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# Contract Plans Manual

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### **1.1 Foreword**

The Oregon Department of Transportation (ODOT) presents the Contract Plans Manual (CPM) which includes the policies, procedures, methods, and standards for developing and preparing final ODOT contract plans. It also provides the standards used in the preparation of these plans using Computer Aided Design (CAD) in MicroStation format. ODOT staff, consultants, and outside agency personnel are to use the CPM to prepare ODOT contract plans.

ODOT staff and consulting engineer staff working on ODOT projects will perform road design services and contract plan production using Bentley MicroStation and InRoads. All deliverables must be in Bentley V8i MicroStation or InRoads formats.

The CPM, consists of two volumes:

- Volume 1 & Volume 1 Appendices contain information, instructions and examples.
- Volume 2, presents examples of drawings.

Updates to this manual are an ongoing process and revisions are issued as required.

### **1.2 Introduction**

The Oregon Department of Transportation (ODOT) and its consultants rely on CAD systems to produce contract plans. The CAD system is an integral part of the process as projects move from project development to final contract plans to construction. CAD files are often shared between many different internal and external design and construction staff. Consistency and uniformity of CAD files, contract plans, and other products greatly enhances productivity and quality. This is achieved through standardization of the process and products.

Contract plans, specifications, and estimates (PS&E) are the final documents required for the advertisement of a project. The PS&E package is submitted to ODOT for review prior to bid advertisement and award of the construction contract. Because the plans and special provisions must set forth the work in a clear and concise manner to avoid misinterpretation, it is important to follow the instruction in this manual.

The CPM provides up-to-date standards in one set of documents so that uniform contract plans can be prepared by ODOT staff, consultants, and outside agency personnel.



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### 1.2 Introduction (Cont.)

The CPM gives an overview of contract plan preparation using MicroStation. MicroStation is ODOT's sole CAD platform and is the only platform covered within the CPM. The intent of this manual is to provide policies and procedures to prepare ODOT contract plans. It is assumed that the user is already trained and proficient in the use of the MicroStation platform.

The writers of this manual realize drafting and work flow varies from drafter to drafter. It is also understood that plans from different drafters will have subtle differences. All plans are reviewed for legibility and adherence to the standards found in this manual. If your plans are clean, easy to read and follow ODOT drafting standards, your plans will generate fewer comments during reviews. This will make the turnaround time for reviews much shorter.

It is the user's responsibility to insure that they are using the latest version of this document. Always check the web pages shown in the CPM for the latest information and updates.

The chapters of this document are named to follow the general structure of the contract plans. Within each chapter, a generic structure has been set up as follows:

- **Overview** — explains ODOT's intended process for producing that particular portion of the contract plans, and specifies who is responsible for which tasks and who is to give final approval.
- **Development** — gives detailed instruction for developing that particular portion of the contract plans. This includes a step-by-step procedure (with graphics) for the creation of plan sheets, and covers attachment and treatment of reference files, placement of cells, placement of required items, and other topics.
- **Check List** — is the last page in each of the chapters. It will be the final resource for the designer or drafter to verify that all of the items required to be on the plan sheets have been included.

For consultants and outside agency personnel, before you work on your plan sheets, you may need to download the ODOT Workspace for MicroStation V8i. ODOT\_space.exe can be found on the ODOT website at:

<http://www.oregon.gov/ODOT/HWY/CONSULTANT/Pages/Consultants-Portal.aspx>

ODOT\_space.exe is a self-extracting program. Please follow the instructions in Readme\_ODOTspace.html to extract the contents of the ODOT\_space.exe.



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**1.3 References**

***Bridge Design & Drafting Manual***

[https://www.oregon.gov/ODOT/HWY/BRIDGE/Pages/standards\\_manuals.aspx](https://www.oregon.gov/ODOT/HWY/BRIDGE/Pages/standards_manuals.aspx)

***Erosion Control Manual***

[https://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/erosion\\_control\\_manual\\_nav.pdf](https://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/erosion_control_manual_nav.pdf)

***Geotechnical Design Manual***

[https://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/pages/geotechnical\\_design\\_manual.aspx](https://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/pages/geotechnical_design_manual.aspx)

***Roadside Development Design Manual***

<https://www.oregon.gov/ODOT/HWY/TECHSERV/Pages/alphamanuals.aspx>

***Hydraulics Manual***

[https://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/Pages/hyd\\_manual\\_info.aspx](https://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/Pages/hyd_manual_info.aspx)

***ODOT Highway Design Manual, 2012***

[http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/hwy\\_manuals.aspx](http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/hwy_manuals.aspx)

***ODOT Traffic Line Manual***

[http://www.oregon.gov/ODOT/HWY/TS/pages/traffic\\_line\\_manual.aspx](http://www.oregon.gov/ODOT/HWY/TS/pages/traffic_line_manual.aspx)

***ODOT Traffic Signal Design Manual***

<https://www.oregon.gov/ODOT/HWY/TS/pages/signals.aspx>

***Oregon Standard Drawings & Oregon Standard Details***

[http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/standard\\_drawings\\_home.aspx](http://www.oregon.gov/ODOT/HWY/ENGSERVICES/pages/standard_drawings_home.aspx)

***Oregon Standard Specifications for Highway Construction***

[https://www.oregon.gov/ODOT/HWY/SPECS/Pages/2015\\_Standard\\_Specifications.aspx](https://www.oregon.gov/ODOT/HWY/SPECS/Pages/2015_Standard_Specifications.aspx)