

Baker

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November 23, 1994

Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699

Attn: Ms. Linda Saksvig, P.E.
Code 1823

Re: Contract N62470-89-D-4814
Navy CLEAN, District III
Contract Task Order (CTO) 0222
Contaminated Soil and Groundwater
Remedial Design, Operable Unit No. 2
MCB, Camp Lejeune, North Carolina

Dear Ms. Saksvig:

Baker Environmental, Inc. (Baker) is pleased to submit the Revised Final Design Package Process and Electrical Control Drawings for Soil and Groundwater Remediation at Operable Unit No. 2. This package addresses review comments from LANTDIV's review subcontractor, The Greenwood Partnership, and includes the following items:

1. One set of full size drawings (P-1 through P-7, and E-8 through E-28), stamped and signed.
2. One set of mylar drawings, stamped and signed.
3. AutoCAD Files on disk.
4. Review comments on the process and control loop drawings (date November 4, 1994), with Baker responses.

This submittal should be combined with the Revised Final Design Packages that were submitted on September 9 and 30, 1994. At your direction, Baker has reviewed comments from The Greenwood Partnership and LANTDIV Code 04041 specific to Drawings E-1 through E-7. As discussed, at this point, these comments may best be addressed by the RAC Contractor, as necessary. This submittal should complete Baker's work on the Design Package Drawings and Specifications for this project.



A Total Quality Corporation

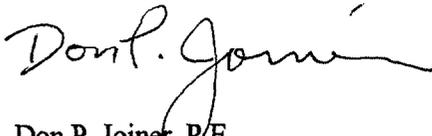
Baker

Ms. Linda Saksvig, P.E.
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If you have any questions or comments regarding this information, please contact me at (412) 269-2064 or Mr. Ray Wattras at (412) 269-2016.

Sincerely,

BAKER ENVIRONMENTAL, INC.



Don P. Joiner, P.E.
Project Manager

DPJ/ldq
Enclosures

cc: LCDR Steve Challeen, ROICC, MCB Camp Lejeune (letter only)
Ms. Beth Collier, Code 02115 (letter only)
Ms. Susan Gale, Code 1831 (letter only)
Mr. Jerry Haste, P.E., Code 0524 (letter only)
Mr. Neal Paul, AC/S EMD, MCB Camp Lejeune (letter only)
Mr. Don Petteway, Code 0411 (letter only)
Ms. Lee Anne Rapp, Code 183 (letter only)

DESIGN COORDINATION AND REVIEW COMMENTS
 5ND LANTDIV 3-1 1012/30 (NEW2/76)

JOB ORDER NO.
 RF4800

COMMENTS BY The Greenwood Partnership	CODE	PHONE 804/847-3400	DATE November 4, 1994
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PROJECT TITLE AND LOCATION Soil and Groundwater Remediation Operable Unit No. 2 Marine Corps Base, Camp Lejeune, North Carolina	TYPE OF REVIEW

DWG. NO. OR PAR. NO.	COMMENTS (MAKE GENERAL COMMENTS AFTER SPECIFIC COMMENTS)	ACTION TAKEN (& REASONS WHERE SIGNIFICANT)
P-1	Could have shown Air Compressor X-150 on drawing P-1 instead of P-2 for clarity.	DONE
P-2	In the notes, ***** indicates intermittent flow for backwash water. On P-1, *** indicates intermittent flow. Establish a consistent symbol for intermittent flow.	DONE
P-2	Flow stream arrow "Compressed air to plant users" should indicate "to plant users Drawing P-1."	BASED ON P-1 comment this comment is N/A
P-3	Symbol MW for manway is missing from legend.	Added to legend.
P-3	Miscellaneous symbols do not include centrifugal pump, positive displacement pump and motor symbols.	These symbols have been added
P-3	Under Symbol/Service, CAR is listed for activated carbon, while GAC is used in the drawings for granular activated carbon.	CAR is not listed on a line These are Fluid symbols in
P-4	The use of 6" and 8" ball valves in process water lines is unusual and not cost effective. Would suggest using high performance butterfly valves for at least 4" and larger.	Butterfly valves pipes have been shown.
P-4	What sizes are the sample and drain lines and valves? Are they shown somewhere else?	Done - see note on P-5.
P-5	Same comment as for P-4. Generally, use HP butterfly valves for lines 4" and larger.	DONE
P-5	Same comment as for P-4. What sizes are the sample and drain lines and valves?	Done - See note on P-5.
P-6	Same comment as for P-4. Generally, use HP butterfly valves for lines 4" and larger.	DONE
P-6	Same comment as for P-4. What sizes are the sample and drain lines and valves?	Done - See note on P-5.
P-6	Flow stream arrow "water to GAC Adsorber X-220A/B/C/D Drawing No. P-7" should be "water to Tank T-220 Drawing No. P-7."	Done - text corrected.
P-6	For Air Stripper Feed Pump P-200A, digital output is XI-200C, should be XI-200E.	Done - text corrected.
P-7	Same comment as for P-4. Generally, use HP butterfly valves for lines 4" and larger.	Done
P-7	Same comment as for P-4. What size are the sample and drain lines and valves?	Done - See note on P-5.

BARER RESPONSE 11-23-94

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DWG. NO. OR PAR. NO.	COMMENTS (MAKE GENERAL COMMENTS AFTER SPECIFIC COMMENTS)	ACTION TAKEN (& REASONS WHERE SIGNIFICANT)		
P-7	Level gauge on T-205, LG-205, shows an insulated tube. Is this gauge a sight glass or other type?	<i>This is a float board type.</i>		
* E-1	Disconnect switches and combination motor starters are shown as NEMA 12, UON. NEMA 12 is a dust-tight enclosure. Will environment be dusty? Lighting fixtures are damp label. Will environment be damp? Motor starters, panelboard, manual motor starter, etc. have no NEMA rating, which normally means NEMA 1 enclosures. Exterior equipment needs to be NEMA 3R minimum. Please clarify the types of enclosures to be utilized on all equipment.	<i>At the direction of Code 1823 - Baker has not revised Drawings E-1 → E-7. These comments will</i>		
E-1	Suggest wet label lighting fixtures be utilized in lieu of damp label. There is very little difference in cost and wet label fixtures generally hold up to moisture better than damp label fixtures.	<i>be addressed by the RAC Contractor.</i>		
E-1	Lamps for Type A lighting fixture should be "F32T8" not "F36T8."			
E-1	Suggest the panel MDP be provided with main circuit breaker.			
* E-1	Panelboard schedule presented is not adequate for relaying the information necessary to construct this project. Suggest that individual schedules be provided for each panel with the load description, KVA of load, circuit breaker size and number of poles for each load, conductor size and number of conductors for each load and ground size for each load.			
E-1	Legend refers to equipment "provided by others." On a single prime job, there is only one contractor and that contractor provides all equipment through his various subcontractors. Unless there are other prime contractors or some equipment is furnished by the government, "by others" should not be used.			
E-2	Poles are indicated as 40', Class 2 with "down guy and anchor as required." How is contractor to know when guys are required?			
E-2	Suggest that all conduit for controls and power in the ductbanks be 4". 4" conduit provides a much higher degree of flexibility than 2" with only a marginal increase in cost.			
E-2	Indicate how large the cover is to be on the handhole. 24" x 24" handhole may be difficult to work in for the number of conduits entering the handhole. Also, note that 36" deep handhole will not be deep enough to get the ductbank into base on ductbank section A. Suggest that a larger box be provided. Suggest that ground rod be provided in handhole.			
E-2	To what extent is the contractor to relocate the overhead electrical lines?	✓		

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PROJECT TITLE AND LOCATION Soil and Groundwater Remediation Operable Unit No. 2 Marine Corps Base, Camp Lejeune, North Carolina	TYPE OF REVIEW

DWG. NO. OR PAR. NO.	COMMENTS (MAKE GENERAL COMMENTS AFTER SPECIFIC COMMENTS)	ACTION TAKEN (& REASONS WHERE SIGNIFICANT)
E-2	Drawing indicates the use of #2, 15KV cables in overhead construction. Typically, overhead cables are bare. The type of insulators and crossarm construction dictates the voltage rating of the pole line.	
* E-2	The pole line to Piney Green Road needs to be detailed.	<i>THIS WORK SHOWN ON OHM DRAWING C-3</i>
E-3	There is no switching shown for lights in the process area. Switches are only shown in the office. Is the intention to switch all lighting in the process area at the panel? If so, some lighting outside the office area should be on a switch near the office door. It would be a good idea to put some of the lighting in the process area on switches by the various exterior doors.	<i>At the direction of Code 1823 - BAKER has not revised Drawings E-1 → E-7.</i>
E-3	The emergency lighting in the process area seems inadequate. Large equipment in the area may shadow the sparse lighting shown. Verify emergency lighting is adequate.	<i>These comments will be addressed by the RAC CONTRACTOR.</i>
E-3	Show circuiting and switching for all lighting.	
E-3	Panel MDP will be considerably bigger than that which is shown. Verify that adequate space has been allotted for all electrical equipment.	
E-3	Note 1 refers to "other contractors." See comment 6 for sheet E-1.	
E-4	Note 1 refers to "other contractors." See comment 6 for sheet E-1.	
E-4	No starter sizes are shown. Is contractor to determine size of starter?	
E-4	Typically, starters are furnished with compressors as packaged. Drawings show separate starter. Are drawings correct?	
E-4	Air compressor dryer is typically on a separate circuit from the air compressor. Drawings show the dryer and air compressor on the same circuit. Is this correct?	
E-4	Disconnects for roof mounted equipment need to be NEMA 3R, 4 or 4X.	
E-4	Motor starter for rooftop mechanical equipment is not shown in site of the disconnecting means (panelboard). This does not meet the requirements of NEC 430-102(a).	
E-5	Indicate on main distribution schematic that transformers are three phase.	
E-5	Tag 601, ground should be #2/0 per NEC Table 250-94.	
E-5	Provide bare or 600 volt ground in feeder 701. Also, recommend that 15 KV cable be specified as EPR insulation with tape shield.	

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E-5	Detail for riser pole will not work. Dead end construction should be detailed. Cutouts should be provided on the pole. Do they make a 15 KV weatherhead? Indicate how cable is to be terminated; it cannot be directly connected to the overhead cable without some sort of cable termination.	At the direction of Code 1823 - BAKER has not revised Drawings E-1 → E-7.	
E-5	On the Pad Mounted Transformer Detail, provide grounding bushing on both the primary and secondary conduits. Do not cast primary and secondary conduits into transformer pad. Movement of the pad will cause the conduits to break. Typically, windows are formed in the pad for the conduits to pass through.	These comments will be addressed by the RAC Contractor.	
E-5	Service entrance panel should be grounded to the metallic water service and to the process piping in addition to the ground rod.	↓	
E-6	Tie ground for control box to ground in fusible switch on water well pump enclosure. Run ground conductor in conduit between control box and grade.		
E-6	Suggest the minimum size single phase transformer be 2 KVA. A 1 KVA transformer is not enough to run a good size drill.		
E-6	Light switch on water well pump enclosure detail should be weatherproof.		
E-6	Is soil vapor extraction equipment to be provided by the prime contractor or his subcontractor? If so, note 2 implies that it is not in his contract and note should be clarified.		
E-7	Fluorescent exit sign detail does not indicate battery backup. This will be required.		
E-7	On the emergency lighting unit, indicate which type of batteries is to be provided.		
E-7	Exterior fluorescent will not operate below 20°F. Suggest that an incandescent be utilized instead. Considering that the light is not likely to be used often, energy cost and lamp life should not be a consideration.		
E-20	The second GAC Adsorber Feed Pump P-220A should be P-220B.		DONE
E-23	Under Software Abbreviation List, IX, position indicator should be XI.		DONE
E-25	Under detail, Paddlewheel Flow/Indicating Transmitter, Tag No. FE-105C/FIT-105A could not be found.	ADDED TAG No. DWG E-25	
E-25	A detail for FE-240 is not shown.	ADDED DETAIL DWG E-25	

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