Growing our Communities
Growing Greener

For DEP use only:
MDP70051

ENVIRONMENTAL STEWARDSHIP AND WATERSHED PROTECTION GRANT APPLICATION 2007

15 MAR 2007 4:10:55

1. **Short Title**: ER-8 AMD Treatment Project

2. **Project Location**:

Watershed: Emigh Run Latitude: 4094933 Longitude: 7826719

County(ies): Clearfield Municipality(ies): Morris

(Include an 8.5"x11" copy of a USGS 1:24000 topographic map with project boundaries and quadrangle name clearly marked.)

Legislative District where the project is located: House 74 Senate 35

3. **Application/Project Type**:

Watershed Protection (includes Section 319) *(indicate size, then check only one)*

Watershed size: 6.1 sq. mi

a. ☐ Watershed group organization/support
b. ☐ Develop a watershed plan
c. ☐ Education/outreach
d. ☒ Design and/or construction
e. ☐ Operation, maintenance and replacement
f. ☐ Technical Assistance
g. ☐ Evaluation, Assessment or Monitoring Tools

Flood Protection *(check all that apply)*

h. ☐ Project improvement
i. ☐ Non-routine maintenance
j. ☐ Specialized equipment

4. **Applicant/Sponsor Information**:

APPLICANT

Organization: Emigh Run Lakeside Watershed Association

Street: P.O. Box 204

Morrisdale, PA 16858
City/State/(9 Digit) Zip:

Contact: Anna Mae Pezzulla, President

Tel: (814) 345 - 5920 Fax: ( ) -

E-Mail:

Federal Employer ID #/SAP Vendor # 41-2054562

SPONSOR (If different from Applicant)

Tel: ( ) - Fax: ( ) -

E-Mail:

Federal Employer ID #/SAP Vendor #:

5. **Type of Organization**:

☐ School
☐ Conservation District
☐ Council of Governments
☐ Government
☒ Incorporated Watershed Group
☒ Incorporated Non-profit Organization
501(c)(3) status? Yes ☒ No ☐
Charitable Organization status? Yes ☒ No ☐

6. If applicable, is this project consistent with local comprehensive land use plans and zoning ordinances under Acts 67 & 68 of 2000? Yes ☐ No ☒. DEP policy documents 012-0200-002 and 012-0200-004 and the appropriate forms are available at http://www.depweb.state.pa.us/growinggreener select "Help for Applicants" in the Resources section.

7. Name of the DEP Regional Watershed Manager, Mineral Resources Watershed Manager or Bureau of Watershed Management staff person with whom you consulted about the proposed project (see Appendix 3): Mario Carrello

8. Will this project implement recommendations of an existing watershed, river conservation, source water protection plan or conservation district implementation or strategic plan? Yes ☒ No ☐
If yes, attach Executive Summary and pertinent pages, identify the plan and responsible organization:

Emigh Run Watershed Mine Drainage Assessment and Restoration Plan - Emigh Run Lakeside Watershed Association (ERLWA)

9. Will your project hinder the practice of sustainable forestry? Yes ☐ No ☒

10. Will your project be conducted on land owned by other Commonwealth agencies and have you contacted the appropriate agency? Yes ☐ No ☒

If yes, identify agency contacted: _____

11. Is your project located within an existing federal or state funded flood protection project? Yes ☐ No ☒

If yes, provide a copy of previous year's inspection report conducted by DEP or the U.S. Army Corps of Engineers.

12. Attach a detailed **project description** per suggested outline and Task and Deliverable Worksheet.

13. Budget Summary (Must be from attached DEP Detailed Budget Worksheet forms – do not include cents; round to the nearest dollar.)

Category	Grant Request	+	Match	=	Project Cost
Salaries/Benefits		+		=	
Travel		+		=	
Equipment and Supplies		+		=	
Administration (max 5%)		+		=	
Contractual	$27,965.00	+	$29,295.00	=	$57,260.00
Construction	$142,681.00	+		=	$142,681.00
Other		+		=	
Total for each column:	$170,646.00	+	$29,295.00	=	$199,941.00

14. Will competitive bidding or Request for Proposals be used? Yes ☒ No ☐

If yes, for which budget items? Construction, Material, and Labor

15. Was this proposal submitted to another source for funding? Yes ☐ No ☒

Name of other source: _____

16. Are you willing to accept federal funding for this project? Yes ☒ No ☐

17. Are you willing to accept Growing Greener II Bond funding? Yes ☒ No ☐

18. Do you wish to be considered for other state grant programs? Yes ☒ No ☐

CERTIFICATION AND SIGNATURE OF APPLICANT (REQUIRED) AND SPONSOR (IF APPLICABLE)

Applicant: I certify that the information in this application is true and correct to the best of my knowledge.

Emigh Run Lakeside Watershed Association, Inc — Applicant Organization — Date: 3/27/07

Anna Mae Pezzula — Printed Name | Signature | President — Title

Sponsor: I certify that the information in this application is true and correct to the best of my knowledge. I certify that I am willing to accept responsibility for a grant on behalf of the applicant.

_____ Applicant Organization _____ Date

_____ Printed Name _____ Signature _____ Title

TWO SIDED PAGES ONLY - NO PERMANENT BINDING (USE STAPLES ONLY) – NO FAXES

SEE PAGE 37 FOR SUBMITTAL INSTRUCTIONS

DEADLINE FOR SUBMITTAL IS APRIL 13, 2007

TASK AND DELIVERABLE WORKSHEET

Identify each deliverable, title, dollar amount, estimated date of completion for deliverable, person responsible for task, and associated tasks (including tasks provided as match).

Deliverable #:	1		
Title:	Bid Process/Pre Construction Coordination (Design Complete)		
Dollar Amount for Grant Request:	3680	**Match Dollar Amount:** 26,400	**Total Cost:** $30,080
Estimated Date of Completion for Deliverable:	June 2008		
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•	Contractor	Pre-bid meetings, meetings to choose bidder, bid documents	
•			
•			
•			
•			
•			

Deliverable #:	2		
Title:	Constructed Treatment System		
Dollar Amount for Grant Request:	142,681	**Match Dollar Amount:**	**Total Cost:** 142,681
Estimated Date of Completion for Deliverable:	June 2009		
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•	Contractor	All tasks associated with treatment system construction	
•			
•			
•			
•			
•			

TASK AND DELIVERABLE WORKSHEET

Identify each deliverable, title, dollar amount, estimated date of completion for deliverable, person responsible for task, and associated tasks (including tasks provided as match).

Deliverable #:	3		
Title:	Construction Management		
Dollar Amount for Grant Request: 14,700		**Match Dollar Amount:** 1500	**Total Cost:** 16,200
Estimated Date of Completion for Deliverable:	June 2009		
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•	Contractor	On-site visits, construction oversite	
•			
•			
•			
•			
•			

Deliverable #:	4		
Title:	Post Construction Monitoring		
Dollar Amount for Grant Request:	1080	**Match Dollar Amount:**	**Total Cost:** 1080
Estimated Date of Completion for Deliverable:	June 2010		
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•	Match Contributor	Monthly Sampling of treatment system	
•			
•			
•			
•			
•			

TASK AND DELIVERABLE WORKSHEET

Identify each deliverable, title, dollar amount, estimated date of completion for deliverable, person responsible for task, and associated tasks (including tasks provided as match).

Deliverable #:	5		
Title:	As-built drawings and OM& R plan		
Dollar Amount for Grant Request:	7280	**Match Dollar Amount:**	**Total Cost:** 7280
Estimated Date of Completion for Deliverable:	June 2010		
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•	Contractor	Modify original site plans	
•	Contractor	Final as-built drawings with all system components	
•	Contractor	Final OM&R plan to maintain success of system	
•			
•			
•			

Deliverable #:			
Title:			
Dollar Amount for Grant Request:		**Match Dollar Amount:**	**Total Cost:**
Estimated Date of Completion for Deliverable:			
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•			
•			
•			
•			
•			
•			

TASK AND DELIVERABLE WORKSHEET

Identify each deliverable, title, dollar amount, estimated date of completion for deliverable, person responsible for task, and associated tasks (including tasks provided as match).

Deliverable #:			
Title:			
Dollar Amount for Grant Request:		**Match Dollar Amount:**	**Total Cost:**
Estimated Date of Completion for Deliverable:			
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•			
•			
•			
•			
•			
•			
Deliverable #:			
Title:			
Dollar Amount for Grant Request:		**Match Dollar Amount:**	**Total Cost:**
Estimated Date of Completion for Deliverable:			
Salary Staff/Contractor/Match Contributor:		**Tasks:**	
•			
•			
•			
•			
•			
•			

Detailed Budget Worksheet

This worksheet should be used to prepare Application Item #13, Budget Summary, and must be submitted with the application package. The totals for each of these categories must match those entered on the application form. Do not use cents; round to the nearest dollar.

Certain restrictions apply to Growing Greener II projects (Refer to Appendix 1)

1. SALARIES/BENEFITS

INDIVIDUAL	POSITION	HOURLY RATE	HOURS	BENEFITS	TOTAL COST
TOTAL SALARIES/BENEFITS					

2. TRAVEL – Travel costs are not eligible for GG II projects.

Mileage: _____ miles @ $_____/mile = _____
Meals: _____ = _____
Lodging: _____ nights @ $_____/night = _____

TOTAL TRAVEL = _____

Ensure that maximum reimbursement is not exceeded. Rates can be found at http://www.depweb.state.pa.us/growinggreener under "Help for Recipients", "Tips for Travel Reimbursement".

3. **EQUIPMENT AND SUPPLIES** (Non-Construction-Related Costs)

ITEM	QUANTITY	COST PER ITEM	TOTAL COST
TOTAL EQUIPMENT AND SUPPLIES			

4. **ADMINISTRATIVE** (List all overhead -- 5% maximum – see Instructions) (not permitted for GG II grants or Flood Protection Grant Program)

ITEM	COST
TOTAL ADMINISTRATIVE	

5. **CONTRACTUAL**

A. **Contractor Salaries** (List exact billing rate by task with no salary ranges, see Instructions)

TASK	CONTRACTOR	HOURLY RATE	HOURS	BENEFITS	CONTRACTOR SALARY
Project Engineer	NMBS/ARE	$75.00	152		11,400
Project Professional	NMBS/ARE	$75.00	104		7,800
Engineering Technician	NMBS/ARE	$45.00	88		3,960
Survey Crew - 2 person	NMBS/ARE	$100.00	20		2,000
CAD Draftsman	NMBS/ARE	$45.00	24		1,080
Also see Appendix A for more info					
TOTAL CONTRACTUAL SALARIES					$26,240.00

B. Other Contractual Expenses

ITEM	COST
Water Sample Analysis	$600
Photocopies/Reproduction	300
Drawings	750
Postage	75
TOTAL OTHER CONTRACTUAL EXPENSES	$1725

C. Total Contractual (A+B)

CONTRACTOR SALARIES	OTHER CONTRACTUAL EXPENSES	TOTAL CONTRACTUAL
$26,240.00	$1,725	$27,965

6. CONSTRUCTION (List materials (including plants) and labor)

A. Materials

TYPE OF MATERIAL	COST PER UNIT	COST
Access		6,500
Earthwork		19,900
Limestone		29,290
Piping and other water contol structures		51,575
Site Restoration		4,630
Other		17,815
SEE APPENDIX A FOR A MORE ITEMIZED DETAILED COST		
Mobilization Costs		12,971
TOTAL MATERIALS		$142,681

B. Labor

JOB	TOTAL HOURS	HOURLY RATE	COST
Construction, Labor included with materials costs as a lump sumproject bid			
TOTAL LABOR			

C. **Total Construction (A+B)**

TOTAL MATERIALS	TOTAL LABOR	TOTAL CONSTRUCTION
$142,681		$142,681

7. OTHER

ITEM	COST
TOTAL OTHER	

8. MATCH

Please use the following table to calculate matching contributions of cash, goods and services to enter on the application form. Do not include other DEP funding sources or DEP in-kind services. **A CURRENT LETTER OF COMMITMENT IDENTIFYING DOLLAR AMOUNT AND TYPE OF MATCH MUST ACCOMPANY ALL PLEDGED OR IN-HAND ITEMS LISTED. DOCUMENTATION REQUESTING FUNDING MUST ACCOMPANY ALL APPLIED-FOR ITEMS LISTED.**

CONTRIBUTOR	BUDGET CATEGORY (purpose in project)	DESCRIPTION (cash, goods or service)	STATUS (applied for, pledged or in-hand)	VALUE in DOLLARS
NMBS/ARE	Contractual	grant preparation services and associated expenses	in-hand	1,500
Chesapeake Bay Small Watershed Grant	Contractual	funding for design and permitting	pledged	26,400
ARE	Contractual	Project Expenses	pledged	1,395

Department of Environmental Protection
Environmental Stewardship and Watershed Protection Grant Application

CHECKLIST FOR APPLICATION COMPLETENESS
(Complete and submit as the last page of your grant submittal.)

Applicant/Sponsor:

Emigh Run Lakeside Watershed Association

Project Title:

Emigh Run 8 (ER-8) Acid Mine Drainage Treatment Project

Use a check if contained in your application. Indicate N/A if "Not Applicable".

GENERAL

☒ Discussed project with DEP Regional Watershed Manager, Mineral Resources Watershed Manager or Bureau of Watershed Management staff person by March 16,2007.
☒ The project addresses pollution through local, watershed-based planning, restoration or protection.
☒ The project participants/responsible parties are identified.
☒ All tasks required to implement project are identified and assigned.
☒ The project deliverables are clearly identified.

APPLICATION

☒ The application, including Detailed Budget Worksheet and Task and Deliverable Worksheet, is complete and signed by the Applicant and Sponsor (if applicable) for funding consideration.
☒ The application includes the original and four copies (a total of five).
☒ A copy of the application has been sent to the county conservation district where the project is located (not applicable for Flood Protection Grant Program).

The proposal body and attachments include:

☒ Project Location Map.
☒ Document how proposal will implement recommendations of an existing watershed plan.
☒ Detailed Project Description, including a breakout of costs for each work element.
Signed Landowner Access Authorization Form
Signed Letter of Commitment from landowner(s) or executed Landowner-Grantee Agreement.
We have had on file an "old" landowner agreement and are submitting that with the grant application. If the grant is awarded, we will obtain a new landowner-grantee agreement.
☒ Current Letters of Commitment from project partners for match identified are included.
☒ Current, project-specific Letters of Support.
☐ Letter of Acknowledgement (Mining projects only) from the WPCAMR or EPCAMR.
☐ Land Use Planning Form (LPF) or approval letter / Multi-Municipal Planning Form or letters from the municipality or appropriate planning office, if applicable (not applicable for Flood Protection Grant program).
☐ For Flood Protection Grants, copy of previous year's inspection report conducted by DEP or the U.S. Army Corps of Engineers.

Late submissions will not be considered. Faxes will not be accepted. Use staples only, no binding or cover pages, please. Application materials must be submitted in the order established by the instructions.

DETAILED PROJECT DESCRIPTION
EMIGH RUN 8 ACID MINE DRAINAGE TREATMENT PROJECT

EXECUTIVE SUMMARY

The Emigh Run Lakeside Watershed Association (ERLWA) is proposing to secure funding for the construction of the ER-8 Acid Mine Drainage Treatment Project which is priority area #3 in the watershed. Through the initial assessment of Emigh Run performed by the ERLWA and the West Branch Area School District (WBASD), we have determined that construction of a passive treatment system will allow us to continue with the goal of restoring Emigh Run as a cold water fishery. The ER-8 discharge emanates from under a haul road from a reclaimed surface mine area. This discharge is severely degraded from water seeping through the acidic soils of the reclaimed surface. The first source of pollution to Emigh Run has already received funding for the construction to relocate the headwaters away from spoil material. This project is the next step to continue efforts put forth by project partners.

Funding has previously been awarded for the project design and permitting phase through the Chesapeake Bay Small Watershed Grant Program. The design of this passive treatment system includes a series of two limestone cells followed by a settling basin. This project has been discussed by all project partners to reach an understanding on how to best treat this discharge without impacting wetlands. They are all supportive of the project and spent additional time in the field collecting information to aid in the design.

Funding is requested for the construction of a passive treatment system. The project would eliminate pollutant loadings in Emigh Run, and further the re-establishment of aquatic life in Emigh Run. The ER-8 discharge is the next significant source of pollution to enter below the construction of the headwater relocation project which will restore 0.42 miles of Emigh Run. Wetland impacts will be avoided, and the project will result in improvements of the water quality flowing into existing wetlands downstream. The appropriate water management and wetland permits are currently being obtained.

STATEMENT OF ENVIRONMENTAL NEED

The Emigh Run Watershed is located in Central Pennsylvania in Morris Township, Clearfield County. The watershed is located on the USGS 7.5 minute series topographic maps of Wallaceton and Philipsburg near Wallaceton, PA. A project location map has been provided with this application.

Emigh Run is a subwatershed of Moshannon Creek. The Moshannon Creek Watershed totals 288 square miles as it flows through 8 townships and two counties. The Operation Scarlift Report on Moshannnon Creek indicates that Moshannon Creek was (and still is) significantly degraded by abandoned mine drainage (AMD). The Creek contributed to 130,000 pounds per day (lb/day) of acidity to the West Branch Susquehanna River in 1973, degrading the river for many miles below its confluence with Moshannon Creek. The proposed project would remove acidity and metals loadings from Emigh Run and subsequently, Moshannon Creek.

Emigh Run is also severely impacted by AMD, a non-point source pollutant, resulting from years of deep mining and surface mining for bituminous coal in the watershed. Deep mining began in the area in the 1800s, and slowly increased through the Civil War era. During the 1940s strip mining became the dominant mining practice in the area. As with most of the watershed, Emigh Run was severely impacted by past mining practices, which have scarred the landscape and severely impacted the hydrology.

The main stem of Emigh Run is approximately 5.2 miles in length. A few tributary streams feed Emigh Run, and they are of good water quality. The stream enters Moshannon Creek between Hawk Run and Troy off of State Route 53 between Philipsburg and Morrisdale.

Water sampling has been performed along Emigh Run as part of the assessment performed by the ERLWA and the WBASD. The sampling has verified that Emigh Run is severely impaired by AMD. There are unconfirmed, anecdotal reports of individuals stocking trout, which reportedly survive, in the swampy area below Lakeside Dam, but these reports have not be substantiated. Emigh Run is a significant contributor of

acidity and metals loadings to Moshannon Creek, and as such is a priority for the restoration of Moshannon Creek.

Emigh Run provides the only source of surface water hydrology for the 22 acre Lakeside Dam, which is located between Troy Hill and Morrisdale. (Lakeside Dam is often referred to as Morrisdale Dam by local residents.) The Dam was built in the 1800s by a mining company and was the primary source of drinking water for the town of Morrisdale. The Dam is now privately owned. The owner hopes to donate the Dam along with five acres of wooded area to create a nature park. Before repairs on the Dam can occur, there is a great need to treat the AMD that is severely affecting the water quality and in turn, the aquatic life of the Dam. A complete watershed assessment and restoration plan has been developed in order to recover this area as both a potential water source and a recreational/educational area.

As stated previously, the Emigh Run Watershed is the only source of surface water feeding the Lakeside Dam, and therefore, its clean-up is an essential factor in establishing the Lakeside Dam as a recreational area. Lakeside Dam is located directly off of State Route 53, and its re-establishment as a recreational area would be a valuable promotional project for various grant agencies. Its close proximity to both the West Branch and Philipsburg-Osceola School Districts would allow it to be used as an educational area. Both the dam itself and the subsequent recreational areas that will be established will provide valuable educational services to the surrounding schools and communities. Projects that are highly visible and successful are great motivators for the community to get involved in future projects.

Extensive mining occurred in the headwaters of Emigh Run prior to the Surface Mine Conservation and Recovery Act (SMCRA), leaving abandoned highwalls and spoil areas that degrade stream quality. Efforts are underway to remine some areas in the headwaters. With the addition of lime to the backfill, we are confident we will see improvement in the quality of some of the discharges. The remining efforts, in combination with proposed restoration of water quality, including ER-8, are the first necessary steps in the restoration of Emigh Run.

The discharge of ER-8 seeps through a reclaimed surface mine, degrading water quality to the discharge and to Emigh Run. We feel that through treating the discharge

by constructing two limestone cells and a final settling basin, water quality will improve and a higher pH and lower metal concentrations will be noticed in the stream. This will have a beneficial effect throughout the watershed. The ER-8 discharge is the next important step in restoring Emigh Run and, subsequently, the Morrisdale Dam.

The Emigh Run Watershed is a valuable resource to local residents as a haven for outdoor activity. The watershed is used recreationally by outdoorsmen through hiking and hunting. Hunters and hikers are able to enjoy the watershed throughout the year, but due to the degraded state of Emigh Run, fishermen are not yet able to take pleasure in the benefits of the wilderness within the watershed. It is the goal of all partners to restore Emigh Run to a stream able to support aquatic organisms, from mayflies to brook trout.

Through a combination of efforts in the watershed, we feel strongly that Emigh Run and subsequently the Lakeside Dam will support fish and other aquatic life. The ER-8 treatment project will play a significant role in the success of watershed restoration. Through this project, a significant pollution load will be removed from the main stem of Emigh Run, while extending the length in which aquatic life will re-establish.

COMMONWEALTH INVESTMENT CRITERIA

As part of any passive treatment construction project, the goal is to restore the watershed for recreational purposes in the hopes of attracting tourist and local dollars to the area. Specific jobs will be created through restoration projects. Local individuals work for construction companies who build the treatment systems and the trucking companies that haul the limestone and organic matter to the site. Sustainable businesses could be developed through canoe rentals or fishing tours when restoration is complete in the watershed. In this case, the clean up of Emigh Run will have beneficial effects to Moshannon Creek as a whole.

As of now the recreational opportunities are minimal for Emigh Run and the Morrisdale Dam. There is no fishery and few want to boat or swim in "orange" water. Restoration efforts throughout the watershed will help the local community take pride in

their backyard and begin using Emigh Run for recreational purposes. As stream miles are restored, individuals from outside the area will begin using the stream for fishing and canoeing, bringing tourist dollars to the area. An exact value is hard to calculate, though some have tried. The area is already used extensively by hunters and it is a natural jump to use the stream for fishing.

NON-POINT SOURCE POLLUTION FROM THE DISCHARGE

There is no discrete AMD discharge for ER8, but instead, the discharge picks up contaminants as it flows through the reclaimed surface mine area. Contaminants are released though the contact of water and the acidic mine spoil. Though we cannot remove all the acidic mine spoils that is degrading water quality, we can treat the water as is flows from under an old haul road. Photographs of the project area are provided in Appendix C.

Water quality and flow data have been collected for a period of one year which indicated a pH of 3.8 and elevated levels of acidity, aluminum and manganese. Data collected during the assessment of Emigh Run is provided in Appendix B. Data collection is ongoing during the design phase of this project.

With treatment occurring in the headwaters, the pH of Emigh Run should average from 5.5 to 6.0. If the ER-8 discharge were to be left untreated, pH would be significantly lowered while metal concentrations would remain too high to support an aquatic ecosystem. Limestone treatment cells and a settling basin will be installed below the haul road to capture all seeps from the reclaimed mining surface. This treatment train will provide a much-needed boost of alkalinity (90 mg/L), while removing 45 lbs/day of acidity, 0.5 lbs/day of iron, and 4 lbs/day of aluminum at design flow of 25 gallons per minute.

PROJECT'S RELATIONSHIP TO WATERSHED PLANS

A partnership between Morris and Boggs Townships, ERLWA, New Miles of Blue Stream (NMBS), and the West Branch Area School District (WBASD) has completed a restoration plan for Emigh Run. The ER-8 Acid Mine Drainage Treatment Project is the third priority mentioned in the restoration plan for Emigh Run. ERLWA has secured

funding for the construction of the headwaters stream relocation project, while securing funding for the design and permitting for the passive treatment system on the ER-8 discharge, as well as, funding for design and permitting of a passive treatment system on the ER-13 and ER-14 discharges. The funding identifies the top three priorities identified in the restoration plan. The next step is to start construction of the second and third priorities within the watershed. We feel the ER-8 discharge needs to be addressed due to its downstream location from the headwaters relocation project. ERLWA recognizes the impact that the water seeping from the reclaimed surface mine has on the stream and the need to address this problem.

This project is the next step in the restoration of Emigh Run. Through efforts of the local townships, school districts, and watershed groups, we are seeing success in our watershed. We have received funding totaling approximately $300,000 to perform an assessment, design/permitting on the top three priorities, and construction for the headwaters project. We have momentum and are gaining additional community support. Success breeds success and that is what we hope to continue building on with this project.

Efforts are also underway in the restoration of Moshannon Creek, the receiving water of Emigh Run. A watershed group has formed, the Moshannon Creek Watershed Coalition (MCWC). The group is now in the process of performing an assessment and restoration plan for the headwaters of that stream. Restoring Moshannon Creek is a daunting task, but it can be reached by focusing on one tributary at a time. Mining has impacted the largest watershed in the state, but we must start with the subwatersheds and strive forward with our stream restoration efforts. This treatment project in Emigh Run will help build on the overall efforts in restoring stream miles in Pennsylvania.

Following the relocation of the Emigh Run headwaters and construction of a treatment system on the ER-8 discharge, reclamation and remediation activities will shift to the next downstream pollutant source until Emigh Run is completely restored and able to support a healthy aquatic ecosystem. The remediation activities are being carefully coordinated with ongoing active surface mining in the watershed as it is hoped that the mining and re-mining will result in improved water quality. This careful coordination will ensure that no reclamation or remediation efforts are duplicated. Each

small success will lead to the improvement in water quality in Emigh Run and Moshannon Creek.

JUSTIFICATION OF FUNDING

The ER-8 Acid Mine Drainage Treatment Project will help to restore the water quality in Emigh Run, while reducing chemical contaminants and improving the water quality to levels where aquatic organisms can re-enter the stream. The ER-8 Acid Mine Drainage Treatment Project will address many issues as outlined in the Chesapeake 2000 Agreement and will reduce non-point source pollutant loads in a watershed that is known to be impaired. The project is located within the West Branch of the Susquehanna Watershed. The project results from local, watershed-based restoration efforts.

The ERLWA will encourage sound land use conservation and develop educational and recreational areas near the Lakeside Dam and project site. We will disturb the minimum area necessary to successfully and efficiently complete the project. We will ask for community stewardship for the watershed through our local watershed groups and public meetings. We will reach out to our community through public meetings, and through the local school district. We will partner with local watershed groups, landowners, sportsmen's groups, school districts, townships, and any other organization making a commitment to this environmental issue we are all facing. It will be through this cooperative effort that we will see the restoration of Emigh Run.

This project is another step in the restoration of Moshannon Creek, a large undertaking, but by working one tributary at a time, our goal could become a reality. The effort to restore Moshannon Creek is a daunting task, but through efforts of the ERLWA in partnership with MCWC, we are focusing on the restoration of one tributary at a time. Each small success will lead to the improvement in water quality in Moshannon Creek.

The benefits of this restoration project are important steps towards the goals of the ERLWA which include: a) improved water quality in the stream and Morrisdale Dam, b) restoration of native fish populations, c) improved wildlife habitat, d) development of a future sport fishery in Emigh Run, f) reduction of a significant non-point source pollution

to Emigh Run and Moshannon Creek, and g) important educational opportunities to provide local citizens information to better understand AMD and treatment systems. The positive economic impacts that are generated from these benefits translate into a better way of life for local communities and for visitors to the Emigh Run and Moshannon Creek Watersheds, and the results will be enduring.

The local schools could use this site regularly to learn about the impact of AMD in aquatic ecosystems, benefits of wetlands to the environment, water monitoring, watersheds and AMD reclamation. All of the activities listed above will be well received by the school districts, as the new Pennsylvania science standards for 2002 require education in these fields. Many teachers at the elementary and high school level are not familiar with these fields and would appreciate the expertise of the ERLWA, the Conservation District, and NMBS in educating the school children in the watershed.

The project applicant, the ERLWA has limited assets. Without a Growing Greener Grant or some other type of funding, this project cannot be completed. The reclaimed surface mine area will continue to be a source of pollution to Emigh Run, and the goal of restoring Emigh Run cannot be realized. This grant is needed to construct a passive treatment system and ensure that the project is constructed according to plan in a technically correct manner.

The project is in accordance with local, watershed-based planning and restoration efforts. The DEP has already invested significant effort in West Branch Susquehanna River Watershed, for AMD remediation, and this project would further the efforts to restore the receiving waters of Moshannon Creek and, subsequently the West Branch of the Susquehanna River.

PROPOSED SCOPE OF WORK

GOALS, OUTCOMES, AND MEASURABLE ENVIRONMENTAL RESULTS

The major goal of this project is to capture water seeping through the reclaimed surface mine area and passively treat that water by constructing two limestone cells and a settling basin. Reclamation and abatement of AMD, one of the largest causes of non-point source pollution in Pennsylvania, is considered a main objective of the ERLWA in their goal of watershed restoration.

Addressing this AMD discharge will eliminate a source of pollution to Emigh Run, and subsequently to Moshannon Creek. The construction of this proposed treatment system will remove the loadings of roughly 45 lb/day acidity, 0.5 lb/day of iron and 4 lbs/day of aluminum from Emigh Run plus adding 90 mg/L of net alkalinity to the stream. Treatment of this discharge will continue our efforts downstream to restore the main stem of Emigh Run to a state that would support aquatic life.

Regrading and reseeding of a portion of this area will occur as part of the installation of the limestone treatment cells and settling basin. The regrading and reseeding will serve to reduce the amount of precipitation run off entering the treatment system, thereby only treating water associated with acidic soils, and also serve to reduce erosion and sedimentation.

A secondary benefit of the project will be public awareness of the problems associated with the Emigh Run Watershed. The support of the public will be essential to the restoration of the watershed. Continued support of the community can be garnered by showing them successes in the watershed, i.e. stream miles recovered. This is the first opportunity beyond the watershed assessment and development of the restoration plan that will allow on-the-ground efforts to be seen. Action brings involvement, and success breeds success.

Along with the improvement to Emigh Run, improvement should be seen in Moshannon Creek. The cleanup of Moshannon Creek is a daunting task, but by focusing on one tributary at a time, impacts will be seen in the overall quality of the creek. It is a difficult battle, but we feel that through the restoration of Emigh Run, the community will see that successes can occur, and the greater public involvement will help in the larger picture.

SCOPE OF WORK

The ongoing design project, which will be completed the end of March 2007, will have produced a detailed design and construction drawings and specifications, resolved all landownership and access issues, and obtained all necessary permits for construction of this project. A Joint Permit Application will be submitted to the DEP and the U.S. Army Corp of Engineers in the near future. The proposed project includes

construction of the passive treatment system and construction management and inspection services.

The construction work is to be performed by a construction contractor experienced in stream relocation and the construction of AMD treatment systems. The construction work to be done by the construction contractor will include furnishing of all materials and labor necessary to complete the stream relocation and AMD treatment components in the abandoned stream channel. An itemized list of construction materials and activities is provided in Appendix A with the project cost estimate. The contractor will return the project access road to a condition equal to or better than its existing condition. The contractor will also provide construction surveying services, including project stakeout, project supervision, and project quality control.

Competitive bidding will be used for the construction portion of this project. Contractor selection will be based on the factors of price, past experience with stream relocation, mine reclamation, and installation of passive treatment systems, and past relationships with ERLWA.

The ERLWA has turned to New Miles of Blue Stream (NMBS) and Alder Run Engineering (ARE) to provide professional support in this endeavor as included in the contractual services portion of this proposal. NMBS/ARE is providing the design services for the ongoing design project and is most familiar with the project. NMBS has assisted with the assessment and restoration plan of Emigh Run. The partners would like to continue to utilize the services of the local professionals who are familiar with the project and who provide services at rates that are comparable to other larger engineering firms who specialize in AMD-related work.

Contractual construction management and inspection activities will be performed by NMBS/ARE personnel experienced in hydraulics, stream restoration, the construction of passive treatment systems, and construction practices. The management and inspection will consist of four tasks: pre-construction coordination, construction management, post-construction monitoring, and development of as-built drawings and an operation and maintenance plan.

NMBS/ARE will assist ERLWA as needed throughout the bidding processes through pre-construction coordination. This work may include issuance of bid

documents, clarification of design issues, and attendance at pre-bid field visits, as desired by the ERLWA.

NMBS/ARE will provide construction inspection to ensure that construction occurs according to the project plans and specifications. Following construction, as-built drawings will be developed and provided to ERLWA and DEP. An operation, maintenance, and replacement (OM&R) plan will also be developed, although OM&R needs should be minimal. Post-construction and sampling of the treatment system will be provided by NMBS/ARE and the ERLWA at points upstream and downstream of the project for a period of one year following the completion of construction.

NMBS/ARE will provide reports during the duration of the project, leading up to the final report. The quarterly reports will contain progress of the overall completion of the project. The reports will give the ERLWA and NMBS/ARE the opportunity to correct problems and make adjustments as needed to insure the success of the project. A final report will be prepared by NMBS/ARE.

The project will include the installation of a project sign, to be coordinated by the ERLWA. The sign will be erected separate or in conjunction with the headwaters relocation project at the nearby public road (as preferred by the DEP) to explain the purpose of the project and to credit the Growing Greener Program (or other funding source). An existing sign at the Lakeside Dam provides information about the Emigh Run Watershed.

DISCUSSION OF PROPOSED PROJECT

The design and permitting portion, funded through the Chesapeake Bay Small Watershed Grant Program, will be completed in March 2007. The site has been surveyed, wetlands have been delineated, onsite filed meeting with project partners have been conducted, and permit preparation is complete.

The ER-8 discharge is a seepage area located at the toe of slope downgradient of a reclaimed surface coal mine area. The seepage emanates from the toe of slope below an existing haul road and below the edge of past mining activities. The seepage flows in a diffuse manner downgradient towards Emigh Run before becoming ponded along the stream bank. The ponding of the discharge creates a forested wetland area.

A passive treatment system consisting of two limestone cells and a settling basin are proposed to treat the ER-8 discharges. The treatment system component size was determined using standard design practices. Wetland impacts played a major role in the design of this system. The system was designed to fit within available upland areas so no permanent wetland impacts resulted. A "no-impact" situation was deemed to be more desirable than construction of a larger treatment system with resultant wetland impacts. Emergency spillways and the settling basin discharge location have been provided to maintain as much of the existing hydrology and flow patterns to the existing wetlands as possible.

WORK PLAN WITH TIMELINE

The design and permitting of the treatment system are scheduled to be completed by the end of March 2007. Project bidding activities would occur in the spring of 2008 and construction would occur that summer if the grant is awarded.

The construction work of this project would be completed within approximately 6 months. However, the construction schedule was selected to allow more time than necessary for actual construction, due to unforeseen difficulties such as wet weather, which could delay construction considerably. If local municipalities are able to provide construction assistance, an extended schedule also allows ERLWA to accommodate the other construction and maintenance responsibilities of the municipalities. Sampling activities are proposed to occur for a period of 12 months following system construction.

A project timeline, including task, timeframe, and responsible party, is as follows:

PROJECT TIMELINE

ACTIVITY	TIMEFRAME	RESPONSIBLE PARTY
Design and permitting of treatment system	Completed by March 31,2007	ARE/NMBS **
Bid process begins	April 2008	ERLWA, ARE/NMBS
Bid process completed and contract awarded	May 2008	ERLWA, ARE/NMBS
Construction commences	May 2008	Construction Contractor (With assistance by local municipalities)
Construction inspection and management	Concurrent with construction activities (May 2008 to May 2009)	ARE/NMBS
Construction completed	May 2009	Construction Contractor
Post-construction sampling and surveying begins	May 2009 or at completion of construction (if earlier)	ERLWA, ARE/NMBS
As-built drawings and O&M plan completed	January 2010	ARE/NMBS
Sampling ends and final project report completed	April 2010	ARE/NMBS
**Work is funded by prior grants and is not part of this grant request.		

PROJECT COSTS AND YEARLY BUDGET BREAKDOWN

The estimated project costs are $142,681 for project construction and $27,965 for contractual services, and $29,295 in matching funds for a total project cost of $199,941. The total requested funds are $170,646. An itemized listing of construction activities, materials, and associated costs is provided in Appendix A as the standard budget form did not accommodate all of the construction items. An itemized listing of personnel, rates, and direct expenses for the contractual services is also provided in Appendix A.

Funding has been requested over the three fiscal years of the funding program. The project would begin in summer of 2008 at the latest, with grant being awarded in a timely manner. The project design and permitting phase will be completed in March of 2007. With funding secured this will allow for the work to be completed by June of 2010.

PARTNERSHIPS

The ERLWA is the project applicant. Through its ongoing efforts to remediate AMD in the area, the organization has demonstrated the commitment and ability to provide continued support for the project in the long term. Proof of that commitment can be seen in the past successes of the ERLWA with the assessment of Emigh Run, obtaining funding for three design projects, and funding for construction of one project.

Participating organizations and their primary roles in the project are as follows:

- **The Emigh Run-Lakeside Watershed Association** is the project applicant. They will be providing field help such as sample collection as needed. They are responsible for getting all partners involved and will help organize any public meetings or press releases. In the past, they have provided volunteer monitoring services, outreach activities, and participation in the watershed during the data collection and assessment phases of this construction project. They will continue to provide these functions during the construction project.

- **Morris Township** will act as a support structure for field work or the use of equipment. They are acting as our fiscal agent for other grants and have played a vital role in the success the ERLWA is having. They have taken it upon themselves to be responsible for the Lakeside Dam once it is restored.

- **The Clearfield County Conservation District (CCCD)** will be acting as a resource tool for the project. They have been highly involved with the restoration efforts on Emigh Run and will continue to do so.

- **Moshannon Creek Watershed Coalition (MCWC)** is the watershed organization whose goal is to restore Moshannon Creek and is doing so by concentrating on one tributary at a time, where significant public support has been shown. As Emigh Run is a tributary to Moshannon Creek the MCWC members will provide support as necessary to the project.

- **The Pennsylvania Department of Environmental Protection (PADEP)** provided historical data on AMD and other sources in the watershed.

- **NMBS/ARE** is providing consulting services for the design phase of this project. They will continue to provide consulting services for the construction of the project. They will be responsible for bidding assistance, construction management, and providing as-built drawings and an operation and

maintenance plan. NMBS/ARE has provided matching funds for the project in the form of grant preparation services and associated reproduction costs.

- **West Branch Area School District (WBASD)** will continue to play a role in all projects on Emigh Run. They were extensively involved in the watershed assessment and will continue to conduct field testing as needed. They can help with soil sampling and the wetland delineation aspect of the project. They can play a larger role in the construction phase by digging up and saving any wetland species along the stream channel to be abandoned to be replanted elsewhere on the project site or in the watershed.

- **The Clearfield County Senior Environmental Corps** has provided data collection, volunteer monitoring, and participation in the watershed during the data collection and assessment phase of this construction project. They will continue to provide volunteer monitoring and participation in the watershed during and following this proposed construction project.

- **The Chesapeake Bay Small Watershed Grants Program** has provided funding for the design and permitting of the proposed project.

We hope to attract additional partners and community involvement through public outreach. We will prepare a press release and/or hold a meeting upon the award of a grant to inform the local community about our activities in the watershed, to garner additional support, and to show the successes that we are accomplishing. We hope to reach at least 50 people through this outreach effort. We hope to educate the public that restoring the Morrisdale Dam is an achievable goal will be accomplished one project at a time.

LANDOWNER-GRANTEE AGREEMENT

At this time the ERLWA has contacted the landowner to obtain permission to construct the project at this site. ERLWA had secured an "old" landowner agreement which allowed the use of the land for design and for construction purposes. We contacted Harrisburg and this was sufficient for grant submittal. If the grant is awarded, we will need to reapproach the landowner and have the sign off on the new landowner agreement.

EQUIPMENT DISPOSITION

No equipment funding is requested. Therefore, this section is not applicable to the project.

OPERATION, MAINTENANCE, AND REPLACEMENT TASKS AND RESPONSIBILITIES

Funding for the ER-8 Acid Mine Drainage Treatment Project is requested at this time. Long term protection of the project will be maintained by a partnership between the ERLWA, the WBASD, MCWC, and the townships, which have a vested interest in improving the quality of streams in their community. The organizations will be responsible for ongoing maintenance of the treatment system in the future, and the partners have made a strong commitment to the restoration of the stream and dam. However, maintenance needs are expected to be minimal as with many passive treatment systems.

This project site may require periodic future maintenance to replenish limestone and remove accumulated sediments or precipitates. An operation and maintenance (O&M) plan will be provided by the project consultant. The O&M plan for the treatment system will be developed as part of this construction phase. Pertinent information such as cleanout procedures will be included.

The system is being designed to allow for permanent access for maintenance activities. This will allow access for replenishment of limestone and removal of precipitates in the settling basin. Existing access roads will be upgraded and maintained to allow for these maintenance activities to occur.

PROJECT ADMINISTRATION

Project administration will be provided by the ERLWA. The organization is incorporated and does have 501(c)(3) status. A fee of approximately two percent of the project budget will be used for match for project administration expenses.

APPENDIX A—DETAILED COST ESTIMATES AND YEARLY BUDGET BREAKDOWN

EMIGH RUN 8 ACID MINE DRAINAGE TREATMENT SYSTEM
ENGINEERS QUANTITY AND COST ESTIMATE
15-Feb-07

DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT COST	TOTAL COST
Access Roadway Maintenance & Repair	1	LS	$6,500.00	$6,500.00
Construction Entrance	1	LS	$1,500.00	$1,500.00
Clearing and Grubbing	1	AC	$1,000.00	$1,000.00
Salvage, Maintenance, and Replanting--Wetland Plants	1	LS	$1,000.00	$1,000.00
Geotextile, Class 2, Type A	25	SY	$3.00	$75.00
Excavation Cut	2700	CY	$7.00	$18,900.00
Excavation Fill	500	CY	$2.00	$1,000.00
Pipe--4-inch dia. SDR 35	580	LF	$8.00	$4,640.00
Pipe--6-inch dia. SDR 35	165	LF	$16.00	$2,640.00
Pipe--8-inch dia. SDR 35	10	LF	$18.00	$180.00
Pipe Fittings	1	LS	$1,800.00	$1,800.00
Pipping--8 inch dia slcpp	115	LF	$13.00	$1,495.00
Rodent Guard--8" dia	4	EA	$30.00	$120.00
Valves	3	EA	$1,400.00	$4,200.00
Cleanouts/Junction Boxes	3	EA	$1,200.00	$3,600.00
Manholes	3	EA	$10,000.00	$30,000.00
Siphon model 630	1	EA	$900.00	$900.00
Siphon model 836	1	EA	$2,000.00	$2,000.00
Limestone Aggregate for limestone cells (R-3 and R-4)	1030	TONS	$28.00	$28,840.00
Limestone Aggregate for Rock Aprons and Spillways	18	TONS	$25.00	$450.00
Trench Backfill	30	TONS	$22.00	$660.00
Misc. Concrete for Pipe Anchors	2	CY	$600.00	$1,200.00
Curled wood mat	20	SY	$3.00	$60.00
Turf Reinforcement Mat	30	SY	$17.00	$510.00
Seeding--Standard permanent	1	AC	$1,000.00	$1,000.00
Seeding--Wetland	0.1	AC	$2,000.00	$200.00
Mulching-Straw	1	AC	$500.00	$500.00
Live Stake Planting	1	LS	$500.00	$500.00
Cofferdams/Water Handling During Construction	1	LS	$6,000.00	$6,000.00
Silt Fence	500	LF	$3.00	$1,500.00
Protective fence	260	LF	$4.00	$1,040.00
Other Erosion and Sediment Controls	1	LS	$5,000.00	$5,000.00
Project Sign	1	LS	$700.00	$700.00
Subtotal Construction Materials				$129,710
Mobilization (10% of construction costs)				$12,971
Subtotal				$142,681
TOTAL CONSTRUCTION COST				**$142,681**

EXCAVATION COSTS ARE $7/CY AS EXCAVATED MATERIAL WILL BE MOVED OFF SITE TO BE

USED IN CONSTRUCTION OF ER HEADWATERS RELOCATION PROJECT OR FOR SITE STABILIZATION ACTIVITIES AT THAT SITE.

2007 GROWING GREENER GRANT APPLICATION
EMIGH RUN LAKESIDE WATERSHED ASSOICATION
ER-8 AMD TREATMENT SYSTEM CONSTRUCTION

5A. CONTRACTOR SALARIES

		HOURS				CONTRACTOR
DELIVERABLE	HOURLY RATE	TASK 1	TASK 2	TASK 3	TASK 4	SALARY
ENGINEERING SERVICES						
Professional Engineer	$75	20	100		32	$11,400
Professional Geologist	$75					$0
Project Professional	$75	20	60		24	$7,800
Engineering Technician	$45	4	60	24		$3,960
Geologic Technician	$45					$0
Survey Crew-2 man	$100				20	$2,000
CAD Draftsman	$45				24	$1,080
TOTAL SALARIES		44	220	24	100	$26,240

5B. OTHER CONTRACTUAL EXPENSES

ITEM	DESCRIPTION	TASK 1	TASK 2	TASK 3	TASK 4	TOTALS
Laboratory Analysis-water	$25/sample x 24 samples			$600		$600
Photocopies/reproduction	$0.15/copy	$150	$75		$75	$300
Drawings	$0.50/sf	$300	$150		$300	$750
Postage		$50	$10	$5	$10	$75
TOTAL OTHER EXPENSES		$500	$235	$605	$385	$1,725

TASK 1: Bid process and pre-construction coordination
TASK 2: Construction management
TASK 3: Post-construction monitoring
TASK 4: As-built drawings and O&M plan

APPENDIX B—SITE DESIGN INFORMATION

PROJECT DESIGN REPORT

EMIGH RUN 8 (ER-8)
ACID MINE DRAINAGE
TREATMENT SYSTEM

MORRIS TOWNSHIP, CLEARFIELD COUNTY, PENNSYLVANIA

PREPARED FOR:

EMIGH RUN LAKESIDE WATERSHED ASSOCIATION

PREPARED BY:

NEW MILES OF BLUE STREAM
103 FAIRWAY DRIVE
PHILIPSBURG, PA 16866

AND

ALDER RUN ENGINEERING
107 COAL STREET
OSCEOLA MILLS, PA 16666

FEBRUARY 2007

PROJECT DESIGN REPORT

EMIGH RUN 8 (ER-8)
ACID MINE DRAINAGE TREATMENT PROJECT

BACKGROUND

The Emigh Run 8 (ER-8) Acid Mine Drainage Treatment Project is proposed to treat an acid mine drainage (AMD) discharge located in Morris Township, Clearfield County, Pennsylvania. A project location map is provided in Appendix A.

Emigh Run is severely impacted by AMD. A restoration plan for the Emigh Run watershed was completed in December of 2004, and the plan identified priority treatment areas where reclamation or treatment is necessary in order to restore the water quality in Emigh Run. Restoration goals include restoration of the cold water fishery and restoration of water quality in Morrisdale Dam to a level sufficient to allow recreational use. The plan identified seven priority treatment areas in the watershed. The ER-8 discharge was identified as priority # 3.

The ER-8 discharge is a seepage area located at the toe of slope downgradient of a reclaimed surface coal mine area. The seepage emanates from the toe of slope below an existing haul road and below the edge of past mining activities. The seepage flows in a diffuse manner downgradient towards Emigh Run before becoming ponded along the stream bank. The ponding of the discharge creates a forested wetland area.

The ER-8 discharge contributes an average of 17 gallons per minute (gpm) of acid mine drainage to Emigh Run. The water quality has average parameters of a pH of 3.8, acidity of 134 milligrams per liter (mg/L), iron concentrations of 0.72 mg/L, aluminum of 13 mg/L, sulfate of 528 mg/L, and manganese of 28 mg/L. To put this water quality onto perspective, an aluminum concentration of approximately 1 mg/L prevents fish from living in a stream, and the aluminum concentration of the ER-8 discharge is 13 mg/L. See attached water quality data. The discharge degrades water quality in the main stem of Emigh Run down to the next acid mine drainage discharge, ER-13, which is located approximately 600 feet downstream of ER-8.

Restoration activities that target priorities #1 (Emigh Run Headwater Relocation Project) and #2 (ER-13 AMD Treatment Project) are underway, so addressing the ER-8 discharge, priority #3, is the next logical step in restoration of the Emigh Run Watershed. A passive treatment system is proposed to treat the ER-8 discharge to increase pH and alkalinity and reduce acidity and metals concentrations in the discharge. The design of the passive treatment system is described in detail in the following section of this narrative.

Treatment system component selection and sizing were performed by New Miles of Blue Stream based on their restoration concept for the Emigh Run Watershed. Alder Run

Engineering assisted with site design services and hydraulic analysis of treatment system components.

TREATMENT SYSTEM DESIGN

A passive treatment system consisting of two limestone cells and a settling basin are proposed to treat the ER-8 discharges. The treatment system component size was determined using standard design practices. The system will be constructed in upland areas bounded by forested wetlands, so the site design was constrained by the available space on the site. Individual treatment system components are discussed in the following paragraphs.

Limestone Cell 1

The initial treatment will consist of a limestone cell which will capture a portion of the flow seeping from the reclaimed hillside. The cell will be excavated into the ground to a depth that will allow the ER-8 discharge to be intercepted at the base of the hillside/toe of slope. Two gradations of limestone are proposed in the cell: larger, PennDOT Class R-4 rock on the bottom to provide larger voids and allow upflow through the stone, and smaller R-3 aggregate on the top as in a standard limestone cell.

The limestone cell will provide needed alkalinity which will allow for metals, primarily aluminum, to precipitate in the settling basin. Because of the lack of iron in the discharge, reducing conditions are not necessary to prevent iron coating of the limestone, and compost materials are not proposed for this treatment cell.

As with any limestone treatment system, small amounts of aluminum will precipitate within the treatment cell. The aluminum concentration is relatively high at this site, and the aluminum may cause precipitation and clogging to occur. Routine flushing events will be conducted to maintain the integrity of the system.

This cell was designed to allow for flush events to occur to stop the aluminum from clogging the pore space and decreasing permeability. A grid-like piping system which will allow for maximum flushing to occur will be provided. The cell will have both an automatic flushing device, along with a valve for manual flushing. An automatic dosing siphon will flush the top 30 inches of the Class R-3 limestone. A manual valve will allow periodic flushing of the 18 inches of larger bottom limestone material.

The design size of 55 ft by 28 ft (top of freeboard) with a total of 146 tons of limestone is based on 10 monthly samples collected from March 2003 to March 2004. Additional grab samples have been taken periodically to insure there is no change in water chemistry or flow. Design chemistry is provided in the table below.

ER-8: Design Water Quality Data Based on 90% CI

Flow	24 gpm
Design Flow	25 gpm
Acidity	150 mg/L
Iron	1 mg/L
Aluminum	13 mg/L
Manganese	29 mg/L

The calculations for sizing of the limestone cell allowed for a design life of 20 years based on the non-manganese acidity and a 24-hour residence time. The total limestone needed for maximum treatment of the ER-8 discharge is between 1000 and 1200 tons. This total tonnage is divided among two limestone cells, cell 1 and cell 2. High quality limestone with a range of 85% to 90% CCE equivalent will be used in the limestone cells to insure neutralization and precipitation events to occur.

The calculated limestone tonnage for limestone cell 1 of 146 tons is the first step in producing the overall net alkalinity of 90 mg/L. This limestone cell will not receive the full design flow of 25 gpm, so the cell will provide treatment of a portion of the flow. While additional limestone tonnage in this cell would have been ideal, the tonnage to be placed in the cell was determined based on available space. The additional tonnage required to treat the remainder of the flow will be provided in limestone cell 2.

The concept of directing flow from limestone cell 1 into limestone cell 2 to increase limestone contact time was examined. However, this concept was rejected due to the aluminum levels in this discharge. If the flow from limestone cell 1 were directed to limestone cell 2 instead of directly to the settling basin, it was feared that aluminum precipitation would quickly clog limestone cell 2 due to the additional alkalinity added to the flow from limestone cell 1. As a result, the limestone cell 1 discharge will be piped directly to the settling basin.

The limestone in cell 1 will be placed in two layers, requiring 98 cubic yards of space. The R-4 rock thickness will be 24 inches, while the R-3 thickness will be 30 inches. An underdrain piping system will be provided in the limestone to decrease preferential flow within the system and allow for the maximum area and volume of limestone to be flushed. A gridded system of 4-inch diameter perforated pipe will be provided for flushing of the upper limestone layer. A system of 6-inch diameter perforated pipe will be provided to flush the bottom portion of the limestone. The use of piping laterals was limited by the geometry of the cell.

The limestone cells were designed using DEP and BAMR accepted design parameters, along with calculations as accepted in the academic world of passive treatment research. The design steps involve a series of calculations to determine the tonnage of limestone necessary to neutralize acidity and precipitate metals in the measured discharge. The first

step involves calculating the non-manganese acidity. The second step calculates the limestone residence time based on the net alkalinity production. The design aims to produce a net alkalinity of at least 100 mg/L. This is a balance between cost and creating excess alkalinity. The next step is converting the residence time to a limestone layer volume. This includes using the flow, residence time and a bulk void volume. This volume is then converted to a tonnage of limestone. The final step is accounting for additional limestone to insure that efficiency is maintained for the 20 year lifespan of the system. It uses flow, predicted net alkalinity, years and an assumed percentage for $CaCO_3$ purity. This additional limestone is added to the third step of calculating a limestone volume and a final limestone tonnage is reached.

The water quality is also cross-checked using AMDTreat 4.0 to compare calculated tonnages. AMDTreat is assumed by many within DEP to be the standard to which passive treatment systems are designed, so we find it important to double check our volume calculations against their design methods.

Limestone Cell 2

Limestone cell 2 will treat the portion of the ER-8 discharge that is not directed to limestone cell 1. The cell will be excavated into the ground to a depth that will allow the ER-8 discharge to be intercepted at the base of the hillside/toe of slope. As with limestone cell 1, two gradations of limestone are proposed in the cell: larger, PennDOT Class R-4 rock on the bottom to provide larger voids and allow upflow through the stone, and smaller R-3 aggregate on the top as in a standard limestone cell.

The limestone cell will provide needed alkalinity which will allow for metals, primarily aluminum, to precipitate in the settling basin. Because of the lack of iron in the discharge, reducing conditions are not necessary to prevent iron coating of the limestone, and compost materials are not proposed for this treatment cell.

As with any limestone treatment system, small amounts of aluminum will precipitate within the treatment cell. The aluminum concentration is relatively high at this site, and the aluminum may cause precipitation and clogging to occur. Routine flushing events will be conducted to maintain the integrity of the cell.

This cell was designed to allow for flush events to occur to stop the aluminum from clogging the pore space and decreasing permeability. A grid-like piping system which will allow for maximum flushing to occur will be provided. The system will have both an automatic flushing device, along with a valve for manual flushing. An automatic dosing siphon will flush the top 48 inches of the Class R-3 limestone. A manual valve will allow periodic flushing of the 24 inches of larger bottom limestone material.

The design size of 132 ft by 30 ft (top of freeboard) with a total of 890 tons of limestone is based on the monthly sample data provided previously. The limestone quantity and the

size of the cell were limited by the available space on the site, as constrained by existing forested wetlands.

The calculations for sizing of the limestone cells allowed for a design life of 20 years based on the non-manganese acidity and 24-hour residence time. The total limestone required was between 1000 and 1200 tons. A total of 146 tons plus 890 tons or 1036 tons will be provided. Tonnage provided was limited by the available space on site. The total tonnage in both limestone cells will produce a net alkalinity of 90 mg/L.

The limestone in cell 2 will be placed as a 6 ft layer, requiring 687 cubic yards of space. Included under the limestone layer will be a grid-like piping system to allow for flushing, to decrease preferential flow within the system, and to allow for the maximum area and volume of limestone to be flushed. An underdrain system with 4-inch and 6-inch diameter piping will feed an automatic dosing siphon to drain the upper limestone layers. A system of 6-inch diameter piping will drain the bottom limestone of the cell using a manual valve.

In typical limestone cells, the limestone depth is limited to 3 or 4 feet, and one underdrain system is provided. In this situation, the limestone depths ranged from 4.5 to 6 feet, by design, and the bottom of limestone elevation was established so that the cells would intercept the ER-8 discharge. Two layers of underdrain are proposed for each cell in order to provide adequate flushing. Flushing of the top layer of underdrain will be triggered by an automatic dosing siphon. The incorporation of automatic dosing siphons was deemed to be very important due to the high aluminum concentrations. However, the siphons require a free surface at their outlet in order to function properly. Because of the need for a free surface, siphons could not be provided for the bottom layers of the limestone cells as the siphon discharge would be below the water surface elevation in the settling basin, eliminating the free surface necessary for discharge. In order to flush the bottoms of the limestone cells, manual flush valves and piping will be provided.

Settling Basin

The settling basin will serve as the final treatment component and will provide detention time to allow for the settling of metals before discharge to existing wetlands located along Emigh Run. The basin design allows for 40 hours of detention at the design flow rate of 25 gpm when the basin is initially constructed. After aluminum precipitates accumulate, the detention time will decrease to before cleanout.

Assuming a sludge ratio of 0.0012 gallons of sludge generated per gallon of discharge treated, precipitates will accumulate in the basin at an estimated rate of gallons (cf) per year. The initial design concept was for the basin to have a cleanout frequency of 5 years. However, due to space constraints, the basin will have a cleanout frequency of 2 years to maintain a detention time greater than 24 hours. Since the ER-8 discharges can be intermittent in nature, actual cleanout frequencies may be extended to periods longer than 2 years due to lack of inflow. Detention times of less than 24 hours may be adequate depending on particle settling rates. It would have been ideal to allow for

longer cleaning times, but space availability and potential wetland impacts prevent a larger basin from being constructed.

The top of the freeboard size of the settling basin is 135 ft by 35 ft with a water depth of 6.5 ft. The design capacity of the basin is 296 cubic yards.

OTHER CONSIDERATIONS

Other considerations applicable to the design of this treatment system are maintenance considerations, soils considerations, and wetland impacts. Each consideration is discussed in the following paragraphs.

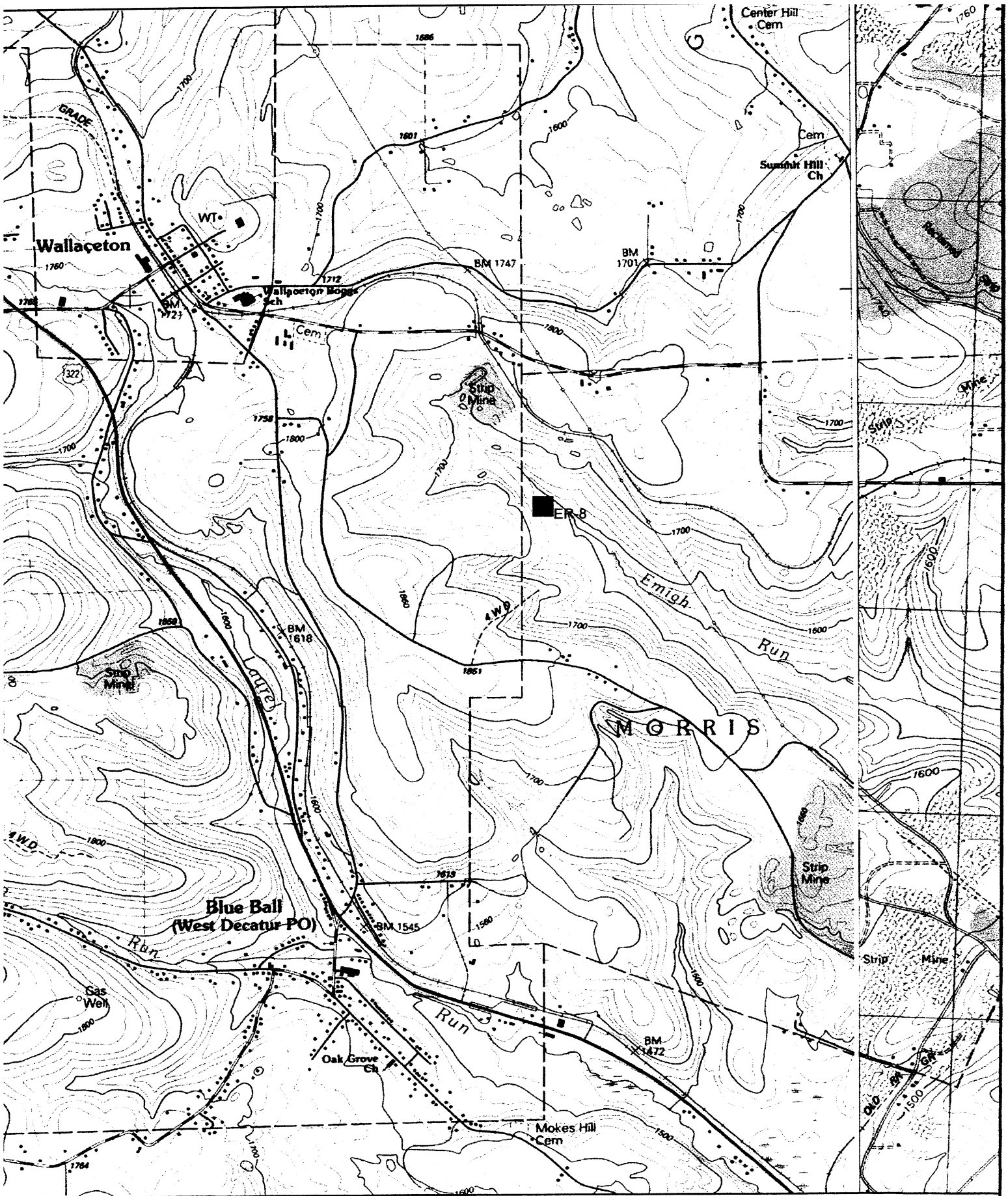
Maintenance considerations were addressed by providing access areas connecting the existing access road used for prior mining to the treatment cells. While the slopes of these areas are steeper than ideal slopes, the areas will allow equipment access for construction and maintenance purposes. Sufficient width and slope for access has been provided. In addition, a 10 ft berm width is provided between limestone cell 2 and the settling basin. The berm is of sufficient width to allow for access for maintenance for both the limestone cell and the settling basin.

Automatic flushing mechanisms have been provided in the limestone cells to prevent aluminum clogging of the systems and to eliminate the need for regular manual flushing. Manual flushing valves have been provided to allow the system to be fully flushed on a semi-annual basis. The manual flushing valves will allow for complete dewatering of the cells. An adjustable water level control structure and manual drainage valve have also been provided for the settling basin to allow for complete dewatering on an as-needed basis.

Site soils were considered in terms of constructability and compactibility. While nearby soils have been disturbed by mining, the soils on the site appear to be the original site soils, identified by the Clearfield County Soil Survey as Atkins silt loam. The soil is described as nearly level, deep, and poorly drained, with permeability that is slow to moderate in the subsoil and moderately slow to rapid in the substratum. Because of potential water issues, construction should occur during dry periods, preferably in summer, and provisions for dewatering the work area have been provided in the erosion and sediment pollution control plan. In terms of use for construction, these soils should be adequate for use in construction of berms, embankments, and sediment basin lining, especially if the most suitable materials are salvaged from excavated areas. Since upflow and infiltration into the limestone cells is important in this situation, no impervious or synthetic cell linings are proposed for the site.

Wetland impacts played a major role in the design of this system. The discharge is surrounded by forested wetlands. The system was designed to fit within available upland areas so no permanent wetland impacts resulted. A "no-impact" situation was deemed to be more desirable than construction of a larger treatment system with resultant wetland impacts. Emergency spillways and the settling basin discharge location have been

provided to maintain as much of the existing hydrology and flow patterns to the existing wetlands as possible.



Name: WALLACETON
Date: 3/13/2007
Scale: 1 inch equals 2000 feet

Location: 040.9446896° N 078.2707607° W
Caption: ER8 Construction Project Location Map, Wallaceton Quad

Data Collected:
Monitoring Point ER-8 is where numerous seeps from a reclaiming mine surface collected under an old haul road. The discharge collects and becomes ponded before its confluence with Emigh Run.

Date	gpm Flow	pH	Umhos /cm Cond	mg / L Acidity	lbs/day Acid Load	mg/L Alk	mg/L Fe	lbs/day Fe Load	mg/L Al	mg/L Mn	mg/L SO4
5/12/2003	5	3.7	1190	154	9.2821	0	0.38	0.0229	12.9	30.7	633
6/17/2003	21.6	3.8	1020	125	32.5479	0	0.35	0.0911	12.6	25.1	556
8/28/2003	9	3.7	1100	119	12.9106	0	1.17	0.1269	11.9	29.1	543
9/18/2003	16.6	3.7	1350	181	36.2198	0	0.65	0.13	16	29.5	630
10/22/2003	2	3.9	1330	142	3.4235	0	0.19	0.0045	13.2	27.8	561
11/18/2003	50	3.8	889	82	49.4246	0	2.33	1.4043	8.59	20.5	395
1/22/2004	4.5	4	1290	147	7.9742	0	0.21	0.0113	14	28.2	505
3/18/2004	25	3.9	1290	166	50.0273	0	0.24	0.0723	15.7	29.7	528
4/21/2004	26	3.8	1060	119	37.2975	0	0.6	0.188	12.3	30.1	510
5/26/2004	9.93	3.7	1030	102	12.2098	0	1.03	0.1232	9.07	26.3	416
Ave	16.963	3.8	1154.9	133.7	25.132	0	0.715	0.217	12.626	27.7	527.7
Max	50	4	1350	181	50.027	0	2.33	1.404	16	30.7	633
Min	2	3.7	889	82	3.424	0	0.19	0.005	8.59	20.5	395
75% Conf	21.969	3.836	1209.204	144.065	31.292	0	0.943	0.363	13.461	28.759	554.575
90% Conf	24.123	3.852	1232.578	148.527	33.943	0	1.041	0.425	13.82	29.215	566.142

APPENDIX C—SITE PHOTOGRAPHS

PHOTOGRAPHS

PHOTO 1: ER-8 treatment area

PHOTO 2: ER-8 discharge ponding near Emigh Run, treatment will occur above this site

PHOTO 3: Seeps associated with the ER-8 discharge

APPENDIX D—LETTERS OF COMMITMENT AND SUPPORT

LANDOWNER-GRANTEE AGREEMENT

This Agreement, made this _____
(Date)

by James Mease _____ EIN/SSN: _____
(Landowner(s)) EIN/SSN: _____

residing at _____ telephone # _____
2426 Ecuadorian Way #6
(city) Clearwater, Florida 33763
(ZIP)

and Emigh Run/Lakeside Watershed Assn, Inc
(Grantee Name)

Section 1—Agreement Provisions

A. Each undersigned landowner agrees to participate in the Growing Greener Grants Program and comply with terms set forth herein for the period covered by this Agreement. The undersigned landowner(s) represent and agree that:

1. Landowner(s) agree that the Commonwealth of Pennsylvania, Department of Environmental Protection ("PADEP") and/or Emigh Run/Lakeside Watershed Assn, Inc
(Grantee Name)
its employees, agents, and contractors shall have the right to enter upon the premises to perform the work described in Attachment D – Scope of Work.

2. The Conservation Practices ("CP(s)") needed to correct the identified problems shall be performed according to the Pennsylvania Soil and Water Conservation Technical Guide.

3. The CP(s) shall be maintained properly for their lifespan as specified in the Pennsylvania Soil and Water Conservation Technical Guide, the designated lifespan, or the permitted lifespan.

4. The terms of this Agreement shall cover the lifespan of the longest-lived CP paid for under this agreement.

5. By signing this Agreement, the Landowner(s) warrant that he/she is the co-owner of the real property on which the project is to be performed, or has secured a sufficient property interest.

6. Landowner(s) shall permit the PADEP and/or Emigh Run/Lakeside Water Ass.
(Grantee Name)
it employees and agents, upon presentation of proper identification, to enter upon my premises to inspect and observe CP(s) or any records associated with these CP(s) or other conditions of this Agreement.

7. This Agreement shall be binding on the parties, their heirs, legal representatives, successors, and assigns.

Section 2 – Additional Agreement Provisions

I, James H. Meas, P.O.A. for the William J. Meas Estate agree to the proposal, as long as it does not affect in any way, the on going Stripping operation of King Coal Sales, Inc.

James H. Meas

Section 3 – Agreement Signatures

In Witness Whereof, the parties hereto have executed this Agreement on the date first state above.

Landowner(s):

James H. Meas, P.O.A. for William J. Meas, Est.

Grantee:

Emigh Run/Lakeside Watershed Assn. Inc
Anna Mae Pezzulla, President

LANDOWNER-GRANTEE AGREEMENT

This Agreement, made this 11/2/2003
(Date)

by William F. Downey / Ann C Downey
(Landowner(s))

EIN/SSN: 180-36-8111
EIN/SSN: 175-54-8625

residing at 4160 Gray Hollow Rd
Phillipsburg (Beggs Town)
(city)

telephone # 342 4755

PA 16866
(ZIP)

and Morris Township
(Grantee Name)

Section 1—Agreement Provisions

A. Each undersigned landowner agrees to participate in the Growing Greener Grants Program and comply with terms set forth herein for the period covered by this Agreement. The undersigned landowner(s) represent and agree that:

1. Landowner(s) agree that the Commonwealth of Pennsylvania, Department of Environmental Protection ("PADEP") and/or Morris Township.
(Grantee Name)
its employees, agents, and contractors shall have the right to enter upon the premises to perform the work described in Attachment D – Scope of Work.

2. The Conservation Practices ("CP(s)") needed to correct the identified problems shall be performed according to the Pennsylvania Soil and Water Conservation Technical Guide.

3. The CP(s) shall be maintained properly for their lifespan as specified in the Pennsylvania Soil and Water Conservation Technical Guide, the designated lifespan, or the permitted lifespan.

4. The terms of this Agreement shall cover the lifespan of the longest-lived CP paid for under this agreement.

5. By signing this Agreement, the Landowner(s) warrant that he/she is the sole owner of the real property including any necessary easements or rights-of-way, that may be necessary to grant access for the completion and maintenance of the work.

Attachment D: Scope of Work

The Emigh Run Lakeside Watershed Association (ERLWA) in partnership with the Morris Township has received funding for the design with the intent to install a passive treatment system that will abate an abandoned mine drainage discharge, ER-8, that flows into Emigh Run. The ERLWA completed a watershed assessment and restoration plan and found the ER-8 discharge to be a significant pollution source to Emigh Run. We feel that in combination with the Emigh Run Headwaters Relocation Project, the ER-13 AMD Treatment Project, and re-mining efforts on the north side of the stream that the headwaters region of Emigh Run will be able to support aquatic life. Phase I of the project involved he design and permitting of this project which will be completed by June of 2007. Phase I will produce a detailed design of a treatment system that will address the discharge. Phase II of the project will include the construction and installation of a passive treatment system.

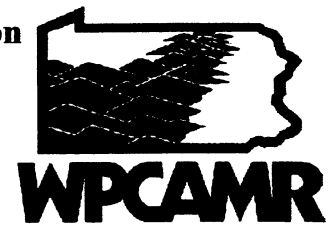
A detailed design is almost completed for this site. The site is comprised of a seepage are that is collecting water for a reclaimed surface mine area. The seeps gather at the toe of slope from the reclaimed surface mine to form a discharge to Emigh Run. The design consists of water capturing into one of two limestone cells before being piped to a settling basing before outflow to Emigh Run.

The area to be disturbed for the construction of the system will be 0.8 acres with an additional 3.2 acres for enhancement of existing access roads. Only temporary impacts to wetland will be encountered during construction. The impacted area will be re-seeded and normal conditions will remain.

An application of the Good Samaritan Act will be submitted to cover all aspects of the project. This Act will provide protections and immunities to landowners and those participatring in these activities once approved by the DEP. Eligible project are those that treat or abate water pollution caused by mining. This applicationo will be submitted to include everything necessary for the development and construction phase of the project.

If you have any further questions concerning the Scope of Work, please call our consultant, Jennifer Demchak, for further details, 814-343-5676.

Western Pennsylvania Coalition for Abandoned Mine Reclamation
226 Donohoe Road Suite 110, Greensburg, PA 15601
(724) 832-3625 (724) 832-3625 (fax)
bruce@wpcamr.org www.wpcamr.org www.AMRClearinghouse.org



March 29, 2007

Anna Mae Pezzula
Emigh Run Lakeside Watershed Association
P.O. Box 204
Morrisdale, PA 16858

REF: WPCAMR Letter of Acknowledgement

Dear Anna Mae Pezzula:

Thank you for informing us of the project "Emigh Run 8 Acid Mine Drainage Treatment Project" you have proposed for Growing Greener funds in the Emigh Run watershed. In order for us to become more familiar with your proposed project, we would like a copy of your application form, scope of work and a location map. Once the application is completed and submitted to the DEP, we are requesting that you send us a copy of your workplan including budget information for our files.

In addition, we may be able to assist you with your AMD related project if necessary. You can reach us at (724) 832-3625. Good luck with your proposal.

Sincerely,

Bruce Golden
Regional Coordinator

"Take a stand for reclamation"

1120 CONNECTICUT AVENUE, NW
SUITE 900
WASHINGTON, DC 20036
(202) 857-0166 FAX (202) 857-0162
www.NFWF.org

December 15, 2005

Anna Mae Pezzulla
Emigh Run Lakeside Watershed Association
2257 Deer Creek Road
PO Box 204
Lakeside, PA 16858

Re: **Abandoned Mine Drainage on Emigh Run (PA) #2005-0001-070**

Dear Ms. Pezzulla:

The Board of Directors of the National Fish and Wildlife Foundation (Foundation) has approved an award under the Chesapeake Bay Small Watershed Grants Program of $26,400 in federal funds to the Emigh Run Lakeside Watershed Association to support the *Abandoned Mine Drainage on Emigh Run (PA)* project. These funds are to be matched by at least $3,975 in additional non-federal contributions raised by the Emigh Run Lakeside Watershed Association specifically for this project. Please be sure to review the enclosed Matching Contribution Eligibility and Documentation guidance and note the requirements of the Certification of Matching Contributions that you will be required to submit upon completion of the Project, to ensure that the contributions you receive are eligible as match.

Enclosed please find two copies of the Grant Agreement, as well as one copy of the additional enclosures listed below. Because this Award involves federal funds, the Agreement and enclosures must be reviewed by your Chief Financial Officer or Treasurer. If the terms and conditions of the Agreement are acceptable, please sign and return both copies of the Agreement to the Foundation (you may submit a Request for Payment at the same time); you should retain the additional enclosures for your files. The Foundation will then countersign both copies of the Agreement and return one copy to you for your files. Signing this Agreement indicates an understanding of, and intent to comply with, all of its terms and conditions and those of the additional enclosures. Failure to return two signed copies of the Agreement within 60 days may result in funds being released to other conservation projects.

The Grant Agreement contains certain terms that are defined in the 2002 Glossary which may be located on the Foundation's website at <www.nfwf.org/glossary.htm>. Please be sure to print a

copy and refer to it while reading the Grant Agreement. If you do not have access to the Internet, please contact Ryan Burdge, who will mail you a copy.

On behalf of the Board of Directors and the staff of the National Fish and Wildlife Foundation, I wish you success with your project. Please contact Ryan Burdge with any questions or concerns.

Sincerely,

Tom Kelsch
Director, Eastern Region

Enclosures:
Grant Agreement (two copies)
Standard Provisions
Matching Contribution Eligibility and Documentation Guidance
Certification of Matching Contributions Form
Request for Payment Form
Project Phase Reporting Forms
Annual Financial and Programmatic Reporting Form
Final Financial Reporting Form
Evaluation Report

MCWC
P.O. Box 4
Osceola Mills, PA 16666
814-339-7607

March 27, 2007

DEP Grants Center
P.O. Box 8876
Harrisburg, PA 17105-8776

RE: Operation, Maintenance and Replacement Plans for ER-8 AMD Treatment Project

Dear Sir or Madam:

The Moshannon Creek Watershed Coalition (MCWC) has accepted the Operation, Maintenance and Replacement Plans for the Emigh Run 13 AMD Treatment Project. The group is partnered by the Emigh Run Lakeside Watershed Association (ERLWA), and Boggs and Morris Township. The group will be responsible for routine operations which will include: inspections, flushing, monitoring of water quality and other operations deemed necessary by the group.

Maintenance and Replacement issues will be addressed by the MCWC contacting local townships or excavating companies to see if they are willing to donate their time and equipment to perform necessary maintenance or repair activities that may arise. If the townships or excavating companies are unwilling to donate their time and equipment to maintenance, repair, or replacement issues, the group shall request funding from local, state, or federal sources to address maintenance, repair and replacement of the treatment system. MCWC funds are limited and in no way shall the group be responsible to pay for maintenance, repair, or replacement of the treatment system, unless the group decides to do so.

Sincerely,
MCWC

Art Beveridge
President

ALDER RUN
ENGINEERING

107 Coal Street • Osceola Mills, PA 16666
Phone & Fax: 814-339-6998
alderrunengineering@verizon.net
CIVIL & ENVIRONMENTAL ENGINEERING SERVICES

January 31, 2007

Mrs. Anna Mae Pezzulla
President
Emigh Run/Lakeside Watershed Association, Inc.
P.O. Box 204
Morrisdale, PA 16858

Subject: Emigh Run Grant Application
Matching Funds Commitment

Dear Mrs. Pezzulla:

Alder Run Engineering is pleased to be working with New Miles of Blue Stream, Inc., to support your efforts to restore the Emigh Run Watershed by proposing an AMD treatment project on the ER-8 discharge. We understand that you intend to apply for Growing Greener funds for the construction of a passive treatment system to abate AMD discharges to Emigh Run.

The DEP is seeking proposals for priority activities which reduce pollutant loads and result in measurable water quality enhancements in watersheds where streams are known to be impaired and proposals that implement the actions of existing watershed restoration plans. The proposed project would serve to improve water quality and remove the pollutants, primarily acidity and aluminum, from the main stem of Emigh Run. This project would implement remediation measures included in the restoration plan for the stream.

Alder Run Engineering and New Miles of Blue Stream, Inc. are willing to serve as project partners for this proposed project. We are happy to provide grant preparation services in the amount of $1395.00 at no cost to you. This reflects 18 hours of project professional labor at $75 per hour, reproduction fees of $40.00, and postage equal to $5. We look forward to working with you to restore Emigh Run to a trout fishery.

Sincerely,

Michelle M. Merrow

Michelle Merrow, P.E.
Civil Engineer

Cc: Project File
NMBS—Jennifer Demchak

NMBS
103 Fairway Drive
Philipsburg, PA 16866
814 343 5676
www.newmilesofbluestream.com

March 19, 2007

DEP Grants Center
P.O. Box 8776
Harrisburg, PA 17105-8776

RE: Emigh Run Mine Drainage Treatment Project: ER-8
Matching Funds Commitment

Dear Sir or Madam:

NMBS is pleased to support the on-going efforts to restore water quality in the Emigh Run Watershed by implementing mine drainage treatment projects. We understand that you intend to apply for a Growing Greener Grant for the construction of a treatment system to treat abandoned mine drainage.

The Growing Greener Program is seeking projects that reduce non-point source pollution loadings by implementing projects in target watersheds. The proposed projects would serve to improve water quality in Emigh Run, and Moshannon Creek by removing acid and metal loadings from the stream.

NMBS is willing to serve as a project partner for this project. We have already donated 20 hours of grant writing and project development at $75/hour. Our in-kind match would be a total of $1,500.00.

We look forward to working with all project partners in efforts to restore water quality in the Emigh Run Watershed.

Sincerely,
New Miles of Blue Streams

Jennifer Demchak
President

H. SCOTT CONKLIN, MEMBER

CAPITOL OFFICE:
101B EAST WING
P.O. BOX 202077
HARRISBURG, PENNSYLVANIA 17120-2077
(717) 787-9473
FAX: (717) 780-4764

CONSTITUENT SERVICE CENTER:
301 S. ALLEN STREET, SUITE 102
STATE COLLEGE, PENNSYLVANIA 16801
(814) 238-5477
FAX: (814) 863-3898

CONSTITUENT SERVICE CENTER:
209 E. PRESQUEISLE STREET
PHILIPSBURG, PENNSYLVANIA 16866
(814) 342-4872
FAX: (814) 342-4874

House of Representatives
COMMONWEALTH OF PENNSYLVANIA
HARRISBURG

COMMITTEES

AGRICULTURE AND RURAL AFFAIRS
APPROPRIATIONS
EDUCATION
ENVIRONMENTAL RESOURCES AND ENERGY,
MAJORITY SECRETARY
POLICY, MAJORITY VICE-CHAIRMAN

MEMBER

NORTHWEST CAUCUS
PENNSYLVANIA SPORTSMEN CAUCUS, TREASURER

WEBSITE: WWW.PAHOUSE.COM/CONKLIN

March 2, 2007

Rachel Carson
Growing Greener, Pennsylvania DEP Grants Center
State Office Building, 15th Floor
PO Box 8776
400 Market St.
Harrisburg, PA 17105-8776

Dear Ms. Carson:

I am writing on behalf of the Emigh Run Lakeside Watershed Association, who has filed a grant application with the Growing Greener Grant Program of the Department of Environmental Protection of Pennsylvania.

The Emigh Run Lakeside Watershed Association is requesting funds for a project that will remediate an acid mine drainage discharge emanating from a reclaimed surface mine in ER-8 of the Emigh Run Watershed. This funding specifically would allow them to construct a passive treatment system in priority area #3. Currently, there are two projects located in the headwaters that in conjunction with this proposed treatment system will improve water quality over a mile stretch of the main stem of Emigh Run.

I support this project and ask that their grant request be given full and favorable consideration. If I can be of any assistance, please do not hesitate to contact me at 814-238-5477.

Sincerely,

Scott Conklin

Scott Conklin
Centre County State Representative

cc: Tor Michaels, Chief of Staff

35TH DISTRICT
JOHN N. WOZNIAK

SENATE BOX 203035
THE STATE CAPITOL
HARRISBURG, PA 17120-3035
(717) 787-5400
FAX: (717) 772-0573

2307 BEDFORD STREET
JOHNSTOWN, PA 15904
(814) 266-2277

12 N. FRONT STREET
PHILIPSBURG, PA 16866
(814) 342-5920

399 WEST CHURCH STREET
SUITE J-100
LOCK HAVEN, PA 17745
(570) 748-1383

Senate of Pennsylvania

COMMITTEES

FINANCE, DEMOCRATIC CHAIRMAN
AGRICULTURE AND RURAL AFFAIRS
COMMUNITY AND ECONOMIC DEVELOPMENT
GAME AND FISHERIES
COMMUNICATIONS & TECHNOLOGY
CONSUMER PROTECTION
PROFESSIONAL LICENSURE
POLICY
LOCAL GOVERNMENT COMMISSION
JT. LEGISLATIVE AIR & WATER POLLUTION CONTROL & CONSERVATION COMMITTEE
LEGISLATIVE BUDGET & FINANCE COMMITTEE
CAPITOL PRESERVATION COMMITTEE
CENTER FOR RURAL PENNSYLVANIA

February 26, 2007

Department of Environmental Protection
Growing Greener – Grant Center
Rachel Carson State Office Building
15th Floor
P.O. box 8776
400 Market Street
Harrisburg, Pa. 17105-8776

To Whom It May Concern:

I am writing this letter to show my full support for the Growing Greener Application submitted by the Emigh Run Lakeside Watershed Association. The funds are needed for the construction of a passive treatment system on ER-8 also located within the Emigh Run Watershed in Morris Township, Clearfield County. The design and permitting phase of this project was completed in February 2007. This project will remediate an acid mine drainage discharge emanating from a reclaimed surface mine. This is the #3 priority in the watershed. This project in conjunction with two other projects located in the headwaters will improve water quality to 1.0 miles of the main stern of Emigh Run.

I admire the hard work of those involved. Through individuals such as the Association, this is a dream within reach. Funding is a major component in order to achieve success and it is my hope that this application will be approved to ensure another step in the completion of this project.

I appreciate the opportunity to write this letter on behalf of those involved and I wish them the best at attaining their goal. Please don't hesitate to contact my Philipsburg District Office if I can be of further assistance. The telephone number is (814) 342-5920.

Sincerely,

John N. Wozniak
State Senator
35th District

CLEARFIELD COUNTY CONSERVATION DISTRICT

650 LEONARD STREET - CLEARFIELD, PA 16830 - PHONE (814) 765-2629

March 7, 2007

Growing Greener
PA DEP; DEP Grants Center
Rachel Carson State Office Building
15th Floor
P. O. Box 8776
400 Market Street
Harrisburg, PA 17105-8776

RE: Passive Treatment Construction on ER-8, Morris Township, Clearfield County

To Whom It May Concern:

This letter will offer support to the Emigh Run Lakeside Watershed Association and their efforts to obtain a grant for the construction of a passive treatment system on ER-8 which is located in the Emigh Run Watershed in Morris Township, Clearfield County.

We understand that this project will remediate an acid mine drainage discharge emanating from a reclaimed surface mine.

The Clearfield County Conservation District supports this project and the efforts of the Emigh Run Lakeside Watershed Association as they work towards improving the waters of the Commonwealth.

Sincerely,

Susan G. Reed
District Manager

Clearfield County

PA Senior Environment Corps

650 Leonard Street ***Clearfield, PA 16830***

(814) 765-8130 or (814) 857-7748

March 5, 2007

Growing Greener
PA Department of Environmental Protection
DEP Grant Center
Rachel Carson State Office Building15th Floor
PO Box 8776, 400 Market Street
Harrisburg, PA 17105-8776

RE: Construction of passive treatment on ER-8, Morris Township, Clearfield County

Dear Grant Center:

I am writing this letter in support of the Emigh Run Lakeside Watershed Association's attempts to gain funding for construction of a passive treatment system on the ER-8 discharge located in the Emigh Run watershed. This site has already received funding for design and permitting, so construction of this system is the next step in cleaning up this discharge and improving water quality in Emigh Run and Morrisdale Dam.

Volunteers from our group have been assisting in restoration efforts in the Emigh Run watershed for several years now and will continue to aid the group in any way that we can as they move toward their goal of cleaning up Emigh Run/Morrisdale Dam.

Please consider ERLWA for funding under your grant program as they have our continued support as they move forward in their restoration efforts. Thank you!

Sincerely,

Raymond Sacolic
President

CAMILLE "BUD" GEORGE, MEMBER
ROOM 38B MAIN CAPITOL BUILDING (EAST WING)
P.O. BOX 202074
HARRISBURG, PENNSYLVANIA 17120-2074
PHONE: (717) 787-7316

275 SPRING STREET
HOUTZDALE, PENNSYLVANIA 16651
PHONE: (814) 378-6279

HOME PAGE ADDRESS:
www.pahouse.net/george

E-MAIL ADDRESS:
cgeorge@pahouse.net

House of Representatives
COMMONWEALTH OF PENNSYLVANIA
HARRISBURG

COMMITTEES

ENVIRONMENTAL RESOURCES AND ENERGY COMMITTEE, DEMOCRATIC CHAIRMAN
ENVIRONMENTAL QUALITY BOARD
PENNSYLVANIA INFRASTRUCTURE INVESTMENT BOARD
JOINT LEGISLATIVE AIR AND WATER POLLUTION CONTROL AND CONSERVATION COMMITTEE
WILD RESOURCE CONSERVATION BOARD
RULES COMMITTEE

March 6, 2007

Growing Greener Program
Pennsylvania Department of Environmental Protection
DEP Grants Center
Rachel Carson Office Building, 15th Floor
PO Box 8776, 400 Market Street
Harrisburg, PA 17105-8776

Dear Sir or Madam:

I am writing to express my support for the Emigh Run Lakeside Watershed Association and their requesting of a grant for the construction of a passive treatment system in ER-8 located within the Emigh Run Watershed in Morris Township, Clearfield County.

This project will remediate an acid mine drainage emanating from a reclaimed surface mine. This is priority #3 in the watershed. This project is in conjunction with two other projects located in the headwaters will improve water quality to 1.0 miles of the main stem of Emigh Run.

Please accept this as my full and wholehearted support for this group and their grant request. I ask you to support them in their efforts and help them to continue to make a difference in our most valued natural resource.

Sincerely,

Camille George

Camille "Bud" George
STATE REPRESENTATIVE

CG/rm

WATERSHED, SOURCE WATER, AND FLOOD PROTECTION GRANT APPLICATION 2007

DETAILED PROJECT DESCRIPTION

CONSTRUCTION OF THE EMIGH RUN 8 ACID MINE DRAINAGE TREATMENT PROJECT MORRIS TOWNSHIP, CLEARFIELD COUNTY, PENNSYLVANIA

SUBMITTED BY:

EMIGH RUN/LAKESIDE WATERSHED ASSOCIATION
P.O. BOX 204
MORRISDALE, PA 16858

APRIL 1, 2007