



Technical Memorandum

December 20, 2024

To	Christine Thomson, MIG	Contact No.	
Copy to	Colin Burgett, GHD	Email	Russ.Wenham@ghd.com
From	Russ Wenham, GHD	Project No.	12596825
Project Name	Redding Riverfront Specific Plan (RRSP)		
Subject	Sacramento River Floodplain		

The Sacramento River discharges from Shasta Dam (Lake Shasta) and Keswick Dam, with Keswick Dam being approximately 6 miles north of the mid-point of the RRSP study area.

The Federal Bureau of Reclamation manages flood control by Shasta Dam and Keswick Dam releases, with Lake Shasta being the primary reservoir providing flood protection on the upper Sacramento River. Shasta Dam can release 79,000 cubic feet per second (cfs) safely into the Sacramento River in non-emergency flood conditions; however, normal flood releases are usually much lower. The largest Shasta Dam release (since the dam was put into operation in the 1940s) was 83,000 cfs, which occurred in February 2017.

The Federal Emergency Management Agency (FEMA) maintains and publishes flood maps (e.g., flood hazard areas) via the FEMA Flood Map Service Center (MSC) at <https://msc.fema.gov/portal/home>.

As shown in current FEMA flood maps, portions of the RRSP are within the 100-year floodplain and regulatory floodway boundaries, as determined by the FEMA Flood Insurance Rate Maps (FIRM) and National Flood Insurance Program (NFIP).

As noted in FEMA Guidance for Flood Risk Analysis and Mapping (2019):

A regulatory floodway is defined as the channel of a river or other watercourse and the adjacent land area that is reserved from encroachment in order to discharge the base flood without cumulatively increasing the water-surface elevation by more than a designated height. NFIP regulations and Standard SID 69 and 70 state: "Floodway surcharge values must be between zero and 1.0 ft. If the state (or other jurisdiction) has established more stringent regulations, these regulations take precedence over the NFIP regulatory standard. Further reduction of maximum allowable surcharge limits can be used if required or requested and approved by the communities impacted."

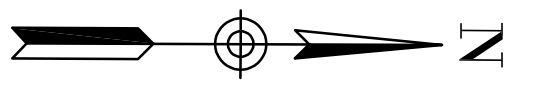
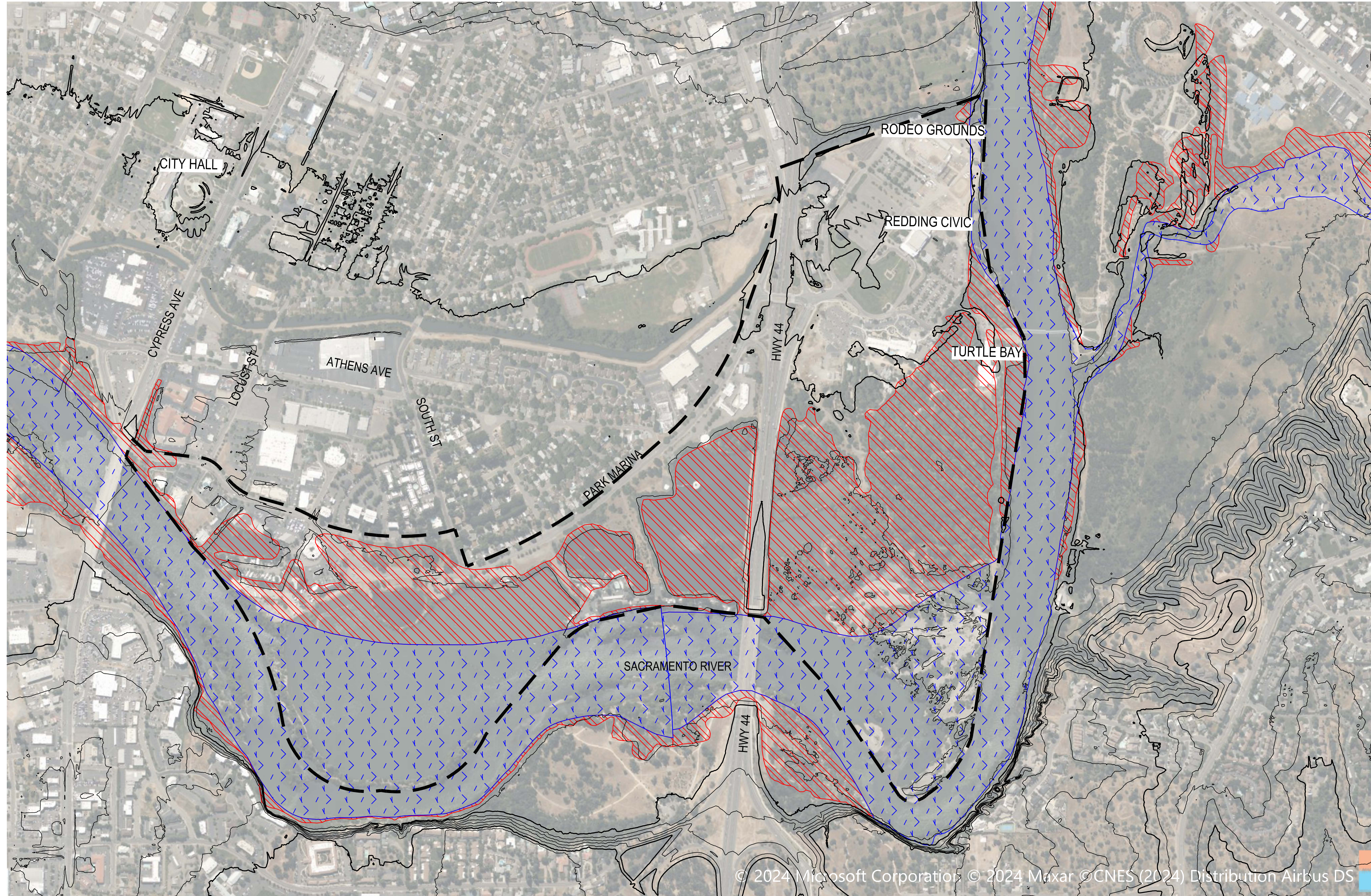
The portions of the floodplain beyond the floodway are called the floodway fringe. The floodway fringe are lands outside the floodway, at or below the base flood elevation, that store but do not effectively convey floodwaters.

The floodplain and floodway locations and extents are shown in **Exhibit 1**.






Along the Park Marina Drive corridor, there are previously disturbed and developed areas that are in the floodway fringe. Some of these floodway fringe areas represent opportunities for new development or redevelopment. The Turtle Bay Museum and the Kutras round house on piers are in the floodway fringe. It is estimated that a river hydraulics analysis would demonstrate these areas could be raised above the base floodplain by placement of new embankment, and that the embankment placement would not adversely affect the adjacent built and natural environments in the RRSP.

Areas that could be considered for embankment placement, development, and redevelopment from a flood protection standpoint are shown in **Exhibit 2**.

REDDING RIVERFRONT SPECIFIC PLAN - FLOODPLAIN EXISTING CONDITIONS



LEGEND

-  100YR FLOODPLAIN
-  REGULATORY FLOODWAY
-  MINOR CONTOUR (5' INTERVAL)
-  MAJOR CONTOUR (25' INTERVAL)
-  PLAN BOUNDARY

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EXHIBIT 1

No.	Issue	Checked	Approved	Date
Author	RW	Drafting Check	Project Manager	COLIN BORGET
Designer	AC	Design Check	Project Director	KAMESH VEDULA



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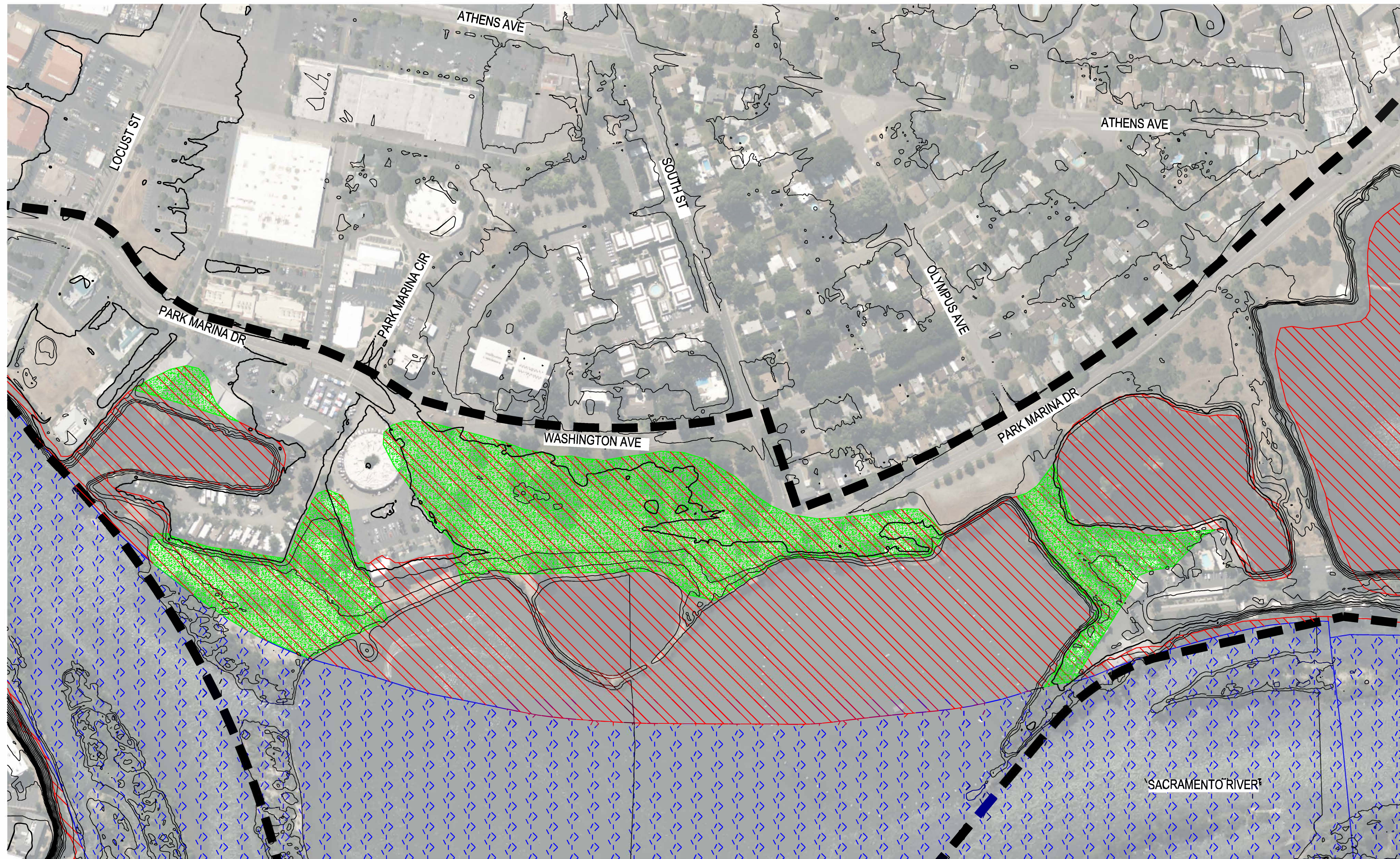


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Client	MIG
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Title	REDDING RIVERFRONT SPECIFIC PLAN - FLOODPLAIN EXISTING CONDITIONS	Size	ANSI D
Sheet No.			

REDDING RIVERFRONT SPECIFIC PLAN - POTENTIAL FLOODPLAIN MODIFICATION AREAS



LEGEND







-  100YR FLOODPLAIN
-  REGULATORY FLOODWAY
-  POTENTIAL FLOODPLAIN MODIFICATION AREA
-  MINOR CONTOUR (1' INTERVAL)
-  MAJOR CONTOUR (5' INTERVAL)
-  PLAN BOUNDARY

EXHIBIT 2A

No.	Issue	Checked	Approved	Date
Author	RW	Drafting Check	Project Manager	COLIN BORGET
Designer	AC	Design Check	Project Director	KAMESH VEDULA



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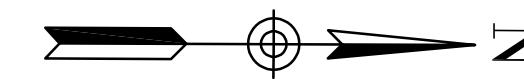
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REDDING RIVERFRONT SPECIFIC PLAN - POTENTIAL FLOODPLAIN MODIFICATION AREAS




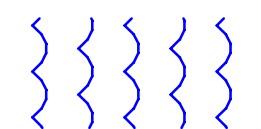
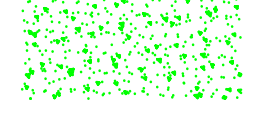
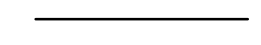

- LEGEND**
-  100YR FLOODPLAIN
 -  REGULATORY FLOODWAY
 -  POTENTIAL FLOODPLAIN MODIFICATION AREA
 -  PARCEL LINES
 -  PLAN BOUNDARY

EXHIBIT 2B

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