LOCATION HYDRAULIC STUDY FORM

Dist: 10 Co: SJ Rte: 205 P.M: 2.5/R4.9
Federal-Aid Project Number: N/A
EA: 0H9100 Bridge No._____

Floodplain Description:
The project area falls in Zone X defined on FEMA Flood Insurance Rate Map (FIRM). Zone X is an area that is determined to be outside the 500-year floodplains.

1. Description of Proposal *(include any physical barriers i.e. concrete barriers, soundwalls, etc. and design elements to minimize floodplain impacts)*
For Alternative 5A, the existing Eleventh Street ramps on I-205 is eliminated by replacing them with a full partial cloverleaf (Type L-7) interchange at a realigned Eleventh Street.

2. ADT: Current: 111,000 Projected: 173,000

3. Hydraulic Data:

Base Flood:	Q_{100}= N/A cfs	WSE_{100}= N/A ft
The flood of record, (if greater than Q_{100}):	Q= N/A cfs	WSE= N/A ft
Overtopping flood:	Q= N/A cfs	WSE= N/A ft

Are NFIP maps and studies available? NO_____ YES X

4. Is the highway location alternative within a regulatory floodway?
NO X YES_____

5. Attach map with flood limits outlined showing all buildings or other improvements within the base floodplain.

Potential Q_{100} backwater damages:

A.	Residences?	NO X	YES_____
B.	Other Bldgs?	NO X	YES_____
C.	Crops?	NO X	YES_____
D.	Natural and beneficial Floodplain values?	NO X	YES_____

"Natural and beneficial flood-plain values" shall include but are not limited to fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge.

6. Type of Traffic:

A. Emergency supply or evacuation route?	NO_____	YES X
B. Emergency vehicle access?	NO_____	YES X
C. Practicable detour available?	NO_____	YES X
D. School bus or mail route?	NO X	YES_____

7. Estimated duration of traffic interruption for 100-year event hours: 0 hours

8. Estimated value of Q_{100} flood damages (if any) – moderate risk level.

A.	Roadway	$ 0
B	Property	$ 0
	Total	$ 0

9. Assessment of Level of Risk
Low X
Moderate_____
High_____

For High Risk projects, during design phase, additional Design Study Risk Analysis may be necessary to determine design alternative.

LOCATION HYDRAULIC STUDY FORM cont.

Dist: 10 Co: SJ Rte:205 P.M: 2.5/R4.9
Federal-Aid Project Number:_____
EA: 0H9100 Bridge No._____

PREPARED BY:

Signature:
I certify that I have conducted a Location Hydraulic Study consistent with 23 CFR 650 and that the information summarized in items numbers 3, 4, 5, 8, and 9 of this form is accurate.
MARTHA DADALA P.E., *Date: October 21, 2011*
Local Agency/Consulting Hydraulic Engineer *(local assistance projects)*
Is there any longitudinal encroachment, significant encroachment, or any support of incompatible Floodplain development? NO___X___YES_____
If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.113
Information developed to comply with the Federal requirement for the Location Hydraulic Study shall be retained in the project files.

I certify that item numbers 1, 2, 6 and 7 of this Location Hydraulic Study Form are accurate and will ensure that Final PS&E reflects the information and recommendations of said report:

_____ *Date* 10/24/11
District Project Engineer *(capital and 'on' system projects)*

_____ *Date* 10/21/11
Local Agency Project Engineer *(local assistance projects)*

CONCURRED BY:
I have reviewed the quality and adequacy of the floodplain submittal consistent with the attached checklist, and concur that the submittal is adequate to meet the mandates of 23 CFR 650.

_____ *Date* 10/24/11
District Hydraulic Engineer *(capital and 'on' system projects)*

_____ *Date* 10/24/11
District Project Manager *(capital and 'on' system projects)*

_____ *Date* 10/21/11
Local Agency Project Manager *(Local Assistance projects)*

_____ *Date* _____
District Local Assistance Engineer *(or District Hydraulic Branch for very complex projects or when required expertise is unavailable. Note: District Hydraulic Branch review of local assistance projects shall be based on reasonableness and concurrence with the information provided).*

I concur that the natural and beneficial floodplain values are consistent with the results of other studies prepared pursuant to 23 CFR 771, and that the NEPA document or determination includes environmental mitigation consistent with the Floodplain analysis.

_____ *Date* 10 · 25 · 11
District Senior Environmental Planner *(or Designee)*
Note: If a significant floodplain encroachment is identified as a result of floodplains studies, FHWA will need to approve the encroachment and concur in the Only Practicable Alternative Finding.

SUMMARY FLOODPLAIN ENCROACHMENT REPORT*

Dist. 10 Co. San Joaquin Rte. 205 P.M. 2.6/R4.9
Project No.: 0H9100 Bridge No.
Limits:
Alternative 5A, In San Joaquin County, From PM 2.6 to PM 4.9 from 1.3 miles east of Patterson Pass Road overcrossing to 0.4 mile west of Grant Line Road undercrossing.

Floodplain Description:
This project area falls in Zone X defined on FEMA Flood Insurance Rate Map (FIRM).
Zone X - Areas determined to be outside the 0.2% annual chance (500-year) floodplain.

		No	Yes
1.	Is the proposed action a longitudinal encroachment of the base floodplain?	X	
2.	Are the risks associated with the implementation of the proposed action significant?	X	
3.	Will the proposed action support probable incompatible floodplain development?	X	
4.	Are there any significant impacts on natural and beneficial floodplain values?	X	
5.	Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain.	X	
6.	Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q).	X	
7.	Are Location Hydraulic Studies that document the above answers on file? If not explain.		X

PREPARED BY:

Martha M Dadala – Consulting Hydraulic Engineer — 10/ 21/ 2011 Date

CONCURRED BY:

Signature - Dist. Hydraulic Engineer — 10-24-11 Date

Signature - Dist. Environmental Branch Chief — 10-24-11 Date

Signature - Dist. Project Engineer — 10/24/11 Date

* Same as Figure 804.7B Floodplain Evaluation Report Summary located in Chapter 804 of the Highway Design Manual