Draft Final Finding of No Significant Impact:

Construction and Maintenance of Stormwater Controls at Tiefort City, Fort Irwin, California

Tiefort City is a mock city used to simulate potential combat scenarios to support the Military Operations on Urban Terrain (MOUT) training mission. In August 2013, a large flood event occurred that deposited sediment and debris throughout Tiefort City. Flows from the flood damaged structures and monitoring equipment, rendering the MOUT training area unsafe for training. Tiefort City was closed to allow for removal of sediment and debris deposited by the flood event, and to repair damages caused by flood waters. Flood flows that affected the mock city originate mainly from Tiefort Wash and three smaller drainages south of the mock city. The U.S. Army Corps of Engineers (USACE) conducted a floodplain analysis to study the drainages and flows affecting Tiefort City. Based on the results of that analysis, USACE prepared a stormwater management plan (SWMP) that identifies specific stormwater controls to prevent a 100-year flood event from affecting the Tiefort City training area. Fort Irwin proposes to implement the preferred alternative as identified in the SWMP.

The Proposed Action includes constructing and maintaining stormwater controls to protect Tiefort City from a 100-year flood event. Fort Irwin has prepared the attached environmental assessment (EA), which is incorporated by reference, and provides an evaluation of the environmental and socioeconomic impacts of constructing and maintaining the Proposed Action. The actions considered in the EA are part of a major federal action, which must be evaluated under the National Environmental Policy Act of 1969 (NEPA). The EA was prepared pursuant to the *Code of Federal Regulations* (CFR), Title 32, Part 651, and the President's Council on Environmental Quality regulations (40 CFR Parts 1500 through 1508) for implementing the procedural requirements of NEPA.

In preparation of the EA, no alternatives, other than those presented in the EA, were determined to satisfy the purpose and need of the Proposed Action. One other alternative was considered in the Tiefort City SWMP, but was not carried forward. This alternative was dismissed from consideration because it would impact a major maneuver training corridor.

Description of the Proposed Action

The Proposed Action would construct and maintain the preferred alternative of the Tiefort City SWMP to provide protection from runoff from a 100-year flood event to Tiefort City. The Proposed Action includes stormwater controls designed to handle runoff from a 100-year flood event. Approximately 400 acres of land would be disturbed for the construction of stormwater controls around Tiefort City. Features constructed in the 400-acre project area would include some or all of the following:

- Earthen berms: Earthen berms would redirect stormwater runoff and debris flows away from the MOUT structures. The berms would vary in size and could be 5 to 15 feet in height and up to 20 feet wide at the top with 3:1 side slopes. The berms would be lined with riprap to prevent erosion. The riprap would be placed on a layer of bedding material and would extend 10 feet below the toe of the berm. Berms would be constructed alone or adjacent to existing and constructed channels.
- Channels: Channels would be built to redirect runoff away from Tiefort City. In-channel detention basins and riprap energy dissipaters would be used to control flows. Trapezoidal channels would be sized to accommodate the 100-year flood event. The channels would be stabilized with riprap placed along both sides of the lower half of the channel walls to prevent erosion, and gabion drop structures placed within

the channel to control velocities. Both banks of the channel would be lined with riprap within 500 feet upstream and downstream of each drop structure. Channel construction would include adjacent berms.

- Debris Basins: Debris basins would be constructed to collect sediment from the hills to the south and limit the amount of sediment entering the stormwater control area around Tiefort City. The basins would be less than 10 feet deep and would be sized to store between eight and 13 acre-feet of sediment (12,907 to 20,973 cubic yards). Each basin would include a riprap-lined spillway so that excess runoff would overtop the basin embankment in a controlled manner to reduce the effects of erosion. Each basin would have an access ramp to allow for maintenance and a dirt access road connected to roads in Tiefort City.

Construction would take approximately nine to 12 months. Earth-moving equipment, such as bulldozers, excavators, front-end loaders, and dump trucks would be used.

Fill material from excavated materials within the project area would be used to meet the needs for construction of the stormwater control features. Excavated material used for construction would be screened and sorted prior to placement. Large boulders would be removed from excavated materials. Excess excavated material would be placed in a designated area north of Tiefort City until a permanent disposal site is identified. Rock would be imported to the project area from an established quarry within Fort Irwin, which is approximately 9.5 miles from the project area.

Annual maintenance of the stormwater control features would be required. Sediment would be removed from channels and debris basins annually and after very large flood events. Routine inspections would be conducted every 12 months and after every large flood event.

Existing access routes to Tiefort City would be modified to accommodate the stormwater controls. Berms and channels would be designed to include hardened crossings at points where military equipment/vehicles would need to cross these features for access to training areas. Access crossings would be constructed of concrete with riprap placed on each end of the concrete crossing pad to provide erosion protection. For smaller crossings, culverted crossings would be installed to provide access road crossings in smaller channels. The current access road to Tiefort City would be realigned to direct traffic to the north and around berms. Bridges capable of accommodating tanks and heavy military equipment could be constructed over channels. Bridges would be constructed of permanent materials, such as concrete, and protected with riprap, concrete, or other bank protection around and leading up to the bridge abutments to prevent erosion.

Construction costs could be reduced by using engineering battalions rotating through Fort Irwin to construct some of the features for training. Costs of maintenance activities could be reduced by using soldiers training at Fort Irwin.

No Action Alternative

Under the No Action Alternative, construction and operation of stormwater controls to protect Tiefort City from a 100-year flood event would not occur. Subsequent flood events would likely inundate Tiefort City and deposit sediments, rendering Tiefort City unsafe and unusable for training purposes after those events. Training activities conducted at Tiefort City would likely be disrupted so that maintenance crews could remove the sediment deposits and repair or replace any structures damaged or ruined by subsequent flood events. The No Action Alternative would adversely affect the MOUT training mission of Fort Irwin.

Environmental Consequences

The EA evaluated potential effects on land use planning and aesthetics, geology, soils, mineral resources, biological resources, water resources, air quality, noise, cultural resources, socioeconomics, environmental justice, transportation, utilities, hazardous and toxic substances, and recreation.

As discussed in the EA, implementing the Proposed Action would result in temporary and less than significant negative effects on flora, fauna, and special-status species from construction activities with the use of mitigation. There would be temporary negative effects on soils, surface waters, groundwater, air quality, noise, transportation, health and human safety, and hazardous and toxic substances from construction activities including added workers and equipment use. There would be, long-term, less than significant effect on aesthetics due to the change in the landscape resulting from the proposed protection berm and surface waters due to proposed alterations to drainages. Measures would be implemented, as appropriate, to reduce effects on these resources.

There would be long-term beneficial effects to health and human safety by protecting Tiefort City from a 100-year flood event, which would improve safety conditions during training and maintenance activities. There would be temporary beneficial effects to the regional economy from jobs, income, and earnings from construction if military personnel are not used for construction.

The Final EA will be placed at the Barstow Public Library, Fort Irwin Library, and Fort Irwin Environmental Division, Directorate of Public Works, for public review. The public will be invited to comment through advertisements in the local papers.

For further information regarding the EA or this Draft Finding of No Significant Impact (FNSI), please contact: Mr. Clarence Everly, Fort Irwin Directorate of Public Works, Environmental Division, Building 602, P.O. Box 105085, Fort Irwin, California, 92310-5085, or via e-mail at clarence.a.everly.civ@mail.mil.

Conclusion

Based on the analysis presented in the EA, I find that implementation of the Proposed Action would have no significant effect on the human or natural environment. Therefore, a FNSI is issued for the Proposed Action, and no Environmental Impact Statement is required.

Date	G. Scott Taylor COL, AR Commanding