

EXHIBIT 6-A HBRRP APPLICATION/SCOPE DEFINITION FORM

See Section 6.6, Chapter 6 of the LAPG for information about this form.

This form shall replace Exhibit 7-D, “Major Structure Data”, from Chapter 7, “Field Review,” of the LAPM. Wherever the LAPM requires Exhibit 7-D for other programs, Exhibit 6-A may be substituted. Bridge projects funded entirely through other programs should continue to use Exhibit 7-D.

(One bridge per application, separate applications are required for multiple bridges at same location. Multiple bridges may be combined into one federal aid project later.)

State Bridge No. _____ Local Bridge No. _____
 Project Number _____ (Caltrans to provide project number for new projects)
 Responsible Agency _____
 Caltrans District _____
 County _____
 Project Manager _____
 Title _____
 Phone _____ Fax _____
 E Mail _____
 Project Location _____
 Project Limits _____
 Type of Work _____
 Work Description _____

HBRRP Category:

<input type="checkbox"/> Rehabilitation	<input type="checkbox"/> Scour Countermeasure
<input type="checkbox"/> Replacement	<input type="checkbox"/> Replacement Due to Flood Control Project
<input type="checkbox"/> Painting	<input type="checkbox"/> New Bridge to Replace Ferry Service
<input type="checkbox"/> Bridge Railing/Approach Barrier Replacement	<input type="checkbox"/> Historic Bridge
<input type="checkbox"/> Low Water Crossing Replacement	<input type="checkbox"/> High Cost Bridge

Minimal Application: Only questions 1, 2, 3, 4, cost data and signoff will be completed. Other information will be submitted at a later time after PE has been federally authorized to scope the project. See Section 6.6.2 “Minimum Application Requirements” for additional information.

The field review process enables the proper scoping of projects. Some field reviews are mandatory, most are optional. Field reviews are critically important to identify difficult environmental, Right of Way, and bridge type selection issues early in the project development phase. Please see Chapter 7 of the LAPM further discussion.

1. Do you request that Caltrans initiate a field review? Yes No
2. Do you need help with consultant selection/oversight? Yes No
3. Do you need help with the federal process? Yes No
4. Caltrans engineers are available to provide an optional cursory review of the PS&E. The review looks at constructability, standard details and specifications, foundation/hydraulic design, and HBRRP funding eligibility. Do you request Caltrans perform a cursory PS&E review for this project? (If yes, please also request a field review.) Yes No

Federal Congressional District(s) _____
State Senate District(s) _____
State Assembly District(s) _____

Preliminary Engineering by: Local Agency Staff Consultant Other...

Design by: Local Agency Staff Consultant Other...

Foundation Investigation by: Local Agency Staff Consultant Other...

Hydrology Study by: Local Agency Staff Consultant Other...

Detour, stage construction, or close road? _____
Length of detour: _____

Resident Engineer for Bridge Work: Local Agency Staff Consultant Other...

For painting & scour scopes of work, skip this page.

**NBI data is from the Bridge Inspection Report (SI&A sheet)
Contact the DLAE/SLA for assistance, if needed.**

Date Constructed (NBI Item 27): _____ Historical Bridge Category (NBI Item 37) _____

Structure Data	Existing	Proposed	Minimum AASHTO Standards
Structure type			
Structure length (specify units)			
Spans (No. and length)			
Curb to Curb width (See NBI Item 51 definition)			
Number of lanes			
Lane widths			
Shoulder widths	_____ Lt _____ Rt	_____ Lt _____ Rt	
Bike lanes (identify only if <u>not</u> included in the shoulder dimensions)	_____ Lt _____ Rt	_____ Lt _____ Rt	
Sidewalks/separated bikeways	_____ Lt _____ Rt	_____ Lt _____ Rt	
Approach roadway width (traveled way + paved shoulders, tapered approaches should be measured at the touchdown points not the abutments)			
Approach road length (from each abutment)	_____ abt1 _____ abt2	_____ abt1 _____ abt2	
Total bridge deck width			

Summary of Major Deficiencies of Existing Bridge (See Section 6.12 for information)
(Contact the DLAE/SLA for assistance, if needed)

Data is from SI&A Sheet (Last page of Bridge Inspection Report)

SD = Structurally Deficient
 FO = Functionally Obsolete
 Blank = Not SD or FO
 NG = Not Good (Deficiency)

Sufficiency Rating (SR) = _____ Status = SD FO Blank

Description of Data Item	NBI Data Item	Deficient Criteria	Results	What are the Deficiencies?
Deck	Item 58= _____	≤ 4 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG-SD	
Superstructure	Item 59= _____	≤ 4 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG-SD	
Substructures	Item 60= _____	≤ 4 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG-SD	
[Item 62 applies only if the last digits of Item 43 are coded 19.]				
Culvert and Retaining Walls	Item 62= _____	≤ 4 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG-SD	
Structural Condition	Item 67= _____	≤ 3 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG	
[Item 71 applies only if the last digit of Item 42 is coded 0, 5, 6, 7, 8, or 9.]				
Waterway Adequacy	Item 71= _____	≤ 3 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG	
Deck Geometry	Item 68= _____	≤ 3 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG-FO	

Description of Data Item	NBI Data Item	Deficient Criteria	Results	What are the Deficiencies?
[Item 69 applies only if the last digit of Item 42 is coded 0, 1, 2, 4, 6, 7 or 8.]				
Under-clearances	Item 69= _____	≤ 3 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG-FO	
Approach Roadway Alignment	Item 72= _____	≤ 3 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG-FO	
Scour Criticality	Item 113= _____	≤ 3 is problem	<input type="checkbox"/> OK <input type="checkbox"/> NG	
Bridge Railing	Item 36A= _____	= 0 Review	<input type="checkbox"/> OK <input type="checkbox"/> NG	
Guardrail Transition, Approaches, Guardrail Ends	Item 36B= _____ Item 36C= _____ Item 36D= _____	= 0 Review	<input type="checkbox"/> OK <input type="checkbox"/> NG	
Other deficiencies not identified in Bridge Inspection Report	Discuss in detail, attach additional pages and photographs as needed to justify HBRRP funds to correct problem:			

5. If this application is for rehabilitation or replacement scope, will all deficiencies be resolved by the project?
If no, please discuss below or attach discussion on separate pages to application.

Yes No Not Applicable

6. Discuss any special conditions or proposed design exceptions:

7. Identify and justify “betterments” that are HBRRP participating but are not related to the major deficiencies. Attach additional pages as needed.

8. Refer to Exhibit 6-B. Identify and justify specific items requiring Caltrans funding approval. Attach additional pages as needed.

9. Other comments: (identify non-HBRRP participating work)

Estimated Construction Costs:

Exclude Contingencies, Supplementary Work, and Construction Engineering

	HBRRP Participating	NOT HBRRP Participating*
Construct Bridge		
Bridge Removal		
Slope Protection		
Channel Work		
Detour - Stage Construction		
Approach Roadway		
Utility Relocation		
Mobilization		
Total		

Total Cost _____

*Items that are not HBRRP participating could be participating through other federal programs. See the LAPG for other eligibility requirements of other programs. Local agencies that are unsure which project costs are HBRRP participating should contact the DLAE/SLA for resolution.

Note that the total of the HBRRP participating costs should carry over into the construction line (direct costs) on the next page.

Summary of HBRRP Participating Costs

Please indicate the HBRRP total participating (eligible for reimbursement) costs for this project. Based on the amounts below and the federal reimbursement rate, Caltrans will program (reserve) the HBRRP funds needed for this project. Other federal funds (RSTP, TEA, etc.) needed for this project should be shown in the Field Review form Exhibit 7-B from Chapter 7 of the LAPM.

Target dates represent a commitment by the local agency when the project will need HBRRP funding. Failure to meet target dates may cause funds to be reprogrammed to other projects by other local agencies. The reprogramming of HBRRP funds is at the discretion of Caltrans.

- PE = Preliminary Engineering (Total not to exceed the greater of \$75 K or 25% of CON and consultant contract management and quality assurance not to exceed 15% of consultant costs).
- R/W = Right of Way.
- CE = Construction Engineering (Not to exceed 15% of CON)
- CON = Construction
- Cont = Contingency (including supplemental work) not to exceed 25% (preliminary estimate) nor 10% of CON for final design. \$5 K min.

Enter CE Rate:

Enter Contingency Rate:

	Direct Costs	+	Indirect Costs*	=	HBRRP Participating \$**	Target Dates
PE	<input type="text"/>		<input type="text"/>		<input type="text"/>	<input type="text"/>
R/W						<input type="text"/>
CON	<input type="text"/>					
CE	<input type="text"/>					
Cont	<input type="text"/>					
Subtotal	<input type="text"/>		<input type="text"/>		<input type="text"/>	<input type="text"/>

Total Participating Cost

Enter Fed. Match Rate: HBRRP Requested

*See Chapter 5, "Accounting/Invoices," of the LAPM for approval of indirect costs.

**Participating costs exclude ineligible work items. Please review the HBRR Program Guidelines for reimbursable scopes of work and program cost limits. Other federal funds will be shown in the Field Review form, Exhibit 7-B, Chapter 7, "Field Review," of the LAPM.

Caltrans, please notify this agency to confirm this project has been programmed in the HBRRP Multi-Year Plan. I understand that reimbursable work shall not commence until a request for authorization (E76) has been processed by Caltrans and a notice to proceed has been received by this agency.

I certify that this project is in compliance with Chapter 6 (HBRRP) of the *Local Assistance Program Guidelines*. I understand that changes to the project scope/cost/schedule impacting the information in Exhibit 6-A and Exhibit 6-B require the processing of Exhibit 6-D (HBRRP Scope/Cost/Schedule Change Request).

Two (2) copies plus one original of this application (with attachments) will be included in the transmittal package to the DLAE.

_____ Date

Local Agency Project Manager

Attachments:

- 1) Exhibit 6-B, LAPG, HBRRP Special Cost Approval Checklist
- 2) Bridge Inspection Report with SI&A Sheet
- 3) Sketch of General Plan or marked up as-built
- 4) Sketch of typical section
- 5) Photographs: 4 corners looking at the bridge & 2 elevation views, & views of each approach, for a total of 8 photographs (minimum).
- 6) Exhibit 7-B, Field Review Form, Chapter 7, LAPM
- 7) Exhibit 7-C, Roadway Data Sheet, Chapter 7, LAPM
- 8) Exhibit 6-C, PIN for Barrier Rail Replacement Projects (include only if applying for Bridge Railing Replacement funds.)
- 9) Other: _____
- 10) Request for Authorization is included in this application package for expedited processing? Yes No

Thank you for assembling the application package. Please send this package to your District Local Assistance Engineer to start the programming process. Please email your suggestions to improve this form to eric.bost@dot.ca.gov or shannon.mlcoch@dot.ca.gov.

For Caltrans use only:

I have reviewed this application for completeness and have forwarded copies to the Office of Program Management and SLA.

- I recommend approval. (Attach comments as needed.)
- I do not recommend approval for the following reasons: See attached memo/email to the Office of Program Management.
- I request SLA review of this application for the following reasons: (Attach memo/email justifying increased Caltrans oversight.)

_____ Date

DLAE or authorized staff

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EXHIBIT 6-B HBRRP SPECIAL COST APPROVAL CHECKLIST

The purpose of this form is to help local agencies identify project costs that require Caltrans funding approval. Local agencies are responsible for contacting the DLAE to resolve any items requiring Caltrans review. This form is not a substitute for reading Chapter 6, of the LAPG or the LAPM. Local agencies are still financially accountable for meeting all the requirements of the LAPG and the LAPM.

Project Number _____

State Bridge No. _____ (One bridge per application) Local Bridge No. _____

Project Location

Chapter 6 LAPG Section #'s	Topic	Status
6.2.1 - Rehab 6.2.2 - Replace	Adding Additional Lanes (including turn lanes)	<input type="checkbox"/> Requires Caltrans/MPO Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> MPO has Approved Scope in FSTIP <input type="checkbox"/> Not Applicable
6.2.1 - Rehab	Scope is Bridge Replacement, but SR>50	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.2.4 - Rail	No bridge railing work to be done, but other safety work related to bridge is needed.	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.2.4 - Rail (applies to all scopes of work)	New sidewalks to be installed where none existed before. Please identify as "betterment" in Exhibit 6-A.	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.2.4 - Rail (applies to all scopes of work)	New electroliers to be installed where none existed before. Please identify as "betterment" in Exhibit 6-A.	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.2.1 - Rehab 6.2.2 - Replace 6.2.10- Historic 6.3 - Standards	Rehabilitation/Replacement will not address all major bridge deficiencies	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.5.11 - Replace	"Replaced" bridges to remain in place. Applies to work beyond specified examples in Section 6.5.12	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable

Chapter 6 LAPG Section #'s	Topic	Status
6.4.2	Approach roadwork exceeding guidelines	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.4.3	PE costs exceeding guidelines	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.4.4	Contingency exceeding guidelines	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.4.5	CE costs exceeding guidelines	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.5.3	10 Year Rule - Major (Re)Construction	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.5.4	10 Year Rule - PE Authorization	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.5.7	Unusual Architectural Treatments	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.7.1 6.7.4	Scope/Cost/Schedule Changes	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable
6.7.5	Construction Change Orders (CCOs) that Exceed Contingency	<input type="checkbox"/> Requires Caltrans Approval <input type="checkbox"/> Caltrans has Approved Costs <input type="checkbox"/> Not Applicable

I certify that I have reviewed this project against the requirements of Chapter 6 of the LAPG and have filled out this checklist accordingly.

Local Agency Project Manager

Date

EXHIBIT 6-C PIN FOR BARRIER RAIL REPLACEMENT PROJECTS

Following is the formula to be used to calculate the priority index number for HBRR Barrier Rail Replacement projects:

Description and Evaluation of Priority Factors

Total Bridge Rail Priority Points = F1 + F2 + F3 + F4 + F5 + F6 + F7

F1: Bridge Rail Type - Among the types of rails where NBI item 36A is coded 0 in the Bridge Inspection Report, some are considered to be less effective than others. Listed below are the assigned points (ten points maximum per project - if one side is good, project applies to bad side only - if project is for two sides with different points, use average):

F1 = 10 points: no bridge rail, or lightweight timber rails;

F1 = 6 points: lightweight concrete post or metal baluster, Tuthill, or equal;

F1 = 3 points: lightweight concrete window (Todd rail), unreinforced masonry; metal beam or lattice, or equal;

F1 = 0 points: all other rail types

F2: Consequence of Penetration

F2 = 6 points: bridges over an area of moderate or heavy public use (i.e., main road, street or railroad, playgrounds, parking lots, etc.);

F2 = 0 points: otherwise.

F3: Inadequate Approach Rail System - Points are given for inadequate approach guardrails, inadequate approach guardrail to bridge rail connections, and inadequate approach guardrail terminals (five points maximum per project - if it varies, use average of rails to be replaced):

F3 = 1 point: inadequate approach guardrail transitions;

F3 = 3 points: inadequate approach guardrail;

F3 = 1 point: inadequate approach guardrail terminal;

(Two-way bridges less than 18.3 meters wide should have an adequate approach guardrail system at all four corners).

F4: Accidents - All accidents involving the bridge rail, bridge ends and approach guardrails in the last 5 years are counted. One point is given for each Property

Damage Only (PDO) accident while 5 points are given for each fatal or injury accident.

F4 = 5 points: x (# of fatal or injury accidents) + 1 point: x (# of PDO accidents)

If replacing rail on only one side, use accidents involving the rail to be replaced.

F5: ADT/Lane - This is a measure of the number of conflicts on the bridge. The most critical case is at a volume/capacity ratio of 0.50, This is equivalent to 4,000 ADT/Lane, (Average Daily Traffic/Lane) on 2-lane, 2-way roads and 8,000 ADT/Lane on multi-lane roads. Points are given as follows (Use the “ADT” information from the Bridge Inspection Report.):

On 2-Lane, 2-Way Roads		On Multi-Lane Roads
F5 Points	(ADT/Lane)=L	(ADT/Lane)=L
0	L < 800	L < 1,600
1	800 ≤ L ≤ 1,600	1,600 ≤ L ≤ 3,200
2	1,600 ≤ L ≤ 2,400	3,200 ≤ L ≤ 4,800
3	2,400 ≤ L ≤ 3,200	4,800 ≤ L ≤ 6,400
4	3,200 ≤ L ≤ 4,000	6,400 ≤ L ≤ 8,000
5	L ≥ 4,000	L ≥ 8,000

F6: Site Conditions - This rating factor is affected by many variables such as vertical alignment, horizontal alignment, bridge width, or access roads being close to the bridge. For each variable that is slightly worse than the design standard, add 1/2 point. For each variable that is significantly worse than the design standard, add 1-1/2 points. The points for F6 shall be as follows:

F6 = 0 points: site conditions are excellent

F6 = 1 point: site conditions are good

F6 = 2 points: site conditions are fair

F6 = 3 points: site conditions are average

F6 = 4 points: site conditions are poor

F6 = 5 points: site conditions are critical

The maximum number of points for F6 on any bridge shall be 5.

F7: Potential for future bridge replacement - Top priority is to replace obsolete barrier rails on bridges with long life expectancy.

F7 = 10 points if Sufficiency Rating (SR) >80

F7 = 6 points if $70 < SR \leq 80$

F7 = 5 points if $60 < SR \leq 70$

F7 = 4 points if $50 < SR \leq 60$

F7 = 0 points if $SR \leq 50$.

For each candidate project provide each of the factors above with explanation for why each factor was selected. **THIS INFORMATION MUST BE PROVIDED FOR THE APPLICATION TO BE ACCEPTED.**

Factor	Value	Justification (Attach additional pages if required)
F1		
F2		
F3		
F4		
F5		
F6		
F7		

PIN= \sum Values above = _____

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EXHIBIT 6-D HBRRP SCOPE/COST/SCHEDULE CHANGE REQUEST

See Section 6.7.1, Chapter 6 of the LAPG for information about this form.

State Bridge No. _____ Local Bridge No. _____
Project Number _____ (Caltrans to provide project number for new projects)
Responsible Agency _____

Project Location	
Project Limits	
Type of Work	
Work Description	

1. Describe reason for Scope/Cost/Schedule Change (or attach separate pages):

--

2. If this is a request for scope change (not cost or schedule) please prepare a new or revised Exhibit 6-A “HBRRP Application/Scope Definition Form.” Will a revised Exhibit 6-A be submitted?

Yes No Not Applicable

3. If the answer to the above question is “Yes,” please skip to the signoff on this form and submit this form with the Exhibit 6-A package.
4. Identify and justify “betterments” that are HBRRP participating but are not related to the major deficiencies of this bridge. Attach additional pages as needed.

5. Refer to Exhibit 6-B. Identify and justify specific items requiring Caltrans funding approval. Attach additional pages as needed.

6. Other comments: (identify non-HBRRP participating work)

Estimated Construction Costs:

Exclude Contingencies, Supplementary Work, and Construction Engineering

	HBRRP Participating	NOT HBRRP Participating*
Construct Bridge		
Bridge Removal		
Slope Protection		
Channel Work		
Detour - Stage Construction		
Approach Roadway		
Utility Relocation		
Mobilization		
Total		

Total Cost _____

*Items that are not HBRRP participating could be participating through other federal programs. See the LAPG for other eligibility requirements of other programs. Local agencies that are unsure which project costs are HBRRP participating should contact the DLAE/SLA for resolution.

Note that the total of the HBRRP participating costs should carry over into the construction line (direct costs) on the next page.

Summary of HBRRP Participating Costs

Please indicate the HBRRP total participating (eligible for reimbursement) costs for this project. Based on the amounts below and the federal reimbursement rate, Caltrans will program (reserve) the HBRRP funds needed for this project. Other federal funds (RSTP, TEA, etc.) needed for this project should be shown in the Field Review form Exhibit 7-B from Chapter 7 of the LAPM.

Target dates represent a commitment by the local agency when the project will need HBRRP funding. Failure to meet target dates may cause funds to be reprogrammed to other projects by other local agencies. The reprogramming of HBRRP funds is at the discretion of Caltrans.

- PE = Preliminary Engineering (Total not to exceed the greater of \$75 K or 25% of CON and consultant contract management and quality assurance not to exceed 15% of consultant costs).
- R/W = Right of Way.
- CE = Construction Engineering (Not to exceed 15% of CON)
- CON = Construction
- Cont = Contingency (including supplemental work) not to exceed 25% (preliminary estimate) nor 10% of CON for final design. \$5 K min.

Enter CE Rate:

Enter Contingency Rate:

	Direct Costs	+	Indirect Costs*	=	HBRRP Participating \$**	Target Dates
PE	<input type="text"/>		<input type="text"/>		<input type="text"/>	<input type="text"/>
R/W	<input type="text"/>					
CON	<input type="text"/>					
CE	<input type="text"/>		<input type="text"/>			
Cont	<input type="text"/>					
Subtotal	<input type="text"/>		<input type="text"/>		<input type="text"/>	<input type="text"/>

Total Participating Cost

Enter Fed. Match Rate: HBRRP Reserved

*See Chapter 5, "Accounting/Invoices," of the LAPM for approval of indirect costs.

**Participating costs exclude ineligible work items. Please review the HBRR Program Guidelines for reimbursable scopes of work and program cost limits. Other federal funds will be shown in the Field Review form, Exhibit 7-B, Chapter 7, "Field Review," of the LAPM.

Caltrans, please notify this agency to confirm the requested scope/cost/schedule changes for this project have been incorporated in the HBRRP Multi-Year Plan. I understand that reimbursable work shall not commence until a request for authorization (E76) has been processed by Caltrans and a notice to proceed has been received by this agency.

I certify that this project is in compliance with Chapter 6 (HBRRP) of the *Local Assistance Program Guidelines*.

Two (2) copies plus one original of this form (with attachments) will be included in the transmittal package to the DLAE.

_____ Date
Local Agency Project Manager

Attachments (only if Question 2 is answered "No"):

- 1) Exhibit 6-B, LAPG, HBRRP Special Cost Approval Checklist
- 2) Other: _____
- 3) Request for Authorization is included in this application package for expedited processing? Yes No

Thank you for assembling the form. Please send this package to your District Local Assistance Engineer to process your request for scope/cost/schedule changes. Please email your suggestions to improve this form to eric.bost@dot.ca.gov or shannon.mlcoch@dot.ca.gov.

For Caltrans use only:

I have reviewed this form for completeness and have forwarded copies to the Office of Program Management and SLA.

- I recommend approval. (Attach comments as needed.)
- I do not recommend approval for the following reasons: See attached memo/email to the Office of Program Management.
- I request SLA review of this form for the following reasons: (Attach memo/email justifying increased Caltrans oversight.)

_____ Date
DLAE or authorized staff

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EXHIBIT 6-E ROAD CLOSURE STUDY**(EXAMPLE)**

See Section Error! Reference source not found., "24 Hour Construction Day," on page 6-Error! Bookmark not defined. of Chapter 6 of the LAPG, for information on this study.

This report was prepared to address the impacts of temporarily closing road _____. The closure is necessitated by the proposed project which requires the widening of _____ in the vicinity of _____.

It is not feasible to stage the work allowing the road to remain in operation while the project is being constructed. The project will be constructed on the _____ side north of _____ Street, at the site of the _____.

The existing road provides direct access to and from _____, and _____ Streets. Access to and from _____ Street is provided via _____. The road will be closed for a period of 10 months.

A brief description of the project area is as follows: The immediate project vicinity is the commercial area along _____ Street to the east and west of _____, roughly between _____ Avenue and _____ Street. _____ Avenue and _____ Boulevard are north-south arterials paralleling _____ to the east and west, respectively. The portions of these arterials between _____ Streets are also considered part of the immediate project vicinity.

Typical businesses along _____ Street include _____

Land use along _____ Avenue ranges from a _____ and a _____ to _____ and _____, and is zoned _____.

The most sensitive land use in the project area is the _____ at the _____ quadrant of _____ Street and _____ Blvd.

The _____ is a major provider of _____ in the area. It also provides _____ services. Potential impacts on emergency vehicle access to the _____ was one of our communities' major concerns.

All of the businesses and non-profit organizations in the project area, including the _____, have a portion of their respective patrons that arrive and exit by _____ Street.

_____ Road also serves the nearby residential areas, as previously noted. Patrons seeking access to the business establishments in the project area will be impacted while _____ Street is closed from _____ to _____.

Because there are no viable alternative routes to and from the commercial area along _____ Street and, potential business patrons would not have adequate access to the project area during the road closure period, businesses would be adversely impacted.

The City of _____ met with _____ staff to discuss the closure and identify any of their concerns. The staff indicated that with advance notification and coordination the emergency drivers will be able to cope with the construction schedules. Project resident engineers will work closely with the medical staff.

On _____ (date), the City of _____ provided an opportunity for business owners and local residents to identify any concerns that they may have regarding access impacts due to temporarily closing the _____ Street.

As mitigation for the long-term closure of _____ Street , particularly with regards to emergency vehicle access, the County of _____ will require the contractor to complete the project in less than half the time as possible to insure that _____ Road will be in service as soon as possible. The road would be closed for the duration of the contract.

Because there are no viable alternative routes to the project area it is concluded that the various businesses and non-profit organizations would suffer adverse patronage losses during closure of _____ Street. This conclusion is further reinforced by the results of the meeting with the business owners and local residents as previously discussed.

Because the _____ Street closure would pose an adverse impact on the businesses in the project area, and surrounding residential communities, the following measures are suggested:

- Construct project is less than half the time (5months vs. 10 months).
- Notify the local business and commercial concerns of the temporary closure of _____ Road and alternative routes.
- Notify emergency public services, fire departments, and local ambulance services.
- Inform the California Highway Patrol and other appropriate law enforcement agencies of the proposed action.
- Notify the County Supervisor's Office and the City in which the road is located to discuss the proposal with them.
- If the Supervisor's Office and/or the City deems it worthy, conduct an open house to discuss the proposed closing with the public.
- Keep the County and affected City Traffic Engineer apprised.

- Before closing _____ Street mail out informational notices, issue press releases, and make public service radio announcements to inform the public in advance of the closure.

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EXHIBIT 6-F MODIFICATIONS TO CRASH TESTED BRIDGE RAILING

Elisa Valdez - Bridge Rail Memorandum regarding NCHRP 350 requirements

Page 1

Memorandum

U.S. Department
of Transportation
Federal Highway
Administration

Subject: **INFORMATION:** Bridge Rail Analysis Date: May 16, 2000
Original signed by
From: Frederick G. Wright, Jr. Reply to: HSA-1
Program Manager, Safety
To: Resource Center Directors
Division Administrators

Since 1986, the Federal Highway Administration has required all new bridge railings installed on the National Highway System to be crash tested or to be essentially the same as a railing that was tested. Since many States and municipalities in particular often desire not only architectural or aesthetic enhancements to existing acceptable bridge rails but often request acceptance of untested designs, strict compliance with this requirement could result in full scale testing of scores of essentially similar designs, increased project costs, and significant delays in construction. The AASHTO LRFD Bridge Specifications contain a procedure for analyzing certain types of bridge railings for structural adequacy and provide guidelines for desirable post and beam geometry based on the dimensions of railings that have been successfully crash tested in the past. However, a static analysis of **untested** designs has not been acceptable as an alternative to crash test verification of railing performance.

The Colorado Department of Transportation (CDOT) essentially combined both approaches by analyzing the capacity of a fully crash-tested railing and comparing the results to a similar Colorado design. The original Colorado design was then modified and re-analyzed to show that it equaled or exceeded the capacity of the tested rail. The FHWA accepted the modified Colorado design for use on the National Highway System based on the State's analysis, a copy of which has been added, along with this memorandum, to FHWA's Report 350 Hardware web site under "Bridge Railings." Specific questions on the Colorado analysis procedure may be addressed to Mr. Michael McMullen, CDOT, at (303) 757-9587 or via e-mail at michael.mcmullen@dot.state.co.us.

The FHWA bridge engineers may use this type of analysis as a basis for acceptance of bridge railings that are similar to a design that has been tested under the National Cooperative Highway Research Program (NCHRP) Report 350 guidelines. It is critical to note that this is not a "cookbook" approach, but rather one that requires careful analysis of all possible failure modes and assumed behavior of all rail elements and connection details. The failure modes may differ from those identified in the Colorado analysis if the bridge railing designs are significantly different. In addition to the structural analysis, bridge railings must also meet the height

requirements, size of openings between rails for combination traffic/pedestrian rails, and the recommended rail height-to-traffic face ratio and rail-to-post offsets noted in the LRFD Bridge Specifications.

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Our goal is to give highway agencies a greater choice of railing designs without requiring unnecessary testing and without compromising motorist safety. As more rails are tested to comply with NCHRP Report 350, the choice of tested designs will increase and there should be less need to seek acceptance for any design that has not been tested. Please call Mr. Richard Powers of my staff at (202) 366-1320 if you have any questions.

Enclosure

Index

- Adding Lanes, 6-5
- Advance Construction, 6-16
- Application
 - Form, 6-43
 - Minimum Requirements, 6-25
 - Period, 6-25
- Applying for funds, 6-25
- Apportionment
 - Annual, 6-1
 - State/Local Split, 6-1
- Approach Roadway Work, 6-17, 6-40
- Architectural treatments, 6-21
- Art work, 6-21
- Audits, 6-34

- Bicycles, 6-9, 6-38

- Canceling projects in PE phase, 6-30
- CE, 6-18
- Change orders, 6-29
- Commentary, 6-36
 - 24 Hour Construction Day, 6-41
 - Approach Roadwork, 6-40
 - Bicycle Facilities, 6-38
 - Emergency Work, 6-39
 - Geometrics, 6-36
 - Limited HBRRP Participation, 6-41
 - Non-Bridge Construction Items, 6-40
 - Questions and Answers, 6-37
 - Temporary Bridges, 6-39
 - Temporary Repairs, 6-38
- Construction Engineering Cost Limit, 6-18
- Construction Oversight, 6-23
- Consultant oversight cost limit, 6-18
- Contingency, 6-18
- Cost changes, 6-27
- Culverts, 6-3

- Decorations, 6-21
- Definition
 - Bridge, 6-23
 - Low water crossing, 6-12
- Design Exceptions, 6-16, 6-17
- Design Life
 - Rehabilitation, 6-5
 - Replacement, 6-7
- Dispute resolution, 6-34
- DLAE, 6-32

- E76, 6-2
- Eligible
 - Agencies, 6-3
 - Bridges, 6-3
 - Culverts, 6-3
- Emergency work, 6-39
- Environmental costs, 6-21
- Equipment
 - Publically owned, 6-22
 - Purchasing, 6-22

- Ferry Service, 6-13
- Field Reviews, 6-23
- Final invoice, 6-30
- Flood control project, 6-12
- FO, 6-35
- Force Account, 6-22
- FSTIP, 6-2, 6-6
- Functionally Obsolete, 6-35

- Geometrics, 6-36

- Help, 6-4
- High Cost Bridges, 6-14
- Historic bridges, 6-13, 6-16

- Inactive Projects
 - General, 6-19
- Inspections, 6-34

- LAPG, 6-2
- LAPM, 6-2
- Lighting, 6-21
- Limited participation, 6-41
- Local Agency, 6-32
- Low Water Crossing Replacement, 6-12

- Maintenance
 - Bridge railing, 6-9
 - Methacrylate, 6-6
 - Spot painting, 6-8
- Major deficiencies, 6-35
- Mandatory Seismic Retrofit, 6-11
- Maximum funds on one project, 6-17
- Methacrylate, 6-6

- Minimum bridge length, 6-23
- Multi-Year Plan, 6-1, 6-27
- NBI, 6-35
- Obligational Authority, 6-1
- Office of Program Management, 6-33
- Office of Project Implementation, 6-33
- Oversight, Construction, 6-23
- Painting, 6-7
- Participating
 - Costs, 6-4
- PE cost limits, 6-18
- Preliminary Engineering, 6-18
- Program Review, 6-34
- Programming, Initiation, 6-25
- PS&E Review, 6-27
- Questions & Answers, 6-37
- Railing PIN form, 6-55
- Railing replacement, 6-8
- Railroad Car Bridges, 6-24
- Rehabilitation, 6-5
- Reimbursable Work, 6-5
 - Bridge to replace ferry service, 6-13
 - High Cost Bridges, 6-14
 - Historic Bridge Work, 6-13
 - Low Water Crossing Replacement, 6-12
 - Painting, 6-7
 - Railing Replacement, 6-8
 - Rehabilitation, 6-5
 - Replacement, 6-7
 - Replacement due to flood control project, 6-12
 - Scour Countermeasure, 6-11
 - Seismic Retrofit, 6-11
- Reimbursement
 - Rate, 6-4
- Replacement
 - Bridges, 6-7
 - Realignment on same corridor, 6-22
 - Rehabilitation strategy, 6-6
- Roles and Responsibilities
 - DLAE, 6-32
 - Local Agency, 6-32
- Office of Program Management, 6-33
- Office of Project Implementation, 6-33
- SLA, 6-33
- Schedule changes, 6-27
- Scope changes, 6-27, 6-29
 - Form, 6-59
- Scour, 6-11
- SD, 6-35
- Seismic retrofit, 6-11
- SI&A Sheet, 6-35
- SLA, 6-33
- Special cost form, 6-53
- SR, 6-35
- Standards, 6-16
 - Design exceptions, 6-16
 - Exceeding AASHTO Standards, 6-21
- Status Reports, 6-19
- STP
 - HBRRP funded, 6-24
 - Painting, 6-7
 - Railing Replacement, 6-8
 - Scour, 6-11
- Structurally Deficient, 6-35
- Sufficiency Rating, 6-35
- Supplementary Work, 6-18
- Target dates, 6-27
- Temporary
 - Bridges, 6-39
 - Repairs, 6-38
- Ten Year Rule
 - #1 - Year of (Re)construction, 6-19
 - #2 - Year of PE authorization, 6-20
- Time Extensions, 6-19, 6-20
- Utility Relocation, 6-20
- Value Engineering, 6-15
- Websites
 - HBRRP, 6-3
 - Local Assistance, 6-4
- Widening
 - Adding Lanes, 6-5
 - FSTIP Lump Sum Item, 6-6
 - Questions & Answers, 6-37