

National Park Service  
U.S. Department of the Interior

National Capital Parks – East



# STICKFOOT BRANCH STREAM RESTORATION ENVIRONMENTAL ASSESSMENT

JULY 2021

Prepared in partnership with  
the District of Columbia





**Note to reviewers and respondents:** Comments on this EA may be submitted electronically at <http://parkplanning.nps.gov/stickfoot> or you may mail written comments by August 17, 2021 to:

Attn: Stickfoot Branch EA Comments  
National Capital Parks – East  
1900 Anacostia Drive, SE  
Washington, DC 20020

Before including personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.



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## ACRONYMS AND ABBREVIATIONS

ANC	Advisory Neighborhood Commission
APE	Area of Potential Effects
CFR	Code of Federal Regulations
DBH	Diameter at Breast Height
DCMR	District of Columbia Municipal Regulations
DC SHPO	District of Columbia State Historic Preservation Office
DC Water	District of Columbia Water and Sewer Authority
DDOT	District Department of Transportation
DOEE	District Department of Energy and Environment
EA	Environmental Assessment
ESC	Erosion and Sediment Control
FGDC	Federal Geographic Data Committee
GIS	Geographic Information Systems
IBI	Index of Biological Integrity
IPaC	Information, Planning, and Consultation
MOT	Maintenance of Traffic
MWCOG	Metropolitan Washington Council of Governments
NACE	National Capital Parks – East
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
OHWM	Ordinary High Water Mark
PFO	Palustrine Forested Wetland
RCP	Reinforced Concrete Pipe
SE	Southeast
SME	Subject Matter Expert
USACE	US Army Corps of Engineers
USC	United States Code
USEPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
UTC	Urban Tree Canopy



## PURPOSE AND NEED

The National Park Service (NPS), in partnership with the District of Columbia Department of Energy and Environment (DOEE), is proposing stream restoration activities for Stickfoot Branch. The proposed Stickfoot Branch Stream Restoration Project (the Project) is near the Garfield Heights neighborhood in southeast Washington, DC. The Project involves restoration of approximately 800 linear feet of Stickfoot Branch, and 140 linear feet of an unnamed tributary, within parkland administered by National Capital Parks – East (NACE). The Project site is located west of the intersection of Langston Place SE, 22nd Street SE, and Hartford Street SE (**Figure 1**).

In this partnership, NPS permits DOEE to conduct the proposed stream restoration activities, while DOEE and the District of Columbia Water and Sewer Authority (DC Water) bear the cost for design, permitting, construction, post-construction monitoring, and any adaptive management that may be necessary. Construction of the proposed stream restoration is tentatively scheduled for fall / winter of 2022 with Langston Place SE being the likely entrance point to the work site.

The NPS and DOEE have prepared this Environmental Assessment (EA) to assess the potential environmental impacts of the proposed Stickfoot Branch Stream Restoration Project in accordance with the National Environmental Policy Act (NEPA) (42 United States Code (USC) § 4332) and the Council on Environmental Quality implementing regulations effective September 14, 2020 (40 Code of Federal Regulations (CFR) §§ 1500-1508); US Department of the Interior NEPA regulations (43 CFR 46); NPS Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-Making* (NPS 2011); and the NPS NEPA Handbook (NPS 2015).

### PURPOSE OF AND NEED FOR ACTION

The purpose of the stream restoration is to reduce streambank erosion and downcutting of the stream channel; improve stream habitat; manage invasive vegetation; protect existing sanitary and stormwater infrastructure; and minimize impacts to natural and cultural resources. The restoration is needed to improve the long-term stability of the Stickfoot Branch stream and improve downstream water quality, supporting water quality standards for the Anacostia River watershed.

### STUDY AREA

Stickfoot Branch is a perennial tributary of the Anacostia River that is mostly piped beneath southeast DC neighborhoods. The stream begins within the Garfield Heights neighborhood and flows northwest where it drains to the Anacostia River at Poplar Point. The drainage area of Stickfoot Branch is approximately 1,077-acres; however, the drainage area to the study area is approximately 89 acres and consists of an estimated 38 percent impervious surface (Metropolitan Washington Council of Governments [MWCOG] 2020). The restoration reach (i.e., the segment of the stream proposed for restoration) is one of only a few natural stream channel segments along Stickfoot Branch. The study area is characterized by mature and mid-successional forest with steep valley slopes. A combination of excessive unmanaged stormwater flows from Langston Place SE, 22nd Street SE, Suitland Parkway, and other overland flow pathways, as well as highly erodible soils in the Project site, have contributed to the degradation of Stickfoot Branch. Also, kudzu (*Pueraria*



*montana*) and Japanese knotwood (*Fallopia japonica*), both of which are highly invasive non-native species, have proliferated within the floodplain and upland terraces at the Project site.

### **Stickfoot Branch**

The 800 linear feet of the Stickfoot Branch mainstem channel proposed for restoration begins within a 42-inch reinforced concrete pipe (RCP) that conveys the piped stream under Langston Place SE and 22nd Street SE. The existing RCP outfalls to the natural Stickfoot Branch channel approximately 300 feet west of Langston Place SE and 22nd Street SE. From the outfall, Stickfoot Branch flows approximately 540 linear feet west into a 48-inch RCP that conveys the stream under Suitland Parkway. Three tributaries confluence with Stickfoot Branch within the study area. Tributary A confluences from the north, Tributary B confluences from the south, and a gully referred to as Tributary C confluences from the east (**Figure 2**). Descriptions of each tributary are provided below.

Active streambank erosion (**Figure 3**) and channel incision have disconnected the Stickfoot Branch mainstem channel from its floodplain, which causes high energy stream flows to be contained within the channel during storm events. These flows result in sediments eroding from the streambanks and nutrients contained in these sediments, such as nitrogen and phosphorus, to be transported downstream to the Anacostia River. Additionally, head cuts are occurring at the tributaries and drainage channels from unmanaged stormwater flows. Riffles are the dominant stream habitat with a moderate amount of sand within the system that provides unstable aquatic habitat (MWCOG 2019). Sewer lines that cross Stickfoot Branch have become exposed due to channel incision and stream channel migration (**Figure 3**). These sewer lines are either encased in concrete or completely exposed and unprotected. Also, several trees along the stream have fallen due to exposed roots systems caused by channel widening.

### **Tributary A**

Tributary A is an intermittent tributary that flows from the north into Stickfoot Branch just downstream of the 42-inch RCP outfall (**Figure 2**). Approximately 145 linear feet of Tributary A is within the Project site. A severe headcut has formed at the confluence of Tributary A and Stickfoot Branch. A groundwater seep occurs approximately 125 feet to the north of the Project site. The seep is the primary source of hydrology to a palustrine forested (PFO) wetland north of Stickfoot Branch (**Figure 2**). Overland stormwater flows also provide hydrology to the wetland. Tributary A drains the PFO wetland to Stickfoot Branch.

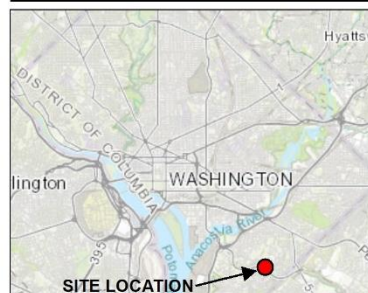
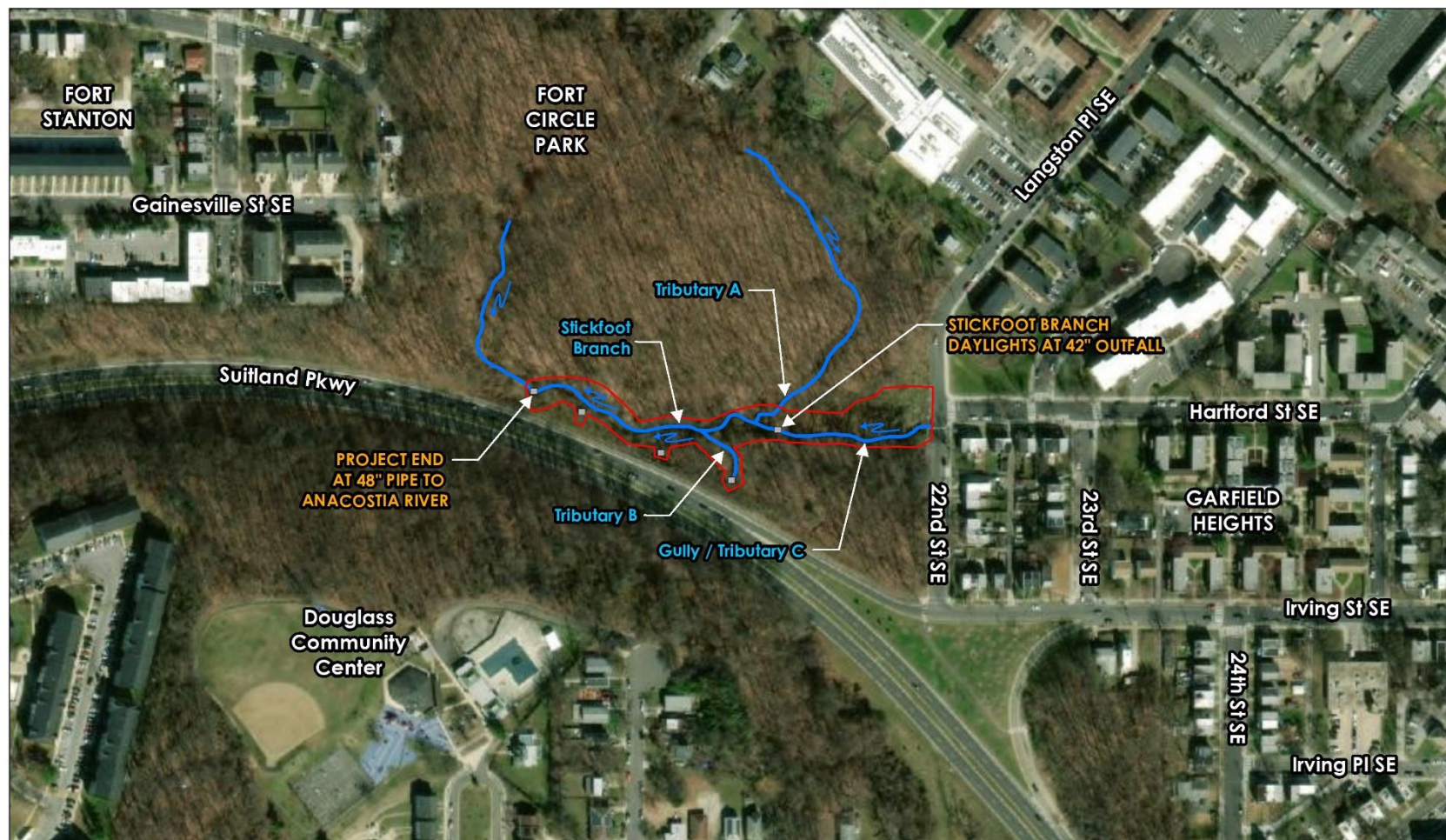
### **Tributary B**

Tributary B is a perennial tributary that flows from a 36-inch RCP outfall pipe on the north side of Suitland Parkway and continues approximately 140 linear feet to Stickfoot Branch (**Figure 2**). Tributary B exhibits less erosion and incision compared to Stickfoot Branch, but if not stabilized, is likely to worsen over time due to stormwater runoff from the Parkway.

### **Gully / Tributary C**

Tributary C flows within a gully that has formed above the 42-inch RCP outfall with intermittent flow originating at the toe of slope of 22nd Street SE. The gully has been created by severe erosion from stormwater runoff flowing over the curb due to clogged storm drains. Tributary C flows within the gully for approximately 315 linear feet and drains into Stickfoot Branch alongside the 42-inch RCP outfall (**Figure 2**).





- Stickfoot Branch Stream Restoration Project Study Area
- Streams / Drainageways
- Existing Outfalls
- Stream Flow Direction



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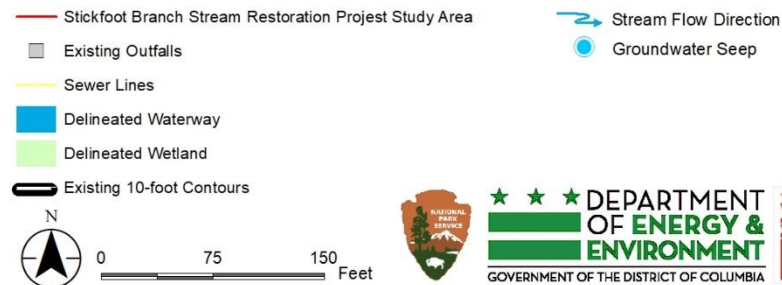
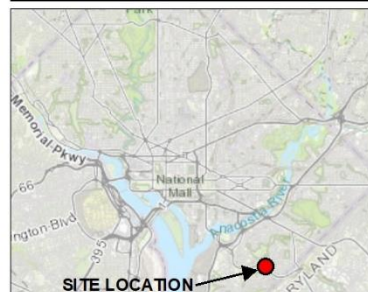
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Project  
**Stickfoot Branch  
Stream Restoration Project**

Figure No.  
**1**

Title  
**Study Area Map**





Project  
**Stickfoot Branch  
Stream Restoration Project**

Figure No.  
**2**  
Title

**Site Features Map**



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Figure 3. Streambank Erosion (left) and Exposed Sewer Line (right)

### ISSUES AND IMPACT TOPICS RETAINED FOR DETAILED ANALYSIS

The NPS and DOEE determined that the following issues and impact topics identified during scoping warranted further consideration and are therefore retained for detailed analysis in this EA.

- Construction activities would require land disturbance that has the potential to cause erosion and result in sediment transport downstream of the Project site. The proposed restoration would be anticipated to improve water quality, and potentially improve habitat, over the long-term. These issues are analyzed under the *Water Quality* impact topic.
- Construction activities would require land disturbance that could have adverse impacts to wetlands. Long-term benefits are anticipated from a reduction in sediment transport downstream of the Project site. Wetlands may also develop over the long-term within created floodplain areas. These issues are analyzed under the *Wetlands* impact topic.
- The proposed restoration would require tree removal and land disturbance during construction that could facilitate invasive species establishment. Existing trees not suited to frequent floodplain inundation may die over the long-term. These issues are analyzed under the *Vegetation* impact topic.
- The Project could cause temporary disruptions to residents of the Garfield Heights neighborhood during construction from noise, traffic, air emissions, and fugitive dust generated by heavy equipment. These issues are analyzed under the *Social Environment* impact topic.

### ISSUES AND IMPACT TOPICS DISMISSED FROM DETAILED ANALYSIS

The following issues and associated impact topics have been dismissed from detailed analysis for the reasons provided.

#### Rare, Threatened, and Endangered Species

In accordance with Section 7 of the Endangered Species Act, an official species list was obtained from the US Fish and Wildlife Service (USFWS) that identified the federally listed threatened northern long-eared bat (*Myotis septentrionalis*) as potentially occurring in the study area. Coordination with the USFWS determined that, except for occasional transient individuals, no

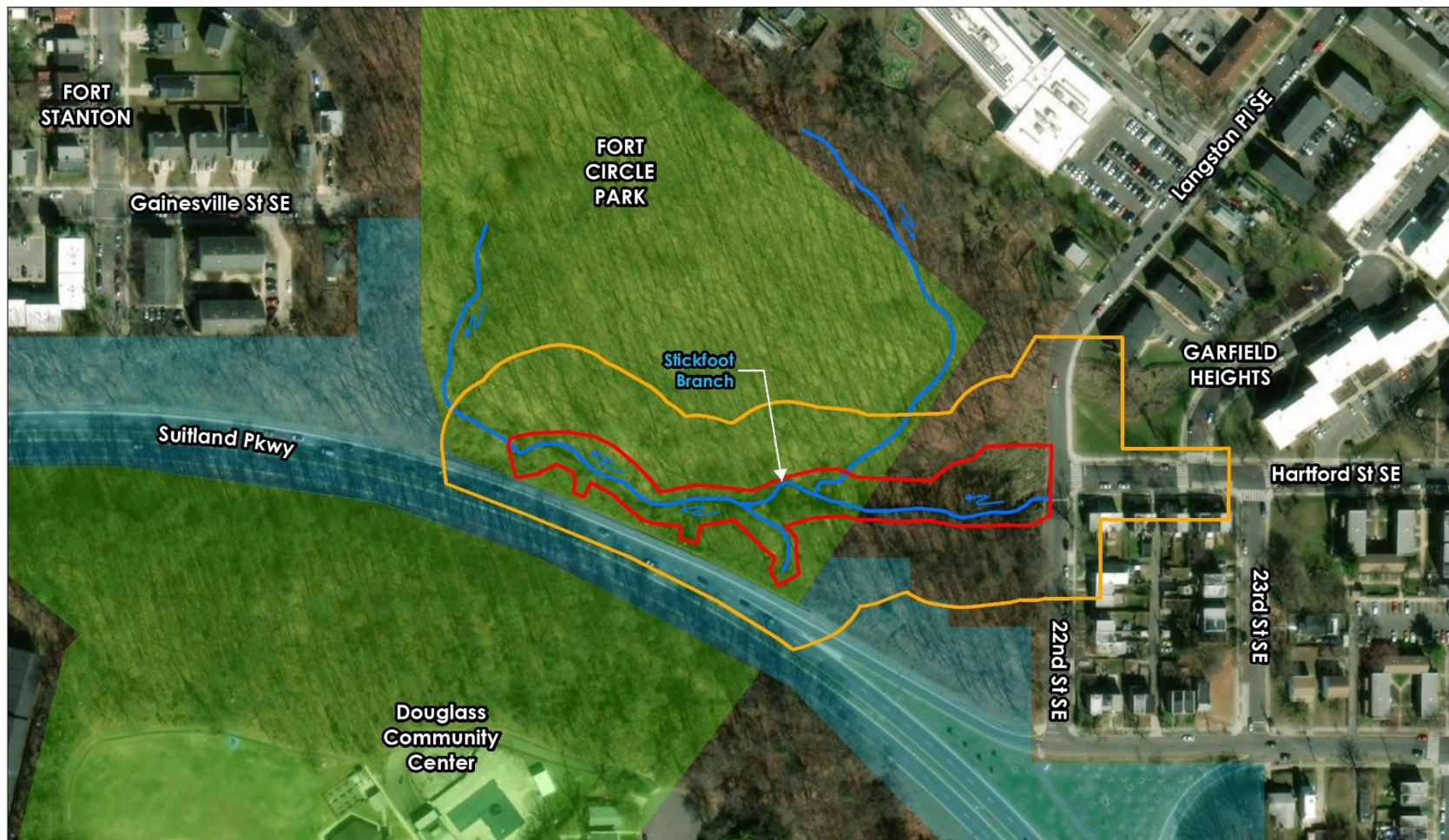


federally proposed or listed endangered or threatened species are known to exist within the Project area. However, to ensure that potential impacts to bats are avoided, tree removal on the site would not occur between April 1 and October 31, which comprises the roosting and pup rearing seasonal periods. This seasonal restriction on tree removal would also ensure impacts to nesting birds are avoided. Therefore, issues related to *Rare, Threatened, and Endangered Species* have been dismissed from further analysis. The official species list obtained through the USFWS Information, Planning, and Consultation (IPaC) System and Online Certification Letter are in **Appendix A**.

### **Historic Structures and Districts**

NPS and DOEE, with the District of Columbia State Historic Preservation Office (DC SHPO), identified the Area of Potential Effects (APE) (**Figure 4**) for the Project as part of the Section 106 of the National Historic Preservation Act consultation process. The APE encompasses a geographic area where the potential direct (physical) and indirect (visual) effects to historic properties and potentially significant archeological resources may result. The direct APE was delineated to include the Stickfoot Branch Stream Restoration Project study area, which encompasses the limits of construction, including erosion and sediment controls (ESC), excavation and grading, vehicle and equipment staging, material stockpiling, and construction access. The indirect APE was delineated to include 100 feet on either side of the study area, as well as surrounding views and viewsheds. Historic properties listed in the National Register of Historic Places within the APE include Fort Circle Historic District and Suitland Parkway Historic District. There are no contributing man-made resources of the Fort Circle Historic District within the APE, and no contributing man-made resources of the Suitland Parkway Historic District within the direct APE. The NPS determined that the proposed Stickfoot Branch Stream Restoration Project would have no adverse effect to the Fort Circle Historic District and Suitland Parkway Historic District. Therefore, issues related to *Historic Structures and Districts* have been dismissed from further analysis.

The NPS submitted an effects determination letter to the DC SHPO on May 17, 2021 that is provided in **Appendix A**. A response has not been received as of July 8, 2021.



- APE (Direct Effects)
- APE (Indirect Effects)
- Streams / Drainageways
- Suitland Parkway Historic District
- Fort Circle Historic District



0 150 300 Feet

→ Stream Flow Direction

Project

**Stickfoot Branch  
Stream Restoration Project**

Figure No.

**4**

Title

**Area of Potential Effects Map**



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### **Archeological Resources**

A Phase I archeological assessment was conducted to evaluate the cultural resource potential of the Project site (Stantec Consulting Services Inc. 2021). The archeological assessment was conducted in accordance with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 1983) and the *Guidelines for Archaeological Investigations in the District of Columbia* (DC Historic Preservation League 2018). The Phase I assessment confirmed that there was a high potential for archeological resources within undisturbed portions of the APE. Field investigations revealed that Precontact period Native Americans utilized the terraces overlooking Stickfoot Branch in a limited fashion. One isolated flake and one small Precontact Period Native American lithic scatter site were recorded during the survey. The site was recommended not eligible for listing in the National Register of Historic Places. No evidence of Historic period use of the Project area was observed. No further archeological investigations or oversight is required for the Project. Therefore, issues related to *Archeological Resources* have been dismissed from further analysis.

The NPS submitted an effects determination letter to the DC SHPO on May 17, 2021 that is provided in **Appendix A**. A response has not been received as of July 8, 2021.

### **Paleontological Resources**

A Paleontological Resources Inventory was completed that included a survey of fossiliferous rock units within NACE (Nelson, M., et al. 2019). The inventory included research into the geological and paleontological primary literature, field work to search for outcrops and fossiliferous horizons, and inventories of NPS collections. Within the Fort Circle Parks, a sandstone fragment containing the impression of a bivalve was recovered from Fort Dupont Park in 2011, and two plant specimens were recovered from Fort Foote in 2018 during the field survey undertaken for the Paleontological Resources Inventory. There are no other fossils currently documented from the other Fort Circle Parks within NACE collections. However, the Stickfoot Branch Stream Restoration Project study area is at a location where geological research suggests a moderate potential for fossils within the rock units that occur at the site.

The depth to bedrock will need to be identified within the Project site during final design to determine if fossiliferous rock units may be encountered during excavations required to construct the restoration. If possible, bedrock would be used as a grade control to avoid having to disturb potential fossiliferous rock units. In the event that rock removal is required, NPS personnel may elect to monitor the rock excavations and visually inspect excavated rock material for fossils. If fossils are uncovered, construction activities at the location of the find would be temporarily halted so that the NPS can collect the fossils and document their locations. Over the long-term, reduced channel incision and streambank erosion because of the stream restoration would protect undiscovered fossils from potential damage or loss caused by erosion. Therefore, issues related to *Paleontological Resources* have been dismissed from further analysis in this EA.



## ALTERNATIVES

This EA analyzes two alternatives: (1) the proposed action, which involves restoration of Stickfoot Branch, and (2) the no-action alternative. The elements of these alternatives are described in this section. A concept design that was dismissed from further consideration is also described.

### **NO-ACTION ALTERNATIVE**

The no-action alternative represents a continuation of the present NPS management actions within the study area. Currently, the site is passively managed by NPS as a relatively undisturbed natural forest community. Under the no-action alternative, degradation of Stickfoot Branch and its tributaries within the study area would continue to occur, causing sediments and nutrients, such as nitrogen and phosphorus, to be transported downstream, ultimately discharging to the Anacostia River. The no-action alternative would also leave existing sanitary sewer lines exposed and susceptible to future damage.

### **STICKFOOT BRANCH STREAM RESTORATION PROJECT (PROPOSED ACTION AND NPS PREFERRED ALTERNATIVE)**

The proposed approach to restore Stickfoot Branch involves natural channel design techniques modified for an urban stream system. The proposed restoration design creates a new stream channel that is higher in elevation than the existing channel to reconnect the stream to the floodplain. This approach allows stream flow during storm events to spill out over the floodplain, which reduces the energy within the channel and the erosional forces that cause stream degradation. The existing channel may be used in conjunction with clean water diversion techniques to maintain stream flow during construction but would then be filled in as part of the floodplain. The new channel would be designed using a roughened channel approach that includes a series of rock sills, pools, boulder clusters, and other stream bed material to mimic the appearance and function of a natural stream channel (**Figure 5**). The rock sills act as grade control structures to prevent the stream channel from downcutting or eroding. Stable tie-ins to the tributaries and stormwater outfalls along Suitland Parkway would prevent headcuts from forming. Additionally, a large segment of Stickfoot Branch would be daylighted by removing a 275-foot section of the existing pipe that conveys the stream under Langston Place SE and 22nd Street SE and into the Project site. The new daylighted stream segment would be restored using the natural channel design techniques described above.

The proposed stream design incorporates measures to protect existing sewer system infrastructure that cross underneath the stream channel, as well as modifications to existing storm drainpipes. No disruptions to sewer service are anticipated to protect the sewer lines as part of the Project. Additionally, DOEE proposes to construct a catch basin as a voluntary measure to capture sediment, roadway grit, and trash conveyed by stormwater from Langston Place SE and 22nd Street SE before it enters Stickfoot Branch. The basin would be constructed within District Department of Transportation (DDOT) right-of-way – its exact location would be determined during final design and through coordination with DDOT. It is anticipated that the proposed catch basin would be maintained by DC Water.

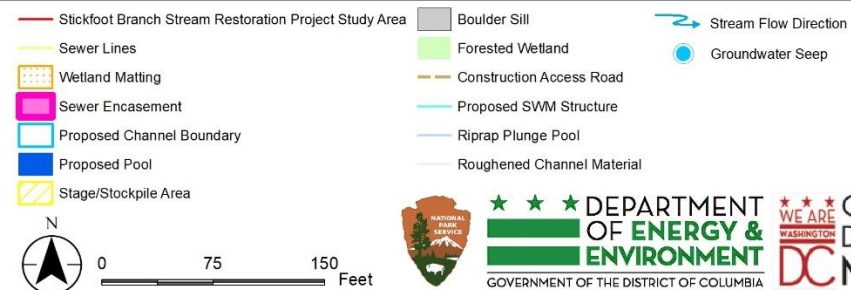
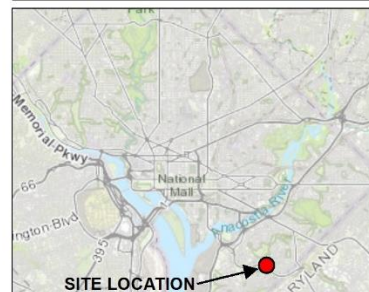
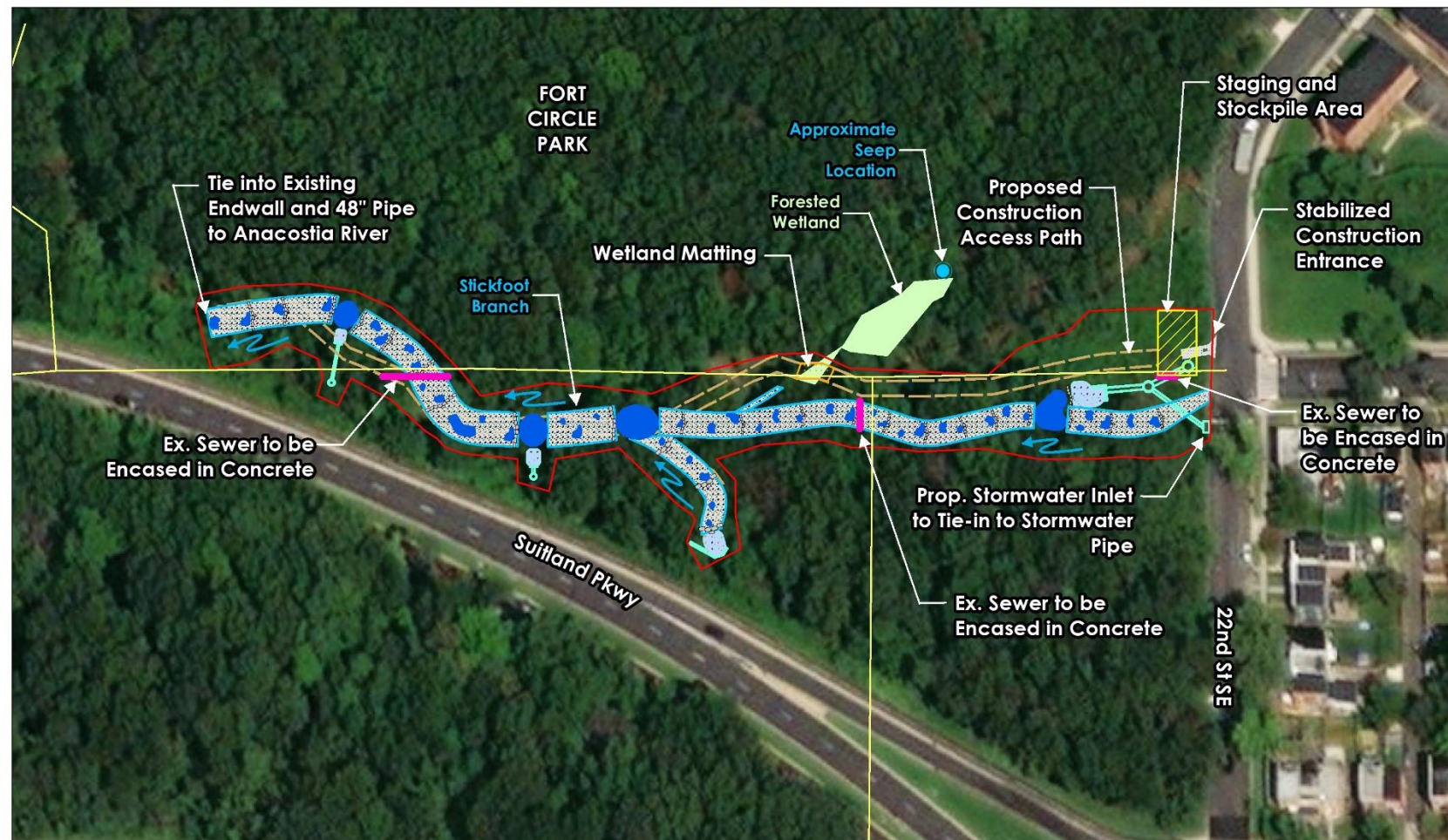


**Figure 5. Representative Photograph of Post-Construction Restoration Conditions using Natural Channel Design Techniques**

The proposed stream channel would be aligned through the Project site to minimize tree removal. After construction is completed, DOEE would stabilize disturbed areas with native vegetation and would replace any trees removed during construction with species and quantities negotiated with NPS. DOEE would also implement an invasive species management program on the site to remove kudzu and Japanese knotweed and prevent the introduction of other non-native invasive plants following construction. It is anticipated that special conditions of permits to be obtained for the Project will require DOEE to conduct post-construction monitoring of the success of the Project and perform adaptive management.

The Stickfoot Branch Stream Restoration Project study area, which encompasses the limits of construction, including ESC, excavation and grading, vehicle and equipment staging, material stockpiling, and construction access, was presented on **Figure 2** previously in this EA. A concept diagram of the proposed restoration design is provided as **Figure 6**. The detailed preliminary (30%) design plans for the proposed restoration are provided in **Appendix B**.





Project  
**Stickfoot Branch  
Stream Restoration Project**

Figure No.  
**6**

Title  
**Concept Diagram**



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## MITIGATION MEASURES OF THE PROPOSED ACTION

Mitigation measures would be implemented under the proposed action, whenever feasible, for resource protection and to minimize disruption to the local community. The exact mitigation measures would depend upon the final design and plan approvals by relevant agencies. The following mitigation measures are proposed to reduce Project impacts. Mitigation measures may be mandatory, such as those measures that are required by law, special conditions of permits or authorizations, or by NPS policy. Some measures are voluntary, including those measures that are not required but would be implemented into the final design as a best practice to reduce resource impacts or community disruption.

### *Water Quality*

- A mandatory ESC Plan would be developed prior to construction to comply with the 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control (DOEE 2013) following guidance and best practices from the District of Columbia ESC Manual (DOEE 2017) and Stormwater Management Guidebook (DOEE 2020a).
- A catch basin would be constructed as a voluntary measure to capture sediment, roadway grit, and trash conveyed by stormwater from Langston Place SE and 22nd Street SE before it enters Stickfoot Branch.
- DOEE would conduct mandatory annual monitoring of the stream restoration, and adaptive management would correct any localized structural failures or other issues, as required by special conditions of Clean Water Act Section 404 and 401 authorizations.

### *Wetlands*

- Matting would be placed over a small area of PFO wetland along the proposed construction access path as a voluntary measure to minimize disturbance. The mats would be installed in a way that would not obstruct flow through the wetland from upslope to downslope of the access path during construction.
- Native herbaceous wetland plants would be salvaged as a voluntary measure, if feasible, and replanted within the wetland after the restoration is complete to minimize impacts to herbaceous wetland plants. Any supplemental plantings would include native species from sources within the same ecoregion.

### *Vegetation*

- A detailed landscape plan would be developed, as required by NPS and Clean Water Act Section 404 and 401 authorizations, that would include a combination of native herbaceous wetland and upland plants salvaged prior to construction, if feasible, as well as supplemental native herbaceous plantings, trees, and shrubs from sources within the same ecoregion.
- Measures would be implemented to minimize impacts to trees that are to remain post-construction, including, but not limited to, installing tree protection fencing and root pruning.
- Clean fill material free of invasive plant seeds or propagules would be used as a voluntary measure during construction to minimize the introduction of invasive species.
- Construction vehicles would be washed at an offsite wash station as a voluntary measure to ensure that invasive plant seeds and propagules, and other weed seeds, are not transported into the site.
- Post-construction invasive species management would be implemented onsite for a five-year period, or as required by Clean Water Act Section 404 and 401 authorizations, to eradicate

kudzu, Japanese knotweed, and other non-native invasive plants that have established and to prevent reestablishment.

- The survival of existing trees and newly planted vegetation would be assessed during annual post-construction monitoring. Adaptive management, if needed, would be coordinated between NPS, DOEE, and the USACE.

#### *Social Environment*

- Security measures such as chain-link fencing would be implemented as a voluntary measure to ensure the active construction site remains inaccessible to the public for safety purposes.
- Maintenance of Traffic (MOT) Plans would be developed, as required by DDOT, that may include temporary flagging operations on Langston Place SE and 22nd Street SE to minimize traffic impacts on the community during construction.
- Contractors would be required to operate in accordance with Section 20-2802 of the District of Columbia Municipal Regulations (DCMR), which limits construction to between 7:00 am and 7:00 pm on weekdays.
- Voluntary measures that may be used to reduce noise during construction include maintaining equipment mufflers, lubricating vehicles and equipment to prevent unnecessary noise, avoiding long idling periods by requiring vehicles staged on Langston Place SE, 22nd Street SE, or other local roadways to be turned off when not in use, and positioning loud equipment and activities as far as possible from residences.
- Voluntary measures that may be used to minimize air emissions during construction include requiring vehicles staged on Langston Place SE, 22nd Street SE, or other local roadways to be turned off when not in use to avoid long idling periods and ensuring equipment engines and exhausts are properly maintained.
- Measures to minimize fugitive dust during construction would be detailed in a mandatory ESC Plan that would be prepared for the Project to comply with the 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control (DOEE 2013).

### **ALTERNATIVES DISMISSED FROM FURTHER CONSIDERATION**

NPS and DOEE evaluated a second restoration alternative at the conceptual design level. This restoration approach involved using the existing stream footprint, maintaining approximately the existing stream elevation, and excavating and grading a new floodplain at an elevation below the historic floodplain. Long-term channel stabilization would be provided using engineered structures created with stone to armor the streambed and banks because more energy must be dissipated within the channel. This is because the floodplain would not be as broad and would therefore have less storage capacity for energy dissipation within the floodplain. This alternative was dismissed from further consideration because this restoration approach would:

- Result in greater tree impacts than the proposed action.
- Require a much greater amount of soil to be excavated and removed from the site compared to the proposed action.
- Allow for only 10 feet of the existing 42-inch RCP culvert conveying Stickfoot Branch into the study area to be removed to create additional natural stream channel versus 275 feet under the proposed action.
- Provide channel stability using engineered structures versus the natural channel design techniques that would be used under the proposed action.

## AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment, which is intended to document existing environmental conditions, as well as reasonably foreseeable environmental trends and / or planned actions and serves as a baseline for understanding the resources that could be impacted by implementation of the proposed action. The resource topics presented in this section correspond to the issues described in the *Purpose and Need* section.

This chapter also includes an analysis of the short- and long-term, beneficial and adverse environmental consequences or “impacts” of the no-action alternative and proposed action immediately following the affected environment descriptions for each resource topic. The Council on Environmental Quality defines impacts as changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives (40 CFR 1508.1(g)).

The impact analyses and conclusions in this chapter are based on the review of existing literature and field studies and the professional judgment of planners, resource specialists, and biologists who have experience with similar types of projects. Impacts were assessed with the assumption that the mitigation measures described in the analyses in the section, and summarized in the *Alternatives* section would minimize, reduce, and / or avoid impacts to resources. If the required mitigation measures were not implemented, the potential for resource impacts and the magnitude of those impacts would increase.

### WATER QUALITY

#### Affected Environment

The US Environmental Protection Agency (USEPA), under Section 303(d) of the Clean Water Act, requires states (including the District and Tribal governments) to prepare a list of waterbodies or waterbody segments that do not meet USEPA-mandated water quality standards. The Section 303(d) listing requirement applies to waters impaired by point and / or nonpoint sources of pollution discharge. States, as well as the District, are assigned the responsibility for reviewing, developing, and revising water quality standards, subject to USEPA approval and certification, with the goal to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (40 CFR 131.2).

For the Stickfoot Branch Stream Restoration Project, efforts to meet District water quality standards are focused on reducing total suspended solids (i.e., sediment), nitrogen, and phosphorus transported downstream to the Anacostia River, which is on the Section 303(d) list of impaired waters. It is estimated that approximately 31.6 tons / year of sediment, 1,346 pounds / year of nitrogen, and 621 pounds / year of phosphorus is transported from the Stickfoot Branch Stream Restoration Project study area to the Anacostia River annually. The loss of sediment and nutrients

from within the restoration reach is primarily caused by active streambank erosion and channel incision.

A stream habitat assessment conducted by MWCOG for Stickfoot Branch determined that high embeddedness areas caused by sand in constant movement within the system provides unstable aquatic habitat (MWCOG 2019). Aquatic community sampling also conducted by MWCOG resulted in an index of biological integrity (IBI) rating of very poor to fair, as most of the macroinvertebrates collected are generally considered pollution tolerant (MWCOG 2019). No fish occur within the study area due to barriers to movement from the Anacostia River.

Federal and District agencies, as well as non-profit organizations and other community groups, have committed considerable resources to improving the quality of District waters, including the Anacostia River and its tributaries. Efforts to improve the water quality of the Anacostia River are causing a positive trend in the progression towards meeting District water quality standards. The Anacostia River received its highest grade to date during the Anacostia Watershed Society's annual health check conducted in 2020 (Anacostia Watershed Society 2020).

### **About the Analysis**

To assess potential impacts to water quality, existing conditions of Stickfoot Branch were considered that primarily include estimated rates of sediment transported downstream annually, as well as aquatic habitat conditions within the Project study area. Potential impacts to water quality were evaluated from temporary disturbance needed to construct the Project and the estimated long-term potential to provide water quality benefits. Reasonably foreseeable environmental trends and / or planned actions considered in the analysis include efforts being made in the District, primarily by NPS, DOEE, and DC Water, to improve the quality of District waters through restoration and sewer / stormwater infrastructure improvement projects.

### **Impacts of the No-Action Alternative**

Water quality degradation would continue to occur within and downstream of the Project study area under the no-action alternative. Rates of sediment transported offsite to the Anacostia River would not be expected to increase in intensity above the estimated rates in the current condition. Therefore, there would be no new impacts to water quality under the no-action alternative. However, there is a potential for sanitary sewer infrastructure crossing Stickfoot Branch to fail due to the continued streambank erosion and channel incision. Any sanitary sewage that leaks into Stickfoot Branch would degrade downstream water quality until repaired by DC Water.

### **Impacts of the Proposed Action**

The Stickfoot Branch Stream Restoration Project would require more than 5,000 square feet of ground disturbance from excavation, grading, temporary stockpiling of soil, and other construction activities. ESCs would be employed to contain sediments within the construction area and prevent water quality degradation downstream of the construction site. A mandatory ESC Plan would be developed for review and approval by the District prior to construction to comply with the 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control (DOEE 2013) following guidance and best practices from the District of Columbia ESC Manual (DOEE 2017) and Stormwater Management Guidebook (DOEE 2020a). ESCs may include, but would not be limited to, silt fencing, stabilized construction entrances, and temporary vegetative stabilization. The ESC Plan



would identify controls that the contractor would be required to implement and maintain to minimize soil from being tracked onto local roadways and from potentially being transported into the sewer system or the stream channel. The ESC Plan would also include stipulations requiring the contractor to frequently clean any soil tracked or spilled on local roadways. The majority of excavations and other restoration work would occur from within the stream channel to minimize impacts to trees, which would require a clean water diversion typically implemented using sandbags upstream and downstream of the construction, and a water pump that would divert the flow of clean water around the active construction, discharging it downstream. Sediment-laden water within the construction area between the sandbags would be pumped to a filter bag placed in an upland area.

Also, permits and authorizations would be obtained, including, but not limited to, Section 401 of the Clean Water Act water quality certification from DOEE, Section 404 of the Clean Water Act authorization for the discharge of dredged or fill material into waters of the United States from the US Army Corps of Engineers (USACE), and National Pollutant Discharge Elimination System (NPDES) permit coverage for stormwater discharges under the USEPA Construction General Permit. Properly implemented and maintained ESCs during construction would result in minimal impacts to water quality.

Implementation of the proposed action would reduce sediment and nutrient loads transported downstream to the Anacostia River over the long-term. Providing stream stability and reconnecting the stream with the floodplain would dissipate energy over a larger area, resulting in less erosion and channel incision. Using applicable protocols established by the Chesapeake Bay Program (2020) to estimate pollutant reductions through stream restoration, the proposed project would result in a total reduction of approximately 16 tons / year of sediment, 663 pounds / year of nitrogen, and 311 pounds / year of phosphorus from leaving the system annually, resulting in beneficial impacts to water quality. Additionally, construction of a catch basin would provide some treatment of stormwater by capturing sediment, roadway grit, and trash from Langston Place SE and 22nd Street SE before it enters Stickfoot Branch, which would result in additional water quality benefits. The reduced sediment and nutrient loads would support the ongoing efforts to meet District water quality standards for the Anacostia River.

The Stickfoot Branch Stream Restoration Project, as well as other restoration and sewer / stormwater infrastructure improvement projects being implemented in the District by NPS, DOEE, and DC Water have, and will continue to have, long-term beneficial impacts to water quality. In addition, proposed natural channel designs, including sequences of riffles and pools and other in-stream features, as well as daylighting 275 feet of Stickfoot Branch, could provide potentially suitable habitat for a wider variety of aquatic organisms. Stabilization and protection of sewer infrastructure within the Project site would also reduce the risk of pipe failures that could cause discharges of untreated wastewater directly into the stream.

Subject Matter Experts (SME) in stream restoration would conduct mandatory monitoring of the Project site annually for five years, or as needed to comply with special conditions of Clean Water Act Section 404 and 401 authorizations, to ensure the restoration is successful. Annual monitoring reports would be prepared by DOEE and submitted to NPS and the USACE for review. DOEE anticipates having four post-construction option years should any adaptive management need to

take place to correct localized structural failures or other issues with the restoration, if necessary, to comply with special conditions of Clean Water Act Section 404 and 401 authorizations.

## WETLANDS

### Affected Environment

A wetland investigation was conducted to determine the presence, extent, and classification of federally jurisdictional wetlands and waterways within the Stickfoot Branch Watershed Project study area (Stantec Consulting Services Inc. 2020). The investigation was conducted following the procedures detailed in the *Navigable Waters Protection Rule*, which took effect on June 22, 2020, the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE 2010). Impacts to jurisdictional wetlands and waterways are regulated under Section 404 of the Clean Water Act by the USACE and the USEPA.

The District regulates federally non-jurisdictional waters and is responsible for issuing water quality certifications in accordance with Section 401 of the Clean Water Act. Federally non-jurisdictional waters are regulated in the District by an emergency rulemaking adopted by DOEE on October 7, 2020, which added new Chapters 25 (Critical Area – General Rules) and 26 (Critical Area – Wetlands and Streams) to Title 21 of the DCMR. This rulemaking was in response to the federal *Navigable Waters Protection Rule*, which deregulated ephemeral streams and many wetlands (DOEE 2020b).

All federal agencies are responsible for wetland protection practices under Executive Order 11990. The NPS meets this requirement through implementation of Director's Order 77-1: *Wetland Protection* and adherence to Procedural Manual 77-1: *Wetland Protection*, which requires use of the Federal Geographic Data Committee (FGDC) Wetlands Classification Standard when identifying and classifying wetlands (NPS 2016a). The NPS Procedural Manual 77-1 also requires mitigation to compensate for conversion, degradation, or loss of wetland area and / or function (NPS 2016a). The USACE and / or DOEE may also stipulate mitigation requirements through the Section 404 and Section 401 of the Clean Water Act permitting processes. However, as this is a restoration project, mitigation is not anticipated to be required under Procedural Manual 77-1 or the Clean Water Act. The restoration is considered an excepted action and is therefore exempt from the requirement to prepare a Wetland Statement of Findings in accordance with NPS Procedural Manual 77-1.

The Stickfoot Branch Stream Restoration Project study area consists of four riverine wetlands and one PFO wetland that are presented on **Figure 2** and briefly described in the *Purpose and Need* section. Additional details regarding each resource are provided in **Table 1**.

A large percentage of the historical wetlands in the District have been drained, filled, or impacted as urbanization occurred over the past two hundred years. From the 1800's to the mid 1900's, wetlands in the District were lost to colonial agriculture practices, use as dumpsites, filling, draining, dredging, and land reclamation. Today, DOEE has mapped 289 acres of wetlands in the District (DOEE 2021a). Historic trends have shown a substantial decline in wetlands in the District. However, current and future trends suggest a no net loss of wetlands due to federal and District-level protections

afforded to wetlands and requirements for avoidance and minimization, as well as compensatory mitigation for unavoidable impacts.

**Table 1. Wetlands Identified and Delineated within the Study Area**

Resource ID	FGDC Classification	Section 404 Classification	Length within Study Area	Width within Study Area
Stickfoot Branch	semi-permanently flooded, upper perennial, riverine wetland (R3UPF)	Perennial stream	540 linear feet (portion within 42-inch RCP not included)	Approximately 7 – 10 feet at ordinary high water mark (OHWM)
Tributary A	semi-permanently flooded, upper perennial, riverine wetland (R3UBF)	Perennial stream	145 linear feet	Approximately 7 feet at OHWM
Tributary B	seasonally flooded, intermittent, riverine wetland (R4SBC)	Intermittent stream	140 linear feet	Approximately 2 feet at OHWM
Gully / Tributary C	seasonally flooded, intermittent, riverine wetland (R4SBC)	Intermittent stream	315 linear feet	Approximately 4 feet at OHWM
Resource ID	FGDC Classification	Section 404 Classification	Area within Study Area	
Wetland 1	PFO	PFO	2,566 square feet	

### About the Analysis

Geographic Information Systems (GIS) were used to calculate potential impacts to wetlands delineated during the onsite investigation based on the preliminary restoration design. The DOEE Wetland Registry (DOEE 2021a) was then used to determine the extent of similar habitat areas in the vicinity to provide context for the impact intensity. Reasonably foreseeable environmental trends and / or planned actions considered in the analysis include efforts being made by the NPS, USACE, and the District to improve the quality of District waters through restoration and sewer and / or stormwater infrastructure improvement projects, and to ensure a no net loss of wetlands through federal and District-level permit requirements and wetland protection policies.

### Impacts of the No-Action Alternative

There would be no loss of wetlands or temporary construction-related disturbances under the no-action alternative. Degradation of wetlands and associated aquatic habitats within the Stickfoot Branch Stream Restoration Project study area would continue to occur over the long-term from erosion and channel incision caused by stream instability; however, these impacts would not be anticipated to be greater in intensity than the current condition.

### Impacts of the Proposed Action

Wetland disturbance to implement the restoration is unavoidable under the proposed action. Activities including excavation and grading are expected to result in 815 linear feet of impacts to Stickfoot Branch, 35 linear feet of impacts to Tributary A, 140 linear feet of impacts to Tributary B, and 315 linear feet of impacts to Tributary C. DOEE would obtain a Clean Water Act Section 404 permit from the USACE, as well as a Section 401 Water Quality Certification from the District, prior to commencing the Project. A District-approved ESC Plan would be implemented during construction to prevent sediment transport off the Project site to downstream wetlands.

The PFO wetland adjacent to Tributary A would be protected by placing mats along the proposed construction access path as a voluntary measure to minimize disturbance. The mats would be installed in a way that would not obstruct flow through the wetland from upslope to downslope of the access path during construction. No trees would need to be removed to place the mats. It is not anticipated that the groundwater seep that provides hydrology to the PFO wetland would be impacted by construction. However, in the event the seep has migrated into the Project site when construction begins, the construction contractor would install a simple, low-cost, elevated structure over the seep to avoid soil compaction and to allow flow to be maintained. The materials used to create the structure would be determined in the field based on the location of the seep and the topography.

Any native herbaceous wetland plants on the site would be salvaged prior to construction, if feasible, as a voluntary measure to minimize impacts to herbaceous wetland plants. Salvaged plants supplemented with additional native herbaceous wetland plants from sources within the same ecoregion as the Project site would be planted within the wetland after completion of the restoration. As previously stated, it is not anticipated that compensatory mitigation will be required by the NPS, USACE, or the District.

Over the long-term, restoration of Stickfoot Branch and its tributaries within the study area, as well as onsite invasive species management, would benefit wetlands by providing the stability necessary to minimize future streambank erosion and channel incision and improve onsite aquatic and terrestrial habitat. The proposed restoration design would create new floodplains in addition to what occurs onsite in the existing condition. More frequent floodplain inundation could result in wetlands created adjacent to the stream over the long-term, adding further to the diversity of potentially suitable habitat for a wider range of aquatic and terrestrial species. The restoration would also benefit wetlands by improving water quality within the study area and downstream of the restoration reach.

The Stickfoot Branch Stream Restoration Project, as well as other restoration and sewer / stormwater infrastructure improvement projects being implemented in the District by DOEE and DC Water have, and will continue to have, long-term beneficial impacts to wetlands. The Clean Water Act Section 404 and 401 Programs, as well as the DOEE's emergency rulemaking to regulate federally non-jurisdictional waters, will support the District's initiatives to ensure a no net loss of wetlands.

## VEGETATION

### Affected Environment

A forest stand characterization and assessment were conducted within the Stickfoot Branch Stream Restoration Project study area in support of the restoration design and environmental compliance process. Mid-successional mixed-hardwood forest with dense canopy cover and a relatively open understory was observed. Dominant tree species within the forest are comprised of sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and white oak (*Quercus alba*). Dominant understory species include mountain laurel (*Kalmia latifolia*), American holly (*Ilex opaca*), American beech (*Fagus grandifolia*), and red maple. The herbaceous layer of the forest interior is very sparse, which is typically indicative of forests with dense canopy cover. The most dominant herbaceous

species observed within the forest was common greenbrier (*Smilax rotundifolia*), while poison ivy (*Toxicodendron radicans*), and kudzu were observed in the canopy, understory, and herbaceous layers along the forest edge. Kudzu is a non-native invasive, fast growing, climbing plant native to Asia that creates dense monoculture infestations in all layers of a forest. A dense infestation of kudzu occurs in the northeastern portion on the study area. Japanese knotweed was also observed during later Project site visits.

Trees with a diameter at breast height (DBH) of 5 inches or greater were surveyed during the forest stand characterization and assessment. A total of 48 trees of 5-inch DBH or greater were identified within the Stickfoot Branch Stream Restoration Project study area. The locations of these trees are provided on **Figure 7** and the species, size, and condition of each tree is in **Table 2**. The condition of each tree was determined by qualitatively evaluating structure, crown development, and observations of potential insect pests or diseases present. Nearby trees not identified on **Figure 7** may have critical root zones that enter the study area. The left riparian stream buffer width along Stickfoot Branch is narrow due to its proximity to Suitland Parkway; however, the right riparian buffer width is 200 feet or more (MWCOG 2019).

According to the DDOT Urban Forestry Division, the District's urban tree canopy (UTC), which is comprised primarily of forests and street trees, grew by 355 acres, from 14,246 to 14,601, from 2006 to 2011. This equates to approximately 33 percent UTC in the District in 2011. The most recent data collected by DDOT estimates approximately 38 percent of the District's surfaces are covered by UTC, suggesting a positive trend in the protection, preservation, and enhancement of forests and individual trees, as well as other vegetation, in the District. However, UTC in Advisory Neighborhood Commission (ANC) 8B, where the Stickfoot Branch Stream Restoration Project is located, has seen a less than 1 percent reduction of UTC since 2011 estimates, most likely caused by development. District-wide, DDOT suggests that the ongoing pace of development threatens to undermine the gains in UTC achieved (DDOT 2021). Partners across the District, such as NPS, which protects a substantial portion of the District's forests, as well as DOEE, DDOT, Casey Trees, and other community organizations, plant thousands of trees per year across the District with the goal to achieve a 40 percent UTC by 2032 (DOEE 2021b).

Additionally, efforts are being made by NPS to control, contain, and substantially minimize populations of non-native invasive plants within the National Capital Area, including NACE. The NPS prepared an Invasive Plant Management Plan / EA in 2016 to address the nearly 200 species of invasive plants that threaten the natural and cultural resources within the parks of the National Capital Area through targeted treatment (NPS 2016b). The District also conducts an Integrated Pest Management program using cultural, mechanical, and biological controls for non-native invasive plants. These plans and programs suggest a positive trend in the management of non-native invasive plants in the District (DOEE 2021c). One of the plants identified by NPS and the District for targeted treatment includes kudzu, which is a non-native invasive plant that has proliferated at the Stickfoot Branch Stream Restoration Project site.





- Tree (5-inch DBH or Greater)
- Stickfoot Branch Stream Restoration Project Study Area
- Delineated Waterway
- Delineated Wetland
- Stream Flow Direction



0 75 150 Feet



DEPARTMENT  
OF ENERGY &  
ENVIRONMENT  
GOVERNMENT OF THE DISTRICT OF COLUMBIA



GOVERNMENT OF THE  
DISTRICT OF COLUMBIA  
MURIEL BOWSER, MAYOR

Project

**Stickfoot Branch  
Stream Restoration Project**

Figure No.

**7**

Title

**Tree Inventory Map**

**Table 2. Trees Greater than 5-inches DBH within the Study Area**

Tree Number	Species	DBH	Condition
1	Sweetgum ( <i>Liquidambar styraciflua</i> )	9"	Poor
2	Sweetgum ( <i>Liquidambar styraciflua</i> )	15"	Good
3	Sweetgum ( <i>Liquidambar styraciflua</i> )	7"	Poor
4	Tulip poplar ( <i>Liriodendron tulipifera</i> )	23"	Fair
5	Sweetgum ( <i>Liquidambar styraciflua</i> )	13"	Poor
6	Sweetgum ( <i>Liquidambar styraciflua</i> )	9"	Poor
7	Sweetgum ( <i>Liquidambar styraciflua</i> )	18"	Good
8	Sweetgum ( <i>Liquidambar styraciflua</i> )	15"	Good
9	Sweetgum ( <i>Liquidambar styraciflua</i> )	19"	Good
10	Sweetgum ( <i>Liquidambar styraciflua</i> )	17"	Good
11	American beech ( <i>Fagus grandifolia</i> )	6"	Good
12	Red oak ( <i>Quercus rubra</i> )	31"	Good
13	Sweetgum ( <i>Liquidambar styraciflua</i> )	12"	Good
14	Red maple ( <i>Acer rubrum</i> )	6"	Poor
15	Sweetgum ( <i>Liquidambar styraciflua</i> )	12"	Poor
16	Red maple ( <i>Acer rubrum</i> )	8"	Good
17	Red maple ( <i>Acer rubrum</i> )	11"	Good
18	Red maple ( <i>Acer rubrum</i> )	8"	Good
19	Pin oak ( <i>Quercus palustris</i> )	25"	Good
20	Pin oak ( <i>Quercus palustris</i> )	24"	Good
21	River birch ( <i>Betula nigra</i> )	6"	Good
22	Red maple ( <i>Acer rubrum</i> )	9"	Fair
23	Tulip poplar ( <i>Liriodendron tulipifera</i> )	12"	Good
24	American holly ( <i>Ilex opaca</i> )	6"	Good
25	Tulip poplar ( <i>Liriodendron tulipifera</i> )	8"	Good
26	Sweetgum ( <i>Liquidambar styraciflua</i> )	6"	Fair
27	American beech ( <i>Fagus grandifolia</i> )	5"	Good
28	Tulip poplar ( <i>Liriodendron tulipifera</i> )	7"	Good
29	Chestnut oak ( <i>Quercus prinus</i> )	24"	Good
30	American holly ( <i>Ilex opaca</i> )	5"	Good
31	Tulip poplar ( <i>Liriodendron tulipifera</i> )	8"	Fair
32	Sweetgum ( <i>Liquidambar styraciflua</i> )	9"	Fair
33	Tulip poplar ( <i>Liriodendron tulipifera</i> )	24"	Good
34	Chestnut oak ( <i>Quercus prinus</i> )	17"	Good
35	Red maple ( <i>Acer rubrum</i> )	6"	Fair
36	Sweetgum ( <i>Liquidambar styraciflua</i> )	6"	Good
37	Sweetgum ( <i>Liquidambar styraciflua</i> )	7"	Good
38	Tulip poplar ( <i>Liriodendron tulipifera</i> )	24"	Poor
39	Chestnut oak ( <i>Quercus prinus</i> )	16"	Fair
40	American beech ( <i>Fagus grandifolia</i> )	10"	Good
41	Sweetgum ( <i>Liquidambar styraciflua</i> )	9"	Good
42	Red maple ( <i>Acer rubrum</i> )	8"	Good
43	Sweetgum ( <i>Liquidambar styraciflua</i> )	26"	Good
44	Persimmon ( <i>Diospyros virginiana</i> )	10"	Fair
45	Black locust ( <i>Robinia pseudoacacia</i> )	14"	Poor
46	Sweetgum ( <i>Liquidambar styraciflua</i> )	9"	Poor
47	Persimmon ( <i>Diospyros virginiana</i> )	9"	Poor
48	Red maple ( <i>Acer rubrum</i> )	5"	Poor

## About the Analysis

To analyze potential impacts to vegetation, a site visit was conducted in which the forest was characterized and trees with a DBH of 5-inches or greater were surveyed. Tree removal was estimated for each alternative and invasive plant species management was also considered. Reasonably foreseeable environmental trends and / or planned actions considered in the analysis include efforts being made District-wide to increase UTC and preserve and enhance the quality of natural forest communities of the District through invasive species management plans and programs.

## Impacts of the No-Action Alternative

Current passive management practices would continue within the Stickfoot Branch Stream Restoration Project study area under the no-action alternative. Active erosion is likely to undermine and expose the roots of trees growing along the streambank, which would increase the potential for these trees to fall over the long-term, resulting in a loss of vegetation. Non-native invasive plant species may establish in areas where the canopy has opened due to downed trees and would continue to proliferate in areas where they have already become established causing further damage to native vegetation.

## Impacts of the Proposed Action

Restoration of Stickfoot Branch and its tributaries within the study area would result in disturbance to vegetation. Based on the preliminary restoration design, 15 of the 48 trees that were identified within the Project site with a DBH of 5-inches or greater would be removed during construction. Smaller understory trees would also likely be removed. DOEE would make efforts to minimize impacts to trees that are to remain post-construction by implementing measures that may include, but are not limited to, installing tree protection fencing and root pruning.

Prior to construction, DOEE would develop a detailed landscape plan, as required by NPS and Clean Water Act Section 404 and 401 authorizations, for review and approval by the agencies. The landscape plan would include a combination of native herbaceous wetland and upland plants salvaged prior to construction, if feasible, as well as supplemental native herbaceous plantings, trees, and shrubs from sources within the same ecoregion as the Project site. Frequent inundation in the newly created floodplain areas may cause existing trees at the site to die over the long-term if they are not acclimated to floodplain conditions. However, native tree species would be planted that are suited to floodplain conditions to replace the trees removed during construction, as well as those lost over time due to more frequent floodplain inundation. Existing trees and newly planted vegetation would be monitored to assess survival as part of the annual post-construction monitoring that would be required by Clean Water Act Section 404 and 401 authorizations. Any adaptive management needed to ensure the success of the restoration would be coordinated between NPS, DOEE, and the USACE.

DOEE would also implement an invasive species management program onsite during and post-construction. During construction, clean fill material free of invasive plant seeds or propagules would be used as a voluntary measure to minimize the introduction of invasive species. In addition, construction vehicles would be washed at an offsite wash station as a voluntary measure to ensure that invasive plant seeds and propagules, and other weed seeds, are not transported into the site. Following construction, invasive species management would involve the eradication of kudzu,

Japanese knotweed, and other non-native invasive plants that have established and to prevent reestablishment for a period of five years following construction, or as required by Clean Water Act Section 404 and 401 authorizations. Invasive species management would involve applying an NPS-approved native herbaceous seed mix following construction to reduce potential non-native invasive species establishment in disturbed areas where soils are exposed, and the use of NPS-approved herbicides.

It would be expected that implementation of a landscape plan approved by the agencies, as well as an invasive species management program, would result in long-term benefits to vegetation and terrestrial habitat, as well as water quality benefits from the potential reduction in thermal impacts. The anticipated benefits to vegetation through the Stickfoot Branch Stream Restoration Project support local efforts by the NPS, the District, and community organizations to increase the UTC and preserve, protect, and enhance natural forest communities within the District.

## **SOCIAL ENVIRONMENT**

### **Affected Environment**

The Stickfoot Branch Stream Restoration Project study area is surrounded by the neighboring communities of Garfield Heights to the east, Fort Stanton to the west, and Woodland Terrace to the northeast within ANC 8B. Suitland Parkway borders the study area to the south. Garfield Heights, the closest neighboring community, consists of medium density residential land use (MWCOG 2019). Neighborhood streets near the study area, including Langston Place SE, 22nd Street SE, Hartford Street SE, and Irving Street SE, primarily consist of rowhomes and apartment buildings. These roads are wide, allowing for parking on both sides, and are not heavily traveled during normal business hours. Other than the occasional bus or emergency vehicle, noise generating activities are not frequent in Garfield Heights in the vicinity of the study area.

Currently, little to no activity occurs within the Stickfoot Branch Stream Restoration Project study area and there are no amenities or opportunities for interpretation for park visitors or the neighboring communities. The forest within the study area provides a buffer for noise from Suitland Parkway and a natural setting in an otherwise urban area. However, during the public scoping period a resident of Garfield Heights expressed concern with the amount of trash and illegal dumping that occurs in the vicinity of the Project site west of Langston Place SE and 22nd Street SE.

### **About the Analysis**

To analyze the potential impacts of each alternative on neighboring communities, particularly Garfield Heights, construction-related impacts, including noise and traffic, were qualitatively evaluated. The analysis was performed using professional judgment, information provided by park staff, public comments, and experience with similar past projects. No other planned actions were identified that would conflict with the Stickfoot Branch Stream Restoration Project and cause unreasonable disturbance to the community during construction.

### **Impacts of the No-Action Alternative**

There would be no impacts to neighboring communities under the no-action alternative because the proposed restoration of Stickfoot Branch would not occur. The NPS would continue to passively manage the site as a natural forest habitat. NPS would address trash and illegal dumping by

conducting occasional cleanup efforts using NACE maintenance personnel and would partner with local non-profit organizations or community groups to host community cleanup events. DOEE would also coordinate with DDOT to install signs along Langston Place SE and 22nd Street SE to aid in the prevention of illegal dumping at the site.

### **Impacts of the Proposed Action**

Construction activities to restore Stickfoot Branch and its tributaries have the potential to be disruptive to the neighboring community along the street blocks nearest the study area. It is anticipated that active construction would occur over a six to 12-month period beginning in 2022. The limits of construction presented on **Figure 2** also represents the area that would be off limits to the public while the work is being completed. Chain-link fencing or other security measures would be used as a voluntary measure to ensure the active construction site remains inaccessible to the public for safety purposes.

Construction vehicles would be noticeable to nearby residents on local roadways used to deliver equipment and materials or remove excavated materials during the restoration. Vehicles that would frequently enter or exit the site would include personal vehicles of construction workers, light- or medium-duty pickup trucks, and dump trucks. Vehicles may also temporarily park along Langston Place SE and 22nd Street SE and tractor trailers delivering materials and excavating equipment would likely be offloaded along the street. Even though these vehicles would use roadways, including Langston Place SE and 22nd Street SE to access the site, construction is anticipated to result in minimal traffic impacts, as the work is primarily proposed outside of the existing roadway. MOT Plans would be developed, as required by DDOT, to minimize traffic impacts on the community during construction. Temporary flagging operations may be used to maintain traffic during activities on Langston Place SE and 22nd Street SE but long-term lane closures or detours are not anticipated.

Noise from construction may also be disruptive to nearby residents particularly while heavy equipment is being operated on Langston Place SE and 22nd Street SE. It is anticipated that once down in the stream valley, noise from construction equipment would be minimal. To ensure noise impacts on residents are minimized, contractors would be required to operate in accordance with Section 20-2802 of the DCMR, which limits construction to between 7:00 am and 7:00 pm on weekdays. It is not anticipated that construction activities would exceed permissible noise levels. However, additional voluntary noise mitigation measures could be implemented to reduce noise levels during construction, including maintaining equipment mufflers, lubricating vehicles and equipment to prevent unnecessary noise, avoiding long idling periods by requiring vehicles staged on Langston Place SE, 22nd Street SE, or other local roadways to be turned off when not in use, and positioning loud equipment and activities as far as possible from residences. It is not anticipated that noise barriers would be required but could be used if determined necessary.

Heavy equipment used for construction would generate air emissions and cause fugitive dust. Impacts to the community from air emissions, including fugitive dust, would be temporary and would not continue after construction. Voluntary measures to minimize air emissions generated by construction equipment may include requiring vehicles staged on Langston Place SE, 22nd Street SE, or other local roadways to be turned off when not in use to avoid long idling periods and ensuring equipment engines and exhausts are properly maintained. Measures to minimize fugitive



dust would be detailed in an ESC Plan that would be prepared for the Project to comply with the 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control (DOEE 2013). Reasonable precautions to prevent particulate matter from becoming airborne during construction include, but are not limited to, applying gravel to the construction entrance and access path, spraying water on exposed soils and materials stockpiles, covering materials being transported that could become airborne, and the prompt removal of spilled or tracked dirt or other materials from paved streets.

Following construction, the NPS would continue to passively manage the site as a natural forest community. Disruptions to the neighboring community would be minimal and would include only occasional visits by SMEs to monitor the success of the restoration and landscape contractors to implement the invasive species management program that would be developed. Additionally, as with the no-action alternative, the NPS would address trash and illegal dumping by conducting occasional cleanup efforts using NACE maintenance personnel and would partner with local non-profit organizations or community groups to host community cleanup events. DOEE would also coordinate with DDOT to install signs along Langston Place SE and 22nd Street SE to aid in the prevention of illegal dumping at the site.

## CONSULTATION AND COORDINATION

NPS and DOEE provided an opportunity for the public to comment on the proposed action during the NEPA process. Consultation and coordination with federal and District agencies, American Indian tribes, and other interested parties was also conducted to identify issues related to natural and cultural resources and concerns of park neighbors. This section provides a summary of the public involvement and agency consultation and coordination that occurred during preparation of the EA.

### PUBLIC INVOLVEMENT

As part of the NEPA process and to comply with the requirements of Section 106 of the National Historic Preservation Act, the NPS and DOEE involved the public in project scoping by holding a 30-day public comment period from February 24, 2021, to March 26, 2021. A virtual public meeting was also held on February 24, 2021, using the Cisco WebEx platform, from 6:30 p.m. to 7:30 p.m. The scoping period and virtual meeting were announced by sending a scoping letter and email blast to agencies, stakeholders, and other potentially interested parties from a mailing list established for the Project. Scoping flyers were also distributed to 29 residences close to the Project site. The presentation used during the virtual public meeting, a recording of the meeting, the scoping letter, and the scoping flyer are available at <http://parkplanning.nps.gov/stickfoot>.

Comments received during the virtual public scoping meeting were from residents close to the Project site with concerns regarding traffic and noise during construction, as well as maintaining sewer service. Residents also expressed concern with the trash and illegal dumping that occurs at the site. No written comments were received during the public scoping period.

### AGENCY CONSULTATION AND COORDINATION

#### Section 106 of the National Historic Preservation Act

Pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR Part 800), NPS initiated consultation with the DC SHPO in a letter dated July 1, 2020. The letter briefly described the Project, defined the APE, and identified historic properties within the APE. No comments have been received from DC SHPO in response to the consultation initiation letter.

On May 17, 2021, the NPS sent an effects determination letter to the DC SHPO requesting concurrence that the Project would have no adverse effect on the Fort Circle Historic District and Suitland Parkway Historic District, and no effect on archeological resources, as none were identified in the Project area that were determined to be significant. The effects determination letter sent to DC SHPO is provided in **Appendix A**. The DC SHPO has not responded as of July 8, 2021.

#### Tribal Consultation

Tribal consultation initiation letters were sent to the Delaware Tribe of Indians, Pamunkey Indian Tribe, and Catawba Indian Nation on July 1, 2020. A response was received from the Pamunkey Indian Tribe on March 2, 2021, which stated that the Tribe had no comments but asked to be consulted in the event of inadvertent discovery of remains or sites of potential cultural significance.

Their correspondence is included in **Appendix A**. Responses have not been received from the Delaware Tribe or Catawba Nation.

### **Section 7 of the Endangered Species Act**

An official species list was obtained using the USFWS IPaC System on March 4, 2021 that identified the federally listed threatened northern long-eared bat as potentially occurring in the vicinity of the Project site. Coordination with the USFWS determined that, except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the Project area. The official species list obtained through the IPaC System and Online Certification Letter are in **Appendix A**.

### **List of Agencies and Stakeholders**

The following agencies and stakeholder organizations were contacted to request input on the Project as part of the NEPA and / or Section 106 of the National Historic Preservation Act compliance processes.

- DC SHPO
- Catawba Indian Tribe
- Delaware Tribe of Indians
- Pamunkey Indian Tribe
- DC Office of Planning
- DC Water
- DOEE, Water Resource Protection and Mitigation Branch
- DOEE, Fisheries and Wildlife Division, Wildlife Management Branch
- District Department of General Services
- DDOT
- Advisory Council on Historic Preservation
- National Capital Planning Commission
- US Army Corps of Engineers, Baltimore District
- ANC 8B
- ANC 8E
- District of Columbia Council
- Anacostia Riverkeeper
- Anacostia Watershed Community Advisory Committee
- Anacostia Watershed Society
- Anacostia Watershed Urban Waters Partnership
- Anacostia Coordinating Council
- Audubon Naturalist Society
- DC Preservation League
- National Trust for Historic Preservation
- RISE Academy
- Sierra Club
- Smithsonian Anacostia Community Museum
- Trout Unlimited
- Ward 8 Woods Conservancy, Inc.



## REFERENCES

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### Chesapeake Bay Program

- 2020 *Consensus Recommendations to Improve Protocols 2 and 3 for Defining Stream Restoration Pollutant Removal Credits*. Online: [https://www.chesapeakebay.net/documents/FINAL\\_Approved\\_Group\\_4\\_Memo\\_10.27.20.pdf](https://www.chesapeakebay.net/documents/FINAL_Approved_Group_4_Memo_10.27.20.pdf). Accessed March 19, 2021.

### DC Preservation League

- 1998 *Guidelines for Archaeological Investigations in the District of Columbia*. Online: [https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/DC%20Archaeology%20Guidelines%201998\\_1.pdf](https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/DC%20Archaeology%20Guidelines%201998_1.pdf). Accessed March 5, 2021.

### District Department of Energy and Environment (DOEE)

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- 2017 *Erosion and Sediment Control Manual*. Online: [https://doee.dc.gov/sites/default/files/dc/sites/ddoe/release\\_content/attachments/2017%20DC%20ESC%20Specifications%20Manual\\_08\\_2017.pdf](https://doee.dc.gov/sites/default/files/dc/sites/ddoe/release_content/attachments/2017%20DC%20ESC%20Specifications%20Manual_08_2017.pdf). Accessed May 6, 2021.
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### **District Department of Transportation (DDOT)**

- 2021 *DDOT Urban Forestry Division*. Online: <https://ddot-urban-forestry-dcgis.hub.arcgis.com/>.  
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### **Environmental Laboratory**

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### **Metropolitan Washington Council of Governments (MWCOC)**

- 2019 *Stickfoot Branch Technical Memorandum – Final DRAFT*.

### **National Park Service (NPS)**

- 2011 *Director's Order #12 and Handbook: Conservation Planning, Environmental Impacts  
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- 2019 National Capital Parks-East: Paleontological resources inventory. Natural Resource Report  
NPS/NACE/NRR—2019/1862. National Park Service, Fort Collins, Colorado.

**Stantec Consulting Services Inc.**

- 2020 Stickfoot Branch Watershed Project Wetland Delineation Report.
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**US Army Corps of Engineers (USACE)**

- 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.



Stickfoot Branch Stream Restoration Project  
Environmental Assessment  
July 2021



**APPENDIX A**  
**AGENCY CORRESPONDENCE**



## United States Department of the Interior

U.S. Fish & Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401  
410/573 4575



### Online Certification Letter

Today's date:

Project:

Dear Applicant for online certification:

Thank you for using the U.S. Fish and Wildlife Service (Service) Chesapeake Bay Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

Based on this information and in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), we certify that except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For additional information on threatened or endangered species in Maryland, you should contact the Maryland Wildlife and Heritage Division at (410) 260-8573. For information in Delaware you should contact the Delaware Division of Fish and Wildlife, Wildlife Species Conservation and Research Program at (302) 735-8658. For information in the District of Columbia, you should contact the National Park Service at (202) 339-8309.

The U.S. Fish and Wildlife Service also works with other Federal agencies and states to minimize loss of wetlands, reduce impacts to fish and migratory birds, including bald eagles, and restore habitat for wildlife. Information on these conservation issues and how development projects can avoid affecting these resources can be found on our website ([www.fws.gov/chesapeakebay](http://www.fws.gov/chesapeakebay))

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interest in these resources. If you have any questions or need further assistance, please contact Chesapeake Bay Field Office Threatened and Endangered Species program at (410) 573-4527.

Sincerely,

Genevieve LaRouche  
Field Supervisor



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Chesapeake Bay Ecological Services Field Office  
177 Admiral Cochrane Drive  
Annapolis, MD 21401-7307  
Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>

<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>



In Reply Refer To:

March 04, 2021

Consultation Code: 05E2CB00-2020-SLI-1304

Event Code: 05E2CB00-2021-E-01931

Project Name: Stickfoot Branch Stream Restoration Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.



A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

[www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html).

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Chesapeake Bay Ecological Services Field Office**

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

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## Project Summary

Consultation Code: 05E2CB00-2020-SLI-1304

Event Code: 05E2CB00-2021-E-01931

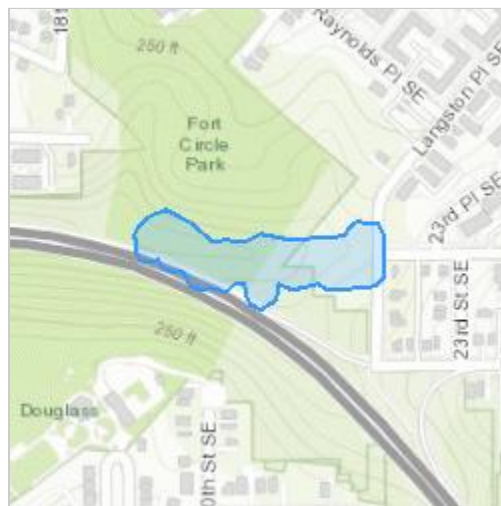
Project Name: Stickfoot Branch Stream Restoration Project

Project Type: STREAM / WATERBODY / CANALS / LEVEES / DIKES

Project Description: The National Park Service (NPS), in partnership with the District of Columbia Department of Energy and Environment (DOEE), proposes stream restoration activities in the vicinity of the Garfield Heights neighborhood in southeast Washington, DC. The proposed project would restore a 540 linear foot segment of Stickfoot Branch within NPS parkland administered by National Capital Parks – East. The restoration is needed to improve the long-term stability of Stickfoot Branch in support of the ongoing effort to achieve the Total Maximum Daily Load (TMDL) limits necessary to meet District water quality standards for the Anacostia River watershed. The restoration would reduce streambank erosion and channel bed incision, improve in-stream macroinvertebrate habitat, and manage invasive vegetation in the project area; while also ensuring the long-term protection and stabilization of existing sanitary and stormwater infrastructure; and minimizing impacts to natural and cultural resources. THE PROJECT IS ANTICIPATED TO REQUIRE ONLY SELECTIVE TREE REMOVAL OF LESS THAN 15 TREES GREATER THAN 5 INCHES DIAMETER AS WELL AS SOME UNDERSTORY VEGETATION.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.85401761229621,-76.9755992754897,14z>



Counties: District of Columbia County, District of Columbia

## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i>	Threatened
No critical habitat has been designated for this species.	
This species only needs to be considered under the following conditions:	
<ul style="list-style-type: none"> <li>Projects with a federal nexus that have tree clearing = to or &gt; 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key</li> </ul>	
Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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# USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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## Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

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# United States Department of the Interior

National Capital Parks-East  
NATIONAL PARK SERVICE  
Interior Region 1- National Capital Area  
1900 Anacostia Drive, S.E.  
Washington, D.C. 20020

IN REPLY REFER TO:

1.A.1 (NCR-NACE)

July 1, 2020

Mr. David Maloney  
State Historic Preservation Officer  
Historic Preservation Office  
District of Columbia Office of Planning  
1100 4<sup>th</sup> Street SW Suite E650  
Washington, DC 20024

Re: Initiation of Section 106 Consultation, Stickfoot Branch Watershed Project

Dear Mr. Maloney:

The National Park Service (NPS), in partnership with the District of Columbia District of Columbia Department of Energy and Environment (DOEE), proposes watershed restoration activities in the vicinity of the Fort Stanton and Garfield Heights neighborhoods of southeast Washington, DC. NPS is writing to formally initiate consultation with the District of Columbia State Historic Preservation Office (DC SHPO) in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

## Project Description and Background

The proposed project would restore approximately 800 linear feet of Stickfoot Branch, and 150 linear feet of an unnamed tributary, within NPS parkland administered by National Capital Parks – East (NACE). The restoration is needed to improve the long-term stability of Stickfoot Branch

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INTERIOR REGION 1 • NORTH ATLANTIC-APPALACHIAN

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS,  
NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, VERMONT,  
VIRGINIA, WEST VIRGINIA

in support of the ongoing effort to achieve the Total Maximum Daily Load (TMDL) limits necessary to meet District water quality standards for the Anacostia River watershed. The restoration would encourage functional uplift by reducing streambank erosion and channel bed incision to provide long-term stability, improving in-stream habitat, and managing invasive vegetation in the project area; while also ensuring the long-term protection of existing sanitary and stormwater infrastructure; and minimizing impacts to natural and cultural resources.

Stickfoot Branch is a tributary of the Anacostia River that is mostly piped beneath southeast DC neighborhoods. The stream begins within the Garfield Heights neighborhood and flows northwest where it drains to the Anacostia River at Poplar Point. Within the study area, the restoration reach (i.e. the segment of Stickfoot Branch proposed for restoration) begins within a 42-inch reinforced concrete pipe (RCP) that conveys Stickfoot Branch under 22<sup>nd</sup> Street SE west of Garfield Heights. The RCP remains mostly underground until it daylights approximately 300 feet west of the intersection of 22<sup>nd</sup> Street SE and Hartford Street SE and continues west into a 48-inch RCP that conveys Stickfoot Branch under Suitland Parkway. The project area is characterized by mature and mid-successional forest with steep valley slopes. A combination of excessive unmanaged stormwater flows from outfalls along Suitland Parkway and overland flow pathways, highly erodible soils, and invasive vegetation are contributing to the degradation of Stickfoot Branch and the surrounding parkland.

The project area also consists of three unnamed tributaries that flow into Stickfoot Branch. Tributary A flows from the north and into the main channel just downstream of the 42-inch RCP outfall. A severe headcut has formed at the confluence of Tributary A and Stickfoot Branch. Tributary B begins at an outfall on the north side of Suitland Parkway and flows for approximately 100 linear feet to Stickfoot Branch. The streambanks of Tributary B are eroding, and the channel is incised. In addition, a gully has formed above the 42-inch RCP outfall with intermittent flow originating at the toe of slope of 22<sup>nd</sup> Street SE. The gully has been created by severe erosion from runoff flowing over the curb due to clogged storm drains. A small intermittent tributary flows within the gully for approximately 300 linear feet and drains into Stickfoot Branch alongside the 42-inch RCP outfall. Maps of the study area are attached to this letter as Figures 1 and 2.



NPS and DOEE have identified a proposed design for the stream restoration that involves regenerative stormwater conveyance (RSC) and natural channel design (NRD) techniques. The proposed restoration design creates a new stream channel, either within or adjacent to the existing one, which is connected to the historic floodplain by filling the existing eroded stream channel to approximately pre-disturbance levels. This method of restoration facilitates raising the streambed to connect the historic floodplain within an alignment developed to limit grading and reduce tree impacts. Long-term channel stability is attained by dissipating energy on the floodplain and providing valley wide grade control using stone or woody debris material to prevent downcutting. Additionally, RSC techniques typically consist of a series of constructed pools, riffle grade controls, native vegetation, and a subsurface sand/woodchip filter media bed to promote surface and groundwater flow interchange.

#### Section 106 and Historic Properties

To prepare for the Section 106 consultation process, NPS has developed the enclosed list of potential consulting parties and a graphic illustration of the draft Area of Potential Effects (APE) provided as Figure 3. These items are intended as a basis for discussion and are subject to modification through the consultation process. The draft APE for direct (physical) effects is the area within the Limits of Disturbance (LOD) for construction of the restoration project, including construction staging areas and access. The draft APE for indirect (visual) effects was developed using a 100-foot buffer around the study area. This dimension was determined based on the areas from which the project site is reasonably visible. The APE was also extended into Garfield Heights to account for visibility from nearby residences.

A preliminary list of historic resources within the draft APE includes Fort Circle Historic District and Suitland Parkway Historic District, both listed in the National Register of Historic Places. Descriptions of these resources are attached to this letter and their boundaries are included on the draft APE map provided as Figure 3.

In addition, preliminary research has indicated intact historic ground surfaces on the terraces overlooking the stream. The location may have been favorable for short-term Native American resource extraction camps. A surface scatter of lithic artifacts was identified on a high terrace

overlooking the south bank of the stream, near the eastern end of the LOD. Review of historic maps suggests low potential for Historic period sites. Stantec Consulting Services Inc. (Stantec), on behalf of DOEE, has submitted an Archaeological Resources Protection Act (ARPA) permit application and associated work plan to NPS to complete Phase IB shovel testing within the study area. The work plan was submitted to NPS on May 20, 2020.

NPS will work with the DC SHPO and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

#### Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA) and in cooperation with DOEE, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed watershed restoration activities. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

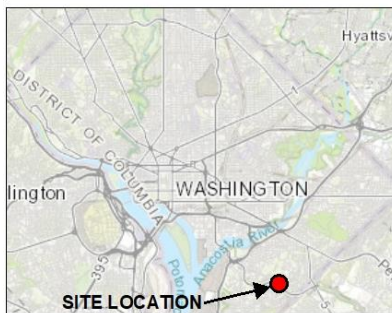
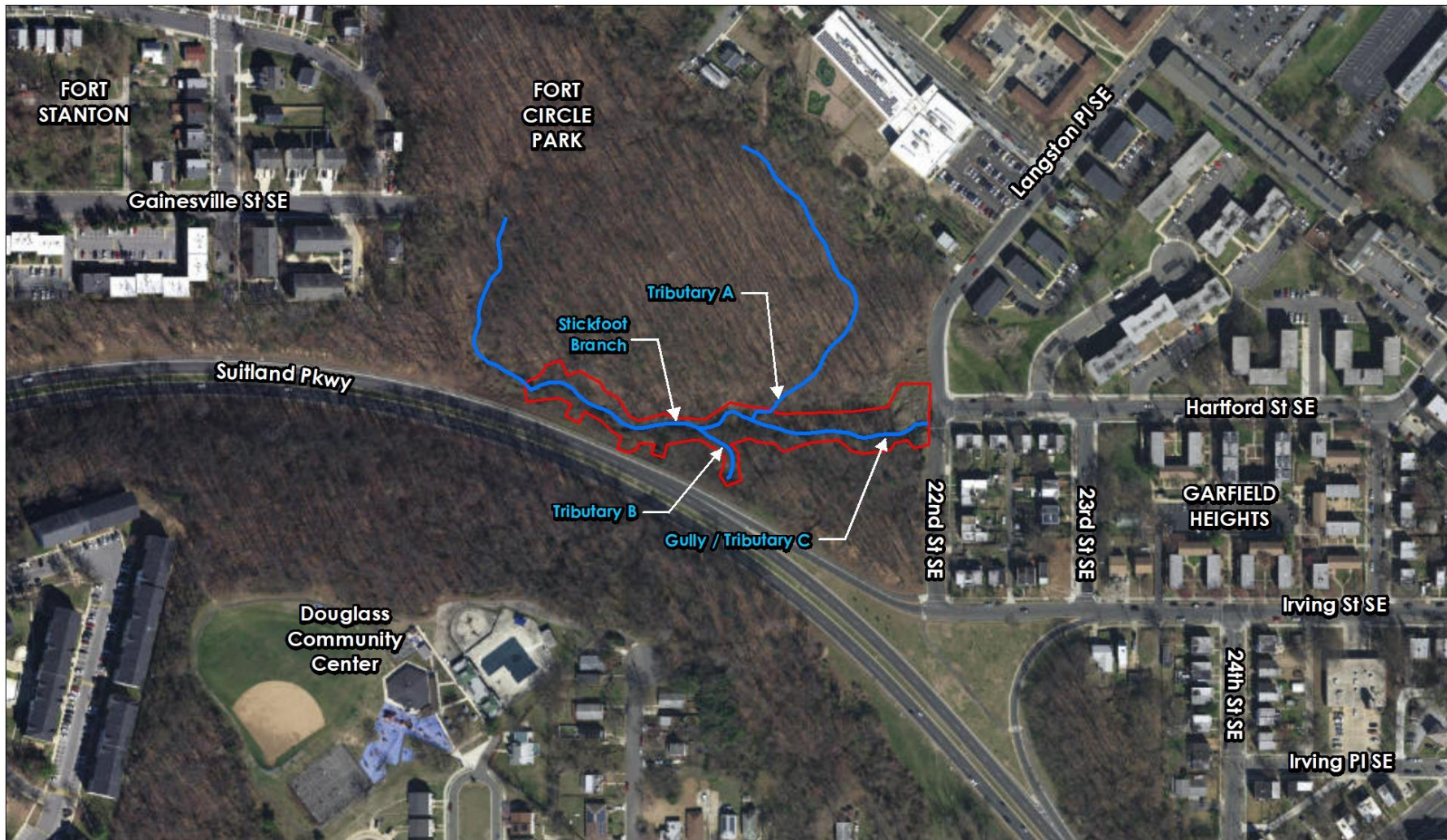
We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APEs, or historic properties, please contact Daniel Weldon, Cultural Resources Program Manager, at [daniel\\_weldon@nps.gov](mailto:daniel_weldon@nps.gov).

Sincerely,

*Brian D. Joyner* on behalf of  
Tara Morrison  
Superintendent

Enclosures:    Stickfoot Branch Watershed Project Study Area Map  
                    Stickfoot Branch Watershed Project Existing Conditions Map  
                    Draft Area of Potential Effects Map  
                    Preliminary Inventory of Historic Properties and Archaeological Resource  
                    Potential  
                    List of Potential Consulting Parties

cc:            Andrew Lewis, DC SHPO  
                Dr. Ruth Troccoli, DC SHPO  
                Michael Commisso, NPS, NACE  
                Daniel Weldon, NPS, NACE  
                Josh Burch, DOEE



- Stickfoot Branch Watershed Project Study Area
- Local Hydrography



0 250 500 Feet

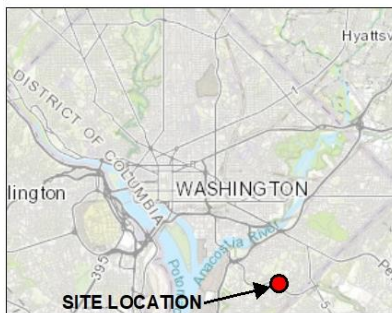
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**1**

Title  
**Study Area Map**







- Outfall
- Sewer Alignment (digitized)
- Stickfoot Branch Watershed Project Study Area
- Delineated Waterway
- Delineated Wetland
- Existing 10-foot Contours



0 100 200 Feet

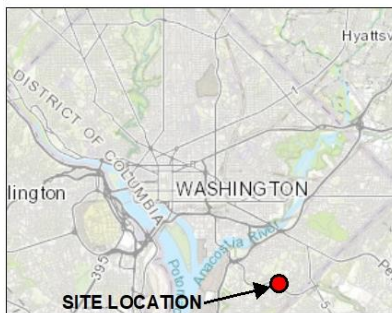
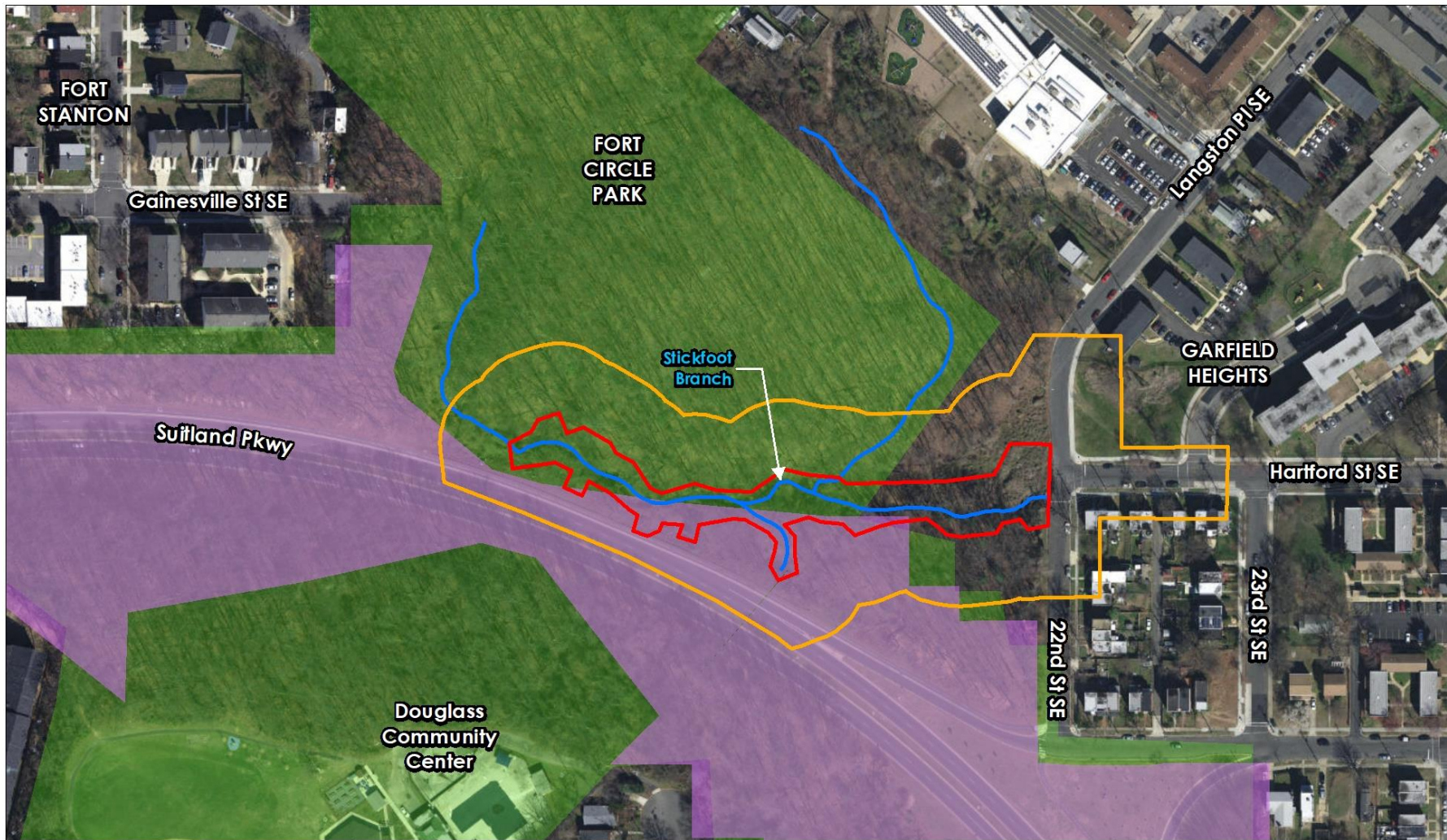
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**2**

Title  
**Existing Conditions Map**







- APE (Direct Effects)
- APE (Indirect Effects)
- Local Hydrography
- Suitland Parkway Historic District
- Fort Circle Historic District



0 250 500 Feet

Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**3**

Title  
**Area of Potential Effects Map**



## **Stickfoot Branch Watershed Project**

### **Preliminary Inventory of Historic Properties and Archaeological Resource Potential**

Upon initiation of Section 106 consultation, draft Areas of Potential Effects (APE) were identified to encompass a geographic area where the potential direct (physical) and indirect (visual) effects on historic properties and potentially significant archaeological resources may result (Figure 3). The draft direct APE was delineated to include the Limits of Disturbance (LOD), which includes construction staging and access. The draft indirect APE was delineated to include 100 feet on either side of the LOD, as well as any surrounding views and viewsheds. Identification of resources within the draft APEs was conducted through historical research and GIS mapping with data provided by the District of Columbia and review of existing documentation including the National Register of Historic Places, and DC Inventory of Historic Sites.

The boundaries of the draft APE encompass the Fort Circle Historic District and the Suitland Park Historic District. A summary of the designated historic districts within the draft APE is provided below.<sup>1</sup>

#### **Fort Circle Historic District**

The Stickfoot Branch Watershed Project study area is located within the Fort Circle Park System (Fort Circle) administered by NPS-NACE. Fort Circle is a ring of Civil War forts that surround the city of Washington, DC, to defend the United States capitol from Confederate forces during the Civil War. The historic district is also referred to as the Defenses of Washington and the Civil War Fort Sites. Fort Circle was listed in the DC Inventory of Historic Sites on November 8, 1964, amended June 19, 1973, and listed in the National Register of Historic Places on July 15, 1974, revised September 13, 1978. Batteries Kemble and Ricketts; and Forts Bayard, Bunker Hill, Carroll, Chaplin, Davis DeRussy, Dupont, Greble, Lincoln, Mahan, Reno, Slocum, Stanton, Stevens, and Totten; contribute to the significance of Fort Circle. The Period of Significance ranges from 1861 – 1865, but also includes 1902 and 1926, due to its association with the

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<sup>1</sup> All descriptions of properties were adapted from the *D.C. Inventory of Historic Sites, Alphabetical Version* (DC Historic Preservation Office, 2009) and their respective D.C. Inventory or National Register forms.

McMillan Plan and development of the proposed Fort Circle Drive Parkway. The Stickfoot Branch Watershed Project study area is south of Battery Ricketts and southeast of Fort Stanton, but there are no identified remaining features of the Battery or Fort in the study area.

### **Suitland Parkway Historic District**

Suitland Parkway, listed in the National Register of Historic Places in 1995, is adjacent to the Stickfoot Branch Watershed Project study area. The Period of Significance is 1942-1944. It is one of several parkways within the National Capital Region that make up the network of entryways into the Nation's capital. These parkways constructed between 1913 and 1965 include George Washington Memorial Parkway, Rock Creek and Potomac Parkway, and Baltimore-Washington Parkway. Suitland Parkway, constructed between 1942 and 1944, consists of 9.18 miles of roadway designed to improve transportation for defense industry employees during World War II between Maryland and Washington, DC. The landscape architecture, integrity of topography, design, and transportation-related infrastructure such as bridges, culverts, and drainage features contribute to the Parkway's significance.

### **Archaeological Resource Potential**

No previously recorded sites have been identified within the draft APE. Preliminary research has included historical map review, an elevation change analysis, and excavation of geophysical hand-augered cores to determine the potential for archaeological resources within the APE. Historical research suggests that the project area was not developed in the historic period. No structures are present on any nineteenth or twentieth century maps. While the area was near Fort Stanton and Battery Ricketts (also known as Fort Ricketts), which were constructed as part of the Civil War defenses of Washington, the 1865 Barnard and Boschke map shows no defensive works within or adjacent to the APE.

The elevation change analysis suggests that as much as 20 feet of fill can be expected at the northeastern edge of the APE. This area equates to the location of a former tributary of Stickfoot Branch depicted on nineteenth century maps. The tributary was re-routed in the mid-twentieth century when the surrounding area was developed. Within the western two-thirds of the APE, at least 10 feet of fill associated with the road prism or apron of Suitland Parkway can be expected

along the southern boundary. The remainder of the APE evidences little to no elevation change.

Intact Precontact Native American archaeological resources may potentially be present.

Five soil borings placed at terrace locations were retrieved during the geoarchaeological investigations. Intact buried land surfaces were encountered between 4 inches and 3 feet of fill in four of the five borings. One boring was obstructed by an existing 42-inch storm sewer pipe along the northern bank of the stream. Also, a small assemblage of lithic debris potentially related to Native American activity was recorded on the surface near the southern edge of the APE, on a terrace overlooking the southern bank of the stream.



## Stickfoot Branch Watershed Project

### Potential Consulting Parties List

Cooperating Parties	National Park Service, National Capital Parks – East DC Department of Energy and Environment
THPO	Delaware Nation Delaware Tribe of Indians Pamunkey Indian Tribe Catawba Indian Nation
SHPO	DC State Historic Preservation Officer
Representatives of Local Governments	Advisory Neighborhood Commission 8B Mayor of the District of Columbia Council of the District of Columbia
Additional Consulting Parties	National Trust for Historic Preservation National Capital Planning Commission DC Preservation League



# United States Department of the Interior

National Capital Parks-East  
NATIONAL PARK SERVICE  
Interior Region 1- National Capital Area  
1900 Anacostia Drive, S.E.  
Washington, D.C. 20020

IN REPLY REFER TO:  
I.A.1 (NCA-NACE)

May 17, 2021

Mr. David Maloney  
State Historic Preservation Officer  
Historic Preservation Office  
D.C. Office of Planning  
1100 4<sup>th</sup> Street SW, Suite E650  
Washington, D.C. 20024

Dear Mr. Maloney:

The National Park Service (NPS), in partnership with the District of Columbia Department of Energy and Environment (DOEE), is proposing stream restoration activities for Stickfoot Branch. The proposed Stickfoot Branch Stream Restoration Project (the Project) is in Ward 8 in the vicinity of the Garfield Heights neighborhood of southeast Washington, DC. The Project involves restoration of approximately 800 linear feet of Stickfoot Branch, and 140 linear feet of an unnamed tributary, within parkland administered by National Capital Parks – East (NACE) located west of 22nd Street SE near its intersection with Hartford Street SE and Langston Place SE (Figure 1).

## **Description of the Undertaking Relevant to Section 106 of the National Historic Preservation Act and Potential Effects to Historic Properties**

The purpose of the restoration is to reduce streambank erosion and channel bed incision; improve in-stream habitat; manage invasive vegetation in the project area; ensure the long-term protection of existing sanitary and stormwater infrastructure; and minimize impacts to natural and cultural resources. The restoration is needed to improve the long-term stability of Stickfoot Branch and downstream water quality in support of the ongoing efforts to achieve District water quality standards for the Anacostia River watershed.

The proposed approach to restore Stickfoot Branch involves natural channel design techniques modified for an urban stream system. The proposed restoration design creates a new stream channel that is higher in elevation than the existing channel to reconnect the stream to the floodplain. This approach allows stream flow during storm events to spill out over the floodplain, which reduces the energy within the channel and the erosional forces that cause stream degradation. The existing channel may be used in conjunction with clean water diversion techniques to maintain stream flow during construction but would then be filled in as part of the floodplain. The new channel would be designed using a roughened channel approach that includes a series of rock sills, pools, boulder clusters, and other stream bed material to mimic the appearance and function of a natural stream channel. The rock sills act as grade control structures to prevent the stream channel from downcutting or eroding. The proposed design also

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### INTERIOR REGION 1 • NORTH ATLANTIC-APPALACHIAN

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS,  
NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, VERMONT,  
VIRGINIA, WEST VIRGINIA

incorporates stable tie-ins to prevent headcuts from forming at the tributaries and stormwater outfalls along Suitland Parkway.

Additionally, the proposed design incorporates measures to protect existing sewer system infrastructure that cross underneath the stream channel, as well as modifications to existing storm water pipes, that would be integrated into the stream design. Additionally, a large segment of Stickfoot Branch would be daylighted by removing a 275-foot section of the existing pipe that conveys the stream under 22nd Street SE and into the Project site. The new daylighted stream segment would be restored using the natural channel design techniques described above.

The proposed stream channel would be aligned through the Project site to minimize tree removal. After construction is completed, DOEE would stabilize disturbed areas with native vegetation and would replace any trees removed during construction with species and quantities negotiated with NPS. DOEE would also implement an invasive species management program on the site to remove kudzu and prevent the introduction of other non-native invasive plants following construction. It is anticipated that special conditions of permits to be obtained for the Project will require DOEE to conduct post-construction monitoring of the success of the Project and perform any necessary remedial actions.

A concept rendering of the proposed restoration design is attached (Figure 2) and the complete preliminary design plan set is also being sent with this letter as a separate file.

### **Project Area and Area of Potential Effect**

Stickfoot Branch is a perennial tributary of the Anacostia River that is mostly piped beneath southeast DC neighborhoods. The stream begins within the Garfield Heights neighborhood and flows northwest where it drains to the Anacostia River at Poplar Point. The restoration reach (i.e., the segment of the stream proposed for restoration) is one of only a few natural stream channel segments along Stickfoot Branch. The study area is characterized by mature and mid-successional forest with steep valley slopes.

The APE for this Project (Figure 3), presented in the Section 106 consultation initiation letter dated July 1, 2020, identified both direct and indirect APEs. Direct effects would be limited to the Project area and the area of potential indirect effects was developed using a 100-foot buffer around the tributary. This dimension was determined based on the areas from which the Project site is reasonably visible for indirect effects. Historic properties listed in the National Register of Historic Places within the APE include Fort Circle Historic District and Suitland Parkway Historic District. There are no contributing man-made resources of the Fort Circle Historic District within the APE, and there are no contributing man-made resources of the Suitland Parkway Historic District within the direct APE, which represents the Limits of Disturbance (LOD) of the Project.

Under contract to DOEE, Stantec Consulting Services Inc. (Stantec) conducted a Phase IA-level archaeological desktop assessment and field investigations to evaluate the cultural resource potential within the Project area in early 2020. The archaeological assessment was conducted in accordance with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 1983) and the DC Preservation League's *Guidelines for Archaeological Investigations in the District of Columbia* (DC SHPO and DC Historic Preservation Review Board 2018). The results of Stantec's Phase IA-level assessment confirmed that there was a high potential for archaeological resources within undisturbed portions of the APE. Stantec then obtained an Archaeological Resources Protection Act (ARPA) permit from NPS to complete Phase IB shovel test pit (STP) excavations in August 2020. Investigations revealed that Precontact period Native Americans utilized the terraces overlooking Stickfoot Branch in a limited fashion. One isolated flake and one small Precontact Period Native American lithic scatter site were recorded during the survey. Stantec recommended the site is considered as not eligible for listing in the National Register of Historic Places. No evidence of Historic

period use of the Project area was observed. Stantec therefore recommended that no further archaeological investigations or oversight is required for the Project.

### **Effects on Cultural Resources**

#### Historic Structures and Districts

The project consists of restoration activities that would stabilize Stickfoot Branch and substantially reduce the ongoing degradation of the landscape that has been occurring due to stream channel instability and erosion. Additionally, the NPS has worked closely with DOEE to develop an approach to the restoration design that would minimize impacts to trees. Currently, less than 15 trees with a diameter of five inches or greater would be removed to construct the Project. The trees that are unavoidable are not concentrated in one location but are spread throughout the Project area on both the right and left streambanks. Little to no gaps in the tree line would be created that would cause noticeable effects to viewsheds from Suitland Parkway Historic District or the setting of Fort Circle Historic District. Following the restoration, trees would be planted to compensate for those removed during construction and the disturbed portions of the Project area would be stabilized with native vegetation and other plantings. The NPS and DOEE would plant trees at locations with less vegetative density to fill in any small gaps to further reduce effects to Fort Circle Historic District and Suitland Parkway Historic District.

#### Archaeological Resources

Based on results of Phase I archaeological investigations, no significant archaeological resources exist within the Project area and NPS recommends no further investigations or oversight. A combined Phase I archaeological resources report was submitted to SHPO requesting concurrence with these recommendations on February 12, 2021.

### **Public Involvement**

A public scoping comment period was conducted to comply with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act from February 24 – March 26, 2021. A public meeting was also conducted on February 24, 2021 from 6:30 p.m. to 8:30 p.m. using the Cisco WebEx virtual platform. No historic preservation issues or concerns were raised by the public during the meeting or the comment period regarding the Stickfoot Branch Stream Restoration Project.

### **Consultation**

Pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800) “Protection of Historic Properties” (Section 106), NPS initiated consultation with the District of Columbia State Historic Preservation Office (DC SHPO) in a letter dated July 1, 2020. The letter briefly described the project, defined an Area of Potential Effects (APE), and identified historic properties within the APE. Consultation initiation letters were sent concurrently to Delaware Tribe of Indians, Pamunkey Indian Tribe, and Catawba Indian Nation on July 1, 2020. No comments have been received from DC SHPO. A response was received from the Pamunkey Indian Tribe on March 2, 2021, which stated that the Tribe had no comments but asked to be consulted in the event of inadvertent discovery of remains or sites of potential cultural significance. Responses have not been received from the Delaware Tribe or Catawba Nation.

### **Finding of Effects**

The NPS has evaluated the stream restoration design and has made the determination that the proposed work would not diminish the character-defining features of the historic districts in the APE. After applying the criteria of adverse effect as found in 36 CFR 800.50(a)(1), NPS has determined that the Project will have No Adverse Effect on the historic districts. The proposed work is in accordance with 36 CFR Part 68, The Secretary of the Interior’s *Standards for the Treatment of Historic Properties*. Additionally, the NPS has determined that the proposed stream restoration would have No Effect on

archaeological resources, as none were identified in the Project area that were determined to be significant.

Please provide your concurrence with these determinations, or any comments or questions you have regarding the Project, in a timely manner, to Daniel Weldon, Cultural Resources Program Manager, at [daniel\\_weldon@nps.gov](mailto:daniel_weldon@nps.gov).

Sincerely,

ANN  
HONIOUS



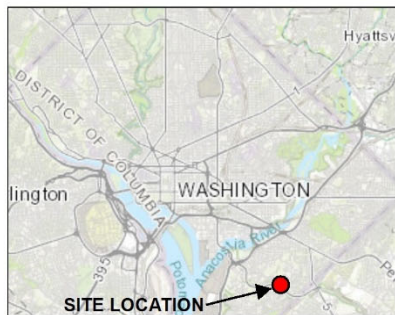
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Tara Morrison  
Superintendent

Enclosures: Study Area Map, Restoration Design Concept Diagram, APE Map

cc: Andrew Lewis, DC SHPO  
Dr. Ruth Troccoli, DC SHPO  
Daniel Weldon, NPS, NACE  
Josh Burch, DOEE





- Stickfoot Branch Stream Restoration Project Study Area
- Streams / Drainageways
- Existing Outfalls
- ➔ Stream Flow Direction



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DEPARTMENT  
OF ENERGY &  
ENVIRONMENT  
GOVERNMENT OF THE DISTRICT OF COLUMBIA



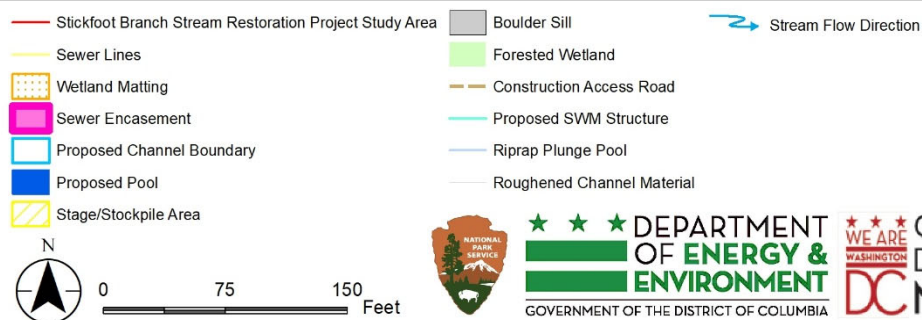
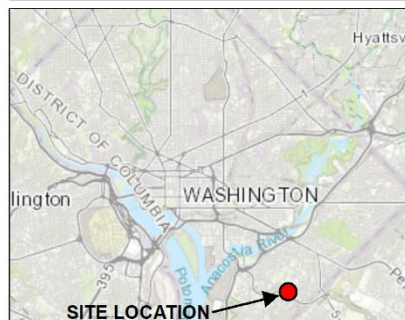
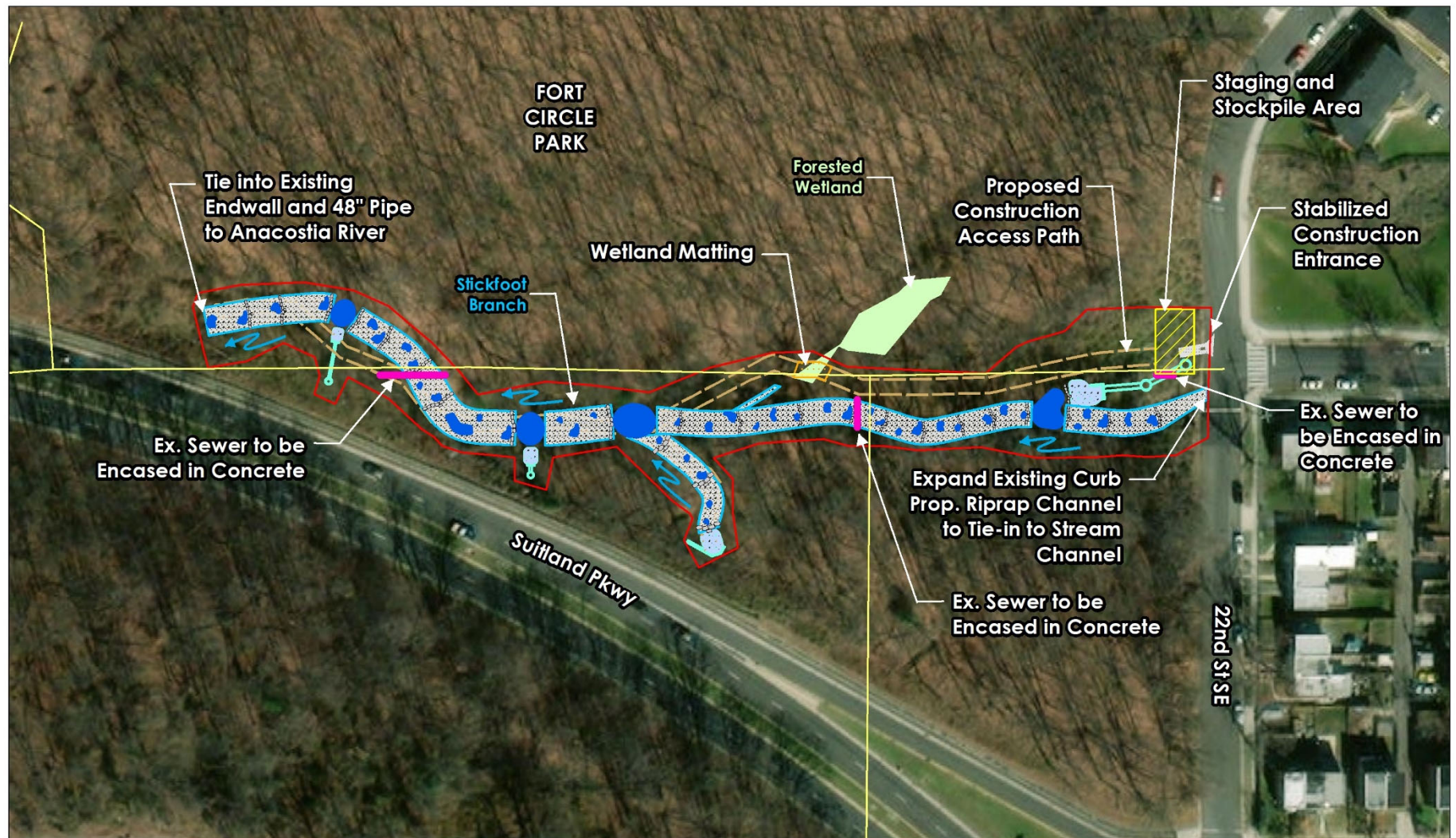
GOVERNMENT OF THE  
DISTRICT OF COLUMBIA  
MURIEL BOWSER, MAYOR

Project  
**Stickfoot Branch  
Stream Restoration Project**

Figure No.  
**1**

Title  
**Study Area Map**





Project  
**Stickfoot Branch Stream Restoration Project**

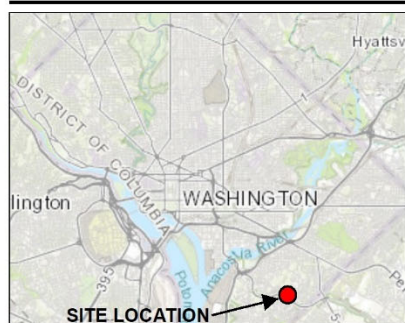
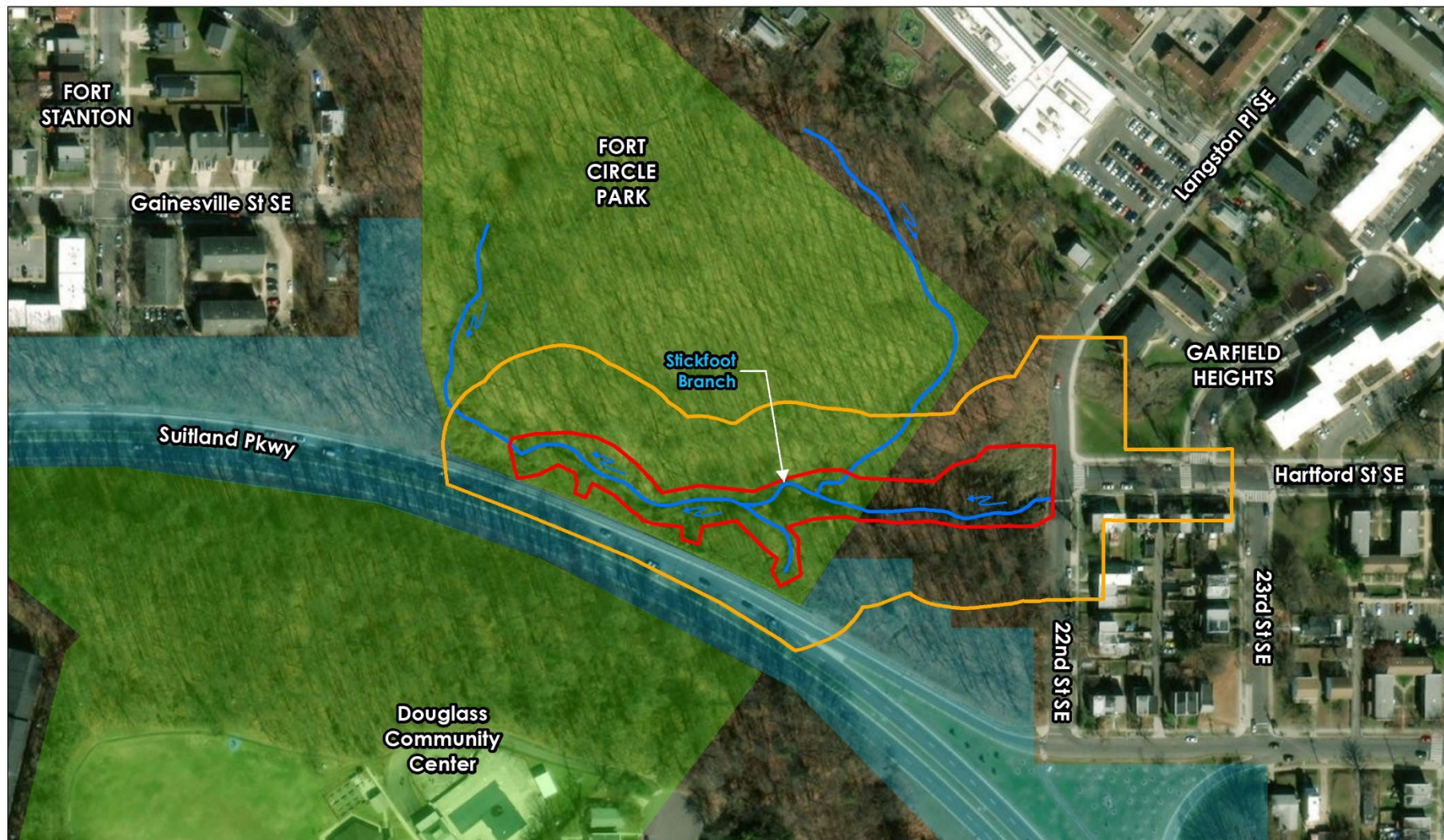
Figure No.  
**2**

Title  
**Concept Diagram**

**DEPARTMENT OF ENERGY & ENVIRONMENT**  
 GOVERNMENT OF THE DISTRICT OF COLUMBIA

**GOVERNMENT OF THE DISTRICT OF COLUMBIA**  
**MURIEL BOWSER, MAYOR**





- APE (Direct Effects)
- APE (Indirect Effects)
- Streams / Drainageways
- Suitland Parkway Historic District
- Fort Circle Historic District



0 150 300 Feet

→ Stream Flow Direction

Project

**Stickfoot Branch  
Stream Restoration Project**

Figure No.

**3**

Title

**Area of Potential Effects Map**



★ ★ ★ DEPARTMENT  
OF ENERGY &  
ENVIRONMENT  
GOVERNMENT OF THE DISTRICT OF COLUMBIA



GOVERNMENT OF THE  
DISTRICT OF COLUMBIA  
**MURIEL BOWSER, MAYOR**



# United States Department of the Interior

National Capital Parks-East  
NATIONAL PARK SERVICE  
Interior Region 1- National Capital Area  
1900 Anacostia Drive, S.E.  
Washington, D.C. 20020

IN REPLY REFER TO:

1.A.1 (NCR-NACE)

July 1, 2020

Dr. Wenonah G. Haire  
Tribal Historic Preservation Officer  
Catawba Indian Nation  
1536 Tom Steven Road  
Rock Hill, SC 29730  
[wenonahh@ccppcrafts.com](mailto:wenonahh@ccppcrafts.com)

Re: Initiation of Section 106 Consultation, Stickfoot Branch Watershed Project

Dear Dr. Haire:

The National Park Service (NPS), in partnership with the District of Columbia District of Columbia Department of Energy and Environment (DOEE), proposes watershed restoration activities in the vicinity of the Fort Stanton and Garfield Heights neighborhoods of southeast Washington, DC. NPS is writing to formally initiate consultation with the Catawba Indian Nation in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

## Project Description and Background

The proposed project would restore approximately 800 linear feet of Stickfoot Branch, and 150 linear feet of an unnamed tributary, within NPS parkland administered by National Capital Parks – East (NACE). The restoration is needed to improve the long-term stability of Stickfoot Branch in support of the ongoing effort to achieve the Total Maximum Daily Load (TMDL) limits

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INTERIOR REGION 1 • NORTH ATLANTIC-APPALACHIAN

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS,  
NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, VERMONT,  
VIRGINIA, WEST VIRGINIA

necessary to meet District water quality standards for the Anacostia River watershed. The restoration would encourage functional uplift by reducing streambank erosion and channel bed incision to provide long-term stability, improving in-stream habitat, and managing invasive vegetation in the project area; while also ensuring the long-term protection of existing sanitary and stormwater infrastructure; and minimizing impacts to natural and cultural resources.

Stickfoot Branch is a tributary of the Anacostia River that is mostly piped beneath southeast DC neighborhoods. The stream begins within the Garfield Heights neighborhood and flows northwest where it drains to the Anacostia River at Poplar Point. Within the study area, the restoration reach (i.e. the segment of Stickfoot Branch proposed for restoration) begins within a 42-inch reinforced concrete pipe (RCP) that conveys Stickfoot Branch under 22<sup>nd</sup> Street SE west of Garfield Heights. The RCP remains mostly underground until it daylights approximately 300 feet west of the intersection of 22<sup>nd</sup> Street SE and Hartford Street SE and continues west into a 48-inch RCP that conveys Stickfoot Branch under Suitland Parkway. The project area is characterized by mature and mid-successional forest with steep valley slopes. A combination of excessive unmanaged stormwater flows from outfalls along Suitland Parkway and overland flow pathways, highly erodible soils, and invasive vegetation are contributing to the degradation of Stickfoot Branch and the surrounding parkland.

The project area also consists of three unnamed tributaries that flow into Stickfoot Branch. Tributary A flows from the north and into the main channel just downstream of the 42-inch RCP outfall. A severe headcut has formed at the confluence of Tributary A and Stickfoot Branch. Tributary B begins at an outfall on the north side of Suitland Parkway and flows for approximately 100 linear feet to Stickfoot Branch. The streambanks of Tributary B are eroding, and the channel is incised. In addition, a gully has formed above the 42-inch RCP outfall with intermittent flow originating at the toe of slope of 22<sup>nd</sup> Street SE. The gully has been created by severe erosion from runoff flowing over the curb due to clogged storm drains. A small intermittent tributary flows within the gully for approximately 300 linear feet and drains into Stickfoot Branch alongside the 42-inch RCP outfall. Maps of the study area are attached to this letter as Figures 1 and 2.



NPS and DOEE have identified a proposed design for the stream restoration that involves regenerative stormwater conveyance (RSC) and natural channel design (NRD) techniques. The proposed restoration design creates a new stream channel, either within or adjacent to the existing one, which is connected to the historic floodplain by filling the existing eroded stream channel to approximately pre-disturbance levels. This method of restoration facilitates raising the streambed to connect the historic floodplain within an alignment developed to limit grading and reduce tree impacts. Long-term channel stability is attained by dissipating energy on the floodplain and providing valley wide grade control using stone or woody debris material to prevent downcutting. Additionally, RSC techniques typically consist of a series of constructed pools, riffle grade controls, native vegetation, and a subsurface sand/woodchip filter media bed to promote surface and groundwater flow interchange.

#### Section 106 and Historic Properties

To prepare for the Section 106 consultation process, NPS has developed the enclosed list of potential consulting parties and a graphic illustration of the draft Area of Potential Effects (APE) provided as Figure 3. These items are intended as a basis for discussion and are subject to modification through the consultation process. The draft APE for direct (physical) effects is the area within the Limits of Disturbance (LOD) for construction of the restoration project, including construction staging areas and access. The draft APE for indirect (visual) effects was developed using a 100-foot buffer around the study area. This dimension was determined based on the areas from which the project site is reasonably visible. The APE was also extended into Garfield Heights to account for visibility from nearby residences.

A preliminary list of historic resources within the draft APE includes Fort Circle Historic District and Suitland Parkway Historic District, both listed in the National Register of Historic Places. Descriptions of these resources are attached to this letter and their boundaries are included on the draft APE map provided as Figure 3.

In addition, preliminary research has indicated intact historic ground surfaces on the terraces overlooking the stream. The location may have been favorable for short-term Native American resource extraction camps. A surface scatter of lithic artifacts was identified on a high terrace

overlooking the south bank of the stream, near the eastern end of the LOD. Review of historic maps suggests low potential for Historic period sites. Stantec Consulting Services Inc. (Stantec), on behalf of DOEE, has submitted an Archaeological Resources Protection Act (ARPA) permit application and associated work plan to NPS to complete Phase IB shovel testing within the study area. The work plan was submitted to NPS on May 20, 2020.

NPS will work with the DC SHPO and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

#### Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA) and in cooperation with DOEE, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed watershed restoration activities. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

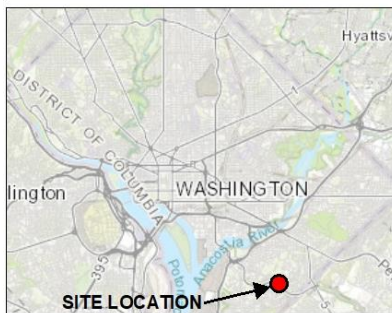
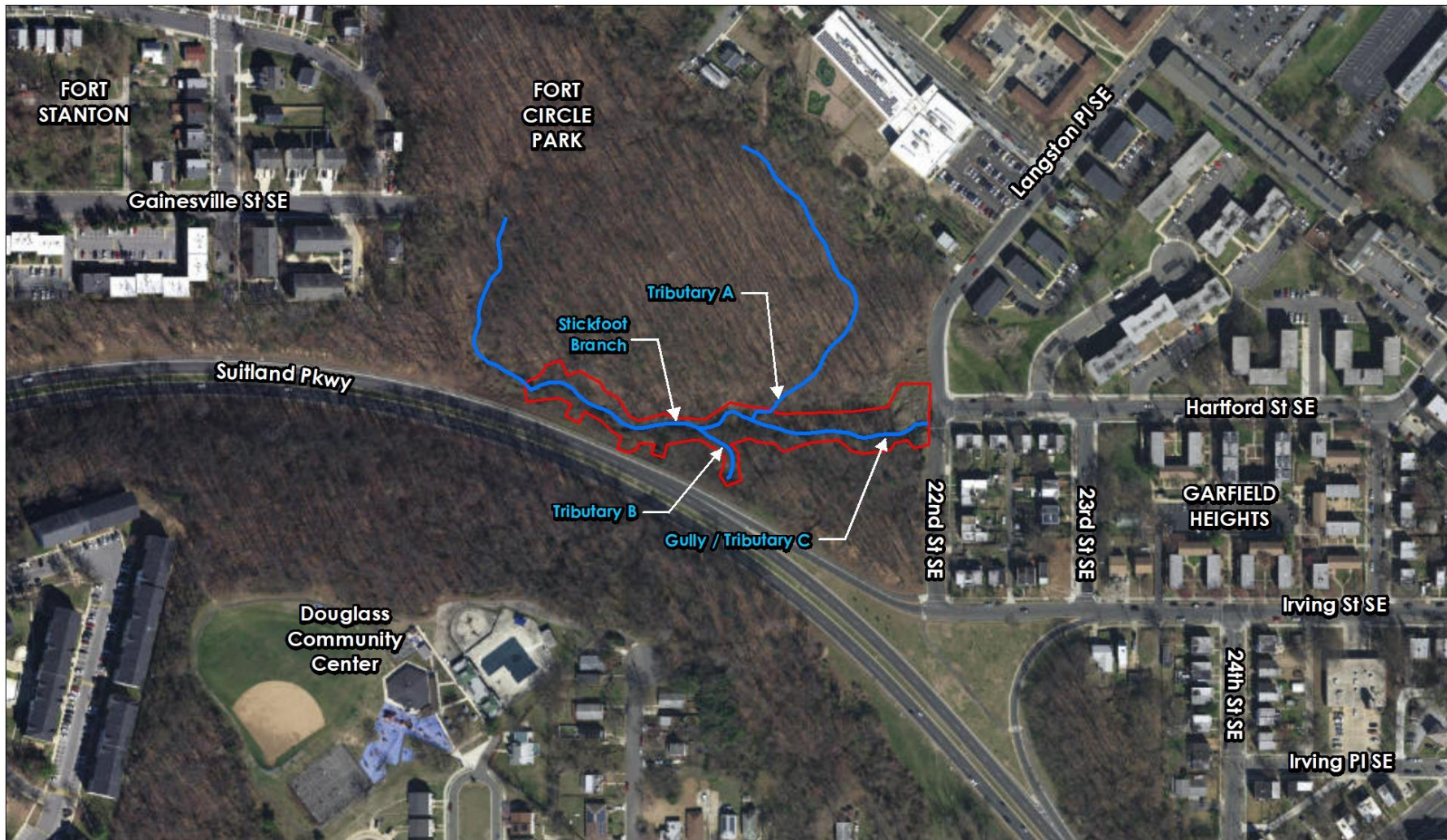
We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APEs, or historic properties, please contact Daniel Weldon, Cultural Resources Program Manager, at [daniel\\_weldon@nps.gov](mailto:daniel_weldon@nps.gov).

Sincerely,

*Brian D. Joyner* on behalf of  
Tara Morrison  
Superintendent

Enclosures:    Stickfoot Branch Watershed Project Study Area Map  
                    Stickfoot Branch Watershed Project Existing Conditions Map  
                    Draft Area of Potential Effects Map  
                    Preliminary Inventory of Historic Properties and Archaeological Resource  
                    Potential  
                    List of Potential Consulting Parties

cc:            Andrew Lewis, DC SHPO  
                Dr. Ruth Troccoli, DC SHPO  
                Michael Commisso, NPS, NACE  
                Daniel Weldon, NPS, NACE  
                Josh Burch, DOEE



- Stickfoot Branch Watershed Project Study Area
- Local Hydrography



0 250 500 Feet

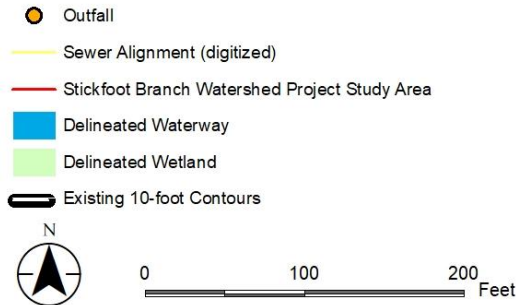
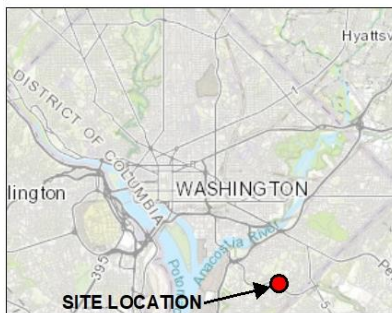
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**1**

Title  
**Study Area Map**







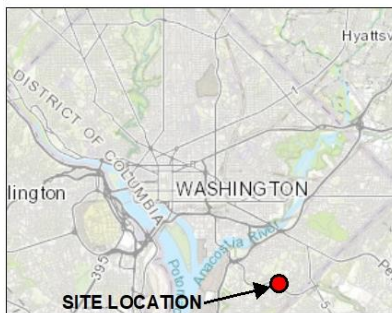
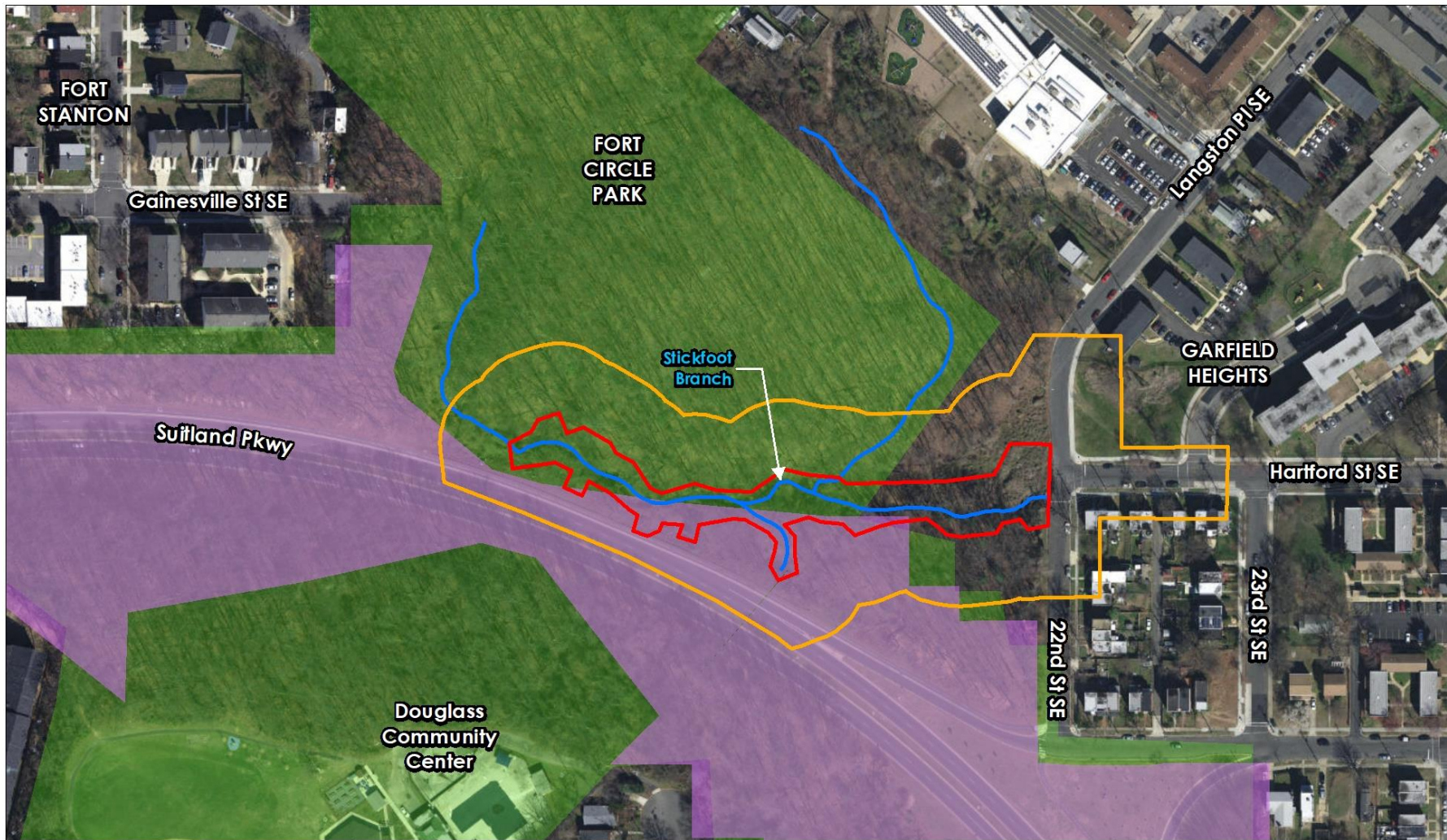
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**2**

Title  
**Existing Conditions Map**







- APE (Direct Effects)
- APE (Indirect Effects)
- Local Hydrography
- Suitland Parkway Historic District
- Fort Circle Historic District



0 250 500 Feet

Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**3**

Title  
**Area of Potential Effects Map**



## **Stickfoot Branch Watershed Project**

### **Preliminary Inventory of Historic Properties and Archaeological Resource Potential**

Upon initiation of Section 106 consultation, draft Areas of Potential Effects (APE) were identified to encompass a geographic area where the potential direct (physical) and indirect (visual) effects on historic properties and potentially significant archaeological resources may result (Figure 3). The draft direct APE was delineated to include the Limits of Disturbance (LOD), which includes construction staging and access. The draft indirect APE was delineated to include 100 feet on either side of the LOD, as well as any surrounding views and viewsheds. Identification of resources within the draft APEs was conducted through historical research and GIS mapping with data provided by the District of Columbia and review of existing documentation including the National Register of Historic Places, and DC Inventory of Historic Sites.

The boundaries of the draft APE encompass the Fort Circle Historic District and the Suitland Park Historic District. A summary of the designated historic districts within the draft APE is provided below.<sup>1</sup>

#### **Fort Circle Historic District**

The Stickfoot Branch Watershed Project study area is located within the Fort Circle Park System (Fort Circle) administered by NPS-NACE. Fort Circle is a ring of Civil War forts that surround the city of Washington, DC, to defend the United States capitol from Confederate forces during the Civil War. The historic district is also referred to as the Defenses of Washington and the Civil War Fort Sites. Fort Circle was listed in the DC Inventory of Historic Sites on November 8, 1964, amended June 19, 1973, and listed in the National Register of Historic Places on July 15, 1974, revised September 13, 1978. Batteries Kemble and Ricketts; and Forts Bayard, Bunker Hill, Carroll, Chaplin, Davis DeRussy, Dupont, Greble, Lincoln, Mahan, Reno, Slocum, Stanton, Stevens, and Totten; contribute to the significance of Fort Circle. The Period of Significance ranges from 1861 – 1865, but also includes 1902 and 1926, due to its association with the

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McMillan Plan and development of the proposed Fort Circle Drive Parkway. The Stickfoot Branch Watershed Project study area is south of Battery Ricketts and southeast of Fort Stanton, but there are no identified remaining features of the Battery or Fort in the study area.

### **Suitland Parkway Historic District**

Suitland Parkway, listed in the National Register of Historic Places in 1995, is adjacent to the Stickfoot Branch Watershed Project study area. The Period of Significance is 1942-1944. It is one of several parkways within the National Capital Region that make up the network of entryways into the Nation's capital. These parkways constructed between 1913 and 1965 include George Washington Memorial Parkway, Rock Creek and Potomac Parkway, and Baltimore-Washington Parkway. Suitland Parkway, constructed between 1942 and 1944, consists of 9.18 miles of roadway designed to improve transportation for defense industry employees during World War II between Maryland and Washington, DC. The landscape architecture, integrity of topography, design, and transportation-related infrastructure such as bridges, culverts, and drainage features contribute to the Parkway's significance.

### **Archaeological Resource Potential**

No previously recorded sites have been identified within the draft APE. Preliminary research has included historical map review, an elevation change analysis, and excavation of geophysical hand-augered cores to determine the potential for archaeological resources within the APE. Historical research suggests that the project area was not developed in the historic period. No structures are present on any nineteenth or twentieth century maps. While the area was near Fort Stanton and Battery Ricketts (also known as Fort Ricketts), which were constructed as part of the Civil War defenses of Washington, the 1865 Barnard and Boschke map shows no defensive works within or adjacent to the APE.

The elevation change analysis suggests that as much as 20 feet of fill can be expected at the northeastern edge of the APE. This area equates to the location of a former tributary of Stickfoot Branch depicted on nineteenth century maps. The tributary was re-routed in the mid-twentieth century when the surrounding area was developed. Within the western two-thirds of the APE, at least 10 feet of fill associated with the road prism or apron of Suitland Parkway can be expected

along the southern boundary. The remainder of the APE evidences little to no elevation change.

Intact Precontact Native American archaeological resources may potentially be present.

Five soil borings placed at terrace locations were retrieved during the geoarchaeological investigations. Intact buried land surfaces were encountered between 4 inches and 3 feet of fill in four of the five borings. One boring was obstructed by an existing 42-inch storm sewer pipe along the northern bank of the stream. Also, a small assemblage of lithic debris potentially related to Native American activity was recorded on the surface near the southern edge of the APE, on a terrace overlooking the southern bank of the stream.

## Stickfoot Branch Watershed Project

### Potential Consulting Parties List

Cooperating Parties	National Park Service, National Capital Parks – East DC Department of Energy and Environment
THPO	Delaware Nation Delaware Tribe of Indians Pamunkey Indian Tribe Catawba Indian Nation
SHPO	DC State Historic Preservation Officer
Representatives of Local Governments	Advisory Neighborhood Commission 8B Mayor of the District of Columbia Council of the District of Columbia
Additional Consulting Parties	National Trust for Historic Preservation National Capital Planning Commission DC Preservation League





# United States Department of the Interior

National Capital Parks-East  
NATIONAL PARK SERVICE  
Interior Region 1- National Capital Area  
1900 Anacostia Drive, S.E.  
Washington, D.C. 20020

IN REPLY REFER TO:

1.A.1 (NCR-NACE)

July 1, 2020

Dr. Brice Obermeyer

Director

Delaware Tribe Historic Preservation Office

Roosevelt Hall, Room 212

1200 Commercial Street

Emporia, KS 66801

[bobermeyer@delawaretribe.org](mailto:bobermeyer@delawaretribe.org)

Re: Initiation of Section 106 Consultation, Stickfoot Branch Watershed Project

Dear Dr. Obermeyer:

The National Park Service (NPS), in partnership with the District of Columbia District of Columbia Department of Energy and Environment (DOEE), proposes watershed restoration activities in the vicinity of the Fort Stanton and Garfield Heights neighborhoods of southeast Washington, DC. NPS is writing to formally initiate consultation with the Delaware Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

## Project Description and Background

The proposed project would restore approximately 800 linear feet of Stickfoot Branch, and 150 linear feet of an unnamed tributary, within NPS parkland administered by National Capital Parks – East (NACE). The restoration is needed to improve the long-term stability of Stickfoot Branch

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INTERIOR REGION 1 • NORTH ATLANTIC-APPALACHIAN

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS,  
NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, VERMONT,  
VIRGINIA, WEST VIRGINIA

in support of the ongoing effort to achieve the Total Maximum Daily Load (TMDL) limits necessary to meet District water quality standards for the Anacostia River watershed. The restoration would encourage functional uplift by reducing streambank erosion and channel bed incision to provide long-term stability, improving in-stream habitat, and managing invasive vegetation in the project area; while also ensuring the long-term protection of existing sanitary and stormwater infrastructure; and minimizing impacts to natural and cultural resources.

Stickfoot Branch is a tributary of the Anacostia River that is mostly piped beneath southeast DC neighborhoods. The stream begins within the Garfield Heights neighborhood and flows northwest where it drains to the Anacostia River at Poplar Point. Within the study area, the restoration reach (i.e. the segment of Stickfoot Branch proposed for restoration) begins within a 42-inch reinforced concrete pipe (RCP) that conveys Stickfoot Branch under 22<sup>nd</sup> Street SE west of Garfield Heights. The RCP remains mostly underground until it daylights approximately 300 feet west of the intersection of 22<sup>nd</sup> Street SE and Hartford Street SE and continues west into a 48-inch RCP that conveys Stickfoot Branch under Suitland Parkway. The project area is characterized by mature and mid-successional forest with steep valley slopes. A combination of excessive unmanaged stormwater flows from outfalls along Suitland Parkway and overland flow pathways, highly erodible soils, and invasive vegetation are contributing to the degradation of Stickfoot Branch and the surrounding parkland.

The project area also consists of three unnamed tributaries that flow into Stickfoot Branch. Tributary A flows from the north and into the main channel just downstream of the 42-inch RCP outfall. A severe headcut has formed at the confluence of Tributary A and Stickfoot Branch. Tributary B begins at an outfall on the north side of Suitland Parkway and flows for approximately 100 linear feet to Stickfoot Branch. The streambanks of Tributary B are eroding, and the channel is incised. In addition, a gully has formed above the 42-inch RCP outfall with intermittent flow originating at the toe of slope of 22<sup>nd</sup> Street SE. The gully has been created by severe erosion from runoff flowing over the curb due to clogged storm drains. A small intermittent tributary flows within the gully for approximately 300 linear feet and drains into Stickfoot Branch alongside the 42-inch RCP outfall. Maps of the study area are attached to this letter as Figures 1 and 2.

NPS and DOEE have identified a proposed design for the stream restoration that involves regenerative stormwater conveyance (RSC) and natural channel design (NRD) techniques. The proposed restoration design creates a new stream channel, either within or adjacent to the existing one, which is connected to the historic floodplain by filling the existing eroded stream channel to approximately pre-disturbance levels. This method of restoration facilitates raising the streambed to connect the historic floodplain within an alignment developed to limit grading and reduce tree impacts. Long-term channel stability is attained by dissipating energy on the floodplain and providing valley wide grade control using stone or woody debris material to prevent downcutting. Additionally, RSC techniques typically consist of a series of constructed pools, riffle grade controls, native vegetation, and a subsurface sand/woodchip filter media bed to promote surface and groundwater flow interchange.

#### Section 106 and Historic Properties

To prepare for the Section 106 consultation process, NPS has developed the enclosed list of potential consulting parties and a graphic illustration of the draft Area of Potential Effects (APE) provided as Figure 3. These items are intended as a basis for discussion and are subject to modification through the consultation process. The draft APE for direct (physical) effects is the area within the Limits of Disturbance (LOD) for construction of the restoration project, including construction staging areas and access. The draft APE for indirect (visual) effects was developed using a 100-foot buffer around the study area. This dimension was determined based on the areas from which the project site is reasonably visible. The APE was also extended into Garfield Heights to account for visibility from nearby residences.

A preliminary list of historic resources within the draft APE includes Fort Circle Historic District and Suitland Parkway Historic District, both listed in the National Register of Historic Places. Descriptions of these resources are attached to this letter and their boundaries are included on the draft APE map provided as Figure 3.

In addition, preliminary research has indicated intact historic ground surfaces on the terraces overlooking the stream. The location may have been favorable for short-term Native American resource extraction camps. A surface scatter of lithic artifacts was identified on a high terrace

overlooking the south bank of the stream, near the eastern end of the LOD. Review of historic maps suggests low potential for Historic period sites. Stantec Consulting Services Inc. (Stantec), on behalf of DOEE, has submitted an Archaeological Resources Protection Act (ARPA) permit application and associated work plan to NPS to complete Phase IB shovel testing within the study area. The work plan was submitted to NPS on May 20, 2020.


NPS will work with the DC SHPO and other consulting parties to finalize a formal determination of effect through the Section 106 consultation process. We welcome the opportunity to identify and evaluate modifications to the proposed project that will avoid, minimize, or mitigate potential adverse effects on historic properties within the APE.

#### Section 106 and NEPA Coordination

In accordance with the National Environmental Policy Act (NEPA) and in cooperation with DOEE, the NPS will prepare an Environmental Assessment (EA) to document the analysis of potential impacts of the proposed watershed restoration activities. NPS plans to coordinate the Section 106 and NEPA processes per the implementing regulations (36 CFR § 800.8) of the NHPA. The NPS will also develop an Assessment of Effect for this project as a separate, but parallel, process to the EA.

We look forward to beginning the Section 106 consultation process for this project. If you have any questions or preliminary feedback related to the project, draft APEs, or historic properties, please contact Daniel Weldon, Cultural Resources Program Manager, at [daniel\\_weldon@nps.gov](mailto:daniel_weldon@nps.gov).

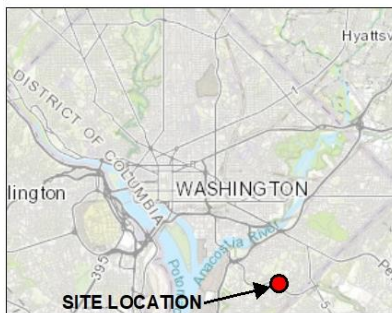
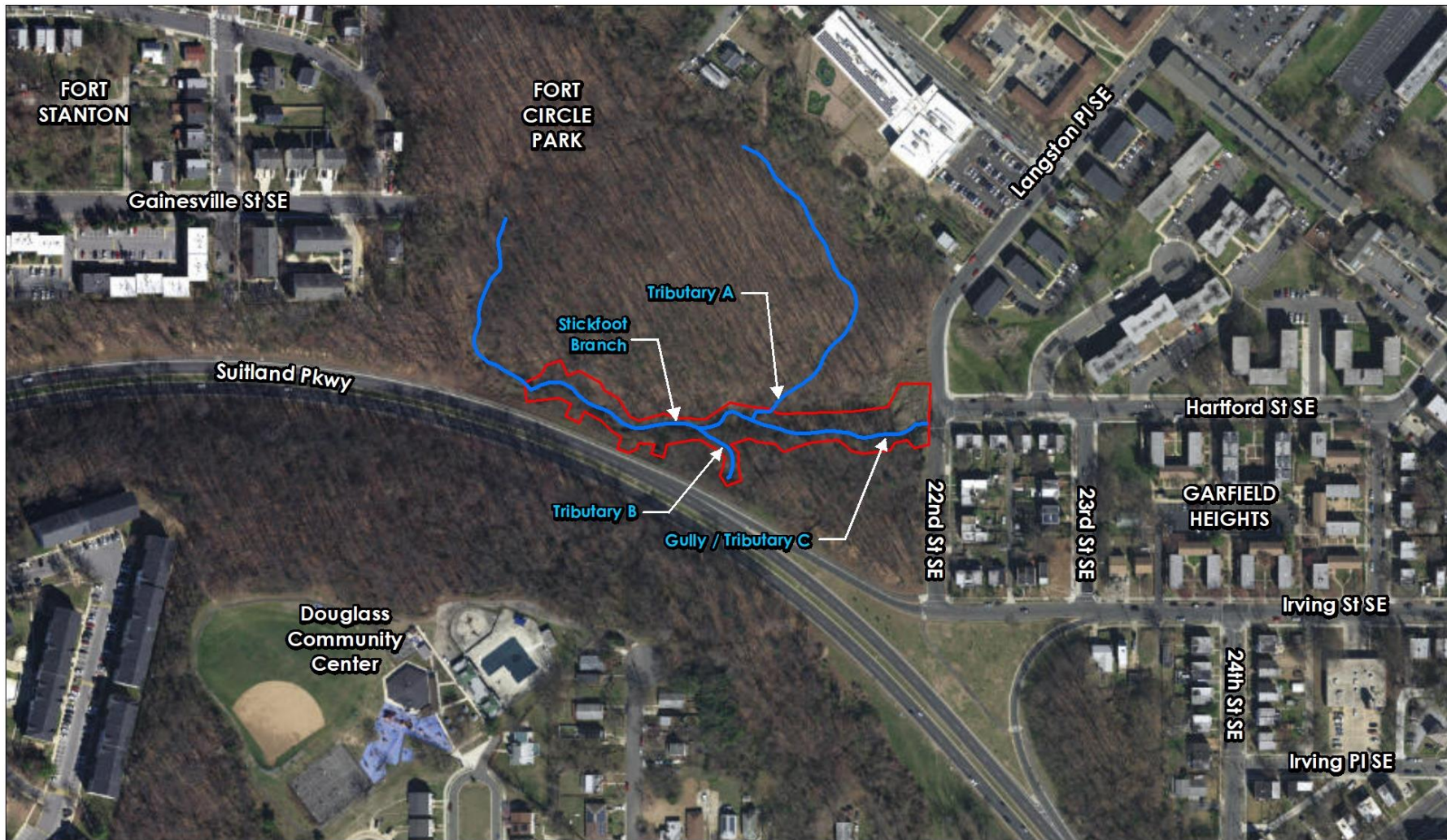
Sincerely,

 on behalf of  
Tara Morrison  
Superintendent

Enclosures:    Stickfoot Branch Watershed Project Study Area Map  
                    Stickfoot Branch Watershed Project Existing Conditions Map  
                    Draft Area of Potential Effects Map  
                    Preliminary Inventory of Historic Properties and Archaeological Resource  
                    Potential  
                    List of Potential Consulting Parties

cc:            Andrew Lewis, DC SHPO  
                    Dr. Ruth Troccoli, DC SHPO  
                    Michael Commisso, NPS, NACE  
                    Daniel Weldon, NPS, NACE  
                    Josh Burch, DOEE





- Stickfoot Branch Watershed Project Study Area
- Local Hydrography



0 250 500 Feet

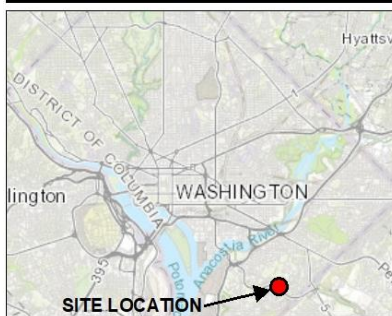
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**1**

Title  
**Study Area Map**







- Outfall
- Sewer Alignment (digitized)
- Stickfoot Branch Watershed Project Study Area
- Delineated Waterway
- Delineated Wetland
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0 100 200 Feet

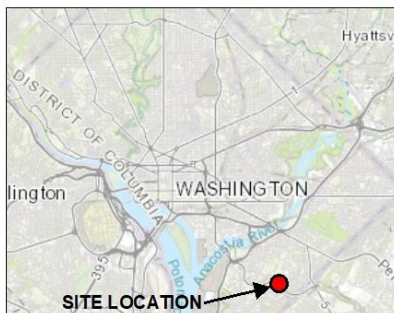
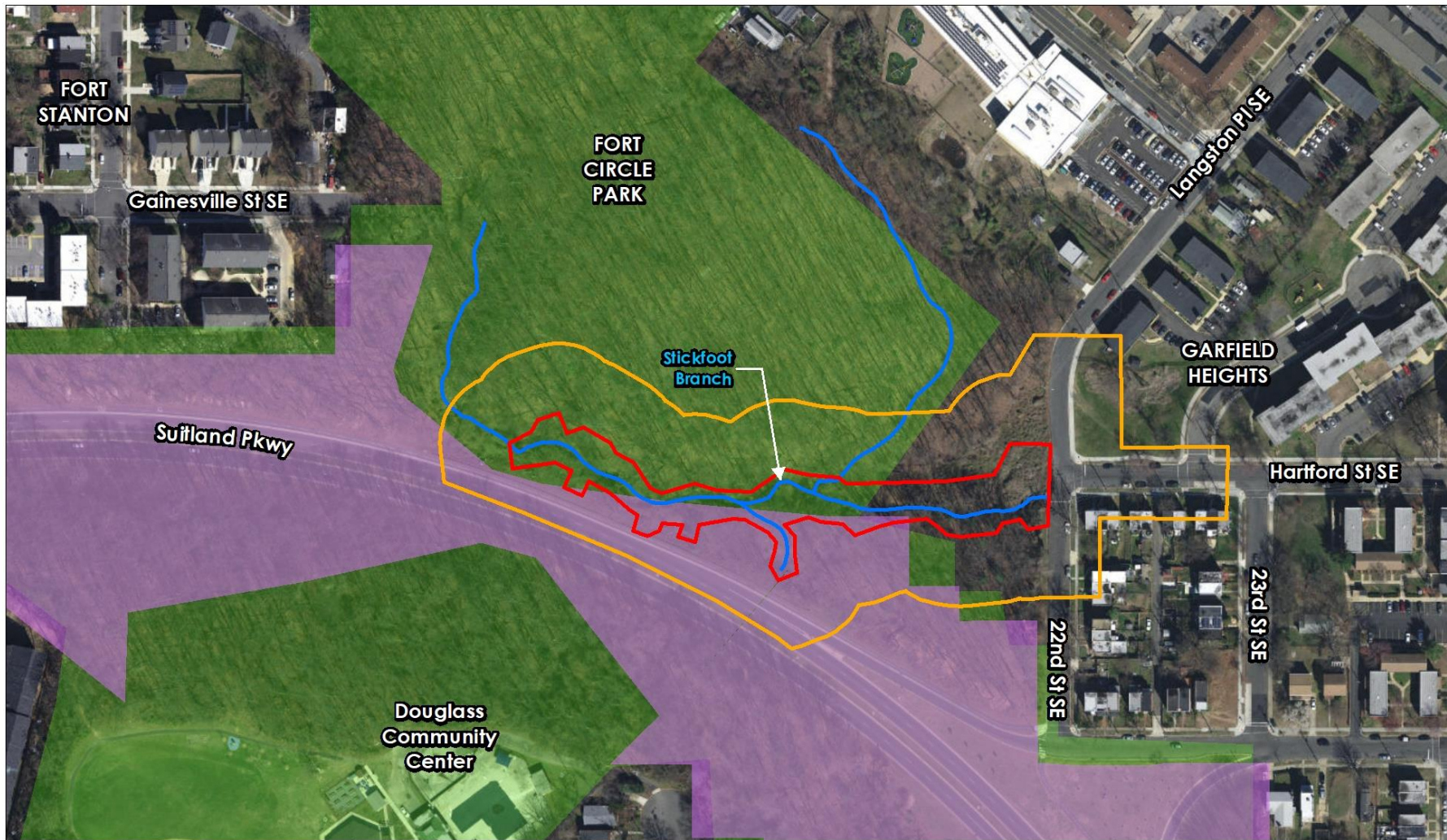
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**2**

Title  
**Existing Conditions Map**







- APE (Direct Effects)
- APE (Indirect Effects)
- Local Hydrography
- Suitland Parkway Historic District
- Fort Circle Historic District



0 250 500 Feet

Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**3**

Title  
**Area of Potential Effects Map**



## **Stickfoot Branch Watershed Project**

### **Preliminary Inventory of Historic Properties and Archaeological Resource Potential**

Upon initiation of Section 106 consultation, draft Areas of Potential Effects (APE) were identified to encompass a geographic area where the potential direct (physical) and indirect (visual) effects on historic properties and potentially significant archaeological resources may result (Figure 3). The draft direct APE was delineated to include the Limits of Disturbance (LOD), which includes construction staging and access. The draft indirect APE was delineated to include 100 feet on either side of the LOD, as well as any surrounding views and viewsheds. Identification of resources within the draft APEs was conducted through historical research and GIS mapping with data provided by the District of Columbia and review of existing documentation including the National Register of Historic Places, and DC Inventory of Historic Sites.

The boundaries of the draft APE encompass the Fort Circle Historic District and the Suitland Park Historic District. A summary of the designated historic districts within the draft APE is provided below.<sup>1</sup>

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## Stickfoot Branch Watershed Project

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# United States Department of the Interior

National Capital Parks-East  
NATIONAL PARK SERVICE  
Interior Region 1- National Capital Area  
1900 Anacostia Drive, S.E.  
Washington, D.C. 20020

IN REPLY REFER TO:

1.A.1 (NCR-NACE)

July 1, 2020

Mr. Terry Clouthier  
Cultural Resource Director  
Pamunkey Indian Tribe  
1054 Pocahontas Trail  
King William, VA 23086  
[terry.clouthier@pamunkey.org](mailto:terry.clouthier@pamunkey.org)

Re: Initiation of Section 106 Consultation, Stickfoot Branch Watershed Project

Dear Mr. Clouthier:

The National Park Service (NPS), in partnership with the District of Columbia Department of Energy and Environment (DOEE), proposes watershed restoration activities in the vicinity of the Fort Stanton and Garfield Heights neighborhoods of southeast Washington, DC. NPS is writing to formally initiate consultation with the Pamunkey Indian Tribe in compliance with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

## Project Description and Background

The proposed project would restore approximately 800 linear feet of Stickfoot Branch, and 150 linear feet of an unnamed tributary, within NPS parkland administered by National Capital Parks – East (NACE). The restoration is needed to improve the long-term stability of Stickfoot Branch in support of the ongoing effort to achieve the Total Maximum Daily Load (TMDL) limits

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INTERIOR REGION 1 • NORTH ATLANTIC-APPALACHIAN

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The project area also consists of three unnamed tributaries that flow into Stickfoot Branch. Tributary A flows from the north and into the main channel just downstream of the 42-inch RCP outfall. A severe headcut has formed at the confluence of Tributary A and Stickfoot Branch. Tributary B begins at an outfall on the north side of Suitland Parkway and flows for approximately 100 linear feet to Stickfoot Branch. The streambanks of Tributary B are eroding, and the channel is incised. In addition, a gully has formed above the 42-inch RCP outfall with intermittent flow originating at the toe of slope of 22<sup>nd</sup> Street SE. The gully has been created by severe erosion from runoff flowing over the curb due to clogged storm drains. A small intermittent tributary flows within the gully for approximately 300 linear feet and drains into Stickfoot Branch alongside the 42-inch RCP outfall. Maps of the study area are attached to this letter as Figures 1 and 2.

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Sincerely,



on behalf of

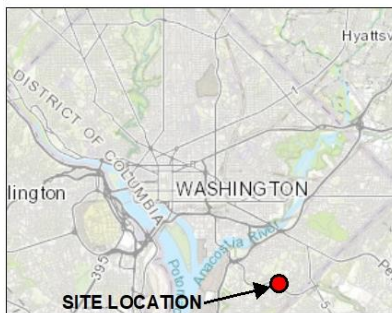
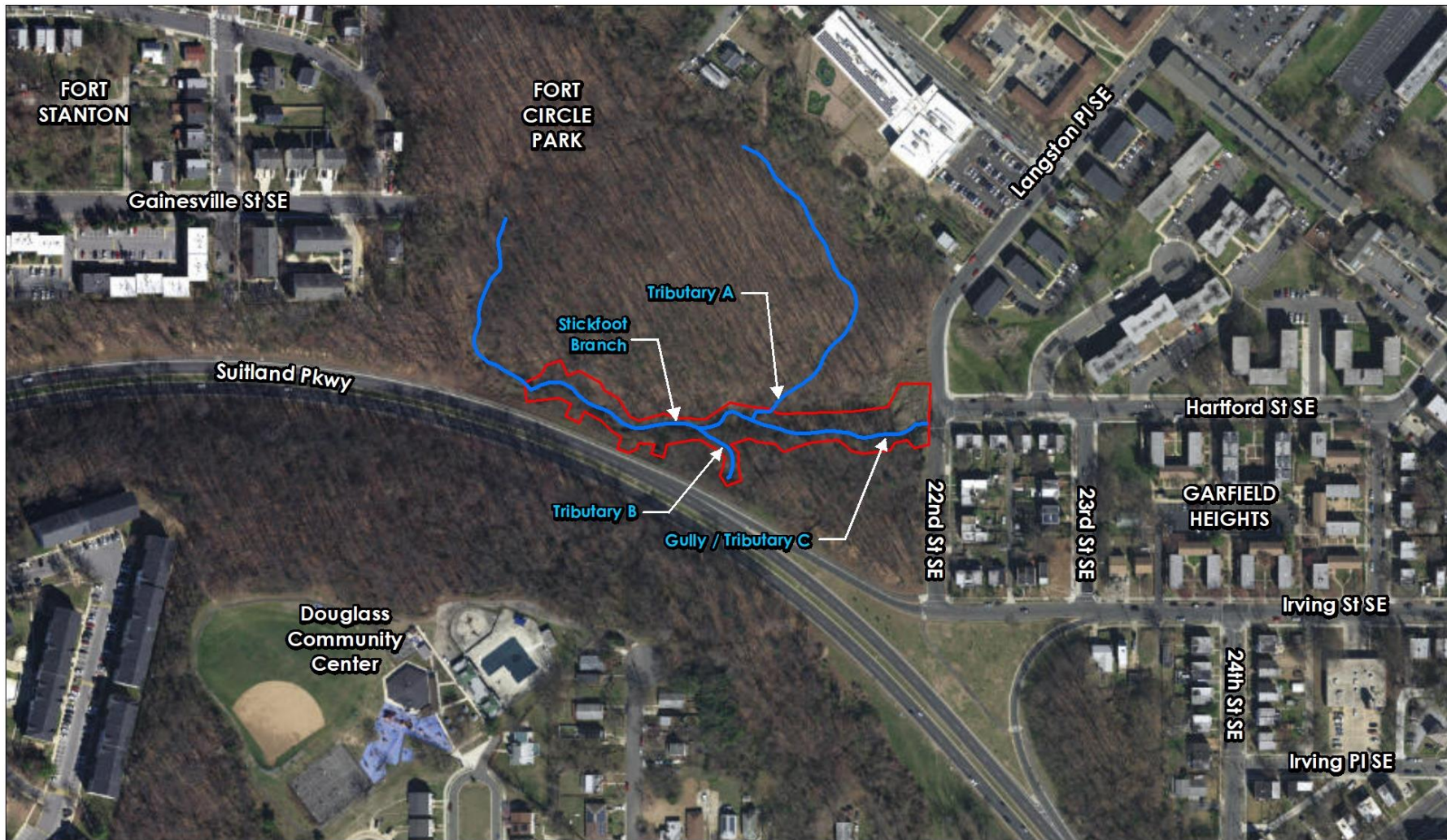
Tara Morrison

Superintendent

Enclosures:    Stickfoot Branch Watershed Project Study Area Map  
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cc:            Andrew Lewis, DC SHPO  
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- Stickfoot Branch Watershed Project Study Area
- Local Hydrography



0 250 500 Feet

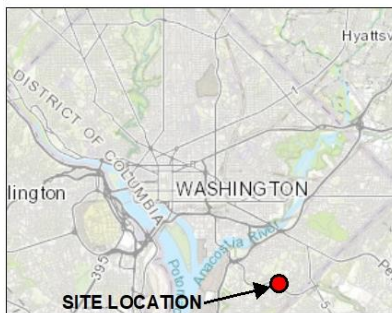
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**1**

Title  
**Study Area Map**







- Outfall
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0 100 200 Feet

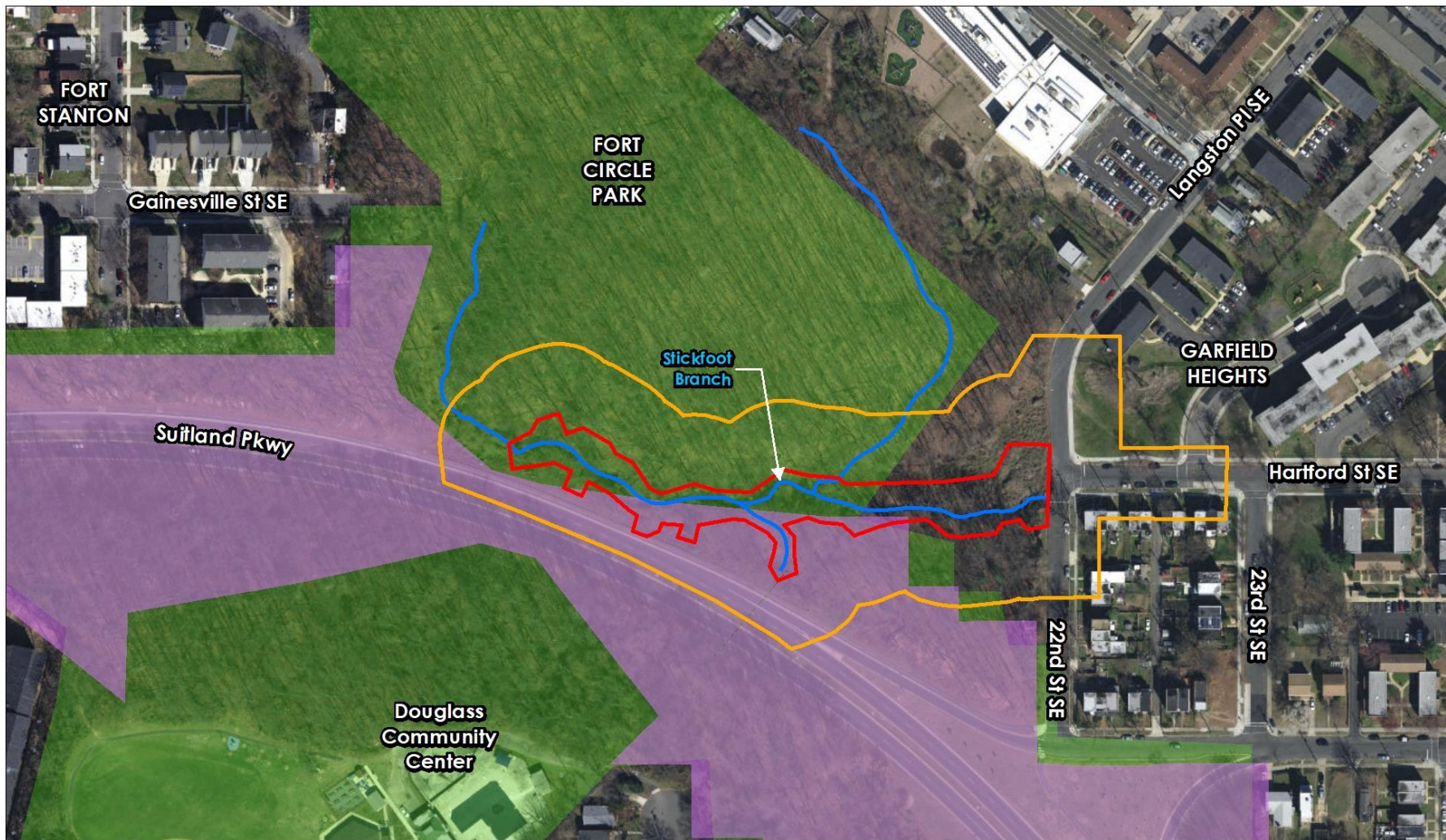
Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**2**

Title  
**Existing Conditions Map**







- APE (Direct Effects)
- APE (Indirect Effects)
- Local Hydrography
- Suitland Parkway Historic District
- Fort Circle Historic District



0 250 500 Feet

Project  
**Stickfoot Branch Watershed Project**

Figure No.  
**3**

Title  
**Area of Potential Effects Map**



## **Stickfoot Branch Watershed Project**

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McMillan Plan and development of the proposed Fort Circle Drive Parkway. The Stickfoot Branch Watershed Project study area is south of Battery Ricketts and southeast of Fort Stanton, but there are no identified remaining features of the Battery or Fort in the study area.

### **Suitland Parkway Historic District**

Suitland Parkway, listed in the National Register of Historic Places in 1995, is adjacent to the Stickfoot Branch Watershed Project study area. The Period of Significance is 1942-1944. It is one of several parkways within the National Capital Region that make up the network of entryways into the Nation's capital. These parkways constructed between 1913 and 1965 include George Washington Memorial Parkway, Rock Creek and Potomac Parkway, and Baltimore-Washington Parkway. Suitland Parkway, constructed between 1942 and 1944, consists of 9.18 miles of roadway designed to improve transportation for defense industry employees during World War II between Maryland and Washington, DC. The landscape architecture, integrity of topography, design, and transportation-related infrastructure such as bridges, culverts, and drainage features contribute to the Parkway's significance.

### **Archaeological Resource Potential**

No previously recorded sites have been identified within the draft APE. Preliminary research has included historical map review, an elevation change analysis, and excavation of geophysical hand-augered cores to determine the potential for archaeological resources within the APE. Historical research suggests that the project area was not developed in the historic period. No structures are present on any nineteenth or twentieth century maps. While the area was near Fort Stanton and Battery Ricketts (also known as Fort Ricketts), which were constructed as part of the Civil War defenses of Washington, the 1865 Barnard and Boschke map shows no defensive works within or adjacent to the APE.

The elevation change analysis suggests that as much as 20 feet of fill can be expected at the northeastern edge of the APE. This area equates to the location of a former tributary of Stickfoot Branch depicted on nineteenth century maps. The tributary was re-routed in the mid-twentieth century when the surrounding area was developed. Within the western two-thirds of the APE, at least 10 feet of fill associated with the road prism or apron of Suitland Parkway can be expected

along the southern boundary. The remainder of the APE evidences little to no elevation change.

Intact Precontact Native American archaeological resources may potentially be present.

Five soil borings placed at terrace locations were retrieved during the geoarchaeological investigations. Intact buried land surfaces were encountered between 4 inches and 3 feet of fill in four of the five borings. One boring was obstructed by an existing 42-inch storm sewer pipe along the northern bank of the stream. Also, a small assemblage of lithic debris potentially related to Native American activity was recorded on the surface near the southern edge of the APE, on a terrace overlooking the southern bank of the stream.

## Stickfoot Branch Watershed Project

### Potential Consulting Parties List

Cooperating Parties	National Park Service, National Capital Parks – East DC Department of Energy and Environment
THPO	Delaware Nation Delaware Tribe of Indians Pamunkey Indian Tribe Catawba Indian Nation
SHPO	DC State Historic Preservation Officer
Representatives of Local Governments	Advisory Neighborhood Commission 8B Mayor of the District of Columbia Council of the District of Columbia
Additional Consulting Parties	National Trust for Historic Preservation National Capital Planning Commission DC Preservation League

## Schrader, Brett

---

**From:** Commisso, Michael <Michael\_Commisso@nps.gov>  
**Sent:** Tuesday, March 2, 2021 8:36 PM  
**To:** Weldon, Daniel T; Stidham, Tammy; Burch, Josh (DOEE); Gorder, Joel S; Schrader, Brett; Schrey, Brett; Benitez, Fernando  
**Subject:** Fw: [EXTERNAL] RE: Public scoping announcement for Stickfoot Branch Stream Restoration Project

FYI.

**Michael Commisso**  
Acting Superintendent  
Piscataway Parks  
6411 Oxon Hill, MD 20475

Chief of Resource Management  
National Capital Parks-East  
1900 Anacostia Drive SE  
Washington, DC 20020  
202.690.5160 office  
202.494.6905 cell

---

**From:** Commisso, Michael <Michael\_Commisso@nps.gov>  
**Sent:** Tuesday, March 2, 2021 8:26 PM  
**To:** Gray, Robert <robert.gray@pamunkey.org>  
**Subject:** Re: [EXTERNAL] RE: Public scoping announcement for Stickfoot Branch Stream Restoration Project

Thank you Chief Gray.

Much appreciated.

Mike Commisso

**Michael Commisso**  
Acting Superintendent  
Piscataway Parks  
6411 Oxon Hill, MD 20475

Chief of Resource Management  
National Capital Parks-East  
1900 Anacostia Drive SE  
Washington, DC 20020  
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202.494.6905 cell

---

**From:** Robert Gray <robert.gray@pamunkey.org>  
**Sent:** Tuesday, March 2, 2021 1:37 PM  
**To:** Commisso, Michael <Michael\_Commisso@nps.gov>  
**Subject:** [EXTERNAL] RE: Public scoping announcement for Stickfoot Branch Stream Restoration Project



**This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.**

The Pamunkey Tribe has no comment at this time but ask that we be consulted in the event of inadvertent discovery of remains or site of potential cultural significance.

Chief Robert Gray  
Pamunkey Indian Tribe  
Email: [robert.gray@pamunkey.org](mailto:robert.gray@pamunkey.org)

---

**From:** Commisso, Michael <Michael\_Commisso@nps.gov>  
**Sent:** Wednesday, February 17, 2021 11:30 PM  
**To:** Robert Gray <[robert.gray@pamunkey.org](mailto:robert.gray@pamunkey.org)>; [alatkings@email.wm.edu](mailto:alatkings@email.wm.edu); [pamunkeytribalassistant@gmail.com](mailto:pamunkeytribalassistant@gmail.com)  
**Subject:** Public scoping announcement for Stickfoot Branch Stream Restoration Project

Good morning Chief Robert Gray,

The National Park Service (NPS), in partnership with the District of Columbia Department of Energy and Environment (DOEE), is proposing stream restoration activities for Stickfoot Branch Stream located in the vicinity of the Garfield Heights neighborhood of southeast Washington, DC. The proposed project involves restoration of approximately 800 linear feet of Stickfoot Branch, and 140 linear feet of an unnamed tributary, within NPS parkland administered by National Capital Parks – East (NACE) located west of 22nd Street SE near its intersection with Hartford Street SE and Langston Place SE.

The purpose of the restoration is to:

- reduce streambank erosion and channel bed incision;
- improve macroinvertebrate in-stream habitat;
- manage invasive vegetation in the project area;
- ensure the long-term protection of existing sanitary and stormwater infrastructure; and
- minimize impacts to natural and cultural resources.

The DOEE and NPS will be preparing an Environmental Assessment (EA) to evaluate the environmental impacts proposed stream restoration project in accordance with the National Environmental Policy Act (NEPA). Public participation is vital to the planning process. There are several ways to get involved. The NEPA process will start with a 30-day public scoping period where the NPS and DOEE seek public input regarding issues or concerns associated with implementing the project. Feedback received during scoping will be used to inform refinements to the restoration design.

To provide information about the project, the DOEE and NPS will be hosting a virtual public meeting on February 24, 2021 from 6:30pm-8:00pm online. If you like to participate in the meeting, please go to <https://stickfoot.eventbrite.com/> and register. Attendees will receive reminder emails in advance of the meeting from Eventbrite. Pre-registration is not required, attendees will be able to register even after the meeting has started. The meeting will be recorded and will be posted at <https://parkplanning.nps.gov/stickfoot> for review at your convenience if you are not able to attend the live meeting. If you do not have access to the internet and would like to listen to the presentation over the phone, please use the following phone number and meeting code:

Call in Number: 1-202-860-2110  
Access # : 180 130 4451

Thank you for your interest and participation in this planning process. Please let me know if you have any questions.

Mike

**Michael Commisso**

Acting Superintendent  
Piscataway Parks  
6411 Oxon Hill, MD 20475

Chief of Resource Management  
National Capital Parks-East  
1900 Anacostia Drive SE  
Washington, DC 20020  
202.690.5160 office  
202.494.6905 cell

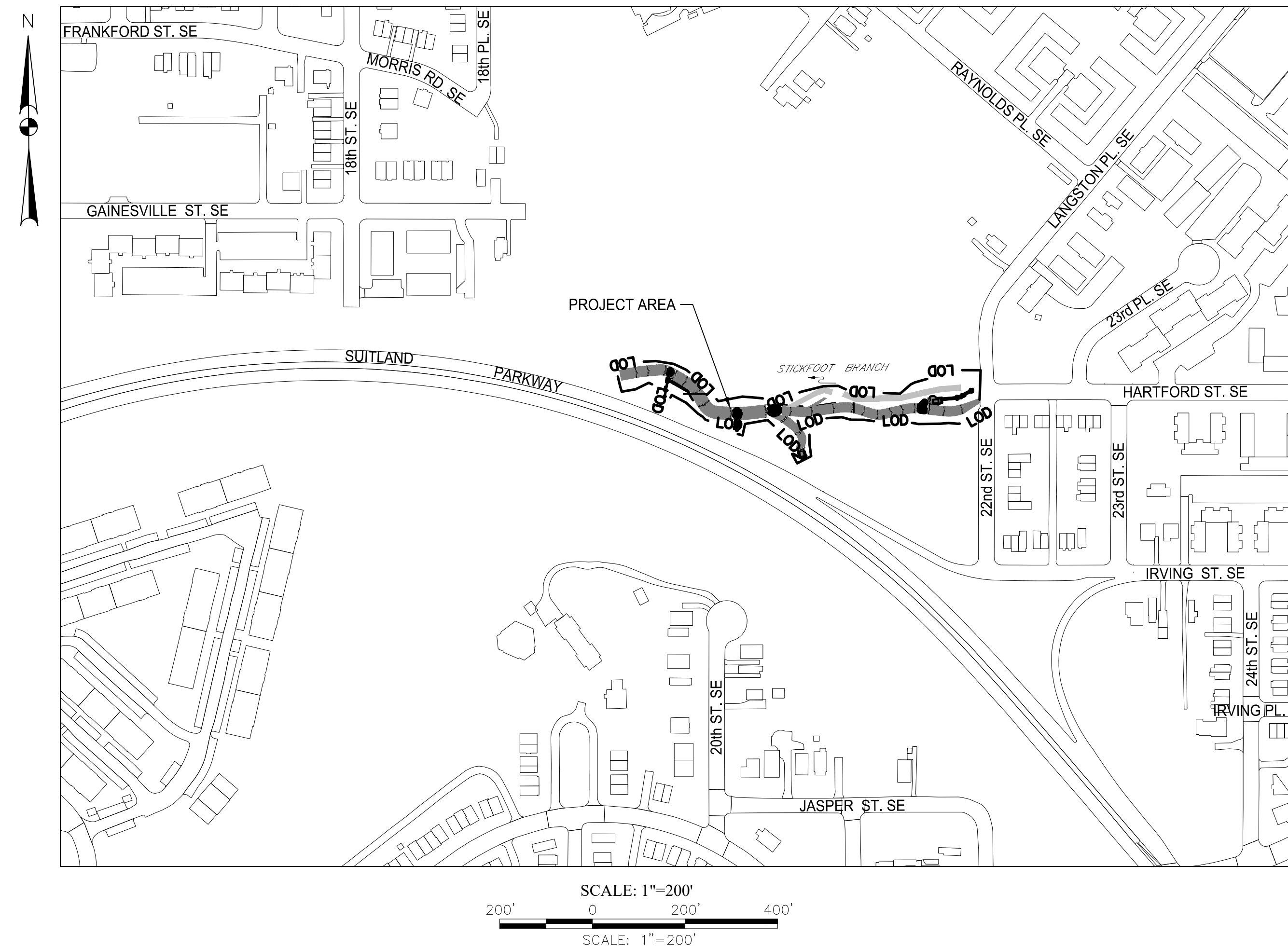
**APPENDIX B**

**30 PERCENT RESTORATION DESIGN PLANS**

## KEY MAP

## PROJECT SITE

INDEX OF SHEETS		
SHEET NO.	TITLE	SHEET NAME
1	TITLE SHEET	T-01
2	GENERAL NOTES, SYMBOLOGY, AND ABBREVIATIONS	AB-01
3	SHEET LAYOUT PLAN	SL-01
4 - 5	GRADING PLANS	GR-01 - GR-02
6 - 7	STREAM DETAILS	DE-01 - DE-02
8 - 9	STREAM PROFILES	PR-01 - PR-02
10 - 11	EROSION AND SEDIMENT CONTROL PLANS	ES-01 - ES-02
12 - 14	EROSION AND SEDIMENT CONTROL DETAILS & NOTES	ES-03 - ES-05
15	CROSS SECTIONS	XS-01



PROPERTY BOUNDARY DATA SHOWN ON PLANS OBTAINED  
FROM THE DISTRICT OF COLUMBIA GIS DEPARTMENT AND  
MAY NOT REPRESENT COMPLETE OR ACCURATE  
PROPERTY BOUNDARY COVERAGE

LENGTH OF PROJECT = 940 FT = 0.18 MILES

[illegible]



## ABBREVIATIONS

AHEAD	Ahead	OHE	Overhead Electric
APPROX.	Approximate	PAVT.	Pavement
P or B/L	Baseline	PC	Point of Curvature
BK	Back / Book	PCC	Point of Compound Curvature
BIT.	Bituminous	P/C	Point of Crown
B.C.	Bituminous Concrete	P/GE	Profile Grade Elevation
B.M.	Bench Mark	P.G.E.	Profile Ground Elevation
BOT.	Bottom	P.G.L.	Profile Grade Line
CB	Cable Box	P/GL	Profile Ground Line
C.C.	Center of Curve	P.I.	Plasticity Index
CAP	Corrugated Aluminum Pipe	PI	Point of Intersection
CAPA	Corrugated Aluminum Pipe Arch	POC	Point On Curve
CATV	Cable Television	POT	Point On Tangent
N or C/L	Centerline	PPWP	Polyvinyl Chloride Profile Wall Pipe
CL.	Class	PROP	Proposed
CLF	Chainlink Fence	PRC	Point of Reverse Curve
CMP	Corrugated Metal Pipe	PT	Point
C.O.	Cleanout	PT	Point of Tangency
COMB.	Combination	PVC	Polyvinyl Chloride
CONC.	Concrete	R	Radius
CONSTR.	Construction	R.F.	Rock Fragments
COR.	Corner	RT	Right
CORR.	Correction	RW OR R/W	Right of Way
CPP-S	Corrugated Polyethylene Pipe - Type 'S'	RCP	Reinforced Concrete Pipe
CSP	Corrugated Steel Pipe - Aluminized Type 2	RCPP	Reinforced Concrete Pressure Pipe
CSPA	Corrugated Steel Pipe Arch - Aluminized Type 2	R.Q.D.	Rock Quality Designation
DC	Degree of Curve	R.M.	Roommat
D.H.V.	Design Hourly Volume	S	South
D.I.	Drop Inlet	SAN.	Sanitary Sewer
DIA.	Diameter	SB OR S/B	Southbound
D.O.	Double Opening	S.D.	Storm Drain
E	East	S.D.D.	Surface Drain Ditch
EA	Electric	SF	Silt Fence
ELEV	Elevation	SF	Square Feet
ES	End Section	SHT.	Sheet
EX or EXIST	Existing	S.P.T.	Standard Penetration Testing
FOB	Fiber Optic Box	SRP	Steel Spiral Rib Pipe - Aluminized Type 2
FOC	Fiber Optic Cable	SRPA	Steel Spiral Rib Pipe arch - Aluminized Type 2
FT	Feet	SSF	Super Silt Fence
F or FL	Flowline	STD.	Standard
F.B.D.	Flat Bottom Ditch	STA.	Station
F.H.	Fire Hydrant	SO.	Single Opening
FWD.	Forward	SY	Square Yards
G	Gas	SWM	Stormwater Management
G.V.	Gas Valve	T	Tangent
H.B.	Handbox	T	Telephone
HDPE	High Density Polyethylenene	T.C.	Top of Cover
HDWL.	Headwall	T.G.	Top of Grate
HERCP	Horizontal Elliptical Reinforced Concrete Pipe	T OR TL	Traverse Line
HP	High Point	T.M.	Top of Manhole
IN	Inch	TRAV.	Traverse
I.S.T	Inlet Sediment Trap	TS	Temporary Swale
INV.	Invert	T.S.	Top of Slab
J.B.	Junction Box	T.S.	Topsoil
K	K Inlet	TYP.	Typical
L	Length	U.D.	Under Drain
LF	Linear Feet	U.G.	Underground
L.L.	Liquid Limit	U.P.	Utility Pole
LP	Low Point	USDA	United States Department of Agriculture
L.P.	Light Pole	W	Water
LT.	Left	W	West
MAC.	Macadam	WB	Westbound
MAX.	Maximum	WB	Wetland Buffer
MOD.	Modified	W.M.	Water Meter
MIN.	Minimum	W.S.	Wrapped Steel
N	North	WSE	Water Surface Elevation
NB	Northbound	WUS	Waters of the United States
NE	Northeast	W.V.	Water Valve
N.P.	Non-Plastic		
O.C.	On Center		

## PROPOSED LEGEND

	MAJOR CONTOURS		STAGING AND STOCKPIILING AREA
	MINOR CONTOURS		MULCH ACCESS ROAD
	STREAM / ENVIRONMENTAL BUFFER		HARDWOOD MATTING
	WATER SURFACE		TREE PROTECTION FENCE
	TOP OF BANK		TREE REMOVAL
	100 YEAR WSEL		STABILIZED CONSTRUCTION ENTRANCE
	DRAINAGE PIPE		FILTER BAG
	SOIL BORINGS		PUMP AROUND LOCATION
	LIMIT OF DISTURBANCE		DIVERSION PIPE
	SUPER SILT FENCE		CLEARWATER DIVERSION
	TREE PROTECTION FENCE		SAND BAG DIKES
	SECTION LINE		STORM DRAIN MANHOLE
	CLAY CHANNEL BLOCK		HEADWALL
	BOULDER SILL		
	POOL AT CONFLUENCE		
	CHANNEL BED MIX		
	PLUNGE POOL		
	CONCRETE SEWER ENCASEMENT		


## EXISTING LEGEND

	PROPERTY LINE		GUY WIRE
	CURB AND GUTTER		DRAINAGE PIPE WITH END SECTION
	GUARDRAIL W-BEAM		SANITARY SEWER
	MAJOR CONTOUR		HEADWALL
	MINOR CONTOUR		DRAINAGE INLET
	WATERS OF THE US		TRAVERSE POINT
	WETLAND		SIGN
	TREE		STORMDRAIN MANHOLE
	EX. TREE LINE		SANITARY MANHOLE
	STREAM CENTERLINE		UNIDENTIFIED MANHOLE
	OVERHEAD UTILITY LINE		
	UTILITY POLE		

## GENERAL NOTES

1. TOPOGRAPHIC SURVEY OF PROJECT SITE WERE PERFORMED BY AB CONSULTANTS INC. JANUARY 2020.
2. PROPERTY BOUNDARY DATA SHOWN ON PLANS OBTAINED FROM THE DISTRICT OF COLUMBIA GIS DEPARTMENT AND MAY NOT REPRESENT COMPLETE OR ACCURATE PROPERTY BOUNDARY COVERAGE.
3. THE UTILITIES SHOWN ON THE PLANS ARE BASED ON FIELD SURVEY DATA AND/OR RECORD DRAWINGS OF THEIR LOCATIONS. THE INFORMATION SHOWN IS NOT NECESSARILY COMPLETE AND THE LOCATIONS OF THE UTILITIES SHOWN ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UTILITIES WELL IN ADVANCE OF CONDUCTING CONSTRUCTION OPERATIONS WHICH COULD DAMAGE THESE FACILITIES. IN AREAS WHERE PROPOSED CONSTRUCTION MAY CONFLICT WITH EXISTING UTILITIES, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UTILITIES. IF AN UNDERGROUND UTILITY IS DISABLED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND THE OWNER OF SAID UTILITY. ANY DAMAGE SUSTAINED TO UTILITIES ABOVE OR BELOW GROUND SHALL BE REPAIRED BY OR UNDER THE DIRECTION OF THE UTILITY OWNER AT THE CONTRACTOR'S EXPENSE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BACKFILL AN EXCAVATION AFFECTING SAID UTILITY WITHOUT FIRST RECEIVING PERMISSION FROM THE UTILITY OWNER.
4. THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT ADDITIONAL CONTRACTS MAY HAVE BEEN, OR ARE INTENDED TO BE, LET ADJACENT TO HIS WORK AND THAT HE SHALL COORDINATE THOSE PORTIONS OF HIS WORK AFFECTED BY OTHERS.
5. THE CONTRACTOR IS ENCOURAGED TO MAKE ON-SITE INSPECTIONS OF ALL LOCATIONS AND RELATED CONDITIONS PRIOR TO BIDDING THE CONTRACT.
6. A DISTINCTION BETWEEN NEW AND EXISTING ITEMS HAS BEEN MADE ON THE DRAWINGS BY LINE WEIGHTS AND COLORS. BOLD LINES OR HEAVY WEIGHT LINES REPRESENT NEW WORK UNDER THIS CONTRACT; GREY LINES OR LIGHT WEIGHT LINES REPRESENT EXISTING FEATURES.
7. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 A MINIMUM OF 48 HOURS PRIOR TO EXCAVATING. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, DEMOLITION, RECONSTRUCTION, AND RECONNECTION OF EXISTING FACILITIES AS REQUIRED TO COMPLETE THE WORK. IF REQUIRED AFTER FIELD VERIFICATION, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE ANY NECESSARY MODIFICATIONS TO NEW WORK.
8. THE CONTRACTOR SHALL VERIFY, BY FIELD MEASUREMENT, THE OUTSIDE DIMENSIONS AND MATERIAL OF ALL PIPES, FITTINGS, AND STRUCTURES TO ASSURE PROPER CLEARANCE AND SPACING PRIOR TO FABRICATION OR INSTALLATION.
9. NO ATTEMPT HAS BEEN MADE TO SHOW THE LOCATION OF ALL ABANDONED UNDERGROUND UTILITIES.
10. CONTRACTOR'S ON SITE STAGING, PARKING AND MATERIAL STORAGE SHALL BE MAINTAINED WITHIN THE LIMITS OF DISTURBANCE DESIGNATED ON THE DRAWINGS. PROVIDING ADDITIONAL STORAGE OR PARKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. CONTRACTOR SHALL COMPLY WITH THE GOVERNING AGENCY REGARDING NPDES CONSTRUCTION REQUIREMENTS, AND SHALL PROVIDE APPROPRIATE MITIGATION MEASURES OR PROTECTION AND RESTORATION AT ALL LOCATIONS AS REQUIRED BY THEIR OPERATIONS, AND AS DIRECTED BY ENGINEER. SPECIAL CONSTRUCTION REQUIREMENTS, TEMPORARY PROTECTIVE FENCING OR BARRICADES, SHEETING, SHORING, EROSION PROTECTION, AND SURFACE RESTORATION AT CERTAIN LOCATIONS ARE INDICATED ON THE DRAWINGS AND/OR SPECIFIED TO BRING CONTRACTOR'S ATTENTION TO SENSITIVE AREAS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNER MARKERS. PROPERTY CORNER MARKERS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE DISTRICT OF COLUMBIA.
13. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING TREES, SHRUBS, AND PLANTS AS NOTED.
14. FOR ALL SITE GRADING, SMOOTH TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE. PARABOLIC ROUNDING SHALL APPLY TO ALL CUT AND FILL SECTIONS.
15. THE CONTRACTOR'S OPERATIONS SHALL CONFORM TO THE RULES AND REGULATIONS OF THE DISTRICT OF COLUMBIA CONSTRUCTION SAFETY ORDERS PERTAINING TO EXCAVATION AND TRENCHING.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SPILLAGE OF RAW SEWAGE OR OTHER SUBSTANCES THAT WOULD BE CONSIDERED DANGEROUS TO THE ENVIRONMENT DURING ITS CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT (PLUGGING, PUMPING, CONTAINMENT EQUIPMENT, ETC.) TO PREVENT SPILLAGE OR AS REQUIRED TO SUCCESSFULLY TRANSPORT SEWAGE TO COMPLETE HIS WORK. ALL SEWAGE TRANSPORT SHALL BE BY A DISPOSAL CONTRACTOR LICENSED IN ALL JURISDICTIONS FOR WHICH THE SEWAGE WILL BE TRANSPORTED.
17. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ROADWAYS, DRIVEWAYS, WALK PATHS, AND ACCESS ROADS AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR, WITH THE ENGINEER'S APPROVAL, SHALL COORDINATE WITH AFFECTED USERS, IF ACCESS OR SERVICE HAS TO BE INTERRUPTED FOR SHORT PERIODS OF TIME.
18. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PREVENT CONSTRUCTION MATERIALS OR DEBRIS FROM ENTERING SEWERS OR WATER COURSES.

	NO.	REVISION	BY	DATE
DATE				



1200 FIRST STREET NE  
WASHINGTON, DC 20002  
TEL. 202.535.2600  
FAX. 800.855.1000  
Email. [doee@dc.gov](mailto:doee@dc.gov)

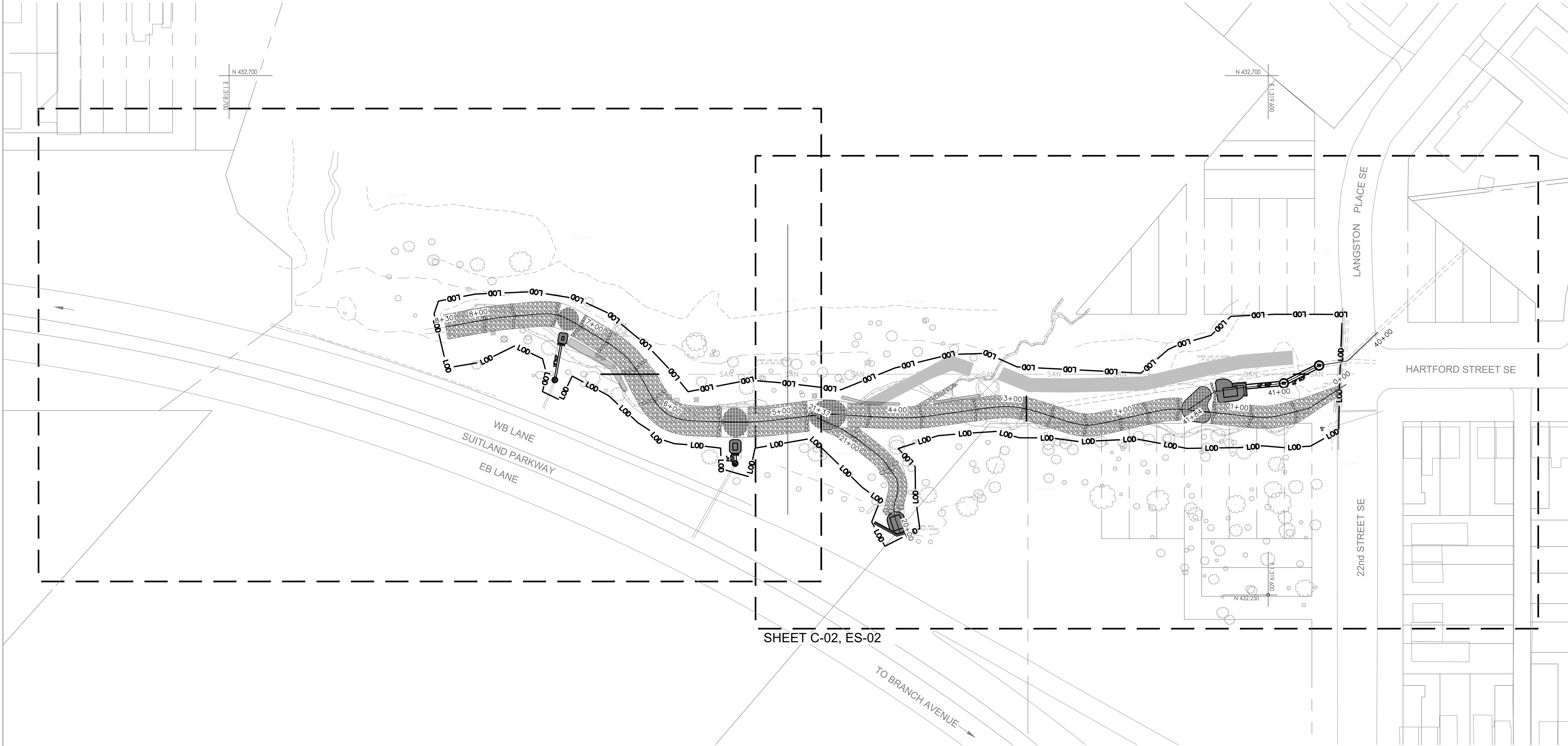


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		DRAWN BY:	CC
		CHECKED BY:	FB
		SHEET NO. 2 OF 15	
		CONTRACT NO. DCKA-2017-T-0102	
		DATE: OCTOBER 20, 2020	

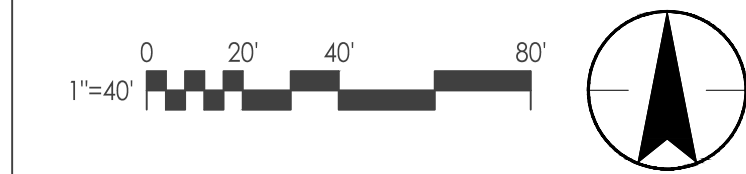


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SHEET C-02, ES-02

TO BRANCH AVENUE



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\*\*\* DEPARTMENT OF ENERGY & ENVIRONMENT  
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WASHINGTON, DC 20002  
TEL. 202.535.2600  
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Email: doe@dc.gov



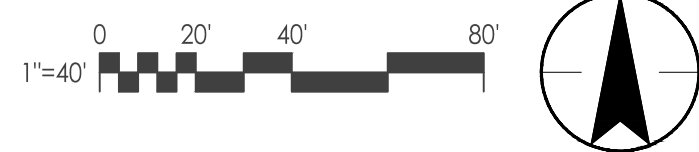
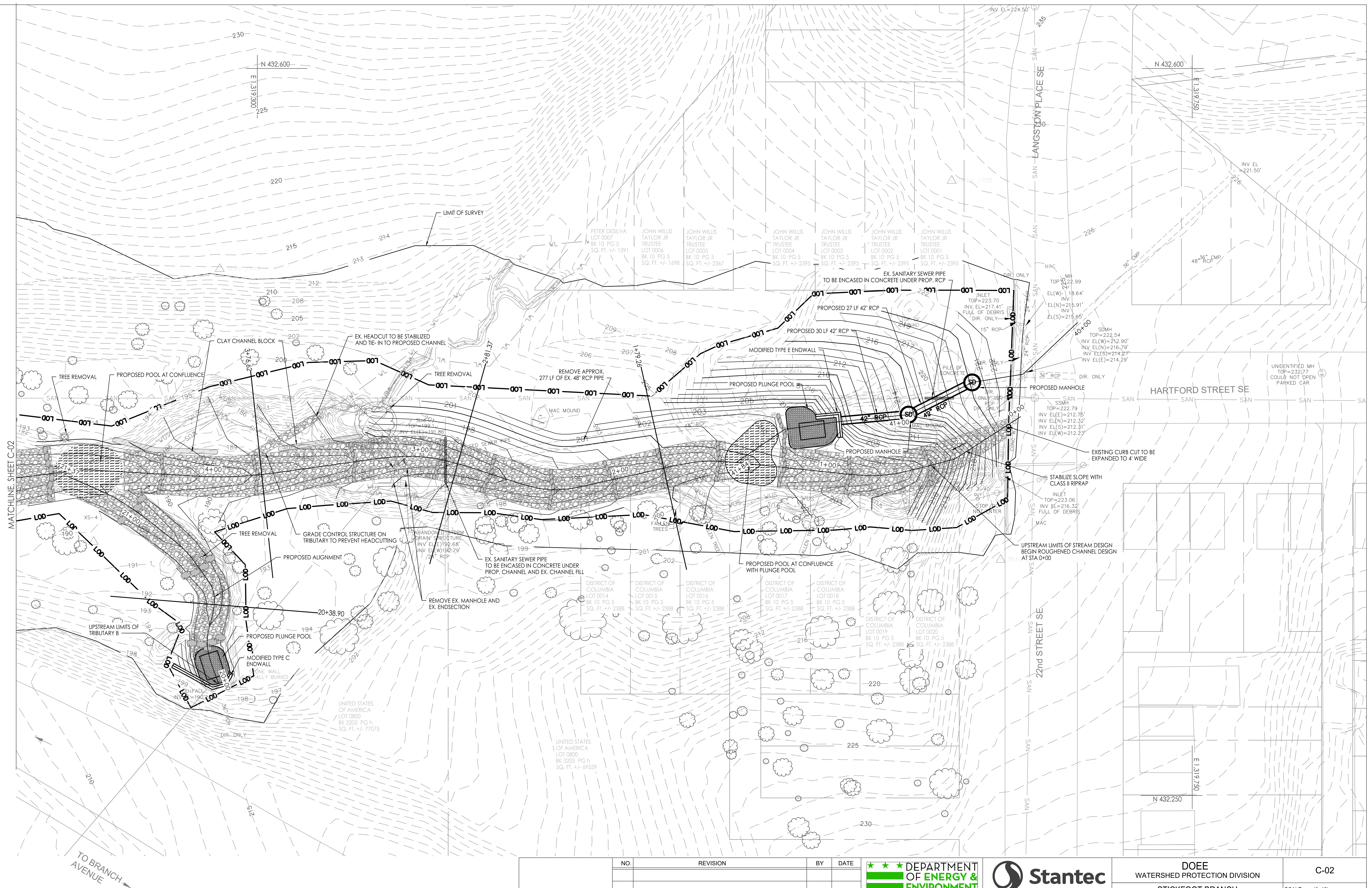
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		CONTRACT NO. DCKA-2017-T-0102
		DATE: OCTOBER 20, 2020










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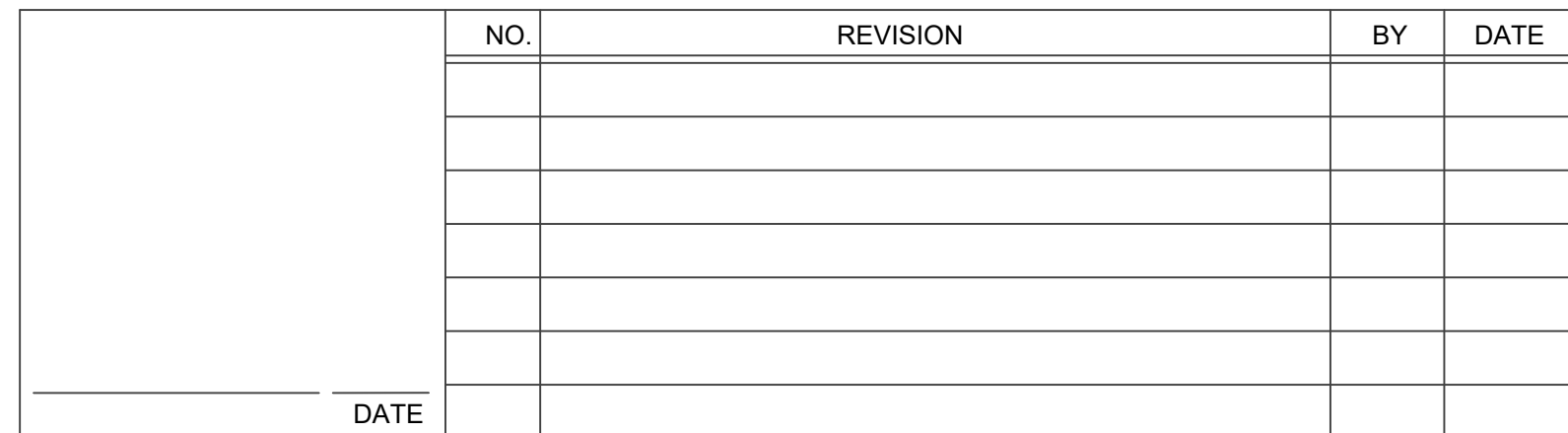
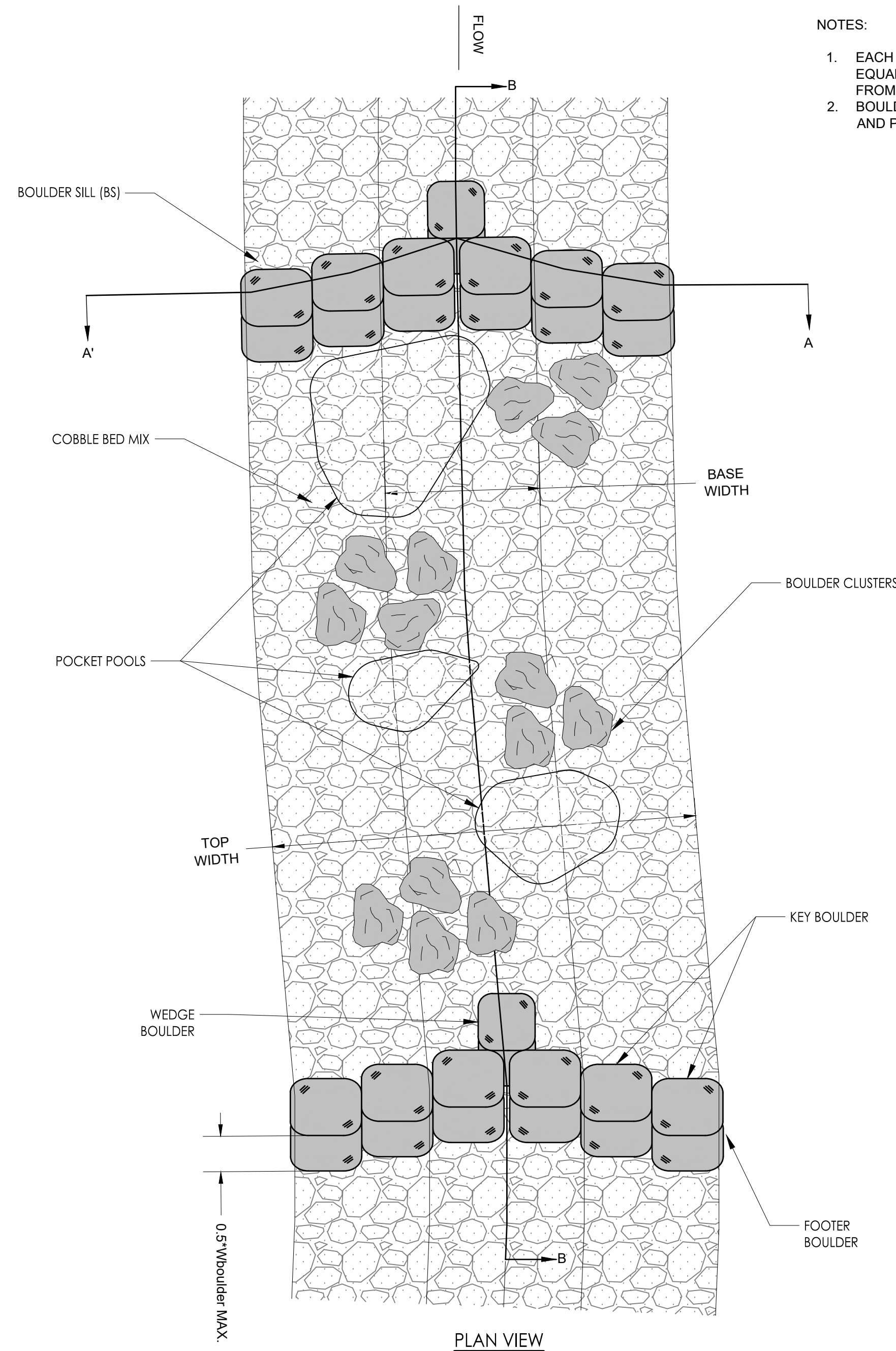
6110 FROST PLACE  
LAUREL, MD 20707  
TEL. 301.982.2800  
FAX. 301.220.2619  
[www.stantec.com](http://www.stantec.com)

DOEE  
WATERSHED PROTECTION DIVISION  
STICKFOOT BRANCH  
STREAM RESTORATION  
CONCEPT DESIGN DEVELOPMENT  
GRADING PLAN

C-02	
SCALE: 1"=40'	
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PLAN - SYMBOL

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	DRAWN BY:	CC
	CHECKED BY:	FB
	SHEET NO. 6 OF 15	
CONTRACT NO. DCKA-2017-T-0102		
DATE: OCTOBER 20, 2020		





1. USE SPECIFIED CLASS OF RIPRAP.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED AND PROTECT FROM PUNCHING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE.
3. PREPARE THE SUBGRADE FOR THE PLUNGE POOL TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE EDGE OF THE SCOUR HOLE.
5. STONE FOR THE PLUNGE POOL MAY BE PLACED BY EQUIPMENT. CONSTRUCT TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. DELIVER AND PLACE THE STONE FOR THE PLUNGE POOL IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE STONE FOR THE PLUNGE POOL IN A MANNER TO PREVENT DAMAGE TO THE GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. AT THE PLUNGE POOL OUTLET, PLACE THE STONE SO THAT IT MEETS THE EXISTING GRADE.

DATE	APPR	
REVISED		
ISSUED:		
		REFERENCE

## PLUNGE POOL



DWG. NO 502.1

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DATE				



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DOEE  
WATERSHED PROTECTION DIVISION

STICKFOOT BRANCH  
STREAM RESTORATION

## CONCEPT DESIGN DEVELOPMENT

### STREAM DETAILS

DE-02

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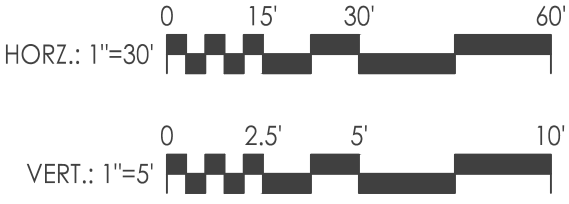
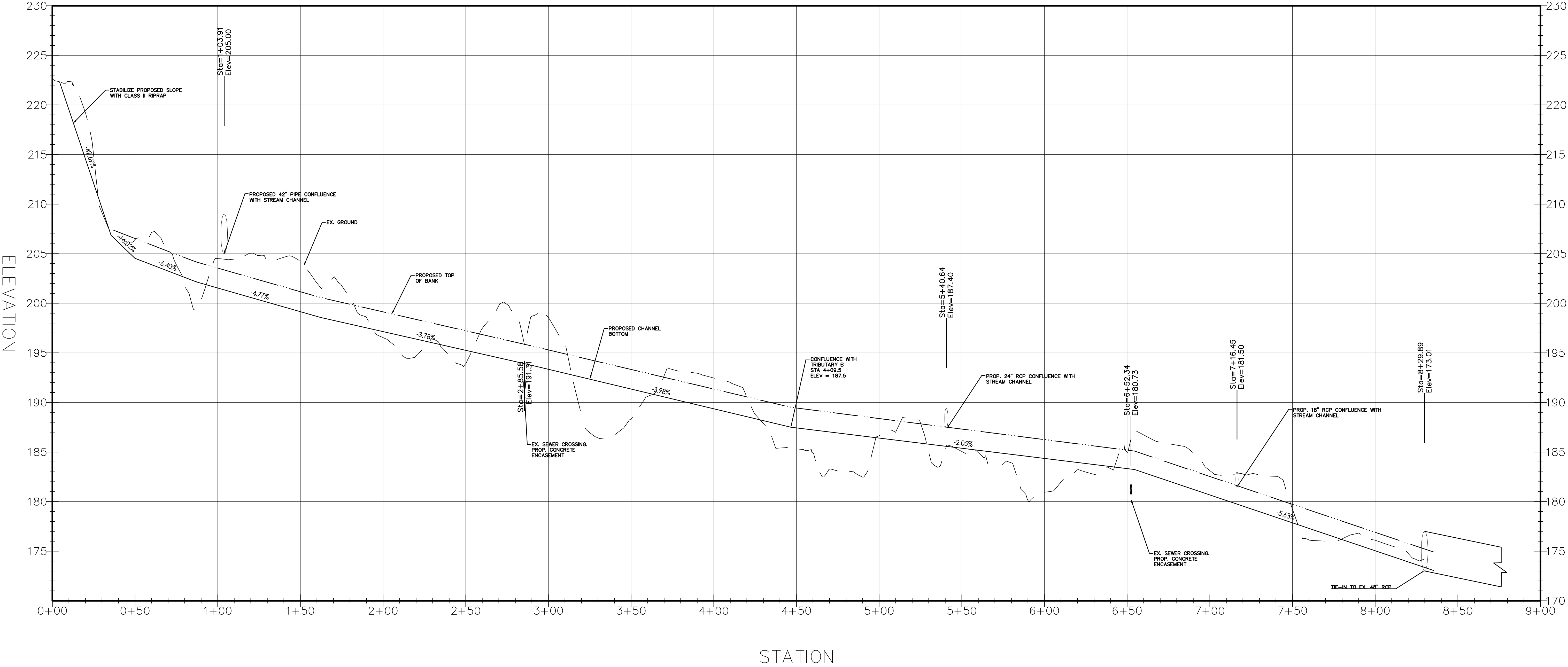
SHEET NO. 7 OF 15

CONTRACT NO. DCKA-2017-T-0102

DATE: OCTOBER 20, 2020



MAIN CHANNEL PROFILE



	NO.	REVISION	BY	DATE
DATE				

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DOEE  
WATERSHED PROTECTION DIVISION

STICKFOOT BRANCH  
STREAM RESTORATION

CONCEPT DESIGN DEVELOPMENT  
STREAM PROFILES

PR-01	
SCALE: AS SHOWN	
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SHEET NO.	8 OF 15
CONTRACT NO. DCKA-2017-T-0102	
DATE: OCTOBER 20, 2020	

Sta=20+00.17  
Elev=190.23

PROPOSED TOP OF BANK

PROPOSED CHANNEL BOTTOM

2.31%

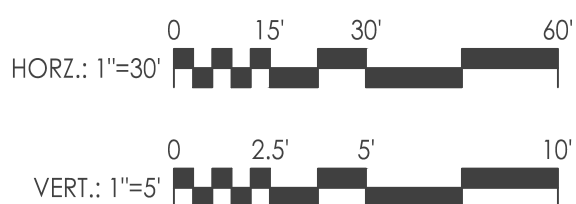
EX. GROUND

TIE-IN TO MAIN CHANNEL  
ELEV. =187.50

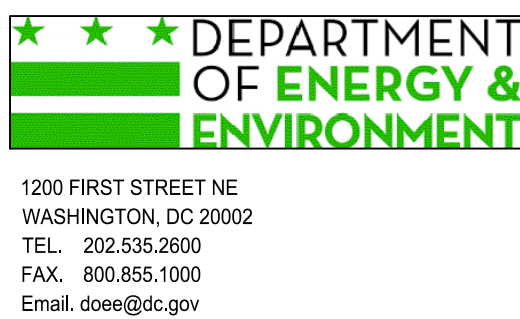
ELEVATION

STATION

TREE REMOVAL TABLE			
Species	DBH	Condition	Location
Red maple	5"	Poor	Main Channel (Left Bank)
American Persimmon	9"	Poor	Main Channel (Left Bank)
Sweetgum	7"	Good	Main Channel (Left Bank)
Sweetgum	6"	Good	Main Channel (Left Bank)
Chestnut Oak	17"	Good	Main Channel (Right Bank)
Sweetgum	9"	Fair	Main Channel (Right Bank)
Tulip Poplar	8"	Fair	Main Channel (Right Bank)
American Holly	5"	Good	Main Channel (Right Bank)
American Holly	6"	Good	Main Channel (Right Bank)
River birch	6"	Good	Triß B
Northern Red Oak	31"	Good	Main Channel (Right Bank)



	NO.	REVISION	BY	DATE
DATE				



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DOEE  
WATERSHED PROTECTION DIVISION

# STICKFOOT BRANCH STREAM RESTORATION

## CONCEPT DESIGN DEVELOPMENT

### STREAM PROFILES

PR-02

SCALE: AS SHOWN


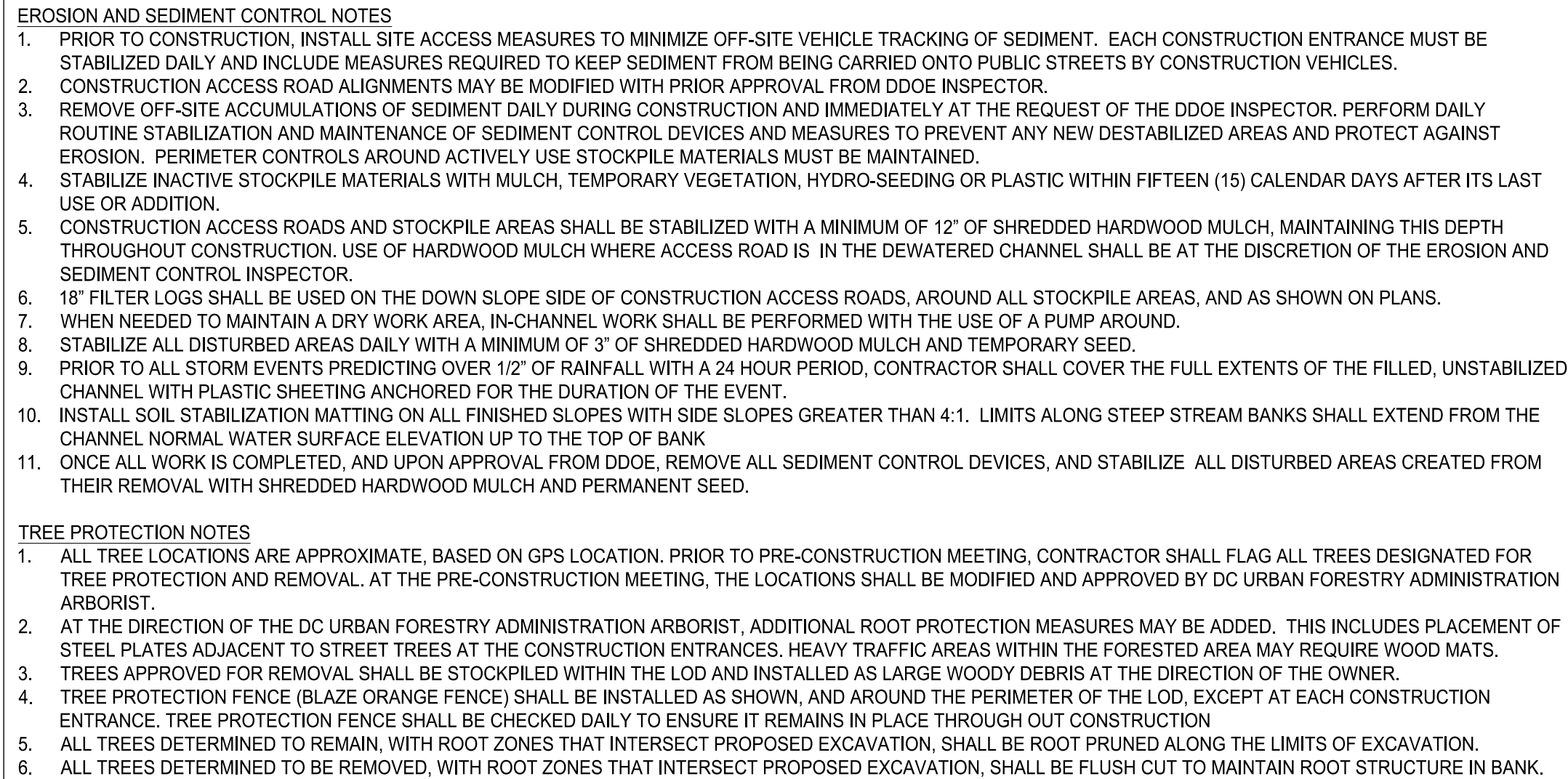
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SHEET NO. 9 OF 15

CONTRACT NO. DCKA-2017-T-0102

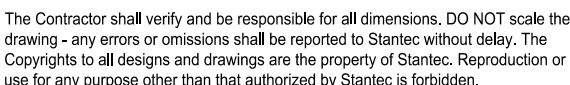
DATE: OCTOBER 20, 2020





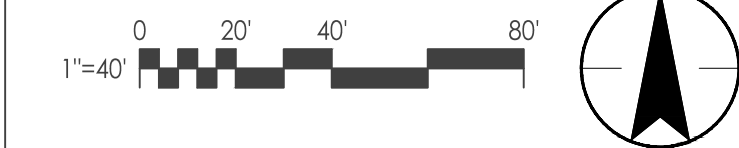
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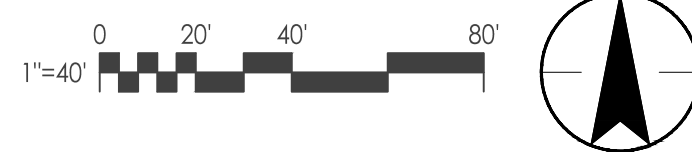


# CONCEPT DESIGN DEVELOPMENT EROSION AND SEDIMENT CONTROL PLAN


SCALE: 1"=40'	
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SHEET NO.	10 OF 15
CONTRACT NO. DCKA-2017-T-0102	
DATE: OCTOBER 20, 2020	







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STICKFOOT BRANCH  
STREAM RESTORATION

CONCEPT DESIGN DEVELOPMENT  
EROSION AND SEDIMENT  
CONTROL PLAN

ES-02	
SCALE: 1"=40'	
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SHEET NO. 11 OF 15	
CONTRACT NO. DCKA-2017-T-0102	
DATE: OCTOBER 20, 2020	

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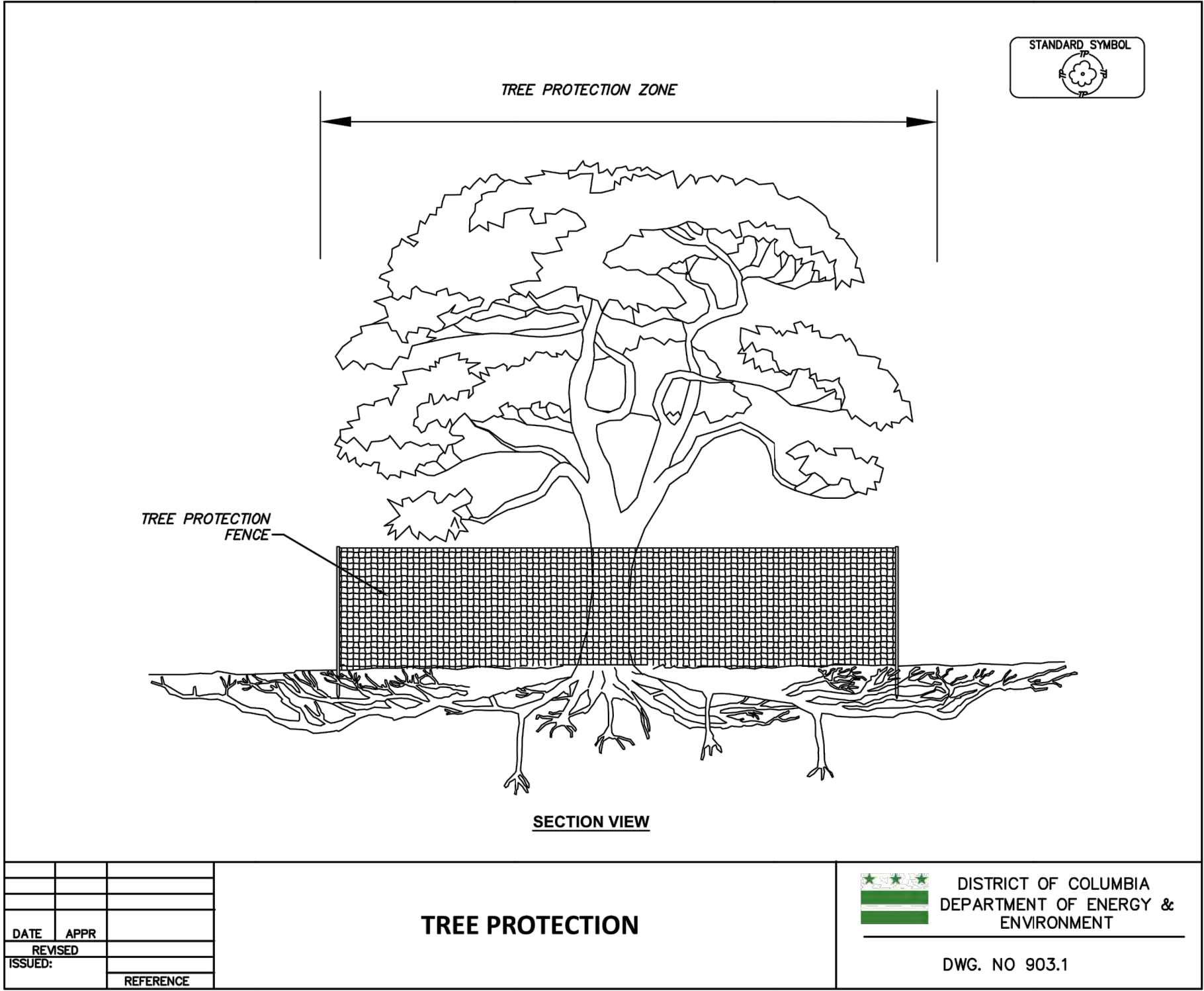




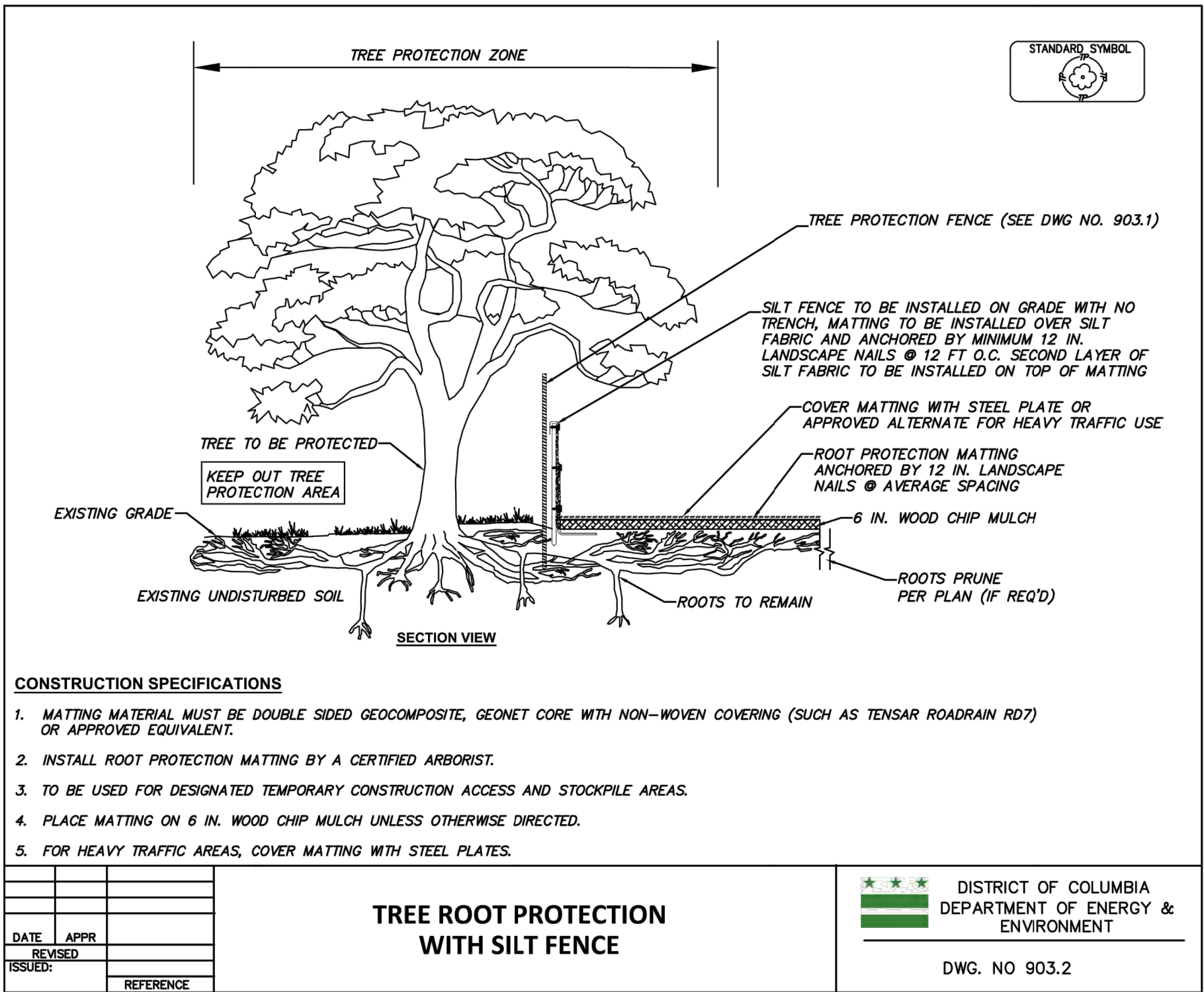








SOURCE: URBAN TREE FOUNDATION 2014



SOURCE: URBAN TREE FOUNDATION 2014

#### DOEE SOIL EROSION AND SEDIMENT CONTROL PLAN GENERAL NOTES

- Following initial land disturbance or re-disturbance, permanent or interim stabilization must be completed within seven (7) calendar days for the surfaces of all perimeter controls, dikes, swales, ditches, perimeter slopes, and slopes greater than three (3) horizontal to one (1) vertical (3:1); and fourteen (14) days for all other disturbed or graded areas on the project site. These requirements do not apply to areas shown on the plan that are used for material storage other than stockpiling, or for those areas on the plan where actual construction activities are being performed. Maintenance shall be performed as necessary so that stabilized areas continuously meet the appropriate requirements of the District of Columbia Standards and Specifications for Soil Erosion and Sediment Control (ESC). [21 DCMR § 542.9 (c)]
- ESC measures shall be in place before and during land disturbance. [21 DCMR § 543.6]
- Contact DOEE Inspection (202) 535-2977 to schedule a preconstruction meeting at least three (3) business days before the commencement of a land-disturbing activity. [21 DCMR § 503.7 (a)]
- A copy of the approved plan set will be maintained at the construction site from the date that construction activities begin to the date of final stabilization and will be available for DOEE inspectors. [21 DCMR § 542.15]
- ESC measures shall be in place to stabilize an exposed area as soon as practicable after construction activity has temporarily or permanently ceased but no later than fourteen (14) days following cessation, except that temporary or permanent stabilization shall be in place at the end of each day of underground utility work that is not contained within a larger development site. [21 DCMR § 543.7]
- Stockpiled material being actively used during a phase of construction shall be protected against erosion by establishing and maintaining perimeter controls around the stockpile. [21 DCMR § 543.16 (a)]
- Stockpiled material not being actively used or added to shall be stabilized with mulch, temporary vegetation, hydro-seed or plastic within fifteen (15) calendar days after its last use or addition. [21 DCMR § 543.16 (b)]
- Fill material must be free of contamination levels of any pollutant that is, or may be considered to represent, a possible health hazard to the public or may be detrimental to surface or ground water quality, or which may cause damage to property or the drainage system. All fill material must be free of hazardous materials and comply with all applicable District and federal regulations.
- Protect best management practices from sedimentation and other damage during construction for proper post construction operation. [21 DCMR § 543.5]
- Request a DOEE inspector's approval after the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. [21 DCMR § 542.12 (a)]
- Request a DOEE inspector's approval after final stabilization of the site and before the removal of erosion and sediment controls. [21 DCMR § 542.12 (b)]
- Final stabilization means that all land-disturbing activities at the site have been completed and either of the following two criteria have been met: (1) a uniform (for example, evenly distributed, without large bare areas) perennial vegetative cover with a density of seventy percent (70%) of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or (2) equivalent permanent stabilization measures have been employed (such as the use of riprap, gabions, or geotextiles). [21 DCMR § 542.12 (b.1, b.2)]
- Follow the requirements of the United States Environmental Protection Agency approved Stormwater Pollution Prevention Plan (SWPPP) and maintain a legible copy of this SWPPP on site. [21 DCMR § 543.10 (b)]
- Post a sign that notifies the public to contact DOEE in the event of erosion or other pollution. The sign will be placed at each entrance to the site or as directed by the DOEE inspector. Each sign will be no less than 18 x 24 inches in size and made of materials that will withstand weather for the duration of the project. Lettering will be at least 1 inch in height and easily readable by the public from a distance of twelve feet (12 ft). The sign must direct the public, in substantially the following form: "To Report Erosion, Runoff, or Stormwater Pollution" and will provide the construction site address, DOEE's telephone number (202-535-2977), DOEE's e-mail address (IEB.scheduling@dc.gov), and the 311 mobile app heading ("Construction-Erosion Runoff"). [21 DCMR § 543.22]

If a site disturbs 5,000 square feet of land or greater, the ESC plan must contain the following statement:

- A *Responsible Person* must be present or available while the site is in a land-disturbing phase. The *Responsible Person* is charged with being available to (a) inspect the site and its ESC measures at least once biweekly and after a rainfall event to identify and remedy each potential or actual erosion problem, (b) respond to each potential or actual erosion problem identified by construction personnel, and (c) speak on site with DOEE to remedy each potential or actual erosion problem. A *Responsible Person* shall be (a) licensed in the District of Columbia as a civil or geotechnical engineer, a land surveyor, or architect; or (b) certified through a training program that DOEE approves, including a course on erosion control provided by another jurisdiction or professional association. During construction, the *Responsible Person* shall keep on site proof of professional licensing or of successful completion of a DOEE-approved training program. [21 DCMR § 547]

#### SEQUENCE OF CONSTRUCTION

- CONTRACTOR SHALL OBTAIN REQUIRED PERMITS
- CLEAR AND GRUB FOR AND INSTALL STABILIZED CONSTRUCTION ENTRANCE AT 22<sup>ND</sup> STREET.
- CLEAR AND GRUB FOR AND INSTALL SILT FENCES AND TREE PROTECTION FENCES AS SHOWN ON PLANS.
- INSTALL CONSTRUCTION ACCESS HAUL ROAD AT THE LOCATION SHOWN ON THE PLANS.
- BEGIN PHASE 1, BEGINNING AT THE UPSTREAM END FROM STA 0+00 TO 3+80. CONSTRUCT THE TEMPORARY DIVERSION TO DIVERT FLOW FROM THE EXISTING SW SYSTEM, INSTALL SANDBAGS, TEMPORARY PIPE AND PUMP REQUIRED FOR PUMP AROUND OPERATION. CONTRACTOR TO INSTALL DIVERSION FOR THE PORTION OF WORK THAT CAN BE COMPLETED AND STABILIZED BY THE END OF EACH DAY.
- ONCE THE DIVERSION IS OPERATIONAL, BEGIN DEWATERING THE CONSTRUCTION AREA. COMPLETE CURB CUT ON 22<sup>ND</sup> STREET, COMPLETE GRADING ON ROADWAY EMBANKMENT AND INSTALL RIPRAP. ENCASE SEWER LINES IN CONCRETE. EXCAVATE TO REMOVE OLD RCP PIPE. INSTALL NEW MANHOLES, RCP PIPE, AND ENDWALL. INSTALL ALL PROPOSED STREAM STRUCTURES, GRADING AND STABILIZE THE WORK AREA UPSTREAM TO DOWNSTREAM TO COMPLETE PHASE 1.
- PHASE 2, FROM STA 3+80 TO 8+30 AND STA 20+00 TO 21+37. CONSTRUCT THE TEMPORARY STREAM DIVERSION TO DIVERT FLOW FROM THE EXISTING SW SYSTEM, INSTALL SANDBAGS, TEMPORARY PIPE AND PUMP REQUIRED FOR PUMP AROUND OPERATION. CONTRACTOR TO INSTALL DIVERSION FOR THE PORTION OF WORK THAT CAN BE COMPLETED AND STABILIZED BY THE END OF EACH DAY. GRADE IN ACCESS HAUL ROAD FROM EDGE OF CHANNEL TO DEWATERED CHANNEL BED.
- CONSTRUCT ALL PROPOSED STREAM STRUCTURES AND GRADING FROM DOWNSTREAM TO UPSTREAM STA 3+80 TO 8+30. ENCASE SEWER CROSSING IN CONCRETE. INSTALL MANHOLES, RCP PIPE, AND PLUNGE POOLS. REMOVE DIVERSIONS AS ACCEPTABLE BASED ON WORK PERFORMED AND FINAL STABILIZATION BEING COMPLETED DOWNSTREAM.
- CONSTRUCTION ALL PROPOSED STREAM STRUCTURES AND GRADING FROM DOWNSTREAM TO UPSTREAM STA 20+00 TO 21+37. BURIED DIVERSION PIPE THAT CONFLICTS WITH STREAM DESIGN MAY BE REMOVED AND REPLACED WITH PUMP AROUND STRUCTURE TO DEWATER WORK AREA. INSTALL ENDWALLS AND PLUNGE POOLS. CONTRACTOR TO INSTALL DIVERSION FOR THE PORTION OF WORK THAT CAN BE COMPLETED AND STABILIZED BY THE END OF EACH DAY.
- UPON COMPLETION OF PHASE 2, DIVERSION PIPE INSTALLED IN STREAM TO BE REMOVED OR ABANDONED AS APPLICABLE TO PROJECT STABILITY.
- ONCE ALL GRADING OPERATIONS AND STREAM CONSTRUCTIONS ARE COMPLETE, REMOVE EROSION AND SEDIMENT CONTROLS WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR. STABILIZE AND AREAS DISTURBED BY THE REMOVAL OF THE CONTROLS IMMEDIATELY.

#### REQUIREMENTS IN THE CRITICAL ROOT ZONE

- NO ALTERATION OR DISTURBANCE TO EXISTING GRADE OF ANY KIND; BY ADDING FILL, EXCAVATING OR SCRAPING
- NO STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS
- NO DISPOSAL OF ANY LIQUIDS E.G. CONCRETE SLEUTH, GAS, OIL, PAINT; AND BLACKTOP
- NO TRENCHING WITHIN THE CRITICAL ROOT ZONE. ALL WORK CONDUCTED IN THE GROUND WITHIN THE ROOT PROTECTION ZONE OF ANY PROTECTED TREE SHOULD BE ACCOMPLISHED WITH HAND TOOLS, BORING OR AN AIR SPADE.
- NO SOIL IS TO BE IN CONTACT WITH THE TRUNK OF THE TREE ABOVE THE BASAL FLAIR AT ANY TIME
- TREES LOCATED ADJACENT TO CONSTRUCTION WORK SHALL BE WATERED AT TEN (10) DAY INTERVALS THROUGHOUT THE GROWING SEASON.

	NO.	REVISION	BY	DATE
DATE				

**DISTRICT OF COLUMBIA  
DEPARTMENT OF ENERGY & ENVIRONMENT**

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DOEE  
WATERSHED PROTECTION DIVISION

STICKFOOT BRANCH  
STREAM RESTORATION

CONCEPT DESIGN DEVELOPMENT  
EROSION AND SEDIMENT  
CONTROL DETAILS & NOTES

ES-05

SCALE: N.T.S.

DRAWN BY: CC

CHECKED BY: FB

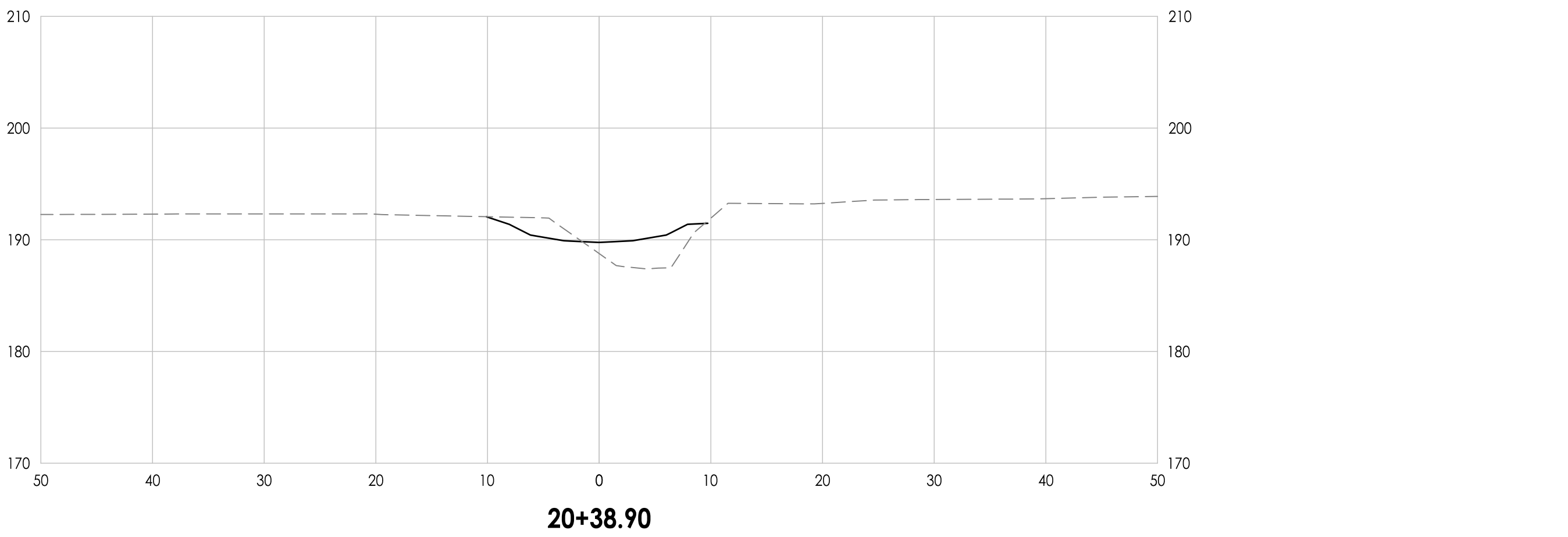
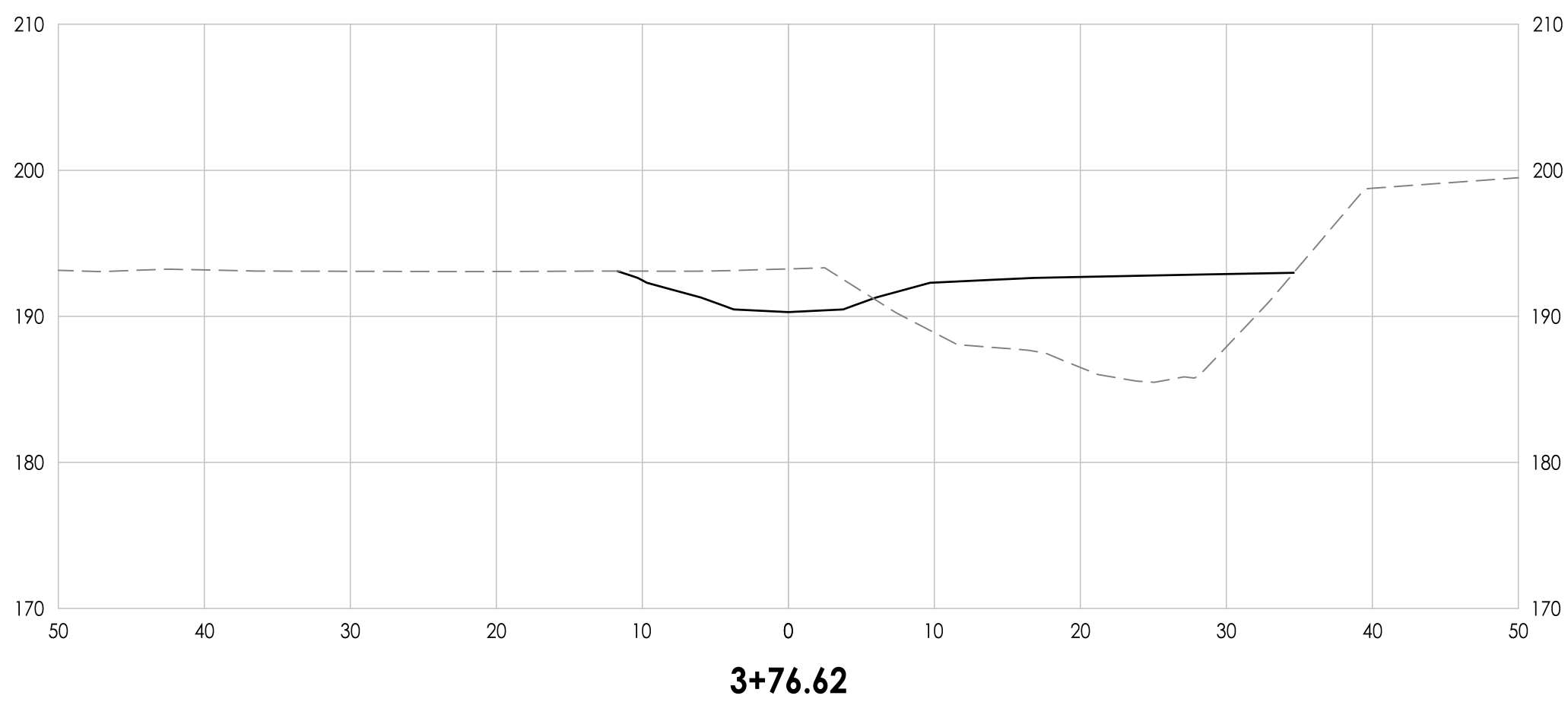
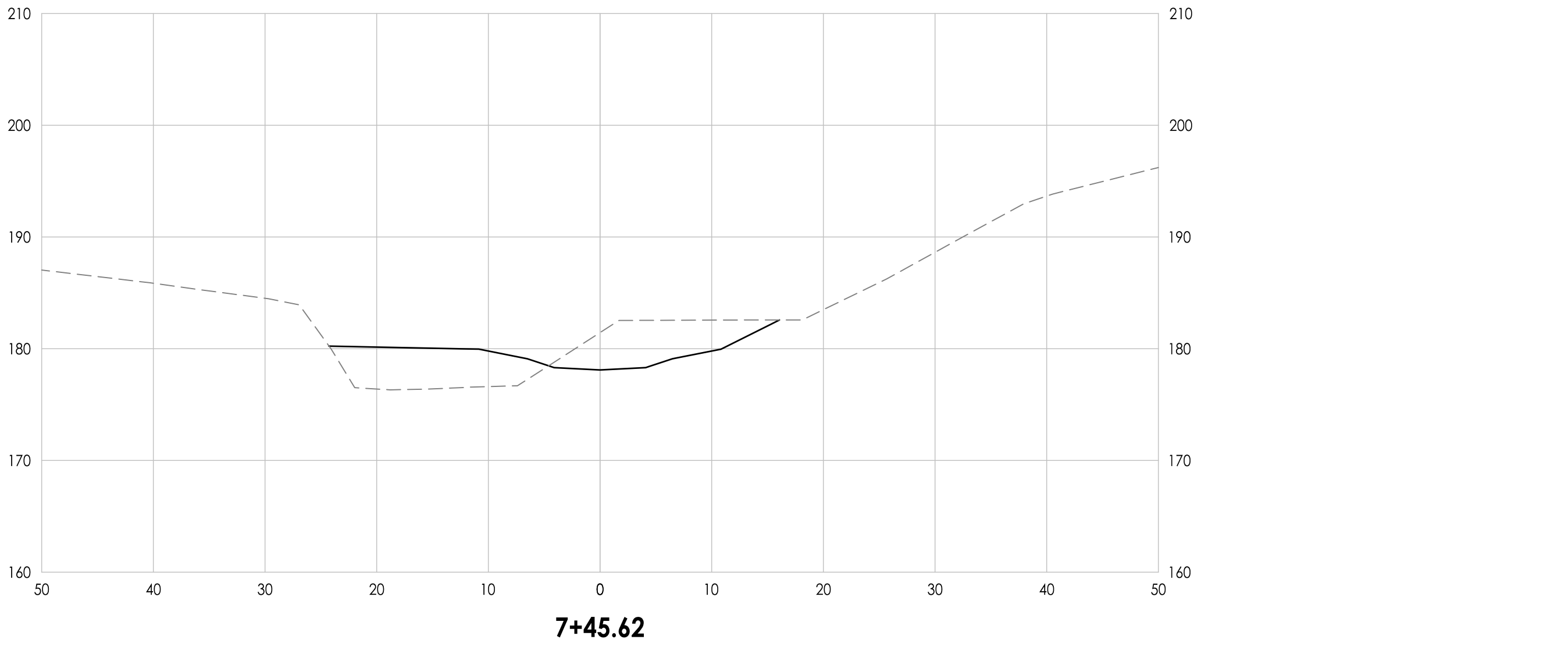
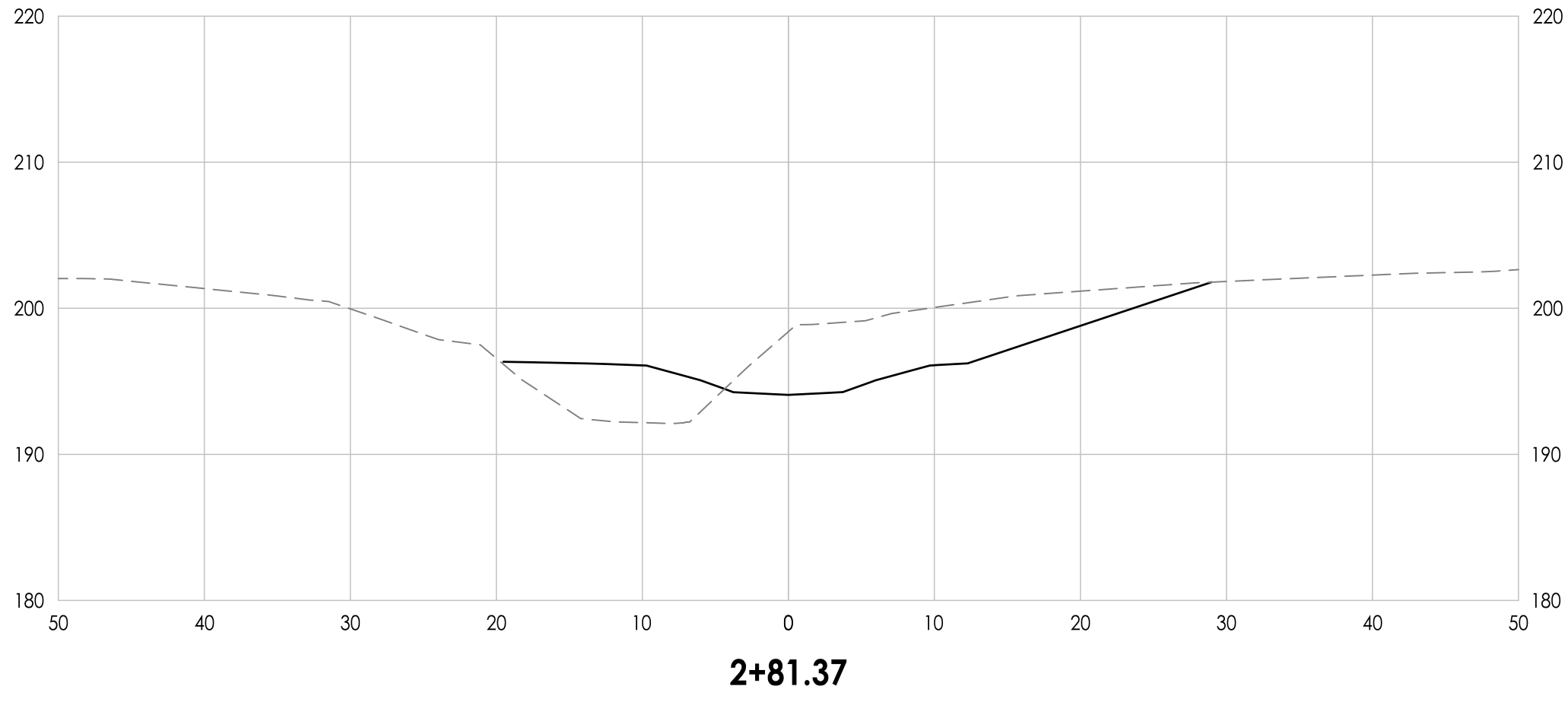
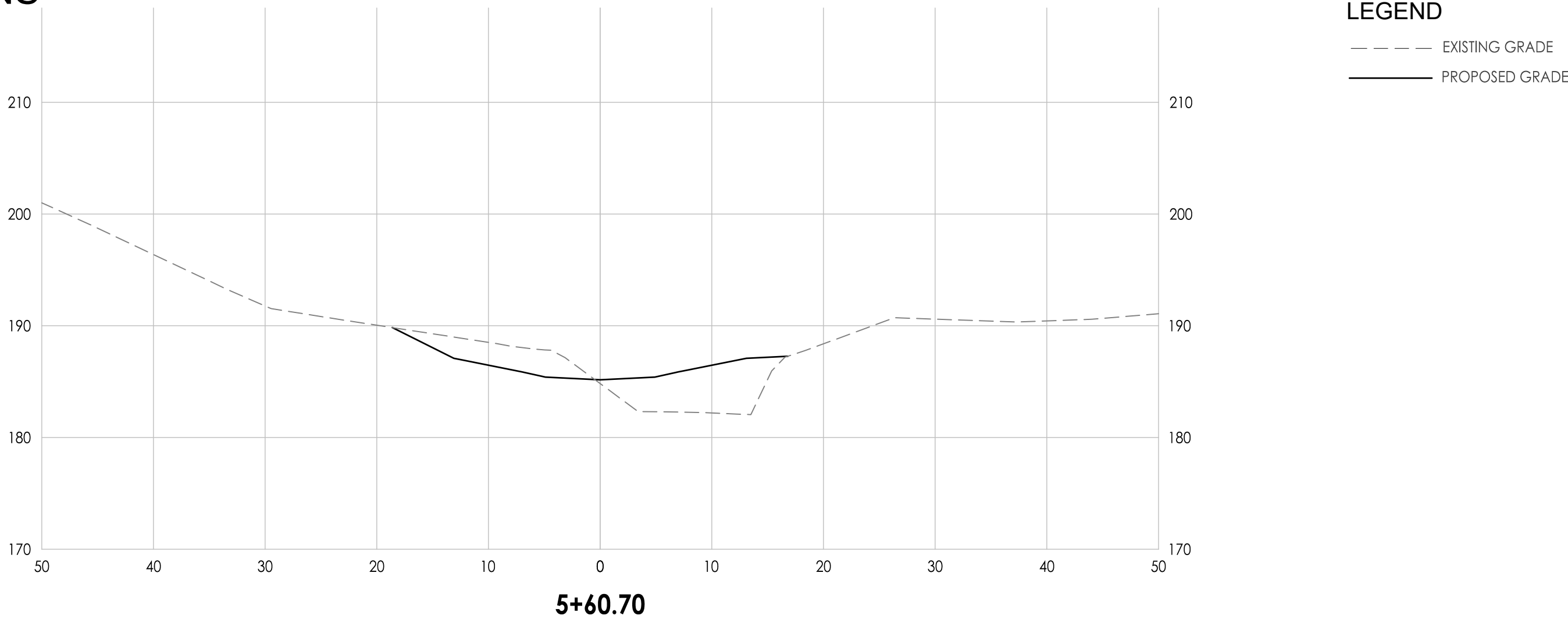
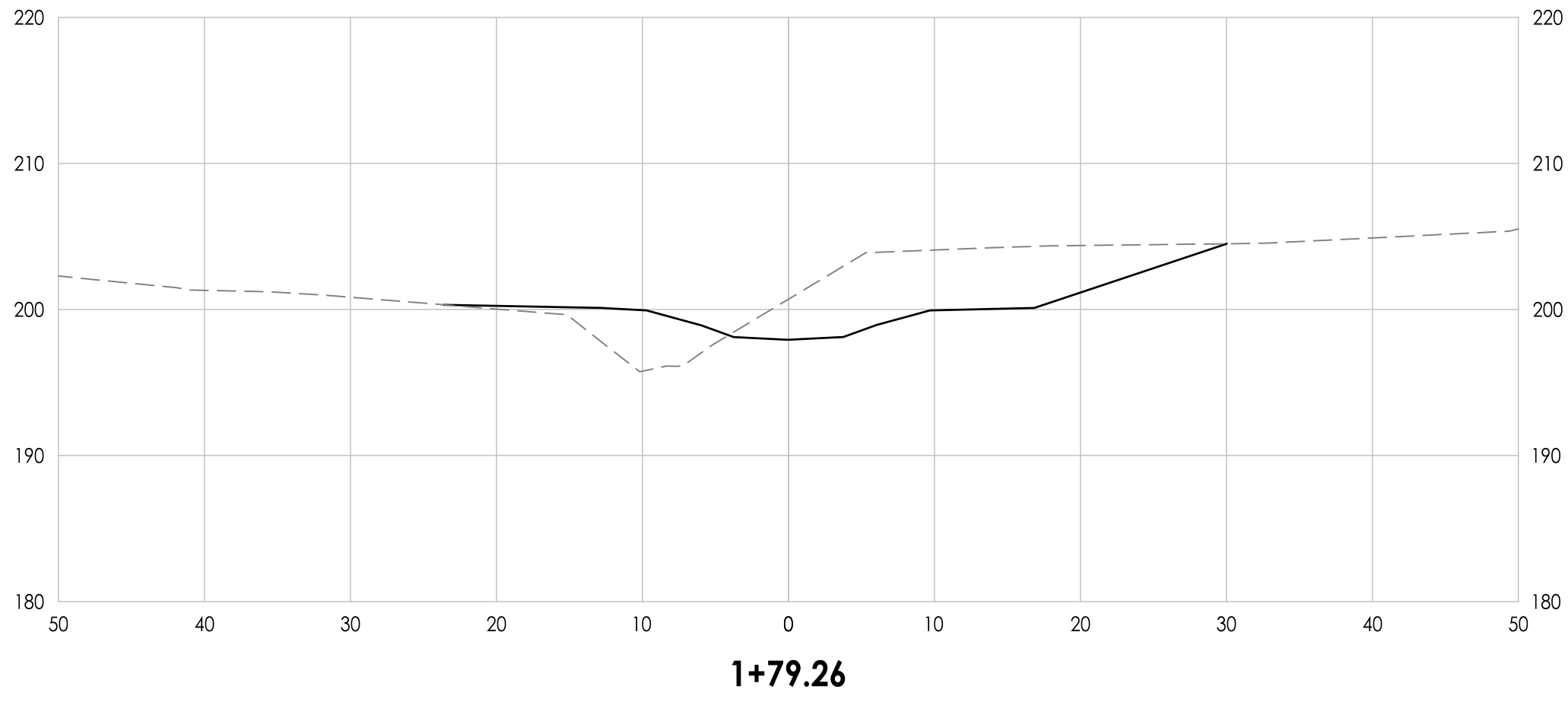
SHEET NO. 14 OF 15

CONTRACT NO. DCKA-2017-T-0102

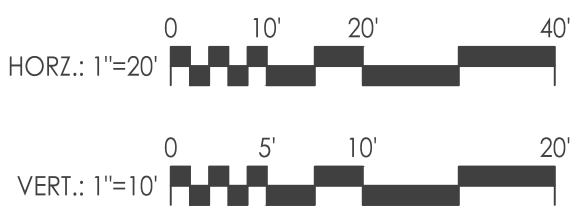
DATE: OCTOBER 20, 2020



PROPOSED SECTIONS



LEGEND  
--- EXISTING GRADE  
— PROPOSED GRADE



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	NO.	REVISION	BY	DATE	<div><div><div>★ ★ ★ DEPARTMENT OF ENERGY &amp; ENVIRONMENT</div><div>1200 FIRST STREET NE WASHINGTON, DC 20002 TEL. 202.535.2800 FAX. 800.855.1000 Email. doee@dc.gov</div></div><div><div><div>Stantec</div><div>6110 FROST PLACE LAUREL, MD 20707 TEL. 301.982.2800 FAX. 301.220.2619 www.stantec.com</div></div><div><div>The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay. The Copyright to all designs and drawings are the property of Stantec. Reproduction or use for any purpose other than that authorized by Stantec is forbidden.</div></div></div></div>	DOEE WATERSHED PROTECTION DIVISION		XS-01	
						STICKFOOT BRANCH STREAM RESTORATION		SCALE: AS SHOWN	
						CONCEPT DESIGN DEVELOPMENT  CROSS SECTIONS		DRAWN BY:	CC
								CHECKED BY:	FB
								SHEET NO.	15 OF 15
					CONTRACT NO. DCKA-2017-T-0102				
DATE						DATE: OCTOBER 20, 2020			