

11.0 Material Source and Disposal Site

11.1 Control

Material source, borrow source, and disposal site details are used in contract plans when it is necessary to require or suggest that a contractor either gather specific construction materials or dispose of unwanted project materials at a designated site. Any, all, or none of these types of details may be necessary in a project's contract plans and/or for acquiring special permits.

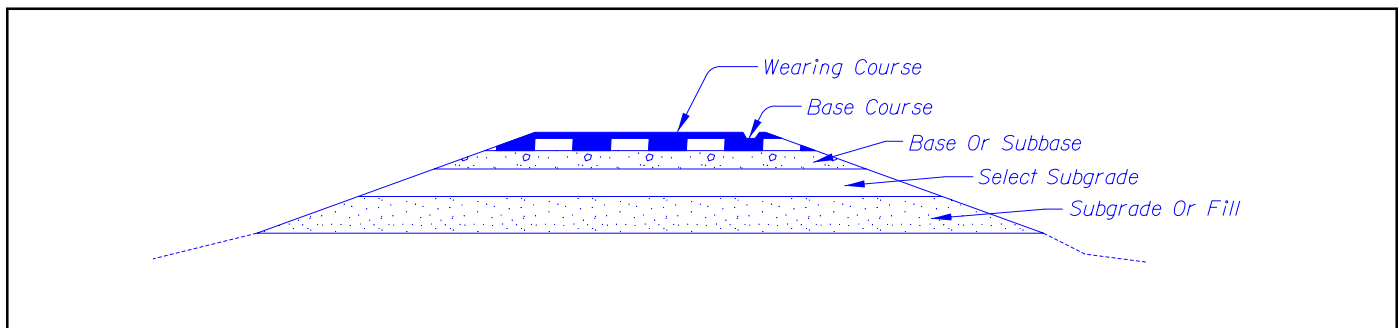
The need for material source or disposal site details is determined by the Project Geologist and/or the Project Development Team. Either of these types of details can be designed and drafted within the Region Geologist's office, the Region Roadway office, or by a consultant's Roadway Designer. Common terms are defined below.

A **Material source** is understood to be naturally occurring rock or stone of sufficient quantity, size, and strength that can be processed to the required specifications for use in construction of a specific project. The source is generally located outside and beyond the limits of the project.

The material source supplies the primary elements used in the construction of roadway surfaces. These surfaces include bases, subbases, subgrades and the composition of roadway course surfacing. See Figure 11-1.

Borrow source material is used for general embankment construction. It is a source of selected earth or stone which may require some processing such as scalping (screening out large or unwanted items). The borrow site is generally located outside and beyond the limits of the project, and material is moved or hauled to the construction site and used as fill for roadway embankments, bridge approaches, culvert backfill, and retaining wall backfill. The material is also used for protection measures such as guardrail ends, sound berms, etc.

Figure 11-1 Typical Roadway Materials



11.0 Material Source and Disposal Site

11.1 Control (Cont'd)

A **Disposal site** is an area of land upon which a contractor has been given permission or authority to place what is classified as waste material. Waste is any unsuitable materials encountered in an excavation or any excess material from an excavation. The site is generally located outside and beyond the limits of the project. The waste material shall be shaped to drain, contoured, and seeded in a manner specified within the project special provisions and satisfactory to the engineer. No waste material shall be placed in a wetland area, cultural resource site, or a geotechnically unstable area.

11.2 Development

It is the responsibility of either the Project Geologist or Drafter to begin construction of the material source or disposal site detail sheets.

11.2.1 Sheet Setup

Material source and disposal site plans are to be positioned near the front of the project's contract plans with other project details. Set up the material source and disposal site plan sheets as described in the following steps 1–8. General information to help you create these sheets follows the steps below.

Step 1 — Create an "Active File"

Create a new MicroStation™ file from the seed file named SEED3D.DGN found at:

Internal ODOT staff	http://SCDATA3\ODOT_space\standards\seed
External	ftp://ftp.odot.state.or.us/isb/appeng/Microstation/Version8/

and name it KEYNUFGM1, where "KEYNU" represents your project key number assigned by ODOT (to be filled in by you), "F" represents that this file is part of the final contract plans, and "GM1" is the appropriate extension for the first file of plan sheets. Subsequent files shall have extensions "GM2", "GM3," etc. This is your **active file**.

Step 2 — Add sheet borders

Enter ODOT's proprietary software, "Plotypus," to automatically place borders (*File/Plotypus*). "Plotypus" automatically creates the borders at a pre-designated location in the design file. Choose the intended scale and sheet size, placing up to ten borders per design file. See Appendix D, "A Quickguide To Plotypus," for more information on placing borders.

Step 3 — Create the Project Title and "V" Number Reference File

Create a new MicroStation™ file from the seed file named SEEDV8.NAM found at:

Internal ODOT staff	http://SCDATA3\ODOT_space\standards\seed
External	ftp://ftp.odot.state.or.us/isb/appeng/Microstation/Version8/

Note: For information on seed files, see Section 2.6, Volume 1.

Note: For file naming conventions, see Section 2.4, Volume 1.

Tip

Step 3 may have been completed as part of another section of the contract plans. If it has, use it here and go on to Step 4.

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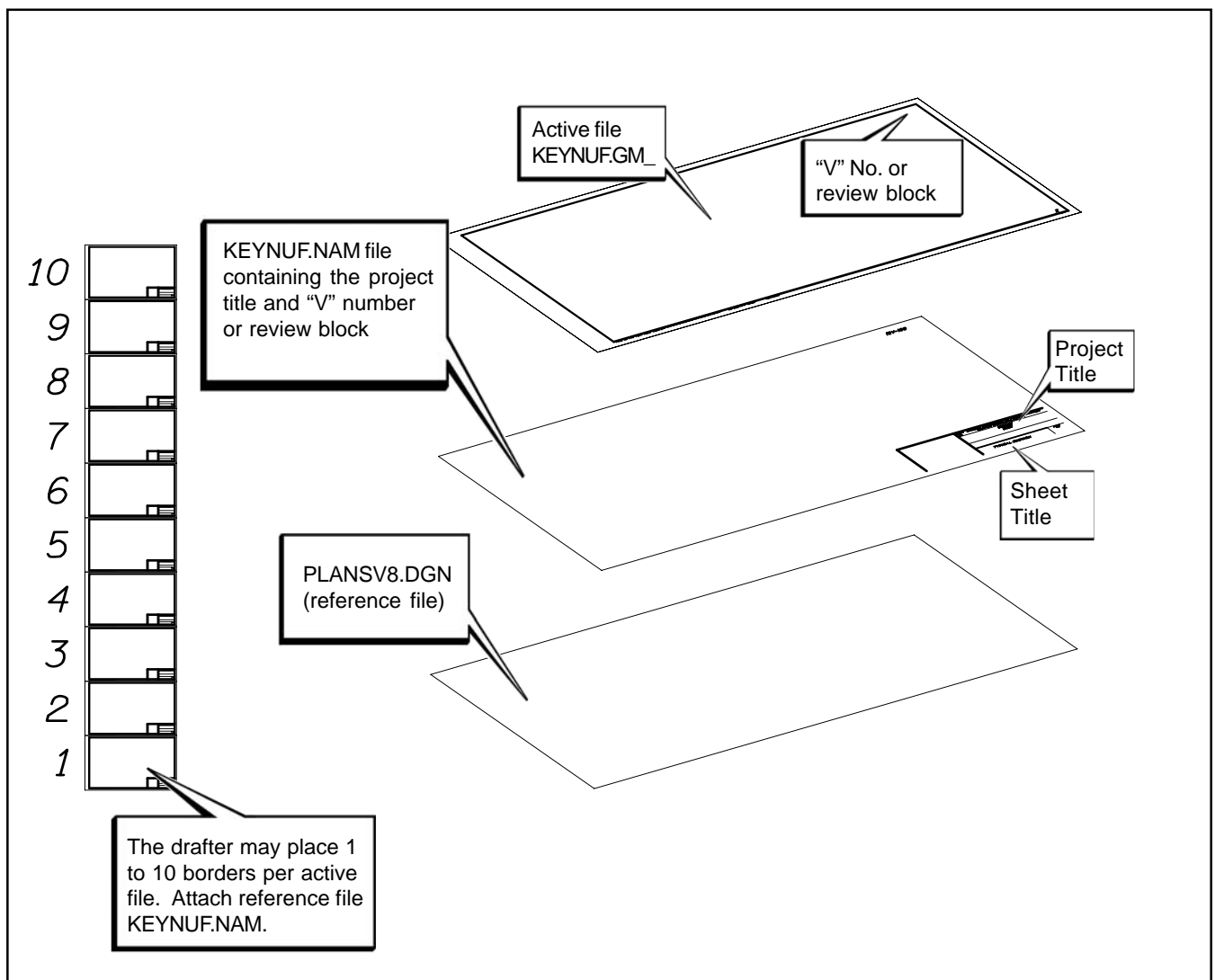
11.2.1 Sheet Setup (Cont'd)

and name it KEYNUFNAM, where “KEYNU” represents your project key number (to be filled in by you), “F” represents that this file is part of the final contract plans, and “NAM” represents that this generic file is for the project title information. For example, a new file name might be 01234FNAM.

Title block text is provided in two scales within SEEDV8.NAM for convenient editing.

Edit the project title text in the appropriate place within the title block. When the contract plans are complete and ready to be advertised for bid, the “V” number will be added to this file in the upper right hand corner of each plan sheet.

Figure 11-2 Reference Files - Material Source and Disposal Site



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11.2.1 Sheet Setup (Cont'd)

For preliminary, advance and final review submittals, the appropriate block shall be placed here rather than the “V” number (from the cell library ODOT.cel).

Step 4 — Attach Reference Files

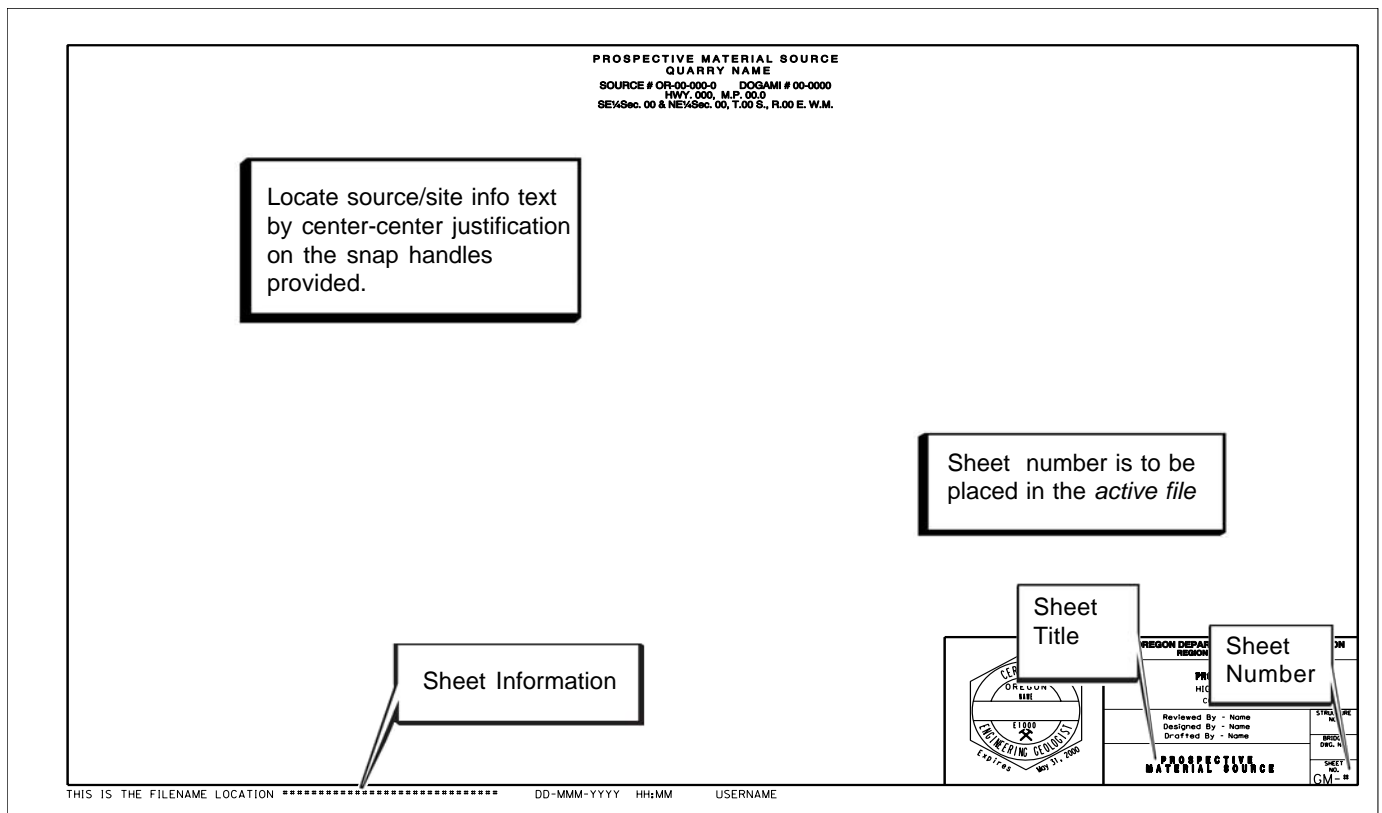
Open the new active file created in Step 1. Attach KEYNUF.NAM as a reference file and assign a logical name as appropriate for your plan sheet.

Step 5 — Add Sheet Titles and Numbers

While in the *active file*, add a sheet title as appropriate for the type of plan sheet you are creating in the title block in the KEYNUF.NAM reference file created in Step 3. See Figure 2-7 for a listing of the sheet titles and the levels on which they can be found.

While in the *active file*, add the appropriate sheet numbers, snapping to the point provided in the space. The active file should now have blank plan sheets with the title blocks filled in, as illustrated in Figure 11-3.

Figure 11-3 Sheet Titles - Material Source and Disposal Site



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Note: For information on the English Plans Menu, see Appendix "C", Volume 1.

Warning

Clip masking and rotated views should be avoided.

Note: For Material Source and Disposal example plans, see Section 11, Volume 2.

11.2.1 Sheet Setup (Cont'd)

Step 6 — Add Certified Engineering Geologist Stamp

While in the *active file*, add the Certified Engineering Geologist's Stamp cell for the appropriate person signing the plans, snapping the cell to the point provided.

Step 7 — Sheet Information

The location, name and date of the *active file* are to appear in the lower left corner of the sheet as shown in Figure 11-3. For ODOT users, this will update automatically. Users outside ODOT must use an appropriate pen table.

Step 8 — Add Items

At this point, you are free to create project specific detail sheets. Add text and other project specific items as necessary. See the check list at the end of this section for a complete listing of required and suggested items.

11.2.2 General Information

Text

To maintain standards while drafting material source and disposal site details, use the ODOT >Geotech>Aggregate Menu for line work and cells. This will assure that elements maintain all CAD standards.

Components

In creating contract drawings for material source and disposal site details, commonly needed items are vicinity map, site plan and cross sections. Each of these components must be tailored to fit the project, but generally look the same from project to project.

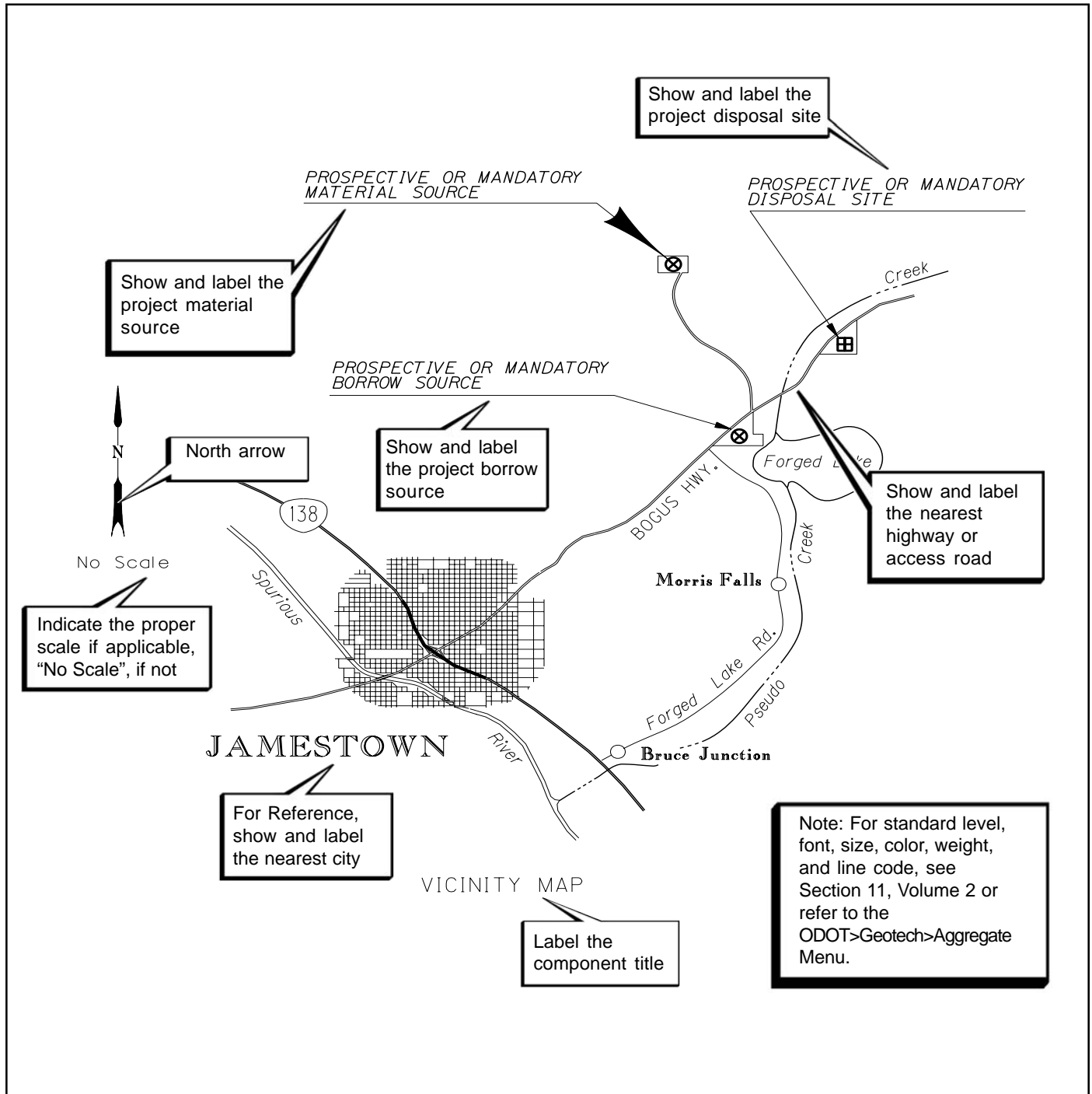
Vicinity Map - The vicinity map should show the site as it relates to the project and/or nearest city. Also relate the location of other associated sites with that of the project. A separate vicinity map is not always necessary; any site(s) can be shown and labeled on the project location map on the Title sheet of the plans.

Site Plan - The site plan should include all information necessary to give the contractor clear non-disputable direction. It should include contour lines, boundaries, specific excavation or disposal area(s), stockpile and processing locations, cross-sections, berms, access routes, scale, north arrow, and any other helpful information such as drill hole locations.

Cross-Sections - These should illustrate the configuration of excavation or disposal surface(s), geologic contacts, and the location of surficial features such as stockpiles, fences, berms, etc. Avoid vertical exaggeration.

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Figure 11-4 Placement of Items on a Supplementary Vicinity Map



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Figure 11-5A Material Source/Disposal Site Plan

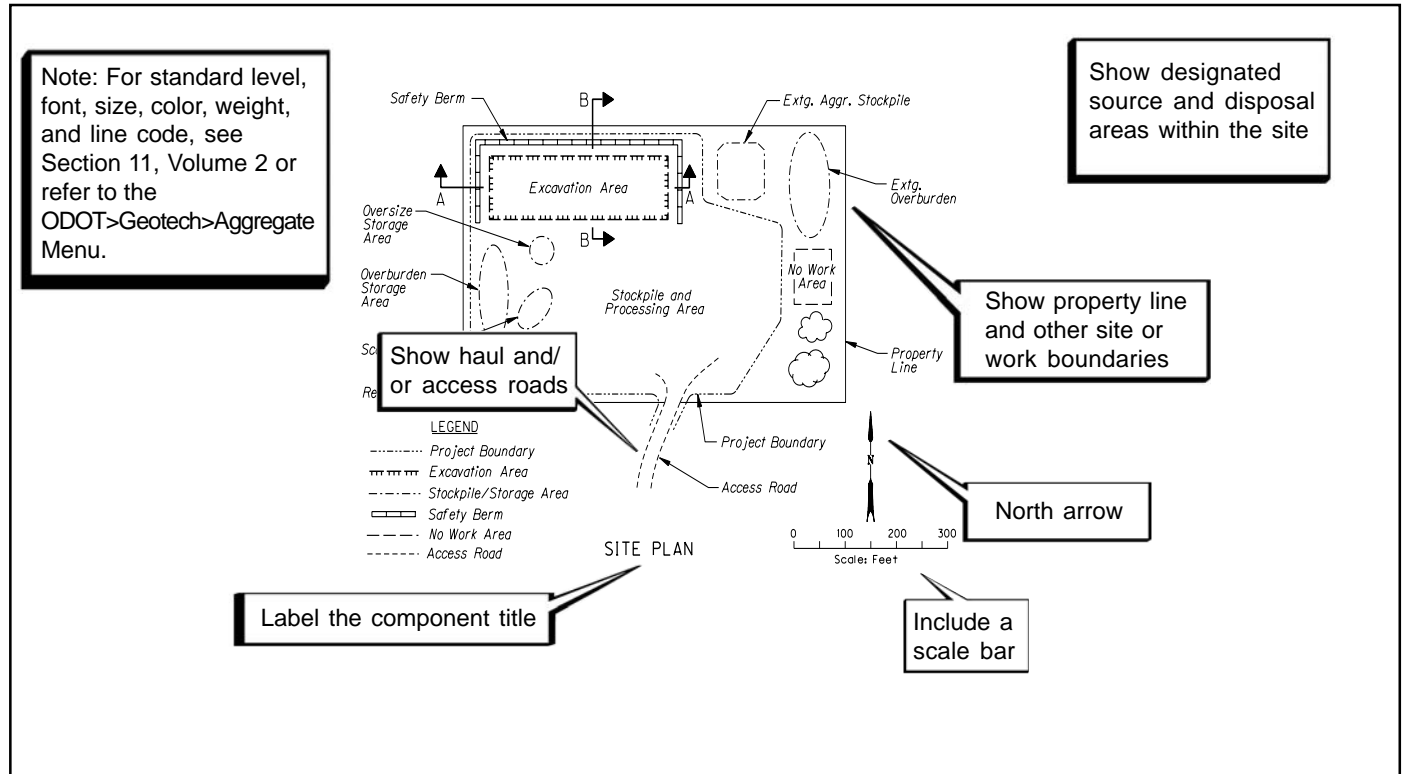
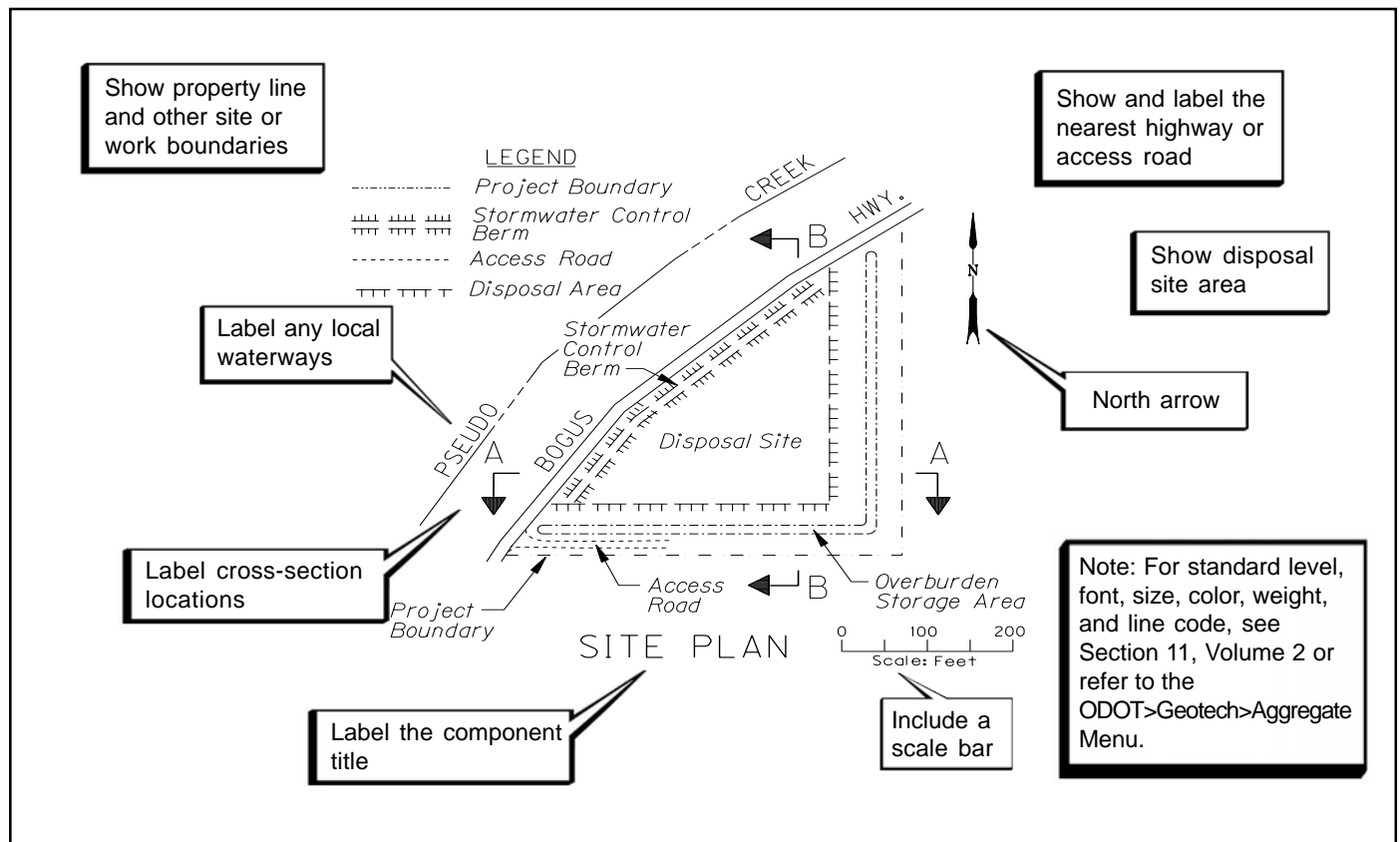


Figure 11-5B Material Source/Disposal Site Plan



11.0 Material Source and Disposal Site

Figure 11-6A Material Source Cross-Sections

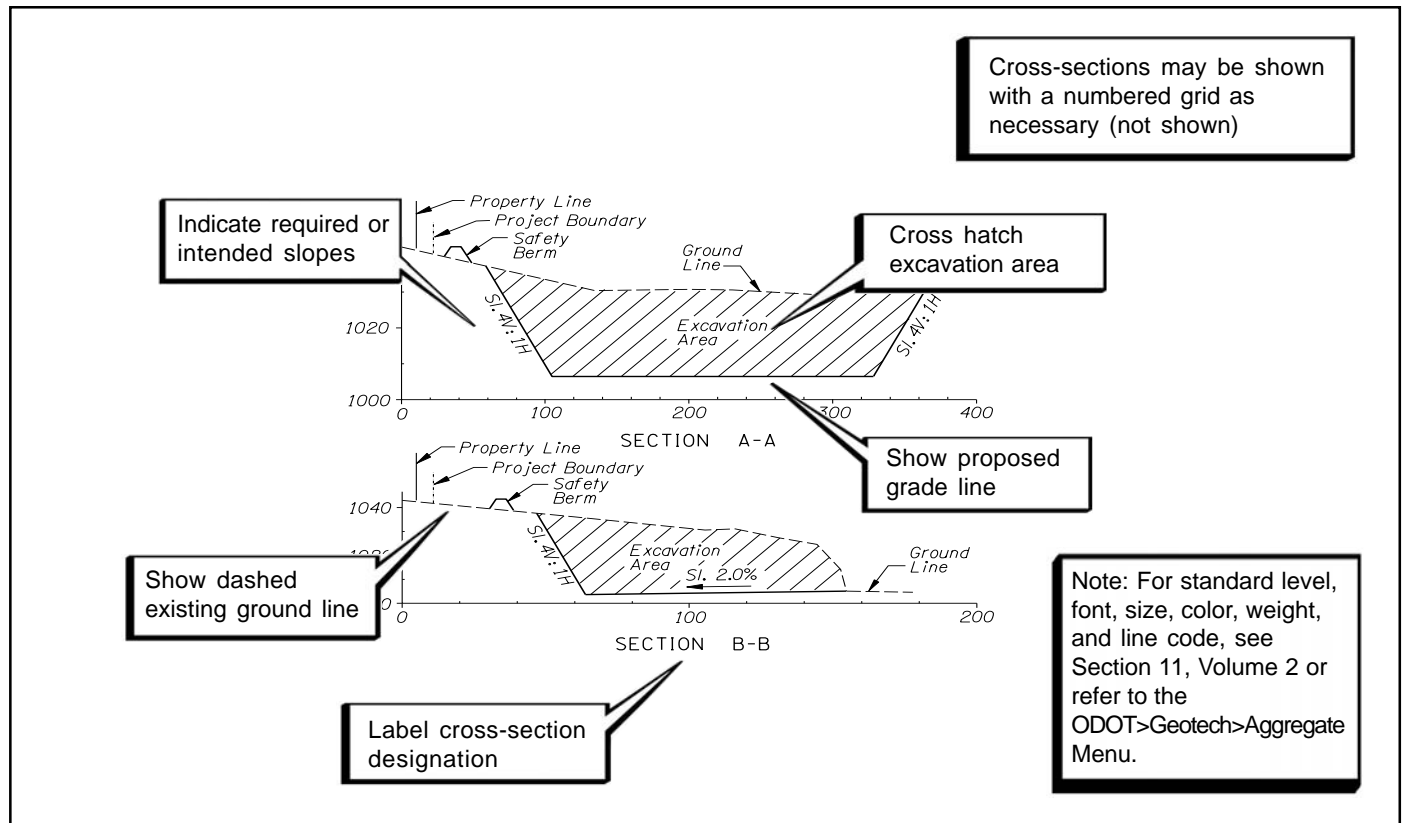
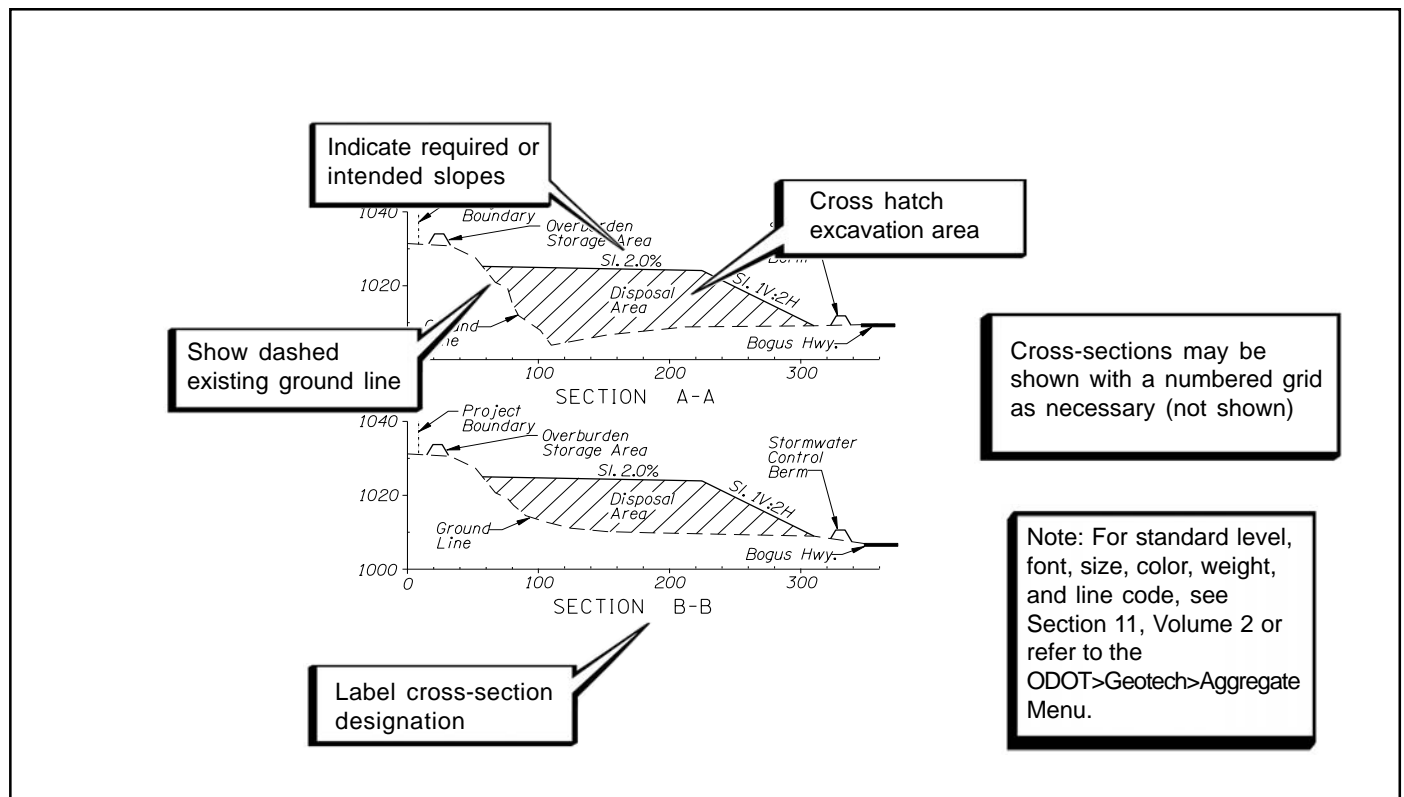


Figure 11-6B Disposal Site Cross-Sections



11.0 Material Source and Disposal Site

Note: For additional information on special provisions, see Section 17, Volume 1.

11.3 Coordination With Specifications and Special Provisions

The Section numbers that correspond with the material source and disposal site details of contract plans, located in the *Standard Specifications for Highway Construction*, ODOT, can be located in part 00100 - General Requirements, and part 00300 - Roadwork, and may include, but are not exclusive to, the following sections:

Section 00160 - Source of Materials

Section 00235 - Agency Provided Material Sources and Disposal Sites

Section 00310 - Removal of Structures and Obstructions

Section 00320 - Clearing and Grubbing

Section 00330 - Earthwork

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11.4 Checklist

The material source and disposal site sheets which are included in the contract documents for review should show any or all of the following information:

- Border, sheet title, sheet number and "V" number
- Notes in the lower right corner
- Reference to standard drawings
- Engineering Geologist stamp (each sheet)
- Vicinity map with north arrow or labeled on the Title Sheet
- Site plan with north arrow and scale
- Source/site location and identification
- Cross sections
- Construction notes
- Section lines
- Access limitations

