# ATLANTIC COUNTY UTILITIES AUTHORITY

ACUA BID NO.: 2022-SW-07

## REBID GEOTHERMAL WELLFIELD REPLACEMENT

ADDENDUM NO.: 1

6/29/2022

THOMAS R. GANARD, P.E. N.J. LICENSE NO. 35261 To All Plan holders:

The Following changes, additions, and/or deletions are hereby made part of the Bid Documents for the Atlantic County Utilities Authority Bid Number 2022-SW-07 - Rebid Geothermal Wellfield Replacement, as fully and completely as if the same were set forth therein.

All Bidders shall acknowledge receipt and acceptance of the Addendum Number 1 by inserting its number, date, and bidder's initials on the Addenda Acknowledgment Form contained within the specifications. Bid packages submitted without the Addenda Acknowledgment Form will be considered unresponsive.

#### **Bid Opening Date/Time:**

The bid opening date is amended to July 13<sup>th</sup>, 2022, at 11:00AM prevailing time. The location remains the same.

The bid opening will be made available for viewing on Zoom at the following link: https://us06web.zoom.us/j/88183164819?pwd=b2dCWjINL0NoTWQ2Vis3cE5Id3B2QT0 9

Passcode: 710107

#### **Clarifications to the Contract Documents:**

The Contractor shall notify and obtain approval from ACUA in advance of any removal of trees and/or shrubs or disturbance to the existing landscaped area during the installation of the proposed Geothermal Wellfield. The authorized disturbed area(s) will be restored by ACUA at no cost to the Contractor.

Bid Document Addendum Number 1 includes the following attachments:

Attachment 1 – Questions Received in Writing (2 pages) Attachment 2 - Boring Logs B-4 and B-10, by Lippincott Engineering Associates (6 pages) From ACUA Recycling Center Attachment 3 – Geologic Logs and Location Map from TW-1 & OW-A15 (7 pages)

## **QUESTIONS RECEIVED IN WRITING**

1: We respectfully request a one week bid extension to allow us to develop a more comprehensive and competitive bid.

See page 2 for new time of bid opening. A new Zoom link is also provided.

2: Please provide representative soil borings that extend to depths required for installation of geothermal wells in order to properly evaluate drilling methods and production.

Two separate project boring logs are attached to this Addendum for evaluation by Bidders. First, are boring logs B-4 and B-10, prepared by Lippincott Engineering Associates. Borings B-4 and B-10 were located approximately 500 ft west of the proposed geothermal wellfield. The logs were performed in December 1990 for the construction of ACUA's Recycling Center Building. Both borings were drilled to an approximate 60-ft depth. Second, are boring logs of a well located approximately 5 miles southeast of the project site. The logs are dated October 2002 and April 2003. In these logs, subface soils were depicted to 795 ft and 824 ft deep.

Both sets of boring logs have been provided to bidders to assist in their evaluation of local/regional soil conditions. The ACUA does not guarantee that soil conditions at the proposed geothermal wellfield site will match either of the borings provided.

3: Please advise if work of a similar nature performed prior to the last 5 years can be considered as relevant experience.

Yes, work of a similar nature performed by the Contractor and/or their Subcontractor prior to the last 5 years can be considered as relevant experience.

4: Please advise if an alternate tie-in point would be considered, outside the limits of the existing concrete slab, in order to reduce impacts to the existing building.

The tie-in point shall be located as shown on the construction plans.

5: Please advise on the intent of the 6-inch diameter surface casing; for example, is this intended to maintain borehole stability in the upper 50 feet or some other purpose?

The 6-inch diameter steel casing is an if-and-where needed item for the purpose of preventing the walls of the boring from erosion, fracturing, breaking down, and undesirable water from entering the wells during the drilling and installation of the wells.

## 6: Please advise if ACUA can provide the electrical scope of the project.

The ACUA will perform all electrical portions of the scope, including disconnecting the existing pumps and re-connecting the new pumps. The contractor doesn't need to provide an electrician.

## 7: Please advise on the depth to groundwater from ground surface.

Per boring logs taken for the adjacent ACUA Recycling Center Building construction, the groundwater levels ranged from 26' to 32'-6" deep. The building is located approximately 500 ft west of the proposed geothermal wellfield. These boring logs were prepared by Lippincott Engineering Associates in December 1990 and are attached to this Addendum.

# 8: Please advise if drill cuttings and nominal amounts of drill fluid can be disposed at the landfill at no cost to the contractor.

Drill spoils can be disposed at the ACUA Landfill at no cost to the Contractor. The spoils shall be dewatered within the silt fence area prior to be transport off-site. Contractor shall provide the necessary equipment and manpower to transport the spoils to the active portion of the landfill. In addition, the materials must be weighed at the scale house prior to dumping and the transport container(s) shall be registered with NJDEP for waste disposal purposes.

LIPPINCOTT ENGINEERING ASSOCIATES         One Pavillon Avenue Riverside. New Jarsey 08075         SHEET
Cone Pavilion Avenue Riverside, New Jersey 08075       SHEET
December 10, 1990       SURFACE ELEV. 49+/-         MECT_ACUA Materials Recovery Building       CLIENT
T       SAMPLE Y       SAMPLE BLOW COUNT       CLASSIFICATION OF MATERIALS       MOISTURE CONTENT         SAMPLE Y       SAMPLE BLOW COUNT       CLASSIFICATION OF MATERIALS       MOISTURE CONTENT         SAMPLE Y       SAMPLE BLOW COUNT       CLASSIFICATION OF MATERIALS       MOISTURE CONTENT         SAMPLE Y       SAMPLE BLOW COUNT       CLASSIFICATION OF MATERIALS       MOISTURE CONTENT         S-1       A       0/       1-3-4-6       Orange brown medium-fine SAND, trace silty       (% by wgt.)         S-1       A       0/       1-3-4-6       Orange brown medium-fine SAND, trace silty       (% by wgt.)         S-2       A       2/       6-7-8-9       Orange brown medium-fine SAND, trace clayey silt, trace fine gravel.       (% by wgt.)         S-3       A       4/       9-8-8-9       Orange brown medium SAND, trace silt.       (% by wgt.)         S-3       A       6/       8-7-8-10       Orange brown medium SAND, trace silt.       (% by wgt.)         S-4       A       6/       8-7-8-10       Orange brown coarse-fine SAND, trace silt.       (% by wgt.)         S-5       A       8/       (% brown coarse-fine SAND, trace silt.       (% by wgt.)         S-5       A       10       (% brown medium-fine SAND, trace silt.       (% by wgt.)
TION       Eag Harbor Township, New Jersey       LOG OF BORING NUMBER       B - 4         SAMPLE       T       SAMPLE BLOW COUNT       CLASSIFICATION OF MATERIALS       MOISTURE CONTENT         NO.       P       E       (blows per 6 inches)       (blased on samples recovered plus observation (% by wgt.)         S-1       A       0/       1-3-4-6       Orange brown medium-fine SAND, trace silty clay.
BP/CMD       MOISTURE CONTENT         SAMPLE NO.       T P E       SAMPLE DEPTH (ft)       BLOW COUNT (blows per 6 inches)       CLASSIFICATION OF MATERIALS       MOISTURE CONTENT         S-1       A       0/       1-3-4-6       (based on samples recovered plus observation of material returned between samples)       (% by wgt.)         S-1       A       0/       1-3-4-6       Orange brown medium-fine SAND, trace silty clay.
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TIME: <u>EOB</u> DATE: <u>December 10, 1990</u>
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# LIPPINCOTT ENGINEERING ASSOCIATES

One Pavilion Avenue Riverside, New Jersey 08075

'ROJECT NO. 6840.1/9

JATE December 13, 1990

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CLIENT \_\_\_\_\_ Wehran Engineering

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# WELL LOCATION MAP



6/28/2022, 10:31:10 AM



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census

GEOLOGIC LOG	OWNER				
	WELL NO.: TW-1				
	PAGE: 1 of 2 PAGES				
SITE LOCATION: Atlantic City, New Jersey	SCREEN TYPE: Stainless Steel (SS) DIAMETER: 10-inch				
Department of Public Works (DPW) Highway 40/322 (Albany Ave.)	SLOT NO.: 60 SETTING: 722 to 772 ft bg STAINLESS STEEL SUMP SETTING: 772 to 777 ft bg				
DATE COMPLETED: April, 2003	SAND PACK SIZE: #3 Filpro				
	SETTING: 710 to 777 ft bg				
DRILLING COMPANY: Unitech Drilling Co. (UTD)	CASING TYPE:DIAMETER:SETTING:Carbon Steel Salt-Water24-inchgrade to 150 ft bgCarbon Steel16-inch+ 2 to 720 ft bgCarbon Steel Backoff10-inch620 to 715 ft bgStainless Steel Transition10-inch715 to 725 ft bg				
DRILLING METHOD: Reverse Mud Rotary	SEAL TYPE: Portland Type II Cement				
SAMPLING METHOD: Wash & Split Spoon (from 15-ft observation well, OW-A15)	SETTING: grade to 150 ft bg & grade to 720 ft bg				
OBSERVER: Bill Kwitnicki	BACKFILL TYPE Formation sands and clays				
REFERENCE POINT (RP): Ground Surface	STATIC WATER LEVEL: 86.1 DATE: 4/14/03				
ELEVATION OF RP: Approx. 7 ft above mean sea level	DEVELOPMENT METHOD: Turbine Pump w/ Rawhiding				
SURFACE COMPLETION: Stickup (~ 2-ft)	DURATION: 53 hours ETIMATED YIELD: 1,200 gpm				
<b>COMMENTS:</b> This generalized geologic log is based on the d a much more detailed geologic log, refer to the log for Well O	rilling & sampling of the 15-ft observation well, OW-A15. For W-A15.				

DEPTH (FEET)		FORMATION	DESCRIPTION		
FROM	то				
0	11	Fill Material	Grass/topsoil, asphalt/cement fragments, coarse fill material (gravel and sand)		
11	16	Recent Organic Deposits	Black organic material, some peat, sulfide odor		
16	144	Cohansey Formation (Fm.)	Interbedded micaceous, quartz SANDS some clays some silts		
144	280	Kirkwood Fm. (Upper)	SILTY gray clay, some interbedded sands		
280	334	Kirkwood Fm. (Belleplain Member)	SANDY f,m,c, and trace to little clay lenses		

334	Kirkwood Fm. (Wildwood Member)	Gray cohesive CLAY some silt and shell fragments (at 480 to 515 ft bg, "Rio Grande Water Bearing Zone" - SANDY some silt some clay)
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OWNER:		 			and the second sec		
WELL NO .:	TW-1	 PAGE:	2	OF 2	PAGES	 	a.'

DEPTH (FEET)							
FROM	то	FORMATION	DESCRIPTION				
655	68 <mark>5</mark>	Kirkwood Fm. (AC 800-ft Sand, Upper)	Interbedded SAND c,m,f some silt some clay trace shell fragments				
685	725	Kirkwood Fm. (AC 800-ft Sand, Thin Confining Unit)	Gray CLAY some sand some silt trace shell fragments				
725	795	Kirkwood Fm. (AC 800-ft Sand, Lower)	SAND c,m,f with some pea-sized gravel and trace shell fragments				
	795 EOB						

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GEOLOGIC LOG	OWNER:			
	WELL NO.: OW-A15			
	PAGE: 1 of 4 PAGES			
SITE LOCATION: Atlantic City, New Jersey Department of Public Works (DPW)	SCREEN TYPE: Stainless Steel DIAMETER: 4 inch			
Highway 40/322 (Albany Ave.)	<b>SLOT NO.:</b> 20 <b>SETTING:</b> 725 to 775 ft bg			
DATE COMPLETED: 10/7/02	SAND PACK SIZE: #1 Filpro			
	SETTING: 705 to 775 ft bg			
DRILLING COMPANY: Unitech Drilling Co.	CASING TYPE: Steel DIAMETER: 4 inch			
DRILLING METHOD: Mud Rotary	SETTING: 0 to 725 ft bg			
SAMPLING METHOD: Wash & Split Spoons	SEAL TYPE: #00 Filpro & Portland Cement			
OBSERVER: Bill Kwitnicki	SETTING: 700 to 705 ft bg & 0 to 700 ft bg			
REFERENCE POINT (RP): Ground Surface	BACKFILL TYPE: Formation sands and clays			
ELEVATION OF RP: Approx. 7 ft above mean sea level	<b>STATIC WATER LEVEL:</b> 87.2 <b>DATE:</b> 10/7/02			
SURFACE COMPLETION: Flush with ground	DEVELOPMENT METHOD: Air Surge & Lift			
	DURATION: 4 hours ETIMATED YIELD: 50 gpm			
COMMENTS:				

DEPTH (FEET)		SAMPLE	BLOW	RECOVERY	DESCRIPTION
FROM	то	TYPE	TYPE COUNT	(feet)	
0	11	W	, <del>,,,</del> );		Grass/topsoil, asphalt/cement fragments, coarse fill material
11	16	W	در <b>با</b> رد مراجع	121	Black organic material, some peat, sulfide odor
16	20	W		÷	Fine gray quartz (qtz) sand
20	40	W	17	÷.	Silty gray clay
40	64	W	·4	24 C	FMC light (qtz) sandy clay
64	66	SS	18-19-50R	1	CMF gray (qtz) sandy gravel, micaceous
64	84	W	4 <b>7</b>	t.	MF qtz & plagioclase sand
84	86	SS	22-45-50R	8 inches	FM qtz sand grading into C sandy gravel
84	104	W	×		FMC gray qtz sand, poorly sorted, small clay lenses
104	106	SS	21-50R	8 inches	Orange-tan FMC qtz sandy gravel

OWNER:

WELL NO .:

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DEPTH (FEET)		SAMPLE	BLOW	RECOVERY (feet)	DESCRIPTION	
FROM	то		(6 inch)	(1001)	·	
104	124	W	2	Line and the second	Tan FM qtz sands with small clay lenses	
124	126	SS	13-22-50R	2 inches	Rounded gravelly gray clay	
124	144	W	•		MC sandy gravelly clay	
144	146	SS	20-30-47-38	1.5	Gray cohesive clay with minor sand & gravel at top	
144	164	W	20 <b>0</b> 1	.#.	Gray cohesive clay (144-154) MC sand with peat fragments (155-164)	
164	166	SS	17-7-9-16	2	Gray clayey silty F sand	
164	184	W		14). (4).	Gray silty clay	
184	186	SS	7-6-9-8	2	Gray silty clay	
184	204	w	. <del>.</del>		Gray silty clay	
204	206	SS	33-50R	7 inches	Gray F sandy clay	
204	224	W		·• <b>**</b>	Gray F sandy clay, brownish clay at 220	
224	226	SS	27-32-50R	3 inches	Brown clayey silty peat	
224	244	W	÷		CMF light qtz sands and gray clay	
244	246	SS	17-50R	6 inches	Gray silty clay grading into MF light sands	
244	264	W	18	44	CMF tan-gray sand, micaceous	
264	266	SS	20-23-50R	1.25	CMF gray sandy silt	
264	284	W		-	CMF gray sand with gray clay lenses	
284	286	SS	50R	5 inches	MF brown-gray sand with gray clay on top	
284	304	W	*		CMF brown-gray sand with minor clay lenses and peat	
304	306	SS	50R	3 inches	MF brown-gray sand with gray clay lenses and gravel	
304	324	W	÷	19	CMF gray sand with gray clay lenses and peat	
324	326	SS	50R	2 inches	MF gray sand with minor clay lenses	
324	344	W	-	. <del></del> .	CMF gray sand (to 334) gray clay (to 344)	
344	346	SS	8-6-22-12	2	Dark gray cohesive clay	
344	364	W	¥		Gray cohesive clay	
364	366	SS	6-9-14	2	Gray cohesive clay with shell fragments	
364	384	w	et al a construction de la const	-	Gray cohesive clay with shell fragments	
384	386	SS	5-22	1	Gray silty clay with shell fragments	
384	404	W	· · · · · · · · · · · · · · · · · · ·	-	Gray silty clay with shell fragments	

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DEPTH FROM	(FEET) TO	SAMPLE TYPE	BLOW COUNT (6 inch)	RECOVERY (feet)	DESCRIPTION	
404	406	SS	7-13	2	Gray cohesive clay with shell fragments	
404	424	W	1		Gray silty clay with shell fragments	
424	426	SS	6-36	2	Gray cohesive clay with shell fragments	
424	444	W			Gray cohesive clay with shell fragments	
444	446	SS	20-16-22	1.75	Gray cohesive clay with shell fragments	
444	464	W			Gray clayey silt with shell fragments	
464	466	SS	23-21-24	1.5	Gray-brown cohesive clay	
464	484	W	÷		Gray clayey silt (to 480) F brown-gray sand (to 484)	
484	486	SS	50R	1.25	F brown-gray sandy clay with shell fragments	
484	504	W	. **	-	FM brown-gray sandy clay with shell fragments	
504	506	SS	50R	1 inch	Gray-brown F sandy silty clay with shell fragments	
504	524	W	· · ·		FM gray sandy clay	
524	526	SS	77R	1 inch	F gray sandy silty clay	
524	544	W	.*		Thin (6 inch to 1 ft) alternating gray sand/clay layers	
544	546	SS	67-50R	1.5	Dark gray clay	
544	564	W			Dark gray clay	
564	566	SS	37-31-44	1.5	Gray clay with shell fragments	
564	584	W	. <b></b> .	****	Gray clay with shell fragments	
584	586	SS	26-27	2	Brown-gray clay with shell fragments	
584	604	W	-	-	Gray clay with shell fragments	
604	606	SS	27-14	2	Dark gray laminated clay, micaceous	
604	624	W		-	Dark gray clay	
624	626	SS	15	1.5	Gray-brown clay with shell fragments	
624	644	W		· · · · · · · · · · · · · · · · · · ·	Gray-brown clay with shell fragments	
644	646	SS	23-20	1.25	Gray clayey silt with shell fragments	
644	664	w		-	Gray clay with shell fragments	
664	666	SS	76R	0	No recovery, sed trap was broken	
664	684	W		ti	CMF light qtz sand with clay lenses and shell fragments	
684	686	SS	24-38	2 inches	MF qtz gray sand	

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DEPTH (FEET)						
FROM	то	SAMPLE TYPE	BLOW COUNT (6 inch)	RECOVERY (feet)	DESCRIPTION	
684	704	w			CMF qtz sand with clay lenses, gray clay at bottom	
704	706	SS	100 (7")	2	Gray clay with 0.5 inch layers of MF sand	
704	724	W	•		Alternating layers of CMF sand & gray clay with shells	
724	726	SS	28 (7")	3 inches	Gray clay layer and layer of MF qtz sand	
724	744	W			CMF qtz gray sand	
744	746	SS	78R	4 inches	CMF brown qtz sand and round pea-sized gravel and shells	
744	764	W	÷		CMF brown sands and round pea-sized gravel and shells	
764	766	SS	99	3 inches	CMF gray sand and round pea-sized gravel and shells	
764	784	w	· · · · ·		CMF gray sand and round pea-sized gravel and shells	
784	786	SS	108 (5")	2.5 inches	CMF gray sand and round gravel and shells	
784	804	W			CMF gray sand, shells and clay lenses	
804	806	SS	34-21	1.5	Gray-brown silty clay, micaceous	
804	824	W	**		Gray silty clay with shells	
824	826	SS	30 (5")	1.5	Gray-brown clay with shells	
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