State of California
Department of Transportation

Business, Transportation and Housing Agency

Memorandum

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To: ALL DESIGN SENIORS
Structure Design
Structure Design Services &
Earthquake Engineering
Division of Engineering Services

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Date: May 24, 2004

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Subject: Earth Retaining Structures Numbering Responsibility

Memos to Designers 2-11, dated 1996, currently addresses the numbering of earth retaining structures under *Miscellaneous Structures*. Historically, Structure Maintenance and Investigations (SM&I) assigned numbers only to Mechanically Stabilized Earth (MSE) walls or those walls where special inspections were required. These numbers ensured that the as-built plans and shop drawings were archived in the Bridge Inspection Records Information System (BIRIS). All other earth retaining structures, including nonstandard or special designed earth retaining structures, were assigned fictitious numbers for internal tracking purposes such as project status and time logging. When the as-built plans and shop drawings for structures without bridge numbers were completed, they were forwarded to the appropriate District for archival and were not included in BIRIS. Unfortunately, experience has revealed that accessibility of these as-built plans and shop drawings is difficult if not impossible due to the lack of a central Departmental repository.

Special design earth retaining structures are defined as those which do not adhere to the Standard Plan details due to site specific requirements such as wall height, surcharge loading or geology. The MSE, tieback and soil nail walls are included in this category as are Standard Plan walls with modified foundations or geometry. Information pertaining to earth retaining structures designed according to the Standard Plans can be easily extracted from the appropriate Standard Plans release given the bid opening date.

However, special design walls require access to the actual as-built plans and shop drawings for repairs and modifications. When responding to a crisis or for the purposes of design modifications quick access to such information is important.

In an effort to address the need for archival and centralized access of special design earth retaining structures in BIRIS, all special design earth retaining structures will now require a bridge number to be assigned. The numbering scheme will follow that prescribed for bridge numbers as outlined in the current Memos to Designers 2-11, with the third character being the letter "E" to designate a special design earth retaining structure. The responsibility for assigning these numbers will be delegated jointly to the two Earth Retaining Technical Specialists, Mr. Kevin Riley and Mr. Overcomer Hor, in the Office of Design and Technical Services. They will be responsible for maintaining the log, in conjunction with Structure Maintenance and Investigation, as well as assigning bridge numbers when requested by the Structure Project Engineer (PE). Earth retaining structures conforming entirely to the Standard Plans will not require an assigned bridge number

The bridge numbers are to be requested when it is certain that the walls are to be included in the project but not at the Advanced Plan Study (APS) stage when walls are being contemplated and the ultimate alignment has not yet been defined. It is recommended that the Structure PE request bridge numbers for special design earth retaining structures at the Plans and Quantities (P&Q) stage of the project. The Structure PE shall send an email request, including the attached form (ERSBrNo.doc), to both Technical Specialists when seeking a bridge number for all special design earth retaining structures.

These guidelines are interim while Memos to Designers 2-11 is being revised accordingly. Implementation of the procedures outlined herein for special design earth retaining structures is immediate for all new projects and current design projects that have not yet been expedited.

For additional information regarding this interim memorandum, please contact Kevin Riley, at (916) 227-7330 or Overcomer Hor at (916) 227-8482.

c: Rob Stott
Dolores Valls
Structure Design Office Chiefs
Structure Design & Earthquake Engineering Office Chiefs
Richard Shepard

Attachment

Non-Standard Earth Retaining Structures
Bridge Number Assignment Form

District: _____ County: _____ Route: _____ KPM (PM): _____ Project EA: _____

Please note: In lieu of this form, the designer may submit an electronic copy of the General Plan as long as all of the information required on this form is contained therein.

Wall Name:

Wall Type:

Tieback:

☐ With Piles ☐ Without Piles ☐ Slope Stressing

☐ MSE
☐ Soil Nail
☐ Soldier Pile Wall
☐ Modified Standard Plan Type: _____ (Please describe modification under Special Notes)
☐ Secant
☐ Other (Please specify type of wall under Special Notes)

Final Wall Facing:

☐ CIP ☐ Timber Lagging ☐ Shotcrete
☐ Pre-cast ☐ Vegetation
☐ Other (Please specify): ____

Maximum Wall Height: Wall Length:

Bridge number(s) of structure(s) connected or tied into the wall:

The wall is:

☐ Above the traveled way
☐ Below the traveled way supporting the embankment
☐ Directly supporting the traveled way

Anticipated year that the wall will be constructed:

Special Notes (500 characters max.):

Requestor's Name: _____
Requestor's Design Section: