

ADDENDUM # 1

May 24, 2024

City of Sedalia Project Number: 2024-009

Sedalia Smaller Sewer Project “A”

Closing date: 2:00 P.M., Thursday, May 30, 2024

Bidders shall note these changes to the above Request for Quotation and incorporate these changes in their submittal. Bidders shall attach a signed acknowledged copy of this addendum to their quotation.

This addendum consists of the following information:

Bid Date

The bid date has not been changed.

Bid Form

The bid form has not been changed.

Responses to Contractor Questions

See included pre-bid meeting minutes for responses to all Contractor questions.

Project Manual

The below listed items are additions or updates to the project manual:

- Latest Missouri Division of Labor Standards – Annual Wage Order No. 31
- KC APWA Specification Section 2100 (Grading & Trench Boring)
- USACE Stream Crossing Permit

Plans

The plans have not changed.



5/24/2024

Kelly Lohsandt, P.E.
MO PE-2021032813

ACKNOWLEDGEMENT

The undersigned bidder hereby certifies that the changes set forth in this addendum have been incorporated in their bid and is a part of the project.

FIRM _____

Date _____

SIGNED _____

Title _____

PRE-BID MEETING MINUTES

PROJECT: SEDALIA SMALL SEWER PROJECT A

CLIENT: CITY OF SEDALIA

PRE-BID MEETING MINUTES

May 21, 2024

1:00 P.M. – 3:00 P.M.

Attendees: (See attached Sign-In Sheet)

City of Sedalia: Jeremy Stone, Dave Gerken

Engineering Surveys & Services: Ben Ross & Kelly Lohsandt (virtual)

Contractors: C&E Excavating

Others: WireCo: Mark Svuba

I. Meeting Minutes:

- A. Meeting started at 1:02 P.M.
- B. Ben Ross went through the meeting agenda, discussed plans, bid form, and project manual.
- C. The question was asked if ES&S could handle project's surveying.
 - i. Yes ES&S can handle the surveying, contact us for proposals.
- D. Note on the bid form that all the RailPros work items are lump sum. The contractor will need to include the risk of additional time working in the railroad right-of-way with their bid.
- E. Ben mentioned that he recalled that everyone must be at least 25 feet away from the railroad track when the train goes by.
- F. If the contractor would like to install a larger diameter steel casing under the railroad, at no additional cost to the Owner, that would be acceptable. Permission from Union Pacific Railroad would be required.
- G. Ben reviewed the boring and test pit data on the plans in the area of the railroad bore.
- H. Ben discussed the Lump Sum bid items especially as they relate to the RailPros services, and survey monitoring of the rail road right-of-way.
- I. Contractor asked to confirm access to the south side of the project.
 - i. Access would be from the south through the existing City easements that run up to the lift station. There is a temporary construction easement still in place along the east side of the lift station that the contractor would have the rights to use for access etc. Additional sections of the lift station fence would likely need to be removed to drive through the lift station northeast corner to access the project.
- J. Construction schedule of 60 days substantial completion and 90 days final completion was discussed. Contractors present stated that this was a tight timeline.
 - i. The City plans to stick with the 60 and 90 day timeline from notice to proceed.
- K. Ben defined 'substantial completion' as the pipe is in the ground, tested, and ready for the city to use; 'final completion' was grass is seeded and equipment is gone from the site, demobilization has completed.
- L. The Corps of Engineers Permit is not included with the Project Manual, it will be issued with the meeting minutes as an addendum.
- M. It is not expected that the Corps of Engineers to be present for stream impacts.
- N. Those present went to walk the site.

II. Site Visit Notes/Questions brought up during project walk through:

- A. The City has cleared trees and brush in the temporary construction easement, a brush pile is still onsite.
 - i. The City will remove that brush pile prior to construction.
- B. Old tires were found at site walk through, these are to be removed and properly disposed of by contractor.
- C. Large logs located onsite were left there by City when clearing happened, the city would like to keep those. Contractor shall not remove logs from site.
- D. Question was asked if contractor could bore under the stream.
 - i. Yes, the Contractor can bore under the stream. A steel casing over the pipe would be required in lieu of the concrete casing per plan. Note - that crossing does have relatively flat slopes.
- E. Small tree removal is anticipated on the north side of the railroad tracts in immediate area of the proposed manhole. Small live trees/brush that do not have exfoliating bark can be removed by the contractor as needed.
- F. Contractor can not remove trees on the railroad right-of-way.
- G. Power lines are noted near the north manhole.
- H. No connection fitting was found to be stubbed in the tie-in manhole, the contractor will need to core into the manhole to tie in.

PRE-CONSTRUCTION MEETING

PROJECT: SEDALIA SMALL SEWER PROJECT A

CLIENT: CITY OF SEDALIA



Engineering Surveys
& Services

DELIVERING YOUR VISION™

PRE-CONSTRUCTION MEETING SIGN-IN SHEET

May 21, 2024

1:00 P.M. – 3:00 P.M.

Name:	Company:	Phone Number:	Email:
Chris Holern	C&E Excavating	660-829-3478	Chris@C&E Excavating.nci
MARK SVUBA	WIRECO	816-617-3216	MARKSVUBA@WIRECO.COM
Bob Slaughter	C&E Excavating	660-281-1768	bob@s@candeeexcavating.net
Jeremy Stone	City	660-619-1209	jstone@sedalia.com
DAVE GERKEN	City	660-221-8844	DGerken@sedalia.com

PRE-CONSTRUCTION MEETING

PROJECT: SEDALIA SMALL SEWER PROJECT A

CLIENT: CITY OF SEDALIA



PRE-CONSTRUCTION MEETING SIGN-IN SHEET

May 21, 2024

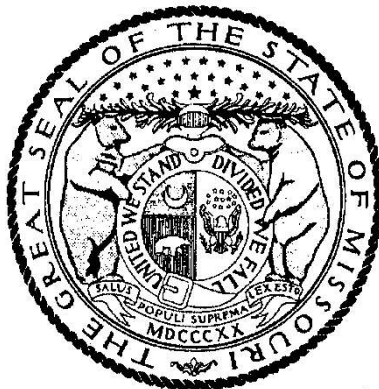
1:00 P.M. – 3:00 P.M.

Name:	Company:	Phone Number:	Email:
Jeremy Stone	City	660-619-1209	jstone@sedalia.com
Ben Ross	ES&S		
Kelly Lohsandr	ES&S	by phone	

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MICHAEL L. PARSON, Governor

Annual Wage Order No. 31

Section 080
PETTIS COUNTY

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by

Todd Smith, Director
Division of Labor Standards

Filed With Secretary of State: March 8, 2024

Last Date Objections May Be Filed: April 8, 2024

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$26.51*
Boilermaker	\$26.51*
Bricklayer-Stone Mason	\$55.70
Carpenter	\$54.95
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$26.51*
Plasterer	
Communication Technician	\$26.51*
Electrician (Inside Wireman)	\$71.03
Electrician Outside Lineman	\$26.51*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	\$26.51*
Glazier	\$26.51*
Ironworker	\$68.67
Laborer	\$26.51*
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$26.51*
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$26.51*
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$41.49
Plumber	\$76.75
Pipe Fitter	
Roofer	\$60.63
Sheet Metal Worker	\$75.15
Sprinkler Fitter	\$66.78
Truck Driver	\$26.51*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in RSMo Section 290.210.

Heavy Construction Rates for
PETTIS County

Section 080

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$52.84
Millwright	
Pile Driver	
Electrician (Outside Lineman)	\$26.51*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$26.51*
General Laborer	
Skilled Laborer	
Operating Engineer	\$26.51*
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$26.51*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate Sheet.

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title.

OVERTIME and HOLIDAYS

OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, "**overtime work**" shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

HOLIDAYS

January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

**DIVISION II
CONSTRUCTION AND MATERIAL SPECIFICATIONS
SECTION 2100 GRADING AND SITE PREPARATION**

APPROVED AND ADOPTED THIS 15th DAY OF FEBRUARY, 2017

**KANSAS CITY METROPOLITAN CHAPTER
OF THE AMERICAN PUBLIC WORKS ASSOCIATION**

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(Scrivener's errors corrected on pages 14 and 22 – underlined – May 31, 2017)

SECTION 2101 CLEARING, GRUBBING, AND SITE PREPARATION

2101.1 Scope

This section governs the furnishing of all labor, materials, and equipment for the performance of all clearing, grubbing, and demolition within the limits of work as shown on the Plans and in accordance with the Standard Drawings, the Specifications, and the Special Provisions.

2101.2 Referenced Standards

The following standards are referenced directly in this section. The latest version of these standards shall be used. If conflicting standards are referenced, the more stringent standard shall apply.

APWA

2150	Erosion and Sediment Control
2201	Subgrade Preparation
2203	Aggregate Base
2307	Fencing
2700	Structures

ASTM

ASTM C 150	Standard Specification for Portland Cement
ASTM C 260	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C 33	Standard Specification for Concrete Aggregates
ASTM C 494	Standard Specification for Chemical Admixtures for Concrete
ASTM C 618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM D 698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort
ASTM C 1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D 4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4832	Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders

Kansas Department of Transportation

Standard Specifications for State Road and Bridge Construction, 2015 Edition
KDOT AB-3 Aggregate Base

Missouri Highways and Transportation Commission

Missouri Standard Specifications for Highway Construction, 2011 Edition
MoDOT Types 1 or 5 Aggregate Base

2101.3 Definitions

The following terms have the meanings indicated:

- A.** Clearing: Clearing shall consist of removing all vegetative matter such as trees, brush, down timber and other objectionable materials found on or above the surface of the site. It shall include removing buildings, fences, lumber, waste dumps and trash and the salvaging of such materials as may be specified and disposing of the debris.

The Contractor shall not occupy any portion of the Project Site prior to the date established in the Notice to Proceed without prior approval of the Owner.

- B.** Grubbing: Grubbing shall consist of removing and disposing of all vegetative matter such as stumps, roots, buried trees and brush encountered below the surface of the ground or subgrade, whichever is lower, which have not been included in Section 2101.2.A entitled "Clearing".

Trees to be removed shall be completely removed, including stump and large roots, unless such removal may result in damage to existing utilities. In that event, trees shall be sawn off not more than four (4) inches above the ground and the stump shall be removed to twelve (12) inches below finish grade.

In all cases of grubbing, the vegetative matter shall be removed to a minimum depth of 12 inches below ground line or subgrade, whichever is lower, except as provided in Section 2101.3.C.

When deleterious materials are encountered below ground line which may be detrimental to the proposed improvement, these materials shall be removed to a depth necessary to provide adequate support for the proposed improvement.

- C.** Site Preparation: Site Preparation shall consist of all initial preparation work for the project site and includes, but is not limited to: steps to minimize site disturbance of existing vegetative, structures and private property; phasing and sequence construction activities into logical work zones; installation of erosion control measures; topsoil stripping, stockpiling and spreading; identifying haul roads, construction entrances and/or exits, construction parking areas; mailbox and fencing adjustments; etc. All site preparation shall be considered incidental unless such site preparation is listed separately in the Contract Documents.

- D.** Demolition and Removal: This work shall consist of demolishing, removing, and disposing of all structures and improvements within the construction limits unless included in other items of work as shown on the Plans or in the Special Provisions. This work shall apply to all structures and improvements, whether on, above or below the surface of the ground or subgrade.

Demolition and removal shall include but not be limited to items such as buildings, drainage structures, pipes, pavements, fences, retaining walls, guard rails, and signs.

Items such as fences, drainage structures, streetlighting, signing and guard rails shall be salvaged and relinquished to the appropriate owner or relocated, where indicated on the Plans.

Relocation of signs, fences, guardrails, etc. shall be considered incidental to removal work except where such relocation is listed separately in the Contract Documents.

All pipes which are to be abandoned shall be removed unless otherwise shown on the Plans or approved by the Engineer.

- E.** Trees: Vegetative growth 6 inches in diameter and larger, measured 3 feet above ground shall be classified as a tree.
- F.** Brush: Vegetative growth less than 6 inches in diameter, measured 3 feet above ground shall be classified as brush.

2101.4 Construction

- A. Erosion and Sediment Control: Comply with Section 2150 Erosion and Sediment Control.
- B. Limits of Work: The limits for clearing, grubbing, and demolition shall extend to the construction limits unless otherwise shown on the Plans. Contractor shall do all clearing necessary for performance of their work and shall confine their operations to that area provided through easements, licenses, agreements and rights-of-way. The Contractor's entrance upon any lands outside of that area provided by easements, licenses, agreements or public rights-of-way, shall be at the Contractor's sole liability.

In the event construction limits have not been indicated on the Plans, the limits for clearing, grubbing, and demolition shall not extend beyond the limits of the Owner's property, right-of-way, or easements.

- C. Protection of Greenery, Existing Structures and Private Facilities: The Plans will designate trees, shrubs or other plants that are to be saved and the Contractor will take necessary steps to protect this greenery. All reasonable effort shall be made to save as many trees as possible. If trees can be saved by trimming, this shall be done in accordance with acceptable pruning practices. Trees may be pruned, upon prior approval of the Engineer, but only in accordance with the best practices of arboriculture in respect to the individual species with due regard to their natural form and growth characteristics.

Small Plants and Flowers: At least two weeks prior to the start of construction, property owners shall be notified by the Contractor of the proposed starting date. The purpose of this notification is so that the property owners can remove any small plants or flowers that they, the property owners, desire to save.

Existing structures within or adjacent to the construction limits that are not to be removed or demolished, shall be protected by the Contractor during their construction. Any private facilities such as house sewer laterals which are disturbed or damaged by the Contractor's work, shall be repaired by the Contractor prior to the close of the work day. This repair shall be made in a manner sufficient to restore utility service to that property. Restoration of utilities damaged by the Contractor shall be restored as directed by the utility company at no additional cost to the Owner. Unless otherwise provided in Basis of Payment no separate or additional payment will be made for any work in connection with removal, relocation or restoration of obstructions and existing facilities.

- D. Surface Obstructions: Natural obstructions, existing facilities and improvements encountered during site preparation shall be removed, relocated, reconstructed or worked around as herein specified. Care shall be used while performing site preparation work adjacent to any facilities intended to remain in place. Except as otherwise specified, the Contractor shall be responsible for any damage to existing facilities and improvements and any repairs required shall be promptly made at the Contractor's expense. Waste materials shall be disposed of in a satisfactory manner off the work site.
- E. Surface Obstructions for Pipeline Trenches: Sidewalks, curb and gutter, drainage structures and similar obstructions shall be tunneled under if tunneling is best suited, otherwise the obstruction shall be cut in straight lines or removed to the nearest construction joint if located within five feet of the center-line of the trench. In no case shall the joint or line of cut be less than one foot outside the edge of the trench. Surface obstructions removed to permit construction shall be reconstructed as specified and to the dimensions, lines and grades of original construction.
- F. Embankment Areas: When undisturbed stumps and roots are encountered where the fill depth will exceed 3 feet, the stumps and roots may be left in place provided they do not extend more than 3 inches above the original ground line.

- G.** Borrow Areas: All stumps, roots and other objectionable matter shall be removed from the borrow material used for embankment or fill. The borrow area shall be left in a well-drained and smooth condition.
- H.** Backfilling the Site: All trenches, holes, pits, and basement areas resulting from the operations of clearing, grubbing, demolition and removal on the site, shall be backfilled with suitable material placed and compacted in conformance with applicable sections of these specifications.
- I.** Disposal of Materials: All materials with the exception of those which are designated for salvage or which are used in the embankment in conformance with this specification, shall become the Contractor's property and shall be disposed of by Contractor, outside the project limits at a site as approved by the Owner, unless otherwise indicated on the Plans. The disposal of waste and excess excavated materials, including hauling, handling, grading, and surfacing shall be a subsidiary obligation of the Contractor.
- J.** Hazardous Materials
1. In the event hazardous waste as defined by the Resource Conservation and Recovery Act of 1976 (PL94-580) are encountered, work shall be halted and the Owner shall be notified. Work shall be resumed only after the Owner notifies the Contractor. Regulation of removal, handling and disposal of hazardous wastes is the responsibility of Federal and State agencies.
 2. All other items classified as "hazardous" shall be disposed of in accordance with the applicable codes. The Contractor shall refer to Section 2150 entitled "Erosion and Sediment Control".
- K.** Items to be Left in Place: In removing items such as concrete pavements, curbs, curb and gutter, sidewalks and similar objects where portions of these objects are to be left in place they shall be removed to an existing joint or a new joint, sawed to a minimum depth of 2 inches or $\frac{1}{4}$ the slab thickness, whichever is greater. This joint shall be to true line and vertical face. Sufficient portions of such items shall be removed to provide the proper grade and connection to the new work.
- L.** Mailboxes: Mailboxes shall be maintained in the manner that the Postal Service requires to prevent interruption of mail delivery.
- M.** Fences: Refer to Section 2307 for fencing.
- N.** Property Pins: The Contractor shall preserve all property corners, pins or markers. In the event any property corners, pins, or markers are removed by the Contractor, such property points shall be replaced at the Contractor's expense and shall be reset by competent surveyors properly licensed to do such work. In the event such points are section corners or Federal land corners, they shall be referenced and filed with the appropriate authority.
- O.** Subsurface Obstruction of Pipeline Trenches: Where existing utilities and service lines are to be encountered, the Owner thereof shall be notified by the Contractor at least 48 hours (not including weekends and/or holidays) in advance of performing any work in the vicinity. All excavation, pipeline installation and backfilling work in the vicinity of such utilities shall be accomplished in the manner required by the respective Owner and, if requested, under their direct supervision. The Contractor shall be responsible for any and all damages to a public or private utility that may occur as the result of the construction.

The Contractor shall make a reasonable effort to ascertain the existence of obstructions and shall locate obstructions by digging in advance of machine excavation where definite information is not available as to their exact location. Where such facilities are unexpectedly encountered and damaged, responsible officials and

other affected utilities shall be notified and arrangements made for the prompt repair and restoration of service.

SECTION 2102 GRADING

2102.1 Scope

This section governs the furnishing of all labor, materials, and equipment required to excavate, place, remove, dispose or compact materials encountered within the limits of the project as shown on the Plans and in accordance with the Standard Drawings, the specifications, and the Special Provisions.

2102.2 Definitions

The following terms have the meanings indicated:

- A.** Grading: Grading as used herein shall mean the performance of all excavation, embankment, and backfill in connection with the construction of all improvements.
- B.** Excavation: Excavation is defined as the removal of materials from the construction area to the lines and grades shown on the Plans and includes trenching for pipelines, utilities, and structures.
 - 1. Unclassified Excavation: Unclassified excavation is defined as the removal of all material encountered regardless of its nature. All material excavated will be considered as Unclassified Excavation unless otherwise specified in the Contract Documents.
 - 2. Rock Excavation: Rock excavation is defined as the removal of all rock ledges 6 inches or more in thickness, and detached rock or boulders having a volume of more than 1 ½ cubic yards and shale occurring in its natural state, hard and un-weathered.
 - a. A rock ledge is defined as a continuous body of rock which may include thin interbedded seams of shale or other soft materials less than 12 inches thick. The vertical limit of each ledge shall be defined by interbedded seams of soft materials 12 inches or more in thickness. The beds of soft interbedded material 12 inches or more in thickness shall not be included in the measurement for "Rock Excavation" but shall be included in the measurement for "Earth Excavation".
 - b. The following items shall not be considered as rock excavation: soft or disintegrated rock or flowable backfill (CLSM) which can be removed with a pick or digging machine; loose, shaken or previously blasted rock; broken stones and rock which may fall into the trench from outside the limits of excavation.
 - c. When solid rock (including non-diggable flowable backfill (CLSM)) is unexpectedly discovered, the Contractor shall notify the Owner.
 - 3. Earth Excavation: Earth excavation is defined as the removal of all material not defined as rock.
 - 4. Trench Excavation: Trench excavation is defined as excavation to the width and depth as necessary to lay the pipe to the grade line as indicated on the Plans and in the specifications.
 - 5. Tunneling, Boring and Jacking: Includes all underground horizontal excavations necessary to install the pipeline to the grade line as indicated on the Plans and in the specifications.

- C. Trench Foundation: The area at the bottom of the excavation shall be composed of a stable material capable of supporting the placement of bedding material, pipe, or structures.
- D. Unstable Foundation: Materials encountered in the bottom of the trench deemed as unsuitable by the Engineer to afford a sufficiently stable pipe foundation.
- E. Flowable Backfill / Controlled Low Strength Material (CLSM): A mixture of portland cement, fly ash (optional), fine aggregate, water, and admixtures (as approved by the Engineer) proportioned to a consistency to fill voids without vibration. Flowable Backfill (CLSM) shall consist of:
1. Cement: The portland cement shall conform to ASTM C 150, Type 1 or Type II.
 2. Fly ash: Fly ash, when used, shall conform to the requirements of ASTM C 618 Class C or F.
 3. Fine Aggregate: Fine aggregate shall conform to ASTM C 33.
 4. Mixing Water: Mixing water shall conform to ASTM C 1602.
 5. Admixtures: Air entrainment, when used, shall conform to ASTM C 260. Water reducing admixtures, when used, shall conform to ASTM C 494. All other admixtures shall only be used when approved by the Engineer.
 6. Other materials: Proposed replacement or supplementary materials shall be approved by the Engineer and in conformance with current NRMCA or ACI guidelines for CLSM.

Flowable Backfill (CLSM) compressive strength testing results are required for approval of mix design prior to placement of flowable backfill. Compressive tests are to be conducted at 7 and 28 days in accordance with ASTM D 4832. CLSM shall have a minimum and maximum 28-day design compressive strength of 50 psi and 125 psi, respectively. The unit weight of the CLSM shall be a maximum of 125 lbs. per cubic foot (pcf). All tests necessary for determining conformance with the requirements specified herein will be at the Contractor's expense.

- F. Bedding: The placing and compacting of the aggregate material above the stable foundation and below the pipes or structures.
- G. Embedment: The placing and compacting of approved material surrounding the pipe up to a maximum of 12-inches above the top of pipe.
- H. Embankment or Backfill: The placing and compacting of approved material in the construction areas to the lines and grades shown on the Plans.
1. Unsuitable Material: Muck, frozen material, organic material, top soil, or rubbish. Rock with a maximum dimension greater than 24 inches is also defined as unsuitable. Top soil is unsuitable for embankment and backfill, but may be used as the surfacing for graded areas to be seeded or sodded (see Section 2400).
 2. Suitable Material: Suitable material is defined as entirely imperishable with that portion passing the No. 40 Sieve having a liquid limit not exceeding 40 and a plastic index not exceeding 25, when tested in accordance with ASTM D 4318.

- a. Rock Embankment: Material for rock embankment shall be free of unsuitable material and shall contain, by volume, greater than 10 percent rock or gravel having a maximum dimension greater than 3 inches but not greater than 24 inches.
 - b. Earth Embankment: Material for earth embankment shall be free of unsuitable material and shall, contain by volume, less than 10 percent rock or gravel having a maximum dimension greater than 3 inches.
- 3. Pipe Backfill: Pipe backfill materials shall be furnished and installed to complete the work shown on the Plans or as called for in the Contract Documents.
 - a. Select Earth Backfill Material: Select earth backfill shall be finely divided job excavated material free from debris, organic matter, rocks larger than one (1) inch and/or frozen materials.
 - b. Other Earth Backfill: Other backfill may be job excavated material free from debris and organic matter. No rock greater than three-inches in diameter shall be placed in any trench excavation as backfill unless approved by the Engineer.
 - c. Aggregate Backfill Material: Approved material meeting ASTM C33 requirements and the specified gradations.
 - d. Flowable Backfill (CLSM): See Section 2102.2.E.
- I. Borrow: Approved material excavated from an area outside of the project limits and required for the construction of the embankment.
- J. Waste: Waste is defined as excavation material not used in the embankment and disposed of outside of the embankment areas.
- K. Structures: Used herein refers to culverts, storm sewer and/or sanitary appurtenances, and similar construction. See Section 2700 for other structures.

2102.3 Construction

- A. The Contractor shall adhere to any and all statutes regarding the notification of utilities prior to beginning any work within public right-of-way. The relocation and/or protection of any utility that is shown on the Plans, that lies within a utility easement and is endangered by this construction shall be the responsibility of the Contractor.
- B. The Contractor shall make every reasonable effort to protect private facilities. These facilities may not be shown on the Plans. When these facilities are disturbed or damaged by the work, the Contractor shall make necessary arrangements for repairs to the facilities for continuous service prior to the close of that work day.
- C. It shall be the responsibility of the Contractor to protect all property lot corners and control monumentation. Should it be necessary to disturb any such monument, whether stake, pin, bar, disk, box, or other, it remains the responsibility of the Contractor to reference such markers prior to removal, reset them, and file such relocations or monumentation documents as the law may require. Any such references, removal, replacement and certification of monuments shall be performed by a registered licensed surveyor. A copy of all such certification documents shall be provided to the Owner prior to final payment. Any monument destroyed or improperly reset by the Contractor may be replaced by the Owner to the standards required by law at the expense of the Contractor.
- D. Grading, excavation, and backfilling for all improvements, shall be made to the lines, grades, and cross sections indicated by the Plans.

- E.** In addition, to any erosion control measures shown on the Plans, the Contractor shall schedule and conduct their operation in such a manner and shall provide any necessary control facilities to protect downstream and adjacent properties from pollution, sedimentation, or erosion caused by the grading operations. Any pollution or damage occurring shall be the responsibility of the Contractor. See Section 2150 Erosion and Sediment Control.
- F.** During construction, the graded area shall be maintained by the Contractor in such condition that it will be well drained at all times. Roadway ditches, channel changes, inlet and outlet ditches and other ditches in connection with the roadway shall be cut and maintained to the required cross section. All drainage work shall be performed in proper sequence with other operations. All ditches and channels shall be kept free of debris or obstructions not identified in the erosion control plan.
- G.** All suitable material removed by excavation shall be used as far as practicable in the formation of embankment as required to complete the work. The Contractor shall sort all excavated material and stockpile when necessary, so as to provide suitable materials for embankments.
- H.** After removal of the roadway excavation material to the required section, all material between lines 1 foot outside of the curbs and within the top 6 inches of the subgrade shall be compacted to 95 percent of maximum density for the material as defined in Section 2102.6.F.
- I.** Rock encountered within the full width of the roadway, toe of slope to toe of slope, shall be undergraded to an elevation of 6 inches below the finished subgrade elevation. Care shall be taken to avoid overshooting when blasting. Rock shall be removed in such a manner as to leave no excessive water pockets in the surface.
- J.** **Blasting:** When blasting is permitted by the Engineer, the Contractor shall use the utmost care to protect life and property. The Contractor shall obtain any required permits from the agency having site jurisdiction and shall comply with all laws, ordinances, and the applicable safety code requirements and regulations relative to the handling, storage and use of explosives and protection of life and property, and he shall be responsible for all damage caused by his or his subcontractor's operations.
1. The Contractor shall provide insurance as required by the Contract Documents before performing any blasting. The governing agency shall be notified at least 24 hours before blasting operations begin.
- K.** **No Blasting Areas:** No blasting of any kind for rock excavations or any other purpose will be allowed unless noted otherwise on the Plans or permitted by the Engineer.
- L.** Areas of undergrading or overbreakage in rock between lines 1 foot outside of the curbs shall be backfilled with spalls, rock fragments or a granular type material. Backfill materials shall have a plasticity index not to exceed 10 and a gradation such that at least 50 percent of the material will be retained on the No. 4 Sieve.
- M.** **Cribbing and Sheeting:** The Contractor shall furnish, install, and maintain such sheeting, bracing, and other components, as may be required to support any excavation and to prevent any movement which could in any way injure or delay the work or endanger adjacent pavement, building, or other structures. Care shall be taken to prevent voids outside of the sheeting, but if voids are formed they shall be immediately filled and consolidated.

For the purpose of preventing injury or property damage, Contractor may leave in place all sheeting or bracing, and other items to be embedded in the backfill of the trench. No sheeting or bracing, however, shall be left in

place within 5 feet of the surface without the written permission of the Engineer.

2102.4 Excavation, Trenching, And Backfilling For Pipe And Structures

A. Dewatering of Excavation

1. The Contractor shall maintain a dry and stable excavation, obtain necessary permits, and provide for the proper method of discharging water from the work site at all times until installation is completed.
2. The Contractor shall not allow hydrostatic pressure flotation or other adverse effects to cause damage to the structure or pipeline.
3. Proper dewatering techniques are the Contractor's responsibility. All work performed by the Contractor that is adversely affected by his/her failure to adequately dewater trenches will be subject to rejection by the Engineer. The Contractor shall repair and/or replace affected structures or pipelines.
4. The Contractor shall remove any water that may accumulate or be found in the trenches and other excavations made as part of the work.
5. Grading shall be done to prevent surface water from flowing into trenches or other excavations, and to maintain the flow of water in natural watercourses on or adjacent to the site. Any water accumulating in trenches or other excavations shall be removed by pumping or by other approved methods.

B. Trench Excavation: Trenches shall be excavated to the width and depth as necessary to lay the pipe to the grade line as indicated on the Plans with proper pipe embedment. The Contractor shall perform excavation of materials encountered in accordance with Section 2102.3, regardless of material type, to the depths indicated on the drawings or as otherwise specified herein. Excavated materials are to be deposited beside trenches and excavations to avoid overloading, and to prevent slides or cave-ins, transported to the spoil banks, or used for backfilling. All excavated materials not required or not suitable for backfill shall be removed and disposed of off the site by the Contractor as part of the Work. The trench excavation opened at one time shall be limited by the nature of the soil and other safety considerations.

1. All pipeline excavation work shall be accomplished under the supervision of a person employed by the Contractor or his subcontractor and experienced with the materials and procedures which will provide protection to existing improvements, including utilities and the proposed pipeline.
2. The alignment, depth, and pipe subgrades of all trenches shall be determined by a laser beam parallel to the pipe invert.
3. Deviation from the indicated alignment will not be permitted except under special circumstances, subject to approval of the Engineer.
4. Trenches that are parallel to structures, pavements or walls shall be no closer than 18 inches from the closest edge of footings or pavement. Also, no parallel trench shall extend in depth below a plane having a downward slope of 1 horizontal to 2 vertical starting from a line 9 inches above the bottom edge of footings or pavement. The bottom of pavement shall be the lowest improved section of pavement to include chemically stabilized subgrade or aggregate base layers.
5. When pipe is to be installed in embankment or fill, the embankment shall be constructed in accordance

with APWA section 2102.6 and shall be built up to a plane at least 18 inches above the top of the pipe prior to the excavation of the pipe trench.

6. The Contractor shall not open more trench in advance of pipe laying than is necessary. Four hundred (400) feet will be the maximum length of open trench allowed on any line under construction. All open trenches shall be adequately protected.
 7. Undercutting of trench walls is not permitted.
 8. Option to Trenching: Contractor may perform excavation by tunneling methods as set forth herein at no additional cost to the Owner provided prior written approval for each such location is obtained from the Engineer. The Contractor shall submit to the Engineer, prior to actual work, a written description of his proposed operation. It shall include the types and locations of shafts, methods to provide safe support strength for the pipeline when the shafts or bore pits exceed maximum allowable trench widths and other features that would affect the pipeline. Tunneling shall be done with a minimum inconvenience and disturbance to the general public and abutting property owners.
- C.** Trench Widths: Trenches shall be excavated to a width that will provide adequate working space and pipe clearances for proper pipe installation, jointing, and embedment. Over-excavation shall be replaced with granular bedding material or flowable backfill (CLSM). See applicable Plans, Standard Drawings, and manufacturers' recommendations for trench widths for pipe installations.
- D.** Preparation of Pipe Subgrade: Pipe subgrade shall be prepared to provide uniform and continuous support of pipe. The trench bottom shall be evenly graded. Areas that are too high shall be shaved as required. Any portions of the trench that are found to be too low shall be filled with suitable materials, thoroughly compacted, and brought to true grade, allowing for placement of bedding material as shown in the Standard Drawings.
- E.** Trench Bottom in Rock Excavation: Where rock is encountered in excavation, the rock shall be removed to provide a minimum clearance of 6 inches below and 6 inches along each side of the pipe.
- F.** Replacement of Unsuitable Pipe Foundation Material
1. If unstable subgrade conditions are encountered and it is determined by the Engineer that the excavation bottom will not provide suitable support, the Contractor shall remove all unstable or unsuitable material over the entire width of the trench to the depth required by the Engineer to provide a stable foundation. Removal shall not be less than 6 inches.
 2. Materials so removed shall be replaced with bedding aggregate material as specified herein. Bedding material shall be mechanically compacted over the entire width of the trench and shall be brought to proper grade, shape, and elevation for the installation of the pipe as shown on the Plans or Standard Drawings.
- G.** Granular Bedding Materials: Granular bedding material shall meet ASTM C33 with one of the following gradation requirements:

Sanitary Sewer Bedding Material Gradation Limits (% Passing)	
Sieve Size	3/4"
1"	100
3/4"	90 – 100
3/8"	20 – 55
No. 4	0 – 5
No. 8	0 – 2

Storm Sewer Bedding Material Gradation Limits (% Passing)			
Sieve Size	3/4"	1/2"	3/8"
1"	100		
3/4"	90 – 100	100	
1/2"		80 – 100	
3/8"	20 – 55	40 – 77	100
No. 4	0 – 10	0 – 15	30 – 40
No. 8	0 – 5	0 – 5	0 – 4

Waterline Bedding Material Gradation (% Passing)				
Sieve Size	Type 1 (1/2")	Type 2 (Buckshot)	Type 3 (Man. Sand)	Type 4 (River Sand)
3/4"	95 – 100			
3/8"	40 – 60	100	100	
1/4"			90 – 100	
No. 4		60 – 80	85 – 90	100
No. 8	0 – 5	0 – 15	35 – 75	
No. 50			10 – 25	
No. 200		0	0 – 10	0 – 10

- H. Pipe Embedment: All water, sanitary sewer, and storm sewer pipe shall be bedded in bedding aggregate as specified herein.
1. Bedding shall cover the entire width of trench.
 2. The first layer of bedding placed on the bottom of excavation shall be in accordance with Figures 1 through 3.
 3. Bedding at bottom of trench, in the middle 1/3 of trench under the pipe shall be loose.
 4. After pipe is placed, bedding material shall be placed in layers in accordance with manufacturer's recommendations.
 5. Second layer of bedding material shall be placed under the lower haunches of the pipe up to the springline (center of pipe). Material shall be spaded to be placed under haunches and compacted at the springline elevation prior to placing additional bedding material.
 6. The third layer of bedding material shall be placed to 12 inches over the top of pipe.
 7. Contractor shall take measures to prevent pipe from floating during placement of bedding material so that pipe maintains proper line and grade as shown on the Plans.

I. Trench Backfill

1. Backfill shall not be placed when material contains frost, is frozen, or a blanket of snow prevents proper compaction.
2. The Contractor shall remove from the project site waste material, trees, organic material, rubbish, or other deleterious materials.
3. All trash and debris shall be removed from the pipeline excavation prior to backfilling.
4. Backfill material shall be carefully placed to avoid damage to or displacement of the pipe, other utilities or structures.
5. Unless otherwise specified, all trenches and excavations around structures shall be backfilled to the original ground surface.
6. Outside of paved areas, the backfill material shall be placed in layers not exceeding 8-inches in loose thickness and be compacted to at least 90% of maximum density. Compaction testing shall be at the discretion of the Engineer.
7. The method of compaction and the equipment used shall be appropriate for the material to be compacted and shall not transmit damaging shocks to the pipe.
8. The combination of the thickness of the layer, the method of compaction and the type of compaction equipment used shall be at the discretion of the Contractor subject to obtaining the required densities.

J. Trench Backfilling in Street or Alley Right of Way and under Pavement

1. Narrow Trench: Suitable backfill material for trenches 24 inches or less in width and shall be flowable backfill (CLSM).
2. Standard Trench: Suitable backfill material for trenches between 24 to 48 inches wide shall be either flowable backfill (CLSM) or dense, well-graded aggregate base material. Aggregate base material shall meet the requirements for KDOT AB-3 or MoDOT Types 1 or 5.
3. Wide Trench: Suitable Backfill Material for trenches greater than 48 inches wide shall be either materials specified for standard trench or suitable material as specified for "Earth Embankment" in APWA Standard Specifications, Section 2102.2.H.
4. Suitable Backfill Material outside of paved areas within Right of Way, and all areas outside Right of Way, may be suitable material as specified for "Earth Embankment" in APWA Standard Specifications, Section 2102.2.H. Suitable Backfill Material may also be other trench backfill material (flowable backfill or aggregate base) depending on site conditions, trench widths or at the direction of the Engineer.
5. Aggregate backfill material placed between lines one foot behind curbs, or edge of uncurbed pavement, shall be meet density and testing requirements as outlined in APWA 2203 Aggregate Base Course.

6. The method of compaction and the equipment used shall be appropriate for the material to be compacted and shall not transmit damaging shocks to the pipe.
7. The combination of the thickness of the layer, the method of compaction and the type of compaction equipment used shall be at the discretion of the Contractor subject to obtaining the required densities.
8. A minimum of one compaction test shall be taken for each lift of earth embankment backfill or dense, well-graded aggregate base material for each road crossing or each 50 feet of trench length under pavement.
9. Testing shall be performed by a qualified testing lab hired by the Contractor and approved by the Owner.
10. Laboratory compaction test and index property test results for each material used on site shall be submitted to the Engineer prior to construction. Any work by Contractor prior to test submittals and subsequent Owner review and approval shall be work done at the Contractor's risk.
11. Test reports shall be submitted to the Engineer daily. The reports shall clearly indicate the location of all tests by street name, station and/or lot number, type of backfill material, utility type, and depth of test. The reports shall include the results of all tests (pass or fail) and all re-tests.
12. All test reports shall be submitted prior to receiving approval of subgrade for curb and pavement installation. Pavement, curb or other surface features placed prior to receiving subgrade approval shall be placed at the Contractor's risk.

K. Flowable Backfill (CLSM) Installation

1. Flowable Backfill (CLSM) shall be constructed to the configuration and the lines and grades shown on the Plans, or as directed by the Engineer. No additional payment will be allowed for placement beyond these limits.
2. The producer may cut back on the quantity of water incorporated during batching with the approval of the Engineer. Additional water may be added on-site to achieve the intended consistency. The final mix unit weight and compressive strength shall fall within the specified ranges as described in Section 2102.2.E.
3. No Flowable Backfill (CLSM) shall be placed on frozen ground or in standing water.
4. When the ambient temperature is either falling or forecasted to fall below 35° F within 24 hours of its proposed placement time, the Contractor may submit the use of cold weather methods for approval by the Engineer.
5. Care shall be taken to prevent the movement of any conduit, pipe or structure from the designated location or intrusion of flowable backfill into undesirable locations. If such movement or intrusion occurs, the Engineer may require the affected structure to be excavated and replaced to the proper grade at the Contractor's expense.
6. If flowable backfill is placed in more than one layer, loose and foreign material shall be removed prior to placing the next layer.

7. No flowable backfill shall be covered or accepted until a minimum compressive strength has been attained, as demonstrated by failure to deform or crush underfoot. If the flowable backfill does not harden to required strength, the flowable backfill shall be removed and replaced with an acceptable material at the Contractor's expense. Acceptance of the flowable backfill shall be based on visual inspection.
8. Random compressive strength testing may be conducted at the Owner's expense to verify compliance with strength requirements. Compressive tests shall be in accordance with ASTM D 4832.

L. Trench Checks

1. Install where shown on the Plans.
2. The backfill above the trench check shall meet the specifications for backfill material.

M. Excavation by Tunneling or Boring: Where depth of trench and soil conditions will allow it, tunneling may be required under pavement, railroad tracks, or other surface structures. Tunnel sections shall provide adequate clearance for pipe and workers for proper lining, grading, and jointing the pipe installed therein.

All tunnel excavation shall provide an excavation conforming to the outside diameter of the casing and/or carrier conduit. The excavation shall be to an alignment and grade which will allow the carrier conduit to be installed to proper line and grade as shown on the Plans and as established in Section 2505.2.H. Conduct excavation in a manner to prevent disturbing overlying and adjacent material. Perform dewatering and chemical soil stabilization or grouting if necessary, due to existing field conditions.

N. Settlement: The Owner may perform periodic inspections to insure that no settlement has occurred. The Contractor shall be responsible for all settlement of backfill, fills and embankments which may occur within two (2) years of time after final acceptance of the contract under which the work was performed.

The Contractor shall make, or cause to be made, all repairs or replacements made necessary by settlement within thirty (30) days after notice from the Owner. Should the Contractor fail to make such repairs the Owner may cause repairs to be made and the cost of these repairs shall be the responsibility of the Contractor.

O. Excavation and Backfilling for Piping and Structures

1. All structure foundations shall be founded on stable, undisturbed subgrade. Excavation shall be sufficient to provide at least 12 inches clear between the outer surfaces of the structure (including formwork) and the embankment or timber that may be used to hold and protect the excavation.
2. Unsuitable or unstable foundation soil that will not properly support the structure, as determined by the Engineer, shall be removed to the depth required and the excavation backfilled to the proper grade with compacted bedding material or other material approved by the Engineer.
3. All excavations for structure shall be kept dry; no reinforcing steel shall be installed in water; and no water shall be permitted to inundate the reinforcing steel before concrete has been placed.
4. Street Right-of-Way Areas: All structures located under or within paved or graveled areas shall be backfilled with flowable backfill (CLSM) to a level flush with the top of pavement subgrade. Structures located under or within vegetated areas shall be backfilled with flowable backfill (CLSM) to a level

twelve inches below finish grade and consolidated topsoil. The external opening surfaces of weep holes shall be covered with hardware cloth and surrounded with a minimum of three cubic feet of consolidated granular bedding material.

5. Areas other than Street Right of Way: All structures located under or within paved or graveled areas shall be backfilled with flowable backfill (CLSM) to a level flush with the top of pavement subgrade. Structures located under or within vegetated areas shall be backfilled with CLSM, untreated compacted aggregate, consolidated granular bedding material, or compacted soil to a level twelve inches below finish grade. The external opening surfaces of weep holes shall be covered with hardware cloth and surrounded with a minimum of three cubic feet of consolidated granular bedding material. The top twelve inches shall be backfilled with topsoil.
6. Backfilling
 - a. No backfill shall be placed over or around any structure until the concrete or mortar therein has attained a minimum strength of 2000 psi and can sufficiently support the loads imposed by the backfill without damage.
 - b. The Contractor shall use utmost care to avoid any wedging action between the side of the excavation and the structure that would cause any movement or floating of the structure. Any damage caused by premature backfill or by the use of equipment on or near a structure will be the responsibility of the Contractor.
 - c. Backfill shall be placed and compacted on all sides of the structure simultaneously, and operations shall be so conducted that the backfill is always at approximately the same elevation on all sides of the structure.
 - d. No excavated rock larger than 3 inches maximum dimension shall be placed within 1 foot of the exterior surface of any structure except as allowed with flowable backfill (CLSM) placement.
 - e. No backfill material containing rock, or detritus from rock excavation, shall be placed in the upper 24 inches of the excavation.
 - f. Large rock may be placed in the remainder of the backfill upon approval of the Engineer. Approved rock material shall be placed so that it is well separated, allowing proper compaction of soil backfill around the rock material.
 - g. All excavation shall be backfilled to the lines and grades shown on the Plans.
 - h. After the required curing time, backfill shall be placed and compacted in layers. Contractor shall monitor impact of placement, vibration and related work so not to damage or disturb structures.
 - i. Backfill shall be placed in compacted in layers not exceeding 8-inches in loose thickness and be compacted to at least 95% of maximum density at optimum moisture \pm 3% as determined by ASTM D 698. Each lift shall be compacted and tested to the required density prior to the next lift being placed. Testing shall be performed by a qualified testing lab hired by the Contractor and approved by the Owner.
 - j. In no instance shall backfill be dumped, bulldozed, or otherwise deposited in bulk upon the newly constructed structure.

P. Backfill of Drainage Course Crossings

1. Excavation in rock to a distance of 10 feet beyond each bank (measured perpendicularly to the stream flow) shall be backfilled with concrete to the existing rock elevation. The excavation above the rock elevation shall be backfilled with soil above that concrete encasement or as indicated on the Plans.

The soil placed above the encasement shall be compacted to at least 95% of maximum density at optimum moisture \pm 3% as determined by ASTM D 698.

2. Pipe placed in an excavation in soil shall be encased in concrete to a minimum of 1 foot above and below the pipe and backfilled with soil above that concrete encasement or as indicated on the Plans. The soil placed above the encasement shall be compacted to at least 95% of maximum density at optimum moisture \pm 3% as determined by ASTM D 698.

2102.5 Undergrading

- A.** Where materials are encountered which are deemed as unsuitable by the Engineer for use in the work, they shall be removed to the depth and limit as ordered by the Engineer. Areas undergraded shall be backfilled with one of the following materials:
1. Replacement with suitable materials from excavation on the work site or from an off-site borrow area, compacted to the required moisture and density requirements where practicable.
 2. Mixing of stone base or rock materials, hydrated lime, portland cement or fly ash into the sub-grade.
 3. Placement of compacted aggregate.
 4. Rock fragments or spalls. A granular type material having a plasticity index not to exceed 10 and a gradation such that at least 50 percent of the material will be retained on the No. 4 Sieve and not more than 40 percent will pass the No. 10 Sieve.
 5. A material meeting the requirements of Section 2102.2.H.2.

2102.6 Embankment

- A.** This section governs embankment for all improvements. The embankments shall be constructed using suitable materials, as herein defined, procured from excavations made on the project site or from borrow areas as required to complete the grading work.
- B.** Starting the Embankment: Where embankments, regardless of height, are placed against hillsides or existing embankments, either of which have a slope steeper than 1 vertical to 4 horizontal, the existing slope shall be benched or stepped in approximately 24 inch rises as the new fill is brought up in 8 inch maximum layers or lifts. The material bladed out, the bottom of the area cut into, and the embankment material being placed, shall be compacted to the required density. Material cut out, bladed into place and compacted shall not be measured and paid for directly but will be considered as incidental work.

The existing surface upon which embankment material is to be placed shall have all unstable and unsuitable material removed before starting the embankment work. Where embankments 2 feet or less in depth are to be placed on areas covered by existing pavement, the existing pavement shall be removed and the cleared ground surface shall be compacted to the specified density. Where embankments greater than 2 feet in depth are to be placed on areas covered by existing pavement, the existing pavement shall be broken into pieces no larger than 18 inches maximum dimension, left in place and the embankment started thereon.

- C.** Placing Earth Embankment: Earth shall be placed in successive horizontal layers distributed uniformly over the full width of the embankment area. Each layer of material shall not exceed 8 inches maximum in thickness

(loose state) and shall be compacted to not less than the required density before the next layer is placed thereon. As the compaction of each layer progresses, continuous blading, or dozing will be required to level the surface and to ensure uniform compaction. Embankment construction shall not be performed when material contains frost, is frozen or is snow covered.

- D. Placing Earth and Rock Embankment: When earth and stone or rock fragments are mixed in the embankment, all stones or rock fragments exceeding the thickness of the compacted lift shall be disposed of by being incorporated into the embankment outside the limit of the proposed paved areas. The thickness of the layer in these areas may be increased if necessary to accommodate the rocks, but shall not exceed 12 inches in thickness (loose state). The stones or rock fragments are to be placed so there will be no nesting.
- E. Consolidated Rock Embankment: When the excavated material consists predominantly of stone or rock fragments of such size that the material cannot be placed in layers of the thickness prescribed, such material shall be placed in the embankment in layers having a thickness of the approximate average size of the larger rocks but not to exceed 24 inches. Rocks or boulders too large to permit placing in a 24 inch layer shall be reduced in size as necessary to permit placement. Rock shall not be dumped in place but shall be distributed by blading or dozing in a manner to insure proper placement in final position in the embankment. Voids shall be filled with smaller stones, earth, sand, or gravel. Each layer shall be thoroughly consolidated before the next layer is placed.

Rock embankment shall be capped with 3 feet of soil material on all sides. The soil cap material shall not contain material having a maximum dimension greater than 3 inches.

- F. Compacting the Embankment: Before placing any embankment, the surface of the existing ground shall be prepared as specified herein, moistened as required, and the top 6 inches compacted to a density of 90 percent as prescribed by the following paragraph:

All embankment shall be compacted to a density of at least 90 percent of the maximum density for the material used as determined by ASTM D 698 with a moisture range sufficient to allow for proper compaction. In addition to the above required compaction, the subgrade between lines 1 foot outside of the curbs and within the top 6 inches of the subgrade in cut sections and the top 18 inches in fill sections shall be compacted to a density of at least 95 percent of the maximum density for material used as determined by ASTM D 698 and with a tolerance of $\pm 3\%$ of the optimum moisture at maximum density.

All work involved in either adding moisture to or removing moisture from embankment materials to within these moisture limits shall be considered incidental to the completion of the grading operation.

- G. Moisture – Density Determination: In-place density and moisture content of the embankment will be determined by an acceptable method as approved by the Engineer.

H. Testing

1. Laboratory compaction test and index property test results for each material used on site shall be submitted to the Engineer prior to placement. Any work by Contractor prior to test submittals and subsequent Engineer review and approval shall be work done at the Contractor's risk.
2. In-Place Density/Moisture tests shall be taken at the frequency of 4 per day per spread, with a minimum of one test per lift.
3. Test reports shall be submitted to the Engineer daily. The reports shall clearly indicate the location of

all tests by street name, station and/or lot number, type of material, and elevation of test. The reports shall include the results of all tests (pass or fail) and all re-tests.

4. All test reports shall be submitted prior to receiving approval of subgrade for subsequent work. Pavement, curb, other surface features or utilities placed prior to receiving embankment approval shall be placed at the Contractor's risk.
- I. Backfilling Curb and Gutter: Backfilling behind curb or curb and gutter shall be done within seven (7) days after being laid unless otherwise approved by the Engineer. The material used to fill the void behind curb or curb and gutter shall be free of rock and debris and shall be of a type that will leave no voids to pocket water. Unless otherwise shown on the contract drawings, the finish grading from the back of the curb to the right-of-way line and/or utility easement line or construction easement line shall be performed to provide a smooth transition between existing yard grades at the right-of-way line and/or easement line to the curb so that positive drainage will exist.

The top portion of the backfill within right-of-way areas shall be finished with at least 6 inches of topsoil corresponding to, or better than, that underlying adjoining sodded areas. Topsoil shall be approved by the Engineer prior to placement, and unless otherwise directed, shall be material previously excavated and stockpiled for the purpose during excavating and grading operations. Immediately prior to dumping and spreading topsoil, the surface shall be loosened by discing or scarifying to a minimum depth of two (2) inches to permit bonding of the topsoil to the underlying surface.

2102.7 Finishing

- A. In areas where sodding or seeding is proposed, the upper 12 inches of the surface area shall be earth material free of rocks greater than 1 inch in diameter. The top 6 inches shall be topsoil suitable for sustaining grass or sod.
- B. Except where other permit or utility work is in progress, the graded surface shall be made free of rock, concrete, and brick, or fragments thereof, or rubbish and shall be finished to the lines, grades, and cross-section indicated on the Plans, including shoulder, berm and sidewalk spaces.
- C. The Contractor shall repair any damaged surface, and shall not use any finishing equipment that will leave a marred surface. When the subgrade preparation is included as a part of the finishing, the work shall be accomplished according to the requirements of Section 2201 entitled "Subgrade Preparation", and shall be considered incidental to finishing the grading work.

2102.8 Cleanup

Cleanup shall follow the work progressively and final clean-up shall follow immediately behind the finishing. The Contractor shall remove from the site of the work all equipment, tools and discarded materials, and other construction items. The entire right-of-way or easement shall be left in a finished and neat condition. Cleanup shall be considered as incidental to the completion of grading work.

SECTION 2103 MEASUREMENT AND PAYMENT

2103.1 General

There will be no measurement or separate payment for any items of work not specifically identified and listed in the Contract Documents and all costs will be included in the contract unit prices for other items listed in the Contract Documents.

2103.2 Method of Measurement

The quantities of accepted work will be measured and determined as follows:

A. Clearing, Grubbing, and Demolition

1. Clearing may be listed in the Contract Documents and measured per acre or hundredth part thereof.
2. Grubbing may be listed in the Contract Documents and measured per acre or hundredth part thereof.
3. Demolition may be included as Clearing or may be listed in the Contract Documents as a separate item and measured per each and as such shall include all work as defined in Section 2101.2.D.
4. Tree removal may be included in Clearing or may be listed as a separate item in the Contract Documents and measured per each.
5. Brush removal shall not be measured and will be subsidiary to other items in the Contract Documents.

B. Grading

1. Unclassified Excavation may be listed in the Contract Documents and measured to determine the quantity in cubic yards or tenth part thereof.
2. Rock Excavation may be included as Unclassified Excavation or may be listed in the Contract Documents as a separate item and measured to determine the quantity in cubic yards or tenth part thereof. No measurement will be made for rock overbreak in excess of 12 inches below the subgrade elevation.
3. Earth Excavation may be included as Unclassified Excavation or may be listed in the Contract Documents as a separate item and measured to determine the quantity in cubic yards or tenth part thereof. No measurement will be made for embankment performed in rock overbreak areas, where the overbreak is in excess of 12 inches below the subgrade elevation.
4. Embankment may be listed in the Contract Documents and measured to determine the quantity in cubic yards or tenth part thereof.
5. Undergrading may be listed in the Contract Documents and measured to determine the quantity in cubic yards or tenth part thereof.

C. Excavation for pipelines, utilities and all other underground facilities is subsidiary to the pay item for the pipeline, utility or specific underground facility.

D. Testing required by the Contractor shall be subsidiary to other items of the Contract Documents. No separate payment will be made.

2103.3 Basis of Payment

Payment for the quantities of accepted work will be made as follows:

A. Clearing, Grubbing, and Demolition

1. Clearing, grubbing, or clearing and grubbing may be included in the Contract Documents as separate items or as one item and will be paid for by one of the following:
 - a. Payment will be made at the contract unit bid price.
 - b. Payment will be made at the contract lump sum bid price.
2. Demolition, if listed as a separate item in the Contract Documents and not included as a part of Clearing, or Clearing and Grubbing will be paid for by one of the following:
 - a. Payment will be made at the contract unit bid price.
 - b. Payment will be made at the contract lump sum bid price.
3. Site Preparation, if listed in the Contract Documents as a separate item and not included as a part of Clearing, or Clearing and Grubbing will be paid for by one of the following:
 - a. Payment will be made at the contract unit bid price.
 - b. Payment will be made at the contract lump sum bid price.

B. Grading

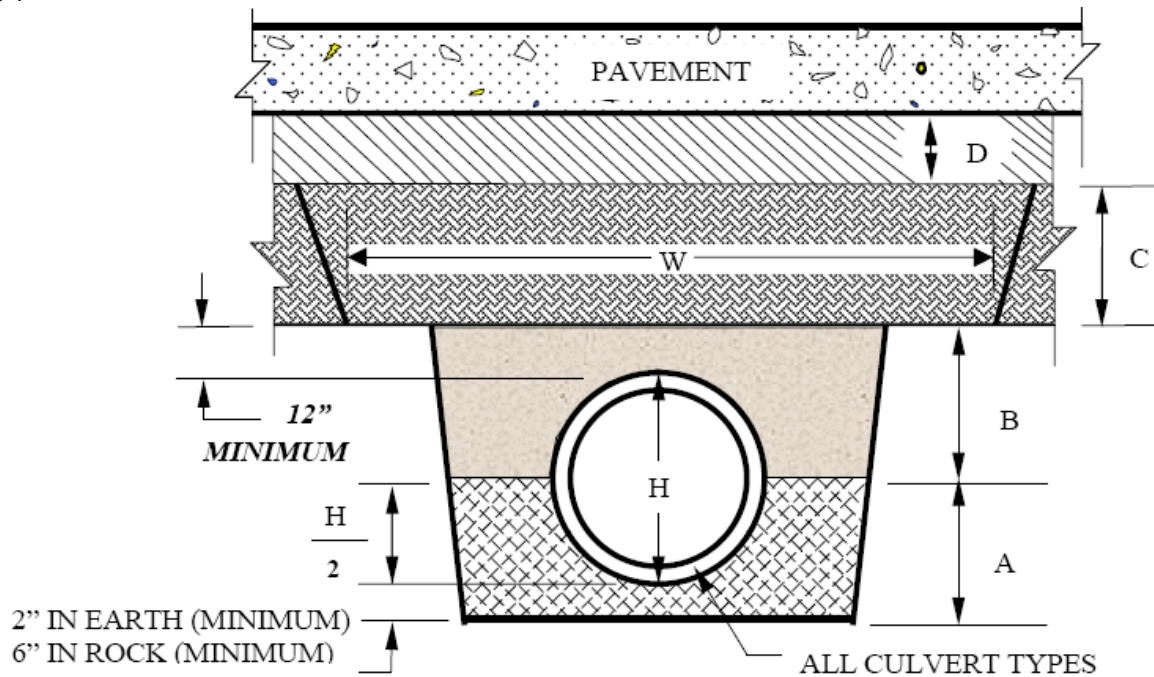
1. Unclassified Excavation, Rock Excavation, or Earth Excavation may be included in the Contract Documents as separate items or as one item and will be paid for by of the following:
 - a. Payment will be made at the contract unit bid price.
 - b. Payment will be made at the contract lump sum bid price.
2. Embankment may be included in the Contract Documents and will be paid for by one of the following:
 - a. Payment will be made at the contract unit bid price.
 - b. Payment will be made at the contract lump sum bid price.
3. Undergrading may be listed in the Contract Documents and will be paid for at the Contract unit bid price.

C. Excavation for pipelines, pipeline structures, utilities and all other underground facilities is subsidiary to the pay item for the pipeline, utility or specific underground facility.

D. Testing required by the Contractor shall be subsidiary to other items of the Contract Documents. No separate payment will be made.

SECTION 2104 BACKFILL DETAILS

Figure 1



A- Consolidated granular bedding material.

B- Granular bedding material or Flowable Backfill (CLSM).

C – Compacted Embankment - 2102.6. Lift thickness shall not exceed the capability of the equipment being utilized to achieve the proper density and consolidation, and in no case shall a lift exceed twelve inches for soil. The minimum width, W, shall be two feet wider than the width of the required compaction device, or five feet, whichever is greater.

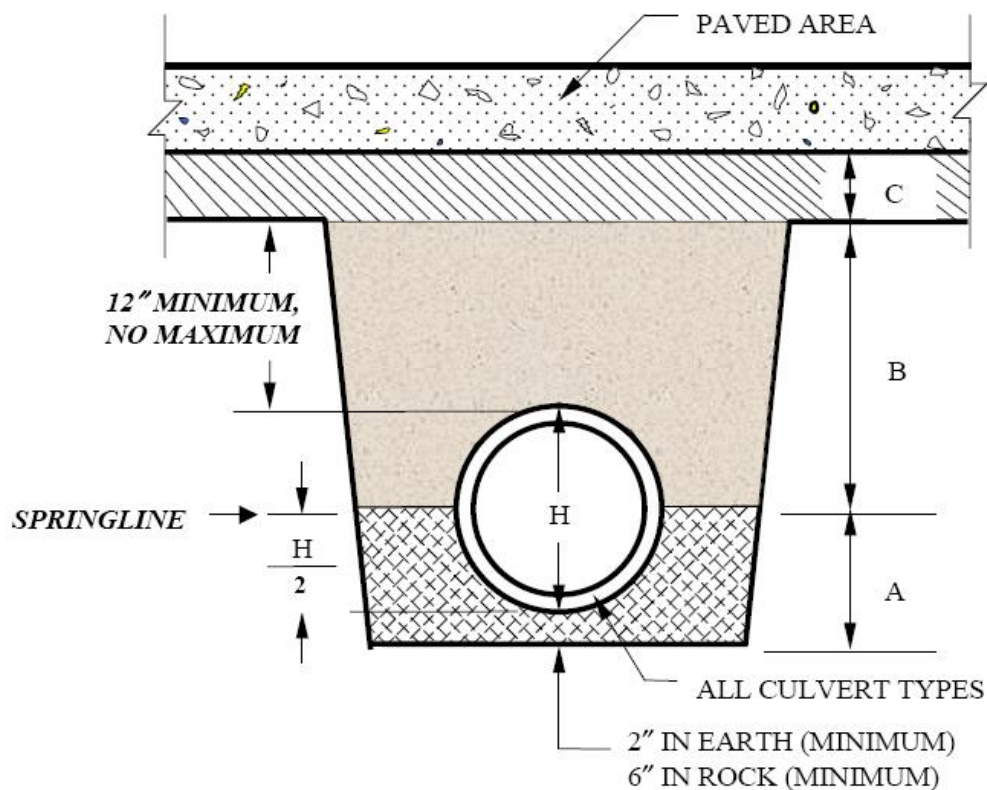
D – Compacted Subgrade - Subgrade thickness shall be as specified in Table 1 of Section 5206 and as directed by the Engineer. Subgrade preparation shall be done in accordance with Section 2201 and shall consist of aggregate for base course, stabilized subgrade, or compacted soil – in accordance with the associated Sections 2201, 2202, and 2203.

Figure 1
(Deep Sewer Lines Using Earth Compaction Equipment,
or in Depths Exceeding 30" of Cover)

Figure 2

The following cross-sectional view of typical storm sewer trench construction under street, alley pavements, and entrances Figure 2, shall apply to all storm sewer backfill areas where deep trenches are not widened to allow heavy roadway compaction equipment. Figure 2 shall also apply to shallow (30" to 18" from top of pipe to bottom of pavement) roadway trenches:

Backfilling shall be placed as shown in Figure 2.



A- Consolidated granular bedding material.

B- Granular bedding material, hand compacted soil - 95% of max. density using ASTM D 698, or Flowable Backfill (CLSM). Maximum lift thickness 6". Granular bedding material shall be used in Zone B for all pipe except reinforced concrete pipe.

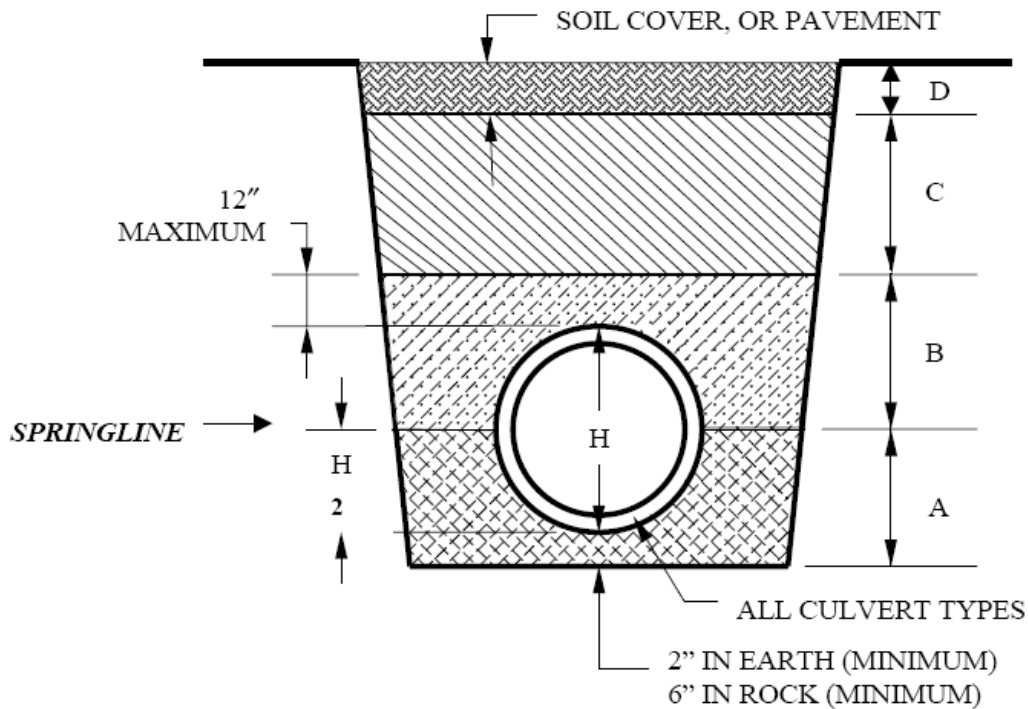
C – Compacted Subgrade - Subgrade thickness shall be as specified in Table 1 of Section 5206 and as directed by the Engineer. Subgrade preparation shall be done in accordance with Section 2201 and shall consist of aggregate for base course, stabilized subgrade, or compacted soil – in accordance with the associated Sections 2201, 2202, and 2203.

Figure 2
(For Deep Trenches Without Roadway Compaction Equipment,
or Shallow Trenches Having Less than 30" of Cover)

Figure 3

Trench backfilling in areas other than street and alley pavements where the near edge of trench is behind the back of curb:

Backfilling shall be placed as shown in Figure 3.



A – Consolidated granular bedding material.

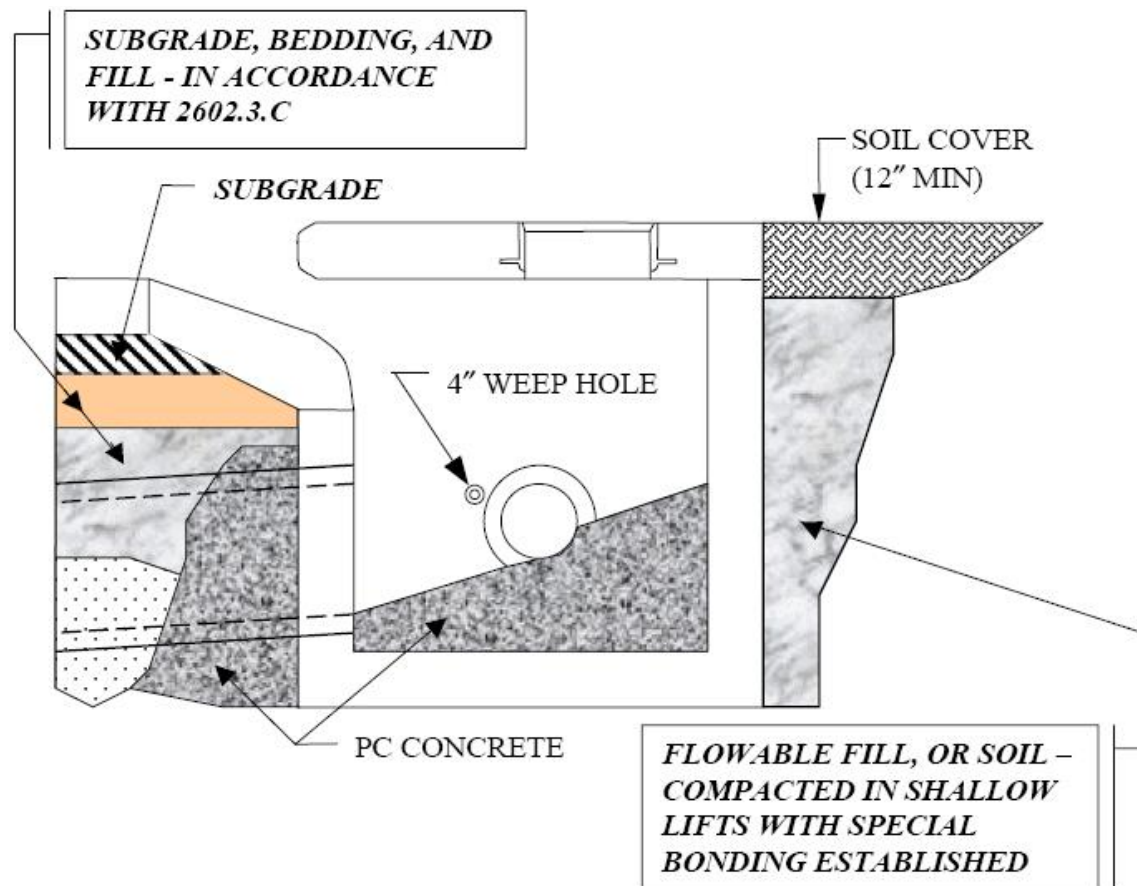
B – Consolidated granular bedding material, flowable backfill (CLSM), or compacted soil – compacted to 90% of maximum density using ASTM D 698. Maximum lift thickness for the granular or soil materials shall be six inches.

C – Consolidated granular bedding material, flowable backfill (CLSM), or compacted soil – compact to approximate density of adjacent soil but not less than 90% of maximum density using ASTM D 698. Lift thickness shall not exceed the capability of the equipment being utilized to achieve the proper density and consolidation; however, in no case shall it exceed six inches for soil.

D – Soil Cover – Soil cover shall be as specified in Section 2102.7. The top twelve inches shall be consolidated soil; the top six inches shall be topsoil suitable for sustaining grass.

Figure 3
(Trenches Outside of Street Pavements)

Figure 4



Note: Weep hole shall be backed by filter fabric or hardware cloth, and 3 cubic feet of granular material.

FIGURE 4
(Structures Adjacent to Street Pavements)



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
MISSOURI STATE REGULATORY OFFICE
515 EAST HIGH STREET, #202
JEFFERSON CITY, MISSOURI 65101

November 15, 2023

Missouri State Regulatory Office
(NWK-2023-00750)
(Pettis, MO, NWP 58)

Ms. Kelly Lohsandt
Engineering Surveys and Services
1775 West Main Street
Sedalia, MO 65301

Dear Ms. Lohsandt:

This letter pertains to an application submitted on behalf of the City of Sedalia for a Department of the Army (DA) permit. It was received on November 7, 2023. The proposed work concerns the installation of an eight (8)-inch diameter sewer line and 15-linear feet of riprap within an unnamed tributary to Brushy Creek. The project is located in Section 31, Township 46 North, Range 21 West, Pettis County, Missouri (Latitude/Longitude: 38.72236, -93.27693).

The Corps of Engineers has jurisdiction over all waters of the United States. Discharges of dredged or fill material in waters of the United States, including wetlands, require prior authorization from the Corps under Section 404 of the Clean Water Act (33 USC 1344). The implementing regulation for this Act is found at 33 CFR 320-332.

We have reviewed the information furnished and have determined that your project is authorized by nationwide permit (NWP) **58, Utility Line Activities for Water and Other Substances**, provided you ensure that the conditions listed in the enclosed copy of excerpts from the January 13, 2021, U.S. Army Corps of Engineers (Corps) (86 FR 2744 and the correction at 86 FR 27274), Reissuance and Modification of Nationwide Permits, are met. You must also comply with the Kansas City District Regional NWP Conditions posted at:
<http://www.nwk.usace.army.mil/Missions/RegulatoryBranch/NationWidePermits.aspx>

The Missouri Department of Natural Resources has certified that this NWP will not violate existing state water quality standards provided you comply with the conditions included in the attached Missouri Section 401 Water Quality Certification (WQC) document. All conditions included in the WQC are conditions of the NWP authorization. Please review all conditions associated with this NWP. Per 40 CFR Part 121.11(c) the Corps is responsible for enforcing WQC conditions that are incorporated into this permit verification. If you have any questions concerning state WQC standards or compliance issues with the associated certification conditions, please contact the project manager at the phone number and/or email provided below.

General condition 30 requires you to sign and submit the enclosed "Compliance Certification" within 30 days of completing the authorized activity or the completion of the implementation of any required compensatory mitigation.

This NWP verification is valid until March 14, 2026. Should your project plans change or if your

activity is not complete within the specified verification term, you must contact this office for another permit determination. Although the Corps has verified your project would meet the terms and conditions of a nationwide permit, other Federal, state and/or local permits may be required. You should verify this yourself.

In addition to the general conditions of this permit verification, the following special condition applies to this permit:

Please be aware that the endangered Indiana bat (*Myotis sodalis*), Gray Bat (*Myotis grisescens*), and the threatened northern long-eared bat (*Myotis septentrionalis*) may be present within your project area. To “not adversely affect” these listed species, you must not cut or clear trees during the bats’ active season, April 1 – October 31. If implementation of the seasonal tree cutting restriction is not possible, please contact the Corps of Engineers, Regulatory Branch, for further consultation with the United States Fish and Wildlife Service.

The USFWS has provided this comment: “The USFWS encourages the applicant to minimize tree clearing and fragmentation and maintain as many travel/riparian corridors as possible. The applicant is responsible for compliance with the Endangered Species Act outside the Corps’ action area and suitable habitat for federally listed bats species may occur in their project area beyond the Corps’ action area. Therefore, we recommend the applicant contact the U.S. Fish and Wildlife, Missouri Ecological Service Field Office (101 Park DeVillie Drive, Columbia, Missouri 65203, (573) 234-2132) for additional coordination to reduce or avoid adverse effects to listed bat species outside the Corps defined action area.”

We are interested in your thoughts and opinions concerning your experience with the Kansas City District, Corps of Engineers Regulatory Program. Please feel free to Complete our Customer Service Survey form on our website at: <https://regulatory.ops.usace.army.mil/customer-service-survey/>. You may also call and request a paper copy of the survey which you may complete and return to us by mail.

Ryan Langer, Regulatory Specialist, reviewed the information furnished and made this determination. If you have any questions concerning this matter, please feel free to contact Mr. Langer at 816-389-3834 or by email at ryan.w.langer@usace.army.mil. Please reference Permit No. NWK-2023-00750 in all comments and/or inquiries relating to this project. This letter is only being provided to you electronically at: klohstandt@ess-inc.com.

Enclosures

cc (electronically w/o enclosures):

Environmental Protection Agency,
Watershed and Grants Branch
U.S. Fish and Wildlife Service, Columbia, Missouri
Missouri Department of Natural Resources,
Water Protection Program
State Historic Preservation Office
Missouri Department of Conservation

COMPLIANCE CERTIFICATION

General condition 30 of this Nationwide Permit requires that you submit a signed certification regarding the completed work and any required mitigation. This certification page satisfies this condition if it is provided to the Kansas City District at the address shown at the bottom of this page within 30 days of completing the authorized activity or the completion of the implementation of any required compensatory mitigation.

APPLICATION NUMBER: NWK-2023-00750

APPLICANT: City of Sedalia POC: Chris Davies, Civil Works Director
1775 West Main Street
Sedalia, MO 65301

PROJECT LOCATION: Within an unnamed tributary to Brushy Creek in Section 31, Township 46 North, Range 21 West, Pettis County, Missouri (Latitude/Longitude: 38.72236, -93.27693).

- a. I certify that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions.
- b. I certify that any required mitigation was completed in accordance with the permit conditions.
- c. Your signature below, as permittee, indicates that you have completed the authorized project as certified in paragraphs a and b above.

(PERMITTEE)

(DATE)

Return this certification to:

U.S. Army Corps of Engineers
Missouri State Regulatory Office
515 East High Street, Suite #202
Jefferson City, MO 65101-3261
Email: Regulatory.MissouriState@usace.army.mil



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Kansas City District

Nationwide Permit No. 58 Utility Line Activities for Water and Other Substances

Activities required for the construction, maintenance, repair, and removal of utility lines for water and other substances, excluding oil, natural gas, products derived from oil or natural gas, and electricity. Oil or natural gas pipeline activities or electric utility line and telecommunications activities may be authorized by NWP 12 or 57, respectively. This NWP also authorizes associated utility line facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines for water and other substances, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States. A “utility line” is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose that is not oil, natural gas, or petrochemicals. Examples of activities authorized by this NWP include utility lines that convey water, sewage, stormwater, wastewater, brine, irrigation water, and industrial products that are not petrochemicals. The term “utility line” does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges of dredged or fill



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material into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for above-ground utility lines: This NWP authorizes the construction or maintenance of foundations for above-ground utility lines in all waters of the United States, provided the foundations are the minimum size necessary.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (see 33 CFR part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the



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maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, 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: (1) a section 10 permit is required; or (2) the discharge will result in the loss of greater than 1/10-acre of waters of the United States. (See general condition 32.) (**Authorities:** Sections 10 and 404)

Note 1: Where the utility line is constructed, installed, or maintained in navigable waters of the United States (i.e., section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: For utility line activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Utility line activities must comply with 33 CFR 330.6(d).

Note 3: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 4: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to the General Bridge Act of 1946. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a section 404 permit (see NWP 15).

Note 5: This NWP authorizes utility line maintenance and repair activities that do not qualify for the Clean Water Act section 404(f) exemption for maintenance of currently serviceable fills or fill structures.



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Note 6: For activities that require pre-construction notification, the PCN must include 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 that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

Excerpts for 2021 Nationwide Permits General Conditions, District Engineer's Decision, & Further Information¹

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

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 or her 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.

¹The 2021 Nationwide Permits, General Conditions, District Engineer's Decision, Further Information, and Definitions were published in the *Federal Register* on January 13, 2021 (86 FR 2744, and the correction at 86 FR 27274) and December 27, 2021 (86 FR 73522).

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 NWP 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 Structures and Fills. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. 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. Permittees 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 activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

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 designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which “may affect” a listed species or critical

habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of “effects of the action” for the purposes of ESA section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA section 7 regarding “activities that are reasonably certain to occur” and “consequences caused by the proposed action.”

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). 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 species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, 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 species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) 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. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) 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 species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference 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 or conference 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 that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects 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) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places 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 (see 33 CFR 330.4(g)(1)). 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 commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or 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.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has 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. 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. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they 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, 52, 57 and 58 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 by permittees in the designated critical resource waters including wetlands adjacent to

those waters. The district engineer may authorize activities under these NWP's only after she or he determines 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) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-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. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-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. 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. If restoring riparian areas

involves planting vegetation, only native species should be planted. 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 NWP, 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)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal

agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(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 or federal, 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. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA section 401, a CWA section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority 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)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. 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 CWA 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 authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot 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.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 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 review by, or 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 and/or review is not authorized by an NWP until the appropriate Corps office issues the section 408 permission or completes its review 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. 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) (i) 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.
- (ii) For linear projects where one or more single and complete crossings require pre-construction notification, 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 (including those single and complete crossings authorized by an NWP but do not require PCNs).

This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) 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 and intermittent 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 or 3/100-acre of stream bed 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 species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) 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 NWP activity that requires permission from, or review by, 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, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification:* The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. 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 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 (iii) 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 that 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 single and complete crossings of waters of the United States that require PCNs 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 of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, 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.

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 an 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 or 3/100-acre of stream bed, 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. 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 that 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), 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).



Missouri Department of Natural Resources

CLEAN WATER ACT SECTION 401 WATER QUALITY CERTIFICATION 2021 GENERAL AND SPECIFIC CONDITIONS

Water Protection Program

10/2021

Division of Environmental Quality

PUB2947

Consistent with Section 401 of the Clean Water Act (CWA), 33 U.S.C. § 1341, the Missouri Department of Natural Resources (Department) has designed these precertified conditions to ensure activities carried out in Missouri pursuant to Nationwide Permits (NWP) authorized by the U.S. Army Corps of Engineers (USACE) will comply with Missouri water quality requirements. Unless otherwise stated, these conditions are in addition to, not a replacement for, any federal requirements or conditions.

The conditions outlined in this programmatic WQC apply to those authorized projects where the project proponent has chosen to accept these conditions instead of pursuing an individual CWA Section 401 Water Quality Certification (WQC) for the following NWPs:

- Only General Conditions apply to projects authorized by NWPs 5, 6, 7, 13, 15, 16, 18, 19, 22, 23, 25, 27, 29, 30, 31, 36, 39, 40, 42, 43, 45, 46, 54, and 59.
- Both General and Specific Conditions apply to projects authorized by NWPs 3, 4, 12, 14, 20, 33, 41, 53, 57, and 58.

Alternatively, a project proponent may apply to the Department for individual WQC if it does not wish to accept the conditions outlined in this document.

NWPs 1, 2, 8, 9, 10, 11, 28, and 35 authorize projects pursuant to Section 10 of the Rivers and Harbors Act of 1899 only. These NWPs do not require CWA Section 401 WQC because they authorize activities which, in the opinion of the USACE, could not reasonably be expected to result in a discharge into waters of the United States. An activity needing only a Section 10 permit may require a WQC if that activity can reasonably be expected to result in any discharge either during construction or operation of the facility. Thus, if the USACE determines the activity is likely to result in a discharge during construction or operation, the Department has discretion to require a WQC for the Section 10 activity. The USACE may advise a Section 10 permit project proponent that it might need a WQC if there is a reasonable expectation that a discharge will occur either during the construction or operation of the project.

Pursuant to Section 644.037, RSMo, the Department shall certify without conditions NWPs as they apply to impacts on wetlands in Missouri. Because NWPs are minimal impact, Missouri does not have water quality standards specific to wetlands, and only the general criteria apply, discharges to wetlands from projects authorized by NWPs will comply with water quality requirements.

Pursuant to Section 644.038, RSMo, the Department shall certify without conditions all NWPs for impacts in all waters of the state for the construction of highways and bridges approved by the Missouri Highway and Transportation Commission. A Memorandum of Understanding between the Missouri Departments of Natural Resources and Transportation contains the requirements by which the Missouri Department of Transportation will design and construct such projects in order to protect the water quality of waters of the state. Therefore, as a result of this side agreement, the Department grants programmatic WQC for all NWPs without conditions for the construction of highways and bridges approved by the Missouri Highway and Transportation Commission, because any discharges from these projects will comply with water quality requirements.

GENERAL CONDITIONS

1. A stream's pattern, profile, and dimension, including but not limited to sinuosity, slope, and channel width, shall be maintained as much as practicable. Streambed gradient shall not be adversely impacted during project construction. No project shall accelerate bed or bank erosion. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].
2. Channelization of streams is not allowed under this precertification. Channelization includes but is not limited to reducing the length of the channel, widening the channel for increased water storage or flow, and/or construction of hard structures which concentrate flow. Unless necessary for a stream crossing associated with infrastructure projects and contained within an associated right-of-way, construction easement, or permanent easement, bank stabilization activities only along one bank of a stream are permitted, including but not limited to bank sloping and riprapping. The redirection of flow by excavation of the opposite bank or a streambed is considered a channel modification and is not authorized by this WQC. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].
3. No new or expanded wet stormwater retention basins or similar impoundment structures may be constructed unless they are located off-channel. In-channel dry stormwater detention basins are allowable if the stream channel is either temporarily or not adversely affected by the basin. This will ensure compliance with the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].
4. Only clean, nonpolluting fill shall be used. The following materials are not suitable where contact with water is expected and shall not be used due to their potential to cause violations of the general criteria of Missouri's Water Quality Standards [10 CSR 20-7.031(4)]:
 - a. Earthen fill, gravel and broken concrete where the material does not meet the Suitable Material specifications stated in the "Missouri Nationwide Permit Regional Conditions" (<https://usace.contentdm.oclc.org/digital/collection/p16021coll11/id/2662/>) in locations where erosive flows are expected to occur on a regular basis, such as streambanks and/or lake shorelines.
 - b. Asphalt.
 - c. Concrete with exposed rebar.
 - d. Tires, vehicles or vehicle bodies, and construction or demolition debris are solid waste and are excluded from placement in the waters of the state. Properly sized, broken concrete without exposed rebar is allowed.
 - e. Liquid concrete, including grouted riprap, if not placed in forms as part of an engineered structure.
 - f. Any material containing chemicals that would result in violation of Missouri Water Quality Standards general criteria [10 CSR 20-7.031(4)] or specific criteria [10 CSR 20-7.031(5)].
5. Waste concrete or concrete rinsate shall be disposed of in a manner that does not result in discharge to any jurisdictional water ways. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from unsightly bottom deposits [10 CSR 20-7.031(4)(A)]; substances resulting in toxicity to human, animal, or aquatic life [10 CSR 20-7.031(4)(D)]; and physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].
6. Missouri Water Quality Standards antidegradation requirements dictate all appropriate and reasonable Best Management Practices related to erosion and sediment control, project stabilization and prevention of water quality degradation are applied and maintained; for example, preserving vegetation, streambank stability and basic drainage [10 CSR 20-7.031(3)(D)]. Best Management Practices shall be properly installed prior to conducting authorized activities and maintained, repaired and/or replaced as needed during all phases of the project to limit the amount of discharge of water contaminants to waters of the state. The project shall not involve more than normal stormwater or incidental loading of sediment caused by project activities so as to comply with Missouri's general water quality criteria [10 CSR 20-7.031(4)]; <https://www.sos.mo.gov/cmsimages/adrules/csr/current/10csr/10c20-7a.pdf>

7. Clearing of vegetation and trees shall be the minimum necessary to accomplish the activity except for the removal of invasive or noxious species and placement of ecologically beneficial practices. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)].
8. Care shall be taken to keep machinery out of the water way as much as possible. If work in the water way is unavoidable, it shall be performed in a way that minimizes the duration and amount of any disturbance to banks, substrate and vegetation to prevent increases in turbidity. Fuel, oil and other petroleum products, equipment, construction materials and any solid waste shall not be stored below the ordinary high water mark at any time or in the adjacent flood-prone areas beyond normal working hours. All precautions shall be taken to avoid the release of wastes or fuel to streams and other adjacent waters as a result of this operation. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)] and Missouri Water Quality Standards general criteria requiring waters be free from substances preventing beneficial uses [10 CSR 20-7.031(3)(A)]; substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)]; and physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].
9. Petroleum products spilled into any water or on the banks where the material may enter waters of the state shall be immediately cleaned up and disposed of properly. Any such spills of petroleum shall be reported as soon as possible, but no later than 24 hours after discovery to the Department of Natural Resources' Environmental Emergency Response number at 573-634-2436 or website at <http://dnr.mo.gov/env/esp/esp-eer.htm>. This will ensure compliance with Missouri Environmental Improvement Authority to provide for the conservation of state water resources by the prevention of pollution and proper methods of disposal [Section 260.015, RSMo] and Missouri Water Quality Standards general criteria requiring waters be free from substances that prevent maintenance of beneficial uses; cause unsightly bottom deposits, color, turbidity or toxicity; and/or impair the natural biological community [10 CSR 20-7.031(4)(A), -(B), and -(H)].
10. All efforts shall be made to minimize exposure of unprotected soils. To the best of the project proponent's ability, project activity shall be conducted at times of little or no rainfall to limit the amount of overland flow and sediment disturbance caused by heavy equipment. This will ensure compliance with Missouri antidegradation requirements for Best Management Practices [10 CSR 20-7.031(3)(B)].
11. Programmatic WQC is denied for any NWP issued on a water that is listed for a sediment-related impairment, aquatic habitat alteration, channelization, or unknown impairment as listed in the most current Water Quality Report (Section 305(b) Report) at <https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters>. Although intended to result in minimal impacts, NWP authorizations in these waters may contribute to impairments and result in noncompliance with Missouri's general water quality criteria requiring waters be free from physical, chemical, and hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)] or exceedance of Missouri Water Quality Standards specific criteria [10 CSR 20-7.031(5)]. Since WQC General or Specific Conditions cannot be established to address all concerns from the variety of impairments and activities authorized by NWPs, individual review for WQC will be required. Requirements for individual WQC will be determined on a case-by-case basis based on the specific impairments, and additional testing, design, disposal, or BMP considerations may be required.

To determine the location of the waters noted above, the Department's geospatial data is available upon request, and all published data is available on the Missouri Spatial Data Information Services website at msdis.missouri.edu/. Additional information to identify the project location, including stream reaches with listed impairments or special water designations, may be obtained from the Department's Water Protection Program at 573-522-4502.

12. Programmatic WQC is denied for projects authorized by NWP 17, 21, 32, 34, 37, 38, 44, 48, 49, 50, 51, 52, 55, and 56. Although intended to result in minimal impacts, these NWPs authorize activities that may contribute to impairments and result in noncompliance with Missouri's general water quality criteria [10 CSR 20-7.031(4)], including the requirement that all waters of the state shall be free from physical, chemical, and hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)], or noncompliance with Missouri's specific water quality criteria [10 CSR 20-7.031(5)]. Because programmatic WQC General or Specific Conditions cannot be established to address all concerns from the variety of impairments and activities authorized by these NWPs, the Department requires individual review for WQC for these NWPs. Requirements for individual WQC will be determined on a case-by-case basis based on the specific projects, and additional testing, design, disposal, or BMP considerations may be required.
13. Mitigation for loss of stream resources should be in conformance with the compensatory mitigation guidance currently approved for use in Missouri, including guidance provided by the Missouri Stream Mitigation Method. Stream impacts shall require compensatory mitigation with only instream or riparian corridor credits. Compensatory mitigation shall be within the state of Missouri. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] Mitigation guidance documents can be located online at www.nwk.usace.army.mil/Missions/RegulatoryBranch/StateofMissouri.

SPECIFIC CONDITIONS

14. Nationwide Permit 3 Maintenance
- Silt, sediment, and debris removal shall be limited to a maximum of 200 LF upstream and 200 LF downstream of structures. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)].
15. Nationwide Permit 4 Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities
Any inorganic or extraneous debris, such as may be found on Christmas trees shall be removed to qualify as clean, nonpolluting fill. This will ensure compliance with the Missouri's Water Quality Standards general criteria that waters shall be free from unsightly bottom deposits [10 CSR 20-7.031(4)(A)] and solid waste [10 CSR 20-7.031(4)(I)].
16. Nationwide Permit 12 Oil and Natural Gas Pipeline Activities,
Nationwide Permit 57 Electric Utility Line and Telecommunications Activities, and
Nationwide Permit 58 Utility Line Activities for Water and Other Substances
- For project crossings that must disturb a water body, work shall be conducted in such a manner as to seal off the work area from flow and minimize sediment transport. Material resulting from the activity shall not be sidecast into waters of the state for more than one month. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)] and general criteria requiring waters be free from substances that prevent maintenance of beneficial uses; cause unsightly color, turbidity, or toxicity; and/or impair the natural biological community [10 CSR 20-7.031(4)(B), -(C), and -(H)].
 - If Horizontal Directional Drilling is used, drilling mud and/or other materials shall not be discharged into waters of the state. Best Management Practices shall be implemented to prevent possible discharges from reaching waters of the state. In the event materials are inadvertently discharged to waters of the state, notification to the Department of Natural Resources is required within 24 hours by calling 573-634-2436. This will ensure compliance with Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B)] and Missouri Environmental Improvement Authority [Section 260.015, RSMo] to provide for the conservation of state air, land and water resources by the prevention of pollution and proper methods of disposal.
 - Project crossings shall be placed as close to perpendicular as possible and shall be limited to a maximum crossing length of no more than one and one-half times the width of the stream. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and Best Management Practices [10 CSR 20-7.031(3)(B)].

17. Nationwide Permit 14 Linear Transportation Projects

- a. The permittee shall propose and employ measures to mitigate the removal of impounded sediment (e.g., sand, gravel) in the unstable area upstream of a proposed project to prevent it from being transported downstream and/or construct a notched weir to slow the release of impounded sediment from upstream of the proposed project. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)] and physical chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)]. Accumulated gravel may be allowed to naturally deposit into downstream plunge pool voids. Consultation with a hydrologist or other scientist is recommended if the amount of accumulated unconsolidated gravel exceeds the volume of plunge pool voids.
- b. Where this NWP is used to authorize bridge and culvert structures, stream channel work shall be limited to a maximum of 200 feet upstream and a maximum of 200 feet downstream of the bridge or culvert. For purposes of this condition, a channel modification is any activity that alters the width, depth, length and/or sinuosity of a water way. This will ensure compliance with the Missouri antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and the Missouri Water Quality Standards general criterion requiring waters be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].

18. Nationwide Permit 20 Response Operations for Oil and Hazardous Substances

Oil and hazardous substance releases shall be reported to the Department of Natural Resources' Environmental Emergency Response number at 573-634-2436. Continue to report updates with regard to the containment and cleanup of releases. This will ensure compliance with Missouri Environmental Improvement Authority [Section 260.015, RSMo] to provide for the conservation of state water resources by the prevention of pollution and proper methods of disposal.

19. Nationwide Permit 33 Temporary Construction, Access and Dewatering

- a. The use of this NWP shall be limited to impacts of six months or less in duration. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirements for maintenance and protection of designated uses [10 CSR 20-7.031(3)]
- b. Any removal of accumulated sediment (e.g., sand, gravel) upstream of a proposed project shall be limited to the quantity necessary to relieve any obstruction or to protect downstream habitat. The permittee must propose and employ measures to mitigate the removal of impounded sediment in the unstable area upstream of a proposed project to prevent it from being transported downstream and/or construct a notched weir to slow the release of impounded sediment from upstream of the proposed project. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)] and physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].

20. Nationwide Permit 41 Reshaping Existing Drainage Ditches

In-channel disposal of excavated material not used for reshaping activities is prohibited. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for Best Management Practices [10 CSR 20-7.031(3)(B) and general criteria requiring waters be free from substances that prevent maintenance of beneficial uses; cause unsightly color, turbidity or toxicity; and/or impair the natural biological community [10 CSR 20-7.031(4)(B), -(C), and -(H)].

21. Nationwide Permit 53 *Removal of Low-Head Dams*

- a. The permittee must propose and employ measures to mitigate the removal of impounded sediment (e.g., sand, gravel) in the unstable area upstream of a proposed project to prevent it from being transported downstream and/or construct a notched weir to slow the release of impounded sediment from upstream of the proposed project. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from substances causing unsightly color or turbidity [10 CSR 20-7.031(4)(C)] and physical chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)]. Accumulated gravel may be allowed to naturally deposit into downstream plunge pool voids. Consultation with a hydrologist or other scientist is recommended if the amount of accumulated unconsolidated gravel exceeds the volume of plunge pool voids.
- b. Stream channel work shall be limited to a maximum of 100 feet upstream and a maximum of 100 feet downstream of the dam. This will ensure compliance with the Missouri Water Quality Standards antidegradation requirement for maintenance and protection of designated uses [10 CSR 20-7.031(3)] and the Missouri Water Quality Standards general criterion requiring waters to be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)].
- c. Restoration of the stream channel to its former, natural state is authorized. Individual WQC is required for non-natural channel modifications. This will ensure compliance with the Missouri Water Quality Standards general criteria requiring waters be free from physical chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(4)(H)]. For purposes of this condition, a channel modification is any activity that alters the width, depth, length and/or sinuosity of a water way.

Unless the Department agrees to an alternative, requests for WQC should be sent electronically to wpsc401cert@dnr.mo.gov [Section 644.026.1(26), RSMo and 10 CSR 20-6.060(5)]. A request for WQC shall include all required information for a complete request for certification in compliance with 40 CFR Part 121. The Department may request additional information prior to providing a WQC decision to ensure Missouri water quality requirements are met, such as a response to comments from the Department, other resource agencies, and/or the public; planned compensatory mitigation; and/or an analysis of practicable alternatives.

An issued WQC, whether programmatically or individually issued, becomes part of and expires with the Section 404 and/or Section 10 permit unless explicitly stated in the WQC.

Acquisition of NWP and the attendant WQCs shall not be construed or interpreted to imply the requirements for other permits are replaced or superseded, including Clean Water Act Section 402 National Pollutant Discharge Elimination System Permits required under Missouri Clean Water Law [Sections 644.026.1 and 644.051, RSMo] for land disturbance or return water from material deposition. Permits or any other requirements shall remain in effect. Project proponents with questions are encouraged to contact the Department of Natural Resources' regional office in the project area. A regional office map with contact information is located at <https://dnr.mo.gov/about-us/division-environmental-quality/regional-office>.

Some localities are covered pursuant to Municipal Separate Storm Sewer System Permits with measures to control and possibly treat stormwater. If the project is located within one of these localities, project proponents must comply with all stormwater requirements of the locality's Stormwater Management Plan and any related ordinances. This ensures compliance with CWA Section 402 National Pollutant Discharge Elimination System Permit requirements and the Missouri Clean Water Law [Chapter 644, RSMo].

The Department encourages, but does not require, permittees to consider environmentally-friendly design techniques to include stormwater management strategies that maintain or restore the original site hydrology through infiltration, evaporation, or reuse of stormwater. Designs might include using porous pavement or creating vegetated swales and/or rain gardens. More information can be found at these websites: www.epa.gov/owow/NPS/lid/ and www.lid-stormwater.net/lid_techniques.htm.

The Department encourages the use of native vegetation to protect impacted areas from future water quality concerns. Native vegetation has evolved with Missouri's geology, climate, and wildlife to occur within a region as a result of natural processes rather than human intervention. For areas where direct impacts to streams are to be avoided, the Department recommends a minimum riparian buffer strip width of 50 feet as measured from top of bank.

The Department encourages the use of Horizontal Directional Drilling for stream and wetland crossings when practicable. If properly utilized, Horizontal Directional Drilling is an alternative to more traditional, open-trench methods and can result in significant minimization and/or complete avoidance of aquatic resource impacts.

The following publication provides guidance on how to protect water quality through Best Management Practices on project sites. For more information, please read: "Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas" dated January 2011 and located online at <https://dnr.mo.gov/document-search/protecting-water-quality-field-guide>.

To help determine if a proposed activity could encounter species or sites of conservation concern within or near a project, including those that have not been recorded, the project proponent is encouraged to visit:

- Missouri Department of Conservation's "Natural Heritage Review" website at <https://naturalheritagereview.mdc.mo.gov/>.
- U.S. Fish and Wildlife Service's "Information, Planning and Conservation" website at <http://ecos.fws.gov/ipac/>.

If the proposed project encounters and will potentially affect a species of concern, please promptly report it to the Missouri Department of Conservation and the U.S. Fish and Wildlife Service.

For more information
Missouri Department of Natural Resources
Water Protection Program
P.O. Box 176
Jefferson City, MO 65102-0176
wpsc401cert@dnr.mo.gov
800-361-4827 or 573-522-4502
<https://dnr.mo.gov/water>
