

MODIFIED REALIGNMENT DESIGN OPTIONS 1 AND 2

INCLUDING TRAFFIC CONTROL PHASING

S.R.71 / U.S. 441 SEVIER COUNTY

From S.R. 35/338 (U.S. 411)
To Macon Lane

PIN 104959.01

January 18, 2012
REVISED FEBRUARY 27, 2012



Prepared By:



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PROJECT: SR-71 (US-441) From SR-35/SR-338 (US-411) to Macon Lane

COUNTY: Sevier

PIN: 104959.01

SCOPE: Realignment Options

DATE: February 27, 2012

PURPOSE:

This report is a modification of alignment Options 1 and 2 as provided on January 12, 2012. The modifications include reducing the radius of the proposed centerline from 5500' to 4,750' and 4,400' respectively between the approximate stationing of 170+29 and 185+68, conceptually presenting phased traffic control, and graphically showing the impacts on Tract 23.

The presentation of the information for this report is represented by two options:

- Option 1 includes the 4750' radius with temporary pavement to the south side of the proposed alignment.
- Option 2 includes a radius of 4400', with temporary pavement to the north side of the existing pavement.

ASSUMPTIONS:

- During traffic control phasing four 10' travel lanes with 2' shoulders must be maintained at all times resulting in a total roadway width of 44'.
- The vertical alignment is designed based on previously submitted design options with a stopping sight distance design speed of 50 mph. The crest of the hill will be lowered from the existing alignment by approximately 4½'.
- Temporary slopes may utilize a maximum rate of 1.5:1.
- Temporary ditches will be placed outside the 2' shoulder of temporary pavement at a depth of 1' and a 2:1 foreslope.

OPTION 1: TEMPORARY PAVEMENT TO THE SOUTH SIDE OF SR-71

This design is based on using temporary pavement to the south side of the proposed SR-71 alignment. The proposed centerline of the road has a radius of 4,750' which places the proposed centerline approximately 4' south of the existing edge of pavement at station 179+50 and is 27' closer to the house than the existing centerline.

The traffic control plan is broken up into three phases for the portion of full depth construction of the project. The first phase begins with removing the existing pavement markings and placing temporary striping. There is an existing 4' paved shoulder to the north side of SR-71 and 2' of that will be used as part of the travel lanes while the other 2' is being used as the minimum shoulder width. Once traffic is shifted a 2:1 cut slope 40' from the existing edge of pavement on the north side of the road can be made down to the proposed pavement. The portion to the south of the proposed travel lanes intersecting with the 2:1 slope and the graded shoulder are to be constructed. Temporary pavement will need to be placed beginning at the edge of the graded shoulder and ending 42' from the beginning

of the proposed pavement constructed in this phase. Once complete temporary striping shall be placed for four 10' lanes on the final and temporary pavement constructed. Phase 2 begins with shifting the traffic to the newly constructed pavement. Once traffic has been shifted the remaining portion of the proposed pavement and shoulder to the north side of the road is to be constructed. Phase 3 consists of shifting traffic to the final alignment, removing temporary pavement from phase 1, and constructing the final shoulders and slopes on the south side of the road.

OPTION 2: TEMPORARY PAVEMENT TO THE NORTH SIDE OF SR-71

This option is based on using temporary pavement to the north side of the existing SR-71 alignment. The proposed centerline of the road has a radius of 4,400' which places the proposed centerline approximately 1' north of the existing edge of pavement at station 179+50 and is 22' closer to the house than the existing centerline. The construction limits will impact the garage structure on the Bales property, Tract 23.

Before traffic can be shifted to the final alignment the traffic control plan is broken up into three phases for the portion of full depth construction. The first phase is constructing temporary pavement to the north side of existing SR-71 while maintaining traffic on its current alignment. Once the temporary pavement is constructed temporary striping shall be placed for four 10' lanes over the temporary and existing pavements. Phase 2 begins with shifting the traffic to the striped lanes from phase 1. The construction in this phase consists of the right shoulder, the proposed pavement south of the two proposed west bound lanes, and a 2:1 slope up to the existing edge of pavement. Temporary striping is then to be added to the newly constructed pavement for four 10' lanes. Phase 3 starts with shifting traffic to the pavement constructed in phase 2. This phase consists of removing the temporary pavement from phase 1 and constructing the two proposed west bound lanes and left shoulder.

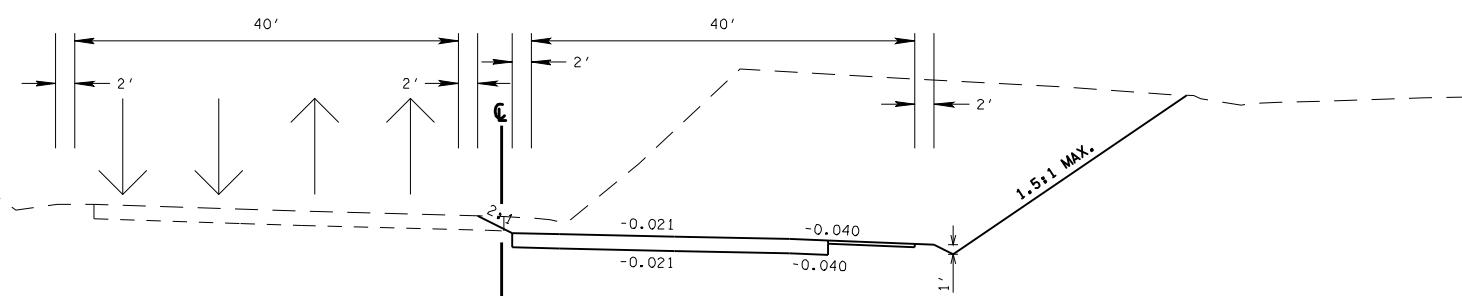
One issue with this option is that the limits for the north temporary slopes will conflict with a garage on Tract 22 (Adams Property) at approximately station 181+50. If this option is chosen and the garage is to remain undisturbed some variations on this option to consider would be:

1. Increasing the radius of the centerline slightly so that it is shifted a couple feet south;
2. Construct a temporary wall in this section;
3. Construct temporary pavement on both sides of the road so that there would not be as much temporary pavement to the north side of the road.

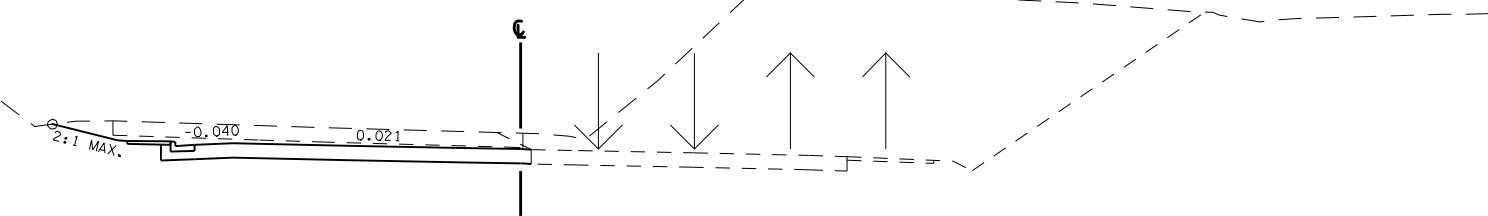
This area also has temporary slopes crossing a property that would not require any easements without the temporary construction.

This option allows for a wall on the south side of SR-71 since there would not be any temporary pavement where the wall would be. Incorporating a wall 10' in height along the Bales property will move the construction limits further from the Bales' House by approximately 8'. The construction limits with the wall come less than 1' from impacting the garage at about station 177+80.

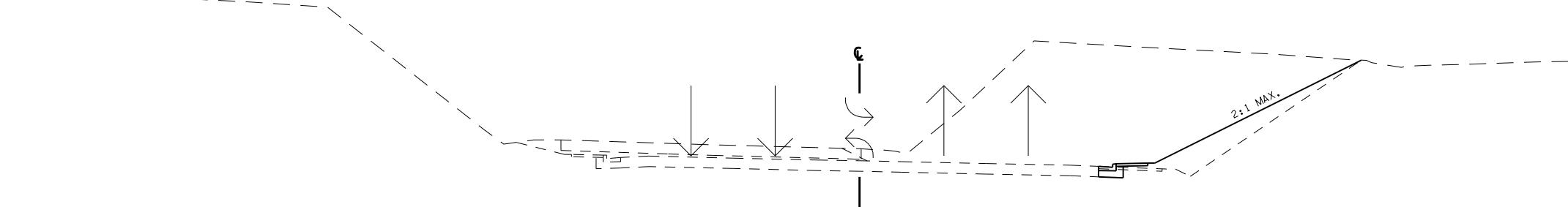
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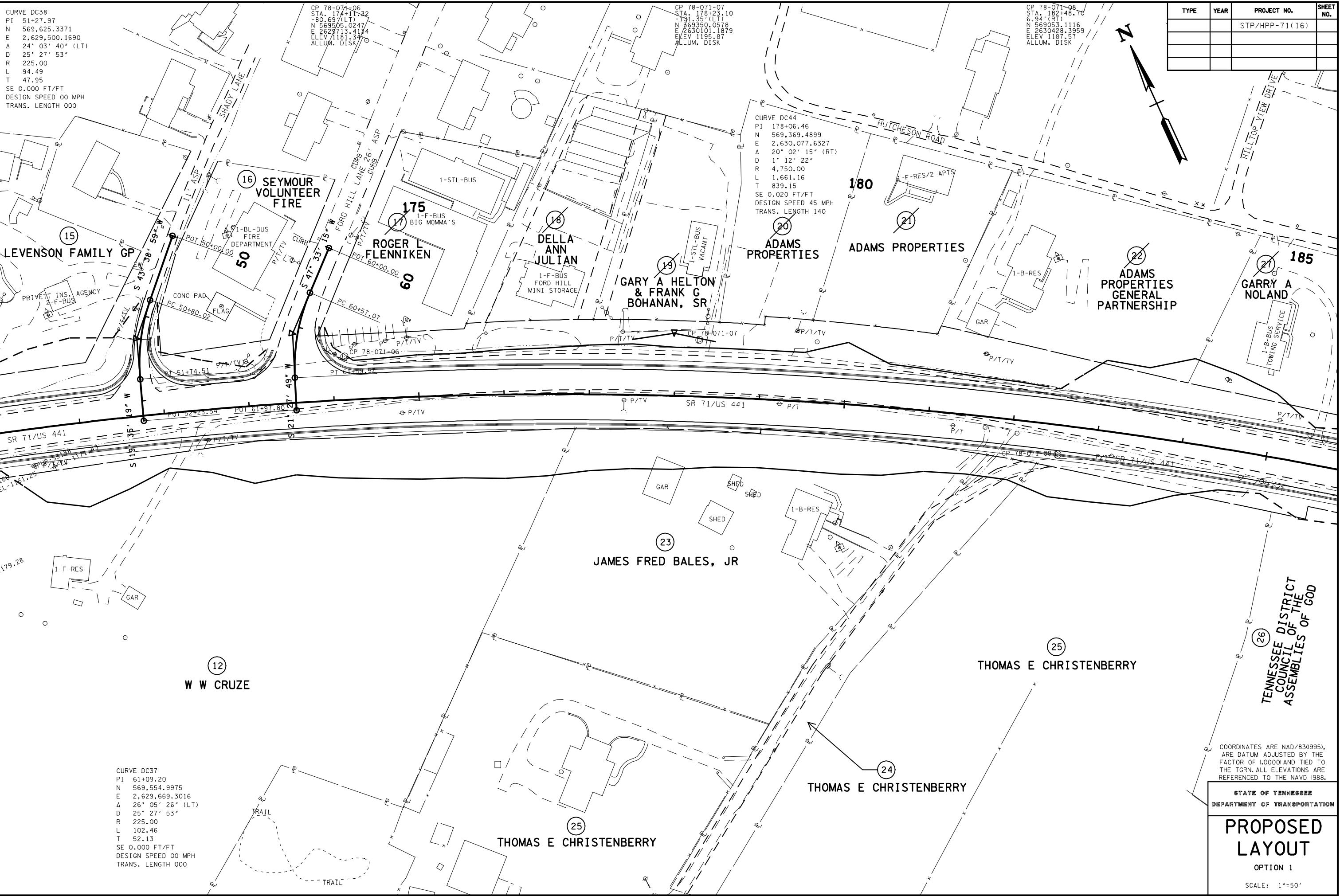
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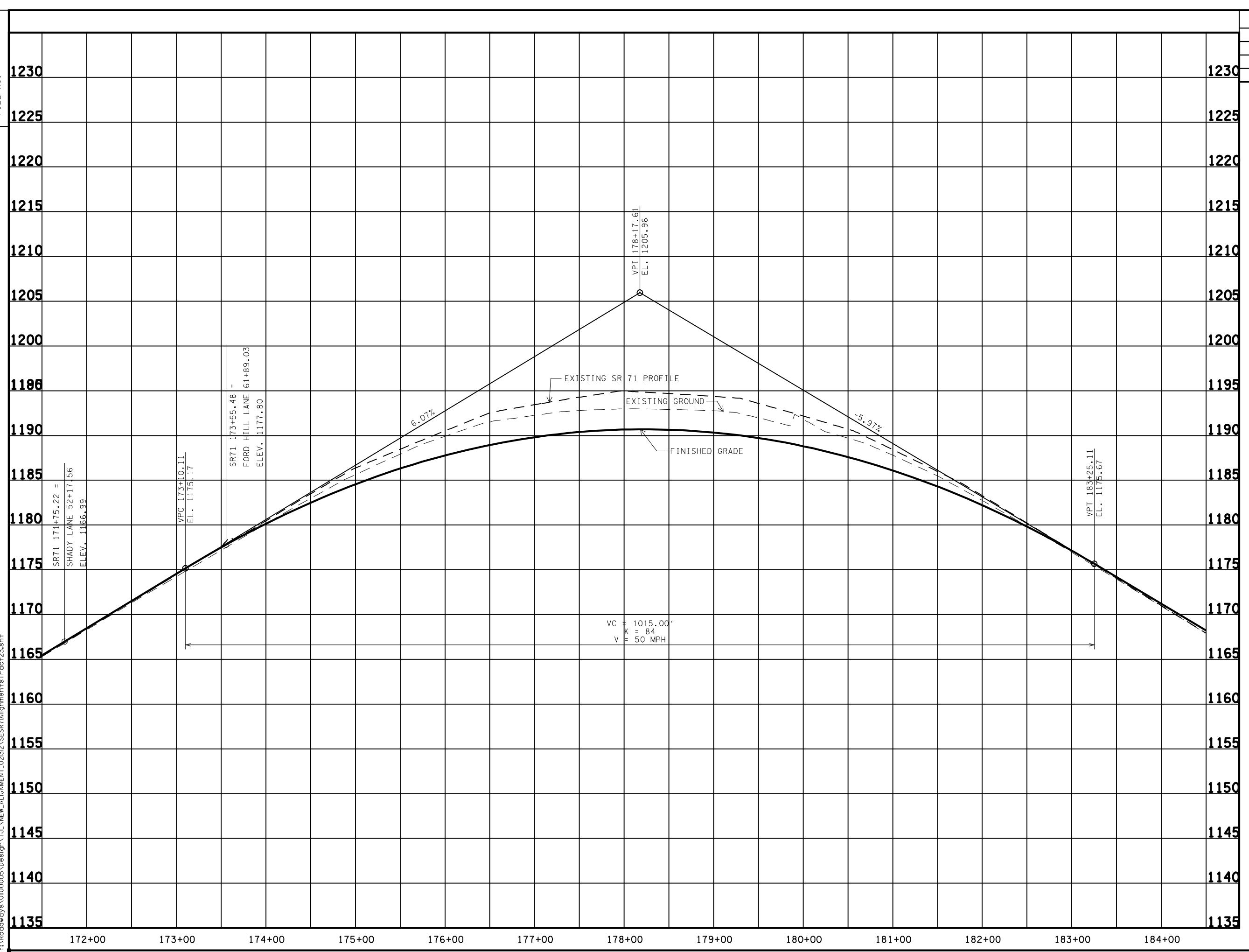
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TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.



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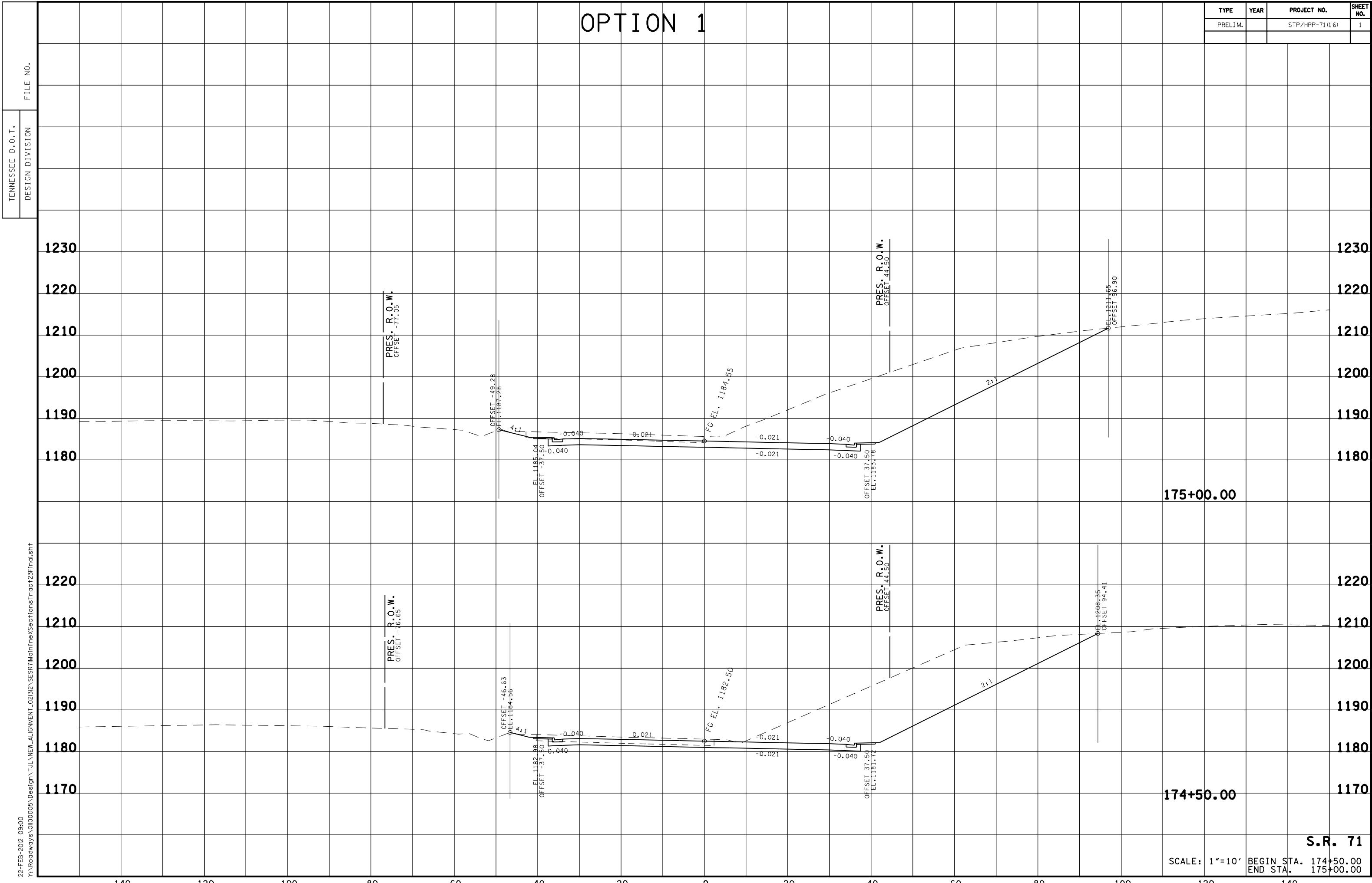


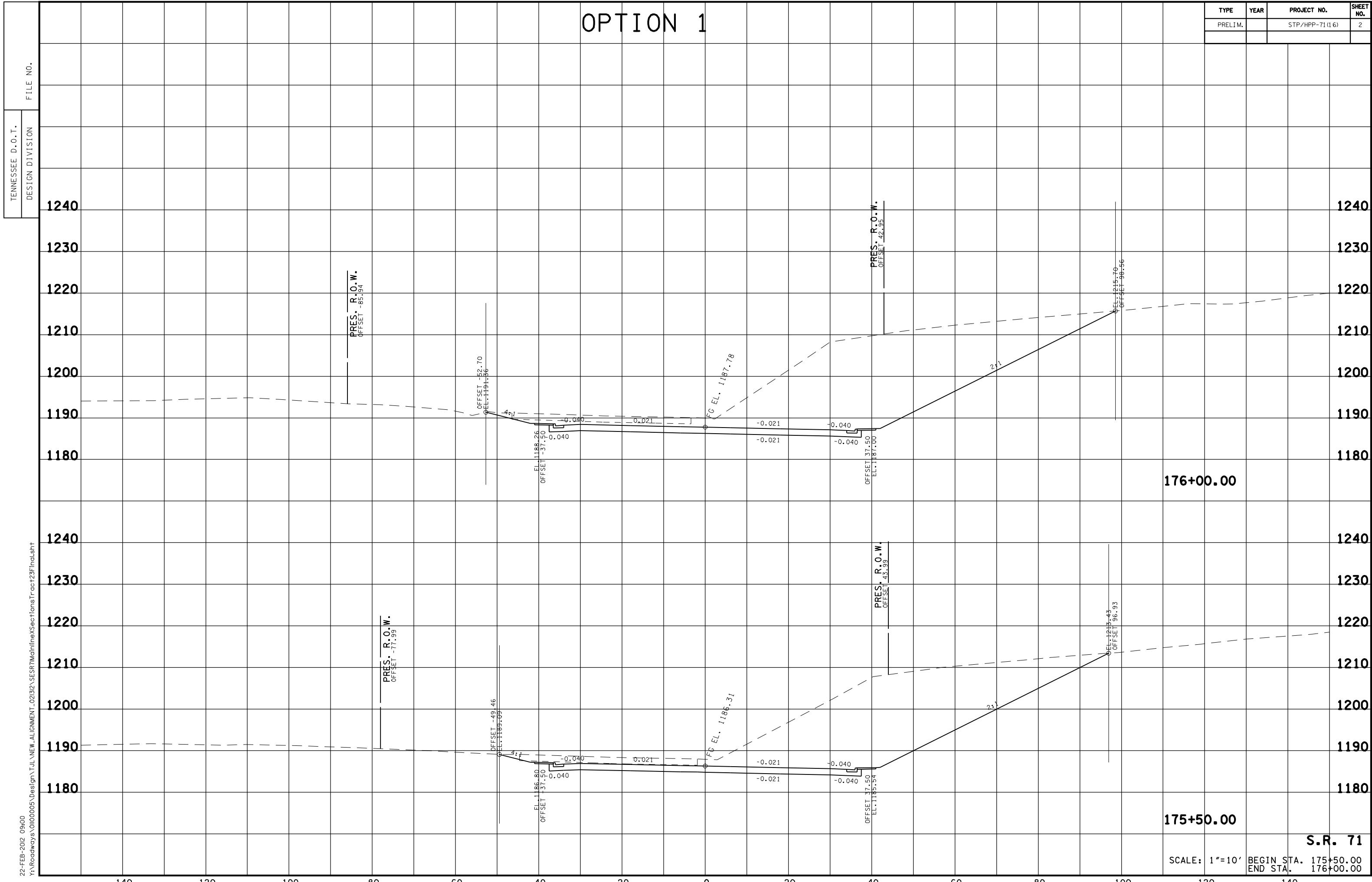
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROFILE

OPTION 1
STA. 171+50 TO STA. 184+50

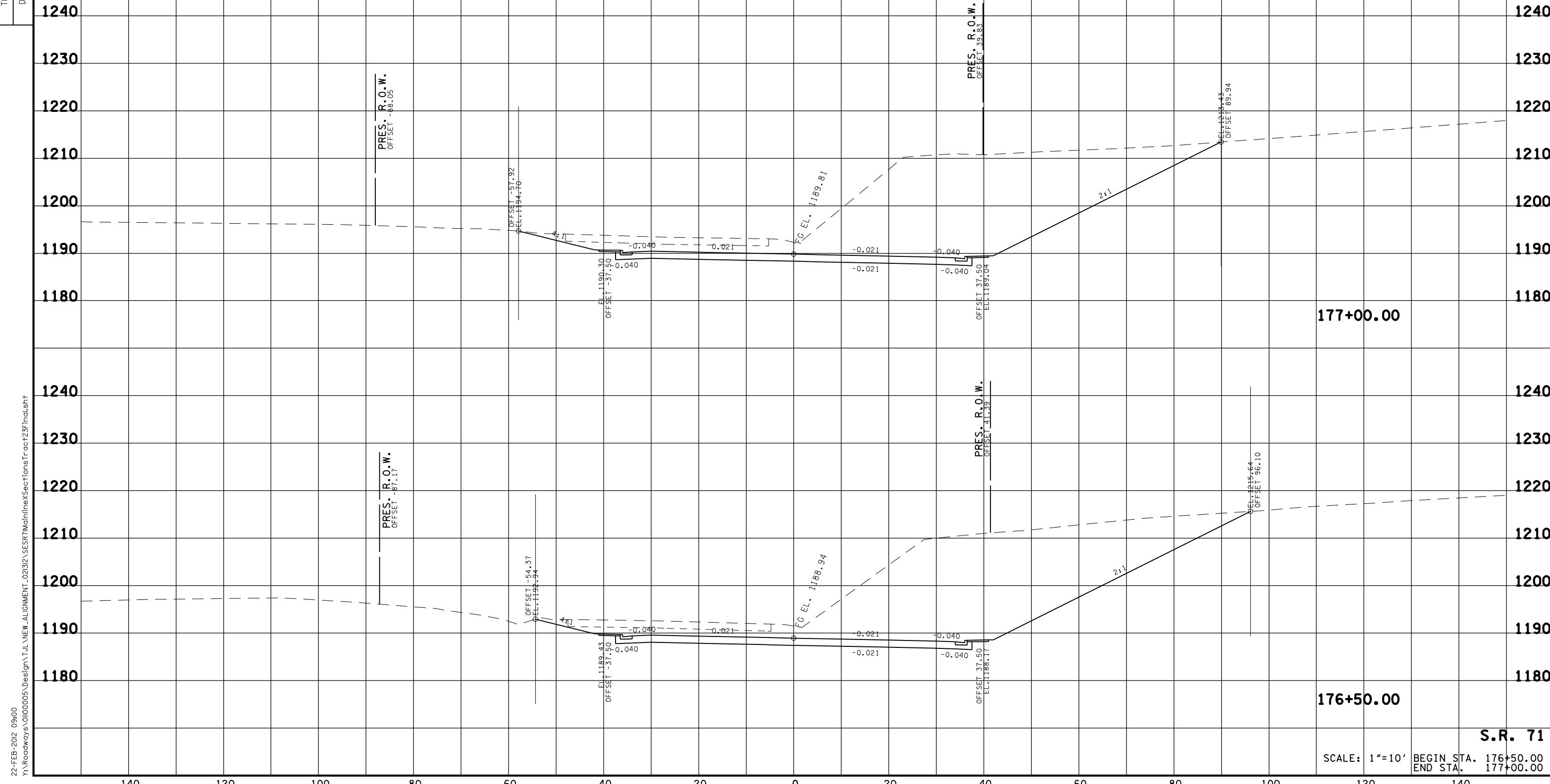
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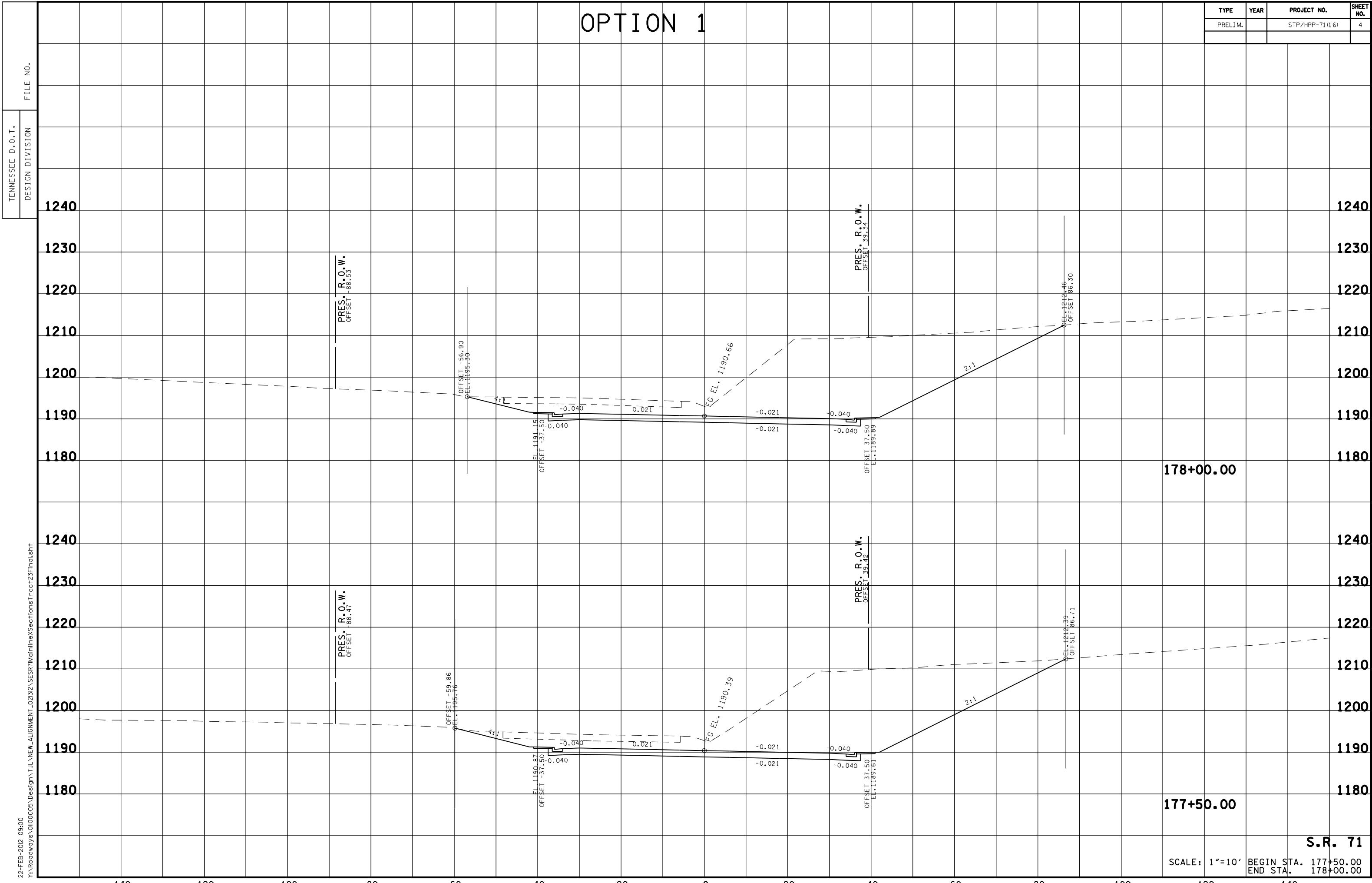


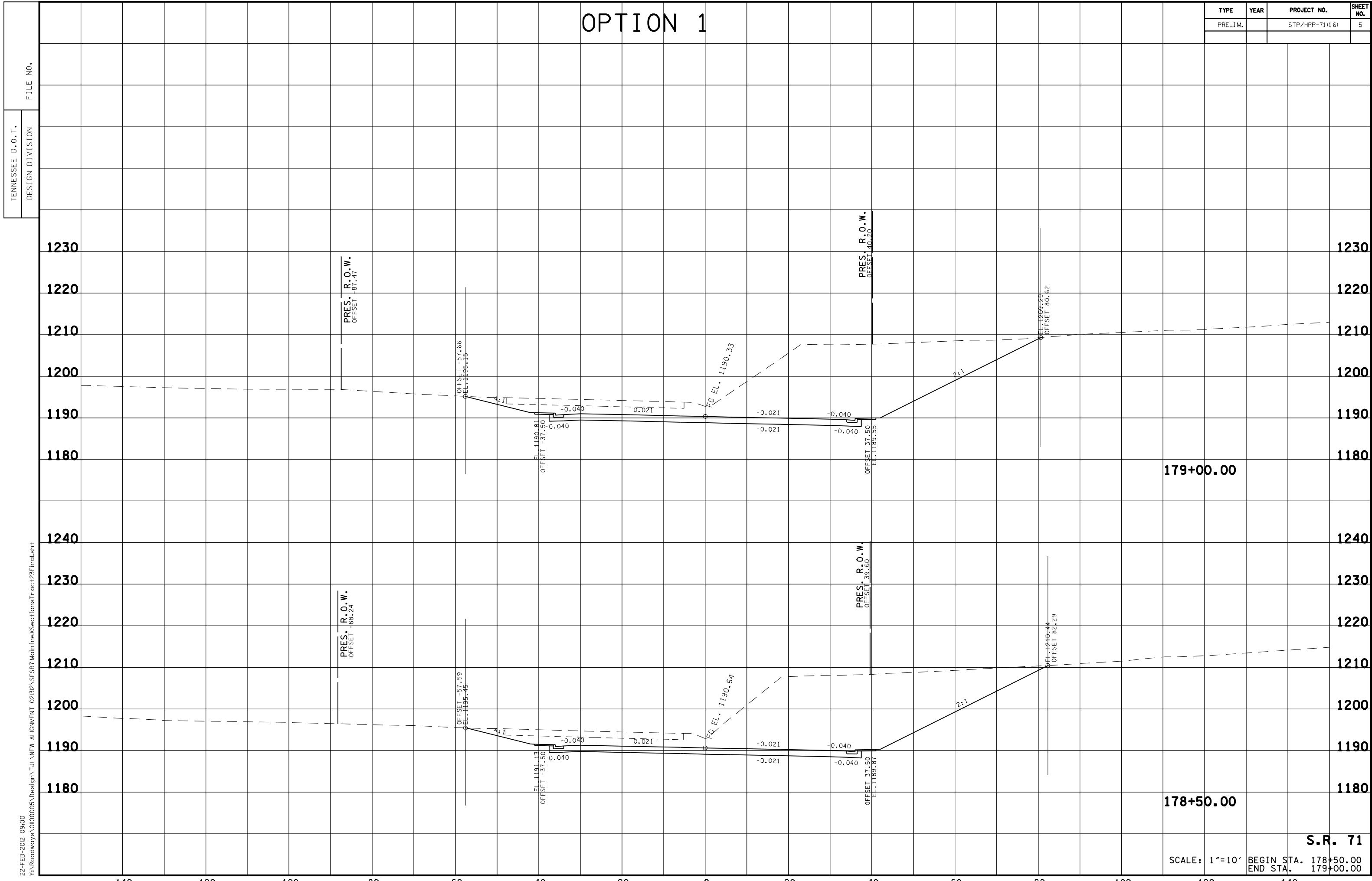


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OPTION 1															
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PRELIM. STP/HPP-71(16) 3															

OPTION 1





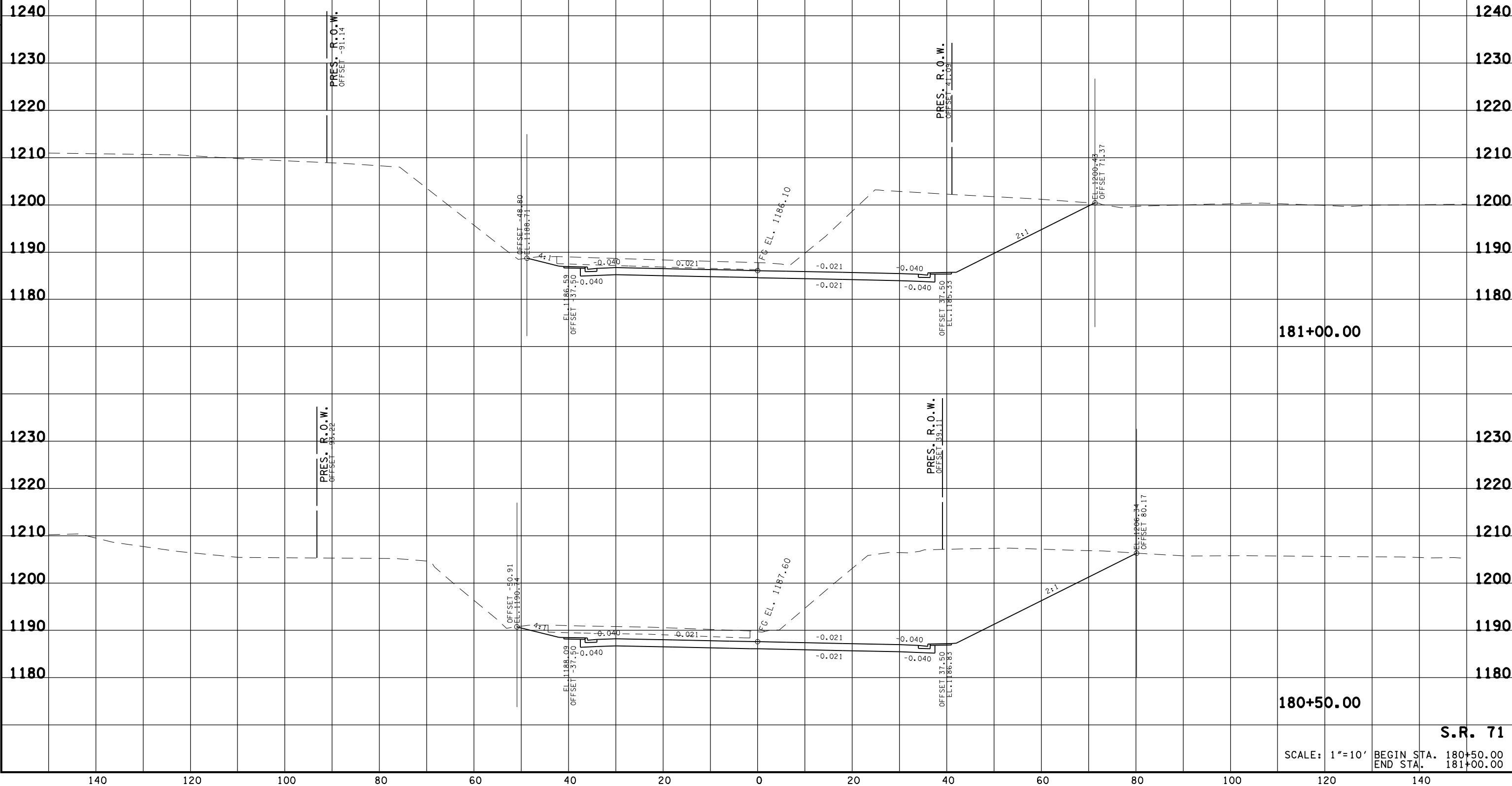


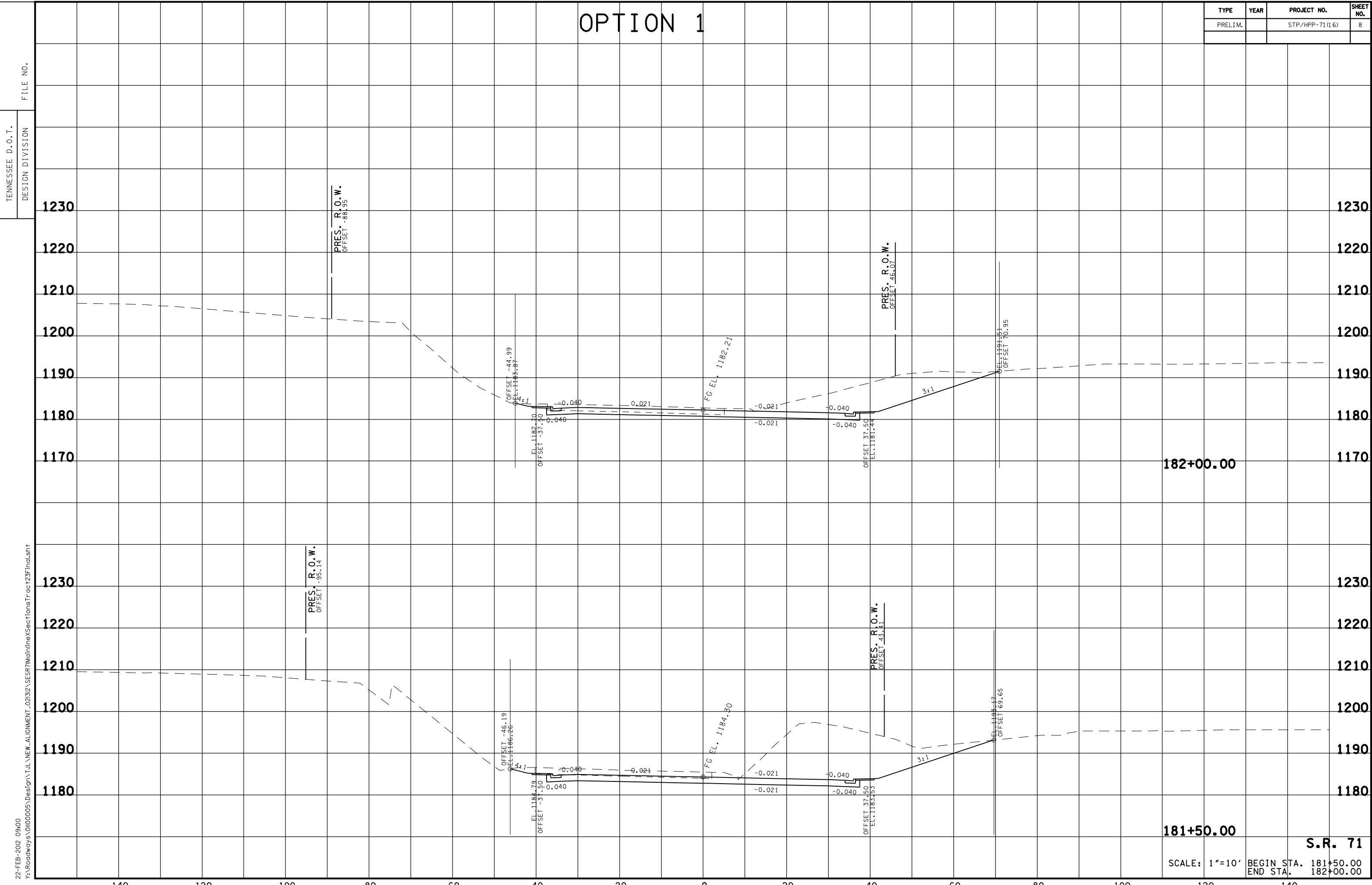
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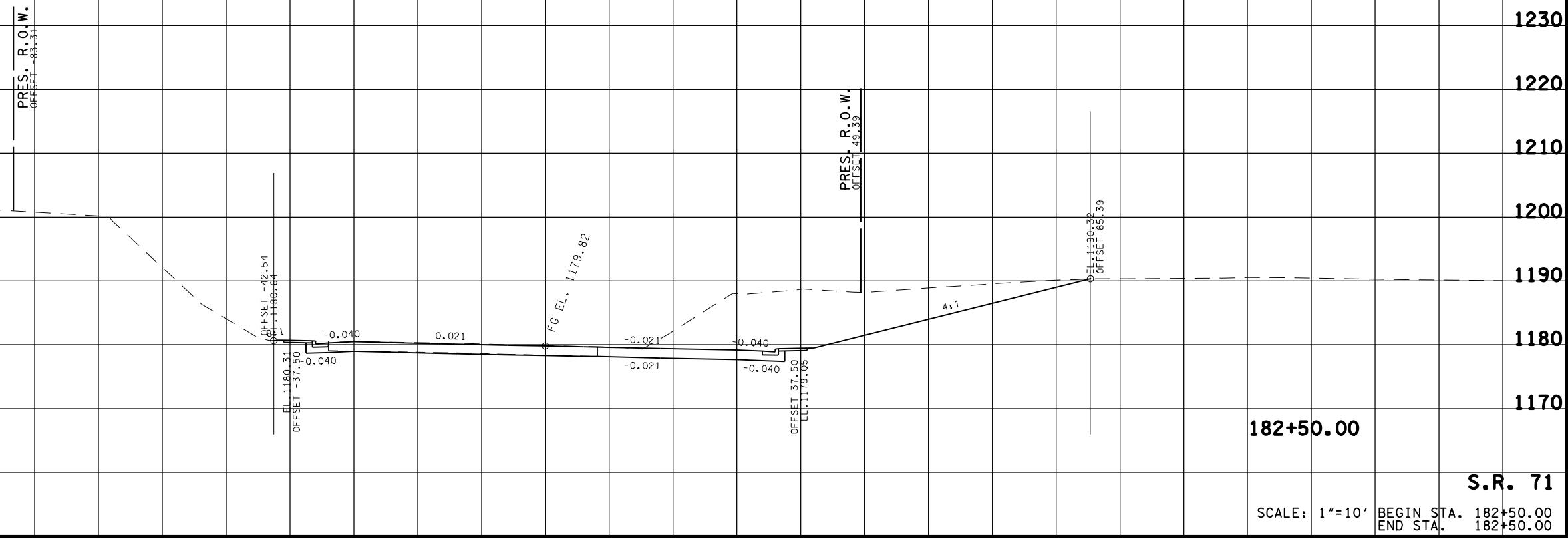




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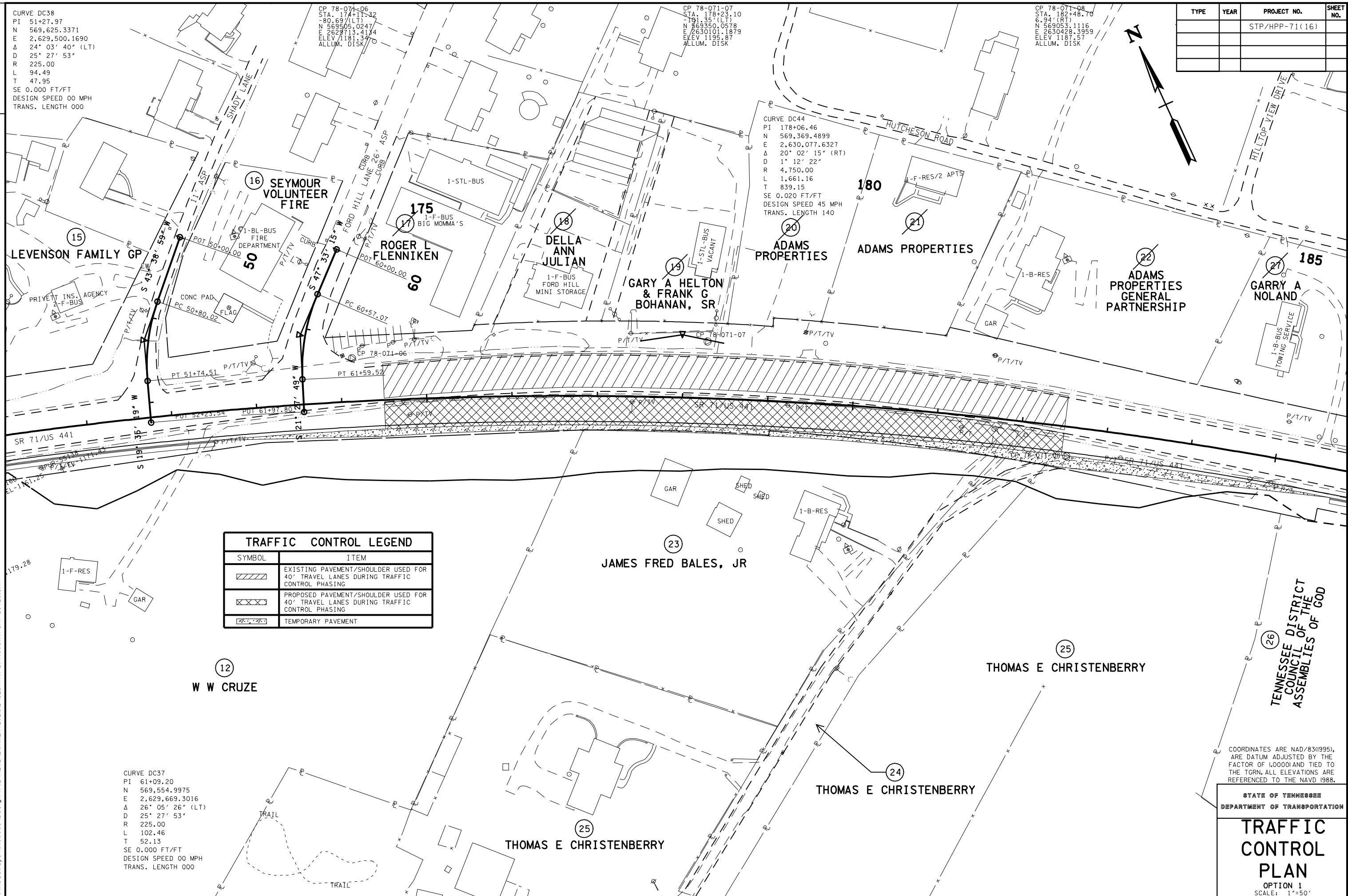


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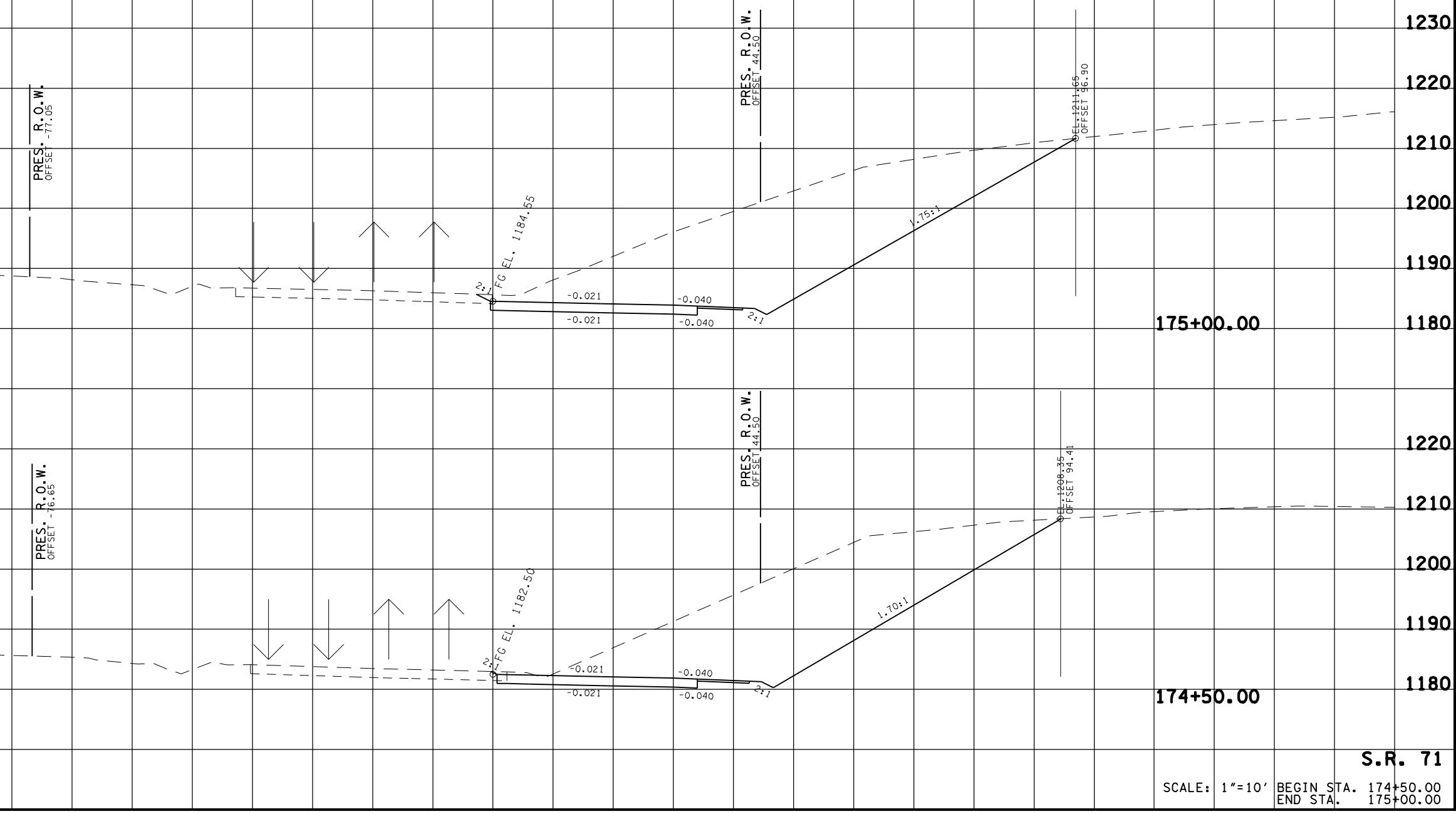


OPTION 1 TRAFFIC CONTROL PHASE 1

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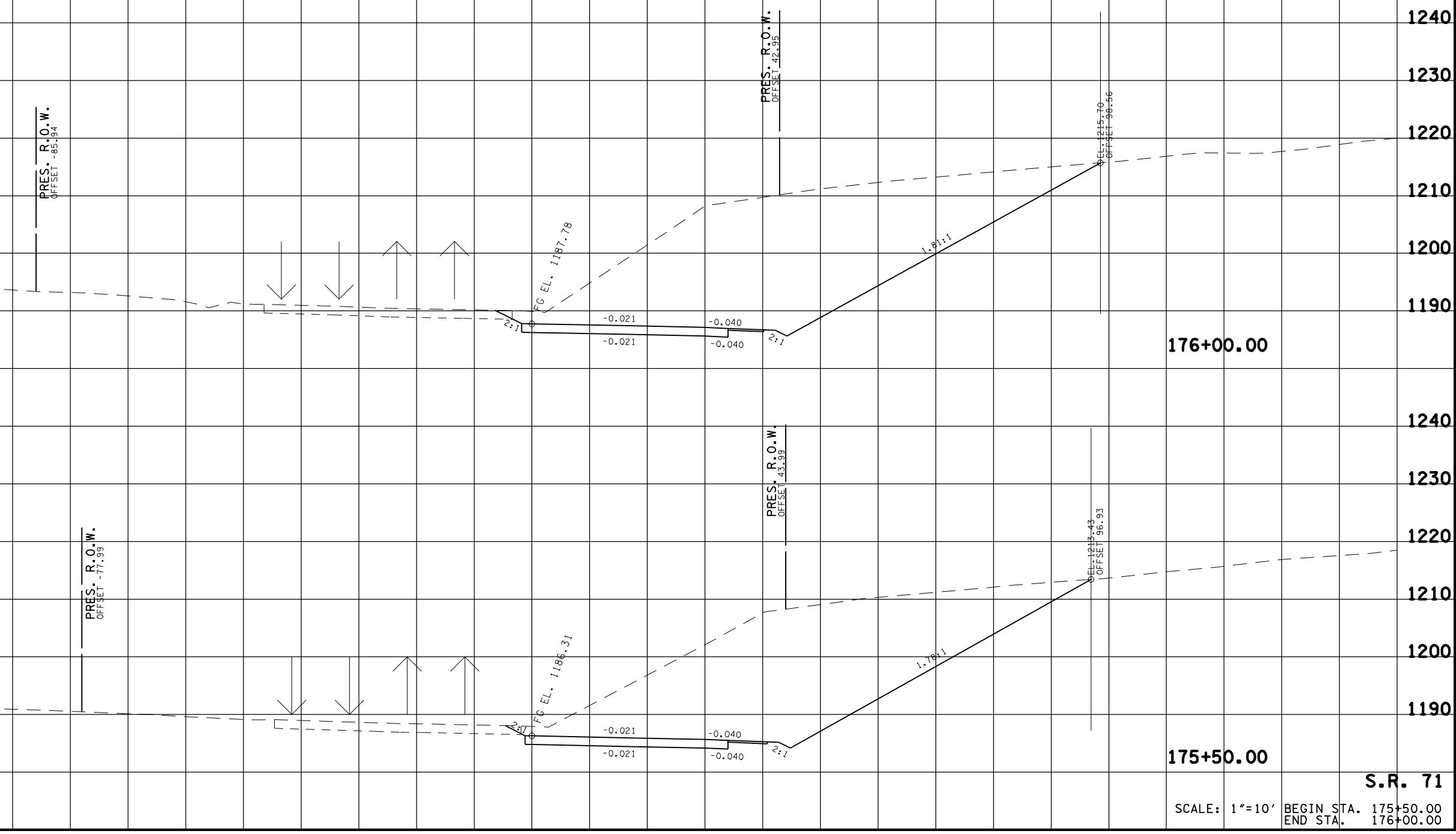
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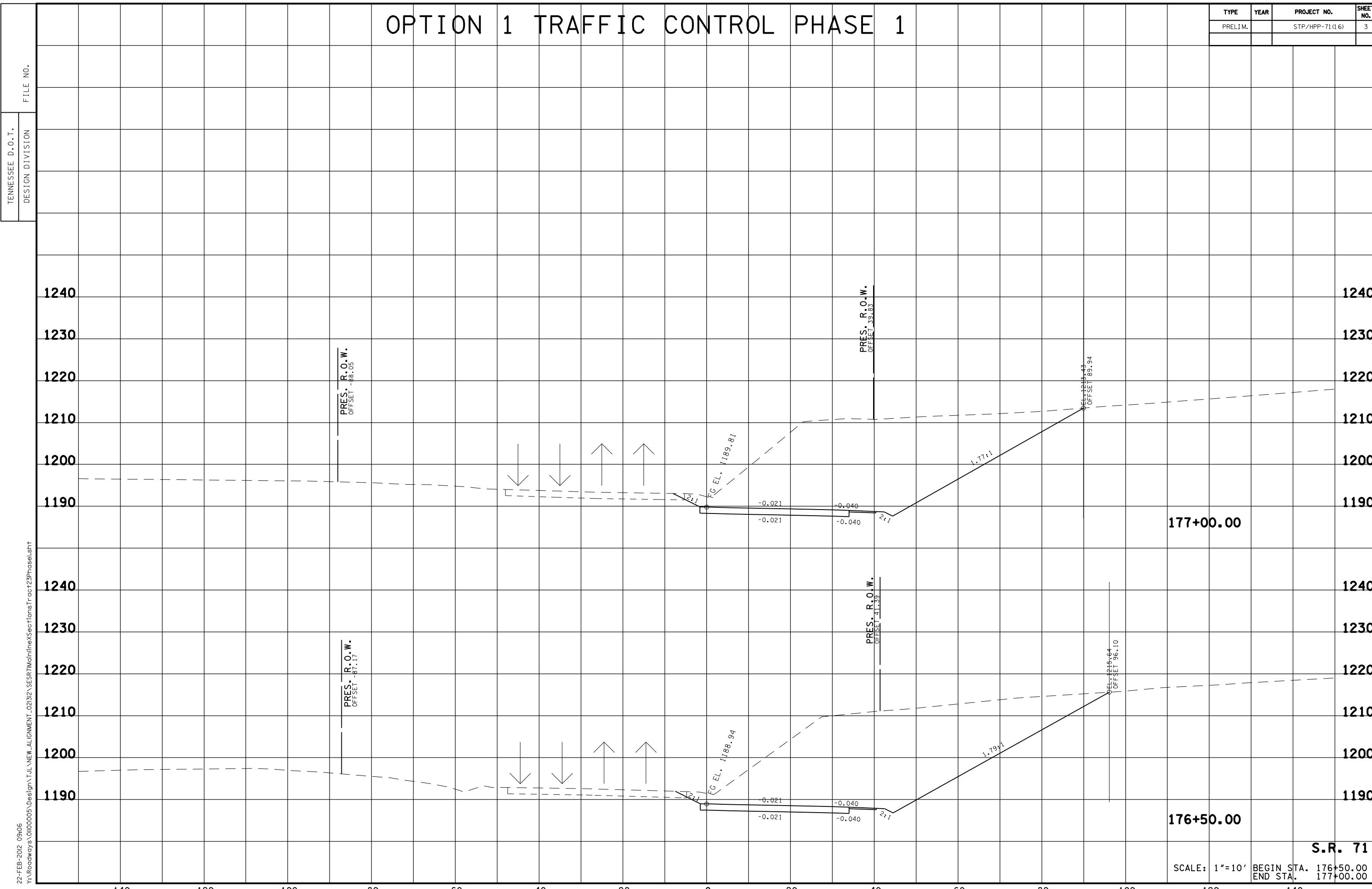
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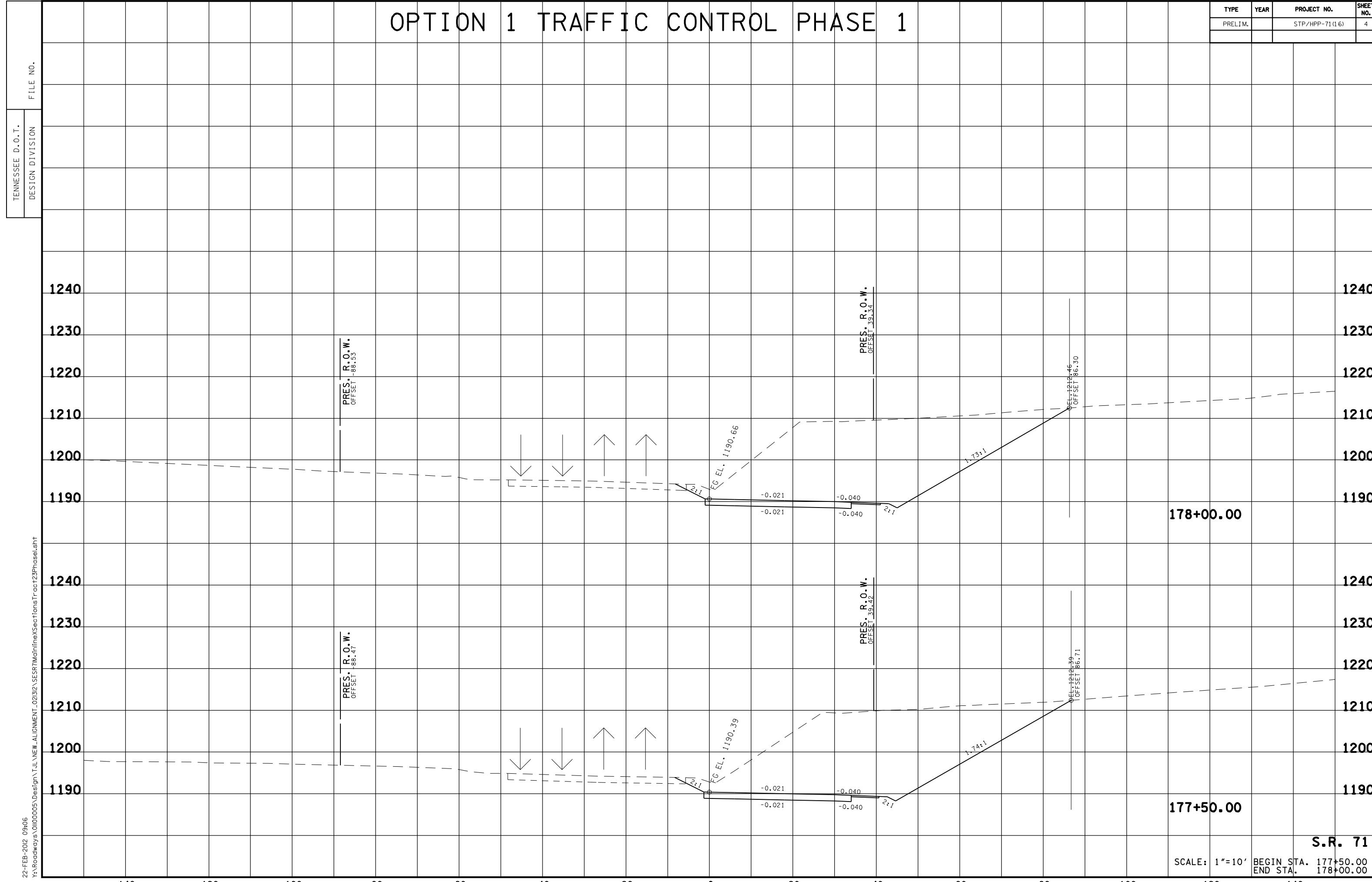
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DESIGN DIVISION

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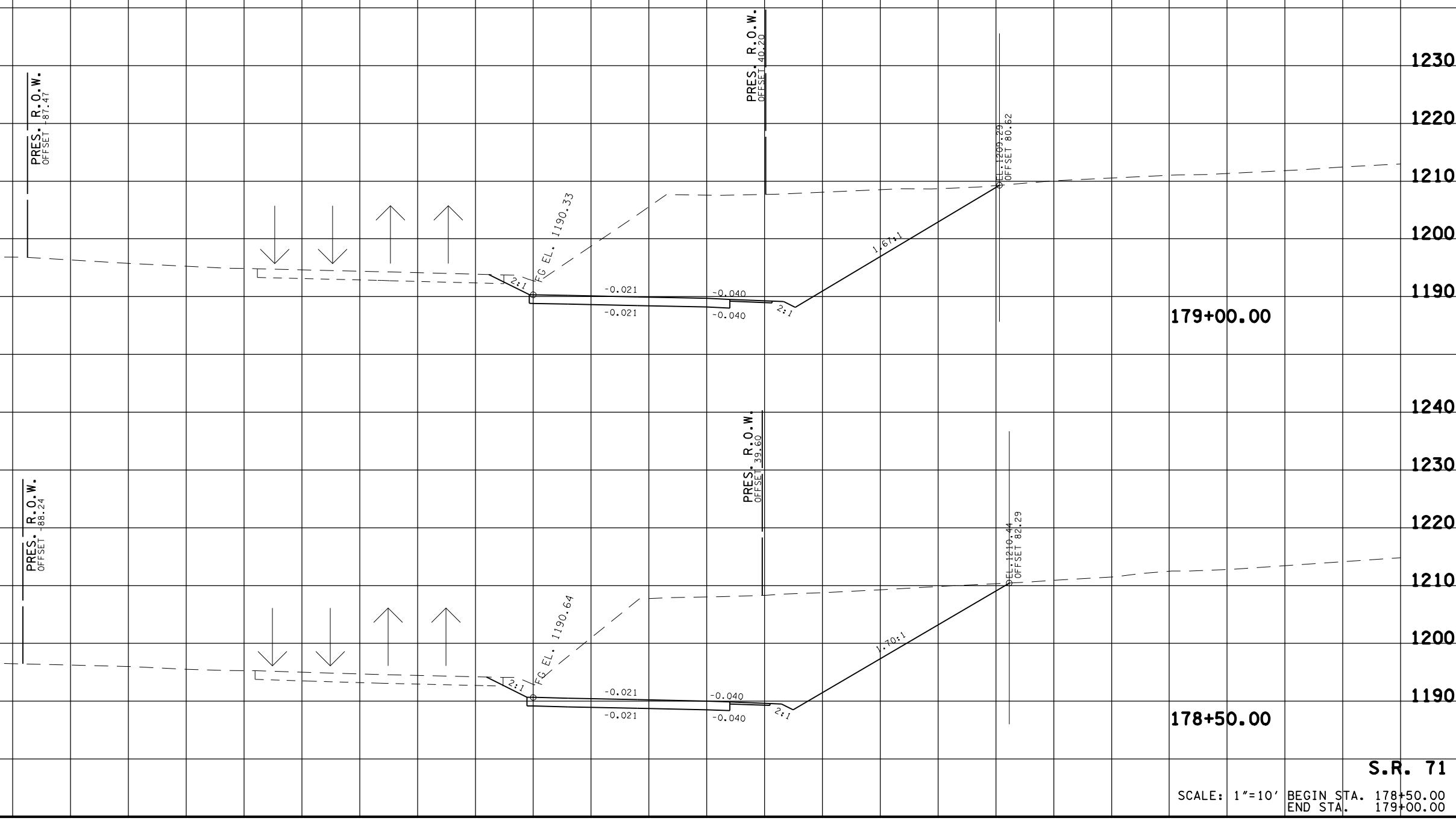
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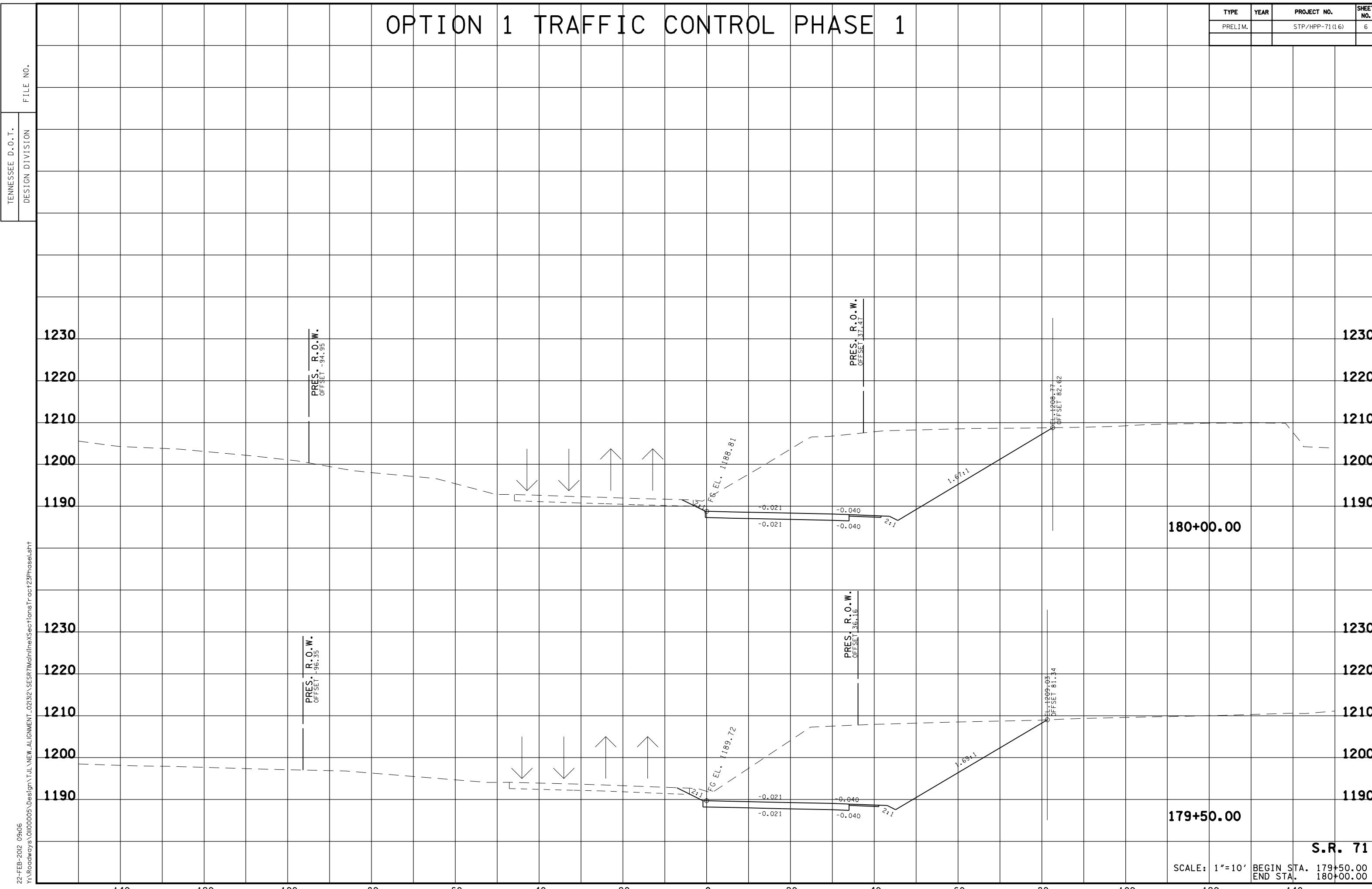


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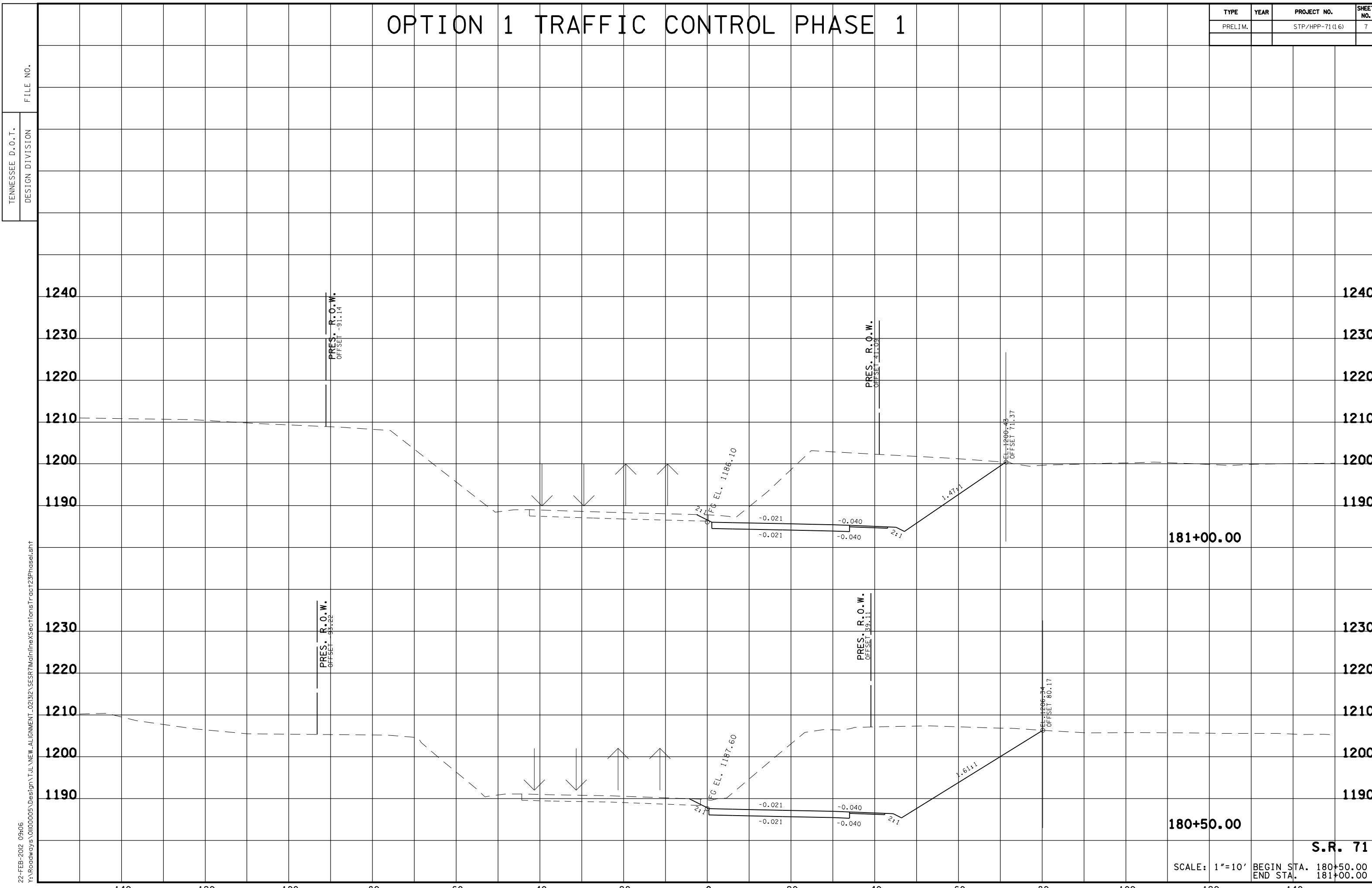
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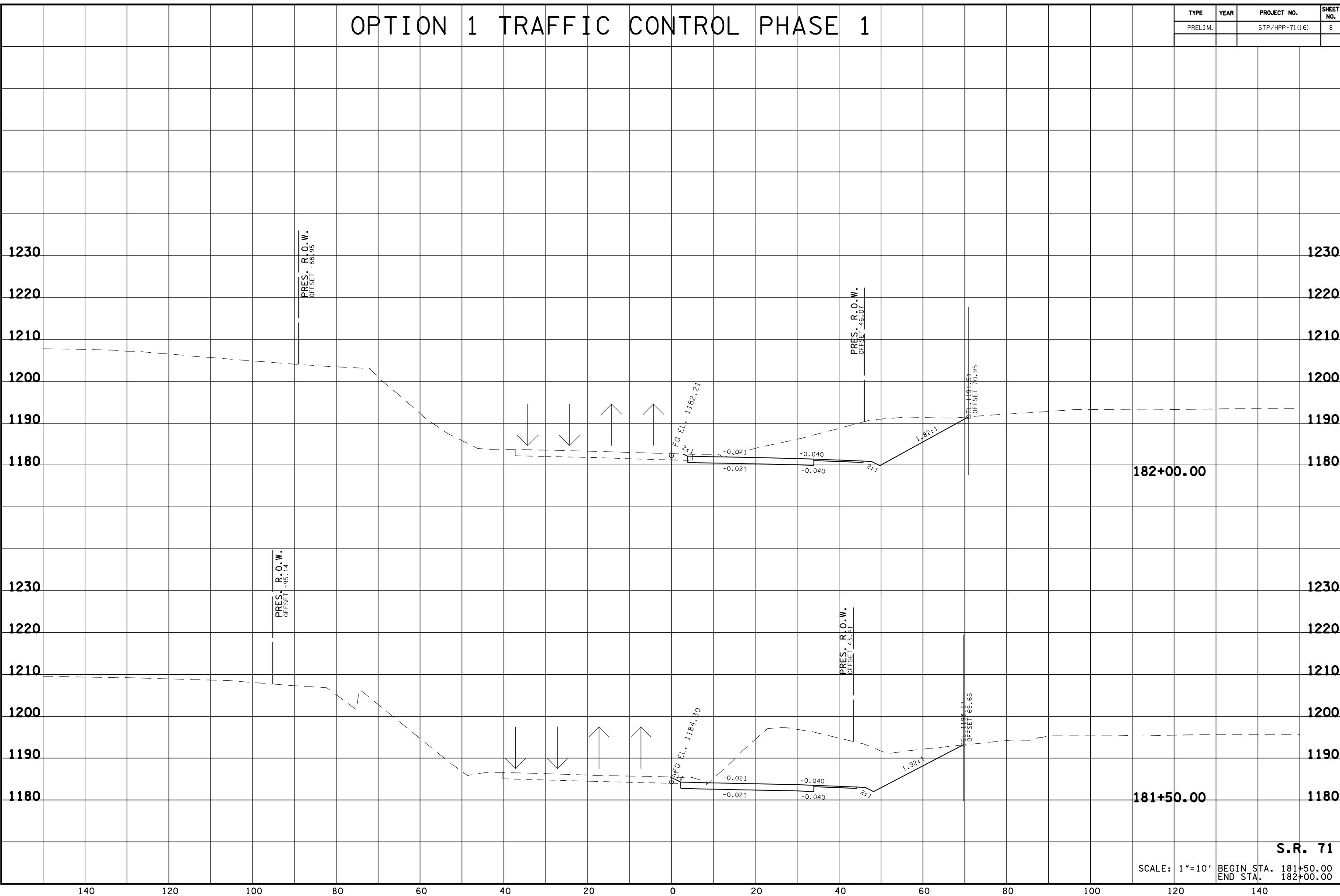


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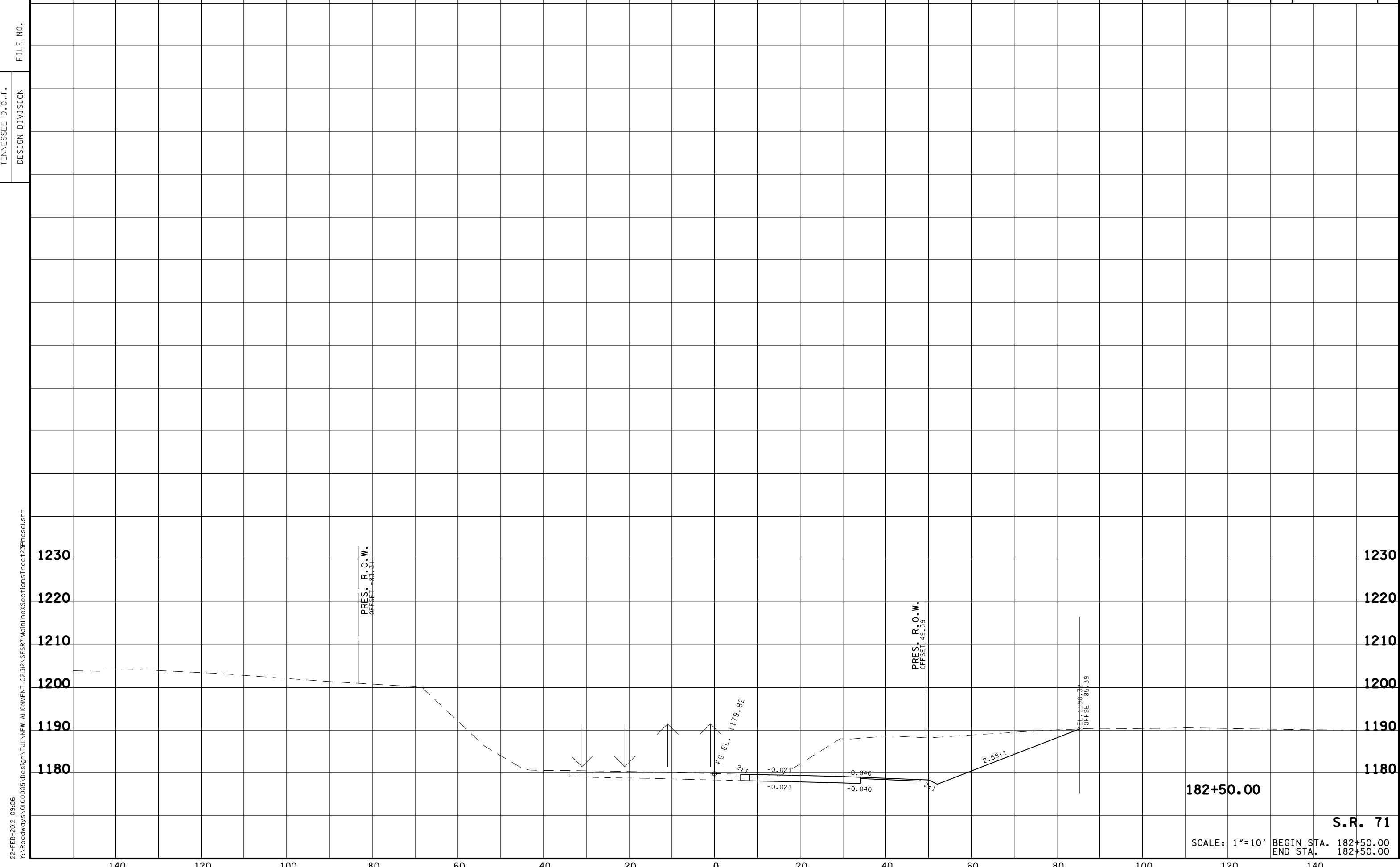
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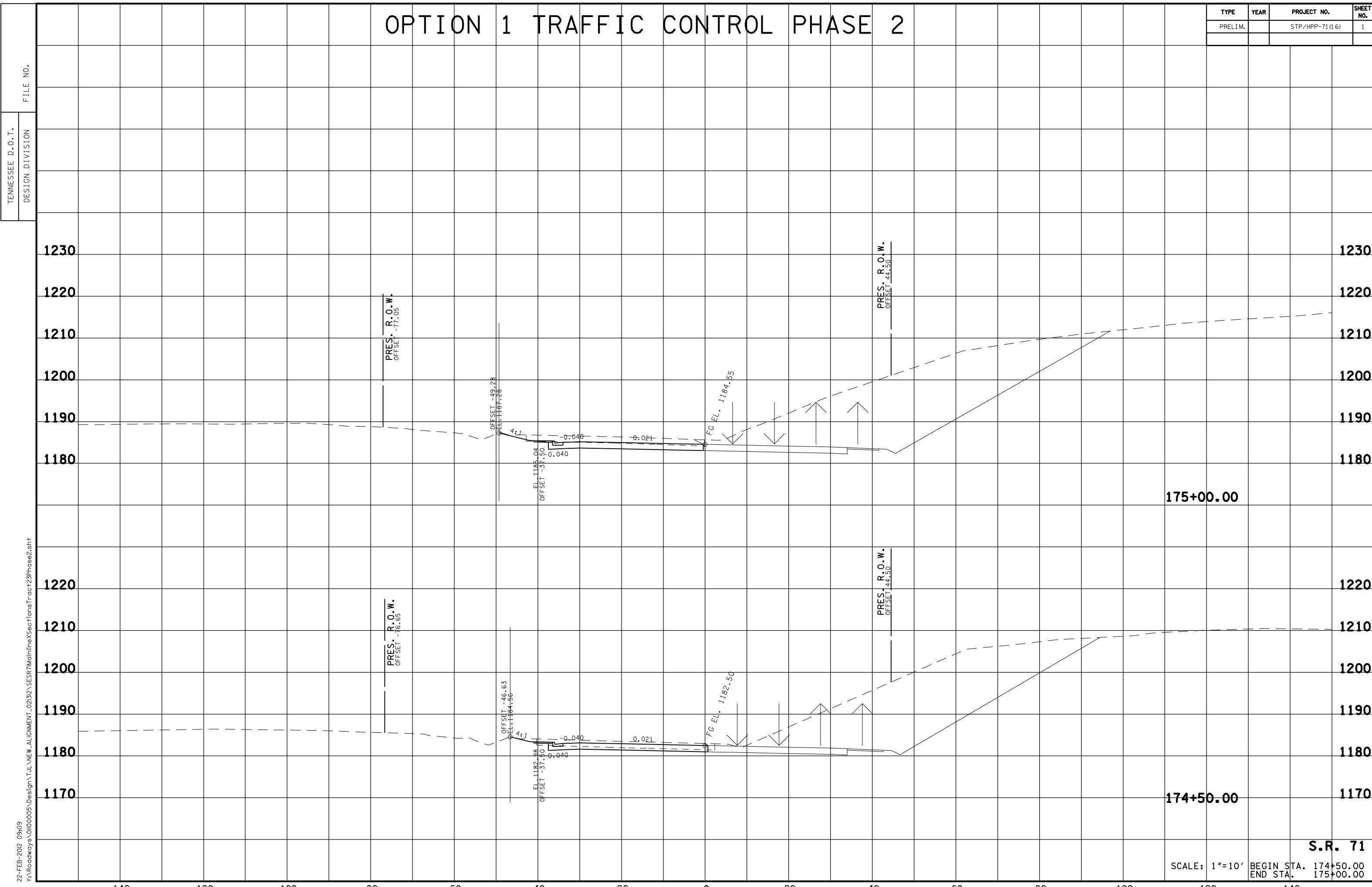
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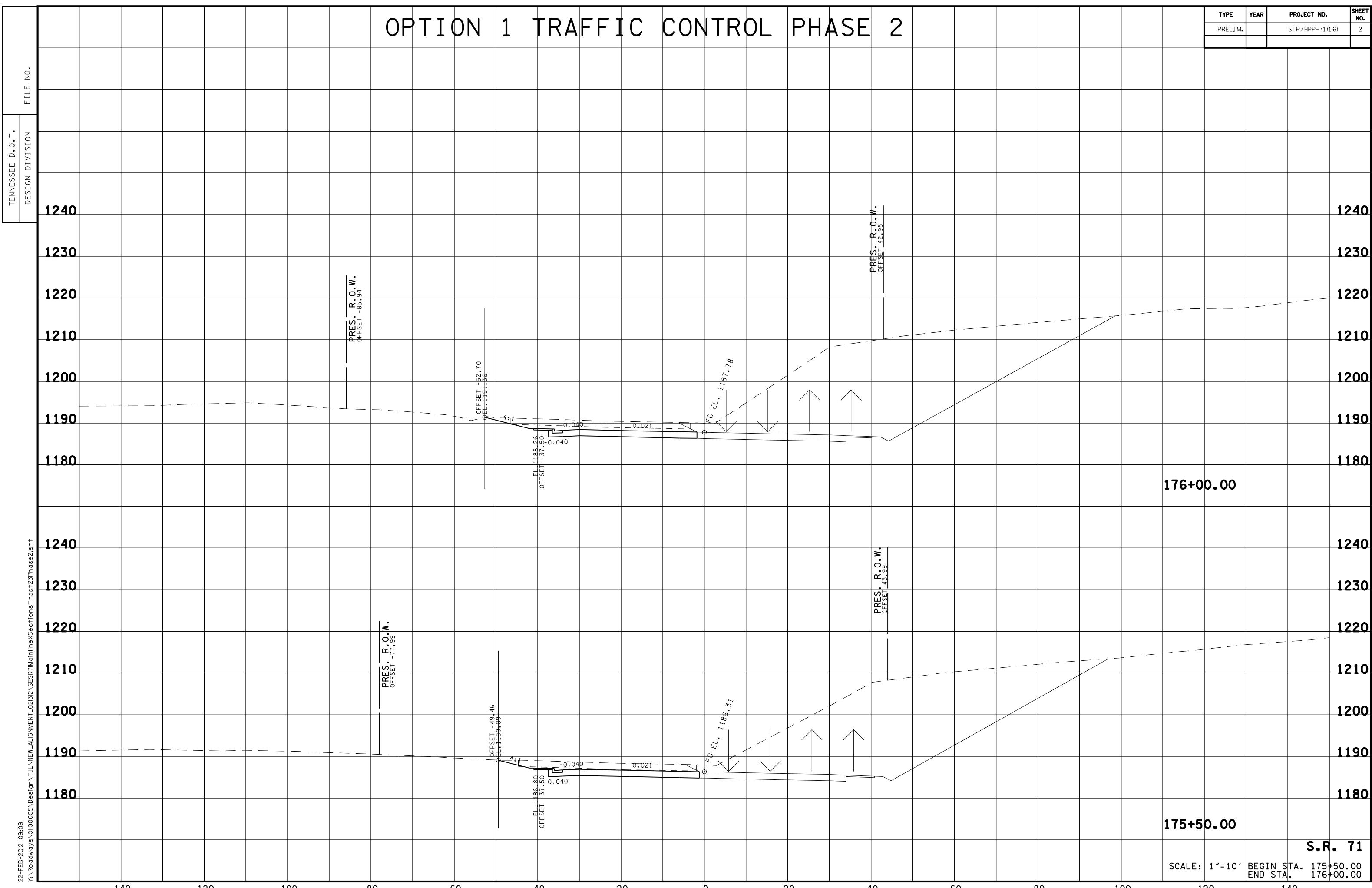
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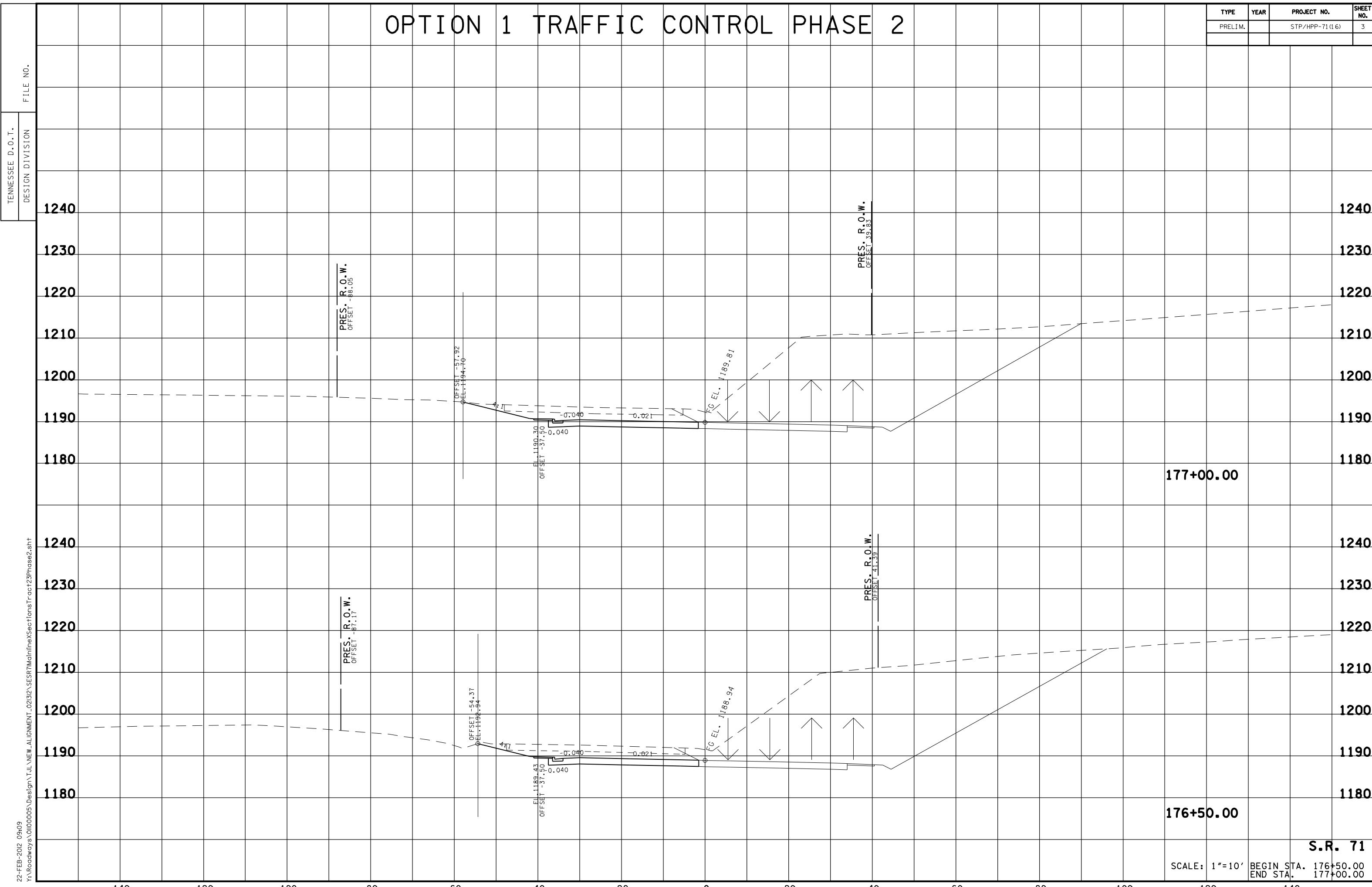
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OPTION 1 TRAFFIC CONTROL PHASE 2



OPTION 1 TRAFFIC CONTROL PHASE 2

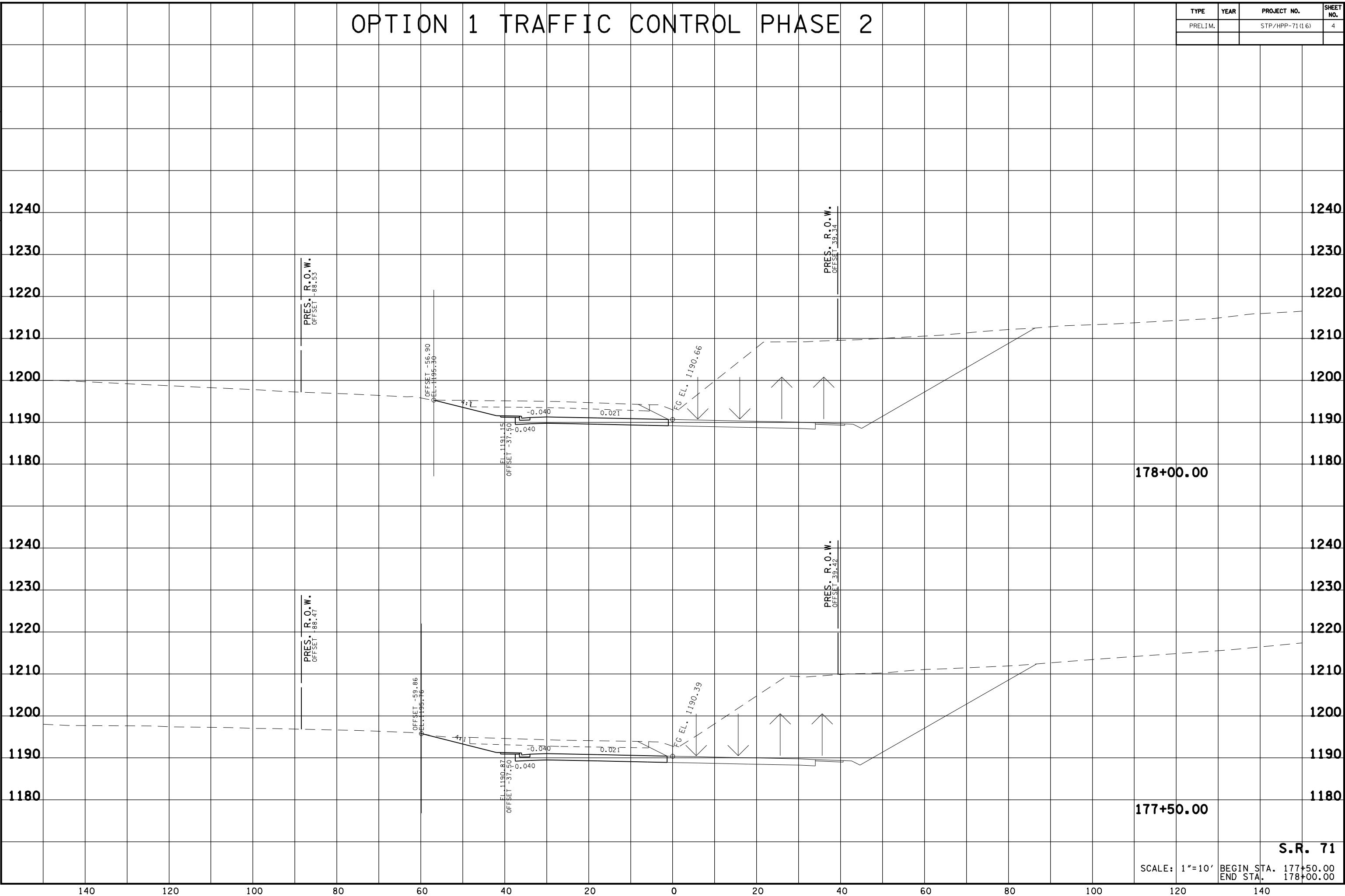


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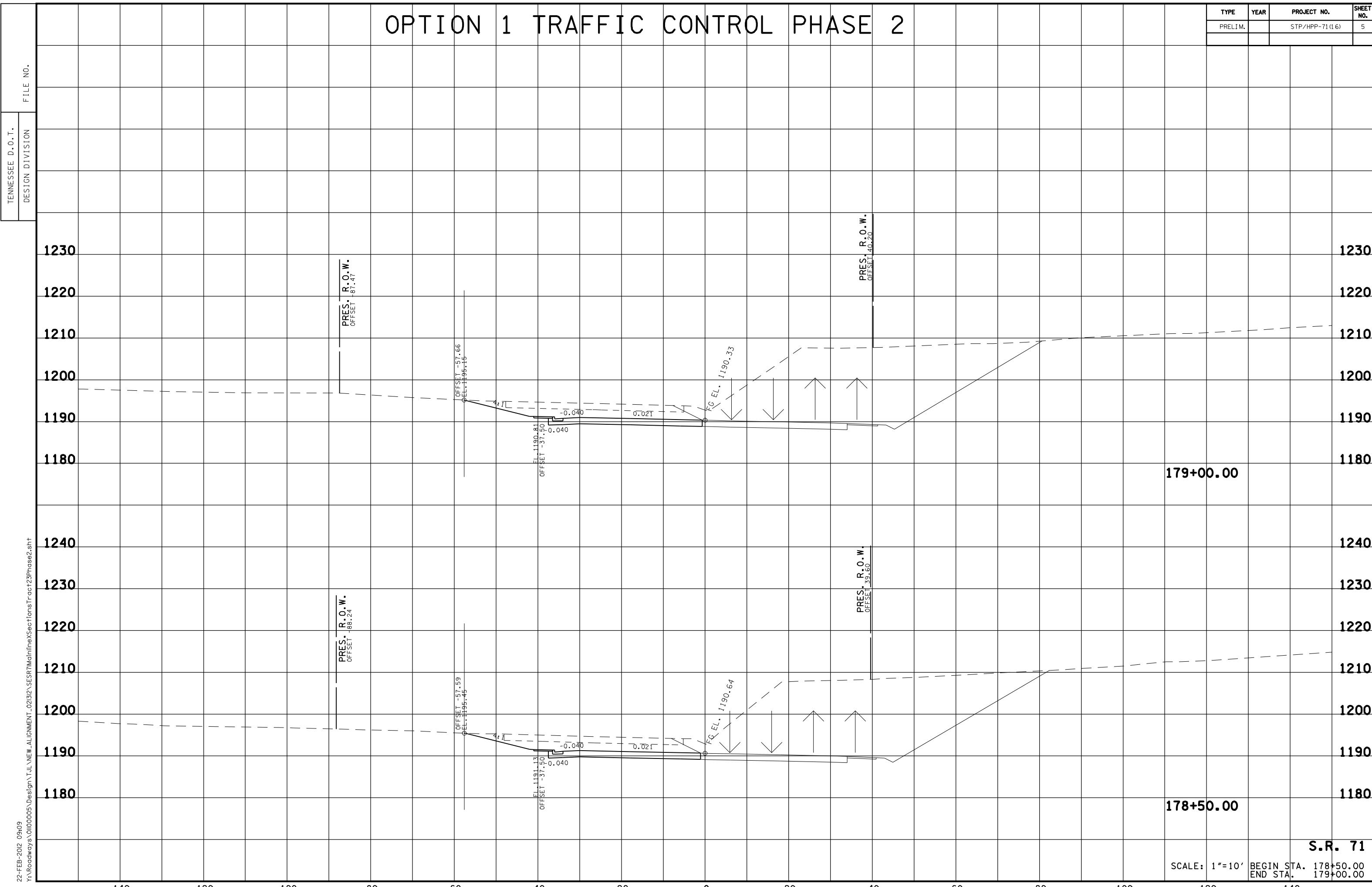
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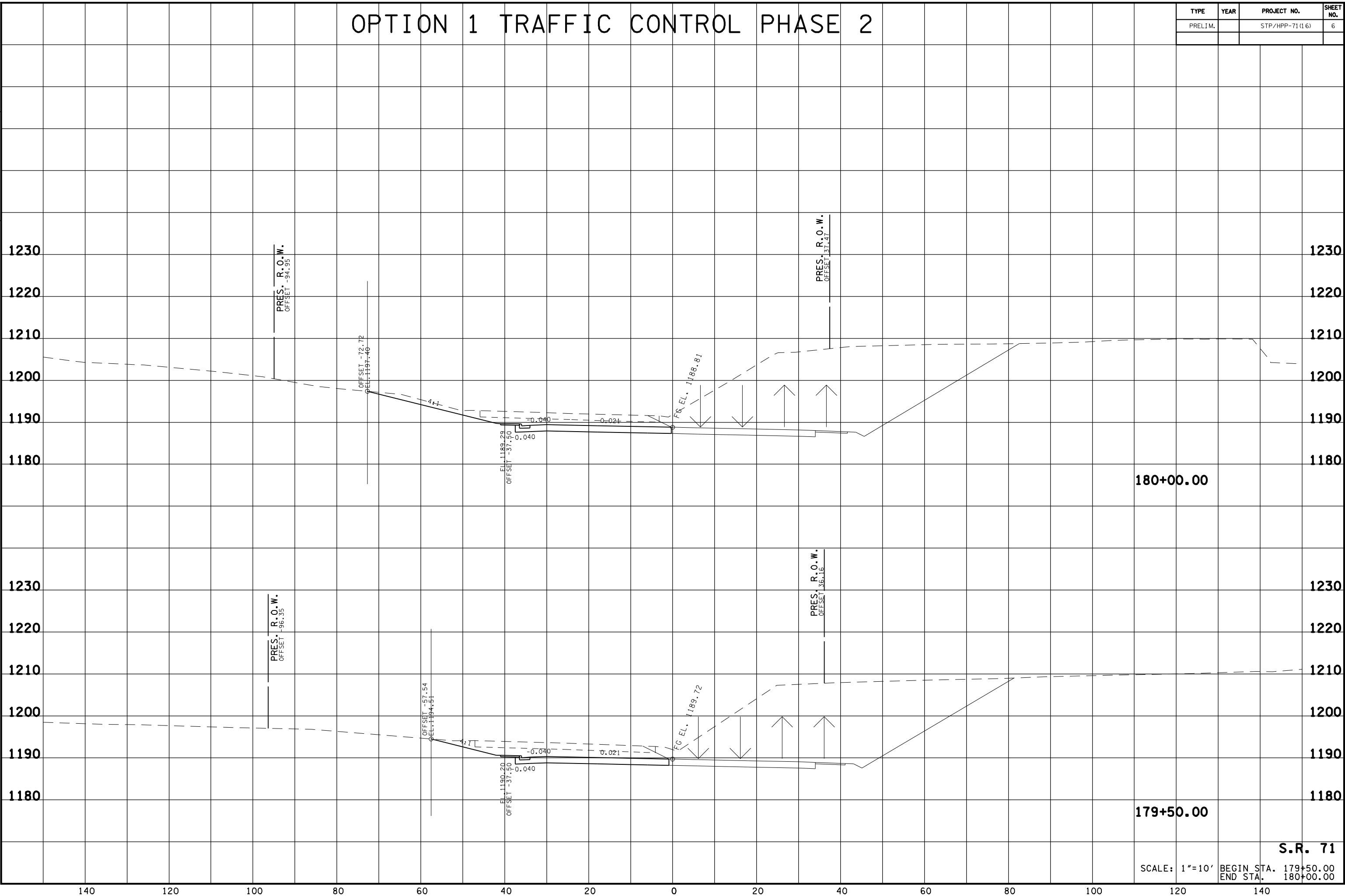
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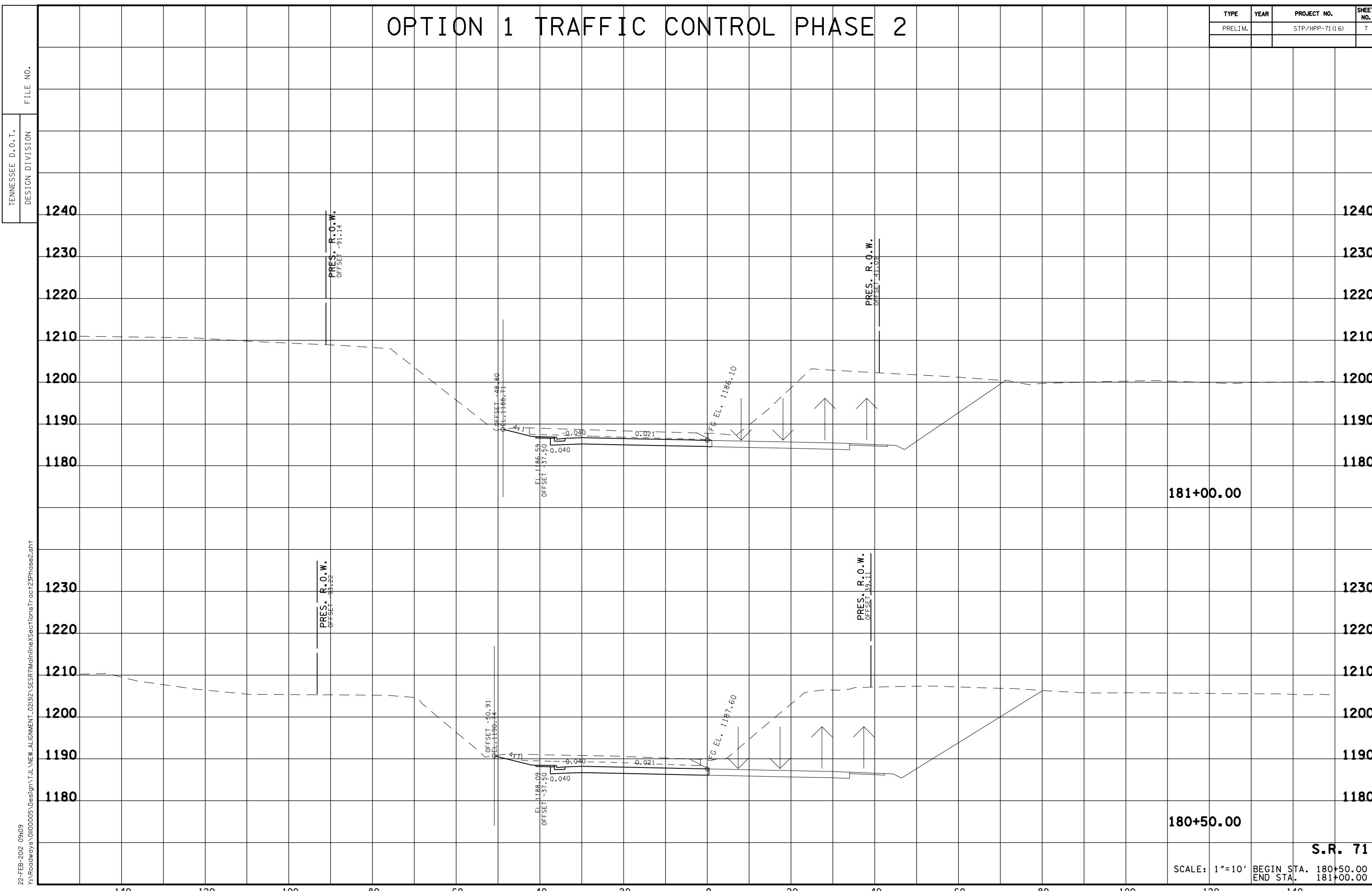
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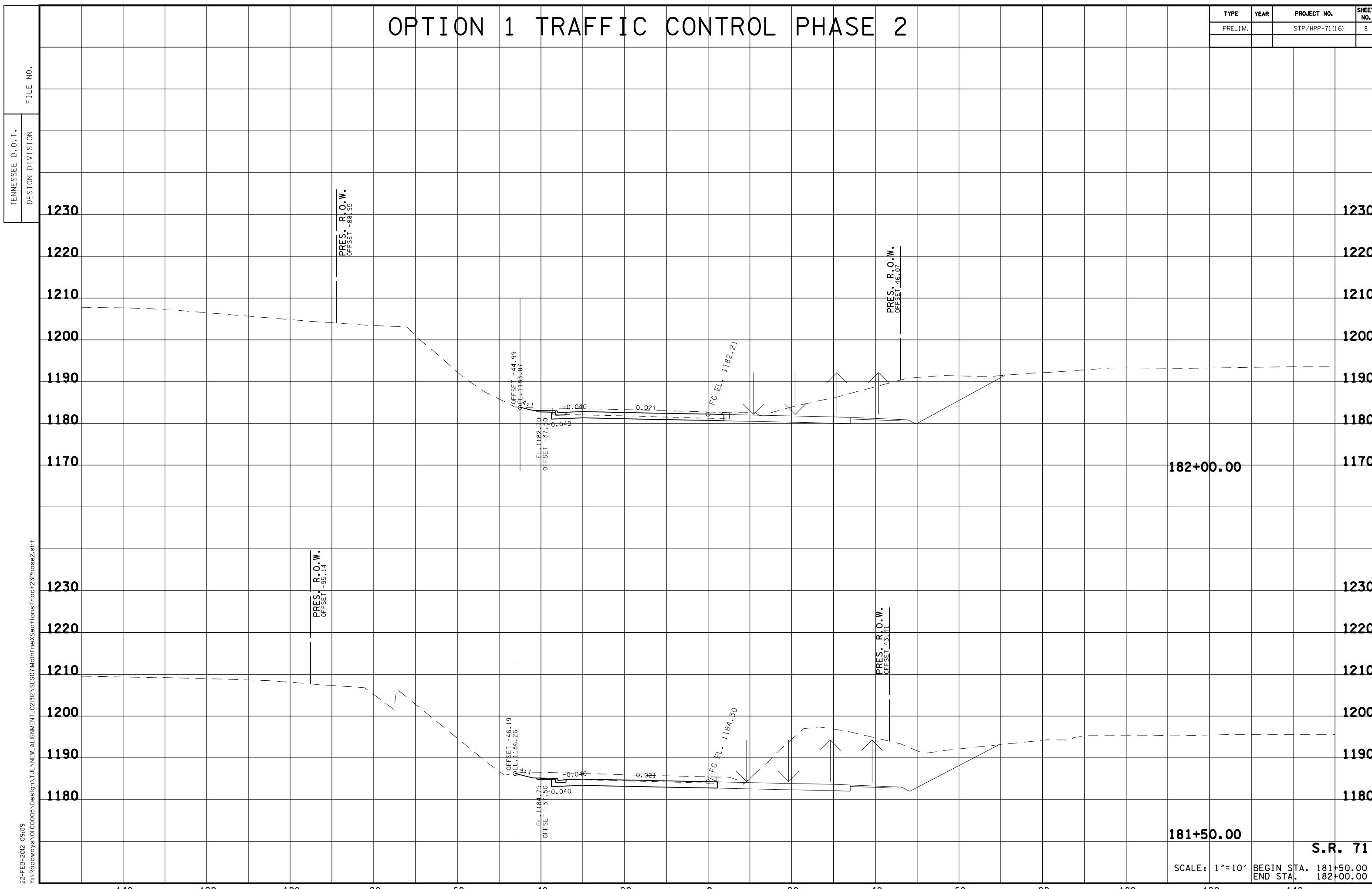
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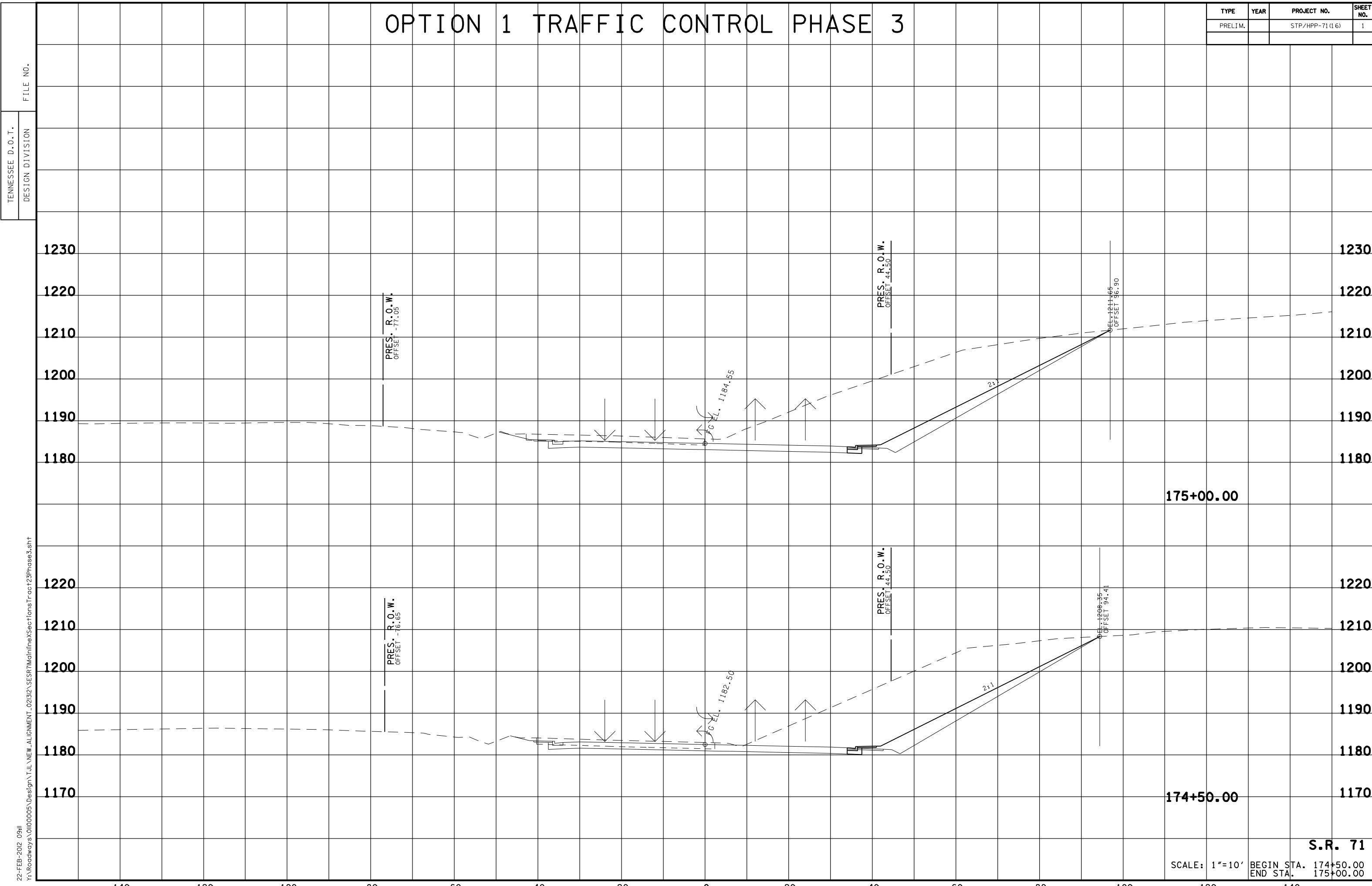
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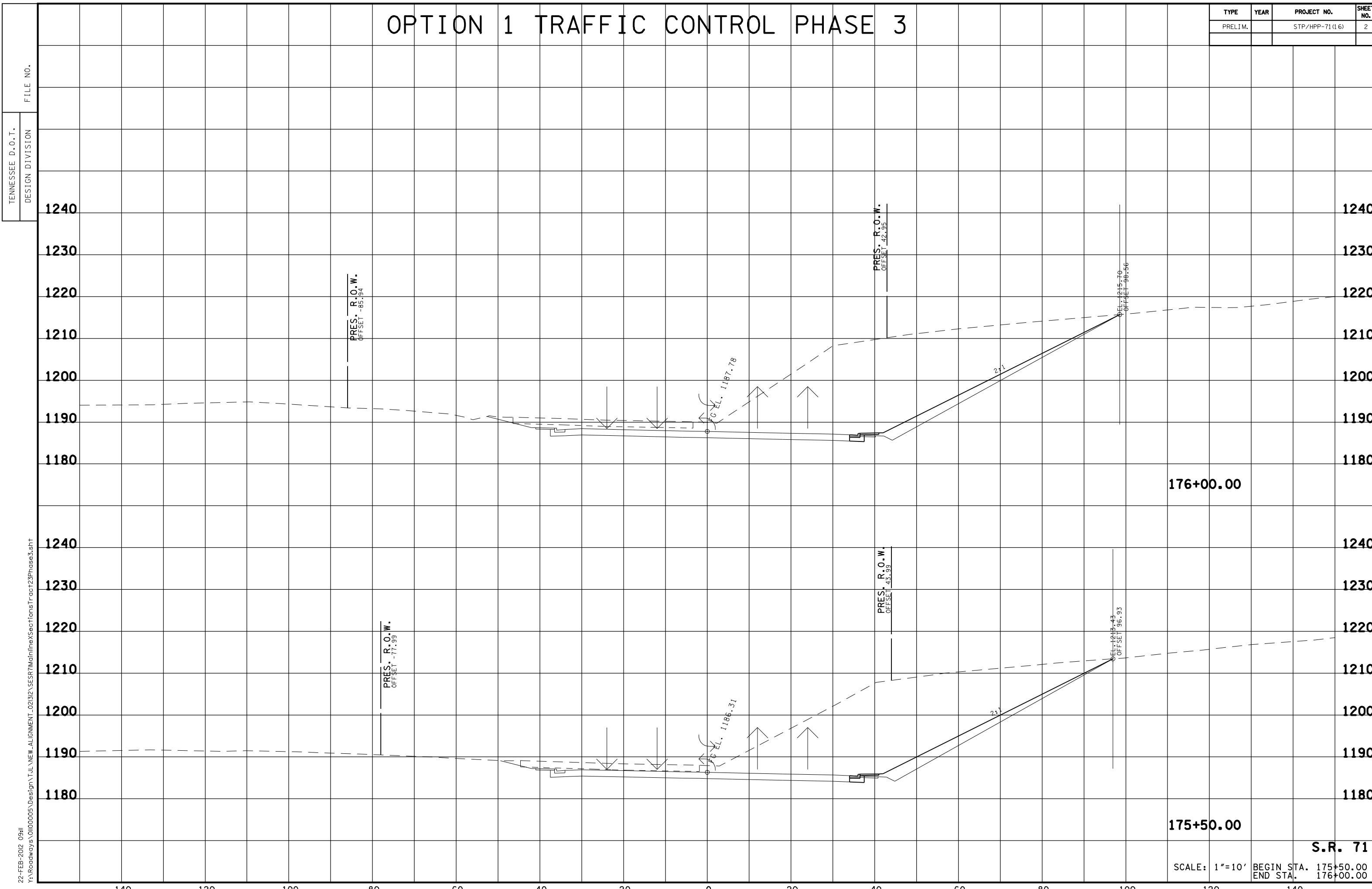
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OPTION 1 TRAFFIC CONTROL PHASE 3



OPTION 1 TRAFFIC CONTROL PHASE 3



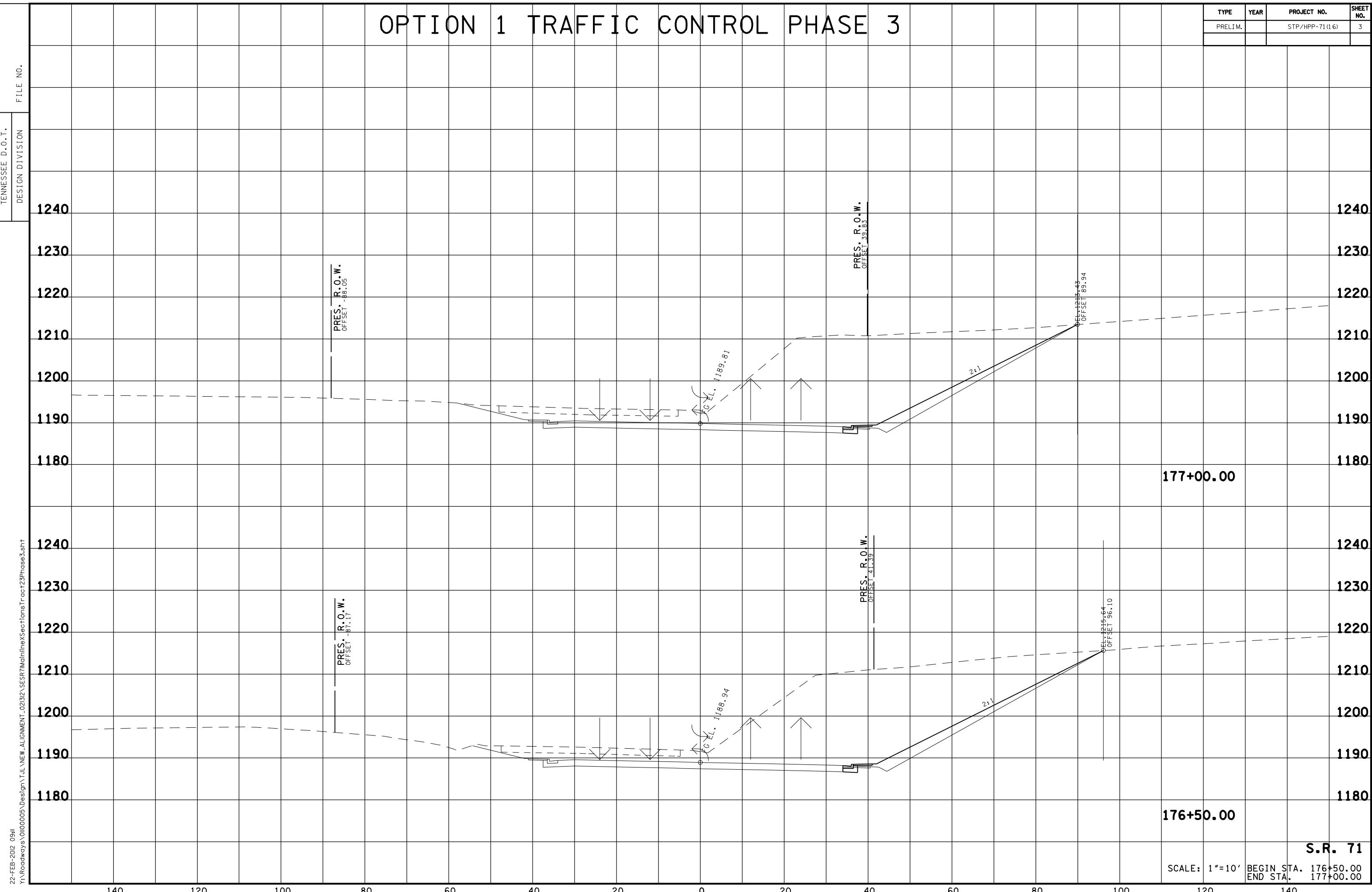
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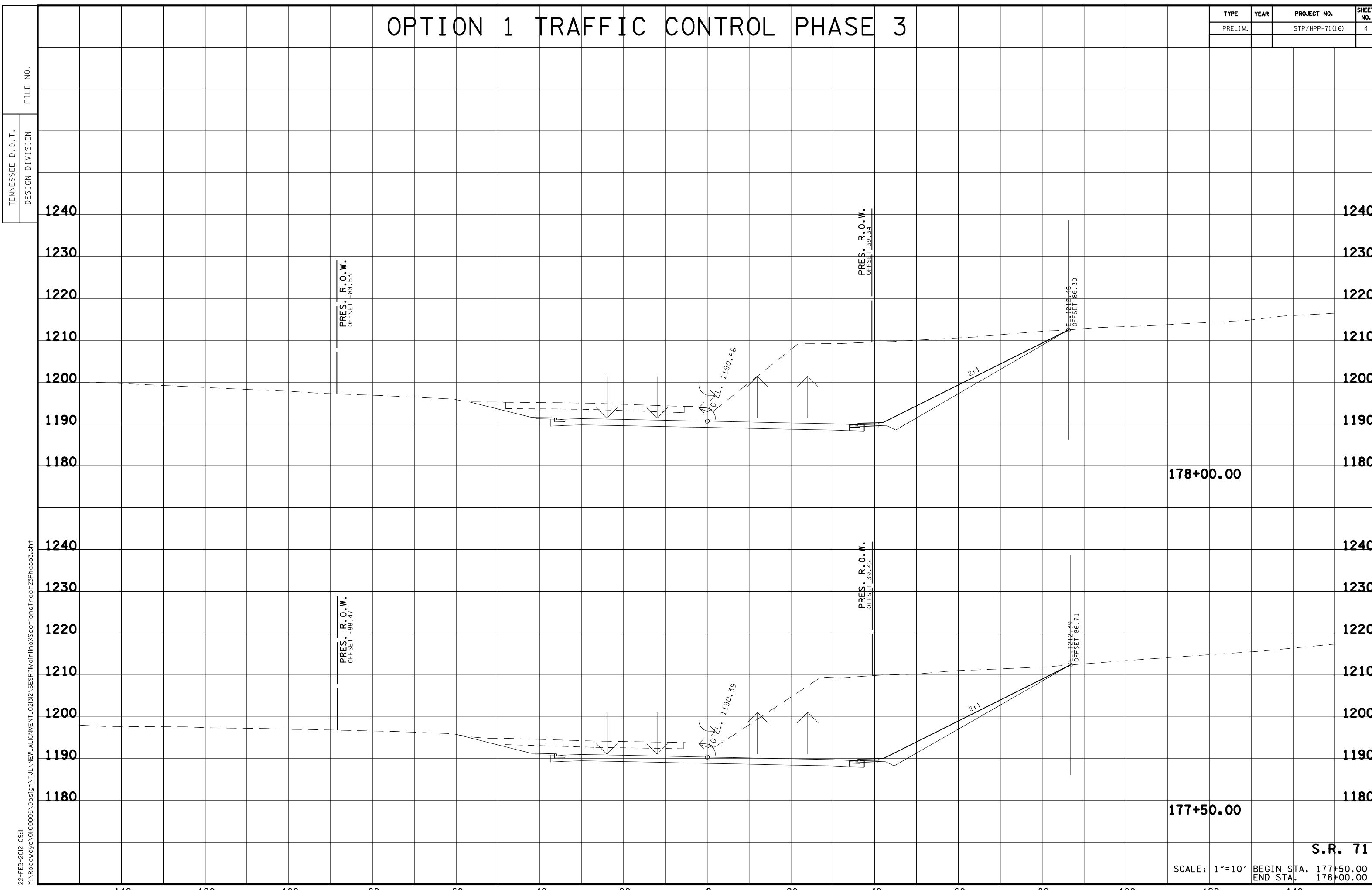
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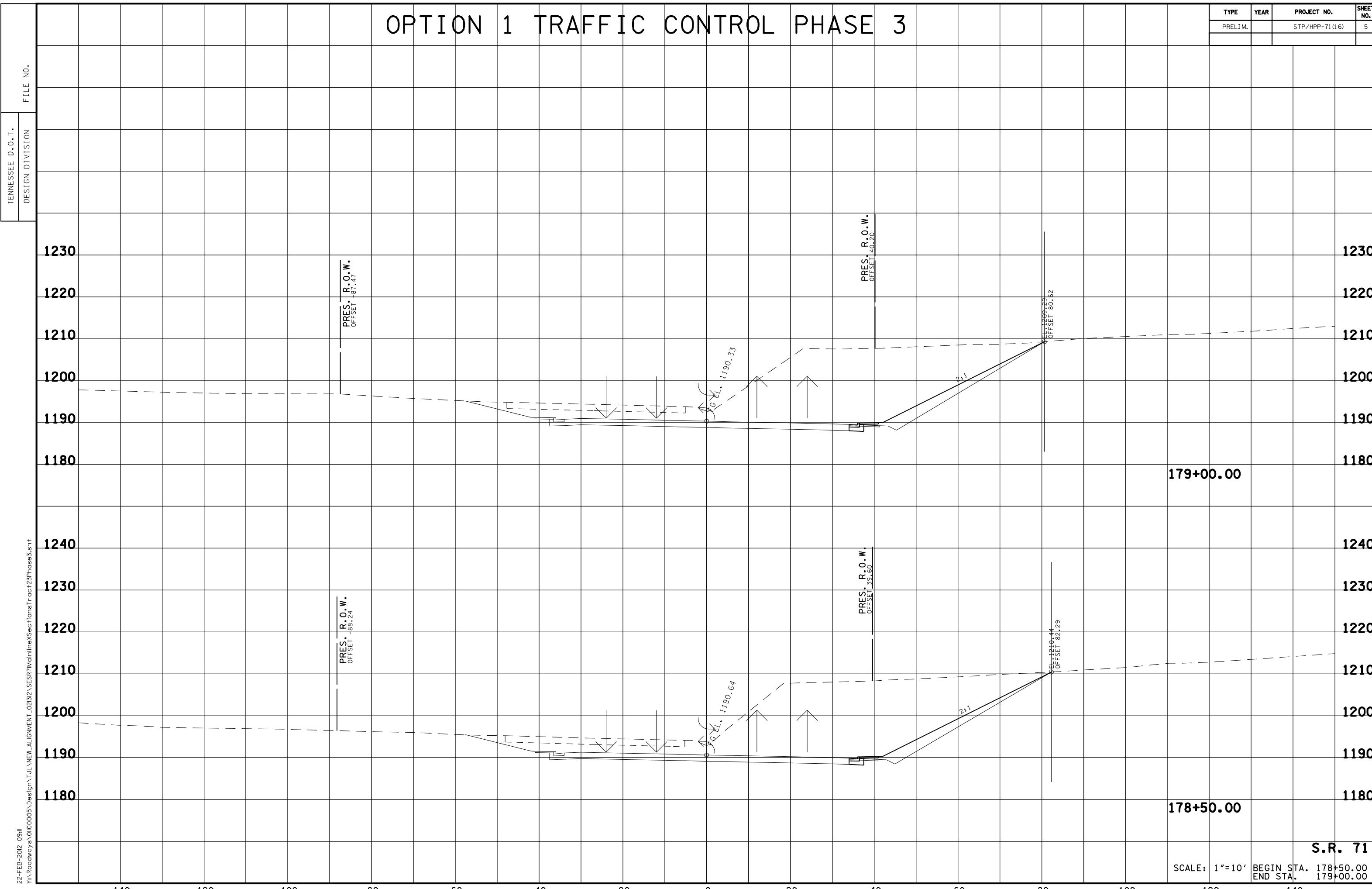
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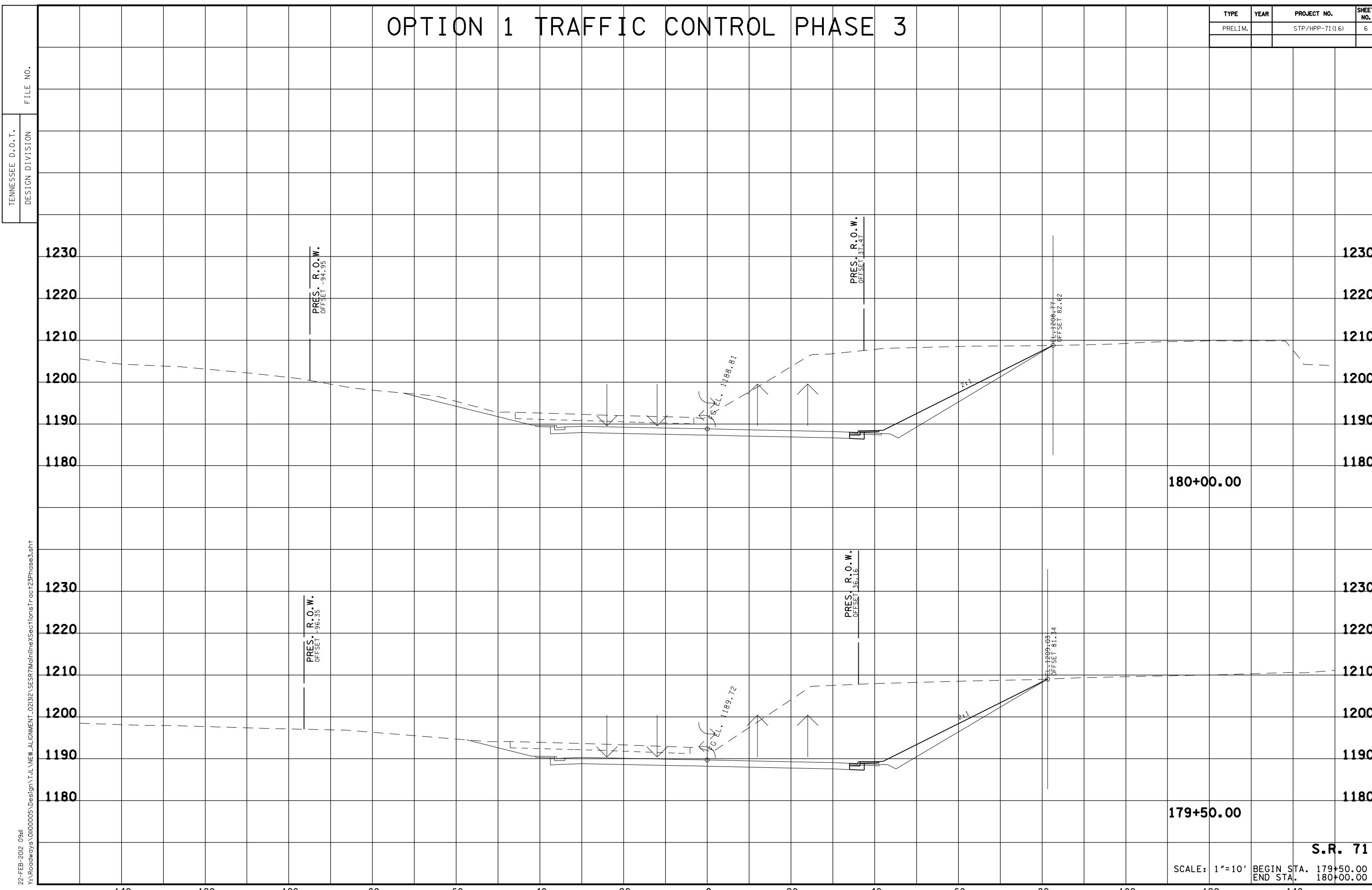
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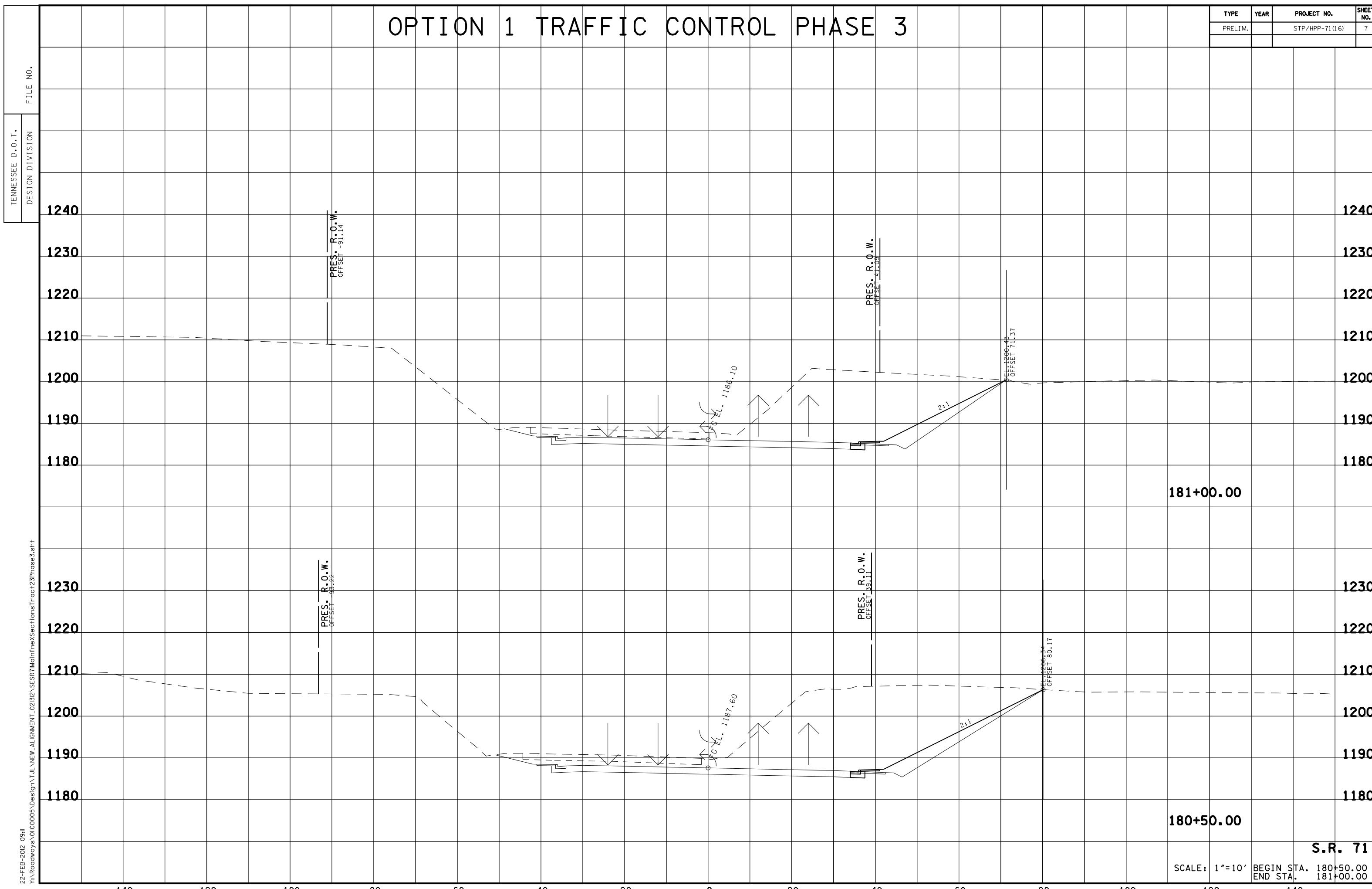
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OPTION 1 TRAFFIC CONTROL PHASE 3



OPTION 1 TRAFFIC CONTROL PHASE 3

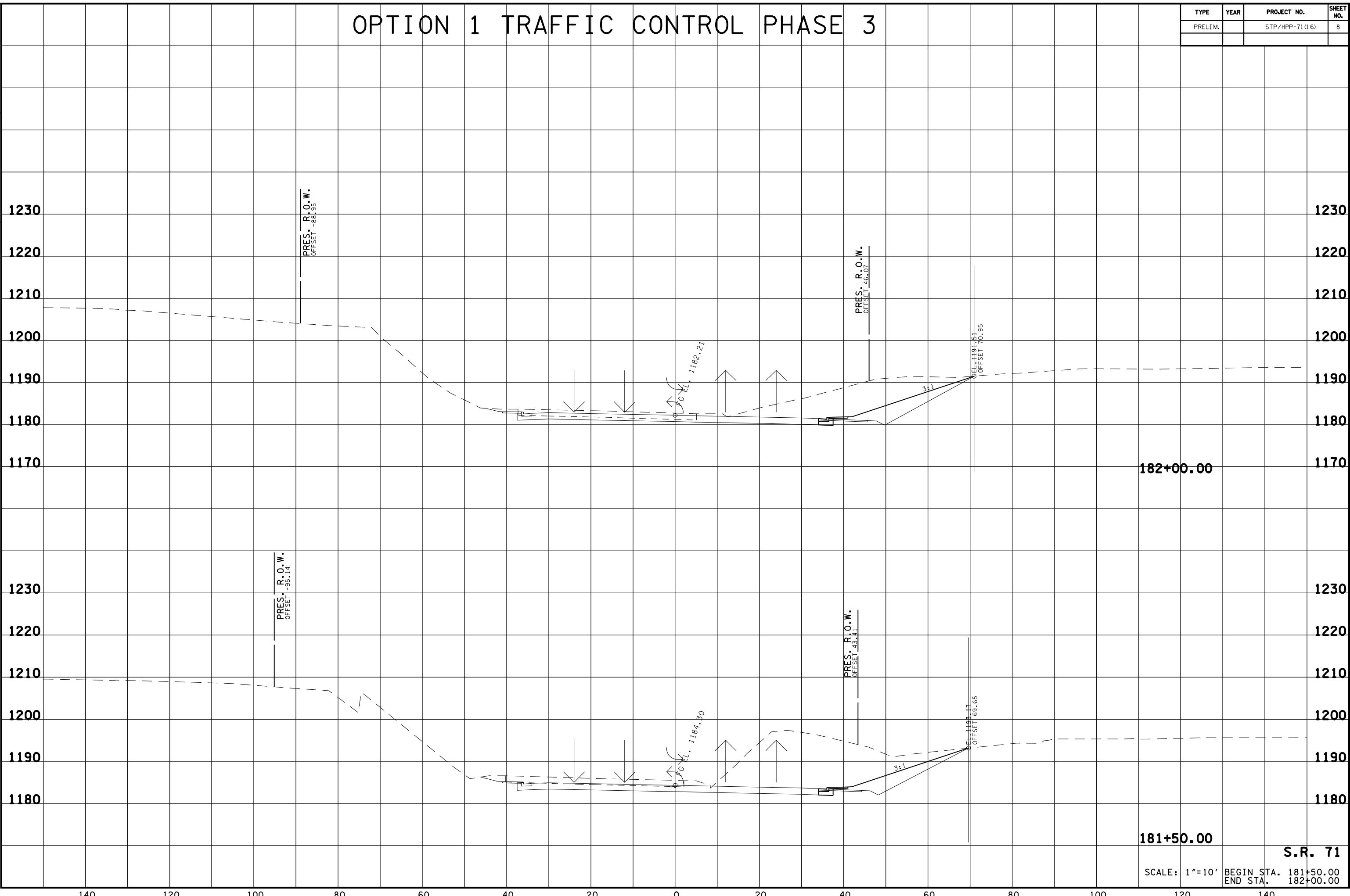


OPTION 1 TRAFFIC CONTROL PHASE 3

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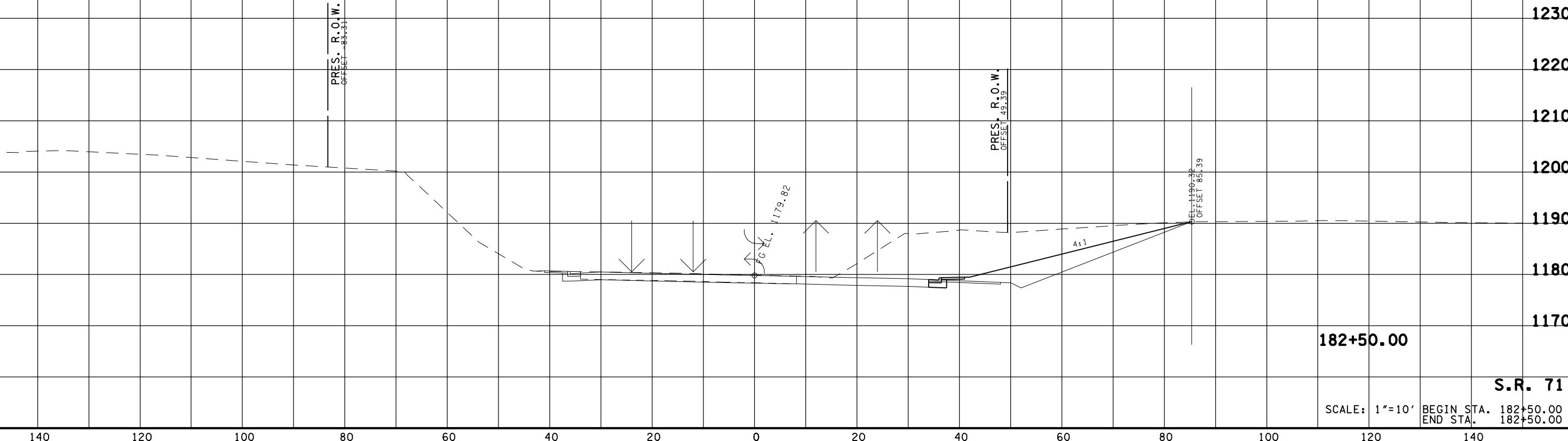
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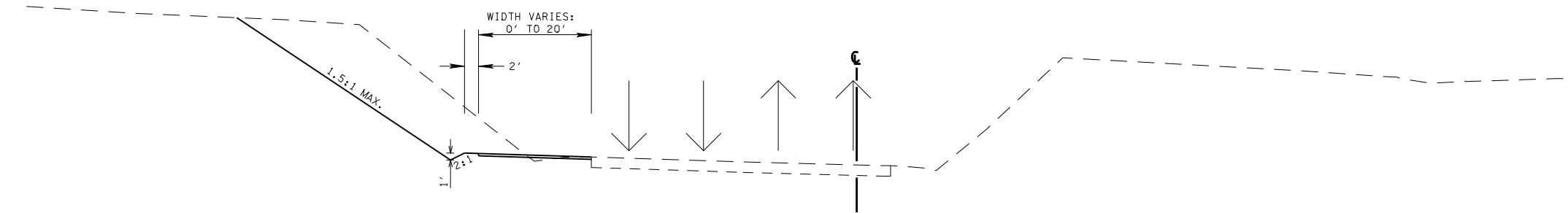
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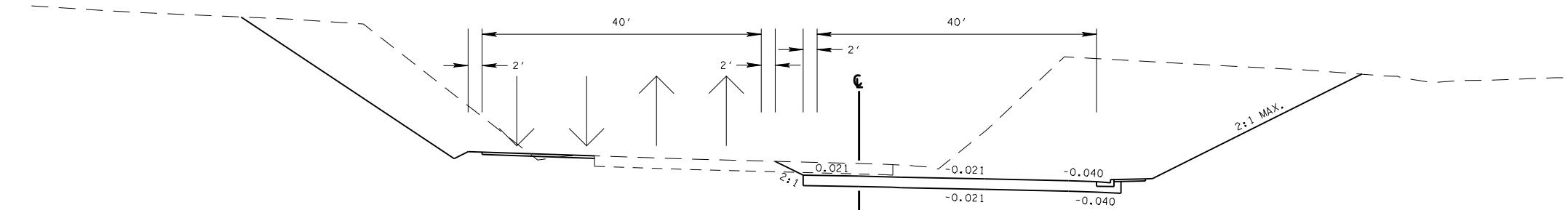
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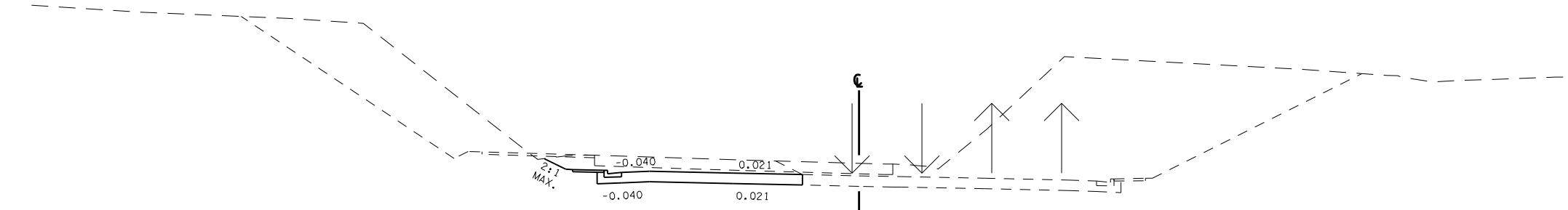
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TRAFFIC CONTROL PHASE 1 TYPICAL SECTION



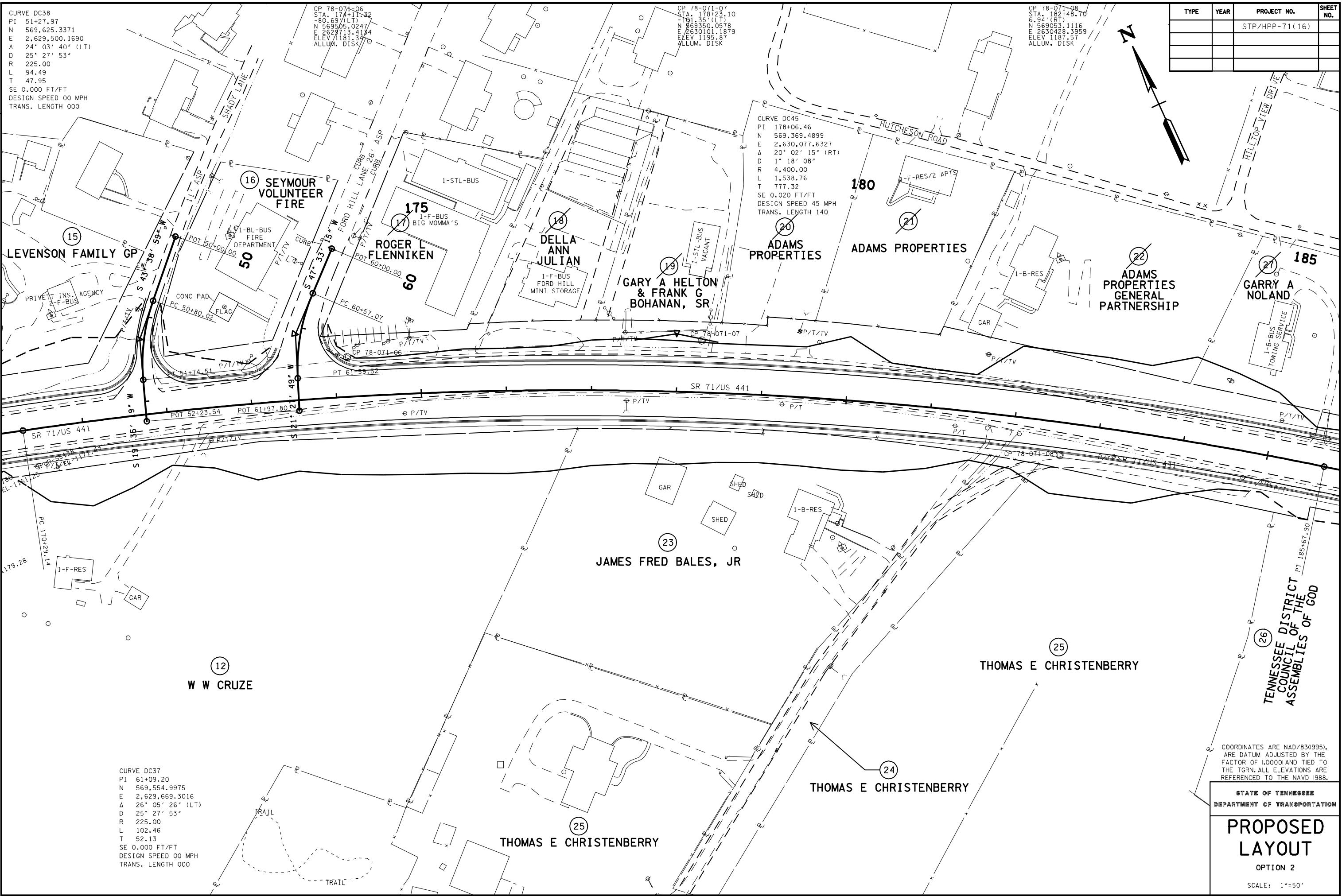
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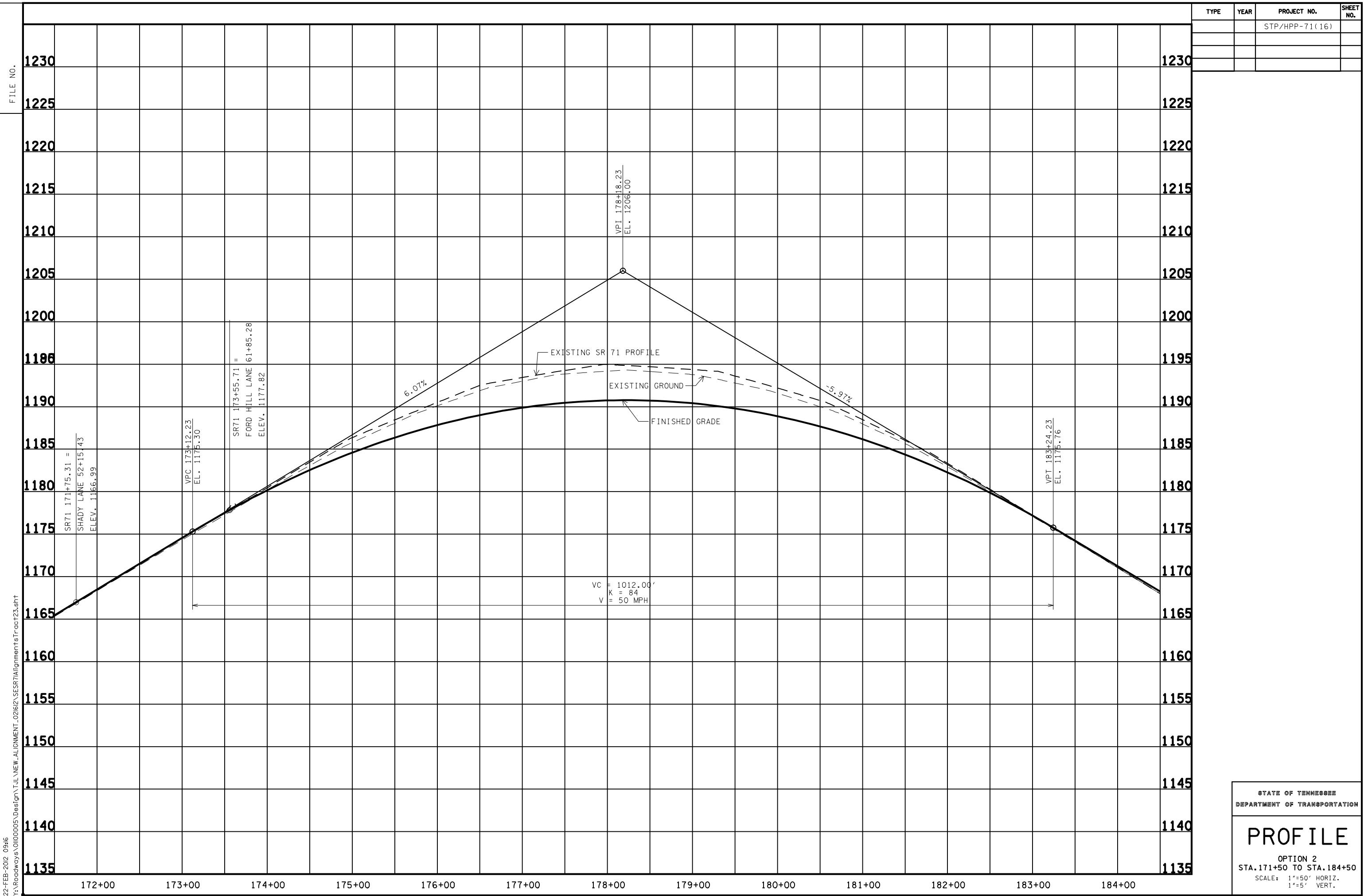


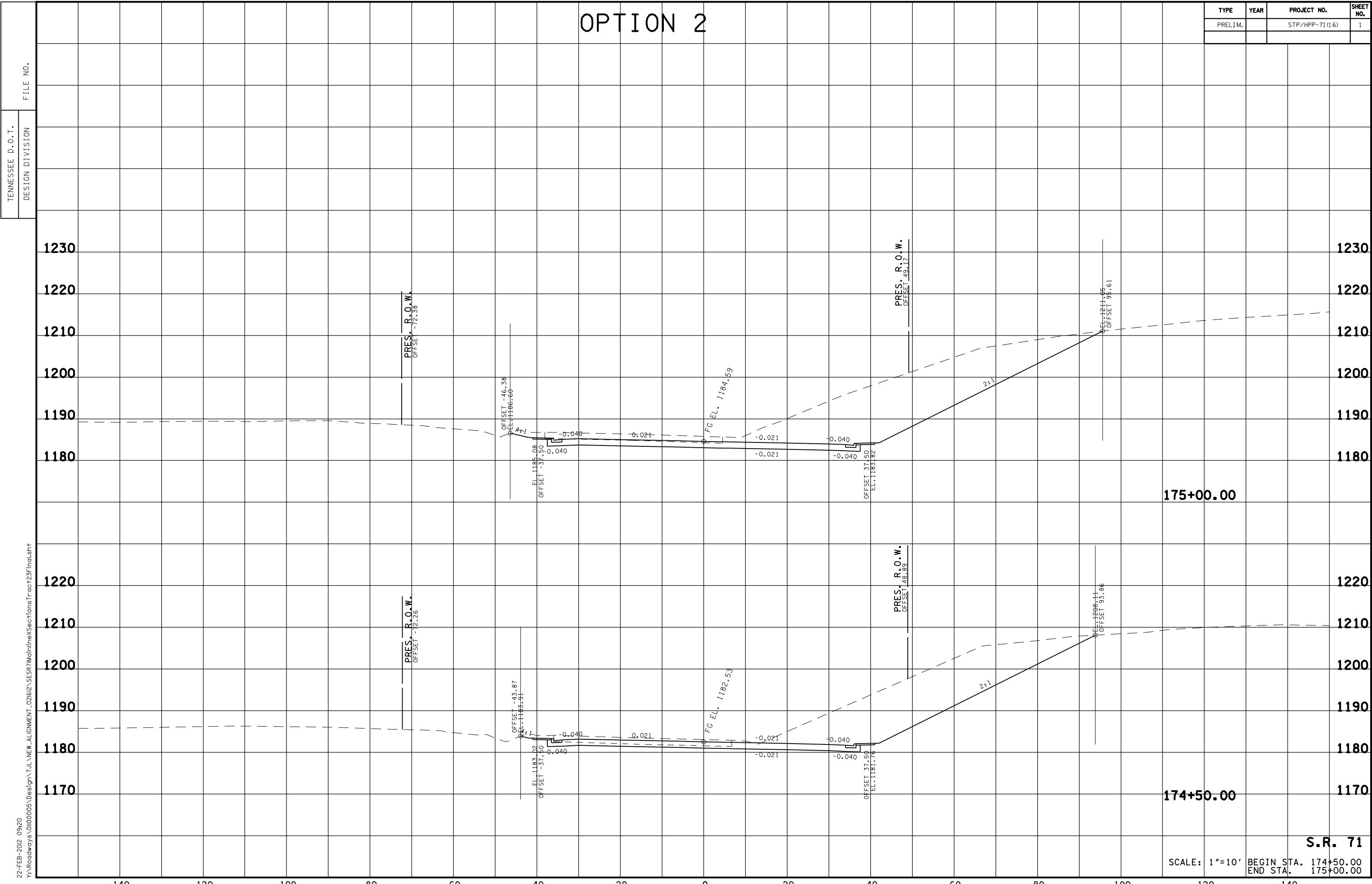
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TENNESSEE D.O.T.
DESIGN DIVISION

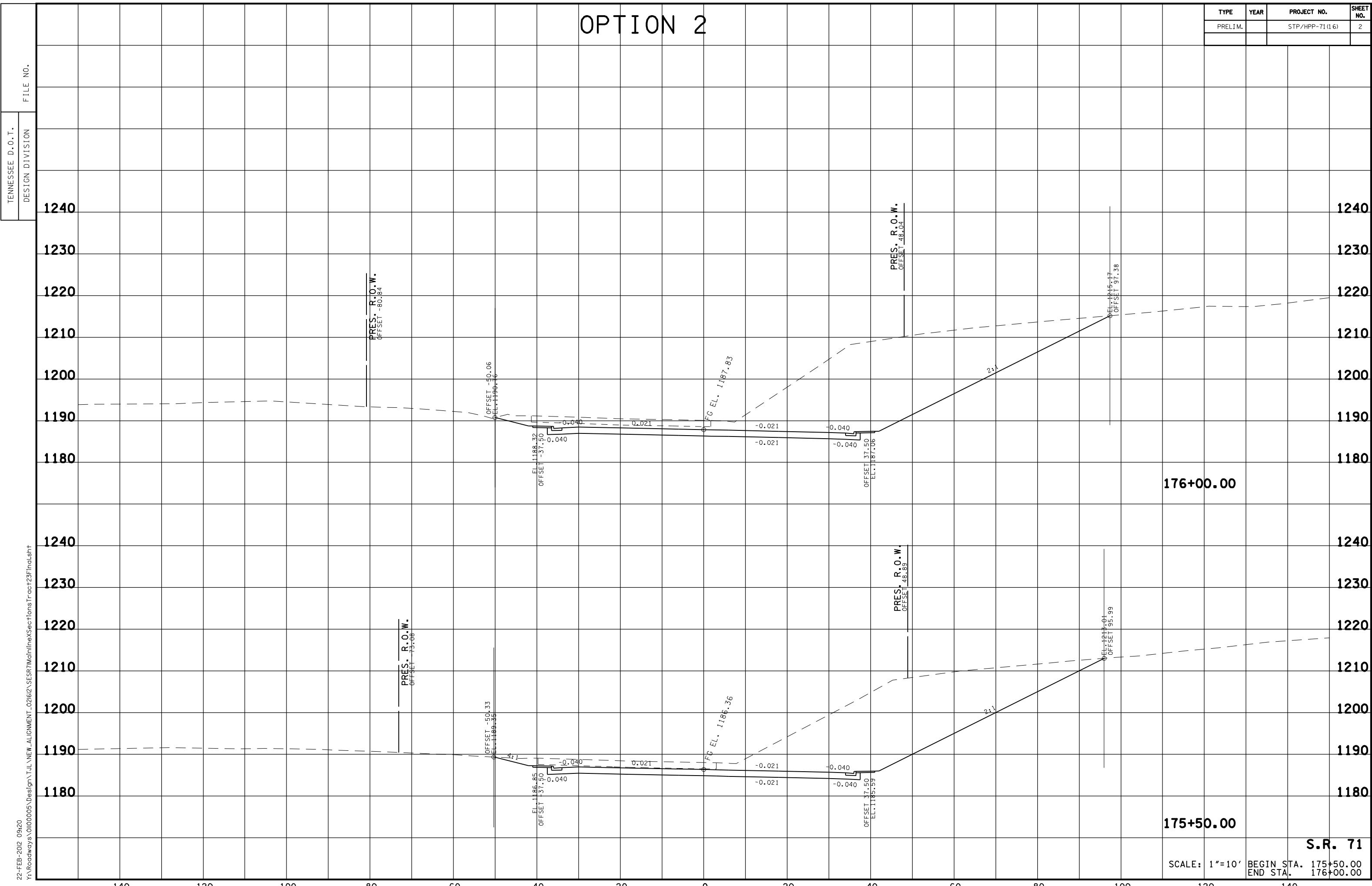
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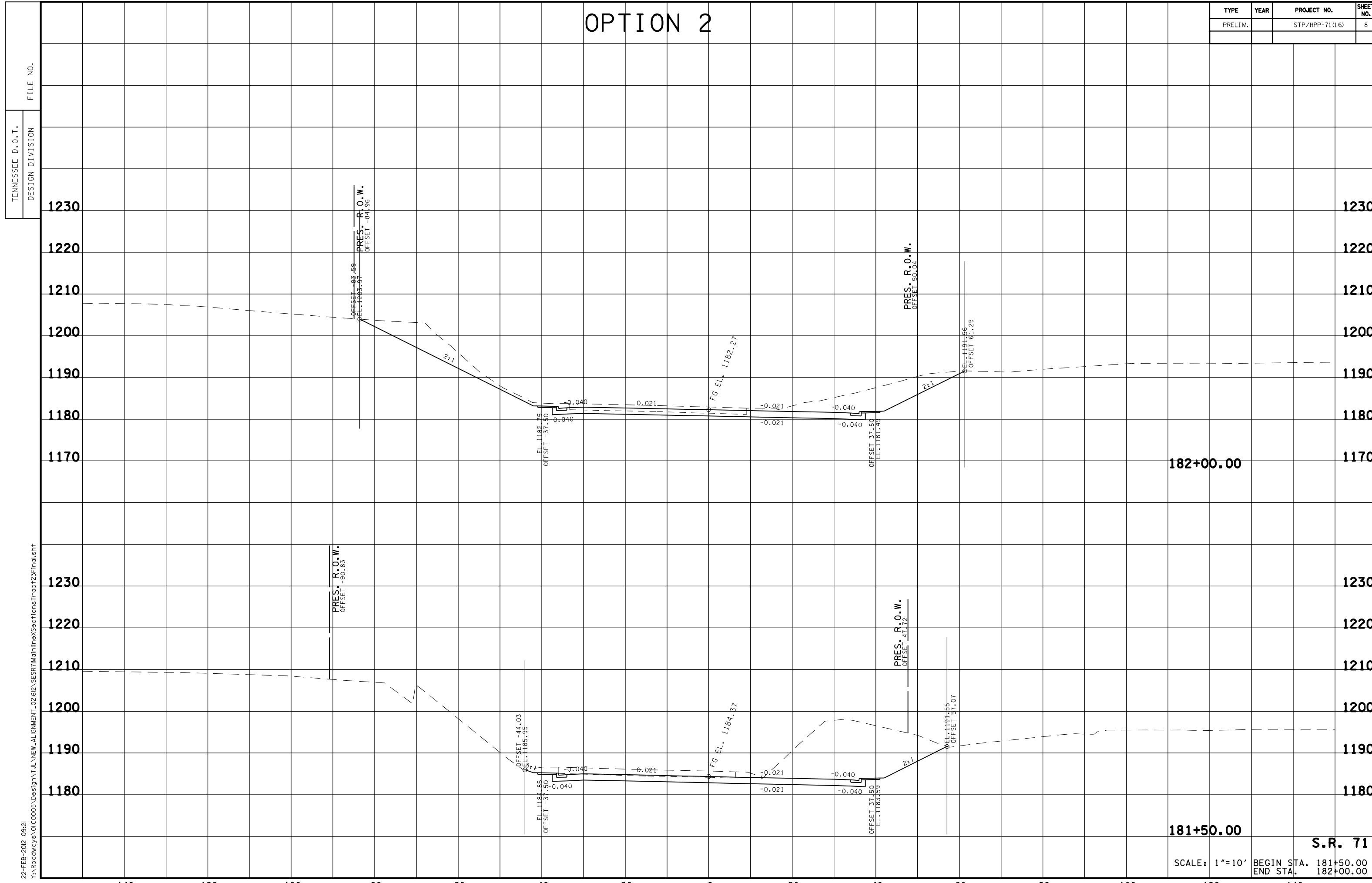


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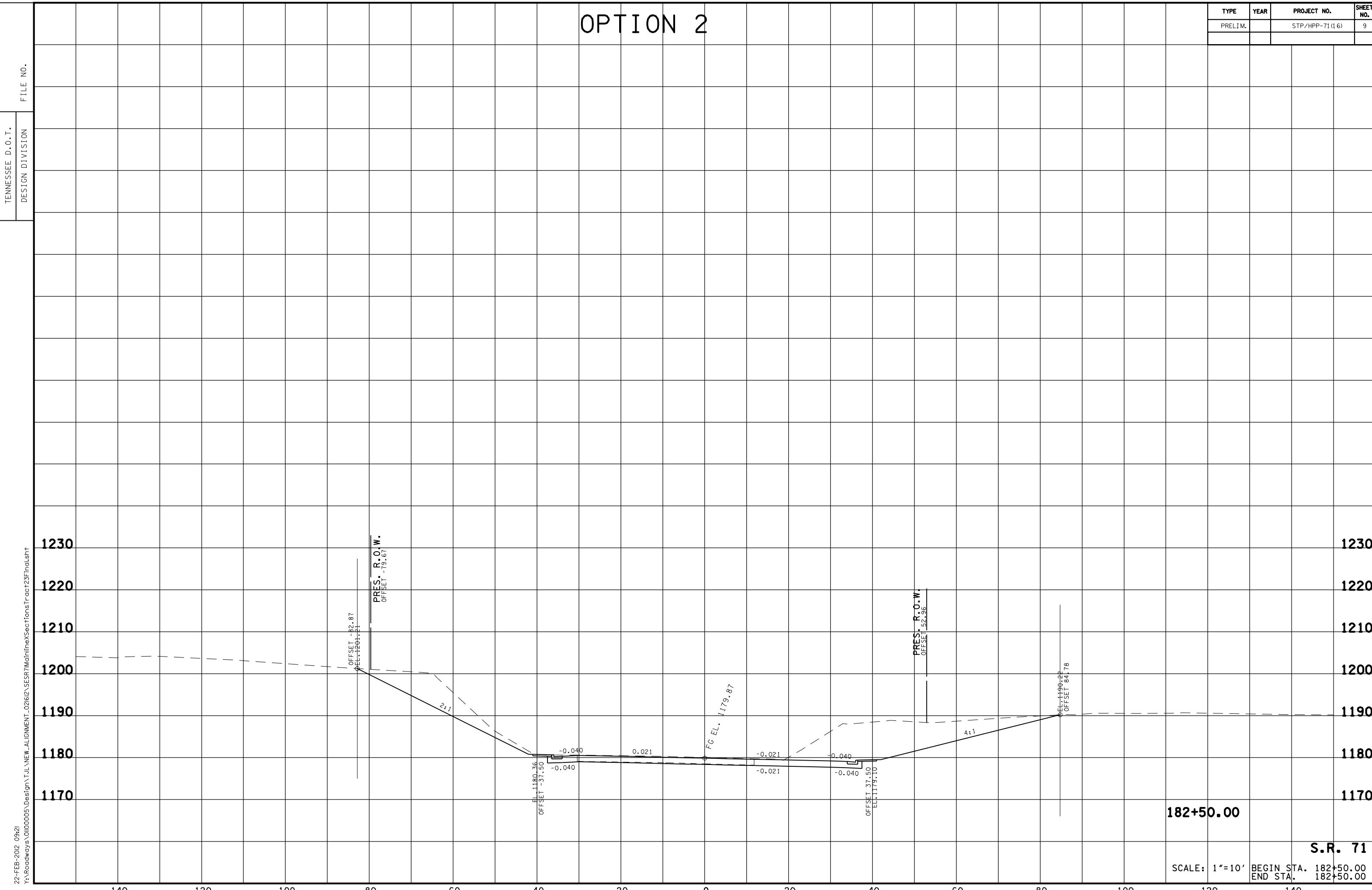
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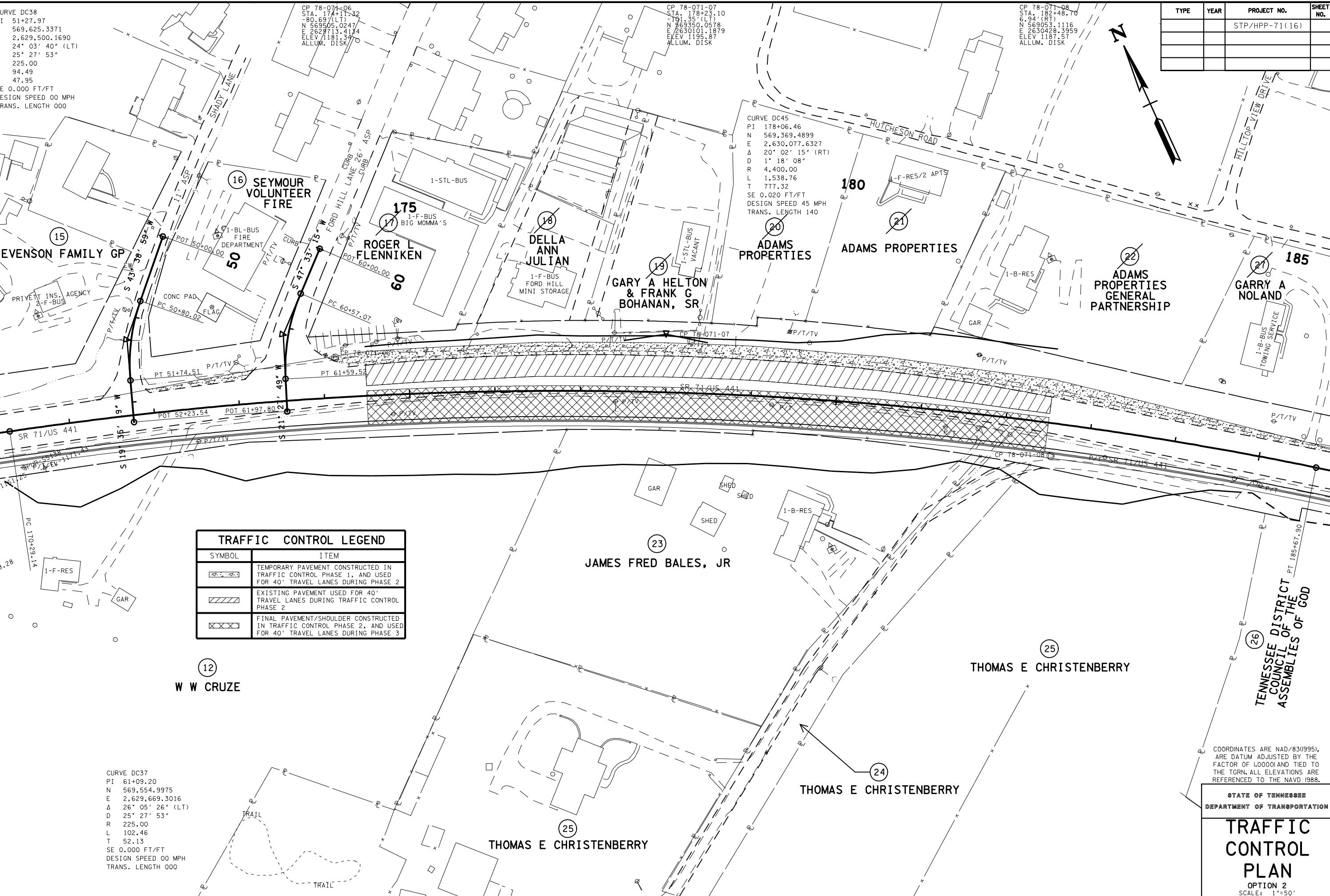
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OPTION 2



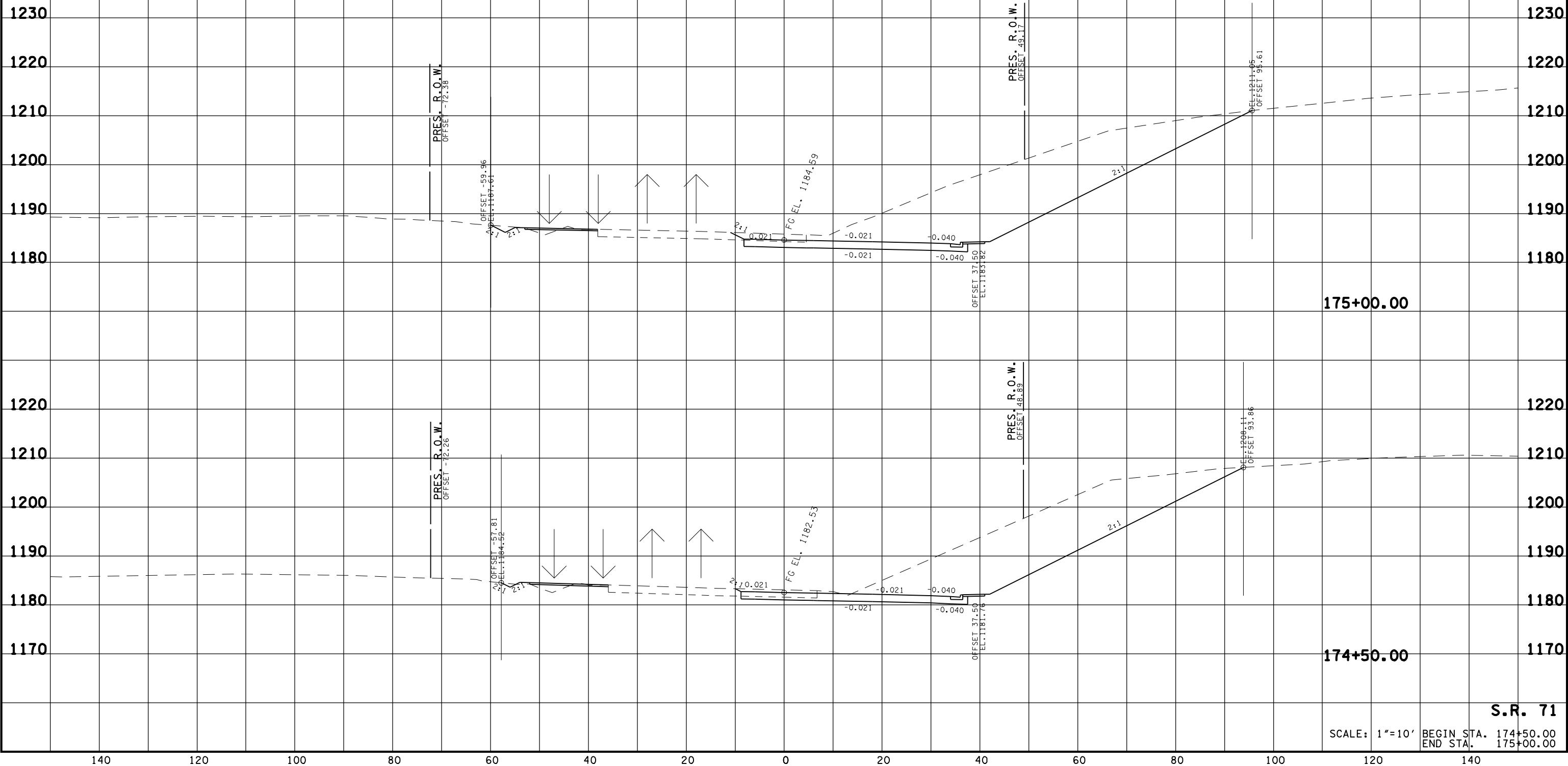


OPTION 2 TRAFFIC CONTROL PHASE 2

TYPE	YEAR	PROJECT NO.	SHEET NO.
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DESIGN DIVISION
FILE NO.

*NOTE: TRAFFIC CONTROL PHASE 1
IS CONSTRUCTION OF THE
TEMPORARY PAVEMENT

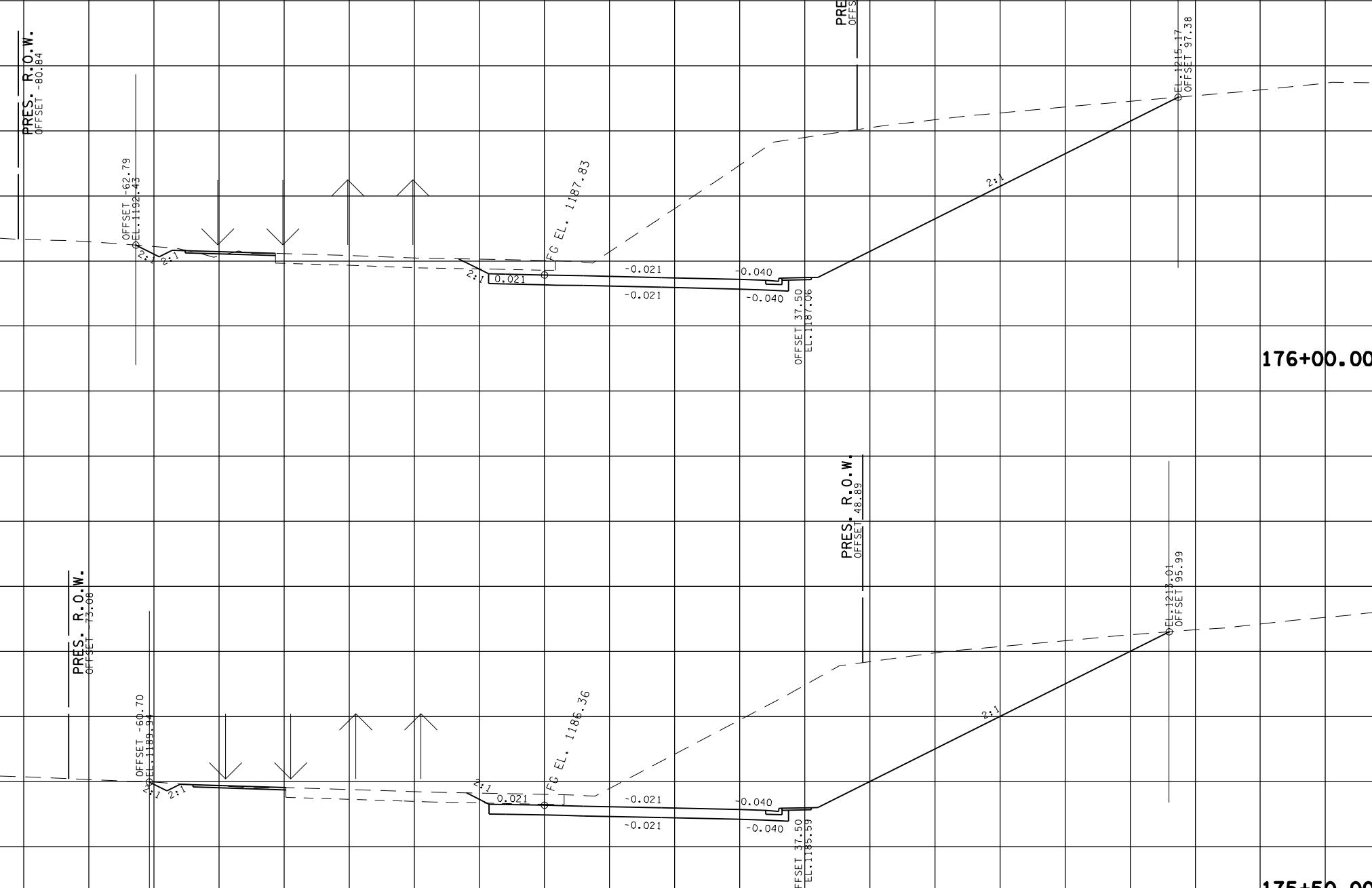


OPTION 2 TRAFFIC CONTROL PHASE 2

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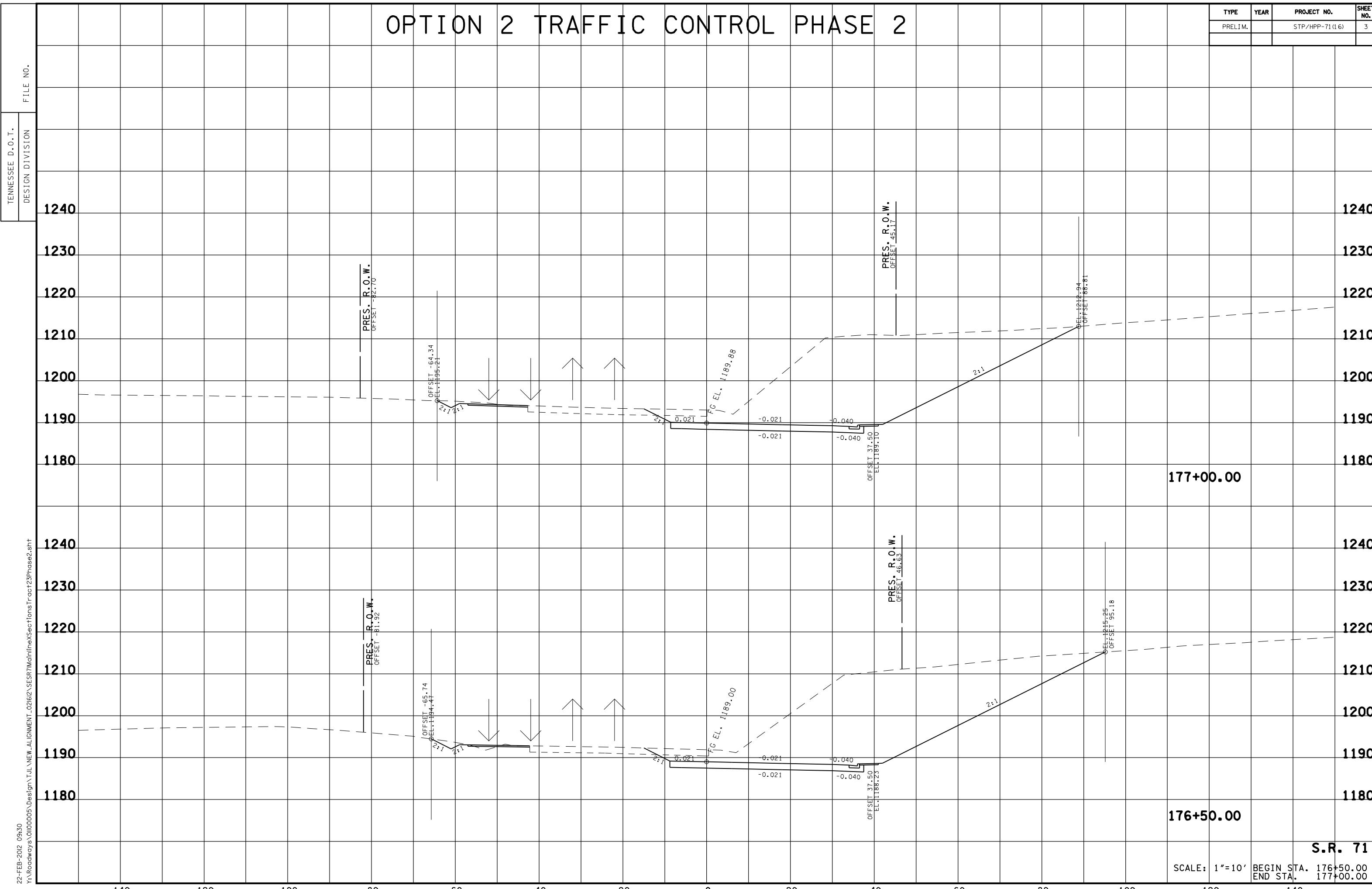
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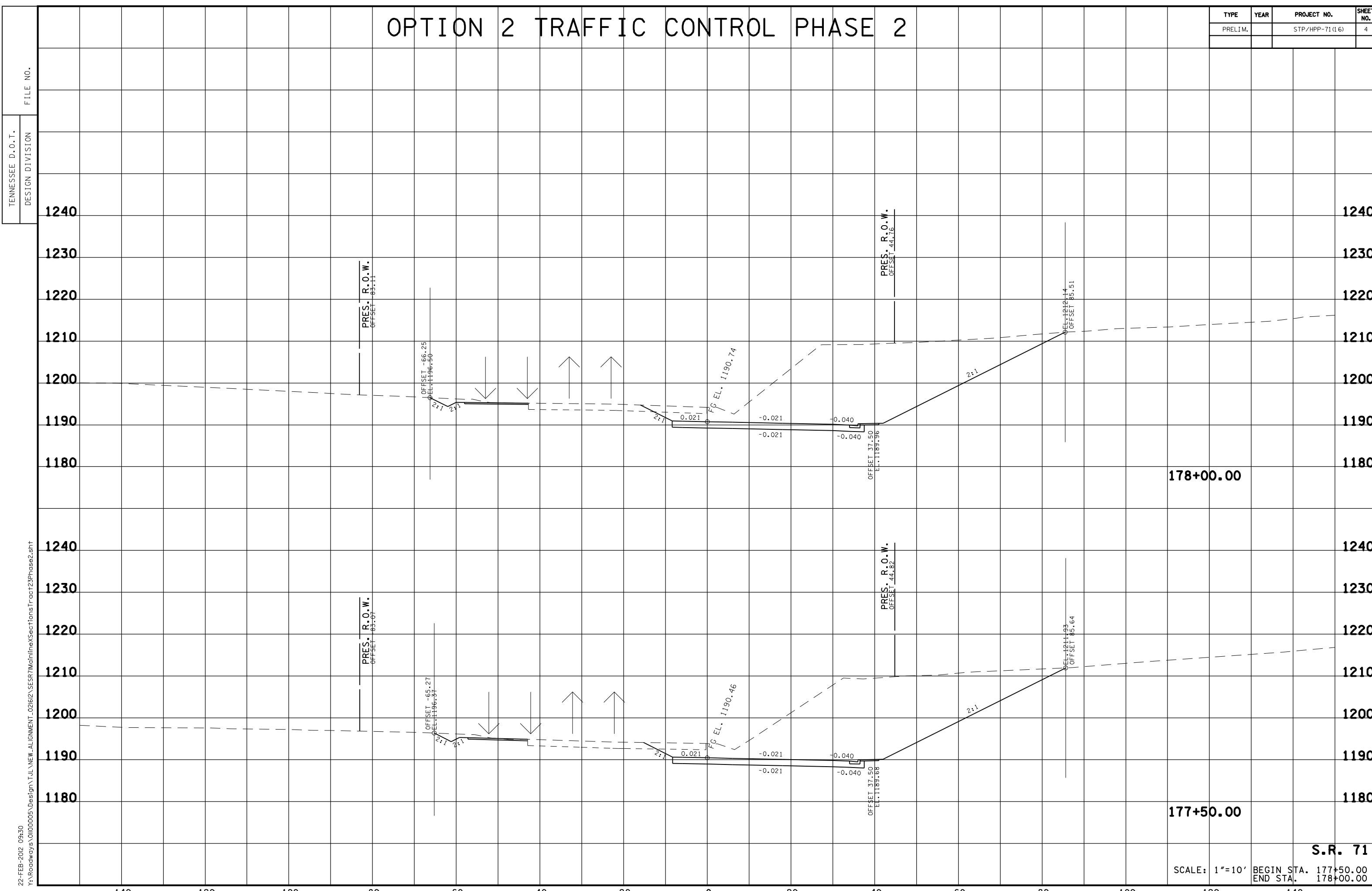


S.R. 71
SCALE: 1"=10'
BEGIN STA. 175+50.00
END STA. 176+00.00

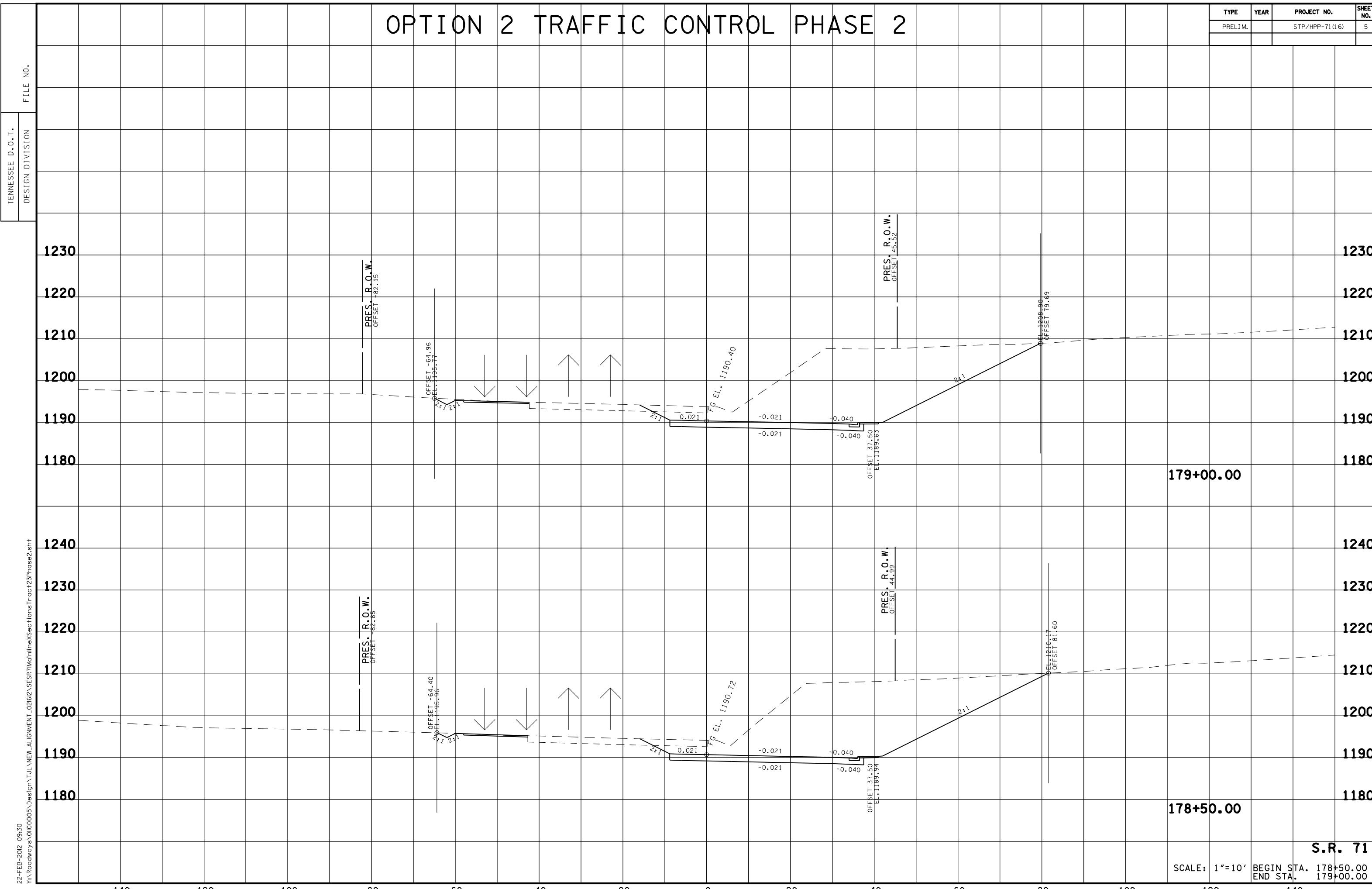
OPTION 2 TRAFFIC CONTROL PHASE 2



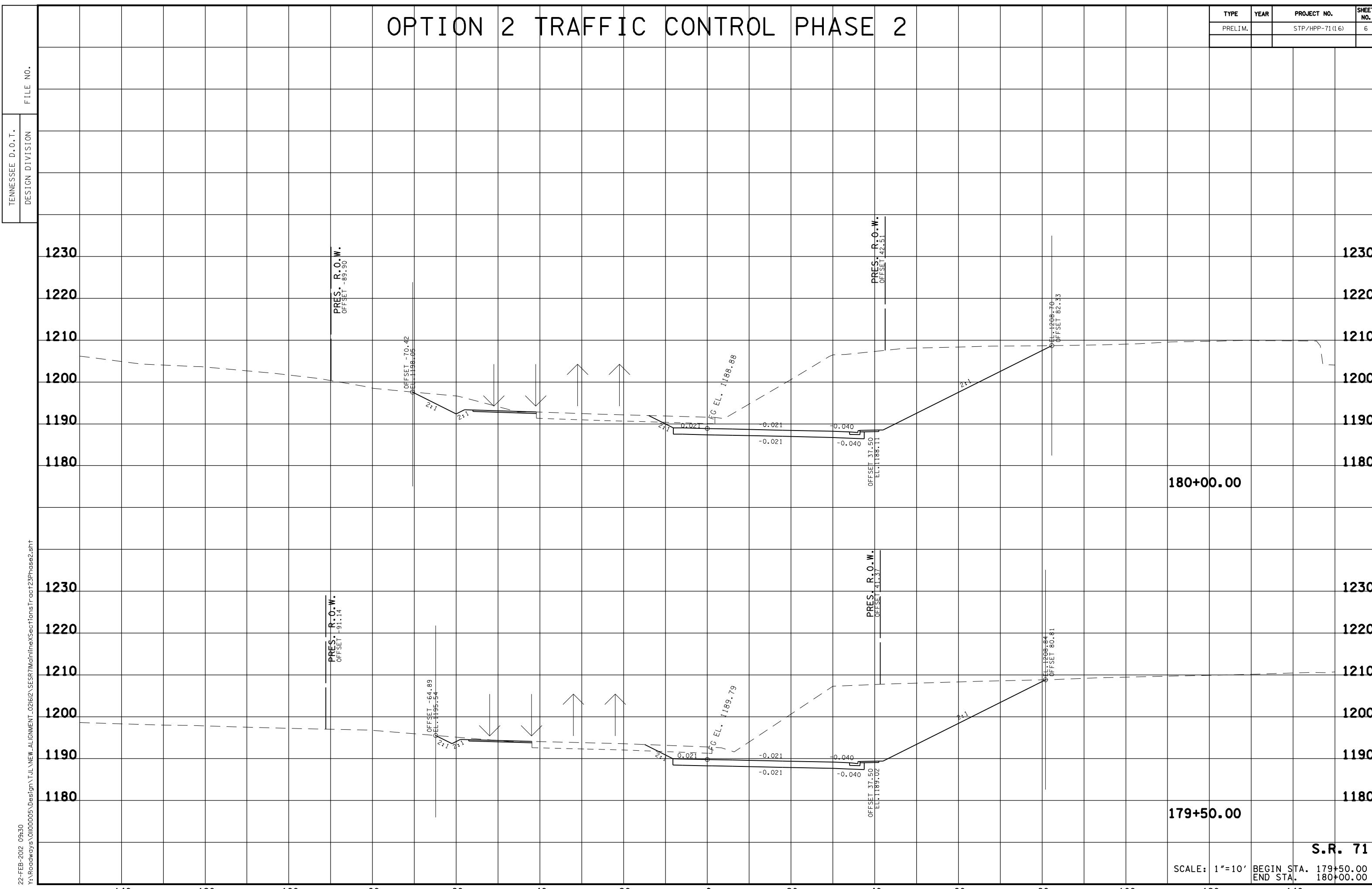
OPTION 2 TRAFFIC CONTROL PHASE 2



OPTION 2 TRAFFIC CONTROL PHASE 2



OPTION 2 TRAFFIC CONTROL PHASE 2



OPTION 2 TRAFFIC CONTROL PHASE 2

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.		STP/HPP-71(16)	7

TENNESSEE D.O.T. DESIGN DIVISION FILE NO.

1

בגנוב - 2 - קיילר

卷二十一

אדרת מילון

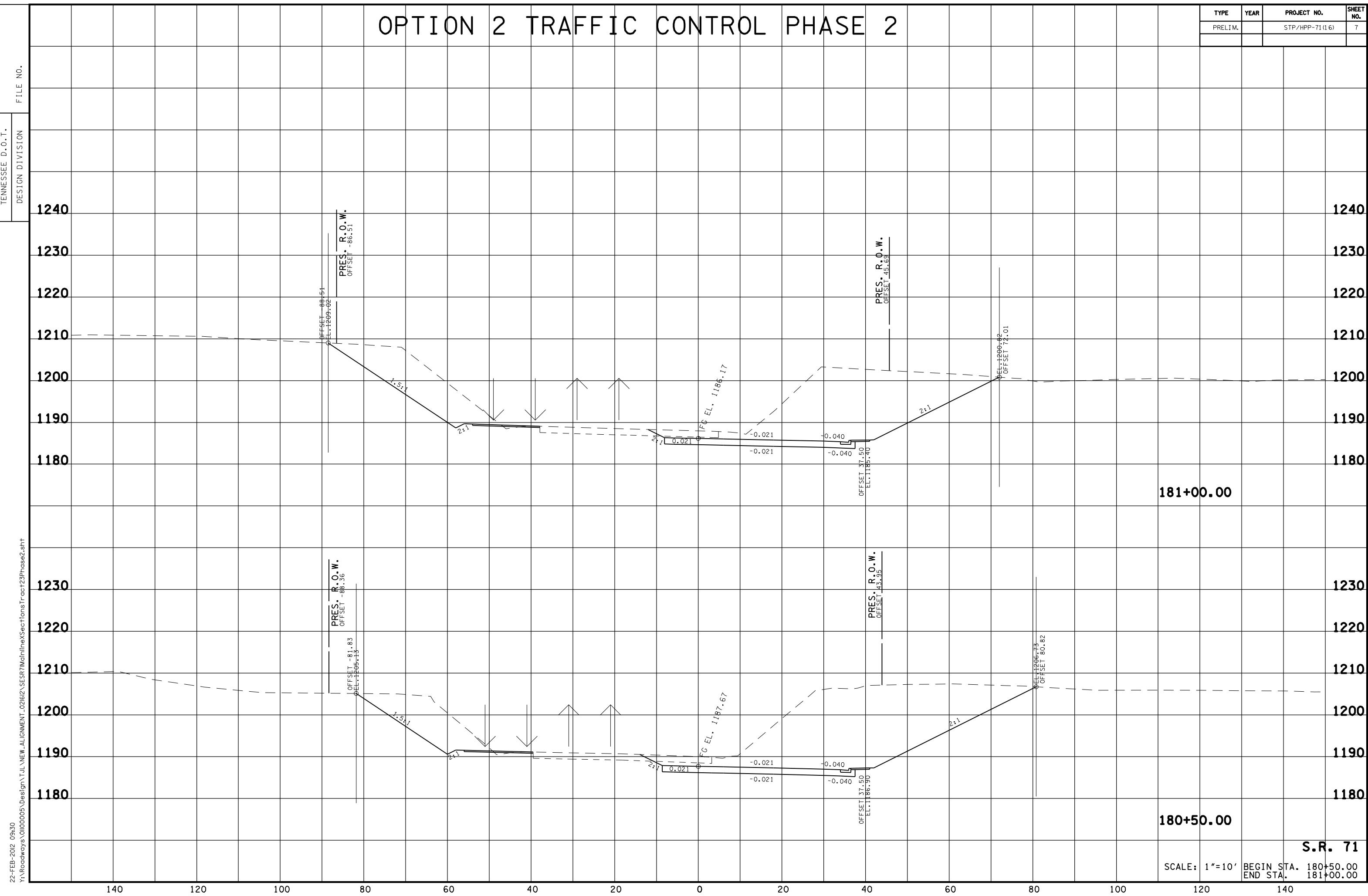
TENTACIONES

1 NEW ALICIA

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2012-09:30

22-FEE

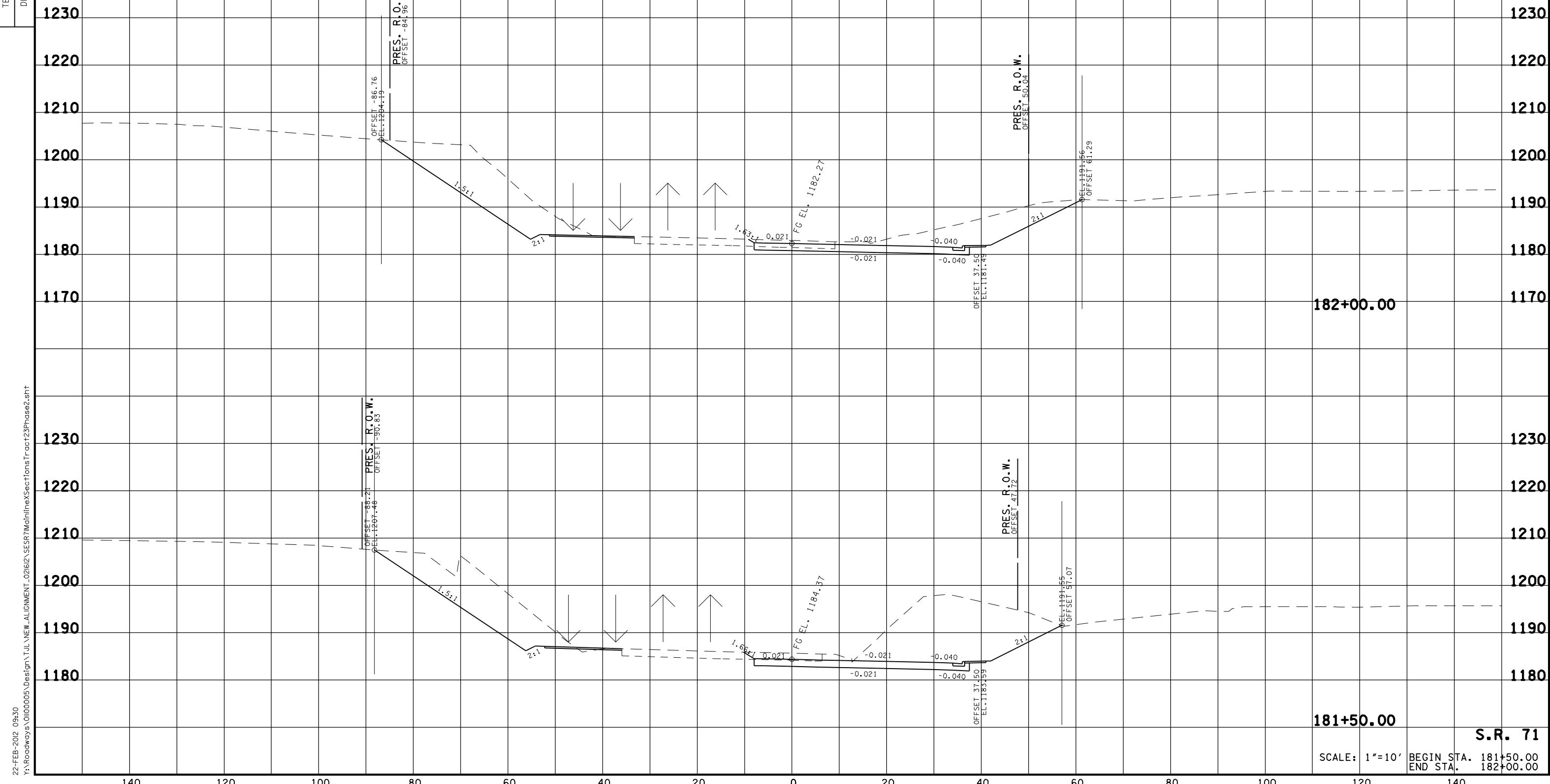


OPTION 2 TRAFFIC CONTROL PHASE 2

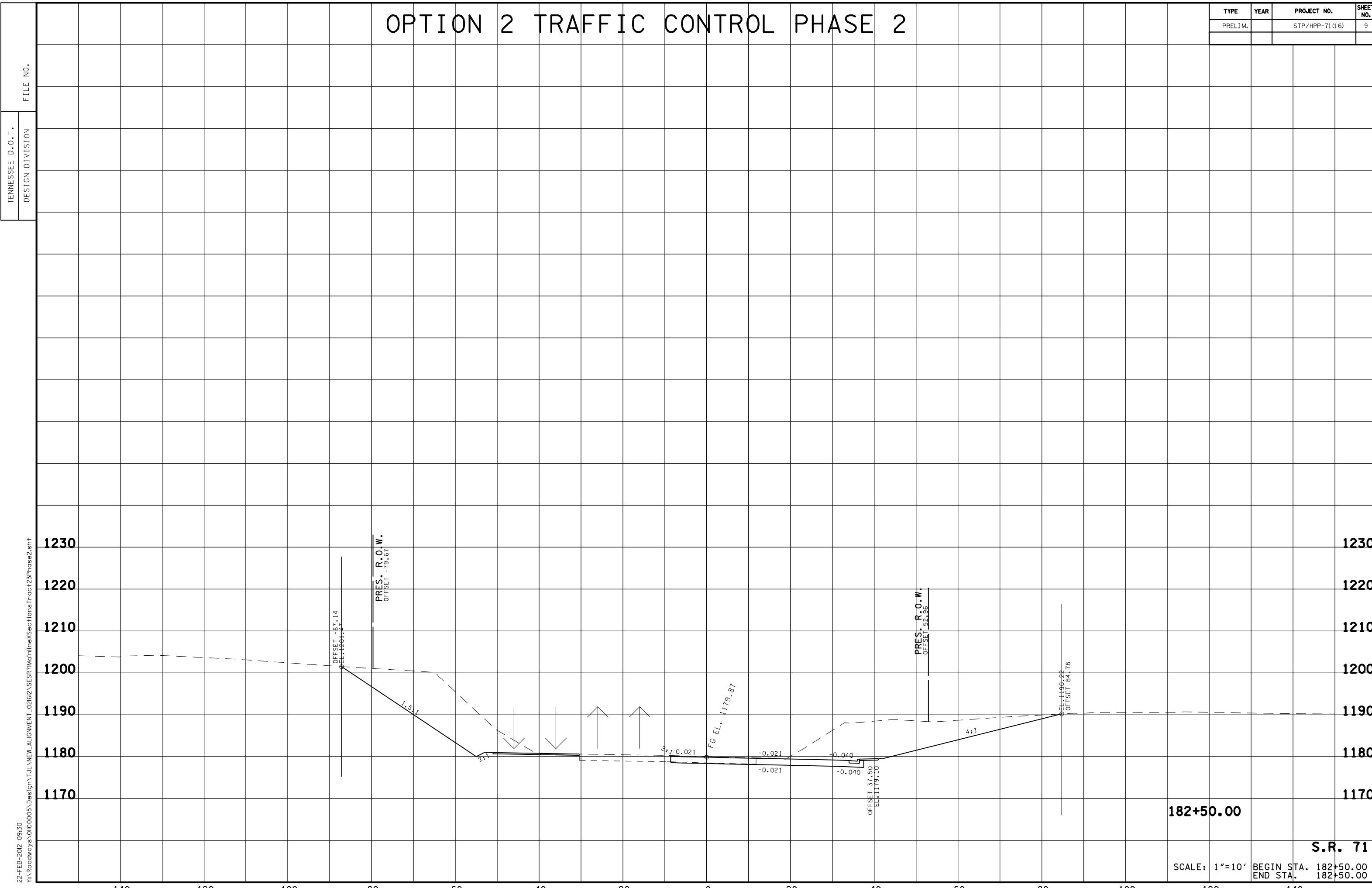
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.		STP/HPP-71(16)	8

TENNESSEE D.O.T. DESIGN DIVISION FILE NO.

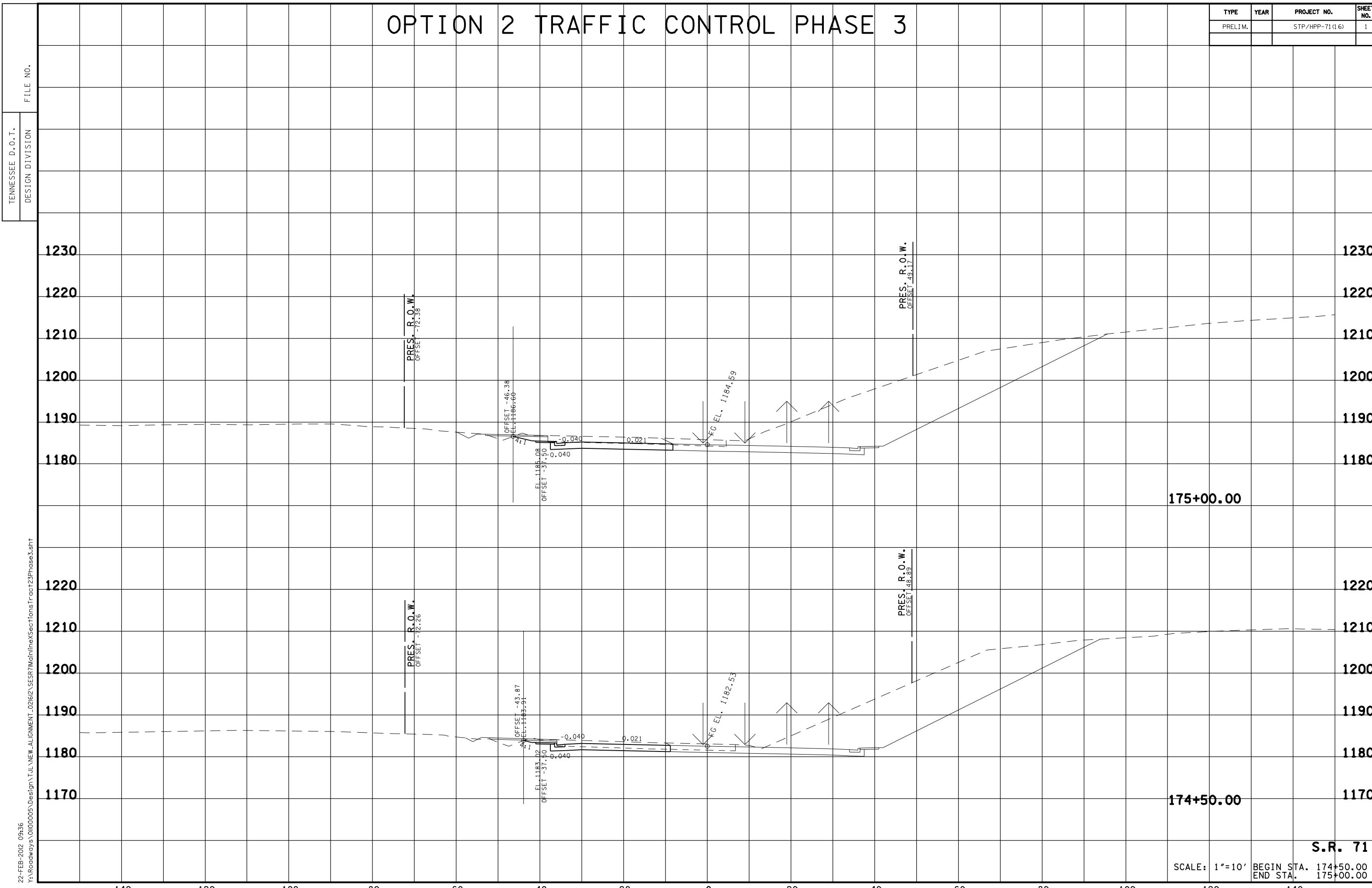
卷之三



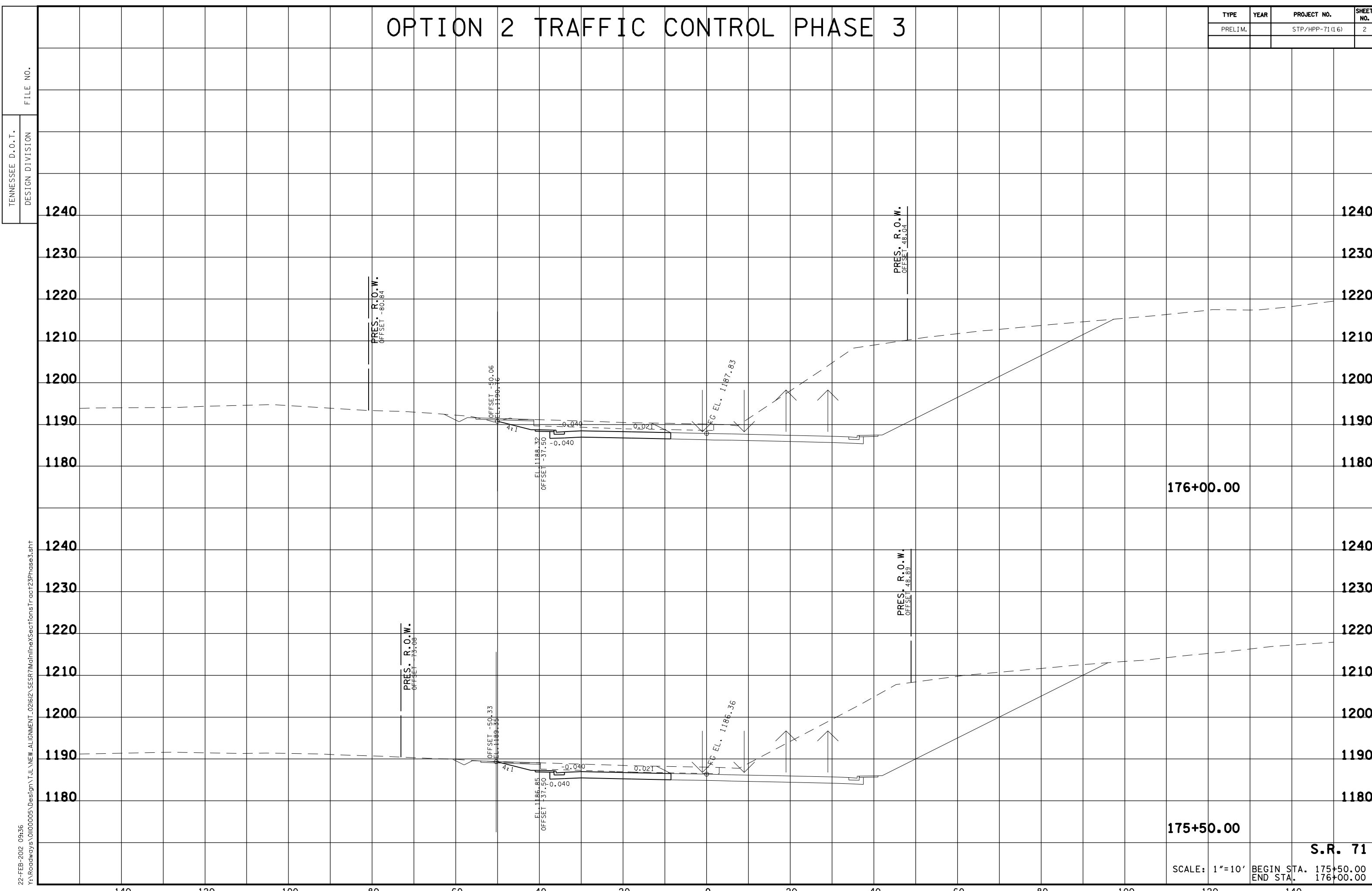
OPTION 2 TRAFFIC CONTROL PHASE 2



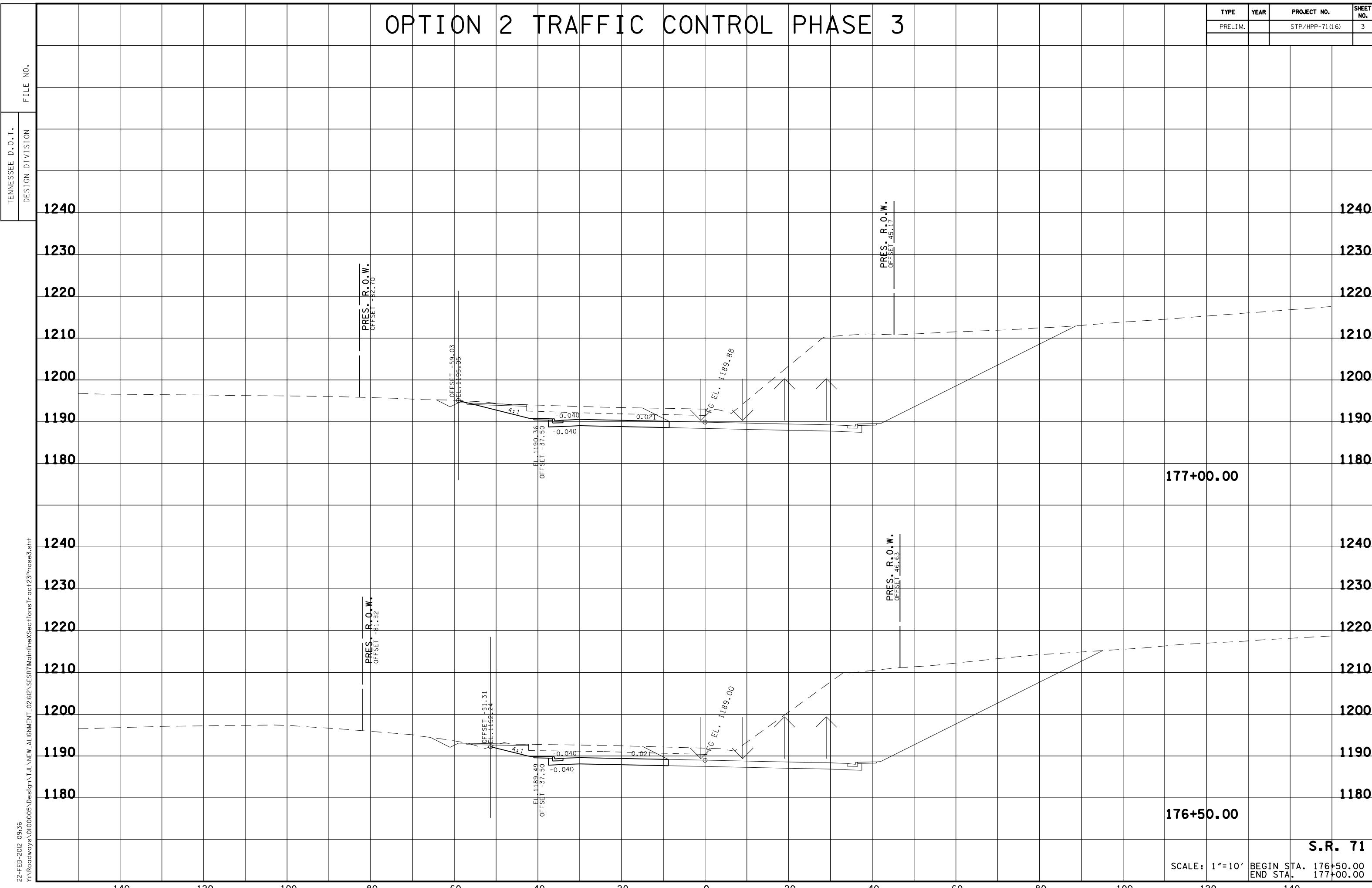
OPTION 2 TRAFFIC CONTROL PHASE 3



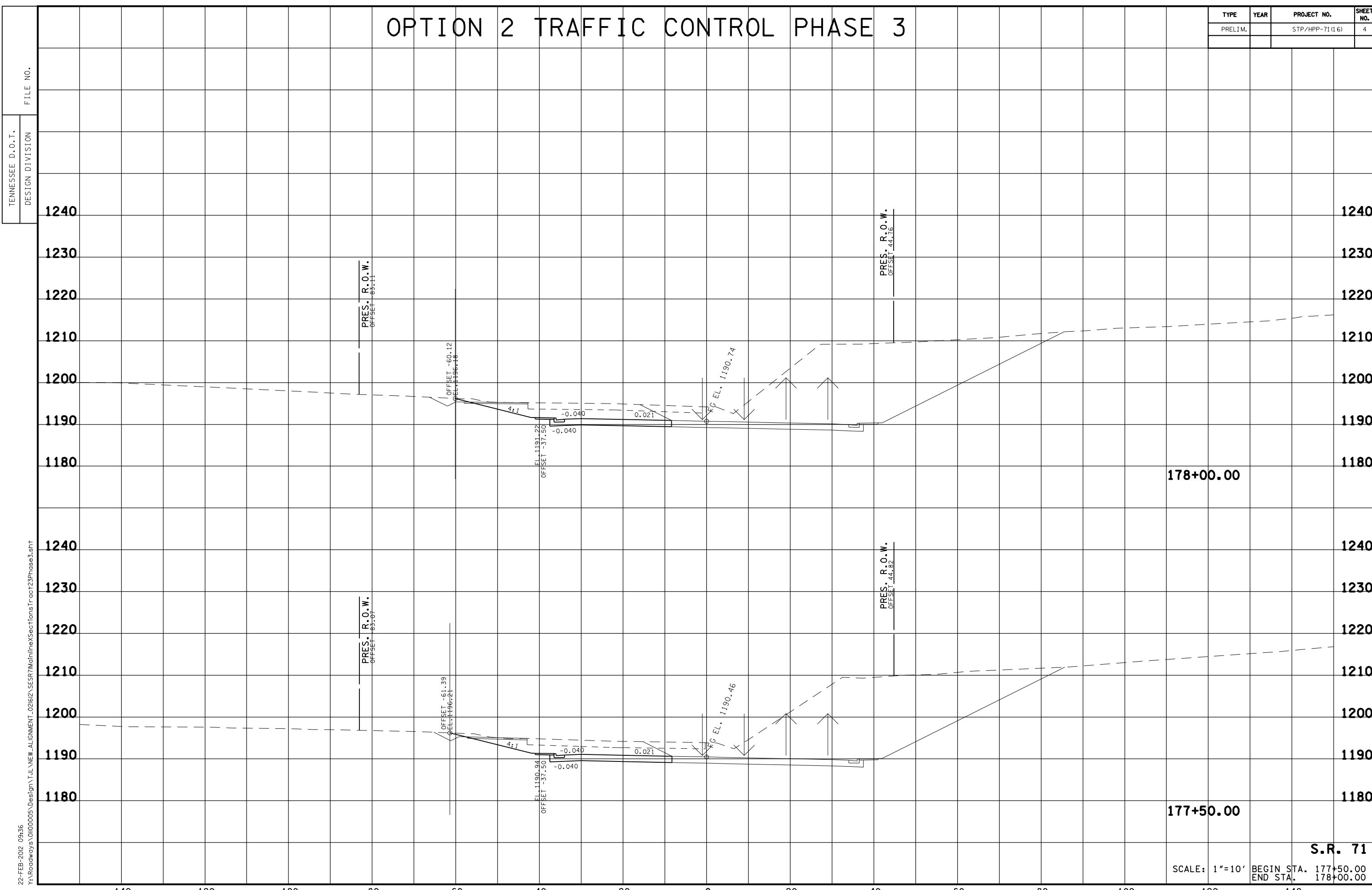
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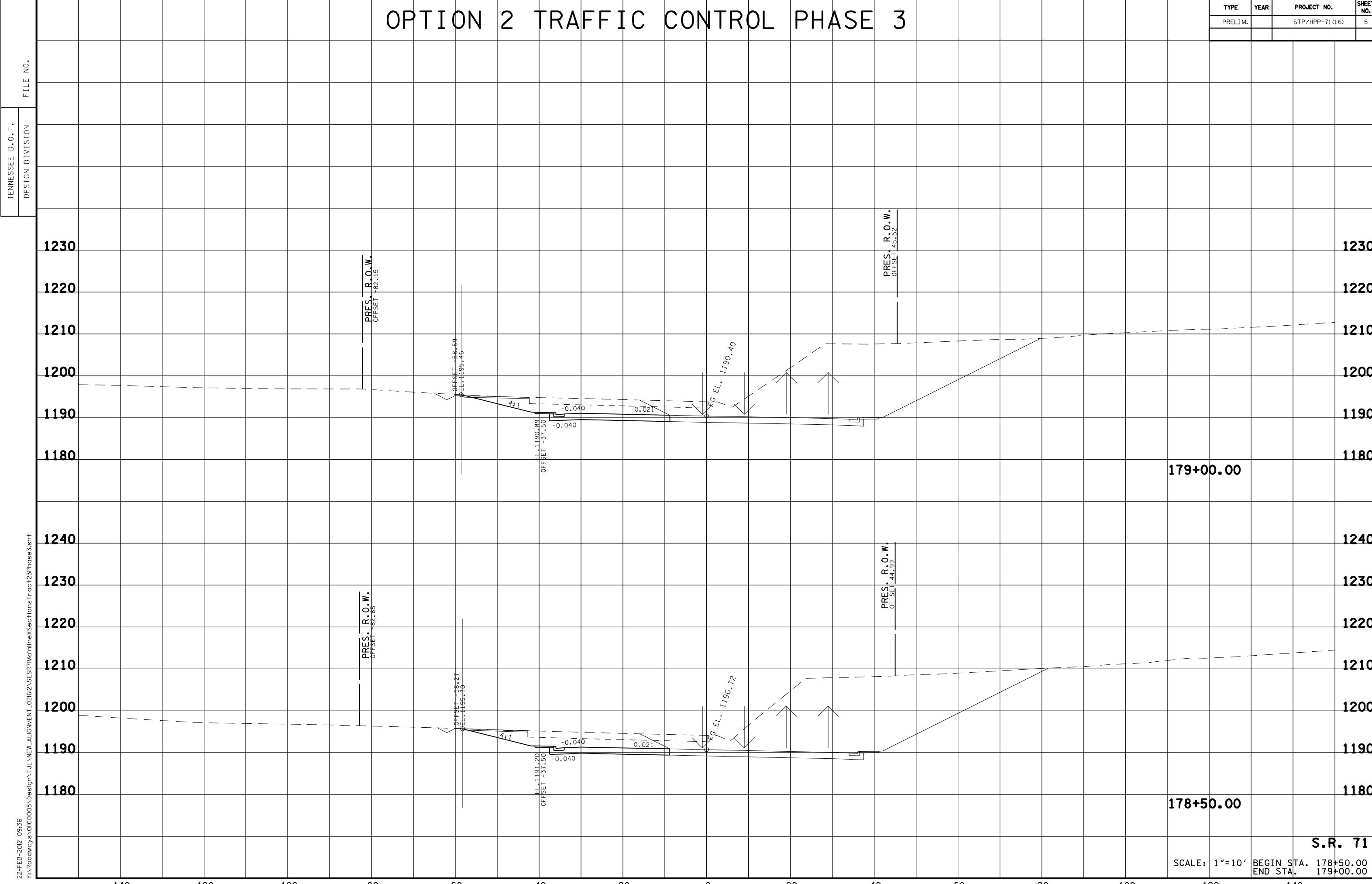
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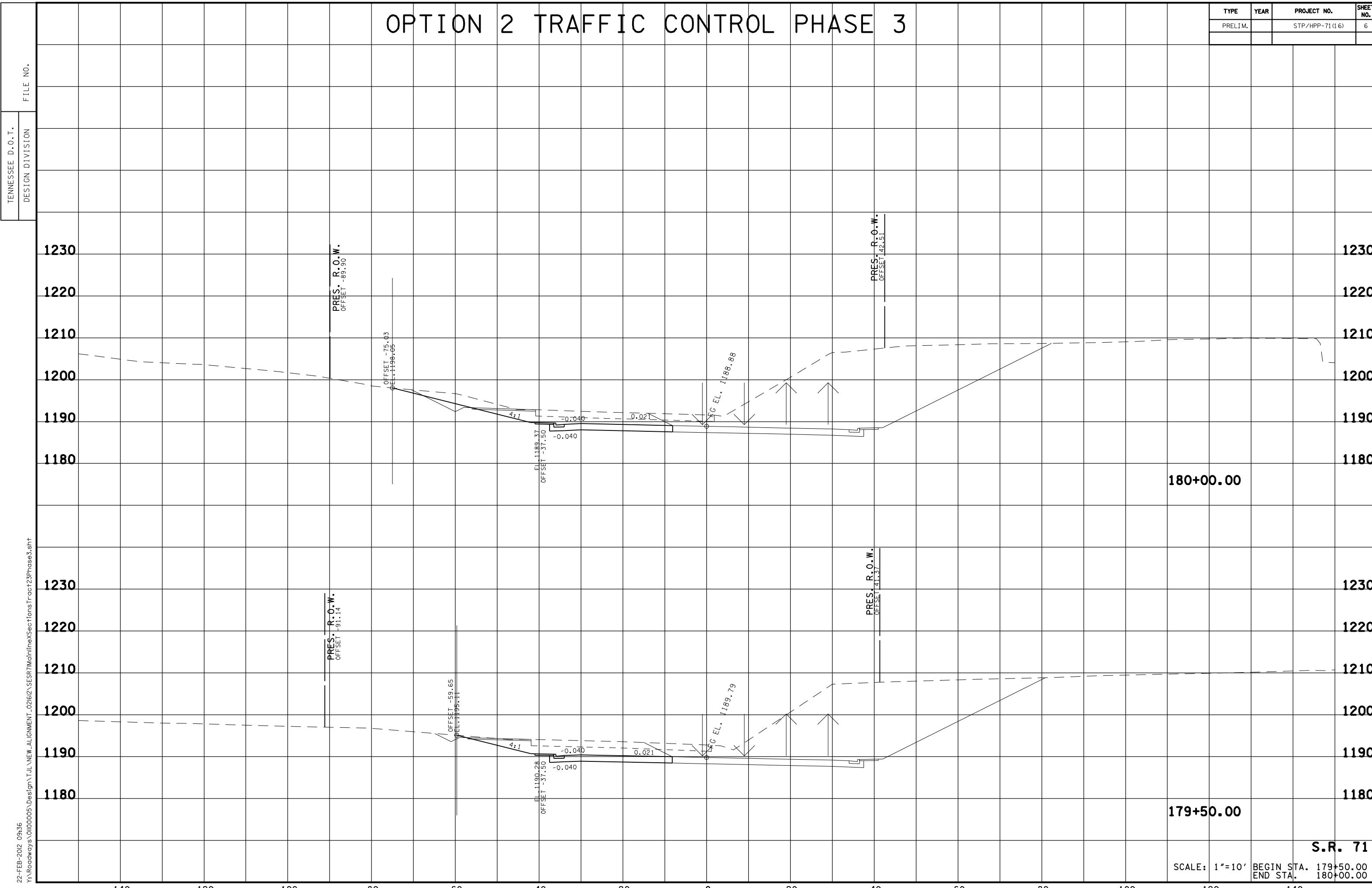
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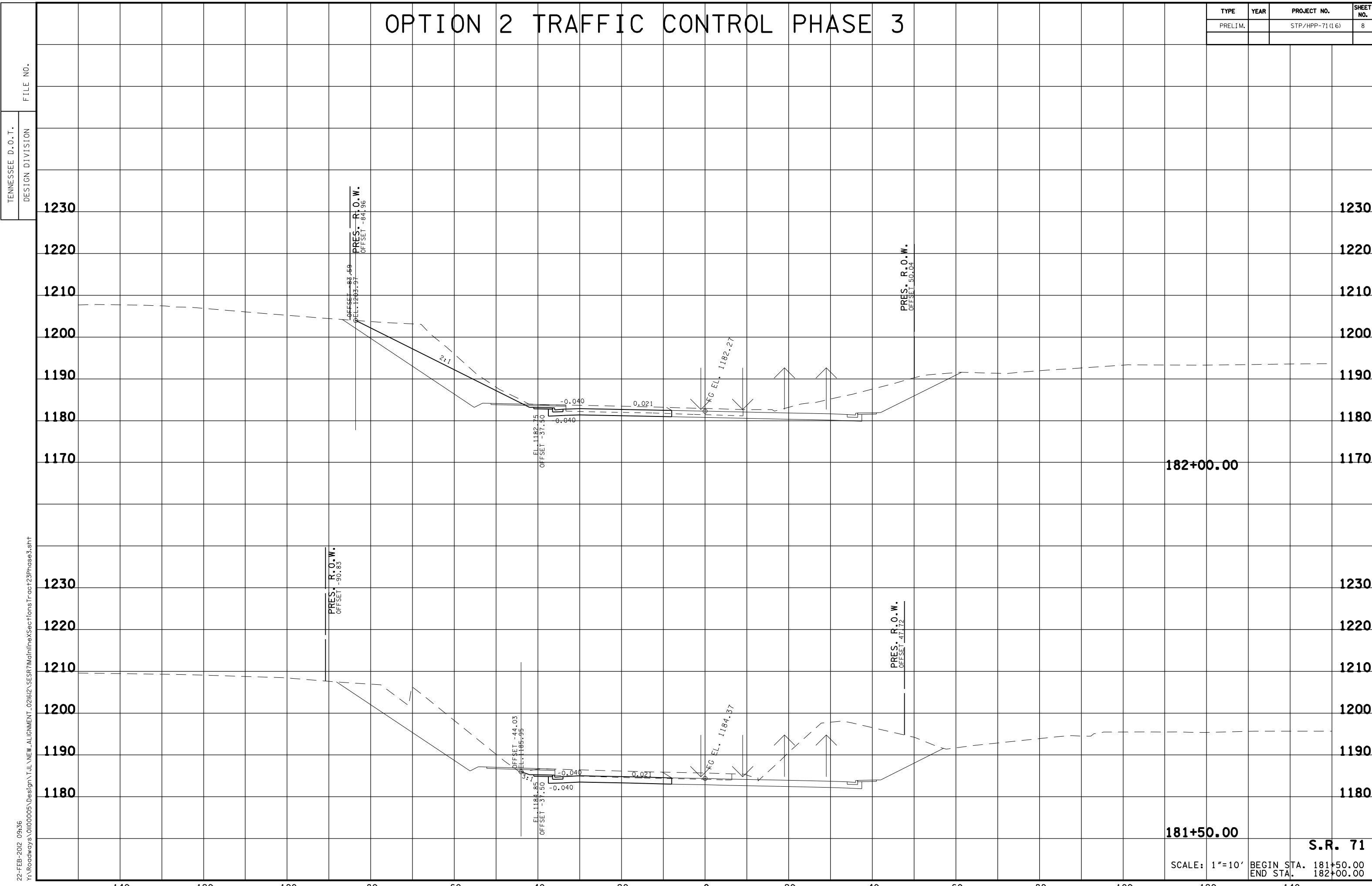
OPTION 2 TRAFFIC CONTROL PHASE 3



OPTION 2 TRAFFIC CONTROL PHASE 3

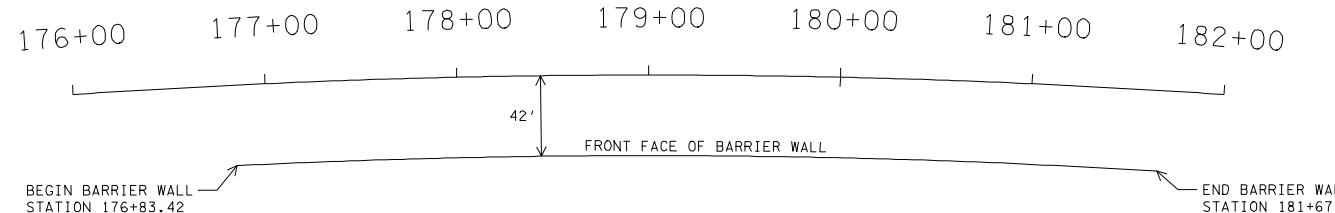


OPTION 2 TRAFFIC CONTROL PHASE 3



WALL PLAN VIEW

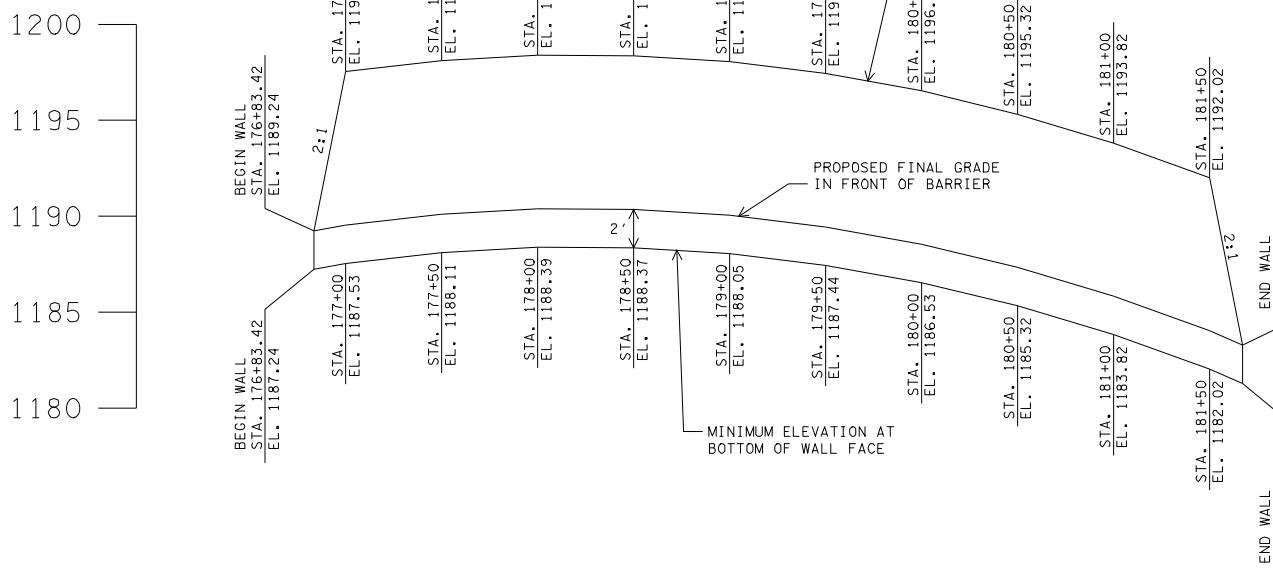
SCALE: 1"=50'



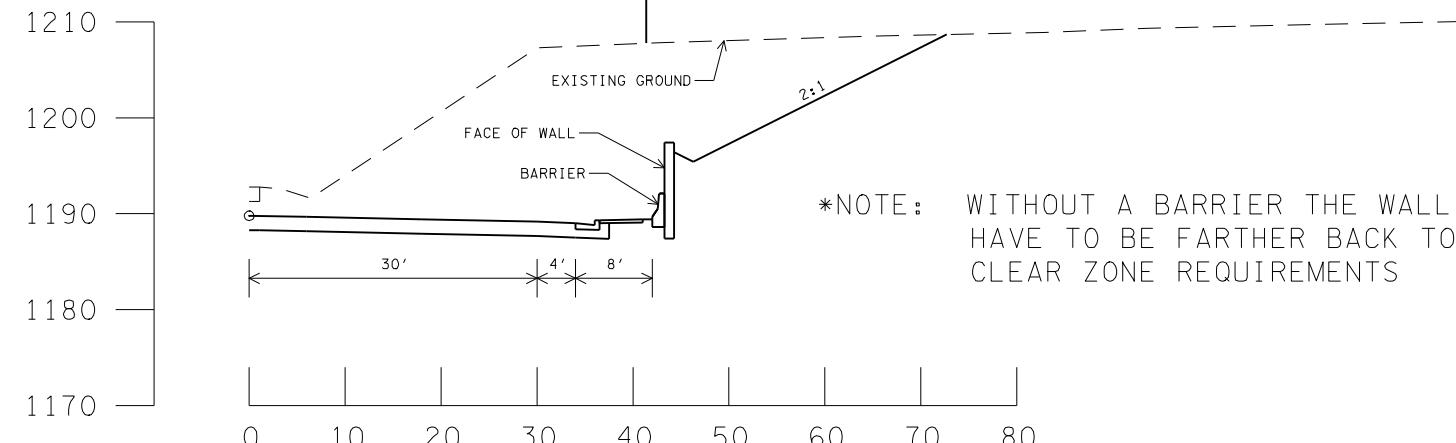
WALL ELEVATION VIEW

SCALE: 1"=50' HORIZ.

1"=10' VERT.

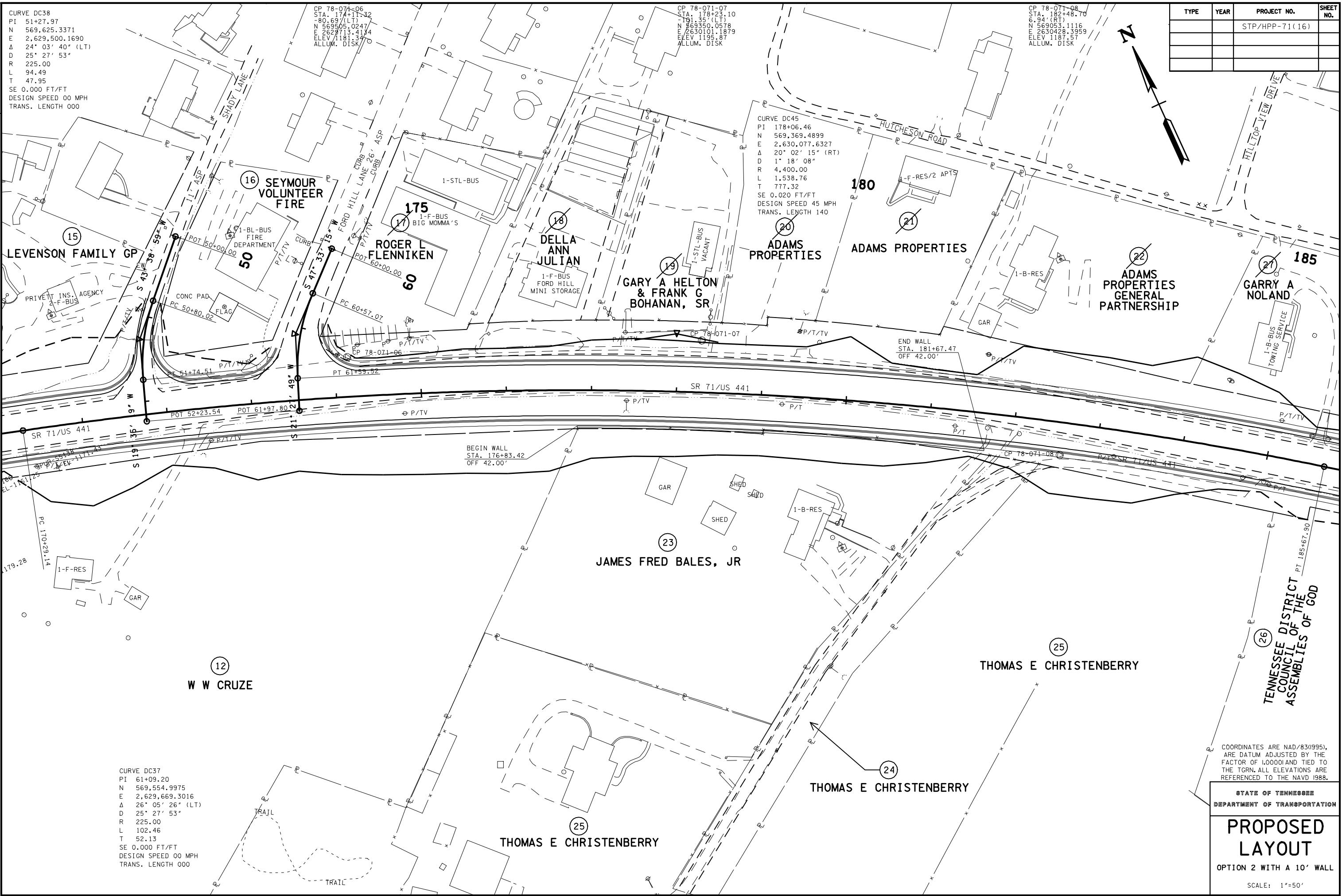


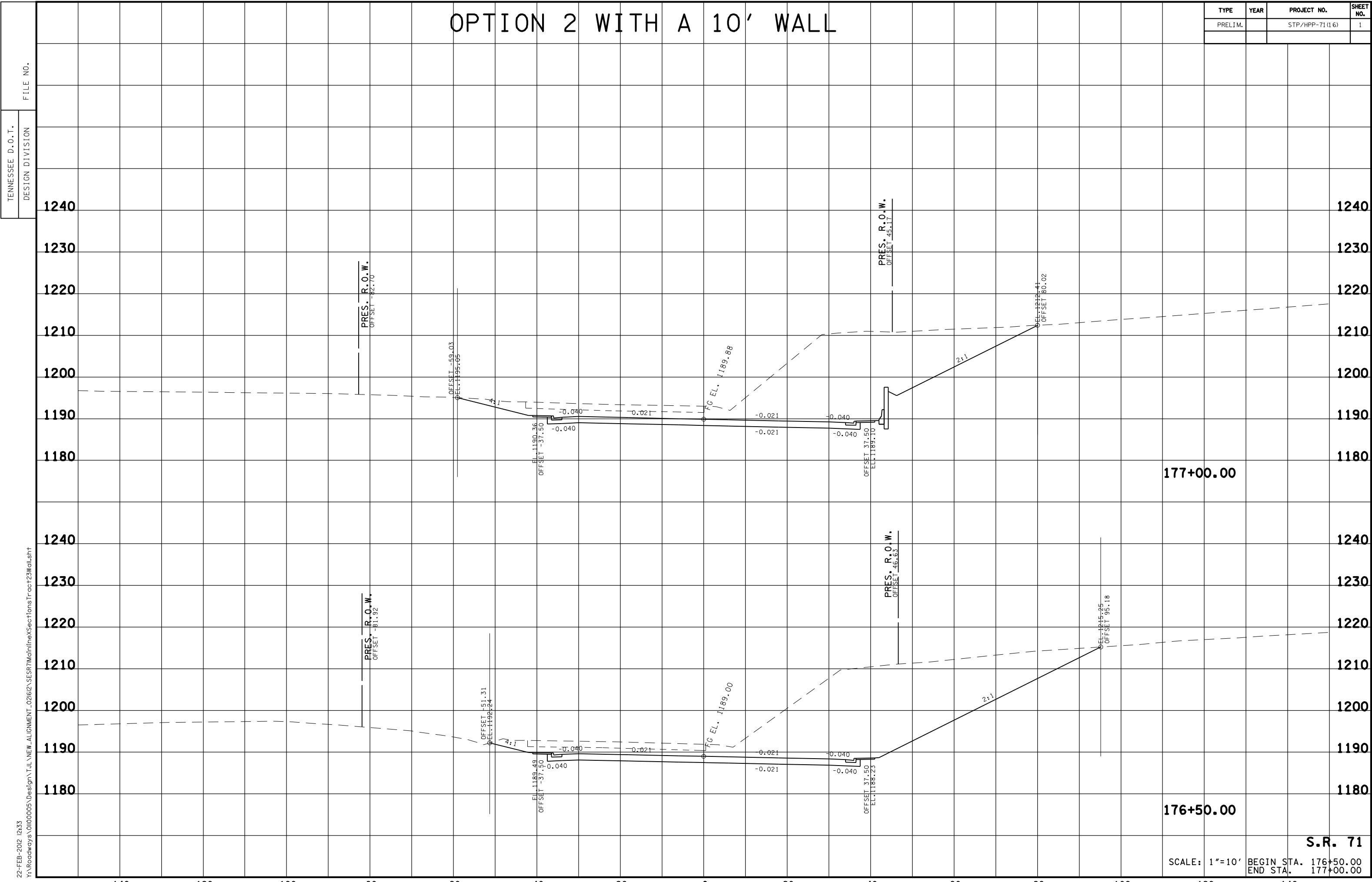
TYPICAL SECTION STATION 179+50



TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO.





OPTION 2 WITH A 10' WALL

178+00.00

177+50.00

S.R. 7

SCALE: 1"=10' BEGIN STA. 177+50.00
END STA. 178+00.00

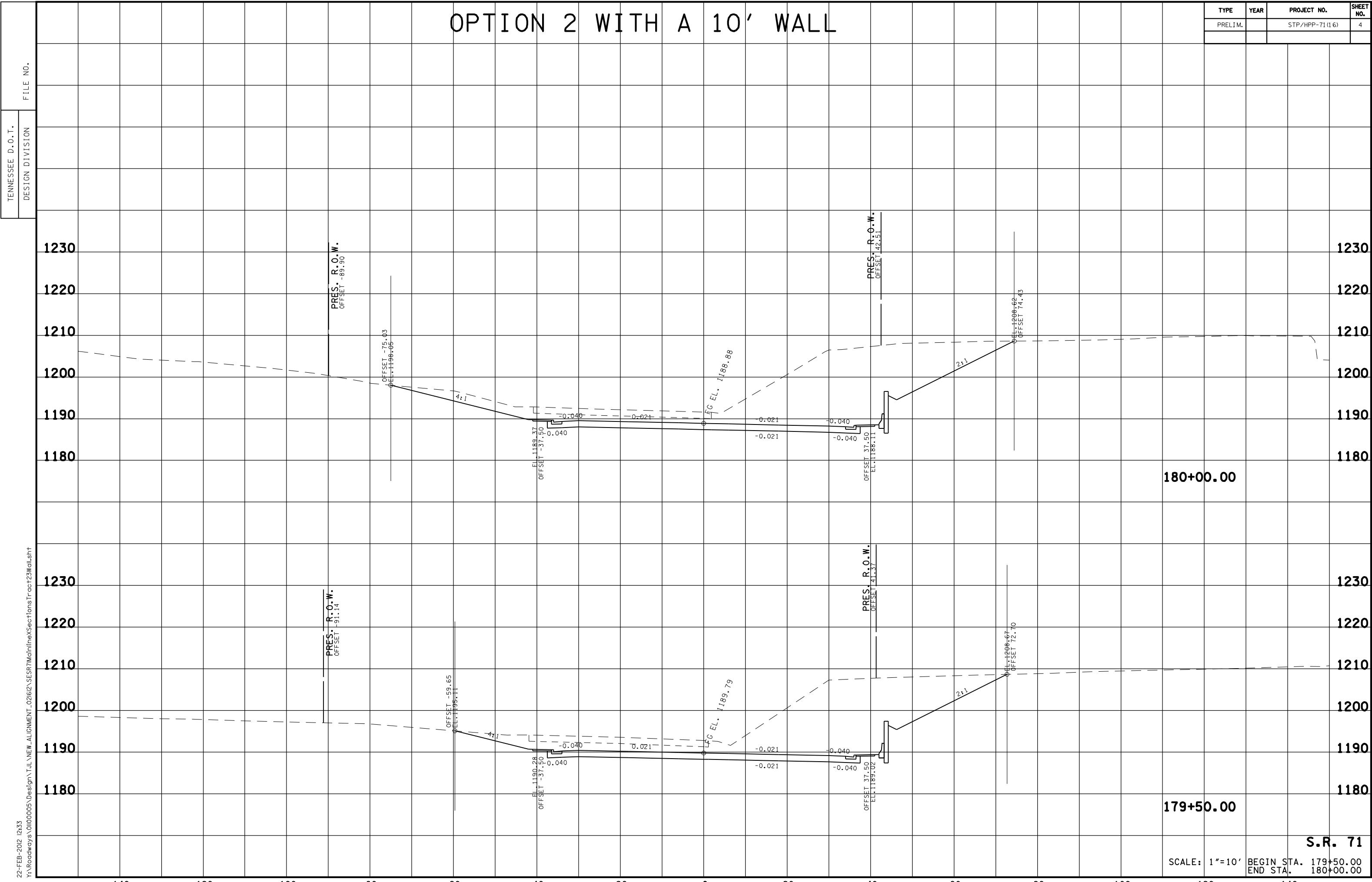
OPTION 2 WITH A 10' WALL

179+00.00

178+50.00

S.R. 7

SCALE: 1"=10' BEGIN STA. 178+50.00
END STA. 179+00.00



OPTION 2 WITH A 10' WALL

181+00.00

180+50.00

S.R.

SCALE: 1"=10' BEGIN STA. 180+50.00
END STA. 181+00.00

OPTION 2 WITH A 10' WALL

181+50.00				S.R. 71
SCALE:	1 "=10'	BEGIN STA.	181+50.00	
		END STA.	182+00.00	