

PART 1 EXECUTIVE SUMMARY

This Executive Summary provides an introduction to the periodic inspection, an overview of the system, a summary of the major findings of the periodic inspection, and the overall rating for the system.

1.1 Purpose, Scope, and Limitations of Periodic Inspections

The purpose of this levee system periodic inspection is to identify deficiencies that pose hazards to human life or property. This assessment of the general condition of the levee system is based on available data and visual inspections. Detailed investigation and analysis involving hydrologic design, topographic mapping, subsurface investigations, testing, and detailed computational evaluations is beyond the scope of this levee system inspection. The inspection is intended to identify the issues to facilitate such future studies and associated repairs, as appropriate.

This levee system inspection is based on observations of field conditions and available data at the time of the inspection. The condition of any levee system depends on numerous and constantly changing internal and external conditions and is evolutionary in nature. It is incorrect to assume the present condition of the levee system will continue to represent the levee system condition in the future. Only through continued inspection, maintenance, repair, and rehabilitation can there be a reasonable chance that unsafe conditions can be avoided.

1.2 System Summary

The Cowlitz County Consolidated Diking Improvement District Number 1 (CDID1) Flood Damage Reduction (FDR) Project is a federally authorized and constructed, and non-federally operated and maintained, urban flood-protection project. The flood protection is located on the right bank of the Columbia River, between River Mile 60.3 and 68.3. The CDID1 FDR Project is divided into two segments: (1) the Columbia River Segment, from Station P 217+90^{1,2} to Station 473+00; and (2) the Cowlitz River Segment, from Station 473+00 to Station 773+45. The levee is located within the City of Longview, Washington. The levee system was completed in the 1920s by the local sponsor. Wave erosion in the 1930s to the levee constructed by CDID1 led to the authorization of the federally constructed project. The CDID1 FDR Project was authorized under the Flood Control Act of June 22, 1936 (Public Law 738, Seventy-Fifth Congress, Third Session) to rehabilitate the damage levee system and construct the Pioneer Pump Station. Federal construction was completed in 1939, and the levee system was turned over to the sponsor in 1941.

The Cowlitz County Consolidated Diking Improvement District Number 1 is responsible for operating and maintaining the flood-protection system, which consists of 19 miles of earthen levee, and 7 pump stations.

¹ Stationing prefix "P" begins at USACE Station 0+00 and continues upstream along Ditch No. 6 to Station P 217+90. Note the Main Pump Station is located at Station P 26+90.

² Stationing presented reflects USACE as-built stationing. The conversion between USACE as-built stationing to CDID1 Flood-Fighting Station (FF) is USACE Station plus 2,690 feet.

1.3 Summary of Major Deficiencies Found

The levee, drainage structures, and 7 pump stations which comprise the CDID1 FDR Project were inspected on April 5 through April 8, 2010. The local-sponsor representative met with the inspection team prior to the inspection, and also accompanied the team for the duration of the inspection. Based on the inspection, the CDID1 FDR Project is intact, is functional, and has, overall, been well maintained by an active sponsor with support from the District after major floods. However, some improvements to the condition of the levee should be made. There were 3 levee safety issues identified which pose an immediate threat to the levee functioning as authorized. These 3 items received an unsatisfactory (U) rating. They are:

- Excavation into the levee prism and foundation observed near Station 254+00,
- Stockpiling of material on the levee has prohibited access to, and observations of, the levee prism,
- The unsatisfactory condition of the log pond lock structure

There were several other items that also received an unsatisfactory (U) rating, including:

- Levee Embankment
 - Presence of trees greater than two inches in diameter within the vegetation-free zone;
 - Encroachments resulting in the compromising of the levee integrity;
- Interior Drainage Structures
 - the lack of visual inspection inside the penetrations through the levee prism;
- Pump Stations
 - Testing requirements at the pump stations; and
 - Significant maintenance deficiencies of the log pond lock structures.

Other, less serious, deficiencies were identified during the inspection. These deficiencies received a minimally acceptable rating (M), which included:

- General Items
 - There is no Operation Manual and the Emergency Action Plans for this project are out of date.
- Levee Embankment
 - Minor animal burrow activity found along the riverward and landward slopes of the levee prism,
 - Several non-permitted encroachments (e.g. utilities, buildings, guard rails, etc) reduce the effectiveness of inspection and construction activities during flood stages,
 - Potholes and minor ruts from vehicle activity along the levee crown,
 - Launch of riprap near Barlow Point and damage to the Reno mattresses,
 - Remnant erosion located near the levee slope,
 - Seepage concerns along the landward slope of the levee in several locations.

- Interior Drainage Structures
 - Minor rust and missing bolts found at the diversion structures along Ditch No. 6.
- Pump Station
 - Loose bearings on pump at the Reynolds Pump Station,
 - A gap in the trash rack at Pump No. 6 at the Main Pump Station would allow debris into the pump well.

Another issue identified during the inspection is the extensive use of the levee right-of-way, including the crown, for stockpiling material. One example is behind the Longview Fibre Paper and Packaging Company. The material stockpiled there appears to be a permanent feature, and the levee crown has not been visible for many years.

1.4 Overall Rating

The overall segment and system ratings for the Cowlitz County Consolidated Diking Improvement District Number 1 FDR Project were determined by the Portland District USACE Levee Safety Officer. The segment and system ratings are summarized in an attached Memorandum For Record (MFR) and indicated on a cover letter to the non-federal project sponsor.