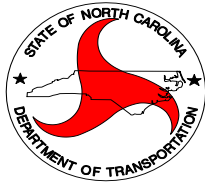


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION



Division 14

District 3

Contract

CONTRACT: DN00655
TIP Number: N/A
FEDERAL: 15314.1056012
WBS Element: 15314.1056012
LOCATION: ALONG NC 106 10.4 MILES EAST OF US HWY 23/441 AND
3.8 MILES WEST OF US HWY 64 IN MACON COUNTY
COUNTY: MACON
DESCRIPTION: GRADING, TRENCHLESS PIPE INSTALLATION,
FLOWABLE FILL, PIPE ABANDONMENT

Contractor: TURNKEY TUNNELING, INC
Address: 1247 STIMMEL ROAD
COLUMBUS, OH 43223

Division Engineer: B. C. Burch, P.E.
District Engineer: J. A. Russell, P.E.
Resident Engineer: W. T. Anderson

Letting Date: 2/12/2019

Contract Execution: 2/27/2019

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 14

PROPOSAL

DATE AND TIME OF BID OPENING: FEBRUARY 12, 2019 AT 2:00 PM

CONTRACT ID: DN00655

WBS ELEMENT NO.: 15314.1056012

FEDERAL AID NO.: 15314.1056012

COUNTY: MACON

TIP NO.: N/A

MILES: 0.07

ROUTE NO.: NC 106

LOCATION: ALONG NC 106 10.4 MILES EAST OF US HWY 23/441 AND 3.8
MILES WEST OF US HWY 64 IN MACON COUNTY

★ TYPE OF WORK: GRADING, TRENCHLESS PIPE INSTALLATION, FLOWABLE
FILL, PIPE ABANDONMENT ★

NOTICE:

ALL BIDDERS SHALL COMPLY WITH ALL APPLICABLE LAWS REGULATING THE PRACTICE OF GENERAL CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA WHICH REQUIRES THE BIDDER TO BE LICENSED BY THE N.C. LICENSING BOARD FOR CONTRACTORS WHEN BIDDING ON ANY NON-FEDERAL AID PROJECT WHERE THE BID IS \$30,000 OR MORE, EXCEPT FOR CERTAIN SPECIALTY WORK AS DETERMINED BY THE LICENSING BOARD. BIDDERS SHALL ALSO COMPLY WITH ALL OTHER APPLICABLE LAWS REGULATING THE PRACTICES OF ELECTRICAL, PLUMBING, HEATING AND AIR CONDITIONING AND REFRIGERATION CONTRACTING AS CONTAINED IN CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA. NOTWITHSTANDING THESE LIMITATIONS ON BIDDING, THE BIDDER WHO IS AWARDED ANY FEDERAL - AID FUNDED PROJECT SHALL COMPLY WITH CHAPTER 87 OF THE GENERAL STATUTES OF NORTH CAROLINA FOR LICENSING REQUIREMENTS WITHIN 60 CALENDAR DAYS OF BID OPENING.

THIS IS A ROADWAY PROJECT.

BID BONDS ARE NOT REQUIRED.

TURNKEY TUNNELING, INC.

NAME OF BIDDER

1247 STIMMEL ROAD COLUMBUS , OH 43223

ADDRESS OF BIDDER

**PROPOSAL FOR THE CONSTRUCTION OF
CONTRACT No. DN00655 IN MACON COUNTY, NORTH CAROLINA**

Date 1/22/2019 20

**DEPARTMENT OF TRANSPORTATION,
RALEIGH, NORTH CAROLINA**

The Bidder has carefully examined the location of the proposed work to be known as Contract No. **DN00655**; has carefully examined the plans and specifications, which are acknowledged to be part of the proposal, the special provisions, the proposal, the form of contract; and thoroughly understands the stipulations, requirements and provisions. The undersigned Bidder further agrees to provide all necessary machinery, tools, labor, and other means of construction; and to do all the work and to furnish all materials, except as otherwise noted, necessary to perform and complete the said contract in accordance with *the 2018 Standard Specifications for Roads and Structures* by the dates(s) specified in the Project Special Provisions and in accordance with the requirements of the Engineer, and at the unit or lump sum prices, as the case may be, for the various items given on the sheets contained herein.

The Bidder shall provide and furnish all the materials, machinery, implements, appliances and tools, and perform the work and required labor to construct and complete State Highway Contract No. **DN00655** in **Macon County**, for the unit or lump sum prices, as the case may be, bid by the Bidder in his bid and according to the proposal, plans, and specifications prepared by said Department, which proposal, plans, and specifications show the details covering this project, and hereby become a part of this contract.

The published volume entitled *North Carolina Department of Transportation, Raleigh, Standard Specifications for Roads and Structures, January 2018* with all amendments and supplements thereto, is by reference incorporated into and made a part of this contract; that, except as herein modified, all the construction and work included in this contract is to be done in accordance with the specifications contained in said volume, and amendments and supplements thereto, under the direction of the Engineer.

If the proposal is accepted and the award is made, the contract is valid only when signed either by the Contract Officer or such other person as may be designated by the Secretary to sign for the Department of Transportation. The conditions and provisions herein cannot be changed except over the signature of the said Contract Officer or Division Engineer.

The quantities shown in the itemized proposal for the project are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the quantity of any item or portion of the work as may be deemed necessary or expedient.

An increase or decrease in the quantity of an item will not be regarded as sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided for the contract.



Division 14 Project Manager

DocuSigned by:
wes jamison
02EE828795674A5...

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PROPOSAL SHEET**

THIS CONTRACT IS FOR CONTRACT ID **DN00655** FOR **GRADING, TRENCHLESS PIPE INSTALLATION, FLOWABLE FILL, PIPE ABANDONMENT** TYPE OF WORK IN **MACON COUNTY**.

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INSTRUCTIONS TO BIDDERS

**PLEASE READ ALL INSTRUCTIONS CAREFULLY
BEFORE PREPARING AND SUBMITTING YOUR BID.**

All bids shall be prepared and submitted in accordance with the following requirements. Failure to comply with any requirement may cause the bid to be considered irregular and may be grounds for rejection of the bid.

For preparing and submitting the bid electronically, refer to Article 102-8(B) of the *2018 Standard Specifications*.

Bidders that bid electronically on Raleigh Central-Let projects will need a separate Digital Signature from the approved electronic bidding provider for Division Contracts.

ELECTRONIC ON-LINE BID:

1. Download entire proposal from Connect NCDOT website. Download the electronic submittal file from the approved electronic bidding provider website.
2. Prepare and submit the electronic submittal file using the approved electronic bidding provider software.
3. Electronic bidding software necessary for electronic bid preparation may be downloaded from the Connect NCDOT website at: <https://connect.ncdot.gov/letting/Pages/EBS-Information.aspx> or from the approved electronic bidding provider website.

PROJECT SPECIAL PROVISIONS**GENERAL****BOND REQUIREMENTS – No Bonds Required**

(06-01-16)

SPD 01-420B

The provisions of Articles 102-10 and 103-7 of the *2018 Standard Specifications for Roads and Structures* are waived for this project. No bonds required.

CONTRACT TIME AND LIQUIDATED DAMAGES:

(8-15-00) (Rev. 12-18-07)

108

SP1 G07 A

The date of availability for this contract is **April 16, 2019**, except that work in jurisdictional waters and wetlands shall not begin until a meeting between the DOT, Regulatory Agencies, and the Contractor is held as stipulated in the permits contained elsewhere in this proposal. This delay in availability has been considered in determining the contract time for this project.

The completion date for this contract is **December 16, 2019**.

Except where otherwise provided by the contract, observation periods required by the contract will not be a part of the work to be completed by the completion date and/or intermediate contract times stated in the contract. The acceptable completion of the observation periods that extend beyond the final completion date shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **Two Hundred Dollars (\$ 200.00)** per calendar day. These liquidated damages will not be cumulative with any liquidated damages which may become chargeable under Intermediate Contract Time Number 1.

INTERMEDIATE CONTRACT TIME NUMBER 1 AND LIQUIDATED DAMAGES:

(7-1-95) (Rev. 2-21-12)

108

SP1 G13 A

Except for that work required under the Project Special Provisions entitled *Planting, Reforestation* and/or *Permanent Vegetation Establishment*, included elsewhere in this proposal, the Contractor will be required to complete all work included in this contract and shall place and maintain traffic on same.

The date of availability for this intermediate contract time is **April 16, 2019**.

The completion date for this intermediate contract time is **July 15, 2019**.

The liquidated damages for this intermediate contract time are **Five Hundred Dollars (\$ 500.00)** per calendar day.

Upon apparent completion of all the work required to be completed by this intermediate date, a final inspection will be held in accordance with Article 105-17 and upon acceptance, the Department will assume responsibility for the maintenance of all work except *Planting, Reforestation* and/or *Permanent Vegetation Establishment*. The Contractor will be responsible for and shall make corrections of all damages to the completed roadway caused by his planting operations, whether occurring prior to or after placing traffic through the project.

INTERMEDIATE CONTRACT TIME NUMBER 2 AND LIQUIDATED DAMAGES:

(2-20-07)

108

SP1 G14 A

The Contractor shall complete the required work of installing, maintaining, and removing the traffic control devices for lane closures and restoring traffic to the existing traffic pattern. The Contractor shall not close or narrow a lane of traffic on “**ANY ROAD**” during the following time restrictions:

HOLIDAY AND HOLIDAY WEEKEND LANE CLOSURE RESTRICTIONS

1. For **unexpected occurrence** that creates unusually high traffic volumes, as directed by the Engineer.
2. For **New Year's Day**, between the hours of **4:00 PM** December 31st and **8:00 AM** January 2nd. If New Year's Day is on a Friday, Saturday, Sunday or Monday, then until **8:00 AM** the following Tuesday.
3. For **Easter**, between the hours of **4:00 PM** Thursday and **8:00 AM** Monday.
4. For **Memorial Day**, between the hours of **4:00 PM** Friday and **8:00 AM** Tuesday.
5. For **Independence Day**, between the hours of **4:00 PM** the day before Independence Day and **8:00 AM** the day after Independence Day.

If **Independence Day** is on a Friday, Saturday, Sunday or Monday, then between the hours of **4:00 PM** the Thursday before Independence Day and **8:00 AM** the Tuesday after Independence Day.
6. For **Labor Day**, between the hours of **4:00 PM** Friday and **8:00 AM** Tuesday.
7. For **Thanksgiving Day**, between the hours of **4:00 PM** Tuesday and **8:00 AM** Monday.
8. For **Christmas**, between the hours of **4:00 PM** the Friday before the week of Christmas Day and **8:00 AM** the following Tuesday after the week of Christmas Day.

Holidays and holiday weekends shall include New Year's, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Contractor shall schedule his work so that lane closures will not be required during these periods, unless otherwise directed by the Engineer.

The time of availability for this intermediate contract work shall be the time the Contractor begins to install all traffic control devices for lane closures according to the time restrictions listed herein.

The completion time for this intermediate contract work shall be the time the Contractor is required to complete the removal of all traffic control devices for lane closures according to the time restrictions stated above and place traffic in the existing traffic pattern.

The liquidated damages are **Two Hundred Fifty Dollars (\$ 250.00)** per hour.

PERMANENT VEGETATION ESTABLISHMENT:

(2-16-12) (Rev. 10-15-13)

104

SP1 G16

Establish a permanent stand of the vegetation mixture shown in the contract. During the period between initial vegetation planting and final project acceptance, perform all work necessary to establish permanent vegetation on all erodible areas within the project limits, as well as, in borrow and waste pits. This work shall include erosion control device maintenance and installation, repair seeding and mulching, supplemental seeding and mulching, mowing, and fertilizer topdressing, as directed. All work shall be performed in accordance with the applicable section of the *2018 Standard Specifications*. All work required for initial vegetation planting shall be performed as a part of the work necessary for the completion and acceptance of the Intermediate Contract Time (ICT). Between the time of ICT and Final Project acceptance, or otherwise referred to as the vegetation establishment period, the Department will be responsible for preparing the required National Pollutant Discharge Elimination System (NPDES) inspection records.

Once the Engineer has determined that the permanent vegetation establishment requirement has been achieved at an 80% vegetation density (the amount of established vegetation per given area to stabilize the soil) and no erodible areas exist within the project limits, the Contractor will be notified to remove the remaining erosion control devices that are no longer needed. The Contractor will be responsible for, and shall correct any areas disturbed by operations performed in permanent vegetation establishment and the removal of temporary erosion control measures, whether occurring prior to or after placing traffic on the project.

Payment for *Response for Erosion Control, Seeding and Mulching, Repair Seeding, Supplemental Seeding, Mowing, Fertilizer Topdressing, Silt Excavation, and Stone for Erosion Control* will be made at contract unit prices for the affected items. Work required that is not represented by contract line items will be paid in accordance with Articles 104-7 or 104-3 of the *2018 Standard Specifications*. No additional compensation will be made for maintenance and removal of temporary erosion control items.

CONSTRUCTION MORATORIUM:

(7-15-14)

SP1 G18A

No in-water work or land disturbance within the 25 foot wide buffer zone will be allowed from **October 15** through **April 15** of any year.

NO MAJOR CONTRACT ITEMS:

(2-19-02) (Rev. 8-21-07)

104

SP1 G31

None of the items included in this contract will be major items.

NO SPECIALTY ITEMS:

(7-1-95)

108-6

SP1 G34

None of the items included in this contract will be specialty items (see Article 108-6 of the *2018 Standard Specifications*).

FUEL PRICE ADJUSTMENT:

(11-15-05)(Rev. 2-18-14)

109-8

SP1 G43

Revise the *2018 Standard Specifications* as follows:

Page 1-87, Article 109-8, Fuel Price Adjustments, add the following:

The base index price for DIESEL #2 FUEL is \$ **1.8075** per gallon. Where any of the following are included as pay items in the contract, they will be eligible for fuel price adjustment.

The pay items and the fuel factor used in calculating adjustments to be made will be as follows:

| Description | Units | Fuel Usage Factor Diesel |
|--|---------|--------------------------|
| Unclassified Excavation | Gal/CY | 0.29 |
| Borrow Excavation | Gal/CY | 0.29 |
| Class IV Subgrade Stabilization | Gal/Ton | 0.55 |
| Aggregate Base Course | Gal/Ton | 0.55 |
| Sub-Ballast | Gal/Ton | 0.55 |
| Asphalt Concrete Base Course, Type _____ | Gal/Ton | 2.90 |
| Asphalt Concrete Intermediate Course, Type _____ | Gal/Ton | 2.90 |
| Asphalt Concrete Surface Course, Type _____ | Gal/Ton | 2.90 |
| Open-Graded Asphalt Friction Course | Gal/Ton | 2.90 |
| Permeable Asphalt Drainage Course, Type _____ | Gal/Ton | 2.90 |
| Sand Asphalt Surface Course, Type _____ | Gal/Ton | 2.90 |
| Aggregate for Cement Treated Base Course | Gal/Ton | 0.55 |
| Portland Cement for Cement Treated Base Course | Gal/Ton | 0.55 |
| ___ " Portland Cement Concrete Pavement | Gal/SY | 0.245 |
| Concrete Shoulders Adjacent to ___ " Pavement | Gal/SY | 0.245 |

SCHEDULE OF ESTIMATED COMPLETION PROGRESS:

(7-15-08) (Rev. 6-19-18)

108-2

SP1 G58

The Contractor's attention is directed to the Standard Special Provision entitled *Availability of Funds Termination of Contracts* included elsewhere in this proposal. The Department of Transportation's schedule of estimated completion progress for this project as required by that Standard Special Provision is as follows:

| | <u>Fiscal Year</u> | <u>Progress (% of Dollar Value)</u> |
|------|---------------------|-------------------------------------|
| 2019 | (7/01/18 - 6/30/19) | 83% of Total Amount Bid |
| 2020 | (7/01/19 - 6/30/20) | 17% of Total Amount Bid |

The Contractor shall also furnish his own progress schedule in accordance with Article 108-2 of the *2018 Standard Specifications*. Any acceleration of the progress as shown by the Contractor's progress schedule over the progress as shown above shall be subject to the approval of the Engineer.

DISADVANTAGED BUSINESS ENTERPRISE (DIVISIONS):

(10-16-07)(Rev.2-19-19)

102-15(J)

SP1 G62

Description

The purpose of this Special Provision is to carry out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts financed in whole or in part with Federal funds. This provision is guided by 49 CFR Part 26.

Definitions

Additional DBE Subcontractors - Any DBE submitted at the time of bid that will not be used to meet the DBE goal. No submittal of a Letter of Intent is required.

Committed DBE Subcontractor - Any DBE submitted at the time of bid that is being used to meet the DBE goal by submission of a Letter of Intent. Or any DBE used as a replacement for a previously committed DBE firm.

Contract Goal Requirement - The approved DBE participation at time of award, but not greater than the advertised contract goal.

DBE Goal - A portion of the total contract, expressed as a percentage, that is to be performed by committed DBE subcontractor(s).

Disadvantaged Business Enterprise (DBE) - A firm certified as a Disadvantaged Business Enterprise through the North Carolina Unified Certification Program.

Goal Confirmation Letter - Written documentation from the Department to the bidder confirming the Contractor's approved, committed DBE participation along with a listing of the committed DBE firms.

Manufacturer - A firm that operates or maintains a factory or establishment that produces on the premises, the materials or supplies obtained by the Contractor.

Regular Dealer - A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public in the usual course of business. A regular dealer engages in, as its principal business and in its own name, the purchase and sale or lease of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone, and petroleum products need not keep such products in stock, if it owns and operates distribution equipment for the products. Brokers and packagers are not regarded as manufacturers or regular dealers within the meaning of this section.

Replacement/Substitution - A full or partial reduction in the amount of work subcontracted to a committed (or an approved substitute) DBE firm.

North Carolina Unified Certification Program (NCUCP) - A program that provides comprehensive services and information to applicants for DBE certification, such that an applicant is required to apply only once for a DBE certification that will be honored by all recipients of USDOT funds in the state and not limited to the Department of Transportation only. The Certification Program is in accordance with 49 CFR Part 26.

United States Department of Transportation (USDOT) - Federal agency responsible for issuing regulations (49 CFR Part 26) and official guidance for the DBE program.

Forms and Websites Referenced in this Provision

DBE Payment Tracking System - On-line system in which the Contractor enters the payments made to DBE subcontractors who have performed work on the project.
<https://apps.dot.state.nc.us/Vendor/PaymentTracking/>

DBE-IS Subcontractor Payment Information - Form for reporting the payments made to all DBE firms working on the project. This form is for paper bid projects only.
<https://connect.ncdot.gov/business/Turnpike/Documents/Form%20DBE-IS%20Subcontractor%20Payment%20Information.pdf>

RF-1 DBE Replacement Request Form - Form for replacing a committed DBE.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/DBE%20MBE%20WBE%20Replacement%20Request%20Form.pdf>

SAF Subcontract Approval Form - Form required for approval to sublet the contract.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Subcontract%20Approval%20Form%20Rev.%202012.zip>

JC-1 Joint Check Notification Form - Form and procedures for joint check notification. The form acts as a written joint check agreement among the parties providing full and prompt disclosure of the expected use of joint checks.
<http://connect.ncdot.gov/projects/construction/Construction%20Forms/Joint%20Check%20Notification%20Form.pdf>

Letter of Intent - Form signed by the Contractor and the DBE subcontractor, manufacturer or regular dealer that affirms that a portion of said contract is going to be performed by the signed DBE for the estimated amount (based on quantities and unit prices) listed at the time of bid.
<http://connect.ncdot.gov/letting/LetCentral/Letter%20of%20Intent%20to%20Perform%20as%20a%20Subcontractor.pdf>

Listing of DBE Subcontractors Form - Form for entering DBE subcontractors on a project that will meet this DBE goal. This form is for paper bids only.
[http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20\(Federal\).docx](http://connect.ncdot.gov/municipalities/Bid%20Proposals%20for%20LGA%20Content/08%20DBE%20Subcontractors%20(Federal).docx)

Subcontractor Quote Comparison Sheet - Spreadsheet for showing all subcontractor quotes in the work areas where DBEs quoted on the project. This sheet is submitted with good faith effort packages.
<http://connect.ncdot.gov/business/SmallBusiness/Documents/DBE%20Subcontractor%20Quote%20Comparison%20Example.xls>

DBE Goal

The following DBE goal for participation by Disadvantaged Business Enterprises is established for this contract:

Disadvantaged Business Enterprises **5.0** %

- (A) *If the DBE goal is more than zero*, the Contractor shall exercise all necessary and reasonable steps to ensure that DBEs participate in at least the percent of the contract as set forth above as the DBE goal.
- (B) *If the DBE goal is zero*, the Contractor shall make an effort to recruit and use DBEs during the performance of the contract. Any DBE participation obtained shall be reported to the Department.

Directory of Transportation Firms (Directory)

Real-time information is available about firms doing business with the Department and firms that are certified through NCUCP in the Directory of Transportation Firms. Only firms identified in the Directory as DBE certified shall be used to meet the DBE goal. The Directory can be found at the following link. [https:// www.ebs.nc.gov/VendorDirectory/default.html](https://www.ebs.nc.gov/VendorDirectory/default.html)

The listing of an individual firm in the directory shall not be construed as an endorsement of the firm's capability to perform certain work.

Listing of DBE Subcontractors

At the time of bid, bidders shall submit all DBE participation that they anticipate to use during the life of the contract. Only those identified to meet the DBE goal will be considered committed, even though the listing shall include both committed DBE subcontractors and additional DBE subcontractors. Additional DBE subcontractor participation submitted at the time of bid will be used toward the Department's overall race-neutral goal. Only those firms with current DBE certification at the time of bid opening will be acceptable for listing in the bidder's submittal of DBE participation. The Contractor shall indicate the following required information:

(A) Electronic Bids

Bidders shall submit a listing of DBE participation in the appropriate section of the electronic submittal file.

- (1) Submit the names and addresses of DBE firms identified to participate in the contract. If the bidder uses the updated listing of DBE firms shown in the electronic submittal file, the bidder may use the dropdown menu to access the name and address of the DBE firm.
- (2) Submit the contract line numbers of work to be performed by each DBE firm. When no figures or firms are entered, the bidder will be considered to have no DBE participation.
- (3) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE's participation will not count towards achieving the DBE goal.

(B) Paper Bids

- (1) *If the DBE goal is more than zero,*
 - (a) Bidders, at the time the bid proposal is submitted, shall submit a listing of DBE participation, including the names and addresses on *Listing of DBE Subcontractors* contained elsewhere in the contract documents in order for the bid to be considered responsive. Bidders shall indicate the total dollar value of the DBE participation for the contract.
 - (b) If bidders have no DBE participation, they shall indicate this on the *Listing of DBE Subcontractors* by entering the word “None” or the number “0.” This form shall be completed in its entirety. **Blank forms will not be deemed to represent zero participation.** Bids submitted that do not have DBE participation indicated on the appropriate form will not be read publicly during the opening of bids. The Department will not consider these bids for award and the proposal will be rejected.
 - (c) The bidder shall be responsible for ensuring that the DBE is certified at the time of bid by checking the Directory of Transportation Firms. If the firm is not certified at the time of the bid-letting, that DBE’s participation will not count towards achieving the DBE goal.
- (2) *If the DBE goal is zero,* entries on the *Listing of DBE Subcontractors* are not required, however any DBE participation that is achieved during the project shall be reported in accordance with requirements contained elsewhere in the special provision.

DBE Prime Contractor

When a certified DBE firm bids on a contract that contains a DBE goal, the DBE firm is responsible for meeting the goal or making good faith efforts to meet the goal, just like any other bidder. In most cases, a DBE bidder on a contract will meet the DBE goal by virtue of the work it performs on the contract with its own forces. However, all the work that is performed by the DBE bidder and any other DBE subcontractors will count toward the DBE goal. The DBE bidder shall list itself along with any DBE subcontractors, if any, in order to receive credit toward the DBE goal.

For example, if the DBE goal is 45% and the DBE bidder will only perform 40% of the contract work, the prime will list itself at 40%, and the additional 5% shall be obtained through additional DBE participation with DBE subcontractors or documented through a good faith effort.

DBE prime contractors shall also follow Sections A or B listed under *Listing of DBE Subcontractor* just as a non-DBE bidder would.

Written Documentation – Letter of Intent

The bidder shall submit written documentation for each DBE that will be used to meet the DBE goal of the contract, indicating the bidder’s commitment to use the DBE in the contract. This documentation shall be submitted on the Department’s form titled *Letter of Intent*.

The documentation shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday.

In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

If the bidder fails to submit the Letter of Intent from each committed DBE to be used toward the DBE goal, or if the form is incomplete (i.e. both signatures are not present), the DBE participation will not count toward meeting the DBE goal. If the lack of this participation drops the commitment below the DBE goal, the Contractor shall submit evidence of good faith efforts, completed in its entirety, to the Engineer no later than 2:00 p.m. on the eighth calendar day following opening of bids, unless the eighth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Submission of Good Faith Effort

If the bidder fails to meet or exceed the DBE goal the apparent lowest responsive bidder shall submit to the Department documentation of adequate good faith efforts made to reach the DBE goal.

One complete set and 2 copies of this information shall be received in the office of the Engineer no later than 2:00 p.m. of the fifth calendar day following opening of bids, unless the fifth day falls on Saturday, Sunday or an official state holiday. In that situation, it is due in the office of the Engineer no later than 10:00 a.m. on the next official state business day.

Note: Where the information submitted includes repetitious solicitation letters, it will be acceptable to submit a representative letter along with a distribution list of the firms that were solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal. This documentation may include written subcontractor quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

Consideration of Good Faith Effort for Projects with DBE Goals More Than Zero

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient DBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought DBE participation. Mere *pro forma* efforts are not considered good faith efforts.

The Department will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made. Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goal and are not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

- (A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means through the use of the NCDOT Directory of Transportation Firms) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within at least 10 days prior to bid opening to allow the DBEs to respond to the solicitation. Solicitation shall provide the opportunity to DBEs within the Division and surrounding Divisions where the project is located. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

- (B) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved.
- (1) Where appropriate, break out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - (2) Negotiate with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be sublet includes potential for DBE participation (2nd and 3rd tier subcontractors).
- (C) Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.
- (D) (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.
- (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
- (E) Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal.
- (F) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.
- (G) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- (H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs. Contact within 7 days from the bid opening the Business Opportunity and Work Force Development Unit at BOWD@ncdot.gov to give notification of the bidder's inability to get DBE quotes.

- (I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the DBE goal.

In addition, the Department may take into account the following:

- (1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the DBE goal.
- (2) The bidders' past performance in meeting the DBE goals.
- (3) The performance of other bidders in meeting the DBE goal. For example, when the apparent successful bidder fails to meet the DBE goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the DBE goal, but meets or exceeds the average DBE participation obtained by other bidders, the Department may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

If the Department does not award the contract to the apparent lowest responsive bidder, the Department reserves the right to award the contract to the next lowest responsive bidder that can satisfy to the Department that the DBE goal can be met or that an adequate good faith effort has been made to meet the DBE goal.

Non-Good Faith Appeal

The Engineer will notify the contractor verbally and in writing of non-good faith. A contractor may appeal a determination of non-good faith made by the Goal Compliance Committee. If a contractor wishes to appeal the determination made by the Committee, they shall provide written notification to the Engineer. The appeal shall be made within 2 business days of notification of the determination of non-good faith.

Counting DBE Participation Toward Meeting DBE Goal

- (A) Participation

The total dollar value of the participation by a committed DBE will be counted toward the contract goal requirement. The total dollar value of participation by a committed DBE will be based upon the value of work actually performed by the DBE and the actual payments to DBE firms by the Contractor.

- (B) Joint Checks

Prior notification of joint check use shall be required when counting DBE participation for services or purchases that involves the use of a joint check. Notification shall be through submission of Form JC-1 (*Joint Check Notification Form*) and the use of joint checks shall be in accordance with the Department's Joint Check Procedures.

- (C) Subcontracts (Non-Trucking)

A DBE may enter into subcontracts. Work that a DBE subcontracts to another DBE firm may be counted toward the contract goal requirement. Work that a DBE subcontracts to a non-DBE firm

does not count toward the contract goal requirement. If a DBE contractor or subcontractor subcontracts a significantly greater portion of the work of the contract than would be expected on the basis of standard industry practices, it shall be presumed that the DBE is not performing a commercially useful function. The DBE may present evidence to rebut this presumption to the Department. The Department's decision on the rebuttal of this presumption is subject to review by the Federal Highway Administration but is not administratively appealable to USDOT.

(D) Joint Venture

When a DBE performs as a participant in a joint venture, the Contractor may count toward its contract goal requirement a portion of the total value of participation with the DBE in the joint venture, that portion of the total dollar value being a distinct clearly defined portion of work that the DBE performs with its forces.

(E) Suppliers

A contractor may count toward its DBE requirement 60 percent of its expenditures for materials and supplies required to complete the contract and obtained from a DBE regular dealer and 100 percent of such expenditures from a DBE manufacturer.

(F) Manufacturers and Regular Dealers

A contractor may count toward its DBE requirement the following expenditures to DBE firms that are not manufacturers or regular dealers:

- (1) The fees or commissions charged by a DBE firm for providing a *bona fide* service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a DOT-assisted contract, provided the fees or commissions are determined to be reasonable and not excessive as compared with fees and commissions customarily allowed for similar services.
- (2) With respect to materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site (but not the cost of the materials and supplies themselves), provided the fees are determined to be reasonable and not excessive as compared with fees customarily allowed for similar services.

Commercially Useful Function

(A) DBE Utilization

The Contractor may count toward its contract goal requirement only expenditures to DBEs that perform a commercially useful function in the work of a contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE shall also be responsible with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine

whether a DBE is performing a commercially useful function, the Department will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and any other relevant factors.

(B) DBE Utilization in Trucking

The following factors will be used to determine if a DBE trucking firm is performing a commercially useful function:

- (1) The DBE shall be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there shall not be a contrived arrangement for the purpose of meeting DBE goals.
- (2) The DBE shall itself own and operate at least one fully licensed, insured, and operational truck used on the contract.
- (3) The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures, and operates using drivers it employs.
- (4) The DBE may subcontract the work to another DBE firm, including an owner-operator who is certified as a DBE. The DBE who subcontracts work to another DBE receives credit for the total value of the transportation services the subcontracted DBE provides on the contract.
- (5) The DBE may also subcontract the work to a non-DBE firm, including from an owner-operator. The DBE who subcontracts the work to a non-DBE is entitled to credit for the total value of transportation services provided by the non-DBE subcontractor not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE subcontractors receives credit only for the fee or commission it receives as a result of the subcontract arrangement. The value of services performed under subcontract agreements between the DBE and the Contractor will not count towards the DBE contract requirement.
- (6) A DBE may lease truck(s) from an established equipment leasing business open to the general public. The lease must indicate that the DBE has exclusive use of and control over the truck. This requirement does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. This type of lease may count toward the DBE's credit as long as the driver is under the DBE's payroll.
- (7) Subcontracted/leased trucks shall display clearly on the dashboard the name of the DBE that they are subcontracted/leased to and their own company name if it is not identified on the truck itself. Magnetic door signs are not permitted.

DBE Replacement

When a Contractor has relied on a commitment to a DBE subcontractor (or an approved substitute DBE subcontractor) to meet all or part of a contract goal requirement, the contractor shall not terminate the DBE subcontractor for convenience. This includes, but is not limited to, instances in which the Contractor

seeks to perform the work of the terminated subcontractor with another DBE subcontractor, a non-DBE subcontractor, or with the Contractor's own forces or those of an affiliate.

The Contractor must give notice in writing both by certified mail and email to the DBE subcontractor, with a copy to the Engineer of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the DBE subcontractor five (5) business days to respond to the Contractor's Notice of Intent to Request Termination and/or Substitution. If the DBE subcontractor objects to the intended termination/substitution, the DBE, within five (5) business days must advise the Contractor and the Department of the reasons why the action should not be approved. The five-day notice period shall begin on the next business day after written notice is provided to the DBE subcontractor.

A committed DBE subcontractor may only be terminated after receiving the Department's written approval based upon a finding of good cause for the proposed termination and/or substitution. For purposes of this section, good cause shall include the following circumstances:

- (a) The listed DBE subcontractor fails or refuses to execute a written contract;
- (b) The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the prime contractor;
- (c) The listed DBE subcontractor fails or refuses to meet the prime contractor's reasonable, nondiscriminatory bond requirements;
- (d) The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
- (e) The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant to 2 CFR Parts 180, 215 and 1,200 or applicable state law;
- (f) The listed DBE subcontractor is not a responsible contractor;
- (g) The listed DBE voluntarily withdraws from the project and provides written notice of withdrawal;
- (h) The listed DBE is ineligible to receive DBE credit for the type of work required;
- (i) A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
- (j) Other documented good cause that compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the prime contractor seeks to terminate a DBE it relied upon to obtain the contract so that the prime contractor can self-perform the work for which the DBE contractor was engaged or so that the prime contractor can substitute another DBE or non-DBE contractor after contract award.

The Contractor shall comply with the following for replacement of a committed DBE:

(A) Performance Related Replacement

When a committed DBE is terminated for good cause as stated above, an additional DBE that was submitted at the time of bid may be used to fulfill the DBE commitment. A good faith effort will only be required for removing a committed DBE if there were no additional DBEs submitted at the time of bid to cover the same amount of work as the DBE that was terminated.

If a replacement DBE is not found that can perform at least the same amount of work as the terminated DBE, the Contractor shall submit a good faith effort documenting the steps taken. Such documentation shall include, but not be limited to, the following:

- (1) Copies of written notification to DBEs that their interest is solicited in contracting the work defaulted by the previous DBE or in subcontracting other items of work in the contract.
 - (2) Efforts to negotiate with DBEs for specific subbids including, at a minimum:
 - (a) The names, addresses, and telephone numbers of DBEs who were contacted.
 - (b) A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed.
 - (3) A list of reasons why DBE quotes were not accepted.
 - (4) Efforts made to assist the DBEs contacted, if needed, in obtaining bonding or insurance required by the Contractor.
- (B) Decertification Replacement
- (1) When a committed DBE is decertified by the Department after the SAF (*Subcontract Approval Form*) has been received by the Department, the Department will not require the Contractor to solicit replacement DBE participation equal to the remaining work to be performed by the decertified firm. The participation equal to the remaining work performed by the decertified firm will count toward the contract goal requirement.
 - (2) When a committed DBE is decertified prior to the Department receiving the SAF (*Subcontract Approval Form*) for the named DBE firm, the Contractor shall take all necessary and reasonable steps to replace the DBE subcontractor with another DBE subcontractor to perform at least the same amount of work to meet the DBE goal requirement. If a DBE firm is not found to do the same amount of work, a good faith effort must be submitted to NCDOT (see A herein for required documentation).

All requests for replacement of a committed DBE firm shall be submitted to the Engineer for approval on Form RF-1 (*DBE Replacement Request*). If the Contractor fails to follow this procedure, the Contractor may be disqualified from further bidding for a period of up to 6 months

Changes in the Work

When the Engineer makes changes that result in the reduction or elimination of work to be performed by a committed DBE, the Contractor will not be required to seek additional participation. When the Engineer makes changes that result in additional work to be performed by a DBE based upon the Contractor's commitment, the DBE shall participate in additional work to the same extent as the DBE participated in the original contract work.

When the Engineer makes changes that result in extra work, which has more than a minimal impact on the contract amount, the Contractor shall seek additional participation by DBEs unless otherwise approved by the Engineer.

When the Engineer makes changes that result in an alteration of plans or details of construction, and a portion or all of the work had been expected to be performed by a committed DBE, the Contractor shall seek participation by DBEs unless otherwise approved by the Engineer.

When the Contractor requests changes in the work that result in the reduction or elimination of work that the Contractor committed to be performed by a DBE, the Contractor shall seek additional participation by DBEs equal to the reduced DBE participation caused by the changes.

Reports and Documentation

A SAF (*Subcontract Approval Form*) shall be submitted for all work which is to be performed by a DBE subcontractor. The Department reserves the right to require copies of actual subcontract agreements involving DBE subcontractors.

When using transportation services to meet the contract commitment, the Contractor shall submit a proposed trucking plan in addition to the SAF. The plan shall be submitted prior to beginning construction on the project. The plan shall include the names of all trucking firms proposed for use, their certification type(s), the number of trucks owned by the firm, as well as the individual truck identification numbers, and the line item(s) being performed.

Within 30 calendar days of entering into an agreement with a DBE for materials, supplies or services, not otherwise documented by the SAF as specified above, the Contractor shall furnish the Engineer a copy of the agreement. The documentation shall also indicate the percentage (60% or 100%) of expenditures claimed for DBE credit.

Reporting Disadvantaged Business Enterprise Participation

The Contractor shall provide the Engineer with an accounting of payments made to all DBE firms, including material suppliers and contractors at all levels (prime, subcontractor, or second tier subcontractor). This accounting shall be furnished to the Engineer for any given month by the end of the following month. Failure to submit this information accordingly may result in the following action:

- (A) Withholding of money due in the next partial pay estimate; or
- (B) Removal of an approved contractor from the prequalified bidders' list or the removal of other entities from the approved subcontractors list.

While each contractor (prime, subcontractor, 2nd tier subcontractor) is responsible for accurate accounting of payments to DBEs, it shall be the prime contractor's responsibility to report all monthly and final payment information in the correct reporting manner.

Failure on the part of the Contractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from further bidding until the required information is submitted.

Failure on the part of any subcontractor to submit the required information in the time frame specified may result in the disqualification of that contractor and any affiliate companies from being approved for work on future projects until the required information is submitted.

Contractors reporting transportation services provided by non-DBE lessees shall evaluate the value of services provided during the month of the reporting period only.

At any time, the Engineer can request written verification of subcontractor payments.

The Contractor shall report the accounting of payments through the Department's DBE Payment Tracking System.

Failure to Meet Contract Requirements

Failure to meet contract requirements in accordance with Subarticle 102-15(J) of the *2018 Standard Specifications* may be cause to disqualify the Contractor.

CERTIFICATION FOR FEDERAL-AID CONTRACTS:

(3-21-90)

SP1 G85

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (A) 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 Federal 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.
- (B) 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 Federal 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.

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.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

U.S. DEPARTMENT OF TRANSPORTATION HOTLINE:

(11-22-94)

108-5

SP1 G100

To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free hotline Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the hotline to report such activities.

The hotline is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

CARGO PREFERENCE ACT:

(2-16-16)

Privately owned United States-flag commercial vessels transporting cargoes are subject to the Cargo Preference Act (CPA) of 1954 requirements and regulations found in 46 CFR 381.7. Contractors are directed to clause (b) of 46 CFR 381.7 as follows:

(b) Contractor and Subcontractor Clauses. "Use of United States-flag vessels: The contractor agrees-

" (1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract."

SUBSURFACE INFORMATION:

(7-1-95)

450

SP1 G112 A

There is **no** subsurface information available on this project. The Contractor shall make his own investigation of subsurface conditions.

EROSION AND SEDIMENT CONTROL/STORMWATER CERTIFICATION:

(1-16-07) (Rev 11-22-16)

105-16, 225-2, 16

SP1 G180

General

Schedule and conduct construction activities in a manner that will minimize soil erosion and the resulting sedimentation and turbidity of surface waters. Comply with the requirements herein regardless of whether or not a National Pollution discharge Elimination System (NPDES) permit for the work is required.

Establish a chain of responsibility for operations and subcontractors' operations to ensure that the *Erosion and Sediment Control/Stormwater Pollution Prevention Plan* is implemented and maintained over the life of the contract.

- (A) *Certified Supervisor* - Provide a certified Erosion and Sediment Control/Stormwater Supervisor to manage the Contractor and subcontractor operations, insure compliance with Federal, State and Local ordinances and regulations, and manage the Quality Control Program.
- (B) *Certified Foreman* - Provide a certified, trained foreman for each construction operation that increases the potential for soil erosion or the possible sedimentation and turbidity of surface waters.
- (C) *Certified Installer* - Provide a certified installer to install or direct the installation for erosion or sediment/stormwater control practices.
- (D) *Certified Designer* - Provide a certified designer for the design of the erosion and sediment control/stormwater component of reclamation plans and, if applicable, for the design of the project erosion and sediment control/stormwater plan.

Roles and Responsibilities

- (A) *Certified Erosion and Sediment Control/Stormwater Supervisor* - The Certified Supervisor shall be Level II and responsible for ensuring the erosion and sediment control/stormwater plan is adequately implemented and maintained on the project and for conducting the quality control program. The Certified Supervisor shall be on the project within 24 hours notice from initial exposure of an erodible surface to the project's final acceptance. Perform the following duties:
 - (1) **Manage Operations** - Coordinate and schedule the work of subcontractors so that erosion and sediment control/stormwater measures are fully executed for each operation and in a timely manner over the duration of the contract.
 - (a) Oversee the work of subcontractors so that appropriate erosion and sediment control/stormwater preventive measures are conformed to at each stage of the work.
 - (b) Prepare the required National Pollutant Discharge Elimination System (NPDES) Inspection Record and submit to the Engineer.
 - (c) Attend all weekly or monthly construction meetings to discuss the findings of the NPDES inspection and other related issues.
 - (d) Implement the erosion and sediment control/stormwater site plans requested.
 - (e) Provide any needed erosion and sediment control/stormwater practices for the Contractor's temporary work not shown on the plans, such as, but not limited to work platforms, temporary construction, pumping operations, plant and storage yards, and cofferdams.
 - (f) Acquire applicable permits and comply with requirements for borrow pits, dewatering, and any temporary work conducted by the Contractor in jurisdictional areas.
 - (g) Conduct all erosion and sediment control/stormwater work in a timely and workmanlike manner.
 - (h) Fully perform and install erosion and sediment control/stormwater work prior to any suspension of the work.
 - (i) Coordinate with Department, Federal, State and Local Regulatory agencies on resolution of erosion and sediment control/stormwater issues due to the Contractor's operations.
 - (j) Ensure that proper cleanup occurs from vehicle tracking on paved surfaces or any location where sediment leaves the Right-of-Way.

- (k) Have available a set of erosion and sediment control/stormwater plans that are initialed and include the installation date of Best Management Practices. These practices shall include temporary and permanent groundcover and be properly updated to reflect necessary plan and field changes for use and review by Department personnel as well as regulatory agencies.
- (2) Requirements set forth under the NPDES Permit - The Department's NPDES Stormwater permit (NCS000250) outlines certain objectives and management measures pertaining to construction activities. The permit references *NCG010000, General Permit to Discharge Stormwater* under the NPDES, and states that the Department shall incorporate the applicable requirements into its delegated Erosion and Sediment Control Program for construction activities disturbing one or more acres of land. The Department further incorporates these requirements on all contracted bridge and culvert work at jurisdictional waters, regardless of size. Some of the requirements are, but are not limited to:
- (a) Control project site waste to prevent contamination of surface or ground waters of the state, i.e. from equipment operation/maintenance, construction materials, concrete washout, chemicals, litter, fuels, lubricants, coolants, hydraulic fluids, any other petroleum products, and sanitary waste.
 - (b) Inspect erosion and sediment control/stormwater devices and stormwater discharge outfalls at least once every 7 calendar days and within 24 hours after a rainfall event of 0.5 inch that occurs within a 24 hour period. Additional monitoring may be required at the discretion of Division of Water Resources personnel if the receiving stream is 303(d) listed for turbidity and the project has had documented problems managing turbidity.
 - (c) Maintain an onsite rain gauge or use the Department's Multi-Sensor Precipitation Estimate website to maintain a daily record of rainfall amounts and dates.
 - (d) Maintain erosion and sediment control/stormwater inspection records for review by Department and Regulatory personnel upon request.
 - (e) Implement approved reclamation plans on all borrow pits, waste sites and staging areas.
 - (f) Maintain a log of turbidity test results as outlined in the Department's Procedure for Monitoring Borrow Pit Discharge.
 - (g) Provide secondary containment for bulk storage of liquid materials.
 - (h) Provide training for employees concerning general erosion and sediment control/stormwater awareness, the Department's NPDES Stormwater Permit NCS000250 requirements, and the applicable requirements of the *General Permit, NCG010000*.
 - (i) Report violations of the NPDES permit to the Engineer immediately who will notify the Division of Water Quality Regional Office within 24 hours of becoming aware of the violation.
- (3) Quality Control Program - Maintain a quality control program to control erosion, prevent sedimentation and follow provisions/conditions of permits. The quality control program shall:
- (a) Follow permit requirements related to the Contractor and subcontractors' construction activities.
 - (b) Ensure that all operators and subcontractors on site have the proper erosion and sediment control/stormwater certification.

- (c) Notify the Engineer when the required certified erosion and sediment control/stormwater personnel are not available on the job site when needed.
- (d) Conduct the inspections required by the NPDES permit.
- (e) Take corrective actions in the proper timeframe as required by the NPDES permit for problem areas identified during the NPDES inspections.
- (f) Incorporate erosion control into the work in a timely manner and stabilize disturbed areas with mulch/seed or vegetative cover on a section-by-section basis.
- (g) Use flocculants approved by state regulatory authorities where appropriate and where required for turbidity and sedimentation reduction.
- (h) Ensure proper installation and maintenance of temporary erosion and sediment control devices.
- (i) Remove temporary erosion or sediment control devices when they are no longer necessary as agreed upon by the Engineer.
- (j) The Contractor's quality control and inspection procedures shall be subject to review by the Engineer. Maintain NPDES inspection records and make records available at all times for verification by the Engineer.

(B) *Certified Foreman* - At least one Certified Foreman shall be onsite for each type of work listed herein during the respective construction activities to control erosion, prevent sedimentation and follow permit provisions:

- (1) Foreman in charge of grading activities
- (2) Foreman in charge of bridge or culvert construction over jurisdictional areas
- (3) Foreman in charge of utility activities

The Contractor may request to use the same person as the Level II Supervisor and Level II Foreman. This person shall be onsite whenever construction activities as described above are taking place. This request shall be approved by the Engineer prior to work beginning.

The Contractor may request to name a single Level II Foreman to oversee multiple construction activities on small bridge or culvert replacement projects. This request shall be approved by the Engineer prior to work beginning.

(C) *Certified Installers* - Provide at least one onsite, Level I Certified Installer for each of the following erosion and sediment control/stormwater crew:

- (1) Seeding and Mulching
- (2) Temporary Seeding
- (3) Temporary Mulching
- (4) Sodding
- (5) Silt fence or other perimeter erosion/sediment control device installations
- (6) Erosion control blanket installation
- (7) Hydraulic tackifier installation
- (8) Turbidity curtain installation
- (9) Rock ditch check/sediment dam installation
- (10) Ditch liner/matting installation
- (11) Inlet protection
- (12) Riprap placement
- (13) Stormwater BMP installations (such as but not limited to level spreaders, retention/detention devices)
- (14) Pipe installations within jurisdictional areas

If a Level I *Certified Installer* is not onsite, the Contractor may substitute a Level II Foreman for a Level I Installer, provided the Level II Foreman is not tasked to another crew requiring Level II Foreman oversight.

- (D) *Certified Designer* - Include the certification number of the Level III-B Certified Designer on the erosion and sediment control/stormwater component of all reclamation plans and if applicable, the certification number of the Level III-A Certified Designer on the design of the project erosion and sediment control/stormwater plan.

Preconstruction Meeting

Furnish the names of the *Certified Erosion and Sediment Control/Stormwater Supervisor*, *Certified Foremen*, *Certified Installers* and *Certified Designer* and notify the Engineer of changes in certified personnel over the life of the contract within 2 days of change.

Ethical Responsibility

Any company performing work for the North Carolina Department of Transportation has the ethical responsibility to fully disclose any reprimand or dismissal of an employee resulting from improper testing or falsification of records.

Revocation or Suspension of Certification

Upon recommendation of the Chief Engineer to the certification entity, certification for *Supervisor*, *Certified Foremen*, *Certified Installers* and *Certified Designer* may be revoked or suspended with the issuance of an *Immediate Corrective Action (ICA)*, *Notice of Violation (NOV)*, or *Cease and Desist Order* for erosion and sediment control/stormwater related issues.

The Chief Engineer may recommend suspension or permanent revocation of certification due to the following:

- (A) Failure to adequately perform the duties as defined within this certification provision.
- (B) Issuance of an ICA, NOV, or Cease and Desist Order.
- (C) Failure to fully perform environmental commitments as detailed within the permit conditions and specifications.
- (D) Demonstration of erroneous documentation or reporting techniques.
- (E) Cheating or copying another candidate's work on an examination.
- (F) Intentional falsification of records.
- (G) Directing a subordinate under direct or indirect supervision to perform any of the above actions.
- (H) Dismissal from a company for any of the above reasons.
- (I) Suspension or revocation of one's certification by another entity.

Suspension or revocation of a certification will be sent by certified mail to the certificant and the Corporate Head of the company that employs the certificant.

A certificant has the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding, in writing, to the Chief Engineer within 10 calendar days after receiving notice of the proposed adverse action.

Chief Engineer
1536 Mail Service Center
Raleigh, NC 27699-1536

Failure to appeal within 10 calendar days will result in the proposed adverse action becoming effective on the date specified on the certified notice. Failure to appeal within the time specified will result in a waiver of all future appeal rights regarding the adverse action taken. The certificant will not be allowed to perform duties associated with the certification during the appeal process.

The Chief Engineer will hear the appeal and make a decision within 7 days of hearing the appeal. Decision of the Chief Engineer will be final and will be made in writing to the certificant.

If a certification is temporarily suspended, the certificant shall pass any applicable written examination and any proficiency examination, at the conclusion of the specified suspension period, prior to having the certification reinstated.

Measurement and Payment

Certified Erosion and Sediment Control/Stormwater Supervisor, Certified Foremen, Certified Installers and Certified Designer will be incidental to the project for which no direct compensation will be made.

PROCEDURE FOR MONITORING BORROW PIT DISCHARGE:

(2-20-07) (Rev. 3-19-13)

105-16, 230, 801

SP1 G181

Water discharge from borrow pit sites shall not cause surface waters to exceed 50 NTUs (nephelometric turbidity unit) in streams not designated as trout waters and 10 NTUs in streams, lakes or reservoirs designated as trout waters. For lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTUs. If the turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.

If during any operating day, the downstream water quality exceeds the standard, the Contractor shall do all of the following:

- (A) Either cease discharge or modify the discharge volume or turbidity levels to bring the downstream turbidity levels into compliance, or
- (B) Evaluate the upstream conditions to determine if the exceedance of the standard is due to natural background conditions. If the background turbidity measurements exceed the standard, operation of the pit and discharge can continue as long as the stream turbidity levels are not increased due to the discharge.
- (C) Measure and record the turbidity test results (time, date and sampler) at all defined sampling locations 30 minutes after startup and at a minimum, one additional sampling of all sampling locations during that 24-hour period in which the borrow pit is discharging.
- (D) Notify DWQ within 24 hours of any stream turbidity standard exceedances that are not brought into compliance.

During the Environmental Assessment required by Article 230-4 of the *2018 Standard Specifications*, the Contractor shall define the point at which the discharge enters into the State's surface waters and the appropriate sampling locations. Sampling locations shall include points upstream and downstream from

the point at which the discharge enters these waters. Upstream sampling location shall be located so that it is not influenced by backwater conditions and represents natural background conditions. Downstream sampling location shall be located at the point where complete mixing of the discharge and receiving water has occurred.

The discharge shall be closely monitored when water from the dewatering activities is introduced into jurisdictional wetlands. Any time visible sedimentation (deposition of sediment) on the wetland surface is observed, the dewatering activity will be suspended until turbidity levels in the stilling basin can be reduced to a level where sediment deposition does not occur. Staining of wetland surfaces from suspended clay particles, occurring after evaporation or infiltration, does not constitute sedimentation. No activities shall occur in wetlands that adversely affect the functioning of a wetland. Visible sedimentation will be considered an indication of possible adverse impacts on wetland use.

The Engineer will perform independent turbidity tests on a random basis. These results will be maintained in a log within the project records. Records will include, at a minimum, turbidity test results, time, date and name of sampler. Should the Department's test results exceed those of the Contractor's test results, an immediate test shall be performed jointly with the results superseding the previous test results of both the Department and the Contractor.

The Contractor shall use the *NCDOT Turbidity Reduction Options for Borrow Pits Matrix*, available at: <https://connect.ncdot.gov/resources/roadside/FieldOperationsDocuments/TurbidityReductionOptionSheet.pdf> to plan, design, construct, and maintain BMPs to address water quality standards. Tier I Methods include stilling basins which are standard compensatory BMPs. Other Tier I methods are noncompensatory and shall be used when needed to meet the stream turbidity standards. Tier II Methods are also noncompensatory and are options that may be needed for protection of rare or unique resources or where special environmental conditions exist at the site which have led to additional requirements being placed in the DWQ's 401 Certifications and approval letters, Isolated Wetland Permits, Riparian Buffer Authorization or a DOT Reclamation Plan's Environmental Assessment for the specific site. Should the Contractor exhaust all Tier I Methods on a site exclusive of rare or unique resources or special environmental conditions, Tier II Methods may be required by regulators on a case by case basis per supplemental agreement.

The Contractor may use cation exchange capacity (CEC) values from proposed site borings to plan and develop the bid for the project. CEC values exceeding 15 milliequivalents per 100 grams of soil may indicate a high potential for turbidity and should be avoided when dewatering into surface water is proposed.

No additional compensation for monitoring borrow pit discharge will be paid.

ELECTRONIC BIDDING:

(2-19-19)

101, 102, 103

SP1 G140

Revise the *2018 Standard Specifications* as follows:

Page 1-4, Article 101-3, DEFINITIONS, BID (OR PROPOSAL) *Electronic Bid*, line 1, replace “Bid Express®” with “the approved electronic bidding provider”.

Page 1-15, Subarticle 102-8(B), Electronic Bids, lines 39-40, replace “to Bid Express®” with “via the approved electronic bidding provider”.

Page 1-15, Subarticle 102-8(B)(1), Electronic Bids, line 41, delete “from Bid Express®”

Page 1-17, Subarticle 102-9(C)(2), Electronic Bids, line 21, replace “Bid Express® miscellaneous folder within the .ebs” with “electronic submittal”.

Page 1-29, Subarticle 103-4(C)(2), Electronic Bids, line 32, replace “.ebs miscellaneous data file of Expedite” with “electronic submittal file”

DIVISION LET CONTRACT PREQUALIFICATION:

(07-01-14)(12-1-16)

SPD 01-410

Any firm that wishes to bid as a prime contractor shall be prequalified as a Bidder or PO Prime Contractor prior to submitting a bid. Information regarding prequalification can be found at: <https://connect.ncdot.gov/business/Prequal/Pages/default.aspx>.

Prior to performing the work, the prime contractor and/or subcontractor(s) shall be prequalified in the work code(s) which are identified as work items in the prime contractor’s construction progress schedule that they will complete themselves. Any contractor identified as working outside their expertise may be considered in default of contract.

PROJECT SPECIAL PROVISIONS**ROADWAY****FLOWABLE FILL:**

(9-17-02) (Rev 1-17-12)

300, 340, 1000, 1530, 1540, 1550

SP3 R30

Description

This work consists of all work necessary to place flowable fill in accordance with these provisions, the plans, and as directed.

Materials

Refer to Division 10 of the *2018 Standard Specifications*.

Item

Flowable Fill

Section

1000-6

Construction Methods

Discharge flowable fill material directly from the truck into the space to be filled, or by other approved methods. The mix may be placed full depth or in lifts as site conditions dictate. The Contractor shall provide a method to plug the ends of the existing pipe in order to contain the flowable fill.

Measurement and Payment

At locations where flowable fill is called for on the plans and a pay item for flowable fill is included in the contract, *Flowable Fill* will be measured in cubic yards and paid as the actual number of cubic yards that have been satisfactorily placed and accepted. Such price and payment will be full compensation for all work covered by this provision including, but not limited to, the mix design, furnishing, hauling, placing and containing the flowable fill.

Payment will be made under:

Pay Item

Flowable Fill

Pay Unit

Cubic Yard

STANDARD SPECIAL PROVISION
AVAILABILITY OF FUNDS – TERMINATION OF CONTRACTS

(5-20-08)

Z-2

General Statute 143C-6-11. (h) Highway Appropriation is hereby incorporated verbatim in this contract as follows:

(h) Amounts Encumbered. – Transportation project appropriations may be encumbered in the amount of allotments made to the Department of Transportation by the Director for the estimated payments for transportation project contract work to be performed in the appropriation fiscal year. The allotments shall be multiyear allotments and shall be based on estimated revenues and shall be subject to the maximum contract authority contained in *General Statute 143C-6-11(c)*. Payment for transportation project work performed pursuant to contract in any fiscal year other than the current fiscal year is subject to appropriations by the General Assembly. Transportation project contracts shall contain a schedule of estimated completion progress, and any acceleration of this progress shall be subject to the approval of the Department of Transportation provided funds are available. The State reserves the right to terminate or suspend any transportation project contract, and any transportation project contract shall be so terminated or suspended if funds will not be available for payment of the work to be performed during that fiscal year pursuant to the contract. In the event of termination of any contract, the contractor shall be given a written notice of termination at least 60 days before completion of scheduled work for which funds are available. In the event of termination, the contractor shall be paid for the work already performed in accordance with the contract specifications.

Payment will be made on any contract terminated pursuant to the special provision in accordance with Subarticle 108-13(D) of the *2018 Standard Specifications*.

STANDARD SPECIAL PROVISION
NCDOT GENERAL SEED SPECIFICATION FOR SEED QUALITY

(5-17-11)

Z-3

Seed shall be sampled and tested by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory. When said samples are collected, the vendor shall supply an independent laboratory report for each lot to be tested. Results from seed so sampled shall be final. Seed not meeting the specifications shall be rejected by the Department of Transportation and shall not be delivered to North Carolina Department of Transportation warehouses. If seed has been delivered it shall be available for pickup and replacement at the supplier's expense.

Any re-labeling required by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory, that would cause the label to reflect as otherwise specified herein shall be rejected by the North Carolina Department of Transportation.

Seed shall be free from seeds of the noxious weeds Johnsongrass, Balloonvine, Jimsonweed, Witchweed, Itchgrass, Serrated Tussock, Showy Crotalaria, Smooth Crotalaria, Sicklepod, Sandbur, Wild Onion, and Wild Garlic. Seed shall not be labeled with the above weed species on the seed analysis label. Tolerances as applied by the Association of Official Seed Analysts will NOT be allowed for the above noxious weeds except for Wild Onion and Wild Garlic.

Tolerances established by the Association of Official Seed Analysts will generally be recognized. However, for the purpose of figuring pure live seed, the found pure seed and found germination percentages as reported by the North Carolina Department of Agriculture and Consumer Services, Seed Testing Laboratory will be used. Allowances, as established by the NCDOT, will be recognized for minimum pure live seed as listed on the following pages.

The specifications for restricted noxious weed seed refers to the number per pound as follows:

| <u>Restricted Noxious Weed</u> | <u>Limitations per Lb. Of Seed</u> | <u>Restricted Noxious Weed</u> | <u>Limitations per Lb. of Seed</u> |
|--------------------------------|------------------------------------|--------------------------------|------------------------------------|
| Blessed Thistle | 4 seeds | Cornflower (Ragged Robin) | 27 seeds |
| Cocklebur | 4 seeds | Texas Panicum | 27 seeds |
| Spurred Anoda | 4 seeds | Bracted Plantain | 54 seeds |
| Velvetleaf | 4 seeds | Buckhorn Plantain | 54 seeds |
| Morning-glory | 8 seeds | Broadleaf Dock | 54 seeds |
| Corn Cockle | 10 seeds | Curly Dock | 54 seeds |
| Wild Radish | 12 seeds | Dodder | 54 seeds |
| Purple Nutsedge | 27 seeds | Giant Foxtail | 54 seeds |
| Yellow Nutsedge | 27 seeds | Horsenettle | 54 seeds |
| Canada Thistle | 27 seeds | Quackgrass | 54 seeds |
| Field Bindweed | 27 seeds | Wild Mustard | 54 seeds |
| Hedge Bindweed | 27 seeds | | |

Seed of Pensacola Bahiagrass shall not contain more than 7% inert matter, Kentucky Bluegrass, Centipede and Fine or Hard Fescue shall not contain more than 5% inert matter whereas a maximum of 2% inert matter will be allowed on all other kinds of seed. In addition, all seed shall not contain more than 2% other crop seed nor more than 1% total weed seed. The germination rate as tested by the North Carolina Department of Agriculture shall not fall below 70%, which includes both dormant and hard seed. Seed shall be labeled

with not more than 7%, 5% or 2% inert matter (according to above specifications), 2% other crop seed and 1% total weed seed.

Exceptions may be made for minimum pure live seed allowances when cases of seed variety shortages are verified. Pure live seed percentages will be applied in a verified shortage situation. Those purchase orders of deficient seed lots will be credited with the percentage that the seed is deficient.

FURTHER SPECIFICATIONS FOR EACH SEED GROUP ARE GIVEN BELOW:

Minimum 85% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 83% pure live seed will not be approved.

Sericea Lespedeza
Oats (seeds)

Minimum 80% pure live seed; maximum 1% total weed seed; maximum 2% total other crop; maximum 144 restricted noxious weed seed per pound. Seed less than 78% pure live seed will not be approved.

| | |
|--------------------------------------|----------------------------|
| Tall Fescue (all approved varieties) | Bermudagrass |
| Kobe Lespedeza | Browntop Millet |
| Korean Lespedeza | German Millet – Strain R |
| Weeping Lovegrass | Clover – Red/White/Crimson |
| Carpetgrass | |

Minimum 78% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 76% pure live seed will not be approved.

Common or Sweet Sundangrass

Minimum 76% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 restricted noxious weed seed per pound. Seed less than 74% pure live seed will not be approved.

Rye (grain; all varieties)
Kentucky Bluegrass (all approved varieties)
Hard Fescue (all approved varieties)
Shrub (bicolor) Lespedeza

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 144 noxious weed seed per pound. Seed less than 70% pure live seed will not be approved.

| | |
|----------------------|-------------------|
| Centipedegrass | Japanese Millet |
| Crownvetch | Reed Canary Grass |
| Pensacola Bahiagrass | Zoysia |
| Creeping Red Fescue | |

Minimum 70% pure live seed; maximum 1% total weed seed; maximum 2% total other crop seed; maximum 5% inert matter; maximum 144 restricted noxious weed seed per pound.

Barnyard Grass
Big Bluestem
Little Bluestem

Bristly Locust
Birdsfoot Trefoil
Indiangrass
Orchardgrass
Switchgrass
Yellow Blossom Sweet Clover

STANDARD SPECIAL PROVISION**ERRATA**

(10-16-18)(Rev.1-15-19)

Z-4

Revise the *2018 Standard Specifications* as follows:

Division 6

Page 6-7, Article 609-1 DESCRIPTION, line 29, replace article number “609-10” with “609-9”.

Division 7

Page 7-27, Article 725-1 MEASUREMENT AND PAYMENT, line 4, replace article number “725-1” with “724-4”.

Page 7-28, Article 725-1 MEASUREMENT AND PAYMENT, line 10, replace article number “725-1” with “725-3”.

Division 10

Page 10-78, Article 1056-4 GEOTEXTILES, TABLE 1056-1, Permittivity, Type 2, replace “Table 6^D” with “Table 7^D” and **Permittivity, Type 3^B,** replace “Table 7^D” with “Table 8^D”.

Page 10-162, Article 1080-50 PAINT FOR VERTICAL MARKERS, line 1, replace article number “1080-50” with “1080-10”.

Page 10-162, Article 1080-61 EPOXY RESIN FOR REINFORCING STEEL, line 5, replace article number “1080-61” with “1080-11”.

Page 10-162, Article 1080-72 ABRASIVE MATERIALS FOR BLAST CLEANING STEEL, line 22, replace article number “1080-72” with “1080-12”.

Page 10-163, Article 1080-83 FIELD PERFORMANCE AND SERVICES, line 25, replace article number “1080-83” with “1080-13”.

Division 17

Page 17-15, Article 1715-4 MEASUREMENT AND PAYMENT, lines 42-44, replace the second sentence with the following:

An example is an installation of a single 1.25 inch HDPE conduit would be paid as:

Directional Drill (1)(1.25”) Linear Foot

STANDARD SPECIAL PROVISION**PLANT AND PEST QUARANTINES****(Imported Fire Ant, Gypsy Moth, Witchweed, Emerald Ash Borer, And Other Noxious Weeds)**

(3-18-03) (Rev. 12-20-16)

Z-04a

Within Quarantined Area

This project may be within a county regulated for plant and/or pests. If the project or any part of the Contractor's operations is located within a quarantined area, thoroughly clean all equipment prior to moving out of the quarantined area. Comply with federal/state regulations by obtaining a certificate or limited permit for any regulated article moving from the quarantined area.

Originating in a Quarantined County

Obtain a certificate or limited permit issued by the N.C. Department of Agriculture/United States Department of Agriculture. Have the certificate or limited permit accompany the article when it arrives at the project site.

Contact

Contact the N.C. Department of Agriculture/United States Department of Agriculture at 1-800-206-9333, 919-707-3730, or <http://www.ncagr.gov/plantindustry/> to determine those specific project sites located in the quarantined area or for any regulated article used on this project originating in a quarantined county.

Regulated Articles Include

1. Soil, sand, gravel, compost, peat, humus, muck, and decomposed manure, separately or with other articles. This includes movement of articles listed above that may be associated with cut/waste, ditch pulling, and shoulder cutting.
2. Plants with roots including grass sod.
3. Plant crowns and roots.
4. Bulbs, corms, rhizomes, and tubers of ornamental plants.
5. Hay, straw, fodder, and plant litter of any kind.
6. Clearing and grubbing debris.
7. Used agricultural cultivating and harvesting equipment.
8. Used earth-moving equipment.
9. Any other products, articles, or means of conveyance, of any character, if determined by an inspector to present a hazard of spreading imported fire ant, gypsy moth, witchweed, emerald ash borer, or other noxious weeds.

STANDARD SPECIAL PROVISION**TITLE VI AND NONDISCRIMINATION:**

(6-28-77)(Rev 6/19/2018)

Z-6

Revise the *2018 Standard Specifications* as follows:

Replace Article 103-4(B) with the following:

The North Carolina Department of Transportation is committed to carrying out the U.S. Department of Transportation's policy of ensuring nondiscrimination in the award and administration of contracts.

The provisions of this section related to United States Department of Transportation (US DOT) Order 1050.2A, Title 49 Code of Federal Regulations (CFR) part 21, 23 United States Code (U.S.C.) 140 and 23 CFR part 200 (or 49 CFR 303, 49 U.S.C. 5332 or 49 U.S.C. 47123) are applicable to all North Carolina Department of Transportation (NCDOT) contracts and to all related subcontracts, material supply, engineering, architectural and other service contracts, regardless of dollar amount. Any Federal provision that is specifically required not specifically set forth is hereby incorporated by reference.

(1) Title VI Assurances (USDOT Order 1050.2A, Appendix A)

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

(a) Compliance with Regulations

The contractor (hereinafter includes consultants) shall comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(b) Nondiscrimination

The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

(c) Solicitations for Subcontractors, Including Procurements of Materials and Equipment

In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

(d) Information and Reports

The contractor shall provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor shall so certify to the Recipient or the FHWA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(e) Sanctions for Noncompliance:

In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it and/or the FHWA may determine to be appropriate, including, but not limited to:

- (i) Withholding payments to the contractor under the contract until the contractor complies; and/or
 - (ii) Cancelling, terminating, or suspending a contract, in whole or in part.
- (f) Incorporation of Provisions

The contractor shall include the provisions of paragraphs (a) through (f) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor shall take action with respect to any subcontract or procurement as the Recipient or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

(2) Title VI Nondiscrimination Program (23 CFR 200.5(p))

The North Carolina Department of Transportation (NCDOT) has assured the USDOT that, as a condition to receiving federal financial assistance, NCDOT will comply with Title VI of the Civil Rights Act of 1964 and all requirements imposed by Title 49 CFR part 21 and related nondiscrimination authorities to ensure that no person shall, on the ground of race, color, national origin, limited English proficiency, sex, age, or disability (including religion/creed or income-level, where applicable), be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs, activities, or services conducted or funded by NCDOT. Contractors and other organizations under contract or agreement with NCDOT must also comply with Title VI and related authorities, therefore:

- (a) During the performance of this contract or agreement, contractors (e.g., subcontractors, consultants, vendors, prime contractors) are responsible for complying with NCDOT's Title VI Program. Contractors are not required to prepare or submit Title VI Programs. To comply with this section, the prime contractor shall:
1. Post NCDOT's Notice of Nondiscrimination and the Contractor's own Equal Employment Opportunity (EEO) Policy in conspicuous locations accessible to all employees, applicants and subcontractors on the jobsite.
 2. Physically incorporate the required Title VI clauses into all subcontracts on federally-assisted and state-funded NCDOT projects, and ensure inclusion by subcontractors into all lower-tier subcontracts.
 3. Required Solicitation Language. The Contractor shall include the following notification in all solicitations for bids and requests for work or material, regardless of funding source:
"The North Carolina Department of Transportation, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award. In accordance with other related nondiscrimination authorities, bidders and contractors will also not be discriminated against on the grounds of sex, age, disability, low-income level, creed/religion, or limited English proficiency in consideration for an award."

4. Physically incorporate the FHWA-1273, in its entirety, into all subcontracts and subsequent lower tier subcontracts on Federal-aid highway construction contracts only.
 5. Provide language assistance services (i.e., written translation and oral interpretation), free of charge, to LEP employees and applicants. Contact NCDOT OCR for further assistance, if needed.
 6. For assistance with these Title VI requirements, contact the NCDOT Title VI Nondiscrimination Program at 1-800-522-0453.
- (b) Subrecipients (e.g. cities, counties, LGAs, planning organizations) may be required to prepare and submit a Title VI Plan to NCDOT, including Title VI Assurances and/or agreements. Subrecipients must also ensure compliance by their contractors and subrecipients with Title VI. (23 CFR 200.9(b)(7))
- (c) If reviewed or investigated by NCDOT, the contractor or subrecipient agrees to take affirmative action to correct any deficiencies found within a reasonable time period, not to exceed 90 calendar days, unless additional time is granted by NCDOT. (23 CFR 200.9(b)(15))
- (d) The Contractor is responsible for notifying subcontractors of NCDOT's External Discrimination Complaints Process.
1. **Applicability**
Title VI and related laws protect participants and beneficiaries (e.g., members of the public and contractors) from discrimination by NCDOT employees, subrecipients and contractors, regardless of funding source.
 2. **Eligibility**
Any person—or class of persons—who believes he/she has been subjected to discrimination based on race, color, national origin, Limited English Proficiency (LEP), sex, age, or disability (and religion in the context of employment, aviation, or transit) may file a written complaint. The law also prohibits intimidation or retaliation of any sort.
 3. **Time Limits and Filing Options**
Complaints may be filed by the affected individual(s) or a representative and must be filed no later than 180 calendar days after the following:
 - (i) The date of the alleged act of discrimination; or
 - (ii) The date when the person(s) became aware of the alleged discrimination; or
 - (iii) Where there has been a continuing course of conduct, the date on which that conduct was discontinued or the latest instance of the conduct.Title VI and related discrimination complaints may be submitted to the following entities:
 - North Carolina Department of Transportation, Office of Civil Rights, Title VI Program, 1511 Mail Service Center, Raleigh, NC 27699-1511; toll free 1-800-522-0453
 - Federal Highway Administration, North Carolina Division Office, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601, 919-747-7010
 - US Department of Transportation, Departmental Office of Civil Rights, External Civil Rights Programs Division, 1200 New Jersey Avenue, SE, Washington, DC 20590; 202-366-4070
 4. **Format for Complaints**
Complaints must be in writing and signed by the complainant(s) or a representative, and include the complainant's name, address, and telephone number. Complaints received by fax or e-mail will be acknowledged and processed. Allegations received by telephone will be reduced to writing and provided to the complainant for confirmation or revision before processing. Complaints will be accepted in other languages, including Braille.
 5. **Discrimination Complaint Form**
Contact NCDOT Civil Rights to receive a full copy of the Discrimination Complaint Form and procedures.

6. Complaint Basis

Allegations must be based on issues involving race, color, national origin (LEP), sex, age, disability, or religion (in the context of employment, aviation or transit). “Basis” refers to the complainant’s membership in a protected group category.

**TABLE 103-1
COMPLAINT BASIS**

| Protected Categories | Definition | Examples | Applicable Nondiscrimination Authorities |
|---|--|--|--|
| Race and Ethnicity | An individual belonging to one of the accepted racial groups; or the perception, based usually on physical characteristics that a person is a member of a racial group | Black/African American, Hispanic/Latino, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, White | Title VI of the Civil Rights Act of 1964; 49 CFR Part 21; 23 CFR 200; 49 U.S.C. 5332(b); 49 U.S.C. 47123. <i>(Executive Order 13166)</i> |
| Color | Color of skin, including shade of skin within a racial group | Black, White, brown, yellow, etc. | |
| National Origin <i>(Limited English Proficiency)</i> | Place of birth. Citizenship is not a factor. <i>(Discrimination based on language or a person’s accent is also covered)</i> | Mexican, Cuban, Japanese, Vietnamese, Chinese | |
| Sex | Gender. The sex of an individual. <i>Note: Sex under this program does not include sexual orientation.</i> | Women and Men | 1973 Federal-Aid Highway Act; 49 U.S.C. 5332(b); 49 U.S.C. 47123. |
| Age | Persons of any age | 21-year-old person | Age Discrimination Act of 1975 49 U.S.C. 5332(b); 49 U.S.C. 47123. |
| Disability | Physical or mental impairment, permanent or temporary, or perceived. | Blind, alcoholic, para-amputee, epileptic, diabetic, arthritic | Section 504 of the Rehabilitation Act of 1973; Americans with Disabilities Act of 1990 |
| Religion (in the context of employment) <i>(Religion/ Creed in all aspects of any aviation or transit-related construction)</i> | An individual belonging to a religious group; or the perception, based on distinguishable characteristics that a person is a member of a religious group. In practice, actions taken as a result of the moral and ethical beliefs as to what is right and wrong, which are sincerely held with the strength of traditional religious views. <i>Note: Does not have to be associated with a recognized religious group or church; if an individual sincerely holds to the belief, it is a protected religious practice.</i> | Muslim, Christian, Sikh, Hindu, etc. | Title VII of the Civil Rights Act of 1964; 23 CFR 230; FHWA-1273 Required Contract Provisions. <i>(49 U.S.C. 5332(b); 49 U.S.C. 47123)</i> |

(3) Pertinent Nondiscrimination Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest agrees to comply with the following non-discrimination statutes and authorities, including, but not limited to:

- (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
 - (b) The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
 - (c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
 - (d) Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability) and 49 CFR Part 27;
 - (e) The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
 - (f) Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
 - (g) The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
 - (h) Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
 - (i) The Federal Aviation Administration's Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
 - (j) Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
 - (k) Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
 - (l) Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).
 - (m) Title VII of the Civil Rights Act of 1964 (42 U.S.C. § 2000e et seq., Pub. L. 88-352), (prohibits employment discrimination on the basis of race, color, religion, sex, or national origin).
- (4) **Additional Title VI Assurances**

***The following Title VI Assurances (Appendices B, C and D) shall apply, as applicable*

- (a) Clauses for Deeds Transferring United States Property (1050.2A, Appendix B)
The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4.

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the North Carolina Department of Transportation (NCDOT) will accept title to the lands and maintain the project constructed thereon in accordance with the North Carolina General Assembly, the Regulations for the Administration of the Federal-Aid Highway Program, and the policies and procedures prescribed by the Federal Highway Administration of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the NCDOT all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto the North Carolina Department of Transportation (NCDOT) and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the NCDOT, its successors and assigns.

The NCDOT, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the NCDOT will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended [, and] (3) that in the event of breach of any of the above-mentioned nondiscrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

- (b) Clauses for Transfer of Real Property Acquired or Improved Under the Activity, Facility, or Program (1050.2A, Appendix C)

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(a):

1. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:

- (i.) In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.
2. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued. *
 3. With respect to a deed, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *
- (*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)
- (c) Clauses for Construction/Use/Access to Real Property Acquired Under the Activity, Facility or Program (1050.2A, Appendix D)
- The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by the North Carolina Department of Transportation (NCDOT) pursuant to the provisions of Assurance 7(b):
1. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
 2. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, the NCDOT will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued. *
 3. With respect to deeds, in the event of breach of any of the above Nondiscrimination covenants, the NCDOT will there upon revert to and vest in and become the absolute property of the NCDOT and its assigns. *
- (*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

STANDARD SPECIAL PROVISION**MINORITY AND FEMALE EMPLOYMENT REQUIREMENTS**

Z-7

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (*EXECUTIVE NUMBER 11246*)

1. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, see as shown on the attached sheet entitled "Employment Goals for Minority and Female participation".

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in *41 CFR Part 60-4* shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in *41 CFR 60-4.3(a)*, and its effort to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the executive Order and the regulations in *41 CFR Part 60-4*. Compliance with the goals will be measured against the total work hours performed.

2. As used in this Notice and in the contract resulting from this solicitation, the "covered area" is the county or counties shown on the cover sheet of the proposal form and contract.

**EMPLOYMENT GOALS FOR MINORITY
AND FEMALE PARTICIPATION**

Economic Areas

Area 023 29.7%

Bertie County
Camden County
Chowan County
Gates County
Hertford County
Pasquotank County
Perquimans County

Area 024 31.7%

Beaufort County
Carteret County
Craven County
Dare County
Edgecombe County
Green County
Halifax County
Hyde County
Jones County
Lenoir County
Martin County
Nash County
Northampton County
Pamlico County
Pitt County
Tyrrell County
Washington County
Wayne County
Wilson County

Area 025 23.5%

Columbus County
Duplin County
Onslow County
Pender County

Area 026 33.5%

Bladen County
Hoke County
Richmond County
Robeson County
Sampson County
Scotland County

Area 027 24.7%

Chatham County
Franklin County
Granville County
Harnett County
Johnston County
Lee County
Person County
Vance County
Warren County

Area 028 15.5%

Alleghany County
Ashe County
Caswell County
Davie County
Montgomery County
Moore County
Rockingham County
Surry County
Watauga County
Wilkes County

Area 029 15.7%

Alexander County
Anson County
Burke County
Cabarrus County
Caldwell County
Catawba County
Cleveland County
Iredell County
Lincoln County
Polk County
Rowan County
Rutherford County
Stanly County

Area 0480 8.5%

Buncombe County
Madison County

Area 030 6.3%

Avery County
Cherokee County
Clay County
Graham County
Haywood County
Henderson County
Jackson County
McDowell County
Macon County
Mitchell County
Swain County
Transylvania County
Yancey County

SMSA AreasArea 5720 26.6%

Currituck County

Area 9200 20.7%

Brunswick County

New Hanover County

Area 2560 24.2%

Cumberland County

Area 6640 22.8%

Durham County

Orange County

Wake County

Area 1300 16.2%

Alamance County

Area 3120 16.4%

Davidson County

Forsyth County

Guilford County

Randolph County

Stokes County

Yadkin County

Area 1520 18.3%

Gaston County

Mecklenburg County

Union County

Goals for FemaleParticipation in Each Trade

(Statewide) 6.9%

STANDARD SPECIAL PROVISION**REQUIRED CONTRACT PROVISIONS FEDERAL - AID CONSTRUCTION CONTRACTS**

FHWA - 1273 Electronic Version - May 1, 2012

Z-8

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

- A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).
The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.
Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.
Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).
2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.
4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (USDOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

- a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.
- b. The contractor will accept as its operating policy the following statement:
"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."
2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.
 - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.
 - a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.
 - b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.
 - c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.
5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
 - a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
 - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.
6. **Training and Promotion:**
 - a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.
 - b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).
 - c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:
- The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.
 - The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.
 - In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.
8. **Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.
9. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.
- The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.
 - The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.
10. **Assurance Required by 49 CFR 26.13(b):**
- The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.
 - The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.
11. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.
- The records kept by the contractor shall document the following:
 - The number and work hours of minority and non-minority group members and women employed in each work classification on the project;
 - The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and
 - The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;
 - The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

- All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents

thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

- b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:
 - (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
 - (ii) The classification is utilized in the area by the construction industry; and
 - (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
 - (2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
 - (3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
 - (4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.
- c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
 - d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.
2. **Withholding.** The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
 3. **Payrolls and basic records**
 - a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
 - b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for

this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

- (2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
 - (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
 - (ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
 - (iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
 - (3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.
 - (4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.
- c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.
4. **Apprentices and trainees**
- a. Apprentices (programs of the USDOL). Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
 - b. Trainees (programs of the USDOL). Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
 - c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.
 - d. Apprentices and Trainees (programs of the U.S. DOT). Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs

are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
6. **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
7. **Contract termination:** debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.
10. **Certification of eligibility.**
 - a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard work week of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.
3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.
4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).
 - a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees

from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
 - (2) the prime contractor remains responsible for the quality of the work of the leased employees;
 - (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
 - (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.
- b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
 3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.
 4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.
 5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier 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 first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.
- d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- f. The prospective first tier 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 debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective first tier 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 Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is 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.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

- a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:
 - (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
 - (2) 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;
 - (3) 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 (a)(2) of this certification; and
 - (4) 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.
- b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.
- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).
- e. The prospective lower tier 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 debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.
- h. 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 participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is 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 with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
 - a. 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 Federal 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.
 - b. 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 Federal 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.
2. 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 31 U.S.C. 1352. 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.
3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

STANDARD SPECIAL PROVISION**ON-THE-JOB TRAINING**

(10-16-07)(Rev. 4-21-15)

Z-10

Description

The North Carolina Department of Transportation will administer a custom version of the Federal On-the-Job Training (OJT) Program, commonly referred to as the Alternate OJT Program. All contractors (existing and newcomers) will be automatically placed in the Alternate Program. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level. Instead, these requirements will be applicable on an annual basis for each contractor administered by the OJT Program Manager.

On the Job Training shall meet the requirements of 23 CFR 230.107 (b), 23 USC – Section 140, this provision and the On-the-Job Training Program Manual.

The Alternate OJT Program will allow a contractor to train employees on Federal, State and privately funded projects located in North Carolina. However, priority shall be given to training employees on NCDOT Federal-Aid funded projects.

Minorities and Women

Developing, training and upgrading of minorities and women toward journeyman level status is a primary objective of this special training provision. Accordingly, the Contractor shall make every effort to enroll minority and women as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

Assigning Training Goals

The Department, through the OJT Program Manager, will assign training goals for a calendar year based on the contractors' past three years' activity and the contractors' anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from 1 to 15 per contractor per calendar year. The Contractor shall sign an agreement to fulfill their annual goal for the year.\

Training Classifications

The Contractor shall provide on-the-job training aimed at developing full journeyman level workers in the construction craft/operator positions. Preference shall be given to providing training in the following skilled work classifications:

| | |
|---------------------|----------------------------------|
| Equipment Operators | Office Engineers |
| Truck Drivers | Estimators |
| Carpenters | Iron / Reinforcing Steel Workers |
| Concrete Finishers | Mechanics |
| Pipe Layers | Welders |

The Department has established common training classifications and their respective training requirements that may be used by the contractors. However, the classifications established are not all-inclusive. Where the training is oriented toward construction applications, training will be allowed in lower-level management positions such as office engineers and estimators. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance to FHWA the new classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and

The number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

The Contractor may allow trainees to be trained by a subcontractor provided that the Contractor retains primary responsibility for meeting the training and this provision is made applicable to the subcontract. However, only the Contractor will receive credit towards the annual goal for the trainee.

Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

Records and Reports

The Contractor shall maintain enrollment, monthly and completion reports documenting company compliance under these contract documents. These documents and any other information as requested shall be submitted to the OJT Program Manager.

Upon completion and graduation of the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

Trainee Interviews

All trainees enrolled in the program will receive an initial and Trainee/Post graduate interview conducted by the OJT program staff.

Trainee Wages

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

| | |
|------------|---|
| 60 percent | of the journeyman wage for the first half of the training period |
| 75 percent | of the journeyman wage for the third quarter of the training period |
| 90 percent | of the journeyman wage for the last quarter of the training period |

In no instance shall a trainee be paid less than the local minimum wage. The Contractor shall adhere to the minimum hourly wage rate that will satisfy both the NC Department of Labor (NCDOL) and the Department.

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and who receives training for at least 50 percent of the specific program requirement. Trainees will be allowed to be transferred between projects if required by the Contractor's scheduled workload to meet training goals.

If a contractor fails to attain their training assignments for the calendar year, they may be taken off the NCDOT's Bidders List.

Measurement and Payment

No compensation will be made for providing required training in accordance with these contract documents.

PROJECT SPECIAL PROVISIONS**TRAFFIC CONTROL****TEMPORARY TRAFFIC CONTROL:**

(1-11-19)

1105

SP11 R05

Revise the *2018 Standard Specifications* as follows:

Page 11-5, Article 1105-6 Measurement and Payment, delete the following paragraph starting on line 26:

Payment at the contract unit prices for the various items in the contract will be full compensation for all work covered by this specification.

Page 11-5, Article 1105-6 Measurement and Payment, add the following paragraph after line 27:

Partial payments will be made on each payment estimate based on the following: 50% of the contract lump sum price bid will be paid on the first monthly estimate and the remaining 50% of the contract lump sum price bid will be paid on each subsequent estimate based on the percent of the project completed.

PROJECT SPECIAL PROVISIONS**EROSION CONTROL****RESPONSE FOR EROSION CONTROL:****Description**

Furnish the labor, materials, tools and equipment necessary to move personnel, equipment, and supplies to the project necessary for the pursuit of any or all of the following work as shown herein, by an approved subcontractor.

| Section | Erosion Control Item | Unit |
|----------------|----------------------------------|-------------|
| 1605 | Temporary Silt Fence | LF |
| 1606 | Special Sediment Control Fence | LF/TON |
| 1615 | Temporary Mulching | ACR |
| 1620 | Seed - Temporary Seeding | LB |
| 1620 | Fertilizer - Temporary Seeding | TN |
| 1631 | Matting for Erosion Control | SY |
| SP | Coir Fiber Mat | SY |
| 1640 | Coir Fiber Baffles | LF |
| SP | Permanent Soil Reinforcement Mat | SY |
| 1660 | Seeding and Mulching | ACR |
| 1661 | Seed - Repair Seeding | LB |
| 1661 | Fertilizer - Repair Seeding | TON |
| 1662 | Seed - Supplemental Seeding | LB |
| 1665 | Fertilizer Topdressing | TON |
| SP | Safety/Highly Visible Fencing | LF |
| SP | Response for Erosion Control | EA |

Construction Methods

Provide an approved subcontractor who performs an erosion control action as described in the NPDES Inspection Form SPPP30. Each erosion control action may include one or more of the above work items.

Measurement and Payment

Response for Erosion Control will be measured and paid for by counting the actual number of times the subcontractor moves onto the project, including borrow and waste sites, and satisfactorily completes an erosion control action described in Form 1675. The provisions of Article 104-5 of the *Standard Specifications* will not apply to this item of work.

Payment will be made under:

| Pay Item | Pay Unit |
|------------------------------|-----------------|
| Response for Erosion Control | Each |

CONCRETE WASHOUT STRUCTURE:

(09-07-18)

Description

Concrete washout structures are enclosures above or below grade to contain concrete waste water and associated concrete mix from washing out ready-mix trucks, drums, pumps, or other equipment. Concrete washouts must collect and retain all the concrete washout water and solids, so that this material does not migrate to surface waters or into the ground water. These enclosures are not intended for concrete waste not associated with wash out operations.

The concrete washout structure may include constructed devices above or below ground and or commercially available devices designed specifically to capture concrete wash water.

Materials

| Item | Section |
|----------------------|----------------|
| Temporary Silt Fence | 1605 |

Safety Fence shall meet the specifications as provided elsewhere in this contract.

Geomembrane basin liner shall meet the following minimum physical properties for low permeability; it shall consist of a polypropylene or polyethylene 10 mil thick geomembrane. If the minimum setback dimensions can be achieved the liner is not required. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

Construction Methods

Build an enclosed earthen berm or excavate to form an enclosure in accordance with the details and as directed.

Install temporary silt fence around the perimeter of the enclosure in accordance with the details and as directed if structure is not located in an area where existing erosion and sedimentation control devices are capable to containing any loss of sediment.

Post a sign with the words “Concrete Washout” in close proximity of the concrete washout area, so it is clearly visible to site personnel. Install safety fence as directed for visibility to construction traffic.

The construction details for the above grade and below grade concrete washout structures can be found on the following web page link:

<https://inside.ncdot.gov/stage/connect/resources/roadside/SoilWaterDocuments/ConcreteWashoutStructureDetail.pdf>

Alternate details for accommodating concrete washout may be submitted for review and approval.

The alternate details shall include the method used to retain and dispose of the concrete waste water within the project limits and in accordance with the minimum setback requirements. (5 feet above groundwater, 50 feet from top of bank of perennial stream, other surface water body, or wetland.)

Maintenance and Removal

Maintain the concrete washout structure(s) to provide adequate holding capacity plus a minimum freeboard of 12 inches. Remove and dispose of hardened concrete and return the structure to a functional condition after reaching 75% capacity.

Inspect concrete washout structures for damage and maintain for effectiveness.

Remove the concrete washout structures and sign upon project completion. Grade the earth material to match the existing contours and permanently seed and mulch area.

Measurement and Payment

Concrete Washout Structure will be paid for per each enclosure installed in accordance with the details. If alternate details are approved then those details will also be paid for per each approved and installed device.

Temporary Silt Fence will be measured and paid for in accordance with Article 1605-5 of the *Standard Specifications*.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

| Pay Item | Pay Unit |
|----------------------------|-----------------|
| Concrete Washout Structure | Each |

Native Grass Seeding And Mulching

(West)

Native Grass Seeding and Mulching shall be performed on the disturbed areas of wetlands and riparian areas, and adjacent to Stream Relocation and/or trout stream construction within a 50 foot zone on both sides of the stream or depression, measured from top of stream bank or center of depression. The stream bank of the stream relocation shall be seeded by a method that does not alter the typical cross section of the stream bank. Native Grass Seeding and Mulching shall also be performed in the permanent soil reinforcement mat section of preformed scour holes, and in other areas as directed.

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

August 1 - June 1

18# Creeping Red Fescue
 8# Big Bluestem
 6# Indiangrass
 4# Switchgrass
 35# Rye Grain

500# Fertilizer
 4000# Limestone

May 1 – September 1

18# Creeping Red Fescue
 8# Big Bluestem
 6# Indiangrass
 4# Switchgrass
 25# German or Browntop
 Millet

500# Fertilizer
 4000 Limestone
 #

Approved Creeping Red Fescue Cultivars:

Aberdeen Boreal Epic Cindy Lou

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

Native Grass Seeding and Mulching shall be performed in accordance with Section 1660 of the *Standard Specifications* and vegetative cover sufficient to restrain erosion shall be installed immediately following grade establishment.

Measurement and Payment

Native Grass *Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the *Standard Specifications*.

STABILIZATION REQUIREMENTS:

(3-11-2016)

Stabilization for this project shall comply with the time frame guidelines as specified by the NCG-010000 general construction permit effective August 1, 2016 issued by the North Carolina Department of Environmental Quality Division of Water Resources. Temporary or permanent ground cover stabilization shall occur within 7 calendar days from the last land-disturbing activity, with the following exceptions in which temporary or permanent ground cover shall be provided in 14 calendar days from the last land-disturbing activity:

- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
- Slopes 4:1 or flatter

The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING:

(WestEd)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

Shoulder and Median Areas

August 1 - June 1

20# Kentucky Bluegrass
 75# Hard Fescue
 25# Rye Grain
 500# Fertilizer
 4000# Limestone

May 1 - September 1

20# Kentucky Bluegrass
 75# Hard Fescue
 10# German or Browntop Millet
 500# Fertilizer
 4000# Limestone

Areas Beyond the Mowing Pattern, Waste and Borrow Areas:

August 1 - June 1

100# Tall Fescue
 15# Kentucky Bluegrass
 30# Hard Fescue
 25# Rye Grain
 500# Fertilizer
 4000# Limestone

May 1 - September 1

100# Tall Fescue
 15# Kentucky Bluegrass
 30# Hard Fescue
 10# German or Browntop Millet
 500# Fertilizer
 4000# Limestone

Approved Tall Fescue Cultivars

| | | | |
|----------------------------|-----------------|-----------------|--------------------|
| 06 Dust | Escalade | Justice | Serengeti |
| 2 nd Millennium | Essential | Kalahari | Shelby |
| 3 rd Millennium | Evergreen 2 | Kitty Hawk 2000 | Sheridan |
| Apache III | Falcon IV | Legitimate | Signia |
| Avenger | Falcon NG | Lexington | Silver Hawk |
| Barlexas | Falcon V | LSD | Sliverstar |
| Barlexas II | Faith | Magellan | Shenandoah Elite |
| Bar Fa | Fat Cat | Matador | Sidewinder |
| Barrera | Festnova | Millennium SRP | Skyline |
| Barrington | Fidelity | Monet | Solara |
| Barrobusto | Finelawn Elite | Mustang 4 | Southern Choice II |
| Barvado | Finelawn Xpress | Ninja 2 | Speedway |
| Biltmore | Finesse II | Ol' Glory | Spyder LS |
| Bingo | Firebird | Olympic Gold | Sunset Gold |
| Bizem | Firecracker LS | Padre | Taccoa |
| Blackwatch | Firenza | Patagonia | Tanzania |
| Blade Runner II | Five Point | Pedigree | Trio |
| Bonsai | Focus | Picasso | Tahoe II |
| Braveheart | Forte | Piedmont | Talladega |
| Bravo | Garrison | Plantation | Tarheel |
| Bullseye | Gazelle II | Proseeds 5301 | Terrano |
| Cannavaro | Gold Medallion | Prospect | Titan ltd |
| Catalyst | Grande 3 | Pure Gold | Titanium LS |
| Cayenne | Greenbrooks | Quest | Tracer |
| Cessane Rz | Greenkeeper | Raptor II | Traverse SRP |
| Chipper | Gremlin | Rebel Exeda | Tulsa Time |
| Cochise IV | Greystone | Rebel Sentry | Turbo |
| Constitution | Guardian 21 | Rebel IV | Turbo RZ |
| Corgi | Guardian 41 | Regiment II | Tuxedo RZ |
| Corona | Hemi | Regenerate | Ultimate |
| Coyote | Honky Tonk | Rendition | Venture |
| Darlington | Hot Rod | Rhambler 2 SRP | Umbrella |
| Davinci | Hunter | Rembrandt | Van Gogh |
| Desire | Inferno | Reunion | Watchdog |
| Dominion | Innovator | Riverside | Wolfpack II |
| Dynamic | Integrity | RNP | Xtremegreen |
| Dynasty | Jaguar 3 | Rocket | |
| Endeavor | Jamboree | Scorpion | |

Approved Kentucky Bluegrass Cultivars:

| | | | |
|----------|-------------|-----------|--------------|
| 4-Season | Blue Velvet | Gladstone | Quantum Leap |
| Alexa II | Blueberry | Granite | Rambo |
| America | Boomerang | Hampton | Rhapsody |

| | | | |
|---------------|-------------|---------------|---------------|
| Apollo | Brilliant | Harmonie | Rhythm |
| Arcadia | Cabernet | Impact | Rita |
| Aries | Champagne | Jefferson | Royce |
| Armada | ChAMPLAIN | Juliet | Rubicon |
| Arrow | Chicago II | Jump Start | Rugby II |
| Arrowhead | Corsair | Keeneland | Shiraz |
| Aura | Courtyard | Langara | Showcase |
| Avid | Delight | Liberator | Skye |
| Award | Diva | Madison | Solar Eclipse |
| Awesome | Dynamo | Mercury | Sonoma |
| Bandera | Eagleton | Midnight | Sorbonne |
| Barduke | Emblem | Midnight II | Starburst |
| Barnique | Empire | Moon Shadow | Sudden Impact |
| Baroness | Envicta | Moonlight SLT | Total Eclipse |
| Barrister | Everest | Mystere | Touche |
| Barvette HGT | Everglade | Nu Destiny | Tsunami |
| Bedazzled | Excursion | NuChicago | Unique |
| Belissimo | Freedom II | NuGlade | Valor |
| Bewitched | Freedom III | Odyssey | Voyager II |
| Beyond | Front Page | Perfection | Washington |
| Blacksburg II | Futurity | Pinot | Zinfandel |
| Blackstone | Gaelic | Princeton 105 | |
| Blue Note | Ginney II | Prosperity | |

Approved Hard Fescue Cultivars:

| | | | |
|-------------|-----------|------------|------------|
| Aurora II | Eureka II | Oxford | Scaldis II |
| Aurora Gold | Firefly | Reliant II | Spartan II |
| Berkshire | Granite | Reliant IV | Stonehenge |
| Bighorn GT | Heron | Rescue 911 | |
| Chariot | Nordic | Rhino | |

On cut and fill slopes 2:1 or steeper add 20# Sericea Lespedeza and 15# Crown Vetch January 1 - December 31.

The Crown Vetch Seed should be double inoculated if applied with a hand seeder. Four times the normal rate of inoculant should be used if applied with a hydroseeder. If a fertilizer-seed slurry is used, the required limestone should also be included to prevent fertilizer acidity from killing the inoculant bacteria. Caution should be used to keep the inoculant below 80° F to prevent harm to the bacteria. The rates and grades of fertilizer and limestone shall be the same as specified for *Seeding and Mulching*.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. German Millet, or Browntop Millet shall be used in summer months and rye grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, and the rate of application may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be six inches.

MINIMIZE REMOVAL OF VEGETATION:

The Contractor shall minimize removal of vegetation within project limits to the maximum extent practicable. Vegetation along stream banks and adjacent to other jurisdictional resources outside the construction limits shall only be removed upon approval of Engineer. No additional payment will be made for this minimization work.

STOCKPILE AREAS:

The Contractor shall install and maintain erosion control devices sufficient to contain sediment around any erodible material stockpile areas as directed.

ACCESS AND HAUL ROADS:

At the end of each working day, the Contractor shall install or re-establish temporary diversions or earth berms across access/haulroads to direct runoff into sediment devices. Silt fence sections that are temporarily removed shall be reinstalled across access/haulroads at the end of each working day.

WASTE AND BORROW SOURCES:

Payment for temporary erosion control measures, except those made necessary by the Contractor's own negligence or for his own convenience, will be paid for at the appropriate contract unit price for the devices or measures utilized in borrow sources and waste areas.

No additional payment will be made for erosion control devices or permanent seeding and mulching in any commercial borrow or waste pit. All erosion and sediment control practices that may be required on a commercial borrow or waste site will be done at the Contractor's expense.

All offsite Staging Areas, Borrow and Waste sites shall be in accordance with "Borrow and Waste Site Reclamation Procedures for Contracted Projects" located at:

http://www.ncdot.gov/doh/operations/dp_chief_eng/roadside/fieldops/downloads/Files/ContractedReclamationProcedures.pdf

All forms and documents referenced in the "Borrow and Waste Site Reclamation Procedures for Contracted Projects" shall be included with the reclamation plans for offsite staging areas, and borrow and waste sites.

PROJECT SPECIAL PROVISION

(10-18-95)(Rev. 3-21-17)

Z-1

PERMITS

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

| <u>PERMIT</u> | <u>AUTHORITY GRANTING THE PERMIT</u> |
|---|--|
| Dredge and Fill and/or Work in Navigable Waters (404) | U. S. Army Corps of Engineers |
| Water Quality (401) | Division of Environmental Management, DEQ State of North Carolina |

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by * are the responsibility of the Department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-13 of the *2018 Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the restricted waters, wetlands or buffer zones, provided that activities outside those areas is done in such a manner as to not affect the restricted waters, wetlands or buffer zones.

NATIONWIDE PERMIT 3
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS
FEDERAL REGISTER
AUTHORIZED MARCH 19, 2017

Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization.

(c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be

removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Authorities: Section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act (Sections 10 and 404))

Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act section 404(f) exemption for maintenance.

NATIONWIDE PERMIT GENERAL CONDITIONS

The following General Conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status,

unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that

might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWP.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory

birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed.

(d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-

lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)).

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill

material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To

validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the

prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters.

Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and

supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

DISTRICT ENGINEER'S DECISION

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal

individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and

include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

DEFINITIONS

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term “discharge” means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic habitat and riparian area restoration, enhancement, or establishment activity under NWP 27. An ecological reference may be based on the structure, functions, and dynamics of an aquatic habitat type or a riparian area type that currently exists in the region where the proposed NWP 27 activity is located. Alternatively, an ecological reference may be based on a conceptual model for the aquatic habitat type or riparian area type to be restored, enhanced, or established as a result of the proposed NWP 27 activity. An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National

Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete non-linear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the acres or linear feet of stream bed that are filled or excavated as a result of the regulated activity. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the

primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Protected tribal resources: Those natural resources and properties of traditional or customary religious or cultural importance, either on or off Indian lands, retained by, or reserved by or for, Indian tribes through treaties, statutes, judicial decisions, or executive orders, including tribal trust resources.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine- marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water

surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States. If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of “waterbodies” include streams, rivers, lakes, ponds, and wetlands.

FINAL 2017 REGIONAL CONDITIONS

NOTICE ABOUT WEB LINKS IN THIS DOCUMENT:

The web links (both internal to our Wilmington District and any external links to collaborating agencies) in this document are valid at the time of publication. However, the Wilmington District Regulatory Program web page addresses, as with other agency web sites, may change over the timeframe of the five-year Nationwide Permit renewal cycle, in response to policy mandates or technology advances. While we will make every effort to check on the integrity of our web links and provide re-direct pages whenever possible, we ask that you report any broken links to us so we can keep the page information current and usable. We apologize in advanced for any broken links that you may encounter, and we ask that you navigate from the Regulatory home page (Regulatory Permit Program Wetlands and Streams) of the Wilmington District Corps of Engineers, to the “Permits” section of our web site to find links for pages that cannot be found by clicking directly on the listed web link in this document.

Final 2017 Regional Conditions for Nationwide Permits (NWP) in the Wilmington District

1.0 Excluded Waters

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

1.1 Anadromous Fish Spawning Areas

Waters of the United States identified by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are excluded during the period between February 15 and June 30, without prior written approval from the Corps and either NCDMF or NCWRC.

1.2 Trout Waters Moratorium

Waters of the United States in the designated trout watersheds of North Carolina are excluded during the period between October 15 and April 15 without prior written approval from the NCWRC, or from the Eastern Band of Cherokee Indians (EBCI) Fisheries and Wildlife Management (FWM) office if the project is located on EBCI trust land. (See Section 2.7 for information on the designated trout watersheds).

1.3 Sturgeon Spawning Areas as Designated by the National Marine Fisheries Service (NMFS)

Waters of the United States designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from the NMFS.

2.0 Waters Requiring Additional Notification

The Corps has identified waters that will be subject to additional notification requirements for activities authorized by all NWPs. These waters are:

2.1 Western NC Counties that Drain to Designated Critical Habitat

For proposed activities within waters of the United States that require a Pre-Construction Notification (PCN) and are located in the sixteen counties listed below, permittees must provide a copy of the PCN to the U.S. Fish and Wildlife Service (USFWS), 160 Zillicoa Street, Asheville, North Carolina 28801. This PCN must be sent concurrently to the U.S. Fish and Wildlife Service and the Corps Asheville Regulatory Field Office. Please see General Condition 18 for specific notification requirements related to the Endangered Species Act and the below website for information on the location of designated critical habitat.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville U.S. Fish and Wildlife Service: Avery, Cherokee, Forsyth, Graham, Haywood, Henderson, Jackson, Macon, Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for permittees which provides guidelines on how to review linked websites and maps in order to fulfill NWP General Condition 18 requirements:

<http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/AgencyCoordination/ESA.asp>

Permittees who do not have internet access may contact the appropriate U.S. Fish and Wildlife Service offices listed below or Corps at (910) 251-4633:

Asheville U.S. Fish and Wildlife Service Office counties: All counties west of and including Anson, Stanly, Davidson, Forsythe and Stokes Counties.

U.S. Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, NC 28801
Telephone: (828) 258-3939

Raleigh U.S. Fish and Wildlife Service Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

U.S. Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726

Raleigh, NC 27636-3726
Telephone: (919) 856-4520

2.2 Special Designation Waters

Prior to the use of any NWP, except NWP 3, that involves a discharge of dredged or fill material in any of the following identified waters and/or adjacent wetlands in North Carolina, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The North Carolina waters and wetlands that require additional notification requirements are:

“Outstanding Resource Waters” (ORW) or “High Quality Waters” (HQW) as designated by the North Carolina Environmental Management Commission; “Primary Nursery Areas” (PNA), including inland PNA, as designated by the North Carolina Marine Fisheries Commission and the NCWRC; or wetlands adjacent to these waters. Definitions of ORW, HQW and PNA waters can be found in the North Carolina State Administrative Code, Title 15A, Subchapters 2B and 10C (15A NCAC 02B, 15A NCAC 10C) and at the following World Wide Web page: <http://reports.oah.state.nc.us/ncac.asp?folderName=\Title%2015A%20-%20Environmental%20Quality&lookupError=15A%20NCAC%20000%20>. Surface water classifications for waters in North Carolina can be viewed at the North Carolina Division of Water Resources website or at the following World Wide Web Page: <https://deq.nc.gov/about/divisions/water-resources/planning/classification-standards/classifications>

Permittees who do not have internet access may contact the Corps at (910) 251- 4633.

2.3 Coastal Area Management Act (CAMA) Areas of Environmental Concern

Non-federal permittees for any NWP in a designated “Area of Environmental Concern” (AEC) in the twenty (20) counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA) must also obtain the required CAMA permit. Development activities for non-federal projects may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – 69 Darlington Avenue, Wilmington, NC 28403, (910) 251-4802 or Washington Field Office – 2407 West 5th Street, Washington, NC 27889, (910) 251-4610).

2.4 Barrier Islands

Prior to the use of any NWP on a barrier island of North Carolina, permittees must submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

2.5 Mountain or Piedmont Bogs

Prior to the use of any NWP in a Bog, as classified by the North Carolina Wetland Assessment Methodology (NCWAM), permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). The latest version of NCWAM can be

viewed on the Corps RIBITS (Regulatory In-lieu Fee and Bank Information Tracking System) website or at the following World Wide Web Page:
https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO::

2.6 Animal Waste Facilities

Prior to use of any NWP for construction of animal waste facilities in waters of the United States, including wetlands, permittees shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32).

2.7 Trout Waters

Prior to any discharge of dredge or fill material into streams, waterbodies or wetlands within the 294 designated trout watersheds of North Carolina, the permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity, unless other thresholds are established in the Regional Conditions in Section 4 (Additional Regional Conditions for Specific Nationwide Permits). The permittee shall also provide a copy of the notification to the appropriate NCWRC office, or to the EBCI FWM Office (if the project is located on EBCI trust land), to facilitate the determination of any potential impacts to designated Trout Waters.

Notification to the Corps will include a statement with the name of the NCWRC or EBCI FWM biologist contacted, the date of the notification, the location of work, a delineation of wetlands and waters, a discussion of alternatives to working in the mountain trout waters, why alternatives were not selected, and, if applicable, a plan to provide compensatory mitigation for all unavoidable adverse impacts to mountain trout waters.

NCWRC and NC Trout Watersheds:

| NCWRC Contact** | Counties that are entirely within Trout Watersheds* | Counties that are partially within Trout Watersheds* |
|---|--|---|
| Mountain Coordinator Balsam Depot 20830 Great Smoky Mountain Expressway Waynesville, NC 28786 Telephone: (828) 558-6011 For NCDOT Projects: NCDOT Coordinator 206 Charter. Street Albemarle, NC 28001 Telephone: (704) 982-9181 | Alleghany Jackson Ashe Macon Avery Swain Graham Transylvania Haywood Watauga | Burke McDowell Buncombe Mitchell Caldwell Polk Cherokee Rutherford Clay Surry Henderson Wilkes Madison Yancey |

*NOTE: To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for each County at the following World Wide Web page: <http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout/>.

**If a project is located on EBCI trust land, submit the PCN in accordance with Section 3.14. Contact the Corps Asheville Regulatory Field Office at (828) 271-7980 with questions.

2.8 Western NC Waters and Corridors

The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to commencing the activity in waters of the United States if the activity will occur within any of the following identified waters in western North Carolina, within 0.5 mile on either side of these waters, or within 0.75 mile of the Little Tennessee River, as measured from the top of the bank of the respective water (i.e., river, stream, or creek):

Brasstown Creek
Burningtown Creek
Cane River
Caney Fork
Cartoogechaye Creek
Chattooga River
Cheoah River
Cowee Creek
Cullasaja River
Deep Creek
Ellijay Creek
French Broad River
Garden Creek
Hiwassee River
Hominy Creek
Iotla Creek
Little Tennessee River (within the river or within 0.75 mile on either side of this river)
Nantahala River
Nolichucky River
North Fork French Broad River
North Toe River
Nottley River
Oconaluftee River (portion not located on trust/EBCI land)
Peachtree Creek
Shooting Creek
Snowbird Creek
South Toe River
Stecoah Creek
Swannanoa River
Sweetwater Creek

Tuckasegee River (also spelled Tuckaseegee or Tuckaseigee)
Valley River
Watauga Creek
Watauga River
Wayah Creek
West Fork French Broad River

To determine notification requirements, contact the Corps Asheville Regulatory Field Office at (828) 271-7980 or view maps for all corridors at the following World Wide Web page:
<http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Designated-Special-Waters.aspx>

3.0 List of Corps Regional Conditions for All Nationwide Permits

The following conditions apply to all Nationwide Permits in the Wilmington District:

3.1 Limitation of Loss of Stream Bed

NWPs may not be used for activities that may result in the loss or degradation of more than 300 total linear feet of stream bed, unless the District Engineer has waived the 300 linear foot limit for ephemeral and intermittent streams on a case-by-case basis and has determined that the proposed activity will result in minimal individual and cumulative adverse impacts to the aquatic environment. Waivers for the loss of ephemeral and intermittent streams must be in writing and documented by appropriate/accepted stream quality assessments*. This waiver only applies to the 300 linear feet threshold for NWPs.

This Regional Condition does not apply to NWP 23 (Approved Categorical Exclusions).

*NOTE: Permittees should utilize the most current methodology prescribed by Wilmington District to assess stream function and quality. Information can be found at:
https://ribits.usace.army.mil/ribits_apex/f?p=107:27:0::NO::

3.2 Mitigation for Loss of Stream Bed

For any NWP that results in a loss of more than 150 linear feet of stream, the permittee shall provide a mitigation proposal to compensate for more than minimal individual and cumulative adverse impacts to the aquatic environment. For stream losses of 150 linear feet or less that require a PCN, the District Engineer may determine, on a case-by-case basis, that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

3.3 Pre-construction Notification for Loss of Streambed Exceeding 150 Feet

Prior to use of any NWP for any activity which impacts more than 150 total linear feet of perennial stream, intermittent or ephemeral stream, the permittee shall submit a PCN to the District Engineer prior to commencing the activity (see General Condition 32). This applies to

NWPs that do not have specific notification requirements. If a NWP has specific notification requirements, the requirements of the NWP should be followed.

3.4 Restriction on Use of Live Concrete

For all NWPs which allow the use of concrete as a building material, live or fresh concrete, including bags of uncured concrete, may not come into contact with the water in or entering into waters of the United States. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to waters of the United States after the concrete is set and cured and when it no longer poses a threat to aquatic organisms.

3.5 Requirements for Using Riprap for Bank Stabilization

For all NWPs that allow for the use of riprap material for bank stabilization, the following measures shall be applied:

3.5.1. Where bank stabilization is conducted as part of an activity, natural design, bioengineering and/or geoenvironmental methods that incorporate natural durable materials, native seed mixes, and native plants and shrubs are to be utilized to the maximum extent practicable.

3.5.2. Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters. The placement of filter fabric is not required if the riprap will be pushed or “keyed” into the bank of the waterbody. A waiver from the specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional Condition would result in greater adverse impacts to the aquatic environment.

3.5.3. The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

3.5.4. The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities that would not have an adverse environmental effect.

3.5.5. It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

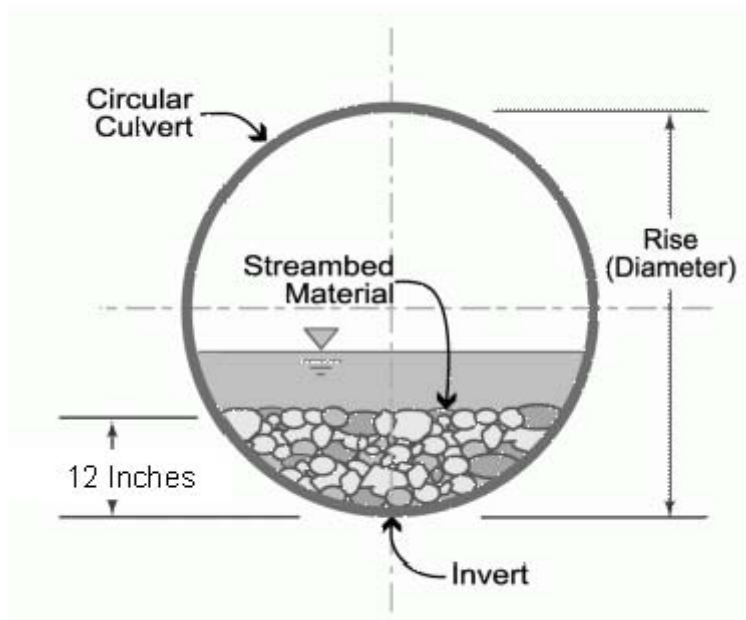
3.5.6. The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

3.6 Requirements for Culvert Placement

3.6.1 For all NWPs that involve the construction/installation of culverts, measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by altering the width or depth of the stream profile in connection with the construction activity. The width, height, and gradient of a proposed culvert should be

sufficient to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow is the seasonal sustained high flow that typically occurs in the spring. Spring flows should be determined from gage data, if available. In the absence of such data, bank-full flow can be used as a comparable indicator.

In Public Trust Areas of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by the Coastal Area Management Act (CAMA): All pipes/culverts must be sufficiently sized to allow for the burial of the bottom of the culvert at least one foot below normal bed elevation.



In all other areas: Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried to maintain aquatic passage and to maintain passage during drought or low flow conditions, and every effort shall be made to maintain the existing channel slope.

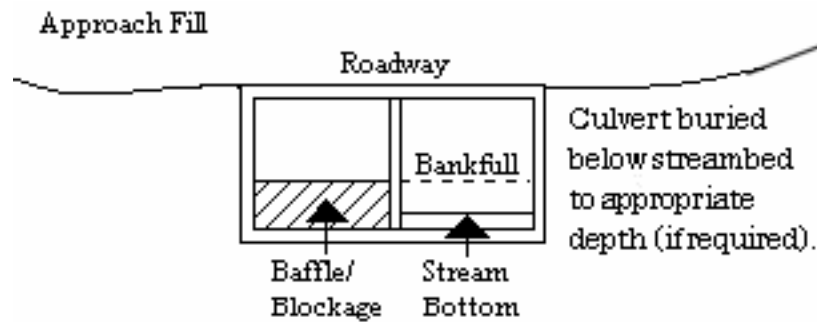
Culverts must be designed and constructed in a manner that minimizes destabilization and head cutting. Destabilizing the channel and head cutting upstream should be considered and appropriate actions incorporated in the design and placement of the culvert.

A waiver from the depth specifications in this condition may be requested, in writing, by the permittee and issued by the Corp; this request must be specific as to the reason(s) for the request. The waiver will be issued if it can be demonstrated that the proposed design would result in less impacts to the aquatic environment.

All counties: Culverts placed within riparian and/or riverine wetlands must be installed in a manner that does not restrict the flow and circulation patterns of waters of the United States.

Culverts placed across wetland fills purely for the purposes of equalizing surface water do not have to be buried, but the culverts must be of adequate size and/or number to ensure unrestricted transmission of water.

3.6.2 Bank-full flows (or less) shall be accommodated through maintenance of the existing bank-full channel cross sectional area. Additional culverts or culvert barrels at such crossings shall be allowed only to receive bank-full flows.



3.6.3 Where adjacent floodplain is available, flows exceeding bank-full should be accommodated by installing culverts at the floodplain elevation. Additional culverts or culvert barrels at such crossings should not be buried, or if buried, must have sills at the inlets to ensure that they only receive flows exceeding bank-full.

3.6.4 Excavation of existing stream channels shall be limited to the minimum necessary to construct or install the proposed culvert. The final width of the impacted stream at the culvert inlet and outlet should be no greater than the original stream width. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if the proposed design would result in less impacts to the aquatic environment and/or if it can be demonstrated that it is not practicable to restore the final width of the impacted stream at the culvert inlet and outlet to the width of the original stream channel.

3.6.5 The width of the culvert shall be comparable to the width of the stream channel. If the width of the culvert is wider than the stream channel, the culvert shall include baffles, benches and/or sills to maintain the width of the stream channel. A waiver from this condition may be requested in writing; this request must be specific as to the reason(s) for the request. The waiver will be issued if it can be demonstrated that it is not practicable or necessary to include baffles, benches or sills and the design would result in less impacts to the aquatic environment.

3.7 Notification to NCDEQ Shellfish Sanitation Section

Permittees shall notify the NCDEQ Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand

should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued by the permittee.

3.8 Submerged Aquatic Vegetation

Impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP, except NWP 48, unless EFH Consultation has been completed pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act). Permittees shall submit a PCN (See NWP General Condition 32) to the District Engineer prior to commencing the activity if the project would affect SAV. The permittee may not begin work until notified by the Corps that the requirements of the Magnuson-Stevens Act have been satisfied and that the activity is authorized.

3.9 Sedimentation and Erosion Control Structures and Measures

All PCNs will identify and describe sedimentation and erosion control structures and measures proposed for placement in waters of the United States. The structures and measures should be depicted on maps, surveys or drawings showing location and impacts to jurisdictional wetlands and streams.

3.10 Restoration of Temporary Impacts to Stream Beds

Upon completion of work that involves temporary stream impacts, streambeds are to be restored to pre-project elevations and widths using natural streambed material such that the impacted stream reach mimics the adjacent upstream and downstream reach. The impacted area shall be backfilled with natural streambed material to a depth of at least 12 inches or to the bottom depth of the impacted area if shallower than 12 inches. An engineered in-stream structure or material can be used to provide protection of a buried structure if it provides benefits to the aquatic environment and can be accomplished by a natural streambed design. A permittee may request a waiver of this condition if it is determined a buried structure needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

3.11 Restoration of Temporary Impacts to Stream Banks

Upon completion of work involving temporary stream bank impacts, stream banks are to be restored to pre-project grade and contours or beneficial grade and contours if the original bank slope is steep and unstable. Natural durable materials, native seed mixes, and native plants and shrubs are to be utilized in the restoration. Natural designs which use bioengineered and/or geo-engineered methods are to be applied. An engineered structure or material can be used to provide protection of a buried structure if it provides benefits to the stream bank environment, provided it is not in excess of the minimum amount needed for protection and does not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark. A permittee may request a waiver of this condition if it is determined a buried structure

needs significant physical protection beyond those provided in this condition. This condition does not apply to NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities.

3.12 Federal Navigation Channel Setbacks and Corps Easements

3.12.1 Authorized structures and fills located in or adjacent to Federally authorized waterways will be constructed in accordance with the latest setback criteria established by the Wilmington District Engineer. You may review the setback policy at <http://www.saw.usace.army.mil/Missions/Navigation/Setbacks.aspx>. This general permit does not authorize the construction of hardened or permanently fixed structures within the Federally Authorized Channel Setback, unless the activity is approved by the Corps. The permittee shall submit a PCN (see General Condition 32) to the District Engineer prior to the construction of any structures or fills within the Federally Authorized Channel Setback.

3.12.2 The permittee shall obtain a Consent to Cross Government Easement from the Wilmington District’s Land Use Coordinator prior to any crossing of the Corps easement and/or prior to commencing construction of any structures, authorized dredging or other work within the right-of-way of, or in proximity to, a federally designated disposal area. The Land Use Coordinator may be contacted at: CESA-W-OP-N, 69 Darlington Avenue, Wilmington, North Carolina 28403-1343, email: SAWWeb-NAV@usace.army.mil

3.13 Northern Long-eared Bat – Endangered Species Act Compliance

The Wilmington District, U.S. Army Corps of Engineers has consulted with the United States Fish and Wildlife Service (USFWS) in regards to the threatened Northern long-eared bat (NLEB) (*Myotis septentrionalis*) and Standard Local Operating Procedures for Endangered Species (SLOPES) have been approved by the Corps and the USFWS. This condition concerns effects to the NLEB only and does not address effects to other federally listed species and/or federally designated critical habitat.

A. Procedures when the Corps is the lead federal* agency for a project:

The permittee must comply with (1) and (2) below when:

- the project is located in the western 41 counties of North Carolina, to include non-federal aid North Carolina Department of Transportation (NCDOT) projects, OR;
- the project is located in the 59 eastern counties of North Carolina, and is a non-NCDOT project.

*Generally, if a project is located on private property or on non-federal land, and the project is not being funded by a federal entity, the Corps will be the lead federal agency due to the requirement to obtain Department of the Army authorization to impact waters of the United States. If the project is located on federal land, contact the Corps to determine the lead federal agency.

(1) A permittee using a NWP must check to see if their project is located in the range of the NLEB by using the following website:

<http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf>. If the project is within the range of the NLEB, or if the project includes percussive activities (e.g., blasting, pile driving, etc.), the permittee is then required to check the appropriate website in the paragraph below to discover if their project:

- is located in a 12-digit Hydrologic Unit Code area (“red HUC” - shown as red areas on the map), AND/OR;
- involves percussive activities within 0.25 mile of a red HUC.

Red HUC maps - for the western 41 counties in NC (covered by the Asheville Ecological Services Field Office), check the project location against the electronic maps found at: http://www.fws.gov/asheville/htmls/project_review/NLEB_in_WNC.html. For the eastern 59 counties in NC (covered by the Raleigh Ecological Services Field Office), check the project location against the electronic maps found at:

https://www.fws.gov/raleigh/NLEB_RFO.html.

(2) A permittee must submit a PCN to the District Engineer, and receive written authorization from the District Engineer, prior to commencing the activity, if the activity will involve any of the following:

- tree clearing/removal, construction/installation of wind turbines in a red HUC, AND/OR;
- bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, (applies anywhere in the range of the NLEB), AND/OR;
- percussive activities in a red HUC, or within 0.25 mile of a red HUC.

The permittee may proceed with the activity without submitting a PCN to either the Corps or the USFWS, provided the activity complies with all applicable NWP terms and general and regional conditions, if the permittee’s review under A.(1) and A.(2) above shows that the project is:

- located outside of a red HUC (and there are no percussive activities), and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;
- located outside of a red HUC and there are percussive activities, but the percussive activities will not occur within 0.25-mile of a red HUC boundary, and the activity will NOT include bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, OR;

- located in a red HUC, but the activity will NOT include: tree clearing/removal; construction/installation of wind turbines; bridge removal or maintenance, unless the bridge has been inspected and there is no evidence of bat use, and/or; any percussive activities.

B. Procedures when the USACE is not the lead federal agency:

For projects where another federal agency is the lead federal agency - if that other federal agency has completed project-specific ESA Section 7(a)(2) consultation for the NLEB, and has (1) determined that the project would not cause prohibited incidental take of the NLEB, and (2) completed coordination/consultation that is required by the USFWS (per the directions on the respective USFWS office's website), that project may proceed without notification to either the USACE or the USFWS, provided all General and Regional Permit Conditions are met.

The NLEB SLOPES can be viewed on the USACE website at the following World Wide Web Page: <http://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/ESA/>. Permittees who do not have internet access may contact the USACE at (910) 251- 4633.

3.14 Work on Eastern Band of Cherokee Indians Land

All PCNs submitted for activities in waters of the United States on Eastern Band of Cherokee Indians (EBCI) trust land (i.e., Qualla Boundary and non-contiguous tracts of trust land), must comply with the requirements of the latest MOU between the Wilmington District and the Eastern Band of Cherokee Indians.

4.0 Additional Regional Conditions for Specific Nationwide Permits

4.1 NWP #3 – Maintenance

4.1.1 In designated trout watersheds, a PCN is not required for impacts to a maximum of 75 linear feet (150 linear feet for temporary dewatering) of streams and waterbodies when conducting maintenance activities. Minor deviations in an existing structure's configuration, temporary structures and temporary fills are authorized as part of the maintenance activity. In designated trout watersheds, the permittee shall submit a PCN (see Regional Condition 2.7 and General Condition 32) to the District Engineer prior to commencing the activity if; 1) impacts (other than temporary dewatering to work in dry conditions) to streams or waterbodies exceed 75 linear feet; 2) temporary impacts to streams or waterbodies associated with dewatering to work in dry conditions exceeds 150 linear feet; 3) the project will involve impacts to wetlands; 4) the project involves the replacement of a bridge or spanning structure with a culvert or non-spanning structure in waters of the United States; or 5) the activity will be constructed during the trout waters moratorium (October 15 through April 15).

4.1.2 The permittee shall submit a PCN (see NWP General Condition 32) to the District Engineer prior to commencing the activity if the activity involves repair, rehabilitation or replacement of impounding structures or parts of impounding structures or fills.

4.1.3 The permittee shall submit a PCN to the District Engineer prior to commencing the activity if the activity will involve the discharge of dredged or fill material into more than 1/10-acre of wetlands or 150 linear feet of stream channel for the construction of temporary access fills and/or temporary road crossings. The PCN must include a restoration plan that thoroughly describes how all temporary fills will be removed, how pre-project conditions will be restored, and include a timetable for all restoration activities.

DECISION DOCUMENT NATIONWIDE PERMIT 13

This document discusses the factors considered by the Corps of Engineers (Corps) during the issuance process for this Nationwide Permit (NWP). This document contains: (1) the public interest review required by Corps regulations at 33 CFR 320.4(a)(1) and (2); (2) a discussion of the environmental considerations necessary to comply with the National Environmental Policy Act; and (3) the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230). This evaluation of the NWP includes a discussion of compliance with applicable laws, consideration of public comments, an alternatives analysis, and a general assessment of individual and cumulative environmental effects, including the general potential effects on each of the public interest factors specified at 33 CFR 320.4(a).

1.0 Text of the Nationwide Permit

Bank Stabilization. Bank stabilization activities necessary for erosion control or prevention, such as vegetative stabilization, bioengineering, sills, rip rap, revetment, gabion baskets, stream barbs, and bulkheads, or combinations of bank stabilization techniques, provided the activity meets all of the following criteria:

- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects (an exception is for bulkheads – the district engineer cannot issue a waiver for a bulkhead that is greater than 1,000 feet in length along the bank);
- (c) The activity will not exceed an average of one cubic yard per running foot, as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;
- (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless the district engineer waives this criterion by making a written determination concluding that the discharge will result in no more than minimal adverse environmental effects;
- (e) No material is of a type, or is placed in any location, or in any manner, that will impair surface water flow into or out of any waters of the United States;
- (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored native trees and treetops may be used in low energy areas);

(g) Native plants appropriate for current site conditions, including salinity, must be used for bioengineering or vegetative bank stabilization;

(h) The activity is not a stream channelization activity; and

(i) The activity must be properly maintained, which may require repairing it after severe storms or erosion events. This NWP authorizes those maintenance and repair activities if they require authorization.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the bank stabilization activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; or (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line. (See general condition 32.) (Authorities: Sections 10 and 404)

1.1 Requirements

General conditions of the NWPs are in the Federal Register notice announcing the issuance of this NWP. Pre-construction notification requirements, additional conditions, limitations, and restrictions are in 33 CFR part 330.

1.2 Statutory Authorities

- Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)
- Section 404 of the Clean Water Act (33 U.S.C. 1344)

1.3 Compliance with Related Laws (33 CFR 320.3)

1.3.1 General

NWPs are a type of general permit designed to authorize certain activities that have no more

than minimal individual and cumulative adverse environmental effects and generally comply with the related laws cited in 33 CFR 320.3. Activities that result in more than minimal individual and cumulative adverse environmental effects cannot be authorized by NWP. Individual review of each activity authorized by an NWP will not normally be performed, except when pre-construction notification to the Corps is required or when an applicant requests verification that an activity complies with an NWP. Potential adverse impacts and compliance with the laws cited in 33 CFR 320.3 are controlled by the terms and conditions of each NWP, regional and case-specific conditions, and the review process that is undertaken prior to the issuance of NWPs.

The evaluation of this NWP, and related documentation, considers compliance with each of the following laws, where applicable: Sections 401, 402, and 404 of the Clean Water Act; Section 307(c) of the Coastal Zone Management Act of 1972, as amended; Section 302 of the Marine Protection, Research and Sanctuaries Act of 1972, as amended; the National Environmental Policy Act of 1969; the Fish and Wildlife Act of 1956; the Migratory Marine Game-Fish Act; the Fish and Wildlife Coordination Act, the Federal Power Act of 1920, as amended; the National Historic Preservation Act of 1966; the Interstate Land Sales Full Disclosure Act; the Endangered Species Act; the Deepwater Port Act of 1974; the Marine Mammal Protection Act of 1972; Section 7(a) of the Wild and Scenic Rivers Act; the Ocean Thermal Energy Act of 1980; the National Fishing Enhancement Act of 1984; the Magnuson-Stevens Fishery and Conservation and Management Act, the Bald and Golden Eagle Protection Act; and the Migratory Bird Treaty Act. In addition, compliance of the NWP with other Federal requirements, such as Executive Orders and Federal regulations addressing issues such as floodplains, essential fish habitat, and critical resource waters is considered.

1.3.2 Terms and Conditions

Many NWPs have pre-construction notification requirements that trigger case-by-case review of certain activities. Two NWP general conditions require case-by-case review of all activities that may adversely affect Federally-listed endangered or threatened species or historic properties (i.e., general conditions 18 and 20, respectively). General condition 16 restricts the use of NWPs for activities that are located in Federally-designated wild and scenic rivers. None of the NWPs authorize the construction of artificial reefs. General condition 28 prohibits the use of an NWP with other NWPs, except when the acreage loss of waters of the United States does not exceed the highest specified acreage limit of the NWPs used to authorize the single and complete project.

In some cases, activities authorized by an NWP may require other federal, state, or local authorizations. Examples of such cases include, but are not limited to: activities that are in marine sanctuaries or affect marine sanctuaries or marine mammals; the ownership, construction, location, and operation of ocean thermal conversion facilities or deep water ports beyond the territorial seas; activities that result in discharges of dredged or fill material into waters of the United States and require Clean Water Act Section 401 water quality certification; or activities in a state operating under a coastal zone management program approved by the Secretary of Commerce under the Coastal Zone Management Act. In such

cases, a provision of the NWP states that an NWP does not obviate the need to obtain other authorizations required by law. [33 CFR 330.4(b)(2)]

Additional safeguards include provisions that allow the Chief of Engineers, division engineers, and/or district engineers to: assert discretionary authority and require an individual permit for a specific activity; modify NWP for specific activities by adding special conditions on a case-by-case basis; add conditions on a regional or nationwide basis to certain NWP; or take action to suspend or revoke an NWP or NWP authorization for activities within a region or state. Regional conditions are imposed to protect important regional concerns and resources. [33 CFR 330.4(e) and 330.5]

1.3.3 Review Process

The analyses in this document and the coordination that was undertaken prior to the issuance of the NWP fulfill the requirements of the National Environmental Policy Act (NEPA), the Fish and Wildlife Coordination Act, and other acts promulgated to protect the quality of the environment.

All NWP that authorize activities that may result in discharges into waters of the United States require water quality certification. NWP that authorize activities within, or affecting land or water uses within a state that has a Federally-approved coastal zone management program, must also be certified as consistent with the state's program. The procedures to ensure that the NWP comply with these laws are described in 33 CFR 330.4(c) and (d), respectively.

1.4 Public Comment and Response

For a summary of the public comments received in response to the June 1, 2016, Federal Register notice, refer to the preamble in the Federal Register notice announcing the reissuance of this NWP. The substantive comments received in response to the June 1, 2016, Federal Register notice were used to improve the NWP by changing NWP terms and limits, pre-construction notification requirements, and/or NWP general conditions, as necessary.

We proposed to modify the first paragraph of this NWP to clarify that it authorizes a wide variety of bank stabilization measures. In addition, we proposed to modify paragraph (c) to clarify that the quantity of the dredged or fill material discharged into waters of the United States must not exceed one cubic yard per running foot below the plane of the ordinary high water mark or the high tide line, as measured along the bank.

Many commenters supported the reissuance of this NWP, including many of the proposed changes. Many commenters objected to the reissuance of this NWP. Several commenters said that all bank stabilization activities should require individual permits. One commenter asserted that this NWP should not authorize new bank stabilization activities. One commenter stated that NWP 13 should not be used to create more land. One commenter

opined that the use of NWP 13 is contrary to the public interest because the only positive value of a bulkhead is limited to the landowner, and bulkheads have adverse impacts that affect society as a whole. One commenter said that this NWP should not be reissued because it does not comply with the requirements of section 404 of the Clean Water Act.

We are reissuing this NWP, with some changes made in response to comments that are discussed below. Many bank stabilization activities have no more than minimal individual and cumulative adverse environmental effects and are appropriate for NWP authorization. The Corps' regulations recognize that landowners have the general right to protect their property from erosion (33 CFR 320.4(g)(2)). The terms and conditions of this NWP provide a means of implementing this provision of the Corps' regulations by authorizing bank stabilization activities that can be conducted with minimal amounts of dredged or fill material being discharged into waters of the United States.

We acknowledge that bank stabilization will have indirect adverse effects on streams, rivers, lakes, estuaries, and oceans. In coastal waters, bank stabilization structures change natural shoreline processes and alter habitats (Nordstrom 2014). Bank stabilization structures in coastal waters create barriers to animal movements between habitats, cause the loss of some habitat, reduce or eliminate intertidal habitats, and alter species richness and abundance (Nordstrom 2014). Gittman et al. (2016) concluded after conducting a meta-analysis of coastal shore protection measures that a 23 percent decline in biodiversity and a 45 percent decline in organism abundance occurred near bulkheads and seawalls. Stone revetments, sills, and breakwaters exhibited little or no difference in biodiversity and organism abundance compared to natural shorelines (Gittman et al. 2016). In rivers and streams, bank stabilization measures such as riprap affect riverine processes including sediment transport, hydrodynamics, water levels, sediment input, sediment characteristics of the river or stream bed, and wood input (Reid and Church 2015). Riprap to stabilize river and stream banks also alters habitat quality and vertebrate and invertebrate populations (Reid and Church 2015).

We believe that in most cases, the indirect adverse environmental effects caused by bank stabilization authorized by NWP 13 are no more than minimal. While bank stabilization may result in some losses of waters of the United States along the stream or river bank or along the shore, the waterbody itself is not lost and that waterbody continues to provide ecological functions and services. For those activities that require PCNs, district engineers will review those activities and their direct and indirect adverse environmental effects. If a proposed bank stabilization activity will result in more than minimal individual and cumulative adverse environmental effects after the district engineer considers the applicant's mitigation proposal, he or she will exercise discretionary authority and require an individual permit. This NWP authorizes new bank stabilization activities and the modification, repair, or replacement of existing bank stabilization activities as long as those activities comply with the terms and conditions of the NWP.

Paragraph (a) of this NWP requires that the amount of material placed in jurisdictional waters and wetlands for the bank stabilization activity must be the minimum necessary for erosion protection. Therefore, this NWP does not authorize activities that create more land for property owner or the reclamation of previously lost lands. Bank stabilization activities

authorized by this NWP, including bulkheads, revetments, and other erosion control approaches, are conducted not only for private property, but for public property as well. Therefore, it cannot be stated that NWP 13 activities only benefit private landowners; the NWP can also benefit larger communities especially at waterfront parks and other public spaces along shorelines that are eroding. In the national decision document, we have completed a 404(b)(1) Guidelines analysis and determined that the reissuance of this NWP complies with the Guidelines.

Many commenters stated that the construction of bulkheads, seawalls, revetments, and other shoreline hardening structures should not be authorized by this NWP, and they should require individual permits. One commenter said that gabion baskets, sills, and stream barbs should not be authorized by NWP 13. Two commenters suggested replacing the words “such as” with “including, but not limited to” to the list of examples of activities authorized by this NWP to clarify that the list is not an all-inclusive list. Several commenters expressed their support of including hybrid bank stabilization activities that combine vegetated slope protection and riprap protection.

In the June 1, 2016, proposed rule, we proposed to modify the text of this NWP to make it clear that NWP 13 authorizes a variety of bank stabilization activities, not just the construction and maintenance of bulkheads, seawalls, revetments, gabion baskets, and other shoreline hardening structures. The construction and maintenance of bulkheads, seawalls, revetments, gabion baskets, etc. has, especially in waterbodies in urban areas, no more than minimal adverse environmental effects. This NWP can be used to authorize vegetative stabilization and bioengineering to reduce erosion, as well as other bank stabilization techniques. Stream barbs can be effective at reducing bank erosion and can have fewer adverse effects to streams and their banks than armoring the stream bank. Sills have been authorized by NWP 13 in the past and help protect existing fringe marshes from erosion. The use of the phrase “such as” in the first paragraph of NWP 13 makes it clear that the list of bank stabilization activities is not an exhaustive list. Other types of bank stabilization activities can be authorized by NWP 13 as long as those activities comply with the terms and conditions of this NWP.

One commenter stated that NWP 13 should be modified to prohibit hard bank stabilization structures landward of, or directly adjacent to, tidal marshes, mangroves, or submerged aquatic vegetation. One commenter stated that this NWP should not authorize bank stabilization activities in coastal estuaries. One commenter suggested adding a provision to NWP 13 to encourage the use of living shorelines as bank stabilization and erosion prevention methods. Several commenters voiced their support that NWP 13 not specify a preference for one bank stabilization approach over another approach.

This NWP requires PCNs for any proposed activities that involve discharges of dredged or fill material into special aquatic sites, including wetlands and vegetated shallows. Constructing bank stabilization activities, including bulkheads and revetments, landward of tidal marshes, mangroves, or submerged aquatic vegetation is a means of complying with paragraph (a) of general condition 23, mitigation, by minimizing adverse effects to those special aquatic sites. If the bank stabilization activity is constructed landward of the high tide line and there are no jurisdictional wetlands or waters at the proposed site for the bank

stabilization activity, then DA authorization is not required. Many areas of coastal estuaries are subject to strong wave energies and other erosive forces (e.g., large vessel wakes) where the construction of seawalls, bulkheads, or revetments is the only effective and sustainable bank stabilization technique.

We are issuing a separate NWP to authorize discharges of dredged or fill material into waters of the United States and structure or work in navigable waters of the United States for the construction and maintenance of living shorelines. That new NWP gives coastal landowners another option to protect their property from erosion. We agree that the NWPs should not establish a preference for one approach to bank stabilization over other approaches. The science surrounding living shorelines is relatively new and their long-term effectiveness compared to other bank stabilization methods has not been well studied (Saleh and Weinstein 2016). Therefore, at this time it would be premature to establish a regulatory preference for living shorelines.

Landowners can seek advice from consultants regarding which bank stabilization approach will be suitable and sustainable under the conditions at a particular site. District engineers will evaluate NWP PCNs and voluntary requests for NWP verification to determine whether the proposed bank stabilization activity qualifies for NWP authorization. Corps district staff cannot design bank stabilization activities for landowners because it would create liability for the federal government. Some general advice can be offered to landowners, but it is up to the landowner to decide how he or she wants to protect his or her property from erosion. Corps district staff can only evaluate the applicant's proposal and determine whether it qualifies for NWP or regional general permit authorization or requires an individual permit.

Several commenters stated that NWP 13 should not be reissued because too much shoreline has been armored by bank stabilization activities. These commenters cited a study that determined that 14 percent of the coastal shorelines along the Atlantic and Pacific Oceans and the Gulf of Mexico have been altered by the construction of bulkheads, seawalls, jetties, and groins (Gittman et al. 2015). One commenter said that NWP 13 should not authorize hard bank stabilization structures on public beaches. Another commenter expressed the opinion that hardened bank stabilization projects should only be authorized in cases where public safety is at risk. One commenter said bank stabilization fills or structures that prevent the establishment of rooted vegetation should only be authorized in limited circumstances, specifically in areas with excessive and active shoreline erosion, areas with highly erodible soils, and shorelines exposed to frequent flux and wave action. This commenter also stated that hard bank stabilization structures should be limited to areas with critical public infrastructure where other bank stabilization approaches could not be done.

According to the National Oceanic and Atmospheric Administration's report entitled: "National Coastal Population Report: Population Trends from 1970 to 2020," 39 percent of the population of the United States (123.3 million people) lives in coastal shoreline counties. Approximately 52 percent of the nation's population lives in coastal watersheds (NOAA and U.S. Census Bureau 2013). That report defines "coastal shoreline counties" as counties that are "directly adjacent to the open ocean, major estuaries, and the Great Lakes." These coastal shoreline counties experience most of the direct effects of coastal hazards, and

therefore people living in these areas need bank stabilization activities to protect their property and infrastructure. As long as the entities responsible for land use planning and zoning (primarily local and state governments) continue to allow development in coastal areas, there will be a need for bank stabilization activities as people living in areas determine a need to take action to protect their property.

Although according to the study mentioned above (Gittman et al. 2015), an estimated 14 percent of coastal shoreline in the United States estimated has been altered by hard bank stabilization such as bulkheads, seawalls, jetties, and groins, it is important to consider how much of that hardened shoreline is located in coastal environments subject to higher energy erosive forces where bulkheads, seawalls, jetties, breakwaters, or revetments are necessary to control erosion and protect existing buildings and infrastructure. The percentage of shore estimated to be hardened by bank stabilization structures should also be considered in the overall context of the large number of people that live in coastal areas of the United States and the extensive proportion of land area in coastal zones that people have altered for their use. The 52 percent of the nation's population that lives in coastal watersheds has a large impact on the ecological condition of coastal waters because of the cumulative effects of human activities in those coastal zones. Those cumulative impacts to coastal ecosystems are caused by: pollution from land, rivers, and oceans; overharvesting fishery resources; habitat loss; species introductions; nutrient inputs; activities that reduce sediment inputs necessary to maintain coastal ecosystems; land use changes that convert coastal habitats such as forests, wetlands to urban, industrial, and recreational developments; the construction and operation of ports and other facilities; transportation projects; dredging; aquaculture activities; and shore protection structures (MEA 2005a). In summary, there are many other categories of activities in coastal areas besides bank stabilization activities that adversely affect coastal waters and their associated ecosystems and eliminate or diminish the ecological functions and services those waters and ecosystems provide.

Humans have long had substantial impacts on ecosystems and the ecological functions and services they provide (Ellis et al. 2010). Over 75 percent of the ice-free land on Earth has been altered by human occupation and use (Ellis and Ramankutty 2008). Approximately 33 percent of the Earth's ice-free land consists of lands heavily used by people: urban areas, villages, lands used to produce crops, and occupied rangelands (Ellis and Ramankutty 2008). Human population density is a good indicator of the relative effect that people have had on local ecosystems, with lower population densities causing smaller impacts to ecosystems and higher population densities having larger impacts on ecosystems (Ellis and Ramankutty 2008). According to NOAA and the U.S. Census Bureau (2013), in 2010 U.S. coastal shoreline counties had an average density of 446 people per square mile and U.S. coastal watershed counties had an average density of 319 people per square mile. Both of these densities are considered high population densities under the classification system used by Ellis and Ramankutty 2008). Human activities such as urbanization, agriculture, and forestry alter ecosystem structure and function by changing their interactions with other ecosystems, their biogeochemical cycles, and their species composition (Vitousek et al. 1997).

Given the relatively high percentage of the United States population that lives in coastal shoreline counties, and the fact that many coastal shoreline counties have been long been

significantly altered by human activities, the estimated percentage of hardened shoreline should be considered in the context of the cumulative impacts that have occurred in coastal shoreline counties or coastal watersheds. As explained above, there is a wide variety of activities that contribute to cumulative effects to coastal waters (also see MEA 2005b). Bank stabilization activities are a small subset of human activities that adversely affect coastal waters and wetlands.

It is also important to consider that a large number of waterfront property owners will want to protect their property with bank stabilization structures, such as bulkheads, seawalls, and revetments. Some waterfront property owners have taken different approaches (e.g., vegetative stabilization, bioengineering, living shorelines) to control erosion of their lands. Those landowners that perceive that erosion is not a problem will choose not to install any erosion control measures. Landowners will choose erosion control methods they believe will protect their property over a long term. They may have property fronted by tidal fringe wetlands that already protects their property. Gittman et al. (2015) estimated that only 1 percent of the United States coastline with tidal marsh has been armored by seawalls, bulkheads, revetments, or other hard structures, and those erosion control structures were often constructed landward of the tidal marsh. Gittman et al. (2015) does not indicate what proportion of those erosion control structures were constructed outside of the Corps' jurisdiction (e.g., landward of the high tide line and jurisdictional wetlands) and which proportion were authorized by DA permits, including NWP. Areas defined by Gittman et al. (2015) as "sheltered shorelines" (i.e., shorelines located in bays, sounds, lagoons, or tidally influenced rivers) may not have site characteristics where living shorelines or vegetative stabilization might be appropriate and effective in controlling erosion. Some of these sheltered shorelines have larger fetches and be regularly exposed to higher energy waves and therefore require hard bank stabilization approaches to effectively protect coastal property and infrastructure. In general, living shorelines are limited to shores with gentle slopes and small fetches that are subject to low- to mid-energy waves

The entity responsible for managing a public beach is responsible for proposing an appropriate bank stabilization activity and the Corps will evaluate the proposal if it requires DA authorization. Bank stabilization measures are being used by people that want to protect their property, and by federal, tribal, state, and local governments as well as private entities that want to protect their infrastructure and other facilities. Vegetative stabilization is only effective in certain coastal areas where erosive forces (e.g., waves, currents, boat wakes) are low or moderate. The need to implement erosion control measures is a reaction to a perceived erosion problem that occurs after waterfront property has been developed. The responsibility for land use planning and zoning, including land use in coastal zones, generally falls on state and local governments.

We recognize that in coastal waters bulkheads, seawalls, and revetments have adverse effects on the structure, function, and dynamics of coastal ecosystems (e.g., Nordstrom et al. 2014; Gittman et al. 2016). We also recognize that other approaches to bank stabilization, such as living shorelines, also have some adverse effects on coastal ecosystems, such as habitat conversions (e.g., Bilkovic et al. 2016; Sutton-Grier et al. 2015). As discussed above, bank stabilization activities are not the only activities in coastal areas that adversely affect the structure, function, and dynamics of coastal waters and wetlands. The cumulative

effects of large number of people living in these coastal areas over the centuries has altered the structure, function, and dynamics of coastal ecosystems.

Three commenters said this NWP should be modified to increase its limits to encourage vegetative stabilization or bioengineering. Two commenters stated that they support the Corps' encouragement of bioengineering, but that there should be a limitation as to how much fill is authorized within a floodplain for bioengineered projects. Two commenters requested that NWP 13 clearly state that vegetative bank stabilization will not be required by the Corps at any particular site.

The NWP currently provides sufficient flexibility to landowners, public works agencies, and other entities to use a wide range of options to stabilize banks. The Corps does not regulate fills in floodplains unless there are discharges of dredged or fill material into waters of the United States. The Corps regulatory program does not regulate activities in floodplains per se; we only regulate activities in floodplains that require authorization under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899. Corps districts cannot mandate the use of a particular bank stabilization approach, such as vegetative stabilization, because district engineers can only provide advice on a landowner's proposed bank stabilization activity (see 33 CFR 320.4(g)(2)). The district engineer will evaluate the proposed activity, and if he or she determines the proposed activity will result in more than minimal adverse environmental effects, he or she will exercise discretionary authority and require an individual permit.

One commenter said that proposed paragraph (a) allows cumulative impacts to fish. Cumulative impacts to fish are caused not only by the placement of material into jurisdictional waters and wetlands to stabilize banks, but also by a wide variety of other activities that the Corps does not have the legal authority to regulate. Examples of other contributors to cumulative impacts to fish include: point source discharges of pollutants authorized by Clean Water Act section 402 permits, non-point sources of pollution, habitat loss and alterations that do not involve activities regulated by the Corps under its authorities, overharvesting of fish, climate change, land use/land cover changes in the watershed draining to the waterbodies inhabited by those fish, and resource extraction activities, such as water withdrawals.

Two commenters stated that the 500 linear foot limit is too high, and two commenters said the 500 linear foot limit should be removed because it is arbitrary. Another commenter said that the 500 linear foot limit encourages bank armoring. One commenter stated that the linear foot limit for bank stabilization by hard armoring should be 300 linear feet. Three commenters expressed concern that there is no linear foot limit for non-bioengineered bank stabilization projects and they recommend a limit of 500 linear feet for those projects. Two commenters recommended increasing the linear foot limit to 1,000 feet. One commenter stated that 500 linear foot bank stabilization activities should only be authorized by NWP on large rivers. One commenter said that a 500-foot bulkhead cannot have more than minimal adverse environmental effects. Another commenter remarked that NWP 13 activities should be limited to 300 linear feet in non-tidal waters inhabited by state or federally listed threatened or endangered freshwater mussel species. One commenter suggested changing the linear foot limits for stream bank stabilization authorized by NWP 13 to 500 linear feet

for hard armoring and 200 linear feet for scour protection.

The 500 linear foot limit was established to help ensure that NWP 13 activities result in no more than minimal individual and cumulative adverse environmental effects. Division engineers can modify this NWP through regional conditions to reduce the 500 linear foot limit if there are regional concerns regarding the potential for more than minimal adverse environmental effects to occur. The district engineer can waive the 500 linear foot limit on a case-by-case basis if he or she makes a written determination, after conducting agency coordination that the proposed activity will result in only minimal individual and cumulative adverse environmental effects. However, to address concerns about the adverse effects of bulkheads on coastal ecosystems, we have imposed a 1,000 linear foot limit on waivers for bulkheads. For proposed bulkheads that are 501 to 1,000 feet in length, district engineers can waive the 500 linear foot limit if they make written determinations after agency coordination that the proposed bulkheads will result in no more than minimal adverse environmental effects.

We are only applying the 1,000 linear foot cap to bulkheads because bulkheads have the potential, in some circumstances, to cause more severe adverse environmental effects than other bank stabilization techniques, such as bioengineering, vegetative stabilization, sills, rip rap, revetment, and stream barbs. Bulkheads constructed in estuaries cause losses of intertidal habitat through erosion caused by reflection of wave energy, changes in sediment transport, and inhibiting migration of the shoreline in response to sea level change (Dugan et al. 2011; Bilkovic and Mitchell 2013). In a recent meta-analysis, Gittman et al. (2016) found that species diversity and abundance near bulkheads are substantially lower compared to natural shorelines, and in general species diversity and abundance near shorelines protected by riprap or revetments do not differ from natural shorelines. Our decision to cap bulkheads at 1,000 linear feet is based on our experience and judgment to provide additional assurance that NWP 13 only authorizes those bank stabilization activities that have no more than minimal individual and cumulative adverse environmental effects. Project proponents that want to construct bulkheads longer than 1,000 linear feet along the shore can seek Department of the Army authorization by applying for an individual permit. Other bank stabilization techniques (e.g., bioengineering, vegetative stabilization, riprap) are not subject to this 1,000 linear foot cap, but for those proposed activities that exceed 500 linear feet in length along the shore, to be authorized by NWP 13 the district engineer must issue a written waiver of the 500 linear foot limit. That waiver must be based on a written determination made by the district engineer that the proposed activity results in only minimal adverse environmental effects.

The flexibility provided in the waiver process precludes the need to consider higher linear foot limits for this NWP. The 500 linear foot limit does not drive the decision whether the proposed bank stabilization activity should be a bulkhead or other hard structure; that is the decision of the landowner, public works department, or other responsible entity. The selected bank stabilization approach is mostly dependent on site conditions, and the likely effectiveness of that approach in controlling erosion. Any NWP 13 activity proposed by a non-federal permittee that might affect federally-listed endangered or threatened species or designated critical habitat, is in the vicinity of those listed species or critical habitat, or is located in critical habitat, requires a PCN (see paragraph (c) of general condition 18,

endangered species). For proposed NWP 13 activities that the district engineer determines “may affect” listed species or critical habitat, he or she will conduct formal or informal ESA section 7 consultation. Impacts to state-listed species are more appropriately addressed by state laws and regulations. The 500 linear foot limit should be the same for hardened stream bank stabilization and scour protection because they are both bank stabilization approaches.

Two commenters supported the proposed modification of paragraph (c) of this NWP, and recommended adding “or as needed for a stable maintainable side slope.” Two commenters stated that NWP 13 should not authorize stabilization or fill placement below the ordinary high water mark or mean high water line. One commenter said that the one cubic yard per running foot limit is arbitrary and should be removed. Another commenter remarked that allowing discharges of one cubic yard per running foot for bulkheads below the ordinary high water mark or mean high water line frequently leads to scouring of the shore in front of the bulkhead. One commenter stated that this NWP should clarify that buried bank stabilization measures are not included in the quantity or length limits. One commenter suggested replacing the terms “high tide line” and “ordinary high water mark” in paragraph (c) with “high astronomical tide,” except for the Great Lakes where “ordinary high water mark” would continue to be used.

We believe that the proposed text of paragraph (c) is sufficient to ensure that these activities result in no more than minimal adverse environmental effects. We do not believe it is necessary to add a requirement to establish a “stable maintainable side slope.” If more than one cubic yard per running foot in waters of the United States is needed to make a suitable side slope, then the project proponent can request a waiver from the district engineer. Prohibiting discharges of dredged or fill material into waters of the United States below the ordinary high water mark or mean high water line would result in most bank stabilization activities requiring individual permits, even though they would have no more than minimal adverse environmental effects. If the bank stabilization activity is not properly integrated into the bottom of the waterbody, the bank stabilization activity is likely to collapse as erosion undercuts the bank stabilization measure.

The one cubic yard per running foot limit is intended to limit fills to ensure that NWP 13 activities result in only minimal adverse environmental effects. District engineers can issue written waivers of this one cubic yard per running foot limit, if they determine after conducting agency coordination that the proposed activity will result in no more than minimal individual and cumulative adverse environmental effects. In some situations, the placement of riprap at the bottom of the bulkhead is necessary to prevent scouring and undercutting of the bulkhead. Any discharges of dredged or fill material below the plane of the ordinary high water mark or high tide line are counted towards the one cubic yard per running foot limit, even if those fills are keyed into the bottom of the waterbody to reduce the potential for undercutting of the bank stabilization activity. The term “high tide line” is provided in the “Definitions” section of these NWPs (Section F), and is to be used for these NWPs, is identical to the definition at 33 CFR 328.3(d) that was published in the Corps’ final rule issued on November 13, 1986 (51 FR 41251).

Two commenters said the placement of fill within special aquatic sites for bank stabilization should be prohibited. The placement of fill in special aquatic sites for the purposes of bank

stabilization can have no more than minimal adverse environmental effects. A proposed discharge of dredged or fill material into a special aquatic site requires the submission of a PCN to the district engineer and a request for a waiver of that prohibition. The district engineer will coordinate the PCN with the other agencies, in accordance with paragraph (d) of general condition 32. To waive that prohibition, the district engineer must issue a written waiver with a finding of no more than minimal adverse environmental effects. A waiver might require mitigation to ensure that the authorized activity results in no more than minimal adverse environmental effects.

One commenter supported the proposed modification stating that NWP 13 authorizes the maintenance and repair of existing bank stabilization features. A few commenters said this paragraph should be changed to limit maintenance and repair activities to previously authorized bank stabilization activities. One commenter objected to proposed paragraph (h), stating that it requires maintenance of a bank stabilization project in perpetuity. This commenter said the NWP should specify a period of time for the bank stabilization activity to become established.

We have concluded that it is not necessary to limit this provision to the maintenance and repair of previously authorized bank stabilization activities. Such a requirement would discourage the maintenance and repair of bank stabilization activities that have deteriorated over time and may be allowing sediments and other materials to enter the waterbody, adversely affecting water quality. In addition, there may be older bank stabilization activities that did not require DA authorization at the time they were constructed but changing environmental conditions makes their maintenance and repair subject to DA permit requirements. Paragraph (h) does not require a landowner or other entity to maintain a bank stabilization activity in perpetuity. The landowner or other entity also has the option of removing that bank stabilization activity and restoring the affected area to the extent practical. We do not believe it would be appropriate or practical to establish a period of time for a bank stabilization activity to become established because bioengineering or vegetative stabilization activities generally require more time than bulkheads or revetments. There are also a variety of other factors that affect the functional lifespan of a bank stabilization activity.

One commenter suggested adding timber mats to the paragraph authorizing temporary structures and fills, to minimize construction impacts. One commenter suggested that the word “promptly” be inserted before “removed” in the fourth sentence of this paragraph so that the temporary structures or fills are quickly removed after the work is completed.

We have added temporary mats, including timber mats, to this paragraph, consistent with the corresponding paragraphs proposed in NWPs 3 and 12. We do not agree that the word “promptly” should be added to that sentence because it may be necessary and environmentally beneficial to allow temporary fills to remain in place while the permanent fills settle and stabilize.

One commenter suggested allowing the use of non-native plants for bioengineering or vegetative bank stabilization in situations when native species are not as well-suited for a given project. Another commenter recommended adding “where practicable” to this

provision to allow for flexibility.

To make the requirement to use native plants more visible in the text of this NWP, we have moved it to a new paragraph (g). If native plants cannot be used for a bioengineering or vegetative bank stabilization activity, perhaps bioengineering or vegetative stabilization is not an appropriate option. There should be native plant species available for those activities. Contractors that rely on non-native plant species for their bioengineering or vegetative stabilization projects should seek sources of native plants that can serve those purposes.

Many commenters said that all NWP 13 activities should require PCNs. One commenter asserted that no NWP 13 activities should require PCNs. Some commenters stated that PCNs should be required for all NWP 13 activities involving bank or shoreline hardening. One commenter asserted that the terms and conditions of this NWP could not be enforced if PCNs are not required for all activities. Several commenters stated that the Corps could not track cumulative impacts unless PCNs are required for all activities. Some commenters remarked that the Corps could not ensure compliance with the Endangered Species Act or National Historic Preservation Act if PCNs are not required for all activities. Many commenters stated that if all proposed NWP B activities require PCNs, then all NWP 13 activities should require PCNs to provide more equivalency to those NWPs. Some of these commenters said that if not all NWP 13 activities require PCNs, then the NWP program would continue to have a bias towards bank stabilization activities that harden shorelines.

We do not believe that all NWP 13 activities, including all hard structures such as seawalls, bulkheads, revetments, and riprap, should require PCNs because they can often be constructed with only relatively small amounts of fill in jurisdictional waters. In shorelines or banks where there are strong erosive forces, hard bank stabilization structures are likely to be the only feasible options to protect property and infrastructure, and they will result in only minimal adverse environmental effects. The current PCN thresholds and the PCN requirements of certain general conditions (e.g., general condition 18, endangered species, and general condition 20, historic properties) are sufficient to ensure that NWP 13 activities result in no more than minimal individual and cumulative adverse environmental effects. Division engineers may modify this NWP to impose regional conditions that require PCNs for more activities authorized by this NWP. In our automated information system, we track NWP 13 activities that require PCNs as well as those NWP 13 activities where project proponents request NWP verifications even though they are not required to submit PCNs. Those reported activities, as well as estimates of NWP 13 activities that occurred without the requirement to submit PCNs, are considered in the Corps' cumulative effects analyses presented in the national decision document.

General condition 18, endangered species, requires non-federal permittees to submit PCNs for any proposed NWP activity that might affect ESA-listed species or designated critical habitat, is in the vicinity of listed species or designated critical habitat, or is in designated critical habitat. A similar requirement applies to general condition 20, historic properties. General condition 20 requires non-federal permittees to submit PCNs for any proposed NWP activity that may have the potential to cause effects to historic properties. If a non-federal project proponent does not comply with general conditions 18 and 20 and does not submit the required PCNs under the circumstances identified in paragraph (c) of those

general conditions, the activity is not authorized by NWP and is an unauthorized activity.

The PCN thresholds for NWPs 13 and the new NWP 54 (proposed NWP B) differ because the living shorelines authorized by NWP 54 typically involve greater amounts of fill into jurisdictional waters and wetlands, as well as fills and structures that typically extend a distance into subtidal or shallow waters. In other words, NWP 13 activities and NWP 54 activities, as a general rule, are not equivalent in terms of the amounts of fill that are typically discharged into jurisdictional waters and wetlands to conduct those activities, and the amount of encroachment into the waterbody. Nationwide permit 54 does not have a cubic yard limit on the amount of fill that can be discharged below the plane of the high tide line or ordinary high water mark. Bank stabilization activities authorized by NWP 13 often have small footprints in jurisdictional waters and wetlands and small encroachments into waterbodies because of the characteristics of the authorized activities. For example, seawalls and bulkheads that may be authorized by NWP 13 consist of vertical walls, perhaps with some backfilling behind the wall structure. Riprap, stone revetments, and gabions can be constructed close to the existing bank, with minor amounts of encroachment into the waterbody. Vegetative stabilization and bioengineering can also be constructed close to the existing bank with minimal encroachment into the waterbody. General condition 23, mitigation, requires the adverse effects of NWP activities to be avoided and minimized to the maximum extent practicable on the project site.

This NWP requires a PCN for any proposed activity that involves a discharge of dredged or fill material that exceeds an average of one cubic yard per running foot as measured along the length of the treated bank. The district engineer can waive this one cubic yard per running foot limit after conducting agency coordination under paragraph (d) of general condition 32 and making a written determination that the proposed activity will result in no more than minimal adverse environmental effects.

As discussed above, the activities authorized by new NWP 54 usually involve larger fills distributed over broader areas of waters to achieve the necessary marsh establishment area and/or molluscan reef structures to control erosion. If, instead of issuing a new NWP to authorize the construction and maintenance of living shorelines, we proposed to modify NWP 13 to authorize these activities, the vast majority of living shorelines would require PCNs and waivers of the one cubic yard per running foot limit. In addition, activities authorized by NWP 54 are more likely to encroach into state-owned lands in navigable waters that are held in trust for the benefit of the public. Because of those likely encroachments into navigable waters, NWP 54 construction activities will be reviewed on a case-by-case basis to ensure that those activities have no more than minimal adverse effects on navigation. Therefore, the activities typically authorized by NWPs 13 and 54 have some fundamental differences in fill quantities and encroachment into waters, and potential impacts to navigation and trust resources that warrant different PCN thresholds.

Many commenters said the 500 linear foot PCN threshold is too high, and the linear foot threshold should be reduced so that the Corps would be required to review more NWP 13 activities to make sure they result in no more than minimal adverse environmental effects. One commenter recommended requiring PCNs for any bank stabilization activity that requires mechanical equipment to be used in aquatic resources to construct that bank

stabilization activity.

We believe the 500 linear foot PCN threshold, as well as the other PCN thresholds, is sufficient to require PCNs for any proposed NWP 13 activity that might have the potential to result in more than minimal adverse environmental effects. Division engineers can modify this NWP on a regional basis to lower that PCN threshold by imposing regional conditions. By requiring more PCNs for NWP 13 activities, and thus more activity- and site-specific evaluations, division engineers can provide greater assurance that on a regional basis those activities will result in no more than minimal individual and cumulative adverse environmental effects.

In many circumstances, mechanical equipment used to construct or maintain bank stabilization activities authorized by NWP 13 can be operated from uplands or from barges or types of other work vessels to minimize their impacts on the aquatic environment. Division engineers can regionally condition this NWP to require PCNs for the use of mechanical equipment, if they have identified specific regional concerns regarding their use and its effect on aquatic resources. The current PCN thresholds, along with the additional PCNs required through regional conditions, are sufficient to ensure that NWP 13 activities result in no more than minimal individual and cumulative adverse environmental effects.

Several comments regarding the proposed PCN form were received, some of which addressed the proposed questions described in the June 1, 2016, proposed rule. One commenter suggested that questions relating to bank stabilization for the proposed PCN form should be addressed instead through general condition 32, pre-construction notification. Two commenters said that asking if there are qualified professionals in the area that construct living shorelines would discourage the use of living shorelines. One of these commenters suggested changing the question to directly ask whether a living shoreline can be used instead of a hardened bank stabilization activity. These two commenters also said that the term “qualified” needs to be defined and suggested that the question distinguish between the concepts of design and construction because one person might be qualified to construct a living shoreline but not to design it. One commenter said that it should not be necessary that the qualified consultant or engineer be a local person. One commenter stated that the Corps should provide information on methods for protecting and conserving shorelines, instead of asking the applicants through the PCN form.

The purpose of the information requirements in general condition 32 is to provide the district engineer with information on a specific proposed NWP activity, to help the district engineer determine whether the proposed activity qualifies for NWP authorization. The intent of the questions on the proposed PCN form is to gather information to inform future rulemaking efforts, not to evaluate specific NWP activities or potential alternatives. Comments on the proposed questions on the PCN form will be responded to in the documentation for the PCN form, if the form is approved. Alternatives analyses are not required for NWP PCNs. The suite of appropriate options for bank stabilization approach is highly site-specific. In addition, there are different approaches for living shorelines, so asking whether a living shoreline “could” be used will not provide much useful information. District engineers can only provide general information to landowners regarding bank stabilization options. District engineers cannot design a landowner’s bank stabilization

activity. They can only evaluate the landowner's proposal to determine whether it qualifies for general permit authorization or whether an individual permit is required.

Two commenters stated that PCNs for NWP 13 should discuss whether the project site is in an area designated as suitable for living shoreline approaches based on a regional or state-level living shoreline analysis. They said that the Corps should consider the state's determination and apply it to the NWP verification decision. Another commenter said that NWP 13 PCNs should include a statement whether the proposed activity is consistent with regional policy and standards. Several commenters said that NWP 13 PCNs should include a statement explaining why a living shoreline is not appropriate for the project site, if a living shoreline is not being proposed.

If regional or state living shoreline analyses have been done, and those analyses are available to the public, then landowners can use those analyses to help evaluate bank stabilization options to protect their property. Because we are not establishing a preference for a particular approach to bank stabilization or erosion control, we do not believe that PCNs should require information on regional or state living shoreline analyses. If the state regulates shore erosion control activities, the state's regulations or permit decisions will influence or dictate the shore erosion approach proposed by the landowner. If that shore erosion activity requires DA authorization, then the state's regulations or permit decision will influence the landowner's permit application or PCN (if a PCN is required for an NWP activity). Living shorelines are feasible and effective in limited circumstances in coastal waters, so we do not agree that a statement regarding the appropriateness of living shorelines should be required as a standard statement in NWP 13 PCNs.

One commenter stated that, for proposed maintenance activities, the NWP 13 PCN should include evidence that the bank stabilization structure had been previously authorized. Several commenters said that project proponents submitting NWP 13 PCNs should clearly demonstrate that there are erosion risks, to justify the proposed bank stabilization activities. One commenter requested that NWP 13 PCNs include detailed information on the shoreline type and the status of adjacent properties, the water quality status of adjacent waters, a description of site conditions that demonstrate that it is necessary to do a bank stabilization activity rather than taking no action or constructing a living shoreline, and a written justification for proposing a hardened bank stabilization activity. Two commenters recommended using a public database for the collection of NWP 13 PCN information.

We do not believe it is necessary to demonstrate that the bank stabilization activity was previously authorized. It may have been authorized by a non-reporting NWP or other general permit and there might not be a written verification that shows what was previously authorized. It is also possible it did not require DA authorization at the time it was constructed. Erosion is a natural process. Therefore, wherever land and flowing water interact with each other, there will be erosion. Requiring permit applicants to demonstrate that erosion is occurring would not add value to the PCN process. In general, a landowner is not going to expend the time and expense to submit a PCN or hire a consultant or contractor to prepare a PCN and construct the bank stabilization activity if there is not an erosion problem at his or her property. Most landowners will only incur the expenses to construct bank stabilization activities if they believe that there is an erosion problem that needs to be

addressed.

Landowners or their consultants, when preparing PCNs for NWP 13 activities, may include information beyond the requirements of paragraph (b) of general condition 32, to assist the district engineer in his or her decision-making process. Such information can include the shoreline type and the types of bank stabilization (if any) already present at adjacent properties. The applicant may also describe site conditions to support his or her desired approach to bank stabilization (e.g., revetment, vegetative stabilization). The applicant does not need to demonstrate that a living shoreline is not practical or feasible at the site of the proposed NWP 13 activity, or provide a written justification for a hard bank stabilization approach. All NWP 13 verifications are tracked in our automated information system (ORM2), but that information is not publicly available on a web site. As discussed above, we will develop quarterly reports that show overall summary statistics pertaining to the use of each NWP, aggregated per Corps District, and display it on our website. Some statistics that may be reported regarding the NWPs may include number of verifications provided per quarter, acres of waters of the United States permanently lost, as well as including summary information on the use of waivers during the previous quarter. All data provided will be aggregated by NWP and all information on waivers will pertain only to those NWPs that include a waiver provision.

Several commenters stated that no waivers should be granted for NWP 13 activities. A number of commenters supported the waiver provisions for NWP 13. One commenter said that the use of waivers violates the Clean Water Act, and another commenter asserted that waivers allow more than minimal impacts to occur. One commenter stated that waivers should not be issued for bulkheads, revetments, and other bank hardening projects. A few commenters said there should be no caps on waivers.

We are retaining the proposed waiver provisions for NWP 13. Waivers are an important tool for providing flexibility in the NWP program, and for authorizing activities that have only minimal adverse environmental effects. Waivers also allow the Corps to focus its limited resources on proposed activities that require DA authorization and have substantial impacts on the aquatic environment. The use of waivers in the NWP program is not contrary to the Clean Water Act because all waivers require a written determination by the district engineer that the authorized NWP activity will have no more than minimal individual and cumulative adverse environmental effects, consistent with the requirements of section 404(e) of the Clean Water Act. No waiver of an NWP limit can occur without a written determination by the district engineer, and the issuance of an NWP verification letter by that district engineer. Waivers can be issued for bulkheads, revetments, and other hard bank stabilization activities that the district engineer determines will result in only minimal adverse environmental effects. All requests for waivers under NWP 13 will be coordinated with the appropriate resource agencies, in accordance with paragraph (d) of general condition 32, to assist with the district engineer's evaluation. We agree that there does not need to be caps on waivers because all waivers must be granted in writing by district engineers, after making a finding of "no more than minimal adverse environmental effects."

One commenter stated that no waivers should be granted to exceed the 500-foot limit. Another commenter said that waivers should not be granted for discharges of dredged or fill

material into special aquatic sites. One commenter stated that there should be no limit to waivers because most bank stabilization projects are beneficial to streams. One commenter recommended allowing waivers for fills in perennial streams. One commenter said that if an NWP 13 activity exceeds a limit, the applicant should be required to develop a restoration plan to address the causes of the erosion problem. A commenter stated that mitigation should be required for all waivers of the linear foot limit.

All requests for waivers of the 500 linear foot limit or the prohibition against discharges of dredged or fill material into special aquatic sites require site-specific evaluations by district engineers as well as agency coordination. The district engineer will evaluate the information in the PCN and comments received from the resource agencies before making his or her decision whether to grant the waiver. The waiver requires a written determination that the proposed activity will result in no more than minimal individual and cumulative adverse environmental effects. We agree that waivers may be appropriate to manage erosion in streams where streams may be impaired by excessive erosion, and the bank stabilization activity will result in no more than minimal adverse environmental effects. For NWP 13, waivers can be issued for bank stabilization activities in perennial streams. We do not agree that restoration (or any other form of compensatory mitigation) should be required for all NWP 13 activities requiring waivers. The district engineer will determine when compensatory mitigation should be required for a specific NWP activity, in accordance with 33 CFR 330.1(e)(3), to ensure that the authorized impacts are no more than minimal.

Several commenters suggested adding a provision to NWP 13 that requires a determination that the proposed bank stabilization activity is the least environmentally damaging practicable alternative because a living shoreline is not practicable because of site conditions such as excessive erosion, high energy conditions, excessive water depths, or navigation concerns. Many commenters expressed their position that NWP 13 must not be reissued because it violates the Clean Water Act. They said that proposed NWP B should be used in place of NWP 13. They assert that activities authorized by NWP 13 result in more than minimal individual and cumulative adverse environmental effects because hardened shorelines provide less habitat than natural shorelines. Two commenters stated that applicants requesting NWP 13 authorization for bulkheads need to demonstrate that a living shoreline is not feasible. One commenter suggested modifying NWP 13 to authorize living shorelines instead of proposed NWP B.

Activities authorized by NWP do not require a 404(b)(1) Guidelines alternatives analysis, including the identification of the least environmentally damaging practicable alternative (see 40 CFR 230.7(b)(1)). As discussed in its decision document, especially the 404(b)(1) Guidelines analysis, the reissuance of NWP 13 fully complies with the Clean Water Act. A decrease in the amount or quality of habitat along a shoreline does not necessarily mean that the adverse environmental effects are more than minimal, individual or cumulatively. Discharges of dredged or fill material into waters of the United States, and structures or work in navigable waters of the United States, for activities authorized by NWP 13 and NWP 54 will have no more than minimal adverse environmental effects as long as the project proponent complies with all applicable terms and conditions of these NWPs, including the PCN requirements. All forms of bank stabilization, including living shorelines, have some adverse environmental effects because they directly and indirectly

alter nearshore aquatic habitats, including animal and plant communities. As long as those adverse environmental effects are no more than minimal, they can be authorized by NWP. We do not agree that NWP 13 should include a requirement for the permittee to demonstrate that living shorelines are not feasible. Living shorelines are limited to coastal waters, including the Great Lakes, while NWP 13 activities can be conducted in a wide range of waters, from small streams to ocean waters. We believe that a separate NWP should be issued to authorize living shorelines, because of the limited circumstances in which living shorelines are an effective means of erosion control and the limited waters in which they can be used (i.e., shorelines in coastal waters with gentle slopes, low fetch, and low- to mid-energy waves).

One commenter stated that living shorelines are a practicable alternative to shoreline armoring because they are less expensive to construct and maintain. A number of commenters expressed the view that NWP 13 should establish a hierarchy for evaluating erosion control options to authorize the alternative that would result in the least environmentally damaging practicable alternative. Many commenters said that landowners should be allowed to select the bank stabilization technique used to protect their property from erosion, and that the final NWPs should not establish a preference for living shorelines over the bank stabilization techniques authorized by NWP 13. These commenters emphasized that landowners should be allowed to propose their preferred bank stabilization technique from a suite of available techniques.

We agree that, in certain circumstances, living shorelines are a feasible alternative to bulkheads, seawalls, and revetments. We also agree that landowners should be able to propose their preferred approach to bank stabilization, which may be based on guidance provided by any contractors or consultants they hire. Corps districts will evaluate the PCNs for proposed bank stabilization activities and determine whether they qualify for NWP authorization. We believe that it is not appropriate to establish a preference hierarchy for bank stabilization techniques because the appropriate bank stabilization approach for a particular site is highly dependent on site characteristics and the types of aquatic resources (e.g., streams, rivers, lakes, estuaries, oceans) in which the bank stabilization techniques will occur. In addition, there are regional differences among bank stabilization practices that cannot be addressed through a national rule such as the NWPs.

One commenter said that the requirements of general condition 3, spawning areas, when applied to NWP 13 activities would place an increased burden on road stabilization activities near tidal waters and may make those activities economically infeasible. Two commenters stated that bank armoring activities should require mitigation. One commenter said that undeveloped ocean shorelines should not be altered except when bank stabilization is justified to prevent or reduce threats to adjacent developed areas.

General condition 3 requires that NWP activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. The qualifier “to the maximum extent practicable” gives some flexibility to NWP 13 activities for roads near tidal waters that may need to be stabilized quickly to prevent them from eroding away. While there may be circumstances in which bank armoring activities warrant mitigation to ensure that the adverse environmental effects are no more than minimal, such decisions are made by the

district engineer after evaluating a PCN. We do not agree that mitigation should be required for all bank armoring activities authorized by NWP 13. If a parcel of land with an ocean shoreline is undeveloped, but one or both adjacent properties are developed (and may be protected by bank stabilization structures), the owner of the undeveloped parcel should be allowed to protect that bank if the bank will erode and the erosion is likely to encroach into the adjacent properties.

One commenter objected to the statement in the preamble to the proposed rule that said there are different PCN thresholds for NWPs 13 and 54 because living shorelines require substantial amounts of fill material. This commenter's objection was based on the assertion that living shorelines control erosion by planting vegetation or using a combination of vegetation and technical structures, not by the introduction of fill material.

For most living shorelines, it is necessary to discharge fill along the shoreline to achieve the proper grade for dissipating wave energy and protecting the bank from erosion and undercutting. These fills are planted with vegetation to hold the fill in place, and the plant stems also help dissipate wave energy. Sills, breakwaters, and other structures may also be necessary to reduce the energy of water reaching the shore to reduce erosion and protect fringe wetlands. If we had proposed to modify NWP 13 to authorize the construction and maintenance of living shorelines instead of proposing a new NWP, a large majority of proposed living shorelines would require PCNs. This is because they would exceed the cubic yard limit in paragraph (c) and require a written waiver from the district engineer because of the amount of fill required to provide the proper grade for wave energy dissipation and vegetation plantings, and stone sills or breakwaters or other fill structures. Under NWP 54, waivers are not required unless the proposed living shoreline impacts exceed the waivable limits in that NWP. One of the waivable limits in NWP 54 is for structures and fills encroaching into waters up to 30 feet from the mean low water line is not included in NWP 13 because of the differences between living shorelines and the forms of bank stabilization authorized by NWP 13.

The construction of living shorelines does have some adverse effects on the waters and special aquatic sites affected by these projects, including the organisms that inhabit those areas. Living shorelines do not produce the same degree of ecological functions and services as natural shorelines (Pilkey et al. 2012). With living shorelines, there are trade-offs in ecological functions and services as fills convert subtidal waters to intertidal waters. Under the 404(b)(1) Guidelines, discharges of dredged or fill material into waters of the United States are to be avoided and minimized to the maximum extent practicable (see also paragraph (a) of general condition 23, mitigation).

One commenter stated that this NWP should have conditions requiring final bank elevations to be no higher than the bank that existed prior to the bank stabilization activity. This commenter said that a floodway analysis should be conducted to demonstrate that there would be no increase in flood elevation as a result of the bank stabilization activity. Two commenters recommended adding provisions to this NWP that require the use of best management practices to minimize downstream impacts, such as instream sediment booms and oil booms. One commenter stated that there should be restrictions imposed on bank stabilization activities to protect forage fish spawning areas and critical habitat, channel

migration zones, and habitat for ESA-listed species.

District engineers, when evaluating PCNs, can impose activity-specific conditions regarding final bank elevations to be established at the site after the NWP 13 activity is completed. The requirement to conduct a floodway analysis is more appropriately addressed through state and local floodplain management authorities. Activities authorized by NWP 13 and other NWPs must comply with general condition 10, fills within 100-year floodplains. The use of best management practices to minimize downstream impacts is more appropriately addressed by district engineers through activity-specific conditions imposed on NWP authorizations, taking into account the site-specific characteristics of the proposed activity. General condition 3 requires measures to minimize adverse effects to fish spawning areas during spawning seasons. General condition 18, endangered species, establishes procedures for complying with the requirements of section 7 of the Endangered Species Act (ESA). District engineers will conduct ESA section 7 consultations for any proposed NWP 13 activities that they determine, after reviewing PCNs, may affect listed species or designated critical habitat.

Several commenters objected to the following sentence, which appeared in the preamble to the proposed rule (81 FR 35200): “Many landowners prefer bulkheads and revetments because well-constructed bulkheads last approximately 20 years and revetments can last up to 50 years (NRC 2007).” These commenters said this statement was not a conclusion of the committee that wrote the 2007 NRC report entitled “Mitigating Shore Erosion along Sheltered Coasts.” These commenters asserted that the 2007 NRC report concluded that prior regulatory practices and local marine contractors are the main reason why landowners choose bulkheads and revetments. They said that in many cases landowners are not informed that there are other alternatives to erosion control. These commenters also expressed the opinion that the decisions of landowners are not driven by the lifespans of bulkheads and revetments. They said that it is a lack of understanding of alternative approaches to shore protection and institutional bias that causes the continued use of seawalls, bulkheads, and revetments.

The sentence on page 35,200 of the proposed rule should have been written as follows, to avoid misrepresenting the 2007 NRC report: “Well-constructed bulkheads last approximately 20 years and revetments can last up to 50 years (NRC 2007). Many landowners may prefer bulkheads and revetments because of the longevity of those structural measures to control erosion and protect their properties.”

The section of the 2007 NRC report (pages 73-76) that discusses landowner options for addressing bank erosion presents a number of hypothetical scenarios to illustrate those options. If the life expectancies of bulkheads or stone revetments are irrelevant to the landowner’s decision-making process, why were those life expectancies discussed in the bulkhead or stone revetment options? That section of the 2007 NRC report provides no information on how long marsh plantings or marsh plantings combined with stone sills will effectively control erosion, other than to say that a planted marsh fringe will require on-going maintenance and some maintenance will likely be required for the stone sill and marsh plantings after they are exposed to storm events. The landowner is a critical part of the decision-making process, because his or her property is at risk. Some landowners prefer

bulkheads and revetments because they make them feel more secure (Popkin 2015). It should be noted that in response to the proposal to issue a new NWP to authorize the construction and maintenance of living shorelines, we received many comments opposing the issuance of the new NWP 54. Many of those commenters expressed concern that they would be required to use living shorelines, instead of being able to use other approaches to erosion control.

In many coastal areas, hard bank stabilization measures are the only effective option in coastal environments where high energy erosive forces are present. A landowner may prefer a bank stabilization approach that he or she views as being more durable and requires less maintenance. Current regulatory frameworks and contractor preferences are only part of the decision-making process. The landowner makes the final decision unless the regulatory agency (federal, state, or local) decides to deny the landowner's permit application. Since the options (#2a and #2b) in that section of the 2007 NRC report include two living shoreline options, the report's discussion of the various options could be interpreted as including consideration of the expected longevities of those shore erosion control options, as well as their maintenance requirements. Living shorelines are relatively new, and there is much to be learned about their effectiveness over the long term, and in different areas of the country. As discussed above, many commenters stated that landowners and other entities should be allowed to choose how they protect their waterfront properties and their infrastructure. Those comments indicate that landowners are informed about various erosion control approaches and are not passively deferring to the contractors and consultants they hire to provide advice, design, and planning services, and to construct the authorized activities.

One commenter said that due to the increasing risks and costs of protecting ocean shorelines, applicants should be required to share substantially in the costs and responsibilities of implementing shoreline stabilization projects authorized by NWP 13. One commenter stated that the Corps needs to provide advance and meaningful notice to tribes to avoid unresolved impacts to tribal treaty natural resources and cultural resources. A couple of commenters asked how the Corps will enforce the terms and conditions of NWP 13 for bank stabilization activities. One commenter stated that the proposed changes to NWP 13 will cause an unfair burden to local agencies when they try to determine whether bank stabilization projects are authorized and whether pre-construction notification is required.

Landowners pay for the bank stabilization activities authorized by NWP 13 that they construct to protect their property. For the 2017 NWPs, the Corps districts consulted with interested tribes to identify regional conditions to protect tribal resources, including natural and cultural resources retained by, or reserved by or for, tribes through treaties. District engineers can also establish coordination procedures with interested tribes to coordinate proposed NWP 13 activities to help ensure that these activities do not cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands. Corps districts will enforce NWP 13 activities in the same manner as they enforce all individual permits and general permit authorizations, which is through the procedures described in the Corps' regulations at 33 CFR part 326 and relevant guidance and policy documents. Local agencies that are unsure whether their proposed bank stabilization activities qualify for NWP 13 authorization are encouraged to contact the

appropriate Corps district to seek their advice on whether the proposed activity might qualify for NWP 13 or a different general permit or whether an individual permit would be needed.

One commenter requested that the Corps evaluate regional impacts to local governments caused by division engineers adding regional conditions to this NWP and lengthening the time it takes to receive NWP verifications. Two commenters stated that NWP 13 activities should require a professional engineer's certification that the proposed bank stabilization activity will not exacerbate any upstream or downstream flooding problems.

Division engineers impose regional conditions on the NWPs to ensure that those NWPs comply with section 404(e) of the Clean Water Act and that authorized activities result in no more than minimal individual and cumulative adverse environmental effects. The regional conditioning process is a key tool for addressing regional differences in aquatic resources, as well as the ecological functions and services they provide. Regional conditions also facilitate compliance with other federal laws, such as section 7 of the Endangered Species Act and section 106 of the National Historic Preservation Act, as well as the Corps' tribal trust responsibilities. District engineers are required to respond to NWP PCNs within 45 days of receipt of a complete PCN, regardless of whether division engineers have imposed regional conditions on the NWPs. There are some exceptions to the 45-day response requirement, such as PCNs that require ESA section 7 and/or NHPA section 106 consultations and PCNs for activities authorized by NWPs 21, 49, and 50. Establishing requirements for a professional engineer's certification of bank stabilization activities and effects on upstream and downstream flooding are more appropriately addressed by state and local governments that have the authority to manage flooding risks. The Corps Regulatory Program does not have this authority.

Two commenters said that an environmental impact statement must be prepared for the reissuance of NWP 13. One commenter said that the reissuance of NWP 13 requires an environmental impact statement because of impacts to ESA-listed species. One commenter stated that the draft decision document failed to take into account the direct, indirect, and cumulative effects of NWP 13 activities. A few commenters asserted that the reissuance of NWP 13 requires ESA section 7 consultation.

For the reissuance of this NWP, Corps Headquarters complied with the requirements of the National Environmental Policy Act (NEPA) by preparing an environmental assessment with a finding of no significant impact. The environmental assessment describes, in general terms, the mitigation measures (including the requirements of NWP general conditions) that ensure that activities authorized by NWP result in no more than minimal individual and cumulative adverse environmental effects. Certain NWP 13 activities require pre-construction notification, another mechanism that helps ensure that NWP activities cause no more than minimal adverse environmental effects. The national decision document also generally describes compensatory mitigation practices that may be required by district engineers for specific NWP activities to ensure that those activities have no more than minimal adverse environmental effects. Compliance with the requirements in 33 CFR part 332, and activity-specific compensatory mitigation requirements, will help ensure that compensatory mitigation required by district engineers will offset the authorized impacts to

jurisdictional waters and wetlands.

The decision document prepared for this NWP describes, in general, the direct, indirect, and cumulative impacts of these activities. The direct and indirect effects caused by NWP 13 activities are described throughout the decision document. These direct and indirect effects are described in general terms because the decision to reissue this NWP is made prior to the NWP going into effect and authorizing specific activities at specific project sites. We prepared a NEPA cumulative effects analysis based on the Council on Environmental Quality's definition of "cumulative impact" at 40 CFR 1508.7, as well as a 404(b)(1) Guidelines cumulative effects analysis based on the requirements of 40 CFR 230.7(b)(3).

The decision document issued by Corps Headquarters discusses compliance with section 7 of the ESA, including the "no effect" determination Corps Headquarters made for the reissuance of this NWP. Our "no effect" determination is also presented in this final rule. The decision document discusses the processes and tools that the Corps uses to comply with ESA section 7, to ensure that this NWP is not likely to jeopardize the continued existence of listed species, or adversely modify or destroy critical habitat that has been designated for those listed species. The reissuance of NWP 13 has "no effect" on listed species or critical habitat because of the requirements of general condition 18, endangered species, and 33 CFR 330.4(f). For any proposed NWP activity that might affect listed species or designated critical habitat, is in the vicinity of listed species or designated critical habitat, or is located in designated critical habitat, the project proponent must submit a PCN, and the district engineer will evaluate that PCN to determine whether ESA section 7 consultation is required. If the district engineer makes a "may affect" determination for a proposed NWP activity, that activity is not authorized by NWP until after ESA section 7 consultation is completed.

The Corps has determined that the reissuance of this NWP does not result in a significant impact on the human environment that warrants the preparation of an environmental impact statement. This is because of the various protections in the NWP program that are applied to ESA-listed species and designated critical habitat and the fact that an NWP can only authorize activities that have no more than minimal adverse environmental effects.

A few commenters said that the proposed reissuance of NWP 13 is contrary to Executive Order 13653, Preparing the United States for the Impacts of Climate Change, which requires federal agencies to consider the challenges that climate change add to their programs, policies, rules, and operations, to ensure that those items continue to be effective as the climate changes. These commenters also stated that the Corps failed to consider the October 7, 2015, Presidential Memorandum entitled "Incorporating Natural Infrastructure and Ecosystem Services in Federal Decision-Making." These commenters indicated that the proposed rule also did not consider current Corps policies concerning climate change and sea level rise.

The activities authorized by NWP 13 are an important tool for landowners and communities to adapt to the effects caused by climate change, especially sea level rise and increases in the frequency of severe storm events. As sea level changes at a particular site, the landowner may need to conduct new or modified bank stabilization activities to protect his or her

property. Nature-based infrastructure approaches such as living shorelines may not be feasible or effective in higher energy coastlines subject to sea level rise. Existing buildings and other infrastructure may prevent inland migration of wetlands (Enwright et al. 2016). Public works agencies and utility companies may need to use NWP 13 activities to protect roads and utility lines from damage caused by erosion. In sum, NWP 13 activities will help landowners, public agencies, and other respond to sea level rise and other effects of climate change. This NWP authorizes bank stabilization activities undertaken by private landowners, who are not subject to the policies the Corps developed for the federal water resource projects it designs and implements.

Several commenters said that the Corps, in its draft decision document, did not demonstrate that NWP 13 will result in no more than minimal impacts, because that draft decision document only provides an estimate of impacts that will be authorized over a 5-year period. They also stated that the draft decision document ignores cumulative impacts, fails to account for climate change, and fails to assess impacts on ESA-listed species. One commenter said that the cumulative impact analysis within the draft decision document is impermissibly narrow and improperly delegates the cumulative impact analysis to specific projects. This commenter stated that if the Corps cannot conduct an adequate cumulative impact at the national level, it should not reissue NWP 13. One commenter asserted that the draft decision document did not evaluate the secondary impacts of bulkheads, because secondary effects are not discussed anywhere in that document. One commenter stated that NWP 13 violates the 404(b)(1) Guidelines because it causes significant degradation of waters of the United States.

Because the NWPs are issued before they go into effect and will be used over the next five years (unless they are modified, suspended, or revoked before the expiration date) to authorize specific activities being conducted by project proponents, the estimate of permitted impacts is a forward-looking estimate. In addition, the approach used in the decision document is fully consistent with the requirements of the 404(b)(1) Guidelines at 40 CFR 230.7(b)(3). The decision document includes two cumulative effects analyses: one to satisfy the requirements of NEPA, using the definition of “cumulative impact” at 40 CFR 1508.7. The other cumulative effects analysis satisfies the requirements of the 404(b)(1) Guidelines at 40 CFR 230.7(b)(3). The final decision document has been revised to discuss climate change. The decision document also discusses compliance with the Endangered Species Act, as well as cumulative effects to ESA-listed species (see the NEPA cumulative effects analysis, which includes ESA-listed species as a one of the “resources of concern” discussed in that analysis).

The cumulative effects analyses in the decision document prepared by Corps Headquarters satisfies the requirements of NEPA and the 404(b)(1) Guidelines and does not defer the cumulative impact analyses to district engineers who evaluate PCNs for specific activities. When evaluating an NWP PCN or a voluntary request for NWP verification, the district engineer will consider cumulative impacts when determining whether the proposed NWP activity will result in no more than minimal individual and cumulative adverse environmental effects. The district engineer’s consideration of cumulative impacts does not need to be an extensive analysis because he or she is simply verifying whether NWP authorization is appropriate. The district engineer is not considering whether the issuance

of the NWP is appropriate, that is the decision that is being made by Corps Headquarters when it issues this rule, along with the more extensive cumulative effects analysis.

The draft decision document, as well as the final decision document, discusses in general terms the direct and indirect effects of NWP 13 activities on the environment. Secondary effects are analogous to indirect effects, and therefore do not warrant separate consideration in the decision document. The final decision document also concluded that the reissuance of this NWP complies with the 404(b)(1) Guidelines. Section 7.1.3 of the decision document discusses our determination that the reissuance of this NWP will not cause significant degradation of waters of the United States.

Three commenters expressed concern with the apparent overlap of authorization of bank stabilization projects using NWPs 13 and 27, and the proposed NWP B. These commenters pointed out that there are different limits for these NWPs and believe those differences encourage applicants to request authorization under the NWP that has the least restrictions or requirements. These commenters recommended clarifying the purposes of each of these NWPs so that project proponents apply for authorization under the most appropriate NWP. One commenter recommended that the NWPs provide incentives for landowners to retrofit existing seawalls with bioengineered methods. This commenter said that a streamlined process for retrofitting bank stabilization projects will encourage property owners to do these types of projects, instead of replacing an old seawall with a new seawall.

We have made changes to NWP 27 to limit it to aquatic habitat restoration, enhancement, and establishment activities so that it should no longer be used to authorize bank stabilization activities. We have also modified the definition of “living shoreline” in new NWP 54 to clarify that living shorelines are limited to coastal waters. We have also added a Note to NWP 54 to point prospective permittees to NWP 13 if they want to use an NWP to authorize vegetative stabilization activities or bioengineering activities in inland waters, such lakes other than the Great Lakes, and inland rivers and streams.

We cannot require landowners to retrofit existing seawalls with bioengineering, but landowners may propose to do those types of retrofits. Since we have clarified that NWP 13 authorizes bioengineering approaches to bank stabilization, in addition to seawalls, bulkheads, and revetments, project proponents may seek authorization for such retrofits through this NWP, if those retrofits require DA authorization.

Several commenters objected to the proposal to reissue NWP 13, stating that armoring shorelines with bulkheads and revetment prevent wetlands from migrating inland in response to sea level rise or land subsidence.

There are a number of reasons why coastal wetlands might not be able to migrate inland as sea level rises. Wetland migration may be impeded by natural and man-made impediments. Natural impediments include topography, such as steep coastal bluffs (Enwright et al. 2016). Man-made impediments include coastal urbanization and levees constructed to protect developed and agricultural areas (Enwright et al. 2016). Inland migration of wetlands is usually limited to undeveloped coasts and protected areas (e.g., wildlife refuges) with low, gentle slopes (Enwright et al. 2016). Other factors that affect inland wetland migration are:

erosion, subsidence, sedimentation, hydrologic alterations, water management. Inland migration in abandoned urban areas is likely to be limited to areas that have soil instead of asphalt or other hardened surfaces (Enwright et al. 2016). It should be noted that tidal wetlands have demonstrated strong resilience by being able to adjust to sea level rise by migrating vertically through accelerated soil buildup (Kirwan et al. 2016).

2.0 Alternatives

This evaluation includes an analysis of alternatives based on the requirements of NEPA, which requires a more expansive review than the Clean Water Act Section 404(b)(1) Guidelines. The alternatives discussed below are based on an analysis of the potential environmental impacts and impacts to the Corps, Federal, Tribal, and state resource agencies, general public, and prospective permittees. Since the consideration of off-site alternatives under the 404(b)(1) Guidelines does not apply to specific projects authorized by general permits, the alternatives analysis discussed below consists of a general NEPA alternatives analysis for the NWP.

2.1 No Action Alternative (No Nationwide Permit)

The no action alternative would not achieve one of the goals of the Corps Nationwide Permit Program, which is to reduce the regulatory burden on applicants for activities that result in no more than minimal individual and cumulative adverse environmental effects. The no action alternative would also reduce the Corps ability to pursue the current level of review for other activities that have greater adverse effects on the aquatic environment, including activities that require individual permits as a result of the Corps exercising its discretionary authority under the NWP program. The no action alternative would also reduce the Corps ability to conduct compliance actions.

If this NWP is not available, substantial additional resources would be required for the Corps to evaluate these minor activities through the individual permit process, and for the public and Federal, Tribal, and state resource agencies to review and comment on the large number of public notices for these activities. In a considerable majority of cases, when the Corps publishes public notices for proposed activities that result in no more than minimal adverse environmental effects, the Corps typically does not receive responses to these public notices from either the public or Federal, Tribal, and state resource agencies. Another important benefit of the NWP program that would not be achieved through the no action alternative is the incentive for project proponents to design their projects so that those activities meet the terms and conditions of an NWP. The Corps believes the NWPs have significantly reduced adverse effects to the aquatic environment because most applicants modify their projects to comply with the NWPs and avoid the delays and costs typically associated with the individual permit process.

In the absence of this NWP, Department of the Army (DA) authorization in the form of another general permit (i.e., regional or programmatic general permits, where available) or

individual permits would be required. Corps district offices may develop regional general permits if an NWP is not available, but this is an impractical and inefficient method for activities with only minimal individual and cumulative adverse environmental effects that are conducted across the Nation. Not all districts would develop these regional general permits for a variety of reasons. The regulated public, especially those companies that conduct activities in more than one Corps district, would be adversely affected by the widespread use of regional general permits because of the greater potential for lack of consistency and predictability in the authorization of similar activities with no more than minimal individual and cumulative adverse environmental effects. These companies would incur greater costs in their efforts to comply with different regional general permit requirements between Corps districts. Nevertheless, in some states Corps districts have issued programmatic general permits to take the place of this and other NWPs. However, this approach only works in states with regulatory programs comparable to the Corps Regulatory Program.

2.2 National Modification Alternatives

Since the Corps Nationwide Permit program began in 1977, the Corps has continuously strived to develop NWPs that only authorize activities that result in no more than minimal individual and cumulative adverse environmental effects. Every five years the Corps reevaluates the NWPs during the reissuance process, and may modify an NWP to address concerns for the aquatic environment. Utilizing collected data and institutional knowledge concerning activities authorized by the Corps regulatory program, the Corps reevaluates the potential impacts of activities authorized by NWPs. The Corps also uses substantive public comments on proposed NWPs to assess the expected impacts. This NWP was developed to authorize bank stabilization activities that have no more than minimal individual and cumulative adverse environmental effects. The Corps has considered suggested changes to the terms and conditions of this NWP, as well as modifying or adding NWP general conditions, as discussed in the preamble of the Federal Register notice announcing the reissuance of this NWP.

In the June 1, 2016, Federal Register notice, the Corps requested comments on the proposed reissuance of this NWP. The Corps proposed to modify this NWP by modifying the first paragraph of this NWP to clarify that it authorizes a wide variety of bank stabilization measures. In addition, the Corps proposed to modify paragraph (c) of this NWP to clarify that the quantity of the dredged or fill material discharged into waters of the United States must not exceed one cubic yard per running foot below the plane of the ordinary high water mark or the high tide line, as measured along the bank. The Corps also proposed to modify this NWP to authorize the maintenance of bank stabilization activities.

2.3 Regional Modification Alternatives

An important aspect for the NWPs is the emphasis on regional conditions to address differences in aquatic resource functions, services, and values across the nation. All Corps

divisions and districts are expected to add regional conditions to the NWP to enhance protection of the aquatic environment and address local concerns. Division engineers can also revoke an NWP if the use of that NWP results in more than minimal individual and cumulative adverse environmental effects, especially in high value or rare wetlands and other waters. When an NWP is issued or reissued by the Corps, division engineers issue supplemental decision documents that evaluate potential impacts of the NWP at a regional level, and include regional cumulative effects assessments.

Corps divisions and districts also monitor and analyze the cumulative adverse effects of the NWPs, and if warranted, further restrict or prohibit the use of the NWPs to ensure that the NWPs do not authorize activities that result in more than minimal individual and cumulative adverse environmental effects. To the extent practicable, division and district engineers will use regulatory automated information systems and institutional knowledge about the typical adverse effects of activities authorized by NWPs, as well as substantive public comments, to assess the individual and cumulative adverse environmental effects resulting from regulated activities.

2.4 Case-specific On-site Alternatives

Although the terms and conditions for this NWP have been established at the national level to authorize most activities that have no more than minimal individual and cumulative adverse environmental effects, division and district engineers have the authority to impose case-specific special conditions on NWP authorizations to ensure that the authorized activities will result in only minimal individual and cumulative adverse environmental effects.

General condition 23 requires the permittee to minimize and avoid impacts to waters of the United States to the maximum extent practicable on the project site. Off-site alternatives cannot be considered for activities authorized by NWPs. During the evaluation of a pre-construction notification, the district engineer may determine that additional avoidance and minimization is appropriate and practicable. The district engineer may also condition the NWP authorization to require compensatory mitigation to offset losses of waters of the United States and ensure that the net adverse environmental effects are no more than minimal. As another example, the NWP authorization can be conditioned to prohibit the permittee from conducting the activity during specific times of the year to protect spawning fish and shellfish. If the proposed activity will result in more than minimal adverse environmental effects, then the district engineer will exercise discretionary authority and require an individual permit. Discretionary authority can be asserted where there are concerns for the aquatic environment, including high value aquatic habitats. The individual permit review process requires a project-specific alternatives analysis, including the consideration of off-site alternatives, and a public interest review.

3.0 Affected Environment

This environmental assessment is national in scope because the NWP may be used across the country, unless the NWP is revoked or suspended by a division or district engineer under the procedures in 33 CFR 330.5(c) and (d), respectively. The affected environment consists of terrestrial and aquatic ecosystems in the United States, as they have been directly and indirectly affected by past and present federal, non-federal, and private activities. The past and present activities include activities authorized by the various NWPs issued from 1977 to 2012, activities authorized by other types of Department of the Army (DA) permits, as well as other federal, tribal, state, and private activities that are not regulated by the Corps. Aquatic ecosystems are also influenced by past and present activities in uplands, because those land use/land cover changes in uplands and other activities in uplands have indirect effects on aquatic ecosystems (e.g., MEA 2005b, Reid 1993). Due to the large geographic scale of the affected environment (i.e., the entire United States), as well as the many past and present human activities that have shaped the affected environment, it is only practical to describe the affected environment in general terms. In addition, it is not possible to describe the environmental conditions for specific sites where the NWPs may be used to authorize eligible activities.

The total land area in the United States is approximately 2,264,000,000 acres, and the total land area in the contiguous United States is approximately 1,894,000,000 acres (Nickerson et al. 2011). Land uses in 48 states of the contiguous United States as of 2007 is provided in Table 3.1 (Nickerson et al. 2011). Of the land area in the entire United States, approximately 60 percent (1,350,000,000 acres) is privately owned (Nickerson et al. 2011). In the contiguous United States, approximately 67 percent of the land is privately owned, 31 percent is held by the United States government, and two percent is owned by state or local governments (Dale et al. 2000). Developed non-federal lands comprise 4.4 percent of the total land area of the contiguous United States (Dale et al. 2000).

Table 3.1. Major land uses in the United States (Nickerson et al. 2011).

| Land Use | Acres | Percent of Total |
|-------------------------------|----------------------|------------------|
| Agriculture | 1,161,000,000 | 51.3 |
| Forest land | 544,000,000 | 24.0 |
| Transportation use | 27,000,000 | 1.2 |
| Recreation and wildlife areas | 252,000,000 | 11.1 |
| National defense areas | 23,000,000 | 1.0 |
| Urban land | 61,000,000 | 2.7 |
| Miscellaneous use | 197,000,000 | 8.7 |
| Total land area | 2,264,000,000 | 100.0 |

3.1 Quantity of Aquatic Ecosystems in the United States

There are approximately 283.1 million acres of wetlands in the United States; 107.7 million

acres are in the conterminous United States and the remaining 175.4 million acres are in Alaska (Mitsch and Hernandez 2013). Wetlands occupy less than 9 percent of the global land area (Zedler and Kercher 2005). According to Dahl (2011), wetlands and deepwater habitats cover approximately 8 percent of the land area in the conterminous United States. Rivers and streams comprise approximately 0.52 percent of the total land area of the continental United States (Butman and Raymond 2011). Therefore, the wetlands, streams, rivers, and other aquatic habitats that are potentially waters of the United States and subject to regulation by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 comprise a minor proportion of the land area of the United States. The remaining land area of the United States (more than 92 percent, depending on the proportion of wetlands, streams, rivers, and other aquatic habitats that are subject to regulation under those two statutes) is outside the Corps regulatory authority.

Dahl (1990) estimated that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period from the 1780s to 1980s, while Alaska lost less than one percent of its wetlands and Hawaii lost approximately 12 percent of its original wetland acreage. In the 1780s, there were approximately 221 million acres of wetlands in the conterminous United States (Dahl 1990). California lost the largest percentage of its wetlands (91 percent), whereas Florida lost the largest acreage (9.3 million acres) (Dahl 1990). During that 200-year period, 22 states lost more than 50 percent of their wetland acreage, and 10 states have lost more than 70 percent of their original wetland acreage (Dahl 1990).

Framer et al. (1983) evaluated wetland status and trends in the United States during the period of the mid-1950s to the mid-1970s. During that 20-year period, approximately 7.9 million acres of wetlands (4.2 percent) were lost in the conterminous United States. Much of the loss of estuarine emergent wetlands was due to changes to estuarine subtidal deepwater habitat, and some loss of estuarine emergent wetlands was due to urban development. For palustrine vegetated wetlands, nearly all of the losses of those wetlands were due to agricultural activities (e.g., conversion to agricultural production).

The U.S. Fish and Wildlife Service also examined the status and trends of wetlands in the United States during the period of the mid-1970s to the 1980s, and found that there was a net loss of more than 2.6 million acres of wetlands (2.5 percent) during that time period (Dahl and Johnson 1991). Freshwater wetlands comprised 98 percent of those wetland losses (Dahl and Johnson 1991). During that time period, losses of estuarine wetlands were estimated to be 71,000 acres, with most of that loss due to changes of emergent estuarine wetlands to open waters caused by shifting sediments (Dahl and Johnson 1991). Conversions of wetlands to agricultural use were responsible for 54 percent of the wetland losses, and conversion to other land uses resulted in the loss of 41 percent of wetlands (Dahl and Johnson 1991). Urban development was responsible for five percent of the wetland loss (Dahl and Johnson 1991). The annual rate of wetland loss has decreased substantially since the 1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002).

Between 2004 and 2009, there was no statistically significant difference in wetland acreage

in the conterminous United States (Dahl 2011). According to the 2011 wetland status and trends report, during the period of 2004 to 2009 urban development accounted for 11 percent of wetland losses (61,630 acres), rural development resulted in 12 percent of wetland losses (66,940 acres), silviculture accounted for 56 percent of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21 percent of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands, resulting in a gain of 389,600 acres during the period of 2004 to 2009 (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete because the techniques used for those studies cannot identify some of those resources (e.g., Dahl (2011) for wetlands; Meyer and Wallace (2001) for streams).

Losses of vegetated estuarine wetlands due to the direct effects of human activities have decreased significantly due to the requirements of Section 404 of the Clean Water Act and other laws and regulations (Dahl 2011). During the period of 2004 to 2009, less than one percent of estuarine emergent wetlands were lost as a direct result of human activities, while other factors such as sea level rise, land subsidence, storm events, erosion, and other ocean processes caused substantial losses of estuarine wetlands (Dahl 2011). The indirect effects of other human activities, such as oil and gas development, water extraction, development of the upper portions of watersheds, and levees, have also resulted in coastal wetland losses (Dahl 2011). Eutrophication of coastal waters can also cause losses of emergent estuarine wetlands, through changes in growth patterns of marsh plants and decreases in the stability of the wetland substrate, which changes those marshes to mud flats (Deegan et al. 2012).

The Emergency Wetlands Resources Act of 1986 (Public Law 99-645) requires the USFWS to submit wetland status and trends reports to Congress (Dahl 2011). The latest status and trends report, which covers the period of 2004 to 2009, is summarized in Table 3.2. The USFWS status and trends report only provides information on acreage of the various aquatic habitat categories and does not assess the quality or condition of those aquatic habitats (Dahl 2011).

Table 3.2. Estimated aquatic resource acreages in the conterminous United States in 2009 (Dahl 2011).

| Aquatic Habitat Category | Estimated Area in 2009 (acres) |
|--|---------------------------------------|
| Marine intertidal | 227,800 |
| Estuarine intertidal non-vegetated | 1,017,700 |
| Estuarine intertidal vegetated | 4,539,700 |
| All intertidal waters and wetlands | 5,785,200 |
| Freshwater ponds | 6,709,300 |
| Freshwater vegetated | 97,565,300 |
| • Freshwater emergent wetlands | 27,430,500 |
| • Freshwater shrub wetlands | 18,511,500 |
| • Freshwater forested wetlands | 51,623,300 |
| All freshwater wetlands | 104,274,600 |
| Lacustrine deepwater habitats | 16,859,600 |
| Riverine deepwater habitats | 7,510,500 |
| Estuarine subtidal habitats | 18,776,500 |
| All wetlands and deepwater habitats | 153,206,400 |

The acreage of lacustrine deepwater habitats does not include the open waters of Great Lakes (Dahl 2011).

The Federal Geographic Data Committee has established the Cowardin system developed by the U.S. Fish and Wildlife Service (USFWS) (Cowardin et al. 1979) as the national standard for wetland mapping, monitoring, and data reporting (Dahl 2011) (see Federal Geographic Data Committee (2013)). The Cowardin system is a hierarchical system which describes various wetland and deepwater habitats, using structural characteristics such as vegetation, substrate, and water regime as defining characteristics. Wetlands are defined by plant communities, soils, or inundation or flooding frequency. Deepwater habitats are permanently flooded areas located below the wetland boundary. In rivers and lakes, deepwater habitats are usually more than two meters deep. The Cowardin et al. (1979) definition of “wetland” differs from the definition used by the Corps and U.S. EPA for the purposes of implementing Section 404 of the Clean Water Act. The Corps-U.S. EPA regulations defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” [33 CFR 328.3(c)(4); 40 CFR 230.3(o)(3)(iv)] The Cowardin et al. (1979) requires only one factor (i.e., wetland vegetation, soils, hydrology) to be present for an area to be a wetland, while the Corps-U.S. EPA wetland definition requires all three factors to be present under normal circumstances (Tiner 1997b, Mitsch and Gosselink 2015). The NWI produced by applying the Cowardin et al. (1979) definition is the only national scale wetland inventory

available. There is no national inventory of wetland acreage based on the Corps-U.S. EPA wetland definition at 33 CFR 328.3(c)(4).

There are five major systems in the Cowardin classification scheme: marine, estuarine, riverine, lacustrine, and palustrine (Cowardin et al. 1979). The marine system consists of open ocean on the continental shelf and its high energy coastlines. The estuarine system consists of tidal deepwater habitats and adjacent tidal wetlands that are usually partially enclosed by land, but may have open connections to open ocean waters. The riverine system generally consists of all wetland and deepwater habitats located within a river channel. The lacustrine system generally consists of wetland and deepwater habitats located within a topographic depression or dammed river channel, with a total area greater than 20 acres. The palustrine system generally includes all non-tidal wetlands and wetlands located in tidal areas with salinities less than 0.5 parts per thousand; it also includes ponds less than 20 acres in size. Approximately 95 percent of wetlands in the conterminous United States are freshwater wetlands, and the remaining 5 percent are estuarine or marine wetlands (Dahl 2011).

According to Hall et al. (1994), there are more than 204 million acres of wetlands and deepwater habitats in the State of Alaska, including approximately 174.7 million acres of wetlands. Wetlands and deepwater habitats comprise approximately 50.7 percent of the surface area in Alaska (Hall et al. 1994).

The National Resources Inventory (NRI) is a statistical survey conducted by the Natural Resources Conservation Service (NRCS) (USDA 2015) of natural resources on non-federal land in the United States. The NRCS defines non-federal land as privately owned lands, tribal and trust lands, and lands under the control of local and state governments. Acreages of palustrine and estuarine wetlands and the land uses those wetlands are subjected to are summarized in Table 3.3. The 2012 NRI estimates that there are 111,220,800 acres of palustrine and estuarine wetlands on non-Federal land and water areas in the United States (USDA 2015). The 2012 NRI estimates that there are 49,518,700 acres of open waters on non-Federal land in the United States, including lacustrine, riverine, and marine habitats, as well as estuarine deepwater habitats.

Table 3.3. The 2012 National Resources Inventory acreages for palustrine and estuarine wetlands on non-federal land, by land cover/use category (USDA 2015).

| National Resources Inventory Land Cover/Use Category | Area of Palustrine and Estuarine Wetlands (acres) |
|--|---|
| cropland, pastureland, and Conservation Reserve Program land | 17,800,000 |
| forest land | 65,800,000 |
| rangeland | 8,000,000 |
| other rural land | 14,700,000 |
| developed land | 1,400,000 |
| water area | 3,600,000 |
| Total | 111,300,000 |

The land cover/use categories used by the 2012 NRI are defined below (USDA 2015). Croplands are areas used to produce crops grown for harvest. Pastureland is land managed for livestock grazing, through the production of introduced forage plants. Conservation Reserve Program land is under a Conservation Reserve Program contract. Forest land is comprised of at least 10 percent single stem woody plant species that will be at least 13 feet tall at maturity. Rangeland is land on which plant cover consists mostly of native grasses, herbaceous plants, or shrubs suitable for grazing or browsing, and introduced forage plant species. Other rural land consists of farmsteads and other farm structures, field windbreaks, marshland, and barren land. Developed land is comprised of large urban and built-up areas (i.e., urban and built-up areas 10 acres or more in size), small built-up areas (i.e., developed lands 0.25 to 10 acres in size), and rural transportation land (e.g., roads, railroads, and associated rights-of-way outside urban and built-up areas). Water areas are comprised of waterbodies and streams that are permanent open waters.

The wetlands data from the Fish and Wildlife Service’s Status and Trends study and the Natural Resources Conservation Service’s National Resources Inventory should not be compared, because they use different methods and analyses to produce their results (Dahl 2011).

Leopold, Wolman, and Miller (1964) estimated that there are approximately 3,250,000 miles of river and stream channels in the United States. This estimate is based on an analysis of 1:24,000 scale topographic maps. Their estimate does not include many small streams. Many small streams, especially headwater streams, are not mapped on 1:24,000 scale U.S. Geological Survey (USGS) topographic maps (Leopold 1994) or included in other inventories (Meyer and Wallace 2001), including the National Hydrography Dataset (Elmore et al. 2013). Many small streams and rivers are not identified through maps produced by aerial photography or satellite imagery because of inadequate image resolution or trees or other vegetation obscuring the visibility of those streams from above (Benstead

and Leigh 2012). In a study of stream mapping in the southeastern United States, only 20 percent of the stream network was mapped on 1:24,000 scale topographic maps, and nearly none of the observed intermittent or ephemeral streams were indicated on those maps (Hansen 2001). Another study in Massachusetts showed that those types of topographic maps exclude over 27 percent of stream miles in a watershed (Brooks and Colburn 2011). For a 1:24,000 scale topographic map, the smallest tributary found by using 10-foot contour interval has a drainage area of 0.7 square mile and length of 1,500 feet, and smaller stream channels are common throughout the United States (Leopold 1994). Benstead and Leigh (2012) found that the density of stream channels (length of stream channels per unit area) identified by digital elevation models was three times greater than the drainage density calculated by using USGS maps. Elmore et al. (2013) made similar findings in watersheds in the mid-Atlantic, where they determined that the stream density was 2.5 times greater than the stream density calculated with the National Hydrography Dataset. Due to the difficulty in mapping small streams, there are no accurate estimates of the total number of river or stream miles in the conterminous United States that might be considered as “waters of the United States.”

The quantity of the Nation’s aquatic resources presented by studies that estimate the length or number of stream channels (see above) or the acreage of wetlands (USFWS status and trends studies, National Wetland Inventory (NWI), and Natural Resources Inventory (NRI) are underestimates, because those inventories do not include many small wetlands and streams. The USFWS status and trends study does not include Alaska, Hawaii, or the territories. The underestimate of national wetland acreage by the USFWS status and trends study and the NWI is primarily the result of the minimum size of wetlands detected through remote sensing techniques and the difficulty of identifying certain wetland types through those remote sensing techniques. The remote sensing approaches used by the USFWS for its NWI maps and its status and trends reports result in errors of omission that exclude wetlands that are difficult to identify through photointerpretation (Tiner 1997a). These errors of omission are due to wetland type and the size of target mapping units (Tiner 1997a). Therefore, it is important to understand the limitations of the source data when describing the environmental baseline for wetlands using maps and studies produced by remote sensing, especially in terms of wetland quantity.

Factors affecting the accuracy of wetland maps made by remote sensing include: the degree of difficulty in identifying a wetland, map scale, the quality and scale of the source information (e.g., aerial or satellite photos), the environmental conditions when the source information was obtained, the time of year source information was obtained, the mapping equipment, and the skills of the people producing the maps (Tiner 1999). The map scale usually affects the target mapping unit, which is the minimum wetland size that can be consistently mapped (Tiner 1997b). In general, wetland types that are difficult to identify through field investigations are likely to be underrepresented in maps made by remote sensing (Tiner 1999). Wetlands difficult to identify through remote sensing include forested wetlands, small wetlands, narrow wetlands, mowed wetlands, farmed wetlands, wetlands with hydrology at the drier end of the wetland hydrology continuum, and significantly drained wetlands (Tiner 1999). In the most recent wetland status and trends report published by the U.S. Fish and Wildlife Service, the target minimum wetland mapping unit was 1 acre,

although some easily identified wetlands as small as 0.1 acre were identified in that effort (Dahl 2011). The National Wetland Inventory identifies wetlands regardless of their jurisdictional status under the Clean Water Act (Tiner 1997b).

Activities authorized by NWP's will adversely affect a smaller proportion of the Nation's wetland base than indicated by the wetlands acreage estimates provided in the most recent status and trends report, or the NWI maps for a particular region.

Not all wetlands, streams, and other types of aquatic resources are subject to federal jurisdiction under the Clean Water Act (Mitsch and Gosselink 2015). Two U.S. Supreme Court decisions have identified limits to Clean Water Act jurisdiction. In 2001, in *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (531 U.S. 159) the U.S. Supreme Court held that the use of isolated, non-navigable, intrastate waters by migratory birds is not, by itself a sufficient basis for exercising federal regulatory authority under the Clean Water Act (see 80 FR 37056). In the U.S. Supreme Court's 2006 decision in *Rapanos v. United States*, (547 U.S. 715), one justice stated that waters and wetlands regulated under the Clean Water Act must have a "significant nexus" to downstream traditional navigable waters. Four justices (the plurality) concluded that Clean Water Act jurisdiction applies only to relatively permanent waters connected to traditional navigable waters and to wetlands that have a continuous surface connection to those relatively permanent waters. The remaining justices in *Rapanos* stated that Clean Water Act jurisdiction applies to waters and wetlands that meet either the significant nexus test or the Plurality's test.

There are 94,133 miles of shoreline in the United States (NOAA 1975). Of that shoreline, 88,633 miles are tidal shoreline and 5,500 miles are shoreline along the Great Lakes and rivers that connect those lakes to the Atlantic Ocean. More recently, Gittman et al. (2015) estimated that there are 99,524 miles of tidal shoreline in the conterminous United States.

3.2 Quality of Aquatic Ecosystems in the United States

The USFWS status and trends study does not assess the condition or quality of wetlands and deepwater habitats (Dahl 2011). Information on water quality in waters and wetlands, as well as the causes of water quality impairment, is collected by the U.S. EPA under Sections 305(b) and 303(d) of the Clean Water Act. Table 3.4 provides U.S. EPA's most recent national summary of water quality in the Nation's waters and wetlands.

Table 3.4. National summary of water quality data (U.S. EPA 2015).

| Category of water | Total waters | Total waters assessed | Percent of waters assessed | Good waters | Threatened waters | Impaired waters |
|-------------------------------|---------------------|-----------------------|----------------------------|--------------------|-------------------|---------------------|
| Rivers and streams | 3,533,205 miles | 1,046,621 miles | 29.6 | 476,765 miles | 7,657 miles | 562,198 miles |
| Lakes, reservoirs and ponds | 41,666,049 acres | 17,904,395 acres | 43.0 | 5,658,789 acres | 145,572 acres | 12,100,034 acres |
| Bays and estuaries | 87,791 square miles | 33,402 square miles | 38.0 | 7,291 square miles | 0 square miles | 26,111 square miles |
| Coastal shoreline | 58,618 miles | 8,162 miles | 13.9 | 900 miles | 0 miles | 7,262 miles |
| Ocean and near coastal waters | 54,120 square miles | 1,674 square miles | 3.1 | 616 square miles | 0 square miles | 1,058 square miles |
| Wetlands | 107,700,000 acres | 1,112,438 acres | 1.0 | 573,947 acres | 0 acres | 538,492 acres |
| Great Lakes shoreline | 5,202 miles | 4,431 miles | 85.2 | 78 miles | 0 miles | 4,353 miles |
| Great Lakes open waters | 60,546 square miles | 53,332 square miles | 88.1 | 62 square miles | 0 square miles | 53,270 square miles |

Waters and wetlands classified by states as “good” meets all their designated uses. Waters classified as “threatened” currently support all of their designated uses, but if pollution control measures are not taken one or more of those uses may become impaired in the future. A water or wetland is classified by the state as “impaired” if any one of its designated uses is not met. The definitions of good, threatened, and impaired are applied by states to describe the quality of their waters (the above definitions were found in the metadata in U.S. EPA (2015)). Designated uses include the “protection and propagation of fish, shellfish and wildlife,” “recreation in and on the water,” the use of waters for “public water supplies, propagation of fish, shellfish, wildlife, recreation in and on the water,” and “agricultural, industrial and other purposes including navigation.” (40 CFR 130.3). These designated uses are assessed by states in a variety of ways, by examining various physical, chemical and biological characteristics, so it is not possible to use the categories of “good,” “threatened,” and “impaired” to infer the level of ecological functions and services these waters perform.

According to the latest U.S. EPA national summary (U.S. EPA 2015), 54 percent of assessed rivers and streams, 68 percent of assessed lakes, reservoirs, and ponds, 78 percent of assessed bays and estuaries, 89 percent of assessed coastal shoreline, 63 percent of assessed ocean and near coastal waters, and 48 percent of assessed wetlands are impaired.

For rivers and streams, 34 causes of impairment were identified, and the top 10 causes were pathogens, sediment, nutrients, mercury, organic enrichment/oxygen depletion, polychlorinated biphenyls, metals (other than mercury), temperature, habitat alterations, and

flow alteration(s). The primary sources of impairment for the assessed rivers and streams were agriculture, unknown sources, atmospheric deposition, urban-related runoff/stormwater, hydromodification, municipal discharges/sewage, natural/wildlife, unspecified point source, habitat alterations not directly related to hydromodification, and resource extraction.

Thirty-one causes of impairment were identified for bays and estuaries. The top 10 causes of impairment for these waters is: mercury, polychlorinated biphenyls, pathogens, organic enrichment/oxygen depletion, dioxins, other causes, fish consumption advisories, metals (other than mercury), noxious aquatic plants, and pesticides. For bays and estuaries, the top 10 sources of impairment were atmospheric deposition, unknown sources, municipal discharges/sewage, other sources, industrial, natural/wildlife, urban-related runoff/stormwater, spills/dumping, unspecified non-point sources, and agriculture.

Coastal shorelines were impaired by 15 identified causes, the top 10 of which were: mercury, pathogens, organic enrichment/oxygen depletion, turbidity, pH/acidity/caustic conditions, nutrients, temperature, oil and grease, algal growth, and causes unknown/impaired biota. The top 10 sources of impairment of coastal shorelines are “unknown,” atmospheric deposition, municipal discharges/sewage, urban-related runoff/stormwater, hydromodification, unspecified non-point sources, agriculture, recreational boating and marinas, industrial, and spills/dumping.

For wetlands, 26 causes of impairment were identified, and the top 10 causes were organic enrichment/oxygen depletion, mercury, pathogens, metals (excluding mercury), toxic inorganics, temperature, sediment, algal growth, flow alterations, and turbidity. The primary sources for wetland impairment were “unknown,” agriculture, atmospheric deposition, industrial, municipal discharges/sewage, recreational boating and marinas, resource extraction, natural/wildlife, hydromodification, and unspecified point sources.

Water quality standards are established by states, with review and approval by the U.S. EPA (see Section 303(c) of the Clean Water Act and the implementing regulations at 40 CFR part 131). Under Section 401 of the Clean Water Act States review proposed discharges to determine compliance with applicable water quality standards.

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. The indirect effects of changes in upland land use (which are not to be subject to federal control and responsibility, at least in terms of the Corps Regulatory Program), including the construction and expansion of upland developments, have substantial adverse effects on the quality (i.e. the ability to perform hydrologic, biogeochemical, and habitat functions) of jurisdictional waters and wetlands because those upland activities alter watershed-scale processes. Those watershed-scale processes include water movement and storage, erosion and sediment transport, and the transport of nutrients and other pollutants. Inputs of sediments into aquatic ecosystems can result from erosion occurring within a watershed (Beechie et al. 2013, Gosselink and Lee 1989). As water moves through a watershed it carries sediments and pollutants to streams (e.g., Allan 2004, Dudgeon et al. 2005, Paul and Meyer 2001) and

wetlands (e.g., Zedler and Kercher 2005, Wright et al. 2006). Non-point sources of pollution (i.e., pollutants carried in runoff from farms, roads, and urban areas) are largely uncontrolled (Brown and Froemke 2012) because the Clean Water Act only requires permits for point sources discharges of pollutants (i.e., discharges of dredged or fill material regulated under section 404 and point source discharges of other pollutants regulated under section 402).

Habitat alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material into jurisdictional waters or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10, depending on whether those hydrologic modifications are the result of discharges of dredged or fill material into waters of the United States regulated under Section 404 of the Clean Water Act or structures or work in navigable waters of the United States regulated under Section 10 of the Rivers and Harbors Act of 1899. When states, tribes, or the U.S. EPA establish total daily maximum loads (TMDLs) for pollutants and other impairments for specific waters, there may be variations in how these TMDLs are defined (see 40 CFR part 130).

As discussed below, many anthropogenic activities and natural processes affect the ability of jurisdictional waters and wetlands to perform ecological functions. Stream and river functions are affected by activities occurring in their watersheds, including the indirect effects of land uses changes (Beechie et al. 2013, Allan 2004, Paul and Meyer 2001). Booth et al. (2004) found riparian land use in residential areas also strongly affects stream condition because many landowners clear vegetation up to the edge of the stream bank. The removal of vegetation from upland riparian areas and other activities in those non-jurisdictional areas do not require DA authorization.

Wetland functions are also affected by indirect effects of land use activities in the land area that drains to the wetland (Zedler and Kercher 2005, Wright et al. 2006). Human activities within a watershed or catchment that have direct or indirect adverse effects on rivers, streams, wetlands, and other aquatic ecosystems are not limited to discharges of dredged or fill material into waters of the United States or structures or work in a navigable waters. Human activities in uplands have substantial indirect effects on the structure and function of aquatic ecosystems, including streams and wetlands, and their ability to sustain populations of listed species. It is extremely difficult to distinguish between degradation of water quality caused by upland activities and degradation of water quality caused by the filling or alteration of wetlands (Gosselink and Lee 1989).

Most causes and sources of impairment are not due to activities regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Habitat alterations as a cause or source of impairment may be the result of activities regulated under section 404 and section 10 because they involve discharges of dredged or fill material or structures or work in navigable waters, but habitat alterations may also occur as a result of activities not regulated under those two statutes, such as the removal of vegetation from

upland riparian areas. Hydrologic modifications may or may not be regulated under section 404 or section 10.

The U.S. Environmental Protection Agency (U.S. EPA) has undertaken the National Wetland Condition Assessment (NWCA), which is a statistical survey of wetland condition in the United States (U.S. EPA 2016). The NWCA assesses the ambient conditions of wetlands at the national and regional scales. The national scale encompasses the conterminous United States. The regional scale consists of four aggregated ecoregions: Coastal Plains, Eastern Mountains and Upper Midwest, Interior Plains, and West. In May 2016, U.S. EPA issued a final report on the results of its 2011 NWCA (U.S. EPA 2016).

The 2011 NWCA determined that, across the conterminous United States, 48 percent of wetland area (39.8 million acres) is in good condition, 20 percent of the wetland area (12.4 million acres) is in fair condition, and 32 percent (19.9 million acres) is in poor condition (U.S. EPA 2016). The 2011 NWCA also examined indicators of stress for the wetlands that were evaluated. The most prevalent physical stressors were vegetation removal, surface hardening via conversion to pavement or soil compaction, and ditching (U.S. EPA 2016). In terms of chemical stressors, most wetlands were subject to low exposure to heavy metals and soil phosphorous, but substantial percentages of wetland area in the West and Eastern Mountains and Upper Midwest ecoregions were found to have moderate stressor levels for heavy metals (U.S. EPA 2016). For soil phosphorous concentrations, stressor levels were high for 13 percent of the wetland area in the Eastern Mountains and Upper Midwest ecoregion (U.S. EPA 2016). Across the conterminous United States, for biological stressors indicated by non-native plants, 61 percent of the wetland area exhibited low stressor levels (U.S. EPA 2016). When examined on an ecoregion basis, the Eastern Mountains and Upper Midwest and Coastal Plains ecoregions had high percentages of wetland area with low non-native plant stressor levels, but the West and Interior Plains ecoregions had small percentages of areas with low non-native plant stressor levels (U.S. EPA 2016).

3.3 Aquatic resource functions and services

Functions are the physical, chemical, and biological processes that occur in ecosystems (33 CFR 332.2). Wetland functions occur through interactions of their physical, chemical, and biological features (Smith et al. 1995). Wetland functions depend on a number of factors, such as the movement of water through the wetland, landscape position, surrounding land uses, vegetation density within the wetland, geology, soils, water source, and wetland size (NRC 1995). In its evaluation of wetland compensatory mitigation in the Clean Water Act Section 404 permit program, the National Research Council (2001) recognized five general categories of wetland functions:

- Hydrologic functions
- Water quality improvement
- Vegetation support
- Habitat support for animals
- Soil functions

Hydrologic functions include short- and long-term water storage and the maintenance of wetland hydrology (NRC 1995). Water quality improvement functions encompass the transformation or cycling of nutrients, the retention, transformation, or removal of pollutants, and the retention of sediments (NRC 1995). Vegetation support functions include the maintenance of plant communities, which support various species of animals as well as economically important plants. Wetland soils support diverse communities of bacteria and fungi which are critical for biogeochemical processes, including nutrient cycling and pollutant removal and transformation (NRC 2001). Wetland soils also provide rooting media for plants, as well as nutrients and water for those plants. These various functions generally interact with each other, to influence overall wetland functioning, or ecological integrity (Smith et al. 1995, Fennessy et al. 2007). The Corps regulations at 33 CFR 320.4(b) list wetland functions that are important for the public interest review during evaluations of applications for DA permits, and for the issuance of general permits.

Not all wetlands perform the same functions, nor do they provide functions to the same degree (Smith et al. 1995). Therefore, it is necessary to account for individual and regional variation when evaluating wetlands and the functions and services they provide. The types and levels of functions performed by a wetland are dependent on its hydrologic regime, the plant species inhabiting the wetland, soil type, and the surrounding landscape, including the degree of human disturbance of the landscape (Smith et al. 1995).

Streams also provide a variety of functions, which differ from wetland functions. Streams also provide hydrologic functions, nutrient cycling functions, food web support, and corridors for movement of aquatic organisms (Allan and Castillo 2007). When considering stream functions, the stream channel should not be examined in isolation. The riparian corridor next to the stream channel is an integral part of the stream ecosystem and has critical roles in stream functions (NRC 2002). Riparian areas provide many of the same general functions as wetlands (NRC 1995, 2002). Fischenich (2006) conducted a review of stream and riparian corridor functions, and through a committee, identified five broad categories of stream functions:

- Stream system dynamics
- Hydrologic balance
- Sediment processes and character
- Biological support
- Chemical processes and landscape pathways

Stream system dynamics refers to the processes that affect the development and maintenance of the stream channel and riparian area over time, as well as energy management by the stream and riparian area. Hydrologic balance includes surface water storage processes, the exchange of surface and subsurface water, and the movement of water through the stream corridor. Sediment processes and character functions relate to processes for establishing and maintaining stream substrate and structure. Biological support functions include the biological communities inhabiting streams and their riparian areas. Chemical processes and pathway functions influence water and soil quality, as well as the chemical processes and nutrient cycles that occur in streams and their riparian areas. Rivers and streams function perform functions to different degrees, depending on watershed

condition, the severity of direct and indirect impacts to streams caused by human activities, and their interactions with other environmental components, such as their riparian areas (Allan 2004, Gergel et al. 2002).

Ecosystem services are the benefits that humans derive from ecosystem functions (33 CFR 332.2). The Millennium Ecosystem Assessment (2005b) describes four categories of ecosystem services: provisioning services, regulating services, cultural services, and supporting services. For wetlands and open waters, provisioning services include the production of food (e.g., fish, fruits, game), fresh water storage, food and fiber production, production of chemicals that can be used for medicine and other purposes, and supporting genetic diversity for resistance to disease. Regulating services relating to open waters and wetlands consist of climate regulation, control of hydrologic flows, water quality through the removal, retention, and recovery of nutrients and pollutants, erosion control, mitigating natural hazards such as floods, and providing habitat for pollinators. Cultural services that come from wetlands and open waters include spiritual and religious values, recreational opportunities, aesthetics, and education. Wetlands and open waters contribute supporting services such as soil formation, sediment retention, and nutrient cycling.

Examples of services provided by wetland functions include flood damage reduction, maintenance of populations of economically important fish and wildlife species, maintenance of water quality (NRC 1995, MEA 2005b) and the production of populations of wetland plant species that are economically important commodities, such as timber, fiber, and fuel (MEA 2005b). Wetlands can also provide important climate regulation and storm protection services (MEA 2005b).

Stream functions also result in ecosystem services that benefit society. Streams and their riparian areas store water, which can reduce downstream flooding and subsequent flood damage (NRC 2002, MEA 2005b). These ecosystems also maintain populations of economically important fish, wildlife, and plant species, including valuable fisheries (MEA 2005b, NRC 2002). The nutrient cycling and pollutant removal functions help maintain or improve water quality for surface waters (NRC 2002, MEA 2005b). Streams and riparian areas also provide important recreational opportunities. Rivers and streams also provide water for agricultural, industrial, and residential use (MEA 2005b).

Freshwater ecosystems provide services such as water for drinking, household uses, manufacturing, thermoelectric power generation, irrigation, and aquaculture; production of finfish, waterfowl, and shellfish; and non-extractive services, such as flood control, transportation, recreation (e.g., swimming and boating), pollution dilution, hydroelectric generation, wildlife habitat, soil fertilization, and enhancement of property values (Postel and Carpenter 1997).

Marine ecosystems provide a number of ecosystem services, including fish production; materials cycling (e.g., nitrogen, carbon, oxygen, phosphorous, and sulfur); transformation, detoxification, and sequestration of pollutants and wastes produced by humans; support of ocean-based recreation, tourism, and retirement industries; and coastal land development

and valuation, including aesthetics related to living near the ocean (Peterson and Lubchenco 1997).

Activities authorized by this NWP will provide a wide variety of services that are valued by society. For example, bank stabilization activities help protect property from erosion. Bank stabilization activities also help improve water quality by reducing sediment inputs into streams and other open waters. Bank stabilization activities cause losses of ecosystem services, and gains in some ecosystem services, but the overall level of ecosystem services provided in coastal areas occupied by erosion control features declines in comparison to the ecosystem services provided by natural ecosystems (NRC 2007). The importance of the ecosystem services resulting from bank stabilization activities is dependent on specific groups of stakeholders (NRC 2007).

4.0 Environmental Consequences

4.1 General Evaluation Criteria

This document contains a general assessment of the foreseeable effects of the individual activities authorized by this NWP and the anticipated cumulative effects of those activities. In the assessment of these individual and cumulative effects, the terms and limits of the NWP, pre-construction notification requirements, and the standard NWP general conditions are considered. The supplemental documentation provided by division engineers will address how regional conditions affect the individual and cumulative effects of the NWP.

The following evaluation comprises the NEPA analysis, the public interest review specified in 33 CFR 320.4(a)(1) and (2), and the impact analysis specified in Subparts C through F of the 404(b)(1) Guidelines (40 CFR Part 230).

The issuance of an NWP is based on a general assessment of the effects on public interest and environmental factors that are likely to occur as a result of using this NWP to authorize activities in waters of the United States. As such, this assessment must be speculative or predictive in general terms. Since NWPs authorize activities across the nation, projects eligible for NWP authorization may be constructed in a wide variety of environmental settings. Therefore, it is difficult to predict all of the indirect impacts that may be associated with each activity authorized by an NWP. For example, the NWP that authorizes 25 cubic yard discharges of dredged or fill material into waters of the United States may be used to fulfill a variety of project purposes, and the indirect effects will vary depending on the specific activity and the environmental characteristics of the site in which the activity takes place. Indication that a factor is not relevant to a particular NWP does not necessarily mean that the NWP would never have an effect on that factor, but that it is a factor not readily identified with the authorized activity. Factors may be relevant, but the adverse effects on the aquatic environment are negligible, such as the impacts of a boat ramp on water level fluctuations or flood hazards. Only the reasonably foreseeable direct, indirect, and cumulative effects are included in the environmental assessment for this NWP. Division

and district engineers will impose, as necessary, additional conditions on the NWP authorization or exercise discretionary authority to address locally important factors or to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects. In any case, adverse effects will be controlled by the terms, conditions, and additional provisions of the NWP. For example, Section 7 Endangered Species Act consultation will be required for all activities that may affect endangered or threatened species or critical habitat (see 33 CFR 330.4(f) and NWP general condition 18).

4.2 Impact Analysis

This NWP authorizes bank stabilization activities in all waters of the United States. There is a 500 linear foot limit for these activities, which can be waived by the district engineer on a case-by-case basis upon a determination that the bank stabilization will result in no more than minimal adverse effects on the environment and other public interest review factors. For bulkheads, the district engineer can waive the 500 linear foot limit up to 1,000 linear feet along the shore; if the length of the proposed bulkhead exceeds 1,000 linear feet along the shore the proposed bulkhead cannot be authorized by NWP 13. This 1,000 linear foot cap for bulkheads does not apply to other approaches to bank stabilization, such as bioengineering, vegetative stabilization, riprap, revetments, and stream barbs, but if those activities exceed 500 linear feet along the bank or shore, then to be authorized by NWP 13 a written waiver from the district engineer is required. Discharges of dredged or fill material for bank stabilization activities cannot exceed an average of one cubic yard per running foot, as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line, unless the district engineer waives this limit in writing after determining that the adverse effects on the environment and other public interest factors will be no more than minimal.

Pre-construction notification is required for: (1) discharges into special aquatic sites; or (2) activities in excess of 500 feet in length; or (3) activities involving discharges of greater than an average of one cubic yard per running foot as measured along the length of the treated bank, below the plane of the ordinary high water mark or the high tide line. The pre-construction notification requirement allows district engineers to review certain proposed NWP activities on a case-by-case basis to ensure that the individual and cumulative adverse environmental effects of those activities are no more than minimal. If the district engineer determines that the adverse environmental effects of a particular project are more than minimal after considering mitigation, then discretionary authority will be asserted and the applicant will be notified that another form of DA authorization, such as an individual permit or a regional general permit, is required (see 33 CFR 330.4(e) and 330.5).

When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type(s) of resource(s) that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP

activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. These criteria are listed in the NWPs in Section D, “District Engineer’s Decision.” If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

Additional conditions can be placed on proposed activities on a regional or case-by-case basis to ensure that the activities have no more than minimal individual and cumulative adverse environmental effects. Regional conditioning of this NWP will be used to account for differences in aquatic resource functions, services, and values across the country, ensure that the NWP authorizes only those activities with no more than minimal individual and cumulative adverse environmental effects, and allow each Corps district to prioritize its workload based on where its efforts will best serve to protect the aquatic environment. Regional conditions can prohibit the use of an NWP in certain waters (e.g., high value waters or specific types of wetlands or waters), lower pre-construction notification thresholds, or require pre-construction notification for some or all NWP activities in certain watersheds or types of waters. Specific NWPs can also be revoked on a geographic or watershed basis where the individual and cumulative adverse environmental effects resulting from the use of those NWPs are more than minimal.

In high value waters, division and district engineers can: 1) prohibit the use of the NWP in those waters and require an individual permit or regional general permit; 2) impose an acreage or linear foot limit on the NWP; 3) lower the pre-construction notification threshold of the NWP to require pre-construction notification for NWP activities with smaller impacts in those waters; 4) require pre-construction notification for some or all NWP activities in those waters; 5) add regional conditions to the NWP to ensure that the individual and cumulative adverse environmental effects are no more than minimal; or 6) for those NWP activities that require pre-construction notification, add special conditions to NWP authorizations, such as compensatory mitigation requirements, to ensure that the adverse environmental effects are no more than minimal. NWPs can authorize activities in high value waters as long as the individual and cumulative adverse environmental effects are no more than minimal.

The construction and use of structures and fills for temporary access for construction may be authorized by this NWP, NWP 33, or regional general permits issued by division or district engineers. The related activity must meet the terms and conditions of the specified permit(s). If the activity is dependent on portions of a larger project that require an individual permit, this NWP will not apply. [See 33 CFR 330.6(c) and (d)]

4.3 Cumulative Effects

4.3.1 General Analysis

The Council on Environmental Quality's (CEQ's) NEPA regulations define cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." [40 CFR 1508.7.] Therefore, the NEPA cumulative effects analysis for an NWP is not limited to activities authorized by the NWP, other NWPs, or other DA permits (individual permits and regional general permits). The NEPA cumulative effects analysis must also include other Federal and non-Federal activities that affect the Nation's wetlands, streams, and other aquatic resources, as well as other resources (e.g., terrestrial ecosystems, air) that may be directly or indirectly affected by the proposed action and other actions. According to guidance issued by CEQ (1997), a NEPA cumulative effects analysis should focus on specific categories of resources (i.e., resources of concern) identified during the review process as having significant cumulative effects concerns. These cumulative effects analyses also require identification of the disturbances and stressors that cause degradation of those resources, including those caused by actions unrelated to the proposed action. A NEPA cumulative effects analysis does not need to analyze issues that have little relevance to the proposed action or the decision the agency will have to make (CEQ 1997).

The geographic scope of this cumulative effects analysis is the United States and its territories, where the NWP may be used to authorize specific activities that require DA authorization. The temporal scope of the cumulative effects analysis includes past federal, non-federal, and private actions that continue to affect the Nation's wetlands, streams, and other aquatic resources (including activities authorized by previously issued NWPs, regional general permits, and DA individual permits) as well as present and reasonably foreseeable future federal, non-federal, and private actions that are affecting, or will affect, wetlands, streams, and other aquatic resources. The present effects of past federal, non-federal, and private actions on wetlands, streams, and other aquatic resources are included in the affected environment, which is described in section 3.0. The affected environment described in section 3.0 also includes present effects of past actions, including activities authorized by NWPs issued from 1977 to 2012 and constructed by permittees, which are captured in national information on the quantity and quality of wetlands, streams, and other aquatic resources.

For coastal shorelines, Gittman et al. (2015) found that of the 99,524 of tidal shoreline in the conterminous United States, 14 percent of that shoreline was hardened by bulkheads, seawalls, revetments, breakwaters, groins, and jetties. Coastal areas with higher housing densities were more likely to have shorelines protected by bulkheads, seawalls, and revetments (Gittman et al. 2015). They also determined that approximately 1 percent of tidal marsh shoreline in the continental United States has hard protective structures constructed near the marsh (usually landward of the marsh) (Gittman et al. 2015). Not all of

these shore protection structures were authorized by DA permits, because bulkheads, seawalls, and other protective structures can be constructed landward of the Corps' jurisdiction so that they do not need DA authorization (NRC 2007).

The cumulative effects of bank stabilization activities are difficult to assess, and it is especially difficult to identify a threshold beyond which the cumulative effects are no longer acceptable to the various stakeholders in the assessment area (e.g., a bay, lake, river, or other type of geographic region) (NRC 2007). The cumulative effects of bank stabilization activities can be reduced if local governments restrict or prohibit development of coastal areas, thus reducing the need for shore erosion control activities (NRC 2007). Restricting or prohibiting development in these coastal areas through state or local government land use planning can reduce property losses due to erosion and other coastal hazards (NRC 2007).

In addition to the activities authorized by this NWP, there are many categories of activities that contribute to cumulative effects on wetlands, streams, and other aquatic resources in the United States, and alter the quantity of those resources, the functions they perform, and the ecosystem services they provide. Activities authorized by past versions of NWP 13, as well as other NWPs, individual permits, letters of permission, and regional general permits have resulted in direct and indirect impacts to wetlands, streams, and other aquatic resources. Those activities may have legacy effects that have added to the cumulative effects and affected the quantity of those resources and the functions they provide. Discharges of dredged or fill material that do not require DA permits because they are exempt from section 404 permit requirements can also adversely affect the quantity of the Nation's wetlands, streams, and other aquatic resources and the functions and services they provide. Discharges of dredged or fill material that convert wetlands, streams, and other aquatic resources to upland areas result in permanent losses of aquatic resource functions and services. Temporary fills and fills that do not convert waters or wetlands to dry land may cause short-term or partial losses of aquatic resource functions and services.

Humans have long had substantial impacts on ecosystems and the ecological functions and services they provide (Ellis et al. 2010). Around the beginning of the 19th century, the degree of impacts of human activities on the Earth's ecosystems began to exceed the degree of impacts to ecosystems caused by natural disturbances and variability (Steffen et al. 2007). All of the Earth's ecosystems have been affected either directly or indirectly by human activities (Vitousek et al. 1997). Over 75 percent of the ice-free land on Earth has been altered by human occupation and use (Ellis and Ramankutty 2008). Approximately 33 percent of the Earth's ice-free land consists of lands heavily used by people: urban areas, villages, lands used to produce crops, and occupied rangelands (Ellis and Ramankutty 2008). For marine ecosystems, Halpern et al. (2008) determined that there are no marine waters that are unaffected by human activities, and that 41 percent of the area of ocean waters are affected by multiple anthropogenic stressors (e.g., land use activities that generate pollution that go to coastal waters, marine habitat destruction or modification, and the extraction of resources). The marine waters most highly impacted by human activities are continental shelf and slope areas, which are affected by both land-based and ocean-based activities (Halpern et al. 2008). Human population density is a good indicator of the relative effect that people have had on local ecosystems, with lower population densities causing smaller

impacts to ecosystems and higher population densities having larger impacts on ecosystems (Ellis and Ramankutty 2008). Human activities such as urbanization, agriculture, and forestry alter ecosystem structure and function by changing their interactions with other ecosystems, their biogeochemical cycles, and their species composition (Vitousek et al. 1997). Changes in land use reduce the ability of ecosystems to produce ecosystem services, such as food production, reducing infectious diseases, and regulating climate and air quality (Foley et al. 2005).

Recent changes in climate have had substantial impacts on natural ecosystems and human communities (IPCC 2014). Climate change, both natural and anthropogenic, is a major driving force for changes in ecosystem structure, function, and dynamics (Millar and Brubaker 2006). However, there are other significant drivers of change to aquatic and terrestrial ecosystems. In addition to climate change, aquatic and terrestrial ecosystems are also adversely affected by land use and land cover changes, natural resource extraction (including water withdrawals), pollution, species introductions, and removals of species (Staudt et al. 2013, Bodkin 2012, MEA 2005d) and changes in nutrient cycling (Julius et al. 2013).

Cumulative effects to wetlands, streams, and other aquatic resources in the United States are not limited to the effects caused by activities regulated and authorized by the Corps under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Other federal, non-federal, and private activities also contribute to the cumulative effects to wetlands, streams, and other aquatic resources, by changing the quantity of those resources and the functions they provide. Wetlands, streams, and other aquatic resources and the functions and services they provide are directly and indirectly affected by changes in land use and land cover, alien species introductions, overexploitation of species, pollution, eutrophication due to excess nutrients, resource extraction including water withdrawals, climate change, and various natural disturbances (MEA 2005b). Freshwater ecosystems such as lakes, rivers, and streams are altered by changes to water flow, climate change, land use changes, additions of chemicals, resource extraction, and aquatic invasive species (Carpenter et al. 2011). Cumulative effects to wetlands, streams, and other aquatic resources are the result of landscape-level processes (Gosselink and Lee 1989). As discussed in more detail below, cumulative effects to aquatic resources are caused by a variety of activities (including activities that occur entirely in uplands) that take place within a landscape unit, such as the watershed for a river or stream (e.g., Allan 2004, Paul and Meyer 2001, Leopold 1968) or the contributing drainage area for a wetland (e.g., Wright et al. 2006, Brinson and Malvárez 2002, Zedler and Kercher 2005).

Cumulative effects also include environmental effects caused by reasonably foreseeable future actions that may take place after the permitted activity is completed. Such effects may include direct and indirect environmental effects caused by the operation and maintenance of the authorized structure or fill. For NWP 13, this includes environmental effects associated with the uses of the land that is protected by the bank stabilization activity authorized by this NWP, as well as the waters near the bank stabilization activity. In addition, a variety of pollutants might be released into the environment by residents and facilities constructed near the banks protected by these structures and fills. Those pollutants

may be discharged through either point sources or non-point sources and reach jurisdictional waters and wetlands. Point-source discharges would likely require National Pollutant Discharge Elimination System Permits under Section 402 of the Clean Water Act, which is administered by U.S. EPA or by states with approved programs. Pollutants may also be discharged through spills and other accidents. Land uses next to waterbodies may also have other direct and indirect effects on wetlands, streams, and other aquatic resources. The Corps does not have the authority to regulate reasonably foreseeable future activities that: (1) do not involved discharges of dredged or fill material into waters of the United States; (2) involve activities exempt from Clean Water Act Section 404 permit requirements under section 404(f); and (3) do not involve structures or work requiring DA authorization under Sections 9 or 10 of the Rivers and Harbors Act of 1899. Reasonably foreseeable future actions regulated by the Corps are considered during the evaluation process.

In a specific watershed, division or district engineers may determine that the cumulative adverse environmental effects of activities authorized by this NWP are more than minimal. Division and district engineers will conduct more detailed assessments for geographic areas that are determined to be potentially subject to more than minimal cumulative adverse environmental effects. Division and district engineers have the authority to require individual permits in watersheds or other geographic areas where the cumulative adverse environmental effects are determined to be more than minimal, or add conditions to the NWP either on a case-by-case or regional basis to require mitigation measures to ensure that the cumulative adverse environmental effects of these activities are no more than minimal. When a division or district engineer determines, using local or regional information, that a watershed or other geographic area is subject to more than minimal cumulative adverse environmental effects due to the use of this NWP, he or she will use the revocation and modification procedure at 33 CFR 330.5. In reaching the final decision, the division or district engineer will compile information on the cumulative adverse effects and supplement this document.

The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP rather than request individual permits for projects which could result in greater adverse impacts to the aquatic environment. The minimization encouraged by the issuance of this NWP, as well as compensatory mitigation that may be required for specific activities authorized by this NWP, will help reduce cumulative effects to the Nation's wetlands, streams, and other aquatic resources.

Cumulative effects to specific categories of resources (i.e., resources of concern in accordance with CEQ's (1997) guidance) are discussed in more detail below. As discussed above, in addition to activities regulated under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899, there are many categories of activities that contribute to cumulative effects to the human environment. The activities authorized by this NWP during the 5-year period it will be in effect will result in no more than minimal incremental contributions to cumulative effects to these resource categories.

4.3.2 Cumulative Effects to Aquatic Ecosystems

The ecological condition of rivers and streams is dependent on the state of their watersheds (NRC 1992), because they are affected by activities that occur in those watersheds, including agriculture, urban development, deforestation, mining, water removal, flow alteration, and invasive species (Palmer et al. 2010). Land use changes affect rivers and streams through increased sedimentation, larger inputs of nutrients (e.g., nitrogen, phosphorous) and pollutants (e.g., heavy metals, synthetic chemicals, toxic organics), altered stream hydrology, the alteration or removal of riparian vegetation, and the reduction or elimination of inputs of large woody debris (Allan 2004). Agriculture is the primary cause of stream impairment, followed by urbanization (Foley et al. 2005, Paul and Meyer 2001). Agricultural land use adversely affects stream water quality, habitat, and biological communities (Allan 2004). Urbanization causes changes to stream hydrology (e.g., higher flood peaks, lower base flows), sediment supply and transport, water chemistry, and aquatic organisms (Paul and Meyer 2001). Leopold (1968) found that land use changes affect the hydrology of an area by altering stream flow patterns, total runoff, water quality, and stream structure. Changes in peak flow patterns and runoff affect stream channel stability. Stream water quality is adversely affected by increased inputs of sediments, nutrients, and pollutants, many of which come from non-point sources (Paul and Meyer 2001, Allan and Castillo 2007).

The construction and operation of water-powered mills in the 17th to 19th centuries substantially altered the structure and function of streams in the eastern United States (Walter and Merritts 2008) and those effects have persisted to the present time. In urbanized and agricultural watersheds, the number of small streams has been substantially reduced, in part by activities that occurred between the 19th and mid-20th centuries (Meyer and Wallace 2001). Activities that affect the quantity and quality of small streams include residential, commercial, and industrial development, mining, agricultural activities, forestry activities, and road construction (Meyer and Wallace 2001), even if those activities are located entirely in uplands.

Activities that affect wetland quantity and quality include: land use changes that alter local hydrology (including water withdrawal), clearing and draining wetlands, constructing levees that sever hydrologic connections between rivers and floodplain wetlands, constructing other obstructions to water flow (e.g., dams, locks), constructing water diversions, inputs of nutrients and contaminants, and fire suppression (Brinson and Malvárez 2002). Wetland loss and degradation is caused by hydrologic modifications of watersheds, drainage activities, logging, agricultural runoff, urban development, conversion to agriculture, aquifer depletion, river management, (e.g., channelization, navigation improvements, dams, weirs), oil and gas development activities, levee construction, peat mining, and wetland management activities (Mitsch and Hernandez 2013). Upland development adversely affects wetlands and reduces wetland functionality because those activities change surface water flows and alter wetland hydrology, contribute stormwater and associated sediments, nutrients, and pollutants, cause increases in invasive plant species abundance, and decrease the diversity of native plants and animals (Wright et al. 2006). Many of the remaining wetlands in the United States are degraded (Zedler and Kercher 2005). Wetland degradation and losses are caused by changes

in water movement and volume within a watershed or contributing drainage area, altered sediment transport, drainage, inputs of nutrients from non-point sources, water diversions, fill activities, excavation activities, invasion by non-native species, land subsidence, and pollutants (Zedler and Kercher 2005). According to Mitsch and Gosselink (2015), categories of activities that alter wetlands include: wetland conversion through drainage, dredging, and filling; hydrologic modifications that change wetland hydrology and hydrodynamics; highway construction and its effects on wetland hydrology; peat mining; waterfowl and wildlife management; agriculture and aquaculture activities; water quality enhancement activities; and flood control and stormwater protection.

There is also little national-level information on the ecological condition of the Nation's wetlands, streams, and other aquatic resources, or the amounts of functions they provide, although reviews have acknowledged that most of these resources are degraded (Zedler and Kercher 2005, Allan 2004) or impaired (U.S. EPA 2015) because of various activities, disturbances, and other stressors. These data deficiencies make it more difficult to characterize the affected environment to assess cumulative effects, and the relative contribution of the activities authorized by this NWP to those cumulative effects.

As discussed in section 3.0 of this document there is a wide variety of causes and sources of impairment of the Nation's rivers, streams, wetlands, lakes, estuarine waters, and marine waters (U.S. EPA 2015), which also contribute to cumulative effects to these aquatic resources. Many of those causes of impairment are point and non-point sources of pollutants that are not regulated under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. Two common causes of impairment for rivers and streams, habitat alterations and flow alterations, may be due in part to activities regulated by the Corps under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899. Habitat and flow alterations may also be caused by activities that do not involve discharges of dredged or fill material or structures or work in navigable waters. For wetlands, impairment due to habitat alterations, flow alterations, and hydrology modifications may involve activities regulated under section 404, but these causes of impairment may also be due to unregulated activities, such as changes in upland land use that affects the movement of water through a watershed or contributing drainage area or the removal of vegetation.

Many of the activities discussed in this cumulative effects section that affect wetlands, streams, and other aquatic resources are not subject to regulation under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899.

Estimates of the original acreage of wetlands in the United States vary widely because of the use of different definitions and how those estimates were made (Harris and Gosselink 1990). Dahl (1990) estimates that approximately 53 percent of the wetlands in the conterminous United States were lost in the 200-year period covering the 1780s to 1980s. Much of the wetland loss occurred in the mid-19th century as a result of indirect effects of beaver trapping and the removal of river snags, which substantially reduced the amount of land across the country that was inundated because of beaver dams and river obstructions (Harris and Gosselink 1990). The annual rate of wetland loss has decreased substantially since the

1970s (Dahl 2011), when wetland regulation became more prevalent (Brinson and Malvárez 2002). Between 2004 and 2009, there was no statistically significant difference in wetland acreage in the conterminous United States (Dahl 2011). According to the 2011 wetland status and trends report, during the period of 2004 to 2009 urban development accounted for 11 percent of wetland losses (61,630 acres), rural development resulted in 12 percent of wetland losses (66,940 acres), silviculture accounted for 56 percent of wetland losses (307,340 acres), and wetland conversion to deepwater habitats caused 21 percent of the loss in wetland area (115,960 acres) (Dahl 2011). Some of the losses occurred to wetlands that are not subject to Clean Water Act jurisdiction and some losses are due to activities not regulated under Section 404 of the Clean Water Act, such as unregulated drainage activities, exempt forestry activities, or water withdrawals. From 2004 to 2009, approximately 100,020 acres of wetlands were gained as a result of wetland restoration and conservation programs on agricultural land (Dahl 2011). Another source of wetland gain is conversion of other uplands to wetlands (389,600 acres during 2004 to 2009) (Dahl 2011). Inventories of wetlands, streams, and other aquatic resources are incomplete, especially at national or regional scales, because the techniques used for those inventories cannot identify all of those resources, especially small wetlands and streams (e.g., Dahl (2011) for wetlands; Meyer and Wallace (2001) for streams).

As discussed in section 3.0, national scale inventories of wetlands, streams, and other types of aquatic resources underestimate the quantity of those resources, and only general information is available on their ability to perform ecological functions and services. Therefore, it is not appropriate to make decisions concerning the significance of cumulative effects by calculating the relative proportion of the aquatic resources baseline impacted by a particular action, or a series of actions subject to a particular federal program. In addition, such an approach does not take into account the many categories of other activities that have direct and indirect effects on aquatic resources that are regulated under other federal, states, or local programs or are not regulated by any entity. Under the Council on Environmental Quality's NEPA definition at 40 CFR 1508.7, a cumulative effects analysis should instead examine the relative contribution that a proposed action will have on cumulative effects to one or more categories of natural resources (i.e., "the incremental impact of the action" and whether that incremental impact is significant or not significant).

For aquatic ecosystems, climate change affects water quality, biogeochemical cycling, and water storage (Julius et al. 2013). Climate change will also affect the abundance and distribution of wetlands across the United States, as well as the functions they provide (Mitsch and Gosselink 2015). Climate change results in increases in stream temperatures, more waterbodies with anoxic conditions, degradation of water quality, and increases in flood and drought frequencies (Julius et al. 2013). The increasing carbon dioxide concentration in the atmosphere also changes the pH of the oceans, resulting in ocean acidification (RS and NAS 2014), which adversely affects corals and some other marine organisms.

Compensatory mitigation required by district engineers for specific activities authorized by this NWP will help reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources, by providing ecological

functions to partially or fully replace some or all of the aquatic resource functions lost as a result of those activities. Compensatory mitigation requirements for the NWP are described in general condition 23 and compensatory mitigation projects must also comply with the applicable provisions of 33 CFR part 332. District engineers will establish compensatory mitigation requirements on a case-by-case basis, after evaluating pre-construction notifications. Compensatory mitigation requirements for individual NWP activities will be specified through permit conditions added to NWP authorizations. When compensatory mitigation is required, the permittee is required to submit a mitigation plan prepared in accordance with the requirements of 33 CFR 332.4(c). Credits from approved mitigation banks or in-lieu fee programs may also be used to satisfy compensatory mitigation requirements for NWP authorizations. Monitoring is required to demonstrate whether the permittee-responsible mitigation project, mitigation bank, or in-lieu fee project is meeting its objectives and providing the intended aquatic resource structure and functions. If the compensatory mitigation project is not meeting its objectives, adaptive management will be required. Adaptive management may involve taking actions, such as site modifications, remediation, or design changes, to ensure the compensatory mitigation project meets its objectives (see 33 CFR 332.7(c)).

The estimated contribution of activities authorized by this NWP to the cumulative effects to wetlands, streams, and other aquatic resources in the United States during the five year period that the NWP would be in effect, in terms of the estimated number of times this NWP would be used until it expires and the projected impacts and compensatory mitigation, is provided in section 7.2.2. It is not practical or feasible to provide quantitative data on the multitude of other contributors to cumulative effects to these resources, including the federal, non-federal, and private activities that are not regulated by the Corps that will also occur during the five year period this NWP is in effect. National-level data on these many categories of activities that are not regulated by the Corps but contribute to cumulative effects are either not collected for the nation or they are not accessible. The activities authorized by this NWP will result in a minor incremental contribution to the cumulative effects to wetlands, streams, and other aquatic resources in the United States because, as discussed in this section, they are one category of many categories of activities that affect those aquatic resources. The causes of cumulative effects discussed in this section include past, present, and reasonably foreseeable future federal, non-federal, and private activities. For the national-scale cumulative effects analysis presented in this section, it is not possible to quantify the relative contributions of all of the various activities that affect the quantity of wetlands, streams, and other aquatic resources and the functions and services they provide, because such data are not available at the national scale.

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to wetland, streams, and other aquatic resources. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to wetlands, streams, and other aquatic ecosystems.

4.3.3 Cumulative Effects to Coastal Areas

In the United States, approximately 39 percent of its population lives in counties that are next to coastal waters, the territorial seas, or the Great Lakes (NOAA 2013). Those counties comprise less than 10 percent of the land area of the United States (NOAA 2013). Coastal waters are also affected by a wide variety of activities. The major drivers of changes to coastal areas are: development activities that alter coastal forests, wetlands, and coral reef habitats for aquaculture and the construction of urban areas, industrial facilities, and resort and port developments (MEA 2005d). Dredging, reclamation, shore protection and other structures (e.g., causeways and bridges), and some types of fishing activities also cause substantial changes to coastal areas (MEA 2005d). Nitrogen pollution to coastal zones change coral reef communities (MEA 2005d). Adverse effects to coastal waters are caused by habitat modifications, point source pollution, non-point source pollution, changes to hydrology and hydrodynamics, exploitation of coastal resources, introduction of non-native species, global climate change, shoreline erosion, and pathogens and toxins (NRC 1994).

Substantial alterations of coastal hydrology and hydrodynamics are caused by land use changes in watersheds draining to coastal waters, the channelization or damming of streams and rivers, water consumption, and water diversions (NRC 1994). Approximately 52 percent of the population of the United States lives in coastal watersheds (NOAA 2013). Eutrophication of coastal waters is caused by nutrients contributed by waste treatment systems, non-point sources, and the atmosphere, and may cause hypoxia or anoxia in coastal waters (NRC 1994). Changes in water movement through watersheds may also alter sediment delivery to coastal areas, which affects the sustainability of wetlands and intertidal habitats and the functions they provide (NRC 1994). Most inland waters in the United States drain to coastal areas, and therefore activities that occur in inland watersheds affect coastal waters (NRC 1994). Inland land uses, such as agriculture, urban development, and forestry, adversely affect coastal waters by diverting fresh water from estuaries and by acting as sources of nutrients and pollutants to coastal waters (MEA 2005d).

Coastal wetlands have been substantially altered by urban development and changes to the watersheds that drain to those wetlands (Mitsch and Hernandez 2013). Coastal habitat modifications are the result of dredging or filling coastal waters, inputs of sediment via non-point sources, changes in water quality, or alteration of coastal hydrodynamics (NRC 1994). Coastal development activities, including those that occur in uplands, affect marine and estuarine habitats (MEA 2005b). The introduction of non-native species may change the functions and structure of coastal wetlands and other habitats (MEA 2005b). Fishing activities may also modify coastal habitats by changing habitat structure and the biological communities that inhabit those areas (NRC 1994).

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to coastal areas. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to coastal areas.

4.3.4 Cumulative Effects to Endangered and Threatened Species

The status of species as threatened or endangered is also due to cumulative effects (NRC 1986, Odum 1982), and activities authorized by Department of the Army permits are a minor contributor to the cumulative effects to endangered and threatened species. Land use and land cover changes are the main cause of the loss of biodiversity (Vitousek et al. 1997). The decline of a species that leads to its status as endangered or threatened is usually caused by multiple factors rather than a single factor (Wilcove et al. 1998, Venter et al. 2006, Czech and Krausman 1997, Richter et al. 1997). It is difficult to determine the relative contribution of each cause of species decline or endangerment (Czech and Krausman 1997). For example, for fish species, the number of factors affecting their status ranged from 1 to 15, with an average of 4.5 threats. Over 40 percent of fish species were endangered or threatened as a result of 5 or more factors, and less than 7 percent of fish species were identified as imperiled because of a single factor. During the past few hundred years, human activities have increased species extinction rates by around 1,000 times the Earth's background extinction rates (MEA 2005c).

The main causes of the decline of species to endangered or threatened status are habitat loss and degradation, introduction of species, overexploitation, disease, and climate change (MEA 2005d). Habitat degradation also includes changes in habitat quality caused by habitat fragmentation and pollution. Habitat fragmentation can occur in rivers, and is characterized by disruption of a river's natural flow regime by dams, inter-basin water transfers, or water withdrawals and affects 90 percent of the world's river water volume (MEA 2005d). Invasive alien species are a major cause of species endangerment in freshwater habitats (MEA 2005d). Losses of biological diversity are directly caused by habitat modifications, including land use changes, alteration of river and stream flows, water withdrawals from rivers, losses of coral reefs, and alteration of the sea bed caused by trawling (MEA 2005c). Other direct causes of losses of biodiversity include pollution, invasive species, species overexploitation, climate change, and disease (MEA 2005c). There are often multiple factors interacting with each other to reduce biodiversity, instead of single factors working alone (MEA 2005c).

Wilcove et al. (1998) evaluated five categories of threats to species in the United States, and conducted further analyses on the types of habitat destruction that caused species to be listed as endangered or threatened under the Endangered Species Act. The five categories of threats were habitat destruction, alien species, overharvest, pollution, and disease. Wilcove et al. (1998) focused on species under the jurisdiction of the U.S. Fish and Wildlife Service. More than half of the endangered and threatened species under the jurisdiction of the NMFS were listed after this study was published. Wilcove et al. (1998) found information on the threats to 1,880 species, out of a total of 2,490 species that were categorized as imperiled at that time. Habitat destruction and degradation was the most common threat, a factor for 85 percent of the imperiled species analyzed. The second most common threat was competition with non-native species, or predation by those species. For aquatic animal species, pollution was the second most common cause of endangerment, after habitat loss (Wilcove et al. 1998).

To more closely examine the causes of habitat loss, Wilcove et al. (1998) analyzed U.S. Fish and Wildlife endangered species listing documents and identified 14 categories of habitat loss or degradation: agriculture; livestock grazing; mining and oil and gas extraction; logging; infrastructure development; road construction and maintenance; military activities; outdoor recreation; use of off-road vehicles; water development projects (e.g., water diversions, flood control facilities; drainage projects; aquaculture; navigation); dams, impoundments, and other water barriers; pollutants (e.g., sediment and mining pollutants); residential and commercial developments; and disruption of fire ecology. Many species were subject to more than one cause of endangerment (Wilcove et al. 1998). Agriculture was the leading cause of habitat destruction, affecting 38 percent of endangered species, followed by residential and commercial development (35 percent), water development (30 percent), and infrastructure development (17 percent). Habitat destruction caused by water development affected 91 percent of listed fish species and 99 percent of listed mussel species.

Richter et al. (1997) studied the factors that endanger freshwater animals. The most significant threats to those species are habitat destruction, habitat fragmentation, pollution, and exotic species. Richter et al. (1997) also looked at the stressors that are impeding the recovery of aquatic species at risk of extinction and found that changes in stream bed substrate composition (e.g., siltation), hydrologic alteration, interactions with other species, nutrient inputs, and habitat destruction were the most common factors. The major sources of stressors to aquatic species are agricultural land use, urban land use, energy generation industries (especially hydroelectric power), and exotic species (Richter et al. 1997). Agricultural activity was identified as having significant adverse effects on aquatic species through non-point source pollution (sediment and nutrients), interactions with exotic species, and water impoundments (Richter et al. 1997). Water impoundments cause changes in hydrology, as well as habitat destruction and fragmentation. Urban land use resulted in much less non-point source pollution than agricultural activities (Richter et al. 1997).

Note that in these studies on species threats and endangerment, the categories of human activities are discussed in general terms, and may include activities in uplands as well as activities in jurisdictional and non-jurisdictional waters and wetlands. Climate change will also alter species distributions, and extinction may occur for those species that cannot adjust to the changes in climate (Starzmoski 2013).

As discussed above, there are many categories of activities not regulated by the Corps under section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act of 1899 that contribute to cumulative effects to endangered and threatened species and their designated critical habitats. During the 5-year period this NWP is in effect, the activities it authorizes will result in only a no more than minimal incremental contribution to cumulative effects to endangered and threatened species and their habitats.

4.4 Climate Change

Climate change represents one of the greatest challenges our country faces with profound

and wide-ranging implications for the health and welfare of Americans, economic growth, the environment, and international security. Evidence of the warming of climate system is unequivocal and the emission of greenhouse gases from human activities is the primary driver of these changes (IPCC 2014). Already, the United States is experiencing the impacts of climate change and these impacts will continue to intensify as warming intensifies. It will have far-reaching impacts on natural ecosystems and human communities. These effects include sea level rise, ocean warming, increases in precipitation in some areas and decreases in precipitation in other areas, decreases in sea ice, more extreme weather and climate events including more floods and droughts, increasing land surface temperatures, increasing ocean temperatures, and changes in plant and animal communities (IPCC 2014). Climate change also affects human health in some geographic area by increasing exposure to ground-level ozone and/or particulate matter air pollution (Luber et al. 2014). Climate change also increases the frequency of extreme heat events that threaten public health and increases risk of exposure to vector-borne diseases (Luber et al. 2014). Climate impacts affect the health, economic well-being, and welfare of Americans across the country, and especially children, the elderly, and others who are particularly vulnerable to specific impacts. Climate change can affect ecosystems and species through a number of mechanisms, such as direct effects on species, populations, and ecosystems; compounding the effects of other stressors; and the direct and indirect effects of climate change mitigation or adaptation actions (Staudt et al. 2013). Other stressors include land use and land cover changes, natural resource extraction (including water withdrawals), pollution, species introductions, and removals of species (Staudt et al. 2013, Bodkin 2012, MEA 2005d) and changes in nutrient cycling (Julius et al. 2013).

5.0 Public Interest Review

5.1 Public Interest Review Factors (33 CFR 320.4(a)(1))

For each of the 20 public interest review factors, the extent of the Corps consideration of expected impacts resulting from the use of this NWP is discussed, as well as the reasonably foreseeable cumulative adverse effects that are expected to occur. The Corps decision-making process involves consideration of the benefits and detriments that may result from the activities authorized by this NWP.

(a) Conservation: The activities authorized by this NWP may modify the natural resource characteristics of the project area. Compensatory mitigation, if required for activities authorized by this NWP, will result in the restoration, enhancement, establishment, or preservation of aquatic habitats that will offset losses of conservation values. The adverse effects of activities authorized by this NWP on conservation will be minor.

Much of the literature on the effects of riprap bank stabilization activities on rivers and streams is speculative and conflicting (Reid and Church 2015, Fischenich 2003). Riprap in rivers and streams to reduce erosion can result in ecological benefits and improve the quality of habitat in those categories of waters (Fischenich 2003). Examples of benefits includes

reduction of sediment loads, improved water quality, facilitating the re-establishment of riparian vegetation, and habitat for some species of aquatic organisms, especially in rivers and streams that have little hard substrate (Fischenich 2003). In coastal environments, bulkheads decrease biodiversity by 23 percent when compared to natural shorelines (Gittman et al. 2016). Bulkheads also cause decreases in intertidal habitat because of erosion from wave energy reflected from the structure (Dugan et al. 2011). Bulkheads and other hard erosion control structures also losses of transition areas between coastal waters and adjacent lands and reduce connectivity between those areas (Dugan et al. 2011). This NWP has been modified to limit bulkheads to no more than 1,000 linear feet to address adverse effects to biodiversity and shoreline processes.

(b) Economics: Bank stabilization activities will have positive impacts on the local economy. Bank stabilization activities help protect coastal communities from damage from extreme storm events (Sutton-Grier et al. 2015). During construction, these activities will generate jobs and revenue for local contractors as well as revenue to building supply companies that sell construction materials. Bank stabilization activities will protect public and private property, and help landowners retain the value of their properties. Activities authorized by this NWP will also benefit the community by improving the local economic base, which is affected by employment, tax revenues, community services, and property values.

The use of riprap to control bank erosion in rivers and streams is often less expensive than other bank stabilization techniques, as well as being relatively inexpensive to construct and repair (Fischenich 2003). Riprap in rivers and streams also helps protect property and infrastructure from damage due to erosion. Bulkheads are frequently constructed in estuarine environments because they are fairly easy to build, relatively low-cost, and minimize encroachment into coastal waters (Nordstrom 2014).

(c) Aesthetics: Bank stabilization activities will alter the visual character of some waters of the United States. The extent and perception of these changes will vary, depending on the size and configuration of the bank stabilization activity, the nature of the surrounding area, and the public uses of the area. Activities authorized by this NWP can also modify other aesthetic characteristics, such as air quality and the amount of noise. The increased human use of the project area and surrounding land will also alter local aesthetic values.

(d) General environmental concerns: Activities authorized by this NWP will affect general environmental concerns, such as water, air, noise, and land pollution. The authorized activities will also affect the physical, chemical, and biological characteristics of the environment. The adverse effects of the activities authorized by this NWP on general environmental concerns will be minor. Adverse effects to the chemical composition of the aquatic environment will be controlled by general condition 6, which states that the material used for construction must be free from toxic pollutants in toxic amounts. General condition 23 requires mitigation to minimize adverse effects to the aquatic environment through avoidance and minimization at the project site. Compensatory mitigation may be required by district engineers to ensure that the net adverse environmental effects are no more than minimal. Specific environmental concerns are addressed in other sections of this document.

Bank stabilization activities have both beneficial and detrimental environmental effects, depending on the species, river or stream functions, and other environmental criteria being used for that evaluation (Fischenich 2003). The significance of these environmental effects is dependent on site characteristics. For riverine systems, bank stabilization activities have greater effects on river and stream geomorphic processes, sediment processes, and habitat and lesser effects on hydrologic characteristics and chemical processes (Fischenich 2003). Riprap placed along a river or stream bank outside of the active channel has little effect on sediment production or channel morphology, except during large flood events (Reid and Church 2015).

The environmental effects of a bulkhead constructed in coastal environments is dependent on the location of the bulkhead on the shore. Bulkheads constructed near the high tide line have less adverse environmental effects than bulkheads constructed in subtidal waters (NRC 2007). To assist landowners and others in choosing the appropriate approach to managing shoreline erosion, Bilkovic and Mitchell (2013) recommend providing siting and design guidance for living shorelines and other shore protection approaches.

(e) Wetlands: Bank stabilization activities in waters of the United States may result in the loss or alteration of wetlands. In most cases, the affected wetlands will be permanently filled, especially where bank stabilization structures or fills are located, resulting in the permanent loss of aquatic resource functions and values. Wetlands may also be converted to other uses and habitat types. Some wetlands may be temporarily impacted by the activity through the use of temporary staging areas and access roads. These wetlands will be restored, unless the district engineer authorizes another use for the area, but the plant community may be different. Compensatory mitigation may be required to offset the loss of wetlands and ensure that the adverse environmental effects are no more than minimal.

Wetlands provide habitat, including foraging, nesting, spawning, rearing, and resting sites for aquatic and terrestrial species. The loss or alteration of wetlands may alter natural drainage patterns. Wetlands reduce erosion by stabilizing the substrate. Wetlands also act as storage areas for stormwater and flood waters. Wetlands may act as groundwater discharge or recharge areas. The loss of wetland vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Wetland vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Wetlands, through the accumulation of organic matter, act as sinks for some nutrients and other chemical compounds, reducing the amounts of these substances in the water.

General condition 23 requires avoidance and minimization of impacts to waters of the United States, including wetlands, at the project site. Compensatory mitigation may be required by district engineers to ensure that the net adverse environmental effects are no more than minimal. General condition 22 requires submittal of a pre-construction notification prior to use of this NWP in designated critical resource waters and adjacent wetlands, which may include high value wetlands. District engineers can add case-specific special conditions to the NWP authorization to provide protection to wetlands or require

compensatory mitigation to offset impacts to wetlands.

The construction of bulkheads and seawalls can cause losses intertidal areas and changes in habitat type from soft substrate to hard substrate, which changes the composition of plant and animal communities (NRC 2007).

(f) Historic properties: General condition 20 states that in cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act have been satisfied.

(g) Fish and wildlife values: This NWP authorizes activities in all waters of the United States, including oceans, estuaries, lakes, and rivers, which provide habitat to many species of fish and wildlife. Activities authorized by this NWP may alter the habitat characteristics of open waters, decreasing the quantity and quality of fish and wildlife habitat. Riparian vegetation may be removed to construct the bank stabilization activity. Riparian vegetation provides food and habitat for many species, including foraging areas, resting areas, corridors for wildlife movement, and nesting and breeding grounds. Open waters provide habitat for fish and other aquatic organisms. Woody riparian vegetation shades streams, which reduces water temperature fluctuations and provides habitat for fish and other aquatic animals. Riparian vegetation provides organic matter that is consumed by fish and aquatic invertebrates. Woody riparian vegetation creates habitat diversity in streams when trees and large shrubs fall into the channel, forming snags that provide habitat and shade for fish. The morphology of a stream channel may be altered by activities authorized by this NWP, which can affect fish populations. Compensatory mitigation may be required by district engineers to restore, enhance, establish, and/or preserve wetlands to offset losses of waters of the United States. Stream rehabilitation, enhancement, and preservation activities may be required as compensatory mitigation for impacts to streams. The re-establishment and maintenance of riparian areas next to open and flowing waters may also be required as compensatory mitigation. These methods of compensatory mitigation will provide fish and wildlife habitat values. In waterbodies where substantial amounts of hard shoreline stabilization have been constructed to reduce erosion, mitigation actions (e.g., the construction of habitat benches in front of seawalls or the establishment of pocket beaches in areas dominated by riprap) can be done to provide some habitat features that will be used by fish and other aquatic organisms (Toft et al. 2013). Habitat enhancements along shorelines protected by hard structures can provide benefits for economically valuable fish, especially in urban coastal areas (Bilkovic et al. 2016).

General condition 2 will reduce the adverse effects to fish and other aquatic species by prohibiting activities that substantially disrupt the necessary life cycle movements of indigenous aquatic species, unless the primary purpose of the activity is to impound water. Compliance with general conditions 3 and 5 will ensure that the authorized activity has only minimal adverse effects on spawning areas and shellfish beds, respectively. The authorized activity cannot have more than minimal adverse effects on breeding areas for migratory birds, due to the requirements of general condition 4.

For an NWP activity, compliance with the Bald and Golden Eagle Protection Act (16 U.S.C. 668(a)-(d)), the Migratory Bird Treaty Act (16 U.S.C. 703; 16 U.S.C. 712), and the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.) is the responsibility of the project proponent. General condition 19 states that the permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

Consultation pursuant to the essential fish habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act will occur as necessary for proposed NWP activities that may adversely affect essential fish habitat. Consultation may occur on a case-by-case or programmatic basis. Division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in no more than minimal adverse effects on essential fish habitat.

In two reviews, Fischenich (2003) and Reid and Church (2015) found that there are conflicting views of the impacts of riprap on fish and other aquatic organisms: for some species, the impacts are beneficial and for other species the impacts are adverse. Some species of invertebrates and vertebrates favor the habitats provided by riprap, whereas salmonids are usually adversely affected by habitat changes caused by riprap (Reid and Church 2015). Reducing river and stream erosion through the placement of riprap reduces inputs of woody debris into rivers and streams, and changes river and stream structure and function (Reid and Church 2015). The use of riprap in rivers and streams also alters habitat characteristics by causing changes in sediment characteristics, hyporheic water exchange, and associated alterations of riparian areas (Reid and Church 2015). The Corps does not regulate the removal of riparian vegetation from upland riparian areas. The Corps does not regulate the removal of riparian vegetation from wetlands if the vegetation removal activity does not involve discharges of dredged or fill material into waters of the United States.

In coastal environments, shore protection structures alter habitat dynamics and make nearshore habitats more static (Nordstrom 2014). In coastal areas subject to high energy erosive forces, hard structures are necessary to control erosion, but it may be possible to add features to those hard structures that provide some habitat for aquatic organisms without undermining the ability of the erosion control structure to protect the site (Chapman and Underwood 2011). Vegetative bank stabilization approaches, as well as hybrid bank stabilization approaches (vegetation stabilization used in combination with structural stabilization measures), can result in some fish and wildlife values through the habitat provided by vegetation (NRC 2007). Bulkheads in coastal areas provide some habitat for molluscs, algae, and other organisms (NRC 2007). Stone revetments provide habitat for sessile organisms, as well as animals that can occupy the spaces between stone (NRC 2007). Shorelines protected by stone revetments provide habitat for colonization by animals that live on the revetments, but in the revetment footprint there is loss of habitat for the colonization of animals that live in the sediment (Bilkovic and Mitchell 2013). Species diversity and abundance in the vicinity of bulkheads are substantially lower compared to natural shorelines, but for shorelines protected by riprap revetment species diversity and

abundance are similar when compared to natural shorelines (Gittman et al. 2016).

(h) Flood hazards: The activities authorized by this NWP may affect the flood-holding capacity of 100-year floodplains, including surface water flow velocities. Changes in the flood-holding capacity of 100-year floodplains may impact human health, safety, and welfare. Compliance with general condition 9 will reduce flood hazards. This general condition requires the permittee to maintain, to the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters, except under certain circumstances. Much of the land area within 100-year floodplains is upland, and outside of the Corps scope of review.

(i) Floodplain values: Activities authorized by this NWP may affect the flood-holding capacity of the floodplain, as well as other floodplain values. The fish and wildlife habitat values of floodplains may be adversely affected by activities authorized by this NWP, by modifying or eliminating areas used for nesting, foraging, resting, and reproduction. The activities authorized by this NWP are likely to have negligible adverse effects on the water quality functions of floodplains. For those NWP activities that require pre-construction notification, district engineers will review the proposed activities to ensure that those activities result in no more than minimal adverse environmental effects.

Compensatory mitigation may be required for activities authorized by this NWP, which will offset losses of waters of the United States and provide water quality functions and wildlife habitat. General condition 23 requires avoidance and minimization of impacts to waters of the United States to the maximum extent practicable at the project site, which will reduce losses of floodplain values. The mitigation requirements of general condition 23 will help ensure that the adverse effects of these activities on floodplain values are no more than minimal. Compliance with general condition 9 will also ensure that activities in 100-year floodplains will not cause more than minimal adverse effects on flood storage and conveyance.

(j) Land use: Activities authorized by this NWP will have minor direct effects on land use. Bank stabilization activities are usually done where the land has already been developed (NRC 2007). In urban areas, structural bank stabilization measures may be the only practicable approach because of a lack of space for effective use of natural or hybrid approaches to reduce shore erosion (Sutton-Grier et al. 2015, Saleh and Weinstein 2016). The activities authorized by this NWP will help maintain current land use, by protecting property from erosion. Since the primary responsibility for land use decisions is held by state, local, and Tribal governments, the Corps scope of review is limited to significant issues of overriding national importance, such as navigation and water quality (see 33 CFR 320.4(j)(2)).

Some state and local governments have passed rules prohibiting the use of structures to control shore erosion in coastal areas, but those regulations can face legal challenges because landowners want to use protective structures instead of other approaches as coastal hazards increase because of changing environmental conditions (Nordstrom 2014).

In 2010, approximately 39 percent of the United States population lived in coastal counties (NOAA 2013). When people live along the coasts they want to protect their buildings and other infrastructure from shore erosion (Bilkovic and Mitchell 2013). As more people move to coastal areas and as sea level rises, there will be increased demand for shore erosion measures to protect the people living in these areas and the infrastructure that supports them (Chapman and Underwood 2011). Many other people live next to inland rivers and lakes, and they often want to take measures to protect their land from erosion.

(k) Navigation: Activities authorized by this NWP must comply with general condition 1, which states that no activity may cause more than minimal adverse effects on navigation. Bank stabilization activities are usually constructed near the shore, and do not affect navigable access. This NWP requires pre-construction notification for bank stabilization activities that: (1) involve discharges into special aquatic sites; (2) exceed 500 feet in length; or (3) involve the discharge of greater than an average of one cubic yard per running foot along the bank below the plane of the ordinary high water mark or the high tide line. The pre-construction notification requirement will allow district engineers to review certain proposed activities and determine if there will be more than minimal adverse effects on navigation.

(l) Shore erosion and accretion: The nation's coastlines are constantly changing as a result of natural processes and human activities (NRC 2007). The activities authorized by this NWP will reduce shore erosion and will have minor adverse effects on shore accretion processes. The pre-construction notification requirements of this NWP will allow district engineers to review, on a case-by-case basis, larger bank stabilization activities that may have more than minimal adverse effects on shore erosion and accretion processes. For bulkheads, capping the waivers of the 500 linear foot limit at no more than 1,000 linear feet along the shore will minimize cumulative adverse effects to shore erosion and accretion. In addition, division engineers can regionally condition this NWP to restrict or prohibit its use in areas where potential adverse effects to shore erosion and accretion may be more than minimal. Division engineers can also regionally condition this NWP to restrict or prohibit certain types of bank stabilization measures, such as bulkheads and seawalls, that may result in more than minimal adverse environmental effects in specific regions. To manage coastal erosion, a variety of approaches are needed because of the wide range of variability in site conditions and in the effectiveness of different types of built, hybrid, and natural infrastructure to protect coastal areas and the people who live in them.

Shore protection structures alter sediment erosion and accretion in coastal areas, and are constructed to protect buildings and infrastructure in developed coastal zones (Nordstrom 2014). They are a reaction to local land use decisions that allow development of coastal areas (NRC 2007). All types of bank stabilization approaches affect coastal processes, landforms, and habitats, and there needs to be consideration of a variety of components such as ecology, engineering, and socio-political factors, including stakeholder interests (Nordstrom 2014). The impacts of shore erosion control structures on coastal habitat are dependent on the age of those structures, and where they are located along the shore profile (Dugan et al. 2011). Structural shore protection measures such as bulkheads often cause scouring of sediments channelward of those structures, resulting in increased water depths

(NRC 2007).

(m) Recreation: Activities authorized by this NWP may change the recreational uses of the project area. Bank stabilization activities may have minor adverse effects on recreational uses. For example, the installation of bank stabilization measures may reduce the amount of beach available for recreation. Bank stabilization activities may also protect recreational facilities, thereby allowing continued use of those facilities. The construction of bulkheads can cause losses of intertidal habitats that are used for recreational purposes by residents and visitors (NRC 2007). Certain recreational activities, such as beach combing, bird watching, hunting, and fishing may no longer be available in the area.

(n) Water supply and conservation: Activities authorized by this NWP will have negligible adverse effects on surface water and groundwater supplies. Activities authorized by this NWP will not increase demand for potable water in the region. Bank stabilization activities will have little or no adverse effects on the replenishment of groundwater supplies or the amount of water available in reservoirs. Division and district engineers can prohibit the use of this NWP in watersheds for public water supplies, if it is in the public interest to do so. General condition 7 prohibits discharges in the vicinity of public water supply intakes. Compensatory mitigation may be required for activities authorized by this NWP, which will help improve the quality of surface waters.

(o) Water quality: The activities authorized by this NWP may enhance water quality. Bank stabilization activities reduce sediment loads to surface waters by reducing erosion. The loss of riparian vegetation will adversely affect water quality because these plants trap sediments, pollutants, and nutrients and transform chemical compounds. Riparian vegetation also provides habitat for microorganisms that remove nutrients and pollutants from water. Riparian areas also decrease the velocity of flood waters, removing suspended sediments from the water column and reducing turbidity. Riparian vegetation also serves an important role in the water quality of streams by shading the water from the intense heat of the sun. Compensatory mitigation may be required for activities authorized by this NWP, to ensure that the activities do not have more than minimal adverse environmental effects, including water quality. Wetlands and riparian areas restored, established, enhanced, or preserved as compensatory mitigation may provide local water quality benefits.

During construction, small amounts of oil and grease from construction equipment may be discharged into the waterway. Because most of the construction will occur during a relatively short period of time, the frequency and concentration of these discharges are not expected to have more than minimal adverse effects on overall water quality.

This NWP requires a Section 401 water quality certification, since it authorizes discharges of dredged or fill material into waters of the United States. Most water quality concerns are addressed by the state or Tribal Section 401 agency.

(p) Energy needs: The activities authorized by this NWP may temporarily increase energy consumption in the area, especially electricity, natural gas, and petroleum products, during construction. Bank stabilization activities will not adversely affect long-term energy needs.

(q) Safety: Bank stabilization activities provide some degree of safety to waterfront property owners, by reducing hazards due to erosion, especially erosion due to storm events (Sutton-Grier et al. 2015). The activities authorized by this NWP will be subject to federal, state, and local safety laws and regulations. Therefore, this NWP will not adversely affect the safety of the project area.

(r) Food and fiber production: Activities authorized by this NWP will have negligible adverse effects on food and fiber production. Bank stabilization activities may help maintain food and fiber production by protecting farmland from erosion. Food production facilities, such as bakeries, canneries, and meat processing plants, that are constructed near open waters may be protected by bank stabilization activities. The activities authorized by this NWP will have minor adverse effects on aquatic food production, since bank stabilization activities are constructed near the shore.

(s) Mineral needs: Activities authorized by this NWP will increase demand for aggregates and stone, which are used to construct revetments and other bank stabilization measures. Activities authorized by this NWP may increase the demand for other building materials, such as steel, aluminum, and copper, which are made from mineral ores.

(t) Considerations of property ownership: The NWP complies with 33 CFR 320.4(g), which states that an inherent aspect of property ownership is a right to reasonable private use. The activities authorized by this NWP will help landowners protect their property from erosion. The NWP provides expedited DA authorization for discharges of dredged or fill material for bank stabilization activities, provided the activity complies with the terms and conditions of the NWP and results in no more than minimal adverse environmental effects.

As of 2010, 39 percent of the people in the United States live in coastal shoreline counties which are defined as counties abutting oceans, major estuaries, and the Great Lakes (NOAA 2013). These residents often need to construct erosion control measures to protect their property from erosion. Different approaches to shoreline stabilization often have different stakeholder interests (Nordstrom 2014). Many private landowners prefer hard shore protection structures that are perceived as permanent solutions, since they can last for decades, especially along lower energy coastal shores (Nordstrom 2014). Tourists and other non-residents that do not hold property interests are often more interested in aesthetics than the durability of shore protection measures (Nordstrom 2014).

The level of protection needed to stabilize banks and control erosion dictates the type of approach to protect that property. In high energy environments, structural bank stabilization measures are needed to control erosion. In low energy environments, other approaches such as vegetative stabilization may provide a sufficient level of protection for the landowner. In low- to medium-energy environments, hybrid approaches (i.e., combinations of structural and vegetative measures) may be used in some circumstances to provide the desired level of protection for the residence or infrastructure, while providing some ecosystem functions and services. Bulkheads generally last 20 years, depending on the materials used to construct the bulkheads (NRC 2007). Stone revetments usually last 50 years or so, depending on how

well they are constructed (NRC 2007). Nationwide permit 13 authorizes a variety of bank stabilization measures, and offers flexibility to efficiently authorize bank stabilization activities that have no more than minimal individual and cumulative adverse environmental effects.

5.2 Additional Public Interest Review Factors (33 CFR 320.4(a)(2))

5.2.1 Relative extent of the public and private need for the proposed structure or work

This NWP authorizes bank stabilization activities that have no more than minimal individual and cumulative adverse environmental effects. These activities satisfy public and private needs for property protection and safety. The need for this NWP is based upon the number of these activities that occur annually with no more than minimal individual and cumulative adverse environmental effects.

5.2.2 Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work

Most situations in which there are unresolved conflicts concerning resource use arise when environmentally sensitive areas are involved (e.g., special aquatic sites, including wetlands) or where there are competing uses of a resource. The nature and scope of the activity, when planned and constructed in accordance with the terms and conditions of this NWP, reduce the likelihood of such conflict. In the event that there is a conflict, the NWP contains provisions that are capable of resolving the matter (see Section 1.2 of this document).

General condition 23 requires permittees to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable on the project site. Consideration of off-site alternative locations is not required for activities that are authorized by general permits. General permits authorize activities that have no more than minimal individual and cumulative adverse effects on the environment and the overall public interest. The district engineer will exercise discretionary authority and require an individual permit if the proposed activity will result in more than minimal adverse environmental effects on the project site. The consideration of off-site alternatives can be required during the individual permit process.

Landowners and other project proponents (e.g., utility lines, departments of transportation) are responsible for proposing approaches to controlling erosion. For bank stabilization activities authorized by this NWP, if pre-construction notification is required the Corps districts review the pre-construction notifications and determine whether the proposed activities comply with all applicable general and regional conditions and will result in no more than minimal individual and cumulative adverse environmental effects. If a proposed bank stabilization will result in more than minimal adverse environmental effects, the project proponent may redesign the activity to reduce the adverse environmental effects. The redesign may include an alternative approach to bank stabilization. If the project proponent

does not want to alter the proposed bank stabilization activity and the district engineer determines the bank stabilization activity will result in more than minimal adverse environmental effects, he or she will assert discretionary authority and require an individual permit.

Options for bank stabilization are dependent on site characteristics, especially the geomorphology and hydrodynamic of the project site (NRC 2007). Other factors include the costs of constructing and maintaining the bank stabilization activity, how well it controls erosion, the time and resources required to obtain any required permits, and the views of the landowners and any consultants that may provide designs or advice to those landowners (NRC 2007). The range of available options may also be influenced by federal, state, and local laws and regulations, because some jurisdictions restrict or prohibit the use of certain bank stabilization techniques (NRC 2007). Another factor is the fact that shorelines and adjacent lands are the most rigorously regulated lands, and laws and regulations require minimization of impacts to the public trust resources in coastal waters (NRC 2007). These regulations include the Clean Water Act Section 404(b)(1) Guidelines, which require minimization of impacts to jurisdictional waters and wetlands along those shorelines to the maximum extent practicable. Compliance with the 404(b)(1) Guidelines may be accomplished by using the relatively smaller filled areas associated with bulkheads and revetments, compared to larger fills in coastal waters associated with vegetative stabilization (e.g., fringe marsh construction) and other approaches (NRC 2007).

5.2.3 The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited

The nature and scope of the activities authorized by the NWP will most likely restrict the extent of the beneficial and detrimental effects to the area immediately surrounding the bank stabilization activity. Activities authorized by this NWP will have no more than minimal individual and cumulative adverse environmental effects.

The terms, conditions, and provisions of the NWP were developed to ensure that individual and cumulative adverse environmental effects are no more than minimal. Specifically, NWPs do not obviate the need for the permittee to obtain other federal, state, or local authorizations required by law. The NWPs do not grant any property rights or exclusive privileges (see 33 CFR 330.4(b) for further information). Additional conditions, limitations, restrictions, and provisions for discretionary authority, as well as the ability to add activity-specific or regional conditions to this NWP, will provide further safeguards to the aquatic environment and the overall public interest. There are also provisions to allow suspension, modification, or revocation of the NWP.

6.0 Endangered and Threatened Species

The Corps' current regulations and procedures for the NWPs result in compliance with Section 7 of the Endangered Species Act (ESA) and ensure that activities authorized by this

NWP will not jeopardize the continued existence or any listed threatened and endangered species or result in the destruction or adverse modification of critical habitat. Current local procedures in Corps districts are effective in ensuring compliance with ESA. Those local procedures include regional programmatic consultations and the development of Standard Local Operating Procedures for Endangered Species (SLOPES). The issuance or reissuance of an NWP, as governed by NWP general condition 18 (which applies to every NWP and which relates to endangered and threatened species and critical habitat) and 33 CFR 330.4(f), results in “no effect” to listed species or critical habitat, because no activity that “may affect” listed species or critical habitat is authorized by NWP unless ESA Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) has been completed. Activities that do not comply with general condition 18 or other applicable general or regional conditions are not authorized by any NWP, and thus fall outside of the NWP Program. Unauthorized activities are subject to the prohibitions of Section 9 of the ESA.

Each activity authorized by an NWP is subject to general condition 18, which states that “[n]o activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species.” In addition, general condition 18 explicitly states that the NWP does not authorize “take” of threatened or endangered species, which will ensure that permittees do not mistake the NWP authorization as a Federal authorization to take threatened or endangered species. General condition 18 also requires a non-federal permittee to submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. This general condition also states that, in such cases, non-federal permittees shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized.

Under the current Corps regulations (33 CFR 325.2(b)(5)), the district engineer must review all permit applications for potential impacts on threatened and endangered species or critical habitat. For the NWP program, this review occurs when the district engineer evaluates the pre-construction notification or request for verification. Nationwide permit general condition 18 requires a non-federal applicant to submit a pre-construction notification to the Corps if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat. Based on the evaluation of all available information, the district engineer will initiate consultation with the USFWS or NMFS, as appropriate, if he or she determines that the proposed activity may affect any threatened and endangered species or critical habitat. Consultation may occur during the NWP authorization process or the district engineer may exercise discretionary authority to require an individual permit for the proposed activity and initiate section 7 consultation during the individual permit process. If ESA Section 7 consultation is conducted during the NWP authorization process without the district engineer exercising discretionary authority, then the applicant will be notified that he or she cannot proceed with the proposed NWP activity until section 7 consultation is completed.

If the district engineer determines that the proposed NWP activity will have no effect on any threatened or endangered species or critical habitat, then the district engineer will notify the applicant that he or she may proceed under the NWP authorization as long as the activity complies with all other applicable terms and conditions of the NWP, including applicable regional conditions. When the Corps makes a “no effect” determination, that determination is documented in the record for the NWP verification.

In cases where the Corps makes a “may affect” determination, formal or informal section 7 consultation is conducted before the activity is authorized by NWP. A non-federal permit applicant cannot begin work until notified by the Corps that the proposed NWP activity will have “no effect” on listed species or critical habitat, or until ESA Section 7 consultation has been completed (see also 33 CFR 330.4(f)). Federal permittees are responsible for complying with ESA Section 7(a)(2) and should follow their own procedures for complying with those requirements (see 33 CFR 330.4(f)(1)). Therefore, permittees cannot rely on complying with the terms of an NWP without considering ESA-listed species and critical habitat, and they must comply with the NWP conditions to ensure that they do not violate the ESA. General condition 18 also states that district engineers may add activity-specific conditions to the NWPs to address ESA issues as a result of formal or informal consultation with the USFWS or NMFS.

Each year, the Corps conducts thousands of ESA section 7 consultations with the FWS and NMFS for activities authorized by NWPs. These section 7 consultations are tracked in ORM2. During the period of March 19, 2012, to September 30, 2016, Corps districts conducted 1,402 formal consultations and 9,302 informal consultations for NWP activities under ESA section 7. During that time period, the Corps also used regional programmatic consultations for 9,829 NWP verifications to comply with ESA section 7. Therefore, each year NWP activities are covered by an average of more than 4,500 formal, informal, and programmatic ESA section 7 consultations with the FWS and/or NMFS. In a study on ESA section 7 consultations tracked by the USFWS, Malcom and Li (2015) found that during the period of 2008 to 2015, the Corps conducted the most formal and informal section 7 consultations, far exceeding the numbers of section 7 consultations conducted by other federal agencies.

Section 7 consultations are often conducted on a case-by-case basis for activities proposed to be authorized by NWP that may affect listed species or critical habitat, in accordance with the USFWS’s and NMFS’s interagency regulations at 50 CFR part 402. Instead of activity-specific section 7 consultations, compliance with ESA may also be achieved through formal or informal regional programmatic consultations. Compliance with ESA Section 7 may also be facilitated through the adoption of NWP regional conditions. In some Corps districts SLOPES have been developed through consultation with the appropriate regional offices of the USFWS and NMFS to make the process of complying with section 7 more efficient.

Corps districts have, in most cases, established informal or formal procedures with local offices of the USFWS and NMFS, through which the agencies share information regarding threatened and endangered species and their critical habitat. This information helps district

engineers determine if a proposed NWP activity may affect listed species or their critical habitat and, when a “may affect” determination is made, initiate ESA section 7 consultation. Corps districts may utilize maps or databases that identify locations of populations of threatened and endangered species and their critical habitat. Where necessary, regional conditions are added to one or more NWPs to require pre-construction notification for NWP activities that occur in known locations of threatened and endangered species or critical habitat. For activities that require agency coordination during the pre-construction notification process, the USFWS and NMFS will review the proposed activities for potential impacts to threatened and endangered species and their critical habitat. Any information provided by local maps and databases and any comments received during the pre-construction notification review process will be used by the district engineer to make a “no effect” or “may affect” determination for the pre-construction notification.

Based on the safeguards discussed in this section, especially general condition 18 and the NWP regulations at 33 CFR 330.4(f), the Corps has determined that the activities authorized by this NWP will not jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat. Although the Corps continues to believe that these procedures ensure compliance with the ESA, the Corps has taken some steps to provide further assurance. Corps district offices meet with local representatives of the USFWS and NMFS to establish or modify existing procedures such as regional conditions, where necessary, to ensure that the Corps has the latest information regarding the existence and location of any threatened or endangered species or their critical habitat. Corps districts can also establish, through local procedures or other means, additional safeguards that ensure compliance with the ESA. Through ESA Section 7 formal or informal consultations, or through other coordination with the USFWS and NMFS, the Corps establishes procedures to ensure that the NWP is not likely to jeopardize any threatened and endangered species or result in the destruction or adverse modification of designated critical habitat. Such procedures may result in the development of regional conditions added to the NWP by the division engineer, or in conditions to be added to a specific NWP authorization by the district engineer.

If informal section 7 consultation is conducted, and the USFWS and/or NMFS issues a written concurrence that the proposed activity may affect, but is not likely to adversely affect, listed species or designated critical habitat, the district engineer will add conditions (e.g., minimization measures) to the NWP authorization that are necessary to avoid the likelihood of adverse effects to listed species or designated critical habitat. If the USFWS and/or NMFS does not issue a written concurrence that the proposed NWP activity “may affect, but is not likely to adversely affect” listed species or critical habitat, the Corps will initiate formal section 7 consultation if it changes its determination to “may affect, likely to adversely affect.”

If formal section 7 consultation is conducted and a biological opinion is issued, the district engineer will add a condition to the NWP authorization to incorporate the appropriate elements of the incidental take statement of the biological opinion into the NWP authorization, if the biological opinion concludes that the NWP activity is not likely to jeopardize the continued existence of listed species or adversely modify or destroy critical

habitat. If the biological opinion concludes that the proposed activity is likely to jeopardize the continued existence of listed species or adversely modify or destroy critical habitat, the proposed activity cannot be authorized by NWP and the district engineer will instruct the applicant to apply for an individual permit. The incidental take statement includes reasonable and prudent measures such as mitigation, monitoring, and reporting requirements that minimize incidental take. The appropriate elements of the incidental take statement are dependent on those activities in the biological opinion over which the Corps has control and responsibility (i.e., the discharges of dredged or fill material into waters of the United States and/or structures or work in navigable waters and the direct and indirect effects of those activities on listed species or critical habitat). The appropriate elements of the incidental take statement are those reasonable and prudent measures that the Corps has the authority to enforce under its permitting authorities. Incorporation of the appropriate elements of the incidental take statement into the NWP authorization by a binding, enforceable permit condition provides an exemption from the take prohibitions in ESA Section 9 (see Section 7(o)(2) of the ESA).

The Corps can modify this NWP at any time that it is deemed necessary to protect listed species or their critical habitat, either through: 1) national general conditions or national-level modifications, suspensions, or revocations of the NWPs; 2) regional conditions or regional modifications, suspensions, or revocations of NWPs; or 3) activity-specific permit conditions (modifications) or activity-specific suspensions or revocations of NWP authorizations. Therefore, although the Corps has issued the NWPs, the Corps can address any ESA issue, if one should arise. The NWP regulations also allow the Corps to suspend the use of some or all of the NWPs immediately, if necessary, while considering the need for permit conditions, modifications, or revocations. These procedures are provided at 33 CFR 330.5.

7.0 Clean Water Act Section 404(b)(1) Guidelines Analysis

The 404(b)(1) Guidelines compliance criteria for general permits are provided at 40 CFR 230.7. This 404(b)(1) Guidelines compliance analysis includes analyses of the direct, secondary, and cumulative effects on the aquatic environment caused by discharges of dredged or fill material authorized by this NWP.

7.1 Evaluation Process (40 CFR 230.7(b))

7.1.1 Alternatives (40 CFR 230.10(a))

General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. The consideration of off-site alternatives is not directly applicable to general permits (see 40 CFR 230.7(b)(1)).

7.1.2 Prohibitions (40 CFR 230.10(b))

This NWP authorizes discharges of dredged or fill material into waters of the United States, which require water quality certification. Water quality certification requirements will be met in accordance with the procedures at 33 CFR 330.4(c).

No toxic discharges will be authorized by this NWP. General condition 6 states that the material must be free from toxic pollutants in toxic amounts.

This NWP does not authorize activities that jeopardize the continued existence of any listed threatened or endangered species or result in the destruction or adverse modification of critical habitat. Reviews of pre-construction notifications, regional conditions, and local operating procedures for endangered species will ensure compliance with the Endangered Species Act. Refer to general condition 18 and to 33 CFR 330.4(f) for information and procedures.

This NWP will not authorize the violation of any requirement to protect any marine sanctuary. Refer to section 7.2.3(j)(1) of this document for further information.

7.1.3 Findings of Significant Degradation (40 CFR 230.10(c))

Potential impact analysis (Subparts C through F): The potential impact analysis specified in Subparts C through F is discussed in section 7.2.3 of this document. Mitigation required by the district engineer will ensure that the adverse effects on the aquatic environment are no more than minimal.

Evaluation and testing (Subpart G): Because the terms and conditions of the NWP specify the types of discharges that are authorized, as well as those that are prohibited, individual evaluation and testing for the presence of contaminants will normally not be required. If a situation warrants, provisions of the NWP allow division or district engineers to further specify authorized or prohibited discharges and/or require testing. General condition 6 requires that materials used for construction be free from toxic pollutants in toxic amounts.

Based upon Subparts B and G, after consideration of Subparts C through F, the discharges authorized by this NWP will not cause or contribute to significant degradation of waters of the United States.

7.1.4 Factual determinations (40 CFR 230.11)

The factual determinations required in 40 CFR 230.11 are discussed in section 7.2.3 of this document.

7.1.5 Appropriate and practicable steps to minimize potential adverse impacts (40 CFR 230.10(d))

As demonstrated by the information in this document, as well as the terms, conditions, and provisions of this NWP, actions to minimize adverse effects (Subpart H) have been

thoroughly considered and incorporated into the NWP. General condition 23 requires permittees to avoid and minimize discharges of dredged or fill material into waters of the United States to the maximum extent practicable on the project site. Compensatory mitigation may be required by the district engineer to ensure that the net adverse effects on the aquatic environment are no more than minimal.

7.2 Evaluation Process (40 CFR 230.7(b))

7.2.1 Description of permitted activities (40 CFR 230.7(b)(2))

As indicated by the text of this NWP in section 1.0 of this document, and the discussion of potential impacts in section 4.0, the activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization under a single general permit. Specifically, the purpose of the NWP is to authorize discharges of dredged or fill material for bank stabilization activities. The nature and scope of the impacts are controlled by the terms and conditions of the NWP.

The activities authorized by this NWP are sufficiently similar in nature and environmental impact to warrant authorization by a general permit. The terms of the NWP authorize a specific category of activity (i.e., discharges of dredged or fill material for bank stabilization activities) in a specific category of waters (i.e., waters of the United States). The restrictions imposed by the terms and conditions of this NWP will result in the authorization of activities that have similar impacts on the aquatic environment, namely the replacement of aquatic habitats, such as open waters, with structures or fills designed to reduce erosion.

If a situation arises in which the activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

7.2.2 Cumulative effects (40 CFR 230.7(b)(3))

The 404(b)(1) Guidelines at 40 CFR 230.11(a) define cumulative effects as “...the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material.” For the issuance of general permits, such as this NWP, the 404(b)(1) Guidelines require the permitting authority to “set forth in writing an evaluation of the potential individual and cumulative impacts of the categories of activities to be regulated under the general permit.” [40 CFR 230.7(b)] More specifically, the 404(b)(1) Guidelines cumulative effects assessment for the issuance or reissuance of a general permit is to include an evaluation of “the number of individual discharge activities likely to be regulated under a general permit until its expiration, including repetitions of individual discharge activities at a single location.” [40 CFR 230.7(b)(3)] If a situation arises in which cumulative effects are likely to be more than minimal and the proposed activity requires further review, or is more appropriately reviewed under the individual permit process, provisions of the NWPs allow division and/or district engineers to take such action.

Based on reported use of this NWP during the period of March 19, 2012, to March 12, 2015, the Corps estimates that this NWP will be used approximately 2,700 times per year on a national basis, resulting in impacts to approximately 70 acres of waters of the United States, including jurisdictional wetlands. The reported use includes pre-construction notifications submitted to Corps districts, as required by the terms and conditions of the NWP as well as regional conditions imposed by division engineers. The reported use also includes voluntary notifications to submitted to Corps districts where the applicants request written verification in cases when pre-construction notification is not required. The reported use does not include activities that do not require pre-construction notification and were not voluntarily reported to Corps districts. The Corps estimates that 500 NWP 13 activities will occur each year that do not require pre-construction notification, and that these activities will impact 10 acres of jurisdictional waters each year.

Based on reported use of this NWP during that time period, the Corps estimates that 2 percent of the NWP 13 verifications will require compensatory mitigation to offset the authorized impacts to waters of the United States and ensure that the authorized activities result in only minimal adverse effects on the aquatic environment. The verified activities that do not require compensatory mitigation will have been determined by Corps district engineers to result in no more than minimal individual and cumulative adverse effects on the aquatic environment without compensatory mitigation. During 2017-2022, the Corps expects little change to the percentage of NWP 13 verifications requiring compensatory mitigation, because there have been no substantial changes in the mitigation general condition or the NWP regulations for determining when compensatory mitigation is to be required for NWP activities. The Corps estimates that approximately 20 acres of compensatory mitigation will be required each year to offset authorized impacts. The demand for these types of activities could increase or decrease over the five-year duration of this NWP.

Based on these annual estimates, the Corps estimates that approximately 16,000 activities could be authorized over a five year period until this NWP expires, resulting in impacts to approximately 400 acres of waters of the United States, including jurisdictional wetlands. Approximately 100 acres of compensatory mitigation would be required to offset those impacts. Compensatory mitigation is the restoration (re-establishment or rehabilitation), establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved. [33 CFR 332.2] For bank stabilization activities, mitigation can be provided by installing habitat features in those activities or in the water near those activities (e.g., Toft et al. 2013, Chapman and Underwood 2011)

Wetland restoration, enhancement, and establishment projects can provide wetland functions, as long as the wetland compensatory mitigation project is placed in an appropriate landscape position, has appropriate hydrology for the desired wetland type, and the watershed condition will support the desired wetland type (NRC 2001). Site selection is critical to find a site with appropriate hydrologic conditions and soils to support a

replacement wetland that will provide the desired wetland functions and services (Mitsch and Gosselink 2015). The ecological performance of wetland restoration, enhancement, and establishment is dependent on practitioner's understanding of wetland functions, allowing sufficient time for wetland functions to develop, and allowing natural processes of ecosystem development (self-design or self-organization) to take place, instead of over-designing and over-engineering the replacement wetland (Mitsch and Gosselink (2015). Most studies of the ecological performance of compensatory mitigation projects have focused solely on the ecological attributes of the compensatory mitigation projects, and few studies have also evaluated the aquatic resources impacted by permitted activities (Kettlewell et al. 2008), so it is difficult to assess whether compensatory mitigation has fully or partially offset the lost functions provided by the aquatic resources that are impacted by permitted activities. In its review, the NRC (2001) concluded that some wetland types can be restored or established (e.g., non-tidal emergent wetlands, some forested and scrub-shrub wetlands, sea grasses, and coastal marshes), while other wetland types (e.g., vernal pools, bogs, and fens) are difficult to restore and should be avoided where possible. Restored riverine and tidal wetlands achieved wetland structure and function more rapidly than depressional wetlands (Moreno-Mateos et al. 2012). Because of its greater potential to provide wetland functions, restoration is the preferred compensatory mitigation mechanism (33 CFR 332.3(a)(2)). Bogs, fens, and springs are considered to be difficult-to-replace resources and compensatory mitigation should be provided through in-kind rehabilitation, enhancement, or preservation of these wetlands types (33 CFR 332.3(e)(3)).

In its review of outcomes of wetland compensatory mitigation activities, the NRC (2001) stated that wetland functions can be replaced by wetland restoration and establishment activities. They discussed five categories of wetland functions: hydrology, water quality, maintenance of plant communities, maintenance of animal communities, and soil functions. Wetland functions develop at different rates in wetland restoration and establishment projects (NRC 2001). It is difficult to restore or establish natural wetland hydrology, and water quality functions are likely to be different than the functions provided at wetland impact sites (NRC 2001). Reestablishing or establishing the desired plant community may be difficult because of invasive species colonizing the mitigation project site (NRC 2001). The committee also found that establishing and maintaining animal communities depends on the surrounding landscape. Soil functions can take a substantial amount of time to develop, because they are dependent on soil organic matter and other soil properties (NRC 2001). The NRC (2001) concluded that the ecological performance in replacing wetland functions depends on the particular function of interest, the restoration or establishment techniques used, and the extent of degradation of the compensatory mitigation project site and its watershed.

The ecological performance of wetland restoration and enhancement activities is affected by the amount of changes to hydrology and inputs of pollutants, nutrients, and sediments within the watershed or contributing drainage area (Wright et al. 2006). Wetland restoration is becoming more effective at replacing or improving wetland functions, especially in cases where monitoring and adaptive management are used to correct deficiencies in these efforts (Zedler and Kercher 2005). Wetland functions take time to develop after the restoration or enhancement activity takes place (Mitsch and Gosselink 2015, Gebo and Brooks 2012), and

different functions develop at different rates (Moreno-Mateos 2012). Irreversible changes to landscapes, especially those that affect hydrology within contributing drainage areas or watersheds, cause wetland degradation and impede the ecological performance of wetland restoration efforts (Zedler and Kercher 2005). Gebo and Brooks (2012) evaluated wetland compensatory mitigation projects in Pennsylvania and compared them to reference standards (i.e., the highest functioning wetlands in the study area) and natural reference wetlands that showed the range of variation due to human disturbances. They concluded that most of the wetland mitigation sites were functioning at levels within with the range of functionality of the reference wetlands in the region, and therefore were functioning at levels similar to some naturally occurring wetlands. The ecological performance of mitigation wetlands is affected by on the landscape context (e.g., urbanization) of the replacement wetland and varies with wetland type (e.g., riverine or depressional) (Gebo and Brooks 2012). Moreno-Mateos and others (2012) conducted a meta-analysis of wetland restoration studies and concluded that while wetland structure and function can be restored to a large degree, the ecological performance of wetland restoration projects is dependent on wetland size and local environmental setting. They found that wetland restoration projects that are larger in size and in less disturbed landscape settings achieve structure and function more quickly.

Streams are difficult-to-replace resources and compensatory mitigation should be provided through stream rehabilitation, enhancement, and preservation since those techniques are most likely to be ecologically successful (see 33 CFR 332.3(e)(3)). Stream rehabilitation is usually the most effective compensatory mitigation mechanism since restoring a stream to a historic state is not possible because of changes in land use and other activities in a watershed (Roni et al. 2008). Stream rehabilitation and enhancement projects, including the restoration and preservation of riparian areas, provide riverine functions (e.g., Allan and Castillo (2007) for rivers and streams, NRC (2002) for riparian areas). Improvements in ecological performance of stream restoration projects is dependent on the restoration method and how outcomes are assessed (Palmer et al. 2014). Non-structural and structural techniques can be used to rehabilitate and enhance streams, and restore riparian areas (NRC 1992). Non-structural practices include removing disturbances to allow recovery of stream and riparian area structure and function, reducing or eliminating activities that have altered stream flows to restore natural flows, preserving or restoring floodplains, and restoring and protecting riparian areas, including fencing those areas to exclude livestock and people (NRC 1992). Structural rehabilitation and enhancement techniques include dam removal, as well as channel, bank, and/or riparian area modifications to improve river and stream habitat (NRC 1992).

The restoration and enhancement of river and stream functions and services can be improved through a variety of techniques and in many cases combinations of these techniques are used (Roni et al. 2013). Examples of stream restoration and enhancement techniques include: dam removal and modification, culvert replacement or modification, fish passage structures when connectivity cannot be restored or improved by dam removal or culvert replacement, levee removal or setbacks, reconnecting floodplains and other riparian habitats, road removal, road modifications, reducing sediment and pollution inputs to streams, replacing impervious surfaces with pervious surfaces, restoring adequate in-stream or base flows, restoring riparian areas, fencing streams and their riparian areas to exclude livestock,

improving in-stream habitat, recreating meanders, and replacing hard bank stabilization structures with bioengineering bank stabilization measures (Roni et al. 2013). Road improvements, riparian rehabilitation, reconnecting floodplains to their rivers, and installing in-stream habitat structures have had varying degrees of ecological performance in stream rehabilitation activities (Roni et al. 2008). The ecological performance of these stream rehabilitation activities is strongly dependent on addressing impaired water quality and insufficient water quantity, since those factors usually limit the biological response to stream rehabilitation efforts (Roni et al. 2008). Ecologically successful stream rehabilitation and enhancement activities depend on addressing the factors that most strongly affect stream functions, especially water quality, water flow, and riparian quality, and not focusing solely on rehabilitating or enhancing the physical habitat of streams (Palmer et al. 2010). The ability to restore the ecological functions of streams is dependent on the condition of the watershed draining to the stream being restored because human land uses and other activities in the watershed affect how that stream functions (Palmer et al. 2014). Stream restoration projects should focus on restoring ecological processes, such as dam removal, watershed best management practices, improving the riparian zone, and reforestation, instead of focusing on the manipulation the structure of the stream channel (Palmer et al. 2014).

For compensatory mitigation projects, restoration is the preferred mechanism (see 33 CFR 332.3(a)(2)). In an analysis of 89 ecosystem restoration projects, Rey Banayas et al. (2009) concluded that restoration activities can increase biodiversity and the level of ecosystem services provided. However, such increases do not approach the amounts of biodiversity and ecosystem services performed by undisturbed reference sites. The ability to restore ecosystems to provide levels of functions and services similar to historic conditions or reference standard conditions is influenced by human impacts to watersheds and other types of landscapes (e.g., urbanization, agriculture) and to the processes that sustain those ecosystems (Zedler et al. 2012, Hobbs et al. 2014). Those changes need to be taken into account when establishing goals and objectives for restoration projects (Zedler et al. 2012), including compensatory mitigation projects. The ability to reverse ecosystem degradation to restore ecological functions and services is dependent on the degree of degradation of that ecosystem and the surrounding landscape, and whether that degradation is reversible (Hobbs et al. 2014).

As discussed in section 3.0, the status of waters and wetlands in the United States as reported under the provisions of Sections 303(d) and 305(b) of the Clean Water Act exhibits considerable variation, ranging from good to threatened to impaired. One of the criteria that district engineers consider when they evaluate proposed NWP activities is the “degree or magnitude to which the aquatic resources perform these functions” (see paragraph 1 of Section D, “District Engineer’s Decision.” The quality of the affected waters is considered by district engineers when making decisions on whether to require compensatory mitigation for proposed NWP activities to ensure no more than minimal adverse environmental effects (see 33 CFR 330.1(e)(3)), and amount of compensatory mitigation required (see 33 CFR 332.3(f)). The quality of the affected waters also factors into the determination of whether the required compensatory mitigation offsets the losses of aquatic functions caused by the NWP activity.

The compensatory mitigation required by district engineers in accordance with general condition 23 and activity-specific conditions will provide aquatic resource functions and services to offset some or all of the losses of aquatic resource functions caused by the activities authorized by this NWP, and reduce the contribution of those activities to the cumulative effects on the Nation's wetlands, streams, and other aquatic resources. The required compensatory mitigation must be conducted in accordance with the applicable provisions of 33 CFR part 332, which requires development and implementation of approved mitigation plans, as well as monitoring to assess ecological success in accordance with ecological performance standards established for the compensatory mitigation project. The district engineer will evaluate monitoring reports to determine if the compensatory mitigation project has fulfilled its objectives and is ecological successful. [33 CFR 332.6] If the monitoring efforts indicate that the compensatory mitigation project is failing to meet its objectives, the district engineer may require additional measures, such as adaptive management or alternative compensatory mitigation, to address the compensatory mitigation project's deficiencies. [33 CFR 332.7(c)]

According to Dahl (2011), during the period of 2004 to 2009 approximately 489,620 acres of former upland were converted to wetlands as a result of wetland reestablishment and establishment activities. Efforts to reestablish or establish wetlands have increased wetland acreage in the United States.

The individual and cumulative adverse effects on the aquatic environment resulting from the activities authorized by this NWP will be no more than minimal. The Corps expects that the convenience and time savings associated with the use of this NWP will encourage applicants to design their projects within the scope of the NWP, including its limits, rather than request individual permits for projects that could result in greater adverse impacts to the aquatic environment. Division and district engineers will restrict or prohibit this NWP on a regional or case-specific basis if they determine that these activities will result in more than minimal individual and cumulative adverse effects on the aquatic environment.

7.2.3 Section 404(b)(1) Guidelines Impact Analysis, Subparts C through F

(a) Substrate: Discharges of dredged or fill material into waters of the United States will alter the substrate of those waters, usually replacing the aquatic area with dry land, and changing the physical, chemical, and biological characteristics of the substrate. The original substrate will be removed or covered by other material, such as concrete, asphalt, soil, gravel, etc. Temporary fills may be placed upon the substrate, but must be removed upon completion of the activity (see general condition 13). Higher rates of erosion may result during construction, but general condition 12 requires the use of appropriate measures to control soil erosion and sediment.

Bank stabilization activities alter aquatic habitat functional and structural characteristics because those projects interrupt erosion processes to support social (e.g., protection of infrastructure) or ecological needs (e.g., reduce sediment inputs to waterbodies) (Fischenich 2003). Riprap can reduce or eliminate lateral instability of river or stream channels, and it also alters downstream sediment transport rates (Reid and Church 2015). The reduction of

sediment supply caused by the placement of riprap may cause changes to downstream river and stream bed characteristics or erosion in other areas of the river or stream to make up for the sediment deficit (Reid and Church 2015).

While bulkheads, seawalls, and revetments minimize direct alteration of nearshore coastal habitats, they cause indirect effects that result in losses or narrowing of beaches through passive or active erosion, and reduce sediment transport to other beaches (Nordstrom 2014).

(b) Suspended particulates/turbidity: Depending on the method of construction, soil erosion and sediment control measures, equipment, composition of the bottom substrate, and wind and current conditions during construction, fill material placed in open waters will temporarily increase water turbidity. Pre-construction notification is required for certain activities authorized by this NWP, such as discharges of dredged or fill material into jurisdictional special aquatic sites, which will allow the district engineer to review those activities and ensure that adverse effects on the aquatic environment are no more than minimal. Particulates will be resuspended in the water column during removal of temporary fills. The turbidity plume will normally be limited to the immediate vicinity of the disturbance and should dissipate shortly after each phase of the construction activity. General condition 12 requires the permittee to stabilize exposed soils and other fills, which will reduce turbidity. NWP activities cannot create turbidity plumes that smother important spawning areas downstream (see general condition 3).

(c) Water: Bank stabilization activities may affect some characteristics of water, such as water clarity, chemical content, dissolved gas concentrations, pH, and temperature. These activities can change the chemical and physical characteristics of the waterbody by introducing suspended or dissolved chemical compounds into the water. Changes in water quality can affect the species and quantities of organisms inhabiting the aquatic area. Water quality certification is required for activities authorized by this NWP, which will ensure that the activities do not violate applicable water quality standards.

(d) Current patterns and water circulation: Activities authorized by this NWP may adversely affect the movement of water in the aquatic environment. Certain bank stabilization activities authorized by this NWP require pre-construction notification to the district engineer. These activities will be reviewed on a case-by-case basis to ensure that the adverse effects on the aquatic environment are no more than minimal. General condition 9 requires the authorized activity to be designed to withstand expected high flows and to maintain the course, condition, capacity, and location of open waters to the maximum extent practicable. General condition 10 requires activities to comply with applicable FEMA-approved state or local floodplain management requirements, which will reduce adverse effects to surface water flows. Activities authorized by this NWP may affect the geomorphology of jurisdictional waters by altering substrate depth and form by changing current patterns and water circulation, including the interaction between waves and shorelines in coastal waters.

Riprap in rivers and streams can increase channel roughness, which alters the velocity of water movement through the river or stream channel (Reid and Church 2015). Bank

stabilization activities in rivers and streams can alter water regimes by increasing water storage through changes in bank roughness, creating barriers to surface/subsurface water exchanges, and modifying how water flows through the stream channel (Fischenich 2003).

(e) Normal water level fluctuations: The activities authorized by this NWP will have negligible adverse effects on normal patterns of water level fluctuations due to tides and flooding. To ensure that the NWP does not authorize activities that adversely affect normal flooding patterns, general condition 9 requires the permittee to maintain the pre-construction course, condition, capacity, and location of open waters, to the maximum extent practicable.

(f) Salinity gradients: The activities authorized by this NWP are unlikely to adversely affect salinity gradients, since it authorizes bank stabilization activities. Bank stabilization activities typically do not change water flow patterns that could modify salinity gradients.

(g) Threatened and endangered species: The NWPs do not authorize activities that will jeopardize the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended. In addition, the NWPs do not authorize activities that will destroy or adversely modify critical habitat of those species. See 33 CFR 330.4(f) and paragraph (a) of general condition 18. For NWP activities, compliance with the Endangered Species Act is discussed in more detail in section 6.0 of this document.

(h) Fish, crustaceans, molluscs, and other aquatic organisms in the food web. Fish and other motile animals will avoid the project site during construction. Sessile or slow-moving animals in the path of discharges, equipment, and building materials will be destroyed. Some aquatic animals may be smothered by the placement of fill material. Motile animals will return to those areas that are temporarily impacted by the activity and restored or allowed to revert back to preconstruction conditions. Aquatic animals will not return to sites of permanent fills, unless those fills provide habitat for those aquatic animals. Stone revetments provide habitat for aquatic organisms that live on the surface of the rocks, but in the revetment footprint result in loss of habitat for organisms that live in soft substrates (Bilkovic and Mitchell 2013). Benthic and sessile animals are expected to recolonize sites temporarily impacted by the activity, after those areas are restored. Activities that alter the riparian zone, may adversely affect populations of fish and other aquatic animals, by altering stream flow, flooding patterns, and surface and groundwater hydrology. Some species of fish spawn on floodplains, which could be prevented if the activity involves clearing or filling the floodplain. Bank stabilization activities in the vicinity of streams may alter habitat features by increasing surface water flow velocities, which can increase erosion and reduce the amount of habitat for aquatic organisms and destroy spawning areas. Bank stabilization activities in the vicinity of streams can also cause more unstable flow regimes, such as higher peak flows, more frequent dry periods, and more frequent flooding, which may decrease the amount of habitat for aquatic animals. Some bank stabilization activities, such as stone riprap or stone sills, may provide habitat for aquatic organisms and refuges from predators because of the crevices between stones used for these features. Stone revetments convert soft-bottom intertidal habitats to habitats resembling rocky shorelines (Bilkovic and Mitchell 2013). Seawalls and bulkheads can be constructed with features, such as crevices, pools, or boulders placed seaward of the seawall or bulkhead, that provide

some additional habitat value for aquatic organisms (Chapman and Underwood 2011).

Division and district engineers can place conditions on this NWP to prohibit discharges during important stages of the life cycles of certain aquatic organisms. Such time of year restrictions can prevent adverse effects to these aquatic organisms during reproduction and development periods. General conditions 3 and 5 address protection of spawning areas and shellfish beds, respectively. General condition 3 states that activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. In addition, general condition 3 also prohibits activities that result in the physical destruction of important spawning areas. General condition 5 prohibits activities in areas of concentrated shellfish populations. General condition 9 requires the maintenance of pre-construction course, condition, capacity, and location of open waters to the maximum extent practicable, which will help minimize adverse impacts to fish, shellfish, and other aquatic organisms in the food web.

Bank stabilization activities can be designed to improve river and stream functions, including habitat for aquatic organisms, by including vegetation plantings with riprap or by protecting and maintaining the riparian area during construction (Fischenich 2003). The use of riprap to stabilize river and stream banks in areas highly degraded through intensive land uses such as logging may help improve the quality of river or stream habitat (Reid and Church 2015). The effects of riprap on vertebrates inhabiting rivers and streams are highly variable, and are site-specific and species-specific (Reid and Church 2015). Sills can increase the diversity of animals in nearshore areas by providing sheltered habitat (NRC 2007).

(i) Other wildlife: Activities authorized by this NWP will result in adverse effects on other wildlife associated with aquatic ecosystems, such as resident and transient mammals, birds, reptiles, and amphibians, through the destruction of aquatic habitat, including breeding and nesting areas, escape cover, travel corridors, and preferred food sources. This NWP does not authorize activities that jeopardize the continued existence of Federally-listed endangered and threatened species or result in the destruction or adverse modification of critical habitat. Compensatory mitigation, including the establishment and maintenance of riparian areas next to open waters, may be required for activities authorized by this NWP, which will help offset losses of aquatic habitat for wildlife. General condition 4 states that activities in breeding areas for migratory birds must be avoided to the maximum extent practicable.

Bulkheads, seawalls, and revetments can sever connectivity between nearshore estuarine and marine environments and adjacent uplands, preventing or inhibiting the ability of animals to move between these environments (Nordstrom 2014, NRC 2007). Over time, the intertidal zone may erode away, changing it to subtidal habitat (Nordstrom 2014). These adverse effects may be reduced by using revetments instead of bulkheads or seawalls (Nordstrom 2014). In coastal areas where soft-bottom habitat is the dominant habitat, stone revetments can provide habitat for organisms that prefer that rocky habitat over soft-bottom habitat (Bilkovic and Mitchell 2013).

(j) Special aquatic sites: The potential impacts to specific special aquatic sites are discussed

below:

(1) Sanctuaries and refuges: The activities authorized by this NWP will have only minimal adverse effects on waters of the United States within sanctuaries or refuges designated by Federal or state laws or local ordinances. General condition 22 requires submittal of a pre-construction notification prior to the use of this NWP in NOAA-designated marine sanctuaries and marine monuments and National Estuarine Research Reserves. District engineers will exercise discretionary authority and require individual permits for specific projects in waters of the United States in sanctuaries and refuges if those activities will result in more than minimal adverse effects on the aquatic environment.

(2) Wetlands: The activities authorized by this NWP will have no more than minimal adverse effects on wetlands. This NWP requires pre-construction notification for all discharges of dredged or fill material into wetlands. District engineers will review pre-construction notifications for proposed discharges of dredged or fill material into jurisdictional wetlands to ensure that the adverse effects on the aquatic environment are no more than minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in certain high value wetlands. If the wetland is high value and the proposed activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit. See paragraph (e) of section 5.1 for a more detailed discussion of impacts to wetlands.

(3) Mud flats: The activities authorized by this NWP will have only minimal adverse effects on mud flats. This NWP requires pre-construction notification for all discharges of dredged or fill material into mud flats. District engineers will review pre-construction notifications for proposed discharges of dredged or fill material into jurisdictional mud flats to ensure that the adverse effects on the aquatic environment are no more than minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in specific high value mud flats. If the mud flat is high value and the proposed activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(4) Vegetated shallows: The activities authorized by this NWP will have only minimal adverse effects on vegetated shallows. This NWP requires pre-construction notification for all discharges of dredged or fill material into vegetated shallows. District engineers will review pre-construction notifications for proposed discharges of dredged or fill material into jurisdictional vegetated shallows to ensure that the adverse effects on the aquatic environment are no more than minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in specific high value vegetated shallows. If the vegetated shallows are high value and the proposed activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(5) Coral reefs: The activities authorized by this NWP will have no more than

minimal adverse effects on coral reefs. This NWP requires pre-construction notification for all discharges of dredged or fill material into coral reefs. District engineers will review pre-construction notifications for proposed discharges of dredged or fill material into these special aquatic sites to ensure that the adverse effects on the aquatic environment are no more than minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in specific high value coral reefs. If the coral reef is high value and the proposed activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

(6) Riffle and pool complexes: The activities authorized by this NWP will have only minimal adverse effects on riffle and pool complexes. This NWP requires pre-construction notification for all discharges of dredged or fill material into riffle and pool complexes. District engineers will review pre-construction notifications for proposed discharges of dredged or fill material into jurisdictional riffle and pool complexes to ensure that the adverse effects on the aquatic environment are no more than minimal. Division engineers can regionally condition this NWP to restrict or prohibit its use in specific high value riffle and pool complexes. If the riffle and pool complexes are high value and the proposed activity will result in more than minimal adverse effects on the aquatic environment, the district engineer will exercise discretionary authority to require the project proponent to obtain an individual permit.

The responses of rivers and streams to the placement of riprap to control erosion are dependent on how far the riprap is placed from the active channel, the length of channel treated, sediment texture, and channel morphology (Reid and Church 2015). The effects of riprap on river and stream ecology and geomorphology are context dependent, with different effects on rivers and streams in relatively undisturbed condition versus degraded rivers and streams (Reid and Church 2015).

(k) Municipal and private water supplies: See paragraph (n) of section 5.1 for a discussion of potential impacts to water supplies.

(l) Recreational and commercial fisheries, including essential fish habitat: The activities authorized by this NWP may adversely affect waters of the United States that act as habitat for populations of economically important fish and shellfish species. The construction of living shorelines may substantially reduce the structure and composition of shallow subtidal communities (Bilkovic and Mitchell 2013) through the placement of fill material and other habitat changes. Division and district engineers can condition this NWP to prohibit discharges during important life cycle stages, such as spawning or development periods, of economically valuable fish and shellfish. Certain activities authorized by this NWP require pre-construction notification to the district engineer, which will allow case-specific review of those activities to ensure that adverse effects to economically important fish and shellfish are no more than minimal. Compliance with general conditions 3 and 5 will ensure that the authorized activity does not adversely affect important spawning areas or concentrated shellfish populations. As discussed in paragraph (g) of section 5.1, there are procedures to help ensure that impacts to essential fish habitat are no more than minimal, individually or

cumulatively. For example, division and district engineers can impose regional and special conditions to ensure that activities authorized by this NWP will result in only minimal adverse effects on essential fish habitat.

(m) Water-related recreation: See paragraph (m) of section 5.1 above.

(n) Aesthetics: See paragraph (c) of section 5.1 above.

(o) Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar areas: General condition 22 requires submittal of a pre-construction notification prior to the use of this NWP in designated critical resource waters and adjacent wetlands, which may be located in parks, national and historical monuments, national seashores, wilderness areas, and research sites. This NWP can be used to authorize activities in parks, national and historical monuments, national seashores, wilderness areas, and research sites if the manager or caretaker wants to conduct activities in waters of the United States and those activities result in no more than minimal adverse effects on the aquatic environment. Division engineers can regionally condition the NWP to prohibit its use in designated areas, such as national wildlife refuges or wilderness areas.

8.0 Determinations

8.1 Finding of No Significant Impact

Based on the information in this document, the Corps has determined that the issuance of this NWP will not have a significant impact on the quality of the human environment. Therefore, the preparation of an Environmental Impact Statement is not required.

8.2 Public Interest Determination

In accordance with the requirements of 33 CFR 320.4, the Corps has determined, based on the information in this document, that the issuance of this NWP is not contrary to the public interest.

8.3 Section 404(b)(1) Guidelines Compliance

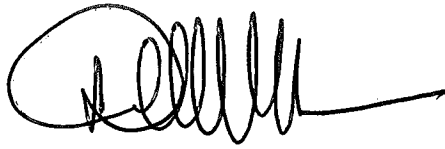
This NWP has been evaluated for compliance with the 404(b)(1) Guidelines, including Subparts C through G. Based on the information in this document, the Corps has determined that the discharges authorized by this NWP comply with the 404(b)(1) Guidelines, with the inclusion of appropriate and practicable conditions, including mitigation, necessary to minimize adverse effects on affected aquatic ecosystems. The activities authorized by this NWP will result in no more than minimal individual and cumulative adverse effects on the aquatic environment.

8.4 Section 176(c) of the Clean Air Act General Conformity Rule Review

This NWP has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities authorized by this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR 93.153. Any later indirect emissions are generally not within the Corps continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this NWP.

FOR THE COMMANDER

Dated: 21 Dec 2016

A handwritten signature in black ink, appearing to read 'Donald E. Jackson', with a large circular flourish at the beginning and a long horizontal stroke extending to the right.

Donald E. Jackson
Major General, U.S. Army
Deputy Commanding General
for Civil and Emergency Operations

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**STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES**

WATER QUALITY GENERAL CERTIFICATION NO. 4132

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS

- **NATIONWIDE PERMIT 3 (MAINTENANCE),**
- **NATIONWIDE PERMIT 4 (FISH AND WILDLIFE HARVESTING, ENHANCEMENT, AND ATTRACTION DEVICES AND ACTIVITIES),**
- **NATIONWIDE PERMIT 5 (SCIENTIFIC MEASUREMENT DEVICES),**
- **NATIONWIDE PERMIT 6 (SURVEY ACTIVITIES),**
- **NATIONWIDE PERMIT 7 (OUTFALL STRUCTURES AND ASSOCIATED INTAKE STRUCTURES),**
- **NATIONWIDE PERMIT 19 (MINOR DREDGING),**
- **NATIONWIDE PERMIT 20 (RESPONSE OPERATIONS FOR OIL OR HAZARDOUS SUBSTANCES),**
- **NATIONWIDE PERMIT 22 (REMOVAL OF VESSELS),**
- **NATIONWIDE PERMIT 25 (STRUCTURAL DISCHARGES),**
- **NATIONWIDE PERMIT 30 (MOIST SOIL MANAGEMENT FOR WILDLIFE),**
- **NATIONWIDE PERMIT 32 (COMPLETED ENFORCEMENT ACTIONS),**
- **NATIONWIDE PERMIT 36 (BOAT RAMPS),**
- **REGIONAL GENERAL PERMIT 197800056 (PIERS, DOCKS AND BOATHOUSES), AND**
- **REGIONAL GENERAL PERMIT 197800125 (BOAT RAMPS)**

Water Quality Certification Number 4132 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to surface waters and wetland areas as described in 33 CFR 330 Appendix A (B) (3, 4, 5, 6, 7, 19, 20, 22, 25, 30, 32, and 36) of the US Army Corps of Engineers regulations and Regional General Permits 197800056 and 197800125.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: December 1, 2017
Signed this day: December 1, 2017

By



for Linda Culpepper
Interim Director

Activities meeting any one (1) of the following thresholds or circumstances require written approval for a 401 Water Quality Certification from the Division of Water Resources (DWR):

- a) If any of the conditions of this Certification (listed below) cannot be met; or
- b) Total additional permanent impacts to streams (including stream relocations or restorations) greater than 40 linear feet at an existing stream impact location; or
- c) Total temporary and permanent impacts to wetlands or open waters equal to or greater than one-tenth (1/10) of an acre; or
- d) Complete dewatering and drawdowns to a sediment layer related to pond/dam maintenance or removal; or
- e) Any impacts to streams from excavation or dredging other than excavation that is conducted as preparation for installing permanent fill or structures or projects qualifying for a Nationwide Permit 19; or
- f) Except for projects qualifying for a Nationwide permit 3, any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, Trout, or North Carolina or National Wild and Scenic River; or
- g) Any high-density project, as defined in 15A NCAC 02H .1003(2)(a) and by the density thresholds specified in 15A NCAC 02H .1017, which:
 - i. Disturbs one acre or more of land (including a project that disturbs less than one acre of land that is part of a larger common plan of development or sale); and
 - ii. Has permanent wetland, stream or open water impacts; and
 - iii. Is proposing new built-upon area; and
 - iv. Does not have a stormwater management plan reviewed and approved under a state stormwater program¹ or a state-approved local government stormwater program².

Projects that have vested rights, exemptions, or grandfathering from state or locally-implemented stormwater programs and projects that satisfy state or locally-implemented stormwater programs through use of community in-lieu programs **require written approval**; or

- h) Any permanent impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL); or
- i) Any impact associated with a Notice of Violation or an enforcement action for violation(s) of NC Wetland Rules (15A NCAC 02H .0500), NC Isolated Wetland Rules (15A NCAC 02H .1300), NC Surface Water or Wetland Standards (15A NCAC 02B .0200), or State Regulated Riparian Buffer Rules (15A NCAC 02B .0200); or
- j) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless*:

¹ e.g. Coastal Counties, HQW, ORW, or state-implemented Phase II NPDES

² e.g. Delegated Phase II NPDES, Water Supply Watershed, Nutrient-Sensitive Waters, or Universal Stormwater Management Program

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- i. The activities are listed as “EXEMPT” from these rules; or
- ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or
- iii. A Buffer Authorization Certificate or a Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-215.23.

Activities included in this General Certification that do not meet one of the thresholds listed above do not require written approval.

I. ACTIVITY SPECIFIC CONDITIONS:

1. For all dam removal projects meeting the definition under G.S. 143-215.25 and requirements under G.S. 143-215.27 of a professionally supervised dam removal, the applicant shall provide documentation that any sediment that may be released has similar or lower level of contamination than sediment sampled from downstream of the dam in accordance with Session Law 2017-145.
2. For the North Carolina Department of Transportation, compliance with the NCDOT’s individual NPDES permit NCS000250 shall serve to satisfy this condition. All other high-density projects that trigger threshold item (g) above shall comply with one of the following requirements: [15A NCAC 02H .0506(b)(5) and (c)(5)]
 - a. Provide a completed Stormwater Management Plan (SMP) for review and approval, including all appropriate stormwater control measure (SCM) supplemental forms and associated items, that complies with the high-density development requirements of 15A NCAC 02H .1003. Stormwater management shall be provided throughout the entire project area in accordance with 15A NCAC 02H .1003. For the purposes of 15A NCAC 02H .1003(2)(a), density thresholds shall be determined in accordance with 15A NCAC 02H .1017.
 - b. Provide documentation (including calculations, photos, etc.) that the project will not cause degradation of downstream surface waters. Documentation shall include a detailed analysis of the hydrological impacts from stormwater runoff when considering the volume and velocity of stormwater runoff from the project built upon area and the size and existing condition of the receiving stream(s).

Exceptions to this condition require application to and written approval from DWR.

II. GENERAL CONDITIONS:

1. When written authorization is required, the plans and specifications for the project are incorporated into the authorization by reference and are an enforceable part of the Certification. Any modifications to the project require notification to DWR and may require an application submittal to DWR with the appropriate fee. [15A NCAC 02H .0501 and .0502]

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2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts) as authorized in the written approval from DWR; or beyond the thresholds established for use of this Certification without written authorization. [15A NCAC 02H .0501 and .0502]

No removal of vegetation or other impacts of any kind shall occur to state regulated riparian buffers beyond the footprint of impacts approved in a Buffer Authorization or Variance or as listed as an exempt activity in the applicable riparian buffer rules. [15A NCAC 02B .0200]

3. In accordance with 15A NCAC 02H .0506(h) and Session Law 2017-10, compensatory mitigation may be required for losses of greater than 300 linear feet of perennial streams and/or greater than one (1) acre of wetlands. Impacts associated with the removal of a dam shall not require mitigation when the removal complies with the requirements of Part 3 of Article 21 in Chapter 143 of the North Carolina General Statutes. Impacts to isolated and other non-404 jurisdictional wetlands shall not be combined with 404 jurisdictional wetlands for the purpose of determining when impact thresholds trigger a mitigation requirement. For linear publicly owned and maintained transportation projects that are not determined to be part of a larger common plan of development by the US Army Corps of Engineers, compensatory mitigation may be required for losses of greater than 300 linear feet per perennial stream.

Compensatory stream and/or wetland mitigation shall be proposed and completed in compliance with G.S. 143-214.11. For applicants proposing to conduct mitigation within a project site, a complete mitigation proposal developed in accordance with the most recent guidance issued by the US Army Corps of Engineers Wilmington District shall be submitted for review and approval with the application for impacts.

4. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2 of Title 15A.
5. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0200]

Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.

All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

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For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

6. Sediment and erosion control measures shall not be placed in wetlands or waters except within the footprint of temporary or permanent impacts authorized under this Certification. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0501 and .0502]
7. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02B .0201]
8. An NPDES Construction Stormwater Permit (NCG010000) is required for construction projects that disturb one (1) or more acres of land. The NCG010000 Permit allows stormwater to be discharged during land disturbing construction activities as stipulated in the conditions of the permit. If the project is covered by this permit, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required. [15A NCAC 02H .0506(b)(5) and (c)(5)]

The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit. [15A NCAC 02H .0506(b)(5) and (c)(5)]

9. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the *NC Sediment and Erosion Control Manual*, or the *NC DOT Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(3) and (c)(3)]
10. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. [15A NCAC 02H .0506 (b)(2) and 15A NCAC 04B .0125]

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All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium. A copy of the approval from the resource agency shall be forwarded to DWR.

Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. [15A NCAC 02H .0506(b)(2) and (c)(2)]

Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life.

If multiple pipes or barrels are required, they shall be designed to mimic the existing stream cross section as closely as possible, including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided.

When topographic constraints indicate culvert slopes of greater than 5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross vanes, etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 60 calendar days prior to the installation of the culvert.

When bedrock is present in culvert locations, culvert burial is not required provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 60 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

If other site-specific topographic constraints preclude the ability to bury the culverts as described above and/or it can be demonstrated that burying the culvert would result in destabilization of the channel, then exceptions to this condition require application to and written approval from DWR.

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Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(5)]
13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters. [15A NCAC 02B .0200 and 15A NCAC 02B .0231]
14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state. [15A NCAC 02B .0200]
15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, planform pattern, and longitudinal bed profile. For projects that receive written approval, no temporary impacts are allowed beyond those included in the application and authorization. All temporarily impacted sites shall be restored and stabilized with native vegetation. [15A NCAC 02H .0506(b)(2) and (c)(2)]
16. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this Certification. [15A NCAC 02H .0506(b)(2) and (c)(2)]

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17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or in a manner that precludes aquatic life passage. [15A NCAC 02H .0506(b)(2)]
18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H .0506(b)(2)]
19. Applications for rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Wooden and Rip-rap Groins in Estuarine and Public Trust Waters) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.
20. All mechanized equipment operated near surface waters should be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils. [15A NCAC 02H .0506 (b)(3) and (c)(3) and 15A NCAC 02B .0211 (12)]
21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance. [15A NCAC 02H .0506 (b)(3) and (c)(3)]
22. In accordance with 143-215.85(b), the applicant shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.
23. If an environmental document is required under the State Environmental Policy Act (SEPA), then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse. If an environmental document is required under the National Environmental Policy Act (NEPA), then this General Certification is not valid until a Categorical Exclusion, the Final Environmental Assessment, or Final Environmental Impact Statement is published by the lead agency. [15A NCAC 01C .0107(a)]
24. This General Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

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25. The applicant and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If DWR determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then DWR may revoke or modify a written authorization associated with this General Water Quality Certification. [15A NCAC 02H .0507(d)]
26. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this Certification. A copy of this Certification, including all conditions shall be available at the project site during the construction and maintenance of this project. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
27. When written authorization is required for use of this Certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return a certificate of completion (available on the DWR website <https://edocs.deq.nc.gov/Forms/Certificate-of-Completion>). [15A NCAC 02H .0502(f)]
28. Additional site-specific conditions, including monitoring and/or modeling requirements, may be added to the written approval letter for projects proposed under this Water Quality Certification in order to ensure compliance with all applicable water quality and effluent standards. [15A NCAC 02H .0507(c)]
29. If the property or project is sold or transferred, the new permittee shall be given a copy of this Certification (and written authorization if applicable) and is responsible for complying with all conditions. [15A NCAC 02H .0501 and .0502]

III. GENERAL CERTIFICATION ADMINISTRATION:

1. In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. An applicant for a CAMA permit under Article 7 of Chapter 113A of the General Statutes for which a Water Quality Certification is required shall only make one payment to satisfy both agencies; the fee shall be as established by the Secretary in accordance with 143-215.3D(e)(7).
2. This Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and this Certification does not create any prescriptive right or any right of priority regarding any usage of water. This Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Certification to possess any prescriptive or

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other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.

3. This Certification grants permission to the Director, an authorized representative of the Director, or DWR staff, upon the presentation of proper credentials, to enter the property during normal business hours. [15A NCAC 02H .0502(e)]
4. This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide Permit and/or Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes any of the corresponding Nationwide Permits and/or Regional General Permits or when deemed appropriate by the Director of the Division of Water Resources.
5. Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.
6. The Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project in this category of activity if it is deemed in the public's best interest or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the waters or downstream waters are precluded.

History Note: Water Quality Certification (WQC) Number 4132 issued December 1, 2017 replaces WCQ 4085 issued March 3, 2017; WQC 3883 issued March 19, 2012; WQC Number 3687 issued November 1, 2007; WQC Number 3624 issued March 19, 2007; WQC Number 3494 issued December 31, 2004; and WQC Number 3376 issued March 18, 2002.

**STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES**

WATER QUALITY GENERAL CERTIFICATION NO. 4134

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR US ARMY CORPS OF ENGINEERS

- **NATIONWIDE PERMIT NUMBER 13 (BANK STABILIZATION),**
- **NATIONWIDE PERMIT NUMBER 27 (AQUATIC HABITAT RESTORATION, ESTABLISHMENT AND ENHANCEMENT ACTIVITIES), AND**
- **REGIONAL GENERAL PERMIT 197800080 (BULKHEADS AND RIP-RAP)**

Water Quality Certification Number 4134 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Regulations in 15A NCAC 02H .0500 and 15A NCAC 02B .0200 for the discharge of fill material to surface waters and wetland areas as described in 33 CFR 330 Appendix A (B) (13 and 27) of the US Army Corps of Engineers regulations and Regional General Permit 197800080.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Effective date: December 1, 2017

Signed this day: December 1, 2017

By

A handwritten signature in black ink, appearing to read 'Linda Culpepper', is written over a solid horizontal line.

for Linda Culpepper
Interim Director

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Activities meeting any one (1) of the following thresholds or circumstances require written approval for a 401 Water Quality Certification from the Division of Water Resources (DWR):

- a) If any of the conditions of this Certification (listed below) cannot be met; or
- b) Any permanent fill into or modification of wetlands and/or waters except for single and independent stream stabilization or enhancement projects involving in-stream structures that meet the following criteria:
 - i. Designed based on current natural channel techniques; and
 - ii. In-stream structures do not exceed a spacing of three structures per 100 feet of stream length up to a total of 500 feet of streambank stabilization; or
- c) Any stream relocation; or
- d) Complete dewatering and drawdowns to a sediment layer related to pond/dam maintenance or removal; or
- e) Total temporary and permanent impacts to streambanks of greater than 150 feet for bank stabilization projects when non-natural armoring techniques (e.g. rip-rap, gabion baskets, deflection walls) are utilized; or
- f) Total temporary and permanent impacts to streambanks of greater than 500 feet for bank stabilization projects when natural techniques (e.g. sloping, vegetation, geolifts) are used; or
- g) Any permanent impacts to waters, or to wetlands adjacent to waters, designated as: ORW (including SAV), HQW (including PNA), SA, WS-I, WS-II, or North Carolina or National Wild and Scenic River.
- h) Any permanent impacts to waters, or to wetlands adjacent to waters, designated as Trout except for bank stabilization projects that qualify for a Nationwide Permit #13 provided that:
 - i. The total impacts are less than 100 feet in length;
 - ii. The project is not adjacent to any other existing stabilization structures;
 - iii. All conditions of this General Certification can be met, including adherence to any moratoriums as stated in Condition #10; and
 - iv. A *Notification of Work in Trout Watersheds Form* is submitted to the Division at least 60 days prior to commencement of work; or
- i) Any permanent impacts to coastal wetlands [15A NCAC 07H .0205], or Unique Wetlands (UWL); or
- j) Any impact associated with a Notice of Violation or an enforcement action for violation(s) of NC Wetland Rules (15A NCAC 02H .0500), NC Isolated Wetland Rules (15A NCAC 02H .1300), NC Surface Water or Wetland Standards (15A NCAC 02B .0200), or State Regulated Riparian Buffer Rules (15A NCAC 02B .0200); or
- k) Any impacts to subject water bodies and/or state regulated riparian buffers along subject water bodies in the Neuse, Tar-Pamlico, or Catawba River Basins or in the Randleman Lake, Jordan Lake or Goose Creek Watersheds (or any other basin or watershed with State Regulated Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) *unless*:
 - i. The activities are listed as "EXEMPT" from these rules; or

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- ii. A Buffer Authorization Certificate is issued by the NC Division of Coastal Management (DCM); or
- iii. A Buffer Authorization Certificate or a Minor Variance is issued by a delegated or designated local government implementing a state riparian buffer program pursuant to 143-215.23.

Activities included in this General Certification that do not meet one of the thresholds listed above do not require written approval.

I. ACTIVITY SPECIFIC CONDITIONS:

1. Any repairs or adjustments to the site shall be made according to the approved plans. Repairs that result in a change from the approved plans must receive written approval from DWR prior to commencement of the repairs. [15A NCAC 02H .0501 and .0502]
2. Written authorization for a compensatory mitigation project does not represent an approval of credit yield for the project. [15A NCAC 02H .0500(h)]
3. For all dam removal projects meeting the definition under G.S. 143-215.25 and requirements under G.S. 143-215.27 of a professionally supervised dam removal, the applicant shall provide documentation that any sediment that may be released has similar or lower level of contamination than sediment sampled from downstream of the dam in accordance with Session Law 2017-145.

II. GENERAL CONDITIONS:

1. When written authorization is required, the plans and specifications for the project are incorporated into the authorization by reference and are an enforceable part of the Certification. Any modifications to the project require notification to DWR and may require an application submittal to DWR with the appropriate fee. [15A NCAC 02H .0501 and .0502]
2. No waste, spoil, solids, or fill of any kind shall occur in wetlands or waters beyond the footprint of the impacts (including temporary impacts) as authorized in the written approval from DWR; or beyond the thresholds established for use of this Certification without written authorization. [15A NCAC 02H .0501 and .0502]

No removal of vegetation or other impacts of any kind shall occur to state regulated riparian buffers beyond the footprint of impacts approved in a Buffer Authorization or Variance or as listed as an exempt activity in the applicable riparian buffer rules. [15A NCAC 02B .0200]

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3. In accordance with 15A NCAC 02H .0506(h) and Session Law 2017-10, compensatory mitigation may be required for losses of greater than 300 linear feet of perennial streams and/or greater than one (1) acre of wetlands. Impacts associated with the removal of a dam shall not require mitigation when the removal complies with the requirements of Part 3 of Article 21 in Chapter 143 of the North Carolina General Statutes. Impacts to isolated and other non-404 jurisdictional wetlands shall not be combined with 404 jurisdictional wetlands for the purpose of determining when impact thresholds trigger a mitigation requirement. For linear publicly owned and maintained transportation projects that are not determined to be part of a larger common plan of development by the US Army Corps of Engineers, compensatory mitigation may be required for losses of greater than 300 linear feet per perennial stream.

Compensatory stream and/or wetland mitigation shall be proposed and completed in compliance with G.S. 143-214.11. For applicants proposing to conduct mitigation within a project site, a complete mitigation proposal developed in accordance with the most recent guidance issued by the US Army Corps of Engineers Wilmington District shall be submitted for review and approval with the application for impacts.

4. All activities shall be in compliance with any applicable State Regulated Riparian Buffer Rules in Chapter 2 of Title 15A.
5. When applicable, all construction activities shall be performed and maintained in full compliance with G.S. Chapter 113A Article 4 (Sediment and Pollution Control Act of 1973). Regardless of applicability of the Sediment and Pollution Control Act, all projects shall incorporate appropriate Best Management Practices for the control of sediment and erosion so that no violations of state water quality standards, statutes, or rules occur. [15A NCAC 02H .0506(b)(3) and (c)(3) and 15A NCAC 02B .0200].

Design, installation, operation, and maintenance of all sediment and erosion control measures shall be equal to or exceed the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*, or for linear transportation projects, the *NCDOT Sediment and Erosion Control Manual*.

All devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) sites, including contractor-owned or leased borrow pits associated with the project. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times.

For borrow pit sites, the erosion and sediment control measures shall be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*. Reclamation measures and implementation shall comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.

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If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), SA, WS-I, WS-II, High Quality Waters (HQW), or Outstanding Resource Waters (ORW), then the sedimentation and erosion control designs shall comply with the requirements set forth in 15A NCAC 04B .0124, *Design Standards in Sensitive Watersheds*.

6. Sediment and erosion control measures shall not be placed in wetlands or waters except within the footprint of temporary or permanent impacts authorized under this Certification. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0501 and .0502]
7. Erosion control matting that incorporates plastic mesh and/or plastic twine shall not be used along streambanks or within wetlands. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02B .0201]
8. An NPDES Construction Stormwater Permit (NCG010000) is required for construction projects that disturb one (1) or more acres of land. The NCG010000 Permit allows stormwater to be discharged during land disturbing construction activities as stipulated in the conditions of the permit. If the project is covered by this permit, full compliance with permit conditions including the erosion & sedimentation control plan, inspections and maintenance, self-monitoring, record keeping and reporting requirements is required. [15A NCAC 02H .0506(b)(5) and (c)(5)]

The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit. [15A NCAC 02H .0506(b)(5) and (c)(5)]

9. All work in or adjacent to streams shall be conducted so that the flowing stream does not come in contact with the disturbed area. Approved best management practices from the most current version of the *NC Sediment and Erosion Control Manual*, or the *NC DOT Construction and Maintenance Activities Manual*, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(3) and (c)(3)]
10. If activities must occur during periods of high biological activity (e.g. sea turtle nesting, fish spawning, or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. [15A NCAC 02H .0506(b)(2) and 15A NCAC 04B .0125]

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) shall be implemented. Exceptions to this condition require written approval by the resource agency responsible for the given moratorium. A copy of the approval from the resource agency shall be forwarded to DWR.

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Work within a designated trout watershed of North Carolina (as identified by the Wilmington District of the US Army Corps of Engineers), or identified state or federal endangered or threatened species habitat, shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

11. Culverts shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. The dimension, pattern, and profile of the stream above and below a pipe or culvert shall not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed culvert shall be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. [15A NCAC 02H .0506(b)(2) and (c)(2)]

Placement of culverts and other structures in streams shall be below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20% of the culvert diameter for culverts having a diameter less than or equal to 48 inches, to allow low flow passage of water and aquatic life.

If multiple pipes or barrels are required, they shall be designed to the mimic the existing stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills where appropriate. Widening the stream channel shall be avoided.

When topographic constraints indicate culvert slopes of greater than 5%, culvert burial is not required, provided that all alternative options for flattening the slope have been investigated and aquatic life movement/connectivity has been provided when possible (e.g. rock ladders, cross vanes, etc.). Notification, including supporting documentation to include a location map of the culvert, culvert profile drawings, and slope calculations, shall be provided to DWR 60 calendar days prior to the installation of the culvert.

When bedrock is present in culvert locations, culvert burial is not required provided that there is sufficient documentation of the presence of bedrock. Notification, including supporting documentation such as a location map of the culvert, geotechnical reports, photographs, etc. shall be provided to DWR a minimum of 60 calendar days prior to the installation of the culvert. If bedrock is discovered during construction, then DWR shall be notified by phone or email within 24 hours of discovery.

If other site-specific topographic constraints preclude the ability to bury the culverts as described above and/or it can be demonstrated that burying the culvert would result in destabilization of the channel, then exceptions to this condition require application to and written approval from DWR.

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Installation of culverts in wetlands shall ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. When roadways, causeways, or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges shall be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

The establishment of native woody vegetation and other soft stream bank stabilization techniques shall be used where practicable instead of rip-rap or other bank hardening methods.

12. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means to the maximum extent practicable (e.g. grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Exceptions to this condition require application to and written approval from DWR. [15A NCAC 02H .0506(b)(5)]
13. Application of fertilizer to establish planted/seeded vegetation within disturbed riparian areas and/or wetlands shall be conducted at agronomic rates and shall comply with all other Federal, State and Local regulations. Fertilizer application shall be accomplished in a manner that minimizes the risk of contact between the fertilizer and surface waters. [15A NCAC 02B .0200 and 15A NCAC 02B .0231]
14. If concrete is used during construction, then all necessary measures shall be taken to prevent direct contact between uncured or curing concrete and waters of the state. Water that inadvertently contacts uncured concrete shall not be discharged to waters of the state. [15A NCAC 02B .0200]
15. All proposed and approved temporary fill and culverts shall be removed and the impacted area shall be returned to natural conditions within 60 calendar days after the temporary impact is no longer necessary. The impacted areas shall be restored to original grade, including each stream's original cross sectional dimensions, planform pattern, and longitudinal bed profile. For projects that receive written approval, no temporary impacts are allowed beyond those included in the application and authorization. All temporarily impacted sites shall be restored-and stabilized with native vegetation. [15A NCAC 02H .0506(b)(2) and (c)(2)]
16. All proposed and approved temporary pipes/culverts/rip-rap pads etc. in streams shall be installed as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* or the *North Carolina Department of Transportation Best Management Practices for Construction and Maintenance Activities* so as not to restrict stream flow or cause dis-equilibrium during use of this Certification. [15A NCAC 02H .0506(b)(2) and (c)(2)]

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17. Any rip-rap required for proper culvert placement, stream stabilization, or restoration of temporarily disturbed areas shall be restricted to the area directly impacted by the approved construction activity. All rip-rap shall be placed such that the original stream elevation and streambank contours are restored and maintained. Placement of rip-rap or other approved materials shall not result in de-stabilization of the stream bed or banks upstream or downstream of the area or in a manner that precludes aquatic life passage. [15A NCAC 02H .0506(b)(2)]
18. Any rip-rap used for stream or shoreline stabilization shall be of a size and density to prevent movement by wave, current action, or stream flows and shall consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. [15A NCAC 02H .0506(b)(2)]
19. Applications for rip-rap groins proposed in accordance with 15A NCAC 07H .1401 (NC Division of Coastal Management General Permit for construction of Wooden and Rip-rap Groins in Estuarine and Public Trust Waters) shall meet all the specific conditions for design and construction specified in 15A NCAC 07H .1405.
20. All mechanized equipment operated near surface waters shall be inspected and maintained regularly to prevent contamination of surface waters from fuels, lubricants, hydraulic fluids, or other toxic materials. Construction shall be staged in order to minimize the exposure of equipment to surface waters to the maximum extent practicable. Fueling, lubrication and general equipment maintenance shall be performed in a manner to prevent, to the maximum extent practicable, contamination of surface waters by fuels and oils. [15A NCAC 02H .0506(b)(3) and (c)(3) and 15A NCAC 02B .0211 (12)]
21. Heavy equipment working in wetlands shall be placed on mats or other measures shall be taken to minimize soil disturbance. [15A NCAC 02H .0506 (b)(3) and (c)(3)]
22. In accordance with 143-215.85(b), the applicant shall report any petroleum spill of 25 gallons or more; any spill regardless of amount that causes a sheen on surface waters; any petroleum spill regardless of amount occurring within 100 feet of surface waters; and any petroleum spill less than 25 gallons that cannot be cleaned up within 24 hours.
23. If an environmental document is required under the State Environmental Policy Act (SEPA), then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse. If an environmental document is required under the National Environmental Policy Act (NEPA), then this General Certification is not valid until a Categorical Exclusion, the Final Environmental Assessment, or Final Environmental Impact Statement is published by the lead agency. [15A NCAC 01C .0107(a)]

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24. This General Certification does not relieve the applicant of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.
25. The applicant and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If DWR determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then DWR may revoke or modify a written authorization associated with this General Water Quality Certification. [15A NCAC 02H .0507(d)]
26. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this Certification. A copy of this Certification, including all conditions shall be available at the project site during the construction and maintenance of this project. [15A NCAC 02H .0507 (c) and 15A NCAC 02H .0506 (b)(2) and (c)(2)]
27. When written authorization is required for use of this Certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return a certificate of completion (available on the DWR website: <https://edocs.deq.nc.gov/Forms/Certificate-of-Completion>). [15A NCAC 02H .0502(f)]
28. Additional site-specific conditions, including monitoring and/or modeling requirements, may be added to the written approval letter for projects proposed under this Water Quality Certification in order to ensure compliance with all applicable water quality and effluent standards. [15A NCAC 02H .0507(c)]
29. If the property or project is sold or transferred, the new permittee shall be given a copy of this Certification (and written authorization if applicable) and is responsible for complying with all conditions. [15A NCAC 02H .0501 and .0502]

III. GENERAL CERTIFICATION ADMINISTRATION:

1. In accordance with North Carolina General Statute 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. An applicant for a CAMA permit under Article 7 of Chapter 113A of the General Statutes for which a water quality Certification is required shall only make one payment to satisfy both agencies; the fee shall be as established by the Secretary in accordance with 143-215.3D(e)(7).

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2. This Certification neither grants nor affirms any property right, license, or privilege in any waters, or any right of use in any waters. This Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and this Certification does not create any prescriptive right or any right of priority regarding any usage of water. This Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water use. No consumptive user is deemed by virtue of this Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded.
3. This Certification grants permission to the Director, an authorized representative of the Director, or DWR staff, upon the presentation of proper credentials, to enter the property during normal business hours. [15A NCAC 02H .0502(e)]
4. This General Certification shall expire on the same day as the expiration date of the corresponding Nationwide Permit and/or Regional General Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. This General Certification is rescinded when the US Army Corps of Engineers reauthorizes any of the corresponding Nationwide Permits and/or Regional General Permits or when deemed appropriate by the Director of the Division of Water Resources.
5. Non-compliance with or violation of the conditions herein set forth by a specific project may result in revocation of this General Certification for the project and may also result in criminal and/or civil penalties.
6. The Director of the North Carolina Division of Water Resources may require submission of a formal application for Individual Certification for any project in this category of activity if it is deemed in the public's best interested or determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the water or downstream waters are precluded.

History Note: Water Quality Certification (WQC) Number 4134 issued December 1, 2017 replaces WQC March 3, 2017; WQC 3885 issued March 19, 2012; WQC Number 3689 issued November 1, 2007; WQC Number 3626 issued March 19, 2007; WQC Number 3495 issued December 31, 2004; and WQC Number 3399 issued March 2003.

PROPOSAL: DN00655
 LETTING: L190212N CALL: 003
 VENDOR: 7490 Turn-Key Tunneling, Inc.

| LINE NO. | ITEM NO. | ITEM DESC. | UNIT TYPE | SUBCONTRACTOR QUANTITY | SUBCONTRACTOR UNIT PRICE | EXTENDED AMOUNT |
|---|--------------|-----------------|-----------|------------------------|--------------------------|-----------------|
| ----- | | | | | | |
| DBE SUBCONTRACTOR: 15446 TONI LEVY & ASSOCIATES INC | | | | | | |
| Will Use Quote: Yes | | | | | | |
| 0005 | 0973100000-E | **"WLD STL P LF | | 145.000 | 338.39000 | 49066.55 |
| | | | | | | ----- |
| DBE COMMITMENT TOTAL FOR SUBCONTRACTOR: | | | | | | 49,066.55 |
| DBE COMMITMENT TOTAL FOR VENDOR (Supplier) | | | | | | \$29,439 |

TOTAL DBE COMMITMENT FOR VENDOR: Entered: 8.59% or 29439.93
 Required: 5.00% or 17145.00
 <GOAL MET>



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR

CONTRACT:
DN 00655

NAME OF BIDDER:
Turn-Key Tunneling, Inc.

The undersigned intends to perform work in connection with the above contract upon execution of the bid and subsequent award of contract by the Board of Transportation as:

Name of MBE/WBE/DBE Subcontractor Toni Levy and Associates, Inc.
Address 1608 W. Broadway
City Louisville State KY Zip 40203

Please check all that apply:

Minority Business Enterprise (MBE)

Women Business Enterprise (WBE)

Disadvantaged Business Enterprise (DBE)

The MBE /WBE /DBE status of the above named subcontractor is certified by the North Carolina Department of Transportation. The above named subcontractor is prepared to perform the described work listed on the attached MBE/WBE/DBE Commitment Items sheet, in connection with the above contract upon execution of the bid and subsequent award of contract by the Board of Transportation. The above named subcontractor is prepared to perform the described work at the estimated Commitment Total for Subcontractor Price identified on the MBE/WBE/DBE Commitment Items sheet and amount indicated below.

Commitment Total based on estimated Unit Prices and Quantities on the "attached" MBE/WBE/DBE Commitment Items sheet. Amount \$ 49,066.57/100

The above named bidder and subcontractor mutually accepts the Commitment Total estimated for the Unit Prices and Quantities. This commitment total is based on estimated quantities only and most likely will vary up or down as the project is completed. Final compensation will be based on actual quantities of work performed and accepted during the pursuance of work. The above listed amount represents the entire dollar amount quoted based on these estimated quantities. No conversations, verbal agreements, and/or other forms of non-written representations shall serve to add, delete, or modify the terms as stated.

This document shall not serve in any manner as an actual subcontract between the two parties. A separate subcontractor agreement will describe in detail the contractual obligations of the bidder and the MBE/WBE/DBE subcontractor.

Affirmation

The above named MBE/ WBE/ DBE subcontractor affirms that it will perform the portion(s) of the contract for the estimated dollar value as stated above.

Toni Levy and Associates, Inc.
Name of MBE/ WBE/ DBE Subcontractor

Turn-Key Tunneling, Inc.
Name of Bidder

Toni Levy President
Signature / Title

[Signature] Lead Estimator
Signature / Title

02-14-19
Date

2/14/19
Date

Contract No. DND00655

Rev. 1-16-18

County Macon

**EXECUTION OF CONTRACT
NON-COLLUSION, DEBARMENT AND GIFT BAN CERTIFICATION**

CORPORATION

The Contractor declares (or certifies, verifies, or states) under penalty of perjury under the laws of the United States that neither he, nor any official, agent or employee has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with this Contract, that the Contractor has not been convicted of violating N.C.G.S. § 133-24 within the last three years, and that the Contractor intends to do the work with its own bonafide employees or subcontractors and did not bid for the benefit of another contractor.

By submitting this Execution of Contract, Non-Collusion and Debarment Certification, the Contractor is certifying his status under penalty of perjury under the laws of the United States in accordance with the Debarment Certification attached, provided that the Debarment Certification also includes any required statements concerning exceptions that are applicable.

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

SIGNATURE OF CONTRACTOR

Turn-Key Tunneling, Inc.

Full name of Corporation

1247 Stimmel Rd, Columbus, OH 43223

Address as Prequalified

Attest

[Signature]

Secretary/Assistant Secretary
Select appropriate title

By

[Signature]

President/Vice President/Assistant Vice President
Select appropriate title

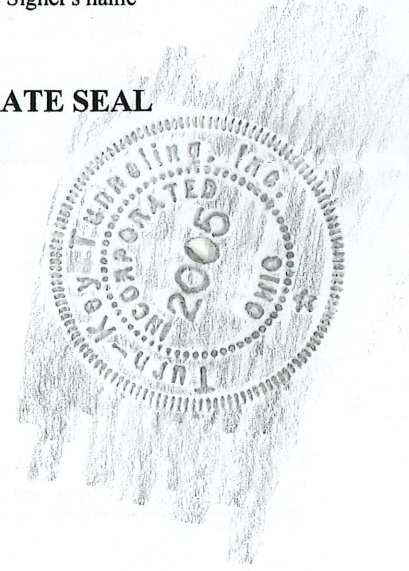
Brian Froehlich

Print or type Signer's name

Christine Froehlich

Print or type Signer's name

CORPORATE SEAL



DEBARMENT CERTIFICATION

Conditions for certification:

1. The prequalified bidder shall provide immediate written notice to the Department if at any time the bidder learns that his certification was erroneous when he submitted his debarment certification or explanation filed with the Department, or has become erroneous because of changed circumstances.
2. 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 provision, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. A copy of the Federal Rules requiring this certification and detailing the definitions and coverages may be obtained from the Contract Officer of the Department.
3. The prequalified bidder agrees by submitting this form, that he will not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in NCDOT contracts, unless authorized by the Department.
4. For Federal Aid projects, the prequalified bidder further agrees that by submitting this form he will include the Federal-Aid Provision titled *Required Contract Provisions Federal-Aid Construction Contract (Form FHWA PR 1273)* provided by the Department, without subsequent modification, in all lower tier covered transactions.
5. The prequalified bidder may rely upon a certification of a participant in a lower tier covered transaction that he is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless he knows that the certification is erroneous. The bidder may decide the method and frequency by which he will determine the eligibility of his subcontractors.
6. 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 provision. 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.
7. Except as authorized in paragraph 6 herein, the Department may terminate any contract if the bidder knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available by the Federal Government.

Contract No. DN0065
County Macon

Rev. 1-16-18

DEBARMENT CERTIFICATION

The prequalified bidder certifies to the best of his knowledge and belief, that he and his principals:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions 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 b. of this certification; and
- d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- e. Will submit a revised Debarment Certification immediately if his status changes and will show in his bid proposal an explanation for the change in status.

If the prequalified bidder cannot certify that he is not debarred, he shall provide an explanation with this submittal. An explanation will not necessarily result in denial of participation in a contract.

Failure to submit a non-collusion and debarment certification will result in the prequalified bidder's bid being considered non-responsive.

Check here if an explanation is attached to this certification.

Contract Item Sheets For DN00655

| Line # | ItemNumber | Sec # | Description | Quantity Unit | Unit Bid Price | Amount Bid |
|----------------------|--------------|-------|---|----------------|----------------|------------|
| ROADWAY ITEMS | | | | | | |
| 0001 | 0000100000-N | 800 | MOBILIZATION | Lump Sum LS | 25,000.00 | 25,000.00 |
| 0002 | 0000400000-N | 801 | CONSTRUCTION SURVEYING | Lump Sum LS | 1,500.00 | 1,500.00 |
| 0003 | 0043000000-N | 226 | GRADING | Lump Sum LS | 25,000.00 | 25,000.00 |
| 0004 | 0335400000-E | 305 | 24" DRAINAGE PIPE | 76 LF | 125.00 | 9,500.00 |
| 0005 | 0973100000-E | 330 | *** WELDED STEEL PIPE, ***** THICK, GRADE B IN SOIL (48)(0.844) | 145 LF | 1,125.00 | 163,125.00 |
| 0006 | 1220000000-E | 545 | INCIDENTAL STONE BASE | 30 TON | 75.00 | 2,250.00 |
| 0007 | 2209000000-E | 838 | ENDWALLS | 26 CY | 1,800.00 | 46,800.00 |
| 0008 | 2275000000-E | SP | FLOWABLE FILL | 25 CY | 350.00 | 8,750.00 |
| 0009 | 3628000000-E | 876 | RIP RAP, CLASS I | 64 TON | 175.00 | 11,200.00 |
| 0010 | 4457000000-N | SP | TEMPORARY TRAFFIC CONTROL | Lump Sum LS | 25,000.00 | 25,000.00 |
| 0011 | 6000000000-E | 1605 | TEMPORARY SILT FENCE | 250 LF | 10.00 | 2,500.00 |
| 0012 | 6006000000-E | 1610 | STONE FOR EROSION CONTROL, CLASS A | 50 TON | 125.00 | 6,250.00 |
| 0013 | 6018000000-E | 1620 | SEED FOR TEMPORARY SEEDING | 50 LB | 8.00 | 400.00 |
| 0014 | 6021000000-E | 1620 | FERTILIZER FOR TEMPORARY SEED- ING | 0.5 TON | 2,000.00 | 1,000.00 |
| 0015 | 6030000000-E | 1630 | SILT EXCAVATION | 20 CY | 75.00 | 1,500.00 |
| 0016 | 6036000000-E | 1631 | MATTING FOR EROSION CONTROL | 100 SY | 15.00 | 1,500.00 |
| 0017 | 6042000000-E | 1632 | 1/4" HARDWARE CLOTH | 25 LF | 25.00 | 625.00 |
| 0018 | 6084000000-E | 1660 | SEEDING & MULCHING | 1 ACR | 5,000.00 | 5,000.00 |
| 0019 | 6117000000-N | SP | RESPONSE FOR EROSION CONTROL | 2 EA | 750.00 | 1,500.00 |
| 0020 | 6117500000-N | SP | CONCRETE WASHOUT STRUCTURE | 2 EA | 1,500.00 | 3,000.00 |

| Line # | ItemNumber | Sec # | Description | Quantity Unit | Unit Bid Price | Amount Bid |
|--------|--------------|-------|-------------------------|---------------|----------------|------------|
| 0021 | 3656000000-E | 876 | GEOTEXTILE FOR DRAINAGE | 100 SY | 15.00 | 1,500.00 |

TOTAL AMOUNT OF BID FOR ENTIRE PROJECT

\$342,900.00

0817/Feb27/Q970.5/D79268500000/E21

Execution of Contract

Contract No: DN00655

County: Macon

ACCEPTED BY THE DEPARTMENT

DocuSigned by:

Jeffrey E. Alspangh

180F4BFF87884E1...

Proposals Engineer

2/27/2019

Date

EXECUTION OF CONTRACT AND BONDS
APPROVED AS TO FORM:

DocuSigned by:

Brian Burch

E64230B81D7D44B...

Division Engineer

2/27/2019

Date

Signature Sheet (Bid) - ACCEPTANCE SHEET



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

2/22/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must have **ADDITIONAL INSURED** provisions or be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| | | | |
|---|---|---|----------------|
| PRODUCER Overmyer Hall Associates 1600 W. Lane Ave., Ste. 200 Columbus OH 43221 | CONTACT NAME: Karen Pirtle PHONE (A/C. No. Ext): 614-453-4400 E-MAIL ADDRESS: ohacertificates@oh-ins.com | FAX (A/C. No): 614-453-9360 | |
| | INSURER(S) AFFORDING COVERAGE | | NAIC # |
| INSURED Turn-Key Tunneling, Inc. 1247 Stimmel Rd Columbus OH 43223 | TURNTUN-01 | INSURER A : CNA INSURER B : ZURICH AMERICAN INS CO INSURER C : INSURER D : INSURER E : INSURER F : | 35289 16535 |

COVERAGES

CERTIFICATE NUMBER: 909514072

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

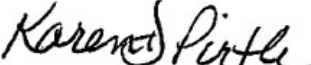
| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS |
|----------|---|-----------|----------|---------------|-------------------------|-------------------------|---|
| A | <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER: | Y | | 6075764250 | 2/1/2019 | 2/1/2020 | EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 15,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$ |
| A | <input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY | | | 6075764264 | 2/1/2019 | 2/1/2020 | COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$ |
| A | <input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 10,000 | | | 6075764281 | 2/1/2019 | 2/1/2020 | EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 \$ |
| B | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below | Y/N | N/A | WC1020979 | 4/12/2018 | 4/12/2019 | <input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000 |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Contract No. DN00655 Grading, Trenchless Pipe Installation, Flowable Fill, Pipe Abandonment – Macon County

The State of North Carolina Department of Transportation is Additional Insured per attached General Liability Blanket Additional Insured endorsement CNA75079XX 10 16. Subject to signed written contract, policy terms, conditions, and exclusions.

CERTIFICATE HOLDER**CANCELLATION**

| | |
|---|---|
| The State of North Carolina Department of Transportation 1501 Mail Service Center Raleigh NC 27699-1501 | SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE  |
|---|---|

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