



Lower Indian Bend Wash Area Drainage Master Study/Plan

Study Purpose

The Flood Control District of Maricopa County (FCD) is conducting the Lower Indian Bend Wash Area (LIBW) Drainage Master Study/Plan (ADMS/P) in association with the Cities of Scottsdale, Tempe, Phoenix and the Town of Paradise Valley. The purpose of the ADMS/P is to identify the extent of drainage and flooding problems within the study area and develop concept drainage plans to mitigate the flooding areas. These concept drainage plans will be used by the Cities and the Town to identify, define and budget for future drainage improvement projects.

Purpose Of Public Meetings

The purpose of this series of public meetings is to present the latest study results and get your comments and concerns regarding the potential drainage solutions being considered. At each public meeting, the study team will display the study results and present drainage solutions for the identified problem areas. These solutions will be further analyzed in the coming months in order to develop a recommended drainage master plan.

Study Area

The study covers approximately 27 square miles located primarily within the City of Scottsdale with portions in the City of Phoenix, City of Tempe, and the Town of Paradise Valley. The area is approximately bounded by Shea Boulevard (north), the Granite Reef Wash watershed (east), Loop 202 Freeway (south) and approximately the 56th Street alignment (west).

Study Progress

The first public meetings for this study were held in October of 2013 to gather information from the public on known drainage problems. As explained at those meetings, the study team is employing new technology to analyze storm water runoff, including the existing storm drain systems. Since the last public meeting, the study team has completed the:

- Development of a Two-Dimensional Computer Model of the Study Area,
- Restudy of the Arizona Canal Floodplain; Chaparral Road to Indian Bend Wash,
- Identification of Flooding Areas,
- Formulation of Alternative Drainage Solutions.



LIBW Area Drainage Master Study/Plan Boundary

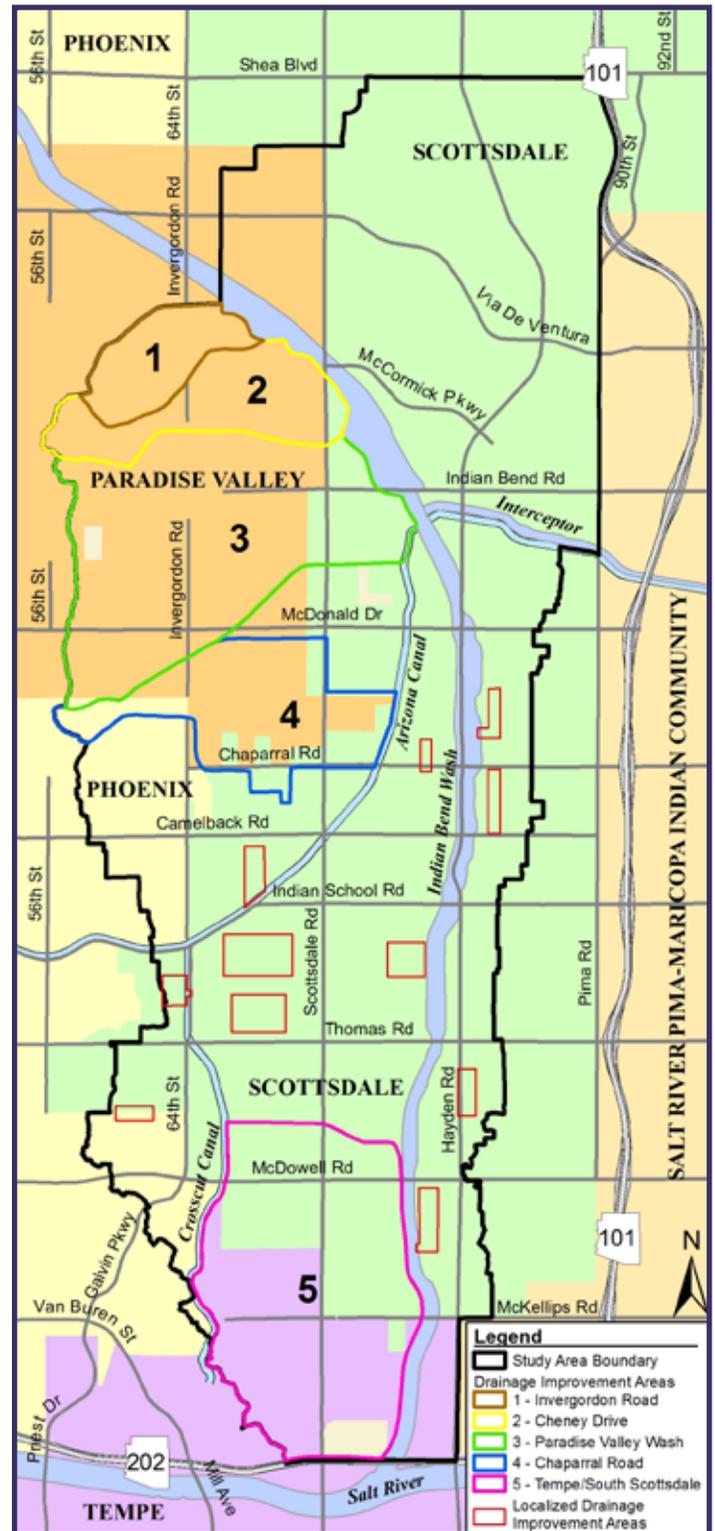
Drainage Improvement Areas

Several primary flooding areas have been identified by analyzing the existing hydrologic conditions within the study area, reviewing citizen input from previous public meetings, and investigating past drainage complaints from property owners.

- 1. Invergordon Road**—This area encompasses the watershed that extends from Indian Bend Wash (IBW) to Mummy Mountain, and includes the section of Invergordon Road between IBW and Northern Avenue. The majority of the impacted homes appear to be along or near the Invergordon Road corridor.
- 2. Cheney Drive**—This area extends from IBW to Mummy Mountain. It includes the wash along the south side of Cheney Drive which spreads just east of Invergordon Road, impacting numerous homes, mostly north of Cheney Drive and east of Invergordon Road.
- 3. Paradise Valley Wash**—This area extends from IBW to around 58th Street. It includes the wash along the north side of Lincoln Drive which drains the watershed area between Camelback Mountain and Mummy Mountain. It also includes the wash along the north side of Indian Bend Road that drains the north face of Mummy Mountain. There is potential flooding for a number of homes and businesses along the north side of Indian Bend Road, between Mockingbird Lane and Scottsdale Road, as well as homes north of Lincoln Drive, between 59th Street and Mockingbird Lane.
- 4. Chaparral Road**—This area encompasses the watershed for the Arizona Canal, between Chaparral Road and McDonald Drive, including runoff from the north side of Camelback Mountain. In addition to the homes in the floodplain along the west side of the Arizona Canal, this area contains a number of potential flooding problems clustered in several different locations.
- 5. Tempe/South Scottsdale**—This area encompasses most of the lower part of the study area from just south of Oak Street to the Loop 202. In general, this part of the study area has an underdeveloped storm drain system which results in a number of neighborhoods being subject to flooding.

Localized Drainage Improvement Areas—

In addition to the five primary flooding areas described above, the results of the hydrologic analysis indicated that there are 11 additional smaller, more localized areas that are also subject to flooding.



Locations of the drainage improvement areas.

Potential Drainage Solutions To Be Analyzed

The following potential drainage solutions are being considered and will be further analyzed by the study team to determine their effectiveness in reducing flooding in the identified improvement areas. The final recommended plan may include some or all of these solutions or other solutions that may come to light during the analysis.

Invergordon Road

- Construct a new storm drain in Invergordon Road from Northern Avenue to Indian Bend Wash with connecting storm drains in Northern Avenue and in Maverick Road, potentially including sediment storage basins at the east end of Maverick Road and along Northern Avenue at Ironwood and Foothill Drive, or;
- Construct a new storm drain in Northern Avenue/Mockingbird Lane from Ironwood Drive to Indian Bend Wash (IBW), potentially including sediment storage basins along Northern Avenue at Ironwood and Foothill Drive.



Invergordon Road and Cheney Drive

Cheney Drive

- Construct a new storm drain in Cheney Drive from Invergordon Road to IBW; including a sediment storage basin in the vicinity of Invergordon Road, or;
- Construct new storm drains north in Mockingbird Lane and/or 70th Street from Cheney Drive to IBW.

Paradise Valley Wash

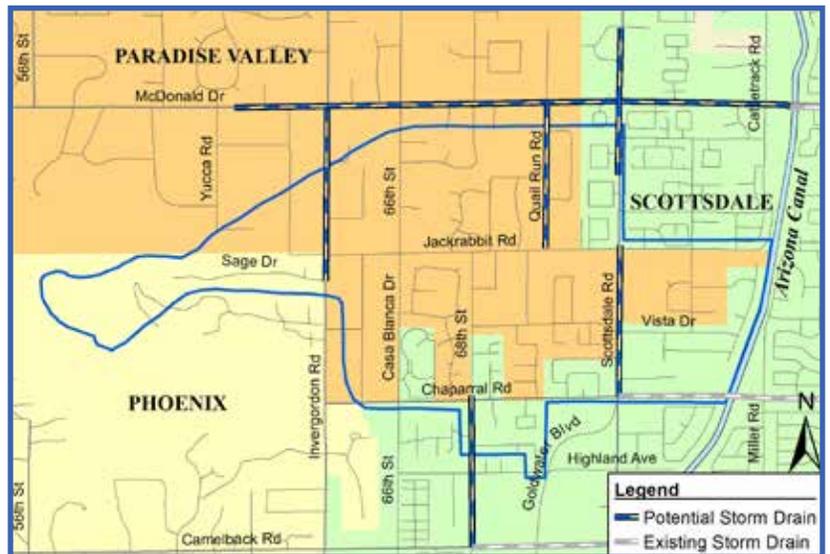
- Construct a new storm drain in Lincoln Drive from 60th Street to IBW with connecting storm drains in 60th Street, 61st Street and Invergordon Road, or;
- Construct a new storm drain in Lincoln Drive from 60th Street to Mockingbird Lane where it would discharge to a future developer-built channel. This new storm drain would include connecting storm drains in 60th Street and 61st Street, and;
- Construct new storm drains in Mockingbird Lane and 69th Place that discharge to a future developer-built channel along the south side of Indian Bend Road.



Paradise Valley Wash

Chaparral Road

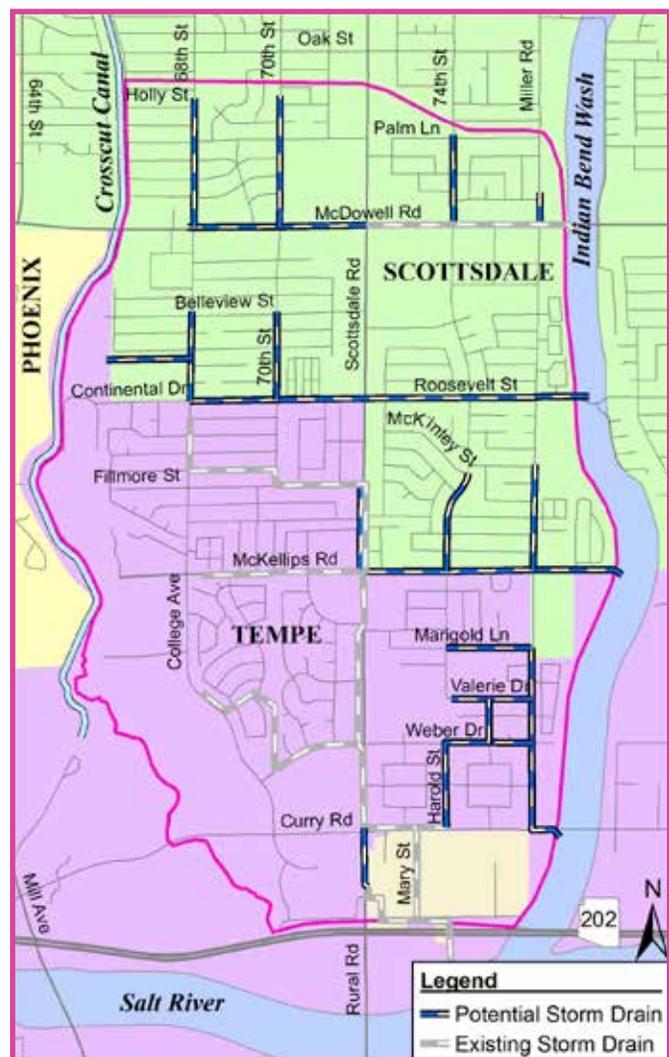
- Extend the existing McDonald Drive storm drain from the Arizona Canal to Yucca Drive with connecting storm drains in Invergordon Road, Quail Run Road and Scottsdale Road, and;
- Construct a new storm drain in 68th Street from Chaparral Road to the existing Camelback Road storm drain, and;
- Construct a new storm drain in Scottsdale Road from Jackrabbit Road to the existing storm drain in Chaparral Road.



Chaparral Road

Tempe/South Scottsdale

- Extend the existing McDowell Road storm drain from Scottsdale Road to 68th Street, with connecting storm drains in 68th Street, 70th Street, 74th Street, and Miller Road, and;
- Construct a new storm drain in Roosevelt Street from IBW to Scottsdale Road; continuing in Continental Drive from Scottsdale Road to 68th Street, with connecting storm drains in 68th Street and 70th Street, and;
- Construct a new storm drain in McKellips Road from IBW to Scottsdale Road, with connecting storm drains in Scottsdale Road, 74th Street and Miller Road, and;
- Construct a new storm drain in Miller Road from Marigold Lane to Curry Road where it would discharge to IBW. The new Miller Road storm drain would include connecting storm drains in Marigold Lane, Valerie Drive and Weber Lane, or;
- Construct a new storm drain in Scottsdale Road from Curry Road to the existing storm drain at the Loop 202; extend the existing storm drain in Mary Street from Curry Road to Marigold Lane via Harold Street, Scovel Street and Miller Road.



Tempe/South Scottsdale

Localized Drainage Improvement Areas

Additional storm drains and/or storm drain inlet improvements are also being considered for the smaller, more localized drainage problem areas.

- A. Construct a new storm drain in Vista Drive from Indian Bend Wash to 82nd Street, where it would continue north to Jackrabbit Road.
- B. Construct a new storm drain in 78th Street from Medlock Drive to the existing storm drain in Chaparral Road.
- C. Construct a new storm drain in 82nd Street, from the existing storm drain at Meadowbrook Avenue north to Northland Drive.
- D. Extend the existing 68th Street storm drain from Monterosa Street north to Roma Avenue.
- E. Extend the existing Osborn Road storm drain north in Pinto Lane, 68th Street, Supai Way and 70th Street.
- F. Extend the existing Miller Road storm drain from Osborn Road north to 4th Street, and construct a new storm drain in Kalarama Avenue from the detention basin at Osborn Park north to 4th Street.
- G. Construct a new storm drain in Rose Circle Drive that runs underneath the Crosscut Canal and connects to the existing storm drain in 64th Street.
- H. Extend the existing storm drain in Cheery Lynn Road from 69th Place west to 67th Place, and repave the alley on the north side of the Oasis Mobile Park to improve drainage out to 67th Place.
- I. Improve storm drain inlets along south side of Oak Street to make them less vulnerable to clogging.
- J. Construct a new storm drains east in Oak Street and Virginia Avenue, from the existing storm drain in Hayden Road to 80th Place.
- K. Construct a new storm drain in 78th Street, from Loma Land Drive south to Roosevelt Street, where it would discharge to Indian Bend Wash.



Localized Drainage Improvement Areas

Re-Study of Arizona Canal Floodplain

As part of the ADMS/P, the floodplain along the west side of the Arizona Canal was restudied between Chaparral Road and Indian Bend Wash. The results of the restudy indicate that the floodplain will narrow in some locations and widen in others, but overall its boundaries decrease significantly. The proposed floodplain covers an area of about 26 acres whereas the existing floodplain encompasses over 56 acres. Moreover, the new floodplain boundary will only impact about 38 homes as opposed to the existing floodplain boundary that includes over 200 homes. It is important to point out that this restudy doesn't change the flooding potential. So, if a homeowner has experienced flooding in the past, that flooding potential will still exist. The new proposed delineation was presented to affected residents at public meetings held in October of 2015 and May of 2016.

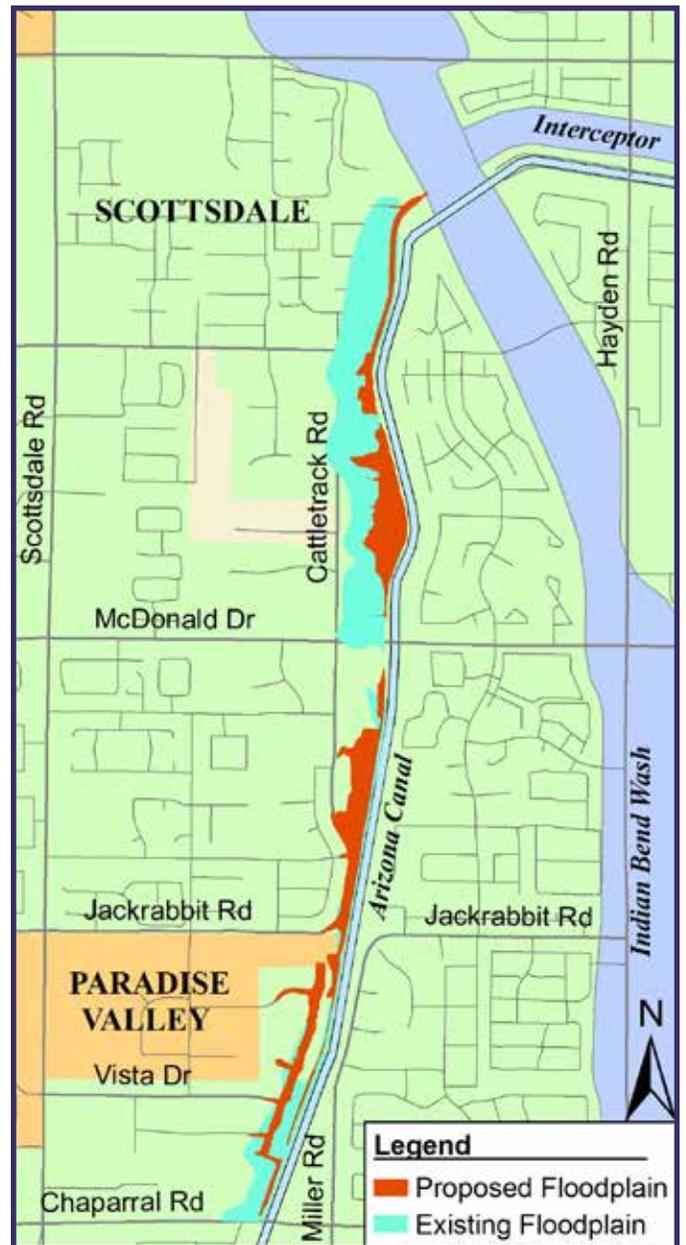
Next Steps

The LIBW ADMS/P study team will complete the alternatives analysis, which will include descriptions, cost estimates, opportunities and constraints of each alternative. The FCD and the stakeholders with the study team will choose the recommended alternative, incorporating comments received from previous public meetings.

Once the recommended alternatives have been chosen, the study team will further develop the recommended plan. These efforts will include preliminary engineering drawings of the elements of the plan, and refined cost estimates for implementation. A final series of public meetings will be scheduled to present the recommended drainage plan to the public.

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Proposed floodplains compared to the existing floodplain