DIVISION OF LOCAL ASSISTANCE
Office of Procedures Development
Program Review Plan #01-01

Highway Bridge Replacement and Rehabilitation (HBRR) Program

FINAL REPORT
JANUARY 27, 2003

	CALTRANS	FHWA
REVIEWED:	KEVIN POKRAJAC, Chief Office of Procedures Development	NANCY BOBB Structural Engineer
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I. EXECUTIVE SUMMARY

This Program Review was done with the intent of evaluating the overall effectiveness of the Highway Bridge Replacement and Rehabilitation (HBRR) program administered by the Division of Local Assistance (DLA) and to identify areas for improvement. The review focused on various Caltrans offices as well as 20 local agency projects within five Caltrans districts.

In general, the review team found the health of the HBRR program to be good. Most of the local agencies are satisfied with the services being provided by Caltrans District Local Assistance Engineer (DLAE), Structures Local Assistance (SLA), and the DLA at Headquarters (HQ). In addition, other groups involved in the HBRR program delivery were satisfied with the various processes, although there were some groups which need more assistance than others.

However, the team identified some key areas for potential improvement.

KEY FINDINGS

- There were indications that the environmental process is inefficient and triggers project delays, questionable mitigations, and cost overruns.
- Frequent district personnel turnover and insufficient training, along with uneven workload distribution between HQ and the districts are causing program inefficiencies and delays.
- Some districts are able to operate more effectively than others because they have designated HBRR Project Coordinators responsible for the quality of the program administration, i.e., field reviews, scoping documents, and federal-aid processes.
- Many local agencies don't understand the National Bridge Inspection Program and how it relates to the HBRR program.

KEY RECOMMENDATIONS

- The environmental process needs to be reviewed in depth. Process reviews should be conducted to improve the consistency of decisions and streamline the environmental process among the 12 districts and involved federal agencies.
- Periodic HBRR training should be continued in all districts. Caltrans management should re-evaluate the workload and staffing for the HBRR programming process. One option is to consider delegation of some program management activities to qualified district staff.
- Caltrans management should consider adding or redirecting staff to create a specialist position in each District for HBRR project coordination.
- Training should be developed for local agency staff and consultants on how to interpret the Bridge Inspection Report. The narrative in the Bridge Inspection Report should provide a more detailed description of bridge deficiencies as they relate to the National Bridge Inspection Standards (NBIS).

All findings and recommendations will be presented at a closeout briefing with Caltrans and Federal Highway Administration (FHWA) management at which time this report will be approved. The DLA will use the findings and recommendations to improve and develop more efficient and effective procedures for local agencies using the federal-aid funded HBRR program. Available State

resources may limit the implementation of some of the recommendations. Caltrans will respond back to FHWA within one year of acceptance of this report with the status of each recommendation.

II. PROCESS REVIEW PLAN

A. BACKGROUND

The HBRR program is a safety program that provides federal-aid funding to the States to replace and rehabilitate deficient public highway bridges. This program is funded by the FHWA and authorized by United States Code (USC) Title 23, Section 144. The total California apportionment is split 45 percent for deficient bridges on the State Highway System and 55 percent for deficient bridges off the State Highway System. The average annual apportionment available to local agencies (off State Highway System bridges) is about $160 million.

The HBRR program has many statutory, regulatory, and policy limitations on how HBRR program funds can be spent on bridge projects. The purpose of these rules is to ensure that federal bridge funds are dedicated to solving bridge safety problems. Since the State and local agencies are financially accountable for meeting these requirements, it is essential that decision-makers thoroughly understand the appropriate guidelines.

Following the 1995 re-engineering of Local Assistance within Caltrans, the local agencies were delegated the responsibility for ensuring that the appropriate HBRR program requirements were met for HBRR projects. A set of guidelines for implementing the HBRR program was developed for the local agencies shortly thereafter. In 2001, the HBRR Program Guidelines were updated and improved to make them more comprehensive and to provide better direction.

B. PURPOSE OF REVIEW

The purpose of the review was to determine the effectiveness of the Local Assistance HBRR program. The review assessed whether federal requirements were being met; design solutions were appropriate and cost-effective; identified best practices and areas in need of improvement; and provided organizational and policy recommendations. Feedback on the recently implemented HBRR Program Guidelines was included in the review.

This was a joint review by Caltrans and the FHWA, and both agencies were responsible for the timeliness and quality of the review and report.

C. SCOPE

The scope of the review was the HBRR program as it applied to local agencies and all aspects of the processes, both internal and external to Caltrans. The scope followed the outline in the approved ***Program Review Plan #01-01*** (the Plan), Exhibit 1.

D. APPROACH

The review approach is described in the Plan. The list below identifies the attachments to the Plan that were used in the review:

1. Federal Requirements Checklist for HBRR program (local agency projects, Local Assistance Procedures Manual [LAPM], and Local Assistance Program Guidelines [LAPG])
2. Structures Local Assistance Engineer Questions
3. Local agency Questions
4. Headquarters Program Management Questions
5. Area Engineer Questions
6. District Local Assistance Engineer Questions

Attachment 1 in the list above was used to review local agency projects, the LAPM, and the LAPG; and to ensure compatibility with the HBRR program requirements. Attachments 2 through 6 were used to interview Caltrans and local agency personnel during the review.

The 20 local agency bridge projects within five Caltrans districts are listed in Exhibit 2 and were randomly selected from the bridge/project/agency listings outlined in the Plan, using the following selection criteria:

1. Bridges in the National Bridge Inventory (NBI) that are newly constructed within the last ten years and are structurally deficient or functionally obsolete (SD/FO).
2. Bridges replaced in the last two years with the highest and lowest unit costs.
3. HBRR projects that have been final-vouchered in the last ten years.
4. Rehabilitation and replacement projects that are currently programmed, but not authorized for construction.
5. Local agencies with the highest and lowest number of bridges in their bridge inventory.
6. Local agencies with the highest and lowest number of rehabilitation/replacement projects that are under design but not yet under construction.

The review of the projects and the districts followed the approach stated in the Plan. The projects were considered a meaningful representation of the HBRR program delivery. The review team followed major aspects of the decision-making process leading to an HBRR fundable project. The projects were reviewed in the field and the project files were reviewed for appropriate scope, standards, cost-effectiveness, causes of construction change orders, and timeliness of delivery.

Local agency and Caltrans personnel were interviewed to determine the workability of both the LAPG and LAPM and their understanding of their respective responsibilities in the process. Caltrans' responsibilities were assessed for effectiveness in aiding local agencies to deliver quality bridge projects and to determine if there are other policies and procedures that can be utilized that can add more value than those currently in place.

E. MEASUREMENT CRITERIA

The review results were compared to the processes outlined in the applicable chapter of the LAPG or LAPM as to whether the guidelines and procedures were clearly understood and being

followed. District and local agency personnel have identified a number of areas in these two manuals for potential improvement. As stated in the Plan, the following resources were used as a baseline for measurement criteria:

1. Applicable Caltrans, local, or American Association of State Highway Transportation Officials (AASHTO) standards.
2. Federal statutes and regulations and FHWA and Caltrans policies.
3. Report No. FHWA-PD-96-001 entitled "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges".

F. REVIEW SCHEDULE

The following is a chronology of the review activities:

Task	Date Completed
Program Review Guidelines:	
• Develop review criteria and questions for NBIS data	3/28/01
• Develop federal requirements checklist (federal statute, federal regulations, and FHWA policy)	4/10/01
• Identify methodology for review project selection	4/16/01
• Develop questions for Local Assistance	
• Develop questions for Local Assistance Implementation Staff (DLA)	
• Develop questions for Structures Local Assistance	
• Develop questions for DLAE Staff	
• Develop questions for local agency	
• Develop questions for specific projects	
Program Review Guidelines **COMPLETED**	12/1/01
FHWA/Caltrans Management concurrence on Review Work	1/18/02
Review *Local Assistance Program Guidelines* (Chapter 6, HBRR)	1/15/02
Review *Local Assistance Procedures Manual* (Chapter 11, Standards)	1/15/02
Send notification letter and questions to local agencies and districts that are scheduled to be reviewed	As needed per schedule
Conduct DLA/SLA portion of review	2/15/02
Conduct field/local agency/district portion of review	April – Aug. 2002
Draft Report	11/21/02
Final Report	
Close out briefing with Caltrans/FHWA Management	Post Final Report

G. REVIEW TEAM

The review team consisted of:

Nancy Bobb, FHWA Structural Engineer
Martha Nevai, FHWA Structural Engineer
Bill Forrester, FHWA Bridge Management/NBIS Engineer
Eric Bost, Caltans Local Assistance, Headquarters, HBRR Program Coordinator
Eugene Shy, Caltrans Local Assistance, Headquarters, Process Review Engineer
Gary Goff, Caltrans Structures Local Assistance, Senior Bridge Engineer
Shannon Mlcoch, Caltrans Local Assistance, Headquarters, HBRR Program Coordinator

III. FINDINGS AND RECOMMENDATIONS

A. HEADQUARTERS PROGRAM MANAGEMENT

Within Caltrans HQ, personnel from HBRR Program Management, Program Implementation (Area Engineers), and Structures Local Assistance were interviewed. In terms of organizational operations, the common themes among those interviewed related to improving communication between the various offices, defining points of contact within offices, clearly defining roles and responsibilities between offices, and strategies for dealing with demanding workloads. In terms of management of the HBRR program, it was recognized that more training is needed on a regular basis in order to enable the program to be effectively utilized. The new HBRR Program Guidelines were considered an effective aid for this endeavor.

Specific findings and recommendations are listed below:

Finding #1: There has been no formal process for assessing the HBRR program for needed improvement. This is the first comprehensive review of the HBRR program since the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, which formed the basis for the Stewardship Agreement between FHWA and Caltrans.

Recommendation #1: A formal Caltrans process for annually assessing the program should be established for the HBRR program as a means of continual improvement.

Finding #2: Communication between different HQ groups and district staff was not always effective.

Recommendation #2: Better channels of communication, designated points of contact, and clear roles and responsibilities must be established between SLA, DLA, Area Engineer (AE), DLAE, HQ management and FHWA. An annual HBRR program conference should be set up to include all groups.

Finding #3: Some agencies are more familiar with the HBRR program than others. Often, unfamiliarity is due to lack of exposure via projects. On occasion, a local agency will pursue demo or special funding for a project that could qualify for HBRR program funds.

Recommendation #3: An HBRR outreach program should be developed to achieve consistency in efforts throughout the State.

Finding #4: The Local Technical Assistance Program (LTAP) conducts training statewide. At times, this training is similar to training being conducted by Caltrans.

Recommendation #4: HBRR Program Management should investigate using LTAP resources such as existing training, videos, the LTAP newsletter, etc. Invite LTAP engineers to HBRR training to promote the services available.

Finding #5: Many local agencies depend upon the Local Assistance web site for downloadable manuals. However, some of the Caltrans Bridge manuals aren't available for download.

Recommendation #5: Caltrans needs to clarify how bridge standards (Bridge Design Aids, Bridge Design Specifications, Bridge Memos to Designers) may be accessed by local agencies. The Local Assistance web site should provide links for manual downloads. The compact disc (CD) being provided to the districts and local agencies should include the bridge standards.

Finding #6: The Local Assistance web site is widely used by most agencies that were interviewed and is considered a great tool.

Recommendation #6: The Local Assistance web site and CD should be continuously monitored and updated by Local Assistance to retain their functionality.

Finding #7: There is confusion when the Caltrans 3R Standards or the AASHTO Standards should be applied for local assistance projects.

Recommendation #7: Revise Chapter 11 of the LAPM for clarity.

B. STRUCTURES LOCAL ASSISTANCE (SLA)

Following the 1995 re-engineering process, SLA's role changed from being responsible for oversight of the local HBRR program to that of a technical resource. Recently, through a reorganization, SLA was placed within the Office of Special Funded Projects and some of the organizational efficiencies related to the full utilization of SLA resources are still being worked out.

Specific findings and recommendations are listed below:

Finding #1: The SLA points of contact are not clear.

Recommendation #1: The SLA organization chart should more clearly define points of contact and duties. Changes in the organization chart should be distributed to the DLAE staff, Caltrans HQ, and FHWA; and maintained on the SLA Intranet and Internet web sites.

Finding #2: Because of long-standing relationships with particular agencies, SLA is often consulted about whether or not a project can proceed with reimbursable work. Some of the SLA staff is new and unfamiliar with the details of the federal-aid funding process.

Recommendation #2: Even though SLA has specific technical roles, they should familiarize themselves with the federal-aid process and have a general overview of Local Assistance processes, particularly related to project financing.

Finding #3: SLA has always taken field review notes for their files and are sometimes the only staff taking notes at the field reviews.

Recommendation #3: The district Local Assistance staff should also attend field reviews, whenever possible, and take minutes and distribute them. SLA technical field review notes should be copied to the DLAE and the HBRR Program Coordinator.

Finding #4: While SLA's main role is that of technical review, they are often an untapped resource for training expertise.

Recommendation #4: Training has been developed by HQ program managers on program delivery, however, it was recommended that SLA take an active role in delivering future HBRR program training since this would be a continuous activity. Other delivery mediums such as the use of consultants, the Local Assistance web site, CDs, DVDs, etc., should also be considered.

Finding #5: There is no clearly defined role for SLA at field reviews.

Recommendation #5: Clear guidance should be developed that defines SLA's role at field reviews. This guidance should contain deliverable items that would be expected from SLA following the field review.

For example, SLA should prepare, in advance of the field review or pre-field review, a fact sheet which describes the major bridge deficiencies and review selected pages out of Exhibit 6-A in Chapter 6 of the LAPG. Or where rehabilitation is complex, suggest studies to be performed to develop rehabilitation strategies.

Finding #6: SLA participation on consultant selection panels is valued by local agencies. Past training that they've conducted in this process was also well received.

Recommendation #6: SLA should continue to participate on consultant selection panels and market these services to the local agencies, including the availability of the training.

Finding #7: Some agencies and DLAEs were unaware of all the services offered by SLA.

Recommendation #7: SLA services, such as attending field reviews and assisting with consultant selection and technical Plans, Specifications, and Estimate (PS&E) reviews; should be more effectively marketed.

Finding #8: SLA has no Internet web site.

Recommendation #8: SLA should develop an Internet web site that links to the Local Assistance web site and vice-versa. This would provide a forum for promoting the SLA services available and links to key technical documents developed by the Division of Engineering Services. It would also add to the functionality of the Local Assistance web site.

C. DISTRICT LOCAL ASSISTANCE ENGINEERS (DLAEs)

Twenty HBRR projects were randomly selected for the review and once the projects were selected the corresponding offices of responsibility were interviewed. As a consequence, these projects involved personnel from five Caltrans district offices and 17 local agencies. The projects, districts, and agencies are listed in Exhibit 2.

Overall, it was observed that the level of expertise from one district office to the next was highly variable; a fact that was believed to be attributable to high staff turnovers and insufficient staffing to devote to the program. The expertise variation occurred among environmental staff as well as engineers within the district Local Assistance staff. As a result, some local agencies may not have received sufficient guidance during the application process and project development stages. It is difficult for local agencies to control Professional Engineer (PE) costs and project timelines when they receive subjective and inconsistent guidance during the environmental process.

Specific findings and recommendations are listed below:

Finding #1: The expertise level of district environmental staff is highly variable from one district to the next. The DLAEs and some local agencies indicated that there appears to be inconsistent decisions made by environmental reviewers.

Recommendation #1: A Caltrans process review should be done next year on the consistency of environmental decisions made among the 12 districts. A standardized procedure should be developed and used statewide.

Finding #2: Districts don't always understand when to involve FHWA in the field review/environmental process. This may lead to unexpected difficulties later on in the environmental approval process.

Recommendation #2: The district environmental reviewers should understand the limits of their authority and when to coordinate with FHWA. Districts should ensure that environmental reviewers attend field reviews, when needed, and provide clear guidance during field reviews.

Finding #3: Most districts complained about HBRR program management's slow turnaround time for programming projects.

Recommendation #3: Caltrans management should re-evaluate the workload and staffing for the HBRR programming process. One option is to consider delegation of some of HBRR program management's activities to qualified district staff. Example delegations could be programming simple projects or minor cost and scope changes.

Finding #4: When HBRR program administration is distributed among various staff within a district, the specialized HBRR knowledge is not fully developed which leads to program inefficiencies.

Recommendation #4: Caltrans management should consider adding or redirecting staff to create a specialist position in each district for HBRR project coordination.

Finding #5: While some agencies have a good working knowledge of the HBRR program, others don't have a sufficient number of HBRR projects on a regular enough basis to understand the program. These agencies depend heavily upon assistance from the district. In some cases, small agencies had a close working relationship with Caltrans, received extra guidance and delivered a successful project. Overall, the new HBRR Program Guidelines have been well received and are considered a substantial improvement over the old guidelines. The new guidelines provide much more specific information on eligible scopes of work and the requirements of the HBRR program. However, staff turnover is making it difficult for DLAEs to administer the program.

Recommendation #5: Caltrans should continue to conduct HBRR training in the districts and expand it to include local agencies and consultants. Periodic training in the HBRR program is essential for local agencies and district staff. Preferably, the training should be conducted on an annual or semi-annual basis to re-establish knowledge lost due to staff turnover.

Districts should provide assistance appropriate for the local agency's knowledge base.

Finding #6: Field reviews in some districts lack structure which may result in confusion and vague guidance.

Recommendation #6: A checklist (or training) should be developed for the districts and local agency lead person on how to conduct a field review. A section should be added to the field review form that includes action items, items discussed and open issues. The district Local Assistance field review attendees should take minutes and distribute them.

Finding #7: Several districts interviewed did not check functional classifications or proposed geometric standards, such as bridge width, even though they attended field reviews. Some were unfamiliar with the AASHTO Green Book and the details of Chapter 11 of the LAPM. Some assumed that since locals certify their project plans and specifications, that standards were being met; others depended upon SLA to check bridge width. It was also found that minimum AASHTO standards are often not filled in on the field review form.

Recommendation #7: When the district is involved in the field review, district staff should check functional classifications and verify AASHTO standards prior to the field review for all federal-aid projects and ensure that the information is included on the form.

Finding #8: After projects are programmed, there is a lack of follow up of issues and project scope by the Area Engineers in some districts.

Recommendation #8: A process should be developed by the DLAE's staff to follow up on unresolved issues. Modifications to LP 2000 should be considered to track open action items at the project level. Districts need to know where project delays are occurring; i.e., HQ, SLA, the district, or the local agency.

D. LOCAL AGENCIES

Among the 17 local agencies interviewed, the recurring topic of discussion was that local agencies are incurring needless delays and costs due to trying to comply with the National Environmental Protection Agency requirements for local agency bridge projects using federal-aid

Environmental Protection Agency requirements for local agency bridge projects using federal-aid funds. These delays have unnecessarily delayed some projects by years, even for simple bridge replacement projects over existing irrigation canals. In some cases the local agencies have chosen to suspend further action on a bridge project due to the environmental time constraints, costs, and confusion.

Specific findings and recommendations are listed below:

Finding #1: The environmental process is cumbersome and delays projects. Some agencies indicated that they have elected to drop or not initiate bridge projects to avoid having to deal with the environmental process. If projects are being dropped because of difficulties with the environmental process, safety problems will not be corrected. The environmental process appears to be the number one problem with delivering HBRR projects.

Recommendation #1: An in-depth review of the environmental process should be conducted.

Finding #2: The environmental process adds significantly to the project's costs. Some agencies report that, if indirect costs are included, the environmental studies and mitigation account for 30-40 percent of the project cost.

Recommendation #2: Caltrans should consider raising the PE limits given the difficulties with the environmental process. A study should be conducted to establish average PE rates to determine threshold limits for Caltrans approval.

Finding #3: Some agencies stated they were being asked to perform frivolous studies as part of the environmental process.

Recommendation #3: Prior to field review, the district environmental reviewer should identify species present in an area from previous studies or endangered species maps, or historic features that have already been studied. This might eliminate unnecessary studies.

Finding #4: Local agencies are not getting adequate guidance on available alternative crash-tested bridge rails. The standards for State highways aren't cost-effective or appropriate for some local bridges.

Recommendation #4: Local agencies should be provided information on a wider variety of crash-tested bridge rails. Resources should be made available to develop a comprehensive bridge railing Internet web site and accompanying CD for local agencies. The web site and CD should provide information on all FHWA approved crash-tested railings, appropriate use, cost estimates, photographs and Computer-Aided Drafting files.

Finding #5: One agency had its own geometric standards but they were established over 30 years ago and have not been updated.

Recommendation #5: Local standards should be updated and certified whenever AASHTO standards are updated. Chapter 11 of the LAPM should be revised to require this.

Finding #6: New bridges are being constructed with low Deck Geometry (Item 68) ratings for collectors and arterials. This is occurring due to a literal interpretation of the AASHTO Geometric Standards, which require that curb-to-curb widths of the corridor be continued across the bridge. This can result in inadequate shoulder widths being provided on the bridge, which may be a safety problem for pedestrians and bicyclists.

Recommendation #6: Revise Chapter 11 of the LAPM to require local agencies to consider providing appropriate shoulders on collectors and arterials.

Finding #7: Some local agencies indicated that there is too much information in the LAPM and LAPG to sift through on their own. Some districts and local agencies expressed an interest in an abbreviated guidebook for the HBRR program. This guidebook could be similar to ***Federal-aid Procedures for Simple Projects***.

Recommendation #7: It is not recommended that the simplified guidebook be developed. The problem with developing a simplified guidebook is that there is the potential it would be used as a reference instead of the formal guidelines. This could lead to project scopes that are outside the eligibility boundaries for HBRR funds. In lieu of developing a simplified document, the districts should be encouraged to provide additional assistance to the local agencies where needed. In addition, continuous training in the HBRR process is recommended for the districts as well as the local agencies.

Finding #8: There are inconsistencies and incorrect data in the bridge inspection reports for bridges inspected by local agencies.

Recommendation #8: Caltrans should provide more quality assurance checks of inspection reports for local agency inspected bridges.

Finding #9: Most agencies (and some DLAEs) don't understand what causes bridges to be classified as deficient. They aren't well versed in NBIS or Element Level Inspection (ELI) ratings, Structure Inventory and Appraisal (SI&A) sheets or how to interpret the Bridge Inspection Reports. Many requested training and/or accompanying the Area Bridge Maintenance Engineer (ABME) on biennial inspections.

Recommendation #9: Training should be offered for the DLAE, local agency staff, and consultants on how to interpret the bridge inspection reports. The training would include understanding how the ELI system relates to the NBIS ratings and to understand bridge deficiencies for maintenance purposes and HBRR eligibility. If NBIS training is offered to local agencies, they may be better equipped to detect incorrect condition and appraisal ratings.

It would be helpful if the ABME could provide a more detailed description of NBIS deficiencies in the narrative of the Bridge Inspection Report.

Finding #10: Many local agencies use the SI&A sheet data during project development. If data such as Average Daily Traffic (ADT) and/or functional classification are incorrect (all dates of ADT have been accidentally set to 1998), the agency may proceed with the wrong project scope.

Finding #11: Most agencies and some DLAEs don't know who their ABMEs are.

Recommendation #11: The ABME should take a more visible role in working with the local agencies when local inspections are taking place. They should be required to contact the local agency to let them know when they will be working in their area. An updated list of the ABMEs should be provided by SLA to the DLAEs on a regular basis.

Finding #12: Many local agencies don't have a method or understanding of whether consultants are charging reasonable prices. The required independent cost estimates are often not prepared.

Recommendation #12: An item could be added to the Consultant Selection Checklist that verifies that an independent cost estimate has been prepared. Guidance for local agencies should be developed and SLA should be utilized to help the local agencies prepare these estimates. Clarification could be added to Chapter 10 of the LAPM.

Finding #13: Some Caltrans staff and local agencies are not clear about implementation of the Quality Assurance Program (QAP) per the LAPM.

Recommendation #13: The section in the LAPM dealing with the QAP needs to be written more clearly. The boilerplate QAP for projects off the National Highway System should be included as an exhibit in the LAPM.

Finding #14: It's not clear how ADT updates on the local roadway/bridge system get into the Caltrans bridge database. The locals don't know who to submit the data to.

Recommendation #14: Clarification should be provided to the local agencies for submitting ADT data. The HBRR Program Guidelines in the LAPG could be modified to include this guidance. Maintenance should also directly provide this guidance to the agencies.

Finding #15: As-built drawings may not always be submitted, as required in Chapter 17 of the LAPM.

Recommendation #15: The forms in Chapter 17 need to be clarified.

Finding #16: Some agencies use the functional classification system on the internet.

Recommendation #16: This data is no longer maintained by Caltrans. The on-line database should be updated or deleted from the Caltrans web site.

Finding #17: Some project files were unavailable due to being archived or could not be found.

Recommendation #17: The process should be examined so that records can be retrieved when needed.

IV. PROCESS REVIEW CONCLUSIONS

A. GENERAL CONCLUSIONS

- Prior to the Caltrans re-engineering process, management of the HBRR program was done by Caltrans in an active project oversight role. Following re-engineering, these activities were delegated to the local agencies who had to be educated in the program requirements. Discussions that took place during this review have indicated that the program knowledge and management is progressing in a positive manner, particularly with the release of the new HBRR Program Guidelines in the LAPG. However, the program is complicated and training will need to continue in order to ensure that federal regulations and policies are correctly followed.

- As stated in the "Executive Summary": In general, the review team found the health of the HBRR program to be good. Most of the local agencies are satisfied with the services being provided by Caltrans District Local Assistance Engineer (DLAE), Structures Local Assistance (SLA), and the DLA at Headquarters (HQ). In addition, other groups involved in the HBRR program delivery were satisfied with the various processes, although there were some groups which need more assistance than others.

B. RECOMMENDED FOLLOW-UP REVIEWS

- Since the common theme among all local agencies and Caltrans districts interviewed revolved around difficulties associated with environmental requirements, a review of the effects of the environmental processes on the delivery of HBRR bridge projects should be conducted. This review should gather specific data related to how the environmental requirements have affected projects, focusing on such things as time delays, extra costs, conflicting guidance and inefficient processes. The data should be used to support improvements to the processes on a statewide basis.

- A review of the process for ensuring that as-built plans get incorporated into the Bridge Inspection Records Information System.
- A review of bridges replaced when the Sufficiency Rating is greater than 50.
- An annual check of the NBIS data for newly-constructed bridges that are SD/FO.
- A review for deck cracking of new and rehabilitated bridges less than ten years old.

Division of Local Assistance
Procedures Development Office
Program Review Plan #01-01
Highway Bridge Replacement and Rehabilitation (HBRR) Program

December 1, 2001

	CALTRANS	FHWA
1. Recommend Approval:	Chief, Procedures Development Office	Structural Engineer
	Chief, Program Management Office	
2. Approved:	Chief, Division of Local Assistance	Acting Chief, Engineering Services

Exhibit 1

Program Review Plan – HBRR Program

Review of Local Agencies

Highway Bridge Replacement and Rehabilitation (HBRR) Program

PURPOSE OF REVIEW

The purpose of this review is to assess the effectiveness of the Local Assistance HBRR Program. This review will evaluate the local assistance process and actual projects funded under the HBRR Program. The review will determine whether federal requirements are being met and design solutions are appropriate and cost effective, identify best practices and areas in need of improvement, and provide organizational and policy recommendations.

This is a joint review by Caltrans and Federal Highway Administration (FHWA). Both agencies are responsible for the timeliness and quality of the review and report.

DELIVERABLE

The end product of this effort will be a report consistent with the purpose of the review. Caltrans is committed to responding to the recommendations developed.

SCOPE

The scope of the review will include the following:

1. A cross-section of local agencies and Caltrans districts
2. A review of projects in all stages, such as planning, design, construction or completed
3. A review of project files, and visits to selected project sites
4. Interviews with personnel from Caltrans Headquarters, Caltrans districts and personnel from the local agencies
5. A review of such items as: project development elements, standards, construction activities (such as change orders and project delays), process efficiencies, and quality and costs of the product
6. A cursory review of all Structurally Deficient/Functionally Obsolete (SD/FO) bridges in the National Bridge Inventory (NBI) that are new or have been reconstructed in the last ten years, regardless of funding source
7. A review of Chapter 6 in the *Local Assistance Program Guidelines* (LAPG) to ensure that federal requirements are addressed

8. A review of Chapter 11 in the *Local Assistance Procedures Manual* (LAPM) to ensure it is consistent with the LAPG and meets state and federal requirements

9. In-depth project reviews which are limited to replacement and rehabilitation projects receiving federal-aid highway funds

APPROACH

The project level reviews will include the following activities:

1. A minimum of ten (10), but not more than forty (40) local agency bridge projects will be selected randomly from candidate project lists. The project lists will be developed to ensure that the Program Review can provide a meaningful representation of program delivery.

2. The paper flow will be followed from project beginning to end and used to document key process milestones. This will be compared against the requirements in the LAPG and LAPM.

3. The projects will be reviewed both in the field as well as in the project files for appropriate scope, standards, cost effectiveness, causes of construction change orders, and timelines of delivery.

4. Local agency and Caltrans personnel will be interviewed to determine the workability of both the LAPG and LAPM, and their understanding of their respective responsibilities in the process. The Caltrans responsibilities will be assessed for effectiveness in aiding the local agencies to deliver quality bridge projects and to determine if there are other policies and procedures that can be utilized that can add more value than those currently in place.

MEASUREMENT CRITERIA

The review results will be compared to the processes outlined in the applicable chapters of the LAPG and LAPM to determine whether the guidelines and procedures are clearly understood and being followed. Areas of needed improvement in the manuals will be obtained from customer input during the review process. The following resources will be used as a baseline for measurement criteria:

1. Applicable Caltrans, local, or AASHTO standards

2. Federal statutes, federal regulations, and FHWA policy

3. Report No. FHWA-PD-96-001 entitled "Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges"

REVIEW PLAN AND SCHEDULE

A. Review Team

The review team will consist of:

Nancy Bobb, FHWA Structural Engineer
Martha Nevai, FHWA Structural Engineer
Sarah Skeen, FHWA Bridge/Research Engineer
Bill Forrester, FHWA Bridge Management/NBIS Engineer
Eric Bost, Local Assistance, Headquarters, HBRR Coordinator
Eugene Shy, Local Assistance, Headquarters, Process Review Engineer
Gary Goff, Structures Local Assistance, Senior Bridge Engineer
Shannon Mlcoch, Local Assistance, Headquarters, HBRR Coordinator
Other Caltrans/FHWA staff will be included as required.

B. Review Schedule

Task	Target Date	Completed
Develop Review Work Plan	3/28/01	✓
Develop Program Review Guidelines		
Develop review criteria and questions for NBI data review:	3/28/01	✓
Develop federal requirements checklist (federal statute, federal regulations, and FHWA policy)	4/10/01	✓
Identify methodology for review project selection	4/16/01	✓
Develop questions for Local Assistance Management Staff (DLA)		
Develop questions for Local Assistance Implementation Staff (DLA)		
Develop questions for Structures Local Assistance Staff		
Develop questions for DLAE Staff		
Develop questions for Local Agency		
Develop questions for specific projects		
Program Review Guidelines **COMPLETED**	12/1/01	✓
FHWA/Caltrans Management concurrence on Review Work Plan	12/14/01	1/8/02
Review *Local Assistance Program Guidelines* (Chapter 6, HBRR)	1/15/02	✓
Review *Local Assistance Procedures Manual* (Chapter 11, Standards)	1/15/02	✓
Send notification letter and questions to local agencies and Districts that are scheduled to be reviewed	As needed per schedule	✓
Conduct DLA/SLA portion of review	2/15/02	✓
Conduct Field/Local Agency/District portion of review	6/1/02	✓
Draft Report	8/1/02	✓
Final Report	9/1/02	✓
Close out briefing with Caltrans/FHWA Management	9/30/02	1/28/03

C. Review Checklists

The following "checklists" will be used to review local agency projects, the LAPM, and the LAPG; and the following "questions" will be used to interview Caltrans (CT) and the local agency (LA) personnel during the review:

1. Federal Requirements Checklist for HBRR Program (LA projects, LAPM, and LAPG) (Attachment 1)

2. Structures Local Assistance Engineer Questions (CT) (Attachment 2)

3. Local agency Questions (LA) (Attachment 3)

4. HQ Program Management Questions (CT) (Attachment 4)

5. Area Engineer Questions (CT) (Attachment 5)

6. District Local Assistance Engineer Questions (CT) (Attachment 6)

D. Program Review Data Sources

This review will provide data to identify some of the problems with new or reconstructed locally-owned bridges in California that have been completed in the last ten years. Several lists of bridge projects will be generated as sources of data for the review, as detailed below. From these lists, bridges will be identified for inclusion in the program review, with the intent of capturing as many project phases as possible.

1. A list of bridges from NBI data that:
   a. Are rated SD or FO
   b. Have been built or rehabilitated in the last ten years

2. Unit cost ($/M^2) reports of replaced bridges

3. HBRRP projects that have been final vouchered

4. Currently programmed rehabilitation and replacement projects

E. Guidelines for Selecting Projects to Review

Projects will be selected randomly from the project/bridge lists that are generated for the review, with primary focus on the following:

1. SD/FO bridges that are new within the last 10 years

2. Bridges replaced in the last two years with the highest and lowest unit costs

3. HBRRP projects that have been final vouchered in the last ten years

4. Rehabilitation projects that are currently programmed, but not authorized for construction

5. Replacement projects that are currently programmed, but not authorized for construction

6. Local agencies with the highest and lowest number of bridges in their bridge inventory

7. Local agencies with the highest and lowest number of rehabilitation/replacement projects that are under design but not yet under construction

FEDERAL REQUIREMENTS CHECKLIST FOR HBRR PROGRAM

(To be used for reviewing Local Agency projects, the LAPG, and the LAPM)

A. Overall Policy/Regulatory Issues (Check applicable boxes)

☐ Goal is to remove bridges from the deficient list, preferably the most critical ones first *[23 CFR 650.411(a), 23 USC 144 (d)]*
☐ Equitable fund distribution statewide *[23 CFR 650.411 (b) (2)]*
☐ For rehab projects, all deficiencies and major safety defects should be brought up to standard; when this is not possible, design exception should be obtained *[23 CFR 650.405 (b)(2)]*
☐ New bridges must meet the current geometric, construction and structural standards required for the types and volume of projected traffic on the facility over its design life. *[23 CFR 650.405(b)(1)]*
☐ If a deficient bridge is replaced, the original must either be demolished or its use limited to the type and volume of traffic the structure can safely service over its remaining life (one example would be a new structure constructed alongside the existing one to alleviate inadequate roadway width). *[23 CFR 650.411(c)(2)]*

B. Eligibility (Check applicable boxes)

☐ On Selection list (SR < 80, SD, FO) *[12/14/78 memorandum from Lester A. Herr, Chief, FHWA Bridge Division, FAPG Non-Regulatory Supplement 650D)]*
☐ Replacement – SR < 50, SD or FO *[12/14/78 Lester Herr memo, FAPG Non-Regulatory Supplement 650D)]*
☐ Rehabilitation – SR < 80, SD or FO *[12/14/78 Lester Herr memo, FAPG Non-Regulatory Supplement 650D)]*
☐ Only highway bridges eligible *[23 USC 144 (a), (b), (c) by explicitly referring to highway bridges]*
☐ If any funding has been expended for major rehabilitation within the last 10 years, the bridge is not eligible for HBRR funds *[5/6/85 memorandum from Rex Leathers, Assoc. Administrator for Engineering and Operations, FAPG Non-Regulatory Supplement 650D]*
☐ HBRR funds may be expended to move a historic bridge (that can no longer carry traffic), but only up to the cost of demolition of said bridge *[23 USC 144 (o)(3)]*

C. Other eligible work: (Check applicable boxes)

☐ Painting, Calcium Magnesium Acetate (CMA), Scour Mitigation
  ☐ For deficient bridges only *[23 USC 144 (d)]*
  ☐ Can be stand-alone work *[3/17/92 memorandum from Anthony R. Kane, Associate Administrator for Program Development]*
☐ Seismic retrofit
  ☐ Non-deficient bridges eligible *[23 USC 144 (d)]*
  ☐ Can be stand-alone work *[3/17/92 Anthony Kane memo]*
☐ A bridge can be constructed to replace a low water crossing *[23 USC 144 (m)(1)(A)]*
☐ HBRR funds can be used to replace any road bridge rendered obsolete as a result of a US Corps of Engineers (COE) flood control or channelization project and not rebuilt with COE funds. *[23 USC 144 (m)(D)]*

D. Ineligible work: (Check applicable boxes)

☐ Long approach roadways, beyond what is required for reasonable touchdown *[23 CFR 650.405(c)]*
☐ Maintenance work *[does not meet "major" work criteria in 23 CFR 650.405(b)(2)]*
☐ Stand-alone work to repair or replace non-bridge items, or perform stand-alone maintenance work *[does not meet "major" work criteria in 23 CFR 650.405(b)(2)]*

HBRR REVIEW GUIDELINES

Structures Local Assistance Engineer Questions

The following questions will be used to determine the process used by your agency to develop bridge projects using Highway Bridge Replacement and Rehabilitation (HBRR) Program funding.

Name and position of SLA Engineer

_____

Assigned District(s) _____

STRUCTURES LOCAL ASSISTANCE INFORMATION

- How many staff members are in Structures Local Assistance (provide organizational chart)? _____
- What is SLA's general role in the Local bridge program?

  _____

  _____

  _____

  _____

- What functions are available within SLA?
  - Technical PS & E review ☐ Yes ☐ No
  - Bridge eligibility reviews ☐ Yes ☐ No
  - Assist DLAE on field reviews ☐ Yes ☐ No
  - Bridge project scoping ☐ Yes ☐ No
  - Engineering Services Liaison ☐ Yes ☐ No

- Liaison with ABME

  ☐ Yes ☐ No

- HBRR outreach/training for deficient bridges

  ☐ Yes ☐ No

- What functions are available from other units within Engineering Services?

  - Bridge hydraulic reviews

    ☐ Yes ☐ No

  - Construction support

    ☐ Yes ☐ No

  - Geotechnical reviews

    ☐ Yes ☐ No

  - Materials testing

    ☐ Yes ☐ No

  - Specification/estimate reviews

    ☐ Yes ☐ No

  - Seismic strategy reviews

    ☐ Yes ☐ No

- Does your unit provide a single point of contact for the DLAE's? If so, who is that person?

  _____

  _____

REFERENCES AND RESOURCES

- Do you have the most current versions of the following manuals/tools that you can make available to the Local Agencies:
  - Caltrans Local Assistance Program Guidelines Manual (LAPGM)

    ☐ Yes ☐ No

  - Caltrans Local Assistance Procedures Manual (LAPM)

    ☐ Yes ☐ No

- Caltrans Bridge Design Specifications

  ☐ Yes ☐ No

- Caltrans Bridge Design Aids

  ☐ Yes ☐ No

- Caltrans Bridge Design Practice

  ☐ Yes ☐ No

- Caltrans-developed software

  ☐ Yes ☐ No

- Current bridge rail information

  ☐ Yes ☐ No

- Is it clear what the appropriate usage is of the Local Assistance Program Guidelines (LAPG) and the Local Assistance Procedures Manual (LAPM)?

  ☐ Yes ☐ No

  - Describe under what circumstances you use the LAPG

    _____

    _____

    _____

  - Describe under what circumstances you use the LAPM

    _____

    _____

    _____

- Do you think SLA staff has been adequately trained to provide HBRR technical assistance to the Local Agencies?

  ☐ Yes ☐ No

If no, please list desired training:

_____

_____

_____

_____

- Does your staff utilize the following resources for helping the local agencies develop HBRR projects?

o Training Seminars/Workshops	☐ Yes	☐ No
o District Local Assistance staff	☐ Yes	☐ No
o Local Assistance website	☐ Yes	☐ No
o Headquarters Area Engineers	☐ Yes	☐ No
o Headquarters Program Coordinators	☐ Yes	☐ No
o FHWA	☐ Yes	☐ No

If yes to the above questions, did the resources help in the project development? Please explain:

_____

_____

_____

Are there other services you would find useful? ☐ Yes ☐ No

If yes, specify:

_____

_____

_____

APPLICATION PROCESS

- What resources are used to identify major deficiencies for developing bridge projects?
  - Bridge Inspection report ☐ Yes ☐ No
  - If yes, which item(s):
    - Narrative report _____
    - Element Level Inspection (ELI) data _____
    - Structure Inventory and Appraisal (SI & A) sheet _____
  - Eligible Bridge List ☐ Yes ☐ No
  - Coordination with Area Bridge Maintenance Engineer (ABME) ☐ Yes ☐ No
  - Coordination with DLAE ☐ Yes ☐ No
  - Coordination with Headquarters ☐ Yes ☐ No
  - Local Assistance website ☐ Yes ☐ No
  - Other: _____

    _____

    _____
- Are you familiar with the Bridge Inspection Report? ☐ Yes ☐ No
- Are you familiar with the Coding Guide and how bridges are coded? ☐ Yes ☐ No

- Do you understand which parts of the SI & A sheet determine bridge deficiencies?

  ☐ Yes ☐ No

- Do you understand the terms Structurally Deficient and Functionally Obsolete (SD/FO) and how they determine eligibility?

  ☐ Yes ☐ No

- Do you understand the Sufficiency Rating and how it determines eligibility?

  ☐ Yes ☐ No

- What is your procedure for reviewing HBRR project applications

  _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____
  _____

- Is the application process clear?

  ☐ Yes ☐ No

  If no, please explain:

  _____
  _____
  _____

- Are you familiar with the following categories of projects eligible under the HBRR Program?
  - Bridge Replacement? ☐ Yes ☐ No
  - Bridge Rehabilitation? ☐ Yes ☐ No
  - Bridge Painting? ☐ Yes ☐ No
  - Replacement of Low Water Crossings? ☐ Yes ☐ No
  - New barrier rail or replacement? ☐ Yes ☐ No
  - Seismic retrofit of bridges ☐ Yes ☐ No

- Is it clear what work can be HBRRP participating/non-participating (i.e., excessive road work, excessive channel work)? ☐ Yes ☐ No

- Describe your understanding of the following participation limits:

  Approach roadway work _____
  Channel work _____
  Architectural treatments _____
  Geometric standards _____
  Hydraulic standards _____

- Describe your understanding of the following program funding limitations, as contained in the Program Guidelines:
  - Preliminary Engineering _____
  - Contingencies _____
  - Construction Engineering _____
  - Construction _____

- Does Headquarters Program Coordinator make it clear when the project is programmed?

  ☐ Yes ☐ No

- Does Headquarters Program Coordinator make it clear when cost/scope/schedule changes have been accepted?

  ☐ Yes ☐ No

- When can reimbursable work proceed?

  _____

PROJECT DEVELOPMENT PROCESS

- When do you attend field reviews for HBRR bridge projects?

  _____

  _____

- What is typically accomplished during the field reviews?
  - Discuss project funding / eligibility _____
  - Discuss type, size and location _____
  - Initial project scoping _____
  - Project awareness among parties involved _____
  - Identify environmental issues _____
  - Identify design issues
    - Right-of-way _____
    - Utilities _____
    - Site constraints _____
  - Identify construction issues
    - Construction windows/timelines _____
    - Construction easements _____
    - Detours _____
    - Traffic control _____
  - Other _____

    _____

- How are scope changes handled?

_____

_____

_____

_____

DESIGN STANDARDS AND SPECIFICATIONS

- Do you and your office ever discuss the provisions of Chapter 11 of the LAPM?

☐ Yes ☐ No

- Are you aware that all bridges shall be designed in accordance with the current edition of the Caltrans Bridge Design Specifications Manual, as per Chapter 11 of the LAPM?

☐ Yes ☐ No

- Are you aware that deviations from the standards for bridge structural capacity will not be allowed?

☐ Yes ☐ No

- Are you aware that deviations from other bridge standards and procedures are allowed per Chapter 11 of the LAPM?

☐ Yes ☐ No

- Describe how local design standards must comply with the LAPM

_____

_____

_____

_____

- Do you help Local Agencies prepare bridge projects so that they comply with the Caltrans Program Guidelines Chapter 6 LAPG (HBRR program requirements) (see attached list)

☐ Yes ☐ No

- If yes, please explain:

_____

_____

_____

_____

- How do you help Local Agencies ensure that cost-effective HBRR projects are achieved and economical structure types are chosen?
  - Value Engineering assistance _____
  - Assistance with design alternative cost comparisons _____
  - Caltrans Bridge Cost Comparison Sheet _____
  - Field review/type selection meeting _____
  - Enhanced Services review of cost analysis/estimate _____
  - Other _____

- Consultant contracts
  - How do you assist the Local Agencies to ensure that consultant contract terms are reasonable?
    - Comparison with similar projects _____
    - Audits _____
    - Independent estimate _____
    - Caltrans review _____
    - Other_____

      _____

CONSTRUCTION PHASE

- Do agencies request your assistance with change orders or claims?

☐ Often ☐ Sometimes ☐ Never

- What type of assistance?

_____

_____

_____

_____

- What are typical reasons you encounter for exceeding the contingency estimate established when the contract was awarded?

_____

_____

_____

_____

- What do you do with as-built drawings for completed projects:

_____

_____

_____

_____

SUMMARY

What, if any, suggestions do you have for improvement to the HBRR process (attach additional pages, if necessary)?

HBRR REVIEW GUIDELINES

Local Agency Questions

The following questions will be used to determine the process used by your agency to develop bridge projects using Highway Bridge Replacement and Rehabilitation (HBRR) Program funding.

Name of Agency _____

AGENCY INFORMATION

- How many bridge projects does your agency complete in a typical year? What percentage of these projects would typically use HBRR funding?

_____

_____

- Does your agency have:
  - A bridge project development program ☐ Yes ☐ No
  - A bridge maintenance program ☐ Yes ☐ No
- How many staff members are involved in developing and completing bridge projects (provide organizational chart)?
  - In-house design/project development _____
  - Design consultant oversight _____
  - Construction management/oversight _____
- What is the name and title of the person who provides engineering management for your bridge projects?

_____

_____

REFERENCES AND RESOURCES

- Does your agency have the following manuals:
  - Caltrans Local Assistance Program Guidelines (LAPG)

    ☐ Yes ☐ No
  - Caltrans Local Assistance Procedures Manual (LAPM)

    ☐ Yes ☐ No
  - AASHTO Roadside Design Guide

    ☐ Yes ☐ No
  - AASHTO Green Book

    ☐ Yes ☐ No
  - Caltrans Bridge Manuals

    ☐ Yes ☐ No

- Has Caltrans adequately clarified the appropriate usage of the Local Assistance Program Guidelines (LAPG) and the Local Assistance Procedures Manual (LAPM)?

  ☐ Yes ☐ No

- Has Caltrans provided adequate guidance and documentation for the environmental process?

  ☐ Yes ☐ No

- What construction specifications does your agency utilize:
  - Caltrans Standard Specifications/SSP's _____
  - Green Book _____
  - Other (specify _____)

- Does your agency utilize the following Caltrans resources for developing HBRR projects?
  - District Local Assistance Engineer (DLAE) ☐ Yes ☐ No
  - Training Seminars/Workshops ☐ Yes ☐ No
  - Structures Local Assistance (SLA) ☐ Yes ☐ No
  - Local Assistance website ☐ Yes ☐ No
  - District Environmental Services ☐ Yes ☐ No
  - District Right of Way Services ☐ Yes ☐ No

If yes to the above questions, did the service(s) meet your expectations?

☐ Yes ☐ No

Comments:

_____

_____

_____

Are there other services you would find useful? ☐ Yes ☐ No

If yes, specify:

_____

_____

_____

APPLICATION PROCESS

- What resources are used to identify major deficiencies for developing bridge projects?
  - Bridge Inspection report ☐ Yes ☐ No
  - If yes, which item(s):
    - Narrative report _____
    - Element Level Inspection (ELI) data _____
    - Structure Inventory and Appraisal (SI & A) sheet _____
  - Eligible Bridge List ☐ Yes ☐ No

    Identify source:
    - Internet _____
    - DLAE _____
    - SLA _____
    - Consultant _____
  - Coordination with Area Bridge Maintenance Engineer (ABME) ☐ Yes ☐ No
  - Input from local maintenance forces ☐ Yes ☐ No
  - Other: _____

    _____

    _____

- Is the bridge inspection report easy to use? ☐ Yes ☐ No
  - Suggestions/Comments:

    _____

    _____

    _____

    _____

- Are you familiar with the Coding Guide and how bridges are coded?

  ☐ Yes ☐ No

- Do you understand which parts of the SI & A sheet determine bridge deficiencies?

  ☐ Yes ☐ No

- Do you understand the terms Structurally Deficient and Functionally Obsolete (SD/FO) and how they determine eligibility?

  ☐ Yes ☐ No

- Do you understand the Sufficiency Rating and how it determines eligibility?

  ☐ Yes ☐ No

HBRR PROGRAM AND ITS APPLICATIONS

- Is your agency familiar with the following categories of projects eligible under the HBRR Program?
  - Bridge Replacement? ☐ Yes ☐ No
  - Bridge Rehabilitation? ☐ Yes ☐ No
  - Bridge Painting? ☐ Yes ☐ No
  - Replacement of Low Water Crossings? ☐ Yes ☐ No
  - New barrier rail or replacement? ☐ Yes ☐ No
  - Seismic retrofit of bridges ☐ Yes ☐ No
- Is the application process clear?

  ☐ Yes ☐ No

- What items are included in your application package?
  - Brief introduction and description of project scope _____
  - "Preliminary" Field Review Form _____

- Roadway Data Sheet _____
- Major Structure Data Sheet _____
- General Plan (GP) _____
- Typical Cross Section _____
- Bullet list of bridge deficiencies to correct _____
- Statement that your agency has the resources to begin PE within 6 months of application approval _____

- Is it clear what work can be HBRRP participating/non-participating (i.e., excessive road work, excessive channel work)?

  ☐ Yes ☐ No

- Describe your understanding of the following program funding limitations, as contained in the Program Guidelines:
  - Preliminary Engineering _____
  - Contingencies _____
  - Construction Engineering _____
  - Construction Costs _____

- Does Caltrans make it clear when the project is programmed?

  ☐ Yes ☐ No

- Does Caltrans make it clear when work can proceed?

  ☐ Yes ☐ No

PROJECT DEVELOPMENT PROCESS

- Does your agency typically conduct field reviews for planned bridge projects?

  ☐ Yes ☐ No

- If so, what is typically accomplished during your field reviews?
  - Discuss project funding / eligibility _____
  - Initial project scoping _____
  - Project awareness among parties involved _____
  - Identify environmental issues _____
  - Identify design issues
    - Right-of-way _____
    - Utilities _____
    - Site constraints _____

- Identify construction issues
  - Construction windows/timelines _____
  - Construction easements _____
  - Detours _____
  - Traffic control _____
- Other _____

  _____

- Do you typically invite Caltrans to your bridge field reviews?

  ☐ Yes ☐ No

- If no, why not?

_____

_____

- Are you aware that Caltrans may have the following specialized expertise available for field review assistance:
  - Environmental
    - Biological _____
    - Historic bridge _____
    - Archaeology _____
  - Structures _____
  - Hydraulics _____
  - Geotechnical _____
  - Right-of-way _____

- Describe your project scoping process per Ch. 7 of the LAPM.

_____

_____

_____

_____

_____

- Describe your understanding of the steps needed to obtain an authorization to proceed with reimbursable work for a bridge project.

_____

_____

_____

_____

_____

- Are you aware of the following Caltrans Enhanced services:
  - o General Federal-aid process assistance ☐ Yes ☐ No
  - o Eligibility reviews ☐ Yes ☐ No
  - o Field reviews ☐ Yes ☐ No
  - o Environmental assistance ☐ Yes ☐ No
  - o Right of Way assistance ☐ Yes ☐ No
  - o Consultant selection ☐ Yes ☐ No
  - o Consultant contract review ☐ Yes ☐ No
  - o Project scoping assistance ☐ Yes ☐ No
  - o PS & E review ☐ Yes ☐ No
  - o Constructability reviews ☐ Yes ☐ No
  - o Construction technical advice ☐ Yes ☐ No

- Who are your main Caltrans points of contact for bridge project development?
  - o DLAE _____
  - o SLA _____
  - o Headquarters Division of Local Assistance _____
  - o ABME _____
  - o Other _____

- How are scope changes handled?

_____

_____

_____

_____

- Is your agency aware that a city, county or other public agency is allowed to perform engineering services for other cities, counties, or public agencies?

☐ Yes ☐ No

DESIGN STANDARDS AND SPECIFICATIONS

- Is your agency aware that all bridges shall be designed in accordance with the current edition of the Caltrans Bridge Design Specifications Manual?

☐ Yes ☐ No

- Is your agency aware that deviations from the standards for bridge structural capacity will not be allowed?

☐ Yes ☐ No

- Is your agency aware that deviations from other bridge standards and procedures are allowed per Chapter 11 of the LAPM?

☐ Yes ☐ No

- Describe any local design standards and how they comply with LAPM

_____

_____

_____

_____

- How does your agency assure that bridge projects comply with the Caltrans Program Guidelines Chapter 6 LAPG (HBRR program requirements) (see attached list)

_____

_____

_____

_____

- How is it ensured that cost-effective HBRR projects are achieved and economical structure types are chosen?
  - Value Engineering _____
  - Design alternative cost comparisons _____
  - Caltrans Bridge Cost Comparison Sheet _____
  - Type selection meeting _____
  - Enhanced Services review of cost analysis/estimate _____
- Consultant contracts
  - How is it ensured that consultant contract terms are reasonable?
    - Comparison with similar projects _____
    - Audits _____
    - Independent estimate _____
    - Caltrans review _____
    - Other_____

      _____

- Does your agency oversee the consultant's design process?

☐ Yes ☐ No

  - If yes, how is this accomplished?
    - Independent review, in-house _____
    - Independent review, consultant _____
    - Caltrans enhanced services cursory review _____
    - Other (please describe)

_____

_____

- What is your process for ensuring that consultant milestones are met?

_____

_____

- What is your process for re-negotiating consultant contracts if there's a major change in scope?

_____

_____

- How is the project Construction Engineering (CE) rate determined?

_____

_____

_____

CONSTRUCTION PHASE

- When administering a construction contract, does your agency:
  - Use a consultant to provide construction engineering services?

    ☐ Yes ☐ No

  - Use your own in-house employees to provide construction engineering services?

    ☐ Yes ☐ No

  - Provide a full-time employee to be the engineer in responsible charge of the project?

    ☐ Yes ☐ No

    - Is that person a registered engineer in the State of California?

      ☐ Yes ☐ No

  - Use a consulting engineer with a long-term retainer contract to be the engineer in responsible charge of the project?

    ☐ Yes ☐ No

- Who in your agency is responsible for reviewing and approving change orders, claims, etc.?

_____

_____

- Describe your process for change orders

_____

_____

_____

_____

- Does the design engineer review design-related change orders?

☐ Yes ☐ No

- Does your agency utilize Caltrans assistance on change orders or claims?

☐ Yes ☐ No

- What percentage of your bridge projects have exceeded the contingency estimate established when the contract was awarded?

_____

- What's included in your process for accepting a project?

_____

_____

_____

_____

  - Does your agency have a method of assessing the quality of the contractor's work?

☐ Yes ☐ No

- Have you been satisfied with the quality of bridge construction?

☐ Yes ☐ No

- If no, why not?

_____

_____

_____

_____

- Do you send a report of completion and as-built plans to the Office of Structures Local Assistance as per the LAPM?

☐ Yes ☐ No

SUMMARY

What, if any, suggestions do you have for improvement to the HBRR process?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

HBRR REVIEW GUIDELINES

HQ Program Management Questions

The following questions will be used to determine the process used by you for processing bridge projects using Highway Bridge Replacement and Rehabilitation (HBRR) Program funding.

Name and position _____

Districts of responsibility _____

- Describe your primary duties regarding the HBRR Program

_____
_____
_____
_____
_____
_____

- Describe your role in the project programming process

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

- What tools do you use to manage your program and track projects?

- How do you ensure that programmed projects are eligible and cost effective?

- How do you assure that the Districts are following the HBRR program requirements?

- How do you assure that the Local Agencies are properly determining eligibility issues for HBRR projects?

- What is your involvement in scope changes for HBRR projects?

_____

_____

_____

_____

_____

- How do you coordinate with Structures Maintenance for bridge inspection rating questions/discrepancies?

_____

_____

_____

_____

_____

- How do you coordinate bridge rating issues with local agencies who inspect their own bridges?

_____

_____

_____

_____

_____

- How do you ensure that the District staff are properly trained to be HBRR project coordinators?

_____

_____

_____

_____

- How can the communication between the Headquarters HBRR management staff and all entities involved in HBRR projects be improved?

- What support and interaction between the Headquarters HBRR management staff and FHWA can be improved?

- What is the Caltrans vision for the HBRR program?

- How do you evaluate whether or not this program is successfully meeting the vision?

- What do you perceive as major weaknesses in the Caltrans HBRR procedures currently in place?

- How can these weaknesses be improved?

- What do you perceive as major strengths in the HBRR procedures currently in place?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

HBRR REVIEW GUIDELINES

Area Engineer Questions

The following questions will be used to determine the process used by you for processing bridge projects using Highway Bridge Replacement and Rehabilitation (HBRR) Program funding.

Name of Area Engineer_____

Districts of responsibility _____

- What steps do you take before authorizing HBRR funds on a project to ensure the project is eligible?

  _____

  _____

  _____

  _____

- How do you know if there are any open issues on a project prior to establishing a federal-aid project?

  _____

  _____

  _____

  _____

- How do you know that there are no remaining issues on a project prior to approving additional federal funds and new phases of work?

  _____

  _____

  _____

  _____

- Do you know how to access the "live" programming database?

  ☐ Yes ☐ No

- How can the database be made more useful?

_____

_____

_____

_____

- What steps do you take to ensure that the scope of the project submitted for construction authorization is consistent with what was originally programmed?

_____

_____

_____

_____

- How can the communication between the Headquarters Implementation staff and the District staff be improved?

_____

_____

_____

_____

- How can the communication between the Headquarters Implementation staff and the Headquarters Program Coordinator be improved?

_____

_____

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_____

- List and describe the HBRR apportionment codes that you use for entry into the FADS system

_____

_____

_____

_____

- Describe your understanding of the difference between "on" and "off-system" as it relates to the HBRRP apportionment codes

_____

_____

_____

_____

- Describe the process you follow for final vouchering a project

_____

_____

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_____

- Describe the process you follow for archiving a project file

_____

_____

_____

_____

SUMMARY

What, if any, suggestions do you have for improvement to the HBRR process (attach additional pages, if necessary)?

HBRR REVIEW GUIDELINES

District Local Assistance Engineer Questions

The following questions will be used to determine the process used by your agency to develop bridge projects using Highway Bridge Replacement and Rehabilitation (HBRR) Program funding.

Name of DLAE _____

District _____

DISTRICT LOCAL ASSISTANCE INFORMATION

- How many bridge replacement/rehab projects are programmed by your District in a typical year? What percentage of these projects would typically use HBRR funding?

_____

_____

- How many staff members are involved in developing and completing bridge projects (provide organizational chart)?

_____

- What functions are provided within the Local Assistance Staff?
  - Environmental ☐ Yes ☐ No
  - Right of Way ☐ Yes ☐ No
  - Geometric review ☐ Yes ☐ No
  - Non-structural PS & E Review ☐ Yes ☐ No
  - Traffic Operations ☐ Yes ☐ No
  - Hydraulics ☐ Yes ☐ No

- What functions are provided by other units within the District?
    - Environmental

      ☐ Yes ☐ No
    - Right of Way

      ☐ Yes ☐ No
    - Geometric review

      ☐ Yes ☐ No
    - Non-structural PS & E Review

      ☐ Yes ☐ No
    - Traffic Operations

      ☐ Yes ☐ No
    - Hydraulics

      ☐ Yes ☐ No
- Does your District provide a single point of contact for local agency initiation of bridge projects? If so, who is that person?

  _____

  _____

REFERENCES AND RESOURCES

- Does your District have the most current versions of the following manuals:
    - Caltrans Local Assistance Program Guidelines (LAPG)

      ☐ Yes ☐ No
    - Caltrans Local Assistance Procedures Manual (LAPM)

      ☐ Yes ☐ No
    - AASHTO Roadside Design Guide

      ☐ Yes ☐ No
    - AASHTO Green Book

      ☐ Yes ☐ No

- Caltrans Bridge Manuals

☐ Yes ☐ No

- Is it clear what the appropriate usage is of the Local Assistance Program Guidelines (LAPG) and the Local Assistance Procedures Manual (LAPM)?

☐ Yes ☐ No

  - Describe under what circumstances you use the LAPGM

_____
_____
_____

  - Describe under what circumstances you use the LAPM

_____
_____
_____

- Has Caltrans/FHWA provided adequate guidance and documentation for the environmental process?

☐ Yes ☐ No

If no, please explain

_____
_____
_____
_____

- Does your staff utilize the following Caltrans resources for developing HBRR projects?

  - Training Seminars/Workshops ☐ Yes ☐ No
  - Structures Local Assistance (SLA) ☐ Yes ☐ No
  - Local Assistance website ☐ Yes ☐ No
  - Headquarters Area Engineers ☐ Yes ☐ No
  - Headquarters Program Coordinators ☐ Yes ☐ No

If yes to the above questions, did the service(s) meet your expectations?

☐ Yes ☐ No

Comments:

_____

_____

_____

Are there other services you would find useful? ☐ Yes ☐ No

If yes, specify:

_____

_____

_____

APPLICATION PROCESS

- What resources are used to identify major deficiencies for developing bridge projects?
  - Bridge Inspection report ☐ Yes ☐ No
  - If yes, which item(s):
    - Narrative report _____
    - Element Level Inspection (ELI) data _____
    - Structure Inventory and Appraisal (SI & A) sheet _____
  - Eligible Bridge List ☐ Yes ☐ No
  - Coordination with Area Bridge Maintenance Engineer (ABME) ☐ Yes ☐ No
  - Coordination with Structures Local Assistance (SLA) ☐ Yes ☐ No

- Coordination with Headquarters

☐ Yes ☐ No

- Local Assistance website ☐ Yes ☐ No
- Other: _____

_____

_____

- Are you familiar with the Bridge Inspection Report?

☐ Yes ☐ No

- Are you familiar with the Coding Guide and how bridges are coded?

☐ Yes ☐ No

- Do you understand which parts of the SI & A sheet determine bridge deficiencies?

☐ Yes ☐ No

- Do you understand the terms Structurally Deficient and Functionally Obsolete (SD/FO) and how they determine eligibility?

☐ Yes ☐ No

- Do you understand the Sufficiency Rating and how it determines eligibility?

☐ Yes ☐ No

- What is your procedure for reviewing HBRR project applications

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_____

_____

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_____

- Is the application process clear? ☐ Yes ☐ No

- Is your staff familiar with the following categories of projects eligible under the HBRR Program?
  - Bridge Replacement? ☐ Yes ☐ No
  - Bridge Rehabilitation? ☐ Yes ☐ No
  - Bridge Painting? ☐ Yes ☐ No
  - Replacement of Low Water Crossings? ☐ Yes ☐ No
  - New barrier rail or replacement? ☐ Yes ☐ No
  - Seismic retrofit of bridges ☐ Yes ☐ No

- Is it clear what work can be HBRRP participating/non-participating (i.e., excessive road work, excessive channel work)? ☐ Yes ☐ No

- Describe your understanding of the following participation limits:
  Approach roadway work _____
  Channel work _____
  Architectural treatments _____
  Geometric standards _____
  Hydraulic standards _____

- Describe your understanding of the following program funding limitations, as contained in the Program Guidelines:
  - Preliminary Engineering _____
  - Contingencies _____
  - Construction Engineering _____
  - Construction Cost_____

- Does Headquarters Program Coordinator make it clear when the project is programmed?

  ☐ Yes ☐ No

- Under what circumstances is a line item in the FSTIP necessary instead of the usual lump sum amount?

_____

_____

_____

- When can reimbursable work proceed?

_____

PROJECT DEVELOPMENT PROCESS

- Do you or your staff attend all field reviews for HBRR bridge projects?

☐ Yes ☐ No

- If so, what is typically accomplished during the field reviews?
  - Discuss project funding / eligibility _____
  - Initial project scoping _____
  - Project awareness among parties involved _____
  - Identify environmental issues _____
  - Identify design issues
    - Right-of-way _____
    - Utilities _____
    - Site constraints _____
  - Identify construction issues
    - Construction windows/timelines _____
    - Construction easements _____
    - Detours _____
    - Traffic control _____
  - Other _____

    _____

- Do you typically invite SLA to your bridge field reviews?

☐ Yes ☐ No

- If no, why not?

_____

_____

- Do you invite FHWA to your bridge field reviews?

☐ Yes ☐ No

- If yes, under what circumstances?

_____

_____

- Are you aware of the following Caltrans Enhanced services:
  - Eligibility reviews ☐ Yes ☐ No
  - Consultant selection ☐ Yes ☐ No
  - Consultant contract review ☐ Yes ☐ No
  - Project scoping assistance ☐ Yes ☐ No
  - PS & E review ☐ Yes ☐ No
  - Constructability reviews ☐ Yes ☐ No
  - Construction technical advice ☐ Yes ☐ No

- How are scope changes handled?

_____

_____

_____

_____

DESIGN STANDARDS AND SPECIFICATIONS

- Is your staff aware that all bridges shall be designed in accordance with the current edition of the Caltrans Bridge Design Specifications Manual?

☐ Yes ☐ No

- Is your staff aware that deviations from the standards for bridge structural capacity will not be allowed?

☐ Yes ☐ No

- Is your staff aware that deviations from other bridge standards and procedures are allowed per Chapter 11 of the LAPM?

☐ Yes ☐ No

- Describe how local design standards must comply with the LAPM

_____

_____

_____

_____

- How does your staff assure that bridge projects comply with the Caltrans Program Guidelines Chapter 6 LAPG (HBRR program requirements)?

_____

_____

_____

_____

- How is it ensured that cost-effective HBRR projects are achieved and economical structure types are chosen?
  - Value Engineering _____
  - Design alternative cost comparisons _____
  - Caltrans Bridge Cost Comparison Sheet _____
  - Type selection meeting _____
  - Enhanced Services review of cost analysis/estimate _____
- Consultant contracts
  - How is it ensured that consultant contract terms are reasonable?
    - Comparison with similar projects _____
    - Audits _____
    - Independent estimate _____
    - Caltrans review _____
    - Other_____

_____

CONSTRUCTION PHASE

- Do agencies request your assistance with change orders or claims?

☐ Yes ☐ No

- Describe your procedure for processing change orders that exceed contingencies.

_____

_____

_____

_____

- What are typical reasons you encounter for exceeding the contingency estimate established when the contract was awarded?

_____

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_____

_____

- What is your procedure for approving payment of final invoice (i.e., which forms and documentation must be submitted)?

_____

_____

_____

_____

SUMMARY

What, if any, suggestions do you have for improvement to the HBRR process?

Exhibit 2

Dist	County	Bridge #	Location	Owner	Work Type	Cost	Source List	Fed Project #	Review Date
3	Nevada	17C0001	South Pine St.	Nevada City	repl	$2.2M	SD/FO	BHLO-5018(001)	4/9/2002
3	Sacramento	24C0076	H Street	City of Sacramento	rehab	$97K/$2M	SD/FO	BRM-F032(002) / (003)	2/28/2002
3	Yolo	22C0012	Knights Landing Ridge	County	repl	$1,189,675	Unit Cost	BRLO-5922(004)	3/18/2002
3	Yolo	22C0030	Co Rd 89	County	repl	$160,202	Unit Cost	BRLO-5922(002)	3/18/2002
3	Placer	19C0139	McCourtney Rd @ Coon Creek	County	repl	$459,440	Final Voucher pg. 82	BRLO-5919(020)	3/20/2002
3	Sutter	18C0037	Hughes Rd. @ E. Channel Sutter Bypass Br.	Sutter County	repl	$625,532	Final Voucher pg. 53	BRLO-5918(010)	2/27/2002
4	Santa Clara	37C0058	Mathilda Ave	City of Sunnyvale	rehab	$12,500,000	2000/2001 Multi-yr plan	BHLS-5213(018)	7/31/2002
4	San Mateo	35C0076 L/R	Marina Lagoon	City of San Mateo	repl	$3,099,678	Final Voucher pg. 92	BRLS-5102(009)	7/31/2002
4	Santa Clara	37C0065	Scott Blvd. OH @ SP RR	City of Santa Clara	rehab	$2,654,421	Final Voucher pg. 90	CRP-L089(865)	7/29/2002
5	Santa Cruz	36C0066	Kings Creek Road	County	repl	$680,000	Substitution	BRLO-5936(027)	4/10/2002
5	Monterey	44C0115	Schulte Road	County	repl	$1,475,000	Substitution	BRLO-5944(010)	4/11/2002
7	Los Angeles	53C1001	Loma Alta Dr/Rubio Wash	County	repl	$1,906,237	Substitution	BRLO-5953(042)	5/8/2002

(Edited)

Exhibit 2

Dist	County	Bridge #	Location	Owner	Work Type	Cost	Source List	Fed Project #	Review Date
7	Los Angeles	53C2005	Carson St.	City of Carson			SD/FO	DE-0038(802)	5/7/2002
7	Los Angeles	53C0160	Riverside Dr.	City of LA	rehab	$9,798,000	2001/2002 Multi-yr plan	BHLO-5006(221)	5/7/2002
7	Los Angeles	53C0859	N. Spring St.	City of LA	rehab	$9,760,000	2001/2002 Multi-yr plan	BHLS-5006(219)	5/7/2002
7	Los Angeles	53C1088	Ave of the Stars	City of LA	rehab	$1,020,000	2001/2002 Multi-yr plan	BHLS-5006(204)	5/7/2002
10	Stanislaus	38C0229	Morrill Rd	City of Riverbank	rehab	$20,000	2000/2001 Multi-yr plan	BHLO-5255(016)	6/11/2002
10	Stanislaus	38C0023	Seventh St.	Modesto	repla	$12,500,000	2000/2001 Multi-yr plan	BRLS-5059(012)	6/12/2002
10	Merced	39C0056	Henry Miller Ave.@Main Canal	County	rehab	$302,716	Final Voucher pg. 224	BRLS-5939(014)	6/13/2002
10	Stanislaus	38C0042	Morris Rd.	County	repl	$540,092	Final Voucher pg. 220	BRLS-5938(038)	6/12/2002

(Filled)