

Mid-Valley Drainage Management Plan

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

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.

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, Barelás 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 floodplain near the Indian School-Commercial intersection near I-40. However, with implementation of the proposed facilities in this DMP, that floodplain could likely be removed.

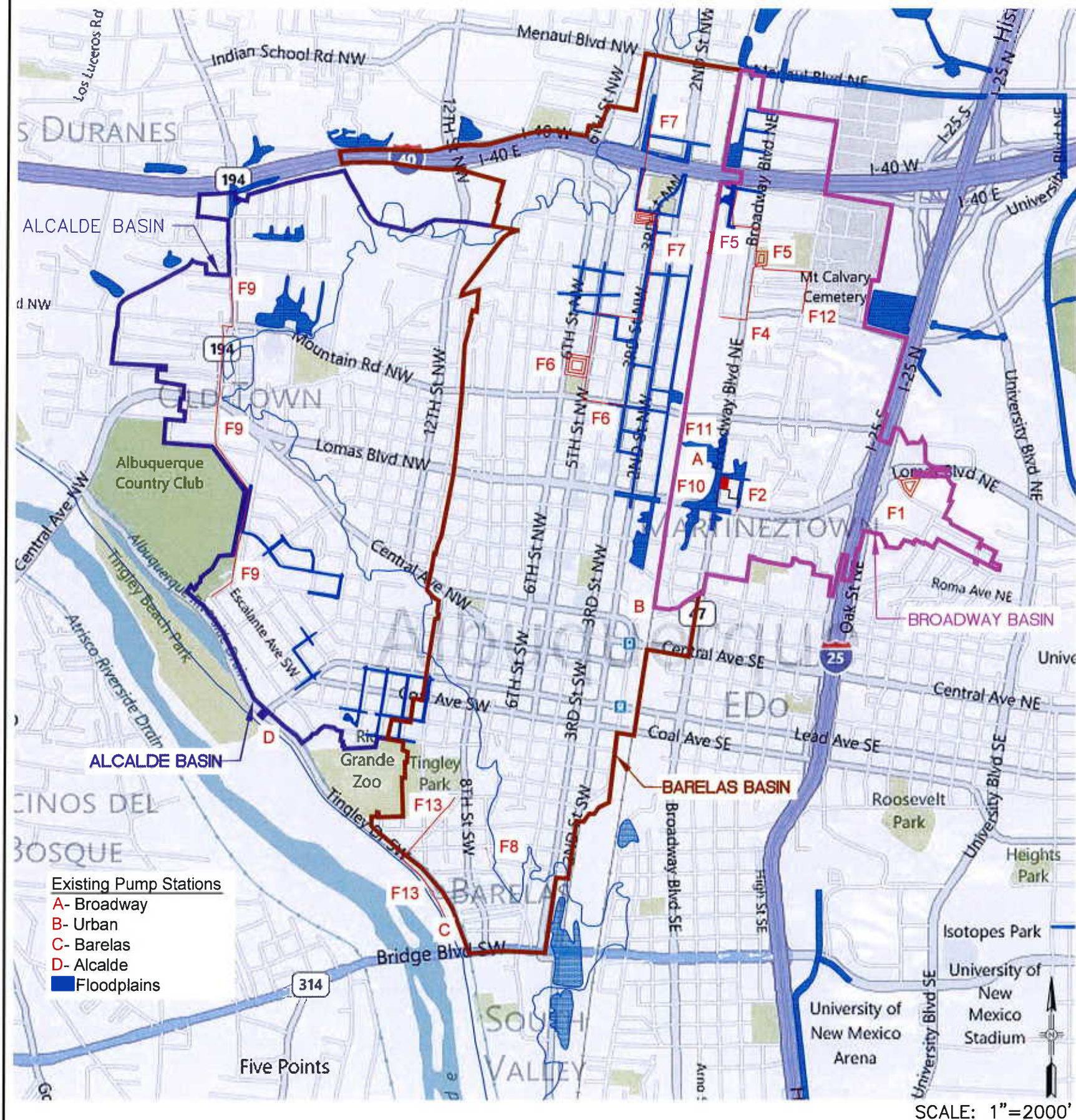
1.5 RECOMMENDATIONS FOR DRAINAGE AND FLOOD CONTROL

Multiple storm water system options and facilities were modeled. All facilities simulated with Option 29 are recommended and these are briefly summarized on **Figure E1** with conceptual level cost estimates. Option 29 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. 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.



PROPOSED FACILITY SUMMARY and CONCEPTUAL LEVEL COST ESTIMATES			
PRIORITY	FACILITY NUMBERS AND BRIEF DESCRIPTIONS	Facility or Sub-Facility Cost	Total of Sub-Facility Costs
	Labeled as F's on Figure E1	\$	\$
A	Facility 2.1 - Purchase Marble-Arno Pond Property	\$1,006,000	
	Facility 2.2 - Build Marble - Arno Pond, inlet and outlet storm drains	\$1,666,000	
	Facility 2.3 - Abandon remove existing Broadway-Lomas Pond inlet/outlet structures	\$72,000	
1	Facility 2 *		\$2,744,000
	* A pond bottom liner may be required to avoid storm water seepage into the groundwater. This could be an additional \$200,000 that is not included in the Facility 2 estimate, as this is uncertain at this time.		
2	Facility 10 Gain (-) - Sell the existing Broadway-Lomas Pond property	-\$2,451,000	
3	Facility 11 - Build a new Broadway-Lomas Pump Station	\$12,607,000	
4	Facility 1 - Build Pond near Lomas Blvd. and Medical Arts	\$808,000	
5	Facility 8 - Build Barelas storm drain cross-connection to Pacific storm drain	\$215,000	
	Facility 6.1 - Purchase North Wells Park property	\$2,016,000	
	Facility 6.2 - Build North Wells Park Pond and outfall storm drain	\$2,422,000	
	Facility 6.3 - Build inflow storm drains to North Wells Park Pond	\$1,242,000	
6	Facility 6		\$5,680,000
	Facility 7.1 - Purchase the McKnight Pond property	\$1,054,000	
	Facility 7.2 - Build part of the outfall storm drain from the McKnight Pond	\$955,000	
	Facility 7.3 - Build McKnight Pond and remainder of outfall storm drain	\$1,574,000	
	Facility 7.4 - Build part of the inflow storm drain to the McKnight Pond	\$655,000	
	Facility 7.5 - Build final inflow storm drain to McKnight Pond	\$729,000	
7	Facility 7		\$4,967,000
	Facility 5.1 - Build Broadway outfall storm drain from Santa Barbara Park Pond	\$722,000	
	Facility 5.2 - Build Santa Barbara Park Pond (west end of park)	\$771,000	
	Facility 5.3 - Build part of inflow storm drain to Santa Barbara Park Pond	\$606,000	
	Facility 5.4 - Build final inflow storm drain to Santa Barbara Park Pond	\$763,000	
8	Facility 5		\$2,862,000
9	Facility 4 - Build Baca storm drain	\$334,000	
	Facility 9.1 - Build Laguna and part of San Pasquale storm drain	\$1,178,000	
	Facility 9.2 - Build remainder of San Pasquale storm drain to Rio Grande Blvd.	\$1,491,000	
	Facility 9.3 - Build Rio Grande Blvd. storm drain to Dora	\$1,495,000	
	Facility 9.4 - Build Rio Grande Blvd. storm drain from Dora to Carson	\$1,227,000	
10	Facility 9		\$5,391,000
11	Facility 12 - Build Edith Blvd. - Hannett storm drain to Santa Barbara Park Pond	\$746,000	
12	Facility 13 - Build El Bordo storm drain from Tingley Park to Barelas Pump Station	\$1,484,000	
13	Alcalde Pump Station - Build Bosque storm water quality improvements	\$338,000	
14	Barelas Pump Station - Build Bosque storm water quality improvements	\$363,000	
TOTAL ALL FACILITIES		\$36,088,000	

A - 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.

MID-VALLEY DRAINAGE MANAGEMENT PLAN

FOR THE CITY OF ALBUQUERQUE &
ALBUQUERQUE METROPOLITAN ARROYO
FLOOD CONTROL AUTHORITY

APRIL 2012

SEC PROJECT NO. 110112

PROPOSED FACILITIES MAP FIGURE E1