U.S. Army Corps of Engineers
Huntington District

Blaine Blvd Section 14
Charleston, WV

FID Decision Brief
July 20, 2021

BUILDING STRONG®

and Taking Care of People!

GREAT LAKES & OHIO RIVER DIVISION ISO-9001

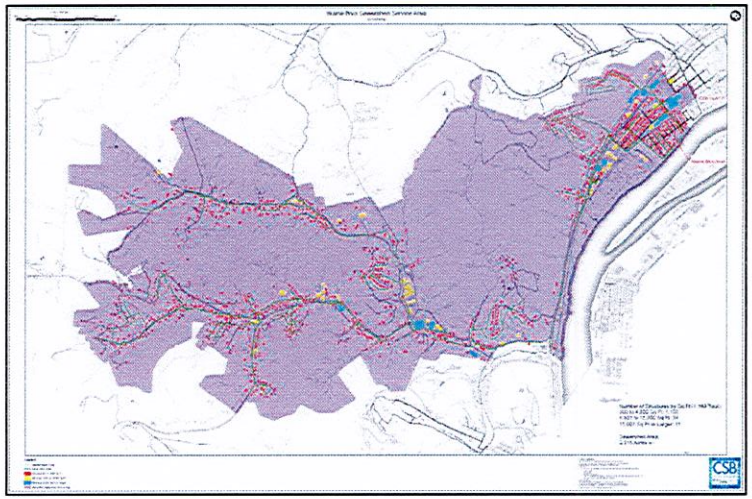
US Army Corps of Engineers®

U.S.ARMY

Project Overview

Blaine Blvd Section 14
Location: Charleston, WV

- Project located along the Kanawha River
- Public infrastructure at risk includes sewer main and Blaine Blvd
- 48" Sewer main provides utility to adjacent homes and industry with a 2300-acre sewer-shed
- Project is approximately 1,010 linear feet



BUILDING STRONG®
and Taking Care of People!

US Army Corps of Engineers
U.S.ARMY

Project Overview

Blaine Blvd Section 14
Location: Charleston, WV

- Blaine Blvd has a history of bank failure
- The City of Charleston, WV identified the issue, it was recognized as a potential Section 14 project for streambank stabilization
- The City provided a Letter of Intent in Aug 2020
- Early site reconnaissance was completed in Fall of 2020, at that time the viability of the project was uncertain
- It was determined the District proceed through the FID process

BUILDING STRONG®
and Taking Care of People!

Evaluation

- Initial funding was received in Feb 2021 to conduct the Federal Interest Determination.
- A kickoff call was held on 17 March 2021.
- The team conducted initial site visits, evaluating site conditions, environmental impacts, HTRW concerns, real estate requirements, etc.
- The team met with the non-Federal Sponsor, the City of Charleston on-site to learn about the previous history of the site and the City's ability to move forward with the project.
- The team identified several alternatives for the site.
- The risk register was developed to capture risks and uncertainties.
- Rough order of magnitude conceptual cost ranges were developed for the viable alternatives.

Alternatives

Alternative A: Stone Buttress Bank Stabilization	Alternative B: H-Pile and Lagging Stabilization Structure	Alternative C: Relocation
Alternative A includes clearing and grubbing and excavation of soils, placement of a geotextile filter fabric, and construction of a stone buttress and transitions. Beginning at the upstream end of Blaine Blvd around river mile 54 and extending 1,010 LF downstream will require geotextile filter fabric, stone berm, and upstream transition to effect stabilization. This conceptual treatment and related costs would most likely be significantly increased as a result of saturated soil conditions and numerous existing failure surfaces. Excavations, as required for buttress construction, would most likely result in extensive failures landward of the sewer manholes and road. These failures could significantly increase excavation yardage and placement of stone as required to form the buttress. Since the near-bank shallow water features vary from less than 30 to more than 40 feet in width, additional landward excavation to form a suitable placement surface, would be required to construct the stone buttress.	Alternative B includes clearing and grubbing, removal and replacement of guardrails, lighting, and manholes together with the installation of an H-pile and lagging system inclusive of soil anchorage. Beginning at the upstream end of Blaine Blvd around river mile 54 and extending 1,010 LF downstream. Excavations, as required for lagging and soil anchor installation, would most probably result in extensive failures landward of the sewer manholes and road. H-pile embedment of approximately 5 feet into bedrock would extend from elevation 598 to 510 msl since the bedrock would most probably be significantly weathered to depths of approximately 5-10 feet. Lagging installations from the road to normal pool would be installed incrementally. The saturated bank soils and riverward sediments would most probably be displaced incrementally during this phase of construction. Additionally, a stone berm would be installed from normal pool on a slope geometry of 1V:1.75H to a height of approximately 5 feet as necessary to address Kanawha River erosional exposure of embedded lagging.	Alternative C includes relocating of the 48" sewer main located along the centerline Blaine Blvd, including repaving and reconnection to local residence, reconstructing cross drains; and acquiring 4 residential properties.
$7.7M - $9.8M	$12M - $15.3M	$10.7M - $13M

Uncertainties & Path Forward

Blaine Blvd Section 14

Uncertainties
CAP Section 14 Authority - Cost (Federal funding limit $5M) - Scope
LERRDS (Lands, Easements, Rights-of-Way, Relocations, and Disposal Areas) - LERRD costs
Scope Growth - Bank failure prior to implementation - Excessive amount of failed soil found during surveys/implementation
Constructability - Technical Complexity - Possible sewer breach during implementation

Basis of Decision

With the findings of the FID process and evaluation, it was determined that there is no Federal interest to move forward with the proposed Blaine Blvd Section 14 emergency streambank stabilization project because all viable alternatives were found to exceed the Federal funding limit. Along with cost estimates exceeding the Federal limit, the team identified numerous large risks associated with the project which could further increase the costs. Some key risks and uncertainties include continued scope growth due to ongoing degradation of the site, technical complexity with unknown underground failures, potential breach of the sewer line during construction due to potential unknown failure and slip of the line, temporary or permanent loss of access to homeowners, and environmental impacts.

Discussion

BUILDING STRONG®
and Taking Care of People!

US Army Corps of Engineers

WV State Conservation Agency – Brian Farkas, Executive Director, bfarkas@wvca.us, 304-558-2204

WV Office of Community Advancement and Development – Sherry Risk, Community Development Block Grant Program Manager, Sherry.L.Risk@wv.gov, 304-352-4135

WV Infrastructure and Jobs Development Council - Wayne Morgan, Executive Director, 304-414-6500 x106

WV State Hazard Mitigation Office – Kelli Batch, Grants Manager/State Hazard Mitigation Officer Kelli.r.batch@wv.gov

NRCS

Kanawha Co. Floodplain Manager