Final
Supplemental Watershed Plan – Environmental Assessment
For the Rehabilitation of New Creek Site 14

NEW CREEK – WHITES RUN SUBWATERSHED
Of the POTOMAC RIVER WATERSHED
Grant County, West Virginia

Local Sponsors

City of Keyser
Potomac Valley Conservation District
West Virginia State Conservation Committee

Assisted by the

United States Department of Agriculture
Natural Resources Conservation Service

September 2008

Fly Sheet

Document Status: Final Watershed Plan – Environmental Assessment (Final Plan-EA)

Title of Proposed Action: The Recommended Alternative is to rehabilitate New Creek Site 14 so that it meets current design criteria and performance standards.

Location: Grant County, West Virginia -- First Congressional District
Sponsoring Agencies: City of Keyser, Potomac Valley Conservation District, and West Virginia State Conservation Committee.

Abstract: The Recommended Alternative is to rehabilitate New Creek Site 14 so that it meets current design criteria and performance standards. Such rehabilitation measures include construction of a concrete parapet wall on the top of the dam embankment to prevent overtopping during the Probable Maximum Precipitation (PMP) event, installation of a new intake riser, lining the principal spillway pipe, installing an impact basin, installing an embankment surface drainage system, and mitigating the temporary elimination of the lake's fishery.

Contact Information:
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Supplemental Subwatershed Work Plan Agreement Number 5

between the

Potomac Valley Conservation District
City of Keyser
West Virginia State Conservation Committee
(Referred to herein as sponsors)

and the

United States Department of Agriculture
Natural Resources Conservation Service
(Referred to herein as NRCS)

Whereas, the work plan for the New Creek-Whites Run Subwatersheds of the Upper Potomac River Watershed was executed by the sponsors named therein and the Soil Conservation Service (SCS, now NRCS), became effective December 1956; and

Whereas, the Supplemental Subwatershed Plan Agreement Number 1 for the New Creek-Whites Run Subwatersheds of the Upper Potomac River Watershed, State of West Virginia, executed by the Sponsors named therein and the NRCS, became effective December 1959; and

Whereas, the Supplemental Subwatershed Plan Agreement Number 2 for the New Creek-Whites Run Subwatersheds of the Upper Potomac River Watershed, State of West Virginia, executed by the Sponsors named therein and the NRCS, became effective December 1960; and

Whereas, the Supplemental Subwatershed Plan Agreement Number 3 for the New Creek-Whites Run Subwatersheds of the Upper Potomac River Watershed, State of West Virginia, executed by the Sponsors named therein and the NRCS, became effective May 1961; and

Whereas, the Supplemental Subwatershed Plan Agreement Number 4 for the New Creek-Whites Run Subwatersheds of the Upper Potomac River Watershed, State of West Virginia, executed by the Sponsors named therein and the NRCS, became effective August 1991; and

Whereas, in order to rehabilitate Site 14 of said subwatershed, it has become necessary to modify said agreement; and

Whereas, the rehabilitation of Site 14 has been authorized under the authority of Public Law 83-566, as amended, the Watershed Protection and Flood Prevention Act of 1954; and as further amended by Section 313 of Public Law 106-472; and

Whereas, the responsibility for administration of the Flood Prevention Program authorized by Watershed Protection and Flood Prevention Act (Public Law 83-566), as amended, has been assigned by the Secretary of Agriculture to the NRCS; and

Whereas, a Supplemental Subwatershed Work Plan has been developed through the cooperative efforts of the sponsors and NRCS, said Supplement provides for works of improvement for Site

14 and is annexed to, and made part of, this agreement. The following paragraphs have been added to or modified in said agreement:

1. The sponsors will acquire all land rights, easements, or right-of-ways as will be needed in connection with the works of improvement. The sponsors own all of the land in the project area and no additional land rights are anticipated. The estimated cost is $0.

2. The sponsors agree to participate in and comply with applicable federal floodplain management and flood insurance programs.

3. The sponsors hereby agree that they will comply with all of the policies and procedures of the Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. 4601 et.seq. as implemented by 7 CFR Part 21) when acquiring real property interests for this federally assisted project. If the sponsors are legally unable to comply with the real property acquisition requirements of the act, they agree that, before any federal financial assistance is furnished, they will provide a statement to that effect, supported by an opinion of the chief legal officer of the state containing a full discussion of the facts and law involved. This statement may be accepted as constituting compliance. In any event, the sponsors agree that it will reimburse owners for necessary expenses as specified in 7 CFR 21.1006(c) and 21.1007.

4. The sponsors will be responsible for the costs of water, mineral, and other resource rights and will acquire or provide assurance that landowners or resource users have acquired such rights pursuant to state law as may be needed in the installation and operation of the works of improvement.

5. The City of Keyser will have the responsibility, if necessary, to obtain and use a temporary alternative water supply during the rehabilitation construction. The cost associated with the subject rights are not eligible as part of the sponsors' cost-share requirements.

6. The sponsors will obtain all necessary local, State, and Federal permits required by law, ordinance, or regulation for installation of the works of improvement. The cost associated with permitting is not eligible as part of the sponsors' cost-share requirements.

7. The estimated total rehabilitation costs to be paid by the sponsors and by NRCS are as follows:

   NRCS - $1,354,600 Sponsors - $578,600

8. The sponsors will provide leadership in updating the Emergency Action Plan (EAP) prior to rehabilitation and will update the EAP annually with local emergency response officials. NRCS will provide technical assistance in updating of the EAP. The purpose of the EAP is to outline appropriate actions and to designate parties responsible for those actions in the event of a potential failure of a floodwater retarding structure.

9. The sponsors will be responsible for the operation, maintenance, and replacement of the works of improvement by actually performing the work or arranging for such work, in accordance with the Operation and Maintenance Agreement. A specific Operation and Maintenance Plan, utilizing the NRCS National Operation and Maintenance Manual, will be prepared for Site 14 before issuing invitations to bid for construction. The term of the

agreements will be for 50 years, the service life expectancy of the project after rehabilitation.

10. The sponsors will be responsible for maintaining a municipal water supply for the term of the agreement. The term of the agreements will be for 50 years, the service life expectancy of the project after rehabilitation.

11. The costs shown in this agreement are preliminary estimates. Final costs to be paid by the parties hereto will be based on actual costs incurred for the installation of the works of improvement and the cost-share percentages stated in this agreement.

12. This agreement is not a fund-obligating document. Financial and other assistance to be furnished by NRCS in carrying out the Rehabilitation Plan is contingent upon the fulfillment of applicable laws and regulations and the availability of appropriations for this purpose.

13. The term of this agreement is for the expected life of the project (50 years) and does not commit the NRCS to assistance of any kind beyond that point unless agreed to by all parties.

14. A separate agreement will be entered into between NRCS and the sponsors before either party initiates work involving funds of the other party. Such agreements will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.

15. This Rehabilitation Plan may be amended or revised only by mutual agreement of the parties hereto, except that NRCS may de-authorize or terminate funding at any time if it determines that the sponsors have failed to comply with the conditions of this agreement. In this case, NRCS shall promptly notify the sponsors in writing of the determination and the reasons for the de-authorization of project funding, together with the effective date. Payments made to the sponsors or recoveries by NRCS shall be in accordance with the legal rights and liabilities of the parties when project funding has been de-authorized. An amendment to incorporate changes affecting a specific measure may be made by mutual agreement between NRCS and the sponsors having specific responsibilities for the measure involved.

16. No member of, or delegate to Congress, or resident commissioner, shall be admitted to any share of this plan, or to any benefit that may arise there from; but, this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

17. By signing this agreement, the Sponsors assure the Department of Agriculture that the program or activities provided for under this agreement will be conducted in compliance with all applicable Federal civil rights laws, rules, regulations, and policies."

POTOMAC VALLEY CONSERVATION DISTRICT
500 East Main Street
Romney, West Virginia 26757-5174

By: _____
Title: Chairman
Date: _____

The signing of this agreement was authorized by a resolution of the governing body of the Potomac Valley Conservation District adopted at a meeting held on _____.

By: _____

Date: _____

WEST VIRGINIA STATE CONSERVATION COMMITTEE
Guthrie Agricultural Center
Charleston, WV 25305

By: _____
Title: Chairman
Date: _____

The signing of this agreement was authorized by a resolution of the governing body of the West Virginia State Conservation Committee adopted at a meeting held on _____.

By: _____

Date: _____

CITY OF KEYSER
Municipal Building
Keyser, WV 26726

By: _____
Title: Mayor
Date: _____

The signing of this agreement was authorized by a resolution of the governing body of the City of Keyser adopted at a meeting held on _____.

By: _____

Date: _____

Natural Resources Conservation Service
UNITED STATES DEPARTMENT OF AGRICULTURE

Approved by:

_____

KEVIN WICKEY
State Conservationist

Date: _____

600.112 Special Provisions
for
Grants and Cooperative Agreements Act of 1977

The recipient agrees to comply with the following special provisions which are hereby attached to this agreement.

I. Drug-Free Workplace.

CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS (7 C.F.R. 3017)

INSTRUCTIONS FOR CERTIFICATION

1. By signing and/or submitting this application or grant agreement, the grantee is providing the certification set out below.

2. The certification set out below is a material representation of fact upon which reliance is placed when the agency awards the grant. If it is later determined that the grantee knowingly rendered a false certification or otherwise violates the requirements of the Drug-Free Workplace Act, the agency, in addition to any other remedies available to the Federal government, may take action authorized under the Drug-Free Workplace Act.

3. For grantees other than individuals, Alternative I applies.

4. For grantees who are individuals, Alternative II applies.

5. Workplaces under grants, for grantees other than individuals, need not be identified on the certification. If known, they may be identified in the grant application. If the grantee does not identify the workplaces at the time of application, or upon award, if there is no application, the grantee must keep the identity of the workplace(s) on file in its office and make the information available for Federal inspection. Failure to identify all known workplaces constitutes a violation of the grantee's drug-free workplace requirements.

6. Workplace identifications must include the actual address of buildings (or parts of buildings) or other sites where work under the grant takes place. Categorical descriptions may be used (e.g., all vehicles of a mass transit authority or State highway department while in operation, State employees in each local unemployment office, and performers in concert halls or radio studios).

7. If the workplace identified to the agency changes during the performance of the grant, the grantee shall inform the agency of the change(s), if it previously identified the workplaces in question (See paragraph 5).

8. Definitions of terms in the Non-procurement Suspension and Debarment common rule and Drug-Free Workplace common rule apply to this certification.,

9. Grantees' attention is called, in particular, to the following definitions from these rules:

Controlled substance means a controlled substance in Schedules I through V of the Controlled Substances Act (21 U.S.C. 812) and as further defined by regulation (21 CFR 1308.11 through 1308.15);

Conviction means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes;

Criminal drug statute means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, use, or possession of any controlled substance;

Employee means the employee of a grantee directly engaged in the performance of work under a grant, including

(i) all direct charge employees;

(ii) all indirect charge employees unless their impact or involvement is insignificant to the performance of the grant; and,

(iii) temporary personnel and consultants who are directly engaged in the performance of work under the grant and who are on the grantee's payroll. This definition does not include workers not on the payroll of the grantee (e.g., volunteers, even if used to meet a matching requirement; consultants or independent contractors not on the grantee's payroll; or employees of sub-recipients or subcontractors in covered workplaces).

CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS
(7 CFR 3017)

ALTERNATIVE I. (GRANTEES OTHER THAN INDIVIDUALS)

A. The grantee certifies that it will or will continue to provide a drug-free workplace by—

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing an ongoing drug-free awareness program to inform employees about—

(1) The dangers of drug abuse in the workplace;

(2) The grantee's policy of maintaining a drug-free workplace;

(3) Any available drug counseling, rehabilitation, and employee assistance programs; and

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee is to be engaged in the performance of the grant and be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will—

(1) Abide by the terms of the statement; and

(2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

(e) Notifying the agency in writing, within 10 calendar days after receiving notice under paragraph (d) (2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;

(f) Taking one of the following actions, within 30 calendar days of receiving notice under paragraph (d)(2), with respect to any employee who is so convicted-

(1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

B. The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:

Place of Performance (street address, city, county, state, zip code)

_____

_____

_____

Check □ if there are workplaces on file that are not identified here.

ALTERNATIVE II. (GRANTEES WHO ARE INDIVIDUALS)

(a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant.

(b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to every grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant.

II. Disclosure of Lobbying Activities (7 CFR 3018)(Applicable if agreement exceeds $100,000)

UNITED STATES DEPARTMENT OF AGRICULTURE
CERTIFICATION REGARDING LOBBYING, CONTRACTS, GRANTS, LOANS AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement;

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions;

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code.

Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

_____

Organization Name, Award Number, or Project Name

_____

Name and Title of Authorized Representative

_____

Signature Date

III. Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions, (7 C.F.R. 3017)

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS (7 C.F.R. 3017)

INSTRUCTIONS FOR CERTIFICATION

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

4. The prospective primary participant shall provide immediate written notice to the department or agency to which this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," “primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled 'Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction,' provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Non-procurement Programs.

10. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

11. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS

(1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;

b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

d. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

IV. Clean Air and Water Act

Clean Air and Water Act Certification (applicable if agreement exceeds $100,000 or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c) (1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or is not otherwise exempt.)

The recipient signatory to this agreement certifies as follows:

(a) Any facility to be utilized in the performance of this proposed agreement is _____, is not_____, listed on the Environmental Protection Agency List of Violating Facilities.

(b) To promptly notify the State or Regional Conservationist prior to the signing of this agreement by NRCS, of the receipt of any communication from the Director, Office of Federal Activities, U. S. Environmental Protection Agency, indicating that any facility which he/she proposes to use for the performance of the agreement is under consideration to be listed on the Environmental Protection Agency List of Violating Facilities.

(c) To include substantially this certification, including this subparagraph (c), in every nonexempt sub-agreement.

Clean Air and Water Clause

(Applicable only if the agreement exceeds $100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c) (1) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA or the agreement is not otherwise exempt.)

A. The recipient agrees as follows:
(1) To comply with all the requirements of section 114 of the Clean Air Act as amended (42 U.S.C. 1857, et seq., as amended by Public Law 91-604) and section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251 et. sq., as amended by Public Law 92-500), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Air Act and the Water Act, respectively, and all

regulations and guidelines issued thereunder before the signing of this agreement by NRCS.

(2) That no portion of the work required by this agreement will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date when this agreement was signed by NRCS unless and until the EPA eliminates the name of such facility or facilities from such listing.

(3) To use their best efforts to comply with clean air standards and clean water standards at the facilities in which the agreement is being performed.

(4) To insert the substance of the provisions of this clause in any nonexempt sub-agreement, including this subparagraph A. (4).

B. The terms used in this clause have the following meanings:

(1) The term "Air Act" means the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Public Law 91-604).

(2) The term "Water Act" means Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Public Law 92-55).

(3) The term "clean air standards" means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation plan as described in section 110(d) of the Clean Air Act (42 U.S.C. 1857c-5(d)), and approved implementation procedure or plan under section 111(c) or section 111(d), respectively, of the Air Act (42 U.S.C. 1857c- 6(c) or (d)), or an approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 1857c-7(d)).

(4) The term "clean water standards" means any enforceable limitation, control, condition, prohibition, standards, or other requirement which is promulgated pursuant to the Water Act or contained a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by a local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (3 U.S.C. 1317).

(5) The term "compliance" means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency, or an air or water pollution control agency in accordance with the Air Act or Water Act and regulations issued pursuant thereto.

(6) The term "facility" means any building, plant, installation, structure, mine, vessel or other floating craft, location or site of operations, owned leased, or supervised by a sponsor, to be utilized in the performance of an agreement or sub-agreement. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collated in one geographical area.

V. Assurances and Compliance

As a condition of the grant or cooperative agreement, the recipient assures and certifies that it is in compliance with and will comply in the course of the agreement with all applicable laws, regulations, Executive Orders and other generally applicable requirements, including those set out in 7 CFR 3015.205(b) which hereby are incorporated in this agreement by reference, and such other statutory provisions as are specifically set forth herein.

VI. Examination of Records

Give the NRCS or the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to this agreement. Retain all records related to this agreement for a period of three years after completion of the terms of this agreement in accordance with the applicable OMB Circular.

Final Supplemental Watershed Plan – Environmental Assessment
For the
Rehabilitation of New Creek Site 14

NEW CREEK – WHITES RUN SUBWATERSHED
Of the POTOMAC RIVER WATERSHED

A Supplement to the Original Watershed Plan for the Purpose of Rehabilitating New Creek Site 14

Grant County, West Virginia

The original work plan was prepared, and the works of improvement have been installed, under the authority of the Flood Control Act of 1944 (Public Law 78-534), as amended. The rehabilitation of New Creek Site 14 is authorized under the authority of the Watershed Protection and Flood Prevention Act (Public Law 83-566) as amended by the Small Watershed Rehabilitation Amendments of 2000 (Section 313 of Public Law 106-472).

Sponsors:

City of Keyser
Potomac Valley Conservation District
West Virginia State Conservation Committee

Prepared by:

United States Department of Agriculture - Natural Resources Conservation Service

For further information, please contact:

KEVIN WICKEY
State Conservationist
USDA – Natural Resources Conservation Service
Harley O. Staggers Federal Building
75 High Street, Room 301
Morgantown, WV 26505
(304) 284-7545
Kevin.Wickey@wv.usda.gov

SUMMARY OF SUPPLEMENTAL WATERSHED PLAN

Project Name: New Creek Site 14 Rehabilitation

County: Grant **State**: West Virginia

Sponsors: City of Keyser
Potomac Valley Conservation District
West Virginia State Conservation Committee

Description of Recommended Plan: The Recommended Alternative is to rehabilitate New Creek Site 14 (also referred to as Site 14 or NC 14) so that it meets current design criteria and performance standards. Such rehabilitation measures include construction of a concrete parapet wall on the top of the dam embankment to prevent overtopping during the Probable Maximum Precipitation (PMP) event, installation of a new intake riser, lining the principal spillway pipe, installing an impact basin, installing an embankment surface drainage system, and mitigating the temporary elimination of the lake's fishery.

Resource Information:
Site 14 watershed size – 3,204 acres;
Land Ownership – All the land located in the project area is owned by the City of Keyser;
Number of Minority Farmers in Site 14 watershed- 2;
Number of Limited Resource Farmers in Site 14 watershed – 0;
Number of Farms – 357 in Grant County;
Average Grant County Farm Size – 302 acres
Wetlands - none impacted in the project area of Site 14;
Floodplains – 49 acres in Site 14 watershed;
Highly Erodible Cropland - none in drainage area;
Threatened and Endangered Species - none that will be impacted in project area of Site 14;
Cultural Resources - no anticipated disturbance to sites in the project area of Site 14;

Land Cover Type	Drainage Area (ac.)	Percent of Total
Water bodies, impervious areas	39	1.2 %
Woods	2,781	86.8 %
Pasture, Grassland	206	6.4 %
Brush, weeds	178	5.6 %
Totals	**3,204**	**100.0 %**

Prime Farmland – 1,479 acres in New Creek Watershed; 27.5 acres in Site 14 drainage area;
Number of Beneficiaries – 11,870 Beneficiaries in New Creek Watershed (including water customers); Number of Water Meters – 6,000+ meters;

Project Beneficiary Profile for Keyser Residents

Percent below Poverty	19%
Percent White	91%
Percent with High School Education	79%
Percent Unemployment	4.5%
Median Household Income (1999)	$23,716

Problem Identification: Site 14 does not meet current Natural Resources Conservation Service (NRCS) design criteria and performance standards.

Alternative Plans Considered: Several alternatives were considered during the planning process. The following two alternatives were considered in detail:

1) No Action (Sponsors' Rehabilitation) – Without federal assistance, the Sponsors' will rehabilitate Site 14.

2) Rehabilitation of Site 14 with Federal assistance to meet current design criteria and performance standards.

Project Purpose: Rehabilitation of Site 14 will bring the site into compliance with current NRCS design criteria and performance standards. The life of the site and the benefits it provides will be extended another 50 years.

Principal Project Measures: Rehabilitation measures include construction of a concrete parapet wall on the top of the dam embankment to prevent overtopping during the PMP event, installation of a new intake riser, lining the principal spillway pipe, installing an impact basin, installing an embankment surface drainage system, and mitigating the temporary elimination of the lake's fishery.

Total Project Cost (Dollars): $1,933,200

Project Benefits:

Flood Damage Reduction Benefits	$64,500
Sediment and Erosion Reduction Benefits	$15,800
Incidental Recreation Benefits (fishing)	$326,900
Indirect Benefits	$9,300
Water Supply Benefits	$1,198,400

Other Benefits: Wildlife viewing, scenic beauty, improved human health and safety, enhanced property values (the monetary value of these benefits was not calculated).

Benefit Cost Ratio: 15: 1

Environmental Values Changed or Lost: None

Mitigation: Fish salvage and re-establishment of fishery.

Major Conclusions: The recommended plan will not cause significant local, regional or national impacts to the environment.

Areas of Controversy and Issues to be Resolved: No areas of controversy or other issues remain unresolved concerning this proposed action.

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INTRODUCTION

NEED FOR THE SUPPLEMENT

This supplement only addresses the New Creek Watershed Site 14 (hereafter referred to as Site 14). This dam was built in 1963. A supplement to the watershed plan is needed because this dam does not meet current Natural Resources Conservation Service (NRCS) design criteria and performance standards. The dam adequately provides water supply for the City of Keyser and incidental recreation opportunities for anglers. Before this document a Rehabilitation Assessment Report was completed for this site during March 2006, which provided total failure index, population at risk, and total risk index. The site assessment was requested by the Potomac Valley Conservation District (PVCD) by letter dated May 27, 2005. This supplemental plan documents the planning process by which the NRCS provides technical assistance to local Sponsors, technical advisors, and the public in addressing resource issues and concerns within the New Creek Watershed.

The purpose of this document is to present information regarding alternatives that have been evaluated to upgrade Site14 to current NRCS design criteria and performance standards.

PROJECT SETTING

ORIGINAL PROJECT

A plan for flood prevention and watershed protection was authorized in 1957 for New Creek under the authority of Public Law 78-534, the Flood Control Act of 1944. The original work plan included the construction of eleven single-purpose, high hazard dams designed for a 50-year life, with land treatment for 9,770 acres of the watershed. Of the structures proposed in the plan, eight single purpose dams and one multi-purpose dam were built from 1957 to 1968. Land treatment has been completed on 7,890 acres with 1,880 acres deleted because of changing land use and cover conditions in the watershed. The project remains in active status. Sites 4, 6 and 11 of the original planned works of improvement have not been built.

PHYSICAL FEATURES

Location: The New Creek Watershed is located in the Eastern Panhandle of West Virginia, in the northeastern part of Grant County and central Mineral County. The stream flows in a northeasterly direction along State Route 93 and U. S. Routes 50 and 220, through the City of Keyser in Mineral County, where it joins the North Branch of the Potomac River.

The watershed is located along the eastern slopes of the Allegheny Mountains, within the Appalachian Ridge and Valley Province, and is characterized by rugged topography. Elevations within the watershed range from about 3250 feet mean sea level (MSL) in the headwaters to about 800 feet MSL at the confluence of New Creek with the North Branch of the Potomac River. The hillside slopes range from approximately 22% to 43%.

Site 14 is located on Linton Creek, a tributary to New Creek, in Grant County, West Virginia. Site 14 is approximately 14 miles upstream of the City of Keyser. The Site 14 watershed is 3,204 acres (5.01 square miles). Appendix B shows the location map for this watershed.

Topography: Site 14 is located in the Ridge and Valley physiographic province. The topography of the Ridge and Valley is described as having a trellis drainage pattern. It is characterized by long parallel valleys separated by high ridges. The valleys are often connected by short 'gaps' that are approximately perpendicular with the trend of the valleys and ridges. The elevation in the Site 14 watershed ranges from about 1590 feet MSL at the dam to 3250 feet MSL on the watershed divide to the west on a feature commonly called the Allegheny Front. The Allegheny Front marks the boundary between the Ridge and Valley physiographic province and the Appalachian Plateau physiographic province.

Soils: The soils present near the Site 14 impoundment are mapped as Ud—Udorthents, smoothed, in the Soil Survey of Grant and Hardy Counties West Virginia (Estepp, 1989). As defined in the Grant and Hardy Counties Soil Survey, Udorthents are soils that have been significantly disturbed by human activity, or consist of areas of very shallow, shaly soil. In this case, the Udorthents were created by the disturbance of the soils during the construction of Site 14. Based on NRCS soil mapping adjacent to the site, it appears that before construction of Site 14, the soil mapping would probably have consisted of: Ta—Tioga fine sandy loam; TgB—Tygart silt loam, 3 to 8 percent slopes; BkE-Berks channery silt loam, 25 to 35 percent slopes; and BkF—Berks channery silt loam, 35 to 65 percent slopes. The Tioga series consists of deep, well drained soils formed in alluvial material washed from lime influenced soils on uplands. The Tioga soils are on flood plains. The Tygart series consists of deep, somewhat poorly drained soils that formed in alluvial material washed from acid soils on uplands. Tygart soils are on terraces mainly along rivers. The Berks series consists of moderately deep, well drained soils that formed in acid material weathered mostly from siltstone, shale, and some sandstone. Hillsides are one of the landscapes on which the Berks soils are found, and are the landscape for the Berks soils found at the Site 14. The predominant soil map units near the dam itself before construction were Berks channery silt loam, 35 to 65% slopes; and Tioga fine sandy loam.

Geology: According to the Geologic Map of West Virginia compiled by the West Virginia Geological and Economic Survey (Caldwell, et al., 1968) the reservoir is underlain by five different geologic formations: the Scherr Formation of the Chemung Group; the Braillier Formation; the Harrell Shale; the Mahantango Formation; and, the Marcellus Formation (in order from left abutment to right abutment). The Scherr Formation is exposed in the outside slope of the auxiliary spillway. Of the formations encountered in construction, the strata of the Scherr Formation would be more likely to be siltstones and sandstones. Progressing across the embankment toward the right abutment, shale becomes the dominant lithology. Upon reaching the Harrell Shale at about the midpoint of the embankment, there are a few thin limestones in the three remaining formations. Drilling for the initial design encountered a thin limestone in the right abutment.

Climate: The climate of the area is moderate throughout the year. Summer temperatures above 100^{o}F rarely occur, whereas, temperatures in the lower 90^{o}s occur quite often. Summer temperatures average a comfortable 71^{o}F. Winter temperatures are generally not below 15^{o}F for long periods; however, below freezing may occur for periods of several days. Average annual rainfall is approximately 34.6 inches. Most of the rainfall occurs in the spring from seasonal rains or in the summer from thunderstorms or hurricane remnants.

Land Use: The watershed drainage area of Site 14 is 3,204 acres. This area was measured using digital USGS 7 ½ minute West Virginia quadrangles (Mount Storm and Greenland Gap) as imported into AutoCAD software. Land use types and quantities were also determined from digital 2003 SAMB photography imports into AutoCAD.

Tabulation 1 - Land Use in Acres

Land Cover Type	Drainage Area (ac.)	Percent of Total
Water bodies, impervious areas	39	1.2 %
Woods	2,781	86.8 %
Pasture, grassland	206	6.4 %
Brush, weeds	178	5.6 %
Totals	**3,204**	**100.0 %**

SOCIAL AND ECONOMIC CONDITIONS

The watershed of Site 14 is rural and sparsely populated. The drainage area of Site 14 encompasses 5.01 square miles of mostly farmland, woodland, and rural home sites. The nearest population center is the City of Keyser, downstream of Site 14. Keyser is the primary area of benefit from Site 14 and the other eight dams that make up the entire watershed project. Demographic information is unavailable for the Site 14 drainage area due to its small size, so statistics for the larger area of Keyser and Mineral County are used for general descriptive purposes.

Population and Race: According to the 2000 Census, Keyser had a population of 5,303 people, down from 5,870 persons as reported in the 1990 Census. However, Mineral County grew from 26,697 to 27,078 during the same period, indicating growth in the unincorporated areas of the county. The population was 91 percent white, 7 percent black, and approximately 2 percent for all other race categories. Less than two percent of the households speak a language other than English at home. The median age was 40 years, 5 years older than the national median age of 35.

Education and Veteran's Status: Seventy-eight percent of Keyser's residents who are 25 years of age or older have at least a high school diploma. This is slightly below the national statistic of eighty percent. The portion of residents with at least a bachelor's degree is 12 percent, far below the national average of 24 percent. Keyser has a large veteran population with nearly 19 percent of its residents having served in the military, compared to 14 and 12 percent for the state and nation, respectively.

Employment and Income: Almost 52 percent of the residents of Keyser are 16 years and over, resulting in 2,158 persons available for the labor force. Unemployment rates for the area were 4.6 percent in 2006, equal to the state and national rates. Average travel time to work was about 24 minutes, nearly the same as the national average of 25 minutes. The labor force is concentrated in manufacturing (22%), government (21%), and trade, transportation, and utilities (18%). Other economic sectors make up the remaining 39%. Median household incomes in Keyser are 35% below the national median. Per capita incomes are 37% below the national per capita income. Almost 19% of individuals in Keyser are below the poverty level as compared to 12% nationally.

Housing: The 2000 Census indicates that there were 2,542 housing units in Keyser with 57% owner-occupied. The rental occupancy rate is relatively high at 43%, most likely reflecting the student population at Potomac State University in Keyser. The median value of homes in Keyser (Year 2000 price base) is $63,100.

Recreation: Site 14 provides incidental recreation to local residents. The lake is stocked with fish and managed by West Virginia Division of Natural Resources (WVDNR) and is highly valued by the local community. The lake offers shoreline fishing only; boats are prohibited. This lake provides water supply for the City of Keyser and is managed closely by the City to keep the lake in pristine condition. An estimated 17,279 annual angler-days are provided by this impoundment, contributing $326,900 per year in recreational benefits.

ENVIRONMENTAL RESOURCES

Threatened and Endangered Species**:** No federally listed threatened or endangered species are known to specifically inhabit areas on or immediately adjacent to the Site 14 Rehabilitation Project area. Transient species, such as Indiana Bat (Myotis sodalis) and the Virginia Big-eared Bat (Corynorhinus townsendii virginianus) may use habitats around the Linton Creek impoundment seasonably or during migration.

Cultural Resources: Consultations with the WV State Historical Preservation Office (WVSHPO) indicated that no archaeological sites are recorded within a one mile radius of the proposed project area. They suggest that landforms near the dam and reservoir that were not disturbed during construction of the site are similar to landforms that are known to contain archaeological sites in the region. A small cemetery is situated on the west side of the reservoir between the permanent pool and maximum flood-storage pool elevations. An earthen dike was constructed around the cemetery in conjunction with site construction in 1963.

Natural and Scenic Areas and Visual Resources: The Site 14 project area is comprised of publicly owned land that is open to access by the public. The permanent reservoir has been managed by the WVDNR since 1973 as a public fishing area. The area is available for public use for fishing, wildlife viewing, and other foot-only access. Hunting on site property and fishing from boats on the reservoir are not allowed. Nearby landowners consider the lake to be a scenic attribute.

Water Quality: Water quality in the Linton Creek drainage, including the Site 14 reservoir, is good. Because the reservoir is used as a water supply source for the City of Keyser, maintaining good water quality is important. The reservoir at Site 14 supplies water to Keyser by releases from a water supply gate on the riser into Linton Creek below the dam. Water supply releases and leakage from the bottom gate on the riser supplements low flows in Linton Creek and New Creek during the dry summer and fall seasons.

Wetlands: One potential wetland area just downstream of the dam exists on the project site. This area is approximately 2.6 acres in size and exhibits palustrine emergent characteristics. The potential wetland area is predominantly vegetated with cattails.

Forest Resources: Forest resources in the Linton Creek drainage are comprised primarily of mixed oak-hickory stands in the lower elevations and maple-beech-hemlock forest communities

in the higher headwater areas. Previously open areas adjacent to Site 14 that are not maintained as grasslands have succeeded to brush and pole-stage forest. A large woodland tract west of Site 14 has been subdivided into large forested lots for residential use. The remaining forest lands in the Linton Creek drainage area are privately owned and subject to periodic timber harvests and forest management practices.

Wildlife Resources: Wildlife resources within the Linton Creek Subwatershed are typical of those found in the Ridge and Valley physiographic region of eastern West Virginia. Small game and furbearing species are present within suitable habitats within the drainage and white-tailed deer and turkeys are prevalent throughout the area. The area around Site 14 is especially suitable for a variety of song and insectivorous birds. Neotropical migratory songbirds are abundant in the Subwatershed. Waterfowl and shorebirds, including wood ducks, mergansers, and herons frequently use the reservoir at Site 14.

The reservoir at Site 14 is managed as a warm water fishery and for put-and-take trout fishing by the WVDNR (www.wvdnr.gov/fishing/public_access.asp). The lake sustains channel catfish, largemouth bass, and sunfish populations year round and receives trout stockings once every two weeks from March through May. Wild fish populations in Linton Creek above the reservoir are minimal due to its small size and tendency to dry up during summer. Linton Creek below the reservoir and New Creek down to Keyser maintains year round flows due to its larger drainage area and because of the supplemental release of water from the Site 14 reservoir. Populations of native minnows and other rough fish species are sustained in these streams. New Creek is stocked with trout weekly from March through May in Mineral County from the intersection of Routes 50 and 93 downstream to the Keyser water treatment plant.

Chesapeake Bay Estuary: The New Creek drainage, inclusive of Linton Creek, is a tributary to the North Branch of the Potomac River which empties into the Chesapeake Bay Estuary.

PLANNING ACTIVITIES

As part of the planning process, several engineering surveys were conducted. A field reference survey was conducted using total station survey equipment. The field survey referenced fixed features of the dam such as the principal spillway pipe outlet, and the intake riser to verify the as-built drawings. The existing profile of the top of dam centerline, the auxiliary spillway centerline profile, and a cross section of the auxiliary spillway channel were measured. The apparent phreatic surface of the dam's internal saturation, as exposed on the downstream slope, was measured. The existing low elevation of the site's cemetery dike was verified. A topographic survey of the borrow area downstream of the auxiliary spillway outlet channel was conducted. Elevations were established at the back of the reservoir. A large upstream borrow area was surveyed for topographic data.

The submerged portion of the sediment survey in the reservoir was measured from a boat. A GPS unit with a local tower receiver was used to record the position of the boat at each sounding point. Depths were measured with a graduated sounding line and sediment elevations were computed from daily elevation measurements of the pool crest.

Contour maps were generated on a 5-foot interval using the collected topographic data from the borrow areas. The estimated volumes of borrow excavation were used in the sediment analysis. The average elevation of the phreatic surface on the slope was input for the slope stability

analysis. Critical elevations of the dam and its spillways were input to the SITES (Water Resources Site Analysis) program to analyze the structure's hydraulic performance with current hydrologic criteria. Geologic information from the original design data was used with SITES to model the stability and integrity of the vegetated earth and rock auxiliary spillway.

WATERSHED PROBLEMS AND OPPORTUNITIES

WATERSHED PROBLEMS

Sponsor Concerns: The City of Keyser has a strong interest in the continued operation of Site 14 as a water supply source. The alternative of decommissioning is not a suitable option for this sponsor. The City of Keyser, with the staff of the municipal water board, maintains the grounds of the site. Keyser is concerned that the embankment slopes remain suitable for mowing with their existing equipment.

All the sponsors share the concern of losing the established fishery at Site 14 when the lake is drained to install the rehabilitation work. Mitigation actions will be executed to restore the fishery and the associated recreation opportunities upon completion of any rehabilitation work.

Hydrologic Performance: The Site 14 watershed has not seen a storm event resulting in flows through the dam's auxiliary spillway, including the record storm event of November 1985. A study of the dam's performance with current hydrologic criteria shows the existing auxiliary spillway crest is three (3) feet higher in elevation than required. The Probable Maximum Precipitation (PMP) analyses, however, reveal a deficiency in the freeboard elevation of the top of dam. The 6-hour PMP storm, using the standard NRCS 6-hour rainfall distribution, results in an overtopping of the existing dam by 1.8 feet above the minimum top of dam elevation.

Floodplain Management: The primary natural hazard in the project region is flooding. Significant floodplain development has occurred since the construction of Site 14, both residential and commercial. This floodplain development continues at the current time.

There has been no expressed interest in returning to the pre-project flood risk for the areas downstream of Site 14. Removing the dam would have negative impacts associated with flood frequency and intensity downstream, including threats to life and public safety, decreased property values, increased flood insurance premiums, and disruptions to utilities and the transportation network.

Erosion and Sedimentation: As of 2007, Site 14 had reached about 88% of its planned service life. In May 2007, a sediment survey was conducted which measured the water depth to the top of the sediment presently in the pool. That survey determined that the size of the remaining pool is 1,053 acre-feet. Also, the survey data combined with as-built drawings determined that there was 79 acre-feet of submerged sediment in the pool. Most of the sediment present is located near the inlet channel areas of the impoundment. That means that the average historic sediment accumulation rate for the Site 14 submerged sediment pool is 1.8 acre-feet per year. The impoundment was originally designed for an inflow of 2.8 acre-feet per year of submerged sediment. Of that 2.8 acre-feet of submerged sediment, 0.24 acre-feet per year was projected to be generated by 134 acres of cultivated land. In 1990, cultivated land in the watershed was reduced to 5 acres. Currently, there are no cultivated lands in the watershed. Also, the sediment currently in the pool includes sediment from the original disturbance created during construction

of the embankment, including upstream borrow areas. Considering those two factors, it is projected that the sedimentation rate will further decrease from the historic rate of 1.8 acre-feet per year to 1.6 acre-feet per year. Of the capacity of the entire pool of the impoundment, 1,053 acre-feet, 960 acre-feet is dedicated to the City of Keyser for water supply. The remaining 93 acre-feet is for submerged sediment. At the projected sediment accumulation rate, 58 years of life remains in the existing submerged sediment pool. The quantity of aerated sediment deposited over the life of the impoundment is less than 1 acre-foot.

Structural Appurtenances: The principal spillway intake structure (see Figure 1Figure 2Figure 1) is a 78.4 feet high reinforced concrete riser based on a standard NRCS single-stage design with two drain gates, a lower pool drain and an upper water supply gate. The riser is in fair condition, repairs having been made to the water supply gate stem and stem guides, top slab and railing, and concrete repairs within the past 15 years. However, the pool drain gate is inoperable and is leaking at an approximate rate of 200 gallons per minute (gpm) with 65 feet of pressure head (this condition precluded an inspection of the principal spillway pipe). The interior concrete surface of the riser has been scoured at the water supply gate; scour damage is expected to be found at the pool drain gate knowing that it is leaking under higher pressure. The stem and stem guides of the pool drain are in poor condition. The most significant deficiency of the riser structure is that its original reinforced concrete design is nearing the end of its design life and that it must be replaced to meet current NRCS design criteria and performance standards.

The principal spillway outlet structure is an outdated rock riprap-lined excavated basin, designed before the NRCS release of Design Note 6, Plunge Pool for Cantilevered Outlet. The rock riprap at the downstream end of the basin has been displaced and moderate streambank erosion is occurring (see Figure 3).

Local Concerns: Residents of a wooded, large-tract housing subdivision above the lake have expressed concern that any modifications to the dam would not increase the frequency of backwater flooding on their access road to the subdivision. They have also shared concern of the loss of aesthetic values if the dam is decommissioned.

A unanimous local concern is the loss of recreational fishing during rehabilitation and the loss of the mature fishery until it can be re-established.

WATERSHED OPPORTUNITIES

The following is a general list of opportunities that will be realized through the implementation of this dam rehabilitation plan. Some quantification of these opportunities will be provided in other sections of the report, as appropriate.

- Minimize the potential for loss of life associated with this dam.
- Eliminate the sponsors' liability associated with operation of an outdated dam.
- Maintain the existing level of flood protection for downstream houses, businesses, and infrastructure.
- Maintain the water supply source for the City of Keyser.
- Protect real estate values around the lake and downstream from the dam.
- Maintain existing fish and wildlife habitat around the dam.
- Preserve existing recreation opportunities.
- Protect water quality.

Purpose and Need Statement

There is a need to upgrade Site 14 to current NRCS design criteria and performance standards. The purpose of this document is to present information regarding alternatives that have been evaluated to meet the need.

SCOPE OF THE ENVIRONMENTAL ASSESSMENT

No long-term adverse environmental impacts were identified in the early planning meetings, agency consultations, and planning activities (summarized in Tabulation 2). Tabulation 4 (Summary and Comparison of Candidate Plans) lists economic and social concerns related to this project. For additional information on environmental resource concerns that were considered during the planning process, refer to Tabulation 4.

Tabulation 2 - Scoping Results for Rehabilitation of NC 14

Economic, Social, Environmental, and Cultural Concerns	Degree of concern	Degree of significance to decision making	Remarks
Threatened and Endangered Species	high	low	not likely to adversely affect
Cultural Resources	high	high	No adverse affects expected
Water Quality	high	high	Important due to water supply
Wetlands	high	high	Potential wetland will be avoided
Forest Resources	low	low	No adverse affect
Wildlife Resources	high	high	Lake habitat temporarily eliminated
Chesapeake Bay Estuary	low	low	No adverse affect
Public Safety	high	high	Identified as critical need by Sponsors
Flood Damages	high	high	Designated purpose
Soil Erosion and Sedimentation	high	high	Critical to life of project
Water Supply	high	high	Designated purpose
Incidental Recreation	high	high	Identified as local critical concern
Transportation	high	high	Identified as critical need by Sponsors
Civil Rights	high	high	All downstream beneficiary groups are equally effected
Land Use	low	low	No adverse effect on land use
Prime Farmland	high	low	No effect
Highly Erodible Cropland	high	low	None in Linton Creek

DESCRIPTION OF EXISTING DAM

EXISTING CONDITIONS

The principal spillway of Site 14 has a standard 2.5 ft. x 7.5 ft. rectangular single-stage reinforced concrete riser with a height of 78.4 feet. The riser is equipped with a pool drain gate and a water supply gate. The principal spillway conduit is a concrete pipe that is 30 inches in diameter and 592.5 feet long. The auxiliary spillway is an open channel excavated in rock and earth, having a grass cover and a 200 foot bottom width. The crest elevation of the auxiliary spillway is 1677.4 feet MSL, its length is 20 feet. The condition of the vegetative cover of the auxiliary spillway is very good. The as-built record shows the minimum top of the dam as 1688.0 feet MSL. However, the minimum top of dam elevation identified by field survey (May 2007) was 1688.7 feet MSL. The discrepancy in the as-built record and the actual top of dam elevation simply provides extra freeboard elevation for an increased margin of safety against overtopping, and is attributed to a possible error in the reference elevation.

At the time of the original design, the auxiliary spillway crest elevation met the NRCS criteria of storing the entire volume of the 100-year, 10-day storm, for release through the principal spillway. This storage volume was and is still required for vegetated earth auxiliary spillways. Since that time, the precipitation quantities have been updated for the 100-year, 24-hour rainfall event and the 100-year, 10-day rainfall event. When these precipitation values were input into the SITES model, the auxiliary spillway crest elevation was computed to be 1674.4 feet MSL. With existing crest elevation of 1677.4 feet MSL, the auxiliary spillway crest exceeds requirements for the 100-year, 10-day, and 24-hour rainfall events.

The SITES model also was used to evaluate the capacity, stability, and integrity of the auxiliary spillway. With its existing crest elevation and bottom width, the capacity of the auxiliary spillway is not adequate to pass the PMP storm event without overtopping the dam using current criteria. The soils in the auxiliary spillway are susceptible to surface erosion and are not able to withstand the flow velocities that will occur in the auxiliary spillway during a major storm. This is the stability part of the evaluation. The integrity part of the evaluation describes the strength of the underlying soil, and rock materials and estimates the amount of head-cut in the auxiliary spillway and if a breach will occur during the PMP storm event. The SITES model showed that the existing auxiliary spillway did not breach during the PMP storm event.

The existing reinforced concrete intake riser (78.4 feet tall) appears to be in fair condition, although it's approaching the end of its design life (see Figure 1). However, the drain valve is inoperative and will not completely seal, allowing a constant flow of 200 gallons per minute through the principal spillway pipe. This leakage is spraying a jet of water against the interior riser wall. A scour hole in the concrete is expected to be found knowing that repairs that were made to this riser for scour opposite the water supply gate in 1992. The handrail supports in the top slab of the riser and the adjacent concrete have been repaired as have the stem guides for each gate, all damages being caused by ice movement.

Figure 1 - Existing Riser at NC 14.

The downstream slope of the earth and rock embankment has an existing wet profile that extends horizontally across the face of the dam. The field survey measured the wet profile at elevation 1632.5 feet MSL. The UTEXAS2 slope stability program was used to evaluate this downstream slope for steady-state and seismic load conditions. The program results showed the slope to have stability above the required factors of safety for all loading conditions using the measured wet profile as the phreatic surface on the downstream slope. The wet area has seepage flows that interfere with the routine maintenance of the embankment's grass cover. A collection drain and outlet is planned for this slope as part of the rehabilitation project.

The principal spillway pipe is nearing the end of its design life and may require slip lining to extend its physical life (see Figure 2). A thorough inspection of the full length of the conduit has not been conducted due to the constant volume of flow leaking from the drain gate. A survey will have to be completed either before the start of design or after the dewatering of the pool during construction. Any problems discovered will be repaired as part of the rehabilitation project.

Figure 2 - Principal Spillway Pipe Outlet on Linton Creek Below NC14 Embankment.

The existing principal spillway discharges into a plunge pool followed by an outlet channel (see Figure 3). The plunge pool slopes are lined with rock riprap and the bottom is excavated in rock. Rock riprap has been displaced from the downstream ends of the streambank armor and moderate erosion of the streambanks has occurred. The current practice for dams of this size is to install a reinforced concrete impact basin at the principal spillway outlet. This rehabilitation will include such an outlet.

Figure 3 - Outlet Basin Into Linton Creek Below NC 14 Embankment.

STRUCTURAL DATA

The structural data for Site 14 is displayed in Table 3.

SEDIMENTATION

Site 14 was designed with an original sediment storage capacity of 190 acre-feet for 50 years of life. Of the 190 acre-feet, 140 acre-feet was submerged and 50 acre-feet was aerated. As part of the rehabilitation planning process, a reservoir sediment survey was conducted in May 2007. That sediment survey coupled with as-built drawings determined there was 79 acre-feet of submerged sediment in the pool. This equates to a historic sediment deposition rate of approximately 1.8 acre-feet per year. That analysis also determined that the as-built pool had a capacity of 1,132 acre-feet, of which 960 acre-feet is dedicated to the City of Keyser for water supply and 172 acre-feet for submerged sediment. There appears to be less than 1 acre-foot of aerated sediment in the pool area. Currently, 46% of the available submerged sediment storage capacity is filled. The remaining submerged sediment storage capacity of the structure is approximately 93 acre-feet. Due to changes in land use in the watershed, notably, the change from 134 acres of cultivated land to 0 acres of cultivated land, the projected sedimentation rate is 1.6 acre-feet per year. At the 1.6 acre-feet per year projected rate of submerged sediment deposition, there is enough sediment storage in the reservoir for an additional 58 years. Therefore, sediment storage is not a limiting factor for extending the useful life of Site 14 for an additional 50 years.

STATUS OF OPERATION AND MAINTENANCE

Operation and maintenance of the structure is the responsibility of West Virginia State Conservation Committee, Potomac Valley Conservation District, and the City of Keyser. This site receives an annual operation and maintenance inspection. The NRCS State Conservation Engineer certifies this dam biennially to the West Virginia Department of Environmental Protection (WVDEP). Recent records indicate that the operation and maintenance of the structure has been kept current for the site. This has been verified through site assessments.

BREACH ANALYSIS

Site 14 floodplain inundation maps and the Emergency Action Plan were prepared by the West Virginia Conservation Agency using data supplied by the NRCS in 1992. The inundation zone for the existing structure was checked during the planning process using a sunny day breach with the water level at the top of the dam and the auxiliary spillway blocked. The dam height used in the breach analysis was 93.0 feet.

The inundation zone analysis was accomplished using NRCS Technical Release No. 60 for peak discharge criteria and Technical Release No. 66 and Technical Release No. 61 (WSP2), for water surface elevation data. The cross section data were developed from field surveys and reach lengths were taken from USGS 7.5 minute topographic maps. The results were compared to the existing mapping. The inundation maps and breach summary sheets are located in Appendix B. A new breach analysis will be performed during the design phase of the Site 14 rehabilitation and revised inundation data will be provided for use in the preparation of new floodplain inundation maps and the emergency action plan.

The Project Sponsors are responsible for developing and maintaining the Emergency Action Plan, which describes response procedures in the event the dam fails. The plan for Site 14 was previously prepared and is updated annually.

HAZARD CLASSIFICATION

Site 14 was constructed in 1963 as a multiple purpose flood control and water supply structure. It was built as an SCS Class C structure with a 50-year design life. The hazard class of the structure remains high because failure may result in loss of life and serious infrastructure damage. The classification is the same under NRCS Technical Release No. 60 (TR-60) and the West Virginia Dam Control and Safety Act.

EVALUATION OF POTENTIAL FAILURE MODES

NRCS and the sponsors of Site 14 recognize this dam as a high hazard structure. Several potential modes of failure were examined.

Sedimentation: The reservoir is designed to store sediment in the pool below the elevation of the water supply gate invert and to detain floodwater in the area between the principal spillway inlet crest and the crest of the auxiliary spillway. The volume between the water supply gate and the principal spillway crest is municipal water supply storage. As the lake fills with sediment, the quantity of water in the lake decreases. When the sediment pool has filled to the elevation of the water supply gate invert, the pool no longer has permanent sediment storage, but the designed water supply and flood detention storage are still intact. If the actual sedimentation rate is greater than the designed sedimentation rate, the sediment storage volume will be filled before the design life of the structure has been reached. The additional sediment would begin to fill the water supply volume and reduce the quantity of available municipal storage.

It is highly improbable that this reservoir will fill with sediment to the point of compromising the available flood water storage. The severe loss of municipal water supply would prompt the City of Keyser to initiate action to preserve their water storage, namely the removal of sediment from the water supply pool. This work would be conducted under the Operation and Maintenance agreement.

The land use in the Site 14 watershed is 86.8% woodland, 6.4% pasture and grassland, 5.6% brush and weeds, and 1.2% impervious area or bodies of water (see Tabulation 1). These conditions are not expected to change significantly, mainly due to the rugged terrain of the watershed. When originally designed, Site 14 was projected to capture 2.8 acre-feet per year of submerged sediment. Of that 2.8 acre-feet per year, 0.24 acre-feet per year was to be eroded from 134 acres of cultivated lands. In 1990, the cultivated lands in the watershed had been reduced to 5 acres. Currently there are no cultivated lands in the Site 14 watershed. The future submerged sediment accumulation rates are expected to be 1.6 acre-feet per year which is slightly lower than the historic average rate of 1.8 acre-feet per year. Based upon the projected submerged sediment deposition rate of 1.6 acre-feet per year, the remaining sediment storage life of the reservoir is 58 years before it will affect the municipal water storage volume. The potential for failure due to inadequate reservoir capacity is negligible.

Hydrologic Capacity: Hydrologic failure of a dam can occur by breaching the auxiliary spillway or by overtopping and breaching the dam. The integrity and stability of the auxiliary spillway and dam embankment are dependent on the depth, velocity, and duration of the flow, the vegetative cover, and the resistance of the soil in the auxiliary spillway and dam embankment to erosion. Current NRCS criteria for high hazard dams require the auxiliary spillway to have sufficient capacity to pass the full PMP storm event without breaching the spillway or overtopping the dam.

Dam Failure by Erosion of the Auxiliary Spillway: The existing auxiliary spillway was analyzed to evaluate its potential to breach by erosion of the soil and rock into which it is excavated. Geology data from the original design was studied to model the soil and rock formations for a geologic profile of the auxiliary spillway. Drilling data from the centerline of the dam near the auxiliary spillway was projected on strike to the spillway centerline profile. The projected drilling data provided a soil-rock interface horizon; soil properties were taken from the laboratory results of the original design. The rock layers dip sharply, causing a wide range of rock properties to occur within short distances.

The spillway erosion model of the SITES program was input with this profile data and the soil and rock character parameters required for the model. The sharp dip of the geology is not conducive to the SITES program protocol for modeling erosion. An assumed horizon of weathered rock was added to the profile. This layer of earth material used the weakest values of data represented in the range of rock properties. Below this assumed horizon, the stronger rock properties were input. Even so, the lower value in the range of strong materials was used for conservative results. The headcut indexes for the soil and rock were estimated using the Headcut Erodibility Index Photo Guide (NRCS, 1993).

The TR-60 criteria storms were routed through Site 14, the 6-hour PMP quantity of 27.5 inches and the 24-hour PMP quantity of 35 inches. The flows resulting from the 24-hour storm modeled the most erosion damage to the exit channel and out-slope, but did not breach the control section. Having used conservative values of headcut erodibility and all other soil and rock properties, dam failure by erosion of the auxiliary spillway is highly improbable.

Dam Failure by Overtopping of the Embankment: Further SITES analyses examined the maximum crest elevation of the pool during the two criteria PMP storm events, comparing the resulting crests with the minimum top of the dam embankment elevation, 1688.7 feet MSL. The 24-hour PMP hydrologic event causes a pool elevation of 1689.3, overtopping the dam by 0.6 feet. The 6-hour PMP hydrologic event produces a pool elevation of 1690.5, overtopping the dam by 1.8 feet.

The SITES program's routines for analyzing the erosive force of flowing water on soil and rock are limited to the study of open channel auxiliary spillways. Without a model to predict the erosion of the top of dam, any overtopping is considered a potential failure, whether it is 0.6 or 1.8 feet deep at its maximum crest elevation. Therefore, dam failure by overtopping of the embankment is considered highly probable for Site 14.

Seepage: Embankment and foundation seepage can contribute to failure of an embankment by removing (piping) soil material through the embankment or foundation. As the soil material is removed, the voids created allow even more water flow through the embankment or foundation,

until the dam collapses due to the internal erosion. Seepage that increases with a rise in pool elevation is an indication of a potential problem, as is stained or muddy water or "sand boils". Foundation and embankment drainage systems can alleviate seepage problems by removing the water while preventing soil particles from being transported away from the dam.

Seepage is evident on the downstream slope of the dam embankment. A change in character of the slope's vegetation at an approximate level elevation reveals a change in surface moisture across the full width of the embankment. A minor concentrated flow of water seeps steadily from the embankment at a specific point. The location is near the left abutment of the dam and along the elevation of the moisture change. This concentrated flow has been evident for many years and has remained unchanged. There is no evidence of soil movement through this seep.

The uniform elevation of the moisture change is a strong indication that this seepage is the reservoir's phreatic surface through the embankment soils. The original design did not anticipate the saturation of the downstream slope, from which one may conclude that the soil materials for the embankment shell are not as pervious as was originally assumed. Slope stability analyses using current conditions verify the embankment satisfies the present TR-60 criteria. The seepage on the downstream slope is not a threat to the dam's performance, but it is a hazard for maintenance personnel and equipment during mowing operations.

The potential for dam failure due to seepage is minimal. Surface drainage measures are planned for the rehabilitation of this dam to alleviate the safety hazard of mowing on saturated embankment slopes.

Seismic: The stability of an earthen embankment is dependent upon the presence of a stable foundation and adequate compaction and drainage of embankment materials. Foundation failure through consolidation, compression, or lateral movement can cause the creation of voids within an embankment, separation of the principal spillway conduit joints, or in extreme cases, complete collapse of the embankment. The New Creek watershed is not located within an area of significant seismic risk; therefore, there is low potential for slope failure due to seismic activity.

Material Deterioration: The materials used to construct the principal spillway system and the pool drain and water supply system are subject to weathering and chemical reactions due to natural elements within the soil, water, and atmosphere. Concrete risers and conduits can deteriorate and crack, metal components can rust and corrode, and leaks can develop. Embankment failure can occur from internal erosion caused by leaks in the principal spillway conduit.

Inspections in recent years documented the pool drain gate system does not operate and its stem and stem guides are in poor condition. The interior concrete surface of the riser has been scoured at the water supply gate; scour damage is expected to be found at the pool drain gate knowing that it is leaking under high pressure. The other riser appurtenances are in good condition, including the water supply gate and its lifting system. Failure of the dam is not likely to occur because of material deterioration. If the anticipated scour cavity in the concrete riser wall would become an opening in the wall, its effect would not be a threat to the safe operation of the dam.

Conclusion: The most likely failure mechanism for Site 14 may result from insufficient hydrologic capacity. Overtopping of the dam and the subsequent erosion of the embankment will lead to catastrophic failure. The sediment capacity is adequate, there are no signs of detrimental seepage, the site is not in a seismically active area, and the material components are in satisfactory condition.

CONSEQUENCES OF DAM FAILURE BY OVERTOPPING

A worst-case scenario is assumed in the analysis of a possible dam failure. This scenario assumes a "sunny day breach" of the dam with no advance warning. Dam failure is assumed to occur when water begins to overtop the structure due to an unresolved blockage of the principal and auxiliary spillways. It is assumed that structural collapse would occur quickly and result in a release of water and sediment, beginning with a wall of water equal to the dam height. For Site 14, 2,495 acre-feet of water and 172 acre-feet of sediment would be released at an initial height of 93.0 feet.

Resource inventories performed during the planning process indicate that a sunny day failure of the Site 14 would jeopardize 384 homes, businesses, and major buildings with various water depths. The flood inundation zone would include the communities of Laurel Dale, Claysville, New Creek, and Keyser extending 11.1 miles downstream placing about 1,540 residents at some degree of fatal risk. An undetermined number of businesses along with their employees and clients would be exposed to some degree of fatal risk. Access to emergency services would be limited for the 384 homes and businesses directly impacted by a sunny day breach.

Daily traffic counts from WVDOT indicate that an additional exposure to loss of life could occur because of the 1,800 vehicles that use State Route 93 at Laurel Dale, 3,600 vehicles that use U.S. 50 at Claysville, 4,800 vehicles that use U.S. 50 at New Creek, and the 11,000 vehicles that use U.S. 220 at Keyser. Along with the major and secondary routes, a number of local roads would have restricted access. The utilities associated with the transportation routes could also be destroyed.

The economic losses would include damages to homes, businesses, roads, utilities, the loss of business activity, and the loss of the lake and corresponding decrease in property values and recreation opportunities. The residences and business properties at risk in the area of the floodplain subject to a breach of Site 14 have structure and content values estimated at over $45,619,200. In addition, potentially impacted infrastructure is valued at over $20,000,000. Infrastructure damage caused by a catastrophic breach would include the loss of roads, bridges, and several utilities. Economic losses resulting from these damages would exceed $65,000,000. Long-term costs of the loss of these infrastructure components would also be incurred due to the need for alternate routes during the replacement period. Other economic losses from a catastrophic breach would be: a) changes in real property values and the tax base associated with increased flooding in the future; and b) increased flood damages in the future for remaining properties due to the absence of the dam and its flood protection benefits.

In addition to the damage caused by the water, a significant volume of sediment would initially be flushed downstream in the event of a catastrophic breach. At its full capacity, Site 14 has a sediment storage volume of 172 acre-feet. Highly erodible sediment remaining in the sediment pool would continue to cause persistent sediment deposition problems for the downstream channel and floodplain. It is unlikely that a catastrophic breach would remove all of the fill

material used to build the dam. The embankment material remaining after a breach would also eventually erode into the stream, contributing to the downstream sediment deposition. Sediment would be deposited in the stream channels and on the floodplain. This would constrict the floodplain and cause additional flooding in subsequent flood events. Deposition in the floodplain would also restrict the normal use of the land. The nutrients in the sediment could cause water quality problems in the future. At a minimum, sediment would initially be transported for the entire length of the breach inundation zone. Over time, the sediment would migrate downstream into the North Branch of the Potomac River. There is also the potential for stream degradation upstream from the dam site. The abrupt removal of the water and sediment could cause instability in the streams feeding the reservoir. These streams could develop head cuts that would migrate upstream through the watershed, eroding the banks and channel bottoms and adding more sediment into the stream system.

FORMULATION AND COMPARISON OF ALTERNATIVES

The stated objectives of the Site 14 Rehabilitation Plan are: 1) to bring the dam into compliance with current design criteria and performance standards; 2) to maintain the current level of flood protection provided by Site 14; and 3) to maintain the current level of municipal water supply. These objectives can be met by installing measures which will bring the dam into compliance with State and Federal regulations. Under the Watershed Rehabilitation Provisions of the Watershed Protection and Flood Prevention Act, NRCS is required to consider the technical, social, and economic feasibility of both the locally preferred solution and other alternatives identified through the planning process.

FORMULATION PROCESS

Formulation of alternative rehabilitation plans for Site 14 followed procedures outlined in the NRCS *National Watershed Manual, Part 508*. Other guidance incorporated into the formulation process included the NRCS *National Planning Procedures Handbook, Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies*, and other NRCS watershed planning policies. Each alternative evaluated in detail used a 50-year period of analysis. This period was chosen because the lifespan of Site 14 will be extended a minimum of 50 years with any rehabilitation measure. It is anticipated that the dam will remain in service beyond 50 years with proper maintenance.

The formulation process began with formal discussions between the Sponsors and NRCS. NRCS explained agency policy associated with the Small Watershed Dam Rehabilitation Program and related alternative plans of action. As a result, alternative plans of action were developed based on NRCS planning requirements and the ability of the alternatives to address the objective of bringing Site 14 into compliance with current design criteria and performance standards. The alternatives considered are listed in Tabulation 3.

Tabulation 3 - Alternative Plans of Action

1. No Action (Sponsors' Rehabilitation)
2. Decommission the Dam
3. Non-Structural – Relocate or Floodproof Structures in the Breach Zone
4. Rehabilitate the Dam

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Some of the alternatives considered in the planning process were eliminated from detailed consideration because they did not meet the needs of the Sponsors.

Decommission Dam: Decommissioning is a mandatory rehabilitation alternative under NRCS policy. It is an alternative which includes a plan to remove the flood detention capacity of the dam by removing a portion (or all) of the existing embankment down to the valley floor and restoring the function and stability of the stream channel and the 100-year floodplain. Decommissioning may require grading of the sediment pool to remove accumulated sediment. The removal of the principal spillway riser and pipe is also necessary. This alternative, however, eliminates the vital municipal water supply storage for the City of Keyser. It was not considered as a viable option for detailed development.

Non-Structural - Relocation or Floodproof Structures in 100-year Floodplain: Site 14 is correctly classified as a Class C structure, providing significant downstream flood damage reduction to homes, buildings, transportation corridors, agricultural properties, and other improvements. It is not feasible to relocate or floodproof all the properties that are currently protected by Site 14. Also, it is infeasible to relocate the roads, bridges, and utilities protected by Site 14. Furthermore, Sponsors rely on Site 14 as the source of water supply for the City of Keyser and associated smaller public service districts. Without Site 14, Sponsors would not have a reliable water supply for over 6,000 customers. This alternative was not considered as a viable option for detailed development.

DESCRIPTION OF ALTERNATIVE PLANS CONSIDERED

No Action (Sponsors' Rehabilitation): With this alternative, no federal funds would be expended. Site 14 will perform safely under normal hydrologic conditions. The threat of failure occurs during the PMP event. With the knowledge that the structure would be overtopped during this storm, the Sponsors incur additional liability to operate the dam without taking measures to assure its safe performance during severe storms.

State dam safety laws would require the Sponsors to bring the dam up to current standards by rehabilitation or eliminate the hazard by removing the storage function of the reservoir. The Sponsors would be responsible for the total cost of rehabilitation of the dam.

While the potential for an uncontrolled breach is low, the Sponsors remain liable for the resulting damages until the existing dam safety issues are addressed and resolved.

Without NRCS assistance, the Sponsors would have the following options:

- Hire a consultant, prepare plans to meet West Virginia dam design requirements and rehabilitate the dam using their own resources

- The Sponsors could remove the flood storage capacity of the dam by breaching the dam using a least cost method. This breach would be a minimum size opening in the dam from the top of the dam to the valley floor, which would eliminate the structure's ability to store

water. Downstream flooding conditions would be similar to those that existed before the construction of the dam. The sediment would not be stabilize and would migrate downstream. This course of action would minimize the Sponsors' dam safety liability but would not eliminate all liability, as it would induce sediment deposition and flooding downstream. This option would not meet the Sponsors' goal of maintaining municipal water supply storage and the existing level of flood protection.

- Allow existing conditions to remain. In this case, the WV Division of Dam Safety may impose sanctions.

For the purposes of this evaluation, the Sponsors' Rehabilitation will be considered as the No Action Alternative.

Rehabilitate dam: There were two options considered under the Rehabilitation alternative. The options had to address the following issues:

1) Bring the dam into compliance with current design criteria and performance standards;
2) Maintain the current level of flood protection; and
3) Maintain the current level of municipal water supply.

Issue 1. Bring the Dam Into Compliance with Current Design Criteria and Performance Standards:

The primary concern is the lack of hydrologic capacity of the auxiliary spillway which causes overtopping of the dam embankment. A secondary concern is that the principal spillway and the riser are nearing the end of their design life. Thirdly, the riser was not designed to meet current seismic criteria. All rehabilitation alternatives include replacement of the riser and other work for the principal spillway system, therefore this concern does not weigh into the alternative selection process.

In order to address the hydrologic capacity of the auxiliary spillway, the following options were considered:

Option 1: Increase the cross-sectional area of the auxiliary spillway. This is a traditional solution for spillways having insufficient capacity. The auxiliary spillway would be excavated to increase the bottom width from 200 feet to 280 feet, the profile and alignment would remain the same. The 178,500 cubic yards of excavated earth would be disposed of on site as a downstream berm on the dam embankment.

This option is undesirable for the following reasons:

- The disturbance to the environment is much greater and would require additional environmental and cultural resource evaluation and potential mitigation;
- The large volume of earthwork to enlarge the spillway will require extensive erosion and sediment measures to protect Linton Creek;
- A potential wetland area below the dam would be impacted from construction of the outlet channel of the widened spillway; and
- The cost of this option is high, estimated at $2.7 million for the earthwork item alone.

Option 2: Increase the top of dam elevation to prevent overtopping. The lowest point on the top of dam would be raised 1.8 feet to satisfy current criteria. Installing earthfill was given consideration; however the top width of the embankment is at the minimum required width of 26 feet. Any further increase in height with sloping fills would violate the top width criteria.

A concrete parapet wall was considered. This structure would be installed towards the upstream edge of the top of dam. Its length would be from the edge of County Route 42/2 to the downstream end of the existing auxiliary spillway dike. The existing top of dam would be graded level, eliminating the 44-year old settlement overbuild. The excavated overbuild and the wall's structure excavation would be used for structure backfill for the wall. The excess would be placed on site, building an earth berm on the downstream slope of the embankment (see Figure 4).

Figure 4 - Top of NC 14 (Propose to Raise Height with Concrete Parapet Wall).

This option's work will be confined within the current footprint of the dam with no disturbance to existing wetlands. The construction area to be disturbed is much less, and the time needed for construction is significantly less. The cost is also more desirable; the concrete parapet wall is estimated at $496,400.

Issue 2. Maintain the Current Level of Floodplain Protection:
Both options considered maintain current levels of floodplain protection.

Issue 3. Maintain the Current Level of Municipal Water Supply:
Both options considered maintain current levels of municipal water supply.

Selected Rehabilitation Alternative

The potential solutions were evaluated for cost and feasibility. The selected alternative for Site 14 is to install a concrete parapet wall on the top of the dam embankment to prevent overtopping during the PMP event. Other improvements to the site will include the installation of a new intake riser, lining the principal spillway pipe, installing an impact basin, installing embankment surface drainage system, and restoring the fishery that will be eliminated during construction.

EFFECTS OF ALTERNATIVE PLANS

Alternative plans of action can affect resources upstream and downstream of Site 14. This section describes anticipated effects on the economic and social resource concerns identified by the Sponsors, the public, and agency personnel. No long term, adverse environmental effects were identified.

Two alternatives are considered and evaluated in detail in the rest of this document. Alternatives considered include: 1) No Action (Sponsors' Rehabilitation) – without federal assistance the Sponsors will rehabilitate Site 14 to meet current design criteria and performance standards; and 2) Rehabilitation of Site 14 with federal assistance to meet current design criteria and performance standards. The Sponsors rehabilitation would occur at the same time as the Recommended Alternative.

Threatened and Endangered Species

Existing Conditions: No federally listed threatened or endangered species are known to specifically inhabit areas on or immediately adjacent to the Site 14 project area. Transient species may use habitats around the Linton Creek impoundment seasonably or during migration.

No Federal Action (Sponsors' Rehabilitation): The rehabilitation project is anticipated to be conducted within the existing footprint of the project and no additional land acquisition needs have been identified. No mature tree removal will occur in conjunction with the rehabilitation measures. Consultation with the US Fish and Wildlife Service (Correspondence dated November 2, 2007, Appendix D) concluded that the rehabilitation of Site 14 "is not likely to adversely affect federally listed species."

Rehabilitate Dam: Same as the No Federal Action (Sponsor's Rehabilitation).

Cultural Resources

Existing Conditions: No documented archaeological sites have been recorded within a one mile radius of the Site 14 project area according to WV SHPO records. The Site 14 embankment is less than 50 years old and is not eligible for inclusion in the National Register of Historic Places. A small cemetery, located on the west side of the reservoir, lays between the permanent pool and maximum flood storage pool elevations. This cemetery is protected by an earthen dike in conjunction with the construction of Site 14 in 1963.

No Federal Action (Sponsors' Rehabilitation) Consultations with the WV SHPO indicated no concerns regarding adverse impacts to cultural and historic resources so long as works of improvement associated with the rehabilitation project are confined to areas previously disturbed

during the construction of the site in 1963. If unanticipated cultural resources are discovered during the installation of the selected plan, work will be discontinued and procedures as outlined in GM 420 Part 201 will be implemented.

The top of the cemetery dike is at an elevation of 1684.5 feet MSL which is 7.1 feet above the auxiliary spillway crest elevation of 1677.4 feet MSL. Hydrology models for the site indicate that rainfall totaling 16 inches in a 24 hour period would be required for the flood storage pool to reach the elevation of the cemetery dike. A rainfall quantity of 9.8 inches in 24 hours is equivalent to the 1,000 year frequency return interval. Therefore, no increase in height to the cemetery dike is proposed.

Rehabilitate Dam: Same as the No Federal Action (Sponsor's Rehabilitation).

Water Quality

Existing Conditions: The reservoir at Site 14 supplies water to the City of Keyser by releases from a water supply gate on the riser into Linton Creek below the dam. Water supply releases and leakage from the bottom gate on the riser supplement low flows in Linton Creek and New Creek during the dry summer and fall seasons. The release of this water from levels well below the reservoir surface insures that cool, relatively sediment free water flows from the Site 14 dam to Keyser year round.

No Federal Action (Sponsors' Rehabilitation): In order to facilitate the replacement of the riser at Site 14, the reservoir will need to be drained. Timing for the drainage of the reservoir will be coordinated with the WVDNR. Fish salvage operations will occur during the drainage process. Initiating drainage in the early spring months while water and air temperatures are low should improve the survivability of fish salvaged from the reservoir and transported to alternate locations. Draining the reservoir in the early spring will also maximize the amount of time available for construction during the summer and fall months. Flows to Linton Creek below the dam, and New Creek will remain at above normal rates during the drainage process. Rates will be controlled to allow the reservoir to be drained in a reasonable period, but be slow enough to prevent saturated soils in the reservoir banks and face of the embankment from slumping.

Once the reservoir is drained, flows to Linton Creek downstream of the dam will be temporarily limited to a quantity equal to the flows produced by the Linton Creek tributaries upstream. There will be no reservoir to supplement flows downstream until the lake pool is refilled. Downstream water quality may be temporarily affected by low flows, increased water temperatures and decreased dissolved oxygen levels while the reservoir is drained and while it is being refilled. During construction, flows from upstream of the reservoir will be collected and passed through, over or around the dam structure to Linton Creek. Water quality parameters in the Site 14 permanent pool and in Linton Creek downstream after completion of the rehabilitation project are not expected to be measurably different than those existing before initiation of the project.

Rehabilitate Dam: Same as the No Federal Action (Sponsor's Rehabilitation).

Wetlands

Existing Conditions: One potential wetland area just downstream of the dam exists on the project site (Project Map, Appendix B). This area is approximately 2.6 acres in size and exhibits

palustrine emergent characteristics. The potential wetland area is predominantly vegetated with cattails. This potential wetland appears to have been created during construction of the dam in 1963 because of grading the floodway below the outlet of the auxiliary spillway.

No Federal Action (Sponsors' Rehabilitation): The potential wetland area below the dam will be excluded from construction activities. Hydrology to this area originates from surface and subsurface drainage from a small hollow that discharges below the dam. No work will occur in that drainage area and hydrologic conditions will not be altered. No adverse impacts to this potential wetland area will result from Site 14 rehabilitation measures.

Rehabilitate Dam: Same as the No Federal Action (Sponsor's Rehabilitation).

Forest Resources

Existing Conditions: Forested areas on the project property that were not cleared during the construction of Site 14 remain as such. Borrow areas that were cleared during construction and areas in the flood storage pool that were open pasture before 1963 have succeeded naturally to brush and pole stage woody habitats.

No Federal Action (Sponsors' Rehabilitation): A limited number of small trees near the right abutment of the dam and adjacent to the east downstream face of the dam may need to be removed to allow equipment to access to the area below the dam and the impact basin. Otherwise, no forest removal or site clearing will be necessary.

Rehabilitate Dam: Same as the No Federal Action (Sponsor's Rehabilitation).

Wildlife Resources

Existing Conditions: Property owned by the City of Keyser, inclusive of the 37 acre Site 14 reservoir, contains a diversity of habitat types used by a variety of wildlife. In addition to the reservoir's fishery, managed by the WVDNR since 1973, the lake supports populations of reptiles and amphibians, semi-aquatic mammals, shorebirds and waterfowl. Adjacent terrestrial areas, inclusive of the 58 acre floodwater detention pool, the dam and auxiliary spillway, are comprised of upland habitat types ranging from mowed open fields to brush to forested areas. These different habitats and the transitional areas and "edge" support a diverse population of song and insectivorous birds, small mammals and other endemic species.

No Federal Action (Sponsors' Rehabilitation): The installation of the new riser structure, construction of the new outlet structure (impact basin) and the proposed installation of a liner in the principal spillway pipe will require the permanent reservoir to be drained. Draining the reservoir will obviously have a temporary adverse affect upon the lake's fishery and upon other animal species (birds, mammals, reptiles, amphibians and insects) that reside in or on that habitat. Upon completing the rehabilitation project and refilling the reservoir, the fishery will be restored and other wildlife will resume utilization of the permanent pool and adjacent areas.

In order to minimize adverse impacts to the fishery, NRCS will coordinate project implementation with the WVDNR. This coordination will allow for timing the initiation of draining the lake to have the least interruption to sportsmen utilizing the lake's fishery and allow

the WVDNR personnel to recover fish from the lake for holding or utilization elsewhere, while at the same time insuring that the construction season is adequate to complete the rehabilitation work. Even with the effort to salvage fish while the reservoir is being drained, not all fish will be recovered. Some portion of the fishery will not be captured and will suffer mortality.

Once the lake is drained, contractors will prepare access to the area of the riser to begin demolition and to install measures to divert water from the area upstream through or over the dam to a suitable outlet below the dam. This diversion is necessary to allow construction to occur in the dry and to allow water from upstream to flow uninterrupted to the downstream reaches. This diversion will also be important to minimize the quantity of fine accumulated sediment from the reservoir that could be transported to Linton Creek below the dam. Temporary seeding will be applied to exposed sediment on the lake bottom to minimize transport of fine sediment downstream during construction. This temporary seeding will also provide a boost to the re-establishment of the fishery when the reservoir is refilled by providing increased nutrients.

Concrete rubble, resulting from the demolition of the existing riser, will be disposed of in the upper end of the Site 14 reservoir. This material will be placed in piles for fish habitat in areas approximately eight to ten feet deep relative to the permanent pool elevation. The onsite disposal of this material will eliminate the need to transport this material to an offsite location and provide escape cover and breeding habitat for channel catfish when the reservoir is refilled. A rough roadbed will be graded from the riser location to the riser-debris disposal area along the western side of the reservoir pool. If constructed at an elevation ranging from two to five feet below the permanent pool elevation and left unreclaimed, this roadbed will provide spawning areas for bass and bluegills when the reservoir is refilled.

In addition to the temporary impacts to the fishery at Site 14, a limited number of waterfowl, shorebirds, and semi-aquatic mammal species that use the impoundment will be affected by the temporary loss of habitat. Breeding, feeding and resting areas used by species such as red-breasted mergansers, wood ducks, herons, and shorebirds will be diminished or eliminated during the period that the reservoir is drained. These habitats will be restored when the lake is refilled following the installation of the rehabilitation measures. Habitats used by mammalian species, such as muskrats, mink and raccoons will be similarly interrupted during the construction of the rehabilitation project. Species that are not as mobile (some turtles and amphibians) may suffer higher rates of mortality because they cannot move to alternative habitats. Nearly all the species presently occupying the reservoir are anticipated to become re-established once the lake is refilled.

Rehabilitate Dam: Same as the No Federal Action (Sponsor's Rehabilitation).

Chesapeake Bay Estuary

Existing Conditions: Linton Creek is a tributary to the 54.7 square-mile New Creek Subwatershed. New Creek is a tributary of the North Branch of the Potomac River and is situated in the headwater region of the 14,679 square mile Potomac River Basin.

No Federal Action (Sponsors' Rehabilitation): The New Creek Subwatershed comprises approximately 0.08 of one percent of the Chesapeake Bay drainage area and has good water quality. The temporary water quality affects that are expected with the Site 14 rehabilitation project will not result in adverse impacts to the Chesapeake Bay Estuary.

Rehabilitate Dam: Same as the No Federal Action (Sponsor's Rehabilitation).

Public Safety

Existing Conditions: Public safety is enhanced by Site 14's impact on downstream flooding. Site 14 and other flood control impoundments in the watershed reduce the risk to loss of life and property during storms. Site 14 controls approximately 34 percent of the total drainage area controlled by the New Creek Watershed Project, accounting for a substantial reduction in flood damage reduction benefits.

No Federal Action (Sponsors' Rehabilitation): Sponsors would bear the total cost of rehabilitation. Under this alternative, the dam would be structurally rehabilitated to comply with current design criteria and performance standards in order to provide continued public safety. The downstream flooding levels would be the same as they are presently. The threat to loss of life from failure of the dam would be reduced.

Rehabilitate Dam: The cost for rehabilitation would be shared between Sponsors and NRCS. The dam would be rehabilitated to comply with current design criteria and performance standards in order to provide continued public safety. The downstream flooding levels would be the same as they are presently. The threat to loss of life from failure of the dam would be reduced.

Flood Damages

Existing Conditions: Site 14 provides 22 percent of the total flood damage reduction benefits realized by the entire New Creek project. Since the watershed project was installed, there has been additional development in the floodplain and increased traffic on roads that traverse the floodplain. Flooding is currently reduced by the existence of Site 14.

No Federal Action (Sponsors' Rehabilitation): Sponsors would bear the total cost of rehabilitating the dam to meet current design criteria and performance standards. The flood reduction benefits provided by Site 14 would be extended into the future.

Rehabilitate Dam: The cost for rehabilitation would be shared between the Sponsors and the NRCS. The flood reduction benefits provided by Site 14 would be extended into the future.

Soil Erosion and Sedimentation

Existing Conditions: Site 14 has trapped 81 acre-feet (approximately 93,000 tons) of sediment in its reservoir and tributaries since its construction in 1963, according to the sediment survey conducted in May 2007. The future sediment accumulation-rate is projected to be 1.6 acre-feet per year. At this rate of sediment accumulation, there is enough storage available for an additional 58 years.

No Federal Action (Sponsors' Rehabilitation): Due to the lack of state or local funds, it is unlikely the Sponsors would address sediment in Site 14 until the accumulation of sediment interferes with the structure's functions of water supply and/or flood protection.

Rehabilitate Dam: Since adequate sediment storage is available to meet the minimum 50-year life established by the Dam Rehabilitation legislation, no federal funds will be used to remove sediment from this reservoir.

Water Supply

Existing Conditions: Site 14 provides water supply for the City of Keyser. There are 960 acre-feet of dedicated water supply in Site 14.

No Action (Sponsors' Rehabilitation): Sponsors would bear the total cost of rehabilitating the dam to meet current dam design criteria and performance standards. Sponsors would continue to depend on Site 14 to supply water for the City of Keyser.

Rehabilitate Dam: Rehabilitation of Site 14 will ensure a continued water supply for at least 50 years into the future. Rehabilitation measures will be constructed so as not to disrupt water supply for Keyser. The site will be upgraded to meet current dam design criteria and performance standards and it will continue to provide water for the City of Keyser.

Incidental Recreation

Existing Conditions: Site 14 provides important incidental fishing opportunities in the New Creek Watershed. An estimated 17,279 annual angler-days of fishing are provided at Site 14. The site also affords other benefits in the form of wildlife viewing and desirable scenery to local residents and visitors to the area. Monetary values were not calculated for these benefits. Travelers on County Route 42/2 enjoy the visual qualities of the lake. Site 14 is a popular hiking area for nearby residents.

No Action (Sponsors' Rehabilitation): Sponsors would bear the total cost of rehabilitating the dam to meet current dam design criteria and performance standards. Incidental recreation activities would be temporarily interrupted during the installation of the rehabilitation measures. Incidental recreation opportunities will be restored upon completion of the work and the re-establishment of the reservoir pool. The fishery would be re-established by WVDNR as funding allowed. Sponsor's rehabilitation would extend the recreational opportunities in the event that Sponsors are required to rehabilitate the site without federal assistance.

Rehabilitate Dam: Rehabilitation of Site 14 will ensure continued incidental recreation opportunities for at least 50 years into the future. Federal funding will be used to mitigate the temporary elimination of the fishery that will result from the project.

Transportation

Existing Conditions: Several roads in the immediate downstream area of Site 14 receive protection from flooding because of the structure. WV State Route 93 and US Routes 50 and 220 receive flood damage reduction benefits from Site 14.

Upstream of the dam, two roads are inundated by the flood pool of Site 14: County Route 42/2 and the private access road to The Preserve at New Creek subdivision, which was formerly a public road, County Route 50/5. Both roads have alternate routes of ingress and egress during high water periods. The Preserve's alternate route may require a 4-wheel drive vehicle. This type of vehicle is common in the project area.

All alternatives considered for rehabilitation do not modify the auxiliary spillway's crest of the flow capacity of the principal spillway. The frequency and duration of roadway inundation is not changed from its existing condition.

No Federal Action (Sponsors' Rehabilitation): Sponsors would bear the total cost of rehabilitation. The transportation flood-reduction benefits currently provided by Site 14 would be extended into the future.

Rehabilitate Dam: The cost for rehabilitation would be shared between the Sponsors and the NRCS. The transportation flood-reduction benefits currently provided by Site 14 would be extended into the future.

Civil Rights

Existing Conditions: Site 14 is currently out of compliance with current NRCS design criteria and performance standards. All downstream beneficiary groups are equally affected by noncompliance of Site 14.

No Federal Action (Sponsors' Rehabilitation): Sponsors Rehabilitation will benefit all populations equally. There is no disproportionate effect to any segment of the benefited population.

Rehabilitate Dam: Same as the No Federal Action (Sponsors' Rehabilitation).

Land Use

Existing Conditions: Land use in the watershed above the dam is mostly forested, with large tract residential housing scattered throughout the Site 14 drainage area

No Action (Sponsors' Rehabilitation): Rehabilitation of Site 14 will not stimulate changes to the existing land use above or below the dam. Future development in the watershed above the dam could affect the service life of the dam if the erosion and sediment from any new development is not adequately controlled.

Rehabilitate Dam: Same as the No Federal Action (Sponsors' Rehabilitation).

COMPARISON OF ALTERNATIVE PLANS

Tabulation 4 summarizes the effects of each alternative considered. Refer to the Effects of Alternative Plans section for additional information. No Regional Economic Development (RED) concerns and no long term, adverse Environmental Quality (EQ) effects were identified during the early planning meetings thus, they are not included in Tabulation 4.

IDENTIFICATION OF NATIONAL ECONOMIC DEVELOPMENT (NED) PLAN

Both alternative plans have the same benefits, costs, and effects. The rehabilitation plan with federal assistance is the most likely alternative to occur. Local Sponsors do not have sufficient funds to pay for all of the rehabilitation costs, but they can provide the needed cost share to participate in a federal rehabilitation alternative. The Recommended Plan (Rehabilitation of Site 14 by federal action) is the most locally acceptable alternative and best meets the needs and goals of the Local Sponsors. The Net Benefits for both alternatives are positive.

Tabulation 4 - Summary and Comparison of Candidate Plans[1]

Effects	No Action (Sponsors' Rehabilitation) (NED Plan)	Structural Rehabilitation (Recommended Plan) (NED Plan)
Sponsor Goals	Continue to provide flood protection, water supply, incidental recreation, reduce liability	Continue to provide flood protection, water supply, incidental recreation, reduce liability
Structural	Upgrade dam to meet current design criteria & performance standards	Upgrade dam to meet current design criteria & performance standards
Total Project Investment - Site 14	$1,933,100	$1,933,100
National Economic Development Account		
Average Annual Benefits	$1,614,900	$1,614,900
Average Annual Costs	$108,000	$108,000
Net Benefits	$1,506,900	$1,506,900
Benefit/Cost Ratio	15:1	15:1
Estimated OM&R	$10,000	$10,000
Environmental Effects Account		
Endangered & Threatened Species	Not likely to adversely affect	Not likely to adversely affect
Cultural Resources	No adverse affects expected	No adverse affects expected
Water Quality	No adverse affects	No adverse affects
Wetlands	Potential wetland will be avoided	Potential wetland will be avoided
Forest Resources	No adverse affects	No adverse affects
Wildlife Resources	Lake habitat temporarily eliminated	Lake habitat temporarily eliminated
Chesapeake Bay Estuary	No adverse affects	No adverse affects
Prime Farmland	No adverse affects	No adverse affects
Highly Erodible Cropland	None in Linton Creek	None in Linton Creek
Other Social Effects Account		
Public Safety	Enhance public safety by increasing dam compliance	Enhance public safety by increasing dam compliance
Flood Damages	Maintain present level of flood protection	Maintains present level of flood protection
Soil Erosion & Sedimentation	Maintain present level of sediment trapping	Maintain present level of sediment trapping
Water Supply	Maintain present level of water supply	Maintain present level of water supply
Incidental Recreation	Maintain present level of incidental recreation opportunities	Maintain present level of incidental recreation opportunities
Transportation	Maintain current flood protection on transportation routes	Maintain current flood protection on transportation routes
Civil Rights	Provide current level of benefits to all groups of people	Provide current level of benefits to all groups of people
Land Use	No anticipated change in land use	No anticipated change in land use

1. Guidance in "Economic and Environmental Principals and Guidelines for Water and Related Land Resources Implementation Studies" (P&G) abbreviated procedures when developing an Environmental Assessment.

RISK AND UNCERTAINTY

Estimating project costs and benefits involves a certain degree of risk and uncertainty. Assumptions made during the planning process are based on the best available technology and information at the time of planning. For instance, the condition of the principal spillway pipe is not known due to limitations of current investigation procedures for pipes with substantial flow. If, after dewatering the pool, the pipe's condition is found to be unsuitable for a slip-lining repair, a major change in the rehabilitation work would be to install new pipe through the embankment. Extended delays between planning and implementation increase the degree of risk and uncertainty. Estimated project costs are based on computed work quantities multiplied by the appropriate unit cost for that type of work. Unit costs are based on historical data from similar projects, indexed to current price levels. Costs can be influenced by several economic factors that cannot be predicted with certainty during the planning process. Fuel shortages, unforeseen labor and materials shortages, natural disasters, and international incidents can adversely affect costs.

Economic benefits are based on material values of floodplain property and infrastructure. Such property is expected to become more valuable in the future as personal income increases. It is probable that some monetary and non-monetary benefits have not been fully captured. Finally, there is inherent uncertainty in estimating the social and environmental costs associated with each alternative because values and judgments vary among interested parties.

RATIONALE FOR PLAN SELECTION

The recommended plan is to rehabilitate the dam to meet current design criteria and performance standards. The recommended plan meets the identified purposes and needs for the project, and maintains current flood reduction and water supply functions. The project Sponsors, local residents, and state and local government agencies all prefer the Recommended Plan because it:

- Maintains the current level of flood protection for properties and infrastructure in the City of Keyser.
- Maintains the water supply for the City of Keyser.
- Provides protection for transportation corridors.
- Provides protection for utilities in the floodplain of Linton and New Creeks.
- Eliminates the liability associated with continuing to operate a non-compliant dam.
- Traps 1.6 acre feet of sediment annually, thereby improving downstream water quality.
- Maintains existing stream habitat downstream of the dam by augmenting flows during dry weather conditions.
- Retains the existing fish and wildlife habitat associated with the lake and the recreation benefits for anglers.

When compared to the No Action Alternative (Sponsors' Rehabilitation), the Recommended Plan (Rehabilitation) best meets the Local Sponsors needs. The Recommended Plan meets the Sponsors' objectives of bringing this dam into compliance with current dam design criteria and performance standards, maintaining the current 100-year floodplain, continuing to serve as a water supply source, and addressing resource concerns identified by the public.

The Recommended Plan will use more federal funds and require less local funds than the No Action alternative.

CONSULTATION AND PUBLIC PARTICIPATION

An early planning meeting was conducted at Site 14 on June 27, 2007. Representatives of federal and state governmental agencies, local sponsoring organizations and the local New Creek Land and Property Owner's Association were invited. The purpose of this meeting was to present the known alternatives being evaluated to address structural upgrades to the site and to solicit input from meeting participants to avoid, minimize, or mitigate environmental impacts that may result from the installation of the rehabilitation measures.

A number of comments were recommended for consideration during this early planning meeting. These include the following:

1. WVDNR would like to manipulate lake-bottom structure while the lake is drained in order to install fishery habitat enhancements. These may include adding escape cover and creating shallow water spawning beds adjacent to lake shorelines.
2. The Land and Property Owner's Association requested that a dry fire hydrant be installed in the lake to improve the availability of water for fire fighters.
3. The Land and Property Owner's Association requested that grading and maintenance work be done on County Route 42/2 and the private access road if equipment is to access the site using these roads.
4. A request was made to consider allowing non-motorized boats to be used on the lake.
5. A request was made to improve handicap access to the lake.
6. The City of Keyser indicated that they felt that adequate water supply would be available during the period the reservoir would be drained for construction.
7. A request was made for additional parking to be provided for fisherman and other lake visitors.

The US Fish and Wildlife Service was consulted with regard to potential adverse impacts to Threatened and Endangered Species. They determined that this project was not likely to adversely affect federally-listed species. The WV Division of Culture and History was also consulted regarding potential impacts to cultural resources. The WVSHPO's office requested that more detailed plans for the project be provided for review when available. This office indicated that there is potential to affect potential undocumented archaeological resources if areas not disturbed during the original project construction in 1963 will be altered. Construction activities associated with the rehabilitation of Site 14 are not anticipated to occur on sites not previously disturbed. There are no federally recognized tribal entities in West Virginia for which consultations are required.

Suggestions received from agency consultations and during the early planning meeting were evaluated and, where appropriate, incorporated into the rehabilitation plan. Additional consultations with resource agencies were conducted to insure that project affects are adequately avoided, minimized, or mitigated.

The Draft Plan – EA was distributed by mail on April 11, 2008 to governmental agencies, stakeholder groups and individuals (see distribution list) for the purpose of soliciting comments. A legal notice was also placed in the Keyser, WV newspaper to announce the availability of the

draft report. Hard copies of the Draft Plan – EA were made available to those requesting copies to review and the Draft Plan – EA was also posted electronically on the West Virginia NRCS website.

A public workshop was held at the Mineral County Health Department in Keyser, WV on the evening of May 6, 2008. This workshop provided the opportunity for interested individuals and agencies to obtain additional information regarding the Draft Plan – EA for the proposed Site 14 Rehabilitation Project. Eight persons attended the workshop including seven from the implementing agency and local sponsoring organizations.

Natural Resources Conservation Service personnel from different disciplines were available to the workshop to entertain questions and to discuss matters related to the Draft Plan – EA. Written comments were taken at the workshop and by mail and email. Comments were requested to be received at the NRCS State Office in Morgantown, WV by June 6, 2008.

All of the letters, emails and other comments received from agencies, stakeholder groups and individuals as a result of the review of the Draft Plan – EA are contained in Appendix A. The remainder of this section contains point by point disposition of the comments for which responses were prepared.

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Responses to New Creek Site 14 Comments

Portions of the comment letters that require a response are reproduced here. Comment letters in their entirety are included in Appendix A of this document.

Department of the Army, Corps of Engineers, Pittsburgh District, letter of July 15, 2008

Comment: "*In planning future development, every effort should be made to avoid and minimize stream and/or wetland impacts to the fullest extent practicable. If wetlands are found and encroachments are planned within wetland areas, they should be accurately delineated and this office again contacted to determine permit requirements.*"

Response: Comment noted. The approximately 2.6 acre potential wetland area downstream of the dam will be outside of the construction limits of the proposed rehabilitation project and impacts to this resource will be avoided.

Comment: *"All stream impacts (including length, width, size of pipe, latitude and longitude) should be identified."*

Response: Comment noted.

United States Environmental Protection Agency letter of June 6, 2008

Comment: "*The document would benefit from an expanded discussion of how the impoundment would be drained, equipment required, any potential impacts of hauling or using equipment, timing for draining and timing to refill reservoir and impact on stream flows during refilling.*"

Response: Comment noted. Additional narrative has been added to the Effects of Alternative Plans section in Water Quality to discuss the draining and refilling of the reservoir.

Comment: *"The report considers fisheries resources in the lake, but does not discuss possible turtle or amphibian impact, appropriate mitigation or possible risks or complications."*

Response: Comment noted. Additional narrative has been added to the Effects of Alternative Plans section in Wildlife Resources to discuss reptiles and amphibians.

West Virginia Division of Natural Resources letter of June 11, 2008

Comment: "*The Draft Supplemental Watershed Plan (DSWP) on page 35 references "incidental recreation" as non-monetary benefits. Birding and other non-consumptive uses do have monetary value. These numbers are more difficult to calculate, but there are significant funds spent by the public for non-consumptive uses of natural resources.*"

Response: Comment noted. It is agreed that non-consumptive uses of natural resources generate considerable monetary benefits. These benefits were not calculated for this study and it was not appropriate to categorize them as non-monetary. References to non-monetary incidental recreation benefits have been corrected in the report.

Comment: *"The NRCS states it will mitigate for the temporary loss of the recreational fishery by cooperating with DNR to perform fish salvage operations during lake drawdown and stocking the impoundment once rehabilitation is complete. We (DNR) will work with NRCS to complete" fish salvage" operations and the re-establishment of the fishery. DNR funds are extremely limited and this action item is not in our budget. We will need to develop a monetary agreement to assist NRCS in the successful completion of this mitigation."*

Response: The NRCS is in agreement with the DNR's suggestion to receive funding for assisting with fish salvage and restocking operations. NRCS will work with DNR to develop a monetary agreement prior to initiating work on this rehabilitation proposal.

Comment: *"The NRCS must coordinate drawdown with Mr. Jim Hedrick, the District 2 Fisheries Biologist."*

Response: The NRCS agrees to contact Mr. Hedrick, District 2 Fishery Biologist to coordinate the lake drawdown activities. This coordination will serve to maximize survivability of fish to be salvaged from the reservoir and to maximize time available for construction. Coordination will also minimize adverse impacts to aquatic resources associated with the reservoir and Litton Creek downstream of the project.

West Virginia Division of Culture & History letter of May 22, 2008

Comments noted, no response required.

Steve Peer (New Creek Property Owners Association) Email of June 5, 2008

Comment: *"It is our request that earth and sod be used to increase the height of the dam instead of concrete. This would be our request for any repairs or improvements to the auxiliary spillway."*

Response: A concrete parapet wall, no more than 1.8 feet high, was proposed as a way to effectively raise the top of dam without violating the NRCS requirements for dam top widths. NRCS is investigating alternatives to conceal the concrete wall by placing earthen material on either side of the wall to create a level or slightly rolling crest. If feasible, this alternative would appear less obvious and would eliminate an obstacle to foot travel and mowing.

Methods to address the recommended increase in width of the auxiliary spillway control section from 20 to 30 feet have not been fully assessed. Alternatives to concrete may include well vegetated compacted earth or a system of interlocking blocks to expand the stable control section. In the event concrete is used, the 30 foot wide control section would be flush with the vegetated portions of the spillway floor.

Comment: *"It is our hope the construction period be as brief as possible and that the construction process does not in any way impede our access to NCLPOA at the south end of the dam."*

Response: Present estimates are for construction activities to be completed in one construction season (spring through fall). This is important to minimize the period of time the City of Keyser is without its water supply reservoir. No repairs or other maintenance activities are planned to

take place in the south end of the reservoir that would impair access to NCLPOA properties. Construction activities near the dam may result in some temporary inconveniences and delays to those traveling the county road adjacent to the lake. However, this county road will remain open and passable.

Comment: *"The plan mentions improved parking for those who use the lake for fishing. It is our hope this parking will be at the breast end of the dam and not at the south end near the gate to NCLPOA."*

Response: The DNR and individuals interested in fishing have requested consideration be given to additional parking near the reservoir for recreational users. Opportunities for additional parking along the county road adjacent to the reservoir are limited due to the narrow roadway and steep terrain. Additional parking that might be provided would be a result of construction activities associated with the rehabilitation of the embankment. Federal rehabilitation funding is not authorized to improve recreational features including parking.

Comment: *"We would like a Dry Hydrant to be installed during the construction phase."*

Response: As stated, rehabilitation funds are not authorized for the installation of a dry fire-hydrant at the reservoir location. NRCS has communicated with the Potomac Valley Conservation District regarding assistance they may have with regard to dry hydrant installation (See letter dated August 18, 2008 in Appendix D).

Question from Public Workshop May 6, 2008

Comment: *Representatives from the City of Keyser are concerned about their ability to meet demand for water during the period of construction. New Creek 14 is Keyser's only water supply source. There should be a plan of action for an alternative water supply source during the construction of the rehabilitation project.*

Response: NRCS agrees with the need to provide for an alternative water supply source while the reservoir is drained for rehabilitation work. It appears that the closest and most accessible alternative supply source would be the Potomac River adjacent to Keyser. Water would have to be pumped about two miles from the Potomac River to the existing water treatment plant in Keyser. NRCS will propose an alternate bid item to provide portable pumps and temporary pipeline sufficient to supply a minimum of 1 million gallons of water per day to the Keyser water treatment plant be added to the Site 14 rehabilitation construction contract. This would provide for insuring that the City of Keyser will have adequate water supply in the event that the New Creek watershed does not provide sufficient supply while the Site 14 reservoir is empty.

RECOMMENDED PLAN

SUMMARY AND PURPOSE

This supplemental plan documents the planning process by which the NRCS provided technical assistance to local Sponsors, technical advisors, and the public in addressing resource issues and concerns relative to the rehabilitation of Site 14.

The recommended plan is to rehabilitate the dam. By doing this, the present level of flood protection is maintained, municipal water supply storage is maintained, and the liability of operating a dam in non-compliance with current design criteria is eliminated. The recommended plan of action for the dam is outlined below:

- Construct a concrete parapet wall on the top of dam to prevent overtopping.
- Remove the existing principal spillway intake riser and construct a new riser.
- Install a plastic lining in the principal spillway conduit.
- Construct an impact basin at the principal spillway outlet.
- Install a surface embankment-drainage system for the collection of water seeps on the downstream slope.
- Increase the existing auxiliary spillway control section length from 20 to 30 feet
- Mitigate the temporary elimination of the lake's fishery.

After the implementation of these planned works of improvement, Site 14 will meet all current NRCS dam design criteria and performance standards. The visual and aesthetic qualities of Site 14 will be restored as quickly as possible following construction. During the rehabilitation, NRCS will encourage the Local Sponsors to pursue installation of a dry hydrant.

Detailed structural data for the proposed rehabilitated dam is in Table 3.

EASEMENTS AND LANDRIGHTS

The Sponsors are responsible for obtaining any needed landrights and easements associated with the rehabilitation project. It is projected that no additional landrights will be needed in order to complete the rehabilitation project. NRCS currently does not require additional flood easements because the flood storage of the structure will not change. There are no relocations planned because of the installation of the project measures.

The City of Keyser, one of the project sponsors, owns all lands adjacent to and occupied by Site 14. The maximum flood pool crest of the proposed rehabilitation is 1690.5 feet MSL, which is 1.8 feet above the current top of dam. This flood pool does inundate lands not owned by the City, but no structures or improvements of any other kind would be flooded except for roadways.

MITIGATION

The lake at Site 14 is planned to be drained to construct the improvements of the principal spillway system. This action will produce temporary losses of the lake's fishery and recreation for anglers. The WVDNR has managed the fishery since 1973. During the spring months before draining the reservoir, WVDNR will post notices to encourage anglers to keep fish they catch (within regulatory limits) for personal consumption. During the draining of the lake, live fish will be collected from the lake by WVDNR as its size is diminished. These fish will be transferred to other lakes in the region having similar habitat. While the lake bottom is exposed, temporary seeding will be applied to reduce the transport of fine sediments from the lake bottom to stream reaches below the dam. This seeding will also provide a nutrient source that will boost productivity when the fishery is re-established. Demolition debris from the existing riser will be disposed of in the permanent pool area to provide habitat structure at a depth of eight to ten feet below the surface elevation. A road bed will be graded along the western edge of the pool to allow access to the riser-debris disposal area. This road bed can be rough graded one to two dozer blades wide at an elevation varying two to five feet below the permanent pool elevation. This access is to be left unreclaimed in order to provide shallow water fish spawning areas. This work will eliminate the need to transport demolition debris offsite for disposal and will result in improved fish habitat and spawning beds in the lake's bottom and shallow shore areas. Upon completion of the rehabilitation work, the drain gate on the new riser will be closed and the reservoir will refill. Once the lake is full and conditions are suitable, the lake will be restocked with the warm water game fish species. A stocking regimen for the put-and-take trout fishery will also resume in the spring following the completion of construction.

PERMITS AND COMPLIANCE

Installation of the recommended plan will bring the dam into compliance with current dam design criteria and performance standards. The Sponsors are responsible for obtaining any needed environmental permits from Federal, State, or local regulatory agencies.

COSTS

Costs are indicated in Table 1. **Table 2** shows the costs by category. Total annual costs are shown in Table 4 along with the estimated costs for operation and maintenance. Table 5 shows the average annual flood-damage reduction benefits by flood damage categories, and Table 6 shows a comparison of annual costs and benefits. A 2007 price base was used and amortized at 4.875 percent interest for the 50 year period of analysis.

The planning costs for the proposed rehabilitation measures are estimated costs only. The fact that these costs are included in this plan does not infer that they are final costs. Detailed structural designs and construction cost estimates will be prepared before contracting for the work to be performed. The final cost will be the price received by competitive bidding plus or minus the amounts of contract modifications.

INSTALLATION AND FINANCING

The project is planned for installation in one construction season. During construction, equipment will not be allowed to operate when conditions are such that soil erosion, and water, air, and noise pollution cannot be satisfactorily controlled.

The NRCS will assist the Sponsors with the Site 14 project. NRCS will be responsible for the following:

- Execute a project agreement with the Sponsors before either party initiates work involving funds of the other party. Such agreements will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.
- Execute a Memorandum of Understanding with the Sponsors to provide a framework within which cost-share funds are accredited.
- Provide financial assistance equal to 65% of total eligible project costs, not to exceed 100% of actual construction costs.
- Provide consultative engineering support and technical assistance during the construction of the project.
- Certify completion of all installed measures.

The Sponsors will be responsible for the following:

- Secure all needed environmental permits, and rights for installation, operation, and maintenance of the rehabilitated structure.
- Prepare an updated Emergency Action Plan for the dam before the initiation of construction.
- Execute an updated Operation and Maintenance Agreement with NRCS for the dam.
- Execute a Memorandum of Understanding with NRCS to provide a framework within which cost-share funds are accredited.
- Execute a project agreement with NRCS before either party initiates work involving funds of the other party. Such agreements will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific works of improvement.
- Provide nonfederal funds for cost-sharing of the project at a rate equal to, or greater than, 35% of the total eligible project costs.
- Participate in and comply with applicable Federal floodplain management and flood insurance programs.
- Enforce all associated project easements and rights-of-way.

OPERATION, MAINTENANCE, AND REPLACEMENT

Measures installed as part of this plan, and previously installed measures, will be operated and maintained by the Sponsors with technical assistance from federal, state, and local agencies according to their delegated authority. A new Operation and Maintenance Agreement will be developed for Site 14 utilizing the NRCS National Operation and Maintenance Manual, and will be executed before signing a project agreement for the construction of the project. The term of the new O&M agreement will be for the projected 50-year life of the rehabilitated structure. The key determinant of the expected useful life was annual sediment delivery to the sediment-pool

and flood-pool areas behind the dam. Sediment delivery projections were based on experience to date. In order to assure a 50 year useful life, and potentially extend the useful life significantly longer, the sponsors may choose to take additional erosion and sediment control measures above the impoundment in the upper watershed to slow sediment delivery to Site 14. The agreement will specify responsibilities of the Sponsors and include detailed provisions for retention, use, and disposal of property acquired or improved with PL-106-472 cost sharing. Provisions will be made free access of district, state, and federal representatives to inspect all structural measures and their appurtenances at any time.

EFFECTS OF RECOMMENDED PLAN ON RESOURCES

Tabulation 5 lists the effects of the recommended plan on Resources of Principal National Recognition.

Tabulation 5 - Effects of the Recommended Plan on Resources of Principal National Recognition

Types of Resources	Principal Sources of National Recognition	Measurement of Effects
Air Quality	Clean Air Act, as amended (42 U.S.C. 7401 et seq.)	Watershed not within clean air non-attainment area
Areas of Particular Concern within the Coastal Zone	Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451 et seq.)	Not present in planning area
Endangered and Threatened Species Critical Habitat	Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)	Project not likely to affect T&E Species or habitats critical to their existence
Fish and Wildlife Habitat	Fish and Wildlife Coordination Act (16 U.S.C. Sec. 661 et seq.)	Temporary loss of aquatic and riparian habitat during implementation. Fishery habitat to be improved because of construction
Floodplains	Executive Order 11988, Floodplain Management	Maintain current flood protection.
Historic and Cultural Properties	National Historic Preservation Act of 1966, as amended (16 U.S.C. Sec. 470 et seq.)	No project activities planned for areas not previously disturbed during original construction in 1963
Prime and Unique Farmland	CEQ Memorandum of August 1, 1980: Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act, Farmland Protection Policy Act of 1981	None present in the project area.
Water Quality	Clean Water Act of 1977 (33 U.S.C. 1251 et seq.)	Temporary increase in downstream temperatures.
Wetlands	Executive Order 11990, Protection of Wetlands; Clean Water Act of 1977 (33 U.S.C. 1251 et seq.); Food Security Act of 1985	Adverse effects to potential wetlands will be avoided
Wild and Scenic Rivers	Wild and Scenic Rivers Act, as amended (16 U.S.C. 1271 et seq.)	None present in the project area.

Table 1 - Estimated Installation Cost
New Creek Site 14 Watershed, West Virginia
(Dollars)[1]

Installation Cost Items	Estimated Costs		
Structural measures to rehabilitate floodwater retarding dam:	PL-106-472 Funds[2]	Other Funds	Total
Site 14	$1,354,600	$578,600	$1,933,200
TOTAL	$1,354,600	$578,600	$1,933,200

December 2007

[1.] Price base 2007
[2.] Paid by the USDA/NRCS – the Federal agency responsible for assisting in installation of improvements

Table 2 - Estimated Cost Distribution - Structural Measures
New Creek Site 14 Watershed, West Virginia
(Dollars)[1]

Installation Cost Items	PL-106-472 Funds[2]				Other Funds[3]				Total Project Cost
	Construction Costs	Engineering Technical Assistance Costs	Project Admin. Costs	Total PL-106-472 Cost	Construction Costs	Sponsor Planning Costs	Project Admin. Costs	Total Other Funds	
Site 14	$1,074,500	$189,500	$90,600	$1,354,600	$572,600	$1,000	$5,000	$578,600	$1,933,200
TOTAL	$1,074,500	$189,500	$90,600	$1,354,600	$572,600	$1,000	$5,000	$578,600	$1,933,200

December 2007

1. Price base 2007
2. 65% of total project cost (the actual federal cost/share excludes technical assistance and permit costs and cannot exceed 100% of the estimated construction cost)
3. 35% of total project cost

Table 2a - Cost Allocation and Cost Sharing Summary
New Creek Site 14 Watershed, West Virginia
(Dollars)[1]

Installation Cost Item	Cost Allocation			Cost Sharing					
	Purpose			Public Law 83-566			Other		
	Flood Prevention	Municipal Water Supply	Total	Flood Prevention	Municipal Water Supply	Total	Flood Prevention	Municipal Water Supply	Total
Structural Measures to Rehabilitate New Creek Site 14									
Construction	1,606,100	41,000	1,647,100	1,047,900	26,600	1,074,500	558,200	14,400	572,600
Engineering	154,500	35,000	189,500	154,500	35,000 [2]	189,500			0
Relocation			0			0			0
Real Property			0			0			0
Project Administration	88,300	8,300	96,600	88,300	2,300 [3]	90,600		6,000	6,000
Total Project:	1,848,900	84,300	1,933,200	1,290,700	63,900	1,354,600	558,200	20,400	578,600

1. Price base 2007
2. Selection of water supply gate, associated details of intake riser and impact basin
3. Quality assurance during construction

Table 3 – Structural Data
New Creek Site 14 Watershed, West Virginia

ITEM	UNIT	EXISTING	REHABILITATED DAM
Hazard Class of Structure	-	C	C
Seismic Zone	-	1	1
Total Drainage Area	Sq. Mi.	5.07	5.01 [1]
Time of Concentration	Hours	1.51	1.12 [2]
Antecedent Moisture Condition II Runoff Curve No.	-	70	69
Elevation, Top of Dam	Feet, MSL	1688.7	1,690.5
Elevation, Auxiliary Spillway Crest	Feet, MSL	1677.4	1,677.4
Elevation, Principal Spillway Crest	Feet, MSL	1,658.7	1,658.7
Auxiliary Spillway Type	-	Vegetated Earth	Vegetated Earth
Auxiliary Spillway Bottom Width	Feet	200	200
Auxiliary Spillway Exit Slope	%	2.3	2.3
Maximum Height of Dam	Feet	93	94.8
Volume of Dam Embankment Fill	Cu. Yd	664,536	664,536
Total Capacity	Ac.-Ft.	1,995	1,995
Sediment Submerged	Ac.-Ft	140	140
Sediment Aerated	Ac.-Ft	50	50
Municipal Water Supply	Ac.-Ft.	960	960
Floodwater Retarding Pool	Ac.-Ft.	845	845
Surface Area			
Sediment Pool	Acres	8.5	8.5
Municipal Water Supply Pool	Acres	38.0	38.0
Floodwater Retarding Pool	Acres	58.1	58.1
Principal Spillway Design			
Rainfall Volume (1 day)	Inches	-	6.1
Runoff Volume (1 day)	Inches	3.38 [3]	2.79
Rainfall Volume (10 day)	Inches	-	8.55
Runoff Volume (10 day)	Inches	-	2.71
Capacity at Crest of Auxiliary Spillway	CFS	136	144
Conduit Size	Inches	30	28 [4]
Conduit Type	-	Reinforced Concrete	Reinforced Concrete with Smooth Plastic Lining
Frequency of Operation, Auxiliary Spillway	Annual % chance	1%	0.4%
Auxiliary Spillway Hydrograph			
Rainfall Volume	Inches	15.12	10.1
Runoff Volume	Inches	13.4	6.2
Storm Duration	Hours	6	6 [5]
Velocity of flow (V_e)	Ft/s	12.6	9.2
Maximum Surface Elevation	Feet, MSL	1685.0	1680.6
Freeboard Hydrograph (24-hr PMP)			
Rainfall Volume	Inches	25.2	27.5
Runoff Volume	Inches	20.6	22.8
Storm Duration	Hours	- [3]	6
Maximum Surface Elevation	Feet, MSL	1688.0	1690.5
Capacity Equivalents			
Sediment	Inches	0.70	0.71 [6]
Floodwater Retarding [3]	Inches	3.13	3.16 [6]

1 corrected area, from 3,242 to 3,204 acres
2 TR-55 method with stream sections and field evaluated n values
3 original design does not state duration of storm
4 assumed inside diameter of plastic slip-lining of conduit
5 6-hr and 24-hr PMP storms evaluated, 6-hr is critical duration.
6 difference due to adjustment in watershed area

Table 4 - Average Annual National Economic Development (NED) Costs
New Creek Site 14 Watershed, West Virginia
(Dollars)[1]

	Amortization of Installation Cost	Annual Operation & Maintenance Costs	Total Average Annual Cost
Rehabilitation of Site 14	$98,000	$ 10,000	$108,000
TOTAL	**$98,000**	**$ 10,000**	**$108,000**

December 2007

[1.] Price base 2007; costs are amortized for a 50 year period of analysis at 4.875% discount rate.

Table 5 - Estimated Average Annual Flood Damage Reduction Benefits
New Creek Site 14 Watershed, West Virginia
(Dollars)[1,2]

Item	Estimated Average Annual Flood Damage		Damage Reduction Benefits
	Without Site 14	With Site 14	Average Annual Damage Reduction
Site 14	$297,100	$232,600	$64,500
TOTAL	**$297,100**	**$232,600**	**$64,500**

December 2007

[1.] Price base 2007
[2.] All damages are in a rural community of less than 10,000 people, thus they are agricultural-related

Table 6 - Comparison of Costs and Benefits for Rehabilitation Measures
New Creek Site 14 Watershed, West Virginia
(Dollars)[1]

Evaluation Unit	Sediment, Erosion, and Flood Damage Reduction[2]	Water Supply	Incidental Recreation	Indirect	Total Average Annual Benefits	Total Average Annual Costs	Benefit Cost Ratio[3]
Site 14	**$80,300**	**$1,198,400**	**$326,900**	**$9,300**	**$1,614,900**	**$108,000**	**15:1**

December 2007

[1.] Price base 2007
[2.] Includes $64,500 of flood damage reduction benefits
[3.] Benefit Cost ratio is not relative to the No Action Alternative

REFERENCES

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5. NRCS National Planning Procedures Handbook.
6. NRCS Technical Release 60 – Earth Dam and Reservoirs.
7. NRCS Technical Release 61 – WSP2 - Water Surface Profiles
8. NRCS Technical Release 66 – Simplified Dam-Breach Routing Procedure.
9. NRCS National Watershed Manual.
10. U.S. Water Resources Council. Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. Washington, DC, March 10, 1983.
11. Water Resources Site Analysis Computer Program (SITES).
12. NRCS West Virginia, Rehabilitation Assessment Report, New Creek Watershed, Site 14, Grant County, West Virginia, March 2006
13. NRCS, West Virginia, As-Built Construction Drawings, 11 Sheets, 1964
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15. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Precipitation-Frequency Atlas of the United States, NOAA Atlas 14, Volume 2, Version 3, August 1, 2007
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18. U.S. Department of the Interior, Fish and Wildlife Service. 1982. National Wetlands Inventory.
19. WinTR-55 Small Watershed Hydrology Computer Program, April 19, 2002
20. Hydraulics Formula Computer Program, Version 2.1.4, March 2003
21. UTEXAS2 Slope Stability Program
22. NRCS Headcut Erodibility Index Photo Reference
23. SAMB Photography

Tabulation 6 - List of Preparers

NAME	PRESENT TITLE/ OTHER EXPERIENCE (Years in Job)	EDUCATION Degree(s) Continuing Education Subjects	OTHER (Licenses, etc.)
Joseph Seybert	Civil Engineer (19) Consulting Engineer (4)	BS Civil Engineering	Registered Professional Engineer
Pam Yost	Economist (17)	BS Resource Management MS Agricultural Economics	
Ron Wigal	Resource Conservationist (19)	BS Wildlife Management MS Wildlife Management	
TJ Burr	Civil Engineer (21)	BS Civil Engineering	Registered Professional Engineer
Bryan Lee	Cultural Resources Specialist (6) Archaeologist (10)	BA Anthropology MA Anthropology	
Timothy Ridley	Hydraulic Engineer (20) Consulting Engineer (8)	BS Civil Engineering	Registered Professional Engineer, Professional Surveyor
Thomas Tamasco	Civil Engineer (2) Dam Safety Engineer (7)	BS Civil Engineering Technology	Registered Professional Engineer
Jeff McClure	Geologist (4) WV DEP Geologist (10)	BS Geology BA Biology	Certified Professional Geologist

Appendices

List of Appendices

Appendix A – Comments
Appendix B – Maps & Breach Summary
Appendix C – Investigations & Analyses
Appendix D – Project Coordination Documents

Appendix A - Comments

Letters of Comment on the Draft Supplemental Plan - Environmental Assessment

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

REPLY TO
ATTENTION OF

July 15, 2008

Operations Division
Regulatory Branch
2008-665

Mr. Kevin Wickey
USDA-Natural Resources Conservation Service
Harley O. Staggers Federal Building
75 High Street, Room 301
Morgantown, West Virginia 26505

Dear Mr. Wickey:

I am referring to your letter received in this office on April 14, 2008, regarding the New Creek Site 14 Dam Rehabilitation Project, Grant County, West Virginia.

Based on the information that was submitted and the National Wetland Inventory maps, it appears the project may impact wetlands. This should be field verified. It also appears the project will impact streams. Fills or earth disturbances within these waters and/or wetlands would require authorization from this office under Section 404 of the Clean Water Act.

In planning future development, every effort should be made to avoid and minimize stream and/or wetland impacts to the fullest extent practicable. If wetlands are found and encroachments are planned within wetland areas, they should be accurately delineated and this office again contacted to determine permit requirements. All stream impacts (including length, width, size of pipe, latitude and longitude) should be identified. Development of the upland areas would not require authorization from this office. This project will most likely qualify for a Nationwide 3 Permit.

We will continue to work with you in your development plans in order to protect the aquatic resources. In future correspondence, please indicate the permit number of this project as 2008-665. Additionally, in all future submissions, please include the quadrangle name(s) of the topographic map(s). If you have any questions, please contact William Wright at (412) 395-7189 or via e-mail at william.h.wright@usace.army.mil.

Sincerely,

Scott A. Hans
Acting Chief, Regulatory Branch

CF

Lyle Bennett
WV Department of Environmental Protection
601 57th Street SE
Charleston, WV 25304

Public Land Corporation
Capitol Complex, Bldg. 3, Room 643
1900 Kanawha Blvd., East
Charleston, WV 25305

Mr. Tom Chapman
U.S Fish and Wildlife Service
West Virginia Field Office
694 Beverly Pike
Elkins, WV 26241

DIVISION OF NATURAL RESOURCES
Wildlife Resources Section
Capitol Complex, Building 3, Room 812
1900 Kanawha Boulevard, East
Charleston WV 25305-0664
Telephone (304) 558-2771
Fax (304) 558-3147
TDD (304) 1-800-354-6087

Joe Manchin III
Governor

Frank Jezioro
Director

June 11, 2008

Mr. Kevin Wickey
State Conservationist
Natural Resources Conservation Service
75 High Street
Morgantown, WV 26505

Re: Draft Supplemental Watershed Plan, Environmental Assessment for the Rehabilitation of the New Creek Site 14, Whites Run Sub-Watershed of the Potomac River Watershed, Grant County, WV

Dear Mr. Wickey:

The West Virginia Division of Natural Resources (DNR) has reviewed the referenced document and offers the following comments.

DNR does not object to the selection of the preferred alternative of having the Natural Resources Conservation Service (NRCS) rehabilitate the dam so that it meets current design criteria and performance standards.

The Draft Supplemental Watershed Plan (DSWP) on page 35 references "incidental recreation" as non-monetary benefits. Birding and other non-consumptive uses do have monetary value. These numbers are more difficult to calculate, but there are significant funds spent by the public for non-consumptive uses of natural resources.

The NRCS states it will mitigate for the temporary loss of the recreational fishery by cooperating with DNR to perform fish salvage operations during lake drawdown and stocking the impoundment once rehabilitation is complete. We will work with the NRCS to complete "fish salvage" operations and the re-establishment of the fishery. DNR funds are extremely limited and this action item is not in our budget. We will need to develop a monetary agreement to assist NRCS in the successful completion of this mitigation. The DSWP places an estimated

cost of fish salvage and re-establishment of the fishery at $137,500. This figure seems reasonable.

The NRCS must coordinate drawdown with Mr. Jim Hedrick, the District 2 Fisheries Biologist. Winter drawdown will maximize survivability of fish being transferred from the lake to other locations. In addition, winter drawdown of the lake would maximize available time for construction and allow the lake bed some time to vegetate which will aid lake productivity thus facilitating the re-establishment of the sport fishery.

The DNR supports NRCS' habitat improvement approach of using debris from the existing riser as fish habitat in the upper portions of the lake and utilizing the "road bed" that will be constructed to transport those materials as spawning habitat for centrarcids.

If you have any questions concerning our comments, please contact Mr. Danny Bennett of my staff at the Elkins Operations Center (304) 637-0245 or e-mail dannybennett@wvdnr.gov.

Sincerely,

Curtis I. Taylor, Chief
Wildlife Resources Section

CIT/adk

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

June 6, 2008

Kevin Wickey
State Conservationist
Natural Resources Conservation Service
75 High Street, Room 301
Morgantown, WV 26505

Re: Draft Environmental Assessment (EA) for the New Creek Site 14 Dam Rehabilitation Project, Grant County, West Virginia

Dear Mr. Wickey,

The Environmental Protection Agency (EPA) has received the above referenced document and, in accordance with the National Environmental Policy Act of 1969 (NEPA) and the regulations of the Council for Environmental Quality for implementing NEPA, the Draft EA has been reviewed and comments prepared for your consideration. Overall, the document is sufficiently thorough and discloses the limited environmental impacts of the proposed project.

The document would benefit from an expanded discussion of how the impoundment would be drained, equipment required, any potential impacts of hauling or using equipment, timing for draining and timing to refill reservoir, and impact on stream flows during refilling. The report considers fisheries resources in the lake, but does not discuss possible turtle or amphibian impact, appropriate mitigation or possible risks or complications. Any additional discussion of these topics would be welcomed.

EPA appreciates the opportunity to review and comment on the Draft EA for the NRCS project. If there are any questions regarding our review, please feel free to contact me at (215) 814-3367.

Sincerely,

William Arguto
NEPA Team Leader
Office of Environmental Programs

PROPOSED NEW CREEK SITE 14 REHABILITATION PROJECT

DRAFT ENVIRONMENTAL ASESSMENT REVIEW COMMENTS

NEW CREEK PROPERTY OWNERS ASSOCIATION
HC 72 BOX 203L
NEW CREEK, WV 26726

COMMENTS(S):

1. It is our request that earth and sod be used to increase the height of the dam instead of concrete. This would also be our request for any repairs or improvements to the auxiliary spillway. However, if concrete must be used it would be in the most esthetic way possible.

2. It is our hope the construction period be as brief as possible and that the construction process does not in any way impede our access to NCLPOA at the south end of the dam.

3. The plan mentions improved parking for those who use the lake for fishing. It is our hope this parking will be at the breast end of the dam and not at the south end near the gate to NCLPOA.

4. We would like a Dry Hydrant to be installed during the construction phase. We understand that repair funds cannot be used for this, and we are willing to pay for the installation. However, we would ask that your contractor do the work and the NCLPOA would pay for the material and labor. Also, we would appreciate any direction you can provide for us to obtain a grant to help with funding a Dry Hydrant.

Frank Fitzpatrick, President NCLPOA fgfitz@aol.com
Steve Peer, Vice-President NCLPOA gpeer@access.k12.wv.us

June 5, 2008

Appendix B – Maps and Breach Summary

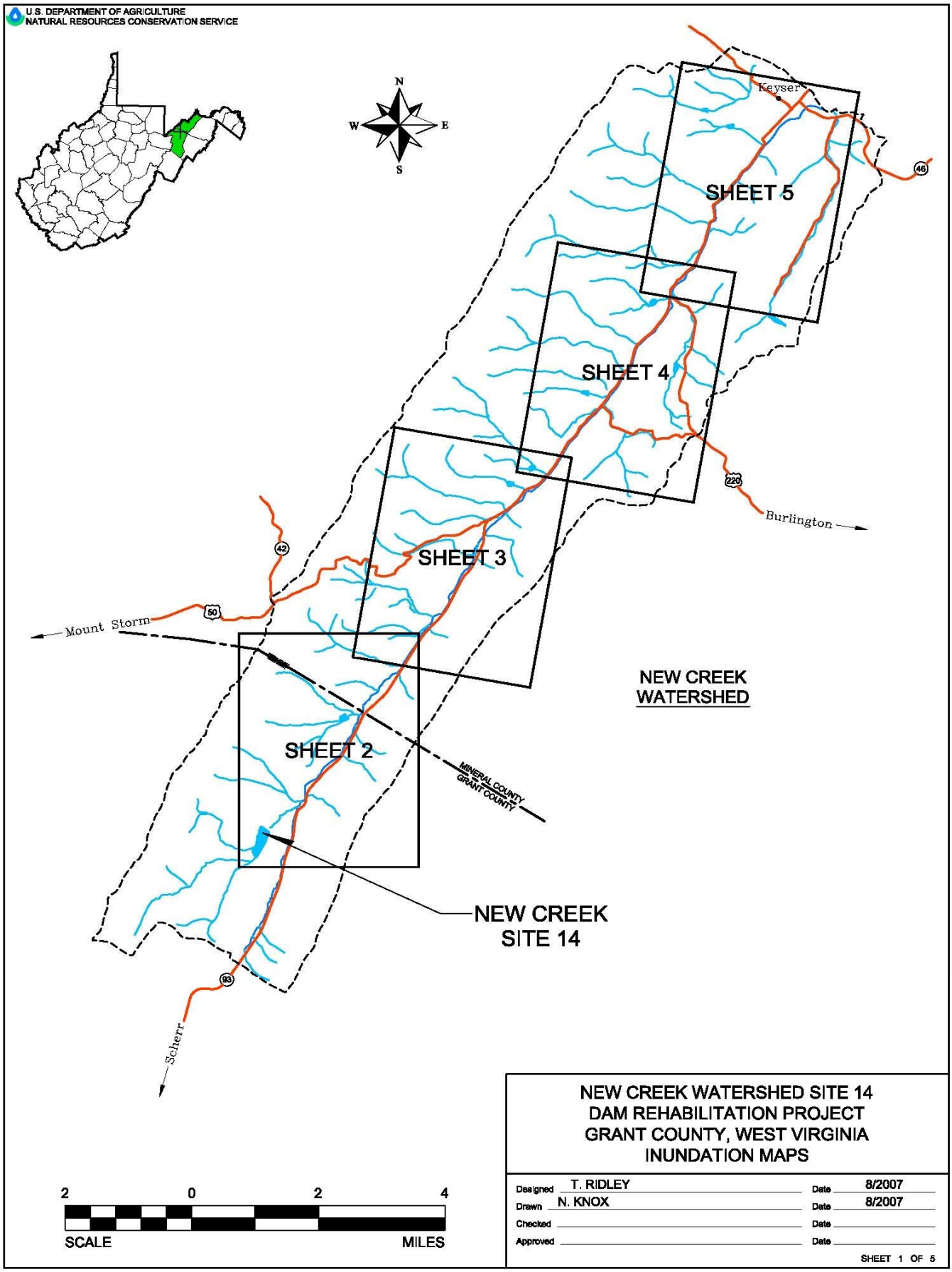
Contents of Appendix B

1. Breach Summary Table
2. Breach Inundation Maps (5)
3. Site 14 Location Map
4. Site 14 Watershed Map
5. Site 14 Project Map

Breach Summary Table

CROSS SECTION	DISTANCE DOWNSTREAM FROM SITE 14 (feet)	MAXIMUM WATER SURFACE ELEVATION (feet MSL)	MAXIMUM FLOW (CFS)
Site 14	0	1613.3	270,000
OLD 24	12,300	1405.7	124,000
OLD 21	23,700	1238.4	49,000
OLD 18	37,496	1083.9	24,000
29A	46,418	998.3	16,500
25	52,541	956.8	13,400
23	55,876	931.8	12,300
22C	58,446	913.5	11,400

MSL: Mean Sea Level
CFS: cubic feet per second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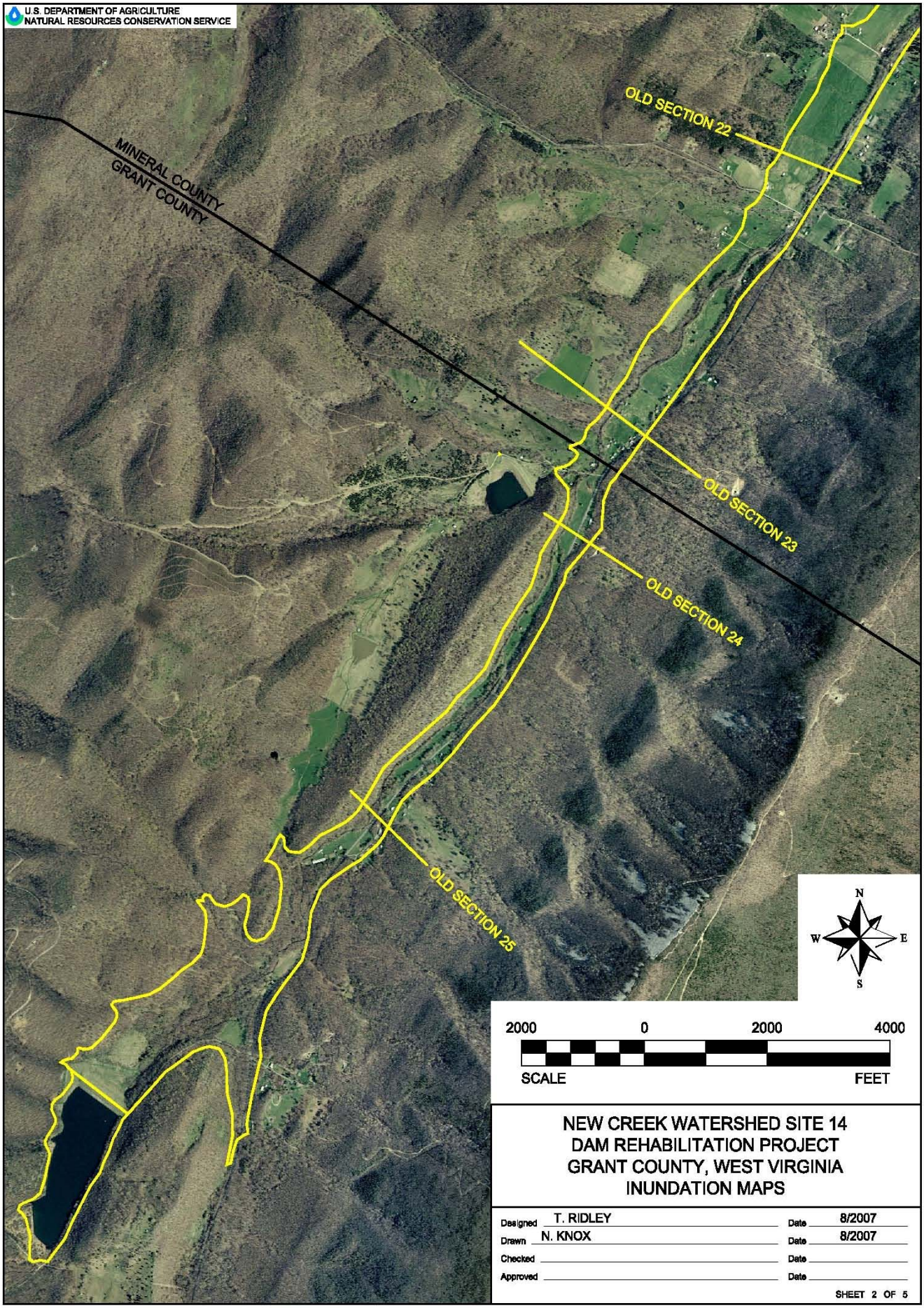
Approved Date
SHEET 1 OF 5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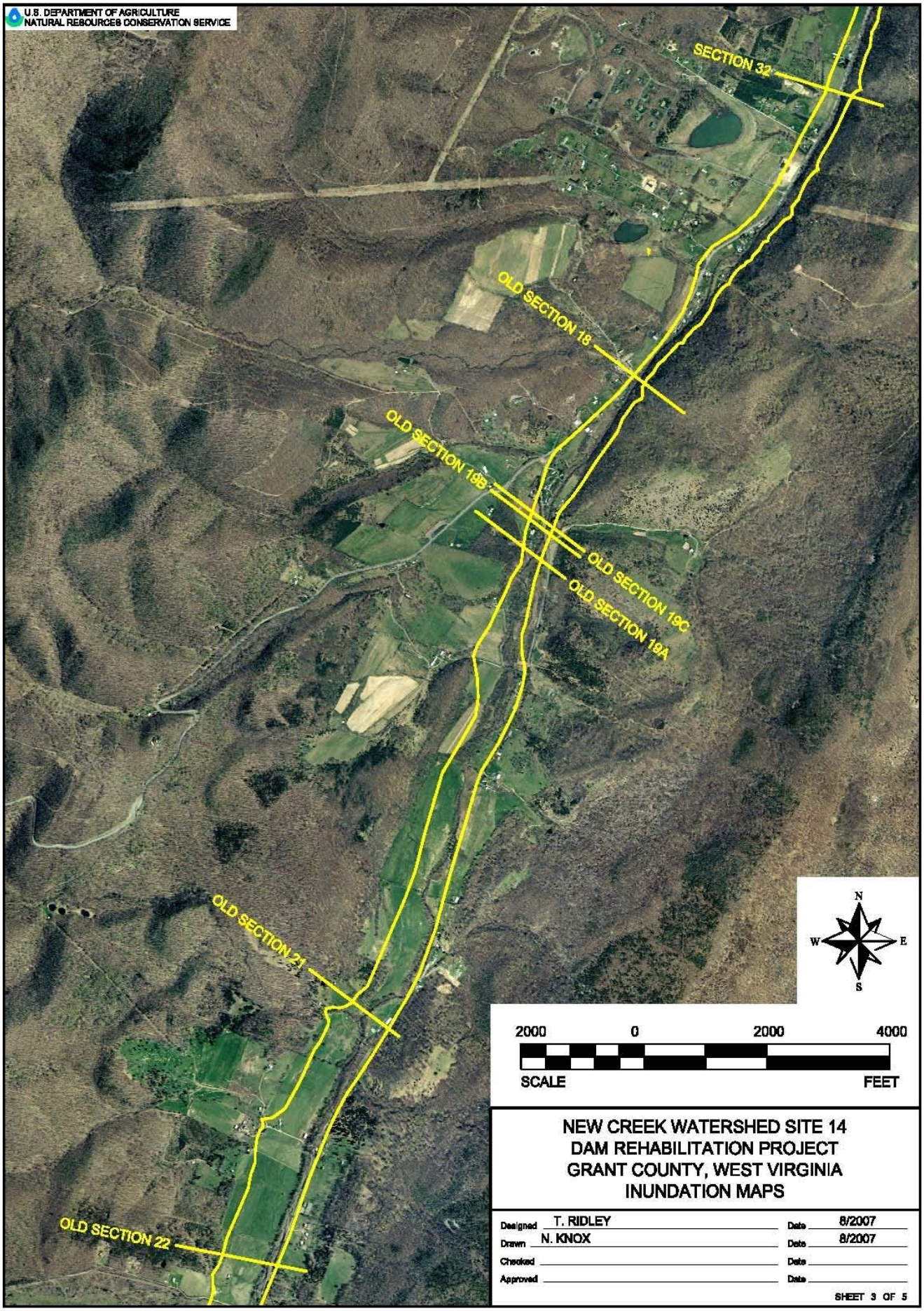
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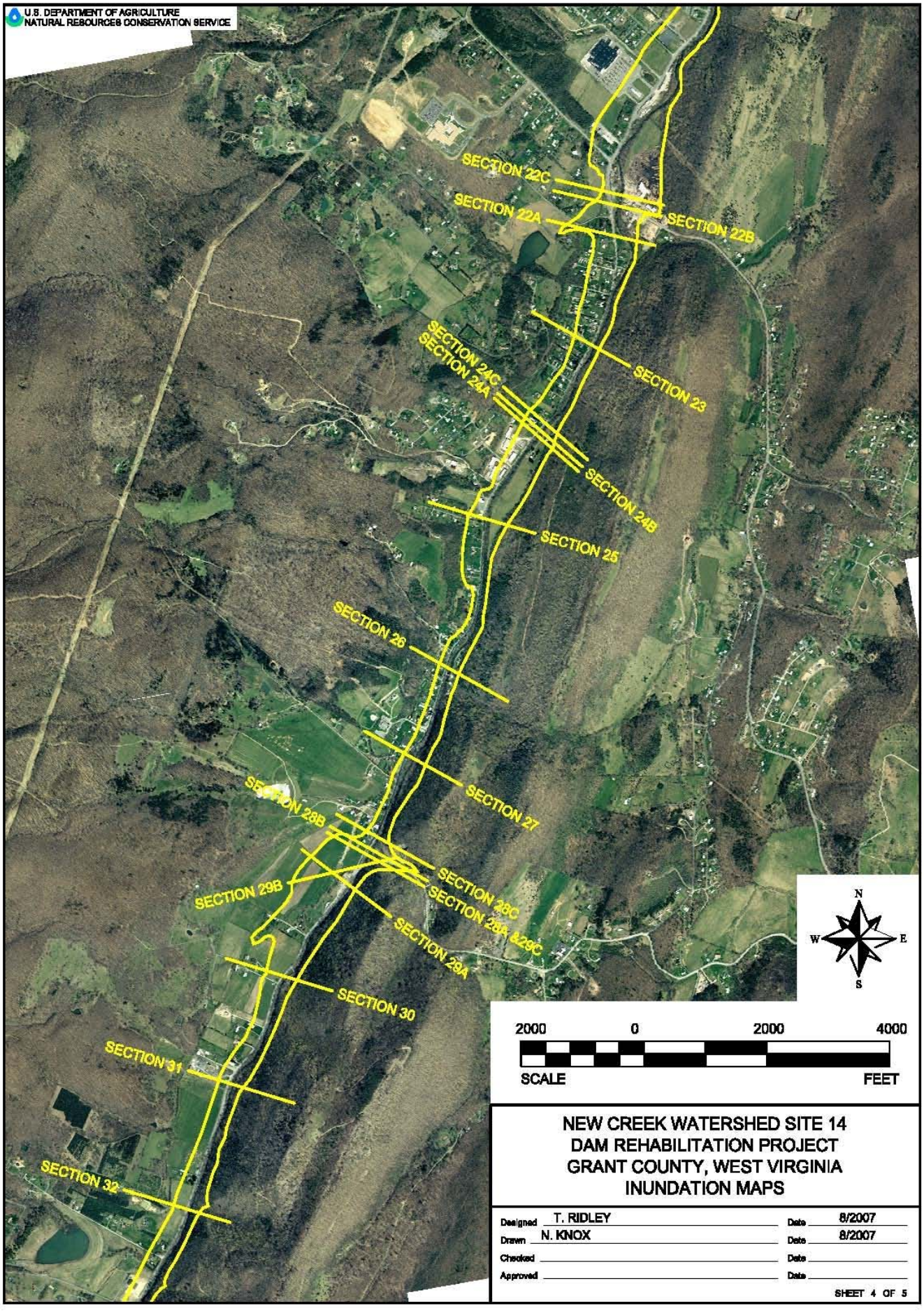
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GRANT COUNTY, WEST VIRGINIA
INUNDATION MAPS
Designed T. RIDLEY Date 8/2007
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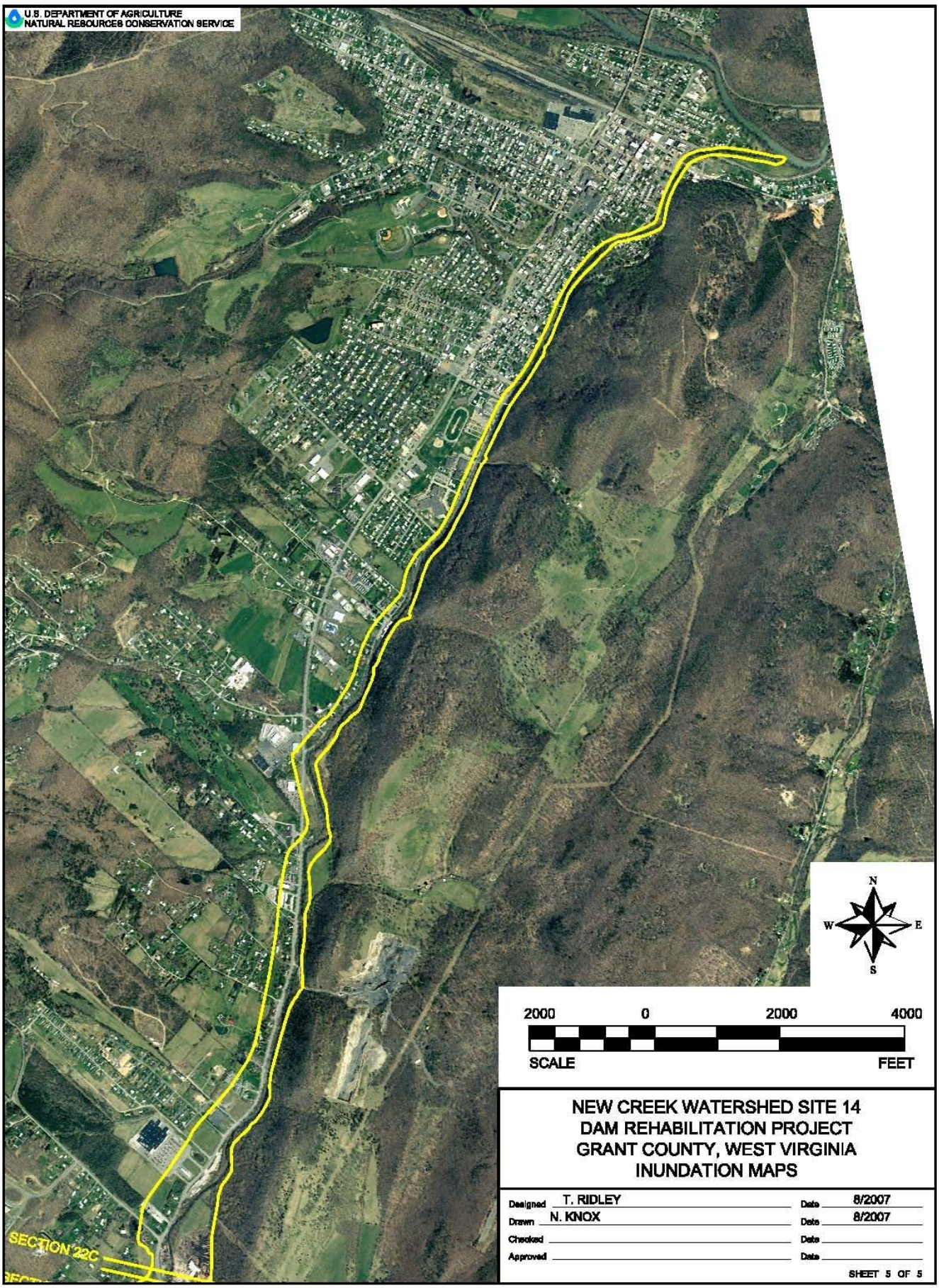
SHEET 4 OF 5



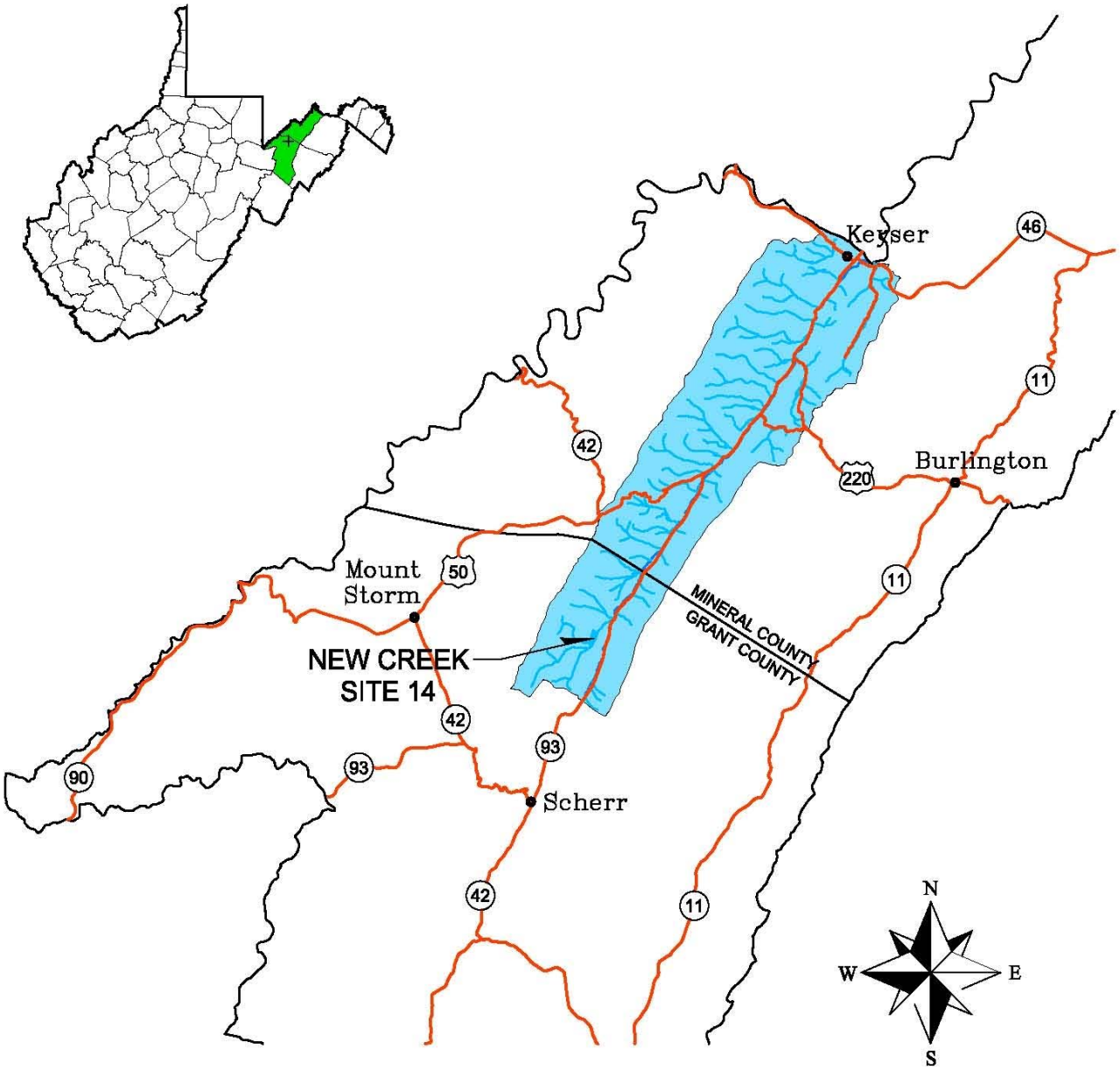
NEW CREEK WATERSHED SITE 14
DAM REHABILITATION PROJECT
GRANT COUNTY, WEST VIRGINIA
INUNDATION MAPS

Designed	T. RIDLEY	Date	8/2007
Drawn	N. KNOX	Date	8/2007
Checked		Date	
Approved		Date	

SHEET 5 OF 5

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SEPTEMBER 2007



NEW CREEK WATERSHED
SITE 14
DAM REHABILITATION PROJECT
GRANT COUNTY, WEST VIRGINIA

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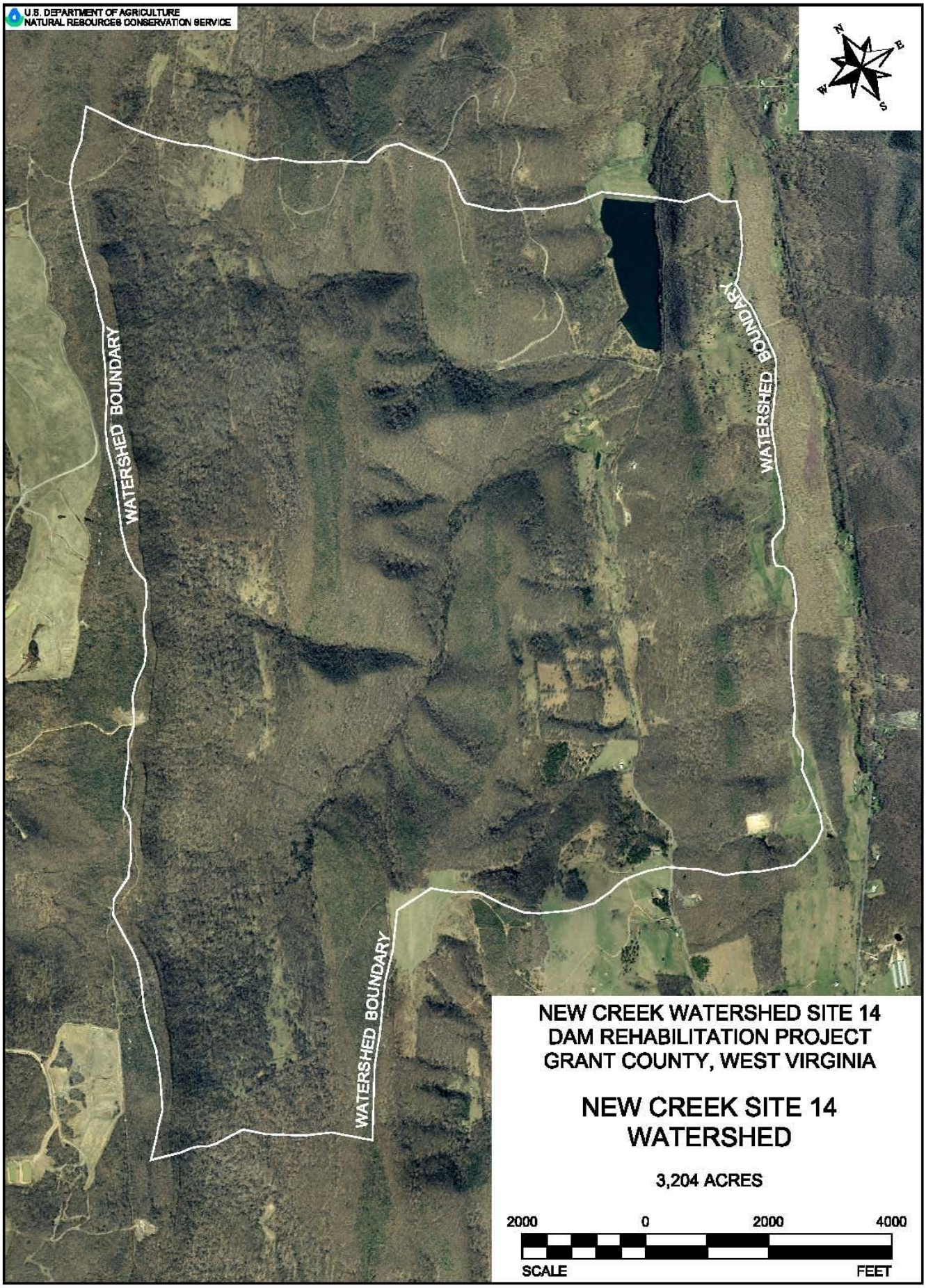
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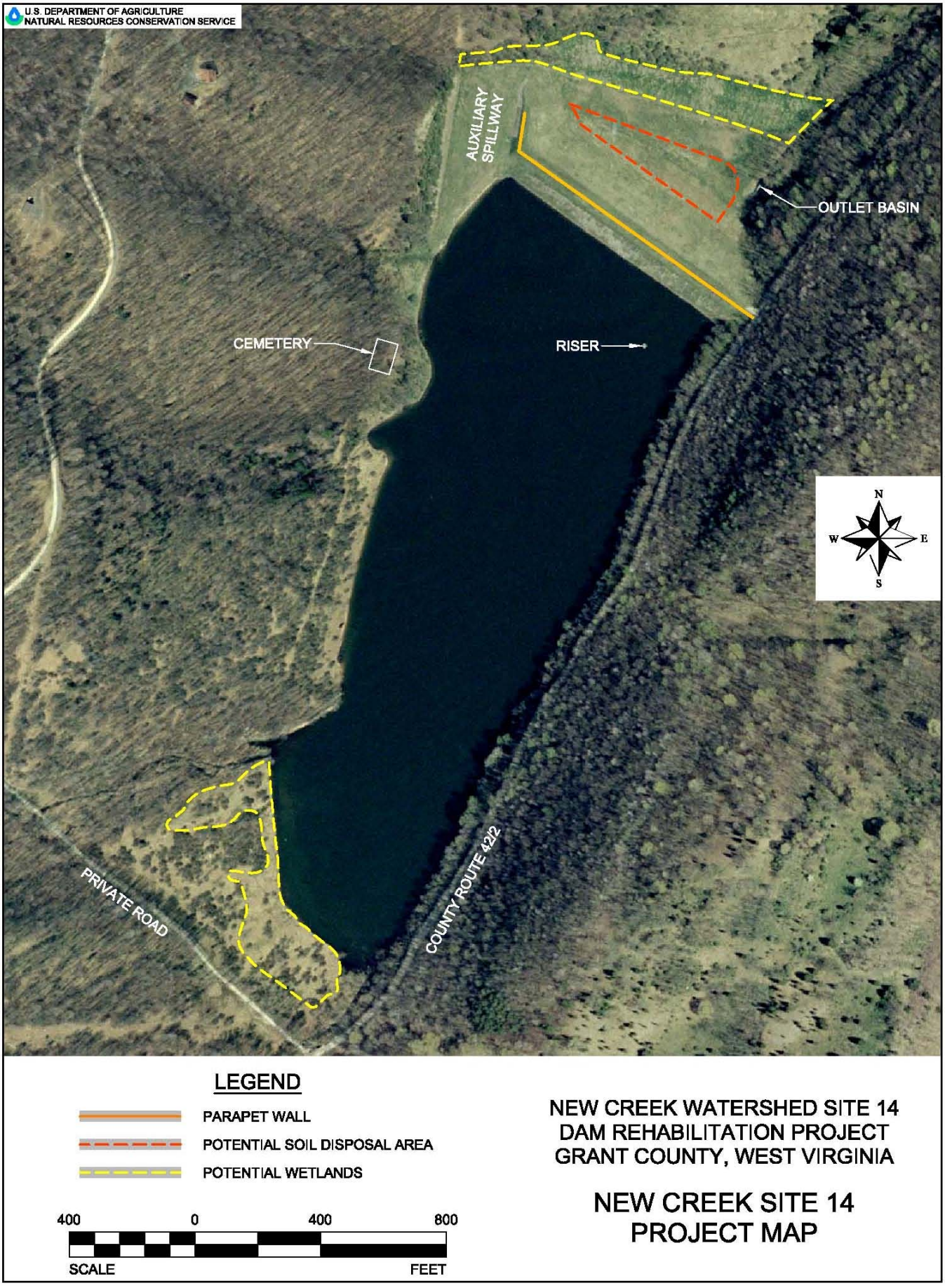
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NATURAL RESOURCES CONSERVATION SERVICE
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NEW CREEK WATERSHED SITE 14
DAM REHABILITATION PROJECT
GRANT COUNTY, WEST VIRGINIA
NEW CREEK SITE 14
PROJECT MAP

Appendix C - Investigations and Analyses

INVESTIGATIONS AND ANALYSES

Geologic Investigation

A sediment survey was conducted in May 2007. The sediment survey consisted of numerous transects of the lake with soundings being taken at approximate 100 foot intervals. Each sounding was located using a GPS unit. After 1.5 days of field work, transects had been run over the entire lake. For quality control, a map was then generated of the sounding locations. Several extra transects were then run to fill in gaps in the coverage. Utilizing the sounding data and the elevation of the lake pool during the survey, a contour map of top-of-sediment surface for the lake was generated. That data also allowed the calculation of the volume of the current pool. The top-of-sediment map, along with original topographic data and borrow calculations were used to determine the quantity of submerged sediment currently in the pool. The quantity of submerged sediment was then used to calculate a historic average sedimentation rate. The historic sedimentation rate along with an evaluation of land use changes in the watershed were used to project the future sedimentation rate along with the life of the remaining sediment pool.

Engineering

The Rehabilitation Assessment Report for Site 14 (March 2006), its supporting analyses, and the original design folder (1962) were reviewed and studied. Field surveys were conducted to measure key elevations of the dam and spillways, and profiles and cross sections of the primary dam features. The minimum elevation of the cemetery dike was recorded. Topographic surveys were done for each original borrow area. The exposed phreatic surface of the downstream slope of the embankment's saturation was measured. Linton Creek and its tributaries were surveyed, measuring stream flow sections and evaluating Manning's 'n' values for time of concentration computations.

The original surveyed topography contours (1961) were digitized with the AutoCAD drafting program for input into SurvCADD engineering software. Contours of the existing auxiliary spillway and dam embankment were computed and added to the digitized terrain model. Topography data from the borrow area surveys were also imported into the model. SurvCADD was used to estimate proposed earthwork, volume of original borrow excavation, and, with sediment survey data, sediment volumes in the pool.

The SITES Water Resource Computer program was used to simulate the performance of the existing Site 14 with the required storms of TR-60. Crest elevations of the spillways and top of dam were evaluated. The stability and integrity of the auxiliary spillway's soil and rock formations were estimated for each criteria storm. Soil strength parameters and geologic data from the original design were used to estimate the auxiliary spillway's performance. Several auxiliary spillway widths were evaluated for capacity to convey the 6-hour PMP runoff flows. SITES were also used to route various frequencies of 24-hour rainfall events to estimate the frequency of overtopping of the cemetery dike.

Slope stability analyses were conducted to model the actual existing embankment geometry with the measured elevation of the exposed phreatic water surface. Soil strength parameters of the original laboratory data for the original design were used for the analyses.

Visual inspection of the principal spillway conduit was prohibited due to uncontrolled flow from the leaking pool drain gate. For planning purposes, a minimum pipe rehabilitation of a plastic slip-lining installation was assumed. A reinforced concrete impact basin was sized for the spillway outlet. A new intake riser was selected to replace the existing riser, as it is approaching the limit of its design life and has had multiple repairs to the concrete and its metal appurtenances. Also, the riser's strength to resist failure during a seismic event is questionable.

Construction cost estimates for Site 14 were based on computed quantities of all items with an allowance of 20 percent for contingencies. Cost data from the RS Means Heavy Construction Price Guide were used as well as experience with recent construction contracts in West Virginia.

Alternate routes of transportation for roads which are inundated by the flood pool of Site 14 were investigated by a study of County road maps, USGS 7 ½ minute quadrangle maps, 1993 aerial photography of the region, and interviews with residents of The Preserve at New Creek subdivision.

Economics

Flood damage reduction benefits, water supply, and indirect benefits from the Amended 1959 Watershed Plan were indexed to current values. All benefit categories were updated using appropriate price indexes as described in the NRCS Economics Guide.

Incidental recreation benefits were determined using the 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation and user day information from the West Virginia Division of Natural Resources, updated to current dollar values.

Census information and field observations were used to describe the project setting and economic and social conditions. Where available, such information was described for Site 14, but in most cases data was only available for the City of Keyser or for Mineral County. Although the site is located in Grant County, the downstream benefited area is Mineral County and the City of Keyser.

Census information, input from local sponsors and other sources were used to identify any potential environmental justice issues. No issues were identified through any of these means.

All costs and benefits were based on 2007 prices. Costs and benefits were amortized at 4.875% for 50 years.

Hydrology and Hydraulics

Hydrologic and hydraulic investigations consisted of an analysis of rainfall runoff relationships using computer models of the watershed. The models were calibrated by comparing the output files to the previous modeling done for the 1992 Floodplain Management Study, which were calibrated to a reproduction of an actual storm event and matching surveyed high water marks. Rainfall data was obtained from NOAA Atlas 14. Soils data was obtained from the Soil Survey of Grant and Hardy Counties, West Virginia. Land use information was coordinated with local NRCS field office personnel. Hydrologic soil-cover complexes and runoff curve numbers were computed using the procedures in the NRCS National Engineering Handbook, Section 4. Storm runoff was estimated using the runoff curve-number method.

Cross section data were obtained from field surveys. Cross section locations were selected to reflect the flood stages at points of damage, restriction, and grade control. All bridges and culverts were field surveyed to obtain structural geometry in order to compute the backwater effects of those structures. Elevations for the mapping and surveying were referenced to the National Geodetic Vertical Datum of 1929.

Channel and floodplain geometry and roughness factors (Manning's "n") for the watershed were assigned based on field inspection of the streams and their adjacent areas.

Flood routings were performed using procedures in NRCS TR-66. The dam breach hydrograph was routed to establish discharge values through the damage area. Water surface elevations were computed using the NRCS WSP-2 computer program as described in TR-61. Breach profiles were drawn showing computed water surface elevations.

Incidental Recreation – Fishing

The WVDNR has managed the fishery at Site 14 for public use since 1973. This public fishing area is very popular and is estimated to provide about 17,279 angler-days of recreation annually. The lake is managed as a self-sustaining warm water fishery and is stocked during the spring and fall with trout. The draining of the reservoir, to facilitate the construction of the rehabilitation measures, will temporarily eliminate this fishery and necessitate its re-establishment when the reservoir is refilled after work is completed. Because trout are stocked, and not dependent upon reproduction in the reservoir, recreation based upon this species will resume as soon as conditions are suitable for WVDNR to resume the stocking program. The warm water fishery, comprised primarily of large-mouthed bass, bluegills and channel catfish, is generally self-sustaining following the initial reintroduction of these species. As a result, the warm water component of the fishery requires a number of years to provide quality recreational opportunities.

Recreation, as a primary purpose or an incidental benefit, was not a component of the New Creek Site 14 project when it was completed in 1963. However, through agreement between the WVDNR and local sponsors (City of Keyser) in 1973, a fishery was established and the site was made available for recreational fishing. Since that time, recreational benefits incidental to the primary purposes of floodwater retardation and water supply have been realized. As a result, it is reasonable to mitigate the temporary loss of this fishery as a component of the proposed Site 14 rehabilitation project. This mitigation is to be comprised of salvaging fish stocks from the reservoir as it is being drained and reintroducing warm water species to re-establish the self-sustaining component of the lake's fishery. The cost for fish salvage and to re-establish the fishery at Site 14 is estimated to be about $137,500.

A number of concerns regarding the affects of the proposed rehabilitation project upon the fishery and recreation opportunities were expressed at the early planning meeting held at Site 14 on June 27, 2007. Among these were the length of time the reservoir would be drained, will the fishery be re-established, can additional parking be provided for lake visitors, can improved handicap accessibility be provided, and suggestions to improve habitat and bottom structure within the reservoir while it is drained to accommodate construction. Federal rehabilitation funds are intended to extend the service life of the structural components of an impoundment and are not to be allocated specifically to improve recreation or wildlife habitat. Recreation and wildlife habitat improvements may; however, result because of installing rehabilitation measures and associated mitigation.

Following the early planning meeting of June 27, 2007, WVDNR was consulted to further discuss habitat improvements to the reservoir bottom that were recommended. The two main objectives, according to the fishery biologist, were to provide artificial cover, in the form of rock piles that contained cavities suitable for channel catfish spawning and to provide shallow water spawning beds suitable for use by bass and bluegills. It became apparent that concrete debris from the demolition of the old riser could be disposed of by creating piles in the upper end of the reservoir. This debris could be placed in clusters in water about eight to ten feet deep (relative to permanent pool elevation) and constructed to maximize the amount of voids or cavities within each pile. A crude road bed, one to two dozer blades wide, could be graded from the riser location along the western side of the reservoir to facilitate transportation of the debris to the disposal sites in the reservoir. The road bed should vary in elevation from two to five feet below the permanent pool elevation and left unreclaimed. These two features would address the two recommendations for habitat improvements within the lake's pool area and address the need to identify a disposal site for the demolition debris created when the old riser is razed.

Opportunities to provide additional parking for lake visitors, in conjunction with the installation of rehabilitation measures, are limited. The county road (CR 42/2) along the east side of the reservoir has been cut into the hillside and is narrow. No construction is planned along this road except for the area adjacent to the dam's abutment. A concrete parapet wall will be constructed across the top of the dam to increase the effective height of the embankment. This wall will extend into the right abutment and the road bed of CR 42/2 will be raised to an equal elevation. Because of this wall, parking at the end of the dam may not be feasible. In the event that grading is required in this area, to improve construction access above and below the dam or to create a site for storing construction materials and equipment, it will be evaluated for use as additional parking upon completion of the project.

Appendix D – Project Coordination Documents

Contents of Appendix D

1. Letter from the US Fish & Wildlife Service, November 1, 2007.
2. Letter from the West Virginia Division of Culture & History, June 8, 2007.
3. Letter from Potomac Valley Conservation District, August 18, 2008.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
694 Beverly Pike
Elkins, West Virginia 26241

Contact Name and Fax Number: Ron Wigal of NRCS Fax: (304) 284-4839

This is in response to your request for information about candidate, threatened and endangered species, and their designated critical habitat, dated September 14, 2007, for the implementation of rehabilitation measures at the existing New Creek Site 14 Dam and impoundment located on Litton Creek in Grant County, West Virginia. This rehabilitation proposal is authorized by the Watershed Protection and Flood Prevention Act (Public Law 83-566) as amended by the Small Watershed Rehabilitation Amendments of 2000 (Section 313 of Public Law 106-472). Rehabilitation measures will include replacing the existing riser (outlet structure) of the dam to meet current seismic criteria, raising the effective height of the dam by about two feet, raising the elevation of the county road adjacent to the dam to the dam's effective height, and constructing a new impact basin at the outlet of the principal spillway conduit. This work is anticipated to be conducted within the existing footprint of the project, no additional land acquisition is expected, and no mature tree removal will be conducted.

Based on the information which has been provided to us, the Service has concluded that no federally-listed endangered and threatened species, or designated critical habitats, are expected to be impacted by the project. Therefore, this project is not likely to adversely affect federally-listed species, and no further consultation under the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*) is required with the Service. Should project plans change or amendments be proposed, or if additional information on listed and proposed species becomes available, this determination may be reconsidered.

If you have any questions regarding these comments, please contact Melissia Carter at (304) 636-6586 or at the letterhead address.

Biologist: Melissia Carter Date: 11/2/07

WEST VIRGINIA
DIVISION OF
CULTURE & HISTORY
The Cultural Center
1900 Kanawha Blvd., E.
Charleston, WV
25305-0300
Phone 304.558.0220
Fax 304.558.2779
TDD 304.558.3562
www.wvculture.org
EEO/AA Employer

May 22, 2008

Mr. Kevin Wickey
State Conservationist
US Department of Agriculture
Natural Resources Conservation Service
75 High Street, Room 301
Morgantown, WV 26505

RE: New Creek Watershed Dam Site 14 Rehabilitation
FR: 07-1061-GT-1

Dear Mr. Wickey:

We have reviewed the Draft Environmental Assessment (DEA) submitted for the above referenced project to determine its effects to cultural resources. As required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic and Cultural Properties," we submit our comments.

The DEA accurately summarizes previous comments provided by this office regarding the proposed rehabilitation of the New Creek Site 14 Dam. It is our understanding that all associated project activities will occur within previously disturbed areas. As such, we remain in concurrence with our determination that there are no historic resources within the proposed project area. No further consultation is necessary. However, it is our understanding that, should archaeological materials be encountered during rehabilitation of the dam, work will be discontinued and this office will be contacted.

We appreciate the opportunity to be of service. *If you have any questions regarding our comments or the Section 106 process, please contact me at (304) 558-0240.*

Sincerely,

Lora A. Lamarre
Senior Archaeologist

Potomac Valley
Conservation District
500 East Main Street
Romney, West Virginia 26757-1836
304-822-5174

August 18, 2008

Attn: Pam Yost
USDA / Natural Resources Conservation Service
75 High St., Room 301
Morgantown, WV 26505

Dear Ms. Yost:

Thank you for your recent inquiry regarding dry hydrants. We understand that property owners adjacent to New Creek Site #14 have expressed an interest in the installation of a dry hydrant in the dam while it is undergoing rehabilitation work. The Potomac Valley Conservation District does administer a cost share program for dry hydrant installations that are designed through NRCS standards. The hydrants are beneficial in providing additional fire protection and emergency water access during times of need.

Applications for the cost share assistance are available through the Potomac Valley Conservation District office in Romney at (304) 822-5174. The cost share is 50% of the total cost with a maximum payment of $500.00. All applications are reviewed by the Board at the monthly meeting and approved based on the availability of funds. Once the application is approved, landowners have 90 days to complete the hydrant installation.

Please forward this information to the appropriate contact person with the New Creek Site #14 Homeowners Association and direct them to contact the District. We look forward to working with them in the future.

Sincerely,

John H. Wagoner

John H. Wagoner
Chairman