

**Department of Energy
West Valley Demonstration Project (DOE-WVDP)**

ENVIRONMENTAL CHECKLIST

Project/Activity Title: Erdman Brook Erosion Mitigation, Phase II; Lagoon Road Creek Erosion Mitigation	NEPA ID Number: WVDP-2011-01	Rev. #: 0	Date: 08/18/11
Contractor Project Manager: J. J. Hoch	Phone Number: (716) 942-2409		
Contractor NEPA Coordinator: J. J. Hoch	Phone Number: (716) 942-2409		
DOE-WVDP NEPA Document Manager: M. P. Krentz	Phone Number: (716) 942-4007		

A. BRIEF PROJECT/ACTIVITY DESCRIPTION: Attach a detailed description or statement of work.

B. SOURCES OF IMPACT: Would the action involve, generate, or result in changes to any of the following:

	YES	NO		YES	NO
1. Air Emissions	X		12. Water Use/Diversion		X
2. Liquid Effluents	X		13. Water Treatment		X
3. Solid Waste		X	14. Water Course Modification	X	
4. Radioactive Waste/Soil	X		15. Radiation/Toxic Chemical Exposures	X	
5. Hazardous Waste		X	16. Pesticide/Herbicide Use		X
6. Mixed Waste		X	17. High Energy Source/Explosives		X
7. Chemical Storage/Use		X	18. Transportation		X
8. Petroleum Storage/Use	X		19. Noise Level	X	
9. Asbestos		X	20. Workforce Adjustment		X
10. Utilities	X		21. Other		X
11. Clearing or Excavation	X				

In an attachment, qualify and explain each question that you have specifically answered "YES."

See environmental checklist, WVDP-2003-03. (The answer to Question 14 is "Yes" because it is intrinsic to the work.)

C. CATEGORY EVALUATION CRITERIA: Would the proposed action:

	YES	NO
1. Take place in an area of previous or ongoing disturbance?	X	
2. Create hazardous, radioactive, or mixed waste for which no disposal is available?		X
3. Impact a RCRA-regulated unit or facility?		X
4. Force a low income or ethnic minority population to shoulder a disproportionate share of the negative environmental impacts of pollution or environmental hazards because of a lack of political or economic strength?		X
5. Involve air emissions and be located in an air pollutant non-attainment or maintenance area for any criteria pollutants?		X
6. Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, including DOE and/or Executive Orders (i.e., require any federal, state, or local permits, approvals, etc.)?		X
7. Disturb hazardous substances, pollutants, or contaminants that pre-exist in the environment such that there would be uncontrolled or unpermitted releases?		X
8. Require siting, construction, or major expansion of a waste storage, disposal recovery, or treatment facilities, but may include such categorically-excluded facilities?		X
9. Adversely affect environmentally sensitive resources including, but not limited to: structures of archeological, historic or architectural significance; threatened or endangered species or their habitat; floodplains or wetlands; wildlife refuges, agricultural lands or vital water resources (e.g., sole-source aquifers)?		X
10. Involve extraordinary circumstances? As specified at 10 CFR § 1021.410(b)(2), extraordinary circumstances are unique situations presented by specific proposed actions, such as scientific controversy about the environmental effects of the action, uncertain effects or effects involving unique or unknown risks, or unresolved conflicts concerning alternate uses of available resources within the meaning of Section 102(2)(E) of NEPA [42 U.S.C. 4332(2)].		X
11. Be "connected" to other actions with potentially significant impacts, related to other proposed actions with cumulatively significant impacts, and precluded by 40 CFR § 1506.1 or 10 CFR § 1021.211?		X

In an attachment, qualify and explain each question that you have specifically answered "YES."

See environmental checklist, WVDP-2003-03 (also see attached references)

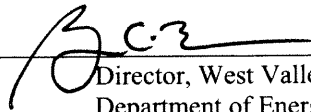
**Department of Energy
West Valley Demonstration Project (DOE-WVDP)**

ENVIRONMENTAL CHECKLIST

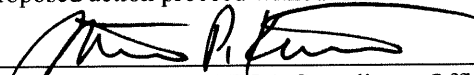
D. RECOMMENDATION AND DETERMINATION:

DOE-WVDP Director's Recommendation: I find and recommended that this proposed action meets the criteria specified in 10 CFR Part 1021, Subpart D, and/or DOE Policy and Guidance for the following:

- Categorical Exclusions (Appendix B, Class of Action B1.3 (k))
- Actions Within the Scope of Existing NEPA Documentation NEPA Document ID Number _____)
- Ongoing Operations* (Standard Operating Procedure OH-6.1.01, Rev. 1, Section 5.2)

Signature:  Date 09-08-2011
Director, West Valley Demonstration Project (WVDP),
Department of Energy

DOE-WVDP NEPA Compliance Officer's Determination: Based on my review of the attached information concerning this proposed action, as the WVDP NEPA Compliance Officer (DOE Order 451.1B, Section 5.d.), I have determined that the proposed action fits within the specified class of actions, that the other regulatory requirements identified in Section C are met, and that this proposed action proceed without further NEPA review.

Signature:  Date 9/8/2011
DOE-WVDP NEPA Compliance Officer,
West Valley Demonstration Project

OR

- Environmental Assessments (Appendix C, Class of Action _____; or Action not listed in Subpart D)
- Environmental Impact Statements (Appendix D, Class of Action _____)
- Interim Actions (40 CFR Part 1506.1 and 10 CFR Part 1021.211)
- Integrated Documentation for CERCLA/RCRA Actions
- Variances (Emergency Action, 40 CFR Part 1506.11 and 10 CFR Part 1021.34)

DOE-WVDP NEPA Compliance Officer's Concurrence: I concur with the recommendation that this proposed action fits within the specified class of actions.

Signature: _____ Date _____
DOE-WVDP NEPA Compliance Officer,
West Valley Demonstration Project

DOE-WVDP Manager's Determination: Based on my review of the attached information concerning this proposed action, as the Director of the West Valley Demonstration Project (DOE Order 451.1B, Section 5.a.), I have determined that the level of documentation recommended for the proposed action is appropriate.

Signature: _____ Date _____
Director, West Valley Demonstration Project (WVDP),
Department of Energy

ATTACHMENT TO

Environmental Checklist WVDP-2011-01

Activity Description

**Attachment To
Environmental Checklist, WVDP-2011-01,
Erdman Brook Erosion Mitigation, Phase II; Lagoon Road Creek Erosion Mitigation**

A. BRIEF PROJECT/ACTIVITY DESCRIPTION

A.1 Purpose

The purpose of the proposed work is to mitigate three knickpoints (step changes in the stream channel bed surface topography, possibly indicating water erosion) located between the north plateau and south plateau of the West Valley Demonstration Project at the Western New York Nuclear Service Center along the Erdman Brook corridor. This section of Erdman Brook is located adjacent to two radioactive waste disposal areas and two radioactive water treatment lagoons. The stream corridor is best defined as a “wet meadow” bounded by the slopes of the north and south plateaus and dominated by Facultative Upland and Wetland species. Erdman Brook is a perennial stream flowing in a northerly direction to Frank’s Creek, which flows to Buttermilk Creek and on to Cattaraugus Creek (see Figure 1) upstream of the Scoby Hill Dam.

In 2009, a major knickpoint located at the base of the north slope of the State-Licensed Disposal Area was identified and successfully mitigated by NYSERDA (Phase I mitigation) by removing the unconsolidated material and placing angular aggregate material in the newly defined channel and knickpoint. The aggregate material was chinked to further stabilize the new stream channel.

The three knickpoints planned for mitigation in Phase II (see Figure 2) are identified in NYSERDA’s Erosion Monitoring Plan as Erosion Priorities:

- Road
- Knickpoint EMIP-13 - Located within the Transfer Line Road
 - Knickpoint EMIP-12 - Located approximately 200 feet downstream of the Transfer Line
 - Knickpoint E-STR-03 - Located downstream of the SDA Outfall 002 near the augmentation discharge point

The three knickpoints have been observed to travel upstream, incising the channel and scouring the stream bed down to more consolidated clay till, approximately 36 - 48 inches below the surface of the soil. As the channel is incised downward, the stream bank slopes become unstable and eventually fail, most notably during moderate rain events. This reoccurring phenomenon has the potential to destabilize the slopes surrounding the disposal areas and lagoons as the streams continue to incise deeper and the channels meander in response. In addition, the knickpoints lower the base grade and contribute to draining the surrounding wetland corridor, as well as introducing large amounts of sediment into the stream during base flow and precipitation events. If left unmitigated, these points of erosion could also impact upstream waste disposal areas.

A.2 Objective

The objective of this project is to mitigate knickpoints and associated erosion that has been identified within the Erdman Brook corridor. NYSERDA met with their Erosion Peer Review Group (EPRG) on November 30 and December 1, 2010, to complete an on-site inspection of surface erosion issues. The EPRG recognized critical areas of concern that would require immediate attention. NYSERDA prioritized these areas and determined that the Erdman Brook corridor is in need of the most immediate attention.

A.3 Site Improvements

Bergmann Associates was selected as the design-and-build contractor for the creek erosion mitigation. Bergmann Associates' design to mitigate the three knickpoints is similar to the successfully completed 2009 work (Phase I). In accordance with the EPRG Guidance, Bergmann Associates developed construction drawings with details of robust grade control structures, enhanced with wetland vegetation and woody plantings to enhance the soil stability of the surrounding unconsolidated soils. The design also includes ecological techniques to enhance the surrounding (federal) wetland areas such as deep water pools and stream bank plantings to provide shade over the stream (for moderating stream temperature). The Phase II design will entail excavating the unconsolidated material and replacing it with properly sized aggregate material with a sufficient depth to prevent scour and able to withstand the velocities of a 10-year storm event.

A.4 Work Scope and Type of Equipment

The general Scope of Work to be followed for the Erdman Brook Phase II project includes:

- Updated wetland delineation for the areas to be impacted by construction activities (completed in May 2011).
- Design of erosion mitigation structures in the identified areas (90% engineering drawings available).
- Implementation of design through construction and inspections (expected this construction season).

The three knickpoints are located within federal jurisdictional wetlands. The proposed design will require disturbance of approximately 0.55 acres of the existing wetland, excavating unconsolidated material, and backfilling new channels with more stable aggregate limestone. Full restoration of the disturbed areas will be completed as part of the construction work. Hydric soils (i.e., unconsolidated materials) removed during the excavation will be staged and reused to restore impacted wetland areas and reseeded with a northeastern wetland meadow mix.

Plan and profiles of the engineered design as well as construction details and notes are documented in the Bergmann Associates design package (see reference: Bergmann, March 4, 2011). No soils will be removed from the general construction area.

Anticipated equipment to be used in the construction of this project includes the following:

Description	Model Size	Purpose
Rubber Tire Backhoe	Ford / New Holland 655E	Loading and unloading fill material from hauling trucks (e.g., rip-rap and excavation soils)
Excavator w/ditch bucket	PC-120 and 200	Light earth moving activities, stream debris clearing, and placing stone material in the construction areas
Bulldozer	255 hp / 8 cy	Final grading, grubbing, access road installation
Trash Pump	4 to 6 inch	May be used during construction for bypass pumping of Erdman Brook
Miscellaneous Attachments	NA	NA

A.5 **Compensatory Mitigation and Stormwater Pollution Plans**

Construction activity disturbance to the federally jurisdictional wetlands is approximately 0.55 acres. According to NWP-27, impacts to perennial streams less than 500 linear feet do not require a section 401 Water Quality Certification from NYSDEC. The total linear footage of the construction areas is approximately 475 feet, NWP-27 also states that compensatory mitigation is not required for activities authorized by the stated permit. The total construction area is less than one acre; therefore, application will not be made for a New York State Pollutant Discharge Elimination System Permit for Construction Activity (GP 0-10-001). However, best management practices and Stormwater Pollution Prevention Plan tools will be implemented in order to minimize the effects of erosion/sedimentation and turbidity in the stream channel during and after construction. The following erosion and sedimentation controls will be implemented into this project as well as daily inspections:

- Stabilized Construction Entrance/Exit
- Silt Fencing
- Filtrexx (Bio-engineered silt fence / turbidity curtain)
- Check Dams
- Sedimentation Basin
- Hay Bales
- Surface Roughening

Location and details for these erosion and sedimentation controls are shown in further detail in the construction design drawings.

A.6 **Need**

The **need** is for U.S. Department of Energy (DOE) to continue to fulfill its obligations under the West Valley Demonstration Project (WVDP) Act to manage and mitigate health, safety, and environmental risks associated with the WVDP, pending decision making on final project decommissioning. U.S. DOE NEPA evaluation of this activity is needed because it (DOE) bears a 50% cost share of this project.

A.7 **Schedule and Timing**

Construction is proposed to begin during the second half of calendar year 2011, after final design of erosion control techniques to be employed. It is anticipated that erosion mitigation activities will be completed before the end of November 2011.

B. **SOURCES OF IMPACTS**

All sources of impacts are bounded by environmental checklist WVDP-2003-03 except for Item #14, "Water Course Modification." In this case, course modification is intrinsic to the work being performed, as explained in the "Brief Project/Activity Description" (Section A above). Permits required for this action have been requested by NYSERDA (NYSERDA, July 7, 2011) from the U.S. Army Corps of Engineers (under the nationwide permit (NWP) 27, "Stream and Wetland Restoration Activities"). A "Water Quality Certification" permit has been issued by the New York State Department of Environmental Conservation (NYSDEC) for this activity (see references: NYSDEC, August 10, 2011).

Regarding utilities, the same precautions should be exercised as delineated in existing checklist WVDP-2003-03, specifically: "In conjunction with the use of record drawings of underground utilities within the WNYNSC, an electronic line locator would be used to locate underground utilities. These locations are then marked on the ground. Excavation by hand instead of using powered excavation equipment would take place within two feet of a known underground

utility.” Such utilities include, but are not limited to the following, known natural gas lines and known waste transfer lines.

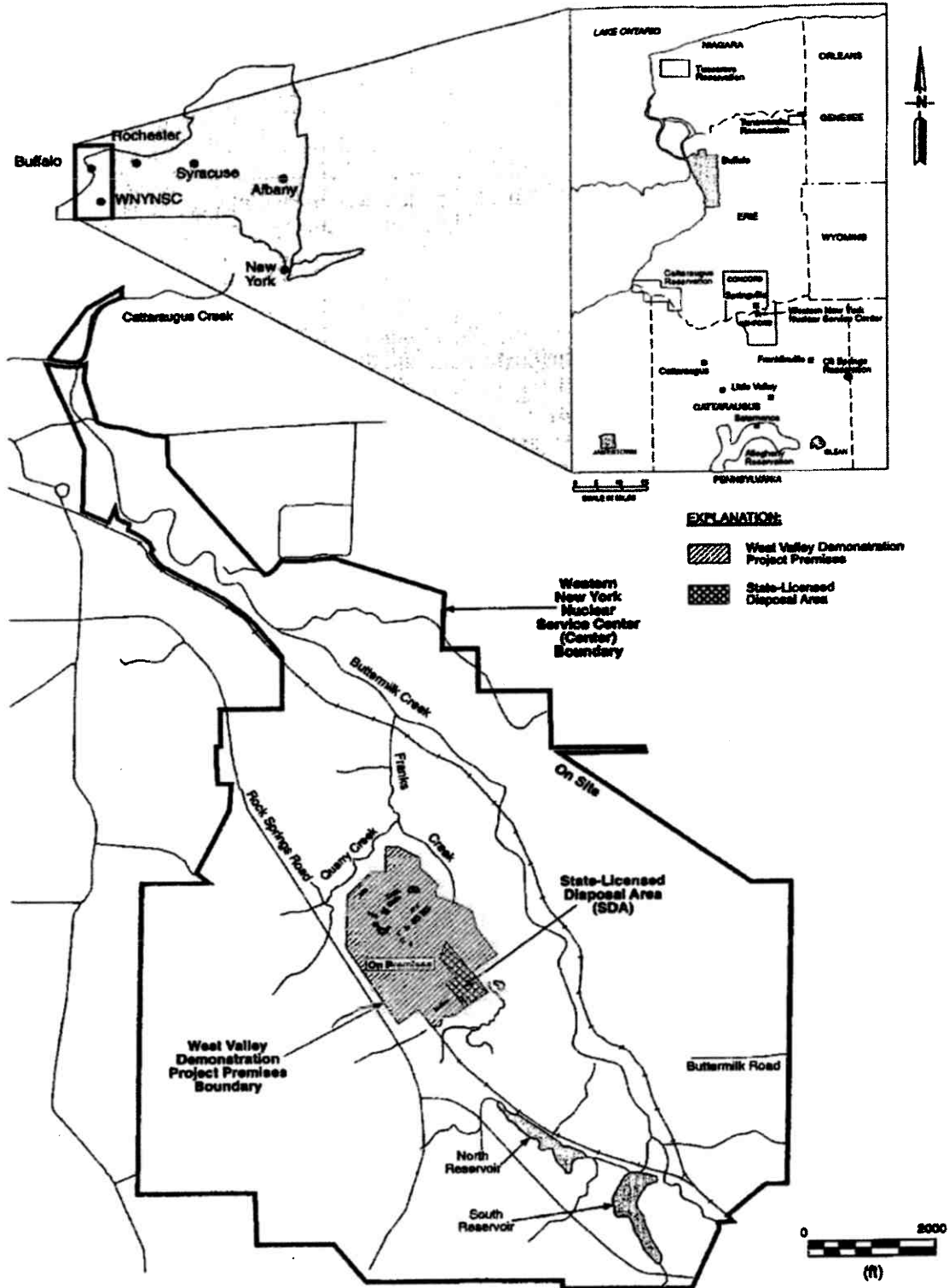


Figure 1
Location Map

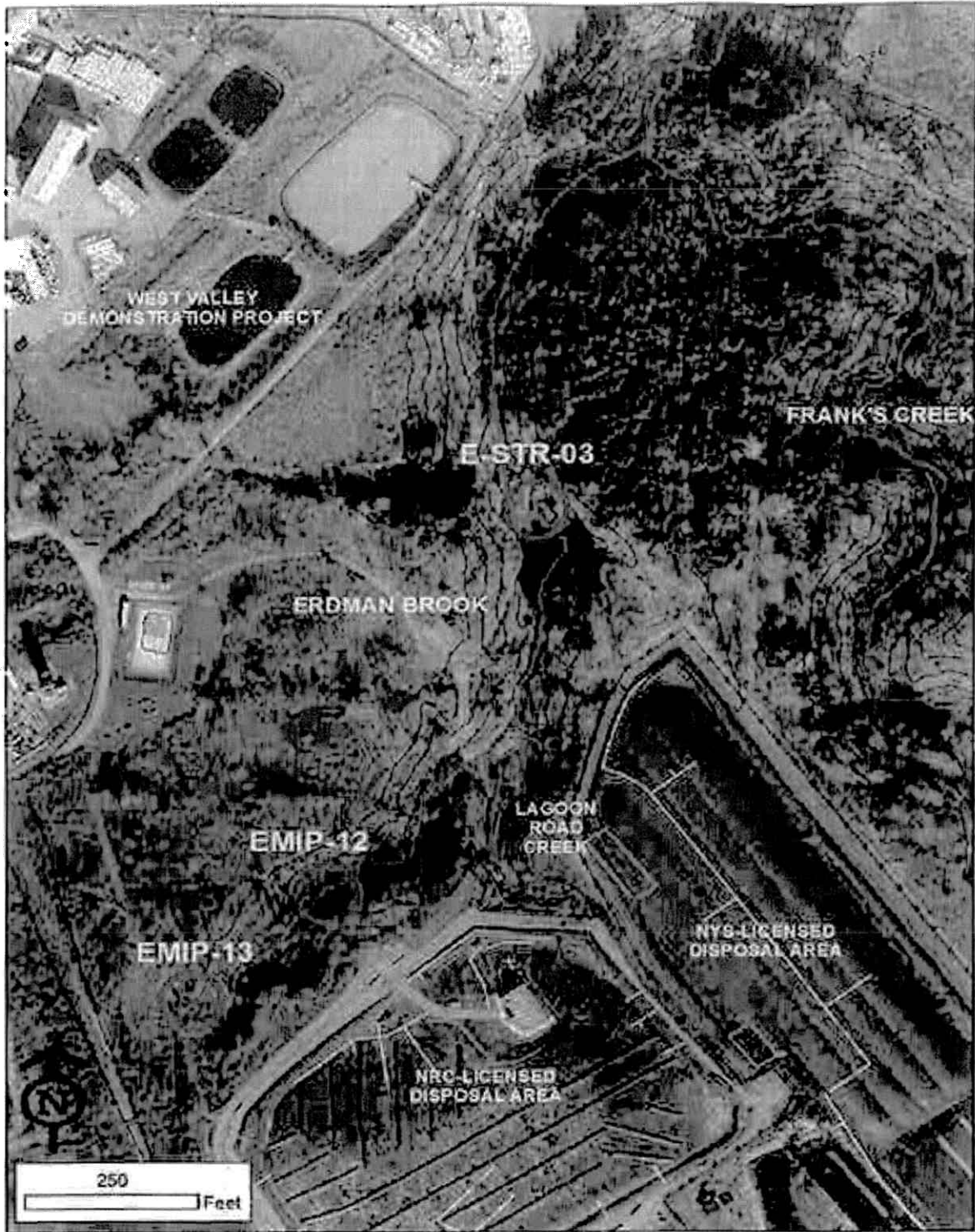


Figure 2

Erdman Brook Erosion Mitigation – Phase II

References

Bergmann Associates (for the New York State Energy Research and Development Authority), "Task Order #5, Erdman Brook Erosion Mitigation, Phase 2; Lagoon Road Creek Erosion Mitigation," dated March 4, 2011

New York State Energy Research and Development Authority, (Letter: Attridge to Rowley), "Nationwide Permit (NWP), Number 27, Preconstruction Notification (PCN) Permit Application for Erdman Brook Erosion Mitigation Phase II Coverage at the WVDP," dated July 7, 2011

NYSDEC; D. E. Borschel to NYS Energy Research and Development Authority; Permit ID 9-0422-00011/02004 Water Quality Certification; for "Stream Restoration and Enhancement of Erdman Brook to Mitigate Three Active Nick Points"; effective 8/10/2011

U.S. Department of Energy, Letter (DW:2011:0215), B. C. Bower to D. B. Rankin, "Review of New York State Energy and Research Development Authority (NYSERDA) Phase II Erdman Brook Erosion Mitigation Project with Respect to National Environmental Protection Act (NEPA) Requirements" dated August 11, 2011