



McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT

KAY IVEY, GOVERNOR OF ALABAMA
JOHN C. DRISCOLL, DIRECTOR



JUNE 2022

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REFERENCE DRAWINGS:

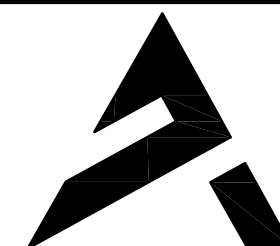
ASPA REFERENCE DRAWINGS



**ALABAMA
PORT AUTHORITY**
PORT OF MOBILE

ASPA PROJECT NO: 11094 – TASK 2

ASPA DRAWING NO.



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McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT

TITLE SHEET & DRAWING INDEX

FOR: ALABAMA PORT AUTHORITY

PROJECT NO: 4536A

DWG NO: G1

REV: A

GENERAL NOTES:

1. THE CONTRACTOR IS TO FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS PRIOR TO CONSTRUCTION AND FABRICATION.
2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING STRUCTURES AND ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL UTILITY LINES DURING CONSTRUCTION. IF THE UTILITY LINES ARE DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL MAKE NECESSARY REPAIRS TO THE ACCEPTANCE OF THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
4. CONSTRUCTION METHODS, PROCEDURES AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL TAKE ALL THE NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.
5. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY CALLED FOR ON THE DRAWINGS.
6. CONTRACTOR IS REQUIRED TO USE "BEST MANAGEMENT PRACTICES" COMPLIANT WITH THE "ALABAMA HANDBOOK FOR EROSION CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS.: ALABAMA SOIL AND WATER CONSERVATION COMMITTEE, MONTGOMERY, ALABAMA, MOST CURRENT EDITION, TO PREVENT THE DIVERSION OF SEDIMENT LADEN STORM WATER RUNOFF OR ERODED MATERIALS FROM LEAVING THE CONSTRUCTION SITE.
7. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE OTHER WORK OCCURRING ON OR IN THE PROXIMITY OF THE SITE.

DESIGN CODES & STANDARDS:

AISC MANUAL OF STEEL CONSTRUCTION, 9TH EDITION
AMERICAN WELDING SOCIETY (AWS D1.1)

SURVEY NOTES:

1. SITE SURVEY PERFORMED BY LAWLER AND COMPANY, INC. SURVEY COMPLETED MAY 13, 2022.
2. 150 FOOT GRID BASED ON ALABAMA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NAD 83 (ORIGINAL ADJUSTMENT) ESTABLISHED ON SITE USING RTK GPS REFERENCING ASPA CONTROL MONUMENTATION ESTABLISHED BY THIS FIRM.
3. ONE FOOT CONTOUR INTERVAL BASED ON MLLW, 1929 REFERENCING ASPA CONTROL MONUMENTATION ESTABLISHED BY THIS FIRM.
4. TO CONVERT MLLW TO NAVD 1988, SUBTRACT 0.41' FROM MLLW.

STEEL PILE NOTES (TYPICAL):

1. PIPE PILES SHALL CONFORM TO ASTM A252 GRADE 3 (50 ksi).
SHEET PILES SHALL CONFORM TO ASTM A572, GRADE 60.
2. STEEL PILING SHALL BE COATED BOTH SIDES WHERE INDICATED. COATING TYPE AND DIMENSIONS SHALL BE AS SPECIFIED.
3. CONTRACTOR SHALL MONITOR DIMENSIONS OF BULKHEAD WALLS DURING INSTALLATION AND MODIFY TIE IN CONNECTIONS ACCORDINGLY.
4. PILE ALIGNMENT:

IN ADDITION TO PILE DRIVING TEMPLATES, IT IS THE CONTRACTORS COMPLETE RESPONSIBILITY TO MAINTAIN THE PROPER ALIGNMENT OF PILES UNTIL ENCASED IN CONCRETE.
5. THERE SHALL BE A MINIMUM OF 4 LINEAR INCHES OF 3/16" WELD AT TOP OF SHEET AT EACH SHEET PILE INTERLOCK ON BOTH SIDES OF THE SHEET.

CONCRETE GENERAL NOTES:

MATERIALS

1. ALL CAST-IN-PLACE CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
2. REINFORCING BARS SHALL BE DEFORMED AND SHALL CONFORM TO ASTM A615, GRADE 60.
3. EMBEDDED STEEL MATERIAL SHALL CONFORM TO ASTM A36. ALL EMBEDDED STEEL ITEMS WILL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A-123 AND ASTM A-143 UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING THE TESTING LABORATORY.

CONSTRUCTION METHODS

1. COORDINATE CONCRETE WORK WITH OTHER REQUIRED WORK PRIOR TO PLACING CONCRETE. ANY DISCREPANCIES BETWEEN THE DETAILS INDICATED ON THE DRAWINGS AND THE ACTUAL REQUIRED INTERFACE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. ANY REWORK REQUIRED DUE TO INADEQUATE COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. EXPOSED EDGES OF CONCRETE SHALL HAVE A 1" CHAMFER.
3. CONCRETE COVER FOR REINFORCING IN CAST-IN-PLACE CONCRETE WORK SHALL BE AS FOLLOWS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DETAIL DRAWINGS:

– CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO THE EARTH – 3 INCHES

– CONCRETE EXPOSED TO WEATHER – 3 INCHES
4. SPLICES IN REINFORCING BARS SHALL BE CLASS "B" SPLICES AS DEFINED BY ACI 318 UNLESS NOTED OTHERWISE ON THE DRAWING.
5. CONCRETE FLOOR SLABS, DOCK SURFACE, ROADWAYS AND AREA PAVING SHALL HAVE A BROOM FINISH. VERTICAL WALLS SHALL HAVE A RUBBED FINISH.
6. AT LOCATIONS WHERE NEW CONCRETE IS TO BE PLACED AGAINST PREVIOUSLY HARDENED CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEAN AND FREE OF LAITANCE AND ROUGHENED TO A FULL AMPLITUDE OF APPROXIMATELY ¼ INCH. PRIOR TO PLACING THE NEW CONCRETE, AN EPOXY BONDING AGENT SHALL BE APPLIED TO THE CLEAN, ROUGHENED SURFACE. EPOXY BONDING AGENT SHALL BE "SIKADUR HI MOD 32" OR APPROVED EQUAL.

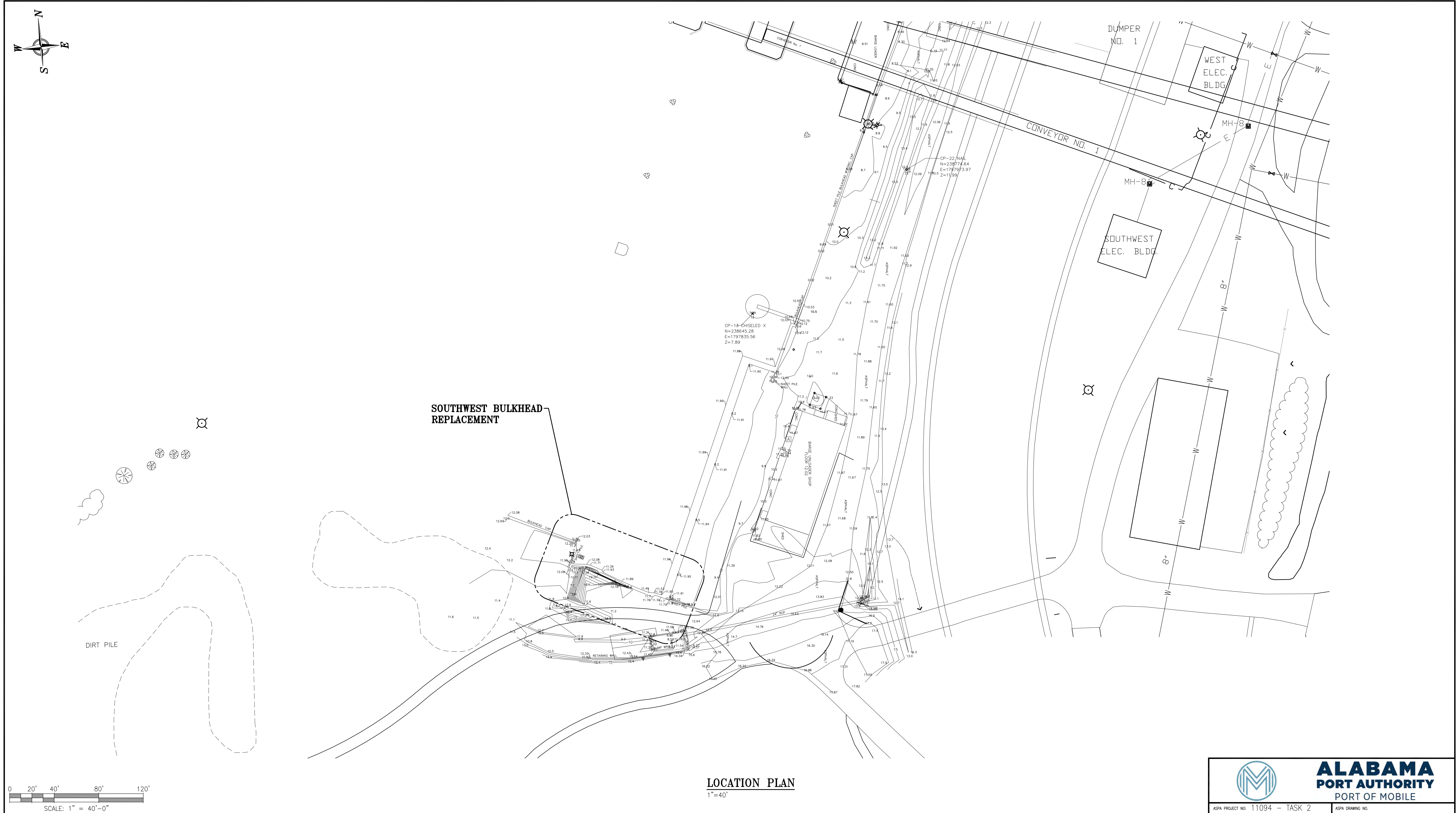
SOILS COMPACTION NOTES:

1. SELECT SAND USED TO BACKFILL BETWEEN THE TWO WALLS SHOULD CONSIST OF A LOCALLY AVAILABLE PIT MATERIAL DEFINED AS A MEDIUM TO COARSE SAND CONTAINING LESS THAN 90 PERCENT PASSING THE NO. 40 SIEVE AND LESS THAN 10 PERCENT PASSING THE NO. 200 SIEVE, BY WEIGHT. ONCE THE SAND BACKFILL BETWEEN THE TWO WALLS IS ABOVE THE WATER TABLE, IT SHOULD BE PLACED IN UNIFORM LIFTS, 12 INCHES LOOSE MEASUREMENT COMPACTED AS MUCH AS PRACTICABLE USING MANUAL COMPACTION METHODS.
2. STRUCTURAL BACKFILL AND FILL SHOULD CONSIST OF A LOCALLY AVAILABLE PIT MATERIAL CONTAINING LESS THAN 20 PERCENT PASSING THE NO. 200 SIEVE, BY WEIGHT. MATERIALS EXCAVATED, IF FREE OF DEBRIS, DELETERIOUS MATERIAL OR EXCESSIVE MOISTURE CAN BE USED AS BACKFILL AND FILL. IT SHOULD BE PLACED IN UNIFORM LIFTS, 12 INCHES LOOSE MEASUREMENT, AND EACH LAYER UNIFORMLY AND THOROUGHLY COMPACTED TO 95 PERCENT OF ITS MAXIMUM DRY DENSITY WITHIN ±2 PERCENT OF ITS OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557 (MODIFIED PROCTOR). COMPACTION SHOULD BE ACHIEVED USING SMALL, MANUALLY OPERATED COMPACTING EQUIPMENT. LARGE ROLLERS WILL NOT BE USED.
3. IN-PLACE DENSITY TESTS, AT LEAST ONE PER LIFT, SHOULD BE PERFORMED DURING CONSTRUCTION TO INSURE THAT PROPER COMPACTION IS BEING ACHIEVED. CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING THE TESTING LABORATORY.

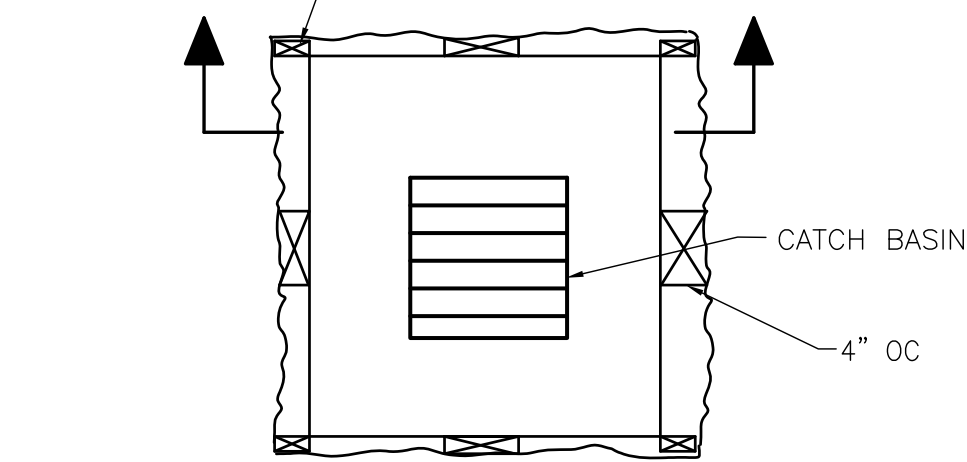
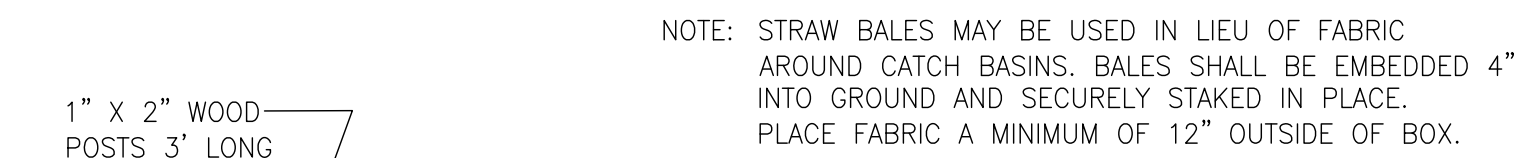
DESIGN CRITERIA:

SURCHARGE ON SHEET PILE WALL = 300 PSF

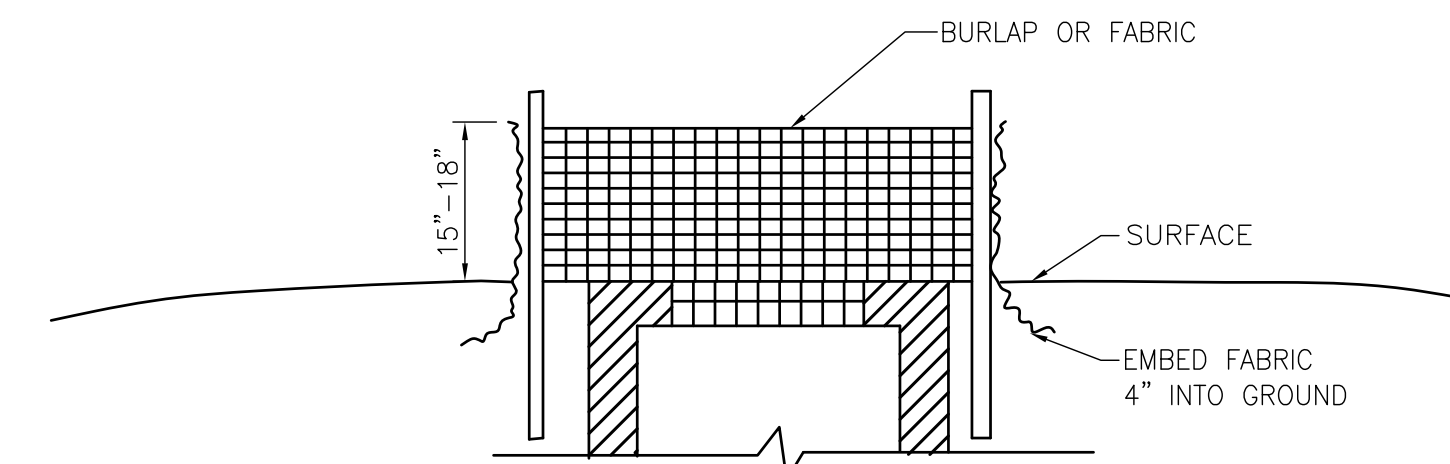
DESIGN DREDGE DEPTH = (-)15.0' MLLW


$$1'' = 40'$$

H:\Project Folders\M4500\4536A - ASPA - Barge Cleanout Station Bulkhead Replacement\Cad Files\CURRENT\4536A - G3 REV A.dwg By: joseph.henderson Printed: Fri 24-Jun-2022 - 03:51PM



PLAN



SECTION

FABRIC DROP INLET PROTECTION

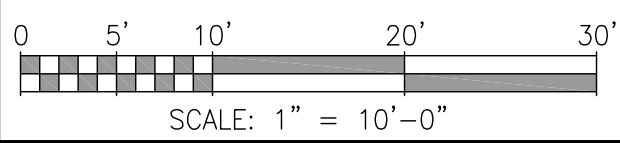
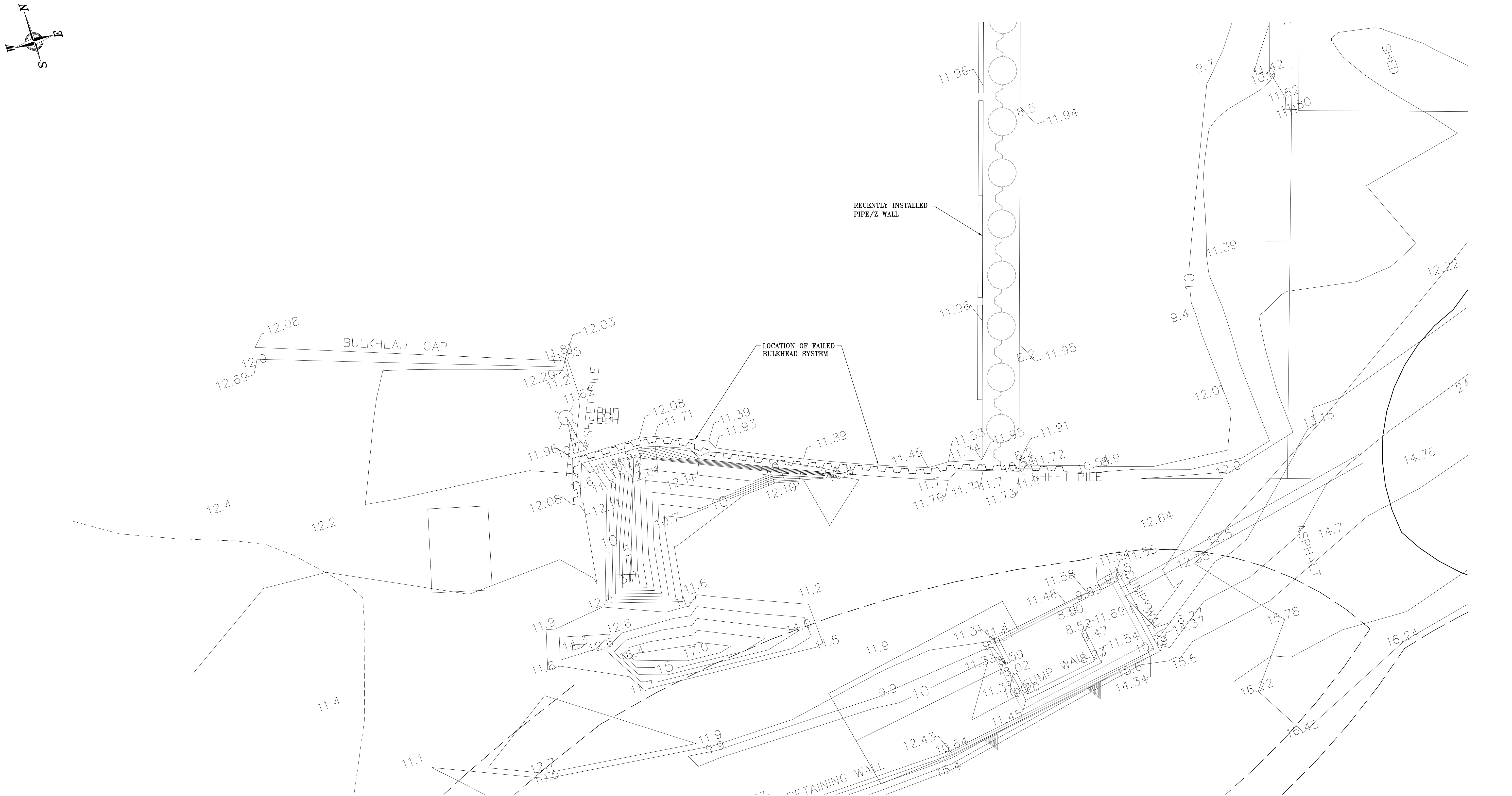
SILT FENCE TYPE DETAIL (TYP)




1. SILT FENCES AND HAY BALES SHALL BE IN PLACE BEFORE ANY OTHER WORK IS PERFORMED.
2. SILT FENCES SHALL BE MAINTAINED AT ALL TIMES UNTIL PROJECT IS ACCEPTED.
3. SILT FENCES ARE TEMPORARY EROSION CONTROL ITEMS, THAT SHALL BE ERECTED OPPOSITE ERODABLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO THE SLIP.
4. SILT FENCE SHOULD BE PLACED AS REQUIRED OR AS DIRECTED BY THE ENGINEERS.
5. WHENEVER POSSIBLE SILT FENCES SHALL BE CONSTRUCTED ACROSS A FLAT AREA IN THE SHAPE OF A HORSESHOE, THIS AIDS IN PONDING OF RUNOFF AND FACILITATES SEDIMENTATION.
6. AFTER THE CONSTRUCTION AREA IS STABILIZED AND EROSION ACTIVITY CURTAILED, SILT FENCES SHALL BE REMOVED.
7. ALL COLLECTION BOXES, STORM DRAINS, OR OTHER ENTRANCES TO STORMWATER SYSTEM SHALL HAVE EROSION CONTROL MEASURES IN PLACE ANYTIME EXPOSED EARTH IS ADJACENT TO THE INLET.
8. ALL EROSION CONTROL FEATURES SHALL BE INSPECTED DAILY AND ANY REQUIRED REPAIRS MADE IMMEDIATELY.

TEMPORARY SEDIMENT BARRIER

[illegible]



ENLARGED EXISTING SITE PLAN
1"=10'



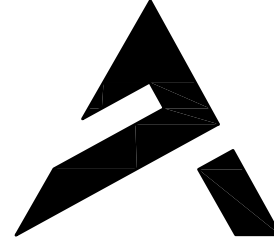
ALABAMA
PORT AUTHORITY
PORT OF MOBILE

ASPA PROJECT NO: 11094 – TASK 2

ASPA DRAWING NO.

NOTES	

	A	ISSUED FOR BID		JLH	MED	RSG	06-24-22		
REFERENCE DRAWINGS	NO.	REVISION		DRAWN	CK'D	APPD	DATE		



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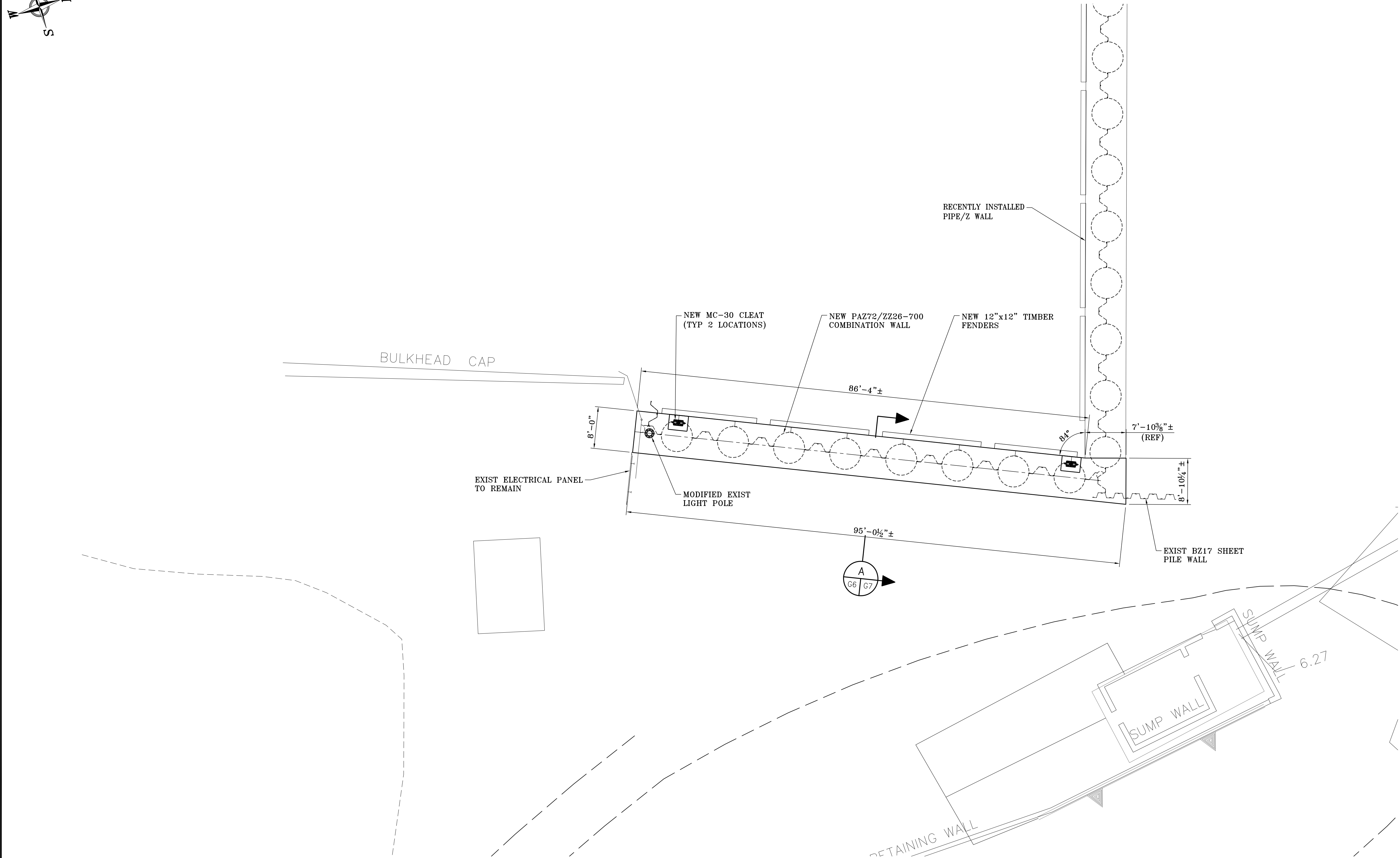
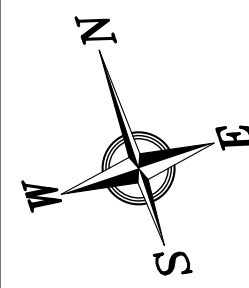
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APPD: RSG

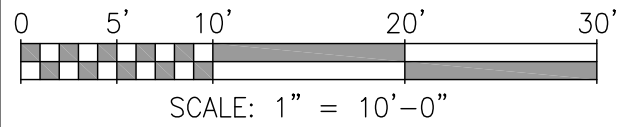
DATE: 04-27-22

SCALE: AS NOTED

McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT	
ENLARGED EXISTING SITE PLAN	
FOR: ALABAMA PORT AUTHORITY	
PROJECT NO: 4536A	DWG NO: G5
REV: A	



NEW SITE PLAN
1"=10'



ALABAMA
PORT AUTHORITY
PORT OF MOBILE

ASPA PROJECT NO: 11094 – TASK 2

ASPA DRAWING NO.

McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT

NEW SITE PLAN

FOR: ALABAMA PORT AUTHORITY

PROJECT NO: 4536A

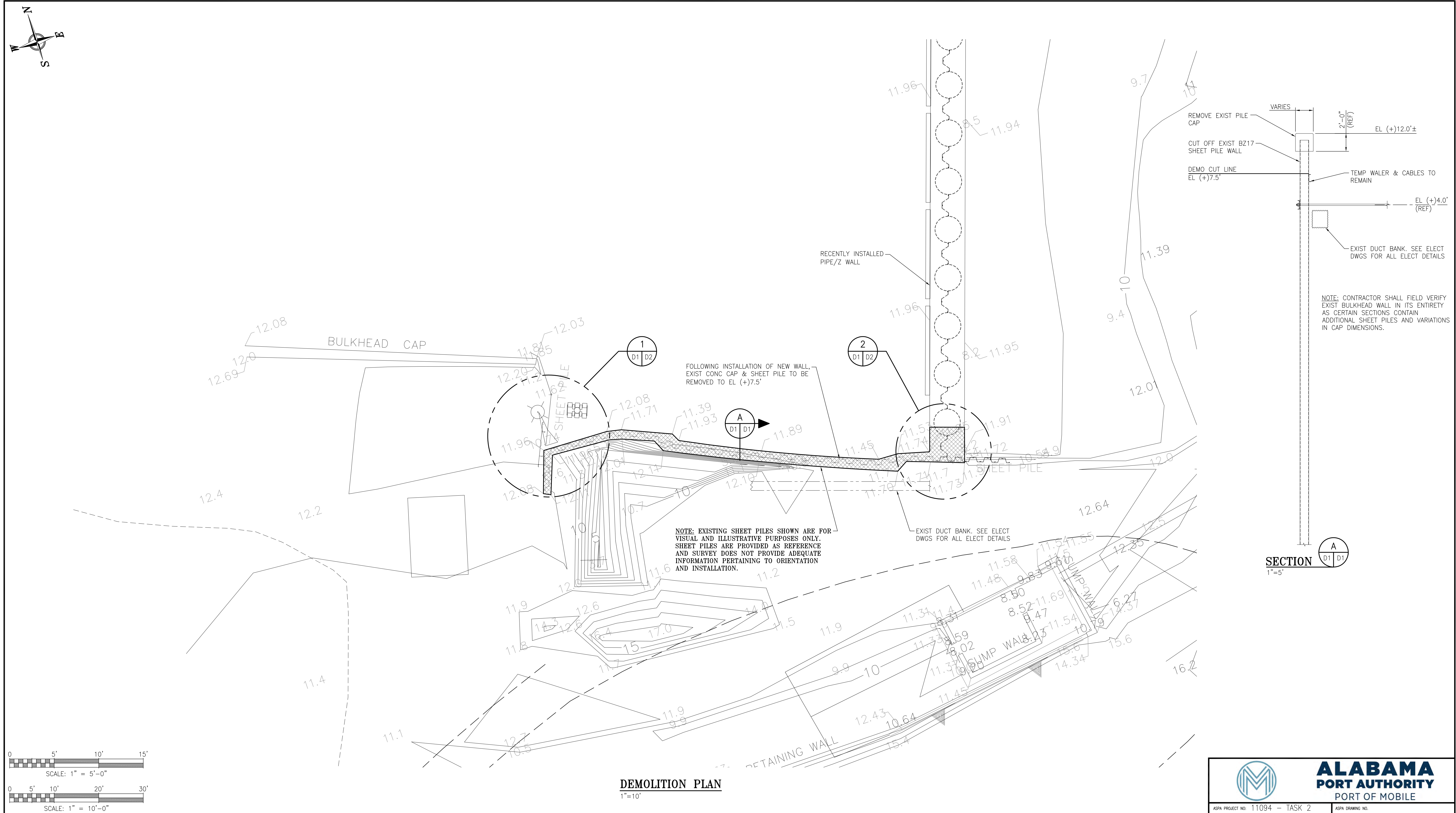
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DRAWN: JLH CK'D: MED APPD: RSG DATE: 05-12-22 SCALE: AS NOTED


$$1'' = 10'$$

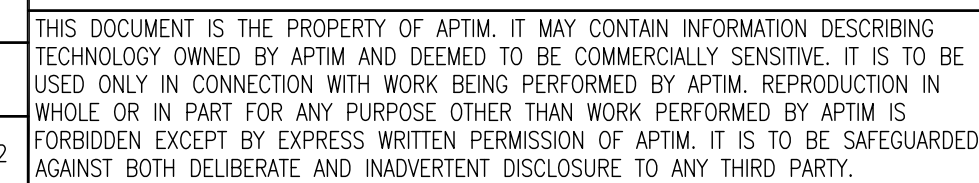
ALABAMA
PORT AUTHORITY
PORT OF MOBILE


ASPA DRAWING NO.

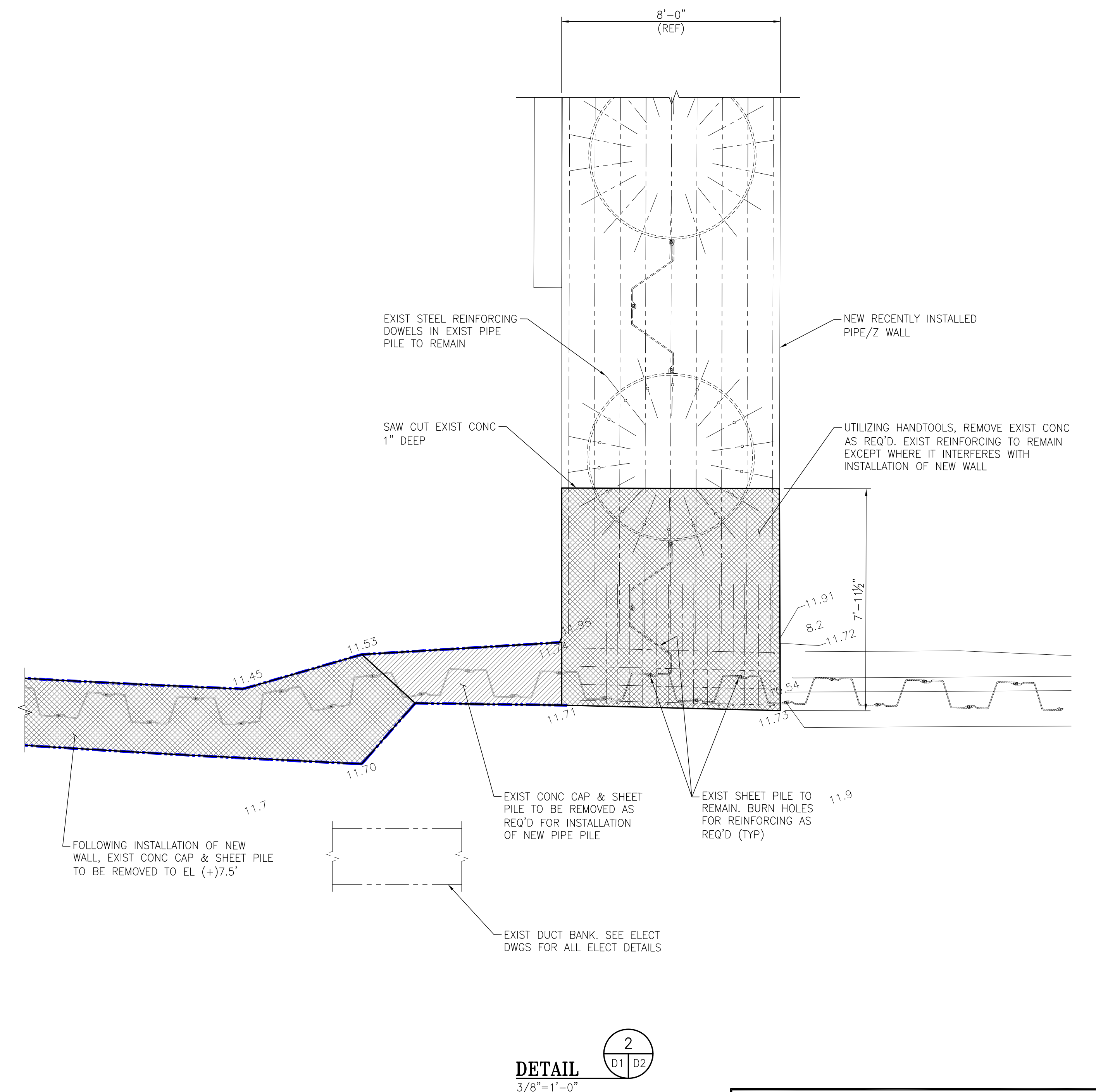
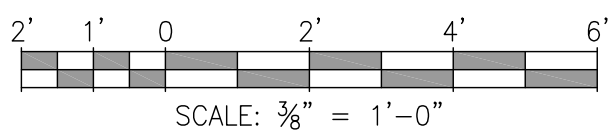
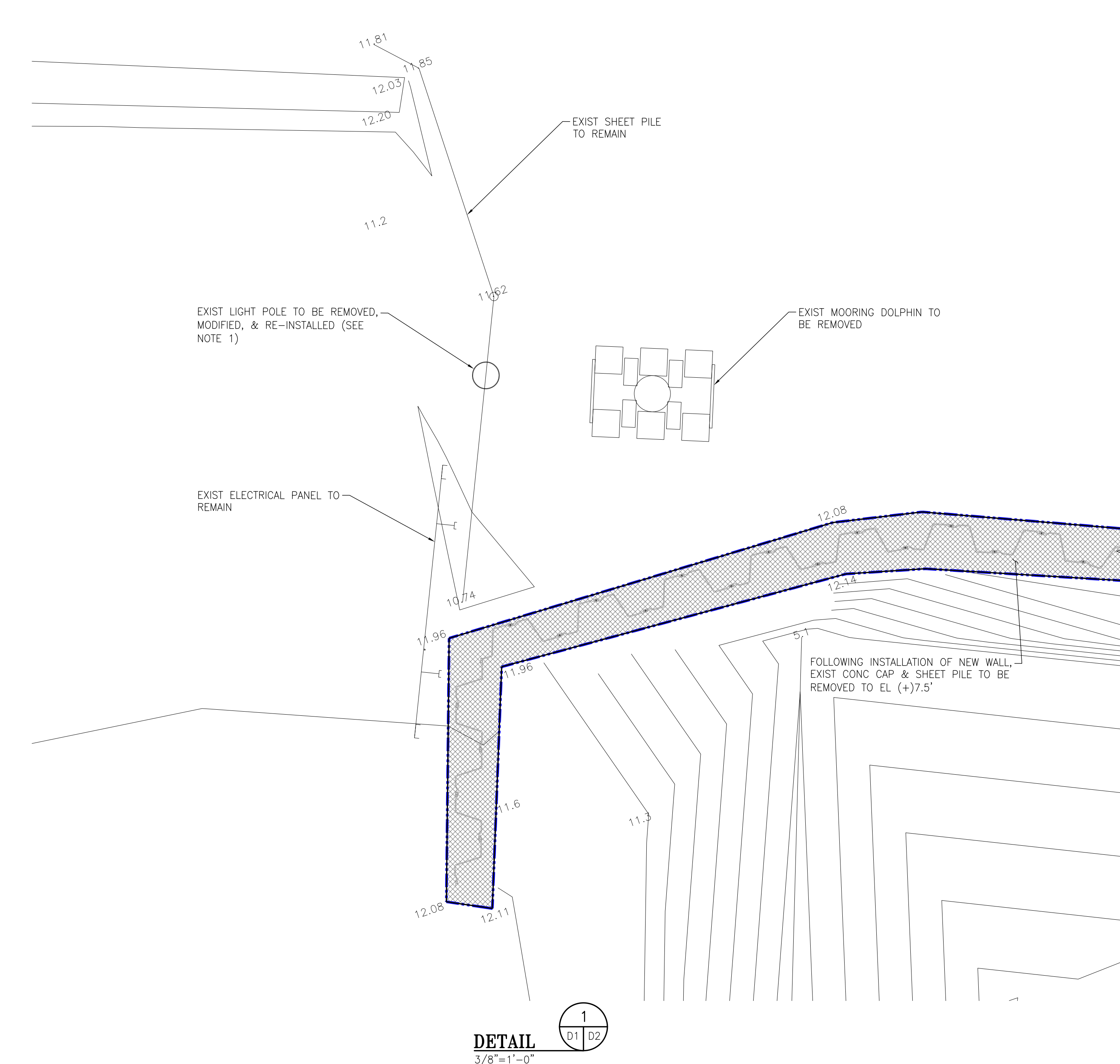
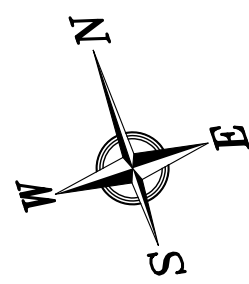
DEMOLITION PLAN & SECTION

DWG NO: D1

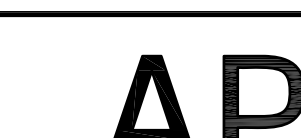
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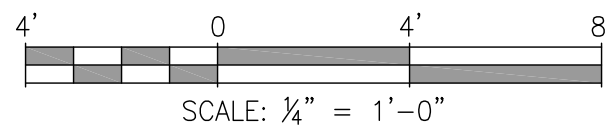
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									McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT							
									DEMOLITION PHOTOS							
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1. PIPE PILE = 72"Ø x.813 PIPE: T.O. PILES = EL (+)9.0'
AND IS 88 FT. IN LENGTH.
2. SHEET PILE = ZZ26-700: T.O. PILES = EL (+)9.0'
AND IS 60 FT. IN LENGTH.



NEW BULKHEAD PLAN

$$1/4'' = 1' - 0''$$


ASPA PROJECT NO: 11094 - TASK 2

ASPA DRAWING NO.

McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT

NEW BULKHEAD PLAN

FOR: ALABAMA PORT AUTHORITY


PROJECT NO: 4536A

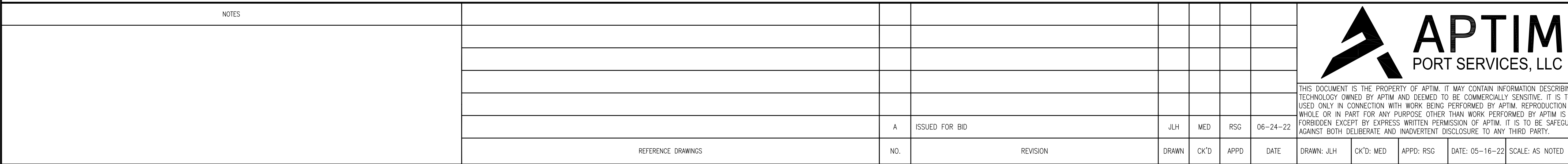
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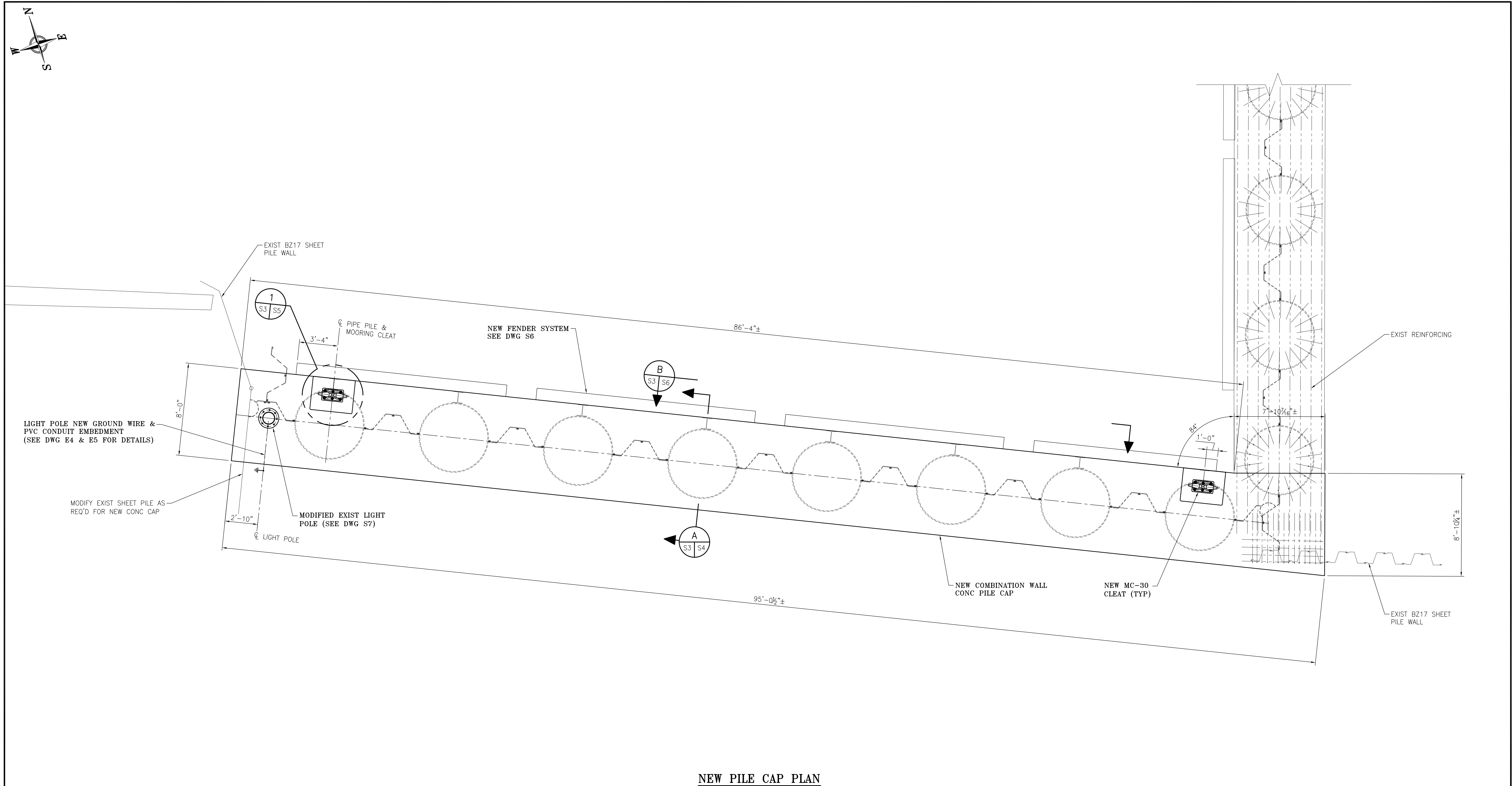
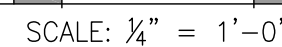
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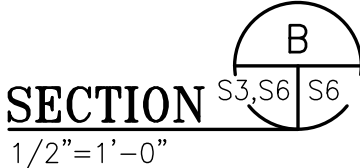
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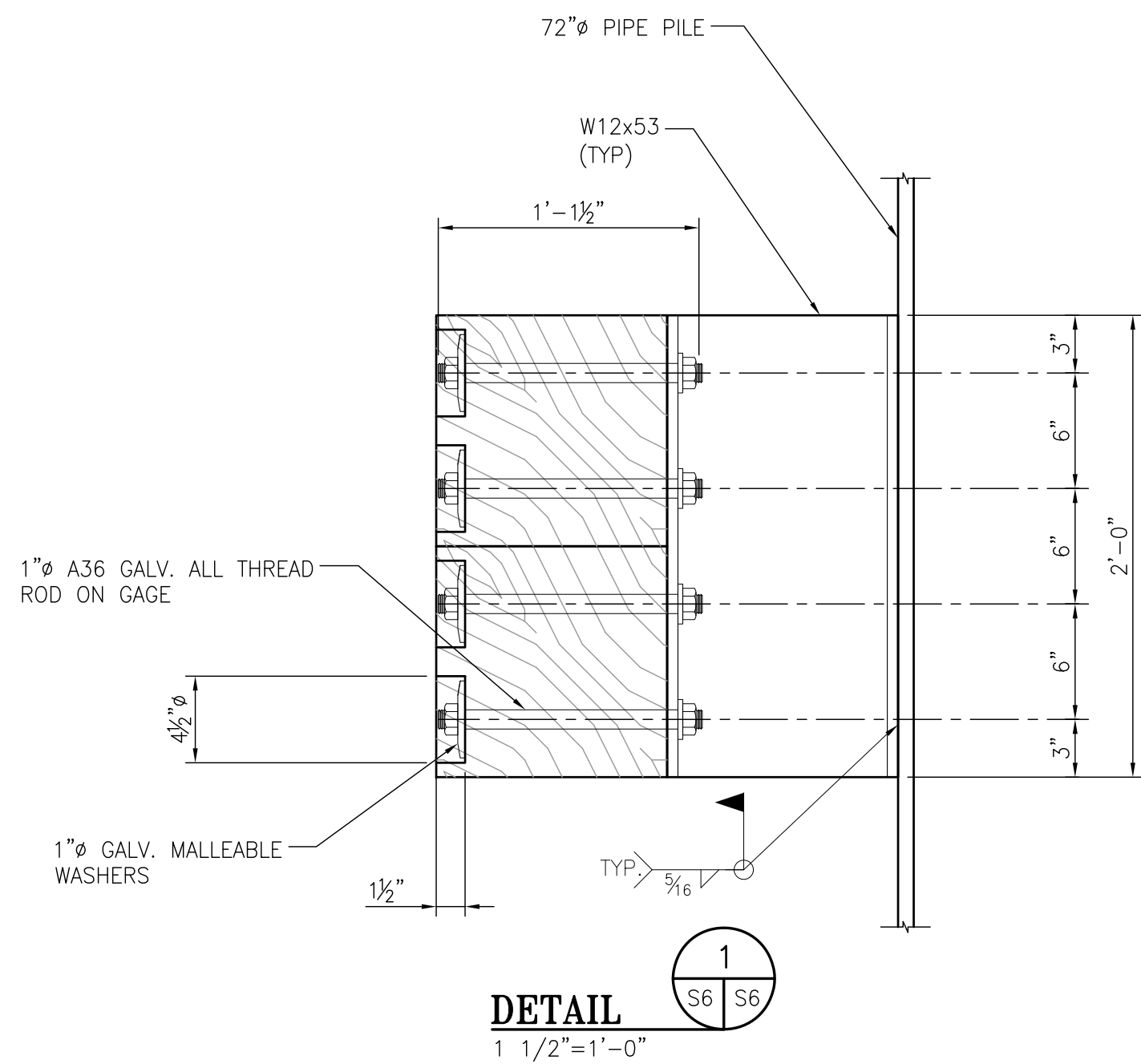
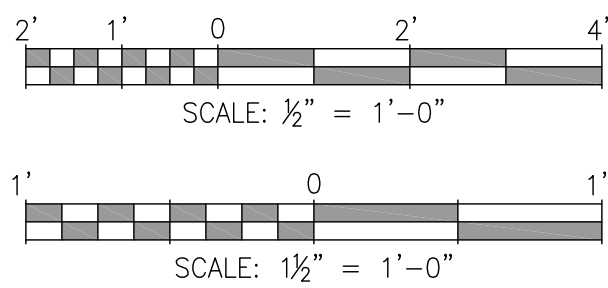

$$1/4'' = 1' - 0''$$



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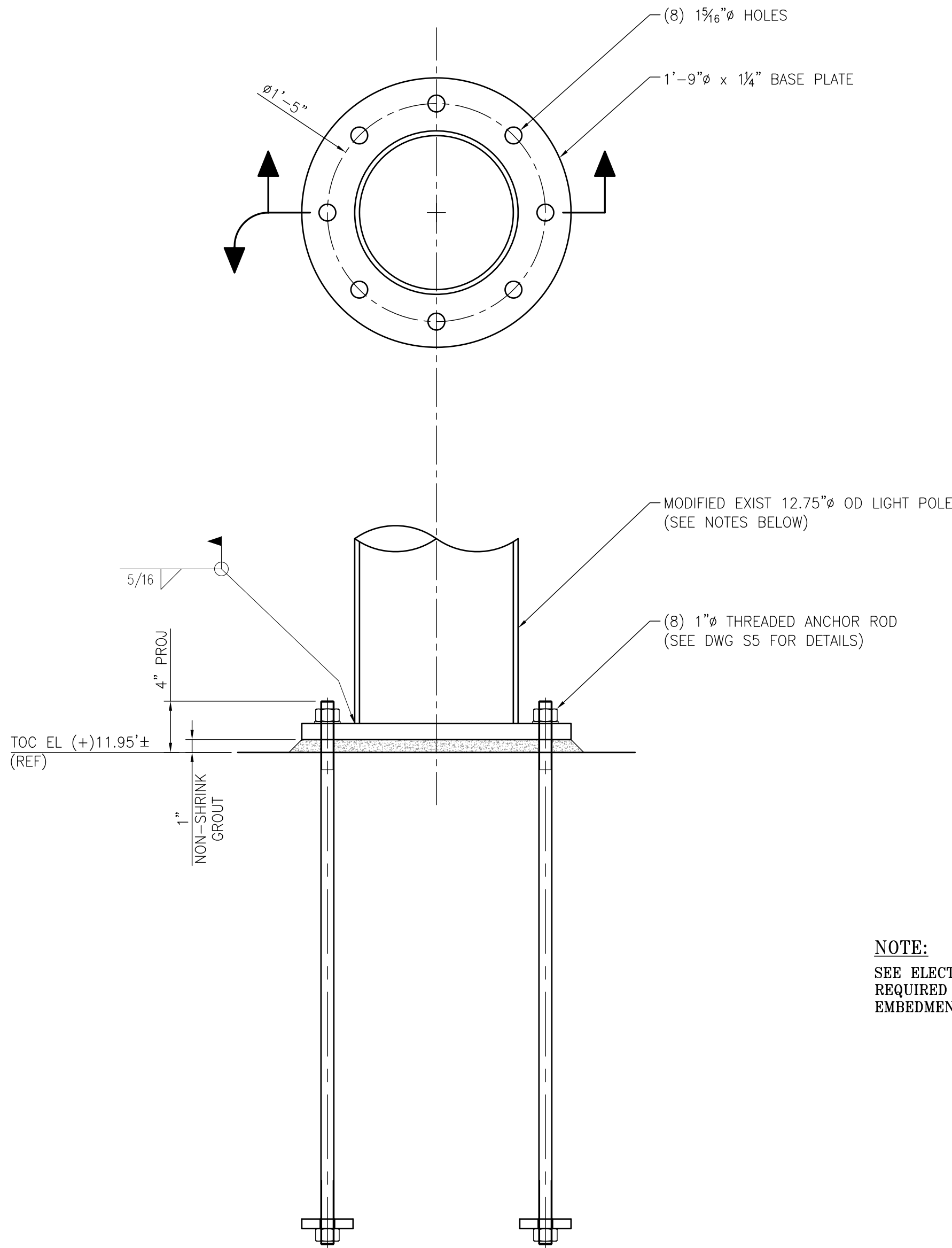


1. GENERAL. ALL TIMBERS SHALL BE ACCURATELY CUT TO LENGTH AND DRILLED. ALL EXPOSED CORNERS SHALL BE CHAMFERED 1"x1". TIMBERS ATTACH TO THE STRUCTURE WITH 1" DIAMETER ALL THREAD AND MALLEABLE IRON WASHERS IN COUNTERSUNK HOLES. HOLES FOR ALL THREAD SHALL BE 1 1/8" DIAMETER.



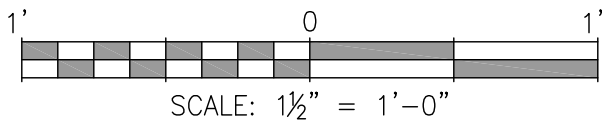
NOTES									<div><p>APTIM PORT SERVICES, LLC</p></div> <div>THIS DOCUMENT IS THE PROPERTY OF APTIM. IT MAY CONTAIN INFORMATION DESCRIBING TECHNOLOGY OWNED BY APTIM AND DEEMED TO BE COMMERCIALY SENSITIVE. IT IS TO BE USED ONLY IN CONNECTION WITH WORK BEING PERFORMED BY APTIM. REPRODUCTION IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN WORK PERFORMED BY APTIM IS FORBIDDEN EXCEPT BY EXPRESS WRITTEN PERMISSION OF APTIM. IT IS TO BE SAFEGUARDED AGAINST BOTH DELIBERATE AND INADVERTENT DISCLOSURE TO ANY THIRD PARTY.</div>		
1. DAMAGED COATING SYSTEMS RESULTING FROM INSTALLATION OF THE FENDER SYSTEM SHALL BE REPAIRED AS SPECIFIED.											
		A	ISSUED FOR BID		JLH	MED	RSG	06-24-22			
REFERENCE DRAWINGS	NO.	REVISION	DRAWN	CK'D	APPD	DATE	DRAWN: JLH	CK'D: MED	APPD: RSG	DATE: 05-19-22	SCALE: AS NOTED


 <div style="display: inline-block; vertical-align: middle; text-align: center;"> ALABAMA PORT AUTHORITY PORT OF MOBILE </div>			
ASPA PROJECT NO: 11094 – TASK 2		ASPA DRAWING NO.	
<u>McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT</u>			
<u>FENDER SYSTEM DETAILS & SECTIONS</u>			
FOR: ALABAMA PORT AUTHORITY			
PROJECT NO: 4536A		DWG NO: S6	REV: A




NOTE:
SEE ELECTRICAL DRAWINGS E4 AND E5 FOR
REQUIRED GROUNDING WIRE AND PVC CONDUIT
EMBEDMENT IN CONCRETE CAP.

LIGHT POLE MODIFICATIONS
1-1/2"=1'-0"



NOTES								<div><p>APTIM PORT SERVICES, LLC</p><p><small>THIS DOCUMENT IS THE PROPERTY OF APTIM. IT MAY CONTAIN INFORMATION DESCRIBING TECHNOLOGY OWNED BY APTIM AND DEEMED TO BE COMMERCIALY SENSITIVE. IT IS TO BE USED ONLY IN CONNECTION WITH WORK BEING PERFORMED BY APTIM. REPRODUCTION IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN WORK PERFORMED BY APTIM IS FORBIDDEN EXCEPT BY EXPRESS WRITTEN PERMISSION OF APTIM. IT IS TO BE SAFEGUARDED AGAINST BOTH DELIBERATE AND INADVERTENT DISCLOSURE TO ANY THIRD PARTY.</small></p></div>			
1. CONTRACTOR SHALL USE THE TOP OF CONCRETE LOCATION ON LIGHT POLE THAT WAS MARKED DURING DEMO AS THE CUT POINT FOR INSTALLATION OF BASE PLATE.											
2. LIGHT POLE MODIFICATION SHALL USE SAME ANCHOR BOLTS SPECIFIED FOR THE MOORING CLEATS SHOWN ON DWG S5.											
3. PRIOR TO POURING CONCRETE, CONTRACTOR SHALL DETERMINE ANY CAP REINFORCING ADJUSTMENTS REQUIRED TO AVOID INTERFERENCES WITH THE LIGHT POLE ANCHOR BOLTS AND GROUND WIRE CONDUIT EMBEDMENT.											
	A	ISSUED FOR BID		JLH	MED	RSG	06-24-22				
REFERENCE DRAWINGS	NO.	REVISION		DRAWN	CK'D	APPD	DATE				



**ALABAMA
PORT AUTHORITY**
PORT OF MOBILE

ASPA PROJECT NO: 11094 – TASK 2ASPA DRAWING NO.

McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT

LIGHT POLE MODIFICATION DETAILS & SECTIONS

FOR: ALABAMA PORT AUTHORITY

PROJECT NO: 4536ADWG NO: S7REV: A

GENERAL NOTES:

1. SEE DWG. 4536A-G1 FOR THE ELECTRICAL DRAWING INDEX.
2. ALL WORK AND WIRING SHALL COMPLY WITH OR EXCEED ALL NATIONAL ELECTRICAL CODE REQUIREMENTS AND ALL CODE REQUIREMENTS OF THE STATE, CITY AND LOCAL ELECTRIC CODES.
3. ALL GROUNDING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LATEST APPLICABLE RULES OF THE NATIONAL ELECTRIC CODE AND ANY STATE, COUNTY, CITY OR LOCAL CODE REQUIREMENTS.
4. A MAXIMUM OF 3'-0" FLEX CONDUIT FROM THE END OF CONDUIT RUNS TO DEVICES MAY BE USED WHEN FLEX CONDUIT IS USED TO EXTEND CONDUIT TO A FIELD DEVICE.
5. CONDUIT AND WIRING: CONDUIT ROUTING ON PLAN DRAWINGS IS DIAGRAMMATIC AND SHALL BE USED FOR REFERENCE ONLY. CONTRACTOR TO VERIFY THE EXISTING CONDITIONS OF EXISTING CONDUITS FOR OBSTRUCTIONS WITHIN. DIFFERENT VOLTAGES OF POWER AND CONTROL SYSTEMS SHALL BE ROUTED IN SEPARATE CONDUITS.
6. THE CONTRACTOR SHALL PERFORM POINT TO POINT CHECK OF ALL HARDWIRED CONNECTIONS PRIOR TO START-UP.
7. ENCLOSURE CONSTRUCTION: ALL NEW ENCLOSURES SHALL BE STAINLESS STEEL TYPE 4X WITH CONTINUOUS HINGES AND STAINLESS STEEL DOOR CLAMPS. ALL NEW ENCLOSURES SHALL BE SIZED ACCORDING TO NEC AND NEMA STANDARDS USING THE NUMBER AND SIZE OF MOUNTED COMPONENTS, CONDUCTORS AND TERMINATIONS AS A GUIDELINE FOR PROPER SPACING AND SIZING. (PROVIDE 20% SPARE TERMINALS)
8. ALL 120VAC CONTROL WIRING SHALL BE COPPER CONDUCTORS, MIN. #12AWG TYPE THWN-2 OR XHHW UNLESS OTHERWISE NOTED. ALL BUSHINGS SHALL BE COPPER.
9. GROUNDING OF FIELD ENCLOSURES SHALL BE GROUNDED TO THE NEAREST GROUNDED STEEL STRUCTURE OR GROUNDING GRID WITH A NO. 2Ø BARE COPPER WIRE UNLESS NOTED OTHERWISE. CONDUIT SHALL NOT BE USED AS A RACEWAY TO GROUND ENCLOSURES. CONTRACTOR TO FOLLOW NEC GUIDELINES FOR SUITABLE GROUNDING METHODS.
10. CONDUIT:

10.1. UNDERGROUND CONDUIT RUNS SHALL BE SCHED. 40 PVC

10.2. UNDERGROUND ELBOWS SHALL BE RIGID GALV. STEEL.

10.3. EXPOSED CONDUIT SHALL BE RIGID GALV. STEEL.

10.4. EXPOSED CONDUIT FITTINGS SHALL BE GALVANIZED STEEL.

10.5. CONDUIT ENTERING EQUIPMENT SHALL BE BONDED VIA COPPER GROUND BUSHING.

10.6. DRAIN BREATHERS TO BE INSTALLED AT LOW POINTS IN CONDUIT RUNS.
11. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL FIELD VERIFY WITH ASPA THE LOCATIONS OF ANY POSSIBLE UNDERGROUND UTILITIES THAT ARE NOT PRESENTLY SHOWN ON THE CONTRACT DRAWINGS. THE UNDERGROUND UTILITIES THAT ARE SHOWN ON THE CONTRACT DRAWINGS ARE APPROXIMATE LOCATIONS ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATIONS. THE CONTRACTOR SHALL STOP ALL WORK IF ANY UNDERGROUND UTILITY IS DISCOVERED DURING EXCAVATION THAT WAS NOT PREVIOUSLY IDENTIFIED UNTIL APPROVED BY THE ASPA REPRESENTATIVE.
12. EXISTING CONDUIT AND STUB-UP LOCATIONS HAVE BEEN SHOWN IN GENERAL LOCATIONS IN RESPECT TO ON-SITE FIELD INVESTIGATIONS AND AVAILABLE AS-BUILT DRAWINGS RECEIVED FROM ASPA. THE CONTRACTOR SHALL VERIFY ALL CONDUIT SIZES, ROUTING AND STUB-UP LOCATIONS PRIOR TO PROJECT BID AND EXECUTION. CONTRACTOR TO REPORT ANY DISCREPANCIES WITH PREVIOUS AS-BUILT DRAWINGS TO THE ASPA PROJECT MANAGER.
13. INSTALLATION OF ALL ELECTRICAL EQUIPMENT SHALL BE COORDINATED WITH THE ELECTRICAL EQUIPMENT MANUFACTURER. ANCHOR BOLTS SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED AS INSTRUCTED PER MANUFACTURER'S SPECIFICATIONS. MAINTAIN MINIMUM REQUIRED CLEARANCES PER MANUFACTURER'S SPECIFICATIONS.
14. AS-BUILTS: CONTRACTOR TO PROVIDE AS-BUILT DRAWINGS AT THE END OF THE PROJECT COMPLETION FOR MAINTENANCE TO USE FOR EQUIPMENT REPAIRS AND TROUBLE SHOOTING. ALL TERMINATION DRAWINGS SHALL BE UPDATED AT THE END OF THE PROJECT TO REFLECT ACTUAL INSTALLATION AND TERMINATION OF ALL WIRING.
15. EXISTING AS-BUILT DRAWINGS IF PROVIDED ARE FOR GENERAL REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY REFERENCED EXISTING AS-BUILT INFORMATION INCLUDING, BUT NOT LIMITED TO, THE UNDERGROUND UTILITIES, BURIED CONDUIT AND DUCTBANKS AS REQUIRED FOR CONSTRUCTION INSTALLATION PURPOSES.
16. DUCTBANKS:

16.1. PLASTIC DUCT SPACERS SHALL BE USED TO MAINTAIN DISTANCE BETWEEN CONDUITS THAT HAVE BEEN CALLED OUT ON THE DWG. THESE SPACERS SHALL BE PLACED PER MANUFACTURER'S INSTRUCTIONS, BUT NOT LESS THAN 2 SPACER ASSEMBLIES PER 10FT OF CONDUIT ASSEMBLY.

16.2. PROVIDE GROUND WIRE SIZE PER NEC REQUIREMENTS FOR ALL CIRCUITS. USE OF RACEWAYS AS GROUNDING IS NOT ACCEPTABLE.

16.3. ALL ELECTRICAL DUCTBANKS SHALL USE 3000 PSI RED DYE CONCRETE.

16.4. DUCTBANKS SHALL BE A MIN. OF 36" BELOW FINISHED GRADE.

16.5. DEPTHS TO THE TOP OF DUCTBANKS GREATER THEN 4'-0" FOR DISTANCES OF SUBSTANTIAL LENGTH SHALL BE APPROVED BY THE ASPA REPRESENTATIVE PRIOR TO INSTALLATION.

16.6. MINIMUM SEPARATION OF 2½" IS REQUIRED BETWEEN CONDUITS IN DUCTBANKS.

16.7. COORDINATE DUCTBANK AND UTILITY CROSSING LOCATIONS WITH UTILITY PLANS AND CIVIL DRAWINGS FOR CLEARANCES AND DEPTHS.

320

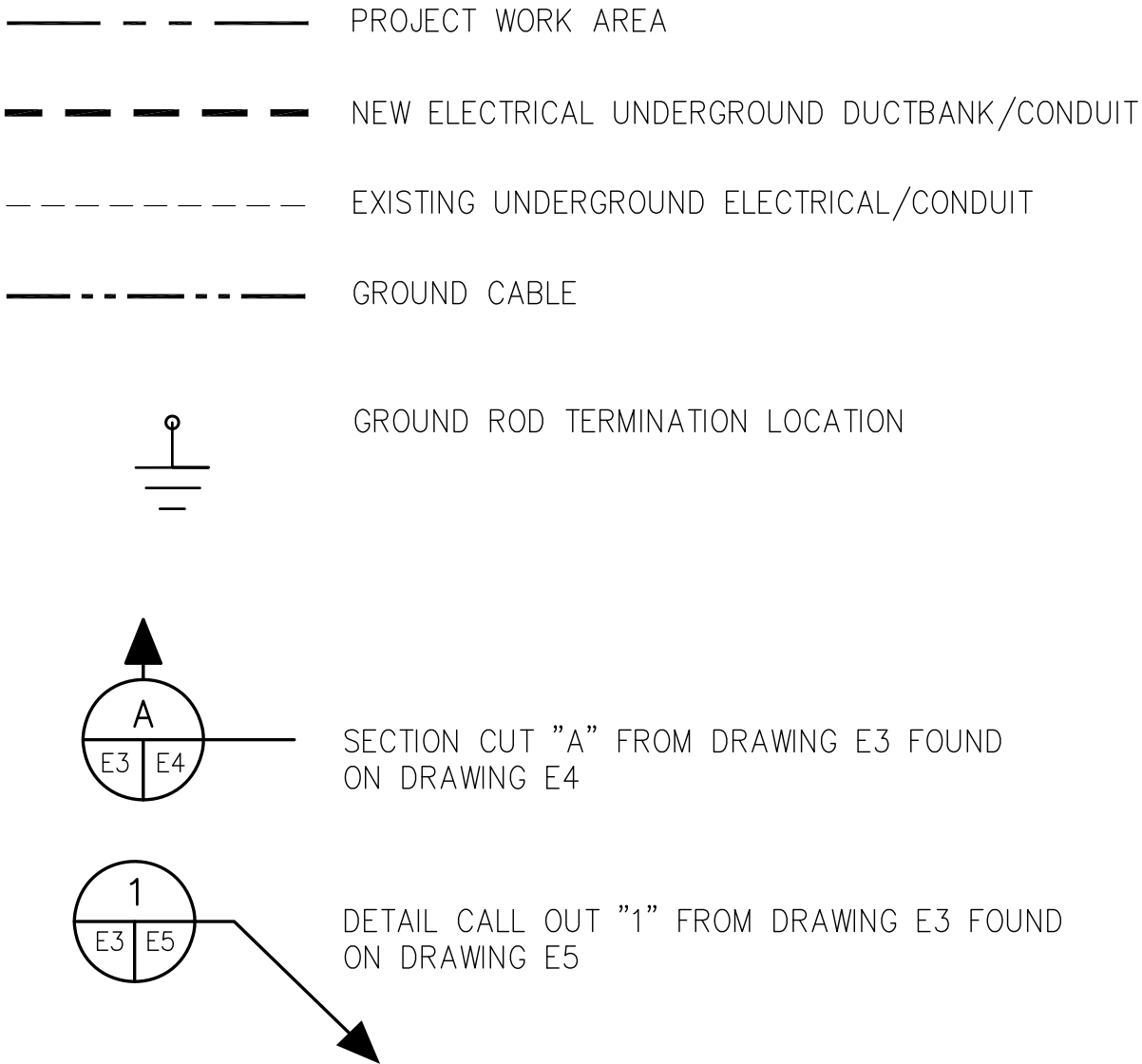
GENERAL GROUNDING NOTES:

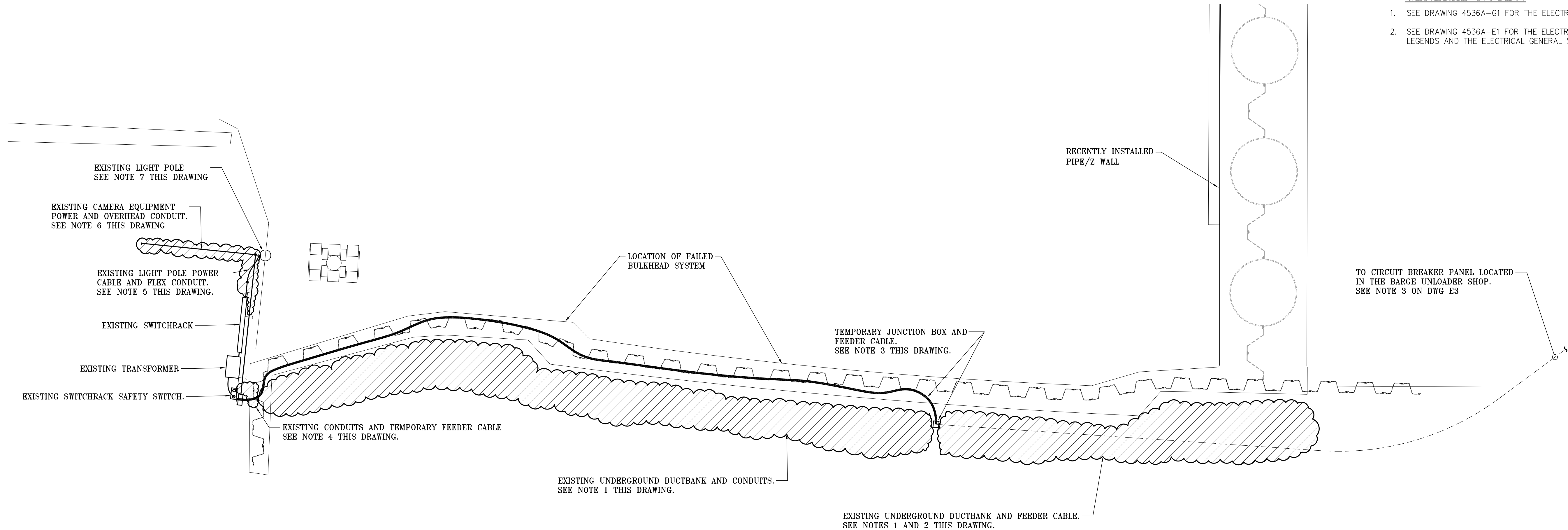
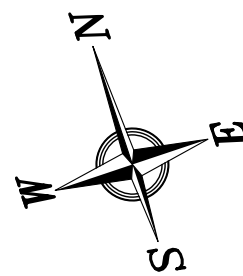
1. GROUNDING CONNECTIONS ABOVE GRADE SHALL BE OF THE MECHANICAL TYPE. CONNECTIONS SHALL BE CLEANED TO BRIGHT METAL AND COATED WITH CORROSION INHIBITOR (T&B KOPR-SHIELD OR APPROVED EQUAL) PRIOR TO MAKE UP. CONNECTION SHALL THEN BE CLEANED AND SPRAYED WITH EPOXY ENAMEL AFTER MAKE UP.
2. GROUNDING CONNECTIONS UNDERGROUND SHALL BE EXOTHERMIC TYPE WELDS.
3. GROUND CONDUCTORS ROUTED THROUGH A CONCRETE SLAB OR WALL SHALL BE INSTALLED IN A 2" DIA. SCHEDULE 40 PVC CONDUIT SLEEVE. CONDUIT SLEEVE SHALL EXTEND 3" BEYOND THE FINISHED SURFACE. CONTRACTOR SHALL PROVIDE SUFFICIENT AMOUNT OF GROUND CONDUCTOR TO COMPLETE THE GROUNDING SYSTEM ABOVE GRADE WITHOUT SPLICES.
4. EQUIPMENT GROUND: CONTRACTOR SHALL CONNECT THE #2/0 GROUND CONDUCTOR TO THE EQUIPMENT GROUND BUS OR GROUND TERMINAL WITH A HEAVY DUTY IRREVERSIBLE COMPRESSION TERMINAL BURNDY TYPE "YGHA" OR APPROVED EQUAL.
5. GROUNDING IN HANDHOLES SHALL TIE INTO THE DUCTBANK GROUNDING SYSTEM ENTERING AND EXITING THE HANDHOLE.

ELECTRICAL GENERAL SCOPE OF WORK:

1. **TO THE FURTHEST EXTENT PRACTICAL, ALL ELECTRICAL INFRASTRUCTURE SHOULD BE INSTALLED PRIOR TO ANY ELECTRICAL SHUT DOWN IN ORDER TO LIMIT ANY DOWNTIME FOR THE ADJACENT AFFECTED AREA. THE DOWNTIME SHALL BE LIMITED TO ONE SHUTDOWN OF A MAXIMUM THREE DAY LENGTH.**
2. THE WORK COVERED BY THE CONTRACT DRAWINGS 4536A-E1 THRU 4536A-E5 CONSISTS OF PROVIDING ALL LABOR, EQUIPMENT, AND MATERIALS AND PERFORMING ALL OPERATIONS NECESSARY TO PROVIDE THE COMPLETE INSTALLATION OF THE ELECTRICAL WORK REQUIRED FOR THE SWITCHRACK FEEDER REPLACEMENT.
3. EXISTING SWITCHRACK 480VAC FEEDER CABLE AND DUCT BANK INSTALLED PREVIOUSLY HAS BEEN DAMAGED AND WILL BE PARTIALLY REPLACED NEW.
4. THIS CONTRACT REQUIRES THE CONSTRUCTION AND INSTALLATION OF A NEW 480VAC FEEDER CABLE, DUCTBANK, HANDHOLE AND THE RELOCATION AND REWIRING OF THE EXISTING LIGHT POLE AS DETAILED IN THE CONTRACT DRAWNGS.
5. ELECTRICAL WORK SHALL INCLUDE THE FEEDER CABLE SPLICES, RE-ROUTING OF CONDUITS, RECONNECTIONS OF CONDUITS AND WIRING TO THE EXISTING SWITCHRACK, COMMUNICATIONS ENCLOSURE AND LIGHT POLE RELOCATION. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL MODIFICATIONS REQUIRED TO PROVIDE A FULLY FUNCTIONAL ELECTRICAL SYSTEM.
6. CONTRACTOR SHALL PROVIDE ALL GROUNDING AND BONDING AND PERFORM ALL MODIFICATIONS NEEDED TO ACHIEVE CONTINUITY AND THE 25 OHM MAXIMUM RESISTANCE TO GROUND AS PER THE NATIONAL ELECTRICAL CODE REQUIREMENTS.
7. CONTRACTOR SHALL PERFORM ALL THE TESTING REQUIRED FOR COMMISSIONING AND ACCEPTANCE OF THE NEW INSTALLATION.
8. IF REQUIRED, CONTRACTOR SHALL PROVIDE EACH LIGHT POLE WITH A LIGHTNING PROTECTION SYSTEM PER NFPA 780 "STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS". INSTALLATION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE LIGHTNING TERMINAL (ROD) AT THE TOP OF EACH POLE, GROUND ROD, ALL CABLE AND HARDWARE.
9. CONTRACTOR SHALL REPLACE AND RESTORE ALL WIRING, GROUNDING, FENCING, SOD AND CONCRETE PAVEMENT DISTURBED BY THIS INSTALLATION TO ORIGINAL OR BETTER CONDITIONS.
10. SEE DRAWINGS 4536A-E2 THRU 4536A-E5 FOR ADDITIONAL ELECTRICAL SCOPE DETAILS.

LEGEND



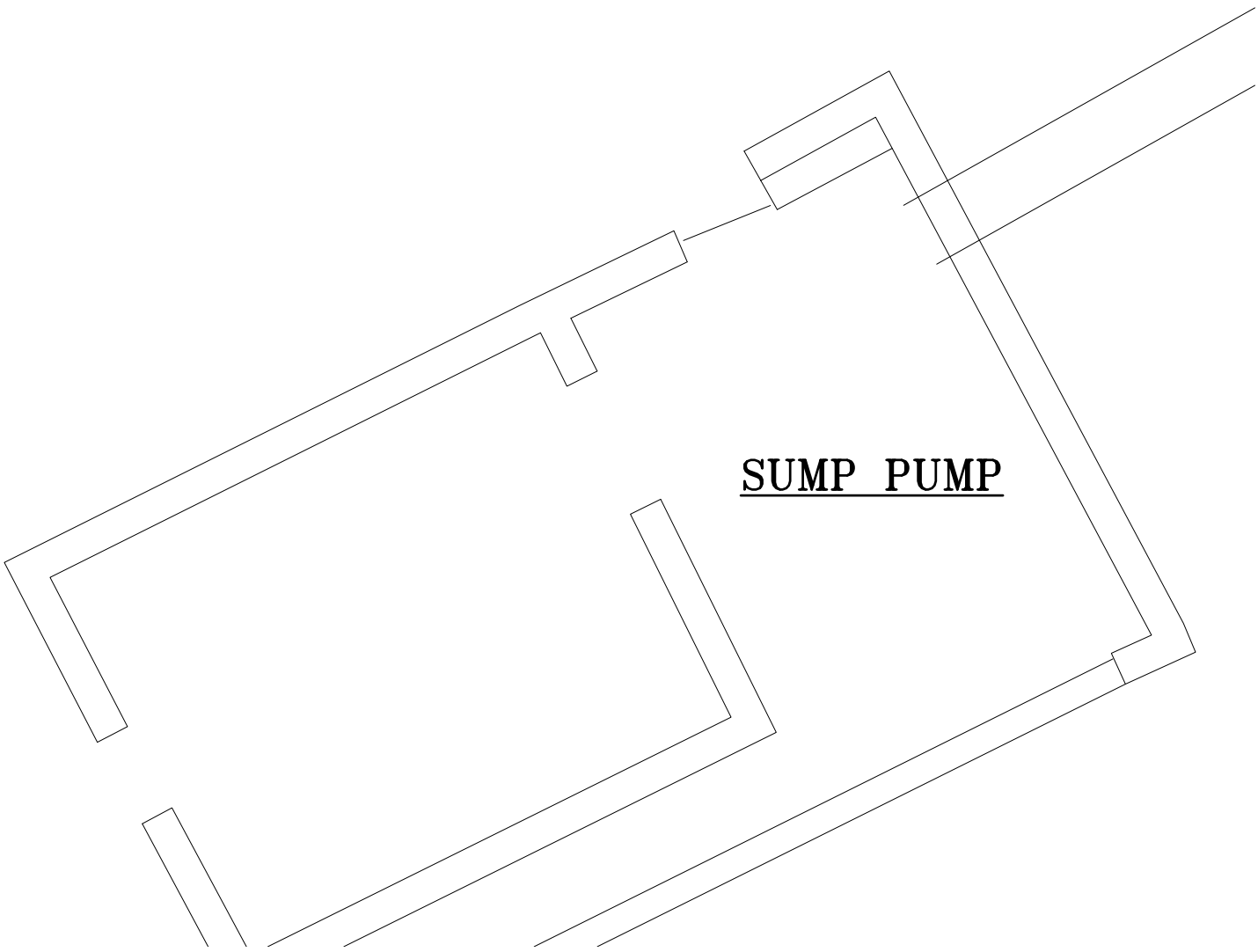


GENERAL NOTES:

1. SEE DRAWING 4536A-G1 FOR THE ELECTRICAL DRAWING INDEX.
2. SEE DRAWING 4536A-E1 FOR THE ELECTRICAL GENERAL NOTES, LEGENDS AND THE ELECTRICAL GENERAL SCOPE OF WORK.

ELECTRICAL DEMOLITION GENERAL SCOPE OF WORK:

1. DEMO THE REMAINING ELECTRICAL DUCT BANK AND CONDUITS FROM THE CLEAN UP STATION SWITCHRACK TO THE SOUTHEAST CORNER OF THE RECENTLY INSTALLED PIPE/Z WALL.
2. DO NOT DEMO THE EXISTING FEEDER CABLE. CARE IS TO BE TAKEN AS NOT TO DAMAGE THE EXISTING FEEDER CABLE DURING DEMOLITION. THE FEEDER CABLE IS TO BE ROLLED BACK TO THE SOUTHEAST CORNER AND SPLICED INTO A NEW FEEDER CABLE THAT WILL BE INSTALLED.
3. REMOVE EXISTING TEMPORARY FEEDER CABLE AND JUNCTION BOX. COIL, STORE AND RETURN THE TEMPORARY FEEDER CABLE AND JUNCTION BOX TO ASPA.
4. REMOVE TEMPORARY FEEDER CABLE AND EXISTING FEEDER CABLE CONDUIT UP TO THE EXISTING SWITCHRACK SAFETY SWITCH.
5. EXISTING LIGHT POLE POWER FEEDER TO BE DISCONNECTED FROM THE ASSOCIATED SAFETY SWITCH LOCATED AT THE SWITCHRACK. FLEX CONDUIT AND POWER CABLE TO BE REMOVED WITH LIGHT POLE FOR REINSTALLATION.
6. EXISTING CAMERA EQUIPMENT POWER OVERHEAD CONDUIT TO BE REMOVED AND ROUTED UNDERGROUND TO THE BARGE UNLOADER PLATFORM. DEMO ABOVE GROUND CONDUIT FROM THE SWITCHRACK TO THE SOUTHEAST CORNER OF THE BARGE UNLOADER PLATFORM. COORDINATE POWER OUTAGE WITH ASPA SECURITY.
7. EXISTING LIGHT POLE TO BE REMOVED AND RELOCATED AS PART OF THIS PROJECT. POWER CABLE AND FLEX CONDUIT WILL NEED TO BE DISCONNECTED AND SAVED FOR RECONNECTION.



ENLARGED EXISTING SITE PLAN

1"=10'



**ALABAMA
PORT AUTHORITY**
PORT OF MOBILE

ASPA PROJECT NO: 11094 – TASK 2

ASPA DRAWING NO.

McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT
ELECTRICAL
DEMOLITION PLAN

FOR: ALABAMA PORT AUTHORITY

PROJECT NO: 4536A

DWG NO: E2

REV: A



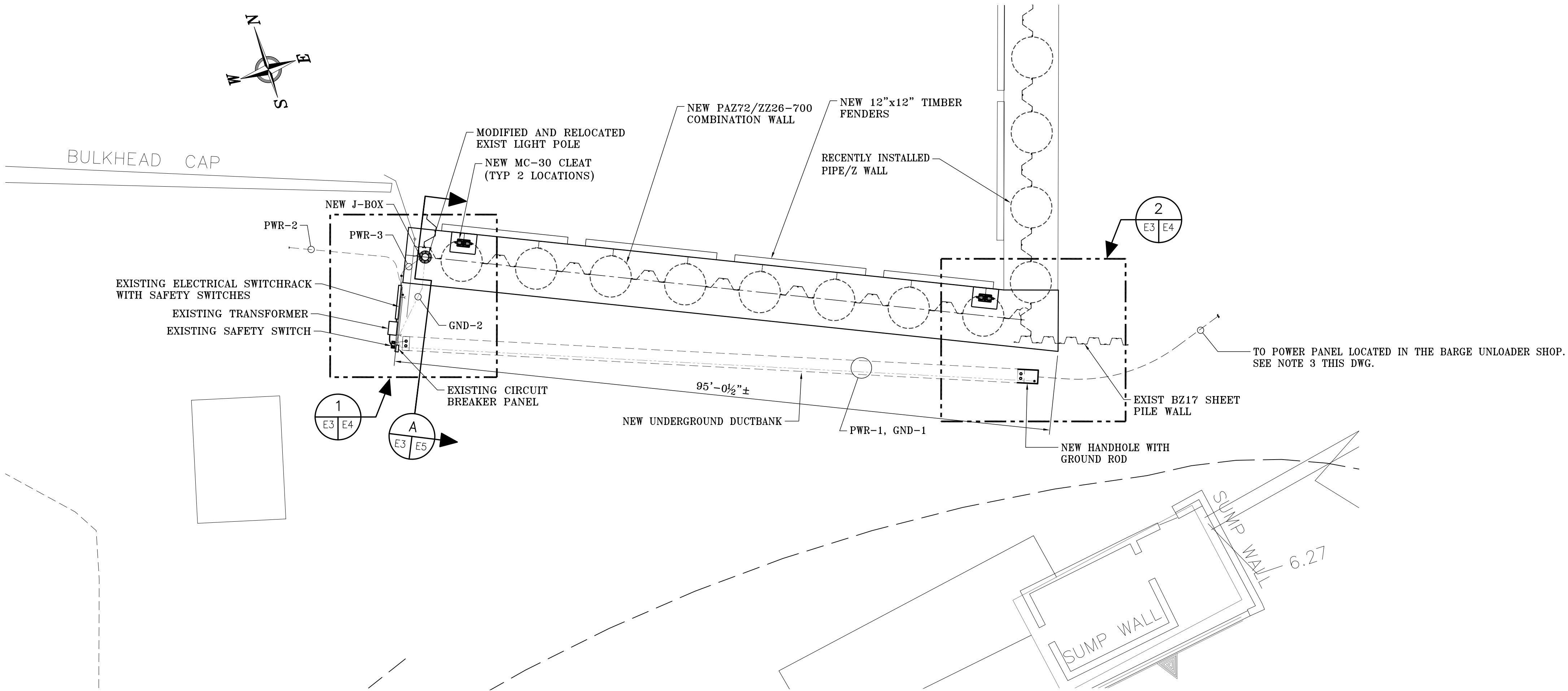
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CABLE SCHEDULE

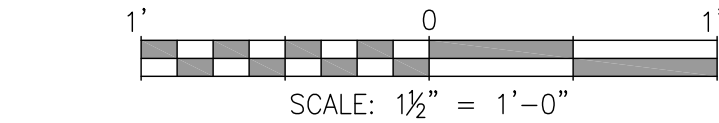
I.D. NUMBER	QTY	ESTIMATED FOOTAGES	DESCRIPTION	GROUND SIZE	CONDUIT SIZE	ROUTING FROM:	ROUTING TO:	REMARKS/COMMENTS
PWR-1	4	100FT EA	#1/0, 600V, TYPE THWN-2	6	4"	EXISTING SWITCH RACK SAFETY SWITCH	TO NEW ELECTRICAL HANDHOLE VIA NEW UNDERGROUND DUCTBANK	PHASE A,B,C AND NEUTRAL CONDUCTORS. PROVIDE HANDHOLE FOR SPlicing CONDUCTORS TO EXISTING UNDERGROUND CONDUCTORS. PROVIDE GROUND ROD IN HANDHOLE PER GROUNDING DETAIL G-1
PWR-2	3	150FT EA	EXISTING POWER FOR CAMERAS (SEE NOTES 4 & 5 THIS DWG.)	EXISTING	EXISTING	EXISTING SWITCH RACK BREAKER PANEL	EXISTING COMMUNICATIONS ENCLOSURE ON BARGE UNLOADER PLATFORM FOR CAMERAS	RELOCATE CONDUIT UNDERGROUND FROM SWITCHRACK TO BARGE UNLOADER PLATFORM SOUTHEAST CORNER AND THEN ABOVE GROUND TO COMMUNICATIONS ENCLOSURE
PWR-3	3	50FT EA	EXISTING POWER FOR LIGHT POLE (SEE NOTES 4 & 5 THIS DWG.)	EXISTING	EXISTING	EXISTING SWITCH RACK SAFETY SWITCH	RELOCATED EXISTING LIGHT POLE	RELOCATE FLEX CONDUIT TO RELOCATED LIGHT POLE VIA FLEX CONDUIT TO NEW STAINLESS STEEL JUNCTION BOX TO BE LOCATED AT THE BASE OF THE LIGHT POLE (SIZE JUNCTION BOX PER NEC)
GND-1	1	100FT EA	#2/0, BARE COPPER, TYPE THW	-	-	NEW ELECTRICAL HANDHOLE GROUND ROD	EXISTING SWITCH RACK GROUND ROD	-
GND-2	1	50FT EA	#2/0, BARE COPPER, TYPE THW	-	-	EXISTING SWITCH RACK GROUND ROD	RELOCATED EXISTING LIGHT POLE	-

NOTES:

- SEE DRAWING 4536A-G1 FOR THE ELECTRICAL DRAWING INDEX.
- SEE DRAWING 4536A-E1 FOR THE ELECTRICAL GENERAL NOTES, LEGENDS AND THE ELECTRICAL GENERAL SCOPE OF WORK.
- TWO SEPARATE POWER PANELS IN THE BARGE UNLOADER SHOP HAVE 150A BREAKERS LABELED "CLEAN UP STATION". THE CONTRACTOR WILL NEED TO VERIFY WHICH CIRCUIT BREAKER IS THE CORRECT CIRCUIT BREAKER THAT FEEDS THE CLEAN UP STATION SWITCHRACK. LOCK-OUT TAG-OUT WILL BE NECESSARY ON BOTH BREAKERS UNTIL THE CORRECT CIRCUIT BREAKER IS DETERMINED.
- EXISTING CONDUIT, POWER AND GROUNDING CABLE TO BE REPLACED IN-KIND UNLESS DETERMINED TO BE IN CONFLICT WITH THE NATIONAL ELECTRICAL CODE REQUIREMENTS.
- ELECTRICAL CONTRACTOR TO VERIFY EXISTING SIZE AND TYPE OF WIRING INSTALLED AND CORRECT IF NECESSARY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE REQUIREMENTS.



NEW SITE PLAN
1"=10'



ALABAMA
PORT AUTHORITY
PORT OF MOBILE

ASPA PROJECT NO: 11094 - TASK 2

ASPA DRAWING NO.

McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT
ELECTRICAL
NEW SITE PLAN

FOR: ALABAMA PORT AUTHORITY

PROJECT NO: 4536A

DWG NO: E3

REV: A



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DRAWN: WMB CK'D: MED APPD: RSG DATE: 06-14-22 SCALE: AS NOTED

REFERENCE DRAWINGS

NO.

REVISION

DRAWN

CK'D

APPD

DATE

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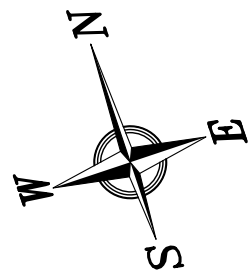
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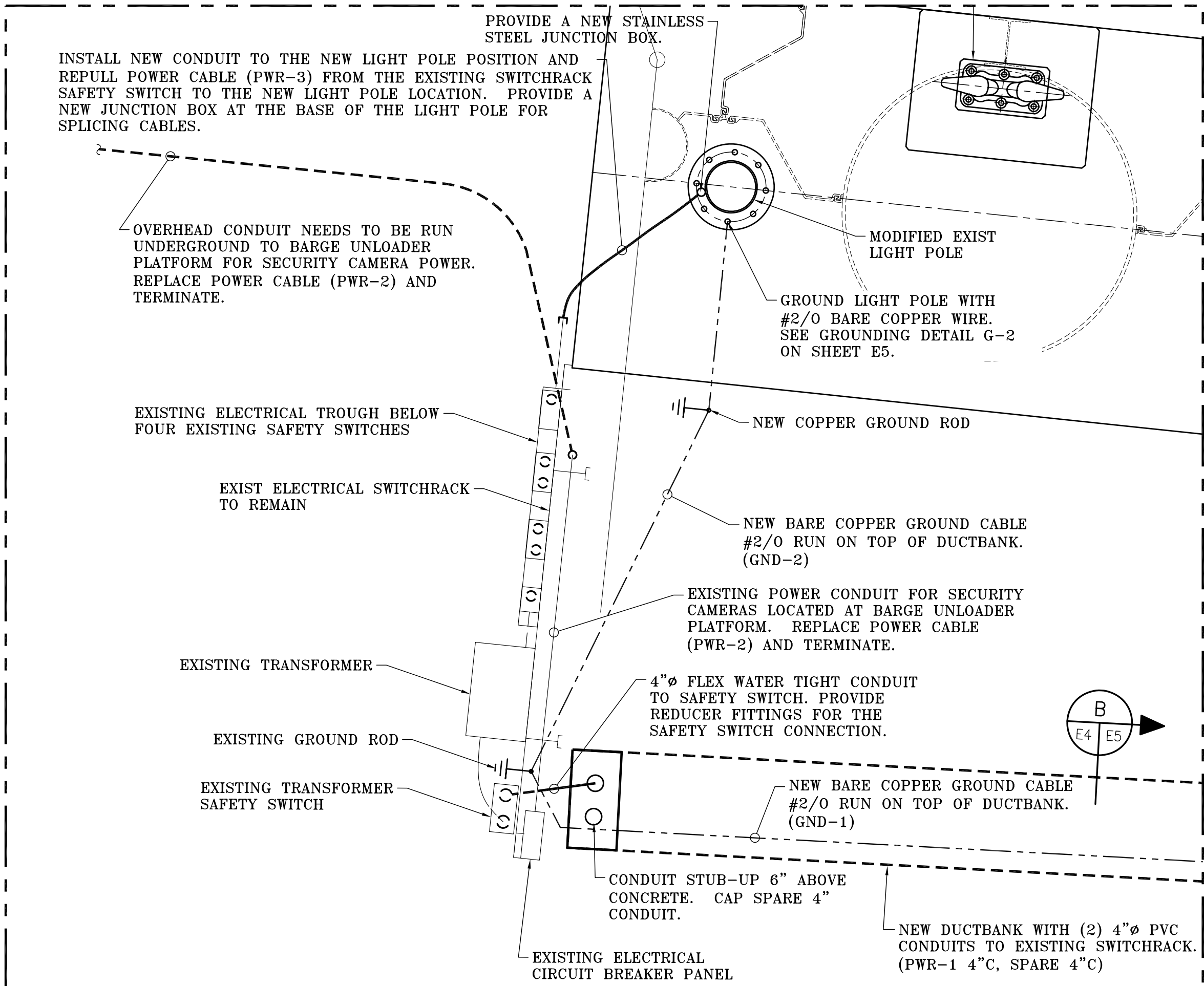
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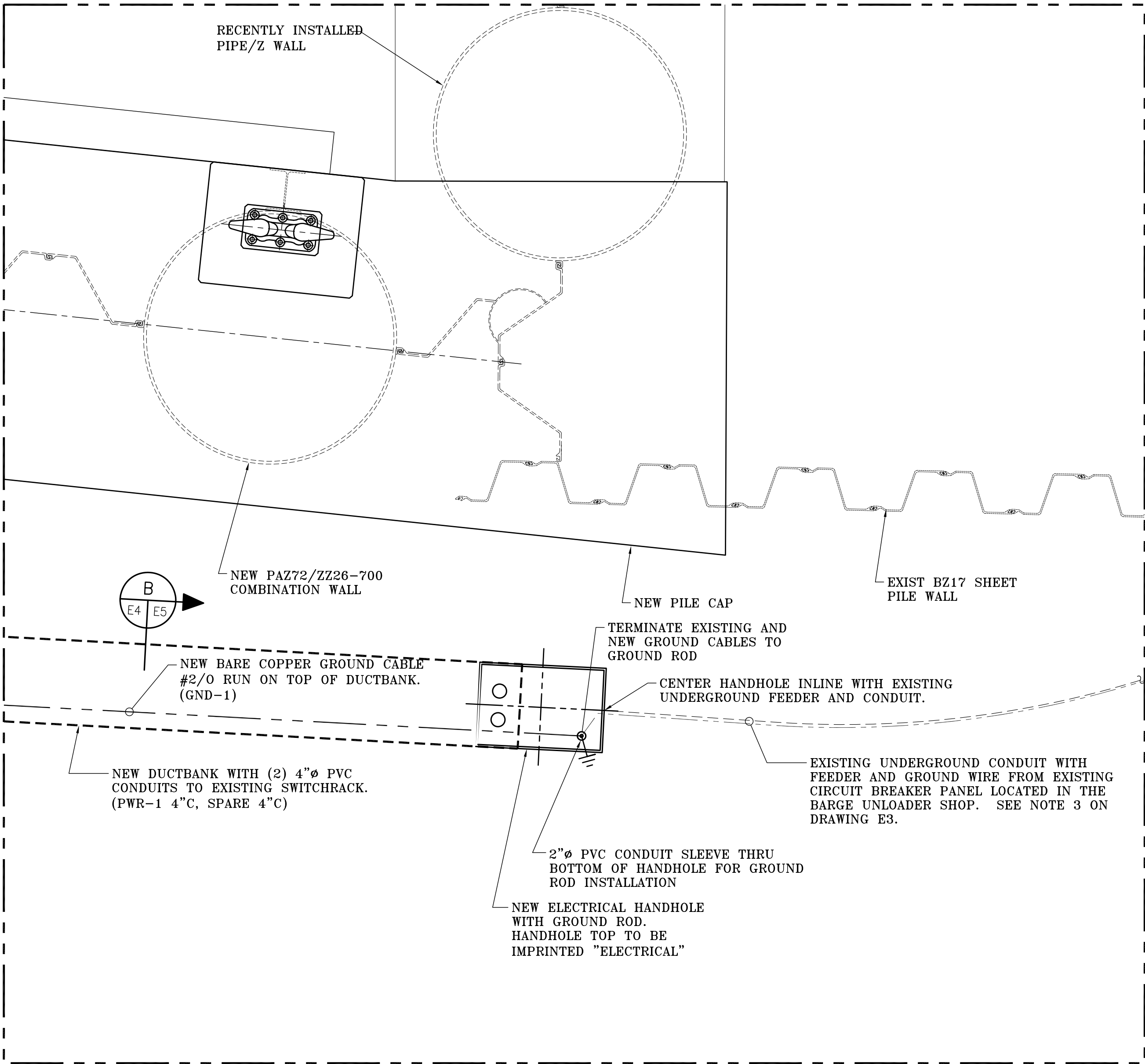


GENERAL NOTES:

- SEE DRAWING 4536A-G1 FOR THE ELECTRICAL DRAWING INDEX.
- SEE DRAWING 4536A-E1 FOR THE ELECTRICAL GENERAL NOTES, LEGENDS AND THE ELECTRICAL GENERAL SCOPE OF WORK.



DETAIL 1
SCALE 1:2



DETAIL 2
SCALE 1:2



ALABAMA
PORT AUTHORITY
PORT OF MOBILE

ASPA PROJECT NO: 11094 - TASK 2

ASPA DRAWING NO.

McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT

ELECTRICAL

PARTIAL PLANS

FOR: ALABAMA PORT AUTHORITY

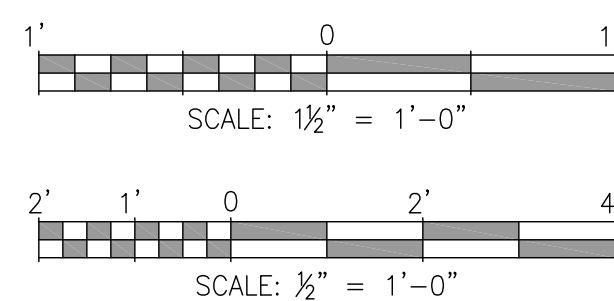
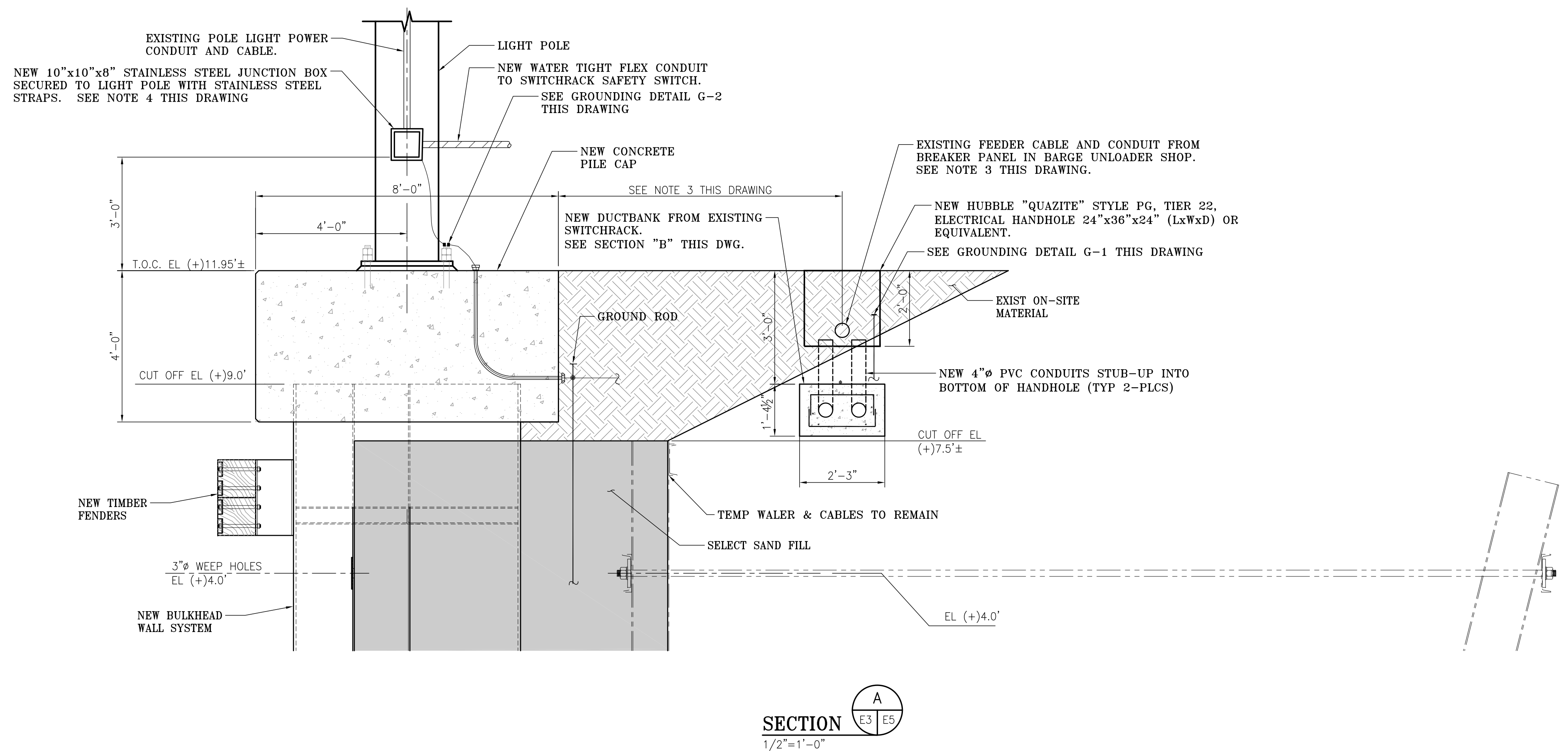
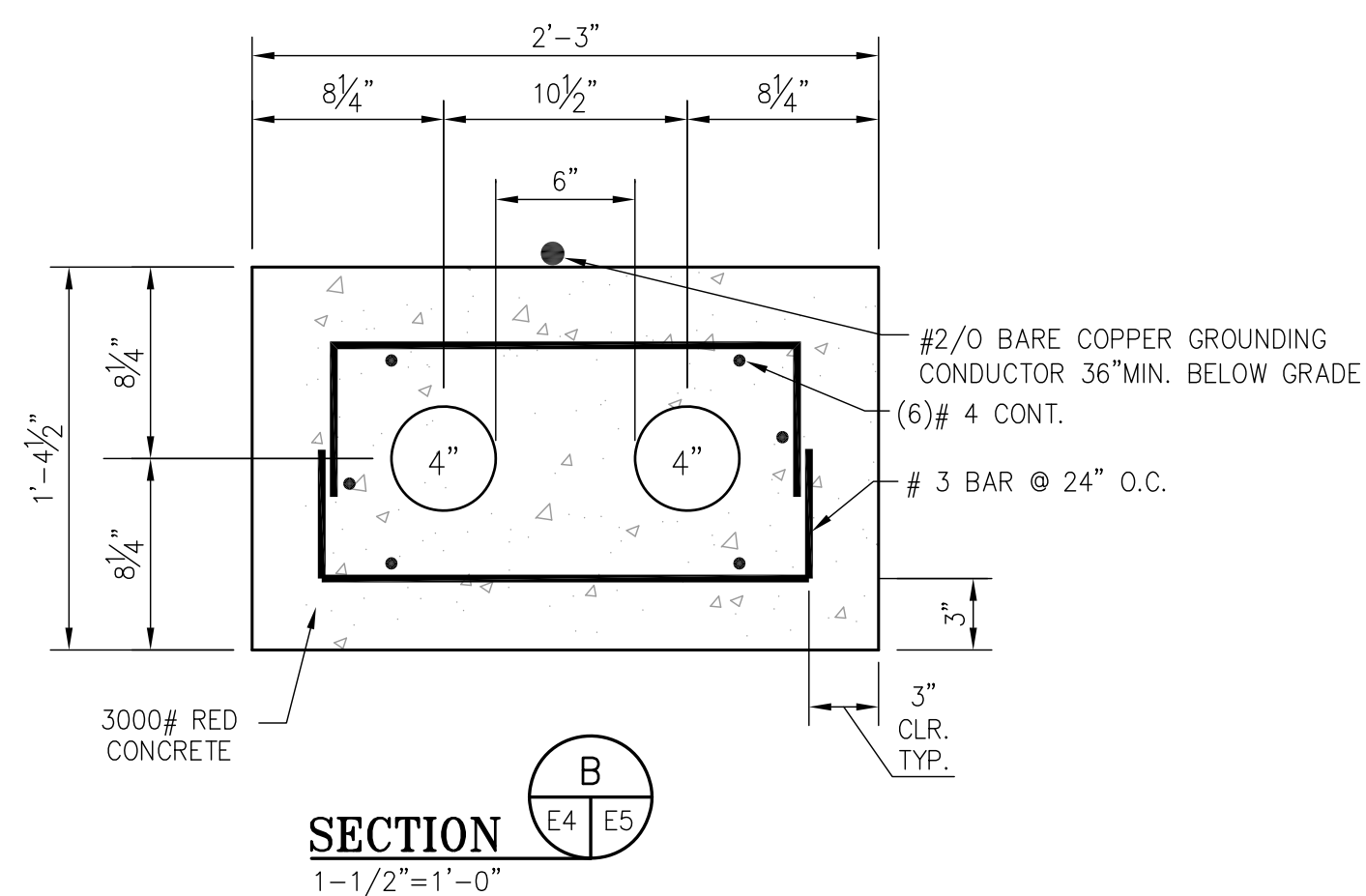
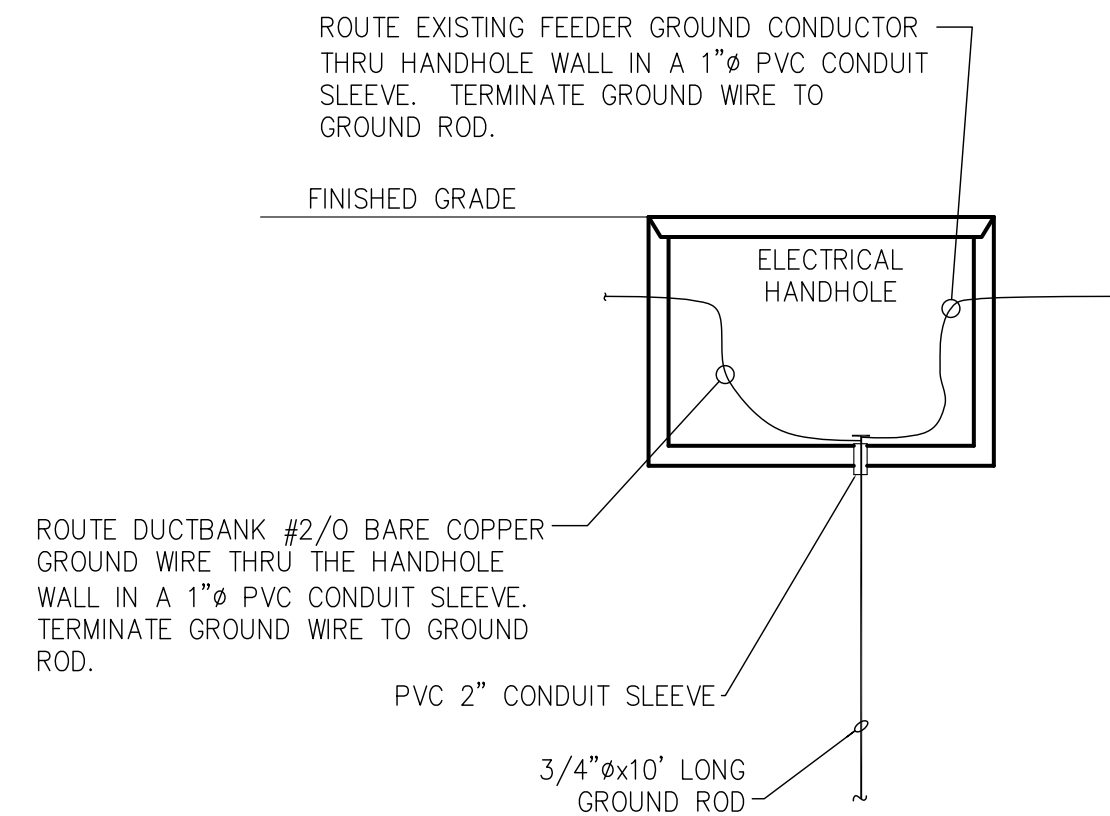
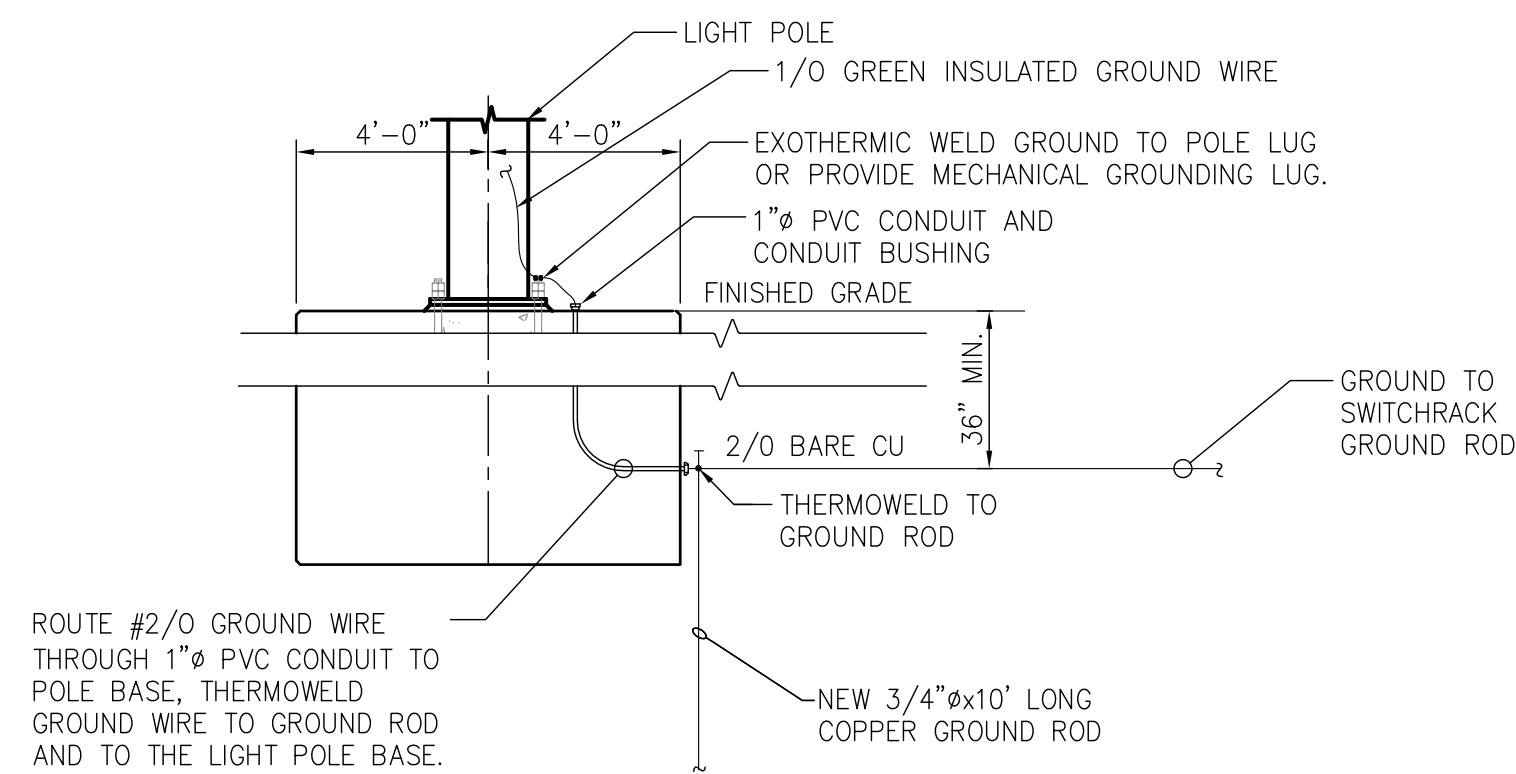
PROJECT NO: 4536A


DWG NO: E4

REV: A

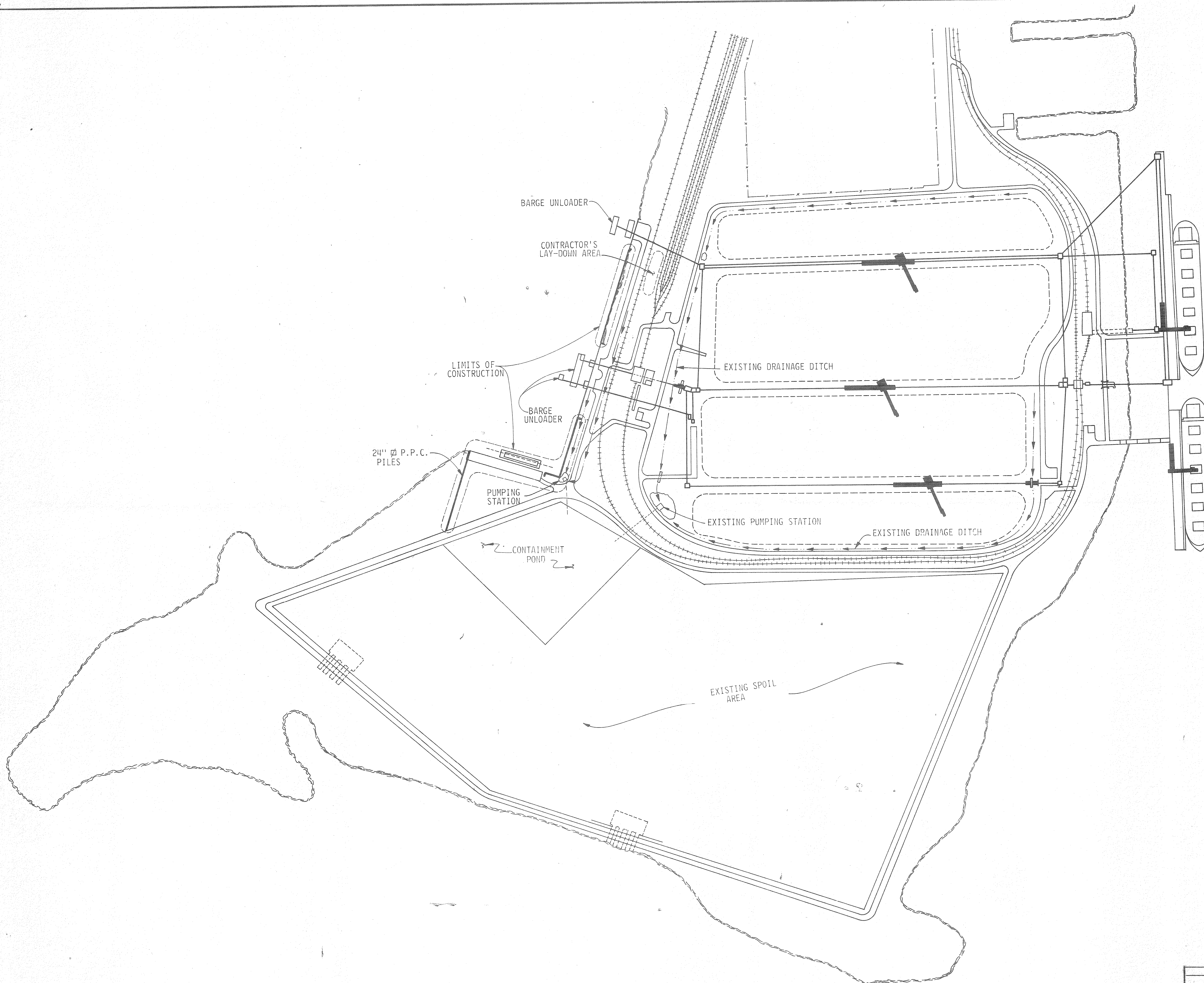


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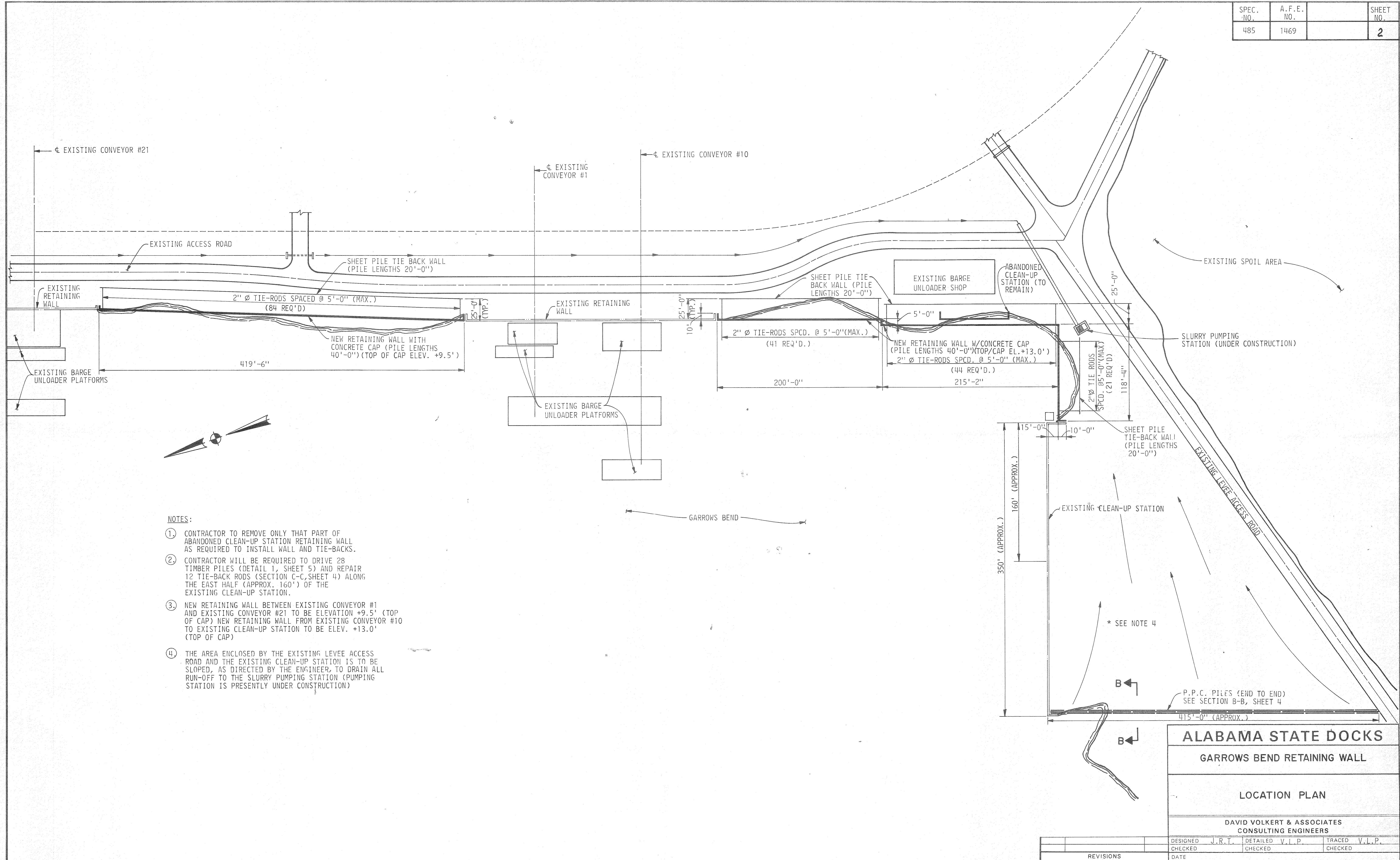
NOTES									 APTIM PORT SERVICES, LLC	McDUFFIE SOUTHWEST BULKHEAD REPLACEMENT ELECTRICAL SECTIONS AND DETAILS					
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		A	ISSUED FOR BID		WMB	MED	RSG	06-24-22							
	REFERENCE DRAWINGS	NO.	REVISION	DRAWN	CK'D	APPD	DATE	DRAWN: WMB	CK'D: MED	APPD: RSG	DATE: 06-14-22	SCALE: AS NOTED	PROJECT NO: 4536A	DWG NO: E5	REV: A

SPEC. NO.	A.E. NO.	SHEET NO.
485	1469	1

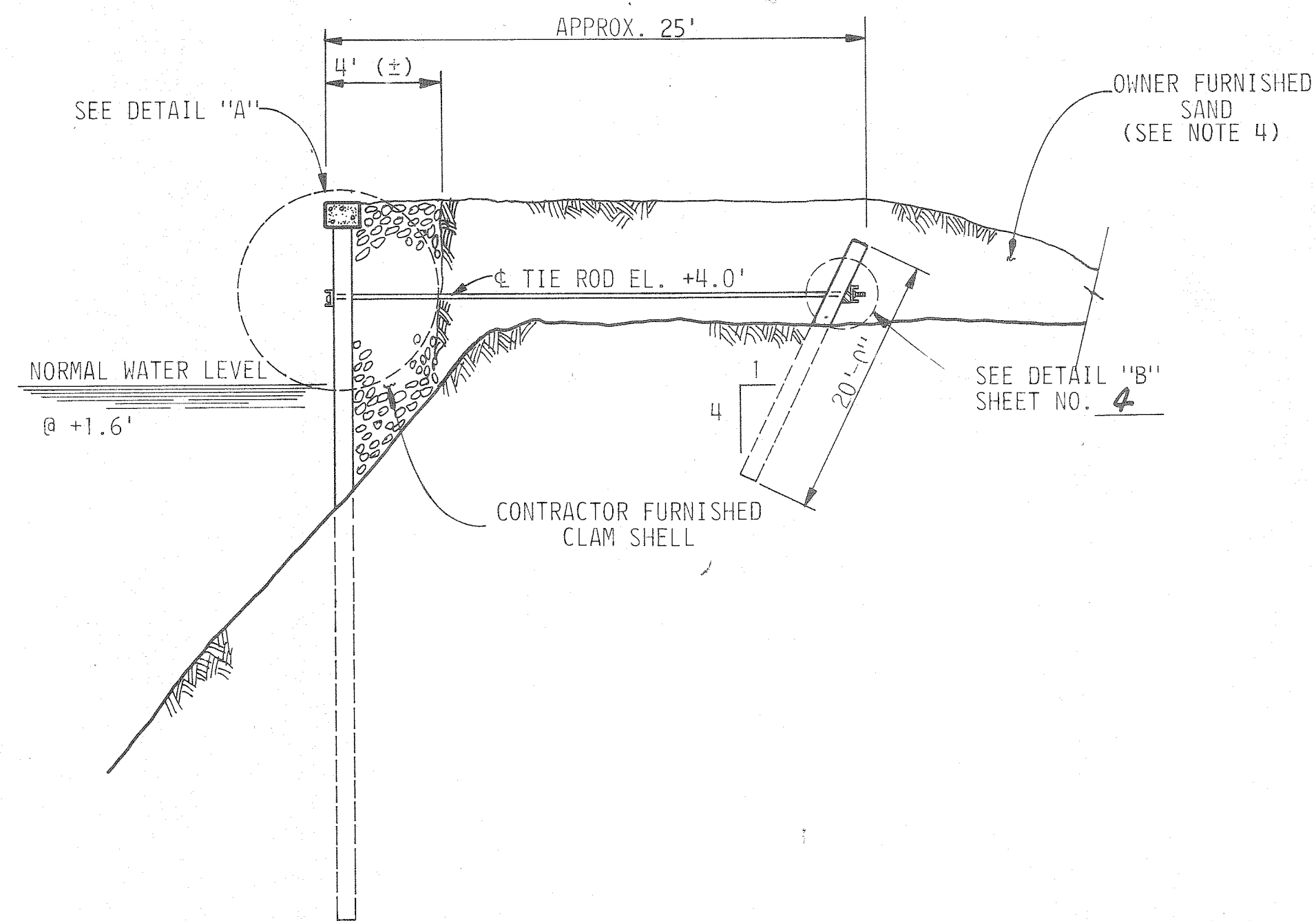


ALABAMA STATE DOCKS		
GARROWS BEND RETAINING WALL		
SITE PLAN		
DAVID VOLKERT & ASSOCIATES CONSULTING ENGINEERS		
DESIGNED J.T.	DETAILED R.A.B.	TRACED R.A.B.
CHECKED	CHECKED	CHECKED
DATE		

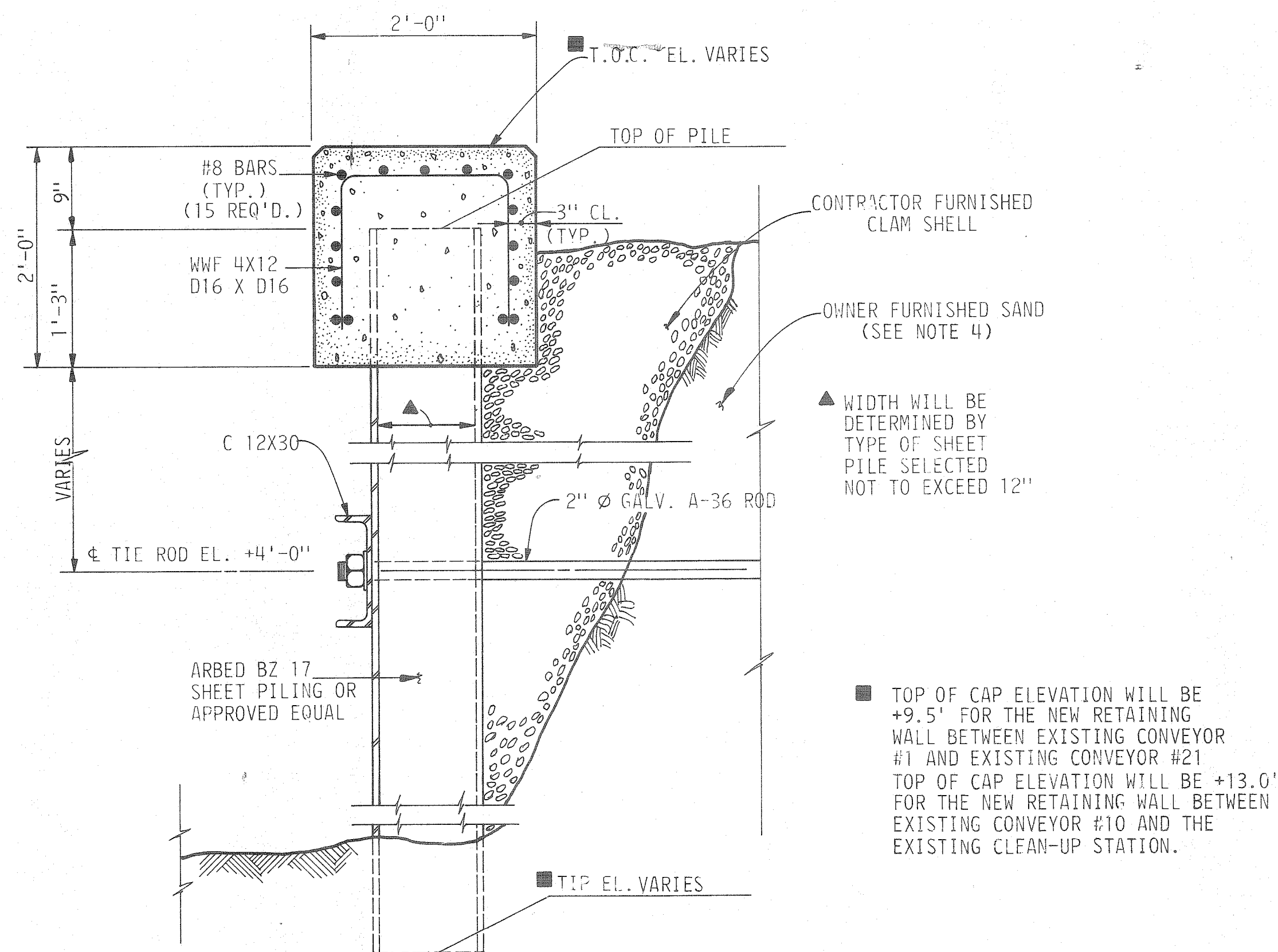
REVISIONS



SPEC. NO.	A.F.E. NO.	SHEET NO.
485	1469	3



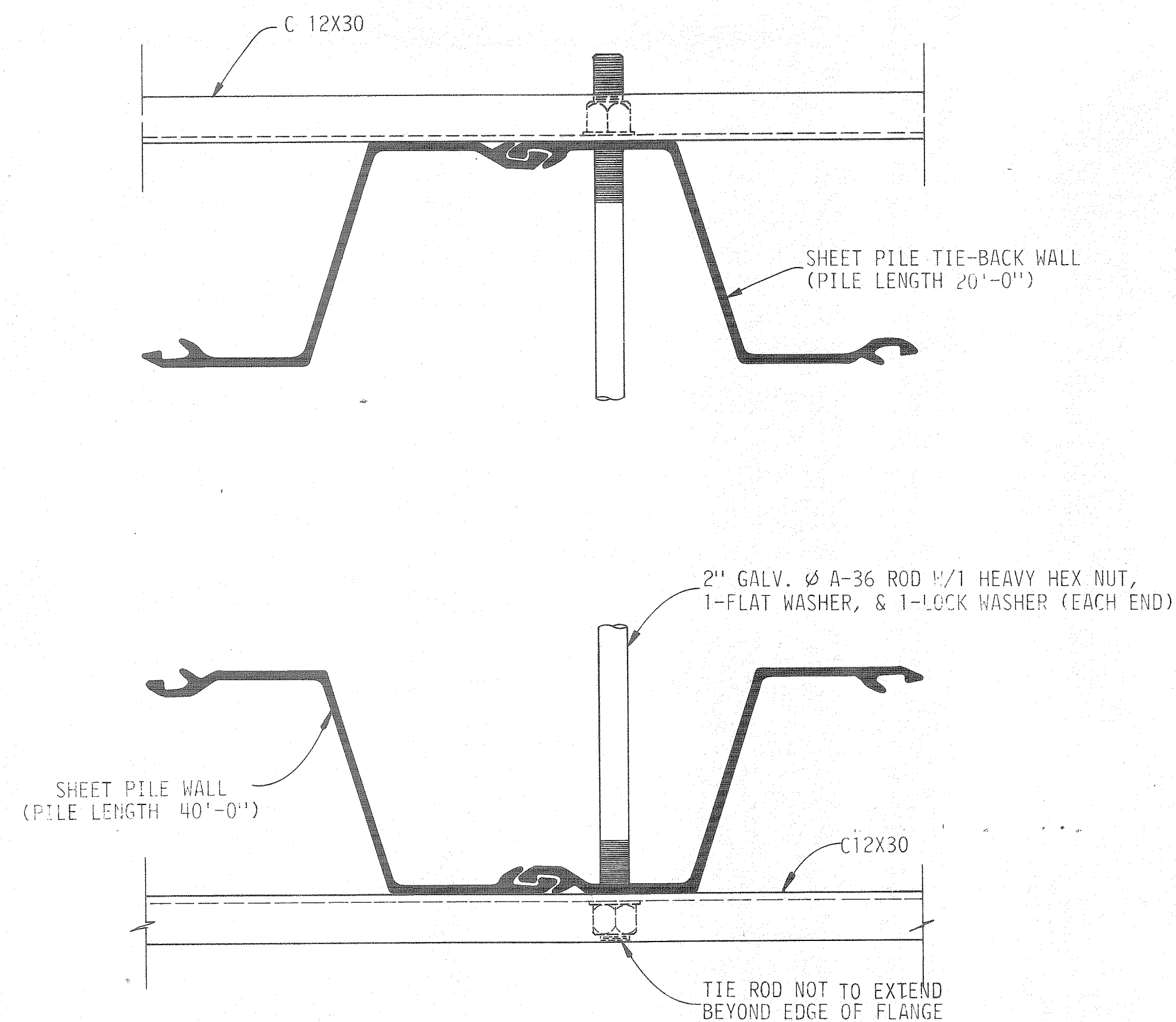
SECTION A-A
NOT TO SCALE



DETAIL "A"
NOT TO SCALE

NOTE:

1. CONTRACTOR TO FURNISH AND TO DRIVE APPROXIMATELY 998' OF SHEET PILE @ 40' AND APPROXIMATELY 635' @ 20'-0" STOCKPILED OWNER FURNISHED SHEET PILING WILL BE USED FOR THE REMAINING 300 L.F. OF WALL. (OWNER FURNISHED PILING FOR TIE-BACK WALL ONLY)
2. CONTRACTOR TO FURNISH & INSTALL @ 5'-0" O.C. 2" DIA. TIE-BACKS WITH HEAVY HEX NUTS AND WASHERS AND APPROX. 1,900 LINEAR FT. OF C12X30 AS SHOWN IN TIE-BACK CONNECTION DETAIL (THIS SHEET).
3. CONTRACTOR TO FURNISH APPROXIMATELY 3000 CU.YDS. OF CLAM SHELL AS BACKFILL BEHIND RETAINING WALL.
4. OWNER WILL FURNISH AND CONTRACTOR IS TO LOAD, HAUL, AND PLACE APPROXIMATELY 5,200 CU.YDS. OF SAND AS BACKFILL BEHIND RETAINING WALL (SAND IS TO BE OBTAINED FROM SPOIL AREA ADJACENT TO SITE OF WORK) NOTE: LEVEE AROUND SPOIL AREA IS TO REMAIN INTACT DURING AND AFTER CONSTRUCTION. THE CONTRACTOR IS ADVISED OTHER OPERATIONS IN THE AREA MAY PROHIBIT RECLAMATION OF OWNER FURNISHED MATERIAL. CONTRACTOR IS TO INCLUDE, AS AN ALTERNATE BID ITEM, COST OF CONTRACTOR FURNISHED FILL.
5. CONCRETE SHALL BE CLASS A, TYPE 1-A.



TIE BACK CONNECTION
NOT TO SCALE

ALABAMA STATE DOCKS

GARROWS BEND RETAINING WALL

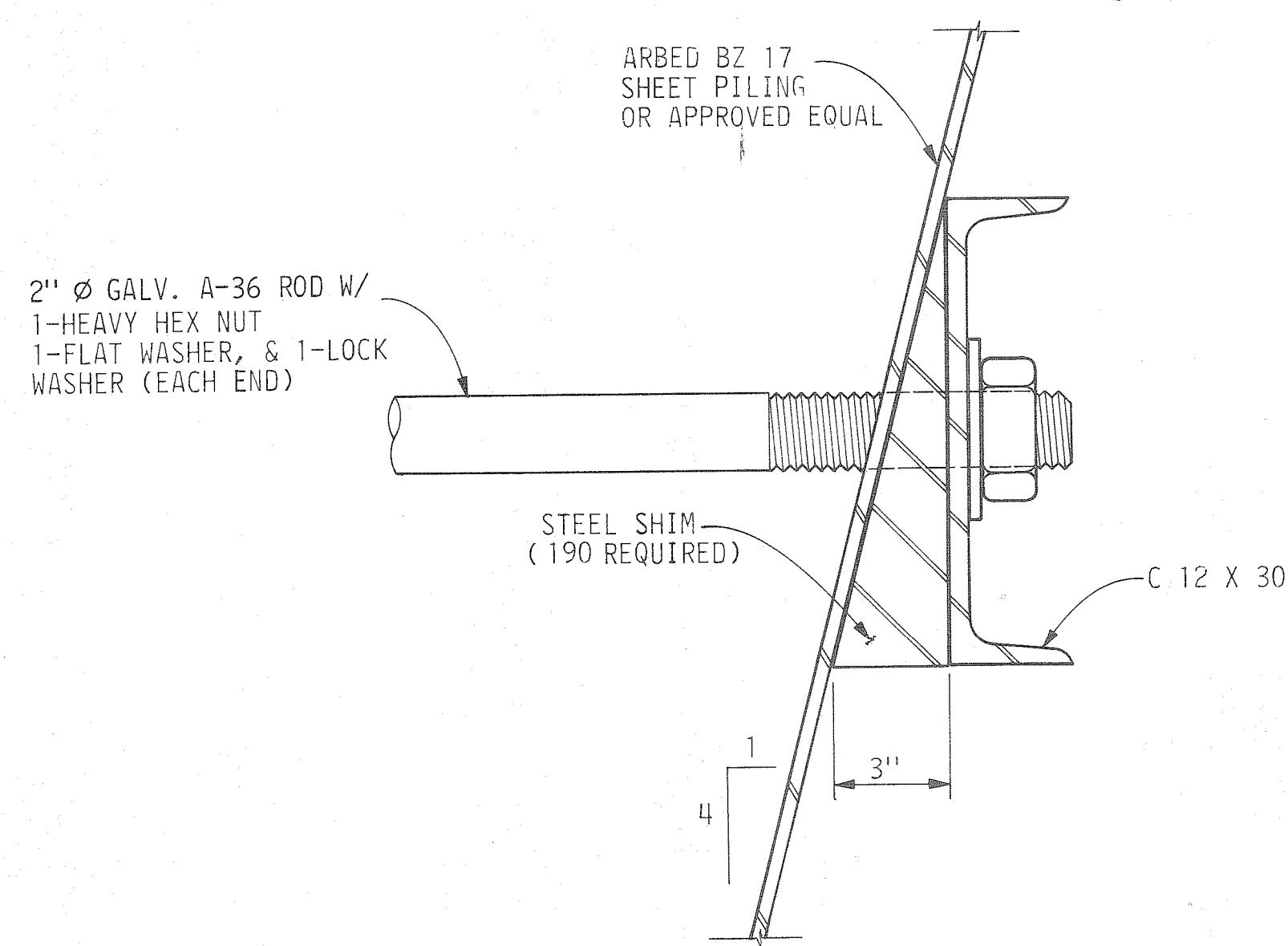
DETAILS

**DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS**

DESIGNED	J.R.T.	DETAILED	M.H.W.	TRACED	M.H.W.
CHECKED		CHECKED		CHECKED	
DATE		DATE		DATE	

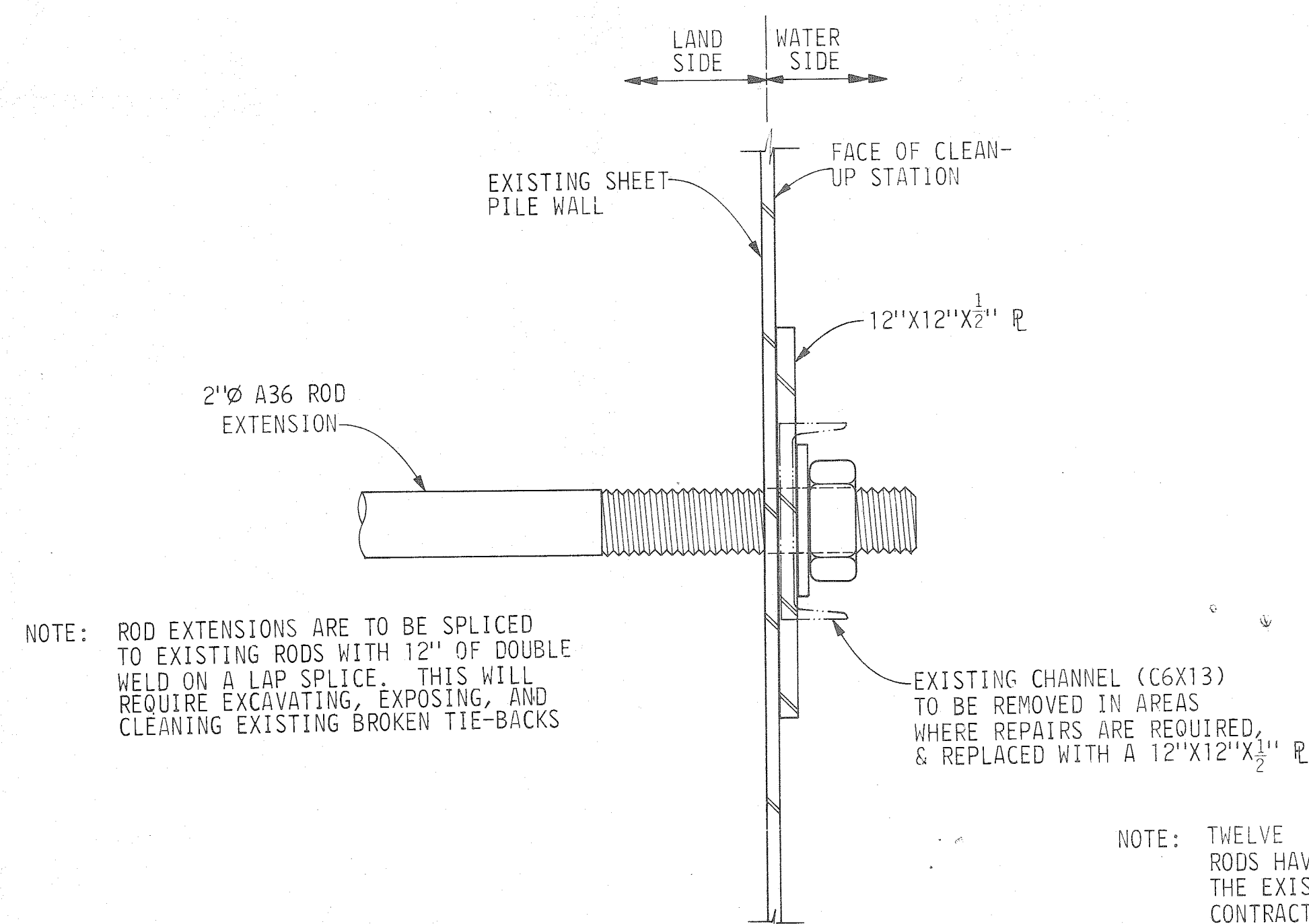
REVISIONS

SPEC. NO.	A.F.E. NO.		SHEET NO.
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TIE-BACK DETAILS - NEW TIE-BACK WALL

SCALE: 3" = 1'-0"



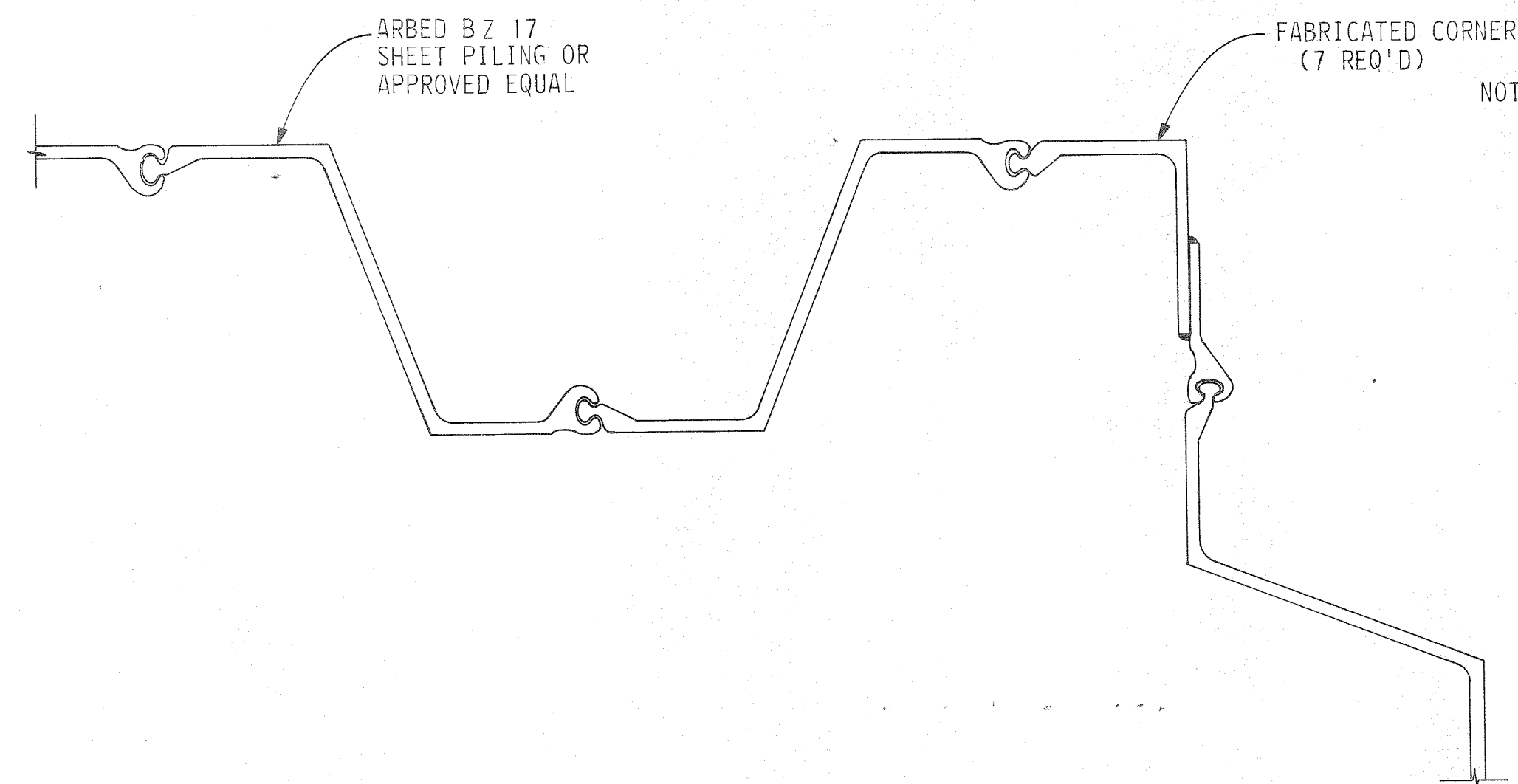
NOTE: ROD EXTENSIONS ARE TO BE SPliced TO EXISTING RODS WITH 12" OF DOUBLE WELD ON A LAP SPLICE. THIS WILL REQUIRE EXCAVATING, EXPOSING, AND CLEANING EXISTING BROKEN TIE-BACKS

EXISTING CHANNEL (C6X13) TO BE REMOVED IN AREAS WHERE REPAIRS ARE REQUIRED, & REPLACED WITH A 12"X12"X $\frac{1}{2}$ " PL

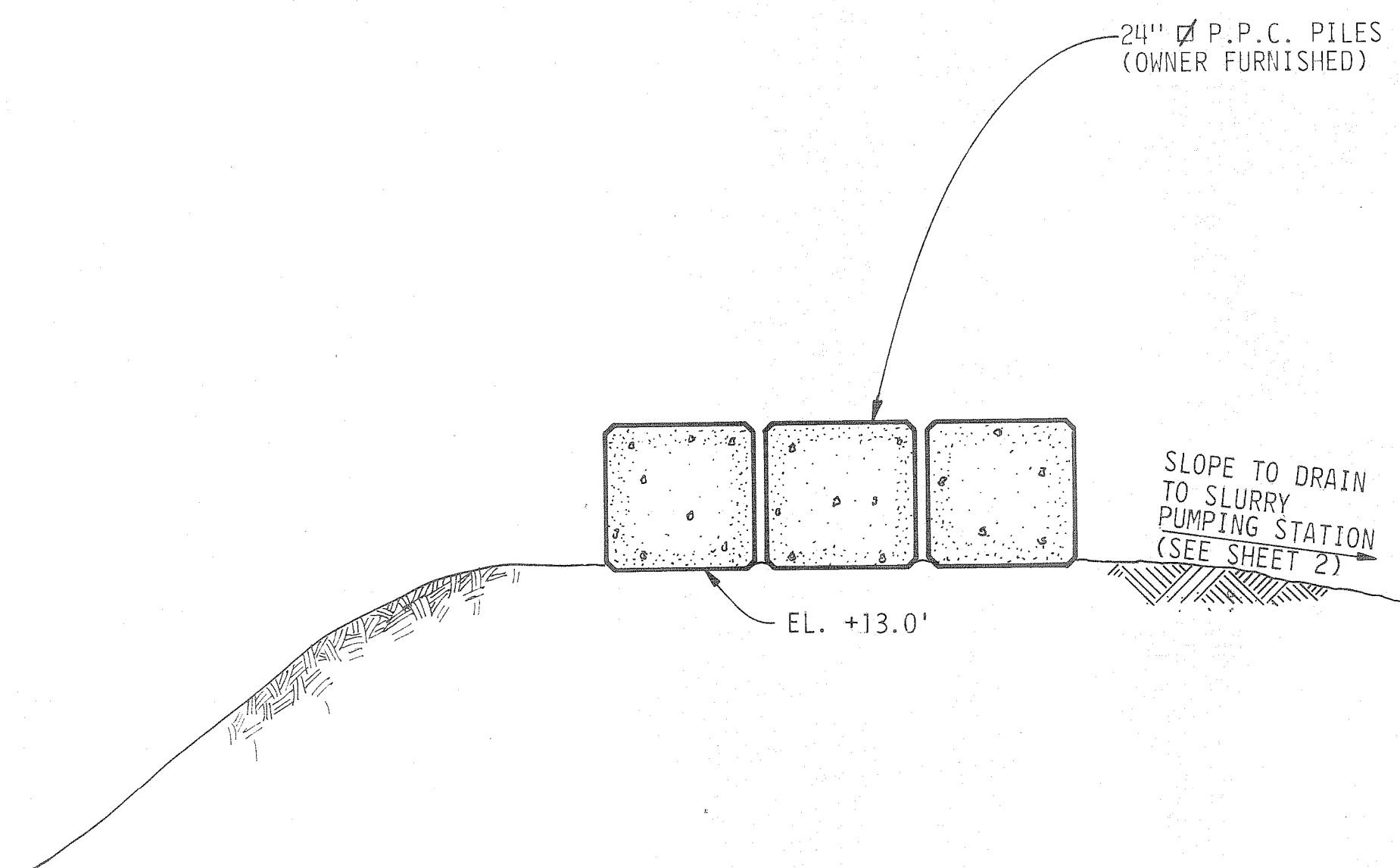
NOTE: TWELVE (12) EXISTING TIE-BACK RODS HAVE BROKEN OR PULLED THRU THE EXISTING SHEET PILE WALL. CONTRACTOR WILL BE REQUIRED TO EXTEND RODS AND REPLACE LOCK WASHER, 1" STEEL PL AND HEAVY HEX NUT (CONTRACTOR TO PREVENT ANY FURTHER MOVEMENT OF WALL WHILE REPAIRS ARE BEING MADE.

SECTION C-C
TIE-BACK REPAIRS AT EXISTING
CLEAN-UP STATION
(12 REQ'D)

SCALE: 3" = 1'-0"

TYPICAL CORNER FOR
SHEET PILE WALL

NOT TO SCALE

SECTION B-B
OWNER-FURNISHED P.P.C. PILES

NOT TO SCALE

OWNER FURNISHED P.P.C. PILING ARE STOCKPILED AT THE WEST END OF THE EXISTING CLEAN-UP STATION. PILES ARE TO BE PLACED END-TO-END FROM THE WEST END OF THE EXISTING CLEAN-UP STATION TO THE EXISTING ACCESS ROAD. ALL TWENTY, OWNER FURNISHED P.P.C. PILES ARE TO BE UTILIZED IN CONSTRUCTION OF THE BERM, THEREFORE THE EXACT PLACEMENT AND NUMBER OF ROWS OF PILING TO BE DETERMINED, IN THE FIELD, BY THE ENGINEER.

CONTRACTOR WILL BE REQUIRED TO GRADE AREA TO PROPER ELEVATION BEFORE PILES ARE PLACED. ADDITIONAL FILL REQUIRED TO BRING PILE LOCATION TO GRADE WILL BE OWNER FURNISHED AND CONTRACTOR PLACED.

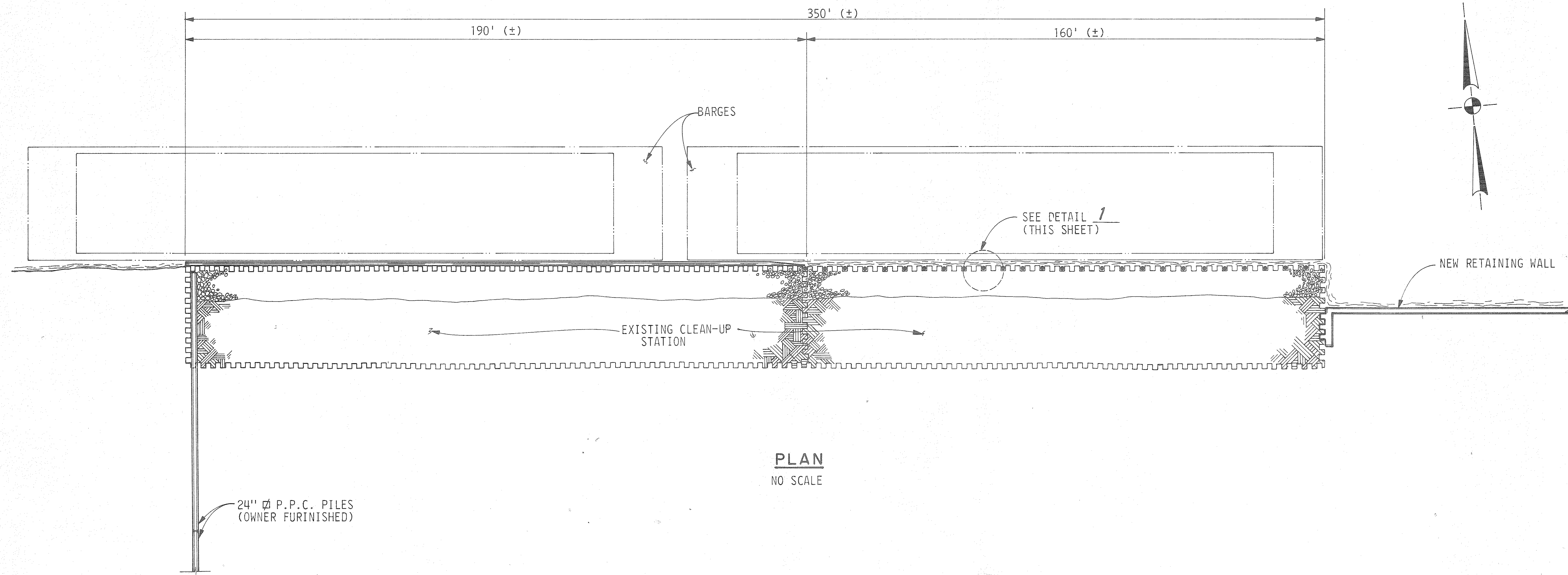
ALABAMA STATE DOCKS

GARROWS BEND RETAINING WALL

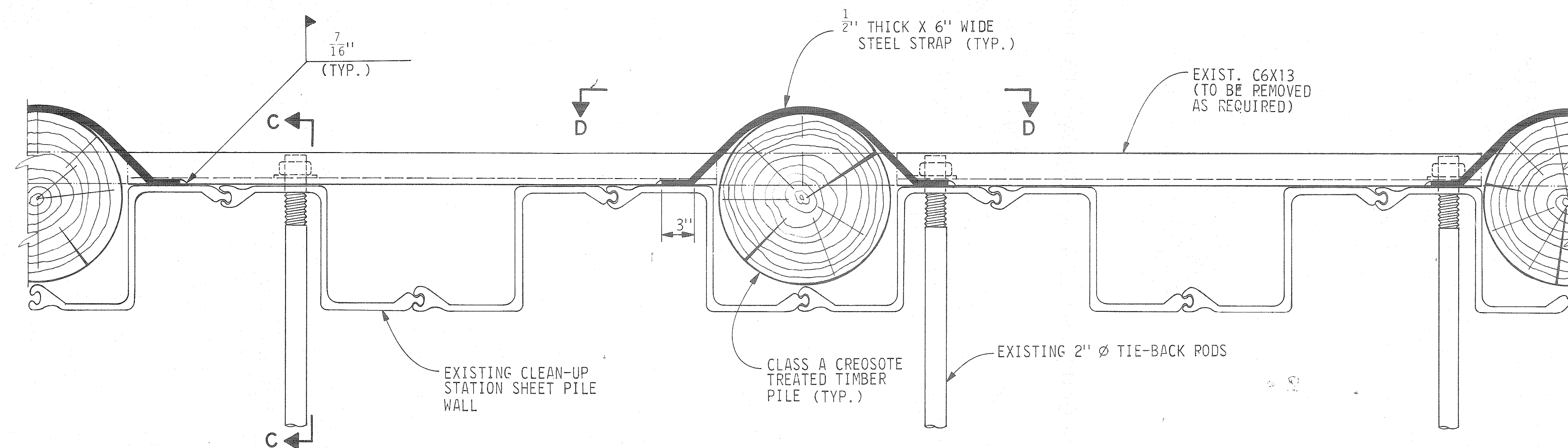
DETAILS

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

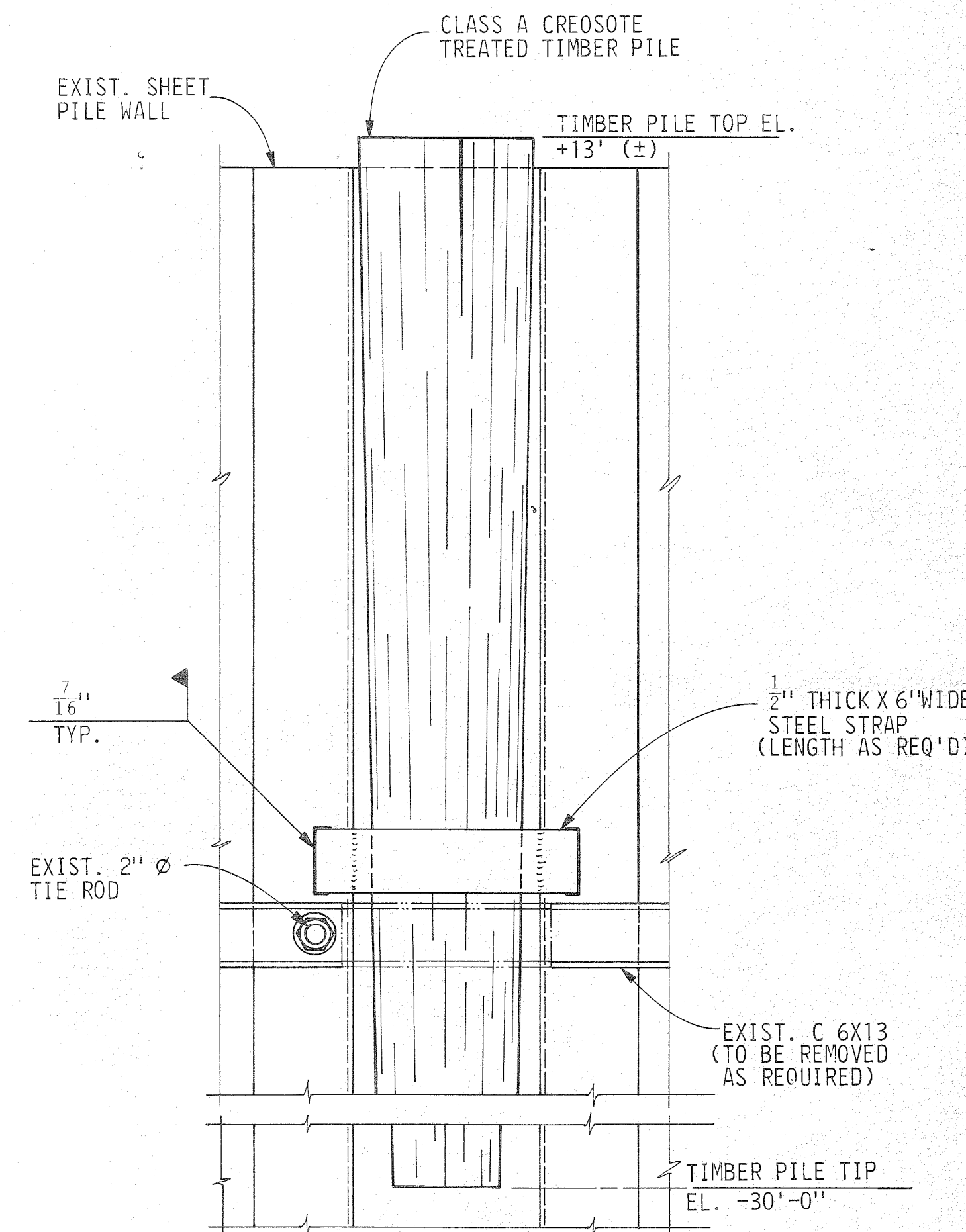
DESIGNED	J.R.T.	DETAILED	M.H.W.	TRACED	M.H.W.
CHECKED		CHECKED		CHECKED	
REVISIONS		DATE			



PLAN
NO SCALE



DETAIL "I"
SCALE: 3" = 1'-0"



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

ALABAMA STATE DOCKS

GARROWS BEND RETAINING WALL

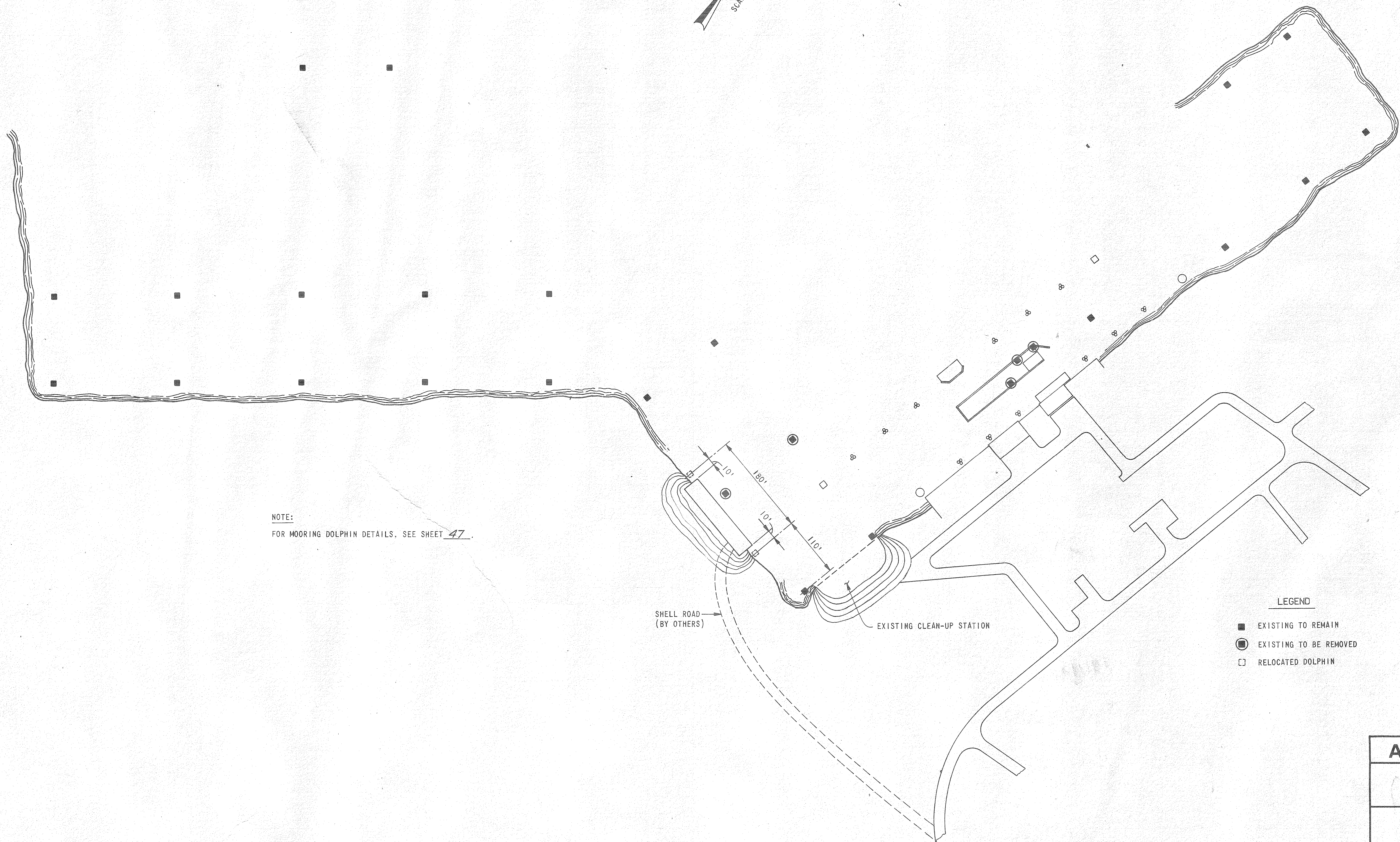
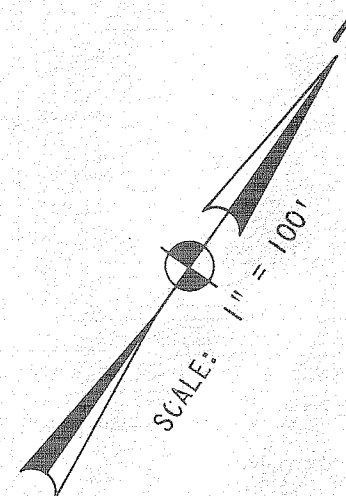
EXISTING CLEAN-UP STATION MODIFICATIONS

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

DESIGNED J.R.T.	DETAILED M.H.W.	TRACED M.H.W.
CHECKED	CHECKED	CHECKED
DATE		

REVISIONS

A.F.E. NO.	SPEC. NO.	SHEET NO.
1365	379	46



NOTE:
FOR MOORING DOLPHIN DETAILS, SEE SHEET 47.

LEGEND

- EXISTING TO REMAIN
- ◻● EXISTING TO BE REMOVED
- ◻ RELOCATED DOLPHIN

ALABAMA STATE DOCKS

McDUFFIE TERMINALS
PLANT EXPANSION

MOORING DOLPHIN LOCATION

DAVID VOLKERT & ASSOCIATES
CONSULTING ENGINEERS

DESIGNED	P. E. B.	DETAILED	G. G. M.	TRACED
CHECKED	F. E. S.	CHECKED	P. E. B.	CHECKED
REVISIONS		DATE		

