

TABLE OF CONTENTS

SECTION	PAGE NO.
1.0 PURPOSE OF AND NEED FOR AGENCY ACTION	1-1
1.1 Overview	1-1
1.1.1 Proposed Action.....	1-1
1.1.2 Study Area	1-1
1.2 Project Purpose and Authority.....	1-3
1.2.1 Purpose of the Proposed Action	1-3
1.2.2 Authority for the Proposed Action	1-3
1.3 Need for the Project	1-4
1.4 NEPA Objectives.....	1-6
1.5 Relationship to Previous Studies.....	1-7
1.6 Decision to be Made.....	1-9
1.7 Scoping	1-9
1.8 Permits, Licenses, or other Consultation Requirements	1-10
1.9 Connected, Cumulative, and Similar Actions	1-10
2.0 DEVELOPMENT OF ALTERNATIVES	2-1
2.1 Planning Objective	2-1
2.2 Formulation Criteria.....	2-1
2.2.1 Program Eligibility	2-1
2.2.2 Level of Protection	2-1
2.3 Initial Screening of Alternative Measures	2-2
2.3.1 Nonstructural Measures.....	2-2
2.3.2 Structural Measures.....	2-4
2.4 Intermediate Screening of Alternative Measures	2-5
2.4.1 Nonstructural Measures.....	2-5
2.4.2 Structural Measures.....	2-5
2.5 Final Screening of Alternative Measures.....	2-6
2.5.1 Nonstructural Measures.....	2-6
2.5.2 Structural Measures.....	2-7
2.6 Alternative Actions Considered in this DEIS	2-16
3.0 AFFECTED ENVIRONMENT	3-1
3.1 Land Use and Land Cover	3-1
3.1.1 Pike County.....	3-2
3.1.2 Land Use and Land Cover Types	3-3
3.1.3 North Pikeville Area	3-3
3.1.4 Coal Run Village Area.....	3-5
3.1.5 Borrow Areas	3-5
3.2 Topography and Drainage.....	3-8
3.3 Geology and Soils	3-9

3.3.1	Geology.....	3-9
3.3.2	Soils	3-12
3.4	Air Quality and Climate.....	3-17
3.4.1	Climate.....	3-17
3.4.2	Air Quality	3-17
3.4.3	Existing Conditions	3-19
3.5	Noise	3-19
3.5.1	Background.....	3-19
3.5.2	Existing Conditions	3-23
3.6	Water Resources.....	3-28
3.6.1	Surface Water and Floodplain Management	3-28
3.6.2	Surface Water Quality.....	3-30
3.6.3	Groundwater	3-31
3.7	Ecological Resources.....	3-32
3.7.1	Aquatic Resources.....	3-32
3.7.2	Terrestrial Resources.....	3-33
3.8	Cultural Resources.....	3-43
3.8.1	Historic Cultural/Historical Context	3-43
3.8.2	Modern Appalachian Culture	3-44
3.8.3	Previous Cultural Resources Surveys	3-45
3.9	Socioeconomic Resources and Environmental Justice.....	3-49
3.9.1	Population and Housing.....	3-49
3.9.2	Education.....	3-51
3.9.3	Local Economy, Employment and Labor Force	3-52
3.9.4	Income and Earning.....	3-54
3.9.5	Community Services.....	3-54
3.9.6	Community Cohesion.....	3-55
3.10	Recreation and Scenic Resources	3-57
3.11	Hazardous, Toxic, and Radioactive Waste	3-58
3.11.1	Pike County.....	3-58
3.11.2	North Pikeville Study Area	3-60
3.11.3	Coal Run Village Study Area	3-61
3.12	Health and Safety.....	3-63
3.13	Infrastructure	3-64
3.13.1	Telecommunications	3-64
3.13.2	Electricity.....	3-64
3.13.3	Natural Gas.....	3-64
3.13.4	Water	3-64
3.13.5	Wastewater.....	3-66
3.13.6	Solid Waste.....	3-66
3.14	Transportation	3-66
3.14.1	Roadway	3-66
3.14.2	Rail.....	3-67
3.14.3	Airports.....	3-67
3.14.4	Public Transportation	3-67
3.14.5	Bicycle Trails.....	3-67

3.15	Future Without Conditions	3-67
4.0	ENVIRONMENTAL CONSEQUENCES	4-1
4.1	Land Use and Land Cover	4-1
4.1.1	No Federal Action Alternative	4-1
4.1.2	Alternative 1	4-1
4.1.3	Alternative 2	4-6
4.1.4	Land Use/Land Cover Impacts from Alternative 3	4-8
4.2	Topography/Drainage.....	4-9
4.2.1	No Federal Action Alternative	4-9
4.2.2	Alternative 1	4-9
4.2.3	Alternative 2	4-10
4.2.4	Alternative 3	4-10
4.3	Geology and Soils	4-11
4.3.1	No Federal Action Alternative	4-11
4.3.2	Alternative 1	4-11
4.3.3	Alternative 2	4-13
4.3.4	Alternative 3	4-13
4.4	Air Quality and Climate.....	4-14
4.4.1	No Federal Action Alternative	4-14
4.4.2	Alternative 1	4-14
4.4.3	Alternative 2	4-16
4.4.4	Alternative 3	4-16
4.5	Noise	4-17
4.5.1	No Federal Action Alternative	4-17
4.5.2	Alternative 1	4-17
4.5.3	Alternative 2	4-21
4.5.4	Alternative 3	4-21
4.6	Water Resources.....	4-22
4.6.1	No Federal Action Alternative	4-22
4.6.2	Alternative 1	4-22
4.6.3	Alternative 2	4-26
4.6.4	Alternative 3	4-27
4.7	Ecological Resources.....	4-27
4.7.1	No Federal Action Alternative	4-28
4.7.2	Alternative 1	4-28
4.7.3	Alternative 2	4-33
4.7.4	Alternative 3	4-34
4.8	Cultural Resources.....	4-35
4.9	Socioeconomic Resources and Environmental Justice.....	4-36
4.9.1	Environmental Justice.....	4-36
4.9.2	No Federal Action Alternative	4-37
4.9.3	Alternative 1	4-37
4.9.4	Alternative 2	4-40
4.9.5	Alternative 3	4-41
4.10	Recreation Resources.....	4-42
4.10.1	No Federal Action Alternative	4-42

4.10.2 Alternative 1	4-42
4.10.3 Alternative 2	4-43
4.10.4 Alternative 3	4-43
4.11 Aesthetic and Scenic Resources	4-43
4.11.1 Methodology	4-43
4.11.2 No Federal Action Alternative	4-44
4.11.3 Alternative 1	4-44
4.11.4 Alternative 2	4-46
4.11.5 Alternative 3	4-47
4.12 Hazardous, Toxic, and Radioactive Wastes	4-47
4.12.1 No Federal Action Alternative	4-48
4.12.2 Alternative 1	4-48
4.12.3 Alternative 2	4-49
4.12.4 Alternative 3	4-50
4.13 Health and Safety	4-50
4.14 Infrastructure	4-51
4.14.1 No Federal Action Alternative	4-51
4.14.2 Alternative 1	4-51
4.14.3 Alternative 2	4-53
4.14.4 Alternative 3	4-53
4.14.5 Mitigation	4-53
4.15 Transportation	4-53
4.15.1 No Federal Action Alternative	4-53
4.15.2 Alternative 1	4-53
4.15.3 Alternative 2	4-54
4.15.4 Alternative 3	4-54
4.16 Cumulative Impacts	4-55
4.16.1 Methodology	4-55
4.16.2 Cumulative Impacts	4-56
4.17 Unavoidable Adverse Impacts	4-58
4.18 Irreversible and Irrecoverable Commitments of Resources	4-60
4.19 Relationship Between Short-Term Use of the Environment and the Maintenance and Enhancement of Long-Term Productivity	4-60
5.0 NEPA COMPLIANCE	5-1
5.1 Statutes, Regulations, Consultations, and Other Requirements	5-1
5.2 List of Preparers and Reviewers	5-6
5.3 DEIS Distribution List	5-8
6.0 REFERENCES AND BIBLIOGRAPHY	6-1
7.0 GLOSSARY	7-1
8.0 INDEX	8-1

LIST OF FIGURES

<u>FIGURE</u>		<u>PAGE NO.</u>
Figure 1-1	Pike County Study Area	1-2
Figure 2-1	North Pikeville Local Protection Project (LPP)	2-9
Figure 2-2	Coal Run Village Local Protection Project LPP A	2-11
Figure 2-3	Coal Run Village Local Protection Project LPP B	2-13
Figure 2-4	Proposed Borrow Areas	2-15
Figure 3-1	Pike County Land Cover	3-2
Figure 3-2	North Pikeville Land Cover/Land Use	3-3
Figure 3-3	Coal Run Village Land Cover/Land Use	3-6
Figure 3-4	Proposed Borrow Areas Land Cover/Land Use	3-7
Figure 3-5	Physiographic Regions of Kentucky	3-8
Figure 3-6	Geologic Quadrangle for North Pikeville	3-10
Figure 3-7	Geologic Quadrangle for Coal Run Village	3-11
Figure 3-8	Geologic Quadrangle for Borrow Areas	3-12
Figure 3-9	Soils Map for North Pikeville	3-13
Figure 3-10	Soils Map for Coal Run Village	3-14
Figure 3-11	Soils Map for Borrow Areas	3-15
Figure 3-12	Air Quality Control Regions of Kentucky	3-17
Figure 3-13	Noise Measurement Locations	3-25
Figure 3-14	Sample Plot Locations for Terrestrial Habitat	3-35
Figure 3-15	Labor Market Area	3-53
Figure 3-16	North Pikeville HTRW Investigation Locations	3-61
Figure 3-17	Coal Run Village HTRW Investigation Locations	3-63
Figure 4-1	Land Use and Land Cover within North Pikeville LPP CWL	4-3
Figure 4-2	Land Use and Land Cover within North Pikeville LPP Permanent Footprint	4-3
Figure 4-3	Land Use and Land Cover within Coal Run Village LPP "A" CWL	4-4
Figure 4-4	Land Use and Land Cover within Coal Run Village LPP "A" Permanent Footprint	4-4
Figure 4-5	Land Use and Land Cover within Coal Run Village LPP "B" CWL	4-7
Figure 4-6	Land Use and Land Cover within Coal Run Village LPP "B" Permanent Footprint	4-7

LIST OF TABLES

<u>TABLE</u>		<u>PAGE NO.</u>
Table 2-1	Alternative Agency Actions	2-15
Table 2-2	Alternatives Evaluated in this DEIS	2-16
Table 3-1	Soil Units in the North Pikeville and Coal Run Village Areas	3-16
Table 3-2	National Ambient Air Quality Standards (NAAQS)	3-18
Table 3-3	Sound Pressure Levels of Representative Noises	3-21
Table 3-4	Typical Construction Equipment Sound Pressure Levels	3-22
Table 3-5	Noise Monitoring Locations and Results	3-24
Table 3-6	Measured Sound Levels Along US 23	3-27
Table 3-7	Benthic Macroinvertebrate Species Observed in the Levisa Fork	3-33
Table 3-8	Sample Location Descriptions	3-36
Table 3-9	Terrestrial Wildlife Species Likely to Occur Within or Adjacent to Proposed Project Areas	3-38
Table 3-10	Special Status Species Known to Occur in Pike County	3-40
Table 3-11	Cultural Components in Pike County (From OSA Site Data)	3-44
Table 3-12	Archaeological Sites within 2 km of the North Pikeville and Coal Run Village LPP Areas and Potential Borrow Areas	3-46
Table 3-13	Previous Surveys and Investigations within 2 km of the North Pikeville and Coal Run Village LPPs and Potential Borrow Areas	3-48
Table 3-14	Population Projections for Pike County, Kentucky	3-49
Table 3-15	Population Change 1990-2000 for Pike County and Census-Designated Places	3-50
Table 3-16	1990 and 2000 Population Characteristics, Pike County	3-50
Table 3-17	Major Employers in Pike County 2002	3-52
Table 3-18	Civilian Labor Force	3-54
Table 3-19	Major Manufacturers in the Pikeville/Pike County, Kentucky Area	3-59
Table 3-20	Pike County Public Water Systems	3-65
Table 4-1	Land Use and Land Cover Impacts – Alternative 1	4-2
Table 4-2	Land Use and Land Cover Impacts – Proposed Borrow Areas	4-5
Table 4-3	Land Use and Land Cover Impacts – Alternative 2	4-6
Table 4-4	Peak Noise Levels (dBA, attenuated) Expected from Typical Construction Equipment	4-18
Table 4-5	Stream Impacts from North Pikeville LPP	4-23
Table 4-6	Stream Impacts from Coal Run Village LPP “A”	4-24
Table 4-7	Stream Impacts from Coal Run Village LPP “B”	4-27

APPENDICES

APPENDIX A	Public and Agency Involvement
APPENDIX B	Huntington District Flood Proofing Program
APPENDIX C	Indiana Bat Hibernacula Survey
APPENDIX D	Socioeconomic Resources
APPENDIX E	Community Cohesion Survey
APPENDIX F	Visual Resources Assessment Procedure