

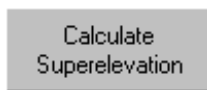
Exercise 14-2

1. Open the Microstation file

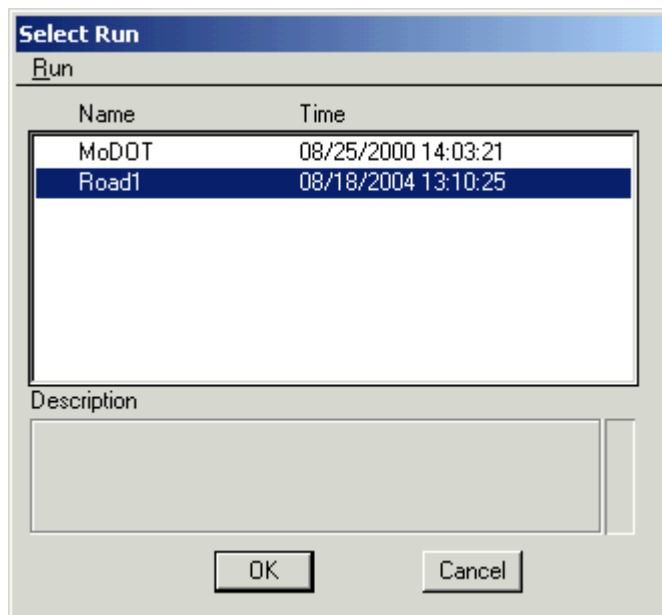
t:\de-proj\randolph\j2p0200\data\pattern_shape_j2p0200.dgn.

2. In the project **t:\de-proj\randolph\j2p0200\project\j2p0200.prj** (Job: cu1 and User: ClsUser), select the **Road1** working alignment in the Road Project dialog.

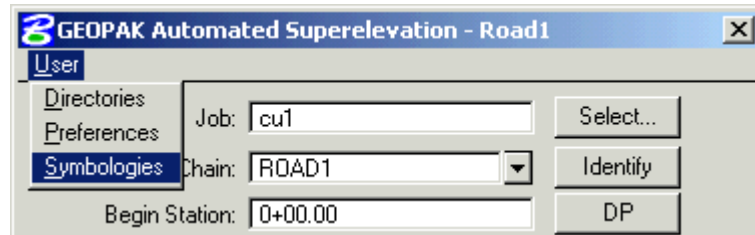
3. Choose **Calculate Superelevation** from the **Road Project** dialog.



Copy the **MoDOT** run to **Road1**, and open the **Road1** run.



4. In the Automated Superelevation dialog, select the menu item **User > Symbologies**.



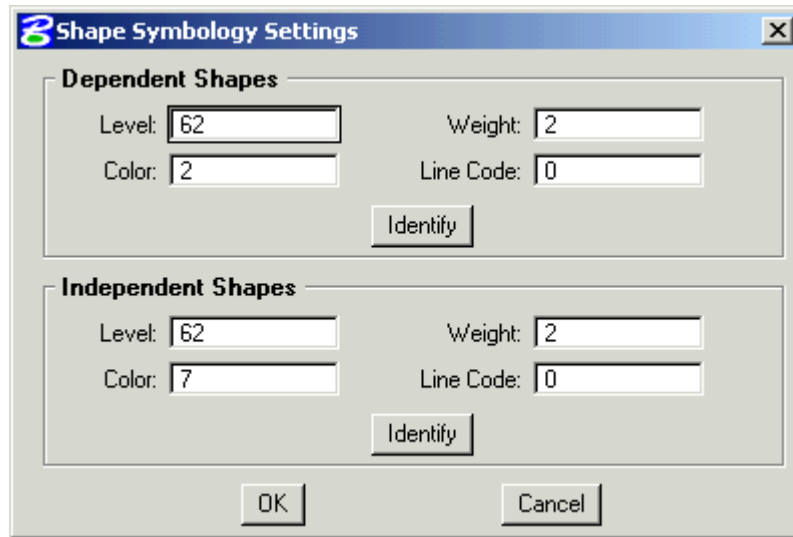
Set the following **Shape Symbology Settings** (and as shown in the dialog):

Dependent Shapes

Level: 62 **Weight: 2**
Color: 2 **Line Code: 0**

Independent Shapes

Level: 62 **Weight: 2**
Color: 7 **Line Code: 0**



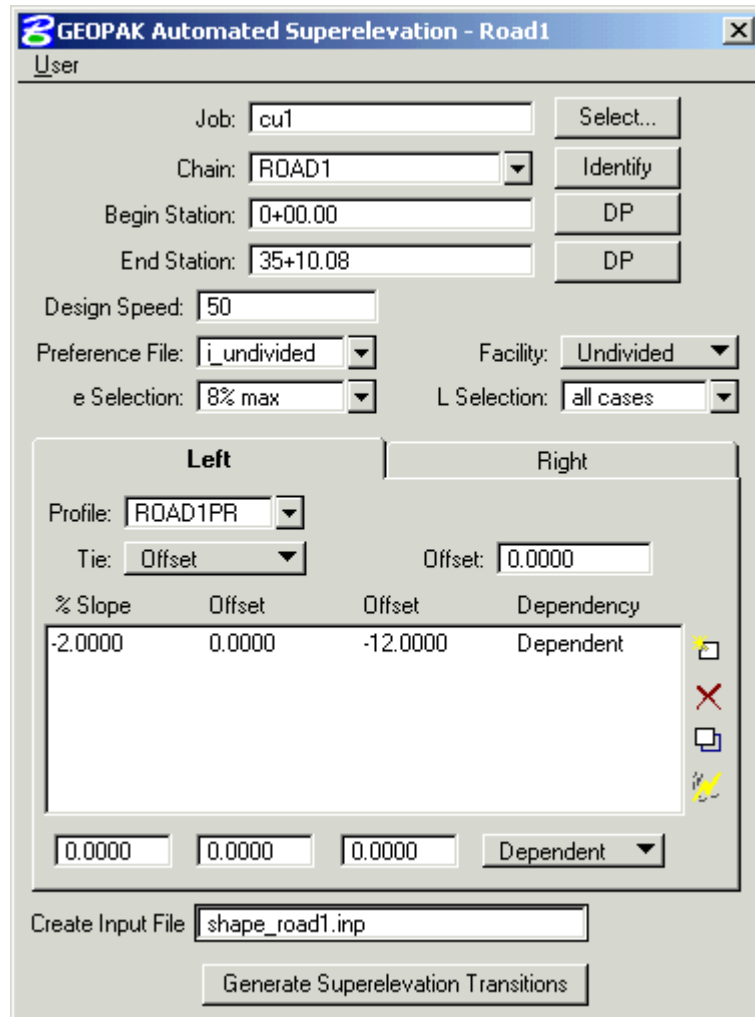
Click OK to accept the new symbology settings.

5. Setup the **Automated Superelevation** dialog using the following parameters.

Job: **cu1**
 Chain: **ROAD1**
 Begin Station: **Beginning of Chain**
 End Station: **End of Chain**

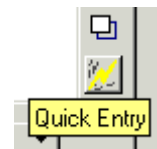
Design Speed: **50**
 Preference File: **i_undivided**
 e Selection: **8% max**

Facility: **Undivided**
 L Selection: **all cases**

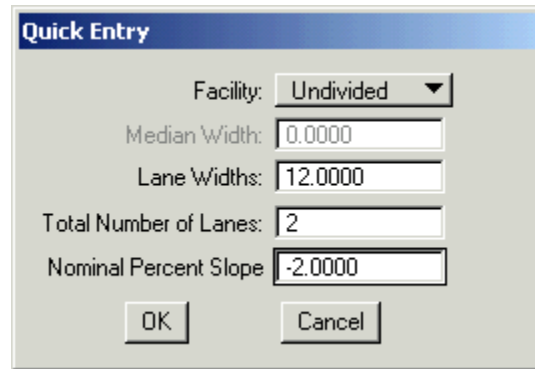


Enter **ROAD1PR** as the profile for the **Left** and **Right** tabs.

Select the **Quick Entry icon** shown to the right to bring up the Quick Entry dialog shown on the next page.



5 (Continued) Enter the information in the **Quick Entry** dialog as shown below.



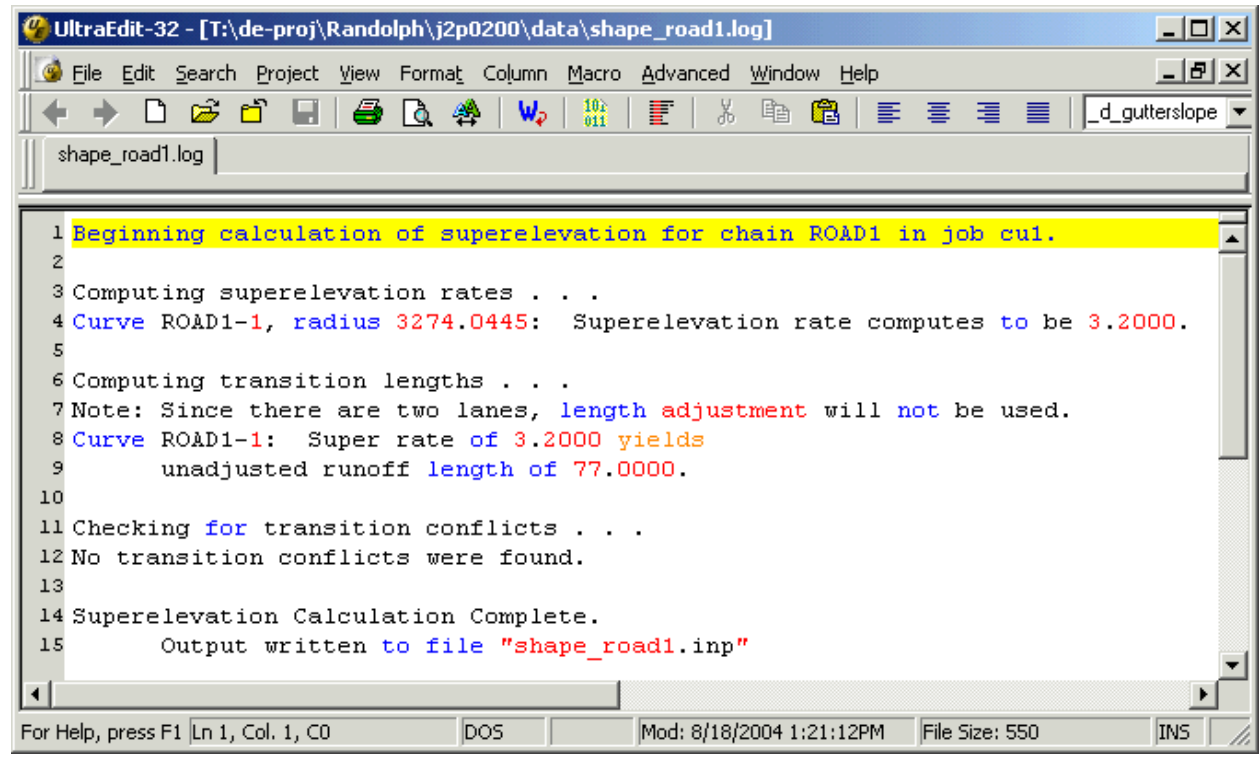
After entering the information in the dialog, click OK and edit Left and Right list box so that it agrees with the following information. **Hint:** All you should have to do is modify the dependency on the right side to Independent.

Left:				Right:			
<u>% Slope</u>	<u>Offset</u>	<u>Offset</u>	<u>Dependency</u>	<u>% Slope</u>	<u>Offset</u>	<u>Offset</u>	<u>Dependency</u>
-2.0	0	-12	Dependent	-2.0	0	12	Independent

Create Input File: **shape_road1.inp**.

Click on **Generate Superelevation Transitions** to begin the calculations.

6. Review the **t:\de-proj\randolph\j2p0200\data\shape_Road1.log** for any errors.



7. Review the **shape_Road1.inp** for any errors.

Per standards, round all station values to 2 decimal places, as shown to the right.

Add the filler lines to in the second auto shape set at Station 7+50.22 and Station 23+66.16. These are the C-C sections on the standard plans. An easy way to add the lines is to copy them from the first auto shape set, insert them at the correct location in the other auto shape set and change the sign of the cross slope.

The filler lines at Stations 7+05.10 and 24+14.29 are the B-B section.

Save the changes to the input file in the GEOPAK Text Editor and click on the **Create Superelevation Shapes** button shown below to process the input file.



Save the MicroStation file, exit the superelevation dialogs and save the settings.

```

Text Editor: shape_road1.inp
File Edit Criteria

/* Superelevation Settings and Parameters:
Project Name:  t:\de-proj\Randolph\j2p0200\project\j:
User:          t:\de-proj\Randolph\j2p0200\project\p:
Run Name:     Road1
Unit System is english.
Created input file "shape_road1.inp".
Created activity log file "shape_road1.log".
Created on Thu, Aug 19, 2004 at 13:44.
Using Preference File "i_divided"
Using e Selection of "8% max".
Using Length Selection of "all cases"
Using Design Speed of 50.000000.

*/

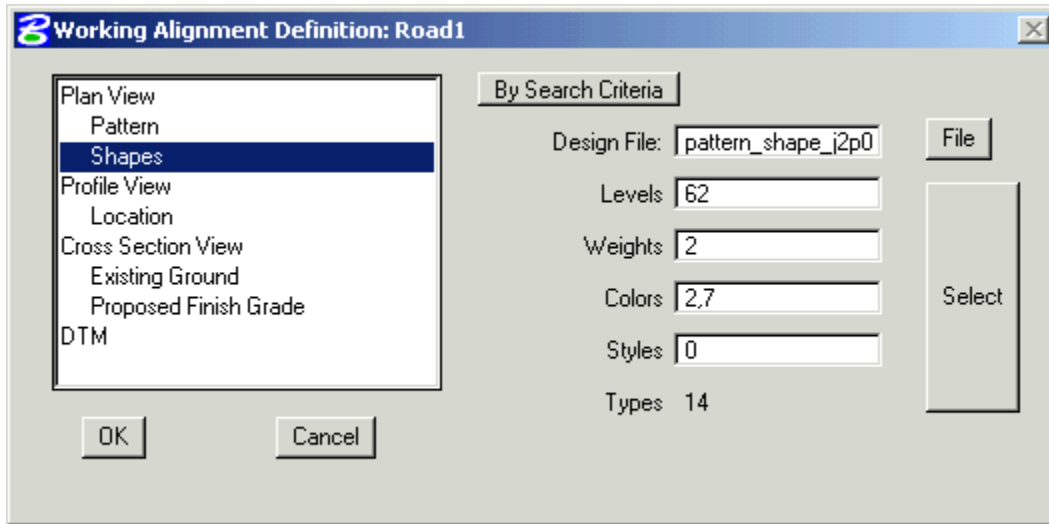
auto shape
job number = cul

    auto shape set
        shape cluster baseline = ROAD1
        shape cluster profile  = ROAD1PR
        shape cluster tie      = 0.0000
        dependent shape
        chain / offset
            ROAD1  -12.0000
            ROAD1   0.0000
        filler line station / slope
            0+00.00  -2.0000
            7+50.22  -2.0000
            7+79.10  -3.2000 /* Curve ROAD1-1 */
            23+37.29 -3.2000 /* Curve ROAD1-1 */
            23+66.16 -2.0000
            35+10.08 -2.0000

    auto shape set
        shape cluster baseline = ROAD1
        shape cluster profile  = ROAD1PR
        shape cluster tie      = 0.0000
        independent shape
        chain / offset
            ROAD1  0.0000
            ROAD1  12.0000
        filler line station / slope
            0+00.00  -2.0000
            6+53.97  -2.0000
            7+02.10   0.0000
            7+50.22   2.0000
            7+79.10   3.2000 /* Curve ROAD1-1 */
            23+37.29   3.2000 /* Curve ROAD1-1 */
            23+66.16   2.0000
            24+14.29   0.0000
            24+62.42  -2.0000
            35+10.08  -2.0000

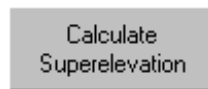
Plot Parameters
Dependent Shape
lv = 62
Line: 73 Col: 2
    
```

8. Update the working alignment definition (Design File: **pattern_shape_j2p0200.dgn**).

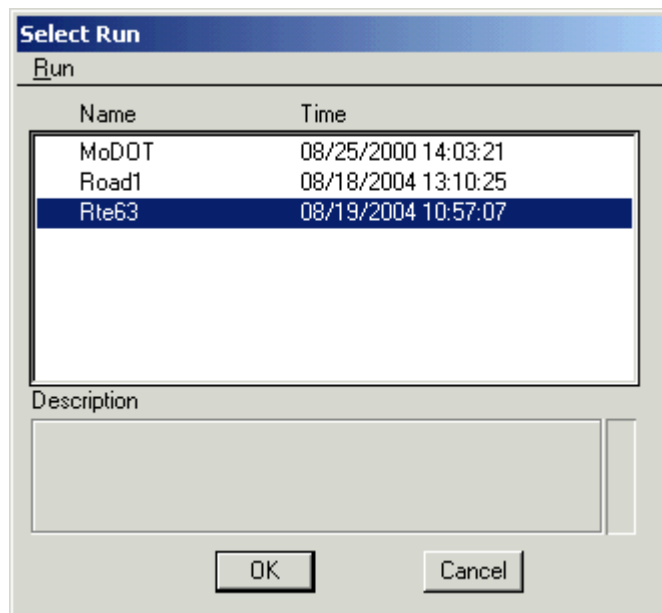


9. Select the **Rte63** Working Alignment in the **Road Project** dialog.

10. Choose **Calculate Superelevation** from the **Road Project** dialog.



Copy the **MoDOT** run to **Rte63**, and open the **Rte63** run.

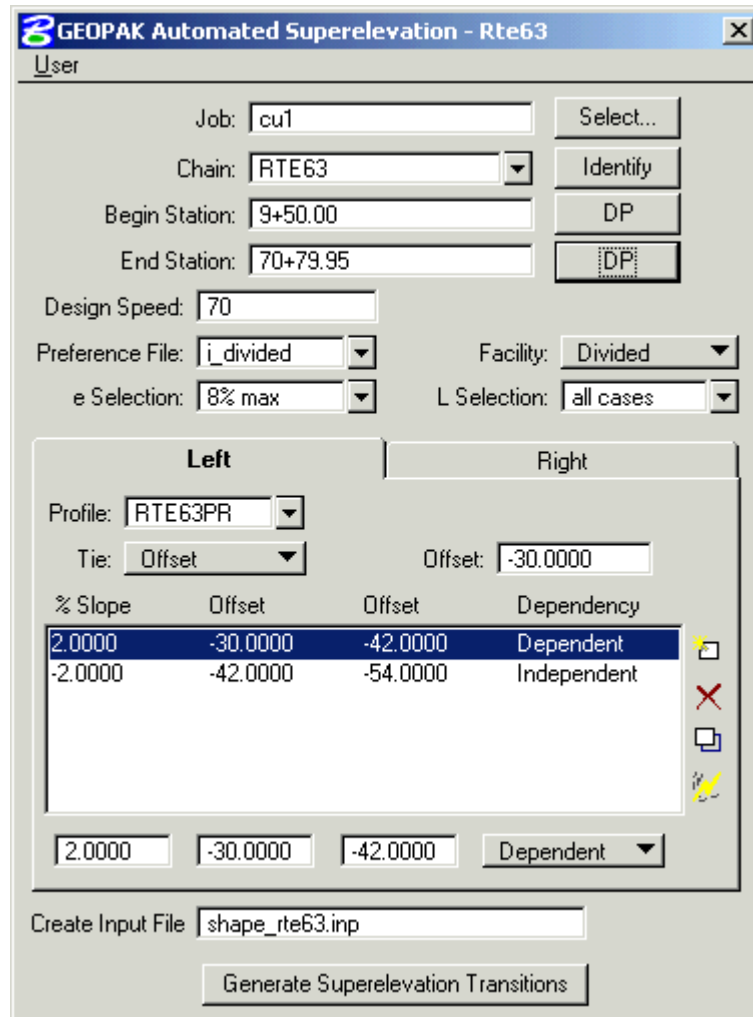


11. Setup the superelevation using the following parameters.

Job: **100**
 Chain: **RTE63**
 Begin Station: **Beginning of Chain**
 End Station: **End of Chain**

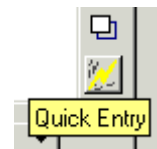
Design Speed: **70**
 Preference File: **i_divided**
 e Selection: **8% max**

Facility: **Divided**
 L Selection: **all cases**

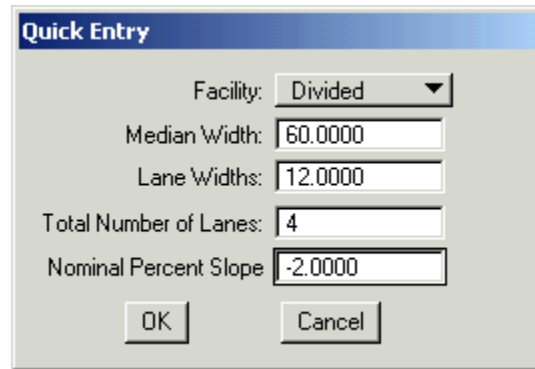


Enter **RTE63PR** as the profile for the **Left** and **Right** tabs.

Select the **Quick Entry icon** shown to the right to bring up the Quick Entry dialog shown on the next page.



11 (Continued) Enter the information in the **Quick Entry** dialog as shown below.

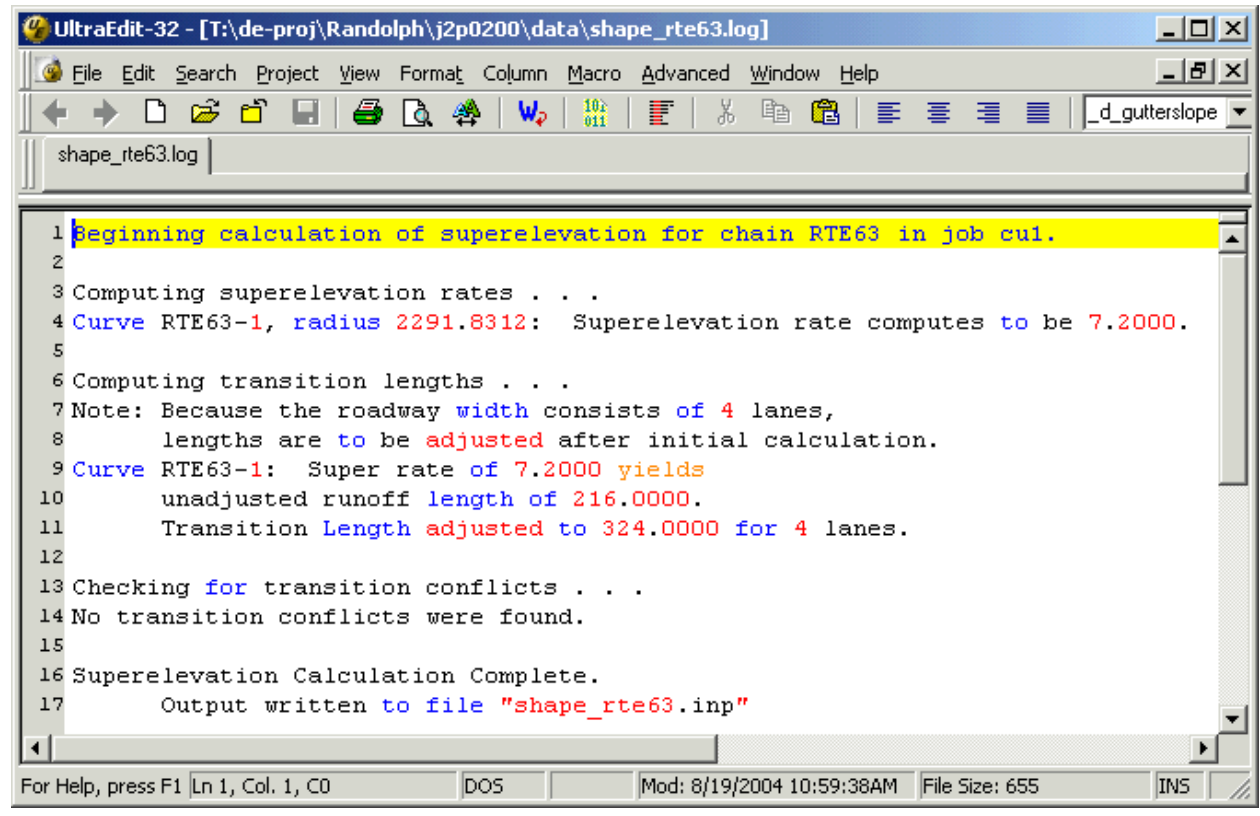


After entering the information in the dialog, click OK and edit Left and Right list box so that it agrees with the following information. Hint: All you should have to do is modify the slopes to the correct signs.

Left:				Right:			
% Slope	Offset	Offset	Dependency	% Slope	Offset	Offset	Dependency
2.0	-30	-42	Dependent	2.0	30	42	Dependent
-2.0	-42	-54	Independent	-2.0	42	54	Independent

Create Input File: **shape_rte63.inp**.

12. Review the **t:\de-proj\randolph\j2p0200\data\shape_Rte63.log** for any errors.



13. Review the **shape_Rte63.inp** for any errors. Per standards, round all station values to 2 decimal places, as shown below. Add the lines in the first and fourth auto shape set, which can be copied from the second and third auto shape set at Sta. 25+94.73 and 45+51.48. These are the C-C sections shown on Standard Plan 203.21. The filler lines at Sta. 24+14.73 and 47+31.48 are the A-A sections. Those at Sta. 25+04.73 and 46+41.48 are the B-B sections and the D-D sections are at Sta. 28+28.73 and 43+17.48.

(Section of shape_rte63.inp as edited:)

```

auto shape
job number = cul

auto shape set
  shape cluster baseline = RTE63
  shape cluster profile  = RTE63PR
  shape cluster tie      = -30.0000
  dependent shape
  chain / offset
    RTE63      -30.0000
    RTE63      -42.0000
  filler line station / slope
    9+50.00    2.0000
    24+14.73   2.0000
    25+04.73   0.0000
    25+94.73  -2.0000
    28+28.73  -7.2000 /* Spiral RTE63-1B, Curve RTE63-1 */
    43+17.48  -7.2000 /* Curve RTE63-1, Spiral RTE63-1A */
    45+51.48  -2.0000
    46+41.48   0.0000
    47+31.48   2.0000
    70+79.01   2.0000

auto shape set
  shape cluster baseline = RTE63
  shape cluster profile  = RTE63PR
  shape cluster tie      = -30.0000
  independent shape
  chain / offset
    RTE63      -42.0000
    RTE63      -54.0000
  filler line station / slope
    9+50.00    -2.0000
    25+94.73   -2.0000
    28+28.73   -7.2000 /* Spiral RTE63-1B, Curve RTE63-1 */
    43+17.48   -7.2000 /* Curve RTE63-1, Spiral RTE63-1A */
    45+51.48   -2.0000
    70+79.01   -2.0000
    
```

(Continued on next page)

(Continuation of edited shape_rte63.inp)

```

auto shape set
  shape cluster baseline   = RTE63
  shape cluster profile   = RTE63PR
  shape cluster tie       = 30.0000
  dependent shape
  chain / offset
    RTE63      30.0000
    RTE63      42.0000
  filler line station / slope
    9+50.000000  2.0000
    25+94.73    2.0000
    28+28.73    7.2000 /* Spiral RTE63-1B, Curve RTE63-1 */
    43+17.48    7.2000 /* Curve RTE63-1, Spiral RTE63-1A */
    45+51.48    2.0000
    70+79.01    2.0000

auto shape set
  shape cluster baseline   = RTE63
  shape cluster profile   = RTE63PR
  shape cluster tie       = 30.0000
  independent shape
  chain / offset
    RTE63      42.0000
    RTE63      54.0000
  filler line station / slope
    9+50.000000  -2.0000
    24+14.73    -2.0000
    25+04.73     0.0000
    25+94.73    2.0000
    28+28.73    7.2000 /* Spiral RTE63-1B, Curve RTE63-1 */
    43+17.48    7.2000 /* Curve RTE63-1, Spiral RTE63-1A */
    45+51.48    2.0000
    46+41.48     0.0000
    47+31.48    -2.0000
    70+79.01    -2.0000

```

(End of section of edited shape_rte63.inp)

Save the changes to the input file in the GEOPAK Text Editor, and choose the **Create Superelevation Shapes** button shown below to process the input file.



Save the MicroStation file, **exit** the superelevation dialogs and if needed **update** the Shapes section of the **Rte63 Working Alignment Definition**.