

EXECUTIVE ORDER 11988

FLOODPLAIN MANAGEMENT – CHECKLIST (44 CFR Part 9)

TITLE: Five Mile Creek Flood Mitigation Project - Phase II

PROPOSED ACTION: The proposed Five Mile Creek flood mitigation project would attenuate flood waters on Five Mile Creek, to lessen the depth and extents of flooding downstream throughout the City of Tarrant. The project consists of an earthen berm constructed across Five Mile Creek at a location about 330 feet upstream of Lawson Road. The structure would retain flood waters during storm events, thereby lowering downstream water surface elevations during and after those events. The structure will be built with a trapezoidal concrete emergency spillway designed for the probable maximum flood.

APPLICABILITY: Actions which have the potential to affect floodplains or their occupants, or which are subject to potential harm by location in floodplains.

YES NO

The proposed action could potentially adversely affect the floodplain. An H&H study would have to determine whether the proposed action would affect the floodplain.

Remarks: Flood Control 1 would be an earthen berm across Five Mile Creek about 330 feet upstream of Lawson Road with drainage of about 10,450 acres (16.3 square miles). The principal spillway is an arched steel pipe about 16 feet wide and 8 feet tall, and the existing streambed would be improved with larger rock material to withstand scouring effects. The berm would be about 1,000 feet wide, 300 feet long, and would have about 0.25 million cubic yards of soil. The emergency spillway, which would be designed for the probable maximum flood (PMF), would be about 400 feet wide and concrete lined.

YES NO

The proposed action could potentially be adversely affected by the floodplain.

Remarks: The proposed project is to prevent additional flooding from Five Mile Creek.

IF ANSWER IS NO, REVIEW IS COMPLETED, OTHERWISE CONTINUE WITH REVIEW.

Mark the review steps required per applicability: 1 2 3 4 5 6 7 8

CRITICAL ACTION:

- YES Review against 500 Year floodplain
 NO Review against 100 Year floodplain

STEP NO. 1 Determine whether the proposed action is located in the 100-year floodplain (500-year floodplain for critical actions);

Flood Hazard data available (check the box that applies)

- YES NO The project is located in a 100 Year floodplain as mapped by FIRM Panel No: 01073C0401G, Dated: 09/29/2006 Lat: 33.607778 Long: -86.742222.
- YES NO The project is located in a 500 Year floodplain as mapped by FIRM Panel No. , Dated .
- YES NO The project is located in a floodplain as mapped by a FEMA draft/preliminary study. Name Dated .
- YES NO The project is located in a floodplain as mapped by the local community. Name Dated .
- YES NO The project is located in a floodplain as mapped by another Agency (State, Corps, USGS, NRCS, and etc.) Agency, Name Dated ,

Flood Hazard data not available

- YES NO The proposed action is subject to flooding based on evaluation from soil surveys, aerial photos, site visits and other available data. Evaluation material used in determination:
- YES NO FEMA assumes the proposed action is subject to flooding based upon on previous flooding of the facility/structure.

IF ANY OF THE ANSWERS ARE YES, CONTINUE WITH THE FOLLOWING STEPS, OTHERWISE REVIEW IS COMPLETE.

STEP NO. 2 Notify the public at the earliest possible time of the intent to carry out an action in a floodplain, and involve the affected and interested public in the decision-making process.

- Notice was provided as part of a disaster cumulative notice.
- Project Specific Notice was provided by:
Type of Public Notice:
 - Newspaper, (name:)
 - Post Site, (location: **Tarrant City Hall, 1604 Pinson Valley Parkway, Tarrant, AL 35217**)
 - Broadcast, (station:)
 - Direct Mailing, (area:)
 - Public Meeting, (dates:)
 - Other:

Date of Public Notice: The Public Notice for E.O. 11988 will be submitted as part of the Environmental Assessment's Public Notice.

STEP NO. 3 Identify and evaluate practicable alternatives to locating the proposed action in a floodplain (including alternatives sites, actions and the "no action" option). If a practicable alternative exists outside the floodplain, FEMA must locate the action at the alternative site.

Alternative Options

YES NO

Is there a practicable alternative site location outside of the 100-Year floodplain?

Site location: Five alternatives were considered for this project. Flood Control Structure (FC) 3 and FC 4 combined provide about 1 foot average flood reduction to downstream properties. FC 1 and FC 2 provide about 5 and 4 feet flood reduction, respectively. Because of the limited flood reduction benefits these structures would provide compared to other flood control structures, FC 3 and FC 4 were removed from further consideration. For FC 5 to be implemented, Lawson Road would have to be reconstructed, relocated and/or raised in order for the Lawson Road Bridge to serve as a flood control structure. These engineering difficulties would also require many state and local permits and special approvals as well as require shutting down this road for many months. Because of these design, permitting, and construction issues, FC 5 was removed from further consideration. FC 1 was chosen over FC 2, because FC 1 provides about 1 foot greater flood reduction to downstream properties and provides 6% more damage reduction (an approximate \$2.5 million damage reduction difference between FC 1 and FC 2).

YES NO

For Critical Actions, is there a practicable alternative site location outside of the 500-Year floodplain?

Site location:

YES NO

Is there a practicable alternative action outside of the 100-Year floodplain that will not affect the floodplain?

Alternative action:

YES NO

Is the NO Action alternative the most practicable alternative?

If no action is taken, traffic disturbance will continue on AL 79 and Springdale Road, both major access routes to the City of Tarrant, as well as other roadways in the city, such as Pine Hill Road and Lawson Road. Losses to personal and commercial property from flooding would continue. There is also a continued threat to public safety. This alternative does not meet the purpose and need for flood hazard reduction.

IF ANY ANSWER IS YES, THEN FEMA SHALL TAKE THAT ACTION AND THE REVIEW IS CONCLUDED.

STEP NO. 4 Identify the potential direct and indirect impacts associated with the occupancy or modification of floodplains and the potential direct and indirect support of floodplain development that could result from the proposed action. 44CFR Part 9.10

YES NO

Is the Proposed Action based on incomplete information?

YES NO

Is the proposed action in compliance with the NFIP?

YES NO

Does the proposed action increase the risk of flood loss?

YES NO

Will the proposed action result in an increased base discharge or increase the flood hazard potential to other properties or structures?

YES NO

Does the proposed action minimize the impact of floods on human health, safety and welfare? This water surface elevation reduction would not only reduce repetitive flood damages to businesses and residences, but would also allow major transportation routes such as Alabama Highway 79 (AL 79) to remain passable during major storm events facilitating public, emergency, and public service traffic.

YES NO

Will the proposed action induce future growth and development, which will potentially adversely affect the floodplain?

No, This water surface elevation reduction would not only reduce repetitive flood damages to businesses and residences, but would also allow major transportation routes such as Alabama Highway 79 (AL 79) to remain passable during major storm events facilitating public, emergency, and public service traffic.

YES NO

Does the proposed action involve dredging and/or filling of a floodplain?

YES NO

Will the proposed action result in the discharge of pollutants into the floodplain?

YES NO

Does the proposed action avoid long and short-term adverse impacts associated with the occupancy and modification of floodplains?

YES NO

Will the proposed action result in any indirect impacts that will affect the natural values and functions of floodplains?

NOTE: If wetlands are near or potentially affected, refer review to the Environmental Section.

YES NO

Will the proposed action forego an opportunity to restore the natural and beneficial values served by floodplains?

YES NO

Does the proposed action restore and/or preserve the natural and beneficial values served by floodplains?

YES NO

Will the proposed action result in an increase to the useful life of a structure or facility?

This water surface elevation reduction would not only reduce repetitive flood damages to businesses and residences, but would also allow major transportation routes such as Alabama

Highway 79 (AL 79) to remain passable during major storm events facilitating public, emergency, and public service traffic.

STEP NO. 5 Minimize the potential adverse impacts and support to or within floodplains to be identified under Step 4, restore and preserve the natural and beneficial values served by floodplains.

YES NO

Were flood hazard reduction techniques (see technical bulletins) applied to the proposed action to minimize the flood impacts if site location is in the 100-Year floodplain? If No, Identify Flood Hazard Reduction Techniques required as a condition of the grant:

None/not applicable - Flood Control 1 would be an earthen berm across Five Mile Creek about 330 feet upstream of Lawson Road with drainage of about 10,450 acres (16.3 square miles). The principal spillway is an arched steel pipe about 16 feet wide and 8 feet tall, and the existing streambed would be improved with larger rock material to withstand scouring effects. The berm would be about 1,000 feet wide, 300 feet long, and would have about 0.25 million cubic yards of soil. The emergency spillway, which would be designed for the probable maximum flood (PMF), would be about 400 feet wide and concrete lined.

Avoidance and minimization measures are not the appropriate methods for addressing the flooding issues as flooding would continue to be a threat to public safety. The flood control structures (FC) are designed to detain runoff during storm events and release the water downstream to reduce the peak discharge (maximum amount of water passing through a stream at a given time) and reduce the elevation of downstream flooding.

YES NO

Were avoidance and minimization measures applied to the proposed action to minimize the short and long term impacts on the 100-Year floodplain?

If no, identify measures required as a condition of the grant:
None/not applicable - Flood Control 1 would be an earthen berm across Five Mile Creek about 330 feet upstream of Lawson Road with drainage of about 10,450 acres (16.3 square miles). The principal spillway is an arched steel pipe about 16 feet wide and 8 feet tall, and the existing streambed would be improved with larger rock material to withstand scouring effects. The berm would be about 1,000 feet wide, 300 feet long, and would have about 0.25 million cubic yards of soil. The emergency spillway, which would be designed for the probable maximum flood (PMF), would be about 400 feet wide and concrete lined.

Avoidance and minimization measures are not the appropriate methods for addressing the flooding issues as flooding would continue to be a threat to public safety. The flood control structures (FC) are designed to detain runoff during storm events and release the water downstream to reduce the peak

discharge (maximum amount of water passing through a stream at a given time) and reduce the elevation of downstream flooding.

YES NO

Were measures implemented to restore and preserve the natural and beneficial values of the floodplain.

If no, identify measures required as a condition of the grant: None/not applicable - Flood Control 1 would be an earthen berm across Five Mile Creek about 330 feet upstream of Lawson Road with drainage of about 10,450 acres (16.3 square miles). The principal spillway is an arched steel pipe about 16 feet wide and 8 feet tall, and the existing streambed would be improved with larger rock material to withstand scouring effects. The berm would be about 1,000 feet wide, 300 feet long, and would have about 0.25 million cubic yards of soil. The emergency spillway, which would be designed for the probable maximum flood (PMF), would be about 400 feet wide and concrete lined.

The proposed project provides about one foot greater flood reduction to downstream properties and provides 6% more damage reduction. This water surface elevation reduction would not only reduce repetitive flood damages to businesses and residences, but would also allow major transportation routes such as Alabama Highway 79 (AL 79) to remain passable during major storm events facilitating public, emergency, and public service traffic.

STEP NO. 6

Reevaluate the proposed action to determine first, if it is still practicable in light of its exposure to flood hazards, the extent to which it will aggravate the hazards to others, and its potential to disrupt floodplain values and second, if alternatives preliminarily rejected at Step 3 are practicable in light of the information gained in Steps 4 and 5. FEMA shall not act in a floodplain unless it is the only practicable location.

YES NO

The action is still practicable at a floodplain site in light of the exposure to flood risk and ensuing disruption of natural values; Flood Control 1 would be an earthen berm across Five Mile Creek about 330 feet upstream of Lawson Road with drainage of about 10,450 acres (16.3 square miles). The principal spillway is an arched steel pipe about 16 feet wide and 8 feet tall, and the existing streambed would be improved with larger rock material to withstand scouring effects. The berm would be about 1,000 feet wide, 300 feet long, and would have about 0.25 million cubic yards of soil. The emergency spillway, which would be designed for the probable maximum flood (PMF), would be about 400 feet wide and concrete lined.

YES NO

The floodplain site is the only practicable alternative. Five alternatives were considered for this project. Flood Control Structure (FC) 3 and FC 4 combined provide about 1 foot average flood reduction to downstream properties. FC 1 and FC 2 provide about 5 and 4 feet flood reduction, respectively. Because of the limited flood reduction benefits these structures

would provide compared to other flood control structures, FC 3 and FC 4 were removed from further consideration. For FC 5 to be implemented, Lawson Road would have to be reconstructed, relocated and/or raised in order for the Lawson Road Bridge to serve as a flood control structure. These engineering difficulties would also require many state and local permits and special approvals as well as require shutting down this road for many months. Because of these design, permitting, and construction issues, FC 5 was removed from further consideration. FC 1 was chosen over FC 2, because FC 1 provides about 1 foot greater flood reduction to downstream properties and provides 6% more damage reduction (an approximate \$2.5 million damage reduction difference between FC 1 and FC 2).

YES NO

There is no potential for limiting the action to increase the practicability of previously rejected non-floodplain sites and alternative actions.

YES NO

Minimization of harm to or within the floodplain can be achieved using all practicable means.

YES NO

The action in a floodplain clearly outweighs the requirement of E.O. 11988.

STEP NO. 7

Prepare and provide the public with a finding and public explanation of any final decision that the floodplain is the only practicable alternative.

- Final Notice was provided as part of the floodplain notice. See EO 11988 checklist.
- Notice will be provided as part of a disaster cumulative notice.
- Project Specific Notice was provided by:

Type of Public Notice:

- Newspaper, (name:)
- Post Site, (location: **Tarrant City Hall, 1604 Pinson Valley Parkway, Tarrant, AL 35217**)
- Broadcast, (station:)
- Direct Mailing, (area:)
- Public Meeting, (dates:)
- Other:

Date of Public Notice: The Public Notice for E.O. 11988 will be submitted as part of the Environmental Assessment's Public Notice.

After providing the final notice, FEMA shall, without good cause shown, wait at least 15 days before carrying out the proposed action.

STEP NO. 8 **Review the implementation and post - implementation phases of the proposed action to ensure that the requirements stated in Section 9.11 are fully implemented. Oversight responsibility shall be integrated into existing processes.**

YES **NO**

Was Grant conditioned on review of implementation and post-implementation phases to insure compliance of EO 11988?