Cape May Seawall
City of Cape May
Cape May County, New Jersey

Coastal Storm Risk Management
Continuing Authorities Program Section 103

Appendix B

Engineering Support Documents

February 2021

U.S. ARMY CORPS OF
ENGINEERS
PHILADELPHIA DISTRICT

Cape May Seawall
City of Cape May
Cape May County, New Jersey

Draft integrated Feasibility Report & Environmental Assessment

Appendix B

Engineering Support Documents

Table of Contents

Cape May Seawall, Cape May, NJ

Section 103 Coastal Storm Risk Management Study

Coastal Engineering Analysis

22 June 2020

Table of Contents

Cape May Seawall
Section 103 Coastal Storm Risk Management Study

Coastal Engineering Analysis

Philadelphia District
Engineering Division
Hydrology, Hydraulics & Coastal Section

12 June 2020

1.0 INTRODUCTION

1.1 Background

Major coastal storms have historically produced significant flood damages in low-lying areas of the city of Cape May as a direct result of wave runup and overtopping from the Atlantic Ocean. The most notable overtopping events that have occurred within the last two decades include the 1991 Halloween Storm (Figure 1) and Hurricane Sandy in 2012 (Figures 2 and 3). Flood damages from Hurricane Sandy prompted this Section 103 Continuing Authorities Program (CAP) study to determine feasibility of a coastal storm risk management measure to reduce vulnerability to ocean flooding from similar future events.

Figure 1. Overtopping at intersection of Beach Ave and Wilmington Ave, Cape May during 1991 Halloween Storm

Figure 2. Overwash deposits at intersection of Beach Ave and Wilmington Ave, Cape May produced by overtopping during Hurricane Sandy

Figure 3. Flooding at intersection of Beach Ave and Pittsburgh Ave, Cape May produced by overtopping during Hurricane Sandy

1.2 Existing Coastal Storm Risk Management Measures

The ocean shoreline along the city of Cape May includes an existing stone seawall/paved promenade (Figure 4) that was built by the State of New Jersey following destruction of the beachfront and boardwalk by the Ash Wednesday Storm in March 1962. The average crest elevation along the centerline of the existing seawall/promenade is approximately 9.5 ft above the North Atlantic Vertical Datum of 1988 (NAVD88).

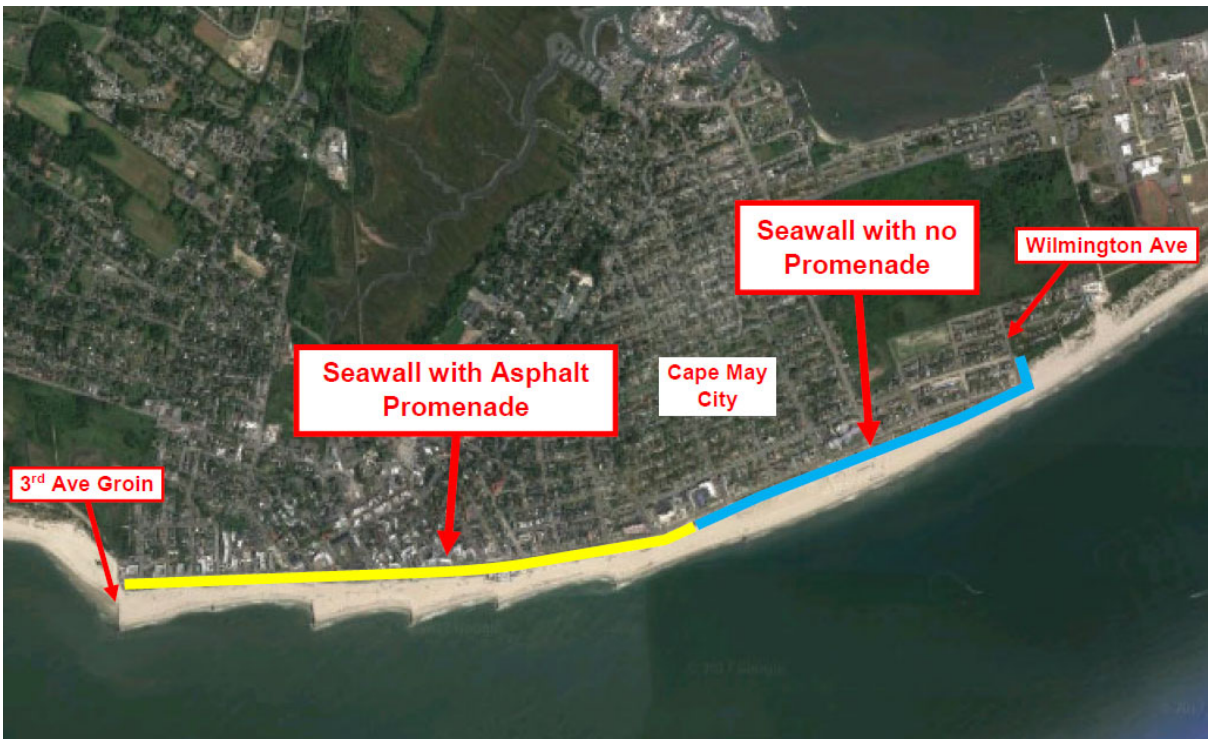

Figure 4. Existing Seawall along Cape May shoreline

A Federal beach nourishment project (Cape May Inlet to Lower Township) was constructed in 1991 (Figure 5) to provide flood and storm damage reduction and to mitigate beach erosion attributed to the Cape May Inlet Federal navigation project jetties located at the eastern end of the project (USACE 1980, USACE 1983). The Federal beach project includes periodic renourishment at a 2-yr interval. The authorized project design includes a berm-only template (no dune) with berm crest elevation of +6.7 ft NAVD88, an above-water beach width that extends approximately 200 ft from the seawall to the Mean High Water (MHW) contour, and a below-MHW profile that extends to the depth of closure.

Figure 5. Federal beach fill project along Cape May shoreline

Additional existing shore protection measures include a series of shore-perpendicular groins located along the shoreline and a dune system of varying width and elevation located on the landside of the Federal project berm and along the seaward face of the seawall. The dune system has developed over time through a combination of natural windblown accretion and local beach management measures to stabilize, enhance, and maintain the dune as a protective feature. Existing dune elevations vary from approximately +8 ft NAVD88 to +13 ft NAVD88.

1.3 Overtopping Vulnerability and Need for Additional Risk Reduction Measures

Ocean overtopping of a sandy shoreline is a function of both the cross-sectional width of the beach profile and the crest elevation of the berm and any dune, and/or flood-reducing hard structure (seawall or bulkhead) that may exist along the shoreline. Beach width is important because it attenuates wave energy and reduces the landward extent of wave runup and overtopping. Crest elevation is important because it provides freeboard against peak water levels and reduces the volume of overtopping from wave runup that reaches the crest and from waves that break directly on the structure face.

For Cape May, the combined measures of the existing seawall, Federal beach nourishment project, groins, and dune system have provided a largely stable beach of sufficient cross-sectional width and elevation to effectively reduce risk of overtopping and flooding along a majority of the shoreline. In fact, anecdotal storm reports and post-storm site inspections indicate that of the 2 ¼ mile length of project shoreline extending along Beach Avenue from Wilmington Avenue (located at the east end of Cape May) to the Third Avenue groin (located at the west end of Cape May), only an approximately 300-ft long segment at the eastern-most end (Figure 6) has experienced significant overtopping during recent flooding events. Overtopping vulnerability in this area is due primarily to the relatively narrow width of beach fronting Beach Avenue near the intersection of Wilmington Avenue. The narrowness of the beach in this area is a direct result of Beach Avenue bending to the south relative to the stable shoreline alignment, and is a classic case of infrastructure encroachment on a beach nourishment project (Figure 7).

1.4 Consideration of Measures for Detailed Coastal Analysis

In the case of infrastructure encroachment on a narrow shoreline, widening the beach by placing additional fill only in the locally narrow area is not feasible because the placed sand rapidly redistributes laterally into a stable shoreline alignment. Long-term widening of the narrow beach area would requiring either significantly overfilling adjacent beach areas to advance the entire Federal project shoreline seaward, or constructing new groins to trap sediment along the narrow beach area. Both of these options would involve substantial cost beyond the scope and authority of the present CAP study and were not considered further in this analysis.

Figure 6. Vulnerable area of Cape May shoreline at corner of Beach Ave and Wilmington Ave

Figure 7. Narrow beach width at corner of Beach Ave and Wilmington Ave

Raising the cross-section elevation is a potentially feasible option within the study scope. Alternatives initially considered for analysis included constructing and maintaining a permanent dune and raising the elevation of the existing seawall[1]. After initial assessment, the dune-only alternative was removed from further consideration because long-term monitoring analyses of the existing beach profile (USACE, 2017) together with the history of past storm responses indicate that the existing narrow beach width in the vulnerable area cannot support a dune of height and width required to provide sustained reduction in overtopping. Therefore, detailed coastal analysis in this study focused on raising the crest elevation of the existing seawall along the 300-ft length of vulnerable shoreline.

2.0 COASTAL ANALYSIS

2.1 Purpose

The purpose of the coastal analysis was to model overtopping response for without-project (existing seawall) and with-project (raised seawall) alternatives and to develop flood elevation frequency curves for low-lying interior areas of Cape May that have been historically damaged by overtopping of the existing seawall. Flood elevation frequency curves generated through this analysis were used as input to the economic analysis which applied the Hydrologic Engineering Center Flood Damage Reduction Analysis (HEC-FDA) model to quantify storm damage reduction benefits of raising the existing seawall, and to determine the optimal height that maximizes net benefits. The coastal analysis evaluated flood elevation frequencies using a comprehensive range of potential future storm events and considered the entire range of future sea level change (SLC) rates as required by ER 1100-2-8162 (USACE, 2019).

2.2 Approach

The North Atlantic Coastal Comprehensive Study (NACCS) database (USACE, 2015) was used to generate a comprehensive population of tropical and extra-tropical storm wave and water level time histories that represent the full frequency range of storm events that could impact the study area. Using the population of potential storm events, multiple life cycles of storm occurrence were generated using a Monte-Carlo approach within the Empirical Simulation Technique (EST) framework (USACE, 1999). Storm occurrences generated in each life cycle were analyzed individually to calculate total overtopping volume by storm. The computed overtopping

[1] A raised berm alternative was not considered because berms constructed higher than the natural berm elevation create shoreline scarping issues and are not recommended in the design guidance (USACE, 2008).

volumes for all storms and life cycles were then evaluated using the EST frequency analysis approach to generate overtopping volume frequency curves for the without-project condition and each with-project alternative.

Overtopping volumes for specific return periods of interest on each frequency curve were subsequently overlaid on study area topography to estimate corresponding interior flood elevations. The end product was a set of interior flood elevation frequency curves for the without-project condition and each with-project alternative, evaluated at the base year of 2020 and a future year of 2070 over a range of sea level change scenarios.

2.3 Storm Selection

NACCS Advanced Circulation (ADCIRC) model node 15261 and Steady State Spectral Wave (STWAVE) model node 2835 were selected for this analysis. These nodes are collocated approximately 500 ft offshore of the project study area at a water depth of 22 ft below MSL (Figure 8). Tropical and extratropical storms were extracted from the online Coastal Hazards System (CHS) NACCS database located at: https://chswebtool.erdc.dren.mil/.

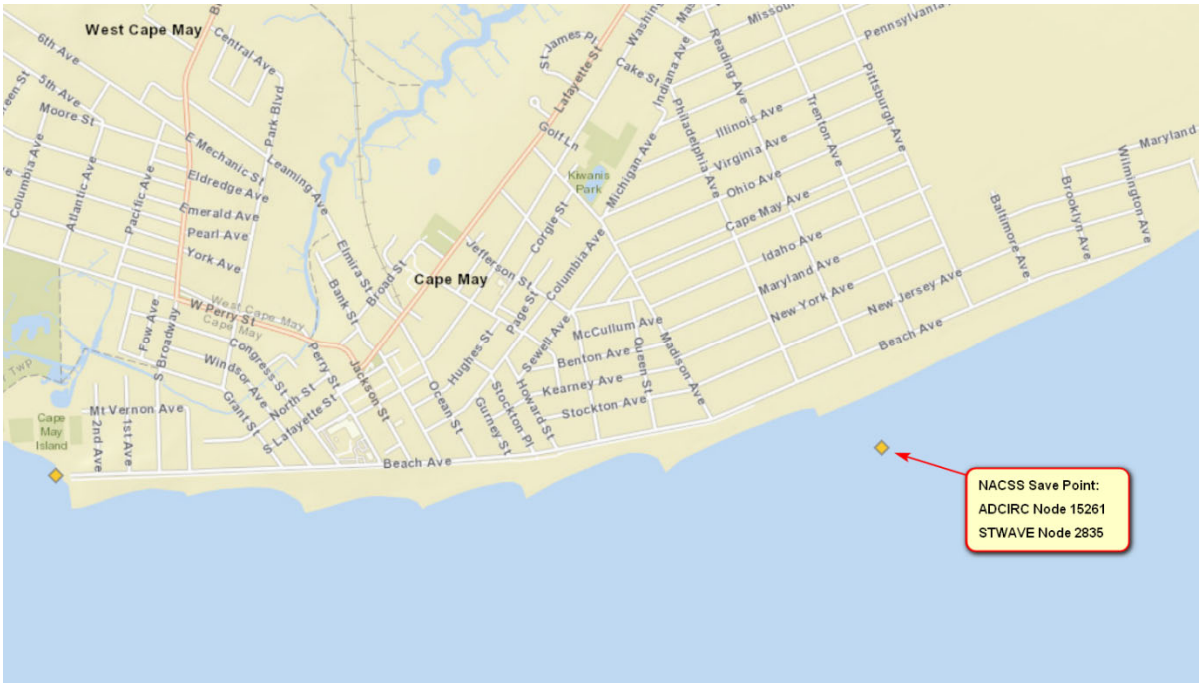

Figure 8. NACCS model save point location

The NACCS database includes 1,050 synthetic tropical storms. The database was screened to extract all modeled storms that pass within a 200 km radius of the node of interest. This screening narrowed the number of synthetic tropical storms down to 462 storms. Of the 462 storms, 449 storms in the database contain time history output at the nodes of interest and were carried forward in the analysis. An analysis of weighted relative storm probabilities and storm rate recurrence rates defined for the selected node resulted in an average tropical storm recurrence rate for the study area of 0.1746 storms per year, corresponding to an average waiting period (or recurrence interval) between tropical storms of 5.7 years.

The NACCS database includes 99 historical extratropical storms. All 99 storms contain time history output at the nodes of interest and were carried forward in the analysis. The period of record for the extratropical storm database is 75 years (1938-2012), resulting in an extratropical storm recurrence rate of 1.32 storms per year.

2.4 Storm Time Histories

Wave and water level time histories were extracted from the NACCS "Base Condition" database for each tropical and extratropical storm ID selected for analysis. NACCS Base Condition ADCIRC-generated water levels include surge only (no tide) and are saved at 10-min intervals for both tropical and extratropical storms. NACCS STWAVE-generated wave time histories are saved at half hour intervals for tropical storms and one hour intervals for extratropical storms. All wave time histories were interpolated to 10-min intervals to provide input at a common time step for subsequent overtopping calculations.

2.5 Life Cycle Generation

Tropical and extratropical storm IDs and probabilities were input to the EST to generate 1,000 life cycle simulations, with each simulation having length of 1,000 years. The large number and long length of the simulations were chosen to cover a broad range of possible future storm occurrences that would enable frequency-of-occurrence calculations to adequately represent the probabilities of the input storms. Each life cycle contained a randomly simulated number of storms per year based on a Poisson distribution. For each storm occurrence, a storm ID was randomly selected within the appropriate probability distribution of the input storm data set. Tropical and extratropical storm life cycle simulations were run separately to properly account for different probabilities and storm recurrence rates. For tropical storm simulations, each input storm had a unique relative probability of occurrence consistent with NACCS definitions. For the extratropical storm simulations, every input storm was assigned the same relative probability of occurrence.

2.6 Overtopping Calculation Method

Overtopping was calculated for the entire length of shoreline fronting the flooding study area to represent total overtopping volume that potentially impacts the flood damage areas at all storm frequency levels. That is, calculations were not limited to just the 300-ft length of seawall that has been historically overtopped, but were performed for the expanded shoreline length which could also be overtopped by storms with extreme surge levels combined with future sea level change.

The EurOtop II manual (EurOtop, 2016) was used as the basis for calculating overtopping volumes in this study. Several methods are given in the EurOtop manual for different structure configurations and were evaluated and compared to determine applicability. The method given for overtopping of an embankment with a shallow foreshore was found to best represent the study shoreline configuration (a wide berm profile fronting a dune/structure face) and was found to produce flooding volumes consistent with observations when calculating overtopping for Hurricane Sandy. The overtopping formulation used for this study is given in dimensionless form by:

$$\frac{q}{\sqrt{gH_{m0}^3}} = 10^{-0.79}\, exp\left(-\frac{R_C}{H_{m0}(0.33+0.022\xi_{m-1,0})}\right) \qquad \textit{Equation 1}$$

In Equation 1, q is the overtopping rate per unit length of shoreline, g is acceleration of gravity, H_{m0} is wave height at the toe of the structure, R_C is crest height above water level, and $\xi_{m-1,0}$ is the slope similarity parameter. The EurOtop overtopping methodology includes berm width and wave angle reduction factors which were modified and applied in this study to account for significant differences in beach width along the study shoreline.

2.7 Storm Overtopping Volume Calculation Procedure

As previously discussed, the EST simulations generated 1,000 1,000-year long life cycles of tropical and extratropical storm occurrences referenced by storm ID from the NACCS database. The next step was to calculate total volume of overtopping for each individual storm event occurring within each 1,000-year long life cycle sequence, so that storm response (flood volume) life cycles were available for calculating flood frequency curves.

The NACCS surge-only water level time history for each storm in each 1000-yr life cycle simulation was first combined with a tide record of length equivalent to the storm duration. The tide record applied to each storm was selected randomly from the 19-year tidal epoch for NOS tide station 8557380 at Lewes, DE. The surge and tide were then combined with sea level

change to generate a total water level time history. Further details on sea level change scenarios considered in the analysis are discussed below.

Resulting total water level (surge, tide, and sea level change) time histories for each event were combined with corresponding wave time histories and beach profile/seawall parameters to provide input for overtopping calculations. Total overtopping volumes for each storm were obtained by summing overtopping volumes calculated using Equation 1 at each 10-min time step of input data along the raised seawall segment and along adjacent shoreline segments. Resulting total storm overtopping volumes were saved for each event in each life cycle simulation for use in generating storm overtopping frequency curves.

2.8 Seawall Elevation Alternatives

Storm overtopping volumes were computed for without-project conditions (existing seawall elevation of +9.4 ft NAVD88) and six with-project alternatives (seawall elevation of +13 ft NAV88 through +18 ft NAVD88 at 1-ft increment) for the raised seawall section. Raised seawall elevations below +13 ft NAVD88 were not considered because they were determined to provide inadequate overtopping reduction benefits in early screening calculations. Existing profile/shoreline conditions were held constant along the remaining length of study shoreline for all without- and with-project calculations.

2.9 Sea Level Change Scenarios

A set of life cycle overtopping calculations was performed for each without-project and with-project alternative for the base year condition and for future year conditions under three different sea level change scenarios. The base year condition was evaluated by applying the NOAA 2006 published rate of historical sea level rise for the Lewes tide station (0.01050 ft/yr) from the 1992 tidal epoch midpoint to the 2020 base year to generate base year water levels. Future year conditions were evaluated using the low, intermediate, and high rate USACE sea level rise curves for the Lewes tide station (Figures 9 and 10). Sea level rise values of 0.53 ft, 1.00 ft, and 2.49 ft were added to the 2020 base year water levels to obtain 2070 future year water levels for low, intermediate, and high rate scenarios, respectively, as calculated from the online USACE Sea Level Change Curve Calculator located at:
http://corpsmapu.usace.army.mil/rccinfo/slc/slcc_calc.html.

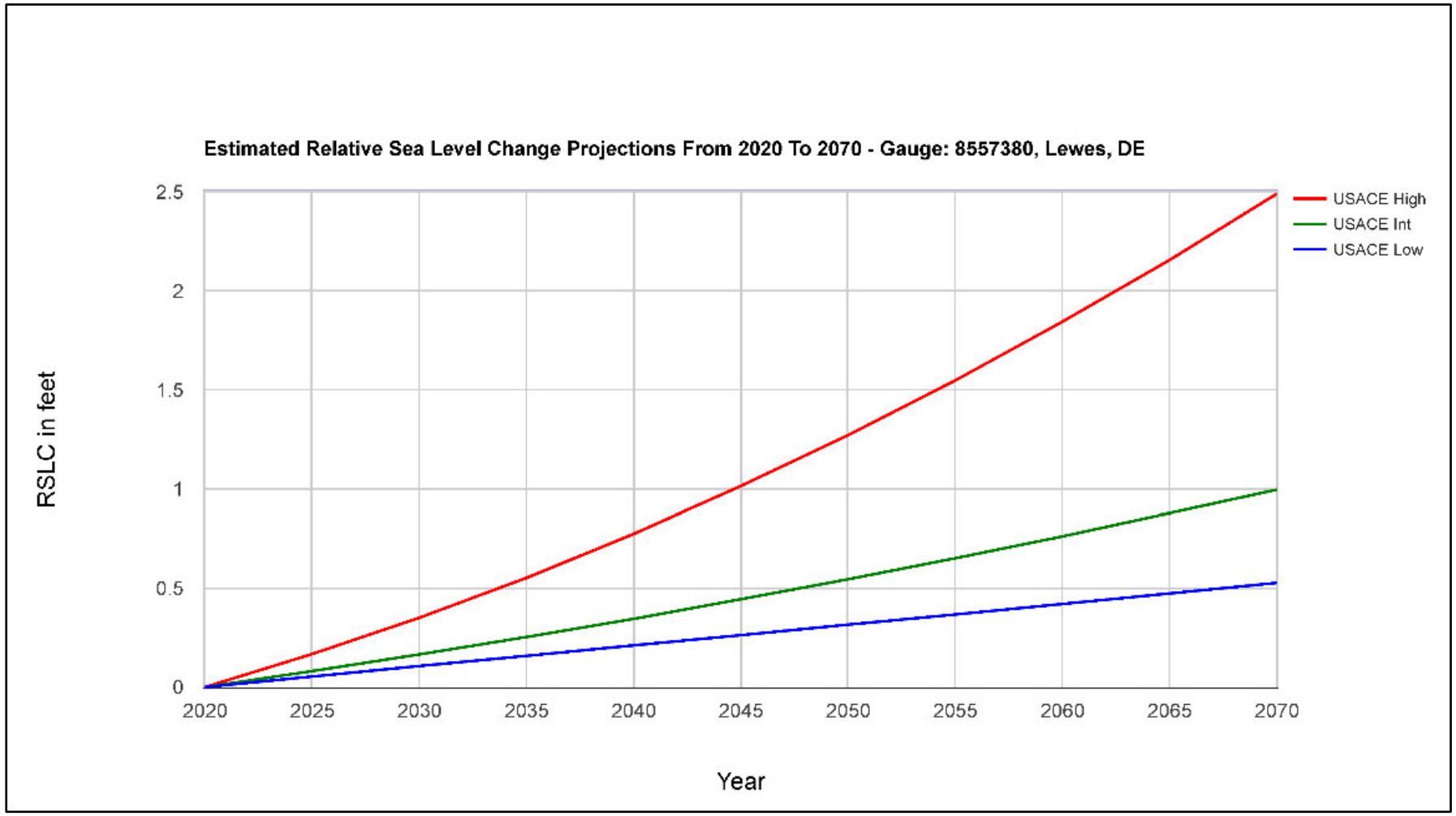

Figure 9. USACE Sea Level Change Calculator projections for NOAA Tide Station 8557380 at Lewes, DE

Estimated Relative Sea Level Change
from 2020 To 2070 Cape May City Seawall - CAP Study
8557380, Lewes, DE
NOAA's 2006 Published Rate: 0.01050 feet/yr
All values are expressed in feet

Year	USACE Low	USACE Int	USACE High
2020	0.00	0.00	0.00
2025	0.05	0.08	0.17
2030	0.11	0.16	0.35
2035	0.16	0.25	0.55
2040	0.21	0.35	0.77
2045	0.26	0.44	1.01
2050	0.32	0.54	1.27
2055	0.37	0.65	1.55
2060	0.42	0.76	1.84
2065	0.47	0.88	2.16
2070	0.53	1.00	2.49

Figure 10. USACE projected future year sea level change rates

2.10 Storm Overtopping Volume Frequency Calculations

Life cycle storm overtopping responses were evaluated using EST statistical analysis procedures to generate overtopping volume frequency curves for each alternative at base year and future year conditions. Separate curves were generated for tropical and extratropical storm life cycles and then merged to develop a combined frequency curve. A total of 28 combined frequency curves were generated (1 without-project and 6 with-project alternatives, each at the base year and three future year conditions). Each frequency curve included median values and confidence bands for storm overtopping volumes determined at return periods ranging from 2 to 1000 years.

2.11 Determination of Flood Elevations

Overtopping volumes calculated in the above analysis quantify the amount of ocean water entering the study area but do not directly determine flood elevations required for the economic analysis. To develop flood levels, the study area was divided into three compartments based on topographic elevations and progression of flooding originating from the ocean side overtopping volumes of the seawall along Beach Avenue. The three compartments are identified as Beach Avenue, Frog Hollow, and Washington Street (Figure 11). Anecdotal reports of past flood events and an analysis of elevation contours within and between the study compartments indicate that ocean side overtopping flood flow starts in the Beach Avenue compartment, progresses next to the Frog Hollow compartment through the low connecting point on Beach Avenue approximately midway between Philadelphia Avenue and Madison Avenue, and then enters low-lying areas within the Washington Street compartment at the low connecting point along Madison Avenue (Figure 12).

Based on this progression of flood flow and an assessment of the controlling elevations that connect the compartments, the analysis assumes that all overtopping volume is contained within the Beach Avenue compartment until the flood elevation in that compartment reaches +6 ft NAVD88 at which point water flows into the Frog Hollow compartment. As additional volume is added, the Frog Hollow compartment floods to +6 ft NAVD88 at which point water begins to enter the Washington Street compartment. When the Washington Street compartment fills to +6 ft NAVD88, the flood elevation in all three compartments rises uniformly above +6 ft NAVD88 as additional overtopping volume enters the system.

Figure 11. Study area flooding compartments

The analysis assumes that any interior flooding contribution from rainwater runoff is balanced by existing storm water pump facilities, and flood elevations evaluated in this study are due solely to oceanside overtopping. This assumption is qualitatively consistent with anecdotal information provided by Cape May officials regarding past performance of existing pump facilities.

The analysis also assumes that as overtopping flood levels in the study area exceed +9 ft NAVD88, connection of the study area compartments to adjacent areas and the back bay become significant in determining flood levels, and the analysis is cut off at this point. That is, no differences in damages or flood benefits for without- vs. with-project alternatives are evaluated at flood elevations above +9 ft NAVD88 to isolate the analysis to consideration of only the oceanside overtopping flood damages against which the proposed alternatives are designed.

With the above assumptions, flood elevations were determined from overtopping volume frequency curves as follows. First, volumes required to fill each compartment to specific flood elevations were determined at 0.5 ft elevation increments from +3 ft NAVD88 to +9 ft NAVD88.

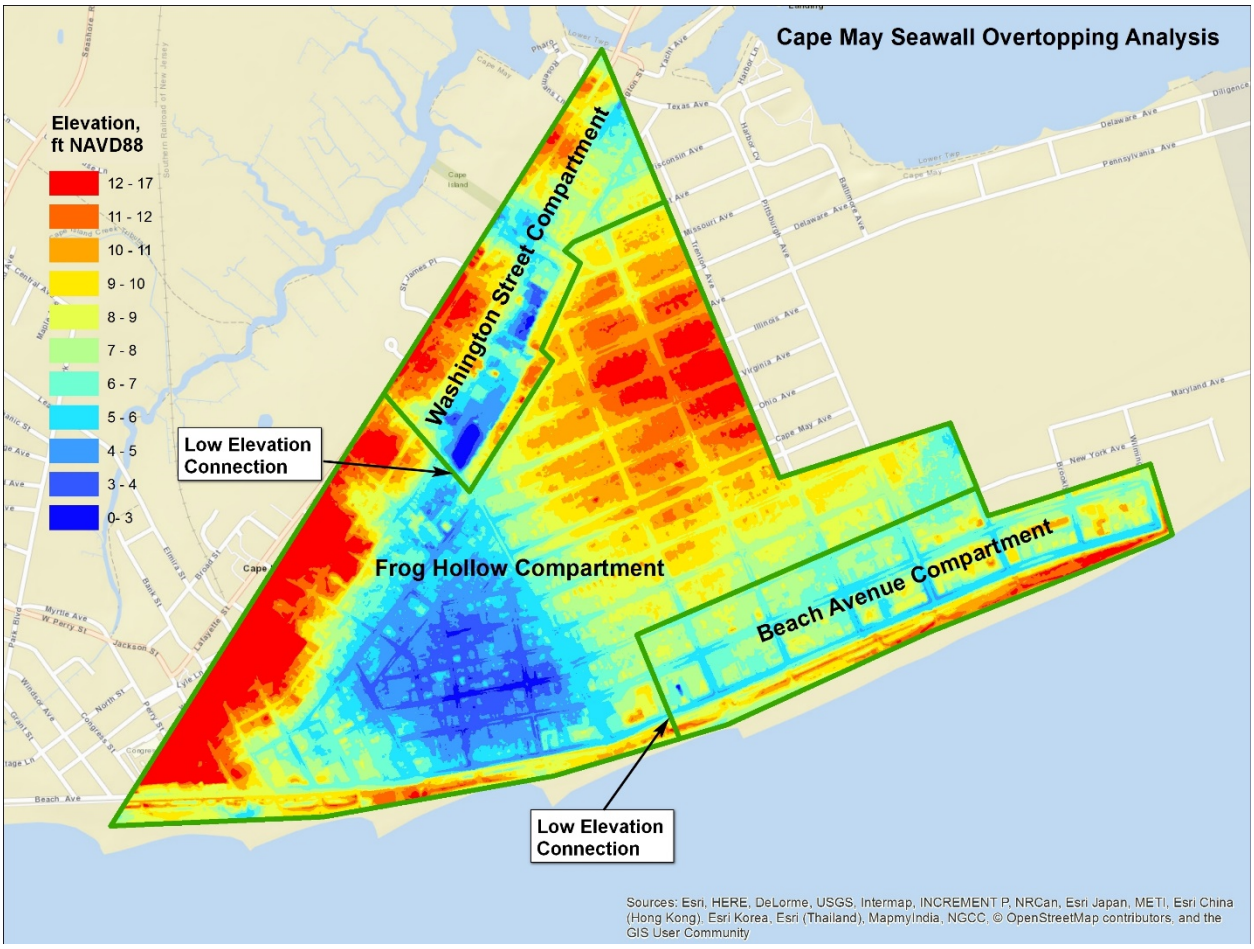

Figure 12. Study area topography with low elevation connection points between compartments

This was done by overlaying the plane of each flood elevation on the existing topographic surface of each compartment in ArcGIS and computing volumetric fill difference between the flood elevation plane and topographic surface. Volumes of the +6 ft NAVD88 plane were used as thresholds to determine when the next compartment begins to flood in accordance with this being the low elevation connection between compartments.

Next, the storm overtopping volume values (median and confidence bands) for each return period on each frequency curve were compared to the +6ft NAVD88 threshold values. If the overtopping volume was less than the Beach Avenue threshold, then flooding was limited to the

Beach Avenue compartment, and the level of flooding was determined by interpolating the storm overtopping volume between the 0.5 ft increment flood elevation volumes for that compartment. If the overtopping volume was greater than the Beach Avenue threshold, but less than the Frog Hollow threshold, then the flood level at Beach Avenue was set to +6ft NAVD88 and the difference in volume was applied to Frog Hollow to interpolate the flood level in that compartment, and so on. As a result, each storm overtopping volume on each frequency curve was translated to a flood elevation in each compartment. In this manner, a set of three flood frequency curves (one per compartment) was generated for each storm overtopping volume curve, resulting in a total of 84 flood elevation frequency curves – one specific to each combination of flood compartment, project alternative, and base/future year condition. Median and +/- 1 SD values were calculated for each return period on each frequency curve to provide input required by the HEC-FDA flood model used in the economic analysis.

ANALYSIS RESULTS

Storm overtopping volume frequency curves generated by the coastal analysis are summarized in the below tables. Overtopping volumes are reported in acre-ft. The 50% non-exceedance levels (highlighted in green) corresponds to the median values of all 1000 life cycle simulations. Confidence bands are given at the 5%, 16%, 84%, and 95% non-exceedance levels.

2.12 Base Year (2020) Condition Storm Overtopping Volume Frequency Curves

Table 1. Base Year Condition Overtopping Volume – Without Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.16	0.24	**0.42**	0.68	0.9
10	0.9000	6.19	7.43	**9.7**	12.4	14.4
20	0.9500	27.5	32.7	**41.3**	52.8	62.1
35	0.9714	68.6	82.9	**110.0**	144.0	178.0
60	0.9833	114.0	141.0	**186.0**	264.0	361.0
100	0.9900	272.0	374.0	**767.0**	1610.0	2500.0
200	0.9950	920.0	1590.0	**3060.0**	5540.0	7770.0
500	0.9980	3140.0	4880.0	**8720.0**	15200.0	22800.0
1000	0.9990	5440.0	8270.0	**16200.0**	30400.0	41700.0

Table 2. Base Year Condition Overtopping Volume – 13 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.02**	0.05	0.09
10	0.9000	1.0	1.25	**1.69**	2.23	2.73
20	0.9500	5.42	6.69	**8.64**	11.2	14.0
35	0.9714	15.0	18.8	**27.4**	41.7	51.5
60	0.9833	29.3	38.0	**57.6**	115.0	195.0
100	0.9900	119.0	213.0	**632.0**	1420.0	2220.0
200	0.9950	724.0	1390.0	**2810.0**	5170.0	7210.0
500	0.9980	2760.0	4440.0	**8080.0**	14100.0	21800.0
1000	0.9990	4920.0	7680.0	**15100.0**	29100.0	40800.0

Table 3. Base Year Condition Overtopping Volume – 14 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.03	0.06	**0.14**	0.27	0.4
20	0.9500	1.58	2.1	**3.29**	4.99	7.0
35	0.9714	7.63	11.1	**18.4**	30.4	39.5
60	0.9833	20.2	27.5	**44.4**	102.0	174.0
100	0.9900	103.0	197.0	**614.0**	1400.0	2190.0
200	0.9950	702.0	1360.0	**2770.0**	5110.0	7130.0
500	0.9980	2720.0	4390.0	**7980.0**	14000.0	21600.0
1000	0.9990	4860.0	7590.0	**14900.0**	28800.0	40500.0

Table 4. Base Year Condition Overtopping Volume – 15 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.0	0.0	**0.0**	0.0	0.0
20	0.9500	0.15	0.32	**0.89**	2.18	3.81
35	0.9714	4.56	7.25	**13.7**	24.0	33.0
60	0.9833	15.3	21.9	**37.2**	93.1	167.0
100	0.9900	95.3	190.0	**604.0**	1380.0	2170.0
200	0.9950	690.0	1350.0	**2750.0**	5070.0	7080.0
500	0.9980	2700.0	4360.0	**7920.0**	13900.0	21400.0
1000	0.9990	4820.0	7530.0	**14800.0**	28600.0	40200.0

Table 5. Base Year Condition Overtopping Volume – 16 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.0	0.0	**0.0**	0.0	0.0
20	0.9500	0.02	0.1	**0.51**	1.52	2.96
35	0.9714	3.52	5.67	**11.3**	20.7	28.8
60	0.9833	12.7	18.5	**32.8**	88.3	160.0
100	0.9900	90.9	184.0	**599.0**	1370.0	2150.0
200	0.9950	682.0	1340.0	**2730.0**	5040.0	7040.0
500	0.9980	2680.0	4330.0	**7870.0**	13800.0	21300.0
1000	0.9990	4790.0	7490.0	**14700.0**	28400.0	39900.0

Table 6. Base Year Condition Overtopping Volume – 17 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.0	0.0	**0.0**	0.0	0.0
20	0.9500	0.01	0.09	**0.48**	1.42	2.76
35	0.9714	3.2	5.22	**10.5**	19.3	26.9
60	0.9833	11.6	17.1	**31.1**	85.9	157.0
100	0.9900	90.1	180.0	**595.0**	1360.0	2150.0
200	0.9950	675.0	1330.0	**2720.0**	5020.0	7010.0
500	0.9980	2670.0	4320.0	**7840.0**	13700.0	21200.0
1000	0.9990	4770.0	7460.0	**14700.0**	28300.0	39600.0

Table 7. Base Year Condition Overtopping Volume – 18 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.0	0.0	**0.0**	0.0	0.0
20	0.9500	0.01	0.09	**0.48**	1.41	2.72
35	0.9714	3.16	5.15	**10.3**	18.9	26.3
60	0.9833	11.3	16.7	**30.4**	84.1	156.0
100	0.9900	89.0	179.0	**593.0**	1360.0	2140.0
200	0.9950	672.0	1330.0	**2710.0**	5010.0	6990.0
500	0.9980	2660.0	4300.0	**7830.0**	13700.0	21100.0
1000	0.9990	4760.0	7450.0	**14600.0**	28200.0	39500.0

2.13 Low SLC Future Year (2070) Condition Storm Overtopping Volume Frequency Curves

Table 8. Low SLC Future Year Condition Overtopping Volume – Without Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	4.75	5.98	**8.42**	11.1	13.4
10	0.9000	37.0	41.0	**47.6**	55.0	61.1
20	0.9500	95.9	107.0	**129.0**	158.0	185.0
35	0.9714	200.0	235.0	**299.0**	409.0	508.0
60	0.9833	314.0	382.0	**545.0**	836.0	1140.0
100	0.9900	872.0	1210.0	**2130.0**	3310.0	4350.0
200	0.9950	2400.0	3230.0	**5070.0**	8260.0	11100.0
500	0.9980	5140.0	7330.0	**12100.0**	20600.0	28800.0
1000	0.9990	8130.0	11400.0	**21700.0**	37600.0	49500.0

Table 9. Low SLC Future Year Condition Overtopping Volume – 13 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.71	0.88	**1.21**	1.64	1.92
10	0.9000	5.92	6.77	**8.06**	9.65	11.1
20	0.9500	19.1	22.3	**29.1**	38.7	48.6
35	0.9714	53.0	66.3	**107.0**	197.0	275.0
60	0.9833	117.0	173.0	**309.0**	568.0	903.0
100	0.9900	624.0	979.0	**1820.0**	2930.0	3930.0
200	0.9950	2070.0	2900.0	**4590.0**	7600.0	10300.0
500	0.9980	4570.0	6830.0	**11400.0**	19400.0	27400.0
1000	0.9990	7430.0	10700.0	**20500.0**	36300.0	48100.0

Table 10. Low SLC Future Year Condition Overtopping Volume – 14 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.03	0.08
10	0.9000	1.42	1.82	**2.46**	3.35	4.16
20	0.9500	9.19	11.6	**17.3**	25.6	33.9
35	0.9714	37.5	50.5	**88.8**	177.0	249.0
60	0.9833	101.0	152.0	**288.0**	549.0	871.0
100	0.9900	600.0	953.0	**1780.0**	2890.0	3880.0
200	0.9950	2040.0	2850.0	**4530.0**	7510.0	10200.0
500	0.9980	4510.0	6760.0	**11300.0**	19200.0	27200.0
1000	0.9990	7350.0	10500.0	**20300.0**	35900.0	47700.0

Table 11. Low SLC Future Year Condition Overtopping Volume – 15 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.02	0.06	**0.18**	0.46	0.79
20	0.9500	4.87	6.64	**11.3**	18.4	25.7
35	0.9714	28.7	40.9	**78.9**	166.0	236.0
60	0.9833	89.7	140.0	**273.0**	539.0	860.0
100	0.9900	583.0	942.0	**1760.0**	2860.0	3850.0
200	0.9950	2030.0	2830.0	**4490.0**	7450.0	10100.0
500	0.9980	4470.0	6710.0	**11200.0**	19000.0	26900.0
1000	0.9990	7300.0	10500.0	**20100.0**	35600.0	47300.0

Table 12. Low SLC Future Year Condition Overtopping Volume – 16 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.0	0.0	**0.0**	0.1	0.33
20	0.9500	3.43	4.91	**8.77**	14.9	21.3
35	0.9714	24.6	35.6	**73.0**	160.0	226.0
60	0.9833	82.8	132.0	**264.0**	534.0	851.0
100	0.9900	575.0	932.0	**1750.0**	2850.0	3820.0
200	0.9950	2010.0	2810.0	**4460.0**	7410.0	10100.0
500	0.9980	4450.0	6670.0	**11100.0**	18900.0	26800.0
1000	0.9990	7260.0	10400.0	**20000.0**	35300.0	47000.0

Table 13. Low SLC Future Year Condition Overtopping Volume – 17 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.0	0.0	**0.0**	0.1	0.31
20	0.9500	3.23	4.69	**8.26**	14.0	20.2
35	0.9714	22.9	33.1	**70.4**	157.0	221.0
60	0.9833	78.7	130.0	**259.0**	528.0	842.0
100	0.9900	572.0	926.0	**1740.0**	2840.0	3810.0
200	0.9950	2010.0	2800.0	**4450.0**	7380.0	9990.0
500	0.9980	4430.0	6640.0	**11100.0**	18900.0	26700.0
1000	0.9990	7230.0	10400.0	**19900.0**	35200.0	46800.0

Table 14. Low SLC Future Year Condition Overtopping Volume – 18 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	0.0	0.0	**0.0**	0.1	0.3
20	0.9500	3.18	4.67	**8.15**	13.8	19.8
35	0.9714	22.8	32.2	**69.0**	155.0	219.0
60	0.9833	77.4	127.0	**257.0**	525.0	838.0
100	0.9900	568.0	923.0	**1730.0**	2830.0	3800.0
200	0.9950	2000.0	2790.0	**4430.0**	7360.0	9980.0
500	0.9980	4420.0	6630.0	**11000.0**	18800.0	26600.0
1000	0.9990	7210.0	10300.0	**19900.0**	35000.0	46600.0

2.14 Intermediate SLC Future Year (2070) Condition Storm Overtopping Volume Frequency Curves

Table 15. Intermediate SLC Future Year Condition Overtopping Volume – Without Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.02
5	0.8000	29.6	33.4	**39.8**	46.6	51.6
10	0.9000	104.0	115.0	**128.0**	146.0	162.0
20	0.9500	245.0	275.0	**336.0**	416.0	492.0
35	0.9714	531.0	640.0	**877.0**	1260.0	1630.0
60	0.9833	908.0	1140.0	**1740.0**	2460.0	3000.0
100	0.9900	2460.0	3040.0	**4070.0**	5460.0	6720.0
200	0.9950	4260.0	5350.0	**7430.0**	11200.0	14600.0
500	0.9980	7670.0	10300.0	**16100.0**	26300.0	35900.0
1000	0.9990	10900.0	15000.0	**27200.0**	44800.0	56300.0

Table 16. Intermediate SLC Future Year Condition Overtopping Volume – 13 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	4.55	5.18	**6.17**	7.46	8.33
10	0.9000	18.7	20.6	**24.3**	28.6	33.1
20	0.9500	60.0	73.2	**109.0**	170.0	234.0
35	0.9714	264.0	353.0	**552.0**	952.0	1270.0
60	0.9833	579.0	844.0	**1410.0**	2130.0	2580.0
100	0.9900	2120.0	2630.0	**3580.0**	4800.0	6140.0
200	0.9950	3800.0	4700.0	**6800.0**	10400.0	13800.0
500	0.9980	6880.0	9450.0	**15000.0**	24900.0	34400.0
1000	0.9990	10100.0	14100.0	**25900.0**	43600.0	55300.0

Table 17. Intermediate SLC Future Year Condition Overtopping Volume – 14 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.6	0.82	**1.23**	1.73	2.13
10	0.9000	7.91	9.16	**11.7**	15.4	19.1
20	0.9500	40.7	52.9	**87.9**	148.0	211.0
35	0.9714	234.0	324.0	**525.0**	922.0	1230.0
60	0.9833	545.0	812.0	**1370.0**	2080.0	2530.0
100	0.9900	2080.0	2590.0	**3520.0**	4740.0	6040.0
200	0.9950	3750.0	4640.0	**6720.0**	10300.0	13600.0
500	0.9980	6800.0	9330.0	**14800.0**	24600.0	34100.0
1000	0.9990	10000.0	14000.0	**25600.0**	43200.0	54900.0

Table 18. Intermediate SLC Future Year Condition Overtopping Volume – 15 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.01
10	0.9000	2.6	3.85	**6.01**	8.95	11.8
20	0.9500	31.3	41.3	**75.0**	134.0	194.0
35	0.9714	218.0	305.0	**508.0**	902.0	1210.0
60	0.9833	528.0	790.0	**1350.0**	2050.0	2500.0
100	0.9900	2050.0	2560.0	**3490.0**	4700.0	5980.0
200	0.9950	3720.0	4600.0	**6660.0**	10200.0	13500.0
500	0.9980	6750.0	9260.0	**14700.0**	24400.0	33800.0
1000	0.9990	9930.0	13900.0	**25400.0**	42800.0	54600.0

Table 19. Intermediate SLC Future Year Condition Overtopping Volume – 16 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	1.65	2.56	**4.3**	6.61	9.23
20	0.9500	25.2	35.1	**68.0**	126.0	184.0
35	0.9714	211.0	292.0	**494.0**	888.0	1190.0
60	0.9833	513.0	780.0	**1330.0**	2030.0	2490.0
100	0.9900	2030.0	2540.0	**3460.0**	4670.0	5940.0
200	0.9950	3700.0	4580.0	**6620.0**	10200.0	13500.0
500	0.9980	6710.0	9210.0	**14600.0**	24300.0	33500.0
1000	0.9990	9880.0	13800.0	**25200.0**	42600.0	54300.0

Table 20. Intermediate SLC Future Year Condition Overtopping Volume – 17 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	1.58	2.44	**4.07**	6.36	8.78
20	0.9500	23.8	33.5	**65.2**	123.0	179.0
35	0.9714	206.0	287.0	**489.0**	882.0	1190.0
60	0.9833	506.0	773.0	**1330.0**	2020.0	2480.0
100	0.9900	2020.0	2530.0	**3450.0**	4660.0	5910.0
200	0.9950	3680.0	4560.0	**6590.0**	10100.0	13400.0
500	0.9980	6680.0	9170.0	**14500.0**	24200.0	33300.0
1000	0.9990	9840.0	13700.0	**25100.0**	42400.0	53900.0

Table 21. Intermediate SLC Future Year Condition Overtopping Volume – 18 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	0.0	0.0	**0.0**	0.0	0.0
10	0.9000	1.56	2.43	**4.04**	6.32	8.57
20	0.9500	23.8	33.0	**64.7**	122.0	176.0
35	0.9714	206.0	284.0	**486.0**	879.0	1180.0
60	0.9833	504.0	769.0	**1320.0**	2010.0	2470.0
100	0.9900	2010.0	2530.0	**3440.0**	4650.0	5900.0
200	0.9950	3670.0	4550.0	**6570.0**	10100.0	13400.0
500	0.9980	6670.0	9150.0	**14500.0**	24100.0	33200.0
1000	0.9990	9810.0	13700.0	**25000.0**	42200.0	53600.0

2.15 High SLC Future Year (2070) Condition Storm Overtopping Volume Frequency Curves

Table 22. High SLC Future Year Condition Overtopping Volume – Without Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	99.5	111.0	**127.0**	146.0	158.0
5	0.8000	929.0	1050.0	**1260.0**	1530.0	1790.0
10	0.9000	3590.0	3810.0	**4210.0**	4600.0	4930.0
20	0.9500	6340.0	6740.0	**7400.0**	8140.0	8690.0
35	0.9714	8990.0	9500.0	**10500.0**	11700.0	12700.0
60	0.9833	10600.0	11400.0	**12800.0**	14100.0	15100.0
100	0.9900	14100.0	15100.0	**17200.0**	19900.0	22000.0
200	0.9950	17600.0	19400.0	**23200.0**	27700.0	32000.0
500	0.9980	23300.0	26300.0	**33600.0**	48000.0	62300.0
1000	0.9990	27200.0	32600.0	**47600.0**	73100.0	83300.0

Table 23. High SLC Future Year Condition Overtopping Volume – 13 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	16.2	18.0	**20.8**	24.3	27.0
5	0.8000	474.0	579.0	**799.0**	1080.0	1340.0
10	0.9000	3030.0	3210.0	**3570.0**	3920.0	4200.0
20	0.9500	5490.0	5850.0	**6430.0**	7080.0	7590.0
35	0.9714	7800.0	8350.0	**9230.0**	10300.0	11000.0
60	0.9833	9340.0	10100.0	**11200.0**	12500.0	13500.0
100	0.9900	12500.0	13500.0	**15400.0**	18100.0	20100.0
200	0.9950	15900.0	17700.0	**21100.0**	25600.0	30000.0
500	0.9980	21300.0	24200.0	**31700.0**	46200.0	60900.0
1000	0.9990	25200.0	30900.0	**46400.0**	71000.0	81900.0

Table 24. High SLC Future Year Condition Overtopping Volume – 14 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	3.15	3.99	**5.44**	7.2	8.6
5	0.8000	429.0	534.0	**754.0**	1030.0	1290.0
10	0.9000	2970.0	3150.0	**3490.0**	3850.0	4130.0
20	0.9500	5400.0	5750.0	**6310.0**	6960.0	7450.0
35	0.9714	7670.0	8210.0	**9090.0**	10100.0	10800.0
60	0.9833	9210.0	9900.0	**11100.0**	12400.0	13300.0
100	0.9900	12300.0	13300.0	**15200.0**	17900.0	19900.0
200	0.9950	15700.0	17500.0	**20800.0**	25200.0	29700.0
500	0.9980	21000.0	23900.0	**31300.0**	45700.0	60400.0
1000	0.9990	24900.0	30500.0	**46000.0**	70300.0	81100.0

Table 25. High SLC Future Year Condition Overtopping Volume – 15 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.06	0.29
5	0.8000	408.0	511.0	**725.0**	1010.0	1260.0
10	0.9000	2930.0	3100.0	**3450.0**	3800.0	4070.0
20	0.9500	5340.0	5690.0	**6240.0**	6890.0	7380.0
35	0.9714	7610.0	8130.0	**8990.0**	10000.0	10700.0
60	0.9833	9110.0	9810.0	**10900.0**	12200.0	13200.0
100	0.9900	12200.0	13100.0	**15100.0**	17700.0	19700.0
200	0.9950	15600.0	17300.0	**20700.0**	25000.0	29400.0
500	0.9980	20800.0	23700.0	**31100.0**	45300.0	60100.0
1000	0.9990	24700.0	30200.0	**45600.0**	69800.0	80800.0

Table 26. High SLC Future Year Condition Overtopping Volume – 16 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	392.0	494.0	**708.0**	987.0	1240.0
10	0.9000	2890.0	3080.0	**3420.0**	3770.0	4040.0
20	0.9500	5300.0	5650.0	**6200.0**	6840.0	7340.0
35	0.9714	7560.0	8080.0	**8930.0**	9980.0	10700.0
60	0.9833	9060.0	9740.0	**10900.0**	12100.0	13100.0
100	0.9900	12100.0	13000.0	**15000.0**	17600.0	19600.0
200	0.9950	15500.0	17200.0	**20500.0**	24900.0	29300.0
500	0.9980	20700.0	23500.0	**30900.0**	45000.0	59800.0
1000	0.9990	24500.0	30100.0	**45200.0**	69400.0	80100.0

Table 27. High SLC Future Year Condition Overtopping Volume – 17 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	386.0	486.0	**700.0**	978.0	1230.0
10	0.9000	2890.0	3060.0	**3400.0**	3740.0	4020.0
20	0.9500	5270.0	5630.0	**6170.0**	6820.0	7280.0
35	0.9714	7520.0	8030.0	**8890.0**	9930.0	10600.0
60	0.9833	9020.0	9700.0	**10800.0**	12100.0	13100.0
100	0.9900	12100.0	13000.0	**14900.0**	17500.0	19500.0
200	0.9950	15400.0	17200.0	**20500.0**	24800.0	29100.0
500	0.9980	20600.0	23400.0	**30800.0**	44800.0	59400.0
1000	0.9990	24400.0	30000.0	**45000.0**	69100.0	79600.0

Table 28. High SLC Future Year Condition Overtopping Volume – 18 ft With Project

Return Period, yr	Annual Non-exceedance probability	% Non-Exceedance Storm Overtopping Volume, acre-ft				
		5%	16%	50%	84%	95%
2	0.5000	0.0	0.0	**0.0**	0.0	0.0
5	0.8000	386.0	486.0	**698.0**	977.0	1220.0
10	0.9000	2880.0	3050.0	**3390.0**	3730.0	4020.0
20	0.9500	5270.0	5600.0	**6150.0**	6790.0	7270.0
35	0.9714	7490.0	8020.0	**8870.0**	9890.0	10600.0
60	0.9833	8980.0	9660.0	**10800.0**	12100.0	13000.0
100	0.9900	12000.0	12900.0	**14900.0**	17500.0	19400.0
200	0.9950	15400.0	17100.0	**20400.0**	24700.0	29100.0
500	0.9980	20600.0	23300.0	**30700.0**	44600.0	59000.0
1000	0.9990	24300.0	29900.0	**44800.0**	68800.0	79300.0

Flood elevation frequency curves developed as input to the HEC-FDA economic model are summarized in the below tables. Median and SD flood elevation values for all alternatives are presented in a single table for each base/future year condition and flood compartment. Zero flooding levels (no overtopping water enters the compartment) are set to 0.0 in the table and color-coded blue to indicate that no overtopping flooding occurs. Flood levels that exceed the analysis cutoff elevation (see discussion in 2.11) are set to +9.0 ft NAVD in the table and color-coded red to indicate that the volume of overtopping has exceeded the flood level analysis limit.

2.16 Base Year (2020) Condition Storm Flood Elevation Curves

Table 29. Beach Ave - Base Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	5.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	6.0	0.0	5.6	0.1	4.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	6.0	0.0	6.0	0.0	5.8	0.2	5.4	0.3	5.2	0.5	5.2	0.4	5.2	0.4
35	6.0	0.1	6.0	0.0	6.0	0.0	6.0	0.0	6.0	0.0	6.0	0.0	6.0	0.0
60	6.9	0.7	6.0	0.5	6.0	0.5	6.0	0.5	6.0	0.4	6.0	0.4	6.0	0.4
100	9.0	0.0	8.5	0.2	8.5	0.2	8.5	0.2	8.4	0.3	8.4	0.3	8.4	0.3
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 30. Frog Hollow - Base Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	3.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	4.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	6.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	6.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	9.0	0.0	8.5	0.2	8.5	0.2	8.5	0.2	8.4	0.3	8.4	0.3	8.4	0.3
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 31. Washington St - Base Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	6.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	9.0	0.0	8.5	0.2	8.5	0.2	8.5	0.2	8.4	0.3	8.4	0.3	8.4	0.3
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

2.17 Low SLC Future Year (2070) Condition Storm Flood Elevation Curves

Table 32. Beach Ave – Low SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	6.0	0.0	5.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	6.0	0.0	6.0	0.0	5.7	0.1	5.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
20	6.0	0.1	6.0	0.0	6.0	0.0	6.0	0.0	6.0	0.0	6.0	0.0	6.0	0.0
35	7.2	0.4	6.0	0.3	6.0	0.2	6.0	0.2	6.0	0.2	6.0	0.2	6.0	0.2
60	9.0	0.0	8.2	0.4	8.1	0.4	8.0	0.5	8.0	0.5	7.9	0.5	7.9	0.5
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 33. Frog Hollow – Low SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	3.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	5.0	0.1	3.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	6.0	0.2	4.6	0.2	4.2	0.3	3.8	0.4	3.6	0.5	3.6	0.4	3.6	0.4
35	7.2	0.4	5.9	0.6	5.7	0.6	5.5	0.7	5.4	0.7	5.4	0.7	5.4	0.8
60	9.0	0.0	8.2	0.4	8.1	0.4	8.0	0.5	8.0	0.5	7.9	0.5	7.9	0.5
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 34. Washington St – Low SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	5.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	7.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	9.0	0.0	8.2	0.4	8.1	0.4	8.0	0.5	8.0	0.5	7.9	0.5	7.9	0.5
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

2.18 Intermediate SLC Future Year (2070) Condition Storm Flood Elevation Curves

Table 35. Beach Ave – Intermediate SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	6.0	0.0	6.0	0.0	5.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	6.0	0.1	6.0	0.0	6.0	0.0	6.0	0.1	5.9	0.1	5.9	0.1	5.9	0.1
20	7.4	0.3	6.0	0.2	6.0	0.1	6.0	0.1	6.0	0.1	6.0	0.1	6.0	0.1
35	9.0	0.0	8.3	0.3	8.2	0.4	8.1	0.4	8.0	0.5	8.0	0.5	8.0	0.5
60	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 36. Frog Hollow – Intermediate SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	4.8	0.2	3.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	6.0	0.1	4.4	0.1	3.9	0.2	3.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
20	7.4	0.3	6.0	0.4	5.7	0.5	5.5	0.5	5.4	0.6	5.3	0.6	5.3	0.6
35	9.0	0.0	8.3	0.3	8.2	0.4	8.1	0.4	8.0	0.5	8.0	0.5	8.0	0.5
60	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 37. Washington St – Intermediate SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	5.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	7.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	9.0	0.0	8.3	0.3	8.2	0.4	8.1	0.4	8.0	0.5	8.0	0.5	8.0	0.5
60	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

2.19 High SLC Future Year (2070) Condition Storm Flood Elevation Curves

Table 38. Beach Ave – High SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	6.0	0.1	6.0	0.0	6.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	9.0	0.0	9.0	0.0	8.9	0.1	8.9	0.1	8.8	0.1	8.8	0.1	8.8	0.1
10	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
20	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
35	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
60	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 39. Frog Hollow – High SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	6.0	0.1	4.3	0.1	3.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	9.0	0.0	9.0	0.0	8.9	0.1	8.9	0.1	8.8	0.1	8.8	0.1	8.8	0.1
10	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
20	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
35	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
60	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

Table 40. Washington St – High SLC Future Year Condition Storm Flood Elevation

Return Period, yr	Flood Elevation, ft NAVD88													
	Without Project		13 ft With Project		14 ft With Project		15 ft With Project		16 ft With Project		17 ft With Project		18 ft With Project	
	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD	Median	SD
2	5.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	9.0	0.0	9.0	0.0	8.9	0.1	8.9	0.1	8.8	0.1	8.8	0.1	8.8	0.1
10	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
20	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
35	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
60	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
100	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
200	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
500	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0
1000	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0	9.0	0.0

3.0 SUMMARY

Flood elevation frequency curves generated by this analysis indicate that with-project alternatives are effective in reducing flood elevations over a range of recurrence intervals that varies by flood compartment and SLC scenario.

For the base year condition, flood elevation reductions increase with seawall height up to the 16 ft with-project alternative, with no additional benefits gained for the 17 ft and 18 ft alternatives. No with-project flood reductions are calculated for recurrence intervals above 100 yr due to analysis cutoff at the +9ft NAVD88 flood elevation as discussed in Section 2.11 of this report.

For the low SLC future year condition, flood elevation reductions increase up to the 17 ft with-project alternative. However, because total water levels are higher than the base year condition due to sea level rise, the +9 ft NAVD88 analysis cutoff occurs at a higher frequency, with flood elevation reductions calculated only up to the 60-yr recurrence interval.

For the intermediate SLC future year condition, flood elevation reductions also increase up to the 17 ft with-project alternative, but the higher rate of sea level rise limits the range of flood reduction to recurrence intervals of 35-yr and less.

Finally, for the high SLC future year condition, significantly less flood reduction is calculated for with-project alternatives due to the extreme increase in projected sea level rise. Under this scenario, flood elevation reductions increase up to the 16 ft with-project alternative, but flood reductions are limited to recurrence intervals of only 5-yr and less.

4.0 REFERENCES

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Cape May Seawall
City of Cape May
Cape May County, New Jersey

Coastal Storm Risk Management
Continuing Authorities Program Section 103

Appendix B

Civil Design Documents

February 2021

U.S. ARMY CORPS OF
ENGINEERS
PHILADELPHIA DISTRICT

CAPE MAY SEAWALL DESIGN

Alternative 4 consists of raising the elevation of the existing stone seawall along its current alignment by placing a reinforced concrete cap on top of the existing stone seawall to Elevation +17 feet for 350 feet. At this elevation, the existing stone seawall would be raised approximately 7.5 feet from its existing elevation. The extent of where the existing seawall will be raised is shown in Figure 1.

Prior to placing the concrete cap, any existing sand on top of the seawall would need to be removed and stockpiled in a nearby location to be reused later. In order to prevent any movement of the reinforced concrete cap, at this height, the cap will need to be 8 feet wide and cast in place with framing. The existing concrete grout between the existing stones on top of the seawall would need to be cleared of existing grout to a depth of one layer of capstone, approximately 3 feet, in order to anchor the new concrete into the existing stone structure. An existing steel bulkhead is located within the first layer of capstone and would also need to be cleared of existing grout. The location of the existing bulkhead is approximated based on 1963 Cape May City Construction Plans (see Figure 2). Expansion and contraction joints will be required at an even interval along the top of the concrete cap. At each end of the project limit, a taper will be required in order to transition from the top of the new concrete cap down to the elevation of the top of the existing stone seawall. The taper will be placed at a 12H:1V slope and span a distance of approximately 90 feet on each end of the concrete cap, bringing the total length of concrete cap to 530 feet. The landward face of the concrete cap would be formed or stamped with a stone look façade so that it looks more like a natural feature and blends into the current environment. On the seaward side of the concrete cap, the stockpiled sand will be placed back up against the concrete cap to form a dune-like feature in front of the vertical face of the concrete cap. In order to reinforce the placed sand, plantings will be provided. For typical section of concrete cap, see Figure 2.

Staging areas and contractor access points needed for project construction are indicated on Figure 1. Due to the work being on top of the existing stone seawall, this alternative would not require modification of the decommissioned storm water pipe.

Figure 1: Site Plan

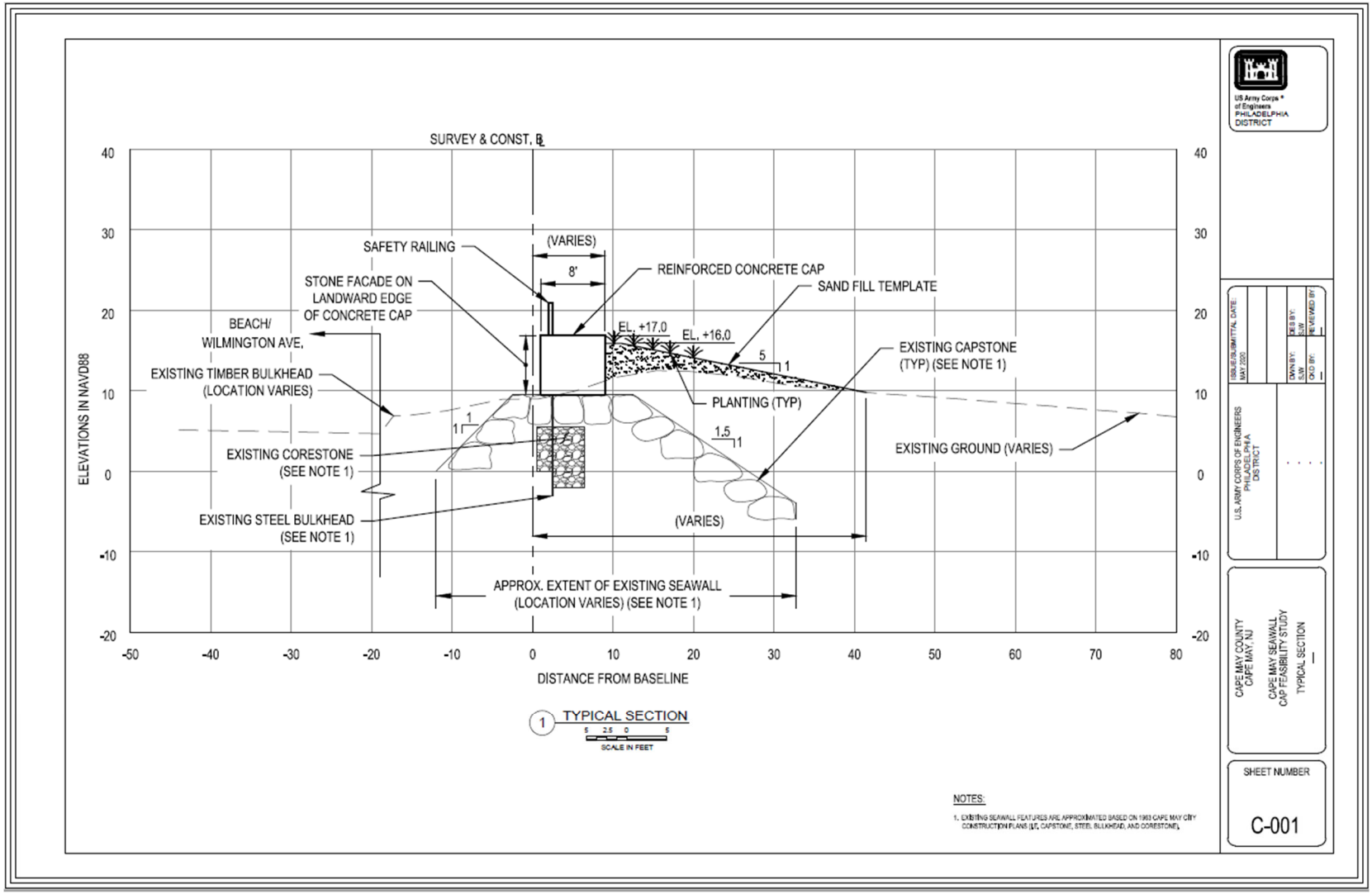


Figure 2: Typical Section

CONSTRUCTION PLANS

STONE SEAWALL

STONE JETTY EXTENSIONS

AND

TIMBER BULKHEAD

CITY OF CAPE MAY

CAPE MAY COUNTY

NEW JERSEY

1963

APPROVED

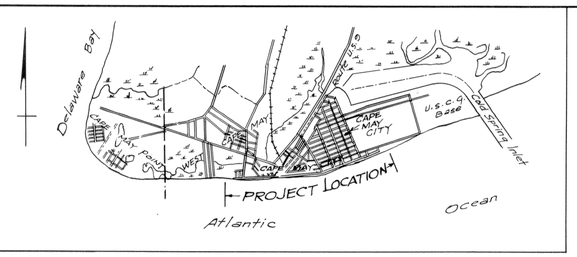
DATE: 1-23-64 Walter C. Knight, Jr. MAYOR

DATE: 1-22-64 W. M. Caton CITY ENGINEER

APW-N.J.-140G

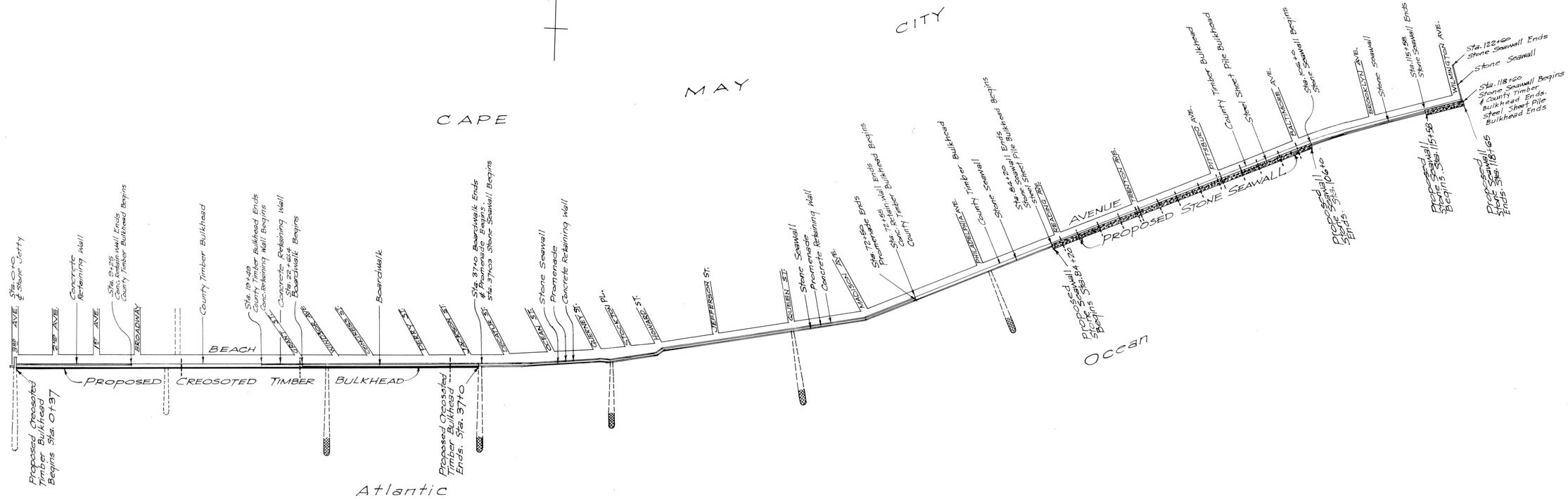
Project No. 9101-420-453-855

E-20-10



KEY MAP
SCALE 1 INCH = 1 MILE

SHEET INDEX



LOCATION PLAN
SCALE 1" = 400'

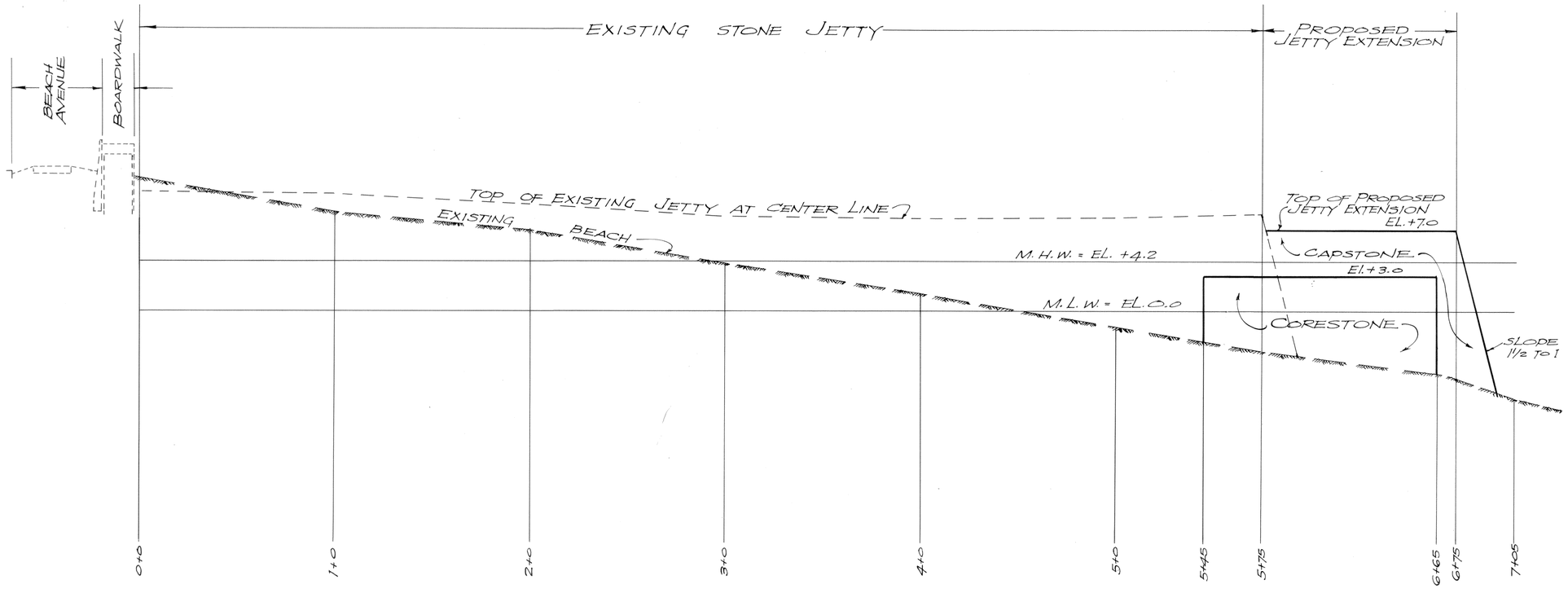
LEGEND
- EXISTING STONE JETTY
- PROPOSED STONE JETTY EXTENSION
- PROPOSED CREOSOTED TIMBER BULKHEAD
- PROPOSED STONE SEAWALL
- DRAINAGE LOCATIONS

APW - N. J. - 1406

CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
LOCATION PLAN
PROPOSED STONE SEAWALL
STONE JETTY EXTENSIONS
AND
CREOSOTED TIMBER BULKHEAD
DECEMBER 1963
SCALE 1" = 400'

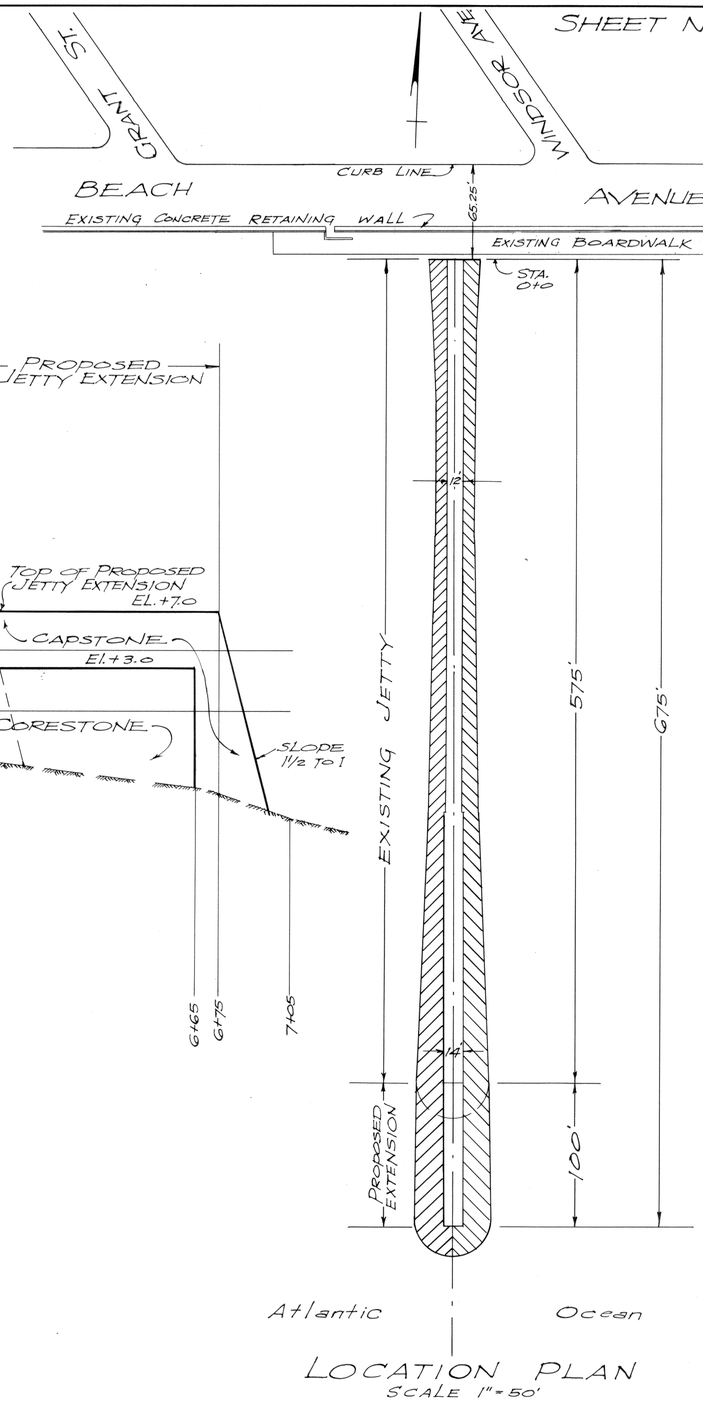
O. M. CORSON
CITY ENGINEER

9:01-453
E-20-70



Datum 0.0 M.L.W.
Cold Spring Harbor

PROFILE OF JETTY
AT WINDSOR AVENUE
SCALES HORIZ. 1" = 30'
VERT. 1" = 5'

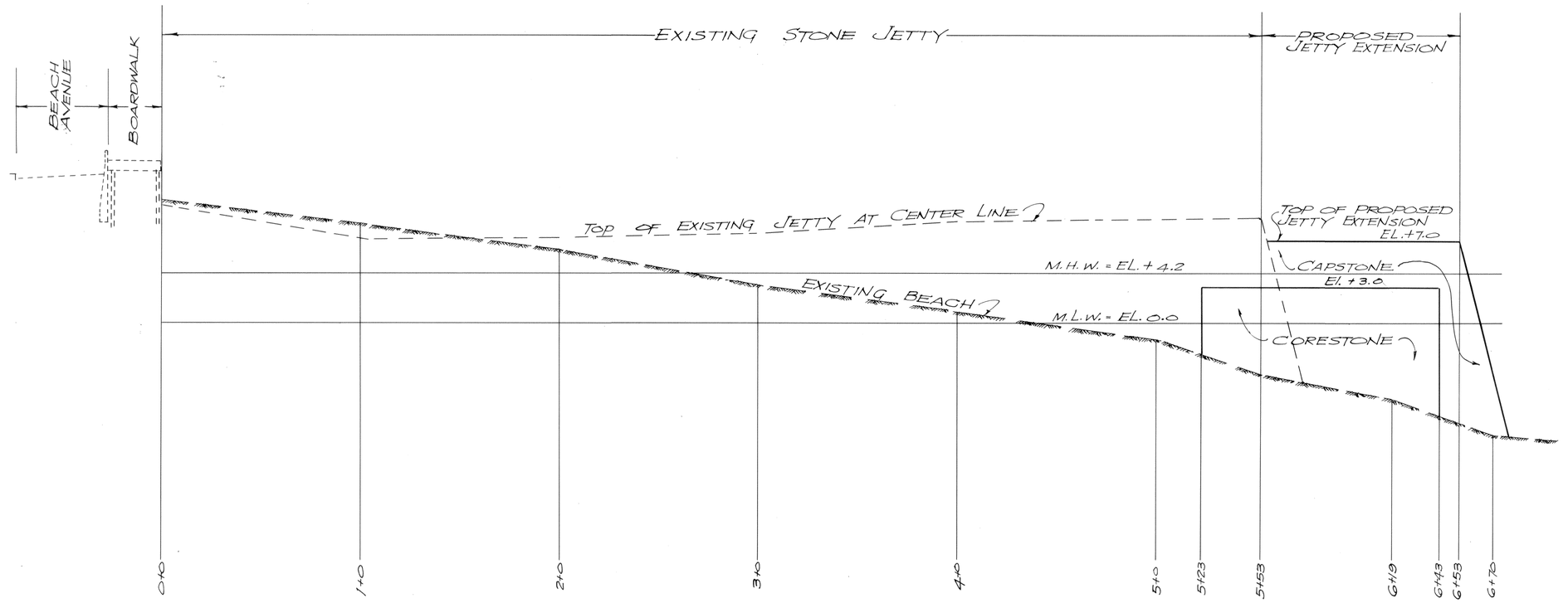


LOCATION PLAN
SCALE 1" = 50'

APW - N.J. - 1406

CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
CONSTRUCTION PLANS
PROPOSED WINDSOR AVENUE
STONE JETTY EXTENSION
DECEMBER 1963
SCALES AS INDICATED

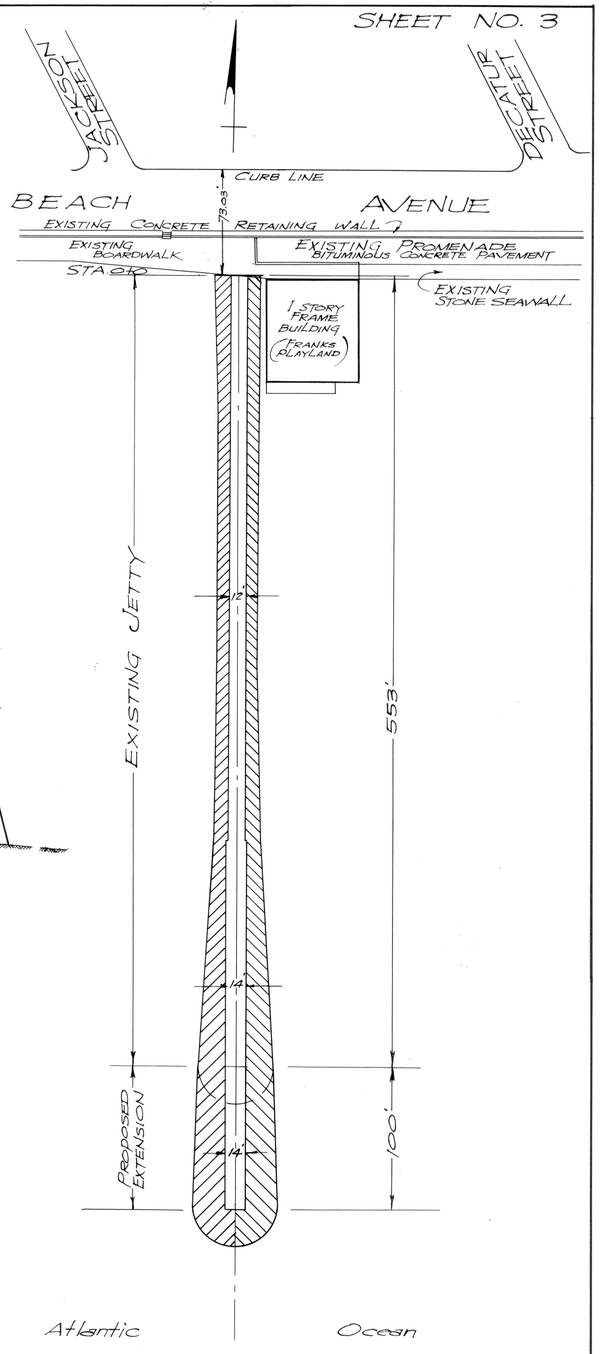
9.01-953
E-20-10



PROFILE OF JETTY
AT JACKSON STREET

SCALES: HORIZ. 1" = 30'
VERT: 1" = 5'

Datum - 0.0 M.L.W.
Cold Spring Harbor

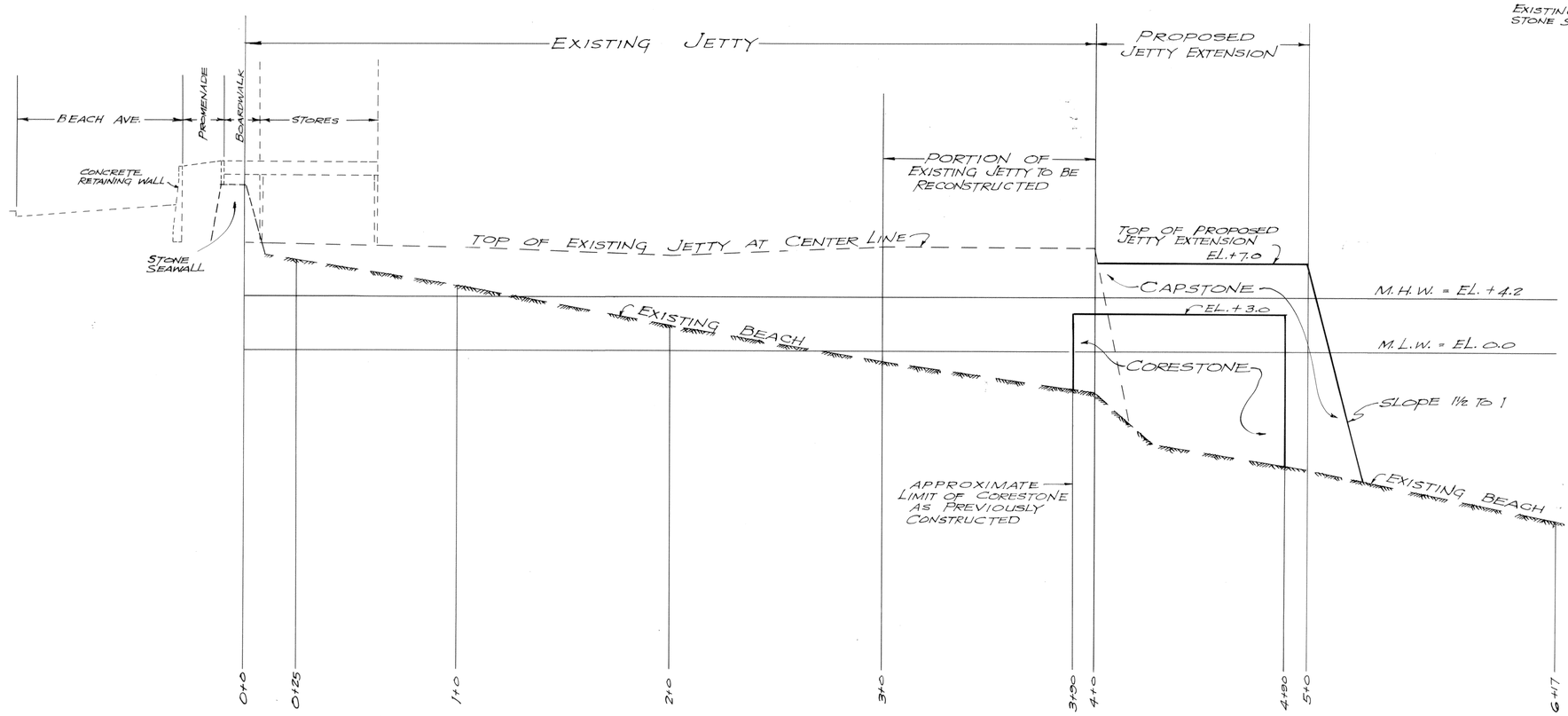


LOCATION PLAN
SCALE 1" = 50'

APW - N.J. - 1406

CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
CONSTRUCTION PLANS
PROPOSED JACKSON STREET
STONE JETTY EXTENSION
DECEMBER 1963
SCALES AS INDICATED

9.01-953
E-20-10



Datum 0.0 M.L.W.
Cold Spring Harbor

PROFILE OF JETTY
AT GUERNEY STREET

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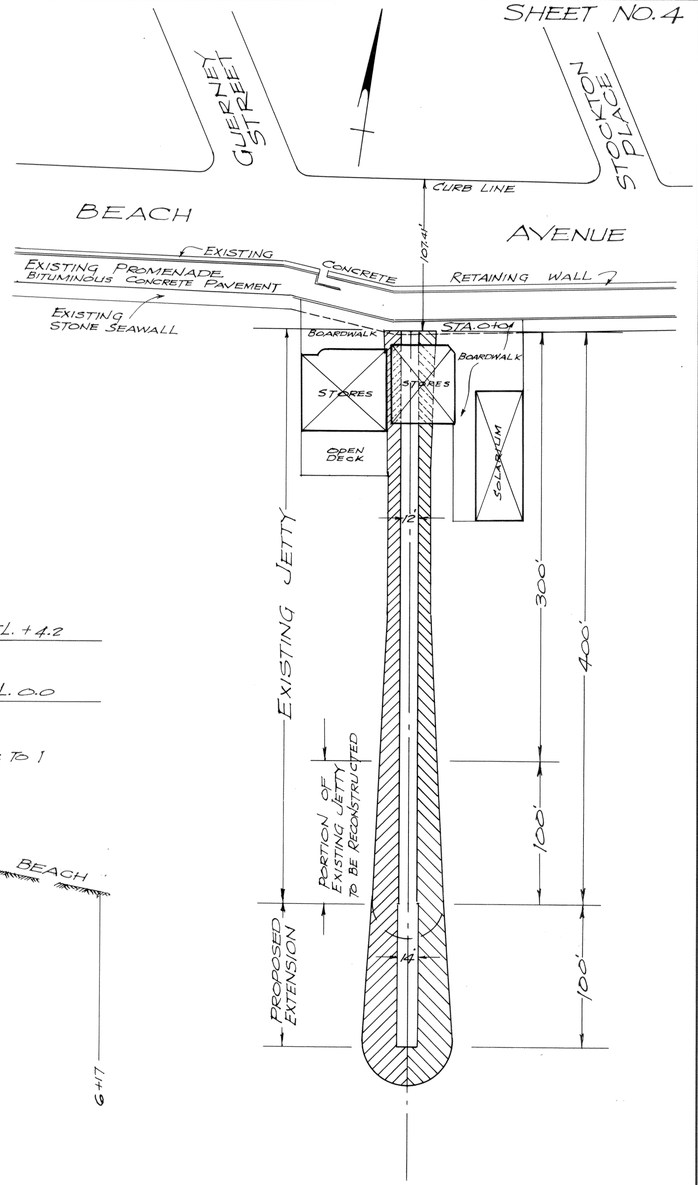
VERT. 1" = 5'



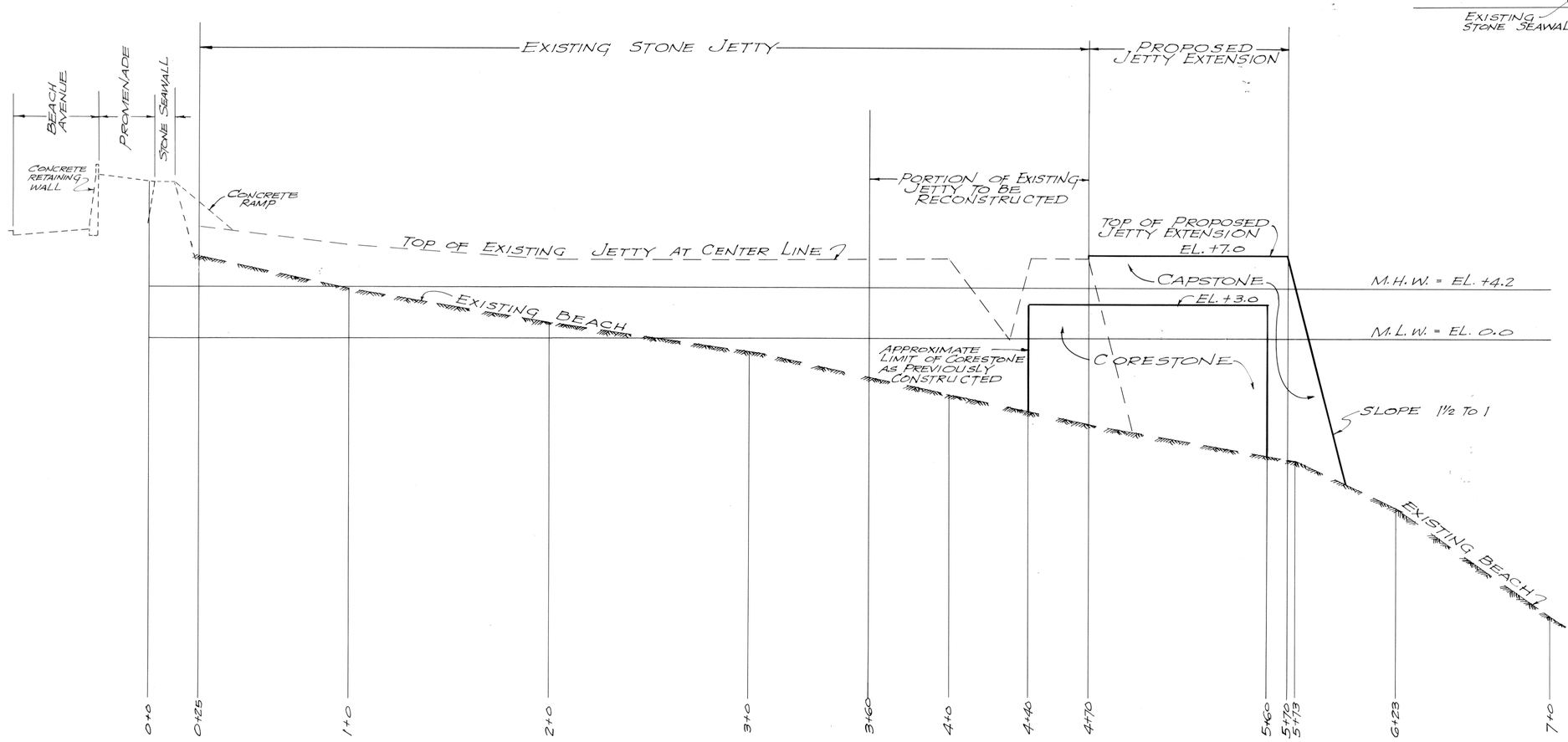
LOCATION PLAN
SCALE 1" = 50'

APW - N.J. - 1406

CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
CONSTRUCTION PLANS
PROPOSED GUERNEY STREET
STONE JETTY EXTENSION
DECEMBER 1963
SCALES AS INDICATED

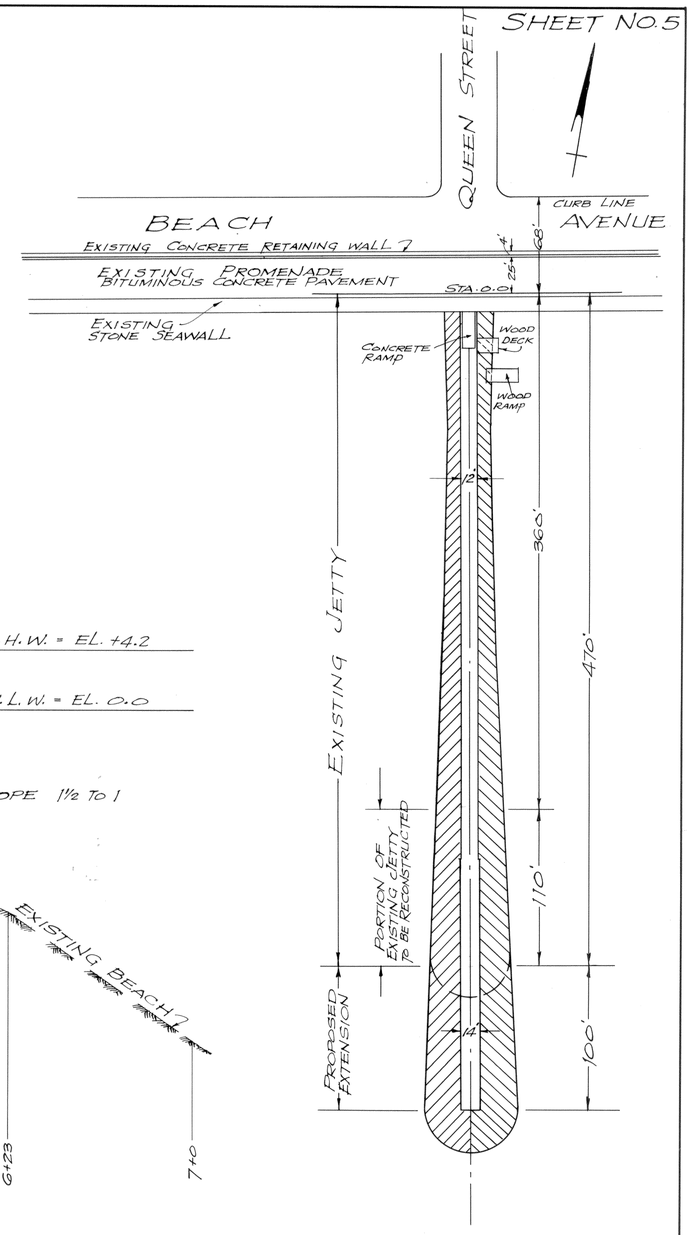
9 of 453
E-20-10

SHEET NO. 5



PROFILE OF JETTY
AT QUEEN STREET
SCALES: HORIZ. 1" = 30'
VERT. 1" = 5'

Datum 0.0 M.L.W.
Cold Spring Harbor

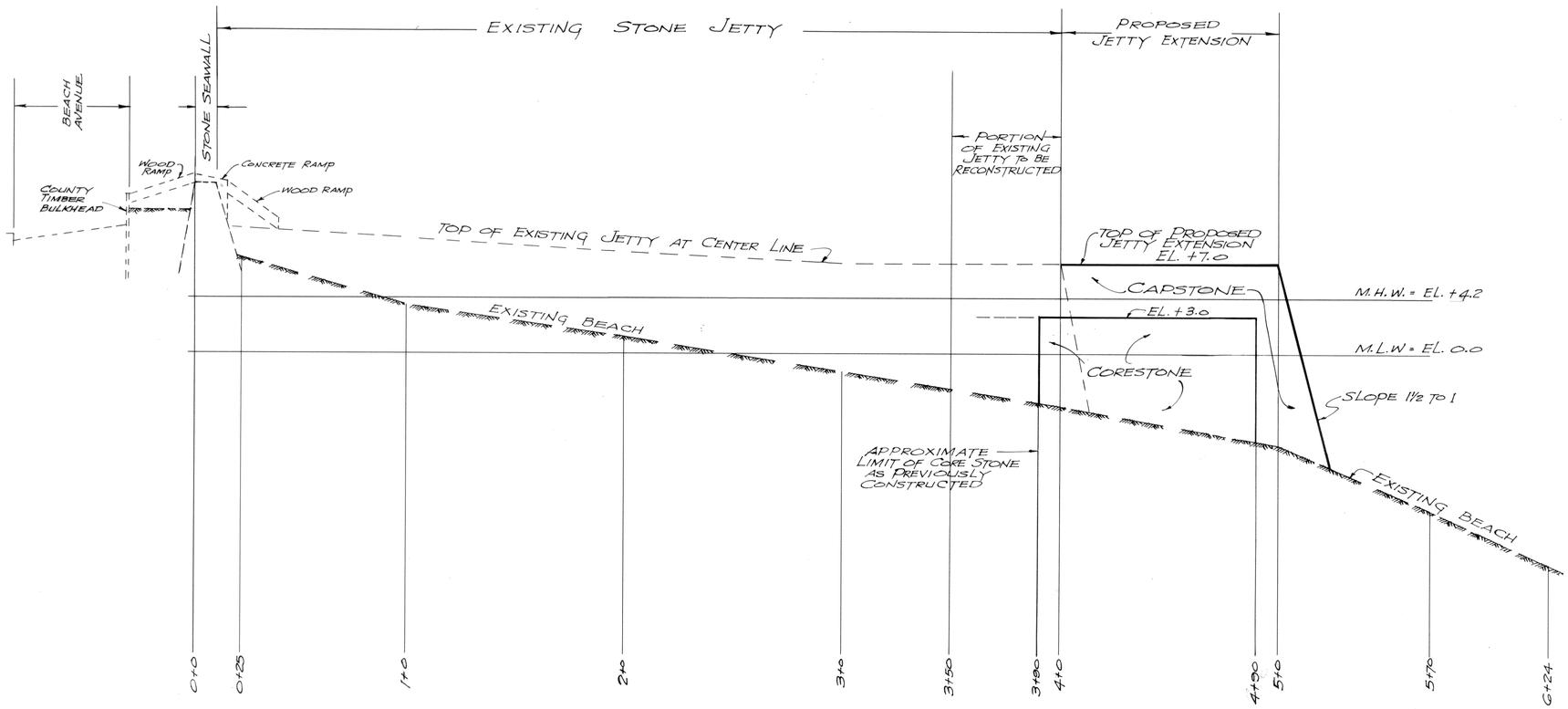


LOCATION PLAN
SCALE 1" = 50'

APW-N.J.-140 G

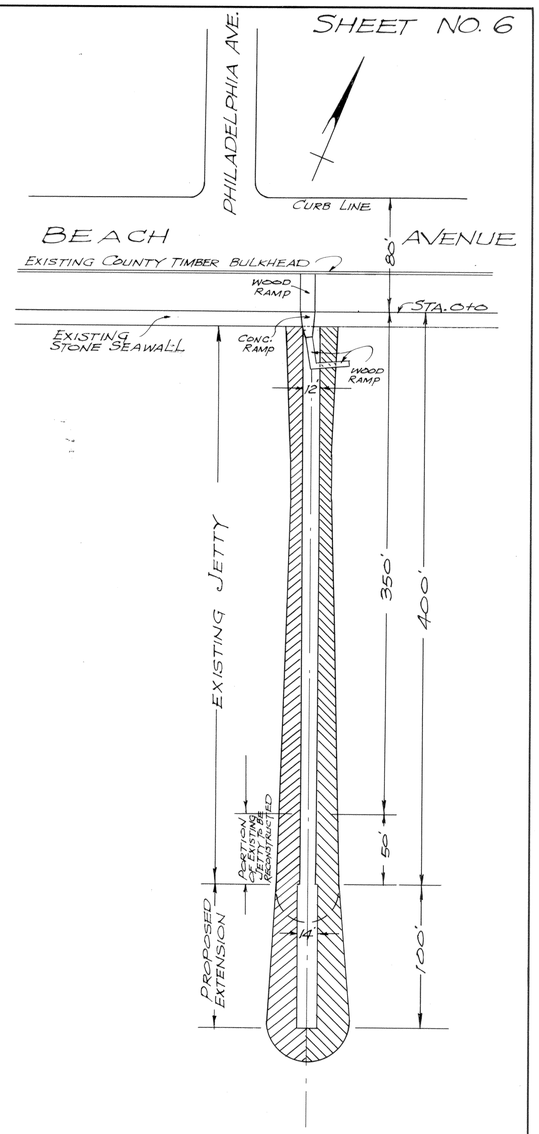
CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
CONSTRUCTION PLANS
PROPOSED QUEEN STREET
STONE JETTY EXTENSION
DECEMBER 1963
SCALES AS INDICATED

9-64-953
E-20-10



PROFILE OF JETTY
AT PHILADELPHIA AVE.
SCALES: HORIZ. 1" = 30'
VERT. 1" = 5'

Datum 0.0 M.L.W.
Cold Spring Harbor



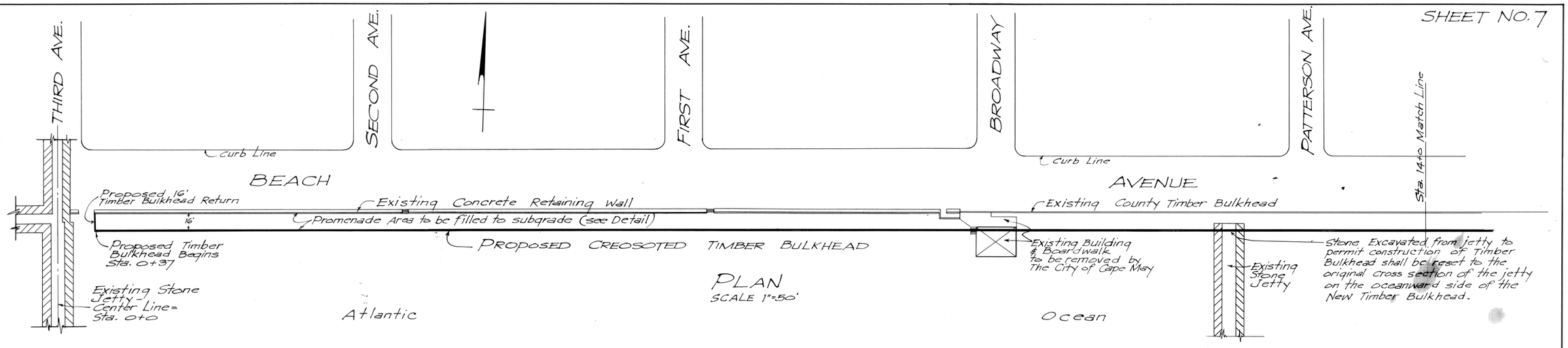
Atlantic Ocean

LOCATION PLAN
SCALE 1" = 50'

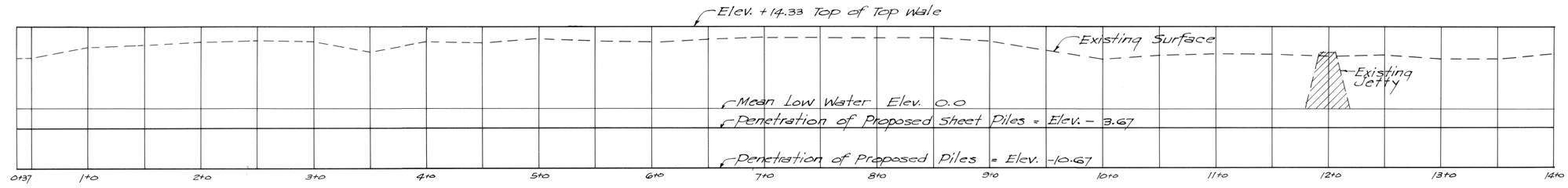
APW - N.J. - 1406

CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
CONSTRUCTION PLANS
PROPOSED PHILADELPHIA AVENUE
STONE JETTY EXTENSION
DECEMBER 1963
SCALES AS INDICATED

9'01-453
E-20-10

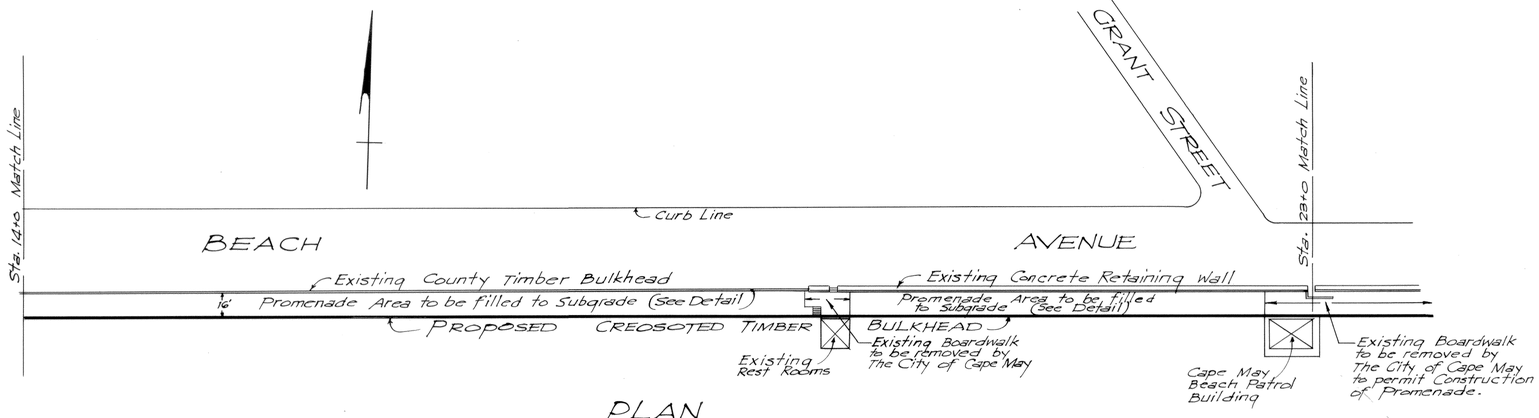


PLAN
SCALE 1"=50'

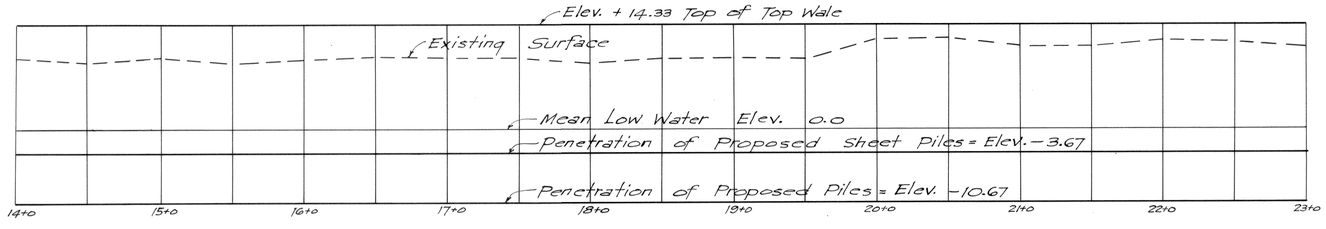


PROFILE – PROPOSED TIMBER BULKHEAD
SCALES: HORIZ. 1"=50'
VERT. 1"=10'

Datum 0.0 M.L.W.
Cold Spring Harbor



PLAN
SCALE 1"=50'

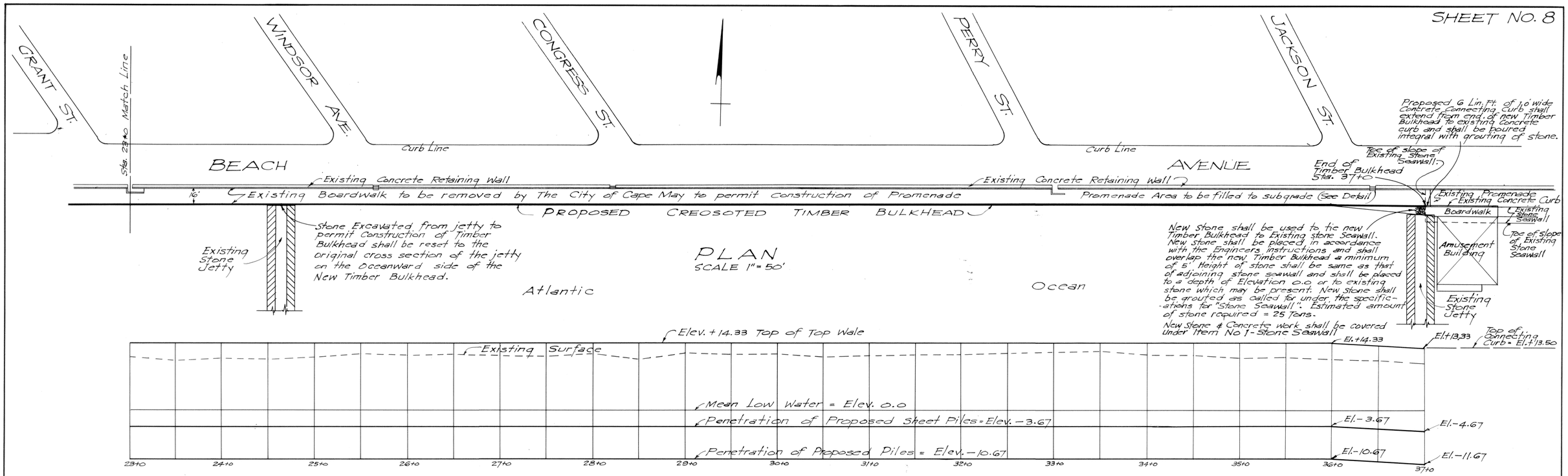


PROFILE – PROPOSED TIMBER BULKHEAD
SCALES: HORIZ. 1" = 50'
VERT. 1" = 10'

APW - N. J. - 140 G

CONSTRUCTION PLANS
PROPOSED CREOSOTED
TIMBER BULKHEAD
ALONG ATLANTIC OCEAN
CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
SCALES AS SHOWN
DECEMBER 1963

9-01-453
E-20-10



PROFILE - PROPOSED TIMBER BULKHEAD

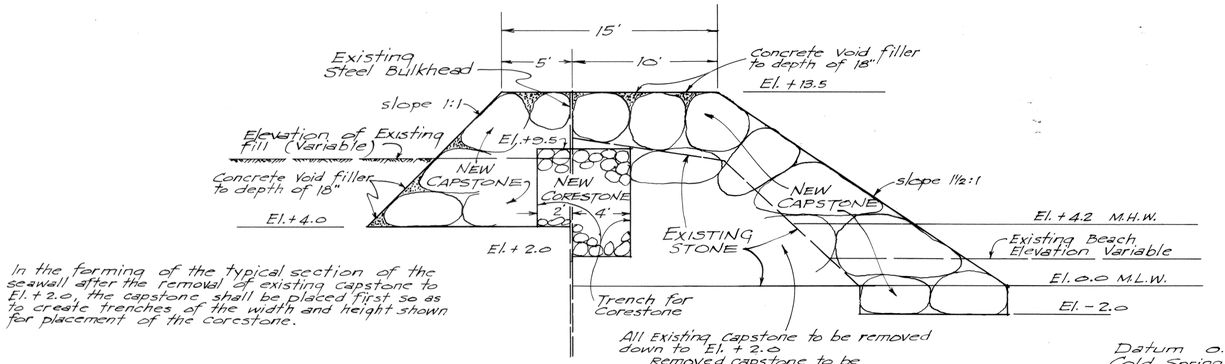
SCALES: HORIZ. 1" = 50'
VERT. 1" = 10'

Datum 0.0 M.L.W.
Cold Spring Harbor

APW - N.J.-1409

CONSTRUCTION PLANS
PROPOSED CREOSOTED
TIMBER BULKHEAD
ALONG ATLANTIC OCEAN
CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
SCALES AS SHOWN
DECEMBER 1963

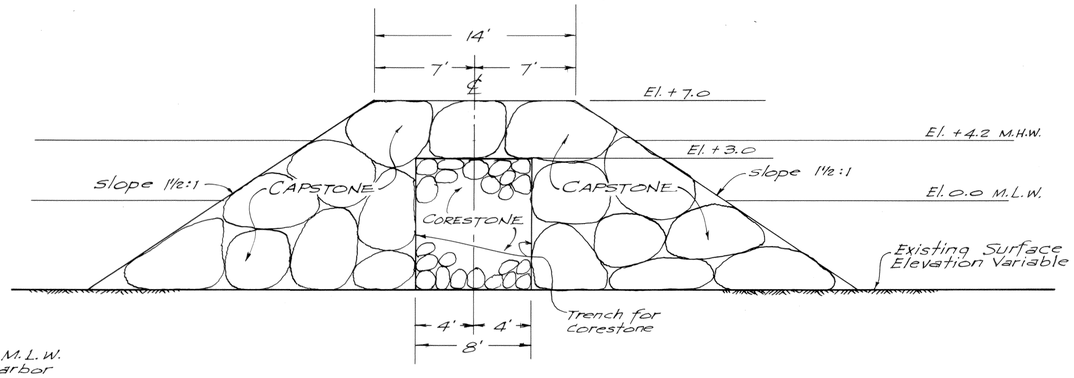
9.01-453
E-20-10



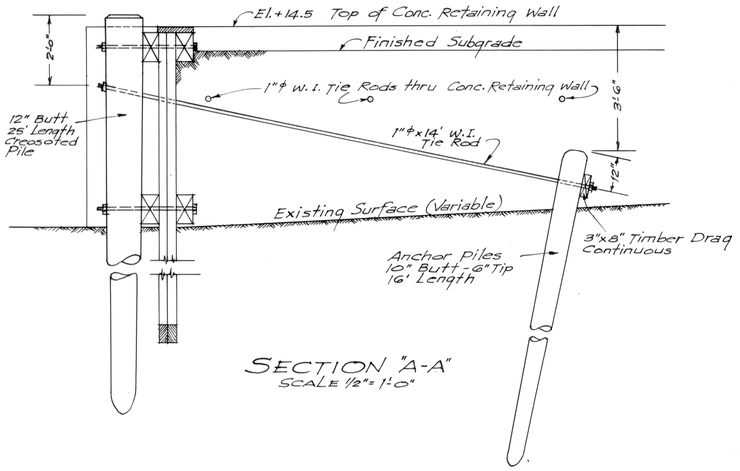
In the forming of the typical section of the seawall after the removal of existing capstone to El. + 2.0, the capstone shall be placed first so as to create trenches of the width and height shown for placement of the corestone.

TYPICAL SECTION
STONE SEAWALL
SCALE 1" = 5'

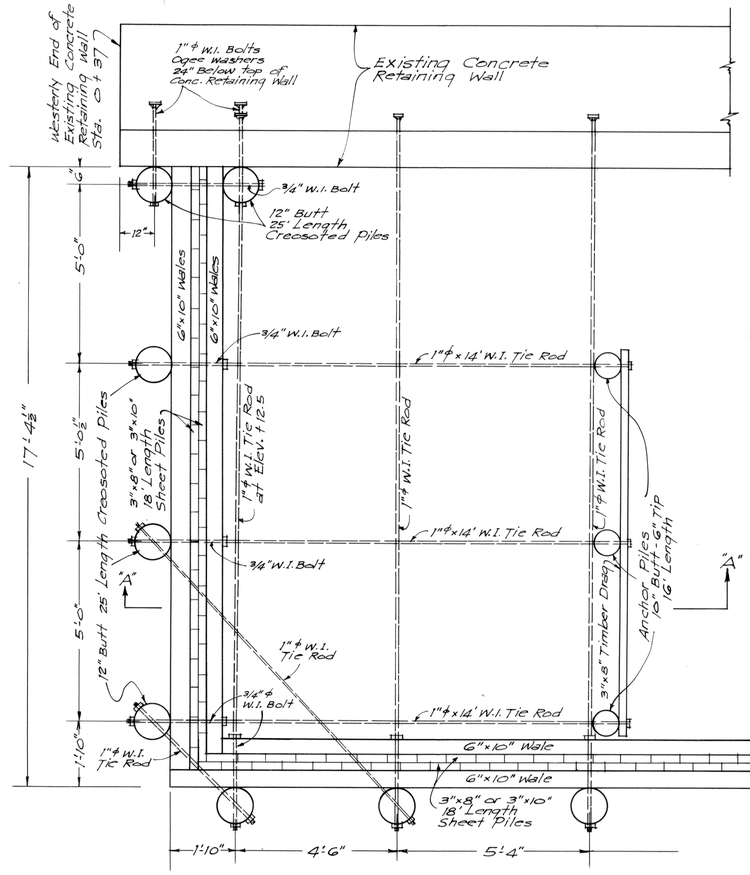
Datum 0.0 M.L.W.
Cold Spring Harbor



TYPICAL SECTION
STONE JETTY EXTENSION
SCALE 1" = 5'



SECTION "A-A"
SCALE ½" = 1'-0"



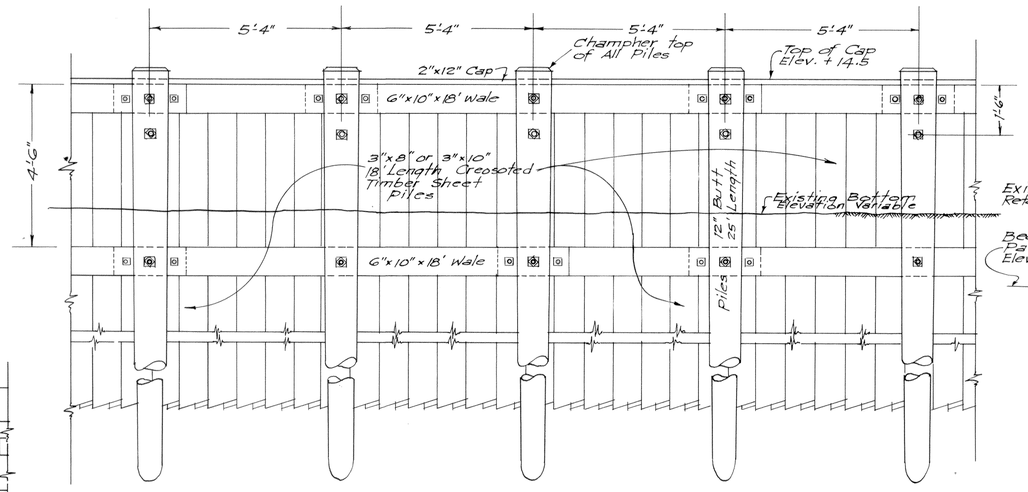
DETAIL OF CREOSOTED TIMBER
BULKHEAD RETURN AT STA. 0+37
SCALE ½" = 1'-0"

APW - N.J. - 140G

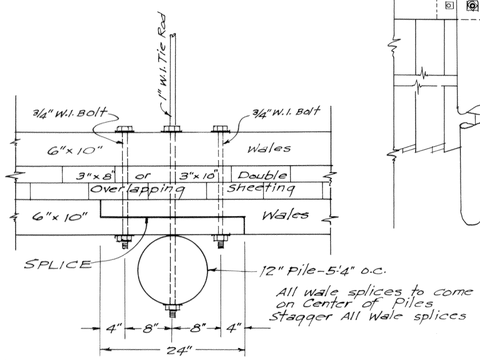
CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
DETAILS FOR PROPOSED
STONE SEAWALL - STONE JETTY EXTENSION
& CREOSOTED TIMBER BULKHEAD RETURN

DECEMBER 1963
SCALES AS SHOWN

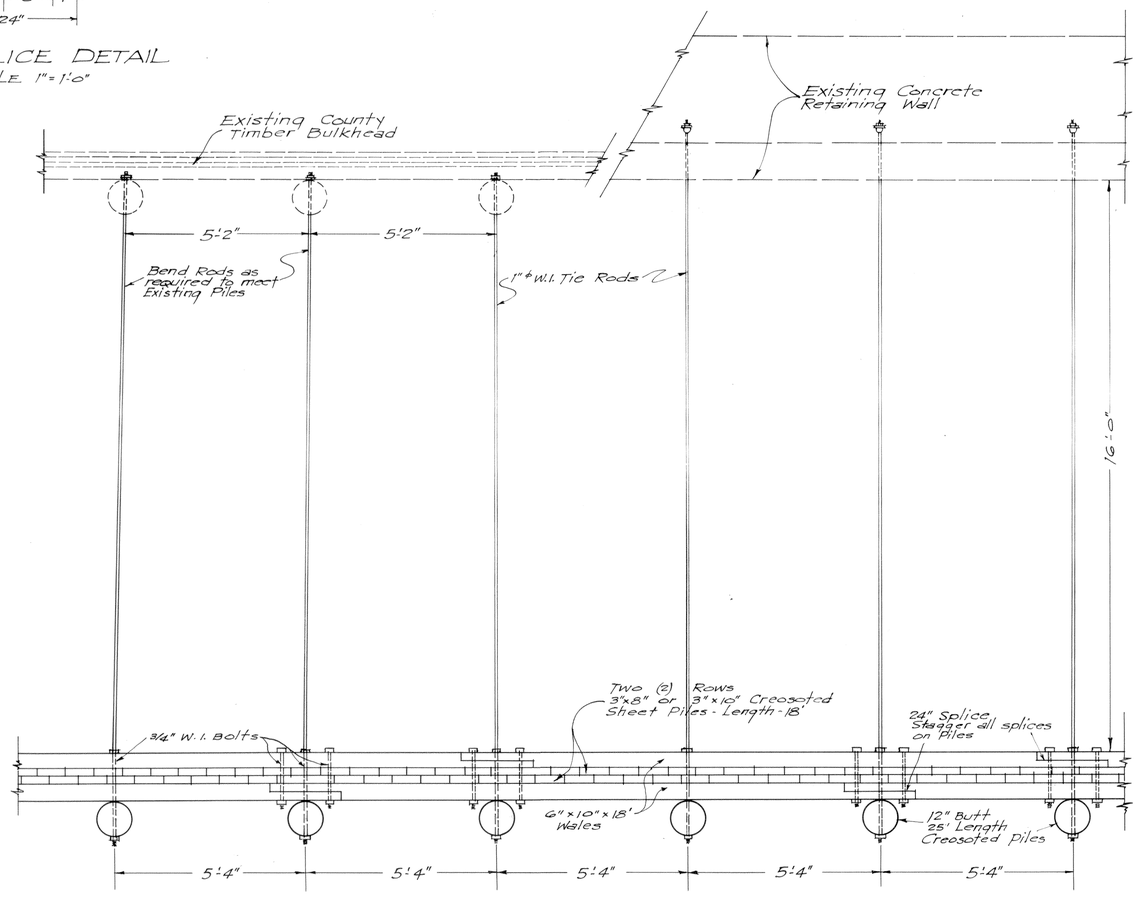
9.01-453
E-20-10



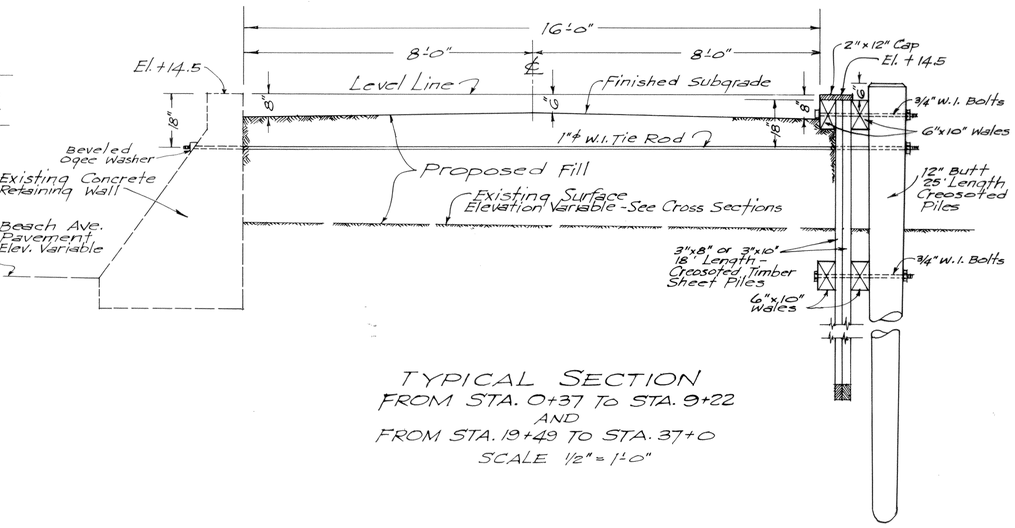
- FRONT ELEVATION -



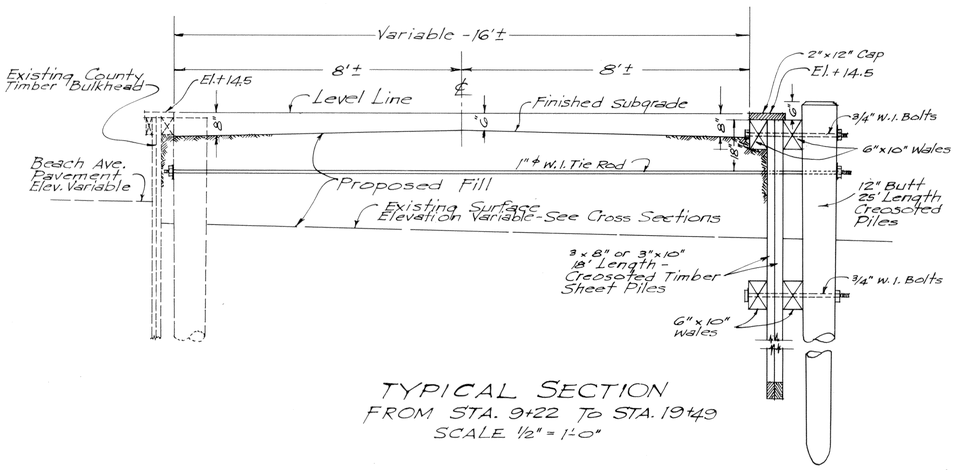
WALE SPLICE DETAIL
SCALE 1" = 1'-0"



- PLAN -
SCALE 1/2" = 1'-0"



TYPICAL SECTION
FROM STA. 0+37 TO STA. 9+22
AND
FROM STA. 19+49 TO STA. 37+0
SCALE 1/2" = 1'-0"



TYPICAL SECTION
FROM STA. 9+22 TO STA. 19+49
SCALE 1/2" = 1'-0"

Datum 0.0 M.L.W.
Cold Spring Harbor

CITY OF CAPE MAY
CAPE MAY COUNTY, NEW JERSEY
DETAILS FOR PROPOSED
CREOSOTED TIMBER BULKHEAD
DECEMBER 1963
SCALES AS SHOWN

APW - N. J. - 140 G

Cape May Seawall
City of Cape May
Cape May County, New Jersey

Coastal Storm Risk Management
Continuing Authorities Program Section 103

Appendix B

Structural Engineering Documents

February 2021

U.S. ARMY CORPS OF
ENGINEERS
PHILADELPHIA DISTRICT

Structural Design Review

As part of the Cape May Seawall Design, three possible alternatives were evaluated, including a solid mass of concrete, a precast hollow concrete box, and a precast hollow concrete box filled with sand. For each alternative the required width of the box was determined such that adequate factors of safety for overturning and sliding were achieved given the provided wave loading.

The calculations shown below include wave loading and stability calculations for each option evaluated under the following Load Cases:

- Load Case 1: New sand backfill will be placed from 1ft below top of the new concrete wall and sloped on a 1:12 extending approximately 90ft seaward of the concrete wall. Uplift and lateral loading from saturated backfill against the concrete wall was considered.
- Load Case 2: The new sand backfill placed against the concrete wall has eroded down to the bottom of the concrete wall, EL. 9.5 and the wall was subjected to breaking waves calculated based on the FEMA Coastal Construction Manual.
- Load Case 3: The sand backfill placed against the wall has eroded down to the existing elevation, EL. 9.5 and the wall was subjected to broken waves based on the FEMA Coastal Construction Manual.

The elevation at the bottom of the wall was taken as 9.5ft. The elevation at the top of the proposed wall was evaluated for varying elevations which included 13ft, 14ft, 15ft, 16ft and 17ft, making the height from the base of the existing seawall vary from 3.5ft to 7.5ft.

Results

Based on hydrologic demands, the PDT decided on a top of wall elevation of 17ft.

Based on this top of wall elevation a precast hollow concrete box will not meet the stability requirements based on the 3 load cases described above.

Considering a precast hollow concrete box filled with sand and a top of wall elevation of 17 feet the width will need to be 10 feet to meet the stability requirements based on the 3 load cases described above.

Considering a solid mass of concrete and a top of wall elevation of 17 feet the width will need to be 8 feet to meet the stability requirements based on the 3 load cases described above.

Proposed Alternative

It is proposed to construct a solid cast-in-place concrete wall that is 8-ft wide by 7.5-ft tall on top of the existing stone seawall. Given the existing top of wall elevation of +9.5 feet the 7.5-ft wall will result in a new top of wall elevation of +17ft. The wall will be constructed over a length of 350ft. Control joints shall be placed every 15ft to 20ft and an expansion joint placed every 90ft.

Options	Working Width for Both Sliding and Overturning
1. Solid Mass of concrete	
17	8ft
16	7ft
15	6ft
14	5ft
13	4ft
2. Precast Hollow Box of Concrete	
17	-
16	13ft
15	9ft
14	6ft
13	4ft
3. Precast Hollow Box of Concrete Filled with Sand	
17	10ft
16	8ft
15	6ft
14	5ft
13	4ft

FORCES ON CONCRETE WALL

Load Case 1: New sand backfill will be placed from 1ft below top of the new concrete wall and sloped on a 1:12 extending approximately 90ft seaward of the concrete wall. Uplift and lateral loading from saturated backfill against the concrete wall will be considered.
Load Case 2: The new sand backfill placed against the concrete wall has eroded down to the bottom of the concrete wall, EL. 9.5 and the wall will be subjected to breaking waves.
Load Case 3. The sand backfill placed against the wall has eroded down to the existing elevation, EL. 9.5 and the wall will be subjected to broken waves.

Constants

$\gamma_w := 64pcf$ (unit weight of salt water)

$\rho_w := 1.99\frac{slug}{ft^3}$ (mass density of salt water)

$\gamma_{conc} := 145pcf$ (unit weight of unreinforced concrete)

Sand Details

$\gamma_{sat} := 120pcf$ (saturated unit weight of sand)

$\gamma_{dry} := 80pcf$ (dry density of sand)

$\phi := 32deg$ (internal friction angle of sand)

Friction Details

$\mu := 0.6$ (concrete to clean concrete surface not intentially roughened , AASHTO LRFD 5.7.4.4)

$\mu_1 := 1.0$ (concrete to clean concrete surface roughened , AASHTO LRFD 5.7.4.4)

Wall Details

$L_{wall} := 350ft$ (approximate length of wall under consideration)

$EL_{bot\_wall} := 9.5ft$ (elevation at the bottom of the wall)

$$EL_{top\_wall} := \begin{pmatrix} 17 \\ 16 \\ 15 \\ 14 \\ 13 \end{pmatrix} ft$$ (elevation at the top of proposed wall)

$$h_{wall} := EL_{top\_wall} - EL_{bot\_wall} = \begin{pmatrix} 7.5 \\ 6.5 \\ 5.5 \\ 4.5 \\ 3.5 \end{pmatrix} ft$$ (height of the proposed wall)

$w_{wall} := 8ft$ (width of top of existing stone seawall)

Weight and Resisting Moment for Different Options

Option 1: Soild Mass of Concrete:

$$W_1 := h_{wall} \cdot w_{wall} \cdot \gamma_{conc} = \begin{pmatrix} 8.7 \\ 7.54 \\ 6.38 \\ 5.22 \\ 4.06 \end{pmatrix} \cdot \frac{kip}{ft}$$ (Concrete wall weight)

$$M_{W1} := W_1 \cdot \frac{w_{wall}}{2} = \begin{pmatrix} 34.8 \\ 30.16 \\ 25.52 \\ 20.88 \\ 16.24 \end{pmatrix} \cdot kip \cdot \frac{ft}{ft}$$ (Resisting Moment)

Option 2: Precast Hollow Box Concrete:

$t_{wall} := 1.5ft$ (thickness of walls and top and bottom slab)

$$A_{box} := h_{wall} \cdot w_{wall} - \left(w_{wall} - 2t_{wall}\right) \cdot \left(h_{wall} - 2t_{wall}\right) = \begin{pmatrix} 37.5 \\ 34.5 \\ 31.5 \\ 28.5 \\ 25.5 \end{pmatrix} ft^2$$ (Area of precast hollow box concrete)

$$W_2 := A_{box} \cdot \gamma_{conc} = \begin{pmatrix} 5.44 \\ 5 \\ 4.57 \\ 4.13 \\ 3.7 \end{pmatrix} \cdot \frac{kip}{ft}$$

$$M_{W2} := W_2 \cdot \frac{w_{wall}}{2} = \begin{pmatrix} 21.75 \\ 20.01 \\ 18.27 \\ 16.53 \\ 14.79 \end{pmatrix} \cdot kip \cdot \frac{ft}{ft}$$ (Resisting Moment)

Option 3: Precast Hollow Box Concrete Filled With Sand:

$$A_{sand} := \left(w_{wall} - 2t_{wall}\right) \cdot \left(h_{wall} - 2t_{wall}\right) = \begin{pmatrix} 22.5 \\ 17.5 \\ 12.5 \\ 7.5 \\ 2.5 \end{pmatrix} ft^2$$ (Area of sand inside box concrete)

$$W_3 := A_{box} \cdot \gamma_{conc} + A_{sand} \cdot \gamma_{dry} = \begin{pmatrix} 7.24 \\ 6.4 \\ 5.57 \\ 4.73 \\ 3.9 \end{pmatrix} \cdot \frac{kip}{ft}$$

$$M_{W3} := W_3 \cdot \frac{w_{wall}}{2} = \begin{pmatrix} 28.95 \\ 25.61 \\ 22.27 \\ 18.93 \\ 15.59 \end{pmatrix} \cdot kip \cdot \frac{ft}{ft}$$ (Resisting Moment)

Pressure Coefficients

Table 8-1. Value of Dynamic Pressure Coefficient (C_p) as a Function of Probability of Exceedance

C_P	Building Type	Probability of Exceedance
1.6	Buildings and other structures that represent a low hazard to human life or property in the event of failure	0.5
2.8	Coastal residential building	0.01
3.2	Buildings and other structures, the failure of which could pose a substantial risk to human life	0.002
3.5	High-occupancy building or critical facility or those designated as essential facilities	0.001

$C_p := 1.6$

Table 8-2. Drag Coefficients for Ratios of Width to Depth (w/d_s) and Width to Height (w/h)

Width-to-Depth Ratio (w/d_s or w/h)	Drag Coefficient (C_d)
1–12	1.25
13–20	1.3
21–32	1.4
33–40	1.5
41–80	1.75
81–120	1.8
>120	2.0

$$\frac{L_{wall}}{h_{wall}} = \begin{pmatrix} 46.67 \\ 53.85 \\ 63.64 \\ 77.78 \\ 100 \end{pmatrix}$$

Conservatively use worst case w/h ratio for all cases:

$C_d := 1.8$

Factors of Safety, EM 1110-2-2100

Table 3-2 Required Factors of Safety for Sliding - Critical Structures

	Load Condition Categories		
Site Information Category	Usual	Unusual	Extreme
Well Defined	1.7	1.3	1.1
Ordinary	2.0	1.5*	1.1*
Limited**	-	-	-

*For preliminary seismic analysis without detailed site-specific ground motion, use FS=1.7 for unusual and FS=1.3 for extreme. See further explanation in section 3.11 b.

**Limited site information is not permitted for critical structures

FS_Sliding_LoadCase1 := 2.0

FS_Sliding_LoadCase2 := 1.1

FS_Sliding_LoadCase3 := 1.1

Table 3-5 Requirements for Location of the Resultant-All Structures

	Load Condition Categories		
Site Information Category	**Usual**	**Unusual**	**Extreme**
All Categories	100% of Base in Compression	75% of Base in Compression	Resultant Within Base

EM 1110-2-2100 pg.3-6

Fig. 4-4 Relationship between Base Width in Compression and Resultant Location

BASE AREA IN COMPRESSION	RESULTANT RATIO
100%	0.500 to 0.333
75%	0.25
60%	0.20
50%	0.1667
40%	0.1333

EM 1110-2-2502 pg. 4-11

LOAD CASE 1: SATURATED SAND LOAD AND UPLIFT ON CONCRETE WALL:

Lateral Earth Pressure:

$k_o := 1 - \sin(\phi)$ $k_o = 0.47$ (Coefficient of At-Rest Soil Pressure)

$h := h_{wall} - 1ft$ $h = \begin{pmatrix} 6.5 \\ 5.5 \\ 4.5 \\ 3.5 \\ 2.5 \end{pmatrix} ft$ (Backfill will be placed from 1ft below top of the new concrete wall, surface of backfill assumed to be flat.)

$F_{1a} := 0.5 \cdot k_o \cdot (\gamma_{sat} - \gamma_w) \cdot h^2 = \begin{pmatrix} 0.56 \\ 0.4 \\ 0.27 \\ 0.16 \\ 0.08 \end{pmatrix} \cdot \frac{kip}{ft}$

$M_{1a} := \overrightarrow{\left[F_{1a} \cdot \left(\frac{h}{3}\right)\right]} = \begin{pmatrix} 1.2 \\ 0.73 \\ 0.4 \\ 0.19 \\ 0.07 \end{pmatrix} \cdot kip \cdot \frac{ft}{ft}$

Lateral Hydrostatic Pressure:

$F_{1b} := 0.5 \cdot \gamma_w \cdot h_{wall}^2 = \begin{pmatrix} 1.8 \\ 1.35 \\ 0.97 \\ 0.65 \\ 0.39 \end{pmatrix} \cdot \frac{kip}{ft}$

$M_{1b} := \overrightarrow{\left[F_{1b} \cdot \left(\frac{h_{wall}}{3}\right)\right]} = \begin{pmatrix} 4.5 \\ 2.93 \\ 1.77 \\ 0.97 \\ 0.46 \end{pmatrix} \cdot kip \cdot \frac{ft}{ft}$

Total Pressure:

$$F_1 := F_{1a} + F_{1b} = \begin{pmatrix} 2.36 \\ 1.75 \\ 1.23 \\ 0.81 \\ 0.47 \end{pmatrix} \cdot \frac{kip}{ft} \qquad M_1 := M_{1a} + M_{1b} = \begin{pmatrix} 5.7 \\ 3.66 \\ 2.17 \\ 1.16 \\ 0.53 \end{pmatrix} \cdot kip \cdot \frac{ft}{ft}$$

Uplift:

$$U_1 := 0.5 h_{wall} \cdot \gamma_w \cdot w_{wall} = \begin{pmatrix} 1.92 \\ 1.66 \\ 1.41 \\ 1.15 \\ 0.9 \end{pmatrix} \cdot \frac{kip}{ft} \qquad M_{U1} := U_1 \cdot \left(\frac{2}{3}\right) w_{wall} = \begin{pmatrix} 10.24 \\ 8.87 \\ 7.51 \\ 6.14 \\ 4.78 \end{pmatrix} \cdot kip \cdot \frac{ft}{ft}$$

LOAD CASE 2: BREAKING WAVE LOAD ON VERTICAL WALL BASED ON FEMA MANUAL:

EQUATION 8.6. BREAKING WAVE LOAD ON VERTICAL WALLS

Case 1 (enclosed dry space behind wall):

$$f_{brkw} = 1.1 C_p \gamma_w d_s^2 + 2.4 \gamma_w d_s^2 \qquad \text{(Eq. 8.6a)}$$

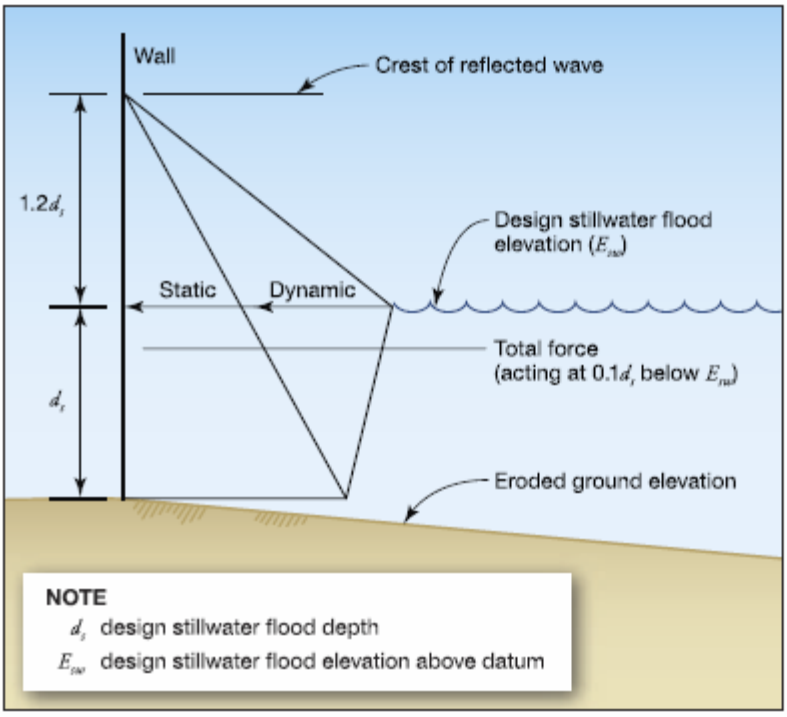


Figure 8-9. Breaking wave pressure distribution against a vertical wall

Solve for Maximum d_s to have reflected wave crest at top of wall:

$$d_s := \frac{EL_{top\_wall} - EL_{bot\_wall}}{2.2} = \begin{pmatrix} 3.41 \\ 2.95 \\ 2.5 \\ 2.05 \\ 1.59 \end{pmatrix} ft \qquad (EL_{top\_wall} - EL_{bot\_wall} = 1.2d_s + d_s)$$

$$F_2 := 1.1 \cdot C_p \cdot \gamma_w \cdot d_s^{\,2} + 2.4\gamma_w \cdot d_s^{\,2} = \begin{pmatrix} 3.09 \\ 2.32 \\ 1.66 \\ 1.11 \\ 0.67 \end{pmatrix} \cdot \frac{kip}{ft}$$

$$M_2 := \overrightarrow{\left[F_2 \cdot \left(d_s - 0.1d_s\right)\right]} = \begin{pmatrix} 9.49 \\ 6.18 \\ 3.74 \\ 2.05 \\ 0.96 \end{pmatrix} \cdot \frac{kip \cdot ft}{ft}$$

LOAD CASE 3: BROKEN WAVE LOAD ON CONCRETE WALL:

The loading scenario for the broken wave condition will be assumed to be when the wave crest is at the top of the wall, and the entire column of water from the wave crest to the ground surface, EL. 9.5, will have a velocity equal to the shallow water wave celerity or bore velocity. The celerity will be calculated based on a water depth equal to the distance from the ground line to the top of wall.

$$d_{water} := EL_{top\_wall} - EL_{bot\_wall} = \begin{pmatrix} 7.5 \\ 6.5 \\ 5.5 \\ 4.5 \\ 3.5 \end{pmatrix} ft \qquad Velocity := \sqrt{d_{water} \cdot g} = \begin{pmatrix} 15.53 \\ 14.46 \\ 13.3 \\ 12.03 \\ 10.61 \end{pmatrix} \frac{ft}{s}$$ (shallow water bore velocity Eq. 8.2b)

$$F_3 := \overrightarrow{\left[\left(\frac{1}{2} \cdot C_d \cdot \rho_w \cdot Velocity^2 \cdot d_{water}\right)\right]} = \begin{pmatrix} 3.24 \\ 2.43 \\ 1.74 \\ 1.17 \\ 0.71 \end{pmatrix} \cdot \frac{kip}{ft}$$

$$M_3 := \overrightarrow{\left(F_3 \cdot \frac{d_{water}}{2}\right)} = \begin{pmatrix} 12.16 \\ 7.91 \\ 4.79 \\ 2.63 \\ 1.24 \end{pmatrix} \cdot kip$$

GLOBAL STABILITY CALCULATIONS:

LIMITS ON RESULTANT LOCATION:

MaxRow1(A, B, C) :=
for $i \in ORIGIN .. last(A)$
$R_i \leftarrow max(A_i, B_i, C_i)$
return R

Option 1:

I. Load Case 1:

$\Sigma M\_LoadCase1 := (M_{W1} - M_1 - M_{U1})$

$\Sigma V\_option1 := W_1 - U_1$

$X_{R\_LoadCase1} := \frac{\Sigma M\_LoadCase1}{\Sigma V\_option1}$ $X_{R\_LoadCase1} = \begin{pmatrix} 2.78 \\ 3 \\ 3.19 \\ 3.34 \\ 3.46 \end{pmatrix} \cdot ft$ $Resultant\_Ratio := \frac{X_{R\_LoadCase1}}{w_{wall}} = \begin{pmatrix} 0.35 \\ 0.37 \\ 0.4 \\ 0.42 \\ 0.43 \end{pmatrix}$

Resultant_Location :=
for $k \in 0 .. last(F_1)$
$Resultant\_Location_k \leftarrow$ "OK" if $0.50 \geq Resultant\_Ratio_k \geq 0.33$
$Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$Resultant\_Location = \begin{pmatrix} "OK" \\ "OK" \\ "OK" \\ "OK" \\ "OK" \end{pmatrix}$

II. Load Case 2:

$\Sigma M\_LoadCase2 := (M_{W1} - M_2 - M_{U1})$

$\Sigma V\_option1 := W_1 - U_1$

$X_{R\_LoadCase2} := \frac{\Sigma M\_LoadCase2}{\Sigma V\_option1}$ $X_{R\_LoadCase2} = \begin{pmatrix} 2.22 \\ 2.57 \\ 2.87 \\ 3.12 \\ 3.32 \end{pmatrix} \cdot ft$ $Resultant\_Ratio := \frac{X_{R\_LoadCase2}}{w_{wall}} = \begin{pmatrix} 0.28 \\ 0.32 \\ 0.36 \\ 0.39 \\ 0.41 \end{pmatrix}$

Resultant_Location :=
for $k \in 0 .. last(F_2)$
$Resultant\_Location_k \leftarrow$ "OK" if $X_{R\_LoadCase2_k} \geq 0 \wedge X_{R\_LoadCase2_k} < w_{wall}$
$Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$Resultant\_Location = \begin{pmatrix} "OK" \\ "OK" \\ "OK" \\ "OK" \\ "OK" \end{pmatrix}$

III. Load Case 3:

$$\Sigma M\_LoadCase3 := \left(M_{W1} - M_3 - M_{U1}\right)$$

$$\Sigma V\_option1 := W_1 - U_1$$

$$X_{R\_LoadCase3} := \frac{\Sigma M\_LoadCase3}{\Sigma V\_option1} \qquad X_{R\_LoadCase3} = \begin{pmatrix} 1.83 \\ 2.28 \\ 2.66 \\ 2.98 \\ 3.23 \end{pmatrix} \cdot ft \qquad Resultant\_Ratio := \frac{X_{R\_LoadCase3}}{w_{wall}} = \begin{pmatrix} 0.23 \\ 0.28 \\ 0.33 \\ 0.37 \\ 0.4 \end{pmatrix}$$

Resultant_Location :=
for $k \in 0 .. last(F_3)$
  $Resultant\_Location_k \leftarrow$ "OK" if $X_{R\_LoadCase3_k} \geq 0 \wedge X_{R\_LoadCase3_k} < w_{wall}$
  $Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$$Resultant\_Location = \begin{pmatrix} \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$$

Option 2:

I. Load Case 1:

$$\Sigma M\_LoadCase1 := \left(M_{W2} - M_1 - M_{U1}\right)$$

$$\Sigma V\_option2 := W_2 - U_1$$

$$X_{R\_LoadCase1} := \frac{\Sigma M\_LoadCase1}{\Sigma V\_option2} \qquad X_{R\_LoadCase1} = \begin{pmatrix} 1.65 \\ 2.24 \\ 2.72 \\ 3.1 \\ 3.39 \end{pmatrix} \cdot ft \qquad Resultant\_Ratio := \frac{X_{R\_LoadCase1}}{w_{wall}} = \begin{pmatrix} 0.21 \\ 0.28 \\ 0.34 \\ 0.39 \\ 0.42 \end{pmatrix}$$

Resultant_Location :=
for $k \in 0 .. last(F_1)$
  $Resultant\_Location_k \leftarrow$ "OK" if $0.50 \geq Resultant\_Ratio_k \geq 0.33$
  $Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$$Resultant\_Location = \begin{pmatrix} \text{"NG"} \\ \text{"NG"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$$

II. Load Case 2:

$\Sigma M\_LoadCase2 := \left(M_{W2} - M_2 - M_{U1}\right)$

$\Sigma V\_option2 := W_2 - U_1$

$X_{R\_LoadCase2} := \frac{\Sigma M\_LoadCase2}{\Sigma V\_option2}$ $\quad X_{R\_LoadCase2} = \begin{pmatrix} 0.57 \\ 1.48 \\ 2.22 \\ 2.8 \\ 3.23 \end{pmatrix} \cdot ft$ $\quad Resultant\_Ratio := \frac{X_{R\_LoadCase2}}{w_{wall}} = \begin{pmatrix} 0.07 \\ 0.19 \\ 0.28 \\ 0.35 \\ 0.4 \end{pmatrix}$

Resultant_Location :=
for $k \in 0 .. last(F_2)$
  $Resultant\_Location_k \leftarrow$ "OK" if $X_{R\_LoadCase2_k} \geq 0 \wedge X_{R\_LoadCase2_k} < w_{wall}$
  $Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$Resultant\_Location = \begin{pmatrix} \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

III. Load Case 3:

$\Sigma M\_LoadCase3 := \left(M_{W2} - M_3 - M_{U1}\right)$

$\Sigma V\_option2 := W_2 - U_1$

$X_{R\_LoadCase3} := \frac{\Sigma M\_LoadCase3}{\Sigma V\_option2}$ $\quad X_{R\_LoadCase3} = \begin{pmatrix} -0.18 \\ 0.97 \\ 1.89 \\ 2.6 \\ 3.13 \end{pmatrix} \cdot ft$ $\quad Resultant\_Ratio := \frac{X_{R\_LoadCase3}}{w_{wall}} = \begin{pmatrix} -0.02 \\ 0.12 \\ 0.24 \\ 0.33 \\ 0.39 \end{pmatrix}$

Resultant_Location :=
for $k \in 0 .. last(F_3)$
  $Resultant\_Location_k \leftarrow$ "OK" if $X_{R\_LoadCase3_k} \geq 0 \wedge X_{R\_LoadCase3_k} < w_{wall}$
  $Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$Resultant\_Location = \begin{pmatrix} \text{"NG"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

Option 3:

I. Load Case 1:

$\Sigma M\_LoadCase1 := \left(M_{W3} - M_1 - M_{U1}\right)$

$\Sigma V\_option3 := W_3 - U_1$

$X_{R\_LoadCase1} := \frac{\Sigma M\_LoadCase1}{\Sigma V\_option3}$ $X_{R\_LoadCase1} = \begin{pmatrix} 2.45 \\ 2.76 \\ 3.03 \\ 3.25 \\ 3.43 \end{pmatrix} \cdot ft$ $Resultant\_Ratio := \frac{X_{R\_LoadCase1}}{w_{wall}} = \begin{pmatrix} 0.31 \\ 0.34 \\ 0.38 \\ 0.41 \\ 0.43 \end{pmatrix}$

Resultant_Location :=
for $k \in 0 .. last(F_1)$
  $Resultant\_Location_k \leftarrow$ "OK" if $0.50 \geq Resultant\_Ratio_k \geq 0.33$
  $Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$Resultant\_Location = \begin{pmatrix} "NG" \\ "OK" \\ "OK" \\ "OK" \\ "OK" \end{pmatrix}$

II. Load Case 2:

$\Sigma M\_LoadCase2 := \left(M_{W3} - M_2 - M_{U1}\right)$

$\Sigma V\_option3 := W_3 - U_1$

$X_{R\_LoadCase2} := \frac{\Sigma M\_LoadCase2}{\Sigma V\_option3}$ $X_{R\_LoadCase2} = \begin{pmatrix} 1.73 \\ 2.23 \\ 2.65 \\ 3 \\ 3.28 \end{pmatrix} \cdot ft$ $Resultant\_Ratio := \frac{X_{R\_LoadCase2}}{w_{wall}} = \begin{pmatrix} 0.22 \\ 0.28 \\ 0.33 \\ 0.37 \\ 0.41 \end{pmatrix}$

Resultant_Location :=
for $k \in 0 .. last(F_2)$
  $Resultant\_Location_k \leftarrow$ "OK" if $X_{R\_LoadCase2_k} \geq 0 \wedge X_{R\_LoadCase2_k} < w_{wall}$
  $Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$Resultant\_Location = \begin{pmatrix} "OK" \\ "OK" \\ "OK" \\ "OK" \\ "OK" \end{pmatrix}$

III. Load Case 3:

$\Sigma M\_LoadCase3 := \left(M_{W3} - M_3 - M_{U1}\right)$

$\Sigma V\_option3 := W_3 - U_1$

$X_{R\_LoadCase3} := \frac{\Sigma M\_LoadCase3}{\Sigma V\_option3}$ $X_{R\_LoadCase3} = \begin{pmatrix} 1.23 \\ 1.86 \\ 2.4 \\ 2.84 \\ 3.19 \end{pmatrix} \cdot ft$ $Resultant\_Ratio := \frac{X_{R\_LoadCase3}}{w_{wall}} = \begin{pmatrix} 0.15 \\ 0.23 \\ 0.3 \\ 0.35 \\ 0.4 \end{pmatrix}$

Resultant_Location :=
for $k \in 0 .. last(F_3)$
  $Resultant\_Location_k \leftarrow$ "OK" if $X_{R\_LoadCase3_k} \geq 0 \wedge X_{R\_LoadCase3_k} < w_{wall}$
  $Resultant\_Location_k \leftarrow$ "NG" otherwise
Resultant_Location

$Resultant\_Location = \begin{pmatrix} "OK" \\ "OK" \\ "OK" \\ "OK" \\ "OK" \end{pmatrix}$

SLIDING STABILITY:

Option 1

$\Sigma V\_option1 := W_1 - U_1$

I. Load Case 1:

$\Sigma H\_LoadCase1 := F_1$

$FS\_LoadCase1 := \frac{\Sigma V\_option1 \cdot \mu_1}{\Sigma H\_LoadCase1}$ $FS\_LoadCase1 = \begin{pmatrix} 2.88 \\ 3.36 \\ 4.03 \\ 5.03 \\ 6.67 \end{pmatrix}$

FS_LoadCase1_check :=
for $k \in 0 .. last(F_1)$
  $FS\_LoadCase1\_check_k \leftarrow$ "OK" if $FS\_LoadCase1_k \geq FS\_Sliding\_LoadCase1$
  $FS\_LoadCase1\_check_k \leftarrow$ "NG" otherwise
FS_LoadCase1_check

$FS\_LoadCase1\_check = \begin{pmatrix} "OK" \\ "OK" \\ "OK" \\ "OK" \\ "OK" \end{pmatrix}$

II. Load Case 2:

$\Sigma H\_LoadCase2 := F_2$

$FS\_LoadCase2 := \frac{\Sigma V\_option1 \cdot \mu}{\Sigma H\_LoadCase2}$ $\quad FS\_LoadCase2 = \begin{pmatrix} 1.31 \\ 1.52 \\ 1.79 \\ 2.19 \\ 2.82 \end{pmatrix}$

FS_LoadCase2_check :=
for $k \in 0 .. last(F_2)$
  $FS\_LoadCase2\_check_k \leftarrow$ "OK" if $FS\_LoadCase2_k \geq FS\_Sliding\_LoadCase2$
  $FS\_LoadCase2\_check_k \leftarrow$ "NG" otherwise
FS_LoadCase2_check

$FS\_LoadCase2\_check = \begin{pmatrix} \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

III. Load Case 3:

$\Sigma H\_LoadCase3 := F_3$

$FS\_LoadCase3 := \frac{\Sigma V\_option1 \cdot \mu}{\Sigma H\_LoadCase3}$ $\quad FS\_LoadCase3 = \begin{pmatrix} 1.26 \\ 1.45 \\ 1.71 \\ 2.09 \\ 2.69 \end{pmatrix}$

FS_LoadCase3_check :=
for $k \in 0 .. last(F_3)$
  $FS\_LoadCase3\_check_k \leftarrow$ "OK" if $FS\_LoadCase3_k \geq FS\_Sliding\_LoadCase3$
  $FS\_LoadCase3\_check_k \leftarrow$ "NG" otherwise
FS_LoadCase3_check

$FS\_LoadCase3\_check = \begin{pmatrix} \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

Option 2

$\Sigma V\_option2 := W_2 - U_1$

I. Load Case 1:

$\Sigma H\_LoadCase1 := F_1$

$FS\_LoadCase1 := \dfrac{\Sigma V\_option2 \cdot \mu_1}{\Sigma H\_LoadCase1}$ $\quad FS\_LoadCase1 = \begin{pmatrix} 1.49 \\ 1.91 \\ 2.56 \\ 3.68 \\ 5.91 \end{pmatrix}$

FS_LoadCase1_check :=
for $k \in 0 .. last(F_1)$
  $FS\_LoadCase1\_check_k \leftarrow$ "OK" if $FS\_LoadCase1_k \geq FS\_Sliding\_LoadCase1$
  $FS\_LoadCase1\_check_k \leftarrow$ "NG" otherwise
FS_LoadCase1_check

$FS\_LoadCase1\_check = \begin{pmatrix} \text{"NG"} \\ \text{"NG"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

II. Load Case 2:

$\Sigma H\_LoadCase2 := F_2$

$FS\_LoadCase2 := \dfrac{\Sigma V\_option2 \cdot \mu}{\Sigma H\_LoadCase2}$ $\quad FS\_LoadCase2 = \begin{pmatrix} 0.68 \\ 0.86 \\ 1.14 \\ 1.61 \\ 2.49 \end{pmatrix}$

FS_LoadCase2_check :=
for $k \in 0 .. last(F_2)$
  $FS\_LoadCase2\_check_k \leftarrow$ "OK" if $FS\_LoadCase2_k \geq FS\_Sliding\_LoadCase2$
  $FS\_LoadCase2\_check_k \leftarrow$ "NG" otherwise
FS_LoadCase2_check

$FS\_LoadCase2\_check = \begin{pmatrix} \text{"NG"} \\ \text{"NG"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

III. Load Case 3:

$\Sigma H\_LoadCase3 := F_3$

$FS\_LoadCase3 := \frac{\Sigma V\_option2 \cdot \mu}{\Sigma H\_LoadCase3}$ $\quad FS\_LoadCase3 = \begin{pmatrix} 0.65 \\ 0.82 \\ 1.09 \\ 1.53 \\ 2.38 \end{pmatrix}$

FS_LoadCase3_check :=
for $k \in 0 .. last(F_3)$
  $FS\_LoadCase3\_check_k \leftarrow$ "OK" if $FS\_LoadCase3_k \geq FS\_Sliding\_LoadCase3$
  $FS\_LoadCase3\_check_k \leftarrow$ "NG" otherwise
FS_LoadCase3_check

$FS\_LoadCase3\_check = \begin{pmatrix} \text{"NG"} \\ \text{"NG"} \\ \text{"NG"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

Option 3

$\Sigma V\_option3 := W_3 - U_1$

I. Load Case 1:

$\Sigma H\_LoadCase1 := F_1$

$FS\_LoadCase1 := \frac{\Sigma V\_option3 \cdot \mu_1}{\Sigma H\_LoadCase1}$ $\quad FS\_LoadCase1 = \begin{pmatrix} 2.26 \\ 2.71 \\ 3.37 \\ 4.42 \\ 6.33 \end{pmatrix}$

FS_LoadCase1_check :=
for $k \in 0 .. last(F_1)$
  $FS\_LoadCase1\_check_k \leftarrow$ "OK" if $FS\_LoadCase1_k \geq FS\_Sliding\_LoadCase1$
  $FS\_LoadCase1\_check_k \leftarrow$ "NG" otherwise
FS_LoadCase1_check

$FS\_LoadCase1\_check = \begin{pmatrix} \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$

II. Load Case 2:

$\Sigma H\_LoadCase2 := F_2$

$FS\_LoadCase2 := \frac{\Sigma V\_option3 \cdot \mu}{\Sigma H\_LoadCase2}$

$$FS\_LoadCase2 = \begin{pmatrix} 1.03 \\ 1.22 \\ 1.5 \\ 1.93 \\ 2.67 \end{pmatrix}$$

```
FS_LoadCase2_check := | for k ∈ 0 .. last(F2)
                      |     FS_LoadCase2_check_k ← "OK"  if FS_LoadCase2_k ≥ FS_Sliding_LoadCase2
                      |     FS_LoadCase2_check_k ← "NG"  otherwise
                      | FS_LoadCase2_check
```

$$FS\_LoadCase2\_check = \begin{pmatrix} \text{"NG"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$$

III. Load Case 3:

$\Sigma H\_LoadCase3 := F_3$

$FS\_LoadCase3 := \frac{\Sigma V\_option3 \cdot \mu}{\Sigma H\_LoadCase3}$

$$FS\_LoadCase3 = \begin{pmatrix} 0.98 \\ 1.17 \\ 1.43 \\ 1.84 \\ 2.55 \end{pmatrix}$$

```
FS_LoadCase3_check := | for k ∈ 0 .. last(F3)
                      |     FS_LoadCase3_check_k ← "OK"  if FS_LoadCase3_k ≥ FS_Sliding_LoadCase3
                      |     FS_LoadCase3_check_k ← "NG"  otherwise
                      | FS_LoadCase3_check
```

$$FS\_LoadCase3\_check = \begin{pmatrix} \text{"NG"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \\ \text{"OK"} \end{pmatrix}$$

Cape May Seawall
City of Cape May
Cape May County, New Jersey

Coastal Storm Risk Management
Continuing Authorities Program Section 103

Appendix B

Geotechnical Engineering Documents

February 2021

U.S. ARMY CORPS OF
ENGINEERS
PHILADELPHIA DISTRICT

Geotechnical Design Review

Existing Site Geology

The sedimentary formations comprising the surface of the coastal plain of New Jersey outcrop in successive belts having a northeast-southwest trend. The oldest, of Cretaceous age, outcrops at the western edge of the coastal plain and the succeeding overlapping formations are progressively younger as the shore is approached. The sedimentary formations of the study area consist of Tertiary, Pleistosene, and Recent deposits. In general, these formations are composed of unconsolidated materials and consist of gravels, sands, and clays.

The Cohansey sand formation of Tertiary age is the oldest of the units which outcrop in the- study area. The sediments comprising the formation consist chiefly of yellowish orange fine to coarse grained quartzose sand. The sand layers also contain lenses of silt and clay. The formation was deposited in a non-marine environment by fluvial action. Overlying the Cohansey sand is the Cape May formation of the Pleistocene epoch. It is composed of medium to coarse grained quartzose sand with abundant gravel and minor amounts of clay. The sand and gravels are usually yellow or brown. The Cape May formation was deposited during an interglacial stage when the sea level stood 30' to 40' feet higher than at present. The material was deposited in the valley bottoms grading into the estuarine deposits of the former shoreline. The formation is well stratified, horizontally bedded, and crossbedded to nearly massive. The mode of deposition of this formation was both fluvial and marine. Overlying the Cape May formation are deposits of Recent age. These are chiefly tidal marshes and beach and dune sands. The numerous shoals overlying the relict Cape May platform are also modern features composed predominantly of sands which owe their origin to vigorous reworking of littoral sediments by ebb and flood tidal hydraulic processes.

Additional details regarding site geology are described in the 1983 Phase II General Design Memorandum for Cape May Inlet to Lower Township, New Jersey.

Proposed Site Modifications

The proposed seawall modification consists of placing an 8-foot wide cast-in-place concrete cap on top of the existing stone seawall to Elevation +17 feet for 350 feet. Many alternatives were considered during design, including driving sheet pile, adding a layer of cap stone, and adding a concrete cap. The drawings of the existing seawall are not detailed and it was decided that too much of the wall would need to be dismantled to remove all obstructions before driving sheet pile.

Due to the nature of a stone wall, it can likely support the weight of a concrete cap. Additional effort during the planning, engineering, and design phase should be completed, including a subsurface investigation to determine the foundational material beneath the seawall. Sand and deteriorated concrete should be removed from the top

of the stonewall in order to ascertain the structural integrity of the existing seawall, The PDT will assessif additional support or repairs may need to be incorporated within the design. Based upon review of existing as-built drawings and limited available data for the site, the addition of a reinforced concrete cap to the stone seawall is a low-risk alternative, however, additional site investigation is recommended.

Cape May Seawall
City of Cape May
Cape May County, New Jersey

Coastal Storm Risk Management
Continuing Authorities Program Section 103

Appendix B

Cost Engineering Documents

February 2021

U.S. ARMY CORPS OF
ENGINEERS
PHILADELPHIA DISTRICT

APPENDIX C3 - COST ENGINEERING APPENDIX

LIST OF TABLES

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APPENDIX C3 - COST ENGINEERING APPENDIX

INITIAL PROJECT CHARGES

1. General: This section presents a detailed cost estimate for initial construction for the subject project. The selected oceanfront plans consists of raising the elevation of the existing stone seawall along its current alignment by placing a reinforced concrete cap on top of the existing stone seawall to Elevation +17 feet for 350 feet. The plan requires an initial 974 cubic yards concrete with reinforced steel. Also included is the placement of 6000 square feet of plantings, 530 linear feet safety rail atop the seawall cap, and 211 cubic yard sand removal and replacement. The plan layout of the NED plan with typical sections are shown in the section of the Main Report describing the NED Plan.5

2. Basis of Cost: Cost estimates presented herein for the NED plan are based on October 2020 price levels. The unit prices were developed in accordance with the construction procedures outlined herein. All initial construction costs presented in this appendix are NED costs.

3. Total First Cost for the NED Plan: Initial costs are based on the assumption of an established contractor constructing seawall structures including performance by a subcontractor. NED real estate acquisition costs and pertinent contingency, engineering and design and construction management costs are also included. For more information, refer to the Main Report describing the NED Plan. Initial construction costs are shown in Table 1.

CONTINGENCIES, PRECONSTRUCTION ENGINEERING & DESIGN, AND CONSTRUCTION MANAGEMENT FOR THE NED PLAN

4. Contingencies: The estimated cost for each major subdivision or feature of the recommended project includes an item for "contingencies". The item for "contingencies" is an allowance against some adverse or unanticipated condition not susceptible to exact evaluation from the data at hand but which must be expressed or represented in the cost estimate. The contingency allowances used in the development of the cost estimate for the selected project were estimated as an appropriate percentage using the abbreviated method for preparing risk analysis. A contingency factor of 32% was included Breakwaters and Seawalls costs. A provided contingency factor of 30% was included in the Lands and Damages costs.

5. Preconstruction Engineering & Design (P, E & D): Preconstruction Engineering and Design costs include local cooperative agreements, environmental and regulatory activities, general design memorandum, preparation of plans and specifications, engineering during construction, A/E liability actions, cost engineering, construction and supply contract award activities, project management, and the development of the PCA. P, E & D costs were estimated as lump sums (including contingency) for the seawall construction. A contingency factor of 32% was included in the P, E & D costs.

6. Construction Management (S&A): Construction Management costs include contract administration, review of shop drawings, inspection and quality assurance, project office operation, contractor initiated claims and litigations, and government initiated claims and litigations. S&A related costs were estimated as lump sums for the seawall construction. A contingency factor of 32% included in all S&A costs.

CONSTRUCTION AND FUNDING SCHEDULE FOR THE NED PLAN

7. General: The construction and project schedules of the NED plan are given in Tables 2 and 3 respectively of this Engineering Technical Appendix. The schedules are based on the timeliness of the report's approval and allocation of funds by OMB, the foregoing construction procedures, and the ability of local interests to implement the necessary items of local cooperation.

Table 1 – Total First Cost –NED Plan

CAPE MAY SEAWALL
CONTINUING AUTHORITY PROGRAM SECTION 103
HURRICANE AND STORM DAMAGE REDUCTION FEASIBILITY STUDY
CAPE MAY, NJ

CWBS 3-Dec-2020

CIVIL WORKS
WORK BREAKDOWN STRUCTURE

Number	Product Description	Quantity	UOM	Estimated Amount	Contingency Amount	Total Cost
1 -- -- -- --	LANDS AND DAMAGES	1	Job	$923.08	$276.92	$1,200.00
10 -- -- -- --	BREAKWATERS AND SEAWALLS	1	Job	$1,357,297.63	$434,335.24	$1,791,632.87
30 -- -- -- --	PLANNING, ENGINEERING, AND DESIGN	1	Job	$500,000.00	$160,000.00	$660,000.00
31 -- -- -- --	CONSTRUCTION MANAGEMENT (S&A)	1	Job	$841,468.52	$269,269.93	$1,110,738.45
	TOTAL PROJECT COST (Excluding Lands and Damage)			$2,698,766.15	$863,605.17	$3,562,371.32
	TOTAL PROJECT COST			$2,699,689.23	$863,882.09	$3,563,571.32

Table 2 – Project Schedule

Activity ID	Activity Name	Start	Finish
A4010	Environmental NEPA Scoping	03-Mar-16 08:...	04-May-16 05:...
A4020	Cultural Phase 1B	03-Mar-16 08:...	04-May-16 05:...
A4030	Planning Formulation Narrative	06-May-16 08:...	12-May-16 05:...
A4040	Formulate and Evaluate Alterna...	13-May-16 08:...	13-May-16 08:...
A4050	Civil - Finalize Selected Plan	13-May-16 08:...	17-Jun-16 05:...
A4060	Cost Estimate Selected Plan	20-Jun-16 08:...	11-Jul-16 05:...
A4070	Cost Risk & Uncertainty Analysis	12-Jul-16 08:...	01-Aug-16 05:...
A4080	Real Estate Plan - Final	20-Jun-16 08:...	15-Aug-16 05:...
A4090	Plan Formulation Narrative	16-Aug-16 08:...	13-Sep-16 05:...
A4100	Draft Feasibility Report & EA	13-Sep-16 05:...	13-Sep-16 05:...
A4105	DQC	14-Sep-16 08:...	04-Oct-16 05:...
A4110	ATR	05-Oct-16 08:...	01-Nov-16 05:...
A4120	NADQA Review	02-Nov-16 08:...	30-Nov-16 05:...
A4130	Environmental Public Review	01-Dec-16 08:...	29-Dec-16 05:...
A4140	IEPR	30-Dec-16 08:...	30-Mar-17 05:...
A4150	Final Feasibility Report & EA	31-Mar-17 08:...	06-Apr-17 05:...
A4160	District Engineer Approval	07-Apr-17 08:...	03-May-17 05:...
A4170	Division Engineer Approval	04-May-17 08:...	02-Jun-17 05:...
Project: 406513		20-May-15 12...	02-Jun-17 05:...

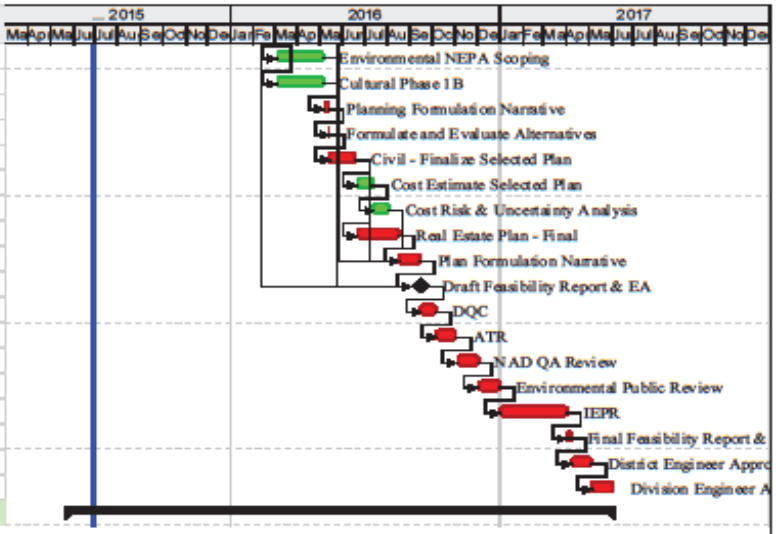


Table 3 – Construction Schedule

	Duration (Mo)	2023 Q1	Q2	Q3	Q4
Initial Construction	6		X	X	

Table 4 – Micro-Computer Aided Cost Estimating System (MCACES) Second Generation (MII)

Print Date Mon 7 December 2020 Time 15:40:53
Eff. Date 11/10/2020

Title Page

U.S. Army Corps of Engineers
Project : Cape May Seawall CAP Feasibility Study
Current Working Estimate

Estimated by CENAP-ECE-E
Designed by CENAP-ECC-E
Prepared by US Army Corps of Engineers
Preparation Date 11/10/2020
Effective Date of Pricing 11/10/2020
Estimated Construction Time 180 Days

Labor ID: NJ50 EQ ID: EP18R01 Currency in US dollars TRACES MII Version 4.4

Designed by
CENAP-ECC-E
Estimated by
CENAP-ECE-E
Prepared by
US Army Corps of Engineers

Design Document
Document Date 5/15/2020
District Philadelphia District
Contact Clyde Gibson @ 215-656-6408
Budget Year 2023
UOM System Original

Direct Costs
LaborCost
EQCost
MatlCost
SubBidCost

Timeline/Currency
Preparation Date 11/10/2020
Escalation Date 11/10/2020
Eff. Pricing Date 11/10/2020
Estimated Duration 180 Day(s)

Currency US dollars
Exchange Rate 1.000000

Costbook CB16EN: 2016 MII English Cost Book

Labor NJ50: Davis-Bacon Wage Rates - WD#20200050, 11/6/2020
Note: http://www.beta.SAM.gov

Labor Rates
LaborCost1
LaborCost2
LaborCost3
LaborCost4

Equipment EP18R01: 2018 Region 1 (Rev1)

Region 01 - NORTHEAST, (2018)

Sales Tax	6.63
Working Hours per Year	1,330
Labor Adjustment Factor	1.14
Cost of Money	1.13
Cost of Money Discount	0.90
Tire Recap Cost Factor	1.50
Tire Recap Wear Factor	1.80
Tire Repair Factor	0.15
Equipment Cost Factor	1.00
Standby Depreciation Factor	0.50

Fuel

Electricity	0.137
Gas	2.264
Diesel Off-Road	2.281
Diesel On-Road	2.648

Shipping Rates

Over 0 CWT	18.60
Over 240 CWT	13.09
Over 300 CWT	10.68
Over 400 CWT	9.22
Over 500 CWT	8.07
Over 700 CWT	8.07
Over 800 CWT	11.61

Description	Quantity	UOM	ContractCost	Escalation	Contingency	SIOH	ProjectCost
Project Cost Summary Report			**1,357,297.63**	**0.00**	**0.00**	**0.00**	**1,357,297.63**
1.1 Breakwaters & Seawalls	**1.00**	**LS**	**1,357,297.63**	**0.00**	**0.00**	**0.00**	**1,357,297.63**
1.1.1 Moblization, Demobilization, & Preparatory Work	**1.00**	**LS**	**93,833.25**	**0.00**	**0.00**	**0.00**	**93,833.25**
1.1.2 Seawalls	**1.00**	**LS**	**511,333.59**	**0.00**	**0.00**	**0.00**	**511,333.59**
1.1.3 Associated General Items	**1.00**	**LS**	**752,130.79**	**0.00**	**0.00**	**0.00**	**752,130.79**

EQUIPMENT EMISSIONS REPORT
for
Cape May Seawall CAP Feasibility Study

30 April 2020

Task	Equipment/Engine Category	Fuel Type	# of Engines	Hp	Duration (Mo)	Equip. Usage	Total Hours	Hp-Hours
1	**Mobilization:**				**0.25**			
	LOADER, FRONT END, WHEEL, SKID-STEER, 10.5 CF, 62" BUCKET, 4X4	Diesel	1	49	"	18%	8	388
	BROOM, 8' BROOM PATH, PAVEMENT, SELF PROPELLED	Diesel	1	80	"	10%	4	352
	HYDRAULIC EXCAVATOR, CRAWLER, 33,080 LBS (15MT), 1.0 CY (0.76 M3) BUCKET, 18.2' (5.5 M) MAX DIGGING DEPTH	Diesel	1	91	"	5%	2	200
	HYDRAULIC EXCAVATOR, CRAWLER, 83,703 LBS (38 MT), 2.01 CY (1.54 M3) BUCKET, 22' 11" (7.0 M) MAX DIGGING DEPTH	Diesel	1	200	"	5%	2	440
	TRACTOR, CRAWLER (DOZER), 76-100 HP (57-75 KW), POWERSHIFT, W/UNIVERSAL BLADE	Diesel	1	92	"	5%	2	202
	TRACTOR, CRAWLER (DOZER), 181-250 HP (135-186 KW), POWERSHIFT, LGP, W/UNIVERSAL BLADE	Diesel	1	241	"	5%	2	530
	TRUCK, HIGHWAY, CONVENTIONAL, 3/4 TON PICKUP, 4X4	Gas	1	385	"	50%	22	8,470
	TRUCK, HIGHWAY, 52 KGVW (23.6 MT), 3 AXLE, 6X4	Diesel	1	450	"	50%	22	9,900
	Employees Commuting to the Job Site per day: 5					**Subtotal :**		**20,483**
2	**Preparatory Work:**				**0.33**			
	LOADER, FRONT END, WHEEL, SKID-STEER, 10.5 CF, 62" BUCKET , 4X4	Diesel	1	49	"	86%	50	2,447
	TRUCK, HIGHWAY, CONVENTIONAL, 3/4 TON PICKUP, 4X4	Gas	1	385	"	69%	40	15,429
	Employees Commuting to the Job Site per day: 8					**Subtotal :**		**17,876**
3	**Demolition Work:**				**3**			
	BROOM, 8' BROOM PATH, PAVEMENT, SELF PROPELLED	Diesel	1	49	"	25%	132	6,468
	AIR COMPRESSOR, 265 CFM (7.5 CMM), 205 PSI (1413 KPA), TRAILER MTD	Diesel	1	104	"	15%	80	8,292
	CRANES, HYDRAULIC, TRUCK MTD, BOOM TRUCK, 23.5T (21.3MT), 102' (31.1M) BOOM, 6X2	Diesel	1	350	"	3%	16	5,544
	HYDRAULIC EXCAVATOR, CRAWLER, 55,000 LB (24,948 KG), 1.50 CY (1.2 M3) BUCKET, 23.3' (7.1 M) MAX DIGGING DEPTH	Diesel	1	161	"	1%	5	850
	HYDRAULIC EXCAVATOR, CRAWLER, 83,703 LBS (38 MT), 2.01 CY (1.54 M3) BUCKET, 22' 11" (7.0 M) MAX DIGGING DEPTH	Diesel	1	200	"	1%	5	1,056
	TRUCK, HIGHWAY, 45,000 LB (20,412 KG) GVW, 6X4, 3 AXLE	Diesel	1	385	"	2%	11	4,066
	Employees Commuting to the Job Site per day: 14					**Subtotal:**		**26,275**
4	**Seawall Construction:**				**4**			
	BROOM, 8' BROOM PATH, PAVEMENT, SELF PROPELLED	Diesel	1	49	"	25%	176	8,624
	CONCRETE PUMP, 117 CY/HR (89.5 M3/HR), 75' (22.9M) BOOM, TRUCK MTD	Diesel	1	210		5%	33	6,948
	CONCRETE SAW, 12.5" (32CM) DEPTH, SELF PROPELLED, 30" (76CM) BLADE	Gas	1	48	"	3%	21	1,014
	TRACTOR, CRAWLER (DOZER), 76-100 HP (57-75 KW), POWERSHIFT, W/UNIVERSAL BLADE	Diesel	1	92	"	1%	10	907
	TRUCK, HIGHWAY, 26 KGVW (11.8 MT), 2 AXLE, 4X2	Diesel	1	320	"	3%	21	6,758
	CONCRETE VIBRATOR, 2.5" (63.5 MM) DIA, W/7.5 HP (5.6 KW) GENERATOR	Gas	1	7	"	9%	65	458
	COMPACTOR, VIBROPLATE, 17.7" X 22" (450 X 559 MM) PLATE, 4,050 LBS (18 KN) IMPACT	Gas	2	6	"	2%	17	101
	Employees Commuting to the Job Site per day: 22					**Subtotal:**		**24,811**
5	**Backfill:**				**0.25**			
	TRACTOR, CRAWLER (DOZER), 181-250 HP (135-186 KW), POWERSHIFT, LGP, W/UNIVERSAL BLADE	Diesel	1	241	"	20%	9	2,121
	TRACTOR, CRAWLER (DOZER), 76-100 HP (57-75 KW), POWERSHIFT, W/UNIVERSAL BLADE	Diesel	1	92	"	7%	3	283
	Employees Commuting to the Job Site per day: 11					**Subtotal:**		**2,404**
6	**Traffic Control:**				**0.25**			
	BROOM, 8' BROOM PATH, PAVEMENT, SELF PROPELLED	Diesel	1	49	"	5%	2	108
	TRUCK, HIGHWAY, 26 KGVW (11.8 MT), 2 AXLE, 4X2	Gas	1	320	"	37%	16	5,210
	LOADER, FRONT END, CRAWLER, 3.20 CY (2.4 M3) BUCKET	Diesel	1	193	"	7%	3	594
	LOADER / BACKHOE, WHEEL, 1.0 CY (0.76 M3) FRONT END BUCKET, 24" (61 CM) DIP, 6.2 CF (0.18 M3), 14.5' (4.4 M) DIGGING DEPTH, 4X2	Diesel	1	87	"	12%	5	459
	DUMP TRUCK, HIGHWAY, 80KGVW (36.3MT), 3 AXLE, 6X4 WITH REAR 16 - 20 CY (12.2-15.3 M3) DUMP BODY, 3 LIFT AXLES	Diesel	1	470	"	14%	6	2,895
	Employees Commuting to the Job Site per day: 9							
	LITE SET, TRAILER MTD., 4/1250W, W/8 KW GEN, MANUAL MAST WINCH	Diesel	2	13	**7** "	39%	17	223
	Employees Commuting to the Job Site per day: 1					**Subtotal:**		**9,489**
7	**Demobilization:**				**0.25**			
	LOADER, FRONT END, WHEEL, SKID-STEER, 10.5 CF, 62" BUCKET, 4X4	Diesel	1	49	"	18%	8	388
	BROOM, 8' BROOM PATH, PAVEMENT, SELF PROPELLED	Diesel	1	80	"	10%	4	352
	HYDRAULIC EXCAVATOR, CRAWLER, 33,080 LBS (15MT), 1.0 CY (0.76 M3) BUCKET, 18.2' (5.5 M) MAX DIGGING DEPTH	Diesel	1	91	"	5%	2	200
	HYDRAULIC EXCAVATOR, CRAWLER, 83,703 LBS (38 MT), 2.01 CY (1.54 M3) BUCKET, 22' 11" (7.0 M) MAX DIGGING DEPTH	Diesel	1	200	"	5%	2	440
	TRACTOR, CRAWLER (DOZER), 76-100 HP (57-75 KW), POWERSHIFT, W/UNIVERSAL BLADE	Diesel	1	92	"	5%	2	202
	TRACTOR, CRAWLER (DOZER), 181-250 HP (135-186 KW), POWERSHIFT, LGP, W/UNIVERSAL BLADE	Diesel	1	241	"	5%	2	530
	TRUCK, HIGHWAY, CONVENTIONAL, 3/4 TON PICKUP, 4X4	Gas	1	385	"	50%	22	8,470
	TRUCK, HIGHWAY, 52 KGVW (23.6 MT), 3 AXLE, 6X4	Diesel	1	450	"	50%	22	9,900
	Employees Commuting to the Job Site per day: 5					**Subtotal:**		**20,483**
						Total Hp-Hours:		**121,822**

Developed by: Clyde H. Gibson Jr., CCET
USACE- Philadelphia District
215-656-6408

Cape May Seawall
City of Cape May
Cape May County, New Jersey

Coastal Storm Risk Management
Continuing Authorities Program Section 103

Appendix B

GeoEnvironmental Documents

February 2021

U.S. ARMY CORPS OF
ENGINEERS
PHILADELPHIA DISTRICT

Cape May Delaware Avenue
1636 Delaware Avenue
Cape May, NJ 08204

Inquiry Number: 4514172.2s
January 15, 2016

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

1636 DELAWARE AVENUE
CAPE MAY, NJ 08204

COORDINATES

Latitude (North):	38.9452000 - 38° 56' 42.72''
Longitude (West):	74.8992000 - 74° 53' 57.12''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	508735.4
UTM Y (Meters):	4310492.5
State Plane X (Feet):	378593.3
State Plane Y (Feet):	40988.2
Elevation:	1 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	6014643 CAPE MAY, NJ
Version Date:	2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20100726
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
1636 DELAWARE AVENUE
CAPE MAY, NJ 08204

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	NJ RUTGERS UNIVERSIT	1636 DELAWARE AVE	NJEMS		TP
A2		1636 DELAWARE AVE	SPILLS		TP
A3	NJ RUTGERS UNIVERSIT	1636 DELAWARE AVE	FINDS		TP
4	YACHT HARBOR MARINE	1505 YACHT AVE	SHWS, NJ Release	Higher	2965, 0.562, WNW
5	SHINNECOCK 2	906 SCHELLENGERS LAN	SHWS, NJEMS, NJ Release	Higher	3094, 0.586, NW
6	ISLAND CREEK TOWERS	1488 WASHINGTON ST	SHWS, NJEMS	Higher	3181, 0.602, WNW
7	CAPE MAY RIGGINS	1381 WASHINGTON ST	SHWS	Higher	3184, 0.603, WNW
8	1257 CAPE MAY AVENUE	1257 CAPE MAY AVE	SHWS, NJ Release	Higher	3299, 0.625, SW
9	CAPE MAY EXXON	1149 RT 109	SHWS, LUST, UST, INST CONTROL	Higher	3309, 0.627, NW
10	USCG TRAINING CENTER	1 MUNRO AVE	SHWS, SPILLS	Higher	3314, 0.628, East
11	1238 WILSON DRIVE	1238 WILSON DR	SHWS, NJEMS, NJ Release	Higher	3720, 0.705, WNW
12	ROSEMANS BOATYARD	5 ROSEMANS ST	SHWS	Higher	3839, 0.727, WNW
13	CAPE MAY MARINE LLC	12 FALCON RIDGE	SHWS	Higher	3876, 0.734, West
14	CANYON CLUB RESORT M	900 OCEAN DR	SHWS, UST, NJEMS	Higher	4091, 0.775, North
15	956 OCEAN DRIVE	956 OCEAN DR	SHWS, NJEMS	Higher	4452, 0.843, NNE
16	1134 LAFAYETTE STREE	1134 LAFAYETTE ST	SHWS, NJEMS	Higher	4578, 0.867, WSW
17	1101 WASHINGTON STRE	1101 WASHINGTON ST	SHWS, NJEMS	Higher	4778, 0.905, WSW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
NJ RUTGERS UNIVERSIT 1636 DELAWARE AVE CAPE MAY, NJ 08204	NJEMS Site Id: 184575	N/A
1636 DELAWARE AVE 1636 DELAWARE AVE CAPE MAY CITY, NJ 08204	SPILLS Case Number: 12-11-01-1054-43 Facility Id: 446249 Incident Status: Intermittent	N/A
NJ RUTGERS UNIVERSIT 1636 DELAWARE AVE CAPE MAY, NJ 08204	FINDS Registry ID:: 110029650241	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

EXECUTIVE SUMMARY

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent CERCLIS

HWS RE-EVAL ---------- Site Re-Evaluation Report
HIST HWS ---------- Known Contaminated Sites Listing

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Facility Directory

State and tribal leaking storage tank lists

LUST ---------- UST Active Remediation Sites Listing
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
HIST LUST ---------- Regulated UST Contamination Sites Listing

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Underground Storage Tank Data
MAJOR FACILITIES ---------- List of Major Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS ---------- Declaration Environmental Restriction/Deed Notice Sites
INST CONTROL ---------- Classification Exception Area Sites

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Sites
NJ PF ---------- Publicly Funded Cleanups Site Status Report

State and tribal Brownfields sites

BROWNFIELDS ---------- Brownfields Database

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF ..... Solid Waste Facility Directory
SWRCY ..... Approved Class B Recycling Facilities
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... National Clandestine Laboratory Register
US CDL ..... Clandestine Drug Labs

Local Land Records

LIENS ..... Environmental LIENS
LIENS 2 ..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
NJ Release ..... Hazardous Material Incident Database
SPILLS 90 ..... SPILLS 90 data from FirstSearch
SPILLS 80 ..... SPILLS 80 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ..... RCRA - Non Generators / No Longer Regulated
FUDS ..... Formerly Used Defense Sites
DOD ..... Department of Defense Sites
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ..... Financial Assurance Information
EPA WATCH LIST ..... EPA WATCH LIST
2020 COR ACTION ..... 2020 Corrective Action Program List
TSCA ..... Toxic Substances Control Act
TRIS ..... Toxic Chemical Release Inventory System
SSTS ..... Section 7 Tracking Systems
ROD ..... Records Of Decision
RMP ..... Risk Management Plans
RAATS ..... RCRA Administrative Action Tracking System
PRP ..... Potentially Responsible Parties
PADS ..... PCB Activity Database System
ICIS ..... Integrated Compliance Information System
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ..... Material Licensing Tracking System
COAL ASH DOE ..... Steam-Electric Plant Operation Data

EXECUTIVE SUMMARY

COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
AIRS ---- Emissions Inventory Listing
CHROME ---- Chromate Chemical Production Waste Sites
COAL ASH ---- Coal Ash Listing
DRYCLEANERS ---- Drycleaner List
Financial Assurance ---- Financial Assurance Information Listing
GW CONTAM AREAS ---- Groundwater Contamination Areas
HIST MAJOR FACILITIES ---- List of Major Facilities
ISRA ---- ISRA Database
MANIFEST ---- Hazardous Waste Manifest Data
NPDES ---- New Jersey Pollutant Discharge Elimination System Dischargers
UIC ---- Underground Injection Wells Database

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---- EDR Exclusive Historic Gas Stations
EDR Hist Cleaner ---- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS ---- Recovered Government Archive State Hazardous Waste Facilities List
RGA LF ---- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

STANDARD ENVIRONMENTAL RECORDS

State- and tribal - equivalent CERCLIS

SHWS: Known contaminated sites in New Jersey except those associated with Bureau of Underground Storage Sites (BUST)

A review of the SHWS list, as provided by EDR, and dated 11/24/2015 has revealed that there are 14 SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
YACHT HARBOR MARINE Site ID: 480467 Status: Closed	***1505 YACHT AVE***	***WNW 1/2 - 1 (0.562 mi.)***	***4***	***10***
SHINNECOCK 2 Site ID: 411455 Status: Pending	***906 SCHELLENGERS LAN***	***NW 1/2 - 1 (0.586 mi.)***	***5***	***14***
ISLAND CREEK TOWERS Site ID: 71944 Status: Closed	***1488 WASHINGTON ST***	***WNW 1/2 - 1 (0.602 mi.)***	***6***	***17***
CAPE MAY RIGGINS Site ID: 26524 Site ID: 9709 Status: Closed	1381 WASHINGTON ST	WNW 1/2 - 1 (0.603 mi.)	7	18
1257 CAPE MAY AVENUE Site ID: 530384 Status: Closed	***1257 CAPE MAY AVE***	***SW 1/2 - 1 (0.625 mi.)***	***8***	***18***
CAPE MAY EXXON Site ID: 15447 Status: Active	***1149 RT 109***	***NW 1/2 - 1 (0.627 mi.)***	***9***	***20***
USCG TRAINING CENTER Site ID: 14602 Status: Closed	***1 MUNRO AVE***	***E 1/2 - 1 (0.628 mi.)***	***10***	***24***
1238 WILSON DRIVE Site ID: 166374 Status: Closed	***1238 WILSON DR***	***WNW 1/2 - 1 (0.705 mi.)***	***11***	***26***
ROSEMANS BOATYARD Site ID: 41913 Status: Closed	5 ROSEMANS ST	WNW 1/2 - 1 (0.727 mi.)	12	29
CAPE MAY MARINE LLC Site ID: 38305 Status: Closed	12 FALCON RIDGE	W 1/2 - 1 (0.734 mi.)	13	29
CANYON CLUB RESORT M Site ID: 9684 Status: Closed	***900 OCEAN DR***	***N 1/2 - 1 (0.775 mi.)***	***14***	***29***
956 OCEAN DRIVE Site ID: 421190 Status: Closed	***956 OCEAN DR***	***NNE 1/2 - 1 (0.843 mi.)***	***15***	***34***
1134 LAFAYETTE STREE	***1134 LAFAYETTE ST***	***WSW 1/2 - 1 (0.867 mi.)***	***16***	***35***

Site ID: 74515
Status: Closed

1101 WASHINGTON STRE ***1101 WASHINGTON ST*** ***WSW 1/2 - 1 (0.905 mi.)*** ***17*** ***35***
Site ID: 73871
Status: Closed

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 6 records.

Site Name	Database(s)
300 B DELAWARE AVENUE	VCP
CAPE MAY HARBOR	SPILLS
1/2 MILE OFF TOWN BEACH	NJ Release
	NJ Release
	NJ Release
	NJ Release

OVERVIEW MAP - 4514172.2S

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

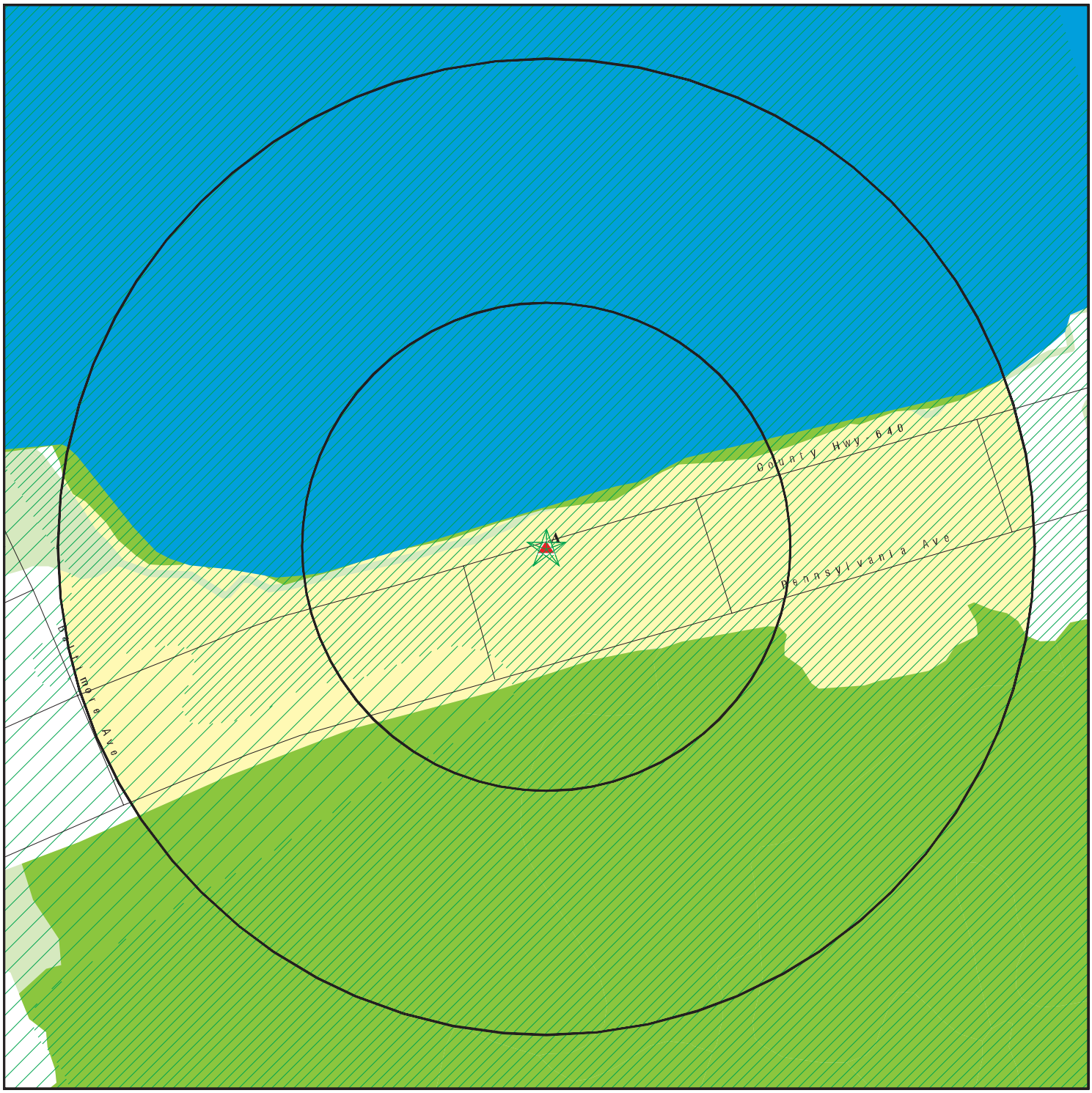
0 1/4 1/2 1 Miles

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Cape May Delaware Avenue	CLIENT:	U.S. Army Corps of Engineers
ADDRESS:	1636 Delaware Avenue Cape May NJ 08204	CONTACT:	Bailey Mueller
LAT/LONG:	38.9452 / 74.8992	INQUIRY #:	4514172.2s
		DATE:	January 15, 2016 10:32 am

DETAIL MAP - 4514172.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Cape May Delaware Avenue	CLIENT: U.S. Army Corps of Engineers
ADDRESS: 1636 Delaware Avenue Cape May NJ 08204	CONTACT: Bailey Mueller
LAT/LONG: 38.9452 / 74.8992	INQUIRY #: 4514172.2s DATE: January 15, 2016 10:33 am

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
CERCLIS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERCLIS-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		0	0	0	14	NR	14
HWS RE-EVAL	1.000		0	0	0	0	NR	0
HIST HWS	TP		NR	NR	NR	NR	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
HIST LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
MAJOR FACILITIES	0.500		0	0	0	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
NJ PF	1.000		0	0	0	0	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
NJEMS	TP	1	NR	NR	NR	NR	NR	1
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP	1	NR	NR	NR	NR	NR	1
NJ Release	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
SPILLS 80	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
AIRS	TP		NR	NR	NR	NR	NR	0
CHROME	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
GW CONTAM AREAS	TP		NR	NR	NR	NR	NR	0
HIST MAJOR FACILITIES	0.500		0	0	0	NR	NR	0
ISRA	0.500		0	0	0	NR	NR	0
MANIFEST	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		3	0	0	0	14	0	17

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **NJ RUTGERS UNIVERSITY MADF** **NJEMS** **S113535242**
Target **1636 DELAWARE AVE** **N/A**
Property **CAPE MAY, NJ 08204**

Site 1 of 3 in cluster A

Actual:
1 ft.

NJEMS:

Site Id:	184575
Municipality:	CAPE MAY CITY
Municipality Name From Spatial Overlay:	CAPE MAY CITY
GNIS Civil Code For Municipality:	885178
Municipal Code (NJ-1040):	0502
X Coord:	378605
Y Coord:	41005
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	Approx. Addr. Match
Coord Orign:	DEP-GIS
State Standard Numeric Code From Spatial Overlay:	0502
Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May
Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

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A2 **SPILLS** **S116213351**
Target **1636 DELAWARE AVE** **N/A**
Property **CAPE MAY CITY, NJ 08204**

Site 2 of 3 in cluster A

Actual:
1 ft.

NJ SPILL:

Facility ID:	446249
Case Number:	12-11-01-1054-43
Notify Type:	Not reported
Date Received:	11/01/2012
Location:	Not reported
Other Location:	Not reported
Incident Date:	11/01/2012
Incident Time:	Not reported
A310 Letter:	Not reported
Ref. Code:	Not reported
COMU:	Not reported
CAS Number:	Not reported
Hazardous:	Not reported
Incident Location:	ACROSS THE STREET FROM
Facility Type:	Residential
Facility Phone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported

(Continued) **S116213351**

Incident Desc:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	Not reported
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Nature of Incident:	Not reported

Wind Direction/Speed:	Not reported
Assistance Requested:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	Not reported
Contact Name:	CARL BEHRENS
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported

Comments: Not reported

Date A310 Letter Printed: Not reported

(Continued) **S116213351**

Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	REDACTED
Reporter Type:	Facility Rep.
Rep Received Date:	11/01/2012
Reporter Title:	REDACTED
Reporter Orgzn:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Spill
Incident Status:	Intermittent
Incident Category:	Facility
Incident Source:	CITY OF CAPE MAY WATER & SEWER
Incident Address:	643 WASHINGTON ST
Incident Address 2:	Not reported
Incident City,St,Zip:	Cape May City, NJ 08204
Incident County:	Cape May
DEP Requested:	No
Confidential:	Not reported

A3 **NJ RUTGERS UNIVERSITY MADF** **FINDS** **1010156411**
Target **1636 DELAWARE AVE** **N/A**
Property **CAPE MAY, NJ 08204**

Site 3 of 3 in cluster A

Actual:
1 ft.

FINDS:

Registry ID: 110029650241

Environmental Interest/Information System
NJ-NJEMS (New Jersey - New Jersey Environmental Management System).
The Department of Environmental Protection (NJDEP) manages large databases of environmental information in this integrated system.

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4 **YACHT HARBOR MARINE LLC** **SHWS** **S113753587**
WNW **1505 YACHT AVE** **NJ Release** **N/A**
1/2-1 **CAPE MAY CITY, NJ**
0.562 mi.
2965 ft.

Relative:
Higher

Actual:
1 ft.

SHWS:

Site ID:	480467
Status:	Closed
Home Owner:	No
PI Number:	606048

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

YACHT HARBOR MARINE LLC (Continued) **S113753587**

NJ Release:

Facility Type:	Residential
Facility Phone:	Not reported
Incident Date:	08/31/2015
Incident Time:	Not reported
TD Log #:	571246
Case Number:	15-08-31-1525-44
Date Received:	08/31/2015
Nature of Incident:	Not reported
Operator:	Not reported
Incident Type:	Wetlands/Stream Encroach
Incident Location:	SCHILLENGERS CREEK AT
Location:	Not reported
Other Location:	Not reported
Contact Name:	Not reported
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Telephone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
CAS Number:	Not reported
A310 Letter:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
COMU:	Not reported
Ref. Code:	Not reported
Amt Released:	Not reported
Contained:	Not reported
Release Type:	Not reported
Release VE:	Not reported
Injuries:	No
Public Exposure:	No
Facility Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Receiving Water:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported

YACHT HARBOR MARINE LLC (Continued) **S113753587**

Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	08/31/2015
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Intermittent
Incident Category:	Other
Incident Source:	AARANBERG PILE DRIVERS
Incident Address:	Not reported
Incident Address 2:	Not reported
Incident City,St,Zip:	Cape May City, NJ 08204
Incident County:	Cape May
DEP Requested:	Yes
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

Facility Type:	Commercial
Facility Phone:	Not reported
Incident Date:	05/30/2013
Incident Time:	Not reported
TD Log #:	475931
Case Number:	13-05-31-1518-45
Date Received:	05/31/2013
Nature of Incident:	Not reported

YACHT HARBOR MARINE LLC (Continued) **S113753587**

Operator:	Not reported
Incident Type:	Underground Storage Tank
Incident Location:	FORMER MARINA AT
Location:	Not reported
Other Location:	Not reported
Contact Name:	Not reported
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Telephone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
CAS Number:	Not reported
A310 Letter:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
COMU:	Not reported
Ref. Code:	Not reported
Amt Released:	Not reported
Contained:	Not reported
Release Type:	Not reported
Release VE:	Not reported
Injuries:	No
Public Exposure:	No
Facility Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Receiving Water:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported

YACHT HARBOR MARINE LLC (Continued) **S113753587**

Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	05/31/2013
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	MR WILLIAMS CLINGER
Incident Address:	736 BALTIMORE PIKE
Incident Address 2:	CONCORDVILLE
Incident City,St,Zip:	Out Of State, PA 19331
Incident County:	Out Of State
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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5 **SHINNECOCK 2** **SHWS** **S111006409**
NW **906 SCHELLENGERS LANDING RD** **NJEMS** **N/A**
1/2-1 **LOWER TWP, NJ 08204** **NJ Release**
0.586 mi.
3094 ft.

Relative:
Higher

Actual:
8 ft.

SHWS:

Site ID:	411455
Status:	Pending
Home Owner:	No
PI Number:	515452

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

SHINNECOCK 2 (Continued) **S111006409**

NJEMS:

Site Id:	411455
Municipality:	LOWER TWP
Municipality Name From Spatial Overlay:	LOWER TWP
GNIS Civil Code For Municipality:	882044
Municipal Code (NJ-1040):	0505
X Coord:	376500
Y Coord:	42450
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	Digital Image
Coord Orign:	DEP-SRP-GIS
State Standard Numeric Code From Spatial Overlay:	0505
Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May
Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

NJ Release:

Facility Type:	Other
Facility Phone:	Not reported
Incident Date:	02/17/2013
Incident Time:	Not reported
TD Log #:	461813
Case Number:	13-02-17-0814-05
Date Received:	02/17/2013
Nature of Incident:	Not reported
Operator:	Not reported
Incident Type:	Fish & Wildlife
Incident Location:	COLD SPRING DOCK
Location:	Not reported
Other Location:	Not reported
Contact Name:	TOM GILMARTIN
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Telephone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
CAS Number:	Not reported
A310 Letter:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
COMU:	Not reported
Ref. Code:	Not reported
Amt Released:	Not reported
Contained:	Not reported
Release Type:	Not reported
Release VE:	Not reported
Injuries:	No

SHINNECOCK 2 (Continued) **S111006409**

Public Exposure:	No
Facility Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Receiving Water:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	02/17/2013
Reporter Type:	Citizen Complaint
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	Not reported
Incident Address:	906 SCHELLENGERS LANDING RD
Incident Address 2:	Not reported
Incident City,St,Zip:	Cape May City, NJ 08204
Incident County:	Cape May
DEP Requested:	No
Confidential:	Not reported

SHINNECOCK 2 (Continued) **S111006409**

Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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6 **ISLAND CREEK TOWERS CONDOMINIUM ASSOC** **SHWS S113609275**
WNW **1488 WASHINGTON ST** **NJEMS N/A**
1/2-1 **CAPE MAY CITY, NJ 08204**
0.602 mi.
3181 ft.

Relative:
Higher

Actual:
1 ft.

SHWS:

Site ID:	71944
Status:	Closed
Home Owner:	No
PI Number:	G000019949

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

NJEMS:

Site Id:	398515
Municipality:	CAPE MAY CITY
Municipality Name From Spatial Overlay:	CAPE MAY CITY
GNIS Civil Code For Municipality:	885178
Municipal Code (NJ-1040):	0502
X Coord:	375484
Y Coord:	41855
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	GIS Parcel Centroid
Coord Orign:	DEP-GIS
State Standard Numeric Code From Spatial Overlay:	0502
Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May
Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

7
WNW
1/2-1
0.603 mi.
3184 ft.

CAPE MAY RIGGINS **SHWS** **S109300740**
1381 WASHINGTON ST **N/A**
CAPE MAY CITY, NJ

Relative:
Higher

Actual:
1 ft.

SHWS:
Site ID: 26524
Status: Closed
Home Owner: No
PI Number: 009850

Detail As Of April 2012:
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

Site ID: 9709
Status: Closed
Home Owner: No
PI Number: 009858

Detail As Of April 2012:
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

8
SW
1/2-1
0.625 mi.
3299 ft.

1257 CAPE MAY AVENUE **SHWS** **S117242781**
1257 CAPE MAY AVE **NJ Release** **N/A**
CAPE MAY CITY, NJ

Relative:
Higher

Actual:
9 ft.

SHWS:
Site ID: 530384
Status: Closed
Home Owner: Yes
PI Number: 665872

Detail As Of April 2012:
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

NJ Release:
Facility Type: Residential
Facility Phone: Not reported
Incident Date: 06/10/2014
Incident Time: Not reported
TD Log #: 520257
Case Number: 14-06-10-1256-00
Date Received: 06/10/2014
Nature of Incident: Not reported
Operator: Not reported
Incident Type: Underground Storage Tank
Incident Location: RESIDENCE
Location: Not reported
Other Location: Not reported

1257 CAPE MAY AVENUE (Continued) **S117242781**

Contact Name:	PERRY COLLIER
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Telephone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
CAS Number:	Not reported
A310 Letter:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
COMU:	Not reported
Ref. Code:	Not reported
Amt Released:	Not reported
Contained:	Not reported
Release Type:	Not reported
Release VE:	Not reported
Injuries:	No
Public Exposure:	No
Facility Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Receiving Water:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported

1257 CAPE MAY AVENUE (Continued) **S117242781**

Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	06/10/2014
Reporter Type:	Other
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	PERRY COLLIER
Incident Address:	922 FLEMING ST
Incident Address 2:	KEY WEST
Incident City,St,Zip:	Out Of State, FL 33040
Incident County:	Out Of State
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	Not reported
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Hazardous:	Not reported

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9 **CAPE MAY EXXON** **SHWS U004108698**
NW **1149 RT 109** **LUST N/A**
1/2-1 **LOWER TWP, NJ 08204** **UST**
0.627 mi. **INST CONTROL**
3309 ft.

Relative:
Higher

Actual:
9 ft.

SHWS:

Site ID:	15447
Status:	Active
Home Owner:	No
PI Number:	008682

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

LUST:

Case ID:	8682
Activity Number:	LSR110001

CAPE MAY EXXON (Continued) **U004108698**

UST:
Facility ID: 008682

Contact:
Owner Name: BARNEY LINN
Organization: PETROSERV INC
Contact Type(UST Reg): Facility Operator
Contact Address (UST Reg): 1149 RT 109
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Cape May, NJ 08204

Owner Name: BARNEY LINN
Organization: PETROSERV INC
Contact Type(UST Reg): Tank Owner
Contact Address (UST Reg): 1149 RT 109
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Cape May, NJ 08204

Tanks:
Tank Id: TANK-1
Tank Number: E1
Tank Status: **In-use**
Tank Status Date: 01/01/1986
Install Date: 01/01/1986
Tank Contents: Unleaded Gasoline
Tank Size: 12000
Tank Compliance: Yes
Overfill: Yes
Compliance Monitoring?: Yes
Overfill Protection: Yes
Spill Containment: Yes
Tank Wellhead Protection: No
Tank/Pipe Construction Type: Tank Fiberglass-reinforced plastic
Tank/Pipe Construction Type: Pipe Other: Enviroflex
Tank/Pipe Monitor: Pipe Automatic line leak detector
Tank/Pipe Monitor: Pipe Tightness Test
Tank/Pipe Monitor: Tank In-tank(automatic)monitoring

Tank Id: TANK-2
Tank Number: E2
Tank Status: **In-use**
Tank Status Date: 01/01/1985
Install Date: 01/01/1985
Tank Contents: Unleaded Gasoline
Tank Size: 10000
Tank Compliance: Yes
Overfill: Yes
Compliance Monitoring?: Yes
Overfill Protection: Yes
Spill Containment: Yes
Tank Wellhead Protection: No
Tank/Pipe Construction Type: Tank Fiberglass-reinforced plastic
Tank/Pipe Construction Type: Pipe Other: Enviroflex
Tank/Pipe Monitor: Pipe Automatic line leak detector

CAPE MAY EXXON (Continued) **U004108698**

Tank/Pipe Monitor:	Pipe Tightness Test
Tank/Pipe Monitor:	Tank In-tank(automatic)monitoring

Tank Id:	TANK-3
Tank Number:	E3
Tank Status:	**In-use**
Tank Status Date:	01/01/1984
Install Date:	01/01/1984
Tank Contents:	Unleaded Gasoline
Tank Size:	8000
Tank Compliance:	Yes
Overfill:	Yes
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	No
Tank/Pipe Construction Type:	Tank Fiberglass-reinforced plastic
Tank/Pipe Construction Type:	Pipe Other: Enviroflex
Tank/Pipe Monitor:	Pipe Automatic line leak detector
Tank/Pipe Monitor:	Pipe Tightness Test
Tank/Pipe Monitor:	Tank In-tank(automatic)monitoring

Tank Id:	TANK-4
Tank Number:	E4
Tank Status:	**Removed**
Tank Status Date:	03/12/1992
Install Date:	01/01/1983
Tank Contents:	Waste Oil
Tank Size:	1000
Tank Compliance:	No
Overfill:	No
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Pipe Fiberglass-reinforced plastic
Tank/Pipe Construction Type:	Tank Fiberglass-reinforced plastic
Tank/Pipe Monitor:	Pipe None
Tank/Pipe Monitor:	Tank None

NJ INSTITUTIONAL CONTROL:

Facility ID:	15447
Date Established (SI):	07/26/1999
Date Closed/Lifted (SI):	Not reported
PI Number:	008682
PI Name:	CAPE MAY EXXON
CEA Description (SI):	Benzene
CEA Case Track #:	10669
CEA Duration:	26.40
Intermediate Durations:	No

Facility ID:	15447
Date Established (SI):	07/26/1999
Date Closed/Lifted (SI):	Not reported
PI Number:	008682

CAPE MAY EXXON (Continued) **U004108698**

PI Name: CAPE MAY EXXON
CEA Description (SI): Benzene
CEA Case Track #: 143191
CEA Duration: 26.40
Intermediate Durations: No

Facility ID: 15447
Date Established (SI): 07/26/1999
Date Closed/Lifted (SI): Not reported
PI Number: 008682
PI Name: CAPE MAY EXXON
CEA Description (SI): Benzene
CEA Case Track #: Not reported
CEA Duration: 26.40
Intermediate Durations: No

Facility ID: 15447
Date Established (SI): 07/26/1999
Date Closed/Lifted (SI): Not reported
PI Number: 008682
PI Name: CAPE MAY EXXON
CEA Description (SI): Synthetic Organic Chemicals - Non Carcinogen [Individual]
CEA Case Track #: 10669
CEA Duration: 26.40
Intermediate Durations: No

Facility ID: 15447
Date Established (SI): 07/26/1999
Date Closed/Lifted (SI): Not reported
PI Number: 008682
PI Name: CAPE MAY EXXON
CEA Description (SI): Synthetic Organic Chemicals - Non Carcinogen [Individual]
CEA Case Track #: 143191
CEA Duration: 26.40
Intermediate Durations: No

Facility ID: 15447
Date Established (SI): 07/26/1999
Date Closed/Lifted (SI): Not reported
PI Number: 008682
PI Name: CAPE MAY EXXON
CEA Description (SI): Synthetic Organic Chemicals - Non Carcinogen [Individual]
CEA Case Track #: Not reported
CEA Duration: 26.40
Intermediate Durations: No

Facility ID: 15447
Date Established (SI): 07/26/1999
Date Closed/Lifted (SI): Not reported
PI Number: 008682
PI Name: CAPE MAY EXXON
CEA Description (SI): Synthetic Organic Chemicals - Non Carcinogen [Total]
CEA Case Track #: 10669
CEA Duration: 26.40
Intermediate Durations: No

Facility ID: 15447

CAPE MAY EXXON (Continued) **U004108698**

Date Established (SI): 07/26/1999
Date Closed/Lifted (SI): Not reported
PI Number: 008682
PI Name: CAPE MAY EXXON
CEA Description (SI): Synthetic Organic Chemicals - Non Carcinogen [Total]
CEA Case Track #: 143191
CEA Duration: 26.40
Intermediate Durations: No

Facility ID: 15447
Date Established (SI): 07/26/1999
Date Closed/Lifted (SI): Not reported
PI Number: 008682
PI Name: CAPE MAY EXXON
CEA Description (SI): Synthetic Organic Chemicals - Non Carcinogen [Total]
CEA Case Track #: Not reported
CEA Duration: 26.40
Intermediate Durations: No

10
East
1/2-1
0.628 mi.
3314 ft.

USCG TRAINING CENTER CAPE MAY **SHWS S116197582**
1 MUNRO AVE **SPILLS N/A**
CAPE MAY CITY, NJ

Relative:
Higher

Actual:
1 ft.

SHWS:
Site ID: 14602
Status: Closed
Home Owner: No
PI Number: 032798

Detail As Of April 2012:
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

NJ SPILL:
Facility ID: 261477
Case Number: 08-01-24-0613-14
Notify Type: Not reported
Date Received: 01/24/2008
Location: Not reported
Other Location: Not reported
Incident Date: 01/24/2008
Incident Time: Not reported
A310 Letter: Not reported
Ref. Code: Not reported
COMU: Not reported
CAS Number: Not reported
Hazardous: Not reported
Incident Location: USCG STATION
Facility Type: Commercial
Facility Phone: Not reported
Substance(s): Not reported
Substance Type: Not reported
Substance Identity: Not reported
TCPA Chemical: Not reported

USCG TRAINING CENTER CAPE MAY (Continued) **S116197582**

Hazrds Material:	Not reported
Amnt Released:	Not reported
Release VE:	Not reported
Contained:	Not reported
Release Type:	Not reported
Incident Desc:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported
Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Phone:	Not reported
Injuries:	No
Public Exposure:	No
Road Closed:	No
Facility Evacuation:	No
Receiving Water:	Not reported
Public Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Nature of Incident:	Not reported
Wind Direction/Speed:	Not reported
Assistance Requested:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported
Operator:	Not reported
Contact Name:	Not reported
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Phone:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Telphone:	Not reported
Responsible Party Street:	Not reported
Responsible Party Municipality:	Not reported
Responsible Party State:	Not reported
Responsible Party Zip:	Not reported
Responsible City,St,Zip:	Not reported
Responsible Party County:	Not reported
Local Municipality:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Phone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported

USCG TRAINING CENTER CAPE MAY (Continued) **S116197582**

Incident Region:	Not reported
Incident Phone:	Not reported
Incident Date:	Not reported
Comments:	Not reported
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Update:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Reporter Name:	REDACTED
Reporter Type:	Other
Rep Received Date:	01/24/2008
Reporter Title:	REDACTED
Reporter Orgzn:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Type:	Spill
Incident Status:	Terminated
Incident Category:	Not reported
Incident Source:	USCG STATION
Incident Address:	1 MUNRO AVE
Incident Address 2:	Not reported
Incident City,St,Zip:	Cape May City, NJ
Incident County:	Cape May
DEP Requested:	No
Confidential:	Not reported

11
WNW
1/2-1
0.705 mi.
3720 ft.

1238 WILSON DRIVE **SHWS S106218268**
1238 WILSON DR **NJEMS N/A**
LOWER TWP, NJ 08204 **NJ Release**

Relative:
Higher

Actual:
1 ft.

SHWS:

Site ID:	166374
Status:	Closed
Home Owner:	No
PI Number:	218723

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

NJEMS:

Site Id:	166374
Municipality:	LOWER TWP
Municipality Name From Spatial Overlay:	LOWER TWP
GNIS Civil Code For Municipality:	882044
Municipal Code (NJ-1040):	0505
X Coord:	375372
Y Coord:	42645
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	Exact Address Match
Coord Orign:	DEP-GIS
State Standard Numeric Code From Spatial Overlay:	0505

1238 WILSON DRIVE (Continued) **S106218268**

Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May
Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

NJ Release:

Facility Type:	Residential
Facility Phone:	Not reported
Incident Date:	02/26/2004
Incident Time:	Not reported
TD Log #:	88373
Case Number:	04-02-27-0812-20
Date Received:	02/27/2004
Nature of Incident:	Not reported
Operator:	Not reported
Incident Type:	Underground Storage Tank
Incident Location:	VACANT LOT AT
Location:	Not reported
Other Location:	Not reported
Contact Name:	PETER TOURISON
Caller Name:	Not reported
Caller Title:	Not reported
Caller Address:	Not reported
Caller City,St,Zip:	Not reported
Caller Telephone:	Not reported
Substance(s):	Not reported
Substance Type:	Not reported
Substance Identity:	Not reported
CAS Number:	Not reported
A310 Letter:	Not reported
TCPA Chemical:	Not reported
Hazrds Material:	Not reported
COMU:	Not reported
Ref. Code:	Not reported
Amt Released:	Not reported
Contained:	Not reported
Release Type:	Not reported
Release VE:	Not reported
Injuries:	No
Public Exposure:	No
Facility Evacuation:	No
Police at Scene:	No
Firemen at Scene:	No
Contamination of:	Not reported
Receiving Water:	Not reported
Status at Spill:	Not reported
NJ Spill Date:	Not reported
NJ Spill Time:	Not reported
NJ Spill Name:	Not reported
NJ Spill Title:	Not reported
NJ Spill Phone:	Not reported
Other Date:	Not reported

1238 WILSON DRIVE (Continued) **S106218268**

Other Time:	Not reported
Other Name:	Not reported
Other Title:	Not reported
Other Telephone:	Not reported
Public Evacuation:	No
Assistance Requested:	Not reported
Wind Direction/Speed:	Not reported
Local Municipality Notified:	Not reported
Local Municipality Name:	Not reported
Local Municipality Title:	Not reported
Local Municipality Telephone:	Not reported
Local Municipality Date:	Not reported
Local Municipality Time:	Not reported
Incident Description:	Not reported
Incident Name:	Not reported
Incident Referred To:	Not reported
Incident Region:	Not reported
Incident Telephone:	Not reported
Incident Date:	Not reported
Incident time:	Not reported
Incident ITM:	Not reported
Comments: Not reported	
Date A310 Letter Printed:	Not reported
Date Local Authority Was Notified:	Not reported
Date Updated:	Not reported
Date Report Faxed to Local Authority:	Not reported
Local Authority Notification Date:	Not reported
Rep Receive Date:	02/27/2004
Reporter Type:	Facility Rep.
Reporter Name:	REDACTED
Reporter Title:	REDACTED
Reporter Org:	REDATED
Reporter Address:	Not reported
Reporter City,St,Zip:	Not reported
Reporter County:	Not reported
Incident Status:	Terminated
Incident Category:	Other
Incident Source:	JUNE DULINSKI C/O PETER TOURISON
Incident Address:	14 SOUTH DELESEA DR
Incident Address 2:	Not reported
Incident City,St,Zip:	Middle Twp, NJ 08210
Incident County:	Cape May
DEP Requested:	No
Confidential:	Not reported
Notify Type:	Not reported
Road Closed:	No
Direction:	Not reported
Responsible Party:	Not reported
Responsible Party Name:	Not reported
Responsible Party Contact:	Not reported
Responsible Party Title:	Not reported
Responsible Party Phone:	Not reported
Responsible Party Street:	Not reported
Responsible Party County:	Not reported
Responsible Party City,St,Zip:	Not reported
Memo. Of Understanding:	Not reported
Drill/trng Exercise:	Not reported

1238 WILSON DRIVE (Continued) **S106218268**

Hazardous: Not reported

12
WNW
1/2-1
0.727 mi.
3839 ft.

ROSEMANS BOATYARD **SHWS** **S116226656**
5 ROSEMANS ST **N/A**
CAPE MAY CITY, NJ

Relative:
Higher

Actual:
1 ft.

SHWS:
Site ID: 41913
Status: Closed
Home Owner: No
PI Number: 001314

Detail As Of April 2012:
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

13
West
1/2-1
0.734 mi.
3876 ft.

CAPE MAY MARINE LLC **SHWS** **S116226550**
12 FALCON RIDGE **N/A**
CAPE MAY CITY, NJ

Relative:
Higher

Actual:
5 ft.

SHWS:
Site ID: 38305
Status: Closed
Home Owner: No
PI Number: 010124

Detail As Of April 2012:
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

14
North
1/2-1
0.775 mi.
4091 ft.

CANYON CLUB RESORT MARINA **SHWS** **U003294956**
900 OCEAN DR **UST** **N/A**
LOWER TWP, NJ 08204 **NJEMS**

Relative:
Higher

Actual:
5 ft.

SHWS:
Site ID: 9684
Status: Closed
Home Owner: No
PI Number: 000515

Detail As Of April 2012:
X Coord Site: Not reported
X Coord PI: Not reported
Y Coord Site: Not reported
Y Coord PI: Not reported

CANYON CLUB RESORT MARINA (Continued) **U003294956**

UST:
Facility ID: 000515

Contact:
Owner Name: SCOTT KNOFF
Organization: HARBORTOWN RESORT MARINA
Contact Type(UST Reg): Facility Operator
Contact Address (UST Reg): 900 OCEAN DR
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Cape May, NJ 08204

Owner Name: SCOTT KNOFF
Organization: HARBORTOWNE RESORT MARINA INC
Contact Type(UST Reg): Permit Contact
Contact Address (UST Reg): 900 OCEAN DR
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Cape May, NJ 08204

Owner Name: MICHAEL WEBER
Organization: HARBORTOWN RESORT MARINA INC
Contact Type(UST Reg): Tank Owner
Contact Address (UST Reg): 900 OCEAN DR
Contact Address 2 (UST Reg): Not reported
Conact City,St,Zip (UST Reg): Cape May, NJ 08204

Tanks:
Tank Id: TANK-1
Tank Number: E1
Tank Status: **Removed**
Tank Status Date: 10/17/1997
Install Date: 01/01/1977
Tank Contents: Leaded Gasoline
Tank Size: 0
Tank Compliance: No
Overfill: No
Compliance Monitoring?: No
Overfill Protection: No
Spill Containment: No
Tank Wellhead Protection: Not reported
Tank/Pipe Construction Type: Pipe Other
Tank/Pipe Construction Type: Tank CONVERSION (NON-NULLABLE)
Tank/Pipe Monitor: Pipe None
Tank/Pipe Monitor: Tank None

Tank Id: TANK-10
Tank Number: D-2
Tank Status: **In-use**
Tank Status Date: 03/31/1998
Install Date: 03/31/1998
Tank Contents: Medium Diesel Fuel (No. 2-D)
Tank Size: 10000
Tank Compliance: Yes
Overfill: Yes
Compliance Monitoring?: Yes

CANYON CLUB RESORT MARINA (Continued) **U003294956**

Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Tank Cathodically protected steel - Sacrificial anode
Tank/Pipe Construction Type:	Pipe Other: Geoflex
Tank/Pipe Construction Type:	Tank Fiberglass-coated steel
Tank/Pipe Monitor:	Pipe Automatic line leak detector
Tank/Pipe Monitor:	Pipe Interstitial
Tank/Pipe Monitor:	Tank Interstitial
Tank/Pipe Monitor:	Tank Inventory Control
Tank/Pipe Monitor:	Tank Manual Tank Gauging

Tank Id:	TANK-2
Tank Number:	E2
Tank Status:	**Removed**
Tank Status Date:	10/17/1997
Install Date:	01/01/1977
Tank Contents:	Leaded Gasoline
Tank Size:	0
Tank Compliance:	No
Overfill:	No
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Tank CONVERSION (NON-NULLABLE)
Tank/Pipe Construction Type:	Pipe Other
Tank/Pipe Monitor:	Pipe None
Tank/Pipe Monitor:	Tank None

Tank Id:	TANK-3
Tank Number:	E3
Tank Status:	**Removed**
Tank Status Date:	10/17/1997
Install Date:	01/01/1977
Tank Contents:	Leaded Gasoline
Tank Size:	0
Tank Compliance:	No
Overfill:	No
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Tank CONVERSION (NON-NULLABLE)
Tank/Pipe Construction Type:	Pipe Other
Tank/Pipe Monitor:	Pipe None
Tank/Pipe Monitor:	Tank None

Tank Id:	TANK-4
Tank Number:	E4
Tank Status:	**Removed**
Tank Status Date:	10/17/1997
Install Date:	01/01/1977
Tank Contents:	Medium Diesel Fuel (No. 2-D)

CANYON CLUB RESORT MARINA (Continued) **U003294956**

Tank Size:	0
Tank Compliance:	No
Overfill:	No
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Pipe Other
Tank/Pipe Construction Type:	Tank CONVERSION (NON-NULLABLE)
Tank/Pipe Monitor:	Pipe None
Tank/Pipe Monitor:	Tank None

Tank Id:	TANK-5
Tank Number:	E5
Tank Status:	**Removed**
Tank Status Date:	10/17/1997
Install Date:	01/01/1977
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	0
Tank Compliance:	No
Overfill:	No
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Tank CONVERSION (NON-NULLABLE)
Tank/Pipe Construction Type:	Pipe Other
Tank/Pipe Monitor:	Pipe None
Tank/Pipe Monitor:	Tank None

Tank Id:	TANK-6
Tank Number:	00E6
Tank Status:	**Removed**
Tank Status Date:	10/17/1997
Install Date:	01/01/1977
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	5000
Tank Compliance:	No
Overfill:	No
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Pipe CONVERSION (NON-NULLABLE)
Tank/Pipe Construction Type:	Tank Cathodically protected steel
Tank/Pipe Monitor:	Pipe None
Tank/Pipe Monitor:	Tank None

Tank Id:	TANK-7
Tank Number:	00E7
Tank Status:	**Removed**
Tank Status Date:	10/17/1997
Install Date:	01/01/1977
Tank Contents:	Medium Diesel Fuel (No. 2-D)

CANYON CLUB RESORT MARINA (Continued) **U003294956**

Tank Size:	5000
Tank Compliance:	No
Overfill:	No
Compliance Monitoring?:	No
Overfill Protection:	No
Spill Containment:	No
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Tank Cathodically protected steel
Tank/Pipe Construction Type:	Pipe CONVERSION (NON-NULLABLE)
Tank/Pipe Monitor:	Pipe None
Tank/Pipe Monitor:	Tank None

Tank Id:	TANK-8
Tank Number:	G-1
Tank Status:	**In-use**
Tank Status Date:	03/31/1998
Install Date:	03/31/1998
Tank Contents:	Unleaded Gasoline
Tank Size:	10000
Tank Compliance:	Yes
Overfill:	Yes
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Pipe Other: Geoflex
Tank/Pipe Construction Type:	Tank Cathodically protected steel - Sacrificial anode
Tank/Pipe Construction Type:	Tank Fiberglass-coated steel
Tank/Pipe Monitor:	Pipe Automatic line leak detector
Tank/Pipe Monitor:	Pipe Interstitial
Tank/Pipe Monitor:	Tank Interstitial
Tank/Pipe Monitor:	Tank Inventory Control
Tank/Pipe Monitor:	Tank Manual Tank Gauging

Tank Id:	TANK-9
Tank Number:	D-1
Tank Status:	**In-use**
Tank Status Date:	03/31/2001
Install Date:	03/31/2001
Tank Contents:	Medium Diesel Fuel (No. 2-D)
Tank Size:	10000
Tank Compliance:	Yes
Overfill:	Yes
Compliance Monitoring?:	Yes
Overfill Protection:	Yes
Spill Containment:	Yes
Tank Wellhead Protection:	Not reported
Tank/Pipe Construction Type:	Tank Fiberglass-coated steel
Tank/Pipe Construction Type:	Tank Cathodically protected steel - Sacrificial anode
Tank/Pipe Construction Type:	Pipe Other: Geoflex
Tank/Pipe Monitor:	Pipe Automatic line leak detector
Tank/Pipe Monitor:	Pipe Interstitial
Tank/Pipe Monitor:	Tank Interstitial
Tank/Pipe Monitor:	Tank Inventory Control
Tank/Pipe Monitor:	Tank Manual Tank Gauging

CANYON CLUB RESORT MARINA (Continued) **U003294956**

NJEMS:

Site Id:	9684
Municipality:	LOWER TWP
Municipality Name From Spatial Overlay:	LOWER TWP
GNIS Civil Code For Municipality:	882044
Municipal Code (NJ-1040):	0505
X Coord:	377966
Y Coord:	45003
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	GPS
Coord Orign:	DEP-GIS
State Standard Numeric Code From Spatial Overlay:	0505
Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May
Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

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15 **956 OCEAN DRIVE** **SHWS S110520913**
NNE **956 OCEAN DR** **NJEMS N/A**
1/2-1 **LOWER TWP, NJ 08204**
0.843 mi.
4452 ft.

Relative:
Higher

Actual:
1 ft.

SHWS:

Site ID:	421190
Status:	Closed
Home Owner:	No
PI Number:	526932

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

NJEMS:

Site Id:	421190
Municipality:	LOWER TWP
Municipality Name From Spatial Overlay:	LOWER TWP
GNIS Civil Code For Municipality:	882044
Municipal Code (NJ-1040):	0505
X Coord:	381082
Y Coord:	44478
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	GIS Parcel Centroid
Coord Orign:	DEP-GIS
State Standard Numeric Code From Spatial Overlay:	0505
Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May

956 OCEAN DRIVE (Continued) **S110520913**

Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

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16 **1134 LAFAYETTE STREET** **SHWS** **S113645610**
WSW **1134 LAFAYETTE ST** **NJEMS** **N/A**
1/2-1 **CAPE MAY CITY, NJ 08204**
0.867 mi.
4578 ft.

Relative:
Higher

Actual:
9 ft.

SHWS:

Site ID:	74515
Status:	Closed
Home Owner:	No
PI Number:	G000039642

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

NJEMS:

Site Id:	74515
Municipality:	CAPE MAY CITY
Municipality Name From Spatial Overlay:	CAPE MAY CITY
GNIS Civil Code For Municipality:	885178
Municipal Code (NJ-1040):	0502
X Coord:	374166
Y Coord:	39925
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	GIS Parcel Centroid
Coord Orign:	DEP-GIS
State Standard Numeric Code From Spatial Overlay:	0502
Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May
Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

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17 **1101 WASHINGTON STREET** **SHWS** **S113645246**
WSW **1101 WASHINGTON ST** **NJEMS** **N/A**
1/2-1 **CAPE MAY CITY, NJ 08204**
0.905 mi.
4778 ft.

Relative:
Higher

Actual:
9 ft.

SHWS:

Site ID:	73871
Status:	Closed
Home Owner:	No
PI Number:	G000036310

1101 WASHINGTON STREET (Continued) **S113645246**

Detail As Of April 2012:

X Coord Site:	Not reported
X Coord PI:	Not reported
Y Coord Site:	Not reported
Y Coord PI:	Not reported

NJEMS:

Site Id:	73871
Municipality:	CAPE MAY CITY
Municipality Name From Spatial Overlay:	CAPE MAY CITY
GNIS Civil Code For Municipality:	885178
Municipal Code (NJ-1040):	0502
X Coord:	374034
Y Coord:	39488
Coord System:	NJ STATE PLANE (NAD83) - USFEET
Coord Type:	GIS Parcel Centroid
Coord Orign:	DEP-GIS
State Standard Numeric Code From Spatial Overlay:	0502
Unique Feature Number For Municipality From Spatial Overlay:	Not reported
Eleven Digit Hydrologic Unit Code From Spatial Overlay):	02040302080
Fourteen Digit Hydrologic Unit Code From Spatial Overlay:	02040302080090
Watershed Management Area Number From Spatial Overlay:	16
Watershed Management Area Name From Spatial Overlay:	Cape May
Water Region Code From Spatial Overlay:	3
Water Region Name From Spatial Overlay:	Atlantic Coast
Sub Watershed Name From Overlay:	Cape May Harbor & Bays (below Rt 47)
Watershed Name From Spatial Overlay:	Cape May Bays & Tribs East

Count: 6 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CAPE MAY	S105343986	CAPE MAY HARBOR	DELAWARE AVE		SPILLS
CAPE MAY	S104725571	1/2 MILE OFF TOWN BEACH	IN DELAWARE BAY		NJ Release
CAPE MAY CITY	S116167583		DELAWARE BAY	08204	NJ Release
CAPE MAY CITY	S112403285		DELAWARE AVE / BUFFALO ST	08204	NJ Release
CAPE MAY CITY	S118131720		DELAWARE AVE AT READING AVE	08204	NJ Release
LOWER TWP	S106579719	300 B DELAWARE AVENUE	300 B DELAWARE AVE	08204	VCP

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 04/08/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 01/06/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Varies

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/23/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/23/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/13/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/24/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/24/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/29/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Known Contaminated Sites in New Jersey

The Known Contaminated Sites in New Jersey includes sites under the purview of the Site Remediation Program which have contamination present at levels greater than the applicable cleanup criteria for soil and/or groundwater standards. The sites appearing in Known Contaminated Sites in New Jersey are classified as either active, where the site is assigned to a specific remedial program area, or pending, where the site is awaiting assignment to a specific remedial program area. Sites where no further action (NFA) designation has been given are not included in this report unless there are other areas of identified contamination which have not been remediated. This report includes sites being remediated under all of the various regulatory programs administered by the Site Remediation Program such as: Federal Superfund Program, Federal Resource Conservation and Recovery Act (RCRA), New Jersey's Industrial Site Recovery Act (ISRA), New Jersey's Underground Storage of Hazardous Substances Act, New Jersey's Spill Compensation and Control Act, New Jersey's Solid Waste Management Act, New Jersey's Water Pollution Control Act.

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 11/25/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 21

Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

HWS RE-EVAL: Site Re-Evaluation Report

The locations were removed from the Known Contaminated Sites list for a variety of reasons. Some of the sites were taken off the list because they were inactive, some were not assigned a case worker and some were no longer contaminated. Inspectors from the DEP are now undertaking a full re-evaluation of each of the locations statewide. That includes visual and environmental tests to see whether contamination still exists.

Date of Government Version: 09/20/2007
Date Data Arrived at EDR: 10/12/2007
Date Made Active in Reports: 12/03/2007
Number of Days to Update: 52

Source: Department of Environmental Protection
Telephone: 609-984-3081
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: No Update Planned

HIST HWS: Known Contaminated Sites Listing

The Known Contaminated Sites in New Jersey report is a municipal listing of sites where contamination of soil and/or ground water is confirmed at levels greater than the applicable cleanup criteria or standards. Remedial activities are underway or required at the sites with an on-site source(s) of contamination and at locations where the source(s) of contamination is unknown. Sites with completed remedial work that require engineering and/or institutional controls have reporting measures in place to ensure the effectiveness of past actions, and some include maintenance and/or monitoring

Date of Government Version: 05/09/2008
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 12

Source: Department of Environmental Protection
Telephone: 209-292-2943
Last EDR Contact: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
Data Release Frequency: No Update Planned

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facility Directory

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/01/2015
Date Data Arrived at EDR: 05/06/2015
Date Made Active in Reports: 05/21/2015
Number of Days to Update: 15

Source: Department of Environmental Protection
Telephone: 609-984-6741
Last EDR Contact: 11/08/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Quarterly

NON OP LF: Non-Operating Landfills

The landfills described in this document are non-operating and historic landfills identified by, or reported to, the Department. Working with local and regional environmental agencies, community representatives, and through review of historic materials the Site Remediation Program is developing this inventory to prevent injury to human and ecological resources.

Date of Government Version: 06/26/2008
Date Data Arrived at EDR: 09/30/2010
Date Made Active in Reports: 10/15/2010
Number of Days to Update: 15

Source: Department of Environmental Protection
Telephone: 609-984-6650
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LUST: UST Active Remediation Sites Listing

A listing of regulated Underground Storage Tanks that have a cleanup underway.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 22

Source: New Jersey Department of Environmental Protection
Telephone: 609-292-8761
Last EDR Contact: 11/24/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/27/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Semi-Annually

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/13/2015
Date Data Arrived at EDR: 08/03/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/08/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/30/2015
Date Data Arrived at EDR: 05/05/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 48
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/08/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 07/21/2015
Date Data Arrived at EDR: 07/29/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 76
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/30/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

HIST LUST: Historical Leaking USTs
This listing is no longer updated or maintained by the DEP.

Date of Government Version: 09/17/2002
Date Data Arrived at EDR: 01/27/2006
Date Made Active in Reports: 02/08/2006
Number of Days to Update: 12
Source: Department of Environment Protection
Telephone: 609-292-8761
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

UST: Underground Storage Tank Data
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 08/20/2015
Date Data Arrived at EDR: 09/24/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 11/09/2015
Next Scheduled EDR Contact: 02/22/2016
Data Release Frequency: Varies

MAJOR FACILITIES: List of Major Facilities

Major facilities means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of 20,000 gallons or more for hazardous substances other than petroleum or petroleum products, or 200,000 gallons or more for hazardous substances of all kinds.

Date of Government Version: 11/12/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/05/2016
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 609-292-1690
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/13/2015
Date Data Arrived at EDR: 08/03/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 71

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/27/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 07/28/2015
Date Data Arrived at EDR: 08/14/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 60

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/22/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/30/2015
Next Scheduled EDR Contact: 02/09/2016
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 07/21/2015
Date Data Arrived at EDR: 07/29/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 76

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Quarterly

State and tribal institutional control / engineering control registries

ENG CONTROLS: Declaration Environmental Restriction/Deed Notice Sites

Legal Document that restricts the use of contaminated property; holds owner(s) to the regulatory/statutory requirements for cleanup.

Date of Government Version: 09/03/2015
Date Data Arrived at EDR: 09/24/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

INST CONTROL: Classification Exception Area Sites

A Classification Exception Area is an institutional control providing notice that ground water contamination exists in a particular location above State standards.

Date of Government Version: 09/03/2015
Date Data Arrived at EDR: 09/24/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/28/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Sites
Through the VCP, responsible parties, developers, local officials, or individuals may work with the department to remediate non-priority contaminated sites that pose no immediate threat to human health or the environment.

Date of Government Version: 08/17/2013
Date Data Arrived at EDR: 11/27/2013
Date Made Active in Reports: 01/10/2014
Number of Days to Update: 44
Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 12/30/2015
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Varies

PF: Publicly Funded Cleanups Site Status Report
The report focuses on publicly funded cleanups and features progress achieved and underway at all sites that are being addressed by the NJDEP with public funds.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 04/25/2005
Date Made Active in Reports: 05/06/2005
Number of Days to Update: 11
Source: Department of Environmental Protection
Telephone: 609-292-9418
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Annually

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Database
Brownfields are identified as former or current commercial or industrial use sites that are presently vacant or underutilized, on which there is suspected to have been a discharge of a contamination to the soil or groundwater at concentrations greater than applicable cleanup criteria.

Date of Government Version: 09/08/2015
Date Data Arrived at EDR: 09/10/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 54
Source: Department of Environmental Protection
Telephone: 609-292-1251
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/21/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/21/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Approved Class B Recycling Facilities

"Class B recyclable material" means a source separated recyclable material which is subject to Department approval prior to receipt, storage, processing or transfer at a recycling center in accordance with N.J.S.A. 13:1E-99.34b.

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 11/08/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 38

Source: Department of Environmental Protection
Telephone: 609-984-6650
Last EDR Contact: 11/08/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Varies

HIST LF: Solid Waste Facility Directory

Old or non-permitted solid waste facilities/landfills that are not included in the current solid waste facilities/landfills database.

Date of Government Version: 06/10/2003
Date Data Arrived at EDR: 02/19/2004
Date Made Active in Reports: 03/09/2004
Number of Days to Update: 19

Source: Department of Environmental Protection
Telephone: 609-984-6880
Last EDR Contact: 02/19/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/06/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

NJEMS: New Jersey Environmental Management System

NJEMS Sites are points representing sites regulated by NJDEP under one or more regulatory permitting or enforcement programs, or sites that are otherwise of some interest to a NJDEP program. Program interests included in NJEMS are: Air, Communications Center, Discharge Prevention, Exams and Licensing, Fish Game and Wildlife, Green Acres, Hazardous Waste, Lab Certification, Land Use, Landscape Irrigation, Parks and Forestry, Pesticides, Pinelands, Planning, Radiation, Right-to-Know, Site Remediation, Soil Conservation, Solid Waste, TCPA, Water Quality, Water Supply, and Watershed Management.

Date of Government Version: 08/22/2015
Date Data Arrived at EDR: 10/06/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 609-633-1208
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/12/2015
Date Data Arrived at EDR: 09/04/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 60

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2015
Next Scheduled EDR Contact: 12/14/2015
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/12/2015
Date Data Arrived at EDR: 09/04/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 60

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/25/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental LIENS

A listing of properties with environmental liens. The listing includes sites from the Site Remediation & Waste Management Program Sites where the Department has placed either a 1st Priority or Regular Spill Fund Lien against. 1st Priority Type Lien - a lien placed against the property where the discharged occurred providing that the owners of the property have some responsibility towards the discharge. First Priority Lien is superior to other types of liens. Non-Priority (Regular) Type Lien - a lien placed against the Responsible Party & their revenues and all real and personal property, other than the real property comprising the location of the discharge.

Date of Government Version: 08/25/2015
Date Data Arrived at EDR: 09/24/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 11/16/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/30/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/30/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

NJ Spills: Spills

Initial notification information of hazardous material incidents, where there is land contamination, reported to the Department of Environmental Protection's Environmental Action Line. The DEP has not conducted any investigation to determine its validity or accuracy.

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 11/10/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Annually

NJ Release: Hazardous Material Incident Database

Hazardous material release. Initial notification information reported to the Department of Environmental Protection's Environmental Action Line and the office has not conducted any investigations to determine its validity or accuracy.

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 11/10/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/15/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/11/2013
Number of Days to Update: 39

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 09/02/1997
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/06/2013
Number of Days to Update: 62

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (212) 637-3660
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/11/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/16/2015
Next Scheduled EDR Contact: 01/25/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/16/2015
Next Scheduled EDR Contact: 01/25/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 11/13/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/10/2015
Next Scheduled EDR Contact: 02/22/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/13/2015
Next Scheduled EDR Contact: 02/22/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/24/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/11/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/26/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/13/2015
Next Scheduled EDR Contact: 02/22/2016
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/12/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31
Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/26/2015
Date Data Arrived at EDR: 07/10/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 95
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/07/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/13/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/11/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/29/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/07/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/24/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/16/2015
Next Scheduled EDR Contact: 01/25/2016
Data Release Frequency: Semi-Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/22/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/18/2015
Date Data Arrived at EDR: 09/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 125

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/03/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 12/04/2015
Next Scheduled EDR Contact: 03/14/2016
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 09/09/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 55

Source: EPA
Telephone: (212) 637-3000
Last EDR Contact: 12/10/2015
Next Scheduled EDR Contact: 03/21/2016
Data Release Frequency: Quarterly

AIRS: Emissions Inventory Listing

An emission inventory is an estimate of air pollutant emissions in a given area. Emission inventories are fundamental building blocks used to develop air quality control strategies on a local, regional and national level. Emission inventories are also used to estimate the progress of an air quality program.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 08/07/2015
Date Made Active in Reports: 09/15/2015
Number of Days to Update: 39

Source: Department of Environmental Protection
Telephone: 609-984-5483
Last EDR Contact: 11/07/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Varies

CHROME: Chromate Chemical Production Waste Sites

Known chromate chemical production waste sites.

Date of Government Version: 09/17/2009
Date Data Arrived at EDR: 11/23/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 23

Source: Department of Environmental Protection
Telephone: 609-984-4071
Last EDR Contact: 11/09/2015
Next Scheduled EDR Contact: 02/22/2016
Data Release Frequency: Varies

COAL ASH: Coal Ash Listing

Coal combustion survey ash listing.

Date of Government Version: 05/10/2010
Date Data Arrived at EDR: 05/12/2010
Date Made Active in Reports: 06/28/2010
Number of Days to Update: 47

Source: Department of Environmental Protection
Telephone: 609-984-6985
Last EDR Contact: 11/07/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner List

A listing of registered drycleaners.

Date of Government Version: 11/17/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 23

Source: Department of Environmental Protection
Telephone: 609-292-2795
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 02/22/2016
Data Release Frequency: Varies

Financial Assurance: Financial Assurance Information Listing
Financial Assurance information.

Date of Government Version: 07/13/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Department of Environmental Protection
Telephone: 609-341-3121
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 02/08/2016
Data Release Frequency: Semi-Annually

GW CONTAM AREAS: Groundwater Contamination Areas
This data identifies those sites where groundwater contamination has been identified and, where appropriate, the NJDEP has established a Classification Exception Area (CEA). CEAs are institutional controls in geographically defined areas within which the New Jersey Ground Water Quality Standards (NJGWQS) for specific contaminants have been exceeded. When a CEA is designated for an area, the constituent standards and designated aquifer uses are suspended for the term of the CEA. This data layer contains information about areas in the state which are specified as the Currently Known Extent (CKE) of ground water pollution. CKE areas are geographically defined areas within which the local ground water resources are known to be compromised because the water quality exceeds drinking water and ground water quality standards for specific contaminants.

Date of Government Version: 04/23/2015
Date Data Arrived at EDR: 06/24/2015
Date Made Active in Reports: 07/20/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: 609-777-0672
Last EDR Contact: 12/22/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Varies

HIST MAJOR FACILITIES: List of Major Facilities
Major facilities means all facilities, located on one or more contiguous or adjacent properties owned or operated by the same person, having total combined storage capacity of 20,000 gallons or more for hazardous substances other than petroleum or petroleum products, or 200,000 gallons or more for hazardous substances of all kinds. This file contains detail information that is no longer available by the Department of Environmental Protection due to security concerns.

Date of Government Version: 01/02/2002
Date Data Arrived at EDR: 01/11/2006
Date Made Active in Reports: 01/11/2006
Number of Days to Update: 0

Source: Department of Environmental Protection
Telephone: 609-633-7476
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: No Update Planned

ISRA: ISRA Database
The ISRA process begins with determining if the Act applies to your type of business and transaction. The provisions of ISRA only apply to industrial establishments. What is an industrial establishment? The term "industrial establishment" refers to the type of business operations and transactions that would subject a facility to review under ISRA. An industrial establishment must meet each of the following three criteria: The place of business or real property at which such business is conducted, having a North American Industry Classification System (NAICS) code listed in N.J.A.C. 7:26 B - Appendix C subject to the specified exceptions and limitations. The place of business must have been engaged in operations on or after December 31, 1983; and The place of business must involve the generation, manufacture, refining, transportation, treatment, storage, handling, or disposal of hazardous substances or hazardous wastes.

Date of Government Version: 09/30/2015
Date Data Arrived at EDR: 10/28/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 609-984-3081
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/04/2016
Data Release Frequency: Quarterly

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/13/2015
Next Scheduled EDR Contact: 01/25/2016
Data Release Frequency: Annually

NJPDES: New Jersey Pollutant Discharge Elimination System Dischargers

The NJPDES contains the names, addresses and other information of all permitted New Jersey Pollutant Discharge Elimination Sytem dischargers.

Date of Government Version: 11/16/2015
Date Data Arrived at EDR: 11/18/2015
Date Made Active in Reports: 12/16/2015
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 609-984-4428
Last EDR Contact: 11/18/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: Varies

UIC: Underground Injection Wells Database

A listing of underground injection well locations. The UIC Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

Date of Government Version: 01/09/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 03/11/2009
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 609-292-0407
Last EDR Contact: 11/07/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the New Jersey Department of Environmental Protection in New Jersey.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: New Jersey Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the New Jersey Department of Environmental Protection in New Jersey.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/10/2014
Number of Days to Update: 193

Source: New Jersey Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the New Jersey Department of Environmental Protection in New Jersey.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: New Jersey Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/16/2015
Next Scheduled EDR Contact: 02/29/2016
Data Release Frequency: No Update Planned

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 11/08/2015
Date Made Active in Reports: 12/09/2015
Number of Days to Update: 31

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/08/2015
Next Scheduled EDR Contact: 02/15/2016
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/19/2015
Next Scheduled EDR Contact: 02/01/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/19/2015
Next Scheduled EDR Contact: 03/07/2016
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data
Hazardous waste manifest information.

Date of Government Version: 11/16/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 01/07/2016
Number of Days to Update: 45

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 10/19/2015
Next Scheduled EDR Contact: 02/01/2016
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/09/2015
Next Scheduled EDR Contact: 03/28/2016
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Center Listings
Source: Department of Human Services
Telephone: 609-292-1018

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Environmental Protection
Telephone: 609-984-2243

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CAPE MAY DELAWARE AVENUE
1636 DELAWARE AVENUE
CAPE MAY, NJ 08204

TARGET PROPERTY COORDINATES

Latitude (North):	38.9452 - 38° 56' 42.72''
Longitude (West):	74.8992 - 74° 53' 57.12''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	508735.4
UTM Y (Meters):	4310492.5
State Plane X (Feet):	378593.3
State Plane Y (Feet):	40988.2
Elevation:	1 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	6014643 CAPE MAY, NJ
Version Date:	2014

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

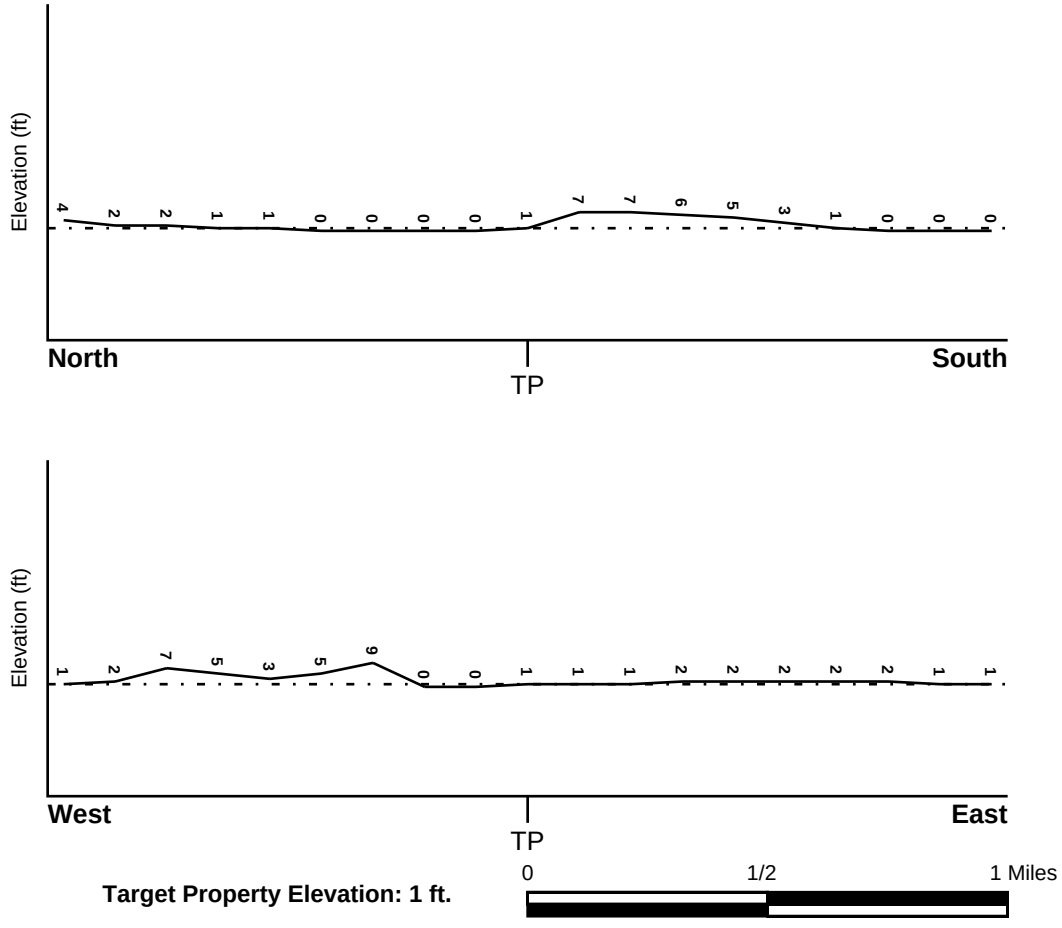
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 1 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
CAPE MAY, NJ	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	3452880001E - FEMA Q3 Flood data
Additional Panels in search area:	3401530007B - FEMA Q3 Flood data 3401530010B - FEMA Q3 Flood data 00000000000 - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
CAPE MAY	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

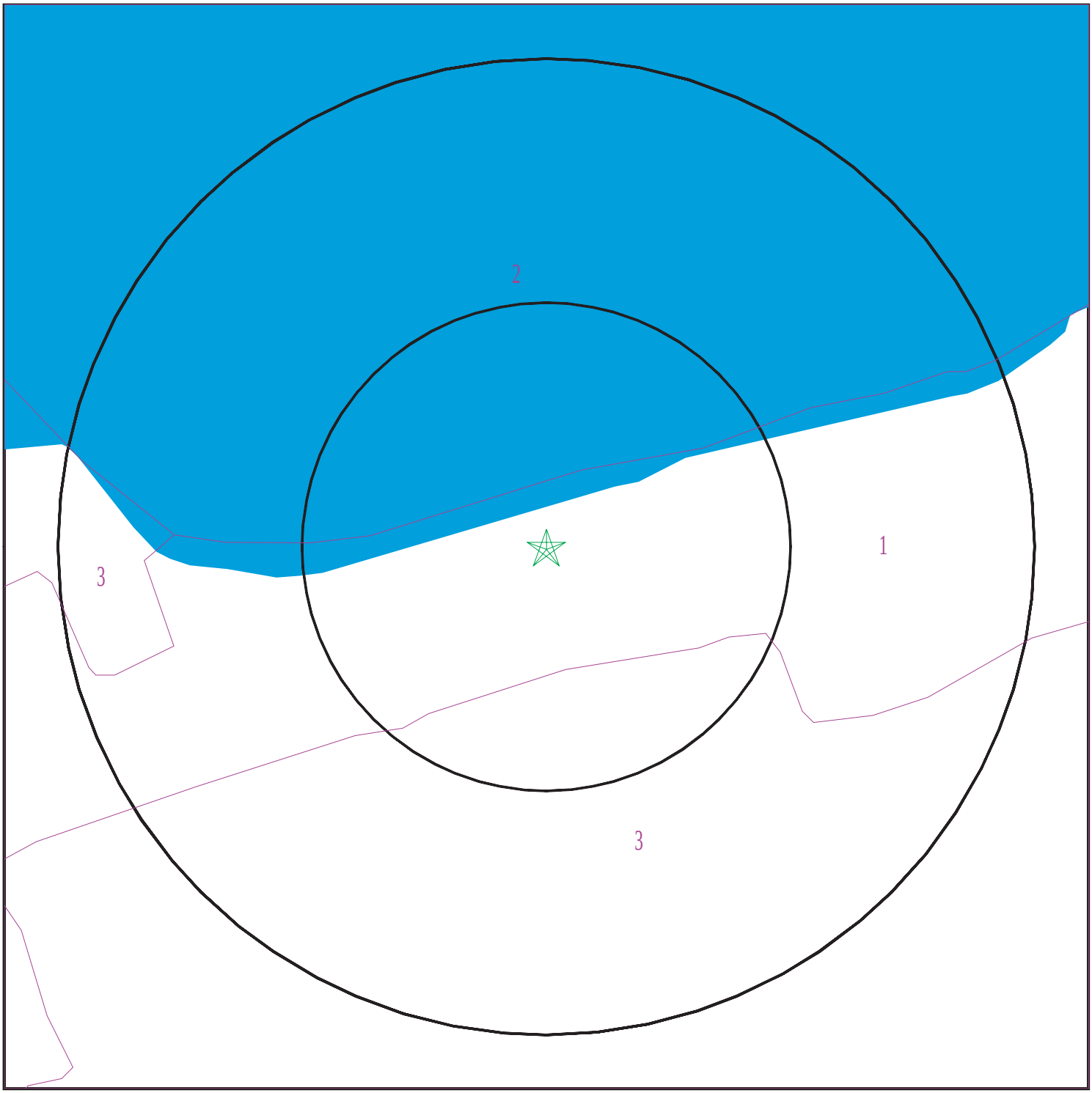
Era:	Cenozoic
System:	Quaternary
Series:	Pleistocene
Code:	Qp *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4514172.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Cape May Delaware Avenue	CLIENT:	U.S. Army Corps of Engineers
ADDRESS:	1636 Delaware Avenue Cape May NJ 08204	CONTACT:	Bailey Mueller
		INQUIRY #:	4514172.2s
LAT/LONG:	38.9452 / 74.8992	DATE:	January 15, 2016 10:33 am

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Urban land

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	variable	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 5 Min: 3.5

Soil Map ID: 2

Soil Component Name: Water

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 3

Soil Component Name: Psamments

Soil Surface Texture: coarse sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		Soil Reaction (pH)
1	0 inches	11 inches	coarse sand	Granular materials (35 pct. or less passing No. 200), Fine Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141.14 Min: 42.34	Max: 5 Min: 3.6
2	11 inches	35 inches	gravelly sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141.14 Min: 42.34	Max: 5 Min: 3.6
3	35 inches	46 inches	coarse sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand.	Max: 141.14 Min: 42.34	Max: 5 Min: 3.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A5	USGS40000809897	1/4 - 1/2 Mile NW
7	USGS40000809896	1/2 - 1 Mile ENE
B10	USGS40000809893	1/2 - 1 Mile ENE
B11	USGS40000809894	1/2 - 1 Mile ENE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
13	NJ0108393	1/2 - 1 Mile SSW

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	NJMST1000000014	1/8 - 1/4 Mile WNW
2	NJMST1000000015	1/8 - 1/4 Mile NNE
3	NJMST1000000018	1/4 - 1/2 Mile NW
4	NJMST1000000021	1/4 - 1/2 Mile North
A6	NJMST1000000017	1/4 - 1/2 Mile WNW
8	NJMST1000000024	1/2 - 1 Mile NNE
9	NJMST1000000020	1/2 - 1 Mile ENE
12	NJMST1000000025	1/2 - 1 Mile NE
14	NJMST1000000027	1/2 - 1 Mile NW
15	NJMST1000000028	1/2 - 1 Mile NE
16	NJMST1000000022	1/2 - 1 Mile ENE
17	NJMST1000000026	1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 4514172.2s

- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data

SITE NAME: Cape May Delaware Avenue	CLIENT: U.S. Army Corps of Engineers
ADDRESS: 1636 Delaware Avenue Cape May NJ 08204	CONTACT: Bailey Mueller INQUIRY #: 4514172.2s
LAT/LONG: 38.9452 / 74.8992	DATE: January 15, 2016 10:33 am

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
1 **WNW** **1/8 - 1/4 Mile** **Higher**	**NJ WELLS**	**NJMST1000000014**

Id:	1249		
Tsmstatn i:	3400		
Org id:	21NJDEP1	Station:	L7113827441
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.94639		
Longitude:	-74.90278		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	19.81		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000014

---

2 **NNE** **1/8 - 1/4 Mile** **Higher**	**NJ WELLS**	**NJMST1000000015**

Id:	1246		
Tsmstatn i:	3415		
Org id:	21NJDEP1	Station:	L7112327456
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.94833		
Longitude:	-74.89778		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	18.06		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000015

---

3 **NW** **1/4 - 1/2 Mile** **Higher**	**NJ WELLS**	**NJMST1000000018**

Id:	1250		
Tsmstatn i:	3404		
Org id:	21NJDEP1	Station:	L7114627466
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95		
Longitude:	-74.90361		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		

Rf1 seg:	020		
Rf1 miles:	18.41		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000018

4
North
1/4 - 1/2 Mile
Higher

NJ WELLS **NJMST1000000021**

Id:	1248		
Tsmstatn i:	3418		
Org id:	21NJDEP1	Station:	L7113027475
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95111		
Longitude:	-74.89861		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	18.06		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000021

A5
NW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000809897**

Org. Identifier:	USGS-NJ		
Formal name:	USGS New Jersey Water Science Center		
Monloc Identifier:	USGS-385656074542201		
Monloc name:	090209-- Ind 1		
Monloc type:	Well		
Monloc desc:	SALTWATER MONITORING NETWORK		
Huc code:	02040302	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.9490015
Longitude:	-74.9057275	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	minutes
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	5
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Estuarine Sand Facies		

Aquifer type:	Confined single aquifer		
Construction date:	19850531	Welldepth:	110
Welldepth units:	ft	Wellholedepth:	110
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

A6
WNW **NJ WELLS** **NJMST1000000017**
1/4 - 1/2 Mile
Higher

Id:	1251		
Tsmstatn i:	3388		
Org id:	21NJDEP1	Station:	L7115527455
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.94861		
Longitude:	-74.90694		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	18.71		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000017

7
ENE **FED USGS** **USGS40000809896**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-NJ		
Formal name:	USGS New Jersey Water Science Center		
Monloc Identifier:	USGS-385652074532701		
Monloc name:	090018-- USCG 2		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02040302	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.9478905
Longitude:	-74.8904489	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	4
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Cohansey Sand		

Aquifer type:	Confined single aquifer		
Construction date:	19430504	Welldepth:	325
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

8
NNE **NJ WELLS** **NJMST1000000024**
1/2 - 1 Mile
Higher

Id:	1245		
Tsmstatn i:	3409		
Org id:	21NJDEP1	Station:	L7111427482
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95194		
Longitude:	-74.89361		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	17.91		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000024

9
ENE **NJ WELLS** **NJMST1000000020**
1/2 - 1 Mile
Higher

Id:	1238		
Tsmstatn i:	3431		
Org id:	21NJDEP1	Station:	L7109027473
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95028		
Longitude:	-74.88722		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	20.82		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000020

B10
ENE **FED USGS** **USGS40000809893**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-NJ		
Formal name:	USGS New Jersey Water Science Center		
Monloc Identifier:	USGS-385650074531001		
Monloc name:	090030-- Test 6		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02040302	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.9473349
Longitude:	-74.8857265	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	minutes
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	11.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Cohansey Sand		
Aquifer type:	Confined single aquifer		
Construction date:	19570720	Welldepth:	325
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

B11
ENE
1/2 - 1 Mile
Higher

FED USGS **USGS40000809894**

Org. Identifier:	USGS-NJ		
Formal name:	USGS New Jersey Water Science Center		
Monloc Identifier:	USGS-385650074531101		
Monloc name:	090017-- Institutional 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	02040302	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	38.9476127
Longitude:	-74.8857265	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	11.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Northern Atlantic Coastal Plain aquifer system		
Formation type:	Cohansey Sand		
Aquifer type:	Confined single aquifer		
Construction date:	19430504	Welldepth:	322
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
12 **NE** **1/2 - 1 Mile** **Higher**	**NJ WELLS**	**NJMST1000000025**

Id:	1239		
Tsmstatn i:	3435		
Org id:	21NJDEP1	Station:	L7109527484
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95194		
Longitude:	-74.88806		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	17.81		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000025

	Database	EDR ID Number
13 **SSW** **1/2 - 1 Mile** **Higher**	**FRDS PWS**	**NJ0108393**

Epa region:	02	State:	NJ
Pwsid:	NJ0108393		
Pwsname:	ADVENTURE VILLAGE		
City served:	Not Reported	State served:	NJ
Zip served:	Not Reported	Fips county:	01
Status:	Closed	Pop srvd:	21
Pwssvcconn:	15	Source:	Groundwater
Pws type:	TNCWS	Owner:	Private
Contact:	Not Reported		
Contactor gname:	Not Reported		
Contact phone:	609-646-2120	Contact address1:	MARVIN HOMES
Contact address2:	109 HEIDI AVE	Contact city:	CAPE MAY
Contact state:	NJ	Contact zip:	08204
Activity code:	I		

Location Information:

Name:	ADVENTURE VILLAGE		
Pwstypcd:	TNCWS	Primsrccd:	GW
Popserved:	21		
Add1:	MARVIN HOMES		
Add2:	109 HEIDI AVE		
City:	CAPE MAY	State:	NJ
Zip:	08204	Phone:	609-646-2120
Cityserv:	EGG HARBOR TWP	Cntyserv:	Not Reported
Stateserv:	NJ	Zipserv:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

PWS ID:	NJ0108393		
Date Initiated:	9311	Date Deactivated:	Not Reported
PWS Name:	ADVENTURE VILLAGE MARVIN HOMES 109 HEIDI AVE CAPE MAY, NJ 08204		
Addressee / Facility:	System Owner/Responsible Party ADVENTURE VILLAGE ADVENTURE VILLAGE 3004 IVANS AVENUE MCKEE CITY, NJ 08232		
Facility Latitude:	38 56 06	Facility Longitude:	074 54 23
City Served:	EGG HARBOR TWP		
Treatment Class:	Untreated	Population:	00000021

PWS currently has or had major violation(s) or enforcement: YES

VIOLATIONS INFORMATION:

Violation ID:	9334240	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	07/01/93	Vio. end Date:	12/31/93	Vio. Period:	006 Months
Num required Samples:	Not Reported	Number of Samples Taken:		Not Reported	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Initial Tap Sampling for Pb and Cu				
Contaminant:	LEAD & COPPER RULE				
Vio. Awareness Date:	Not Reported				

Violation ID:	9336221	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	01/01/93	Vio. end Date:	12/31/93	Vio. Period:	012 Months
Num required Samples:	Not Reported	Number of Samples Taken:		000	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Monitoring, Regular				
Contaminant:	NITRATE				
Vio. Awareness Date:	Not Reported				

Violation ID:	9433381	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	10/01/93	Vio. end Date:	12/31/93	Vio. Period:	003 Months
Num required Samples:	Not Reported	Number of Samples Taken:		Not Reported	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Monitoring, Routine Major (TCR)				
Contaminant:	COLIFORM (TCR)				
Vio. Awareness Date:	021494				

ENFORCEMENT INFORMATION:

System Name:	ADVENTURE VILLAGE		
Violation Type:	Initial Tap Sampling for Pb and Cu		
Contaminant:	LEAD & COPPER RULE		
Compliance Period:	1993-07-01 - 2015-12-31		
Violation ID:	9334240		
Enforcement Date:	Not Reported	Enf. Action:	Not Reported

ENFORCEMENT INFORMATION:

System Name:	ADVENTURE VILLAGE		
Violation Type:	Monitoring, Routine Major (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1995-01-01 - 1995-03-31		
Violation ID:	9568263		
Enforcement Date:	1995-05-10	Enf. Action:	State Formal NOV Issued

---

14
NW
1/2 - 1 Mile
Higher

NJ WELLS **NJMST1000000027**

Id:	3180		
Tsmstatn i:	8152		
Org id:	21NJDEP1	Station:	L7117027492
Station na:	Not Reported		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95417		
Longitude:	-74.90861		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	Not Reported		
Huc name:	Not Reported		
Rf1 seg:	Not Reported		
Rf1 miles:	0		
On reach:	N	Rf1 name:	Not Reported
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000027

15
NE
1/2 - 1 Mile
Higher

NJ WELLS **NJMST1000000028**

Id:	1241		
Tsmstatn i:	3423		
Org id:	21NJDEP1	Station:	L7110327498
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95417		
Longitude:	-74.88944		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	17.71		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000028

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
16 **ENE** **1/2 - 1 Mile** **Higher**	**NJ WELLS**	**NJMST1000000022**

Id:	1235		
Tsmstatn i:	3447		
Org id:	21NJDEP1	Station:	L7108027479
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95111		
Longitude:	-74.88417		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	20.82		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000022

	Database	EDR ID Number
17 **NE** **1/2 - 1 Mile** **Higher**	**NJ WELLS**	**NJMST1000000026**

Id:	1236		
Tsmstatn i:	3429		
Org id:	21NJDEP1	Station:	L7108627496
Station na:	JARVIS SOUND - CAPE MAY HARBOR		
Primary ty:	Estuary		
Secondary :	None		
Latitude:	38.95361		
Longitude:	-74.88472		
State:	NEW JERSEY	County:	CAPE MAY
Huc code:	02040302		
Huc name:	Great Egg Harbor.		
Rf1 seg:	020		
Rf1 miles:	17.71		
On reach:	N	Rf1 name:	ATLANTIC OCEAN
Nrcs id:	Not Reported	Nal id:	Not Reported
Nal name:	Not Reported	Site id:	NJMST1000000026

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: NJ Radon

Radon Test Results

City	Num Tests	# > 4 pCi/L	% > pCi/L
AVALON BORO	21	0	0.000
CAPE MAY CITY	119	2	2.000
CAPE MAY POINT BORO	3	0	0.000
DENNIS TWP	13	0	0.000
LOWER TWP	15	0	0.000
MIDDLE TWP	10	1	10.000
NORTH WILDWOOD CITY	6	0	0.000
OCEAN CITY CITY	19	0	0.000
SEA ISLE CITY CITY	3	0	0.000
STONE HARBOR BORO	7	0	0.000
UPPER TWP	55	7	13.000
WEST CAPE MAY BORO	2	0	0.000
WEST WILDWOOD BORO	0	0	0.000
WILDWOOD CITY	5	0	0.000
WILDWOOD CREST BORO	7	0	0.000
WOODBINE BORO	3	0	0.000

Federal EPA Radon Zone for CAPE MAY County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for CAPE MAY COUNTY, NJ

Number of sites tested: 17

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area	0.480 pCi/L	100%	0%	0%
Basement	0.700 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Environmental Protection
Telephone: 609-984-2243

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

New Jersey Public-Community Water-Supply Wells
Source: Department of Environmental Protection, Geological Survey
Telephone: 609-984-6587

New Jersey Monitoring Wells
Source: Department of Environmental Quality
Telephone: 609-984-6587
Ambient Groundwater Quality of the New Jersey Part of the Newark Basin. Natural groundwater quality in the Newark Basin summarize natural groundwater quality in sedimentary bedrock formations of the Newark basin part of the Piedmont physiographic province of New Jersey.

OTHER STATE DATABASE INFORMATION

RADON

State Database: NJ Radon
Source: Department of Environmental Protection
Telephone: 609-984-5425
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION