



# Bridge CAD Manual

Delivery & Operations Division | Bridge Engineering Section  
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**Oregon Department of Transportation**

Engineering and Technical Services Branch

Bridge Engineering Section, MS#4

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<https://www.oregon.gov/odot/Bridge/Pages/Bridge-Design-Manual.aspx>

### Acknowledgement

This document is the work product of the Bridge Program and Standards Unit of the Bridge Engineering Section. The Section is the technical owner of the content, while the Unit has the stewardship responsibility to keep the content up-to-date and communicate changes to the users of this manual.

Suggested modifications to this document can be made to the Senior CAD Standards Specialist in the Bridge Section, Program and Standards Unit.

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# Revisions

| Revision | Date       | Part | Section             | Description   |
|----------|------------|------|---------------------|---|
|          | 9/12/2022  | All  | All                 | Update contents and format – draft version  |
|          | 5/3/2023   | 100  | 101                 | Clarified criteria for which walls are included in the J series; direction to abbreviations and acronyms in the OCM; updated hyperlinks |
|          |            | 200  |                     | Edited heading  |
|          |            |      | 203                 | Added CAD plans review; updated flow chart and process; removed Project Completion section  |
|          |            |      | 204                 | Changed sheet numbering; added guidance for adding sheets during Advance Plans  |
|          |            |      | 205                 | Table format, heading and text changes  |
|          |            |      | 206                 | Minor format and text changes; added diameter example   |
|          |            | 300  | 302.2, 302.3, 302.4 | Clarifying text; update title block examples; added link to Bridge Naming Rules   |
|          |            |      | 303                 | Text changes to Location Map description and Figure 303-2 description   |
|          |            | 400  | 402.1, 402.2        | Clarifying text   |
|          |            | 500  | 502                 | Updated text for 501 Bridge Maintenance Plans descriptions and bent labeling  |
|          |            |      | 503-512             | Minor text changes; updated and added figures   |
|          |            | 600  | 601                 | Added clarifying text for requesting structure and drawing numbers  |
|          |            | 700  | 701                 | Revised process text; revised Figure 701-1  |
|          | 11/13/2023 | 100  | 101                 | Direction to abbreviations and acronyms in the OCM; updated hyperlinks  |
|          |            | 200  | 203.1               | Revised step number 3, added number 6; updated workflow text  |
|          |            |      | 203                 | Added hyperlink to checklist text   |
|          |            |      | 204                 | Changed sheet numbering for wall sheets; changed guidance for adding sheets during Advance Plans to Final Plans                         |

| Revision | Date       | Part | Section             | Description   |
|----------|------------|------|---------------------|---|
|          |            |      | 205                 | Updated table 205-1   |
|          |            | 300  | 302.2, 302.3, 302.4 | Clarifying text; update title block examples; added link to Bridge Naming Rules   |
|          |            |      | 303                 | Text changes to Location Map description  |
|          |            | 400  | 402.1, 402.2        | Clarifying text   |
|          |            | 500  | 502                 | Updated text for 501 Bridge Maintenance Plans descriptions and bent labeling  |
|          |            |      | 508                 | Added text regarding Railroad Data sheet  |
|          |            |      | 504-513             | Update figures for standards changes; added figures 512-3, 512-4, 513-1, 513-2, 513-3, 513-4, 513-5, 513-6, 513-7, 513-8, 513-9, 513-10, 513-11 |
|          |            | 700  | 701                 | Added text to check for revisions during construction   |
|          |            | 800  | 801, 802            | CAD File Archives   |
| 1.1      | 01/25/2024 | 500  | 502                 | Clarified bent labeling and numbering guidance  |
| 1.1      |            | 700  | 701                 | Added text to use EOR initials in the revision block  |
| 2.0      | 05/31/2024 | 200  | 201, 203, 203.1     | Clarified language; updated fig. 203-1  |
|          |            |      | 204                 | Common detail sheets  |
|          |            |      | 205                 | updated fig. 205-1  |
|          |            |      | 206.1               | Diameter symbol   |
|          |            |      | 206.2               | Remove steel shape callouts   |
|          |            |      | 206.4               | Bridge Tables   |
|          |            |      | 206.5               | Bridge Cache  |
|          |            | 300  | 302.2               | Specified 2D coordinate correct plan view   |
|          |            |      | 302.4               | Text added for multiple structures and designers; updated figs. 302-1, 302-2, 302-3, 302-4  |
|          |            | 500  | 502                 | Clarify "BIR" designation and elevation on the opposite side of the alignment   |

| Revision | Date       | Part | Section   | Description   |
|----------|------------|------|---|---|
|          |            |      | 503-2, 504-1, 504-2, 505-2, 505-5, 505-6, 509-3, 510-1, 510-4, 513-1, 513-4, 513-10 | Update/Add figure   |
|          |            | 700  | 701   | Clarified date and revision number for construction revisions. Added guidance for as-constructed review process   |
| 3.0      | 10/28/2024 | 200  | 201, 203, 206.1   | Removed unnecessary phrase. Changed "CAD Tech" to "CADD Tech". Clarified "Miscellaneous Details" description. Added description/use of "floating" notes.  |
|          |            | 300  | 301, 302  | Changed "CAD Tech" to "CADD Tech". Changed sheet number field to point to sheet number in model properties. Updated the "Scale Warning" cell in title block examples.   |
|          |            | 400  | 402   | Added "container files" for 3D models   |
|          |            | 500  | 502, 510, 511   | Clarified bent numbering. Simplified elevations on "opposite side" of plan view. Updated "Scale Warning" (all applicable example drawings). Replaced Figure 510-1. Added figures 510-4 and 510-5. Renumbered figures. |
|          |            | 700  | 701   | Clarified language for use of the revision triangle and EOR review of PDF files. Changed "Resident Engineer" to "Construction Resident Engineer". Updated figure 701-3.   |
|          |            | 800  | 801, 802  | Clarified language  |
|          |            |      |   |   |
|          |            |      |   |   |
|          |            |      |   |   |
|          |            |      |   |   |
|          |            |      |   |   |
|          |            |      |   |   |



## Part 100 Introduction

## Section 101 Preface

- 1 The Bridge CAD Manual (BCM) is a supplement to the ODOT CAD Manual (OCM). Where the  
2 two manuals conflict, the BCM takes precedence. The BCM includes standards for developing  
3 and preparing final Bridge construction and maintenance plans.
- 4 The BCM also provides standards used in the preparation of these plans using the Computer  
5 Aided Drafting (CAD) in MicroStation format to be used by ODOT staff, consultants and  
6 outside agency personnel.
- 7 ODOT staff and consulting engineering staff working on ODOT Bridge projects will perform  
8 bridge CAD services and construction and maintenance plans production using ODOT's  
9 current version of Bentley MicroStation or OpenBridge Modeler software, as required.
- 10 This publication contains information, instructions and examples for the preparation of major  
11 structure plans, such as bridges (including culverts over 20' in diameter/span), tunnels, sound  
12 walls attached to a bridge and bridge retaining walls (as defined by the Geotechnical Design  
13 Manual (GDM)). Other major structures requiring a BDS number are in the respective  
14 discipline's section of the plans and are drawn according to their CAD manual.
- 15 Updates to this manual are an ongoing process and revisions are issued as required or every six  
16 months in May and November.

## Section 102 Introduction

- 17 This manual includes direction and guidance for structure plans development including CAD  
18 files, plans layout and development, sheet order and numbering. Example drawings are  
19 included for common plan sheets. Abbreviations and acronyms are found in the OCM.

## Section 103 Resources

20 *ODOT Manuals and Other Documents*

21 ODOT CAD Manuals

22 ODOT Standard Drawings and Details

23 ODOT Standard Specifications and Bid Items

24 *Bridge Section Manuals and Forms*

25 Bridge Design Manual

26 Bridge Guidance Documents

27 1. Includes:

28 a. Bridge Data System (BDS) User Guide

29 b. Structure Naming and Numbering

30 c. Bridge Log

31 Bridge Forms and Templates

32 1. Includes:

33 a. Checklist, CADD Tech (Form no. 734-5376)

34 b. Structure and Drawing Number Request Form

35 *CAD Software and ProjectWise Support*

36 Engineering Applications Support Team (EAST)

37 ProjectWise

38 *Archived Projects and GIS Data*

39 ODOT TransGIS

40 Bridge Data System (BDS) – Contact ODOT Bridge Engineering Section for access

41 ODOT Map Center (R/W Maps and Contract Plans)

42 ODOT Engineering Archives

43 Virtual Highway Corridor (ODOT only)



## Part 200 General Plans Development

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## Section 201 Introduction

This General Plans Development section of the Bridge CAD Manual includes information pertaining to structure CAD files and sheets for plans included in the “J” series of an ODOT plan set. Standards for other structures not included in this manual can be found in the respective CAD manuals. For general ODOT plans standards, including abbreviations and common terms, see the [ODOT CAD Manual \(OCM\)](#).

## Section 202 Overview

There is a general process that applies to all structural CAD files and drawings. This process ensures that record copies of these CAD files and drawings are maintained for future reference.

## Section 203 CAD Quality Plans Review

The CAD standards quality plans review will be performed by another CADD Tech, during plans production, to assure adherence to the ODOT standards, as well as consistency in the plan set. This does not preclude reviews required by consultant contract.

The reviews may be done at any time during the plans development process, however there are scheduled reviews:

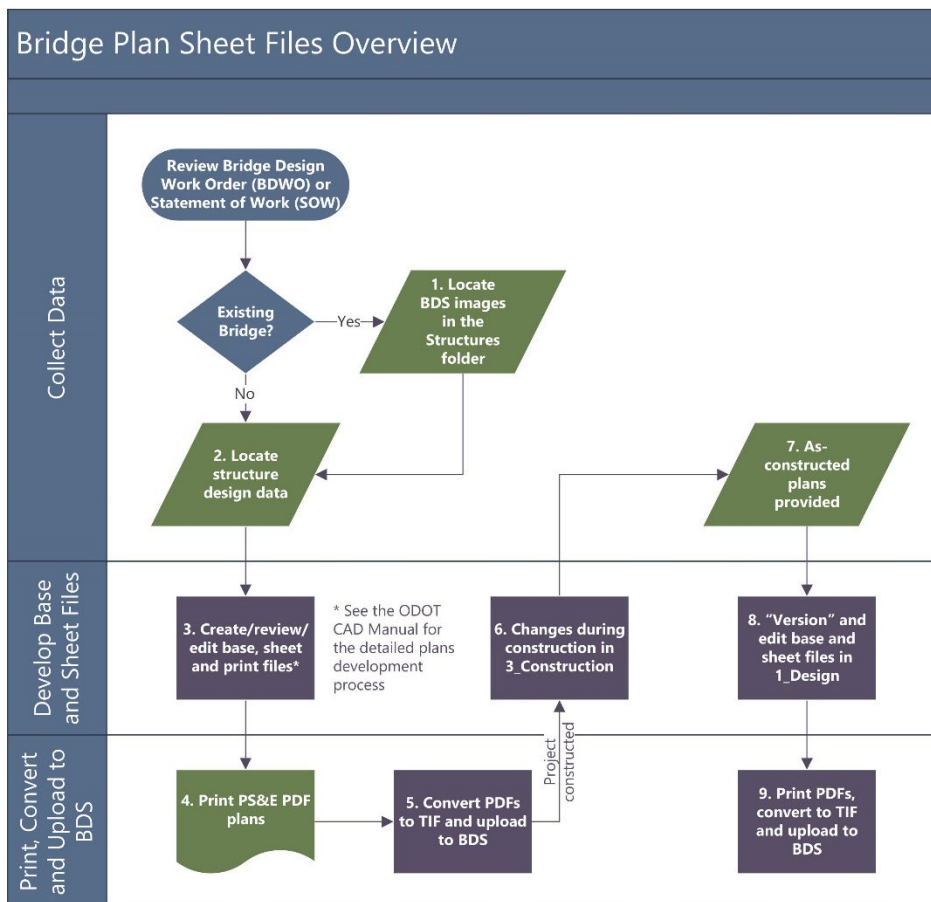
1. STIP projects CAD plans review will be performed two weeks prior to the bridge design “Submit to Reviewer” at DAP and at Advance plans. Large projects using multiple CADD Techs require multiple reviewers. When there are multiple reviewers, a CADD reviewer lead will be designated.
2. District maintenance and other small projects that don’t conform to the same review process as a STIP project will have a single review at two weeks prior to the Final plans “Submit to Reviewer”.

[Link to CAD Review Checklist](#)

## 203.1 Structural plan sheet development process summary

Below, is an overview of the bridge plan sheet development process between the designer and CADD tech is shown in Figure 203-1 and accompanying text below.

Figure 203-1 Bridge Plan Sheet Files Overview



1. Locate the data needed to develop the plans. Create and maintain CAD files in ODOT's ProjectWise folder structure in accordance with the OCM and the ODOT ProjectWise User's Manual. All documents must be named in accordance with the ProjectWise naming conventions and include the structure number(s) in the file attributes.
2. After plans are developed, produce PDFs in the ProjectWise "Structures" folder and provide a link to the designer to access the file for review. Repeat this process until plans are adequately developed for the upcoming milestone review. A link to the PDF is also



made available to the CADD Tech reviewer, according to Section 203 of this manual. Make edits and continue the edit and review process for each submittal.

3. When the risk of adding or removing sheets is low, typically after the Advance Plans review, the CADD Tech obtains drawing numbers from the Bridge Data System (BDS). See the Bridge Data System User Guide for details. The Bridge Designer provides the calculation book number from Bridge Section headquarters, as required.
4. At the Plans, Specifications and Estimate (PS&E) milestone, the CADD Tech prints PDFs with the appropriate structure, calculation book and Bridge Data System (BDS) drawing numbers. The Bridge Designer, digitally signs the PDFs. See the OCM for details.
5. At bid opening, the CADD Tech exports the digitally signed PDF files to TIF files (400 dpi) and uploads the images into BDS. See the Bridge Data System User Guide for TIF file settings.
6. Changes during construction are completed in a copy of the file(s) to be modified in the Construction\_Engineering folder in 3\_Construction.
7. After the designer provides the as-constructed markups from the Region Engineer, the CADD Tech makes edits as directed. See Part 700 of this manual for the As Constructed procedure. When the edits are complete, new TIF images are created and uploaded into BDS to replace the contract plans images.

See the ODOT CAD Manual (OCM) for a detailed *project* workflow process.

Digitally signed PDF files, CAD files and all other related documents will remain in ProjectWise with the project documents.

For local agency projects, original signed documents may be kept by the owner of the structure.

## Section 204 Plan Sheet Numbering

In addition to a sheet number, structures also require a BDS drawing number for filing in BDS. (See the [Bridge Data System User Guide](#) for requirements.)

The plan sheet numbering and order are important aspects of the plan set. Users of the plans should be confident in finding the information they need. When there are multiple structures, it is important to be consistent throughout.

See the ODOT CAD Manual for general sheet numbering guidance. Below are some examples of structure sheet numbering options.

1. Single structure: J01, J02,...J32
2. Multiple structures:
  - a. Structure Layout and Index: J01, J02
  - b. Common General Notes: J03
  - c. Bridge or Interchange A: JA01, JA02,...JA20 (incl. details specific to the structure)
  - d. Bridge or Interchange B: JB01, JB02,...JB32 (incl. details specific to the structure)
  - e. Common detail sheets: JZ01, JZ02,...JZ12 (details applicable to multiple structures)(include a list of the relevant structures below or next to the title of each detail)
3. Single Structure plans over 50 sheets:
  - a. Option 1:
    - i. General sheets: JA01, JA02,...JA05
    - ii. Foundation sheets: JB01, JB02,...JB09
    - iii. Superstructure sheets: JC01, JC02,...JC09
    - iv. Substructure sheets: JD01, JD02,...JD20
    - v. Miscellaneous sheets: JE01, JE02,...JE22.
    - vi. Wall sheets: JF01, JF02,...JF05
  - b. Option 2:
    - i. General sheets: JA01, JA02,...JA05
    - ii. Spans 1 through 4: JB01, JB02,...JB05
    - iii. Spans 5 through 11: JC01, JC02,...JC09
    - iv. Miscellaneous sheets: JD01, JD02,...JD09
    - v. Wall sheets: JE01, JE02,...JE05

When it is necessary to add sheets after Final Plans, it is acceptable, but not preferable, to add a "-1", "-2", etc. to the sheet number to avoid renumbering sheets in that series. For example: JA01, JA02...JA20, JA20-1, JA20-2, JA21, etc.

## Section 205 Plan Sheet Order

This is a general listing of sheets. The structure may not require all sheet types. There may also be details required that are not listed.

NOTE: Some details and notes may be added to related sheets as space is available.

Table 205-1 Plan Sheet Order

| SHEET CATEGORY | SHEET TITLE AND NOTES  |
|----------------|--|
| GENERAL        | <p>Structure Index</p> <ul style="list-style-type: none"> <li>Project overview map identifying the location of each structure and an accompanying table with structure, sheet and drawing number information</li> </ul> <p>Structure Layout</p> <ul style="list-style-type: none"> <li>Plan overview of complex structures, such as interchanges</li> </ul> <p>Plan and Elevation</p> <ul style="list-style-type: none"> <li>Includes Location map</li> <li>The Elevation view may not be required for projects that don't have work below the deck (surfacing projects, for example)</li> </ul> <p>General Notes</p> <p>Live Load and Design Criteria (if not included in the General Notes)</p> <p>Grade Line Profile</p> <p>Superelevation Diagram</p> <p>Clearance Diagram</p> <p>Construction Sequence and Concrete Pour Sequence</p> <p>Railroad Data</p> <ul style="list-style-type: none"> <li>Data shown per railroad approval</li> </ul> <p>Stage Construction</p> |

Table 205-2 Plan Sheet Order continued

| SHEET CATEGORY         | SHEET TITLE AND NOTES   |
|------------------------|---|
| FOUNDATION DETAILS     | <p>Geotechnical Data</p> <ul style="list-style-type: none"> <li>Sheet provided by Geotechnical CAD. Uses the Geology naming convention for the sheet file.</li> </ul> <p>Foundation Plan</p> <ul style="list-style-type: none"> <li>Includes existing and proposed utilities, seismic details, pile tip data and Foundation Notes</li> </ul> <p>Foundation Details</p> <ul style="list-style-type: none"> <li>Footing, Drilled Shaft Details</li> </ul> |
| SUPERSTRUCTURE DETAILS | <p>Deck Plan</p> <ul style="list-style-type: none"> <li>Includes deck plan "bubble" notes and rail pay limits</li> </ul> <p>Typical Deck Section</p> <p>Deck Details</p> <p>Diaphragm Details</p> <p>Steel Framing Plan</p> <p>Steel Framing Details</p> <p>Girder Schedule</p> <p>Girder Plan and Elevation</p> <p>Girder Section and Details</p> <p>Camber Diagram</p> <p>Post-tensioning Details</p> <p>Seismic Details</p>                          |
| SUBSTRUCTURE DETAILS   | <p>Bent # Plan and Elevation</p> <p>Bent # Details</p> <p>Crossbeam Details</p> <p>Bearing and Shear Lug Details</p> <p>Seismic Details</p> <p>Wingwall Details</p> <p>Bridge Retaining Wall Details</p> <ul style="list-style-type: none"> <li>See the Geotechnical Design Manual for the definition of a "Bridge Retaining Wall"</li> </ul>   |



Table 205-3 Plan Sheet Order continued

| SHEET CATEGORY  | SHEET TITLE AND NOTES  |
|---|--|
| <p>MISCELLANEOUS DETAILS (may be located on other sheets as appropriate and space is available)</p> | <p>Excavation and Backfill Details<br/> Concrete Finish Diagram<br/> Bridge Approach Slab Details<br/> Joint Details<br/> Traffic Sign/Signal/Luminaire Mount Details<br/> Rail, Rail End Post and Rail Transition Details<br/> Protective Screening Details<br/> Sound Wall Details</p> <ul style="list-style-type: none"> <li>Sound walls attached to the bridge will be in the bridge plans. If the sound wall extends beyond the bridge approach slab, that portion beyond the slab will reside in the Geotechnical plans.</li> </ul> <p>Slope Paving Details<br/> Drainage Details<br/> Utility Details<br/> Illumination Details<br/> Bridge Protective System Details<br/> Fall Protection System Details<br/> Cathodic Protection Details<br/> Protective Coatings Details<br/> Mechanical Details<br/> Electrical Details<br/> Architectural Treatment Details<br/> Temporary Concrete Barrier Details<br/> Temporary Work Bridge Details</p> |
| <p>DETAILS COMMON TO MULTIPLE STRUCTURES</p>  | <p>When multi-structure projects have common details, place them after the structure sheets and number them using JZ##.</p>  |

## Section 206 Notes, Annotations and Tables

The general guidance for note formatting and orientation is available in the OCM. This section of the BCM will address the general notes, labels and tables used in structure plans and the CAD tools available for them. When abbreviations are required, use only accepted abbreviations from the OCM.

### 206.1 General Notes and “Floating” Notes

The General Notes are included in nearly all structure project plans. They can range from a few sentences to multiple pages. A Microsoft Word template for the General Notes is downloadable here: [General Notes](#). Some notes have been created as tables in the workspace to control formatting. Use abbreviations sparingly and spell out acronyms the first time they are used.

“Floating” notes are added for information and/or clarification and are located near the drawing they apply to. “Floating” notes requiring extra emphasis, may be outlined by a rectangular shape. Group “Floating” notes when appropriate. (See the ODOT CAD Manual for the correct format.)

The diameter symbol ( $\emptyset$ ) may only be used in dimensions and leader notes and not in “floating” notes.

Many common notes are available in the Bridge Bubble Note tool (pending), Structure Cache and Place Table.

## 206.2 Dimensions and Labels

Dimensions and labels standards are set by the “ODOT Ft-In” dimension style, except where decimal format is the industry standard.

Table 206-1 Dimension Tolerances

| Item             | Tolerance |
|------------------|-----------|
| Structural Steel | 1/16"     |
| Welds            | 1/16"     |
| Concrete         | 1/8"      |
| Camber Diagrams  | 1/8"      |

If a series of dimensions do not add up to the exact overall dimension, use a plus or minus symbol (±) following the series dimension (e.g. 25 girder spaces @ 9'-3 1/8" ± = 231'-7").

Dimensions of 12 inches or greater are expressed in feet-inches (e.g. 1'-0"). Dimensions of more than one foot with fractions less than one inch require a leading zero (e.g. 1'-0 1/2").

Pipe diameters are always called out in inches.

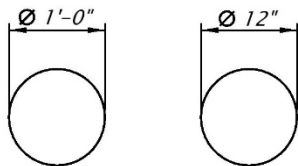
Intersection angles should be dimensioned as the acute angle centerline to centerline.

Use the industry defined format for steel shapes and welding symbols.

Steel plate is dimensioned as thickness x width x length where thickness and width are expressed in inches and length in feet and inches (e.g. PL 1/4 x 8 1/2 x 1'-4").

In addition to the diameter and radius options in the ODOT CAD Manual, bridge plans allow the following options:

Figure 206-1 Diameter Dimension examples



## 206.3 Bridge Tables

Tables are to use the standards defined in the OCM for text. Premade tables are available as a seed in the Place Table dialog (may be linked to an Excel file, as desired).

Bridge Tables currently available (Geo and Hydro tables are also available):

- ODOT\_AccompByBox
- ODOT\_NotForConsBox
- BR\_BeamSeatEl\_(Heading, Body, Footer)
- BR\_DeckPlanNote\_(Heading, Body)
- BR\_FndData\_(Heading, Body)
- BR\_GirderSchedule\_(Heading, Body)
- BR\_HydData
- BR\_IDXStructures\_(Heading, Body, Footer)
- BR\_PileData\_(Heading, Body)
- BR\_ReinfSpliceLen
- STR\_IDXStructures\_(Heading, Body, Footer)
- BR\_BridgeIDMarker

## 206.4 Bridge Structure Cache

The structure cache is part of the OregonDOT WorkSpace.

Figure 206-2 Models available in the structure cache file

|                          |                                       |  |
|--------------------------|---------------------------------------|--|
| <input type="checkbox"/> | ACWS Build-Up                         | 1/2"=1'-0" (BDM 1.5.9.2-1)                   |
| <input type="checkbox"/> | Anchor Rod                            | 3/4"=1'-0" (BDM 1.5.11.1.2-1)                |
| <input type="checkbox"/> | Bearing and Concrete Pad-plan         | 3/8"=1'-0"                                   |
| <input type="checkbox"/> | Bearing and Concrete Pad-sections     | 3/4"=1'-0" (BDM 1.14.1.6-1)                  |
| <input type="checkbox"/> | Bearing Concrete Pad                  | 1/2"=1'-0" (BDM 1.14.1.5-2)                  |
| <input type="checkbox"/> | Chevron Obstruction Marker            | 1/4"=1'-0"                                   |
| <input type="checkbox"/> | Control Joints                        | 1 1/2"=1'-0"                                 |
| <input type="checkbox"/> | Deck Construction Joint-1             | 1 1/2"=1'-0" (BDM 1.9.3-1)                   |
| <input type="checkbox"/> | Deck Construction Joint-2             | 1/2"=1'-0"                                   |
| <input type="checkbox"/> | Default                               | Master Model                                 |
| <input type="checkbox"/> | Diaphragm Beam Restraint              | 3/8"=1'-0" (BDM 1.5.6.2.2-1)                 |
| <input type="checkbox"/> | Drain Clamp                           | 3/4"=1'-0"                                   |
| <input type="checkbox"/> | Drilled Shaft Details                 | 3/16"=1'-0" (BCM 510-4)                      |
| <input type="checkbox"/> | Drilled Shaft Details - 2             | 3/4"=1'-0" Details Base-Spiral Splice        |
| <input type="checkbox"/> | Drilled Shaft Details -1              | 1/4"=1'-0" Details Base-Sections             |
| <input type="checkbox"/> | Electrical Expansion Joint            | 1 1/2"=1'-0" (BDM 1.14.2.4-2)                |
| <input type="checkbox"/> | Exterior Slab with F Rail             | 3/8"=1'-0" (BDM 1.26.3-2)                    |
| <input type="checkbox"/> | General Railroad Construction Clea... | 1"=20' Railroad Clearance Diagram - 2 Tracks |
| <input type="checkbox"/> | H-5 or H-10 Truck Loading             | 1/8"=1'-0" (BDM 1.3.2.2-1)                   |
| <input type="checkbox"/> | Junction Box                          | 3/4"=1'-0"                                   |
| <input type="checkbox"/> | Oregon Permit Loads for State Ow...   | 1"=20'-0" (BDM ?)                            |
| <input type="checkbox"/> | Pavement-Rolled Membrane              | 1 1/2"=1'-0"                                 |
| <input type="checkbox"/> | Slab Keyway                           | 3"=1'-0" (BDM 1.9.3-1)                       |
| <input type="checkbox"/> | Typical Construction Clearances-1     | 1"=15' (BDM 3.14.4.2-1)                      |
| <input type="checkbox"/> | Typical Construction Clearances-2     | 1"=15'                                       |

## Part 300 MicroStation Base Files & Title Block

---

## Section 301 Introduction

This section of the Bridge CAD Manual includes information pertaining to all or most of the CAD files and sheets for a set of structure plans. For overall ODOT plans standards, see the ODOT CAD Manual.

## Section 302 CAD Files

### 302.1 Overview

All project CAD and associated files are to be produced and maintained in ODOT's ProjectWise folder structure. When a project requires multiple CADD Techs, a CADD Tech Lead is agreed upon to coordinate plans production, review, and organization.

### 302.2 Plans Base Reference Files

#### ◆ Base Models

The Design Base file is a **design** type model created in the 3\_Base Files (2D) folder and/or a "container" file in the 6\_Civil Data folder that references a 3D model in the 1\_Design>Structures folder. The 2D plan view of the structure is coordinate correct and references data provided by other disciplines in the previously mentioned folders. This data may be used for more than one structure plan sheet, as well as used by other disciplines. The Engineer is ultimately responsible for this data and coordinates with the CADD Tech to ensure its accuracy.

If in a separate file, the location map image is considered "base" data and uses the "CAD Base" naming convention in ProjectWise.

The CAD base contains drawings for use in the plan sheets. Linework is referenced from base and container files available.



## 302.3 Plan Sheet Files

Sheet files are in the *2\_Plan Sheets* folder and may contain one or more sheet models. Sheet models reference the title block and design or drawing models. It is best practice to create a text field for the sheet number in the title block that points to the sheet number field in the model properties. The sheet model description may be used for the sheet title in the title block and create a text field in the sheet title to point to it. Annotation in a sheet model applies to that specific sheet, such as the sheet number, the drawing number and general text.

## 302.4 Structure Title Block

The title block file contains design type models for the title block and text common to the sheets. Some sheet titles are pre-populated in the title block file and may be used for the sheet by turning levels on or off. See the ODOT CAD Manual for details about how the title block file is used.

The plan sheet title block gives the reader crucial information about the plan set and the sheets in it. If it is consistent in its layout, then the user can efficiently find the information they need for bidding and construction. The ODOT CAD Manual contains the basic elements that make up the title block. This section provides guidance for the parts of the title block that are specific to structure plans.

When projects have multiple structures, copy the Structures model as required.

For structures that have multiple designers, make separate models for the data that differs from the main Structures model. When possible, avoid duplication of data.

## ◆ Plan and Elevation Sheet



Figure 302-1 Example title block for the plan and elevation sheet for a single structure.

|   |   |   |                        |  |   |  |  |   |  |
|---|---|---|------------------------|--|---|--|--|---|--|
| 9 | ACCOMPANIED BY DWGS.:<br>00000                | 3 | STRUCTURE NO.<br>00000 | REGISTERED PROFESSIONAL<br>ENGINEER<br>00<br>PRELIMINARY COPY<br>00<br>DD, YYYY<br>FIRST I. LAST<br>RENEWES: MM-DD-YYYY<br>FINAL ELECTRONIC DOCUMENT<br>AVAILABLE UPON REQUEST | 2 | Replaces existing structure no. #####. | OREGON DEPARTMENT<br>OF TRANSPORTATION | 1 | STRUCTURE NAME<br>PROJECT TITLE<br>PROJECT TITLE<br>PROJECT TITLE<br>HIGHWAY<br>COUNTY |
|   | NOT FOR CONSTRUCTION - INFORMATIONAL<br>00000 | 4 | BDS DWG NO.<br>00000   |  | 5 | CALC. BOOK<br>0000                     |  |   | 6  |
|   |   | 8 | DATE<br>MM/YYYY        |  |   |  |  |   | DESIGNER: Name<br>CADD Tech: Name  |
|   |   |   |                        |  |   |  |  |   | REVIEWER: Name<br>CHECKER: Name  |
|   |   |   |                        |  |   |  |  |   | PLAN AND ELEVATION   |
|   |   |   |                        |  |   |  |  |   | SHEET NO.<br>00000   |

- 1 Enter the structure name used for the Bridge Data System (BDS). See [Bridge Naming Rules](#)
- 2 Include when replacing an existing structure.  
For local agency structures show *Agency, structure name, no. XXXX*
- 3 Bridge Data System (BDS) structure number.
- 4 BDS drawing number.
- 5 Calculation book number provided by the Designer.
- 6 ODOT highway number, as applicable. Milepoint at the location of the structure as defined by the BDS naming rules or the applicable design manual.
- 7 County where the structure is located.
- 8 Month and year of applicable submittal.
- 9 The “Accompanied By Dwgs.” appears on the first sheet for each structure and lists the remaining sheets in the plans for that structure, sheets in other sections of the plans and standard drawings required for the structure. The “Not For Construction – Informational Dwgs.” appears on the first sheet for each structure when existing as-constructed plans are being referenced. These boxes may be located along side or above the title block but should be kept together when both are required.

## ◆ Detail Sheet

Figure 302-2 Example title block for the remaining sheets for a single structure plan.

|  |  |  |  |   |   |  |   |
|--|--|--|--|---|---|--|---|
| <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>1</b> </div> <p>For informational drawings, see sht. J01.<br/>For accompanied by drawings, see sht. J01</p> |  | <div style="border: 1px solid black; padding: 2px;">                 STRUCTURE NO.<br/>00000             </div>            |  |                            | OREGON DEPARTMENT OF TRANSPORTATION   |  |  |
|  |  | <div style="border: 1px solid black; padding: 2px;">                 BDS DWG NO.<br/>00000             </div>              |  |   | <div style="border: 1px solid black; padding: 2px;">                 STRUCTURE NAME<br/>PROJECT TITLE<br/>PROJECT TITLE<br/>HIGHWAY<br/>COUNTY             </div> |  |   |
| <div style="border: 1px solid black; padding: 2px;">                 CALC. BOOK<br/>0000             </div>  |  | <div style="border: 1px solid black; padding: 2px;">                 Designer: Name<br/>CADD Tech: Name             </div> |  |   | <div style="border: 1px solid black; padding: 2px;">                 Reviewer: Name<br/>Checker: Name             </div>  |  |   |
| <div style="border: 1px solid black; padding: 2px;">                 HWY: 000<br/>M.P.: 000.00-000.00             </div>   |  |  |  |   |   |  |   |
| <div style="border: 1px solid black; padding: 2px;">                 COUNTY<br/>County Name             </div>   |  |  |  |   |   |  |   |
| <div style="border: 1px solid black; padding: 2px;">                 DATE<br/>MM/YYYY             </div>   |  | RENEWS: MM-DD-YYYY   |  | <div style="border: 1px solid black; padding: 2px;">                 SHEET NO.<br/>00000             </div> |   |  |   |

IF THIS MEASURES 1 INCH THEN DRAWING IS TO SCALE



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- 1

Use these notes to refer to the first sheet for the structure (the sheet number callout may be different than shown). The “For informational drawings...” note applies to structures when existing plans are being referenced.

## ◆ Multiple Structures – Location and Index Sheet

Figure 302-3 Example title block for the layout and index sheet for a project with multiple structures.

|  |                               |   |  |                    |   |  |
|--|-------------------------------|---|--|--------------------|---|--|
| <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>2</b> </div>   | STRUCTURE NO.<br>See table    |  | OREGON DEPARTMENT OF TRANSPORTATION  |                    |  |  |
|  | BDS DWG NO.<br>00000          |   | <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>1</b> </div> | VARIOUS STRUCTURES |   |  |
|  | CALC. BOOK<br>0000            |   |  | PROJECT TITLE      |   |  |
|  | HWY: VARIOUS<br>M.P.: VARIOUS |   |  | PROJECT TITLE      |   |  |
| <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <b>3</b> </div>   | COUNTY<br>Various             |   | Designer: Name<br>CADD Tech: Name  |                    | Reviewer: Name<br>Checker: Name   |  |
| <div style="border: 1px solid black; padding: 2px; width: fit-content;">                 IF THIS MEASURES<br/>1 INCH<br/>THEN DRAWING IS TO SCALE             </div> | DATE<br>MM/YYYY               | RENEWS: MM-DD-YYYY  | STRUCTURE LOCATION AND INDEX   |                    | SHEET NO.<br>00000  |  |

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- 1



 When there are multiple structures that the sheet applies to, enter “Various Structures” in place of the structure name.
- 2

 Enter “See table”, referring to the table of structures.
- 3

 Enter “Various” for highway, milepoint and county as needed.

## ◆ Multiple Structures – Common Detail Sheet

Figure 302-4 Example title block for a common detail sheet for a project with multiple structures.

|   |  |   |  |  |  |   |
|---|--|---|--|--|--|---|
| <div style="border: 1px solid black; padding: 5px; width: fit-content;">2</div> ##### STRUCTURE NAME<br>##### STRUCTURE NAME<br>##### STRUCTURE NAME<br>##### STRUCTURE NAME<br>##### STRUCTURE NAME<br>For informational drawings, see sht. J01.<br>For accompanied by drawings, see sht. J01. |  | <div style="border: 1px solid black; padding: 5px; width: fit-content;">3</div> STRUCTURE NO.<br>See above<br>BDS DWG NO.<br>00000<br>CALC. BOOK<br>0000<br>HWY: VARIOUS<br>M.P.: VARIOUS<br>COUNTY<br>Various<br>DATE<br>MM/YYYY<br>RENEWS: MM-DD-YYYY |  | <div style="border: 1px solid black; padding: 5px; width: fit-content;">1</div> OREGON DEPARTMENT<br>OF TRANSPORTATION<br>VARIOUS STRUCTURES<br>PROJECT TITLE<br>PROJECT TITLE<br>PROJECT TITLE<br>HIGHWAY<br>COUNTY |  |  |
|   |  |   |  |  |  |   |
| <div style="border: 1px solid black; padding: 5px; width: fit-content;">4</div> IF THIS MEASURES<br>1 INCH<br>THEN DRAWING IS TO SCALE  |  |    |  | GIRDER DETAILS   |  | SHEET NO.<br>00000  |

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- 1 When there are multiple structures that the sheet applies to, enter “Various Structures” in place of the structure name.
- 2 If the sheet applies to multiple structures, list the numbers and names of the applicable structures.
- 3 For multiple structures, enter “See Above” and list the applicable structures above the title block or “See Left” and list the structures left of the title block. If the project identifies the structure by a letter or number, add the appropriate designation in parenthesis after the structure name.
- 4 Enter “Various” for highway, milepoint and county, as required.

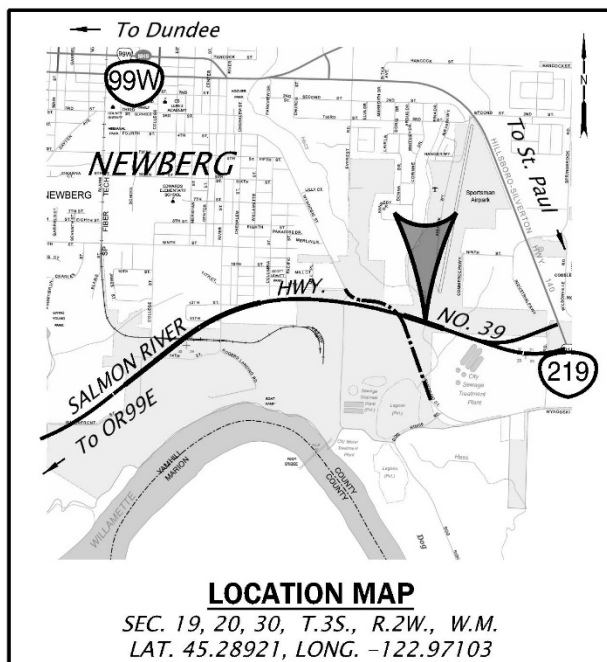
## Section 303 Location Map

A location map is required and should be in the upper right or lower left of the Plan or Plan and Elevation sheet. The map may be a raster image or a CAD map. Often the text in the map is too small, so text must be added for the highway, city name and other pertinent data must be added. The location marker symbol is placed to mark the location of the structure.

The GIS “[Project Vicinity Mapping Application](#)” may be used to create a mapping image. For larger rural areas, the “Topographic” base map seems to work best. For smaller urban areas, try the “ODOT Streets” base map.

### 303.1 Single Structure

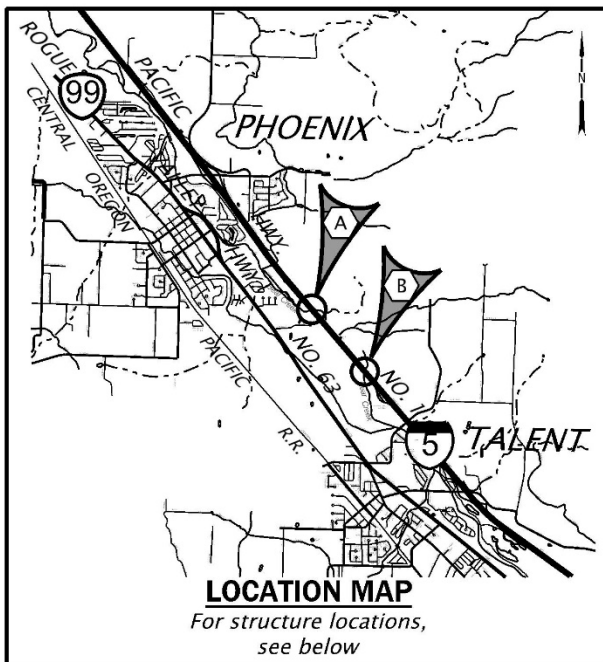
Figure 303-1 Example location map for a single structure plan.



## 303.2 Two Structures on a Single Plan Sheet

More than two structures require a layout and index sheet.

Figure 303-2 Example location map for two twin structures (shown) or up to four single structures plan



- SEC. 19, 20, 30, T.35., R.2W., W.M.
- A** LAT. 45.26589, LONG. -122.79867 (str. no. 12345) &  
LAT. 45.26594, LONG. -122.79822 (str. no. 12346)
- B** LAT. 42.25876, LONG. -122.79006 (str. no. 22345) &  
LAT. 45.25901, LONG. -122.78988 (str. no. 22346)



## Part 400 3D Modeling

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## Section 401 Introduction

ODOT Bridge Section is working to develop protocols for developing 3D models of various structures. OpenBridge Modeler (OBM) in coordination with OpenRoads Designer (ORD) is the software used for modeling bridges. MicroStation Connect Edition (MSCE) is also used for components.

## Section 402 Open Bridge Modeler (OBM)

### 402.1 OBM Files

The OBM file is a “design” type file created by or under the direction of the Bridge designer, using the OBM seed file and stored in the project *Structures* folder in ProjectWise. A .pub container file which references the 3D model in the *Structures* folder is created in the *6\_Civil\_Data* folder to make it accessible to other disciplines.

### 402.2 Alignments

OBM requires a horizontal and vertical roadway alignment. This alignment is typically provided by the Roadway designer using OpenRoads Designer (ORD) in coordination with the Bridge designer. Because OBM links the bridge model to the alignment, changes to the alignment will affect the bridge model. The ORD vertical alignment that is used by the bridge model must be set to “active”. If there are no Roadway plans for the project or the model must be created prior to the creation of an ORD alignment, OBM can be used to create a temporary roadway alignment.

### 402.3 Templates

Templates are created and stored in a template library and are used by OBM to extrude or place 3D components. A variety of standard templates have been created and are available in the ODOT template library. Since changes to the templates will affect the model, create a folder in the OBM template library for all templates used for the project. In the project template folder, rename any standard templates used. Name templates for the project using this format: *template name-structure#*.

27 402.4 Process Overview

28 Pending

## **Part 500 Plan Sheets**

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## Section 501 Bridge Maintenance Project Plans

Plans for bridge maintenance projects follow the basic standards for CAD drawings and Bridge Data System images. The amount of detail will vary depending on the project scope. For example, overlay and bridge joint projects can provide all the necessary information on a single sheet per bridge. Structural repair projects will typically require much more detail and several detail sheets.

## Section 502 Bridge Bent Labels and Numbering

For all structures, add the label “(BIR Bent 1)” to the first bent label by *milepoint* (e.g. Bent 1 (BIR Bent 1). If the project stations are in the opposite direction of the milepoints, additional “BIR” numbers, increasing by milepoint, may be added. In non-standard situations, identify with “(BIR Bent 1)” the bent that is called Bent 1 in the Bridge Inspection Report. (“BIR”= Bridge Inspection Report)

For new structures, all supports are designated as a “Bent” and are numbered in the direction of project stationing. Add the BIR number per the direction above.

For existing structures on projects with a roadway alignment, bents are numbered in the direction of project stationing. Add the bent designations from the existing plans in parenthesis to each bent and add the BIR number per the direction above. Add the appropriate bent numbering note from the Bridge cell library.

For existing structures on projects with no roadway alignment, use the bent designations from the existing plans and add the BIR number per the direction above. Add the appropriate bent numbering note from the Bridge cell library.

The structure *plan* views will be shown with project stationing increasing from left to right on the sheet. Circumstances may result in the elevation view stations increasing in the opposite direction of the plan view, see Section 505.

## Section 503 Type, Size and Location (TS&L)

The Type, Size and Location (TS&L) sheets illustrate the footprint and concept of the design of a structure (including alternates as needed) and is usually provided prior to the Design Approved Plans (DAP) milestone. For a more detailed explanation and the required drawings (additional drawings may be needed), see the Bridge Design Manual (BDM), Section 2 - Processes and Roles.

Figure 503-1 TS&L Plan and Elevation

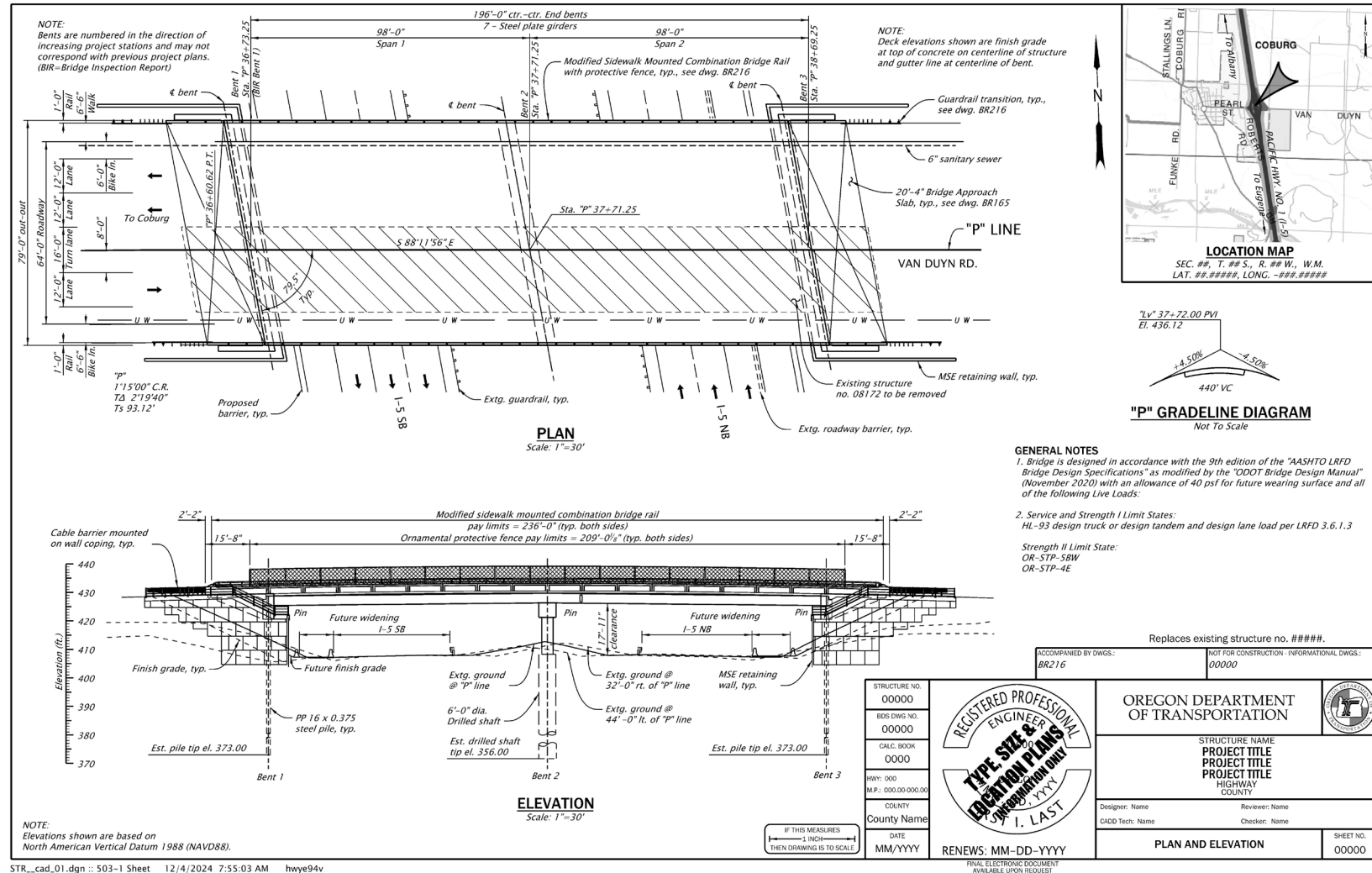


Figure 503-2 TS&L Stage Construction

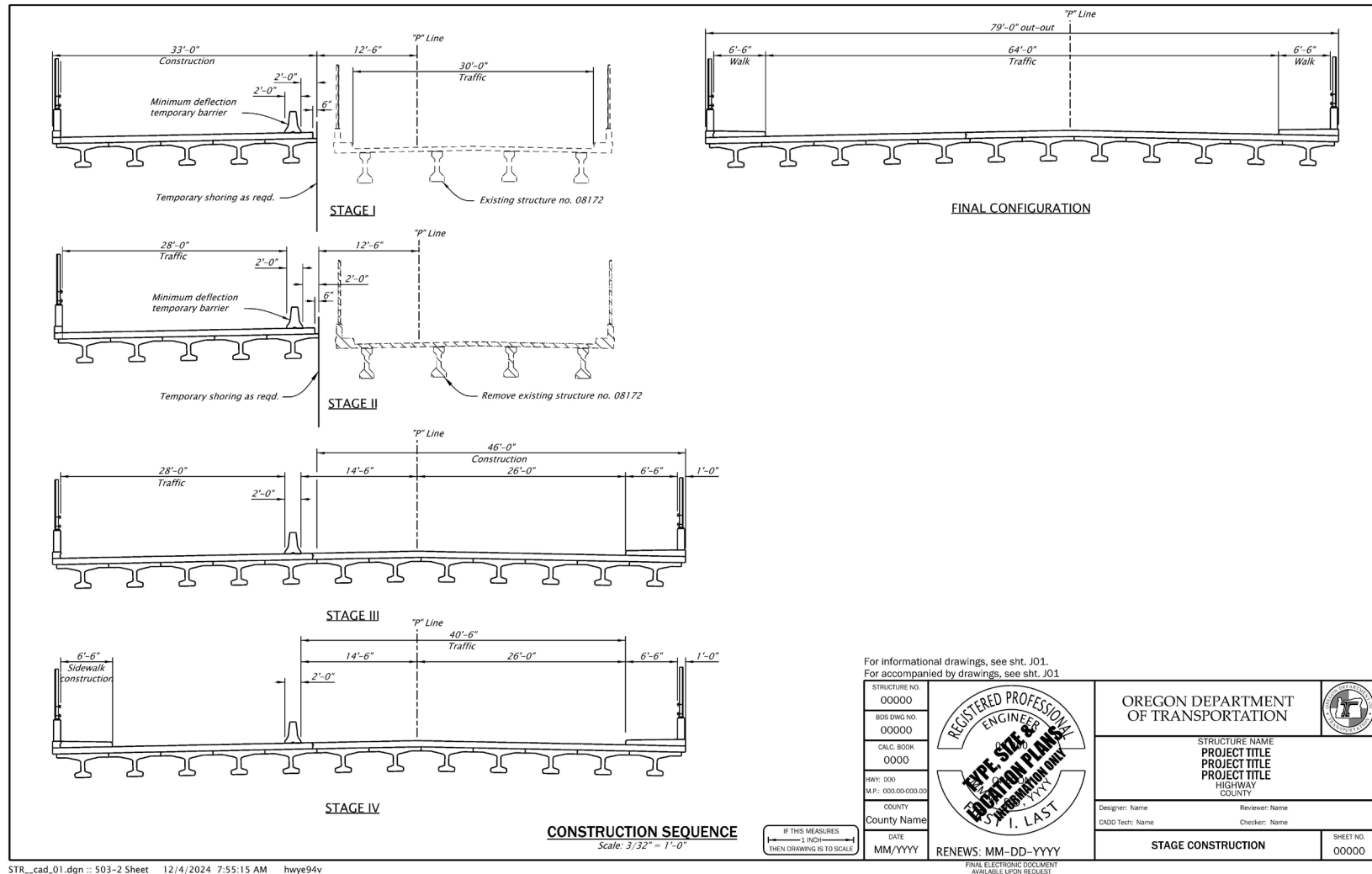
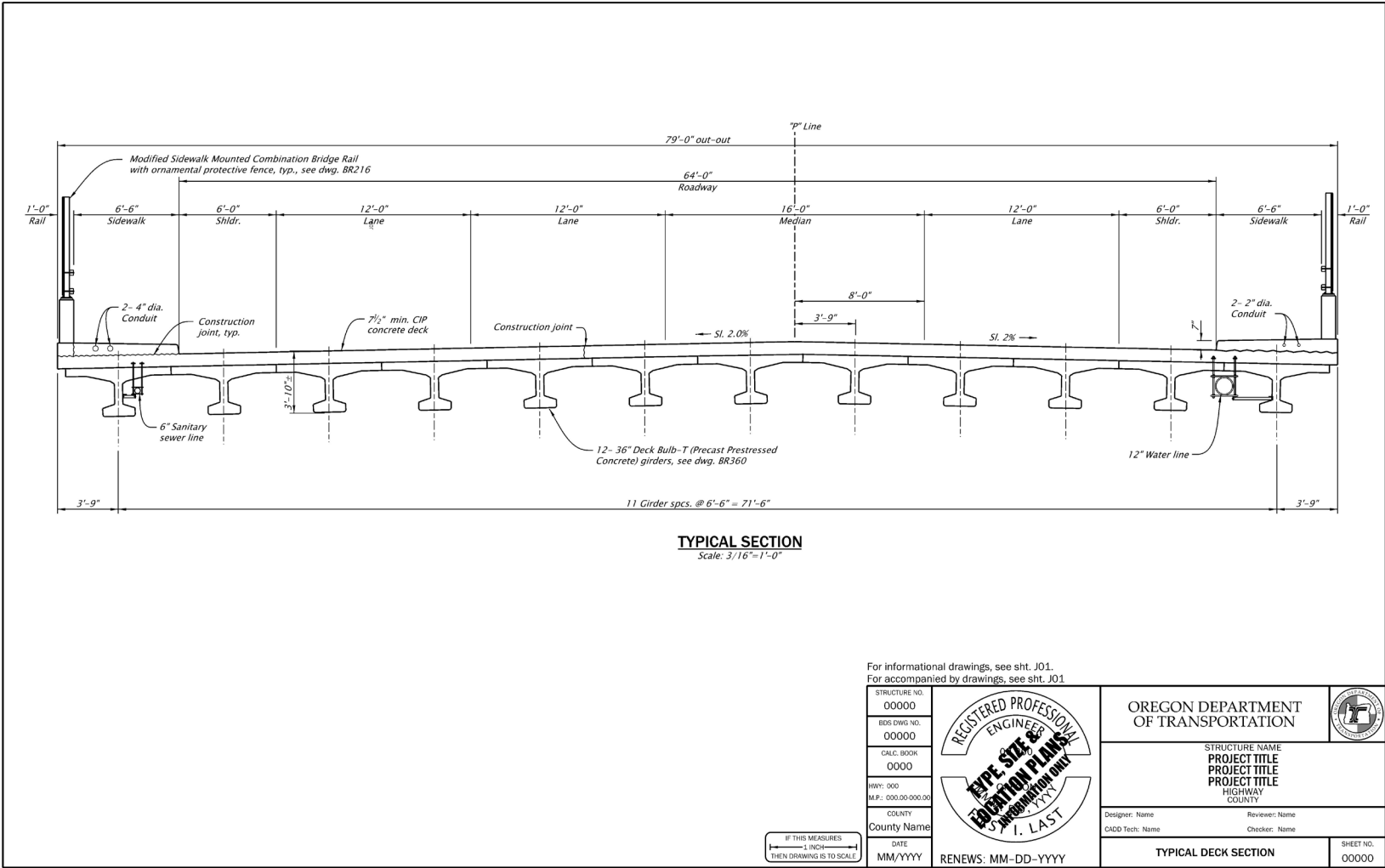




Figure 503-3 TS&L Typical Deck Section



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## Section 504 Structure Index

A structure index is provided when there are multiple structures under the same contract. On this sheet, a map showing the locations of the structures and a table including the structure numbers with their corresponding sheet and drawing numbers followed by the standard drawings needed for the project (See OCM for sheet numbering).

Figure 504-1 Structure Index

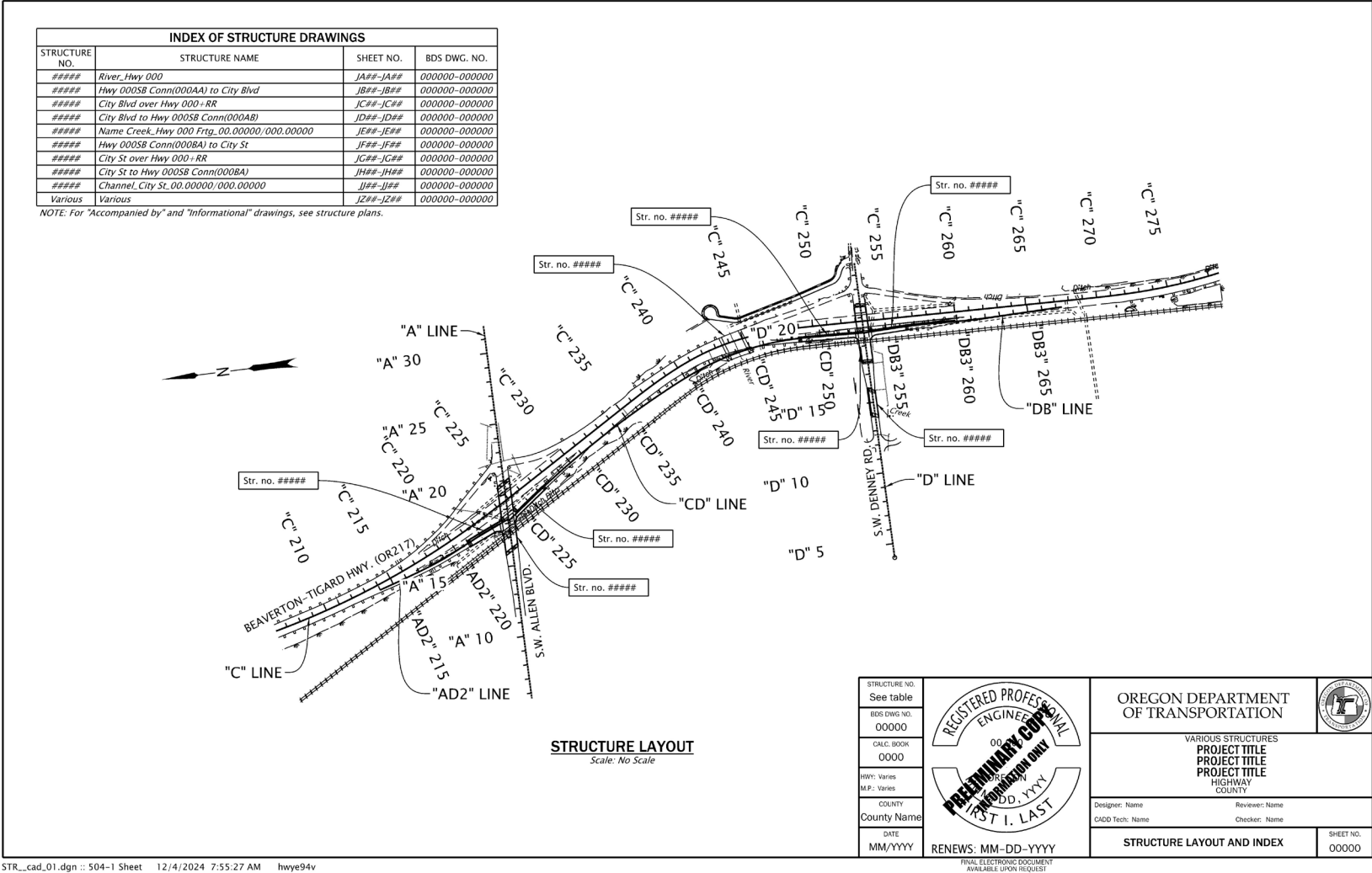
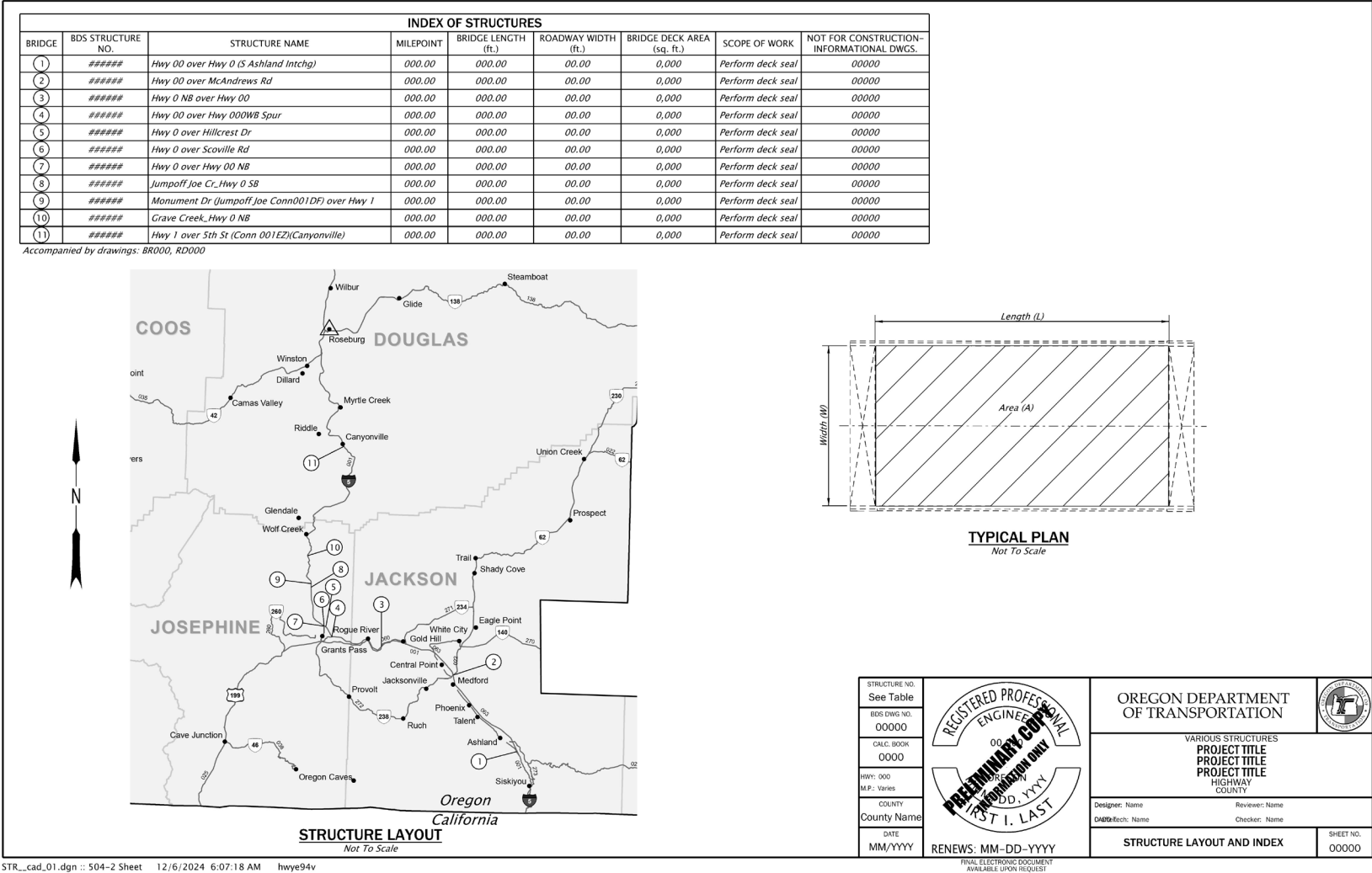


Figure 504-2 Structure Index with Representative Plan



## Section 505 Plan and Elevation

The plan drawing is a view from above with stationing increasing from left to right on the sheet. Milepoints are used if the project is using milepoints in place of stationing. The plan view is paired with an elevation drawing on the same sheet. The elevation drawing is shown as a view of the right side, when facing in the direction of increasing stations of the structure and is placed below the plan view.

For projects not requiring an elevation view, such as paving and joint repair, the plan view and details are sufficient.

Make the plan and elevation as large as possible, leaving room for the location map in the upper right or lower left corner. If the drawing is still too small, it should be simplified and used as an overview, then add sheets of one or two spans per sheet to show the detail required for the plan and elevation drawings.

If the structure is a retaining wall, half viaduct or other structure where the right side is not visible or the project work is only being done on the left side, then the left side is shown as a "View A-A" and placed above the plan view. Extra annotation and notes are added to clarify that the drawing is shown from the opposite side.

Show the superstructure type on the "out to out" measurement for the bridge on the Plan and Elevation view only. All other notes and dimensions will use "girder" for longitudinal and "beam" for transverse components.

Figure 505-1 Structure Plan and Elevation

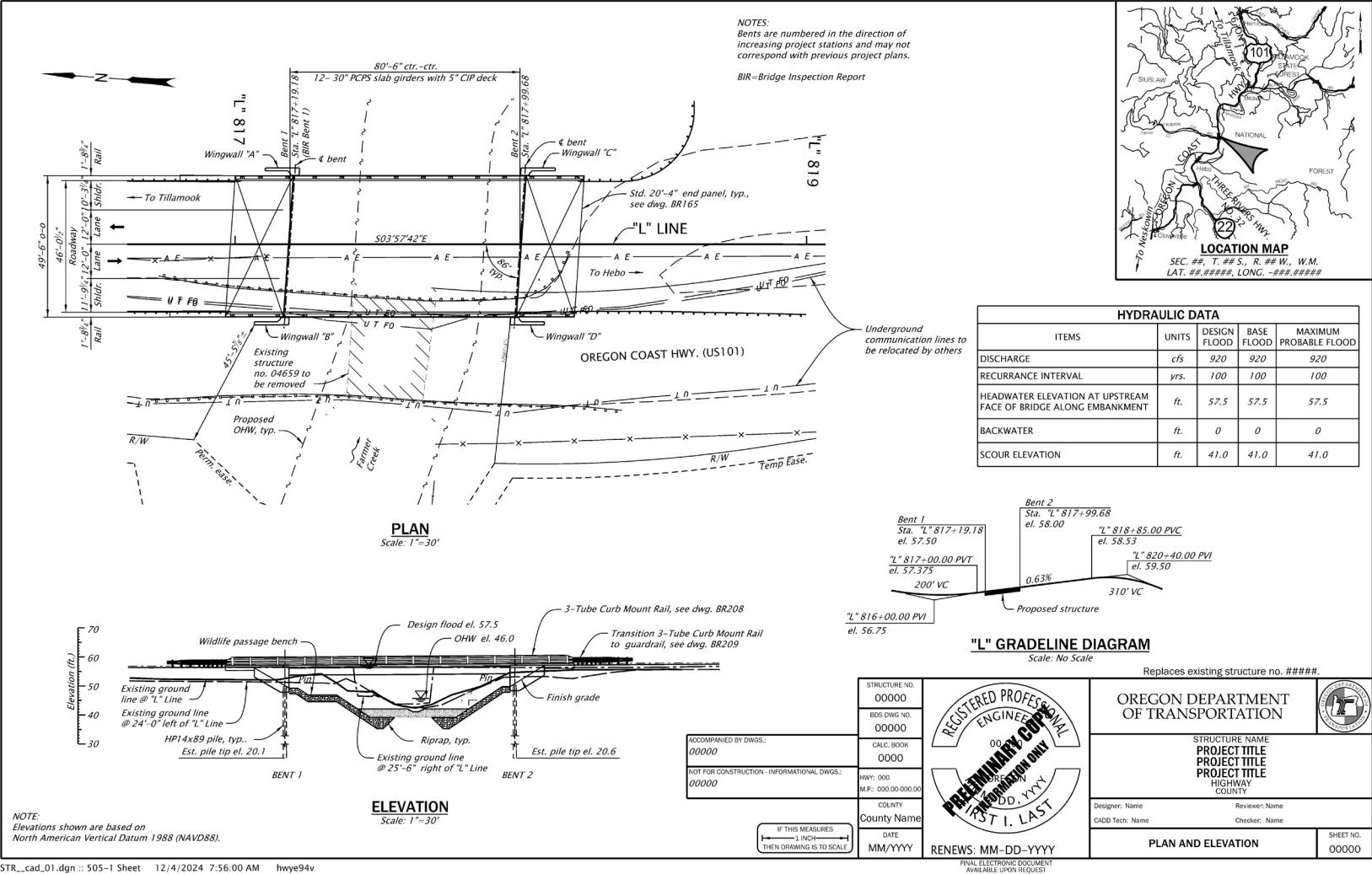


Figure 505-2 Twin Structures Separate Plans

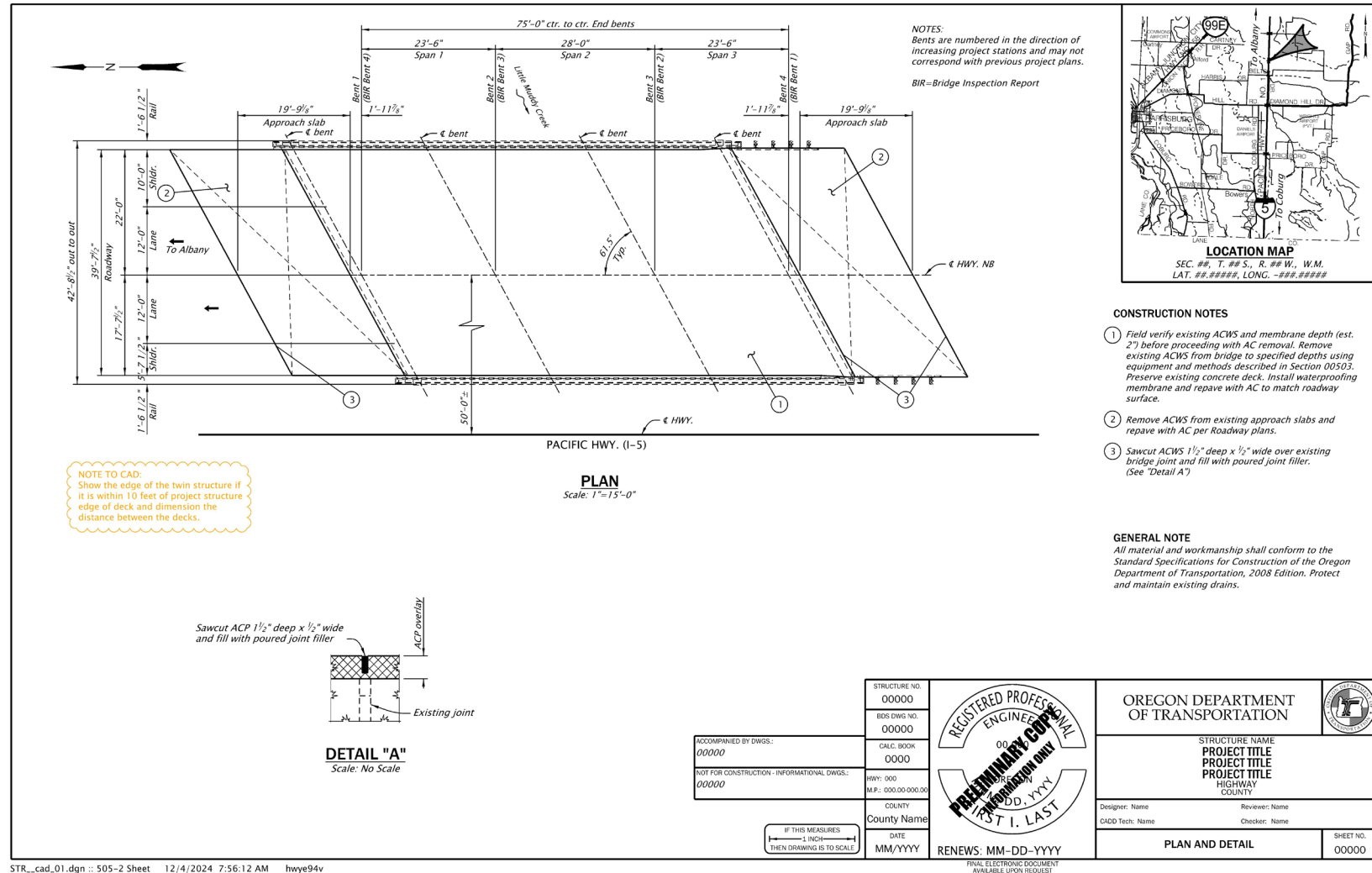
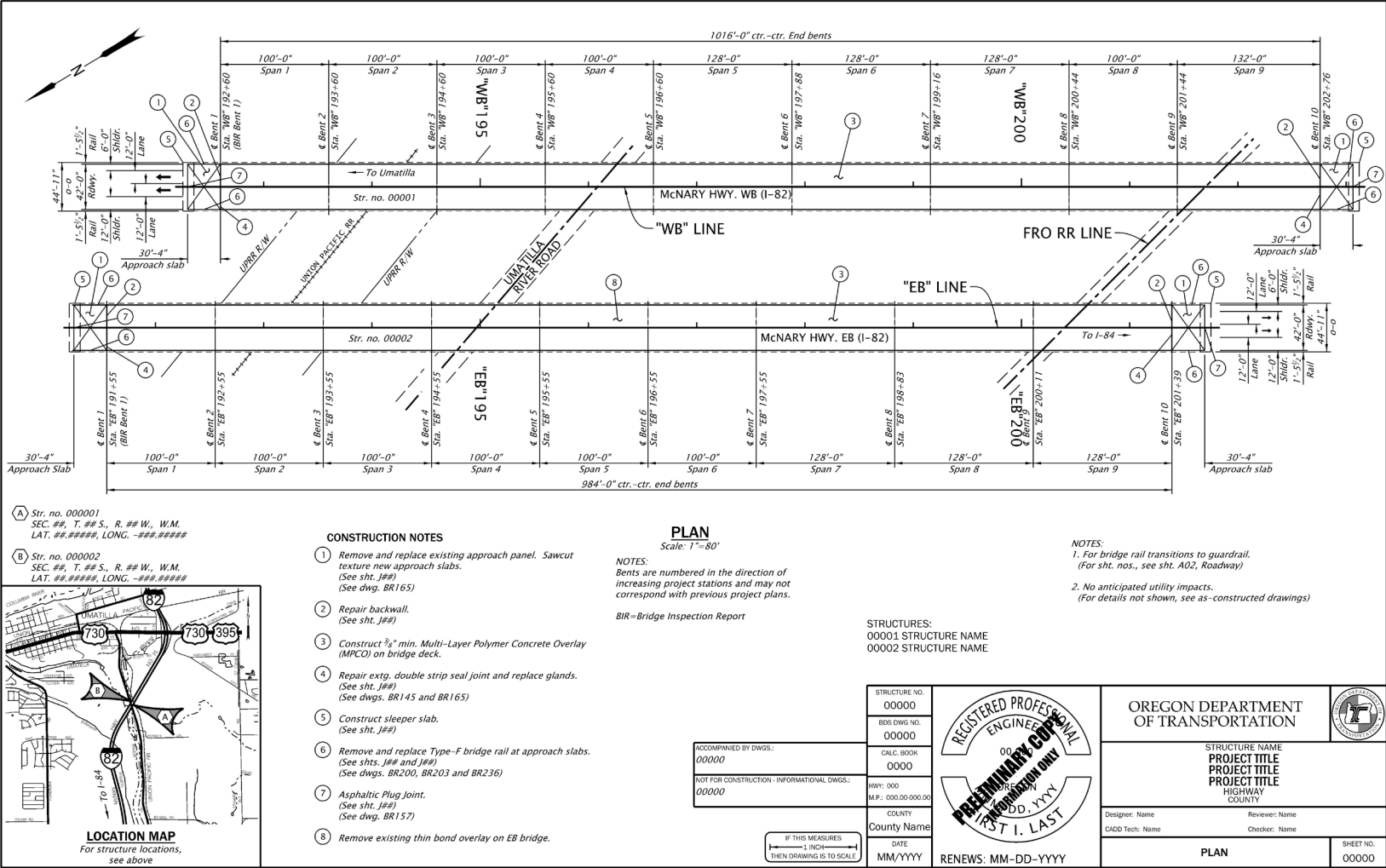




Figure 505-3 Twin Structures Combined Plan



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Figure 505-4 Plan and Developed Elevation

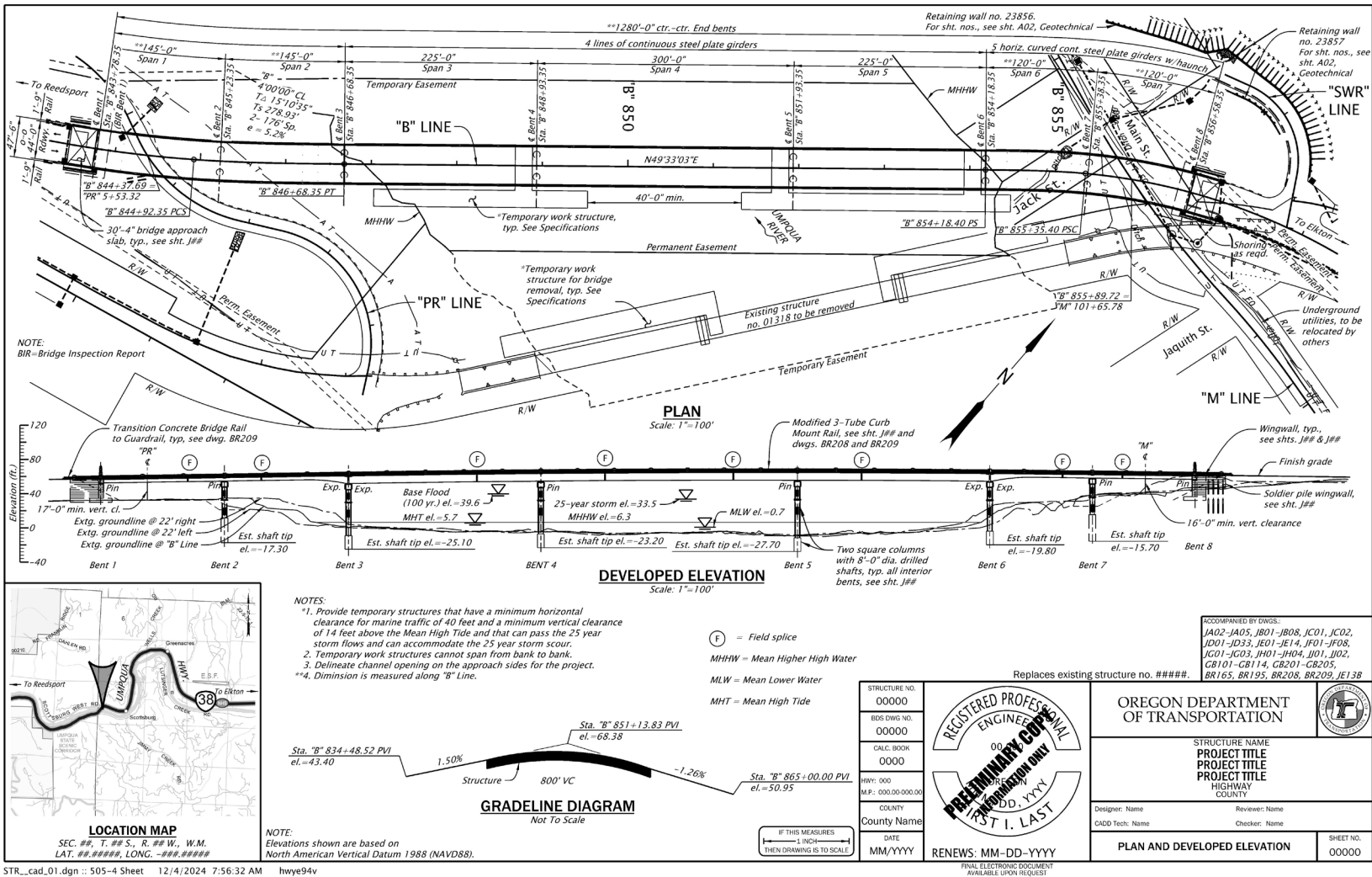


Figure 505-5 Plan and View A-A (Elevation)

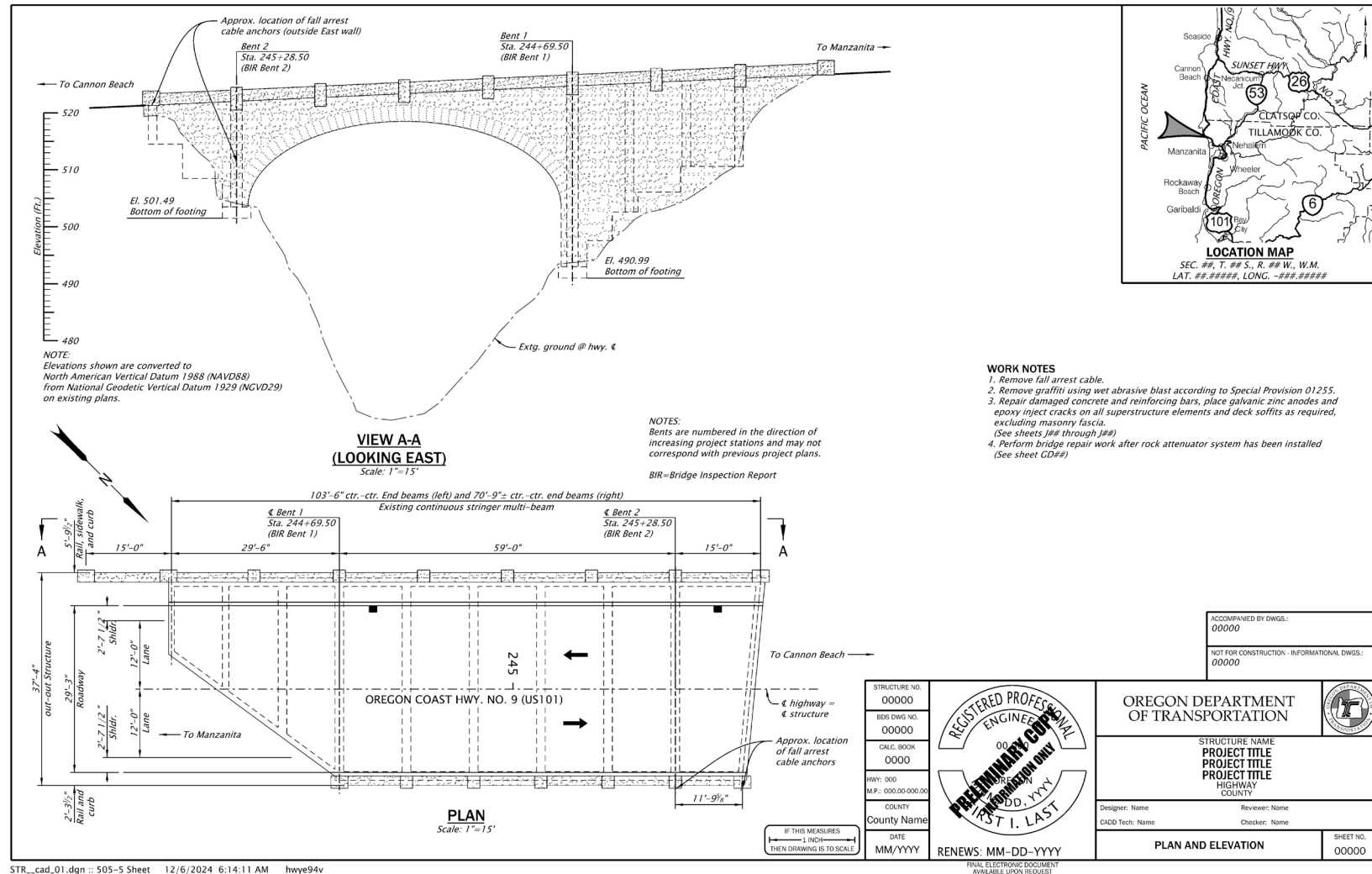
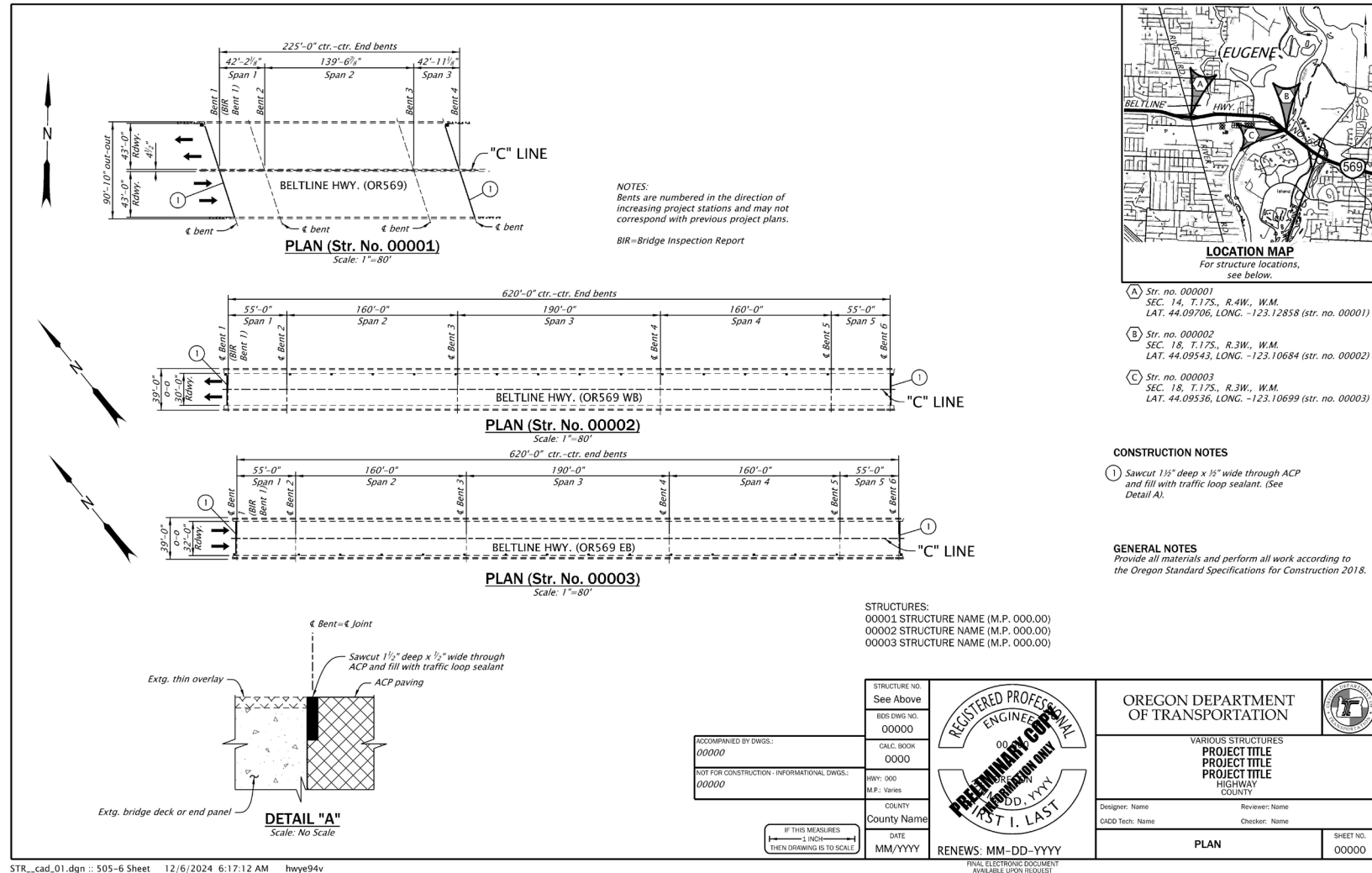


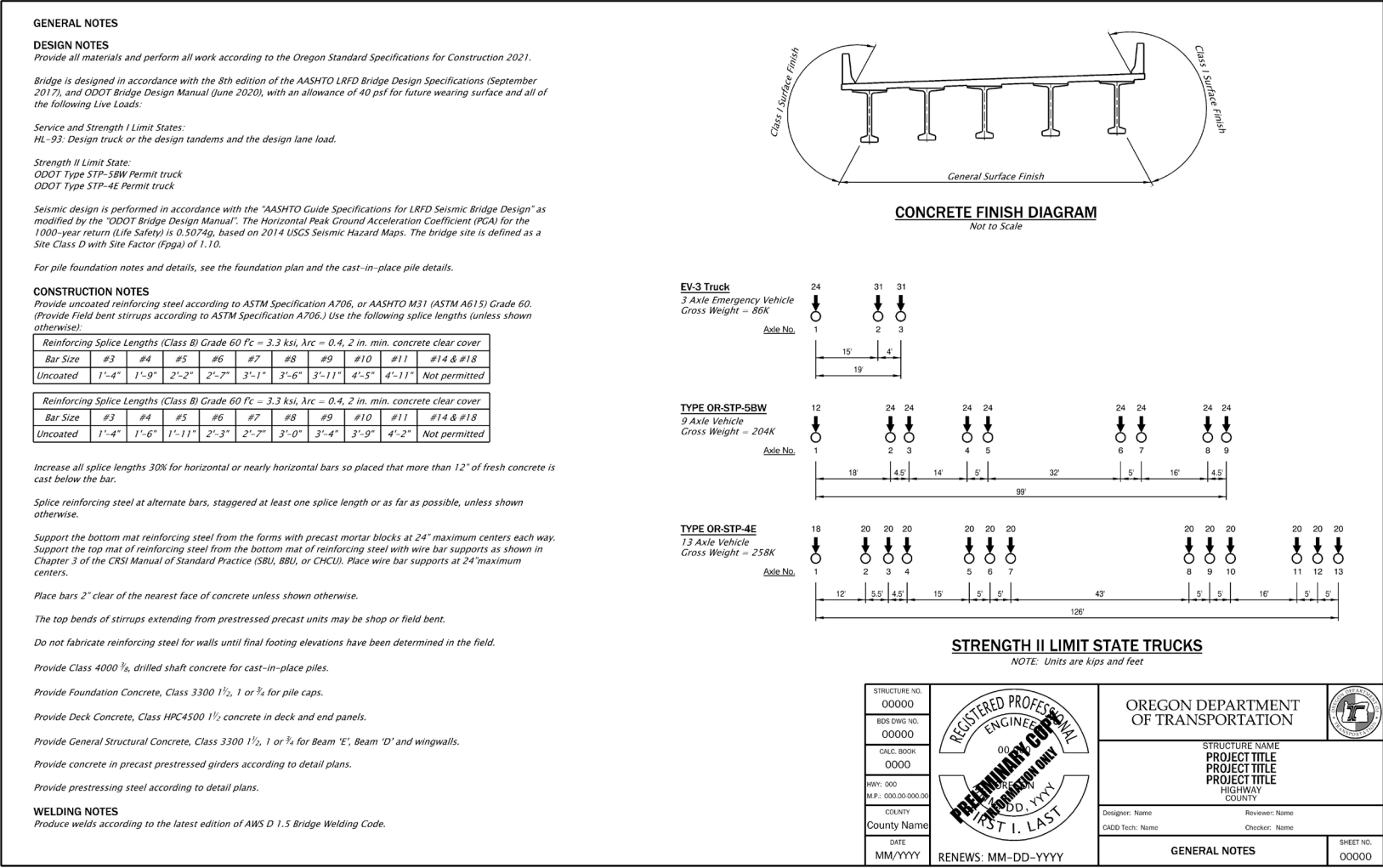
Figure 505-6 Plan with Multiple Structures



## Section 506 General Notes

The General Notes are typically provided by the designer. A separate General Notes sheet is needed when the notes won't fit on the Plan and Elevation sheet. If there is a General Notes sheet, there may also be room for some diagrams or small details, such as the Bridge Identification Marker information, excavation/backfill, superelevation, concrete finish diagram or similar general detail. A template of the General Notes is available as part of the Bridge Design Manual online.

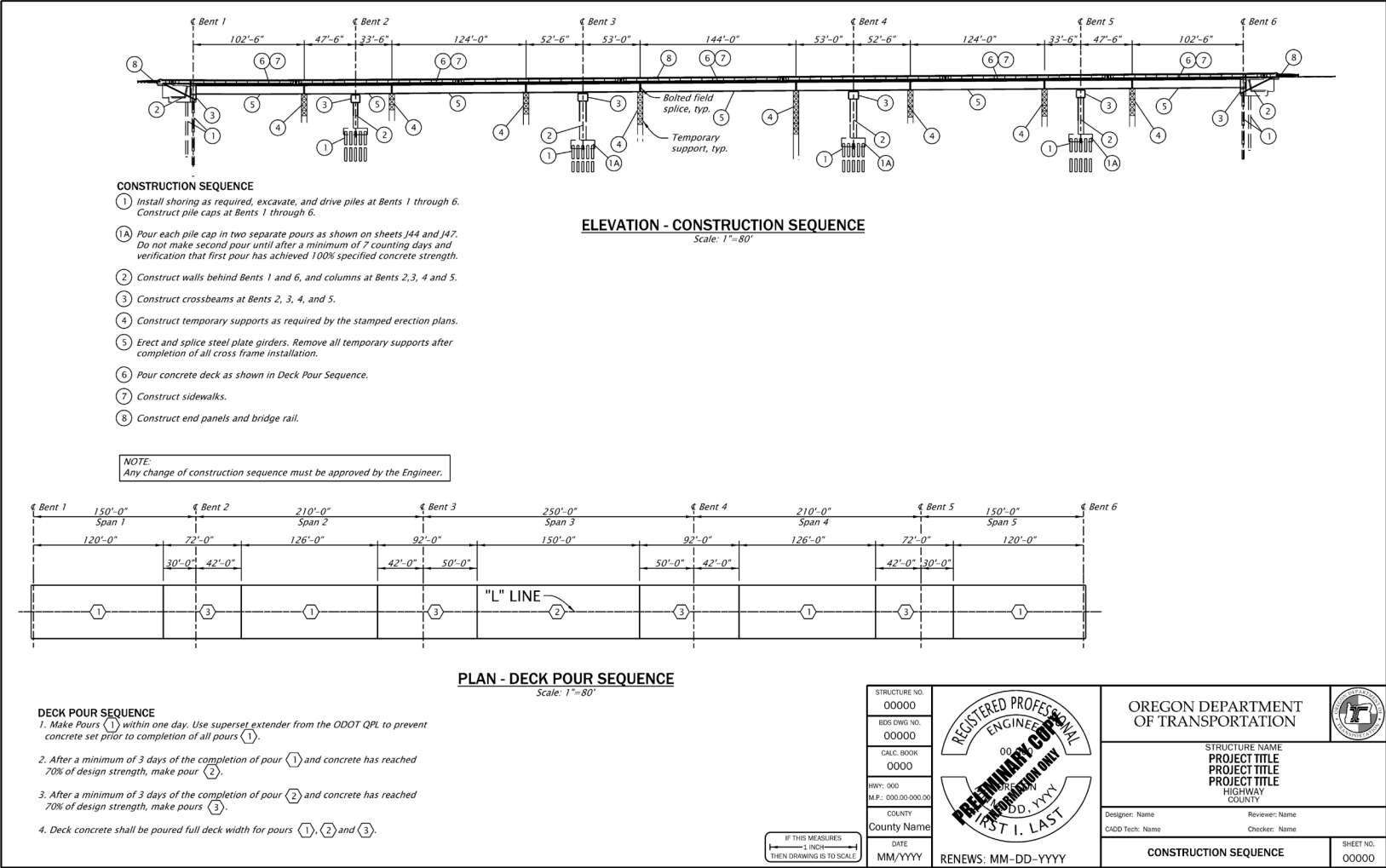
Figure 506-1 General Notes





## Section 507 Construction Sequence

Figure 507-1 Construction Sequence



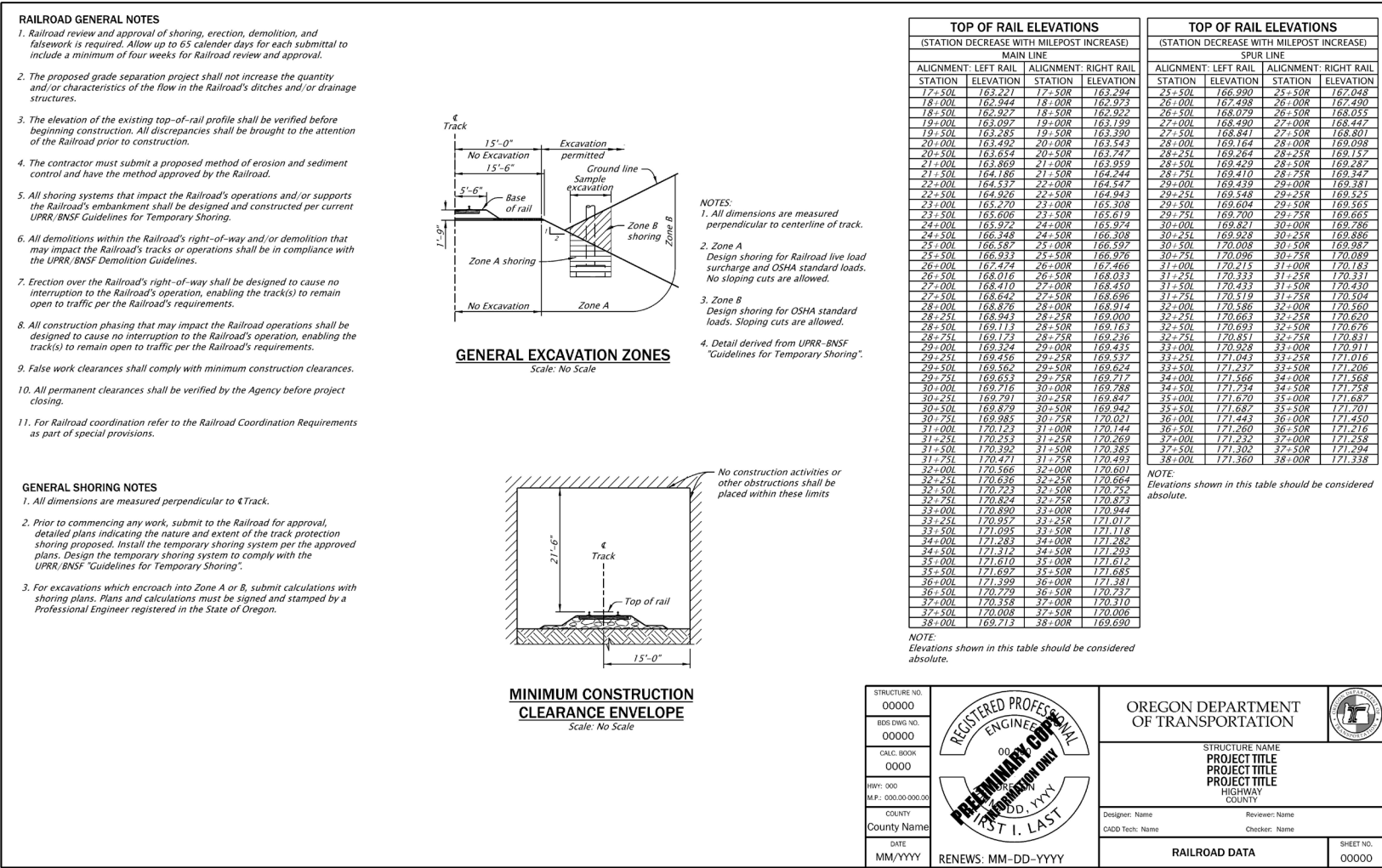
STR\_cad\_01.dgn :: 507-1 Sheet 12/4/2024 7:57:56 AM hwy94v



## Section 508 Railroad Data

The railroad data sheet can vary from the example. The designer will get the data from the railroad in coordination with the ODOT State Utility and Rail Liaison.

Figure 508-1 Railroad Data



## **Section 509 Stage Construction**

Stage construction may be shown in cross section or plan view or both, as required.



Figure 509-2 Stage Construction Sections

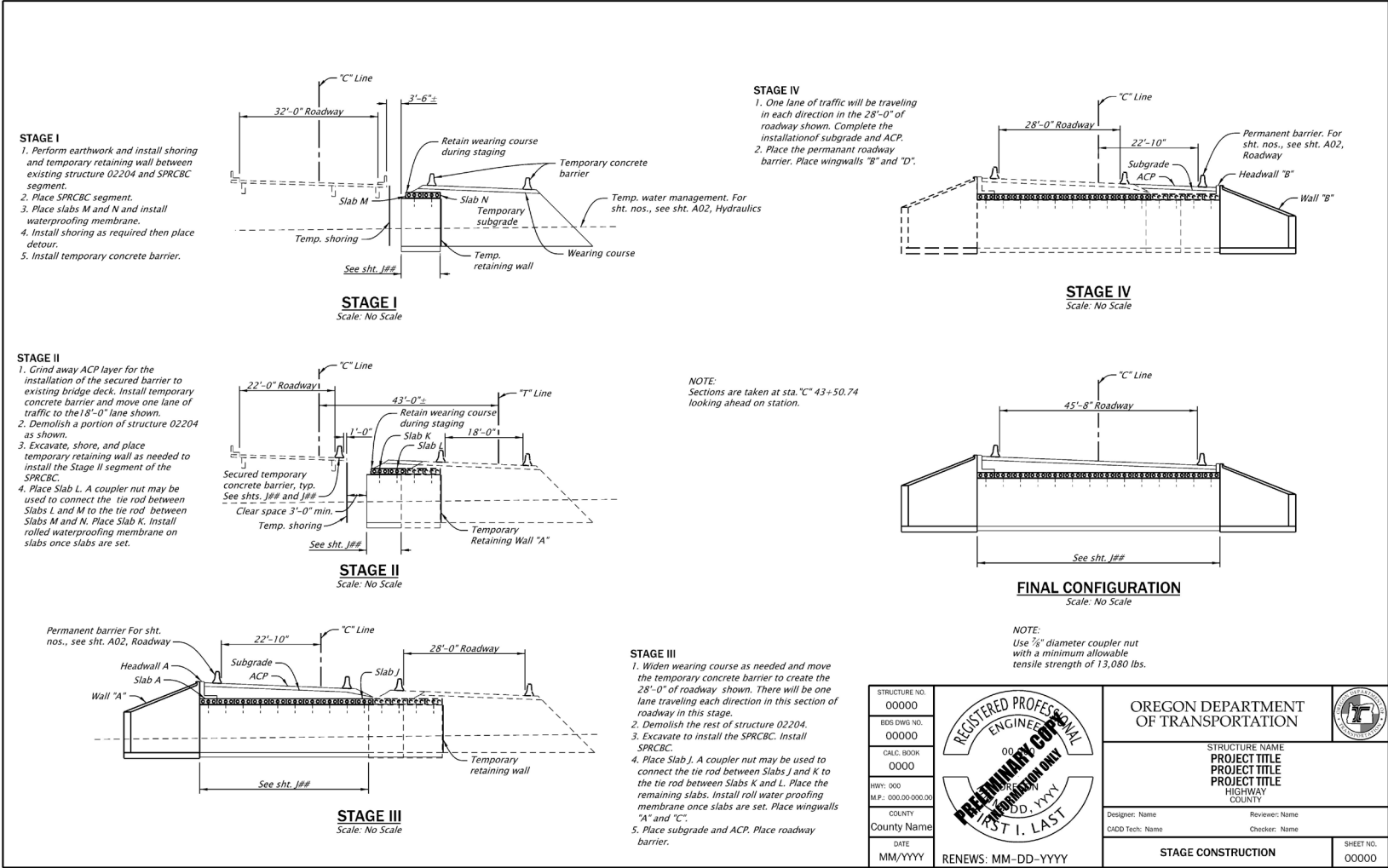
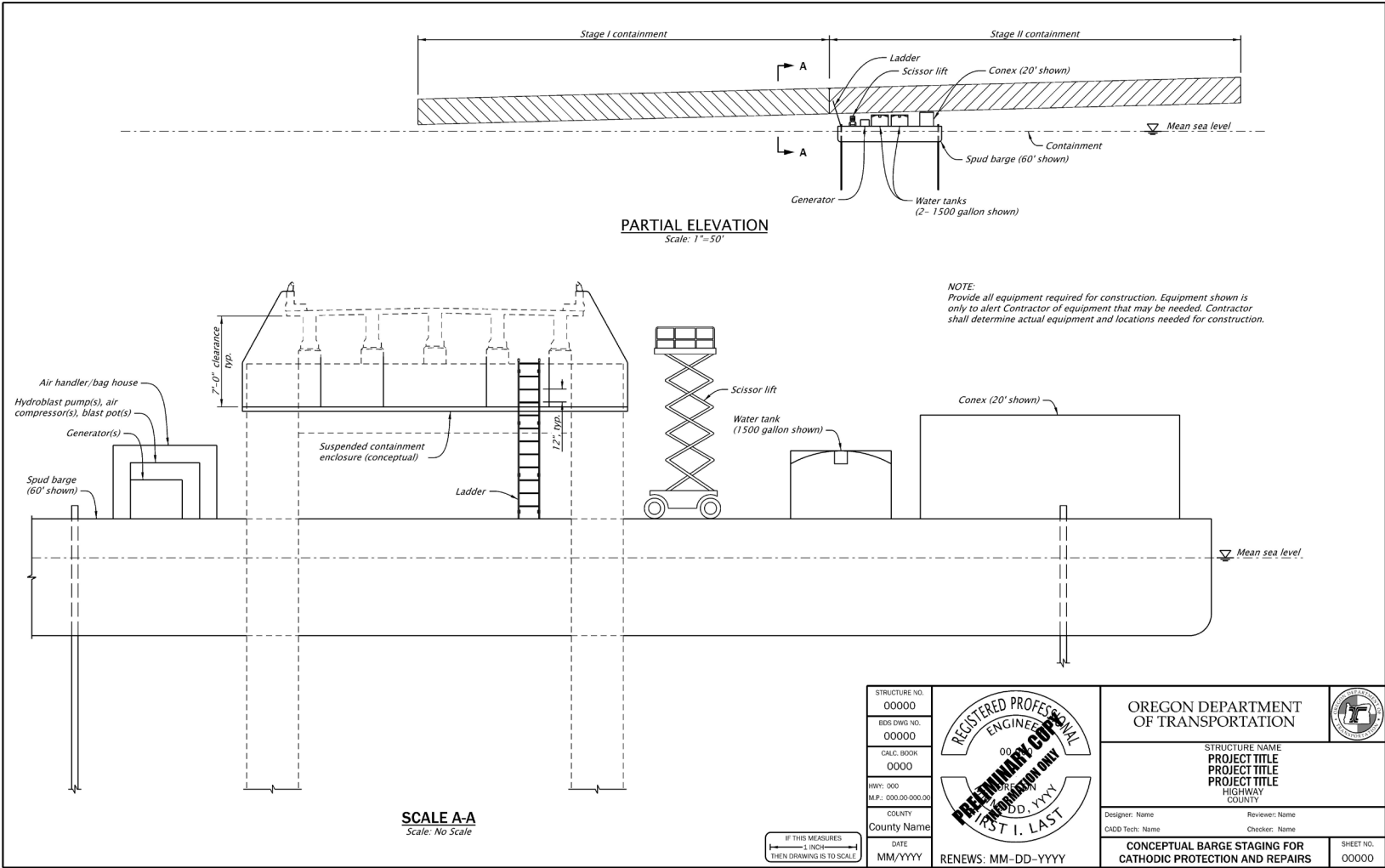


Figure 509-3 Stage Construction Preservation Plan Details



## **Section 510 Foundation**

Figure 510-1 Foundation Plan with Piles

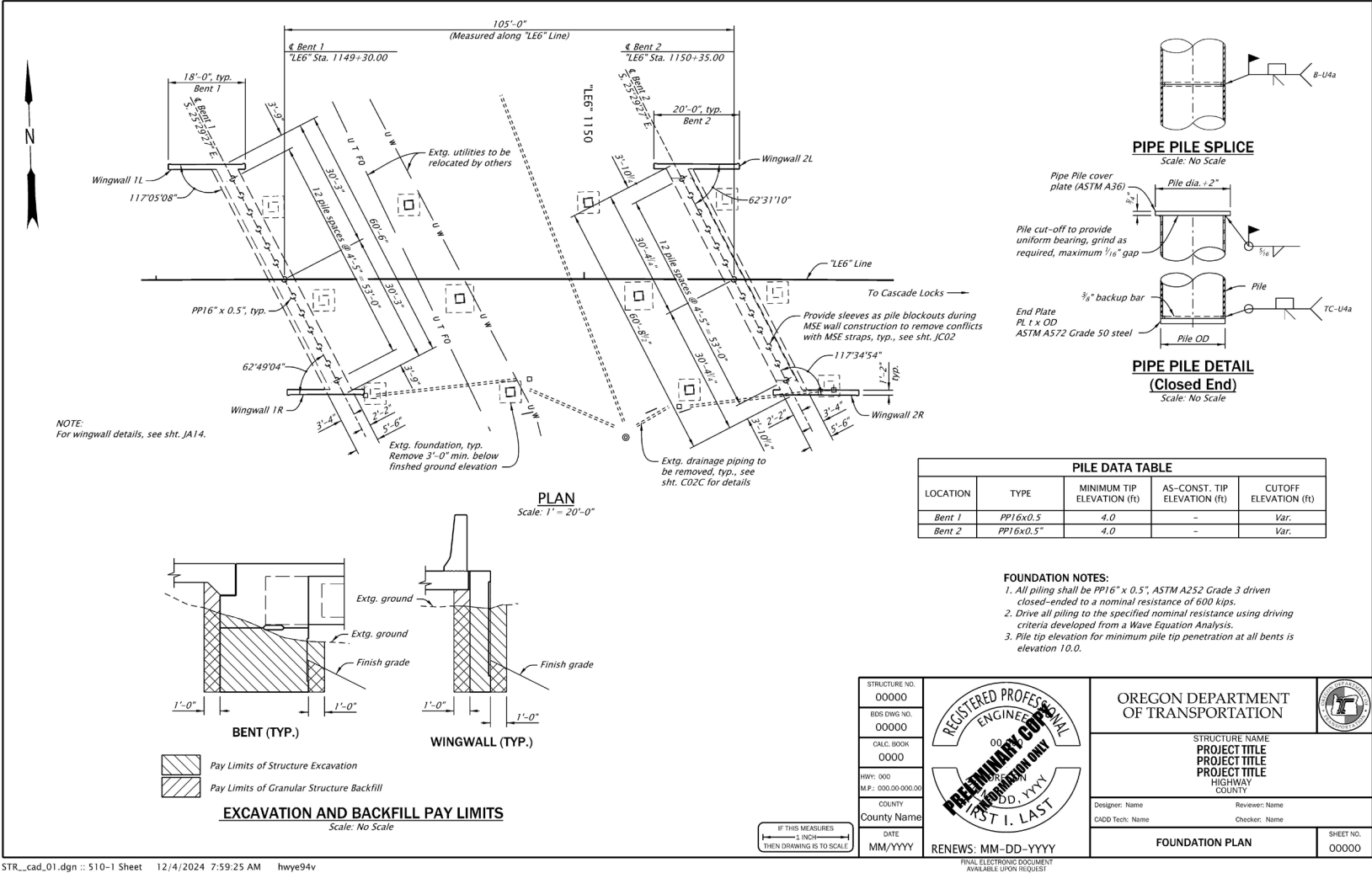
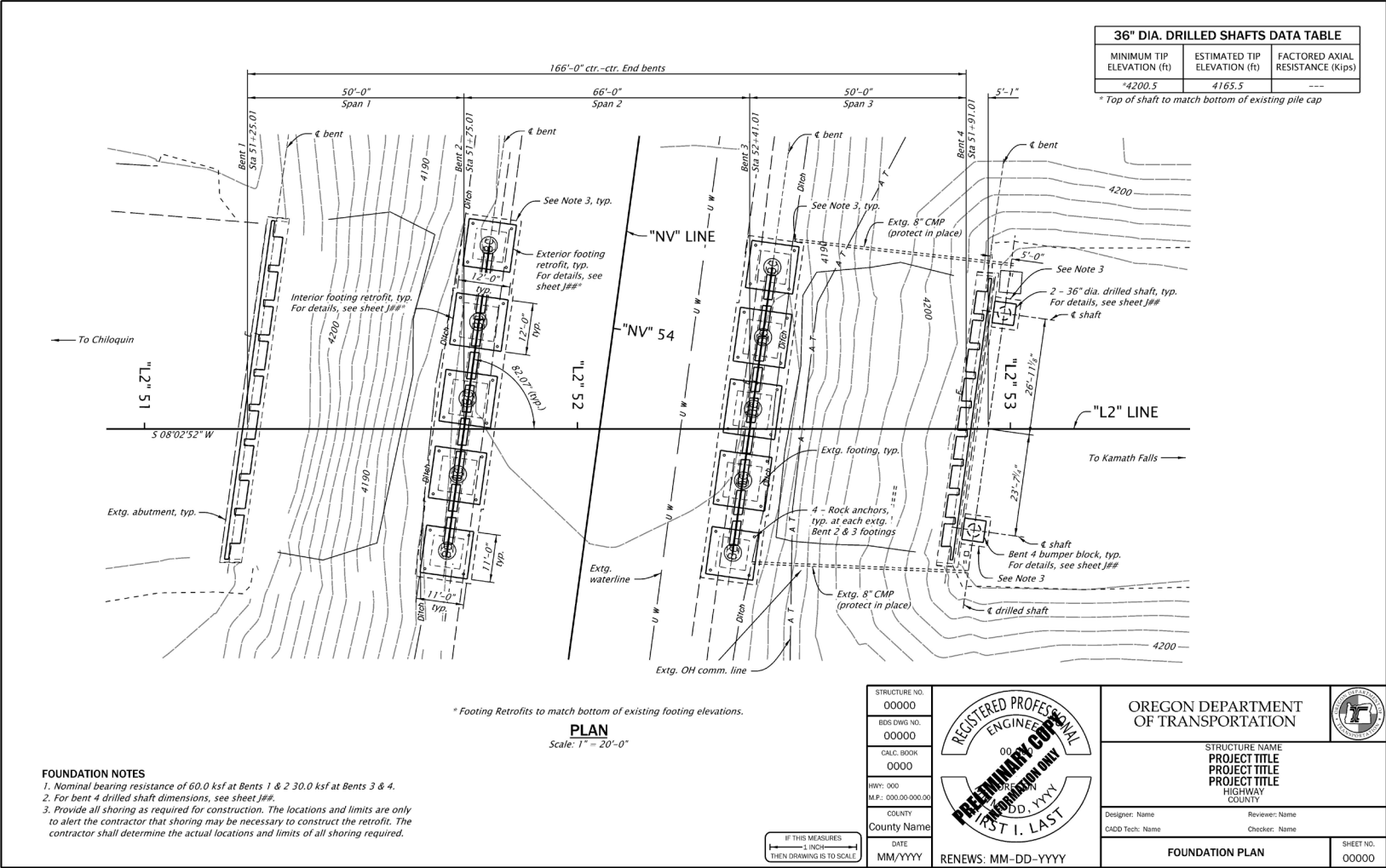




Figure 510-2 Foundation Plan with Footings



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Figure 510-3 Foundation Details - Spread Footing

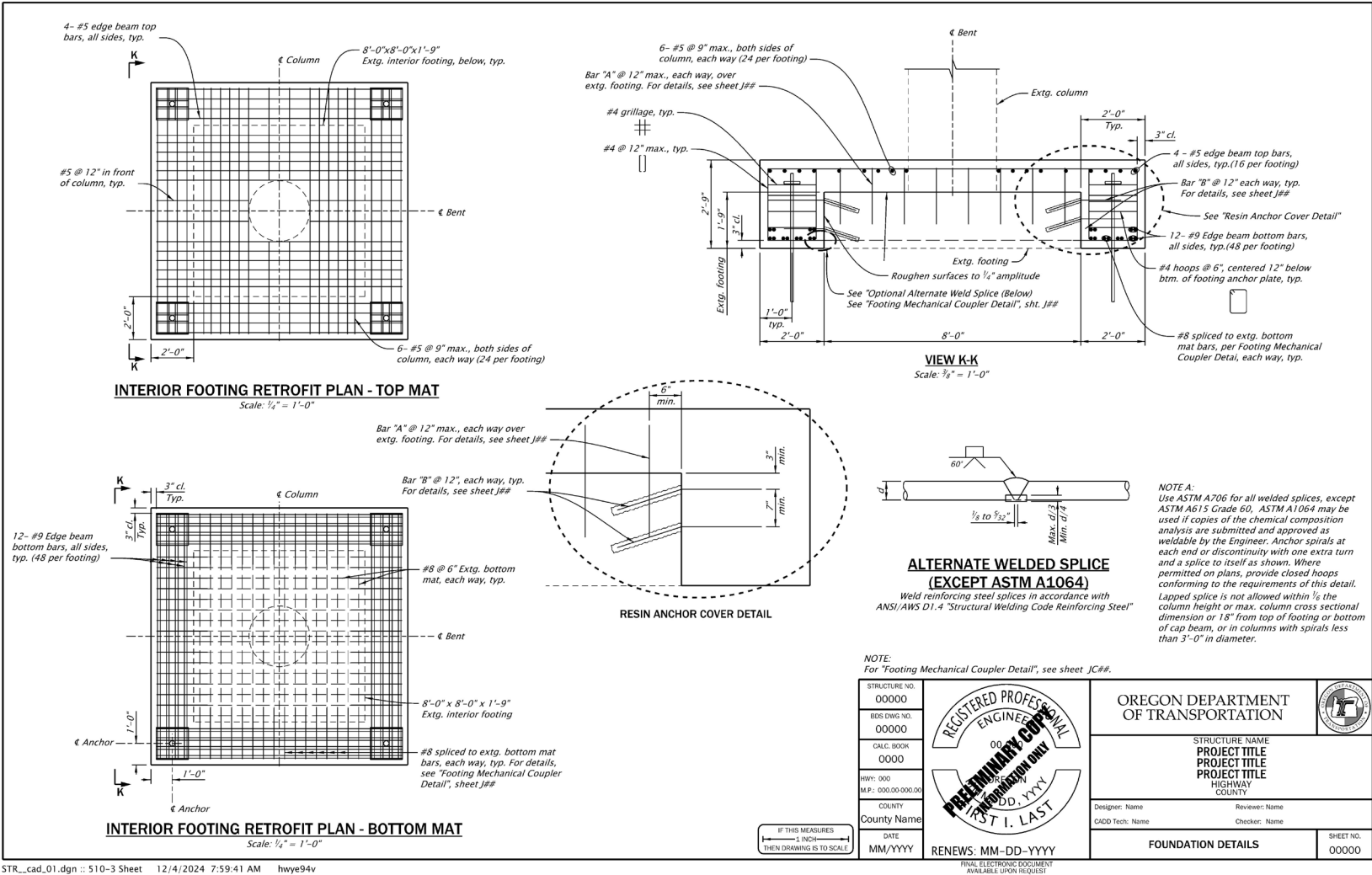


Figure 510-4 Foundation Plan with Drilled Shafts - 1

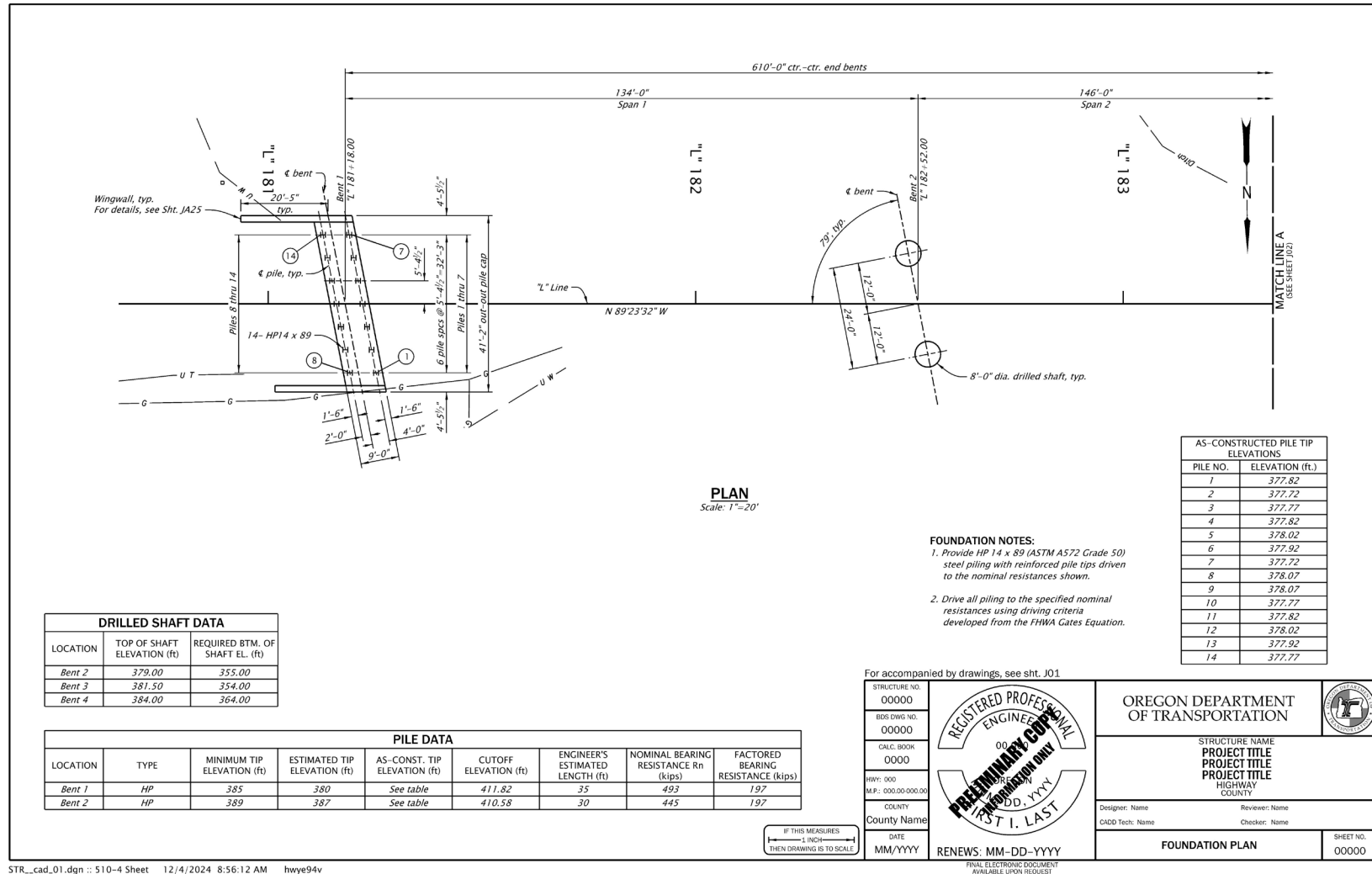


Figure 510-5 Foundation Plan with Drilled Shafts - 2

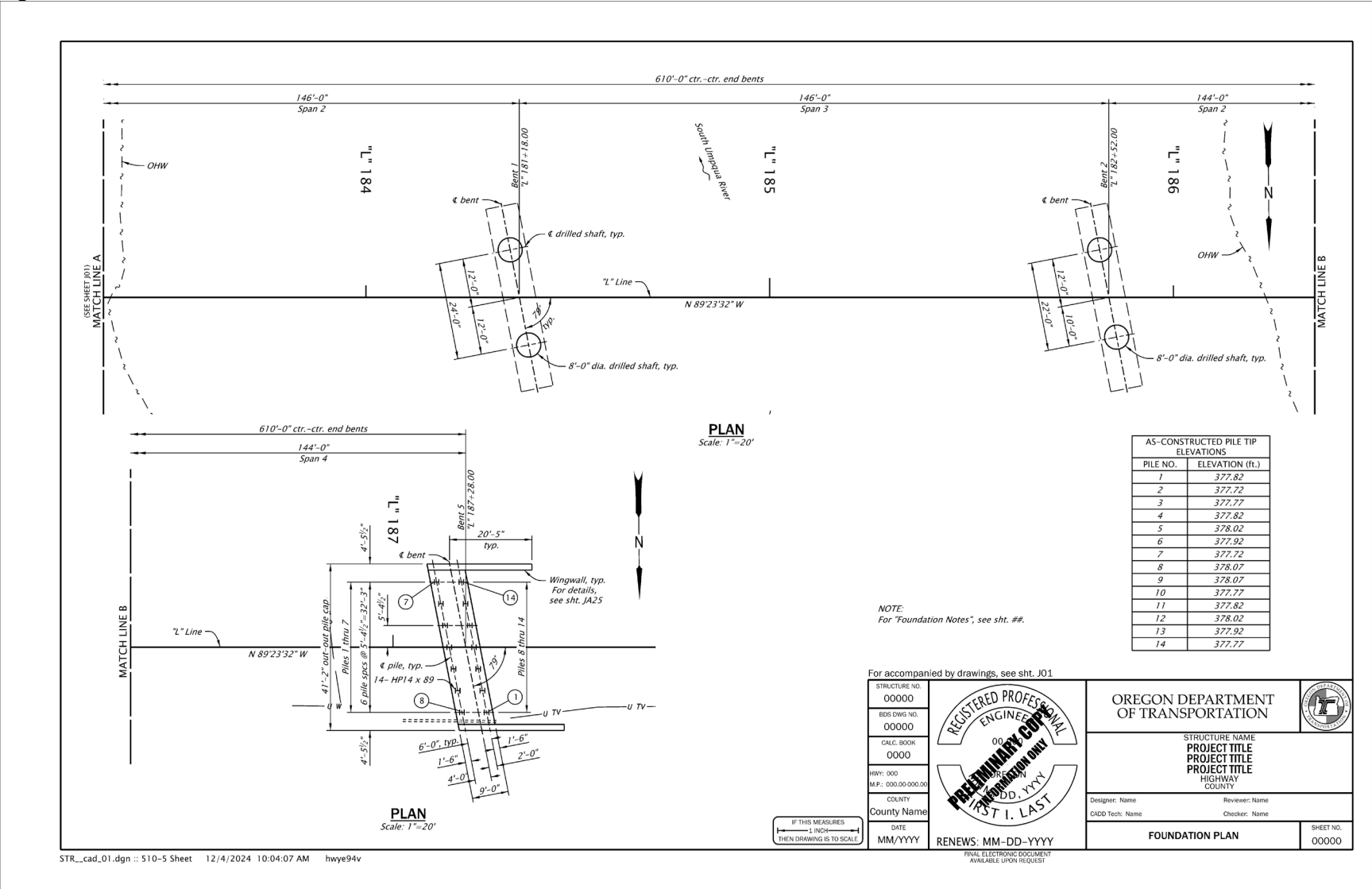
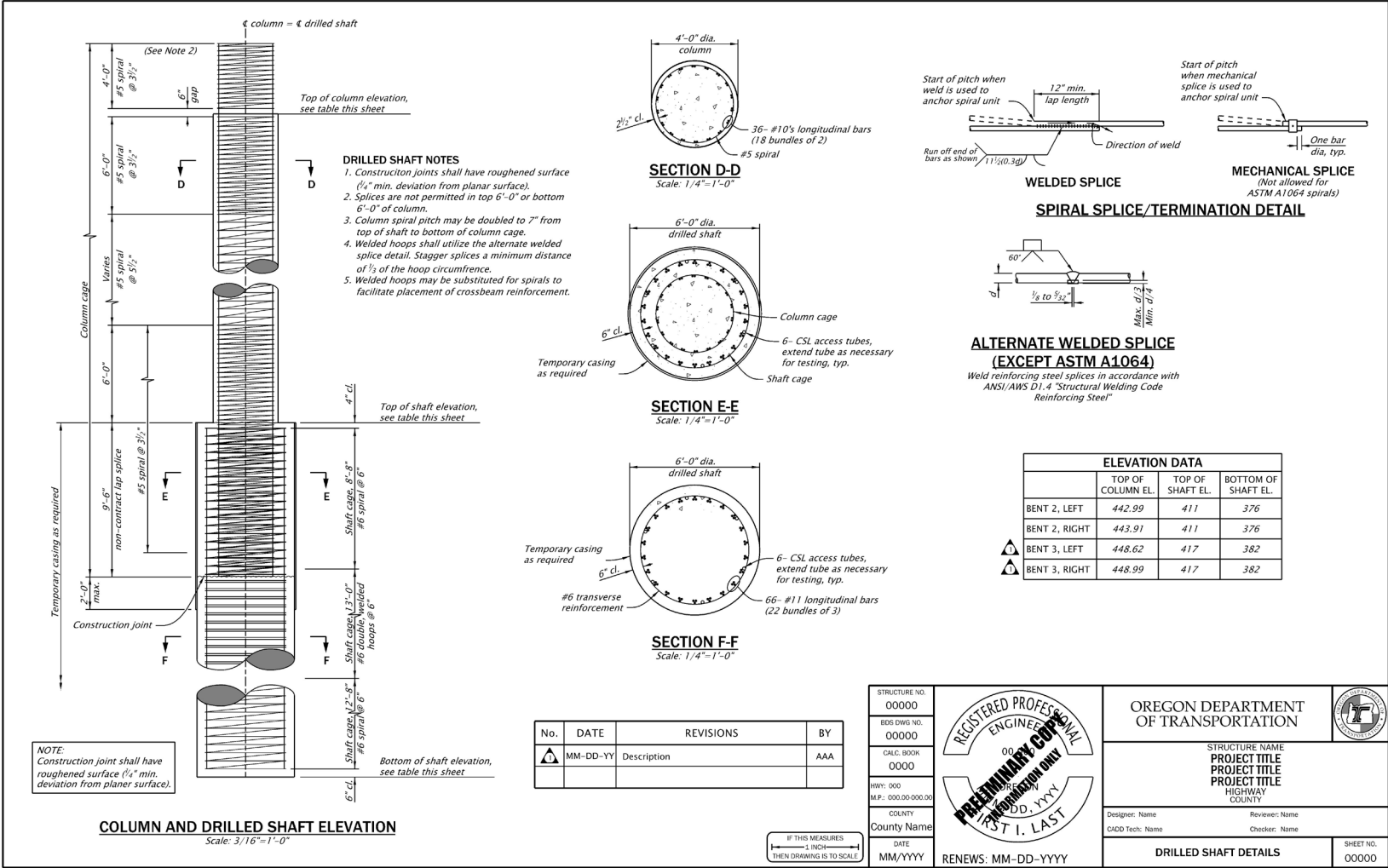


Figure 510-6 Foundation Details - Drilled Shaft



## Section 511 Superstructure

Figure 511-1 Deck Plan - Spans 1 and 2

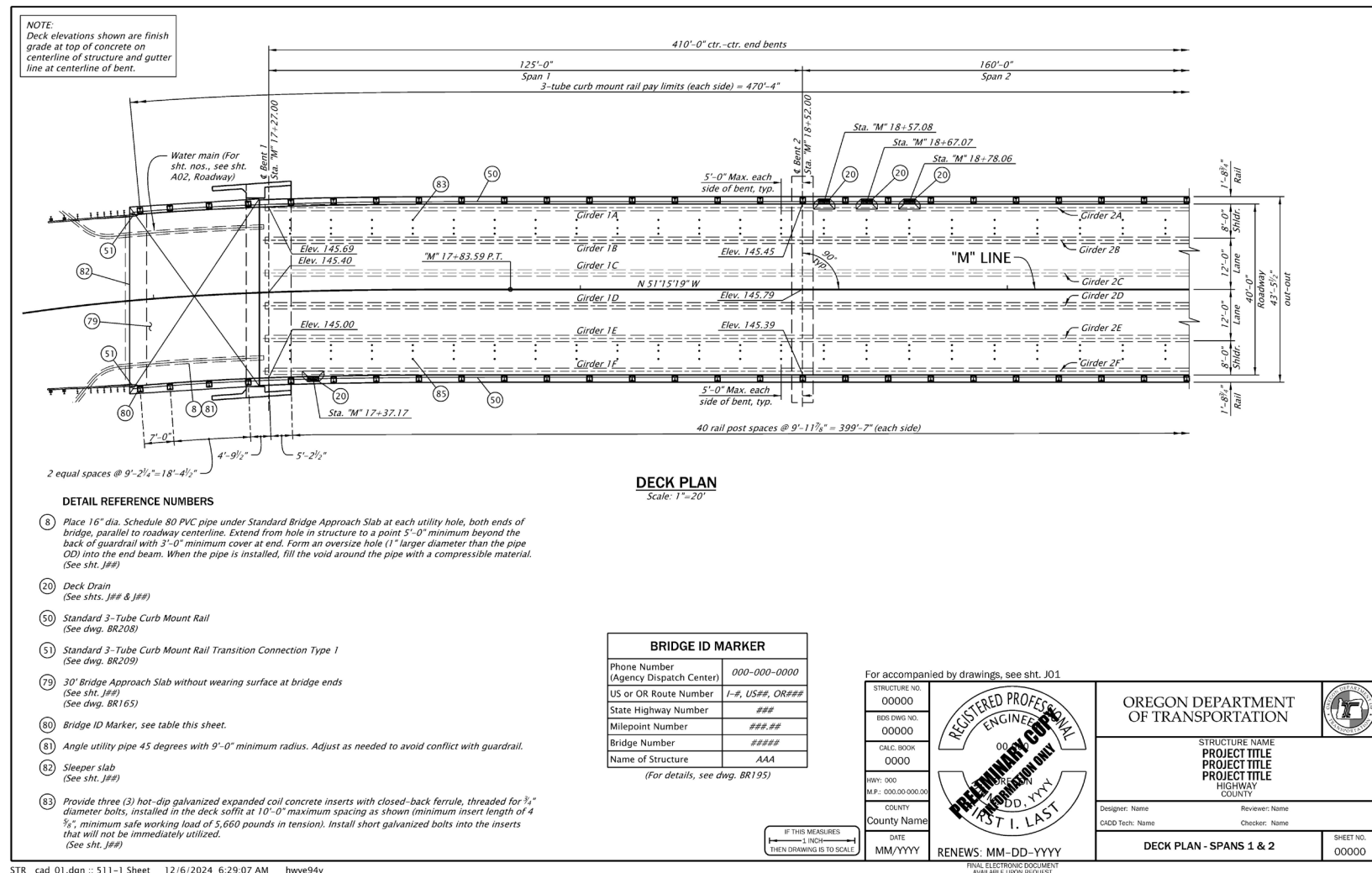
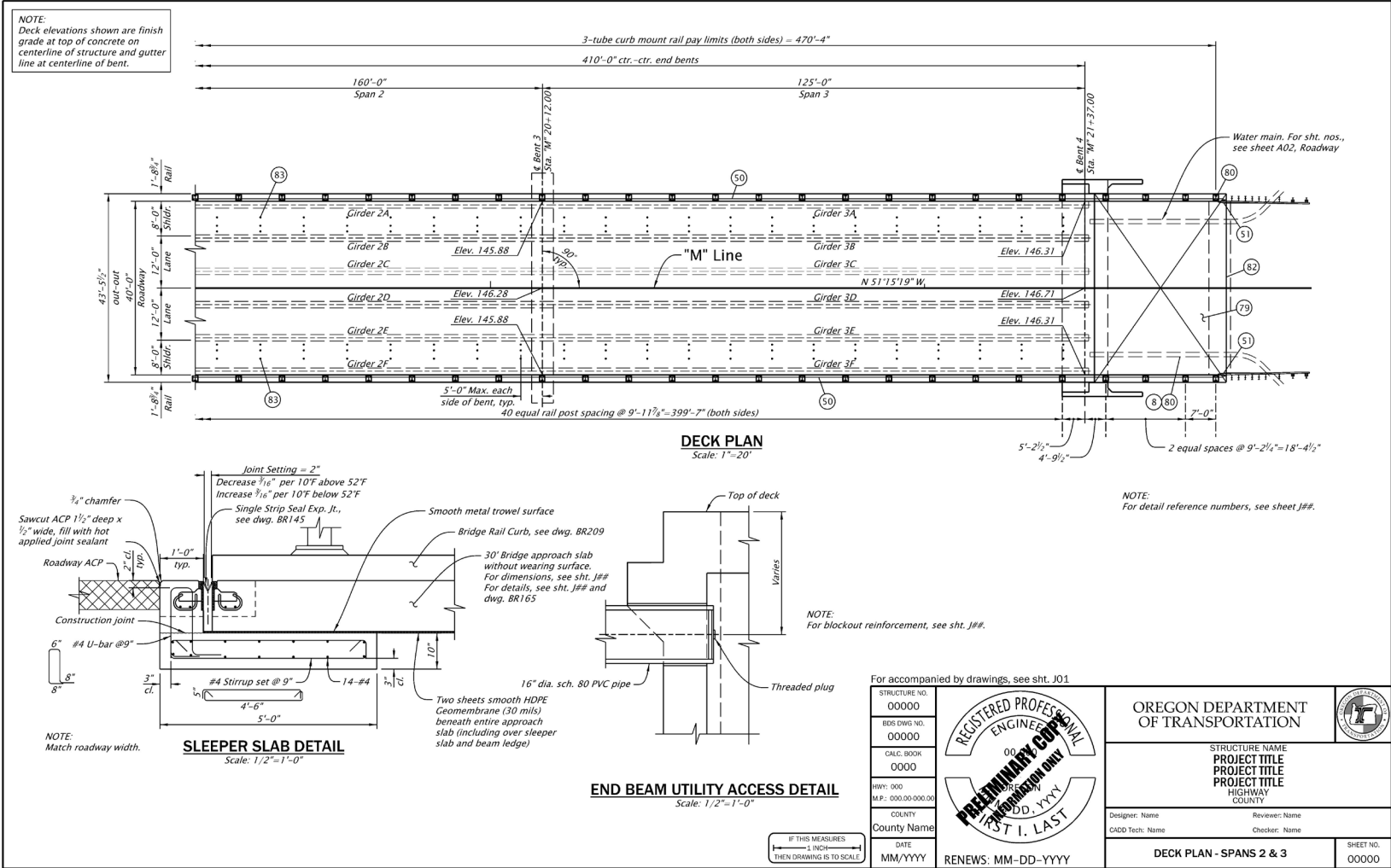




Figure 511-2 Deck Plan - Spans 2 and 3



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Figure 511-3 Typical Deck Section - Steel Girders

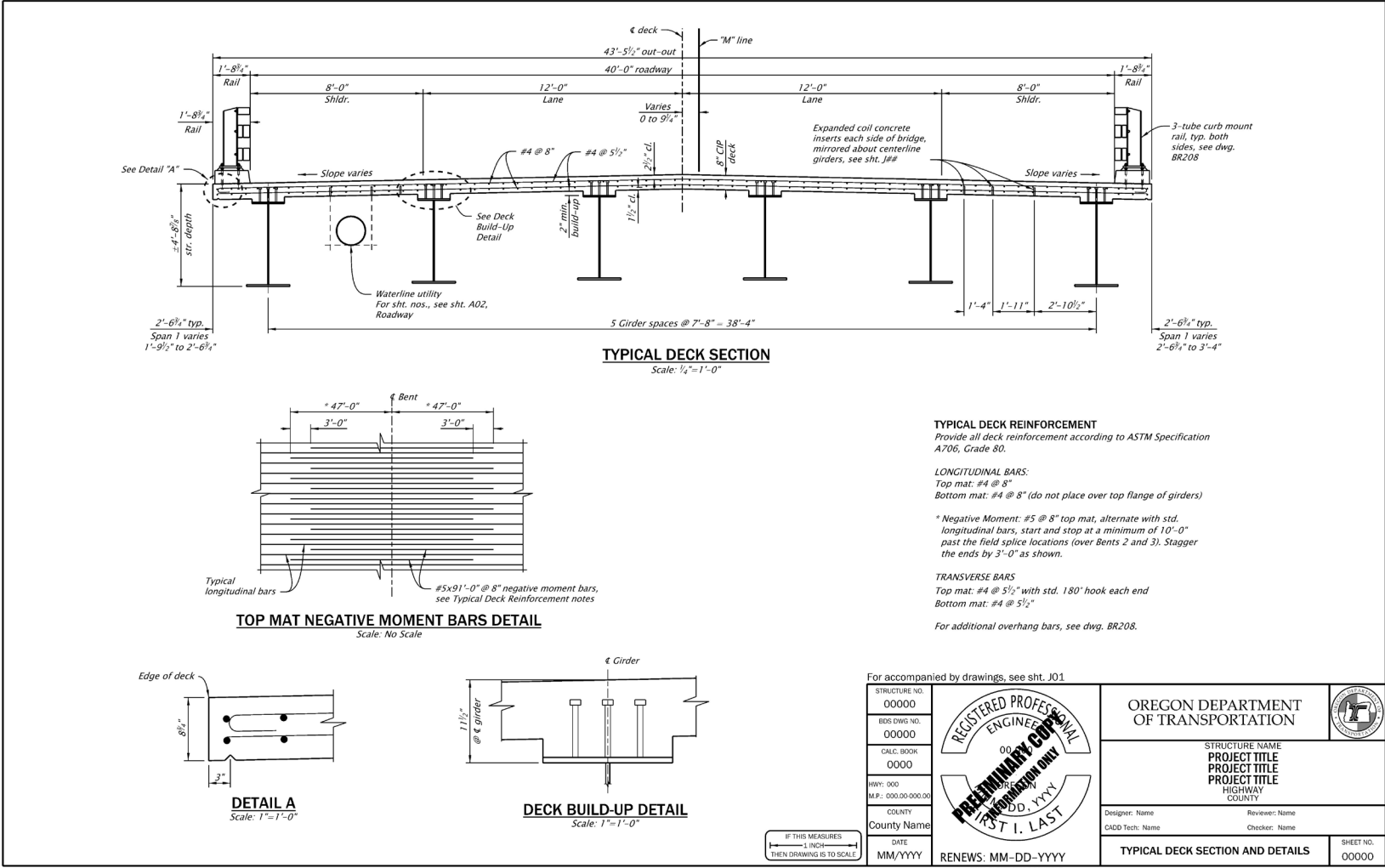


Figure 511-4 Typical Deck Section - Slabs

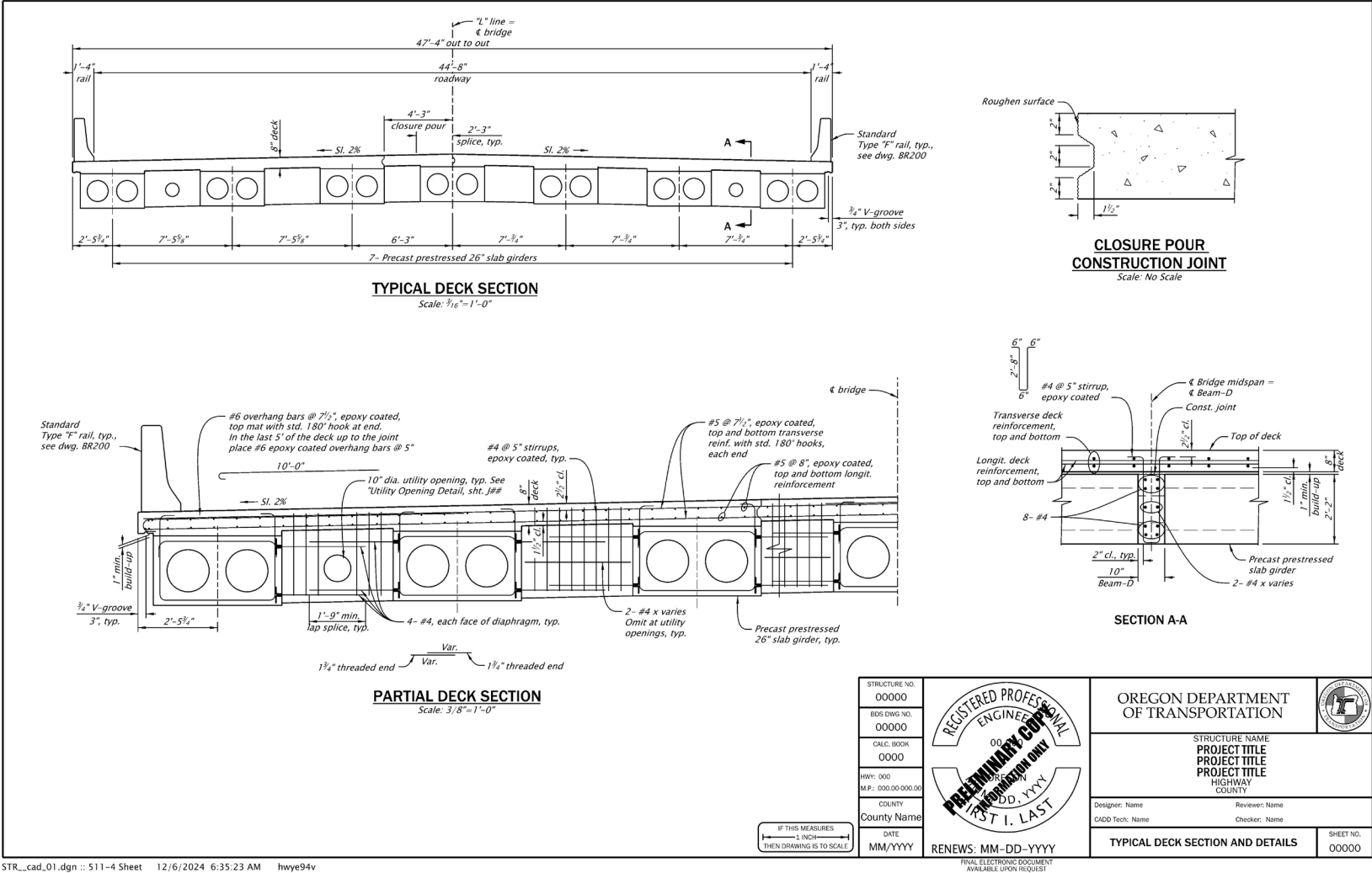
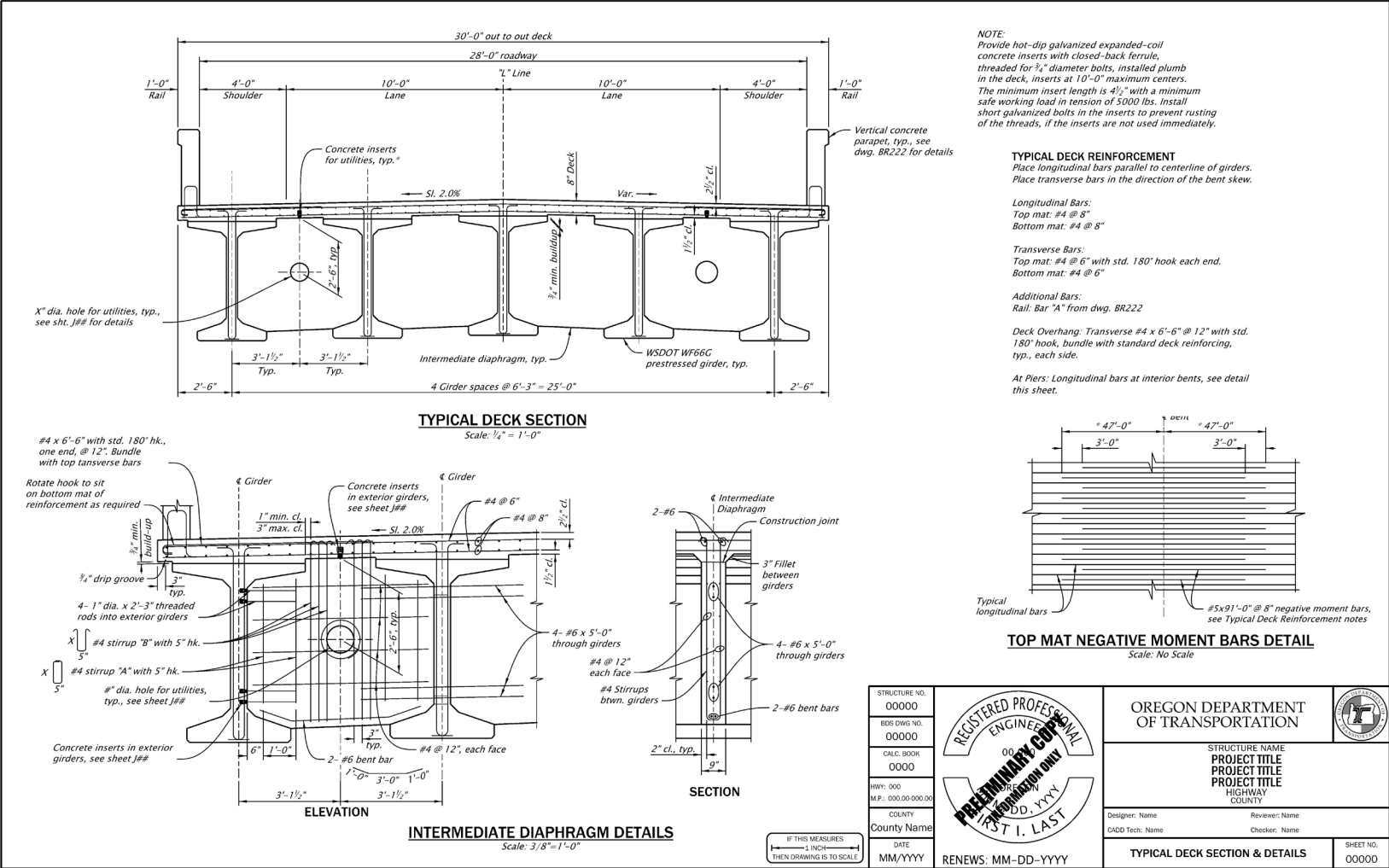


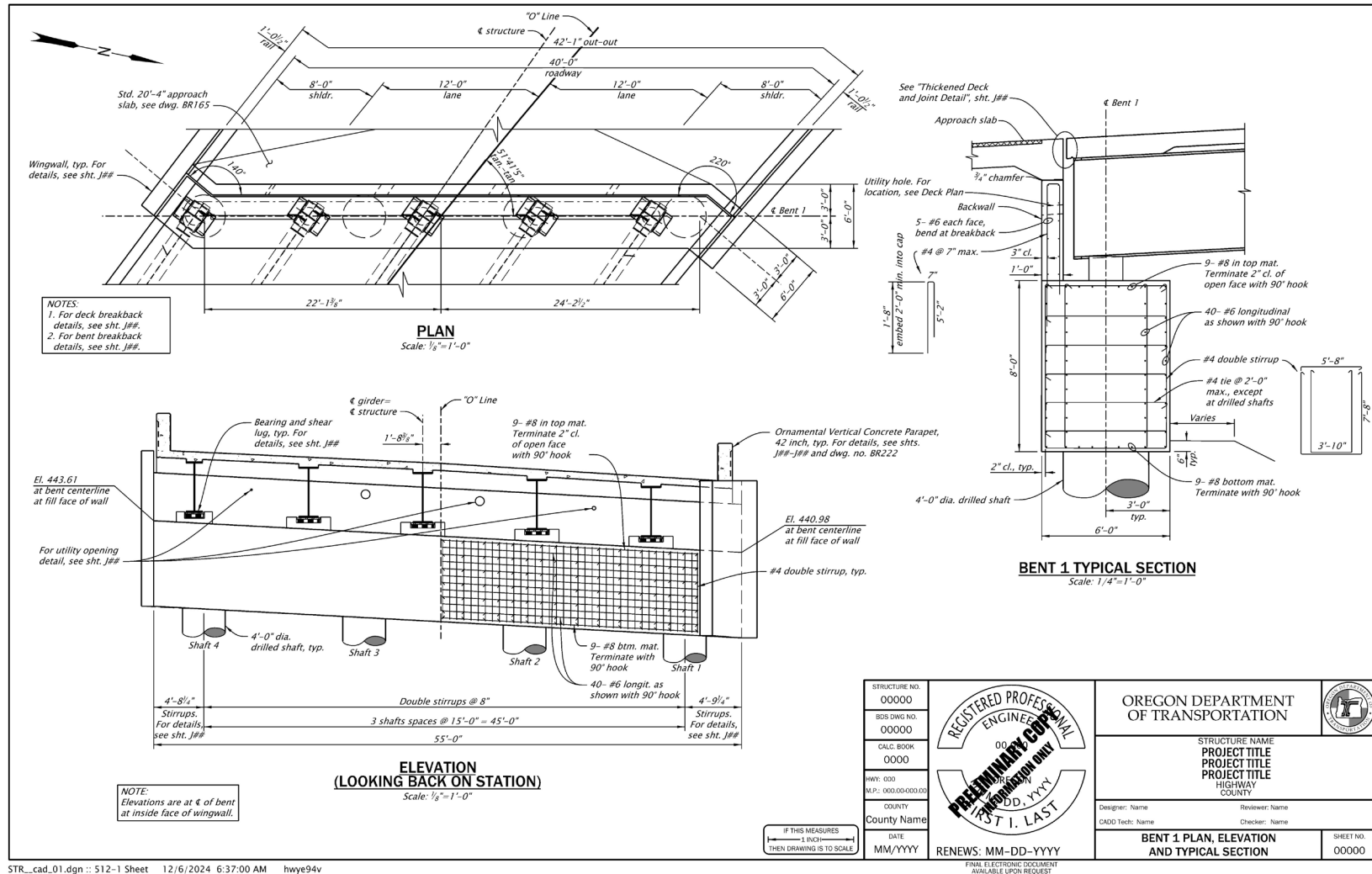
Figure 511-5 Typical Deck Section - Concrete Girders



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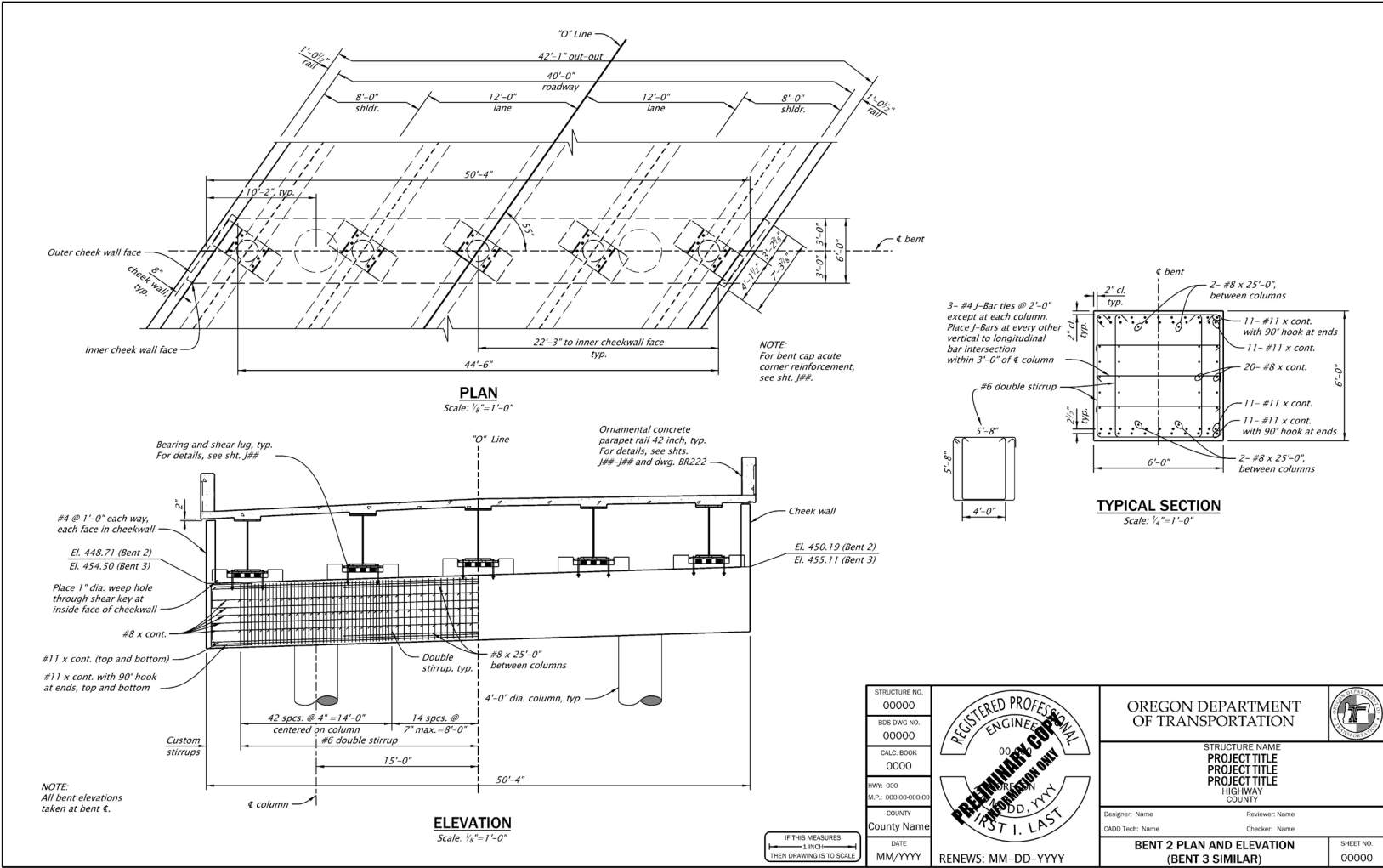
## **Section 512 Substructure**

Figure 512-1 End Bent Plan and Elevation



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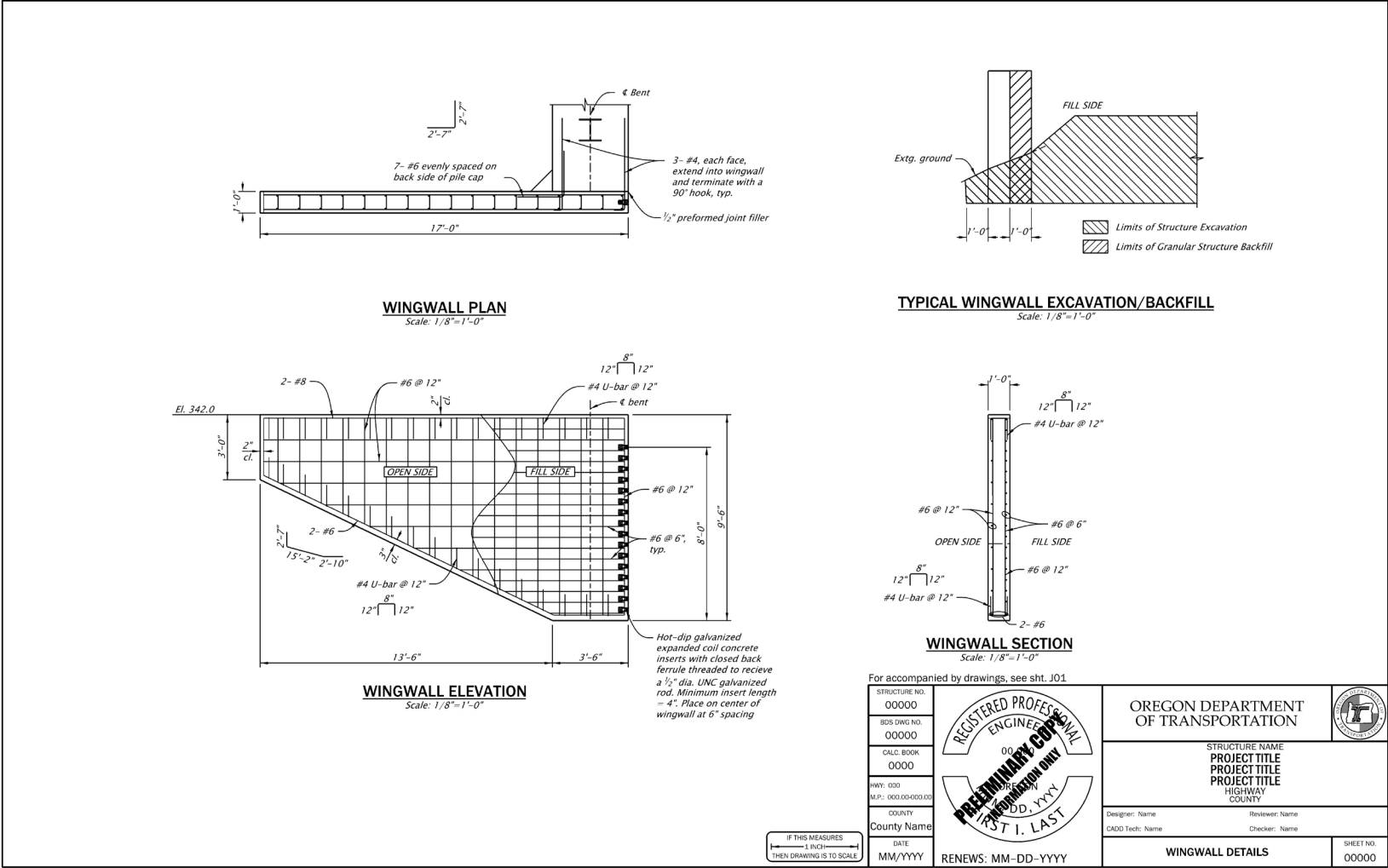
Figure 512-2 Interior Bent Plan and Elevation



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Figure 512-4 Wingwall Details



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## Section 513 Miscellaneous Details

Figure 513-1 Excavation and Backfill Details

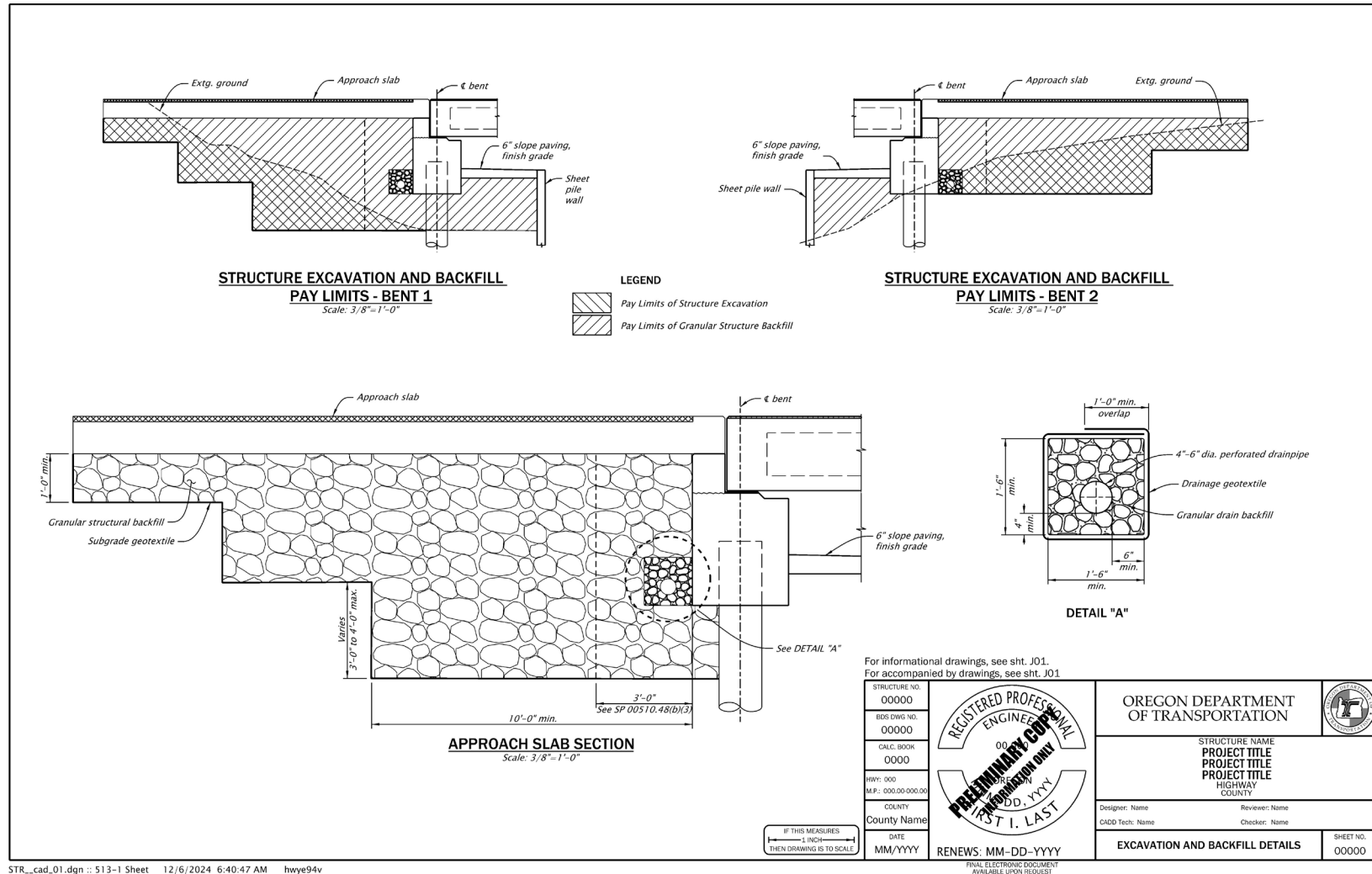


Figure 513-2 Drainage Details

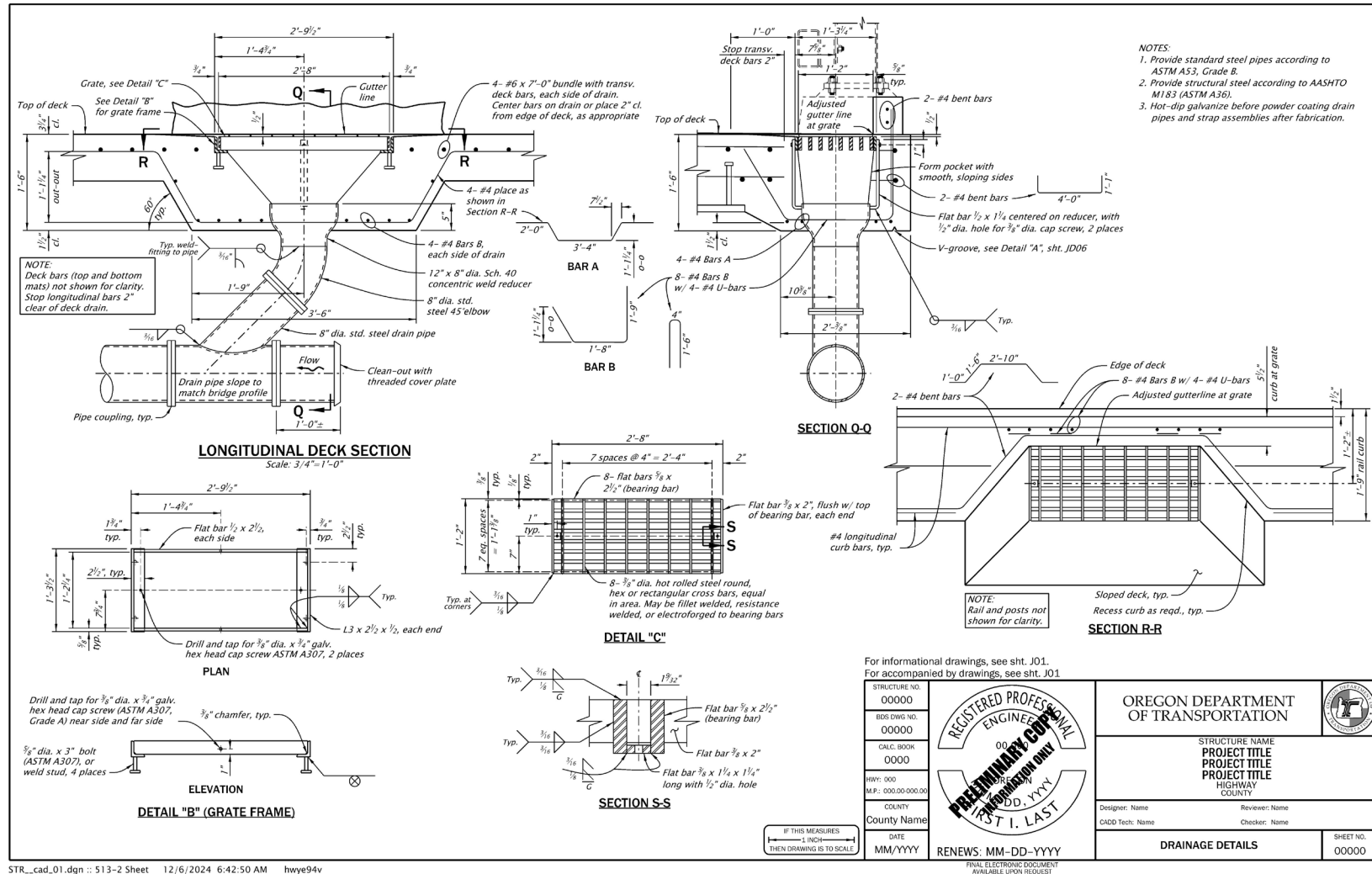


Figure 513-3 Approach Slab Details

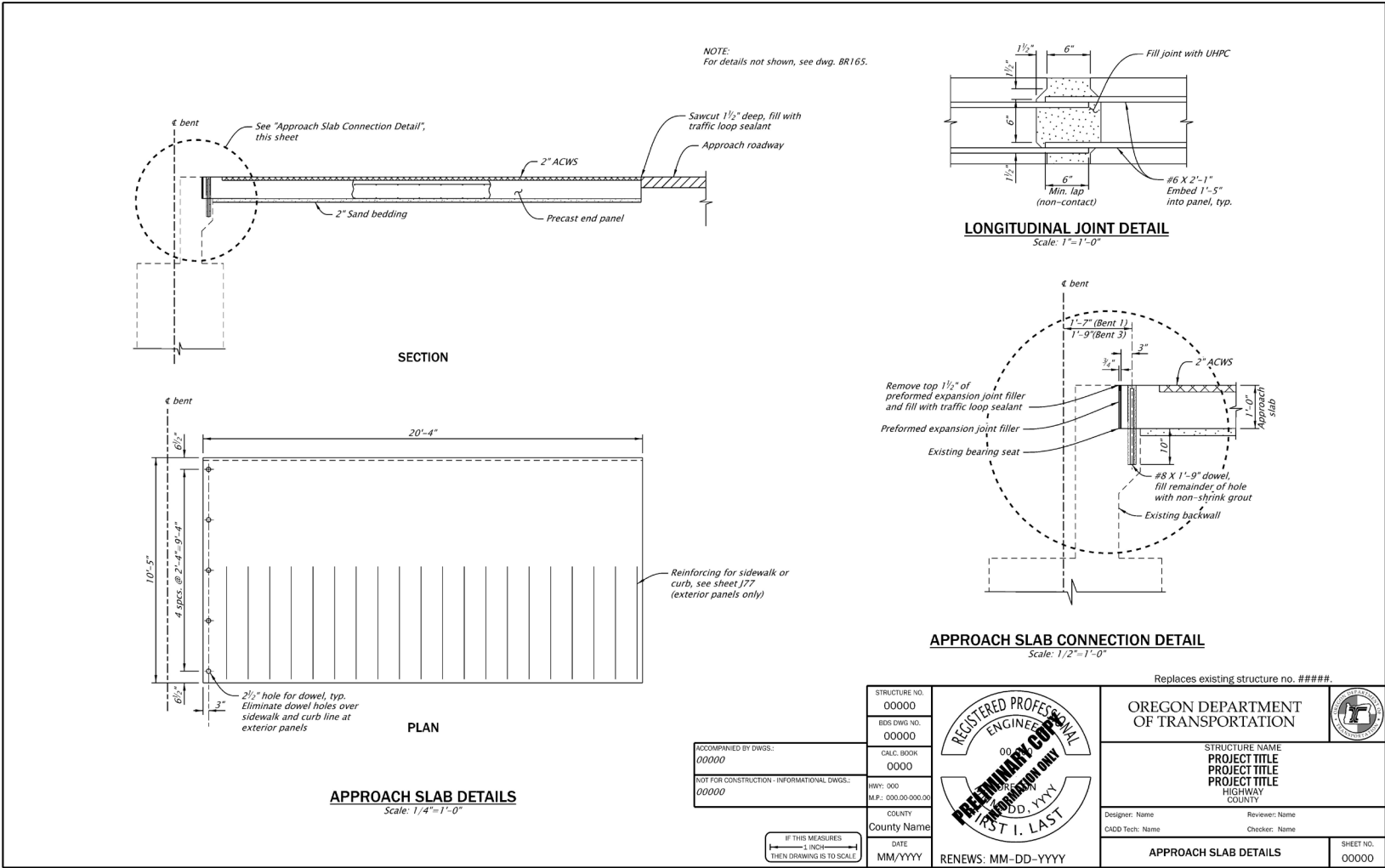


Figure 513-4 Bridge Rail Details

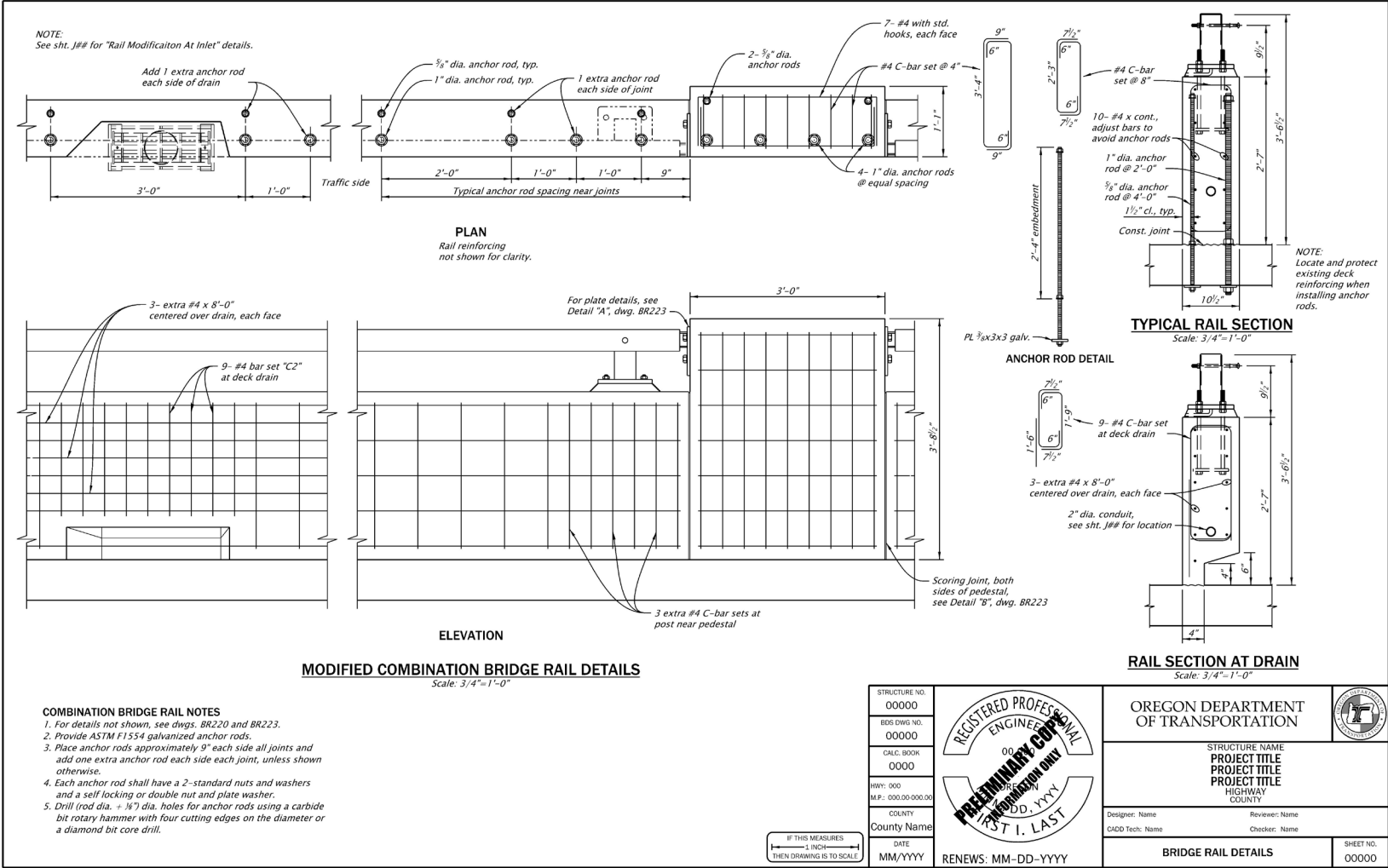


Figure 513-5 Protective Screening Details

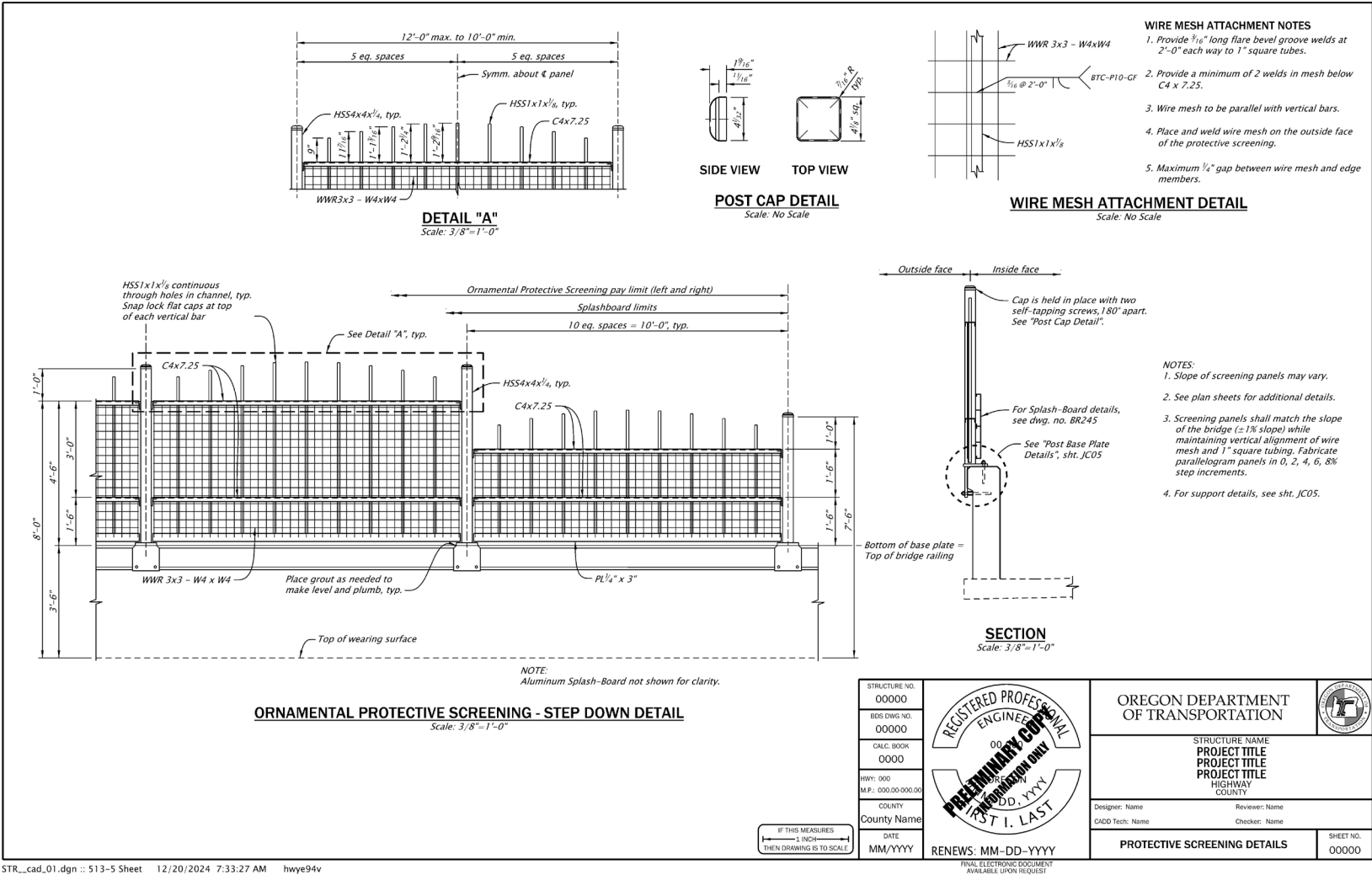


Figure 513-6 Sign Structure Mount Details

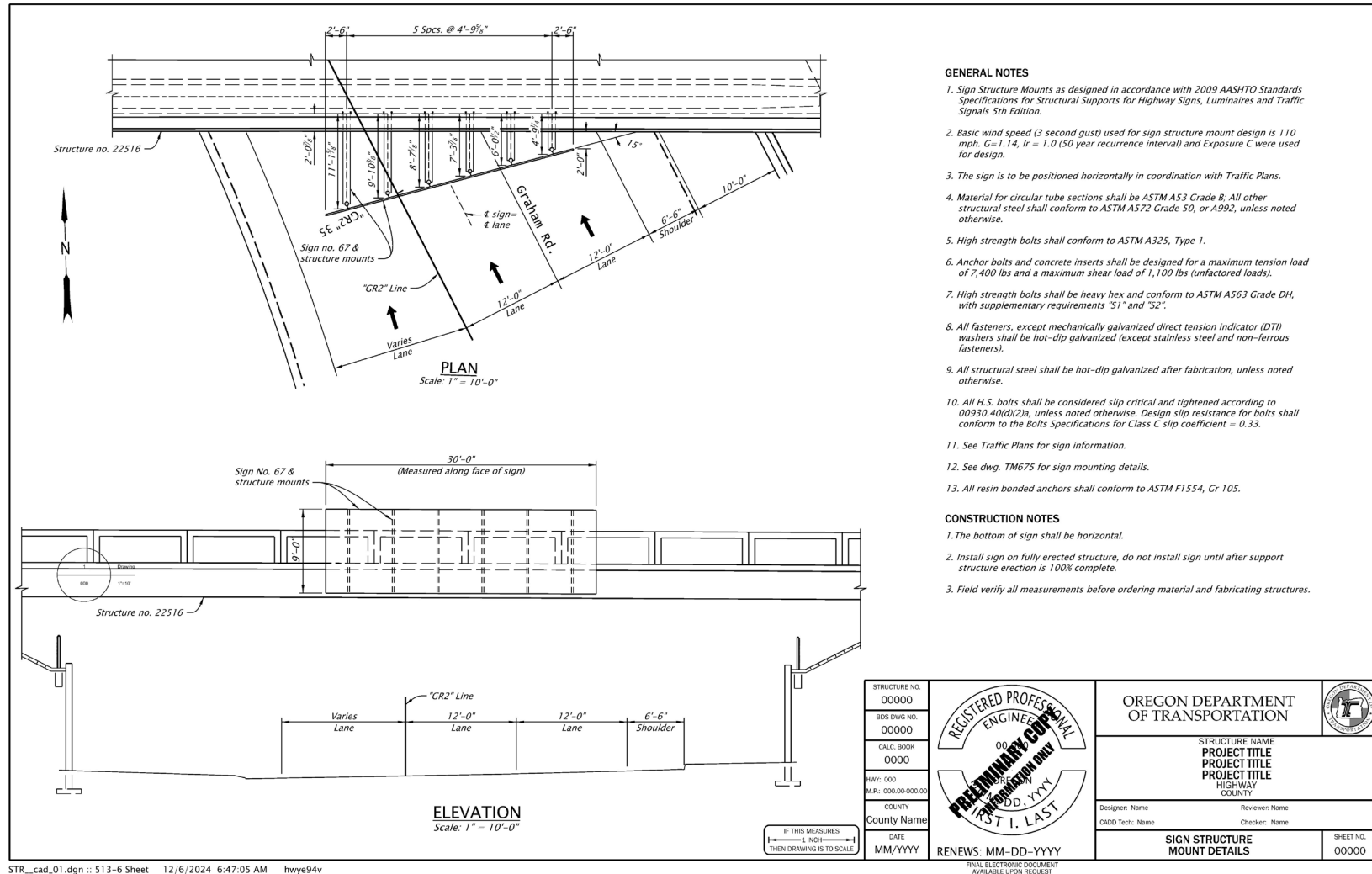
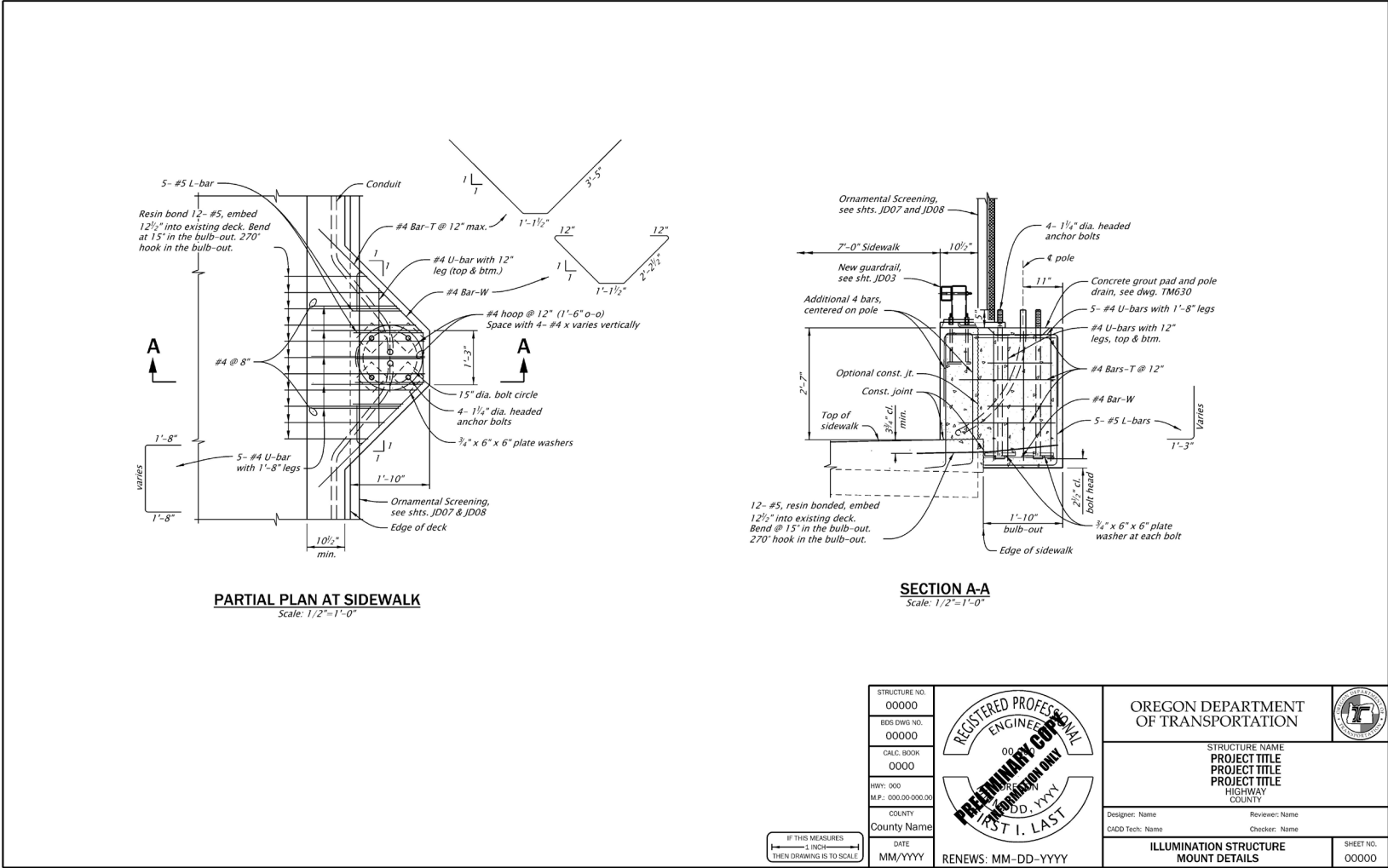


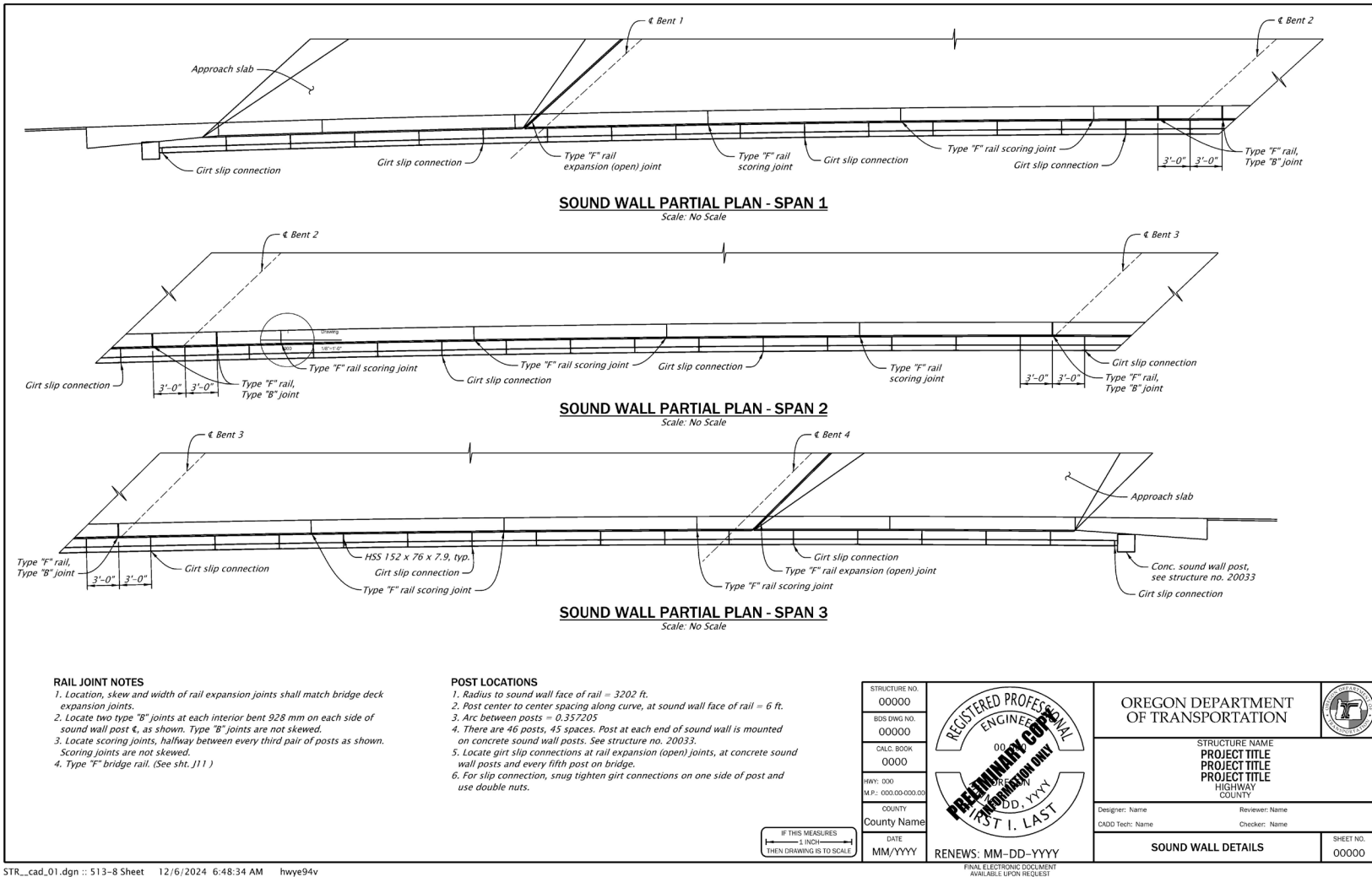
Figure 513-7 Illumination Structure Mount Details



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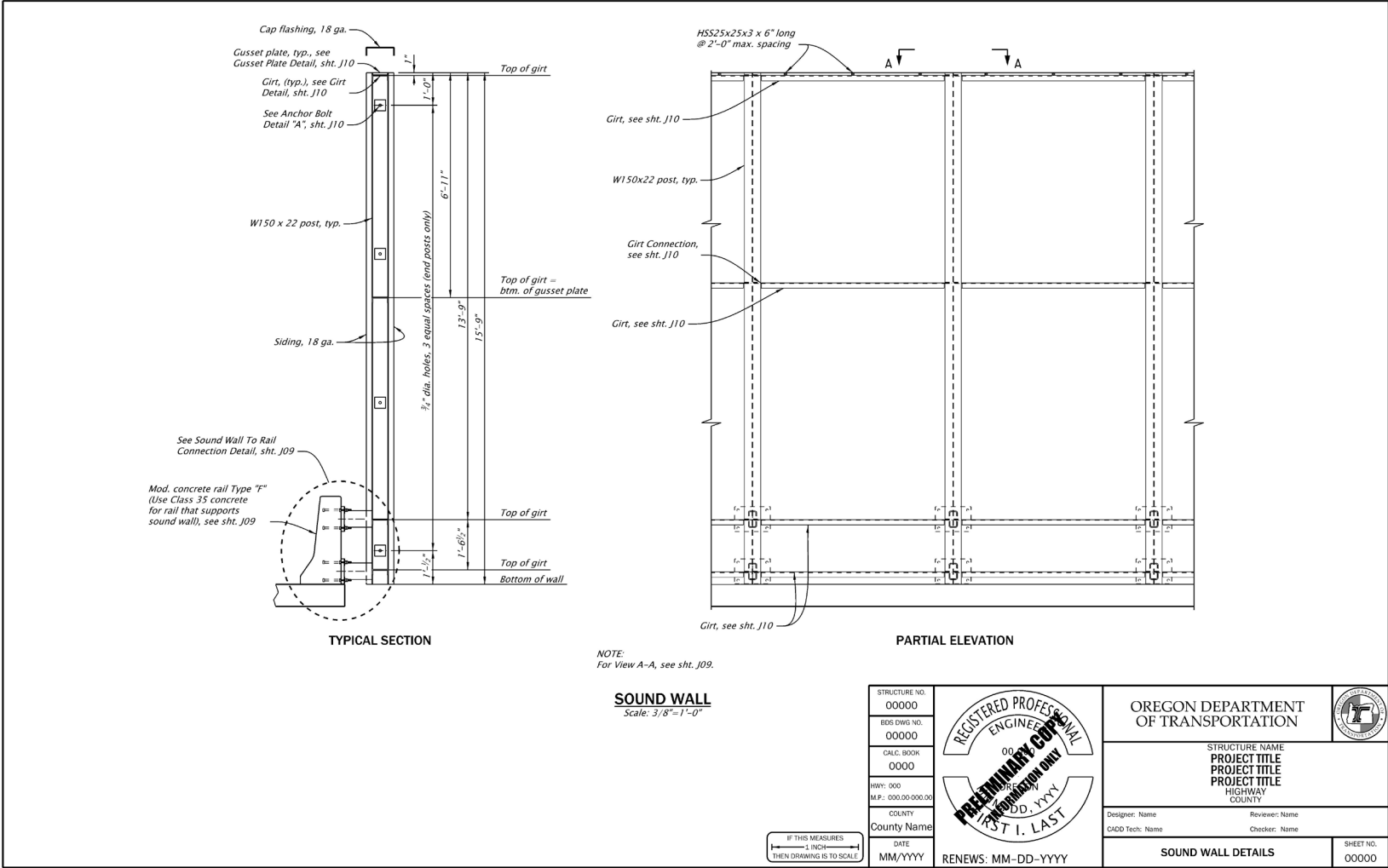


Figure 513-8 Sound Wall Details-1



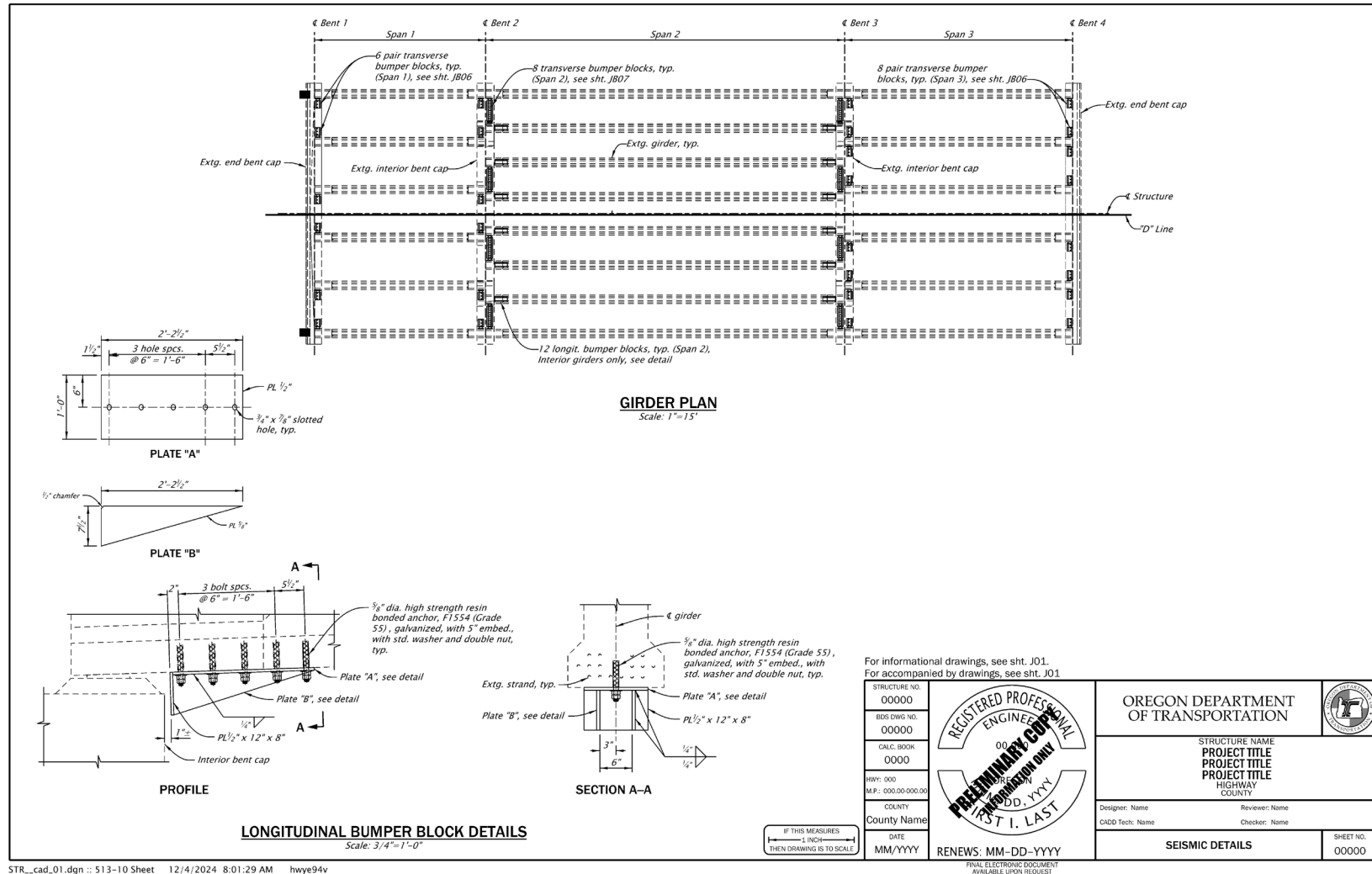
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Figure 513-9 Sound Wall Details-2



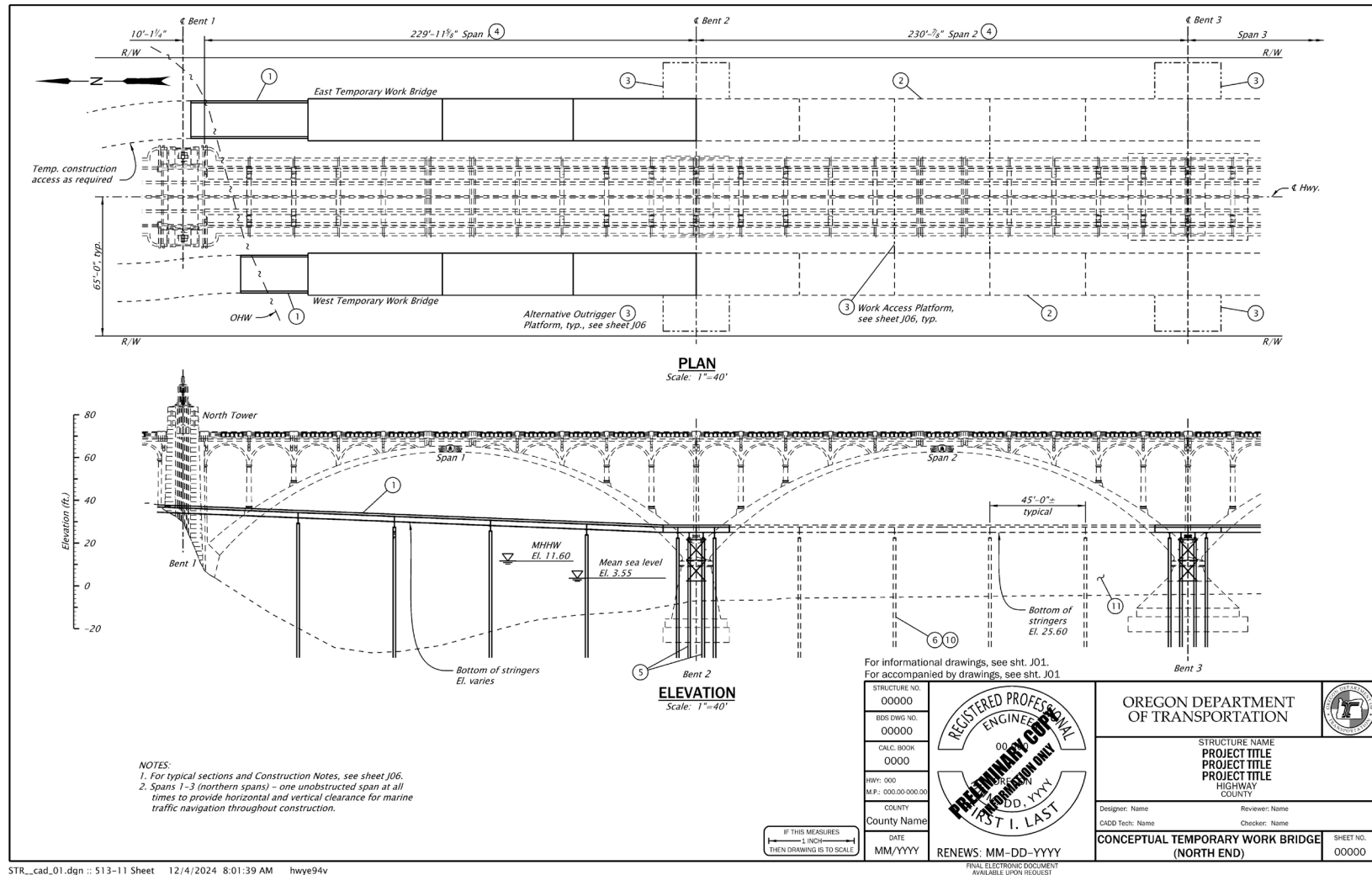
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Figure 513-10 Seismic Details



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Figure 513-11 Conceptual Temporary Work Bridge



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## Part 600 Bridge Data System

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## Section 601 Structure and Drawing Numbers

Structure and drawing numbers are obtained using the Bridge Data System (BDS). BDS numbers are requested using the [Structure and Drawing Number Request Form](#). After completing the form as fully as possible, email it to [Bridge Section](#) to request assistance. If BDS numbers are frequently needed, instructions for acquiring access to BDS and detailed instructions for using it are available in the [Bridge Data System User Guide](#).

At the DAP milestone, acquire a structure number from the BDS. If there is a risk of the structure being removed from the project, wait until a decision about the structure is made or the Preliminary Plans milestone to obtain a structure number.

BDS drawing numbers are acquired at a reasonable point before the Final plans milestone when there are fewer additions or removals of plan sheets. Enter the project key number and title in the *Description* area. The sheet number is entered in the *SheetNo.-Title* column for each sheet (For example: J01 - Plan and Elevation).

## Section 602 Images for BDS

At project completion (bid opening for contract projects, when all addenda have been completed), the digitally signed structure PDF plans are converted to TIF files for upload to BDS.

Uploading images to BDS:

1. For contract plans, locate the “flattened” combined set created by the Project Controls Office and extract the structure plans. For other projects, use the digitally signed PDFs.
2. In Bluebeam or Adobe, change the TIF image settings (See figures 602-1 and 602-2) and export the structure sheets to one TIF file per sheet.
3. When as-constructed changes are complete, new images are uploaded and *replace* the construction plan image.

Figure 600-1 Bluebeam settings for exporting to a TIF image

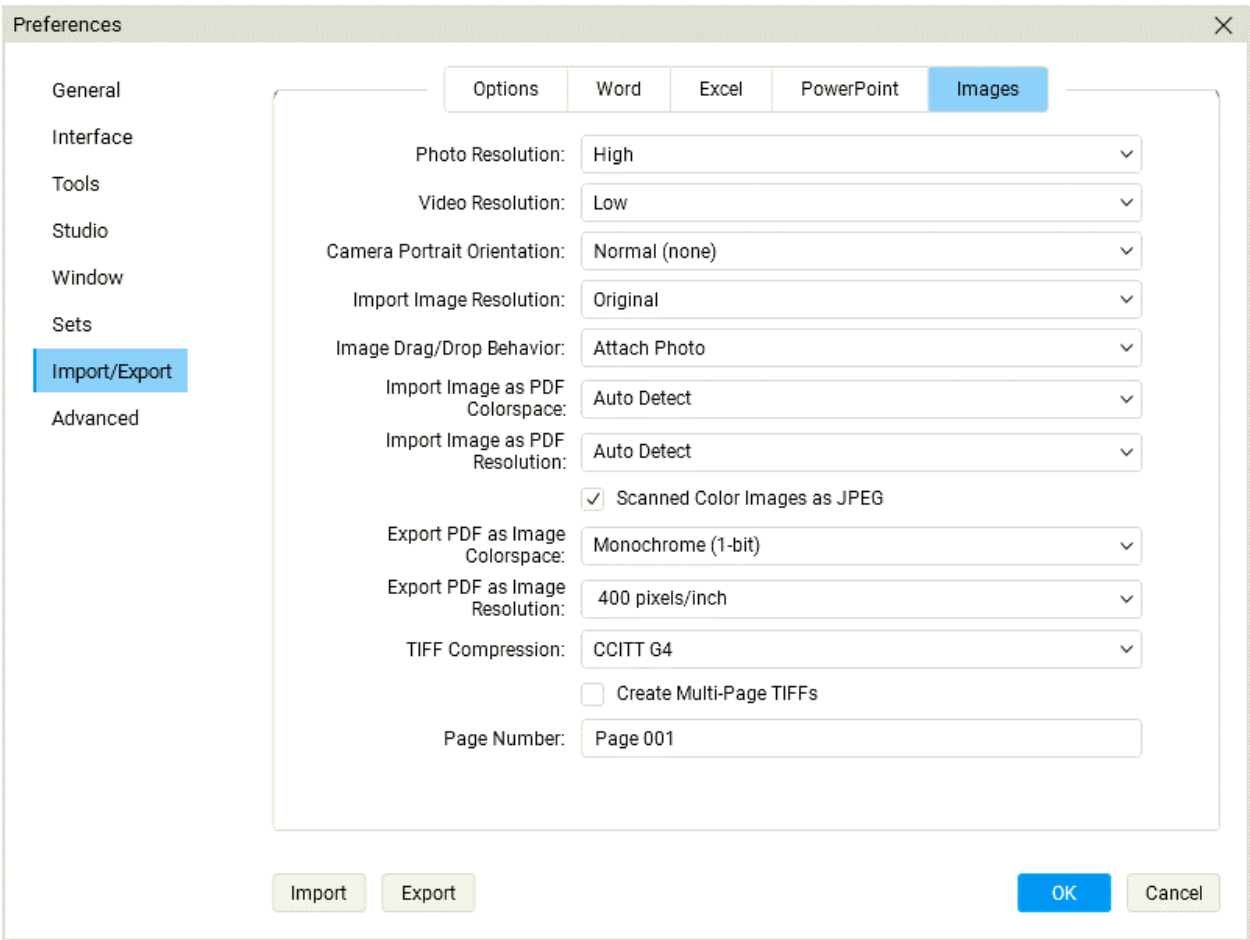
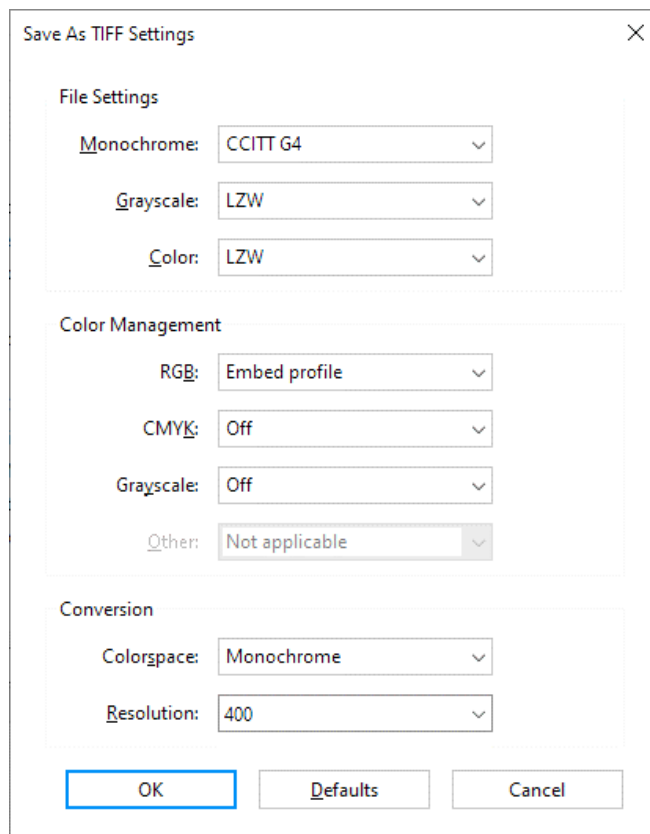


Figure 600-2 Adobe Settings for exporting to a TIF image



1. Rename each TIF file to the BDS drawing number. (For example: 123456.tif)
2. Upload the images into BDS.
  - a. If you have BDS access that allows you to upload images, then follow the directions in the [Bridge Data System User Guide](#).
  - b. The images may be too large to be sent by email. If you don't have BDS access or access that does not allow you to upload images, then send an email to [ODOT Bridge Engineering Section](#) with the subject line of "Upload Design Images to BDS" or "Upload As Constructed Images to BDS", as applicable, to arrange the method to provide the images.



## Part 700 As Constructed Plans

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## Section 701 General Information

See [Technical Bulletin RD22-01\(B\)](#), As Constructed Plans Process and Requirements.

MicroStation files will reside in ODOT ProjectWise project folders.

All changes will be reviewed by the Engineer of Record (EOR).

Design office completes As Constructed edits in a *new version* of the original CAD files in the plan sheets and base file location in ProjectWise. Add “As Constructed” to the end of the file description.

Prior to making as constructed edits, check the Construction Engineering folder for revisions made during construction which may provide data that can be used to update the versioned files in the design folder.

Include a revision triangle next to the change. All as constructed revisions on one sheet will have the same date, revision number, and description of “As Constructed”. The revision number shall be consecutive with previous revisions on that sheet. See Figure 701-1. If there are no as constructed revisions, add the date and “As Constructed” with no triangle or revision number. See Figure 701-2. The EOR’s initials are entered in the “By” column of the revision block. Add the “As Constructed” status stamp and the “Construction Resident Engineer: *<insert name>*” to all sheets. See Figure 701-3.

If a 3D model was developed, details can be affected that may not have been identified in the markups on the plans. Check for details cut from the model that may have changed by the edits and add a triangle.

When complete, send PDFs to the EOR for review. If changes are required, send back to EOR for another review. Upon EOR confirmation, create a .TIF image (400 dpi) and replace the pre-construction image in BDS. See Part 600 of the [Bridge Data System User Guide](#). For those without BDS access, send the .TIF file(s) to [ODOT Bridge Engineering](#).

Confirm BDS data is entered (minimum required):

1. Status (change to In Use)
2. Owner
3. Name
4. Year Built
5. Type
6. Subtype
7. District
8. Region

9. City (as applicable)
10. County
11. Highway
12. Route (as applicable)
13. Direction
14. Milepoint
15. Lat/Long

Once BDS has been updated, send an email to the Region Bridge inspector stating that the files have been updated for given structure.

Figure 701-1 Revision block with As Constructed changes


| No. | DATE     | REVISIONS      | BY     |
|-----|----------|----------------|--------|
| ①   | 09-09-09 | Change         | M.M.M. |
| ②   | 05-20-10 | As constructed | M.M.M. |
|     |          |                |        |
|     |          |                |        |

Figure 701-2 Revision block with no As Constructed changes

| No. | DATE     | REVISIONS      | BY     |
|-----|----------|----------------|--------|
| ①   | 09-09-09 | Change         | M.M.M. |
|     | 05-20-10 | As constructed | M.M.M. |
|     |          |                |        |
|     |          |                |        |

Figure 701-3 Title block with As Constructed stamp and Construction Resident Engineer name

CONSTRUCTION  
RESIDENT ENGINEER:  
<NAME>

|  |  |  |
|--|--|--|
| CTURE NO.<br>0000<br>DWG NO.<br>0000<br>C. BOOK<br>0000<br>JO<br>00.00-000.00<br>UNTY<br>ty Name<br>DATE<br>1/YYYY |  <p>REGISTERED PROFESSIONAL<br/>ENGINEER<br/>00.000<br/>OREGON<br/>MM-DD-YYYY<br/>FIRST I. LAST</p> | <div style="text-align: center; border-bottom: 1px solid black; padding-bottom: 5px;"> <p>OREGON DEPARTMENT<br/>OF TRANSPORTATION</p> </div> <div style="text-align: center; border-bottom: 1px solid black; padding-bottom: 5px;"> <p>STRUCTURE NAME<br/>PROJECT TITLE<br/>PROJECT TITLE<br/>PROJECT TITLE<br/>HIGHWAY<br/>COUNTY</p> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; padding-bottom: 5px;"> <span>Designer: Name</span> <span>Reviewer: Name</span> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; padding-bottom: 5px;"> <span>CADD Tech: Name</span> <span>Checker: Name</span> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; padding-bottom: 5px;"> <span style="flex-grow: 1; text-align: center;">PLAN AND ELEVATION</span> <span>SHEET<br/>0000</span> </div> |
|--|--|--|

FINAL ELECTRONIC DOCUMENT  
AVAILABLE UPON REQUEST

## Part 800 CAD File Archives

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## Section 801 CAD Files In ProjectWise

For completed projects with folders available in ProjectWise, all CAD and related files (such as Word or Excel) used to produce the contract plans and as-constructed plans will reside in ProjectWise.

## Section 802 CAD Files Outside Of ProjectWise

Some CAD files were completed prior to the implementation of ProjectWise or for some other reason do not have folder in ProjectWise. Those files have a different archive process. After plans and as-constructed are completed, CAD files shall be stored in the *Engineering Archives*. See the EAST website for instructions on archiving files in *Engineering Archives*.

ODOT provides a safe and reliable multimodal transportation system that connects people and helps Oregon's communities and economy thrive.

[www.oregon.gov/ODOT](http://www.oregon.gov/ODOT)

