This Report was prepared towards the development of a Drainage and Storm Water Quality Master Plan for the South Broadway Area in general accordance with the requirements in the Scope of Work provided in the contract agreement between URS and the City of Albuquerque dated November 14, 2011. The information contained in this Report was developed using existing drawings, reports, photographs, survey, and background information furnished by the City of Albuquerque and third parties. URS is neither responsible for, nor has confirmed the accuracy of this information. URS has relied on this information, as well as professional engineering judgment based on experience with similar projects, to develop this report. Additional investigations and analyses will be required for the future design phases of any drainage infrastructure within the limits of this study.

SOUTH BROADWAY DRAINAGE AND STORM WATER QUALITY MANAGEMENT PLAN

EXECUTIVE SUMMARY

April 2013

Prepared for:
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EXECUTIVE SUMMARY

OBJECTIVE

The South Broadway Drainage and Storm Water Quality Management Plan (SBDMP) was initiated by the City of Albuquerque (COA) to continue storm water master planning efforts for the South Broadway neighborhoods south of Lomas Blvd. This plan revises the 1990 South Broadway Sector Drainage Management Plan [1] by updating the hydrology, adding storm sewer system detail and storm system revisions. Conceptual design options for drainage improvements have been developed.

PROJECT AREA LIMITS

The South Broadway project area is bounded by Roma Avenue to the north, the city limit to the south (south of Woodward Road), Interstate 25 to the east, and the Burlington Northern & Santa Fe (BN & SF) Railroad to the west. Storm water from the South Broadway storm sewer system ultimately discharges into the San Jose Drain. Figure E-1 shows the study area limits.

PROBLEM DESCRIPTION

The South Broadway area is nearly completely developed with a mixture of residential, industrial and commercial properties. The area generally slopes mildly from north to south (0.3%) and more steeply form east to west (2%). The large percentage of impervious area results in high runoff potential. In addition, there is potential for offsite storm water to enter the area from the east. The flat north-south slope results in low conveyance for the large storm sewer trunk lines in the drainage basin.

The interconnected nature of the storm sewer system components combined with the flat topography can result in backwater effects and even reverse flow in the storm sewer system. There is potential for flood damage from street flooding caused by surcharging manholes and street flow accumulating downslope.

In addition, overflow from detention ponds could occur during the 100-year storm. Impacted locations could include the residential areas adjacent to the Bell Avenue and Commercial Street Pump Station, the Kathryn Detention Pond, Mechem Detention Pond, Old Albuquerque High School, and Edith Blvd between Lomas and Martin Luther King Avenue.

RECOMMENDATIONS FOR DRAINAGE IMPROVEMENTS

Multiple storm sewer system improvement options were evaluated. The improvement options were evaluated using the Triple Bottom Line methodology, which evaluates the capital, social and environmental costs and benefits. The recommended improvement option results in the lowest annualized costs evaluated by this method and addresses all of the identified flooding problems. As shown in Figure E-2, the Recommended Improvement Option involves expansion of the existing detention facilities, restriction of flow to overtaxed facilities, as well as installation of improved detention pond outlets, and construction of a storm sewer trunk. The Recommended Improvement Option has been divided into four projects. The three projects involving pond expansion that can be constructed at any time and in any order without any

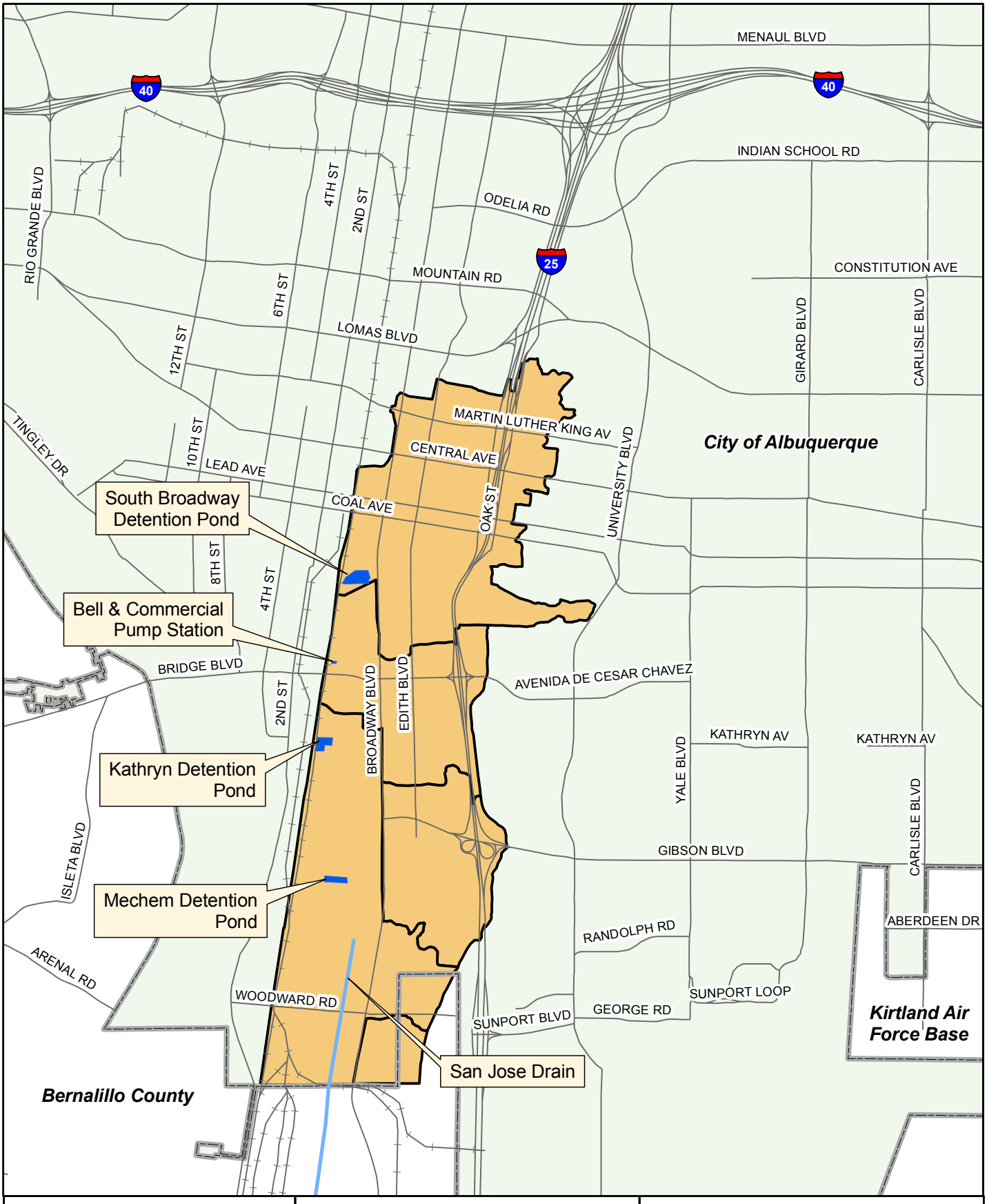
negative impacts. The full benefit of these projects will not be realized until all components of this Recommended Improvement Option are constructed. The Recommended Improvement Option has been subdivided into four projects and these four projects have been have been prioritized based on flood reduction.

It should be noted that Priority 4 "Construct Storm Sewer Trunk Line on Edith Blvd" must not be constructed until the other three projects (Priority 1, Priority 2, and Priority 3) have been constructed and are operational. Additionally, it should be noted that Priority 4, the Edith Blvd Storm Sewer Trunk Line, may not be necessary if the Mid-Valley Drainage Management Plan adequately addresses the overflow discharge that leaves the South Broadway area and flows overland north into the Mid-Valley Area.

RECOMMENDATIONS FOR WATER QUALITY IMPROVEMENTS

It is recommended that storm water quality improvements be implemented by increasing public awareness and involvement, strengthening the COA storm water ordinance and improving enforcement, structural Best Management Practices (BMPs) and good housekeeping. Structural BMPs included in Recommended Improvement Option include installation of improved detention pond outlet structures and inline centrifugal storm water treatment units.

Figures



N

0 1,500 3,000 Feet

1 : 36,000 or 1 inch = 3,000 Feet

URS

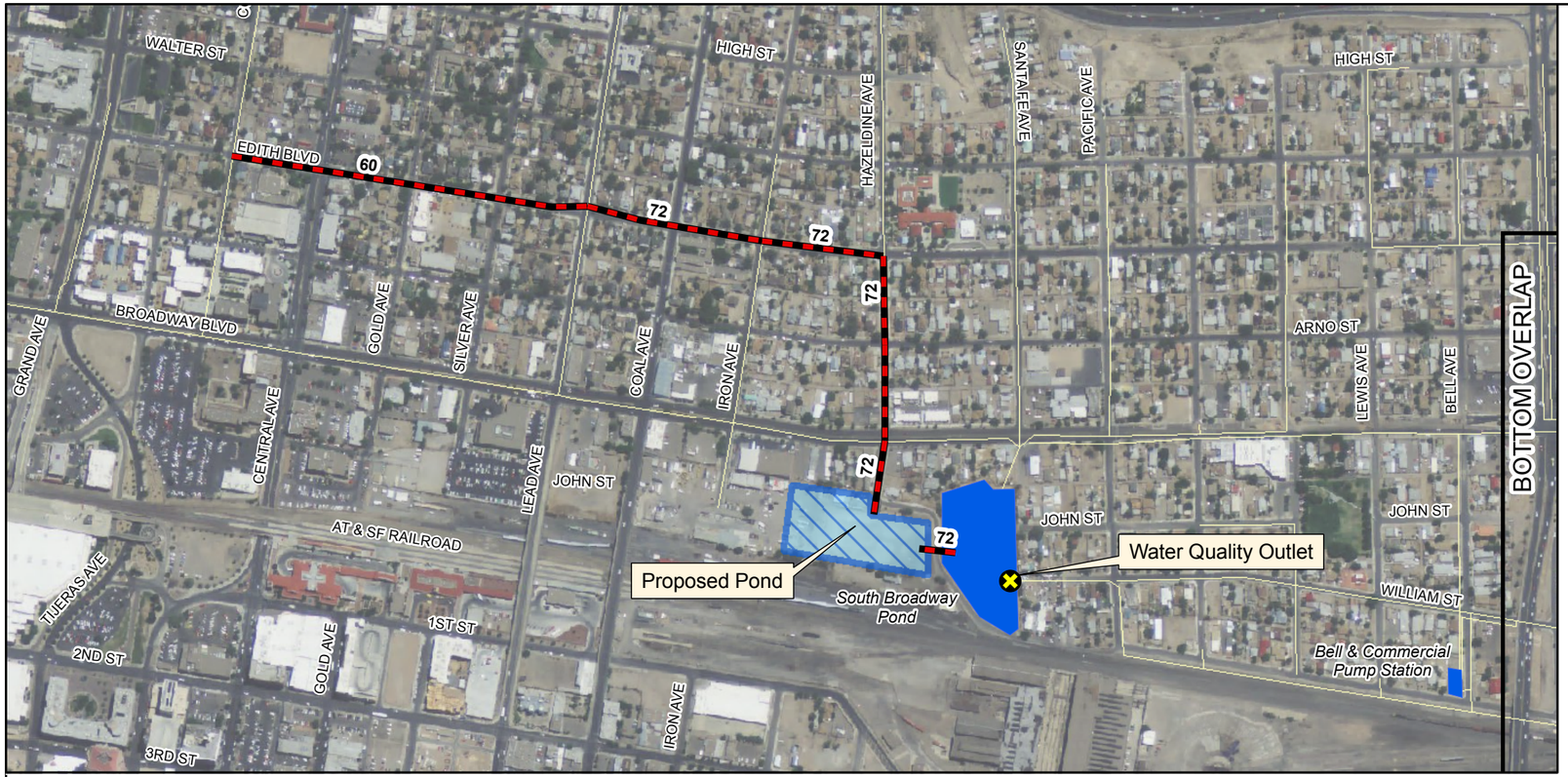
Legend

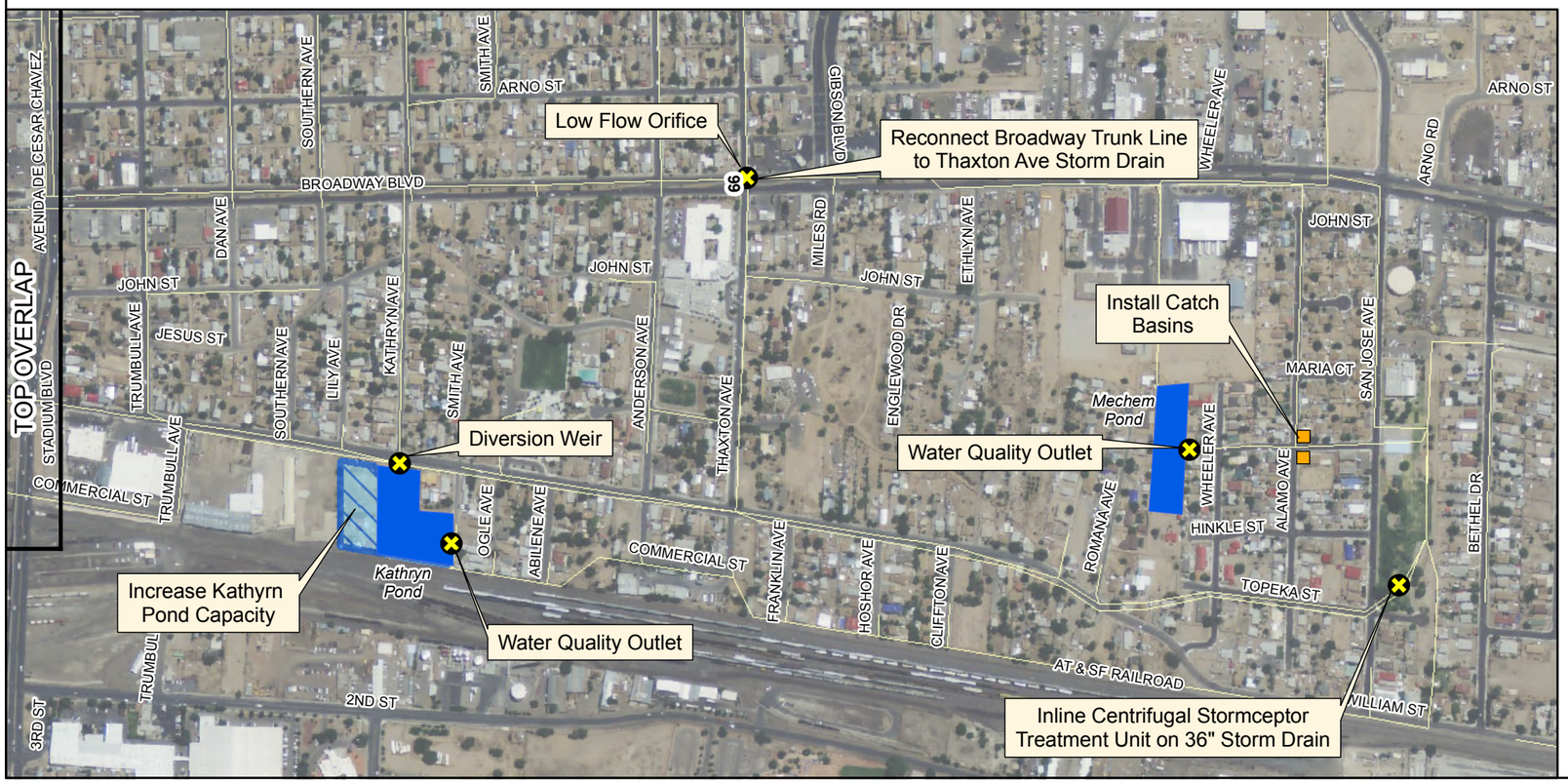
- Study Area
- Major Road
- Railroad
- City Boundary
- Pond

Study Area Limits

South Broadway Drainage and Storm Water Quality Management Plan

Figure E-1





Priority	Item #	Improvement	Estimated Cost
1		**Modify inlet/Outlet of Mechem Pond**	
	1	Redirect flow from Broadway Blvd to William St using conduit along Thaxton Ave	$43,000
	2	Install water quality outlet	$250,000
	3	Install catch basins at Mechem St and Alamo Ave	$57,000
	4	Install stormceptor manhole in San Jose Park	$219,000
		Priority 1 Total	**$569,000**
2		**Expand Kathryn Pond**	
	1	Purchase Lot A-1 property at 1701 Williams Street SE	$256,000 *
	2	Construct pond expansion	$127,000
	3	Install water quality outlet	$250,000
	4	Change 18-inch orifice plate to weir within junction box located near Kathryn Ave and William St	$6,000
		Priority 2 Total	**$639,000**
3		**Expand South Broadway Pond**	
	1	Purchase Track 1 Iron property at 100 Iron Ave SE	$1,160,000 *
	2	Construct pond expansion	$1,049,000
	3	Construct culvert crossing under Commercial Ave	$84,000
	4	Construct 72" storm drain connection from Broadway Blvd trunk line to pond, including outlet structure	$395,000
	5	Install a water quality outlet	$250,000
		Priority 3 Total	**$2,938,000**
4		**Construct storm sewer trunk line on Edith Blvd**	
	1	Construct Edith Blvd storm drain trunk to South Broadway pond expansion via Hazeldine Ave	$4,352,000
	1 -ALT	*Alternative to Item 1:* Construct the Edith Blvd storm drain trunk line to South Broadway pond expansion via Coal Ave. (Assumes the alternative linear South Broadway Pond expansion costs the same as the non-linear choice)	$3,583,000
		Priority 4 Total	**$4,352,000**

Total Cost of All Improvement	***$8,498,000***
Total Cost of All Improvement with Priority 4 Alternative	***$7,729,000***

Costs include 30% Contingency, 10% Engineering and Design, 7% NMGRT

** Property acquisition costs are based on the "Total Full Value" of the entire parcel listed in the Bernalillo County website: http://www.bernco.gov/property-tax-search/ for the 2012 tax year plus 30% contingency.*

Legend

- Existing Storm Drain
- Existing Pond
- Proposed Alternative
- Proposed Water Quality Improvement
- Proposed Catch Basin

N

0 300 600 1,200 Feet

1 inch = 600 feet

Recommended Improvement Option

South Broadway Drainage and Storm Water Quality Management Plan

Figure E-2

URS