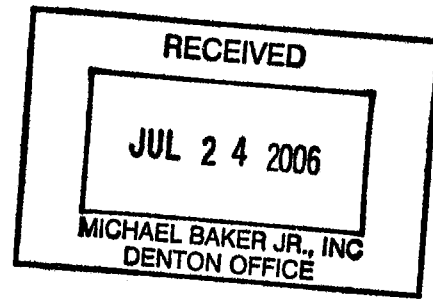


**APPENDIX I**  
**CERTIFICATION LETTER**

July 20, 2006

Jack Quarles, P.E.  
FEMA  
800 North Loop 288  
Denton, TX 76201-3698



Re: **FEMA Certification of City of Dallas Levees**

Dear Jack:

Attached is a letter from the Corps regarding FEMA Certification of the Federal Levees in the City of Dallas for use in the update of the Dallas County Flood Maps (Map Modernization). I received this letter on July 18, 2006. In summary, the states that:

- The Dallas Floodway Levees are found to be structurally sound and provide flood protection in excess of FEMA's minimum standards
- The Rochester Park Levee has sufficient levee freeboard and has been adequately maintained to protect those areas from the Trinity River Base Flood Elevation (FEMA)
- The Central Wastewater Treatment Plant Levee does not meet the FEMA minimum freeboard requirements due to low area in the upstream levee crest.

If you have any questions, please give me a call. I will forward any additional information to FEMA and the RMC as I receive it.

Sincerely,

**HALFF ASSOCIATES, INC.**

Walter E. Skipwith, PE,  
Vice-President

Enclosure

cc: Dave Patterson, P.E. Baker RMC



**DEPARTMENT OF THE ARMY**  
FORT WORTH DISTRICT, CORPS OF ENGINEERS  
P. O. BOX 17300  
FORT WORTH, TEXAS 76102-0300

REPLY TO  
ATTENTION OF:

July 7, 2006

Engineering and Construction Division

Mr. Walter Skipwith, P.E.  
Halff Associates, Inc.  
8616 Northwest plaza Drive  
Dallas, Texas 75225-4292

Dear Mr. Skipwith:

Thank you for your letter of January 17, 2006, pertaining to the certification of levees for the Dallas County Federal Emergency Management Agency (FEMA) Map Modernization Study. In support of Halff Associates, Inc. efforts to update the Flood Insurance Rate Maps for Dallas County, the Fort Worth District of the U.S. Army Corps of Engineers (USACE) will specifically address herein the Federal levees in Dallas County: the Dallas Floodway, the Central Wastewater Treatment Plant Levee, the Rochester Park Levee, and the Northwest Levee in the City of Irving.

The Dallas Floodway was completed in phases from the 1950's to 1960. The project consists of modified river channels, interior drainage improvements, and raising and strengthening of the two project levees, East Levee and West Levee, located along the main stem Trinity River, the West Fork Trinity River, and the Elm Fork Trinity River. The levees were designed and constructed to USACE standards and are structurally sound. The local sponsor of the project, the City of Dallas, has effectively maintained the levees as part of their overall project operation and maintenance program. The entire project is inspected annually by the USACE and the City of Dallas. The inspection and maintenance program includes the mowing of the levees, repair of skins slides, removal of trees and woody vegetation from the levee slopes, repair of cracks, and inspection and repair of drainage structures through the levees. Additionally all proposed construction activities above, below, through, and adjacent to the levees are reviewed by the USACE and City of Dallas to insure the structural integrity of the levees, per Title 33 Code of Federal Regulations Section 208.10. The levees were originally designed to pass the Standard Project Flood with four feet of freeboard. Recent hydrologic and hydraulic evaluations have determined that due to a number of factors, the level of protection of the Dallas Floodway levees has been reduced over time to approximately the 500-year flood event with 0.4 feet of freeboard at the critical overtopping point on the East Levee as compared with the effective FEMA HEC-RAS model. The level of protection at the critical overtopping point on the West Levee is slightly higher than the East Levee. However, this is a significantly greater level of protection than required by FEMA for levee certification. Current river hydraulic models indicate that the 500-year water surface profiles within the Dallas Floodway

range from 5.9 to 7.0 feet higher than the 100-year flood. The levees will protect areas indicated on the effective Flood Insurance Rate Maps from flooding due to the Trinity River Base Flood event.

The Central Wastewater Treatment Plant (CWWTP) Levee was originally constructed in the 1940s. The plant operations have expanded since, with recent expansion and improvements by the City of Dallas in 1994 to raise the levee and increase the levee length to approximately 2.6 miles. The City of Dallas has maintained the CWWTP Levee as part of their overall project operation and maintenance program. Recently, the levee has come under the jurisdiction of the USACE because of the impacts to the USACE Dallas Floodway Extension (DFE) Project. Annual inspections by the USACE began in 2005. A portion of the existing CWWTP Levee will become integrated with the proposed Cadillac Heights Levee as part of the DFE project when it is constructed. The most recent improvements to the levee are based on a design to pass the Base Flood event with a minimum of 3 feet of freeboard. The levee was designed with a crest elevation of 416.0 at the upstream end and a crest elevation of 415.0 at the downstream end. However, a 1-foot contour interval topographic survey of the levee completed this year and a 1-foot topographic survey completed in 1999 both indicate that a portion of the upstream end of the ring levee is below elevation 413.0. A spot elevation on the crest of the levee on the 1999 survey indicates a low point of 412.4. The effective FEMA HEC-RAS model indicates that the water surface elevation for the Base Flood at this location is elevation 412.5. Therefore, the levee currently has no freeboard and would not meet the FEMA minimum freeboard requirements without some crest height restoration. The minimum levee freeboard for the Base Flood event near the downstream end of the levee is 4.3 feet and midpoint from downstream to upstream, the minimum levee freeboard is 2.0 feet.

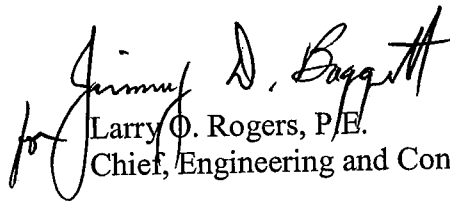
The Rochester Park Levee is a City of Dallas levee project that has recently come under USACE jurisdiction. Annual inspections by the USACE began in 2005. A portion of the Rochester Park Levee will become an integral part of the proposed Lamar Street Levee as part of the Dallas Floodway Extension Project when it is constructed. The existing levee is approximately 2.8 miles in length and was constructed in 1991 to pass the Standard Project Flood (SPF) event with two feet of freeboard at the upstream high ground point. The City of Dallas has maintained the levee as part of their overall project operation and maintenance program. The original design was based on the most recent hydrologic and hydraulic analysis that had been developed up to that time. The design crest height elevation is 417.0 for its entire length. However, the levee ties to high ground at the upstream end at the approximate elevation of 415.0. The levee has two floodgates, one at Bexar Street and one at Budd Street, and seven floodwall closure panels that must be placed for maximum flood protection. Five floodwall closure panels are at railroad track crossings and two are at a street crossing known as Railroad Street. More recent hydrologic and hydraulic analysis indicates that the existing system will not pass the SPF without overtopping but has sufficient freeboard at the Base Flood level. The only levee closure that must be placed to pass the Base Flood event is the Budd Street Floodgate.

The low sill of the Budd Street Floodgate is approximately 6.2 feet below the Base Flood water surface elevation of 411.2 at this point. The top of both floodgates and the floodwall closure panel is at elevation 417.0. The Bexar Street Floodgate and floodwall closure panels, at their low sills, have sufficient freeboard to pass the Base Flood event without being placed. The downstream end of the levee has approximately 8.3 feet of freeboard above the Base Flood water surface. The upstream levee tie in at the high ground elevation of 415.0 has approximately 3.4 feet of freeboard above the Base Flood water surface. The current levee system, as designed and constructed has sufficient levee freeboard and has been adequately maintained to protect these areas from the Base Flood event.

A survey of the Northwest Levee in the City of Irving is currently being developed. When the results of this survey are submitted, an evaluation of the levee freeboard for this levee will be forthcoming.

If you require additional information, please contact David Wilson at 817-886-1676.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry O. Rogers". The signature is stylized and written in cursive.

Larry O. Rogers, P.E.  
Chief, Engineering and Construction Division

Copy Furnished:

Mr. Steve Parker, P.E.  
Flood Plain Administrator  
City of Dallas  
320 E. Jefferson Room 321  
Dallas, Texas 75203

Mr. James C. Cline, P.E.  
Director Public Works and Transportation Department  
825 W. Irving Boulevard  
Irving, Texas 75060