

October 26, 1993

To: ALL H.Q. DIRECTORS: Prof. Services, Planning & Major Projects  
ALL REGIONAL MANAGERS: Prof. Services, Planning & Operations  
ALL DISTRICT HIGHWAYS MANAGERS

SUBJECT: Compliance to Current Design Standards and  
Application of New Design Standards.

REFERENCE: Highway Engineering Design Manual

BACKGROUND:

The DESIGN MANUAL is subject to a continuous review and updates will be released regularly.

The present page i of the PREFACE to the manual contains the following statement:

**Updates to the DESIGN MANUAL are effective immediately for all MoTH projects that have not yet reached pre-tender meeting stage. Any case for exception must be justified in writing and submitted to the Chief Highway Engineer for approval.**

The objective of this circular is to explain the ministry policy and process for application of Design Standards.

PROCEDURE:

A) Compliance to Current Design Standards.

All Design work done on projects for the Ministry of Transportation and Highways must follow the current Highway Engineering Branch Design Manual. **There shall be no exception to the Ministry Design Standards without written approval from the Chief Highway Engineer or his delegate.**

**B) Application of New Design Standards.**

The process is as follows:

When updates are issued for the Highway Engineering Branch Design Manual, the effective date is located on the bottom right-hand side of the page. For all projects which have not yet reached pre-tender meeting stage, the designer must review the design drawings for compliance to the new standards and list all the required modifications.

i) If the Design is less than 50% completed<sup>1</sup> or was completed more than 3 years before being rescheduled for tender, it should be updated to the new design standards. Any case for exception must be justified in writing and submitted to the Chief Highway Engineer or his delegate for approval.

ii) If the design is between 50 % and 100% completed or was completed within the last 3 years before being rescheduled for tender, the managers responsible for design must submit the list of modifications along with their recommendations to the appropriate manager in charge of the projects technical review.

For the Vancouver Island Highway Project (VIHP), the submission goes to the Manager of Engineering; for other Major Projects it goes to the Senior Engineer, Consultant Liaison and Design; for Regional or District projects to the Regional Manager of Professional Services (for the remainder of this document, these will be called Technical Review Managers or TRMs).

Upon receipt of a submission the TRM may request, from the designer, additional documentation on the impacts of the design modifications. Based on a careful review of the facts and recommendations, he advises the manager responsible for design of his decision in writing (including the appropriate explanations) with a copy to the Director of Highway Engineering. Also, a copy of the decision with the documentation should be included in the project file. Furthermore, the Design Criteria document should make reference to the changes.

Each case should be reviewed on its own merit based on costs and safety implications for the life span of the project as well as the impact of a design completion delay on the construction schedule and the timing of the project. If the process for acquiring the right-of-way is significantly advanced and if the differences in Design Standards will not make any difference in the safety and operation of the highway section in question, the decision may then be to proceed with only some or no changes to the design drawings.

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<sup>1</sup>Refer to the appendix to this Technical Circular (pages A1 and A2) for a description of design completion percentages.

The process described in this Technical Circular T-3/93 will be included in the next update to the Design Manual.

Prior to putting together the written submission, it is advisable to contact, by phone or E-mail, the Standards Engineer or Senior Standards Technician, Highway Engineering Branch. This may save you unnecessary work and delays. This also allows Highway Engineering Branch to get first hand appreciation of the frequency and relative importance of difficulties encountered in the practical application of design standards contained in the Design Manual.

CONTACTS:

Richard Voyer, P.Eng.  
Standards Engineer Phone: 356-7928

Ross Coulter  
Senior Standards Technician Phone: 387-7754



E. A. Lund, P. Eng.  
Chief Highway Engineer

c.c. A.D.M. Highway Operations  
c.c. A.D.M. Planning & Major Projects  
c.c. All Regional Directors

RJV

**REQUIREMENTS FOR DETAILED DESIGN SUBMISSIONS**

**50% Submission:**

Note: All of the following to conform to M.O.T.H. Design Manual, Section H.

1. All Detail Design survey complete.
2. Plans showing all alignments with curve data, toes, and pavement edges. Include right-of-way lines, offsets and distances.
3. Profiles with geotechnical information, bench marks, etc., (no quantities).
4. Typical Sections complete.
5. Geometry and Laning complete, including accesses.
6. Major drainage design - calculations and rough layout.
7. Structure design - General Arrangement drawings.
8. Major utility placement design - interferences/relocations shown on white prints.
9. Construction staging, including accesses, in concept.
10. All necessary site plans.

**70% Submission:**

1. All revisions that were identified at the 50% submission meeting, complete.
2. All outstanding issues resolved, plus the balance of the 50% submission above.
3. Rough draft copy of the Special Provisions and Schedule of Approximate Quantities.
4. Electrical as per T.O.R; Signing and Landscape drawings on white prints ready for final draft.
5. All other drawings except Spot Elevations, for approval in principle.
6. Right-of-Way drawings finalized.

**90% Submission:**

The following shall be completed in full:

1. All agreements in place - i.e.: A.L.R., Environment, Utilities, Municipal, etc..
2. All Contract drawings, including Grading, Bridge, Electrical (as per T.O.R.), Landscaping, etc..
3. All project design folders.
4. Environmental Mitigation requirements.
5. Final quantities, estimates and material requisition forms.
6. Special Provisions.
7. Construction Staging.

**100% Submission:**

1. All revisions that were identified at the 90% meeting, complete.
2. Final submission of the complete design and tender package including viewing documents.
3. Relevant rollup documents from project file (such as: planning report, preliminary design report, geotechnical report).