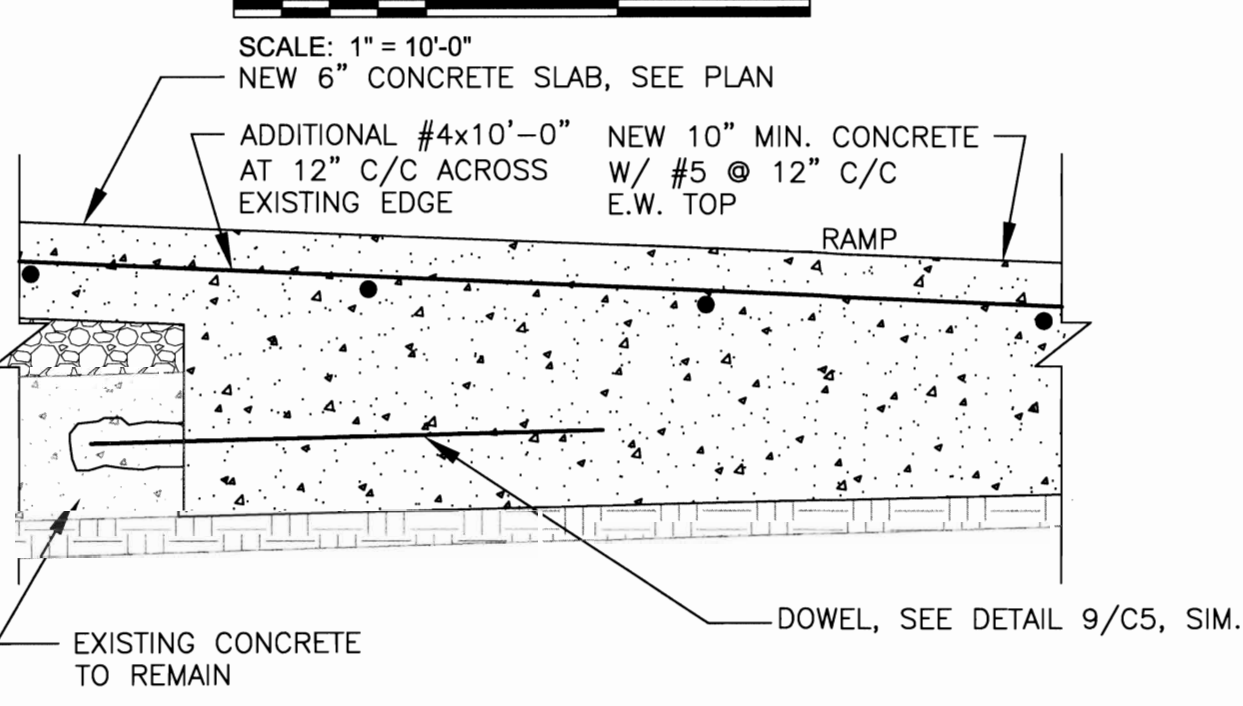
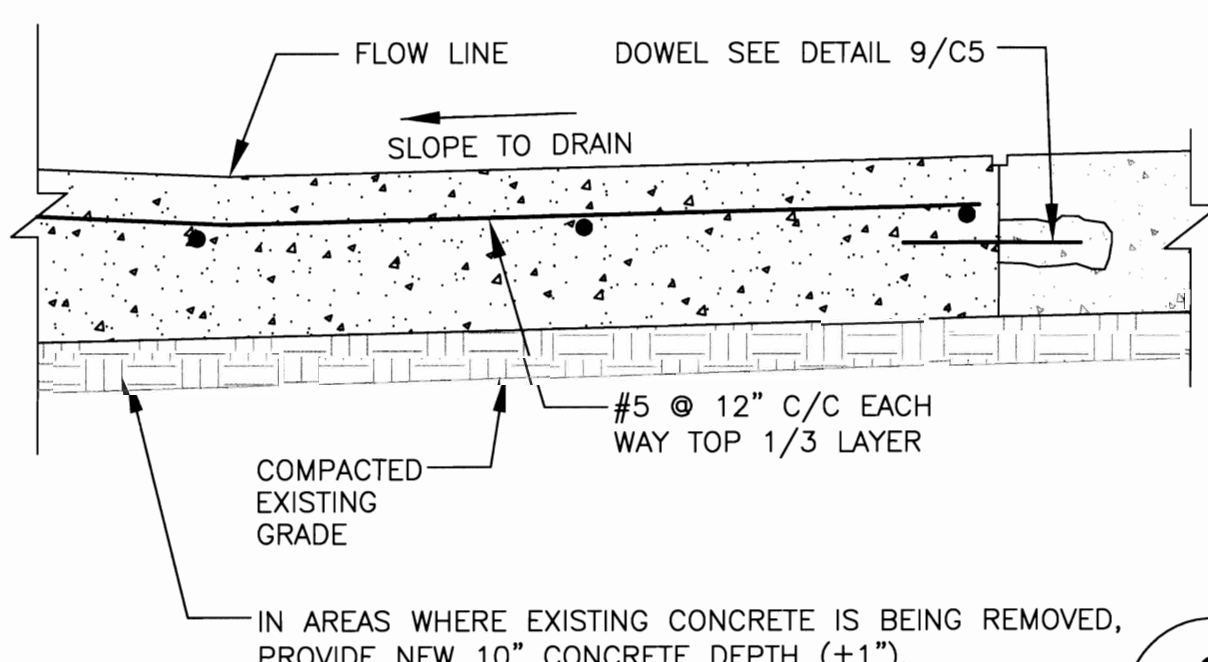


1 CONTROL JOINT PLAN
C-5/C-5
SCALE: 1" = 10'-0"

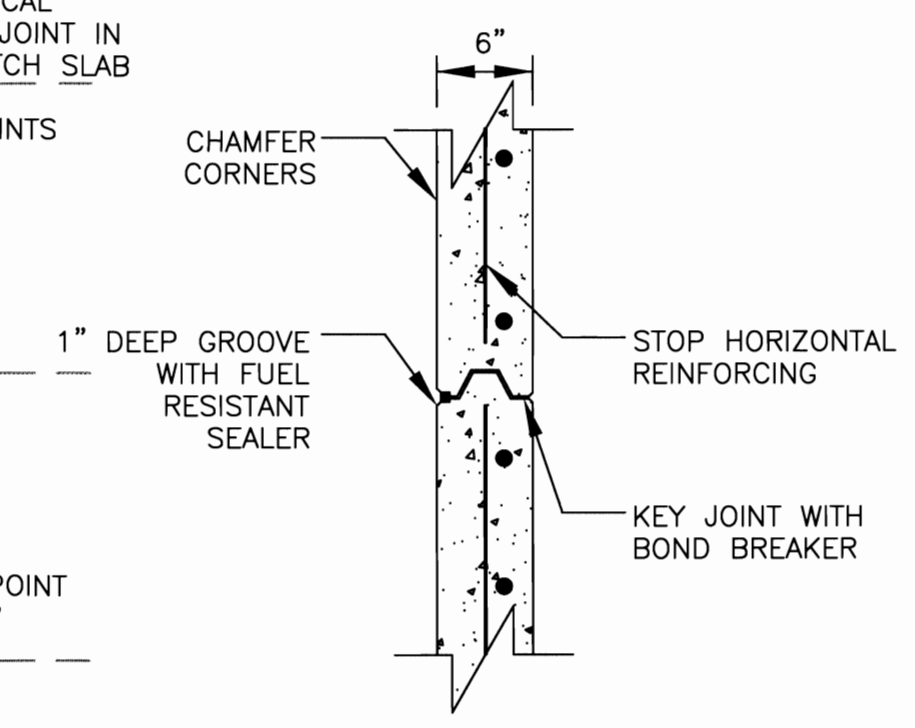


7 RAMP TRANSITION DETAIL
C-5/C-5
SCALE: 1" = 1'-0"

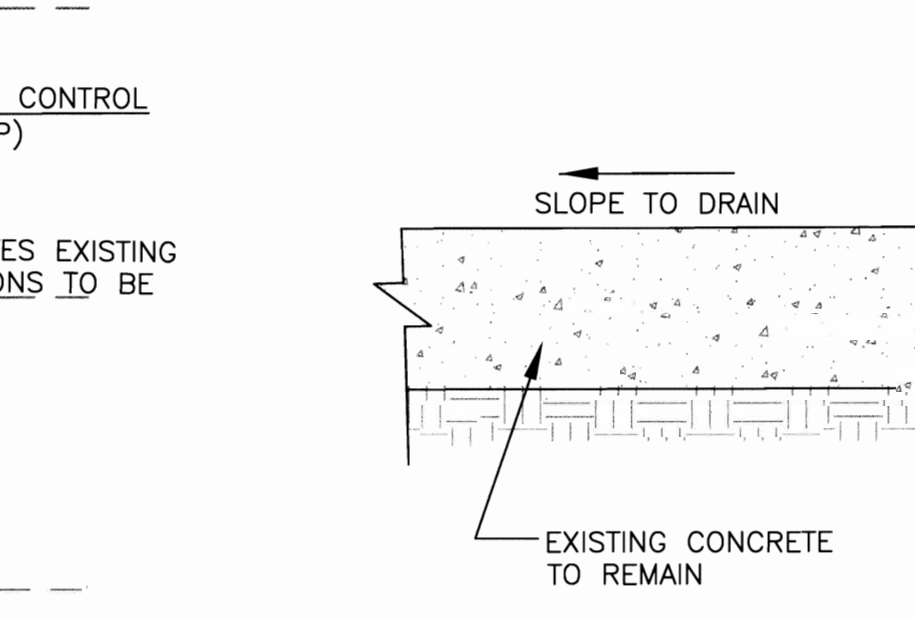


8 CONCRETE CONTROL JOINT
C-5/C-5
SCALE: 1" = 1'-0"

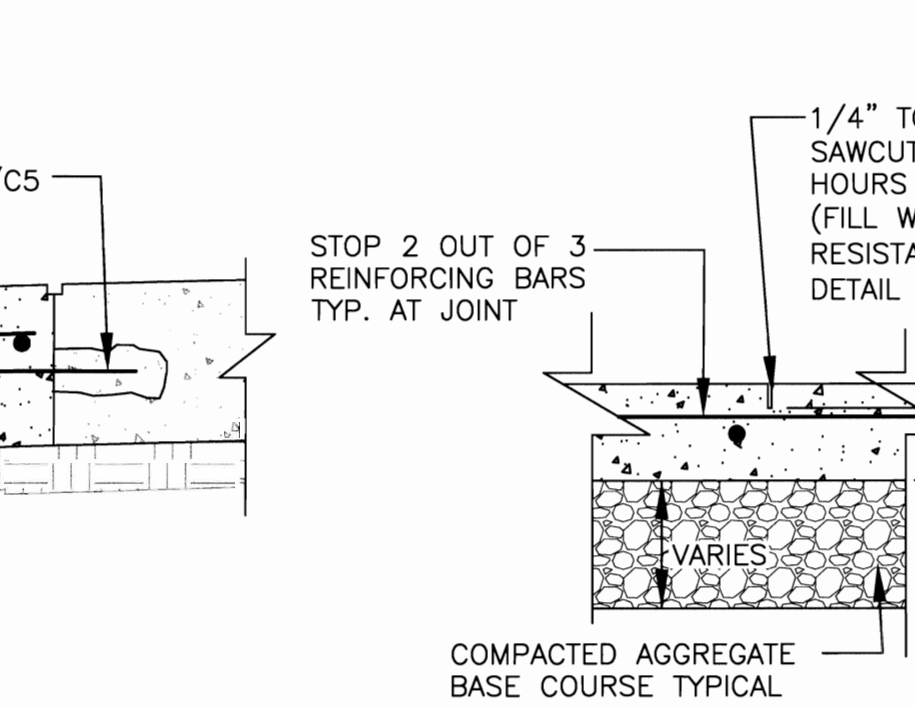
2 EXTERIOR CURB DETAIL
C-5/C-5
SCALE: 1" = 1'-0"



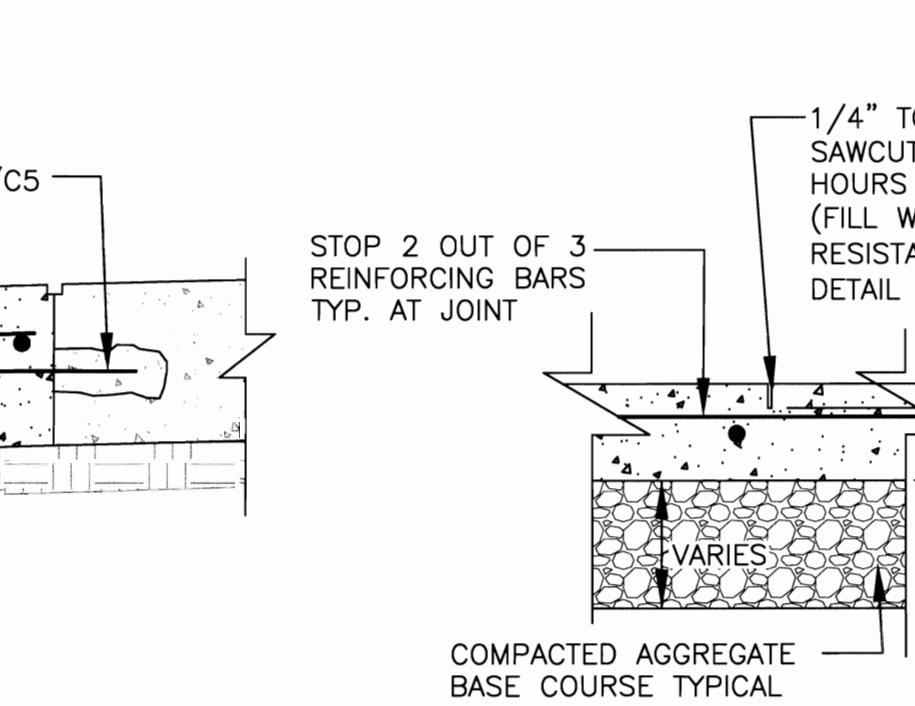
4 VERT CONTRACTION JOINT
C-5/C-5
SCALE: 1" = 1'-0"



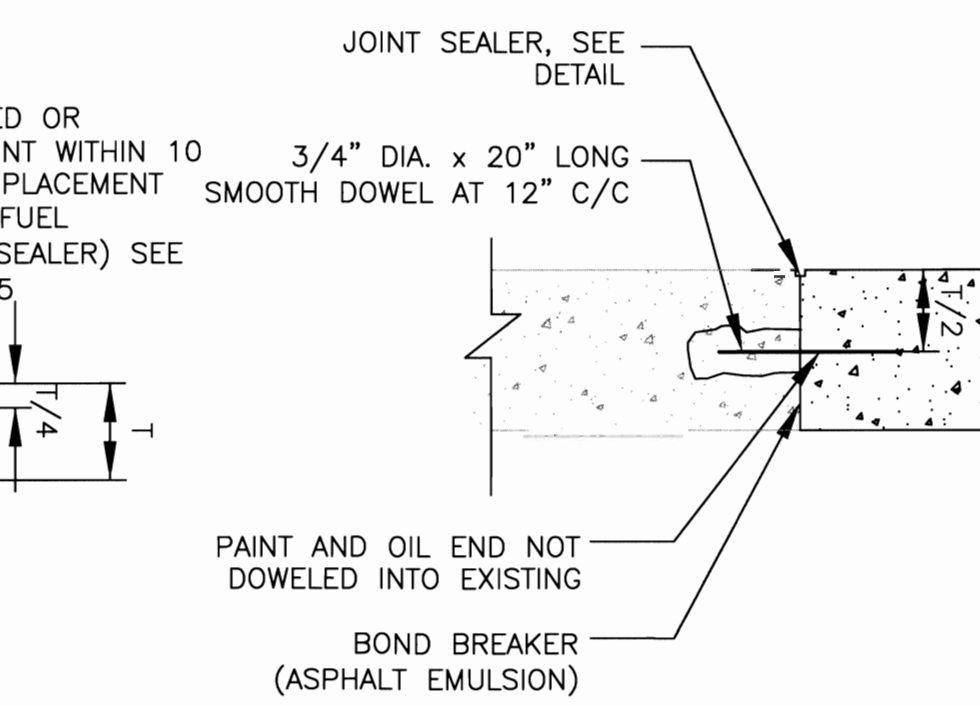
5 TRUCK AREA DETAIL
C-5/C-5
SCALE: 1" = 1'-0"



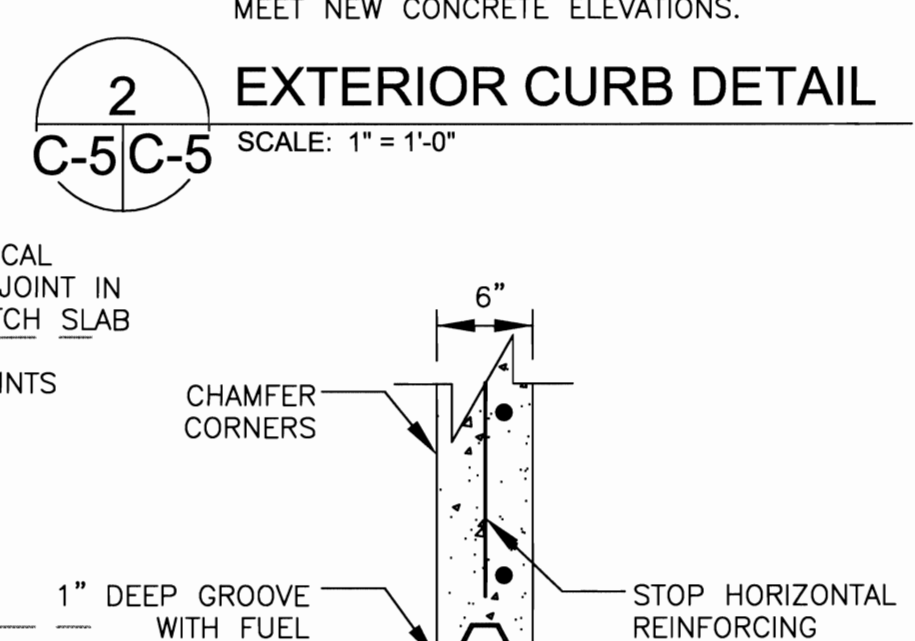
9 EXIST TO NEW DOWEL DETAIL
C-5/C-5
SCALE: 1" = 1'-0"



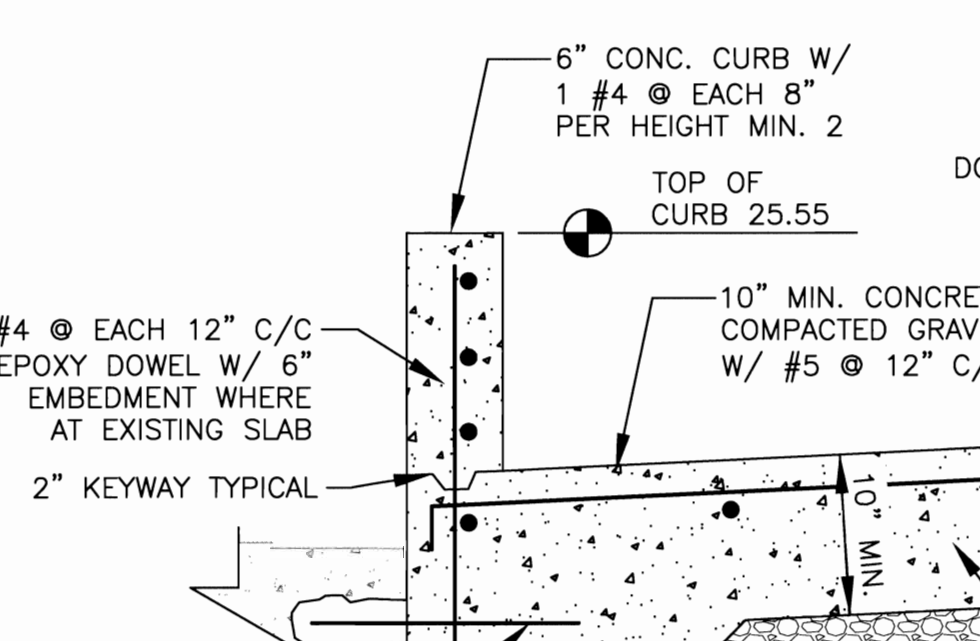
10 EXP. JOINT DETAIL
C-5/C-5
SCALE: 1" = 1'-0"



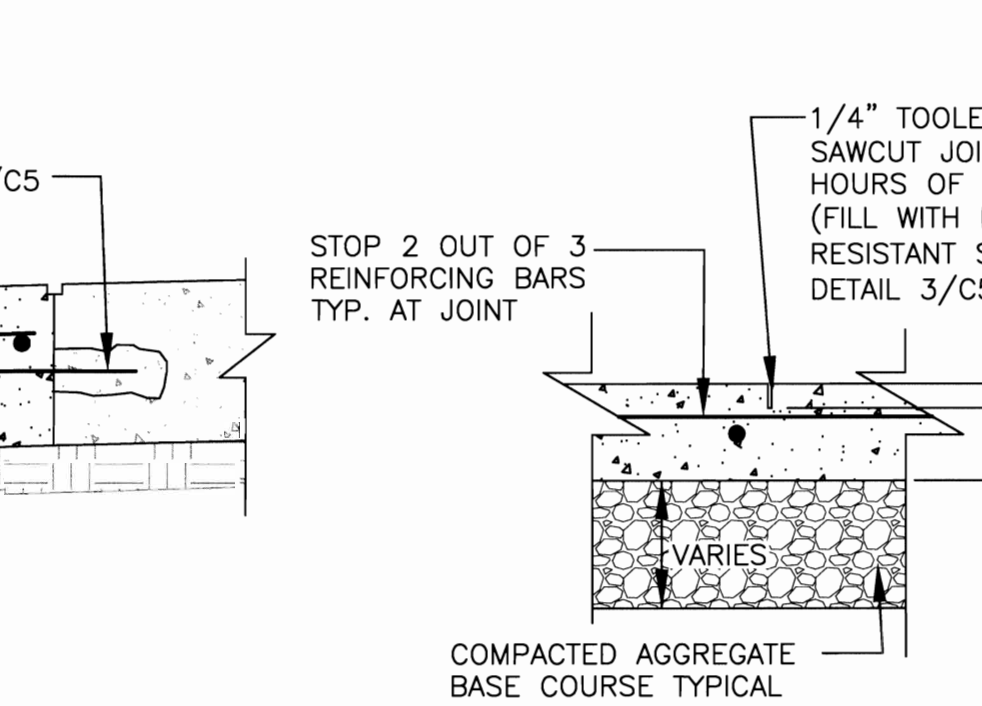
3 JOINT SEALER DETAIL
C-5/C-5
SCALE: NTS



6 RAMP TRANSITION DETAIL
C-5/C-5
SCALE: 1" = 1'-0"

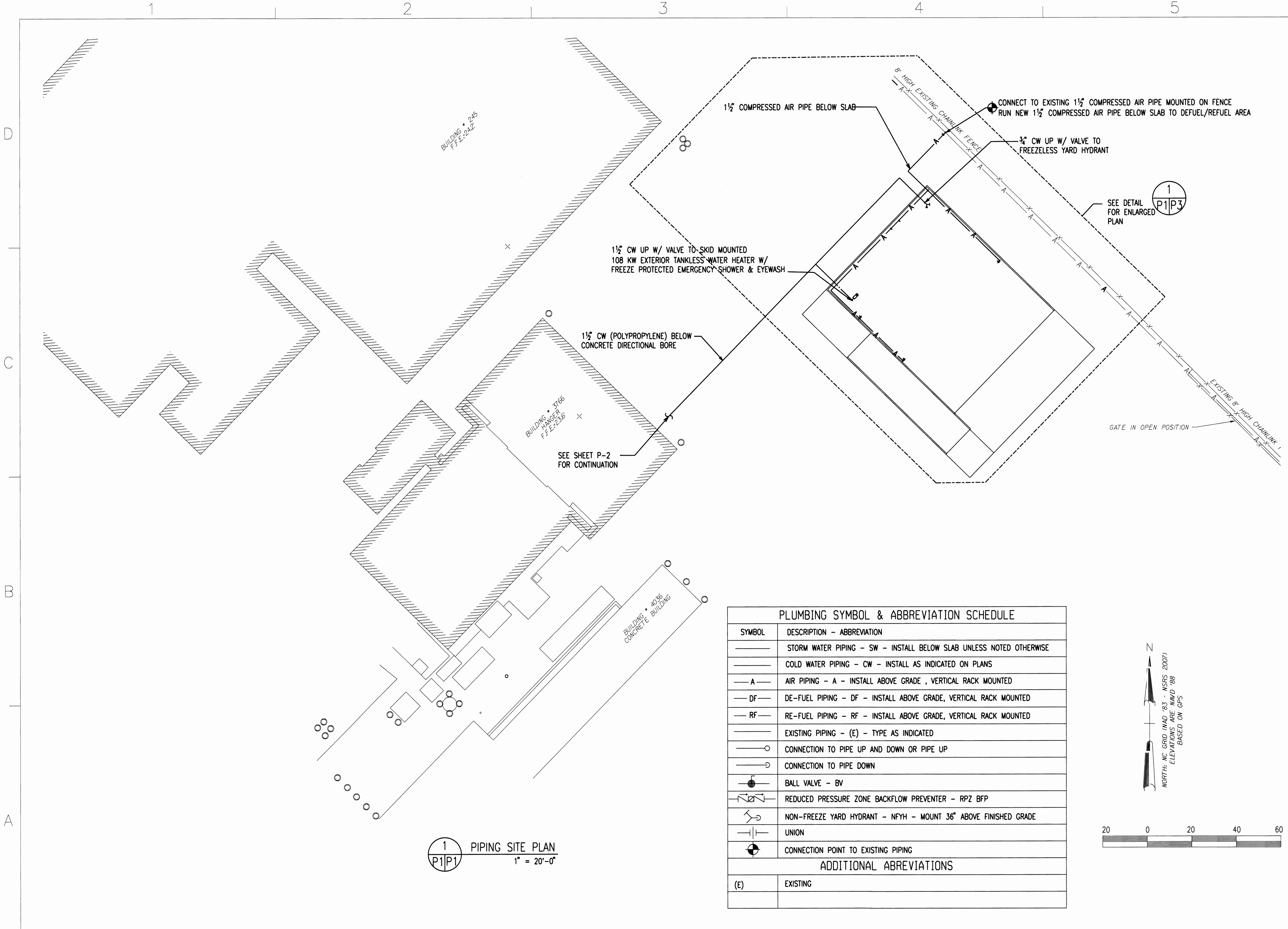


CONTRACTOR OPTION:
CURBS MAY BE CAST-IN-PLACE FIRST PRIOR TO POURING INTERIOR SLAB



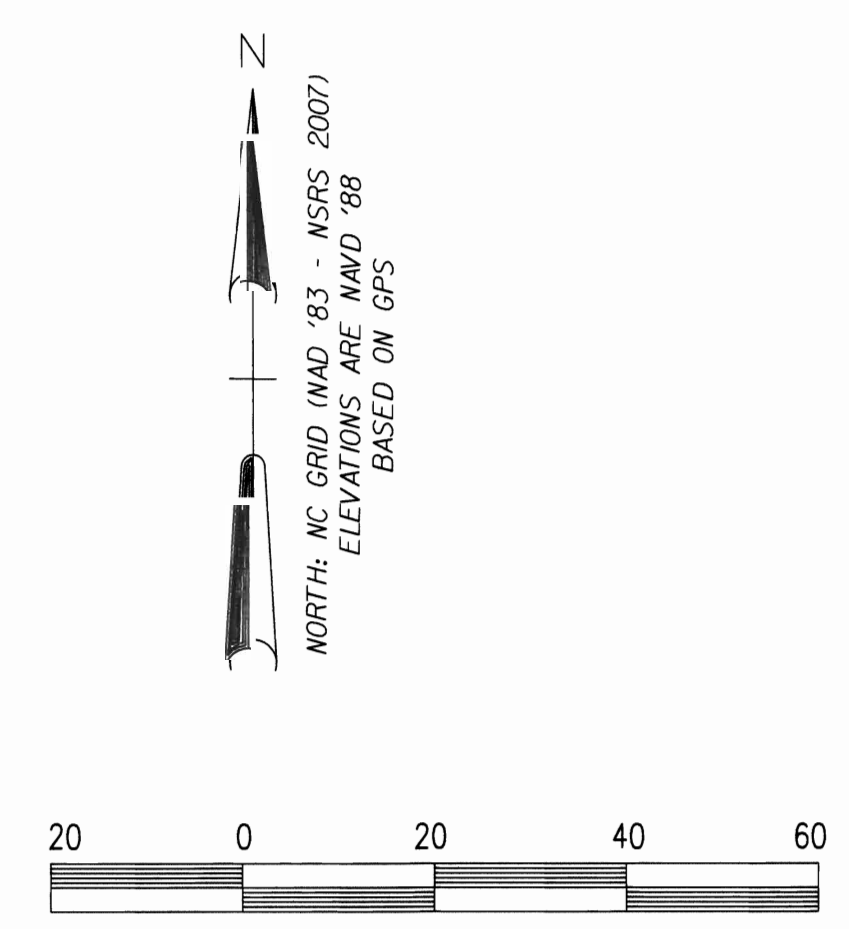
CONTRACTOR OPTION:
CURBS MAY BE CAST-IN-PLACE FIRST PRIOR TO POURING INTERIOR SLAB

DATE	APPROVED
DESCRIPTION	SYMBOL
GREENFELT & O'MARA CONSULTING ENGINEERS 1055 CENTERVIEW DR., SUITE 107 RALEIGH, NC 27606 (919) 851-1815 FAX (919) 851-8393	
APPROVED	DATE
ACTIVITY - SATISFACTORY TO	DATE
APPROVED	DATE
FOR EFD FOR COMMANDER NAVFAC	DATE
DATE	EFD
JSS	DESIGN
DRJ	DRAWN
JSS	REVIEW
RLD	QC
RLD	CHEF ARCH/ENGR
PROJECT MANAGER	RLD
FIRE PROTECTION	
BRANCH MANAGER	
DESIGN DIRECTOR	
NAVAL FACILITIES ENGINEERING COMMAND MARINE CORPS AIR STATION, CHERRY POINT, N.C. CONSTRUCT DEFUEL / REFUEL AREA, FRC EAST CIVIL DETAILS	
CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
FED. NO. 4998360	
STA. PROJ. NO. NF313-08	
SPEC. NO. 0000000	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12548875	
SHEET 7 OF 12	
C-5 <small>DRAWING REVISION AUGUST 2002</small>	



1 PIPING SITE PLAN
 P1|P1 1" = 20'-0"

PLUMBING SYMBOL & ABBREVIATION SCHEDULE	
SYMBOL	DESCRIPTION - ABBREVIATION
	STORM WATER PIPING - SW - INSTALL BELOW SLAB UNLESS NOTED OTHERWISE
	COLD WATER PIPING - CW - INSTALL AS INDICATED ON PLANS
	AIR PIPING - A - INSTALL ABOVE GRADE, VERTICAL RACK MOUNTED
	DE-FUEL PIPING - DF - INSTALL ABOVE GRADE, VERTICAL RACK MOUNTED
	RE-FUEL PIPING - RF - INSTALL ABOVE GRADE, VERTICAL RACK MOUNTED
	EXISTING PIPING - (E) - TYPE AS INDICATED
	CONNECTION TO PIPE UP AND DOWN OR PIPE UP
	CONNECTION TO PIPE DOWN
	BALL VALVE - BV
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER - RPZ BFP
	NON-FREEZE YARD HYDRANT - NFYH - MOUNT 36" ABOVE FINISHED GRADE
	UNION
	CONNECTION POINT TO EXISTING PIPING
ADDITIONAL ABBREVIATIONS	
(E)	EXISTING



	DATE
	APPR
	DESCRIPTION
	SYM

KB Engineering
 ASSOCIATES, INC.
 3310 Crossdale Drive
 Durham, North Carolina 27705
 P: 919-383-7769
 F: 919-383-5097
 E: www.kbenga.com

APPROVED	
ACTIVITY - SATISFACTORY TO	
DATE APPROVED	
FOR EFD FOR COMMANDER NAVFAC	
DATE	
A/E	EFD
DESIGN	
DRAWN	
REVIEW	
QC	
CHIEF ARCH/ ENGR	
PROJECT MANAGER	
FIRE PROTECTION	
BRANCH MANAGER	
DESIGN DIRECTOR	

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 MARINE CORPS AIR STATION, CHERRY POINT, N.C.

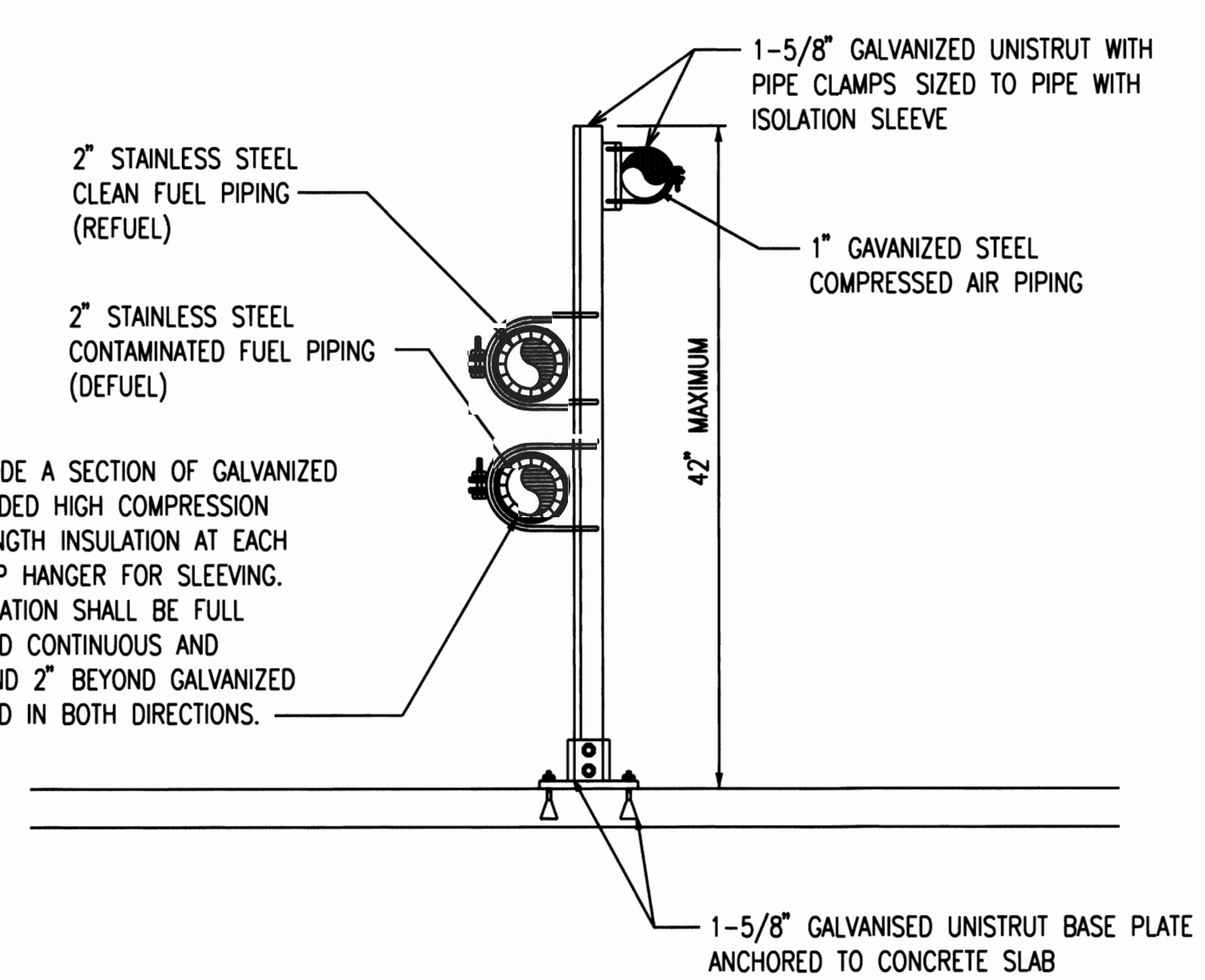
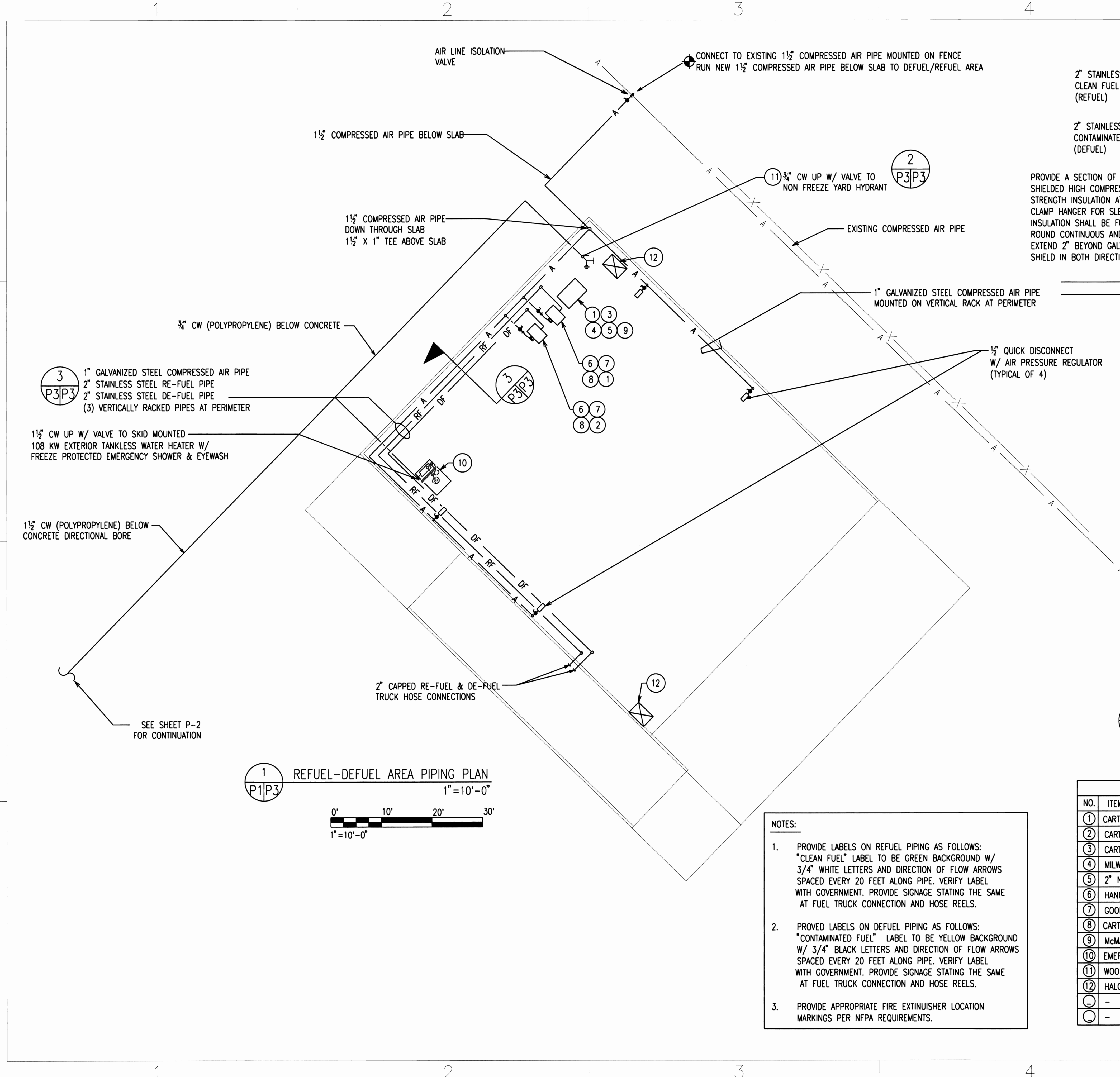
**CONSTRUCT DEFUEL / REFUEL AREA
 FRC EAST**

PIPING SITE PLAN

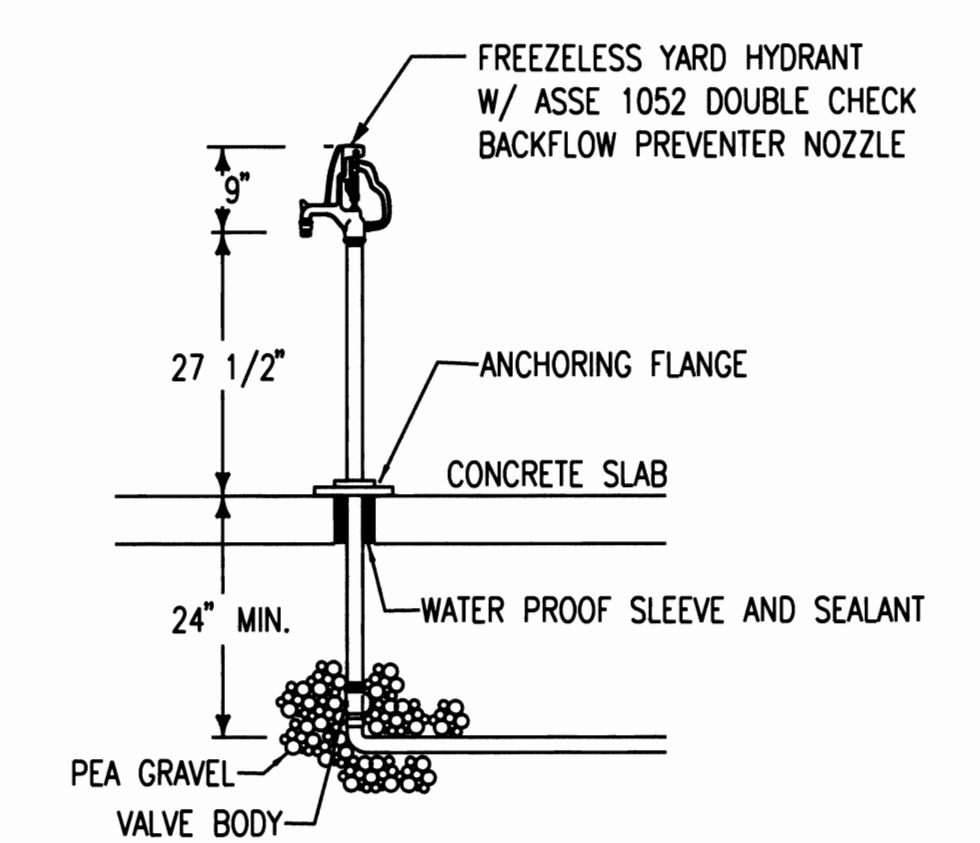
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SCALE: AS SHOWN	
FED. NO. 4998360	
STA. PROJ. NO. NF313-08	
SPEC. NO. 0000000	
CONSTR. CONTR. NO.	

NAVFAC DRAWING NO. 12548876
SHEET 8 OF 12
P-1

DRAWN/REVISION AUGUST 2002

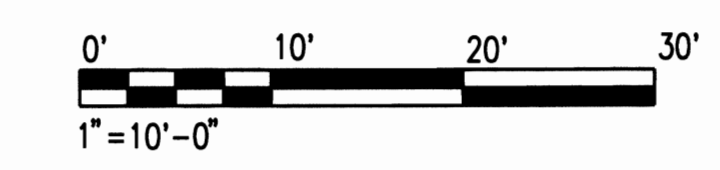


3
VERTICAL RACK PIPE SUPPORT DETAIL
NO SCALE



2
FREEZELESS YARD HYDRANT DETAIL
NO SCALE

1
REFUEL-DEFUEL AREA PIPING PLAN
1" = 10'-0"



- NOTES:**
- PROVIDE LABELS ON REFUEL PIPING AS FOLLOWS: "CLEAN FUEL" LABEL TO BE GREEN BACKGROUND W/ 3/4" WHITE LETTERS AND DIRECTION OF FLOW ARROWS SPACED EVERY 20 FEET ALONG PIPE. VERIFY LABEL WITH GOVERNMENT. PROVIDE SIGNAGE STATING THE SAME AT FUEL TRUCK CONNECTION AND HOSE REELS.
 - PROVIDE LABELS ON DEFUEL PIPING AS FOLLOWS: "CONTAMINATED FUEL" LABEL TO BE YELLOW BACKGROUND W/ 3/4" BLACK LETTERS AND DIRECTION OF FLOW ARROWS SPACED EVERY 20 FEET ALONG PIPE. VERIFY LABEL WITH GOVERNMENT. PROVIDE SIGNAGE STATING THE SAME AT FUEL TRUCK CONNECTION AND HOSE REELS.
 - PROVIDE APPROPRIATE FIRE EXTINGUISHER LOCATION MARKINGS PER NFPA REQUIREMENTS.

EQUIPMENT SCHEDULE			
NO.	ITEM DESCRIPTION	MODEL #	QTY
①	CARTER - D-1 UNDERWING FUEL NOZZLE W/ REGULATOR	64349B-F5-H6P	2
②	CARTER - D-1 UNDERWING DEFUEL NOZZLE	64349H6P	1
③	CARTER - D-1 UNDERWING DEFUEL NOZZLE	64349H6	1
④	MILWAUKEE VALVE OVERWING NOZZLE	P-2056	2
⑤	2" NPT THREADED MALE ADAPTER	47065	2
⑥	HANNAY AIR OPERATED HOSE REEL	A232-26-27-LT	2
⑦	GOODYEAR WINGCRAFT API-1529 HOSE	2" X 50' MM	2
⑧	CARTER - 2-1/2" NPT BOTTOM LOADING D-1 ADAPTER	6958ACG	2
⑨	McMASTER SAFETY CABINET (35"X35"X22")	4495T27	1
⑩	EMERGENCY SHOWER/EYEWASH/WATER HEATER STATION	KELTECH SN108KW	1
⑪	WOODFORD NON FREEZE YARD HYDRANTW/ ASSE 1052 BPF	Y34 W/ 50H	1
⑫	HALON 1211 WHEELED FIRE EXTINGUISHER	H3R AVIATION 600K	2
○	-	-	-
○	-	-	-

DATE: _____
DESCRIPTION: _____
SYM: _____

Knott Benson Engineering Associates, P.A.
3310 Crossdale Drive
Durham, North Carolina 27705
P: 919-383-7769
F: 919-383-5097
E: www.kbengs.com

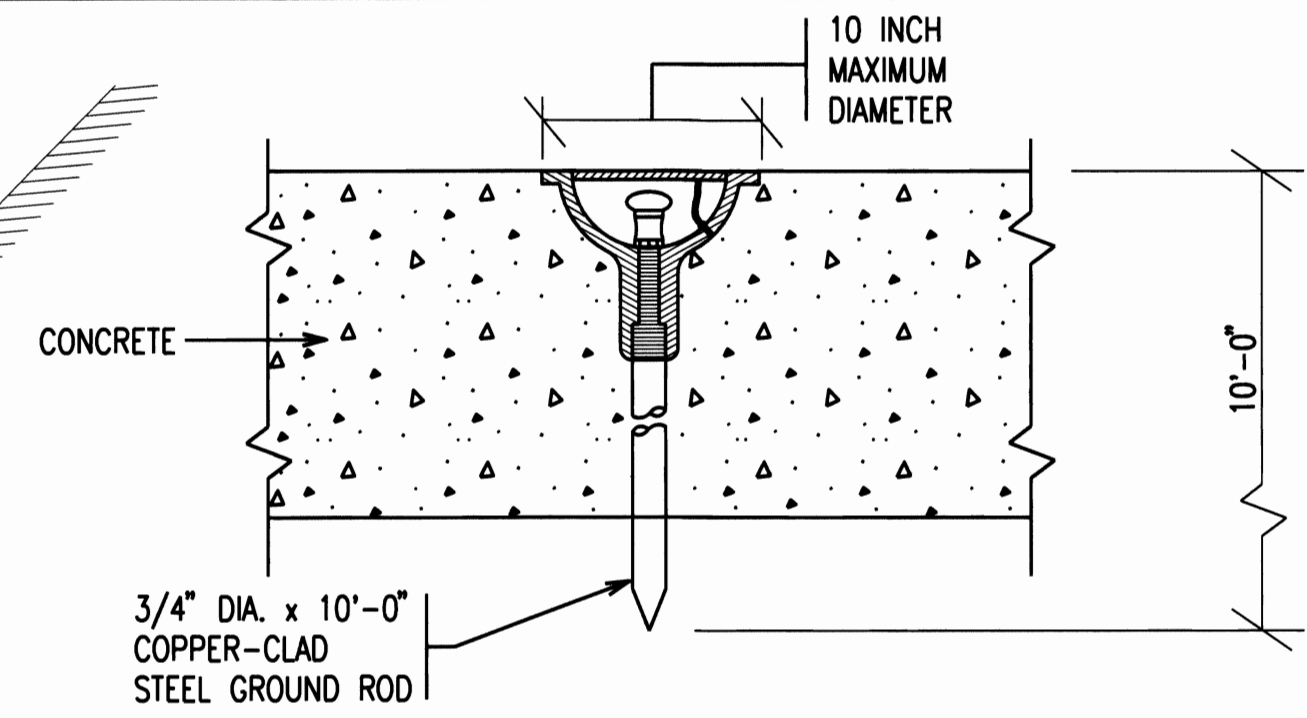
NORTH CAROLINA PROFESSIONAL ENGINEERING EXAMINATION
11190
28.11
JOHN DALE BENSON
SEAL

APPROVED: _____
ACTIVITY - SATISFACTORY TO: _____
DATE APPROVED: _____
FOR EFD FOR COMMANDER NAVFAC: _____
DATE: _____
A/E: _____ EFD: _____
DESIGN: _____
DRAWN: _____
REVIEW: _____
QC: _____
CHIEF ARCH/ ENGR: _____
PROJECT MANAGER: _____
FIRE PROTECTION: _____
BRANCH MANAGER: _____
DESIGN DIRECTOR: _____

NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
CONSTRUCT DEFUEL / REFUEL AREA
FRC EAST
PIPING SCHEDULES AND DETAILS

CODE ID. NO. 80091 SIZE D
SCALE: AS SHOWN
FED. NO. 4998360
STA. PROJ. NO. NF313-08
SPEC. NO. 0000000
CONSTR. CONTR. NO. _____

NAVFAC DRAWING NO. **12548878**
SHEET **10** OF 12
P-3
DRAWN/REVISION AUGUST 2002
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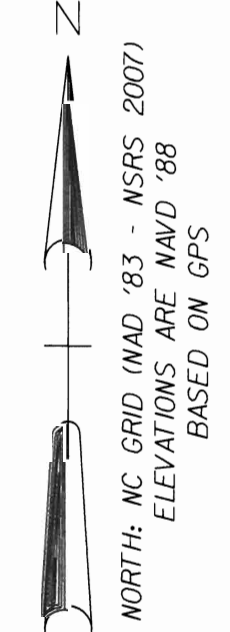
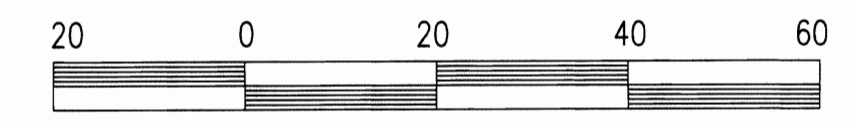
2 **GROUNDING POINT DETAIL**
E1|E1 NTS

1. GROUNDING RECEPTACLE: HOUSING & COVER - CAST BRONZE CONTACT PIN - BRASS, REMOVABLE
2. VERIFY GROUND RESISTANCE SHALL BE LESS THAN 10,000 OHMS.
3. LOCATE AS DIRECTED BY THE GOVERNMENT (4 REQ'D.)

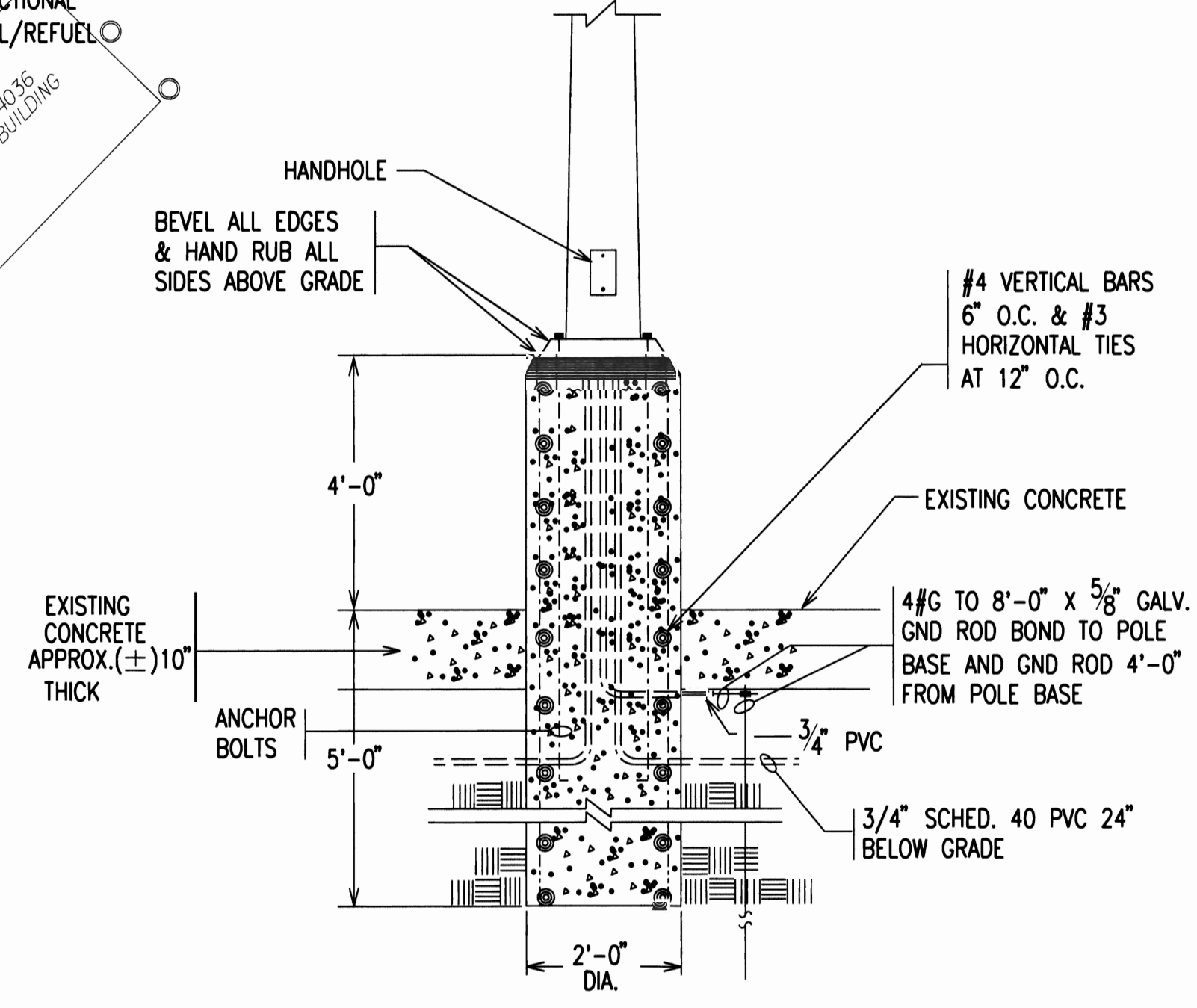
- LEGEND**
- CIRCUIT RUN IN CONDUIT UNDERGROUND
 - 120 VOLT HOMERUN
 - 208 VOLT HOMERUN
 - POLE MOUNTED LIGHT FIXTURE
 - ⊠ WATERPROOF FIRE ALARM PULL STATION
 - ⊠ WP WATERPROOF PHONE CAST JUNCTION BOX
 - ⊠ MM FIRE ALARM MONITURE MODULE
 - ⊠ JUNCTION BOX
 - ⊠ WP WATERPROOF WHILE IN USE NEMA 5-20R DUPLEX GFCI RECEPTACLE.
 - ⊠ HEAVY DUTY 30 AMP, 240 VOLT, 2-POLE NON-FUSED DISCONNECT SWITCH, NEMA-3R ENCLOSURE. MOUNT WITH ANGLE IRON BRACKET

- NOTES**
1. EXISTING MOTOR CONTROL CENTER, REPLACE EXISTING NEMA SIZE 1 SPARE STARTER WITH 150 AMP, 3-POLE CIRCUIT BREAKER.
 2. INSTALL 20 AMP, 2-POLE CIRCUIT BREAKER IN EXISTING SPACES FOR POLE LIGHTS. INSTALL 2-20 AMP, 1-POLE CIRCUIT BREAKERS FOR RECEPTACLE CIRCUITS. UPDATE PANEL DIRECTORY.
 3. TURN UP CONDUIT WITH RCS INSIDE EYE WASH. PROVIDE SEAL-OFF FITTING.
 4. PROVIDE 1/4" ANGLE IRON FOR PULL STATION AND PHONE JB MOUNTING.

1 **ELECTRICAL SITE PLAN**
E1|E1 SCALE: 1" = 20'-0"

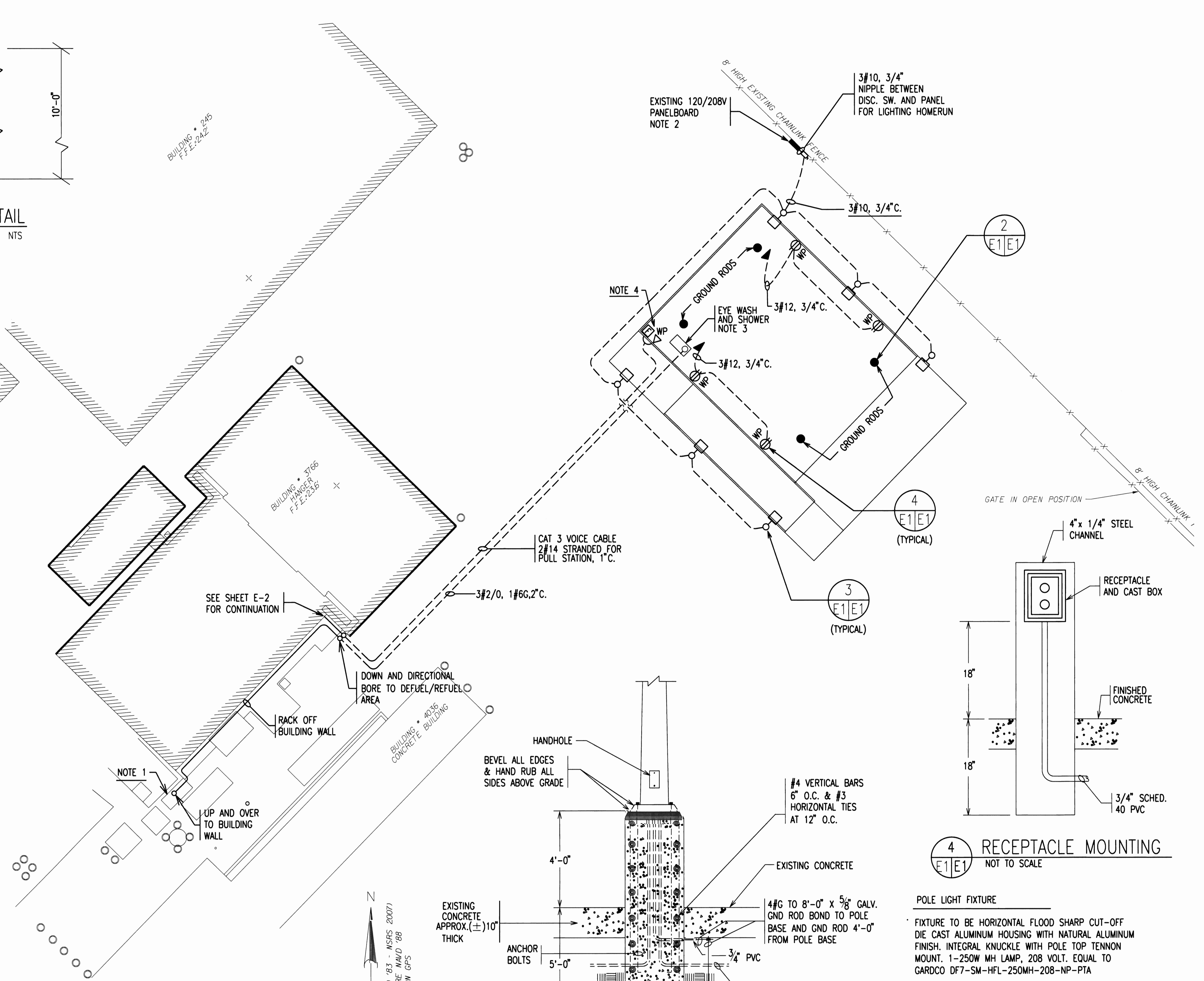


3 **TYPICAL SITE POLE BASE DETAIL**
E1|E1 NOT TO SCALE



4 **RECEPTACLE MOUNTING**
E1|E1 NOT TO SCALE

- POLE LIGHT FIXTURE**
- FIXTURE TO BE HORIZONTAL FLOOD SHARP CUT-OFF DIE CAST ALUMINUM HOUSING WITH NATURAL ALUMINUM FINISH. INTEGRAL KNUCKLE WITH POLE TOP TENNON MOUNT. 1-250W MH LAMP, 208 VOLT. EQUAL TO GARDCO DF7-SM-HFL-250MH-208-NP-PTA
 - POLE TO BE STRAIGHT ROUND ALUMINUM POLE WITH BRUSHED ALUMINUM FINISH, 25 FEET TALL WITH 2 3/8" POLE TOP TENNON. PROVIDE ANCHOR BOLT COVERS. EQUAL TO GARDCO/EMCO RA4.5-CB-20-T2-NA.

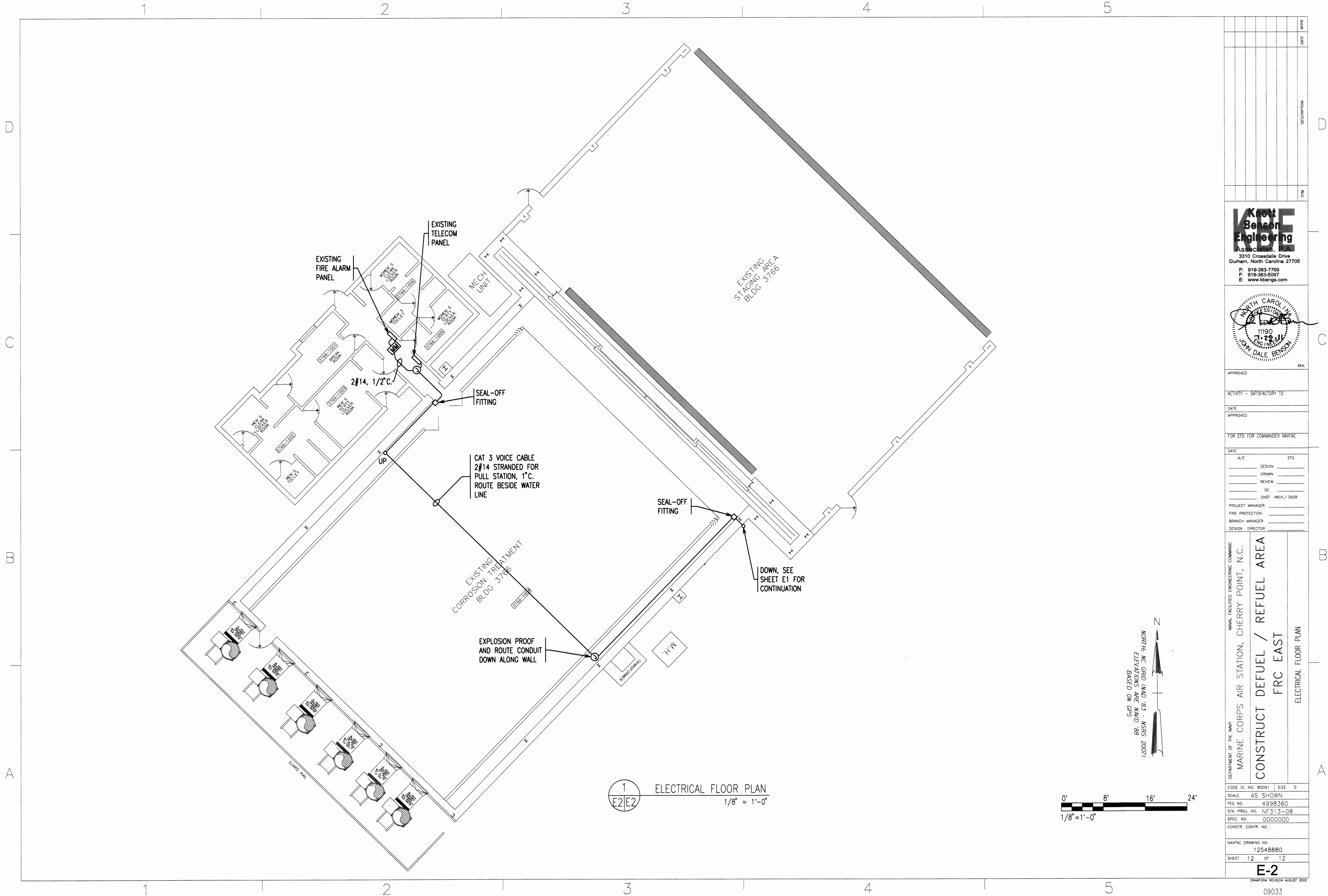


APPROVED	DATE	APPR
ACTIVITY - SATISFACTORY TO	DATE	APPROVED
FOR EFD FOR COMMANDER NAVFAC	DATE	A/E
DESIGN	DESIGN	EFD
DRAWN	DRAWN	
REVIEW	REVIEW	
QC	QC	
CHIEF ARCH/ ENGR	CHIEF ARCH/ ENGR	
PROJECT MANAGER	PROJECT MANAGER	
FIRE PROTECTION	FIRE PROTECTION	
BRANCH MANAGER	BRANCH MANAGER	
DESIGN DIRECTOR	DESIGN DIRECTOR	

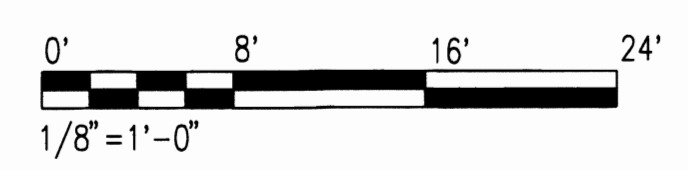
NAV FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
**CONSTRUCT DEFUEL / REFUEL AREA
FRC EAST**
ELECTRICAL SITE PLAN

CODE ID. NO. 80091 SIZE D
SCALE: AS SHOWN
FED. PROJ. NO. 4998360
STA. PROJ. NO. NF313-08
SPEC. NO. 0000000
CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12548879
SHEET 11 OF 12
E-1
DRAWING REVISION AUGUST 2002



1 ELECTRICAL FLOOR PLAN
E2/E2 1/8" = 1'-0"



N
NORTH: NC GRID (NAD '83 - NRS 2007)
ELEVATIONS ARE NAD '88
BASED ON GPS

DATE	APPR
DESCRIPTION	
SYM	

KBENG
Benson
Engineering
Associates, Inc.

3310 Crossdale Drive
Durham, North Carolina 27705
P: 919-383-7705
F: 919-383-5087
E: www.kbengs.com

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DALE BENSON
11190
1-25-11
ENGINEER
NORTH CAROLINA

APPROVED

ACTIVITY - SATISFACTORY TO

DATE APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE	A/E	EFD
	DESIGN	
	DRAWN	
	REVIEW	
	QC	
	CHIEF ARCH / ENGR.	

PROJECT MANAGER
FIRE PROTECTION
BRANCH MANAGER
DESIGN DIRECTOR

NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.

**CONSTRUCT DEFUEL / REFUEL AREA
FRC EAST**

ELECTRICAL FLOOR PLAN

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STA. PROJ. NO. NF 313-08	
SPEC. NO. 0000000	
CONSTR. CONTR. NO.	

NAVFAC DRAWING NO. 12548880
SHEET 12 OF 12

E-2
DRAWING REVISION AUGUST 2002

09033