

# Traffic Sign Design Manual – Revision 1

## Change Sheet – March 2010

This revision of the Traffic Sign Design Manual (Revision 1) has been reviewed and improved from the previous version (September 2003) to address the organization of the material and the clarity of the presentation. The content of the chapters retains the majority of the information from the original manual, however the order of the chapters (as well as content location) has been changed to provide a better flow in how the information is presented.

Previous Manual Chapters – Introduction 1. Getting Started 2. Sign Construction 3. Sign Supports 4. Preliminary Design, Conventional Highways 5. Preliminary Design, Expressways and Freeways 6. Sign Detail Sheet, Conventional Highways 7. Sign Detail Sheets, Expressways and Freeways 8. Sign and Post Data Table, Conventional Highways 9. Sign and Post Data Table, Expressways and Freeways 10. Preliminary Plans 11. Advance Plans 12. Final Plans 13. During Construction 14. General Sign Information

Revised Manual Chapters - Introduction 1. Developing Plans 2. Designing Signs 3. Designing Supports 4. Drafting Standards 5. Specifications 6. Estimate 7. Design Follow Up 8. Special Design Considerations 9. Appendix A – Signing Contacts 10. Appendix B – Sign Design Resources 11. Appendix C – Level of Development 12. Appendix D – Standard Sign Sizes for the State Highway System

The manual has also been revised to incorporate page numbers that are sequential throughout the whole manual (rather than chapter by chapter) to make page references easier to understand. A List of Figures has also been added after the Table of Contents. Website and standard drawing references have been checked to make sure that they are still accurate.

Another general change that was made with this update was increased reference to specific sections from the MUTCD as part of the design guidance, to help designers understand the design decisions that are based on federal guidance, and provide quicker reference to the specific sections.

### **Table of Contents –**

This revision of the design manual has expanded the Table of Contents to provide significantly more detail on the subjects provided in each chapter, to make it easier to search for specific design information and details.

### **List of Figures –**

This revision of the design manual has added a List of Figures to make it easier to search for specific design information and details.

## **Introduction –**

Added new language that the purpose of the design manual is to familiarize designers with their responsibilities as well as providing an organized collection of standards, policies, and guidelines for sign design.

Added new language that the amount of work that is consulted out by ODOT has increased, and this manual will help those new designers develop PS&E documents for ODOT contracts

Added new language that the design manual is not intended to replace existing ODOT policies. The design manual is supposed to supplement existing ODOT policies to be used as a resource guide.

Added new language that the design manual describes a procedure for preparing sign plans. When developing contract plans it is important to check with the Region sign designer to coordinate design expectations.

## **Chapter 1 - Developing Plans**

Page 3 – Added two new paragraphs in a section titled “Project Scope” outlining how the scope and project limits of a project are defined. Inserted language from Chapter 1-3 of the previous manual under “Treatment of Existing Signs and Supports” that identified sign replacement criteria

Page 4 – Inserted language from Chapter 1-3 of the previous manual under “Design Expectations” and added an additional sentence indicated what to do if signs do not meet minimum standard sizes. Inserted language from Chapter 1-3 of the previous manual under “Service Life of Signs” that explains looking at what you consider for replacing signs on a project. Additional language about what information is in the sign inventory and what kind of deterioration should be evaluated on existing signs. Inserted language from Chapter 3-3 in the previous manual on “Service Life of Sign Supports” for sign bridges, cantilevers, structure mounts, etc... Inserted language from Chapter 3-4 in the previous manual on “Service Life of Sign Supports” for Multi-Post Breakaway and Triangular Post Breakaway.

Page 5 – Inserted language from Chapter 3-4 of the previous manual under “Service Life of Sign Supports” for Other Steel and Wood Posts, Perforated Steel Square Tube Posts, Etc... Additional language under section titled “Critical Sign Locations” identifying priority for sign placement. Inserted language from Chapter 4-2 in the previous manual on critical sign locations for regulatory signs. Inserted language from Chapter 4-3 in the previous manual on warning sign locations. Inserted language from Chapter 4-4 in the previous manual on guide sign locations. Inserted language from Chapter 4-6 in the previous manual on specific situations for signing and the example figures in the design manual.

Page 7 – Inserted Figure 1 from Chapter 4-6 in the previous manual.

Page 8 – Inserted Figure 2 from Chapter 4-7 in the previous manual. Inserted Figure 3 from Chapter 4-15 in the previous manual.

Page 9 – Inserted Figure 4 from Chapter 4-8 in the previous manual. Inserted Figure 5 from Chapter 4-9 in the previous manual.

Page 10 – Inserted Figure 6 from Chapter 4-10 in the previous manual.

Page 11 – Inserted Figure 7 from Chapter 4-11 in the previous manual. Inserted Figure 8 from Chapter 4-12 in the previous manual.

Page 12 – Inserted Figure 9 from Chapter 4-13 in the previous manual. Inserted Figure 10 from Chapter 4-14 in the previous manual.

Page 13 – Inserted Figure 11 from Chapter 4-15 in the previous manual.

Page 14 – Inserted Figure 12 from Chapter 5-5 in the previous manual.

Page 15 – Inserted first paragraphs under the section “Freeways and Expressways” from Chapter 5-2 in the previous manual. Additional language in the second paragraph reminds designers of the 800 foot spacing requirements from the Traffic Control Devices Handbook. Inserted the third paragraph from Chapter 5-2 in the previous manual. Additional language in the fourth paragraph directs users to the new Chapter 8 for information on Wrong Way Entrance signing on the Interstate.

Page 16 - Inserted Figure 13 from Chapter 5-6 in the previous manual. Inserted Figure 14 from Chapter 5-7 in the previous manual.

Page 17 - Inserted Figure 15 from Chapter 5-8 in the previous manual

Page 18 - Inserted the first three paragraphs under the section “Conventional Highways” from Chapter 4-5 of the previous manual. Inserted the table on sign spacing from Chapter 4-6 in the previous manual. Inserted two paragraphs under the section “Freeways and Expressways” from Chapter 5-2 and 5-3 in the previous manual. Additional language in the first of the two paragraphs to indicate how generic service signs are handled if specific service signs are added.

Page 19 - Inserted a paragraph under the section “Freeways and Expressways” from Chapter 5-3 in the previous manual. Inserted first and third paragraph under the section “Curve Warning” from language that was in both Chapter 4-3 and Chapter 5-3 in the previous manual. Additional language in the second paragraph to indicate the type of curve warning signs that are used for specific speeds. Inserted language under the section “Exit Direction/Advance Guide” from Chapter 5-3 in the previous manual. Additional

language in section “Intersection Signing” that refers designers to the information in Figures 6 through 10

Page 20 - Additional language in section “Land Reduction and Addition Transition” that refers designers to the information in Figure 2. Additional language in the section “Rural Left Turn Lane Refuge” that refers designers to the information in Figure 4. Inserted a paragraph under the section “Milepost Markers” from Chapter 4-4 in the previous manual. Inserted the first paragraph under the section “Motorist Service” from Chapter 4-5 in the previous manual. Additional language in this paragraph explaining that the motorist service signs are maintained by ODOT and replaced on projects. Additional language in second paragraph clarifying the difference with specific service signs. Inserted the paragraph under the section “No-Parking Resolutions” from language that was in both Chapter 4-2 and Chapter 5-2 in the previous manual. Additional language in this paragraph on what designers should check for when replacing No-Parking signs. Inserted the paragraph under the section “Other Regulatory Signs” from Chapter 4-3 in the previous manual. Additional language in this paragraph on what designers should check for when replacing regulatory signs. Additional language in the section “Physical Separation of Lanes” that refers designers to the information in Figure 5. Inserted a paragraph and table under the section “Post Interchange” from Chapter 5-2 in the previous manual.

Page 21 – Inserted a paragraph under the section “Ramp Terminal” from Chapter 5-2 in the previous manual. Inserted a paragraph “Road Names Under Warning Signs” from Chapter 4-4 in the previous manual. Inserted three paragraphs under the section “Route Signing” from Chapter 4-4 in the previous manual. Deleted one sentence out of the third paragraph that had been in the previous manual that indicated that guide signs should be placed on the far side of the intersection. Inserted the first paragraph under the section “School Speed Zones” from Chapter 4-2 in the previous manual. Additional language in paragraph 2 through 4 addresses the signing of SPEED LIMITS that was outlined in the technical bulletin that was sent out 7-1-2006 as TR06-03(B).

Page 22 – Inserted the 5<sup>th</sup> and 6<sup>th</sup> paragraph with language from Chapter 4-2 in the previous manual. Additional language in the 6<sup>th</sup> paragraph reference the difference between MUTCD sign placement and what is called out in the Oregon supplements to the MUTCD. Additional language in the 6<sup>th</sup> paragraph references the situation if an approach is controlled by a STOP sign. Additional language in the section “Slow Moving Vehicle Turnouts” that refers designers to the information in Figure 3. Inserted four paragraphs under the section “Specific Service (TIC Signs) from Chapter 4-5 in the previous manual.

Page 23 – Inserted the first paragraph under the section “Speed Zones” from Chapter 4-2 in the previous manual. Additional language in the second paragraph gives guidance on placement of SPEED ZONE signs with respect to the speed zone order. Inserted the first paragraph under the section “State Supplied Signs” from Chapter 4-5 in the previous manual. Additional language in the first paragraph addresses how state supplied signs should be handled in the contract plans and in construction. Inserted the first and third

paragraph under the section “Stop Signs” from Chapter 4-3 in the previous manual. Additional language in the second paragraph identifies delegated authority for responsibility related to STOP applications on state highways. Additional language in the final paragraph defining how to determine when to use a 36” STOP sign.

Page 24 - Inserted a paragraph under the section “Stop Ahead/Signal Ahead” from language that was in both Chapter 4-4 and 5-3 in the previous manual. Inserted the first paragraph under the section “Street Name” from Chapter 4-4 in the previous manual. Additional language in the next paragraph defining how street name signs are called out with respect to the signal plans, based on information in the technical bulletin that was sent out as TR05-07. Additional language in the section “Weigh Station” that refers designers to the information in Figures 11 and 12.

## **Chapter 2 – Designing Signs**

Page 25 – Inserted the first paragraph under the section “Choosing Substrate and Sheeting Types” from Chapter 2-1 in the previous manual. Inserted the next 6 paragraphs from Chapter 14-1 and 14-2 in the previous manual

Page 26 - Inserted the 4 paragraphs under the section “Sign Substrates” from Chapter 2-1 and 2-2 in the previous manual.

Page 27 - Inserted all of the information on this page from Chapter 2-2 and 2-3 in the previous manual. Deleted the reference for ASTM Type I as “Enclosed Lens Reflective Sheeting”. Deleted the reference for ASTM Type III as “Encapsulated Lens Retroreflective Sheeting”.

Page 28 - Inserted all of the information on this page from Chapter 2-3 and 2-4 in the previous manual. Deleted the statement that ASTM Type IV is not generally specified for use in Oregon. Deleted the reference for ASTM Type VII as “Type B Wide Angle Retroreflective Sheeting”. Deleted the reference for ASTM Type IX as “Type A Wide Angle Retroreflective Sheeting”. Added ASTM Type X sheeting.

Page 29 - Inserted the four paragraphs under the section “Sign Legend” from Chapter 2-4 in the previous manual. Deleted the reference under Direct Applied legend that “the dimensions shown on the shop drawing are used for the sign layout”.

Page 30 - Inserted the first two sentences under the section “Designing Regulatory and Warning Signs” from language that was in both Chapter 6-2 and 7-2 in the previous manual. Inserted language that if the standard sign is from the MUTCD, there is already a design for it, but the designer needs to determine the appropriate size. Additional language in the second paragraph that indicates that there is a chart for standard sign sizes in Appendix D. Inserted information on border, inset, and radius dimensions from language that was in both Chapter 6-2 and 7-2 in the previous manual. Deleted language from the previous manual “it is always better to put up a sign that is too big compared to one that is too small”. Additional language in last sentence of the middle paragraph that

indicates that it is preferable to use a D font or wider on regulatory signs. Inserted last paragraph on the page from Chapter 7-2 in the previous manual. Inserted all of the paragraphs under the section “Warning Signs” from language that was in both Chapter 6-2 and 7-2 in the previous manual. Additional last sentence added to this section to indicate minimum sign size for warning signs on the State Highway System is 36”.

Page 31 - Inserted four paragraphs under the section “Legend Sizes and Spacing” from Chapter 6-3 in the previous manual. Additional sentence for the fifth paragraph to indicate that the MUTCD recommends the use of 12” legend for overhead street name signs. Inserted the last three paragraphs under this section from Chapter 7-3 in the previous manual.

Page 32 - Inserted all of the paragraphs under this section from language that was in both Chapter 6-3 and 7-3 in the previous manual. Deleted out language from the previous manual on Chapter 7-3 that indicated that “if you design a sign using this legend size for use overhead, the sign might be wider than the freeway. The 20”-15” legend only applies to ground mounted signs.” Inserted paragraph under the section “Arrow Sizes and Design” from language that was in both Chapter 6-4 and 7-4 in the previous manual.

Page 33 - Inserted all of the information on this page from either Chapter 6-4 or 7-4 in the previous manual.

Page 34 - Inserted all of the paragraphs under the section “ Freeway and Expressway Design” from Chapter 7-4 in the previous manual.

### **Chapter 3 – Designing Supports**

Page 35 - Inserted the first paragraph under the section “Choosing a Support Type” from Chapter 3-1 in the previous manual. Deleted out the language from the previous manual that referenced a table on district preference for small sign supports. Inserted the second and third paragraphs from Chapter 14-2 in the previous manual. Inserted all of the information under the section “Wood Posts” from Chapter 3-3 in the previous manual. Additional language indicates that “if the sign installation is behind barrier, the clearance between posts can be decreased.” Deleted out language from the previous manual that referenced the use of Port Orford Cedar wood posts, and the standard drawings as TM214 and TM215. Inserted the first paragraph under the section “Bridge Rail Mounts” from Chapter 14-3 in the previous manual.

Page 36 - Inserted information on “Butterfly”, “Cantilever”, “Exit Number”, “Multipost Breakaway” “Sign Bridge”, and “Signal Pole” supports from Chapter 3-1 and 3-2 in the previous manual. Updated references to the standard drawings for each type of support.

Page 37 - Inserted first paragraph from Chapter 14-2 from the previous manual with information about signal pole mounts. Deleted language from previous manual that “plywood signs can be mounted to the H frame by bolting mounting extrusions to the plywood”. Also deleted language from the previous manual that “you will need to supply

the estimated pounds of structural steel in the Special Provisions”. Additional language in the second paragraph defining how signs mounted on traffic signal poles are called out with respect to the signal plans, based on information in the technical bulletin that was sent out as TR05-07. Inserted the third paragraph from Chapter 14-3 from the previous manual “note of caution about decorative poles”. Inserted information on “Structure Mounts”, “Triangular Base Breakaway”, “Adjustable Sign Mounts”, “Crosswalk Closure Barricades”, “Milepost Markers”, and “Pipe Sign” supports from Chapter 3-1, 3-2, and 3-3 in the previous manual. Updated references to standard drawings for each type of support. Deleted language under Crosswalk Closure Barricades that indicates “in most circumstances they are mounted on wood posts”.

Page 38 - Inserted information on “Route Marker Frame”, “Secondary Sign”, Special Pipe”, “Stainless Steel Clamp”, and “Perforated Steel Square Tube” supports from Chapter 3-1, 3-2, and 3-3 in the previous manual. Updated references to standard drawings for each type of support. Deleted language under Pipe Sign Support that indicated that “they are used behind a vertical curb in Urban Areas only”.

## **Chapter 4 – Drafting Standards**

Page 39 through 42 - Additional new language on all 4 pages defining general layout of design files. Design Format, Consolidation of Base File, File Clean-up, Creating and Naming a Design File, Sheet Borders, and Plan Sheets. Added reference to sample traffic signing plans available on the traffic website.

Page 43 through 46 - Example of a set of Sign Plan sheets comparable to the example that was used on Chapter 8-24 and 9-32 in the previous manual.

Page 47 through 50 - Additional new language on all 4 pages defining general layout of design files. Clip Boundary and Referencing Files, Mapping Existing Signs, Use of Legend Notes, Sign Details, and Format of Detail Sheets.

Page 51 through 53 - Example of a set of Sign Detail sheets comparable to the example that was used on Chapter 6-6 and 7-5 in the previous manual.

Page 54 - Additional new language on how you build regulatory, warning, and guide signs into the Sign Detail sheets.

Page 55 - Inserted all of the paragraphs under the section “Sign Design Software and Use of Clipboard” from language that was used in both Chapter 6-1 and 7-1 in the previous manual.

Page 56 through 62 - Additional new language on all seven pages giving step by step instructions on filling out the columns on the sign and post data table.

Page 63 through 67 - Example of a set of Sign and Post Data Table sheets comparable to the example that was used on Chapter 8-27, 9-35, and 9-36 in the previous manual.

Page 68 - Additional new language on how sheet numbers are assigned for plans, and the process for archiving of files.

## **Chapter 5 – Standards**

Page 69 through 70 - Additional new language on the use of Standard Drawings, Standard Specifications, and Special Provisions, and the specifications and drawings that apply directly to permanent signing.

## **Chapter 6 – Estimate**

Page 71 - Additional new language on the list of bid items and how it is used in a contract to develop the estimate for permanent signing.

Page 72 - Example of the cost estimating spreadsheet that is used for permanent signing comparable to the example that was used on Chapter 11-3 in the previous manual.

Page 73 through 75 - Additional new language on Providing Quantities, Unit Costs and Regional Factors, and Anticipated Items. Inserted first three sentences in the section “Anticipated Items” from Chapter 11-2 in the previous manual.

## **Chapter 7 – Design Follow-up**

Page 76 - Inserted first two paragraphs in the section “Construction Support” from Chapter 12-1 in the previous manual. Inserted the next three paragraphs from Chapter 13-2 in the previous manual. Additional language on shop drawings and submittals.

Page 77 - Additional language for the first two paragraphs under the section “Signs” explaining shop drawings submittals and the use of GuidSign. Inserted the last paragraph under the section “Signs” from Chapter 13-1 in the previous manual.

Page 77 and 78 - Inserted half of the language in the section “Steel Supports” from Chapter 13-1 in the previous manual. Additional language on using the Excel spreadsheet on designing TBBs and MPBs and the location of the spreadsheet on the internet. Additional language on the interaction between the designer and the contractor and the delivery of the steel shop drawings.

## **Chapter 8 - Special Design Considerations**

Page 79 through 80 - Additional language on special design considerations for review of work done for permanent signing on the Interstate and also design expectations for low mounted sign installations for entrance ramps on the Interstate.

Page 81 through 84 – Additional four figures detailing design expectations for low mounted sign installations for entrance ramps on the Interstate.

## **Appendix A – Signing Contacts**

Page 86 through 89 - Additional language on Signing Contacts that are used by sign designers. Project Leader, Consultant Project Manager, Roadway Designer, Specification Writer, Region Sign Designer, TRS Staff, District Sign Supervisor/Coordinator, State Parks, Travel Information Council, Right-of-Way, Sign Structures Designer, Geotechnical Engineer, Landscape Designer, Other Traffic Designers, Project Manager and Inspector, Bicycle and Pedestrian Program Manager, Construction Materials Inspection Lab, and Survey Crew.

## **Appendix B – Sign Design Resources**

Page 90 - Inserted information on the section “Existing Sign Inventory & Photos” and “Digital Video Log” from Chapter 1-1 in the previous manual. Additional language on how to find the online version of the digital video log.

Page 91 - Inserted information from Chapter 1-1 and 1-2 from the previous manual on the MUTCD, Standard Highway Signs Manual, Oregon Supplements to the MUTCD, and the State Sign Policy and Guidelines.

Page 92 - Additional language on the ODOT Traffic Manual. Inserted information from Chapter 1-2 in the previous manual on Speed Zone Orders. Additional language on location of speed zones being located according to the speed zone order. Additional language about how to find the speed zone orders online. Inserted information from Chapter 1-3 in the previous manual on No Parking Resolutions. Additional language on No Parking signing reflecting the language in the No Parking resolution.

Page 93 - Inserted information from Chapter 1-3 in the previous manual on the Contract plans Development Guide. Additional language on Standard Specifications, Special Provisions, Standard Drawings, and As Built Plans.

Page 94 - Additional language on Oregon Bicycle and Pedestrian Plan, OARs and ORS, Qualified Products List, and Traffic Control Devices Handbook.

## **Appendix C – Level of Development**

Page 95 - Additional language on Design Acceptance Package. Inserted information in section “Preliminary Plans” from Chapter 10-1 and 10-2 in the previous manual. Additional language that if you are pressed for time that you can send the preliminary plans out without the sign and post data table.

Page 96 - Inserted information in section “Advance Plans and Specifications” from Chapter 11-1 and 11-2 in the previous manual. Additional language in the second paragraph indicating that the Special Provisions, Estimate, and Sign and Post Data Table are submitted at this time. Additional language in the section “Plans in Hand Meeting” to describe this part of the project schedule. Inserted two paragraphs in section “Final Plans and Specifications” from Chapter 12-1 in the previous manual. Additional language in the second paragraph indicating printing of mylars and signature of plans.

## **Appendix D – Standard Sign Sizes for the State Highway System**

Page 98 through 100 - Updated the list of signs from Chapter 14-5 through 14-7 in the previous manual.

## **Information Deleted from Previous Manual –**

The following portions of the previous manual have been deleted as part of this update:

Chap 1-2 : Deleted sentences in the first paragraph “the current standard highway signs book does have a lot of errors in it...FHWA is aware of the problem and will be sending out revisions.”

Chap 1-3 : Deleted the 5<sup>th</sup> paragraph “Anytime you touch a sign installation, you are required to bring it up to current standards...”

Chap 3-2 : Deleted the information on Pole Clamps and Special Sign Brackets

Chap 3-5 : Deleted this whole page on District Post Preference for Small Sign Supports

Chap 4-1 : Deleted this whole page on Creating a Base Sheet, Other Options for Creating a Basesheet, and Layout of Sheets

Chap 4-2 : Deleted the first paragraph which is a continuation from Layout of Sheets on Chap 4-2. Deleted the fourth paragraph “There are areas in the state where you might want to use SPEED LIMIT (R2-1) signs rather than SPEED (OR2-1) signs...”

Chap 4-3 : Deleted the first paragraph “Chapter 14 will explain in more detail some of the unique parking/no-parking situations.”

Chap 4-4 : Deleted the first sentence of the second paragraph “The use of advance road names under side cross road warning signs is gaining favor.”

Chap 4-5 : Deleted the first sentence of the first paragraph “There are usually other guide signs on the project that may not be Green, but Blue or Brown.”

Chap 4-6 : Deleted the last paragraph on the page “At the end of Chapter 8, there is a sample project for conventional road signing you might want to review.”

Chap 4 : Deleted the four page example at the end of the chapter for a plan set done in simple table format.

Chap 5-1 : Deleted this whole page on Creating a Base Sheet, Other Options for Creating a Basesheet, and Layout of Sheets comparable to what was deleted on Chap 4-1.

Chap 5-2 : Deleted the first paragraph which is a continuation from the Layout of Sheets on Chap 5-2 comparable to what was deleted on Chap 4-2. Deleted the second sentence in the fifth paragraph “Once you have all the signs placed on the ramps and cross road, it is time to start with the post interchange signing on the main line of the freeway/expressway.”

Chap 5-3 : Deleted the third paragraph “Signing for lane drops, diagrammatic signs freeway splits, etc. will be discussed later in this document.” Deleted the first sentence in the fourth paragraph “The warning signs have the next highest priority and should be the next signs added to the plan sheets...”

Chap 5-4 : Deleted the two paragraphs under the section “Guide Signs”. Deleted the paragraph under the section “Sample Project”

Chap 6-1 : Deleted most of the language under the section “Layout of Sheet” other than the first two sentences. Deleted the second paragraph under the section “Sign Design Software”. Deleted the second, third, and fourth paragraph under the section “Guide Sign Designs”.

Chap 6-4 : Deleted the ninth paragraph on the page “Pictorial layouts for some signs are shown at the end of this chapter...”

Chap 7-1 : Deleted most of the language under the section “Layout of Sheet” other than the first two sentences. Deleted the second paragraph under the section “Sign Design Software”. Deleted the second, third, and fourth paragraph under the section “Guide Sign Designs”. Comparable to all of the deletions on Chap 6-1.

Chap 8-1 through 8-22 : Deleted this whole section on the step by step instructions on how the sign and post data table example was filled out for a conventional highway project

Chap 9-1 through 9-31 : Deleted this whole section on the step by step instructions on how the sign and post data table example was filled out for an expressways and freeways project

Chap 10-1 : Deleted the first, second, and fourth paragraphs from the section “When is This Required”

Chap 11-1 : Deleted the last sentence under the section “Change in Design”. “Now is the time to start putting together the Special Provisions and Estimate that will accompany the Advance Plans.” Deleted all four paragraphs under the section “Special Provisions”. Deleted the two paragraphs under the section “Quantities and Bid Items”.

Chap 12-1 : Deleted sentence out of the second paragraph under the section “Change in Design”. “Request and place TMS sheet numbers for all the plan sheets you have on the project...” Deleted the paragraph under the section “Quantities and Bid Items”.

Chap 12-2 : Deleted the first paragraph under the section “Unexpected Incidents”

Chap 13-1 : Deleted two sentences from the section “Sign Support Drawings”. “Blank forms for all the standard sizes of Multi-Post Breakaways, Triangular Base Breakaways, and Signal Pole Mounts are available from the Traffic Management Section. You will mail this form back to the Project Manager to be sent back to the Contractor.”

Chap 13-2 : Deleted the two paragraphs under the section “Installation of Signs”. Deleted language under the section “Construction of Supports” referring to Signal Pole Mount “Note that there is actually two different ways of mounting these supports on the poles; one welded bracket and one bolted bracket...”

Chap 14-1 : Deleted the second paragraph under the section “ Construction of Signs”. “Let’s assume that a sign shop is building a street name sign...”

Chap 14-2 : Deleted the two paragraphs under the section “Installation of Supports”. Deleted all nine paragraphs under the section “Problem Areas”