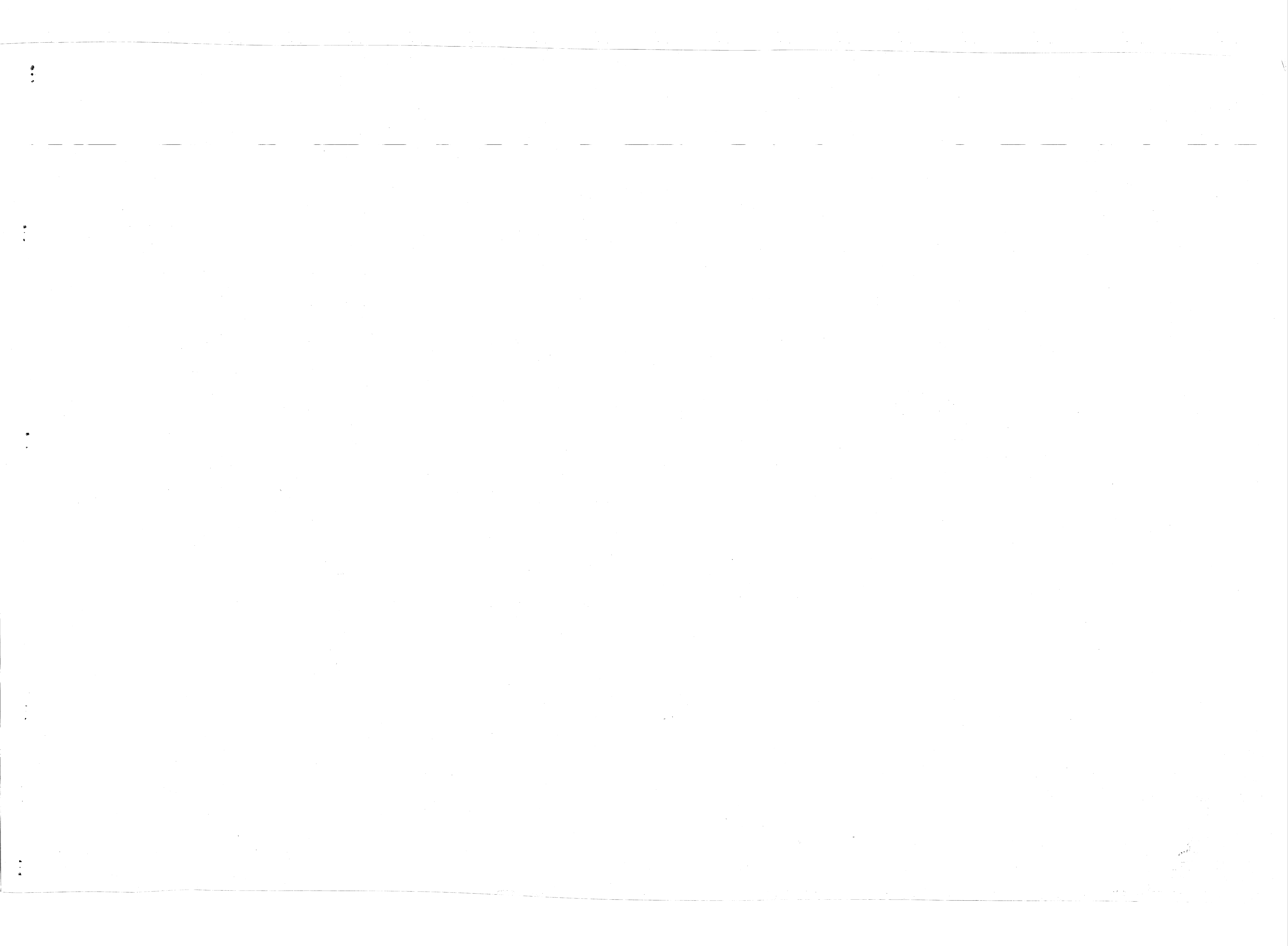
ROOF PLAN
SCALE: 1/4" = 1'-0"

NOTE: SEE DWG C-27 FOR ROOF FRAMING DETAILS



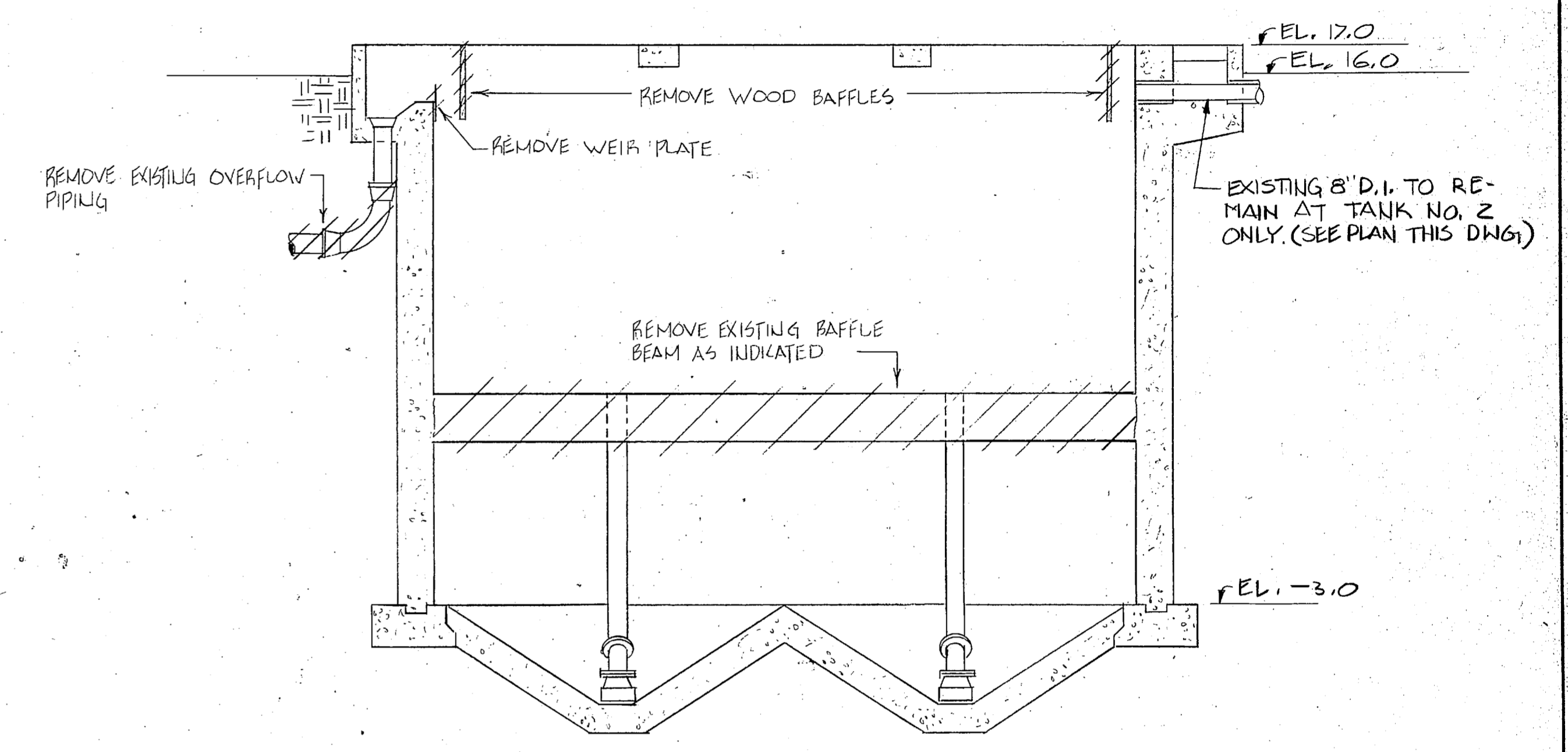
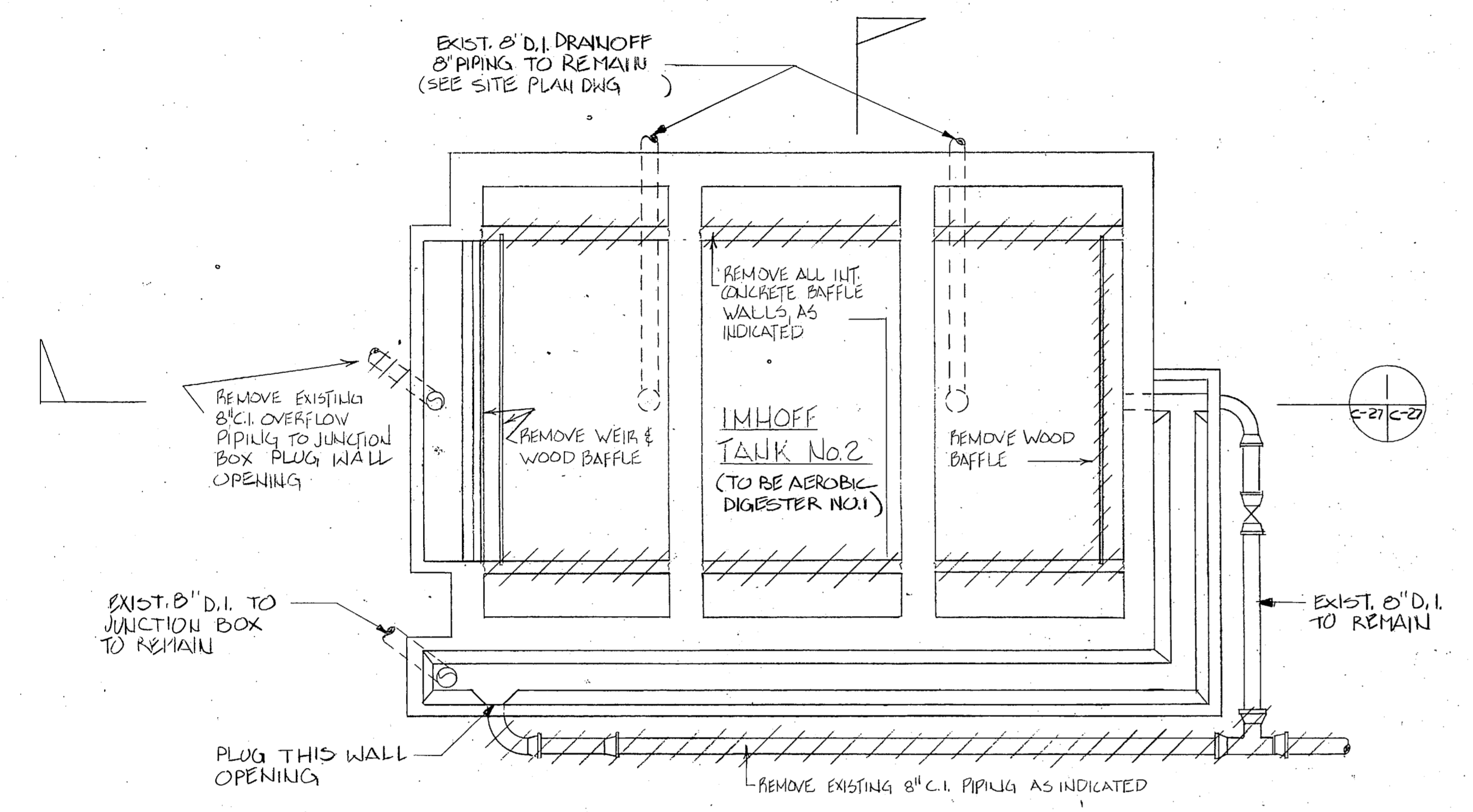
L. E. WOOTE & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES. BY	CHK. BY	DATE	NO.
PROJ. MGR.	CH. ENGR.	DATE	NO.
SUBMITTED BY	DATE	NO.	NO.
FIRM MEMBER	PRINCIPAL	NO.	NO.
APPROVED	DATE	NO.	NO.
OFFICER IN CHARGE	DATE	NO.	NO.
APPROVED	DATE	NO.	NO.
FOR EFD FOR COMMANDER NAVFAC	SCALE AS NOTED	SPEC. 05-BI-1478	SHEET 01 OF 01

C-26

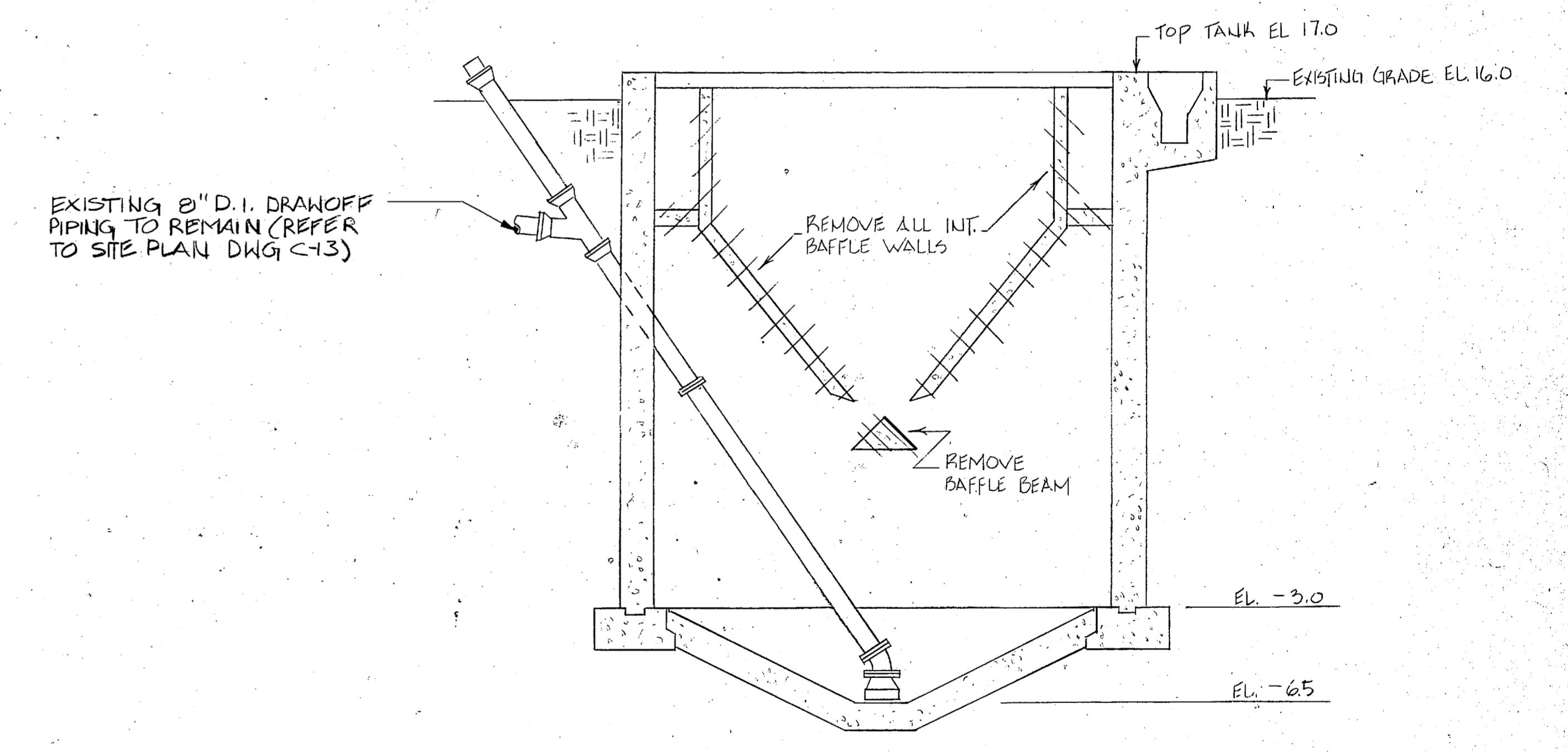
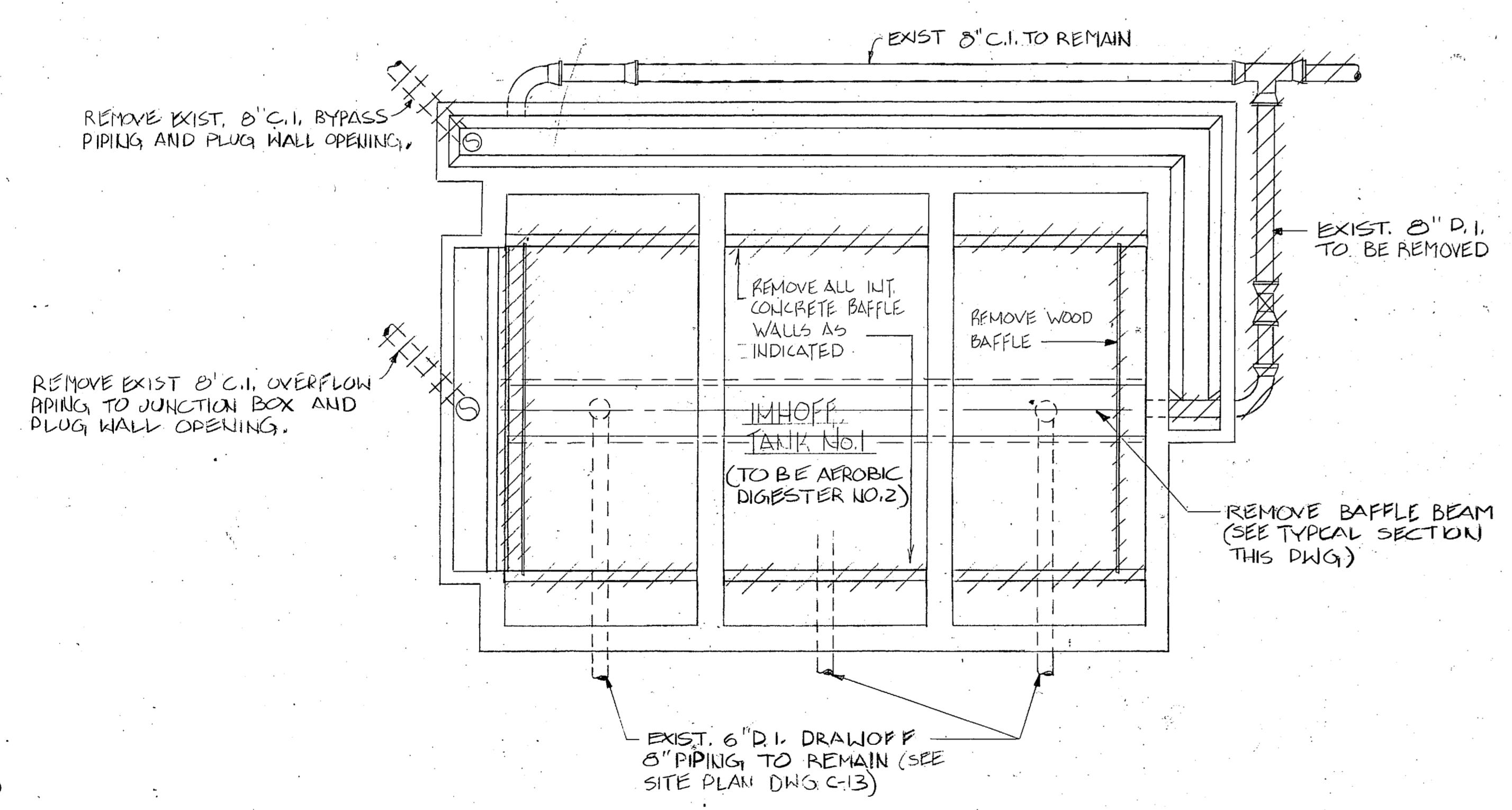


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			

NOTE:
 1. EXIST. PIPES THAT REMAIN ARE TO BE PROTECTED AGAINST DAMAGE DURING CONSTRUCTION. ALL DAMAGE BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE.
 2. WHILE IMHOFF TANKS ARE DRAINING OR DRAINED, THE CONTRACTOR SHALL MAINTAIN THE GROUND WATER LEVEL AT OR BELOW ELEVATION +6.0



SECTION 1
SCALE 1/4" = 1'-0" (C-27/C-28)

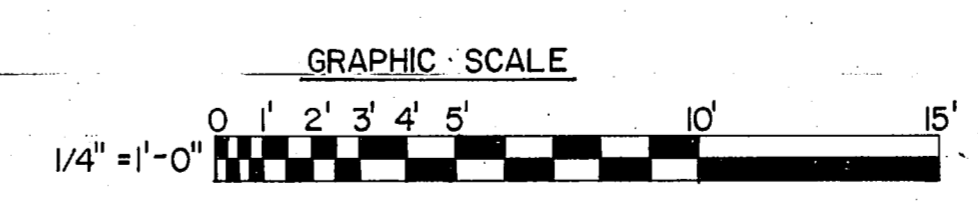


SECTION 2
SCALE 1/4" = 1'-0" (C-27/C-28)

LEGEND

EXISTING	—————	EXIST TO BE REMOVED	///////
PIPING	—————		
STRUCTURE	—————		

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



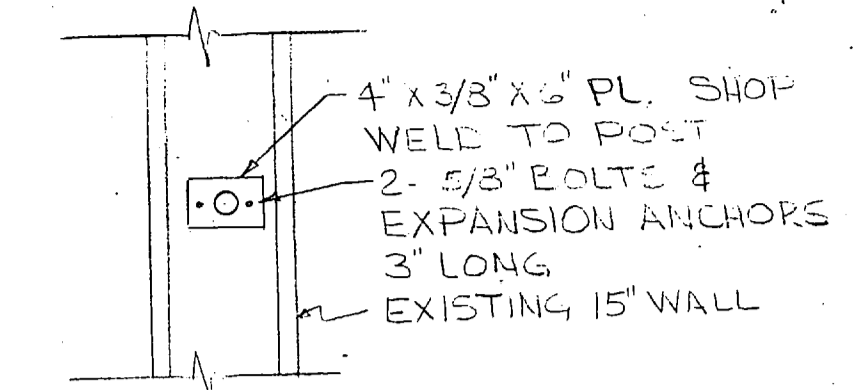
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA			DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT AEROBIC DIGESTER/IMHOFF TANK DEMOLITION			C-27		
DES:	DR:	CHK:						
PROJ. MGR:	CH. ENGR:	DATE:						
SUBMITTED BY:	PRINCIPAL:	DATE:						
FIRM MEMBER:	NO.:	DATE:						
APPROVED:	DATE:	SIZE:	CODE IDENT NO.:	NAVFAC DRAWING NO.				
OFFICER IN CHARGE:	DATE:	F 80091		CONSTR. CONTR. NO. N62470-81-B-1478				
APPROVED:	DATE:			SHEET OF				
FOR ETD FOR COMMANDER NAVFAC			SCALE AS NOTED			SPEC. 05-81-1478		
						ETD DWG. NO.		



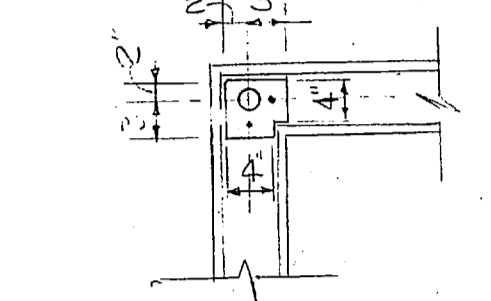
REVISIONS

SYM	DESCRIPTION	DATE	APPROVED

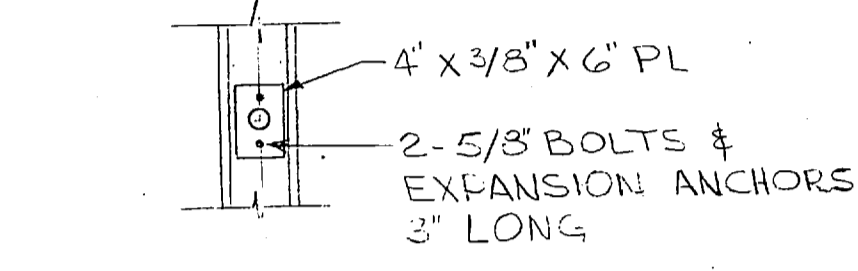
**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**



15" WALL PLAN

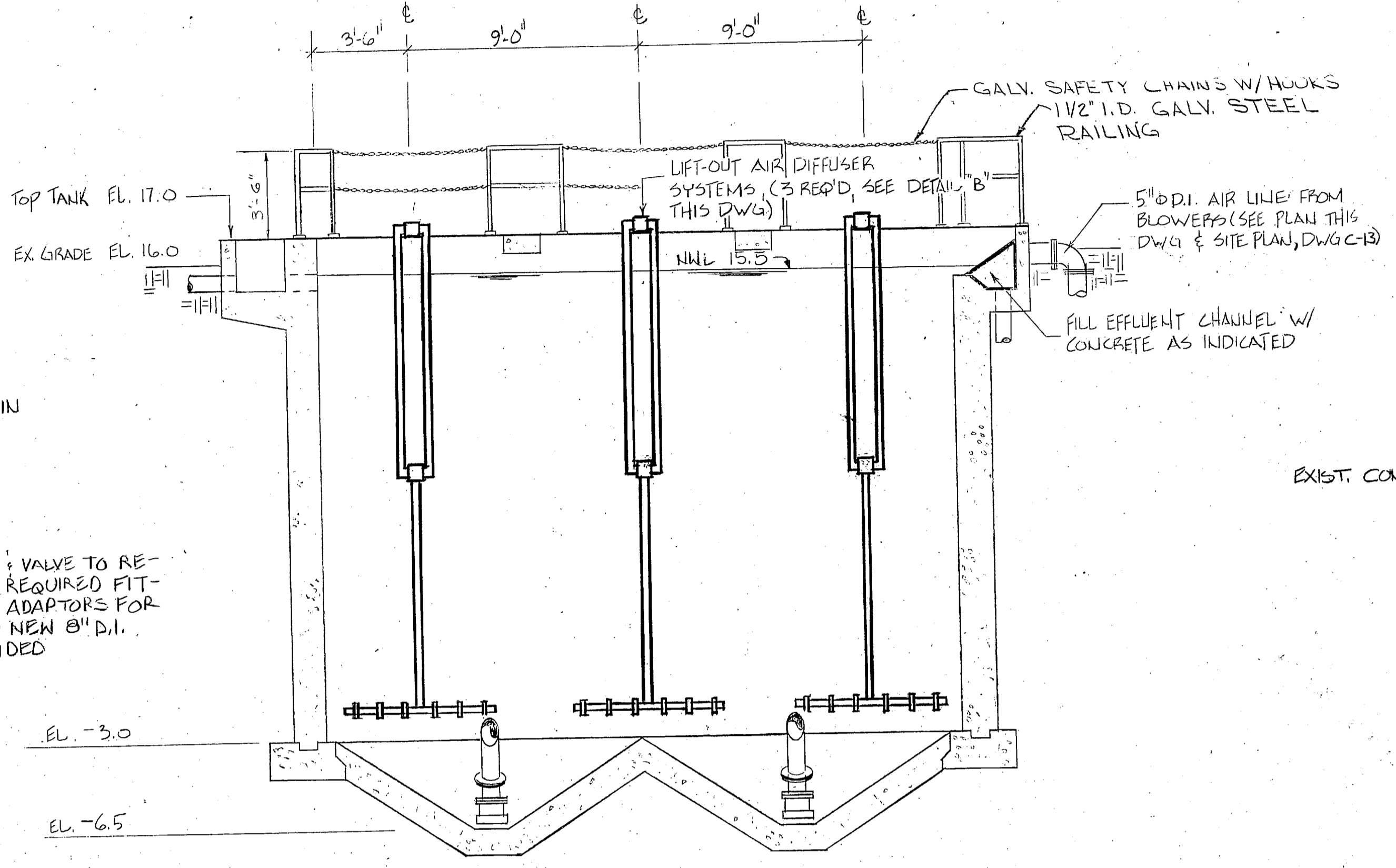
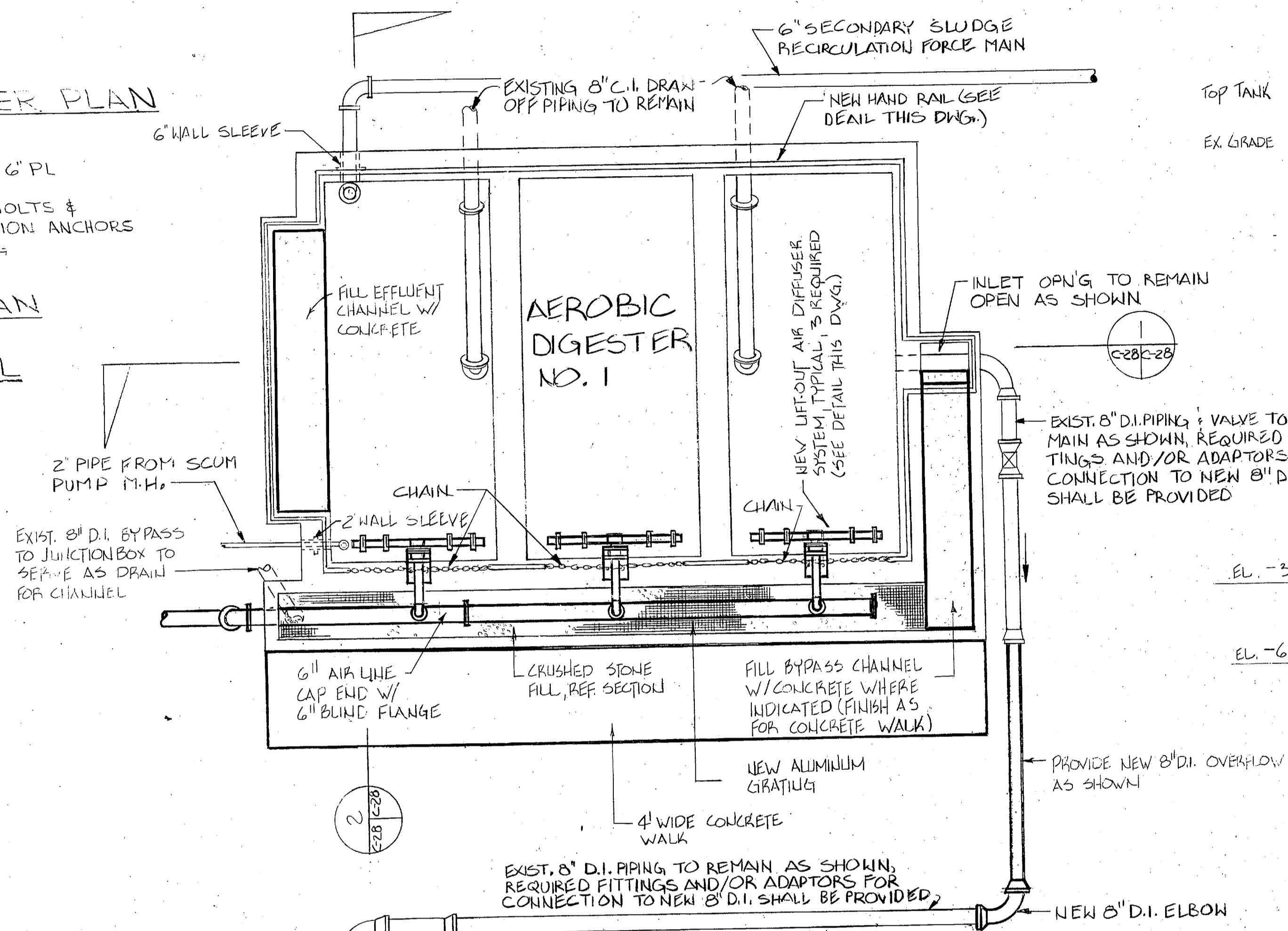


6" WALL CORNER PLAN

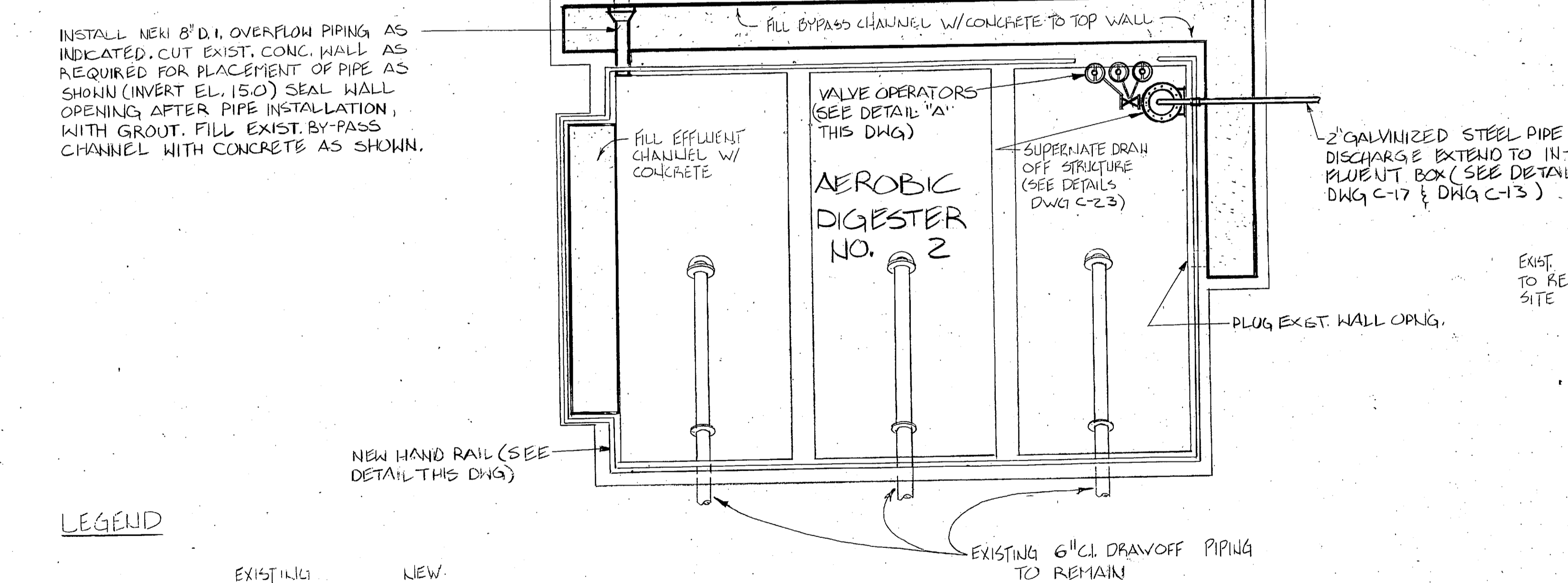


6" WALL PLAN

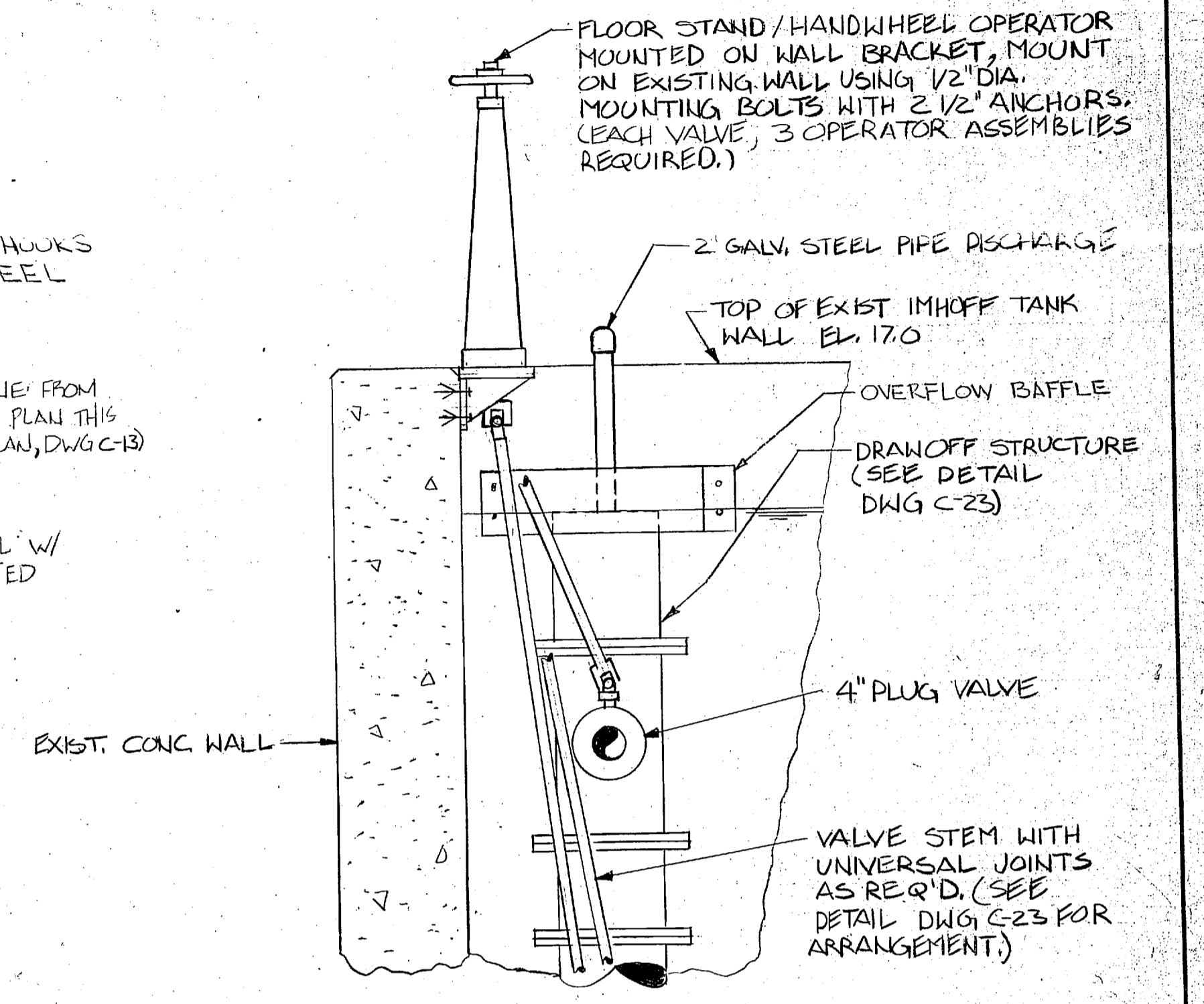
DETAIL "C" HANDRAIL
SCALE: 3/4" = 1'-0"



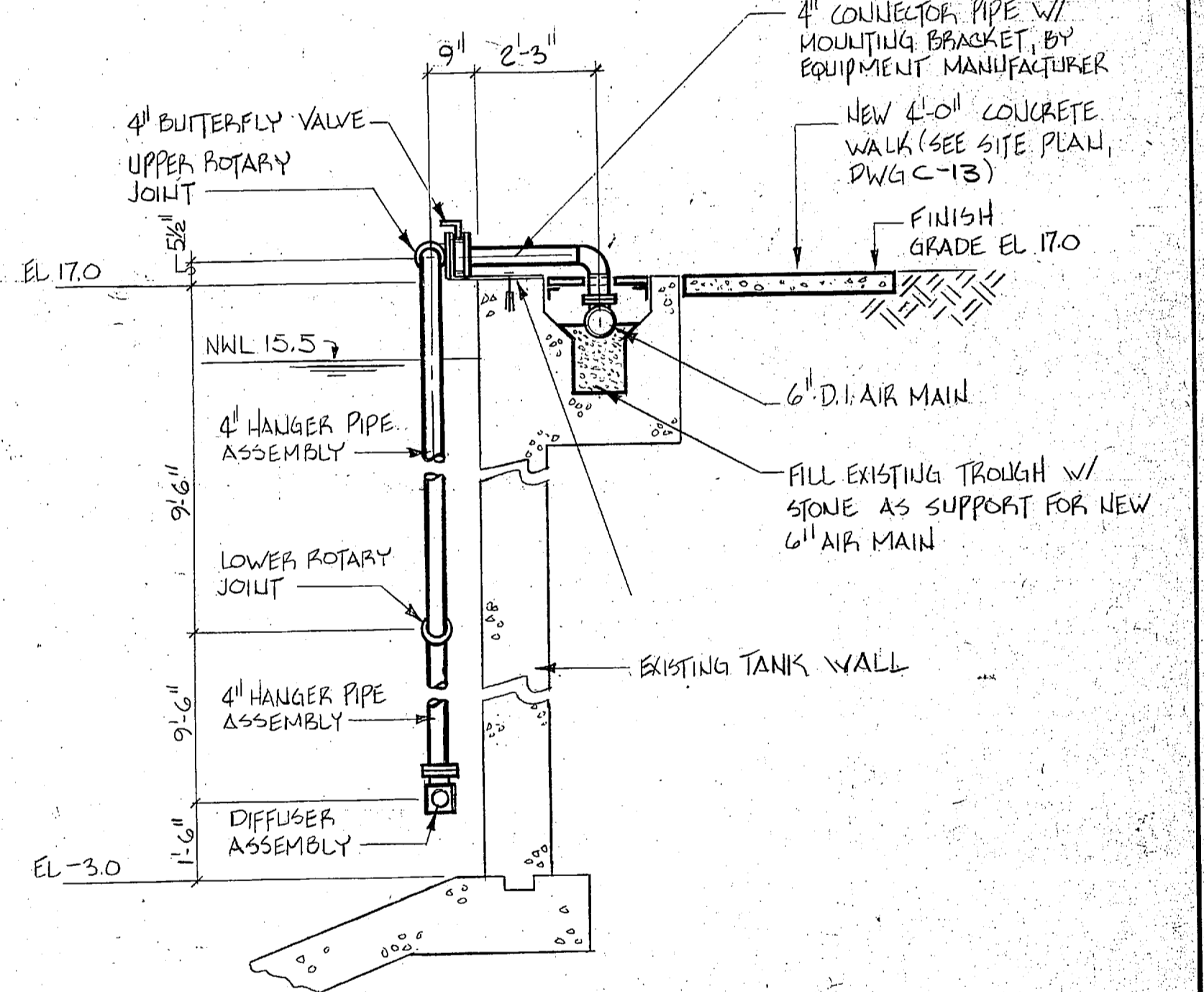
SECTION 1
SCALE: 1/8" = 1'-0" (C-28, C-29)



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

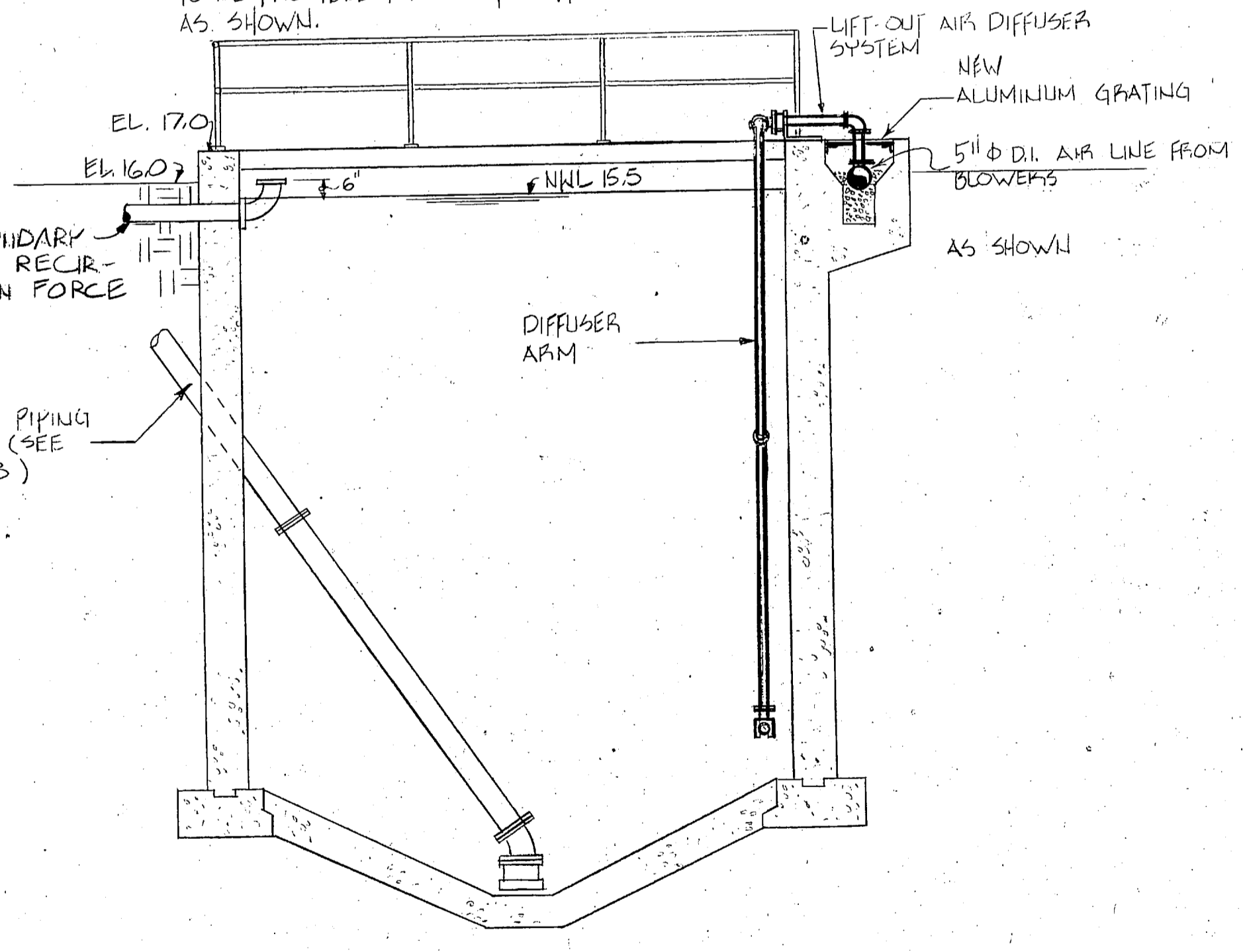


DETAIL "A"
SCALE: 3/4" = 1'-0"



DETAIL "B" - LIFT-OUT AIR DIFFUSER SYSTEM
SCALE: 3/8" = 1'-0"

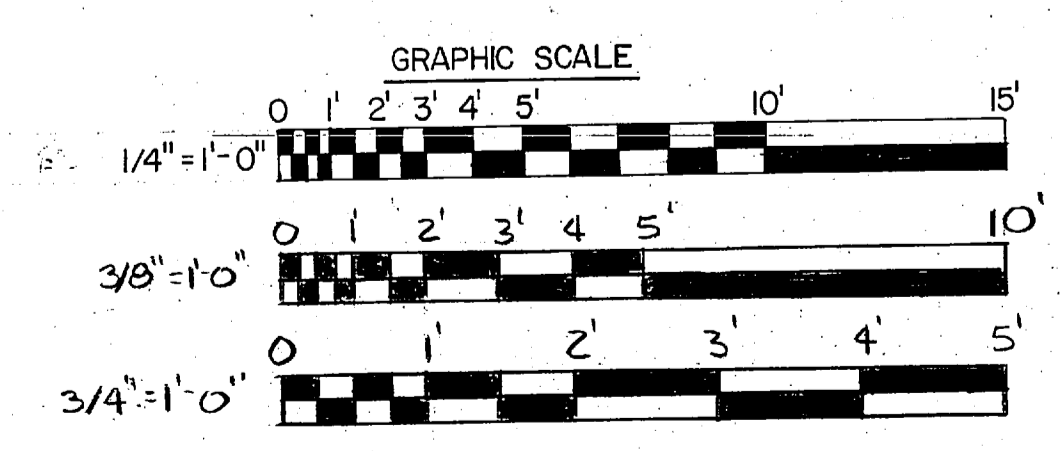
NOTE: SECTIONS APPLY TO AEROBIC DIGESTER NO. 1 ONLY. DIFFUSED AIR SYSTEM TO BE PROVIDED FOR NO. 2 ONLY, AS SHOWN.



SECTION 2
SCALE: 1/4" = 1'-0" (C-28, C-29)

LEGEND

	EXISTING	NEW
PIPING		
STRUCTURES (GENERAL)		
GRATING		



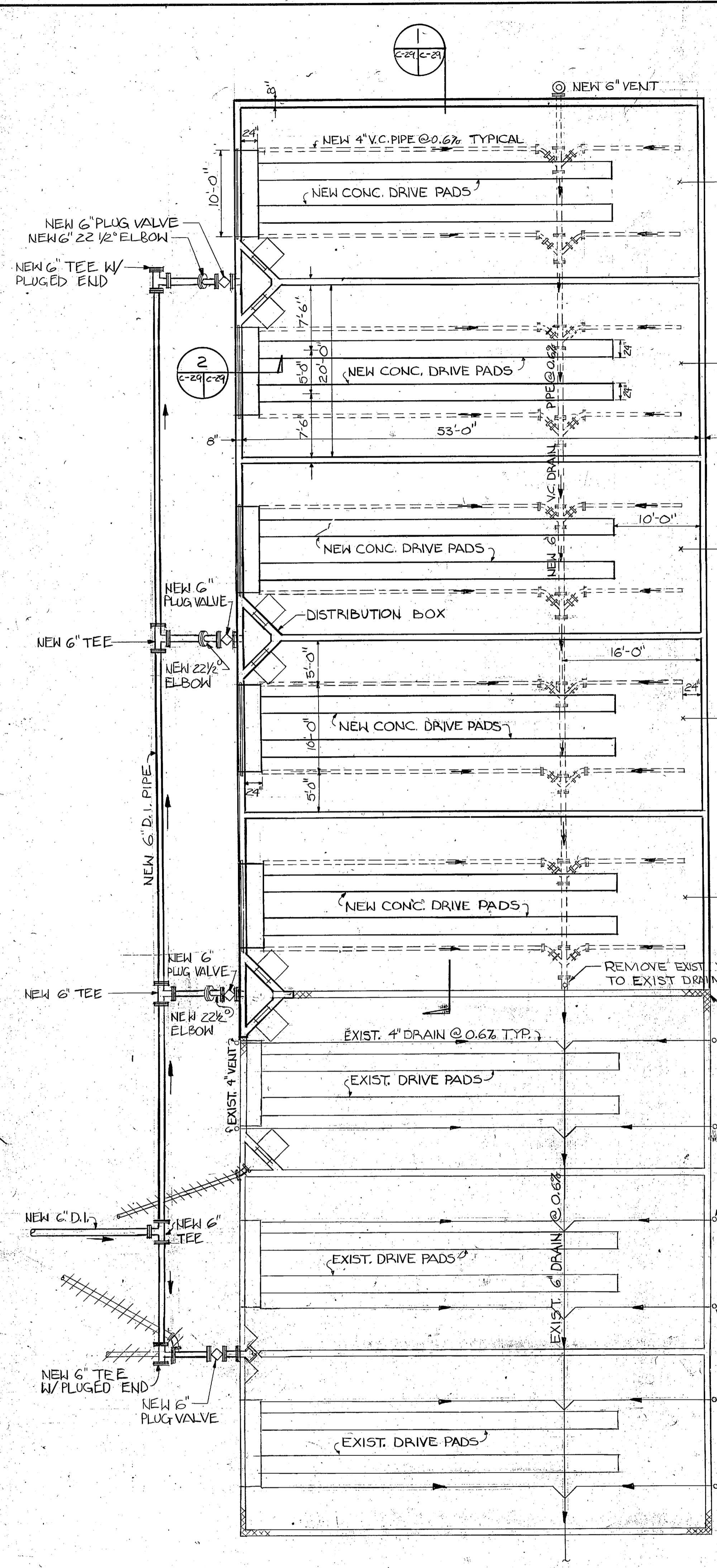
L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA			DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NOBLE, VIRGINIA		
DES.	DR.	CHR.	MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT		
PROJ. MGR.	CH. ENGR.	DATE:	AEROBIC DIGESTER / IMHOFF TANK CONVERSION		
SUBMITTED BY:	DATE:	PRINCIPAL:	F 80091		
FIRM MEMBER:	REV.	DATE:	CONSTR. CONTR. NO. N62478-BI-B-1478		
HD.	DIR.	DATE:	SCALE AS NOTED SPEC. 05-BI-1478		
OFFICER IN CHARGE:	DATE:	DATE:	SHEET NO. OF		
APPROVED:	DATE:	DATE:	FOR EFD FOR COMMANDER NAVFAC		

C-28

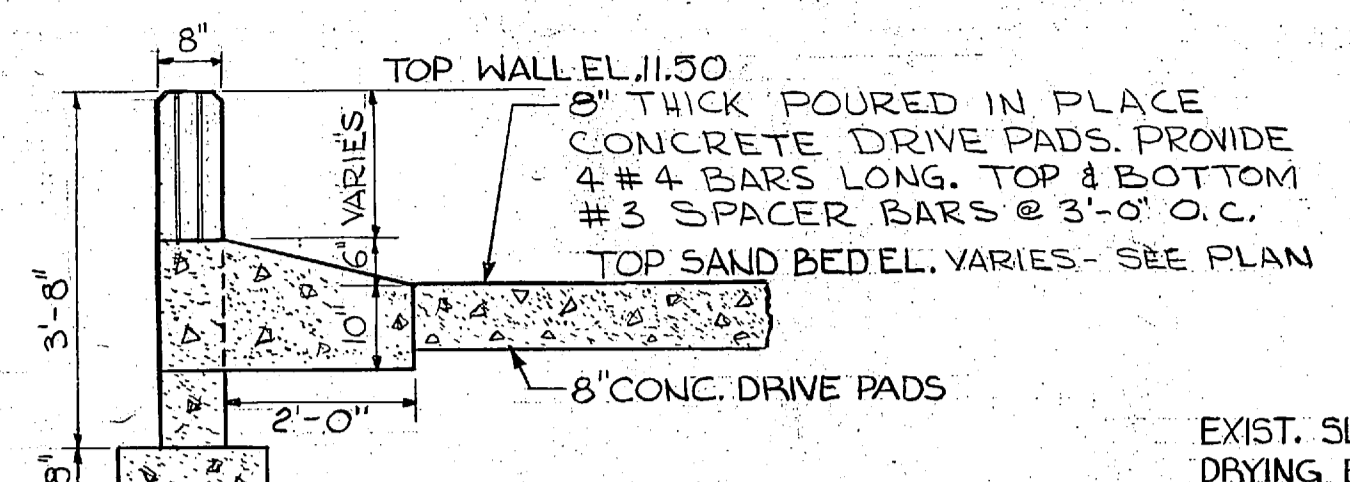


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVE

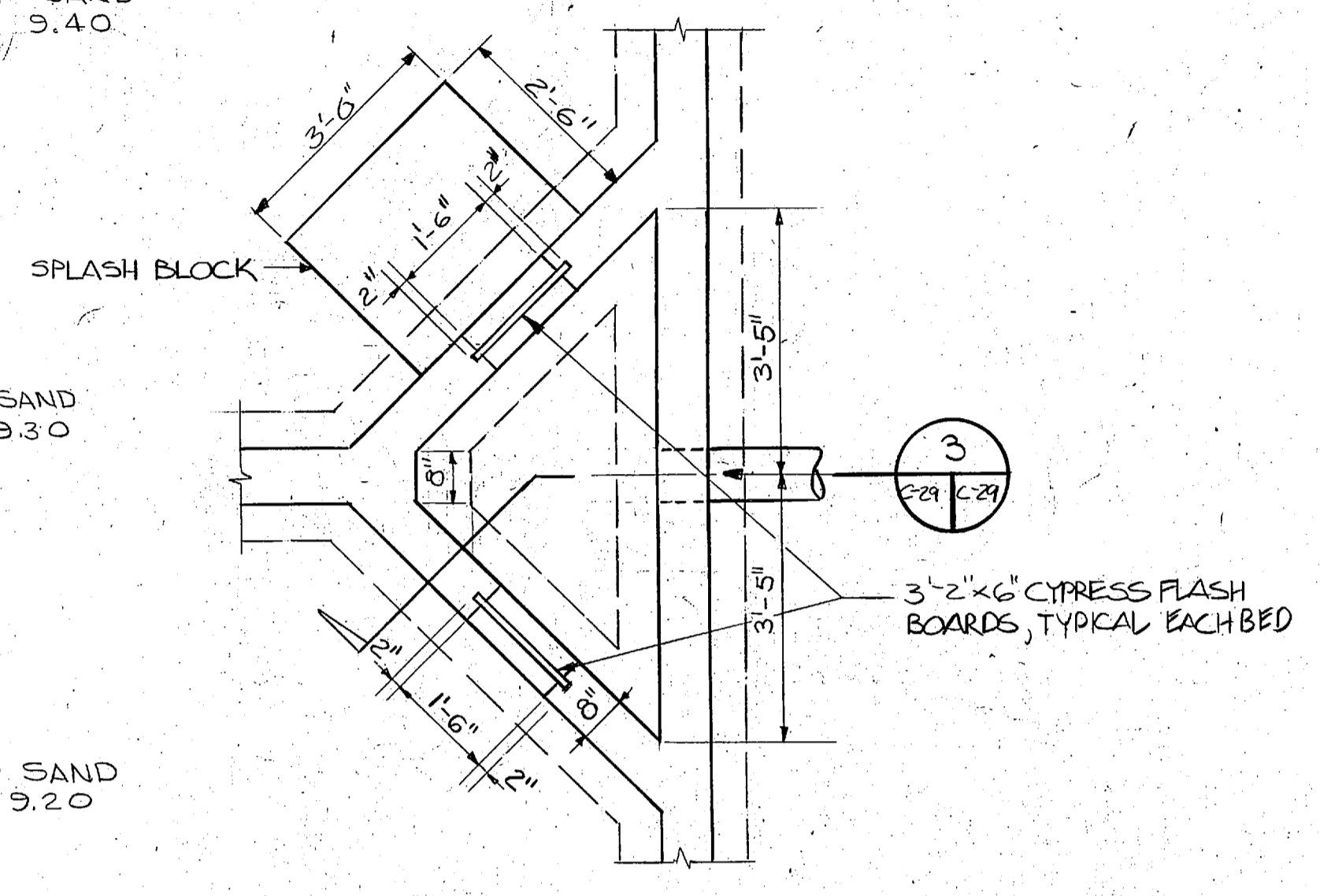
**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**



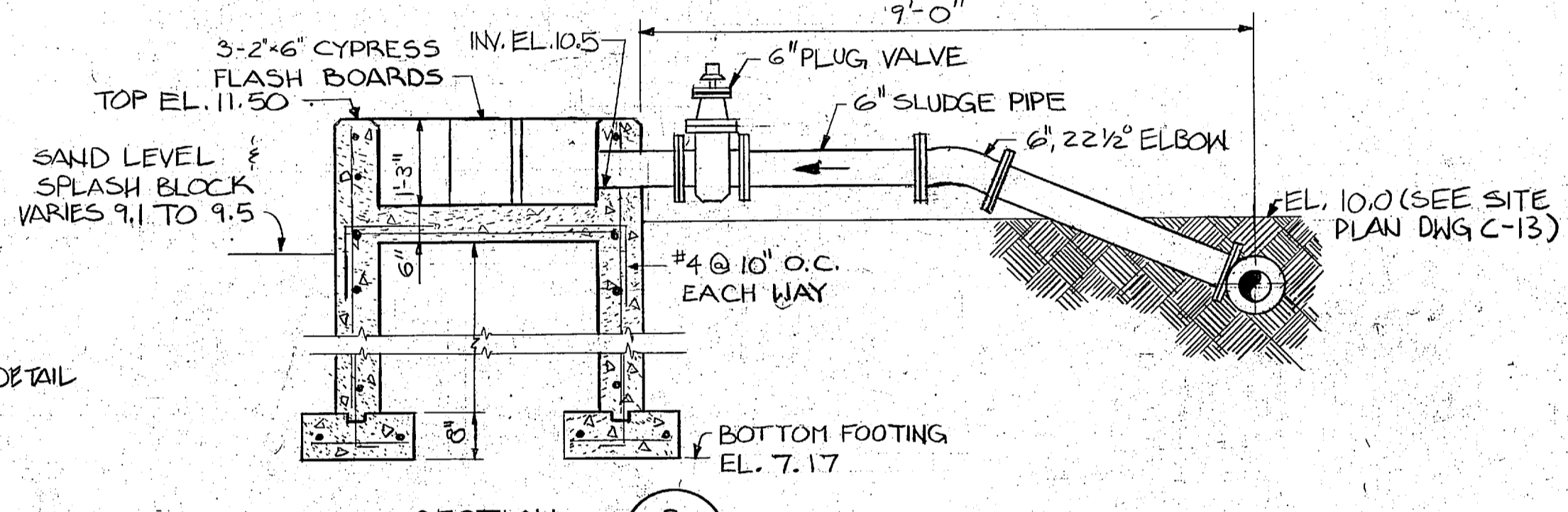
PLAN - SLUDGE DRYING BEDS
SCALE: 1/8" = 1'-0"



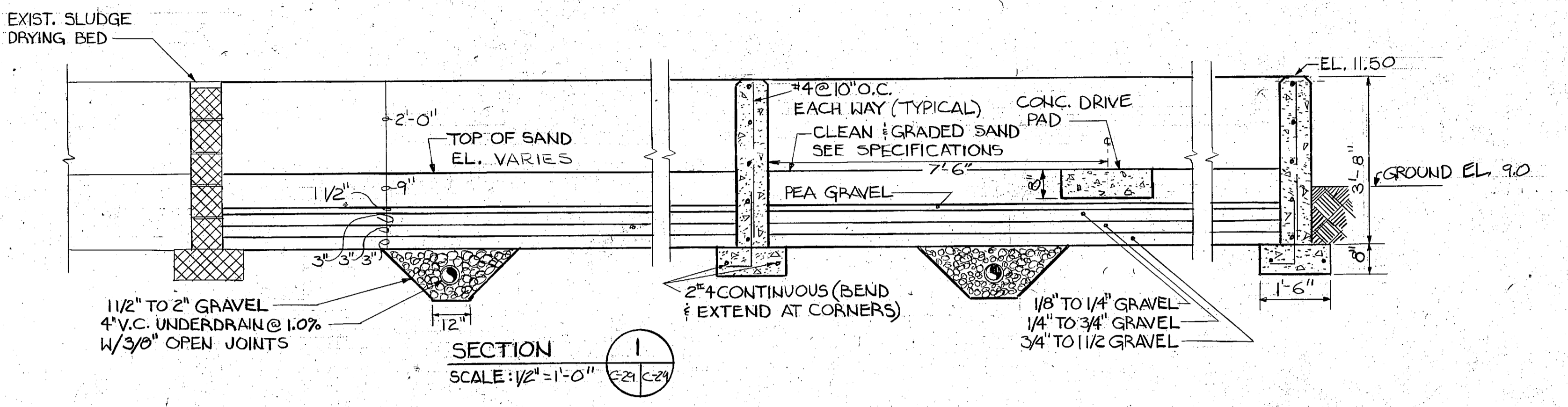
SECTION 2
SCALE: 1/2" = 1'-0"



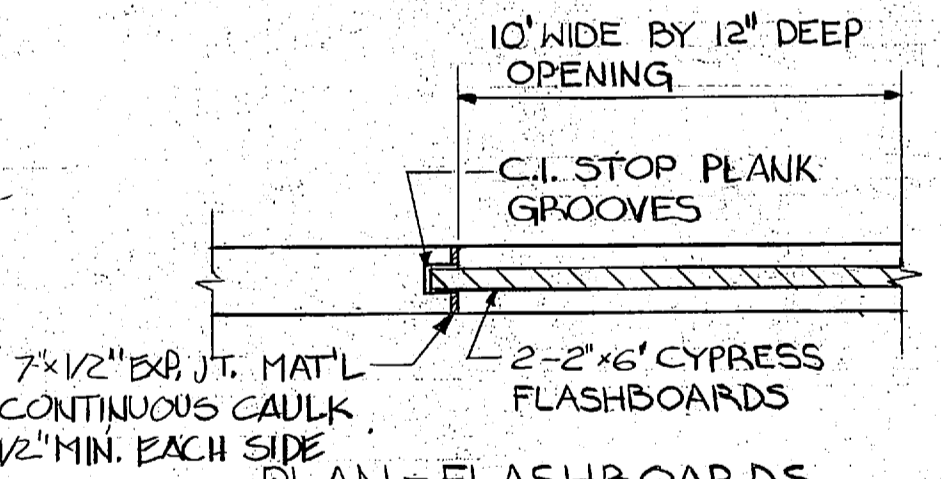
PLAN - DISTRIBUTION BOX
SCALE: 1/2" = 1'-0"



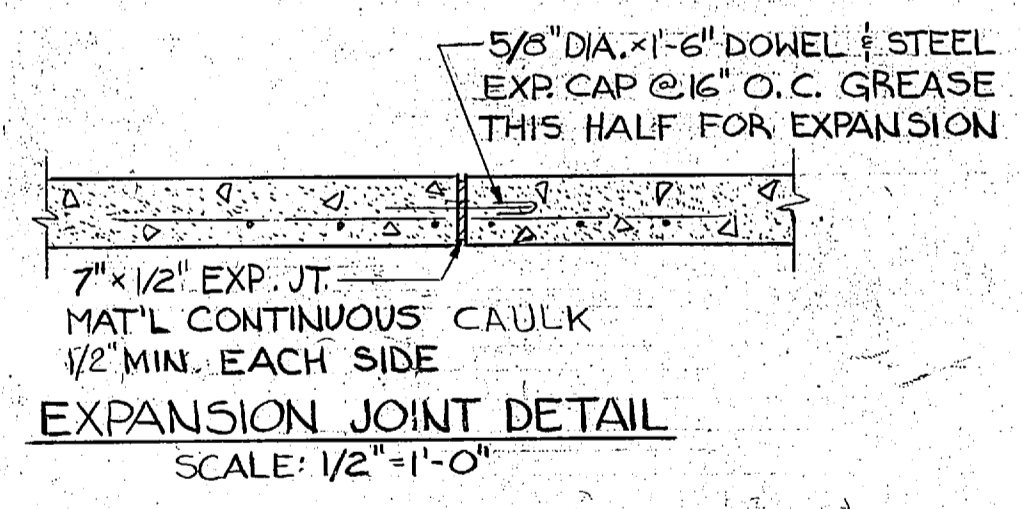
SECTION 3
SCALE: 1/2" = 1'-0"



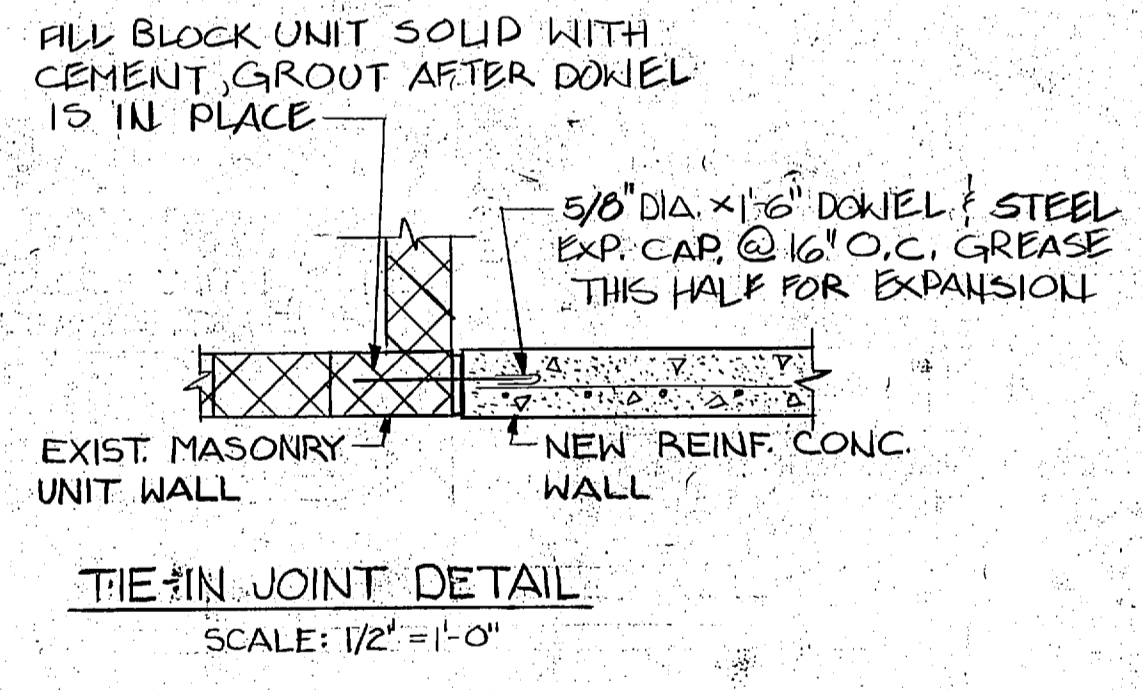
SECTION 1
SCALE: 1/2" = 1'-0"



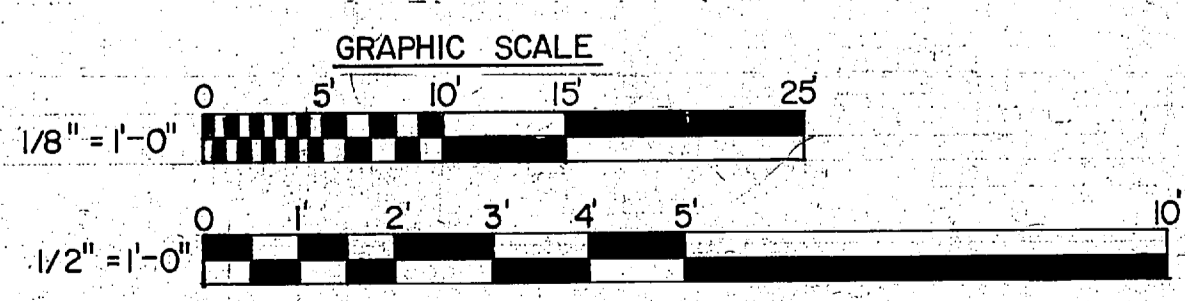
PLAN - FLASHBOARDS
SCALE: 1/2" = 1'-0"



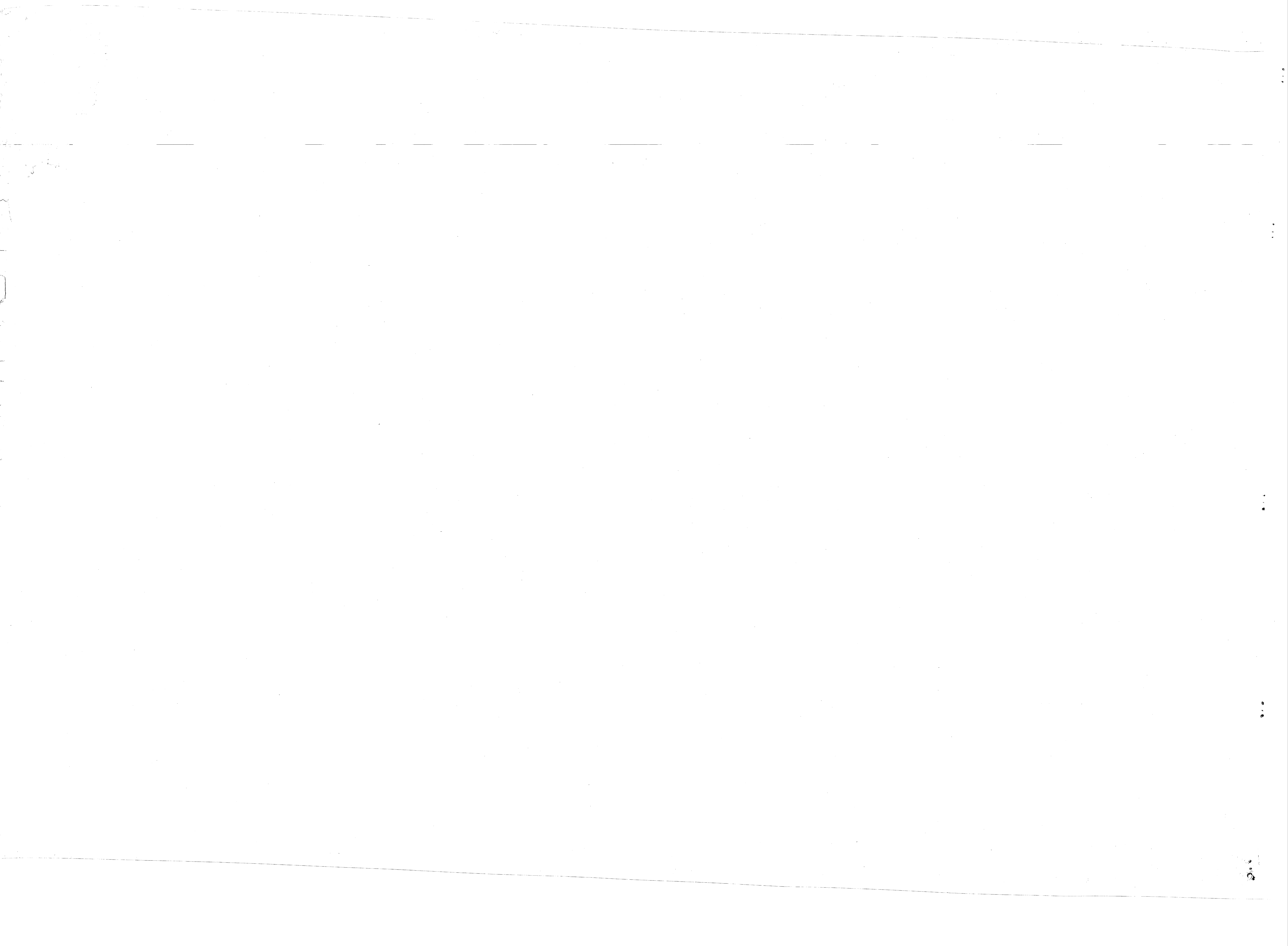
EXPANSION JOINT DETAIL
SCALE: 1/2" = 1'-0"



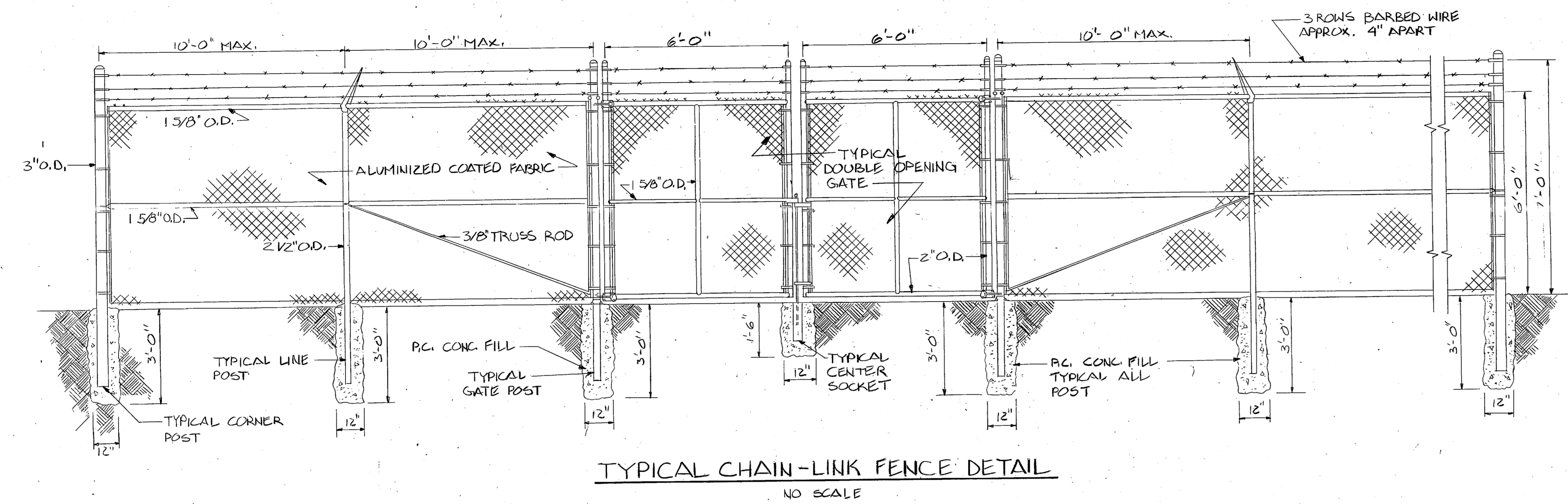
TIE-IN JOINT DETAIL
SCALE: 1/2" = 1'-0"



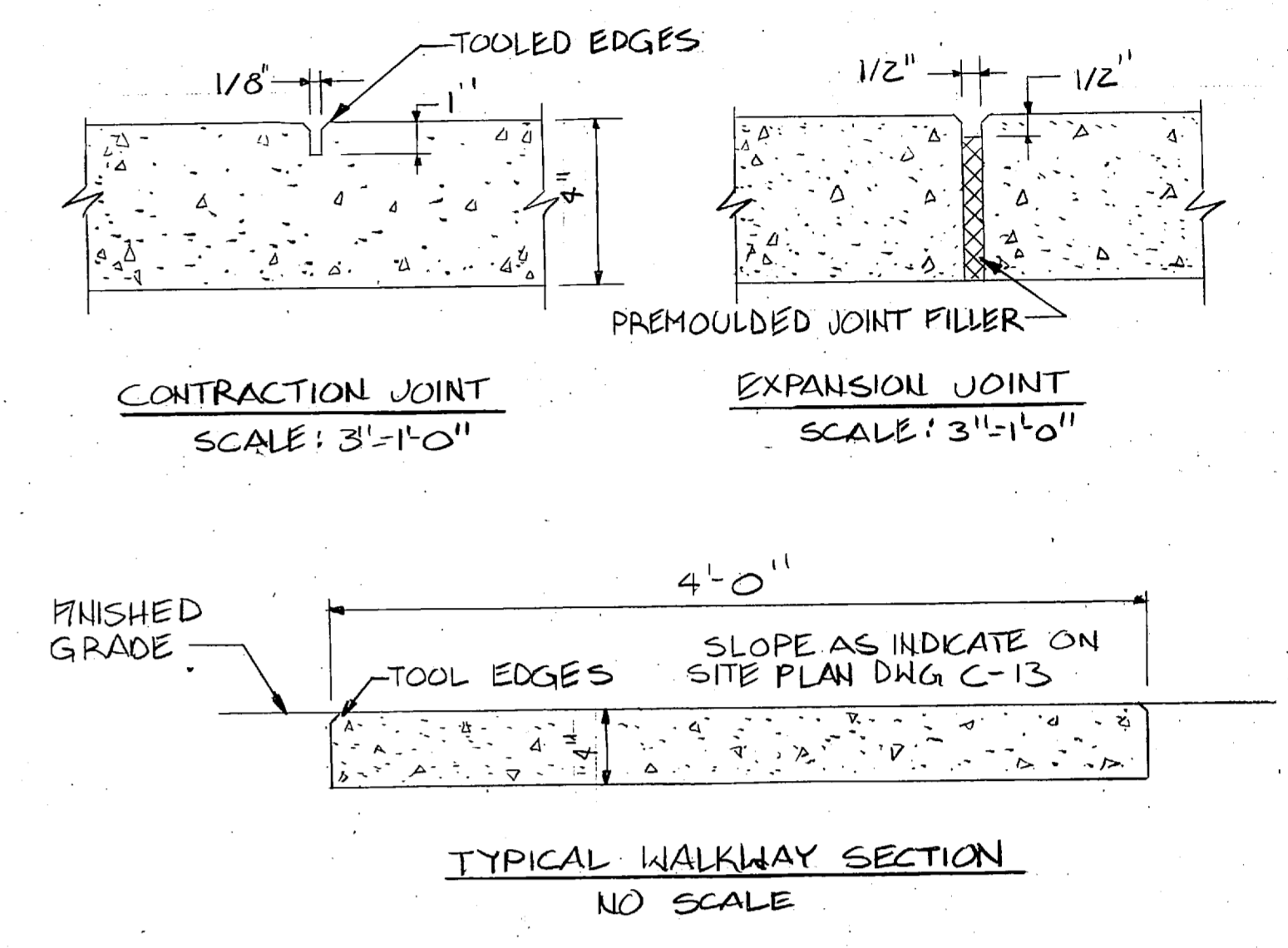
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT SLUDGE DRYING BEDS		C-29
DIS. BY: [Signature]	CHK. [Signature]	DATE: [Blank]	NAVFAC DRAWING NO. [Blank]	
PROJ. MGR. [Blank]	CR. ENGR. [Blank]	DATE: [Blank]	CONSTR. CONTR. NO. N-62470-B1-B-1478	
SUBMITTED BY: [Blank]	DATE: [Blank]	PRINCIPAL: [Blank]	SHEET NO. OF [Blank]	
MEMBER: [Blank]	REV. [Blank]	DATE: [Blank]	FOR STD. FOR COMMANDER NAVFAC	
APPROVED: [Blank]	DATE: [Blank]	SIZE: F	CODE/IDENT NO. 80091	
OFFICER IN CHARGE: [Blank]	DATE: [Blank]	SCALE: AS NOTED	SPIC 05-81-1478	
APPROVED: [Blank]	DATE: [Blank]			



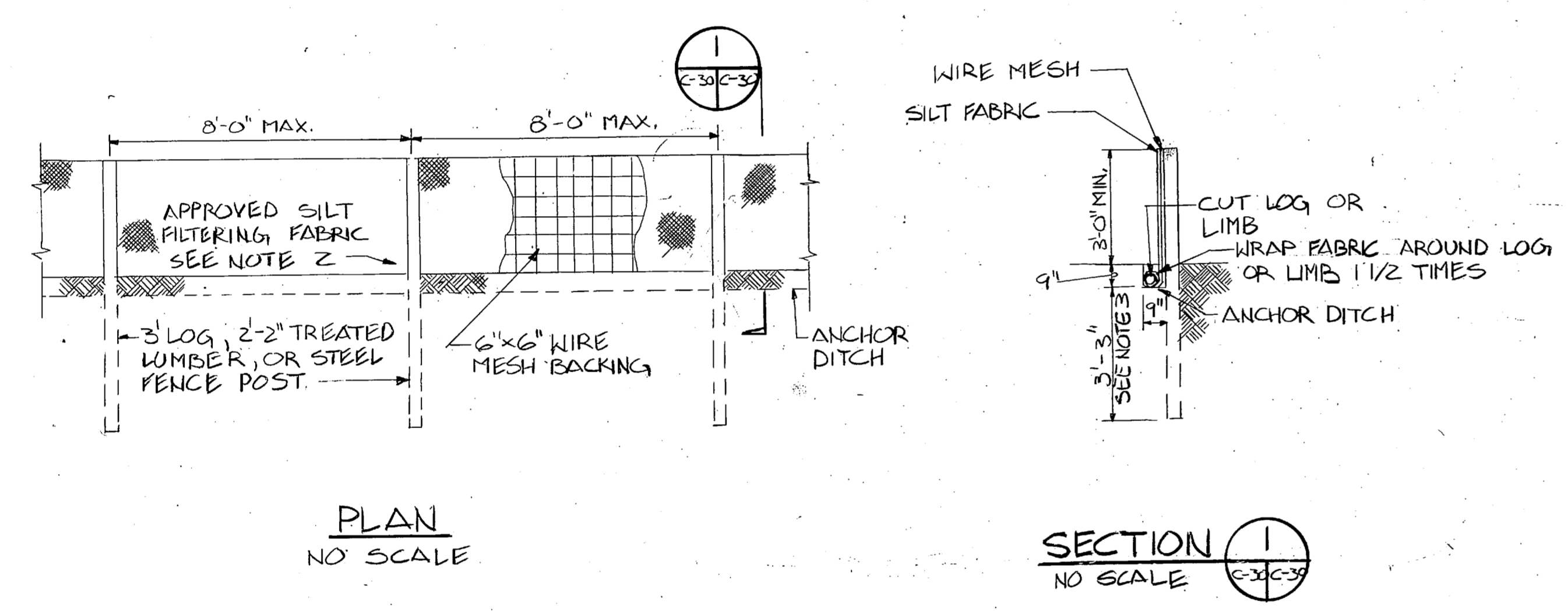
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



TYPICAL CHAIN-LINK FENCE DETAIL
NO SCALE



CONCRETE WALK DETAILS

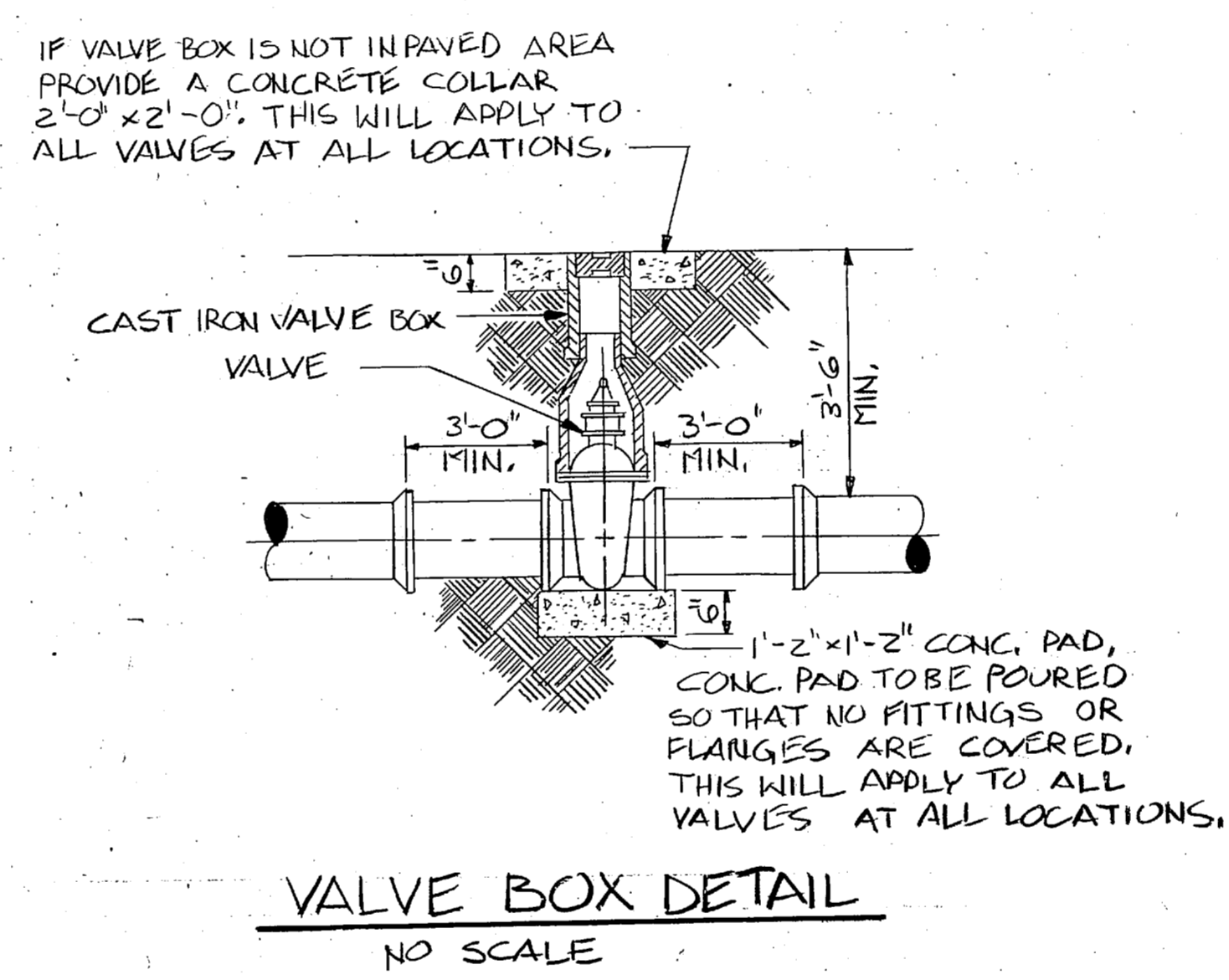


PLAN
NO SCALE

SECTION 1
NO SCALE

- NOTES:**
1. PROVIDE ADEQUATE EXCAVATION AHEAD OF SILT FENCE TO ACT AS A VELOCITY BREAK AND SILT TRAP.
 2. CONTRACTOR MAY USE ALTERNATE MATERIAL OR METHOD UPON APPROVAL OF ENGINEER.
 3. POST SET AT DEPTHS OF 4'-0" FOR EARTH BACKFILL. ANCHOR DITCH IS 9" X 9" AND FILL IS TO BE COMPACTED.

SILT FENCE DETAILS



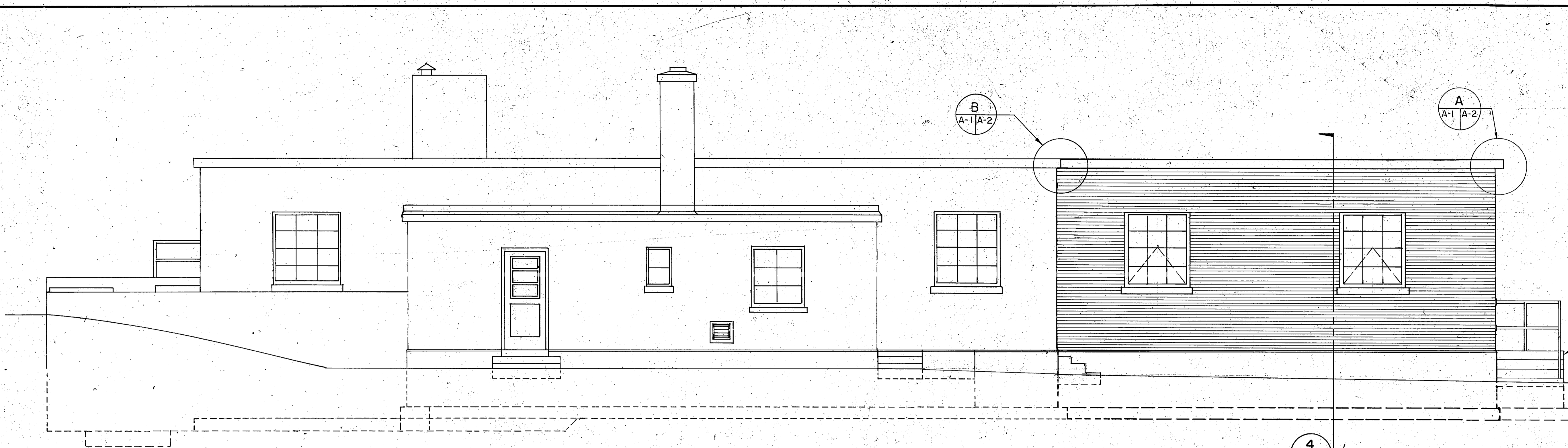
VALVE BOX DETAIL
NO SCALE

L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
		ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C.	
PROJ. MGR. _____ SUBMITTED BY _____ FIRM MEMBER _____ HD _____ APPROVED _____ OFFICER IN CHARGE _____ FOR EFD FOR COMMANDER NAVFAC	DES. _____ CHK _____ DATE _____ BYD _____ DATE _____ DATE _____ DATE _____ SCALE _____	NAVFAC DRAWING NO. _____ F 80091 CONSTR CONTR. NO. N62470-81-B-1478 SPEC. 05-81-1478	C-30 NORFOLK, VIRGINIA UTILITIES IMPROVEMENTS MISCELLANEOUS DETAILS SHEET 01 EFD DWG. NO. _____



REVISIONS		
SYM	DESCRIPTION	DATE

**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**



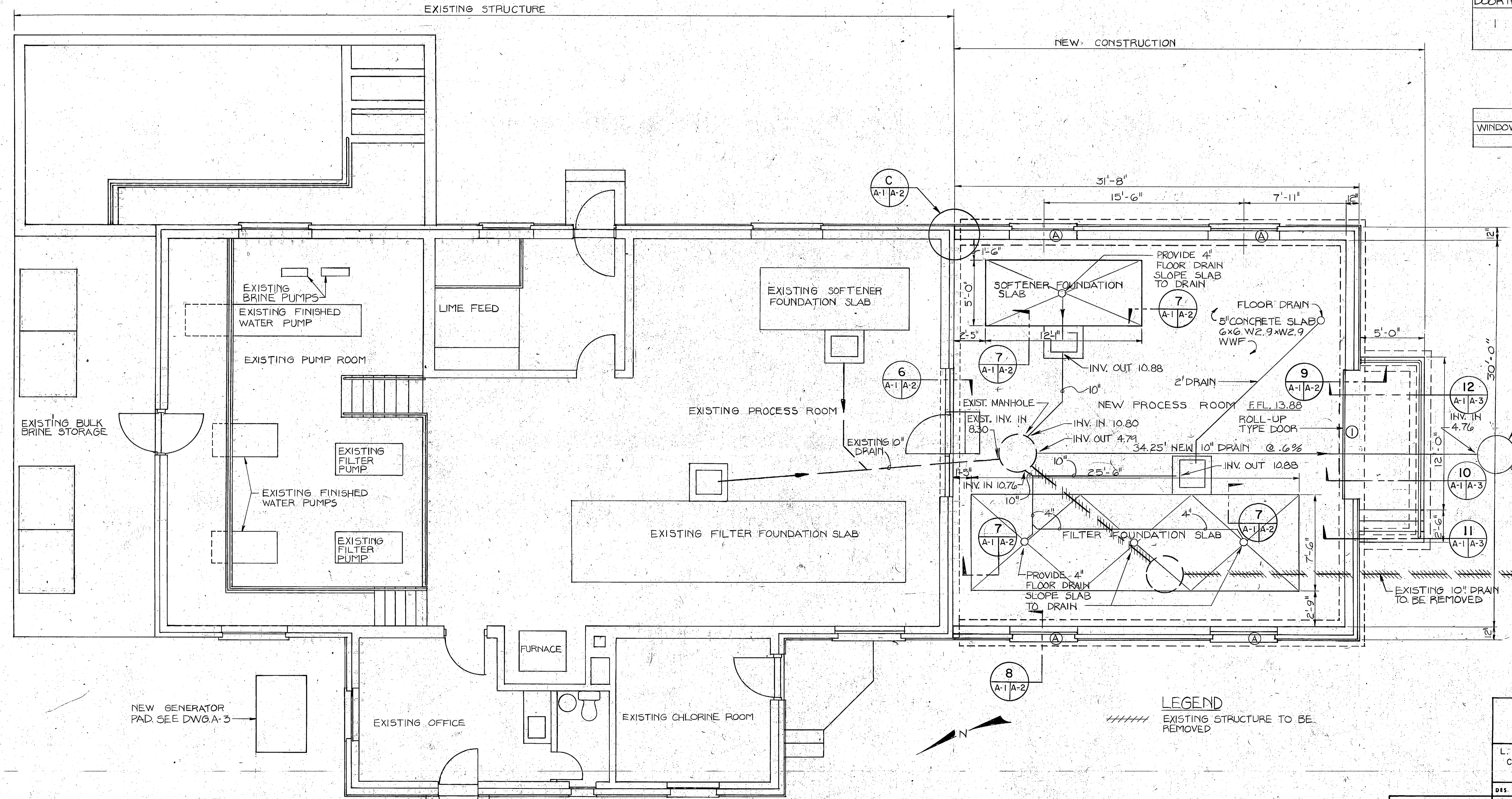
FRONT ELEVATION
SCALE: 1/4" = 1'-0"

CONCRETE STEPS W/ 4 RISERS @ 7 1/2" = 30" AND 3 TREADS @ 10" = 30"
GRADE EL. 11.50

NOTE: BACK ELEVATION OF NEW WORK SIMILAR.

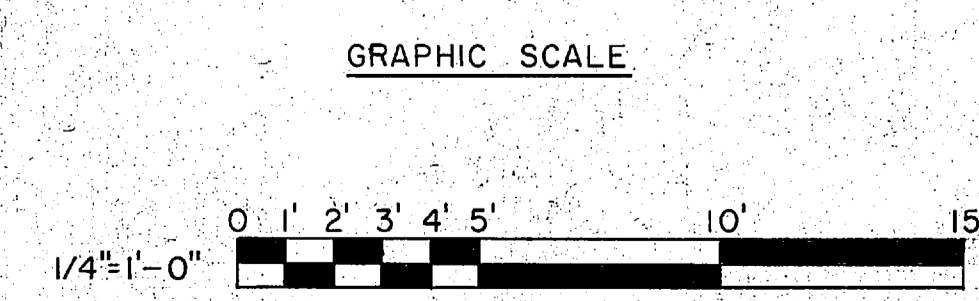
DOOR SCHEDULE				
DOOR NO.	SIZE	MATERIAL	FRAME	REMARKS
1	10'-0" x 11'-6"	METAL	METAL	OVERHEAD DOOR, INTERIOR FACE MOUNTED, CHAIN HOIST OPERATED

WINDOW SCHEDULE				
WINDOW NOTATION	SIZE	MATERIAL	TYPE	REMARKS
A	5'-0" x 6'-0"	METAL	INTERMEDIATE	



FLOOR PLAN SHOWING FOUNDATION AND DRAINAGE
SCALE: 1/4" = 1'-0"

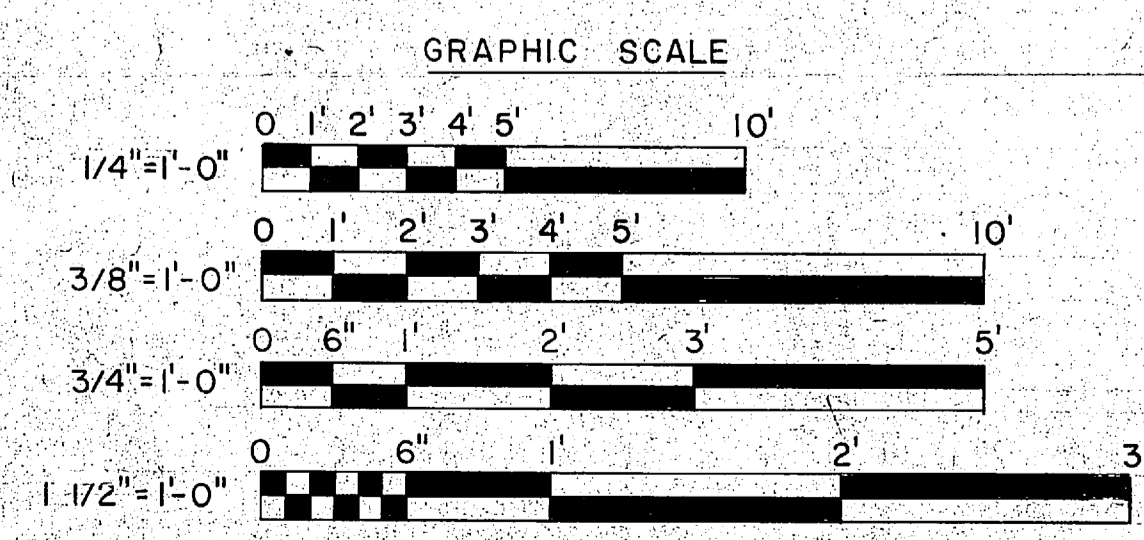
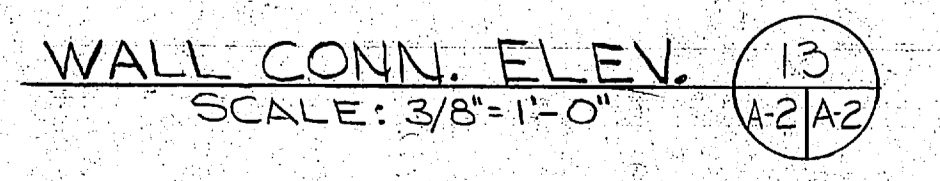
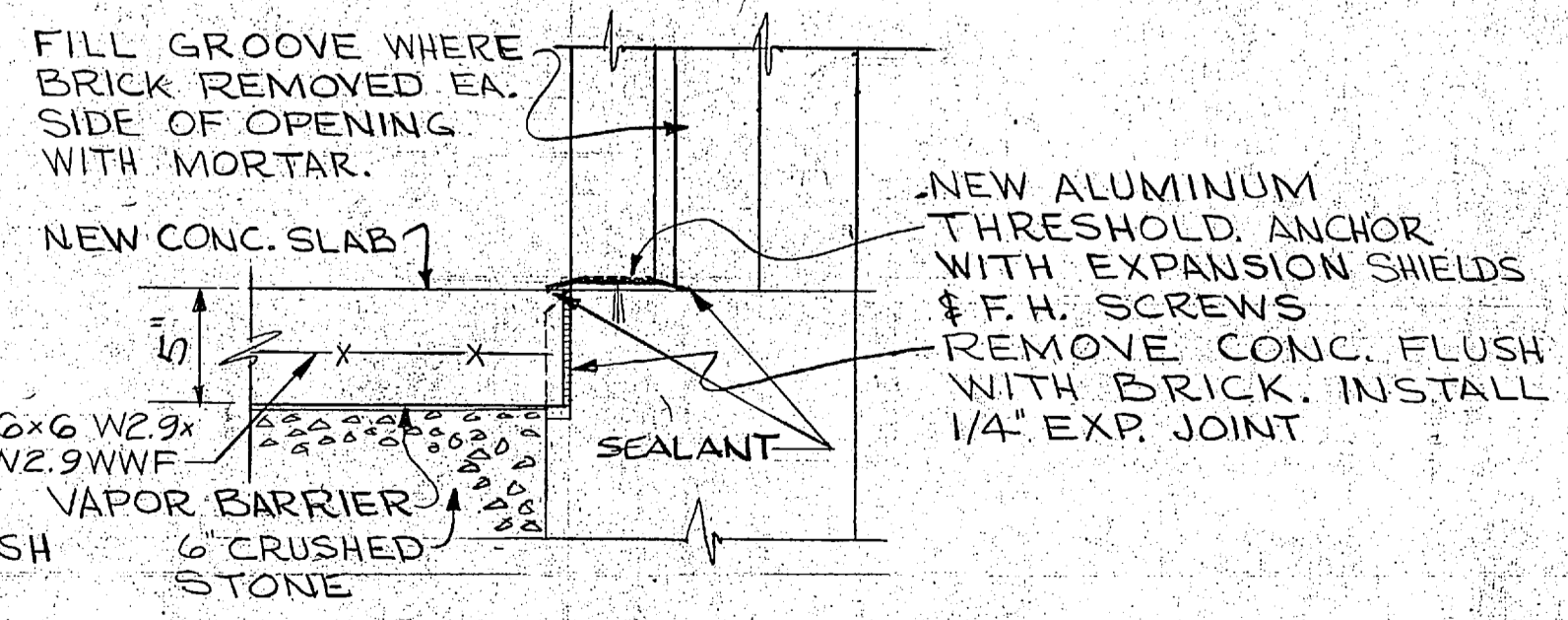
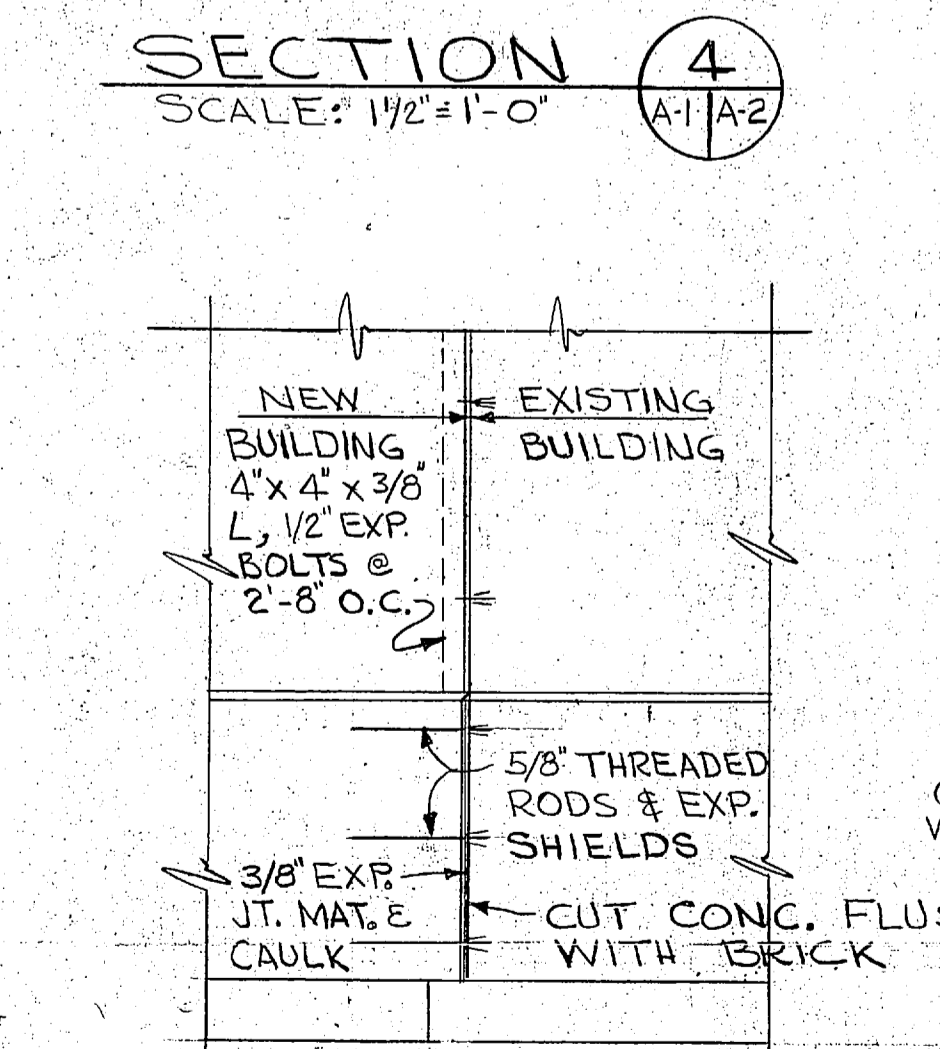
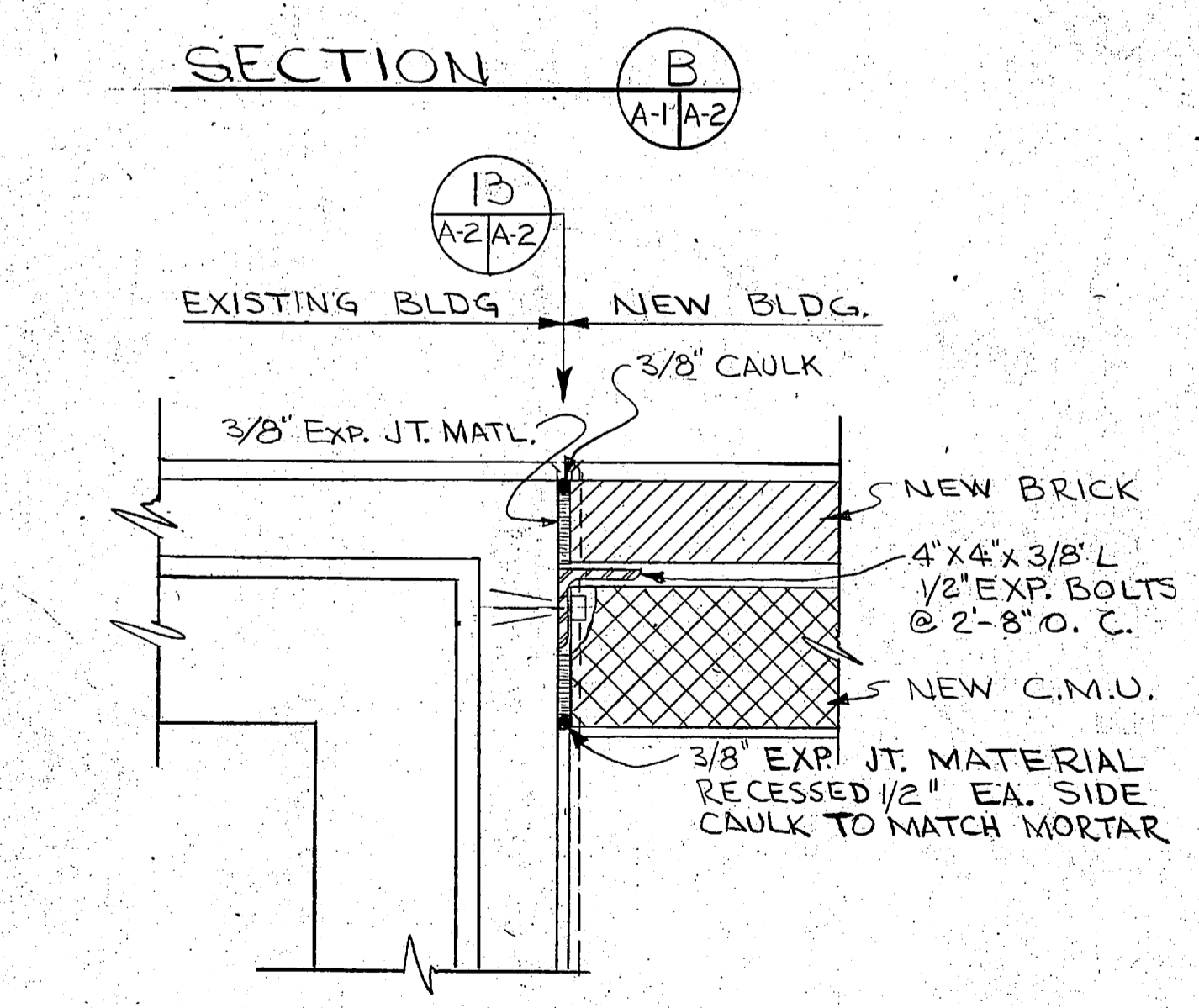
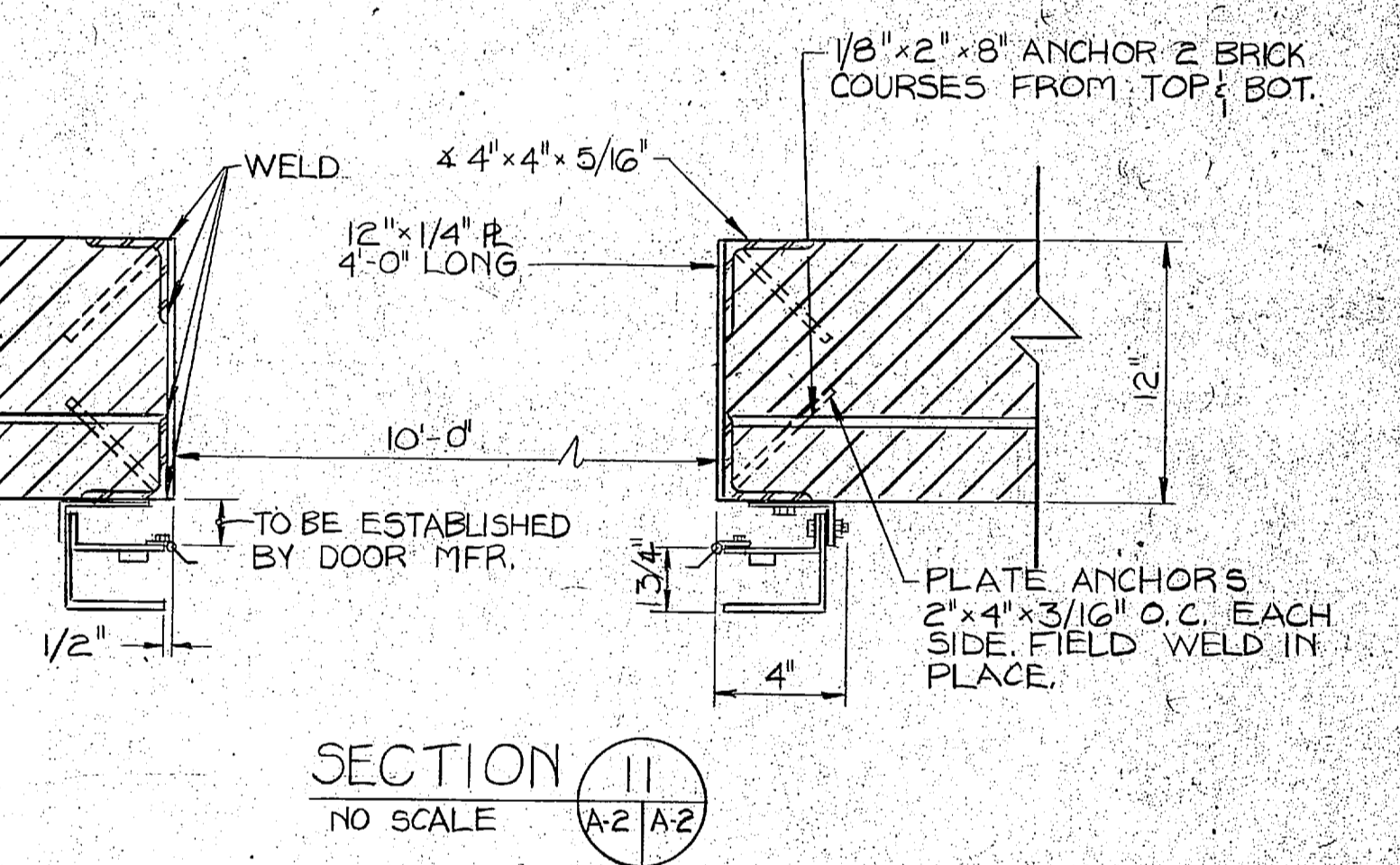
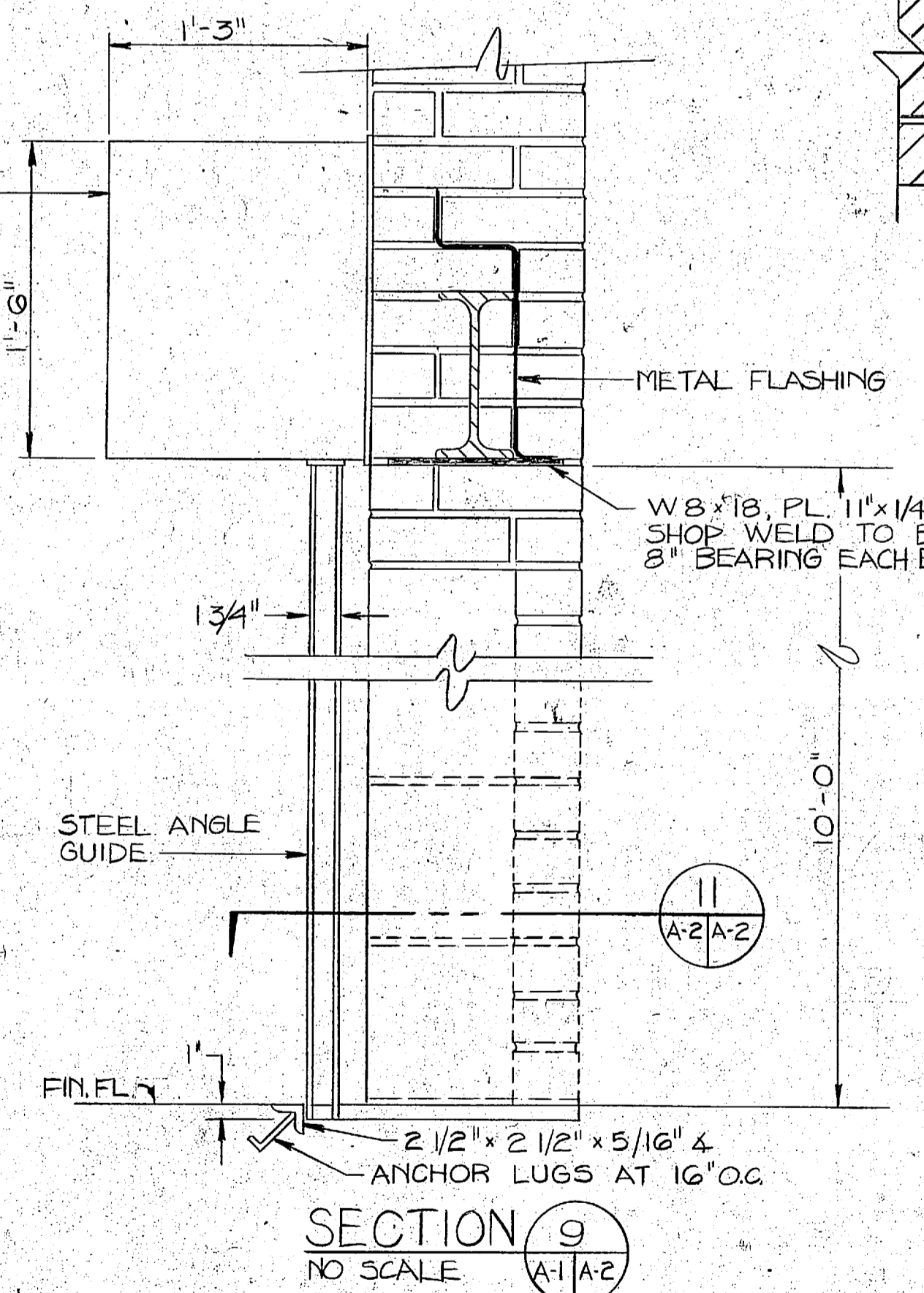
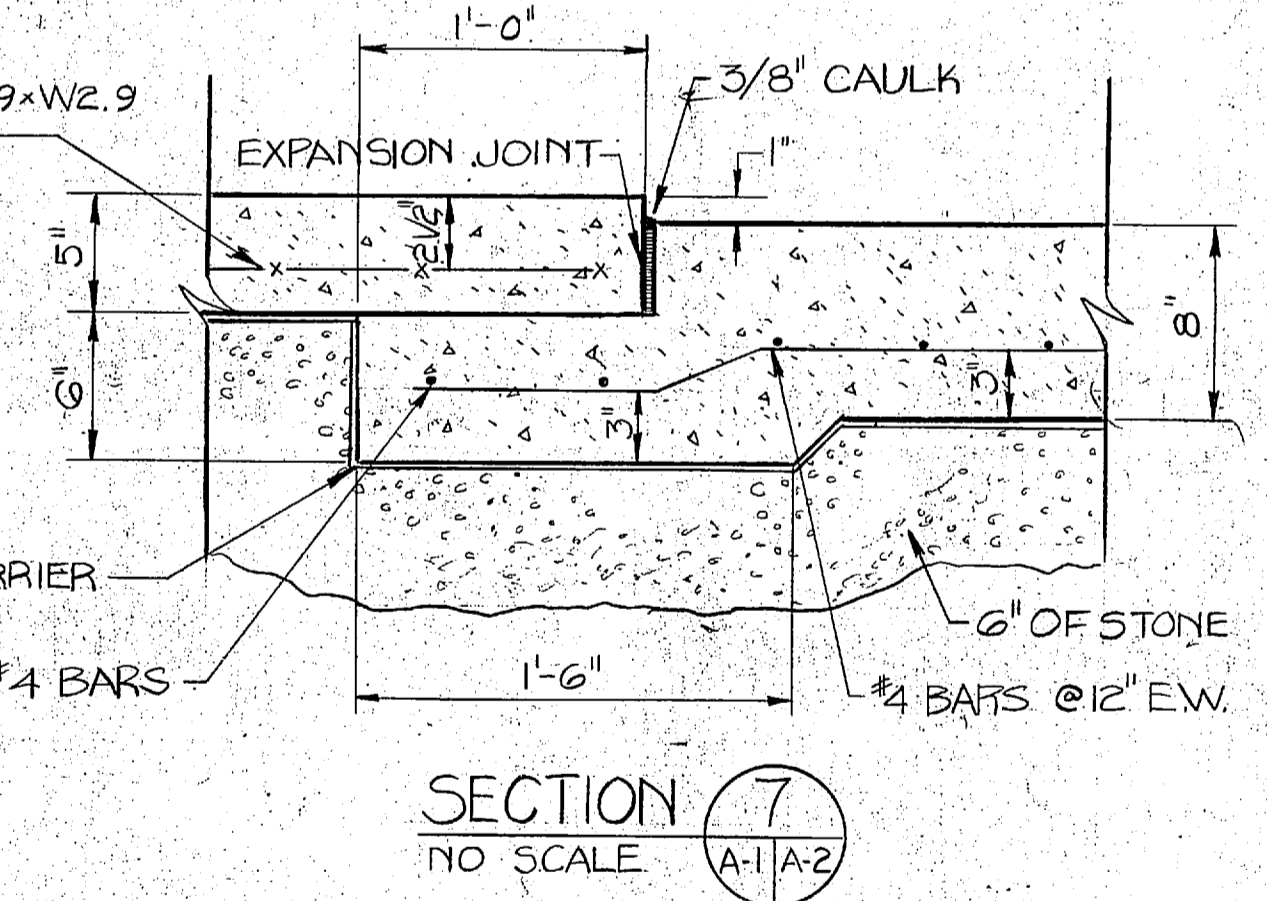
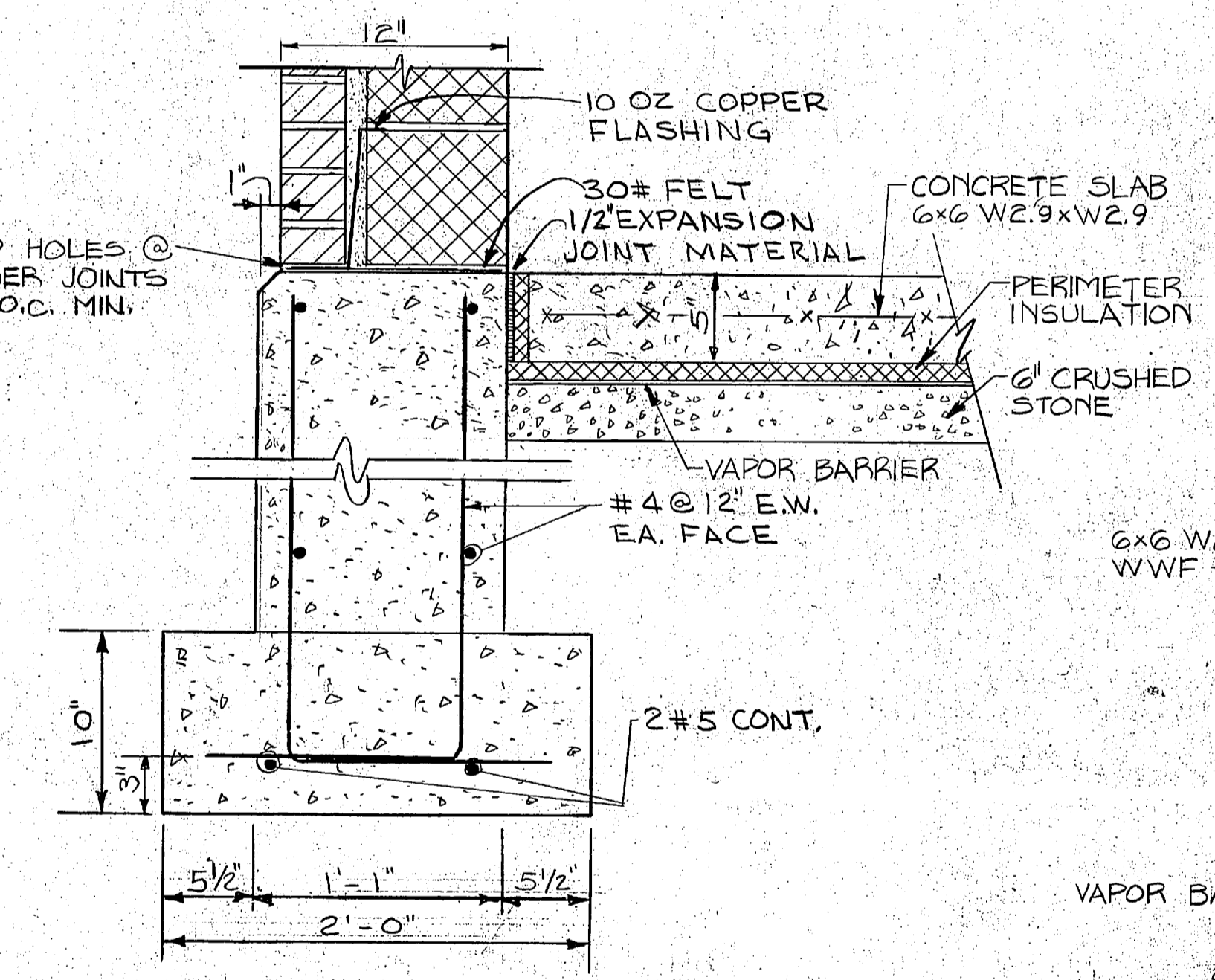
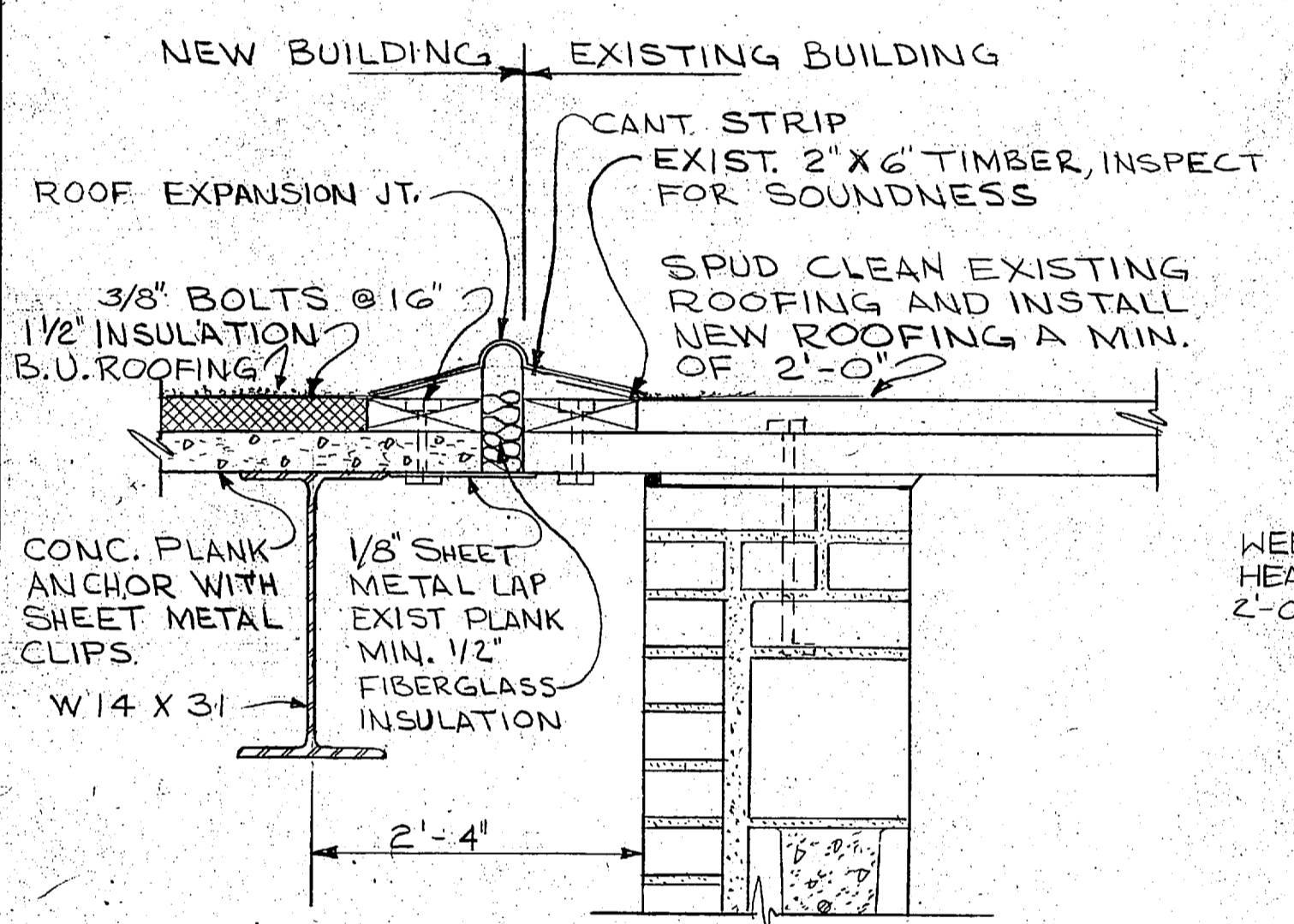
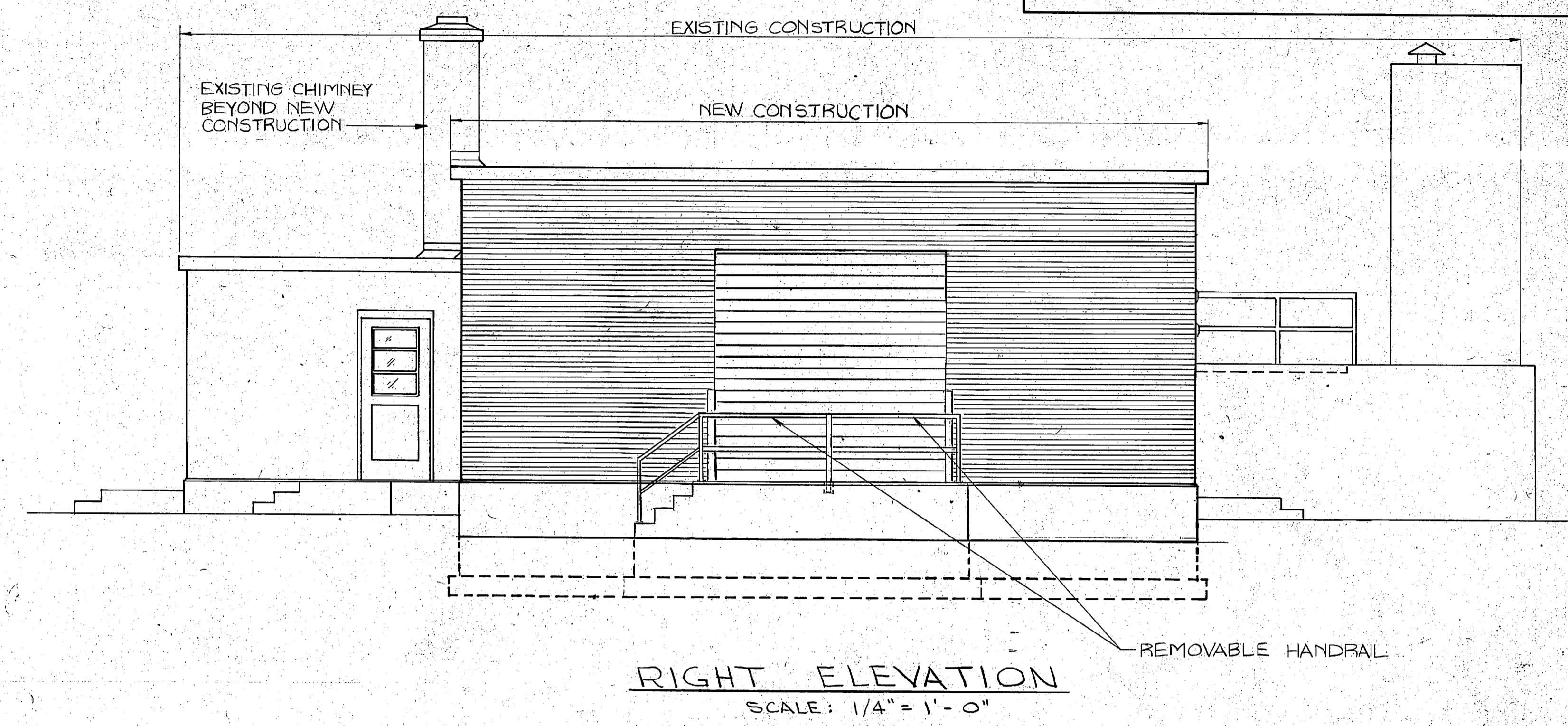
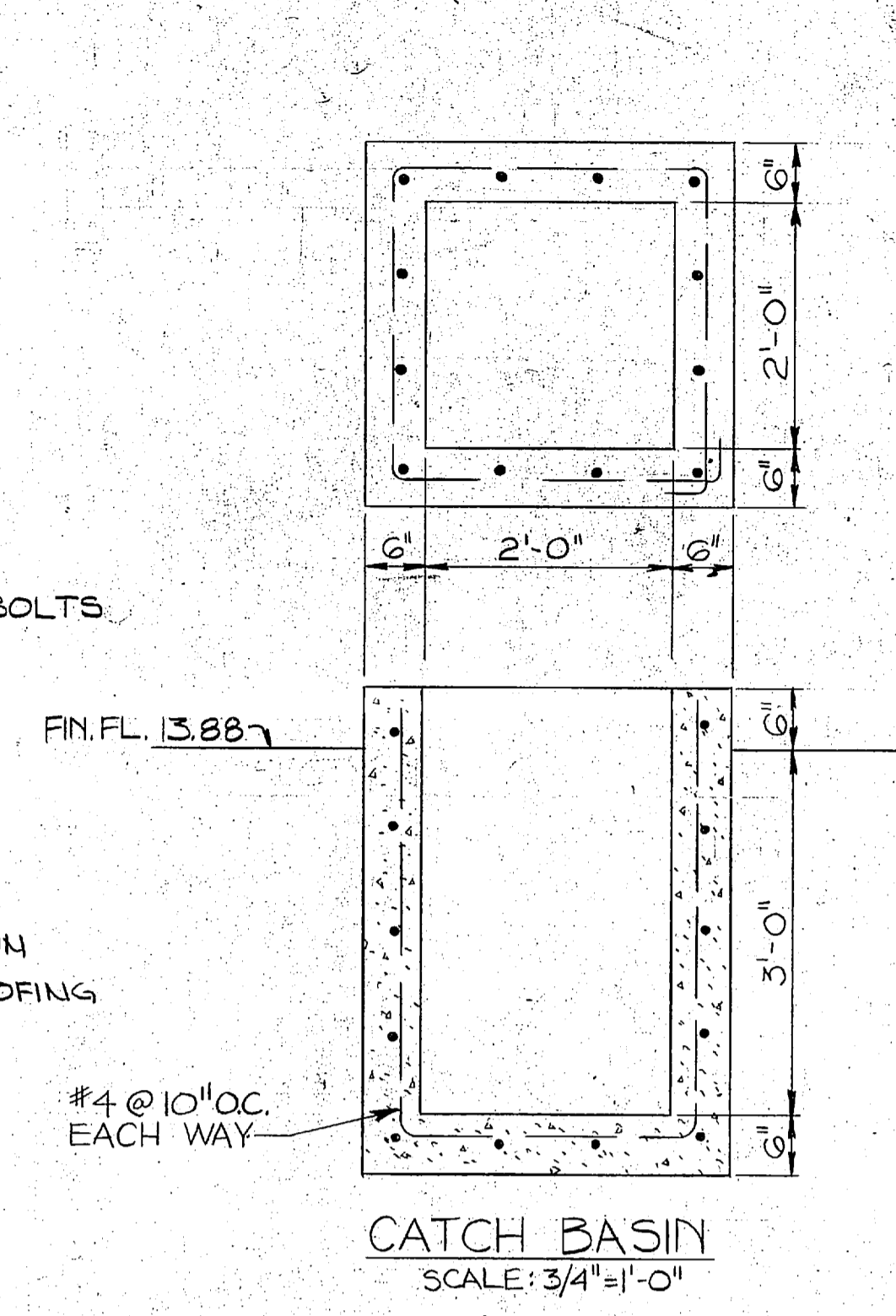
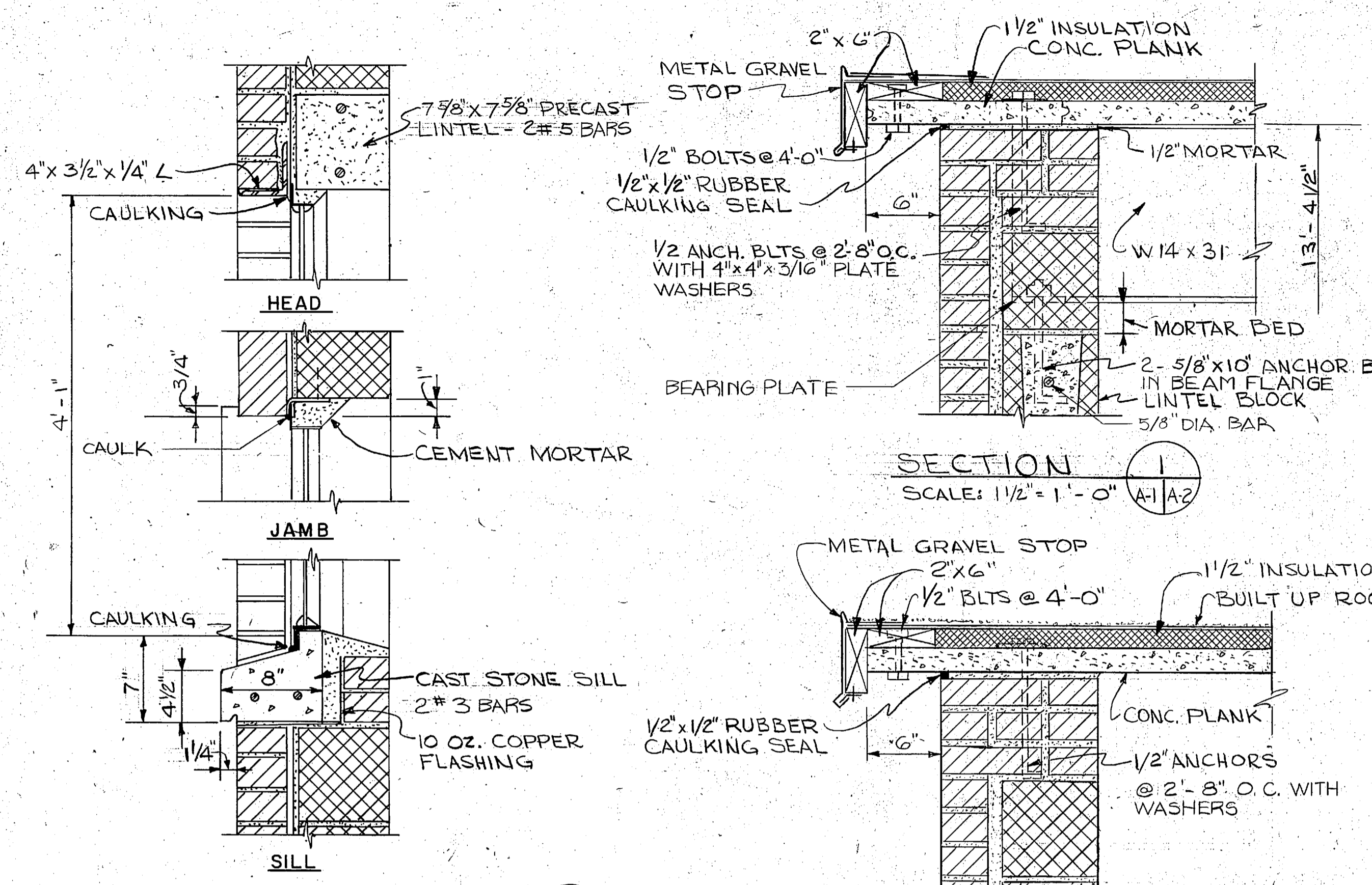
LEGEND
///// EXISTING STRUCTURE TO BE REMOVED



A-1 L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C.	
		NAVY STATION NORFOLK, VIRGINIA	
DES. DR. CHK. PROJ. MGR. CR. ENGR. SUBMITTED BY: DATE TEAM MEMBER: PRINCIPAL EVD FT. RVD NO. DIR.	MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT FLOOR PLAN, ELEVATION, & DRAINAGE PIPING		
APPROVED: DATE OFFICER IN CHARGE: DATE APPROVED: DATE FOR EFD FOR COMMANDER NAVFAC	SIZE: F 80091 CODE IDENT NO. NAVFAC DRAWING NO.	NAVFAC DRAWING NO.	SHEET OF
SCALES AS NOTED SPEC. 05-81-1478		CONSTR. CONTR. NO. N62470-81-B-1478	EFD DWG. NO.

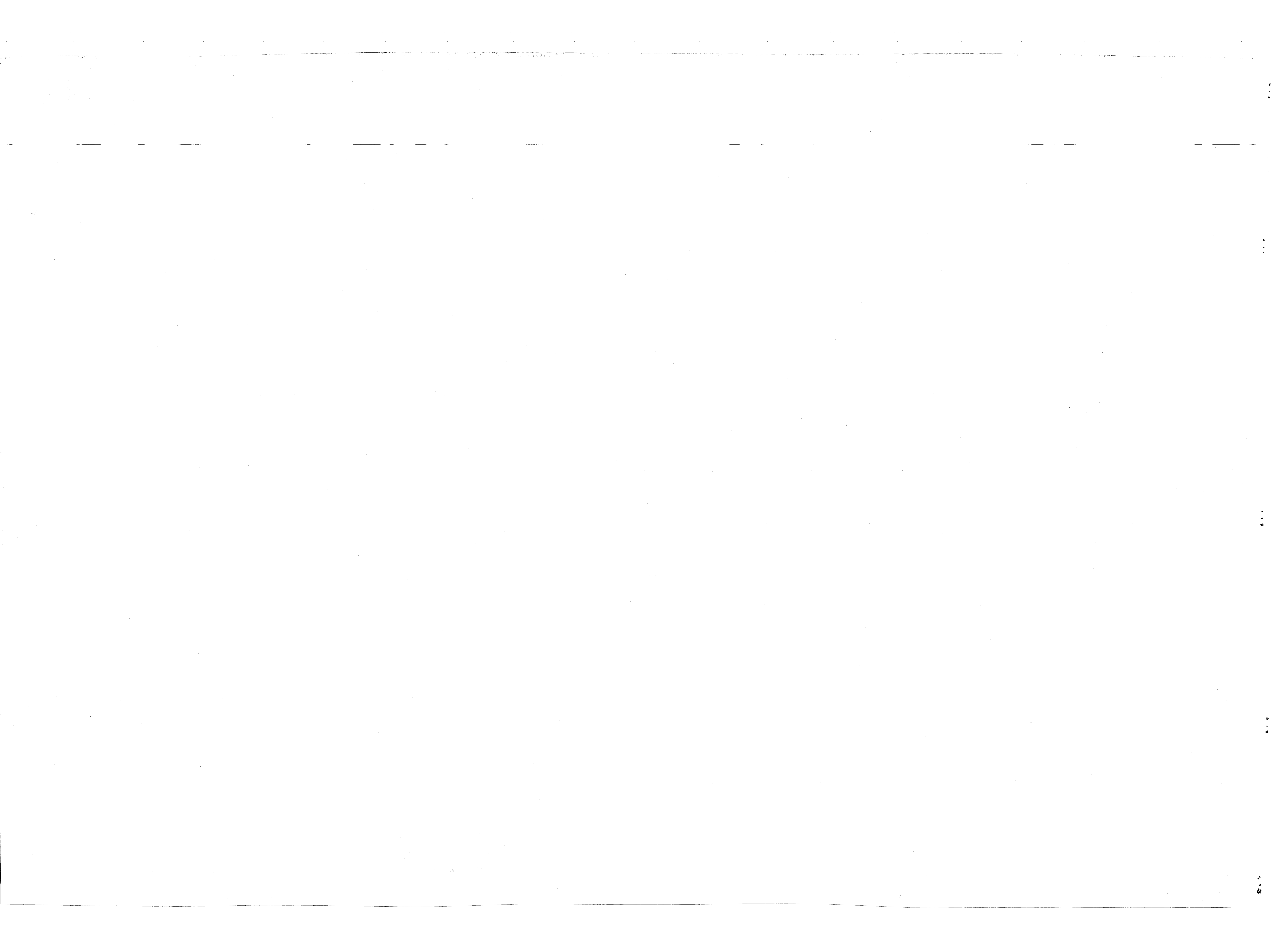


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			

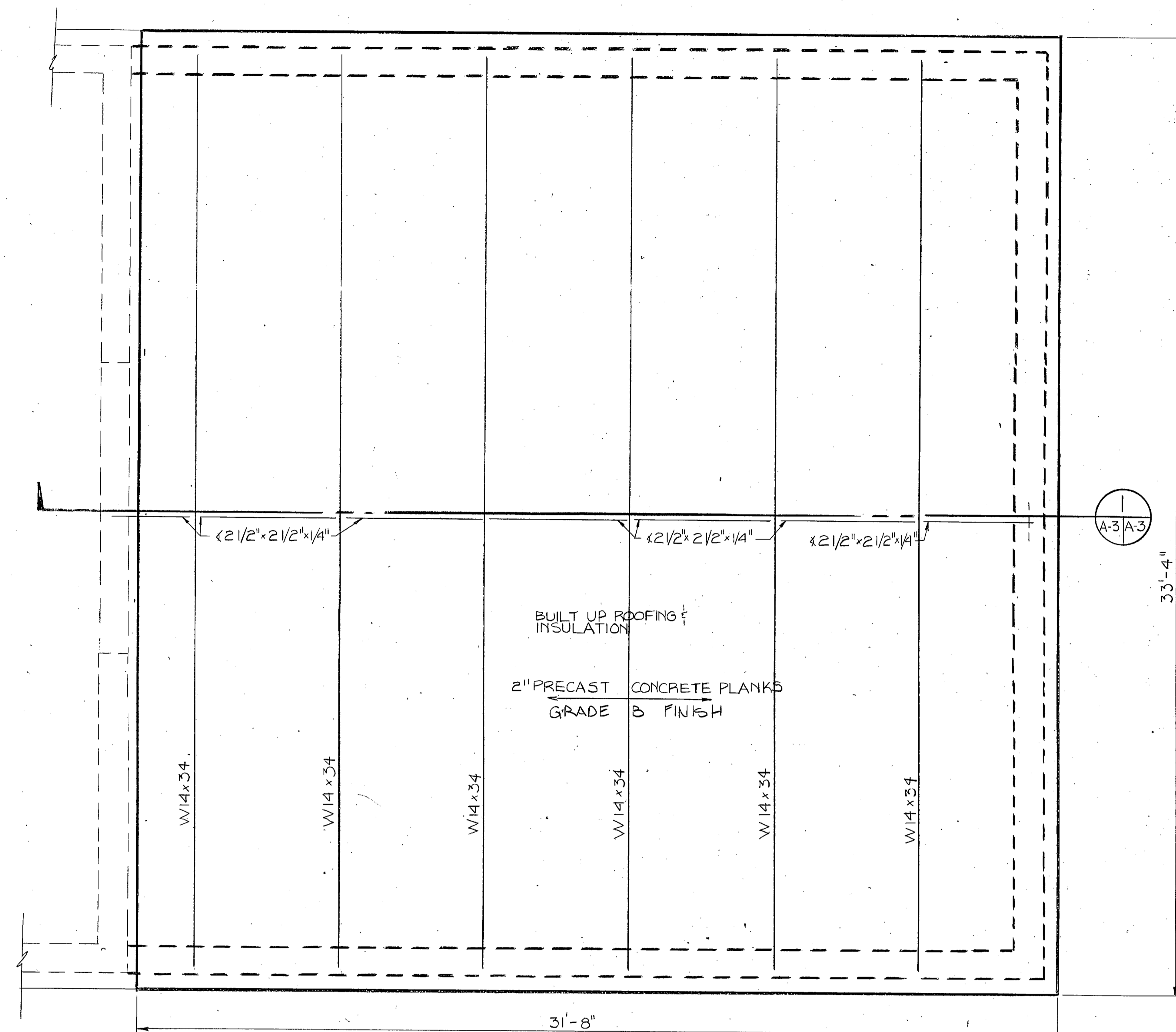


L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION	
MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT		WATER PLANT - ELEVATIONS & SECTIONS	
DES. DR. CHK.	PROJ. MGR. CH. ENGR.	DATE	DATE
NO.	NO.	NO.	NO.
APPROVED	DATE	DATE	DATE
OFFICER IN CHARGE	DATE	DATE	DATE
F 80091		SIZE	CODE IDENT. NO.
FOR STD. FOR COMMANDER, NAVFAC		SCALE(S) NOTED	SPIC. 05-BI-1478
SHEET		NO. OF SHEETS	

A-2



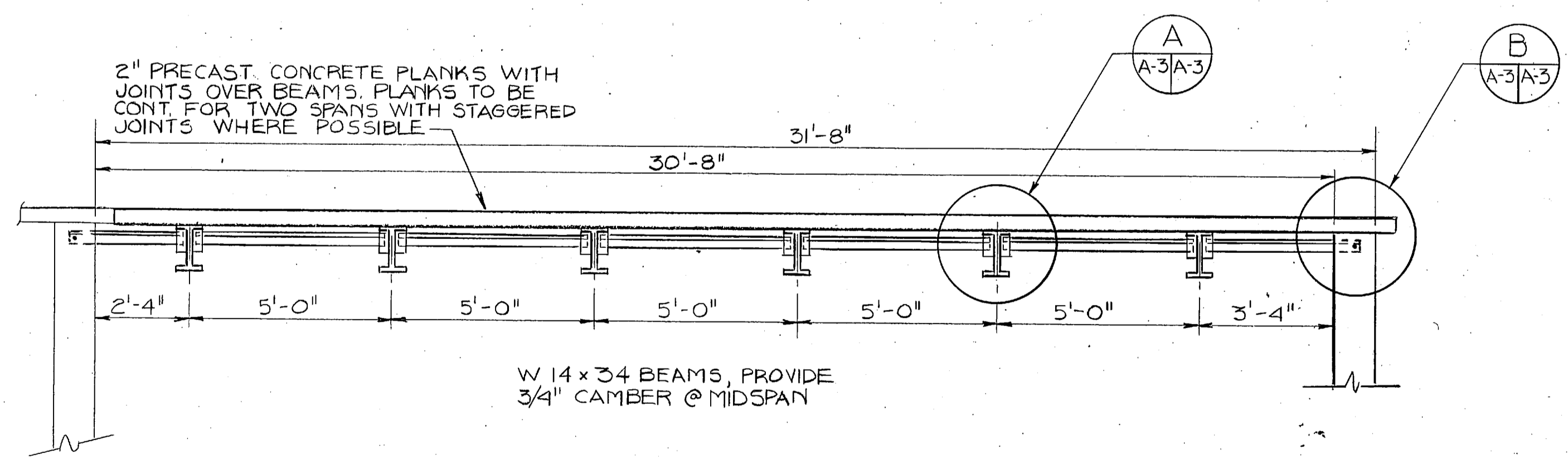
REVISIONS		
SYM	DESCRIPTION	DATE APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION		



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

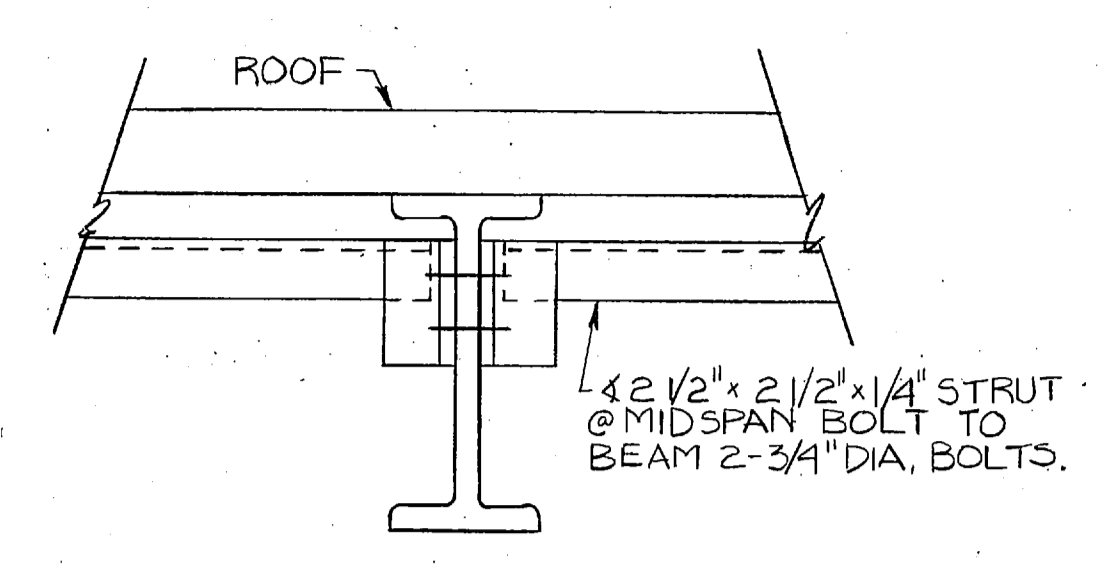
ROOF DESIGN LOADS:

DEAD LOAD:	35 PSF
WIND LOAD:	20 PSF
LIVE LOAD:	20 PSF
TOTAL LOAD:	75 PSF

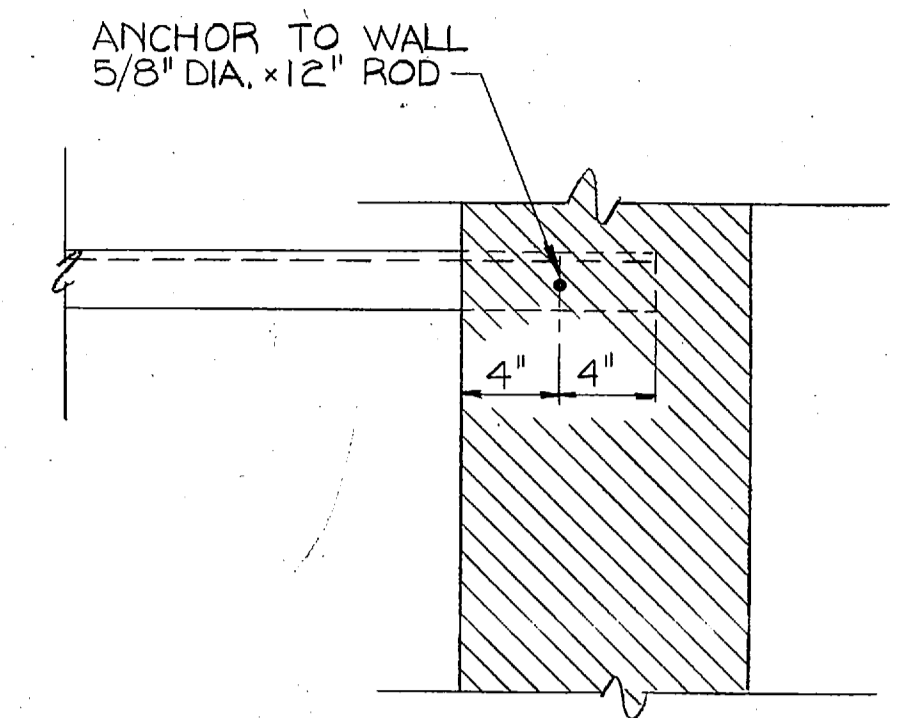


ROOF SECTION
SCALE: 3/8" = 1'-0"

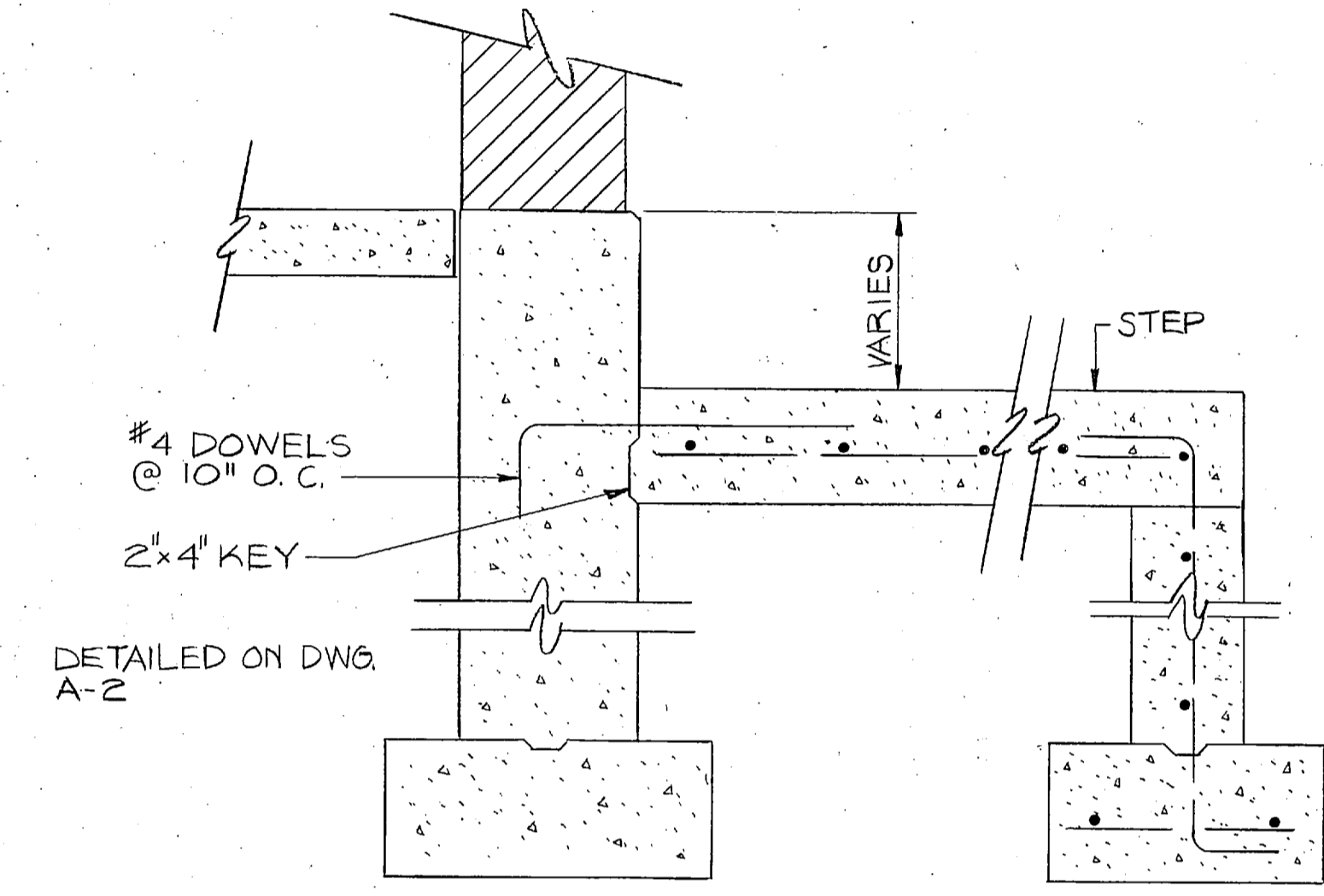
ROOM	FLOOR		BASE		WALLS		CEILING		MECH. EQUIP.	
	FINISH	COLOR	FINISH	COLOR	FINISH	COLOR	FINISH	COLOR	FINISH	COLOR
OPERATIONS ROOM	PAINTED TO MATCH CONCRETE	EXISTING	—	—	PAINTED MASONRY	TO MATCH EXISTING	PAINTED JOIST & DECK	TO MATCH EXISTING	PAINTED	TO MATCH EXISTING



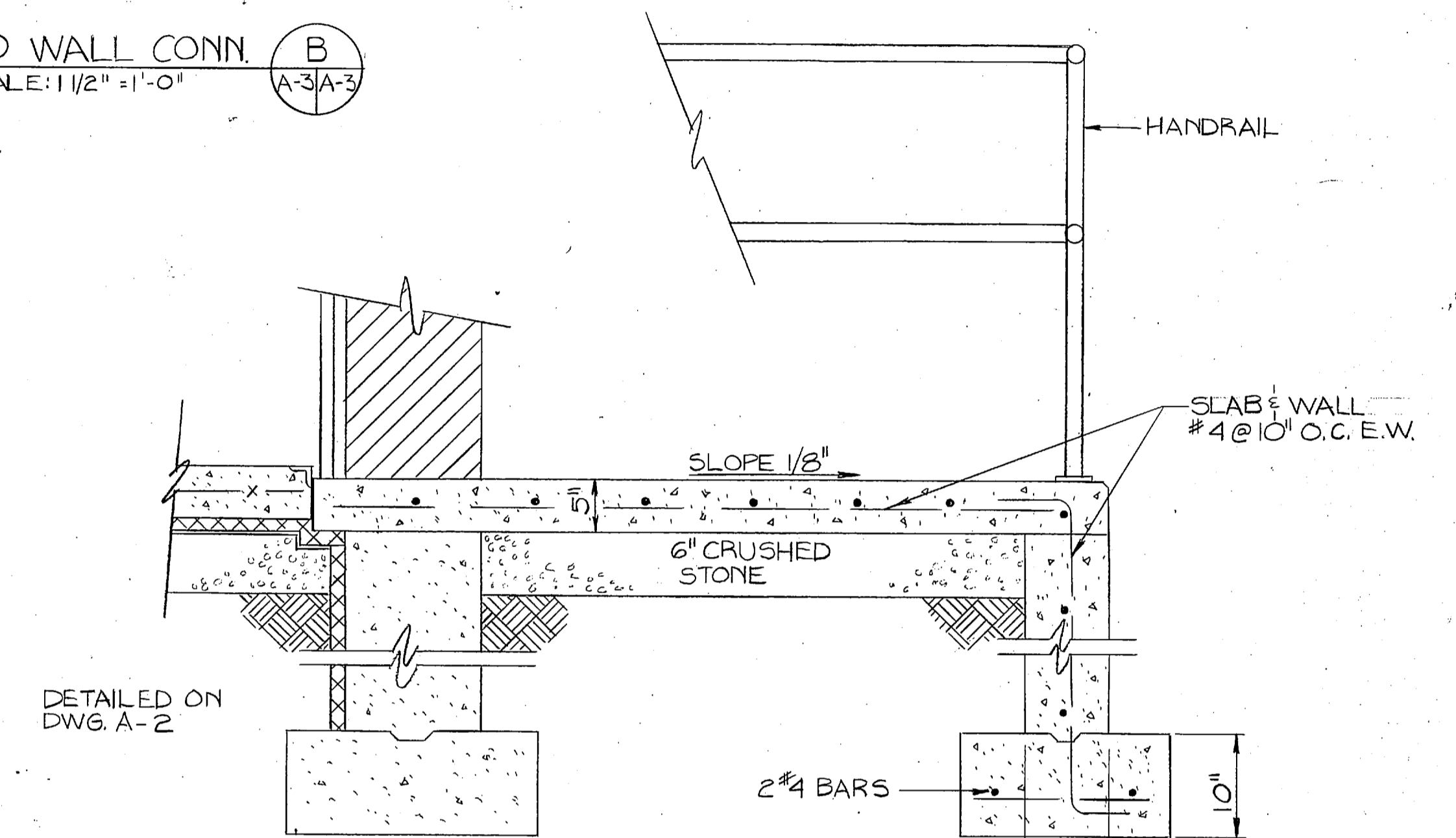
TYP. STRUT CONN.
SCALE: 1 1/2" = 1'-0"



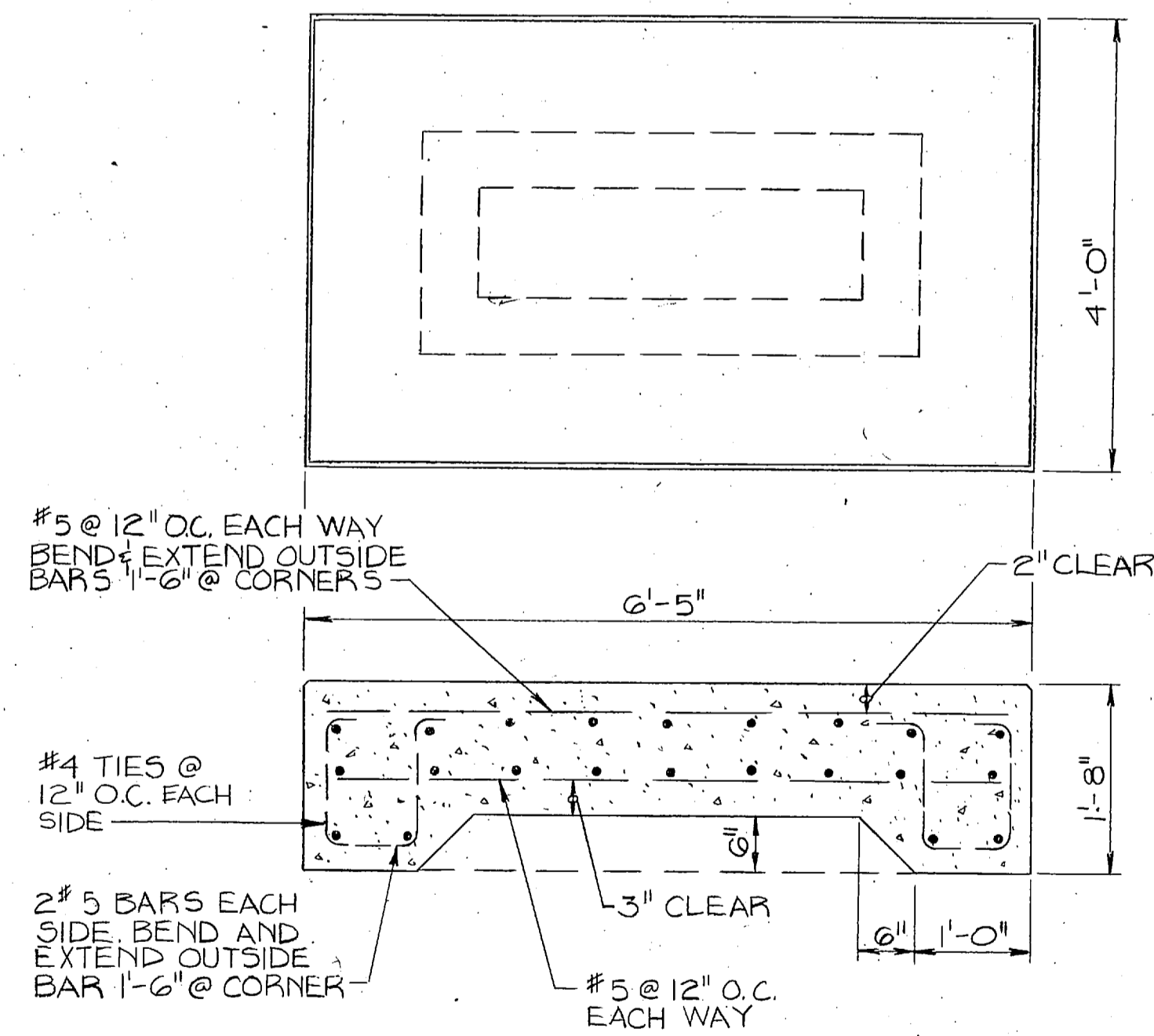
TYP. STRUT TO WALL CONN.
SCALE: 1 1/2" = 1'-0"



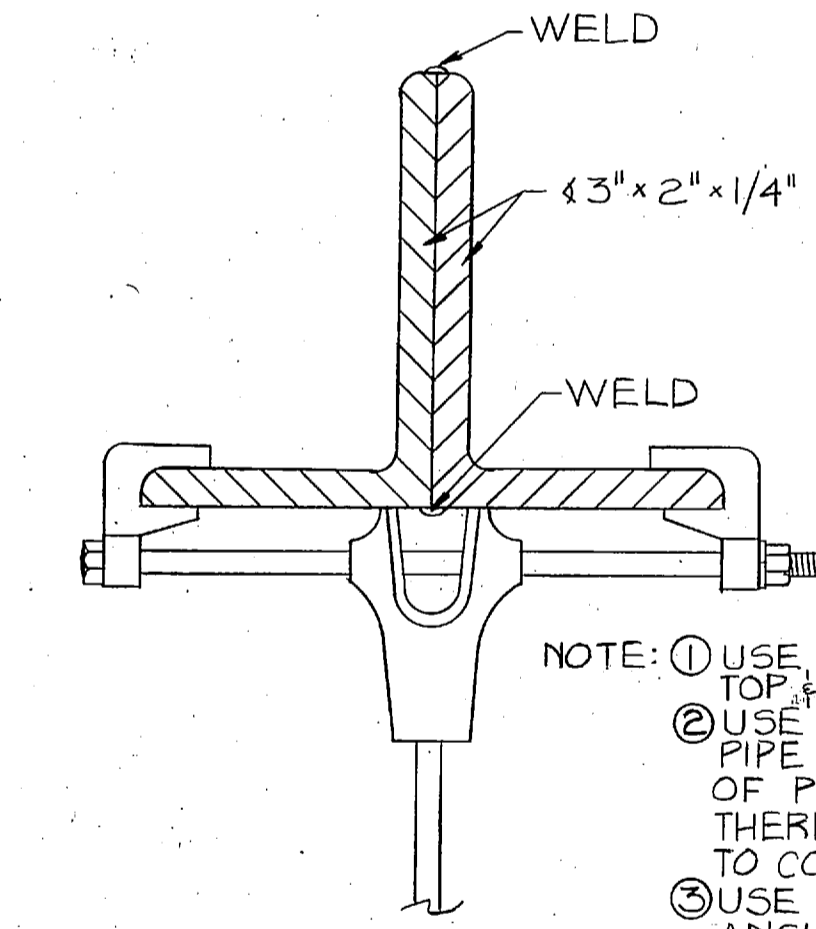
STEP SECTION
SCALE: 1" = 1'-0"



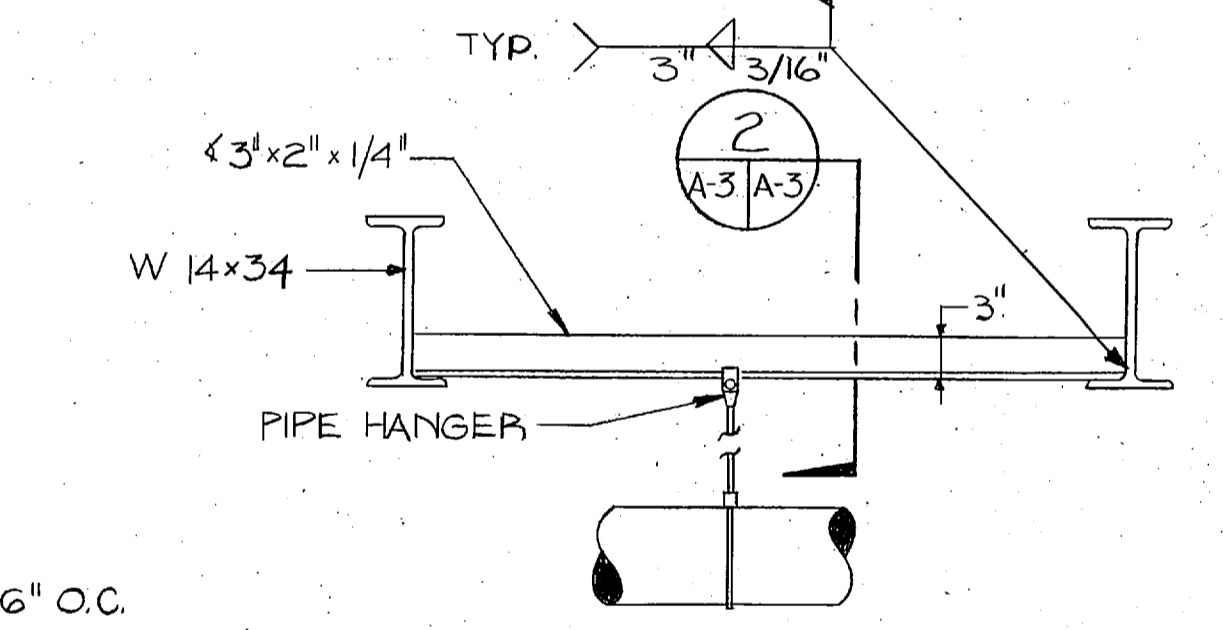
DOCK SECTION
SCALE: 1" = 1'-0"



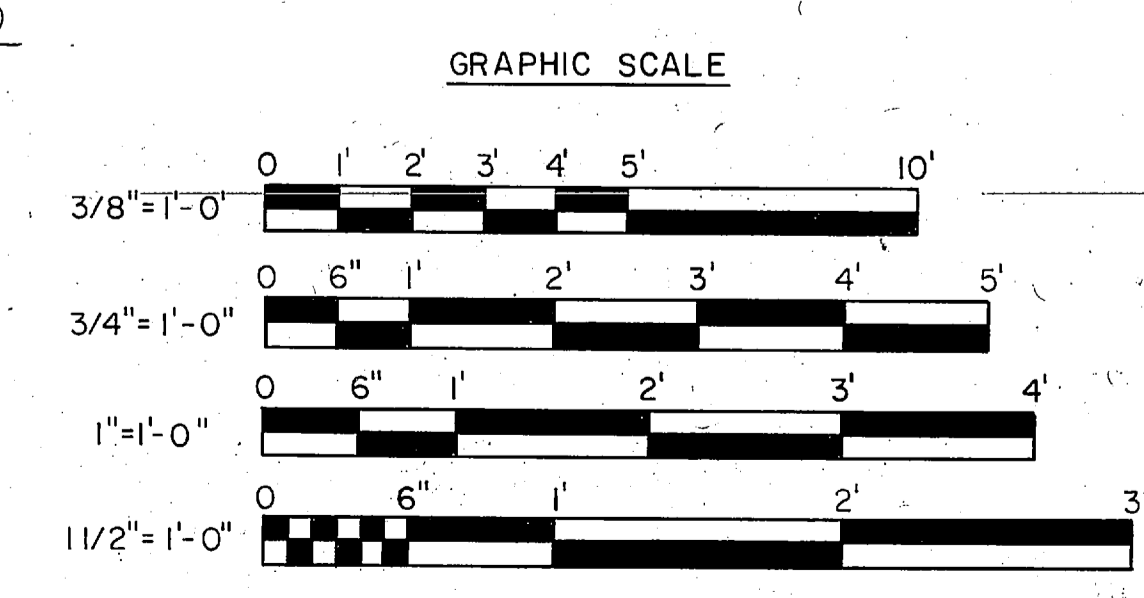
GENERATOR PAD
SCALE: 3/4" = 1'-0"



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



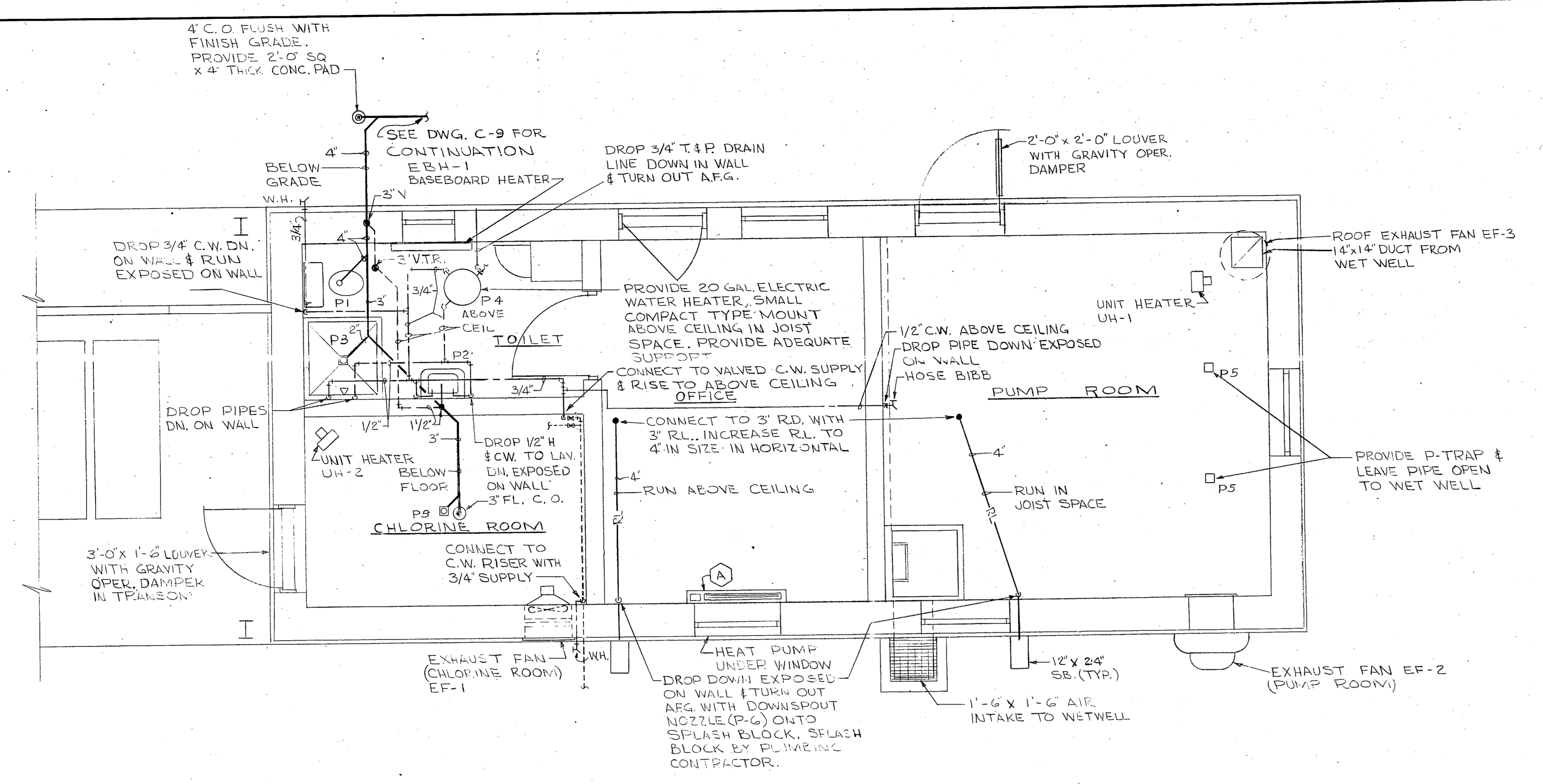
TYPICAL PIPE HANGER DETAIL BETWEEN BEAMS
SCALE: 3/4" = 1'-0"



A-3 L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA	
		ATLANTIC DIVISION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT ROOF PLAN, GENERATOR PAD, SECTIONS, & DETAILS	
DES.	DR.	CHK.	DATE
PROJ. MGR.	CH. ENGR.	DATE	
SUBMITTED BY	DATE		
FIRM MEMBER	PRINCIPAL		
NO.	BYD.		
APPROVED	DATE	SIZE	CODE IDENT NO.
OFFICER IN CHARGE	DATE	F 80091	NAVFAC DRAWING NO.
APPROVED	DATE	SCALE	CONSTR. CONTR. NO.
FOR EFD. FOR COMMANDER NAVFAC	SCALE	AS NOTED	SPEC.
			SHEET OF EFD DWG. NO.



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



UNIT NO.	LOCATION	CFM	ENT AIR °F	HEATER ELEMENT		MIN. BTUH	MOTOR	
				KW	PHASE VOLT		VOLT	PHASE
UH-1	PUMP ROOM	280	60	2.0	1-208	6824	115	1
UH-2	CHLORINE ROOM	280	60	2.0	1-208	6824	115	1

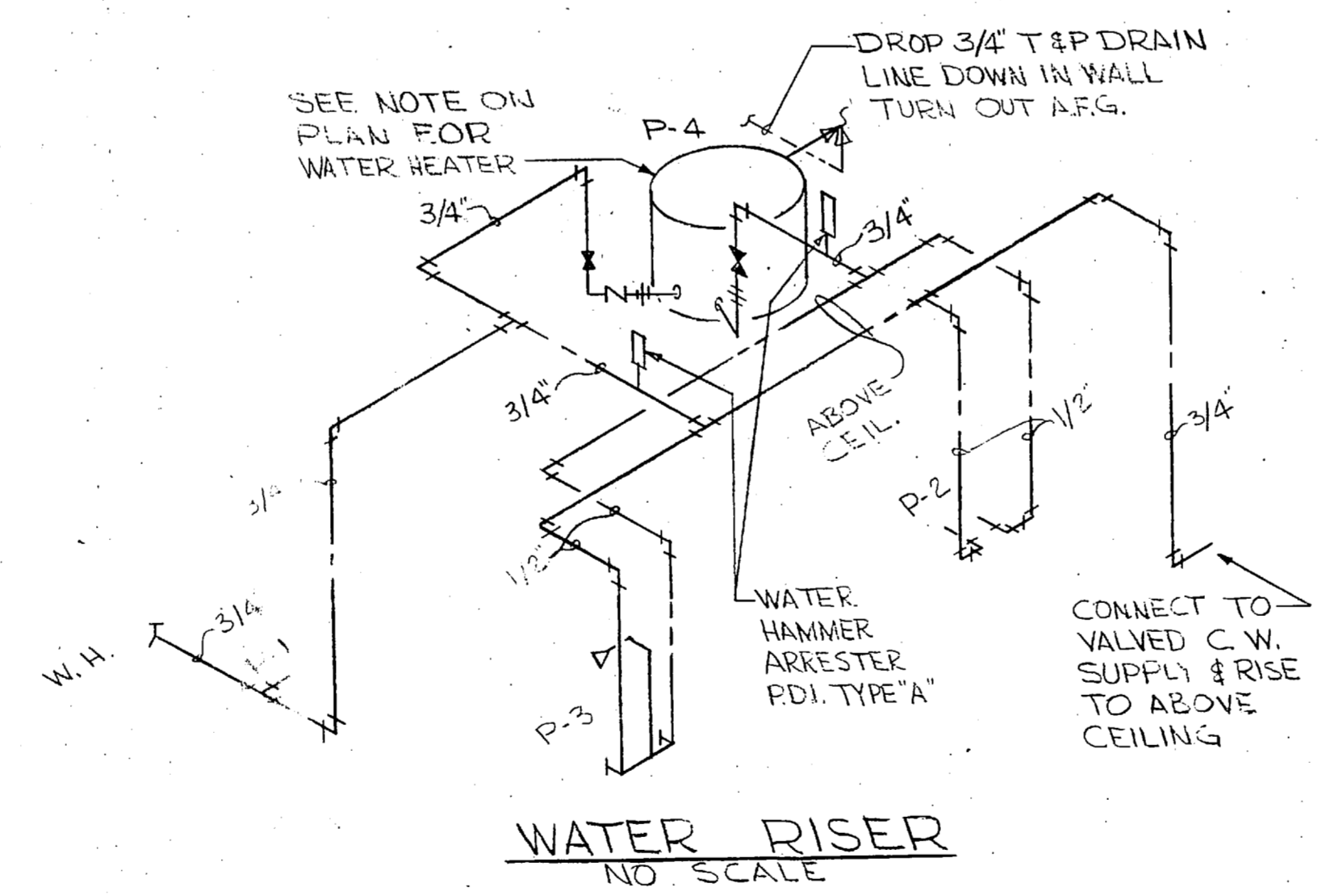
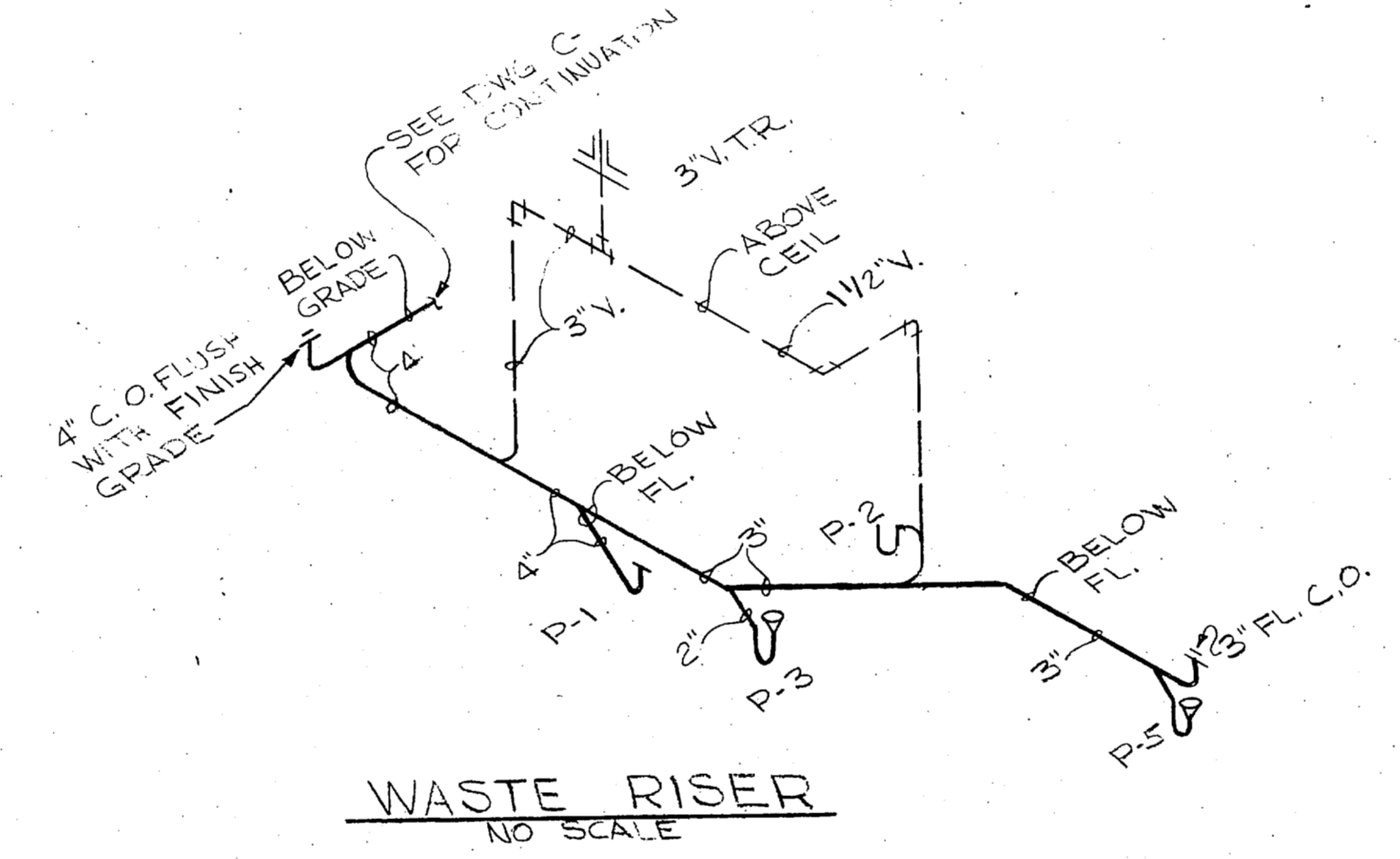
NOTE: PROVIDE UNIT HEATERS WITH MOUNTING BRACKETS AND UNIT MOUNTED THERMOSTATS

UNIT NO.	LOCATION	WATTS	BTU/HR	LENGTH	VOLT/PH	THERMOSTAT	REMARKS
EBH-1	TOILET	1000	3412	4 FEET	120/1	INTEGRAL	

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

— W	WASTE OR SEWER PIPING
- - - V	VENT PIPING
- - - C.W.	COLD WATER PIPING
- - - H.W.	HOT WATER PIPING
- RL	ROOF LEADER PIPE
- RD	ROOF DRAIN
- C.O.	CLEAN OUT
- V.T.R.	VENT THRU ROOF
- FL	FLOOR
- CEIL	CEILING
- AFF	ABOVE FINISH FLOOR
- AFG.	ABOVE FINISH GRADE
-	GATE VALVE
-	CHECK VALVE
-	UNION
- W.H.	WALL HYPHANT

MARK	DESCRIPTION	WASTE	CW	H.W.	REMARKS
P-1	WATER CLOSET	4"	1/2"	—	FLOOR MOUNTED FLUSH TANK
P-2	LAVATORY	1 1/2"	1/2"	1/2"	
P-3	SHOWER	2"	1/2"	1/2"	
P-4	WATER HEATER	—	3/4"	3/4"	20 GAL. CAPACITY
P-5	FLOOR DRAIN	3"	—	—	
P-6	DOWNSPOUT NOZZLE	4"	—	—	



UNIT SYMBOL	ROOM	AIR QUANTITIES		ARI RATINGS (BTUH)		UNIT ELECT CHARACTERISTICS			ELECTRIC HEATER			EER	COP	REMARKS		
		ROOM	SIDE	CFM	O.A.	COOLING	HEATING	VOLTS	FULL LOAD AMPS	VOLTAGE	KW				BTUH	
(A)		H1-250	L0-230	60		11,800	11,000	208V, 1PH	7.3	6.7	208V, 1PH	34	9700	8.0	2.3	

NO.	LOCATION	SERVICE	CAPACITY IN CFM	STATIC PRESS (IN. HG)	RPM	WHEEL DIA. (IN)	TYPE	APPROX H.P.	ELEC. SERVICE			REMARKS
									VOLTS	PH.	HERTZ	
EF-1	CHLORINE ROOM	EXHAUST	770	.25	1140	16	SIDEWALL	1/12	120	1	60	PROVIDE BACKDRAFT DAMPER & MOTOR GUARD
EF-2	PUMP ROOM	EXHAUST	380	.25	860	12	CENTR.	1/20	120	1	60	PROVIDE BACKDRAFT DAMPER, GRILLE & BIRD SCR.
EF-3	ROOF	EXHAUST (WETWELL)	600	.375	1070	10	CENTR.	1/4	120	1	60	PROVIDE BACKDRAFT DAMPER, BIRDSCREEN

M-1

L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
ATLANTIC DIVISION		MARINE CORPS BASE, CAMP LEJEUNE, N.C.	
UTILITIES IMPROVEMENTS		WASTEWATER TREATMENT PLANT	
CONTROL BUILDING - MECHANICAL		NAVFAC DRAWING NO.	
F 80091		CONSTR. CONTR. NO. N62470-81-B-1478	
SCALE AS NOTED		SPEC. 05-81-1478	
FOR ETD FOR COMMANDER NAVFAC		SHEET OF	

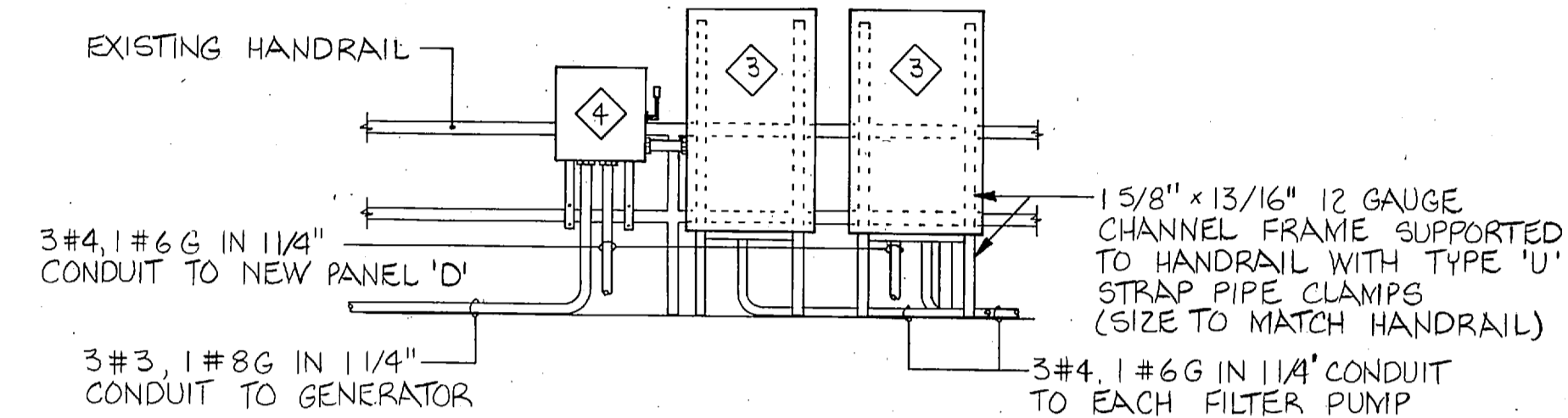
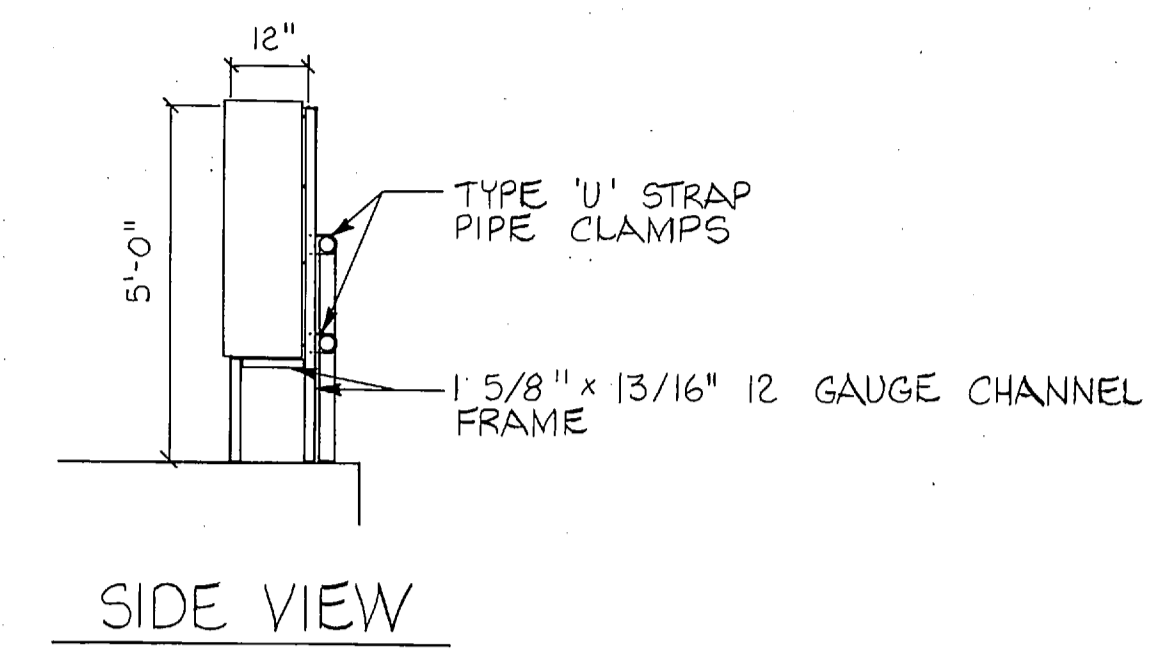


GENERAL NOTES:

- 1 THE CONTRACTOR SHALL REMOVE PUMP STARTERS AND ALL ASSOCIATED WIRING AND CONDUIT FOR FILTER PUMPS IN ITS ENTIRETY WHERE FEASIBLE. CONDUIT ENCASED IN CONCRETE SHALL BE CUT FLUSH WITH FLOOR OR WALL AND FILLED.
- 2 PROVIDE A NEW 225A, 3P, 240V RATED CIRCUIT BREAKER IN EXISTING PANEL 'A' FOR NEW PANEL 'D'. FEEDER TO BE 4 #4/0, 1#4G IN 2 1/2" CONDUIT (BREAKER SHALL MATCH EXISTING EQUIPMENT)
- 3 PROVIDE A NEW REDUCED VOLTAGE AUTOTRANSFORMER TYPE NEMA SIZE 3 STARTER IN A NEMA ENCLOSURE FOR EACH FILTER PUMP. (PROVIDE WITH HOA SELECTOR SWITCH IN COVER).
- 4 PROVIDE A NEW 100A, 3P, 240V RATED MANUAL DOUBLE THROW TRANSFER SWITCH AT LOCATION SHOWN.
- 5 PROVIDE A NEW 100A, 3P, 240V RATED FUSED DISC. SWITCH FUSED AT 100 AMPS IN A NEMA 3R ENCLOSURE. (FUSES TO BE DUAL ELEMENT TYPE)
- 6 IN EXISTING PANEL 'C', 20A, 1P SPARE CIRCUIT BREAKER NO 11 SHALL NOW FEED NEW RECEPTACLES IN NEW PROC. ROOM. EXISTING CIRCUIT BREAKER NO 12 SHALL NOW FEED NEW LIGHTS IN NEW PROC. ROOM. FEEDERS TO BE 2#12, 1#12G IN 3/4" CONDUIT.
- 7 IN EXISTING PANEL 'C' REMOVE 20A, 2P SPARE CIRCUIT BREAKER NO 7 AND INSTALL (2) NEW 20A, 1P CIRCUIT BREAKERS. CIRCUIT NO 7 SHALL FEED NEW SOLENOID VALVES, CIRCUIT NO 9 SHALL FEED NEW FILTER CONTROL PANEL. FEEDERS TO BE 2#12, 1#12G IN 3/4" CONDUIT. (BREAKERS SHALL MATCH EXISTING EQUIPMENT)
- 8 EXISTING PANEL 'C', GENERAL ELECTRIC 120/208 VOLT, 3 PHASE, 4 WIRE TYPE 'NAB' PANELBOARD WITH A 225 AMP MAIN CIRCUIT BREAKER.

- 9 EXISTING PANEL 'A' - GENERAL ELECTRIC 120/208 VOLT, 3 PHASE, 4 WIRE TYPE 'NAB' PANELBOARD WITH A 800 AMP MAIN CIRCUIT BREAKER.
- 10 FROM EXISTING PANEL 'B' 15A, 1P CIRCUIT BREAKERS PROVIDE 2#12, 1#12G IN 3/4" CONDUIT TO EACH NEW NEMA SIZE 00 MAGNETIC MOTOR STARTER AND TO EACH NEW BRINE PUMP.
- 11 EXISTING PANEL 'B' - GENERAL ELECTRIC 120/208 VOLT, 3 PHASE, 4 WIRE TYPE 'NAB' PANELBOARD WITH A 225 AMP MAIN CIRCUIT BREAKER.
- 12 PROVIDE 2#12, 1#12G IN 3/4" CONDUIT TO A 20A, 1P SPARE CIRCUIT BREAKER IN EXISTING PANEL 'L' FOR SPACE HEATER AND BATTERY CHARGER.
- 13 EXISTING PANEL 'L' - GENERAL ELECTRIC 120/208 VOLT, 3 PHASE, 4 WIRE TYPE 'NAB' PANELBOARD WITH A 100 AMP MAIN CIRCUIT BREAKER.

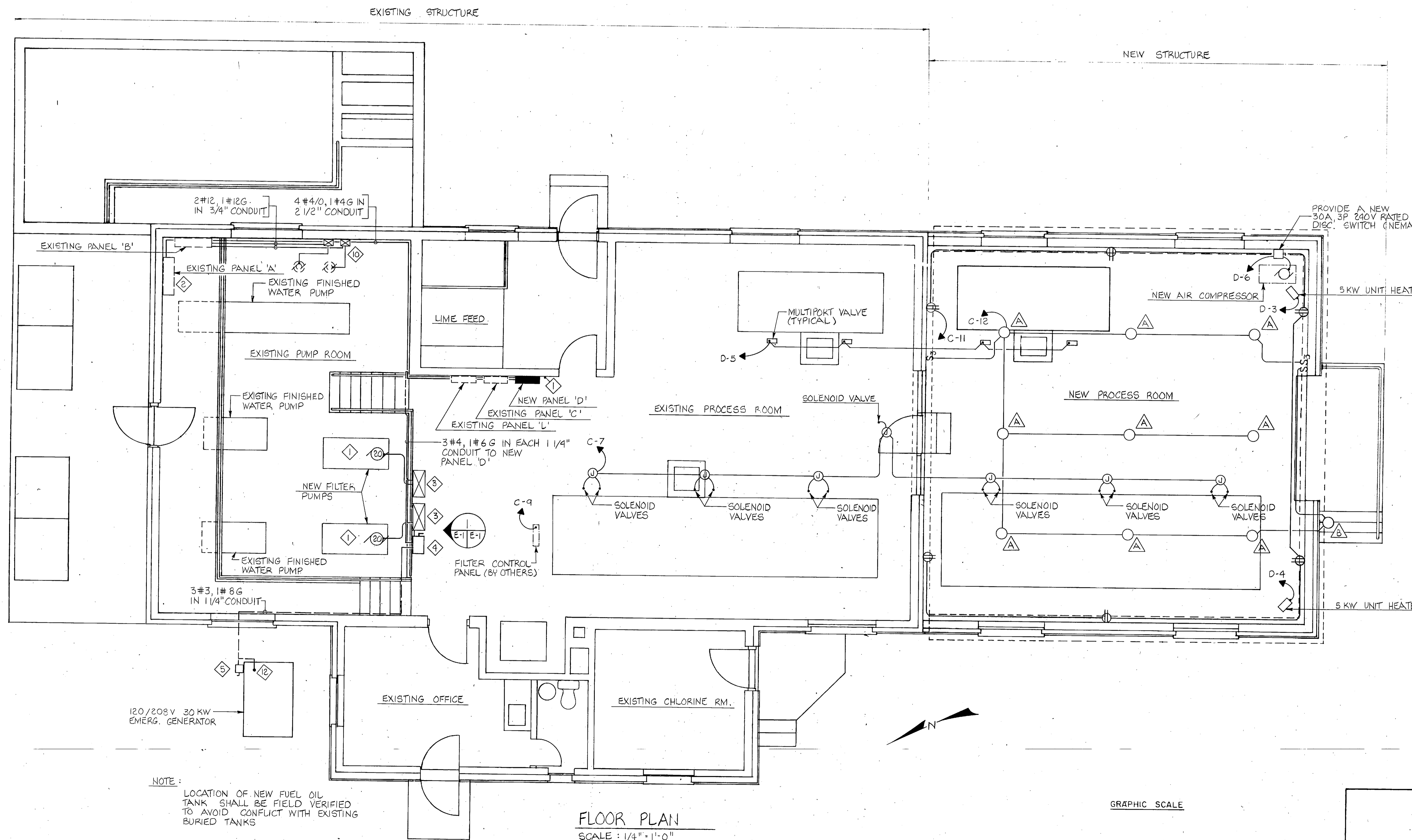
LIGHT FIXTURE SCHEDULE					
FIXTURE	MANUFACTURER & CAT. NO./OR EQUAL	LAMPS	VOLTS	MOUNTING	REMARKS
A	APPLETON VSA-A23	1-150W	120	CEILING	STANDARD DOME 217
	HUBBELL YP 150 RP 2H REF	1-150W	120	CEILING	STANDARD DOME
	BENJAMIN 6501	1-150W	120	CEILING	STANDARD DOME
B	APPLETON JBW 10G	1-150W	120	WALL	
	HUBBELL ACW10100	1-150W	120	WALL	
	PYLE NATIONAL AOWXF 2210	1-150W	120	WALL	



EQUIPMENT MOUNTING DETAIL
NOT TO SCALE

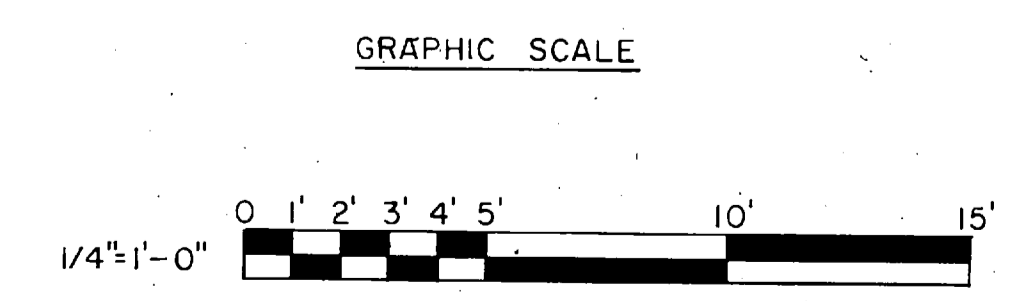
ELECTRICAL SYMBOL SCHEDULE

- CEILING MOUNTED INCANDESCENT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE THIS SHEET)
- ⊙ BRACKET MOUNTED INCANDESCENT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE THIS SHEET)
- S SINGLE POLE TOGGLE SWITCH (48" TO TOP OF SWITCH) SUBSCRIPT 3 INDICATES THREE WAY.
- ⊕ 20A, 120V GROUNDING TYPE DUPLEX RECEPTACLE
- ⊙ THREE PHASE MOTOR CONNECTION
- RIGID STEEL CONDUIT INSTALLED EXPOSED ON WALL OR CEILING
- RIGID STEEL CONDUIT INSTALLED UNDER SLAB OR GRADE
- BRANCH CIRCUIT AND CONDUIT TO PANELBOARD
- ⊠ MOTOR STARTER



NOTE: LOCATION OF NEW FUEL OIL TANK SHALL BE FIELD VERIFIED TO AVOID CONFLICT WITH EXISTING BURIED TANKS

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



DESCRIPTION	CIRCUIT NO.	BRKR. RATING	BRKR. CLASS	WIRE SIZE	LOAD KW/HP	SERVICE
PANEL 'D'	1	150A, 3P	14b	#4	20 HP	FILTER PUMP
	3	20A, 3P	12b	#12	5 KW	UNIT HEATER
	5	20A, 3P	12b	#12	4 @ 1/2 HP	MULTIPORT VALVES
	7	3P	-	-	-	SPACE
	2	150A, 3P	14b	#4	20HP	FILTER PUMP
	4	20A, 3P	12b	#12	5KW	UNIT HEATER
	6	30A, 3P	12b	#10	5 HP	COMPRESSOR
TOTAL CONNECTED LOAD: 21.8 KVA	8	3P	-	-	-	SPACE

L. E. WOOLLEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY - NAVAL FACILITIES ENGINEERING COMMAND	
		ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WATER PLANT	
DIS	DR	CHK	
PROJ. MGR.	CH. ENGR.	DATE	
SUBMITTED BY			
FIRM MEMBER	PRINCIPAL		
STD. NO.	REV. NO.		
NO.	DIR.		
APPROVED	DATE	SHEET	CODE IDENT. NO.
OFFICER IN CHARGE		F 80091	CONST. CONTR. NO. N82470-81-B-1478
APPROVED	DATE		SCALE AS SHOWN SPEC 05-81-1478
FOR EXP. FOR COMMANDER NAVFAC		SHEET NO. OF	

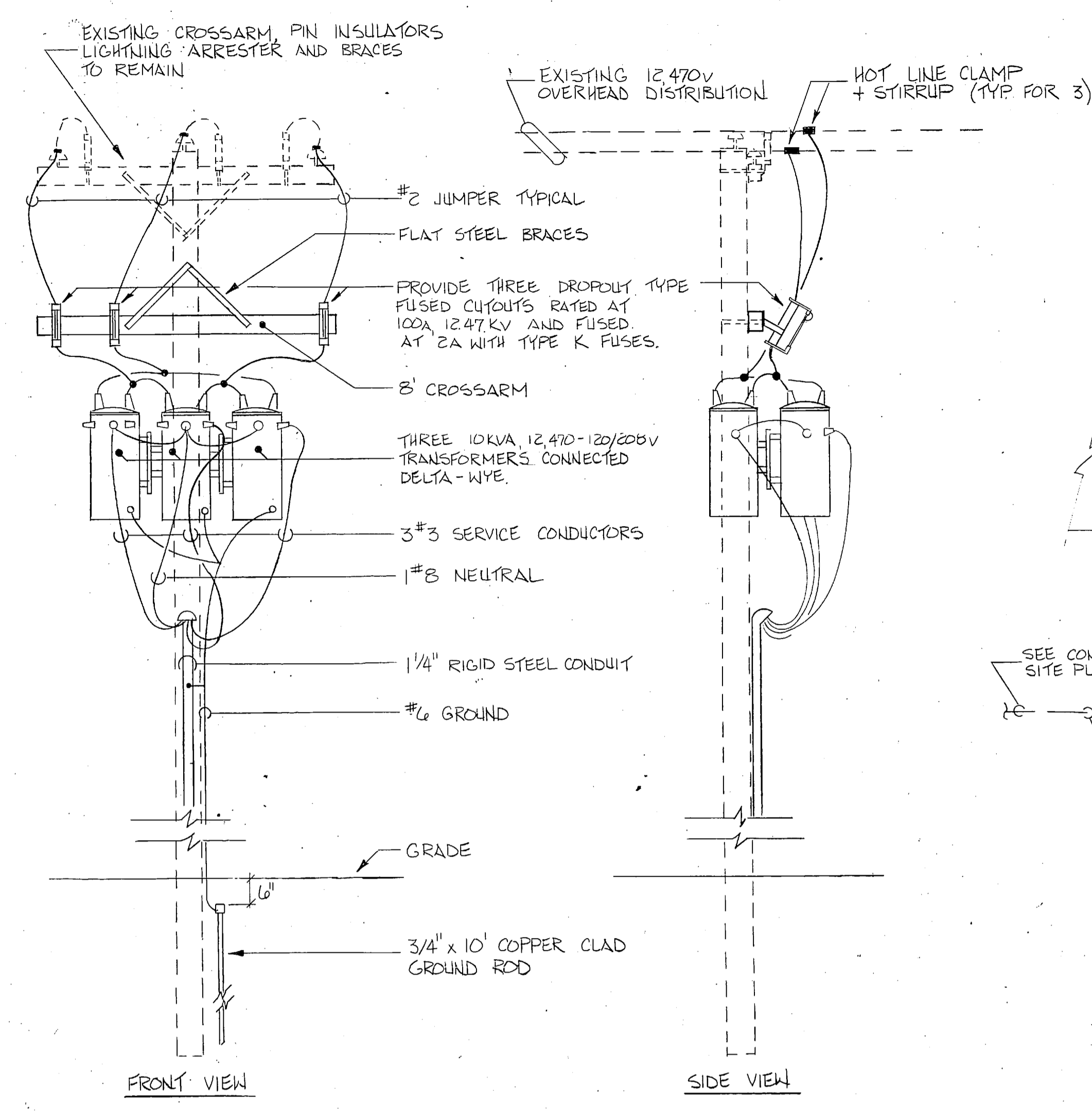
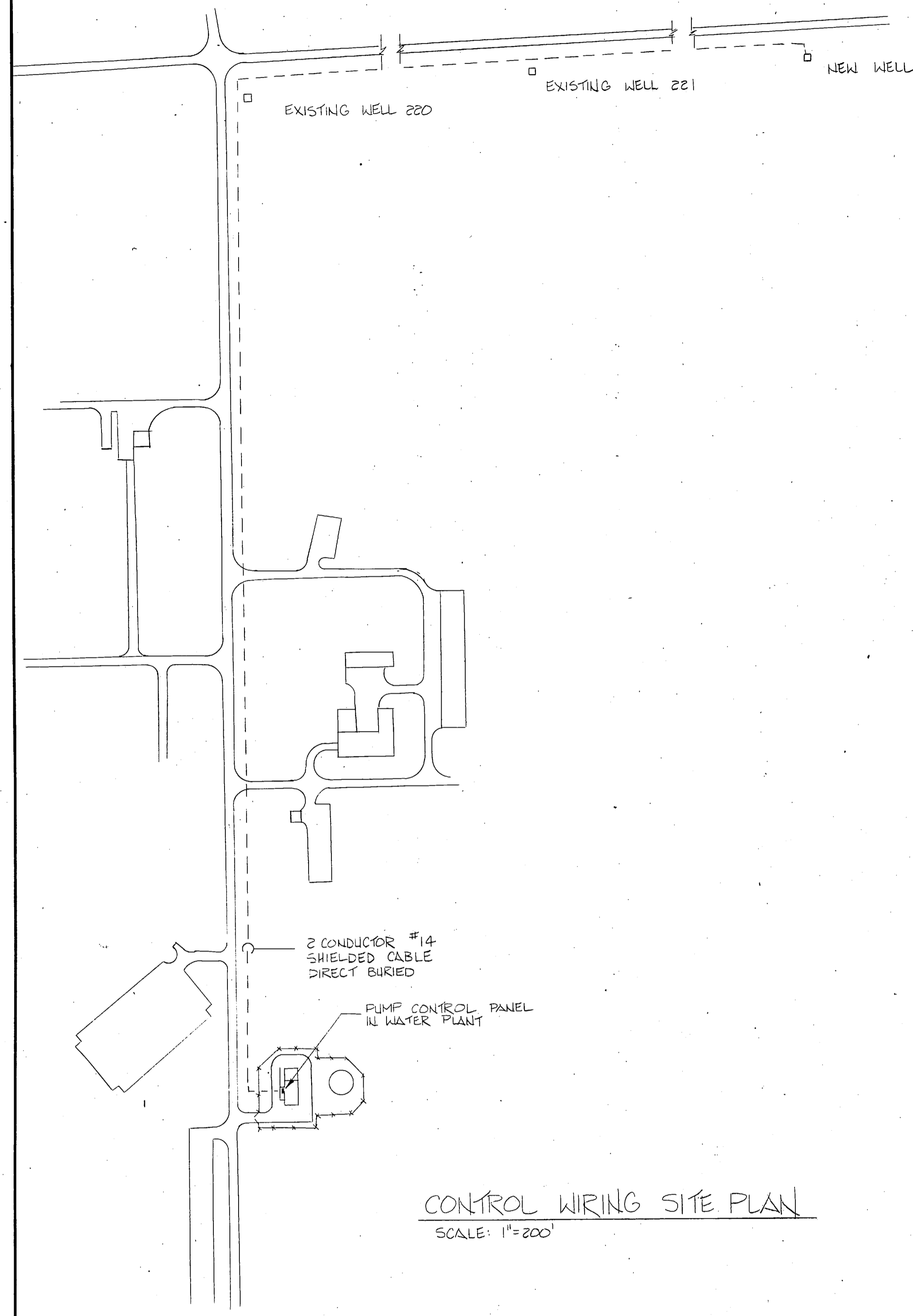
E-1

REVISIONS

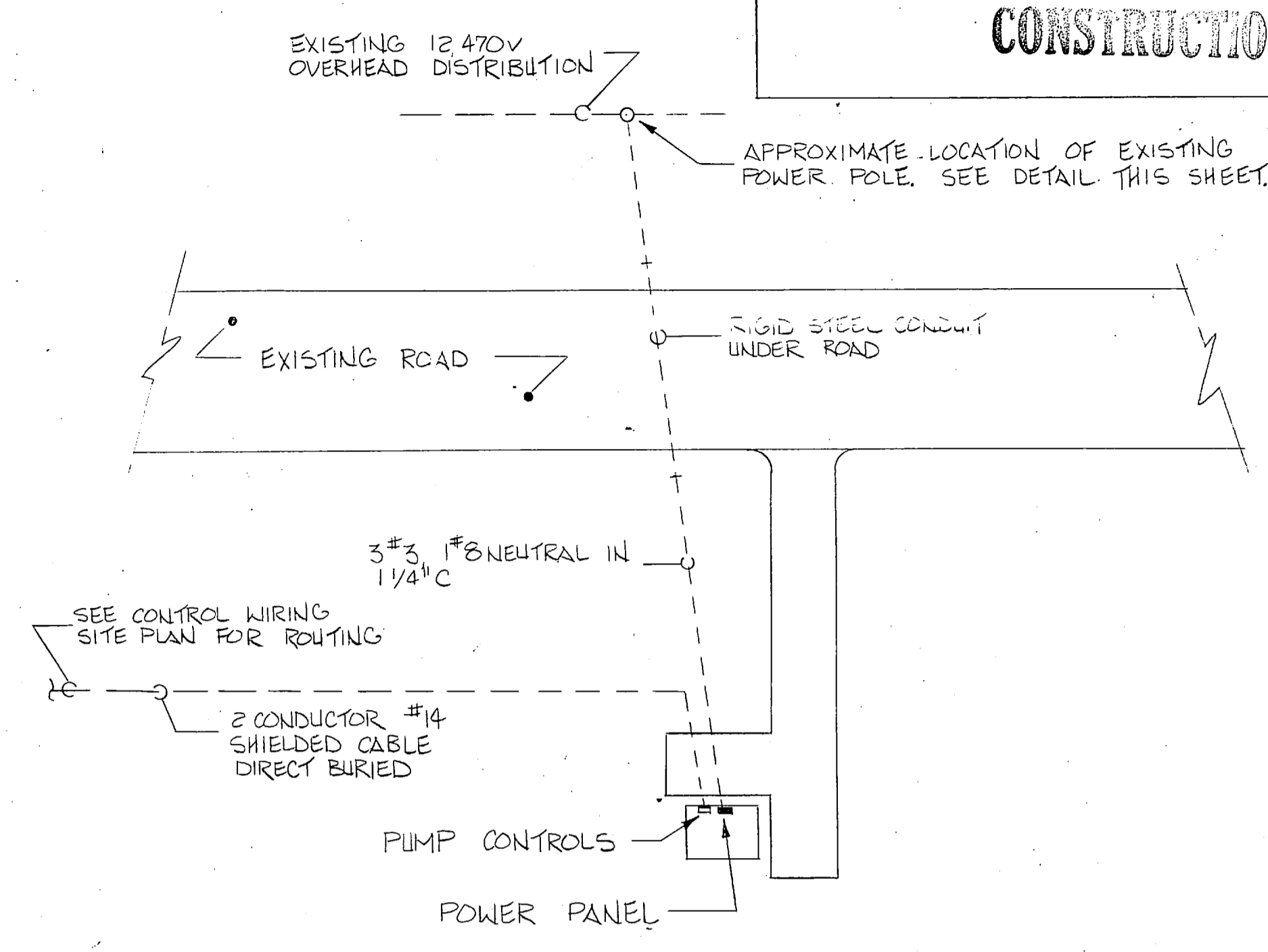
SYM	DESCRIPTION	DATE	APPROVED

**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**

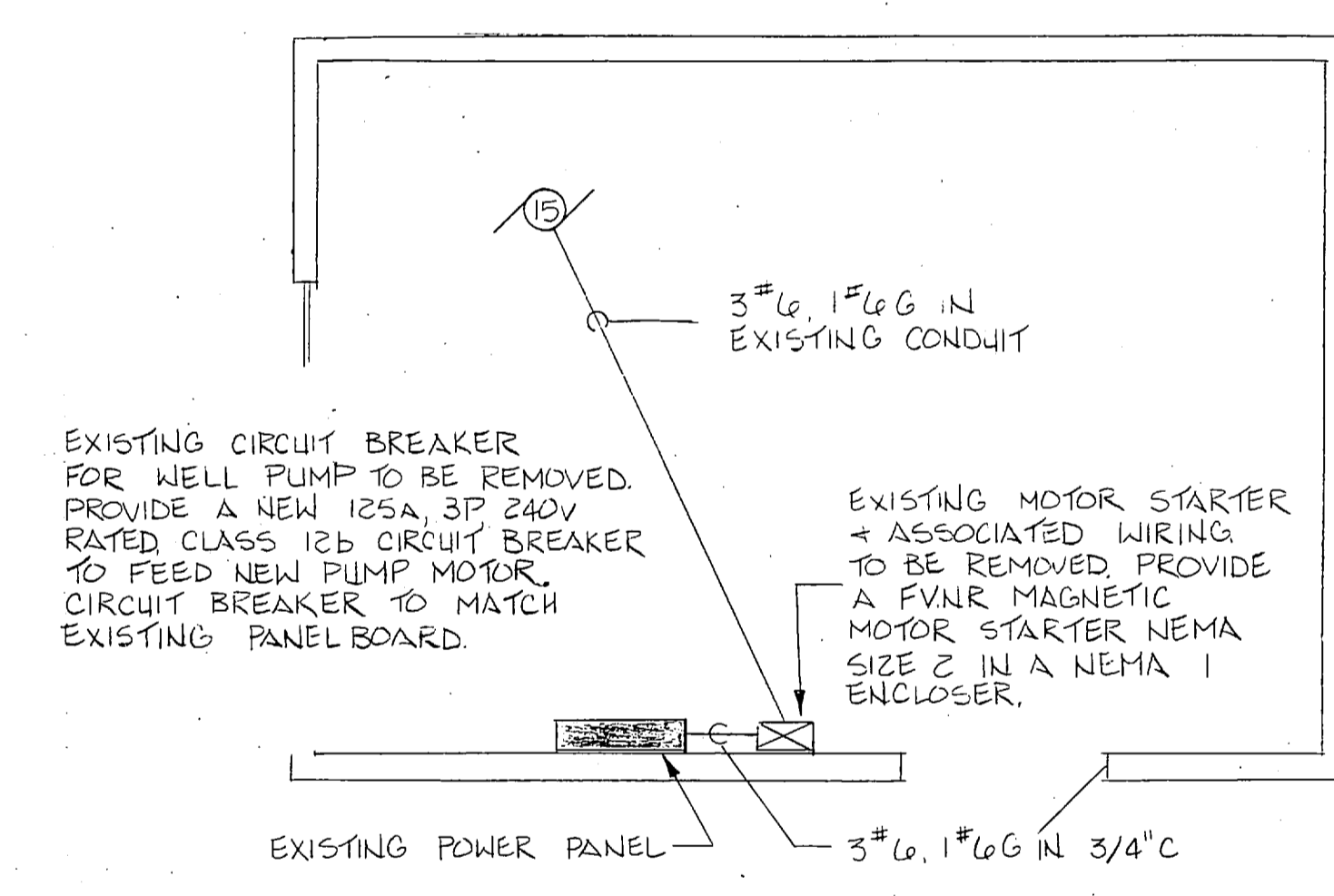
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



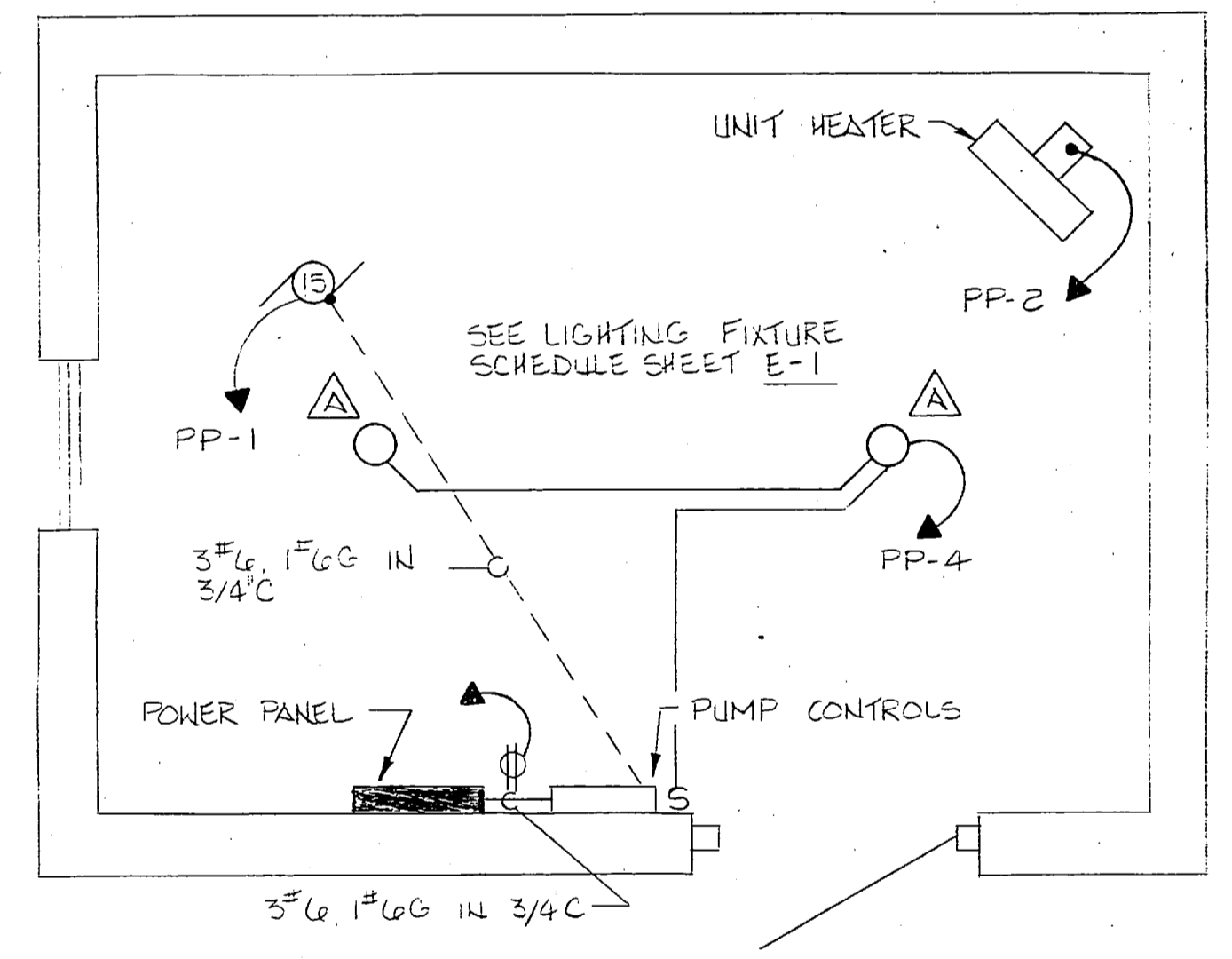
SERVICE POLE DETAIL
NOT TO SCALE



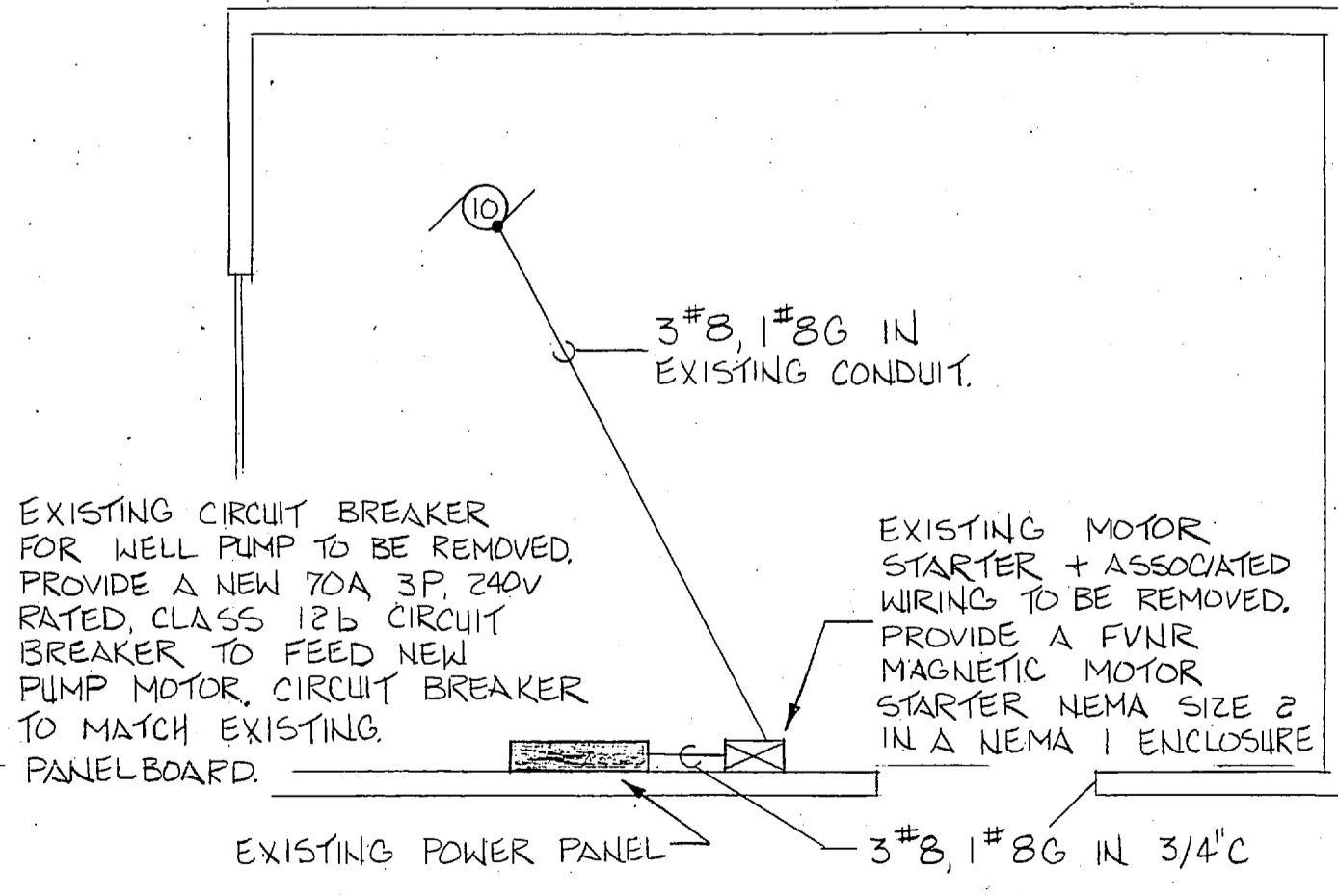
NEW WELL - SITE PLAN
SCALE: 1"=25'



EXISTING WELL 221
NOT TO SCALE



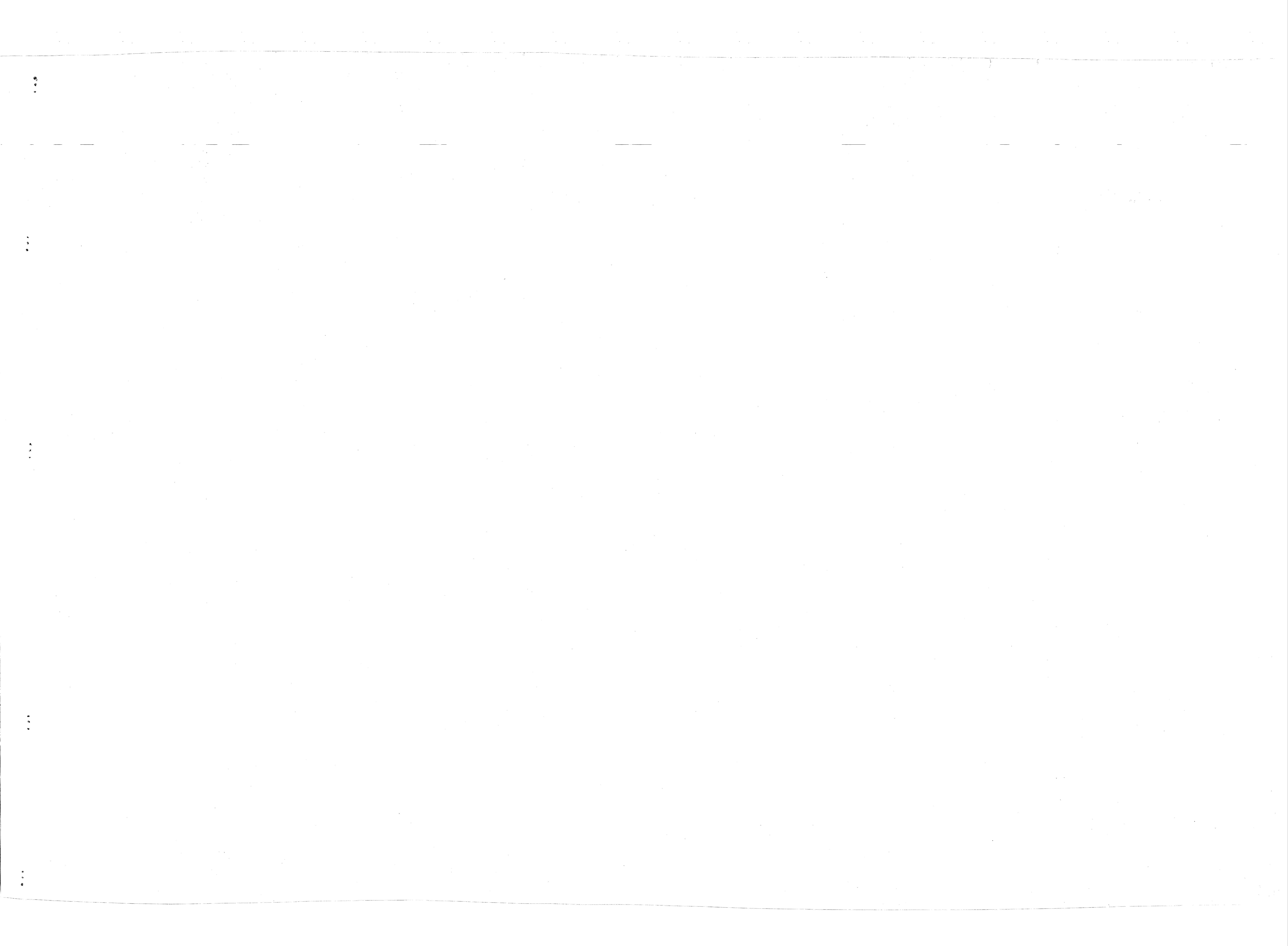
NEW WELL MOUSE PLAN
SCALE: 1/2"=1'-0"



EXISTING WELL 220
NOT TO SCALE

E-2

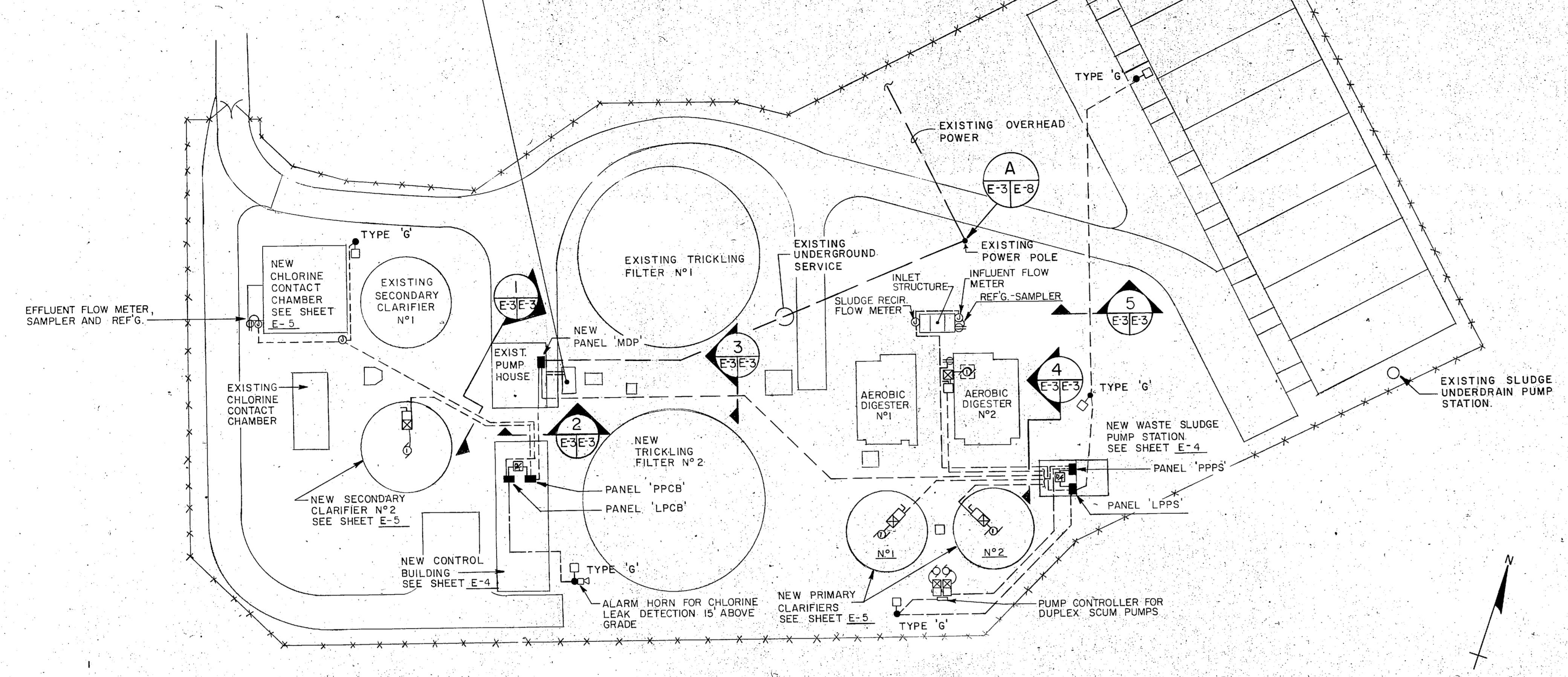
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NOFOLK, VIRGINIA	
DIS.	DR.	CHK.	
PROJ. MGR.	CH. ENGR.		
SUBMITTED BY:	DATE:		
FIRM MEMBER	PRINCIPAL		
ED. PP.	BYD.		
NO.	DIR.		
APPROVED	DATE	SIZE	CODE IDENT NO.
OFFICER IN CHARGE	DATE	F	80091
APPROVED	DATE	CONSTR. CONNO. NO. N62470-B1-B-1478	
FOR EFD. FOR COMMANDER NAVFAC	SCALE	SPEC	05-B1-1478
		SHEET	OF
		EFD	DWG. NO.



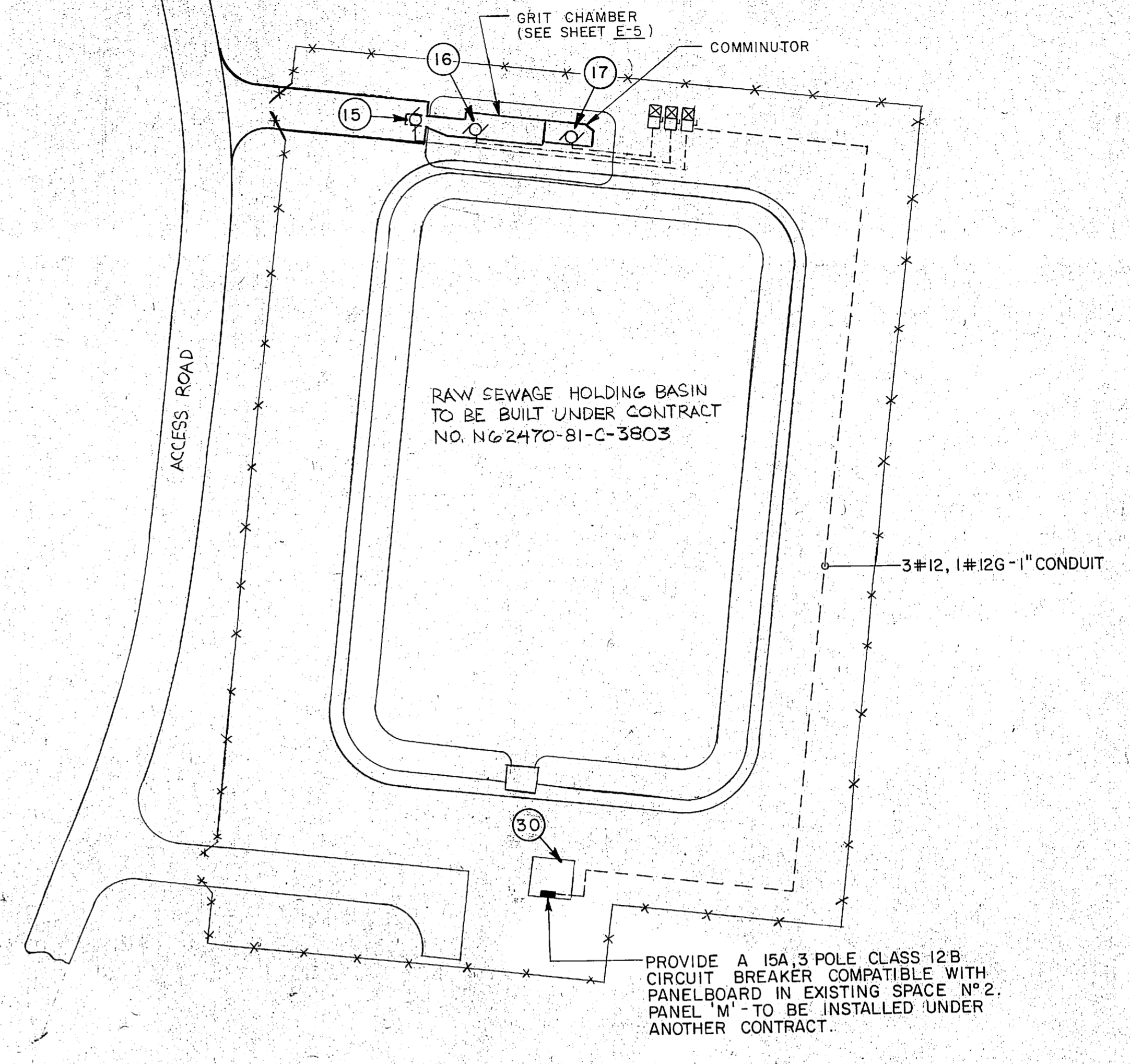
REVISIONS		
SYM	DESCRIPTION	DATE

**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**

REMOVE EXISTING 37.5 KVA GENERATOR, GENERATOR PAD, AUTOMATIC TRANSFER SWITCH, UNDERGROUND FUEL TANK, POWER AND CONTROL WIRING, AND CONDUIT. PROVIDE NEW 125 KW GENERATOR, GENERATOR PAD, AUTOMATIC TRANSFER SWITCH, UNDERGROUND FUEL TANK, POWER AND CONTROL WIRING, AND CONDUIT AS SHOWN ON GENERATOR PLAN AND DETAILS SHEET E-6.

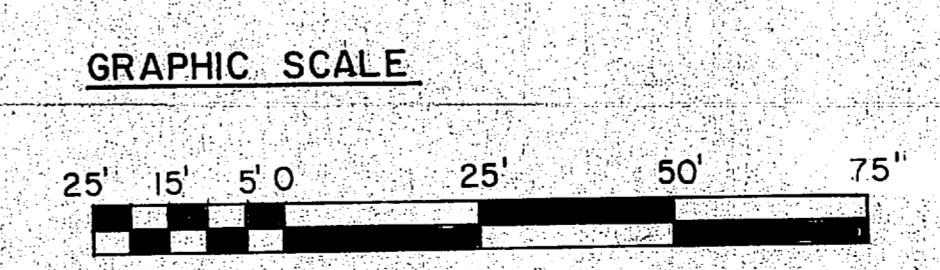
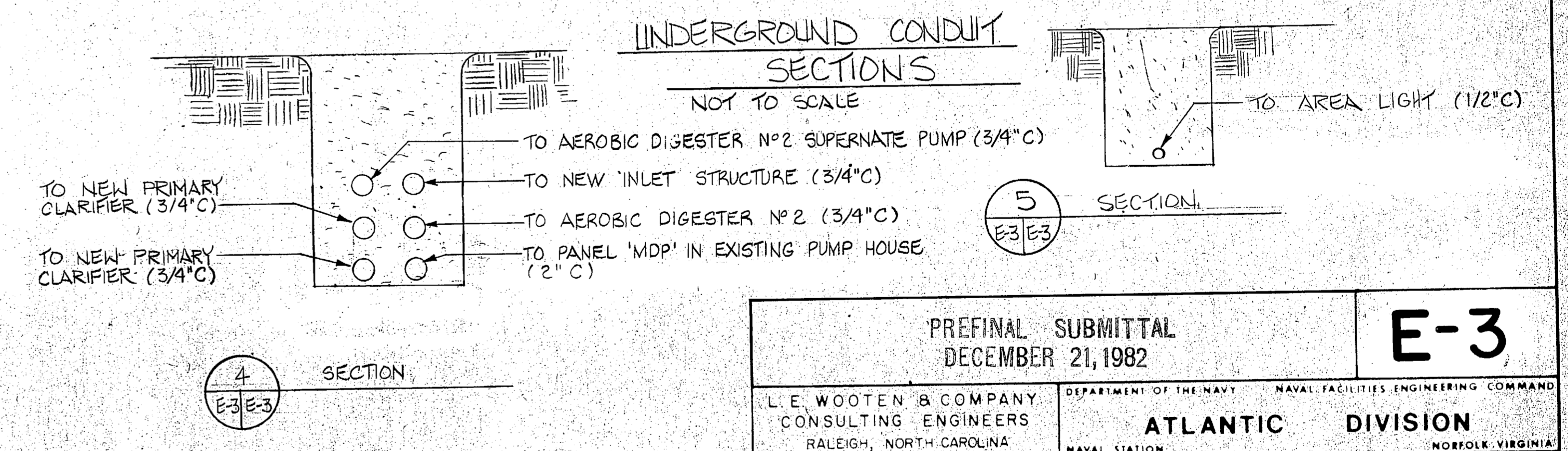
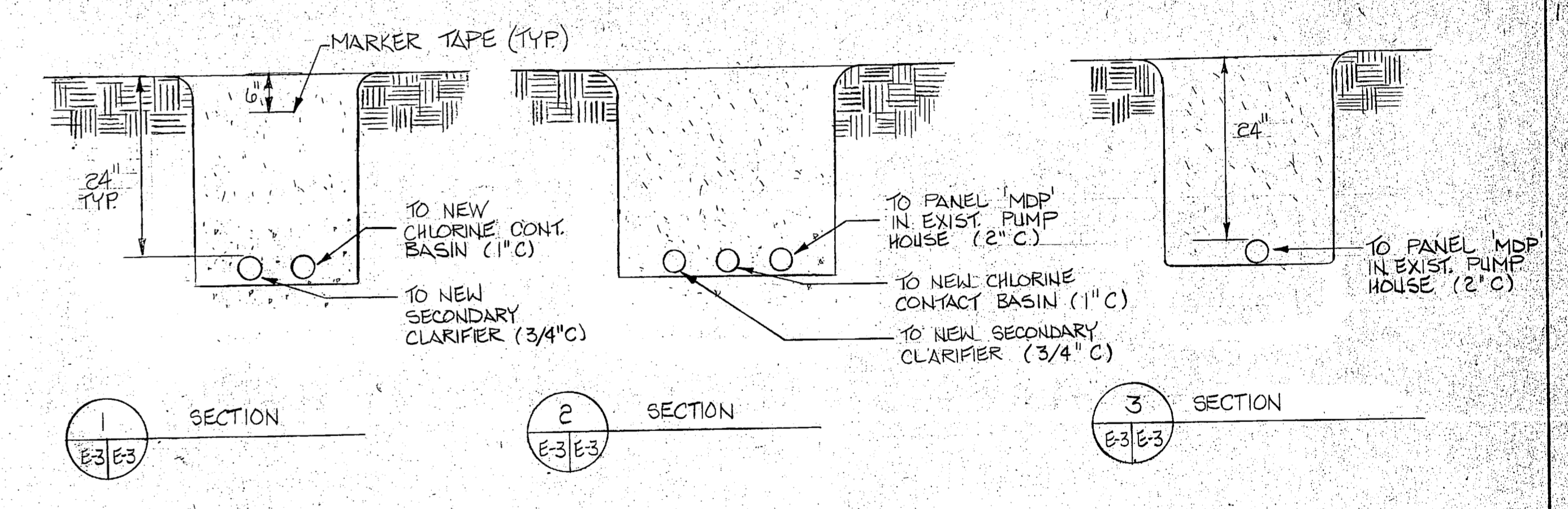


ELECTRICAL SITE PLAN
SCALE: 1" = 25'



GRIT CHAMBER, COMMINUTOR & HOLDING BASIN
SCALE: 1" = 25'

ELECTRICAL SYMBOL SCHEDULE	
	FLUORESCENT LIGHT FIXTURE, SEE SCHEDULE SHEET E-4.
	INCANDESCENT LIGHT FIXTURE, SEE SCHEDULE SHEET E-4.
	WALL MOUNTED HID LIGHT FIXTURE, SEE SCHEDULE SHEET E-4.
	AREA LIGHT FIXTURE, SEE SCHEDULE SHEET E-4.
	INDICATES FIXTURE TYPE
	125V, 20A, GROUNDING TYPE DUPLEX RECEPTACLE 18" A.F.F. UNLESS NOTED OTHERWISE
	TELEPHONE OUTLET, 18" A.F.F. UNLESS NOTED OTHERWISE
	SINGLE POLE TOGGLE SWITCH 48" A.F.F. UNLESS NOTED OTHERWISE
	THREE-WAY SWITCH 48" A.F.F. UNLESS NOTED OTHERWISE
	MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION, FRACTIONAL HORSEPOWER
	UNIT HEATER
	CIRCUIT BREAKER
	ALARM HORN
	TELEPHONE TERMINAL BOARDS AS INDICATED ON DRAWING
	JUNCTION BOX WITH REMOVABLE COVER, SIZE PER 'NEC' OR AS NOTED.
	DRY TYPE TRANSFORMER, WALL MOUNTED, SIZE AS INDICATED
	LIGHTING AND POWER PANELBOARDS, SEE SCHEDULES SHEET E-6
	DISCONNECT SWITCH H.P. RATED OR AS INDICATED ON DRAWING
	MAGNETIC MOTOR STARTER
	SINGLE PHASE MOTOR CONNECTION
	THREE-PHASE MOTOR CONNECTION; NUMBER INDICATES HORSEPOWER
	WIRING AND CONDUIT INSTALLED IN CEILING OR WALL
	WIRING AND CONDUIT INSTALLED UNDERGROUND
	WIRING AND CONDUIT INSTALLED EXPOSED ON SURFACE ONLY WHERE IT CAN NOT BE CONCEALED
	BRANCH CIRCUIT HOME RUN TO PANELBOARD WITH CIRCUIT NUMBER SHOWN 'A' INDICATES PANEL AND '4' INDICATES CIRCUIT BREAKER NUMBER.
	MARKS INDICATE NUMBER OF WIRES IN CONDUIT WHEN MORE THAN THREE (INCLUDING EQUIPMENT GROUND). SHORT MARKS INDICATE PHASE CONDUCTORS LONG MARKS INDICATE NEUTRAL CONDUCTORS AND FLAGGED MARKS INDICATE EQUIPMENT GROUNDING CONDUCTORS.
	AFF ABOVE FINISHED FLOOR
	C CONDUIT
	GFCI GROUND FAULT CURRENT INTERRUPTER
	MCB MAIN CIRCUIT BREAKER
	MLO MAIN LUGS ONLY
	WP WEATHERPROOF
	INDICATES EXISTING EQUIPMENT TO BE REMOVED
	INDICATES EXISTING EQUIPMENT TO REMAIN



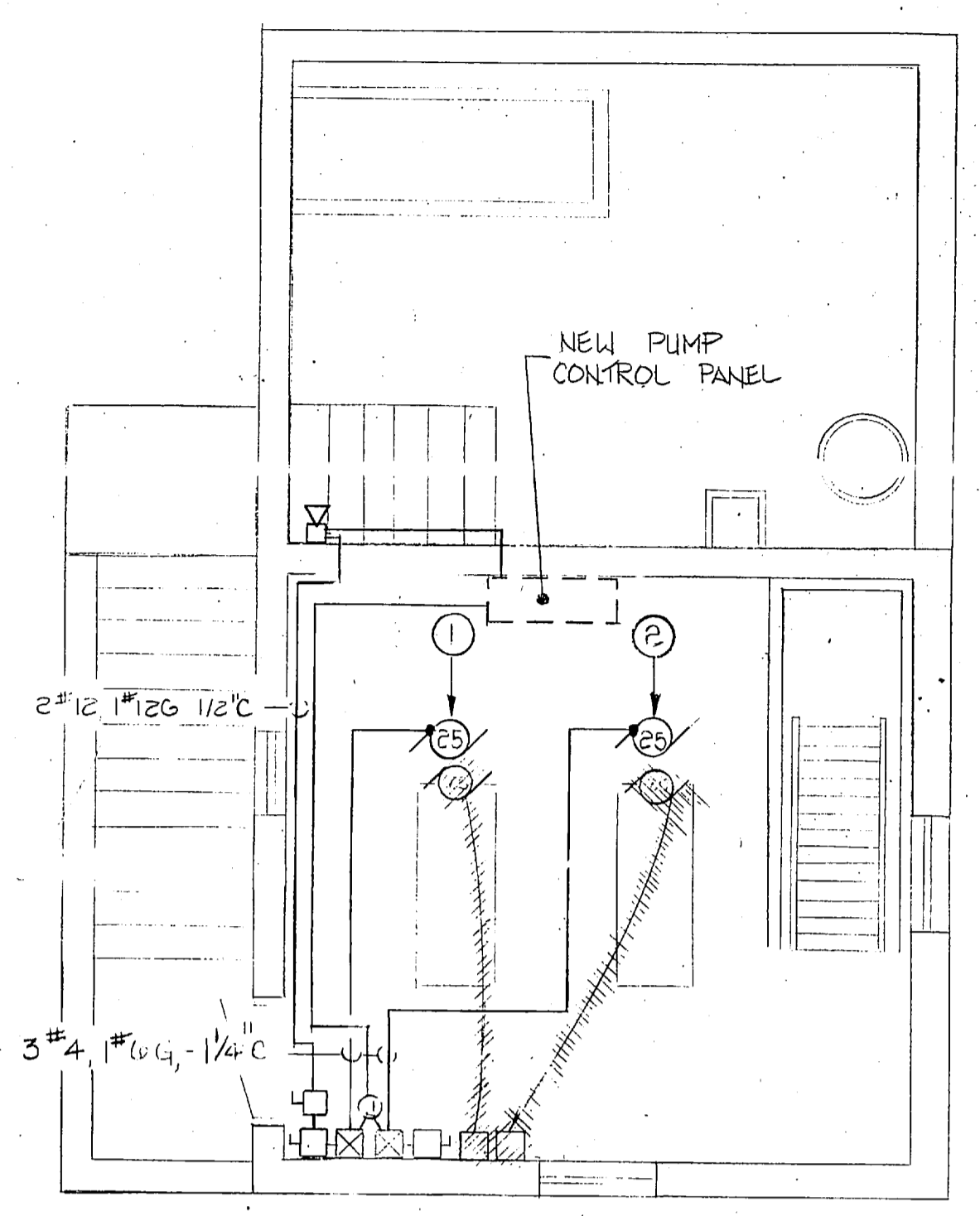
PRELIM SUBMITTAL DECEMBER 21, 1982		E-3	
L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT	
ELECTRICAL SITE PLAN & SYMBOL SCH.		ELECTRICAL SITE PLAN & SYMBOL SCH.	
DIS	OF	CHK	
PROJ. MGR.	CH. ENGR.		
SUBMITTED BY	DATE		
FIRM MEMBER	PRINCIPAL		
APPROVED	DATE	SIZE	CODE IDENT. NO.
		F	80091
OFFICER IN CHARGE	DATE	CONST. CONTR. NO.	N62470-81-B-1478
		SCALE	1" = 25'
		SPEC	05-81-1478
		SHEET	OF



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

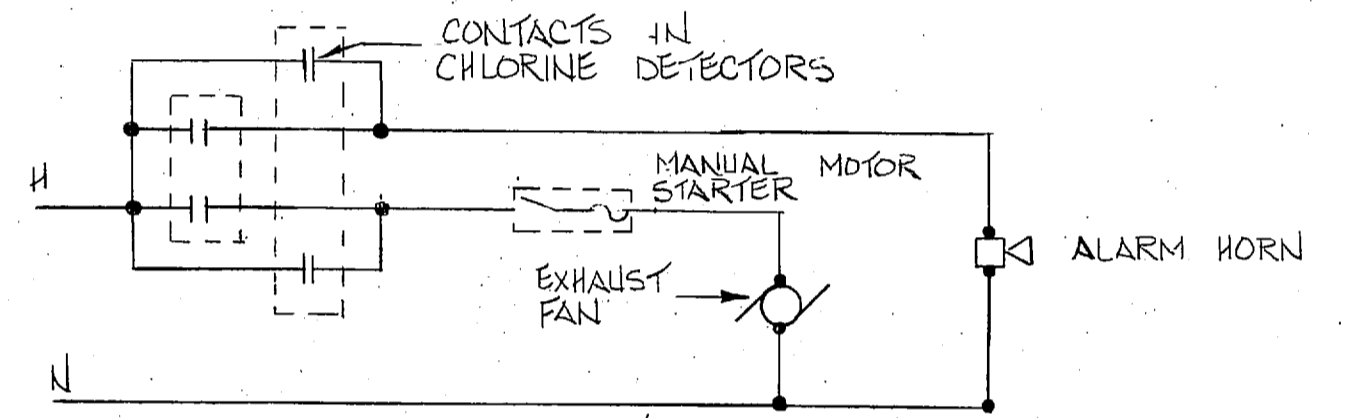
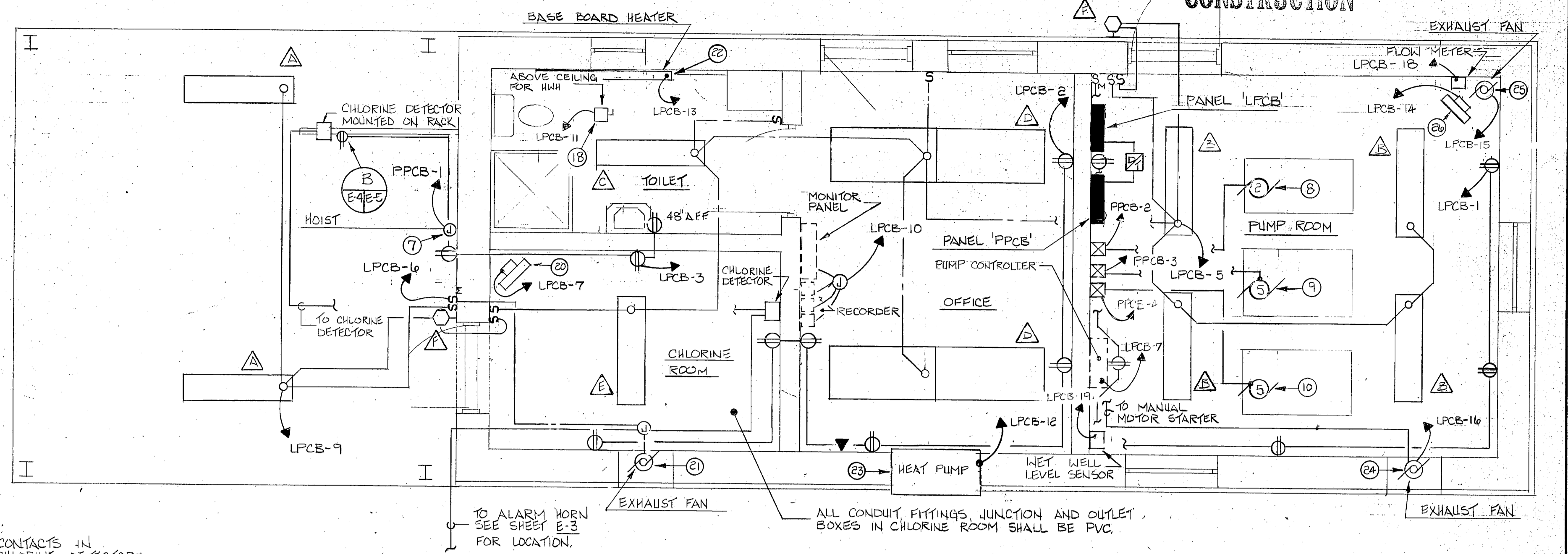
**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**

GENERAL NOTE:
 ◇ FOR EQUIPMENT RATING INDICATED BY ○ SEE EQUIPMENT SCHEDULE, SHEET E-6.



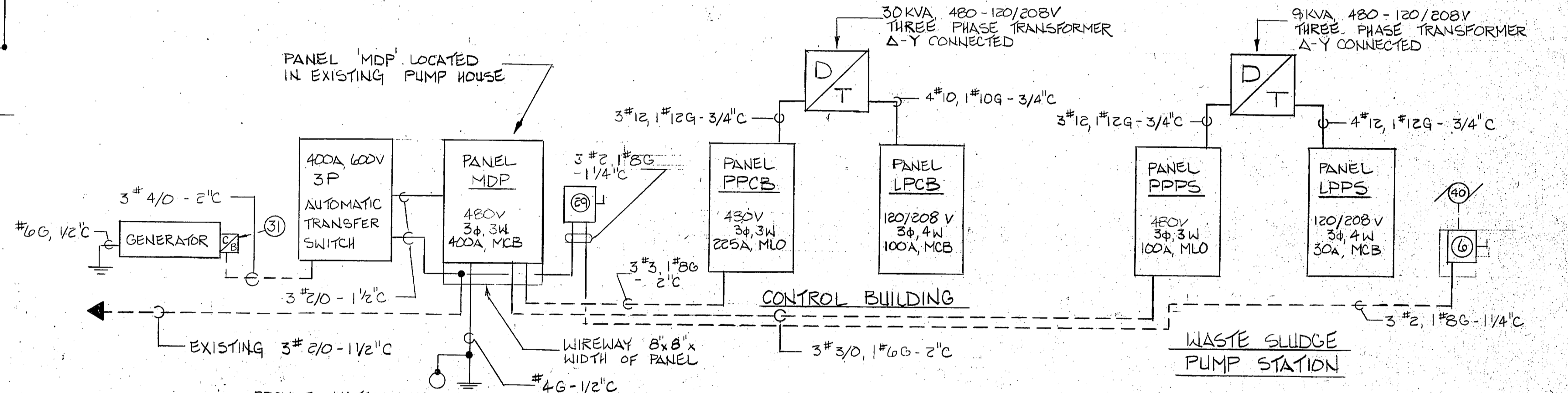
FOR LOCATION SEE SHEET C-8

EXIST. LIFT STATION BB-1
SCALE: 3/8"=1'-0"



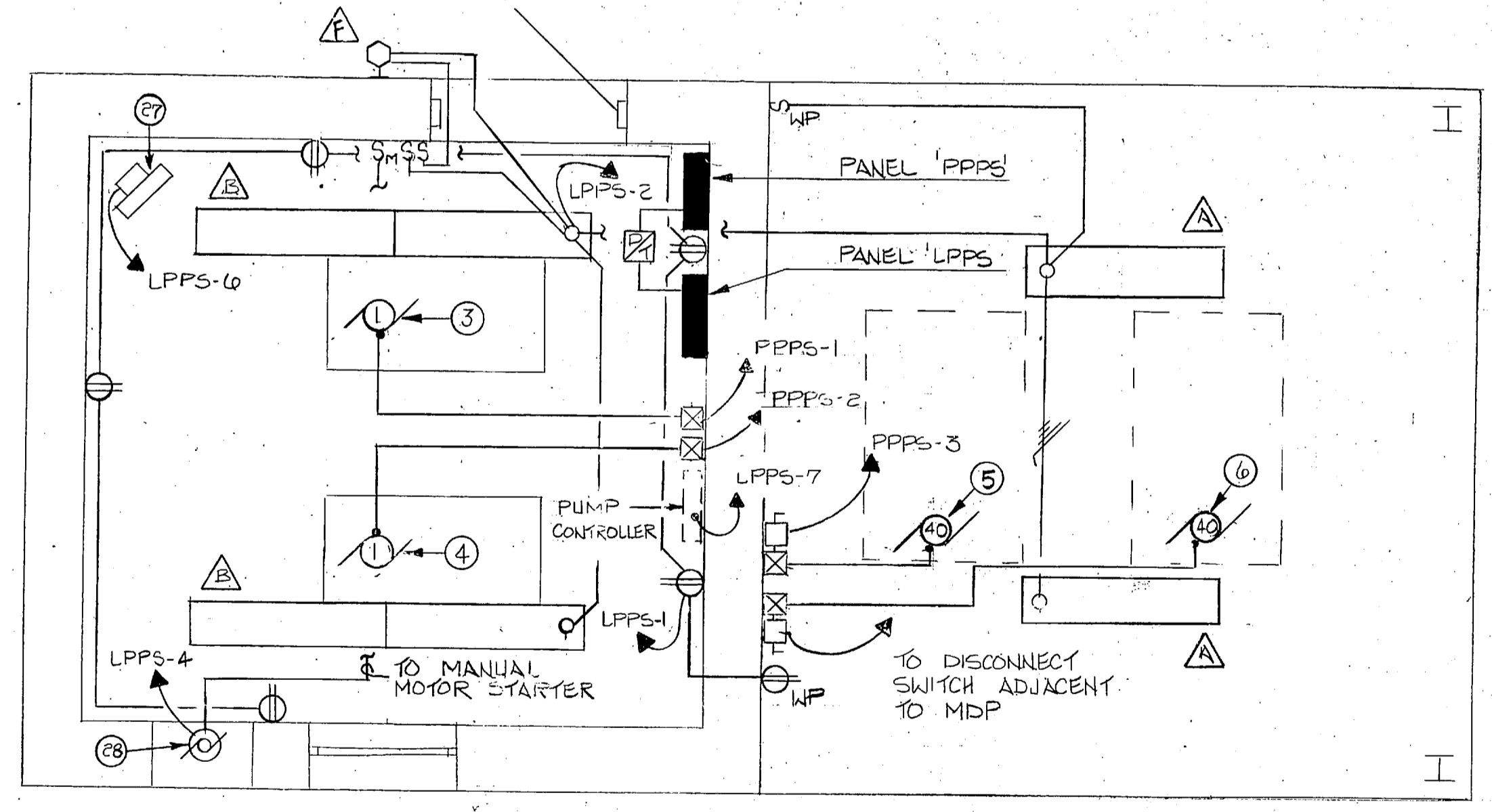
WIRING DIAGRAM
NOT TO SCALE

NEW CONTROL BUILDING
SCALE: 3/8"=1'-0"



ELECTRICAL RISER DIAGRAM
NOT TO SCALE

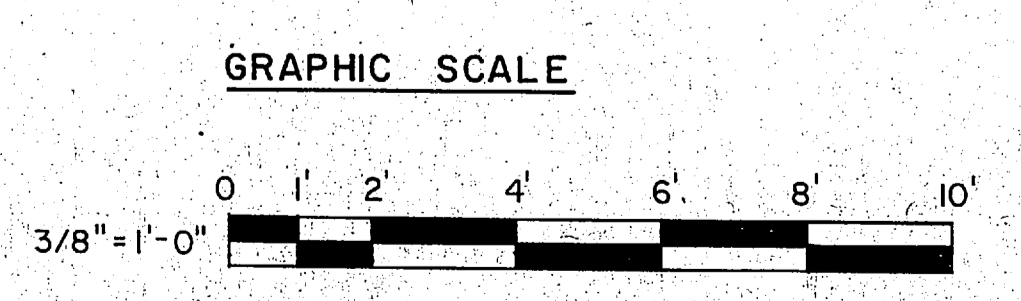
- NOTES:**
- ◇ SEE PANEL SCHEDULES SHEET E-6
 - ◇ FOR DISCONNECT SWITCH RATINGS SEE EQUIPMENT SCHEDULE SHEET E-6
 - ◇ EXISTING 200A 3P 480V PANELBOARD IN EXISTING PUMP HOUSE TO BE REMOVED. FURNISH + INSTALL A NEW 400A 3P 480V RATED PANELBOARD, RECONNECT EXISTING SERVICE FEEDER.



NEW WASTE SLUDGE PUMP STATION
NOT TO SCALE

LIGHTING FIXTURE SCHEDULE					
MARK	VOLTS	STYLE + TYPE SEE DETAILS SHEET E-8	LAMPS NUMBER + TYPE	MOUNTING	REMARKS
△	120	STYLE NL-6, TYPE A	2, T-12, 35W, RS	SURFACE	USE 0° BALLAST
△	120	STYLE NL-6, TYPE A	2, T-12, 35W, RS	SURFACE	
△	120	STYLE NL-3, TYPE B	2, T-12, 35W, RS	RECESS	
△	120	STYLE NL-3, TYPE C	2, T-12, 35W, RS	RECESS	
△	120	STYLE NL-B, TYPE A	2, T-12, 35W, RS	SURFACE	
△	120	STYLE NL-25, TYPE A	1, 35W HPS	WALL	
△	120	STYLE NL-27,	1, 250W HPS	POLE	SEE NOTE BELOW

NOTE: (TYPE '6' LIGHTING FIXTURE)
 1. COLOR - BROWN
 2. BALLAST - HIGH POWER FACTOR
 3. I.E.S. DISTRIBUTION - TYPE IV

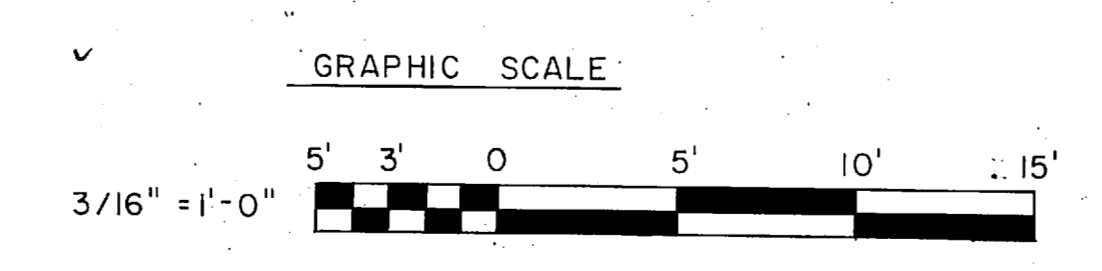
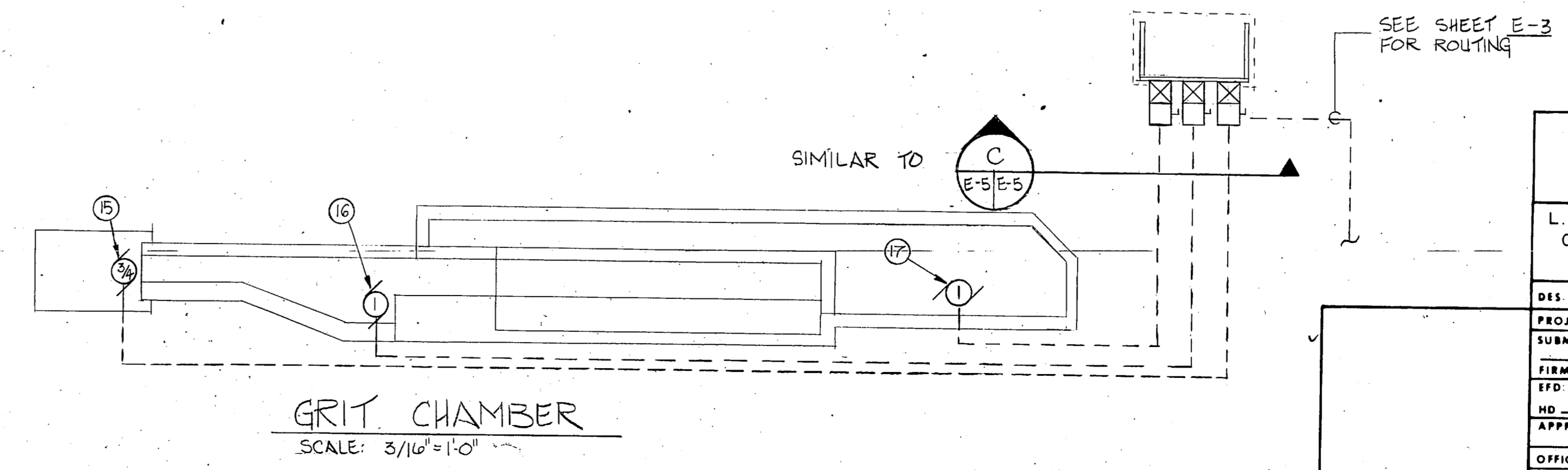
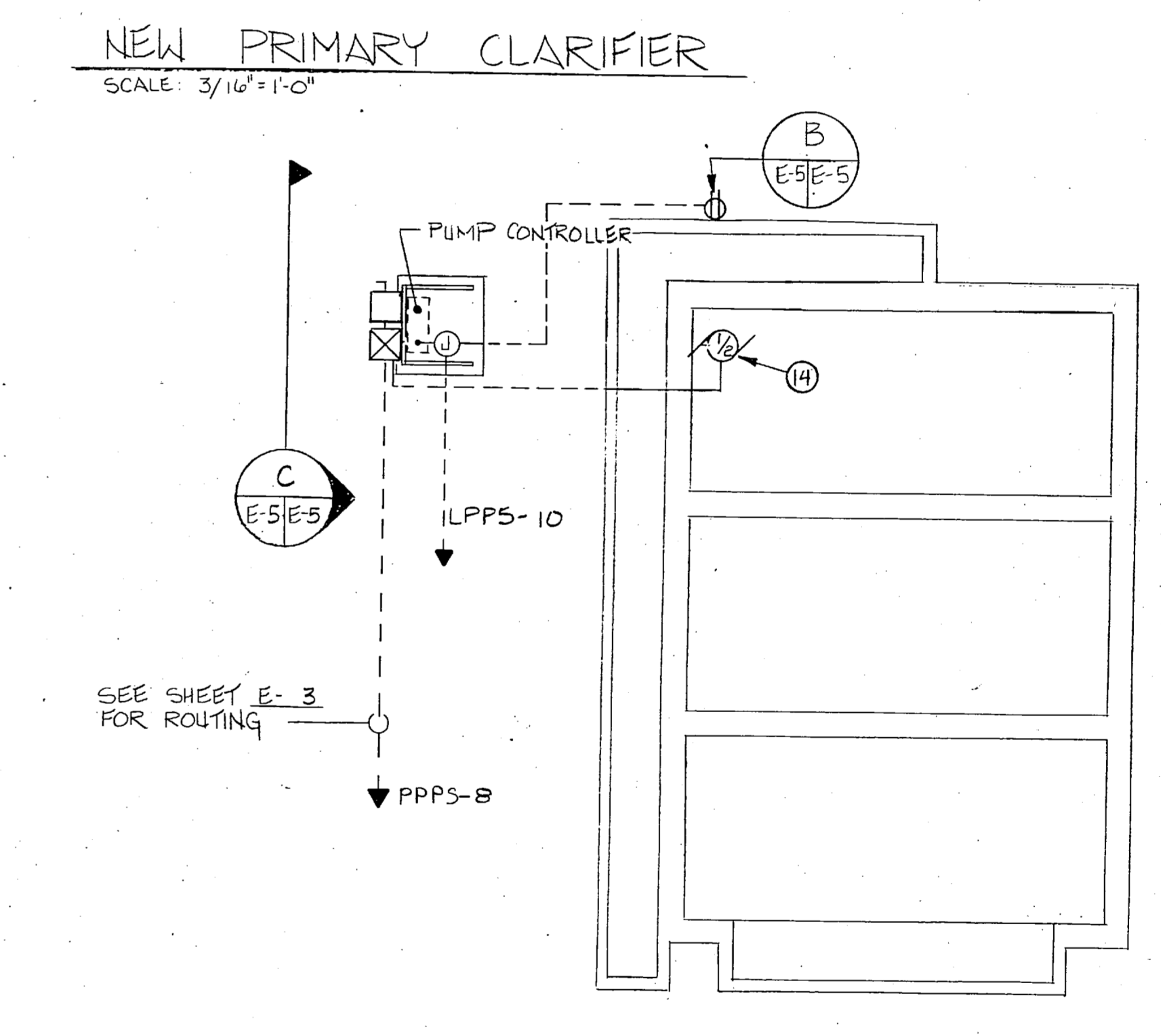
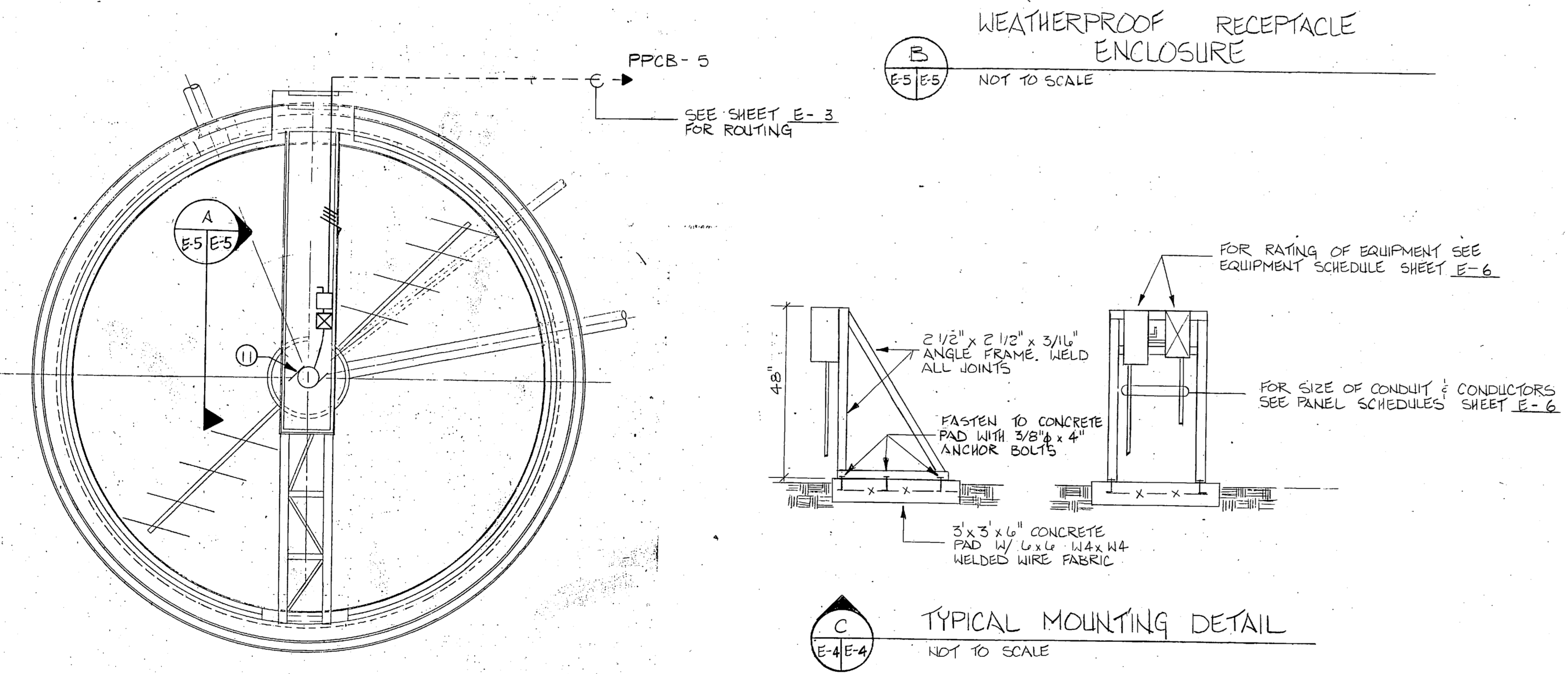
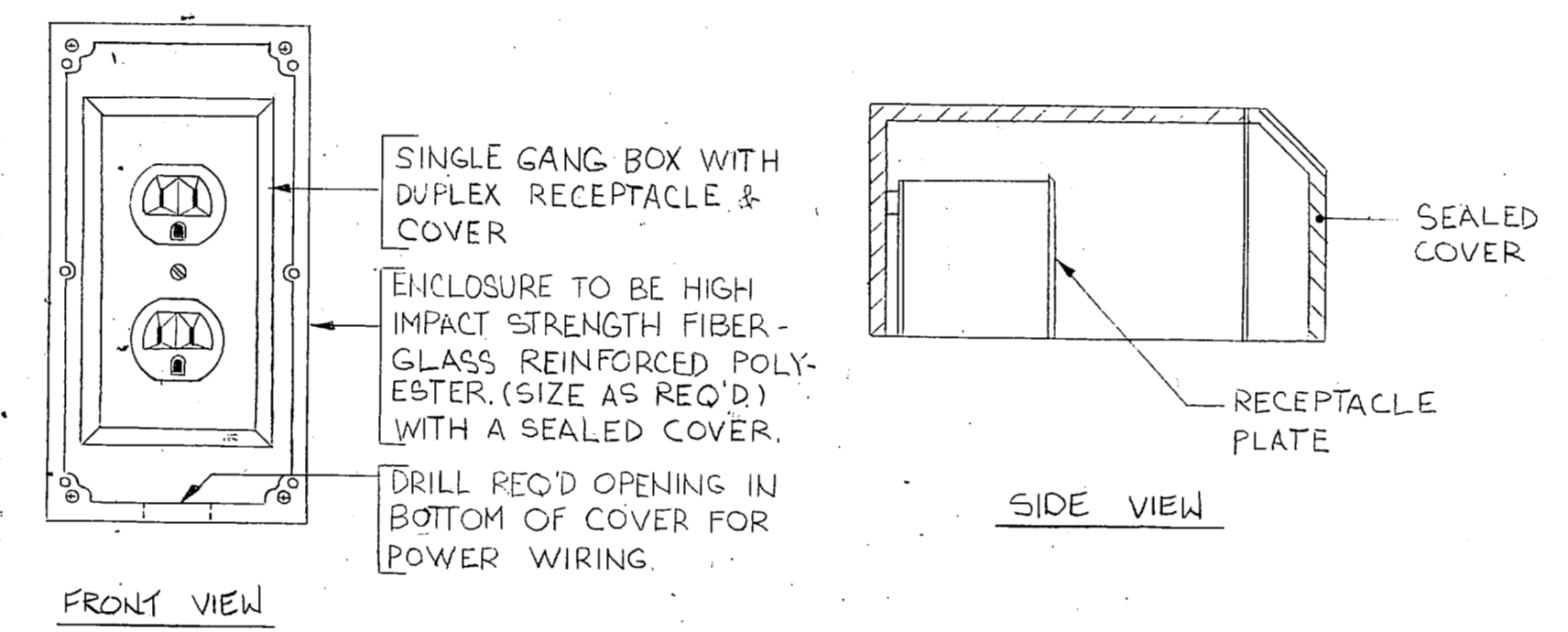
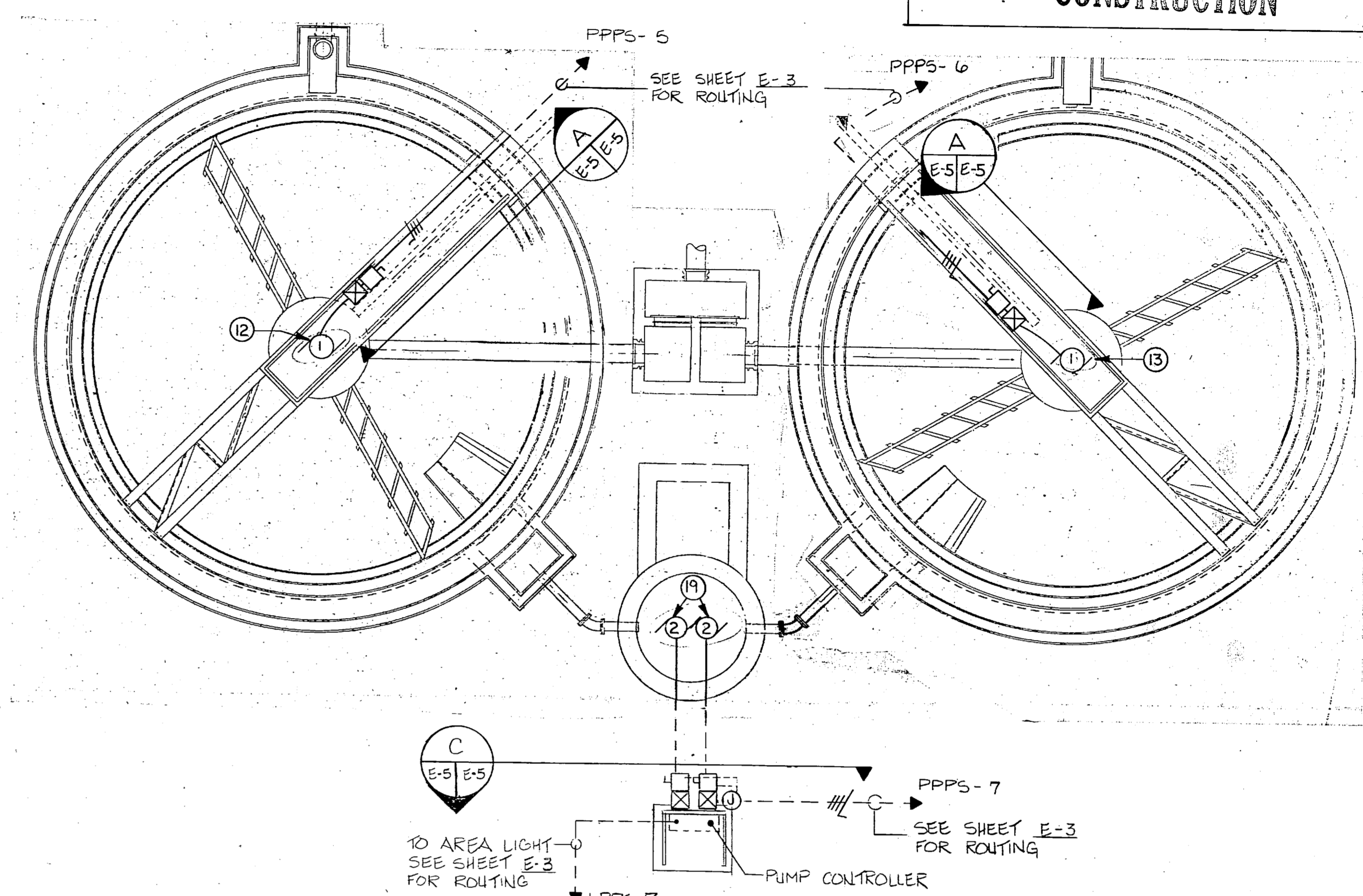
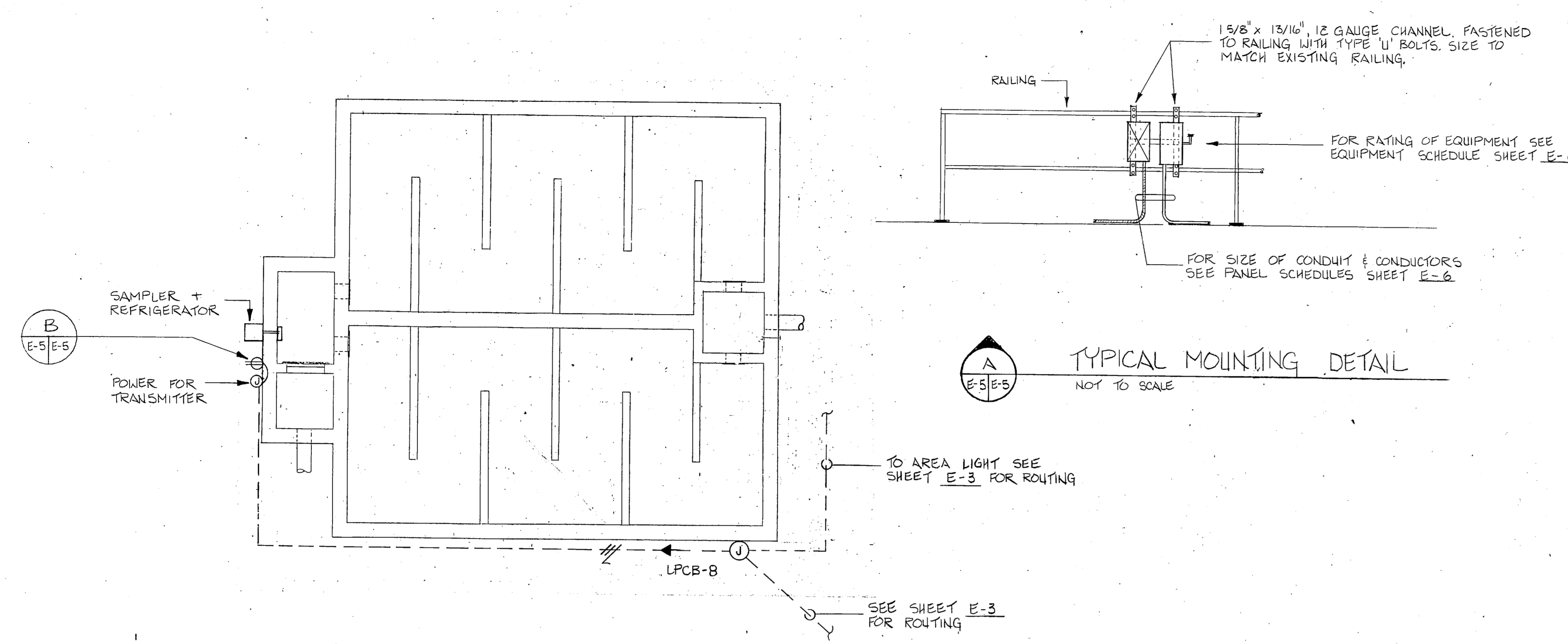


L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA			DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND		
			ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA		
DES.	DR.	CHK.	MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT		
PROJ. MGR.	CH. ENGR.	DATE			
SUBMITTED BY	DATE	DATE			
FIRM MEMBER	PRINCIPAL	DATE			
NO.	DIR.	DATE	ELECTRICAL PLANS & SCHEDULE		
APPROVED	DATE	DATE	SIZE	CODE IDENT. NO.	NAVYAC DRAWING NO.
OFFICER IN CHARGE	DATE	DATE	F	80091	CONST. CONTR. NO. N62470-BI-B-1478
APPROVED	DATE	DATE	FOR T&D FOR COMMANDER NAVYAC		
SCALE 3/8"=1'-0"			SPEC. 05-BI-1478		
SHEET			OF		

E-4



REVISIONS			
NO.	DESCRIPTION	DATE	APPROVED
PRELIMINARY DRAWINGS DO NOT USE FOR CONSTRUCTION			



E-5	
L.E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA	DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MARINE CORPS BASE, CAMP LEJEUNE, N.C. UTILITIES IMPROVEMENTS WASTEWATER TREATMENT PLANT
DES. DR. CHK. PROJ. MGR. CH. ENGR. SUBMITTED BY: DATE FIRM MEMBER: PRINCIPAL STD. PP. RVD. NO. DIR.	SIZE: CODE IDENT NO. NAVFAC DRAWING NO. F 80091 CONSTR. CONTR. NO. N62470-81-B-478
APPROVED: DATE OFFICER IN CHARGE: DATE APPROVED: DATE	FOR STD. FOR COMMANDER NAVFAC SCALE AS NOTED SPEC. 05-81-1478 SHEET OF STD. DWG. NO.



PANEL SCHEDULE MDP										
/480 V, 3 PH, 3 W, 60HZ, 400 A MCB SURFACE MOUNTED										
CKT NO.	LOAD DESCRIPTION	WIRE & CONDUIT	BREAKERS	KVA	BREAKERS	WIRE & CONDUIT	LOAD DESCRIPTION	TYPE	NO.	CKT NO.
1	DRIVE MOTOR	#10, 1"	3 30 13b 1.5 6.0	3 30 13b	#12, 3/4"	PUMP ROOM	UNIT HEATER	2"	2	1
3	TRANSFORMER	#10, 3/4"	3 30 13b 6.0 18.3	3 30 13b	#8, 3/4"	PUMP ROOM	PUMP MOTORS	4"	4	3
5	PANEL BOARD	#3, 2"	3 30 13b 23.8 57.1	3 100 13b	#3, 0, 2"	PPPS	PANEL BOARD	6"	6	5
7	SPACE					SPACE			8	7
9	SPACE					SPACE			10	9

PANEL SCHEDULE PPCB										
/480 V, 3 PH, 3 W, 60HZ, 225 A MLO SURFACE MOUNTED										
CKT NO.	LOAD DESCRIPTION	WIRE & CONDUIT	BREAKERS	KVA	BREAKERS	WIRE & CONDUIT	LOAD DESCRIPTION	TYPE	NO.	CKT NO.
1	HOIST	#12, 1/2"	3 15 13b 1.5 2.2	3 15 13b	#12, 1/2"	PUMP ROOM	PUMP MOTOR	2"	2	1
3	PUMP MOTOR	#12, 1/2"	3 20 13b 6.3 6.3	3 20 13b	#12, 1/2"	PUMP ROOM	PUMP MOTOR	4"	4	3
5	DRIVE MOTOR	#12, 3/4"	3 15 13b 1.5 30.0	3 45 13b	#12, 1/2"	PUMP ROOM	TRANSFORMER	6"	6	5
7	SPACE					SPACE			8	7

PANEL SCHEDULE LPCB										
/120/208 V, 3 PH, 4 W, 60HZ, 100 A MCB SURFACE MOUNTED										
CKT NO.	LOAD DESCRIPTION	WIRE & CONDUIT	BREAKERS	KVA	BREAKERS	WIRE & CONDUIT	LOAD DESCRIPTION	TYPE	NO.	CKT NO.
1	REC	#12, 1/2"	1 20 12a 0.9 1.1	1 20 12a	#12, 1/2"	OFFICE, CHLORINE	REC	2"	2	1
3	REC	#12, 1/2"	1 20 12a 0.7 0.6	1 20 12a	#12, 1/2"	OUTSIDE	AREA LITS	4"	4	3
5	LTS	#12, 1/2"	1 20 12a 0.9 0.1	1 15 12a	#12, 1/2"	CHLORINE	EXHAUST FAN	6"	6	5
7	UNIT HTR.	#12, 1/2"	2 15 12a 2.5 0.3	1 20 12a	#12, 1/2"	CHLORINE CONTACT BASIN	SAMPLER	8"	8	7
9	LTS	#12, 1/2"	1 20 12a 0.3 0.5	1 20 12a	#12, 1/2"	OFFICE	MONITOR	10"	10	9
11	WATER HTR.	#10, 1/2"	2 30 12b 5.0 2.9	2 20 12a	#12, 1/2"	CONTROL BLDG.	PANEL HEAT PUMP	12"	12	11
13	BASE BOARD HEAT FAN	#12, 1/2"	2 15 12a 1.3 3.3	2 20 12a	#12, 1/2"	CONTROL BLDG.	UNIT HEATER	14"	14	13
15	EXHAUST FAN	#12, 1/2"	1 15 12a .1 .1	1 15 12a	#12, 1/2"	CONTROL BLDG.	EXHAUST FAN	16"	16	15
17	SPARE					SPARE			18	17
19	SPARE					SPARE			20	19
20	SPACE					SPACE			22	20

▲ EXISTING CIRCUIT TO BE RECONNECTED TO NEW PANEL
 TOTAL CONNECTED LOAD 112.7 KVA
 TOTAL DEMAND LOAD 86.9 KVA

TOTAL CONNECTED LOAD 23.8 KVA
 TOTAL DEMAND LOAD 15.3 KVA

TOTAL CONNECTED LOAD 20.6 KVA
 TOTAL DEMAND LOAD 19.5
 * PROVIDE GFCI TYPE CIRCUIT BREAKER

PANEL SCHEDULE PPPS										
/480 V, 3 PH, 3 W, 60HZ, 100 A MLO SURFACE MOUNTED										
CKT NO.	LOAD DESCRIPTION	WIRE & CONDUIT	BREAKERS	KVA	BREAKERS	WIRE & CONDUIT	LOAD DESCRIPTION	TYPE	NO.	CKT NO.
1	PUMP MOTOR	#12, 1/2"	3 15 13b 2.8 2.8	3 15 13b	#12, 1/2"	PUMP STATION	PUMP MOTOR	2"	2	1
3	BLOWER MOTOR	#6, 1"	3 125 18a 43.2	3 3		SPACE		4"	4	3
5	DRIVE MOTOR	#12, 3/4"	3 15 13b 1.5 1.5	3 15 13b	#12, 3/4"	PRIMARY CLARIFIER N°1	DRIVE MOTOR	6"	6	5
7	PUMP SCUM PUMP MOTORS	#12, 3/4"	3 15 13b 1.6 1.5	3 15 13b	#12, 3/4"	AEROBIC DIGESTER N°2	PUMP MOTOR	8"	8	7
9	TRANSFORMER	#12, 1/2"	3 15 13b 9.0	3		SPACE		10"	10	9
11	SPACE					SPACE			12	11

PANEL SCHEDULE LPPS										
/120/208 V, 3 PH, 4 W, 60HZ, 30 A MCB SURFACE MOUNTED										
CKT NO.	LOAD DESCRIPTION	WIRE & CONDUIT	BREAKERS	KVA	BREAKERS	WIRE & CONDUIT	LOAD DESCRIPTION	TYPE	NO.	CKT NO.
1	REC	#12, 1/2"	1 20 12a 1.1 0.5	1 20 12a	#12, 1/2"	PUMP STATION	LTS.	2"	2	1
3	SAMPLER	#12, 1/2"	1 20 12a 0.3 .1	1 15 12a	#12, 1/2"	PUMP STATION	EXHAUST FAN	4"	4	3
5	AREALTS.	#12, 1"	1 20 12a 0.6 3.3	2 20 12a	#12, 1/2"	PUMP STATION	UNIT HEATER	6"	6	5
7	CONT. PANEL	#12, 1/2"	1 20 12a	1 20 12a	#12, 1"	AEROBIC DIG.	CONT. PANEL	8"	8	7
9	SPACE					SPACE			10	9
11	SPACE					SPACE			12	11

TOTAL CONNECTED LOAD 58.1 KVA
 TOTAL DEMAND LOAD 50.9 KVA

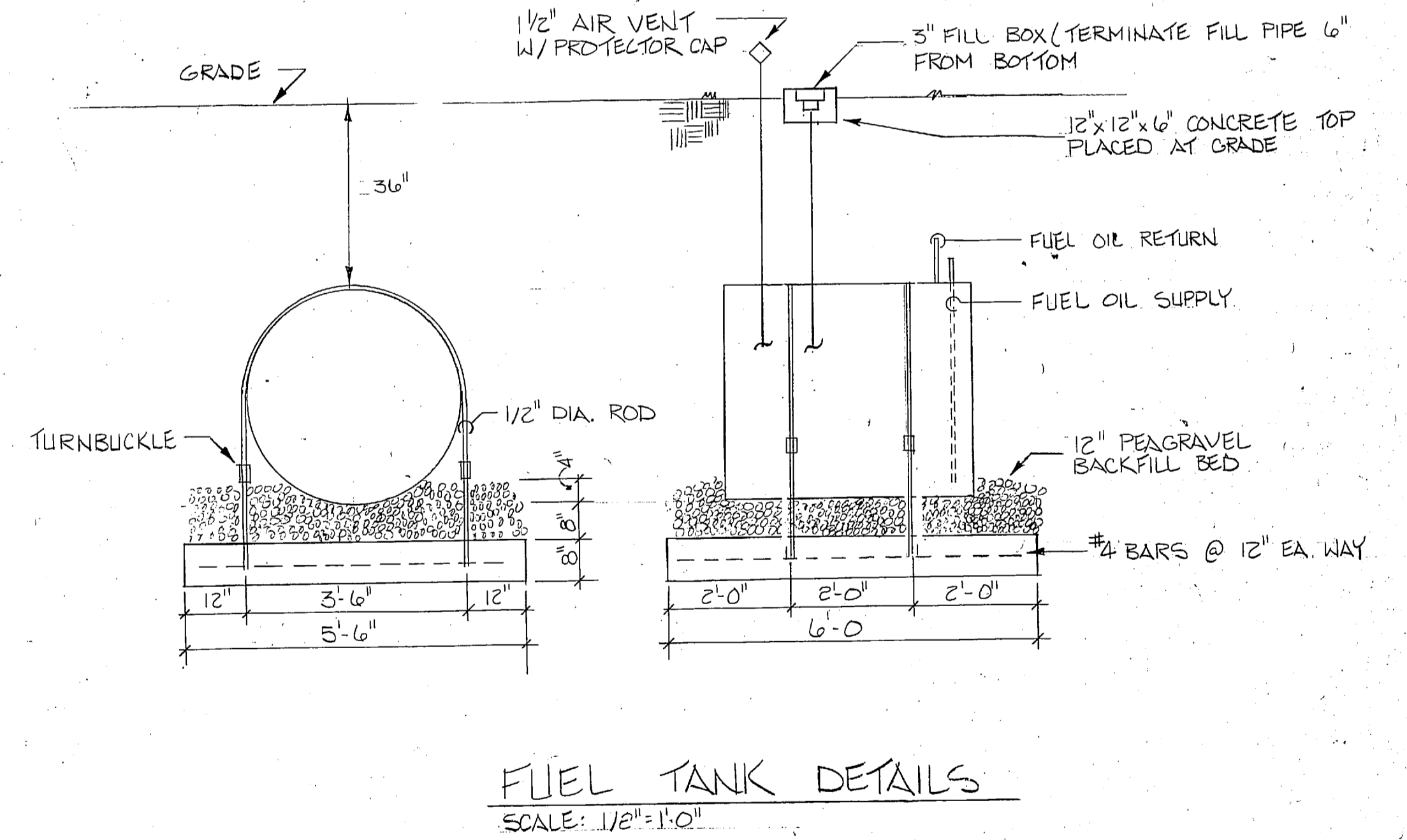
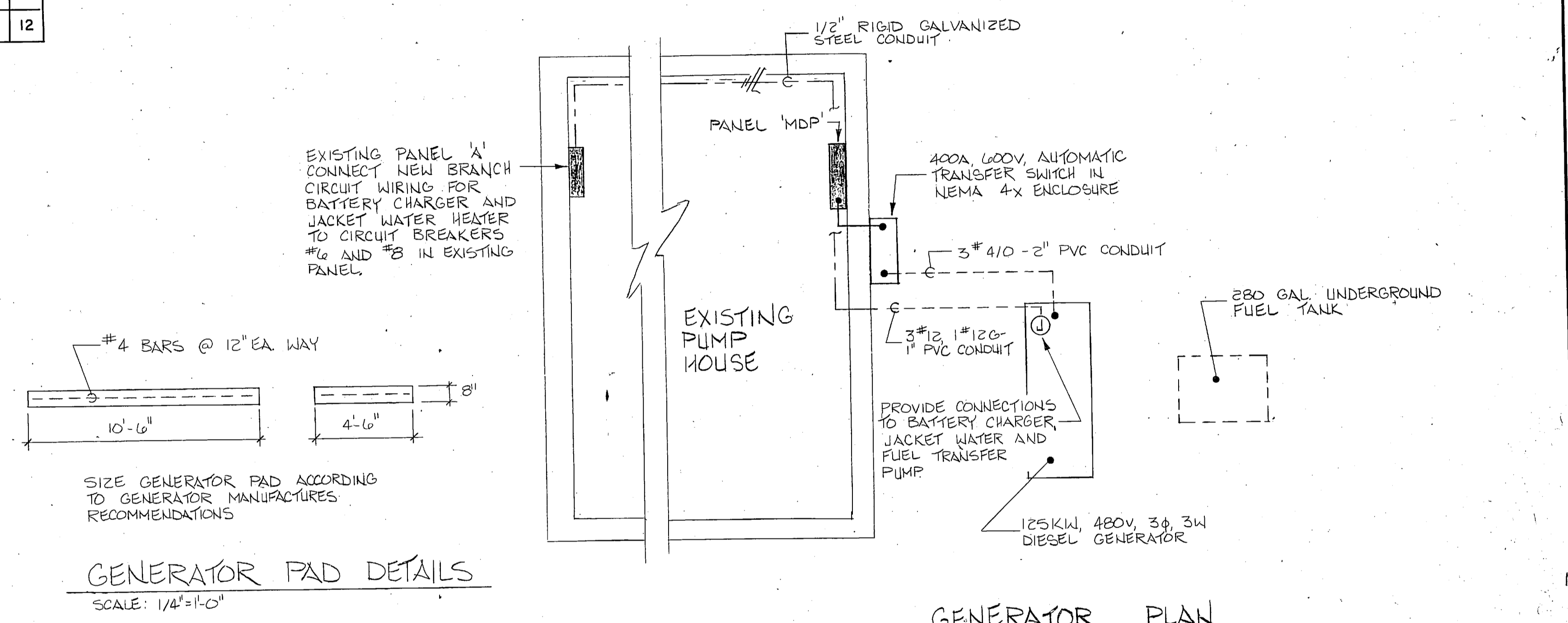
TOTAL CONNECTED LOAD 5.9 KVA
 TOTAL DEMAND LOAD 5.2 KVA
 * PROVIDE GFCI TYPE CIRCUIT BREAKER

REVISIONS		
SYM	DESCRIPTION	DATE

**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**

EQUIPMENT SCHEDULE																	
EQUIP. NO.	EQUIPMENT DESIGNATION	LOCATION	EQUIPMENT RATING			STARTER RATING		DISCONNECT RATING			REMARKS						
			VOLTS	Φ	HP	TYPE	POLES	NEMA SIZE	NEMA ENCL. TYPE	AMPS		POLES	VOLTS	FUSE(S) SIZE	FUSE ENCL. TYPE	NEMA ENCL. TYPE	
1	LIFT PUMP	LIFT STATION BB-1	230	3	60	25	FVNR	3	3	1	200	3	240	F	125A	1	1.25
2	LIFT PUMP	LIFT STATION BB-1	230	3	60	25	FVNR	3	3	1	200	3	240	F	125A	1	1.25
3	WASTE SLUDGE PUMP	PUMP STATION	460	3	60	1	FVNR	3	00	1							1.5
4	WASTE SLUDGE PUMP	PUMP STATION	460	3	60	1	FVNR	3	00	1							1.5
5	AIR COMPRESSOR	PUMP STATION	460	3	60	40		3	3	1	60	3	600	NF			1.45
6	AIR COMPRESSOR	PUMP STATION	460	3	60	40		3	3	1	60	3	600	NF			1.45
7	HOIST	NEW CONTROL BLD	460	3	60	1	FVNR	3	00	1	30	3	600	NF			1.5
8	TRICKLING FILTER LIFT PUMP	NEW CONTROL BLD	460	3	60	2	FVNR	3	00	1							1.5
9	TRICKLING FILTER LIFT PUMP	NEW CONTROL BLD	460	3	60	5	FVNR	3	0	1							1.5
10	TRICKLING FILTER LIFT PUMP	NEW CONTROL BLD	460	3	60	5	FVNR	3	0	1							1.5
11	SECONDARY CLARIFIER	SECONDARY CLARIFIER	460	3	60	1	FVNR	3	00	4X	30	3	600	NF			4X 1.5
12	PRIMARY CLARIFIER #1	PRIMARY CLARIFIER #1	460	3	60	1	FVNR	3	00	4X	30	3	600	NF			4X 1.5
13	PRIMARY CLARIFIER #2	PRIMARY CLARIFIER #2	460	3	60	1	FVNR	3	00	4X	30	3	600	NF			4X 1.5
14	AEROBIC DIGESTER SUPERCHARGE PUMP	EXIST IMHOFF TANK	460	3	60	1/2	FVNR	3	00	4X	30	3	600	NF			4X 1.5
15	GRIT REMOVER DRIVE	GRIT CHAMBER	460	3	60	3/4	FVNR	3	00	4X	30	3	600	NF			4X 1.5
16	ORGANICS RETURN PUMP	GRIT CHAMBER	460	3	60	1	FVNR	3	00	4X	30	3	600	NF			4X 1.5
17	COMMINUTOR	GRIT CHAMBER	460	3	60	1	FVNR	3	00	4X	30	3	600	NF			4X 1.5
18	WATER HEATER	NEW CONTROL BLD	208	1	60						30	2	240	NF			
19	DUPLEX SCUM PUMP	PRIMARY CLARIFIER	460	3	60	2											3.5
20	UNIT HEATER 25 KW	NEW CONTROL BLD	208	1	60												
21	EXHAUST FAN	NEW CONTROL BLD	115	1	60		MAN.	2									
22	BASEBOARD HEATER	NEW CONTROL BLD	208	1	60												
23	HEAT PUMP	NEW CONTROL BLD	208	1	60												
24	EXHAUST FAN	NEW CONTROL BLD	115	1	60		MAN.	2									
25	EXHAUST FAN	NEW CONTROL BLD	115	1	60												
26	EXHAUST FAN	NEW CONTROL BLD	115	1	60												
27	UNIT HEATER 3.3 KW	NEW CONTROL BLD	208	1	60												
28	UNIT HEATER 3.3 KW	WASTE PUMP ST	208	1	60												
29	EXHAUST FAN	WASTE PUMP ST	115	1	60		MAN.	2									
30	DISCONNECT SWITCH	PUMP STATION	460	3	60	40					100	3	600	F	100A	1	
31	DISCONNECT SWITCH	RAW SEW. HOLDING BASIN, PUMP RM.	460	3	60	5					30	3	600	F	6A	1	
32	CIRCUIT BREAKER	GENERATOR	460	3	60												6

- NOTES:
- STARTER SHALL BE PROVIDED WITH 2 N.O. AND 2 N.C. AUXILIARY CONTACTS.
 - DISCONNECT SHALL BE PROVIDED WITH MEANS OF LOCKING IN OPEN POSITION.
 - STARTER & DISCONNECT INTEGRAL WITH EQUIPMENT.
 - PROVIDE REDUCED VOLTAGE AUTOTRANSFORMER CLOSED TRANSITION STARTER, CONNECT TO 60% TAP.
 - STARTER SHALL BE PROVIDED WITH PNEUMATIC TIMER. TIMER SHALL BE SET IN ACCORDANCE WITH THE SPECIFICATIONS.
 - PROVIDE NEMA 4X ENCLOSURE



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L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND	
PROJECT MGR		CH. ENGR.	
DATE		DATE	
FIRM MEMBER		PRINCIPAL	
TYP. BY		BY	
NO.		DIB	
APPROVED		DATE	
OFFICER IN CHARGE		DATE	
APPROVED		DATE	
FOR EFD FOR COMMANDER NAVFAC		SCALE NONE SPEC 05-81-1478	

ATLANTIC DIVISION
MARINE CORPS BASE, CAMP LEJEUNE, N.C.
UTILITIES IMPROVEMENTS
WASTEWATER TREATMENT PLANT

PANEL AND EQUIPMENT SCHEDULE

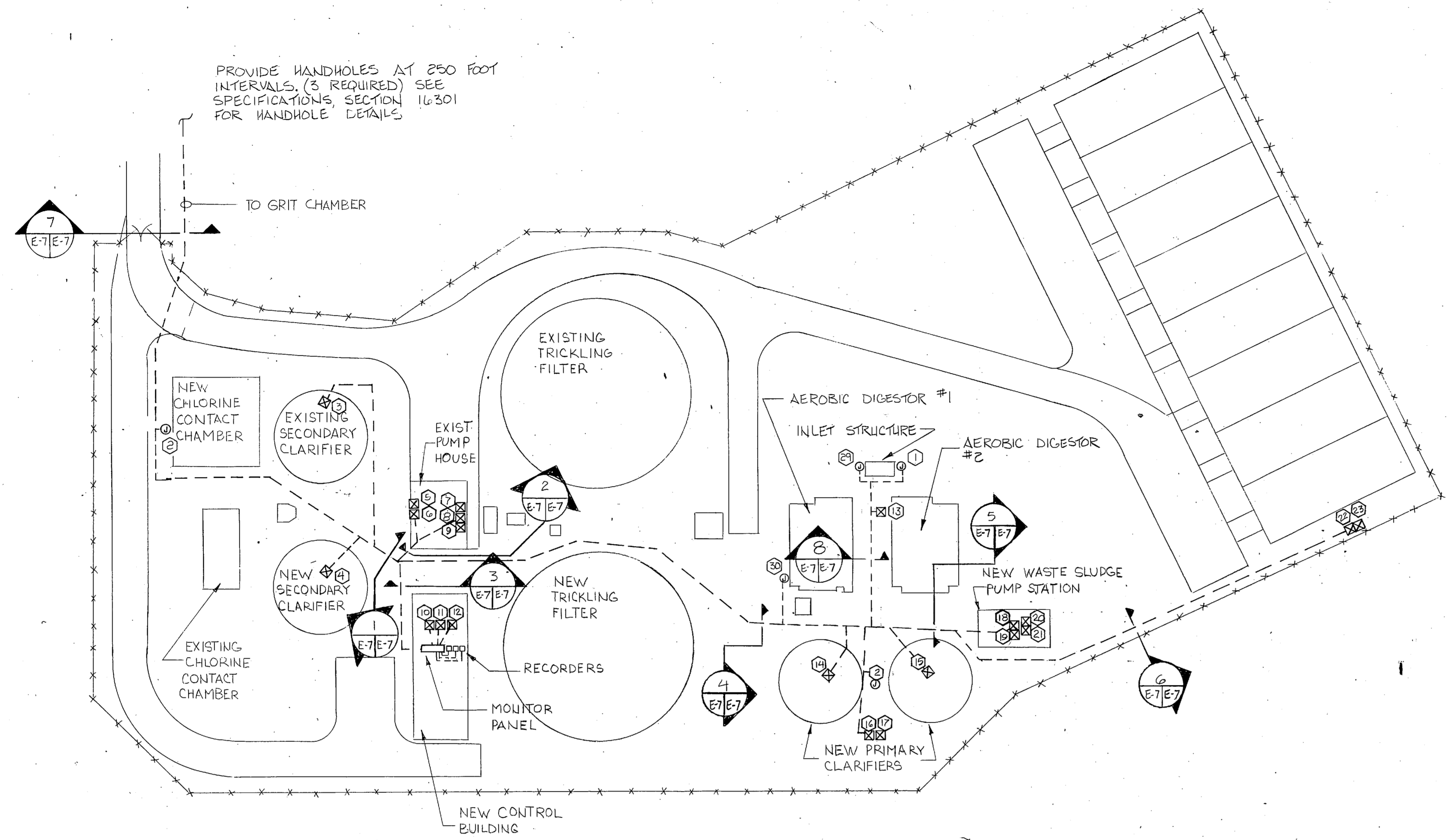
SIZE CODE IDENT NO. NAVFAC DRAWING NO.
F 80091 CONSR. CONTR. NO. N62470-B1-B-1478

SHEET OF



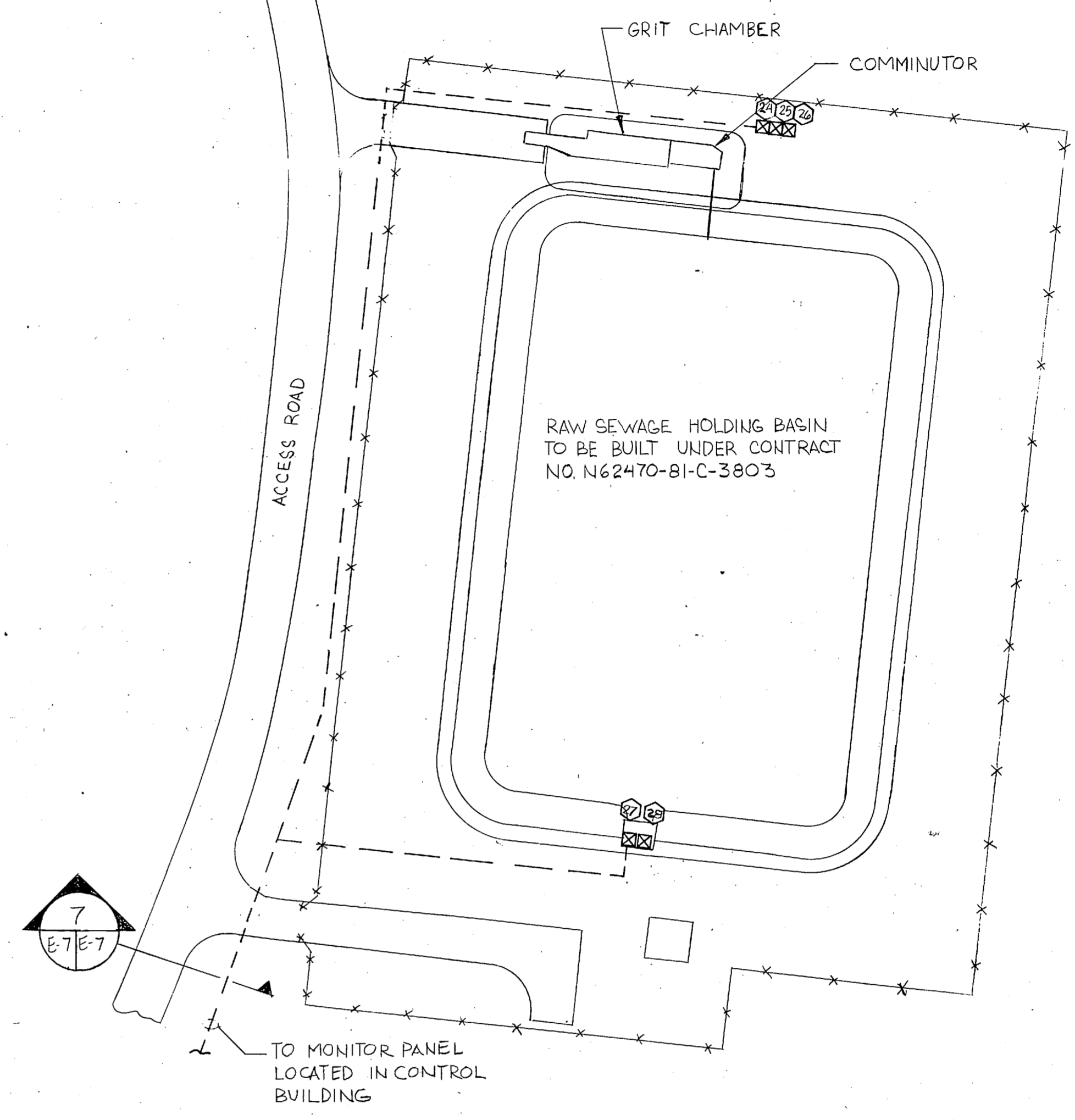
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED

**PRELIMINARY DRAWINGS
DO NOT USE FOR
CONSTRUCTION**



CONTROL WIRING SITE PLAN

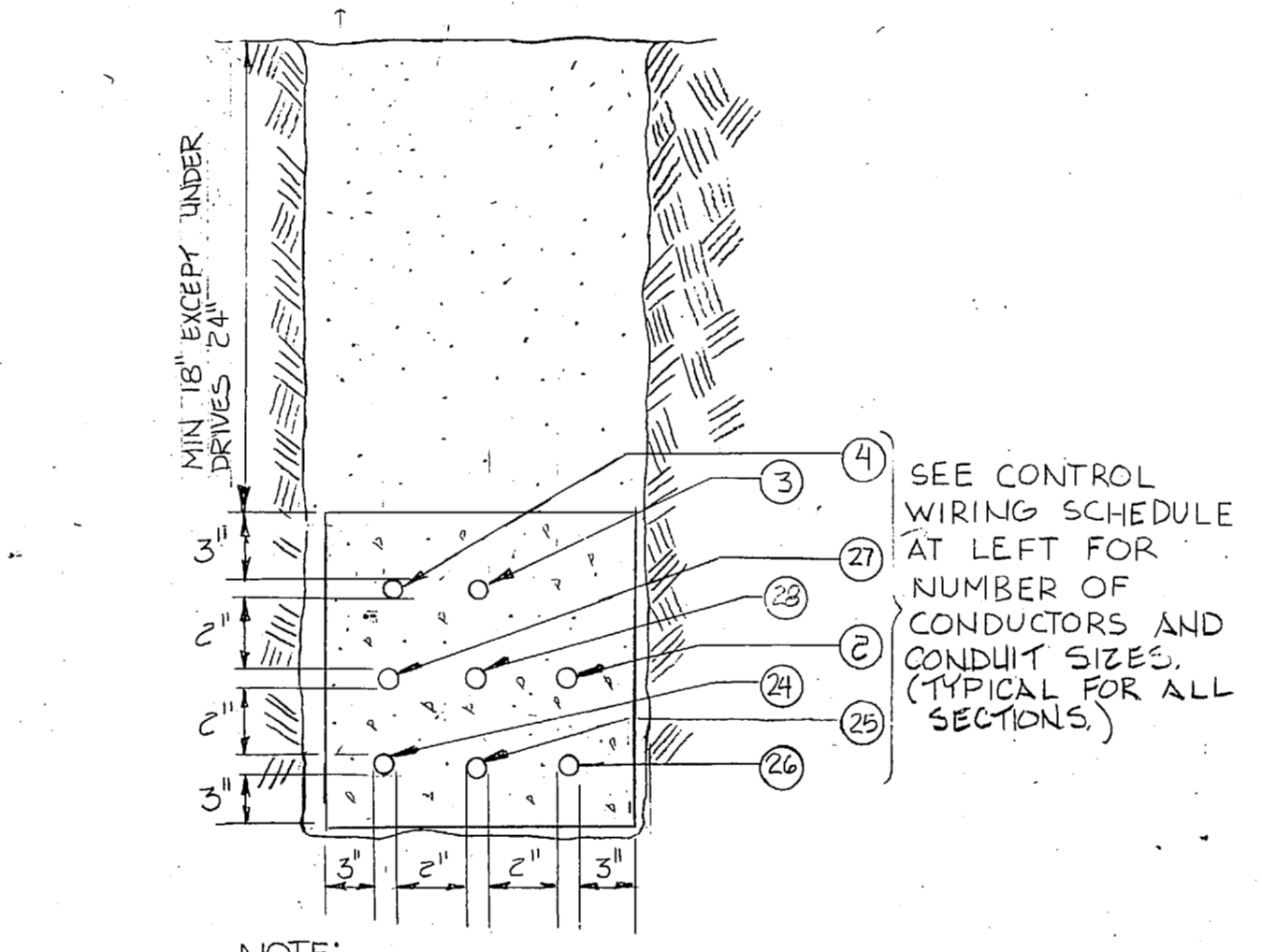
SCALE: 1" = 25'



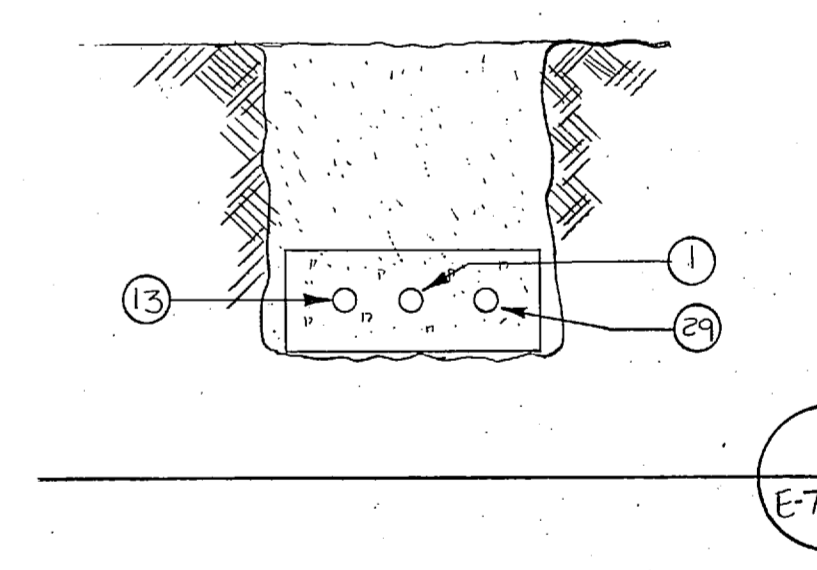
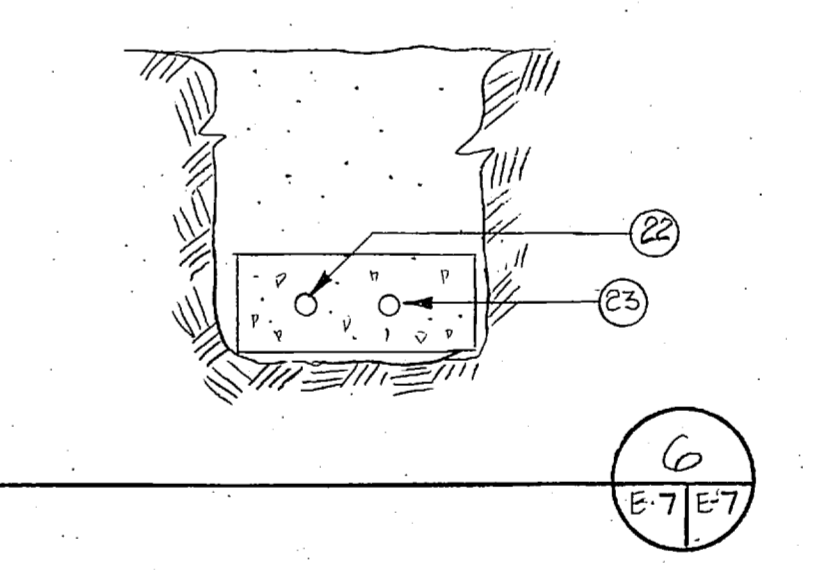
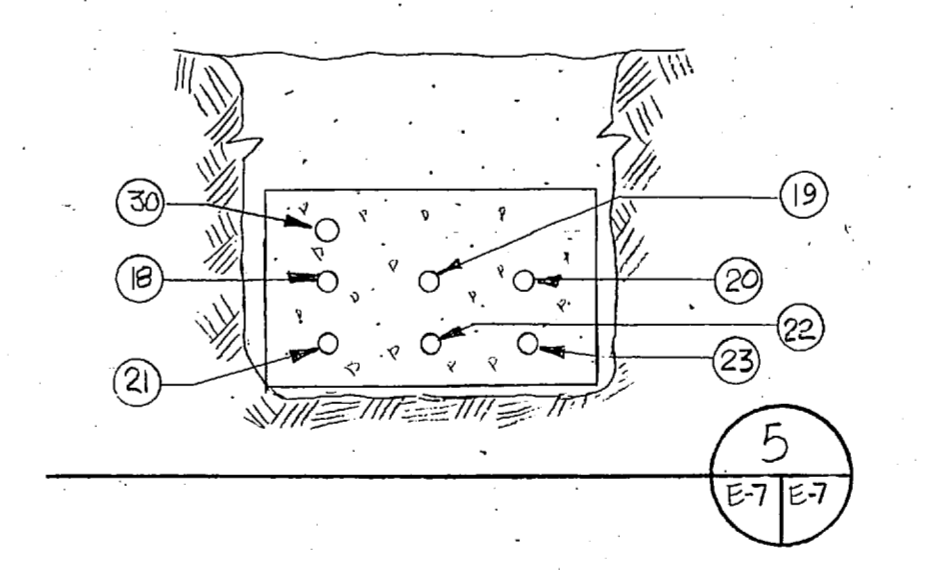
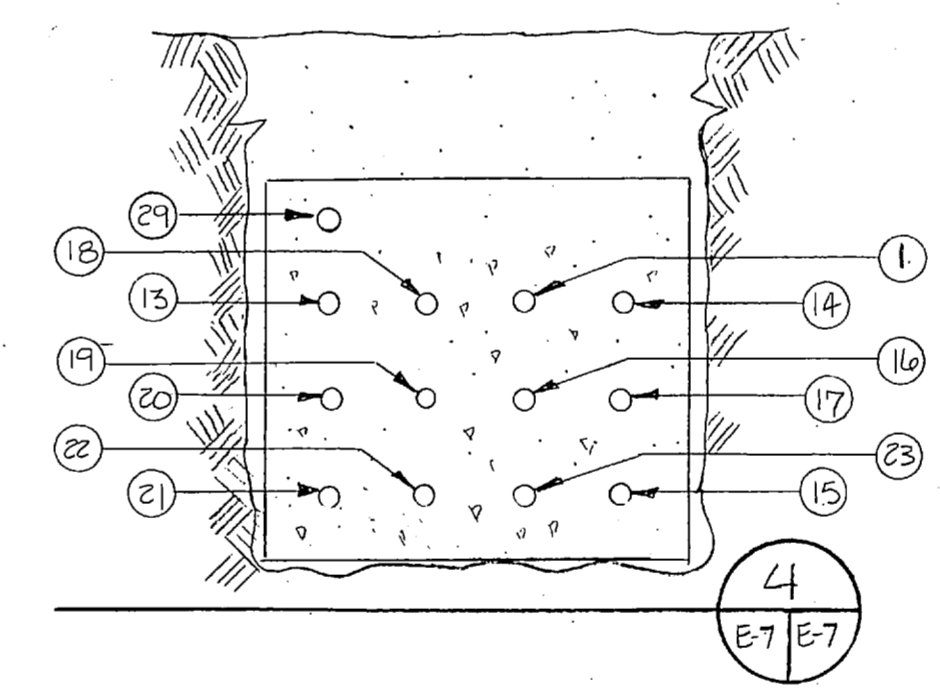
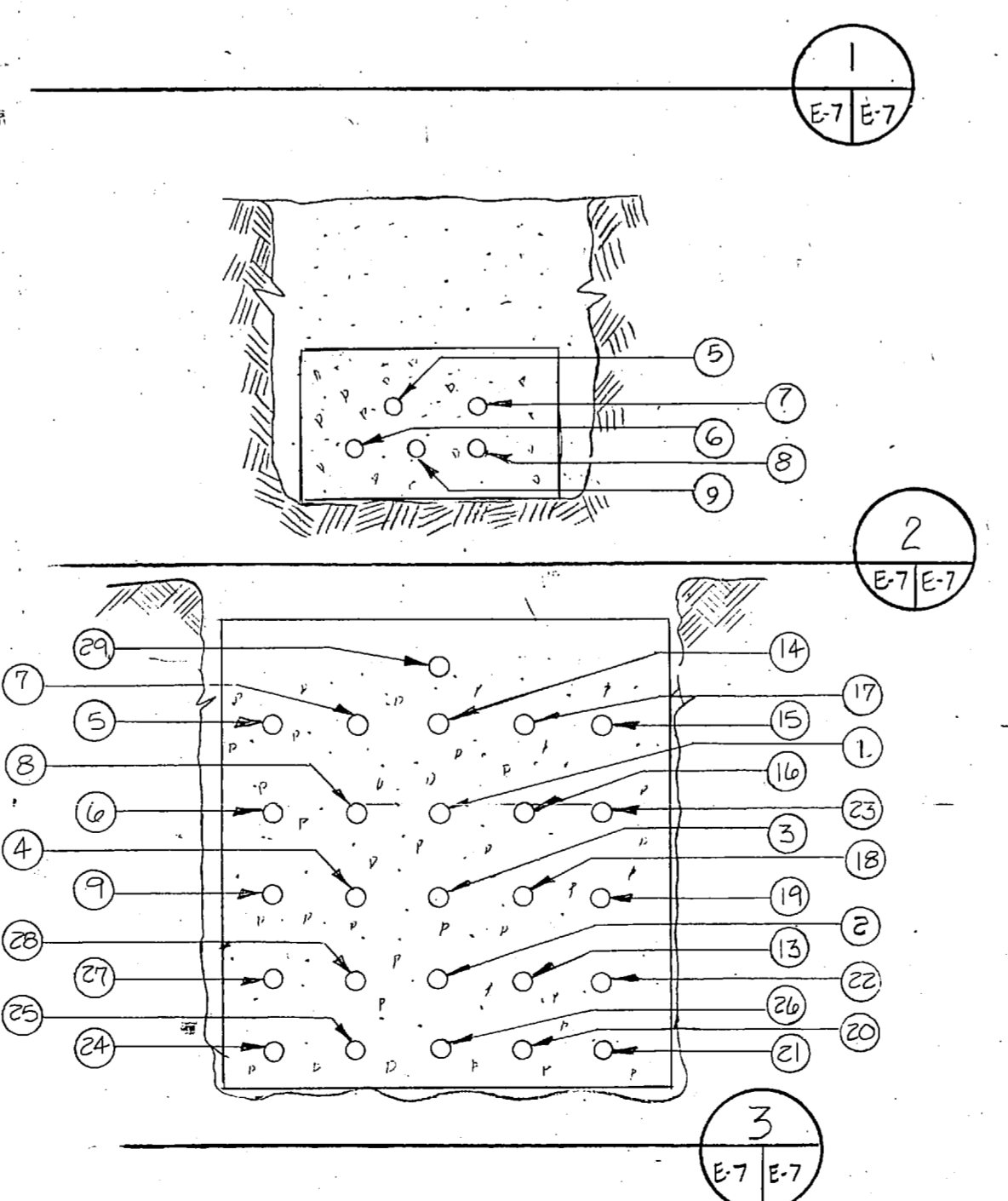
**GRIT CHAMBER, COMMUNICATOR AND HOLDING BASIN
CONTROL WIRING SITE PLAN**

SCALE: 1" = 25'

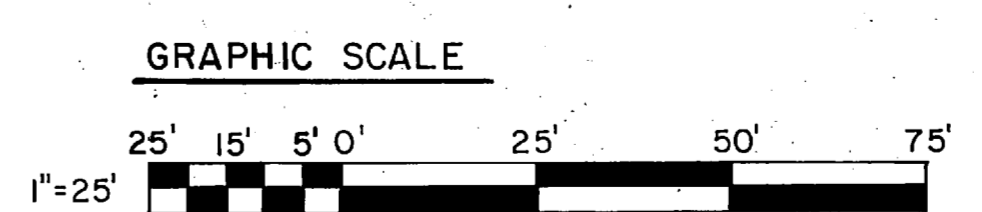
ITEM NO.	EQUIPMENT	WIRING AND CONDUIT	INFORMATION TRANSMITTED/CONTROL FUNCTION	CONNECT TO	REMARKS (SEE NOTES BELOW)
1	INFLUENT TRANSMITTER	4 CONDUCTOR #14, SHIELDED	1 INDICATE, TOTALIZE, RECORD FLOW	RECORDER IN CONTROL BUILDING OFFICE	
2	EFFLUENT TRANSMITTER	4 CONDUCTOR #14, SHIELDED	2 INDICATE, TOTALIZE, RECORD FLOW	RECORDER IN CONTROL BUILDING OFFICE	
3	EXISTING SECONDARY CLARIFIER DRIVE MOTOR CONTROLLER	6 #12 IN 1" C	3 RUN, STOP STATUS LIGHTS	MONITOR PANEL IN CONTROL BLDG OFFICE	
4	SECONDARY CLARIFIER DRIVE MOTOR CONTROLLER				
5	EXISTING SLUDGE RECIR. PUMP CONTROLLER				
6	EXISTING SLUDGE RECIR. PUMP CONTROLLER				
7	EXISTING TRICKLING FILTER LIFT PUMP MOTOR CONTROLLER				
8	EXISTING TRICKLING FILTER LIFT PUMP MOTOR CONTROLLER				
9	EXISTING TRICKLING FILTER LIFT PUMP MOTOR CONTROLLER				
10	TRICKLING FILTER LIFT PUMP MOTOR CONTROLLER				
11	TRICKLING FILTER LIFT PUMP MOTOR CONTROLLER				
12	TRICKLING FILTER LIFT PUMP MOTOR CONTROLLER				
13	AEROBIC DIGESTER SUPERNATE PUMP MOTOR CONTROLLER				
14	PRIMARY CLARIFIER DRIVE MOTOR CONTROLLER				
15	PRIMARY CLARIFIER DRIVE MOTOR CONTROLLER				
16	CLARIFIER SCUM PUMP MOTOR CONTROLLER				
17	CLARIFIER SCUM PUMP MOTOR CONTROLLER				
18	WASTE SLUDGE PUMP MOTOR CONTROLLER				
19	WASTE SLUDGE PUMP MOTOR CONTROLLER				
20	AIR COMPRESSOR MOTOR CONTROLLER				
21	AIR COMPRESSOR MOTOR CONTROLLER				
22	SLUDGE DRYING BED UNDER-DRAIN PUMP CONTROLLER				
23	SLUDGE DRYING BED UNDER-DRAIN PUMP CONTROLLER				
24	GRIT REMOVER DRIVE MOTOR CONTROLLER				
25	ORGANICS RETURN PUMP MOTOR CONTROLLER				
26	COMMUNICATOR MOTOR CONTROLLER				
27	EQUALIZATION LAGOON LIFT PUMP CONTROLLER				
28	EQUALIZATION LAGOON LIFT PUMP CONTROLLER	6 #12 IN 1" C	28 RUN, STOP STATUS LIGHTS	MONITOR PANEL IN CONTROL BLDG OFFICE	
29	SLUDGE RECIRCULATION FLOW METER	4 CONDUCTOR #12, SHIELDED	29 INDICATE, TOTALIZE, RECORD FLOW	RECORDER IN CONTROL BLDG OFFICE	
30	FLOW SWITCH, HIGH WATER LEVEL	2 #12 IN 1" C	30 ON/OFF SIGNAL	PUMP CONTROL PANEL IN PUMP STATION	



NOTE: DIMENSIONS SHOWN ARE TYPICAL FOR REMAINING DUCT SECTIONS.

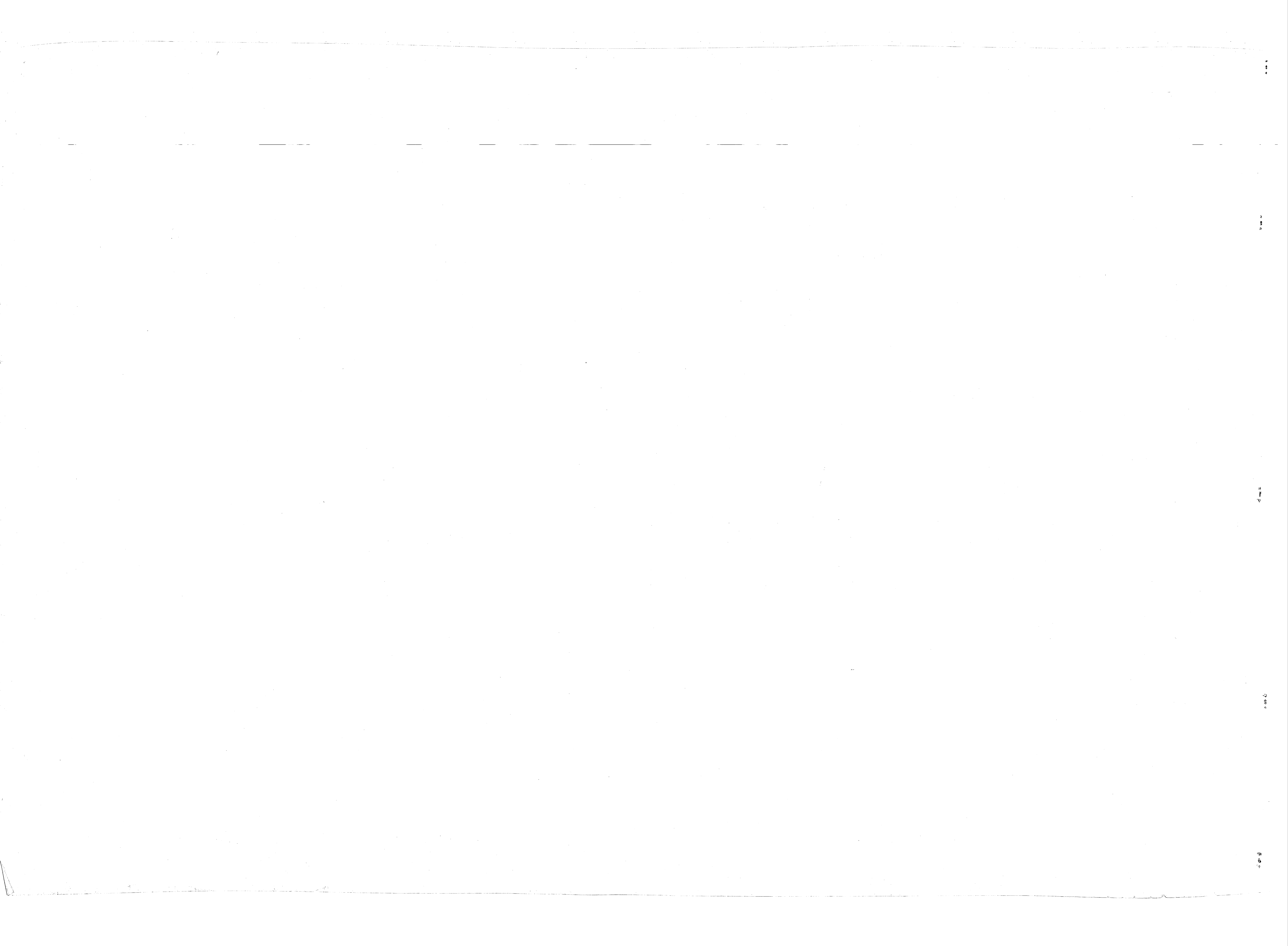


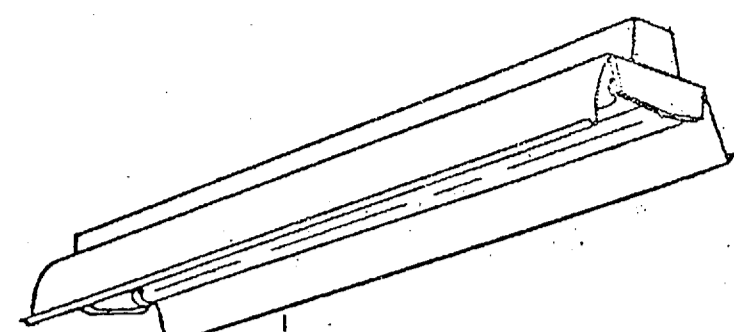
CONTROL WIRING AND CONDUIT SECTIONS
NOT TO SCALE



E-7

L. E. WOOLLEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DESIGNED BY	DR	CHEK	
PROJ. MGR	CH ENGR	DATE	
SUBMITTED BY	DATE		
FIRM MEMBER	PRINCIPAL		
SPD PP	BYD		
APPROVED	DIR	DATE	
OFFICER IN CHARGE	DATE	SIZE	CODE IDENT NO
APPROVED	DATE	F 80091	NAVAC DRAWING NO.
FOR EPD FOR COMMANDER NAVFAC	SCALE 1" = 25'	SPEC 05-81-1478	SHEET OF
			EPD DWG. NO.





LUMINAIRE REQUIREMENTS

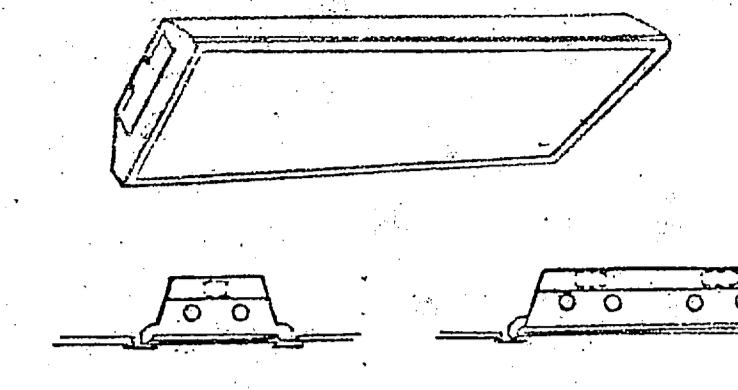
- HOUSING SHALL BE MIN. 20 GAGE (U.S. STANDARD) DIE FORMED COLD ROLLED STEEL, CHEMICALLY TREATED FOR RUST PREVENTION & FINISHED WITH WHITE BAKED ENAMEL OR POLYESTER FINISH. PROVIDE TOP AND END KNOCKOUTS.
- HOUSING WELDED OR SECURED BY SCREWS OR RIVETS INTO A SINGLE ASSEMBLY.
- REFLECTOR SHALL BE MIN. 22 GAGE (U.S. STANDARD) (SOLID WHEN LUMINAIRE IS MOUNTED BELOW CATWALKS, ETC. 10-25% APERTURED WHEN PROTECTED FROM FALLING OBJECTS). PROVIDE 30" SHIELDING CENTER VEE. CHEMICALLY TREAT FOR RUST PREVENTION AND FINISH WITH WHITE BAKED ENAMEL, PORCELAIN ENAMEL, OR POLYESTER FINISH. MINIMUM REFLECTANCE SHALL BE 85%.
- THE LUMINAIRE SHALL NOT PERMANENTLY DISTORT WHEN LIFTED BY ONE CORNER.
- SPACING TO MOUNTING HEIGHT RATIO = 1.3
- LUMINAIRE SHALL BE CAPABLE OF CONTINUOUS ROW AND SINGLE UNIT PLACEMENT WITH PENDANT OR SURFACE MOUNTING.
- SPRING LOADED PLUNGER TYPE SOCKETS.
- BALLAST SHALL BE HIGH POWER FACTOR (≥ .9) ETL, CBM APPROVED CLASS P ENERGY SAVING BALLAST WITH A SOUND RATING OF B (RAPID START OR SLOMLINE).
- MINIMUM COEFFICIENT OF UTILIZATION (CU) WITH THE FOLLOWING CAVITY REFLECTANCES OF: CEILING = 80% WALL = 50% FLOOR = 20% LUMINANCE USING 3050L LAMP WITH AVG. MAX. RATIO NOT TO EXCEED 1:5

ROOM CAVITY RATIO	CU	AVG. LUMINANCE (FL)
1	0.75	85" - 1350
2	0.73	55" - 1250
3	0.68	65" - 1250
4	0.60	75" - 850

INDUSTRIAL FLUORESCENT

TYPE A - 48" 2 LAMP 430 MA.
TYPE B - 96" 2 LAMP 430 MA.

LIGHTING FIXTURE STYLE NL-6
NOT TO SCALE



LUMINAIRE REQUIREMENTS

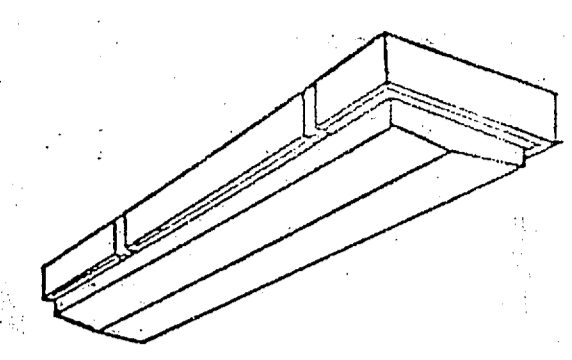
- HOUSING SHALL BE 22 GAGE (U.S. STD) MIN. 5" MAX. HEIGHT AND SHALL NOT PERMANENTLY DEFORM WHEN LIFTED BY ONE CORNER WITH LENS DOOR IN PLACE FOR WITH LENS DOOR REMOVED. LENS DOOR SHALL NOT OPEN WHEN LUMINAIRE IS LIFTED BY ONE CORNER. LUMINAIRE SHALL HAVE LESS THAN THE FOLLOWING DEFLECTION WHEN LIFTED BY ONE CORNER WITH LENS DOOR REMOVED:
- | TYPE | A | B | C, D & E |
|------|----|--------|----------|
| | 3" | 2 1/2" | 4" |
- HOUSING SHALL BE CHEMICALLY TREATED FOR RUST PREVENTION AND HAVE BAKED WHITE ENAMEL FINISH 85% MIN. REFLECTANCE (INTERIOR). ENDS SHALL BE SECURED BY RIVETS OR SCREWS.
 - LATCHES SHALL BE A MINIMUM OF 20 GAGE (U.S. STANDARD) STEEL OR 26 GAGE (U.S. STANDARD) SPRING STEEL. DIRECTION OF TRAVEL TO OPEN SHALL BE STAMPED ON LENS FRAME WHEN NOT OBVIOUS.
 - LENS DOOR SHALL BE 20 GAGE (U.S. STANDARD) STEEL, SHALL BE CAPABLE OF DISASSEMBLY FOR LENS REPLACEMENT. PROVIDE LIGHT TIGHT FIT WITHOUT MOVABLE BAFFLES.
 - LENS SHALL BE 0.156" (FOR TYPES A, C, D, E) AND 0.125" (FOR TYPE B) PLUS OR MINUS 10% OVERALL (0.09 MAX. PRISM PENETRATION) CLEAR PRISMATIC 100% ACRYLIC.
 - DOOR SHALL BE CAPABLE OF HINGING AND LATCHING FROM BOTH SIDES OF LUMINAIRE. PROVIDE SAFETY TYPE HINGES.
 - BALLAST SHALL BE HIGH POWER FACTOR (≥ .9) ETL, CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH SOUND RATING OF "A" SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS ONE AT EACH END.
 - PHOTOMETRICS: MINIMUM COEFFICIENT OF UTILIZATION (CU) FOR THE FOLLOWING CAVITY REFLECTANCES: CEILING = 80% WALL = 50% FLOOR = 20% LUMINANCE USING 3050L LAMP WITH AVG. MAX. RATIO NOT TO EXCEED 1:5

ROOM CAVITY RATIO	TYPE	A	B	C	D	E	AVG. LUMINANCE (FL)
1	CU	0.67	0.60	0.73	0.70	0.67	45" - 2250
2		0.60	0.54	0.66	0.63	0.60	55" - 1605
3		0.54	0.48	0.59	0.56	0.54	65" - 1125
4		0.49	0.44	0.53	0.51	0.49	75" - 750
	MIN. S/MH	1.2	1.1	1.3	1.3	1.3	85" - 495

PROVIDE MIN. VISUAL COMFORT PROBABILITY (VCP) OF 65 (ASSUME 30'x20'x10' ROOM). WHEN "OFFICE TYPE" INDICATED, PROVIDE MIN. VCP OF 70.
PROVIDE MOUNTING HARDWARE COMPATIBLE WITH CEILING MATERIAL.

TYPE A - 2'x2' 2 LAMP
TYPE B - 1'x4' 2 LAMP
TYPE C - 2'x4' 2 LAMP
TYPE D - 2'x4' 3 LAMP
TYPE E - 2'x4' 4 LAMP

LIGHTING FIXTURE STYLE NL-3
NOT TO SCALE



LUMINAIRE REQUIREMENTS

- MOLDED 100% ACRYLIC DIFFUSE LENS (NOT CLEAR) FULLY GASKETED.
- PLATED BRASS OR STAINLESS STEEL LATCHES. (PLASTIC LATCHES MAY BE SUPPLIED WITH TYPE A LUMINAIRE.)
- BALLAST SHALL BE HIGH POWER FACTOR (≥ .9) ETL CBM APPROVED RAPID START CLASS P ENERGY SAVING BALLAST WITH A SOUND RATING OF "A" SECURE BALLAST TO HOUSING WITH AT LEAST ONE SCREW AND SLIP-ON BRACKET OR 2 SCREWS - ONE AT EACH END.
- UL LISTED FOR DAMP LOCATION. PROVIDE UL "WET" LABEL WHEN INDICATED.
- OVERALL LUMINAIRE LENGTH SHALL BE 48" NOMINAL.
- MINIMUM COEFFICIENT OF UTILIZATION (CU) WITH CAVITY REFLECTANCES OF 80% CEILING, 50% WALLS AND 20% FLOOR SHALL BE:

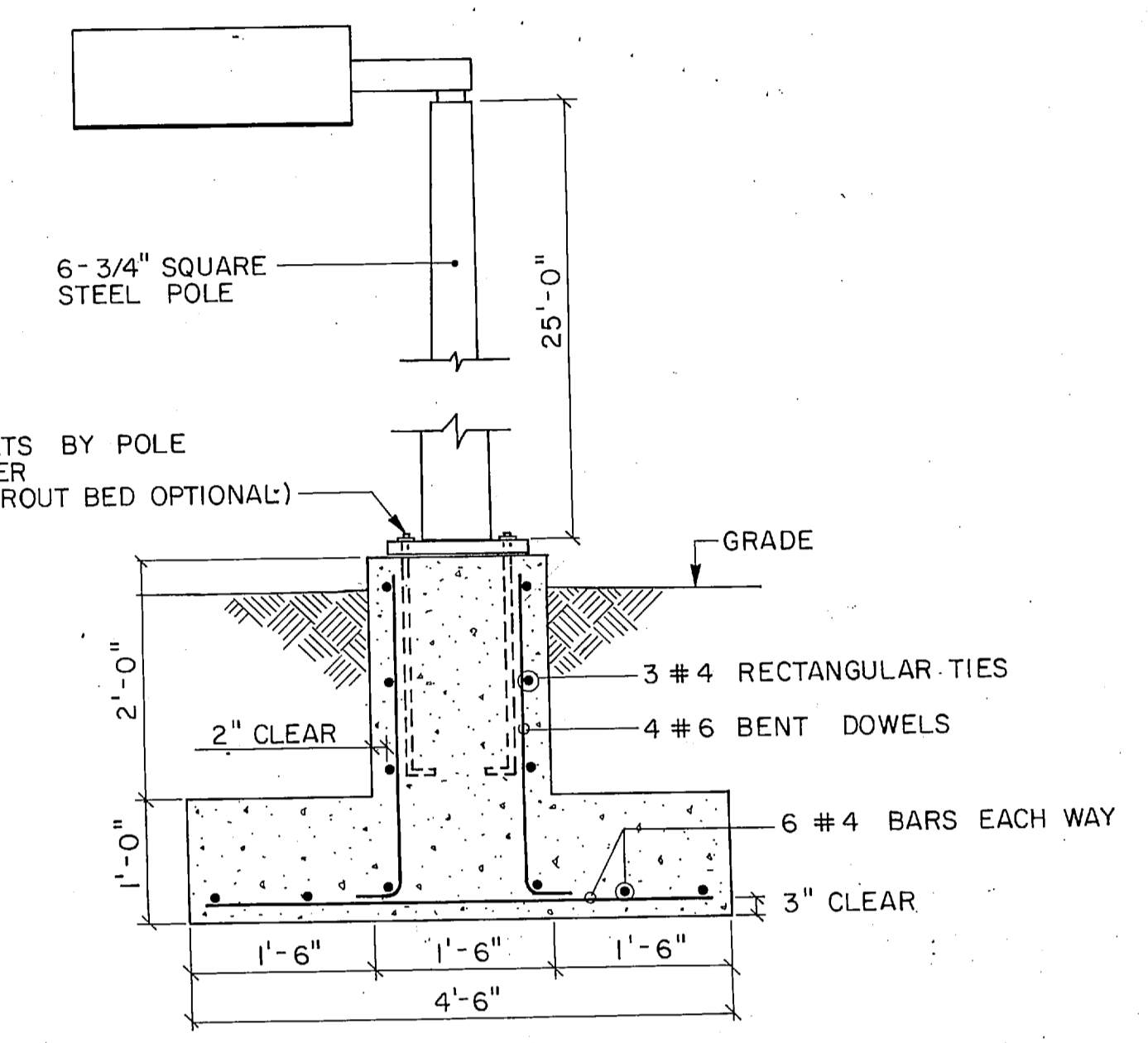
RCR	CU
1	0.67
2	0.55
3	0.50
4	0.45

7. MINIMUM SPACING TO MOUNTING HEIGHT RATIO SHALL BE 1.3.

WET/DAMP LOCATION LUMINAIRE

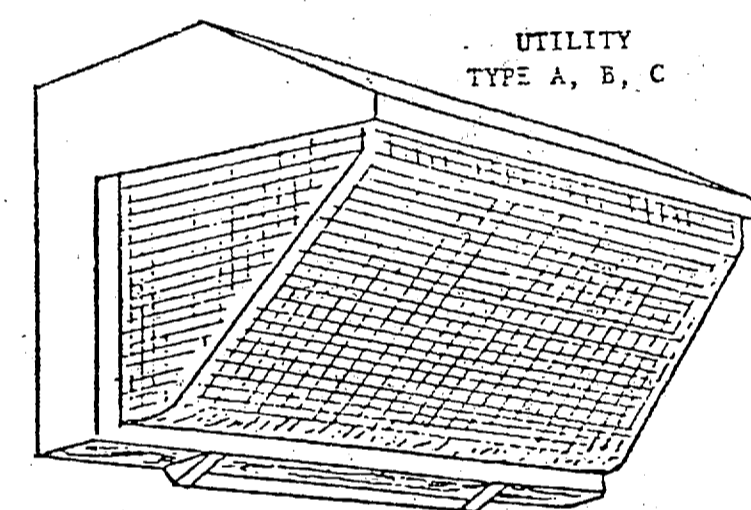
TYPE A FIBERGLASS OR PLASTIC HOUSING
TYPE B ALUMINUM HOUSING

LIGHTING FIXTURE STYLE NL-8
NOT TO SCALE



FIXTURE TYPE 'G'
POLE BASE DETAIL
NOT TO SCALE

LIGHTING FIXTURE STYLE NL-27



LUMINAIRE REQUIREMENTS

- CAST ALUMINUM OR 1/8" MIN. THICKNESS EXTRUDED ALUMINUM HOUSING FOR HIGH PRESSURE SODIUM (HPS) METAL HALIDE (M.H.) LUMINAIRES.
- CAST ALUMINUM, 1/8" MIN. THICKNESS EXTRUDED ALUMINUM, ABS PLASTIC OR POLYCARBONATE HOUSING FOR LOW PRESSURE SODIUM (LPS) & 35/50/70W HPS LUMINAIRES.
- HINGED, U.V. STABILIZED POLYCARBONATE LENS OR HINGED TEMPERED GLASS WITH POLYCARBONATE SHIELD.
- LAMP SIZE AS INDICATED IN FIXTURE SCHEDULE.
- PROVIDE ALUMINUM REFLECTOR.
- BALLAST SHALL BE HIGH POWER FACTOR TYPE (≥ .85) WITH CHARACTERISTICS AS INDICATED.
- PROVIDE PHOTO ELECTRIC CONTROL WHEN INDICATED.

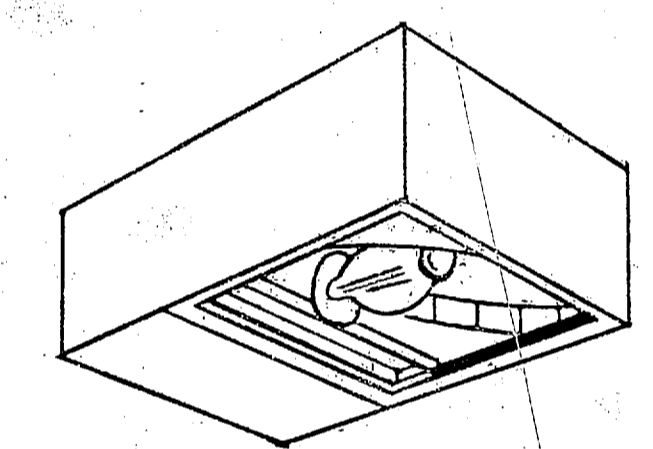
ARCHITECTURAL
TYPE D, E

TYPE A, D 35-150W HPS
TYPE B, E 175W M.H.
TYPE C 35, 55W LPS

NOTE: TYPES D & E MAY BE SUBSTITUTED FOR TYPES A & B RESPECTIVELY BUT NOT VICE VERSA.

N.I.D. WALL MOUNTED LUMINAIRE

LIGHTING FIXTURE STYLE NL-25
NOT TO SCALE

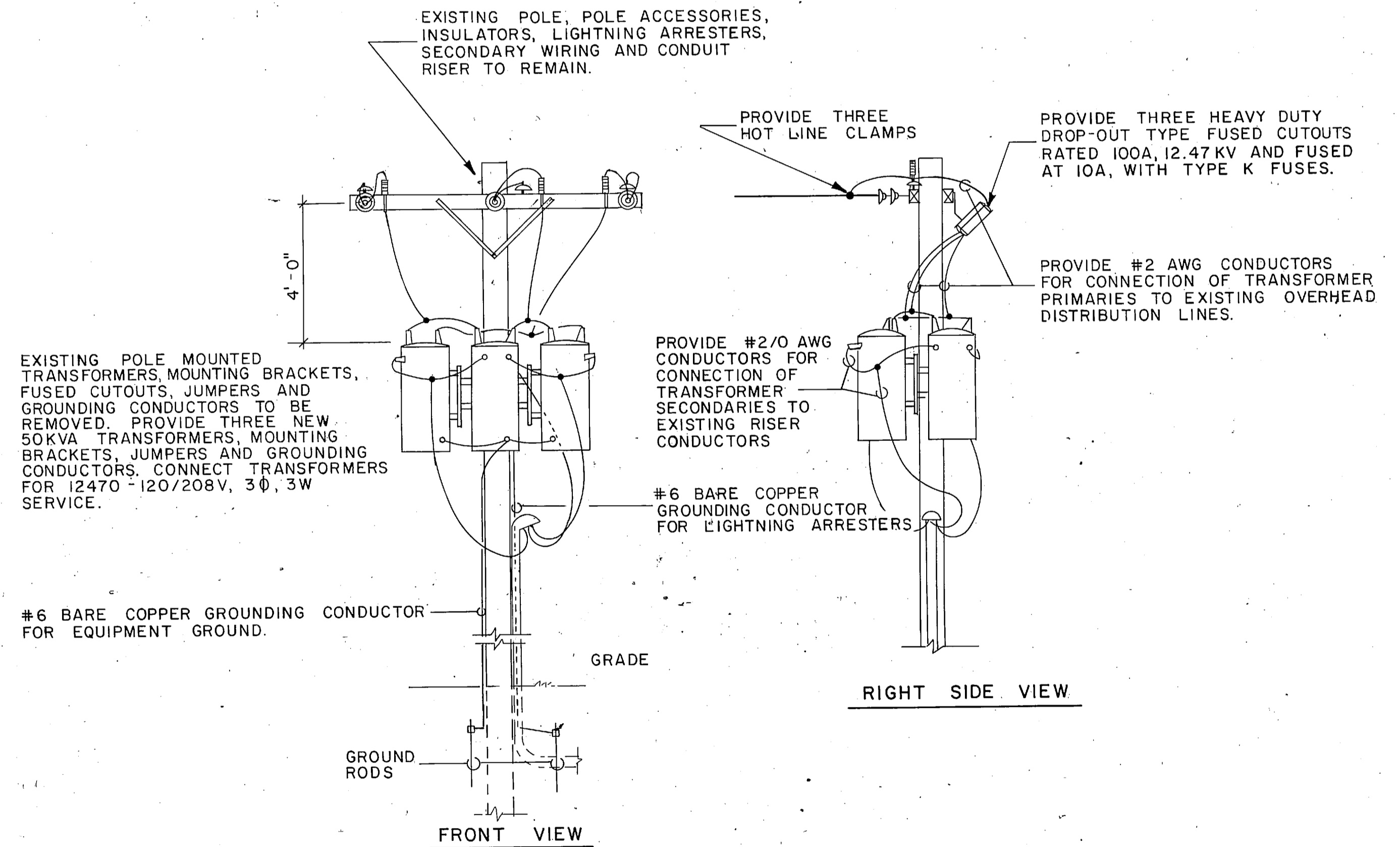


LUMINAIRE REQUIREMENTS

- HOUSING DIE CAST ALUMINUM - W/BAKED ENAMEL FINISH.
- REFLECTOR - ANODIZED ALUMINUM
- LENS - TEMPERED GLASS W/POLYESTER FIBER GASKETING AT DOOR AND AT LENS.
- SPRING LATCH ON DOOR ASSEMBLY.
- ADJUSTABLE SLIPFITTER FOR 1 1/4" THRU 2" MAST ARM.
- TWIST LOCK PHOTO ELECTRIC CELL, EXCEPT AS INDICATED.
- ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- ADJUSTABLE PORCELAIN SOCKET.

NOTE:
LAMP, BALLAST AND I.E.S. DISTRIBUTION AND HOUSING COLOR, SHALL BE AS SPECIFIED AND AS SHOWN IN LIGHTING FIXTURE SCHEDULE.

LIGHTING FIXTURE STYLE NL-27
NOT TO SCALE



POLE MOUNTED TRANSFORMERS
NOT TO SCALE

L. E. WOOTEN & COMPANY CONSULTING ENGINEERS RALEIGH, NORTH CAROLINA		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES.	DR.	CHK.	
PROJ. MGR.	CH. ENGR.	DATE	
SUBMITTED BY	DATE		
FIRM MEMBER	PRINCIPAL		
ED. PP.	RVD		
NO.	DIB		
APPROVED	DATE	SIZE	CODE IDENT NO.
OFFICER IN CHARGE	DATE	F	80091
APPROVED	DATE	CONSTR. CONTR. NO.	N62470-81-B-1478
FOR EFD FOR COMMANDER NAVFAC	SCALE	NONE	SPEC 05-81-1478
		SHEET	OF
		EFD DWG. NO.	

E-8

LIGHTING FIXTURE DETAILS

FRED
CONE

P-180

