

MEMORANDUM

DEPARTMENT OF TRANSPORTATION
Staff Bridge Design
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DATE: January 27, 1997

TO: Steve Horton

FROM: Dana E. Christensen

RE: Modifications to CDOT owned Structures and Structure
Projects within CDOT ROW by Others

During the December 6, 1996 Staff Meeting, I was asked to provide you with what I believe to be the minimum CDOT needs in the way of plans for structure projects that are not let by CDOT.

Projects such as these modify CDOT owned structures or construct structures within CDOT ROW. In the past, developers, metropolitan districts, and tax funded organizations, i.e. RTD, have constructed projects such as these. To a lesser extent, Maintenance has had Region construction forces issue CMO's and the Center for Procurement Services issue purchase orders to have contractors make repairs where the record of the work performed is difficult if not impossible to trace.

To eliminate the problems we presently encounter with missing plans, I recommend the following:

Modify the Interchange Approval Process (Policy Directive No. 1601) and any CDOT permits (Utility, Access, and other permit or contractual document) under which a structure could conceivably be built or modified to require the submittal of construction plans, load rating results, and "As Constructed" plans to Staff Bridge. A structure would be defined as any culvert or bridge with a span longer than 12' or any pedestrian underpass. I have attached copies of selected pages from the Interchange Approval Process and provisions to be included in the Terms and Conditions attached to the Utility and Access permits when a structure is involved, which reflect the proposed modifications. The Access and Utility permit requirements could be made immediately by contacting Phil Demosthenes in ROW and Bruce Johnson in Staff Design, respectively, to have the changes made State-wide.

Plans prepared by Staff Bridge to repair structures should be copied and placed in the structure folder at the time when the plans are transmitted to Maintenance.

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Store and file the plans in the structure folder file cabinets along with the structure folders. The plans would be stamped to clearly indicate Staff Bridge ownership and where to return them. The plans would be thinned to include only the structural details. A check out card system similar to the one used for structure folders would be used for these plans.

The load rating results would show the capacity of the structure to carry the truck loads for which it was designed, i.e. HS 20, Colorado Legal loads, and Permit vehicles prior to the start of construction. Should the load rating indicate any deficiency, the structure could be modified during construction. Providing a load rating of any modified structure would show that the changes have not materially effected the load carrying capacity of the structure. The load rating should adhere to the procedures specified in the CDOT Staff Bridge Load Rating Manual. The input file should be submitted on a 3 1/2" floppy disc.

In an effort to recover plans to make our records complete, Staff Bridge should make a call for a list of structures and plans to the Region offices which have made modifications or added structures in the past. Once the lists have been compiled, an individual from Staff Bridge would go to the Region offices to make copies of the plans. The copies would be placed with the structure folder and would be stamped to clearly indicate Staff Bridge ownership.

This is what I see we need as a minimum. If you have any questions or if I can help implement this process, please let me know.

Attachments:

- Policy Directive No. 1601, Page 7
- Policy Directive No. 1601, Page 8
- Terms and Conditions for Utility and Access Permits

I concur: _____
Steve Horton

Recommended Additions to Policy Directive Number 1601 page 7:

Step 20A:

If a structure is involved, whether new or modification of an existing structure, submit two sets of construction plans (on 11" x 17" paper) and original load rating results to Staff Bridge. Include the load rating input file on a 3 1/2" floppy disk. A structure is defined as any culvert or bridge with a span longer than 12' or any pedestrian underpass.

Step 22:

If a structure was involved, submit two sets of "As Constructed" plans (on 11" x 17" paper) to Staff Bridge.

Recommended Additions to Policy Directive Number 1601 page 8:

In the flow chart, after final design, add the following decisions process:

Is an existing structure to be modified or is a new structure to be built?

If yes, then:

A structure number may need to be assigned. Contact CDOT Bridge Management Systems Unit at 303-757-9186. Submit construction plans and the load rating results to Staff Bridge. Include the load rating input file on a 3 1/2" floppy disk.

If no, then after construction:

If a structure was involved, submit "As Constructed" plans to Staff Bridge.

**Recommended Additions to
Terms and Conditions for Utility and Access Permits:**

Two sets of plans on 11" x 17" paper and the original load rating results shall be submitted to Staff Bridge prior to construction for any culvert or bridge with a span longer than 12' or any pedestrian underpass. The load rating shall adhere to the procedures specified in the CDOT Staff Bridge Load Rating Manual. The input file shall be submitted on a 3 1/2" floppy disc.

When construction is completed, two sets of "As Constructed" plans on 11" x 17" paper shall be sent to Staff Bridge to serve as the permanent record of the construction project.