LOCUST GROVE, INC.
DSMRE Permit No. 897-0416 Am 1

Section 404 Application and Preconstruction Notification
September 2003

200301195

Submitted to:

Louisville District
Army Corps of Engineers

EcoSource, Inc. 112 Dennis Drive, Lexington, Kentucky 40503 Telephone (859) 277-8686

2. ***Information to allow the District Engineer to determine if a project will result in minimal adverse environmental effects on the aquatic environment, both individually and cumulatively.***

   a. ***A discussion of how the project has been designed and constructed to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable to the site.***

   Locust Grove has worked toward avoiding and minimizing impacts, both temporary and permanent, to the waters of the U.S. For avoidance, Locust Grove has determined that based upon available storage capacities elsewhere, Hollow Fill A-5 will not be constructed. The choice between abandoning Hollow Fill A-5 versus A-6 was predicated upon the storage capacity to be derived from Hollow Fill A-6, and the fact that Hollow Fill A-6 was in the lesser quality watershed. The Ecological Integrity Index (as shown in section b.i that follows) was as high as 0.37 within Hollow Fill A-5, whereas the highest EII in Hollow Fill A-6 was 0.22.

   Attempts to minimize impacts were reduced due to Hollow Fill A-5 being eliminated. The additional storage capacity needed was thereby derived from Hollow Fill A-6 and any other adjacent storage areas within the mine area. Required mitigation for Hollow Fill A-6 will offset any further aquatic resource impacts.

   Temporary impacts caused by the construction of the sediment pond have been minimized by two measures. The sediment pond has been located very close to the hollow fill toe. Also, appropriate pond removal measures will restore the stream to the pre-construction condition. These pond removal measures are provided in Section 3.

   b. ***An assessment of the waters of the U.S. proposed to be impacted by the project. The assessment must include the following information.***

      i. ***A general description of the aquatic environment affected, as well as the aquatic resources a reasonable distance downstream. For stream impacts, the areas to be impacted shall be assessed to include the stream pattern, profile and dimensions.***

      A stream assessment using the Eastern Kentucky Stream Assessment Protocol for High Gradient Streams was performed on the portion of the stream that would receive fill material. The two criteria of habitat and conductivity were collected and used for the assessment. The following table provides the results of the assessment. The habitat sheets and photographs are contained in Appendix C.

      The pattern, profile, and dimension survey was conducted of proposed Pond A-6 only. The survey is contained in Appendix B.

Stream Reach	Normalized Values		Ecological Integrity Index	Reach Length (feet)	Ecological Integrity Unit
	Stream Habitat*	Specific Conductivity* (µmhos)			
Hollow Fill A-5					
1 (perennial)	0.33 (123)	364 (0.41)	0.37	455	168.35
2 (intermittent)	0.11 (101)	316 (0.53)	0.32	565	180.80
3 (intermittent)	0.10 (75)	756 (0.10)	0.10	470	47.00
			TOTAL	1,490	396.15
Hollow Fill A-6					
1 (perennial)	0.34 (124)	0.10 (769)	0.22	600	132.00
2 (intermittent)	0.29 (119)	0.10 (638)	0.20	295	59.00
3 (perennial)	0.10 (85)	0.10 (812)	0.10	930	93.00
4 (intermittent)	0.12 (102)	0.10 (688)	0.11	300	33.00
5 (perennial)	0.10 (4)	0.10 (812)	0.10	770	77.00
			TOTAL	2,895	394.00

* Actual measured values are in parentheses.

2,300 - P
595 - I

ii. Date delineation and/or assessment was conducted.

The stream assessment was conducted on March 5, 2003.

iii. Name and contact information for individual conducting the assessment.

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iv. A site map indicating location of delineation and/or assessment and associated photographs in relation to the proposed activity.

The MRP, hollow fill and pond design sheets and photographs are contained in the Appendix. The stream assessment reaches are shown on the hollow fill design sheets.

c. A summary of the proposed impacts to the aquatic resources.

Negro Branch is a watershed that has active mining being conducted by Locust Grove on the original mining permit. A permitted sediment pond exists toward the head of the hollow to control drainage from the existing mining permit area. No residences or other buildings, with the exception of mining related structures, are present in the immediate watershed. Based on the existing habitat quality and the water chemistry the stream shows signs of significant historical impact.

A macroinvertebrate survey was not conducted for Negro Branch. However, based on the past and existing land uses within the watershed, a general assessment of the aquatic community can

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ADDENDUM TO THE MITIGATION PLAN OCTOBER 2003

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1.0 INTRODUCTION

In September 2003, Locust Grove submitted a Preconstruction Notification for DSMRE Permit No. 897-0416 Amendment 1. The intended mitigation for the permanent impacts was to pay into the State of Kentucky administered mitigation fund. Locust Grove had also provided written documentation that several landowners within the area of the mine were unwilling to have their land used for stream mitigation. Upon further discussion with the Corps of Engineers, the request to pay into the in lieu fund was denied until all other avenues for providing mitigation were exhausted. Afterwards, CreekBankers Inc., a third-party mitigation vendor, was contacted to provide off-site mitigation for this permit amendment.

2.0 BACKGROUND

The original PCN included two hollow fills and two embankment ponds as the areas of impact to jurisdictional streams. As agreed upon in the PCN document, only one of the hollow fills and one pond would be constructed. Only Hollow Fill A-6 and Pond A6 would be built.

The total functional loss created by Hollow Fill A-6 equaled 394.0 ecological integrity units (EIU). Since the pond is considered a temporary structure no functional loss was assigned to these facilities. Reference the original PCN document for further information on the functional assessments.

3.0 MITIGATION PLAN FOR HOLLOW FILL A-6

Locust Grove will use CreekBankers to provide adequate mitigation for Hollow Fill A-6. At this time, CreekBankers can only provide mitigation on a project-by-project basis. The following discussions outline the pertinent information for each mitigation area. Since CreekBankers has submitted documentation to the Corps to establish an actual stream mitigation bank, some of the following discussions place liability for completion and success on Locust Grove. Once the bank is approved, CreekBankers plans to rollover the mitigation areas in to the bank, which will relieve Locust Grove of any future liability.

3.1 Site Location

Two stream segments were chosen to provide enough EIU's to replace the losses caused by Hollow Fill A-6. These two sites are located in Perry County, Kentucky, within the North Fork Kentucky River drainage area (HUC 05100201). The locations of the mitigation sites can be seen generally on Figure 1 and specifically on Figure 2.

3.2 Baseline Information

Both mitigation sites are on first order streams that contain older hollow fills from previous mining. Each stream has an intermittent to perennial flow regime.

Site 1 is located on Elm Shoal Branch of the North Fork Kentucky River. Past mining dating back to at least the early 1980's impacted the stream. Within the total length of 840' that is included are two sections of impact. The upper portion was impacted by the construction of a hollow fill and a sediment pond. The lower portion was affected by the construction of another sediment pond that was non-related to the previous mining. This lower pond was built in order to provide sediment control for a repair that

was made to a slide that occurred further upstream. The stream in between the two ponds has an inadequate riparian zone filled with non-native vegetation such as Japanese fleeceflower and honeysuckle

Site 2 is located on Trace Fork of Sixteenmile Creek. Past mining dating to the early 1980's negatively impacted the stream. The total length to be included for mitigation is 280'. Included in this length is an old sediment pond.

In order to determine the functional value of the two mitigation sites, the Eastern Kentucky Stream Assessment Protocol for high gradient streams was applied. Site 1 currently provides 84 EIU's while Site 2 offers 28 EIU's. The following table provides the information used to complete the functional assessment. The EPA RBP sheets used to collect the habitat information are provided in Appendix B.

Functional Value of the Mitigation Sites.

Mitigation Site	Stream Length	Flow Regime	Normalized Habitat	Normalized Spec Cond	EII**	EIU***
1 (two pond areas)	300'	Perennial	0.1	0.1	0.1	30
1 (inadequate vegetation)	540'	Perennial	0.1	0.1	0.1	54
2	280'	Intermittent	0.1	0.1	0.1	28
					TOTAL	112

* Actual measured values are in parentheses
** EII – ecological integrity index
*** EIU – ecological integrity unit

3.3 Reference Stream

To determine how the stream reconstruction will be configured, a reference stream was surveyed (reference Figure 8). This particular reference stream was chosen based on the ability to duplicate the stream type at the mitigation sites and the stability of the reference channel. The watershed has not been timbered in at least 30 to 40 years.

The reference stream is a B4a/B1a stream type. The stream has a strong bedrock component that adds to the overall stability of the channel, as is present in many of the first order headwater streams in this region. The necessary information used to arrive at this classification is contained in the following table. Further documentation is contained in Appendix C.

Level II Stream Classification Information.

Bankfull Width	6.2'	Width of FPA	10.2'
Mean Depth	0.5'	Entrenchment Ratio	1.65
Bankfull Area	3.2 sq ft	Channel Material D_{50}	11.3 mm
Width/Depth Ratio	12.4	Water Surface Slope	0.08 ft/ft
Maximum Depth	1.3	Channel Sinuosity	1.08
Stream Type = B4a/B1a			

3.4 Goals and Objectives

The goal of the proposed mitigation plan is to remove the old ponds and reconstruct a stable channel and restore the riparian zone. The proposed plan must replace the total of lost EIU's from the construction of Hollow Fill A-6. Based on the mitigation work plan presented in Section 3.6 the proposed restoration will increase the functional value at mitigation sites 1 and 2 to a total of 508 EIU's. Since the existing conditions at the sites provide 112 EIU's, the restoration work will generate an additional 396 EIU's. Hollow Fill A-6 will eliminate 394 EIU's. The following table expresses how the EIU's were determined at each mitigation site. Supporting documentation for the projected values is contained in Appendix B.

Projected Functional Value for the Mitigation Sites.

Mitigation Site	Stream Length	Flow Regime	Projected Normalized Habitat	Projected Normalized Spec Cond	EII**	EIU***
1 (2 pond areas)	300'	Perennial	1.0	0.1	0.55	165
1 (inadequate vegetation)	540'	Perennial	0.6	0.1	0.35	189
2	280'	Intermittent	1.0	0.1	0.55	154
					TOTAL	508

* Projected values are in parentheses
** EII – Ecological Integrity Index
*** EIU – Ecological Integrity Unit

Based on the anticipated gradient at both sites, the stream is designed to be more of a B channel. Although the reference stream is a B channel, both of the mitigation sites will probably have sinuosities lower than the reference. Until the excavation is completed, sinuosity will be unknown. Since the original streams were in very high gradient conditions and the amount of material to excavate is only projected, the channel gradient will be determined by excavation and not necessarily by design. The as-built survey will provide accurate information concerning the final configuration.

3.5 Site Selection

Since no option existed to conduct mitigation on-site, two off-site locations were chosen for mitigation. These sites were selected based upon the lack of remaining mineable coal reserves, minimal potential for future site development, and the ability to obtain a conservation easement from the landowner.

3.6 Mitigation Work Plan

For Sediment Removal Areas

The first step in the construction process is to breach the existing embankments to begin dewatering. Straw bales will be placed at the breach point to provide sediment control for any discharge from the pond. Additional straw bales will be placed downstream to provide secondary control. If possible, the water will be rerouted from the channel that is being constructed.

CELRL-OP-FS (1145b) June 4, 2004

MEMORANDUM FOR RECORD

SUBJECT: Locust Grove, Inc.; KDSMRE #897-0416 Amendment No. 1; ID No. 200301195-odm; Nationwide permit consideration for surface coal mining activities.

1. On 15 December 2003 this office received an application submitted by EcoSource, Inc., on behalf of Locust Grove, Inc., requesting Nationwide Permit 21 (NWP 21) authorization for the subject surface coal mining operation near Hazard in Perry County, Kentucky. The proposed mine is referenced as Kentucky Department for Surface Mining Reclamation & Enforcement (KDSMRE) No. 897-0416 Amendment No. 1.

2. The application proposes constructing one (1) permanent spoil disposal fill and one (1) temporary sediment pond. The fill would impact 2,300 feet of perennial stream reach and 595 linear feet of intermittent stream reaches, which drain a watershed of 226 acres. The temporary sediment pond would impact an additional 450 feet of perennial stream reach. Also, 250 feet of perennial stream reach would be temporarily impacted by sediment transport as the "drainage corridor" between the hollow fill area and the sediment pond. These impacts are proposed to occur within Negro Branch of Big Creek. Notably, the mine plan was revised to reconfigure spoil storage thus avoiding 1,490 feet of permanent impacts by eliminating the use of a second hollow fill and 450 feet of temporary impacts from its associated sediment pond. A restoration plan for the temporary pond site has been proposed in the application that includes a pre-mining morphological description detailing the pattern, profile, dimension and substrate of that stream reach.

3. The applicant received authorization from the KDSMRE for permit No. 897-0416 Amendment No. 1 on 29 August 2003, and is eligible for the general 401 Water Quality Certification for NWP No. 21 from the Kentucky Division of Water.

4. The application that was received by this office on 15 December 2003 constitutes pre-construction notification (PCN) of the proposal. The U.S. Environmental Protection Agency (USEPA), Kentucky Division of Water (KDOW), U.S. Fish and Wildlife Service (USFWS), Kentucky Department of Fish and Wildlife Resources (KDFWR), and the Office of Surface Mining (OSM) were notified of the proposal by a faxed letter dated 16 December 2003. A copy of the application was forwarded to each agency on the same day. The above-mentioned agencies were given 10 calendar days from 22 December 2003, to advise us if they would provide substantive comments and, if needed, an additional 15 days to forward them to this office.

SUBJECT: Locust Grove, Inc.; KDSMRE #897-0416 Amendment No. 1; ID No. 200301195-odm; Nationwide permit consideration for surface coal mining activities.

5. Comments from the KDFWR were received on 29 December 2003 recommending a 2:1 mitigation ratio for both temporary and permanent stream impacts, best management practices (BMP's) for sediment control and a minimum 100-foot wide riparian zone consisting of native species be reestablished along restored stream reaches. Mitigation measures incorporating BMP's and natural stream channel design (off-site) to offset the proposed aquatic resource impacts are discussed in item #13 below. The applicant proposes to reestablish a 50-foot wide riparian vegetation buffer consisting of native species along restored stream reaches, which would achieve a sub optimal rating using USEPA's *Rapid Bioassessment Protocol*. Due to degradation of the proposed site, a 50-foot wide buffer would adequately replace the existing riparian forest.

6. On 30 December 2003 Mr. Darvin Messer, CELRL-OP-FS, conducted a pre-construction site visit of the project area. Contour portions of the mining operation were underway with evidence visible from the contour that the in-stream sediment pond had been constructed. For safety reasons (i.e.- walking to the pond below active mine areas), a follow-up visit was scheduled with company personnel for the following day. On 31 December 2003, Mr. Messer and Mr. Todd Hagman, CELRL-OP-FS, and Mr. Alfred Collins, Locust Grove, returned to the site to confirm and document the constructed pond. Mr. Collins was advised during the visit to cease further discharges of fill to "waters of the United States" and was informed that a Cease and Desist order would likely follow the visit.

7. Comments from the USFWS were received on 12 January 2004 stating that potential habitat for the federally listed Indiana bat (*Myotis sodalis*) may exist on the project site, but the issue was adequately addressed by KDSMRE. Therefore, the USFWS "believes that any potential effects to federally listed species would not be attributable to the Louisville District's proposed permitting action and that the requirements of Section 7 of the Endangered Species Act have been satisfied". The USFWS further recommended that the applicant provide perpetual protection to the mitigation areas through a conservation easement. Protection of mitigation sites is analyzed as an element of risk using the *Stream Ratio Calculator* within the *USACE Eastern Kentucky Stream Assessment Protocol* as discussed in item #13 below.

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8. On 15 January 2004 a formal Cease and Desist Order was issued to Locust Grove and review of the application was suspended pending consideration by the USEPA of further enforcement action.

9. On 28 January 2004 Mr. Messer revisited the project site. The footprint of hollow fill A-6 was found cleared and grubbed in preparation for the construction of the structure. The site preparation resulted in significant quantities of earthen material, woody debris and root wads being deposited in the stream channel. Photo documentation was collected and subsequently forwarded to the USEPA for consideration of additional enforcement measures.

10. On 17 February 2004 this office received notification from USEPA of their acceptance of the role of lead enforcement agency pursuant to the 1989 *Memorandum of Agreement (MOA) between the DA and EPA concerning Federal Enforcement for the Section 404 Program of the Clean Water Act*, Section III (D)(1)(b).

11. On 1 June 2004 this office was notified by USEPA, Locust Grove and their legal counsel, Marcus P. McGraw, of Greenebaum, Doll & McDonald, PLLC, that an agreement had been reached resolving the enforcement issues. Review of the application resumed with the telephone contact of resource agencies soliciting any further potential comments concerning the project or the settlement agreement. No other comments were added or expected from the resource agencies.

12. In evaluating this proposal, the boundaries of the area subject to the Corps' consideration of individual and cumulative adverse effects were limited to the "waters of the United States" within the watersheds of the streams in item #2. It is also noted that any impacts to historic resources have been addressed with the State Historic Preservation Officer (SHPO) in the KDSMRE permit process. Also, it is determined that the proposal will have no effect on federally listed threatened or endangered species or critical habitat.

13. The stream ecosystem integrity of these systems was evaluated using information obtained during the 30 & 31 December 2003 and 28 January 2004 site visits and provided by the applicant and their consultant. Current project assessment of aquatic resource debits/credits are derived from a functional assessment model, *USACE Eastern Kentucky Stream Assessment Protocol*, by applying a *Stream Ratio Calculator* that

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incorporates an Ecological Integrity Index (EII) per running foot of the proposed impact/mitigation reach length(s) with impact/mitigation construction timing (to assess for temporal losses) and risk of mitigation failure. The reaches of the stream that would be permanently impacted by the construction of hollow fill are proposed to be mitigated off-site through an arrangement with a third-party vendor. The mitigation sites are located on Elm Shoal Branch of the North Fork Kentucky River and Trace Fork of Sixteenmile Creek within the North Fork Kentucky River 8-digit Hydrologic Unit Code (HUC). A Best Management Practices (BMP) plan has been proposed which would minimize overall stream loss and minimize stream degradation through environmentally sensitive mine plan design and operation. The material deposited to construct the dam of the temporary sediment pond would be removed during the reclamation phase of the mining operation and the stream channels restored. The applicant has submitted pre-mining descriptions of stream morphology (i.e., pattern, profile, dimension and substrate) to serve as the target for post-mining stream restoration.

14. Based on my review of the information provided by the applicant and their consultant, the State approved mining permit, the site visits performed on 30 & 31 December 2003 and 28 January 2004, the comments received during the Pre-Construction Notification comment period, the language pertinent to the Nationwide Permit (NWP) authorization under 33 CFR 330, No. 21 (Surface Coal Mining), as published in the Federal Register dated January 15, 2002, and guidance for implementation of NWP 21 from our Regulatory Headquarters (CECW-CO/Regulatory, 19 March 2004), it is concluded that the project, with the following conditions, would have no more than minimal individual and cumulative adverse effects on the aquatic environment. Thus, it is determined that the proposal meets the requirements for NWP 21.

1) Upon completion of the mitigation construction, as-built plans documenting the final post-mining conditions of the stream(s) shall be submitted to this office for review and approval.

2) The permittee shall adhere to the plans and conditions included in the 15 December 2003 application for Department of the Army Permit.

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