

## Appendix A - Fatal Error Messages

Fatal errors have different effects according to their severity. Any fatal error will inhibit the printing of output files and will limit output to no more than one girder line. Some errors will prevent printing of even one girder line; some will prevent printing of horizontal control and layout lines. Errors associated with horizontal or vertical alignment data will abort the run immediately. “Card” in error heading refers to record number in input file. (See Chapter 2)

Errors in alphabetical order are:

### **1. BENT LINES NOT LOCATED BECAUSE SECONDARY REFERENCE LINE WAS NOT FOUND**

Indicates improper use of secondary reference lines. See Chapter 3, “Bent Line Data” (06 records), cols 45-46 (Secondary Reference Lines). This message may result from a combination of: 06 record with distance type 7 but no 05 record for segmented (line type 1) girder line.

### **2. COL 3, 12 OR 21 OUT OF RANGE—GIRDER LINE: . . .**

See Chapter 3, “Girder Line Data” (05 records), for allowable range Column 3 (Line Type), and Columns 12 and 21 (Offset Type).

### **3. COL 11 OR 21 OUT OF RANGE—BENT LINE: . . .**

See Chapter 3, “Bent Line Data” (06 records), for allowable range for Column 11 (Distance Type) or Column 21 (Skew Angle).

### **4. COL 11 CONFLICTS WITH COL 21 -- BENT LINE: . . .**

If a 06 record has skew type 1 (with respect to horizontal control), then distance type must be designated 0 (along horizontal control line). (Applies only when horizontal alignment is not tangent.)

### **5. COL 11 CONFLICTS WITH COL 40 -- BENT LINE: . . .**

A 06 record designated in col 40 (bent to define offsets for flared girder lines) may NOT use distance type 6 or 7 (from a secondary reference line). See Chapter 3, “Bent Line Data.”

### **6. COL 14 CONFLICTS WITH COL 24**

Col 14 (Station is on” scroll bar) conflicts with col 24 (“With Respect to” scroll bar). If skew of the reference line is with respect to horizontal control, then reference station **must** be on horizontal control. (Applies only when reference station is in horizontal curve).

**7. COL 14, 24, 25 OR 26 OUT OF RANGE (OR LAYOUT LINE NOT FOUND ON PREV SECTION)**

04 record (Layout Line tab) Col 14 (“Station is on” scroll bar), 24 (“With Respect to” scroll bar) 25 (“Default Skew Angle” Radio Buttons or 26 out of range (or layout line not found on previous section). See Chapter 3, “Reference and Layout Line Data” (04 record), for allowable range for these fields. Col 14 is considered “out of range” if it is a 3 and a fatal error in the previous section of 04-07 records resulted in an undefined layout line.

**8. COL 46 CONFLICTS WITH COL 11 OR 45 -- BENT LINE: . . .**

Indicates improper use of secondary reference lines. See Chapter 3, “Bent Line Data” (06 records), cols 45-46 (Secondary Reference Lines).

**9. EITHER (1) 04 CARD HAS ERROR IN COL 24 OR 26**

Reference Line tab, skew selection or chord option

**OR (2) NOT ENOUGH 06 CARDS HAVE VALUE IN COL 41**

Column 41 (“Chord Layout Line”) in Options scroll bars

**OR (3) NO 05 CARD HAS VALUE IN COL 51**

Girder Line tab, Layout Line is Chord option

A chord layout line was requested but one of two rules was violated. If reference line is used as initial or terminal bent to define chord layout line (i.e., only one 06 record (Bent Line tab) has been designated in col 41 (“Chord Layout Line” in Options scroll bar) and if skew of reference line is with respect to layout line (skew type 2), then layout line must be a chord on horizontal control line. Only two cases permit no 06 records designated as initial or terminal bent to define chord layout line, viz.: (1) 05 record designated in col 51 (“Layout Line is a Chord” in Options) is a girder line of type 3 (flared), or (2) 05 record designated in col 51 is a girder line of type 0 (parallel to horizontal control) AND horizontal alignment is tangent (i.e., no curve data given on 01 record). See (Chapter 3, “Reference and Layout Line Data” (04 record).

**10. ESTIMATED NUMBER OF POINTS EXCEEDS DEFAULT MAXIMUM**

See Chapter 3, “Reference and Layout Line Data” (04 record), Extended Print Capability, col 33.

**11. FATAL ERROR—02 CARD**

In the absence of a more detailed diagnostic, this indicates insufficient or redundant data on 02 record. (Vertical tab) See Chapter 3, “Vertical Alignment Data.”

**12. FATAL ERROR—INTERSECTION OF REFERENCE LINE WITH HORIZONTAL CONTROL OR WITH LAYOUT LINE OR WITH TANGENT LINE IS ILL-CONDITIONED**

The reference line must intersect both horizontal control and layout line. It must intersect back or ahead tangent only if a 06 record has distance type 2 or 3. (Back or Ahead tangent) This message indicates that the point of intersection could not be found (as, e.g., reference line being parallel to layout line).

**13. FATAL ERROR—LAYOUT LINE IS RECURSIVELY DEFINED**

Generally results from using a bent line to locate a “chord” layout line when the location of the bent line itself depends on the layout line.

**14. FATAL ERROR—NO n CARD FOUND**

Where  $n = 00, 02, 03, 04, 05$  or  $06$ ; the indicated record type was not found due to records out of sequence or **required record missing**.

**15. THE FOLLOWING LINES WEWE NOT FOUND**

The program found a record out of sequence (see Chapter 2, “File Organization”) or an invalid Record Type field, cols 1-2. Comment records with record type 99 will not be listed.

**16. GIRDER LINE TYPE 4 MAY BE USED ONLY WITH CROWN TYPE A OR B:**

See Chapter 3, “Girder Line Data” (05 records), line type 4. and “Cross Slope and Transition Data” (Crown Type).

**17. HORIZ CIRCULAR CURVE NOT LONG ENOUGH TO PREVENT SUPER TRANSITIONS FROM LAPPING**

Alignment End of transition in was found to be more than one ahead of beginning of transition out. and Generally indicates an error in coding 03 record (Cross Slope and Transition tab,) cols 21-50 (Transition In and Transition Out ranges) for a simple curve. (See Chapter 3, “Crown Superelevation Data.”) May also be caused by incorrect delta, or radius given on 01 record. (See Chapter 3, “Horizontal Data.”)

**18. IMPROPER USE OF OPTIONAL 03 CARDS**

Stations on optional superelevation override records were found to be in conflict or too close together.

**19. INVALID PARABOLIC CROWN WIDTH**

A parabolic crown must be given a non-zero crown width (03 record, cols 57-65). This error may also be due to incorrect crown type (col 3). See Chapter 3, “Crown and Superelevation Data.”

**20. INVALID STATION EQUATION**

Equation number of back station was found to be greater than equation number of ahead station. See Chapter 3, “Horizontal Alignment Data” (01 record Equation number of back station was found to be greater than equation number of ahead station. See Chapter 3, “Horizontal Alignment Data” (01 record).

**21. INVALID TRANSITION LENGTH FOR SIMPLE CURVE**

A superelevated horizontal curve that does not have spiral transition at one end (or both ends) must be given a non-zero transition length for superelevation on 03 record (cols 26-30 or 41-45) (Transition In and transition Out ranges.)

**22. NOT ENOUGH 06 CARDS HAVE PUNCH IN COL 39**

Not enough “Break Girders Lines” designated in Options Range scroll bars. When segmented girder lines are used, at least two bent lines (06 records) must be designated in col 39 (segmented girder lines to be broken). See Chapter 3, “Girder Line Data” (05 records), line type 1.

**23. NOT ENOUGH 06 CARDS HAVE PUNCH IN COL 40**

Not enough “Flared Girder Offsets” designated in Options Range scroll bar. Line was requested but no bent line (06 record) was designated in col 40 (bent to define offsets for flared girder lines). See Chapter 3, “Girder Line Data” (05 records), line type 3.

**24. RADIUS OF CURVE OR DELTA ANGLE OUT OF RANGE**

See Chapter 3, “Horizontal Alignment Data” (01 record), for allowable range for radius of curve and delta.

**25. SPIRAL LENGTH OUT OF RANGE**

Spiral lengths must (each) be less than  $\pi$  times radius of curve.

**26. SPIRALS LAP**

Sum of the two spiral angles was found to be (significantly) greater than the given delta.

**27. VERTICAL CURVES LAP**

PT of first vertical curve was found to have station (significantly) ahead of PC of second vertical curve.