US Army Corps
of Engineers
Philadelphia District

PEARCE CREEK CONFINED DISPOSAL AREA MODIFICATION

CECIL COUNTY
MARYLAND

WELL ABANDONMENT PLAN NARRATIVE

INITIAL SUBMISSION
JUNE 2014

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PREPARED BY:

UNITED STATES ARMY CORPS OF ENGINEERS
PHILADELPHIA DISTRICT
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

PEARCE CREAK CONFINED DISPOSAL AREA MODIFICATION
WELL ABANDONMENT PLAN NARRATIVE

BACKGROUND

The USACE will implement construction changes to the Pearce Creek Confined Disposal Facility (CDF) for dredge material once the Maryland Department of the Environment (MDE) approves the design modifications and provides a Water Quality Certification to reopen this CDF to allow placement of new dredge material. The construction changes include raising the dikes and installing an impermeable liner to prevent dredged water from migrating into the aquifer system under the CDF.

As part of the construction modifications to the CDF, the USACE will abandon all monitoring wells inside the dikes to allow for placement of the liner. In addition, a few other monitoring wells outside the dikes are planned for abandonment, and many new wells and piezometers will be installed to monitor groundwater quality changes in the aquifer system around the CDF. A thorough discussion of the location, construction, and sampling of the new monitoring wells is presented in the USACE's Groundwater Monitoring Plan, presented to MDE under separate cover.

WELL ABANDONMENT

Twelve monitoring wells are planned for abandonment. Ten wells are located in the interior of the CDF and two additional exterior wells, located outside the dike near the entrance, are also scheduled for abandonment. Figure 1 presents well locations.

The wells to be abandoned are constructed with either 2- or 4-inch diameter PVC casing, have total depths ranging from 22 to 177 feet below ground surface (bgs), and generally are constructed with either 5 or 10 feet of well screen. Table 1 presents well construction information.

Since all the wells to be abandoned are in water-bearing zones that are interconnected, the wells will simply be abandoned by pressure tremie grouting, from the bottom up, a bentonite/cement slurry into the wellbore. After the wells have been grouted and sealed, the PVC casing will be cutoff 3 feet below grade and removed for disposal, along with the outer protective steel casing and concrete pad. The ground surface will then be roughly graded to match existing terrain.

Well abandonment work will be completed by a Maryland-licensed drilling contractor, who will obtain all applicable permits, licenses, or other requirements necessary. Well abandonment will be in accordance with the Code of Maryland Regulations (COMAR), 26.04.04 - Well Construction, Regulation 11 – Abandonment Standards. An experienced geologist will also be present on site each day documenting the work.

After the wells are abandoned, Water Well Abandonment-Sealing Report Forms from the MDE - Water Management Administration will be submitted to MDE and the Cecil County Health Department, not later than 30 days after abandonment of each well.


Figure 1 - Wells to be Abandoned
USACE Pearce Creek CDF
Interior Monitor Well
Exterior Monitor Well
CSW-2/2A
CSW-15
16A/81
CSW-1/4R
CSW-6
19A/19B
3A/3R
Elk Rd
Basin Rd
Bluff Rd
Circle Dr
Midway Dr
South Dr
High Rd
Old Barn Ln
Maryland Dr
Bay Cir
Edgewater Dr
Wickwire Dr
Pond Creek Ln
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Table 1 - Well Construction Details
USACE Pearce Creek CDF
Cecil County, Maryland

USGS local identifier	USACE local identifier	Well Status	State well permit number	Easting ddmmss.s	Northing ddmmss.s	Depth of well (ft bls)	Diameter of well (inches)	Material composition of open interval	Screen interval (ft bls)	Aquifer and local water-bearing zone in which well was completed
Observation wells										
CE Dd 81*	---	Active	CE-81-0469	392536.8	755929.9	115	4	PVC	110-115	UPA, shallow
CE Dd 122	**CSW 1**	Active	CE-94-1016	392535.9	755919.3	129.33	4	PVC	119-129.33	UPA, shallow
CE Dd 123	CSW 4	Abandoned	CE-94-1019	392535.7	755920.0	59	4	PVC	48.67-59	MA
CE Dd 124	**CSW 6**	Active	CE-94-1020	392536.0	755920.1	22	2	PVC	21-22	Fill material
CE Dd 125	CSW 5	Active	CE-94-1080	392514.2	755842.9	90.33	4	PVC	80.33-90.33	MA
CE Dd 126	**CSW 2**	Active	CE-94-1017	392556.0	755900.5	127.5	4	PVC	117.5-127.5	UPA, shallow
CE Dd 127	CSW 7	Active	CE-94-1021	392550.1	755938.8	91.3	4	PVC	80.97-91.3	UPA, shallow
CE Dd 128	CSW 8	Active	CE-94-1081	392540.1	755943.8	128.25	4	PVC	117.92-128.25	UPA, shallow
CE Dd 129	CSW 9	Active	CE-94-1134	392547.2	755917.3	125	4	PVC	114.67-125	UPA, shallow
CE Dd 130	CSW 10	Active	CE-94-1447	392539.1	755921.9	115	2	PVC	100-115	UPA, shallow
CE Dd 131	CSW 11	Abandoned	CE-94-1448	392603.4	755856.2	58	4	PVC	53-58	MA
CE Dd 132	CSW 12	Abandoned	CE-94-1449	392520.4	755903.5	38	2	PVC	28-38	MA
CE Dd 133	CSW 13	Active	---	392546.0	755819.0	53	4	PVC	48-53	MA
CE Dd 134	CSW 14	Abandoned	CE-94-1451	392520.3	755903.4	119	2	PVC	109-119	UPA, shallow
CE Dd 135	**CSW 15**	Active	CE-94-1452	392546.0	755848.2	99	2	PVC	89-99	MA
CE Dd 136	**2A**	Active	CE-95-3089	392555.7	755900.2	55	4	PVC	50-55	MA
CE Dd 137	**3A**	Active	CE-95-3098	392527.2	755908.1	63	4	PVC	53-63	MA
CE Dd 138	**3R**	Active	CE-95-3097	392527.2	755908.1	120	4	PVC	110-120	UPA, shallow
CE Dd 139	**4R**	Active	CE-95-3090	392535.7	755919.8	58	4	PVC	48-58	MA
CE Dd 140	7A	Active	CE-95-3096	392548.4	755939.1	16	4	PVC	11-16	MA
CE Dd 141	7B	Active	CE-95-3095	392548.4	755938.1	222	4	PVC	217-222	UPA, deep
CE Dd 142	8A	Active	CE-95-3088	392540.4	755945.0	89	4	PVC	79-89	UPA, shallow
CE Dd 143	8B	Active	CE-95-3087	392540.4	755945.0	44	4	PVC	39-44	MA
CE Dd 144	9A	Active	CE-95-3107	392547.1	755917.2	27	4	PVC	22-27	perched
CE Dd 145	11C	Active	CE-95-3106	392603.4	755856.3	30	4	PVC	20-30	MA
CE Dd 146	11R	Active	CE-95-3105	392603.5	755856.4	128.5	4	PVC	118.5-128.5	UPA, shallow
CE Dd 147	11A	Active	CE-95-3104	392603.5	755856.4	198	4	PVC	188-198	UPA, deep
CE Dd 148	12R	Active	CE-95-3103	392520.3	755904.3	40	4	PVC	35-40	MA
CE Dd 149	14R	Active	CE-95-3102	392520.3	755904.4	118	4	PVC	108-118	UPA, shallow
CE Dd 150	13A	Active	CE-95-3101	392546.6	755818.7	145	4	PVC	135-145	UPA, shallow
CE Dd 151	16A	Active	CE-95-3100	392536.8	755929.9	40	4	PVC	30-40	Magothy
CE Dd 152*	16B	Active	CE-95-3099	392536.8	755929.9	177	4	PVC	167-177	UPA, deep
CE Dd 153	17A	Abandoned	CE-95-3094	392520.7	755833.2	88	4	PVC	78-88	MA
CE Dd 154	17B	Abandoned	CE-95-3086	392520.7	755833.2	162	4	PVC	152-162	UPA, shallow
CE Dd 155	17C	Active**	CE-95-3085	392520.7	755833.2	223	4	PVC	213-223	UPA, deep
CE Dd 156	18B	Active	CE-95-3084	392552.2	755916.4	87	4	PVC	77-78	UPA, shallow
CE Dd 157	**19A**	Active	CE-95-3091	392536.8	755900.9	56	4	PVC	51-56	MA
CE Dd 158	**19B**	Active	CE-95-3092	392536.8	755900.9	112	4	PVC	107-112	UPA, shallow
CE Dd 159	20A	Abandoned	CE-95-3093	392544.7	755946.0	35	4	PVC	25-35	MA
CE Dd 160	20B	Abandoned	CE-95-3083	392544.7	755946.0	116	4	PVC	106-116	UPA, shallow
CE Dd 191	21-D	Active	CE-95-3343	392530.3	755820.5	150	4	PVC	145-150	UPA, shallow
CE Dd 192	21-S	Active	CE-95-3342	392530.3	755820.5	67	4	PVC	57-67	MA
CE Dd 193	22	Active	CE-95-3350	392524.6	755814.5	88	4	PVC	78-88	MA

Bold type indicates an interior well to be abandoned. * Indicates an exterior well to be abandoned.

** This well was converted to a domestic well