

DESIGN DOCUMENTATION REPORT

For Project #470268:

Sevenmile Creek Flood Risk Management

Nonstructural Implementation

Nashville, TN

Project Sponsor: Metro Water Services

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1. Introduction

Sevenmile Creek project is a 65/35 cost share project conducted in partnership with City of Nashville, Metropolitan Davidson County, Tennessee. PPA was executed on February 19, 2019. The PPA amended on December 9, 2020 to allow for sequential reimbursement to the project sponsor for LERRD payments. Sequential payment details are covered for LRN processes by the LERRD reimbursal standing operating procedure (SOP) for projects in excess of 35% LERRD.

2. General Information

Sevenmile Creek is a construction general project. TPC estimated to be \$15.6M in the 2020 Validation Report. Sevenmile Creek is funded for implementation phase via BBA 2018, Supplemental Appropriations. Project entered the D+I phase progressing into nonstructural acquisitions in 2019.

3. Purpose and Scope

The project area is the approved project recommendation of the Mill Creek Feasibility Study dated October 15, 2015. The partnership agreement (PPA) was executed in 2019, marking the official start to the implementation phase. Due to changed conditions encountered in PED, the 2020 Validation Report recommendation revised the authorized project to the following;

The new project recommendation for Sevenmile Creek proposes to replace the loss of dry dam benefits by optimizing the nonstructural scope of the project with additional project features. The recommended plan would add 1 buyout and 10 elevations to the originally authorized nonstructural plan in order to meet ER 1105-2-100 G-13 guidance of maintaining 80% of the originally authorized project benefits. Plan A2A has been identified as the new recommended project (Table 12) and is compared in Table 13 of this document with the least cost plan (Original Plan) and maximum benefit plan (Plan A2 Max). Plan A2A includes the buyout and removal of 39 structures along with the elevation of 17 structures.

The new project authorization did update eligible structures utilizing the original study parameters. Due to scope of the validation report it did not affirm floodplain or floodway extent nor did it confirm elevation data for structure eligibility. That element for project inclusion is reserved for implementation and potential adjustment within the Nonstructural DDR. LRN utilizes the same regional approach proposed and approved for use in tandem project Mill Creek. For additional details on the project amendment see the 2020 Validation Report and the 2020 Structural Design Documentation Report.

4. Project List

The Validation project list consists of 39 buyout and 17 elevation is provided on page 3. Per typical process for reports with nonstructural recommendations, the following language was included within Section 4.6 Description of Recommended Plan, "Implementation of nonstructural measures at individual properties will be dependent on verification of structure characteristics and first floor elevations."

5. Project Modification

a. **233 Elysian Fields Rd: ADDED**

- i. Stream: lower Sevenmile Creek
- ii. During the implementation phase this property realized significant risk from flooding during the March 2021 flood event. The property remains at significant risk of recurrence as a floodway property adjacent to 5 year floodplain characteristics, and contiguous to block in existing plan. 233 Elysian Fields is on the same block, streamside, and within a small grouping, that is contiguous to 23 eligible structures.
- iii. Per items 7a and 7b of the referenced nonstructural project modification guidance (App A) this property is submitted for addition to the Sevenmile Creek project. The property carries the requisite aggregation of being floodway and 5-year floodplain approximate. And the structure happens to be within a grouping that is contiguous to 23 properties approved via the Validation Report. As the 2019-03 PB provides, this structure can be included in the project via the 'grouping' allowances of the updated agency policy.
- iv. Property Card:

Davidson County, TN Unofficial Property Record Card
 Assessor of Property

GENERAL PROPERTY INFORMATION

Map & Parcel: 133 12 0 157.00	Location: 233 ELYSIAN FIELDS RD
Current Owner: CHAUVIN, GINA NICOLE & LAWRENC	Land Area: 0.39 Acres
Mailing Address: 233 ELYSIAN FIELD RD NASHVILLE, TN 37217	Most Recent Sale Date: 06/13/2019
Zone: 1	Most Recent Sale Price: \$280,500
Neighborhood: 3926	Deed Reference: 20190618-0058561
	Tax District: USD

CURRENT PROPERTY APPRAISAL

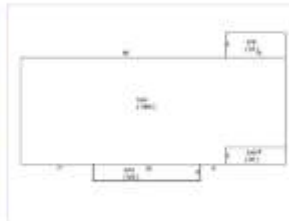
Assessment Year: 2022	Assessment Classification*: RES
Land Value: \$46,000	Assessment Land: \$11,500
Improvement Value: \$134,500	Assessment Improvement: \$33,625
Total Appraisal Value: \$180,500	Assessment Total: \$45,125

LEGAL DESCRIPTION

LOT 41 VALLEY VIEW MEADOWS SEC. 3

IMPROVEMENT ATTRIBUTES - Card 1 of 1

Building Type: SINGLE FAM	Rooms: 6	Exterior Wall: BRICK
Year Built: 1967	Beds: 3	Frame Type: RESD FRAME
Square Footage: 1,494	Baths: 1	Story Height: ONE STY
Number of Living Units: 1	Half Bath: 1	Foundation Type: CRAWL
Building Grade: C	Fixtures: 7	Roof Cover: ASPHALT
Building Condition: Average		



5. Project Modification

b. 3908 Dewain Rd: ADDED

- i. Stream: lower Sevenmile Creek
- ii. During the implementation phase this property realized significant risk from flooding during the March 2021 flood event. The property remains at significant risk of recurrence as a floodway property adjacent to 5 year floodplain characteristics, and contiguous to block in existing plan. 3908 Dewain is on the same block, streamside, and within a small grouping, that is contiguous to 23 eligible structures.
- iii. Per items 7a and 7b of the referenced nonstructural project modification guidance (App A) this property is submitted for addition to the Sevenmile Creek project. The property carries the requisite aggregation of being floodway and 5-year floodplain approximate. And the structure happens to be within a grouping that is contiguous to 23 properties approved via the Validation Report. As the 2019-03 PB provides, this structure can be included in the project via the 'grouping' allowances of the updated agency policy.
- iv. Property Card:

Davidson County, TN
Assessor of Property

Unofficial Property Record Card

GENERAL PROPERTY INFORMATION

Map & Parcel: 133 12 0 117.00	Location: 3908 DEWAIN DR
Current Owner: ABDULLAH, AYOUB B	Land Area: 0.45 Acres
Mailing Address: 3908 DEWAIN DR	Most Recent Sale Date: 05/08/2019
NASHVILLE, TN 37211	Most Recent Sale Price: \$165,000
Zone: 1	Deed Reference: 20190506-0041958
Neighborhood: 3926	Tax District: USD

CURRENT PROPERTY APPRAISAL

Assessment Year: 2021	Assessment Classification*: RES
Land Value: \$46,000	Assessment Land: \$11,500
Improvement Value: \$174,600	Assessment Improvement: \$43,650
Total Appraisal Value: \$220,600	Assessment Total: \$55,150

LEGAL DESCRIPTION

LOT 26 VALLEY VIEW MEADOWS SEC 2

IMPROVEMENT ATTRIBUTES - Card 1 of 1

Building Type: SINGLE FAM	Rooms: 6	Exterior Wall: BRICK
Year Built: 1969	Beds: 3	Frame Type: RESD FRAME
Square Footage: 1,570	Baths: 1	Story Height: SPLIT- LEVEL
Number of Living Units: 1	Half Bath: 1	Foundation Type: SLAB
Building Grade: C	Fixtures: 7	Roof Cover: ASPHALT
Building Condition: Average		



*This classification is for assessment purposes only and is not a zoning designation, nor does it speak to the legality of the current use of the subject property.

5. Project Modification

c. **220 Elysian Fields Rd: ADDED**

- i. Stream: lower Sevenmile Creek
- ii. During the implementation phase this property realized significant risk from flooding during the March 2021 flood event. The property remains at significant risk of recurrence as a floodway property adjacent to 5 year floodplain characteristics, and contiguous to block in existing plan. 220 Elysian is on the same block, streamside, and within a small grouping, that is nearby to 23 eligible structures. Due to first floor approximation and structure is not located within floodway, it is therefore deemed eligible for elevation.
- iii. Per items 7a and 7b of the referenced nonstructural project modification guidance (App A) this property is submitted for addition to the Sevenmile Creek project. The property carries the requisite aggregation of being 5-year floodplain approximate and within the block of 23 eligible structures. As the 2019-03 PB provides, this structure can be included in the project via the 'grouping' allowances of the updated agency policy.
- iv. Property Card:

Davidson County, TN Assessor of Property	Unofficial Property Record Card	
GENERAL PROPERTY INFORMATION		
Map & Parcel: 133 08 0 051 00 Current Owner: WALKER, JESSE D. ETUX Mailing Address: 220 ELYSIAN FIELDS RD NASHVILLE, TN 37211 Zone: 1 Neighborhood: 3928	Location: 220 ELYSIAN FIELDS RD Land Area: 0.28 Acres Most Recent Sale Date: 09/30/1975 Most Recent Sale Price: \$31,559 Deed Reference: 00004958-0000412 Tax District: USD	
CURRENT PROPERTY APPRAISAL		
Assessment Year: 2021 Land Value: \$48,000 Improvement Value: \$161,700 Total Appraisal Value: \$207,700	Assessment Classification*: RES Assessment Land: \$11,500 Assessment Improvement: \$40,425 Assessment Total: \$51,925	
LEGAL DESCRIPTION		
LOT 45 VALLEY VIEW MEADOWS SEC. 3		
IMPROVEMENT ATTRIBUTES - Card 1 of 1		
Building Type: SINGLE FAM Year Built: 1969 Square Footage: 1,049 Number of Living Units: 1 Building Grade: C Building Condition: Average	Rooms: 5 Beds: 2 Baths: 1 Half Bath: 0 Fixtures: 5	Exterior Wall: BRICK Frame Type: RESD FRAME Story Height: ONE STY Foundation Type: CRAWL Roof Cover: ASPHALT
		

*This classification is for assessment purposes only and is not a zoning designation, nor does it speak to the legality of the current use of the subject property.

6. NEPA – Environmental Considerations

The modifications of the properties listed above adds repetitive loss floodway approximate structures on lower Sevenmile Creek at a higher rate of flood risk recurrence. This modification better allows the project to deliver flood risk management benefits in both economic and life safety, evacuation, and rescue categories. This movement or modification also results in a net gain of floodplain/riparian zone acreage by adding properties 5a-c.

7. Updated Project List

As of 7 JUN 2022. This DDR proposed changes to 0 properties in the original list and to add 3 different eligible properties into the buyout or elevation list. There is a current net change in the project to 41 buyout and 18 elevations eligible in the current scope of the project. List provided on following page.

Buyout = 39

245 ELYSIAN FIELDS RD
 256 ELYSIAN FIELDS RD
 264 ELYSIAN FIELDS RD
 266 ELYSIAN FIELDS RD*
 274 ELYSIAN FIELDS RD
 277 ELYSIAN FIELDS RD
 280 ELYSIAN FIELDS RD
 285 ELYSIAN FIELDS RD*
 286 ELYSIAN FIELDS RD
 356 FOXGLOVE DR
 362 FOXGLOVE DR
 364 FOXGLOVE DR
 3901 DEWAIN DR*
 3904 DEWAIN DR
 450 PARAGON MILLS RD
 476 PARAGON MILLS RD
 478 PARAGON MILLS RD
 480 PARAGON MILLS RD
 482 PARAGON MILLS RD
 484 PARAGON MILLS RD
 486 PARAGON MILLS RD
 492 PARAGON MILLS RD
 494 PARAGON MILLS RD
 4943 EDMONDSON PIKE
 4945 EDMONDSON PIKE
 4949 EDMONDSON PIKE
 4951 EDMONDSON PIKE
 4953 EDMONDSON PIKE
 5005 EDMONDSON PIKE
 5043 EDMONDSON PIKE
 517 PARAGON MILLS RD
 521 PARAGON MILLS RD
 273 ELYSIAN FIELDS RD
 269 ELYSIAN FIELDS RD
 265 ELYSIAN FIELDS RD
 261 ELYSIAN FIELDS RD
 257 ELYSIAN FIELDS RD
 253 ELYSIAN FIELDS RD
 249 ELYSIAN FIELDS RD

Elevate – Raise in Place = 17

5423 EDMONDSON PIKE
5004 W DURRETT DR
5009 W DURRETT DR
5011 W DURRETT DR
5013 W DURRETT DR
5015 W DURRETT DR
5030 SUTER DR
5036 SUTER DR
5038 SUTER DR
348 FOXGLOVE DR
1051 ANTIOCH PIKE
1053 ANTIOCH PIKE
205 NUNLEY DR
279 CATHY JO DR
283 CATHY JO DR
260 ELYSIAN FIELDS RD
288 ELYSIAN FIELDS RD

DDR - Project Addendum (PED)

3908 DEWAIN AVE
 233 ELYSIAN FIELDS RD
 220 ELYSIAN FIELDS RD - Elevate

Buyout Added – RED = 7

Elevate Raise in Place Added – BLUE = 4

Moved from Buyout to Raise – GREEN = 6

* 3901 Dewain (USACE) = 287 Elysian Fields (Metro)
 *266 Elysian Fields (USACE) = 268 Elysian Fields (Metro)
 *285 Elysian Fields (USACE) = 3900 Dewain (Metro)

Appendix A (Project Modification MFR)



DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
110 5TH AVENUE SOUTH, ROOM A-405
NASHVILLE, TENNESSEE 37203

CELRN-PM-P

27 AUG 2021

MEMORANDUM FOR Record, Great Lakes and Ohio River Division, ATTN: CELRD-PDS-P (Mr. Dan Linkowski), U.S. Army Corps of Engineers, 550 Main Street, Cincinnati, OH 45202

SUBJECT: Nashville District Draft Proposal for Design and Implementation Adjustment to Mill Creek (P#325763) Project.

1. Reference:

- a. Mill Creek, Nashville, TN, Detailed Project Report and Environmental Assessment, dated 7 March 2017.
- b. Memorandum for Commander, Great Lakes and Ohio River Division, Approval of Mill Creek, Nashville, TN, Detailed Project Report, dated 10 May 2017.
- c. USACE Planning Bulletin 2019-03, issued 13 December 2018.
- d. USACE Engineering Regulation 105-2-100, Planning Guidance Notebook, Appendix G-13.

2. Background: The Mill Creek Chief's Report was approved by Headquarters, U.S. Army Corps of Engineers (HQUSACE) on 15 October 2015. The Mill Creek portion of the Chief's Report was authorized for conversion to the Continuing Authorities Program via Section 1402(a) of the Water Improvements to the Nation Act of 2016. The Great Lakes and Ohio River Division (LRD) approved the Mill Creek Detailed Project Report (DPR) on May 10, 2017. The report recommendation includes the Briley Parkway Bridge and Channel Modification, and the nonstructural plan to buyout 42 residences and elevate 2 residences within the Mill Creek, Sorghum Branch, and Whittemore Branch watersheds. The total project cost is estimated to be \$12.9M, per October 1, 2017 price level. 2017 DPR also provided average annual cost in the amount of \$510,000, and average annual benefits in the amount of \$759,000.

3. Project Verification: Per typical process for reports with nonstructural recommendations, the following language was included within *Section 4.6 Description of Recommended Plan*, "Implementation of non-structural measures at individual properties will be dependent on verification of structure characteristics and first floor elevations."

SUBJECT: Nashville District Draft Proposal for Design and Implementation Adjustment to Mill Creek (P#325763) Project.

4. PED Adjustment Considerations: The 2013-2014 base data of the report includes a combination of elevation data, topology, first floor elevations, and first floor certificates from multiple sources, dating to the early 2000s. During the PED phase, the district has determined discrepancies to a small number of residences within the recommended project footprint based on source data and other relevant errata within the report models. The district determines it is necessary to update the feasibility level data to design level of detail. To date, issues have been confirmed with two eligible residences. Recent agency policy changes and project flood risk evidence refocused the efforts to address these issues.

5. Individually Justified: The Mill Creek DPR originally proposed nonstructural solutions for 216 residences. The report review and approval process ultimately reduced this down to 89 residences following instruction to only include structures with individual economic justification. That policy has since changed, via Planning Bulletin 2019-03. Individual economic justification is no longer a constraint to plan selection and inclusion in nonstructural projects. Instead, the updated policy is intended to account for logical groupings. Aggregations can be based upon community cohesion, neighborhood aesthetic, housing condition, or project connectivity. In all these considerations, the overall economic justification of the proposal is still essential, however, the sum of the group is measured as a whole rather than each property individually.

6. 2021 Flood Disaster – Recovery and Risk Management: The March 28-29 flood resulted in major flood levels in the Mill Creek project area, with severe impacts, including multiple fatalities suffered in the greater Nashville community. The project team is in process of evaluating the critical impacts of this event, swift water rescues, floodway risks, and risks to the community and its first responders. In the interest to adjust the project extent to more appropriately consider the flood risk demonstrated by this and prior events, LRN proposes the following reasonable adjustments to the project based on the allowances mentioned above.

a. LRN expects this change to be limited to a single digit number of structures. At this time, LRN is aware of at least 2 residences that would be recommended for change of treatment, or replacement.

b. LRN expects that the movement of a small number of homes from buyout to elevate; and the addition of a few structures to the project will not significantly impact the authorized project cost for Mill Creek, which is \$12.9M. In the DDR, LRN will maintain records of the original project recommendation and coordinate all proposed changes with the project delivery team. Potential cost implications will also be documented, while the LRN adheres to the approved project limits as defined by the DPR and PPA.

7. Project Inclusion Basis: LRN proposes to base the Mill Creek project PED adjustment by using the same criteria from the original study (Section 4.1.3).

SUBJECT: Nashville District Draft Proposal for Design and Implementation Adjustment to Mill Creek (P#325763) Project.

a. Per the report, the recommended project includes all homes located in the 5-year event, that had individual positive benefits (plan NS-11).

i. Original aggregation confirmation: The original plan included structures that demonstrated first floor elevations, footprint, and approximate values within the bounds of the 5-year floodplain. Adjustments are proposed where structures fall outside of these 5-year floodplain characteristics.

1. The PED adjustment would downgrade from buyout to elevate or replace the individual structure with one that meets the original aggregation, where 2019-03 grouping metrics are now considered.

ii. Where the original plan includes structures approximate to the 100' year elevation.

1. The PED adjustment would downgrade from buyout to elevate or replace the individual structure with one that meets the original aggregation where 2019-03 grouping metrics are now considered.

b. This PED adjustment MFR proposes to utilize changes from PB 2019-03 as the basis for project inclusion. PB 2019-03 allows for grouping structures within the project and removes the individual justification requirement. Grouping of structures is now allowed where the aggregation chosen at time of plan selection needs to be consistent with any post report (PED) adjustment. Therefore, LRN proposes to use that original aggregation as the 5-year event plus grouping of adjacent eligible structures to constrain this PED adjustment. Reference Section 4.1 and Table 8 of the DPR for these plan results and parameters.

c. During design and implementation, LRN would be limited by the original report aggregation method, consistent plan formulation logic, and the adherence to ER 1105-2-100 G-13 guidance. G-13 paragraph 2 provides a project the allowance of scope change "an increase or decrease in scope no greater than 20% of the scope authorized by Congress."

8. Documentation of Changes: Given the relatively minor changes proposed to the recommended plan, LRN intends to document the final design and summarize the differences from the recommended plan in the approved DPR/EA in the project's Design Documentation Report. That documentation will include a review from the NEPA biologist PDT of any net positive or negative changes to the open space resulting from these projects. At this time, LRN believes it is highly unlikely that a Supplemental EA would be required given the limited changes. If these changes become more significant, LRN will coordinate with LRD on any additional requirements for documentation and review.

SUBJECT: Nashville District Draft Proposal for Design and Implementation Adjustment to Mill Creek (P#325763) Project.

9. LRN provides this proposal to LRD Planning and Policy Division to ensure vertical alignment with the path forward before any decisions are made to adjust the Mill Creek project.

10. The LRN POC for this action is Thomas Herbert, Project Manager, at (615) 736-7194, Thomas.h.herbert@usace.army.mil.


11 Aug 2021

Daniel P. Linkowski
Chief, Planning and Policy Division
United States Army Corps of Engineers
Great Lakes and Ohio River Division

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Craig D. Carrington, PMP
Chief, Project Planning Branch
United States Army Corps of Engineers
Nashville District

#	CD#	Function	Owner's Last Name	Owner's First Name	Street Number	Street Name	City	PIN Number	Budgeted Property Costs
US Army Corp of Engineers - Sevenmile Creek									
1	26	Add	Adbullah	Ayoob B	3908	Dewain Drive	Nashville	133 12 0 117.00	\$ 446,550.00
2	26	Add	Walker	Jessie D ET UX	220	Elysian Fields Road	Nashville	133 08 0 051.00	\$ 446,550.00
3	26	Add	Chauvin	Gina Nicole & Lawrence Matthes	233	Elysian Fields Road	Nashville	133 12 0 157.00	\$ 451,550.00



**METROPOLITAN GOVERNMENT
OF NASHVILLE AND DAVIDSON COUNTY**

Planning Department
Metro Office Building
800 Second Avenue South
Nashville, Tennessee 37201

July 12, 2022

To: Peggy Deaner, Metro Water

**Re: SEVENMILE CREEK FLOOD RISK MANAGEMENT PROJECT
Planning Commission Mandatory Referral # 2019M-014PR-003
Council District #26 Courtney Johnston, Council Member**

On behalf of the Metropolitan Planning Commission, the following item, referred to the Commission as required by the Metro Charter, has been recommended for *approval* to the Metropolitan Council:

A second request to amend the Sevenmile Creek Flood Risk Management Project property list (RS2019-1802 and RS2021-775; MWS Project No. 19-SWC-214) to add three properties (see sketch for details).

The relevant Metro agencies (Metro Parks, Metro Public Works, Metro Water Services, Metro Emergency Communications, the Nashville Electric Service, Metro Finance – Public Property and the Metro Historical Commission) have reviewed the proposal and concur in the recommendation for approval. This request must be approved by the Metro Council to become effective. A sketch showing the location of the request is attached to this letter.

Conditions that apply to this approval: none

This recommendation for approval is given as set forth in the Metropolitan Planning Commission Rules and Procedures. If you have any questions about this matter, please contact Delilah Rhodes at delilah.rhodes@nashville.gov or 615-862-7208.

Sincerely,

A handwritten signature in black ink that reads 'Robert Leeman'.

Robert Leeman
Deputy Director
Metro Planning Department
cc: Metro Clerk

Re: SEVENMILE CREEK FLOOD RISK MANAGEMENT PROJECT
Planning Commission Mandatory Referral # 2019M-014PR-003
Council District #26 Courtney Johnston, Council Member

A second request to amend the Sevenmile Creek Flood Risk Management Project property list (RS2019-1802 and RS2021-775; MWS Project No. 19-SWC-214) to add three properties (see sketch for details).

