



# DiPrete Engineering

December 23, 2013

Ms. Laurie Grandchamp  
Supervising Engineer  
Office of Waste Management  
Rhode Island Department of Environmental Management  
235 Promenade Street  
Providence, Rhode Island 02908-5767

**RE: Former Kidd/Portsmouth Landfill – Remedial Action Work Plan Addendum  
Portsmouth, Rhode Island  
DE Project #: 2057-001**

Dear: Ms. Grandchamp:

This submittal is made on behalf of AP Enterprise, LLC (APE) regarding the Portsmouth Landfill (the Site) and the Beneficial Use Determination Approval (BUDA) which was issued by the Rhode Island Department of Environmental Management (RIDEM) on September 20, 2010, amended on March 11, 2011 and most recently renewed on September 16, 2013.

Based upon the results of a recent test pit investigation of the APE-owned portion of the former Portsmouth Landfill, the project team has concluded that the landfill is larger than was originally thought and therefore the capping program must be expanded. The purpose of this letter is to request RIDEM Office of Waste Management approval to continue the capping program in this area under the existing BUDA. It is anticipated that from an operational standpoint very few changes will be necessary to address this additional area. APE plans to continue to accept soils meeting the acceptance criteria defined in the BUDA and operate in the same general manner as they have since the capping project started. At this time no vertical expansion of the cap is proposed, only an increase in the size of the footprint of the cap.

The newly discovered landfill area lies primarily between the formerly understood extent of fill and the adjacent coastal marsh. New approvals from the Rhode Island Coastal Resources Management Council (CRMC) and the RIDEM RIPDES & Water Quality Certification programs are also necessary for this proposed increased cap area.

In the interest of clarity and simplicity, we will review each of the rules associated with an RIDEM Remedial Action Work Plan and discuss any additional information or deviations from the November 2006 Remedial Action Work Plan (RAWP) by Vanasse Hangen Brustlin, Inc. (VHB) and the application for a Beneficial Use Determination by VHB.

**Site Investigation** – On July 16, 2013 DiPrete Engineering oversaw the completion of eight test pits that were advanced perpendicular to the perimeter of the “limit of disturbance” that was previously thought to be the extent of the former solid waste landfill. The test pits were initiated at the former limit of disturbance and extended towards the coastal marsh until no solid waste was observed or the property boundary was reached. Each test pit was advanced to approximately 3 feet below the ground surface. The attached site plans shows the location of the test pits. At each location buried solid waste was observed.

**Remedial Objectives** – There are no changes to the original plan relative to Remedial Objectives. For soil, the goal of the capping program is to reduce the potential for direct contact with the solid waste fill via an engineered cap and deed

restriction. Groundwater monitoring will still be conducted at the completion of cap construction. No response actions are necessary relative to air or surface water/sediment.

**Proposed Remedy** – The cap will consist primarily of two feet of soil which is compliant with the RIDEM Residential Direct Exposure Criteria. It is possible that on a limited basis, other RIDEM standard caps may be installed (i.e. one foot of compliant soil and a geosynthetic, four inches of asphalt or concrete and six inches of compliant soil).

Groundwater monitoring wells will be installed at the completion of the capping project and monitored consistent with RIDEM's previous approvals.

An Environmental Land Usage Restriction (ELUR) will be recorded at the conclusion of the project and upon RIDEM acceptance of the Closure Report and approval of a draft ELUR.

**Soil Stockpile Management/Erosion Control** – The areas associated with the additional capping activities are in close proximity to the coastal marsh and as such the project team will endeavor to minimize prolonged periods of exposed soil in these areas. We recognize that work in this area will be governed by the requirements of the CRMC which are not final at this time (an Assent application for the expanded cap has been filed with the CRMC concurrent to this application to you). At a minimum the site operations will be conducted in a manner consistent with the current Assent, RIPDES, Water Quality Certificate, RAWP, and the BUDA as amended and renewed.

**Dust Control** – Dust will be managed in a manner consistent with the RAWP.

**Points of Compliance** – The point of compliance for soil is the extent of waste on the APE property. As this additional work is directly related to the discovery of additional fill the point of compliance for soil has changed in those areas. The points of compliance for groundwater surface water and air are not anticipated to change.

**Schedule** – The BUDA was recently renewed for the project and site work continues at this time. It is anticipated that the additional soil capping proposed herein along with the original capping scope can be completed within the timeframe of the approved BUDA.

**Contractors and Consultants** – The project contractors and consultants are as follows:

- Environmental Consultant: Tim O'Connor and Company LLC.
- Site Engineering Consultant: DiPrete Engineering
- Owner: Arthur Palmer, AP Enterprise, LLC
- Site Consultant: Site Redevelopment Technologies
- Site Contractor: Oliveira Construction

**Site Plan** – The enclosed site plans depicts existing and proposed conditions, along with erosion control measures.

**Design Standards and Technical Specifications** – Consistent with the RAWP.

**Set Up Plans** – Separate areas will be used for soil stock piling for the three general categories of soil we will accept at the landfill which are:

- Soil that is compliant with the RIDEM Residential Direct Exposure Criteria (RDEC);
- Soil that is above the RDEC and below the RIDEM Industrial Commercial Criteria; and
- Soil that is subject to the special arsenic provisions of the amended BUDA.

Fencing will be maintained on the perimeter of the Site to the extent practical. It is possible that due to the location of the fill area, it may not be possible to maintain a fence along the entire bank of the coastal marsh.

**Effluent Disposal** – Consistent with the RAWP.

**Operating Log** – The operating log will be maintained jointly by Site Redevelopment Technologies and DiPrete Engineering.

**Security Procedures** - Consistent with the RAWP.

**Shut-Down and Post Closure Requirement** - Consistent with the RAWP.

**Compliance Determination** – The compliance determination will be made by DiPrete Engineering with support from Tim O’Connor and Company LLC.

**Report Preparation** – The Closure Report will be prepared by DiPrete Engineering with support from Tim O’Connor and Company LLC.

It is important to note that APE has consistently demonstrated its firm commitment to and made significant progress toward closing the landfill and working with RIDEM. It is our expectation that this atmosphere will not change relative to this additional work.

Although discussed at the October 11<sup>th</sup> coordination meeting, no vertical expansion of the cap is proposed at this time, only an increase in the size of the footprint of the cap. Additionally, although we have completed testing in the freshwater wetland located at the southeastern corner of the site, but we are not proposing any alteration to that wetland at this time.

Simultaneous submissions are also being made to RIDEM for a Water Quality Certificate and a RIPDES Permit as well as a submission to CRMC for an Assent. If you have any further questions on this matter, please feel free to contact me at your earliest convenience.

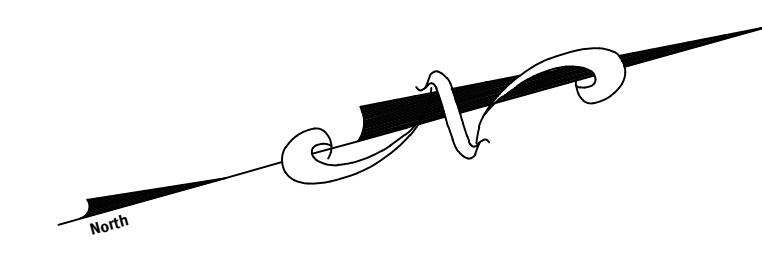
Sincerely,  
DiPrete Engineering Associates, Inc.



**Brandon Carr, PE, LEED AP**

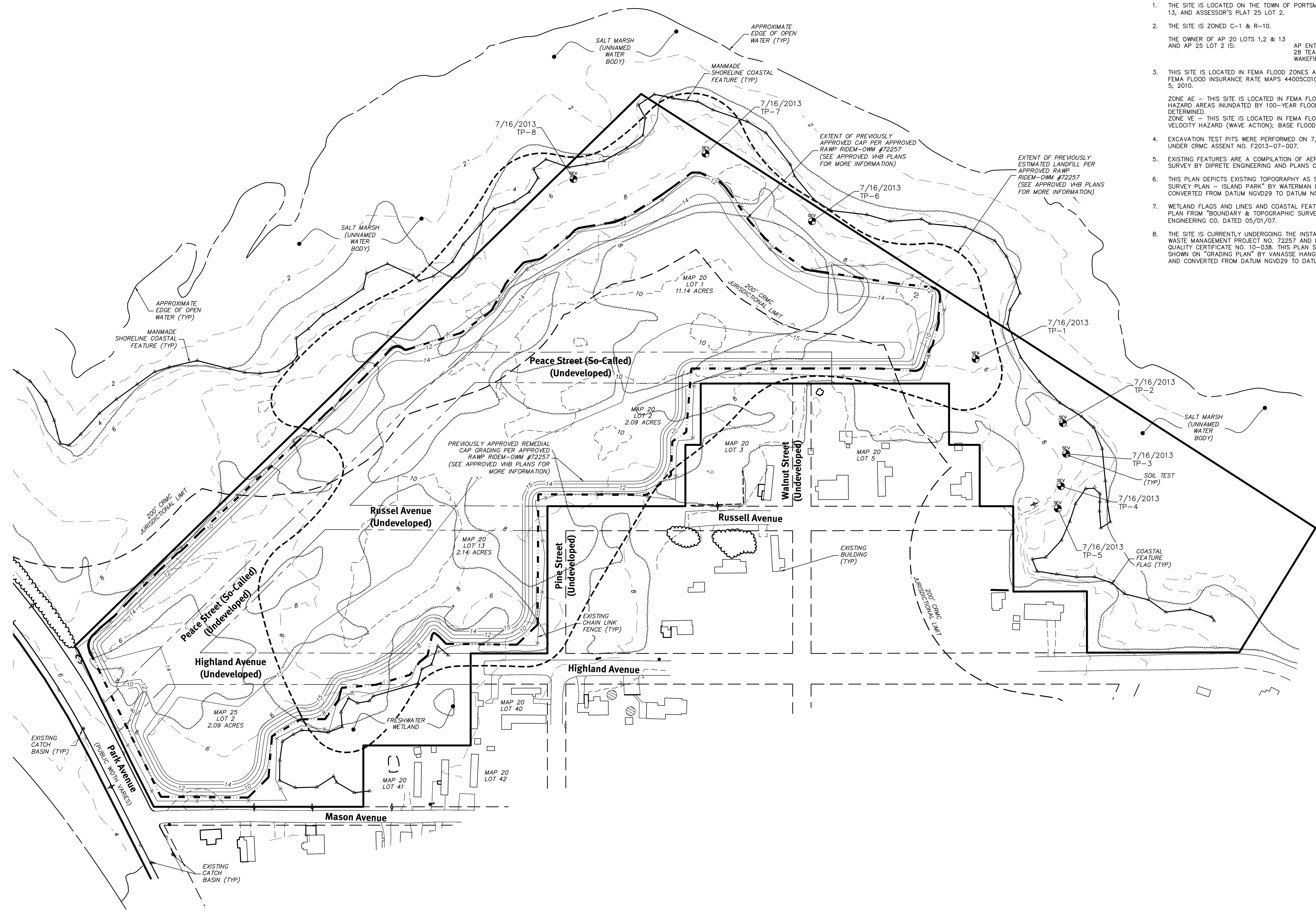
Senior Project Engineer

cc: *Arthur Palmer*  
*David Peter*  
*Tim O’Connor*  
*Kristen Sherman*  
*Scott Rabideau*  
*Neal Personous - RIDEM Office of Water Resources*  
*Amy Silva - CRMC*



**General Notes:**

1. THE SITE IS LOCATED ON THE TOWN OF PORTSMOUTH ASSESSOR'S PLAT 20 LOTS 1, 2, & 13, AND ASSESSOR'S PLAT 25 LOT 2.
2. THE SITE IS ZONED C-1 & R-10.  
THE OWNER OF AP 20 LOTS 1, 2 & 13 AND AP 25 LOT 2 IS: AP ENTERPRISES LLC  
28 TEAL DRIVE  
WAKEFIELD, RI 02879
3. THIS SITE IS LOCATED IN FEMA FLOOD ZONES AE (EL 15) AND VE (EL 17). REFERENCE FEMA FLOOD INSURANCE RATE MAPS 44005C0101H & 44005C0038H, BOTH REVISED APRIL 5, 2010.  
ZONE AE - THIS SITE IS LOCATED IN FEMA FLOOD ZONE AE. ZONE AE ARE SPECIAL FLOOD HAZARD AREAS INUNDED BY 100-YEAR FLOOD. BASE FLOOD ELEVATIONS HAVE BEEN DETERMINED.  
ZONE VE - THIS SITE IS LOCATED IN FEMA FLOOD ZONE VE. COASTAL FLOOD ZONE WITH VELOCITY HAZARD (WAVE ACTION); BASE FLOOD ELEVATIONS DETERMINED.
4. EXCAVATION TEST PITS WERE PERFORMED ON 7/16/13 AND BY DIPRETE ENGINEERING UNDER CRMC ASSENT NO. F2013-07-007.
5. EXISTING FEATURES ARE A COMPILATION OF AERIAL PHOTOGRAPHY, ON THE GROUND SURVEY BY DIPRETE ENGINEERING AND PLANS OF RECORD BY OTHERS.
6. THIS PLAN DEPICTS EXISTING TOPOGRAPHY AS SHOWN ON "BOUNDARY & TOPOGRAPHIC SURVEY PLAN - ISLAND PARK" BY WATERMAN ENGINEERING CO. DATED 05/01/07 AND CONVERTED FROM DATUM NGVD29 TO DATUM NGVD88.
7. WETLAND FLAGS AND LINES AND COASTAL FEATURE FLAGS AND LINES SHOWN ON THIS PLAN FROM "BOUNDARY & TOPOGRAPHIC SURVEY PLAN - ISLAND PARK" BY WATERMAN ENGINEERING CO. DATED 05/01/07.
8. THE SITE IS CURRENTLY UNDERGOING THE INSTALLATION OF A REMEDIAL CAP UNDER RIDEM WASTE MANAGEMENT PROJECT NO. 72257 AND RIDEM OFFICE OF WATER RESOURCES WATER QUALITY CERTIFICATE NO. 10-038. THIS PLAN SHOWS TOPOGRAPHY FOR THIS CAP AS SHOWN ON "GRADING PLAN" BY VANASSE HANGEN BRUSTLIN, INC. DATED APRIL 28, 2010 AND CONVERTED FROM DATUM NGVD29 TO DATUM NGVD88.



**Diprete Engineering**  
 Two Stafford Court Cranston, RI 02920  
 Tel 401-943-1000 Fax 401-644-6006 www.Diprete-Eng.com  
**Engineers • Planners • Surveyors**

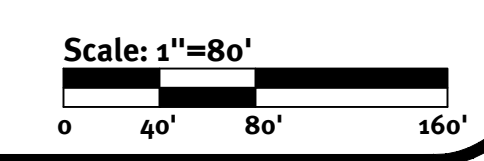
**BRANDON D. CARR**  
  
 REGISTERED PROFESSIONAL ENGINEER  
 CIVIL

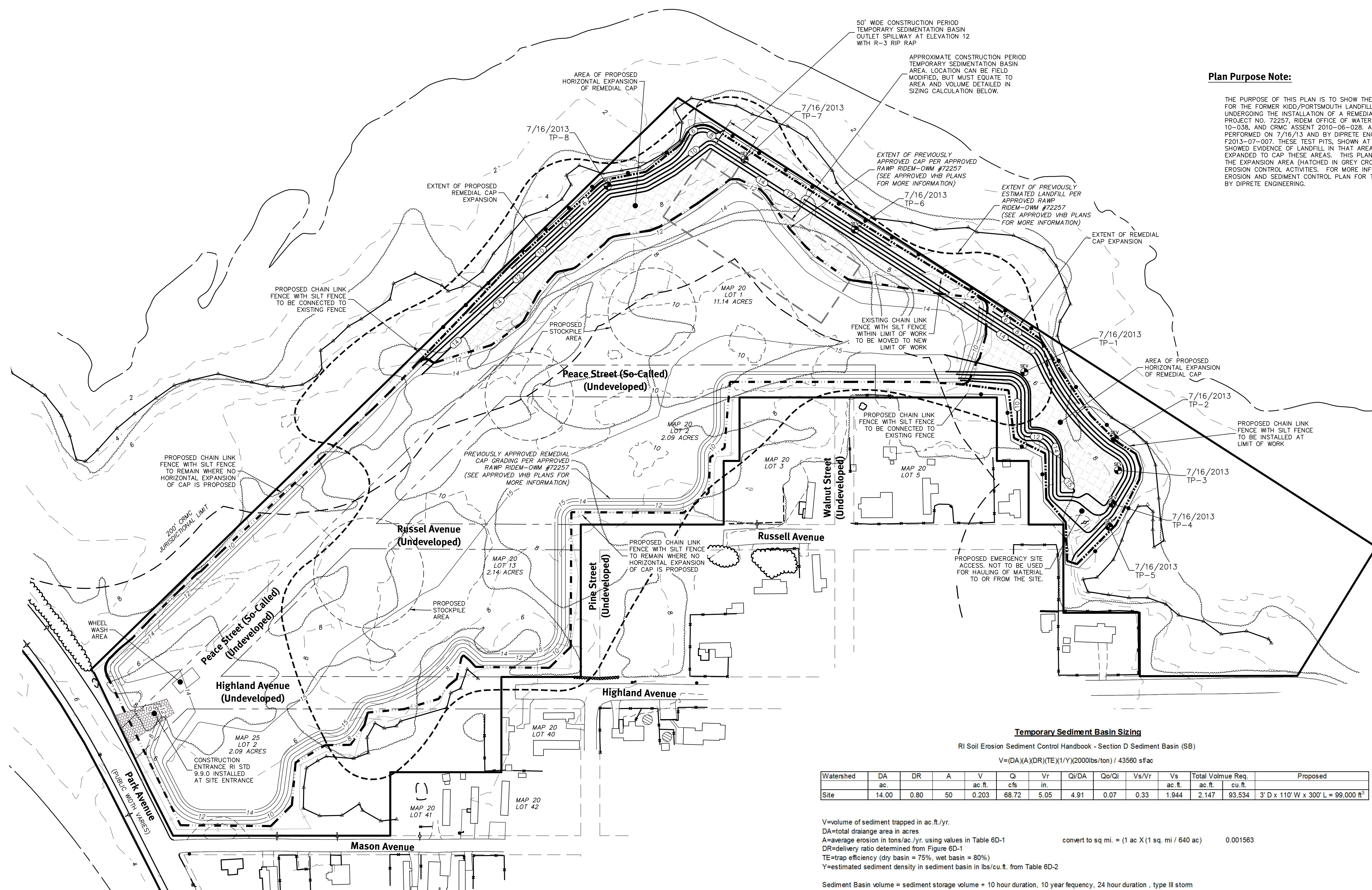
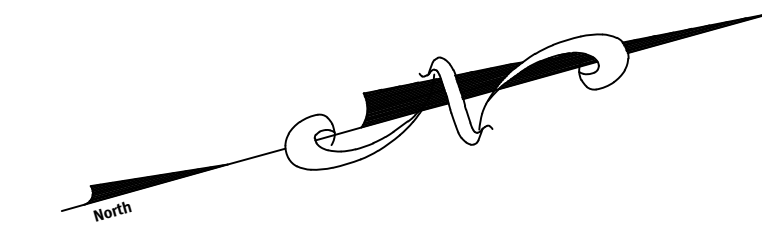
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NO.	DATE	DESCRIPTION	BY
0	12-23-2013	Established Remedial Cap Submission	BDC
1			
2			

Checked By: ADD Design By: BDC

**Existing Conditions Plan**  
**Former Kidd/Portsmouth Landfill**  
 Park Avenue  
 Portsmouth, Rhode Island  
 Owner:  
**AP Enterprises, LLC**  
 28 Teal Drive, Wakefield, Rhode Island 02879  
 DE JOB No: 2057-001. Copyright: 2013 by Diprete Engineering Associates, Inc.





**Plan Purpose Note:**

THE PURPOSE OF THIS PLAN IS TO SHOW THE LATERAL EXPANSION OF THE REMEDIAL CAP FOR THE FORMER KIDD/PORTSMOUTH LANDFILL. THE SITE IS A CURRENT REMEDIAL SITE UNDERGOING THE INSTALLATION OF A REMEDIAL CAP UNDER RIDEM WASTE MANAGEMENT PROJECT NO. 72257, RIDEM OFFICE OF WATER RESOURCES WATER QUALITY CERTIFICATE NO. 10-038, AND CRMC ASSENT 2010-06-028. ADDITIONAL EXCAVATION TEST PITS WERE PERFORMED ON 7/16/13 AND BY DIPRETE ENGINEERING UNDER CRMC ASSENT NO. F2013-07-007. THESE TEST PITS, SHOWN AT THE NORTHERN PORTION OF THE PROPERTY SHOWED EVIDENCE OF LANDFILL IN THAT AREA. THEREFORE THE REMEDIAL CAP IS BEING EXPANDED TO CAP THESE AREAS. THIS PLAN SHOWS THE EXPANDED REMEDIAL GRADING, THE EXPANSION AREA (HATCHED IN GREY CROSS HATCH), AS WELL AS THE PROPOSED EROSION CONTROL ACTIVITIES. FOR MORE INFORMATION PLEASE CONSULT THE LATEST SOIL EROSION AND SEDIMENT CONTROL PLAN FOR THE KIDD/PORTSMOUTH LANDFILL PREPARED BY DIPRETE ENGINEERING.

**Temporary Sediment Basin Sizing**  
RI Soil Erosion Sediment Control Handbook - Section D Sediment Basin (SB)

$$V = (DA)(A)(DR)(TE)(1/Y)(2000\text{lbs/ton}) / 43560 \text{ sf/ac}$$

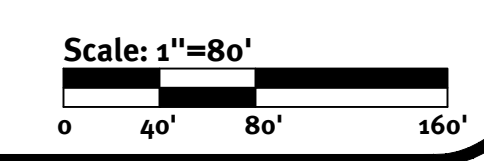
Watershed	DA	DR	A	V	Q <sub>i</sub>	V <sub>r</sub>	Q <sub>i</sub> /DA	Q <sub>o</sub> /Q <sub>i</sub>	V <sub>s</sub> /V <sub>r</sub>	V <sub>s</sub>	Total Volmue Req.	Proposed	
ac.	ac.		ac.	ac.ft.	cfs	in.				ac.ft.	ac.ft.	cu.ft.	
Site	14.00	0.80	50	0.203	68.72	5.05	4.91	0.07	0.33	1.944	2.147	93,534	3' D x 110' W x 300' L = 99,000 ft <sup>3</sup>

V=volume of sediment trapped in ac.ft./yr.  
 DA=total drainage area in acres  
 A=average erosion in tons/ac./yr. using values in Table 6D-1  
 DR=delivery ratio determined from Figure 6D-1  
 TE=trap efficiency (dry basin = 75%, wet basin = 80%)  
 Y=estimated sediment density in sediment basin in lbs/cu.ft. from Table 6D-2

Sediment Basin volume = sediment storage volume + 10 hour duration, 10 year frequency, 24 hour duration, type III storm  
 Temp Detention Basin = + peak discharge from the 2-25 year frequency.

HydroCAD model CN=newly graded areas  
 Q<sub>i</sub> = design storm (cfs) from HydroCAD  
 V<sub>r</sub> = runoff volume (in.) from HydroCAD

Q<sub>o</sub>/Q<sub>i</sub> from Figure 6D-2  
 V<sub>s</sub>/V<sub>r</sub> from TR-55 Figure 6-1



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U.S.	Date	Expanded Remedial Cap Submission	Design By: BDC
0	12-23-2013	Description	



# DiPrete Engineering

March 5, 2014

**Mark M. Dennen**  
**Principal Environmental Scientist**  
**Office of Waste Management**  
**Rhode Island Department of Environmental Management**  
**235 Promenade St.**  
**Providence, RI 02908**

**RE: Former Portsmouth Landfill**  
**Portsmouth, Rhode Island**  
**DE Project #: 2057-001**

Dear Mr. Dennen:

DiPrete Engineering has received the review comments in regards to the above referenced project. The following responses are provided and revisions are incorporated within the accompanying submission.

1. Sheet 1 shows the locations of the test pits, however discussions with staff onsite indicate that the locations on the map are the furthest extent in a series of test pits where trash was found. The plan should be revised to indicate that a series of test pits were dug and the test pit shown on the plan indicates the furthest extent of excavation.

**Response: As discussed onsite, for TP-6 and TP-8, a series of test pitting was done beginning near the edge of the previously approved limit of work and extending out toward the property boundary. The intent was to extend testing only as far toward the coastal feature as needed to reach the limits of trash. Due to site constraints and impacts that were obvious at the surface, this was unnecessary at the majority of the test pit locations (1-5, and 7). In either case, testing extends no closer than 10' to the property line or coastal feature. These initial test pit locations have been added to the plan.**

2. The existing RAWP calls for all work areas to be surrounded by a fence. Given the proposed work is adjacent to the coastal marsh and casual access is extremely difficult, placement of the fence on the northwestern boundary may fragment the habitat and harm the aesthetics unnecessarily. The Department is willing to consider other less disruptive options to restrict access.

**Response: Acknowledged. A significant portion of the site perimeter fence along the coastal marsh will need to be removed to expand the cap area. The owner is agreeable to not replacing the fence unnecessarily, and will limit the amount of fence replaced after clearing. If**

**however if there are security or trespassing problems which may be addressed by replacing the fence, we'll inform DEM and reconstruct the fence as necessary to secure the site.**

3. Unlike current abutters to the work areas, the properties east of TP-3, 4 and 5 are not located on fill material. Furthermore, there is recreational use (ballfield) nearby. To that end, APE should address how the vegetative buffer around the work area could be preserved and enhanced if possible, even if this slightly reduces the area to be capped.

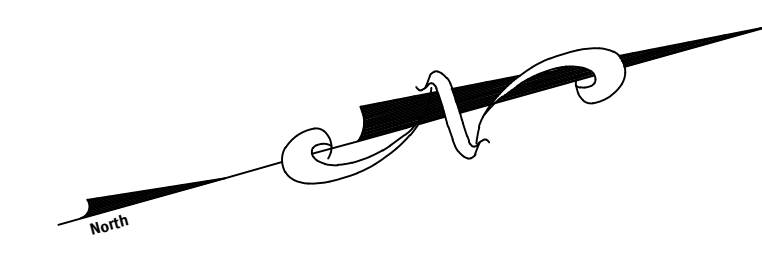
**Response: The proposed limit of capping extended to the east beyond the proposed emergency access connection to the north end of Russell Avenue. The proposed cap has been reduced 20' - 30' to increase the buffer to the east. This increases the buffer to the house immediately east of TP-5 to approximately 160' and the buffer to the ball field to over 250'.**

If you have any questions regarding our request or the attached plan please contact our office.

Sincerely,  
DiPrete Engineering Associates, Inc.

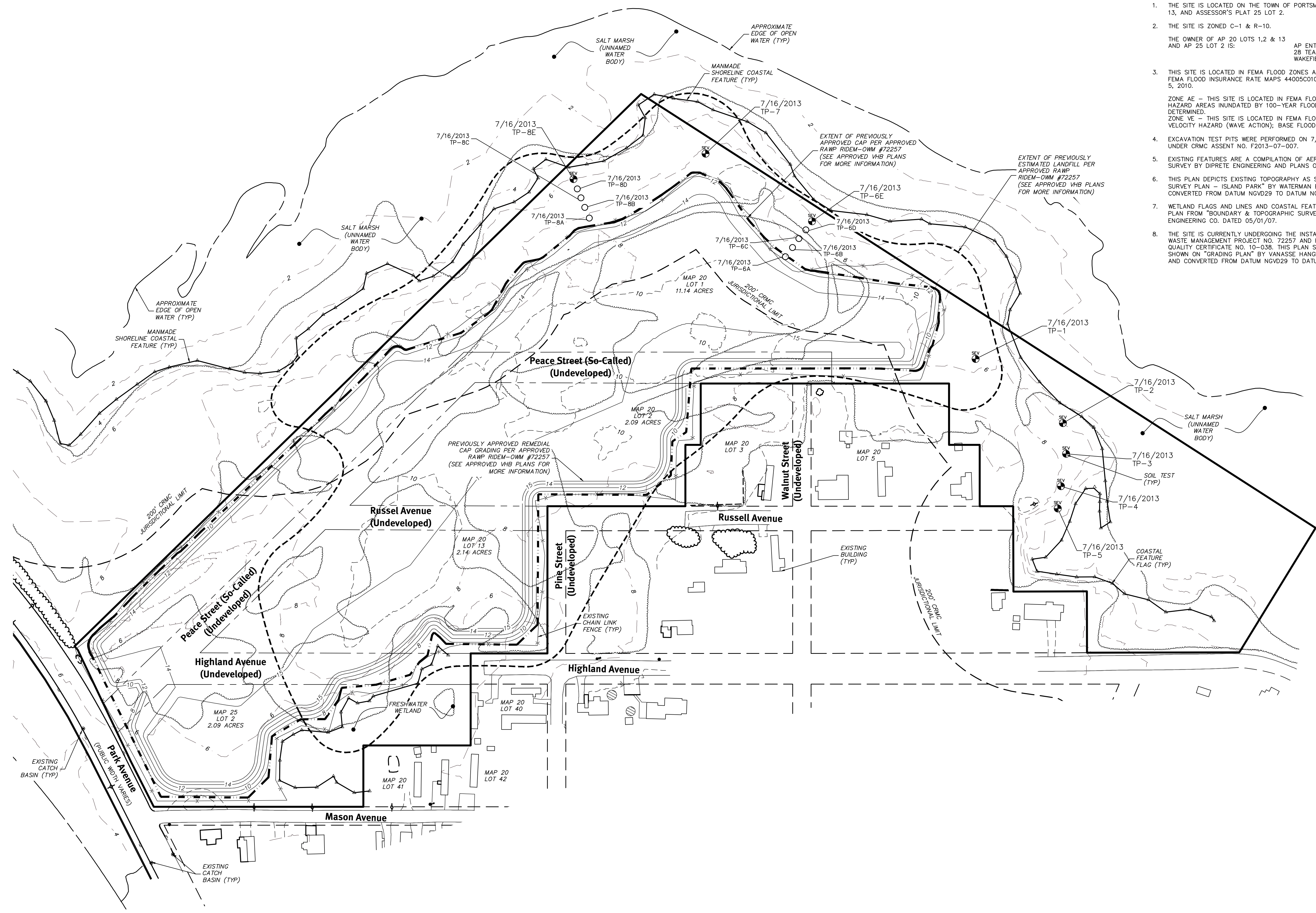


Brandon Carr, P.E., LEED AP  
Senior Project Engineer



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**Engineers • Planners • Surveyors**

**BRANDON D. CARR**  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

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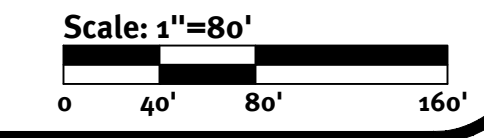
Rev.	Date	Description	Design By: BDC
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2	12/23/2013	Established Remedial Cap Submission	ZGA
3	12/23/2013	Description	BDC

Checked By: ADD

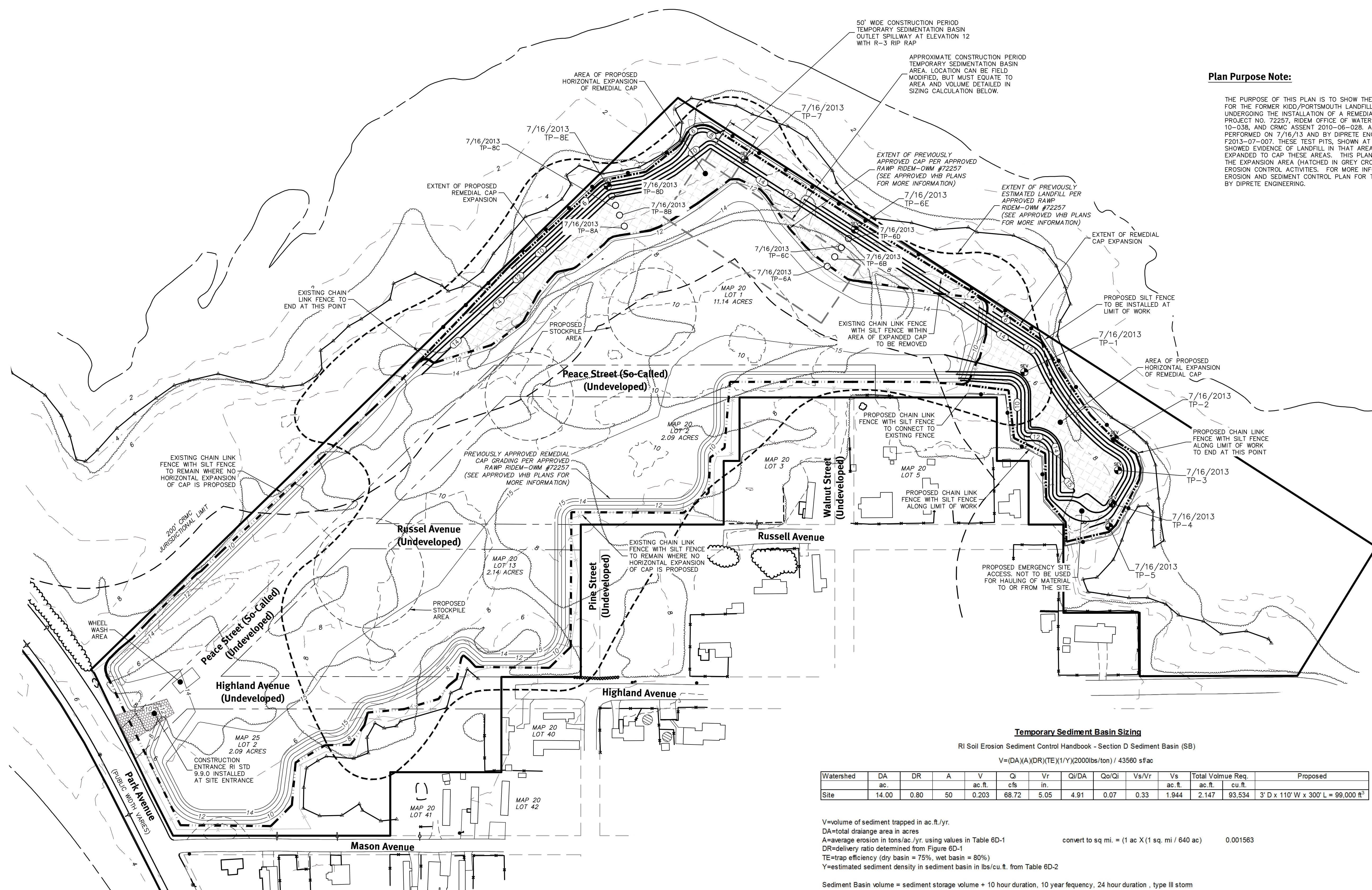
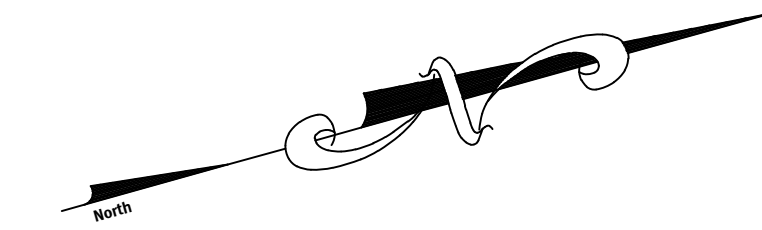
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Park Avenue  
Portsmouth, Rhode Island

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DE JOB No: 2057-001. Copyright: 2014 by Diprete Engineering Associates, Inc.







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50' WIDE CONSTRUCTION PERIOD TEMPORARY SEDIMENTATION BASIN OUTLET SPILLWAY AT ELEVATION 12 WITH R-3 RIP RAP

APPROXIMATE CONSTRUCTION PERIOD TEMPORARY SEDIMENTATION BASIN AREA. LOCATION CAN BE FIELD MODIFIED, BUT MUST EQUATE TO AREA AND VOLUME DETAILED IN SIZING CALCULATION BELOW.

**Temporary Sediment Basin Sizing**

RI Soil Erosion Sediment Control Handbook - Section D Sediment Basin (SB)

$$V = (DA)(A)(DR)(TE)(1/Y)(2000\text{lbs/ton}) / 43560 \text{ sf/ ac}$$

Watershed	DA	DR	A	V	Q <sub>i</sub>	V <sub>r</sub>	Q <sub>i</sub> /DA	Q <sub>o</sub> /Q <sub>i</sub>	V <sub>s</sub> /V <sub>r</sub>	V <sub>s</sub>	Total Volmue Req.	Proposed	
ac.	ac.		ac.ft.	cfs	in.					ac.ft.	cu.ft.		
Site	14.00	0.80	50	0.203	68.72	5.05	4.91	0.07	0.33	1.944	2.147	93,534	3' D x 110' W x 300' L = 99,000 ft <sup>3</sup>

V=volume of sediment trapped in ac.ft./yr.  
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 A=average erosion in tons/ac./yr. using values in Table 6D-1 convert to sq mi. = (1 ac X (1 sq. mi / 640 ac))  
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