8.0   Pipe Data

8.1   Control

Responsibility for development of the pipe data sheets is in the hands of the project's drainage or roadway designer. Pipe data sheets should be developed after the drainage design is fairly complete, and are subject to review during the advance and final review phases.

During the normal review processes, the ODOT Standards Engineer will review the pipe data sheet for accuracy, adherence to standards, and proper usage of alternate materials. Final approval of the pipe data sheet and a signature must be given by the Standards Engineer before advertisement of the project for bid.

8.2   Sheet Setup

The pipe data sheets list all of the drainage pipes and drainage structures that are included on a specific project. Pertinent data are listed with each pipe or structure, such as length and diameter, installation criteria and terminal treatment, alternate materials, and appurtenances. The drainage data on the pipe data sheets must match the drainage information indicated on the plan, profile, and construction note sheets. Produce pipe data sheets using the following procedures.

Step 1 — Create an "Active File"
Create a new MicroStation™ file from the seed file named SEED2D.DGN found at:

Note: For information on seed files, see Section 2.5, Volume 1.

Internal ODOT staff	http:\\Scdata3\odot_space\stadards\seed
External	ftp://ftp.odot.state.or.us/isb/appeng/Microstation/Version8/

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

and name it KEYNUF.PD1, 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 ".PD1" is the appropriate extension for the first file of pipe data sheets. This is your ***active file***. Subsequent files should be named ".PD2", ".PD3," etc.

Note: For information on title block text, see Section 2.8, Volume 1.

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.

8.0   Pipe Data

Figure 8-1   Reference Files - Pipe Data Sheet

Active file
KEYNUF.PD_

"V" No. or
review block

KEYNUF.NAM file
containing the project
title and "V" number
or review block
(reference file)

Project
Title

PIPEV8.DGN
(reference file)

Sheet
Title

The drafter may place 1
to 10 borders per active
file. Attach reference file
KEYNUF.NAM.

10
9
8
7
6
5
4
3
2
1
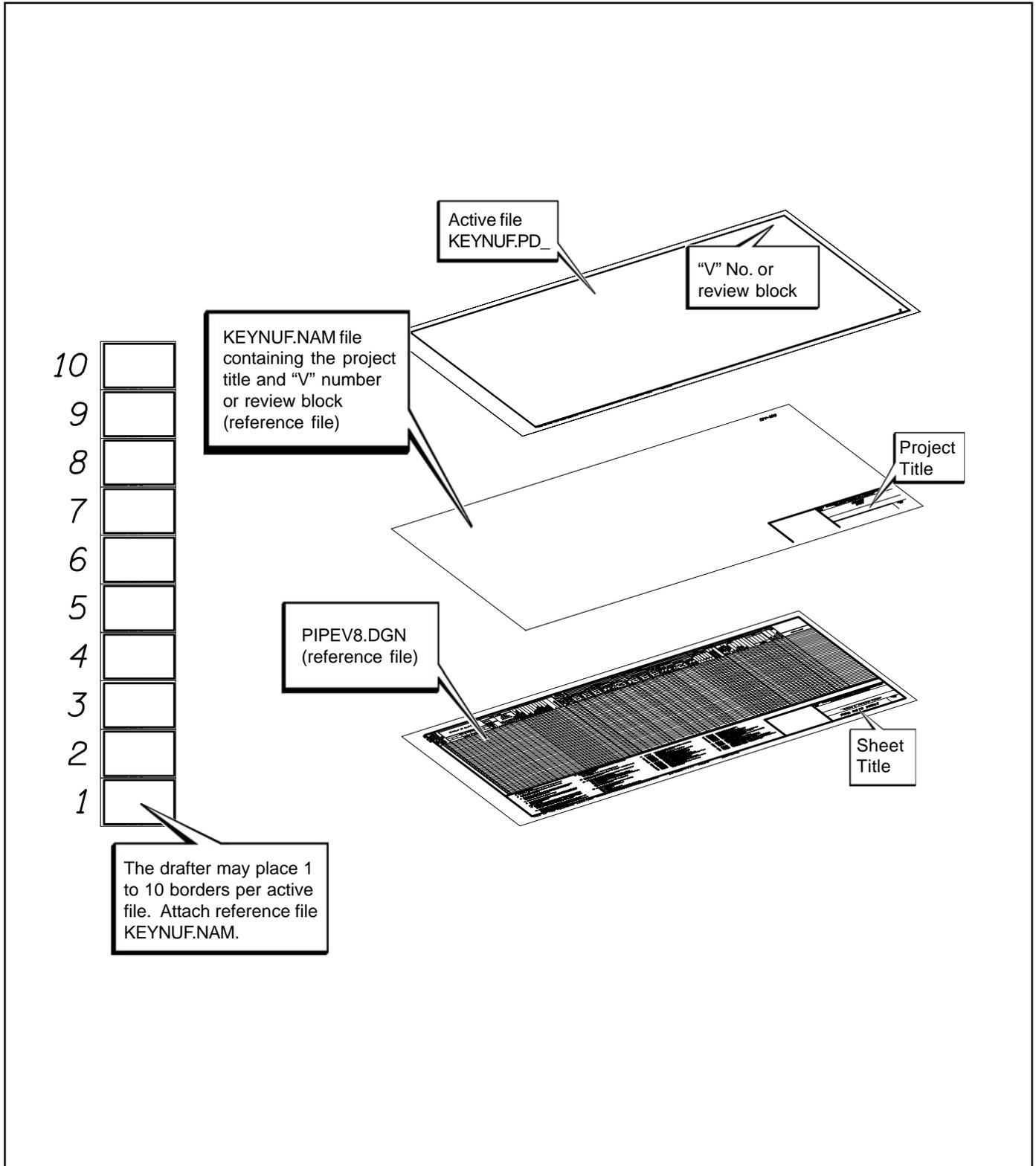
8.0   Pipe Data

8.2   Sheet Setup (Cont'd)

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/

and name it KEYNUF.NAM, 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 01234F.NAM.

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. 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.

When the pipe data information is completed, attach and use PIPE_E06.DGN found in the ODOT workspace:

   Internal ODOT staff   http:\\Scdata3\odot_space\Standards\ref
   External   ftp://ftp.odot.state.or.us/isb/appeng/Microstation/Version8/

and assign a logical name as appropriate for your plan sheet. Attach as many as necessary, assigning a logical name to each attachment, and move to each new border location.

Step 5 — Add Sheet Numbers
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 pipe data sheets with the title blocks filled.

Warning

Clip masking and rotated views should be avoided.

8.2   Sheet Setup (Cont'd)

Step 6 — Add Professional Engineer Stamp
While in the *active file*, add the Professional Engineer'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 8-2. For ODOT users, this will update automatically. Users outside ODOT must use an appropriate pen table.

Step 8 — Add Pipe Data Text
Begin by adding the drainage information to the pipe data sheets. The text may be placed on P_RDWY_PLAN_DetailTx within the *active file*. Figure 8-2 identifies the figures in this section that provide detailed information about the pipe data sheet.

8.0   Pipe Data

Figure 8-2   Pipe Data Sheet Legend

8.0   Pipe Data

Figure 8-3   Length and Diameter
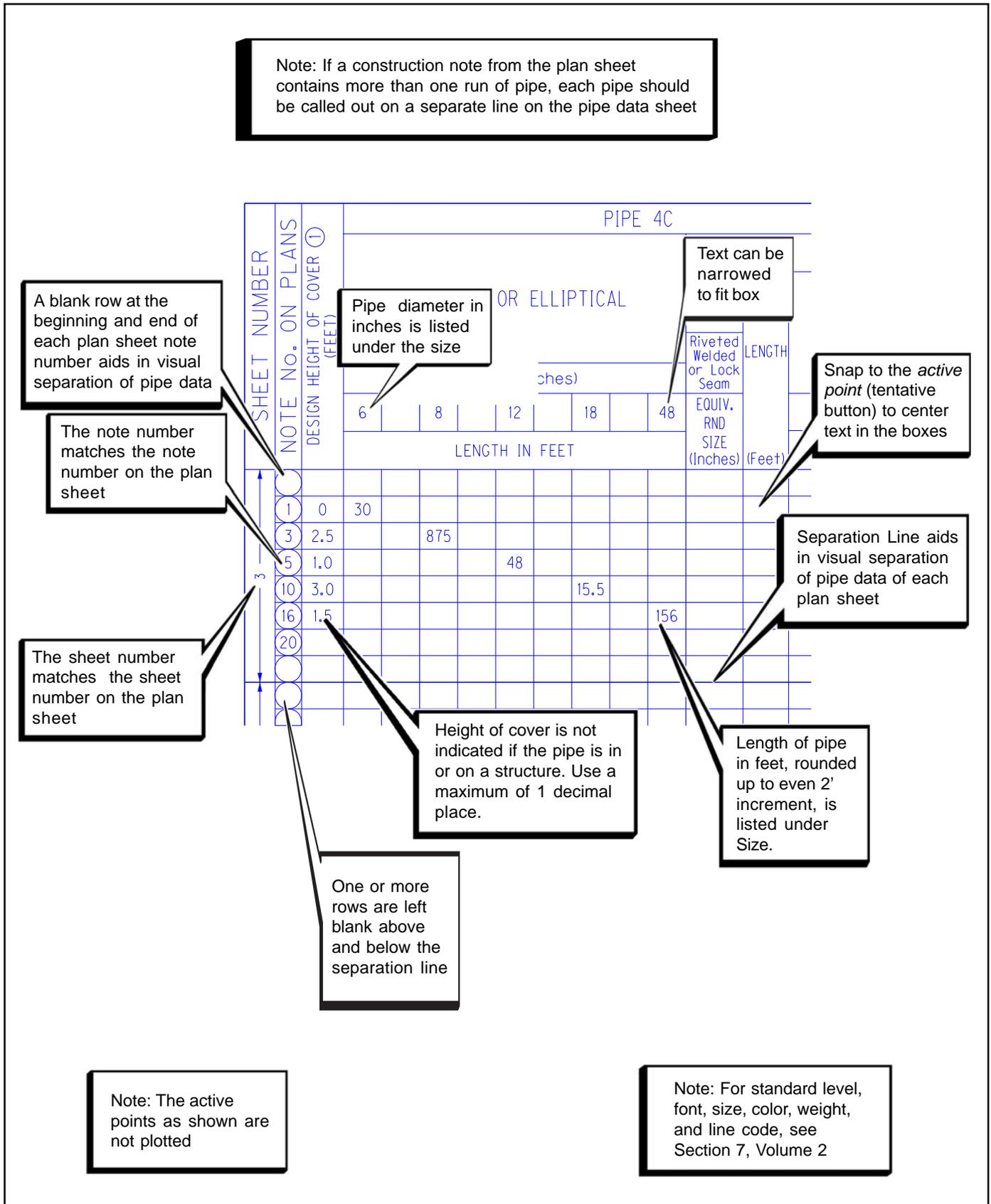
8.0   Pipe Data

Figure 8-4   Pipe Arch
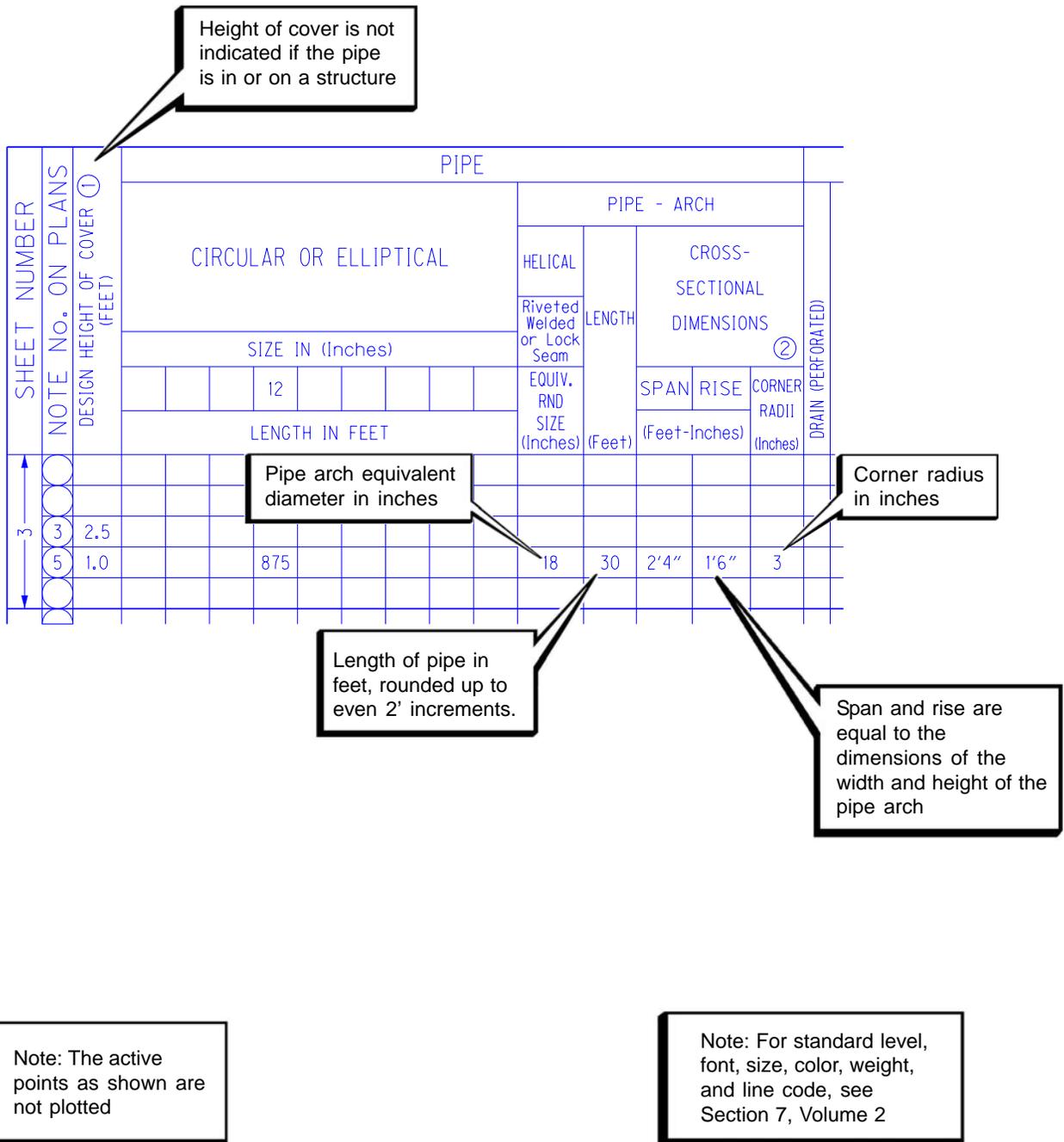
8.0   Pipe Data

Figure 8-5   Use and Installation Criteria and Terminal Treatment

8.0   Pipe Data

Figure 8-6   Alternate Materials
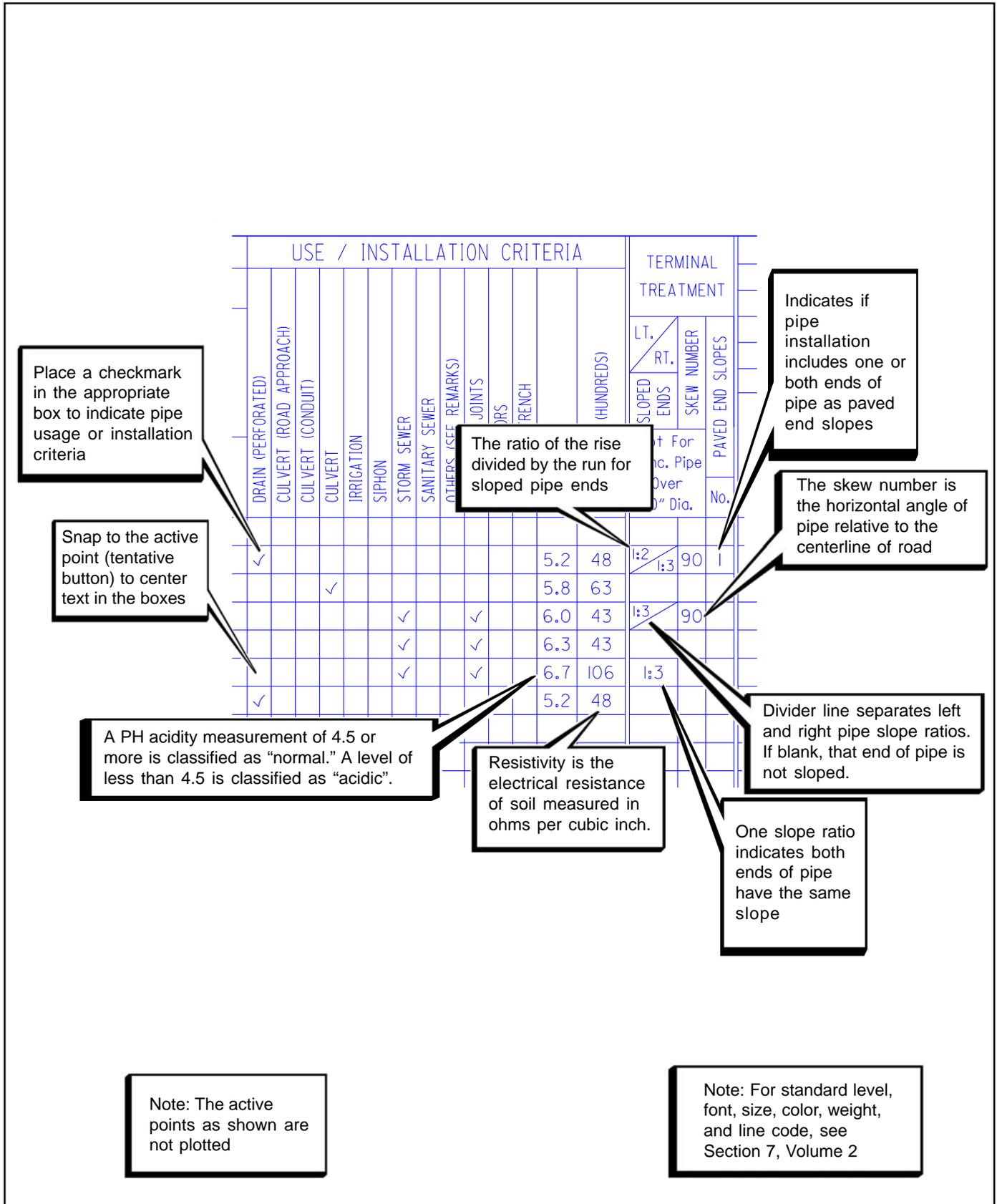
8.0　Pipe Data

Figure 8-7　Appurtenances
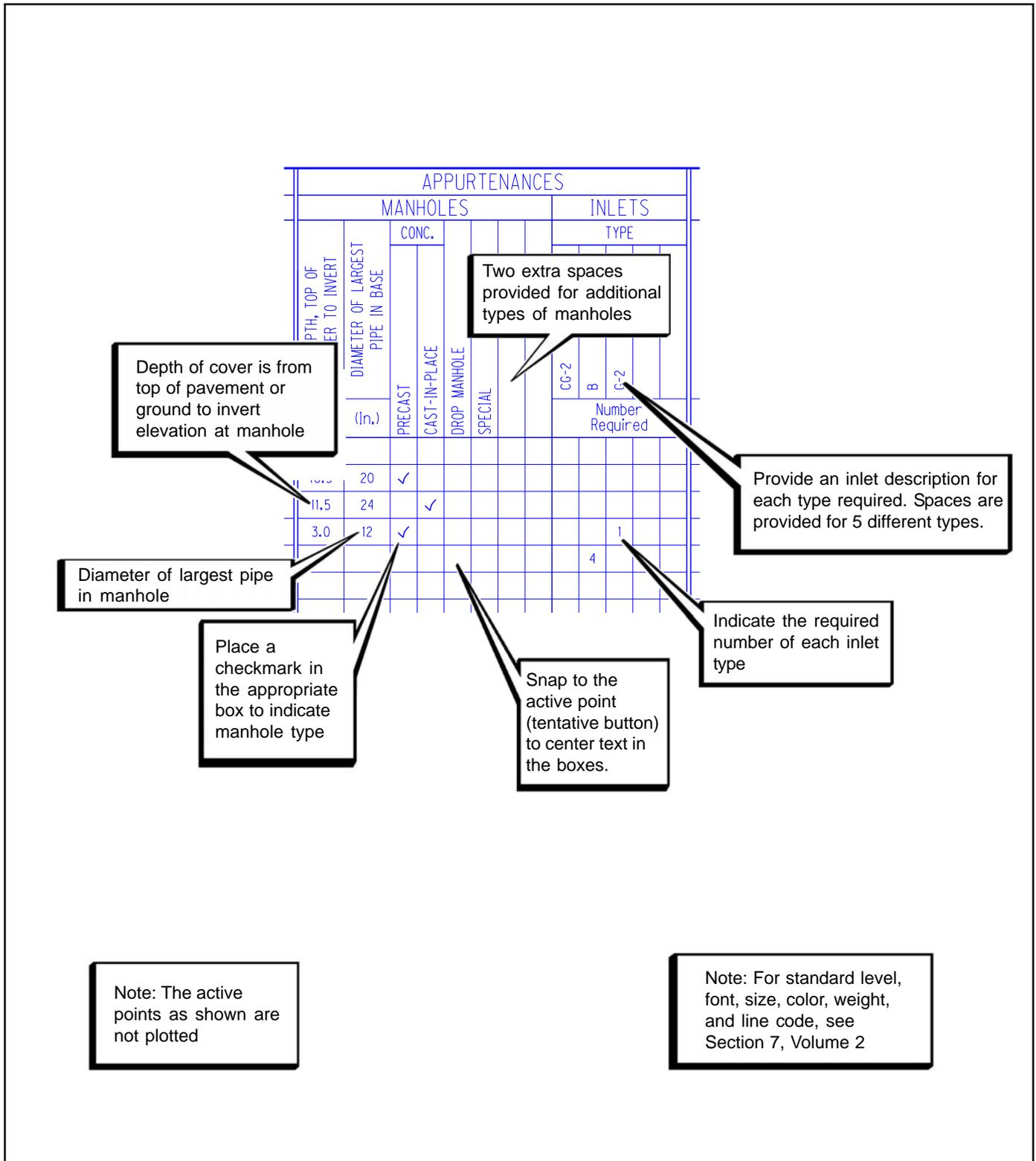
8.0   Pipe Data

Figure 8-8   Extension and Remarks

Note: For pipes at a perpendicular angle to the construction centerline, pipe ends are determined by looking upstation on the centerline, left and right. For pipes running parallel to the centerline, left and right are determined by looking at the pipe from the construction centerline.

Length of extension at left or right end of existing pipe

Indicate the existing pipe material. See Footnote 6 in Figure 8-9.

Indicate in the remarks column — "highlighted" or special information from the construction notes

The expansion line links the second line to first line of remarks

Note: Text can be narrowed to fit the column

Note: The active points as shown are not plotted

Note: For standard level, font, size, color, weight, and line code, see Section 7, Volume 2

8.0   Pipe Data

Figure 8-9   General Notes and Footnotes

The General Notes and Footnotes included in the pipe data sheets refer to general specifications, explanations, and definitions for pipe data material. The General Notes and Footnotes are included in the reference file, PIPE_E06.DGN and are the same for all ODOT contract plans

GENERAL NOTES:

1. A check (√) indicates column heading applies.

2. A new pipe culvert installation shall be of like material throughout.

3. Extension of existing metal culverts may be of unlike metal or corrugations. For connecting details, see Standard Drg. No. RD326.

4. Dimensions shown are nominal.

5. All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved

FOOTNOTES:

① Design height of cover is the critical design height used to select pipe materials. The height of cover for any given run of pipe may vary. Design height of cover shall be measured to subgrade.

② Cross-sectional dimensions may vary with different materials. When galvanized iron or steel and aluminum are acceptable alternates use a separate line for each type of material.

③ Cross-sectional shape of pipe normal to longitudinal axis, prior to loading
A = Pipe - Arch
R = Round
E = Elliptical (5% nominal elongation)

④ Minimum allowable diameter for Class 1 nonreinforced concrete pipe is 15".

⑤ Abbreviations for protective coatings for metal pipe
PM = Polymeric, ¼" thkn. coated both sides
PO = Polyethylene inside lining, polymeric outside
U = Uncoated
CIM = Chevron industrial membrane
Ep = Epoxy coated

⑥ Abbreviations for existing pipe materials
AB = Asbestos cement
Al = Corrugated aluminum
Co = Concrete
Pl = Plastic
St = Corrugated steel
X = Other material, see remarks column

8.0   Pipe Data

Figure 8-10   Standard Drawing References

> Selected boxes indicate the Standards Drawings which apply to and are included with the contract plans on the first pipe data sheet only.

☐ RD300	Trench Backfill, Bedding, Pipe Zone And	
	Multiple Installations	
☐ RD302	Street Cut	
☐ RD304	Arch Pipe Backfill/Compaction	
☑ RD312	Subsurface Drain	
☐ RD314	Open Grade HMAC Drainage Details	
☐ RD316	Sloped Ends For Metal Pipes	
■ RD318	Sloped Ends For Concrete Pipe	
☐ RD320	Paved End Slope For Culverts	
	5'-0" Maximum Pipe Size	
☐ RD322	Safety End Section Metal Pipe	
☐ RD324	Safety End Section Concrete Pipe	
☐ RD326	Coupling Bands For Corrugated Metal Pipe	
☐ RD328	Slotted C.M.P. Drain Details	
☐ RD330	Metal Pipe Slope Anchors	
☐ RD336	Standard Storm Sewer Manhole	
☐ RD340	Storm Sewer Pollution Control Manhole	
☐ RD342	Shallow Manholes	
☐ RD344	Standard 48" Diameter Manhole	
	Base Section	

☐ RD346	Large Precast Manhole
☐ RD348	Manhole With Inlet
☐ RD352	Outside Drop Manholes
☐ RD356	Manhole Covers And Frames
☐ RD358	Manhole Slope Protectors
☐ RD360	Manhole Frame Adjustment
☐ RD364	Concrete Inlets Types G-1, G-2 & G-2M
☐ RD366	Concrete Inlets Type CG-1, CG-2
	And Curb Inlet Channel
☐ RD368	Concrete Inlets Type ME, M-O, B And B-SL
☐ RD370	Ditch Inlet Type D
☐ RD372	Concrete Inlets Type CG-3
☐ RD374	Area Drainage Basin Or Field Inlet
☐ RD376	Miscellaneous Drainage Structures
	Siphon Box & Inlet Adj. Cap
☐ RD380	Fill Height Table - Alum. & Steel Corrugated
☐ RD382	Fill Height Table - Alum. & Steel Pipe Arch
☐ RD384	Fill Height Table - Alum. & Steel Spiral Rib Pipe
☐ RD386	Fill Height Table - Concrete Pipe

☑ RD300

■ RD324

> Create a filled box by placing and snapping (tentative point) an "inlet by edge" on the center of the left side of the box. Turn view attribute "Fill" on. AC=INCONBC (ROAD.CEL)
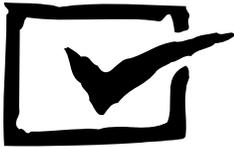
8.3 Checklist

The Pipe Data Sheets that are included in the contract plan documents should show any or all of the following information:

☐   Project title, sheet number and "V" number

☐   Standard ODOT english borders and title block

☐   CAD file name and path

☐   Standard drawings identified

☐   Size and length of pipe or pipe arch

☐   Use and installation criteria

☐   Terminal treatment

☐   Alternate materials identified

☐   Appurtenances

☐   Pipe extensions

☐   Remarks

☐   A blank space at the beginning and end of each list of plan sheet note numbers, when possible

☐   A heavy line to separate pipe data for each plan sheet