Cuyahoga Valley National Park
Ohio

SOLICITATION 1440P2026R0093
STABILIZE RIVERBANK ALONG TOWPATH TRAIL NEAR MM 20
CUVA 224822

DESIGN-BUILD (DB) PROJECT SCOPE

(DB Request for Proposal (RFP))

NATIONAL PARK SERVICE (NPS)
DENVER SERVICE CENTER (DSC)

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1.0 PROJECT INTRODUCTION

Park Acronym and PMIS Number: CUVA 224822

Project Title: STABILIZE RIVERBANK ALONG TOWPATH TRAIL NEAR MM 20
Project Drawing Number: CUVA 644/199054

1.1 Scope

In accordance with terms and conditions of the Contract, the Design-Build (DB) Contractor shall perform the work of this Request for Proposal (RFP) for the National Park Service (NPS) as described below.

Architect-Engineer (A/E) Services required in this RFP shall be performed by licensed Architects and Engineers registered in State of Ohio, United States.

The work of this task order shall be performed in accordance with the Denver Service Center (DSC) Design-Build (DB) Workflows website.

The DB homepage includes links to design phases describing required workflow process from Predesign (PD) through Construction Documents (CD). Each design phase webpage contains links to definitions, forms, templates, samples, and guidelines.

The DB homepage also includes links to the Design Standards and Design Deliverables sections which provide design requirements and criteria that shall be used for completing the work of this contract:

- Design Standards are arranged by discipline and/or specialty.
- DB Design Deliverables - Content and Format Requirements:
    - Design phase submission requirements for:
    - Technical content
    - Submission format (hard-copy and electronic)

In addition, the Information section has links directly to:

- Definitions: A list of terms relevant to design and construction in National Parks.
- Forms/Templates/Samples/Guidelines: A list of forms, templates, samples, and guidelines used for a typical project.
- Law/Regulations/Polices/Guidance: A list of sources for retrieving laws, regulations, policies, and guidance applicable to NPS projects.
- Quality Assurance (QA) Guideline & Review Checklists: Overview of the DSC QA Process for reviewing Design Documents.

In case of conflict between this task order and the DSC DB Workflows website, this task order shall take precedence and shall be used in lieu of conflicting portions.

The A/E remains fully responsible for determining if the standards or provisions cited on the DSC DB Workflows website have been revised or updated. Any such conflicts between the website and the identified standard or provisions shall be brought to the attention of the Contracting Officer (CO).

1.2 Project Management Website

Contractor to provide project management software to host and manage project communication and documentation until Final Completion. The project website will be used for:

- Project directory
- Project correspondence
- Meeting agendas and minutes
- Contract modifications documentation and logs
- RFI (Request for Information) form and processing
- Task and issue management
- Photo documentation
- Baseline schedule, schedule updates and calendar management
- Submittal form and processing
- Drawing and specification document hosting, viewing, and updating
- Online document collaboration
- Reminder and tracking functions
- Archiving functions
- Notification of submittal and RFI statuses and current responsible party

Contractor will be responsible to send NPS Team Members an invitation to register. Contractor to provide up to 15 licenses to NPS team members. Contractor to provide login procedures and other website information to the NPS team members.

1.3 Location

This project is located at Cuyahoga Valley National Park (Park), Ohio, Towpath Mile Marker (MM) 20 South. Refer to attached Access and Staging Map for location.

1.4 Background

The Cuyahoga Valley is an important asset to the National Park Service in the Park, south of the Cleveland metropolitan area. The Park includes an historic railroad, known as the Valley Railway, which runs primarily along the left (west) bank of the Cuyahoga River. Along the right (east) bank of the river is another historic asset – the Ohio & Erie Canal and Towpath Trail which was built in the early 1800s to connect Lake Erie to the Ohio River. The Park is very popular with the public, and the National Register Towpath Trail and Scenic Railroad are heavily used by Park visitors daily.

The MM 20 site is a high-priority site that is at risk of failure due to riverbank erosion caused by frequent flooding and high-water events. Riverbank failure would significantly damage the cultural resources and make the path unusable for a significant period of time. Loss of the assets would be detrimental to the Park and its programs. At this location, the Cuyahoga riverbank will be repaired, reconstructed, and stabilized to address the erosion problems that threaten extensive damage to the

historic resources. The proposed remediation will provide a level of protection for this historic resources.

The ongoing river erosion processes are influenced by both natural and manmade causes. Development influences the volume and timing of runoff to the river and influences the river's planform where embankments, bridges, and other features have been constructed in the river corridor. In the Midwest, the increase in intensity and frequency of rainfall-runoff events has been associated with climate change. These influences coupled with natural geomorphological process have resulted in appreciable meandering at sites such as Towpath MM 20 South.

This project site requires attention due to the over-steepening of banks that introduces safety concerns for CVSR operation and Towpath Trail use. The loss of soil material along the bank has resulted in drop-offs within just a few feet from the trail's edge. It has required repeated temporary closures and emergency repairs to address failed trail sections.

1.5 Description

The Project will stabilize the MM 20 portion of the Cuyahoga riverbank. Stabilization will utilize natural rock riprap and bioengineering techniques as identified in the Schematic Design Drawings. The Project includes clearing the banks, placing riprap, rebuilding banks, planting native vegetation to stabilize the soil, and remediation of the construction site and equipment access routes, as necessary. The Schematic Design incorporated bioengineering techniques to the extent practicable. The Schematic Design is described further below. The safety of the public – Park visitors walking or biking along the Towpath Trail, and floating or paddling the river – during and following construction is of paramount importance. Bendway weirs and root wads were included in the Schematic Design only in limited locations as necessary.

The Basis of Design Reports (see Section 5.0) supports the Schematic Design of stabilization measures that include natural rock riprap and bioengineering techniques. Where required, structural measures are incorporated to address asset protection needs in more challenging hydraulic and geotechnical conditions. Three reports are provided. The Basis of Design Report prepared by HDR addresses the MM 20 site. In a coordinated effort, the Schematic Design of the two (2) CVSR sites and the accompanying Basis of Design Reports were prepared by Environmental Design Group (EDG).

Geotechnical investigation and analyses were performed for the six (6) trail sites. The soils encountered in these areas contain varying amounts of highly erodible, fine-grained silts and clays. Shale bedrock was encountered at depths of about 13 to 17 feet below grade at four of the six trail sites. At the exceptions, MM 20 South, bedrock was not encountered in the borings, which extended 40 to 45 feet below existing grades. Bedrock topography mapping indicates bedrock at depths of about 150 feet below existing grades for the MM 20 South site. The geotechnical analyses informed design considerations including shoulder width (between edge of trail and top of bank), riverbank slope, and the need for rock channel protection to provide a stable working platform.

Hydraulic analyses were performed to evaluate existing and proposed conditions at the six (6) trail sites and the two (2) CVSR Sites. Three hydraulic models from the U.S. Army Corps of Engineers (USACE) Buffalo District provided a basis for the schematic design modeling effort. Flow data was taken from a HEC-RAS 1D model identified as CVNP Eco Restoration Model for all sites.

Geometry and terrain data were adopted from a HEC-RAS 2D model identified simply as Cuyahoga Valley for the six (6) trail sites. Topographic and bathymetric data collected for this CUVA project in 2021 were incorporated into the 2D hydraulic model. For the two (2) CVSR sites, models included geometry and terrain data from a USACE Section 205 Flood Control Feasibility Study model, 2012 LiDAR, and 2018 site topographic survey. Other refinements were implemented to better predict hydraulic conditions along the river at the six trail sites and the two CVSR sites. The hydraulic analyses focused on velocity, shear stress, and water surface elevation results to evaluate performance under existing and proposed conditions.

Based on similar geotechnical and hydraulic conditions, alternatives for the MM 20 area considered were: A) Hybrid Riprap, B) Brush Mattress, and C) Durable Riprap.
Preferred alternatives were selected through a Value Analysis Workshop held with NPS staff. This workshop used Choosing by Advantages (CBA) methodology and selection also considered Life Cycle Costing (LCC). Due to NPS review comments received late in the construction stage the alternate preferred alternative for MM 20 South section has been revised to the Brush Mattress Detail 2, (see Section 5 for details).
The Topographic and Bathymetric Survey (2021 for six trail sites and 2018 for two CVSR sites), Basis of Design Reports, and Geotechnical Reports (included as appendices to the Basis of Design Reports) are not contractual and shall be considered "for information only". They are intended to inform the final design by the DB Contractor. The DB Contractor is responsible for their use and for any interpretations or conclusions drawn from these and other data and materials provided by NPS.

Due to ongoing riverine erosion processes, the DB Contractor is required to perform and provide topographic and bathymetric surveys to confirm site conditions (see Section 2.1.1).

The Schematic Design 2D hydraulic model, also included in the data and materials provided by NPS, is intended to be used, advanced, and finalized by the DB Contractor for the site within its domain. Updated topography and bathymetry collected by the DB Contractor shall be applied to the hydraulic models as applicable.

In 2022 a design build contract with River Reach along with team members GPD Group and Environ Science completed Construction Documents for the MM 20 site. During the NPS Water Resource Division review objections to the extent of river realignment that reduced the channel width and amount of Riprap above waterline which effects the Wild and Scenic River characterization of values.

NPS has determined that in the best interest of this resource is to implement the alternative detail 2 – Brush Mattress. By installing below waterline toe armor, brush mattress and live staking through soil protection matting to the top of existing bank elevation at a 2.5:1 max slope, will protect the slope until the existing towpath is moved in another park project.

Design Requirements

The riverbank stabilization design shall adhere to the hydraulic requirements documented below unless otherwise approved by the Contracting Officer.

- The Contractor is required to analyze the existing and proposed conditions using the 1.5-year, 10-year, and 100-year event peak discharges documented in the Basis of Design Reports and applied to the Schematic Design hydraulic models. Provide treatments that meet the following minimum permissible shear stress values:

    - Riprap (Median Stone Diameter 18 inches): 7.6 lb/ft^2
    - Brush Mattress: 6 lb/ft^2
    - Live Staking: 2.6 lb/ft^2

- The maximum shear stress within the footprint of the proposed bank stabilization improvements shall be used to confirm that the design satisfies the minimum permissible shear stress values.

- Riprap and brush mattress treatments shall extend half the vertical distance between normal water line and top of bank to protect from frequent runoff flows.

- The 100-year event shall be used to evaluate water surface elevation (WSEL) impacts. WSEL increases shall be minimized throughout each affected reach and cannot exceed the values below. WSEL increases shall be measured at the upstream end of each site unless otherwise specified.
    - Towpath MM 20 South: 0.05 ft

The riverbank stabilization design shall adhere to the geotechnical requirements documented below unless otherwise approved by the Contracting Officer.

- The DB Contractor Team shall thoroughly review the Geotechnical Reports (included as appendices to the Basis of Design Reports) and provide additional borings, laboratory testing, and geotechnical analyses as necessary for their final design activities.

- Permissible Slopes
    - The Geotechnical Engineer of Record shall perform global stability analyses to evaluate the long-term (drained), short term (undrained), and rapid drawdown stability of the slopes. The target factors of safety for these conditions are as follows:
        - Short Term and Long Term: 1.30
        - Rapid Drawdown: 1.10
    - Cut and fill slopes shall be no steeper than 2.5H:1V.
    - The crest of any slope should be a minimum horizontal distance of 5 feet from the edge of the Towpath Trail.

1.6 Schedule

Complete work in this RFP according to following schedule:

DB Design Development (DD) Documents:

Submit DB Design Development Documents no later than 30 calendar days after receiving the notice to proceed from the Contracting Officer.

Complete NPS Review no later than 21 calendar days after submitting DB Design Development Documents.

100% Draft DB Construction Documents (CD):

Continue work on 100% Draft DB Construction Documents during DB Design Development Documents review. After receiving DB Design Development review comments, address and incorporate comments in 100% Draft DB Construction Documents.

Submit 100% Draft DB Construction Documents and responses to NPS Review form with responses to DB Design Development Documents no later than 30 calendar days after submitting DB Design Development Documents.

Complete NPS Review no later than 21 calendar days after receiving 100% Draft DB Construction Documents.

100% Complete DB Construction Documents (CD):

Submit 100% Complete DB Construction Documents and NPS Review form with responses to 100% Draft DB Construction Documents review comments no later than 20 calendar days after submitting 100% Draft DB Construction Documents.

Complete NPS review no later than 15 calendar days after receiving 100% Complete DB Construction Documents.

Complete Stamped and Signed DB Construction Documents (CD):

Submit Complete Stamped and Signed DB Construction Documents and NPS Review form with responses to 100% Complete DB Construction Documents review comments no later than 10 calendar days after receiving NPS review comments.

Construction:

Construction begins when Contracting Officer issues DB Start Work Notice.

Complete construction no later than 90 calendar days after award of construction contract. The NPS requests to have all eight sites completed, inspected, and accepted at once following one construction season; however, this may be open to discussions based on construction duration, phasing, and weather conditions. Bank stabilization initiated at any site shall be completed during one construction season.

As-Constructed Drawings:

Complete As-Constructed Drawings no later than 21 calendar days after Substantial Completion.

Submit DB Design Development (DD) Documents, DB Construction Documents (CD), and As-Constructed Drawings to NPS Project Manager (PM).

1.7 NPS Contacts & Address:

Contractual:

Contracting Officer (CO): Joseph Halter, 530-933-8687, joseph_halter@nps.gov

Contract Specialist (CS): Brian Baugh, brian_baugh@contractor.nps.gov

Technical:

Project Manager (PM): Julie Lawson, 720-908-5283, julie_lawson@nps.gov

Project Specialist (PS): TBD

DSC Branch Chief: Andrea Lind, 303-969-2983, Andrea_Lind@nps.gov

NPS Consultant (Partner): Jonathan Mitchell, 303-489-1842, jonathan_mitchell@partner.nps.gov

Contracting Officer's Representative (COR): TBD

Park Representative: Janet Popielski, 440-523-0113, janet_popielski@nps.gov

Park Resource Manager: Ed Kender, 216-296-7113, edward_kender@nps.gov

Address:

National Park Service - Denver Service Center
1 Denver Federal Center
Building 50
Post Office Box 25287
Denver, Colorado 80225

1.8 Data and Materials Provided by NPS

NPS will provide to DB Contractor the following data and materials. (Add as attachments in Section 5.)

- Basis of Design Report (BDR)
  - MM 20 South Site (Completed in October 2023 by the River Reach DB contractor)
- Approved Schematic Design Preferred Alternative Documents
- NPS Project Sustainability Checklist
- Constructability Checklist
- Division 1 Specifications Templates
- Performance Specifications
- Topographic and Bathymetric Survey (2021)
- Access and Staging Maps
- Geotechnical Reports – Included as appendices to BDRs.
- Schematic Design Hydraulic Models
- Categorical Exclusion (CATEX) – In progress; will be provided when completed.
- Permit List
- Clean Fill Protocol

2.0 PROJECT REQUIREMENTS

Contractor to research and resolve constructability issues included in the Constructability Checklist.

2.1 General Requirements

2.1.1 Scope of Work and Project Summary/Requirements

The Project will stabilize the identified portions of the Cuyahoga riverbank. Stabilization will utilize natural rock riprap and bioengineering techniques. The Project includes clearing the banks, placing riprap, rebuilding banks, planting native vegetation to stabilize the soil, and remediation of the construction site and equipment access routes, as necessary.

The project will include, but not be limited to:

Upon award, determine and provide design schedule of work.
Provide schedule of construction work.
Secure and provide Contractor-furnished permits.
Review site data.
Review Schematic Design preferred alternative provided in the RFP package.
Perform and provide topographic and bathymetric surveys to confirm site conditions.
Submit DB Design Development and DB Construction Documents for review and approval, as required.
Secure work area and provide adequate signage and detours for pedestrians and visitors.
Construct project.
Provide as-constructed drawings.
Create and provide operations and maintenance manual.

2.1.2 Definition of Contract Line Items

CONTRACT LINE ITEM 1 – Towpath MM 20 South:
Construct bank stabilization measures including bioengineering techniques and rock riprap.

CONTRACT LINE ITEM 2 – Design DD/CD:
Prepare design development and construction drawings for the identified Cuyahoga riverbank stabilization sites, include the following submittals:

- DB Design Development (DD) Documents,
- 100% Draft DB Construction Documents (CD),
- 100% Complete DB Construction Documents (CD), and
- Complete Stamped and Signed DB Construction Documents (CD).

2.1.3 Progress Payments

Design Phase - Progress payments will be based on submission, review, and acceptance of design deliverables.

Construction Phase - Progress payments will be based on percentage of work completed on items listed in approved schedule of values. Actual construction completed and in place will form basis for payment. DB Contractor shall verify percent complete under direction of the Contracting Officer Representative unless Contracting Officer waives this requirement in a specific instance. DB Contractor shall make

computations for payment based on Government's verification of work completed and in place for periods which progress payments are requested.

DB Contractor shall furnish to Contracting Officer originals of field notes and other records relating to basis for payment. Contracting Officer shall use as necessary to determine final amount of progress payments. DB Contractor shall retain copies of material furnished to Contracting Officer.

2.1.4 Project Meetings

2.1.4.1 Design Kick-off Meeting

This meeting is to be held onsite. Visiting the site after the meeting is encouraged. Before scheduling this meeting, Performance and Payment bonds for construction portion of project must be submitted and approved. DB Contractor has 15 calendar days after award to commence with the work, so bonds must be submitted within this time frame to avoid delay to schedule established in Section 1.6.

After award of contract and acceptance of Performance and Payment bonds, Contracting Officer will arrange a design kick-off meeting with DB Contractor. Meeting agenda shall include the following as a minimum:

- Areas available for use by DB Contractor
- Access requirements of the Park
- Commissioning (review requirements in ASHRAE 0-2005 paragraphs 6 and 7)
- Design schedule (minimum two color hard copies).
- Environmental and sustainability requirements
- Natural and Cultural Resource Protection
- Payments to DB Contractor
- Review and emphasize Park needs and design objectives.
- Modifications during design
- Schedule of Values
- Submittals during design

2.1.4.2 Design Weekly Meetings

Contractor shall include weekly team calls each month for the duration of the design phase: 1-hour each for two-three individuals participating. Contractor shall co-facilitate conference/Microsoft Teams calls as needed. Contractor shall provide agenda (electronic format via email) 2 calendar days prior to the call with follow up meeting notes within 2 calendar days of meeting. These shall also be submitted in electronic format via email. AE shall incorporate NPS comments as required.

2.1.4.3 Preconstruction Meeting

Submit following Part 2 Project Requirement deliverables a minimum of one week (7 calendar days) prior to Preconstruction Meeting.

- Accident Prevention Program (APP)
- DB Contractor's Commissioning Plan (CCxP)

- Evidence of liability insurance coverage and workman's compensation for DB Contractor and Subcontractors
- Historic Preservation Treatment Program
- Letter designating your Project Superintendent
- List of required permits
- List of Subcontractors for project (same as proposal)
- Project Schedule with construction portion fully developed
- Quality Control Plan
- Schedule of Values
- Storm Water Pollution Prevention Plan (SWPPP) Submittal process
- Waste Management Plan
- Written statements from Subcontractors certifying compliance with applicable labor standard clauses

After 100% Complete DB Construction Documents are approved (or completed portions of DB Construction Documents necessary for fast tracking the project), and before start of construction, Contracting Officer will arrange on-site Preconstruction meeting with DB Contractor. Meeting agenda will include the following as a minimum:

- Accident reporting
- Construction schedule (Provide minimum two (2) color hard copies and electronic copy in software it was created in.)
- Correspondence procedures
- Jobsite safety
- Labor standards
- Lines of Authority
- Modifications
- NPS/DSC SharePoint Project website
- Park Rules and Regulations
- Payroll reports
- Progress Payments
- Resolution to comments provided by NPS on the Part 2 Project Requirements
- Roles and responsibilities
- Schedule of Values
- Submittal process
- Bridge, access road and site constraints.
- Medical emergency processes, availability, emergency numbers, and contacts.
- Park permits, burning construction waste, rules of the road, alcohol use, housekeeping, firearms, pets, natural and cultural resource concerns.
- Visitation and public relations.
- Archeological Resources Protection Requirements.
- Environmental and sustainability requirements for the Project, required tracking for sustainability (related submittals), and use of NPS Project Sustainability Checklist.
- Saturdays, Sundays, holidays and night work.
- Traffic control.

2.1.4.4 Weekly Progress Meetings

DB Contractor shall participate in weekly telephone conference calls with Contracting Officer, CMR, and other project team members with updates to following meeting agenda items:

- Approval of minutes of previous meetings.
- Modifications
- Review of off-site fabrication and delivery.
- Requests for Information (RFI) and issues.
- Schedule update. (Provide updated CPM (Critical Path Method) schedule.)
- Status of Project Record Drawings and O&M (Operation & Maintenance) Manuals.
- Submittal status.
- Work in progress and projected.
- Other business relating to work.
- Safety updates.

2.1.5 Project Schedule

General: DB Contractor shall upload project schedule to the project management website and provide two (2) color copies after award and before design meeting. Schedule shall include detailed design phase with design deliverable submission dates, review periods, and summary construction schedule with important milestones included for both phases.

Fully develop construction portion of project schedule and submit to Contracting Officer on project management website before Preconstruction meeting or construction begins. Update project schedule monthly throughout contract period until project substantial completion. Status date of each schedule update shall be 10 calendar days before progress payment request date.

Construction work cannot begin until Government approval is obtained for either:

- Entire set of 100% Complete DB Construction Documents.
- Fast track construction: 100% Complete DB Construction Documents affecting work to be constructed.

Purpose: Project schedule ensures adequate planning, coordinating, scheduling, and reporting of DB Contractor’s design and construction activities. Project schedule will assist DB Contractor and Contracting Officer to monitor work progress, evaluate proposed changes, and process DB Contractor's monthly progress payment requests.

Software: Latest version of Microsoft Project, Primavera Project Planner, SureTrak, or approved equal.

Schedule Development: Project schedule shall cover entire contract period. Late finish date is same as contract’s established completion date.

DB Contractor shall use Critical Path Method (CPM) with limited use of lead or lag durations between schedule activities. DB Contractor's project schedule shall consist of procurement activities (including mobilization, submittal, and fabrication and delivery of key and long-lead procurement items) and construction activities.

DB Contractor's project schedule shall consist of, but not be limited to, the following for each activity:

- Identify activities and numbers numerically (maximum 5-digit). Number activities in increments of 10.
- Concisely describe work represented by activity (maximum 48 characters). Avoid using non-standard abbreviations. Limit work related to each activity to one work trade.
- Activity duration shall be in whole working days with maximum duration 15 work days each, unless otherwise approved by Contracting Officer, except for non-construction activities including mobilization, shop drawing and sample submittals, fabrication of materials, delivery of materials and equipment, and concrete curing.

DB Contractor shall ensure project schedule includes own work and Subcontractor work.

Project schedule shall show sequence and interdependence of activities required for complete performance of work and shall be cost and resource loaded. DB Contractor shall ensure work sequences are logical and project schedule shows a coordinated work plan. Proposed durations assigned to each activity shall be DB Contractor's best estimate of time required to complete activity, considering scope and resources planned. Resource loading of each activity shall list personnel by labor category and equipment type, and capacity proposed to complete activity in duration shown. Include permit requirements and constraints. Consider and include seasonal weather conditions in planning and scheduling of work influenced by high or low ambient temperatures and wind and/or precipitation, to ensure completion of work within contract time.

Project Schedule Updates

Monthly updates: Monthly updates of project schedule shall be an integral part and basic element of estimate upon which progress payments shall be made under this contract. If, in judgment of Contracting Officer, DB Contractor fails or refuses to provide schedule of values and complete schedule update or revision as specified hereinafter, DB Contractor shall be deemed to have not provided required information upon which progress payment may be made and shall be subject to retainage of a portion of the payment.

Narrative: Include in report:

- Brief description of actual progress made during update period.
- Actual and potential delaying activities.
- Impediments to progress.
- Issues related to inclement weather.
- Progress toward established milestones.
- Project float.
- Brief description of work anticipated to be performed in next month.
- Identify minor revisions to schedule for evaluation and accepted or rejected.

As work progresses, indicate Actual Completion percentage for each activity. If schedule update shows late finish date after contract completion date, at a minimum, include the following in narrative with submission:

- Known delays.
- Actions taken to get back on schedule.

- Pending modifications.
- Impediments or constraints affecting progress.

Progress Payments: Update currently accepted construction schedule monthly. If DB Contractor fails to provide monthly updates or revisions to currently accepted construction schedule, a portion of monthly payment may be retained until updates/revisions made.

Time Impact Analysis for Contract Modifications, Changes, Delays, and Contractor Requests Requirements: When contract modifications or changes are initiated, delays are experienced, or DB Contractor revises project schedule, DB Contractor shall submit to Contracting Officer a written time impact analysis illustrating influence of each modification, change, delay, or DB Contractor's request on the contract time.

- **Time Extensions:** Activity delays shall not automatically mean an extension of contract time is warranted or due to DB Contractor. It is possible that modification, change, or delay will not affect existing critical activities or cause non-critical activities to become critical. A modification, change, or delay may result in only absorbing a part of available total float that may exist within an activity chain of the project schedule, thereby not effecting the contract time. Time extensions will be granted according with terms of contract.
- **Float:** Float is not for exclusive use or benefit for NPS or DB Contractor. Extension of contract time is granted only to extent the equitable time adjustments to activity or activities affected by modification, change, or delay exceeds total (positive or zero) float available on a particular activity.

As-Constructed Drawings
Using previously prepared AutoCAD construction drawing files, provide office services as required to prepare As-Constructed Drawings. The DBC will furnish a set of Project Record drawings, field sketches, construction modification drawings, notes, etc. for inclusion. In addition to incorporating the material into a final drawing set, As-Constructed Drawings shall have the following:

1. Cover Sheet: (Refer to Appendix E of NPS Reference Manual 10A.)
    a. Change "Construction Drawings" to "As-Constructed Drawings"
    b. Revise Revision Block to:

Mark	Sheet	Revision	Date	Initial
(A, B, C, etc.)	All	As-Constructed Drawings		

    c. Include As-Constructed Drawing Contractor information.
2. All Sheets:
    a. Change drawing numbers to 644/176923A.
    b. Drawings shall be prepared in accordance with DSC publications NPS Reference Manuals 10A: Guideline for Preparation of Design and Construction Drawings (pdf) and 10B: Drawing and Map Numbers (pdf), Contract for A/E Projects, and the January 2007 DSC CAD (Computer Aided Design) Standards Guide (pdf). A/E is advised Government will confirm compliance with these standards prior to final payment for this task order. (Since original construction drawings were prepared under a separate task order wherein compliance with these standards was a requirement, no additional payment will be made for this provision.)

3. Deliverables: Reports, reviews, evaluations, design work, etc. shall be delivered to the Contracting Office in the allocated timeframe stated in the Standard Communication Form. No payment will be made for office services until the deliverables are received and accepted.

2.2 Design Requirements

2.2.1 Evaluation of Schematic Design Documents – NOT USED

2.2.1.1 Deliverables

The following deliverables are required for NPS Review:

The DB Contractor shall submit a report detailing the advantages and disadvantages of the proposed alternative(s) compared to the current design including constructability, construction schedule and cost, resilience, reliability/maintenance, and safety. Concept sketches of the alternative(s) shall be provided.

Submit electronic documents, in native and PDF format.

2.2.2 DB Design Development (DD) Documents and DB Construction Documents (CD)

Prepare DB Design Development Documents and DB Construction Documents using English System of Weights and Measurements and according to DSC Design Standards and DSC Design Deliverables - Content and Format Requirements for DB Design Development Documents and DB Construction Documents.

List salient characteristics for products and materials specified. Refer to Guide for Specifiers.

Deliverables

The following deliverables are required (refer to Section 1.6 for schedule) for NPS Review:

- DB Design Development (DD) Documents
  *Submit **2** hard and electronic, in native formats (no PDF (Portable Document Format) files), copies of the following DB Design Development Documents for review:*
    - Draft DB Design Development Drawings
    - Division 1 Specifications
    - Divisions 2 through 49 Outline Specifications
    - Product File
    - Statement of Structural Tests and Special Inspections
    - Hydraulic Model(s)
    - Design Calculations
- 100% Draft DB Construction Documents (CD)
  *Submit **2** hard and electronic, in native formats (no PDF files), copies of the following 100% Draft DB Construction Documents for review:*
    - 100% Draft DB Construction Drawings
    - Division 1 Construction Specifications (Construction Specifications Institute (CSI) Master Format 04 Edition). A/E shall utilize and modify DSC Division 1 Construction Specifications templates.

        - Divisions 2 through 49 Construction Specifications (Construction Specifications Institute (CSI) MasterFormat 04 Edition). A/E shall utilize and modify their own Divisions 2 through 49 Construction Specifications templates.
        - Product File
        - Statement of Structural Tests and Special Inspections
        - Hydraulic Model(s)
        - Design Calculations
        - Checklists for internal review of drawings, specifications, calculations, and cost estimates
            - Required documents for each submission are included and complete per contract requirements.
            - Required documents have been through a Quality Control (QC) review. NPS requires documentation and submittal of QC work performed.
        - NPS Review form with responses to DB Design Development Documents review comments.
- 100% Complete DB Construction Documents (CD)
  *Submit **2** hard and electronic, in native formats (no PDF files), copies of the following 100% Complete DB Construction Documents for review and final approval:*
        - 100% Complete DB Construction Drawings
        - Division 1 Construction Specifications
        - Divisions 2 through 49 Construction Specifications
        - Product File
        - Statement of Structural Tests and Special Inspections
        - Hydraulic Model(s)
        - Design Calculations
        - Checklists for internal review of drawings, specifications, calculations, and cost estimates
            - Required documents for each submission are included and complete per contract requirements.
            - Required documents have been through a Quality Control (QC) review. NPS requires documentation and submittal of QC work performed.
        - NPS Review form with responses to 100% Draft DB Construction Documents review comments
- Complete Stamped and Signed DB Construction Documents (CD)
    - Upon final approval of 100% Complete DB Construction Documents, submit Complete Stamped and Signed DB Construction Documents per following table for construction, NPS archiving, and general use. For format and media submission requirements, see Design Deliverables - Content and Format Requirements DB Hard Copy and Electronic Submittal Requirements.
    - Provide all supplemental documentation and design reports including, but not limited to: Survey in both native and PDF; Soil testing reports; Hazmat reports; Hydraulic reports; Geotechnical reports; drilling logs.

COMPLETE STAMPED AND SIGNED DB CONSTRUCTION DOCUMENTS (CD)	ELECTRONIC FORMATS *	HARD COPY FORMATS
DB Construction Drawings	AutoCAD	Half-Size Drawings

Division 1 Construction Specifications	PDF & MS (Microsoft)-Word	N/A (Not Applicable)
Divisions 2 through 49 Construction Specifications	PDF & MS (Microsoft)-Word	N/A (Not Applicable)
Product File	PDF	N/A
Statement of Structural Tests and Special Inspections	PDF & MS-Word	N/A
Supplemental Design Reports	PDF	N/A
Hydraulic Model(s)	HEC-RAS	N/A
Design Calculations	PDF & native formats	N/A
Checklists for internal review of drawings, specifications, calculations, and cost estimates	PDF & MS-Excel	N/A
NPS Review form with responses to 100% Complete DB CD review comments	PDF & MS-Excel	N/A
* The recipient of the electronic files is TIC (Technical Information Center).		

2.2.3 Environmental and Sustainability Requirements for Design

NPS established environmental and sustainability requirements for project. Notify Contracting Officer if conflicts arise between performance of work and environmental and sustainability requirements. NPS does not intend to limit alternative means of achieving these requirements.

For sustainability requirements for design, see Part 3 Performance Requirements and NPS Project Sustainability Checklist. Complete checklist by concisely explaining how each credit/requirement will be met.

Government Permitting Responsibilities

Responsibility for securing permits required to construct bank stabilization measures is assigned to the Design Build Contractor (DBC). Anticipated conditions associated with these permits are addressed in Section 2.3.1.

Design Build Contractor Permitting Responsibilities

The Design Build Contractor (DBC) is responsible for securing non-government furnished permits required to construct bank stabilization measures. The DBC shall work collaboratively with the DSC and Park to ensure the project meets DOI, NPS, and Park requirements in addition to applicable federal, state, and local regulations.

Permit List Review

a. The NPS has developed a permit list (see Section 5.0 Attachments) and identified the following permits and approvals are required by the DBC:

- United States Coast Guard – Notice to Mariners
- Ohio Environmental Protection Agency – National Pollution Discharge Elimination System General Stormwater Construction Permit
- Section 404 Clean Water Act
- Section 10 Rivers and Harbors Act
- Section 401 Water Quality Certification

b. The DBC shall provide a list of appropriate permits (Permit List) and status for each submittal.
c. If there is insufficient information to make a determination for a particular permit, DBC shall communicate what information is required to make that determination and the steps necessary to obtain this information to the CO.

Acquisition Services:
a. Consult with appropriate Agencies.
i. Document agency contact and provide.
ii. Bring any agency requirements to the integrated design team.
iii. Schedule and conduct a pre-application meeting with pertinent agencies as needed.
b. Prepare Schedule for Permit Acquisition.
c. Permits Applications Development
i. Prepare draft application for each permit in Permit Plans. Applications include required documents, products, etc. necessary for successful acquisition of permit.
ii. Bring permit issues to NPS and Park for resolution.
iii. Provide a draft application packet for each permit to the integrated design team for review prior to submittal to the associated agency.
iv. Finalize the application packet incorporating comments from design team review.
v. Communicate and copy NPS and Park on submittals, additional requirements, strategies, and resubmittals as required to secure permit.
d. Permit Acquisition
i. Proactively manage the permitting process to ensure each permit is issued in accordance with the approved schedule.
ii. In consultation with integrated design team, resolve reviewing agencies comments, as required.
e. Provide original versions of issued permits to NPS by scheduled date.

Submittals
• Permitting Documents
List of Permits
Schedule for Permit Acquisition
Draft Application Packet for each permit
Copies of signed Application Packets
Original versions of all issued permits

2.3 Construction Requirements

The following is a minimum list of construction requirements that shall be followed for all construction at the Park. Additional requirements and refinements will be developed by the DBC and the COR and included in the Division I Specifications.

2.3.1 Environmental and Sustainability Requirements

Compliance for this project is complete.

Specific sustainability requirements generated in design will dictate more stringent environmental requirements for this project. Refer to Part 3 Performance Requirements and NPS Project Sustainability Checklist. General requirements:

- **Site Disturbance:** Minimize construction limits of project to reduce impact on site.
- **Toxic Chemicals:** Avoid materials that can leach toxic chemicals into ground water. Do not allow toxic chemicals to enter sewers or storm drains or contaminate land or any body of water. Refer to NPS Project Sustainability Checklist for additional requirements.
- **Soil Erosion:** Protect against erosion and topsoil depletion according to Stormwater Pollution Prevention Plan (SWPPP) to be developed and implemented for all project sites by DBC.
- **Habitats:** Protect natural habitats and ecological systems on facility site as identified in Categorical Exclusion (CE).
- **Noise:** Minimize noise during construction. Operate power equipment according to local noise restrictions.
- **Waste Management:** Employ processes ensuring minimal waste output and in landfills. Legally dispose materials unsuitable for recycling at public or private dumping areas outside the Park.

DB Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing environmental and sustainability requirements of this project. Distribute copies of environmental and sustainability requirements to Job Site Foreman and each Subcontractor.

Waste Management Plan: Prior to scheduled Preconstruction meeting, DB Contractor shall submit draft Waste Management Plan to Contracting Officer for approval. Develop and implement according to ASTM E1609 and as required in contract documents. Plan shall include, but not be limited to:

- List of recycling facilities, reuse facilities, municipal solid waste landfills, and other disposal area(s) to be used. Include name, location, and phone number.
- List of proposed materials to be reused or recycled.
- List of materials that cannot be recycled or reused with explanation or justification.
- Storage and collection methods of waste and recyclables, handling procedures, and means of keeping recyclables free of contamination.
- Describe means of transporting recyclable materials and estimate frequency of emptying bins.
- Identity person or persons responsible for ensuring project recycling goals are achieved.
- Revise and resubmit Plan per Contracting Officer. Approval of DB Contractor's Plan does not relieve DB Contractor of complying with applicable environmental regulations.

Progress Documentation: Supplemental to Waste Management Plan, document solid waste disposal, diversion, and cost/revenue analysis, and submit completed worksheet monthly. See Project Waste Management Plan Worksheet Sample, included with Division 1 Specifications, and report totals to date for column headings.

Prior to commencement of work, schedule and conduct meeting with Contracting Officer. Discuss proposed Waste Management Plan and develop mutual understanding of details of environmental protection.

Minimize Construction Impacts

Implement following mitigation measures to minimize impacts of construction activities, note that these measures may have an impact on project schedule:

Threatened and Endangered Species: Contractor is required to follow standard conservation measures for the Indiana and northern long-eared bat, piping plover, rufa red knot, and Migratory Bird Treaty Act (MBTA) species, and Bald and Golden Eagle Protection Act.

There are no special conservation measures for piping plover or rufa red knot.

Indiana bats roost under loose tree bark on dead or dying trees during the summer. Trees should only be cut when the species is hibernating or concentrated near its hibernacula. For this reason, tree removal is restricted to between October 1 and March 31. Trees must not be cut between April 1 and September 30 of any year.

Incidental take of northern long-eared bat is prohibited if it occurs as a result of removing a known occupied maternity roost tree or removing trees within 150 feet of a known occupied maternity roost tree during the pup season from June 1 through July 31 or as a result of removing trees from within 0.25 mile of a hibernaculum at any time of the year. For this reason, tree removal is restricted to between October 1 and March 31.

The provisions of the MBTA are applicable to construction activities (clearing and grubbing, tree removal etc.) that may result in the taking of migratory birds, eggs, or young, including active nests. The MBTA is applicable year round, but in Ohio most migratory bird nesting activities occur during the period of February 1 to August 31. However, there are some raptors (owls) that will begin nesting as early as February and some song birds that may complete nesting as late as mid-September. Tree removal between October 1 and March 31 coincides with the timeframe for the Indiana Bat and would comply with the MBTA.

In order to protect eagles under the Bald and Golden Eagle Protection Act (BGEPA, 16 U.S.C. 668-668c), all construction work requires a site survey, to be performed by a trained Park employee. The survey must be completed within two weeks prior to the start of construction. If an active bald eagle or golden eagle nest is found, the DBC may have to work in areas that are 100 meters or more away from the active nest. If avoiding work in the 100-meter area around the active nest is not possible, the DBC may be required to postpone work in the area until a repeat survey indicates no impact to nesting eagles. If an active or inactive nest is found, the DBC will be required to avoid cutting down trees with nests. Request site survey a minimum of one month prior to work.

Wetlands/Waters of the US: NPS is obtaining authorization for compliance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Anticipated permit conditions that would be responsibility of the DBC are:

- To limit impacts, field identify and flag/fence wetland boundary.
- Clearing of vegetation shall be limited to that which is absolutely necessary for construction of the project. All adjacent (contiguous, bordering, neighboring) areas to jurisdictional waters, and jurisdictional waters temporarily disturbed by construction shall be restored to pre-construction contours and revegetated as appropriate. Seeding shall not contain invasive and non-native species. The disturbed areas shall be reseeded concurrent with the project or immediately upon completion. Revegetation shall be acceptable when ground cover of desirable species reaches 75 percent. If seeding can be accomplished by September 15, all seeding shall be appropriated mulched. If seeding cannot occur by September 15 in year of project completion, then an erosion blanket shall be placed on the disturbed areas. Documentation of revegetation and establishment shall be provided to Contracting Officer's Representative. Requirements for these special conditions are addressed in the Contract Documents.

- Concurrent with construction, silt fencing or other sediment control measures will be employed to reduce soil erosion and sedimentation into waters of the U.S. The amount of sediment entering waters of the U.S. and leaving the site shall be reduced to the maximum extent practicable. If the permittee fails to institute all appropriate measures, the Corps reserves the option to halt all earthmoving operations until the erosion/sedimentation problems are corrected. Requirements for these special conditions are addressed in the Contract Documents.
- Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance, as necessary.

Cultural Resources (including historic): Restore disturbed soil, vegetation and trail segments to preconstruction conditions.

Contractor shall coordinate with NPS prior to starting construction and adhere to requirements pertaining to Ohio State Historic Preservation Office (SHPO) requirements and the U.S. Secretary of the Interior Standards for the Treatment of Historic Properties.

Archaeological monitoring is required during excavation work and subsurface disturbance at Towpath MM 20 South. A qualified archeological monitor shall observe and report upon all excavation work and subsurface disturbance. The archeological monitor must obtain an ARPA permit before subsurface disturbance can occur. The ARPA permit should be requested for the entire project duration. The archeological monitor is subconsultant to the DBC. If archeological resources are discovered at any of the project sites immediately stop work in vicinity of discovery and report discovery to Park Resource Manager, Project Manager, and Contracting Officer. The subcontracted archaeological monitor should be retained in an on-call status for the duration of the construction activities to mitigate the possibility of incidental finds.

An Archeological Monitor is a person employed by the Contractor that meets the Secretary of Interior's Professional Qualification Standards for Archeology which can be found at https://www.nps.gov/history/local-law/arch_stnds_9.htm and meets the Archaeological Resource Protection Act (ARPA) standards for undertaking archeological investigations (43 CFR 7.8).

Visitor Experience (including recreation use): Coordinate all trail closures with Contracting Officer's Representative. Provide closure signage and for all trails within the work area. Authorized work hours are 7 AM to 5 PM unless otherwise approved by the Contracting Officer.

The Cuyahoga River will remain open to boating including kayaks and canoe traffic as much as possible, and closures shall be kept to a minimum. When safety concerns require closure of the river, appropriate signage/buoys/markers shall be placed upstream and downstream of the project area to alert users of the construction activity. This includes locations where users can enter and exit the waterway downstream and upstream of the project area.

Fill Material: All imported material shall comply with the Park's Clean Fill Protocol (see Section 5.0 Attachments). Imported material must be approved by the Contracting Officer and the Park Representative.

Weed Mitigation: Weed control products are reviewed on an annual basis within Cuyahoga Valley National Park. Contractor is to review allowable weed mitigation products with Park Resource Manager and COR prior to use.

All borrow, road base, aggregate, crusher fines, bedding, topsoil, hay bales and other fill materials brought into Cuyahoga Valley National Park and used in this project shall be certified weed free. Without certification, materials will come from commercial sources that have been approved by the Contracting Officer, prior to materials entering the Park.

Clean vehicles and construction equipment prior to entry into the Park to minimize the potential for introduction and/or proliferation of invasive non-native weeds through project actions. The contractor is required to wash equipment, with emphasis on undercarriages, with a high-pressure spray prior to transporting such equipment to Cuyahoga Valley National Park.

All vehicles and construction equipment entering Cuyahoga Valley National Park shall be inspected and approved by the Contracting Officer prior to entering the Park.

Equipment not deemed clean by the Contracting Officer will not be allowed to enter the Park. The contractor remains liable for additional transportation fees incurred when equipment fails inspection.

Tree Removals: All tree removals will need to be reviewed on a case by case basis with NPS staff. Individual trees or groupings of trees will need to be reviewed with an NPS staff biologist to determine current active nesting or roosting status. If active nesting or roosting activity is observed, additional coordination with NPS and or USFWS is necessary. Removal of trees should be completed outside of migratory bird nesting season, see *Threatened* and Endangered Species above.

Planting Timeframe: April 15-May 31 for Spring Planting, and October 1-November 30 for Fall Planting, with exceptions to those dates occurring when there is snow on the ground.

Soil Erosion: Protect against erosion and topsoil depletion. SWPPP to be developed and implemented by DBC.

Avoid Soil Compaction: Avoid compaction from heavy equipment to surrounding area by keeping equipment inside the limits of work. Compacted soils must be ripped or decompacted post construction to enable vegetation. All disturbances must be returned to grade and any tracks from equipment must be raked out.

Exotic Vegetation and Noxious Weeds: Prevent introduction and minimize spread of exotic vegetation and noxious weeds. Incorporate following procedures:

- Obtain fill, rock, or additional topsoil needed from a Government approved source.
- Use government approved native seed mix, revegetate areas disturbed by construction.

Revegetation: A qualified revegetation specialist or firm shall perform all weed treatment, site prep and hydro-seeding/mulching. The Contractor/Subcontractor shall provide a list of relevant project experience, as well as three references available for contact. Pre-selected revegetation firms are available on the GSA Schedule.

Air and Water Pollution Control: Air quality impacts are expected to be temporary and localized. To minimize these impacts, take following actions:

- To reduce tailpipe emissions, do not leave construction equipment idling longer than necessary for safety and mechanical reasons.

- To reduce construction dust, apply water to problem areas. Limit equipment to fenced project area to minimize soil disturbance and dust generation.
- Take necessary reasonable measures to reduce air and water pollution with material or equipment used during construction. Keep volatile wastes in covered containers.
- Storm Water Pollution Prevention Plan (SWPPP): Submit a SWPPP, according to applicable State Water Resources Control Board's (SWRCB) requirements, to Contracting Officer for approval. (See Technical Requirements.) Before starting construction, DB Contractor shall implement approved SWPPP.

2.3.2 Schedule of Values

After contract award and before Design Meeting, submit schedule of dollar value based on Contract Price Schedule. Breakdown each lump-sum item into component parts of design deliverables or construction work for which progress payments may be requested. Total costs for component parts of work shall equal contract line-item amount for that lump-sum item. Contracting Officer may request data to verify accuracy of dollar values. Include mobilization, general condition costs, overhead, and profit in total dollar value of unit price item and in component parts of work for each lump-sum item, as described below. Do not include mobilization, general condition costs, overhead, or profit as separate items.

Do not break down unit price items. Only use contract line-item amount for unit price items.

Total cost of items shall equal contract sum. Schedule of Values will form basis for progress payments.

Before first progress payment is processed, DB Contractor and Contracting Officer shall agree on an acceptable Schedule of Values. A cost loaded project schedule is an acceptable substitute for a schedule of values in some cases.

2.3.3 Construction Support

Staging Areas

Limit construction sites to smallest feasible area. Carefully control ground disturbance and site management to prevent undue damage to vegetation, soils, and archeological resources, and to minimize air, water, soil, and noise pollution.

Staging is limited in or near construction area for a construction office or trailer. Locate construction equipment and material storage in previously disturbed areas near construction site. Refer to the attached Access and Staging Maps (see Section 5.0). Consult with Park Resource Manager for proposed changes or additions to staging areas. Obtain Contracting Officer’s approval for staging area location for construction equipment. Once construction is complete, return staging areas to pre-construction conditions. Consult with Contracting Officer and develop standards and methods for determining standards.

Structures: Trailers, Storage, Field Offices, Staging Area and Sheds: Contracting Officer to approve location.

DB Contractor's Field Office: Structurally sound construction and weather tight. Location determined by NPS before issuing Start Work Notice.

Storage Sheds: If used, provide weather tight sheds or other covered facilities for materials subject to weather damage and remove temporary water, sewer, sanitary facilities and electric utilities upon project completion. Remove temporary utility connections.

Construction Zones

Before construction activity, use construction barrier, plastic, or portable fencing, approved by Contracting Officer, to define construction zone, minimum area required for construction. Clearly state protection measures in construction specifications and instruct workers to avoid conducting activities beyond construction zone.

Roadway Impacts

Work requiring disruption to roadways shall be scheduled and coordinated to minimize impacts to visitors and park operations, as approved by Contracting Officer.

Protection of Public

Use fence, barricade, or other means to block immediate work area and prevent unauthorized entry. Erect and maintain fencing, barricades, lights, signals, and warning signs according to current version of Manual on Uniform Traffic Control Devices (MUTCD).

Parking of Construction Vehicles

Limit to existing roads in legally designated areas and within approved staging area(s). Parking outside of designated staging areas shall be coordinated with the Park Representative.

Special Construction Requirements

None.

Excavation

Excavation shall be considered subsidiary to all applicable work. Refer to Geotechnical Reports. See Section 2.3.1 for cultural resource requirements pertaining to archeological monitoring.

2.3.4 Submittals During Construction

Construction Submittals:
Contractor to complete the NPS Submittal List and Review Estimate Template as part of the DD and CD documents and identify for approval by the government, which submittals will be Action Submittals and which will be Informational Submittals.

Construction Submittal Types

Action Submittals: Written, graphic information, and physical samples that require Government's responsive action.

- **Product Data:** Collect information in single submittal for each element of construction and type of product or equipment.
- **Shop Drawings:** Prepare project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of Contract Documents or standard printed data [**unless submittal of CAD (Computer Aided Design)/BIM (Building Information Modeling) Drawings is otherwise permitted**].
- **Samples:** Submit Samples of kind, color, pattern, and texture for reviewing characteristics with other elements and comparing between submittal and actual component as delivered and installed.
- **Construction Materials:** DB Contractor is encouraged to submit, for approval, products made of recycled or environmentally responsible material. NPS will make every effort to approve these materials.

Informational Submittals: Written information not requiring Government's responsive action. Submittals may be rejected for not complying with requirements.

- Prepare and submit Informational Submittals required by individual Specification Sections.
- Informational submittals include, but are not limited to, Coordination Drawings LEED™ Submittals Product Data, Certificates, Test reports, Manufacturer's instructions, Division 01 Management Plans, etc.

Contractors Review

Review each submittal for coordination with other work of contract and compliance Contract Documents. Note corrections and field dimensions.

General Submittal Procedures

Prepare and submit submittals shown in Part 4.0 Technical Requirements. See individual technical sections for details on requirements for each.

Contracting Officer reserves the right to require submittals in addition to those identified in individual sections.

Coordination: Coordinate submittal preparation and processing with construction activity performance. Review for legibility, accuracy, completeness, and compliance with Contract Documents.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities requiring sequential activity.
2. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.

Processing Time: Allow enough time for submittal review and re-submittals. Start review when Contracting Officer, or designee, receives email indicating submittal has been posted on the NPS/DSC SharePoint project website. After Contracting Officer completes review, an email is sent to the DB Contractor indicating submittal has been processed. Contract time extensions will not be authorized if submittals are not transmitted with enough time to permit processing, including re-submittals.

1. **Action Submittals:** Allow 30 calendar days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
2. **Informational Submittals:** Allow 12 calendar days for review of each submittal.

Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. **Electronic Submittal Review Form (CM-SPE):** Use NPS/DSC SharePoint Project website to access and complete this form and to transmit submittals. For actions taken on submittal items, this form must accompany.
    a. Complete general information at the top.
    b. Provide required information based on submittal type.
    c. Attach related documents.
    d. Sign Electronic Submittal Review Form in Contractor section towards bottom and select **Submit** when complete.
2. **Physical Samples:** Complete Electronic Submittal Review Form on the NPS/DSC SharePoint Project website as described above. Deliver physical sample to Contracting Officer, or designee, on site for processing. Document comments and actions on Electronic Submittal Review Form.

Contracting Officer's (CO) Review

Action Submittals: Contracting Officer will review each submittal, generate comments on corrections or modifications required, and indicate appropriate action on Electronic Submittal Review Form in one of three ways:

1. **Approved:** Acceptable with no corrections required.
2. **Approved with Notations:** Minor corrections or clarifications required. Comments are clear and no further review required. DB Contractor shall address review comments when proceeding with work.
3. **Disapproved - Resubmit:** Rejected for not according with contract or requiring major corrections or clarifications. Contracting Officer will identify reasons for disapproval. DB Contractor shall revise and resubmit with changes clearly identified.

Informational Submittals: Contracting Officer will review submittals and accept or reject.

Submittal List

Use the **Submittal List with Review Estimate Template**, included with Division 1 Specifications, to provide overall summary of submittal requirements, not a comprehensive list. Technical requirements indicate type and specify submittal requirements. Contract terms and conditions apply regardless of indication on submittal list.

Use for Construction

Use only final submittals marked with **Approved** or **Approved with notations**. Ensure notations are incorporated and, at a minimum, keep one copy of final approved submittal on site during construction.

2.3.5 Construction Coordination

Notice to Proceed: No demolition, material or equipment storage or construction shall occur until the Contracting Officer issues a Notice to Proceed. A Notice to Proceed will not be issued until Compliance and permits are complete. No construction will start prior to NPS approving 100% Construction Drawings.

The option of issuing Limited NTP for specific project areas or specific construction activities shall be considered upon approval of 100% construction drawing for the specific project area.

Complete construction no later than 310 days from NTP to complete.

Notification: Contracting Officer provides necessary written notification and/or direction to DB Contractor. An on-site independent Construction Management Representative (CMR) coordinates DB Contractor's construction efforts with Park Staff's daily operations and transmits/receives correspondence between DSC and DB Contractor. CMR does not have authority to accept or reject work, authorize changes to contract terms and conditions, or obligate NPS for time or money.

2.3.6 Digital Images

Provide 25 images per week documenting construction. Upload digital images to project management website and identify sets of images with date, location, title, description, and other information pertinent to subject captured in photos.

Capture digital images documenting construction progress and problems. For example, capture items that will be seen later. Post digital images of each work activity weekly or as directed by Contracting Officer.

2.3.7 Quality Control

General

DB Contractor is responsible for quality of work. Independent testing laboratory is responsible for testing. Inspect and test work as needed to ensure quality of materials, workmanship, construction, and finish, and to ensure functional performance is in compliance with applicable specifications and drawings.

DB Contractor accepts ultimate responsibility, liability and duty to control quality of services provided to the Government as stipulated in FAR Part 36.609-2. DB Contractor shall be responsible for professional quality, technical accuracy, and coordination of designs, drawings, specifications, and other services furnished by DB Contractor, their Employees, Agents, Assignees, and Subcontractors under the contract. DB Contractor shall, without additional compensation, correct or revise any errors or deficiencies in its designs, drawings, specifications, and other services.

DB Contractor shall demonstrate existence of a Quality Control (QC) system used for work submitted to NPS. DB Contractor and Subcontractors shall use this QC system and, at a minimum, include:

- Coordination of drawings and specifications within each discipline and between disciplines.
- Verification that documents to be submitted are accurate and correct.

- Checklists for internal review of drawings, specifications, calculations, and cost estimates.
    - Required documents for each submission are included and complete per contract requirements.
    - Required documents have been through a QC review. NPS requires documentation and submittal of QC work performed.

Use Accessibility Inspection Report (Contractor Quality Control (CQC) & Final) to document compliance with Architectural Barriers Act (ABA) Accessibility Standards. As needed, inspect at various stages of construction ensuring finished product meets guidelines. Complete applicable sections of Accessibility Inspection Report and attach to CMR & CQC Daily Report (Construction Management Representative (CMR) & Contractor Quality Control (CQC)) form *(download and complete using Adobe Acrobat)*.

CQC Supervisor will complete CQC Daily Reports.

Person performing tests will complete test reports.

Contracting Officer may designate test locations.

Quality Control Staff

CQC Supervisor will not be assigned other duties.

CQC Supervisor, designated by DB Construction Contractor, shall be on project site whenever contract work is in progress.

DB Construction Contractor's job supervisory staff may assist CQC Supervisor supplement, as necessary, by adding certified testing technicians.

Testing Laboratory and Equipment:

- Employ certified independent laboratories to perform sampling and testing. Testing laboratory organization shall be certified for type of testing work.
- Calibrate measuring devices, laboratory equipment, and instruments at established intervals against certified standards according to National Bureau of Standards (NBS) requirements. Upon request, Government will make available measuring and testing devices for verification tests.

Submittals

Quality Control Plan: Prior to Preconstruction meeting, submit written CQC plan for approval.

If plan requires revisions or corrections, DB Construction Contractor shall resubmit plan within 10 days.

Government reserves right to require changes to the plan during contract period as necessary to obtain quality specified.

No change in the approved plan may be made without written concurrence by Contracting Officer.

The plan shall include:

- A list of personnel responsible for quality control and assigned duties. Include each person's qualifications.
- A copy of a letter of direction to CQC Supervisor outlining assigned duties.
- Names, qualifications, and descriptions of laboratories to perform sampling and testing, and samples of proposed report forms.
- Methods of performing, documenting, and enforcing quality control of work.
- Methods of monitoring and controlling environmental pollution and contamination as required by regulations and laws.

Daily Reports: Submit and include inspections and tests on first workday following date covered by report. Use Daily Test Report Information Report Sheet and CMR & CQC Daily Report forms.

Test Reports: Submit Daily Test Information Sheets with CQC Daily Reports.

Submit failing test results and proposed remedial actions within four hours of noted deficiency.

Submit three copies of complete test results no later than one calendar day after test performed.

If CQC plan and CQC Daily Reports are not submitted as specified, Contracting Officer may retain payments until a plan is accepted and implemented. Or Contracting Officer may retain payments for work completed on days with no CQC Daily Reports.

Accessibility Inspection Report: Submit Accessibility Inspection Report (CQC & Final) no later than three calendar days after inspection.

Off-Site Inspection Reports: Submit prior to shipment.

Execution

Off-Site-Control: Items fabricated or assembled off-site shall be inspected for quality control at the place of fabrication.

On-Site Control: Notify Contracting Officer at least 48 hours in advance of preparatory phase meeting.

Notify Contracting Officer at least 24 hours in advance of initial and follow-up phases.

Quality Control Phases

Preparatory Phase: Perform before beginning each feature of work.

Review control submittal requirements with personnel directly responsible for quality control work. At a minimum, CQC Supervisor and Foreman responsible for the feature of work shall attend.

Review applicable specifications sections and drawings related to the feature of work.

Ensure copies of referenced standards, related to sampling, testing, and execution for the feature of work, are available on site.

Ensure provisions were made for field control testing.

Examine work area to ensure preliminary work completed.

Verify field dimensions and advise Contracting Officer of discrepancies with contract documents.

Ensure necessary equipment and materials are at project site and comply with approved shop drawings and submittals.

Document preparatory phase activities and discussions on CQC Daily Report.

Initial Phase: As soon as work begins, inspect and test a representative portion of a particular feature of work for quality of workmanship.

Review control testing procedures to ensure compliance with contract requirements.

Document initial phase activities and discussions on CQC Daily Report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

Follow-Up Phase: Inspect and test as work progresses to ensure compliance with contract requirements until completion of work.

Additional Preparatory and Initial Phases: May be required on the same feature of work for the following reasons:

- Quality of on-going work is unacceptable.
- Changes occurred in applicable quality control staff, on-site production supervision, or work crew.
- Work on a particular feature of work is resumed after a substantial period of inactivity.

Documentation

Maintain CQC Daily Reports, Daily Test Report Information Sheets, and Accessibility Inspection Reports of quality control activities and tests.

CQC Daily Reports may not be substituted for other written reports required under clauses of the contract such as disputes, differing site conditions, or changes.

Enforcement

DB Construction Contractor shall stop work on any item or feature pending satisfactory correction of any deficiency noted by quality control staff or Contracting Officer.

2.3.8 Working Hour Restrictions

Limit work and deliveries to weekday hours of 7:00 AM to 5:00 PM unless otherwise approved by Contracting Officer. No work shall occur on National Park Service (NPS) holidays or weekends without prior approval.

2.3.9 Temporary Services

Temporary materials may be new or used but must be adequate in capacity for required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

Fire Protection Equipment: Observe and enforce standards of fire prevention and current fire restrictions. No open fires allowed.

Vehicles and Equipment: Provide one fire extinguisher on each vehicle or piece of equipment. Extinguishers shall have a minimum UL (Underwriters Laboratory) rating of 2-A:10-B:C. A capable and qualified person shall be placed in charge of fire protection. Responsibilities shall include locating and maintaining fire protective equipment and establishing and maintaining safe torch cutting and welding procedures.

Hazard Control: Take necessary precautions to prevent fire during construction. Do not store flammable or combustible liquids in existing structures. Provide adequate ventilation during use of volatile or noxious substances.

Spark Arresters: Equip gasoline or diesel-powered equipment, used in potential forest or grass fire locations, with spark arresters approved by U. S. Forest Service. Contracting Officer will issue written determinations of areas and periods of potential fire hazard. Locate internal combustion equipment so exhausts discharge well away from combustible materials. Locate service areas a minimum of 50 feet from buildings. Shut down equipment before refueling.

Smoking and Tobacco Use: Smoking within buildings or temporary storage sheds is prohibited. Tobacco use including vaping is prohibited.

Welding: Cutting by torch or welding shall be performed only when adequate fire protection is provided.

Electricity and Lighting: Make arrangements with utility company for metered connection to existing utility and pay costs for connection. Coordinate work with Contracting Officer. Temporary electrical work shall meet requirements of current version of NFPA 70 NEC Article 590 (National Fire Protection Association (NFPA), National Electrical Code (NEC)). When temporary connections are removed, restore existing utility services to original condition.

Telephone: DB Construction Contractor shall make arrangements with local telephone company and pay costs for job-site telephone service.

Water: DB Construction Contractor shall provide potable water and pay costs.

Heating and Cooling: Furnish temporary heating and cooling. Do not use permanent heating and cooling system without written authorization from Contracting Officer. When permanent heating and cooling system is approved for use as temporary heating and cooling, pay costs until final acceptance. Install new filters before final acceptance. Equipment warranties start on date of final acceptance.

Sanitary Facilities: Provide and maintain temporary toilet facilities according to State Health Department and NPS regulations. Provide separate accessible facilities for men and women with privacy

locks. Enclosures shall be weatherproof, sight proof, and of sturdy construction. Completely remove sanitary facilities on completion of work.

Blasting and Explosives: are prohibited.

2.3.10 Access

Coordinate construction efforts with Contracting Officer towards minimal impact to the work of NPS personnel and to the visiting public. The Contractor shall limit visitor impacts to temporary trail closures. See Visitor Experience under Section 2.3.1, Environmental and Sustainability Requirements.

During construction of scheduled facilities, DB Contractor shall have continuous access to trail sites. Communicate access plans with Contracting Officer's Representative. Follow all safety precautions required by the Park Coordinate safety training with Park personnel. Contractor shall coordinate the proposed work schedule with the Park personnel and advise of any changes to the established schedule as soon as revisions are known. Any damage to property as a result of construction activities shall be reported immediately.

Access to all construction areas outside of existing stabilized surfaces must utilize access routes and mitigations as approved by Contracting Officer. Refer to the attached Access and Staging Maps (see Section 5.0).

2.3.11 Preservation of Adjacent Features

Confine operations to work limits of project. Prevent damage to natural surroundings. Restore damaged areas outside work limits, repair or replace damaged trees and plants, at no additional expense to NPS.

As required by FAR Clause 52.236-9: The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site, and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

- Provide temporary barriers to protect existing trees and plants and root zones.
- Do not drive under tree crowns or on tree roots.
- Provide temporary barriers to protect existing cultural features, as identified by the Contracting Officer or their representative.
- Do not remove, injure, or destroy trees or other plants without prior approval. Consult with Contracting Officer and remove agreed-on roots and branches that interfere with construction.

- Do not fasten ropes, cables, or guy wires to existing trees.
- Carefully supervise excavating, grading, filling, and other construction operations near trees to prevent damage.
- No storage, parking, or excavation shall be allowed within the drip line of protected trees without approval from the Contracting Officer.

2.3.12 Existing Utilities

Minimize service disruptions. DB Construction Contractor shall coordinate with local utility companies. Arrange disruptions at least 72 hours in advance with NPS and get approval from Contracting Officer.

Construction procedures shall include preventing accidental disruptions to facilities outside project limits by investigating existing utilities and protection during construction. Accidental disruptions shall be remedied at no cost to NPS.

2.3.13 Hauling Restrictions

Comply with legal and local load restrictions. Oversized loads shall be coordinated with the Contracting Officer. Oversized loads on trails are prohibited. Contractor shall access sites using vehicles, equipment, and loads that (1) do not exceed the structural capacities of existing bridges and culverts, and (2) do not exceed widths allowed by existing fencing, railings, etc.

2.3.14 Accident Prevention

Accident Prevention Program: Prior to Preconstruction Meeting, submit accident prevention program. Program must be accepted by NPS before work on site begins and shall comply with Occupational Safety and Health Administration (OSHA) and project requirements. The accident prevention program shall address hazards associated with work in the riverine environment and adjacent slopes and embankments and shall provide a plan for evacuation of construction sites in case of high-water events. Include:

- Name of responsible supervisor to carry out the program.
- Monthly safety meetings.
- First aid procedures.
- Outline of each phase of work, hazards associated with each phase, and methods proposed to ensure property protection and safety of the public, NPS staff, and DB Construction Contractor employees.
- Training
- Planning for possible emergency situations.
- Housekeeping and fire protection.

Accident Reporting: Report:

- Accidents defined as death.
- Occupational disease.
- Traumatic injury to DB Construction Contractor’s personnel, NPS employees, or the public.
- Property damage of accidents in excess of $100
- Spills

- Fires within seven days.

Complete DSC Contractor Accident/Property Damage Report (CM-22) and forward to Contracting Officer.

Quality Assurance: Ensure employees are physically qualified to perform assigned duties safely. Do not allow employees to work if their abilities are impaired. Operators of equipment shall be able to understand signs, signals and operating instructions, and capable of operating such equipment.

Accident Prevention Products: Provide:

- First aid facilities.
- Personnel protective equipment shall meet requirements of NIOSH and MSHA (National Institute for Occupational Safety and Health and Mine Safety and Health Administration).
- Emergency instructions including telephone numbers and reporting instructions for ambulance, physician, hospital, fire department, and park police. Place in conspicuous locations at work site.
- Adequate egress at all times according to Standard for Safeguarding Construction, Alteration, and Demolition Operations (NFPA 241).
- Hard hats for employees and for up to fifteen visitors.
- Designate and post signs in hard hat areas.

Training: Provide training for first aid and hazardous material handling and storage.

2.3.15 Temporary Controls

Housekeeping: Keep project neat, orderly, and in safe conditions.

Contractor is responsible to provide for safe working conditions in the riverine environment and adjacent slopes and embankments. USGS gage data is available online:

USGS 04208000 Cuyahoga River at Independence, OH
USGS 04206425 Cuyahoga River at Jaite, OH
USGS 04206000 Cuyahoga River at Old Portage, OH

Contractor is responsible for establishing safe conditions for winter shutdown periods. Construction shall be conducted in a manner that avoids exposure to erosion and geotechnical risks.

2.3.16 Field Engineering

DB Construction Contractor shall set initial construction stakes establishing lines, slopes, grades, reference points, base lines and benchmarks, as required. DB Contractor shall execute work according to these stakes and perform additional staking necessary.

Preserve existing survey control used for this project. Controls destroyed by DB Construction Contractor shall be replaced at their expense.

2.3.17 Project Close-out

Project Record Drawings: Maintain one complete full-size set of contract drawings and one full-size set of vendor-supplied drawings. Clearly mark changes, deletions and additions, using NPS standards to

show actual constructed conditions. Keep record drawings current. Certification of accuracy and completeness are required for monthly payment requisitions. On completion of total project, submit complete record drawings.

As-Constructed Drawings: Provide by updating approved DB Construction Drawing AutoCAD files with information provided on the record drawings, contract modifications, and other applicable shop drawings, sketches, and data. Construction survey is required for all buried utilities and ABAAS compliant surfaces to document final utility line locations and accessible slopes. AutoCAD files should comply with NPS/DSC CAD and Drafting Standards, and be georeferenced to Ohio State Plane North NAD 83 (2011) (FIPS 3401), NAVD 88.

Provide as-constructed drawings in the following formats:

- 3 half-size paper copies (2-DSC, 1-Park)
- Digital copies with drawing files in both PDF (Portable Document File) and AutoCAD Civil 3D formats (Technical Information Center (TIC) & Park)
- 1 full-size 20-pound bond paper copy (TIC)
- 1 full-size paper copy (Park)

Electronic and hard copy submissions shall comply with 100% Complete DB Construction Documents Submittal Formats.

Posted Operating Instructions: Attach operating instructions to on or post adjacent to equipment. Include procedures for wiring diagrams, control diagrams, control sequence, start-up adjustment, operation, lubrication, shutdown, and safety precautions in case of equipment failure and other items of instruction recommended by manufacturer.

Cleaning: Before scheduling final inspection, remove tools, equipment, surplus materials, and rubbish. For surfaces damaged due to work of this contract, restore or refinish to original condition. Remove grease, dirt, stains, foreign materials, and labels from finished surfaces. Thoroughly clean building interiors. Remove construction debris from site. At time of final inspection, project shall be thoroughly clean and ready for use.

Before submitting request for final inspection, submit:

Project Record Drawings and As-Constructed Drawings: As specified above.
Guarantees and Bonds: As specified in Performance Requirements and Specifications.
Spare Parts and Materials: As specified in Performance Requirements and Specifications
Operation and Maintenance (O&M) Data: As specified below and in Performance Requirements and Specifications.

Operation and Maintenance (O&M) Data: Prior to final inspection, provide one three-ringed binder with O&M data to Contracting Officer for review. Data shall include manufacturer's standard literature, equipment data sheets, vendor-furnished as-built drawings, custom written data not included in manufacturer’s standard literature, schedules, warranties, parts lists, test results, and Subcontractor list.

After NPS completes review, incorporate comments. Submit three final sets of O&M data to Contracting Officer.

System Demonstration and Training: Train designated personnel in adjusting, operating (include seasonal and emergency operations, if applicable), maintaining, and safety requirements of equipment and systems. Instructors shall be thoroughly trained in operating theory and practical O&M work for each type of equipment or system. Sequence of training shall follow approved outline of training guide, e.g. O&M Data. Specify training required in individual sections. If no duration listed, provide training of sufficient duration to adequately cover subjects.

Training plan as required by commissioning: For each training session, training plan shall include:

- Dates, start and finish times, and locations.
- Outline of information to be presented.
- Names and qualifications of presenters.
- List of texts and other materials required to support training.

2.3.18 Substantial Completion and Final Inspection

Submit written certification to Contracting Officer indicating project, or designated portion of project (i.e., the group of bank stabilization sites completed within one construction season), is substantially complete, and request final inspection. Upon receiving certification, Contracting Officer will proceed with inspection within 10 days or advise DB Construction Contractor of items preventing project from being designated as substantially complete.

When work is determined substantially complete, Contracting Officer will prepare a list of deficiencies (Punch List) for corrections before final acceptance and issue a Letter of Substantial Completion. If work is not determined substantially complete, Contracting Officer will notify DB Construction Contractor in writing. After completing work, DB Construction Contractor shall resubmit certification and request new final inspection.

Following final inspection, if work is determined substantially complete, Contracting Officer will prepare list of deficiencies for corrections before final acceptance and issue a Letter of Substantial Completion. DB Construction Contractor shall complete work described on list of deficiencies within 30 calendar days, as weather permits. If DB Construction Contractor fails to complete the work within this time frame, Contracting Officer may either replace or correct the work with an appropriate reduction in contract price or charge for re-inspection costs according to the contract's Inspection of Construction clause.

Acceptance of the work: After deficiencies corrected, Contracting Officer will issue a Letter of Final Acceptance.

2.4 Forms

- Project Waste Management Plan Worksheet Sample - included with Division 1 Specifications
- Submittal List with Review Estimate Template - included with Division 1 Specifications

3.0 3.0 PERFORMANCE REQUIREMENTS

3.1 Design Imperatives

Use in all stages of design and construction processes:

- Appropriate Design Solutions for Park Use and Maintenance Capabilities
  - *see definition on DSC Workflows Definitions A page*
- Compliance Consistency Reviews
  - *see definition on DSC Workflows Definitions C page*
- Constructability Strategies
  - *see definition on DSC Workflows Definitions C page*
- Integration of Facilities into the Park Environment (Management Policies 2006)
- Quality Control
  - *see definition on DSC Workflows Definitions Q page*
- Risk Analysis
  - *see definition on DSC Workflows Definitions R page*
- Scope and Budget Consistency Reviews
  - *see definition on DSC Workflows Definitions S page*
- Sustainable Design Practices
  - *see definition on DSC Workflows Definitions S page*
- Universal Design Principles
  - *see definition on DSC Workflows Definitions U page*
- Value-Based Decision-Making Methodology
  - *see definition on DSC Workflows Definitions V page*

3.2 Sustainability

Sustainability requirements for NPS projects are included in a variety of documents - Federally legislated requirements, Executive Orders (EOs), and Department of Interior (DOI) and NPS policies. NPS Project Sustainability Checklist template is used to identify project specific sustainability requirements and document continued compliance with those requirements. See DSC Sustainability Standards for laws, regulations, policies, guidance, and background data.

Project shall meet Federal sustainability requirements as presented in NPS Project Sustainability Checklist.

3.3 Integrated Design Principles

Employ integrated design principles using a collaborative, integrated design process that:

- Initiates and maintains an integrated project team in every stage of the project.
- Establishes performance goals for siting, energy, water, and materials along with other comprehensive design goals.
- Ensures incorporation of these goals throughout design and lifecycle of improvements.

3.4 Facility Performance

Work performed shall comply with applicable laws, regulations, and NPS policies and guidelines.

3.5 Elements and Products

In addition to requirements specified in other chapters, provide products and elements that comply with:

- Performance Specifications
- No Substitutions:
    - Use only product specified (or one of the products).
- Elements Made Up of More Than One Product:
    - Where an element is specified by performance criteria, project shall use construction either proven-in-use or proven-by-mock-up, unless otherwise indicated.
        - Proven-In-Use: Proven to comply by having actually been built to same or very similar design with same materials as specified and functioning as specified.
        - Proven-by-Mock-Up: Compliance reasonably predictable by having been tested in full-scale mock-up using same materials and design as specified and functioning as specified. Testing need not have been accomplished specifically for this project; when published listings of independent agencies include details of testing and results, citation of test by listing number is sufficient (submittal of test details is not required).
        - DB Contractor may choose to use elements proven-in-use or proven-by-mock-up, unless either option is indicated as specifically required.
        - Where test methods accompany performance requirements, test methods shall be used to test mock-up.
    - Where a type of product is specified, without performance criteria specifically applicable to the element, project shall use the type of product specified.
    - Where more than one type of product is specified, without performance criteria specifically applicable to the element, DB Contractor shall use one of the types of products specified.
    - Where a type of product is specified, with applicable performance criteria, DB Contractor shall use either the type of product specified or another type of product that meets performance criteria as proven-in-use or proven-by-mock-up.
    - Where more than one type of product is specified, with applicable performance criteria, DB Contractor shall use either one of the types of products specified or another type of product that meets the performance criteria as proven-in-use or proven-by-mock-up.
    - Where neither type of product nor performance criteria are specified, DB Contractor shall use products that will perform well within specified life span of the building.
- Products:

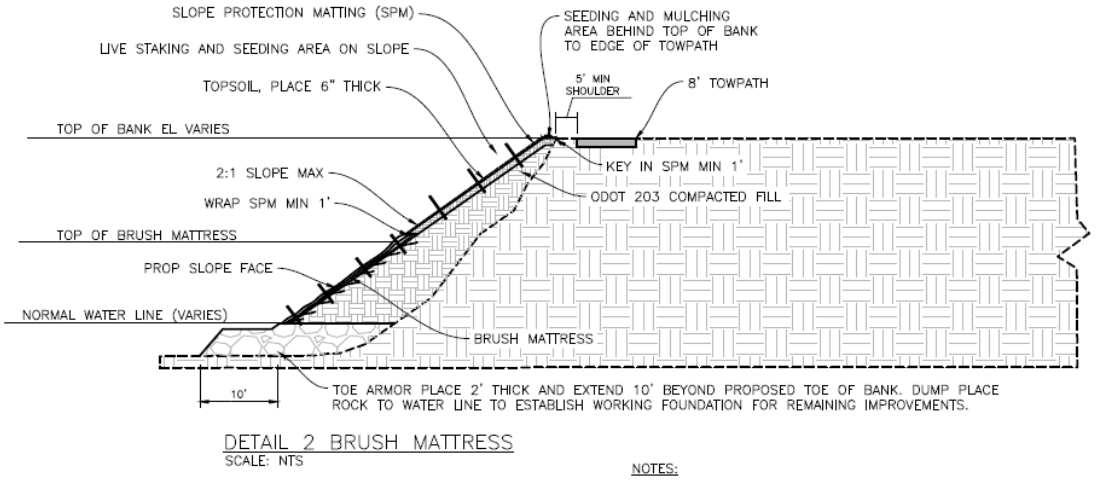
- Where a product is specified only by a manufacturer name and model number/brand name, DB Contractor shall use only that model/brand product.
- Where the properties of a product are specified by description and/or with performance criteria, DB Contractor shall use products that comply with description and/or performance criteria.
- Where manufacturers are listed for a particular product, DB Contractor shall use a product made by one of those manufacturers that also complies with other requirements.
- Where actual brand name products are not identified by either Contracting Officer or DB Contractor, DB Contractor shall identify products to be used.
- Proposal:
    - DB Contractor shall identify:
        - One or more product types for each system, assembly, or element.
        - Brief descriptive or performance specifications for each product type.
    - NPS will identify at least one manufacturer that will be used for major manufactured products commonly purchased by brand name and other products so indicated.
- During DB Design Development or DB Construction Documents Submissions, DB Contractor shall:
    - Identify which product type will be used when more than one product type is identified for a particular system, assembly, or element.
    - Identify descriptive or performance specifications for each product type. Provide brief specifications for early submittals and complete specifications before completing construction documents.
    - Identify at least one manufacturer that will be used for each product type.
    - Provide manufacturer's product literature on at least one actual brand name product meeting specifications for major manufactured products commonly purchased by brand name, and other products so indicated, and include performance data and sample warranty.
- During Construction, DB Contractor shall:
    - Identify actual brand name products used for every product, except commodity products specified by performance or description.
    - Provide test reports showing compliance where a product is specified by performance requirements with test methods and if so specified.
    - Provide manufacturer's product literature for each brand name product.
    - Provide manufacturer's certification that product used on project complies with contract documents.
- Before End of Closeout, DB Contractor shall:
    - Provide copies of manufacturer warranties that extend for more than one year after completion.

4.0 TECHNICAL REQUIREMENTS

Technical requirements are documented in the Project Specifications:
Performance Specifications | Technical Requirements Divisions 01- Division 46
Section 01 33 23 addresses Submittal Procedures. Certifications and laboratory test requirements are summarized on the Submittal List that accompanies Section 01 33 23.

5.0 ATTACHMENTS

- Basis of Design Report (BDR)
    - MM 20 South Site (Completed in October 2023 by the River Reach DB contractor) Approximately 2/3's of the detailed bank stabilization should be anticipated. In addition, the details for bio-engineered Design Approach shall be changed to maintain toe armor rock below base flow water surface with a brush mattress and live staking to maintain the 2:1 max slope. This detail is illustrated below:



DETAIL 2 BRUSH MATTRESS
SCALE: NTS

NOTES:

1. WHERE FILL SLOPES WIDTHS EXCEED 2 FEET THICK, INSTALL PORTION ABOVE TOE ARMOR PER SOIL LIFT DETAIL.

- Approved Schematic Design Preferred Alternative Documents
- NPS Project Sustainability Checklist
- Constructability Checklist
- Division 1 Specifications Templates
- Division 2 Performance Specifications Templates
- Topographic and Bathymetric Survey (2021)
- Access and Staging Maps
- Geotechnical Reports (included in BODRs)
- Schematic Design Hydraulic Models (included in BODRs)
- Categorical Exclusion (CATEX) – In progress; will be provided when completed.
- Permit List
- Clean Fill Protocol