US Army Corps of Engineers
Pittsburgh District

January 1998

LOWER MONONGAHELA RIVER PROJECT LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED AND EXCAVATED MATERIAL

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

ADDITIONAL DOCUMENTATION TO THE LOWER MONONGAHELA RIVER NAVIGATION SYSTEM FEASIBILITY STUDY FINAL ENVIRONMENTAL IMPACT STATEMENT (DECEMBER 1991)

Executive Summary

(December 1997)

LEAD AGENCY: U.S. Army Corps of Engineers, Pittsburgh District

TITLE: Locks and Dams 2, 3, and 4, Lower Monongahela River Project, Disposal of Dredged and Excavated Material, Final Supplemental Environmental Impact Statement; Additional Documentation to the Lower Monongahela River Feasibility Study Final Environmental Impact Statement, December 1991.

CONTACT: Additional copies of this information may be obtained by submitting a written request to: Chief, Natural and Cultural Resources Branch, U.S. Army Corps of Engineers, Pittsburgh District, 1000 Liberty Avenue, Room 2038, Pittsburgh, PA 15222-4186.

BACKGROUND: The United States Army Corps of Engineers, Pittsburgh District, has prepared this Supplemental Environmental Impact Statement (SEIS) associated with the Lower Monongahela River Project, Locks and Dams 2, 3, and 4, Disposal of Dredged and Excavated Material. A comprehensive review of alternative means of satisfying the project's disposal requirements has been undertaken. This undertaking included engineering and economic considerations, the potential for environmental, social, and cultural impacts, and potential beneficial uses for this material.

The Disposal of Dredged and Excavated Material is a project component of the authorized navigation improvement project for the Lower Monongahela River. Specifically, the excavation requirements associated with this project include but are not limited to the New Gated Dam structure and appurtenant features to be constructed approximately 400 feet upstream of the existing Locks and Dam 2, fixed crest dam at river mile (r.m.) 11.2 on the Monongahela River, Braddock, Pennsylvania, New Locks 4 structure and appurtenant features replacing existing Locks 4 at r.m. 41.5 on the Monongahela River, Charleroi, Pennsylvania, removal of existing Locks and Dam 3 structures and appurtenant features at r.m. 23.8 on the Monongahela River, Elizabeth, Pennsylvania, and Pool 3 Dredging from river mile 23.8 at Elizabeth, Pennsylvania to r.m. 41.5 at Charleroi, Pennsylvania. The total excavation quantity for the project is estimated at 3.4 million cubic yards.

DISPOSAL ALTERNATIVES: This SEIS has explored a variety of alternative disposal options to identify the most environmentally, socially, culturally acceptable, and economically feasible alternatives to meet the project disposal requirements. A new subparagraph (f.) Recommended Disposal Plan has been added to SECTION 7. This subparagraph highlights the three alternative disposal options the District recommends to satisfy the project disposal needs.

The primary upland disposal site identified in this final SEIS is Victory Hollow located

on the left bank of the Monongahela River at r.m. 34.5, Carroll Township, Washington County, Pennsylvania. This site is a partially reclaimed strip-mined area and is capable of handling all of the project disposal needs, if required.

Two secondary disposal options are; (1) City of Duquesne, Regional Industrial Development Corporation of Southwestern Pennsylvania, (Duquesne-RIDC site) on the left bank of the Monongahela River at r.m. 13.8, City of Duquesne, Allegheny County, Pennsylvania, and (2) In-river disposal in Monongahela River Pools 2 and 3, r.m. 11.2 to r.m. 41.5, Allegheny, Westmoreland, and Washington Counties, and Allegheny River Pools 4, and 5, r.m. 24.2 to r.m. 36.3, Allegheny, Westmoreland, and Armstrong Counties.

The use of these two secondary disposal options will lesson impacts at the Victory Hollow site. The Duquesne-RIDC site is slated to accept all disposal needs generated from the New Gated Dam 2 project. This will lessen activities at Victory Hollow by two years. The Monongahela and Allegheny River pools have the potential capacity to accommodate a large portion of the Pool 3 Dredging. Improvements to aquatic habitat are anticipated from disposal of material in deep anaerobic holes of the Allegheny River which have been formed from years of commercial sand and gravel dredging operations.

AVAILABILITY: This Final SEIS has been distributed to Federal, State, local agencies, local interests, and concerned citizens who received the Draft SEIS. Also, the document was available for public inspection in the following public Libraries:

Bevier Engineering Library, University of Pittsburgh
Braddock Carnegie Library
Carnegie Library of Pittsburgh,
Carnegie Library of McKeesport
Clairton Public Library
Donora Public Library
John K. Tener Library, Charleroi
Samuel A. Weiss Community Library, Glassport
Monessen Public Library and District Center
Monongahela Area Library

PUBLIC COMMENT: The U.S. Army Corps of Engineers encourages public participation in the National Environmental Policy Act (NEPA) process. Accordingly, the public was invited to provide written and/or oral comments to the District by the close of the scoping period on Friday, June 13, 1997. In addition, the Honorable Congressman Frank Mascara's staff hosted a public information gathering workshop on Thursday, May 22, 1997, in the Carroll Township Social Center. In the preparation of the Final SEIS, the District has provided responses to all written comments incorporated into a new subparagraph (d.) Comments and Responses to the Draft SEIS,

under SECTION 11, COORDINATION AND PUBLIC INVOLVEMENT. No verbal comments were received.

CORRECTIONS/CLARIFICATIONS: Appropriate revisions have been made in this document to reflect all comments received as a result of the agency and public review of the Draft SEIS. Revisions include typographical errors, grammatical improvements, updating the table of contents, and further clarification of information featured in the Draft SEIS. These are indicated with bold print type except for the new sections added as noted above. Following is a brief summary of the changes: (1) an Appendix A has been added featuring the Comment Letters received by the District during the public review period, (2) Appendix B has been added pertaining to the Victory Hollow detailed site plan activities showing site development plans for the disposal area, (3) new findings for in-river disposal associated with Allegheny River Pools 4 and 5, (4) a brief discussion on the in-pool disposal investigation of Monongahela River Pool 4, (5) a new subparagraph (f.), Recommended Disposal Plan, has been added to SECTION 7, DISPOSAL MEASURES PLAN FORMULATION, and (6) a new subparagraph (d.) under SECTION 11, COORDINATION AND PUBLIC INVOLVEMENT addressing responses received during the public comment period. Also, EXHIBIT No. 10, Clean Water Act - Section 404(b)(1) Evaluation has been revised to reflect the District's findings with respect to Allegheny River Pools 4 and 5 disposal activities.

LOWER MONONGAHELA RIVER PROJECT

LOCKS AND DAMS 2, 3, AND 4

FINAL

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

(January 1998)

FOR THE

DISPOSAL OF DREDGED

AND

EXCAVATED MATERIAL

ADDITIONAL DOCUMENTATION TO THE LOWER MONONGAHELA RIVER NAVIGATION SYSTEM FEISIBILITY STUDY FINAL ENVIRONMENTAL IMPACT STATEMENT (DECEMBER 1991)

Lower Monongahela River Project
Locks and Dams 2, 3, and 4

Disposal of Dredged and Excavated Material

Final
Supplemental Environmental Impact Statement
(December 1997)

ABSTRACT: The Pittsburgh District is conducting a comprehensive review of alternative measures to place excess materials generated by construction of the Monongahela River Locks and Dams 2, 3 & 4 project. Reviewing alternatives for satisfying the project's disposal needs is being done because of changed requirements and unresolved concerns about the disposal plan described in the project's Final Environmental Impact Statement (FEIS). This Supplemental Environmental Impact Statement (SEIS) is intended to satisfy the National Environmental Policy Act requirements for a broad range of alternative disposal measures rather than narrowly focusing on a single recommended plan. A broad, flexible approach to considering various disposal actions will enable the District to more effectively respond as circumstances, requirements and opportunities change over time. This SEIS considers the environmental, economic, social, and cultural consequences of the various disposal options.

If you would like further information on this statement, please contact:

Mr. James A. Purdy P.E.,
Chief, Natural and Cultural
Resources Branch
U.S. Army Corps of Engineers,
Pittsburgh District
1000 Liberty Avenue, Room 2038
Pittsburgh, Pa. 15222-4186
Phone: 412-395-7224

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT STSTEMENT

TABLE OF CONTENTS

1. SUMMARY 1
2. PROJECT BACKGROUND 1
3. PROJECT DISPOSAL ISSUES 2
4. EXCESS MATERIALS CONCERNS & IMPACTS 3
    a. Source, Type & Quantity of Materials 3
        1. Dam 2 Construction 3
        2. Reconstruction of Locks 4 3
        3. Removal of Locks and Dam 3 3
        4. Dredging of Pool 3 4
        5. Pool 2 Bank Clearing 4
    b. Quality of Materials 5
        1. General 5
        2. Previous Sampling & Testing: 5
            a. General 5
            b. January 1990 Navigation Channel Sediment Sampling 6
            c. October 1991 Near Shore Study 6
            d. October 1995 Submerged Bench Study 6
            e. Locks and Dam 2 Guardwall Extension & Conrail Bridge Piers Projects 6
            f. Environmental Site Assessments for HTRW 7
            g. Sampling & Testing for Sediment Characterization 7
        3. Results of Previous Sampling and Testing 8
            a. General 8
            b. Preliminary Sediment Characterization Sampling 8
            c. Locks and Dam 2 Guardwall Extension & Conrail Bridge Piers Projects 8

d. Environmental Site Assessments for HTRW 8
e. Comprehensive Sediment Characterization Sampling 9
4. Plan for Future Sampling & Testing 9
a. General 9
b. Dam 2 Project 9
c. Locks 4 Project 9
d. Pool 3 Dredging Project 9
5. Criteria for Quality-Based Disposal Decisions 10
a. Basis for Quality Criteria 10
b. Maximum Allowable Concentrations of Fill Contaminants 10
c. Risk Assessment 10

5. TRANSPORTATION CONCERNS & IMPACTS 11
a. Water Transportation Issues 11
1. General 11
2. Noise 11
3. Air Quality 11
4. Water Quality 11
5. Transporting Contaminated Materials 12
b. Land Transportation 12
1. General 12
2. Noise 12
3. Air Quality 12
4. Water Quality 12
5. Traffic/Roadway Impacts 13
6. Haul Routes/Community Impacts 13
7. Transporting Contaminated Materials 13

6. DISPOSAL MEASURES 13
a. Authorized Placement Sites for Fill 13
b. Need for Supplemental Placement Site 15
c. Alternative Disposal Measures 15
1. Upland Sites - Contractor Developed 15
a. Preliminary Screening 15
b. Preliminary Selection Criteria 16
c. Pangburn Hollow 17
d. Victory Hollow 17
e. Eldora Hollow 18
f. Lockview Hollow 18
2. Brownfield Sites 18
a. RIDC-Duquesne Site 18
b. River Mile Nine Sites 19
3. Commercial Disposal Facilities 19

4. In-River Disposal 19
a. Monongahela River 20
b. Allegheny River 20
5. Recycle Material 20
a. General 20
b. Landfill Cover 21
c. Allegheny County Sanitary Authority (ALCOSAN) 21
d. Recycling/Reutilization 21
1. Topsoil/Vegetation 21
2. Concrete Rubble 21
3. Commercial Aggregate Use 22
6. Disposal of Contaminated Material 22

7. DISPOSAL MEASURES PLAN FORMULATION 22
a. No Action Alternative 22
b. Assessment of Alternative Disposal Measures 23
c. Formulation of Alternative Disposal Measures 24
d. Results of Screening Analysis Alternative Disposal Measures 29
e. Recommended Placement Sites 30
1. General 30
2. Victory Hollow-Without Project Condition 30
3. Duquesne-RIDC-Without Project Condition 31
4. In-River Placement-Without Project Condition 31
a. Monongahela River 31
b. Allegheny River 31
5. Victory Hollow-With Project Condition 31
6. Duquesne-RIDC-With Project Condition 32
7. In-River Placement-With Project Condition: 34
a. Monongahela River 34
b. Allegheny River 35
e. Preferred Disposal Plan 35

8. CONCERNS & IMPACTS 35
a. Impacts/Issues 35
1. General 35
2. Victory Hollow Site: 36
3. Duquesne-RIDC 36
4. In-River Disposal 36
5. Contaminated Material 36
b. Water Quality 37
1. Victory Hollow Site 37
2. Duquesne-RIDC 37
3. In-River Placement 37

c. Surface Water (run-off) Quality 37
1. Victory Hollow Site 37
2. Duquesne-RIDC Site 39
d. Groundwater Quality 39
1. Victory Hollow Site 39
2. Duquesne-RIDC 40
e. Wetlands 40
1. Victory Hollow Site 40
2. Duquesne-RIDC Site 40
f. Terrestrial Habitat 41
1. Victory Hollow Site 41
2. Duquesne-RIDC Site 41
g. Fish & Wildlife Habitat 41
1. Victory Hollow Site 41
2. Duquesne-RIDC 42
3. In-river Placement 43
h. Endangered and Threatened Species 43
i. Air Quality 43
j. Cultural Resources 44
k. Socio-Economic Resources 44
1. Noise 44
a. Victory Hollow Site 44
b. Duquesne-RIDC 45
c. In-River Placement 45
2. Aesthetics 45
a. Victory Hollow Site 45
b. Duquesne-RIDC Site 46
3. Displacement of People 46
4. Community Cohesion 46
5. Desirable Community Growth 46
6. Tax Revenues 46
7. Property Values 46
8. Public Facilities and Services 46
9. Recreation 47
10. Employment/Labor Forces 47
11. Business and Industrial Activity 47
l. Environmental Justice 47
m. Present Land Use 48
n. Future Land Uses 48
o. Adjacent Land Uses 48
p. Beneficial Uses/Impacts 48

9. STATUS OF ENVIRONMENTAL COMPLIANCE 49

10. LIST OF PREPARERS 49

11. COORDINATION AND PUBLIC INVOLVEMENT:.....49
a. Coordination.....49
b. Public Involvement.....49
c. Supplemental Environmental Impact Statement.....50
d. Comments and Responses to the Draft SEIS.....51
1. Congressional.....51
a. Letter of June 10, 1997 from The Honorable Congressman Frank Mascara,.....51
2. Federal Agencies.....56
a. Letter of May 30, 1997 from The U.S. Environmental Protection Agency, Region III.....56
b. Letter of May 23, 1997 from The U.S. Department of the Interior, Office of the Secretary.....61
3. State Agencies.....61
a. Letter of May 30, 1997 from The Pennsylvania Department of Environmental Protection, Southwest Regional Office.....61
b. Letter of May 21, 1997 from Pennsylvania Fish and Boat Commission, Division of Environmental Services,.....63
c. Letter of April 29, 1997 from Pennsylvania Fish and Boat Commission,.....64
d. Letter of April 21, 1997 from Pennsylvania Department of Transportation, Bureau of Environmental Quality.....64
e. Letter of April 11, 1997 from Pennsylvania Historical and Museum Commission, Bureau of Historic Preservation.....65
4. Local Agencies.....65
a. Letter of June 4, 1997 from Historical Society of Western Pennsylvania.....65
b. Letter of April 7, 1997 from The Honorable Joseph J. Bendel, Mayor, City of McKeesport.....65
5. Private Groups and Individuals.....65
a. Letter of June 9, 1997 from Mrs. Marion Sevich.....65
b. Letter of June 9, 1997 from Mrs. Ida J. Mancinelli.....69
c. Letter of June 4, 1997 from Regional Industrial Development Corporation of Southwestern Pennsylvania.....69

12. CONCLUSION 70
REFERENCES 71

LIST OF TABLES

TABLE 1 - Placement Quantities and Time Frame by Project 5
TABLE 2 - Placement Site Assessments - Capacities/Easement-Fill - Areas/Owner 24
TABLE 3 - Single Site and Authiorized Plans - Placement of Project Disposal Material - Screening Level Cost Estimate 25
TABLE 4 – Comparison of Costs and Environmental, Social, and Economic Impacts - Single Site Alternatives and Authorized Sites 26
TABLE 5 - Screening Cost Analysis of Plans Using Victory Hollow and a Secondary Option 28
TABLE 6 - Reduction of Environmental, Cultural, and Social Impacts at Victory Hollow by Use of Secondary Site Placements 29

LIST OF FIGURES

FIGURE 1 - COURSIN HILL SITE
FIGURE 2 - BUNOLA SITE
FIGURE 3 - DUNLEVY SITE
FIGURE 4 – RIVER MILE NINE SITES
FIGURE 5 - LOCATION OF PA PERMITTED LANDFILL SITES
FIGURE 6 - FISH REEFS
FIGURE 7 - KELLY RUN LANDFILL
FIGURE 8 - ARNONI LANDFILL
FIGURE 9 - VICTORY HOLLOW SITE
FIGURE 10 - DUQUESNE-RIDC SITE
FIGURE 11 - DUQUESNE-RIDC SITE, TRUCK TRANSPORTATION OPTION

LIST OF EXHIBITS

EXHIBIT No. 1 - PROJECT EXCAVATIONS AND DISPOSAL FACT SHEETS
EXHIBIT NO. 2 - SEDIMENT CHARACTERIZATION INVESTIGATION - SAMPLING PLAN LOCATIONS
EXHIBIT NO. 3 - SEDIMENT CHARACTERIZATION INVESTIGATION - SUMMARY OF SAMPLING AND TESTING RESULTS
EXHIBIT NO. 4 - MAPS OF UPLAND DISPOSAL ALTERNATIVES CONSIDERED IN SCREENING ANALYSIS
EXHIBIT NO. 5 - RESOURCES AGENCY RESPONSES TO SCOPING LETTER
EXHIBIT NO. 6 - HYDRAULIC ANALYSIS OF IN-POOL DISPOSAL (MONONGAHELA RIVER)
EXHIBIT NO. 7 - FINE AGGREGATE EVALUATION OF MATERIAL FROM THE LOWER MONONGAHELA POOL 3 DREDGING PROJECT
EXHIBIT NO. 8 - ALLEGHENY RIVER - IN-POOL DISPOSAL CONCERNS
EXHIBIT NO. 9 - VICTORY HOLLOW - COORDINATION OF PUBLIC CONCERNS
EXHIBIT NO. 10 - CLEAN WATER ACT - SECTION 404(B)(1) EVALUATION
EXHIBIT NO. 11 - VICTORY HOLLOW - WETLAND SITE INSPECTIONS REPORT
EXHIBIT NO. 12 - RELATIONSHIP OF THE PROPOSED DISPOSAL ACTIVITIES TO ENVIRONMENTAL PROTECTION STATUTES AND OTHER ENVIRONMENTAL REQUIREMENTS
EXHIBIT NO. 13 - COORDINATION WITH THE FISH AND WILDLIFE SERVICE
EXHIBIT NO. 14 - SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT RECIPIENTS

LIST OF APPENDICES

APPENDIX A - DRAFT SEIS COMMENT LETTERS
APPENDIX B - VICTORY HOLLOW - DETAILED SITE PLAN EARTH DISTURBANCE ACTIVITIES PLAN

1. SUMMARY

The Pittsburgh District is conducting a comprehensive review of alternative measures for disposal of earth fill and concrete rubble produced during excavation for construction of the Lower Monongahela River Project, Locks and Dams 2, 3 & 4. Reviewing alternatives for satisfying the project's disposal needs is being done because of changed requirements and unresolved concerns about the disposal plan described in the project's Final Environmental Impact Statement (FEIS). This **Final** Supplemental Environmental Impact Statement (SEIS) is intended to satisfy the National Environmental Policy Act requirements for a broad range of alternative disposal measures rather than narrowly focusing on a single recommended plan. A broad, flexible approach to considering various disposal actions will enable the District to more effectively respond as circumstances, requirements and opportunities change over time.

2. PROJECT BACKGROUND

A project to replace Locks and Dams 2, 3 and 4 on the Monongahela River was authorized by Congress in the Water Resources Development Act of 1992. This action by Congress was based upon the recommendations of the Lower Monongahela River Navigation System Feasibility Report and Final Environmental Impact Statement (FEIS) which had been completed by the Pittsburgh District (the District) in December 1991. The *National Economic Development Plan* recommended in the above mentioned feasibility report, consists of replacing the present three locks and dams with two locks and dams. This would be accomplished by rebuilding Dam 2, replacing Locks 4 and removing Locks and Dam 3. Eliminating Locks and Dam 3, which provides a lift of 8.2 feet, will require raising the downstream pool and lowering the upstream pool so that they are the same elevation.

The FEIS for this navigation project was filed with the U.S. Environmental Protection Agency (EPA) on January 28, 1992. A notice of filing the FEIS was published by the EPA in the Federal Register on February 7, 1992. The Director of Civil Works signed a Record of Decision on December 17, 1992 documenting and concluding the NEPA compliance process.

As more detailed engineering and design studies are conducted after project authorization, project features and requirements are often identified that are new or changed from those described in the feasibility report and FEIS. Project features and requirements that were not addressed in any previous impact review need to be documented and reported upon in accordance with the National Environmental Policy Act (NEPA) and other applicable environmental protection statutes.

3. PROJECT DISPOSAL ISSUES

The disposal requirements for completing the authorized project are approximately 3.4 million cubic yards, resulting primarily from excavation for construction of Dam 2, Locks 4, and dredging in Pool 3. The authorized project, as described in the approved feasibility report, designated two narrow valley sites for placement of dredged and excavated earth fill material (fill). Any contaminated earth encountered that exceeds the requirement for unrestricted disposal will be disposed at a commercial site approved by the Pennsylvania Department of Environmental Protection (PaDEP). The two FEIS authorized sites designated for disposal of fill are located at Bunola Hollow in Forward Township and at Coursin Hollow in Lincoln Borough, both in Allegheny County.

There were unresolved objections from local residents and several government agencies to using either of these sites for the project's disposal needs. Residents were most concerned with the need for government relocation of 14 residences and one business. Agency concerns included the relocation of perennial streams in each of the areas and associated environmental impacts. Recognizing these concerns, the District committed to a post-authorization investigation of alternative placement sites for fill that would avoid or lessen these impacts, provided that they were found to be economically favorable and environmentally acceptable.

A comprehensive review of alternative means of satisfying the project's disposal requirements is presently underway. This review will include engineering and economic considerations, the potential for environmental, social and cultural impacts, and potential beneficial uses for this material. The District published a Notice of Intent to Prepare a Draft Supplement to the Final Environmental Impact Statement for issues related to disposal site selection in the December 8, 1994 Federal Register. **The Draft SEIS was circulated for public review and comment from Friday, March 28th, to Friday, June 13th, 1997. The Draft SEIS was posted in the Federal Register on Friday, April 11, 1997.**

In the Draft SEIS potentially significant environmental issues related to the project's disposal requirements are broadly grouped into the following three categories **and are reiterated in this Final SEIS:**

a. those pertaining to the nature of the excess materials to be disposed of,

b. those associated with transporting these materials from their origin to a disposal site, and

c. those associated with using a particular location for disposing of excess materials.

4. EXCESS MATERIALS CONCERNS & IMPACTS

a. Source, Type & Quantity of Materials

1. Dam 2 Construction

The main sources of excavated materials will be from both "in-the-wet" pre-excavated river bottom material prior to placement of cofferdam cells and **"in-the-wet"** excavated material **prior to placement of "float-in" precast concrete units for in-the-wet construction.** Additional concrete rubble material will be produced during removal of the existing dam and modifications to the upper guard wall of the lock. Overburden removal consists of an organic layer of material on the top surface of the river channel, silty, sandy, gravely, and clayey material, weathered bedrock, and concrete rubble. Approximately 750,000 cubic yards (c.y.) of project excavation material will be generated for disposal. This number may be lessened due to on-going engineering studies investigating "innovative" dam construction methods. A detailed FACT SHEET of the excavated material is shown in EXHIBIT No. 1, ATTACHMENT No. 1.

2. Reconstruction of Locks 4

The two main sources of excavated material from reconstruction of Locks 4 will be from "dry" excavated material after placement and dewatering of the respective cofferdams and "in-the-wet" excavation of the upstream pilot channel approach[1]. The overburden material within this river area consists mainly of silty sands and gravels overtop of a variable layer of clayey sands and gravels that in turn overlie weathered bedrock. Overburden, immediately behind the landwall, consists of silty sandy gravel backfill. Landward of this material is variable random fill and slag. Approximately 1,046,600 c.y. of project excavation will be generated for disposal. This number may be lessened due to on-going engineering studies investigating "innovative" lock construction methods. A detailed FACT SHEET on the excavated material is shown in EXHIBIT No. 1, ATTACHMENT No. 2.

3. Removal of Locks and Dam 3

The main sources of project excavation materials will be concrete rubble from the removal of the middlewall and riverwall, dam, mid-river pier, stone crib fill from cribbing along the river side of the riverwall below the dam, granular cell fill from the riverwall extension, and sediments removed from the upstream face of the dam. The abutment and portion of the dam, landwall and upper and lower guide walls will remain for left and right bank stability purposes, respectively. Approximately 70,000 c.y. of non-hazardous solid waste material will be produced from the removal of the lockhouse facilities which consists of scrap metal, steel piling, building debris, masonry, and

[1] The U.S. Army Corps of Engineers Waterways Experiment Station (USACE-WES) has currently conducted additional model studies to determine if alternatives exist which can reduce or eliminate the proposed pilot channel. These studies have concluded that the pilot channel is not required.

deteriorated timber cribbing. This material will be disposed of at a landfill licensed to accept demolition debris. A detailed FACT SHEET on the excavated material is shown in EXHIBIT No. 1, ATTACHMENT No. 3.

4. Dredging of Pool 3

The main sources of project excavation material will be sediments generated from Pool 3 navigation channel dredging. The dredging is required to maintain a minimum nine feet of draft after Dam 3 is removed. The dredged material will be predominantly sand and gravel with a minor amount of silt, although certain areas of the river have higher percentages of silt, with the river bottom having a thin surface layer of organic material with coal fragments. Approximately 1,442,500 c.y. of project excavation material will be generated for disposal. A detailed FACT SHEET on the excavated material is shown in EXHIBIT No. 1, ATTACHMENT No. 4.

5. Pool 2 Bank Clearing

The main source of project disposal requirements will be generated from the clearing of river bank debris in Pool 2 from river mile (r.m.) 11.2 to r.m. 23.8. Both left and right banks will be cleared of deadfalls and floatables, any rubbish will be disposed of at a commercial landfill facility. It is not anticipated to have to cut trees due to the normal fluctuation in pool elevation that occurs. TABLE 1 showing estimated quantities and the tentative project schedules is provided for reference. The pool-clearing project is considered minor and not shown in the table.

TABLE 1[2]
PLACEMENT QUANTITIES AND TIME FRAME BY PROJECT FEATURE

Project Feature	Placement Quantity (c.y.)	Description of Fill	Tentative Time Frame For Placement
Dam 2 Removal/ Gated Dam Construction	750,000	Concrete rubble and Stone, rock, silty sands and gravels, between r.m. 11.2 to 11.5	Spring 1999 to Fall 2003
Locks and Dam 3 Removal	70,000	Concrete rubble and Granular cell fill material, (coarse grained sand and gravel)	Spring 2006 to Spring 2007
Navigation Channel Dredging in Pool 3	1,442,500	Coarse grained silty sands And gravel, some clays, Dredged from 300' wide Channel between r.m. 23.8 to 41.3	Winter 2004 to Winter 2005
Locks 4 Construction	1,046,000	Concrete rubble, rock, fine-grained sand and gravel, clay sands and gravels, bank soil random fill, excavated between r.m. 41.4 and 42.0	Fall 2003 to Fall 2006
total =	3,308,500		

b. Quality of Materials

1. General

Material sampling for qualification of dredged and excavated materials for the project is an open and on-going process requiring extensive coordination and dialogue between the District and PaDEP. As each feature of the project is readied for contract, specific sampling and testing plans are submitted for review, comment, comment resolution, and approval by PaDEP.

2. Previous Sampling & Testing:

a. General

Four separate preliminary investigations have been conducted by the District between 1990 and 1995 to assess sediment contamination levels in the Monongahela River between Locks and Dams 2 and 4 in Braddock and Charleroi, Pennsylvania, respectively. Three of the preliminary investigations included the January 1990 navigation channel sediment samples, the October 1991 near shore study, and the October 1995 submerged bench study. The fourth investigations was a more detailed

[2] Estimated Quantities and Project Schedule as of February 1997. Actual dates and quantities may vary.

sediment sampling and testing program completed in February 1996 for the Locks and Dam 2 Guardwall Extension and Conrail Bridge Piers Projects. Several Phase I and Phase II site assessments for HTRW have been completed. Also, a detailed sampling and testing investigation for the Dam 2 project has been completed. The following paragraphs discuss these sampling and testing investigations.

b. January 1990 Navigation Channel Sediment Sampling

From the 23rd through the 26th of January 1990, the District collected river samples at nine sampling stations considered "worst case" contamination areas. These areas were selected in consultation with PaDEP within the navigation channel between r.m. 23.8 through r.m. 41.5. A total of 21 sediment samples were collected, in addition to 10 background water samples taken from the sediment-water interface. The specific locations are shown in EXHIBIT 2, ATTACHMENT No. 1.

c. October 1991 Near Shore Study

From the 8th through the 10th of October 1991, the District collected eighteen nearshore core samples from eleven sites between r.m. 11.2 and r.m. 41.2. The specific locations are shown in EXHIBIT 2, ATTACHMENT No. 2, sheets 1 through 3.

d. October 1995 Submerged Bench Study

Navigation Pool 3 will be lowered by 3.2 feet due to construction improvements. This change in pool level will expose the submerged benches along this reach of river, r.m. 23.8 to r.m. 41.5. The submerged bench is a gently sloping subaqueous alluvial feature at or just below the existing minimum pool stage. This feature was formed as a result of bank failure and erosion processes. Nine sediment samples were collected from the 6th through the 9th of October 1995 from the fine sediments of the submerged benches from r.m. 25.8 through r.m. 41.1 along the left and right banks. The specific locations are shown in EXHIBIT 2, ATTACHMENT No. 3.

e. Locks and Dam 2 Guardwall Extension & Conrail Bridge Piers Projects

At Lock 2, the Upper Guard Wall Extension is a series of 6 circular sheet pile cells extending approximately 300 feet upstream of the River Walls Upper Guard Wall. This extension **has been** further extended upstream with 7 additional circular sheet pile cells angled slightly riverward for approximately 400 feet. The additional cells are to improve the pilot channel approach hydraulic conditions. Predredging of sediments was required to facilitate the new construction. Sampling and chemical analyses were required to determine the best excavation and disposal methods.

The construction of two concrete collars encasing the center and right bank piers of the Conrail Bridge located approximately 500 feet upstream of the upper guard wall are proposed. Sediment excavations are proposed prior to retrofitting the piers. Therefore, sediment sampling and testing is warranted for determining the best excavation and disposal methods.

Due to their close proximity, both of these projects were sampled at the same time. In November and December of 1995, sediment sampling was performed upstream of the existing Upper Guard Wall Extension Cells and at the Conrail Bridge Piers. Twelve sample locations were selected for the New Upper Guard Wall Extension Cell placement area and four sample locations were taken at the Conrail Bridge area. The specific locations are shown in EXHIBIT 2, ATTACHMENT No. 4, sheets 1 and 2, respectively.

f. Environmental Site Assessments for HTRW

Several environmental site assessments for hazardous, toxic, and radioactive waste (HTRW) have been conducted for the project.

Phase I and Phase II environmental site assessments for HTRW have been conducted at the Dam 2 Project Batch Plant and Laydown Area. The reports were completed in November 1995 and July 1996, respectively. An Environmental Assessment (EA) for the Dam 2 Project Batch Plant and Laydown Area and a Draft Finding of No Significant Impacts (FONSI) has been distributed for comment in January 1997 and is anticipated to be finalized in April, 1997. The work areas investigated for the Phase II investigation are shown in EXHIBIT 2, ATTACHMENT No. 5, areas A through E.

A Phase I environmental site assessment for HTRW has been conducted for the Locks 4 Project. The report was completed in October 1996. A Phase II investigation has been delayed until the final design is completed.

Also, a Phase I environmental site assessment for HTRW has been conducted for the Victory Hollow fill and off-loading areas. The report was completed in February 1996.

g. Sampling & Testing for Sediment Characterization

A site specific comprehensive sampling and testing for sediment characterization has been conducted for the Dam 2 project. The report was completed in February 1997.

3. Results of Previous Sampling and Testing

a. General

PaDEP recommends a tiered approach to evaluating the chemical content of sediments proposed for dredging. The first tier consists of five parameters; Total Petroleum Hydrocarbons, (THP); Total Organic Halides, (TOX); Lead; Total PCB's; and Chlordane. If the results of the chemical analysis are below PaDEP guideline values then the material is designated as acceptable fill for placement at a nonregulated facility. Subsequent tiers of sampling may be performed if these values are exceeded.

b. Preliminary Sediment Characterization Sampling

The first three of the sampling programs listed above were performed to obtain a preliminary assessment of sediment contamination. A summary of the results is shown in EXHIBIT 3, sheets 1 through 5. The results show that the sediments do not represent a hazardous level of contamination for the parameters tested that would necessitate disposal at a regulated facility. However, they do necessitate conditional reuse.

c. Locks and Dam 2 Guardwall Extension & Conrail Bridge Piers Projects

The results of the sampling and testing program for the Upper Guard Wall Extension project showed higher levels of contaminants. This was expected due to the close proximity of heavy industrialization at the area. A quality based decision for excavated material handling was employed for this project. A summary of these results is shown in EXHIBIT 3, sheets 1 through 5.

d. Environmental Site Assessments for HTRW

An Executive Summary of the Phase II investigation for the Dam 2 project Batch Plant and Laydown Area is shown in EXHIBIT 3, ATTACHMENT No. 2, sheet iii. The executive summary recommends that additional sampling may be required prior to off-site disposal upon completion of specific construction plans and that special health and safety procedures should be taken during drilling for rock anchor placement.

An Executive Summary of the Phase I investigation for the Victory Hollow Site is shown in EXHIBIT 3, ATTACHMENT No. 3, sheets i and ii. The executive summary recommends that no Phase II intrusive sampling for the site is required. The investigation revealed no potential for gross contamination at the site.

e. Comprehensive Sediment Characterization Sampling

The results of the comprehensive testing and sampling plan for the Dam 2 project is shown in EXHIBIT 3, ATTACHMENT No. 4, sheets ES-1 through ES-4. AWK Consulting Engineers of Pittsburgh, PA prepared the report for the District. The report identifies areas and quantities of materials that exceed the allowable levels of contaminants for disposal at a nonregulated facility. The following paragraphs describe this level of testing.

4. Plan for Future Sampling & Testing

a. General

The District will perform sediment characterization sampling and testing following the April 1996 PaDEP Dredging Guidelines or current PaDEP regulations for all project features involving dredged and excavated material. The PaDEP guidance calls for one chemical analysis per 10,000 c.y. of material excavated. Each project area has been subdivided into "management units" which correspond to the excavation limit of 10,000 c.y. of material. These comprehensive testing and sampling plan preparations are, will, or have been coordinated with PaDEP.

b. Dam 2 Project

The Dam 2 Project has an approved PaDEP sediment sampling and testing plan as outlined in Section 4.b.2.g above. All sampling was completed in late 1996 and sent for chemical analysis. A Report on Environmental Sampling and Testing for Sediment Characterization, February 1997, has been prepared for the District. This is the first of the three comprehensive testing and sampling plans to be completed.

c. Locks 4 Project

The Locks 4 sediment sampling and testing plan will be developed upon final design completion.

d. Pool 3 Dredging Project

Since the Draft SEIS was circulated for public review, PaDEP has approved the District's comprehensive sediment sampling and testing plan specifically for the Pool 3 Dredging project. The sampling and testing program was completed in August 1997. Currently, a draft report is under review by PaDEP and the District as well as the Nashville District who is the USACE Center of Expertise for HTRW. Conclusions of this report will be made available upon request.

5. Criteria for Quality-Based Disposal Decisions

a. Basis for Quality Criteria

In accordance with the policies in ER 1165-2-132[3], a phased approach has been employed to investigate the presence of chemical contaminants in the soils and sediments that must be excavated. In general, the phases have been; 1) To compile and evaluate available records and information; 2) To identify additional data requirements; 3) To plan and execute sampling and analysis programs to provide the necessary data; 4) To compile and evaluate the results of sampling and analysis efforts in a report to the design team; 5) To provide recommendations to the design team for integration of best management practices into the design and construction specifications for the respective projects with regard to soil and sediment excavation, handling, transportation, and disposal.

b. Maximum Allowable Concentrations of Fill Contaminants

The Project Criteria Standards for Soil are based upon the Pennsylvania Statewide Health Standards for Soils found in Appendix B-2 of PaDEP's Land Recycling Program Technical Guidance Manual and the April 1996 version of PaDEP's Dredging Guidelines. These Tables are shown in EXHIBIT 3, ATTACHMENT No. 5, sheets 1 through 3.

c. Risk Assessment

A Site Specific Risk Assessment may be selected as the environmental standard for upland placement in lieu of the Project Criteria Standards. According to Section 304 of the Land Recycling and Environmental Remediations Standards Act, if the background or the State Wide Health Standard (Project Criteria Standards for residential and/or nonresidential) are not achieved, risk assessment, and final reports will be developed using the procedures and factors established in this section. Variances to the standards will be based on extensive risk assessments that consider contaminant levels of fill material, the current conditions, and the proposed long term land use of the proposed fill areas by land owners and subsequent approval by PaDEP and appropriate health organizations.

[3] Engineering Regulation No. 1165-2-132; Water Resource Policies and Authorities - HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW) GUIDANCE FOR CIVIL WORKS PROJECTS.

5. TRANSPORTATION CONCERNS & IMPACTS

a. Water Transportation Issues

1. General

All disposal of dredged and excavated material will be placed in "spoil" barges which will either be moored against the cofferdam cells or dredging plant. It is anticipated that the primary dredging equipment will consist of a crane mounted clam shell bucket. Sediments from excavation within dewatered cofferdams will be by crane into "spoil" barges.

2. Noise

Noise levels generated by the construction activities within the project study area will be comparable to the present industrial activities of the region. Presently, temporary elevated noise levels occur from the close proximity to rail, highway traffic, and diesel powered tow boats.

3. Air Quality

The primary source of air quality concerns with transportation of dredged and excavated material will be particulate matter (dust) from unloading and wind erosion during open barge transportation to off loading facilities. The material will be saturated to moist when placed into the barges. The top surface may dry sufficiently on sunny days to cause a problem. The District will require sound construction practices and containment measures, such as water sprays and dust suppressants, to control dust during disposal activities in construction contracts.

4. Water Quality

In general, water quality problems will be mainly short term increases in turbidity caused by construction activities within the river and additional navigation traffic generated from the construction activities.

Increases in turbidity due to construction activities within the river such as the dredging operation in Pool 3, demolition activities at Dam 2, and Locks and Dam 3 would be localized and short term occurrences. The District will include sound construction practices and containment measures, such as a curtain wall, to control increases in turbidity.

The river is highly navigated with towboat traffic which continually disturbs the navigation channel river bed area during shallow flows and in areas of shallow draft. Any increase in traffic and subsequent increase in turbidity due to the disposal of dredged and excavated materials transportation would be considered minimal.

5. Transporting Contaminated Materials

Material that is above the allowable limits for unregulated disposal will be transported on the river by barge to a nearby off-loading facility. These contaminated materials will be isolated in a separate barge and transported to the off-loading facility in a manner that will isolate and contain the material. Dewatering of the material will be conducted in a manner to contain sediment resuspension. All measures as outlined in PaDEP's April 1996 Dredging Guidelines for contaminated material handling will be employed.

b. Land Transportation

1. General

For the upland placement sites investigated, temporary off-loading docking facilities will be constructed. An off-highway haul road will be constructed to the designated disposal area. It is anticipated that temporary railroad and state or local road crossings will be installed and include traffic signals and/or flagmen.

2. Noise

Most of the upland placement areas are in close proximity to railway, river, and highway traffic and are currently subject to temporary elevated noise levels from vehicular traffic and trains.

Ambient noise levels at upland placement sites in rural areas will be expected to be higher. Specific site assessments will be made on a site per site basis and the contractor's activities may be limited to daylight operations only.

3. Air Quality

The primary source of air quality concerns will include loading and unloading of dredged and excavated material and other debris for placement, vehicular traffic, mud and dirt carryover, wind erosion, material handling, and storage piles. The District will include sound construction practices and containment measures, such as water sprays and dust suppressants, to control dust during disposal activities in construction contract.

4. Water Quality

The upland disposal off-loading facilities will be developed with a comprehensive stormwater management plan and erosion and sediment control plan subject to PaDEP approval.

5. Traffic/Roadway Impacts

The District is concentrating on upland disposal sites that are adjacent to the river because hauling material over streets and highways is quite expensive and generally results in undesirable social impacts.

The use of an upland site will require a temporary haul road to be constructed from the off-loading facility to the disposal area. The District is anticipating having to cross a state route, SR 837 for the left bank sites explored and local roads for the right bank sites. Due to the high traffic levels along these routes it is anticipated that it will be necessary to place a temporary traffic signal at the crossing area. A signal operator's shelter will be constructed for traffic control if required.

The District is also anticipating having to cross railroads. These crossings will be coordinated with the respective railroad owners to obtain any necessary permits and right of way.

6. Haul Routes/Community Impacts

Anticipated traffic would be mainly from independent and company haulers traveling to the off-loading area for the daily activities. Due to the highly industrialized urban setting of the project study area, the roads are presently used by commercial and industrial traffic. The additional traffic anticipated from this activity should be considered minor.

7. Transporting Contaminated Materials

Dredged and excavated material that are segregated for disposal at a commercial or Resource Conservation and Recovery Act (RCRA) waste facility will be stored in such a manner that the sediments and any contaminants will be isolated from contact with or release into the environment.

The contaminated material will then be transported in accordance with the Pennsylvania Department of Transportation (PaDOT) Hazardous Materials Regulations 49 CFR 100-199, 40 CFR 263 and all state and local requirements, which include all necessary permits, licenses, and approvals. **A licensed transporter, licensed to transport the particular type of waste to be disposed of, will be required by the contract.**

6. DISPOSAL MEASURES

a. Authorized Placement Sites for Fill

The authorized plan includes two sites for the placement of fill generated by the navigation improvement project. Both sites are located within Allegheny County at

Coursin Hill, Lincoln Borough, and Bunola, Forward Township. Temporary work and road easements would be required at each site to accommodate off-loading facilities, haul roads, fill placement areas, and drainage diversion work upslope of the fill areas.

The Coursin Hollow Site is located on the right bank of the Monongahela River at R.M. 20 in Pool 2, directly across from the Clairton Coke Works. The Coursin Hollow Site is shown as FIGURE 1. The total site easement area is approximately 142 acres among 15 owners. Disposal activities will disturb 47 acres, accepting a site capacity of 1.0 million c.y. of disposal material. Access will be provided from an off-highway haul road from a proposed barge unloading and material staging facility at r.m. 19.8. This site involves acquisition of nine residential dwellings and support structures. This site was slated to receive the material from the Dam 2 Project.

This site is a narrow ravine with a perennial stream and encompasses an area above the river approximately 400 feet wide, which extends 2,800 feet upstream. This area is denoted on the USGS quadrangle as a previous strip mine. The majority of the ravine is vegetated by mature mixed hardwoods. Herbaceous undergrowth is sparse to moderate. Wildlife use of this habitat is diverse including numerous songbirds, amphibians, and reptiles. Previously disturbed areas generally have less wildlife use and biological diversity. The soil survey of Allegheny County describes this site as GQF, Gilpin-Upshur complex, very steep.

The Bunola Hollow Site is also located on the right bank of the Monongahela River at r.m. 27.0 in Pool 3. The Bunola Hollow Site is shown as FIGURE 2. The total site easement area is approximately 290 acres among 15 owners. Disposal activities will disturb 68 acres, accepting a site capacity of 2.9 million c.y. of disposal material. Access will be provided from an off-highway haul road from a proposed barge unloading and material staging facility at r.m. 27.0. This site involves acquisition of 5 single family residential dwellings and support structures and one commercial maintenance shop. This site was slated to receive the material from the Locks and Dam 3 Removal and Pool 3 Dredging Projects.

This site includes a forested flood plain terrace and extends up a narrow ravine along Bunola Run, dividing into three branches along its tributaries. Bunola Run is mapped as a perennial stream that has visual evidence of mine discharge degradation into the lower portion of the stream. The three branch areas are comprised of deciduous forest, industrial development, and residential areas. The deciduous forest is composed of mature, uneven-aged, mixed hardwoods. Wildlife use of this habitat is diverse including numerous songbirds, amphibians, and reptiles. The industrial component is composed of an old strip mine area and an automobile junkyard. These areas have less wildlife use. The residential area consists of five residents primarily located towards the bottom of the ravine. A hard-topped road extends through a portion of the site. The soil survey of Allegheny County describes this site as GSF, gilpin, Weikert, and

Ulleoka shaly silt loams, very steep; and SmF and SmD, strip mines with 8 to 75 percent slopes.

A third site, which was eventually dropped from consideration upon wetlands investigation, the Dunlevy Site is located on the left bank of the Monongahela River at r.m. 45.0 in Pool 4. The Dunlevy site is shown as FIGURE 3. The total site area is approximately 67 acres among one owner and is a level, partially wooded parcel containing two baseball fields. This site was slated to receive the material from the Locks 4 project. Due to the elimination of this site, the Locks 4 project material would be diverted to Bunola Hollow.

b. Need for Supplemental Placement Site

Public opposition to use the Coursin Hollow and Bunola Hollow Sites for placement of material was expressed during review of the Lower Monongahela River Navigation Draft Environmental Impact Statement and Feasibility Report. Opposition was also voiced at the October 22, 1991 public meeting and subsequent meetings with concerned residents and officials from Lincoln Borough and Forward Township. Resource agencies also objected to impacting perennial stream valleys at these sites. Further, the Coursin Hollow Site is located in an area not in compliance with the Clean Air Act (CAA) requirements for particulate matter (PM-10).

The primary public concern with these sites was the proposed relocation of 14 residents and one business to accommodate haul road construction and fill activity. Because of the strong opposition, the District committed to reevaluation after project authorization to seek cost-effective alternatives to the authorized sites that would be environmentally and socially acceptable.

The District published a Notice of Intent to prepare a Draft Supplement to the December 1991 FEIS for the disposal placement site selection in the December 8, 1994 Federal Register.

c. Alternative Disposal Measures

1. Upland Sites - Contractor Developed

a. Preliminary Screening

Through map studies and communication with land owners, the District identified twenty-eight upland sites as alternatives to the authorized sites. All but five of the upland sites were eliminated in the preliminary analyses. These five alternatives include an abandoned industrial site (see Brownfield Sites) in Duquesne, Pennsylvania, (Allegheny County), Pangburn Hollow (Forward Township, Allegheny County), Victory Hollow[4] and Eldora Hollow (Carroll Township, Washington County), and

[4] Prior report and correspondence references called this site 'Victory Hills' due to the proximity to the community of Victory Hills, also in Carroll Township. This site is now

Lockview Hollow (Fallowfield Township, Washington County). The project study plan area detailing the above mentioned sites is shown as EXHIBIT 4, sheets 1 through 5.

b. Preliminary Selection Criteria

The main criteria for selecting an upland site was primarily to provide sufficient capacity for anticipated quantities of fill material, availability of existing haul roads, adequate acreage for off-loading adjacent to the river, and accessibility to the site from the off-loading facility. Other criteria in the site evaluations included costs, utility relocations, residential and business relocations, constructibility, sentiments of local officials and residents, and the likelihood of cultural resource impacts. Early coordination also included a scoping letter to the PaDEP, U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), Pa. Game Commission (PGC), and Pa. Fish and Boat Commission (PFBC) requesting comments on the alternative measures for disposal. All agencies responded by letters and are shown as EXHIBIT 5.

EPA's primary concern was segregating clean and contaminated dredged material and noting all the different types of material to be disposed of. EPA also requested that the District produce a more in-depth comprehensive sediment sampling and testing plan for each project feature. This is currently being coordinated between the District and PaDEP.

USFWS's concerns include avoiding the best wildlife habitat at each site, disturbing only lower valued wildlife areas for disposal activities and avoiding disturbance of perennial streams and wetlands.

PaDEP's major concern is with disturbing perennial streams and wetlands, specifically at the Victory Hollow Site. Additional concerns were with river disposal and their preference to create more shallow water habitat with the material rather than fill in deeper holes in the Monongahela River and possibly use the material to fill deep holes (over 50 feet deep) in the Allegheny River Pools 4 and 5.

PFBC preferred the use of the previously disturbed areas of the selected upland sites and the avoidance of perennial streams. The in-river disposal is acceptable although they (PFBC) like PaDEP would also prefer the material to be used to create shallows or shore line irregularities for fish habitat.

PGC emphasized the use of the Duquesne RIDC site which would have the least adverse impact to wildlife. Also, previously strip-mined areas of the Victory Hollow and Lockview Sites would be acceptable to minimize the impacts to good quality

called Victory Hollow to avoid the misleading impression that disposal activities are proposed in Victory Hills.

wildlife habitat. Although, any site or sites that are chosen in which wildlife habitat is disturbed should have a mitigation plan developed to replace lost wildlife habitat.

c. Pangburn Hollow

The Pangburn Hollow Site is located on the right bank of the Monongahela River at r.m. 25 in Pool 3. The Pangburn Hollow Site is shown on sheet 4 of EXHIBIT 4. The total site easement area is approximately 290 acres among 3 owners. Disposal activities will disturb 155 acres, accepting a site capacity of 4.0 million c.y. of disposal material. Access will be provided from an off-highway haul road from a proposed barge unloading and material staging facility at r.m. 25.0.

This site is a ravine that includes a perennial stream and an area that was a previous surface mine. The surface mine still constitutes a large part of the proposed site. Vegetation includes various early successional trees, shrubs and herbaceous species. The ravine and undisturbed slopes are vegetated by uneven aged, mixed hardwoods. Wildlife use of the habitat is expected to be moderately diverse and includes songbirds, small mammals, amphibians, and reptiles. Mined areas generally support much less wildlife use and diversity. These earlier disturbed areas appear to be prevalent on this site. The soil survey of Allegheny County describes this site as SmF, strip mines with 25 to 75 percent slopes.

d. Victory Hollow

The Victory Hollow Site is located on the left bank of the Monongahela River at r.m. 34.5 in Pool 3. The Victory Hollow Site is shown on sheet 5 of EXHIBIT 4. The total site easement area is approximately 305 acres among 3 owners. Disposal activities will disturb 189 acres, accepting a site capacity of 5.0 million c.y. of disposal material. Access will be provided from an off-highway haul road from a proposed barge unloading and material staging facility at r.m. 34.5.

Most of this site is depicted as a previous strip mine on the USGS Quadrangle Map. Portions of the area have been reclaimed and are vegetated with various grasses and scattered shrubs. Areas not reclaimed consist of barren spoil with exposed slag deposits from years of dumping. Grassland habitat supports wildlife communities having low diversity including songbirds, small mammals, and possibly wild turkey. Areas not reclaimed support much less wildlife use and diversity. The total area of wetland delineation at the site is 1.0 acres of which 0.77 acres are located within the site easement limits. Full site utilization of 3.4 million c.y. would impact 0.154 acres of wetlands. The soil survey of Greene and Washington Counties, Pennsylvania describe this site as having UdF, Udorthents, smooth and steep; and UkB, Udorthents, gently sloping.

e. Eldora Hollow

The Eldora Hollow Site is located on the left bank of the Monongahela River at r.m. 38.9 in Pool 3. The Eldora Hollow Site is shown on sheet 5 of EXHIBIT 4. The total site easement area is approximately 104 acres among 1 owner. Disposal activities will disturbed 50 acres, accepting a site capacity of 3.6 million c.y. of disposal material. Access will be provided from an existing haul road and offloading facility at r.m. 38.9.

This site has an active disposal area on the lower (southern) portion of the site. The valley extends upslope for 2,000 feet then becomes a narrow ravine extending upslope approximately 1,500 feet. Road fill has created the northeastern section of the ravine. Vegetation on the road fill consists of crownvetch and scattered shrubs. Less than one half acre of artificially created wetlands is located on the site. Wildlife use of the forested habitat is expected to be moderately diverse and includes songbirds, white-tailed deer, small mammals, amphibians, and reptiles. The crownvetch cover and other disturbed areas support much less wildlife use and diversity. The soil survey of Greene and Washington Counties, Pennsylvania describe this site as having UkF, Udorthents, steep strip mines; and Dtf, Dorment-Culleoka silt loams, 25 to 50 percent slopes.

f. Lockview Hollow

The Lockview Hollow Site is located on the left bank of the Monongahela River at r.m. 40.7 in Pool 3. The Lockview Hollow Site is shown on sheet 5 of EXHIBIT 4. The total site easement area is approximately 25 acres among 4 owners. Disposal activities will disturb 15 acres accepting a site capacity of 450,000 c.y. of disposal material. Access will be provided from an off-road haul road and offloading facility at r.m. 40.7.

The site consists of a ravine 80 feet deep, 200 feet wide, and 1,000 feet long. The valley walls are extremely steep. Disposal material has been previously placed at the upstream portion of the site. Borrow material has been removed from the site along a 200 foot reach of PA State Route 88 frontage. Several utility lines cross through the site that may require relocation. The soil survey of Greene and Washington Counties, Pennsylvania describe this site as having UkF, Udorthents, strip mine, gently sloping, and Dtf, Dormont Culleoka silt loams, 25 to 50 percent slopes.

2. Brownfield Sites

a. RIDC-Duquesne Site

The RIDC-Duquesne Site, also known as the City Center[5] of Duquesne, Pa. (Allegheny County) is being developed for industrial and commercial use by the Regional Industrial Development Corporation (RIDC) Southwestern Pennsylvania Growth Fund.

[5] This site was formerly the U.S. Steel Duquesne Works. This placement site is referred to as the Duquesne RIDC site throughout this SEIS.

The site is located along the left bank of the Monongahela River at R.M. 13.0, shown on sheet 1 of EXHIBIT 4. This site was a previous steel mill facility. The site is approximately 1.7 miles long and 0.25 miles wide. The site is bordered on the east by the Monongahela River and the Union Railroad and tracks. The west side of the site is bordered by Duquesne Avenue (Pa State Route 837), Conrail, and Union Railroad track. The merging of the railroad tracks and sidings terminates the south end of the site. The north end is bordered by former mill property recently purchased by the Union Railroad.

b. River Mile Nine Sites

During the initial screening process, these sites were added upon a verbal request from the owner. The Park Corporation is currently restoring two brownfield sites in Homestead, City of Pittsburgh and Carrie Furnace, City of Rankin, Pennsylvania. These sites were the former J & L Steel Corporation and Carrie Furnace Corporation, respectively. The Homestead Site is located along the left bank of the Monongahela River at r.m. 8.0 and the Carrie Furnace Site is located along the right bank at r.m. 9.8. The total site areas are 500 and 110 acres, respectively. These sites are shown as FIGURE 4. Currently, restoration work at the site is on hold due to cultural resource investigations. These cultural resource compliance concerns make this site undesirable. Consideration for use of these sites will be left up to the contractor under the Value Engineering contract clause of any construction contract provided the above cultural resource concerns have been approved by the respective agencies.

3. Commercial Disposal Facilities

There are numerous commercially operated landfills in southwestern Pennsylvania licensed to accept project excavation materials containing non-hazardous contaminants and non-hazardous solid waste. These facilities' are shown as FIGURE 5. The uncertainties associated with the nature and concentration of the contaminants, the unit costs for disposal, availability of the commercial landfills at the time of construction activities, and the Department of Defense contracting regulations, preclude government selection of any particular landfill site. The project construction contractor's selection and use of a PaDEP permitted landfill and the procurement of a logistical, temporary or commercial shoreside facility for off-loading and disposing of project excavated materials will be considered under the Value Engineering Clause of the construction contracts.

4. In-River Disposal

The District evaluated disposal of the Pool 3 dredging sediments in Pools 2, 3 and 4 of the Monongahela River as well as the Allegheny River Pools 4 and 5. In-pool placement of any dredged or excavated material must comply with PaDEP dredging guidelines. Dredged material to be placed in Monongahela Pools 2, 3, and possibly 4

will be in deep holes maintaining the required draft for barge traffic. Placement of dredged material in Allegheny Pools 4 and 5 would be to replace commercially dredged material **approximately** restoring the original stream bed contour.

a. Monongahela River

The main criteria for placement of the dredged and excavated material into the Monongahela River Pools 2, 3, and 4 was to assure that no increase in the 100 year flood elevation would occur and that the material would remain stable on the channel bottom. The District has performed hydraulic analysis and computer modeling to verify the above criteria shown as EXHIBIT 6. In-pool disposal capacity for the Monongahela Pools 2 and 3 is approximately 700,000 c.y. of material placed between r.m. 19 through 24 in Pool 2 and r.m. 24 through 29 in Pool 3. **It has been determined that Monongahela Pools 4 can not accommodate placement of fill material without adversely impacting the 100 year flood elevation.**

b. Allegheny River

This alternative for disposal was suggested by PaDEP to mitigate for disturbances of the channel bottoms from commercial aggregate dredging operations. In certain areas, the pool depths are over 50 feet deep, are anaerobic at the bottom, and can not support fish habitat. Filling these holes would restore much needed fish habitat to the river and alleviate water quality problems. Additional correspondence from PaDEP, dated January 28, 1997, expressing the environmental impacts pertaining to water quality concerns and a local public concern, Tri County Trout Club, has petitioned it's concerns and are shown in EXHIBIT 8.

Initial preliminary capacity estimates show **that Pools 4 and 5 can accommodate approximately 30,000 and 90,000** c.y.[6] of material, **respectively. Also, this alternative has been determined to be economically acceptable. Currently,** more in-depth analysis of this option **is being investigated to determine the feasibility of increasing the quantity of material to be placed.**

5. Recycle Material

a. General

The District is committed to environmentally friendly and socially acceptable cost savings options for the disposal of the dredged and excavated material. Detailed investigations and analyses will be required to determine the overall feasibility and cost savings of each potential recycling and reutilization option discussed.

---

[6] Currently, additional investigations are being conducted to determine the feasibility of increasing these quantities. Placement of these quantities raises the river bed to elevations 710.0 and 720.0 (NVGD) for Pools 4 and 5, respectively.

b. Landfill Cover

There are 15 sanitary landfills in PaDEP's Southwestern Region which require earth fill on a daily basis for landfill cover. This option was not considered a practical, cost effective, long-term solution to the project disposal needs due to the irregularities that would occur between landfill needs and project schedule requirements. However, the District will allow contractor's to pursue negotiations with the Landfill Operators under the Value Engineering Clause of the construction contracts.

c. Allegheny County Sanitary Authority (ALCOSAN)

ALCOSAN contacted the District in 1994 to discuss the potential of mixing the sanitary sludge with dredged materials to produce high quality compost and topsoil. Although this alternative provides only a marginal reduction in the disposal site capacity requirements, the option appears to have merit from a low cost, beneficial use standpoint. This idea has since been dropped by ALCOSAN due to the economics of a ten-year burial time being required for the material to compost and be marketable. However, this option remains open upon ALCOSAN's request.

d. Recycling/Reutilization

1. Topsoil/Vegetation

All available topsoil and vegetation will be recycled for beneficial reuse during reclamation of any upland site. The existing topsoil will be temporarily stockpiled and reused as necessary during site restoration. Trees, brush, and stumps obtained during site clearing as well as any Pool 2 Bank Clearing Contract, will be shredded or stockpiled to be used as organic mulch or for wildlife habitat mitigation measures.

2. Concrete Rubble

The main use as stated in the December 1991 FEIS would be to utilize the concrete rubble for fish mitigation purposes to include the construction of fish reefs and create shallow water fish habitats. Based on district experiences with demolition of concrete navigation structures it is difficult to obtain a gradation suitable for reuse as stone armor protection and riprap. However, the rubble would be suitable for use as core materials within the proposed fish reefs. FIGURE 6 denotes the locations and preliminary plan and section of the fish reefs.

As an alternative for any excess concrete rubble the contractor would be given the option to take the concrete rubble to a recycling site for processing and commercial reuse. Concrete rubble is known to be accepted by the following company, Earth Products and Recycling Corp., New Stanton, Pa., which has the capability of recycling the rubble into reusable aggregate material. The recycling site is located at

approximately r.m. 13 in Duquesne, Pennsylvania.

Also, the Park Corporation, who is currently restoring a brownfield site in Homestead, Pa., (see Brownfield Sites) has expressed an interest in obtaining excess concrete rubble for processing into aggregates. They currently have the equipment capabilities for rubbelizing concrete structures and foundations.

3. Commercial Aggregate Use

The District has determined that there is little commercial use for the dredged material from Pool 3. The aggregates consist of softer sedimentary material with a substantial percentage of fine coal fragments that would be expected due to coal being the major commodity transported on the river. The dredge material is more susceptible to weathering than the Allegheny and Ohio River material, which is coarser and much harder, and is highly desired by the construction industry.

Two composite soil samples were obtained from Pool 3 and tested at the Ohio River Division Laboratories. Reviews of the laboratory results indicate that the sand and gravel aggregates do not meet fine and coarse aggregate specifications for use in concrete and asphalt. These results are shown as EXHIBIT 7. However, the materials are suitable for use as general construction fill.

6. Disposal of Contaminated Material

The PaDEP Bureau of Solid Waste Management document "PERMITTED SITES FOR THE SOUTHWESTERN REGION" lists various types of landfill in the following counties; Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, and Westmoreland. The listing was utilized to search for facilities near the Monongahela River project area. Two sites, the Kelly Run and Arnoni landfills were identified and contacted to verify their acceptance of petroleum contaminated material. Each of these two landfill operators have indicated that they would accept much higher levels of Total Recoverable Petroleum Hydrocarbons than our preliminary test results have shown. Other restrictions, such as moisture content, will need to be accommodated. Site and business address information on these landfills is shown as FIGURES 7 and 8, respectively.

7. DISPOSAL MEASURES PLAN FORMULATION

a. No Action Alternative

As previously noted, the Congressionally authorized project provides for placement of fill at Bunola Hollow and Coursin Hollow sites. For purposes of evaluating alternative placement options in this SEIS, use of the authorized sites constitute the 'no action'

plan. If new placement alternatives were not selected, these areas would be used as authorized.

b. Assessment of Alternative Disposal Measures

Each upland site was evaluated to determine the maximum amount of material that could be placed within the disposal area, the maximum amount of easement area required for acquisition, and the associated maximum acreage that would be disturbed by placement activities within the acquisition area. Capacity quantities for upland sites were estimated based on placements that raised the valley bottoms to meet the upland topography. The capacity requirements at the brownfield site (RIDC) were based upon owner request. In-river capacities were estimated as previously stated. Other favorable assessments were the sites with the least number of owners and the ability of the site to handle all project excavation needs.

Consideration was given to the types of fill material that would be suitable for placement at each area. It was determined that any type of fill material would be acceptable at each of the upland and brownfield sites. Concrete rubble and other construction debris, considered to be clean fill, would be covered with sufficient fill to assure revegetation. District experiences with other upland placement area developments have shown that river sediments can support revegetation efforts with little or no topsoil or special treatments. However, special treatment such as liming, fertilizing, placement of mulch, or mixing topsoil over the surface may be necessary to enhance revegetation.

The preferred material for in-river placement within the navigation channel is concrete rubble and the coarse-grained sand and gravel to be dredged from the navigation channel in Pool 3. In-river placement of coarse-grained material would create a smaller plume of turbidity than for fine-grained sediments and be less likely to impact water intakes in the affected pool(s).

Preliminary estimates for capacity and site easement and disturbance area requirements are shown in TABLE 2.

TABLE 2
PLACEMENT SITE ASSESSMENTS
CAPACITIES/EASEMENT-FILL AREAS/OWNERS

Placement Site	Approx. Mon River River Mile	Maximum Ease-Fill Area-Acres	Number of Owners	Material to be Placed[7]	Capacity (Cubic Yards)
Duquesne RIDC	12.8	MOA	1	Group A	750,000
Coursin Hollow	19.8	142/47	15	Group A	1,000,000
Pangburn Hollow	25.0	290/150	3	Group A	4,000,000
Bunola Hollow	27.0	230/56	15	Group A	2,900,000
Victory Hollow	34.5	305/189	3	Group A	5,000,000
Eldora Hollow	39.0	104/50	1	Group A	3,600,000
Lockview Hollow	40.7	25/25	4	Group A	450,000
In-River Mon Pool 2	19.0-23.7	------	------	Group B	400,000
In-River Mon Pool 3	24.0-29.0	------	------	Group B	300,000
In-River Allegny Pool 4 & 5	24.2-36.3	------	------	Group B	[8]**120,000**

[7] Group 'A' consists of material generated from all activities of dredging and excavating, excluding material that is found to be contaminated and in need of special disposal requirements. Group 'B' consists of material generated by dredging within the navigation channel and also concrete rubble.
[8] This initial estimate may be greater depending upon further on-going hydraulic investigations.

Other criteria used to assess the various alternative disposal measures included real estate costs associated with acquisition, site development, erosion and sediment control (E&SC), storm water management, any utility, residential and business relocation requirements, constructibility of the site, sentiments of owners, local officials, and residents, and the likelihood of cultural resource impacts. Early coordination with the respective state and federal agencies was obtained to consider their concerns and input.

c. Formulation of Alternative Disposal Measures

Placement plans were developed using one or a combination of the alternative disposal measures such that the total capacity could accommodate the placement of all fill generated by the navigation improvement project. This requirement reflects the District's goal to acquire one or more placement sites that could accommodate all material before commencement of major project construction and disposal material generation. Alternative disposal measures noted will allow the contractor(s) sufficient alternatives to explore cost saving benefits. The availability of a designated Government placement site for fill at all times throughout the overall project

construction period would eliminate the need to utilize commercial landfills for fill material, an unnecessary and costlier option. This strategy would also help ensure that project construction activities could proceed in a timely, cost effective manor. Placement plans were considered feasible if their overall cost was less than using the authorized sites and would not result in any significant environmental or social impacts.

The first method for assessing the alternative placement plans involved examining those upland sites that could accommodate at least all of the project disposal material. Three of the eight upland sites, Victory, Pangburn, and Eldora Hollows, met these criteria. TABLE 3 summarizes the costs of the three single site plans and the authorized plan. All material would be transported from the construction areas to an off-loading area by barge and transported to the fill area either by truck.

TABLE 3
SINGLE SITE AND AUTHORIZED PLANS
PLACEMENT OF PROJECT DISPOSAL MATERIAL
SCREENING LEVEL COST ESTIMATES
Oct. 95 Cost Level (Rounded)

Placement Site	Real Estate & Site Developmnt ($000)[9]	Material Transport ($000)	Total Cost ($000)
Pangburn Hollow	$4,200	$5,000	$9,200
Victory Hollow	3,900	3,700	7,600
Eldora Hollow	3,600	4,400	8,000
Authorized Sites	7,400	3,500	10,900

[9] Includes real estate easement, erosion and sediment control, and storm water management costs, where appropriate. Excavation, placement and site restoration costs per c.y. of placement material were assumed to be approximately equal for all upland sites.

The Victory Hollow site is the least costly, showing a $3 million savings over the authorized sites. Use of one of the single site alternatives would save between 2 to 3 million dollars over the authorized sites. Other impacts relating to environmental, social, and cultural aspects are shown in TABLE 4.

TABLE 4
COMPARISON OF COSTS
AND ENVIRONMENTAL, SOCIAL, AND ECONOMIC IMPACTS
SINGLE SITE ALTERNATIVES AND AUTHORIZED SITES
Oct. 95 Cost Level (Rounded)

Alternative	Cost million	Environmental Impacts	Social Impacts	Cultural Impacts
Pangburn Hollow	$9.2	•Relocate 1 perennial stream; •Impact (@)125 acres forest supporting mod. diverse to div. wildlife; •Impact scattered areas of saturated soils and ponding;	•Relocate 1 ut. line; •Heavy truck traffic, cross S.R. 2001 (2,800 Veh./day); •Conrail track, 1-xng, (4 trains/day); •Conflict w/owner over land use •Transfer Dam 2 matl thru Locks 3	•Subsurface testing would be required to determine cultural impacts over lower half of the site.
Victory Hollow	$7.6	•Impact (@) 0.7 acre of wetland •Impact (@) 55 acres of grassland & forest supporting low div. wildlife & 65 acres of slag; •Noise and dust Impacts to Palmer Park users;	•Relocate 3 ut. line; •Heavy truck traffic across S.R. 837 (7,700 veh./day); •Conrail track,1-xng, (6-12 tr/day); •Transfer Dam 2 matl thru Locks 3	•Portion of slag mine area previously cleared by PaSHPO •Further investig. required at off-loading facility
Eldora Hollow	$8.0	•Impact (@) 0.2 acre of wetland •Impact (@) 50 acres forest supporting diverse wildlife;	•Relocate 2 ut. line; •Conrail track, 2-xng, (6-12 tr/day); •Eliminate off-load placement site used by dock owners •Transfer Dam 2 matl thru Locks 3	•Small valley bottom area may require testing to determine cultural resource impacts
Bunola & Coursin Hollows (Authorized Plan)	$10.9	•Relocate 2 peren. streams •Impact (@) 1 acre of wetland; •Impact (@) 125 acres of forest supporting mod div to div wildlife; •Create dust within CAA nonattainment area	•Relocate 14 residents, 1 business, & 5 utility lines	•High potential for cultural resouree impacts at Bunola off-loading area

Symbol and abbreviation definitions: (@) approximately; mod. diverse to div. = moderately diverse to diverse; bus. = business; S.R.= State Route; 1-xng = 1 Railroad Crossing; matl = material; ut. line = utility lines

Two of the above sites, Eldora and Pangburn Hollows, have conflicting land uses that would be an economic hardship to the owners and local interests. The Eldora Site is currently used for placement of dredged material primarily from commercial docks along the Monongahela River. Project disposal needs would bring this current site close to capacity and negate any future use. This site is anticipated to accommodate the disposal needs of present dock owners in Pool 3 that will require dredging activities and disposal needs to retrofit their docking sites due to the Pool 3 lowering of 3.2 feet. This site would be available to minor project feature requirements and will be noted in future contract specifications.

The current owner of the Pangburn Hollow site, Consol Coal **Company**, has prepared plans to develop this site for its own commercial use and strongly objects to Corps placement on this property. District use of this site could interfere with these plans and the associated economic benefit that would be afforded to the local community.

With the authorized sites, Coursin Hill and Bunola, being socially, economically, and environmentally unfavorable, the remaining upland site, Victory Hollow would appear to be the most favorable single site placement. Economically the site is the most cost effective. Also, this site does not require a perennial stream relocation and will entail less than 1 acre of wetland disturbance (if coupled with the use of other sites for disposal needs, any impact on the existing wetlands could be minimized or possibly eliminated). Currently, 65 acres of the 110-acre site are strip-mined and have little to no terrestrial or wildlife habitat benefit. Use of this site would have the beneficial effect of establishing vegetation on extensive areas of the exposed slag. The principal owner, Pine Oaks Development Corporation (PODC), is favorable to the acceptance of the project disposal material. Local residents have voiced opposition, however, future land use and development enhancements could have an economic benefit to adjacent land owners. Due to past industrial use of Victory Hollow, the PaSHPO has previously granted a clearance for a portion of the site with respect to cultural resources. The District has further investigated cultural resources of the site and submitted a report to PaSHPO. Further investigations **are ongoing** at the off-loading area. The detailed site plan is shown as FIGURE 9.

Additional plans were developed using Victory Hollow and a secondary placement site. The secondary placements site options and the project disposal material that they would receive are; (1) Duquesne-RIDC to receive Dam 2 material; (2) Lockview Hollow to receive Locks 4 material; (3) Monongahela River placement Pool 2 to receive Pool 3 dredging material; (4) Monongahela River placement Pool 3 to receive Pool 3 dredging material; (5) a combination of Monongahela River Pools 2 and 3 to receive Pool 3 dredging material; and (6) a combination of Duquesne-RIDC and Pool 3, which would receive Dam 2 and Pool 3 dredging materials, respectively.

Costs associated with transportation of materials were estimated assuming barge transfer of fill from construction area to the respective off-loading facility. Material transfer from off-loading to the fill area was assumed to be conveyer belt at Duquesne-RIDC and by truck at Lockview. In-river placement was only considered for concrete rubble and navigation channel dredging material. Fill transportation and deposition for the in-river requirements would be by barge. In-river placement was not considered economically feasible for the Allegheny River Pools 4 and 5 due to extensive transport and lockage requirements, however, this alternative may be readdressed. A summary of the results is shown in TABLE 5.

TABLE 5
SCREENING COST ANALYSIS OF PLANS
USING VICTORY HOLLOW AND A SECONDARY OPTION
Oct. 95 Cost Level (Rounded)

Secondary Site	Used for Placement of Mat. From[10]	Real Estate & Site Dev Cost ($000)[11]	Material Transportatn ($000)[11]	Total Cost ($000)[11]
(1) Duquesne-RIDC	Dam 2	3,500	1,500	5,000
(2) Lockview Hollow	Locks 4	4,500	3,800	8,300
(3) Pool 2	Pool 3 Dredging	3,500	4,500	8,000
(4) Pool 3	Pool 3 Dredging	3,600	3,700	7,300
(5) Pools 2 & 3	Pool 3 Dredging	3,200	4,500	7,700
(6) Duquesne-RIDC & Pool 3	Dam 2 and Pool 3 Dredging	3,200	1,500	4,700

[10] Placement of remaining material would be at Victory Hollow. Includes real estate easements, erosion and sediment control, and storm water management, where appropriate.
[11] Total costs, including placement at Victory Hollow.

Three plans involving placement at Duquesne-RIDC and/or Pool 3 result in a lower cost than the Victory Hollow single site alternative. Further, the plan involving placement in both Pools 2 and 3 is expected to cost less after the excavation and placement costs are accounted for at Victory Hollow. Lockview Hollow is not cost effective due to the very small capacity, which leads to a high fixed cost (site development and real estate) per c.y. of material. It was dropped from further consideration.

In addition to cost savings, use of a secondary site would reduce the required fill area at Victory Hollow and thereby reduce impacts at that site. In-river placement and the Duquesne-RIDC rate higher than Victory Hollow in constructibility since no highway crossings would be involved with either option. TABLE 6 summarizes these impact reductions at Victory Hollow.

TABLE 6
REDUCTION OF ENVIRONMENTAL, CULTURAL, AND SOCIAL IMPACTS AT VICTORY HOLLOW BY USE OF SECONDARY SITE PLACEMENTS
Oct. 95 Cost Level (Rounded)

Secondary Alternative	Cost Savings ($mill)	Environmental Impact Reduction	Cultural Res. Impact Reduction	Social Res. Impact Reduction
Duquesne-RIDC	$2.6	•Impact (@) 30 less terrestrial acres; *Eliminate Wetland encroachments.	•Similar to slightly less cultural resource investigations required	•Shorten fill activity duration by 24 months •Reduce noise and dust impacts to Palmer Park •Eliminate need for haulage thru Lock 3
Pool 3	$0.3	•Impact (@) 10 less terrestrial acres;	•Similar cultural resource investigations required	•Reduce site use Intensity over a (@) 6 month period[12]; •Would reduce noise and dust impacts to Palmer Park for that period
Pool 2 and 3	$0.0	•Impact (@) 20 less terrestrial acres; *Reduce wetland encroachment impacts	•Similar to slightly less cultural resource investigations required	•Reduce site use Intensity over a (@) 12 month period[12]; •Would reduce noise and dust impacts to Palmer Park for that period
Duquesne-RIDC and Pool 3	$2.8	•Impact (@) 40 less terrestrial acres; •Eliminate wetland encroachment impacts	•Similar to slightly less cultural resource investigations required	•Reduce site use Intensity over a (@) 36 month period[12]; •Would reduce noise and dust impacts to Palmer Park for that period •Eliminate need for lockage thru Lock 3

[12] Concurrent use of Victory Hollow Site by lock 4 and Pool 3 Dredging contractors would be eliminated

d. Results of Screening Analysis Alternative Disposal Measures

The screening analysis results provided ample evidence to abandon the authorized placement sites. The Victory Hollow upland site coupled with the secondary alternatives listed provide for a cost affective alternative which minimizes the environmental, cultural, and social impacts to the area. Use of the Duquesne-RIDC site has the potential for significant positive socio-economic impacts by assisting economic development of this brownfield site. However, for this site to be

environmentally acceptable prior to the acceptance of Dam 2 project material depends upon the site owner, RIDC, meeting certain conditions. These conditions include completing thorough characterizations of soil and groundwater to the satisfaction of PaDEP and compliance with the Land Recycling and Remediation Act, Act 2. The in-river disposal of material in Monongahela River Pools 2 and 3 and Allegheny River Pools 4 and 5 have the potential for environmental benefits associated with water quality and will require Section 404(b)(1) clearance from PaDEP.

e. Recommended Placement Sites

1. General

The primary upland placement site is Victory Hollow. The former industrial site which is currently being redeveloped by the RIDC for placement of material associated with the Dam 2 project disposal needs is also highly desirable for a secondary site to reduce impacts at Victory Hollow. The "Without Project" condition for each site, describing the future site conditions without fill placement, is described in the following sections below. The without project condition for the proposed upland placement sites is defined as a continuation of current trends at these areas. Also, the "With Project" condition for each site, describing the fill activities and post project condition with fill placed, is also described in the following sections below.

2. Victory Hollow-Without Project Condition

This site is located in Carroll Township, near the community of Victory Hills immediately, adjacent to Palmer Park in Donora as shown in FIGURE 9. Most of the area that would be used for fill and haul road activities have been disturbed by deep and strip coal mining, slag deposition by U.S. Steel Donora Works and slag mining activities that occurred from the 1930's through the 1970's. The strip and filled area was strip-mined in the 1960's and subsequently reclaimed to accommodate development as an industrial site. This area was revegetated in part with grasses and shrubs primarily designed for erosion control. Slag deposition and mining has impacted most of the slag-covered area between the strip mine site and SR 837. A portion of the slag-covered area is vegetated with upland secondary deciduous pioneer species typically found in previously disturbed areas. Off-loading would occur riverward of SR 837 within containment dikes on land built up by slag deposited by the former Wheeling-American Steel & Wire Plant. Currently, this area is not being used. One Conrail line crosses this property.

Left undeveloped, shrub and tree species with little wildlife value would slowly volunteer onto the site. Portions of the slag-covered area would likely remain unvegetated due to lack of suitable cover. The area riverward of SR 837 would likely either remain abandoned or be used for commercial or industrial purposes.

3. Duquesne-RIDC-Without Project Condition

This site is located along the left bank of the Monongahela River at r.m. 11.5 to r.m.15. The potential fill areas are within the property limits of the Civic Center of Duquesne. A fact sheet issued by the RIDC stated that several buildings associated with the former steel mill would be reused to provide approximately 1.5 million square feet for lease. Such development would probably occur even without the proposed placement of Dam 2 material.

4. In-River Placement-Without Project Condition

a. Monongahela River

The potential fill areas are in the Monongahela Pool 2 and Pool 3 reaches from r.m. 19 through 24 and r.m. 24 through 29, respectively. The dredging operation will take place in Pool 3 cutting a trapezoidal section to maintain a 11-foot draft and a 300-foot wide navigable channel. The deep holes that would be filled with the dredged material would remain as such and possibly fill in over time with undesirable fine silts.

b. Allegheny River

The potential fill areas are in the Allegheny Pool 4 and Pool 5 reaches from r.m. 24.2 at Lock 4 to r.m. 30.4 at Lock 5 in Pool 4 and r.m. 30.4 at Lock 5 to r.m. 36.3 at Lock 6. Currently, sounding of the river is being conducted to accommodate a Flood Insurance Study along the Allegheny River. There are deep holes in these reaches of the river, from commercial dredging operations, which in some instances reach depths of 50 to 60 feet extending to bedrock. These areas are anaerobic in nature and are filled in with undesirable material such as very fine silt and organic matter in a state of decomposition, further depleting the dissolved oxygen.

5. Victory Hollow-With Project Condition

The real estate acquisition limits are shown in FIGURE 9. Fill would be off-loaded from barges at a location previously used to off-load various materials at r.m. 34.5. This shore area was previously part of the Wheeling American Steel & Wire plant and was built up to the current elevation by the placement of slag. Temporary stockpiling and material dewatering would occur on land previously used to store those materials. New mooring facilities would be constructed by the District, and consist of two 45' diameter cells and one connecting arc. Mooring Cells with anchor rings would also be installed for barge mooring.

Wet material will be transferred from barges into a containment dike located within the off-loading area. Material within this dike area will be spread and dried. All water drained from the material will pass through a sediment trap before reentering the Monongahela River.

Materials will then be transported from the off-loading area to the fill site by truck haul road. The truck haul road would cross one Conrail track and SR 837 and up an existing cart path that basically follows an old right of way. The existing cart path would be modified to accommodate the heavier traffic.

It is anticipated that signaling devices approved by the Pennsylvania Department of Transportation (PaDOT) will be installed at the road crossing. A signaling device or railroad flagman will be utilized at the rail crossing.

A second option, that was explored and eventually dropped from consideration, would involve conveyance across the track and SR 837 via a conveyor system that would be anchored to the abandoned railroad bridge that crosses SR 837 (see FIGURE 9) and one Conrail track. Dry or moist material (without free water) will be transferred directly from barges into a containment dike located within the off-loading area, onto a conveyor system, and transported up the hill to the placement area. This option could be explored by the contractor under the Value Engineering clause. Additional cultural resource determinations would be required if the abandoned railroad bridge is to be used.

Final site grading will approximate natural site elevation contours that gently slope toward the northern site boundary. Placement site preparation will involve erosion and sediment control features and haul road grading. An auxiliary culvert would be constructed under SR 837 on the western side of the site. Material would be distributed around the placement area with the use of **bull**dozers, graders, pans, backhoes, and off-road dump trucks. Site restoration would compensate for temporary impacts to grassland and forest vegetation and a small (less than one acre) wetland encroachment. Fertile cover would be provided for the entire fill area that will include areas of exposed slag or very sparse vegetation. Vegetation and other features beneficial to wildlife would be introduced such that future conditions at the site would represent an improvement over the without project condition. Site restoration may accelerate the plans of the current landowner for a golf course and residential community by providing fertile cover over currently barren sections of the property.

6. Duquesne-RIDC-With Project Condition

This site would accept the total quantity of material generated from the Dam 2 project, or a maximum of 750,000 cubic yards. The potential fill area is known as the City Center of Duquesne. The general area is shown in FIGURE 10.

The District is pursuing the least cost option for material placement at this site. Materials will be transported from the off-loading area to the fill site by one of two options. The first option would involve transporting the material from the construction site to the left bank area just downstream of the RIDC property by a conveyor which

would be constructed and pass under the existing railway trestle. This land area is situated on a part of a parcel owned by Conrail and will also be used for a batch plant, equipment storage area, and parking area associated with the Dam 2 project. Fill would be transported from the Dam 2 project excavation area by a conveyor erected on top of the new service bridge shown in FIGURE 11. This service bridge will be built as part of the batch plant and worker access area associated with construction of the Dam 2 project. Trucks would then haul the fill to the City Center of Duquesne Industrial Park over existing private roads to the Conrail Bridge approach. Then transferred onto a temporary road constructed riverward of the existing fence to maintain the required horizontal clearance limits near the Conrail tracks. The proposed haul route is shown in FIGURE 11.

The second option being considered would involve transporting all material by barge to a conveyor constructed beneath the existing rail underpass adjacent to the City of Duquesne water treatment plant[13] at r.m. 12.8 as shown on FIGURE 10. The material would then be conveyed onto trucks and stockpiled on the Duquesne-RIDC site.

The site owner, Regional Industrial Development Corporation of Southwestern Pennsylvania (RIDC), has tentatively agreed to place the material and compact it as necessary to accommodate their future construction and development plans. In August 1995, the Environmental Protection Agency (EPA) determined that it has no interest in conducting any type of response activities for this site under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as "Superfund". EPA has transferred environmental oversight of this area to the PaDEP. Redevelopment efforts within Duquesne, such as the RIDC effort, qualify for special industrial cleanup provisions under the PA "Land Recycling and Environmental Remediation Standards Act-Act 2" (Act). This Act includes definitions of cleanup liability of new industries and tenants who redevelop brownfield areas and establishes a framework for setting environmental remediation standards.

In June 1995, the PaDEP advised the RIDC that it sees no problems with the placement of fill on uncontaminated areas of the site from the Dam 2 excavations. The RIDC is presently investigating the site to determine site remediation measures to accommodate the desired fill placement pursuant to the Act. These studies include a detailed characterization of soil, groundwater, and drainage characteristics. The RIDC has identified five areas that they have investigated and consider being uncontaminated. The District, RIDC, and PaDEP will meet following PaDEP approval of the RIDC investigations to define stockpile/placement areas and the best method for the transfer of material onto the site.

Section 366 of the 1996 Water Resources Development Act (WRDA) authorizes the government "...may make available to the Southwest Pennsylvania Growth Fund (a

[13] This plant is scheduled for decommission in 1997.

regional industrial development corporation) at no additional cost to the United States, dredged and excavated materials resulting from construction of the new gated dam at Braddock, Pennsylvania, as part of the Locks and Dams 2, 3, and 4, Monongahela River, Pennsylvania, navigation project, to support environmental restoration of the former United States Steel Duquesne Works brownfield site; (1) if the PaDEP issues a "no further action" decision or a mitigation plan for the site prior to a determination by the District Engineer, Pittsburgh District, that the dredged and excavated material are available; and (2) if the Southwest Pennsylvania Growth Fund agrees to hold and save the United States free from damages in connection with use of the dredged and excavated materials, except for damages due to the fault or negligence of the United States."

The on-going development of the City Center of Duquesne would occur with or without use of the site by the District. However, the president of the RIDC made the following remark in a recent letter to the District addressing potential District placement at this site: "(Clean excavation material from the District's locks and dam project on the Monongahela River) represents a significant advantage to the redevelopment efforts at the City Center of Duquesne and would be most beneficial to further marketing of properties for industrial use." It is conceivable that the RIDC project would be accelerated by the provision of fill from the Dam 2 project.

7. In-River Placement-With Project Condition:

a. Monongahela River

The estimated capacities for Monongahela Pool 2 and Pool 3 are 400,000 and 300,000 c.y., respectively. **Monongahela River Pool 4 was also investigated for possible placement of fill, however, it was determined that no material could be placed within this pool due to adverse impacts to the 100-year flood profile.**

Only material from Pool 3 Dredging project or concrete rubble would be placed. This would essentially cut the quantity of dredged material to be placed in upland areas by fifty percent. The placement would occur from open hopper barges and clam shell bucket, dump scour barges are also a possibility although they are rare. For placement of the material in Pool 2 a lockage through Lock 3 would be required. It would be anticipated that the tow would accommodate four full barges at a time, approximately one tow per day. Extensive lockage delays would not be anticipated.

Final contour grading of the deep holes to be filled would be to the existing natural riverbed. **Only**, coarse grained material would be placed to reduce turbidity and enhance stream bed stability. **Fine grained material would be taken to the upland area.** In-river placement would also decrease the impacts at the recommended upland site.

b. Allegheny River

The estimated capacity of Allegheny Pool 4 and Pool 5 **has been preliminarily assessed at 30,000 and 90,000 c.y., respectively without adversely impacting the 100-year flood profile. Additional hydraulic investigations are being conducted that could possibly increase these capacities.** Again, the anticipated placement would be from open hopper barges and clam shell bucket, dump scour barges are a possibility but they are rare. The material would be transported to Pools 4 and 5 in open hopper barges by tow. The tow would have to negotiate Monongahela River, Locks 2 and 3 and Allegheny River, Locks 2, 3, 4, and 5. The anticipated tow would consist of four barges, therefore negating the need to break the tow at the smaller chambered locks along the Allegheny River. However, delays will occur due to the need to use tow haulage systems to pull the barge assembly from the chambers. There will not be enough room to accommodate the towboat.

Final contour grading of the deep holes to be filled would be to **elevations 710 and 720 for Pools 4 and 5, respectively. This provides for a pool depth of approximately 35.4 feet and 37 feet and Pools 4 and 5, respectively. This action will eliminate deep anaerobic holes within these pools. To reduce turbidity only coarse grained material will be placed within the river. Finer silts will be transported to the upland disposal site.**

Bringing the stream bed **up to the elevations noted would eliminate the deep anaerobic holes within these pools and** improve water quality. Fish habitat within these pools would benefit from this condition. In-river placement would also decrease the impacts at the recommended upland site.

e. Preferred Disposal Plan

The preferred disposal plan would be a combination of Victory Hollow as the primary upland disposal site, with secondary alternative placement sites consisting of the Duquesne-RIDC site and In-river disposal in the Monongahela River Pools 2 and 3 and the Allegheny River Pools 4 and 5.

8. CONCERNS & IMPACTS

a. Impacts/Issues

1. General

This section focuses on the impacts and issues of placing the 3.4 million c.y. of material at the proposed upland site, Victory Hollow, the proposed brownfield site, Duquesne-RIDC, and the proposed in-stream disposals, Monongahela and Allegheny Rivers. The discussion also addresses the impacts if the total capacity of Victory Hollow would have to be used due to unforeseen events that would negate the

secondary placement sites.

2. Victory Hollow Site:

Carroll Township residents in the adjoining Victory Hills subdivision raised various concerns at a March 16, 1996 information workshop held in coordination with the District, PaDEP, and Carroll Township officials and concerned citizens. This well attended workshop was an excellent forum for the District to describe the project and solicit feedback from the community. The questions raised at the forum were addressed and are shown as EXHIBIT 9 with accompanying correspondence. However, even with these concerns addressed, the community has submitted a petition in opposition. The formal letter associated with the petition addressed to Congressman Frank Mascara and correspondence with the District project manager is also shown in this exhibit.

3. Duquesne-RIDC

The Duquesne-RIDC site is the preferred site for fill placement from the Dam 2 project material. Use of this site is contingent upon two conditions as discussed in Section 7.e.6. The first, RIDC must comply with State laws governing the development of brownfield sites. RIDC must perform all site investigations required by PaDEP according to the Land Recycling and Environmental Remediations Act. The second condition would be an acceptable Memorandum of Agreement between the District and RIDC.

4. In-River Disposal

In-river disposal would be contingent upon the District obtaining the required permits from the State in conformance with Sections 401 and 404 of the Clean Water Act for placement of the dredged material in each river. The main concern for in-river placement would be to minimize the amount of turbidity anticipated from the disposal operation. This can be accomplished by using only coarse-grained material from the Monongahela River, finer silts are usually at the top surface. For the Allegheny River, the long-term benefits of filling the deep anaerobic holes and improving water quality would outweigh the temporary increases in turbidity.

5. Contaminated Material

Deposition of contaminated material is a major concern of local residents. To alleviate this concern, extensive sampling and testing plans have been or are being prepared in coordination from PaDEP for all major project features. Potential materials exceeding the Pennsylvania State Wide Health Standards (Project Criteria Standards for residential and/or nonresidential placement) will be disposed of at a commercial facility.

b. Water Quality

1. Victory Hollow Site

As requested by PaDEP, the fill plan does not encroach on the valley and perennial stream to the west of the fill placement site. Wetland encroachments by fill placement and cell construction within the Monongahela River for material off-loading will not significantly affect water quality, although short term increases in turbidity are anticipated. These impacts are included in the Section 404(b)(1) analysis presented in EXHIBIT 10. Use of a secondary placement site would negate wetlands encroachment.

2. Duquesne-RIDC

Wetland encroachments by fill placement and cell construction within the Monongahela River for material off-loading will not significantly affect water quality, although short term increases in turbidity are anticipated. These impacts are included in the Section 404(b)(1) analysis presented in EXHIBIT 10.

3. In-River Placement

Wetland encroachment by fill placement within the Monongahela and Allegheny Rivers will not significantly affect water quality in the long term, but short term increased turbidity is anticipated. These impacts are included in the Section 404(b)(1) analysis presented in EXHIBIT 10.

c. Surface Water (run-off) Quality

1. Victory Hollow Site

The Victory Hollow site is situated within three adjacent drainage basins that are each drained by eight culverts passing below SR 837 (see FIGURE 9). The total area within these three basins is approximately 690 acres. The total upland drainage to the fill area comprises 420 acres. Water also enters the site from a spring through the highwall that forms the southern site boundary. Water chemistry analysis of this spring detected high levels of minerals. Surface water ditches have formed throughout the stripped and reclaimed area below the highwall.

District personnel located three groundwater discharges (springs) just north of and below the Victory Hollow fill area near SR 837. Water chemistry analysis of these three springs indicated that metals leaching through the substrate degrade all. One spring was completely devoid of aquatic life[14] . There is evidence of access by the public to these springs. Recognizing that this water may be used by the public and in

[14] Water chemistry results from this spring were: copper (114 micrograms per liter (ug/l)), iron (1,340 ug/l), aluminum (1,700 ug/l), nickel (68 ug/l), manganese (378 ug/l), lead (4.7 ug/l), and zinc (1320 ug/l). These results are much higher than the analogous readings from the spring above the site: copper (52 ug/l), iron (84 ug/l), aluminum (74 ug/l), nickel (<4 ug/l), manganese (<4 ug/l), lead (<2 ug/l), and zinc (6 ug/l).

light of the water chemistry analyses, the District does not condone or endorse the public use of the water from these sources.

The primary sources of the metals detected in the three springs below the Victory Hollow site are the mill slag, coal spoil, and zinc manufacturing wastes deposited at the site. As water percolates through the substrate, metals are leached from these materials. Concentrations of metals, including zinc, are frequently, if not typically, elevated in the drainage from local bituminous coal mines and slag dumps. The PaDEP (then PaDER) established a maximum zinc effluent limitation for all drainage from the site of 1,000 ug/l in 1986. This limitation, however, was subsequently reevaluated in 1986 after it was noted that the zinc concentration of wet weather swells in lower elevations below the site, near SR 837, could exceed 12,000 ug/l. A mass balance analysis indicated that even these occasional high zinc concentrations would have only a negligible impact on the background zinc concentration of the nearby Monongahela River. Therefore, the site zinc effluent limit requirement for that mining activity was revised to "monitor only" status. Although zinc migration is not a problem for aquatic life in the Monongahela River, it does impact aquatic organisms in the small streams created by the spring flow.

The Victory Hollow site layout and fill placement plans have been developed with a comprehensive stormwater management plan and erosion and sediment and control plan. Preliminary plans involve diverting upland stormwater run-off around disturbed areas, and controlling sediments from within the disturbed areas with the use of temporary sedimentation traps, sedimentation ponds, site grading, and silt fencing. Only the western drainage basin would be impacted by fill activities. This basin is drained through an existing 4' x 8' concrete arch culvert under SR 837 and the railroad near the proposed off loading area. The maximum capacity of this culvert is 212 cubic feet per second (cfs). Its current capacity is only 57 cfs due to siltation. The 100-year runoff for the basin is about 900 cfs.

The proposed fill would increase surface stormwater runoff slightly since the permeability of the fill would be less than the surficial soils that contain slag and coal material. A new auxiliary pipe culvert would be constructed to supplement the existing arch culvert so as to provide sufficient capacity to pass the 100-year storm event. This auxiliary culvert would pass under both SR 837 and the railroad tracks and would be in compliance with railroad and PaDOT regulations. The District would initiate a relocation agreement with PaDOT for the installation, operation and maintenance of this auxiliary culvert.

The District's proposal to place a fill cap over the Victory Hollow site, to grade and revegetate the site, and to develop a comprehensive stormwater management plan, will all tend to highly moderate the zinc pollution 'shock loads', previously noted above, that have occurred at springs at this location and thereby reclaim the site. The anticipated effect of the cap and vegetative cover is to improve the quality of water in

existing wells as well as the springs exiting below the site. The District will test all existing wells in the vicinity of the Victory Hollow site prior to any fill placement activities to provide a comparative basis for post project conditions.

2. Duquesne-RIDC Site

Surface runoff at the Duquesne-RIDC would not be altered by the haul road construction. Water quality considerations for the temporary equipment landing during construction are addressed in EXHIBIT 10. No impacts are anticipated with either fill transportation option discussed in Section 5.

d. Groundwater Quality

1. Victory Hollow Site

The groundwater table at Victory Hollow will be affected by the proposed fill plan. However, as the natural gradient is towards the river, the impact area should be small. As previously discussed, the proposed fill cap for the Victory Hollow site will reduce the percolation of water through the slag and coal spoil in the substrate and, thereby, reduce the leachates that enter the groundwater. Due to the apparent lack of groundwater and heavily disturbed nature of the fill area, the District would not use monitoring wells in the area. Groundwater testing will be accomplished throughout the life of the fill activities by sampling the outfalls below the placement area and, if possible, any well discharges cited above. The primary parameters of concern would include current metals being discharged. Since only fill material meeting the requirements of the Pennsylvania State Wide Health Standards (Project Criteria Standards for residential and/or nonresidential placement) will be placed, no adverse impacts are anticipated.

Leachates from fill placement at Victory Hollow are not expected to be significant for several reasons. Based on chemical testing of material to be excavated near Dam 2 and of slag deposited along the Monongahela in areas to be excavated for several federally funded facility relocations, it is believed that the fill material to be placed at Victory Hollow will be less polluted than the existing substrate. Second, the fill will contain fine-grained sediments that will tend to reduce the leaching of any metals contained in the dredged material. Third, the fill permeability will be lower than the existing substrate permeability and lead to less percolation to the groundwater. This finding will be confirmed by the remaining testing of project excavation material and by subsurface groundwater testing at Victory Hollow. A subsurface groundwater testing plan is currently being developed by the District. Risk assessments of the fill contaminants remaining near the surface will be conducted to verify no increase in risk to public health and safety. It is expected that the relatively low contaminant levels of the fill and vegetative cover that will be provided by site restoration will keep such risks to levels that are acceptable to both the PaDEP and other health organizations.

2. Duquesne-RIDC

The soil and groundwater impacts due to fill placement at the City Center of Duquesne property will be addressed by the RIDC in their site remediation plan.

e. Wetlands

1. Victory Hollow Site

District wetland delineation at Victory Hollow was accomplished following the 1987 Corps of Engineers Wetland Delineation Manual as required by all Federal determinations and as accepted by PaDEP. The wetland delineation report for the Victory Hollow site is shown as EXHIBIT 11. A total of 1.0 acre of emergent marsh wetlands was identified.

Executive Order 11990, Protection of Wetlands, has been considered. The current material placement plan for 3.4 million c.y. of fill would impact wetland sites #2 and #7, a total of 0.158 acres. One or several more of the wet areas at Victory Hollow could be impacted with increased placement requirements. The maximum fill placement of 5.0 million c.y. of fill would impact wetland sites #1 through #5 and #7, a total area of 0.7 acres. In the event that additional wetland impacts are unavoidable, the impacted areas would be mitigated on-site at a replacement ratio of 1:1 for emergent marsh wetlands.

The District is committed to implementing innovative design features where possible to reduce project excavation placement requirements, which would also minimize wetland impacts. The District will use every effort to avoid the other wetland areas delineated for this SEIS. Wetlands impacts at Victory Hollow are very dependent upon final fill quantity and the source. For example, all wetland encroachments can be avoided if the Dam 2 project material is diverted to the Duquesne-RIDC or other alternative sites.

Two methods for mitigating the potential impact if it can not be avoided are currently being considered by the District. One would involve enlarging an existing wetland adjacent to the fill area by an area equal to the impact area. A second method would involve participation in a wetland mitigation banking project, either through contribution to a fund established by the PaDEP or by participating in a banking project administered by the USFWS. The former option would be feasible only if wetland impacts are no more than 0.5 acre.

2. Duquesne-RIDC Site

There are no wetlands within the haul road or temporary landing area associated with material transfer options for the Duquesne-RIDC site.

f. Terrestrial Habitat

1. Victory Hollow Site

The proposed fill plan for 3.4 million c.y. at Victory Hollow would cover about 25-30 acres of grassland within the stripped and filled area, around 30 acres of the ravine and 60 acres of exposed slag within the slag covered area. A small area of the lower hillside adjacent to SR 837, comprising around 0.2 acres, will be excavated to accommodate a haul road. Upslope of the fill area, drainage ditches to intercept and divert flows originating above the site would be constructed. Disturbances due to drainage ditch construction upslope of the fill area would minimally impact approximately 20 acres. The maximum fill placement of 5.0 million c.y. of fill would impact a total of 210 acres within the stripped and filled and slag covered areas, and involve approximately 70 acres and 140 acres, respectively.

The District will maximize cover to barren land at Victory Hollow subject to engineering considerations that include final site contouring and surface water runoff and erosion and sediment control. The plan for 3.4 million c.y. of fill only disturbs one of the three basins that drain the site. The placement area for Dam 2 project fill, if required, is within the grassland in the upper site elevations since that would minimize temporary stormwater management requirements while permanent stormwater features are being constructed. If the Dam 2 project fill is placed at Duquesne RIDC, then the initial fill placement at Victory Hollow would be from the navigation channel dredging in Pool 3. This would allow for construction of the permanent stormwater management facilities before initial fill placement, which in turn would allow the initial fill to be placed within the northern site area that includes the barren areas with least habitat value.

The PGC was consulted for guidance on site restoration. Site restoration, described in Section 8.g below, would be accomplished in consultation with the USFWS, PGC and PaDEP to ensure that the impacts to these areas are temporary and fully compensated for by grading and seeding techniques that are beneficial to wildlife.

2. Duquesne-RIDC Site

Truck haul roads to the Duquesne- RIDC placement site would be constructed on existing roadways within the batchplant area and along a narrow strip of industrial land within the City Center of Duquesne property. The land for barge to conveyor route would involve shoreline previously used as an oil dock. No significant impacts are anticipated with either transportation option.

g. Fish & Wildlife Habitat

1. Victory Hollow Site

Fill activities at Victory Hollow would temporarily impact the wildlife and aquatic

populations. Surface reclamation efforts that would include adding lime or fertilizer to the stabilized material, and planting grasses, trees and shrubs that are preferable to indigenous species of wildlife should compensate for the temporary impacts. Brush piles ("bunny huts") will be included on the western boundary adjacent to the perennial stream valley.

Upland restoration at Victory Hollow will include revegetation to compensate for all fill disturbances. The low-quality, fragmented hardwood forest habitat will be replaced by direct seeding of hardwood species in hydroseeding slurry. This work will be conducted on about 25 acres on the upland portion of the site that abuts the existing woodlands. This portion of the placement area will be used for the placement of material from the Dam 2 project, if necessary, the first portion of the project to be constructed. This placement area will not be disturbed by subsequent work. The District will thus have the time to monitor this area to assure acceptable hardwood cover.

The District will direct seed the following species: *Cornus racemosa* (Gray Dogwood), *Sambucus canadensis* (Elderberry), *Rhus glabra* (Smooth Sumac), *Viburnum dentatum* (Arrowwood Viburnum), and *Hamamelis virginiana* (Vernal Witchhazel). In addition, the following herbaceous material will be seeded: *Achillea millifolium* (Yarrow), *Rudbeckia hirta* (Black-eyed Susan), *Echinacea purpurea* (Purple Coneflower), *Aster Novae-anglae* (New England Aster), *Asclepias tuberosa* (Butterflyweed), and *Chrysantemum maximum* (Ox-eye Daisy). The density of plantings will be based on 8-foot spacing for trees and 4-foot for shrubs. In order to provide early erosion control, the following grasses will be planted: *Bouteloua curtipendula* (Sideoats Grama) and *Andropogon scoparius* (Little Bluestem). All of the above species are native to the region and will simulate an early successional ecosystem at the site.

The remaining placement area will be seeded in native grasses selected for their wildlife value. The seeding mixture will include, but not be limited to, *Andropogon gerardii* (Big Bluestem), *Sorghastrum nutans* (Indiangrass) and *Panicum virgatum* (Switchgrass). Additional fill quantities over the 3.6 million c.y. would be accommodated on the grassy high wall and/or level areas in the northern sections of the site. Site restoration would be adjusted to include reseeding of all areas impacted by the fill activities. As the entire fill area will be restored with either grasses, shrub or tree species. The maximum area of exposed slag will be incorporated into the fill plans subject to sound engineering practice. In this way, the wildlife value of the restored site condition will be maximized subject to engineering considerations, including stability, erosion control, and storm water management.

2. Duquesne-RIDC

It is the District's intention to determine site restoration requirements for any impacts associated with the stockpile area and truck haul road for the Duquesne-RIDC site in conjunction with this supplemental NEPA documentation prepared for areas affected by

the batch plant and other operations associated with the Dam 2 project. Construction of the equipment landing would cause temporary and minor increases in turbidity near the shoreline.

3. In-river Placement

As stated above, short term increases in turbidity are anticipated in both the Monongahela and Allegheny Rivers. These impacts will be minimized by best management practices. The long-term benefit to aquatic life, more so for the Allegheny River, should off-set the short term impacts incurred.

h. Endangered and Threatened Species

There are no federally listed endangered or threatened species which reside in the fill placement areas. The only federally listed endangered bird expected to be found, as a transient species, in the project area is the peregrine falcon (*Falco peregrinus*). These falcons nest on a high-rise in the downtown Pittsburgh area. There would not be any impact to the peregrine falcon due to placement activities at the Victory Hollow, Duquesne-RIDC or the in-river placement activity.

i. Air Quality

Two agencies have jurisdiction for ensuring compliance with the Clean Air Act of 1990 (CAA) in the study area, PaDEP's Bureau of Air Quality Control and the Allegheny Count Health Department's (ACHD) Bureau of Air Pollution Control. PaDEP has jurisdiction for all counties except Allegheny and Philadelphia.

The project study area, including the upland disposal sites, in-pool disposal within Monongahela River Pools 2, 3 and, with the exception of in-pool disposal within Allegheny River Pools 4 and 5, are situated inside an EPA-designated 'nonattainment' area for air quality. Under the Clean Air Act, a site is considered a nonattainment area when the level of any one of the EPA's six criteria pollutants (sulfur dioxide, particulate matter, carbon monoxide, ozone, nitrogen dioxide, and lead) exceeds the National Primary and Secondary Ambient Air Quality Standards. Particulate matter and ozone are the criteria pollutants that exceed Air Quality Standards within portions of Allegheny County. Ozone is the primary exceedance pollutant of the Air Quality Standards outside of Allegheny County for the upland disposal site and Allegheny River Pools 4 and 5. The primary industries that contribute to air pollution in this area are the USX Clairton Coke Works, Aristech Chemical Corporation, and Glassport Transportation Company.

The air quality within the project study area will be impacted by placement activities. The primary sources of pollutant emissions for upland disposal site will include onsite vehicular traffic, loading and unloading of excavated and dredged material and other

debris for placement, mud and dirt carryout, wind erosion, and material handling and storage piles. The District will include sound construction practices and containment measures to control dust and other pollutants during disposal activities in construction contracts. The District has been in coordination with both PaDEP and ACHD Division of Air Quality. It has been determined that an air quality permit would not be required. Regulations state that the emissions from internal combustion engines that power mobile air contamination sources are exempt from permit applications. Therefore, no significant air quality impacts are anticipated from material handling activities.

Although an air quality permit was not required, the District prepared a draft emissions inventory that was forwarded to the ACHD to use in forecasting needs for the Dam 2 project. This practice will be continued for future project features.

j. Cultural Resources

The District has investigated the potential for cultural resources at both the Victory Hollow and Duquesne-RIDC Sites. Also, fill placement areas and the areas associated with the truck haul roads to both Victory Hollow and Duquesne-RIDC. A Draft Phase I cultural resource investigation report of the fill placement areas was submitted to PaSHPO in January 1996. PaSHPO responded with a request for revisions in March 1996. The revised draft report for the fill placement area and associated haul road and off-loading facility for Victory Hollow is pending. The Duquesne-RIDC Site, formerly the United States Steel, Duquesne Works, was investigated by the National Park Service through an Historic American Engineering Record (HAER) documentation in 1992. Any further cultural resources investigations deemed necessary through the review and comment process will be conducted under the terms and conditions of the "Programmatic Agreement Among the U.S. Army Corps of Engineers, Pittsburgh District, the Advisory Council on Historic Preservation, and the Pennsylvania State Historic Preservation Officer Regarding the Modernization of the Lower Monongahela River Navigation System" (April 30, 1992).

k. Socio-Economic Resources

1. Noise

a. Victory Hollow Site

The Victory Hollow placement site has been the site of extensive coal and slag mining operations within the last 60 years. These activities involved the same types of heavy equipment and noise levels that would be used in the proposed fill activity. The adjacent off-loading area is currently abandoned but was formerly used as a truck to barge coal transfer facility and the Conrail main line is active 24 hours a day. The proposed placement off-loading activities would be similar and involve similar noise levels. The contractor will be required to establish a telephone feedback line at the placement site through which nuisance conditions can be reported. The District will

comply with the township zoning codes for implementing limits for the hours of operation to minimize nuisance noise to the community.

The use of heavy construction equipment, including bulldozers, dump trucks and front-end loaders would be the primary source of noise, which would occur during working hours only. The woodlands above the site will provide some buffer to the Crestview and Victory Hills residents living immediately above the site (see sheet 5 of 5 in EXHIBIT 4). There will not be any blasting associated with fill activities. After construction ceases, the noise levels would return to pre-project conditions.

b. Duquesne-RIDC

Material transfer at the Duquesne- RIDC Site, which ever option chosen, truck haul road or off-loading facility onto conveyor system, will occur in areas already impacted by frequent highway, rail and industrial traffic. The concrete batch plant located on the left bank is anticipated to be operating in the evening hours during the summer months due to temperature restrictions for batching concrete. The noise levels will be increased due to this activity. Currently, Conrail and Union Railroad lines are active 24 hours a day. On occasions increased noise levels from the batch plant will be muffled by train traffic.

c. In-River Placement

Increases in noise levels would be higher for the Allegheny River as compared to the Monongahela River. However, both rivers experience industrial activities and periods of increased noise levels from rail and river traffic. In the case of the Allegheny River, the noise levels would be comparable to the existing commercial dredging operation which takes place. The increased noise levels created from placement activities would be considered minor.

2. Aesthetics

a. Victory Hollow Site

The present visual setting of the Victory Hollow Site from the adjoining Palmer Park area is dominated by open field grasses with pockets of woodlands and barren areas of exposed slag. Visual impacts of earth moving and removal of wooded vegetation at Victory Hollow will be apparent to park users and possibly to residents above the site during the life of the construction project. Site restoration will improve the visual setting somewhat by providing vegetative cover for the barren areas.

Only a small fraction of the fill will consist of organic materials that could emit an odor during decomposition. Therefore, odor is not expected to present a public health problem or nuisance condition to the surrounding communities. The community can report nuisance conditions over the dedicated phone line at the Victory Hollow site. If

odors prove problematic, measures such as covering the fill with existing drier soils will be taken to correct the situation.

b. Duquesne-RIDC Site

Aesthetic impacts due to material transportation at Duquesne-RIDC will be minimal given the current industrial use of all affected areas.

3. Displacement of People

No persons will be displaced by any off-loading, material haulage, or placement activities at either placement area.

4. Community Cohesion

Placement activities could have a positive impact on community cohesion within Carroll Township for the Victory Hollow site or Duquesne if economic or recreational development occurs on the fill areas after they have been completed, graded, and, at Victory Hollow, revegetated.

5. Desirable Community Growth

Placement activities could have a positive impact on community growth in Duquesne or Carroll Township if economic development is encouraged. There are plans for a residential community and golf course at the Victory Hollow Site. The placement of fill will assist the current owner in reclaiming the abandoned slag dump area and potentially increase the likelihood for the success of the proposed project.

6. Tax Revenues

Tax bases in Carroll Township and Duquesne could increase if residential and/or commercial development is encouraged or expedited by fill placement.

7. Property Values

Placement activities could have a positive impact on property values in Duquesne and Carroll Township by encouraging new residential and business development. Increased property values would lead to higher tax revenues that are discussed above.

8. Public Facilities and Services

There should be minimal impacts to public facilities and services with the proposed placement activities. At Victory Hollow, truck transportation of material across SR 837 may cause minor delays to highway traffic at the temporary signal location along

that route. No service outages are anticipated from the utility relocations within the placement area.

At Duquesne-RIDC, the truck transportation route from the conveyor off-loading area to the Duquesne-RIDC Site will be coordinated with Conrail. This will be accomplished to minimize delays to rail service. Use of the barge to conveyor route would not impact any public facility or service.

9. Recreation

There are no recreation areas directly affected by the proposed placement activities at the Victory Hollow Site. Palmer Park users during fill activities will be subjected to slightly higher noise and dust due to construction equipment. However, most activity should occur during normal working hours and not during peak park use during evenings and weekends. Placement activities at Duquesne-RIDC would not affect any recreational activities. In-river placement activities would temporarily affect the immediate area for pleasure craft users and fishermen.

10. Employment/Labor Forces

Placement activities could have a slightly positive impact upon employment in the Duquesne or Carroll Township areas if new development is brought about by fill activities.

11. Business and Industrial Activity

Business and industrial activity could be slightly increased by economic development within the placement areas at Duquesne or Carroll Township. Local shop owners and restaurateurs could experience an increases in business from the proposed construction activities.

I. Environmental Justice

All proposed placement activities are expected to comply with Executive Order 12898 - Environmental Justice in Minority and Low Income Populations, dated February 11, 1994. Use of the Victory Hollow site was discussed with local officials and citizens at a public meeting on March 16, 1996. A summary of that meeting is provided as EXHIBIT 9. The District will consider comments made on this Draft SEIS by the current owner and general public and will continue to keep all interested officials and citizens apprised of project status. Control of site use will be returned to the private owner after all activities are completed at Victory Hollow. The RIDC will control the fill placement within the City Center of Duquesne limits.

m. Present Land Use

As stated previously the present land use of the Victory Hollow site is mainly comprised of an abandoned strip mine of low quality of value. The Duquesne-RIDC property is a brownfield site currently being restored.

n. Future Land Uses

With the proposed fill activities to take place at the Victory Hollow Site the principal site owner has plans for a golf course community development. The fill placement would enhance the developers' efforts. Development of the Duquesne-RIDC site would more likely continue with or without the fill material placement. The fill would be considered a benefit and would expedite and minimize site restoration needs.

o. Adjacent Land Uses

Palmer Park is adjacent to the proposed upland site and will be temporarily impacted, as stated above, by construction activities. Restricting contractor activities and use of alternative placements could minimize these impacts. The Duquesne-RIDC site is bounded by the Monongahela River and the Union and Conrail tracks. Adjacent land use is limited.

p. Beneficial Uses/Impacts

Examples of beneficial uses as well as the impacts of the post project disposal sites discussed in this Draft SEIS are briefly summarized in this paragraph. Environmentally, the proposed upland placement site at Victory Hollow will benefit from the fill placement. The fill will provide cover for barren landscapes which would support vegetation, improve water quality, assist the private developer with future plans of a golf course, with the potential for increased property values and township revenues from taxes. Risks associated with contaminated fill would be minimized through ongoing sampling and testing programs prior to and during placement activities. The long-term benefits should outweigh the initial short-term impacts of construction activities. If all environmental clearances were achieved for the Duquesne-RIDC site, the construction time period would be shortened by 2 years. Placement of the fill material at the Duquesne-RIDC site would assist the private redevelopment of an abandoned industrial, or brownfield site, reduce impacts at Victory Hollow, and also benefit monetarily in reducing transportation costs of Dam 2 project material. The impacts of the use of the Duquesne-RIDC site are minimal. Of all the placement sites, the in-river alternatives, Allegheny and Monongahela Rivers, would have the least amount of impacts and, in the case of Allegheny River placement, would improve water quality for fisheries and other aquatic life.

9. STATUS OF ENVIRONMENTAL COMPLIANCE

The relationship of the proposed upland and secondary alternatives relative to compliance with the environmental protection statutes is shown in EXHIBIT 12.

10. LIST OF PREPARERS

Carmen Rozzi, P.E., Civil Engineer, 12 years experience, Report Preparation

Fraser Gensler, Environmental Planner, 27 years experience with NEPA Compliance Coordination

Jeff Benedict, P.E., Civil Engineer, 15 years experience, Natural and Cultural Resource Coordination

Deborah Campbell, M.A., I.P.A. - Archaeologist, 15 years experience, Cultural Resource Investigations

John J. Pawlus, Geotechnical/Environmental Engineer, 16 years experience Sediment Sampling and Testing Protocol

Chuck Bruno, P.E., Civil Engineer, 32 years experience, Cost Analysis

11. COORDINATION AND PUBLIC INVOLVEMENT:

a. Coordination

The Pittsburgh District, Corps of Engineers, is the responsible agency for designing and constructing the fill areas necessitated for the authorized Lower Monongahela River Navigation Improvement Project. The District is also responsible for preparing the detailed Disposal Site Design Memorandum and this SEIS. Two distinct coordination efforts were important to the preparation of these two documents. One involves landowners, public officials and residents and the other the various Federal and State agencies.

b. Public Involvement

The District has made numerous presentations to various groups, primarily those who reside near the areas that were considered in the screening analysis described in this SEIS. The FEIS documented the meetings and workshops held with residents and officials of Bunola Hollow and Coursin Hollow that primarily addressed the placement issue and the formal public meeting in October 1991 relating to the overall project.

Subsequent meetings on the placement issue include those of May 14 and June 1, 1993 concerning the Eldora Site, and August 30, 1994 concerning the Lockview Site, and March 16, 1996 for the Victory Hollow Site. The District also met with the Allegheny County Bureau of Air Quality Management on December 9, 1994 to discuss several features of the project including placement. The District has received comments on the seven upland alternatives and in-river placements from the EPA, USFWS, PaDEP, PGC, and PFBC. Additional comments have been received from PaDEP in regard to Allegheny River disposal. An additional meeting has been held on February 5, 1997 with PaDEP pertaining to the NPDES permitting process. In addition, the District has issued four newsletters to over 1200 interested parties addressing the authorized navigation project that included updates of the placement site investigations.

Upon determining that Victory Hollow would be the primary upland placement site, the District issued a Project Placement Fact Sheet to nineteen public officials and owners of property including sites impacted by the Victory Hollow placement plans and other potential placement areas. The District answered all questions posed at the Victory Hollow site information meeting. Responses were included in a memorandum dated April 15, 1996 and distributed to community officials and congressional representatives. The latest newsletter focuses on the proposed placement activities described in this SEIS. District study of the Victory Hollow placement area included site visits with the USFWS, the PGC, and the PaDEP. Previous coordination with the USFWS is included in EXHIBIT 13.

c. Supplemental Environmental Impact Statement

All Federal, State and local governmental agencies, public and private organizations and interested citizens on the project mailing list for the FEIS have received a copy of the Draft SEIS for review and comment. The list of recipients of the Draft SEIS **has been revised to include additional parties who requested copies of the Draft SEIS during the public review period of March 28, 1997 to June 13, 1997. They will be a part of the mailing list for the Final SEIS. This final list** is provided in EXHIBIT 14. In addition to the listed distribution, copies of the Draft SEIS **have been** placed in libraries close to the recommended upland placement sites. These libraries include the McKeesport and Oakland (Pittsburgh) branches of the Carnegie Free Library and the Donora Public Library. **These same libraries will be furnished a copy of this Final SEIS for public review.** A notice announcing that the Draft SEIS **was** available in these libraries for public review and **was** placed in the *Pittsburgh Post Gazette*, Greensburg *Tribune*, McKeesport *Daily News*, and Washington *Observer Reporter*, all published daily. **A notice of the availability of this Final SEIS will also be placed in the public libraries and advertised in the aforementioned newspapers.** All review comments received **pertaining to the Draft SEIS have been** addressed **in a responsible manner** and **are** included in **this** Final SEIS **in the section below.**

d. Comments and Responses to the Draft SEIS

The Draft Supplemental Environmental Impact Statement was furnished to Federal, State and local government agencies, public and private organizations and interested citizens with an interest in or jurisdiction over the planned project disposal activity for review and comment. The Honorable Congressman Frank Mascara held a public information workshop on Thursday, May 22, 1997 in the Carroll Township Community Center for the benefit of the local communities. Interested parties and concerned citizens who attended the informational workshop were offered the opportunity to provide their comments to the Congressional staff for consideration by the District. These comments have been incorporated into the following section. APPENDIX A of this Final SEIS contains the letters received by the District commenting on the Draft SEIS which was provided for public review. The comments received along with the District's responses are presented below.

1. Congressional

a. Letter of June 10, 1997 from The Honorable Congressman Frank Mascara,

"Our comments are a result of all the time my staff has spent on this project, but most particularly the concerns of residents which were raised at the *public information workshop*. The concerns can be categorized primarily into four areas; site location, pollution, toxic materials, and private water supply sources among residents."

Site Location

Comment 1: The Army Corps of Engineers is being encouraged toward satisfying the request of materials at the Duquesne RIDC site which has obviously expressed a strong interest in obtaining the materials, and therefore we believe should be prioritized as such.

Response: Duquesne-RIDC Site

Negotiations are progressing toward finalizing an agreement with the Regional Industrial Development Corporation of Southwestern Pennsylvania for disposal of clean material at the City Center of Duquesne property. However, a number of details still must be resolved regarding the scope of work, placement, and coordination with the on-going development activities. Securing this site remains a top priority for the Pittsburgh District and its use would significantly minimize impacts at Victory Hollow. We are optimistic about the availability of this site for our use.

Comment 2: There is a request by the Pennsylvania DEP for the Corps to consider disposing of the dredged materials in the Allegheny River for reclamation of habitat. We believe that argument has merit and should also be strongly considered.

Response: Allegheny In-River Disposal

The beneficial impacts that would result from disposal of material within the Allegheny River are twofold; (1) to lessen impacts to Victory Hollow, and (2) to improve aquatic habitat in Allegheny River Pools 4 and 5 by filling deep anaerobic holes. The numerical hydraulic analysis conducted by the District shows that Pools 4 and 5 can accept approximately 30,000 c. y. and 90,0000 c.y. of material, respectively without adversely impacting the 100-year flood river-stage profile. However, investigations are being conducted to determine the feasibility of increasing these capacities.

Comment 3: Provided the Corps, in whole or in part, selects Victory Hollow as the placement site, we believe it is imperative to address the remaining three issues in a more detailed fashion than the draft SEIS currently addresses.
Response: None Required.

Pollution
General: The residents have identified a concern of pollution basically being three categories; noise, dust, and odor pollution. In the event that any of these factors become more of an issue than currently anticipated, we believe the draft SEIS does not address any remedy or relief for such. We understand that you do not have a plan for something that is not anticipated, but if the situation does go beyond what is to be normally expected, how will that issue be addressed and resolved.

Comment 1: Some agencies maintain that no odor will emanate from the site, while others believe it is more than natural that this material will exude an odor. In the event an odor does exist during the course of the work project, how will this issue be addressed?

Response: Actions the District will take to minimize the temporary inconveniences which may be experienced by the local residents due to odor pollution are as follows. There are primarily two potential causes for odors; (1) the decay of organic materials, and (2) chemical or petroleum based materials which may be excavated or dredged from the river.

1. Decay of Organic Materials: There may be pockets of organic material dredged or excavated that will require disposal. Our experience has found that this material may smell like wet decaying leaves. Should these materials be encountered upon delivery to the off-loading area, the material will be distributed in an even layer and allowed to dry. Lime will be placed on the material to minimize odor, and the material will be transported to the disposal area for placement within 24 hours. This material will be isolated and immediately capped with other odorless material. We find no reason to believe that these odors cannot be controlled, nor will they be noticeable at any significant distance from the source.

2. Chemical or Petroleum Based Material: These materials should be identified through the in-place sampling and testing plan, and will be disposed of at a

State regulated facility. However, if isolated pockets of these materials are not identified during in-place sampling and testing, and odorous materials are delivered to the off-loading site, sampling and testing will be conducted to identify any contaminants and proper disposal measures will be employed. Random and independent testing is discussed further in the next paragraph.

Also, the District will provide a 1-800 hotline to be available to local residents in the event odor pollution is evident.

Comment 2: The second issue with regard to pollution expressed by the residents is that of noise. It is their understanding that there will be a lot of equipment on the site and obviously equipment generates noise. Understanding construction sites generate a degree of noise, the questions surrounding this issue would be will the sites be working beyond a normal work day period, Monday through Friday, and once again if it becomes a level of noise which goes well beyond a normally expected work site, how would that potentially be resolved?

Response: The District will; (1) obtain baseline noise levels on existing conditions in the community of Victory Hills, which will entail placing sound meters at strategic locations prior to construction activities to measure ambient decibel levels, (2) monitor noise levels during construction activities, establish action levels with PaDEP and Carroll Township according to EPA and OSHA guidelines and, if necessary, adjust the contractor's operation, (3) establish a 1-800 hotline available to local residents should they experience problems, (4) require in the construction contract that mufflers be in place and operable on all vehicles and equipment, and (5) limit construction activities at Victory Hollow to the period from 7 A.M. to dusk, except for the off-loading area which will continue on a 24-hour operation typical to that of the American Carbon Metals Company, which occupied the off-loading area prior to going out of business.

Comment 3: Finally, the issue of dust has arisen as a potential concern. The issue is presented in two forms. First, dust in the general vein of how it would affect the residents and their living environment, and also as we will discuss later in the water supply. We have heard the degree of dust is a matter of dispute among professionals. In the event that dust does become an issue what would be done in the alternative?

Response: The District will; (1) obtain baseline air quality levels for existing conditions at Victory Hills, (2) continue to monitor during construction activities and establish action levels with PaDEP and Carroll Township according to EPA and OSHA guidelines, and if necessary adjust the contractor's operation, (3) establish a 1-800 hotline available to local residents should they experience problems, (4) cooperate with PaDEP who regulates air quality, (5) require sound construction practices and containment measures that will include the use of water sprays, dust suppressants, quick growing temporary rye grasses, and site specific erosion and sediment control

features to control dust and other particulate emissions.

Toxic Materials

Comment 1: It is being maintained in the draft SEIS that no toxic materials will be disposed of at the Victory Hollow site, but rather any toxic materials found will be taken to an approved landfill. As the Army Corps of Engineers knows, this has been a major issue from the time that this site has been considered. We believe a resident has offered a proposal worth mentioning. This issue is one in which the public has a very difficult time trusting the word of government agencies. To that end, it has been suggested that independent testing be conducted at the site on a random basis in order to ensure that no contaminants are dumped at the site. We believe that independent testing will provide a significant level of comfort and trust to the residents which appears to be lacking.

Response: The District is confident that the in-place sampling and testing plan will identify any contaminated material that may be present. However, to foster public confidence, a random and independent testing program will be conducted. The following paragraphs discuss these programs.

Random Testing: The District will require the contractor to have a random testing program for materials delivered to the off-loading area. A laboratory will be located at the off-loading area for processing of the samples taken. Samples will be taken at approximate intervals of 20,000 c.y. of material delivered to the off-loading area (equivalent to once every two barge loads). Sampling will be done in the barge or in the off-loading area. Samples will be taken in areas where color or odor indicates potential contamination, otherwise, they will be taken at random. Representatives of PaDEP and Carroll Township will be invited to participate in selecting sample locations. Testing will follow PaDEP Dredging Guidelines or other applicable guidance to screen the soil for potential contamination. If contamination is indicated and confirmed by secondary tests, the soil represented by the sample will be placed in an alternative state regulated facility, not Victory Hollow.

Independent Testing: All samples taken under the random testing program will be split. The duplicates will undergo screening level tests by a second, independent laboratory proposed by the contractor and agreeable to the Corps, PaDEP, and Carroll Township. All duplicate samples will be retained for at least 30 days after screening tests and made available to PaDEP and Carroll Township for additional testing, if they desire.

Comment 2: In regard to toxic materials, we have heard many comments from the public relative to the fish commission's public health consumption advisories from the Monongahela River. My staff further explored that with the Fish Commission and found that the advisories that do exist pertain to the area of the Monongahela River from Lock 2 to Point State Park. Pennsylvania test fish for a number of chemicals,

while PCB's are responsible for most of the fish consumption advisories in Pennsylvania. The contaminants between Lock 2 and Point State Park is for PCB and chlordane. These tests were conducted on the fish that were collected and was determined to have exceeded FDA action levels. It is significant to point out that there is no advisory between Locks 2 and 4. The samples of fish in that area do not exceed FDA action levels. The Fish Commission does not recall in recent memory of any advisory between Locks 2 and 4. Therefore, there is no advisory in the area to be dredged.

Response: The correspondence letter between the Pennsylvania Fish and Boat Commission to Congressman Mascara is featured in APPENDIX A.

Water

Comment: It is our understanding that seven households of Victory Hill receive their water from nonpublic sources. Most particularly, the Vayansky property, which is closest to the proposed site, does not have public water and gains their water through a cistern. We believe that the Vayansky family, whom your officials met with at length the evening of May 22, has convinced the Corps that the project could have a significant impact upon their water supply and water quality. Those concerns emanate from the creek that flows through the Vayansky property which the materials could flow into, and the dust issue which may affect the quality of the water which is captured by the Vayanskys from rain. As a result of the conversations that evening, it is our understanding that the Corps as well as the Department of Environmental Protection is attempting to find a solution. Once again, we believe that the final SEIS should address this issue and propose a solution.

Response: The District has strategically placed groundwater monitoring wells throughout the Victory Hollow site. These wells will identify the baseline ambient water quality prior to construction and fill activities with respect to a wide range of parameters. The wells will continue to be monitored during and after construction activities at the site. Should any parameters indicate a degradation of the ambient water quality in any of the monitoring wells, the cause will be investigated. All ground water test results will be available to the public. Also, all groundwater samples will be split and the duplicates will be available for testing by PaDEP or Carroll Township.

The District will provide potable water where upon investigation it is determined that the project created the condition that prohibits use of existing water supplies for those residents of Victory Hills who presently depend on ground water and/or cistern water supplies.

Concerned Citizens Comments from Public Informational Workshop

Comment: Did you ever consider the Ginger Hill site?

Response: The District spent considerable time and effort identifying an array of potential disposal sites during the screening level investigation. A site identified as Ginger Hill was not one of the sites investigated. However, it may have been evaluated using a different site name as designated on the U.S.G.S. quadrangle maps. In either case, we believe the Victory Hollow site continues to be the most economical and environmentally acceptable upland site available within the lower Monongahela River project vicinity that meet all criteria identified in this SEIS.

2. Federal Agencies

a. Letter of May 30, 1997 from The U.S. Environmental Protection Agency, Region III

Comment 1: From our review of the proposed sites, the Duquesne Regional Industrial Development Corporation (RIDC) site would have the least adverse environmental impacts and so we would recommend it as the best disposal site option. The Victory Hollow site is situated adjacent to Victory Hills, a residential community and as such may have potentially adverse impacts to the community, including groundwater contamination and air and noise pollution. In addition, according to the USGS topographical maps, there is a perennial stream and wetlands in the vicinity of the Victory Hollow site and it is EPA's policy to avoid disturbing areas with perennial streams and wetlands.

Response: As stated in the SEIS, the RIDC site is the preferred site for disposal of earth fill materials excavated from the Dam 2 project. The total disposal capacity of this site is limited to 750,000 cubic yards (c.y.), which is sufficient to handle all earth fill material from Dam 2.

Negotiations are progressing toward finalizing an agreement with the Regional Industrial Development Corporation of Southwestern Pennsylvania for disposal of the Dam 2 earth fill material at the RIDC site. However, issues remain to be resolved regarding the scope of work, placement of the material, coordination with the on-going development activities, and NPDES permit responsibilities. The RIDC comment letter is shown in APPENDIX A. We are optimistic that this site will become available.

Activities associated with the disposal of material at the Victory Hollow site will take place more than a third of a mile from the nearest resident in the community of Victory Hills. The material proposed to be placed nearest to the community would come from excavations at Dam 2. With the availability of the RIDC site for the Dam 2 material, the buffer zone between our temporary disposal activities and the community becomes greater. A series of site development plans are provided for your review and are shown as APPENDIX B.

Disposal of dredged material at Victory Hollow will not disturb the perennial stream. This stream area is located within the undisturbed buffer zone between the active

disposal area and the Victory Hills community. As shown in TABLE 4, page 24 of this SEIS, less than one acre of wetlands will be disturbed at full capacity at the Victory Hollow site. With the availability of the RIDC site for the Dam 2 material the wetlands disturbance is negated as noted in Table 6. Should the RIDC site not become available for Dam 2 material, the impacted wetland will be replaced at a 2 to 1 ratio.

The District has strategically placed groundwater monitoring wells throughout the Victory Hollow site. These wells will identify the baseline ambient water quality prior to construction and fill activities with respect to a wide range of parameters. The wells will continue to be monitored during and after construction activities at the site. Should any parameters indicate a degradation of the ambient water quality in any of the monitoring wells, the cause will be investigated. All ground water test results will be available to the public. Also, all groundwater samples will be split and the duplicates will be available for testing by PaDEP or Carroll Township.

With respect to air and noise pollution concerns, the District will: (1) obtain baseline air and noise information in the community of Victory Hills, which will entail placing measuring devices at strategic locations prior to disposal activities to measure decibel levels and air quality; (2) continue to monitor air and noise levels during disposal activities, establish action levels with PaDEP and Carroll Township according to EPA and OSHA guidelines, and if these action levels are exceeded, adjust the contractor's operation; (3) establish a 1-800 hotline available to local residents should they experience problems; (4) require in the construction contract that mufflers be in place and operable on all vehicles and equipment, and require sound construction practices and containment measures including use of water sprays, dust suppressants, quick growing annual rye grasses, and site specific erosion and sediment control features to control dust and other particulate matter; (5) limit construction activities at Victory Hollow to the period from 7 A.M. to dusk, except for the off-loading area along the river which will continue on a 24 hour operation typical to that of the American Carbon Metals Company, which previously occupied this area; (6) fully cooperate with PaDEP who regulates air quality; and (7) provide potable water where upon investigation it is determined that the project has created a condition that prohibits use of the existing water supply to Victory Hills residents who depend on groundwater and/or cistern water supplies.

Comment 2: Every effort should be made to protect the best wildlife habitat at each proposed site and use only those portions with lower value. Wildlife values destroyed from the disposal activities should be compensated through mitigation measures on-site (typically a 1:1 ratio).

Response: Victory Hollow, the preferred upland site, was a previously strip mined area with certain portions reclaimed and vegetated, and other portions unreclaimed with barren slag spoil and little vegetation. It is shown as FIGURE 9 in this SEIS.

As noted in TABLE 4 of the this SEIS, approximately 55 acres of grassland and tree vegetation will require clearing while 65 acres of barren slag spoil will be reclaimed. The 55 acres lost will be compensated for by reclaiming the total 120 acres of the disposal area. Reclamation will be accomplished through an extensive planting plan as detailed in Section 8.g.1, Fish and Wildlife Habitat, of this SEIS. The Pennsylvania Game Commission actively participated in the planning for this site and they concur with the suggested plantings and benefits to wildlife species as indicated in their comment letter of April 29, 1997 shown in APPENDIX A.

The Victory Hollow site has less environmental impacts than the Congressionally authorized, Coursin Hollow and Bunola Hollow disposal areas, where site specific mitigation measures were agreed to in the December 1991 FEIS. These same site specific mitigation measures will be performed at the Victory Hollow site where applicable.

Comment 3: As a general policy, EPA does not recommend open water placement for dredged material disposal; however, if after appropriate testing, the material is found to be acceptable for open water placement, EPA would not object, and in fact, concurs with the Department of Environmental Protection's recommendation of using the material as fill in pools 4 and 5 of the Allegheny River. Because of previous dredging operations in these pools, large sinkholes have formed creating anaerobic conditions and replacing high value benthic and aquatic species with hardier and lower value species and thereby creating a shortage of food for recreational and commercially valuable species.

Response: In-river disposal activities will conform to PaDEP's Dredging Guideline requirements and the Land Recycling and Environmental Remediation Standards Act, Act 2. PaDEP states that if the material passes the above mentioned criteria it would be suitable for in-river placement.

The District has evaluated Allegheny River Pools 4 and 5 for in-river disposal capacity and determined that the rivers can safely accept 30,000 c.y. and 90,000 c.y. of material, respectively. This would help eliminate the deep anaerobic holes created from years of commercial dredging within these pools and bring the river bed elevations to 710-feet and 720-feet (n.g.v.d.), respectively. This placement will not increase the 100-year flood river-stage profile.

Comment 4: We would strongly urge the continued search for alternative sites, in particular upland sites and beneficial use projects, for example: recycling, topsoil/land cover; creation of shallow water habitat; and bank stabilization.

Response: The District has spent considerable time and resources investigating and screening more than 28 disposal areas. Victory Hollow was determined to have the least amount of adverse affects to the public and the environment. In fact, 65 acres of

this site, which is currently a barren slag spoil area, will be reclaimed, while 55 acres which presently supports a low value wildlife habitat will be replanted with vegetation that will be supportive of a much more diverse wildlife habitat. Other beneficial uses of the material have been identified in this SEIS. These alternatives include creating shallow water habitat below Dam 2 with the concrete rubble generated from the dam removal, in-river placement within the Monongahela River to reduce upland disposal impacts, in-river placement within the Allegheny River to reduce deep anaerobic holes, and construction of fish dikes. Also, a number of other alternative beneficial uses identified will be incorporated within the construction specifications enabling the respective contractor's to pursue these alternatives under the Value Engineering Clause of the contracts.

Comment 5: Testing results are incomplete. Not all of the proposed project sites have been sampled (i.e, Lock 4 and Pool 3) so it is impossible to determine at this point the extent, if any, of contamination at these sites and what techniques or control measures may be necessary to ensure the protection of public and environmental health.

Response: The District has developed an extensive testing program in coordination with PaDEP relative to all excavation, dredging, and disposal activities and is committed to its full implementation. As described in this SEIS, Locks 4 materials have not yet been tested, however, Pool 3 dredging sampling and testing plan has been approved by PaDEP since circulation of the Draft SEIS. Sampling and testing is currently underway in Pool 3. Conclusions of the final report will be sent to your office for review.

Due to the magnitude of the Lower Monongahela River Project, funding and schedules do not allow for all sampling and testing to be performed for all aspects of this project prior to completion of this report. However, all sampling and testing will be performed prior to any excavation or disposal activity. Coordination regarding our sampling and testing program is on-going between the District and PaDEP.

All material to be placed in Victory Hollow or in the other secondary sites proposed in this SEIS and will adhere to the Land Recycling and Environmental Remediation Standards Act, Act 2. Also, risk analysis, leachate and bioassay tests will be performed. Any material that fails to meet PaDEP's criteria will be sent to a State regulated disposal site.

Comment 6: Results for the preliminary studies and those done at Dam 2 indicate exceedences of Pennsylvania's water quality standards and residential and non-residential soil standards for some metals, PAH's, and PCB's. Since there have been exceedences for the above contaminants, based on the final disposal option(s) chosen, further testing including bioassays/toxicity tests may be necessary. This is particularly true for the in-river disposal component. Only material meeting state water quality standards (or EPA's water quality criteria where there is no State standard) is suitable

for open water disposal. also, if test results indicate that material to be placed at the upland sites is shown to be contaminated, control measures such as ongoing monitoring, capping and/or other remediation practices would need to be implemented. RCRA waste characterizations should be performed based on the levels of PCB's and benzo-(a)-pyrene encountered in Monongahela River sediments.

Response: Certain material has been identified as not meeting the required criteria for upland placement. This material will be disposed of at State regulated facilities licensed to accept and properly dispose of the contaminated material.

With respect to future sampling and testing programs, the requirements provided for in the PaDEP Dredging Guidelines for testing of materials will be followed. The results will be compared with the Land Recycling and Environmental Remediation Standards Act, Act 2 criteria for sediment disposition as directed by PaDEP. Material not meeting this criteria for upland disposal will be sent to a State regulated facility for proper disposal.

Comment 7: EPA has concerns related to potential groundwater/drinking water contamination at the Victory Hollow site. The Victory Hills residential community is located adjacent to Victory Hollow site. The nearest house is only 1/4 mile away from the proposed disposal area. There is a significant potential for leaching into groundwater and into nearby aquifers. EPA is not strongly in favor of the Victory Hollow site; however, if the site is chosen, we strongly recommend ongoing monitoring of outfalls, wells, and springs below and above the placement areas. If any problems are discovered, we recommend the use of the site be terminated.

Response: Reference response to Comment-1. Only after extensive investigation, has the District chosen Victory Hollow as the upland disposal site that would result in the least adverse impacts to the natural and human environment. The District has strategically placed groundwater monitoring wells throughout the Victory Hollow site. These wells will identify the baseline ambient water quality prior to construction and fill activities with respect to a wide range of parameters. The wells will continue to be monitored during and after construction activities at the site. Should any parameters indicate a degradation of the ambient water quality in any of the monitoring wells, the cause will be investigated. All ground water test results will be available to the public. Also, all groundwater samples will be split and the duplicates will be available for testing by PaDEP or Carroll Township.

Comment 8: Time of year restrictions for dredging and placement operations should be coordinated with the National Marine Fisheries Service and the Fish and Wildlife Service and documented in the final SEIS.

Response: In conjunction with the feasibility studies and preparation of the Final Environmental Impact Statement, which were completed in December 1991, the U.S.

Fish and Wildlife Service (FWS) in their Fish and Wildlife Coordination Act report detailed time of year restrictions for dredging activities.

The FWS report is included as an APPENDIX on FISH AND WILDLIFE RESOURCES in the LOWER MONONGAHELA RIVER NAVIGATION SYSTEM FEASIBILITY STUDY, INTERIM REPORT. Information on the dredging restrictions will be extracted and incorporated into the plans and specifications for the dredging project.

b. Letter of May 23, 1997 from The U.S. Department of the Interior, Office of the Secretary

Comment 1: The draft SEIS adequately describes existing fish and wildlife resources for all the alternative sites evaluated, and the potential adverse affects from disposal of dredged materials from the locks and dams. The Department concurs with the recommended plan to use the victory Hollow, Duquesne-RIDC, and in-river placements as the preferred disposal sites.
Response: None required.

Comment 2: The U.S. Fish and Wildlife Service (FWS) advises that, except for occasional transient species, no federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S. C. 1531) are required. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.
Response: None required.

3. State Agencies

a. Letter of May 30, 1997 from The Pennsylvania Department of Environmental Protection, Southwest Regional Office

Comment 1: It appears the Corps favors the Victory Hollow/RIDC option since it carries the lowest cost, however, no concise statement actually states this. We have no objection or comment on this alternative.

Response: The Corps favors a combined plan of disposal that will maximize economic, social, and environmental benefits. This plan consists of the Victory Hollow and RIDC upland sites and in-river disposal. Emphasis for in-river disposal of Monongahela River Pool 3 dredged material will be in safe areas of Monongahela River Pools 2 and 3 and Allegheny River Pools 4, and 5. A new subparagraph (f.) has been added to SECTION 7 of this SEIS which explicitly states the preferred disposal

plan.

Comment 2: We would like, however, to reiterate as strongly as possible our suggestion for use of the dredged material for reclamation of the Allegheny River habitat. There is consensus among the resource agencies.....that this option be seriously considered regardless of cost.

Response: The Corps has investigated the feasibility of placing dredged material (sands, gravels, and cobbles) from Monongahela River Pool 3 into Allegheny River Pool 4. Numerical hydraulic analysis have concluded that Pool 4 can accommodate up to 30,000 cubic yards of material without adversely affecting the 100-year flood river stage profile. We also concluded that placing this amount of material in Allegheny River Pool 4 would not be more costly than upland disposal. The material would be placed in the deeper portions of Pool 4, bringing the river bottom up to approximately elevation 710 National Geodetic Vertical Datum (NGVD). This will generally provide a pool depth of about 35 feet, and may not provide the habitat improvement benefits desired, however, it will eliminate the deep anaerobic holes within this pool.

We are currently investigating the feasibility of placing dredged material into Allegheny River Pool 5. Our preliminary numerical hydraulic analysis shows that it may be possible to place approximately 90,000 cubic yards of material in Pool 5 without adversely impacting the 100-year flood river stage profile. Investigations are continuing and if it is confirmed that dredged material can safely and economically be placed in Pool 5, we would also dispose of material there. Also, additional investigations are being explored for enhancements to these capacities within Pools 4 and 5.

Comment 3: We agree the RIDC site provides benefits to the public in the form of brownfield reclamation, however, the disposal at Victory Hollow only benefits a private developer.

Response: At the local level use of the Victory Hollow site does benefit a local developer, however, at a national level the site is the most economically favorable to use which affords benefits to all taxpayers. Also, enhancing the private developers ability to develop the site into a residential/golf course community should be an economic benefit to Carroll Township and local residents in the form of increased tax base and higher property values, respectively.

Comment 4: It is unfortunate that on a strictly cost basis the in-river disposal option on the Allegheny River fares poorly. However, if cost/benefit analysis were performed we believe it would be a much more viable option. It may also be beneficial to consider this alternative together with other environmental enhancement aspects of the Lower Monongahela River Project rather than evaluate it solely as another disposal option.

Response: As stated above, we have concluded that placing material in Allegheny River Pools 4 and 5 would not be more costly than upland disposal. However, the amount of material that is able to be placed in these pools is limited to the impacts to the 100-year flood river-stage profile.

Comment 5: As before, we are willing to meet with the Corps and other resource agencies to further develop this option as a viable alternative. At this time, the Department is not willing to issue 401 Water quality Certification until this has been accomplished.

Response: We are committed to working with you and the other resource agencies in developing a viable plan for in-river disposal that includes the Allegheny River and all other options that result in the lowest project cost. However, placing material in Allegheny River Pools 4 and 5 is contingent upon our completing on-going sediment characterization of the Monongahela River Pool 3 sediments, determining that these dredged materials meet the most recent Pennsylvania Dredging Guidelines and Policy, and PaDEP granting Water Quality Certification under Section 401 of the Clean Water Act.

b. Letter of May 21, 1997 from Pennsylvania Fish and Boat Commission, Division of Environmental Services,

Comment 1: In response to your March 31, 1997 letter, the Pennsylvania Fish and Boat Commission (FBC) conceptually concurs with the above-referenced SEIS, and appreciates the Corps of Engineer's sensitivity to earlier concerns regarding potential stream valley-fill disposal areas for Lower Mon Navigation Project dredged and excavated materials. My January 17, 1995 letter expressed acceptance of the three disposal options more thoroughly addressed in this document - Victory Hollow, Duquesne-RIDC, and In-River Placement.
Response: None required.

Comment 2: The FBC continues to support inriver disposal of <u>suitable</u> materials.....in Allegheny River Pools 4 and 5 dredged holes for the expected water quality and fisheries benefits described in 7.e.7.b. Alternative or in combination selective placement in the Mon could also provide aquatic habitat benefit, but of lesser magnitude. It should be again noted both that the FBC would strongly prefer employing dredged materials to create shoreline irregularities/shallows in the Mon and that disposal needs driving this SEIS are separate from the demolition debris, mitigation "fish reefs" mentioned in 6.c.5.c and detailed in the December 1991 FEIS.

Response: The Corps is investigating creating a shallow water habitat area at approximate river mile 10.0 on the Monongahela River with material from the removal

of the existing fixed crest dam at Locks and Dam 2. The underwater berm will be approximately 50-feet in width and 5-feet below the normal pool elevation. The length of this berm will be determined by the quantity of material from the dam removal.

At this time, it does not appear to be logistically feasible to use the Pool 3 dredged material to create shallow water habitat adjacent to the fish reefs. The fish reefs will be created from concrete rubble generated from Locks and Dam 3 as a mitigation measure agreed to in the FEIS, December 1991. The Pool 3 dredging project will be performed prior to the Locks and Dam 3 removal.

c. Letter of April 29, 1997 from Pennsylvania Fish and Boat Commission,

Comment: ...It is important the selected disposal sites have minimal long term wildlife impacts. After activities have been completed on these selected sites, the suggested plantings will benefit the wildlife species which have been displaced. As always, we wish to continue providing technical assistance for the development and implementation of plans which benefit the wildlife in the Commonwealth.
Response: None required.

d. Letter of April 21, 1997 from Pennsylvania Department of Transportation, Bureau of Environmental Quality

Comment 1: Page 12, states that " A licensed Hazardous Waste Transporter will be required by contract." The HTRW site assessments did not detect hazardous materials at any of the construction or disposal sites, except for some sediment that was determined to be characteristically hazardous for ignitibility. This statement should read: "A licensed transporter, licensed to transport the particular type of waste to be disposed of, will be required by the contract".

Response: The sentence has been revised as noted.

Comment 2: Typo: Exhibit 3, Attachment No. 5, sht 3 - "Max. Concentration of Contaminants for the toxicity Characteristic Leeching Leaching ~~Procedure~~"

Response: Spelling Corrected.

e. Letter of April 11, 1997 from
Pennsylvania Historical and Museum Commission,
Bureau of Historic Preservation

Comment 1: It is our opinion that the impact of disposal of dredged and excavated materials on cultural resources will be adequately addressed by the April 30, 1992 Programmatic Agreement. We look forward to reviewing the revised archeological report for Victory Hollow.

Response: The revised archeological report for Victory Hollow will be sent to your office upon completion.

4. Local Agencies

a. Letter of June 4, 1997 from
Historical Society of Western Pennsylvania

Comment 1: Thank you very much for your recent donation to the historical Society of Western Pennsylvania. We received the three Environmental Assessments, Locks and Dams 2, 3, and 4 Monongahela River Project Gated Dam 2-Concrete Batch Plant, Lower Monongahela River Project Locks and Dams 2, 3, and 4, and lower Monongahela River Project Locks and Dams 2, 3, and 4, we are pleased to add them to our collection.
Response: None required.

b. Letter of April 7, 1997 from
The Honorable Joseph J. Bendel,
Mayor, City of McKeesport

Comment 1: Thank you for the above referenced Environmental material. The City of McKeesport urges that the overall project commence as soon as possible. We are prepared to cooperate. We have no objection.
Response: None required.

5. Private Groups and Individuals

a. Letter of June 9, 1997 from
Mrs. Marion Sevich

Comment 1: In response to your letter of March 31 1997, we the people of Victory Hill, Place Plan and the surrounding areas, do not concur with the draft of SEIS. We stand on the belief that it would be impossible to remove all the toxic substances from the dredged an excavated river bed, that you plan to dump at Victory Hill. We are very concerned about the potential health hazard which you can not guarantee that there will be none.

Response: The District has developed an extensive testing program in coordination with to the Pennsylvania Department of Environmental Protection (PaDEP) relative to all excavation, dredging, and disposal activities and is committed to its full implementation. All material to be placed in Victory Hollow or in the other secondary sites proposed in this SEIS will adhere to PaDEP's Land Recycling and Environmental Remediation Standards Act, Act 2. Also, risk analysis, leachate and bioassay tests will be performed. Any material that fails to meet PaDEP's criteria will be sent to a State regulated disposal site.

The District is confident that the in-place sampling and testing plan will identify any contaminated material that may be present. However, to foster public confidence, a random and independent testing program will be conducted as requested by a resident of Victory Hills who participated in the public informational forum sponsored by Congressman Mascara and his staff. The following paragraphs discuss these programs.

Random Testing: The District will require the contractor to have a random testing program for materials delivered to the off-loading area. A laboratory will be located at the off-loading area for processing of the samples taken. Samples will be taken at approximate intervals of 20,000 c.y. of material delivered to the off-loading area (equivalent to once every two barge loads). Sampling will be done in the barge or in the off-loading area. Samples will be taken in areas where color or odor indicates potential contamination, otherwise, they will be taken at random. Representatives of PaDEP and Carroll Township will be invited to participate in selecting sample locations. Testing will follow PaDEP Dredging Guidelines or other applicable guidance to screen the soil for potential contamination. If contamination is indicated and confirmed by secondary tests, the soil represented by the sample will be placed in an alternative state regulated facility, not Victory Hollow.

Independent Testing: All samples taken under the random testing program will be split. The duplicates will undergo screening level tests by a second, independent laboratory proposed by the contractor and agreeable to the Corps, PaDEP, and Carroll Township. All duplicate samples will be retained for at least 30 days after screening tests and made available to PaDEP and Carroll Township for additional testing, if they desire.

Comment 2: Your draft states there could be an odor. since you say there could, why would that be acceptable to the residents of this area? The residents find this to be unacceptable.

Response: Some agencies maintain that no odor will emanate from the site, while others believe it is more than natural that this material will exude an odor. Typically, the District has never experienced foul odors emanating from any recent dredging activities. In any event, if an odor does exist during the course of the work, project actions the District will take to minimize the temporary inconveniences which may be

experienced by the local residents due to odor pollution are as follows. There are primarily two potential causes for odors; (1) the decay of organic materials, and (2) chemical or petroleum based materials which may be excavated or dredged from the river.

1. Decay of Organic Materials: There may be pockets of organic material dredged or excavated that will require disposal. Our experience has found that this material may smell like wet decaying leaves. Should these materials be encountered upon delivery to the off-loading area, the material will be distributed in an even layer and allowed to dry. Lime will be placed on the material to minimize odor, and the material will be transported to the disposal area for placement within 24 hours. This material will be isolated and immediately capped with other odorless material. We find no reason to believe that these odors cannot be controlled, nor will they be noticeable at any significant distance from the source.

2. Chemical or Petroleum Based Material: These materials should be identified through the in-place sampling and testing plan, and will be disposed of at a State regulated facility. However, if isolated pockets of these materials are not identified during in-place sampling and testing, and odorous materials are delivered to the off-loading site, sampling and testing will be conducted to identify any contaminants and proper disposal measures will be employed. The random and independent testing is discussed in the paragraph s above.

Also, the District will provide a 1-800 hotline to be available to local residents in the event odor pollution is evident.

Comment 3: As for the noise, why subject the residents to even more? The increase in the noise level due to all heavy equipment is also unacceptable to the residents.

Response: With regard to concerns for noise pollution the District will proactively take the following measures; (1) obtain baseline noise levels on existing conditions in the community of Victory Hills, which will entail placing sound meters at strategic locations prior to construction activities to measure ambient decibel levels, (2) monitor noise levels during construction activities, establish action levels with PaDEP and Carroll Township according to EPA and OSHA guidelines and, if necessary, adjust the contractor's operation, (3) establish a 1-800 hotline available to local residents should they experience problems, (4) require in the construction contract that mufflers be in place and operable on all vehicles and equipment, and (5) limit construction activities at Victory Hollow to the period from 7 A.M. to dusk, except for the off-loading area which will continue on a 24-hour operation typical to that of the American Carbon Metals Company, which occupied the off-loading area prior to going out of business.

Comment 4: What is more important, is that our homes are a mere one forth of a mile, from the proposed dump site.

Response: Activities associated with the disposal of material at the Victory Hollow site will take place more than a third of a mile from the nearest resident, the Vayanskys', in the community of Victory Hills. The material proposed to be placed nearest to the community would come from excavations at Dam 2. With the availability of the RIDC site for the Dam 2 material, the distance between the temporary disposal activities and the community becomes greater. A series of site development plans are provided for your review and are shown as APPENDIX B.

Disposal of dredged material at Victory Hollow will not disturb the perennial stream or forested hillside which act as a natural "buffer zone" between disposal activities at the site and the community. During the summer foliage season, activities at the disposal area are not visually noticeable due to this natural "buffer zone".

Comment 5: We the people, the residents of this area, do have the right to a safe place to live and work. This is a right over the big corporations and land developers rights to make huge profits at the expense of the environment and public health.

Response: The Victory Hollow site is a partially reclaimed strip-mined area. The area experienced years of open strip-mining activities with no regard to the residents of Victory Hills. The temporary disposal activities associated with the actions the District will undertake on the site will be conducted with respect for the residents of the nearby community and the environment.

Comment 6: Our goal is to avoid for our children and our children's children any and all environmentally linked health problems.

Response: All material to be placed in Victory Hollow or in the other secondary sites proposed in this SEIS will adhere to the PaDEP Land Recycling and Environmental Remediation Standards Act, Act 2. Also, risk analysis, leachate and bioassay tests will be performed. Any material that fails to meet PaDEP's criteria will be sent to a State regulated disposal site. These provisions will minimize risk to future generations.

Comment 7: Please be mindful, that according to your answer to our questions about petitions, it was stated: "A PETITION WITH SIGNATURES BASED ON OBJECTIVE PRESENTATION OF FACTUAL INFORMATION AND COMMUNITY CONCERNS WOULD BE SERIOUSLY CONSIDERED IN THE PROJECT DECISION PROCESS." We have presented over 300 names on the petition. I am confident that you will agree that not only have we met the obligation of the petition, but that the people have a significant community concern. One quarter of a mile from our homes is much to close.

Response: The petition was considered in the project decision process. The major concerns of the petition are for toxic sediments resulting in soil contamination, airborne

contamination, odor, health hazards, and noise from the equipment. It is reiterated that the District spent considerable resources screening nearly 30 potential upland sediment placement locations. This screening process considered the cost, potential social, cultural, and environmental factors for all these sites. Victory Hollow clearly remains the optimum location from this comparison of alternatives. The District will take proactive measures to assure potential impacts are minimized as outlined in this SEIS. All material to be placed in Victory Hollow or in the other secondary sites proposed in this SEIS will adhere to the PaDEP Land Recycling and Environmental Remediation Standards Act, Act 2. Also, risk analysis, leachate and bioassay tests will be performed. Any material that fails to meet PaDEP's criteria will be sent to a State regulated disposal site.

b. Letter of June 9, 1997 from Mrs. Ida J. Mancinelli

Comment 1: ...But now comes the worst scourge that could ever affect a community. Our health is being threatened because of the - Lower Monongahela River Project - Disposal of Dredged and Excavated Material....Odor - Dust - Noise are all detrimental to our health.

Response: The above comment reflects the concerns raised by Mrs. Sevich. With respect to health concerns due to toxicity of sediments to be placed at Victory Hollow, odor, and noise see responses to Comment (1), Comment (2), and Comment (3) of Mrs. Sevich's comment letter above. With respect for concerns about dust, see response to Comment (3) of Congressman Mascara's comment letter above.

c. Letter of June 4, 1997 from Regional Industrial Development Corporation of Southwestern Pennsylvania

Comment 1: The consideration of the City of Duquesne to receive a portion of the clean material from the project remains favorable, and the RIDC welcomes the opportunity to remain in close discussion with the Corps of Engineers as the Locks and Dams 2, 3, and 4 project progresses. There are a number of details yet to be concluded between the Corps of Engineers and RIDC concerning the scope of the work, its placement, and its coordination with the on-going development activities. These may be details that are premature for discussion at this stage, however, I would like to record with you the willingness of the RIDC to discuss these matters when you feel that it is appropriate.

Response: The Corps and the RIDC met on 23 July 1997 to discuss the engineering, construction and legal aspects of placing Dam 2 materials at the Duquesne site. A mutually acceptable disposal strategy was agreed upon and the RIDC is now preparing a generalized placement plan for incorporation into the plans and specifications for new

Dam 2.

Comment 2: The project that is proposed is significant in scope and in impact upon the development of the City of Duquesne, and there are approvals that the City Center of Duquesne has reminded us to obtain.

Response: On 10 September 1997, the President of the RIDC reported to the Project Manager that he met with the City of Duquesne Planning Commission shortly after the 23 July 1997 meeting with the Corps to present the disposal strategy concepts developed. He further reported that, the Planning Commission was very receptive to the disposal strategy and expects the RIDC to provide a topographic plan and comply with all local ordinances. The RIDC President said he would comply with the requirements set forth.

12. CONCLUSION

The potential for environmental, social, and cultural impacts have been identified with **respect to the activities associated with the disposal of dredged and excavated material produced from the Lower Monongahela River Project** addressed in this SEIS, including placement at Victory Hollow, Duquesne-RIDC restoration project, and in-river placement within the Allegheny and/or Monongahela rivers. **The Draft SEIS has been circulated for agency and public review. Also, impacts from additional alternatives available to** the project contractors, that could be investigated for cost saving benefits, have been addressed in this SEIS.

The District has explored a wide array of reasonable and practical disposal alternatives. Through an iterative process, the alternatives have been narrowed to three that are economically feasible and environmentally and socially acceptable. These include two upland disposal sites at Victory Hollow and the Duquesne-RIDC sites, and in-river disposal in both the Allegheny and Monongahela rivers. While the Victory Hollow site will accommodate all dredged and excavated material, there are economic an environmental benefits to using the secondary placement sites of Duquesne-RIDC and in-river. With use of these secondary disposal alternatives, potential adverse impacts at the Victory Hollow site will be minimized.

The public review period for the Draft SEIS was completed on Friday, June 13, 1997. All comments received have been addressed in a responsible manner and are shown in Section 11, COORDINATION AND PUBLIC INVOLVEMENT, sub-paragraph (d) Comments and Responses to the Draft SEIS. These Comments and Responses have been finalized and made a part of the record for the project through inclusion in this Final SEIS.

REFERENCES

1. Burrell Construction and Supply Co., 1996. Non-Coal Surface Mining Map, Palmer Park.

2. Gannett Fleming, Inc. 1995. Victory Hollow Site, Phase I Hazardous and Toxic Waste Assessment. U.S. Army Engineer District, Pittsburgh, Corps of Engineers, Pittsburgh, Pennsylvania.

3. Gannett Fleming, Inc. 1996. Maintenance Bulkhead Storage Areas, Phase I Hazardous and Toxic Waste Assessment. U.S. Army Engineer District, Pittsburgh, Corps of Engineers, Pittsburgh Pennsylvania.

4. Geomechanics Inc. (GMI) 1990. Environmental Assessment Report, Carroll Township Property, Washington County, PA.

5. Jones, George R. 1983. Report for William Piccolomini, Mine Drainage Permit #3277SM5.

6. Jones, George R. 1981. Completion Report Map for William Piccolomini, Donora No. 1 Strip Mine, Carroll Township, Washington County, PA.

7. Pennsylvania Department of Environmental Resources, Bureau of Topographic and Geologic Survey 1973. Summary, Groundwater Resources of Allegheny County.

8. Pennsylvania Department of Environmental Resources, Bureau of Topographic and Geologic Survey 1973. Summary, Groundwater Resources of Washington County.

9. Pennsylvania Department of Environmental Resources. 1993. Cleanup Standards for Contaminated Soils, Interim Report.

10. U.S. Army Engineer District, Pittsburgh. 1990. Investigation for the Presence of Priority Pollutants in the Navigation Substrate. U.S. Army Engineer District, Corps of Engineers, Pittsburgh, Pennsylvania.

11. U.S. Army Engineer District, Pittsburgh. 1991. Lower Monongahela River Navigation System Feasibility Study (Volumes 1-6). U.S. Army Engineer District, Corps of Engineers, Pittsburgh, Pennsylvania.

12. U.S. Army Engineer District, Pittsburgh. 1996. A Cultural Resources Assessment of the Proposed Disposal and Dam No. 2 Work Areas for the Locks and Dams 2, 3, and 4, Monongahela River Project, Allegheny and Washington Counties, Pennsylvania. U.S. Army Engineer District, Corps of Engineers, Pittsburgh Pennsylvania.

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

FIGURES

LIST OF FIGURES

FIGURE 1 - COURSIN HILL SITE

FIGURE 2 - BUNOLA SITE

FIGURE 3 - DUNLEVY SITE

FIGURE 4 – RIVER MILE NINE SITES

FIGURE 5 - LOCATION OF PA PERMITTED LANDFILL SITES

FIGURE 6 - FISH REEFS

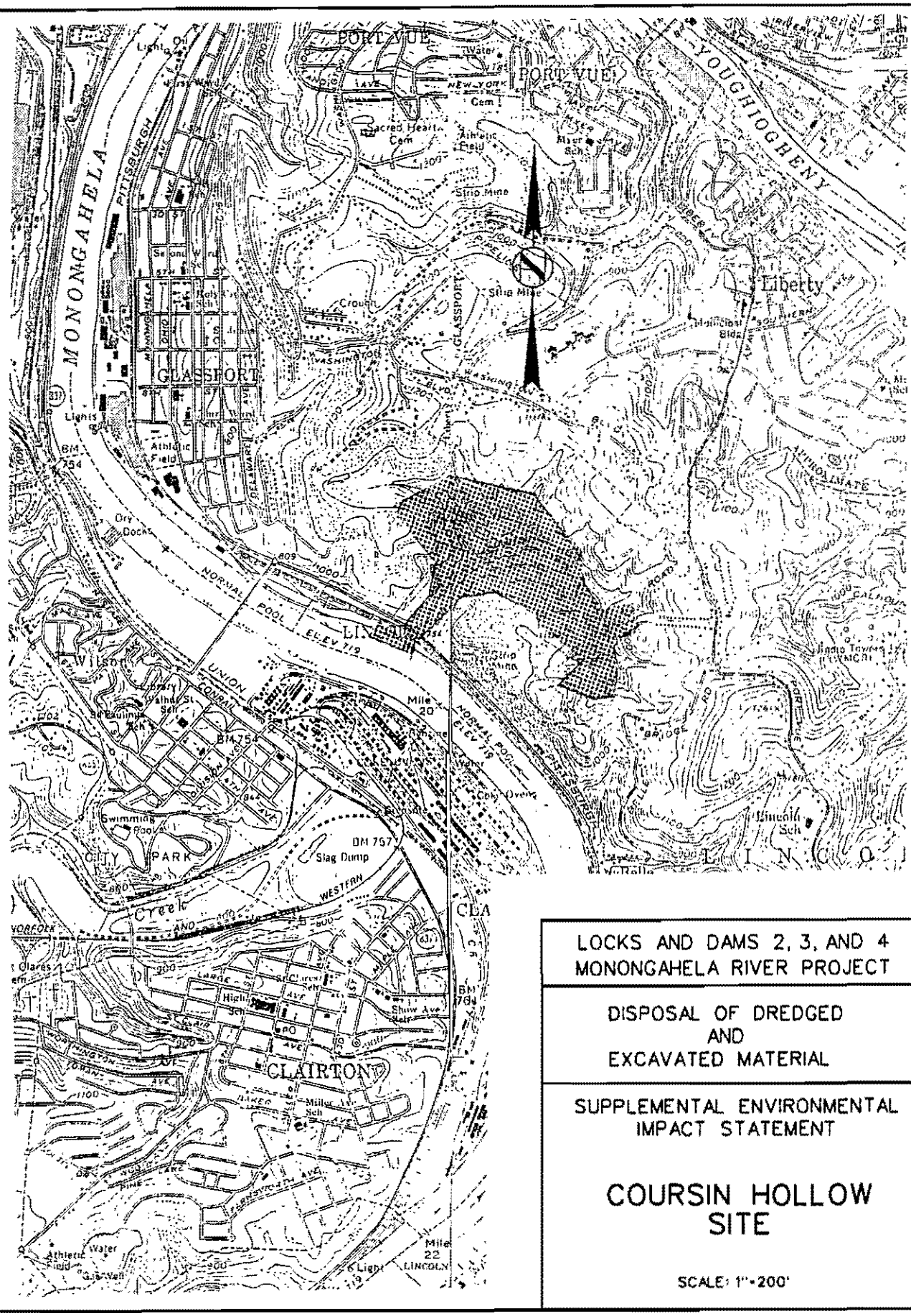
FIGURE 7 - KELLY RUN LANDFILL

FIGURE 8 - ARNONI LANDFILL

FIGURE 9 - VICTORY HOLLOW SITE

FIGURE 10 - DUQUESNE-RIDC SITE

FIGURE 11 - DUQUESNE-RIDC SITE, TRUCK TRANSPORTATION OPTION



LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

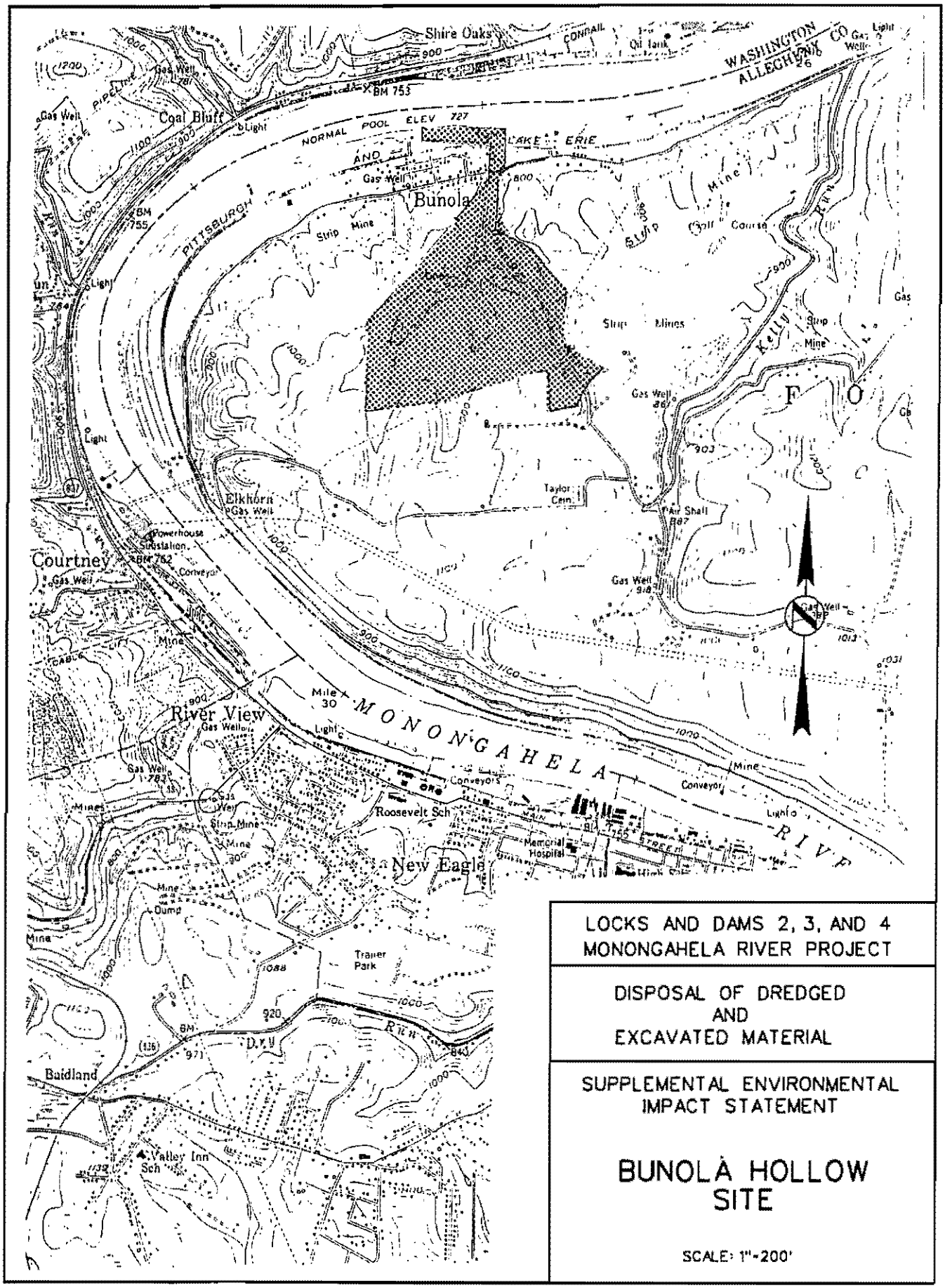
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

COURSIN HOLLOW SITE

SCALE: 1" = 200'

FIGURE 1



LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

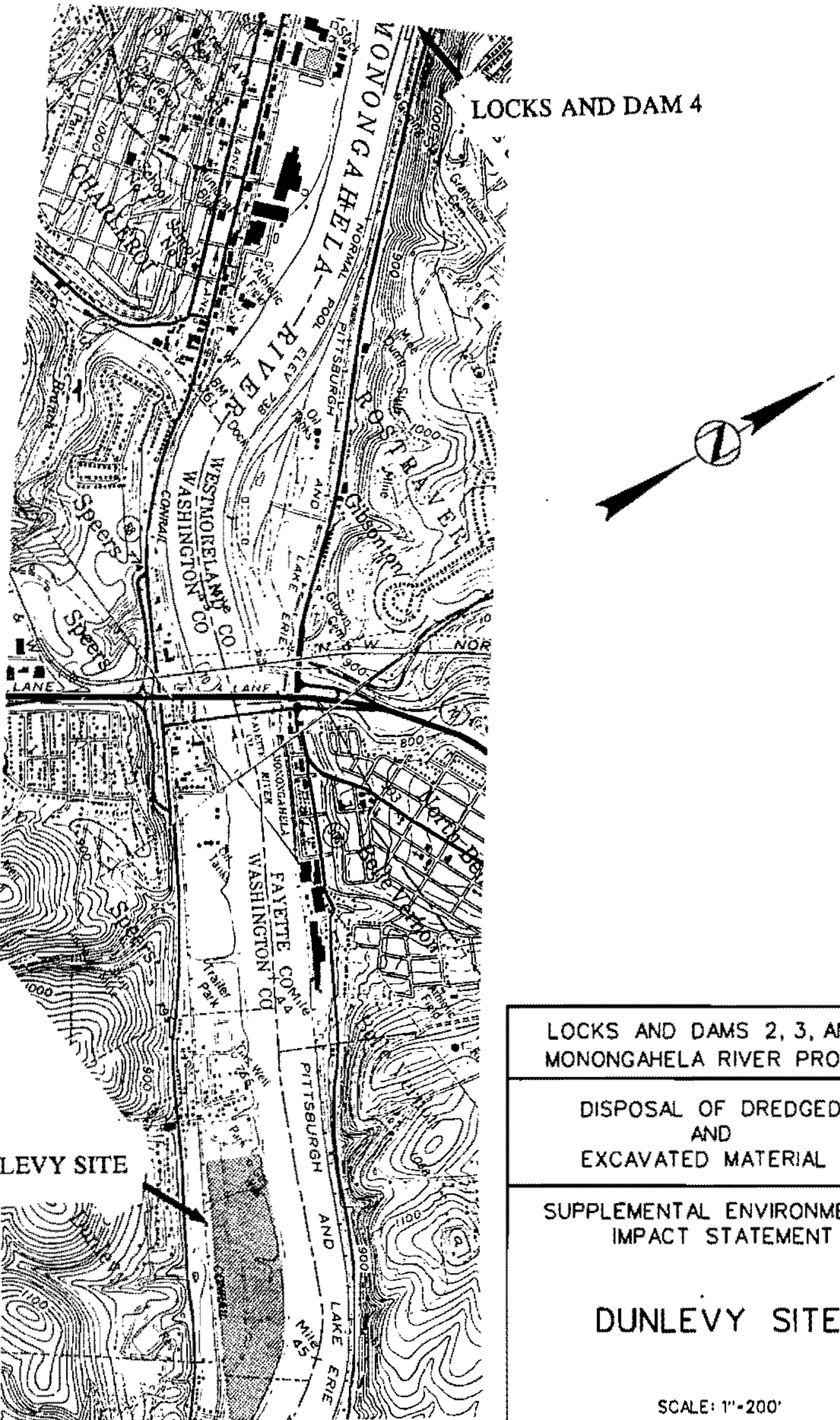
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

BUNOLA HOLLOW SITE

SCALE: 1"=200'

FIGURE 2



LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

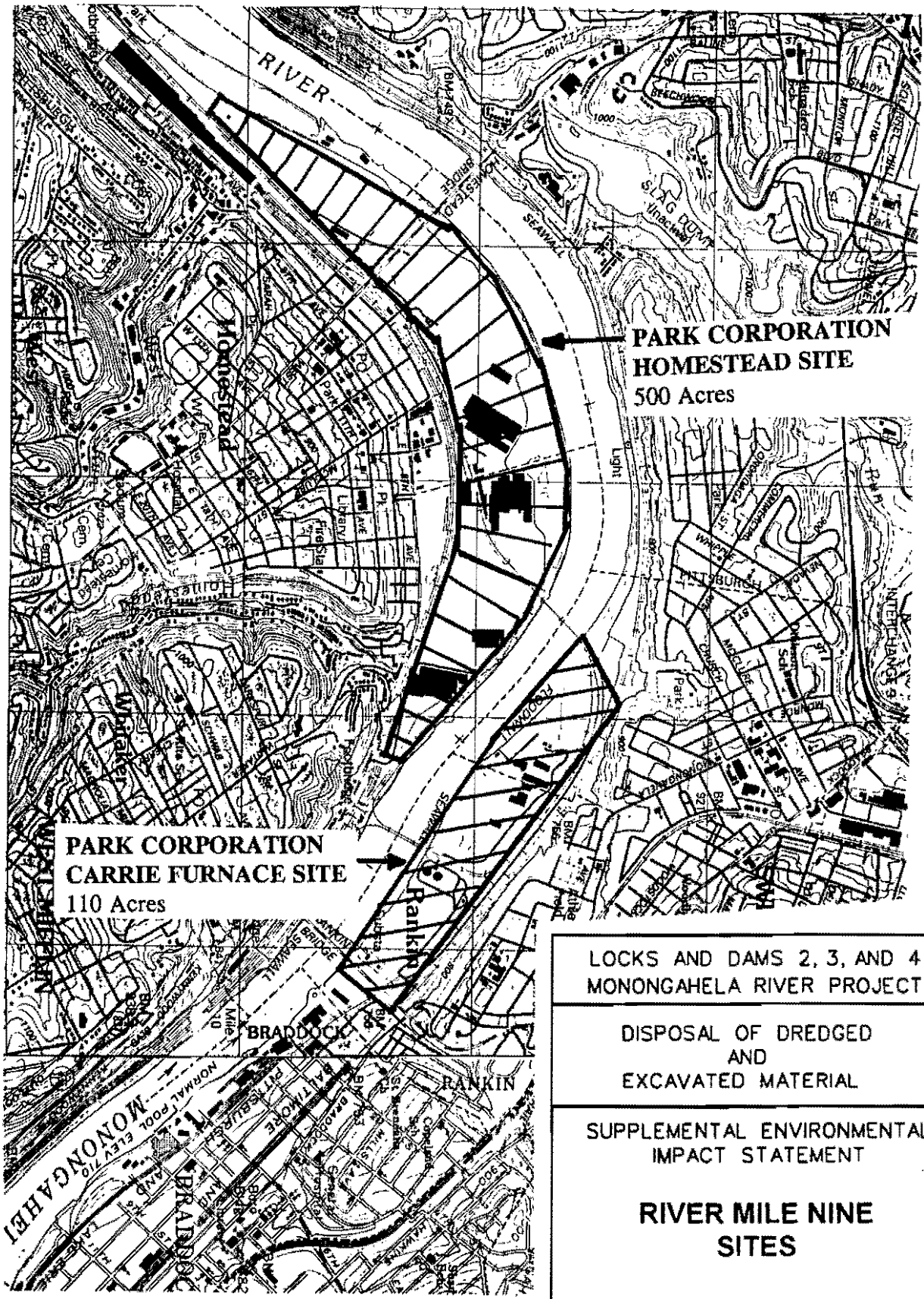
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

DUNLEVY SITE

SCALE: 1"=200'

FIGURE 3



LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

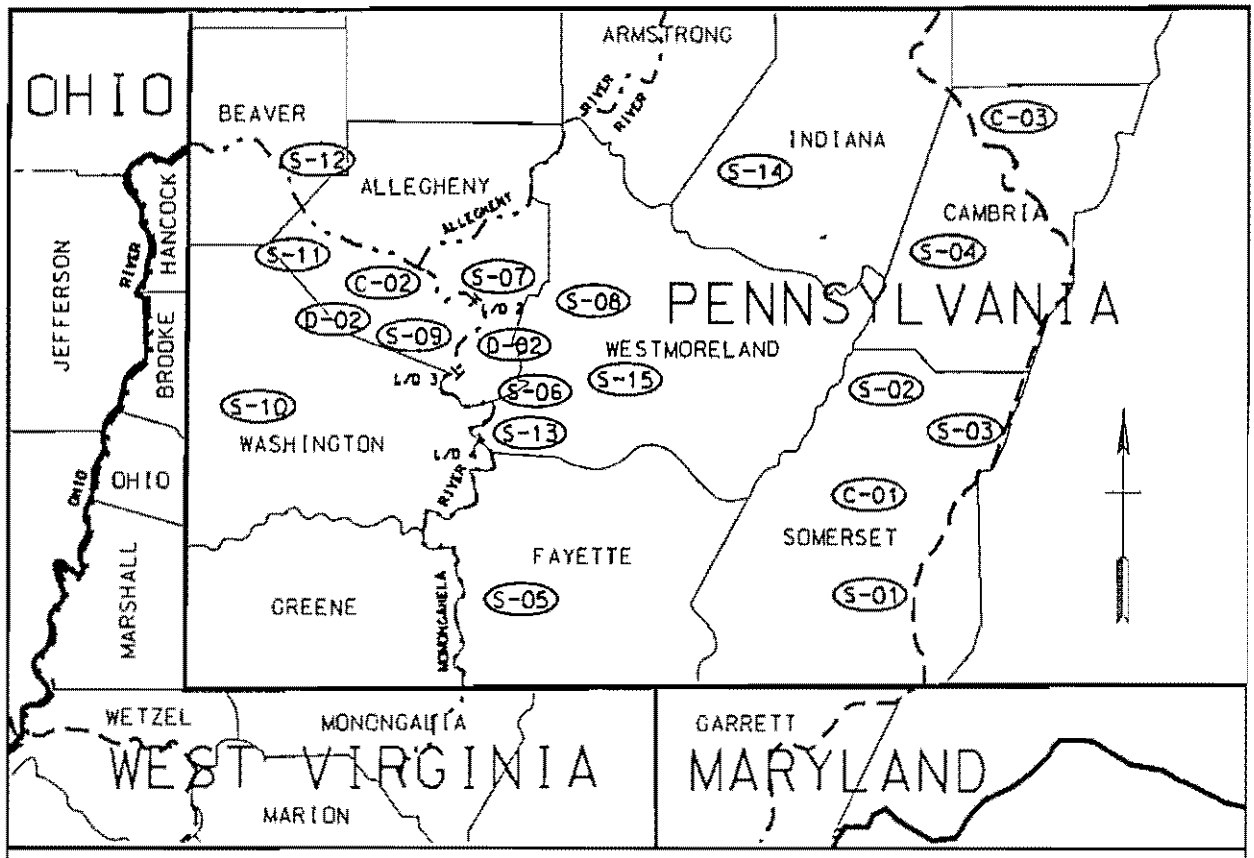
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

RIVER MILE NINE
SITES

SCALE: 1"=200'

FIGURE 4



DISPOSAL SITE LEGEND

Ⓢ - Sanitary Landfill
Ⓒ - Clean Fill Landfill
Ⓓ - Demolition Landfill

INDEX

S-01	Brothersvalley/Mostoller Landfill
S-02	Conemaugh/Southern Alleghenies Landfill
S-03	Shade/RCC Landfill
S-04	Jackson/Chambers Laurel Highland Landfill
S-05	German/J & J Landfill
S-06	Forward/Kelly Run Landfill
S-07	Monroville/Chambers Landfill
S-08	Penn/Valley Landfill
S-09	South Park/Arnold Landfill
S-10	Chartiers/Ardens Landfill
S-11	Findlay/Browning-Ferris Industries of PA
S-12	New Sewickley/J.J. Brunner Landfill
S-13	Rostraver/Sanitary Landfill
S-14	Center/Pellegrene Landfill
S-15	East Huntington/Y & S Sanitary Landfill
C-01	Somerset/Walters Class I Demo Site
C-02	Greentree/Suela Park
C-03	Barnesboro/Barnesboro Disposal Area
D-01	N. Fayette/Deep Valley Coal & Disposal
D-02	N. Versailles/Vindland Landfill

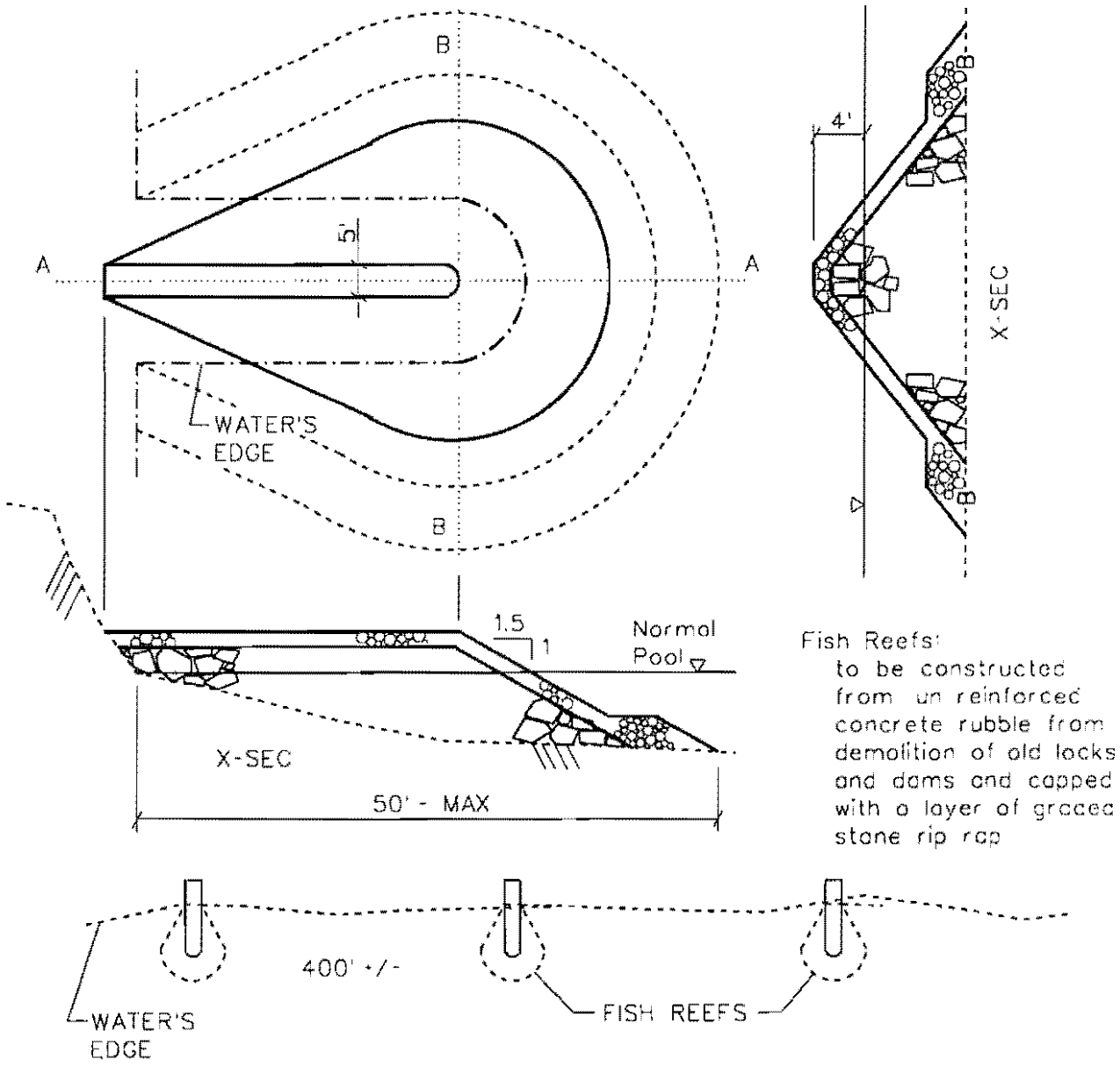
45 22.5 0 45 MI 90 MI

1 IN. = 45 MILE

Location of PADEP Permited Landfill Sites

LOCATION MAP

FIGURE 5



Fish Reefs:
to be constructed from un reinforced concrete rubble from demolition of old locks and dams and capped with a layer of graded stone rip rap

PLAN

Fish Reefs are proposed in the following reaches:

a. Left Bank - r.m. 21.3 - 21.7
r.m. 25.5 - 26.7

b. Right Bank - r.m. 29.2 - 29.8
r.m. 30.0 - 31.5, and
r.m. 32.5 - 33.5

LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

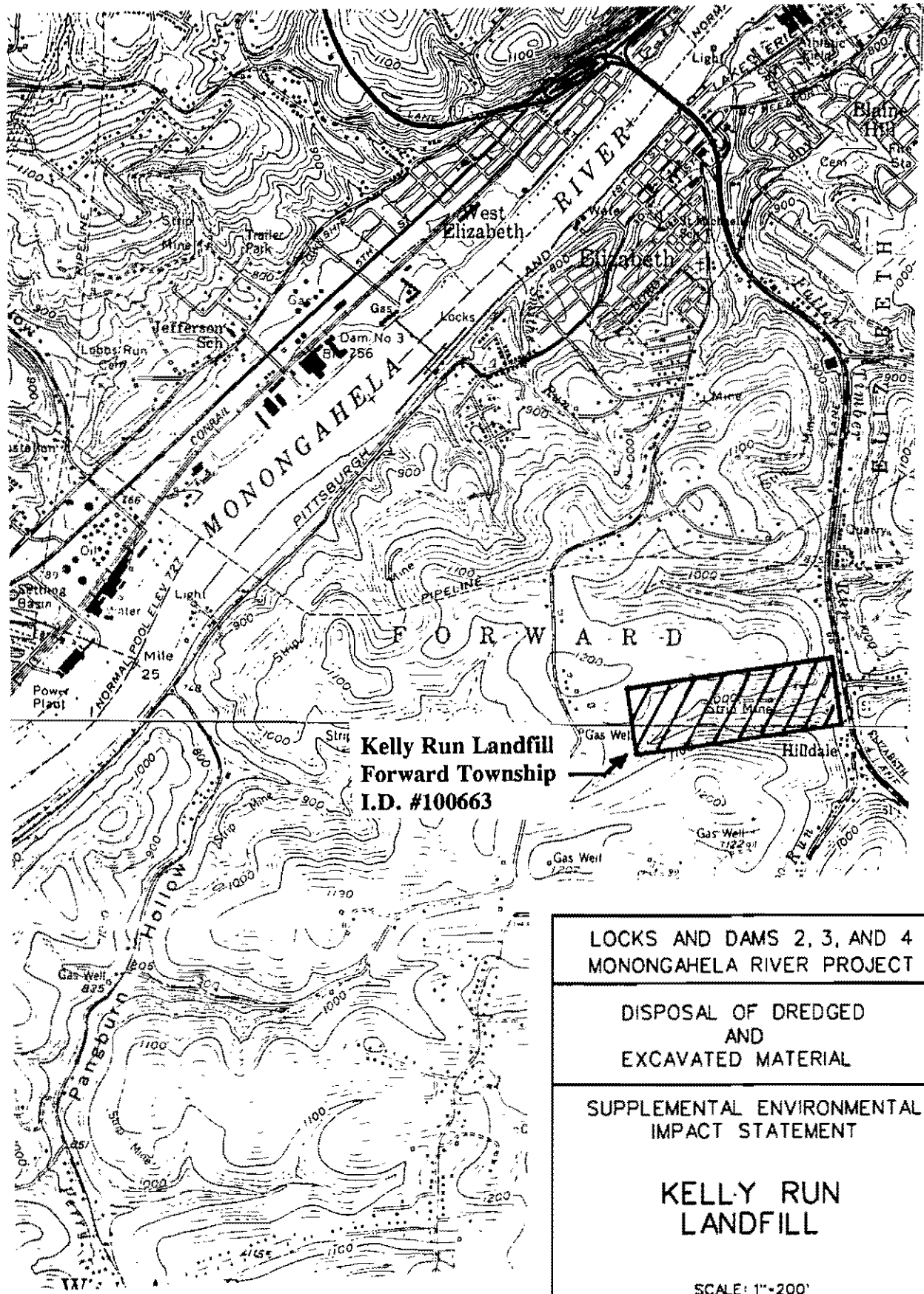
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

FISH REEFS

(NO SCALE)

FIGURE 6



LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

KELLY RUN
LANDFILL

SCALE: 1"=200'

FIGURE 7

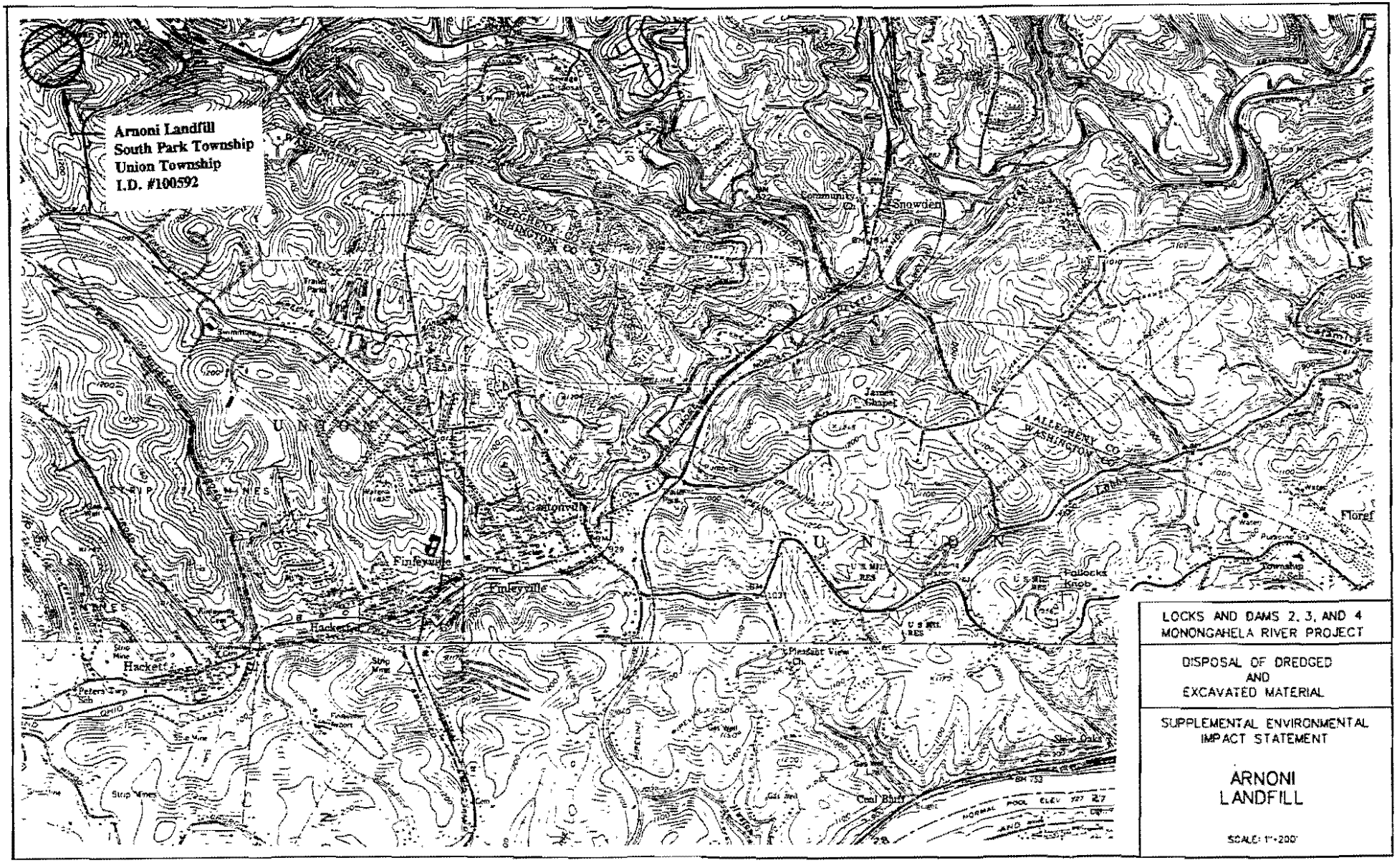
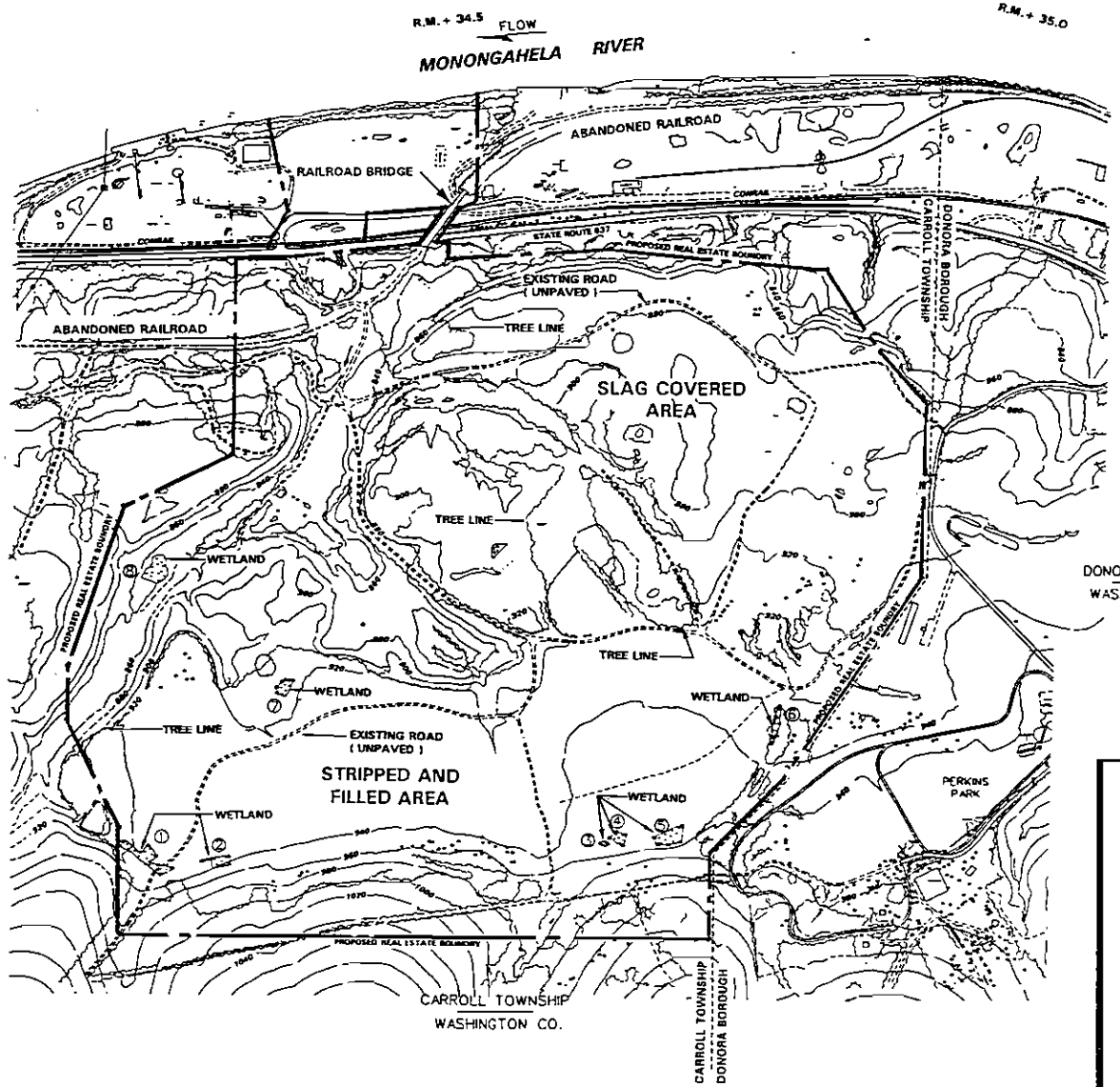

Arnoni Landfill
South Park Township
Union Township
I.D. #100592
LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL
SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT
ARNONI
LANDFILL
SCALE: 1"=200'

FIGURE 8



WETLAND IDENTIFICATION (NO.)	AREA (ACRES)
1	0.241
2	0.100
3	0.017
4	0.067
5	0.175
6	0.078
7	0.094
8	0.228
TOTAL	1.00 ACRES

LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

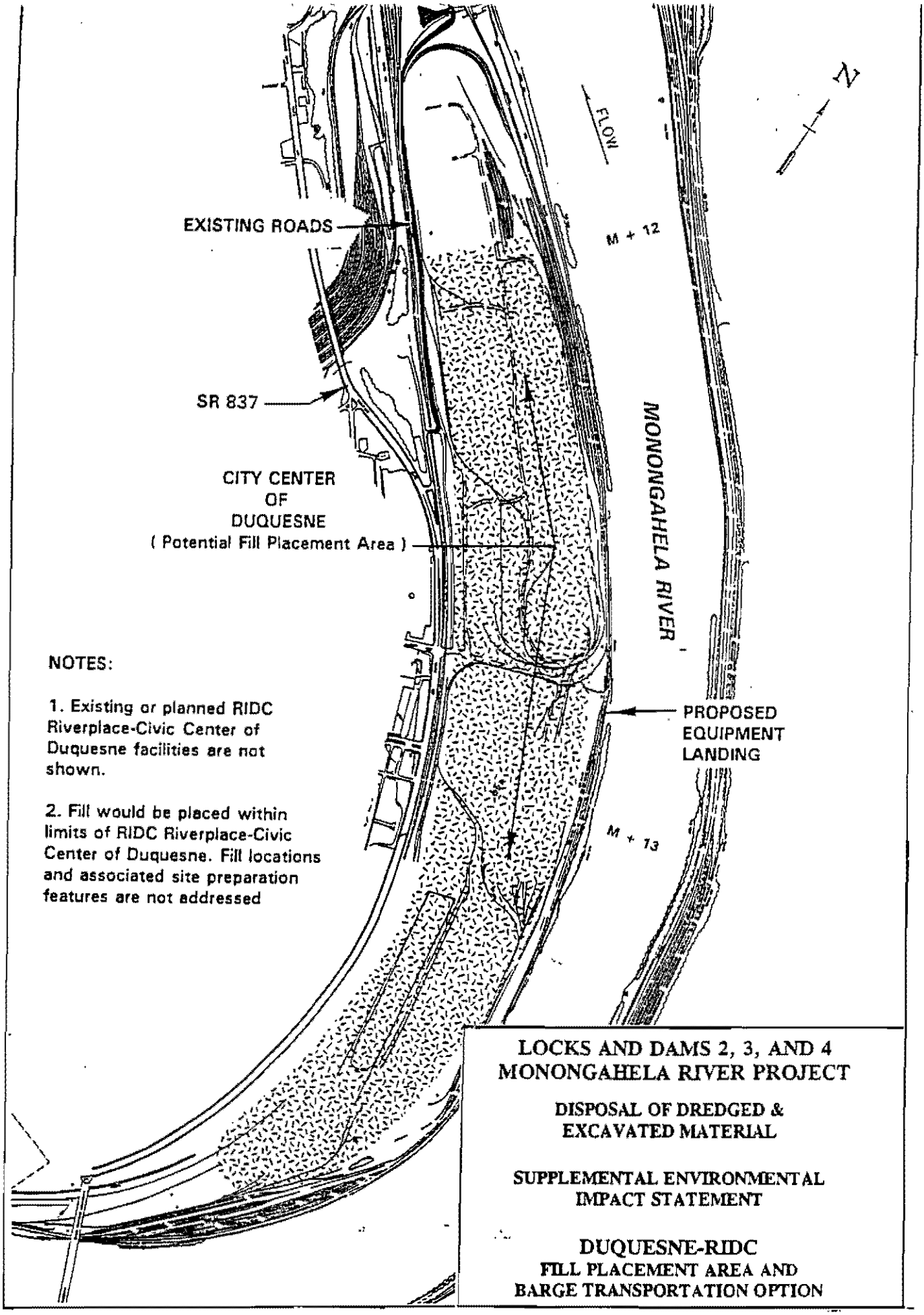
SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

VICTORY HOLLOW
DETAILED SITE PLAN

GRAPHIC SCALE

1" = 200'

FIGURE 9



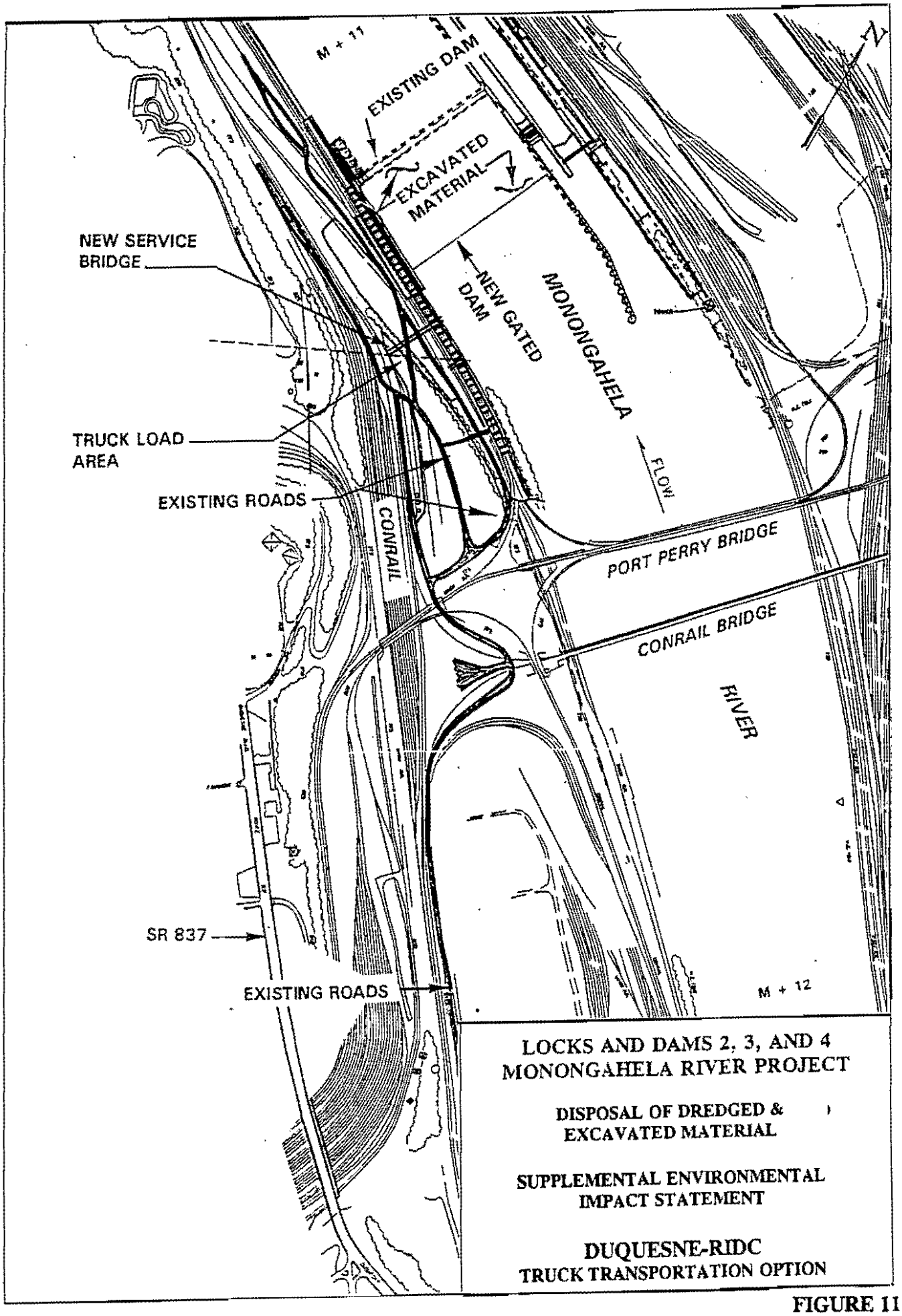
LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

DISPOSAL OF DREDGED &
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

DUQUESNE-RIDC
FILL PLACEMENT AREA AND
BARGE TRANSPORTATION OPTION

FIGURE 10



LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

DISPOSAL OF DREDGED & EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

DUQUESNE-RIDC
TRUCK TRANSPORTATION OPTION

FIGURE 11

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBITS

LIST OF EXHIBITS

EXHIBIT No. 1 - PROJECT EXCAVATIONS AND DISPOSAL FACT SHEETS

EXHIBIT NO. 2 - SEDIMENT CHARACTERIZATION INVESTIGATION – SAMPLING PLAN LOCATIONS

EXHIBIT NO. 3 - SEDIMENT CHARACTERIZATION INVESTIGATION – SUMMARY OF SAMPLING AND TESTING RESULTS

EXHIBIT NO. 4 - MAPS OF UPLAND DISPOSAL ALTERNATIVES CONSIDERED IN SCREENING ANALYSIS

EXHIBIT NO. 5 - RESOURCES AGENCY RESPONSES TO SCOPING LETTER

EXHIBIT NO. 6 - HYDRAULIC ANALYSIS OF IN-POOL DISPOSAL (MONONGAHELA RIVER)

EXHIBIT NO. 7 - FINE AGGREGATE EVALUATION OF MATERIAL FROM THE LOWER MONONGAHELA POOL 3 DREDGING PROJECT

EXHIBIT NO. 8 - ALLEGHENY RIVER - IN-POOL DISPOSAL CONCERNS

EXHIBIT NO. 9 - VICTORY HOLLOW - COORDINATION OF PUBLIC CONCERNS

EXHIBIT NO. 10 - CLEAN WATER ACT - SECTION 404(B)(1) EVALUATION

EXHIBIT NO. 11 - VICTORY HOLLOW - WETLAND SITE INSPECTIONS REPORT

EXHIBIT NO. 12 - RELATIONSHIP OF THE PROPOSED DISPOSAL ACTIVITIES TO ENVIRONMENTAL PROTECTION STATUTES AND OTHER ENVIRONMENTAL REQUIREMENTS

EXHIBIT NO. 13 - COORDINATION WITH THE FISH AND WILDLIFE SERVICE

EXHIBIT NO. 14 - SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT RECIPIENTS

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 1

PROJECT EXCAVATION AND DISPOSAL FACT SHEETS

CEORP-ED-GS

Sept 1996

U.S. ARMY CORPS OF ENGINEERS
PITTSBURGH DISTRICT

MONONGAHELA RIVER
LOCKS AND DAM 2, 3, & 4

CONSTRUCTION OF DAM 2

PROJECT EXCAVATION AND DISPOSAL FACT SHEET

Project Description:

Construction of high lift, gated dam approximately 500 feet upstream from the existing fixed crest dam. Work to be completed in 3 stages, within coffered and unwatered excavations. Removal of existing dam upon completion of new dam. Miscellaneous channel dredging, and upgrades to lock structures.

	Quarter	Year
Estimated Construction Contract Award Date:	Spring	1999
Estimated Dam Construction Completion Date:	Fall	2003

Schedule of Project Excavations

Construction Feature	Quantity		Years
Stage 1 Pre-Excavations	178,955	CY	1999-2000
Stage 1 Interior Excavations	237,860	CY	2000
Stage 2 Pre-Excavations	111,436	CY	2001
Stage 2 & 3 Pre & Int Excavations	125,930	CY	2001-2002
Dam Removal	20,680	CY	2003
Total (In Bank CY)	674,861		

Summary of Excavation Material Types:	In Bank Quantity	Net* Swell	Disposal Quantity		Proposed Disposal Site
Gated Dam Construction:					
Silts, Clays, Sands, Gravels:	598,336	10%	658,170	CY	Upland Disposal
Bedrock (Shales)	3,850	20%	4,620	CY	Upland Disposal
Channel Dredging					
Silts, Clays, Sands, Gravels:	47,500	10%	52,250	CY	Upland Disposal
Dam Removal					
Stone Filled Cribbing	11,730	0%	11,730	CY	Upind & Cmmrcl Displ
Concrete Rubble	8,950	40%	12,530	CY	Upland Disposal***
Derrick Stone	4,515	0%	4,515	CY	Upland Disposal***
Total Project Disposal Quantity	674,861		743,815	CY	

* Assumed net increase in volume after placement in 3 foot lifts with minimal compactive effort.

** Estimated Quantities and Project Schedule as of February 1996. Actual dates and quantities may change.

*** Materials with Potential Beneficial Use as Fish Mitigation Structure

EXHIBIT No. 1, ATTACHMENT No. 1

CEORP-ED-GS | Sept 1996

U.S. ARMY CORPS OF ENGINEERS
PITTSBURGH DISTRICT

MONONGAHELA RIVER
LOCKS AND DAM 2, 3, & 4

RECONSTRUCTION OF LOCKS 4

PROJECT EXCAVATION AND DISPOSAL FACT SHEET

Project Description:

Staged removal of existing locks and contruction of twin 84' by 720' lock chambers. Work to be completed in 2 stages, within cofferd and unwatered excavations.

- o Replacement of Existing River Chamber
- o Replacement of Existing Land Chamber
- o Dredging of Pilot Channel in Upstream Approach Channel
- o Rehabilitation of Gated Dam Stilling Basin and Placement of Scour Protection

	Quarter	Year
Estimated Construction Contract Award Date:	Fall	2003
Estimated Construction Completion Date:	Fall	2006

Schedule of Project Excavations

Construction Stage	Quantity		Year
Stage 1 Excavations	160,000	CY	2003
Stage 2 Excavations	624,000	CY	2006
Upstream Pilot Channel	62,160	CY	2005
Scour Protection	50,000	CY	2005
Total (In Bank CY)	916,160	CY	

Summary of Excavation Material Types:	In Bank Quantity	Net* Swell	Disposal** Quantity		Proposed Disposal Site
Twin Lock Construction:					
Silts, Clays, Sands, Gravels:	626,000	10%	690,600	CY	Upland Disposal
Bedrock (Shales)	40,000	20%	48,000	CY	Upland Disposal
Channel Dredging					
Silts, Clays, Sands, Gravels:	132,160	10%	145,396	CY	Upland Disposal
Twin Lock Removal					
Concrete Rubble	116,000	40%	162,400	CY	Upind & Cmmrcl Displ
Total Project Disposal Quantity	916,160		1,046,596	CY	

* Assumed net increase in volume after placement in 3 foot lifts with minimal compactive effort.

** Estimated Quantities and Project Schedule as of February 1995. Actual dates and quantities may change.

EXHIBIT No. 1, ATTACHMENT No. 2

CEORP-ED-GS

Sept 1998

U.S. ARMY CORPS OF ENGINEERS
PITTSBURGH DISTRICT

MONONGAHELA RIVER
LOCKS AND DAM 2, 3, & 4

REMOVAL OF LOCKS AND DAM 3

Project Demolition and Disposal Fact Sheet

Project Description:

This feature involves demolition and removal of Locks and Dam 3.

- o Remove fixed crest dam and mid river pier to El. 710.7 to provide a 13' nagivation draft.
- o Remove upper guard wall, middle wall, and downstream river wall extention to El. 710.7
- o Remove river wall to El. 706.7 to eliminate emptying and filling culvert voids
- o Remove Operations Building and control shelters on middle wall and land wall.
- o Remove upper guard wall extention, downstream river wall extension, and downstream approach cells.

	Quarter	Year
Estimated Demolition Contract Award Date:	Spring	2006
Estimated Locks and Dam Removal Date:	Spring	2007

Schedule of Project Demolitions

Construction Stage	Quantity		Year
Operations Bldgs	Job	CY	2002
Dam, Middle, & River, Walls	39,527	CY	2003
Guardwall Extensions	11,730	CY	2003
Total (In Bank CY)	51,257	CY	

Summary of Disposal Material Types:	In Bank Quantity	Net* Swell	Disposal** Quantity		Proposed Disposal Site
Dam, Middle, and River Walls					
Concrete Rubble	36,805	40%	51,527	CY	Upland Disposal
Silts, Clays, Sands, Gravels:	242	10%	266	CY	Upland Disposal
Stone Filled Cribbing	2,480	0%	2,480	CY	Upind & Cmmrcl Displ
Guard Wall Extensions					
Concrete Caps	1,505	40%	2,107	CY	Upland Disposal
Cell Fill	10,225	10%	11,248	CY	Upland Disposal
PS-28 Steel Sheet Piling	1233	0%	1,233	TON	Commrcl Scrap Metal
Fenders and Misc Steel	58	0%	58	TON	Commrcl Scrap Metal
Operations Building					
Middle Wall Bldg	1		Job		Commercial Landfill
Control Shelters	2		Job		Commercial Landfill
Total Project Clean Fill Disposal	51,257		67,628	CY	Upland Disposal (Steel & Bldgs, not Incl)

* Assumed net increase in volume after placement in 3 foot lifts with minimal compactive effort.

** Estimated Quantities and Project Schedule as of February 1995. Actual dates and quantities may change.

EXHIBIT No. 1, ATTACHMENT No. 3

CEORP-ED-GS | Sept 1996

U.S. ARMY CORPS OF ENGINEERS
PITTSBURGH DISTRICT

MONONGAHELA RIVER
LOCKS AND DAM 2, 3, & 4

DREDGING OF POOL 3

Project Demolition and Disposal Fact Sheet

Project Description:

This feature involves the dredging of Pool 3 to provide a 9' minimum draft navigation channel before Pool 3 is lowered 3.3 feet to the new Pool 3 El. 723.7

- o Excavate Pool 3 channel bottom to El. 712.7 within navigation channel
- o Maintain 300' minimum navigation channel width along existing alignment
- o Proposed Depth of excavation is 11 Feet; (9' Minimum plus 2' Over Dredging)

	Quarter	Year
Estimated Construction Contract Award Date:	Winter	2004
Estimated Dam Construction Completion Date:	Winter	2005

Schedule of Pool 3 Dredging:

Construction Stage	Quantity		Year	
River Mile 41.2 thru River Mile 37.0	656,500	CY	2000	Dredge to El. 712.7
River Mile 37.0 Thru River Mile 23.8	654,700	CY	2001	Dredge to El. 712.7
Total (In Bank CY)	1,311,200	CY		

Summary of Disposal Material Types:	In Bank Quantity	Net* Swell	Disposal** Quantity		Proposed Disposal Site
Silty Sands and Gravels:	1,119,200	10%	1,231,120	CY	Upland Disposal
Sandy Silts:	192,000	10%	211,200	CY	Upland Disposal
			1,442,320	CY	Total

Summary of In-pool Disposal Capacity:

Fill to El. 707.4	410,000	0%	410,000	CY	Pool 2 Disposal
Fill to El. 710.7	375,000	0%	375,000	CY	Pool 3 Disposal
			785,000	CY	Total

Total Upland Disposal; Without In-Pool Redistribution:	1,442,320	CY
Total Upland Disposal; With In-Pool Redistribution:	657,320	CY

* Assumed net increase in volume after placement in 3 foot lifts with minimal compactive effort.

** Estimated Quantities and Project Schedule as of February 1996. Actual dates and quantities may change.

EXHIBIT No. 1, ATTACHMENT No. 4

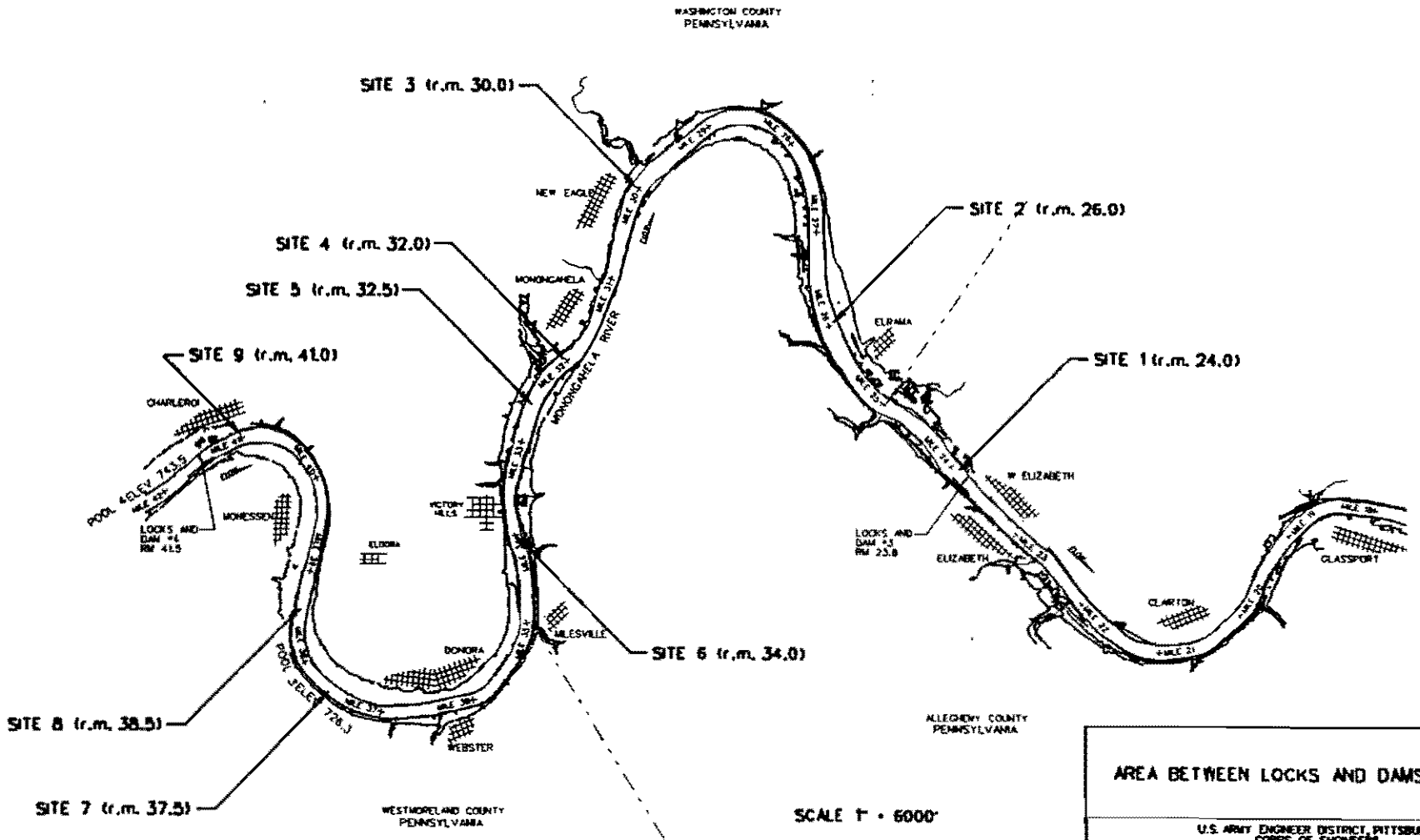
LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 2

SEDIMENT CHARACTERIZATION INVESTIGATION
SAMPLING PLAN LOCATIONS



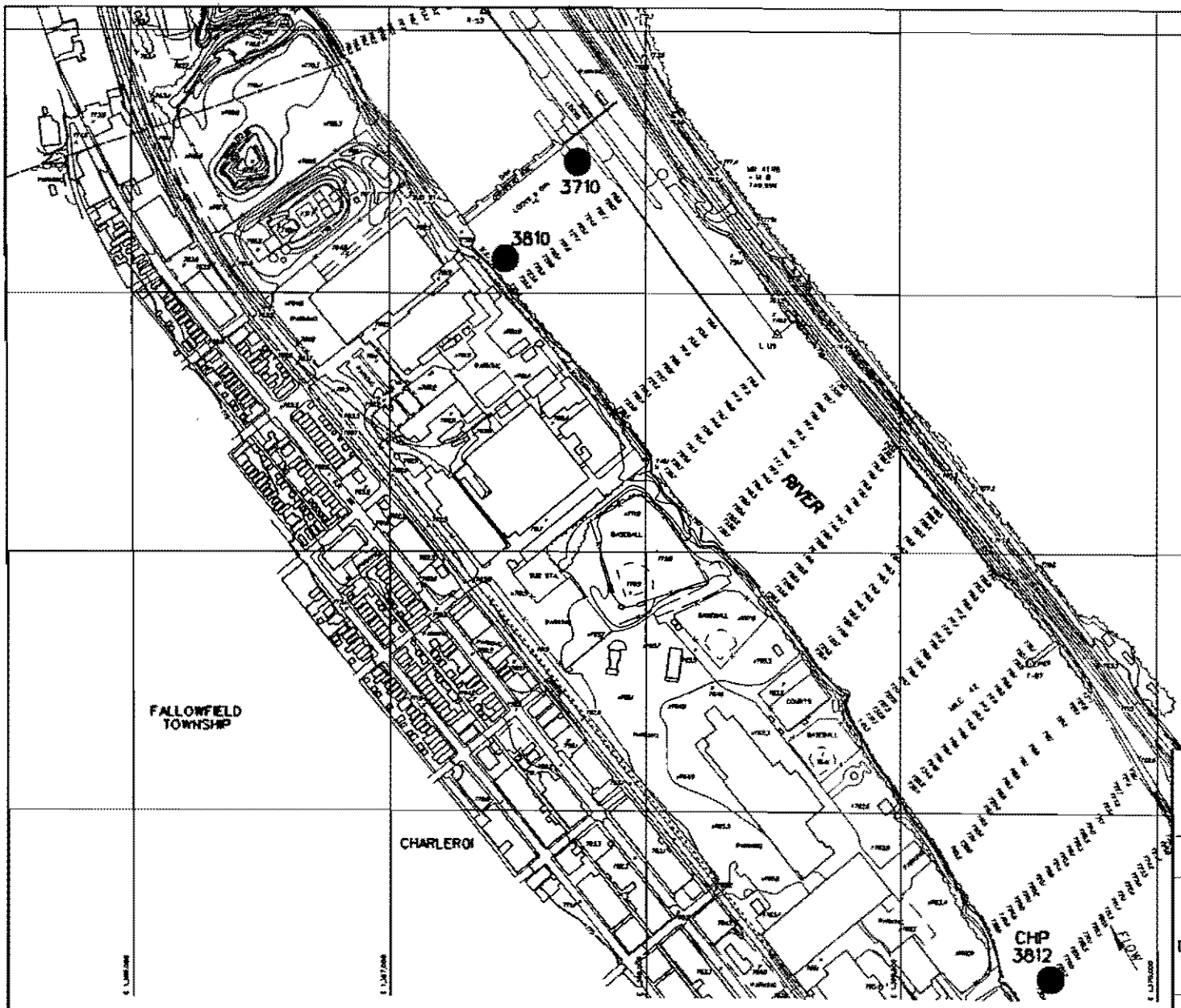
AREA BETWEEN LOCKS AND DAMS 3 AND 4

U.S. ARMY ENGINEER DISTRICT, PITTSBURGH
CORPS OF ENGINEERS

MONONGAHELA RIVER
LOCKS AND DAMS 2, 3, AND 4
DISPOSAL SITE DESIGN MEMORANDUM
DISPOSAL OF PROJECT CONSTRUCTION EXCAVATION
SEDIMENT CHARACTERIZATION INVESTIGATION
JANUARY 1990 SEDIMENT SAMPLING

EXHIBIT No. 2, ATTACH. No. 1

13-FEB-1997 pyeso f:\salls\pawfus1.dgn



LEGEND

● SAMPLING LOCATIONS

SCALE 1" = 400'

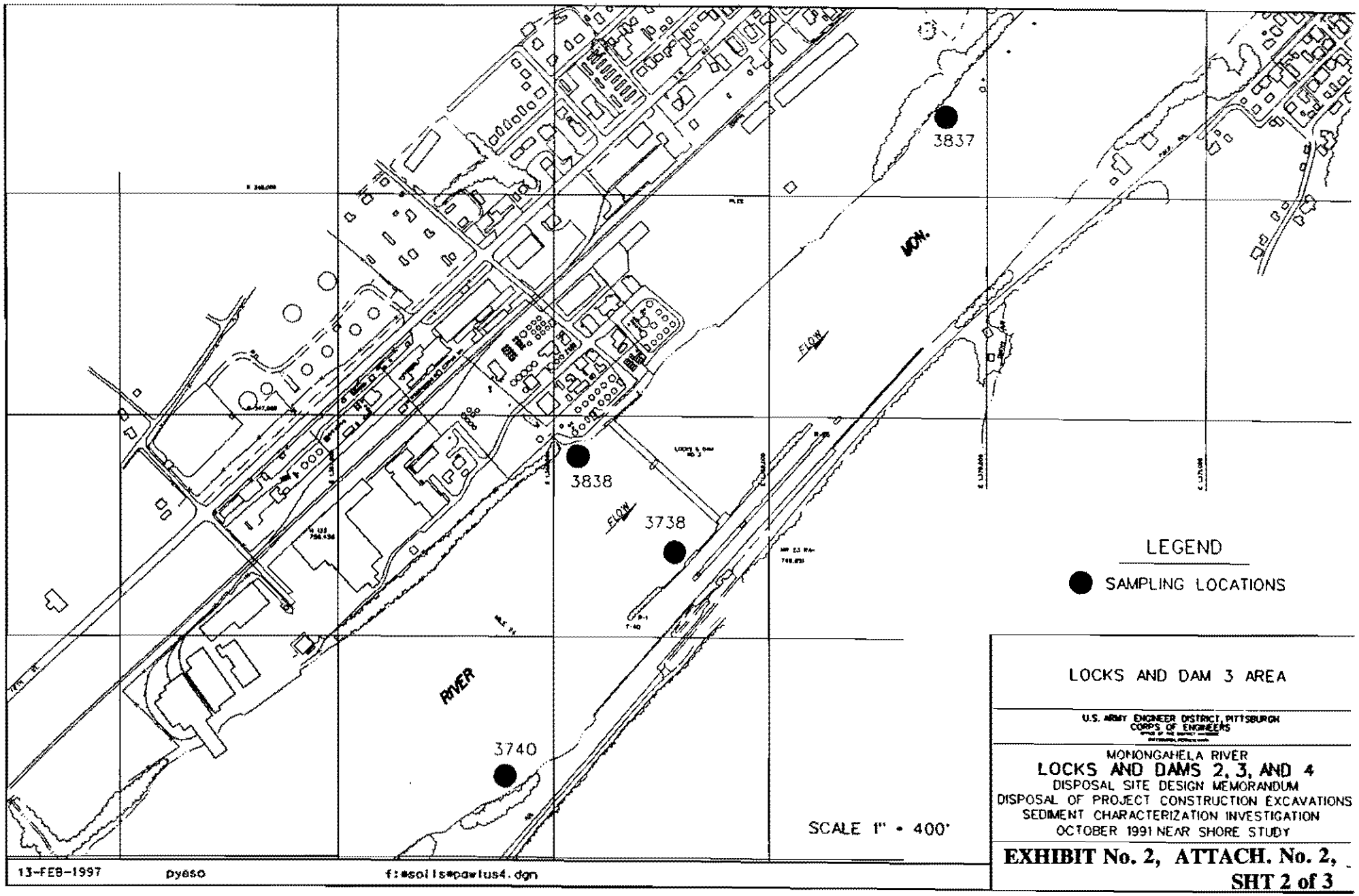
LOCKS AND DAM 4 AREA

U.S. ARMY ENGINEER DISTRICT, PITTSBURGH
CORPS OF ENGINEERS

MONONGAHELA RIVER
LOCKS AND DAMS 2, 3, AND 4
DISPOSAL SITE DESIGN MEMORANDUM
DISPOSAL OF PROJECT CONSTRUCTION EXCAVATION
SEDIMENT CHARACTERIZATION INVESTIGATION
OCTOBER 1991 NEAR SHORE STUDY

EXHIBIT No. 2, ATTACH. No. 2,
SHT 1 of 3

13-FEB-1997 pyeso f:\soils\pawlus5.dgn

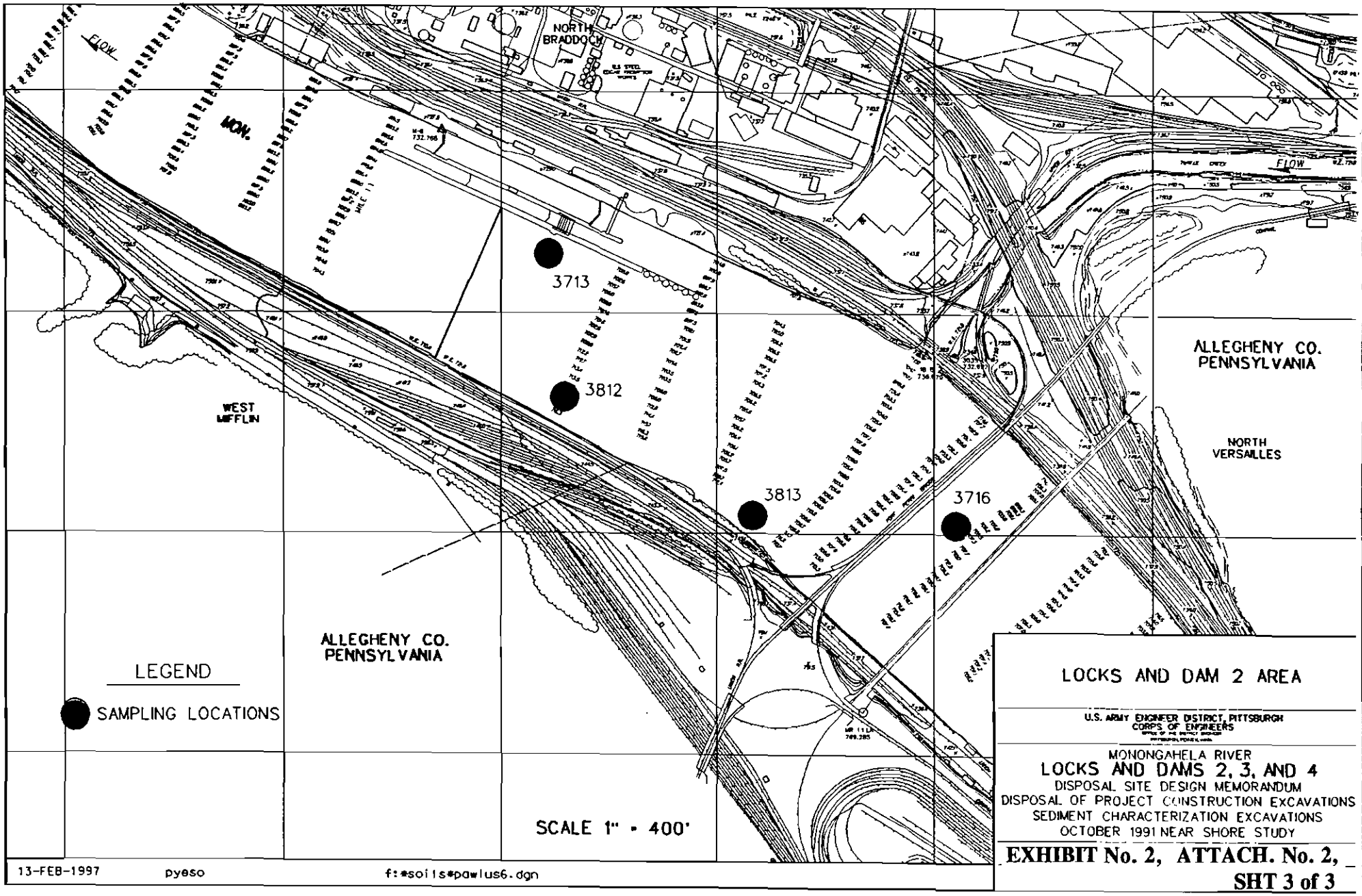


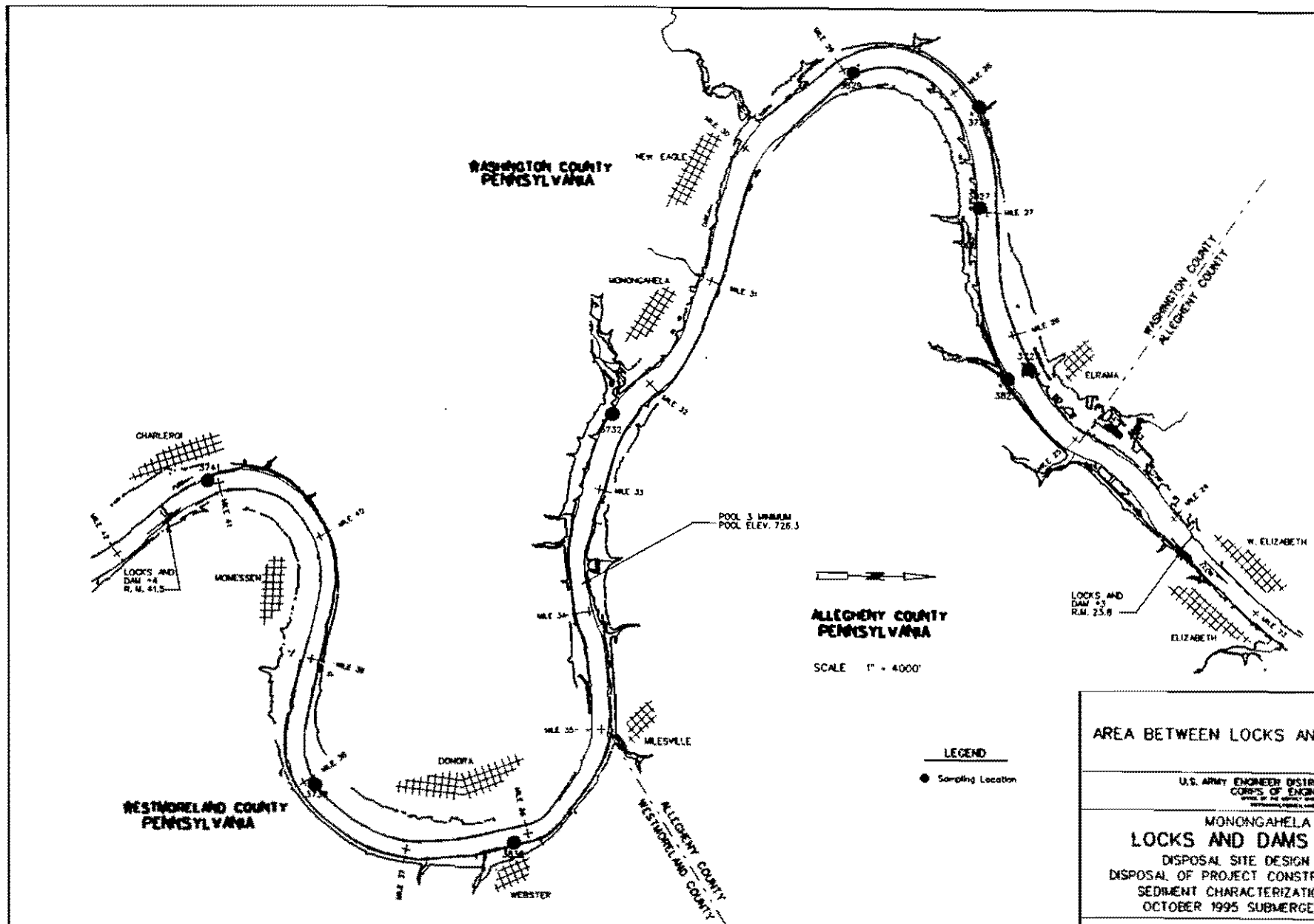
LOCKS AND DAM 3 AREA

U.S. ARMY ENGINEER DISTRICT, PITTSBURGH
CORPS OF ENGINEERS

MONONGAHELA RIVER
LOCKS AND DAMS 2, 3, AND 4
DISPOSAL SITE DESIGN MEMORANDUM
DISPOSAL OF PROJECT CONSTRUCTION EXCAVATIONS
SEDIMENT CHARACTERIZATION INVESTIGATION
OCTOBER 1991 NEAR SHORE STUDY

EXHIBIT No. 2, ATTACH. No. 2, SHT 2 of 3


NORTH BRADDOCK
FLOW
MON.
3713
3812
3813
3716
WEST MIFFLIN
ALLEGHENY CO.
PENNSYLVANIA
NORTH VERSAILLES
ALLEGHENY CO.
PENNSYLVANIA
LEGEND
SAMPLING LOCATIONS
SCALE 1" = 400'
LOCKS AND DAM 2 AREA
U.S. ARMY ENGINEER DISTRICT, PITTSBURGH
CORPS OF ENGINEERS
MONONGAHELA RIVER
LOCKS AND DAMS 2, 3, AND 4
DISPOSAL SITE DESIGN MEMORANDUM
DISPOSAL OF PROJECT CONSTRUCTION EXCAVATIONS
SEDIMENT CHARACTERIZATION EXCAVATIONS
OCTOBER 1991 NEAR SHORE STUDY
EXHIBIT No. 2, ATTACH. No. 2,
SHT 3 of 3
13-FEB-1997
pyeso
f:*soils*pawlus6.dgn



AREA BETWEEN LOCKS AND DAMS 3 AND 4

U.S. ARMY ENGINEER DISTRICT, PITTSBURGH
CORPS OF ENGINEERS

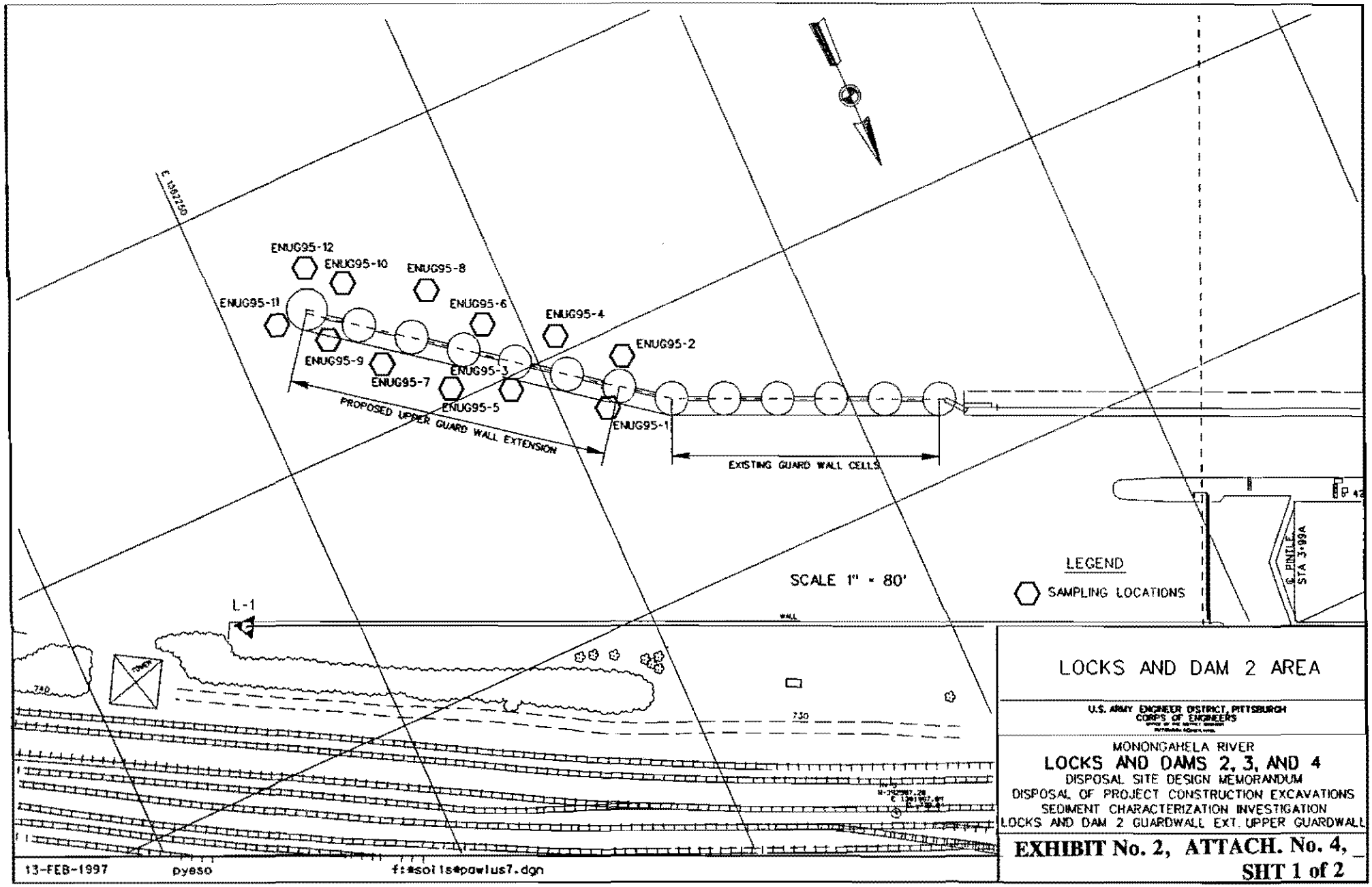
MONONGAHELA RIVER

LOCKS AND DAMS 2, 3, AND 4

DISPOSAL SITE DESIGN MEMORANDUM
DISPOSAL OF PROJECT CONSTRUCTION EXCAVATIONS
SEDIMENT CHARACTERIZATION INVESTIGATION
OCTOBER 1995 SUBMERGED BENCH STUDY

EXHIBIT No. 2, ATTACH. No. 3

13-FEB-1997 pyeso f:\soils\pool3m.dgn



LOCKS AND DAM 2 AREA

U.S. ARMY ENGINEER DISTRICT, PITTSBURGH
CORPS OF ENGINEERS

MONONGAHELA RIVER

LOCKS AND DAMS 2, 3, AND 4

DISPOSAL SITE DESIGN MEMORANDUM
DISPOSAL OF PROJECT CONSTRUCTION EXCAVATIONS
SEDIMENT CHARACTERIZATION INVESTIGATION
LOCKS AND DAM 2 GUARDWALL EXT. UPPER GUARDWALL

EXHIBIT No. 2, ATTACH. No. 4, SHT 1 of 2

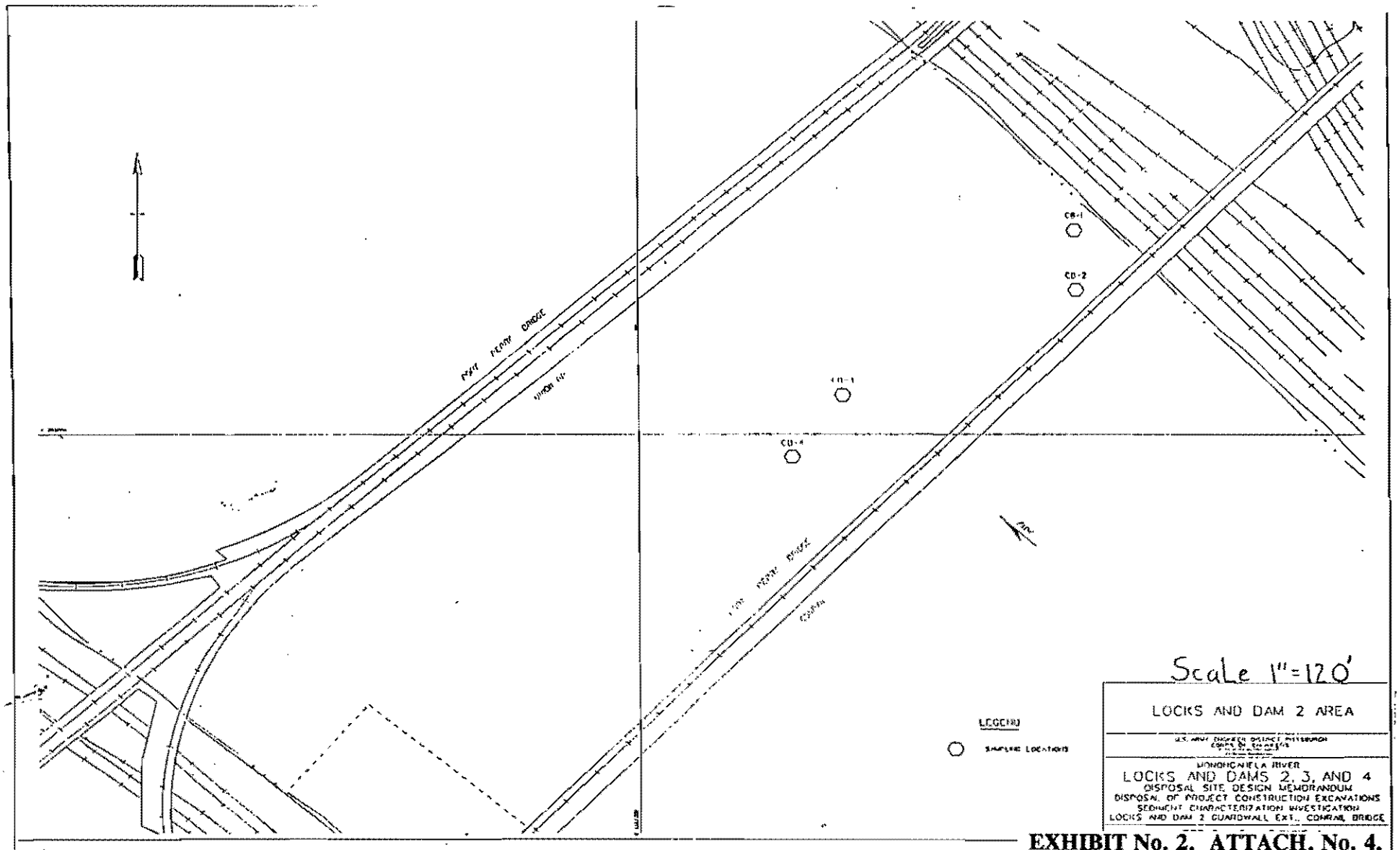


EXHIBIT No. 2, ATTACH. No. 4,
SHT 2 of 2

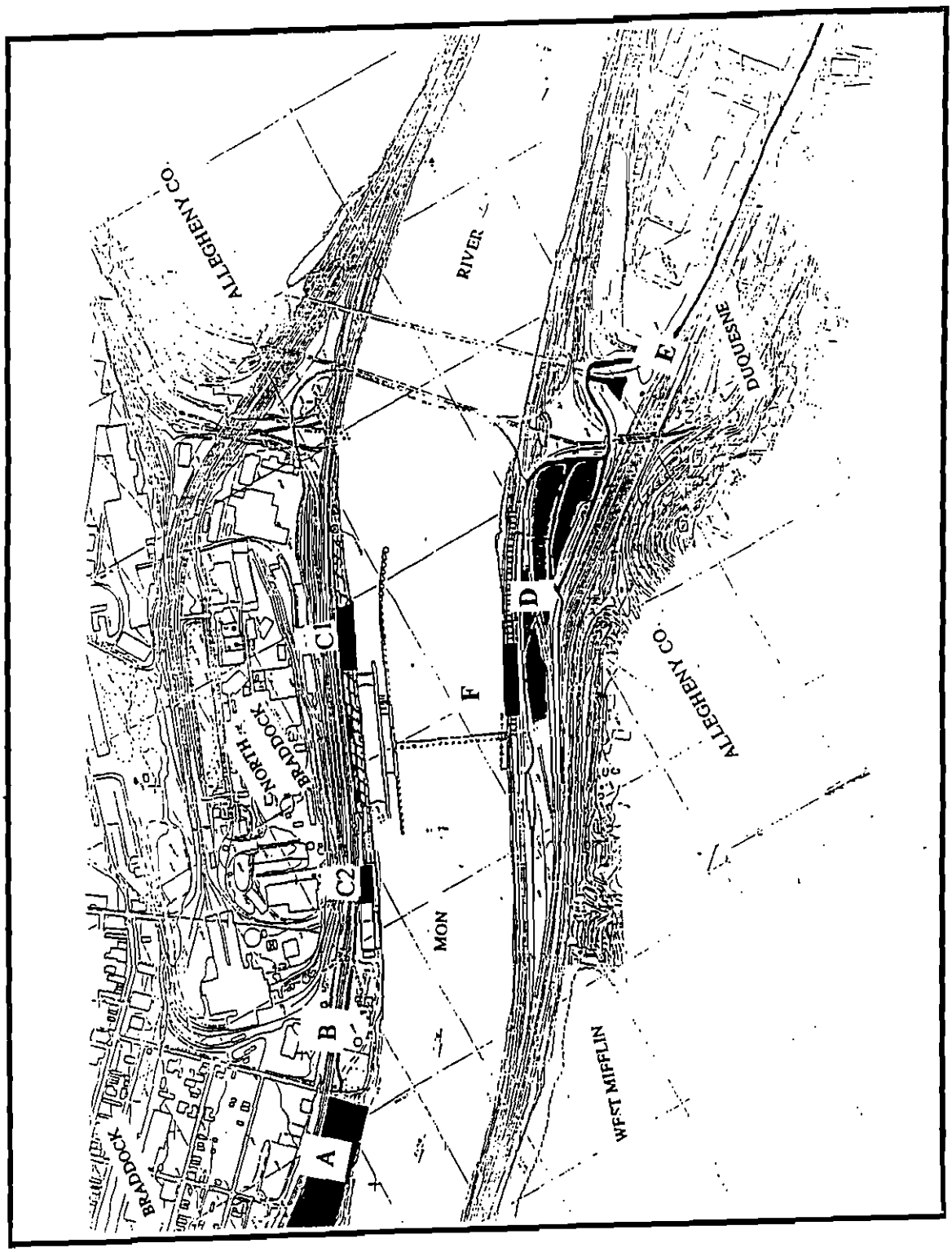


EXHIBIT 2, ATTACHMENT No. 5

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 3

SEDIMENT CHARACTERIZATION INVESTIGATION
SUMMARY OF SAMPLING AND TESTING RESULTS

7. SUMMARY

7.1 January 1990 Navigation Channel Sediment Sampling

7.1.1. Sediments

Metals- No exceedances. See Table 1.

Organics- No exceedances for Project Criteria Standards for Soil. See Tables 2 and 5.

PCB's & Pesticides- No exceedances for Project Criteria Standards for Soil. See Table 4.

7.1.2. Elutriates

Metals- No exceedances for the Project Criteria Standards for Water (WQT-CMC and CCC). See Table 1.

Organics- Benzo(A)Anthracene exceeded the Project Criteria Standards for Water (WQT-CMC) at the six foot depth at Site 5. See Table 2.

PCBs & Pesticides- No exceedances for the Project Criteria Standards for Water (WQT-CMC and CCC). See Table 4.

7.1.3. Background Water

Metals- Copper (Sites 3, 4 and 5) and Zinc (Sites 3, 4 & 8) exceeded the Project Criteria Standards for Water (WQT-CCC). See Table 1.

Organics- Bis(2-ethylhxyl)phthalate exceeded the Project Criteria Standards for water (WQT-CCC) at Site 5. See Table 2.

7.2 October 1991 Near Shore Study

7.2.1. Sediments

Metals- No exceedances. See Tables 6(a) and 6(b).

Organics- Benzo(a)pyrene exceeded The Project Criteria Standards for Soil (Nonresidential) at Site 3716. See Table 6(a).

TRPH- The Project Criteria Standards for Soil (Nonresidential) first tier for screening were exceeded at sites 3813, and at 3713. See Table 6(a) and 6(b).

Flash Point- Flash point exceeded hazardous waste criteria at sites 3710, CHP 3812, and 3713. See Table 6(a) and 6(b).

Sulfide Reactivity- No exceedances for Project Criteria Standards for Soil. All values were below detection levels. See Table 6(a) and 6(b).

PCB's and Pesticides - No exceedances for Project Criteria Standards for Soil. All values were below detection limits. See Table 8.

TCLP- No exceedances for EPA. See Table 7.

7.2.2. Elutriates

Metals- Copper exceeded the Project Criteria Standards for Water (WQT-CMC) at Site 3837. See Table 6(b).

PCBs & Pesticides- No exceedances for the Project Criteria Standards for Water (WQT-CMC and CCC). See Table 8.

Organics- No exceedances for the Project Criteria Standards for Water (WQT-CMC and CCC). See Tables 6(a) and 6(b).

7.3 October 1995 Submerged Bench Study.

7.3.1. Sediments

Metals- All values were below The Project Criteria Standards for Soil (Residential). See Table 9.

TRPH- The TRPH analyses are estimated results. Actual results could not be obtained due to parameter interference in the laboratory analysis. Nine estimated values of TRPH exceeded The Project Criteria Standards for Soil (Residential and Nonresidential) for first tier screening. See Table 9.

Organics- Benzo(a)Pyrene exceeded The Project Criteria Standards for Soil (Residential) at sampling point 3836. See Table 10.

PCB's & Pesticides- No exceedances for The Project Criteria Standards for Soil (Residential). See Table 11.

7.3.2. Elutriates

Metals- No exceedances for the Project Criteria Standards for Water (WQT-CMC and CCC). See Table 10.

Organics- No exceedances for the Project Criteria Standards for Water (WQT-CMC and CCC). See Table 10

7.4 Locks And Dam 2 Guardwall Extension

No chlordane was detected in any of the samples. PCB's were detected in three of the five samples analyzed, but at concentrations well below the Project Criteria Standards for

Soil (Residential). Acceptable levels at the first tier screening level for Residential were exceeded in 4 of 5 samples analyzed for TRPH; none exceeded Residential for TOX and lead. Where one of the samples for TRPH was exceeded, it was analyzed for VOCs and SVOCs- sample CB-1 at 2 to 3 feet below the top of sediment. The results indicated exceedance of Project Criteria Standards for Soil (Residential) for only one compound, Benzo(a)pyrene. See paragraph 5.3.2(2) for analysis results.

The subject sediments appear to be marginally contaminated with lead (levels were below Project Criteria Standards for Soil, Residential), but the leaching procedure (SPLP tests) indicates that the lead is chemically bound to the sediment particles, and will not be readily released. The sediments are contaminated with the semivolatile organic compounds that are typically associated with incomplete combustion of fossil fuels, particularly coal. Benzo(a)pyrene exceeded Project Criteria Standards for Soil, Residential. The sediments appear to contain halogenated organic pollutants based on the TOX screening procedure; however, detailed analyses for individual compounds found none to be present above the Project Criteria Standards for Soil (Residential). Given these levels, the sediments in this area are suitable for disposal for an offsite residential fill. However, because of the minimal contamination observed, PaDEP may require approval of the location where the material would be placed.

The sediments evaluated for this Upper Guardwall Extension project represent a worst case scenario compared to the larger Lower Monongahela River project because of the site's location in a low velocity area just upstream of Locks and Dam 2 and just downstream of Turtle Creek's confluence with the Monongahela River.

8. CONCLUSIONS

8.1 Sampling and Analysis.

The four sampling programs constitute varying efforts of chemical testing in order to demonstrate the level of contamination in the Lower Monongahela River. All programs were performed in accordance with the most recent develop PaDEP guidelines. The contaminant results were compared with "Project Criteria Standards for Soils", as defined by PaDEP Pennsylvania Statewide Human Health Standards for Soils (July 1995) and Dredging Guidelines (April 1996), the "Project Criteria Standards for Water" as defined by PaDEP Water Quality Criteria for Toxic Substances and the EPA "TCLP and Flash Point Criteria" as referenced by 40 CFR 261. The following is a summary of the exceedances of the relevant standards for the four sampling programs.

8.1.1 There are two exceedances (benzo(a)pyrene) of the Project Criteria Standards for Soil (Residential) found in the sediment analyses at two sampling locations. See Table 6(a)and Table 10.

8.1.2 There are two exceedances (copper and benzo(A)anthracene) of the Project Criteria Standards for Water (WQT-CMC) found in the elutriate analyses at one sampling location. See Tables 6(b) and Table 2.

8.1.3 There are three exceedances of the Project Criteria Standards for Water (WQT-CCC) (copper, zinc and bis(2-ethylhxyl)phthalate) found in the background water analyses at seven sampling locations. Bis(2-ethylhxyl)phthalate) is a ubiquitous element attributed from the degradation of plastic materials. See Tables 1 and 2.

8.1.4 TRPH exceeded Project Criteria Standards for Soil (Residential) first tier screening at three sampling locations and nonresidential at nine sampling locations. Flash Point exceeded EPA Standards at four sampling locations. However, only one location (3710) is within the dredging limits of Pool 3. See Tables 6(a), 6(b) and Table 9.

A Lower Mon Sediment Characterization Summary of the target Compounds List (TCL) and Target Analyte List (TAL) for the four sampling programs is shown in Table 16. The table exhibits the parameters of the elements in the TCL and TAL. The highest concentration of each element and the median at a particular sampling location is shown for the corresponding river mile. This data is compared to Pennsylvania Statewide Human Health Standards for Soils (July 1995) (Table 14(a)).

January 1990 Pool 3 Navigation Channel Sampling

Metals Analysis

Sediment (mg/kg)

Site No.	Site 1		Site 2		Site3			Site 4		Site 5				Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90			24-Jan-90		25-Jan-90				25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.9		RM 28.8		RM 30.8			RM 32.8		RM 32.5				RM 34.8		RM 37.5		RM 38.5		RM 41.8	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	7.5'	1'	8.5'	1'	5'	6'	8'	1'	5'	1'	8'	1'	4'	1'	7'
Antimony	28	22	18	40	33	36	38	92	49	35	32	55	80	48	34	43	27	34	29	41	47
Arsenic	9	8	8	8	8	8	10	22	5	8	5	7	11	7	7	7	8	8	8	10	11
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Cadmium	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	14	11	11	12	14	14	11	18	12	13	11	12	16	12	11	11	8	13	10	12	16
Copper	20	13	13	17	16	9	14	14	8	16	12	12	15	16	12	12	8	18	16	14	12
Lead	30	18	18	2	23	8	11	15	<0.4	23	8	9	<0.4	17	8	8	8	13	4	9	11
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nickel	17	15	15	30	30	13	16	30	16	26	17	15	18	50	18	16	16	38	11	16	16
Selenium	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Silver	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	126	83	93	58	149	47	75	143	78	154	70	64	58	197	81	81	97	141	48	59	82

Elutriate (ug/L)

Site No.	Site 1		Site 2		Site3			Site 4		Site 5				Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90			24-Jan-90		25-Jan-90				25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.9		RM 28.8		RM 30.8			RM 32.8		RM 32.5				RM 34.8		RM 37.5		RM 38.5		RM 41.8	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	7.5'	1'	8.5'	1'	5'	6'	8'	1'	5'	1'	8'	1'	4'	1'	7'
Antimony	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<50	<100	<100	<100
Arsenic	1	<1	<1	1	1	2	1	<1	<1	<1	2	2	2	1	1	1	1	<1	<1	<1	2
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Cadmium	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	<1	<1	<1	<1	<1	<1	<1	3	3	<1	<1	<1	2	2	2	5	4	5	10	2	5
Copper	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Lead	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Mercury	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	<5	<5	<5	<5	<5	<5	<5	<5	8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Selenium	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Silver	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

Background Water (ug/L)

Site No.	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9
Date	1/23/90	1/23/90	1/24/90	1/24/90	1/25/90	1/25/90	1/25/90	1/26/90	1/26/90
Location	RM 24.8	RM 28.8	RM 30.8	RM 32.8	RM 32.5	RM 34.8	RM 37.5	RM 38.5	RM 41.8
Antimony	<100	<100	<100	<100	<100	<100	<100	<100	<100
Arsenic	<1	<1	<1	<1	<1	<1	<1	<1	<1
Barium	NT	NT	NT	NT	NT	NT	NT	NT	NT
Cadmium	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	<1	<1	<1	<1	6	4	<1	<1	<1
Copper	<5	8	21	14	13	10	8	<5	9
Lead	<2	<2	<2	<2	<2	<2	<2	<2	<2
Mercury	<1	<1	<1	<1	<1	<1	<1	<1	<1
Nickel	12	10	<5	<5	<5	8	<5	<5	22
Selenium	<1	<1	<1	<1	<1	<1	<1	<1	<1
Silver	<1	<1	<1	<1	<1	<1	<1	<1	<1
Zinc	<50	73	114	178	75	80	54	<50	142

NT - Not Tested

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 1

January 1990 Pool 3 Navigation Channel Sampling

Semi-Volatile Organics (Base Neutrals)

Sediments (mg/kg)

Site No.	Site 1		Site 2		Site3			Site 4		Site 5				Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90			24-Jan-90		25-Jan-90				25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.0		RM 26.0		RM 30.0			RM 32.0		RM 32.5				RM 34.0		RM 37.5		RM 38.5		RM 41.0	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	7.5'	1'	8.5'	1'	5'	6'	9'	1'	5'	1'	6'	1'	4'	1'	7'
Anthracene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acenapthene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)anthracene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(b)fluoranthene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(k)fluoranthene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chrysene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibenzo(a,h)anthracene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluoranthene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ideno(1,2,3-cd)pyrene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Naphthalene	0.6	<0.5	3.7	1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.4	<0.5	<0.5
2-methylnephthalene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Phenanthrene	1.8	<0.5	4.7	<0.5	<0.5	<0.5	<0.5	5.8	<0.5	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.6	<0.5	<0.5
Pyrene	<0.5	<0.5	1.9	<0.5	<0.5	<0.5	<0.5	3.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Elutriates (ug/L)

Site No.	Site 1		Site 2		Site3			Site 4		Site 5				Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90			24-Jan-90		25-Jan-90				25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.0		RM 26.0		RM 30.0			RM 32.0		RM 32.5				RM 34.0		RM 37.5		RM 38.5		RM 41.0	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	7.5'	1'	8.5'	1'	5'	6'	9'	1'	5'	1'	6'	1'	4'	1'	7'
Benzo(A)Anthracene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bis(2-ethylhxyl)phthalate	7.7	3.7	3.3	15.7	15	15.3	15.7	13	20.9	20.6	10.6	54.8	39.5	11	11.5	22.8	91.5	1.3	6.8	3.8	6.3
Butylbenzylphthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	0.6	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5	<0.5
Di-n-butylphthalate	2.2	4.5	1.7	3	1.8	1.5	3.1	2.3	2.3	<0.5	<0.5	2.3	3.6	2.2	1.3	1.8	3.6	<0.5	0.6	1	0.5
Di-n-octyl phthalate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.8	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diethylphthalate	2.6	4	1.2	<0.5	<0.5	1.7	<0.5	<0.5	1.2	<0.5	0.7	1.8	0.6	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	<0.5

Background Water (ug/L)

Site No.	Site 1	Site 2	Site 3	Site 4	Site 5	Site 9	Site 7	Site 8	Site 9
Date	1/23/90	1/23/90	1/24/90	1/24/90	1/25/90	1/25/90	1/25/90	1/26/90	1/26/90
Sample Location	RM 24.0	RM 26.0	RM 30.0	RM 32.0	RM 32.5	RM 34.0	RM 37.5	RM 38.5	RM 41.0
Diethylphthalate	0.8	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5
Di-n-butylphthalate	2.2	1.8	1.8	0.9	1.2	2.1	1	0.9	0.6
Bis(2-ethylhxyl)phthalate	26	35.3	16.2	3.9	3214.3	14.9	60.8	18.5	8.6

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 2

January 1990 Pool 3 Navigation Channel Sampling

Phenols

Elutriates (ug/L)

Site No.	Site 1		Site 2		Site3			Site 4		Site 5				Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90			24-Jan-90		25-Jan-90				25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.0		RM 26.0		RM 30.0			RM 32.0		RM 32.5				RM 34.0		RM 37.5		RM 38.5		RM 41.0	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	7.5'	1'	6.5'	1'	5'	6'	9'	1'	5'	1'	6'	1'	4'	1'	7'
Phenol	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	1.8	1.4	<0.5	<0.5	<0.5	0.5	4.2	2.9	<0.5	2	0.8	<0.5	<0.5	<0.5	<0.5

Background Water (ug/L)

Site No.	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9
Date	1/23/90	1/23/90	1/24/90	1/24/90	1/25/90	1/25/90	1/25/90	1/26/90	1/26/90
Sample Location	RM 24.0	RM 26.0	RM 30.0	RM 32.0	RM 32.5	RM 34.0	RM 37.5	RM 38.5	RM 41.0
Phenol	<0.5	<0.5	5.9	1.5	<0.5	<0.5	2.2	<0.5	<0.5

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 3

January 1990 Pool 3 Navigation Channel Sampling
PCB's & Pesticides

Sediment (mg/kg)

Site No.	Site 1		Site 2		Site3			Site 4		Site 5				Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90			24-Jan-90		25-Jan-90				25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.0		RM 26.0		RM 30.0			RM 32.0		RM 32.5				RM 34.0		RM 37.5		RM 38.5		RM 41.0	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	7.5'	1'	6.5'	1'	5'	6'	9'	1'	5'	1'	6'	1'	4'	1'	7'
PCB's	ND	ND	B	0.069	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0025	ND	ND	ND	ND	ND	ND	ND
Pesticides	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Elutriate (ug/L)

Site No.	Site 1		Site 2		Site3			Site 4		Site 5				Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90			24-Jan-90		25-Jan-90				25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.0		RM 26.0		RM 30.0			RM 32.0		RM 32.5				RM 34.0		RM 37.5		RM 38.5		RM 41.0	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	7.5'	1'	6.5'	1'	5'	6'	9'	1'	5'	1'	6'	1'	4'	1'	7'
PCB's	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	B	ND	ND	ND	ND	ND	ND	ND
Pesticides	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

B - present but below detection limit
ND - Not Detected

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of one of the District Standards for Soils (Table 14)

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 4

January 1990 Pool 3 Navigation Channel Sampling

Organics

Sediment (mg/kg)

Site No.	Site 1		Site 2		Site3		Site 4		Site 5		Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90		24-Jan-90		25-Jan-90		25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.0		RM 26.0		RM 30.0		RM 32.0		RM 32.5		RM 34.0		RM 37.5		RM 38.5		RM 41.0	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	1'	6.5'	1'	5'	1'	5'	1'	5'	1'	4'	1'	7'
Volatile Organics																		
Chlorobenzene	ND	ND	NT	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disufide	ND	ND	NT	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	NT	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	NT	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ND	ND	NT	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	ND	ND	NT	NT	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Background Water (ug/L)

Site No.	Site 1		Site 2		Site3		Site 4		Site 5		Site 6		Site 7		Site 8		Site 9	
Date	23-Jan-90		23-Jan-90		24-Jan-90		24-Jan-90		25-Jan-90		25-Jan-90		25-Jan-90		26-Jan-90		26-Jan-90	
Location	RM 24.0		RM 26.0		RM 30.0		RM 32.0		RM 32.5		RM 34.0		RM 37.5		RM 38.5		RM 41.0	
Sample Depth	1'	3'	1'	4.5'	1'	5.5'	1'	6.5'	1'	5'	1'	5'	1'	5'	1'	4'	1'	7'
Volatile Organics																		
Chlorobenzene	ND	ND	ND	ND	ND	ND	5.45	5.45	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disufide	ND	ND	ND	ND	ND	ND	10.85	10.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	1.21	1.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	14.53	14.53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ND	ND	ND	ND	ND	ND	1.08	1.08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene	ND	ND	ND	ND	ND	ND	4.26	4.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NT - Not Tested
ND - Not Detected

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedence of one of the District Standards for Soils (Table 14)

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

October 1991 Near Shore Sampling

Organics & Metals

Sample #	3710				3810		3812 - CHP		3718		3813				3812 - BDP			
Location	RM 41.9 R				RM 41.8 L		RM 41.2 L		RM 11.8 R		RM 11.3 L				RM 11.2 L			
Depth	0' - 5.2'		5.7' - 10.7'		0' - 5.5'		0' - 5.5'		0' - 4.5'		0' - 5.8'		5.8' - 11.8'		0' - 5.5'		7.5' - 11.5'	
Sample Type	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate
Volatile Organics																		
Acetone	< 010	NA	< 010	NA	1.24	NA	< 010	NA	< 010	NA	0.75	NA	< 010	NA	< 016	NA	< 010	NA
Methylene Chloride	0.37	NA	0.40	NA	0.51	NA	1.83	NA	5.84	NA	0.25	NA	1.12	NA	0.41	NA	< 005	NA
Semi-Volatile Organics																		
Acenaphthene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Anthracene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	0.35	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(a)anthracene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	1.00	<0.02	0.46	<0.02	0.34	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(a)pyrene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	0.78	<0.02	0.37	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(b)fluoranthene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.03	0.63	<0.02	0.35	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(ghi)perylene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	0.41	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(k)fluoranthene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	0.69	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Chrysene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	0.98	<0.03	0.45	<0.02	0.35	<0.02	<0.330	<0.02	<0.330	<0.02
Dibenzo(a,h)anthracene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.03	<0.330	<0.02	<0.330	<0.03	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Dimethylphthalate	<0.330	<0.03	<0.330	<0.02	<0.330	<0.02	<0.330	<0.03	1.80	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Fluoranthene	<0.330	<0.03	<0.330	<0.03	<0.330	<0.03	<0.330	<0.02	<0.330	<0.02	1.10	<0.03	0.80	<0.02	<0.330	<0.02	<0.330	<0.02
Indeno(1,2,3-cd)pyrene	<0.330	<0.03	<0.330	<0.02	<0.330	<0.03	<0.330	<0.02	0.44	<0.02	<0.330	<0.03	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Naphthalene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
2-methylnaphthalene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Phenanthrene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.07	0.94	<0.02	0.48	<0.02	0.37	<0.03	<0.330	<0.02	<0.330	<0.02
Pyrene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	1.40	<0.02	0.80	<0.02	0.70	<0.02	<0.330	<0.02	<0.330	<0.02
Metals																		
Aluminum	12800	<40	5180	186	4170	1080	8340	<40	7220	<40	11300	5730	7277	1950	10800	1080	8050	3840
Antimony	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20
Arsenic	8	<1.3	7	<1.3	8.48	<1.7	2.78	<1.2	14.8	<1.3	19	3.4	16.2	2.2	8.29	2.9	8.98	<1.2
Barium	187	115	80.1	80.4	42.2	48.3	100	21.7	105	80.5	114	38.2	80.3	30.1	126	41.6	88.5	36.1
Cadmium	14.1	<0.15	10.5	<0.15	8.38	<0.15	8.17	0.15	15.8	<0.15	21.2	<0.15	14.5	<0.15	19.3	<0.15	14.4	<0.15
Calcium	35200	18200	8670	38500	1580	21800	3440	3480	8320	37200	2340	2640	2200	8810	8440	40200	4401	20700
Chromium	24.3	<5	14.5	<5	11.8	<5	15.8	<5	24.8	<5	24.8	5.3	19	5.5	41.8	<5	18.4	<5
Copper	50	<5	18.1	<5	18.5	<5	15.2	<5	32.2	<5	66.3	15.4	70.4	13.5	85.4	<5	41.8	8.8
Iron	54400	831	45800	128	34400	861	33000	3780	88800	8.7	85300	34800	70300	3830	81200	1080	81000	3580
Lead	<3	<3.0	18.3	<3.0	38.9	<3	<3	<3.0	5.52	<3.0	84.3	8	67.4	7	23.8	<3.0	23.3	<3.0
Magnesium	2530	7380	3700	7530	1260	4560	1970	987	3010	6720	2040	1300	1330	1980	2780	6480	2240	3630
Manganese	1780	858	881	4.1	288	258	430	1800	1220	8.1	430	22.9	380	15	1240	488	886	71.8
Mercury	0.378	NA	0.808	NA	0.144	NA	0.172	NA	0.15	NA	1.2	NA	0.487	NA	0.237	NA	<0.150	NA
Nickel	85	<8	23.3	<8	23.8	<8	24.4	13.5	38.8	<8	30.4	<8	23.7	<8	58.4	<8	31.8	<8
Potassium	1480	3350	518	3480	434	1440	748	323	702	1310	1180	8980	774	3180	1180	2870	878	3560
Selenium	0.147	<1.3	0.107	<1.3	0.198	<1.3	<0.085	<1.3	0.231	<1.3	0.304	<1.3	0.22	<1.3	0.254	<1.3	0.186	<1.3
Silver	0.772	NA	0.011	NA	0.026	NA	<0.011	NA	0.138	NA	0.149	NA	0.073	NA	0.289	NA	0.018	NA
Sodium	805	4950	304	5630	809	7480	258	3500	1180	8640	1380	1500	351	11800	588	7810	1040	5980
Zinc	810	8.2	188	4.8	128	10.1	83.5	25.1	209	2.1	214	26.3	132	8.2	275	8.1	123	13
TRPH	150	NA	88	NA	67	NA	<25	NA	130	NA	NT	NA	848	NA	438	NA	180	NA
Sulfide & Flash Point																		
Sulfide	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	NA	NA	55	NA	<20	NA	<20	NA
Flash Point (F)	>205	NA	86	NA	>205	NA	83	NA	>205	NA	>205	NA	>205	NA	>205	NA	>205	NA

NT - Not Tested
NA - Not Applicable

-Represents exceedance of Characteristic of Ignitability Flashpoint Regulatory Level (Table 15)

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 6(a)

October 1991 Near Shore Sampling

Organics & Metals

Sample #	3740				3838				3736				3837				3713	
Location	RM 24.0 R				RM 23.8 L				RM 23.8 R				RM 23.6 L				RM 11.3 R	
Depth	0' - 5.0'		5.0' - 8.0'		0' - 4.0'		4.0' - 8.0'		0' - 1.0'		2.0' - 7.0'		0' - 4.5'		4.0' - 8.0'		0' - 3.0'	
Sample Type	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate
Volatile Organics																		
Acetone	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	2614	NA
Methylene Chloride	3.51	NA	1.70	NA	1.48	NA	0.48	NA	1.22	NA	2.97	NA	1.35	NA	3.41	NA	< 005	NA
Semi-Volatile Organics																		
Acenaphene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Anthracene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(a)anthracene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(a)pyrene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(b)fluoranthene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(ghi)perylene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Benzo(k)fluoranthene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Chrysene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Dibenzo(a,h)anthracene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Dimethylphthalate	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Fluoranthene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Indeno(1,2,3-cd)pyrene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Naphthalene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
2-methylnaphthalene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Phenanthrene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Pyrene	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02	<0.330	<0.02
Metals																		
Aluminum	7550	81.3	5455	287	8070	4010	6720	326	7520	198	4510	931	6720	3240	5760	29100	8730	<40
Antimony	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20	<3	<20
Arsenic	5.72	<1.2	4.58	<1.2	4.73	<1.2	3.72	<1.2	8.49	<1.2	5.5	<1.2	7.74	<1.3	2.48	5.5	16.1	<1.2
Barium	135	21.4	112	9.4	119	32.2	130	175	92.3	87.1	53.1	103	156	80.3	102	180	100	53.2
Cadmium	7.5	<0.15	8.48	<0.15	8.82	<0.15	5.48	0.29	10.9	<0.15	9.02	<0.15	10.4	<0.15	5.36	0.45	21.8	<0.15
Calcium	1940	32300	1260	8170	1320	10300	583	7370	6500	26900	2260	30900	3610	9820	1330	1900	4820	36400
Chromium	14.7	<5	11.4	<5	15.4	<5	16.8	<5	17.7	<5	12.8	<5	20.7	<5	12.1	31.7	32.6	<5
Copper	18.4	<5	9.58	<5	14.1	9.8	18	7.1	31.4	<5	11.8	<5	38.3	16.8	14.1	43.2	79.4	<5
Iron	30000	19.5	29000	78.8	40400	2120	19800	89.4	45200	418	40300	488	45800	2240	20800	14500	103800	77.5
Lead	<3	<3.0	<3	3	<3	40	<3	<3.0	7.05	<3.0	<3	<3.0	3.76	<3.0	<3	108	37.9	<3
Magnesium	1940	7310	1420	1530	1880	3090	2020	1530	1550	7670	1770	5340	2050	3850	1780	2550	2570	8000
Manganese	810	6300	356	449	585	2450	174	2070	1140	1550	852	832	1040	97.8	475	136	1100	880
Mercury	0.227	NA	0.176	NA	<0.150	NA	<0.150	NA	0.235	NA	<0.150	NA	<0.150	NA	<0.150	NA	0.747	NA
Nickel	26.4	<9	14.2	<9	19.8	<9	19.7	29	53.2	<9	17.5	<9	38.1	<9	19.5	17.7	31.4	<9
Potassium	314	530	686	252	736	1700	833	2500	822	1390	520	1910	1050	4200	827	7630	872	2290
Selenium	<0.180	<1.3	<0.085	<1.3	0.12	<1.3	<0.085	<1.3	0.333	<1.3	<0.085	<1.3	0.177	<1.3	<0.085	<1.3	0.475	<1.3
Silver	0.034	NA	<0.011	NA	<0.011	NA	<0.011	NA	0.098	NA	<0.011	NA	0.078	NA	<0.011	NA	2.1	NA
Sodium	1080	6150	1120	2400	885	5710	818	5340	1400	13400	1030	7700	1740	11100	998	14800	926	6740
Zinc	143	7.8	53.7	4.9	82.3	8.4	80.9	58.3	332	8.9	72	28.2	231	10.4	84.2	61.3	178	4.3
TRPH	32	NA	<25	NA	<25	NA	<25	NA	110	NA	<25	NA	140	NA	75	NA	888	NA
Sulfide & Flash Point																		
Sulfide	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	<20	NA	120	NA
Flash Point (F)	>250	NA	>205	NA	>250	NA	>205	NA	>250	NA	>205	NA	140	NA	>205	NA	80	NA

NA - Not Applicable

-Represents exceedance of Characteristic of Ignitability Flashpoint Regulatory Level (Table 15)

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 6(b)

October 1991 Near Shore Sampling

TCLP

Sample #	3710		3810	3812 - CHP	3716	3813		3812 - BDP		3740		3838		3738		3837		3713
Location	RM 41.0 R		RM 41.0 L	RM 41.2 L	RM 11.6 R	RM 11.3 L		RM 11.2 L		RM 24.6 R		RM 23.9 L		RM 23.8 R		RM 23.6 L		RM 11.3 R
Depth	0' - 5.2'	8.7' - 10.7'	0' - 6.5'	0' - 6.5'	0' - 4.5'	0' - 5.0'	5.0' - 11.0'	0' - 6.5'	7.0' - 11.5'	0' - 5.0'	5.0' - 9.0'	0' - 4.0'	4.0' - 8.0'	0' - 1.0'	2.0' - 7.0'	0' - 4.5'	4.0' - 8.0'	0' - 3.0'
Sample Type	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate	ug/L Leachate
TCLP																		
Arsenic	<10	<10	<10	<10	<10	<10	<10	<10	NT	<10	<10	<10	<10	<10	<10	<10	11	14
Barium	1500	910	650	1400	1600	840	880	1100	NT	1000	1000	1500	890	1000	1300	1500	920	930
Cadmium	19	8	12	<5	13	<5	<5	12	NT	5	<5	<5	<5	29	<5	7	<5	<5
Chromium	20	20	<10	10	20	<10	<10	20	NT	<10	<10	<10	<10	<10	<10	<10	<10	150
Lead	<50	140	250	<50	<50	90	150	50	NT	<50	<50	<50	<50	<50	<50	<50	<50	<50
Silver	<10	18	<10	10	14	12	13	<10	NT	<10	<10	<10	<10	<10	12	<10	<10	36

NT - Not Tested

Represents exceedance of Maximum Concentration of Contaminants for Toxicity Characterisitic Leachate Potential (Table 15)

October 1991 Near Shore Sampling

PCB's & Pesticides

Sample #	3710				3810		3812		3716		3813				3812			
Location	RM 41.0 R				RM 41.8 L		RM 41.2 L		RM 11.6 R		RM 11.3 L				RM 11.2 L			
Depth	0' - 5.2'		5.7' - 10.7'		0' - 6.5'		0' - 6.5'		0' - 4.5'		0' - 5.0'		5.0' - 11.0'		0' - 6.5'		7.0' - 11.5'	
Sample Type	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate
PCB's	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sample #	3740				3838				3738				3837				3713	
Location	RM 24.0 R				RM 23.8 L				RM 23.8 R				RM 23.6 L				RM 11.3 R	
Depth	0' - 6.0'		6.0' - 9.0'		0' - 4.0'		4.0' - 8.0'		0' - 1.0'		2.0' - 7.0'		0' - 4.5'		4.0' - 8.0'		0' - 3.0'	
Sample Type	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate	mg/kg Sediment	ug/L Elutriate
PCB's	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not Detected

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 8

October 1995 Submerged Bench Study

Diesel Range Organics, TRPH & Metals

	POOL 3 DATA (MG/KG)									
SAMPLE #:	3725A	3725	3726	3732	3738	3741	3825	3827	3829	3836
LOCATION:	25.8-LB	RM25.8LB	RM27.8LB	RM32.5-LB	RM37.8-LB	RM41.1LB	RM25.8-RB	RM27.0-RB	RM29.0RB	RM36.2RB
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DIESEL RANGE ORGANICS		310	350	600	640	300	130	55	270	850
TRPH	2960 J	1160 J	960 J	1090 J	2320 J	1330 J	343 J	322 J	889 J	

	POOL 3 SEDIMENT DATA (MG/KG)									
SAMPLE #:	3725A	3725	372B	3732	3738	3741	3825	3827	3829	3836
LOCATION:	25.8-LB	RM25.8LB	RM27.8LB	RM32.5-LB	RM37.8-LB	RM41.1LB	RM25.8-RB	RM27.0-RB	RM29.0RB	RM36.2RB
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Metals										
Aluminum	13100	12700	13800	14000	8390	9700	13200	10200	13200	13000
Arsenic	10.8	13.1	14.3	13.7	9.5	10.1	5.2	6.2	9.9	13.9
Barium	108	106	104	107	78.5	78.4	122	129	115	97.2
Cadmium	<0.90	<0.90	<0.96	1.2	<0.97	1.1	1.2	<0.81	<1.0	2.3
Calcium	1210	1340	1600	2310	8940	3160	2100	1910	1710	2650
Chromium	20.8	27.2	20.1	26.6	24.5	21.8	18.4	14.6	35.8	56.5
Cobalt	15.2	14.7	15.6	22.3	23.5	14.9	37	20.7	18.3	19.4
Copper	53.5	51.7	57.6	67	39.1	41	39.9	35.1	53.1	86.9
Iron	45800	49700	51400	58200	66900	35700	32900	28100	43400	70600
Lead	79	88.9	72.8	91.5	71.4	49.1	30	31.4	64.1	158
Magnesium	1910	1850	1900	1620	1360	1400	2120	2100	1960	1690
Mercury	0.19	0.2	<0.19	<0.22	<0.19	<0.18	<0.20	<0.16	<0.20	<0.20
Nickel	30.1	32.7	29.8	40.7	41.3	28.4	57.8	33.8	36.2	39.7
Potassium	757	756	939	578	489	594	873	901	975	775
Selenium	0.69	0.68	0.94	1.7	0.66	0.79	0.36	0.55	0.66	2.4
Silver	2.8	2.8	2.8	3.4	3.7	2.2	2	1.7	2.4	4.4
Sodium	114	112	280	174	200	86.7	90.6	126	83.1	111
Thallium	19.2	15.4	16.8	19.7	14.4	13.3	10.4	10.5	22.5	12.3
Vanadium	24.4	23.6	25.9	22	18.3	16.7	21.7	19.5	23.8	23
Zinc	190	180	211	389	268	202	386	122	269	471

J - Estimate

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedence of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 9

October 1995 Submerged Bench Study

Metals & Organics

POOL 3 SEDIMENT DATA (UG/L)									
SAMPLE #:	3725	3728	3732	3738	3741	3825	3827	3829	3836
LOCATION:	RM25.8LB	RM27.8LB	RM32.5-LB	RM37.8-LB	RM41.1LB	RM25.8-RB	RM27.0-RB	RM29.0RB	RM36.2RB
MATRIX:	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE
Metals									
Aluminum	3300	250	<50	<50	<50	<50	58	58	<50
Arsenic	3.8	1.6	<1.0	<1.0	1.1	<1.0	<1.0	1.5	<1.0
Barium	250	57	82	82	73	120	100	64	58
Calcium	930	1500	2700	24700	20900	8400	12600	3700	7600
Copper	28	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Iron	7200	560	260	90	2600	760	2200	450	1100
Lead	21	3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.3
Magnesium	330	820	1100	2200	3400	1800	3000	720	2200
Sodium	8200	7000	3000	1800	1200	1700	1700	890	1800
Zinc	140	9.3	51	24	<5.0	61	40	18	31

POOL 3 SEDIMENT DATA (MG/KG) & (UG/L)									
SAMPLE #	3725A	3725	3725	3741	3471	3825	3825	3836	3836
LOCATION	RM25.8 LB	RM25.8-LB	RM25.8-LB	RM41.1-LB	RM41.1-LB	RM25.8 RB	RM25.8 RB	RM36.2 RB	RM36.2 RB
MATRIX	SOIL	SOIL	ELUTRIATE	SOIL	ELUTRIATE	SOIL	ELUTRIATE	SOIL	ELUTRIATE
Semi Volatile Organics									
Acenapthene	<.590	<.590	<10	.100 J	<10	<.690	<10	.110 J	<10
Anthracene	<.590	<.590	<10	.280 J	<10	<.690	<10	.210 J	<10
Benzo(a)anthracene	.190 J	.210 J	<10	.490 J	<10	.210 J	<10	0.8	<10
Benzo(a)pyrene	.150J	.150 J	<10	.360 J	<10	.170 J	<10	0.71	<10
Benzo(b)fluoranthene	<.590	<.590	<10	.460 J	<10	.250 J	<10	1.2	<10
Benzo(g,h,i)perylene	<.590	<.590	<10	.160 J	<10	<.690	<10	.250 J	<10
Benzo(k) fluoranthene	<.590	<.590	<10	.290 J	<10	.170 J	<10	<.590 J	<10
bis(2-Ethylhexyl)phthalate	<.590	<.590	<10	.460 J	<10	<.690	<10	.370 J	<10
Chrysene	.190J	.190 J	<10	.460 J	<10	.230 J	<10	0.77	<10
Dibenzo(a,h)anthracene	<.590	<.590	<10	<0.610	<10	<.690	<10	<.690	<10
Dibenzofuran	<.590	<.590	<10	.120 J	<10	<.690	<10	.120 J	<10
3,3-Dichlorobenzidine	<1.200	<1.200	<20	<1.200	<20	<1.400	<20	1.4	<20
Fluoranthene	.350J	.400 J	<10	1.1	<10	.400 J	<10	1.4	<10
Fluorene	<.590	<.590	<10	.150 J	<10	<.690	<10	.160 J	<10
Indeno(1,2,3-cd)pyrene	<.590	<.590	<10	.140 J	<10	<.690	<10	.280 J	<10
2-Methylnaphthalene	<.590	<.590	<10	.140 J	<10	<.690	<10	.150 J	<10
Naphthalene	<.590	<.590	<10	.120 J	<10	<.690	<10	.110 J	<10
Phenanthrene	.210 J	.250 J	<10	0.74	<10	.220 J	<10	0.88	<10
Pyrene	.310J	.350 J	<10	0.85	<10	.330 J	<10	1.3	<10

J - Estimate

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedance of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 10

October 1995 Submerged Bench Study

PCB's and Pesticides

POOL 3 SEDIMENT DATA (MG/KG)										
SAMPLE #:	3725A	3725	3728	3732	3738	3741	3825	3827	3829	3836
LOCATION:	RM25.8LB	RM25.8LB	RM27.8LB	RM32.5-LB	RM37.8-LB	RM41.1LB	RM25.8-RB	RM27.0-RB	RM29.0RB	RM36.2RB
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
PCB's	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

POOL 3 SEDIMENT DATA (UG/L)									
SAMPLE #:	3725	3728	3732	3738	3741	3825	3827	3829	3836
LOCATION:	RM25.8LB	RM27.8LB	RM32.5-LB	RM37.8-LB	RM41.1LB	RM25.8-RB	RM27.0-RB	RM29.0RB	RM36.2RB
MATRIX:	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE	ELUTRIATE
PCB's	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pesticides	NT	NT	NT	NT	NT	NT	NT	NT	NT

ND - Not Detected
NT - Not Tested

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Continuous Concentrations (Table 12 and 13)

-Represents exceedance of Pennsylvania Statewide Human Health Residential Standards for Soils (Table 14)

-Represents exceedence of PaDEP Water Quality Criteria for Toxic Substances - Criteria Maximum Concentrations (Table 12 and 13)

Table 11

District Standards for Water

PaDEP Water Quality Criteria for Toxic Substances Fish and Aquatic Life Criteria		
	Criteria Continuous Concentrations (ug/L)	Criteria Maximum Concentrations (ug/L)
INORGANICS		
Metals		
Aluminum	NE	NE
Antimony	219	1095
Arsenic	190.0	360
Barium	NE	NE
Calcium	NE	NE
Iron	NE	NE
Magnesium	NE	NE
Manganese	NE	NE
Mercury	NS	2.4
Potassium	NE	NE
Selenium	5.0	20
Silver*	NS	See Table 13
Sodium	NE	NE
Vanadium	NE	NE
Sulfide	NE	NE
Phenol	20	100
ORGANICS		
PCB's	0.014	2
Pesticides (Chlordane)	0.0043	2.4
Semi-Volatile Organics		
Anthracene	NE	NE
Acenaphthene	17.0	85
Benzo(a)Anthracene	0.1	0.5
Benzo(a)pyrene	NE	NE
Benzo(b)fluoranthene	NE	NE
Benzo(ghi)perylene	NE	NE
Benzo(k)fluoranthene	NE	NE
Bis(2-ethylhexyl)phthalate	909.0	4545
Butylbenzylphthalate	35.0	140
Chrysene	NE	NE
Diethylphthalate	800.0	4000
Dibenzofuran	NE	NE
3,3-Dichlorobenzidine	NE	NE
Di-n-octyl phthalate	NE	NE
Dimethylphthalate	495.0	2475
Di-n-butyl phthalate	21.0	105
Fluoranthene	40.0	200
Fluorene	NE	NE
Indeno(1,2,3-cd)pyrene	NE	NE
Naphthalene	43.0	135
2-Methylnaphthalene	NE	NE
Phenanthrene	1.0	5
Pyrene	NE	NE
VolatileOrganics		
Acetone	NE	NE
Chlorobenzene	238	1180
Carbon disulfide	NE	NE
Benzene	128	640
Toluene	330	1650
Ethyl benzene	580	2900
Methylene Chloride	2368	11840
Xylene	NE	NE

*** - See Table 13 for Maximum Concentration Limits. Values are hardness dependent.**
NE - Standard Not Established
NS - No Standard Above Practical Quantitation Limit

Table 12

Water Quality Criteria for Toxic Substances

(Background Water)

Fish and Aquatic Life Criteria - Criteria Continuous Concentrations (ug/L)

	River Mile															
	RM 23.62	RM 23.7	RM 23.83	RM 23.85	RM 23.9	RM 24	RM 24.05	RM 26	RM 30	RM 32	RM 32.5	RM 34	RM 37.5	RM 38.5	RM 41	RM 41.4
Mean Value Hardness	200	137.779	200	200	143.97	96	198	98	78	78	84	85	90	93	89	148.818
Metal																
Cadmium	2.000	1.440	2.000	2.000	1.496	1.065	1.982	1.082	NS	NS	NS	NS	1.012	1.038	1.003	1.539
Chromium	381.000	281.446	381.000	381.000	291.352	213.800	377.800	217.400	181.400	181.400	192.200	194.000	203.000	208.400	201.200	299.109
Copper	21.000	15.400	21.000	21.000	15.957	11.560	20.820	11.780	9.580	9.580	10.240	10.350	10.900	11.230	10.790	16.394
Lead	7.700	4.900	7.700	7.700	5.179	3.048	7.610	3.124	2.364	2.364	2.592	2.630	2.820	2.934	2.782	5.397
Nickel	280.000	205.335	280.000	280.000	212.764	154.240	277.600	157.120	128.320	128.320	136.960	138.400	145.600	149.920	144.160	218.582
Zinc	190.000	140.223	190.000	190.000	145.176	105.920	188.400	107.960	87.560	87.560	93.680	94.700	99.800	102.860	98.780	149.054

(Elutriates)

Fish and Aquatic Life Criteria - Criteria Maximum Concentrations (ug/L)

	River Mile															
	RM 23.62	RM 23.7	RM 23.83	RM 23.85	RM 23.9	RM 24	RM 24.05	RM 26	RM 30	RM 32	RM 32.5	RM 34	RM 37.5	RM 38.5	RM 41	RM 41.4
Mean Value Hardness	200	137.779	200	200	143.97	96	198	98	78	78	84	85	90	93	89	148.818
Metal																
Cadmium	8.600	5.676	8.600	8.600	5.967	3.732	8.506	3.816	2.976	2.976	3.228	3.270	3.480	3.606	3.438	6.194
Chromium	3116.000	2244.906	3116.000	3116.000	2331.580	1658.400	3088.000	1687.200	1399.200	1399.200	1485.600	1500.000	1572.000	1615.200	1557.600	2399.452
Copper	34.000	24.045	34.000	34.000	25.035	17.296	33.680	17.648	14.128	14.128	15.184	15.360	16.240	16.768	16.064	25.811
Nickel	300.000	1815.569	2500.000	2500.000	1883.670	1351.200	2478.000	1375.600	1131.600	1131.600	1204.600	1217.000	1278.000	1314.600	1265.600	1936.998
Lead	200.000	126.579	200.000	200.000	133.885	78.160	197.640	80.060	60.880	60.880	66.640	67.600	72.400	75.280	71.440	139.605
Silver	13.000	7.462	13.000	13.000	8.013	3.868	12.822	3.984	2.824	2.824	3.172	3.230	3.520	3.694	3.462	8.445
Zinc	210.000	154.001	210.000	210.000	159.573	115.600	208.200	117.600	95.800	95.800	102.400	103.500	109.000	112.300	107.900	163.936

NS - No Standard Above Practical Quantitation Limit

Table 13

Pennsylvania Statewide Human Health Standards For Soils (July 1995) As Revised Levels not to be exceeded based on ingestion exposure.			
ppm	Clean Fill Levels	Residential	Non-Residential
INORGANICS			
Metals			
Aluminum	NE	NE	NE
Antimony	NE	NE	NE
* Arsenic	2	20	20
* Barium	500	5,000	5,000
* Cadmium	2	20	20
Calcium	NE	NE	NE
* Chromium (hexavalent)	100	NE	NE
Chromium (Total)	NE	NE	NE
Cobalt	NE	NE	NE
Copper	NE	NE	NE
Iron	NE	NE	NE
* Lead	20	200	600
Magnesium	NE	NE	NE
Manganese	NE	NE	NE
* Mercury	2	20	-
Nickel	NE	NE	NE
Potassium	NE	NE	NE
Selenium	NE	NE	NE
Silver	NE	NE	NE
Sodium	NE	NE	NE
Thallium	NE	NE	NE
Zinc	NE	NE	NE
Sulfide	NE	NE	NE
ORGANICS			
* PCB's	1	5	5
* Chlordane	0.02	0.3	5
Semi-Volatile Organics			
* Anthracene [NC]	7	1,000	300,000
* Acenapthene [NC]	3	30	60,000
* Benzo(a)pyrene [C]	0.002	0.6	0.6
* Benzo(a)anthracene [C]	0.6	6	6
* Benzo(b)fluoranthene[C]	0.6	6	6
* Benzo(k)fluoranthene [C]	6	60	60
Benzo(ghi)perylene	NE	NE	NE
bis(2-Ethylhexyl)phthalate	NE	300,000	400,000
* Chrysene [C]	30	300	780
Dimethylphthalate	NE	37,000 [SG]	10,000,000
Dibenzofuran	NE	NE	NE
3,3-Dichlorobenzidine	NE	NE	NE
* Dibenzo(a,h)anthracene [C]	0.06	0.6	1
* Fluoranthene [NC]	40	400	40,000
Fluorene	NE	100 [SG]	80,000
* Ideno(1,2,3-cd)pyrene [C]	0 6	6	8
* Naphthalene [NC]	0.2	8	4,000
* 2-methylnaphthalene [NC]	2	20	20
* Phenanthrene [NC]	8	80	80
* Pyrene [NC]	30	300	30,000
Volatile Organics			
Acetone	NE	800	100,000
Chlorobenzene	0.06	10 [SG]	20,000
Carbon disulfide	NE	0.8 [SG]	200,000
Benzene	0.02	0.1	200
Ethyl benzene	10	70 [SG]	100,000
Methylene Chloride	NE	NE	NE
Toluene	0.05	100 [SG]	200,000
Xylene	NE	5 [SG]	4,000,000

* - Represents Victory Hollow Disposal Standard as revised by PaDEP (3 May 1996)
NE - Standard Not Established
[C] - Polynuclear Aromatic Hydrocarbon (PAH) Carcinogenic Compound
[NC] - Polynuclear Aromatic Hydrocarbon (PAH) Non-Carcinogenic Compound
[SG] - More stringent Soil to Groundwater Pathway Maximum Level

PaDEP Dredging Guidelines (April 1996)			
ppm	Unrestricted	Residential	Non-Residential
Total Recoverable Petroleum Hydrocarbons (TRPH)	50	200	500
Total Organic Halides (TOX)	25	125	125

Table 14(a)

District Standards for Soil

(In parts per million)

	Threshold Limits		
	A (unrestricted use)	B (residential use)	C (non-residential use)
INORGANICS			
Metals			
Aluminum	NE	NE	NE
Antimony	NE	NE	NE
Arsenic	2	20	20
Barium	500	5,000	5,000
Cadmium	2	20	20
Calcium	NE	NE	NE
Chromium (hexavalent)	100	NE	NE
Chromium (Total)	NE	NE	NE
Cobalt	NE	NE	NE
Copper	NE	NE	NE
Iron	NE	NE	NE
Lead	20	200	800
Magnesium	NE	NE	NE
Manganese	NE	NE	NE
Mercury	2	20	-
Nickel	NE	NE	NE
Potassium	NE	NE	NE
Selenium	NE	NE	NE
Silver	NE	NE	NE
Sodium	NE	NE	NE
Thallium	NE	NE	NE
Zinc	NE	NE	NE
Sulfide	NE	NE	NE
ORGANICS			
PCB's	1	5	5
Chlordane	0.02	0.3	5
Semi-Volatile Organics			
Anthracene [NC]	7	1,000	300,000
Acenapthene [NC]	3	30	60,000
Benzo(a)pyrene [C]	0.002	0.6	0.6
Benzo(a)anthracene [C]	0.6	8	8
Benzo(b)fluoranthene[C]	0.6	8	8
Benzo(k)fluoranthene [C]	6	60	60
Benzo(ghi)perylene	NE	NE	NE
bis(2-Ethylhexyl)phthalate	NE	300,000	400,000
Chrysene [C]	30	300	780
Dimethylphthalate	NE	37,000	10,000,000
Dibenzofuran	NE	NE	NE
3,3-Dichlorobenzidine	NE	NE	NE
Dibenzo(a,h)anthracene [C]	0.06	0.8	1
Fluoranthene [NC]	40	400	40,000
Fluorene	NE	100	80,000
Ideno(1,2,3-cd)pyrene [C]	0.6	6	8
Naphthalene [NC]	0.2	8	4,000
2-methylnaphthalene [NC]	2	20	20
Phenanthrene [NC]	8	80	80
Pyrene [NC]	30	300	30,000
Volatile Organics			
Acetone	NE	800	100,000
Chlorobenzene	0.06	10	20,000
Carbon disulfide	NE	0.8	200,000
Benzene	0.02	0.1	200
Ethyl benzene	10	70	100,000
Methylene Chloride	NE	NE	NE
Toluene	0.05	100	200,000
Xylene	NE	5	4,000,000
Total Recoverable Petroleum Hydrocarbons (TRPH)	50	200	500
Total Organic Halides (TOX)	25	125	125

NE - Standard Not Established
[C] - Polynuclear Aromatic Hydrocarbon (PAH) Carcinogenic Compound
[NC] - Polynuclear Aromatic Hydrocarbon (PAH) Non-Carcinogenic Compound

Table 14(b)

Maximum Concentration of Contaminants for the Toxicity Characteristic Leachate Potential (Established by USEPA Ch.40 CFR part 261)

contaminant	regulatory level (ug/L)
arsenic	5,000
barium	100,000
benzene	500
cadmium	1,000
carbon tetrachloride	500
chlordane	30
chlorobenzene	100,000
chloroform	6,000
chromium	5,000
o-cresol	200,000
m-cresol	200,000
p-cresol	200,000
cresol	200,000
2,4-D	10,000
1,4-Dichlorobenzene	7,500
1,2-Dichloroethane	500
1,1-Dichloroethylene	700
2,4-Dinitrotulene	130
Endrin	20
Heptachlor	8
Hexachlorobenzene	130
Hexachlorobutadeine	500
Hexachloroethane	3,000
Lead	5,000
Lindane	400
Mercury	200
Methoxychlor	10,000
Methyl Ethyl ketone	200,000
nitrobenzene	2,000
pentachlorophenol	100,000
pyridine	5,000
selenium	1,000
silver	5,000
tetrachloroethylene	700
toxaphene	500
trichloroethylene	500
2,4,5-Trichlorophenol	400,000
2,4,6-Trichlorophenol	2,000
2,4,5-TP (Silvex)	1,000
Vinyl Chloride	200

Characteristic of Ignitability Flashpoint Regulatory Level = 140 °F

Table 15

LOWER MON SEDIMENT CHARACTERIZATION SUMMARY

ANALYTICAL PARAMETER	Disposal Standards as revised by PaDEP (3 May 1996) Clean Fill Max Level (ppm)	Non-Res Max Level (ppm)	Residential Max Level (ppm)	Upper Guard Wall Extension River Mile 11.2 Dec 1995 Highest (ppm)	Median (ppm)	Pool 3 Nav Channel RM 23.8 to 41.5 Jan 1990 Highest (ppm)	Median (ppm)	Pool 2 & 3 Near Shore RM 11.2 to 41.2 Location of Highest Conc.	Oct 1991 Highest (ppm)	Median (ppm)	Pool 3 Near Shore Submerged Benches RM 25.8 to 41.1 Oct 1995 Highest (ppm)	Median (ppm)
Screening												
Tot Recvbl Petroleum Hydrocarbons (TRPH)	50.000	500.000	200.000	1,250.000	650.000	NT	NT	RM 11.3	900.000	99.000	2,960.00	1,090.0
Total Organic Halides (TOX)	25.000	125.000	125.000	62.000	29.500	NT	NT		NT	NT	NT	NT
TARGET COMPOUND LIST, METHOD 8270												
Carcinogenic PAH Compounds												
Benzo(a)pyrene	0.002	0.600	0.600	0.698[2]		0.250[1]	0.250[1]	RM 11.6	0.780	0.165[1]	0.210	0.170
Benzo(a)anthracene	0.500	8.000	6.000	0.839[2]		0.250[1]	0.250[1]	RM 11.6	1.000	0.165[1]	0.600	0.210
Benzo(b)flouranthene	0.600	8.000	6.000	0.521[2]		0.250[1]	0.250[1]	RM 11.6	0.630	0.165[1]	1.200	0.295[1]
Benzo(k)flouranthene	6.000	80.000	60.000	0.657[2]		0.250[1]	0.250[1]	RM 11.6	0.600	0.165[1]	0.290	0.295[1]
Chrysene	30.000	780.000	300.000	0.822[2]		0.250[1]	0.250[1]	RM 11.6	0.980	0.165[1]	0.770	0.230
Dibenzo(a,h)anthracene	0.060	0.800	0.600	0.038[1,3]		0.250[1]	0.250[1]		0.165[1]	0.165[1]	0.345[1]	0.305[1]
Indeno(1,2,3-c,d)pyrene	0.600	8.000	6.000	0.329[2]		0.250[1]	0.250[1]	RM 11.6	0.440	0.165[1]	0.345[1]	0.295[1]
Non-Carcinogenic Compounds												
Acenaphthene	3.000	60,000.000	30.000	0.749[2]		0.250[1]	0.250[1]		0.165[1]	0.165[1]	0.345[1]	0.295[1]
Anthracene	7.000	300,000.000	1,000.000	0.692[2]		0.250[1]	0.250[1]	RM 11.6	0.350	0.165[1]	0.345[1]	0.295[1]
Fluoranthene	40.000	40,000.000	400.000	2.490[2]		0.250[1]	0.250[1]	RM 11.3	1.100	0.165[1]	1.400	0.400
2-Methylnaphthalene	2.000	20.000	20.000	0.672[2]		0.250[1]	0.250[1]		0.165[1]	0.165[1]	0.345[1]	0.295[1]
Naphthalene	0.200	4,000.000	8.000	1.590[2]		5.400	0.250[1]		0.165[1]	0.165[1]	0.345[1]	0.295[1]
Phenanthrene	8.000	80.000	80.000	2.660[2]		6.800	0.250[1]	RM 11.6	0.940	0.165[1]	0.880	0.250
Pyrene	30.000	30,000.000	300.000	1.910[2]		3.200	0.250[1]	RM 11.6	1.400	0.165[1]	1.300	0.350
METHOD 8080												
Total Polychlorinated Biphenyls (PCBs)	1.000	5.000	5.000	0.640	0.310[1,2]	0.069	0.0005[1]		0.100[1]	0.100[1]	1.157[1]	0.9786[1,2]
Pesticides: Chlordane	0.020	5.000	0.300	0.00335[1]	0.00315[1]	0.250[1]	0.0025[1]		0.100[1]	0.100[1]	NT	NT
TARGET ANALYTE LIST												
Arsenic	2.000	20.000	20.000	NT		22.000	8.000	RM 11.3	19.000	7.870	14.300	10.450
Barium	500.000	—	5,000.000	NT		NT	NT		167.000	103.500	129.000	106.500
Cadmium	2.000	20.000	20.000	NT		0.500[1]	0.500	RM 11.3	21.200	10.450	2.300	0.4925[1]
Chromium	100.000	—	—	NT		19.000	12.000		41.600	17.150	56.500	23.150
Lead	20.000	600.000	200.000	74.600	41.600	30.000	9.000	RM 11.3	84.300	4.640	158.000	72.100
Mercury	2.000	—	20.000	NT		0.100[1]	0.100[1]	RM 11.3	1.200	0.161	0.200	0.100[1]

1 -- Represents a non-detected quantity for which the value is 1/2 the detection limit.
2 -- Total PCB values, where quantity was undetected, were calculated using the average of each detection limit
3 -- Test was only performed on Sample CB -1 (Conrail Bridge).
NT -- not tested
[ ] --- Exceeds PaDEP Maximum Level for Residential Disposal at Victory Hollow Site

POOL 3 & 4 DREDGE QUANTITY -- 1,615,100 CY
DAM 2 SEDIMENT EXCAVATION QUANTITY --- 1,456,600 CY

EXECUTIVE SUMMARY

This report summarizes the results of the Phase II(A) Environmental Site Assessment (ESA) of properties associated with construction *of a new Dam 2* on the Monongahela river (River Mile II) near Pittsburgh, Pennsylvania. *The investigated properties include maintenance bulkhead storage areas, batch plant and laydown areas.* The project areas are located in a region of heavy industrial development in the Boroughs of Braddock, North Braddock, and West Mifflin, and the City of Duquesne. Four separate areas were investigated as part of this Phase II(A) investigation with shallow soil samples collected by hand augering in the upper five feet of soil. The United States Army Corps of Engineers, Pittsburgh District (CEORP) will utilize these properties and two other staging areas during the construction activities. The eventual purpose of this construction project will be to replace the existing Lock and Dam with upgraded facilities.

Soil samples were analyzed for priority pollutant metals, polynuclear aromatic hydrocarbons (PAH's), total petroleum hydrocarbons, and/or benzene, ethylbenzene, toluene, and total xylene (BETX). The following sets of screening standards were used to evaluate the degree of contamination detected: Pennsylvania Department of Environmental Protection (PA DEP) soil standards (4) and lead policy (6) and US EPA Region IX Preliminary Remediation Goals (PRGs) (7). The PRGs were used only when a PA DEP criteria was not available. For two carcinogenic parameters (benzo(a)pyrene and arsenic), the PA DEP standards were modified for a commercial/industrial exposure scenario. This modification was approved by the PA DEP in a recent Phase II investigation of similar properties in the area. Based on this evaluation, a decision was made whether remediation of properties is needed prior to purchasing by the government and if site workers would need any specific protection to reduce exposure during construction and future facility use.

No exceedances of screening criteria were noted. For PAH's, several stations exhibited low concentrations well below any of the screening criteria. Benzo(a)pyrene has a modified PA DEP criteria of 1.8 mg/kg with the highest sample result being 1.62 mg/kg. Levels of priority pollutant metals were below the PA DEP soil criteria values, with the arsenic criteria modified for the site specific industrial worker exposure scenario. Two samples were collected per boring and shallow samples were generally higher in metals than the deeper samples. This could be attributed to the effects of airborne particulates from nearby industries.

No further investigations are warranted based on the Phase II(A) sampling results. All observed levels were well below the modified PA DEP criteria or, for parameters in which PA DEP did not have a criteria, the EPA PRGs. No special worker protection is required for activities within the upper five feet of soil.

Since specific construction plans were not defined at the time of the Phase II(A) investigation, additional sampling may be required prior to off-site disposal of the soil. As part of the construction contract, toxicity characteristic leaching procedure (TCLP) analysis for lead should be performed on any material to be disposed of off-site. Preliminary evaluation of TCLP equivalent concentrations shows that soils from Areas 3, 5, and 6 could potentially exceed the TCLP regulatory limits (for lead). Samples with lead concentrations greater than 100 mg/kg could potentially exceed the TCLP lead regulatory level.

For area 5, the future construction project drill crew should follow some special health and safety procedures when drilling the anchors into bedrock since samples were not collected at depths greater than 3 feet. The borehole should be periodically monitored for organic vapors with a PID or FID. Because of the presence of low level metals throughout the shallow (< 3 feet) soils, the drill crew should minimize exposure to dust. If dust is prevalent, personal protective equipment should include breathing protection capable of protecting against particulates (potential metals).

FINAL REPORT
PHASE 1
HAZARDOUS AND TOXIC WASTE ASSESSMENT

VICTORY HOLLOW DISPOSAL SITE
LOWER MONONGAHELA RIVER PROJECT
WASHINGTON COUNTY, PENNSYLVANIA

EXECUTIVE SUMMARY

Introduction/Project Description

This report presents the findings of a Phase I Environmental Site Assessment conducted for the United States Army, Corps of Engineers (USACOE), Pittsburgh District. This project concerns the use of the Victory Hollow Site for placement of excavated and dredge materials associated with the Lower Monongahela River Project. The project area is located in Carroll Township, in Washington County, Pennsylvania. A site location map is included as Figure 1. The purpose of the study is to obtain and evaluate information associated with environmental contamination or the potential for environmental contamination that could pose a liability to the USACOE as a result of property or right-of-way/easement acquisition.

Methodology

This environmental site assessment includes research of current and past land uses through the following resources: 1) review of available aerial photographs, 2) review of current and historic maps; 3) interviews with local officials and other persons with knowledge of the site and its history; 4) review of environmental databases and files available from local, state, and federal government agencies; 5) review of past ownership of the subject properties since 1940 via deed searches; and 6) field reconnaissance of the properties. The utilities servicing the area were also contacted for information concerning present and past property usage, the presence of transformers containing polychlorinated biphenyls (PCBs), contaminated equipment or articles, or any past environmental contamination of the properties.

This study includes the investigation of four subject properties and twenty adjacent properties, as delineated on Figures 2 and 2A.

Summary of Findings

Land use data, regulatory and database information, and field reconnaissance observations were evaluated to determine if a potential for contamination exists at the

Victory Hollow Site. Field observations are listed on Figure 3. This evaluation revealed no potential for gross contamination at the site.

None of the regulatory agencies, local representatives, or property owners contacted possess records or personal knowledge of contamination of the subject properties. The regulatory database search did not indicate the presence of listed sites within the property boundaries. While the deed searches indicate that the subject properties were owned by industrial firms, no evidence was found (including Sanborn fire insurance maps) to indicate that any industrial activities were performed on this site. Large quantities of slag and evidence of past mining operations were noted during the field reconnaissance and from map and aerial photograph reviews. Analytical results from slag samples indicated that the concentrations of heavy metals are below current Pennsylvania Department of Environmental Resources cleanup standards for generic soil.

Illegal dumping of demolition debris, fuel tanks, oil drums, and industrial activities have been noted on adjacent properties. While these materials could be responsible for minor amounts of petroleum hydrocarbon or possibly lead contamination, the majority of these items are located outside of the required easements. No evidence of significant spills or staining was observed in these areas at the time of the field reconnaissance.

Conclusions and Recommendations

This evaluation revealed that no significant potential for contamination exists within the subject properties. Therefore, no Phase II intrusive sampling is recommended for this site. Should the required easements change to include adjacent areas where potential contamination was identified, reevaluation of the need for Phase II investigations would be required.

EXHIBIT 3, ATTACHMENT No. 3

EXECUTIVE SUMMARY

This report describes an environmental investigation of sediment from the Monongahela River bed at Lock and Dam 2 near Braddock, Pennsylvanie. The investigation was conducted by AWK Consulting Engineers, Inc. for the United States Army Corps of Engineers Pittsburgh District under Contract No. DACW59-96-C-0016. The purpose of this investigation was to determine if sediments which must be removed from the river bottom as part of the construction of a new gated dam at Lock and Dam 2 are contaminated and, if so, to make recommendations about how they may be disposed of in accordance with all applicable federal and state regulations.

As part of the investigation, AWK drilled 76 borings into the bed of the Monongahela River for a total footage of 1,482 lineal feet. Ninety-eight sediment samples were collected and analyzed for Total Recoverable Petroleum Hydrocarbons, Total Organic Halogens, lead, and Polychlorinated Biphenyls/Chlordane following dredging guidelines promulgated by the Pennsylvania Department of Environmental Protection. In addition to these analyses, the following tests were performed:

- Twenty-eight samples were analyzed for Halogenated Volatile Organics;
- Six samples were analyzed for Volatile Organic Compounds;
- Twenty-two samples were analyzed for Semivolatile Organic Compounds;
- Six samples were analyzed for lead using the Synthetic Precipitation Leach Procedure; and
- Six samples were analyzed for Priority Pollutant List Semivolatiles, Pesticides/Polychlorinated Biphenyls and metals using the standard elution procedure with Monongahela River water as the elutant.

The analytical results were compared with "residential" and "non-residential" ingestion standards given in Table B.2, "Statewide Human Health Standards for Soils", in Pennsylvania Act II, dated July 18, 1995. Of the 98 intervals sampled, sixteen exceeded one or more of the non-residential standards, including ten which exceeded the 5.0 mg/kg standard for Polychlorinated Biphenyls and six which exceeded the 800 μg/kg standard for the Polycyclic Aromatic Hydrocarbon benzo(a)pyrene. One other sample was below the non-residential standard for benzo(a)pyrene, but was above the residential standard of 600 μg/kg.

The total volume of sediment investigated for this project based on AWK's volume calculations is 551,944 cubic yards. This includes 5,922 cubic yards which exceed the residential standard for benzo(a)pyrene but meet all non-residential standards, 19,955 cubic yards which exceed the non-residential standard for benzo(a)pyrene, and 33,767 cubic yards which exceed the non-residential standard for Polychlorinated Biphenyls. These volume estimates were calculated by assuming that the analytical values obtained for each sample interval could be assigned to the management unit in which the interval was collected. An independent volume calculation by the United States Army Corps of Engineers gave a total sediment volume of 598,300 cubic yards.

Sediment from the intervals which meet all residential standards should be acceptable for disposal at a residential site approved by the Pennsylvania Department of Environmental Protection. Similarly, the one interval that is between the residential and non-residential standard for benzo(a)pyrene should be acceptable for disposal at an approved non-residential site. The material which exceeds the non-residential

standards for Polychlorinated Biphenyls or for benzo(a)pyrene is not acceptable for disposal at either a residential or a non-residential site based on the Act II Statewide Human Health Standards. However, material which exceeds the Statewide Human Health Standards may still be eligible for disposal at a residential or non-residential site based on Site-Specific Standards which are developed by a site-specific risk assessment.

Alternatively, because the benzo(a)pyrene levels in the sediments are not anomalously high relative to typical urban soils, it may be possible to dispose of these sediments at a residential or a non-residential site under the Act II Background Standard. This approach would require documentation of background levels of benzo(a)pyrene at the proposed disposal site.

The sample intervals which exceed the non-residential standards, or which exceed Site-Specific Standards developed for the proposed disposal site, should be evaluated under the Pennsylvania Solid Waste Management Act, or where the exceedence is due to Polychlorinated Biphenyls, the Toxic Substances Control Act. These intervals will need to be classified as either residual, toxic, or hazardous waste, and then disposed of at an approved landfill. Based on a review of relevant state and federal regulations, AWK concludes that the levels of benzo(a)pyrene and Polychlorinated Biphenyls encountered in the Monongahela River sediments are likely to result in their classification as residual waste, and that classification of any of the sediments as hazardous or toxic waste is unlikely. However, because no Resource Conservation

and Recovery Act waste characterizations were performed, no positive determination can be made at this time regarding whether or not they are hazardous.

It is AWK's opinion that the sediments which are acceptable for disposal at a residential site do not require special precautions or special handling during disposal, beyond the general requirements specified in the Pennsylvania Department of Environmental Protection Dredging Guidelines dated October 27, 1994. However, AWK recommends that skin contact with sediments which exceed the residential standards for Polychlorinated Biphenyls or benzo(a)pyrene should be minimized.

Pennsylvania Statewide Human Health Standards For Soils (July 1996) Levels not to be exceeded based on ingestion exposure.				
ppm	Clean Fill	Residential *		Non-Residential
		MSC (1)	SG (2)	
INORGANICS				
Metals				
Aluminum	NE	NE	NE	NE
Antimony	NE	NE	NE	NE
Arsenic	NE	NE	NE	NE
Barium	NE	NE	NE	NE
Cadmium	NE	NE	NE	NE
Calcium	NE	NE	NE	NE
Chromium (hexavalent)	NE	NE	NE	NE
Chromium (Total)	NE	NE	NE	NE
Cobalt	NE	NE	NE	NE
Copper	NE	NE	NE	NE
Iron	NE	NE	NE	NE
Lead	20	200	NE	600
Magnesium	NE	NE	NE	NE
Manganese	NE	NE	NE	NE
Mercury	NE	NE	NE	NE
Nickel	NE	NE	NE	NE
Potassium	NE	NE	NE	NE
Selenium	NE	NE	NE	NE
Silver	NE	NE	NE	NE
Sodium	NE	NE	NE	NE
Thallium	NE	NE	NE	NE
Zinc	NE	NE	NE	NE
Sulfide	NE	NE	NE	NE
ORGANICS				
PCB's	1	5	NE	5
Chlordane	0.3	0.3	500	5
Semi-Volatile Organics				
Anthracene [NC]	2	20,000	1,000	300,000
Acenapthene [NC]	0.7	4000	30	60,000
Benzo(a)pyrene [C]	NE	0.8	500	0.8
Benzo(a)anthracene [C]	NE	8	500	8
Benzo(b)fluoranthene[C]	NE	8	500	8
Benzo(k)fluoranthene [C]	NE	80	500	80
Benzo(ghi)perylene	NE	NE	50	NE
bis(2-Ethylhexyl)phthalate	NE	300	400	400
Chrysene [C]	NE	800	300	780
Dimethylphthalate	NE	780,000	37,000	10,000,000
Dibenzofuran	NE	NE	30	NE
3,3-Dichlorobenzidine	NE	NE	NE	NE
Dibenzo(a,h)anthracene [C]	NE	0.8	500	0.8
Fluoranthene [NC]	10	3000	400	40,000
Fluorene	NE	3,000	100	80,000
Indeno(1,2,3-cd)pyrene [C]	NE	8	500	8
Naphthalene [NC]	0.2	800	8	4,000
2-methylnaphthalene [NC]	0.5	1000	20	NE
Phenanthrene [NC]	2	200	80	NE
Pyrene [NC]	8	2000	300	30,000
Volatile Organics				
Acetone	NE	8000	400	100,000
Chlorobenzene	0.06	1000	10	20,000
Carbon disulfide	NE	7000	0.8	200,000
Benzene	0.02	0.1	0.8	200
Ethyl benzene	0.1	7000	70	100,000
Methylene Chloride	NE	NE	NE	NE
Toluene	0.05	10,000	100	200,000
Xylene	NE	100,000	5	4,000,000

NE - Standard Not Established
[C] - Polynuclear Aromatic Hydrocarbon (PAH) Carcinogenic Compound
[NC] - Polynuclear Aromatic Hydrocarbon (PAH) Non-Carcinogenic Compound
[SG] - More stringent Soil to Groundwater Pathway Maximum Level
MSC - Medium Specific Concentration
SG - Soil to Groundwater
*** Residential - Regulated substances are required not to exceed the lower of column (1) or (2).**

PaDEP Dredging Guidelines (April 1996)			
ppm	Unrestricted	Residential	Non-Residential
Total Recoverable Petroleum Hydrocarbons (TRPH)	50	200	500
Total Organic Halides (TOX)	25	125	125
PCB's	1	5	5
Chlordane	0.02	0.3	5
Lead	20	200	600

EXHIBIT 3, ATTACHMENT No. 5, sht 1

Project Criteria Standards for Soil

(in parts per million)

	Threshold Limits			
	A (clean fill)	B (residential use)		C (non-residential use)
		MSC (1)	SG (2)	
INORGANICS				
Metals				
Aluminum	NE	NE	NE	NE
Antimony	NE	NE	NE	NE
Arsenic	NE	NE	NE	NE
Barium	NE	NE	NE	NE
Cadmium	NE	NE	NE	NE
Calcium	NE	NE	NE	NE
Chromium (hexevalent)	NE	NE	NE	NE
Chromium (Total)	NE	NE	NE	NE
Cobalt	NE	NE	NE	NE
Copper	NE	NE	NE	NE
Iron	NE	NE	NE	NE
Lead	20	200	NE	800
Magnesium	NE	NE	NE	NE
Manganese	NE	NE	NE	NE
Mercury	NE	NE	NE	NE
Nickel	NE	NE	NE	NE
Potassium	NE	NE	NE	NE
Selenium	NE	NE	NE	NE
Silver	NE	NE	NE	NE
Sodium	NE	NE	NE	NE
Thallium	NE	NE	NE	NE
Zinc	NE	NE	NE	NE
Sulfide	NE	NE	NE	NE
ORGANICS			NE	
PCB's	1	5		5
Chlordane	0.3	0.3	500	5
Semi-Volatile Organics				
Anthracene [NC]	2	20,000	1,000	300,000
Acenapthene [NC]	0.7	4000	30	80,000
Benzo(a)pyrene [C]	NE	0.6	500	0.6
Benzo(a)anthracene [C]	NE	6	500	6
Benzo(b)fluoranthene[C]	NE	8	600	8
Benzo(k)fluoranthene [C]	NE	80	600	80
Benzo(ghi)perylene	NE	NE	60	NE
bis(2-Ethylhexyl)phthalate	NE	300	400	400
Chrysene [C]	NE	600	300	780
Dimethylphthalate	NE	780,000	37,000	10,000,000
Dibenzofuran	NE	NE	30	NE
3,3-Dichlorobenzidine	NE	NE	NE	NE
Dibenzo(a,h)anthracene [C]	NE	0.6	500	0.6
Fluoranthene [NC]	10	3000	400	40,000
Fluorene	NE	3,000	100	50,000
Indeno(1,2,3-cd)pyrene [C]	NE	6	500	6
Naphthalene [NC]	0.2	600	8	4,000
2-methylnaphthalene [NC]	0.5	1000	20	NE
Phenanthrene [NC]	2	200	80	NE
Pyrene [NC]	8	2000	300	30,000
Volatile Organics				
Acetone	NE	8000	400	100,000
Chlorobenzene	0.06	1000	10	20,000
Carbon disulfide	NE	7000	0.8	200,000
Benzene	0.02	0.1	0.8	200
Ethyl benzene	0.1	7000	70	100,000
Methylene Chloride	NE	NE	NE	NE
Toluene	0.05	10,000	100	200,000
Xylene	NE	100,000	5	4,000,000
Total Recoverable Petroleum Hydrocarbons (TRPH)	50	200	NE	500
Total Organic Halides (TOX)	25	125	NE	125

NE - Standard Not Established
[C] - Polynuclear Aromatic Hydrocarbon (PAH) Carcinogenic Compound
[NC] - Polynuclear Aromatic Hydrocarbon (PAH) Non-Carcinogenic Compound
MSC - Medium Specific Concentration
SG - Soil to Groundwater

EXHIBIT 3, ATTACHMENT No. 5, sht 2

Maximum Concentration of Contaminants for the Toxicity Characteristic Leeching Procedure (Established by USEPA Ch.40 CFR part 261)

contaminant	regulatory level (ug/L)
arsenic	5,000
barium	100,000
benzene	500
cadmium	1,000
carbon tetrachloride	500
chlordane	30
chlorobenzene	100,000
chloroform	6,000
chromium	5,000
o-cresol	200,000
m-cresol	200,000
p-cresol	200,000
cresol	200,000
2,4-D	10,000
1,4-Dichlorobenzene	7,500
1,2-Dichloroethane	500
1,1-Dichloroethylene	700
2,4-Dinitrotulene	130
Endrin	20
Heptachlor	8
Hexachlorobenzene	130
Hexachlorobutadeine	500
Hexachloroethane	3,000
Lead	5,000
Lindane	400
Mercury	200
Methoxychlor	10,000
Methyl Ethyl ketone	200,000
nitrobenzene	2,000
pentachlorophenol	100,000
pyridine	5,000
selenium	1,000
silver	5,000
tetrachloroethylene	700
toxaphene	500
trichloroethylene	500
2,4,5-Trichlorophenol	400,000
2,4,6-Trichlorophenol	2,000
2,4,5-TP (Silvex)	1,000
Vinyl Chloride	200

Characteristic of Ignitability Flashpoint Regulatory Level = <140 °F, <60°C

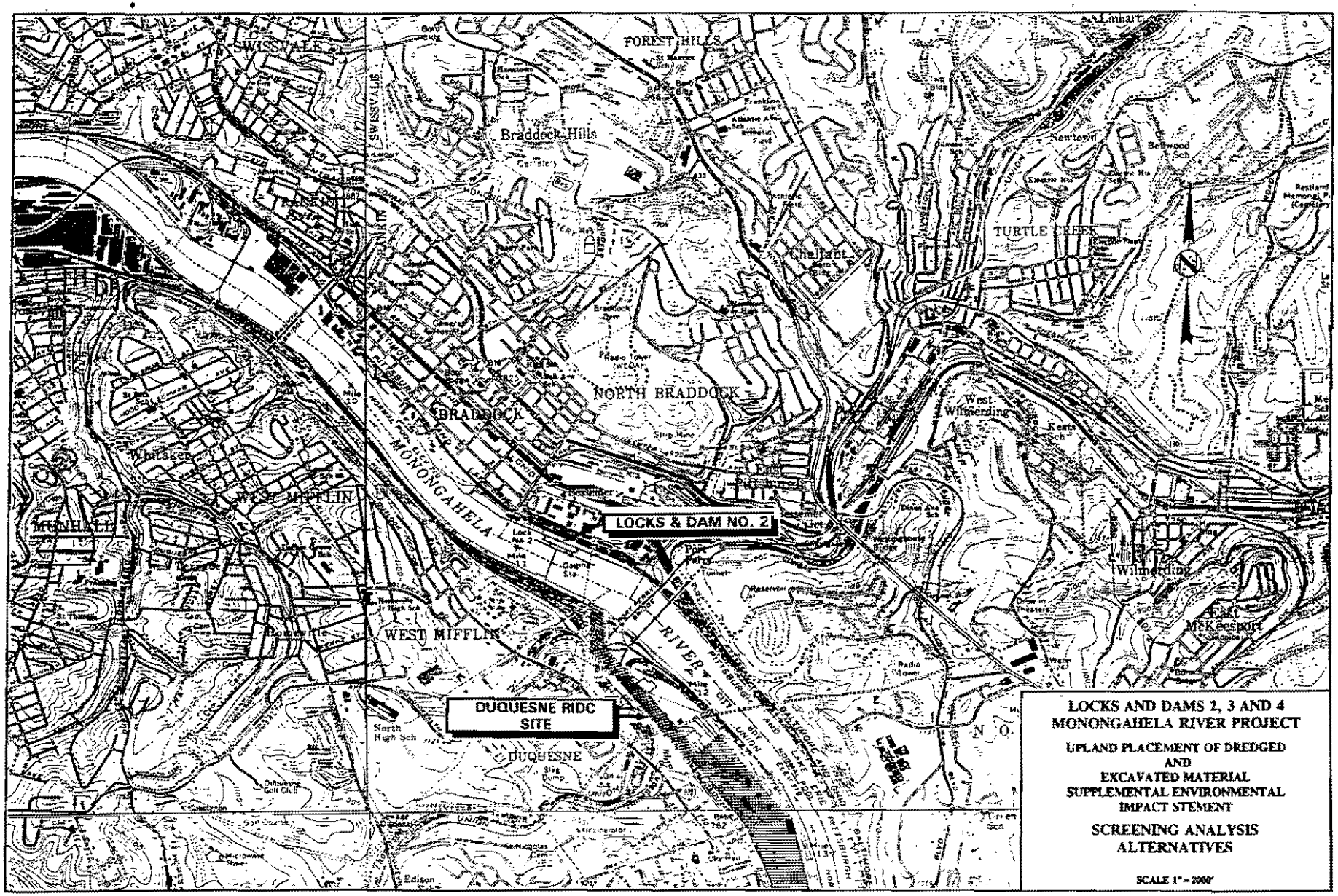
LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 4

MAPS OF UPLAND DISPOSAL ALTERNATIVES
CONSIDERED IN SCREENING ANALYSIS



LOCKS AND DAMS 2, 3 AND 4
MONONGAHELA RIVER PROJECT

UPLAND PLACEMENT OF DREDGED AND EXCAVATED MATERIAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STEMENT

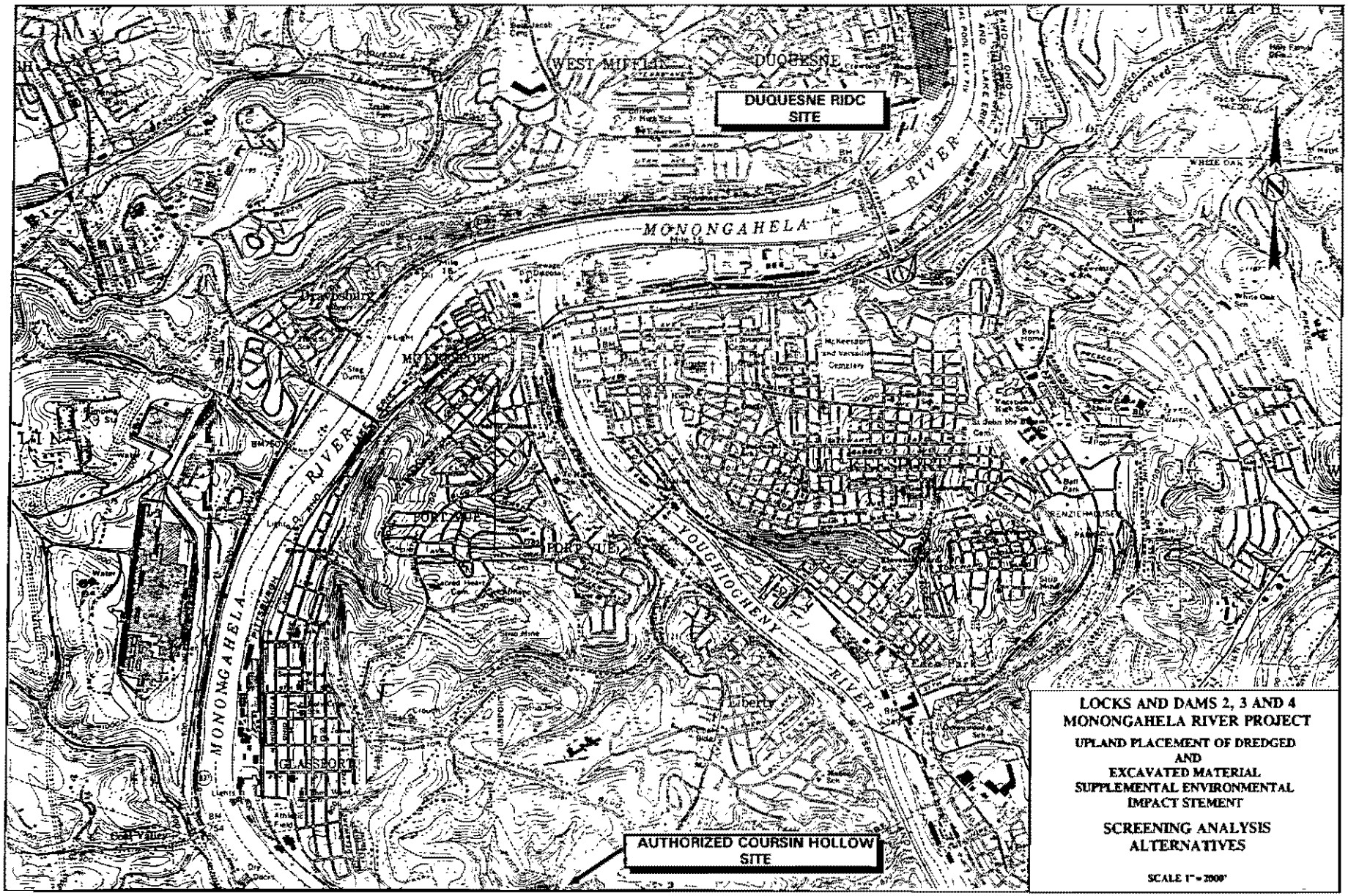
SCREENING ANALYSIS ALTERNATIVES

SCALE 1" = 2000'

MATCH TO SHEET 2

SHEET 1 OF 5

MATCH TO SHEET 1



LOCKS AND DAMS 2, 3 AND 4
MONONGAHELA RIVER PROJECT

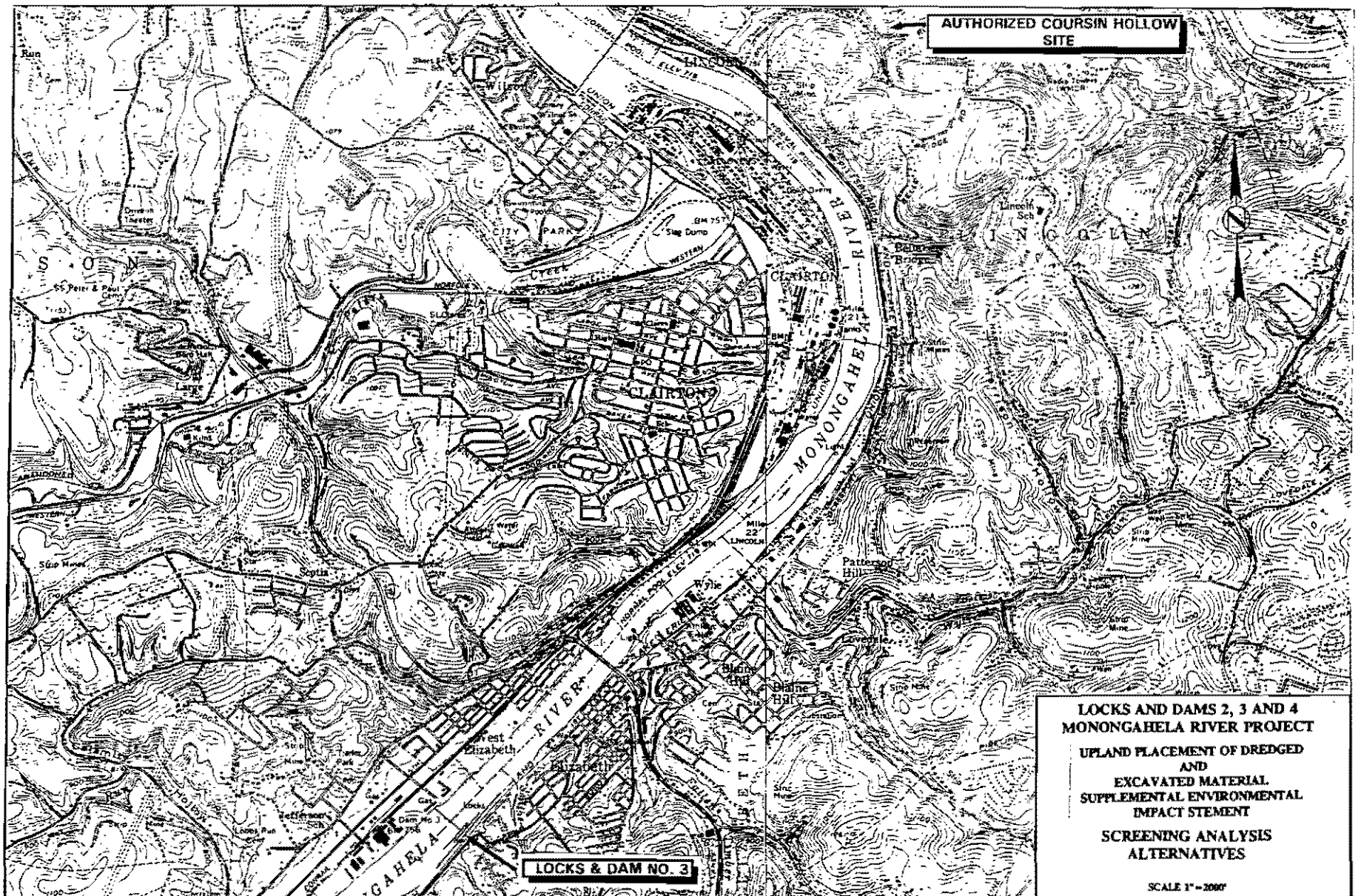
UPLAND PLACEMENT OF DREDGED AND EXCAVATED MATERIAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STEMENT

SCREENING ANALYSIS ALTERNATIVES

SCALE 1" = 2000'

MATCH TO SHEET 3

MATCH TO SHEET 2



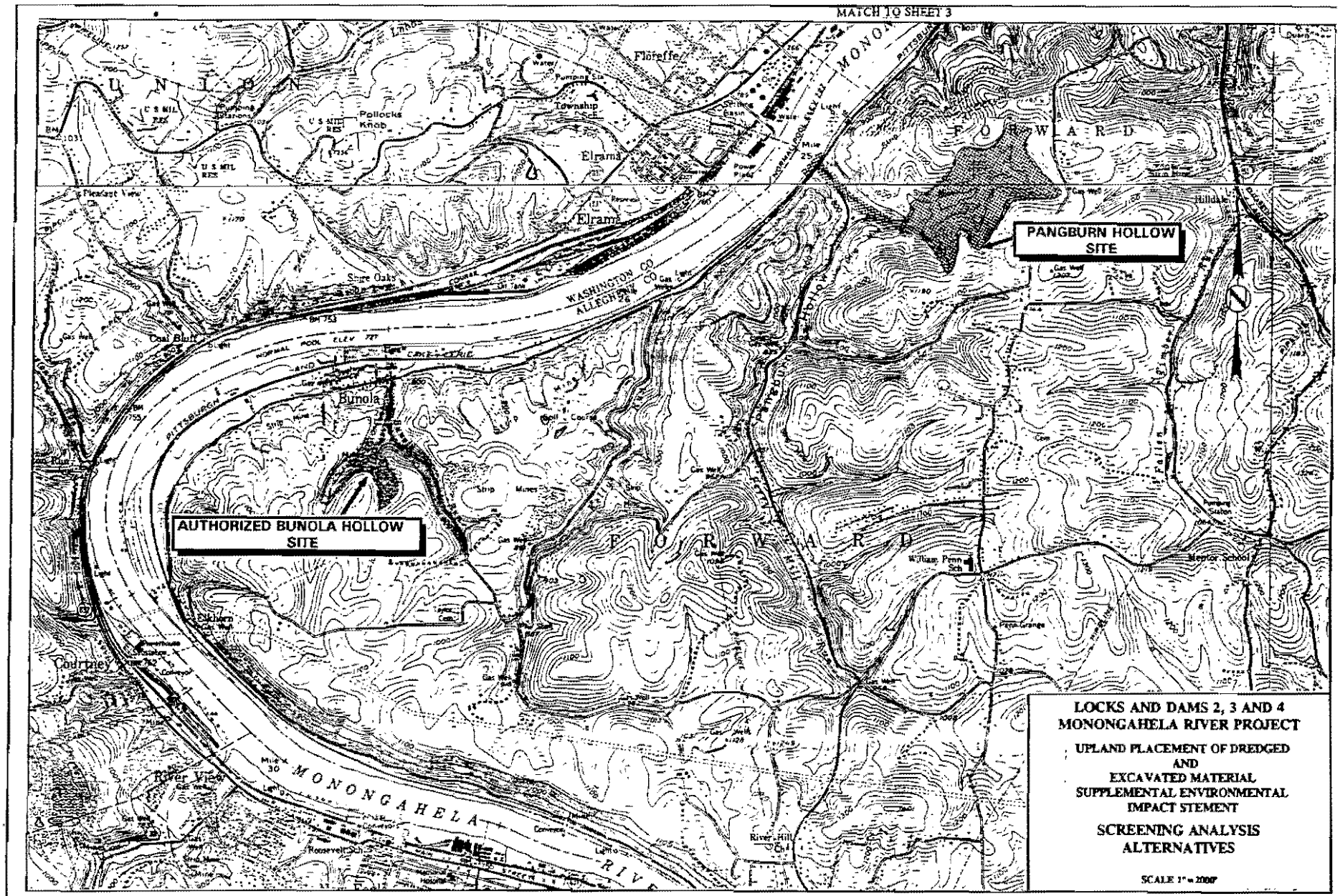
LOCKS AND DAMS 2, 3 AND 4
MONONGAHELA RIVER PROJECT

UPLAND PLACEMENT OF DREDGED AND EXCAVATED MATERIAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STEMENT

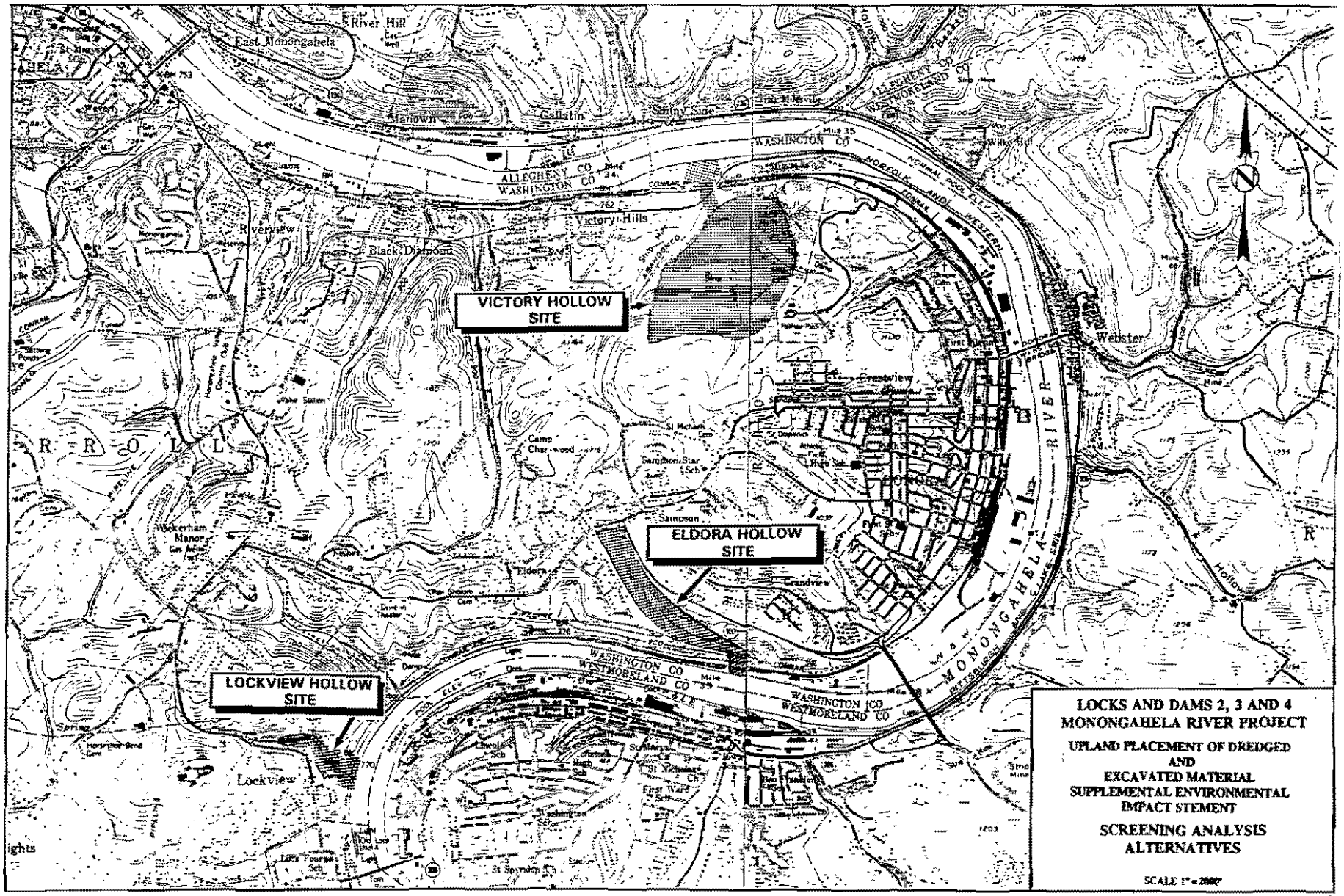
SCREENING ANALYSIS ALTERNATIVES

SCALE 1" = 2000'

MATCH TO SHEET 4


MATCH TO SHEET 3
PANGBURN HOLLOW SITE
AUTHORIZED BUNOLA HOLLOW SITE
Elrama
Bunola
Coal Bluff
Courtney
River View
Sure Oaks
Pollocks Knob
Floreffe
Township
Hillside
Mentor School
Peters Grange
Roosevelt Sch
River Hill
MONONGAHELA RIVER
WASHINGTON CO
ALLEGHENY CO
PITTSBURGH
FORWARD
UNION
LOCKS AND DAMS 2, 3 AND 4
MONONGAHELA RIVER PROJECT
UPLAND PLACEMENT OF DREDGED
AND
EXCAVATED MATERIAL
SUPPLEMENTAL ENVIRONMENTAL
IMPACT STEMENT
SCREENING ANALYSIS
ALTERNATIVES
SCALE 1" = 2000'
MATCH TO SHEET 5
SHEET 4 0F 5

MATCH TO SHEET 4



LOCKS AND DAMS 2, 3 AND 4
MONONGAHELA RIVER PROJECT

UPLAND PLACEMENT OF DREDGED AND EXCAVATED MATERIAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STEMENT

SCREENING ANALYSIS ALTERNATIVES

SCALE 1" = 2000'

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 5

RESOURCE AGENCY RESPONSES
TO SCOPING LETTER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

January 30, 1995

Mr. James A. Purdy, P.E.
Chief, Environmental Studies Branch
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222

Re: Investigation of Disposal Sites for Locks and Dams 2, 3, and 4 Monongahela River Project.

Attn: Mr. Jeffrey Benedict

Dear Mr. Purdy:

In accordance with the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, EPA has reviewed your scoping letter dated December 23, 1994 for the above referenced project. We appreciate your attempt to arrange a meeting with the concerned resource agencies. We are pleased that you have kept us informed and involved in the process. We verbally received a ten day comment period extension from Mr. Benedict.

Based on your letter, the investigation for potential disposal sites includes seven upland sites and one in-river site. The recommended plan involves 3,500,000 cubic yards of excavated and dredged material in need of disposal.

Mainly, EPA is concerned with the manner that the dredged and excavated material is being investigated. The materials seem to be lumped together, without any consideration for the type of material that will be disposed, sediment testing, hazardous material and any other parameters that help to determine the suitability of a disposal site and method of disposal. The Draft Supplemental Environmental Impact Statement (DSEIS) should include a description of the proposed disposal material. The description should include the breakdown in cubic yards of each type of material from the 3,500,000 cubic yards and a classification for disposal (ie. clean vs. contaminated).

In addition, a plan should be included in the DSEIS that would determine the disposal methods and sites for hazardous and other materials. For example, what type of material is compatible with the in-river disposal option and from which part of the project would it be obtained? What type of safe guard has

been included in the plan to avoid the intrusion of hazardous materials into the in-river or "clean fill" disposal site options? These issues should be thoroughly discussed in the DSEIS.

Thank you for the opportunity to review and comment on this project. If you have any questions on these comments, please contact Danielle Algazi (215-597-1168) of my staff.

Sincerely,

Roy E. Denmark, Jr.
Acting Chief
Environmental Planning and
Assessment Section

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Suite 322
315 South Allen Street
State College, Pennsylvania 16801

January 24, 1995

James A. Purdy, P.E.
Chief, Environmental Studies Branch
U.S. Army Corps of Engineers
Pittsburgh District
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Dear Mr. Purdy:

This responds to your December 23, 1994 letter and the Notice of Intent to prepare a Supplemental FEIS regarding Disposal Sites for the Locks and Dams 2, 3 and 4 Monongahela River Project published in the Federal Register (Vol. 59 No. 235, December 8, 1994). These comments provide technical assistance only and do not represent the review comments of the Department of the Interior on the forthcoming document.

Your letter provided information on eight proposed sites being considered for the disposal of 3.5 million cubic yards of material from the project. We previously reviewed and commented on the Coursin Hill, Bunola and In-river sites during the preparation of our Fish and Wildlife Coordination Act Report in 1991. Based upon the information you provided and a review of maps of the other sites, it appears that the RIDC, Duquesne site would have the least adverse environmental impacts and we recommend that it be considered as the best disposal site. All of the other upland sites have some natural areas that provide wildlife habitat and some disturbed areas with low wildlife value. Every effort should be made to protect the best wildlife habitat at each site and use only those portions with lower value. Areas with perennial streams or wetlands should also be avoided.

Wildlife values destroyed from the disposal activities should be compensated through mitigation measures on-site. We would be willing to work with your staff to develop a mitigation plan for any of the sites used.

Endangered Species Act

Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required with the Fish and Wildlife Service. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

Candidate species are species under consideration by the Service for possible inclusion on the Federal List of Endangered and Threatened Wildlife and Plants. Because many of these species are known to have suffered population declines, the Service encourages federal agencies and other planners to consider candidate species when planning and implementing their projects.

The Pennsylvania Natural Diversity Inventory (PNDI) is maintained by the Pennsylvania Department of Environmental Resources, The Nature Conservancy and the Western Pennsylvania Conservancy. The Pennsylvania Fish and Wildlife Database is maintained by the Pennsylvania Game Commission. These databases contain the most up-to-date information about candidate and State-listed species in Pennsylvania. Requests for a PNDI review for the presence of candidate and State-listed species, as well as other natural resources of special concern, should be directed to:

Pennsylvania Department of Environmental Resources
Bureau of Forestry
Division of Forest Advisory Services
P.O. Box 8552
Harrisburg, PA 17105-8552

Requests for a review of the Pennsylvania Fish and Wildlife Database should be directed to:

Pennsylvania Game Commission
Bureau of Land Management
Division of Wildlife Data Base
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

Should the data search reveal the presence of any candidate species on the site, the Service should be contacted to ensure that these species are not adversely affected by project activities.

Requests for information regarding State-listed endangered or threatened species should be directed to the Pennsylvania Game Commission (birds and mammals), the Pennsylvania Fish and Boat Commission (fish, reptiles, and amphibians), and the Pennsylvania Department of Environmental Resources (plants).

Please contact Rick McCoy of this office at 814-234-4090 if you have any specific questions about our comments.

Sincerely,

Charlie

Charles J. Kulp
Supervisor

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
400 Waterfront Drive
Pittsburgh, PA 15222-4745
January 23, 1995

(412) 442-4000

Southwest Regional Office

James S. Purdy, P.E. 1/31
Environmental Studies Branch
Pittsburgh District
U.S. Corps of Engineers
Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222

Dear Mr. Purdy:

My staff has reviewed your recent correspondence regarding the disposal sites for the Monongahela River project and have the following comments.

We are concerned about several items in your submittal. Paramount is the fact that several sites being considered for disposal have perennial streams. In general, we have been extremely hesitant to issue Chapter 105 permits for valley fills with perennial streams. At a minimum, such a decision would be based upon examination of all possible alternatives. The specific sites of concern are the Victory Hills, Coursin Hill, and Eldoro sites. These sites have perennial streams as shown on USGS topographic maps.

No mention was made of wetland impacts at any of the possible sites. The Victory Hills site contains hydric soils.

At the Coursin Hill site, the submittal seems to show that the potential disposal area is adjacent to mine damaged lands rather than upon them. We would hope that at a minimum, the dredge spoil would be used to reclaim the adjacent site.

River disposal requires additional consideration. You suggest using the spoil to fill in deeper areas of the river. We suggest you look at the alternative of creating shallow water habitat with the material rather than to fill in deeper waters. The concrete from the demolished Lock & Dam #3 could be used to stabilize shallow water fill. If that is not a feasible option, we would suggest that the spoil be transported to the Allegheny River and used to fill dredge holes in Pools 4 and 5. These pools are over 50 foot deep and are anaerobic at the bottom. Filling them would restore much needed habitat to the river and alleviate a water quality problem.

We are willing to meet with you or your staff to discuss these issues at any time that is mutually convenient. Please contact Tom Proch or Nancy Rackham of this office if such a meeting is desired.

Sincerely,

Tim V. Dreier
Regional Manager
Water Management

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH & BOAT COMMISSION
Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823-9616
(814) 359-5147

January 17, 1995

James A. Purdy, P.E., Chief
Environmental Studies Branch
U.S. Department of the Army
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222

Re: Lower Monongahela River Navigation Improvement Project, Excavated and Dredged Material Disposal Site Alternatives

Dear Mr. Purdy:

An office review of information accompanying your December 23, 1994 letter indicates that a number of more environmentally sound disposal sites are available, seemingly eliminating the need for use of the previously authorized Bunola and Coursin Hill sites. It's noted that a third perennial stream valley - Pangburn Hollow - is included as a possible alternative; although affected by surface mining, it hopefully can also be avoided.

Two other apparently dry, variously disturbed ravines - Eldora and Lockview - are being considered and based on available information would be acceptable to the Fish and Boat Commission. The Victory Hills site may include a section of another tributary which appears to have been obliterated by past railroad activity, and generally looks favorable as well. Most environmentally benign obviously is use of the Duquesne, RIDC steel mill site. These four sites total 9,150,000 cubic yards of capacity, more than adequate for disposal needs. The Fish and Boat Commission recommends them as first choices.

The last option, in-river disposal, remains acceptable to the Fish and Boat Commission. Although it's disappointing that coarse materials can't be used to create shallows or shoreline irregularities, their deposition in selected deepwater areas should at least diversify the substrate.

Should concerns other than aquatic habitat dictate further evaluation of the perennial stream sites, your offer of field meetings should probably be pursued. Otherwise, please keep me posted and feel free to contact me for any additional input.

Thanks for your efforts in avoiding the perennial stream valleys.

Sincerely,

Ron Tibbott

Ron Tibbott, Hyd. Eng. Tech.
Division of Environmental Services

RT:srh

c: PFBC - Ammon, Hyatt, Small, Lorson
PGC - Grabowicz
FWS - Kulp
EPA - D'Angelo

COMMONWEALTH OF PENNSYLVANIA

PENNSYLVANIA GAME COMMISSION

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

ADMINISTRATIVE BUREAUS:

ADMINISTRATION	717-787-5670
AUTOMOTIVE AND PROCUREMENT DIVISION	717-787-6594
LICENSE DIVISION	717-787-2084
PERSONNEL DIVISION	717 787-7836
WILDLIFE MANAGEMENT	717-787-5529
INFORMATION & EDUCATION	717 787-6286
LAW ENFORCEMENT	717 787 5740
LAND MANAGEMENT	717-787-6818
REAL ESTATE DIVISION	717-787-6568
MANAGEMENT INFORMATION SYSTEMS	717-787-4076

February 13, 1995

Mr. James A. Purdy, P.E.
Chief, Environmental Studies Branch
U.S. Department of the Army
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222

In re: Proposed Disposal Site Alternatives for the
Disposal of Non-hazardous Excavated and Dredged Material
Lower Monongahela River Navigation Improvement Project
Pennsylvania

Dear Mr. Purdy:

This correspondence is in response to your letter of December 23, 1994, requesting our review and comments on the eight alternative disposal options investigated by your staff for the disposal of excavated and dredged material from the Navigation Improvement Project for the Lower Monongahela River, Pennsylvania.

Our comments on the eight alternative disposal options are limited to the seven upland sites. We defer our comments on the in-river disposal option to the Pennsylvania Fish and Boat Commission and the U.S. Fish and Wildlife Service.

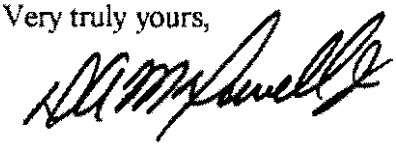
Our office review has determined that no state listed endangered and threatened species of birds and mammals are known to exist within the proposed disposal sites. Except for occasional transient individuals, the proposed activity should not directly affect any endangered and threatened species of wildlife recognized by the Pennsylvania Game Commission. However, should the project plans change or if additional information concerning endangered and threatened species becomes available, this determination may be reconsidered.

Our review of the seven upland disposal sites was based on the brief narrative provided by you and the accompanying maps depicting their locations. The Duquesne, RIDC Site, would have the least adverse impact to wildlife, and we recommend this site be given full consideration as a disposal site. The Victory Hills Site is identified as a previously strip mined area with portions of the area reclaimed and vegetated and other areas unreclaimed barren spoil with little vegetation. The Lockview Site is described as a previously used borrow and waste site. These two sites should be further investigated as potential disposal sites. The unreclaimed and unvegetated areas within these sites should be identified. Once identified, these areas should be investigated to determine their available capacity for accepting disposal material with the least adverse impact to existing good quality wildlife habitat. Areas with streams, wetlands and high quality wildlife habitat should be avoided.

More than one site may be necessary to dispose of the large amount of excavated and dredged material associated with this project. After a number of suitable locations have been identified, a mitigation plan should be designed to replace any habitat units lost from the disposal activities. There are a number of terrestrial wildlife mitigation strategies available including vegetative plantings, nesting structures, brush piles, perching sites, et cetera, that will restore lost habitat values.

Thank you for the opportunity to comment on this proposed activity. If you have any questions regarding our comments, please contact Dennis L. Neideigh of my staff at (717) 783-5957.

Very truly yours,



Denver A. McDowell, Chief
Division of Environmental Planning
and Habitat Protection
Bureau of Land Management

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 6

HYDRAULIC ANALYSIS
OF
IN-POOL DISPOSAL
(MONONGAHELA RIVER)

6. HYDRAULIC ANALYSIS OF IN-POOL DISPOSAL

6.1 IN-POOL DISPOSAL PLAN

6.1.1 General

The proposed plan is to dredge material from present Pool 3 to produce the 9-foot navigation channel with a 2-foot overdraft and place this material on the bottom of the channel in the deeper areas of present Pools 2, 3 and 4. Although total in-pool disposal capacity has not yet been determined, it will accommodate the majority of dredging. Any excess will be taken to the selected upland site. Areas of the channel are acceptable, hydraulically, for receiving material only if they meet the conditions listed in the following paragraphs. Proposed locations within the acceptable areas were chosen to maximize disposal capacity and minimize transportation distances.

6.1.2 Effects on Flooding

In-pool disposal would be unacceptable if it caused a net increase in flooding. Without in-pool disposal, the lower Monongahela project would reduce flood levels slightly due to the replacement of Dam 2 with a more efficient structure, the removal of Locks and Dam 3, and dredging in present Pool 3. Placement of dredged material will reduce flow area in the channel and tend to raise water surface elevations. The allowable disposal amount, therefore, is that which will, at a maximum, compensate for the reduction in flooding that would otherwise occur. The 100-Year flood profile is the basis used herein for comparing pre- and post-project flooding. However, the hydraulic computations assure that the proposed plan will not raise water surfaces for floods of any magnitude.

6.1.3 Streambed Stability

Redistribution of material by water forces after placement could reduce water depths in the channel or change current magnitudes. Therefore, sediment transport studies were performed which provide reasonable assurance that major movements that could be significantly detrimental to navigation will not occur.

6.1.4 Minimum Draft

Obtaining a completely uniform and level disposal surface will be difficult. Furthermore, minor rearrangement of disposed material is likely to occur after placement. To assure that sufficient draft remains for navigation after placement and redistribution, disposal will be feasible only where excess depths exist. A minimum depth of 13 feet after placement will be provided. This is two feet deeper than the planned excavated channel in Pool 3 and allows a four-foot factor of safety over the nine-foot authorized draft. The minimum draft will apply to placements in present Pool 3 only. Flooding considerations dictate that placement depths be greater than 13 feet in Pools 2 and 4.

6.2 FIXED BED BACKWATER STUDIES

6.2.1 Procedure

Deeper reaches of present Pools 2, 3 and 4 potentially capable of accepting dredged material were identified from soundings taken in 1990 and 1991. Cross-sections spaced approximately one-quarter mile apart were taken from the soundings and recent topography and used for water surface

profile computations within program HEC-2. The sections were modified to represent various reaches and levels of disposal placed uniformly across the channel bottom. The 100-year flood profile was calculated for assumed placement configurations and compared with the pre-project profile. Alternatives that raised the original computed 100-year water surface at any location in the Pool were rejected. Effects of placement options were compared and optimizations performed where appropriate.

6.2.2 Present Pool 2

Pool 2 extends from River Mile 11.2 to River Mile 23.8. Three potential reaches for placement of material were investigated within Pool 2: mile 12.5 to 23.5; 18.5 to 23.5; and, 19.5 to 23.5. Although the river generally is deeper toward the downstream end of the pool, it is wider and larger in terms of total cross-sectional area at the 100-year flood level toward the upstream end. Consequently, lower velocities and head losses allow more fill to be placed upstream. Because it maximizes disposal volume, the optimum and recommended scheme would place material to average elevation 707.4 from mile 19.5 to 23.5. Placement in the upstream portion of present Pool 2 also minimizes the distance material dredged from Pool 3 must be transported. The new gated Dam 2 and associated alterations to the lock and approaches will result in a 0.2-foot reduction in the 100-year flood at mile 12.6, which would diminish to zero at mile 23.7 with the proposed fill. Without any in-pool disposal, a 0.1-foot reduction would remain at mile 23.7. Fill placement to elevation 707.4 would still retain a minimum draft of 16.3 feet in the affected reach. Volume would amount to 400,000 cubic yards of material placed in-pool. Figure C-1 shows a typical cross-section in the proposed disposal reach of present Pool 2.

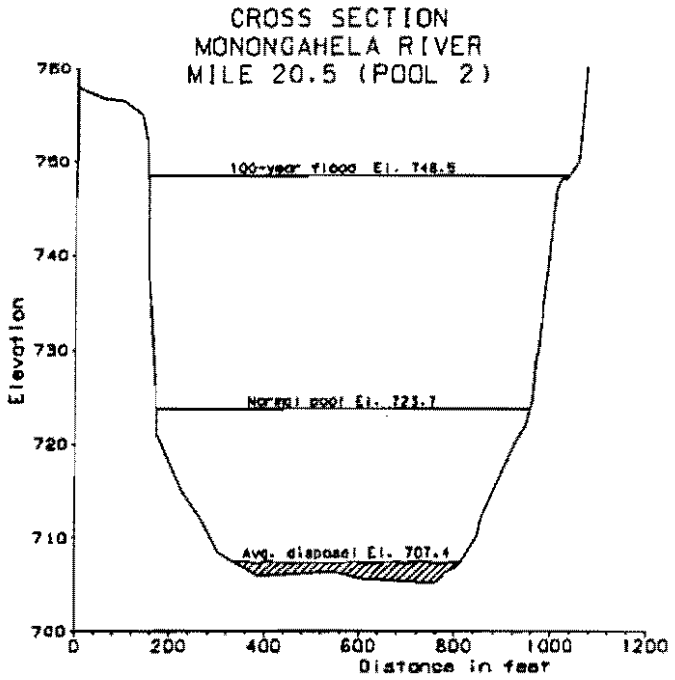


Figure C- 1 Typical Section, Present Pool 2

6.2.3 Present Pool 3

After the pool adjustment lowers present Pool 3 by 3.2 feet, only the downstream portion will be deep enough to accept dredged material. The proposed plan calls for placing fill below elevation 710.7 between river miles 23.9 and 29. This will leave 13 feet of remaining draft, giving a four-foot safety factor over the authorized nine feet. Within this reach little if any placement would be possible between miles 25 and 26.7. The estimated total fill volume is 370,000 cubic yards. Assuming the Pool 2 disposal results in no reduction in the 100-year flood at the upper end of that Pool, the removal of Locks and Dam 3 would still cause a reduction of 0.6 feet at the lower end of present Pool 3 (mile 23.9). With the proposed fill placement, the reductions will be 0.4 feet at mile 29 and 0.6 feet at the upstream end of the pool, mile 41.5. Without any fill in either pool, the reductions would be 0.7 feet at mile 23.9, 0.6 feet at mile 29 and 0.7 feet at mile 41.5. A typical section is shown in Figure C-2. Figure C-3 presents a profile of present Pools 2 and 3 that shows the proposed fill reaches.

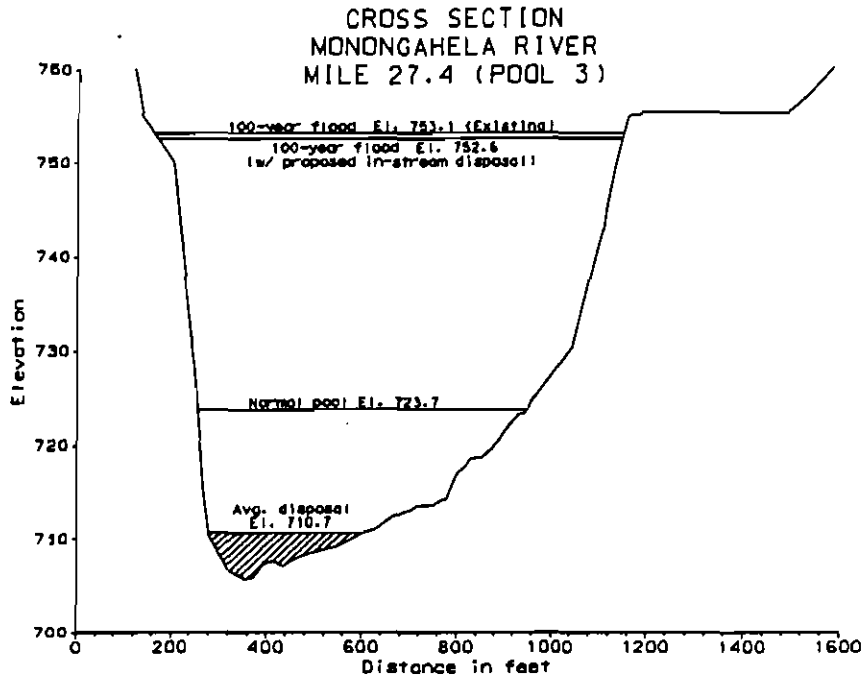
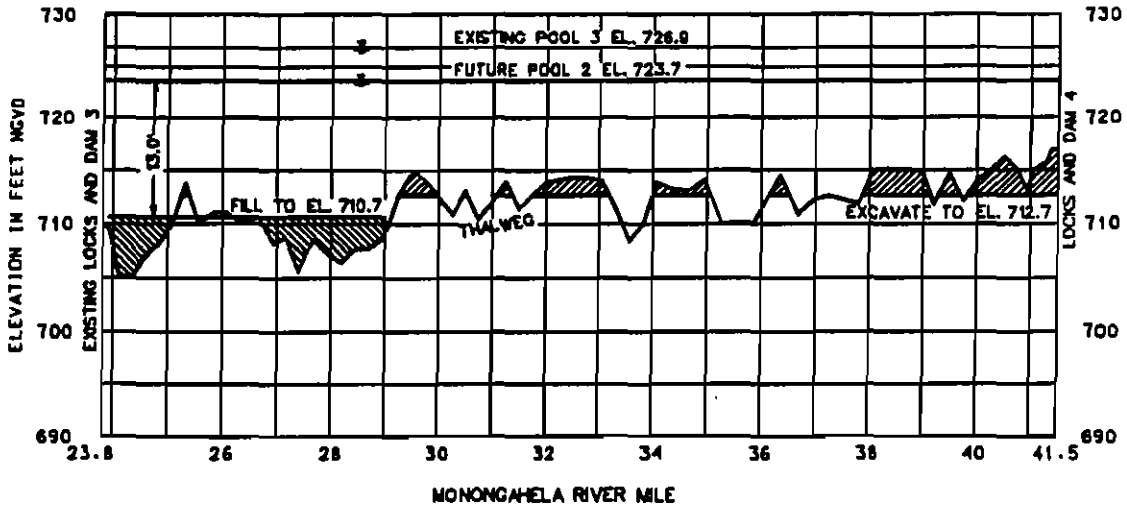
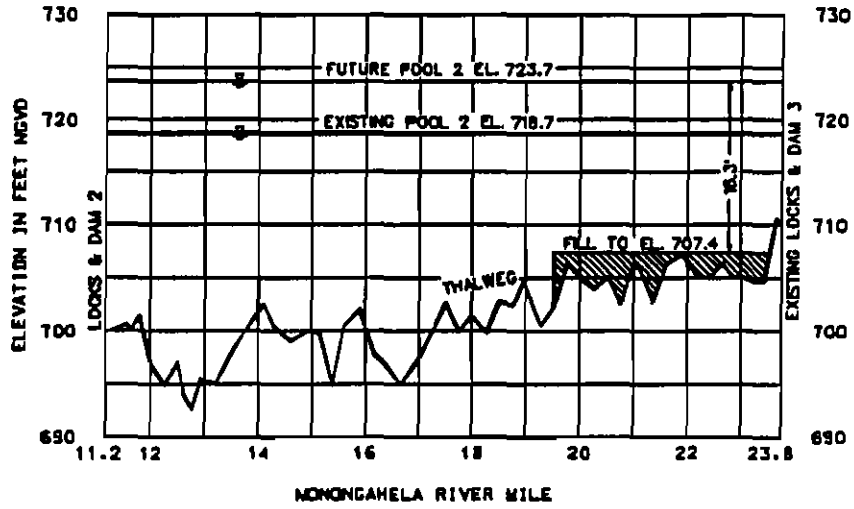


Figure C- 2 Typical Section, Present Pool 3



PRESENT POOL 3



PRESENT POOL 2

Figure C- 3 Pool Profiles Showing Proposed In-Pool Disposal Reaches

6.2.4 Pool 4

The potential exists for disposal of dredging in the downstream portion of Pool 4. The channel from the dam to mile 46 is relatively wide and may be able to accommodate a substantial amount of material. However, the quantity cannot yet be determined because it depends on the amount that the 100-year flood will be reduced at the lower end of the disposal reach. The final configuration of new Lock 4 lock walls, and, more importantly, approach channel modifications, will affect this reduction. Assuming fill is placed in Pool 3 as recommended, the reduction will amount to about 0.6 feet on the downstream side of the locks, mile 41.5, as stated above. A portion of this reduction is likely to be transferred upstream beyond the upper lock approach. Modeling currently underway at WES will determine what changes to the approaches (lock wall extensions, dikes, excavation) are necessary. The amount of flood reduction will also be measured.

Fill placement beginning a mile above Dam 4 is unlikely to affect navigation conditions in the upper lock approach. Therefore, the reach from mile 42.5 to 46 was studied as the segment most suitable for in-pool disposal within Pool 4. Permissible fill elevations and quantities were determined for assumed reductions in the 100-year flood of 0.2 and 0.4

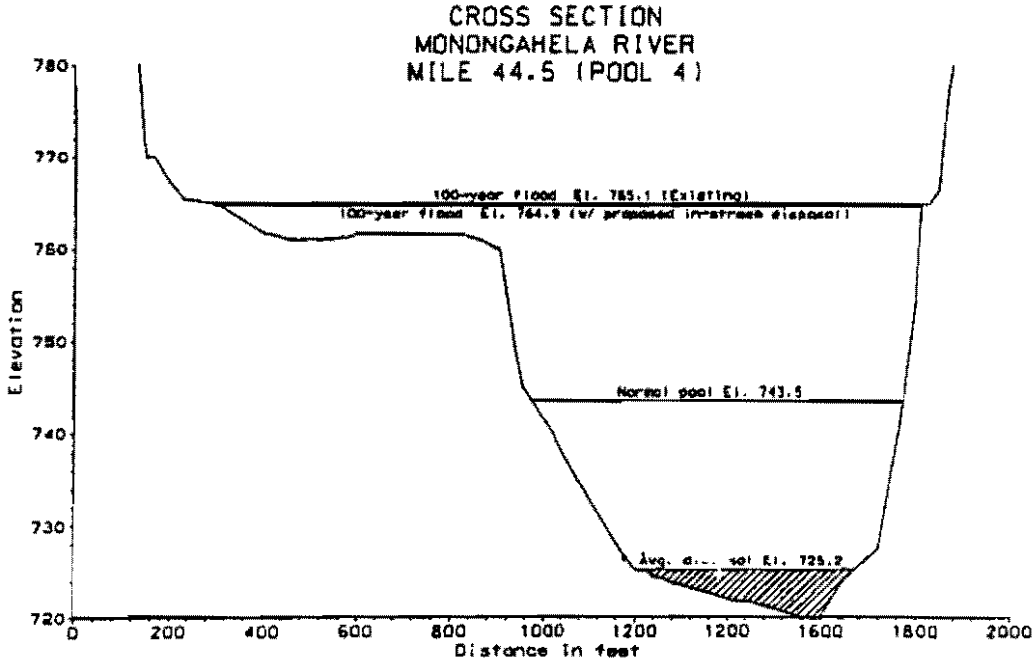


Figure C- 4 Typical Section, Pool 4

feet at mile 42.5. The criteria for acceptability is zero increase in the 100-year water surface at the upstream end of the placement reach (and beyond). Results of the HEC-2 backwater computations indicate that, if 0.2 feet of reduction is ultimately found to be available at mile 42.5, fill could be placed to elevation 723.7. This would provide capacity for disposing 400,000 yards. If the reduction turns out to be 0.4 feet, the fill elevation would be 725.2, and the disposal capacity doubled. Figure C-4 shows a typical cross section representing the latter case.

6.2.5 Summary and Conclusions

Approximately 770,000 cubic yards of material can be placed on the channel bottom in present Pools 2 and 3 without raising the 100-year flood above the pre-project level at any point on the river. A substantial but as yet undetermined quantity can probably also be placed in Pool 4. Table C-2 lists proposed fill locations, elevations, quantities and the impact on the 100-year flood as compared to existing conditions.

6.3 BED STABILITY STUDIES

6.3.1 Procedure

Bed stability studies were performed to determine whether major movement of material by water forces is likely to occur after placement. Such movement conceivably could cause accumulations requiring frequent maintenance dredging to maintain adequate draft. Accumulations within present Pool 3 would be of greater concern because the minimum depth in proposed disposal reaches will be 13 feet as compared to 16.3 feet in Pool 2. The studies were performed using Corps of Engineers' computer program HEC-6, "Scour and Deposition in Rivers and Reservoirs". The important variables in HEC-6 include stream bed composition, sediment load, and streamflow. The investigations were limited to present Pools 2 and 3 as a specific disposal plan for Pool 4 has not been developed. The study was accomplished as follows:

(1) Soundings in Pools 2 and 3 were compared and dredging records researched to determine scour/deposition trends over a sixty year period.

(2) An HEC-6 model was assembled for Pools 2 and 3 in one combined data set representing 1931 conditions (calibration model).

(3) The model was calibrated to match the historical trends to the extent possible using the typical annual flow distribution.

(4) The model was run to predict future trends using 1990 conditions as the base (existing conditions model).

(5) The model was modified to account for the new gated Dam 2, removal of Dam 3, and dredging in Pool 3; the simulations were then rerun (without-disposal model).

(6) The model was further modified to account for the proposed disposal in both Pools, and rerun (with-disposal model).

The difference in results of the "with-disposal" simulations as compared to "without- disposal", adjusted by the calibration error, represents expected net effects of in-pool disposal on channel sedimentation and scour.

6.3.2 Long-term Siltation Trends

Studies of the Lower Monongahela conducted prior to 1931 have relied on soundings dating to 1931. All indications have been that the river bed is fairly stable. A complete set of new soundings was obtained in 1990. A comparison of the 1931 and 1990 data at half-mile intervals in Pools 2 and 3 confirms that there have been no major changes. Some shifting of sediments is evident and there is an apparent average aggradation over 60 years of about 0.7 feet in both Pools.

6.3.11 Summary and Conclusions

Higher velocities and the Pool lowering will reduce siltation tendencies in present Pool 3. Net scour is likely to occur in the upstream portion of this Pool. Some of the material from Pool 3 will be washed into the upstream end of present Pool 2 over time. Model indications are that no substantial quantities will redeposit in Pool 3 and cause maintenance problems. Excess depths in the upper end of Pool 2 will easily accommodate the expected increased deposition. Deposition in the downstream portion of Pool 2 should change little. Again, excess depths will preclude problems. Regarding floods, major sediment movements are not expected.

HEC-6 is a two-dimensional model with limited applicability to local areas of the channel. Problem areas requiring infrequent maintenance dredging by the Government now exist in both Pools. Such problems should be virtually eliminated in present Pool 2 due to the Pool raise. In Pool 3, despite the HEC-6 analysis, problems requiring dredging may continue to be experienced in certain areas. However, the risk is low that in-pool disposal will result in major bed movements or increase shoaling significantly, or that disposed material will basically not remain in place.

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 7

FINE AGGREGATE EVALUATION OF MATERIAL
FROM THE
LOWER MONONGAHELA POOL 3 DREDGING PROJECT

U.S. Army Corps of Engineers
Ohio River Division Laboratory

Results of Fine Aggregate Evaluation of Material from the Lower Monongahela Pool #3 Dredging Project

Prepared for Pittsburgh District

CEORD-L
LABORATORY
TEST REQUEST

MIPR NO. CEORP-ED-94-13

PAGE 1 OF 1

REQUEST DATE 06 DECEMBER 1993

SAMPLES SHIPPED 07 DECEMBER 1993

SAMPLES RECEIVED

TESTING COMPLETED

PITTSBURGH DISTRICT
GEOTECHNICAL BRANCH
SOILS SECTION

SOIL SAMPLES

DISTURBED | UNDISTURBED

MONONGAHELA RIVER
NAVIGATION CHANNEL SEDIMENTS
POOL 3 DREDGING
GRAB SAMPLES

REQUIRED TESTING

☐ DESTROY SAMPLES AFTER TEST NO. 50100

TYPE TUBE	TYPE JAR	LAB NO.	BORING NO.	SAMPLE NO.	DEPTH (FT)	VISUAL CLSSFCTN 20000	SIEVE (#4-#200) 20201	ATTERBERG LIMITS 20300	MOISTURE CONTENT 20100	PETROGRAPHIC EX 50100				
	X			1		X	X		X	X				
	X			2		X	X	X	X	X				

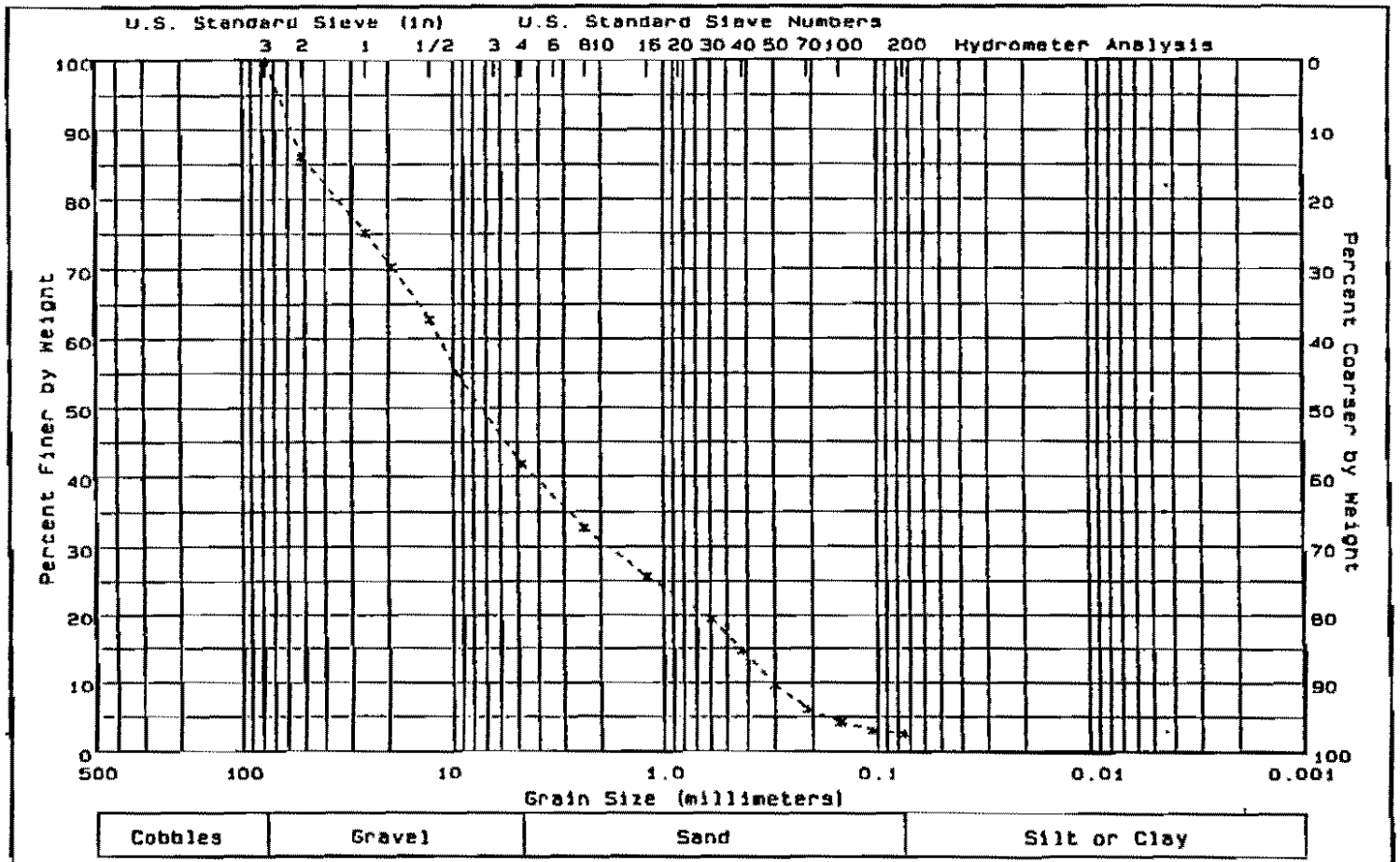
NOTE:

1. RESULTS OF SIEVE ANALYSIS AND SCREENED SOIL SAMPLES SHALL BE FORWARDED TO PETROGRAPHIC LABORATORY FOR TEST NO. 50100
2. PETROGRAPHIC EXAMINATION TO DETERMINE PERCENTAGE OF COAL FINES IN GRAB SAMPLE
3. CEORP-ED-GS P.O.C. : DAVE CARLSON
   (412) 644-2844
   (412) 644-6815 FAX

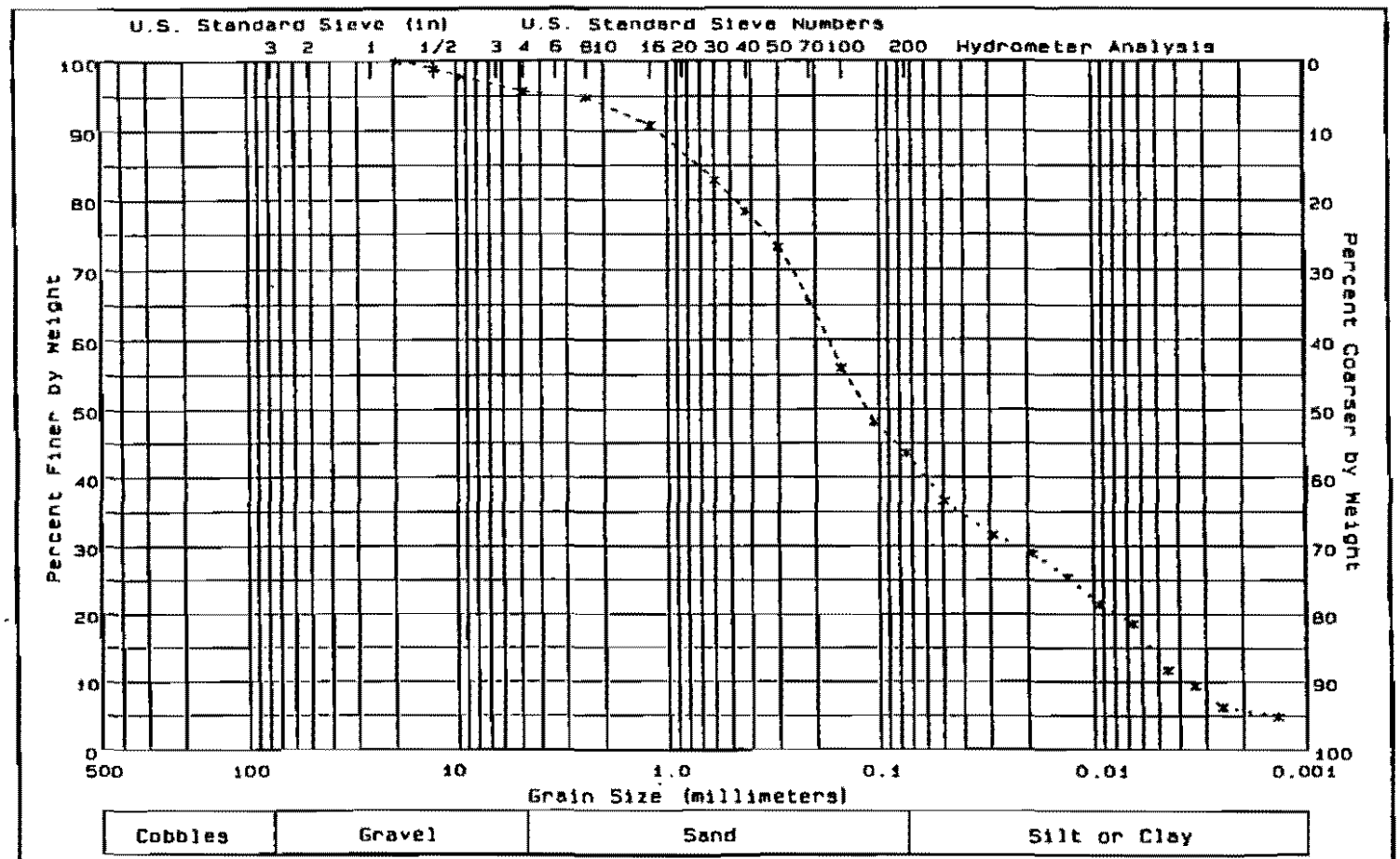
c:\dgn\lmdisp\rm39lab.dgn Dec. 7, 1993 08:16:42

DEC 07 1993

Results of Visual, Sieve, Moisture and Atterberg Tests



Sam No	Elev	Classification	W%	LL	PL	PI	Project Monongahela River Sediments
1		Sandy GRAVEL (GW)	11.2				
							Area
							Boring No. Pool 3
GRADATION CURVES							Date 12-14-93



Sam No	Elev	Classification	w%	LL	PL	PI	Project Monongahela River Sediments
2		Organic Clayey SAND (SC)	57.9	46	30	16	
							Area
							Boring No. Pool 3
GRADATION CURVES							Date 12-16-93

Results of Petrographic Examination

PETROGRAPHIC REPORT	OHIO RIVER DIVISION LABORATORY
SOURCE: Lower Monongahela River, Pool #3, S-1 - Pennsylvania	
MATERIAL: Natural Fine Aggregate	
PROJECT: Monongahela River Project	DATE: 10 January 1994
DISTRICT: Pittsburgh	LAB JOB NO. 3/9406P.ED15

Summary

The sample was found to consist of 35% Sandstone & Siltstone, 22% Coal, 19% Slag, 19% Quartz & Quartzite, 5% Ironstone, and a trace of Mica.

Introduction

Two samples of natural fine aggregate from Pool #3 of the Lower Monongahela River Project were submitted to CEORDL by the Pittsburgh District for examination and testing. This material is purportedly representative of material to be found on the Lower Monongahela project.

Discussion

Aggregate was received and representative portions of each sieve size were examined megascopically, etched in a dilute HCl-acid solution to facilitate identification of rock type and textural features, then re-examined megascopically and with a stereomicroscope. A Particle Shape Analysis, using a 3:1 criterion, was performed on the appropriate size fractions. Chert particles were further examined using a polarized light microscope and immersion liquids.

Pertinent Facts

1. The sample contains 22% Coal Particles. These particles are very friable and weak.

2. The sample contains 5% Ironstone.

E. Frances Robinson
Chief, Geology Section

OHIO RIVER DIVISION LABORATORY
PETROGRAPHIC DATA SHEET

SOURCE: Monongahela River, Pool #3, S-1 - Pennsylvania

MATERIAL: Natural Sand | DATE: 10 January 1994

PROJECT: Monongahela River Project | LAB SPL NO. S-1

DISTRICT: Pittsburgh | LAB JOB NO. 3/9405P.ED13

ROCK TYPES	Sieve Size						Wtd Avg
	#8	#16	#30	#50	#100	#200	
Sandstone/Siltstone: Moderately hard to hard, tough, unweathered well-cemented grains.	57	43	36	20	24	--	34.7
Coal: Black, moderately soft, friable coal particles. Clarain type of banded coal.	12	29	24	20	21	--	21.7
Slag: Black, hard, sharp, slag with a pumiceous/vesicular morphology and a vitreous luster.	13	10	18	28	21	--	19.0
Quartz/Quartzite: Dense, very hard, tough, crystalline grains.	6	12	19	31	30	--	18.8
Iron stone: Light brown to reddish-brown. Granular, iron-rich, fairly easily disaggregated with abrasion. Moderately hard and tough.	12	6	3	2	1	--	5.4
Mica: Thin, soft, friable, muscovite flakes.	--	--	--	--	3	--	TR

ORD Form 144-R
1 Aug 79

State: PA | Index No.: | AGGREGATE DATA SHEET | Tested By:OHDL

Lat: 40.5 | Long: 80 | Date: January 1994

Lab Symbol No.: 94005 | Type of Material: Natural Fine Aggregate

Location: Lower Monongahela River, Pool #3, S-1 - Pennsylvania

Producer: Project Site Sample

Sampled By: Pittsburgh

Tested For: Lower Monongahela River Project

Used At:

Processing Before Testing:

Geological Formation and Age:

Grading (CRD-C-103) (Cum. % Passing);

Sieve	3-6"	1.5-3"	3/4 - 2"	#4-3/4"	Fine Agg
6 in					
5					
4					
3					
2.5					
2					
1.5					
1					
3/4					
1/2					
3/8					
#4					100
#8					76.8
#16					58.9
#30					43.1
#50					17.9
#100					4.2
#200					0
-200a					
F.M.b					

(a) CRD-C-105 (b) CRD-C-104

TEST RESULTS	3-6"	1.5-3"	3/4 - 2"	#4-3/4"	Fine Agg
Bulk Sp Gr, S.S.D., (CRD-C-107,108)					
Absorption, % (CRD-C-107, 108)					
Organic Impurities, Fig. No. (CRD-C-121)					
Soft Particles, % (CRD-C-130)					
% Lighter Than Sp Gr 2.4 (CRD-C-122)					
% Flat and Elongated (CRD-C-119, 120)					
Wt Av % Loss, 5 CYC MgSO4 (CRD-C-115)					
L.A. Abrasion Loss, % (CRD-C 117,145) Grading B					
Unit Wt, lb/cu ft (CRD-C-106)					
Friable Particles, % (CRD-C-142)					
Spec Heat, Btu/lb/deg F. (CRD-C-124)					
Reactivity With NaOH (CRD-C-126) Sc, mM/L					
Reactivity With NaOH (CRD-C-126) Rc, mM/L					

Mortar-Making Properties (CRD-C-116)

Type Cement, Ratio Days % Days %

Linear Thermal Expansion, Millionths/Deg F, (CRD-C-125, 126)

ROCK TYPE	PARALLEL	ACROSS	ON	AVERAGE

Mortar:

Mortar-Bar Expansion at 100F, % (CRD-C-123)

		Fine Aggregate				Coarse Aggregate			
		2 Mo.	6 Mo.	9 Mo.	12 Mo.	3 Mo.	6 Mo	9 Mo.	12 Mo.
Low-Alk, Cement:	% Na2O Equivalent:								
High-Alk, Cement:	% Na2O Equivalent:								

Soundness in Concrete (CRD-C-40, 114)			F & T	HW-CD	HD-CW
Fine Agg.	Coarse Agg.	DFE300			
Fine Agg.	Coarse Agg.	DFE300			

Petrographic Data

Sandstone & Siltstone	34.7%	Ironstone	5.4%
Coal	21.7%	Mica	TR
Slag	19.0%		
Quartz & Quartzite	18.8%		

PETROGRAPHIC REPORT	OHIO RIVER DIVISION LABORATORY
SOURCE: Lower Monongahela River, Pool #3, S-2 - Pennsylvania	
MATERIAL: Natural Fine Aggregate	
PROJECT: Monongahela River Project	DATE: 10 January 1994
DISTRICT: Pittsburgh	LAB JOB NO. 3/9406P.ED15

Summary

The sample was found to consist of 38% Quartz & Quartzite, 38% Slag, 13% Coal, 9% Sandstone & Siltstone, and a trace of Mica.

Introduction

Two samples of natural fine aggregate from Pool #3 of the Lower Monongahela River Project were submitted to CEORDL by the Pittsburgh District for examination and testing. This material is purportedly representative of material to be found on the Lower Monongahela project.

Discussion

Aggregate was received and representative portions of each sieve size were examined megascopically, etched in a dilute HCl-acid solution to facilitate identification of rock type and textural features, then re-examined megascopically and with a stereomicroscope. A Particle Shape Analysis, using a 3:1 criterion, was performed on the appropriate size fractions. Chert particles were further examined using a polarized light microscope and immersion liquids.

Pertinent Facts

1. The sample contains 13% Coal Particles. These particles are very friable and weak.

E. Frances Robinson

E. Frances Robinson
Chief, Geology Section

OHIO RIVER DIVISION LABORATORY
PETROGRAPHIC DATA SHEET

SOURCE: Monongahela River, Pool #3, S-2 - Pennsylvania

MATERIAL: Natural Sand	DATE: 10 January 1994
PROJECT: Monongahela River Project	LAB SPL NO. S-2
DISTRICT: Pittsburgh	LAB JOB NO. 3/9405P.ED13

ROCK TYPES	Sieve Size						Wtd Avg
	#8	#16	#30	#50	#100	#200	
Quartz/Quartzite: Dense, very hard, tough, crystalline grains.	--	3	4	15	50	67	38.5
Slag: Black, hard, sharp, slag with a pumiceous/vesicular morphology and a vitreous luster.	--	64	68	60	29	17	38.2
Coal: Black, moderately soft, friable coal particles. Clarain type of banded coal.	--	15	17	14	12	10	13.5
Sandstone/Siltstone: Moderately hard to hard, tough, unweathered well-cemented grains.	--	17	10	11	9	3	9.0
Mica: Thin, soft, friable, muscovite flakes.	--	1	--	--	--	3	TR

ORD Form 144-R
1 Aug 79

State: PA | Index No.: | AGGREGATE DATA SHEET | Tested By:CRDL

Lat: 40.5 | Long: 80 | Date: January 1994

Lab Symbol No.: 94005 | Type of Material: Natural Fine Aggregate

Location: Lower Monongahela River, Pool #3, S-2 - Pennsylvania

Producer: Project Site Sample.

Sampled By: Pittsburgh

Tested for: Lower Monongahela River Project

Used At:

Processing Before Testing:

Geological Formation and Age:

Grading (CRD-C-103) (Cum. % Passing):

Sieve	3-6"	1.5-3"	3/4 - 2"	#4-3/4"	Fine Agg
6 in					
5					
4					
3					
2.5					
2					
1.5					
1					
3/4					
1/2					
3/8					
#4					100
#8					98.5
#16					90.7
#30					75.7
#50					57.0
#100					23.8
#200					0
-200a					
F.M.b					

.a) CRD-C-105 (b) CRD-C-104

TEST RESULTS	3-6"	1.5-3"	3/4 - 2"	#4-3/4"	Fine Agg
Bulk Sp Gr, S.S.D., (CRD-C-107,108)					
Absorption, % (CRD-C-107, 108)					
Organic Impurities, Fig. No. (CRD-C-121)					
Soft Particles, % (CRD-C-130)					
% Lighter Than Sp Gr 2.4 (CRD-C-122)					
% Flat and Elongated (CRD-C-119, 120)					
Wt Av % Loss, 5 CYC MgSO4 (CRD-C-115)					
L.A. Abrasion Loss, % (CRD-C 117,145) Grading B					
Unit Wt, lb/cu ft (CRD-C-106)					
Friable Particles, % (CRD-C-142)					
Spec Heat, Btu/lb/deg F. (CRD-C-124)					
Reactivity With NaOH (CRD-C-128) Sc, mM/L					
Rc, mM/L					

Mortar-Making Properties (CRD-C-116)

Type Cement, Ratio Days % Days %

Linear Thermal Expansion, Millionths/Deg F. (CRD-C-125, 126)

ROCK TYPE	PARALLEL	ACROSS	ON	AVERAGE

Mortar:

Mortar-Bar Expansion at 100F, % (CRD-C-123)

	Fine Aggregate 2 Mo.	6 Mo.	9 Mo.	12 Mo.	Coarse Aggregate 3 Mo.	6 Mo	9 Mo.	12 Mo.
Low-Alk, Cement: % Na2O Equivalent:								
High-Alk, Cement: % Na2O Equivalent:								

Soundness in Concrete (CRD-C-40, 114)

			F & T	NW-CD	ND-CW
Fine Agg.	Coarse Agg.	DFE300			
Fine Agg.	Coarse Agg.	DFE300			

Petrographic Data

Quartz & Quartzite	38.5%	Sandstone & Siltstone	9.0%
Slag	38.2%	Mica	TR
Coal	13.5%		

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 8

ALLEGHENY RIVER
IN-POOL DISPOSAL CONCERNS

Pennsylvania Department of Environmental Protection

400 Waterfront Drive
Pittsburgh, PA 15222-4745
January 28, 1997

Southwest Regional Office 412-442-4000

Fraser Gensler
U.S. Army Corps of Engineers
Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222

Dear Mr. Gensler:

Thanks for the opportunity to comment on the environmental problems associated with dredge holes in the Allegheny River.

The problem first came to our attention six years ago by way of Mike Koryak, who reported low dissolved oxygen in Pool 5 holes. We following that up and looked at the problem in Pools 4 and 5 during two summers.

Pools 4 and 5 have been actively dredged for many years, apparently to bedrock depths or approximately 60 feet. The normal river current does not flush these out. We measured anaerobic conditions at the bottom of these holes over miles of Pool 5. Small grab samples from them showed accumulation of very fine silt and organic matter in a state of decomposition. Large branches and limbs were also present. Pool 4 was similar. These holes are sinks for this material and its decomposition eliminates the dissolved oxygen.

The consequences of this situation (besides being a violation of state water quality standards) are vast areas of the river are untenable for aquatic life. Macroinvertebrates are limited to hardy worms and midges while fishes are not present. Since many of the fish food organisms are unable to survive these conditions, there is a shortage of food for fishes. There is currently a program by the Pennsylvania Fish and Boat Commission to reestablish several species of fish in the local rivers. These are some of our larger native fishes that require oxygenated deep water (sturgeon) or are pelagic fishes (paddlefish). It's doubtful these conditions would allow their establishment in heavily dredged pools (like 4 and 5).

In order to restore natural self-sustaining populations of fish and fish food organisms in these rivers, these holes need to be filled to a level that allows normal river hydraulics to flush them out. This would be the single biggest improvement that could be done to improve water quality conditions in these pools.

If you have any questions please feel free to call me.

Sincerely,

Tom

Tom Proch
Regional Aquatic Biologist
Water Management

ALLEGHENY RIVER DREDGING MORATORIUM PETITION

We, the undersigned, are extremely concerned about the possible negative environmental impact dredging for sand and gravel has had on the number and types of fish found in the Allegheny River. This concern is supported by the disturbing scientific evidence that has been collected over a number of years by the Pennsylvania Fish Commission. The Pennsylvania Fish Commission's report showed that a major decline has occurred in the number and types of fish found in those portions of the Allegheny River which are currently being dredged. In addition to this, we are concerned that rare and possibly endangered species of fish, mussels, clams, etc. could become extinct if dredging continues. We are also concerned that continued dredging will have a negative impact on the quality of life for local fishermen, boaters, and outdoor enthusiasts and that eventually it will have a negative financial impact on local businesses and the jobs that provide support services for these fishermen and boaters. We are therefore requesting that before future permits be issued for dredging on the river, a new environmental impact study be done to determine the short and long term effects dredging has on the river and that dredging on the river be severely limited and eventually be eliminated. Since the Allegheny River is a valuable natural resource which belongs to all the residents of Pennsylvania, we feel that we should be given the opportunity to comment at a publicized public meeting on all matters concerning the future use of the Allegheny River.

Sponsored by: Tri County Trout Club
P.O. Box 195
New Kensington, Pa. 15068

NAME	STREET	CITY	STATE	ZIP
Sam McNulty	110-D JAMESTOWN DR	PGH.	PA	15216
Mike Brim[illegible]	1726 Trinity S	PGH	PA	15206
Doug Baker	117 W. 9th St.	Aspinwall	PA	15215
Gregory [illegible]	224 SHIRELY DR	MONACA	PA	15061
~~[illegible]~~	~~522 [illegible] St~~	~~[illegible]~~	~~PA~~	~~15[illegible]~~
Roger [illegible]	511 CROCUS Ave	Penn Hills	PA	15235
David M Esmo	352 South MAIN	Burgettstown	PA	15021
[illegible]	516 Clearview Dr.	Verona.	Pa	15147
Ed [illegible]	334 NEIDLE ST	PITTSBURGH	PA	15220

ALLEGHENY RIVER DREDGING MORATORIUM PETITION

We, the undersigned, are extremely concerned about the possible negative environmental impact dredging for sand and gravel has had on the number and types of fish found in the Allegheny River. This concern is supported by the disturbing scientific evidence that has been collected over a number of years by the Pennsylvania Fish Commission. The Pennsylvania Fish Commission's report showed that a major decline has occurred in the number and types of fish found in those portions of the Allegheny River which are currently being dredged. In addition to this, we are concerned that rare and possibly endangered species of fish, mussels, clams, etc. could become extinct if dredging continues. We are also concerned that continued dredging will have a negative impact on the quality of life for local fishermen, boaters, and outdoor enthusiasts and that eventually it will have a negative financial impact on local businesses and the jobs that provide support services for these fishermen and boaters. We are therefore requesting that before future permits be issued for dredging on the river, a new environmental impact study be done to determine the short and long term effects dredging has on the river and that dredging on the river be severely limited and eventually be eliminated. Since the Allegheny River is a valuable natural resource which belongs to all the residents of Pennsylvania, we feel that we should be given the opportunity to comment at a publicized public meeting on all matters concerning the future use of the Allegheny River.

Sponsored by: Tri County Trout Club

P.O. Box 195

New Kensington, Pa. 15068

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 9

VICTORY HOLLOW
COORDINATION OF PUBLIC CONCERNS

April 15, 1996

Project Management Branch

Mr. Lou Resovich, Chairman
Board of Supervisors
Carroll Township
130 Baird Street
Monongahela , Pennsylvania 15063

Dear Mr. Resovich:

On March 16, 1996, the Corps of Engineers conducted a workshop for Carroll Township officials and concerned residents on our plan to develop Victory Hollow into a site for placing sediments from the Lower Monongahela River navigation improvement project. The well attended workshop was an excellent forum for the Corps to describe the project and solicit feedback from the community. As promised, written responses to the questions asked at the workshop are enclosed.

On March 26, 1996, we provided a deskside briefing for Congressman Frank Mascara on this subject. It was suggested that the Corps consider giving residents an opportunity to visit one of the upland areas used for the placement of sediments from the completed Grays Landing Monongahela River navigation project. We have arranged for such an inspection and a follow-on workshop in the Carroll Township municipal building on Saturday, May 4, 1996. Enclosed is an itinerary and other pertinent information on this field trip. If you have any questions in this regard, please call the project manager, Hank Edwardo, at (412) 644-5835.

Sincerely,

Lester S. Dixon, P.E.
Deputy District Engineer
for Project Management

Enclosures

CEORP-PA
SUBJECT: Notes from Victory Hills Meeting 3/16/96

Appendix A

QUESTIONS

1. How and why did the Corps select the Victory Hollow site?
2. Why are all your sites in Carroll Township?
3. Why did you change sites from Eldora, Bunola and Lincoln Borough?
4. Are there still alternatives to this site?
5. What can we do if we disagree with your decision?
6. Will a petition change your mind?
7. Who makes the final decision on site location?
8. What provisions have been made to eliminate dust?
9. Are you going to clean the dust off my house?
10. How are you going to treat dust in my cistern?
11. Are you going to monitor our air for particulates?
12. How long will the materials be uncovered?
13. How long will this go on and what will be the operating hours?
14. Are you going to monitor noise levels?
15. What provisions have been made to eliminate smell?
16. How are deep wells and springs going to be affected? The area's aquifer? Are you going to use monitoring wells?
17. We keep being warned not to eat fish, swim or water ski. How can you tell us the sediments from this same river don't contain the same contaminants?
18. Who does the testing and how?
19. Who analyzes and verifies test results?
20. Who determines what are safe limits? What are those limits?
21. How can you assure us that the game will be safe ?
22. How do Victory Hills residents benefit from this?
23. Can you compensate the community?
24. Will you compensate residents if the value of our homes decrease?

25. How does Pine Oaks Land Company benefit?

26. Would "Plan 4" eliminate the need for the disposal site?

US Army Corps of Engineers
Pittsburgh District

On March 16, 1996, the Corps of Engineers conducted a workshop for Carroll Township officials and concerned residents on our plan to develop Victory Hollow into a site for placing sediments from the Lower Monongahela River navigation improvement project. The well attended workshop was an excellent forum for the Corps to describe the project and solicit feedback from the community. As promised, written responses to the questions asked at the workshop are provided herein.

The questions were grouped into the following four general categories:

- **Site Selection Process**
- **Potential Risks to Human Health and the Environment**
- **Site Development Issues**
- **Financial Issues**

Site Selection Process

⇒ ***Why are all of the sites being considered in Carroll Township?***
⇒ ***Who makes the final decision on site selection?***
⇒ ***How and why did the Corps select the Victory Hollow site?***
⇒ ***Would Plan 4 eliminate the need for the Victory Hollow site?***
⇒ ***Why did you change sites from Eldora, Bunola and Lincoln Borough?***

The Corps of Engineers considered many sites along both banks of the river throughout the project area, primarily in Allegheny and Washington Counties, not just in Carroll Township. The Corps is responsible for making the final decision on site selection, and Victory Hollow was selected because it best met the two most important selection criteria, least cost, and least potential for adverse environmental impacts. Corps regulations require selection of the least cost option that meets the objectives of the project and that is in compliance with all appropriate laws and regulations. Development of Plan Number 4 in the Feasibility Study would not eliminate the need for Victory Hollow, in fact, that plan would generate approximately 0.5 million more cubic yards of sediment.

To answer why we did not select Eldora, Bunola or Lincoln Borough, and how we arrived at Victory Hollow, requires a summary of the process of how the Corps develops a project, and how it occurred in this case. Although preliminary planning began many years ago, the formal project development process began in 1989. Between 1989 and 1991, a Corps project team of engineers, geologists, environmental scientists and economists screened numerous potential sediment placement areas, as one component of a formal process the Corps calls a Feasibility Study. The primary criteria the team looked for at each potential location were good river access, adequate acreage for off-loading and dewatering of sediments, sufficient capacity to accept the volume of sediments to be excavated for the project, and proximity to the areas of excavation. Based on this criteria, the project team was able to screen the selection down to four potentially viable locations:

Coursin Hollow, Lincoln Borough, Allegheny County, River Mile 21
Pangburn Hollow, Forward Township, Allegheny County, River Mile 25
Bunola Run, Forward Township, Allegheny County, River Mile 27
Victory Hollow, Carroll Township, Washington County, River Mile 34

Coursin Hollow in Lincoln Borough, and Bunola Run in Forward Township were selected as the most feasible sites in 1991 because the cost of relocating the businesses in the other two sites was judged to be a much greater potential project cost.

A companion document to the Feasibility Study, produced at the same time, was the Environmental Impact Statement (EIS). An EIS is a requirement for any major Federal government action under the National Environmental Policy Act (NEPA). The primary intent of NEPA is to assure that all parties that could potentially be impacted by a major Federal action are informed about the action and have the ability to participate in the planning process prior to construction of the project. To meet that intent, over 100 copies of the EIS were circulated in 1991 to various local state and Federal agencies, political entities, and the general public for comment. Notices were placed in all of the major newspapers in the area that the EIS was being circulated for public review, and was available in all of the local libraries, including the Donora Public Library. The public agencies who reviewed the EIS and provided formal comment included USEPA, PADEP, US Fish and Wildlife Service, PA Game Commission, PA Fish and Boat Commission, and the federal and state Cultural and Historic Preservation Societies.

Significant public comment was received from the residences and businesses that would have to be relocated at either of the two proposed locations. The public resource agencies were very concerned about the potential environmental impacts of disturbing the perennial streams that flowed through valleys of both proposed sites. The Corps received formal authorization to proceed with the project despite these concerns, utilizing either the Coursin Hollow or Bunola Run sites. However, the Corps committed to further evaluating other potential sediment placement locations during subsequent design of the project.

Project designers, after project authorization, reevaluated nearly 30 potential upland sediment placement locations. Through an intensive screening effort, the number of sites was reduced to six. Two new locations, Eldora Hollow and Lockview Hollow were added to the four previously established viable sediment placement locations listed above. The reevaluation included a comparison of cost, potential social, cultural and environmental factors for each of these six locations. Victory Hollow clearly became the optimum location from this comparison of alternatives. It presented the least development costs, while posing the least potential for adverse environmental and social impacts.

- ⇒ ***Are there still alternatives to this site?***
- ⇒ ***What can we do if we disagree with your decision?***
- ⇒ ***Will a petition change your mind?***

Development of Victory Hollow is an essential element of the project, so we see no alternative to at least partial use of the site. However, we are continuing to pursue options that will reduce project costs and the volume of materials placed at Victory Hollow. One viable alternative being closely evaluated is placement of excavated materials at the former Duquesne Works Plant location. Another option being considered is in-pool placement of excavated materials. Each option is being evaluated in an objective manner, in an attempt to assure selection of the least cost

alternative or combination of alternatives that are in full compliance with all relevant laws and regulations.

There are a variety of options that a person or group may pursue if they disagree with a Corps decision of this nature, including seeking recourse in the courts. However, it is not the intent of the Corps to impose undue hardship on any individual, group or community. Consequently, through the project development process, the Corps solicits community involvement and input. The best way of influencing the ultimate decision is to become educated on the issues, and effectively communicate any objections to the Corps, as well as any local, state or other federal officials or agencies with related authority or responsibility.

A petition with signatures based on an objective presentation of factual information and community concerns would be seriously considered in the project decision process.

Potential Risks To Human Health And The Environment

⇒ ***We keep being warned not to eat fish, swim or water ski in the Monongahela River because of pollution. How can you tell us the sediments do not contain the same pollutants that have prompted these warnings?***

This is an excellent question, and one the Corps has expended considerable resources to answer. The warnings about eating fish are for Total PCBs and the pesticide chlordane. Chlordane was used to kill termites and prevent reinfestation. PCBs were primarily used in electrical transformer oils. Both are toxic at relatively low concentrations, and were once very widely used, in part, because they are very resistant to degradation. Since 1990, we have chemically analyzed approximately 60 sediment samples for these compounds from throughout the proposed reaches of excavation. We have not detected chlordane in any of the samples. Five samples had detectable levels of Total PCBs. The maximum Total PCB concentration we detected was 0.6 parts per million. PCBs above 50.0 parts per million in soil are regulated as hazardous by the Toxic Substances Control Act. Although there are no laws regarding lesser concentrations of PCBs in soil, most states have adopted a policy of 1.0 part per million as the maximum average allowable concentration for PCBs in residential soils. A related area of concern is that the river and its sediments have been exposed to the long industrial history of the valley. Consequently, we have sampled and chemically analyzed the sediments for a wide range of potential contaminants. We have found that the sediments contain some metals, cyanide, coal fines and residues from incomplete combustion. Not coincidentally, these same substances are also found in slag. However, the levels we have detected in the sediments are much lower than the concentrations typically present in slag.

The advisories regarding swimming and water skiing are directly related to bacteriological contamination that results from untreated domestic sewage. Most communities along the Lower Monongahela River have combined sanitary and storm sewer systems. During periods of heavy rainfall a large percentage of the water flowing through the sewers bypasses the waste water treatment system. Bacteria are the primary contaminants of concern in raw sewage, and they can be acutely toxic, (rapid and severe health effects). Fortunately, bacteria are generally not long lived, and the associated health advisories from passage of raw sewage typically last only a few days after a release has occurred.

⇒ ***Who determines what are safe limits, and what are those limits?***
⇒ ***Who does the testing and how?***
⇒ ***Who analyzes and verifies test results?***

USEPA has been designated by Congress to establish safe limits. Under the Safe Drinking Water Act, USEPA established safe limits, called Maximum Contaminant Levels (MCLs) for

hundreds of chemical and biological pollutants. For specific common contaminants where toxicity in drinking water has not been adequately determined, USEPA has established Maximum Contaminant Level Goals, (MCLGs). While MCLs are regulatory limits that may not be exceeded, MCLGs are not legally enforceable requirements.

USEPA has yet to establish MCLs, or even MCLGs, for contaminants in soil, partly because soils present a far more complicated issue. Typically, maximum concentrations protective of human health for the intended future land use are established on a site specific basis by state regulators. PADEP has agreed to establish a list of potential contaminants and maximum concentrations that will be permitted for the Victory Hollow site, considering that the future land use will be residential and recreational. The Corps will sample and test for these contaminants. The results of the chemical analysis of all sediments will be reviewed by PADEP prior to import of any materials to the site. The results of these tests will be available to the public. No material will be permitted to come to the Victory Hollow location that PADEP determines could be hazardous to human health or the environment.

The majority of past and future sediment sampling and chemical analyses of the sediments have been and will be conducted by private engineering firms and laboratories under contract to the Corps of Engineers. Approximately 10% of the chemical analyses are conducted by the Corps of Engineers Ohio River Division laboratory in Cincinnati, Ohio for purposes of assuring the quality of the data generated by the private laboratories is adequate. The chemical analyses are conducted in accordance with USEPA methods.

The Corps does the chemical analyses, and the results of these analyses are verified internally by the Corps, as well as externally by the appropriate regulatory agency, in this case the PADEP. The Corps compiles the laboratory test results in a written sampling and analysis report. The report includes a description of sampling techniques and locations, along with a presentation of the laboratory test results. The Corps includes an analysis of the laboratory test results, relating the results to available standards for the protection of human health and the environment relative to the proposed future use of the site. The report is then reviewed internally by environmental professionals within the Corps who were not actively involved during execution of the work as an independent Quality Assurance review. Concurrently, the report is provided to the appropriate regulatory agency for review and comment. The PADEP will be the primary regulatory agency involved in the review. The USEPA will also be asked to review the results relative to the proposed use of the material at Victory Hollow. The final report is then revised by the Corps to reflect any appropriate revisions based on the comments of all reviewers.

⇒ ***How can you assure us that the game will be safe?***

This question infers that if we cannot eat the fish because the river is polluted, then we will not be able to eat game such as rabbit or deer that may graze on plants growing from sediments that

are excavated from the river and placed at Victory Hollow. Although there is no direct, simple answer to this question, there is a considerable body of literature available in the scientific community which supports that this would not be a problem at the Victory Hollow site. The literature indicates that significant differences exist between the uptake of contaminants through the aquatic and terrestrial food chains. Contaminants like PCBs and chlordane have been shown to accumulate in the fatty tissues of aquatic organisms each step up the food chain. No such link has been established from soils to plants to plant eaters to predators of the plant eaters.

⇒ ***How are deep wells and springs going to be affected?***

There should be no impact to deep wells and springs from placement of Monongahela River sediments at Victory Hollow. In fact, all indications are that the quality of water in existing wells and springs could improve both in the short and long term by placing sediments over the site. A far greater percentage of rainfall on the site after placement of sediments will be converted to surface runoff because of a net reduction in the permeability of the surficial soils. Currently, rainfall percolates readily through this former coal mine and slag dump, lowering the pH and extracting impurities from the slag as it moves through the subsurface. Our monitoring indicates that a spring emerging from the base of the slag is very high in metals content, and that the stream itself is devoid of the types of aquatic organisms associated with a healthy stream. The past mining and slag dumping have greatly influenced the flow characteristics and water quality of the natural aquifer that once existed beneath the property.*Currently we have no plans to monitor operations at the site via monitor wells. We intend to monitor the springs and surface water runoff from the site through periodic sampling and chemical laboratory analyses. We want to test all existing wells or springs in the vicinity of Victory Hollow prior to beginning use of the site. We would appreciate help in locating any nearby well owners.

*Revision Noted: The District has conducted a preliminary VICTORY HOLLOW DISPOSAL SITE GROUNDWATER INVESTIGATION, JULY 1996. Proposed grounwater monitoring wells are investigated in this study.

Site Development Issues

- ⇒ ***What provisions have been made to eliminate dust?***
- ⇒ ***Are you going to monitor our air for particulates?***
- ⇒ ***Are you going to clean the dust off of my house?***
- ⇒ ***How are you going to treat dust in my cistern?***
- ⇒ ***What provisions have been made to eliminate smell?***
- ⇒ ***How long will the materials be uncovered?***
- ⇒ ***Are you going to monitor noise levels?***
- ⇒ ***How long will this go on?***
- ⇒ ***What will be the hours of operation?***

If our use of the site increases the dust on your house or in your cistern, we will mitigate the problem to your satisfaction. The drilling and sampling we have conducted has given us no indication that odor will be a problem from the placement of sediments in Victory Hollow. The assertion that the sediments to be excavated for this project are sludge or sludge-like is totally unfounded.

The site development specifications will outline explicit requirements for site control and air monitoring to require our site development contractor to conduct his operations in a manner that minimizes dust generation, prevents the off-site migration of dust, and monitors the air for particulate matter. The site development specifications will require the contractor to take appropriate measures to control dust by the addition of water or other suitable means to prevent off-site migration of dust. We will include provisions in the site development specifications for monitoring the air at the point of operations as well as at the perimeter of the project limits for particulate matter. He will also be required to maintain a small weather station for monitoring and recording temperature and wind speed and direction.

Monitoring of the air in Victory Hills has not been anticipated at this point, but it is an issue we will examine further as project development progresses. Further, we intend to establish a telephone feedback line at the project site dedicated to the sole purpose of community relations. We will require our contractor to maintain a log of all complaints related to smell, noise, dust or any other nuisances to the community. The contractor will be required to document the nature of the complaint, person lodging the complaint, date, time, address, and action taken to correct the problem.

At this time, it is impossible to predict or specify an exact time period that bare soils may be exposed to the atmosphere. Seeding and cover requirements will be stipulated in a PADEP approved erosion and sediment control plan. Typically, the PADEP requires seeding of areas within twenty days after the ground is brought to final grade. However, at this location we may be

able to justify a more stringent requirement to seed areas brought to final grade within a shorter time period. Additionally, seeding is ineffective between November and March. Therefore, mulch or other appropriate cover will be required during periods when seeding is ineffective. None of these measures will relax the site development contractor's requirement to prevent dust migration from the site.

There will be three major episodes of construction activities. Excavation for the construction of new dam 2 is scheduled to occur between 1998 and 2002. Dredging in pool 3 is scheduled to take place between 2001 and 2002, and construction of new locks 4 is scheduled to take place between 2001 and 2003. Regarding the hours of operation, the site development contractor will be required to conduct operations in a manner that minimizes disruption to the community. There is a possibility of including limits for the hours of operation in the site development contract, and this issue will be further evaluated to make every attempt to assure the contractors operations are not a nuisance to the community. Input from members of the community on acceptable hours of operation would be welcome. We would appreciate receiving information on all existing cisterns or wells to verify the condition of these features prior to initiating any operations at Victory Hollow.

Financial Issues

- ⇒ ***How do the Victory Hills residents benefit from this?***
- ⇒ ***Can you compensate the community?***
- ⇒ ***Will you compensate owners if property values decrease?***
- ⇒ ***How does the Pine Oaks Land Company benefit?***

Placement of sediments excavated from this project has many potential benefits in Victory Hollow. Currently, there is no vegetative cover over a large portion of the property because slag is present at the ground surface. Another large portion of the property supports only a thin grass cover that is of little ecological value. Covering these areas with sediments should greatly improve the growing medium to support a healthier and more diverse plant community. The site development contractor will be required to seed, mulch, fertilize and lime as necessary to assure a well established vegetative cover is present before he is relieved of contract responsibility. In addition to improving the aesthetic value of the property, it will reduce health risks associated with exposure to slag. Covering these materials with the sediments should improve surface and groundwater quality within and downgradient of the site. This fill placement will improve the opportunities for a variety of land uses, such as residential development. These potential land reuse proposals will make the land more valuable and can serve to increase property values in the surrounding communities if they are implemented.

No specific project authorization exists to compensate Carroll Township or any other municipality for development of the project. The Corps of Engineers does not acquire a fee title when it develops the site, but rather leaves ownership of the site in private hands. Therefore, the owner of the site continues to pay property taxes to the community. The community will ultimately benefit if the private owner is able to convert the property into home sites or other uses.

The answer to the question of whether an adjoining landowner would be entitled to compensation as a result of the project is complex. It must be recognized that property values are affected by a number of factors such that a decline of property values might not be directly related to the project. Generally, the decline of property values would not be compensable since the government has not, by its action, deprived the property owner of his ownership interest. The Pine Oaks Land Development Company, along with the landowner(s) of the off loading area riverward of state route 837, will be offered fair and reasonable monetary compensation for the government to acquire a temporary easement to use the land for the stated purpose.

19 Pearl - Victory Hill
Monongahela, PA 15063

Congressman Frank Mascara
1531 Longworth House
Office Building
Washington, D.C. 20515

September 24, 1996

Dear Congressman:

The signatures contained in this petition represent Victory Hill, Place Plan and surrounding areas.

Victory Hill is a small, family oriented community which neither needs nor **wants** the waste contamination from the Monongahela River. Place Plan and other surrounding areas are also concerned that the U.S. Army Corps of Engineers would even consider Victory Hollow, an area located approximately one quarter of a mile from the nearest home.

At a meeting on March 16, 1996 at the Victory Hill Social Center, the Army Corps of Engineers presented a 15-minute slide show explaining the project .

Near 4 million cubic yards of material dredged from the river would be dumped at Victory Hollow. If dumped on a football field, it would reach more than one mile high. This would be equivalent to over 31,000 tractor-trailer loads of contamination. Bringing these toxic sediments to our area will result in soil contamination, airborne contamination, odor, health hazards and noise from the equipment. We as citizens, have the right for full use and quiet enjoyment of our property. This project could take **10 years** to complete.

On May 4, 1996, the Army Corps of Engineers offered to provide chartered bus transportation to and from a similar project at Gray's Landing. However, the Gray's Landing project is 12 miles from the nearest home and therefore not relevant to the residents of Victory Hill, Place Plan, etc.

A directive to us from the U.S. Army Corps of Engineers - Pittsburgh District clearly states, "**A petition based on an objective presentation of factual information and community concerns would be seriously considered in the project decision process".**

Factual information and a petition containing 324 signatures are being sent to Tom Stukas - Agency of Toxic Substance and Disease Registry, Representative Pete Daley, Senator Rick Santorum, Senator Arlen Specter, Les Dixon - District Engineer U.S. Army Corps of Engineers and Candidate Mike McCormick.

I have already spoken to Mike McCormick and he has shown much interest in our plight by attending our meeting and speaking on our behalf.

We anxiously await your help in solving this matter which will affect the lives of the people in your district.

Sincerely,

Marion Sevich

19 Pearl Lane
Victory Hill
Monongahela, Pa. 15063

October 9, 1996

Mr. Henry Edwardo, Project Manager
U. S. Army Corps of Engineers
Pittsburgh District
William S. Moorehead Federal Bldg.
1000 Liberty Avenue
Pittsburgh, Pa. 15222-4186

Re: Victory Hill, Carroll Twp.; Place Plan, Donora and surrounding areas.

Dear Hank:

As stated in your Victory Hill Workshop Questions and Answers - "A petition with signatures based on an objective presentation of factual information and community concerns would be seriously considered in the project decision process."

Therefore, enclosed is a copy of petitions plus factual information.

Copies of petitions, etc. are being sent to:

Congressman Frank Mascara
Representative Peter Daley
Senator Arlen Specter
Senator Rick Santorum
Mr. Mike McCormick

Information will also be sent to Mr. Bucky Walters, Agency for Toxic Substance & Disease Registry.

By the Way, Hank, you object to our using the word "sludge"--your term is "sediments". What are sediments? Sediments are materials that settle to the bottom of water including, in this case, chemicals.

Chemicals are not like people, they should be assumed guilty until proven innocent

We implore you to consider our concern and not steal the future of our children and generations to follow!

Respectfully,

Maureen Lynch

(Note: Formal list of petitioners not shown, on file as requested)

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 10

CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

CLEAN WATER ACT
SECTION 404(b)(1)

1. DESCRIPTION OF DISPOSAL REQUIREMENTS

a. Sources of Material and Authorized Disposal Sites: The authorized navigation improvement project for the Lower Monongahela River between Locks and Dam (L/D) 2 at Braddock, PA and L/D 4 at Charleroi, PA will require the disposal of approximately 3.4 million cubic yards (c.y.) of riverbed coarse grained sands and gravels, fine grained sediments, rock, and concrete rubble. Sources of this material are the following project features: removal of the existing dam at L/D 2 and construction of a new gated dam; Pool 2 clearing project between L/D 2 in Braddock, PA to L/D 3 in Elizabeth, PA; removal of L/D 3 in Elizabeth, PA; navigation channel dredging between Elizabeth, PA and Charleroi, PA to establish the new authorized navigation channel depth; and construction of new locks at L/D 4 in Charleroi, PA. Two valley sites were included in the authorized plan for disposal of fill material qualifying for unrestricted disposal as regulated by the Pennsylvania Department of Environmental Protection (PaDEP). One site is near Coursin Hill in Lincoln Borough and the other is near Bunola in Forward Township, both in Allegheny County. Coursin Hollow was designated to accept material from the gated Dam 2 construction and Bunola Hollow was earmarked to take all other fill material. Due to public and resource agency opposition to the use of these sites, the District made a commitment to consider alternative disposal sites in post-authorization studies.

b. Recommended Disposal Sites: Post authorization studies indicated that alternatives to the authorized Coursin and Bunola Hollow areas exist that would cost less and incur less social and environmental impacts. The new primary disposal site comprises a site heavily disturbed by slag deposition, remaining, and various coal mining activities near the community of Victory Hills in Carroll Township, Washington County, Pennsylvania, referred to as Victory Hollow. This site has sufficient capacity for the estimated maximum volume of material that will be generated by this project (3.4 million c.y.) id required. Several other secondary disposal options have been identified for some of the fill material. One is a brownfield site on the grounds of the former U.S. Steel Duquesne Works, currently being developed by the Regional Industrial Development Corporation (RIDC) of Southwestern Pennsylvania for commercial and light industrial use, known as the Duquesne-RIDC site. The other possible options are in-river disposal in the Monongahela River Pools 2, 3, and creation of a shallow water reef for aquatic habitat improvements from dam 2 concrete rubble at approximately Monongahela River, river mile (r.m.) 10, downstream of the existing dam to be removed. Also, deep anaerobic holes created from years of commercial dredging in Allegheny River Pools 4 and 5 have been identified as being able to accept fill material. The Duquesne-RIDC site is able to accept all fill generated from the Dam 2 project. In-river disposal, within the Monongahela and Allegheny Rivers, would be from sands and gravels obtained from Pool 3 channel dredging, all fine material would be taken to the upland disposal site.

Monongahela River in-river disposal at approximately r.m. 10 below existing dam 2 would be **from** concrete rubble from **demolition** of the dam **used to create a shallow water reef for aquatic habitat improvements**. The District can not commit to these secondary disposal options at this time due to unresolved issues, **however, the District is optimistic about the realization that all secondary options detailed above will be available for use and** will proceed **with completion of this 404(b)(1) evaluation** in a manner that **assumes so** for permitting purposes.

c. Project Authorization: The **Lower Monongahela River Project,** Locks and Dam 2, 3, and 4 was authorized for construction in Section 101 of Public Law 102-580 (Water Resources Development Act of 1992, 31 October 1992), based on the Feasibility Report and Final Environmental Impact Statement approved by the Division Commander on 20 December 1991.

d. General Description of Fill Material: This SEIS addresses impacts due to the disposal activities at Victory Hollow, Duquesne-RIDC, and In-river (Monongahela and Allegheny Rivers). Construction activities for the off-loading facilities for the Victory Hollow and Duquesne-RIDC sites and the In-river disposals would require the placement of fill materials into the waters of the United States. The following construction features are;

1. The Victory Hollow site requires **the construction of** a mooring cell structure consisting of two 45 foot diameter cells with connecting arc to be constructed at Monongahela River Mile 34.5. The cells and **arc** would consist of about 32,000 square feet of sheet piling, 10,100 c.y. of pervious cell fill material, and 900 c.y. of stone protection. Dredging activities would also be required for barge access. The proposed construction plan is shown as FIGURE 1.

2. The Duquesne-RIDC site, one of the two material transfer options being considered includes construction of a temporary landing at approximately Monongahela River Mile 12.8 to facilitate material transfer from conveyor for transport to the disposal area. The fill material for the landing would be obtained from a local upland quarry and consist of 550 c.y. of stone; 325 c.y. of filter; and 640 c.y. of granular fill. There would also be about 410 c.y. of dredged material used as fill for the landing. This landing would be temporary and removed after fill activities are completed. The proposed construction plan is shown as FIGURE 2.

3. The Monongahela River Pool 2 placement activities would be between river miles (r.m.) 19.0 and r.m. 23.7. The placement activities would consist of a barge fleet with crane and material transfer by clam shell bucket from the storage barge to the river bottom. The total estimated capacity of 400,000 c.y. of dredged material is to be placed.

4. The Monongahela River Pool 3 placement activities would be between r.m. 24.2 and r.m. 36.3. The placement activities would consist of a barge fleet with crane

and material transfer by clam shell bucket from the storage barge to the river bottom. The total estimated capacity of 300,000 c.y. of dredged material is to be placed.

5. The Monongahela River, Pittsburgh Pool placement activities would be between r.m. 9.9 to r.m. 10.1. The placement activities would consist of a barge fleet with crane and material transfer by clam shell bucket from the storage barge to the river bottom. The total estimated quantity of 12,500 c.y. of concrete rubble from the removal of Dam 2 is to be placed.

6. The Allegheny River Pools 4 and 5 placement would be between L/D 4 at r.m. 41.5 and L/D 6 at r.m. 36.3. The placement activities would consist of a barge fleet with crane and material transfer by clam shell bucket from the storage barge to the river bottom. An initial preliminary minimum estimated capacity of **120,000** c.y. of dredged material could be placed in these pools **(through ongoing hydraulic investigations a maximum capacity for placement within these pools is underway)**. Additional capacity and detailed disposal locations would be available **upon completion of ongoing hydraulic investigations.**

e. Description of Proposed Discharge Sites: Proposed discharge sites are two shore locations on the left bank of the Monongahela River in areas that have been built up by slag deposits at former steel mills (U.S. Steel Duquesne Works at r.m. 12.8 and Wheeling American Steel and Wire Co. at r.m. 34.8), less than one acre of wetlands within Victory Hollow disposal site, and one shore location on the left bank of the Monongahela River at r.m. 10.0. Impacts to emergent marsh wetlands within Victory Hollow would either be restored immediately adjacent to the fill area (Site #6 of FIGURE 9 of the SEIS) in a replacement ratio of 1 to 1 or be compensated for in a wetland banking program as appropriate. These wetlands could be avoided provided the secondary placement site **Duquesne-RIDC,** is cleared for use.

f. Description of Disposal Method: Sheet piling will be driven into the river bottom around the work area at the off-loading area at Victory Hollow. Dredging activities will be performed mechanically. Fill for the equipment landing that may be associated with the Duquesne-RIDC Site would be placed mechanically. **The concrete rubble from Dam2 would be placed mechanically.** All fill and filter material would be obtained from a clean upland source. Placement of material within the Monongahela and Allegheny Rivers would be accomplished by mechanical measures. Sound engineering practices would be followed during all phases of construction.

2. FACTUAL DETERMINATION

Section 230.11 of the EPA final guidelines of 24 December 1980 requires the following factual determinations.

a. Physical Substrate Determinations: Permanent changes to the physical substrate would involve (1) the cell construction for the Victory Hollow Site. It is

envisioned that this cell would facilitate future use of the off-loading area by other businesses. The total river bottom covered by this material is much less than one acre. (2) The landing at the Duquesne-RIDC Site would be removed after fill operations. This facility would be temporary and would be anticipated to be removed. The total river bottom covered by this material is approximately one acre. (3) Monongahela River Pool 2 placement of dredged material would fill in deep holes within reaches of the pool as noted above. This fill placement would conform to the original river bed profiles. The total river bottom covered by this material is approximately 150 acres. (4) Monongahela River Pool 3 placement of dredged material would fill in deep holes within reaches of the pool as noted above. This fill placement would conform to the original river bed profiles. The total river bottom covered by this material is approximately 130 acres. **(5) Monongahela River, Pittsburgh Pool at approximate river mile 10.0 placement of concrete rubble from the removal of Dam 2 to create a shallow water aquatic habitat. The anticipated total river bottom covered by this material is approximately 3 acres.** (6) Allegheny River Pools 4 and 5 placement of dredged material would fill in deep holes within reaches of Pools 4 and 5 as noted above. This fill placement would **be placed in deep holes identified within these pools bringing the elevations to 710.0 and 720.0 for Pools 4 and 5, respectively. The limiting factor for placement of fill within these deep holes are adverse impacts to the 100-year flood river-stage profile. Additional hydraulic investigations are being investigated that could possibly raise the placement of fill, without impacting the 100-year flood river-stage profile, to conform to the original riverbed** profiles. The total river bottom covered by this material is anticipated to be approximately 100 acres per pool.

b. Water Circulation, Fluctuation and Salinity: Water chemistry, clarity, color, odor, taste, dissolved oxygen levels, temperature, nutrients and eutrophication of drainage from the Victory Hollow disposal site and of the Monongahela River Pools 2 and 3 would be unaffected by placement of the fill material. Dissolved oxygen levels may rise within the Allegheny River Pools 4 and 5 from the elimination of deep anaerobic holes. Drainage to the Monongahela River would remain unchanged with appropriate NPDES permit requirements. Salinity is not a consideration in this inland freshwater drainage area.

c. Suspended Particulate/Turbidity Determinations: Increased turbidity levels due to construction of the cell landing of Victory Hollow, the temporary landing at Duquesne-RIDC, and the in-river placements of the Monongahela and Allegheny Rivers would only occur during actual construction activities and be temporary and limited to a few hundred feet from the facilities or dredged material placement activities. This turbidity would be well within that which occurs naturally and would not violate water quality standards. Due to the small wetland area that may be disturbed and restoration within the fill drainage area (i.e. to a settling pond), there would not be any adverse water quality impacts due to wetland fill. This wetland disturbance may not occur depending upon State approvals of secondary placement activities.

d. Contaminant Determinations: The fill material for Victory Hollow and Duquesne-RIDC sites would consist of sheet piling, concrete, and aggregate fill. These

materials would be obtained from a clean upland source and would have no potential to permanently introduce, relocate, or increase water quality contaminant levels. **The concrete rubble from Dam 2 for creation of the shallow water habitat would have no potential to permanently introduce, relocate, or increase water quality contaminant levels.** Materials determined to be contaminated from the sampling and testing program for the Pool 3 Dredging project will be delineated and disposed of at a State regulated facility. Only **fill material qualifying for unrestricted disposal as regulated by PaDEP** from the dredged materials would be placed within the reaches of the Allegheny and Monongahela Rivers.

e. Aquatic Ecosystem and Organism Determinations: Construction of the off-loading cells and arc for the Victory Hollow off-loading area, **construction of the temporary off-loading area at Duquesne-RIDC site, and placement of the shallow water reef at r.m. 10.0 on the Monongahela River** would result in the loss of approximately 5 acres of river bottom near the shore. This loss of benthic habitat will be offset by other navigation project features, namely the removal of existing L/D 3 and subsequent shallow water habitats formed by placing the concrete rubble along the land wall, removal of existing Dam 2 and placement of the concrete rubble **at river mile 10.0** producing a shallow water habitat, and the construction of fish reefs as indicated in the FEIS. Also, the placement activities associated with filling deep anaerobic holes within the Allegheny River would **help to eliminate existing anaerobic water quality conditions which may** enhance benthic habitat.

f. Proposed Fill Site Determinations: The nature of the structural materials and their placement raise no concern over dispersion in the water column and adverse impacts to water quality for the Victory Hollow, Duquesne-RIDC, **and r.m. 10.0, Monongahela River** sites. The structural nature of the dredged materials **to be placed in the Monongahela River Pools 2 and 3 and Allegheny Rivers 4 and 5** will have a slightly higher level of fines but not enough for their placement to raise significant concerns. Placement of the fill materials noted within the river would not violate any State water quality standards. Temporary increases in turbidity during construction activities would not be expected to exceed naturally occurring levels. Special precautions, including notification of construction activities and avoidance measures, will be employed around the Pennsylvania-American Water Supply Intake at Monongahela r.m. 25.3 and the Allegheny River, Clearview and Freeport Water Supply Company Intakes at r.m. 24.2 and 29.3, respectively.

g. Determination of Cumulative Effects on the Aquatic Ecosystem: No cumulative adverse effects to the aquatic ecosystem in the study area would be attributed to the fill activities. The Victory Hollow off-loading cells and the Duquesne-RIDC off-loading area would reduce riparian habitat development in an already heavily industrialized area. This impact will be minimized by limiting the size of the cells to the minimum required **for Victory Hollow and limiting the off-loading area at Duquesne-RIDC to the minimum required**. Allegheny and Monongahela River placements will enhance the aquatic ecosystem by creating **shallow water habitat in the Monongahela River** and

eliminating deep anaerobic holes within the Allegheny River restoring the natural river bed bottom.

h. Determination of the Secondary Effects on the Aquatic Ecosystem: There would be no significant adverse secondary impacts on the aquatic ecosystem as a result of the fill activities.

3. Findings of Compliance or Non-Compliance With the Restrictions on Discharge:

a. Adaptation of the Section 404(b)(1) guidelines to this Evaluation: No significant adaptation of the guidelines were made relative to this evaluation.

b. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Sites Which Would Have Less Adverse Impacts on the Aquatic Ecosystem. The District disposal site analysis considered a total of 28 alternatives, including the authorized Coursin and Bunola Hollow Sites, and concluded that the Victory Hollow Site coupled with secondary placement sites of Duquesne-RIDC and Allegheny and Monongahela In-river placements would be the most economical option and would incur the least environmental, social, and cultural resource impacts. This analysis is described in the body of this SEIS.

c. Compliance with Applicable State Water Quality Standards: The proposed fill activities would be in compliance with all state water quality standards.

d. Compliance with Applicable Toxic Effluent Standards or Prohibition Under Section 307 of the Clean Water Act. The fill operations would not violate Section 307 of the Clean Water Act.

e. Compliance with the Endangered Species Act of 1973: Consultation with the U.S. Fish and Wildlife Service during preparation of **this SEIS** under Section 7 of the Endangered Species Act has resulted in the determination that no federal endangered or threatened species or their critical habitat are in the project area. Any impacts would be temporary and offset by the positive result of **reestablishing** the poorly vegetated Victory Hollow site **with vegetation that will support a more diverse wildlife population** and the creation of aquatic habitat restoration efforts **in the Allegheny and Monongahela Rivers.**

f. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection, Research, and Sanctuaries Act of 1972. Not applicable.

g. Evaluation of Extent of Degradation of Waters of the United States: The proposed placement of fill material associated with the disposal site off-loading facilities and Allegheny and Monongahela In-river placements would not result in any significant adverse impacts on human health and welfare, including municipal and private water supplies. Recreation and commercial fishing, plankton, fish, shellfish, wildlife, special aquatic sites,

and the life stages of aquatic and other wildlife would also not be affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values would not occur.

h. Appropriate and Practical Steps Taken to Minimize Potential Adverse Impacts of the Discharge on the Aquatic Ecosystem: Appropriate steps to minimize potential adverse impacts from the placement of fill material (discharge) on the aquatic ecosystem of the affected reaches of the Monongahela River and Allegheny River would be identified in the detailed contract plans and specifications. They would govern the contractor(s) in placing the fill material to prevent environmental pollution and damage as a result of the **fill material placement** activities. All wetland acreage that is filled would be restored at a wet area adjacent to the fill area.

4. Finding of Compliance:

On the basis of the guidelines the proposed disposal sites for the discharge of fill material are specified as complying with the requirements of these guidelines.

Date: _____

_____
Stephen B. Massey
Colonel, Corps of Engineers
District Engineer

LOCKS AND DAMS 2, MONONGAHELA RIVER Pool

DISPOSAL OF DREDGED AND EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

VICTORY HOLLOW SITE

-PLAN-

OFF-LOADING FACILITY

(NO SCALE)

FIGURE 1

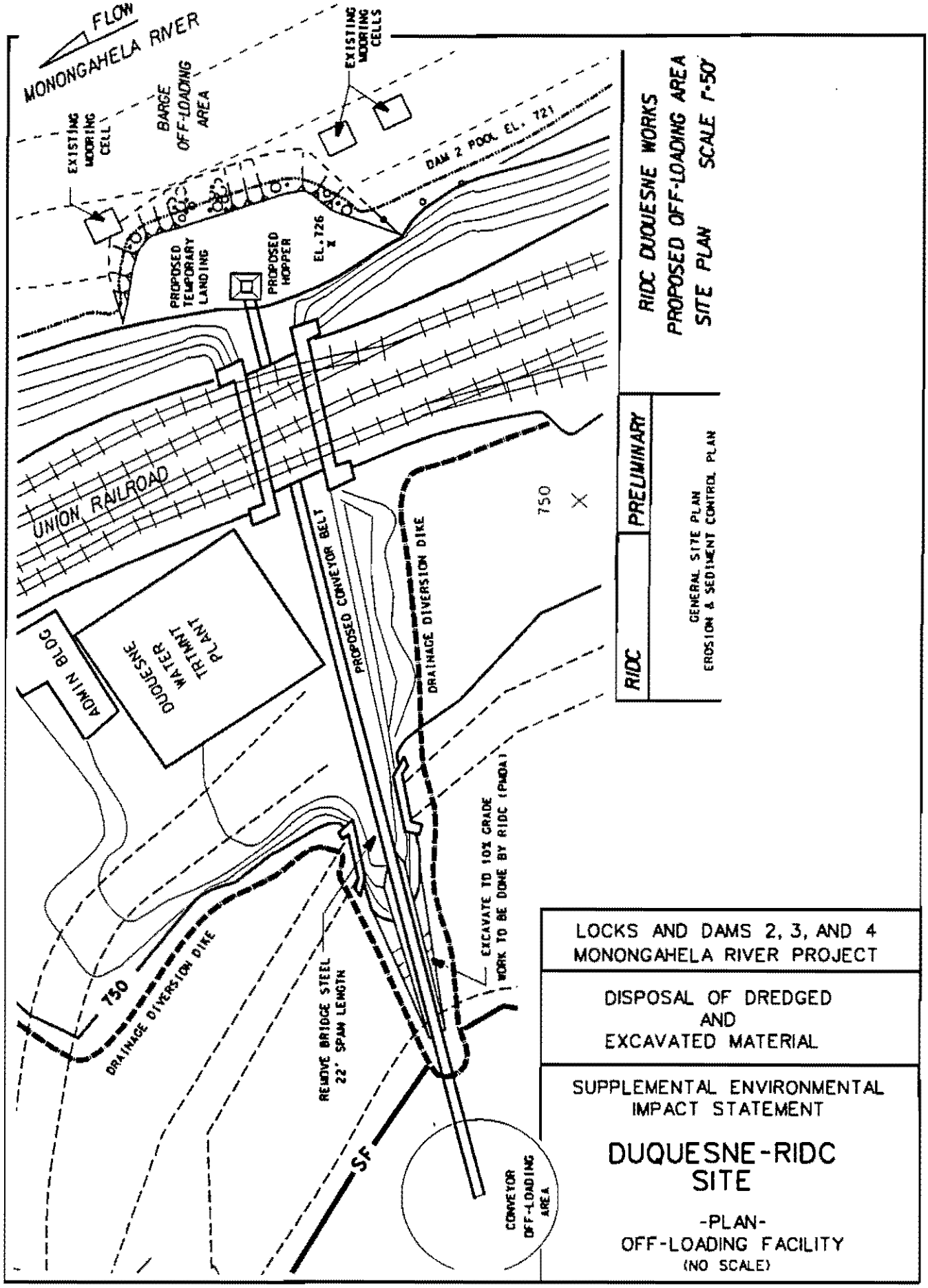

FLOW
MONONGAHELA RIVER
EXISTING MOORING CELLS
BARGE OFF-LOADING AREA
EXISTING MOORING CELL
DAM 2 POOL EL. 721
PROPOSED TEMPORARY LANDING
PROPOSED HOPPER
EL. 726
UNION RAILROAD
DUQUESNE WATER TREATMENT PLANT
ADMIN BLDG
PROPOSED CONVEYOR BELT
DRAINAGE DIVERSION DIKE
750
EXCAVATE TO 10% GRADE
WORK TO BE DONE BY RIDC (PHASE I)
REMOVE BRIDGE STEEL
22' SPAN LENGTH
DRAINAGE DIVERSION DIKE
750
SF
CONVEYOR OFF-LOADING AREA
RIDC DUQUESNE WORKS
PROPOSED OFF-LOADING AREA
SITE PLAN
SCALE 1"=50'
PRELIMINARY
RIDC
GENERAL SITE PLAN
EROSION & SEDIMENT CONTROL PLAN
LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL
SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT
DUQUESNE-RIDC
SITE
-PLAN-
OFF-LOADING FACILITY
(NO SCALE)

FIGURE 2

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 11

VICTORY HOLLOW
WETLAND SITE INSPECTIONS REPORT

VICTORY HOLLOW WETLAND
SITE INSPECTIONS REPORT
October 1995

1. GENERAL

District personnel conducted three site inspections of areas at Victory Hollow (EA Figure 3) that are either within or adjacent to the fill or haul road areas. Mr. Richard Sobol, Operations Division, Regulatory Branch and Mr. Jeffrey Benedict, Planning Division, Environmental Studies Branch, participated in all three inspections. Other District personnel participating in one or two inspections were Mr. Conrad Weiser, Planning Division, Environmental Studies Branch and Mr. David Carlson, Engineering Division, Geotechnical Branch.

Wetland determinations are based on the 1987 Corps of Engineers Wetland Delineation Manual (Manual), as required for all Federal determinations and as accepted by the Pennsylvania Department of Environmental Protection. The three parameters of soils, hydrology and vegetation were evaluated, as required by the Manual. Wetland dimensions were surveyed and plotted on a 50-scale map. Wetland sites indicated below by number are shown on EA Figure 3.

2. SITE INSPECTIONS

The first inspection occurred on March 2, 1995 and focused on the grassy strip and filled area. This inspection concluded that approximately 99% of the inspected area is reclaimed strip-mine spoil, vegetated with various grasses and other deficient-soil primary successor species such as Broom-sedge, Teasel, and scattered shrubs and small trees of Ailanthus (Tree-of-heaven), Sumac, Black locust and occasional multi-flora rose. No top soil was present. The soil on-site is primarily a silt loam sub-soil mixed with many small rock fragments. The dominant colors ranged from a primary matrix color identified on the Munsell Soil Color Chart as 10YR 5/3 to 5/4 - brown to yellowish-brown. Mixed within the soil was a mottle color of yellowish-brown to brownish-yellow, Munsell notation 10YR 5/8 to 6/8. No hydrophytic species or evidence of a high water table was present over the above area.

At the base of a high wall along the southeastern corner of the site was found a wet area (Site 1), calculated to be 0.241 acres. The wet area drains through two drainage ditches into a sediment pond immediately west of the site. The wet area is fed by a drainage ditch approximately 330 feet long which parallels the toe of the high wall on the east. Approximately one-half cubic ft./sec flow was noted on March 2. The wet area contains no evidence of hydric soils. Since it is a disturbed site formed in old mine spoil, sufficient time has not elapsed for

obvious hydric indicators to be readily apparent. Plant species observed were primarily wetland obligates including bulrush, cattail, soft rush, wool grass, purple-leaved willow herb, umbrella sedge and black willow.

Site 2 is a small area fed by a hillside seep, of 0.100 acre. Three more wet areas (Sites 3,4 and 5) are located much farther north at the toe of the same high wall. Two of the wet areas were dominated by cattails and had standing water present, fed by a flowing stream or spring from above the high wall. Each area was approximately 50 feet by 150 feet. Other plant species include boneset, willow-herb, sphagnum moss, teasel and black willow. Sites 3, 4 and 5 are 0.017, 0.067, and 0.175 acre, respectively.

Site 6, 750 feet north of the above area, is fed by a drainage ditch, three feet wide, eventually discharging through an unseen culvert to the north. This area is approximately 270 feet long, with an average width of 21 feet. The plant species noted include black willow, cattail, willow herb, goldenrod and various grasses. The site is a mix of emergent marsh and shrub-scrub swamp with an areal extent of 0.078 acre. Site 6 is outside the limits of the proposed dredge disposal area. This site is identified in the EA as a wetland area to be enlarged to compensate for wetland impacts within the fill area.

The second site visit occured on August 3, 1995. A small, isolated previously wet spot (Site 7) within the stripped and filled area was delineated west of the above wetland area and north of the sediment pond. The isolated spot was determined to be 0.094 acre. Although no hydrology was present on August 3, evidence of standing water, 2-3 inches deep or more was apparent by the presence of dried algae and water-deposited sediments found on the vegetation. All vegetation was noted to be hydrophytic (wetland). Species included broad-leaved cattail, spike rush, fox sedge, wool grass, path rush, other unidentified sedges, and dried algae. Site 7 does not connect to other waters of the United States and does not provide any habitat for fish or waterfowl species. As such, the wet area is not considered to be part of the waters of the United States and is not a jurisdictional wetland. However, under the Commonwealth of Pennsylvania Chapter 105 regulations, it may be considered to be part of the Waters of the Commonwealth by the Pennsylvania Department of Environmental Protection.

The seven areas identified by the first two inspections are artificially created wet areas. Excluding Site 6, total area of the wetlands identified within the limits of the proposed dredge disposal site is 0.699 acre. The above areas primarily occupy the edges of the project site. All areas had saturated soils and/or standing water present on March 2, 1995. Some areas had dried up by August 3, 1995, although vegetation and secondary indicators of hydrology was present. None of the remainder of the area has any wetland or waters of the U.S. present.

The third inspection occured on October 11, 1995. The purpose of the inspection was to verify the presence or absence of wetlands within the wooded portion of slag covered area. The resultant determination verified that this portion of the area consists primarily of old mine spoil and is vegetated with upland secondary successional species, typically found in previously disturbed areas. A stream flows along the northwestern edge of the project area. However, it will not be impacted by any disposal activity. This stream flow eventually disappears before it reaches SR 837 as it flows through the permeable overburden.

Only one area along this stream corridor was found to contain any wetland. Site 8 occupies 0.228 acre. The site contains an almost mono-typic stand of Rice cut-grass (Leersia oryzoides), with occasional Slippery elm (Ulmus rubra) saplings near the perimeter. Both species dominate the wet area and are hydrophytic (wetland) species. The preceding wetspot or wetland area formed in an area of fine-textured mine spoil materials which impede the downward infiltration of water. Beyond the small wetland site, there was no surface water present in the drainageway exiting the site.

The vicinity of site 8 may be suitable to expand or create additional wetland for mitigation purposes, if required. A careful check of the permeability of underlying materials must be carried out to insure that sufficient fine-textured materials are present to form a suitable substrate with sufficient water-holding capacity for the development and maintenance of wetland.
The flowing intermittent stream provides a water source.

The area above the drainageway consists of very rough topography with steep, eroded slopes of old mine spoil, which was very difficult to climb over and evaluate. This area, along the slopes and higher ground above the drainageway contained no hydrology, hydric soils or hydrophytic vegetation. Typical vegetation includes: Black cherry, Red maple, Sugar maple, Yellow birch, Black locust, various oaks, Witch hazel, Tulip popular, American beech and White ash. Shrub species include: Staghorn sumac, honeysuckle, spicebush, raspberry and considerable multi-flora rose. Herb species observed on-site in October include: White snake root, Virginia knotweed, Daisy fleabane and Small-flowered aster. Vine species include poison ivy and Virginia creeper.

The clear prevalence of upland species (greater than 95%), a lack of any hydrologic indicators and absence of hydric soils verifies that the wooded area contains no wetland, unusual habitats or plant species, and no identified endangered species. Primary value of the site would probably be that of songbird and deer habitat. A portion of the wooded area would be impacted by the disposal operation. The drainageway below the above area would not be impacted by the proposed dredge disposal operation.

3. DISCUSSION

All wetlands at this site are considered to be Man-induced Wetlands, as described in the Manual. Soils have been significantly modified through various earth-moving activities. Additionally, the manual states that, to make such a determination, "There must also be documented evidence that the wetland resulted from human activities." (paragraph 76, page 91). This evidence is readily apparent from observation of the previously surface-mined site. Therefore, wetland determinations were based on the presence of hydrophytic vegetation and hydrology, according to the procedures described in the Manual.

The total area of wetland areas delineated at Victory Hollow is 1.00 acres, of which 0.77 acres are located within the site limits. The proposed fill for 3.1 million c.y. of material would impact about 0.154 acres, full site utilization for 5.0 million c.y. of fill material would impact about 0.7 acres. Aquatic impacts which would result from the implementation of this project are minimal as a less than one acre of artificially created wetland would be impacted. The proposed disposal at Victory Hollow would normally qualify to be authorized under the Nationwide Permit No. 26, with the receipt of the appropriate authorizations and Water Quality Certification from the Commonwealth of Pennsylvania, Department of Environmental Protection.

In the development of plans to meet permit requirements, the three-step process of avoidance, minimization and mitigation will be followed in accordance with the EPA Guidelines issued pursuant to Section 404(b)(1) of the Clean Water Act. The preceding process is required to determine the least environmentally damaging reasonable, feasible and practicable alternative.

Richard S. Sobol

Richard S. Sobol
Biologist, Regulatory Branch
Corps of Engineers

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 12

RELATIONSHIP OF THE PROPOSED
DISPOSAL ACTIVITIES TO
ENVIRONMENTAL PROTECTION STATUTES
AND OTHER ENVIRONMENTAL REQUIREMENTS

RELATIONSHIP OF THE PROPOSED DISPOSAL ACTIVITIES TO ENVIRONMENTAL PROTECTION STATUTES AND OTHER ENVIRONMENTAL REQUIREMENTS

The Pittsburgh District has conducted the necessary evaluations and actions to insure that the proposed placement activities to be made with Federal funds authorized through the Locks 2, 3, and 4 Monongahela River Project are in compliance with all appropriate environmental acts, laws, statutes, executive orders, and regulations. A discussion of how compliance has been achieved for the more significant acts is presented below. This includes coordination conducted during development of both the FEIS and this SEIS. A complete listing of all the pertinent environmental acts, laws, statutes, executive orders, and regulations and current status of compliance is given.

CLEAN AIR ACT (CAA): The impacts of air quality with the proposed disposal activities addressed in this SEIS was conducted through discussions with both the PaDEP, Bureau of Air Quality Control, and the Allegheny County Health Department (ACHD), Bureau of Air Pollution Control. Victory Hollow activities, located in Washington County, fall under the jurisdiction of the PaDEP whereas ACHD has jurisdiction for activities at the Duquesne-RIDC disposal site located in Allegheny County. Additional coordination will be required for In-river disposal activities.

Neither the ACHD nor PaDEP Bureau of Air Quality Control will require any permit for use of the Victory Hollow or Duquesne-RIDC site. however, if complaints are received by the ACHD for nuisance conditions, they will require the District to increase its dust control measures. Further, the ACHD provided by letter dated August 19, 1994 a list of work practices and control measures to reduce PM_{10} and fugitive dust from construction activities. The District will include those measures in the Environmental Protection section of the **respective** construction contracts (Protection of Air Resources).

CLEAN WATER ACT (CWA): The District will assume the responsibility for obtaining all permits required by the CWA, including federal regulations under Section 404 for activities that adversely impact waters of the U.S. and **federal regulations under Section 401 which** have an adverse impact on waters of the Commonwealth of Pennsylvania Water Quality Certification for activities that. The 404(b)(1) analysis is provided as EXHIBIT 10 of this SEIS.

The District will obtain a Section 402, Construction Site Individual Storm Water Discharge Permit and Earth Disturbance Permit for the Victory Hollow disposal area since the work area is greater than 25 acres.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA): A draft Phase I Hazardous and **Toxicological and Radiological** Waste Assessment concluded that there is no potential for gross contamination of any land area at the Victory Hollow disposal site required for off-loading, fill transport and disposal, and upslope drainage diversion. This report has been reviewed by the Corps of Engineers Nashville District (HTRW Center of Expertise). A final Phase I and Phase II HTRW Assessment for various parcels associated with the Dam 2 Project batch plant and material staging area includes the area that would be used for truck transport of material to the Duquesne-RIDC site have been completed. The Phase II report has concluded that no further investigations are warranted based upon the results of the sampling program. However, the construction project drill crew should follow some special health and safety precautions when drilling the rock anchors. **The safety requirements for the drilling operations will be incorporated in the respective contract specifications.**

Endangered Species Act (ESA): The area impacted by the proposed disposal activities is contained in the study area considered in the FEIS. The District coordinated with the U.S. Fish and Wildlife Service (USFWS) regarding species protected by the ESA for the FEIS and updated this coordination during preparation of this SEIS. The most recent letter from the USFWS was dated October 12, 1995. This coordination documented that no federally listed endangered or threatened species or their critical habitat are located in the project area and is featured in EXHIBIT 13.

Farmlands Protection Policy Act (FPPA): The proposed disposal activities would not affect designated prime farmland soils. The area affected by the relocations is zoned industrial, commercial, and residential. Therefore, the District need not file USDA Form 1006, Farmland Conversion Impact Rating. The District is in compliance with the Act.

Fish and Wildlife Coordination Act (FWCA): Coordination accomplished during development of the FEIS and this SEIS meets the requirements of the Act. The USFWS prepared the "Final Fish and Wildlife Coordination Act Report Assessing Impacts of Proposed Modifications to Locks and Dams 2, 3, and 4" as part of the FEIS. This report addressed the Bunola and Coursin Hollow Sites **and Pools 3 dredging impacts.** Subsequent coordination included the description of screening alternatives and field reconnaissance of the Victory Hollow placement area and the truck haul road area for the Duquesne-RIDC site. These letters are included in EXHIBIT 13. Additional coordination for the Allegheny River disposal activities is included in EXHIBIT 8.

National Environmental Policy Act: The District has completed this SEIS which is being circulated to concerned Federal and State Agencies, governmental entities, land owners, concerned citizens, and the public for review and comment. The mailing list is included in EXHIBIT 14. All comments received during the 60-day review period have been evaluated by the District. All comments **and replies to comments are incorporated into this final SEIS. The comments to the draft SEIS are featured in APPENDIX A. Responses to these comments are incorporated into the body of this text shown as Subparagraph**

(d.) Comments and Responses to the Draft SEIS. If it is concluded that all comments are addressed or mitigated in a satisfactory manner this Final SEIS will become part of the project record. The requirements of NEPA will then be satisfied.

National Historic Preservation Act (NHPA): In accordance with the requirements of Section 106 of the NHPA the District has entered into a programmatic agreement (PA) with the Pennsylvania State Historic Preservation Office (PaSHPO) and the Advisory Council on Historic Preservation. Under the PA, the District has obligated itself to investigate all historical and archeological properties that would be affected by disposal activities and carry out appropriate mitigation for those properties that meet the eligibility criteria for the National Register of Historic Places. The District has transmitted its report "A Cultural Resources Assessment of the Proposed Disposal and Dam 2 Work Areas for the Locks and Dams 2, 3, and 4, Lower Monongahela River Project, Allegheny and Washington Counties, Pennsylvania" to the PaSHPO for review and comment. The report recommends that no further cultural resource investigations are warranted at either the Victory Hollow disposal site area of the Duquesne-RIDC site, however, the proposed Victory Hollow off-loading area must be further investigated under the PA, **conclusions of this investigation will be sent to PaSHPO for review.**

National Pollution Discharge Elimination System (NPDES): A meeting was held on Wednesday, February 5, 1997 between the PaDEP and District personnel to discuss the permitting application. After much discussion, it was agreed that the best approach would be to divide the project into three permits as follows; (1) Include the Victory Hollow disposal and off-loading areas; (2) Include Lock and Dam 2 (L/D) abutment/riverwall, gated dam, and pool 2 clearing projects; (3) Include L/D 4 construction, pool 3 dredging, and Lock 3 removal. Permitting applications will include submittal of Erosion and Sediment Pollution Control Plans and Preparedness, Prevention, and Contingency Plans to the Washington County Conservation District Officer for approval. Initial NPDES submittals will be made through the Washington County Conservation District Office to the PaDEP.

Pennsylvania Department of Transportation: A highway entrance and occupancy permit will be required for the Victory Hollow haul road crossing of State Route 837.

River and Harbor Act of 1899 (RHA): In compliance with Section 10 of the RHA of 1899 a public notice will be prepared for distribution with respect to the possible construction of docking facilities required at the Victory Hollow and Duquesne-RIDC off-loading areas.

ENVIRONMENTAL PROTECTION STATUTES

Federal Statutes	Compliance at Current Stage of Design
Clean Air Act, as amended, 42 U.S.C. 1857 h-7, et. seq.	Full
Clean Water Act, 33 U.S.C. 1341, et. seq.	Full*
Comprehensive Environmental Response Compensation and Liability Act of 1980, 43 U.S.C. 9601, et. seq.	Full**
Resource Conservation and Recovery Act, of 1976, 7 U.S.C. 1010, et. seq.	Full***
Endangered Species Act of 1973, as amended 16 U.S.C. 1531, et. seq.	Full
Farmlands Protection Policy Act of 1981, 7 U.S.C. 4201, et. seq. as amended by Title XII of the Food Security Act of 1985	Full
Fish and Wildlife Coordination Act of 1958, as amended, 16 U.S.C. 661, et. seq.	Full
Federal Water Project Recreation Act, as amended, 16 U.S.C. 460-1(12), et. seq.	N/A
Land and Water Conservation Fund Act of 1965 as amended , 16 U.S.C. 460/-460/-11, et. seq.	N/A
National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321, et. seq.	Full****
Archeological and Historic Preservation Act of 1974, as amended, 16 U.S.C. 469, et. seq.	Full
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470a, et. seq.	Full*****
Preservation of Historic and Archeological Data Act of 1974, 16 U.S.C. 469, et. seq.	Full

ENVIRONMENTAL PROTECTION STATUTES
(continued)

Federal Statutes	Compliance at Current Stage of Design
River and Harbor Act of 1899, 33 U.S.C. 401, et. seq.	Full******
Watershed Protection and Flood Prevention Act, 86 as amended, 16 U.S.C. 1001, et. seq.	N/A
Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271, et. seq.	N/A
Executive Orders	
Executive Order 11988, Flood Plain Management	Full
Executive Order 11988, Protection of Wetlands	Full
Executive Order 11988, Environmental Justice	Full
State and Local Policies	Full

* In order to implement the requirements of Section 401 of the Clean Water Act, a Section 404(b)(1) evaluation is included as EXHIBIT 10.

** Phase II HTRW studies completed for the area that includes the batch plant laydown area and the truck haul road that may be used to transport disposal material to the Duquesne-RIDC site indicate that all testing criteria fall below the PaDEP soil criteria guidelines and that no further investigations are required. Special health and safety precautions will be employed in the construction specifications pertaining to the drilling required at the abutment tie-back wall area.

*** Any waste material generated by construction activities will be disposed in full compliance with RCRA, subparts D and/or C.

**** Compliance identified as "Partial" until a Final Supplemental Environmental Impact Statement is prepared upon agency and public review, comment, and comment resolution in accordance with NEPA..

***** The overall project is in full compliance with Section 106 of the NHPA. On the basis of a programmatic agreement (PA) with the Pennsylvania State Historic Preservation Officer (PaSHPO) and the Advisory Council on Historic Preservation. According to the PA additional studies are being conducted at the Victory Hollow off-loading area and will be provided to PaSHPO for review upon completion.

****** Compliance identified as "Partial" until Section 10 public notice is circulated as required.

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 13

COORDINATION WITH
THE
FISH AND WILDLIFE SERVICE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Suite 322
315 South Allen Street
State College, Pennsylvania 16801

TAKE PRIDE IN AMERICA

September 25, 1995

Colonel Stephen B. Massey
District Engineer, Pittsburgh District
U.S. Army Corps of Engineers
Federal Building, 1000 Liberty Avenue
Pittsburgh, PA 15222

Dear Colonel Massey:

On January 24, 1995, the Service commented on the NOI to prepare a Supplemental FEIS on disposal sites related to reconstruction of Locks 2, 3, and 4. That letter recommended use of RIDC, Duquesne site because it was the least environmentally damaging. However, Mr. Jeffrey Benedict of your staff requested that we also consider the Victory Hills site and a new site, Rankin/Carrie Furnace. On August 31, 1995, a biologist from our office visited the two sites with Mr. Benedict.

The Victory Hills site northwest of Donora has been previously disturbed from strip mining and disposal of steel mill waste. The site is primarily vegetated with tall grasses and a few small shrubs which provide some habitat for songbirds such as the grasshopper sparrow, meadow lark and vesper sparrow. The area of the site disturbed by steel mill waste is sparsely vegetated and has little habitat value. There are several small cattail and sedge-dominated wetlands along the southwest edge of the entire site that provide some habitat and breeding areas for frogs and salamanders. These wetlands also provide the only source of water for other wildlife using the area. One undisturbed wooded ravine along the west side of the site provides habitat for forest species.

The Rankin/Carrie Furnace site along the Monongahela River is covered primarily by old foundations and parking lots with some old field vegetation and small wetlands between the foundations. This site has very low value to wildlife.

Because of previous disturbance and low wildlife value, the Service considers the RIDC, Duquesne and Rankin/Carrie Furnace sites the best for disposal of dredged materials from the project. If the Victory Hills site is used, we recommend not disturbing the wetlands and the wooded ravine within the site. Dredged materials should be confined to the slag dump areas which have the lowest wildlife value. Any disposal adversely affecting fish and wildlife should include a plan to compensate for the loss of habitat. We also encourage the District to continue exploring ways to use all of the suitable material from the project to stabilize banks along the Monongahela River and improve fish habitat downstream of the new locks and dams.

Please keep us advised of your actions regarding this project. If you have further questions, please contact Mr. Richard McCoy or this office at 814-234-4090.

Sincerely,

Charles J. Kulp
Supervisor

RB 9/28 Rec'd 9/28

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Suite 322
315 South Allen Street
State College, Pennsylvania 16801

October 12, 1995

Mr. James A. Purdy
US Corps of Engineers
Pittsburgh District
William S. Moorehead Federal Bldg
1000 Liberty Avenue
Pittsburgh, PA 15222

Dear Mr. Purdy:

This responds to your letter of September 28, 1995 requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed disposal sites located in Allegheny County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) to ensure the protection of endangered and threatened species.

Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act is required with the Fish and Wildlife Service. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered. A compilation of federally listed species in Pennsylvania is enclosed for your information.

This response relates only to endangered or threatened species under our jurisdiction based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing other Service concerns under the Fish and Wildlife Coordination Act or other legislation.

Requests for information regarding State-listed endangered or threatened species should be directed to the Pennsylvania Game Commission (birds and mammals), the Pennsylvania Fish and Boat Commission (fish, reptiles, and amphibians), and the Pennsylvania Department of Conservation and Natural Resources (plants).

Please contact Carole Copeyon of my staff at 814-234-4090 if you have any questions or require further assistance regarding endangered, threatened, or candidate species.

Sincerely,

Charles J. Kulp
Supervisor

Enclosure

FEDERALLY LISTED SPECIES IN PENNSYLVANIA

COMMON NAME	SCIENTIFIC NAME	STATUS*	DISTRIBUTION
FISHES			
Shortnose sturgeon**	*Acipenser brevirostrum*	E	Delaware River and other Atlantic coastal waters
REPTILES & AMPHIBIANS			
None			
BIRDS			
Bald eagle	*Haliaeetus leucocephalus*	T	Entire state. Recent nesting in Butler, Crawford, Dauphin, Forest, Lancaster, Pike, Tioga, Warren and York Counties
Peregrine falcon (American)	*Falco peregrinus anatum*	E	Entire state. Recent nesting in and around Philadelphia and Pittsburgh (Allegheny, Delaware, Philadelphia and Bucks Counties)
Piping plover	*Charadrius melodus*	E	Presque Isle (Erie County). Migratory. No nesting in Pennsylvania since mid-1950s
MAMMALS			
Indiana bat	*Myotis sodalis*	E	Summer range: possibly state-wide in suitable habitat. Only one known winter hibernaculum (south-central Pennsylvania)
MOLLUSKS			
Clubshell mussel	*Pleurobema clava*	E	French Creek and Allegheny River watersheds; Clarion, Crawford, Erie, Forest, Mercer and Venango Counties
Northern rifffleshell	*Epioblasma torulosa rangiana*	E	French Creek and Allegheny River watersheds; Crawford, Erie, Forest, Venango and Warren Counties
PLANTS			
Northeastern bulrush	*Scirpus ancistrochaetus*	E	Current - Blair, Centre, Clinton, Cumberland, Dauphin, Franklin, Huntingdon, Lackawanna, Lehigh, Monroe, Perry and Union Counties. Historic - Northampton County
Small-whorled pogonia	*Isotria medeoloides*	T	Current - Centre and Venango Counties. Historic - Berks, Chester, Greene, Monroe, Montgomery, Philadelphia Counties

* *E = Endangered, T = Threatened* *Revised 7/13/95*

** *Shortnose sturgeon is under the jurisdiction of the National Marine Fisheries Service*

U.S. FISH AND WILDLIFE SERVICE
315 SOUTH ALLEN ST., SUITE 322, STATE COLLEGE, PA 16801

FEDERALLY LISTED SPECIES THAT NO LONGER OCCUR IN PENNSYLVANIA*

COMMON NAME	SCIENTIFIC NAME	STATUS**	FORMER DISTRIBUTION
MAMMALS			
Delmarva Peninsula fox squirrel	*Sciurus niger cinereus*	E	mature forests of southeastern PA (Delaware and Chester Co.)
Eastern cougar	*Felis concolor couguer*	E	state-wide
Grey wolf	*Canis lupus*	E	state-wide
MOLLUSKS			
Dwarf wedge mussel*	*Alasmidonta heterodon*	E	Delaware River drainage
Fanshell*	*Cyprogenia stegaria*	E	Ohio River drainage
Orange pimpleback*	*Plethobasus striatus*	E	Ohio River drainage
Pink mucket pearly mussel*	*Lampsilis abrupta*	E	Ohio River drainage
Ring pink mussel*	*Obovaria retusa*	E	Ohio River drainage
Rough pigtoe*	*Pleurobema plenum*	E	Ohio River drainage
INSECTS			
American burying beetle	*Nicrophorus americanus*	E	state-wide
Karner blue butterfly	*Lycaeides melissa samuelis*	E	pine barrens, oak savannas (wild lupine habitat) (Wayne Co.)
Northeastern beach tiger beetle	*Cicindela dorsalis dorsalis*	T	along large rivers in southeastern PA
PLANTS			
Eastern prairie fringed orchid	*Platanthera leucophaea*	T	wet prairies, bogs (Crawford Co.)
Sensitive joint-vetch	*Aeschynomene virginica*	T	freshwater tidal marshes of Delaware river (Delaware and Philadelphia Co.)
Virginia spiraea*	*Spiraea virginiana*	T	along Youghiogheny River (Fayette Co.)
Smooth coneflower	*Echinacea laevigata*	E	serpentine barrens (Lancaster Co.)

---

* *It is possible that remnant populations of some of these species (indicated with an *) may still occur in Pennsylvania, however, there have been no confirmed sightings of these species for over 70 years.*

** *E = Endangered, T = Threatened*

The following is a partial list of additional species that no longer occur in Pennsylvania: moose, bison, lynx, wolverine, passenger pigeon, Bachman's sparrow, common tern, lark sparrow, tiger salamander, mud sunfish, longjaw cisco, lake whitefish, butterfly mussel, precious underwing moth, American barberry, small white lady's-slipper, etc, etc.

U.S. FISH AND WILDLIFE SERVICE
315 SOUTH ALLEN ST., SUITE 322, STATE COLLEGE, PA 16801

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Suite 322
315 South Allen Street
State College, Pennsylvania 16801

March 12, 1998

Colonel Stephen B. Massey
District Engineer, Pittsburgh District
U.S. Army Corps of Engineers
Federal Building, 1000 Liberty Avenue
Pittsburgh, PA 15222

Dear Colonel Massey:

This responds to a February 27, 1998 letter from CPT Steven J. Pepoy to review and comment on several work areas required for the proposed replacement of Locks and Dams 2-4 on the Monongahela River that were not included in the 1991 EIS for the project. These comments provide technical assistance only and do not represent the review comments of the Department of the Interior on the forthcoming supplemental Environmental Assessment to the 1991 EIS.

The proposed work areas along both the right and left banks of the Monongahela River will be on previously disturbed industrial sites which provide little habitat for wildlife. Sections of the riverbanks have been altered with bulkheads and concrete walls. Therefore, the use of these areas for the concrete plant, access roads, storage and rehandling areas will have minimal adverse impacts to fish and wildlife resources and do not provide opportunities to improve existing habitats.

Except for occasional transient species, no federally listed or proposed threatened or endangered species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required with the Fish and Wildlife Service. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

If you have further questions, please contact Mr. Richard McCoy or this office at 814-234-4090.

Sincerely,

Charles J. Kulp
Supervisor

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL # of pages ▶ 1

To JIM PURDY	From C. KULP
Dept./Agency ENV. RESOURCES	Phone #
Fax #	Fax #

NSN 7540-01-317-7388 5099-101 GENERAL SERVICES ADMINISTRATION

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

EXHIBIT NO. 14

FINAL
SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

RECIPIENTS

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

The following Federal and State Agencies, local governmental entities, libraries, newspapers, business concerns, groups, and individuals who have received a copy of this Draft SEIS for review and comment are:

Federally Elected Representatives
Senator Rick Santorum
Senator Arlen Specter
Congressman Michael Doyle, 18th District (PA)
Congressman Frank Mascara, 20th District (PA)

State Elected Representatives
Senator Albert V. Belan, 45th State Senatorial District
Senator Stout J. Barry, 46th State Senatorial District
Senator Alan G. Kukovich, 39th State Senatorial District

Congressman Peter J. Daley, 49th Legislative District
Congressman David K. Levdansky, 39th Legislative District
Congressman Tom Michlovic, 35th Legislative District

Federal Offices
Advisory Council on Historic Preservation
U.S. Department of Agriculture
U.S. Department of Housing and Urban Development
U.S. Department of Interior
- Bureau of Mines
- Fish and Wildlife Service
- Geological Survey
- National Park Service
- Office of Environmental Affairs

U.S. Department of Transportation
- Coast Guard
  - Commander, 2nd Coast Guard District, St. Louis
  - Captain of the Port, Pittsburgh
  - Marine Safety and Environmental Protection, Wash. DC
- Federal Highway Administration
  - Office of Administrator, Region III
  - Office of Environment and Planning

U.S. Environmental Protection Agency
U.S. Forest Service

State Offices

PA Department of Community and Economic Development
PA Department of Conservation and Natural Resources
PA Department of Environmental Protection
- Bureau of Air Quality
- Bureau of Land Recycling and Waste Management
- Bureau of Water Quality Management
- Bureau of Land and Water Conservation
- Bureau of Dams, Waterways, and Wetlands
- Bureau of Mining and Reclamation

PA Department of Environmental Resources
- Office of the Secretary
- Bureau of Forestry
- Southwest Regional Office

PA Department of Transportation
- Office of the Secretary
- Bureau of Design
- Bureau of Environmental Quality
- Bureau of Rail, Freight, Ports, and Waterways
- Bureau of Highway Safety and Traffic Engineering

PA Fish and Boat Commission
PA Game Commision
PA Historic and Museum Commission
PA Turnpike Commission

Local Interests

Allegheny County Department of Economic Development
Allegheny County Health Department, Air Quality Program
Allegheny County Planning Department
Allegheny County Sanitary Authority (ALCOSAN)

Chairman, Allegheny County Commissioners
Chairman, Washington County Commissioners
Chairman, Westmoreland County Commissioners

Borough of West Elizabeth Sanitation Authority
City of Duquesne Water Treatment Plant
Monongahela Area Chamber of Commerce

Office of Mayor/Adminstrator

City of Clairton
City of Duquesne
City of McKeesport
City of Monesson

Braddock Borough
Charleroi Borough
Dravosburg Borough
Donora Borough
Elizabeth Borough
Glassport Borough
Jefferson Borough
Lincoln Borough
Monongahela Borough
North Charleroi
Rankin Borough
West Elizabeth Borough
West Mifflin Borough

Carroll Township
Elizabeth Township
Fallowfield Township
Forward Township
Rostraver Township
North Versailles Township
Union Township

Libraries
Bevier Engineering Library, University of Pittsburgh
Braddock Carnegie Library
Carnegie Library of Pittsburgh
Carnegie Library of McKeesport
Clairton Public Library
Colorado State University, The Libraries, Documents Department,
Donora Public Library
John K. Tener Library, Charleroi
Samuel A. Weiss Community Library, Glassport
Monessen Public Library and District Center
Monongahela Area Library

Newspapers
Daily Herald/Observer Reporter
Greensburg Tribune Review
McKeesport Daily News
Pittsburgh Tribune Review
Pittsburgh Post Gazette
The Free Press, Braddock
Uniontown Herald Standard
Valley Independent
Washington Observer-Reporter

Groups

America's Industrial Heritage Project
Appalachian Regional Committee
Association for the Development of Inland Navigation in America's Ohio Valley (DINAMO)
Audubon Society of Western Pennsylvania
Donora Historical Society
Historical Society of Western Pennsylvania
Monongahela Area Historical Society
Monongahela River Buff's Association
Mon Valley Historical & Ethno Survey, Historical Society of Western Pennsylvania
Mon Valley Initiative
Ohio River Valley Water Sanitation Commission
Pittsburgh History and Landmarks Foundation
Port of Pittsburgh Commission
Sierra Club, Allegheny Group
Southwest Pennsylvania Regional Planning Commission
Tri County Trout Club
Washington County Historical Society
Washington County History and Landmarks Foundation
Western Pennsylvania Conservancy

Firms

Bell Atlantic-PA
Christine Davis Consultants
Clifford and Warnke Law Firm
CONRAIL
Consolidated Coal Company
Crain Bothers, Incorporated
CSX Transportation Inc.
Duquesne Light Company
Duquesne Slag Products Company
EA Engineering Science and Technology
Equitable Gas Company
Hollywood Marine, Incorporated
John T. Boyd Company
Park Corporation
Pennsylvania American Water Company
Pine Oaks Development Corporation
Regional Industrial Development Company of South West PA
River Salvage Company
Terrestrial Environmental Specialists, Incorporated
Union Railroad

U.S. Steel Corporation
West Penn Power Company
Cambridge Scientific Abstracts
Glenn Engineering Associates Limited
Mackin Engineering Company
McCormick, Taylor & Associates
Parsons-Brinkerhoff, Pittsburgh
Parsons, Brinkerhoff, Quade, & Douglas, New York

Individuals
Glover, William
Grygo, Toni
Homa, Beverly
Damico, Adam
Krauss, Judy
Mowry, Frank F.
Pohland, Dr. Fred, Dept. of Civil Engineering, University of Pittsburgh
Pugh, David
Salka, Frank
Savich, Robert and Marion
Thomas, W.H.
Warszakski, Dr. Jay, Civil Eng. Dept., Carnegie Mellon University
Farber, Dr. Stephen, Environmental Management and Policy, Graduate School of Public and International Affairs, University of Pittsburgh
Frain, Jim, Bayer School of Natural & Environmental Sciences, Duquesne University

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

APPENDICES

LIST OF APPENDICES

APPENDIX A - DRAFT SEIS COMMENT LETTERS

APPENDIX B - VICTORY HOLLOW - DETAILED SITE PLAN
EARTH DISTURBANCE ACTIVITIES PLAN

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

APPENDIX A

DRAFT SEIS
COMMENT LETTERS

FRANK MASCARA
20TH DISTRICT, PENNSYLVANIA

314 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-4665

TRANSPORTATION AND INFRASTRUCTURE COMMITTEE

VETERANS' AFFAIRS COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515-3820

June 10, 1997

Colonel Stephen B. Massey
Department of the Army
U.S. Army Corps of Engineers
1000 Liberty Ave.
Pittsburgh, Pennsylvania 15222-4186

Dear Colonel Massey:

Thank you for giving me the opportunity to comment on the draft SEIS regarding the Lower Monongahela River project as it relates to Victory Hollow being the primary upland placement site for the disposal of dredged materials. Additionally, I would like to thank you and your staff for the thorough briefing, presentation of materials and exhibits, and all the time your staff took to meet individually with the residents of Carroll Township at the public session held on May 22, 1997. Our comments are a result of all the time my staff has spent on this project, but most particularly the concerns of residents which were raised at that session.

The concerns can be categorized primarily into four areas; site location, pollution, toxic materials and private water supply sources among residents.

Site Location

Of those attending the session, some were residents of Victory Hill, and others were residents of Carroll Township but not Victory Hill. As a matter of record of those in attendance, the majority, if not all the residents, at the end of the session did support the site location. The location is at issue obviously because of the other three factors which we will address later. The Army Corps of Engineers is being encouraged toward satisfying the request of materials at the Duquesne RIDC site which has obviously expressed a strong interest in obtaining the materials, and therefore we believe should be prioritized as such. Secondly, there is a request by the Pennsylvania DEP for the Corps to consider disposing of the dredged materials in the Allegheny River for reclamation of habitat. We believe that argument has merit and should also be strongly considered. In the alternative, provided the Corps in whole or in part, selects Victory Hollow as the placement site, we believe it is imperative to address the remaining three issues in a more detailed fashion than the draft SEIS currently addresses.

DISTRICT OFFICES
(800) 213-5570

Greene Co. Ofc. Bldg.
93 E. High St. Rm. 303
Waynesburg, PA 15370
(412) 852-2182

47 East Penn Street
Uniontown, PA 15401
(412) 437-5078

Professional Plaza
Suite 210
625 Lincoln Avenue
North Charleroi, PA 15022
(412) 483-9016

96 North Main Street
Washington, PA 15301
(412) 228-4326

Greensburg City Hall
416 South Main Street
Greensburg, PA 15601
(412) 834-6441

#93 TO OL-M

Pollution

The residents have identified a concern of pollution basically being three categories; noise, dust and odor pollution. In the event that any of these factors become more of an issue than currently anticipated, we believe the draft SEIS does not address any remedy or relief for such. We understand you do not have a plan for something that is unanticipated, but if the situation does go beyond what is to be normally expected, how will that issue be addressed and resolved. For example, the first issue being mentioned is that of odor. Some agencies maintain that no odor will emanate from the site, while others believe it is more than natural that this material will exude an odor. In the event an odor does exist during the course of the work project, how will this issue be addressed?

The second issue in regard to pollution expressed by the residents is that of noise. It is their understanding that there will be a lot of equipment on the site and obviously equipment generates noise. Understanding construction sites generate a degree of noise, the questions surrounding this issue would be will the sites be working beyond a normal work day period, Monday through Friday, and once again if there becomes a level of noise which goes well beyond a normally expected work site, how would that potentially be resolved?

Finally, the issue of dust has arisen as a potential concern. The issue is presented in two forms. First, dust in the general vein of how it would affect the residents in their living environment, and also as we will discuss later in the water supply. We have heard the degree of dust is a matter of dispute among professionals. In the event that dust does become an issue what would be done in the alternative?

Toxic Materials

It is being maintained in the draft SEIS that no toxic materials will be disposed of at the Victory Hollow site, but rather any toxic materials found will be taken to an approved landfill. As the Army Corps of Engineers knows, this has been a major issue from the time that this site has been considered. We believe a resident has offered a proposal worth mentioning. This issue is one in which the public has a very difficult time trusting the word of government agencies. To that end, it has been suggested that independent testing be conducted at the site on a random basis in order to ensure that no contaminants are dumped at the site. We believe that independent testing will provide a significant level of comfort and trust to the residents which appears to be lacking.

In regard to toxic materials, we have heard many comments from the public relative to the Fish Commission's public health consumption advisories from the Monongahela River. My staff further explored that with the Fish Commission and found that the advisories that do exist pertain to the area of the Monongahela River from Lock 2 to Point State Park. Pennsylvania test fish for a number of chemicals, while PCB's are responsible for most of the fish consumption advisories in Pennsylvania.The contaminants between Lock 2 and Point State Park is for PCB and chlordane. These tests were conducted on the fish that were collected and was determined to have exceeded

FDA action levels. It is significant to point out that there is no advisory between Locks 2 and 4. The samples of fish in that area do not exceed FDA action levels. The Fish Commission does not recall in recent memory of any advisory between Locks 2 and 4. Therefore, there is no advisory in the area to be dredged.

Water

It is our understanding that seven households of Victory Hill receive their water from nonpublic sources. Most particularly, the Vayansky property, which is closest to the proposed site, does not have public water and gains their water through a cistern. We believe that the Vayansky family, whom your officials met with at length the evening of May 22, has convinced the Corps that the project could have a significant impact upon their water supply and water quality. Those concerns emanate from the creek that flows through the Vayansky property which the materials could flow into, and the dust issue which may affect the quality of the water which is captured by the Vayanskys from rain. As a result of the conversations that evening, it is our understanding that the Corps as well as the Department of Environmental Protection is attempting to find a solution. Once again, we believe that the final SEIS should address this issue and propose a solution.

I appreciate having the opportunity to respond to the draft SEIS and hope that the final report is prepared to address all the issues that have been previously raised. Enclosed are written comments I have received from residents. Provided you have any questions or comments relative to my remarks, please do not hesitate to contact me.

Very truly yours,

Frank Mascara

Frank Mascara
Member of Congress

FM:ps

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH & BOAT COMMISSION
Division of Environmental Services
450 Robinson Lane
Bellefonte, PA 16823-9620
(814) 359-5147

4 June 1997

Congressman Frank Mascara
Professional Plaza Suite 210
625 Lincoln Avenue
North Charleroi, PA 15022
VIA FAX 412/483-9044
attn: Mr. Louis Lignelli

Re: Public Health Fish Consumption Advisories

Dear Congressman Mascara:

This letter confirms that there are presently no public health consumption advisories in effect for fish taken from the Monongahela River from Lock and Dam 2 to Lock and Dam 4. This is reflected in the ***1997 Pennsylvania Summary of Fishing Regulations and Laws*** which is given to each angler who purchases a fishing license. This letter is being FAXed as well as sent by regular mail. The mailed copy includes a copy of the 1997 Summary Book for you use and future reference.

If you or your staff have any additional questions, please feel free to contact me at 814/359-5140.

Sincerely,

John Arway, Chief
Environmental Services Division

Cc: Dennis Guise, Deputy Director
Joe Greene, Legislative Liason

Attachment

US Army Corps of Engineers
Pittsburgh District

Comment Card

Public Information Session 22 May 1997

- Name: Seth Hope-Cushing (please print)
  Address: 625 Fourth St (number and street)
  Monongahela PA 15063 (city, state, zip code)

- Please tell us of any questions you'd like to see addressed further in the Corps of Engineers final Environmental Impact Statement for the Lower Monongahela River Project: Did you ever consider The ~~Great~~ Ginger Hill site.
  ?

- You may offer additional comments or concerns you have about any aspect of the project: _____

- Evaluation (optional). I found tonight's session:
  X very helpful to me; ____ somewhat helpful;
  ____ not very helpful; ____ a total waste of my time.

- You may leave these sheets with a Corps representative, or with the staff of Rep. Mascara, or you may mail them to: Public Affairs Office, US Army Corps of Engineers, 1000 Liberty Ave., Pittsburgh PA 15222.

18 Prosperity Street
Monongahela, Pennsylvania 15063
May 22, 1997

Representative Frank Mascara
Washington, DC 20515-3820

Dear Sir:

I was born and raised on Victory Hill and have lived here my entire life except for the first two years of my married life. My husband, Sparky, and I have worked hard all our lives and have a beautiful home here.

We have sewage bills that are unbelievable (and unnecessary), mine subsidence, and have almost learned to accept these. But now comes the worst scourge that could ever affect a community. Our health is being threatened because of the - Lower Monongahela River Project - Disposal of Dredged and Excavated Material.

I have in front of me a "book" - over one inch thick which even a Philadelphia lawyer would find ridiculous sentences such as:

1. Only a small fraction of fill will consist of organic material that could emit an odor during decomposition (p. 43)
2. The use of heavy equipment . . . primary source of noise (p. 42) (Did they forget to mention the 36,000 tractor-trailer trucks loaded with the sludge?)
3. Palmer Park area . . . noise and dust due to construction equipment. (p. 44)

Odor - Dust - Noise are all detrimental to our health.

We need you, Representative Mascara, to protect our rights to breathe. Don't let them sentence us to a life of ill health.

Sincerely,
Ida [illegible] Mancinelli

June 9, 1997

Marion Sevich
19 Pearl Lane
Monongahela, Pa. 15063

Dear Mr. Purdy,

In response to your letter of March 31, 1997, we the people of Victory Hill, Place Plan and the surrounding areas, do not concur with the draft of S E I S.

We stand on the belief that it would be impossible to remove all the toxic substances from the dredged and excavated river bed, that you plan to dump at Victory Hill.

We are very concerned about the potential health hazard which you can not guarantee that there will be none.

Your draft states there could be an odor. Since you say there could, why would that be acceptable to the residents of this area? The residents find this to be unacceptable.

As for the noise, why subject the residents to even more? The increase in the noise level due to all the heavy equipment is also unacceptable to the residents.

What is most important, is that our homes are a mere one forth of a mile, from the proposed dump site.

We the people, the residents of this area, do have the right to a safe place to live and work. This is a right over the big corporations and land developers rights to make huge profits at the expense of the environment and public health.

Our goal is to avoid for our children and our children's children any and all environmentally linked health problems.

Please be mindful, that according to your answer to our question about petitions, it was stated: " A PETITION WITH SIGNATURES BASED ON OBJECTIVE PRESENTATION OF FACTUAL INFORMATION AND COMMUNITY CONCERNS WOULD BE SERIOUSLY CONSIDERED IN THE PROJECT DECISION PROCESS."

We have presented over 300 names on the petition. I am confident that you will agree that not only have we met the obligation of the petition, but that the people have a significant community concern.

One quarter of a mile from our homes is much to close .

Mr. Purdy, we plead with you and your staff, to seriously consider an alternative site. We have no motives other than the welfare of our children and future generations. I am sure, you will be pleased, with the humanitarian efforts given in our behalf.

Most Sincerely,

Marion Sevich

Marion Sevich

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

MAY 3 0 1997

RECEIVED
JUN 6 - 1997
By CR

Mr. James A. Purdy, P.E., Chief
Natural and Cultural Resources Branch
U.S. Army Corps of Engineers
Pittsburgh District
1000 Liberty Avenue, Room 2038
Pittsburgh, PA 15222-4186

ATTN: Mr. Carmen Rozzi

RE: Draft Supplemental Environmental Impact Statement: Lower Monongahela River Project Locks and Dams 2, 3, and 4; Disposal of Dredged and Excavated Material

Dear Mr. Purdy:

In accordance with the National Environmental Policy Act (NEPA), and section 309 of the Clean Air Act, the Environmental Protection Agency (EPA) offers the following comments on the draft Supplemental Environmental Impact Statement (SEIS) which has been prepared for the disposal of 3,4000,000 cubic yards of dredged and excavated material and associated activities for the Monongahela River, river miles 10.5 to 44.5. The proposed action is a component of the Congressionally authorized Lower Monongahela River Navigation System Project, Locks and Dams 2, 3, and 4. Based on the information provided in the draft SEIS, the investigation for potential disposal sites includes seven upland sites and one in-river site.

We rate this document EC-2 (Environmental Concerns/Insufficient Information) on EPA's rating scale. A copy of our rating system is enclosed. Our primary concerns are related to environmental and public health impacts related to possible groundwater contamination at the Victory Hollow site, exceedences of Pennsylvania's water quality standards and residential and non-residential soil standards for some metals, PAH's and PCB's from the January 1990 Navigation Study, the October 1995 Submerged Bench study, and the testing done at Locks and Dam 2 Guardwell Extension. We are also concerned at the piecemeal way the sediment and water quality sampling and analysis and subsequent transmittal of those results are being handled for this project. To date only Dam 2 has had any type of contaminant sampling and those results seem to indicate there is cause for concern or at the least, further investigation, related to environmental and public health impacts.

Based on our review, our comments are as follows:

- From our review of the proposed sites, the Duquesne Regional Industrial Development Corporation (RIDC) site would have the least adverse environmental impacts and so we would recommend it as the best disposal site option. The Victory Hollow site is situated adjacent to Victory Hills, a residential community and as such may have potentially adverse impacts to the community, including groundwater contamination and air and noise pollution. In addition, according to USGS topographical maps, there is a perennial stream and wetlands in the vicinity of the Victory Hollow site and it is EPA's policy to avoid disturbing areas with perennial streams and wetlands.

- Every effort should be made to protect the best wildlife habitat at each proposed site and use only those portions with lower value. Wildlife values destroyed from the disposal activities should be compensated through mitigation measures on-site (typically a 1:1 ratio).

- As a general policy, EPA does not recommend open water placement for dredged material disposal; however, if after appropriate testing, the material is found to be acceptable for open water placement, EPA would not object, and in fact, concurs with the Department of Environmental Protection's recommendation of using the material as fill in pools 4 and 5 of the Allegheny River. Because of previous dredging operations in these pools, large sinkholes have formed creating anaerobic conditions and replacing high value benthic and aquatic species with hardier and lower value species and thereby creating a shortage of food for recreational and commercially valuable species.

- We would strongly urge the continued search for alternative sites, in particular upland sites and beneficial use projects, for example: recycling, topsoil/land cover; creation of shallow water habitat; and bank stabilization.

- Testing results are incomplete. Not all of the proposed project sites have been sampled (i.e., Lock 4 and Pool 3) so it is impossible to determine at this point the extent, if any, of contamination at these sites and what techniques or control measures may be necessary to ensure the protection of public and environmental health.

- Results for the preliminary studies and those done at Dam 2 indicate exceedences of Pennsylvania's water quality standards and residential and non-residential soil standards for some metals, PAH's, and PCB's. Since there have been exceedences for the above contaminants, based on the final disposal option(s) chosen, further testing including bioassays/toxicity tests may be necessary. This is particularly true for the in-river disposal component. Only material meeting State water quality standards (or EPA's water quality criteria where there is no State standard) is suitable for open water disposal. Also, if test results indicate that material to be placed at the upland sites is shown to be

contaminated, control measures such as ongoing monitoring, capping and/or other remediation practices would need to be implemented. RCRA waste characterizations should be performed based on the levels of PCB's and benzo-(a)-pyrene encountered in Monongahela River sediments.

- EPA has concerns related to potential groundwater/drinking water contamination at the Victory Hollow site. The Victory Hills residential community is located adjacent to Victory Hollow site. The nearest house is only 1/4 mile away from the proposed disposal area. There is a significant potential for leaching into groundwater and into nearby aquifers. EPA is not strongly in favor of the Victory Hollow site; however, if the site is chosen, we strongly recommend ongoing monitoring of outfalls, wells, and springs below and above the placement areas. If any problems are discovered, we recommend the use of the site be terminated.

- Time of year restrictions for dredging and placement operations should be coordinated with the National Marine Fisheries Service and the Fish and Wildlife Service and documented in the final SEIS.

Thank you for the opportunity to comment on this project. EPA looks forward to seeing these issues addressed in the final SEIS. If you have any questions or comments, please call me at 215/566-2705 or have your staff contact Brigitte Farren at 215/566-2767.

Sincerely,

John D. Forren
NEPA Program Manager

Attachment

cc: DER-SWRO - Proch
PFC - Arway
USF&WS - McCoy
PF&BC - Tibbott
PGC/BLM - McDowell

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION*

Environmental Impact of the Action

LO--Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Custom House, Room 244
200 Chestnut Street
Philadelphia, Pennsylvania 19106-2904

IN REPLY REFER TO:

May 23, 1997

ER 97/0223

Mr. James A. Purdy P.E., Chief
Natural and Cultural Resources Branch
U.S. Army Corps of Engineers
Pittsburgh District
1000 Liberty Avenue, Room 2038
Pittsburgh, PA 15222-4186

Dear Mr. Purdy:

The Department of the Interior (Department) has reviewed the draft supplemental environmental impact statement (SEIS) for Lower Monongahela River Project Locks and Dams 2, 3, and 4, Disposal of Dredged and Excavated Material, Pennsylvania, and offers the following comments for your consideration in completing the SEIS.

General Comments

The draft SEIS adequately describes existing fish and wildlife resources for all of the alternative sites evaluated, and the potential adverse affects from disposal of dredged materials from the locks and dams. The Department concurs with the recommended plan to use the Victory Hollow, Duquesne-RIDC, and in-river placement as the preferred disposal sites.

Endangered Species Act

The U.S. Fish and Wildlife Service (FWS) advises that, except for occasional transient species, no federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531) are required. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

The FWS is available to provide limited technical assistance to the Pittsburgh District regarding further project evaluation and assessment. For matters pertaining to fish and wildlife resources, please contact the Supervisor (Attn: Mr. Richard McCoy), U.S. Fish and Wildlife Service, 315 South Allen Street, Suite 322, State College, Pennsylvania, 16801-4850 (telephone: 814-234-4090).

Thank you for soliciting the Department's review and comment.

Sincerely,

Don Henne

Don Henne
Regional Environmental Officer

c:\wp51doc\er97-223

Pennsylvania Department of Environmental Protection

400 Waterfront Drive
Pittsburgh, PA 15222-4745
May 30, 1997

Southwest Regional Office 412-442-4000

James A. Purdy, P.E.
U.S. Army Corps of Engineers
Planning Division
William S. Moorhead Federal Building, Room 2038
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Dear Mr. Purdy:

We have reviewed the draft SEIS relating to the disposal of dredged material from the Lower Monongahela River Project. It appears that the Corps favors the Victory Hollow/RIDC option since it carries the lowest cost, however, no concise statement actually states this. We have no objection or comment on this alternative.

We would like, however, to reiterate as strongly as possible our suggestion for use of the dredged material for reclamation of Allegheny River habitat. There is consensus among the resource agencies (U.S. Fish and Wildlife Service, and Pennsylvania Fish and Boat Commission) that this option be seriously considered regardless of cost. It is our position that the dredged material should be used to maximize public benefits. We agree the RIDC site provides benefits to the public in the form of brownfield reclamation, however, the disposal at Victory Hollow only benefits a private developer.

It is unfortunate that on a strictly cost basis the in-river disposal option on the Allegheny River fares poorly. However, if cost/benefit analysis were performed we believe it would be a much more viable option. It may also be beneficial to consider this alternative together with other environmental enhancement aspects of the Lower Monongahela River Project rather than evaluate it solely as another disposal option.

As before, we are willing to meet with the Corps and other resource agencies to further develop this option as a viable alternative. At this time, the Department is not willing to issue 401 Water Quality Certification until this has been accomplished.

Should you have questions please contact Tom Proch or Nancy Rackham of my staff.

Sincerely,

Tim V. Dreier
Regional Manager
Water Management

cc: Pennsylvania Fish and Boat Commission
U.S. Fish and Wildlife Service

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH & BOAT COMMISSION
450 Robinson Lane
Bellefonte, PA 16823-9620
Division of Environmental Services
814-359-5145

May 21, 1997

James A. Purdy, P.E. 5/21
Chief, Natural & Cultural Resources Branch
U.S. Department of the Army
Pittsburgh District Corps of Engineers
Federal Building, 1000 Liberty Avenue
Pittsburgh, PA 15222

Re: March 1997 Draft Supplemental Environmental Impact Statement (SEIS), Lower Monongahela River Project, Locks and Dams 2, 3 and 4 - Disposal of Dredged and Excavated Material

Dear Mr. Purdy:

In response to your March 31, 1997 letter, the Pennsylvania Fish and Boat Commission conceptually concurs with the above-referenced SEIS, and appreciates the Corps of Engineer's sensitivity to earlier concerns regarding potential stream valley-fill disposal areas for Lower Mon Navigation Project dredged and excavated materials. My January 17, 1995 letter expressed acceptance of the three disposal options more thoroughly addressed in this document - Victory Hollow, Duquesne-RIDC and In-River Placement.

The Fish and Boat Commission continues to support inriver disposal of suitable materials (4.b.1. and 6.b.6. respective discussions of ongoing Corps of Engineers/Department of Environmental Protection sampling coordination and possible landfill needs for any identified contaminated materials are acknowledged). First choice would be the Department of Environmental Protection-suggested disposal in Allegheny River Pools 4 and 5 dredged holes for the expected water quality and fisheries benefits described in 7.e.7.b. Alternative or in-combination selective placement in the Mon could also provide aquatic habitat benefits, but of lesser magnitude. It should be again noted both that the Fish and Boat Commission would strongly prefer employing dredged materials to create shoreline irregularities/shallows in the Mon and that disposal needs driving this SEIS are separate from the demolition debris, mitigation "fish reefs" mentioned in 6.c.5.c. and detailed in the December 1991 FEIS.

Executive Office • P.O. Box 67000 • Harrisburg, PA 17106-7000 • *(717)657-4518* • *FAX (717) 657-4549*

Thank you for the opportunity to comment, and please continue to coordinate project development with this office.

Sincerely,

Ron Tibbott

Ron Tibbott, Hyd. Eng. Tech.
Division of Environmental Services

RT:srh

c: PFBC - Ammon, Vatter, Small, Lorson
PGC - Grabowicz
DEP - Dreier
FWS - Densmore
EPA - D'Angelo

COMMONWEALTH OF PENNSYLVANIA

PENNSYLVANIA GAME COMMISSION

2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

ADMINISTRATIVE BUREAUS:

ADMINISTRATION	717-787-5670
AUTOMOTIVE AND PROCUREMENT DIVISION	717 787 6594
LICENSE DIVISION	717-787 2084
PERSONNEL DIVISION	717-787 7836
WILDLIFE MANAGEMENT	717 787 5529
INFORMATION & EDUCATION	717-787 6286
LAW ENFORCEMENT	717-787 5740
LAND MANAGEMENT	717-787 6818
REAL ESTATE DIVISION	717-787-6568
MANAGEMENT INFORMATION SYSTEMS	717 787 4076

April 29, 1997

Mr. James A. Purdy
Chief, Natural and Cultural Resources Branch
U.S. Army Corps of Engineers
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

In re: Lower Monongahela River Project
Locks and Dams 2, 3, and 4
Draft Supplemental Environmental Impact Statement
Allegheny and Washington Counties, PA

Dear Mr. Purdy:

This is in response to your request for our review of the Draft Environmental Supplemental Environmental Impact Statement (Draft SEIS) for the proposed project.

We thank the U.S. Army Corps of Engineers for allowing us to review the Draft SEIS for the proposed project. It is important the selected disposal sites have minimal long term wildlife impacts. After activities have been completed on these selected sites, the suggested plantings will benefit the wildlife species which have been displaced. As always, we wish to continue providing technical assistance for the development and implementation of plans which benefit the wildlife in the commonwealth.

If you have any questions, please contact Tony Ross of my staff at (717) 783-5957.

Very truly yours,

Denver A. McDowell, Chief
Division of Environmental
Planning and Habitat Protection
Bureau of Land Management

tr/DAM

cc: Richards, SW Reg. Dir., Atten: Zaffuto, FAS
Tibbott, PFBC
Busack, DEP, SW Reg. Office
Densmore, USFWS
Rogalla, COE, Pitt. Dist.
D'Angelo, EPA

DATE: April 21, 1997

SUBJECT: Draft Supplemental Environmental Impact Statement
Disposal of Dredged and Excavated Material
Lower Monongahela River Project - Locks & Dams 2,3, and 4
Pittsburgh District

TO:
James A. Purdy, P.E.
Planning Division
U.S. Corps of Engineers

FROM: for Wayne W. Kober
Director
Bureau of Environmental Quality

The Bureau of Environmental Quality has completed a review of the Draft Supplemental Environmental Impact Statement - Disposal of Dredged and Excavated Material, for the Lower Monongahela River Project Locks & Dams 2,3,& 4, and offers the following comments.

Hazardous Waste Comments

1. Page 12, states that "A licensed Hazardous Waste Transporter will be required by contract." The HTRW site assessments did not detect hazardous materials at any of the construction or disposal sites, except for some sediment that was determined to be characteristically hazardous for ignitability.

   This statement should read: "A licensed transporter, licensed to transport the particular type of waste to be disposed of, will be required by the contract."

2. Typo: Exhibit 3, Attachment No. 5, sht 3 - "Max. Concentration of Contaminants for the Toxicity Characteristic ~~Leeching~~ Leaching Procedure"

If you have any questions regarding these comments on Hazardous Waste, please contact Ken Thornton at (717) 772-3085.

4400/KJT/jp

cc: D.E. Zimmerman, 7th FP, BEQ
D.C. Accurti, 7th FP, BEQ
S.L. McDonald, 7th FP, BEQ
K.J. Thornton, 7th FP, BEQ
J.B. Byers, 7th FP, BEQ
M.E. Maurer, 7th FP, BEQ
M.D. Lombard, 7th FP, BEQ

Carman/Conrad

Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Post Office Box 1026
Harrisburg, Pennsylvania 17108-1026

April 11, 1997

JAMES A PURDY
U S ARMY CORPS OF ENGINEERS
WILLIAM S MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH PA 15222

Re: ER# 87 0469 042 HH
Draft Supplemental EIS
Lower Monongahela River Navigation
System Project, Locks & Dams 2, 3, & 4

Dear Mr. Purdy:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named Draft EIS in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

It is our opinion that the impact of disposal of dredged and excavated materials on cultural resources will be adequately addressed by the April 30, 1992 Programatic Agreement. We look forward to reviewing the revised archaeological report for Victory Hollow.

If you need further information in this matter please consult Noël Strattan at (717) 772-4519.

Sincerely,

Kurt W. Carr, Chief
Division of Archaeology & Protection

KC/dns

Historical Society
of Western Pennsylvania

June 4, 1997

1212 Smallman Street
Pittsburgh, Pennsylvania
15222-4200

Telephone 412/454-6000
Facsimile 412/454-6031

James Purdy
Chief, Natural and Cultural Resources Branch
Department of the Navy
U.S. Army Corps of Engineers, Planning Division
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Dear Mr. Purdy,

Thank you very much for your recent donation to the Historical Society of Western Pennsylvania. We received the three Environmental Assessments, Locks and Dam 2, 3, and 4 Monongahela River Project Gated Dam 2-Concrete Batch Plant, Lower Monongahela River Project Locks and Dams 2, 3, and 4, and Lower Monongahela River Project Locks and Dams 2, 3, and 4, and we are pleased to add them to our collection.

Once again, thank you for thinking of the Historical Society. If you should have any questions, please contact me.

Sincerely,

Carolyn S. Schumacher, Ph.D.
Director of Library and Archives

CSS/jc

Accession # 1997-0409, 0410, 0411

Regional Industrial Development Corporation
of Southwestern Pennsylvania

Seventh Floor
907 Penn Avenue
Pittsburgh, Pennsylvania 15222-3805
(412) 471-3939
June 4, 1997

cr 6/9/97

Carmen Rozzi
US Army Corps of Engineers
Planning Division
William S. Morchead Federal Bldg.
Room 2038
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Dear Ms. Rozzi:

The Regional Industrial Development Corporation of Southwestern Pennsylvania (RIDC) has received the Draft Supplemental Environmental Impact Statement concerning the Disposal of Dredged Material for the proposed Lower Monongahela River Project, Locks and Dams 2, 3 and 4.

This document makes reference to the possible disposal of a portion of the dredged material upon the RIDC property at the City Center of Duquesne, Allegheny County.

The property is in title to the RIDC Southwestern Pennsylvania Growth Fund, an affiliate corporation of the RIDC. The RIDC Growth Fund has contracted with the RIDC to manage the property developments; and as such, this letter may serve as a response from both organizations.

The consideration of the City Center of Duquesne to receive a portion of the clean material from the project remains favorable, and the RIDC welcomes the opportunity to remain in close discussion with the Corps of Engineers as the Locks and Dams 2, 3 and 4 project progresses. There are a number of details yet to be concluded between the Corps of Engineers and RIDC concerning the scope of the work, its placement, and its coordination with the on-going development activities. These may be details that are premature for discussion at this stage, however, I would like to record with you the willingness of the RIDC to discuss these matters when you feel that it is appropriate.

The project that is proposed is significant in scope and in impact upon the development of the City Center of Duquesne, and there are approvals that the City Center of Duquesne has reminded us to obtain.

Very truly yours,

Frank Brooks Robinson
President

FBR:rlf

OFFICE OF
THE MAYOR

JOSEPH J. BENDEL
MAYOR
"Working each day for a better tomorrow"

April 7, 1997

James A. Purdy, P.E.
Chief, Natural & Cultural Resources Branch
Department of the Army
Pittsburgh District, Corps of Engineers
William S. Moorhead Federal Building
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Re: Supplemental Environmental Impact Statement (SEIS) (Draft March 1997)

Dear Mr. Purdy:

Thank you for the above referenced Environmental material. The City of McKeesport urges that the overall project commence as soon as possible. We are prepared to cooperate. We have no objection.

Sincerely,

Joseph J. Bendel
Mayor

mayor/lockdams/jw.4.7.97/draft (SEIS)

LOWER MONONGAHELA RIVER PROJECT
LOCKS AND DAMS 2, 3, AND 4

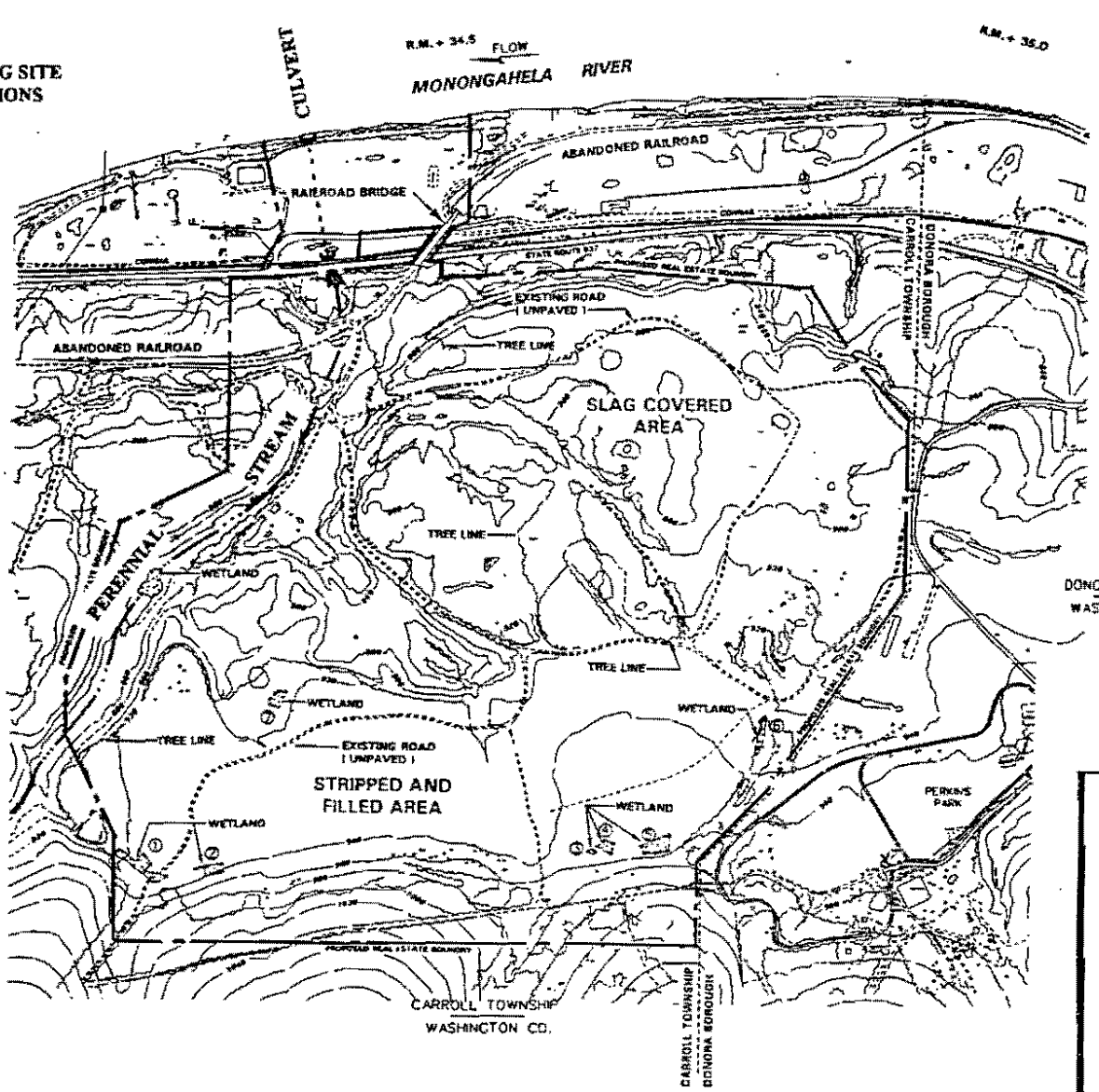
DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

FINAL
SUPPLEMENTAL ENVIRONMENTAL IMPACT
STATEMENT

APPENDIX B

VICTORY HOLLOW
DETAILED SITE PLAN
EARTH DISTURBANCE ACTIVITY PLAN

EXISTING SITE CONDITIONS



WETLAND IDENTIFICATION (NO.)	AREA (ACRES)
1	0.241
2	0.100
3	0.017
4	0.067
5	0.175
6	0.078
7	0.094
8	0.228
TOTAL	1.00 ACRES

LOCKS AND DAMS 2, 3, AND 4
MONONGAHELA RIVER PROJECT

DISPOSAL OF DREDGED
AND
EXCAVATED MATERIAL

SUPPLEMENTAL ENVIRONMENTAL
IMPACT STATEMENT

VICTORY HOLLOW
DETAILED SITE PLAN

GRAPHIC SCALE

1" = 200'