

Mid-Valley
Drainage Management Plan
ADDENDUM 1
Executive Summary

Prepared for:



The City of Albuquerque, NM

and



Albuquerque Metropolitan Arroyo
Flood Control Authority



Prepared by:

Smith Engineering Company

SEC Project No. 110112

April, 2012 – Final Plan

July, 2012 – Addendum 1

EXECUTIVE SUMMARY

1.1 PURPOSE

The City of Albuquerque (COA) and the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) requested that Smith Engineering Company (SEC) conduct a drainage analysis, prepare a Drainage Management Plan (DMP) and develop conceptual design options for drainage improvements to address drainage issues in the Albuquerque Mid-Valley area.

Addendum 1 was prepared as a modification to the final DMP (April 2012) at the direction of AMAFCA and the COA to address a hydrograph from a later study titled the South Broadway Drainage and Stormwater Quality Management Plan conducted by URS Inc. That study revealed that during a 100-year storm the Broadway storm drain system south of the Mid-Valley study area will surcharge. That hydrograph called the “North Flow Hydrograph” will enter the Mid-Valley study area because it will drain north on Broadway towards the Broadway-Lomas intersection. This additional flow will cause flooding near the Broadway-Lomas intersection under existing conditions and will also exceed the capacities of the existing Broadway-Lomas detention pond and proposed Marble-Arno Pond (Facility 2) as simulated in the final DMP. Therefore, the purpose of Addendum 1 is to evaluate additional Options to reduce flooding in the Mid-Valley study area as a result of the North Flow Hydrograph.

1.2 PROJECT LOCATION

The limits of the study area are generally bounded on the north by I-40, on the south by Bridge Blvd., on the east by I-25 and on the west by the Rio Grande. **Figure E1** illustrates the project location. The study area has been delineated into three major drainage basins that are named the Broadway Basin, Barelbas Basin and Alcalde Basin.

1.3 PROBLEM DESCRIPTION

The Mid-Valley area is nearly 100 percent developed with a mixture of residential, commercial and industrial areas with a few parks. The majority of the Mid-Valley area sub-basins (also called sub-catchments) have very mild slopes and may be described as nearly flat, however, steep slopes exist east of Broadway. Street and property flooding is exacerbated due to several factors such as:

1. High imperviousness in many sub-catchments generates considerable runoff
2. Mild sub-catchment and street slopes that reduce conveyance capacity
3. Small diameter storm drains and mild slopes with minimal capacity
4. Lack of storm water detention facilities

1.4 POTENTIAL FOR FLOODPLAIN REMOVAL

Figure E1 illustrates the FEMA floodplain locations. Based on the modeling results, it may be feasible that all of the existing FEMA floodplains could probably be removed with a “Letter of Map Revision” (LOMR) with the exception of the following two locations:

1. The floodplain near Indian School-Commercial intersection near I-40.
2. The floodplain near the Broadway-Lomas Intersection

These floodplains could be removed with implementation of the proposed facilities.

1.5 RECOMMENDATIONS FOR DRAINAGE AND FLOOD CONTROL

Multiple storm water system options and facilities were modeled. All facilities simulated with Option 51 are recommended and these are briefly summarized on **Figure E1** with conceptual level cost estimates. Option 51 was developed to include the *most effective facilities* from the various previous options and combine them in an effort to eliminate flooding throughout the study area. Option 51 replaces Option 29 from the final DMP (April 2012) and includes new Facility 14 (developed for Addendum 1) as presented on **Figure E2** that includes three facilities as follows:

1. Facility F14.1 - Purchase of the proposed Tijeras Pond Property
2. Facility F14.2 - Build the Pond, inflow and outfall pipes
3. Facility F14.3 - Build the pond outfall storm drain that will outfall directly into the proposed Marble-Arno Pond (Facility 2).

Figure E3 presents the Marble-Arno Pond (Facility 2) as revised (Addendum 1) to accommodate the North Flow Hydrograph.

Figure E1 summarizes all the estimated probable costs for each facility. Some facilities have been divided into Phases (to assist in funding) and prioritized in numerical order with the lowest number as the highest priority.

Suggested priorities are presented for each facility, however final prioritization and implementation must be defined by the City and AMAFCA depending on funding availability and other factors.

1.6 RECOMMENDATIONS FOR STORMWATER QUALITY

Best Management Practices (BMPs) to accomplish storm water quality improvement should be included on all public storm water detention ponds and private development or redevelopment ponds whether small or large, to mitigate and collect the first flush pollutant load. In addition to pond BMPs, other on-site BMPs are recommended to control and collect the first flush.