STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

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SECRETARY

September 24, 2026

U.S. Army Corps of Engineers
Water Resources Development Act (WRDA)
Transportation Permitting Branch

NC Division of Water Resources
Transportation Permitting Branch

ATTN: Ms. Crystal Amschler, NCDOT Coordinator

Ms. Amy Annino, NCDOT Coordinator

Subject: **Section 404 Permit & 401 Water Quality Certification**
for permanent repairs to US 74 A (Gerton Highway) from Bearwallow Mountain Road to East of the NC 9 intersection in Bat Cave.
Henderson County, Division 14, WBS 18314.1045039.

Dear NCDOT Coordinators:

The North Carolina Department of Transportation (NCDOT) proposes the following project as the result of damage caused by Hurricane Helene in late September 2024:

Repairs to 3.00 miles of US 74A from Grant Mountain Road to NC 9.

This section of the project proposes to repair several sections of roadway that parallel Hickory Creek which were severely damaged during Hurricane Helene. Retaining walls and/or 1.25:1 grouted rip rap embankment will be used to repair severely damaged roadway fill slopes.

The stream will be relocated to its pre-storm location where possible. Stream impacts will be kept to a minimum by only relocating the stream where needed, installing retaining walls to keep fill slopes out of the stream, and armoring the roadway embankment with a 1.25:1 grouted rip rap to reduce the impacts that may be caused by a standard 2:1 fill slope.

Descriptions of the impact areas are found in the following tables.

Approvals Requested:

404 Regional General Permit 50.

401 Individual Water Quality Certification.

FHWA is the lead federal agency for this project.

Streams in the Project Area:

This page replaced the following sheet.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment to Pre-Helene Location	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
1	UT Hickory Creek	Intermittent	--	217 lf <0.01 ac	--	--	**217** **(217)**	**0**	**1:1**	**Stream realignment due to fill slope.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location due to the fill slope. Stream jurisdiction starts at the outlet of the existing 18" CMP. The relocation impacts the entire length of the stream at site 1. The stream will be replaced with a base channel and rip rap lined banks for stability. UT to Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the stream and the road and establish a buffer from the roadway. NCDOT proposes a reduction in mitigation ratios for this intermittent system, as stabilization and increased buffer will result in uplift from the current stream condition.
2	UT Hickory Creek	Intermittent	--	239 lf 0.01	--	36 lf <0.01ac	**239** **(239)**	**0**	**1:1**	**The existing drainage structures require replacement, impacts due to the roadway fill slope, and channel stability result in relocation of the stream.** The existing 18" CMP is undersized and will be replaced with a 54" CMP and the existing box culvert will be replaced with a 54" RCP. The stream realignment is due to fill slope changes from the impacts from Hurricane Helene and stream stability. The stream will be replaced with a base channel and rip rap banks for stability. The temporary impacts are associated with construction methods, access, and dewatering. NCDOT proposes a reduction in mitigation ratios due to the intermittent nature of this system.
3	Hickory Creek	Perennial	--	--	50 lf <0.01ac	--	--	--	--	**2' base ditch/permanent bank stabilization and PDE.** Impacts along the bank of Hickory Creek are necessary to stabilize and reduce water velocity from the outlet of the 24" RCP-IV to where it joins Hickory Creek.
4	Hickory Creek	Perennial	--	450 lf 0.13 ac	--	47 lf 0.02 ac	**450** **(113)**	**450**	**0.25:1**	**Stream realignment.** Damage to the roadway structure from Hurricane Helene and the roadway repairs necessary require permanent reestablishment of the channel at this location. The length of stream reestablishment is 450 linear feet. Temporary stream impacts are due to tying in the reestablished stream to the existing and construction method needs. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
5	UT Hickory Creek	Intermittent	--	32 lf <0.01 ac	--	--	**32** **(8)**	**0**	**0.25:1**	**Replace existing drainage structure (18" RCP).** The existing 18" RCP requires replacement with a new 18" RCP-IV and the fill slope will have a 4' Class III grouted rip rap base ditch resulting in permanent stream impact. NCDOT proposes a reduction in mitigation ratios due to the intermittent nature of this system.
6	UT Hickory Creek	Perennial	--	--	29 lf <0.01 ac	18 lf <0.01 ac	--	--	--	**Debris removal from existing pipe and permanent bank stabilization.** Bank stabilization is necessary to stabilize the inlet and reduce water velocity at the outlet of the 3' x 3' box culvert. Temporary impacts upstream and downstream of bridge are shown for debris removal, construction methods, and access.
7	UT Hickory Creek	Intermittent	--	160 lf 0.01 ac	--	20 lf <0.01 ac	**160** **(160)**	**0**	**1:1**	**Stream piping due to roadway fill slope.** The stream will be conveyed through a 30" CSP/RCP-IV and 36" RCP-IV due to the fill slope in this area resulting in 153 linear feet of permanent impact. Temporary impacts upstream and downstream of the pipe are shown for construction methods and access. NCDOT proposes a reduction in mitigation ratios due to the intermittent nature of this system.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
1	UT Hickory Creek Intermittent	Intermittent	--	217 lf <0.01 ac	--	--	**217** **(217)**	**0**	**1:1**	**Stream realignment due to fill slope.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location due to the fill slope. Stream jurisdiction starts at the outlet of the existing 18" CMP. The relocation impacts the entire length of the stream at site 1. The stream will be replaced with a base channel and rip rap lined banks for stability. UT to Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the stream and the road and establish a buffer from the roadway. NCDOT proposes a reduction in mitigation ratios for this intermittent system, as stabilization and increased buffer will result in uplift from the current stream condition.
2	UT Hickory Creek	Intermittent	--	~~239 lf~~ ~~0.01~~ **209 lf** **0.01ac**	--	36 lf <0.01ac 15 lf <0.01 ac	~~239~~ ~~(239)~~ **209 lf** **(209)**	**0**	**1:1**	**The existing drainage structures require replacement, impacts due to the roadway fill slope, and channel stability result in relocation of the stream.** The existing 18" CMP is undersized and will be replaced with a 54" CMP and the existing box culvert will be replaced with a 54" RCP. The stream realignment is due to fill slope changes from the impacts from Hurricane Helene and stream stability. The stream will be replaced with a base channel and rip rap banks for stability. The temporary impacts are associated with construction methods, access, and dewatering. This stream system is located in one of the wider areas of the Hickory Creek valley and was a depositional area/ debris field after the storm. The area was previously a campground and the stream has evidence of straightening between the road and the campground. Moving the stream away from US 74A will provide a long-term separation from the stream and the road and establish a buffer from the roadway. Additionally, the stream design will provide a more natural profile than what exists today. Due to these factors, NCDOT proposes a reduced mitigation ratio for this system.
3	Hickory Creek	Perennial	--	--	50 lf <0.01ac	--	--	--	--	**2' base ditch/permanent bank stabilization and PDE.** Impacts along the bank of Hickory Creek are necessary to stabilize and reduce water velocity from the outlet of the 24" RCP-IV to where it joins Hickory Creek.
4	Hickory Creek	Perennial	--	450 lf 0.13 ac	--	47 lf 0.02 ac	**450** **(113)**	**450**	**0.25:1**	**Stream realignment.** Damage to the roadway structure from Hurricane Helene and the roadway repairs necessary require permanent reestablishment of the channel at this location. The length of stream reestablishment is 450 linear feet. Temporary stream impacts are due to tying in the reestablished stream to the existing and construction method needs. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
5	UT Hickory Creek	Intermittent	--	32 lf <0.01 ac	--	--	**32** **(8)**	**0**	**0.25:1**	**Replace existing drainage structure (18" RCP).** The existing 18" RCP requires replacement with a new 18" RCP-IV and the fill slope will have a 4' Class III grouted rip rap base ditch resulting in permanent stream impact. The jurisdiction of this intermittent system begins at the outlet of the 18" pipe. The stream exits the pipe and flows down the damaged/ unstable slope and to a boulder field to Hickory Creek. This work will stabilize the slope and the stream channel. Due to the stability created by this work, NCDOT proposes a reduced mitigation ratio for this system.

This page replaced the following sheet.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment to Pre-Helene Location	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
8	Hickory Creek	Perennial	213 lf 0.10 ac	265 lf 0.11 ac	--	48 lf 0.03 ac	**265** **(66)**	**265**	**0.25:1**	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 265** linear feet and the portion of the stream that will be **reestablished to pre-Helene alignment is 213** linear feet. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
9	Hickory Creek	Perennial	169 lf 0.07 ac	--	--	14 lf <0.01 ac	**0**	**0**	--	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The section of stream that will be **reestablished to pre-Helene alignment is 169 linear feet.** Temporary stream impacts are due to tying in the reestablished stream to the existing and construction method needs. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
10	*Site 10 is a wetland impact only. See wetland table.*									
11	Hickory Creek	Perennial	--	--	94 lf 0.03 ac	327 lf 0.12 ac	--	--	--	**Bank stabilization and PGR/easement impacts.** Permanent bank stabilization is necessary along the banks of Hickory Creek at four locations down gradient of the pipe outlets along the roadway to stabilize and reduce water velocity. Temporary impacts are shown for installation of the partially grouted rip rap (PGR) adjacent to Hickory Creek and areas within the easement for construction methods and access.
12	Hickory Creek	Perennial	139 lf 0.09 ac	282 lf 0.12 ac	--	--	**282** **(71)**	**282**	**0.25:1**	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 282 linear feet** and the portion of the stream that will be **reestablished to pre-Helene alignment is 139 linear feet.** This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment to Pre-Helene Location	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
6	UT Hickory Creek	Perennial	--	29 lf <0.01 ac	~~29 lf <0.01 ac~~	18 lf <0.01 ac	-0-	0--	--	**Debris removal from existing pipe and permanent bank stabilization.** Bank stabilization is necessary to stabilize the inlet and reduce water velocity at the outlet of the 3' x 3' box culvert. Temporary impacts upstream and downstream of bridge are shown for debris removal, construction methods, and access.
7	UT Hickory Creek	Intermittent	--	160 lf 0.01 ac	--	20 lf <0.01 ac	**160 (160)**	**0**	**1:1**	**Stream piping due to roadway fill slope.** The stream will be conveyed through a 30" CSP/RCP-IV and 36" RCP-IV due to the fill slope in this area resulting in 153 linear feet of permanent impact. Temporary impacts upstream and downstream of the pipe are shown for construction methods and access. Based on pre and post storm imagery, it is likely this stream did not previously use the roadside ditch as it does today. It is likely an upstream pipe crossing became clogged during the storm, and the water diverted down the roadside ditch. This system then exits the pipe and cascades ~20 feet down an unstable slope to Hickory Creek. Due to the stability created by this work NCDOT proposes a reduced mitigation ratio for this system.
8	Hickory Creek	Perennial	213 lf 0.10 ac	265 lf 0.11 ac	--	48 lf 0.03 ac	**265 (66)**	**265**	**0.25:1**	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 265** linear feet and the portion of the stream that will be **reestablished to pre-Helene alignment is 213** linear feet. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
9	Hickory Creek	Perennial	169 lf 0.07 ac	--	--	14 lf <0.01 ac	**0**	**0**	--	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The section of stream that will be **reestablished to pre-Helene alignment is 169 linear feet.** Temporary stream impacts are due to tying in the reestablished stream to the existing and construction method needs. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
10	*Site 10 is a wetland impact only. See wetland table.*									
11	Hickory Creek	Perennial	--	--	94 lf 0.03 ac	327 lf 0.12 ac	--	--	--	**Bank stabilization and PGR/easement impacts.** Permanent bank stabilization is necessary along the banks of Hickory Creek at four locations down gradient of the pipe outlets along the roadway to stabilize and reduce water velocity. Temporary impacts are shown for installation of the partially grouted rip rap (PGR) adjacent to Hickory Creek and areas within the easement for construction methods and access.

This page replaced the following sheet.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment to Pre-Helene Location	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
13	Hickory Creek	Perennial	--	--	25 lf <0.01	195 lf 0.11 ac	--	--	--	**Bank stabilization and PGR/easement impacts.** Permanent bank stabilization is necessary along the banks of Hickory Creek at two locations down gradient of the pipe outlets along the roadway to stabilize and reduce water velocity. Temporary impacts are shown for installation of the partially grouted rip rap (PGR) adjacent to Hickory Creek and areas within the easement for construction methods and access. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
14	Hickory Creek	Perennial	178 lf 0.10 ac	325 lf 0.19 ac	--	72 lf 0.04 ac	**325** **(81)**	**325**	**0.25:1**	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 325 linear feet** and the portion of the stream that will be **reestablished to pre-Helene alignment is 178 linear feet.** Temporary stream impacts are due to tying in the reestablished stream to the existing, construction methods, and access. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
15	Hickory Creek	Perennial	291 lf 0.15 ac	240 lf 0.10 ac	20 lf <0.01 ac	152 lf 0.04 ac	**240** **(60)**	**240**	**0.25:1**	**Stream realignment and permanent bank stabilization.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 240 linear feet** and the portion of the stream that will be **reestablished to pre-Helene alignment is 291 linear feet.** Permanent bank stabilization is necessary to stabilize and reduce water velocity from the pipe outlet located at Sta. 240+05. Temporary impacts upstream and downstream of the realignment are shown for construction methods and access. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
16	Hickory Creek	Perennial	227 lf 0.13 ac	--	--	53 lf 0.02 ac	**0**	**0**	--	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream that will be reestablished to pre-Helene alignment is 227 linear feet.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment to Pre-Helene Location	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
15	Hickory Creek	Perennial	291 lf 0.15 ac	240 lf 0.10 ac	20 lf <0.01 ac	152 lf 0.04 ac	**240** **(60)**	**240**	**0.25:1**	**Stream realignment and permanent bank stabilization.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 240 linear feet** and the portion of the stream that will be **reestablished to pre-Helene alignment is 291 linear feet.** Permanent bank stabilization is necessary to stabilize and reduce water velocity from the pipe outlet located at Sta. 240+05. Temporary impacts upstream and downstream of the realignment are shown for construction methods and access. This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
16	Hickory Creek	Perennial	227 lf 0.13 ac	--	--	53 lf 0.02 ac	**0**	**0**	--	**Stream realignment.** Damage to the roadway structure from Hurricane Helene requires permanent realignment of the channel at this location. The stream that will be reestablished to pre-Helene alignment is 227 linear feet.
17	Hickory Creek	Perennial	2,831 lf	1,634 lf	--	52 lf 0.02 ac	**1,634** **(409)**	**1,634**	**0.25:1**	**Stream realignment.** Damage to the roadway structure and debris jams from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 1,634 linear feet** and the portion of the stream that will be **reestablished to pre-Helene alignment is 2,831linear feet.** This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
18	UT Hickory Creek	Perennial	--	449 lf 0.04 ac	--	--	**449** **(449)**	**449**	**1:1**	**Channel realignment.** Damage to the roadway structure, debris piles from Hurricane Helene, and relocation of Hickory Creek results in the need for permanent realignment of the channel. The impact of realigning the stream is 449 linear feet as the new channel will take a more direct route to tie to Hickory Creek.
19	UT Hickory Creek	Intermittent	--	124 lf <0.01 ac	--	20 lf <0.01 ac	**124** **(124)**	**0**	**1:1**	**Stream piping due to fill slope and retaining wall.** The stream will be conveyed through a 30" RCP-IV due to the fill slope and retaining wall construction resulting in 124 lf of permanent impact. Temporary impacts upstream of the pipe are shown for construction methods and access.
20	UT Hickory Creek	Perennial	--	13 lf <0.01 ac	--	12 lf <0.01 ac	**13** **(13)**	**0**	**1:1**	**Retaining wall and replacement of existing culvert.** The existing 3.5 x 2.5 box culvert is being replaced with a 54" RCP-IV due to damage and the retaining wall in this area resulting in 13 lf of permanent impact. Temporary impacts upstream of the pipe are shown for construction methods and access.

This page replaced the following sheet.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment to Pre-Helene Location	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
17	Hickory Creek	Perennial	2,831 lf	1,634 lf	--	52 lf 0.02 ac	**1,634** **(409)**	**1,634**	**0.25:1**	**Stream realignment.** Damage to the roadway structure and debris jams from Hurricane Helene requires permanent realignment of the channel at this location. The stream **relocation is 1,634 linear feet** and the portion of the stream that will be **reestablished to pre-Helene alignment is 2,831linear feet.** This stretch of Hickory Creek runs at the toe of the existing roadway slope of US 74A. Moving the stream away from US 74A will provide a long-term separation from the river and the road and establish a buffer from the roadway. This will allow the stream to experience a typical flood event and not jeopardize the integrity of the US 74A roadway fill slope. NCDOT will minimize tree clearing within the relocated area to provide as much canopy and stabilization benefits as practicable. Due to the above, NCDOT proposes a reduction in mitigation ratios for this system, as stabilization and increased buffer will result in uplift from the current stream condition.
18	UT Hickory Creek	Perennial	--	449 lf 0.04 ac	--	--	**449** **(449)**	**449**	**1:1**	**Channel realignment.** Damage to the roadway structure, debris piles from Hurricane Helene, and relocation of Hickory Creek results in the need for permanent realignment of the channel. The impact of realigning the stream is 449 linear feet as the new channel will take a more direct route to tie to Hickory Creek.
19	UT Hickory Creek	Intermittent	--	124 lf <0.01 ac	--	20 lf <0.01 ac	**124** **(124)**	**0**	**1:1**	**Stream piping due to fill slope and retaining wall.** The stream will be conveyed through a 30" RCP-IV due to the fill slope and retaining wall construction resulting in 124 lf of permanent impact. Temporary impacts upstream of the pipe are shown for construction methods and access.
20	UT Hickory Creek	Perennial	--	13 lf <0.01 ac	--	12 lf <0.01 ac	**13** **(13)**	**0**	**1:1**	**Retaining wall and replacement of existing culvert.** The existing 3.5 x 2.5 box culvert is being replaced with a 54" RCP-IV due to damage and the retaining wall in this area resulting in 13 lf of permanent impact. Temporary impacts upstream of the pipe are shown for construction methods and access.
21	UT Hickory Creek	Intermittent	--	25 lf <0.01 ac	--	9 lf <0.01 ac	**25** **(13)**	**0**	**0.5:1**	**Removal of existing pipe and installation of new 48" RCP-IV.** Permanent impacts are a result of realigning and stabilization of the existing channel inlet at the pipe removal/replacement. Temporary impacts to the stream are required for equipment to access the pipe and for temporary dewatering (pump around). NCDOT proposes a reduction in mitigation ratios due to the intermittent nature of this system.
22	UT Hickory Creek	Intermittent	--	--	--	25 lf <0.01ac	--	--	--	**Removal of debris from existing 36" CMP and access.** Temporary impacts to the stream are required for debris removal and access the pipe.
Totals			**4,048 lf**	**4,455 lf** **4.08 ac**	**218 lf** **0.04 ac**	**1,113 lf** **0.41 ac**	**4,455 lf** **2,009 lf** **(with ratio)**	**3,645 lf**		
			8,721 lf **4.12 ac**							

Wetlands in the Project Area

Permit Site	Excavation in Wetlands (loss)	Temporary Impacts in Wetlands	ACOE Mitigation Required	Impact Description/ Avoidance and Minimization
10	0.02 ac	--	*	**Excavation for cut slope.** This work will result in 0.02 acre of permanent excavation in wetlands due to the installation of rock plating on the roadway cut slope due to landslide damage from the storm. *Due to the small amount of wetland impacts at this location, NCDOT does not propose mitigation for this activity.

Permit Site	Stream Name	Status/ Class	Stream Re-Establishment to Pre-Helene Location	Perm Fill (loss)	Bank Stabil-ization	Temporary Impact	ACOE Mitigation Required	DWR Mitigation Required	Proposed Mitigation Ratio	Impact Description
21	UT Hickory Creek	Intermittent	--	25 lf <0.01 ac	--	9 lf <0.01 ac	**25** **(13)**	**0**	**0.5:1**	**Removal of existing pipe and installation of new 48" RCP-IV.** Permanent impacts are a result of realigning and stabilization of the existing channel inlet at the pipe removal/replacement. Temporary impacts to the stream are required for equipment to access the pipe and for temporary dewatering (pump around). This vicinity of Hickory Creek (including these UT's) was obliterated by the deposition of upstream debris and adjacent slides. The streams shown have re-carved a path to Hickory Creek through this area. Due to the stability and restoration of a more natural stream profile this project will provide, NCDOT proposes a reduced mitigation ratio for this system.
22	UT Hickory Creek	Intermittent	--	--	--	25 lf <0.01ac	--	--	--	**Removal of debris from existing 36" CMP and access.** Temporary impacts to the stream are required for debris removal and access the pipe.
Totals			**4,048 lf**	4,455 lf Site 2: +29 **4,484 lf 4.08 ac**	218 lf Site 2: -29 **189 lf 0.04 ac**	**1,124 lf 0.41 ac**	**4,455 lf 2,009 lf (with ratio)**	**3,645 lf**		
			8,721 lf 4.12 ac Site 6: -30 8,691							

Wetlands in the Project Area

Permit Site	Excavation in Wetlands (loss)	Temporary Impacts in Wetlands	ACOE Mitigation Required	Impact Description/ Avoidance and Minimization
10	0.02 ac	--	*	**Excavation for cut slope.** This work will result in 0.02 acre of permanent excavation in wetlands due to the installation of rock plating on the roadway cut slope due to landslide damage from the storm. *Due to the small amount of wetland impacts at this location, NCDOT does not propose mitigation for this activity.

Mitigation Plan:
A Mitigation Plan for Work Package 4 is included in this application package.

Endangered Species Act: Protected Species listed from IPaC[1] as of the date of this application:

Common Name	Habitat Present	Survey Dates	Proposed Biological Conclusion	FWS Concurrence Remarks
Gray bat Northern long-eared bat Tricolored bat (Proposed)	Yes	n/a	May Affect, Likely to Adversely Affect (under PBO/PCO)	PBO Use Confirmation Attached
White irisette	Yes	6/9-10/2025	No Effect	n/a
Small whorled pogonia	Yes	6/9-10/2025	No Effect	n/a
Rock gnome lichen	No	n/a	No Effect	n/a
Bog turtle[2]	No	n/a	Not Required	n/a
Monarch butterfly (Proposed)[3]	Unknown	n/a	n/a	n/a
Eastern Hellbender (Proposed)[3]	Unknown	n/a	n/a	n/a

1 IPaC – Information for Planning and Consultation (US Fish and Wildlife Service)
2 Similarity of Appearance (Threatened); A species that is threatened due to similarity of appearance with another listed species and is listed for its protection.
3 Due to the recent listings of monarch butterfly within the proposed action area, NCDOT does not have complete information at this time. It is anticipated that construction will be complete by the timeframes proposed for full listing, should the species be formally listed.

Historic Resources Summary (documentation included)

106 Topic	Findings	
Historic Architecture	No Historic Properties Present	
Archaeology	No Surveys Required	
Tribal Coordination	**Tribe**	**Response**
Tribal Coordination Letters were sent to the following Tribes on January 6, 2025:	Catawba Indian Nation	*No response received*
	Cherokee Nation	*No response received*
	Eastern Band of Cherokee Indians	*No response received*
	Muscogee (Creek) Nation	*No response received*
	United Keetoowah Band of Cherokee Indians in Oklahoma	*No response received*

If you have any questions or need additional information, please contact Michael Turchy, at maturchy@ncdot.gov or (919) 707-6157.

Sincerely,

Digitally signed by Michael Turchy

Michael A. Turchy
Environmental Coordination and Permitting Group Leader

ePCN

U.S. Army Corps of Engineers (USACE)

NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

For use of this form, see 33 CFR 330; the proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003
Expires: 2027-10-31

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.

Principal Purpose Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.

Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.

Disclosure Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (*see sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
		09/24/2026	

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (*agent is not required*)
First – Michael Middle – Last – Turchy	First – Middle – Last –
Company – North Carolina Department of Transportation	Company –
Company Title –	E-mail Address –
E-mail Address – maturchy@ncdot.gov	
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
Address – 1598 Mail Service Center	Address –
City – Raleigh State – NC ZIP – 27606 Country – US	City – State – ZIP – Country –
7. APPLICANT'S PHONE NOs. with AREA CODE	**10. AGENT'S PHONE NOs. with AREA CODE**
a. Business +19197076157 b. c. Fax	a. b. c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

SIGNATURE OF APPLICANT DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)

Work Package #4 for permanent repairs to US 74 A (Gerton Highway) from Grant Mountain Road to East of the NC 9 intersection in Bat Cave

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

13. NAME OF WATERBODY, IF KNOWN (*if applicable*)

14. PROPOSED ACTIVITY STREET ADDRESS (*if applicable*)

Address: 1529 Gerton Hwy

City: Hendersonville State: NC Zip: 28792

15. LOCATION OF PROPOSED ACTIVITY (*see instructions*)

Latitude: 35.4614183 °N Longitude: -82.3055899 °W

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (*see instructions*)

Section – Township – Range –

County – Henderson County Project Area – 7 Acres State Tax Parcel ID –

17. DIRECTIONS TO THE SITE

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE

NWP 3 Maintenance

19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY (*see instructions*)

This project consists of permanent repairs to US 74 A (Gerton Highway) required due to damaged sustained from Hurricane Helene. This application applies to repairs occurring between Grant Mountain Road in Gerton and East of the NC 9 intersection in Bat Cave in Henderson County.
Reconstruction of the roadway, repair/replacement of pipes and culverts, and reestablishing Hickory Creek where necessary

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES (*see instructions*)

Streams and wetlands were avoided to the extent practicable. Impacts to streams were minimized by using bank stabilization where feasible rather than embedding rip rap. Pipe and culvert crossings were assessed and retained if they were still functioning and met capacity requirements. The stream reestablishment for Hickory Creek was only proposed where necessary to rebuild the road and placed in its pre-Helene location where possible.

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY (*Describe the reason or purpose of the project, see instructions*)

Repair of the roadway severely damaged during Hurricane Helene.

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY

(*see instructions*)

See Appendix B

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

25. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. (*see instructions*)

26. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and/or the loss of greater than 3/100-acre of stream bed and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) and/or paragraph (d) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.

Please see attached mitigation proposal.

27. Is any portion of the nationwide permit activity already complete? ☐ Yes ☑ No

If Yes, describe the completed work:

28. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (*see instructions*)

Gray bat,Monarch butterfly,Northern Long-Eared Bat,Rock gnome lichen,Small whorled pogonia,Tricolored bat,White irisette
ADDITIONAL AFFECTED SPECIES:
No additional species

29. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (*see instructions*)

NCDOT Historic Architecture and Archaeology staff reviewed the project in its entirety. An Effects Required Form was issued in January 2025 for Historic Architecture and Landscapes for four sites; three of these sites are located within the proposed action area (see project file). It was later determined the three resources are not eligible for listing on the National Register of Historic Properties per a March 2026 Historic Architecture and Landscapes No Historic Properties Affected form and a February 2026 NC Historic Preservation Office (NCHPO) Concur and Final Memo for properties from Bearwallow Mountain Road to Red Anderson Road not eligible for listing on the NRHP, both of which are located in the project file:
-Berkely Pryor House (Not Eligible) (HN1239) near Cave Inn Drive
-Connor Cemetery (Not Eligible) (HN1118) near SR 1607 (Possom Hollow Road)
- Hardison Summer House (Not Eligible) (HN1156) near Freeman Hills Drive
Therefore, Section 106 requirements have been fulfilled.
NCDOT Archaeology issued a No Archaeological Survey Required form in July 2025 (see project file).

30. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":

31. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or

use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? ☐ Yes ☑ No

If "yes", please provide the date your request was submitted to the Corps district:

32. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (*see instructions*)

33. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Michael Turchy	09/24/2026		
SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Instructions for Preparing a

Department of the Army

Nationwide Permit (NWP) Pre-Construction Notification (PCN)

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g.,a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19**.**

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands and/or of Greater Than 3/100-Acre of Stream Bed When Pre-Construction Notification is Required. Paragraphs (c) and (d) of NWP general condition 23 require compensatory mitigation at a minimum one-for-one replacement ratio for all wetland losses that exceed 1/10-acre and/or for all losses of stream bed that exceed 3/100-acre, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre and/or for losses of stream bed that exceed 3/100-acre, or provide an explanation of why the district engineer should not require wetland and/or stream compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit http://www.rivers.gov/.

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

* NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
* NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
* NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre project conditions.
* NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre construction notification.
* NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
* NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
* NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
* NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient

drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

Appendix B. Aquatic Resource Inventory:

Aquatic Resource Name	*State*	*Cowardin System*	*Cowardin Class*	*HGM Class*	*Local Waterway Name*	*Measurement Type*	*Measurement Amount*	*Measurement Units*	*Waters Type*	*Latitude*	*Longitude*
Hickory Creek	NORTH CAROLINA			RIVERINE		Linear	12000	FOOT	DELIN.NOJD-404	35.457702	-82.301967
S24	NORTH CAROLINA			RIVERINE		Linear	220.3	FOOT	DELIN.NOJD-404	35.467961	-82.325047
S25	NORTH CAROLINA			RIVERINE		Linear	255.9	FOOT	DELIN.NOJD-404	35.467501	-82.324652
S26	NORTH CAROLINA			RIVERINE		Linear	31.6	FOOT	DELIN.NOJD-404	35.466177	-82.321581
S27	NORTH CAROLINA			RIVERINE		Linear	159.4	FOOT	DELIN.NOJD-404	35.466236	-82.320968
S28	NORTH CAROLINA			RIVERINE		Linear	332.1	FOOT	DELIN.NOJD-404	35.465519	-82.31965
S29	NORTH CAROLINA			RIVERINE		Linear	541.5	FOOT	DELIN.NOJD-404	35.456466	-82.298149
S30	NORTH CAROLINA			RIVERINE		Linear	143.8	FOOT	DELIN.NOJD-404	35.457167	-82.298246
S31	NORTH CAROLINA			RIVERINE		Linear	44.8	FOOT	DELIN.NOJD-404	35.456758	-82.297732
S32	NORTH CAROLINA			RIVERINE		Linear	37.1	FOOT	DELIN.NOJD-404	35.452528	-82.292482
S33	NORTH CAROLINA			RIVERINE		Linear	89.6	FOOT	DELIN.NOJD-404	35.45148	-82.294861
W10	North Carolina					Area	0.016414	ACRE	DELIN.NOJD-404	35.463156	-82.3055899

Appendix C. Impact Inventory:

Water Name	*Impact Name*	*Activity*	*Type of Material Being Discharged*	*Resource Type*	*Permanent Loss (Y/N)*	*Impact Duration*	*Amount Type*	*Proposed Length*	*Proposed Width*	*Proposed Amount*	*Amount Units*
S24	Site 1 - Channel Change	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	217	2	434	Square Feet
S25	Site 2 - 54" RCP	Discharge of fill material	pipe	River/Stream	Yes	Permanent	Fill Area	56	6	336	Square Feet
S25	Site 2 - 54" RCP	Discharge of fill material	rock	River/Stream	No	Temporary	Fill Area	21	6	126	Square Feet
S25	Site 2 - Channel Change	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	183	6	1098	Square Feet
S25	Site 2 - Channel Change	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	15	6	90	Square Feet
Hickory Creek	Site 3 - Bank Stabilization	Discharge of fill material	rock	River/Stream	Yes	Permanent	Fill Area	50	7	350	Square Feet
Hickory Creek	Site 4 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	450	13	5850	Square Feet
Hickory Creek	Site 4 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	47	13	611	Square Feet
S26	Site 5 - 18" RCP	Discharge of fill material	rock, pipe	River/Stream	Yes	Permanent	Fill Area	32	2	64	Square Feet
S26	Site 5 - 18" RCP	Discharge of fill material	easement, tie in with existing stream	River/Stream	No	Temporary	Fill Area	39	2	78	Square Feet
S27	Site 6 - Bank Stabilization	Discharge of fill material	rock	River/Stream	No	Permanent	Fill Area	29	5	145	Square Feet
S27	Site 6 - Bank Stabilization	Discharge of fill material	easement	River/Stream	No	Temporary	Fill Area	18	5	90	Square Feet
S28	Site 7 - 30" CSP/RCP-IV amd 36" RCP-IV	Discharge of fill material	rock, pipe	River/Stream	Yes	Permanent	Fill Area	160	3	480	Square Feet
S28	Site 7 - 30" CSP/RCP-IV amd 36" RCP-IV	Discharge of fill material	rock, access/easement	River/Stream	No	Temporary	Fill Area	20	3	60	Square Feet
Hickory Creek	Site 8 - Hickory	Discharge of fill	rock, soil	River/Stream	Yes	Permanent	Fill Area	265	18	4770	Square Feet

	Creek Relocation	material									
Hickory Creek	Site 8 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	213	20	4260	Square Feet
Hickory Creek	Site 8 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	48	24	1152	Square Feet
Hickory Creek	Site 9 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	169	18	3042	Square Feet
Hickory Creek	Site 9 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	14	18	252	Square Feet
W10	Site 10 - Cut Slope	Discharge of fill material	excavation of soil	Non-Tidal Wetland	Yes	Permanent	Fill Area			0.02	Acres
Hickory Creek	Site 11 - Bank Stabilization	Discharge of fill material	rock	River/Stream	No	Permanent	Fill Area	94	15	1410	Square Feet
Hickory Creek	Site 11 - Partially Grouted Rip Rap	Discharge of fill material	rock	River/Stream	No	Temporary	Fill Area	327	16	5232	Square Feet
Hickory Creek	Site 12 - Hickory Creek Relocation	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	282	18	5076	Square Feet
Hickory Creek	Site 12 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	139	28	3892	Square Feet
Hickory Creek	Site 13 - Bank Stabilization	Discharge of fill material	rock	River/Stream	No	Permanent	Fill Area	25	12	300	Square Feet
Hickory Creek	Site 13 - Partially Grouted Rip Rap	Discharge of fill material	rock	River/Stream	No	Temporary	Fill Area	195	25	4875	Square Feet
Hickory Creek	Site 14 - Hickory Creek Relocation	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	325	25	8125	Square Feet
Hickory Creek	Site 14 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	178	25	4450	Square Feet
Hickory Creek	Site 14 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	72	25	1800	Square Feet
Hickory Creek	Site 15 - Hickory Creek Relocation	Discharge of fill material	rock	River/Stream	Yes	Permanent	Fill Area	240	18	4320	Square Feet

Hickory Creek	Site 15 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	291	22	6402	Square Feet
Hickory Creek	Site 15 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	152	11	1672	Square Feet
Hickory Creek	Site 15 - Bank Stabilization	Discharge of fill material	rock, soil	River/Stream	No	Permanent	Fill Area	20	11	220	Square Feet
Hickory Creek	Site 16 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	227	25	5675	Square Feet
Hickory Creek	Site 16 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	53	16	848	Square Feet
Hickory Creek	Site 17 - Hickory Creek Relocation	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	1634	28	45752	Square Feet
Hickory Creek	Site 17 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	2831	25.5	72190.5	Square Feet
Hickory Creek	Site 17 - Hickory Creek Reestablishing	Discharge of fill material	rock, soil	River/Stream	No	Temporary	Fill Area	52	17	884	Square Feet
S29	Site 18 - Standard 2' Base Ditch/Channel Change	Discharge of fill material	rock, soil, pipe	River/Stream	Yes	Permanent	Fill Area	449	4	1796	Square Feet
S30	Site 19 - 30" RCP-IV	Discharge of fill material	rock, soil	River/Stream	Yes	Permanent	Fill Area	124	3	372	Square Feet
S30	Site 19 - 30" RCP-IV	Discharge of fill material	rock, access/easement	River/Stream	No	Temporary	Fill Area	20	3	60	Square Feet
S29	Site 20 - 54" RCP-IV	Discharge of fill material	rock, pipe	River/Stream	Yes	Permanent	Fill Area	13	3	39	Square Feet
S29	Site 20 - 54" RCP-IV	Discharge of fill material	rock, access/easement	River/Stream	No	Temporary	Fill Area	12	3	36	Square Feet
S31	Site 21 - 48" RCP	Discharge of fill material	rock, pipe	River/Stream	Yes	Permanent	Fill Area	25	2	50	Square Feet
S31	Site 21 - 48" RCP	Discharge of fill material	rock, access/easement	River/Stream	No	Temporary	Fill Area	9	2	18	Square Feet

S32	Site 22 - Pipe cleanout/dewatering	Discharge of fill material	debris removal	River/Stream	No	Temporary	Fill Area	25	2	50	Square Feet

Provide any additional information you may have about the proposed quantity of wetlands, streams, or other types of waters directly affected by the proposed activity. This level of detail is helpful to better understand the type of impacts that are proposed for your project.

The project entails repairing US 74A by replacing pipes/culverts as needed, adding bank stabilization, both relocating and reestablishing Hickory Creek where necessary, and includes areas where temporary impacts to streams and wetlands are needed for access and construction methods such as dewatering.

U.S. Army Corps of Engineers (USACE)

PERMIT INFORMATION SHEET

PERMIT FORM TYPE	DATE RECEIVED
ENG 6082	09/24/2026

TYPE OF PERMIT YOU'RE REQUESTING

☐ Standard ☐ Letter Of Permission ☑ General Permit

APPLICABLE STATUTORY AUTHORITY

☑ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

☐ Section 103 of the Marine Protection, Research, and Sanctuaries Act

DO YOU PROPOSE COMPENSATORY MITIGATIONS?

Yes

COASTAL DISTRICT

WOULD THE PROJECT OCCUR IN THE TERRITORIAL SEAS OR OCEAN WATERS?

No

DESCRIBE THE ACTIVITY'S RELATIONSHIP TO THE BASELINE FROM WHICH THE TERRITORIAL SEA IS MEASURED

SECTION 408 USACE CIVIL WORKS PROJECTS

WILL THE PROPOSED ACTIVITY REQUIRES PERMISSION FROM THE USACE PURSUANT TO 33 U.S.C. 408 BECAUSE IT WILL ALTER OR TEMPORARILY OR PERMANENTLY OCCUPY OR USE A U.S. ARMY CORPS OF ENGINEERS FEDERALLY AUTHORIZED CIVIL WORKS PROJECT?

☐ Yes ☑ No ☐ I'm not sure

IF YES, HAVE YOU SUBMITTED A WRITTEN REQUEST FOR SECTION 408 PERMISSION FROM THE USACE DISTRICT HAVING JURISDICTION OVER THAT PROJECT?

☐ Yes ☑ No

GENERAL PERMIT INFORMATION

WILL THE PROPOSED ACTIVITY RESULT IN A LOSS TO WETLANDS OR WATERS THAT EXCEEDS NATIONAL OR DISTRICT THRESHOLDS?

Yes

Appendix D-1. Compensatory Mitigation Inventory for Mitigation Banks/in Lieu Fee (ILF) Program:

Mitigation Entry Name	*Mitigation Type*	*Name*	*Credit Unit*	*Proposed Credit Amount*
All Streams	In-lieu Fee		Acre Based	

Appendix H. Supporting Information:

Document Type	*Document Created Date (YYYY-MM-DD)*	*Document Label*	*Information Source/Citation*	*Uploaded file name*
Historic Properties Cultural Resources Information	2026-09-20	Tribal Coordination	NCDOT	US 74 A WP4 2025-01-06 Tribal Coordination Letters.pdf
Threatened Endangered Species Report	2026-09-20	USFWS PBO Use Confirmation	USFWS	US 74 A WP4 2025-07-07 FWS PBO Confirmation.pdf
Historic Properties Cultural Resources Information	2026-09-20	No NRHP Archaeological Sites Present	NCDOT	US 74 A WP4 2025-07-29 No NRHP Archaeological Sites Present.pdf
Historic Properties Cultural Resources Information	2026-09-20	Historic Arc and Landscapes	NCDOT	US 74 A WP4 2026-02-01 HAL.pdf
Other Information	2026-09-20	Project Cover Letter/Information	NCDOT	US 74 A WP4 2026-09-21 Application Cover Letter.pdf
Mitigation Plan	2026-09-20	Mitigation Plan	NCDOT	US 74 A WP4 2026-09-21 Mitigation Plan.pdf
Maps Plans Plots or Plats	2026-09-20	Stream Plans	NCDOT	US 74A WP4 2026-06-26 Stream Plans.pdf
Maps Plans Plots or Plats	2026-09-20	Permit Drawings	NCDOT	US 74A WP4 2026-09-01 Permit Drawings.pdf

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT – PARTNER APPENDIX

For use of this form, see 33 CFR 325. The proponent agency is CECW-COR.

AUTHORITIES: The Department of Army Corps of Engineers (Corps) and partner entities have established a joint process for activities impacting jurisdictional waterways that require review and/or approval of both the Corps and its partners. Department of Army permits are required by Section 10 of the Rivers & Harbors Act of 1899 for any structure(s) or work in or affecting navigable waters of the United States and by Section 404 of the Clean Water Act for the discharge of dredged or fill materials into waters of the United States, including adjacent wetlands. This supplemental information is provided to the partner entity along with the standard regulatory forms.

PARTNER INFORMATION

ORGANIZATION:	PARTNER ID:	NAME AND CODE:
NC Division of Water Resources (DWR)		**Form Name**: NATIONWIDE/GENERAL/INDIVIDUAL PERMIT - DWR 401 Application Form NC Division of Water Resources Application Information **Form Code**: NCDWR 401

In North Carolina, many activities covered by Nationwide and Regional General Permits, as well as Individual Permits, also require a 401 Water Quality Certification from the Division of Water Resources. To streamline the application process for both the U.S. Army Corps of Engineers (USACE) and the North Carolina Division of Environmental Quality (NCDEQ) - Division of Water Resources (DWR), we have collaborated on this joint application form.

This joint application form serves to fulfill reporting requirements for both agencies under Sections 401 and 404 of the Clean Water Act, and Section 10 of the Rivers and Harbor Act of 1899, for specific activities permitted through Nationwide Permits (NWPs), Regional General Permits (RGPs), and Individual Permits. The RRS is now the preferred method for submitting application information for these permits.

For questions, please contact the USACE at (910) 251-4633.

The Wilmington District and the North Carolina Department of Environmental Quality (NCDEQ) have collaborated to develop a Joint Permit Application (JPA) within the Regulatory Request System (RRS) for use with Nationwide Permits (NWP) and Regional General Permits (RGP), as well as, Individual Permits. This system functions similarly to previous versions of the Pre-Construction Notification form (also known as e-PCN). The RRS is an online platform that enables applicants to electronically upload and submit all required information to the reviewing agencies.

The RRS JPA fulfills the application and reporting requirements for both the U.S. Army Corps of Engineers (USACE) and NCDEQ for activities authorized under Sections 401 and 404 of the Clean Water Act, as well as Section 10 of the Rivers and Harbors Act of 1899.

Projects that fall within the North Carolina Division of Coastal Manangement (NCDCM) review area, will need to coordinate their application with NCDCM directly. To learn more, visit the [NCDCM website](https://www.deq.nc.gov/about/divisions/division-coastal-management).

USACE/NCDWR Joint Application Form for Nationwide Permits, Regional General Permits, and Individual Permits (along with corresponding Water Quality Certifications)

PLEASE NOTE: THE SYSTEM IS STILL UNDER DEVELOPMENT, AND DATA CURRENTLY DOES NOT TRANSMIT ELECTRONICALLY TO NCDEQ'S DIVISION OF WATER RESOURCES (DWR). UNTIL FURTHER NOTICE, APPLICANTS MUST SUBMIT COMPLETED RRS JPA DOCUMENTS THROUGH [NCDEQ'S "PROJECT SUBMITTAL INTERIM FORM" WEBSITE](https://edocs.deq.nc.gov/Forms/Supplemental-Information-Form).
[Additional Instructions](https://edocs.deq.nc.gov/WaterResources/Browse.aspx?dbid=0&startid=3890140)

SUPPLEMENTAL INFORMATION COLLECTED

ADDITIONAL CONTACT INFORMATION - Property Owner

- Is the owner the same as the applicant?
  - Yes

- Provide Primary Property Owner information
  - Please see the JPA_ContactReport.xlsx to review the provided contact data.

- Provide Additional Property Owner information
  - Please see the JPA_ContactReport.xlsx to review the provided contact data.

PROCESSING INFORMATION -

- Does the project involve maintenance dredging funded by the Shallow Draft Navigation Channel Dredging and Aquatic Weed Fund OR involve the distribution or transmission of energy or fuel (including natural gas, diesel, petroleum, or electricity)?
  - No

- Is this project connected with (American Rescue Plan Act) ARPA funding or S.L. 2023-134 (earmark)?
  - No

- Please select:
  - Not Applicable (Question not presented)

- Please provide the DWI ARPA Funding Project Number (ie: SRP-W-ARP-1234 or SRP-W-134-1234):
  *The DWI Funding Project number can be located on the "Letter of Intent to Fund" (LOIF) or "Offer and Acceptance Letter". If you do not know your DWI project #, please contact your DWI project manager or fund recipient (e.g., LGU).
  - Not Applicable (Question not presented)

- Is this a NC Division of Mitigation Services (NCDMS) Project? Note - Select Yes only if NCDMS is the applicant/co-applicant.
  - No

- Is this project a public transportation project?
  - Yes

- Is this a NC Department of Transportation (NCDOT) project?
  - Yes

- (NCDOT only) T.I.P. (Transportation Improvement Program) or state project number:
  - Hurricane Helene Repairs to US 74A Gerton

- (NCDOT only) WBS #
  - 18314.1045039

- Application for NC Division of Water Resources (DWR) Certification.
  Type(s) of approval sought from the DWR? (Select all that apply)
  - 401 Water Quality Certification

- Is this a modification OR new project with existing ID?
  - Yes

- Please provide the DWR ID number.
  - 20251220

- Is the project located in any of NC's twenty coastal counties?
    - No

- Is the project located within a NC Division of Coastal Management (DCM) Area of Environmental Concern (AEC)?
    - Not Applicable (Question not presented)

- Is the project located in a designated trout watershed? [Learn more about Trout](https://www.saw.usace.army.mil/Missions/Regulatory-Permit-Program/Agency-Coordination/Trout.aspx)
    - Yes

- If yes, attach a copy of existing correspondence from the Wildlife Resource Commission Office.
    - Not Applicable (Question not presented)

WATERS DETAILS -

- Name of nearest waterbody? [Surface Water Lookup](https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55/)
    - Hickory Creek

- Does the proposed activity impact perennial or intermittent streams?
    - Yes

- Please ensure that the Aquatic Resource Inventory section includes all perennial and intermittent streams and be sure to identify them with appropriate Cowardin codes.
  (Click the Aquatic Resources Inventory in the menu on the left to navigate to that section.)

  Note: Use the Cowardin Code "R2 or R3" for perennial. Use Cowardin Code "R4" for intermittent.
  If no code provided, waters will be assumed to be perennial.
    - Not Applicable (Question not presented)

NON-JD IMPACT DETAILS - NOTE: Questions only appear in this section when 'Non-404 Jurisdictional Waters Permit' has been included among the Type(s) of approval sought from the DWR.

- Will the project result in impacts to Non-404 JD waters?
    - Not Applicable (Question not presented)

- Please ensure that the associated Non-404 Jurisdictional Waters have been entered in the Aquatic Resource Inventory section of the Permit Application. Use the Aquatic Resource Type of "DELIN.NOJD-404".
  (Click the "Aquatic Resources Inventory" option in the menu on the left to navigate to that section.)

    - Not Applicable (Question not presented)

BUFFER IMPACTS AND MITIGATION SUMMARY - Additional impacts and mitigation not previously covered in this application: Buffers

- Will project occur in an area subject to state riparian buffer regulations?
    - No

- Will project result in any impacts within a protected riparian buffer?
    - Not Applicable (Question not presented)

- Which protected basin(s) is the project located within?
  - Not Applicable (Question not presented)

- Other Protected Basin
  - Not Applicable (Question not presented)

- Are the buffer regulations implemented by a delegated local government?
  - Not Applicable (Question not presented)

- Please specify which local government.
  - Not Applicable (Question not presented)

- Impact Details
  - Please see the JPA_DynamicTableReport.xlsx to review the provided data.

- Total Temporary Buffer Impacts
  - Not Applicable (Question not presented)

- Total Permanent Buffer Impacts
  - Not Applicable (Question not presented)

- Total Combined Buffer Impacts
  - Not Applicable (Question not presented)

- Will the project result in an impact within a protected riparian buffer that requires buffer mitigation?
  - Not Applicable (Question not presented)

- If yes, you must fill out this entire section - please contact DWR for more information.
  Identify the square feet of impact to each zone of the riparian buffer that requires mitigation. Calculate the amount of mitigation required in the table below.
  - Please see the JPA_DynamicTableReport.xlsx to review the provided data.

- How is buffer mitigation proposed to be met?
  - Not Applicable (Question not presented)

- If payment to mitigation bank or NCDMS, attach a valid statement of availability or DMS acceptance letter. OR Attach mitigation plan for review.
  - Not Applicable (Question not presented)

STORMWATER MANAGEMENT PLAN -

- Does this project disturb >1 acre of land?
  - Yes

- Is this an NCDOT project subject to compliance with NCDOT's Individual NPDES permit NCS000250?
  - Yes

- Is this project subject to review and approval under a state post-construction stormwater program (DEMLR) or state-approved local government stormwater program?
  - Not Applicable (Question not presented)

- What entity has reviewed/is reviewing the Stormwater Management Plan?
    - Not Applicable (Question not presented)

- What is the Stormwater Management Plan status?
    - Not Applicable (Question not presented)

- Does this project meet the requirements for low density projects as defined in 15A NCAC 02H.1003(2)? For details on how Low Density Projects are characterized, click the help icon.
    - Not Applicable (Question not presented)

- For low density projects, submit documentation including built-upon area (BUA) delineation, percent BUA calculations, stormwater drainage plan, and designs for vegetated conveyances.
    - Not Applicable (Question not presented)

- For all High Density projects submit a Stormwater Management Plan that includes stormwater control measures for water quality treatment.
    - Not Applicable (Question not presented)

STORMWATER MANAGEMENT IN BUFFERED BASINS - All stormwater generated from high ground within regulated buffer basins must be in compliance with the stormwater management requirements of the applicable buffer rules.

NOTE: Questions only appear in this section when 'Will project occur in an area subject to state riparian buffer regulations?' is answered Yes.

- Does the project comply with the stormwater management requirements of the applicable buffer rules?
    - Not Applicable (Question not presented)

- Please explain why the project does not comply.
    - Not Applicable (Question not presented)

ENVIRONMENTAL DOCUMENTATION -

- Is an environmental document required under NCEPA (01 NCAC 25 .0100)?
    - Yes

- Has the document review been finalized by the State Clearing House?
    - Yes

- Comments
    - Not Applicable (Question not presented)

- Attach a copy of the SEPA final approval document.
    - US 74A Gerton_WP4_CE_TypeIA_Final signed 1.pdf File(s) Uploaded

VIOLATIONS -

- Is the site in violation of DWR Water Quality Certification Rules (15A NCAC 2H .0500), Isolated Wetland Rules (15A NCAC 2H .1300), or DWR Surface Water or Wetland Standards or Riparian Buffer Rules (15A NCAC 2B .0200)?

- No

- Please explain.
  - Not Applicable (Question not presented)

CUMULATIVE IMPACTS -

- Will this project (based on past and reasonably anticipated future impacts) result in additional development?
  - No

- Provide a qualitative or quantitative cumulative impact analysis in accordance with the most recent DWR policy. [Learn more about Cumulative Impact Policy](https://files.nc.gov/ncdeq/Water%20Quality/Surface%20Water%20Protection/401/Policies_Guides_Manuals/CumulativeImpactPolicy.pdf)
  - Not Applicable (Question not presented)

- If not, provide a short narrative description.
  - This project is to repair the existing roadway, which was damaged. It does not add capacity or provide new opportunities for development.

PLEASE NOTE: THE SYSTEM IS STILL UNDER DEVELOPMENT, AND DATA CURRENTLY DOES NOT TRANSMIT ELECTRONICALLY TO NCDEQ'S DIVISION OF WATER RESOURCES (DWR). UNTIL FURTHER NOTICE, APPLICANTS MUST SUBMIT COMPLETED RRS JPA DOCUMENTS THROUGH [NCDEQ'S "PROJECT SUBMITTAL INTERIM FORM" WEBSITE](https://edocs.deq.nc.gov/Forms/Supplemental-Information-Form).
[Additional Instructions](https://edocs.deq.nc.gov/WaterResources/Browse.aspx?dbid=0&startid=3890140)

Project Submittal Interim Form

Updated March 16, 2026

*Please note: fields marked with a red asterisk * below are required. You will not be able to submit the form until all mandatory questions are answered.*

Project Type: *

- ○ For the Record Only (Courtesy Copy)
- ○ Modification/New Project with Existing ID
- ○ Other Agency Comments
- ○ Re-Issuance\Renewal Request
- ◉ New Project
- ○ More Information Response
- ○ Pre-Application Submittal
- ○ Stream or Buffer Appeal

*** If this is a GP reissuance/renewal please reference the date of the plans and PCN that were originally verified.**

New Project - Please check the new project type if you are trying to submit a new project that needs an official approval decision.

Pre-Application Submittal – Please check the pre-application submittal if you just want feedback on your submittal and do not have the expectation that your submittal will be considered a complete application requiring a formal decision.

Modification/New Project With An Existing ID - Please check this box if you are submitting for a new phase of an existing project, a modification to an existing project or for any additional impacts to an existing project for an official approval decision.

More Information Response - Please check this type if you are responding to a request for information from staff and you have and ID# and version for this response.

Other Agency Comments - Please check this if you are submitting comments on an existing project.

Re-issuance\Renewal Request – Please check this if you are submitting for a re-issuance\renewal prior to expiration date for the corresponding 401/404. If submitting after the expiration date or if modification needed use Modification\New Project with Existing ID option.

Submittal Type: *

401 Application - Individual Certification (IC/WQC)

Is buffer approval also required? *

○ Yes ◉ No

Project Contact Information

Name:

Michael Turchy

Who is submitting the information?

Email Address: *

maturchy@ncdot.gov

Project Information

Project Name: *

Work Package #4 for permanent repairs to US 74 A (Gerton Highway) from Grant Mountain Road to East of the NC 9 intersection in Bat Cave

Is this a public transportation project? *

- (●) Yes
- ( ) No

Is this a DOT project? *

- (●) Yes
- ( ) No

TIP#:

WBS#:

18314.1045039

(Applies to DOT projects only)

Project Status

If you selected "Re-Issuance/Renewal Request" or "Modification/New Project with Existing ID" for your project type at the top of this form, please enter the current status of your project.

- (●) Pre-let
- ( ) Under Construction
- ( ) Utility Relocation Underway
- ( ) In-Field Adjustment

Only choose "In-Field Adjustment" if directed to do so by 401 staff

Is this application for a project associated with emergency response/repairs from Hurricane Helene impacts to your project or property? *

(●) Yes ( ) No

Is the project located within a NC DCM Area of Environmental Concern (AEC)? *

( ) Yes (●) No ( ) Unknown

Does this project involve maintenance dredging funded by the Shallow Draft Navigation Channel Dredging and Aquatic Weed Fund, electric generation projects located at an existing or former electric generating facility, or involve the distribution or transmission of energy or fuel, including natural gas, diesel, petroleum, or electricity? *

( ) Yes (●) No

Is this project connected with ARPA funding or S.L. 2023-134 (earmark)? *

( ) ARPA ( ) S.L. 2023-134 (earmark) (●) No

Is this application being filed jointly with another party involved with this project? *

( ) Yes (●) No

County (ies) *

Henderson

Please upload all files that need to be submited.

Click the upload button or drag and drop files here to attach document

Generated_Turchy_38787_43981_0_Permit_Additional_Info.pdf	215.78KB
Generated_Turchy_38787_43981_0_Appx_B_Aquatic_Resources.pdf	51.24KB
Generated_Turchy_38787_43981_0_Appx_C_Impacts.pdf	76.55KB
Generated_Turchy_38787_43981_0_Appx_D1_MB_ILF.pdf	45.83KB
Generated_Turchy_38787_43981_0_Appx_H_Supporting_Files.pdf	50.79KB
Generated_Turchy_38787_43981_0_ENG_6082_PCN.pdf	550.45KB
Generated_Turchy_38787_43981_0_NCDWR 401_JPA_Report.pdf	91.56KB
US 74 A WP4 2026-09-24 Mitigation Plan.pdf	136.86KB
US 74A WP4 2026-06-26 Stream Plans.pdf	59.4MB
US 74A WP4 2026-09-01 Permit Drawings.pdf	22.96MB

Only pdf or kmz files are accepted.

Describe the attachments or add comments:

*

☑ By checking the box and signing box below, I certify that:

- I, the project proponent, hereby certifies that all information contained herein is true, accurate, and complete to the best of my knowledge and belief.
- I, the project proponent, hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.
- I agree that submission of this online form is a “transaction” subject to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I agree to conduct this transaction by electronic means pursuant to Chapter 66, Article 40 of the NC General Statutes (the “Uniform Electronic Transactions Act”);
- I understand that an electronic signature has the same legal effect and can be enforced in the same way as a written signature; AND
- I intend to electronically sign and submit the online form.

Signature: *

Michael Turchy

Submittal Date:

Permit Drawings

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element:	**TIP/Proj No:** 18314.1045039	**County(ies):** Henderson	**Page** 1	**of** 3	

General Project Information

WBS Element:		**TIP Number:**	18314.1045039	**Project Type:**	Other	**Date:**	9/24/2025
NCDOT Contact:	Nathan Tanner, PE	**Contractor / Designer:**	Davin Morrison, PE				
Address:	NCDOT Highway Division 14 253 Webster Road Sylva, NC 28779	**Address:**	440 South Church Street Suite 1200 Charlotte, NC 28202-2075				
Phone:	828 331-5213	**Phone:**	980 337-5181				
Email:	nrtanner@ncdot.gov	**Email:**	davin.morrison@hdrinc.com				
City/Town:	Gerton & Bat Cave	**County(ies):**	Henderson				
River Basin(s):	Broad	**CAMA County?**	No				
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	3.00	**Surrounding Land Use:**	Forested, Low Density Residential, Commercial, and Transportation				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)	7.0	ac.		7.0	ac.		
Typical Cross Section Description:	Maintain existing two lane highway with 10' wide travel lanes, shoulders, and roadside ditches where Hurricane Helene storm damage to the roadway was minimal or did not occur. Where damage has occurred, roadway will be reconstructed with two 11' wide travel lanes, 3' wide shoulders (6' wide with guardrail), expressway gutter, and roadside ditches.			Pre-Hurricane Helene, US 74A was a two lane highway with 10' wide travel lanes with narrow shoulders and roadside ditches. Post-Hurricane Helene, the road was heavily damaged at several locations.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	3000	Year: 2040	Existing:	1500	Year:	2017

General Project Narrative: (Description of Minimization of Water Quality Impacts)

This SMP is for Work Package 4 from Grant Mountain Road to NC 9. Retaining walls and/or 1.25:1 grouted rip rap embankments will be used to repair severely damaged roadway fill slopes adjacent to Hickory Creek. The stream will be relocated to its pre-storm location where needed to protect the roadway. Stream impacts will be kept to a minimum by only relocating the stream where needed, installing retaining walls to keep fill slopes out of the stream, and armoring the roadway embankment with a 1.25:1 grouted rip rap to reduce the impacts that may be caused by a standard 2:1 fill slope. Rip rap aprons and standard base ditches will be used to capture flow from culverts that pass under the roadway to help reduce outlet velocities and erosion.

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element:	TIP/Proj No.: 18314.1045039	County(ies): Henderson	Page 2 of 3

General Project Information

Waterbody Information

Surface Water Body (1):	Hickory Creek	**NCDWR Stream Index No.:**	9-14		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	Trout Waters (Tr)		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	No	**Dissipator Pads Provided in Buffer?**	
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (2):	Middle Fork Hickory Creek	**NCDWR Stream Index No.:**	9-14-1-(2)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	Trout Waters (Tr)		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	No	**Deck Drains Discharge Over Buffer?**	N/A	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	N/A	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

Surface Water Body (3):	Broad River	**NCDWR Stream Index No.:**	9-(1)		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C		
		Supplemental Classification:	Trout Waters (Tr)		
Other Stream Classification:					
Impairments:					
Aquatic T&E Species?	Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**	N/A
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	No	**Dissipator Pads Provided in Buffer?**	N/A
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)	
(If yes, provide justification in the General Project Narrative)					

North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.02; Released April 23, 2024)

WBS Element:	**TIP No.:**	18314.1045039	**County(ies):**	Henderson	**Page**	3	**of**	3

Additional Waterbody Information

Surface Water Body (4):	UT to Hickory Creek		**NCDWR Stream Index No.:**	9-14		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	Trout Waters (Tr)			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**		
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	No	**Dissipator Pads Provided in Buffer?**	N/A	
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

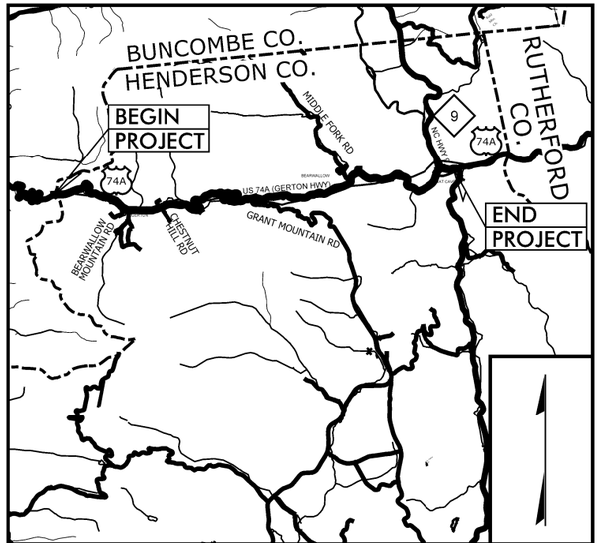
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PERMIT DRAWING
SHEET 1 OF 29

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	18314.1045999.3.4	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
– – – – –	N/A	P.E.
18314.1045999.2.4	N/A	ROW
18314.1045999.3.4	N/A	CONST

HENDERSON COUNTY

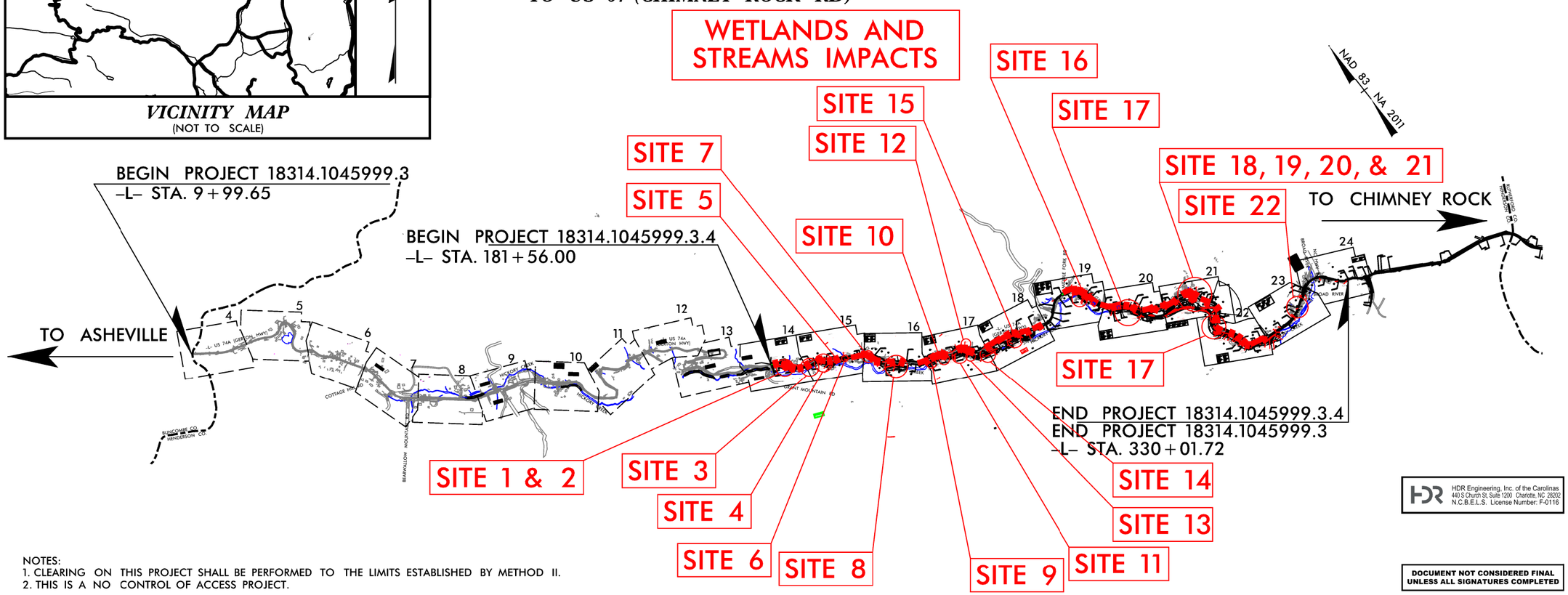


VICINITY MAP
(NOT TO SCALE)

LOCATION: US 74A (GERTON HWY) FROM WEST OF SR 1693 (BEARWALLOW MOUNTAIN RD) TO US 64 (CHIMNEY ROCK RD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURES

WORK PACKAGE #4: SR 1602 (GRANT MOUNTAIN ROAD) TO US 64 (CHIMNEY ROCK RD)



NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
2. THIS IS A NO CONTROL OF ACCESS PROJECT.

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N.C.B.E.L.S. License Number: F-0116

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TIP PROJECT: 18314.1045999.3.4

CONTRACT:

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

2022 = 1,500
ADT 2040 = 3,000
T = 8 %
V = 40 MPH

FUNC CLASS =
MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY WORK PACKAGE #4 = 2.815 MILES

TOTAL LENGTH TIP PROJECT US–74A = 6.064 MILES

Prepared In the Office of:
HDR Engineering, Inc. of the Carolinas
440 S Church St, Suite 1200 Charlotte, NC 28202
N.C.B.E.L.S. License Number: F-0116

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
–

LETTING DATE:
–

PHILLIP E. ROGERS, PE
PROJECT ENGINEER

MATTHEW J. WERDER, PE
PROJECT DESIGN ENGINEER

NATHAN R. TANNER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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09/08/99

This page replaced the following sheet.

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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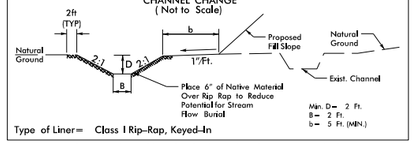
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

NAD 83 NA 2011

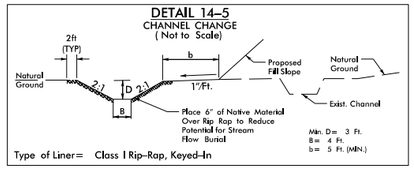
DETAIL 14–4
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip-Rap, Keyed-In

FROM –L– STA. 182+70 TO STA. 184+91 RT; DDE=105CY

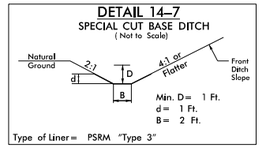
DETAIL 14–5
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip-Rap, Keyed-In

FROM –L– STA. 184+91 TO STA. 186+75 RT; DDE=230CY

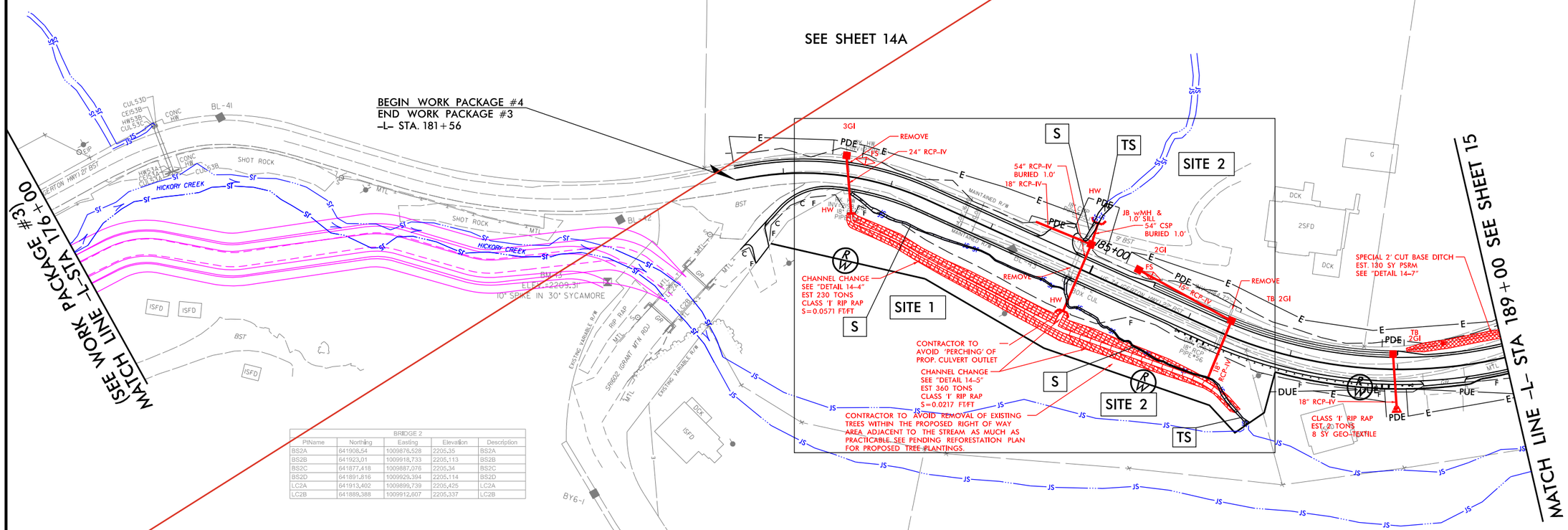
DETAIL 14–7
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= PSRM "Type 3"

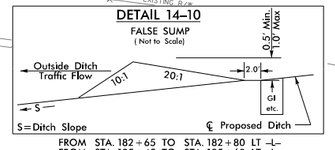
FROM –L– STA. 188+25 TO STA. 189+65 LT

SINGLE BARREL CONC BOX CULVERT 3' W X 3' H				
POINT	NORTH	EAST	ELEVATION	DESC
CEI53A	642224.763	1009548.484	2225.517	CEI53A
CEI53B	642269.743	1009554.571	2235.031	CEI53B
CUL53A	642225.025	1009546.909	2222.536	CUL53A
CUL53B	642224.544	1009549.976	2222.516	CUL53B
CUL53C	642269.898	1009553.076	2232.018	CUL53C
CUL53D	642269.685	1009556.046	2232.014	CUL53D
HW53A	642224.693	1009548.449	2226.818	HW53A
HW53B	642269.925	1009554.498	2236.621	HW53B



BRIDGE 2				
PtName	Northing	Easting	Elevation	Description
BS2A	641908.54	1009876.528	2205.35	BS2A
BS2B	641923.01	1009918.733	2205.113	BS2B
BS2C	641877.418	1009887.076	2205.34	BS2C
BS2D	641891.816	1009929.394	2205.114	BS2D
LC2A	641913.402	1009899.739	2205.425	LC2A
LC2B	641889.388	1009912.607	2205.337	LC2B

DETAIL 14–10
FALSE SUMP
(Not to Scale)



FROM STA. 182+65 TO STA. 182+80 LT –L–
FROM STA. 185+45 TO STA. 185+60 LT –L–

LEGEND

S S SURFACE WATER IMPACTS
TS TS TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 2 OF 29

REVISIONS

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FILE: \
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6/2/99

Site 2:
Adjusting for a better angle into UT, and reducing permanent impact by 30 lf and temporary by 15 lf.

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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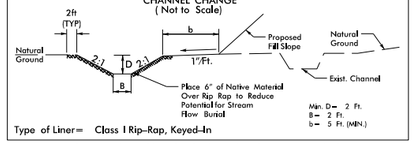
N.C.B.E.L.S. License Number: F-0116

50 25 0 50 100
GRAPHIC SCALE

LEGEND
SLOPE EMBANKMENT
PGR
STABILIZED FILL

NAD 83 NA 2011

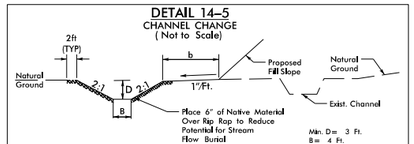
DETAIL 14–4
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

FROM –L– STA. 182+70 TO STA. 184+91 RT; DDE=105CY

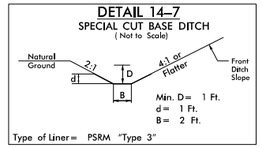
DETAIL 14–5
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

FROM –L– STA. 184+91 TO STA. 186+75 RT; DDE=230CY

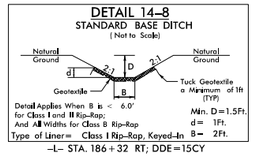
DETAIL 14–7
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= PSRM "Type 3"

FROM –L– STA. 188+25 TO STA. 189+65 LT

DETAIL 14–8
STANDARD BASE DITCH
(Not to Scale)

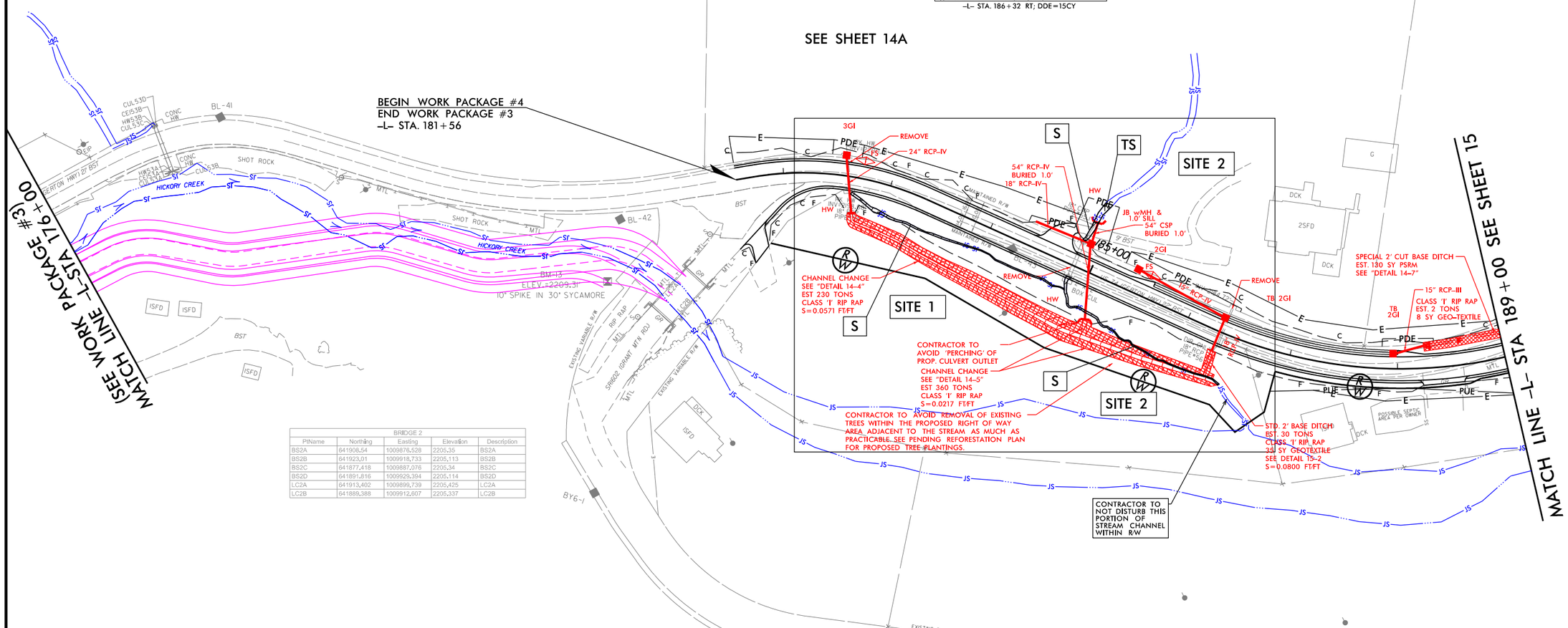


Type of Liner= Class I Rip–Rap, Keyed–In

–L– STA. 186+32 RT; DDE=15CY

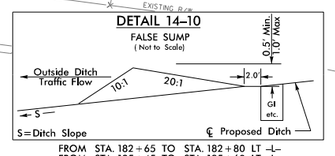
SEE SHEET 14A

SINGLE BARREL CONC BOX CULVERT 3' W X 3' H				
POINT	NORTH	EAST	ELEVATION	DESC
CEI53A	642224.763	1009548.484	2225.517	CEI53A
CEI53B	642269.743	1009554.571	2235.031	CEI53B
CUL53A	642225.025	1009546.909	2222.536	CUL53A
CUL53B	642224.544	1009549.976	2222.516	CUL53B
CUL53C	642269.898	1009553.076	2232.018	CUL53C
CUL53D	642269.685	1009556.046	2232.014	CUL53D
HW53A	642224.693	1009546.449	2226.818	HW53A
HW53B	642269.925	1009554.498	2236.621	HW53B



BRIDGE 2				
PtName	Northing	Easting	Elevation	Description
BS2A	641908.54	1009876.528	2205.35	BS2A
BS2B	641923.01	1009918.733	2205.113	BS2B
BS2C	641877.418	1009887.076	2205.34	BS2C
BS2D	641891.816	1009929.394	2205.114	BS2D
LC2A	641913.402	1009899.739	2205.425	LC2A
LC2B	641889.388	1009912.607	2205.337	LC2B

DETAIL 14–10
FALSE SUMP
(Not to Scale)



FROM STA. 182+65 TO STA. 182+80 LT –L–
FROM STA. 185+45 TO STA. 185+60 LT –L–

LEGEND

S S	SURFACE WATER IMPACTS
TS TS	TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 2 OF 29

REVISIONS

6/2/99

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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N.C.B.E.L.S. License Number: F-0116

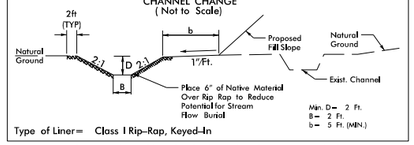
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

NAD 83 NA 2011

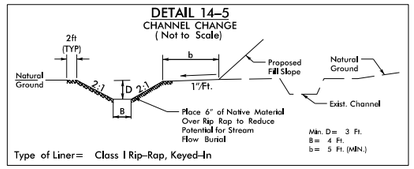
DETAIL 14–4
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip-Rap, Keyed-In

FROM –L– STA. 182+70 TO STA. 184+91 RT; DDE=105CY

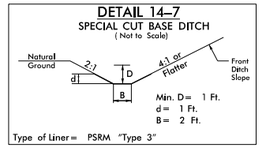
DETAIL 14–5
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip-Rap, Keyed-In

FROM –L– STA. 184+91 TO STA. 186+75 RT; DDE=230CY

DETAIL 14–7
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= PSRM "Type 3"

FROM –L– STA. 188+25 TO STA. 189+65 LT

SEE SHEET 14A

BEGIN WORK PACKAGE #4
END WORK PACKAGE #3
–L– STA. 181+56

MATCH LINE –L– STA 176+00 (SEE WORK PACKAGE #3)

MATCH LINE –L– STA 189+00 SEE SHEET 15

SINGLE BARREL CONC BOX CULVERT 3' W X 3' H

POINT	NORTH	EAST	ELEVATION	DESC
CEI53A	642247.753	1009548.484	2223.517	CEI53A
CEI53B	642266.743	1009554.571	2218.031	CEI53B
CUL53A	642226.025	1009546.909	2222.538	CUL53A
CUL53B	642224.564	1009549.976	2222.516	CUL53B
CUL53C	642260.858	1009553.076	2227.018	CUL53C
CUL53D	642269.585	1009556.046	2232.014	CUL53D
HW53A	642224.682	1009548.459	2226.846	HW53A
HW53B	642265.925	1009554.498	2230.621	HW53B

BRIDGE 2

PtName	Northing	Easting	Elevation	Description
BS2A	641908.54	1009876.528	2206.35	BS2A
BS2B	641923.07	1009918.733	2205.113	BS2B
BS2C	641877.416	1009887.078	2206.34	BS2C
BS2D	641891.816	1009926.394	2205.114	BS2D
LC2A	641913.402	1009899.739	2205.435	LC2A
LC2B	641889.388	1009912.607	2205.337	LC2B

SITE 1
SITE 2
S
TS

CHANNEL CHANGE
SEE "DETAIL 14–4"
EST 230 TONS
CLASS 'I' RIP RAP
S=0.0571 FT/FT

CONTRACTOR TO AVOID 'PERCHING' OF PROP. CULVERT OUTLET

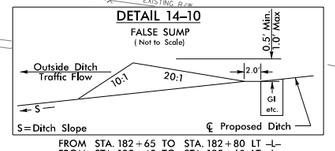
CHANNEL CHANGE
SEE "DETAIL 14–5"
EST 360 TONS
CLASS 'I' RIP RAP
S=0.0217 FT/FT

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE PROPOSED RIGHT OF WAY AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

SPECIAL 2' CUT BASE DITCH
EST. 130 SY PSRM
SEE "DETAIL 14–7"

CLASS 'I' RIP RAP
EST. 21 TONS
8 SY GEO-TEXTILE

DETAIL 14–10
FALSE SUMP
(Not to Scale)



FROM STA. 182+65 TO STA. 182+80 LT –L–
FROM STA. 185+45 TO STA. 185+60 LT –L–

LEGEND

S/S SURFACE WATER IMPACTS

TS/TS TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 3 OF 29

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: DAMORRISON
FILE: \
DATE: 6/23/2026
PENTABLE: NCDOT_permits_CON_WP4.tbl
TIME: 7:48:02 AM

Site 2:
Adjusting for a better angle into UT, and reducing permanent impact by 30 lf and temporary by 15 lf.

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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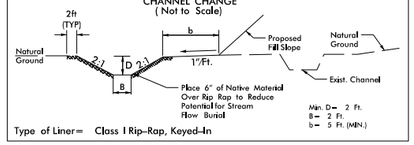
50 25 0 50 100
GRAPHIC SCALE

LEGEND
SLOPE EMBANKMENT
PGR
STABILIZED FILL

NAD 83 NA 2011

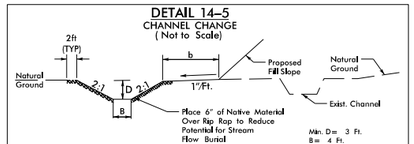
DETAIL 14–4
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

FROM –L– STA. 182+70 TO STA. 184+91 RT; DDE=105CY

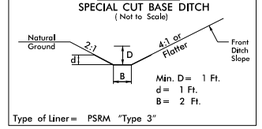
DETAIL 14–5
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

FROM –L– STA. 184+91 TO STA. 186+75 RT; DDE=230CY

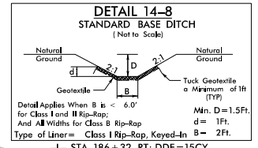
DETAIL 14–7
SPECIAL CUT BASE DITCH
(Not to Scale)



Type of Liner= PSRM "Type 3"

FROM –L– STA. 188+25 TO STA. 189+65 LT

DETAIL 14–8
STANDARD BASE DITCH
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

–L– STA. 186+32 RT; DDE=15CY

SEE SHEET 14A

BEGIN WORK PACKAGE #4
END WORK PACKAGE #3
–L– STA. 181+56

MATCH LINE –L– STA 176+00 (SEE WORK PACKAGE #3)

MATCH LINE –L– STA 189+00 SEE SHEET 15

SINGLE BARREL CONC BOX CULVERT 3' W X 3' H				
POINT	NORTH	EAST	ELEVATION	DESC
CEI53A	642224.753	1009548.484	2223.517	CEI53A
CEI53B	642266.743	1009554.571	2218.031	CEI53B
CUL53A	642226.025	1009546.009	2222.538	CUL53A
CUL53B	642224.544	1009545.976	2222.516	CUL53B
CUL53C	642260.858	1009553.076	2227.018	CUL53C
CUL53D	642263.585	1009556.046	2232.014	CUL53D
HW53A	642224.682	1009548.459	2226.846	HW53A
HW53B	642265.925	1009554.898	2230.621	HW53B

BRIDGE 2				
PtName	Northing	Easting	Elevation	Description
BS2A	641908.54	1009876.528	2206.35	BS2A
BS2B	641923.07	1009918.733	2205.113	BS2B
BS2C	641877.416	1009887.078	2206.34	BS2C
BS2D	641891.816	1009926.394	2205.114	BS2D
LC2A	641913.402	1009899.739	2205.435	LC2A
LC2B	641889.388	1009912.607	2205.337	LC2B

SITE 1
SITE 2

3GI
REMOVE
24" RCP–IV
54" RCP–IV BURIED 1.0'
18" RCP–IV
JB w/MH & 1.0' SILL
54" CSP BURIED 1.0'
2GI
REMOVE
TB 2GI
SPECIAL 2' CUT BASE DITCH EST. 130 SY PSRM SEE "DETAIL 14–7"
15" RCP–III
CLASS 'I' RIP RAP EST. 2 TONS 8 SY GEO–TEXTILE
TB 2GI

CHANNEL CHANGE SEE "DETAIL 14–4" EST 230 TONS CLASS 'I' RIP RAP S=0.0571 FT/FT

CONTRACTOR TO AVOID 'PERCHING' OF PROP. CULVERT OUTLET

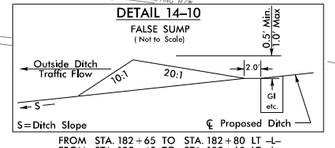
CHANNEL CHANGE SEE "DETAIL 14–5" EST. 360 TONS CLASS 'I' RIP RAP S=0.0217 FT/FT

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE PROPOSED RIGHT OF WAY AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

STD. 2' BASE DITCH EST. 30 TONS CLASS 'I' RIP RAP 35 SY GEOTEXTILE SEE DETAIL 15-2 S=0.0800 FT/FT

CONTRACTOR TO NOT DISTURB THIS PORTION OF STREAM CHANNEL WITHIN R/W

DETAIL 14–10
FALSE SUMP
(Not to Scale)



FROM STA. 182+65 TO STA. 182+80 LT –L–
FROM STA. 185+45 TO STA. 185+60 LT –L–

LEGEND

S/S SURFACE WATER IMPACTS

TS/TS TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 3 OF 29

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: GJACOBSON
FILE: \
PENTABLE: NCDOT_permits_CON_WP4.tbl
DATE: 10/8/2026
TIME: 8:29:44 AM

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	14A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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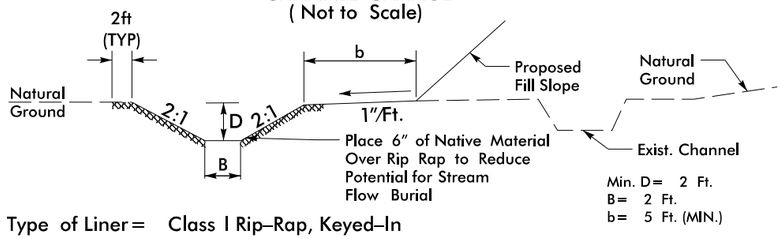
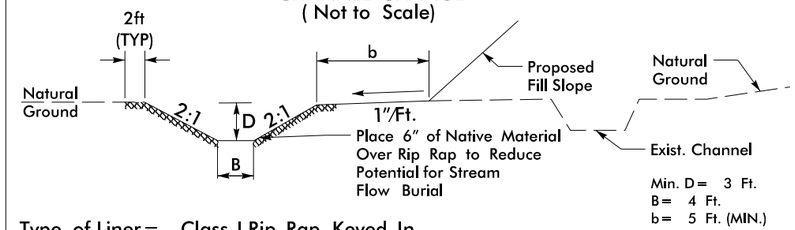
25 12.5 0 25 50
GRAPHIC SCALE

DETAIL 14–4
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

DETAIL 14–5
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

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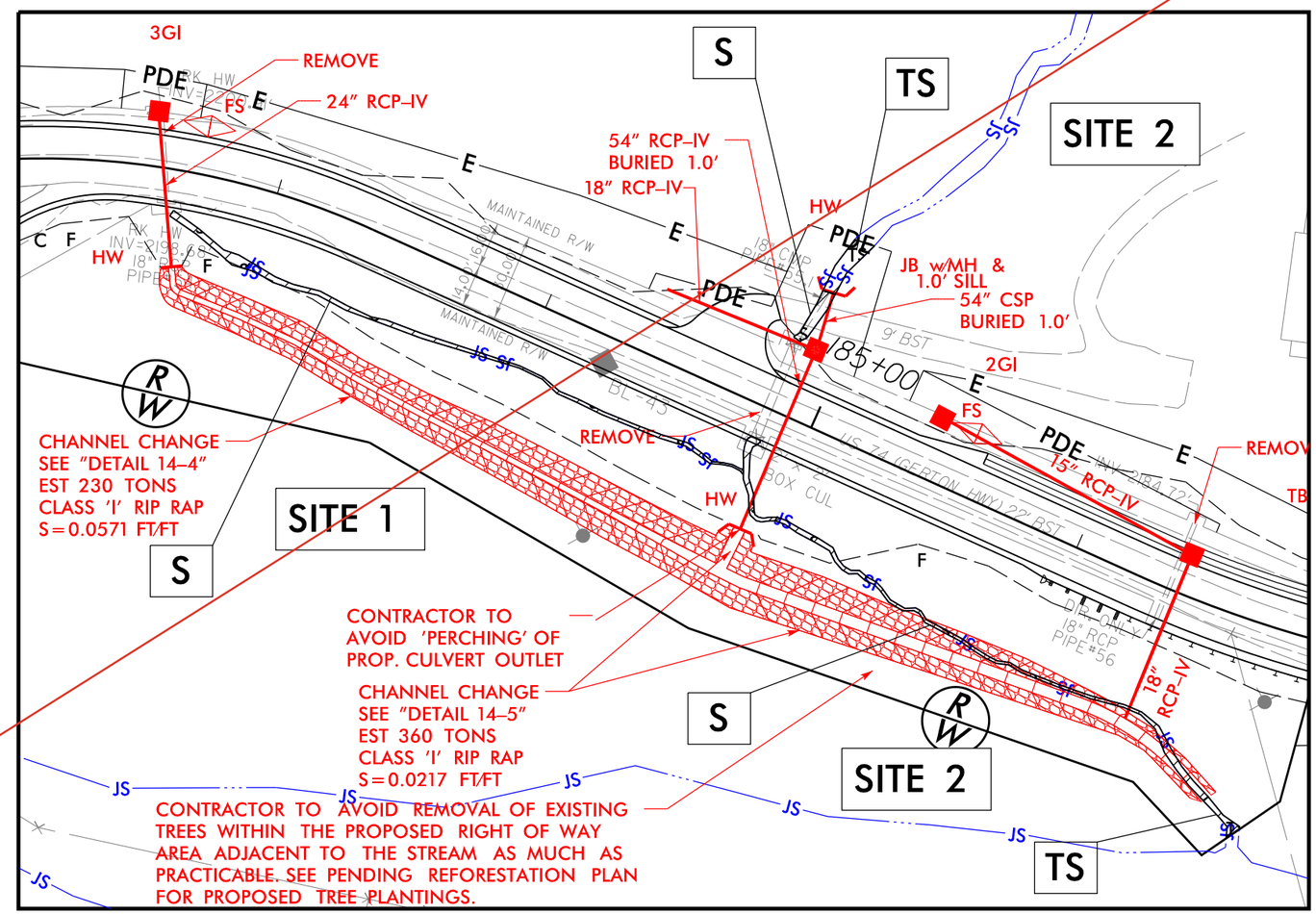

NAD 83 / NA 2011

LEGEND

S / S	SURFACE WATER IMPACTS
TS / TS	TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 4 OF 29

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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DATE: 6/23/2026
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TIME: 7:48:07 AM

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	14A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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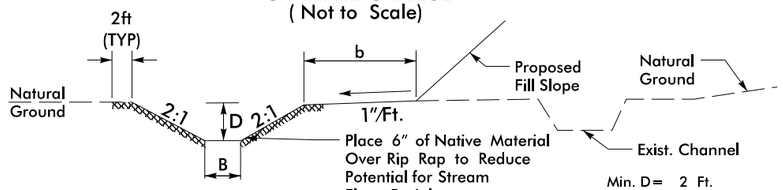
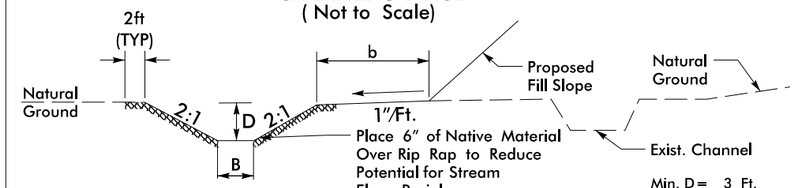
25 12.5 0 25 50
GRAPHIC SCALE

DETAIL 14–4
CHANNEL CHANGE
(Not to Scale)



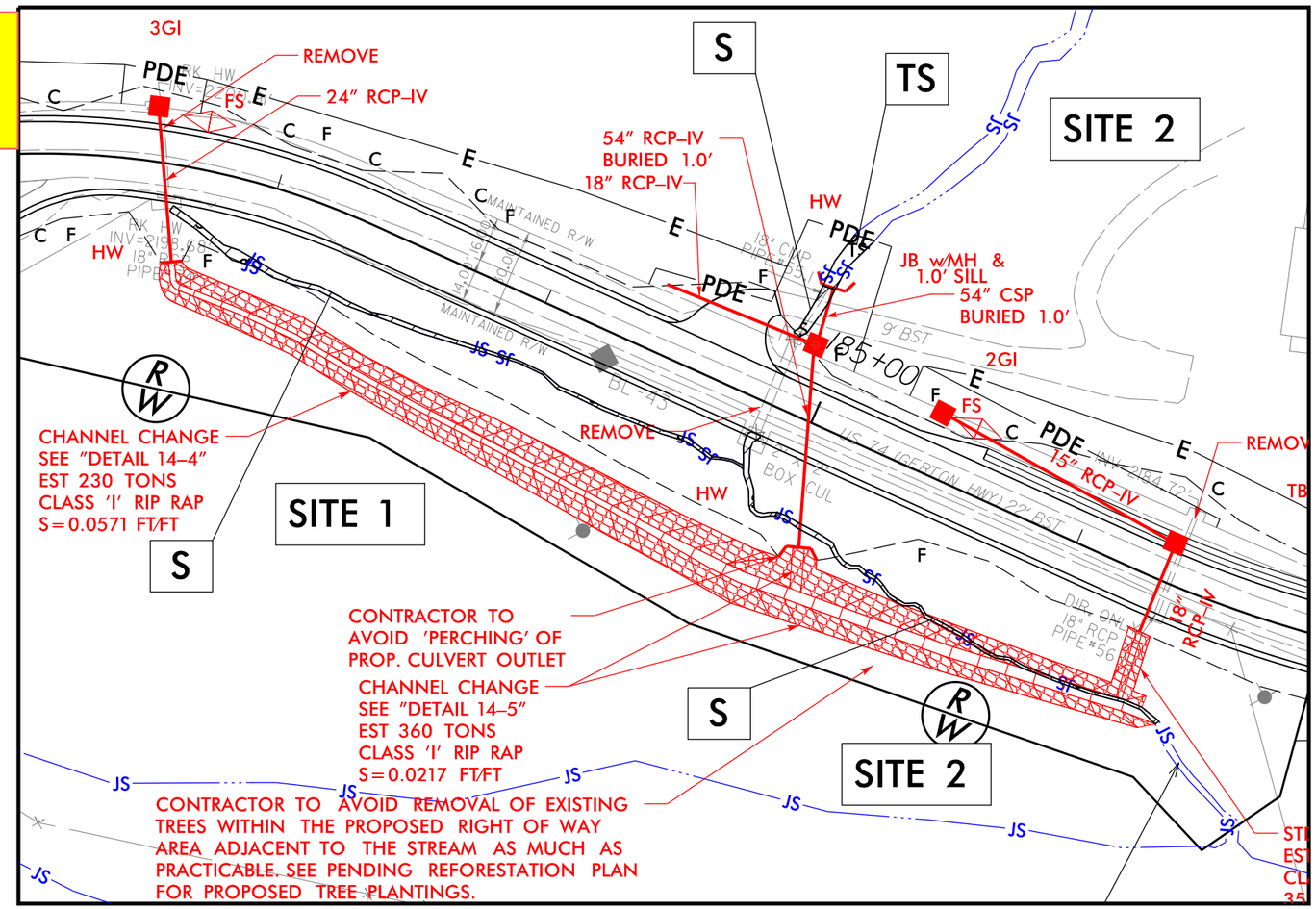
Type of Liner= Class I Rip–Rap, Keyed–In

DETAIL 14–5
CHANNEL CHANGE
(Not to Scale)



Type of Liner= Class I Rip–Rap, Keyed–In

Site 2:
Adjusting for a better angle into UT, and reducing permanent impact by 30 lf and temporary by 15 lf.



LEGEND

S / S	SURFACE WATER IMPACTS
TS / TS	TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 4 OF 29

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	15
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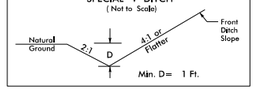
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

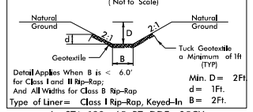
NAD 83 / NA 2011

DETAIL 15–1
SPECIAL 'V' DITCH
(Not to Scale)



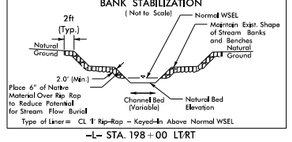
FROM –L– STA. 189+65 TO STA. 190+25 LT
FROM –L– STA. 190+50 TO STA. 191+00 LT
FROM –L– STA. 198+75 TO STA. 200+00 RT

DETAIL 15–2
STANDARD BASE DITCH
(Not to Scale)



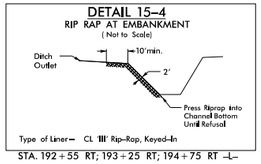
–L– STA. 189+65 RT; DDE=25CY

DETAIL 15–3
BANK STABILIZATION
(Not to Scale)



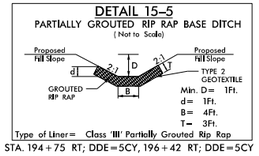
–L– STA. 198+00 LT/RT

DETAIL 15–4
RIP RAP AT EMBANKMENT
(Not to Scale)



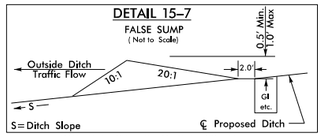
STA. 192+55 RT; 193+25 RT; 194+75 RT –L–

DETAIL 15–5
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



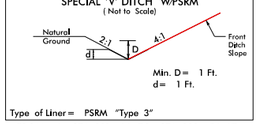
STA. 194+75 RT; DDE=5CY, 196+42 RT; DDE=5CY –L–

DETAIL 15–7
FALSE SUMP
(Not to Scale)

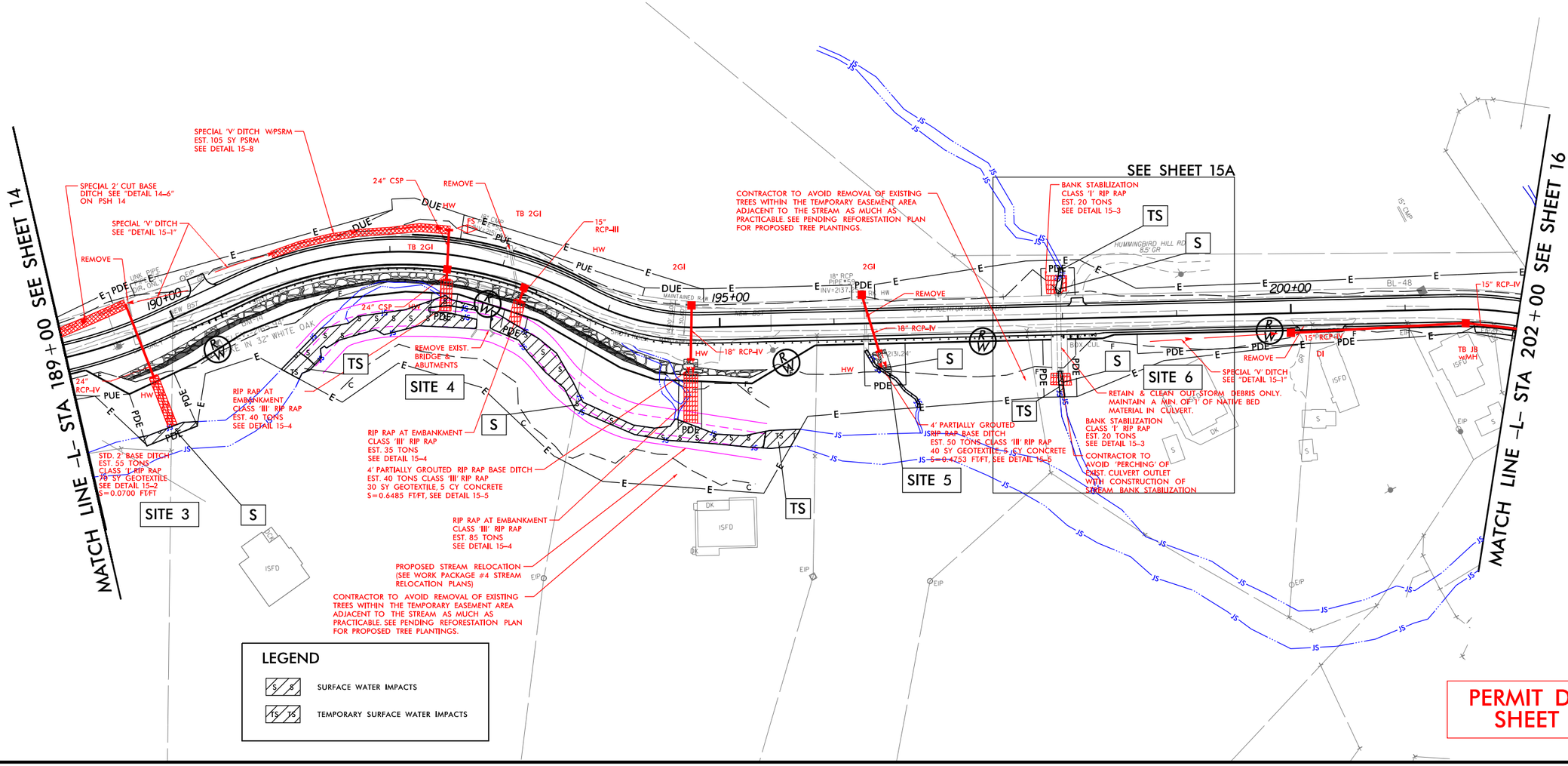


FROM STA. 192+50 TO STA. 192+65 LT –L–

DETAIL 15–8
SPECIAL 'V' DITCH W/PSRM
(Not to Scale)



FROM –L– STA. 191+00 TO STA. 192+50 LT



PERMIT DRAWING
SHEET 5 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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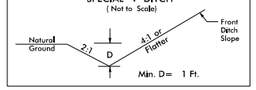
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

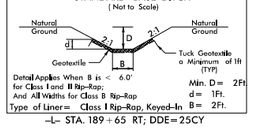
NAD 83 / NA 2011

DETAIL 15–1
SPECIAL 'V' DITCH
(Not to Scale)



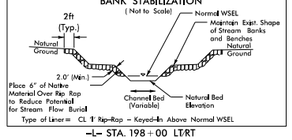
FROM –L– STA. 189+65 TO STA. 190+25 LT
FROM –L– STA. 190+50 TO STA. 191+00 LT
FROM –L– STA. 198+75 TO STA. 200+00 RT

DETAIL 15–2
STANDARD BASE DITCH
(Not to Scale)



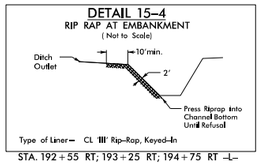
–L– STA. 189+65 RT; DDE=25CY

DETAIL 15–3
BANK STABILIZATION
(Not to Scale)



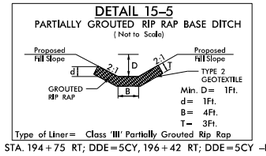
–L– STA. 198+00 LT/RT

DETAIL 15–4
RIP RAP AT EMBANKMENT
(Not to Scale)



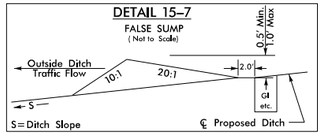
STA. 192+55 RT; 193+25 RT; 194+75 RT –L–

DETAIL 15–5
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



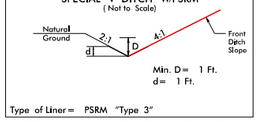
STA. 194+75 RT; DDE=5CY, 196+42 RT; DDE=5CY –L–

DETAIL 15–7
FALSE SUMP
(Not to Scale)

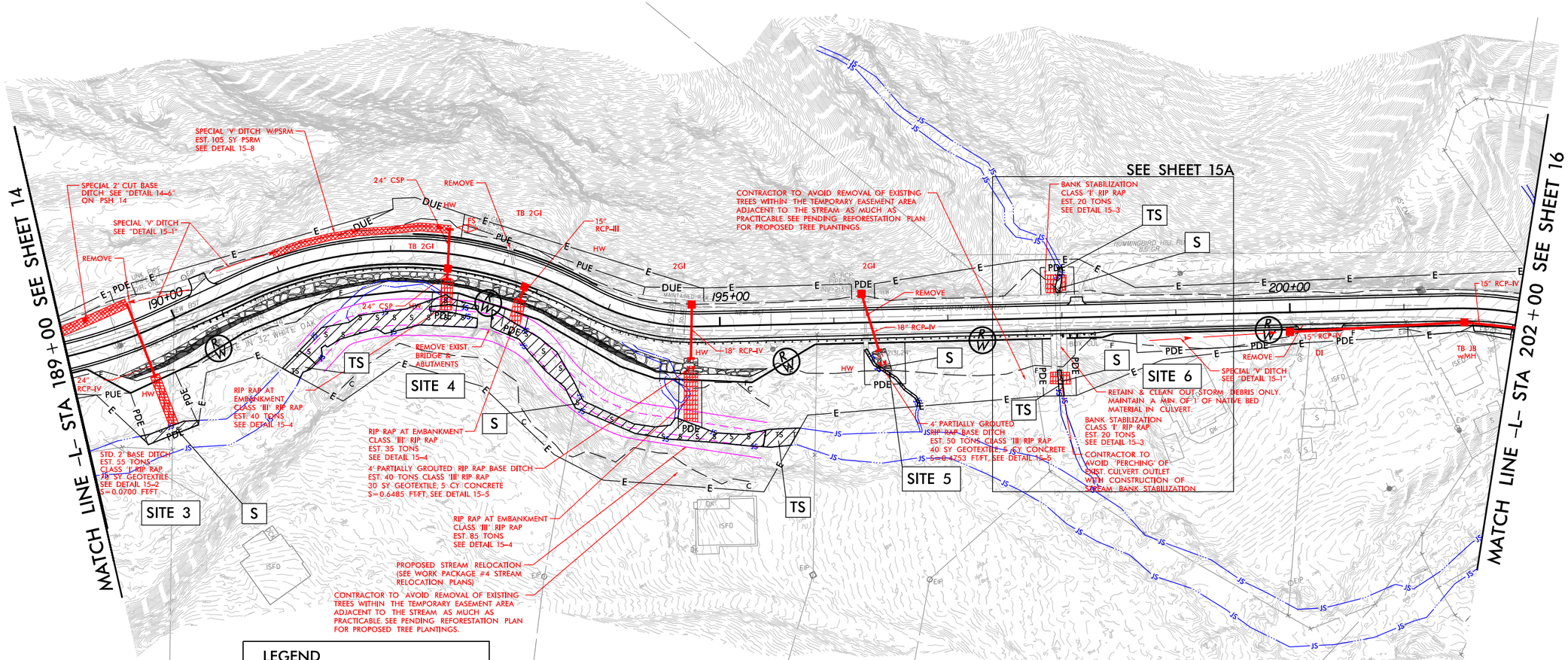


FROM STA. 192+50 TO STA. 192+65 LT –L–

DETAIL 15–8
SPECIAL 'V' DITCH W/PSRM
(Not to Scale)



FROM –L– STA. 191+00 TO STA. 192+50 LT



LEGEND

S S	SURFACE WATER IMPACTS
TS TS	TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 6 OF 29

REVISIONS

6/2/99

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USER: DAMORRISON
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TIME: 7:48:17 AM
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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	15A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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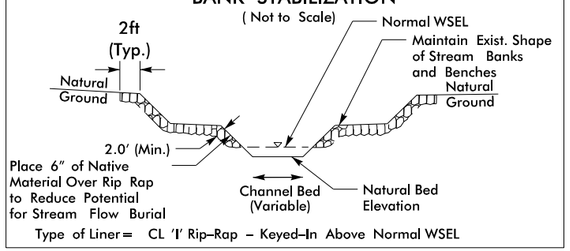
25 0 25 50
GRAPHIC SCALE

NAD 83 / NA 2011

DETAIL 15–3

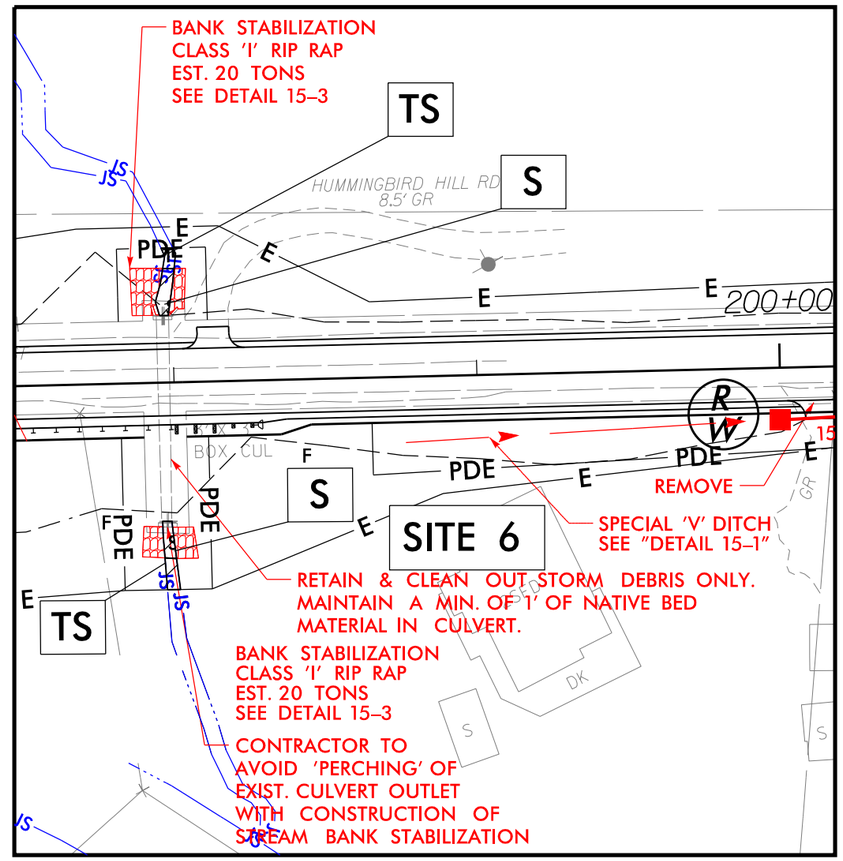
BANK STABILIZATION

(Not to Scale)



Type of Liner = CL 'I' Rip–Rap – Keyed–In Above Normal WSEL

–L– STA. 198 + 00 LT/RT



LEGEND

S S	SURFACE WATER IMPACTS
TS TS	TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 7 OF 29

REVISIONS

6/2/99

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: DAMORRISON
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TIME: 7:48:23 AM

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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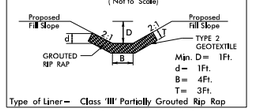
N.C.B.E.L.S. License Number: F-0116

50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

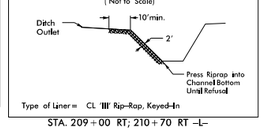
DETAIL 16–3
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 205+70 RT; DDE=10CY,
208+89 RT; DDE=10CY,
210+93 RT; DDE=15CY –L–

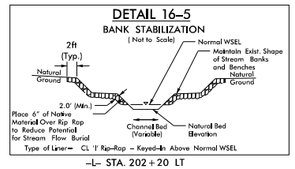
DETAIL 16–4
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL 'III' Rip–Rap, Keyed–In

STA. 209+00 RT; 210+70 RT –L–

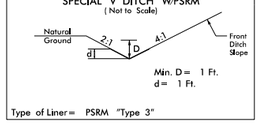
DETAIL 16–5
BANK STABILIZATION
(Not to Scale)



Type of Liner= CL 'I' Rip–Rap – Keyed–In Above Normal WSEL

–L– STA. 202+20 LT

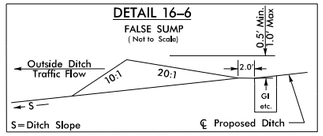
DETAIL 16–2
SPECIAL 'V' DITCH W/PSRM
(Not to Scale)



Type of Liner= PSRM "Type 3"

FROM –L– STA. 206+75 TO STA. 208+30 LT

DETAIL 16–6
FALSE SUMP
(Not to Scale)



FROM STA. 203+85 TO STA. 204+00 LT –L–
FROM STA. 205+10 TO STA. 205+25 LT –L–
FROM STA. 205+60 TO STA. 205+75 LT –L–
FROM STA. 208+35 TO STA. 208+50 LT –L–
FROM STA. 208+85 TO STA. 209+00 LT –L–
FROM STA. 211+15 TO STA. 211+30 LT –L–
FROM STA. 215+05 TO STA. 215+20 LT –L–

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MATCH LINE –L– STA 202+00 SEE SHEET 15

MATCH LINE –L– STA 216+00 SEE SHEET 17

SEE SHEET 16A

SITE 7

SITE 8

BANK STABILIZATION CLASS 'I' RIP RAP EST. 10 TONS SEE DETAIL 16–5

30" CSP 24" RCP–IV

TB JB w/MH

30" RCP–IV

15" RCP–IV

18" RCP–III

36" RCP–IV

REMOVE TB 2GI

CLASS 'I' RIP RAP EST. 10 TONS 23 SY GEO–TEXTILE

SPECIAL 'V' DITCH W/PSRM EST. 110 SY PSRM SEE DETAIL 16–2

18" RCP–III 2GI

18" RCP–IV

REMOVE 24" RCP–IV

24" RCP–IV

CLASS 'II' RIP RAP EST. 15 TONS 20 SY GEO–TEXTILE

RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 45 TONS SEE DETAIL 16–4

FILL IN EXISTING STREAMBED WITH NATIVE MATERIAL (SEE STREAM RELOCATION PLANS, TYP.)

4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 100 TONS CLASS 'III' RIP RAP 80 SY GEOTEXTILE, 10 CY CONCRETE S=0.8373 FT/FT, SEE DETAIL 16–3

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 40 TONS SEE DETAIL 16–4

4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 150 TONS CLASS 'III' RIP RAP 120 SY GEOTEXTILE, 15 CY CONCRETE S=0.5253 FT/FT, SEE DETAIL 16–3

PROPOSED STREAM RELOCATION (SEE WORK PACKAGE #4 STREAM RELOCATION PLANS)

*NOTE: CONTRACTOR TO AVOID 'PERCHING' OF PROP. CULVERT OUTLET CARRYING JURISDICTIONAL STREAM AT HW 1606

4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 65 TONS CLASS 'III' RIP RAP 50 SY GEOTEXTILE, 10 CY CONCRETE S=0.4778 FT/FT, SEE DETAIL 16–3

BM-15 ELEV.=2070.68' RR SPIKE IN POPLAR

LEGEND

S S SURFACE WATER IMPACTS

TS TS TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 8 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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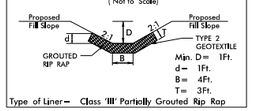
50 25 0 50 100
GRAPHIC SCALE

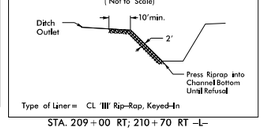
DETAIL 16–3
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 205+70 RT; DDE=10CY,
208+89 RT; DDE=10CY,
210+93 RT; DDE=15CY –L–

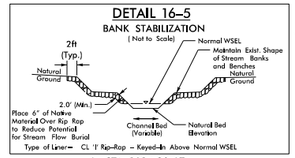
DETAIL 16–4
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL 'III' Rip-Rap, Keyed-In

STA. 209+00 RT; 210+70 RT –L–

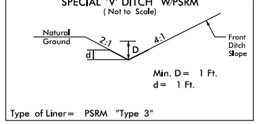
DETAIL 16–5
BANK STABILIZATION
(Not to Scale)



Type of Liner= CL 'I' Rip-Rap – Keyed-In Above Normal WSEL

–L– STA. 202+20 LT

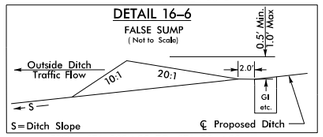
DETAIL 16–2
SPECIAL 'V' DITCH W/PSRM
(Not to Scale)



Type of Liner= PSRM "Type 3"

FROM –L– STA. 206+75 TO STA. 208+30 LT

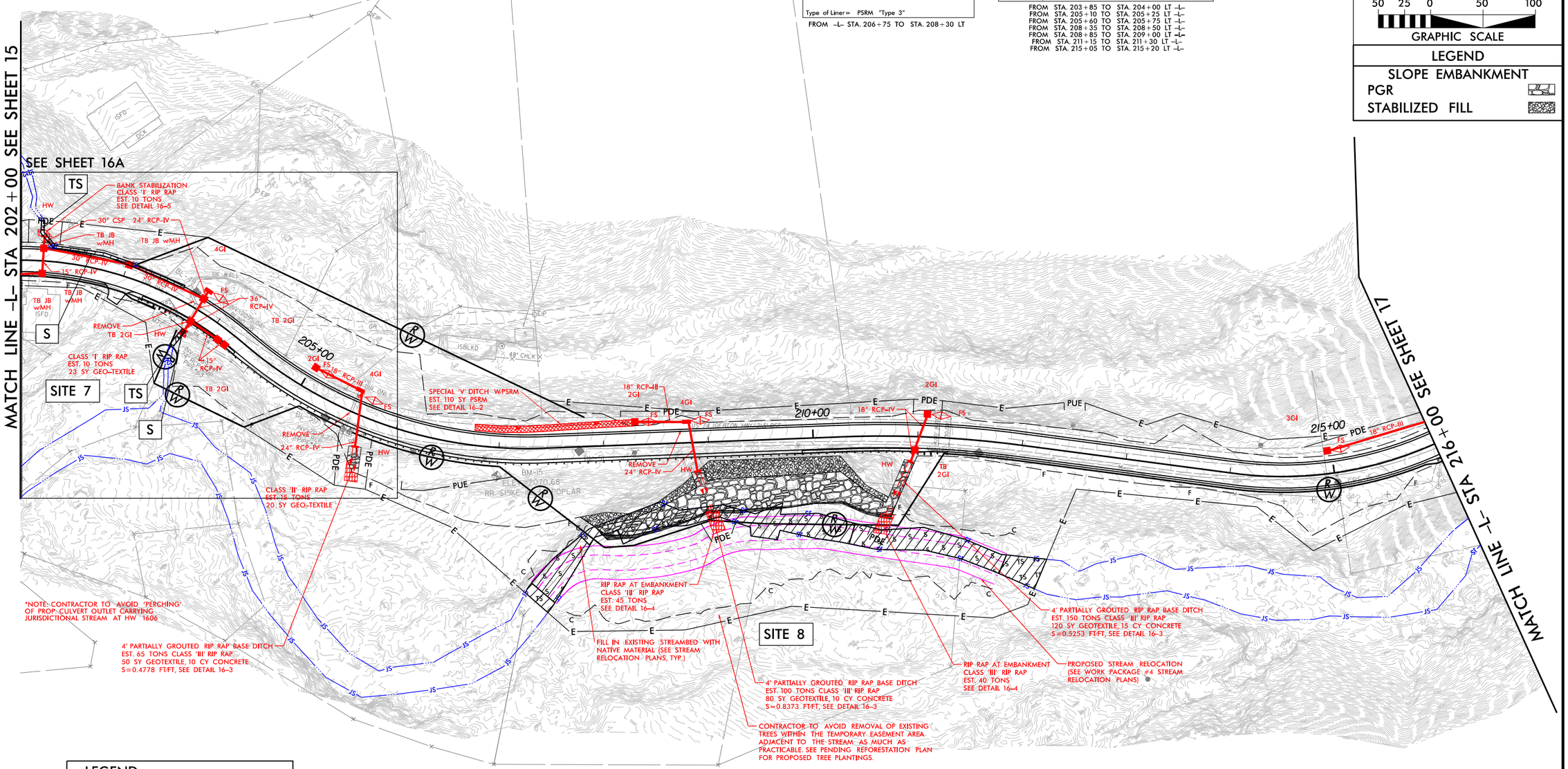
DETAIL 16–6
FALSE SUMP
(Not to Scale)



FROM STA. 203+85 TO STA. 204+00 LT –L–
FROM STA. 205+10 TO STA. 205+25 LT –L–
FROM STA. 205+60 TO STA. 205+75 LT –L–
FROM STA. 208+35 TO STA. 208+50 LT –L–
FROM STA. 208+85 TO STA. 209+00 LT –L–
FROM STA. 211+15 TO STA. 211+30 LT –L–
FROM STA. 215+05 TO STA. 215+20 LT –L–

NAD 83 / NA 2011

LEGEND
SLOPE EMBANKMENT
PGR
STABILIZED FILL



LEGEND

S S	SURFACE WATER IMPACTS
TS TS	TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING
SHEET 9 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	16A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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50 0 25 50
GRAPHIC SCALE

NAD 83 / NA 2011

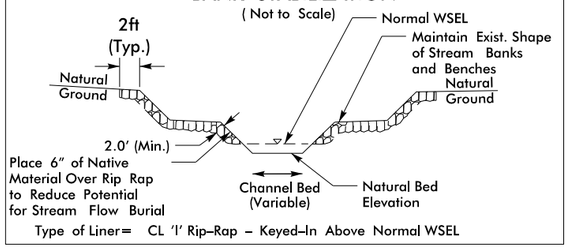
LEGEND

S / S	SURFACE WATER IMPACTS
TS / TS	TEMPORARY SURFACE WATER IMPACTS

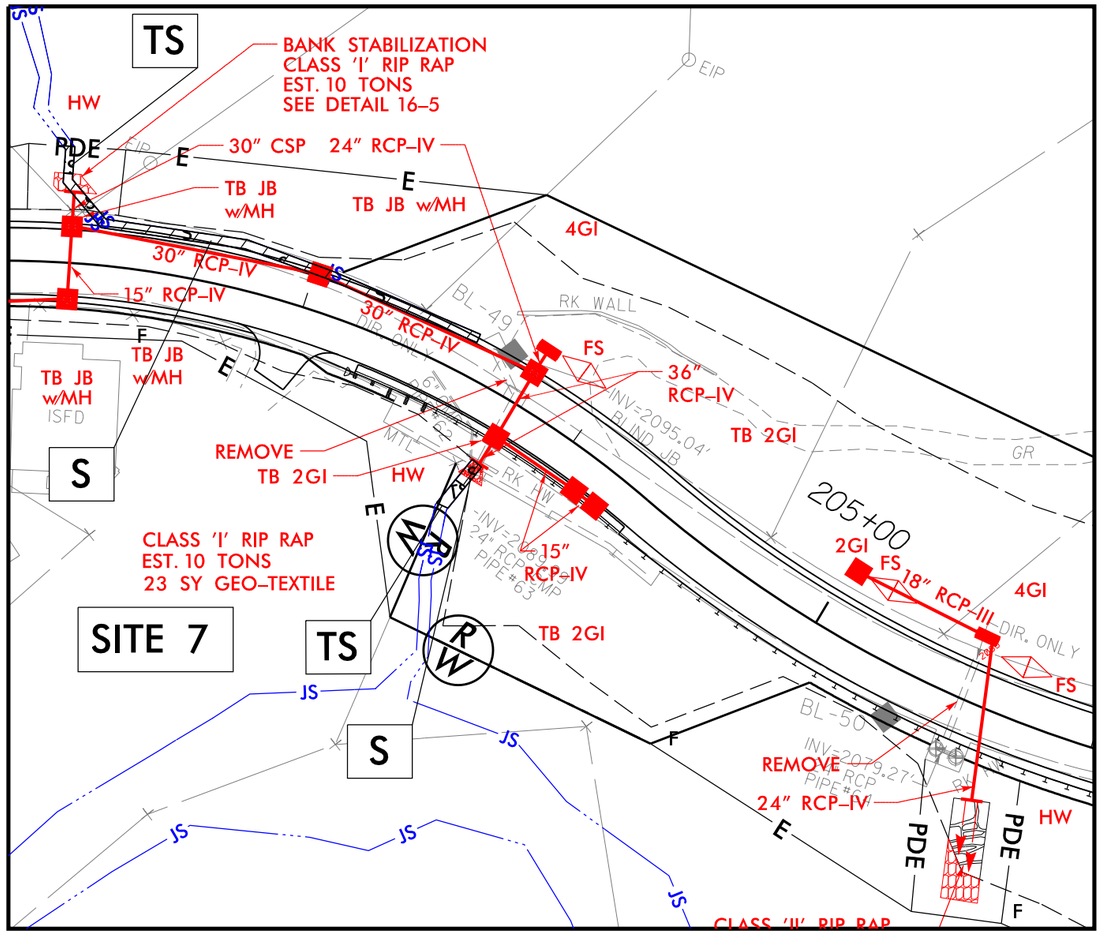
DETAIL 16–5

BANK STABILIZATION

(Not to Scale)



–L– STA. 202+20 LT



PERMIT DRAWING
SHEET 10 OF 29

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

NAD 83 / NA 2011

DETAIL 17–1
SPECIAL 'V' DITCH W/PSRM
(Not to Scale)

Natural Ground, 2:1, D, d, 4:1, Front Ditch Slope
Min. D = 1 Ft.
Type of Liner = PSRM "Type 3" d = 1 Ft.

FROM –L– STA. 223+25 TO STA. 224+25 LT

DETAIL 17–2
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, B, Geotextile, Tuck Geotextile a Minimum of 1ft (TYP)
Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap
Min. D = 2Ft.
d = 2Ft.
B = 4Ft.
Type of Liner = Class 'II' Rip-Rap, Keyed-In

STA. 220+25 LT; DDE=15CY, 220+40 RT; DDE=10CY –L–

DETAIL 17–3
FALSE SUMP
(Not to Scale)

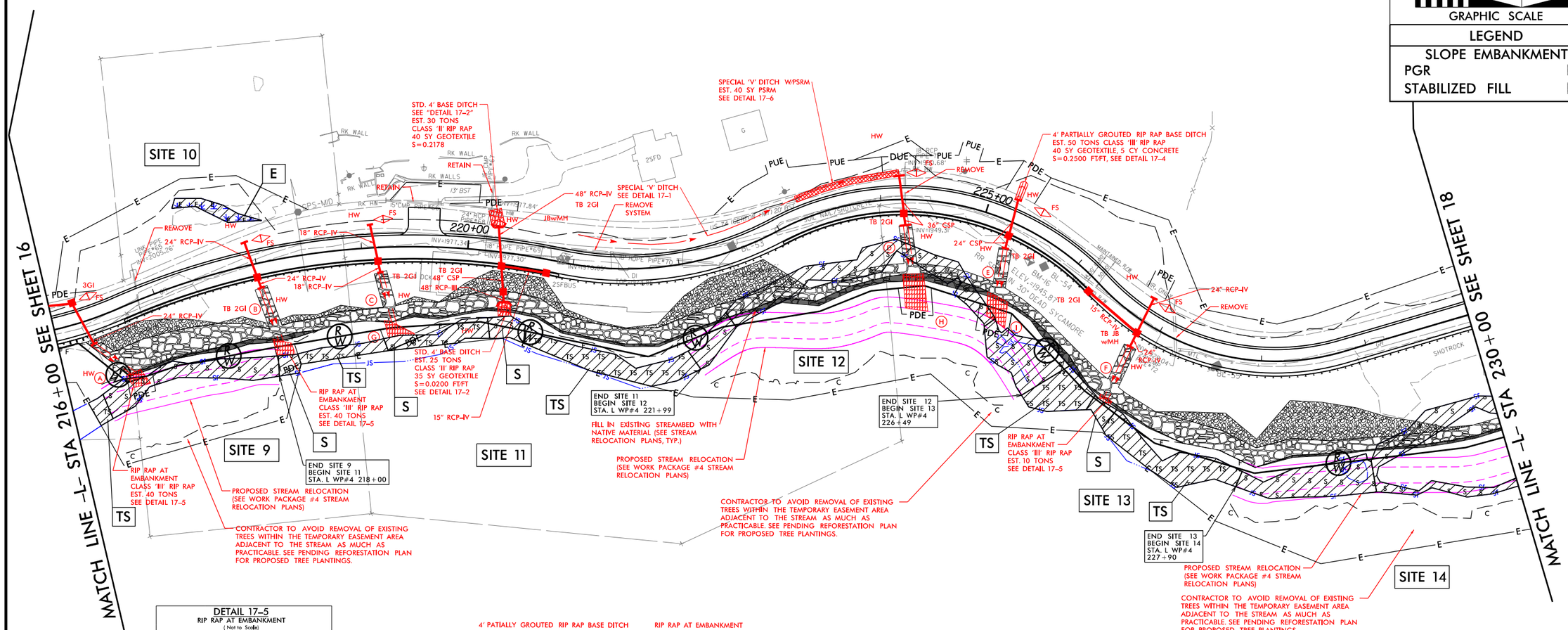
Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5' Min. 1.0' Max, GI etc.
S = Ditch Slope
℄ Proposed Ditch

FROM STA. 216+30 TO STA. 216+45 LT –L–
FROM STA. 218+00 TO STA. 218+15 LT –L–
FROM STA. 219+15 TO STA. 219+30 LT –L–
FROM STA. 224+25 TO STA. 224+40 LT –L–
FROM STA. 225+40 TO STA. 225+55 LT –L–
FROM STA. 226+85 TO STA. 227+00 LT –L–

DETAIL 17–4
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)

Proposed Fill Slope, 2:1, D, d, B, 2:1, Proposed Fill Slope, TYPE 2 GEOTEXTILE, GROUTED RIP RAP
Min. D = 1Ft.
d = 1Ft.
B = 4Ft.
T = 3Ft.
Type of Liner = Class 'III' Partially Grouted Rip Rap

STA. 216+30 RT; DDE=15CY, 218+00 RT; DDE=15CY, 219+17 RT; DDE=15CY, 224+23 RT; DDE=15CY, 225+25 LT; DDE=5CY, 225+31 RT; DDE=15CY, 226+84 RT; DDE=15CY –L–



DETAIL 17–5
RIP RAP AT EMBANKMENT
(Not to Scale)

Pipe Outlet, 10' min., 2', Press Riprap Into Channel Bottom Until Refusal
Type of Liner = CL 'III' Rip-Rap, Keyed-In

STA. 216+55 RT, 218+10 RT, 219+30 RT, 224+40 RT, 225+55 RT, 226+90 RT –L–

DETAIL 17–6
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1, Front Ditch Slope
Min. D = 1 Ft.

FROM –L– STA. 221+00 TO STA. 223+25 LT

(A) 4' PATIALLY GROUTED RIP RAP BASE DITCH EST. 125 TONS CLASS 'III' RIP RAP 100 SY GEOTEXTILE, 15 CY CONCRETE S=0.8426 FT/FT, SEE DETAIL 17–4

(B) 4' PATIALLY GROUTED RIP RAP BASE DITCH EST. 140 TONS CLASS 'III' RIP RAP 110 SY GEOTEXTILE, 15 CY CONCRETE S=0.6144 FT/FT, SEE DETAIL 17–4

(C) 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 140 TONS CLASS 'III' RIP RAP 110 SY GEOTEXTILE, 15 CY CONCRETE S=0.5963 FT/FT, SEE DETAIL 17–4

(D) 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 125 TONS CLASS 'III' RIP RAP 100 SY GEOTEXTILE, 15 CY CONCRETE S=0.4483 FT/FT, SEE DETAIL 17–4

(E) 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 125 TONS CLASS 'III' RIP RAP 100 SY GEOTEXTILE, 15 CY CONCRETE S=0.5204 FT/FT, SEE DETAIL 17–4

(F) 4' PATIALLY GROUTED RIP RAP BASE DITCH EST. 140 TONS CLASS 'III' RIP RAP 110 SY GEOTEXTILE, 15 CY CONCRETE S=0.4798 FT/FT, SEE DETAIL 17–4

(G) RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 40 TONS SEE DETAIL 17–5

(H) RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 115 TONS SEE DETAIL 17–5

(I) RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 75 TONS SEE DETAIL 17–5

LEGEND

E E — WETLAND EXCAVATION
S S — SURFACE WATER IMPACTS
TS TS — TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING SHEET 11 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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N.C.B.E.L.S. License Number: F-0116

50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

NAD 83 / NA 2011

DETAIL 17–1
SPECIAL 'V' DITCH W/PSRM
(Not to Scale)

Natural Ground, 2:1, D, d, 4:1, Front Ditch Slope

Min. D = 1 Ft.
Type of Liner = PSRM "Type 3" d = 1 Ft.

FROM –L– STA. 223+25 TO STA. 224+25 LT

DETAIL 17–2
STANDARD BASE DITCH
(Not to Scale)

Natural Ground, 2:1, D, d, B, Geotextile, Tuck Geotextile a Minimum of 1ft (TYP)

Detail Applies When B is < 6.0' for Class I and II Rip-Rap; And All Widths for Class B Rip-Rap
Min. D = 2Ft.
d = 2Ft.
B = 4Ft.
Type of Liner = Class 'II' Rip-Rap, Keyed-In

STA. 220+25 LT; DDE=15CY, 220+40 RT; DDE=10CY –L–

DETAIL 17–3
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5' Min. 1.0' Max, GI etc.

S=Ditch Slope ℄ Proposed Ditch

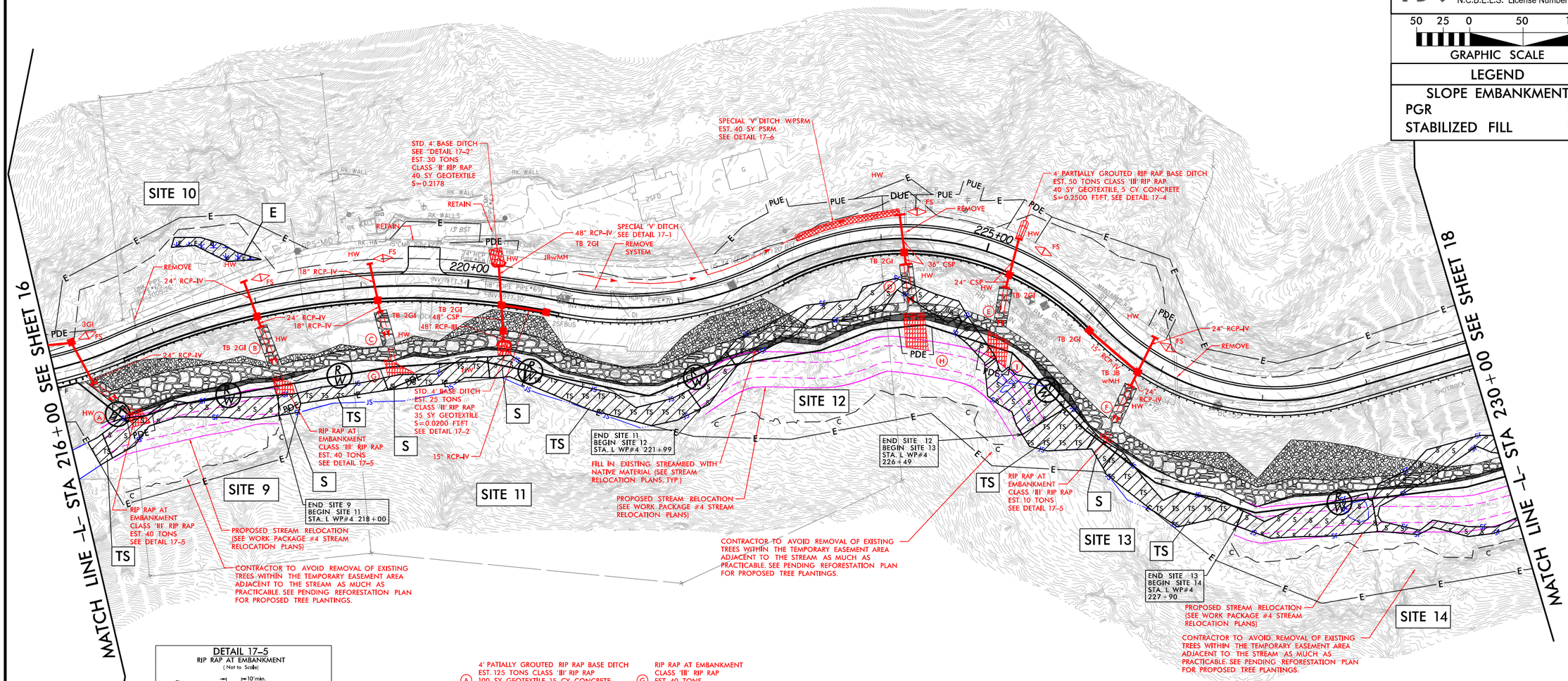
FROM STA. 216+30 TO STA. 216+45 LT –L–
FROM STA. 218+00 TO STA. 218+15 LT –L–
FROM STA. 219+15 TO STA. 219+30 LT –L–
FROM STA. 224+25 TO STA. 224+40 LT –L–
FROM STA. 225+40 TO STA. 225+55 LT –L–
FROM STA. 226+85 TO STA. 227+00 LT –L–

DETAIL 17–4
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)

Proposed Fill Slope, 2:1, D, d, 2:1, T, B, GROUTED RIP RAP, TYPE 2 GEOTEXTILE

Min. D= 1Ft.
d= 1Ft.
B= 4Ft.
T= 3Ft.
Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 216+30 RT; DDE=15CY, 218+00 RT; DDE=15CY, 219+17 RT; DDE=15CY, 224+23 RT; DDE=15CY, 225+25 LT; DDE=5CY, 225+31 RT; DDE=15CY, 226+84 RT; DDE=15CY –L–



DETAIL 17–5
RIP RAP AT EMBANKMENT
(Not to Scale)

Pipe Outlet, 10' min., 2', Press Riprap Into Channel Bottom Until Refusal

Type of Liner = CL 'III' Rip-Rap, Keyed-In

STA. 216+55 RT, 218+10 RT, 219+30 RT, 224+40 RT, 225+55 RT, 226+90 RT –L–

DETAIL 17–6
SPECIAL CUT DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1, Front Ditch Slope

Min. D = 1 Ft.

FROM –L– STA. 221+00 TO STA. 223+25 LT

(A) 4' PATIALLY GROUTED RIP RAP BASE DITCH EST. 125 TONS CLASS 'III' RIP RAP 100 SY GEOTEXTILE, 15 CY CONCRETE S=0.8426 FT/FT, SEE DETAIL 17–4

(B) 4' PATIALLY GROUTED RIP RAP BASE DITCH EST. 140 TONS CLASS 'III' RIP RAP 110 SY GEOTEXTILE, 15 CY CONCRETE S=0.6144 FT/FT, SEE DETAIL 17–4

(C) 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 140 TONS CLASS 'III' RIP RAP 110 SY GEOTEXTILE, 15 CY CONCRETE S=0.5963 FT/FT, SEE DETAIL 17–4

(D) 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 125 TONS CLASS 'III' RIP RAP 100 SY GEOTEXTILE, 15 CY CONCRETE S=0.4483 FT/FT, SEE DETAIL 17–4

(E) 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 125 TONS CLASS 'III' RIP RAP 100 SY GEOTEXTILE, 15 CY CONCRETE S=0.5204 FT/FT, SEE DETAIL 17–4

(F) 4' PATIALLY GROUTED RIP RAP BASE DITCH EST. 140 TONS CLASS 'III' RIP RAP 110 SY GEOTEXTILE, 15 CY CONCRETE S=0.4798 FT/FT, SEE DETAIL 17–4

(G) RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 40 TONS SEE DETAIL 17–5

(H) RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 115 TONS SEE DETAIL 17–5

(I) RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 75 TONS SEE DETAIL 17–5

LEGEND

E E — WETLAND EXCAVATION
S S — SURFACE WATER IMPACTS
TS TS — TEMPORARY SURFACE WATER IMPACTS

PERMIT DRAWING SHEET 12 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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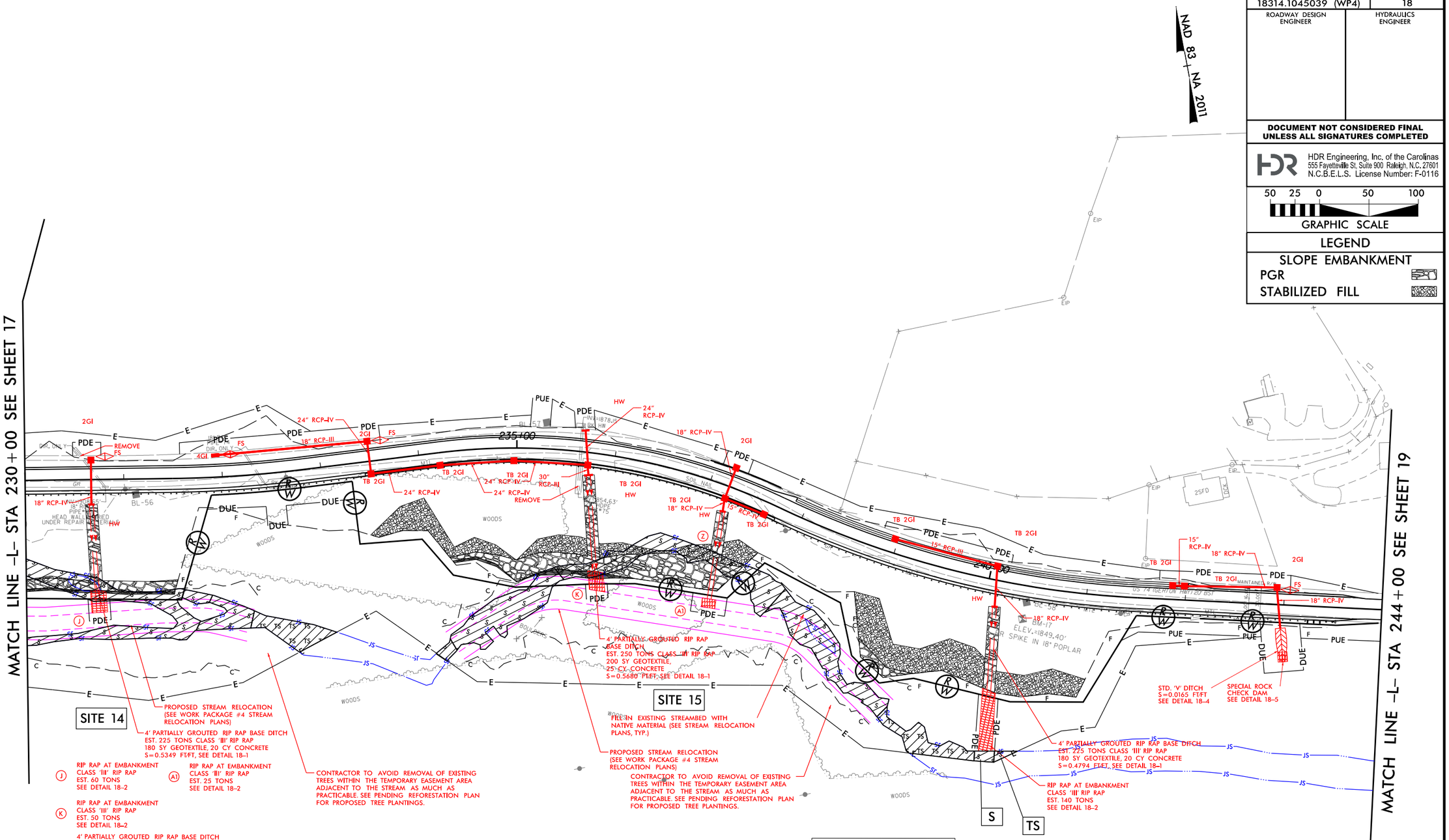
N.C.B.E.L.S. License Number: F-0116

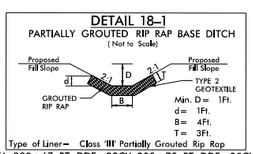
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

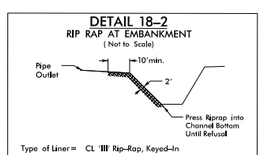


DETAIL 18-1
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



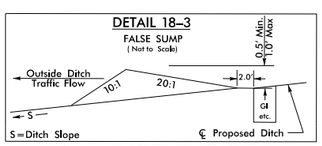
STA. 230+67 RT, DDE=20CY, 235+75 RT, DDE=25CY, 237+23 RT; DDE=20CY, 240+11 RT; DDE=20CY -L-

DETAIL 18-2
RIP RAP AT EMBANKMENT
(Not to Scale)



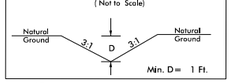
STA. 230+71 RT, 236+00 RT, 237+90 RT, 240+20 RT -L-

DETAIL 18-3
FALSE SUMP
(Not to Scale)



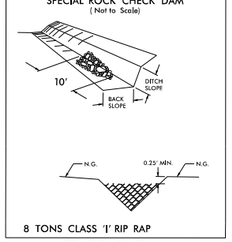
FROM STA. 230+75 TO STA. 230+90 LT -L-
FROM STA. 233+55 TO STA. 233+70 LT -L-
FROM STA. 243+00 TO STA. 243+15 LT -L-

DETAIL 18-4
STANDARD 'V' DITCH
(Not to Scale)



STA. 242+98 RT; DDE=5CY -L-

DETAIL 18-5
SPECIAL ROCK CHECK DAM
(Not to Scale)



8 TONS CLASS 'I' RIP RAP

STA. 243+00 RT -L-

LEGEND

S S	SURFACE WATER IMPACTS
TS TS	TEMPORARY SURFACE WATER IMPACTS
	SLOPE STABILIZATION

PERMIT DRAWING
SHEET 13 OF 29

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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TIME: 7:50:00 AM
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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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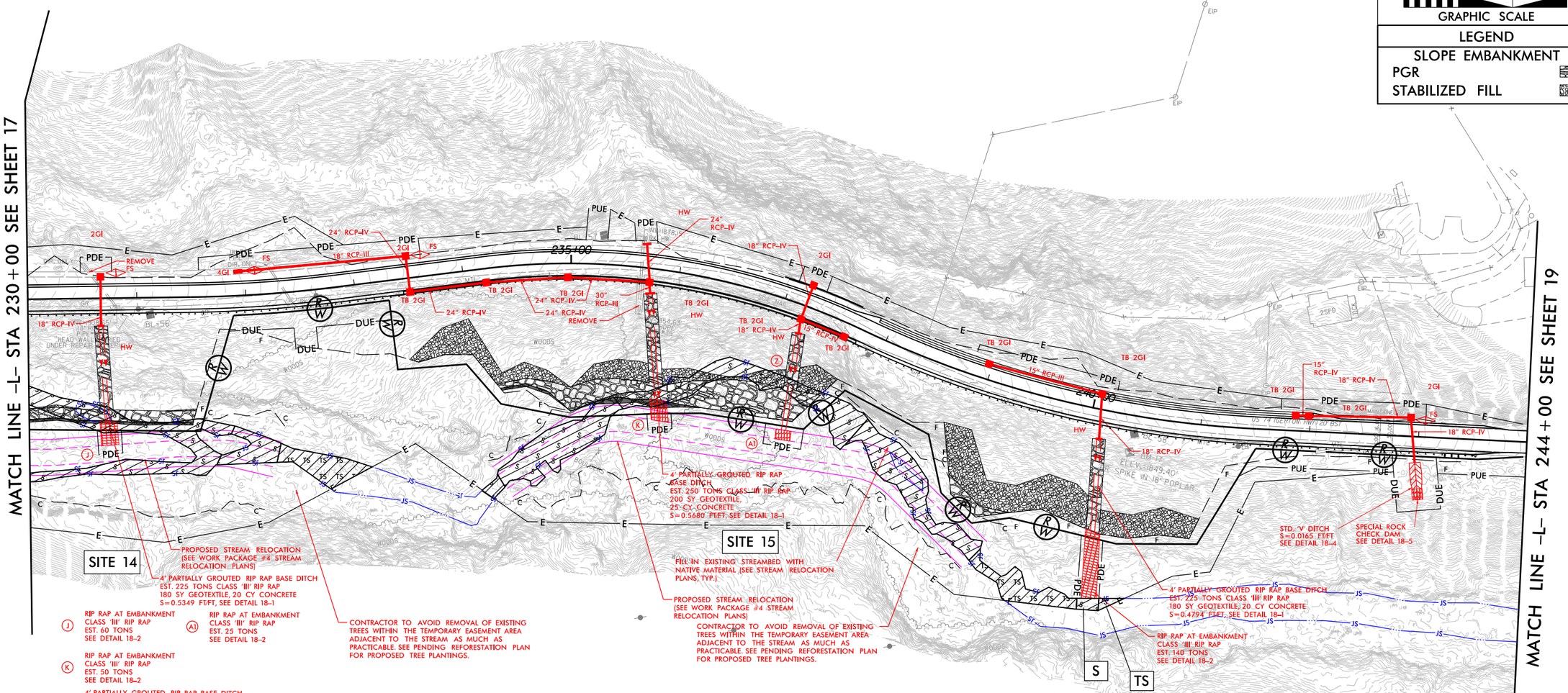
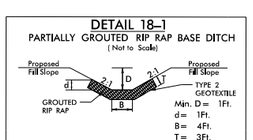
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

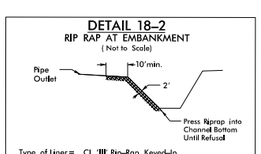


DETAIL 18-1
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



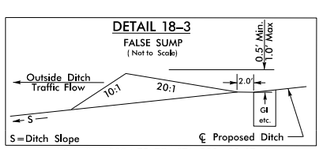
Type of Liner= Class 'III' Partially Grouted Rip Rap
STA. 230+67 RT, DDE=20CY, 235+75 RT, DDE=25CY, 237+23 RT; DDE=20CY, 240+11 RT; DDE=20CY -L-

DETAIL 18-2
RIP RAP AT EMBANKMENT
(Not to Scale)



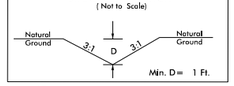
Type of Liner= CL 'III' Rip-Rap, Keyed-In
STA. 230+71 RT, 236+00 RT, 237+90 RT, 240+20 RT -L-

DETAIL 18-3
FALSE SUMP
(Not to Scale)



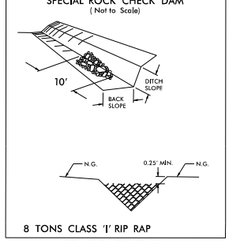
FROM STA. 230+75 TO STA. 230+90 LT -L-
FROM STA. 233+55 TO STA. 233+70 LT -L-
FROM STA. 243+00 TO STA. 243+15 LT -L-

DETAIL 18-4
STANDARD 'V' DITCH
(Not to Scale)



STA. 242+98 RT; DDE=5CY -L-

DETAIL 18-5
SPECIAL ROCK CHECK DAM
(Not to Scale)



8 TONS CLASS 'I' RIP RAP
STA. 243+00 RT -L-

LEGEND

S S SURFACE WATER IMPACTS
TS TS TEMPORARY SURFACE WATER IMPACTS
SLOPE STABILIZATION

PERMIT DRAWING
SHEET 14 OF 29

REVISIONS

6/2/99

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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50 25 0 50 100
GRAPHIC SCALE

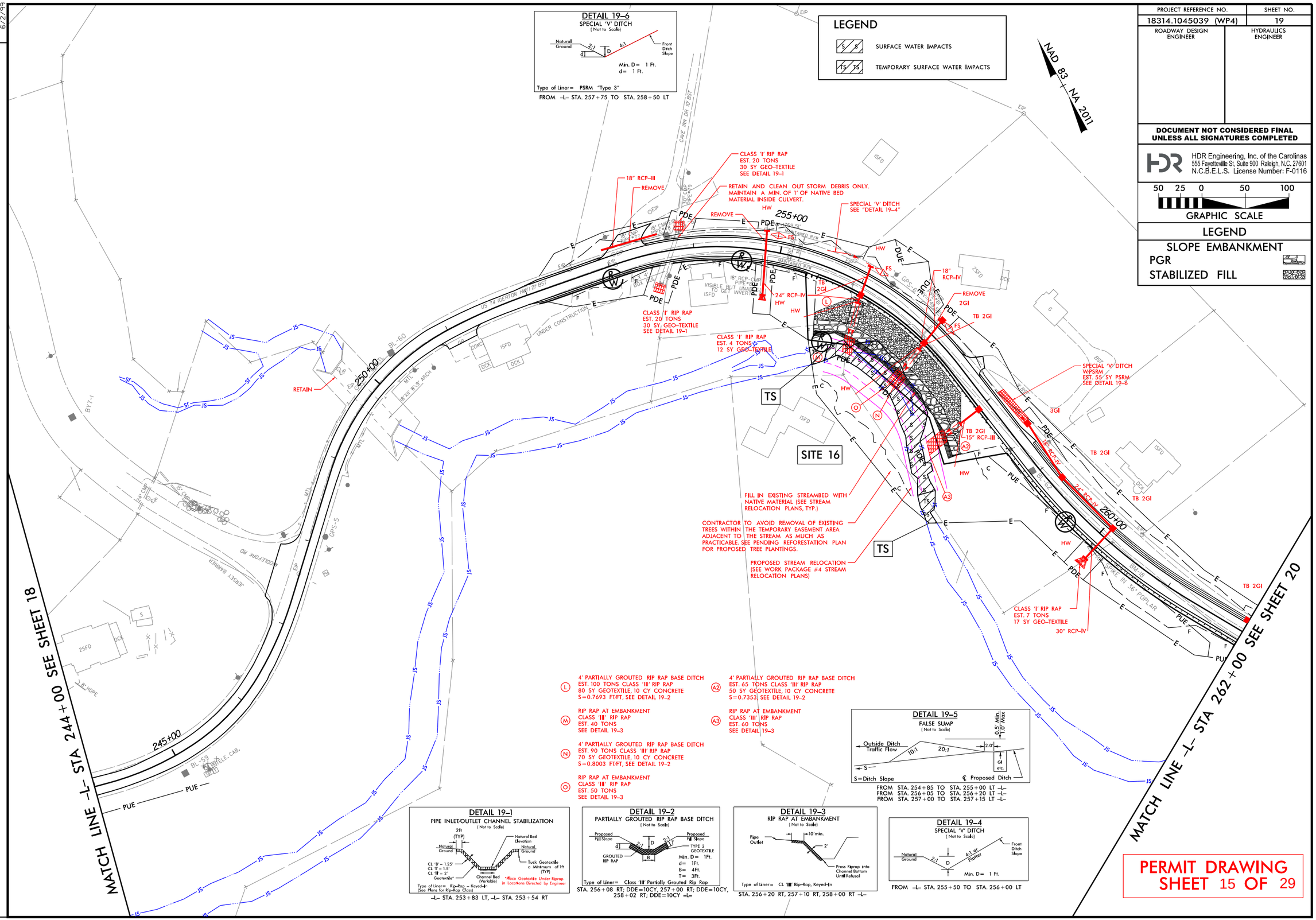
LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

LEGEND

S/S SURFACE WATER IMPACTS
TS/TS TEMPORARY SURFACE WATER IMPACTS

NAD 83 / NA 2011



DETAIL 19-6
SPECIAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, d, D, 4:1, Front Ditch Slope

Min. D = 1 Ft.
d = 1 Ft.

Type of Liner = PSRM "Type 3"

FROM -L- STA. 257+75 TO STA. 258+50 LT

(L) 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 100 TONS CLASS 'III' RIP RAP
80 SY GEOTEXTILE, 10 CY CONCRETE
S=0.7693 FT/FT, SEE DETAIL 19-2

(M) RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 40 TONS
SEE DETAIL 19-3

(N) 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 90 TONS CLASS 'III' RIP RAP
70 SY GEOTEXTILE, 10 CY CONCRETE
S=0.8003 FT/FT, SEE DETAIL 19-2

(O) RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 50 TONS
SEE DETAIL 19-3

(A2) 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 65 TONS CLASS 'III' RIP RAP
50 SY GEOTEXTILE, 10 CY CONCRETE
S=0.7353, SEE DETAIL 19-2

(A3) RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 60 TONS
SEE DETAIL 19-3

DETAIL 19-5
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow, 10:1, 20:1, 2.0', 0.5' Min. 1.0' Max., ℄ etc., S, S=Ditch Slope, ℄ Proposed Ditch

FROM STA. 254+85 TO STA. 255+00 LT -L-
FROM STA. 256+05 TO STA. 256+20 LT -L-
FROM STA. 257+00 TO STA. 257+15 LT -L-

DETAIL 19-1
PIPE INLET/OUTLET CHANNEL STABILIZATION
(Not to Scale)

2ft (TYP), Natural Ground, Natural Bed Elevation, Natural Ground, CL 'B' = 1.25', CL 'T' = 1.5', CL 'H' = 2', Geotextile*, Channel Bed (Variable), Tuck Geotextile a Minimum of 1ft (TYP)

Type of Liner = Rip-Rap - Keyed-In (See Plans for Rip-Rap Class)
*Place Geotextile Under Riprap in Locations Directed by Engineer

-L- STA. 253+83 LT, -L- STA. 253+54 RT

DETAIL 19-2
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)

Proposed Fill Slope, Proposed Fill Slope, 2:1, 2:1, d, D, TYPE 2 GEOTEXTILE, GROUTED RIP RAP, B

Min. D = 1Ft.
d = 1Ft.
B = 4Ft.
T = 3Ft.

Type of Liner = Class 'III' Partially Grouted Rip Rap

STA. 256+08 RT; DDE=10CY, 257+00 RT; DDE=10CY, 258+02 RT; DDE=10CY -L-

DETAIL 19-3
RIP RAP AT EMBANKMENT
(Not to Scale)

Pipe Outlet, 10' min., 2', Press Riprap into Channel Bottom Until Refusal

Type of Liner = CL 'III' Rip-Rap, Keyed-In

STA. 256+20 RT, 257+10 RT, 258+00 RT -L-

DETAIL 19-4
SPECIAL 'V' DITCH
(Not to Scale)

Natural Ground, 2:1, D, 4:1 or Flatter, Front Ditch Slope

Min. D = 1 Ft.

FROM -L- STA. 255+50 TO STA. 256+00 LT

PERMIT DRAWING
SHEET 15 OF 29

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	19
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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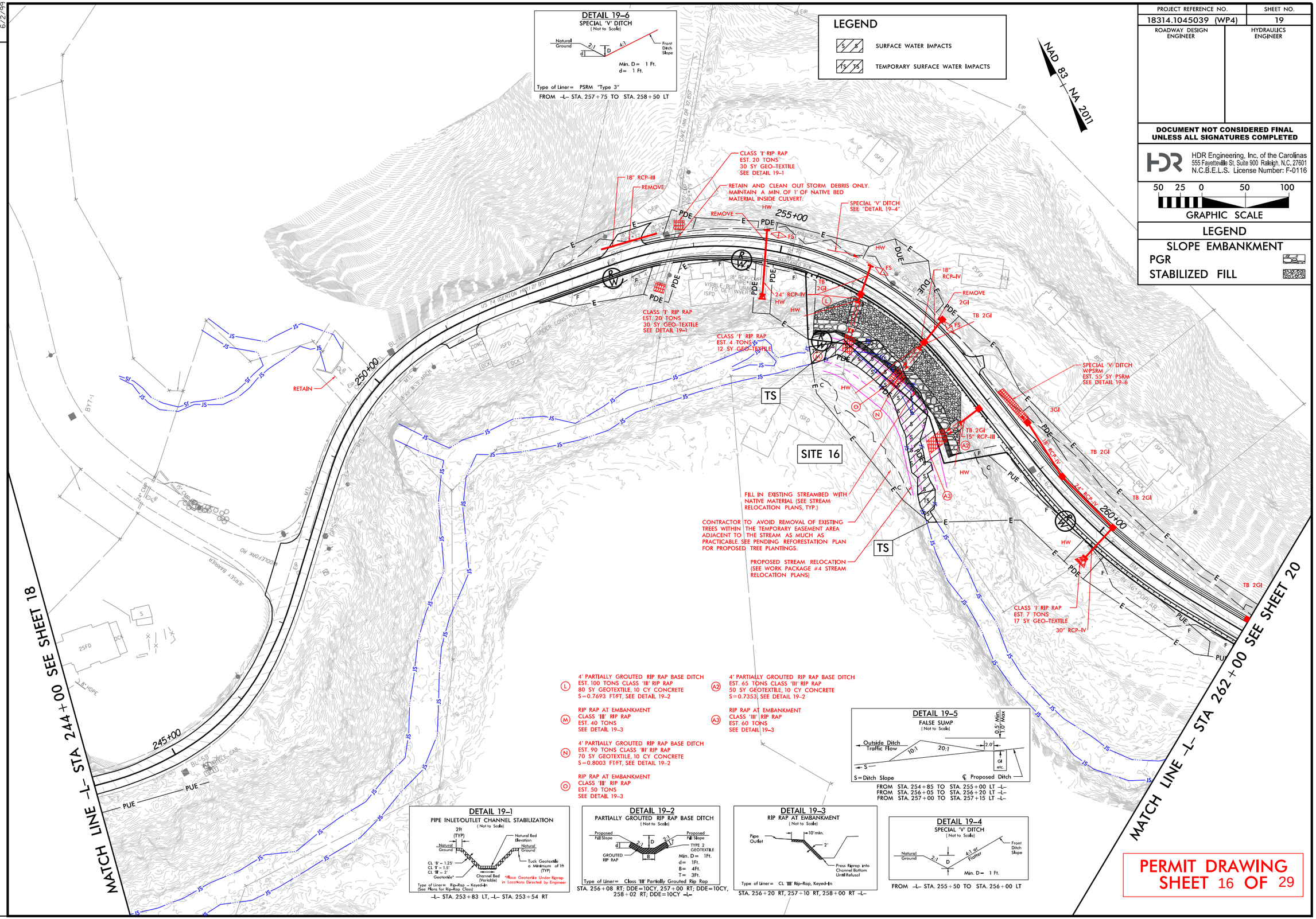
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL



PERMIT DRAWING
SHEET 16 OF 29

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

LEGEND

SURFACE WATER IMPACTS
TEMPORARY SURFACE WATER IMPACTS

NAD 83 / NA 2011

MATCH LINE -L- STA 262+00 SEE SHEET 19

MATCH LINE -L- STA 275+00 SEE SHEET 21

265+00
270+00
275+00

TB 2GI
18" RCP-IV
24" RCP-IV
18" RCP-III
4GI
3GI
REMOVE
FS
TS
JS
PDE
DUE
PUE
SITE 17

PROPOSED STREAM RELOCATION (SEE WORK PACKAGE #4 STREAM RELOCATION PLANS)

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

FILL IN EXISTING STREAMBED WITH NATIVE MATERIAL (SEE STREAM RELOCATION PLANS, TYP.)

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

CLASS I RIP RAP
EST. 4 TONS
12 SY GEO-TEXTILE

TB JB w/MH

DETAIL 20-1
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)

Proposed Fill Slope
GROUTED RIP RAP
TYPE 2 GEOTEXTILE
Min. D= 1Ft.
d= 1Ft.
B= 4Ft.
T= 3Ft.

Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 264+35 RT; DDE=10CY, 265+35 RT; DDE=10CY, 267+13 RT; DDE=10CY, 268+94 RT; DDE=10CY -L-

DETAIL 20-2
RIP RAP AT EMBANKMENT
(Not to Scale)

Pipe Outlet
10' min.
2'
Press Riprap into Channel Bottom Until Refusal

Type of Liner= CL 'III' Rip-Rap, Keyed-In

STA. 264+59 RT, 265+38 RT, 267+13 RT, 268+94 RT -L-

(P) 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 100 TONS CLASS 'III' RIP RAP
80 SY GEOTEXTILE, 10 CY CONCRETE
S=0.6146 FT/FT, SEE DETAIL 20-1

(Q) RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 50 TONS
SEE DETAIL 20-2

(R) 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 90 TONS CLASS 'III' RIP RAP
70 SY GEOTEXTILE, 10 CY CONCRETE
S=0.6165 FT/FT, SEE DETAIL 20-1

(S) RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 55 TONS
SEE DETAIL 20-2

(T) 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 50 TONS CLASS 'III' RIP RAP
40 SY GEOTEXTILE, 5 CY CONCRETE
S=0.8125 FT/FT, SEE DETAIL 20-1

(U) RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 45 TONS
SEE DETAIL 20-2

(V) 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 65 TONS CLASS 'III' RIP RAP
50 SY GEOTEXTILE, 10 CY CONCRETE
S=0.7514 FT/FT, SEE DETAIL 20-1

(W) RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 40 TONS
SEE DETAIL 20-2

DETAIL 20-3
FALSE SUMP
(Not to Scale)

Outside Ditch Traffic Flow
10:1
20:1
2.0'
0.5' Min. 1.0' Max.
GI etc.
S
S=Ditch Slope
℄ Proposed Ditch

FROM STA. 265+45 TO STA. 265+60 LT -L-
FROM STA. 267+15 TO STA. 267+30 LT -L-
FROM STA. 269+00 TO STA. 269+15 LT -L-
FROM STA. 272+80 TO STA. 272+95 LT -L-

PERMIT DRAWING SHEET 17 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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N.C.B.E.L.S. License Number: F-0116

50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

LEGEND

S/S SURFACE WATER IMPACTS
TS/TS TEMPORARY SURFACE WATER IMPACTS

NAD 83 / NA 2011

MATCH LINE -L- STA 262+00 SEE SHEET 19

MATCH LINE -L- STA 275+00 SEE SHEET 21

265+00

270+00

SITE 17

TS

PROPOSED STREAM RELOCATION (SEE WORK PACKAGE #4 STREAM RELOCATION PLANS)

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

FILL IN EXISTING STREAMBED WITH NATIVE MATERIAL (SEE STREAM RELOCATION PLANS, TYP.)

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

CLASS "I" RIP RAP
EST. 4 TONS
12 SY GEO-TEXTILE

TB JB
wMH

NEW BST
US 74 (GERTON HWY) 20'/BST
WATER CROSSING

P — 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 100 TONS CLASS 'III' RIP RAP
80 SY GEOTEXTILE, 10 CY CONCRETE
S=0.6146 FT/FT, SEE DETAIL 20-1

Q — RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 50 TONS
SEE DETAIL 20-2

R — 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 90 TONS CLASS 'III' RIP RAP
70 SY GEOTEXTILE, 10 CY CONCRETE
S=0.6165 FT/FT, SEE DETAIL 20-1

S — RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 55 TONS
SEE DETAIL 20-2

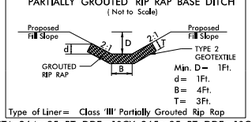
T — 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 50 TONS CLASS 'III' RIP RAP
40 SY GEOTEXTILE, 5 CY CONCRETE
S=0.8125 FT/FT, SEE DETAIL 20-1

U — RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 45 TONS
SEE DETAIL 20-2

V — 4' PARTIALLY GROUTED RIP RAP BASE DITCH
EST. 65 TONS CLASS 'III' RIP RAP
50 SY GEOTEXTILE, 10 CY CONCRETE
S=0.7514 FT/FT, SEE DETAIL 20-1

W — RIP RAP AT EMBANKMENT
CLASS 'III' RIP RAP
EST. 40 TONS
SEE DETAIL 20-2

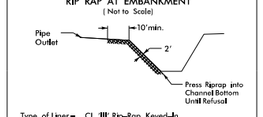
DETAIL 20-1
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 264+35 RT; DDE=10CY, 265+35 RT; DDE=10CY, 267+13 RT; DDE=10CY, 268+94 RT; DDE=10CY -L-

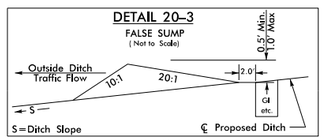
DETAIL 20-2
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL 'III' Rip-Rap, Keyed-In

STA. 264+59 RT, 265+38 RT, 267+13 RT, 268+94 RT -L-

DETAIL 20-3
FALSE SUMP
(Not to Scale)



FROM STA. 265+45 TO STA. 265+60 LT -L-
FROM STA. 267+15 TO STA. 267+30 LT -L-
FROM STA. 269+00 TO STA. 269+15 LT -L-
FROM STA. 272+80 TO STA. 272+95 LT -L-

PERMIT DRAWING
SHEET 18 OF 29

REVISIONS

6/2/99

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
USER: DAMORRISON
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FILE: \
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TIME: 7:50:23 AM

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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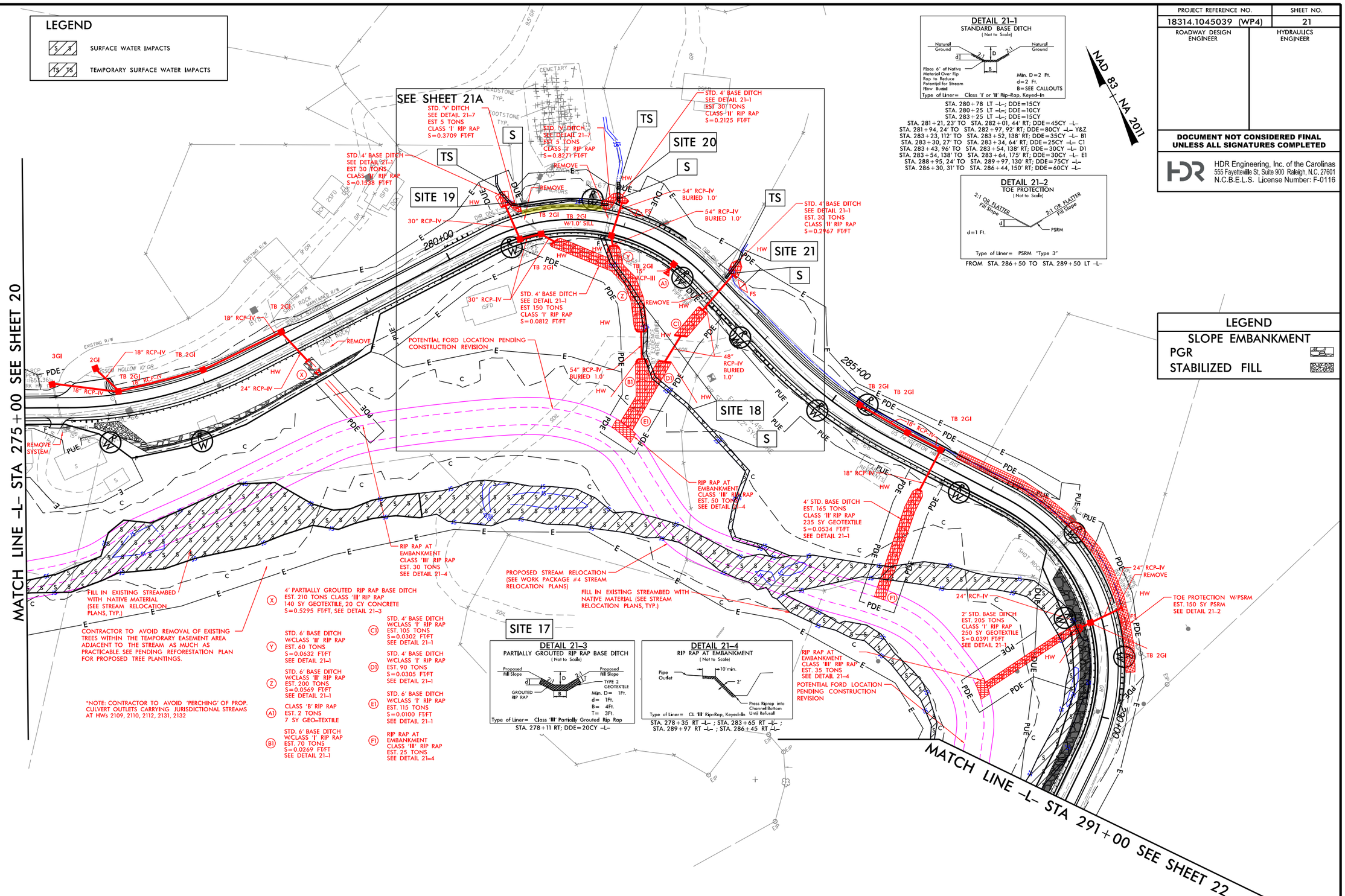
NAD 83 / NA 2011

LEGEND

- S / S — SURFACE WATER IMPACTS
- TS / TS — TEMPORARY SURFACE WATER IMPACTS



DETAIL 21-1
STANDARD BASE DITCH
(Not to Scale)

Natural Ground; 2:1; D; d; B; Place 6" of Native Material Over Rip Rap to Reduce Potential for Stream Flow Burial

Min. D=2 Ft.
d=2 Ft.
B=SEE CALLOUTS

Type of Liner= Class 'I' or 'II' Rip-Rap, Keyed-In

STA. 280+78 LT -L-; DDE=15CY
STA. 280+25 LT -L-; DDE=10CY
STA. 283+25 LT -L-; DDE=15CY
STA. 281+21, 23' TO STA. 282+01, 44' RT; DDE=45CY -L-
STA. 281+94, 24' TO STA. 282+97, 92' RT; DDE=80CY -L- Y&Z
STA. 283+23, 112' TO STA. 283+52, 138' RT; DDE=35CY -L- B1
STA. 283+30, 27' TO STA. 283+34, 64' RT; DDE=25CY -L- C1
STA. 283+43, 96' TO STA. 283+54, 138' RT; DDE=30CY -L- D1
STA. 283+54, 138' TO STA. 283+64, 175' RT; DDE=30CY -L- E1
STA. 288+95, 24' TO STA. 289+97, 130' RT; DDE=75CY -L-
STA. 286+30, 31' TO STA. 286+44, 150' RT; DDE=60CY -L-

DETAIL 21-2
TOE PROTECTION
(Not to Scale)

2:1 OR FLATTER Fill Slope; 2:1 OR FLATTER Fill Slope; d; PSRM

d=1 Ft.

Type of Liner= PSRM "Type 3"

FROM STA. 286+50 TO STA. 289+50 LT -L-

LEGEND
SLOPE EMBANKMENT
PGR
STABILIZED FILL

X — 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 210 TONS CLASS 'III' RIP RAP 140 SY GEOTEXTILE, 20 CY CONCRETE S=0.5295 FT/FT, SEE DETAIL 21-3

Y — STD. 6' BASE DITCH W/CLASS 'II' RIP RAP EST. 60 TONS S=0.0632 FT/FT SEE DETAIL 21-1

Z — STD. 6' BASE DITCH W/CLASS 'II' RIP RAP EST. 200 TONS S=0.0569 FT/FT SEE DETAIL 21-1

A1 — CLASS 'B' RIP RAP EST. 2 TONS 7 SY GEO-TEXTILE

B1 — STD. 6' BASE DITCH W/CLASS 'I' RIP RAP EST. 70 TONS S=0.0269 FT/FT SEE DETAIL 21-1

C1 — STD. 4' BASE DITCH W/CLASS 'I' RIP RAP EST. 105 TONS S=0.0302 FT/FT SEE DETAIL 21-1

D1 — STD. 4' BASE DITCH W/CLASS 'I' RIP RAP EST. 90 TONS S=0.0305 FT/FT SEE DETAIL 21-1

E1 — STD. 6' BASE DITCH W/CLASS 'I' RIP RAP EST. 115 TONS S=0.0100 FT/FT SEE DETAIL 21-1

F1 — RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 25 TONS SEE DETAIL 21-4

DETAIL 21-3
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)

Proposed Fill Slope; Proposed Fill Slope; GROUTED RIP RAP; TYPE 2 GEOTEXTILE; D; d; B; 2:1

Min. D= 1Ft.
d= 1Ft.
B= 4Ft.
T= 3Ft.

Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 278+11 RT; DDE=20CY -L-

DETAIL 21-4
RIP RAP AT EMBANKMENT
(Not to Scale)

Pipe Outlet; 10' min.; 2'; Press Riprap into Channel Bottom Until Refusal

Type of Liner= CL 'III' Rip-Rap, Keyed-In

STA. 278+35 RT -L- ; STA. 283+65 RT -L- ;
STA. 289+97 RT -L- ; STA. 286+45 RT -L-

50 25 0 50 100
GRAPHIC SCALE

PERMIT DRAWING
SHEET 19 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	21
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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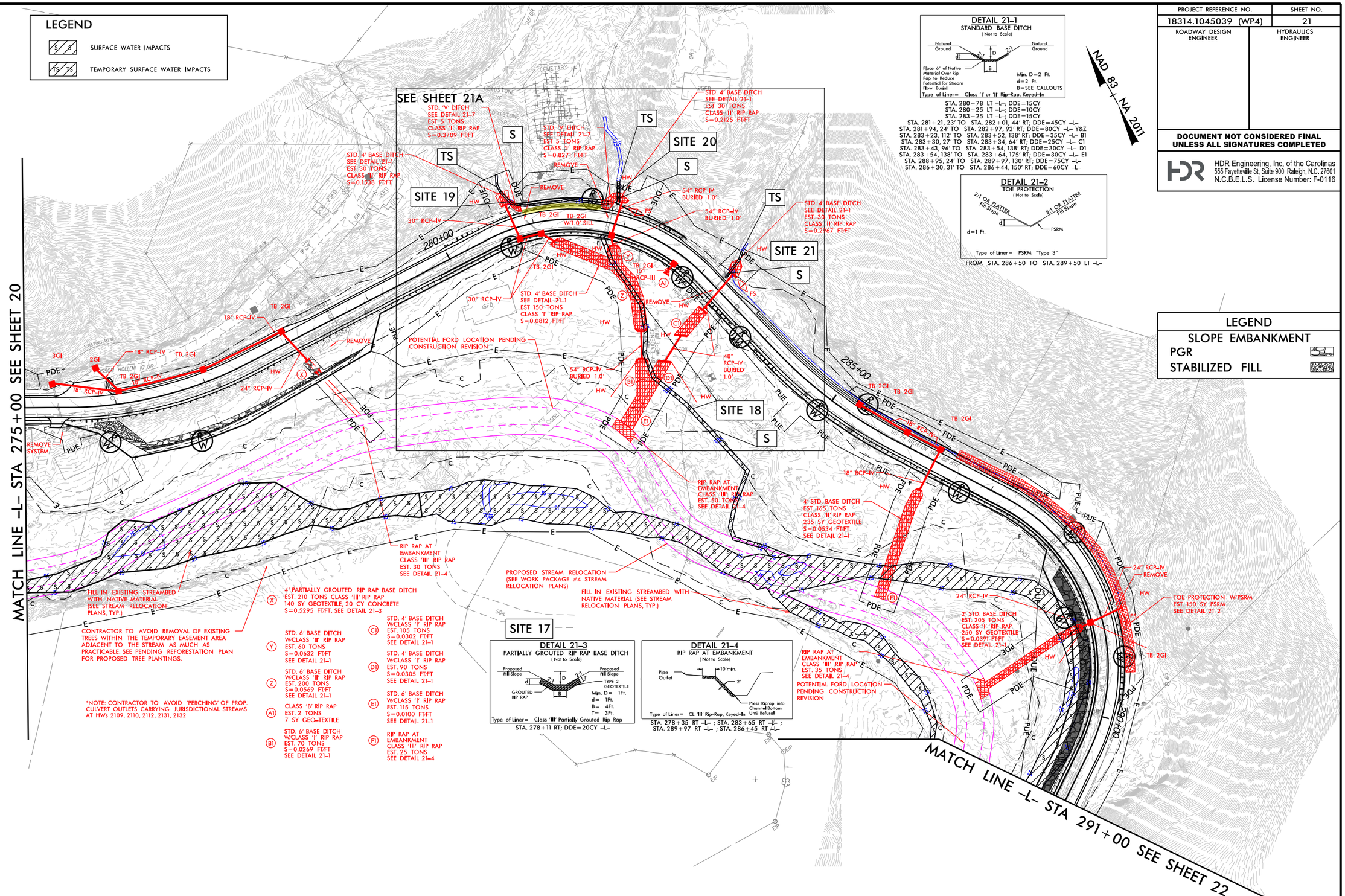
LEGEND

- S / S — SURFACE WATER IMPACTS
- TS / TS — TEMPORARY SURFACE WATER IMPACTS



*NOTE: CONTRACTOR TO AVOID 'PERCHING' OF PROP. CULVERT OUTLETS CARRYING JURISDICTIONAL STREAMS AT HWs 2109, 2110, 2112, 2131, 2132

(X) 4' PARTIALLY GROUTED RIP RAP BASE DITCH EST. 210 TONS CLASS 'III' RIP RAP 140 SY GEOTEXTILE, 20 CY CONCRETE S=0.5295 FT/FT, SEE DETAIL 21-3

(Y) STD. 6' BASE DITCH W/CLASS 'II' RIP RAP EST. 60 TONS S=0.0632 FT/FT SEE DETAIL 21-1

(Z) STD. 6' BASE DITCH W/CLASS 'II' RIP RAP EST. 200 TONS S=0.0569 FT/FT SEE DETAIL 21-1

(A1) CLASS 'B' RIP RAP EST. 2 TONS 7 SY GEO-TEXTILE

(B1) STD. 6' BASE DITCH W/CLASS 'I' RIP RAP EST. 70 TONS S=0.0269 FT/FT SEE DETAIL 21-1

(C1) STD. 4' BASE DITCH W/CLASS 'I' RIP RAP EST. 105 TONS S=0.0302 FT/FT SEE DETAIL 21-1

(D1) STD. 4' BASE DITCH W/CLASS 'I' RIP RAP EST. 90 TONS S=0.0305 FT/FT SEE DETAIL 21-1

(E1) STD. 6' BASE DITCH W/CLASS 'I' RIP RAP EST. 115 TONS S=0.0100 FT/FT SEE DETAIL 21-1

(F1) RIP RAP AT EMBANKMENT CLASS 'III' RIP RAP EST. 25 TONS SEE DETAIL 21-4

DETAIL 21-1
STANDARD BASE DITCH
(Not to Scale)

Natural Ground; d; 2:1; D; B; Natural Ground

Place 6" of Native Material Over Rip Rap to Reduce Potential for Stream Flow Buried

Min. D=2 Ft.
d=2 Ft.
B=SEE CALLOUTS

Type of Liner= Class 'I' or 'II' Rip-Rap, Keyed-In

STA. 280+78 LT -L-; DDE=15CY
STA. 280+25 LT -L-; DDE=10CY
STA. 283+25 LT -L-; DDE=15CY
STA. 281+21, 23' TO STA. 282+01, 44' RT; DDE=45CY -L-
STA. 281+94, 24' TO STA. 282+97, 92' RT; DDE=80CY -L- Y&Z
STA. 283+23, 112' TO STA. 283+52, 138' RT; DDE=35CY -L- B1
STA. 283+30, 27' TO STA. 283+34, 64' RT; DDE=25CY -L- C1
STA. 283+43, 96' TO STA. 283+54, 138' RT; DDE=30CY -L- D1
STA. 283+54, 138' TO STA. 283+64, 175' RT; DDE=30CY -L- E1
STA. 288+95, 24' TO STA. 289+97, 130' RT; DDE=75CY -L-
STA. 286+30, 31' TO STA. 286+44, 150' RT; DDE=60CY -L-

DETAIL 21-2
TOE PROTECTION
(Not to Scale)

2:1 OR FLATTER Fill Slope; d; 2:1 OR FLATTER Fill Slope; PSRM

d=1 Ft.

Type of Liner= PSRM "Type 3"

FROM STA. 286+50 TO STA. 289+50 LT -L-

DETAIL 21-3
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)

Proposed Fill Slope; 2:1; D; 2:1; Proposed Fill Slope; d; GROUTED RIP RAP; B; TYPE 2 GEOTEXTILE

Min. D= 1Ft.
d= 1Ft.
B= 4Ft.
T= 3Ft.

Type of Liner= Class 'III' Partiolly Grouted Rip Rap

STA. 278+11 RT; DDE=20CY -L-

DETAIL 21-4
RIP RAP AT EMBANKMENT
(Not to Scale)

Pipe Outlet; 10' min.; 2'; Press Riprap into Channel Bottom Until Refusal

Type of Liner= CL 'III' Rip-Rap, Keyed-In

STA. 278+35 RT -L- ; STA. 283+65 RT -L- ;
STA. 289+97 RT -L- ; STA. 286+45 RT -L-

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

PERMIT DRAWING
SHEET 20 OF 29

50 25 0 50 100
GRAPHIC SCALE

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	21A
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N.C.B.E.L.S. License Number: F-0116

25 0 25 50
GRAPHIC SCALE

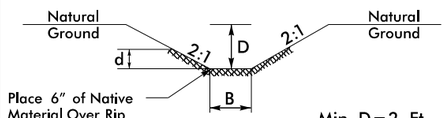
NAD 83 NA 2011

LEGEND

S S — SURFACE WATER IMPACTS

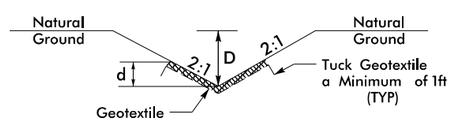
TS TS — TEMPORARY SURFACE WATER IMPACTS

DETAIL 21–1
STANDARD BASE DITCH
(Not to Scale)

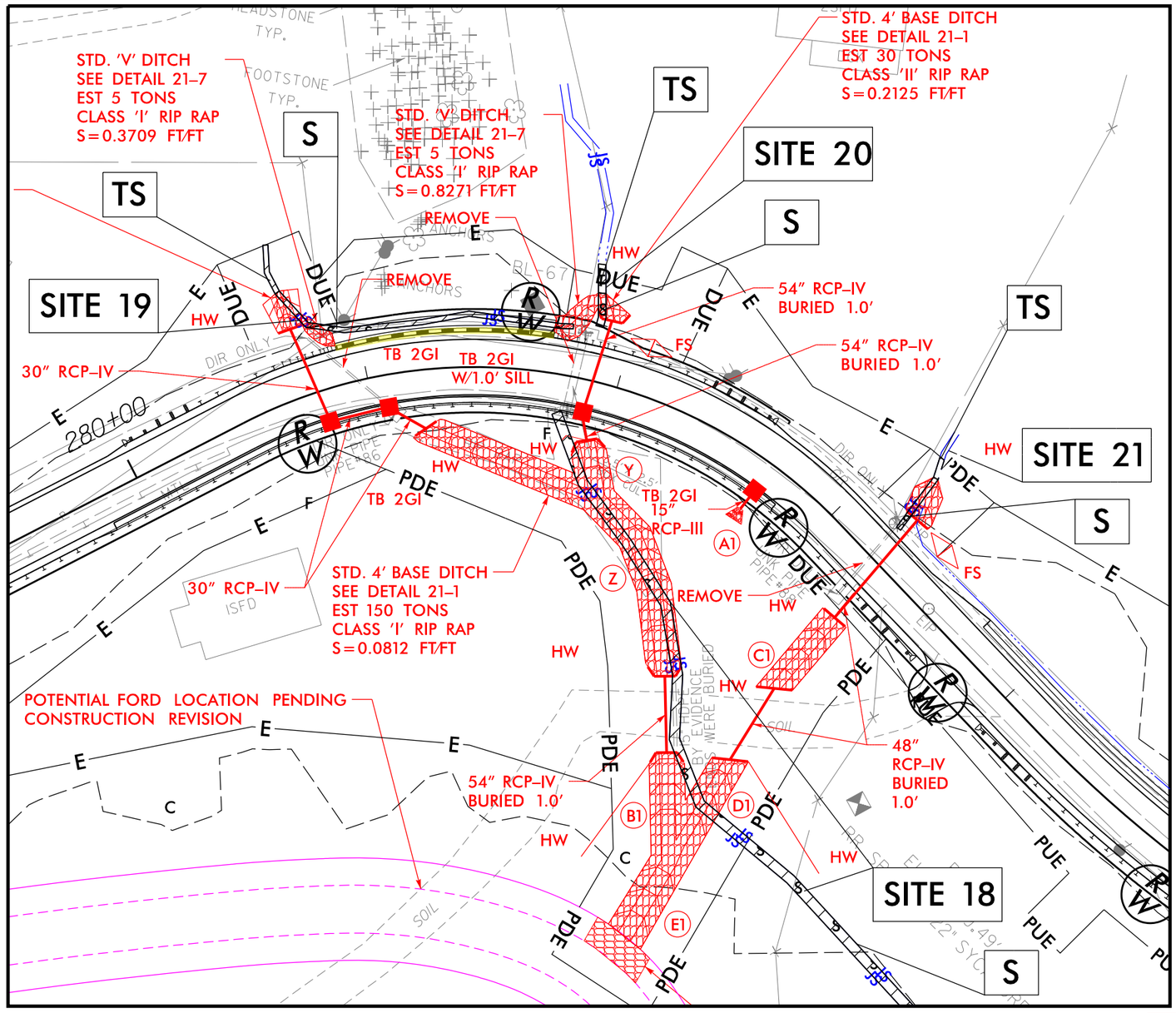


Min. D = 2 Ft.
d = 2 Ft.
B = SEE CALLOUTS
Type of Liner = Class 'I' or 'II' Rip–Rap, Keyed–In

DETAIL 21–7
STANDARD 'V' DITCH
(Not to Scale)



Min. D = 1 Ft.
d = 1 Ft.
Type of Liner = Class 'I' Rip–Rap, Keyed–In



PERMIT DRAWING
SHEET 21 OF 29

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	22
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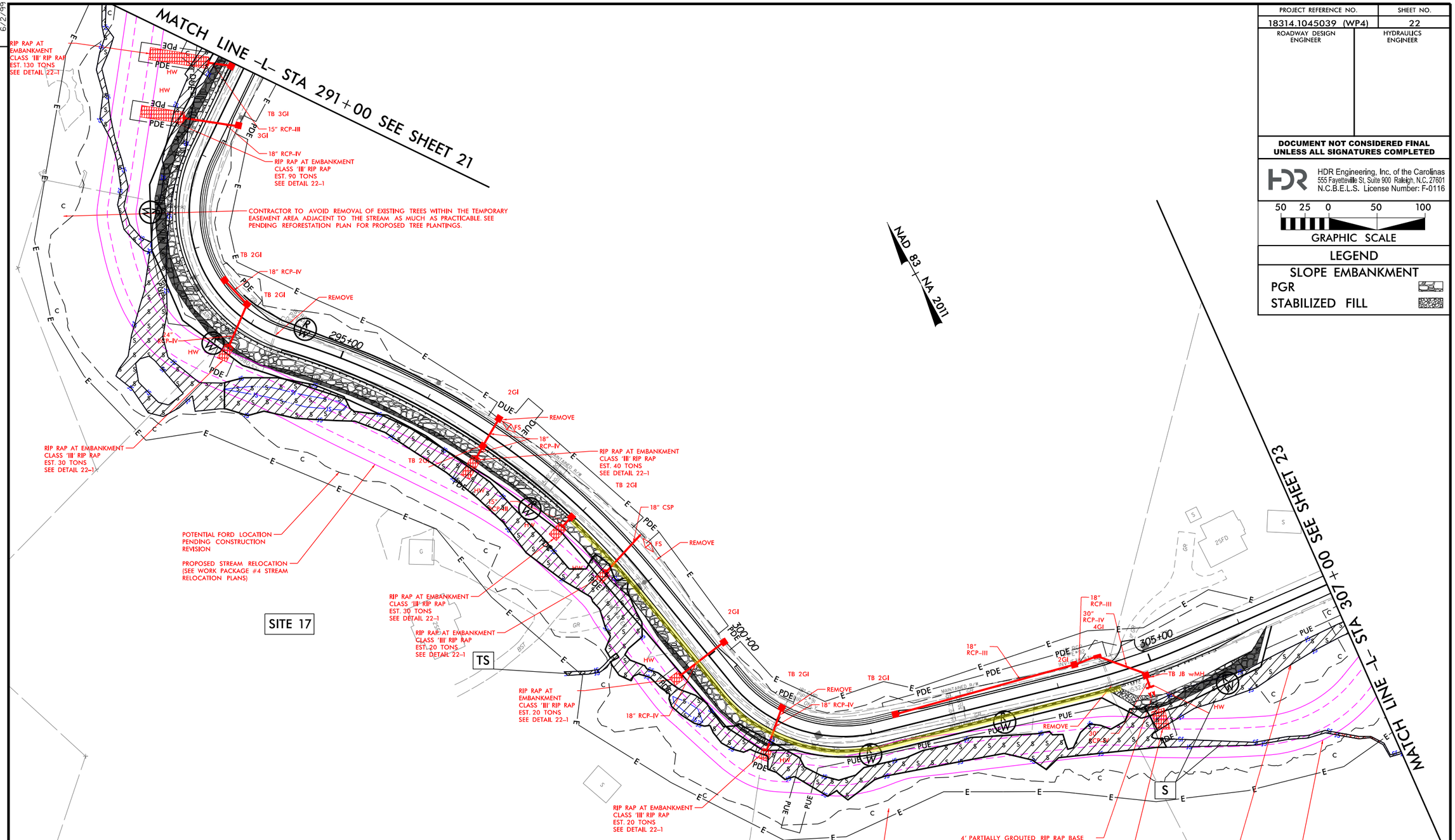
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

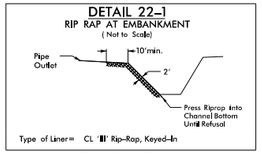


LEGEND

S S — SURFACE WATER IMPACTS

TS TS — TEMPORARY SURFACE WATER IMPACTS

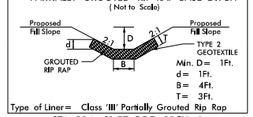
DETAIL 22-1
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL 'III' Rip-Rap, Keyed-In

STA. 291+11 RT -L-
STA. 291+74 RT -L-
STA. 293+94 RT -L-
STA. 296+77 RT -L-
STA. 297+95 RT -L-
STA. 298+63 RT -L-
STA. 299+97 RT -L-
STA. 301+03 RT -L-
STA. 304+91 RT -L-

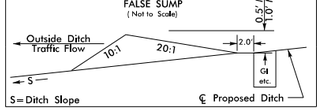
DETAIL 22-2
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)



Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 304+91 RT; DDE=10CY -L-

DETAIL 22-3
FALSE SUMP
(Not to Scale)



FROM STA. 296+80 TO STA. 296+95 LT -L-
FROM STA. 298+60 TO STA. 298+75 LT -L-

PERMIT DRAWING
SHEET 22 OF 29

REVISIONS
6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	22
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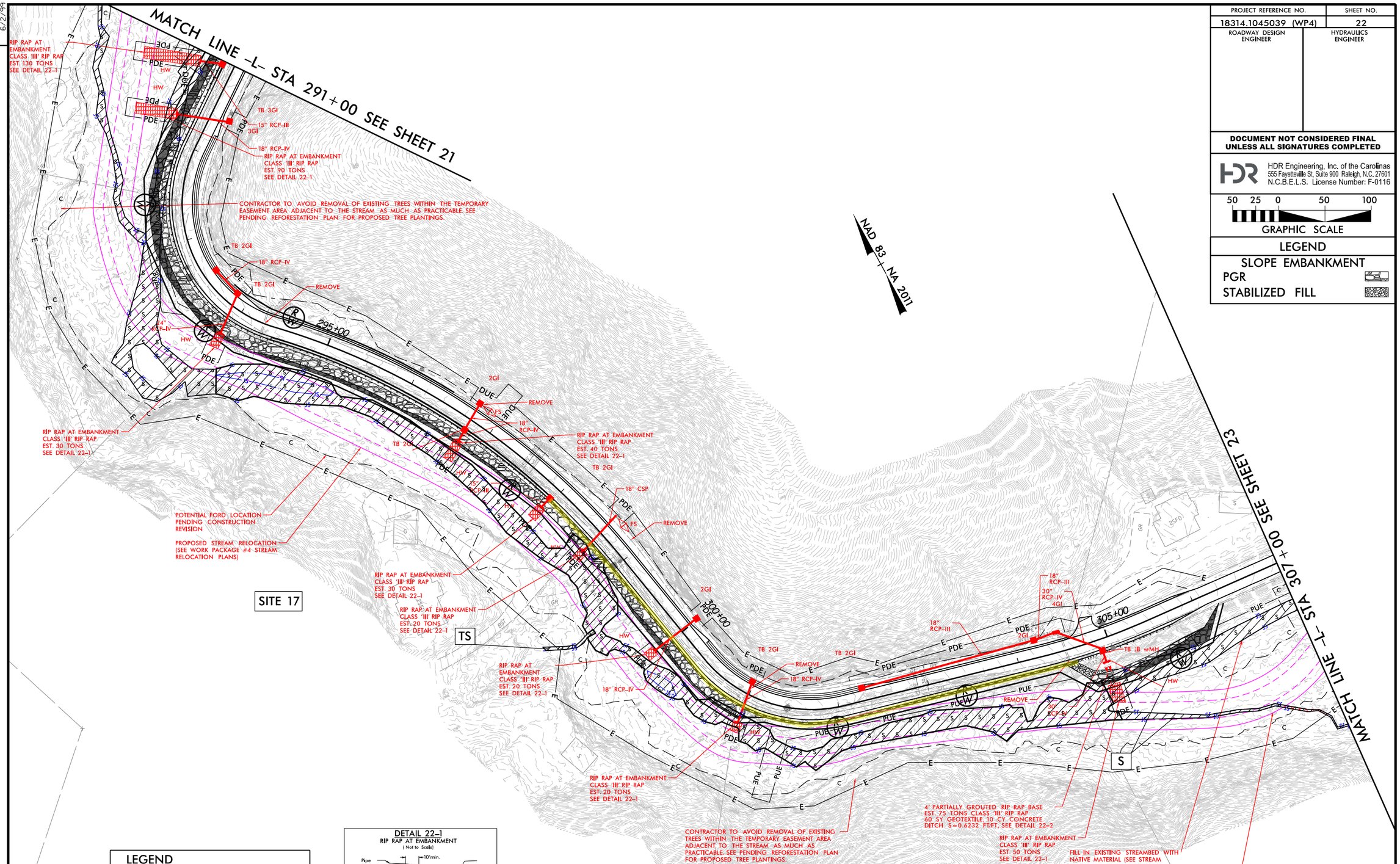
50 25 0 50 100
GRAPHIC SCALE

LEGEND

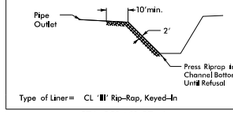
SLOPE EMBANKMENT
PGR
STABILIZED FILL



LEGEND

S S	SURFACE WATER IMPACTS
TS TS	TEMPORARY SURFACE WATER IMPACTS

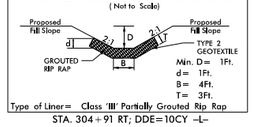
DETAIL 22-1
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= CL 'III' Rip-Rap, Keyed-In

STA. 291+11 RT -L-
STA. 291+74 RT -L-
STA. 293+94 RT -L-
STA. 296+77 RT -L-
STA. 297+95 RT -L-
STA. 298+63 RT -L-
STA. 299+97 RT -L-
STA. 301+03 RT -L-
STA. 304+91 RT -L-

DETAIL 22-2
PARTIALLY GROUTED RIP RAP BASE DITCH
(Not to Scale)

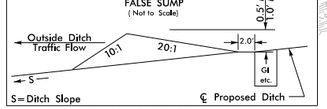


Min. D= 1Ft.
d= 1Ft.
B= 4Ft.
T= 3Ft.

Type of Liner= Class 'III' Partially Grouted Rip Rap

STA. 304+91 RT; DDE=10CY -L-

DETAIL 22-3
FALSE SUMP
(Not to Scale)



FROM STA. 296+80 TO STA. 296+95 LT -L-
FROM STA. 298+60 TO STA. 298+75 LT -L-

PERMIT DRAWING
SHEET 23 OF 29

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_100.plt
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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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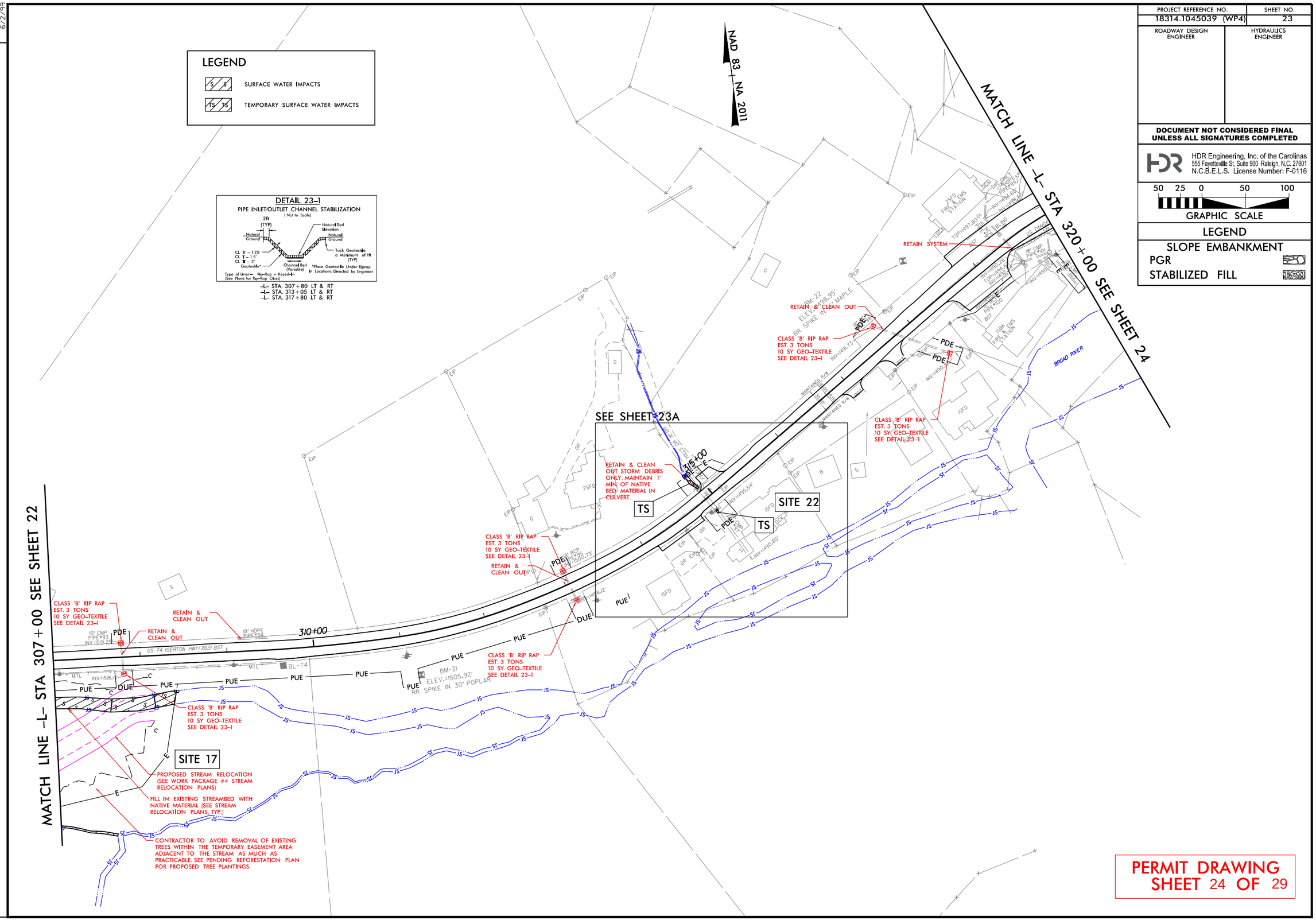
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL



REVISIONS

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50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL

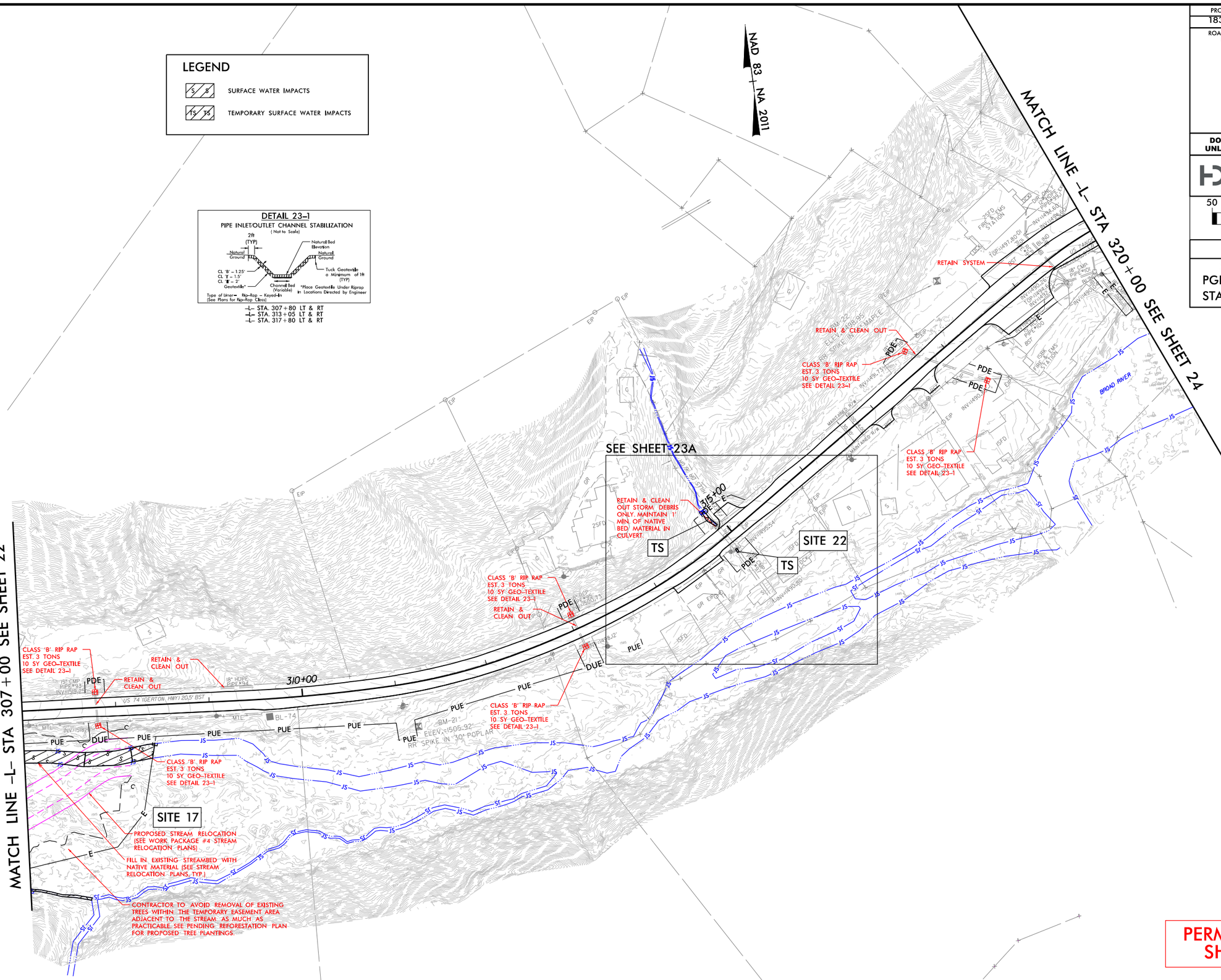
LEGEND

S/B SURFACE WATER IMPACTS

TS/TS TEMPORARY SURFACE WATER IMPACTS

DETAIL 23-1
PIPE INLET/OUTLET CHANNEL STABILIZATION
(Not to Scale)

-L- STA. 307+80 LT & RT
-L- STA. 313+05 LT & RT
-L- STA. 317+80 LT & RT



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SHEET 25 OF 29

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	23A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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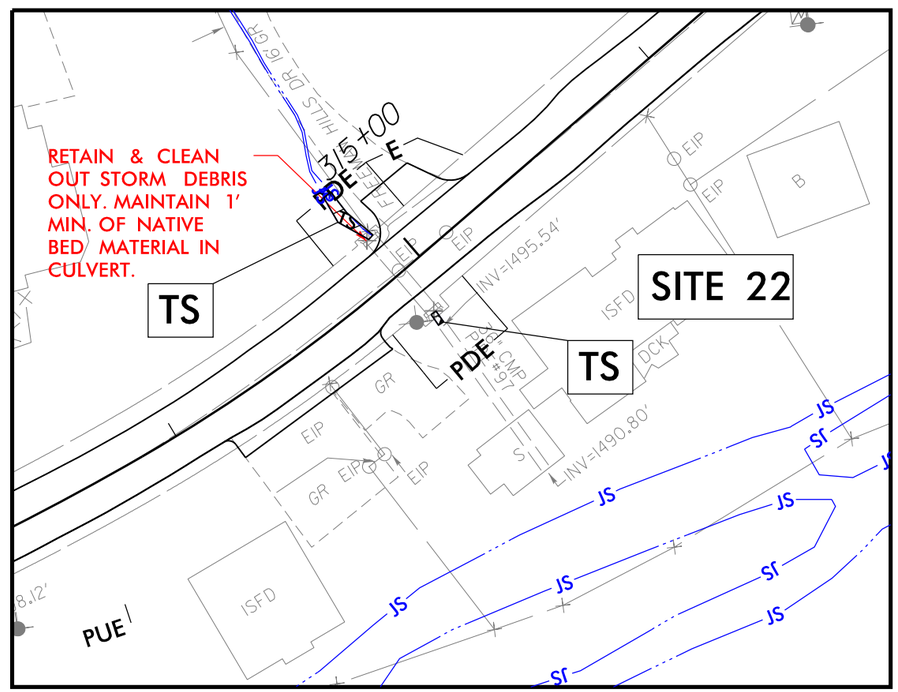
12.5 0 12.5 25
GRAPHIC SCALE

LEGEND

S S — SURFACE WATER IMPACTS

TS TS — TEMPORARY SURFACE WATER IMPACTS



NAD 83 NA 2011

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SHEET 26 OF 29

REVISIONS

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039 (WP4)	24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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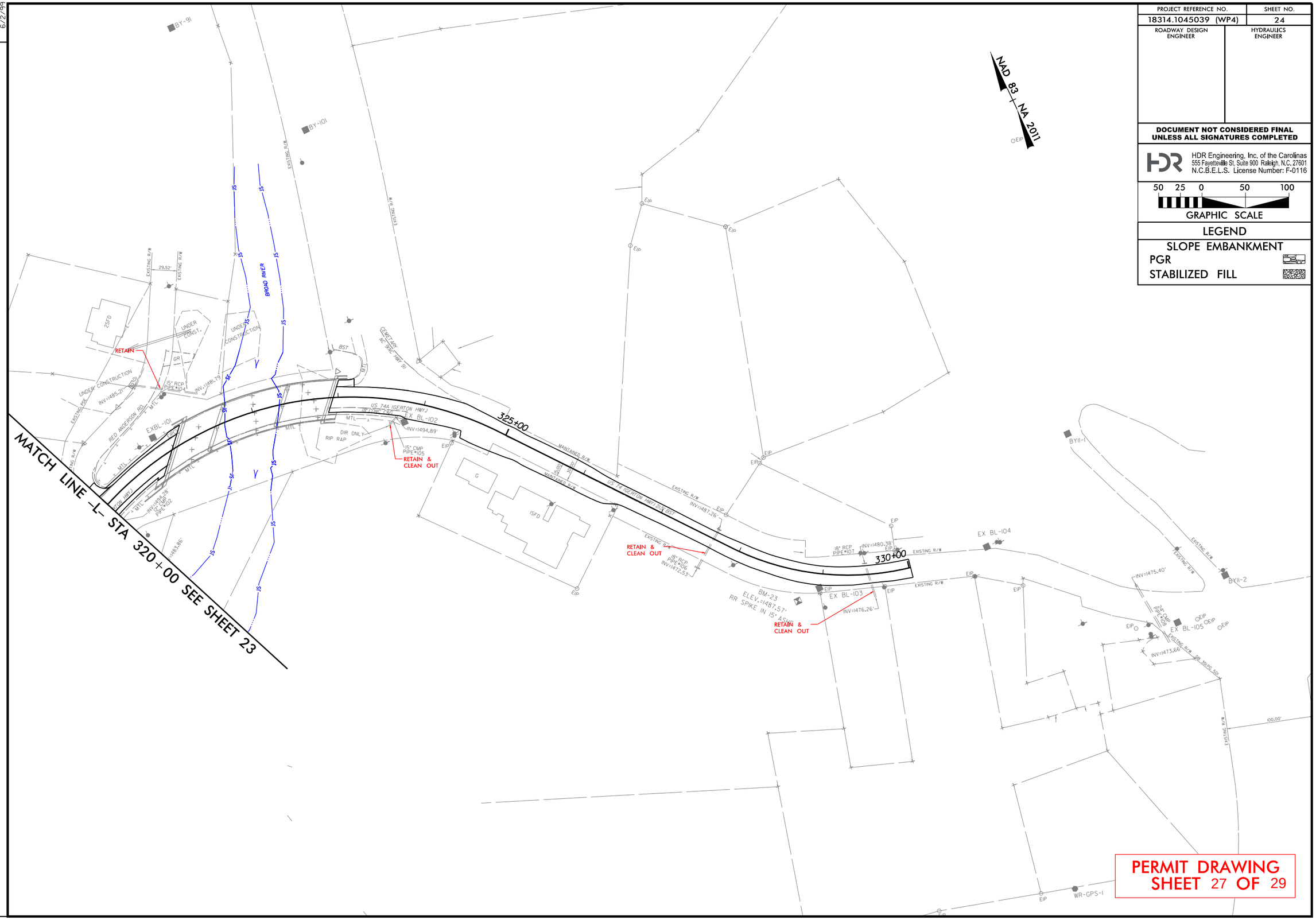
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL



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SHEET 27 OF 29

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
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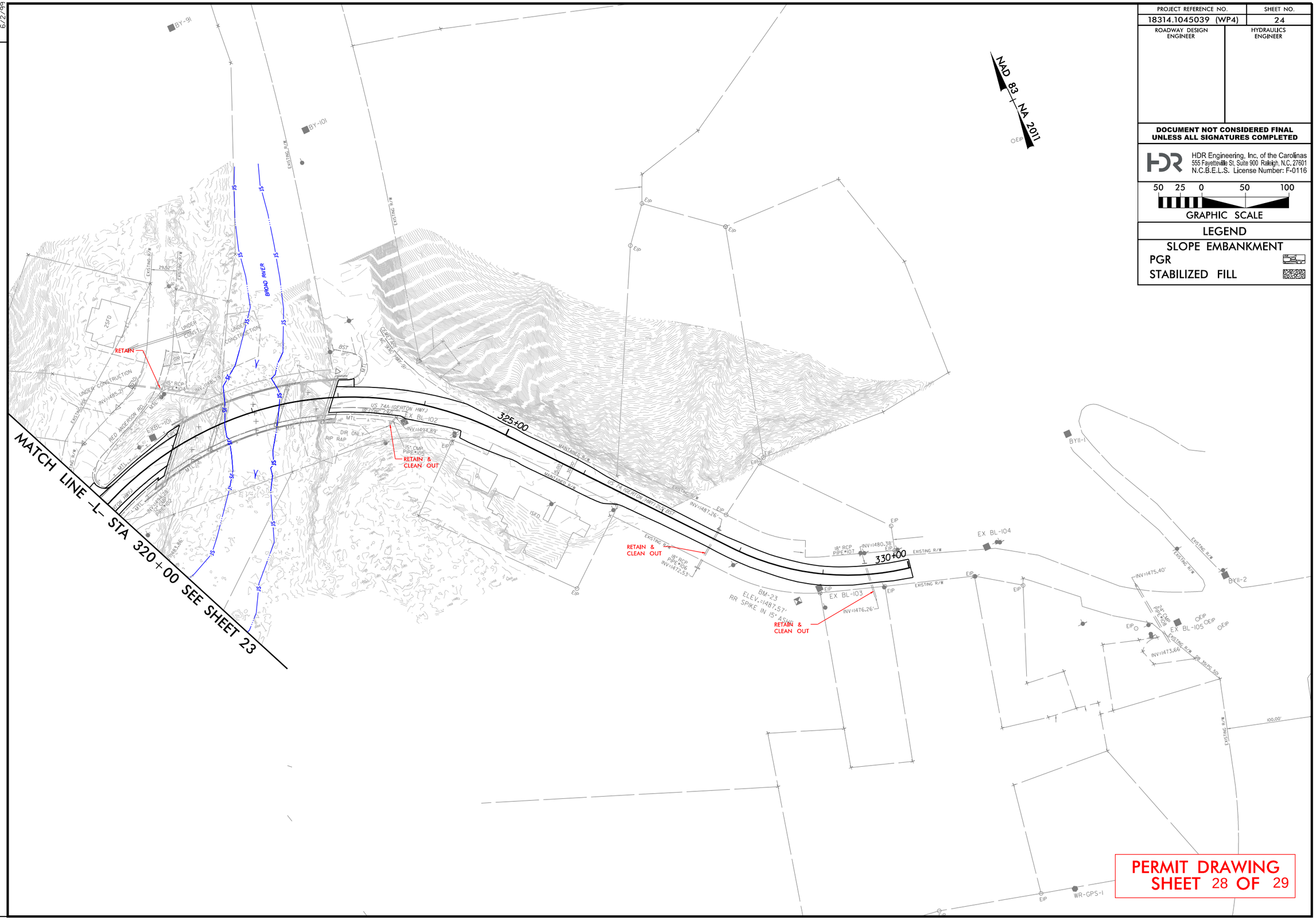
50 25 0 50 100
GRAPHIC SCALE

LEGEND

SLOPE EMBANKMENT
PGR
STABILIZED FILL



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SHEET 28 OF 29

REVISIONS

6/2/99

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USER: DAMORRISON
FILE: \

DATE: 6/23/2026
TIME: 7:51:13 AM
PENTABLE: NCDOT_permits_CON_WP*4.tbl

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 182+65 - 184+85	Channel Change						< 0.01		217		
2	-L- 184+91	54" RCP						< 0.01	< 0.01	56	21	
2	-L- 185+01 - 186+80	Channel Change						< 0.01	< 0.01	183	15	
3	-L- 189+53 - 189+76	Bank Stabilization						< 0.01		50		
4	-L- 190+86 - 195+68	Hickory Creek Reestablishing						0.13	0.02	450	47	
5	-L- 196+26	18" RCP						< 0.01	< 0.01	32	39	
6	-L- 197+99 - 198+00	Bank Stabilization						< 0.01	< 0.01	29	18	
7	-L- 202+22 - 204+23	30" CSP/RCP-IV and 36" RCP-IV						0.01	< 0.01	160	20	
8	-L- 207+31 - 212+24	Hickory Creek Relocation						0.11		265		
8	-L- 207+31 - 212+24	Hickory Creek Reestablishing						0.10	0.03	213	48	
9	-L- 216+19 - 218+25	Hickory Creek Reestablishing						0.07	< 0.01	169	14	
10	-L- 217+40 - 218+12	Cut Slope			0.02							
11	-L- 218+00 - 221+99	Bank Stabilization						0.03		94		
11	-L- 218+00 - 221+99	Partially Grouted Rip Rap							0.12		327	
12	-L- 221+99 - 226+49	Hickory Creek Relocation						0.12		282		
12	-L- 221+99 - 226+49	Hickory Creek Reestablishing						0.09		139		
13	-L- 226+49 - 227+90	Bank Stabilization						< 0.01		25		
13	-L- 226+49 - 227+90	Partially Grouted Rip Rap							0.11		195	
14	-L- 227+90 - 232+32	Hickory Creek Relocation						0.19		325		
14	-L- 227+90 - 232+32	Hickory Creek Reestablishing						0.10	0.04	178	72	
15	-L- 233+98 - 240+54	Hickory Creek Relocation						0.10		240		
15	-L- 233+98 - 240+54	Hickory Creek Reestablishing						0.15	0.04	291	152	
15	-L- 233+98 - 240+54	Bank Stabilization						< 0.01		20		
16	-L- 255+85 - 258+72	Hickory Creek Reestablishing						0.13	0.02	227	53	
17	-L- 263+44 - 308+38	Hickory Creek Relocation						1.04		1634		
17	-L- 263+44 - 308+38	Hickory Creek Reestablishing						1.66	0.02	2831	52	
18	-L- 281+76 - 285+49	Standard 2' Base Ditch/Channel Change						0.04		449		
19	-L- 280+76 - 281+79	30" RCP-IV						< 0.01	< 0.01	124	20	
20	-L- 281+84 - 281+89	54" RCP-IV						< 0.01	< 0.01	13	12	
21	-L- 283+21 - 283+17	48" RCP						< 0.01	< 0.01	25	9	
22	-L- 314+89 - 314+92	Pipe cleanout/Dewatering							< 0.01		25	
TOTALS*:					0.02			4.12	0.42	8721	1139	0

This page replaced by the sheet that follows.

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
JULY 2025
HENDERSON COUNTY
18314.1045039
GERTON HWY - US 74

Revised 2018 Feb

WETLAND AND SURFACE WATER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS: Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	SURFACE WATER IMPACTS: Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	-L- 182+65 - 184+85	Channel Change						< 0.01		217		
2	-L- 184+91	54" RCP						< 0.01	< 0.01	56	21	
2	-L- 185+01 - 186+80	Channel Change						< 0.01		153		
3	-L- 189+53 - 189+76	Bank Stabilization						< 0.01		50		
4	-L- 190+86 - 195+68	Hickory Creek Reestablishing						0.13	0.02	450	47	
5	-L- 196+26	18" RCP						< 0.01	< 0.01	32	39	
6	-L- 197+99 - 198+00	Bank Stabilization						< 0.01	< 0.01	29	18	
7	-L- 202+22 - 204+23	30" CSP/RCP-IV and 36" RCP-IV						0.01	< 0.01	160	20	
8	-L- 207+31 - 212+24	Hickory Creek Relocation						0.11		265		
8	-L- 207+31 - 212+24	Hickory Creek Reestablishing						0.10	0.03	213	48	
9	-L- 216+19 - 218+25	Hickory Creek Reestablishing						0.07	< 0.01	169	14	
10	-L- 217+40 - 218+12	Cut Slope			0.02							
11	-L- 218+00 - 221+99	Bank Stabilization						0.03		94		
11	-L- 218+00 - 221+99	Partially Grouted Rip Rap							0.12		327	
12	-L- 221+99 - 226+49	Hickory Creek Relocation						0.12		282		
12	-L- 221+99 - 226+49	Hickory Creek Reestablishing						0.09		139		
13	-L- 226+49 - 227+90	Bank Stabilization						< 0.01		25		
13	-L- 226+49 - 227+90	Partially Grouted Rip Rap							0.11		195	
14	-L- 227+90 - 232+32	Hickory Creek Relocation						0.19		325		
14	-L- 227+90 - 232+32	Hickory Creek Reestablishing						0.10	0.04	178	72	
15	-L- 233+98 - 240+54	Hickory Creek Relocation						0.10		240		
15	-L- 233+98 - 240+54	Hickory Creek Reestablishing						0.15	0.04	291	152	
15	-L- 233+98 - 240+54	Bank Stabilization						< 0.01		20		
16	-L- 255+85 - 258+72	Hickory Creek Reestablishing						0.13	0.02	227	53	
17	-L- 263+44 - 308+38	Hickory Creek Relocation						1.04		1634		
17	-L- 263+44 - 308+38	Hickory Creek Reestablishing						1.66	0.02	2831	52	
18	-L- 281+76 - 285+49	Standard 2' Base Ditch/Channel Change						0.04		449		
19	-L- 280+76 - 281+79	30" RCP-IV						< 0.01	< 0.01	124	20	
20	-L- 281+84 - 281+89	54" RCP-IV						< 0.01	< 0.01	13	12	
21	-L- 283+21 - 283+17	48" RCP						< 0.01	< 0.01	25	9	
22	-L- 314+89 - 314+92	Pipe cleanout/Dewatering							< 0.01		25	
TOTALS*:					0.02			4.12	0.41	8691	1124	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
OCTOBER 2026
HENDERSON COUNTY
18314.1045039
GERTON HWY - US 74

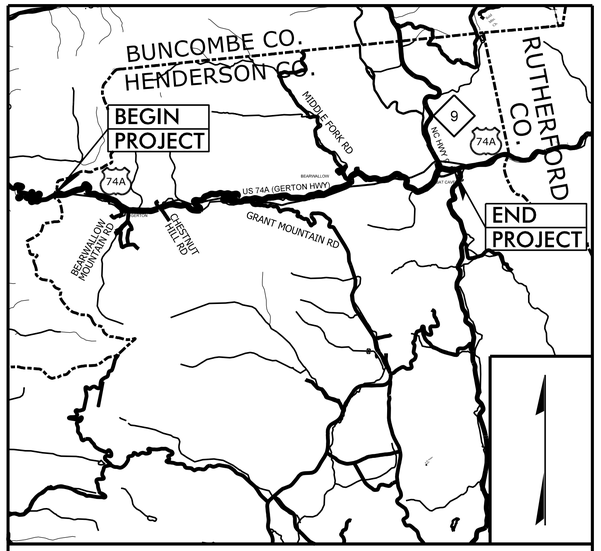
Stream Plans

09/08/99

TIP PROJECT: 18314.1045999.3.4

CONTRACT: _____

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP
(NOT TO SCALE)

WP#4 RFC PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HENDERSON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	18314.1045999.3.4	1	

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
– – – – –	N/A	P.E.
18314.1045999.2.4	N/A	ROW
18314.1045999.3.4	N/A	CONST

LOCATION: US 74A (GERTON HWY) FROM WEST OF SR 1693 (BEARWALLOW MOUNTAIN RD) TO US 64 (CHIMNEY ROCK RD)

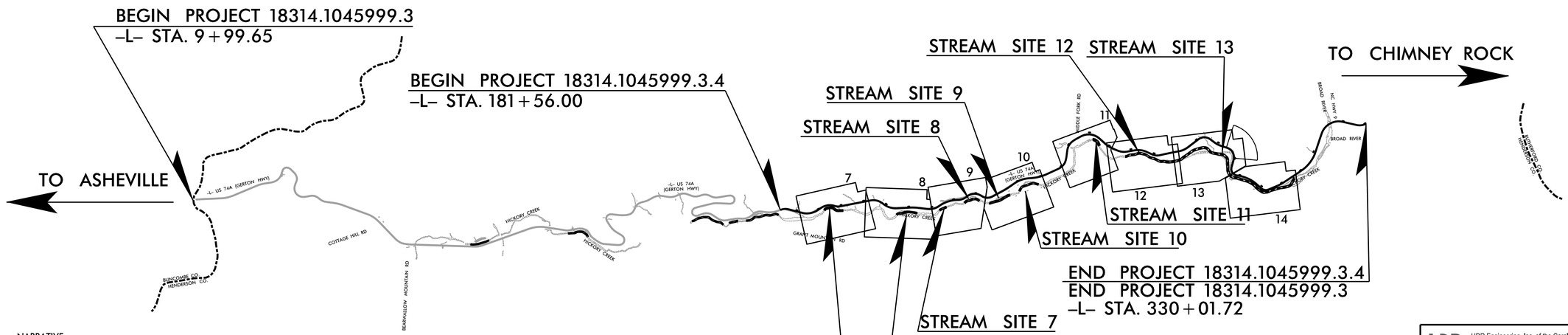
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURES

WORK PACKAGE #4: SR 1602 (GRANT MOUNTAIN ROAD) TO US 64 (CHIMNEY ROCK RD)

WORK PACKAGE #4
RFC STREAM RELOCATION PLANS
06/26/2026

NAD 83 / NA 2011

SHEET	SHEET NO.
TITLE SHEET	1
ALIGNMENT DATA	2D–1 THRU 2D–3
TYPICAL SECTIONS	2D–4
STREAM DETAILS SHEET	2D–5 THRU 2D–6
PLAN & PROFILE SHEETS	7–16
CROSS SECTIONS	X–1 THRU X–562



NARRATIVE:
THESE DRAWINGS DEPICT STREAM MODIFICATION WORK ASSOCIATED WITH THE US–74A ROADWAY RECONSTRUCTION POST HURRICANE HELENE. THE ROADWAY RECONSTRUCTION SHALL BE COMPLETED AS SHOWN IN THE ROADWAY PLANS. THE PROPOSED STREAM MODIFICATION WORK SHALL BE TO RE–ESTABLISH NATURAL CHANNEL GEOMORPHOLOGY THAT REFLECTS APPROPRIATE CHANNEL GEOMETRY, ALIGNMENT, AND PROFILE TO PROTECT THE ADJACENT ROADWAY EMBANKMENT FROM FURTHER EROSION AND INSTABILITY. THE INTENT OF THE PROPOSED STREAM WORK IS TO UTILIZE AND RECONFIGURE EXISTING NATIVE MATERIAL ON–SITE TO ACHIEVE THE PROPOSED DESIGN AS CLOSELY AS PRACTICABLE. ADJUSTMENTS TO CHANNEL ALIGNMENT, PROFILE, AND GEOMETRY MAY BE MADE IN THE FIELD BY THE ENGINEER TO ACCOMODATE EXISTING SITE CONDITIONS AND ENSURE STABILITY AND FUNCTIONALITY OF THE STREAM SYSTEM. PRIORITY SHOULD BE PLACED ON ACHIEVING LONG–TERM CHANNEL AND ROADWAY STABILITY, UTILIZING NATIVE MATERIAL, AND MINIMIZING DISTURBANCE TO SURROUNDING AREAS DURING CONSTRUCTION.

HDR Engineering, Inc. of the Carolinas
440 S Church St, Suite 1200 Charlotte, NC 28202
N.C.B.E.L.S. License Number: F-0116

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

2022 = 1,500
ADT 2040 = 3,000
T = 8 %
V = 40 MPH

FUNC CLASS =
MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY WORK PACKAGE #4 = 2.815 MILES

TOTAL LENGTH TIP PROJECT US–74A = 6.064 MILES

Prepared In the Office of:
HDR Engineering, Inc. of the Carolinas
440 S Church St, Suite 1200 Charlotte, NC 28202
N.C.B.E.L.S. License Number: F-0116

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
–

LETTING DATE:
–

PHILLIP E. ROGERS, PE
PROJECT ENGINEER

MATTHEW J. WERDER, PE
PROJECT DESIGN ENGINEER

NATHAN R. TANNER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PLOT DRIVER: pdf.pltcfg
USER: KCLATTERBU
FILE: NCDOT\NCDOT-US_74A_Gerton_CMGC\6.0_CAD_BIM\6.2_WIP\Hydraulics\CADD\STREAM\PSH\GertonCMGC_STRM_TSH_WP4.dgn
DATE: 6/26/2026
PENTABLE: NCDOT_pshpfl.tbl
TIME: 3:50:31 PM

STREAM SITE 5 ALIGNMENT DATA

Chain SS5 contains:
S53 S56 CUR SS5-1 CUR SS5-2 CUR SS5-3 CUR SS5-4 CUR SS5-5 CUR SS5-6 CUR SS5-7
CUR SS5-8 CUR SS5-9 CUR SS5-10 CUR SS5-11 S54 S55

Beginning chain SS5 description
==========

Point S53 N 641,374.6145 E 1,010,700.3863 Sta 0+00.00

Course from S53 to S56 N 79° 09' 06.44" E Dist 28.4840

Point S56 N 641,379.9754 E 1,010,728.3613 Sta 0+28.48

Course from S56 to PC SS5-1 N 71° 29' 16.46" E Dist 30.0000

Curve Data

Curve SS5-1
P.I. Station 0+64.00 N 641,391.1735 E 1,010,762.1270
Delta = 22° 56' 47.90" (RT)
Degree = 208° 35' 50.50"
Tangent = 5.5749
Length = 11.0004
Radius = 27.4672
External = 0.5601
Long Chord = 10.9271
Mid. Ord. = 0.5489
P.C. Station 0+58.48 N 641,389.5005 E 1,010,756.8090
P.T. Station 0+69.48 N 641,390.6406 E 1,010,767.6764
C.C. N 641,363.2992 E 1,010,765.0513
Back = N 72° 32' 15.89" E
Ahead = S 84° 30' 56.21" E
Chord Bear = N 84° 00' 39.84" E

Curve Data

Curve SS5-2
P.I. Station 0+71.99 N 641,390.4421 E 1,010,770.1717
Delta = 7° 06' 15.60" (RT)
Degree = 142° 05' 17.62"
Tangent = 2.5032
Length = 4.9999
Radius = 40.3241
External = 0.0776
Long Chord = 4.9967
Mid. Ord. = 0.0775
P.C. Station 0+69.48 N 641,390.6406 E 1,010,767.6764
P.T. Station 0+74.48 N 641,389.9365 E 1,010,772.6233
C.C. N 641,350.4436 E 1,010,764.4783
Back = S 85° 27' 03.59" E
Ahead = S 78° 20' 47.99" E
Chord Bear = S 81° 53' 55.79" E

Curve Data

Curve SS5-3
P.I. Station 0+93.08 N 641,386.4088 E 1,010,790.8788
Delta = 14° 03' 26.40" (RT)
Degree = 37° 59' 35.18"
Tangent = 18.5932
Length = 36.9997
Radius = 150.8057
External = 1.1419
Long Chord = 36.9070
Mid. Ord. = 1.1333
P.C. Station 0+74.48 N 641,389.9365 E 1,010,772.6233
P.T. Station 1+11.48 N 641,378.5526 E 1,010,807.7307
C.C. N 641,241.8700 E 1,010,744.0106
Back = S 79° 03' 46.29" E
Ahead = S 65° 00' 19.89" E
Chord Bear = S 72° 02' 03.09" E

Curve Data

Curve SS5-4
P.I. Station 1+35.00 N 641,368.1656 E 1,010,828.8285
Delta = 5° 15' 54.92" (RT)
Degree = 11° 12' 10.45"
Tangent = 23.5161
Length = 46.9990
Radius = 511.4369
External = 0.5404
Long Chord = 46.9825
Mid. Ord. = 0.5398
P.C. Station 1+11.48 N 641,378.5526 E 1,010,807.7307
P.T. Station 1+58.48 N 641,355.8665 E 1,010,848.8841
C.C. N 640,919.7090 E 1,010,581.8319
Back = S 63° 47' 16.66" E
Ahead = S 58° 31' 21.75" E
Chord Bear = S 61° 09' 19.20" E

Curve Data

Curve SS5-5
P.I. Station 1+72.49 N 641,348.7320 E 1,010,860.9263
Delta = 4° 25' 02.07" (RT)
Degree = 15° 46' 32.23"
Tangent = 14.0072
Length = 28.0004
Radius = 363.1920
External = 0.2700
Long Chord = 27.9935
Mid. Ord. = 0.2698
P.C. Station 1+58.48 N 641,355.8665 E 1,010,848.8841
P.T. Station 1+86.48 N 641,340.6714 E 1,010,872.3817
C.C. N 641,043.6440 E 1,010,663.3765
Back = S 59° 17' 05.50" E
Ahead = S 54° 52' 03.43" E
Chord Bear = S 57° 04' 34.46" E

Curve Data

Curve SS5-6
P.I. Station 2+05.27 N 641,330.2009 E 1,010,887.9741
Delta = 24° 07' 52.70" (RT)
Degree = 65° 12' 29.40"
Tangent = 18.7817
Length = 37.0066
Radius = 87.8660
External = 1.9849
Long Chord = 36.7337
Mid. Ord. = 1.9411
P.C. Station 1+86.48 N 641,340.6714 E 1,010,872.3817
P.T. Station 2+23.49 N 641,314.2708 E 1,010,897.9233
C.C. N 641,267.7261 E 1,010,823.3980
Back = S 56° 07' 05.26" E
Ahead = S 31° 59' 12.57" E
Chord Bear = S 44° 03' 08.92" E

Curve Data

Curve SS5-7
P.I. Station 2+28.50 N 641,310.1875 E 1,010,900.8176
Delta = 6° 16' 40.09" (RT)
Degree = 62° 46' 42.15"
Tangent = 5.0050
Length = 9.9999
Radius = 91.2667
External = 0.1371
Long Chord = 9.9949
Mid. Ord. = 0.1369
P.C. Station 2+23.49 N 641,314.2708 E 1,010,897.9233
P.T. Station 2+33.49 N 641,305.8123 E 1,010,903.2480
C.C. N 641,261.4925 E 1,010,823.4647
Back = S 35° 19' 48.22" E
Ahead = S 29° 03' 08.14" E
Chord Bear = S 32° 11' 28.18" E

Curve Data

Curve SS5-8
P.I. Station 2+44.07 N 641,296.4991 E 1,010,908.2753
Delta = 17° 26' 47.36" (RT)
Degree = 83° 03' 58.03"
Tangent = 10.5835
Length = 21.0031
Radius = 68.9761
External = 0.8072
Long Chord = 20.9221
Mid. Ord. = 0.7979
P.C. Station 2+33.49 N 641,305.8123 E 1,010,903.2480
P.T. Station 2+54.49 N 641,286.1070 E 1,010,910.2790
C.C. N 641,273.0479 E 1,010,842.5504
Back = S 28° 21' 36.29" E
Ahead = S 10° 54' 48.93" E
Chord Bear = S 19° 38' 12.61" E

Course from PT SS5-8 to PC SS5-9 S 10° 25' 00.07" E Dist 21.9983

STREAM SITE 5 ALIGNMENT DATA (CONT'D)

Curve Data

Curve SS5-9
P.I. Station 2+87.02 N 641,254.1226 E 1,010,916.2157
Delta = 13° 47' 35.59" (LT)
Degree = 65° 47' 48.91"
Tangent = 10.5326
Length = 20.9633
Radius = 87.0797
External = 0.6347
Long Chord = 20.9127
Mid. Ord. = 0.6301
P.C. Station 2+76.49 N 641,264.4713 E 1,010,914.2564
P.T. Station 2+97.45 N 641,244.5394 E 1,010,920.5858
C.C. N 641,280.6699 E 1,010,999.8163
Back = S 10° 43' 14.32" E
Ahead = S 24° 30' 49.92" E
Chord Bear = S 17° 37' 02.12" E

Curve Data

Curve SS5-10
P.I. Station 3+04.50 N 641,238.1310 E 1,010,923.5082
Delta = 4° 45' 34.38" (RT)
Degree = 33° 48' 26.78"
Tangent = 7.0433
Length = 14.0784
Radius = 169.4768
External = 0.1463
Long Chord = 14.0744
Mid. Ord. = 0.1462
P.C. Station 2+97.45 N 641,244.5394 E 1,010,920.5858
P.T. Station 3+11.53 N 641,231.5022 E 1,010,925.8887
C.C. N 641,174.2212 E 1,010,766.3855
Back = S 24° 30' 49.92" E
Ahead = S 19° 45' 15.54" E
Chord Bear = S 22° 08' 02.73" E

Curve Data

Curve SS5-11
P.I. Station 3+34.00 N 641,211.4022 E 1,010,935.9322
Delta = 20° 43' 04.01" (LT)
Degree = 46° 36' 38.70"
Tangent = 22.4696
Length = 44.4485
Radius = 122.9240
External = 2.0368
Long Chord = 44.2067
Mid. Ord. = 2.0036
P.C. Station 3+11.53 N 641,231.5022 E 1,010,925.8887
P.T. Station 3+55.98 N 641,196.1550 E 1,010,952.4369
C.C. N 641,286.4469 E 1,011,035.8495
Back = S 26° 33' 00.51" E
Ahead = S 47° 16' 04.52" E
Chord Bear = S 36° 54' 32.52" E

Course from PT SS5-11 to S54 S 52° 32' 34.47" E Dist 114.4266

Point S54 N 641,126.5644 E 1,011,043.2698 Sta 4+70.41

Course from S54 to S55 S 67° 12' 12.35" E Dist 33.9357

Point S55 N 641,113.4157 E 1,011,074.5547 Sta 5+04.34

==========
Ending chain SS5 description

STREAM SITE 6 ALIGNMENT DATA

Chain SS6 contains:
S60 S61 CUR SS6-1 CUR SS6-2 CUR SS6-3 CUR SS6-4 CUR SS6-5 CUR SS6-6 CUR SS6-7 - CUR SS6-8 S62 S63 CUR SS6-9 S64 S65

Beginning chain SS6 description
==========

Point S60 N 640,341.7902 E 1,011,850.6993 Sta 0+00.00

Course from S60 to S61 N 71° 50' 46.47" E Dist 29.7111

Point S61 N 640,351.0472 E 1,011,878.9315 Sta 0+29.71

Course from S61 to PC SS6-1 N 74° 58' 21.84" E Dist 5.9985

Curve Data

Curve SS6-1
P.I. Station 0+59.32 N 640,359.1330 E 1,011,907.4118
Delta = 42° 33' 44.59" (RT)
Degree = 94° 31' 51.09"
Tangent = 23.6082
Length = 45.0249
Radius = 60.6107
External = 4.4355
Long Chord = 43.9967
Mid. Ord. = 4.1330
P.C. Station 0+35.71 N 640,352.6025 E 1,011,884.7248
P.T. Station 0+80.73 N 640,348.5976 E 1,011,928.5389
C.C. N 640,294.3569 E 1,011,901.4910
Back = N 73° 56' 29.10" E
Ahead = S 63° 29' 46.32" E
Chord Bear = S 84° 46' 38.81" E

Curve Data

Curve SS6-2
P.I. Station 0+87.26 N 640,345.5941 E 1,011,934.3336
Delta = 12° 43' 40.15" (RT)
Degree = 97° 54' 22.82"
Tangent = 6.5269
Length = 13.0000
Radius = 58.5210
External = 0.3628
Long Chord = 12.9733
Mid. Ord. = 0.3606
P.C. Station 0+80.73 N 640,348.5976 E 1,011,928.5389
P.T. Station 0+93.73 N 640,341.3877 E 1,011,939.3242
C.C. N 640,296.6412 E 1,011,901.6088
Back = S 62° 36' 04.80" E
Ahead = S 49° 52' 24.65" E
Chord Bear = S 56° 14' 14.73" E

Course from PT SS6-2 to PC SS6-3 S 49° 46' 18.24" E Dist 11.9995

Curve Data

Curve SS6-3
P.I. Station 1+34.33 N 640,315.7628 E 1,011,970.8103
Delta = 12° 16' 07.85" (LT)
Degree = 21° 31' 55.05"
Tangent = 28.5992
Length = 56.9797
Radius = 266.0965
External = 1.5325
Long Chord = 56.8709
Mid. Ord. = 1.5237
P.C. Station 1+05.73 N 640,333.6380 E 1,011,948.4855
P.T. Station 1+62.71 N 640,303.0399 E 1,011,996.4236
C.C. N 640,541.3544 E 1,012,114.8022
Back = S 51° 18' 57.80" E
Ahead = S 63° 35' 05.65" E
Chord Bear = S 57° 27' 01.73" E

STREAM SITE 6 ALIGNMENT DATA (CONT'D)

Curve Data

Curve SS6-4
P.I. Station 1+73.23 N 640,298.3388 E 1,012,005.8252
Delta = 6° 27' 08.45" (LT)
Degree = 30° 43' 28.16"
Tangent = 10.5114
Length = 21.0007
Radius = 186.4825
External = 0.2960
Long Chord = 20.9896
Mid. Ord. = 0.2955
P.C. Station 1+62.71 N 640,303.0399 E 1,011,996.4236
P.T. Station 1+83.71 N 640,294.7241 E 1,012,015.6955
C.C. N 640,469.8332 E 1,012,079.8244
Back = S 63° 26' 01.65" E
Ahead = S 69° 53' 10.09" E
Chord Bear = S 66° 39' 35.87" E

Course from PT SS6-4 to PC SS6-5 S 70° 59' 08.03" E Dist 2.9999

Curve Data

Curve SS6-5
P.I. Station 1+90.74 N 640,292.3770 E 1,012,022.3140
Delta = 14° 40' 10.58" (LT)
Degree = 183° 20' 30.36"
Tangent = 4.0226
Length = 8.0012
Radius = 31.2508
External = 0.2578
Long Chord = 7.9794
Mid. Ord. = 0.2557
P.C. Station 1+86.71 N 640,293.7467 E 1,012,018.5318
P.T. Station 1+94.72 N 640,292.0098 E 1,012,026.3198
C.C. N 640,323.1301 E 1,012,029.1727
Back = S 70° 05' 33.81" E
Ahead = S 84° 45' 44.39" E
Chord Bear = S 77° 25' 39.10" E

Course from PT SS6-5 to PC SS6-6 S 84° 18' 53.22" E Dist 7.9991

Curve Data

Curve SS6-6
P.I. Station 2+25.66 N 640,286.8892 E 1,012,056.8128
Delta = 27° 33' 31.23" (RT)
Degree = 61° 14' 19.54"
Tangent = 22.9451
Length = 45.0020
Radius = 93.5613
External = 2.7725
Long Chord = 44.5695
Mid. Ord. = 2.6927
P.C. Station 2+02.71 N 640,291.2173 E 1,012,034.2796
P.T. Station 2+47.72 N 640,272.6269 E 1,012,074.7868
C.C. N 640,199.3357 E 1,012,016.6309
Back = S 79° 07' 37.23" E
Ahead = S 51° 34' 06.00" E
Chord Bear = S 65° 20' 51.62" E

Curve Data

Curve SS6-7
P.I. Station 2+53.22 N 640,269.1432 E 1,012,079.0432
Delta = 1° 49' 59.70" (LT)
Degree = 16° 39' 58.80"
Tangent = 5.5003
Length = 10.9997
Radius = 343.7815
External = 0.0440
Long Chord = 10.9993
Mid. Ord. = 0.0440
P.C. Station 2+47.72 N 640,272.6269 E 1,012,074.7868
P.T. Station 2+58.72 N 640,265.7974 E 1,012,083.4089
C.C. N 640,538.6624 E 1,012,292.5272
Back = S 50° 42' 03.34" E
Ahead = S 52° 32' 03.04" E
Chord Bear = S 51° 37' 03.19" E

Course from PT SS6-7 to PC SS6-8 S 53° 49' 39.20" E Dist 44.9923

Curve Data

Curve SS6-8
P.I. Station 3+11.74 N 640,234.3744 E 1,012,126.1146
Delta = 9° 32' 58.58" (RT)
Degree = 59° 36' 11.56"
Tangent = 8.0296
Length = 16.0220
Radius = 96.1287
External = 0.3348
Long Chord = 16.0034
Mid. Ord. = 0.3336
P.C. Station 3+03.71 N 640,239.2421 E 1,012,119.7287
P.T. Station 3+19.73 N 640,228.5147 E 1,012,131.6044
C.C. N 640,162.7919 E 1,012,061.4528
Back = S 52° 40' 57.88" E
Ahead = S 43° 07' 59.30" E
Chord Bear = S 47° 54' 28.59" E

Course from PT SS6-8 to S62 S 43° 07' 59.30" E Dist 21.9777

Point S62 N 640,212.4761 E 1,012,146.6304 Sta 3+41.71

Course from S62 to S63 S 44° 15' 53.01" E Dist 34.9998

Point S63 N 640,187.4120 E 1,012,171.0594 Sta 3+76.71

Course from S63 to PC SS6-9 S 44° 17' 17.16" E Dist 57.9990

Curve Data

Curve SS6-9
P.I. Station 4+41.75 N 640,140.8835 E 1,012,216.5037
Delta = 14° 50' 05.80" (RT)
Degree = 105° 57' 05.61"
Tangent = 7.0402
Length = 14.0016
Radius = 54.0773
External = 0.4563
Long Chord = 13.9626
Mid. Ord. = 0.4525
P.C. Station 4+34.71 N 640,145.8941 E 1,012,211.5582
P.T. Station 4+48.71 N 640,134.7737 E 1,012,220.0015
C.C. N 640,107.9062 E 1,012,173.0708
Back = S 44° 37' 32.68" E
Ahead = S 29° 47' 26.80" E
Chord Bear = S 37° 12' 29.78" E

Course from PT SS6-9 to S64 S 30° 31' 19.26" E Dist 36.4011

Point S64 N 640,103.4165 E 1,012,238.4885 Sta 4+85.11

Course from S64 to S65 S 40° 14' 16.20" E Dist 51.5287

Point S65 N 640,064.0811 E 1,012,271.7741 Sta 5+36.64

==========
Ending chain SS6 description

STREAM SITE 7 ALIGNMENT DATA

Chain SS7 contains:
S70 CUR SS7-1 CUR SS7-2 CUR SS7-3 CUR SS7-4 S71 CUR SS7-5 S72 S73 S74

Beginning chain SS7 description
==========

Point S70 N 639,854.6790 E 1,012,608.8543 Sta 0+00.00

Course from S70 to PC SS7-1 N 83° 03' 34.73" E Dist 46.2526

Curve Data

Curve SS7-1
P.I. Station 0+48.26 N 639,860.0618 E 1,012,656.7655
Delta = 12° 47' 31.17" (LT)
Degree = 319° 50' 36.09"
Tangent = 2.0081
Length = 3.9995
Radius = 17.9137
External = 0.1122
Long Chord = 3.9912
Mid. Ord. = 0.1115
P.C. Station 0+46.25 N 639,860.2680 E 1,012,654.7680
P.T. Station 0+50.25 N 639,860.3030 E 1,012,658.7590
C.C. N 639,878.0870 E 1,012,656.6074
Back = S 84° 06' 23.26" E
Ahead = N 83° 06' 05.58" E
Chord Bear = N 89° 29' 51.16" E

Course from PT SS7-1 to PC SS7-2 N 83° 16' 54.47" E Dist 4.0005

Curve Data

Curve SS7-2
P.I. Station 0+57.29 N 639,861.1671 E 1,012,665.7456
Delta = 22° 18' 10.27" (RT)
Degree = 371° 35' 24.47"
Tangent = 3.0395
Length = 6.0020
Radius = 15.4191
External = 0.2967
Long Chord = 5.9642
Mid. Ord. = 0.2911
P.C. Station 0+54.25 N 639,860.7710 E 1,012,662.7320
P.T. Station 0+60.25 N 639,860.3900 E 1,012,668.6840
C.C. N 639,845.4834 E 1,012,664.7416
Back = N 82° 30' 40.32" E
Ahead = S 75° 11' 09.41" E
Chord Bear = S 86° 20' 14.55" E

Course from PT SS7-2 to PC SS7-3 S 77° 07' 55.36" E Dist 76.9988

Curve Data

Curve SS7-3
P.I. Station 1+40.25 N 639,842.5120 E 1,012,746.6592
Delta = 2° 36' 48.11" (RT)
Degree = 43° 33' 31.26"
Tangent = 3.0003
Length = 5.9996
Radius = 131.5364
External = 0.0342
Long Chord = 5.9991
Mid. Ord. = 0.0342
P.C. Station 1+37.25 N 639,843.2420 E 1,012,743.7490
P.T. Station 1+43.25 N 639,841.6500 E 1,012,749.5330
C.C. N 639,715.6587 E 1,012,711.7438
Back = S 75° 55' 03.14" E
Ahead = S 73° 18' 15.03" E
Chord Bear = S 74° 36' 39.08" E

Course from PT SS7-3 to PC SS7-4 S 72° 43' 20.32" E Dist 14.9998

Curve Data

Curve SS7-4
P.I. Station 1+62.76 N 639,835.9110 E 1,012,768.1724
Delta = 5° 38' 02.37" (LT)
Degree = 62° 36' 15.11"
Tangent = 4.5033
Length = 8.9994
Radius = 91.5207
External = 0.1107
Long Chord = 8.9958
Mid. Ord. = 0.1106
P.C. Station 1+58.25 N 639,837.1950 E 1,012,763.8560
P.T. Station 1+67.25 N 639,835.0570 E 1,012,772.5940
C.C. N 639,924.9169 E 1,012,789.9502
Back = S 73° 26' 02.71" E
Ahead = S 79° 04' 05.08" E
Chord Bear = S 76° 15' 03.90" E

Course from PT SS7-4 to S71 S 79° 35' 00.36" E Dist 9.9998

Point S71 N 639,833.2490 E 1,012,782.4290 Sta 1+77.25

Course from S71 to PC SS7-5 S 78° 22' 31.60" E Dist 6.0001

Curve Data

Curve SS7-5
P.I. Station 1+90.29 N 639,830.5685 E 1,012,795.1880
Delta = 14° 30' 23.61" (RT)
Degree = 103° 37' 09.45"
Tangent = 7.0376
Length = 13.9999
Radius = 55.2945
External = 0.4461
Long Chord = 13.9625
Mid. Ord. = 0.4425
P.C. Station 1+83.25 N 639,832.0400 E 1,012,788.3060
P.T. Station 1+97.25 N 639,827.4200 E 1,012,801.4820
C.C. N 639,777.9678 E 1,012,776.7442
Back = S 77° 55' 55.51" E
Ahead = S 63° 25' 26.90" E
Chord Bear = S 70° 40' 38.71" E

Course from PT SS7-5 to S72 S 63° 53' 06.25" E Dist 13.8900

Point S72 N 639,821.3060 E 1,012,813.9540 Sta 2+11.14

Course from S72 to S73 S 66° 46' 11.94" E Dist 10.7556

Point S73 N 639,817.0637 E 1,012,823.8377 Sta 2+21.90

Course from S73 to S74 S 73° 02' 39.84" E Dist 30.8158

Point S74 N 639,808.0769 E 1,012,853.3139 Sta 2+52.71

==========
Ending chain SS7 description

STREAM SITE 8 ALIGNMENT DATA

Chain SS8 contains:
S80 S81 S82 S83 CUR SS8-1 CUR SS8-2 S84 CUR SS8-3 S85 CUR SS8-4 S86 S87 S88 S89

Beginning chain SS8 description
==========

Point S80 N 639,655.7936 E 1,013,142.3039 Sta 0+00.00

Course from S80 to S81 S 85° 15' 28.53" E Dist 24.5352

Point S81 N 639,653.7653 E 1,013,166.7551 Sta 0+24.54

Course from S81 to S82 N 81° 30' 59.41" E Dist 9.9999

Point S82 N 639,655.2405 E 1,013,176.6457 Sta 0+34.54

Course from S82 to S83 N 82° 17' 49.53" E Dist 9.9999

Point S83 N 639,656.5809 E 1,013,186.5553 Sta 0+44.54

Course from S83 to PC SS8-1 N 83° 36' 10.43" E Dist 10.9245

Curve Data

Curve SS8-1
P.I. Station 0+78.25 N 639,660.3375 E 1,013,220.0615
Delta = 33° 48' 24.81" (RT)
Degree = 76° 23' 39.74"
Tangent = 22.7917
Length = 44.2531
Radius = 75.0000
External = 3.3866
Long Chord = 43.6140
Mid. Ord. = 3.2403
P.C. Station 0+55.46 N 639,657.7981 E 1,013,197.4118
P.T. Station 0+99.71 N 639,649.8453 E 1,013,240.2945
C.C. N 639,583.2651 E 1,013,205.7682
Back = N 83° 35' 10.43" E
Ahead = S 62° 35' 24.77" E
Chord Bear = S 79° 29' 37.17" E

Course from PT SS8-1 to PC SS8-2 S 62° 26' 38.92" E Dist 50.0938

Curve Data

Curve SS8-2
P.I. Station 1+61.45 N 639,621.3302 E 1,013,295.0536
Delta = 17° 39' 04.64" (LT)
Degree = 76° 23' 39.74"
Tangent = 11.6450
Length = 23.1055
Radius = 75.0000
External = 0.8987
Long Chord = 23.0142
Mid. Ord. = 0.8880
P.C. Station 1+49.81 N 639,626.6713 E 1,013,284.7057
P.T. Station 1+72.91 N 639,619.3783 E 1,013,306.5338
C.C. N 639,693.3172 E 1,013,319.1052
Back = S 62° 41' 57.56" E
Ahead = S 80° 21' 02.20" E
Chord Bear = S 71° 31' 29.88" E

Course from PT SS8-2 to S84 S 82° 12' 07.04" E Dist 22.5975

Point S84 N 639,616.3122 E 1,013,328.9224 Sta 1+95.51

Course from S84 to PC SS8-3 S 85° 38' 50.82" E Dist 7.9215

Curve Data

Curve SS8-3
P.I. Station 2+12.62 N 639,614.8714 E 1,013,345.9744
Delta = 28° 15' 10.20" (RT)
Degree = 156° 52' 32.00"
Tangent = 9.1919
Length = 18.0097
Radius = 36.5231
External = 1.1389
Long Chord = 17.8278
Mid. Ord. = 1.1045
P.C. Station 2+03.43 N 639,615.7110 E 1,013,336.8210
P.T. Station 2+21.44 N 639,609.7990 E 1,013,353.6400
C.C. N 639,579.3406 E 1,013,333.4851
Back = S 84° 45' 34.10" E
Ahead = S 56° 30' 23.90" E
Chord Bear = S 70° 37' 59.00" E

Course from PT SS8-3 to S85 S 57° 51' 42.26" E Dist 7.9987

Point S85 N 639,605.5440 E 1,013,360.4130 Sta 2+29.44

Course from S85 to PC SS8-4 S 54° 17' 56.76" E Dist 53.9864

Curve Data

Curve SS8-4
P.I. Station 3+15.11 N 639,554.3438 E 1,013,429.0754
Delta = 45° 40' 05.77" (RT)
Degree = 76° 08' 11.86"
Tangent = 31.6866
Length = 59.9820
Radius = 75.2539
External = 6.3990
Long Chord = 58.4068
Mid. Ord. = 5.8975
P.C. Station 2+83.43 N 639,574.0400 E 1,013,404.2540
P.T. Station 3+43.41 N 639,522.8250 E 1,013,432.3320
C.C. N 639,515.0907 E 1,013,357.4766
Back = S 51° 34' 02.47" E
Ahead = S 5° 53' 56.71" E
Chord Bear = S 28° 43' 59.59" E

Course from PT SS8-4 to S86 S 6° 16' 10.56" E Dist 20.9993

Point S86 N 639,501.9513 E 1,013,434.6253 Sta 3+64.41

Course from S86 to S87 S 5° 23' 18.77" E Dist 10.0000

Point S87 N 639,491.9955 E 1,013,435.5644 Sta 3+74.41

Course from S87 to S88 S 5° 16' 37.24" E Dist 2.1371

Point S88 N 639,489.8675 E 1,013,435.7609 Sta 3+76.54

Course from S88 to S89 S 16° 53' 26.28" E Dist 6.5869

Point S89 N 639,483.5648 E 1,013,437.6747 Sta 3+83.13

==========
Ending chain SS8 description

SEE SHEET NO. 7 FOR –STREAM SITE 5– PROFILE
SEE SHEET NO. 8 FOR –STREAM SITE 6– PROFILE
SEE SHEET NO. 9 FOR –STREAM SITE 7 & 8– PROFILE

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–1
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: US-74A_CMGC_STREAM.tbl
USER: KCLATTERBU DATE: 6/26/2026 TIME: 3:10:45 PM
FILE: \
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

STREAM SITE 9 ALIGNMENT DATA

```
Chain SS9 contains:
 S9000 S9011 S9012 S9013 S9001 S9002 S9003 CUR SS9-1 S9004 S9005 S9006
S9007 S9-
008 S9009 S9010

Beginning chain SS9 description
==============================================================================

Point S9000        N   639,344.0757 E  1,013,563.6744 Sta     0+00.00

Course from S9000 to S9011 S 39° 10' 33.68" E Dist 20.2429

Point S9011        N   639,328.3833 E  1,013,576.4619 Sta     0+20.24

Course from S9011 to S9012 S 41° 22' 36.31" E Dist 13.7646

Point S9012        N   639,318.0546 E  1,013,585.5604 Sta     0+34.01

Course from S9012 to S9013 S 53° 01' 04.86" E Dist 9.5067

Point S9013        N   639,312.3358 E  1,013,593.1546 Sta     0+43.51

Course from S9013 to S9001 S 76° 27' 12.31" E Dist 7.7118

Point S9001        N   639,310.5294 E  1,013,600.6518 Sta     0+51.23

Course from S9001 to S9002 S 69° 09' 01.47" E Dist 92.9917

Point S9002        N   639,277.4322 E  1,013,687.5543 Sta     1+44.22

Course from S9002 to S9003 S 63° 57' 15.13" E Dist 83.1418

Point S9003        N   639,240.9255 E  1,013,762.2525 Sta     2+27.36

Course from S9003 to PC SS9-1 S 69° 39' 11.36" E Dist 11.1740

                    Curve Data
                    *----------*
Curve SS9-1
P.I. Station        2+44.83 N     639,234.8518 E     1,013,778.6307
Delta     =     9° 35' 39.19" (LT)
Degree    =    76° 23' 39.74"
Tangent   =          6.2941
Length    =         12.5588
Radius    =         75.0000
External  =          0.2636
Long Chord =        12.5441
Mid. Ord. =          0.2627
P.C. Station        2+38.53 N     639,237.0402 E     1,013,772.7293
P.T. Station        2+51.09 N     639,233.6775 E     1,013,784.8143
C.C.                      N     639,307.3606 E     1,013,798.8069
Back      = S  69° 39' 11.36" E
Ahead     = S  79° 14' 50.55" E
Chord Bear = S  74° 27' 00.95" E

Course from PT SS9-1 to S9004 S 79° 14' 50.55" E Dist 47.0260

Point S9004        N   639,224.9039 E  1,013,831.0145 Sta     2+98.12

Course from S9004 to S9005 S 83° 21' 36.43" E Dist 117.1810

Point S9005        N   639,211.3544 E  1,013,947.4095 Sta     4+15.30

Course from S9005 to S9006 S 79° 48' 15.90" E Dist 37.8274

Point S9006        N   639,204.6586 E  1,013,984.6396 Sta     4+53.13

Course from S9006 to S9007 S 76° 17' 04.94" E Dist 11.8946

Point S9007        N   639,201.8385 E  1,013,996.1950 Sta     4+65.02

Course from S9007 to S9008 S 68° 52' 32.37" E Dist 7.6517

Point S9008        N   639,199.0808 E  1,014,003.3326 Sta     4+72.67

Course from S9008 to S9009 S 65° 54' 36.58" E Dist 34.7748

Point S9009        N   639,184.8869 E  1,014,035.0787 Sta     5+07.45

Course from S9009 to S9010 S 66° 59' 09.46" E Dist 46.6504

Point S9010        N   639,166.6486 E  1,014,078.0162 Sta     5+54.10

==============================================================================
Ending chain SS9 description
```

STREAM SITE 10 ALIGNMENT DATA

```
Chain SS10 contains:
S100 S101 CUR SS10-1 CUR SS10-2 S106

Beginning chain SS10 description
==============================================================================

Point S100         N   639,123.9717 E  1,014,207.3631 Sta     0+00.00

Course from S100 to S101 N 84° 05' 24.94" E Dist 27.3254

Point S101         N   639,126.7851 E  1,014,234.5433 Sta     0+27.33

Course from S101 to PC SS10-1 N 66° 37' 04.56" E Dist 73.2341

                    Curve Data
                    *----------*
Curve SS10-1
P.I. Station        1+29.90 N     639,167.4917 E     1,014,328.6916
Delta     =    42° 43' 38.98" (RT)
Degree    =    76° 23' 39.74"
Tangent   =         29.3374
Length    =         55.9302
Radius    =         75.0000
External  =          5.5338
Long Chord =        54.6431
Mid. Ord. =          5.1535
P.C. Station        1+00.56 N     639,155.8489 E     1,014,301.7633
P.T. Station        1+56.49 N     639,157.7733 E     1,014,356.3726
C.C.                      N     639,087.0079 E     1,014,331.5279
Back      = N  66° 37' 04.56" E
Ahead     = S  70° 39' 16.47" E
Chord Bear = N  87° 58' 54.05" E

Course from PT SS10-1 to PC SS10-2 S 70° 39' 16.47" E Dist 212.1398

                    Curve Data
                    *----------*
Curve SS10-2
P.I. Station        3+92.83 N     639,079.4813 E     1,014,579.3727
Delta     =    35° 46' 21.89" (RT)
Degree    =    76° 23' 39.74"
Tangent   =         24.2046
Length    =         46.8264
Radius    =         75.0000
External  =          3.8090
Long Chord =        46.0695
Mid. Ord. =          3.6249
P.C. Station        3+68.63 N     639,087.4994 E     1,014,556.5347
P.T. Station        4+15.46 N     639,059.6254 E     1,014,593.2150
C.C.                      N     639,016.7340 E     1,014,531.6900
Back      = S  70° 39' 16.47" E
Ahead     = S  34° 52' 54.57" E
Chord Bear = S  52° 46' 05.52" E

Course from PT SS10-2 to S106 S 35° 00' 18.90" E Dist 128.3470

Point S106         N   638,954.4965 E  1,014,666.8414 Sta     5+43.80

==============================================================================
Ending chain SS10 description
```

STREAM SITE 11 ALIGNMENT DATA

```
Chain SS11 contains:
S110 CUR SS11-1 CUR SS11-2 S111

Beginning chain SS11 description
==============================================================================

Point S110         N   639,069.3705 E  1,015,980.3851 Sta     0+00.00

Course from S110 to PC SS11-1 S 76° 59' 44.94" E Dist 126.9932

                    Curve Data
                    *----------*
Curve SS11-1
P.I. Station        1+74.43 N     639,028.4402 E     1,016,149.9227
Delta     =    53° 02' 24.40" (RT)
Degree    =    60° 18' 17.22"
Tangent   =         47.4382
Length    =         88.0020
Radius    =         95.0629
External  =         11.1790
Long Chord =        84.8933
Mid. Ord. =         10.0027
P.C. Station        1+26.99 N     639,040.7942 E     1,016,104.1214
P.T. Station        2+15.00 N     638,984.4145 E     1,016,167.5894
C.C.                      N     638,949.0115 E     1,016,079.3648
Back      = S  74° 54' 17.41" E
Ahead     = S  21° 51' 53.01" E
Chord Bear = S  48° 23' 05.21" E

Course from PT SS11-1 to PC SS11-2 S 22° 48' 22.63" E Dist 39.0000

                    Curve Data
                    *----------*
Curve SS11-2
P.I. Station        2+88.39 N     638,916.9030 E     1,016,196.3743
Delta     =    39° 46' 31.60" (RT)
Degree    =    60° 15' 54.21"
Tangent   =         34.3929
Length    =         66.0008
Radius    =         95.0730
External  =          6.0297
Long Chord =        64.6835
Mid. Ord. =          5.6701
P.C. Station        2+54.00 N     638,948.4635 E     1,016,182.7065
P.T. Station        3+20.00 N     638,883.9026 E     1,016,186.6870
C.C.                      N     638,910.6813 E     1,016,095.4633
Back      = S  23° 24' 57.20" E
Ahead     = S  16° 21' 34.39" W
Chord Bear = S   3° 31' 41.40" E

Course from PT SS11-2 to S111 S 13° 58' 50.52" W Dist 150.0882

Point S111         N   638,738.2605 E  1,016,150.4265 Sta     4+70.08

==============================================================================
Ending chain SS11 description
```

STREAM SITE 12 ALIGNMENT DATA

```
Chain SS12_13 contains:
 S12000 S12001 CUR SS12_13-1 CUR SS12_13-2 CUR SS12_13-3 CUR SS12_13-4
CUR SS12-
 13-5 CUR SS12_13-6 CUR SS12_13-7 CUR SS12_13-8 S12002 S12003 CUR
SS12_13-9 CUR-
 SS12_13-10 CUR SS12_13-11 CUR SS12_13-12 CUR SS12_13-13 CUR SS12_13-14
CUR SS1-
2_13-15 CUR SS12_13-16 CUR SS12_13-17 CUR SS12_13-18 CUR SS12_13-19 CUR
SS12_13-
-20 CUR SS12_13-21 CUR SS12_13-22 CUR SS12_13-23 CUR SS12_13-24 CUR
SS12_13-25 -
CUR SS12_13-26 CUR SS12_13-27 CUR SS12_13-28 CUR SS12_13-29 CUR
SS12_13-30 CUR -
SS12_13-31 CUR SS12_13-32 CUR SS12_13-33 CUR SS12_13-34 CUR SS12_13-35
CUR SS12-
_13-36 CUR SS12_13-37 CUR SS12_13-38 S12004

Beginning chain SS12_13 description
==============================================================================

Point S12000       N   638,384.9081 E  1,016,353.1462 Sta     0+00.00

Course from S12000 to S12001 S 66° 59' 09.46" E Dist 34.8655

Point S12001       N   638,371.2772 E  1,016,385.2367 Sta     0+34.87

Course from S12001 to PC SS12_13-1 S 50° 24' 03.46" E Dist 100.0440

                    Curve Data
                    *----------*
Curve SS12_13-1
P.I. Station        1+57.07 N     638,293.3842 E     1,016,479.3964
Delta     =    26° 15' 30.06" (LT)
Degree    =    60° 18' 40.85"
Tangent   =         22.1582
Length    =         43.5380
Radius    =         95.0000
External  =          2.5499
Long Chord =        43.1580
Mid. Ord. =          2.4833
P.C. Station        1+34.91 N     638,307.5081 E     1,016,462.3230
P.T. Station        1+78.45 N     638,288.2714 E     1,016,500.9567
C.C.                      N     638,380.7078 E     1,016,522.8771
Back      = S  50° 24' 03.46" E
Ahead     = S  76° 39' 33.52" E
Chord Bear = S  63° 31' 48.49" E

Course from PT SS12_13-1 to PC SS12_13-2 S 76° 39' 33.52" E Dist 29.8423

                    Curve Data
                    *----------*
Curve SS12_13-2
P.I. Station        2+23.58 N     638,277.8573 E     1,016,544.8720
Delta     =    18° 17' 15.32" (RT)
Degree    =    60° 18' 40.85"
Tangent   =         15.2910
Length    =         30.3220
Radius    =         95.0000
External  =          1.2227
Long Chord =        30.1934
Mid. Ord. =          1.2072
P.C. Station        2+08.29 N     638,281.3856 E     1,016,529.9936
P.T. Station        2+38.61 N     638,269.8386 E     1,016,557.8919
C.C.                      N     638,188.9491 E     1,016,508.0733
Back      = S  76° 39' 33.52" E
Ahead     = S  58° 22' 18.20" E
Chord Bear = S  67° 30' 55.86" E

Course from PT SS12_13-2 to PC SS12_13-3 S 58° 22' 18.20" E Dist 90.6018

                    Curve Data
                    *----------*
Curve SS12_13-3
P.I. Station        3+37.94 N     638,217.7499 E     1,016,642.4673
Delta     =    10° 29' 50.69" (LT)
Degree    =    60° 18' 40.85"
Tangent   =          8.7271
Length    =         17.4054
Radius    =         95.0000
External  =          0.4000
Long Chord =        17.3810
Mid. Ord. =          0.3983
P.C. Station        3+29.21 N     638,222.3264 E     1,016,635.0364
P.T. Station        3+46.62 N     638,214.6038 E     1,016,650.6076
C.C.                      N     638,303.2159 E     1,016,684.8550
Back      = S  58° 22' 18.20" E
Ahead     = S  68° 52' 08.89" E
Chord Bear = S  63° 37' 13.55" E

Course from PT SS12_13-3 to PC SS12_13-4 S 68° 52' 08.89" E Dist 71.4316

                    Curve Data
                    *----------*
Curve SS12_13-4
P.I. Station        4+43.31 N     638,179.7478 E     1,016,740.7943
Delta     =    29° 46' 34.43" (RT)
Degree    =    60° 18' 40.85"
Tangent   =         25.2564
Length    =         49.3709
Radius    =         95.0000
External  =          3.3000
Long Chord =        48.8171
Mid. Ord. =          3.1892
P.C. Station        4+18.05 N     638,188.8527 E     1,016,717.2361
P.T. Station        4+67.42 N     638,160.1456 E     1,016,756.7205
C.C.                      N     638,100.2406 E     1,016,682.9887
Back      = S  68° 52' 08.89" E
Ahead     = S  39° 05' 34.46" E
Chord Bear = S  53° 58' 51.68" E

Course from PT SS12_13-4 to PC SS12_13-5 S 39° 05' 34.46" E Dist 85.6206

                    Curve Data
                    *----------*
Curve SS12_13-5
P.I. Station        5+68.76 N     638,081.4938 E     1,016,820.6230
Delta     =    18° 47' 24.06" (RT)
Degree    =    60° 18' 40.85"
Tangent   =         15.7186
Length    =         31.1550
Radius    =         95.0000
External  =          1.2916
Long Chord =        31.0156
Mid. Ord. =          1.2743
P.C. Station        5+53.04 N     638,093.6934 E     1,016,810.7111
P.T. Station        5+84.20 N     638,066.7517 E     1,016,826.0771
C.C.                      N     638,033.7883 E     1,016,736.9793
Back      = S  39° 05' 34.46" E
Ahead     = S  20° 18' 10.41" E
Chord Bear = S  29° 41' 52.43" E

Course from PT SS12_13-5 to PC SS12_13-6 S 20° 18' 10.41" E Dist 100.7801

                    Curve Data
                    *----------*
Curve SS12_13-6
P.I. Station        6+97.41 N     637,960.5724 E     1,016,865.3601
Delta     =    14° 54' 44.44" (LT)
Degree    =    60° 18' 40.85"
Tangent   =         12.4331
Length    =         24.7256
Radius    =         95.0000
External  =          0.8101
Long Chord =        24.6559
Mid. Ord. =          0.8033
P.C. Station        6+84.98 N     637,972.2330 E     1,016,861.0460
P.T. Station        7+09.70 N     637,950.4147 E     1,016,872.5296
C.C.                      N     638,005.1964 E     1,016,950.1438
Back      = S  20° 18' 10.41" E
Ahead     = S  35° 12' 54.84" E
Chord Bear = S  27° 45' 32.62" E

Course from PT SS12_13-6 to PC SS12_13-7 S 35° 12' 54.84" E Dist 89.8785
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STREAM SITE 12 ALIGNMENT DATA (CONTINUED)

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                    Curve Data
                    *----------*
Curve SS12_13-7
P.I. Station        8+09.36 N     637,868.9949 E     1,016,929.9973
Delta     =    11° 45' 17.43" (RT)
Degree    =    60° 18' 40.85"
Tangent   =          9.7795
Length    =         19.4903
Radius    =         95.0000
External  =          0.5020
Long Chord =        19.4561
Mid. Ord. =          0.4994
P.C. Station        7+99.58 N     637,876.9846 E     1,016,924.3580
P.T. Station        8+19.07 N     637,860.0239 E     1,016,933.8907
C.C.                      N     637,922.2029 E     1,016,846.7438
Back      = S  35° 12' 54.84" E
Ahead     = S  23° 27' 37.41" E
Chord Bear = S  29° 20' 16.13" E

Course from PT SS12_13-7 to PC SS12_13-8 S 23° 27' 37.41" E Dist 67.3793

                    Curve Data
                    *----------*
Curve SS12_13-8
P.I. Station        9+33.58 N     637,754.9792 E     1,016,979.4791
Delta     =    40° 13' 18.46" (LT)
Degree    =    44° 30' 47.42"
Tangent   =         47.1313
Length    =         90.3593
Radius    =        128.7165
External  =          8.3576
Long Chord =        88.5153
Mid. Ord. =          7.8480
P.C. Station        8+86.45 N     637,798.2144 E     1,016,960.7154
P.T. Station        9+76.81 N     637,734.0835 E     1,017,021.7252
C.C.                      N     637,849.4584 E     1,017,078.7916
Back      = S  23° 27' 37.41" E
Ahead     = S  63° 40' 55.87" E
Chord Bear = S  43° 34' 16.64" E

Course from PT SS12_13-8 to S12002 S 52° 58' 33.41" E Dist 16.9760

Point S12002       N   637,723.8614 E  1,017,035.2785 Sta     9+93.79

Course from S12002 to S12003 S 42° 53' 21.02" E Dist 23.4968

Point S12003       N   637,706.6460 E  1,017,051.2700 Sta    10+17.28

Course from S12003 to PC SS12_13-9 S 39° 36' 44.79" E Dist 17.5853

                    Curve Data
                    *----------*
Curve SS12_13-9
P.I. Station       10+94.70 N     637,646.7710 E     1,017,100.3528
Delta     =    19° 30' 17.47" (LT)
Degree    =    16° 27' 27.56"
Tangent   =         59.8367
Length    =        118.5154
Radius    =        348.1406
External  =          5.1048
Long Chord =       117.9439
Mid. Ord. =          5.0310
P.C. Station       10+34.87 N     637,693.0987 E     1,017,062.4823
P.T. Station       11+53.38 N     637,615.7464 E     1,017,151.5182
C.C.                      N     637,913.4360 E     1,017,332.0251
Back      = S  39° 15' 51.19" E
Ahead     = S  58° 46' 08.66" E
Chord Bear = S  49° 00' 59.93" E

Course from PT SS12_13-9 to PC SS12_13-10 S 61° 21' 13.26" E Dist 119.5585

                    Curve Data
                    *----------*
Curve SS12_13-10
P.I. Station       13+19.94 N     637,539.0762 E     1,017,299.2732
Delta     =     9° 48' 07.05" (LT)
Degree    =    10° 27' 10.66"
Tangent   =         47.0007
Length    =         93.7721
Radius    =        548.1286
External  =          2.0114
Long Chord =        93.6578
Mid. Ord. =          2.0041
P.C. Station       12+72.94 N     637,558.4299 E     1,017,256.4422
P.T. Station       13+66.71 N     637,527.2967 E     1,017,344.7739
C.C.                      N     638,057.9325 E     1,017,482.1482
Back      = S  65° 41' 01.02" E
Ahead     = S  75° 29' 08.07" E
Chord Bear = S  70° 35' 04.54" E

                    Curve Data
                    *----------*
Curve SS12_13-11
P.I. Station       13+94.49 N     637,520.2543 E     1,017,371.6391
Delta     =    22° 46' 02.09" (LT)
Degree    =    41° 32' 10.49"
Tangent   =         27.7729
Length    =         54.8130
Radius    =        137.9416
External  =          2.7681
Long Chord =        54.4531
Mid. Ord. =          2.7136
P.C. Station       13+66.71 N     637,527.2967 E     1,017,344.7739
P.T. Station       14+21.53 N     637,524.1572 E     1,017,399.1364
C.C.                      N     637,660.7300 E     1,017,379.7515
Back      = S  75° 18' 40.44" E
Ahead     = N  81° 55' 17.47" E
Chord Bear = S  86° 41' 41.49" E
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SEE SHEET NO. 10 FOR –STREAM SITE 9– PROFILE
SEE SHEET NO. 10 FOR –STREAM SITE 10– PROFILE
SEE SHEET NO. 11 FOR –STREAM SITE 11– PROFILE
SEE SHEET NO. 12 FOR –STREAM SITE 12– PROFILE
SEE SHEETS NO. 15 & 16 FOR –STREAM SITE 13– PROFILE

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: US-74A_CMGC_STREAM.tbl
USER: KCLATTERBU DATE: 6/26/2026 TIME: 3:10:50 PM
FILE: \
6/2/99

STREAM SITE 12 ALIGNMENT DATA

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                    Curve Data
                  *----------*
Curve SS12_13-12
P.I. Station      14+39.25 N    637,526.3588 E    1,017,416.7212
Delta     =   12° 25' 13.17" (RT)
Degree    =   35° 10' 47.52"
Tangent   =      17.7221
Length    =      35.3052
Radius    =     162.8653
External  =       0.9614
Long Chord =     35.2361
Mid. Ord. =       0.9557
P.C. Station    14+21.53 N    637,524.1572 E    1,017,399.1364
P.T. Station    14+56.83 N    637,524.7266 E    1,017,434.3679
C.C.              N    637,362.5535 E    1,017,419.3682
Back      = N  82° 51' 50.55" E
Ahead     = S  84° 42' 56.29" E
Chord Bear = N  89° 04' 27.13" E

Course from PT SS12_13-12 to PC SS12_13-13 S 86° 52' 18.20" E Dist 222.1602

                    Curve Data
                  *----------*
Curve SS12_13-13
P.I. Station      16+95.56 N    637,511.8341 E    1,017,672.7456
Delta     =   13° 00' 18.32" (RT)
Degree    =   39° 25' 15.33"
Tangent   =      16.5663
Length    =      32.9903
Radius    =     145.3436
External  =       0.9411
Long Chord =     32.9195
Mid. Ord. =       0.9350
P.C. Station    16+78.99 N    637,512.6029 E    1,017,656.1971
P.T. Station    17+11.98 N    637,507.3609 E    1,017,688.6966
C.C.              N    637,367.4160 E    1,017,649.4515
Back      = S  87° 20' 23.56" E
Ahead     = S  74° 20' 05.24" E
Chord Bear = S  80° 50' 14.40" E

                    Curve Data
                  *----------*
Curve SS12_13-14
P.I. Station      17+26.01 N    637,503.6505 E    1,017,702.2286
Delta     =    4° 54' 17.31" (RT)
Degree    =   17° 29' 18.75"
Tangent   =      14.0315
Length    =      28.0458
Radius    =     327.6190
External  =       0.3003
Long Chord =     28.0373
Mid. Ord. =       0.3001
P.C. Station    17+11.98 N    637,507.3609 E    1,017,688.6966
P.T. Station    17+40.03 N    637,498.7967 E    1,017,715.3939
C.C.              N    637,191.4038 E    1,017,602.0632
Back      = S  74° 40' 00.19" E
Ahead     = S  69° 45' 42.88" E
Chord Bear = S  72° 12' 51.53" E

                    Curve Data
                  *----------*
Curve SS12_13-15
P.I. Station      18+15.07 N    637,473.3458 E    1,017,785.9919
Delta     =    5° 46' 02.03" (RT)
Degree    =    3° 50' 44.64"
Tangent   =      75.0456
Length    =     149.9644
Radius    =    1,489.8534
External  =       1.8889
Long Chord =    149.9011
Mid. Ord. =       1.8865
P.C. Station    17+40.03 N    637,498.7967 E    1,017,715.3939
P.T. Station    18+89.99 N    637,440.9295 E    1,017,853.6752
C.C.              N    636,097.2377 E    1,017,210.1262
Back      = S  70° 10' 32.03" E
Ahead     = S  64° 24' 30.00" E
Chord Bear = S  67° 17' 31.02" E

                    Curve Data
                  *----------*
Curve SS12_13-16
P.I. Station      19+27.94 N    637,424.4112 E    1,017,887.8396
Delta     =   21° 29' 38.73" (RT)
Degree    =   28° 39' 26.01"
Tangent   =      37.9481
Length    =      75.0041
Radius    =     199.9349
External  =       3.5695
Long Chord =     74.5651
Mid. Ord. =       3.5069
P.C. Station    18+89.99 N    637,440.9295 E    1,017,853.6752
P.T. Station    19+65.00 N    637,396.5236 E    1,017,913.5756
C.C.              N    637,260.9299 E    1,017,766.6461
Back      = S  64° 11' 47.10" E
Ahead     = S  42° 42' 08.38" E
Chord Bear = S  53° 26' 57.74" E

                    Curve Data
                  *----------*
Curve SS12_13-17
P.I. Station      19+92.79 N    637,376.5594 E    1,017,932.9099
Delta     =   33° 34' 23.32" (RT)
Degree    =   62° 11' 27.15"
Tangent   =      27.7918
Length    =      53.9840
Radius    =      92.1289
External  =       4.1006
Long Chord =     53.2150
Mid. Ord. =       3.9259
P.C. Station    19+65.00 N    637,396.5236 E    1,017,913.5756
P.T. Station    20+18.98 N    637,349.2337 E    1,017,937.9787
C.C.              N    637,332.4309 E    1,017,847.3951
Back      = S  44° 04' 54.49" E
Ahead     = S  10° 30' 31.17" E
Chord Bear = S  27° 17' 42.83" E

Course from PT SS12_13-17 to PC SS12_13-18 S 4° 13' 15.05" E Dist 90.9417

                    Curve Data
                  *----------*
Curve SS12_13-18
P.I. Station      21+30.25 N    637,238.5567 E    1,017,948.4148
Delta     =   25° 21' 04.59" (LT)
Degree    =   63° 23' 18.35"
Tangent   =      20.3295
Length    =      39.9935
Radius    =      90.3884
External  =       2.2580
Long Chord =     39.6681
Mid. Ord. =       2.2030
P.C. Station    21+09.92 N    637,258.5387 E    1,017,944.6721
P.T. Station    21+49.92 N    637,222.1015 E    1,017,960.3528
C.C.              N    637,275.1795 E    1,018,033.5155
Back      = S  10° 36' 31.67" E
Ahead     = S  35° 57' 36.26" E
Chord Bear = S  23° 17' 03.96" E

Course from PT SS12_13-18 to PC SS12_13-19 S 40° 47' 14.51" E Dist 72.9399

                    Curve Data
                  *----------*
Curve SS12_13-19
P.I. Station      22+33.94 N    637,158.7010 E    1,018,015.4901
Delta     =    3° 21' 24.50" (RT)
Degree    =   15° 08' 35.93"
Tangent   =      11.0866
Length    =      22.1669
Radius    =     378.3570
External  =       0.1624
Long Chord =     22.1637
Mid. Ord. =       0.1623
P.C. Station    22+22.86 N    637,166.8758 E    1,018,008.0011
P.T. Station    22+45.02 N    637,150.1017 E    1,018,022.4876
C.C.              N    636,911.2945 E    1,017,729.0168
Back      = S  42° 29' 35.63" E
Ahead     = S  39° 08' 11.14" E
Chord Bear = S  40° 48' 53.39" E

Course from PT SS12_13-19 to PC SS12_13-20 S 39° 08' 11.14" E Dist 30.8305
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STREAM SITE 12 ALIGNMENT DATA (CONTINUED)

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                    Curve Data
                  *----------*
Curve SS12_13-20
P.I. Station      22+90.37 N    637,114.9253 E    1,018,051.1119
Delta     =    7° 00' 13.75" (LT)
Degree    =   24° 22' 38.49"
Tangent   =      14.5206
Length    =      29.0043
Radius    =     235.0369
External  =       0.4481
Long Chord =     28.9859
Mid. Ord. =       0.4473
P.C. Station    22+75.85 N    637,126.1881 E    1,018,041.9469
P.T. Station    23+04.86 N    637,104.8762 E    1,018,061.5935
C.C.              N    637,274.5361 E    1,018,224.2522
Back      = S  39° 08' 11.14" E
Ahead     = S  46° 12' 24.88" E
Chord Bear = S  42° 40' 18.01" E

Course from PT SS12_13-20 to PC SS12_13-21 S 46° 21' 03.29" E Dist 23.9998

                    Curve Data
                  *----------*
Curve SS12_13-21
P.I. Station      23+51.90 N    637,072.3729 E    1,018,095.5977
Delta     =    8° 07' 28.49" (RT)
Degree    =   17° 39' 39.35"
Tangent   =      23.0402
Length    =      46.0031
Radius    =     324.4210
External  =       0.8171
Long Chord =     45.9646
Mid. Ord. =       0.8151
P.C. Station    23+28.86 N    637,088.3106 E    1,018,078.9592
P.T. Station    23+74.86 N    637,054.2436 E    1,018,109.8167
C.C.              N    636,854.0306 E    1,017,854.5447
Back      = S  46° 13' 55.59" E
Ahead     = S  38° 06' 27.10" E
Chord Bear = S  42° 10' 11.35" E

                    Curve Data
                  *----------*
Curve SS12_13-22
P.I. Station      24+01.34 N    637,033.5936 E    1,018,126.3932
Delta     =   26° 26' 12.70" (RT)
Degree    =   50° 49' 32.53"
Tangent   =      26.4803
Length    =      52.0175
Radius    =     112.7299
External  =       3.0684
Long Chord =     51.5572
Mid. Ord. =       2.9870
P.C. Station    23+74.86 N    637,054.2436 E    1,018,109.8167
P.T. Station    24+26.88 N    637,007.7228 E    1,018,132.0420
C.C.              N    636,983.6752 E    1,018,021.9068
Back      = S  38° 45' 19.19" E
Ahead     = S  12° 19' 01.31" E
Chord Bear = S  25° 32' 10.16" E

Course from PT SS12_13-22 to PC SS12_13-23 S 9° 13' 06.04" E Dist 50.9803

                    Curve Data
                  *----------*
Curve SS12_13-23
P.I. Station      25+11.80 N    636,923.5677 E    1,018,142.9009
Delta     =   41° 04' 29.99" (RT)
Degree    =   63° 14' 34.64"
Tangent   =      33.9402
Length    =      64.9479
Radius    =      90.5953
External  =       6.1489
Long Chord =     63.5660
Mid. Ord. =       5.7580
P.C. Station    24+77.86 N    636,957.4009 E    1,018,140.2089
P.T. Station    25+42.81 N    636,896.2937 E    1,018,122.7002
C.C.              N    636,950.2152 E    1,018,049.8980
Back      = S  4° 32' 57.23" E
Ahead     = S  36° 31' 32.75" W
Chord Bear = S  15° 59' 17.76" W

Course from PT SS12_13-23 to PC SS12_13-24 S 37° 19' 19.72" W Dist 212.9997

                    Curve Data
                  *----------*
Curve SS12_13-24
P.I. Station      27+68.50 N    636,717.4061 E    1,017,985.1452
Delta     =   25° 51' 18.25" (LT)
Degree    =   95° 21' 29.91"
Tangent   =      12.6920
Length    =      25.0162
Radius    =      60.0847
External  =       1.3259
Long Chord =     24.8360
Mid. Ord. =       1.2972
P.C. Station    27+55.81 N    636,726.9080 E    1,017,993.5594
P.T. Station    27+80.82 N    636,705.3129 E    1,017,981.2926
C.C.              N    636,687.0745 E    1,018,038.5423
Back      = S  41° 31' 32.67" W
Ahead     = S  17° 40' 14.42" W
Chord Bear = S  29° 35' 53.55" W

Course from PT SS12_13-24 to PC SS12_13-25 S 16° 22' 55.95" W Dist 38.9918

                    Curve Data
                  *----------*
Curve SS12_13-25
P.I. Station      28+54.25 N    636,634.7202 E    1,017,961.0979
Delta     =   21° 25' 14.12" (LT)
Degree    =   31° 28' 13.57"
Tangent   =      34.4349
Length    =      68.0657
Radius    =     182.0622
External  =       3.2279
Long Chord =     67.6700
Mid. Ord. =       3.1716
P.C. Station    28+19.81 N    636,667.9041 E    1,017,970.2952
P.T. Station    28+87.88 N    636,600.4695 E    1,017,964.6550
C.C.              N    636,619.2767 E    1,018,145.7433
Back      = S  15° 29' 28.74" W
Ahead     = S  5° 55' 45.38" E
Chord Bear = S  4° 46' 51.68" W

                    Curve Data
                  *----------*
Curve SS12_13-26
P.I. Station      29+14.98 N    636,573.4948 E    1,017,967.2180
Delta     =   28° 40' 15.34" (LT)
Degree    =   54° 02' 17.45"
Tangent   =      27.0962
Length    =      53.0568
Radius    =     106.0283
External  =       3.4075
Long Chord =     52.5050
Mid. Ord. =       3.3014
P.C. Station    28+87.88 N    636,600.4695 E    1,017,964.6550
P.T. Station    29+40.94 N    636,551.0572 E    1,017,982.4087
C.C.              N    636,610.4986 E    1,018,070.2080
Back      = S  5° 25' 39.61" E
Ahead     = S  34° 05' 54.95" E
Chord Bear = S  19° 45' 47.28" E

Course from PT SS12_13-26 to PC SS12_13-27 S 37° 20' 57.43" E Dist 83.9651

                    Curve Data
                  *----------*
Curve SS12_13-27
P.I. Station      30+31.40 N    636,479.1841 E    1,018,037.3481
Delta     =    2° 37' 10.81" (RT)
Degree    =   20° 09' 04.62"
Tangent   =       6.5011
Length    =      13.0000
Radius    =     284.3282
External  =       0.0743
Long Chord =     12.9989
Mid. Ord. =       0.0743
P.C. Station    30+24.90 N    636,484.3090 E    1,018,033.3480
P.T. Station    30+37.90 N    636,473.8818 E    1,018,041.1098
C.C.              N    636,309.3628 E    1,017,809.2132
Back      = S  37° 58' 24.45" E
Ahead     = S  35° 21' 13.64" E
Chord Bear = S  36° 39' 49.05" E

Course from PT SS12_13-27 to PC SS12_13-28 S 34° 09' 43.25" E Dist 266.8985
```

STREAM SITE 12 ALIGNMENT DATA (CONTINUED)

```
                    Curve Data
                  *----------*
Curve SS12_13-28
P.I. Station      33+22.85 N    636,237.3589 E    1,018,199.9189
Delta     =   10° 03' 32.44" (RT)
Degree    =   27° 56' 37.22"
Tangent   =      18.0451
Length    =      35.9975
Radius    =     205.0403
External  =       0.7925
Long Chord =     35.9512
Mid. Ord. =       0.7895
P.C. Station    33+04.80 N    636,253.0359 E    1,018,190.9826
P.T. Station    33+40.80 N    636,220.3620 E    1,018,205.9796
C.C.              N    636,151.4960 E    1,018,012.8502
Back      = S  29° 41' 03.22" E
Ahead     = S  19° 37' 30.78" E
Chord Bear = S  24° 39' 17.00" E

Course from PT SS12_13-28 to PC SS12_13-29 S 18° 35' 18.40" E Dist 87.0558

                    Curve Data
                  *----------*
Curve SS12_13-29
P.I. Station      34+39.92 N    636,126.4071 E    1,018,237.5779
Delta     =   17° 45' 52.58" (RT)
Degree    =   74° 10' 59.48"
Tangent   =      12.0703
Length    =      23.9469
Radius    =      77.2355
External  =       0.9375
Long Chord =     23.8511
Mid. Ord. =       0.9262
P.C. Station    34+27.85 N    636,137.8477 E    1,018,233.7302
P.T. Station    34+51.80 N    636,114.3380 E    1,018,237.7514
C.C.              N    636,113.2275 E    1,018,160.5239
Back      = S  18° 35' 18.40" E
Ahead     = S   0° 49' 25.82" E
Chord Bear = S   9° 42' 22.11" E

Course from PT SS12_13-29 to PC SS12_13-30 S 6° 25' 30.32" E Dist 98.9633

                    Curve Data
                  *----------*
Curve SS12_13-30
P.I. Station      35+70.39 N    635,996.4743 E    1,018,250.8624
Delta     =   15° 56' 12.54" (LT)
Degree    =   40° 51' 39.44"
Tangent   =      19.6280
Length    =      39.0026
Radius    =     140.2213
External  =       1.3671
Long Chord =     38.8769
Mid. Ord. =       1.3539
P.C. Station    35+50.76 N    636,015.9963 E    1,018,248.8258
P.T. Station    35+89.77 N    635,978.2618 E    1,018,258.1810
C.C.              N    636,030.5454 E    1,018,388.2903
Back      = S  5° 57' 20.19" E
Ahead     = S  21° 53' 32.74" E
Chord Bear = S  13° 55' 26.47" E

Course from PT SS12_13-30 to PC SS12_13-31 S 20° 00' 49.79" E Dist 79.5066

                    Curve Data
                  *----------*
Curve SS12_13-31
P.I. Station      36+86.62 N    635,887.9826 E    1,018,293.0404
Delta     =   28° 07' 21.73" (LT)
Degree    =   82° 42' 31.41"
Tangent   =      17.3508
Length    =      34.0021
Radius    =      69.2742
External  =       2.1398
Long Chord =     33.6618
Mid. Ord. =       2.0757
P.C. Station    36+69.27 N    635,903.5566 E    1,018,285.3919
P.T. Station    37+03.28 N    635,877.8525 E    1,018,307.1270
C.C.              N    635,934.0941 E    1,018,347.5720
Back      = S  26° 09' 22.47" E
Ahead     = S  54° 16' 44.20" E
Chord Bear = S  40° 13' 03.34" E

Course from PT SS12_13-31 to PC SS12_13-32 S 57° 07' 32.12" E Dist 9.9994

                    Curve Data
                  *----------*
Curve SS12_13-32
P.I. Station      37+31.28 N    635,863.3188 E    1,018,331.0613
Delta     =    4° 19' 42.02" (RT)
Degree    =   12° 01' 24.31"
Tangent   =      18.0082
Length    =      35.9992
Radius    =     476.5348
External  =       0.3401
Long Chord =     35.9907
Mid. Ord. =       0.3399
P.C. Station    37+13.27 N    635,872.4249 E    1,018,315.5251
P.T. Station    37+49.27 N    635,853.0661 E    1,018,345.8660
C.C.              N    635,461.3037 E    1,018,074.5586
Back      = S  59° 37' 28.42" E
Ahead     = S  55° 17' 46.39" E
Chord Bear = S  57° 27' 37.40" E

Course from PT SS12_13-32 to PC SS12_13-33 S 56° 38' 50.32" E Dist 19.9922

                    Curve Data
                  *----------*
Curve SS12_13-33
P.I. Station      37+81.31 N    635,836.5772 E    1,018,373.2845
Delta     =   12° 26' 01.76" (LT)
Degree    =   51° 57' 04.33"
Tangent   =      12.0465
Length    =      23.9976
Radius    =     110.2877
External  =       0.6560
Long Chord =     23.9505
Mid. Ord. =       0.6521
P.C. Station    37+69.27 N    635,842.0746 E    1,018,362.5655
P.T. Station    37+93.26 N    635,833.5234 E    1,018,384.9375
C.C.              N    635,940.2087 E    1,018,412.8950
Back      = S  62° 50' 53.99" E
Ahead     = S  75° 18' 55.75" E
Chord Bear = S  69° 04' 54.87" E

Course from PT SS12_13-33 to PC SS12_13-34 S 79° 15' 03.96" E Dist 31.9582

                    Curve Data
                  *----------*
Curve SS12_13-34
P.I. Station      38+38.81 N    635,825.8937 E    1,018,429.8151
Delta     =   15° 43' 33.78" (RT)
Degree    =   58° 15' 15.93"
Tangent   =      13.5831
Length    =      26.9955
Radius    =      98.3544
External  =       0.9335
Long Chord =     26.9108
Mid. Ord. =       0.9247
P.C. Station    38+25.22 N    635,827.5631 E    1,018,416.3350
P.T. Station    38+52.22 N    635,820.6332 E    1,018,442.3382
C.C.              N    635,729.9543 E    1,018,404.2472
Back      = S  82° 56' 25.73" E
Ahead     = S  67° 12' 51.95" E
Chord Bear = S  75° 04' 38.84" E

Course from PT SS12_13-34 to PC SS12_13-35 S 67° 55' 42.25" E Dist 183.9254

                    Curve Data
                  *----------*
Curve SS12_13-35
P.I. Station      40+56.74 N    635,743.7802 E    1,018,631.8739
Delta     =   10° 49' 53.11" (RT)
Degree    =   26° 22' 11.70"
Tangent   =      20.5988
Length    =      41.0749
Radius    =     217.2771
External  =       0.9742
Long Chord =     41.0138
Mid. Ord. =       0.9699
P.C. Station    40+36.14 N    635,751.5205 E    1,018,612.7846
P.T. Station    40+77.22 N    635,732.5905 E    1,018,649.1685
C.C.              N    635,550.1668 E    1,018,531.1395
Back      = S  67° 55' 42.25" E
Ahead     = S  57° 05' 49.15" E
Chord Bear = S  62° 30' 45.70" E

Course from PT SS12_13-35 to PC SS12_13-36 S 61° 18' 30.52" E Dist 131.9058
```

STREAM SITE 12 ALIGNMENT DATA (CONTINUED)

```
                    Curve Data
                  *----------*
Curve SS12_13-36
P.I. Station      42+18.63 N    635,665.0381 E    1,018,773.3951
Delta     =    5° 14' 50.43" (LT)
Degree    =   27° 36' 58.63"
Tangent   =       9.5071
Length    =      19.0009
Radius    =     207.4710
External  =       0.2177
Long Chord =     18.9943
Mid. Ord. =       0.2175
P.C. Station    42+09.12 N    635,669.2634 E    1,018,764.8785
P.T. Station    42+28.12 N    635,661.6094 E    1,018,782.2624
C.C.              N    635,855.1182 E    1,018,857.0858
Back      = S  63° 36' 46.19" E
Ahead     = S  68° 51' 36.62" E
Chord Bear = S  66° 14' 11.40" E

                    Curve Data
                  *----------*
Curve SS12_13-37
P.I. Station      42+80.34 N    635,643.5148 E    1,018,831.2456
Delta     =   40° 52' 29.66" (LT)
Degree    =   40° 53' 14.35"
Tangent   =      52.2185
Length    =      99.9696
Radius    =     140.1309
External  =       9.4132
Long Chord =     97.8631
Mid. Ord. =       8.8207
P.C. Station    42+28.12 N    635,661.6094 E    1,018,782.2624
P.T. Station    43+28.09 N    635,661.8878 E    1,018,880.1251
C.C.              N    635,793.0583 E    1,018,830.8201
Back      = S  69° 43' 32.04" E
Ahead     = N  69° 23' 58.30" E
Chord Bear = N  89° 50' 13.13" E

Course from PT SS12_13-37 to PC SS12_13-38 N 65° 34' 55.26" E Dist 103.8761

                    Curve Data
                  *----------*
Curve SS12_13-38
P.I. Station      44+43.64 N    635,709.7400 E    1,018,985.3015
Delta     =   24° 12' 52.50" (RT)
Degree    =  105° 16' 37.90"
Tangent   =      11.6747
Length    =      23.0008
Radius    =      54.4237
External  =       1.2381
Long Chord =     22.8300
Mid. Ord. =       1.2106
P.C. Station    44+31.97 N    635,704.8292 E    1,018,974.7099
P.T. Station    44+54.97 N    635,709.8745 E    1,018,996.9754
C.C.              N    635,655.4544 E    1,018,997.6025
Back      = N  65° 07' 30.62" E
Ahead     = N  89° 20' 23.12" E
Chord Bear = N  77° 13' 56.87" E

Course from PT SS12_13-38 to S12004 N 87° 04' 49.32" E Dist 43.4607

Point S12004        N    635,712.0882 E    1,019,040.3797 Sta    44+98.43

==========================================================================
Ending chain SS12_13 description
```

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

SEE SHEET NO. 10 FOR –STREAM SITE 9– PROFILE
SEE SHEET NO. 10 FOR –STREAM SITE 10– PROFILE
SEE SHEET NO. 11 FOR –STREAM SITE 11– PROFILE
SEE SHEET NO. 12 FOR –STREAM SITE 12– PROFILE
SEE SHEETS NO. 15 & 16 FOR –STREAM SITE 13– PROFILE

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

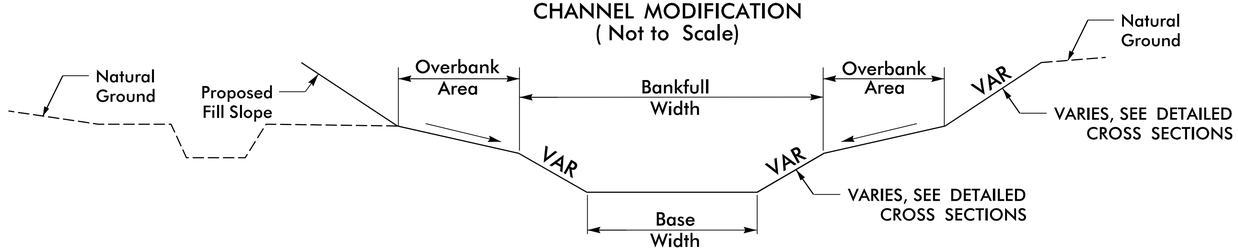
NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

TYPICAL CHANNEL SECTION

CHANNEL MODIFICATION
(Not to Scale)



NOTES:

1. WHERE SUITABLE SOIL MATERIAL EXISTS FOR PLANT GROWTH, FLOODPLAIN BENCHES AND HIGHER ELEVATION SLOPES SHALL BE SEEDED WITH RIPARIAN BUFFER SEED MIX. BIOENGINEERING LIVESTAKING SHALL BE PROVIDED AS SHOWN ON THE PLANS AND IN ALL OVERBANK AREAS WHERE EXISTING TREES ARE REMOVED.

TYPICAL CHANNEL SECTION

VARIABLE	STATION - STATION
STREAM SITE 5	190+84.54 - 195+15.45
STREAM SITE 6	207+16.22 - 211+70.48
STREAM SITE 7	216+00.78 - 217+50.57
STREAM SITE 8	221+80.44 - 226+12.86
STREAM SITE 9	227+62.89 - 231+83.57
STREAM SITE 10	233+86.22 - 239+02.38
STREAM SITE 11	255+79.52 - 258+10.78
STREAM SITE 12	263+38.17 - 271+86.92
STREAM SITE 13	271+86.92 - 308+28.48

NOTES:

1. CONTRACTOR MAY USE ERNST NC MOUNTAINS RIPARIAN (ERNMX–304) SEED MIX SHOWN IN THE TABLE OR APPROVED EQUAL.

Permanent Riparian Seed Mix (20 lbs/acre w/ cover crop*)

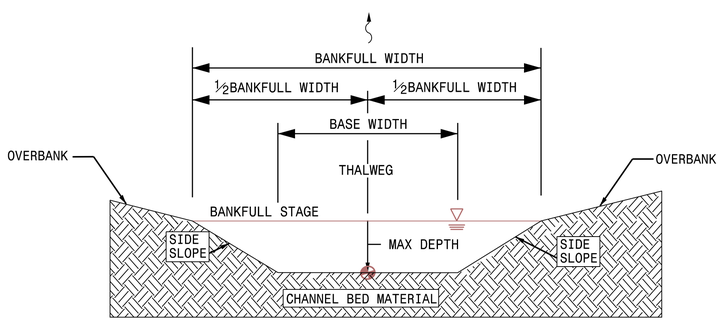
Botanical Name	Common Name	Percentage of Mix	Seed (lbs./acre)
Sorghastrum nutans	Indiangrass	24	4.8
Panicum virgatum	Switchgrass	23	4.6
Andropogon gerardii	Big Bluestem	20.8	4.2
Elymus virginicus	Virginia Wild Rye	20	4
Heliopsis helianthoides	Oxeye Sunflower	3	0.6
Rudbeckia hirta	Black-eyed Susan	3	0.6
Asclepias incarnata	Swamp Milkweed	2	0.4
Monarda fistulosa	Wild Bergamot	1.2	0.2
Helianthus angustifolius	Narrowleaf Sunflower	1	0.2
Aster umbellatus	Flat Topped White Aster	0.5	0.1
Eupatorium perfoliatum	Boneset	0.5	0.1
Solidago nemoralis	Gray Goldenrod	0.5	0.1
Vernonia noveboracensis	New York Ironweed	0.5	0.1

* For a cover crop, use either grain rye (30lbs/acre; 1 Sep to 31 Apr) or Japanese Millet (10 lbs/acre; 1 May to 31 Aug).

TYPICAL SECTION - RIFFLE

SCALE: NTS
ALL UNITS ARE IN FEET

VARIABLE	STREAM SITE 5	STREAM SITE 6	STREAM SITE 7	STREAM SITE 8	STREAM SITE 9	STREAM SITE 10	STREAM SITE 11	STREAM SITE 12	STREAM SITE 13
BANKFULL WIDTH	31	31	33	33	33	33	40	40	41
BASE WIDTH	14	14	15	15	15	15	18	18	19
MAXIMUM DEPTH	2.9	2.9	3.0	3.0	3.0	3.0	3.6	3.6	3.6
SIDE SLOPE (H:V)	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1	3:1



THALWEG (DEEPEST POINT IN CROSS SECTION)
IS LOCATED IN CENTER OF CHANNEL IN A RIFFLE.

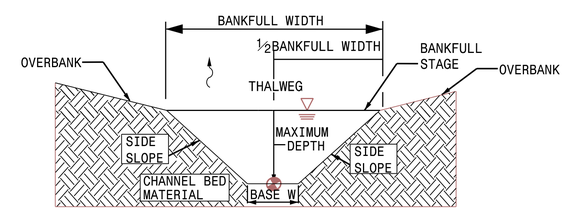
NOTES:
- ALL CROSS SECTIONS ARE SHOWN LOOKING IN THE (DOWNSTREAM) DIRECTION.
- ⊕ - GRADE POINT IS THE ELEVATION SHOWN ON PROFILE.
- ALL SHARP CORNERS SHOULD BE ROUNDED
- CONSTRUCT CHANNEL BED USING LOCAL MATERIAL CONSISTING OF GRAVEL, COBBLE, AND BOULDERS. LARGEST LOCAL MATERIAL SHOULD BE UTILIZED IN THE OVERBANK AREA.

		Stream Site																	
		SS5		SS6		SS7		SS8		SS9		SS10		SS11		SS12		SS13	
Parameter	Unit	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Riffle Slope	%	-4	-10	-4	-10	-3	-8	-6	-10	-3	-9	-2	-9	-3	-6	-2	-9	-2	-9
Run Slope	%	-12	-35	-12	-35	-20	-35	-20	-35	-20	-35	-15	-35	-10	-15	-10	-25	-10	-25
Pool Slope	%	3	8	2	8	2	5	2	5	2	5	2	6	2	5	2	6	2	8
Glide Slope	%	6	20	6	20	10	20	6	12	6	20	8	25	10	16	10	20	6	18
Riffle Length	Ft	10	20	10	20	10	20	10	20	12	22	12	22	35	45	35	45	35	45
Pool Length	Ft	8	18	8	18	8	18	5	15	8	18	8	18	25	35	25	35	25	35

TYPICAL SECTION - POOL

SCALE: NTS
ALL UNITS ARE IN FEET

VARIABLE	STREAM SITE 5	STREAM SITE 6	STREAM SITE 7	STREAM SITE 8	STREAM SITE 9	STREAM SITE 10	STREAM SITE 11	STREAM SITE 12	STREAM SITE 13
BANKFULL WIDTH	32	32	34	34	34	34	40	40	41
BASE WIDTH	10	10	11	11	11	11	13	13	13
MAXIMUM DEPTH	4.4	4.4	4.5	4.5	4.5	4.5	5.4	5.4	5.4
SIDE SLOPE (H:V)	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1



THALWEG (DEEPEST POINT IN A CROSS SECTION)
IS LOCATED IN THE MIDDLE OF THE BASE WIDTH.

NOTES:
- ALL CROSS SECTIONS ARE SHOWN LOOKING IN THE (DOWNSTREAM) DIRECTION.
- ⊕ - GRADE POINT IS THE ELEVATION SHOWN ON PROFILE.
- ALL SHARP CORNERS SHOULD BE ROUNDED
- CONSTRUCT CHANNEL BED USING LOCAL MATERIAL CONSISTING OF GRAVEL, COBBLE, AND BOULDERS. LARGEST LOCAL MATERIAL SHOULD BE UTILIZED IN THE OVERBANK AREA.

NOTES:

1. PROVIDED RANGES ARE ALLOWABLE ADJUSTMENTS FROM SPECIFIED DESIGN PARAMETERS DURING IN–FIELD ADJUSTMENTS AS APPROVED BY ENGINEER.

	Estimated Bankfull Flow Based on Regional Curves	
Stream Site	cfs	gpm
SS5	330	148100
SS6	346	155400
SS7	361	162100
SS8	368	165100
SS9	375	168500
SS10	375	168500
SS11	550	246800
SS12	556	249400
SS13	588	263900

REVISIONS

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DATE: 6/26/2026
TIME: 3:11:01 PM

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D-5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

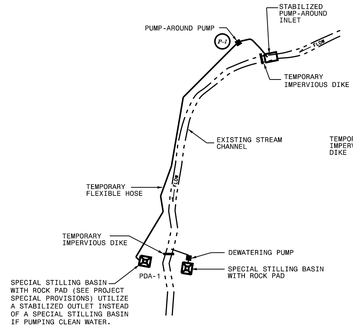
1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL STABILIZED PUMP AROUND INLET, UPSTREAM PUMP, AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. PERFORM STREAM MODIFICATION WORK IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. ALL GRADING AND STABILIZATION MUST BE COMPLETED AT THE END OF EACH WORK DAY WITHIN THE PUMP AROUND AREAS BETWEEN THE IMPERVIOUS DIKES. THE IMPERVIOUS DIKE LOCATIONS AS SHOWN ON THIS SHEET ONLY SHOW THE UPPER AND LOWER EXTENT OF WORK FOR EACH STREAM SEGMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF THE IMPERVIOUS DIKE(S) FOR EACH DAY'S WORK.
8. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

NOTES:

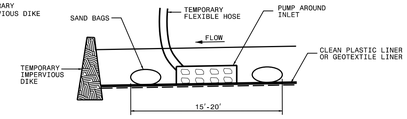
1. ALL EXCAVATION SHALL BE PERFORMED IN ONLY DRY OR ISOLATED SECTIONS OF CHANNEL.
2. IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE WORK FROM STREAM FLOW WHEN NECESSARY.
3. SAND BAGS SHALL BE FILLED WITH CLEAN MASONRY SAND OR CLEAN #57 STONE.
4. ALL GRADED AREAS SHALL BE STABILIZED WITHIN 24 HOURS.
5. MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK. THIS INCLUDES POLYETHYLENE SHEETING, DIVERSION PIPES, PUMPS AND HOSES.
6. PUMPS AND HOSES SHALL BE OF SUFFICIENT SIZE TO DEWATER THE WORK AREA.
7. SIDESLOPES OF RESTORED CHANNEL SHALL BE MATTED PRIOR TO TURNING WATER INTO CHANNEL. SEE TYPICAL MATTING LOCATION DETAIL.
8. CONTRACTOR IS RESPONSIBLE FOR DETERMINING & AQUIRING THE PROPER SIZED PUMP. SEE BANKFULL CHANNEL FLOW TABLE PROVIDED ON SHEET 2D-4 FOR GUIDANCE.
9. WATER PUMPED FROM EXCAVATIONS SHALL BE DISCHARGED INTO A GEOTEXTILE SILT BAG AND SHALL PROVIDE MEASURES TO PREVENT DISCHARE FROM EXCEEDING 10 NTU'S. CONTRACTOR MAY UTILIZE FLOCCULANTS TO SETTLE OUT PARTICLES.

PUMP-AROUND OPERATION

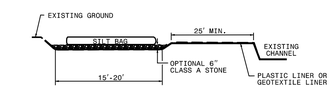
SCALE:NTS



PUMP-AROUND OPERATION
PLAN VIEW

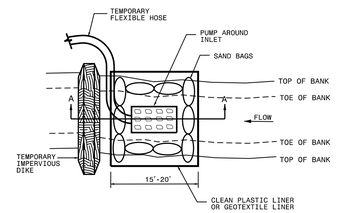


STABILIZED PUMP-AROUND INLET
SECTION A-A



NOTE: PROVIDE STABILIZED OUTLET

STILLING BASIN WITH ROCK PAD



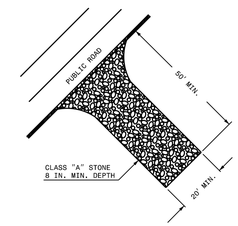
STABILIZED PUMP-AROUND INLET
PLAN VIEW

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

SCALE:NTS

NOTES:

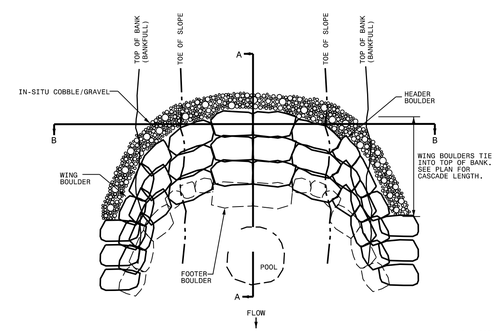
1. TURNING RADIUS SUFICIENT TO ACCOMMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOP DRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. FILTER FABRIC TO BE PLACED BENEATH STONE.



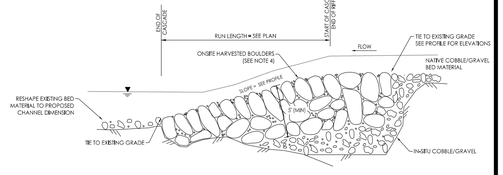
EXAMPLE RIFFLE - ROCK CASCADE SEQUENCE FOR REFERENCE ONLY.

RIFFLE - ROCK CASCADE SEQUENCE

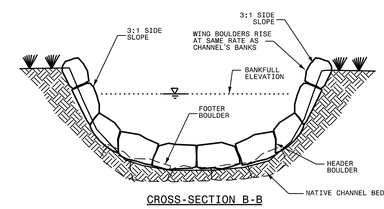
SCALE:NTS



PLAN VIEW



SECTION A-A
NOT TO SCALE



CROSS-SECTION B-B

NOTES:

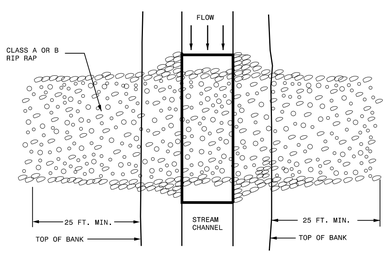
1. DIMENSIONS ARE APPROXIMATE AND MAY BE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND THE DIRECTION OF THE ENGINEER AND/OR THE CLIENT REPRESENTATIVE.
2. CONSTRUCT CASCADE STRUCTURE BEGINNING AT THE DOWNSTREAM END AND MOVING IN THE UPSTREAM DIRECTION.
3. PLACE BOULDERS SO THEY ARE TOUCHING AND ORIENTED WITH THEIR DOWNSTREAM END PITCHED UP INTO THE FLOW AS SHOWN.
4. BOULDERS SHALL BE SOURCED ON SITE WITH SIZE DIMENSIONS MEETING THE MINIMUM RANGE OF 42"-54"(L) X 42"-54"(W) X 24"-36"(D). NON-NATIVE CLASS VII AND LARGER RIPRAP AND BOULDERS CAN BE USED IN NON-EXPOSED LOWER LAYERS OF THE IN-STREAM CONSTRUCTION WHEN A SUFFICIENT AMOUNT OF ONSITE HARVESTED BOULDERS ARE NOT AVAILABLE.

TEMPORARY STREAM CROSSING

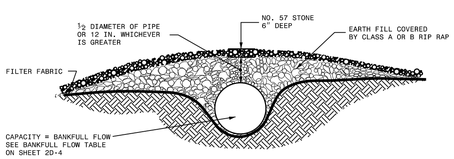
SCALE:NTS

NOTES:

1. FOR USE IN EXISTING CHANNEL ONLY. NOT FOR USE IN MODIFIED CHANNEL.
2. LOG MAT BRIDGE MAY BE USED IN LIEU OF TEMPORARY PIPE CROSSING.



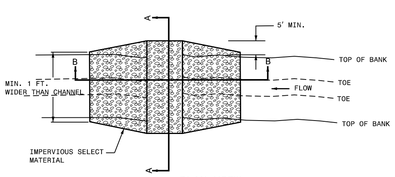
PLAN VIEW



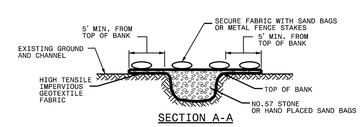
PROFILE VIEW

TEMPORARY IMPERVIOUS CHANNEL PLUG

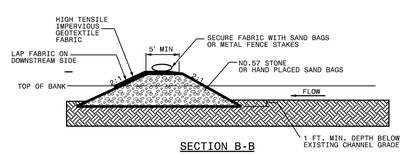
SCALE: NTS



PLAN VIEW



SECTION A-A



SECTION B-B

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D-6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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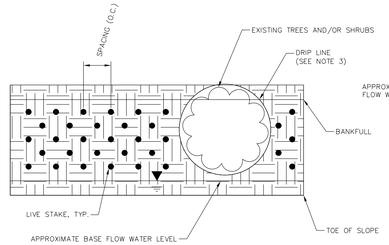

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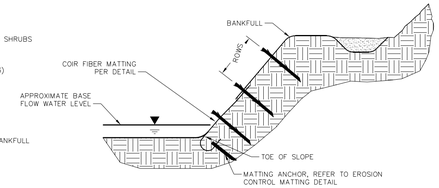
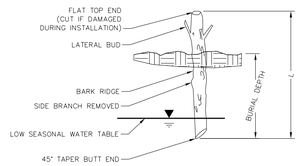


TYPICAL SECTION

Live Stakes			
Botanical Name	**Common Name**	**Stratum**	**Percent of Total Livestakes by Stream Site**
Cornus amomum	Silky Dogwood	Shrub	25
Salix nigra	Black Willow	Shrub	30
Salix sericea	Silky Willow	Shrub	30
Sambucus canadensis	Elderberry	Shrub	15



LIVE STAKE DETAIL

NOTES:

1. LIVE STAKES SHALL BE INSTALLED ON FINISHED STREAM BANKS. "FINISHED" GENERALLY REFERS TO ANY AND/OR ALL OF THE FOLLOWING AS SPECIFIED BY THE DESIGNER:
   A. GRADED
   B. PREPARED (ROTO-TILLED, RAKED, AND AMENDED),
   C. SEEDED,
   D. MULCHED, AND
   E. COVERED WITH EROSION CONTROL MATTING.
2. LIVE STAKES SHALL BE FASHIONED FROM DORMANT CUTTINGS OF WOODY PLANT SPECIES (TREES AND SHRUBS) IN ACCORDANCE WITH THE PLANTING TABLE THIS SHEET OR APPROVED EQUAL.
3. LIVE STAKES SHALL NOT BE PLACED WITHIN THE DRIP LINE OF ANY EXISTING TREES AND/OR SHRUBS THAT REMAIN ON THE BANKS.
4. LIVE STAKES SHALL NOT BE PLANTED WITHIN 5 FEET OF HEADWALL, WINGWALL, OR OTHER INFRASTRUCTURE.
5. DETAILED HANDLING, PREPARATION, AND INSTALLATION GUIDELINES FOR LIVE STAKES SHALL BE SPECIFIED BY THE DESIGNER, INCLUDING:
   A. LIVE STAKES MAY BE STORED UP TO 10 DAYS IN WATER.
   B. ALL LATERAL BRANCHES SHALL BE CAREFULLY REMOVED FROM THE WOODY CUTTINGS PRIOR TO INSTALLATION.
   C. LIVE STAKES SHALL BE DRIVEN INTO THE GROUND USING A "DEAD BLOW" PLASTIC HAMMER, BY CREATING A PILOT HOLE AND SLIPPING THE STAKE INTO IT, OR WITH THE USE OF A HYDRAULIC INJECTION SYSTEM. SOIL SHALL BE FIRMLY PACKED AROUND THE HOLE AFTER INSTALLATION.
   D. SPLIT OR OTHERWISE DAMAGED LIVE STAKES SHALL NOT BE USED.

DESIGN VARIABLES	
DIAMETER	1/2"-2"
LENGTH	2' - 3'
BURIAL DEPTH	4/5L
SPACING (O.C.)	3'
ROWS [1]	SEE PLANS
PLACEMENT OF 1ST ROW FROM TOE OF SLOPE	0.5'

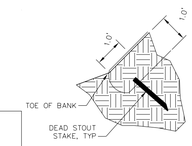
[1] ROWS SHOULD BE EQUALLY SPACED WITHIN THE IDENTIFIED PLANTING AREAS SHOWN ON THE PLANS.

NOT TO SCALE

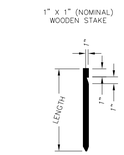
LIVE STAKING

NOTES:

1. THE SLOPE AND/OR STREAM BANK SHALL BE PREPARED (GRADED, TILLED, SMOOTHED, ETC.) AND SEEDED AND MULCHED AS SPECIFIED BY THE DESIGNER PRIOR TO THE PLACEMENT OF THE MATTING.
2. THE MATTING SHALL BE INSTALLED SO AS TO NOT BE IN TENSION, BUT BE PLACED NEATLY, FLUSH AGAINST THE SOIL, AND WITH NO GAPS OR WRINKLES.
3. MATTING SHALL BE NEATLY SECURED AROUND ANY PROJECT STRUCTURES, STRUCTURE ARMS, AND/OR SILLS TO PREVENT ANY LOOSE OR FRAYED EDGES.
4. THERE SHALL BE NO LOOSE ENDS OR UNSECURED MATTING ON THE COMPLETED WORK.

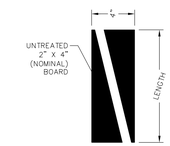


MATTING ANCHOR DETAIL



*GALVANIZED NAIL MAY BE USED IN LIEU OF THE NOTCH.

STAKE - OPTION 1



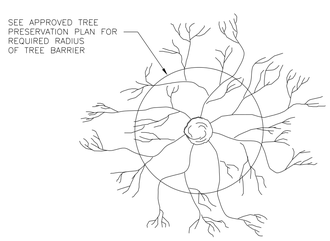
DEAD STOUT STAKE - OPTION 2

NOT TO SCALE

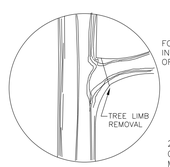
COIR MATTING BANK STABILIZATION

NOTES:

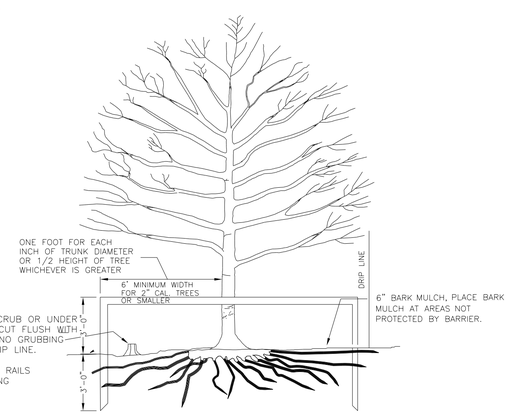
1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.



PLAN VIEW OF ROOT ZONE



FOR PRUNING SEE INTERNATIONAL SOCIETY OF ARBORICULTURE SPECS.



TREE PROTECTION

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	7
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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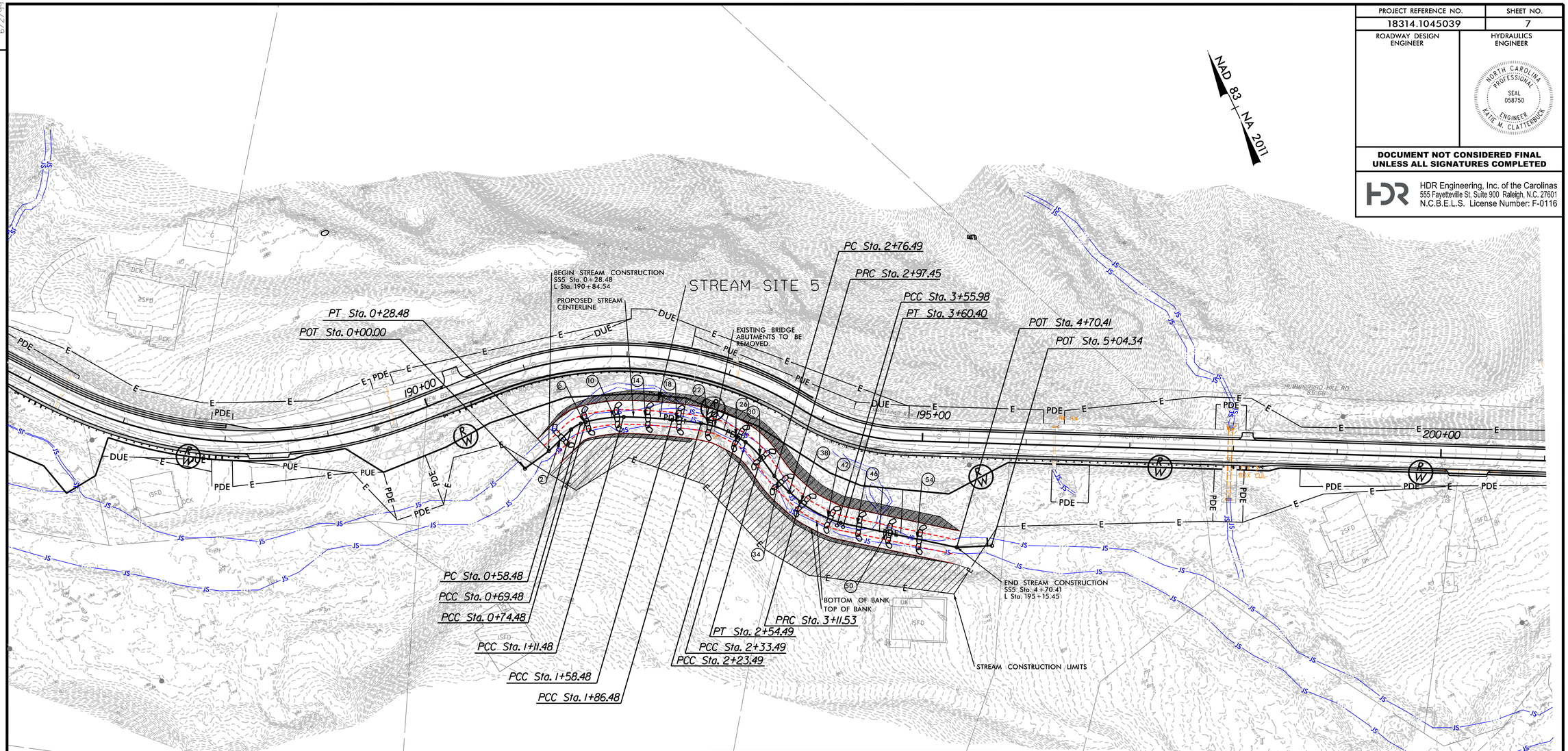

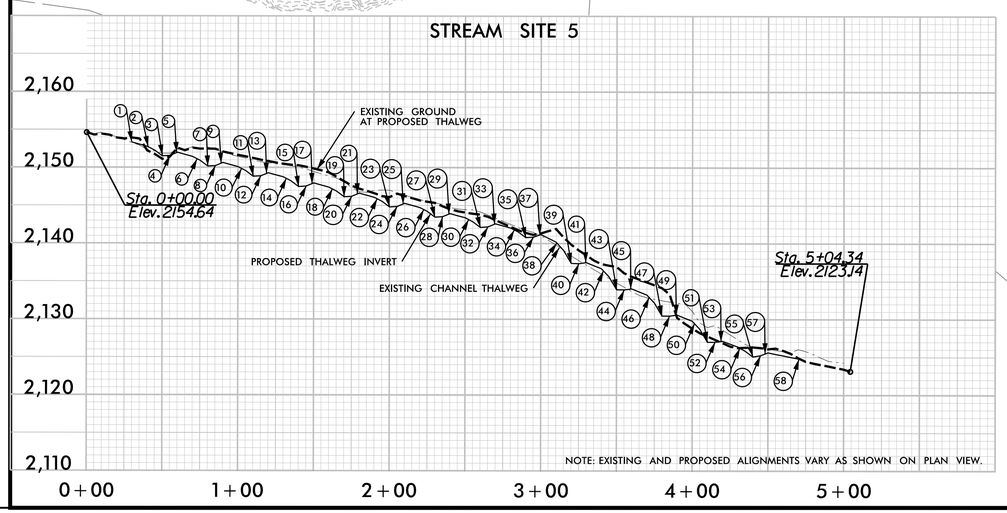

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+28.48	2153.40	-5.50%	2156.30	31	2.9
2	Head of Cascade	0+42.48	2152.63	-15.00%		31	
3	Mid Pool	0+50.48	2151.43	3.00%	2155.83	32	4.4
4	Glide	0+55.48	2151.58	16.00%		32	
5	Head of Riffle	0+58.48	2152.06	-5.50%	2154.96	31	2.9
6	Head of Cascade	0+72.48	2151.29	-15.00%		31	
7	Mid Pool	0+80.48	2150.09	3.00%	2154.49	32	4.4
8	Glide	0+85.48	2150.24	16.00%		32	
9	Head of Riffle	0+88.48	2150.72	-5.50%	2153.62	31	2.9
10	Head of Cascade	1+02.48	2149.95	-15.00%		31	
11	Mid Pool	1+10.48	2148.75	3.00%	2153.15	32	4.4
12	Glide	1+15.48	2148.90	16.00%		32	
13	Head of Riffle	1+18.48	2149.38	-5.50%	2152.28	31	2.9
14	Head of Cascade	1+32.48	2148.61	-15.00%		31	
15	Mid Pool	1+40.48	2147.41	3.00%	2151.81	32	4.4
16	Glide	1+45.48	2147.56	16.00%		32	
17	Head of Riffle	1+48.48	2148.04	-5.50%	2150.94	31	2.9
18	Head of Cascade	1+62.48	2147.27	-15.00%		31	
19	Mid Pool	1+70.48	2146.07	3.00%	2150.47	32	4.4
20	Glide	1+75.48	2146.22	16.00%		32	
21	Head of Riffle	1+78.48	2146.70	-5.50%	2149.60	31	2.9
22	Head of Cascade	1+92.48	2145.93	-15.00%		31	
23	Mid Pool	2+00.48	2144.73	3.00%	2149.13	32	4.4
24	Glide	2+05.48	2144.88	16.00%		32	
25	Head of Riffle	2+08.48	2145.36	-5.50%	2148.26	31	2.9
26	Head of Cascade	2+22.48	2144.59	-15.00%		31	
27	Mid Pool	2+30.48	2143.39	3.00%	2147.79	32	4.4
28	Glide	2+35.48	2143.54	16.00%		32	
29	Head of Riffle	2+38.48	2144.02	-5.50%	2146.92	31	2.9
30	Head of Cascade	2+52.48	2143.25	-15.00%		31	
31	Mid Pool	2+60.48	2142.05	3.00%	2146.45	32	4.4
32	Glide	2+65.48	2142.20	16.00%		32	
33	Head of Riffle	2+68.48	2142.68	-5.50%	2145.58	31	2.9
34	Head of Cascade	2+82.48	2141.91	-15.00%		31	
35	Mid Pool	2+90.48	2140.71	3.00%	2145.11	32	4.4

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
36	Glide	2+95.48	2140.86	16.00%		32	
37	Head of Riffle	2+98.48	2141.34	-10.00%	2144.24	31	2.9
38	Head of Cascade	3+12.48	2139.94	-34.00%		31	
39	Mid Pool	3+20.48	2137.22	3.00%	2141.62	32	4.4
40	Glide	3+25.48	2137.37	8.00%		32	
41	Head of Riffle	3+28.48	2137.61	-8.00%	2140.51	31	2.9
42	Head of Cascade	3+42.48	2136.49	-34.00%		31	
43	Mid Pool	3+50.48	2133.77	3.00%	2138.17	32	4.4
44	Glide	3+55.48	2133.92	8.00%		32	
45	Head of Riffle	3+58.48	2134.16	-8.00%	2137.06	31	2.9
46	Head of Cascade	3+72.48	2133.04	-34.00%		31	
47	Mid Pool	3+80.48	2130.32	3.00%	2134.72	32	4.4
48	Glide	3+85.48	2130.47	8.00%		32	
49	Head of Riffle	3+88.48	2130.71	-8.00%	2133.61	31	2.9
50	Head of Cascade	4+02.48	2129.59	-34.00%		31	
51	Mid Pool	4+10.48	2126.87	3.00%	2131.27	32	4.4
52	Glide	4+15.48	2127.02	8.00%		32	
53	Head of Riffle	4+18.48	2127.26	-7.50%	2130.16	31	2.9
54	Head of Cascade	4+32.48	2126.21	-15.00%		31	
55	Mid Pool	4+40.48	2125.01	5.00%	2129.41	32	4.4
56	Glide	4+45.48	2125.26	14.00%		32	
57	Head of Riffle	4+48.48	2125.68	-4.00%	2128.58	31	2.9
58	Tie-In	4+70.48	2124.80			31	

LEGEND:

- BIOENGINEERING LIVE STAKING AREA
- EXISTING CHANNEL THALWEG
- PROPOSED CHANNEL THALWEG

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

SEE SHEET 2D-1 FOR STREAM ALIGNMENT DATA

REVISIONS

6/2/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: US-74A_CMGC_STREAM.tbl
DATE: 6/26/2026
TIME: 3:11:17 PM

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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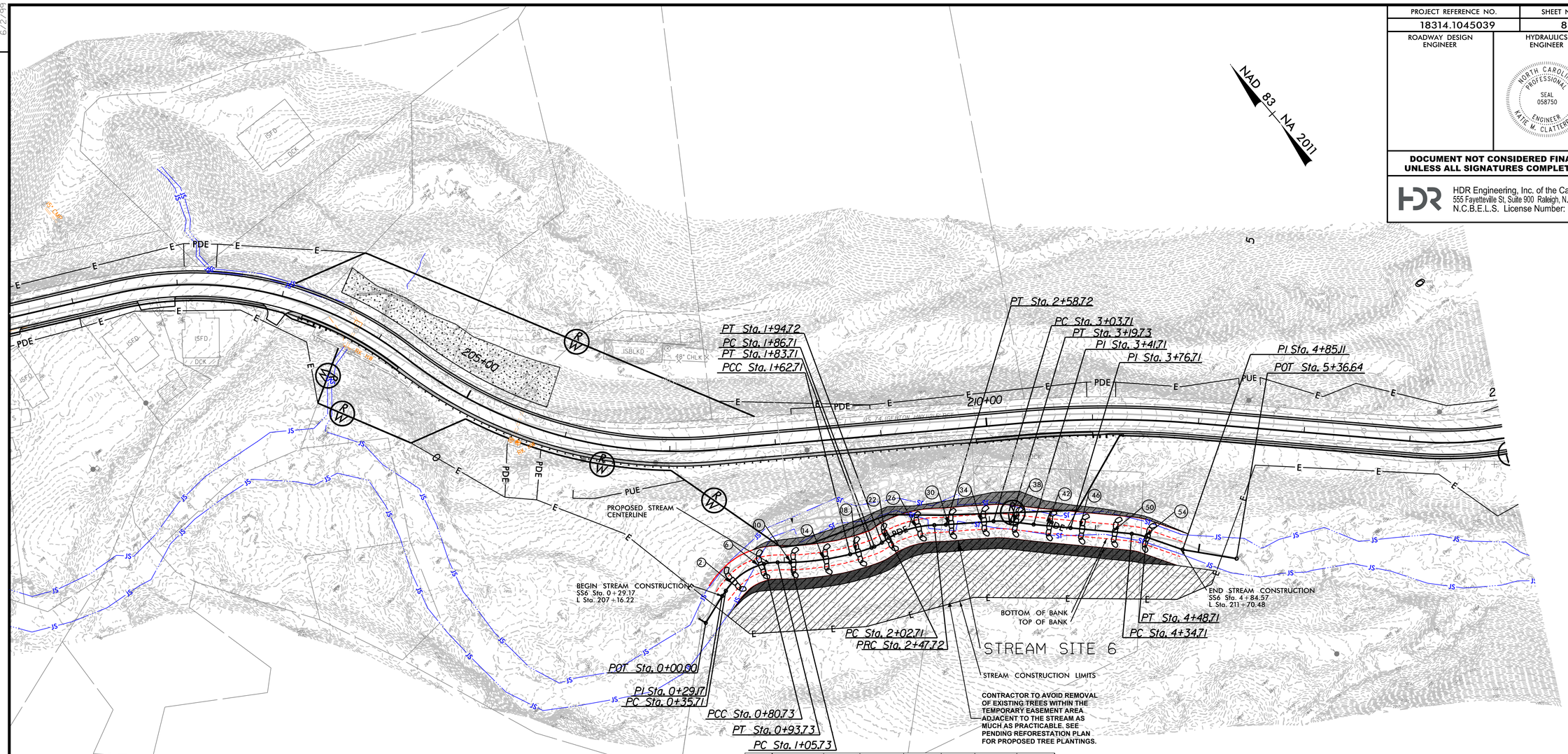
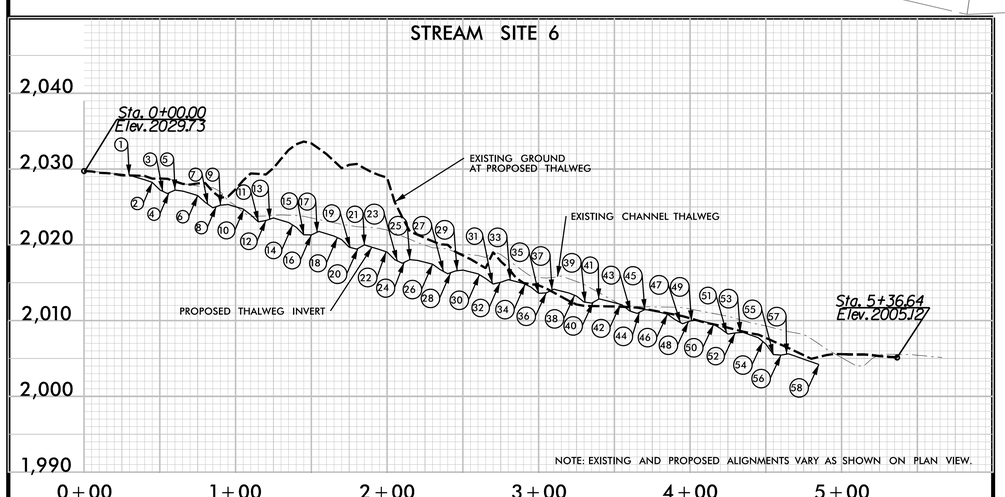
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116





POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT)	BKF DEPTH (FT)
1	Head of Riffle	0+29.17	2029.20	-6.00%	2032.1	31	2.9
2	Head of Cascade	0+44.17	2028.30	-20.00%		31	
3	Mid Pool	0+52.17	2026.70	3.00%	2031.1	32	4.4
4	Glide	0+57.17	2026.85	17.00%		32	
5	Head of Riffle	0+60.17	2027.36	-6.00%	2030.26	31	2.9
6	Head of Cascade	0+75.17	2026.46	-20.00%		31	
7	Mid Pool	0+83.17	2024.86	3.00%	2029.26	32	4.4
8	Glide	0+88.17	2025.01	17.00%		32	
9	Head of Riffle	0+91.17	2025.52	-6.00%	2028.42	31	2.9
10	Head of Cascade	1+06.17	2024.62	-20.00%		31	
11	Mid Pool	1+14.17	2023.02	3.00%	2027.42	32	4.4
12	Glide	1+19.17	2023.17	17.00%		32	
13	Head of Riffle	1+22.17	2023.68	-6.00%	2026.58	31	2.9
14	Head of Cascade	1+37.17	2022.78	-20.00%		31	
15	Mid Pool	1+45.17	2021.18	3.00%	2025.58	32	4.4
16	Glide	1+50.17	2021.33	17.00%		32	
17	Head of Riffle	1+53.17	2021.84	-6.00%	2024.74	31	2.9
18	Head of Cascade	1+68.17	2020.94	-20.00%		31	
19	Mid Pool	1+76.17	2019.34	3.00%	2023.74	32	4.4
20	Glide	1+81.17	2019.49	17.00%		32	
21	Head of Riffle	1+84.17	2020.00	-6.00%	2022.9	31	2.9
22	Head of Cascade	1+99.17	2019.10	-20.00%		31	
23	Mid Pool	2+07.17	2017.50	3.00%	2021.9	32	4.4
24	Glide	2+12.17	2017.65	17.00%		32	
25	Head of Riffle	2+15.17	2018.16	-5.00%	2021.06	31	2.9
26	Head of Cascade	2+30.17	2017.41	-16.00%		31	
27	Mid Pool	2+38.17	2016.13	4.00%	2020.53	32	4.4
28	Glide	2+43.17	2016.33	17.00%		32	
29	Head of Riffle	2+46.17	2016.84	-5.00%	2019.74	31	2.9
30	Head of Cascade	2+61.17	2016.09	-16.00%		31	
31	Mid Pool	2+69.17	2014.81	4.00%	2019.21	32	4.4
32	Glide	2+74.17	2015.01	17.00%		32	
33	Head of Riffle	2+77.17	2015.52	-5.00%	2018.42	31	2.9
34	Head of Cascade	2+92.17	2014.77	-16.00%		31	
35	Mid Pool	3+00.17	2013.49	4.00%	2017.89	32	4.4

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT)	BKF DEPTH (FT)
36	Glide	3+05.17	2013.69	17.00%		32	
37	Head of Riffle	3+08.17	2014.20	-5.00%	2017.1	31	2.9
38	Head of Cascade	3+23.17	2013.45	-16.00%		31	
39	Mid Pool	3+31.17	2012.17	4.00%	2016.57	32	4.4
40	Glide	3+36.17	2012.37	17.00%		32	
41	Head of Riffle	3+39.17	2012.88	-5.00%	2015.78	31	2.9
42	Head of Cascade	3+54.17	2012.13	-16.00%		31	
43	Mid Pool	3+62.17	2010.85	4.00%	2015.25	32	4.4
44	Glide	3+67.17	2011.05	17.00%		32	
45	Head of Riffle	3+70.17	2011.56	-5.00%	2014.46	31	2.9
46	Head of Cascade	3+85.17	2010.81	-16.00%		31	
47	Mid Pool	3+93.17	2009.53	4.00%	2013.93	32	4.4
48	Glide	3+98.17	2009.73	17.00%		32	
49	Head of Riffle	4+01.17	2010.24	-5.00%	2013.14	31	2.9
50	Head of Cascade	4+16.17	2009.49	-16.00%		31	
51	Mid Pool	4+24.17	2008.21	3.00%	2012.61	32	4.4
52	Glide	4+29.17	2008.36	8.00%		32	
53	Head of Riffle	4+32.17	2008.60	-7.00%	2011.5	31	2.9
54	Head of Cascade	4+47.17	2007.55	-28.00%		31	
55	Mid Pool	4+55.17	2005.31	3.00%	2009.71	32	4.4
56	Glide	4+60.17	2005.46	8.00%		32	
57	Head of Riffle	4+63.17	2005.70	-7.00%	2008.6	31	2.9
58	Tie-In	4+84.57	2004.20			31	

LEGEND:

- BIOENGINEERING LIVE STAKING AREA
- EXISTING CHANNEL THALWEG
- PROPOSED CHANNEL THALWEG

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

SEE SHEET 2D-1 FOR STREAM ALIGNMENT DATA

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

SEE SHEET 2D-1 FOR STREAM ALIGNMENT DATA

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
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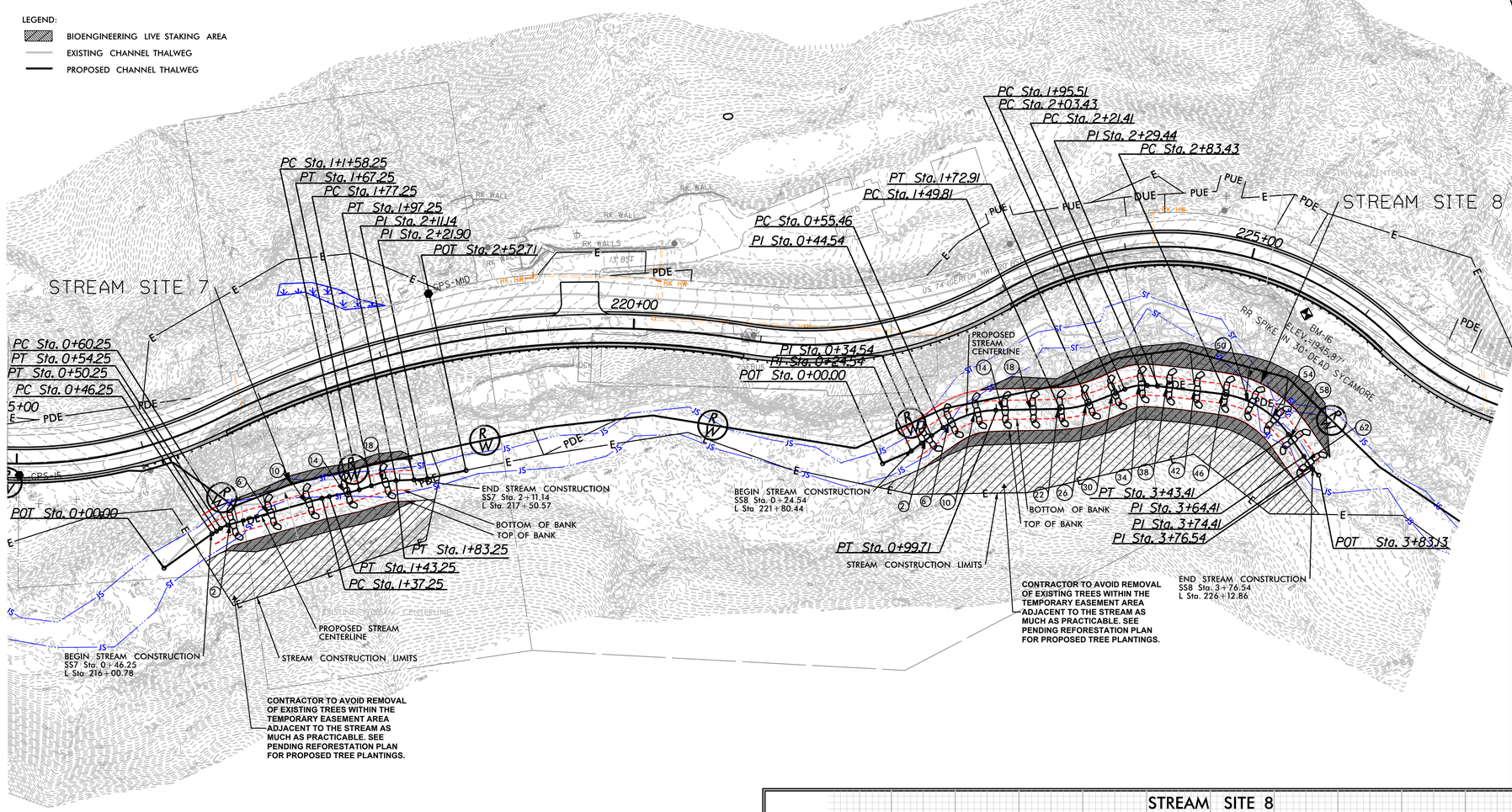
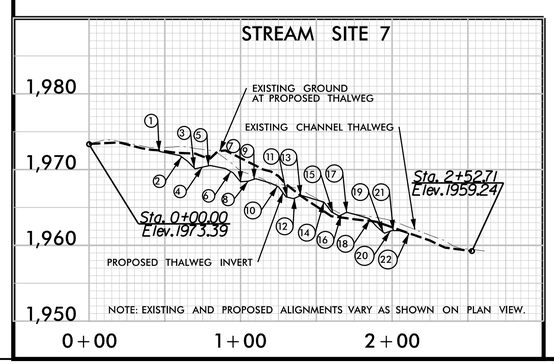
LEGEND:
- BIOENGINEERING LIVE STAKING AREA
- EXISTING CHANNEL THALWEG
- PROPOSED CHANNEL THALWEG

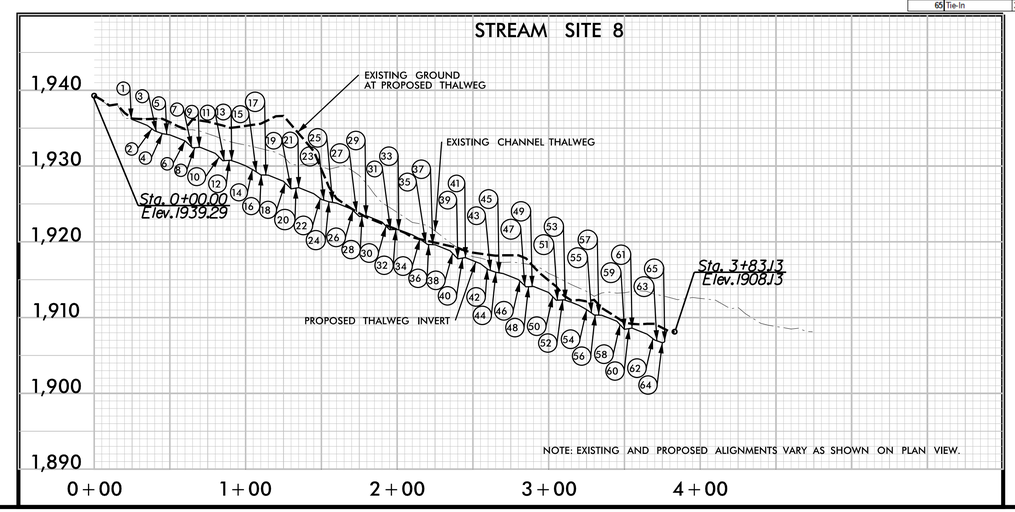
NAD 83 / NA 2011



POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+24.54	1936.20	-8.00%	1939.2	33	3
2	Head of Cascade	0+38.54	1935.08	-30.00%		33	
3	Mid Pool	0+41.54	1934.18	2.00%	1938.68	34	4.5
4	Glide	0+44.54	1934.24	8.00%		34	
5	Head of Riffle	0+46.54	1934.40	-8.00%	1937.4	33	3
6	Head of Cascade	0+60.54	1933.28	-30.00%		33	
7	Mid Pool	0+63.54	1932.38	2.00%	1936.88	34	4.5
8	Glide	0+66.54	1932.44	8.00%		34	
9	Head of Riffle	0+68.54	1932.60	-8.00%	1935.6	33	3
10	Head of Cascade	0+82.54	1931.48	-30.00%		33	
11	Mid Pool	0+85.54	1930.58	2.00%	1935.08	34	4.5
12	Glide	0+88.54	1930.64	8.00%		34	
13	Head of Riffle	0+90.54	1930.80	-8.00%	1933.8	33	3
14	Head of Cascade	1+04.54	1929.68	-30.00%		33	
15	Mid Pool	1+07.54	1928.78	2.00%	1933.28	34	4.5
16	Glide	1+10.54	1928.84	8.00%		34	
17	Head of Riffle	1+12.54	1929.00	-8.00%	1932	33	3
18	Head of Cascade	1+26.54	1927.88	-30.00%		33	
19	Mid Pool	1+29.54	1926.98	2.00%	1931.48	34	4.5
20	Glide	1+32.54	1927.04	8.00%		34	
21	Head of Riffle	1+34.54	1927.20	-8.00%	1930.2	33	3
22	Head of Cascade	1+48.54	1926.08	-30.00%		33	
23	Mid Pool	1+51.54	1925.18	2.00%	1929.68	34	4.5
24	Glide	1+54.54	1925.24	8.00%		34	
25	Head of Riffle	1+56.54	1925.40	-8.00%	1928.4	33	3
26	Head of Cascade	1+70.54	1924.28	-32.00%		33	
27	Mid Pool	1+73.54	1923.32	2.00%	1927.82	34	4.5
28	Glide	1+76.54	1923.38	8.00%		34	
29	Head of Riffle	1+78.54	1923.54	-8.00%	1926.54	33	3
30	Head of Cascade	1+92.54	1922.42	-32.00%		33	
31	Mid Pool	1+95.54	1921.46	2.00%	1925.96	34	4.5
32	Glide	1+98.54	1921.52	8.00%		34	
33	Head of Riffle	2+00.54	1921.68	-8.00%	1924.68	33	3
34	Head of Cascade	2+14.54	1920.56	-32.00%		33	
35	Mid Pool	2+17.54	1919.60	2.00%	1924.1	34	4.5
36	Glide	2+20.54	1919.66	8.00%		34	
37	Head of Riffle	2+22.54	1919.82	-8.00%	1922.82	33	3
38	Head of Cascade	2+36.54	1918.70	-32.00%		33	
39	Mid Pool	2+39.54	1917.74	2.00%	1922.24	34	4.5
40	Glide	2+42.54	1917.80	8.00%		34	
41	Head of Riffle	2+44.54	1917.96	-8.00%	1920.96	33	3
42	Head of Cascade	2+58.54	1916.84	-32.00%		33	
43	Mid Pool	2+61.54	1915.88	2.00%	1920.38	34	4.5
44	Glide	2+64.54	1915.94	8.00%		34	
45	Head of Riffle	2+66.54	1916.10	-8.00%	1919.1	33	3
46	Head of Cascade	2+80.54	1914.98	-32.00%		33	
47	Mid Pool	2+83.54	1914.02	2.00%	1918.52	34	4.5
48	Glide	2+86.54	1914.08	8.00%		34	
49	Head of Riffle	2+88.54	1914.24	-8.00%	1917.24	33	3
50	Head of Cascade	3+02.54	1913.12	-32.00%		33	
51	Mid Pool	3+05.54	1912.16	2.00%	1916.66	34	4.5
52	Glide	3+08.54	1912.22	8.00%		34	
53	Head of Riffle	3+10.54	1912.38	-8.00%	1915.38	33	3
54	Head of Cascade	3+24.54	1911.26	-32.00%		33	
55	Mid Pool	3+27.54	1910.30	2.00%	1914.8	34	4.5
56	Glide	3+30.54	1910.36	8.00%		34	
57	Head of Riffle	3+32.54	1910.52	-8.00%	1913.52	33	3
58	Head of Cascade	3+46.54	1909.40	-32.00%		33	
59	Mid Pool	3+49.54	1908.44	2.00%	1912.94	34	4.5
60	Glide	3+52.54	1908.50	8.00%		34	
61	Head of Riffle	3+54.54	1908.66	-8.00%	1911.66	33	3
62	Head of Cascade	3+68.54	1907.54	-32.00%		33	
63	Mid Pool	3+71.54	1906.58	2.00%	1911.08	34	4.5
64	Glide	3+74.54	1906.64	8.00%		34	
65	Tie-In	3+76.54	1906.80		1909.8	33	3



POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+46.25	1972.40	-4.00%	1975.40	33	3
2	Head of Cascade	0+62.25	1971.76	-24.00%		33	
3	Mid Pool	0+69.25	1970.08	3.00%	1974.58	34	4.5
4	Glide	0+74.25	1970.23	14.00%		34	
5	Head of Riffle	0+77.25	1970.65	-4.00%	1973.65	33	3
6	Head of Cascade	0+93.25	1970.01	-24.00%		33	
7	Mid Pool	1+00.25	1968.33	3.00%	1972.83	34	4.5
8	Glide	1+05.25	1968.48	14.00%		34	
9	Head of Riffle	1+08.25	1968.90	-6.00%	1971.90	33	3
10	Head of Cascade	1+24.25	1967.94	-27.00%		33	
11	Mid Pool	1+31.25	1966.05	3.00%	1970.55	34	4.5
12	Glide	1+36.25	1966.20	15.00%		34	
13	Head of Riffle	1+39.25	1966.65	-6.00%	1969.65	33	3
14	Head of Cascade	1+55.25	1965.69	-27.00%		33	
15	Mid Pool	1+62.25	1963.80	3.00%	1968.30	34	4.5
16	Glide	1+67.25	1963.95	15.00%		34	
17	Head of Riffle	1+70.25	1964.40	-6.00%	1967.40	33	3
18	Head of Cascade	1+86.25	1963.44	-27.00%	0.00	33	
19	Mid Pool	1+93.25	1961.55	3.00%	1966.05	34	4.5
20	Glide	1+98.25	1961.70	15.00%		34	
21	Head of Riffle	2+01.25	1962.15	-6.00%	1965.15	33	3
22	Tie-In	2+11.14	1961.56			33	



REVISIONS

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SEE SHEET 2D–2 FOR STREAM ALIGNMENT DATA
SEE SHEET 10a FOR FOR PROFILE POINT TABLES

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

LEGEND:
- BIOENGINEERING LIVE STAKING AREA
- EXISTING CHANNEL THALWEG
- PROPOSED CHANNEL THALWEG

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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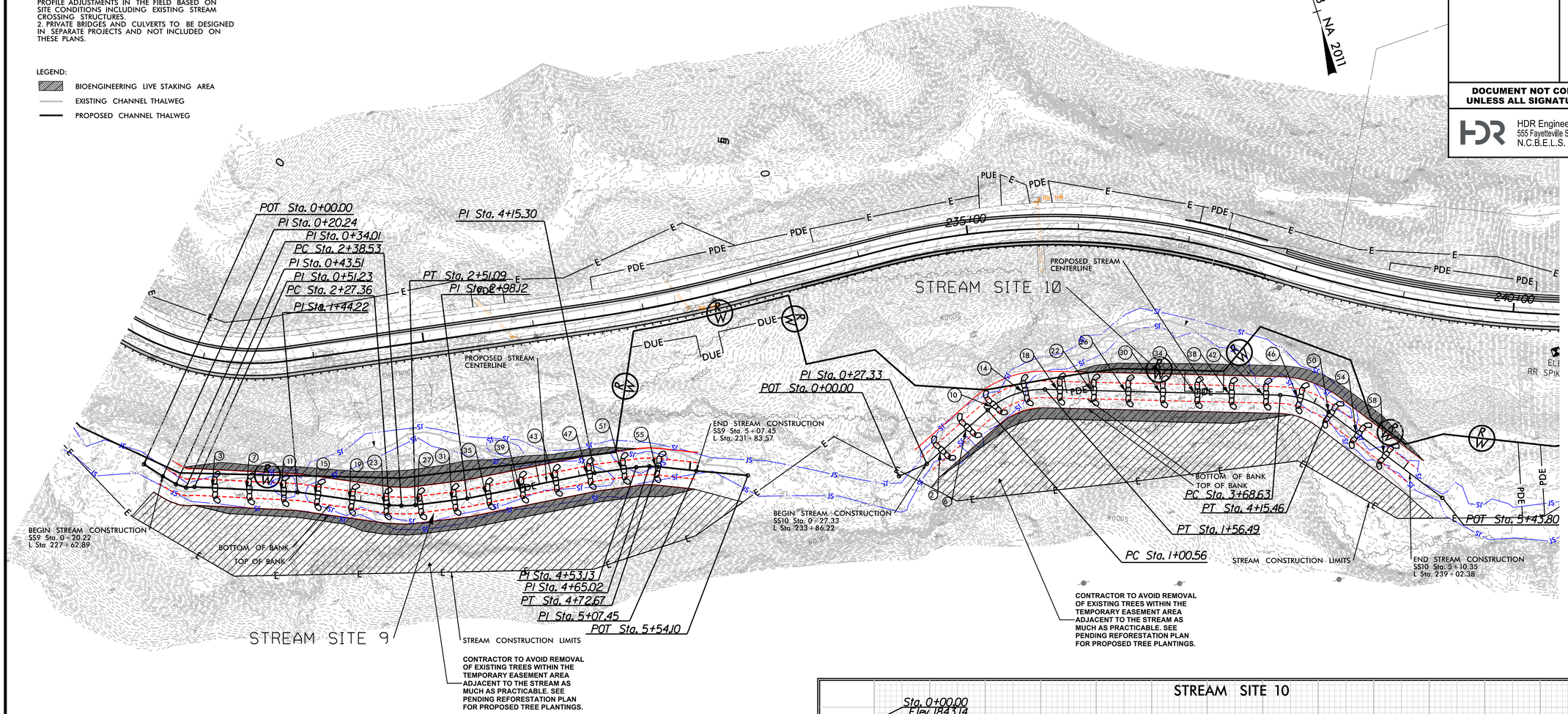

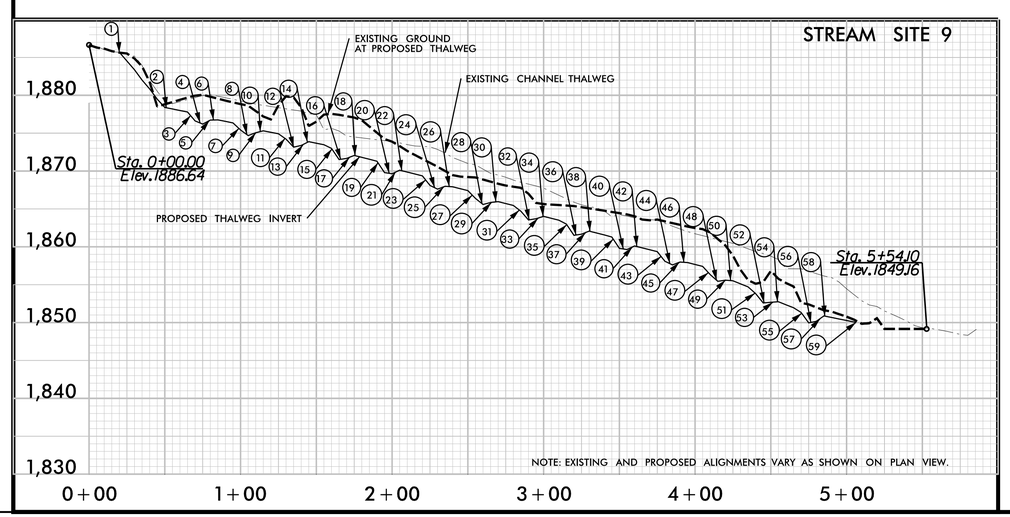

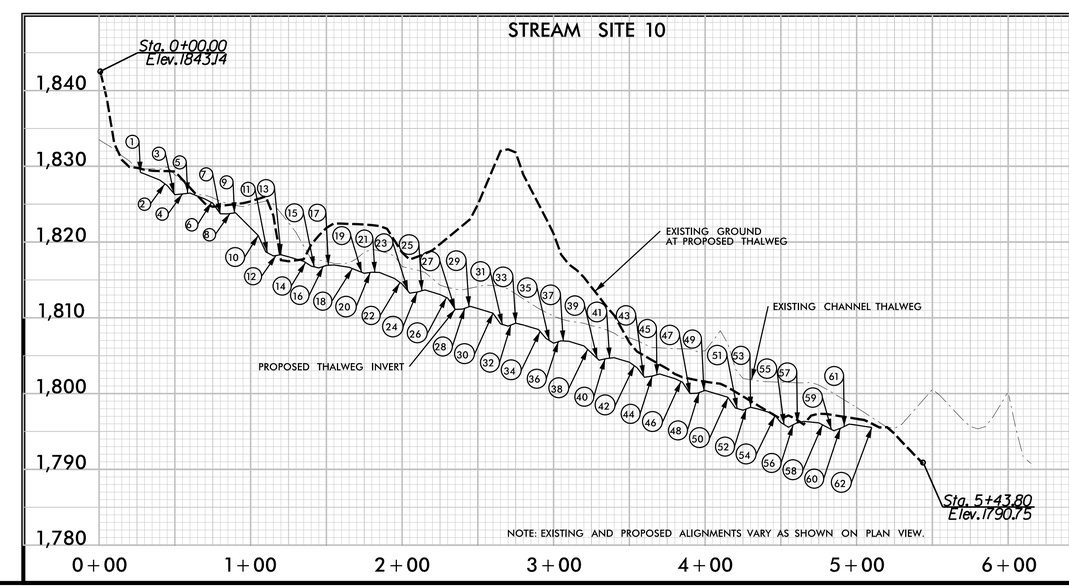

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	10a

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

STREAM SITE 9

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+20.22	1885.60	-23.2%	1888.6	33	3
2	Head of Riffle	0+51.22	1878.40	-4.00%	1881.40	33	3
3	Head of Cascade	0+67.22	1877.76	-28.00%		33	
4	Mid Pool	0+73.22	1876.08	4.00%	1880.58	34	4.5
5	Glide	0+79.22	1876.32	20.00%		34	
6	Head of Riffle	0+82.22	1876.92	-4.00%	1879.92	33	3
7	Head of Cascade	0+98.22	1876.28	-28.00%		33	
8	Mid Pool	1+04.22	1874.60	4.00%	1879.10	34	4.5
9	Glide	1+10.22	1874.84	20.00%		34	
10	Head of Riffle	1+13.22	1875.44	-4.00%	1878.44	33	3
11	Head of Cascade	1+29.22	1874.80	-28.00%		33	
12	Mid Pool	1+35.22	1873.12	4.00%	1877.62	34	4.5
13	Glide	1+41.22	1873.36	20.00%		34	
14	Head of Riffle	1+44.22	1873.96	-4.00%	1876.96	33	3
15	Head of Cascade	1+60.22	1873.32	-30.00%		33	
16	Mid Pool	1+66.22	1871.52	3.00%	1876.02	34	4.5
17	Glide	1+72.22	1871.70	14.00%		34	
18	Head of Riffle	1+75.22	1872.12	-5.00%	1875.12	33	3
19	Head of Cascade	1+91.22	1871.32	-30.00%		33	
20	Mid Pool	1+97.22	1869.52	3.00%	1874.02	34	4.5
21	Glide	2+03.22	1869.70	14.00%		34	
22	Head of Riffle	2+06.22	1870.12	-5.00%	1873.12	33	3
23	Head of Cascade	2+22.22	1869.32	-30.00%		33	
24	Mid Pool	2+28.22	1867.52	3.00%	1872.02	34	4.5
25	Glide	2+34.22	1867.70	14.00%		34	
26	Head of Riffle	2+37.22	1868.12	-5.00%	1871.12	33	3
27	Head of Cascade	2+53.22	1867.32	-30.00%		33	
28	Mid Pool	2+59.22	1865.52	3.00%	1870.02	34	4.5
29	Glide	2+65.22	1865.70	14.00%		34	
30	Head of Riffle	2+68.22	1866.12	-5.00%	1869.12	33	3
31	Head of Cascade	2+84.22	1865.32	-30.00%		33	
32	Mid Pool	2+90.22	1863.52	3.00%	1868.02	34	4.5
33	Glide	2+96.22	1863.70	14.00%		34	
34	Head of Riffle	2+99.22	1864.12	-5.00%	1867.12	33	3
35	Head of Cascade	3+15.22	1863.32	-30.00%		33	
36	Mid Pool	3+21.22	1861.52	3.00%	1866.02	34	4.5
37	Glide	3+27.22	1861.70	14.00%		34	
38	Head of Riffle	3+30.22	1862.12	-5.00%	1865.12	33	3
39	Head of Cascade	3+46.22	1861.32	-30.00%		33	
40	Mid Pool	3+52.22	1859.52	3.00%	1864.02	34	4.5
41	Glide	3+58.22	1859.70	14.00%		34	
42	Head of Riffle	3+61.22	1860.12	-5.00%	1863.12	33	3
43	Head of Cascade	3+77.22	1859.32	-30.00%		33	
44	Mid Pool	3+83.22	1857.52	3.00%	1862.02	34	4.5
45	Glide	3+89.22	1857.70	14.00%		34	
46	Head of Riffle	3+92.22	1858.12	-5.00%	1861.12	33	3
47	Head of Cascade	4+08.22	1857.32	-32.00%		33	
48	Mid Pool	4+14.22	1855.40	2.00%	1859.90	34	4.5
49	Glide	4+20.22	1855.52	8.00%		34	
50	Head of Riffle	4+23.22	1855.76	-8.00%	1858.76	33	3
51	Head of Cascade	4+39.22	1854.48	-32.00%		33	
52	Mid Pool	4+45.22	1852.56	2.00%	1857.06	34	4.5
53	Glide	4+51.22	1852.68	8.00%		34	
54	Head of Riffle	4+54.22	1852.92	-8.00%	1855.92	33	3
55	Head of Cascade	4+70.22	1851.64	-28.00%		33	
56	Mid Pool	4+76.22	1849.96	4.00%	1854.46	34	4.5
57	Glide	4+82.22	1850.20	24.00%		34	
58	Head of Riffle	4+85.22	1850.92	-4.00%	1853.92	33	3
59	Tie-In	5+07.45	1850.03			33	

STREAM SITE 10

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+27.33	1829.20	-8.00%	1832.2	33	3
2	Head of Cascade	0+43.33	1827.92	-28.00%		33	
3	Mid Pool	0+49.33	1826.24	2.00%	1830.74	34	4.5
4	Glide	0+55.33	1826.36	8.00%		34	
5	Head of Riffle	0+58.33	1826.60	-8.00%	1829.6	33	3
6	Head of Cascade	0+74.33	1825.32	-28.00%		33	
7	Mid Pool	0+80.33	1823.64	2.00%	1828.14	34	4.5
8	Glide	0+86.33	1823.76	8.00%		34	
9	Head of Riffle	0+89.33	1824.00	-20.00%	1827	33	3
10	Head of Cascade	1+05.33	1820.80	-45.00%		33	
11	Mid Pool	1+11.33	1818.10	2.00%	1822.6	34	4.5
12	Glide	1+17.33	1818.22	4.00%		34	
13	Head of Riffle	1+20.33	1818.34	-6.00%	1821.34	33	3
14	Head of Cascade	1+36.33	1817.38	-15.00%		33	
15	Mid Pool	1+42.33	1816.48	4.00%	1820.98	34	4.5
16	Glide	1+48.33	1816.72	12.00%		34	
17	Head of Riffle	1+51.33	1817.08	-3.00%	1820.08	33	3
18	Head of Cascade	1+67.33	1816.60	-12.60%		33	
19	Mid Pool	1+73.33	1815.84	2.00%	1820.344	34	4.5
20	Glide	1+79.33	1815.96	8.00%		34	
21	Head of Riffle	1+82.33	1816.20	-8.00%	1819.204	33	3
22	Head of Cascade	1+98.33	1814.92	-28.00%		33	
23	Mid Pool	2+04.33	1813.24	3.00%	1817.744	34	4.5
24	Glide	2+10.33	1813.42	12.00%		34	
25	Head of Riffle	2+13.33	1813.78	-6.00%	1816.784	33	3
26	Head of Cascade	2+29.33	1812.82	-30.00%		33	
27	Mid Pool	2+35.33	1811.02	3.00%	1815.524	34	4.5
28	Glide	2+41.33	1811.20	12.00%		34	
29	Head of Riffle	2+44.33	1811.56	-6.00%	1814.564	33	3
30	Head of Cascade	2+60.33	1810.60	-30.00%		33	
31	Mid Pool	2+66.33	1808.80	3.00%	1813.304	34	4.5
32	Glide	2+72.33	1808.98	12.00%		34	
33	Head of Riffle	2+75.33	1809.34	-6.00%	1812.344	33	3
34	Head of Cascade	2+91.33	1808.38	-30.00%		33	
35	Mid Pool	2+97.33	1806.58	3.00%	1811.084	34	4.5
36	Glide	3+03.33	1806.76	12.00%		34	
37	Head of Riffle	3+06.33	1807.12	-6.00%	1810.124	33	3
38	Head of Cascade	3+22.33	1806.16	-30.00%		33	
39	Mid Pool	3+28.33	1804.36	3.00%	1808.864	34	4.5
40	Glide	3+34.33	1804.54	12.00%		34	
41	Head of Riffle	3+37.33	1804.90	-6.00%	1807.904	33	3
42	Head of Cascade	3+53.33	1803.94	-30.00%		33	
43	Mid Pool	3+59.33	1802.14	3.00%	1806.644	34	4.5
44	Glide	3+65.33	1802.32	12.00%		34	
45	Head of Riffle	3+68.33	1802.68	-6.00%	1805.684	33	3
46	Head of Cascade	3+84.33	1801.72	-30.00%		33	
47	Mid Pool	3+90.33	1799.92	3.00%	1804.424	34	4.5
48	Glide	3+96.33	1800.10	12.00%		34	
49	Head of Riffle	3+99.33	1800.46	-6.00%	1803.464	33	3
50	Head of Cascade	4+15.33	1799.50	-30.00%		33	
51	Mid Pool	4+21.33	1797.70	3.00%	1802.204	34	4.5
52	Glide	4+27.33	1797.88	12.00%		34	
53	Head of Riffle	4+30.33	1798.24	-6.00%	1801.244	33	3
54	Head of Cascade	4+46.33	1797.28	-30.00%		33	
55	Mid Pool	4+52.33	1795.48	3.00%	1799.984	34	4.5
56	Glide	4+58.33	1795.66	25.00%		34	
57	Head of Riffle	4+61.33	1796.41	2.00%	1799.414	33	3
58	Head of Cascade	4+77.33	1796.09	-18.00%		33	
59	Mid Pool	4+83.33	1795.01	5.00%	1799.514	34	4.5
60	Glide	4+89.33	1795.31	25.00%		34	
61	Head of Riffle	4+92.33	1796.06	-3.00%	1799.064	33	3
62	Tie-In	5+10.35	1795.52			33	

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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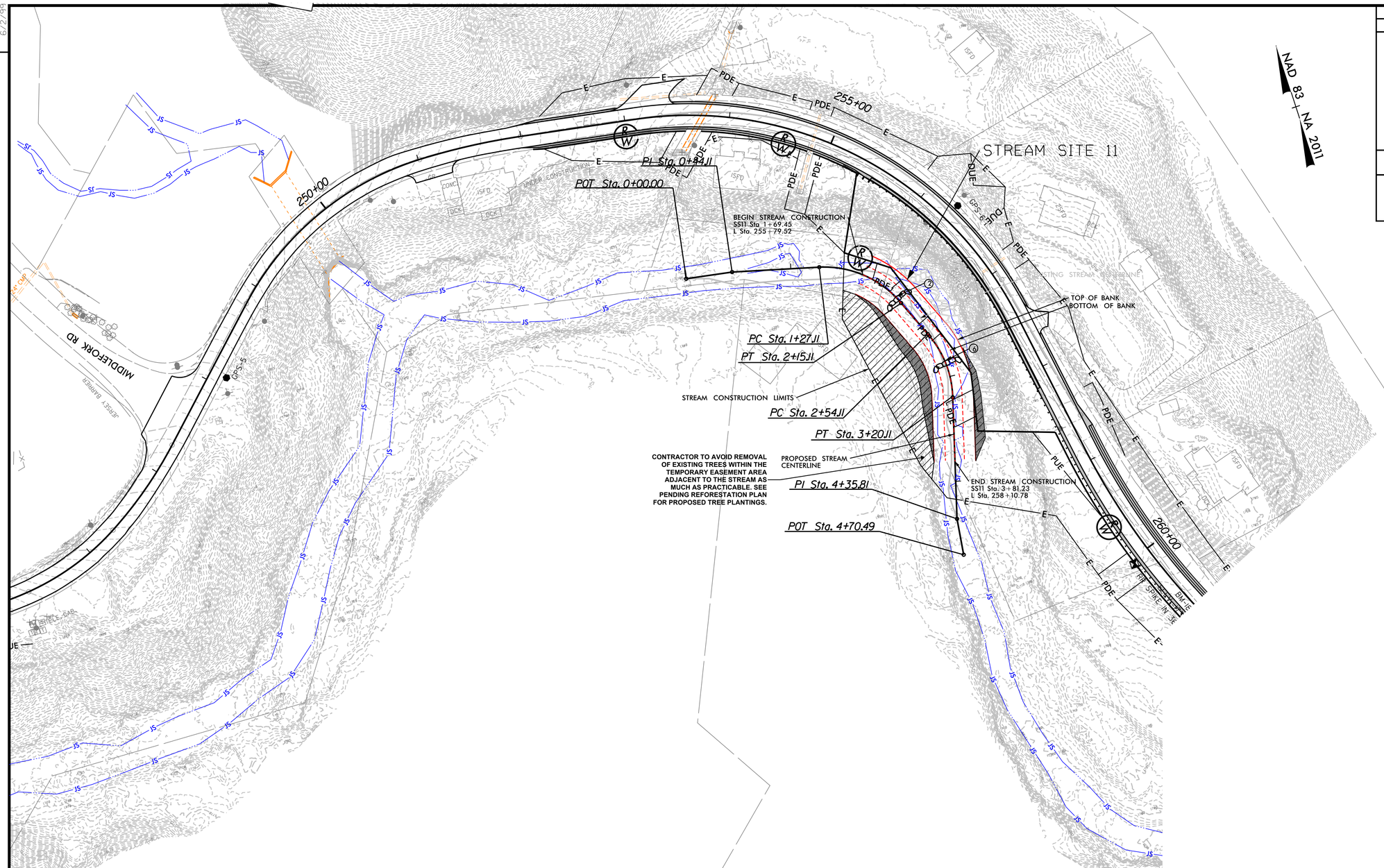
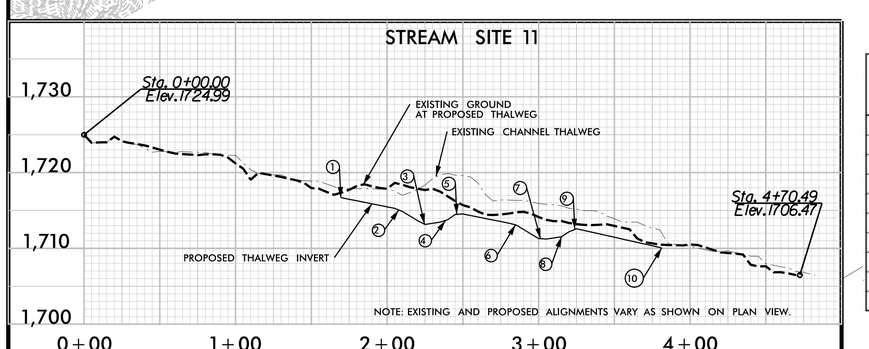
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.



POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	1+69.45	1716.70	-4.00%	1720.3	40	3.6
2	Head of Cascade	2+07.45	1715.18	-12.00%		40	
3	Mid Pool	2+24.45	1713.14	3.00%	1718.54	40	5.4
4	Glide	2+38.45	1713.56	14.00%		40	
5	Head of Riffle	2+46.45	1714.68	-4.00%	1718.28	40	3.6
6	Head of Cascade	2+84.45	1713.16	-12.00%		40	
7	Mid Pool	3+01.45	1711.12	3.00%	1716.52	40	5.4
8	Glide	3+15.45	1711.54	14.00%		40	
9	Head of Riffle	3+23.45	1712.66	-4.50%	1716.26	40	3.6
10	Tie-In	3+81.23	1710.06			40	

LEGEND:
- BIOENGINEERING LIVE STAKING AREA
- EXISTING CHANNEL THALWEG
- PROPOSED CHANNEL THALWEG

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

SEE SHEET 2D-2 FOR STREAM ALIGNMENT DATA

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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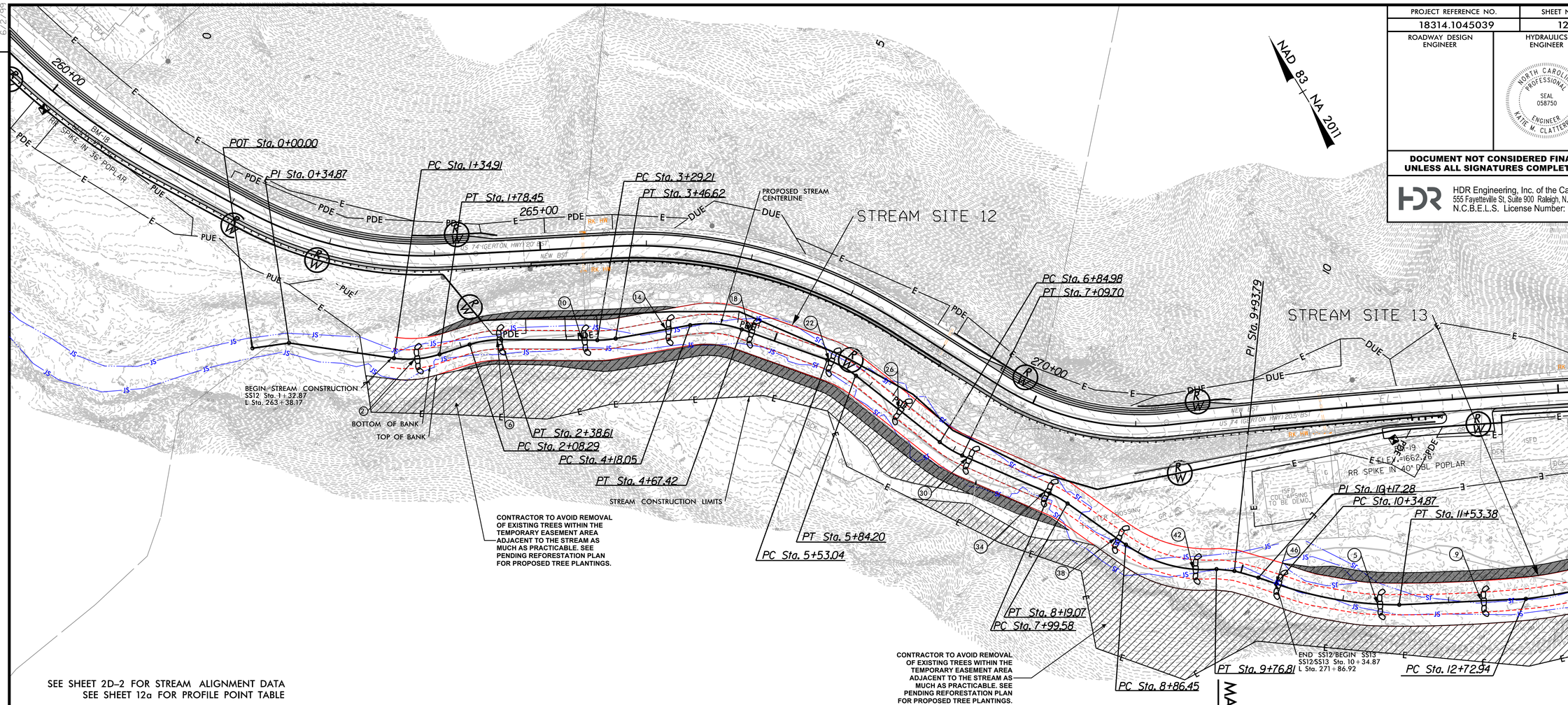
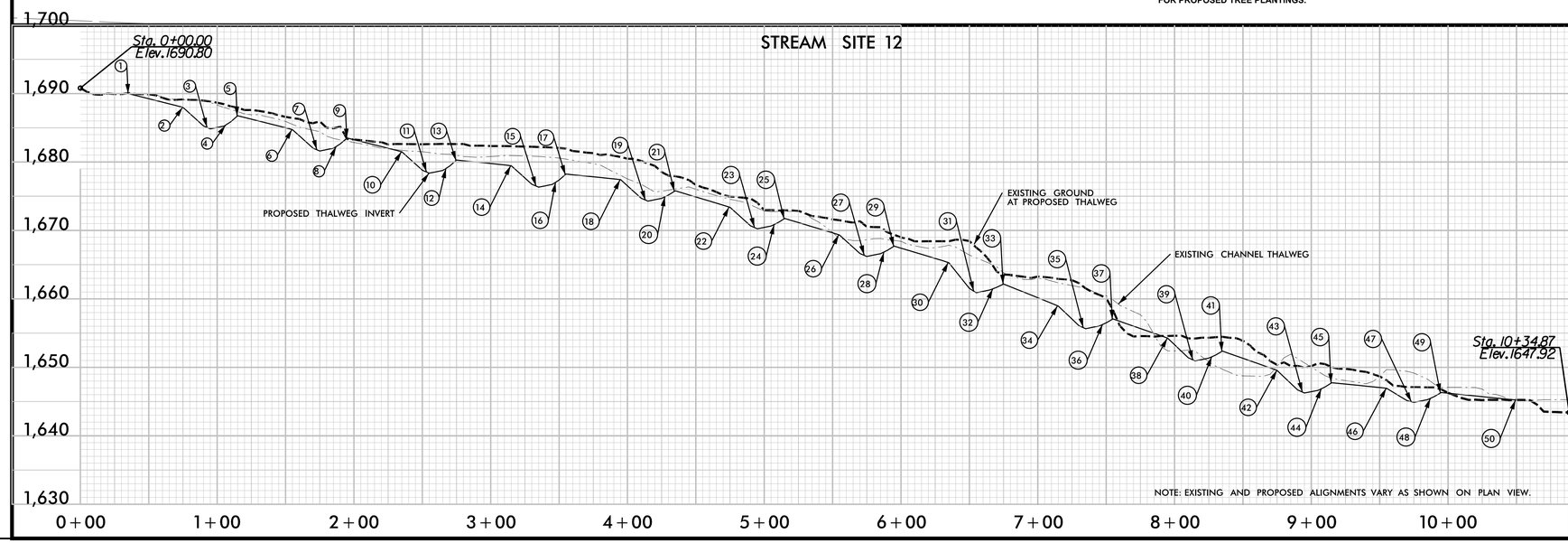


SEE SHEET 2D–2 FOR STREAM ALIGNMENT DATA
SEE SHEET 12a FOR PROFILE POINT TABLE



NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

LEGEND:
- BIOENGINEERING LIVE STAKING AREA
- EXISTING CHANNEL THALWEG
- PROPOSED CHANNEL THALWEG

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	12a

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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STREAM SITE 12

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	1+32.87	1686.40	-7.45%	1690.00	40	3.6
2	Head of Cascade	1+54.87	1684.76	-18.00%		40	
3	Mid Pool	1+72.87	1681.52	4.00%	1686.92	40	5.4
4	Glide	1+86.87	1682.08	18.00%		40	
5	Head of Riffle	1+94.87	1683.52	-5.00%	1687.12	40	3.6
6	Head of Cascade	2+34.87	1681.52	-18.00%		40	
7	Mid Pool	2+52.87	1678.28	4.00%	1683.68	40	5.4
8	Glide	2+66.87	1678.84	18.00%		40	
9	Head of Riffle	2+74.87	1680.28	-2.00%	1683.88	40	3.6
10	Head of Cascade	3+14.87	1679.48	-18.00%		40	
11	Mid Pool	3+32.87	1676.24	4.00%	1681.64	40	5.4
12	Glide	3+46.87	1676.80	18.00%		40	
13	Head of Riffle	3+54.87	1678.24	-2.00%	1681.84	40	3.6
14	Head of Cascade	3+94.87	1677.44	-18.00%		40	
15	Mid Pool	4+12.87	1674.20	4.00%	1679.60	40	5.4
16	Glide	4+26.87	1674.76	13.00%		40	
17	Head of Riffle	4+34.87	1675.80	-6.00%	1679.40	40	3.6
18	Head of Cascade	4+74.87	1673.40	-18.00%		40	
19	Mid Pool	4+92.87	1670.16	4.00%	1675.56	40	5.4
20	Glide	5+06.87	1670.72	13.00%		40	
21	Head of Riffle	5+14.87	1671.76	-6.00%	1675.36	40	3.6
22	Head of Cascade	5+54.87	1669.36	-18.00%		40	
23	Mid Pool	5+72.87	1666.12	4.00%	1671.52	40	5.4
24	Glide	5+86.87	1666.68	13.00%		40	
25	Head of Riffle	5+94.87	1667.72	-6.00%	1671.32	40	3.6
26	Head of Cascade	6+34.87	1665.32	-25.00%		40	
27	Mid Pool	6+52.87	1660.82	4.00%	1666.22	40	5.4
28	Glide	6+66.87	1661.38	10.00%		40	
29	Head of Riffle	6+74.87	1662.18	-8.00%	1665.78	40	3.6
30	Head of Cascade	7+14.87	1658.98	-19.00%		40	
31	Mid Pool	7+32.87	1655.56	4.00%	1660.96	40	5.4
32	Glide	7+46.87	1656.12	12.00%		40	
33	Head of Riffle	7+54.87	1657.08	-7.00%	1660.68	40	3.6
34	Head of Cascade	7+94.87	1654.28	-19.00%		40	
35	Mid Pool	8+12.87	1650.86	4.00%	1656.26	40	5.4
36	Glide	8+26.87	1651.42	12.00%		40	
37	Head of Riffle	8+34.87	1652.38	-7.00%	1655.98	40	3.6
38	Head of Cascade	8+74.87	1649.58	-19.00%		40	
39	Mid Pool	8+92.87	1646.16	4.00%	1651.56	40	5.4
40	Glide	9+06.87	1646.72	13.00%		40	
41	Head of Riffle	9+14.87	1647.76	-2.00%	1651.36	40	3.6
42	Head of Cascade	9+54.87	1646.96	-12.00%		40	
43	Mid Pool	9+72.87	1644.80	4.00%	1650.20	40	5.4
44	Glide	9+86.87	1645.36	12.00%		40	
45	Head of Riffle	9+94.87	1646.32	-2.50%	1649.92	40	3.6
46	Head of Cascade/ Tie to SS-13	10+34.87	1645.32			40	

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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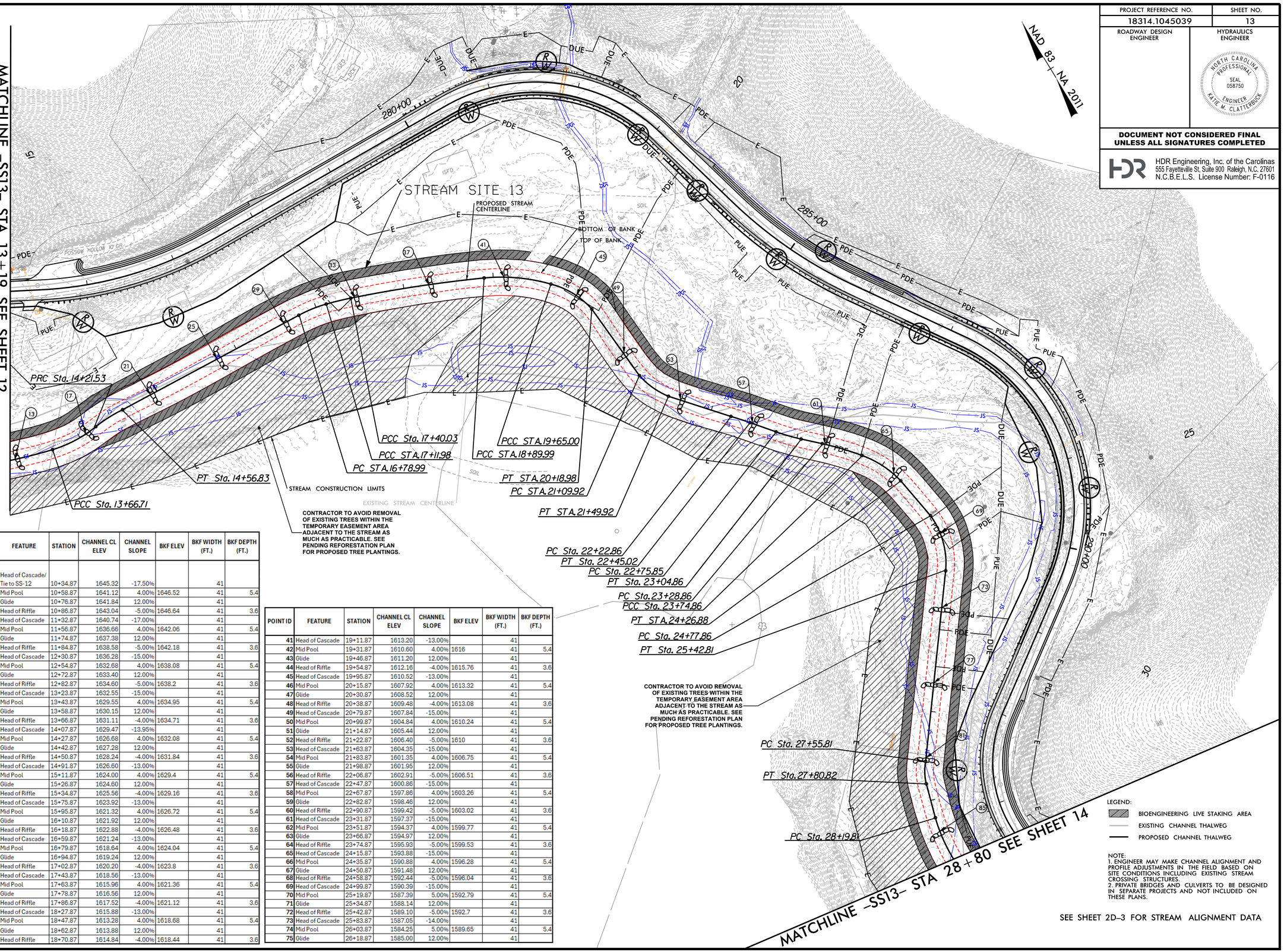

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Cascade/ Tie to SS-12	10+34.87	1645.32	-17.50%		41	
2	Mid Pool	10+58.87	1641.12	4.00%	1646.52	41	5.4
3	Glide	10+76.87	1641.84	12.00%		41	
4	Head of Riffle	10+86.87	1643.04	-5.00%	1646.64	41	3.6
5	Head of Cascade	11+32.87	1640.74	-17.00%		41	
6	Mid Pool	11+56.87	1636.66	4.00%	1642.06	41	5.4
7	Glide	11+74.87	1637.38	12.00%		41	
8	Head of Riffle	11+84.87	1638.58	-5.00%	1642.18	41	3.6
9	Head of Cascade	12+30.87	1636.28	-15.00%		41	
10	Mid Pool	12+54.87	1632.68	4.00%	1638.08	41	5.4
11	Glide	12+72.87	1633.40	12.00%		41	
12	Head of Riffle	12+82.87	1634.60	-5.00%	1638.2	41	3.6
13	Head of Cascade	13+23.87	1632.55	-15.00%		41	
14	Mid Pool	13+43.87	1629.55	4.00%	1634.95	41	5.4
15	Glide	13+58.87	1630.15	12.00%		41	
16	Head of Riffle	13+66.87	1631.11	-4.00%	1634.71	41	3.6
17	Head of Cascade	14+07.87	1629.47	-13.95%		41	
18	Mid Pool	14+27.87	1626.68	4.00%	1632.08	41	5.4
19	Glide	14+42.87	1627.28	12.00%		41	
20	Head of Riffle	14+50.87	1628.24	-4.00%	1631.84	41	3.6
21	Head of Cascade	14+91.87	1626.60	-13.00%		41	
22	Mid Pool	15+11.87	1624.00	4.00%	1629.4	41	5.4
23	Glide	15+26.87	1624.60	12.00%		41	
24	Head of Riffle	15+34.87	1625.56	-4.00%	1629.16	41	3.6
25	Head of Cascade	15+75.87	1623.92	-13.00%		41	
26	Mid Pool	15+95.87	1621.32	4.00%	1626.72	41	5.4
27	Glide	16+10.87	1621.92	12.00%		41	
28	Head of Riffle	16+18.87	1622.88	-4.00%	1626.48	41	3.6
29	Head of Cascade	16+59.87	1621.24	-13.00%		41	
30	Mid Pool	16+79.87	1618.64	4.00%	1624.04	41	5.4
31	Glide	16+94.87	1619.24	12.00%		41	
32	Head of Riffle	17+02.87	1620.20	-4.00%	1623.8	41	3.6
33	Head of Cascade	17+43.87	1618.56	-13.00%		41	
34	Mid Pool	17+63.87	1615.96	4.00%	1621.36	41	5.4
35	Glide	17+78.87	1616.56	12.00%		41	
36	Head of Riffle	17+86.87	1617.52	-4.00%	1621.12	41	3.6
37	Head of Cascade	18+27.87	1615.88	-13.00%		41	
38	Mid Pool	18+47.87	1613.28	4.00%	1618.68	41	5.4
39	Glide	18+62.87	1613.88	12.00%		41	
40	Head of Riffle	18+70.87	1614.84	-4.00%	1618.44	41	3.6

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
41	Head of Cascade	19+11.87	1613.20	-13.00%		41	
42	Mid Pool	19+31.87	1610.60	4.00%	1616	41	5.4
43	Glide	19+46.87	1611.20	12.00%		41	
44	Head of Riffle	19+54.87	1612.16	-4.00%	1615.76	41	3.6
45	Head of Cascade	19+95.87	1610.52	-13.00%		41	
46	Mid Pool	20+15.87	1607.92	4.00%	1613.32	41	5.4
47	Glide	20+30.87	1608.52	12.00%		41	
48	Head of Riffle	20+38.87	1609.48	-4.00%	1613.08	41	3.6
49	Head of Cascade	20+79.87	1607.84	-15.00%		41	
50	Mid Pool	20+99.87	1604.84	4.00%	1610.24	41	5.4
51	Glide	21+14.87	1605.44	12.00%		41	
52	Head of Riffle	21+22.87	1606.40	-5.00%	1610	41	3.6
53	Head of Cascade	21+63.87	1604.35	-15.00%		41	
54	Mid Pool	21+83.87	1601.35	4.00%	1606.75	41	5.4
55	Glide	21+98.87	1601.95	12.00%		41	
56	Head of Riffle	22+06.87	1602.91	-5.00%	1606.51	41	3.6
57	Head of Cascade	22+47.87	1600.86	-15.00%		41	
58	Mid Pool	22+67.87	1597.86	4.00%	1603.26	41	5.4
59	Glide	22+82.87	1598.46	12.00%		41	
60	Head of Riffle	22+90.87	1599.42	-5.00%	1603.02	41	3.6
61	Head of Cascade	23+31.87	1597.37	-15.00%		41	
62	Mid Pool	23+51.87	1594.37	4.00%	1599.77	41	5.4
63	Glide	23+66.87	1594.97	12.00%		41	
64	Head of Riffle	23+74.87	1595.93	-5.00%	1599.53	41	3.6
65	Head of Cascade	24+15.87	1593.88	-15.00%		41	
66	Mid Pool	24+35.87	1590.88	4.00%	1596.28	41	5.4
67	Glide	24+50.87	1591.48	12.00%		41	
68	Head of Riffle	24+58.87	1592.44	-5.00%	1596.04	41	3.6
69	Head of Cascade	24+99.87	1590.39	-15.00%		41	
70	Mid Pool	25+19.87	1587.39	5.00%	1592.79	41	5.4
71	Glide	25+34.87	1588.14	12.00%		41	
72	Head of Riffle	25+42.87	1589.10	-5.00%	1592.7	41	3.6
73	Head of Cascade	25+83.87	1587.05	-14.00%		41	
74	Mid Pool	26+03.87	1584.25	5.00%	1589.65	41	5.4
75	Glide	26+18.87	1585.00	12.00%		41	

REVISIONS

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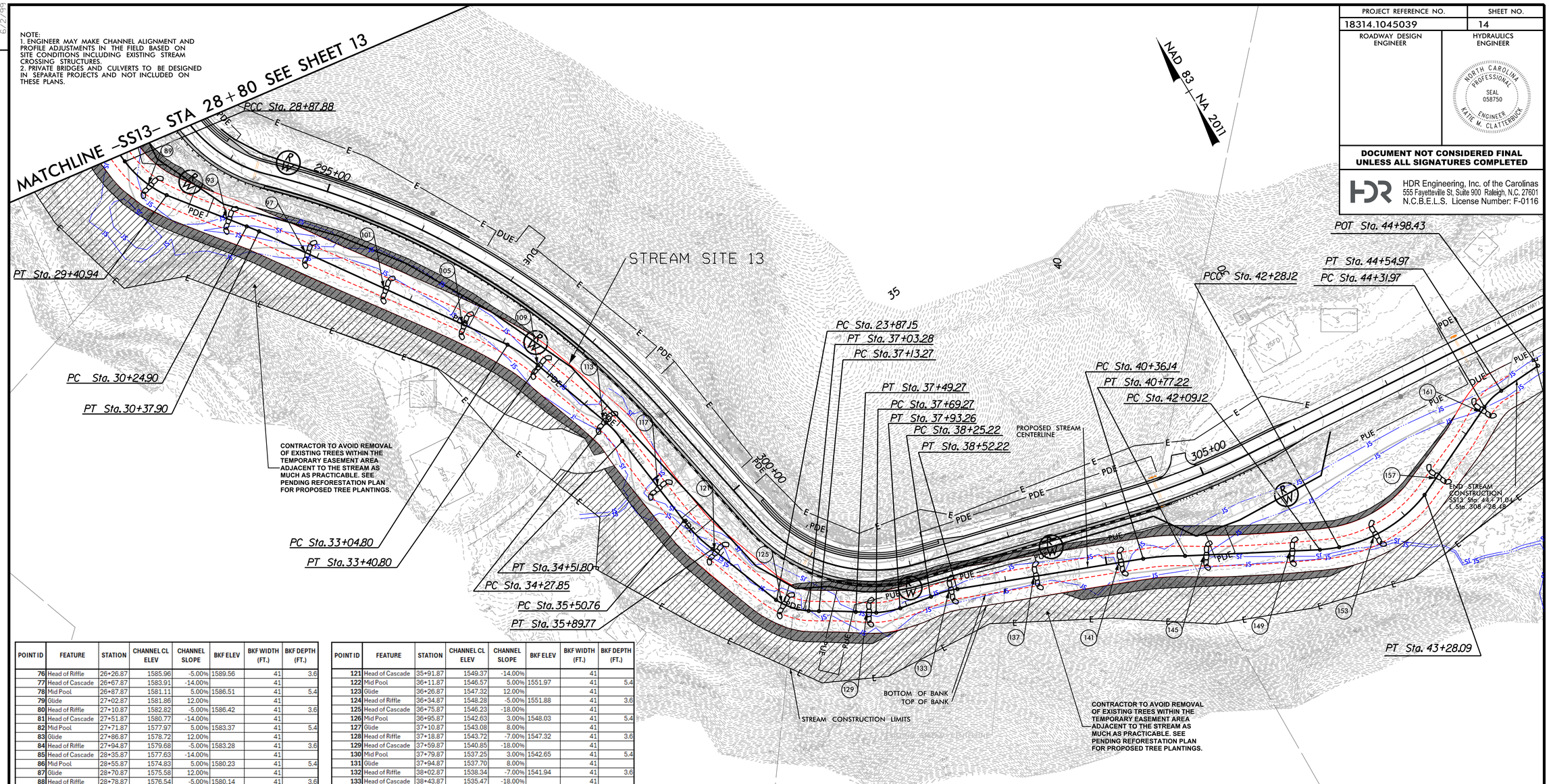
PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.



POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
76	Head of Riffle	26+26.87	1585.96	-5.00%	1589.56	41	3.6
77	Head of Cascade	26+67.87	1583.91	-14.00%		41	
78	Mid Pool	26+87.87	1581.11	5.00%	1586.51	41	5.4
79	Glide	27+02.87	1581.86	12.00%		41	
80	Head of Riffle	27+10.87	1582.82	-5.00%	1586.42	41	3.6
81	Head of Cascade	27+51.87	1580.77	-14.00%		41	
82	Mid Pool	27+71.87	1577.97	5.00%	1583.37	41	5.4
83	Glide	27+86.87	1578.72	12.00%		41	
84	Head of Riffle	27+94.87	1579.68	-5.00%	1583.28	41	3.6
85	Head of Cascade	28+35.87	1577.63	-14.00%		41	
86	Mid Pool	28+55.87	1574.83	5.00%	1580.23	41	5.4
87	Glide	28+70.87	1575.58	12.00%		41	
88	Head of Riffle	28+78.87	1576.54	-5.00%	1580.14	41	3.6
89	Head of Cascade	29+19.87	1574.49	-14.00%		41	
90	Mid Pool	29+39.87	1571.69	5.00%	1577.09	41	5.4
91	Glide	29+54.87	1572.44	12.00%		41	
92	Head of Riffle	29+62.87	1573.40	-5.00%	1577	41	3.6
93	Head of Cascade	30+03.87	1571.35	-14.00%		41	
94	Mid Pool	30+23.87	1568.55	5.00%	1573.95	41	5.4
95	Glide	30+38.87	1569.30	12.00%		41	
96	Head of Riffle	30+46.87	1570.26	-5.00%	1573.86	41	3.6
97	Head of Cascade	30+87.87	1568.21	-14.00%		41	
98	Mid Pool	31+07.87	1565.41	5.00%	1570.81	41	5.4
99	Glide	31+22.87	1566.16	12.00%		41	
100	Head of Riffle	31+30.87	1567.12	-5.00%	1570.72	41	3.6
101	Head of Cascade	31+71.87	1565.07	-14.00%		41	
102	Mid Pool	31+91.87	1562.27	5.00%	1567.67	41	5.4
103	Glide	32+06.87	1563.02	12.00%		41	
104	Head of Riffle	32+14.87	1563.98	-5.00%	1567.58	41	3.6
105	Head of Cascade	32+55.87	1561.93	-14.00%		41	
106	Mid Pool	32+75.87	1559.13	5.00%	1564.53	41	5.4
107	Glide	32+90.87	1559.88	12.00%		41	
108	Head of Riffle	32+98.87	1560.84	-5.00%	1564.44	41	3.6
109	Head of Cascade	33+39.87	1558.79	-14.00%		41	
110	Mid Pool	33+59.87	1555.99	5.00%	1561.39	41	5.4
111	Glide	33+74.87	1556.74	12.00%		41	
112	Head of Riffle	33+82.87	1557.70	-5.00%	1561.3	41	3.6
113	Head of Cascade	34+23.87	1555.65	-14.00%		41	
114	Mid Pool	34+43.87	1552.85	5.00%	1558.25	41	5.4
115	Glide	34+58.87	1553.60	12.00%		41	
116	Head of Riffle	34+66.87	1554.56	-5.00%	1558.16	41	3.6
117	Head of Cascade	35+07.87	1552.51	-14.00%		41	
118	Mid Pool	35+27.87	1549.71	5.00%	1555.11	41	5.4
119	Glide	35+42.87	1550.46	12.00%		41	
120	Head of Riffle	35+50.87	1551.42	-5.00%	1555.02	41	3.6

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
121	Head of Cascade	35+91.87	1549.37	-14.00%		41	
122	Mid Pool	36+11.87	1546.57	5.00%	1551.97	41	5.4
123	Glide	36+26.87	1547.32	12.00%		41	
124	Head of Riffle	36+34.87	1548.28	-5.00%	1551.88	41	3.6
125	Head of Cascade	36+75.87	1546.23	-18.00%		41	
126	Mid Pool	36+95.87	1542.63	3.00%	1548.03	41	5.4
127	Glide	37+10.87	1543.08	8.00%		41	
128	Head of Riffle	37+18.87	1543.72	-7.00%	1547.32	41	3.6
129	Head of Cascade	37+59.87	1540.85	-18.00%		41	
130	Mid Pool	37+79.87	1537.25	3.00%	1542.65	41	5.4
131	Glide	37+94.87	1537.70	8.00%		41	
132	Head of Riffle	38+02.87	1538.34	-7.00%	1541.94	41	3.6
133	Head of Cascade	38+43.87	1535.47	-18.00%		41	
134	Mid Pool	38+63.87	1531.87	3.00%	1537.27	41	5.4
135	Glide	38+78.87	1532.32	6.00%		41	
136	Head of Riffle	38+86.87	1532.80	-10.00%	1536.4	41	3.6
137	Head of Cascade	39+27.87	1528.70	-45.00%		41	
138	Mid Pool	39+47.87	1519.70	3.00%	1525.1	41	5.4
139	Glide	39+62.87	1520.15	6.00%		41	
140	Head of Riffle	39+70.87	1520.63	-4.00%	1524.23	41	3.6
141	Head of Cascade	40+11.87	1518.99	-16.00%		41	
142	Mid Pool	40+31.87	1515.79	5.00%	1521.19	41	5.4
143	Glide	40+46.87	1516.54	20.00%		41	
144	Head of Riffle	40+54.87	1518.14	-4.00%	1521.74	41	3.6
145	Head of Cascade	40+95.87	1516.50	-13.00%		41	
146	Mid Pool	41+15.87	1513.90	5.00%	1519.3	41	5.4
147	Glide	41+30.87	1514.65	13.00%		41	
148	Head of Riffle	41+38.87	1515.69	-4.00%	1519.29	41	3.6
149	Head of Cascade	41+79.87	1514.05	-13.00%		41	
150	Mid Pool	41+99.87	1511.45	5.00%	1516.85	41	5.4
151	Glide	42+14.87	1512.20	14.00%		41	
152	Head of Riffle	42+22.87	1513.32	-3.00%	1516.92	41	3.6
153	Head of Cascade	42+63.87	1512.09	-13.00%		41	
154	Mid Pool	42+83.87	1509.49	5.00%	1514.89	41	5.4
155	Glide	42+98.87	1510.24	14.00%		41	
156	Head of Riffle	43+06.87	1511.36	-3.00%	1514.96	41	3.6
157	Head of Cascade	43+47.87	1510.13	-13.00%		41	
158	Mid Pool	43+67.87	1507.53	5.00%	1512.93	41	5.4
159	Glide	43+82.87	1508.28	14.00%		41	
160	Head of Riffle	43+90.87	1509.40	-3.00%	1513	41	3.6
161	Head of Cascade	44+25.87	1508.35	-13.00%		41	
162	Mid Pool	44+45.87	1505.75	5.00%	1511.15	41	5.4
163	Glide	44+60.87	1506.50	13.00%		41	
164	Head of Riffle	44+68.87	1507.54	-3.00%	1511.14	41	3.6
165	Tie-In	44+71.04	1507.47			41	

LEGEND:
- BIOENGINEERING LIVE STAKING AREA
- EXISTING CHANNEL THALWEG
- PROPOSED CHANNEL THALWEG

SEE SHEET 2D-3 FOR STREAM ALIGNMENT DATA

REVISIONS

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DATE: 6/26/2026
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NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
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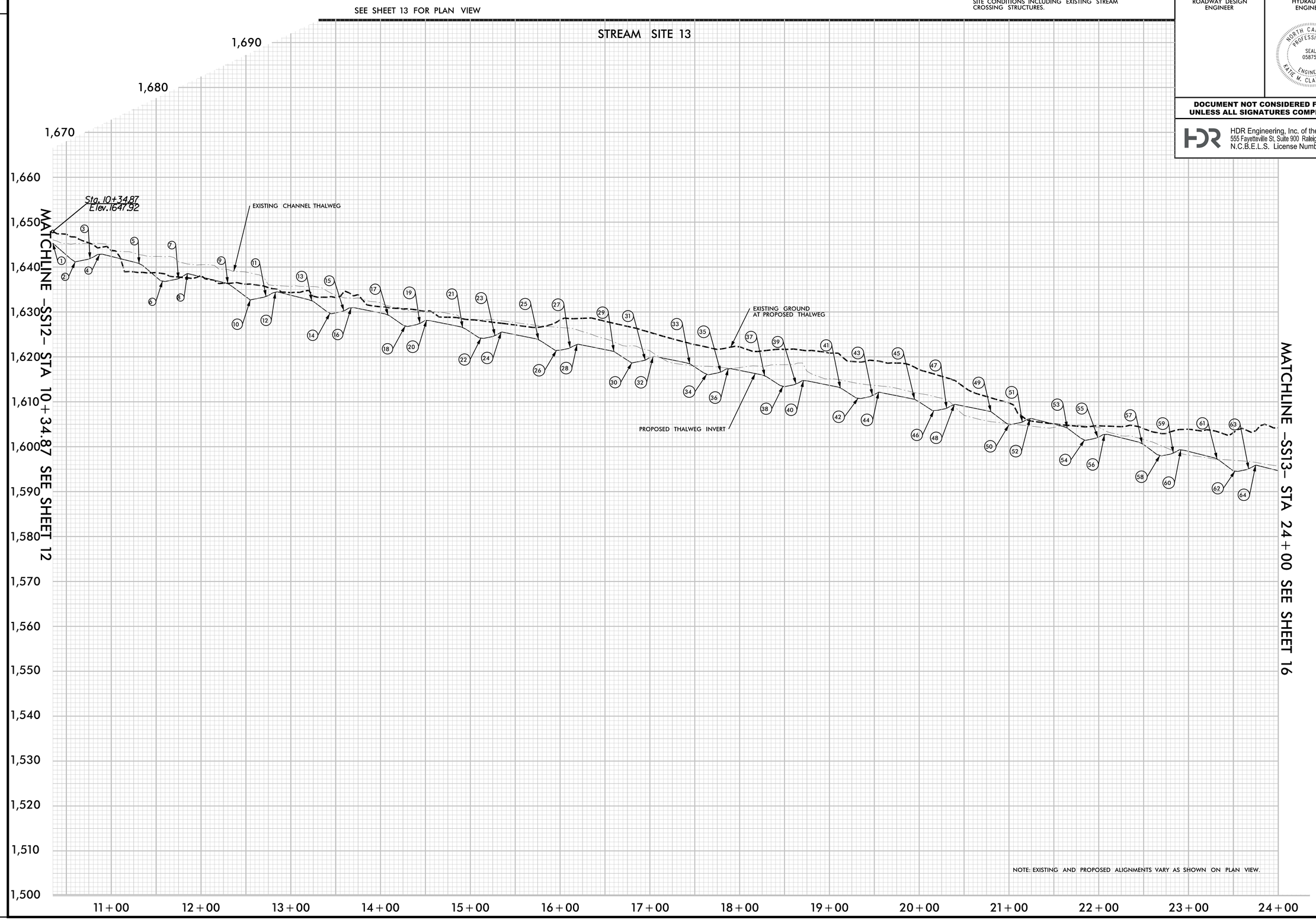

NOTE: EXISTING AND PROPOSED ALIGNMENTS VARY AS SHOWN ON PLAN VIEW.

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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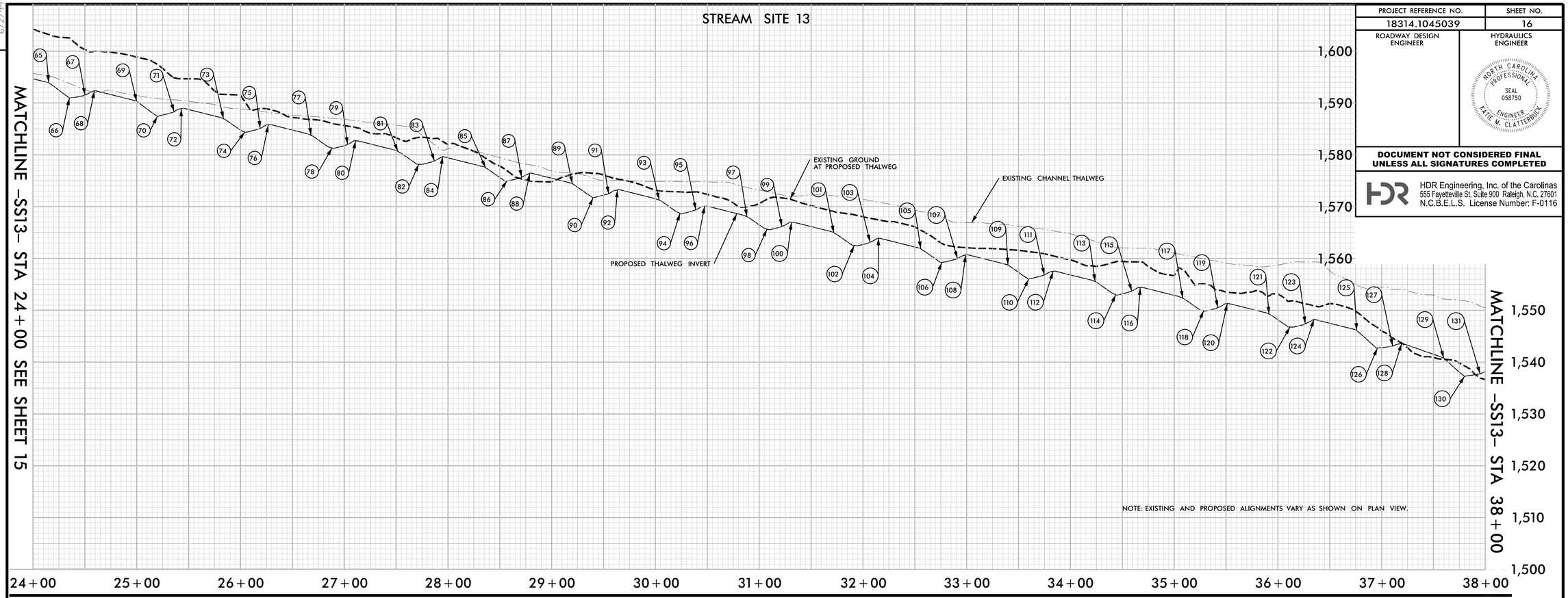

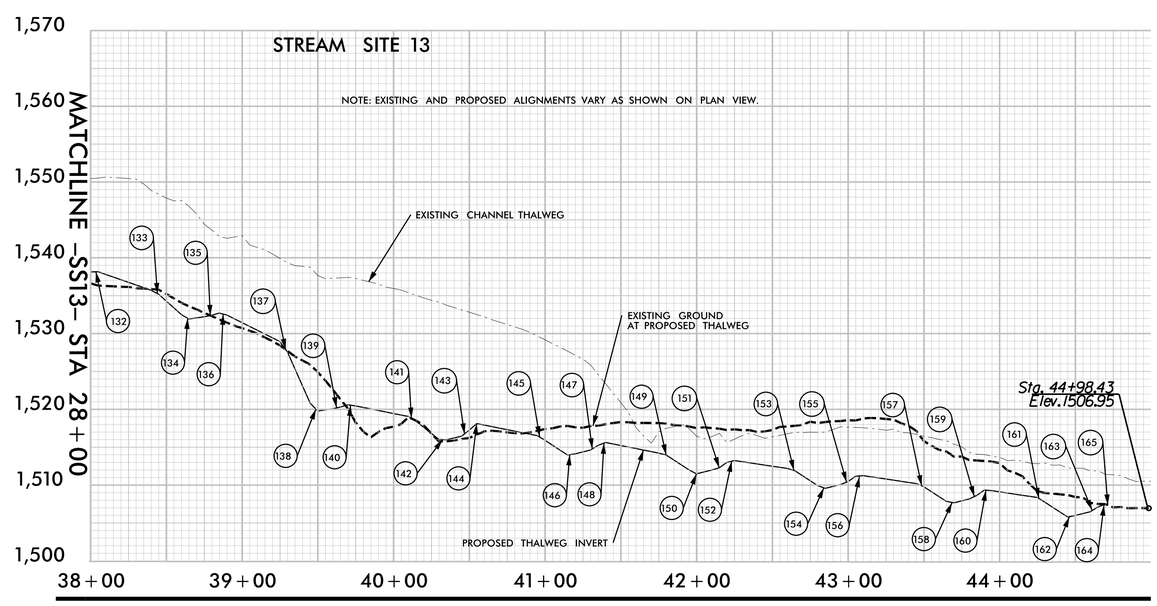

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.

SEE SHEET 14 FOR PLAN VIEW

REVISIONS

6/2/99

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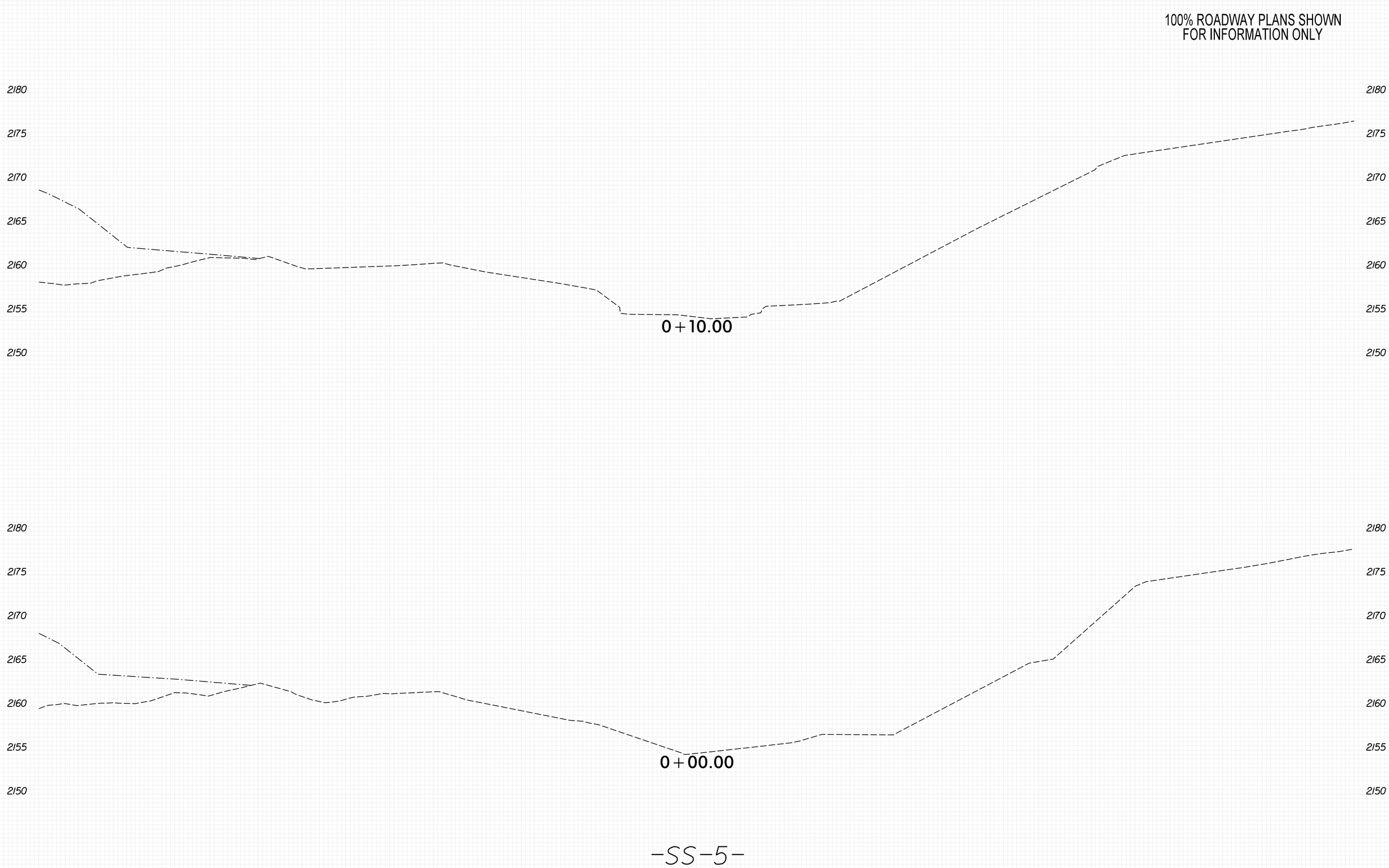
FOR INFORMATION ONLY



8/23/99
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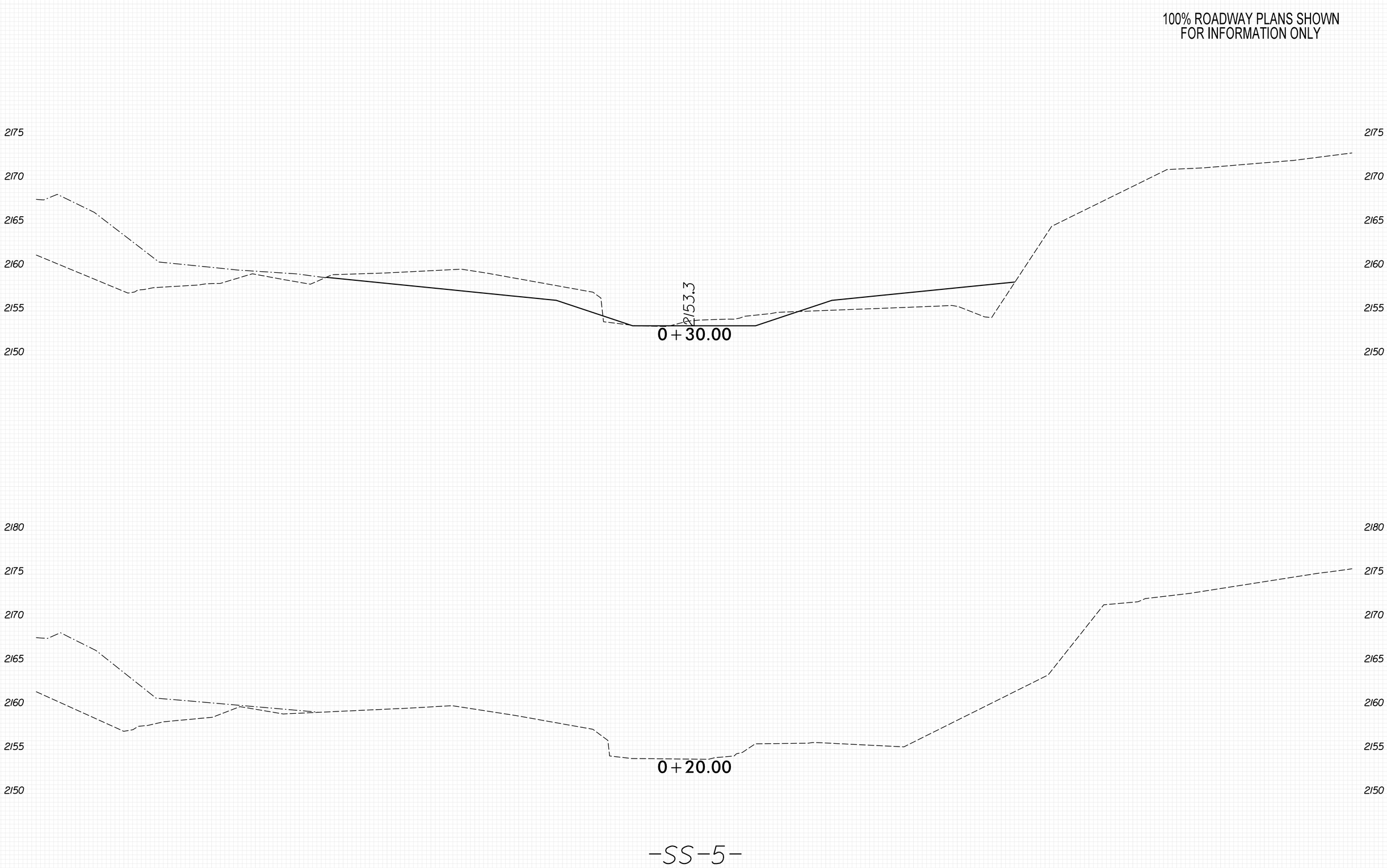
FOR INFORMATION ONLY



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USER: KCLATTERBU
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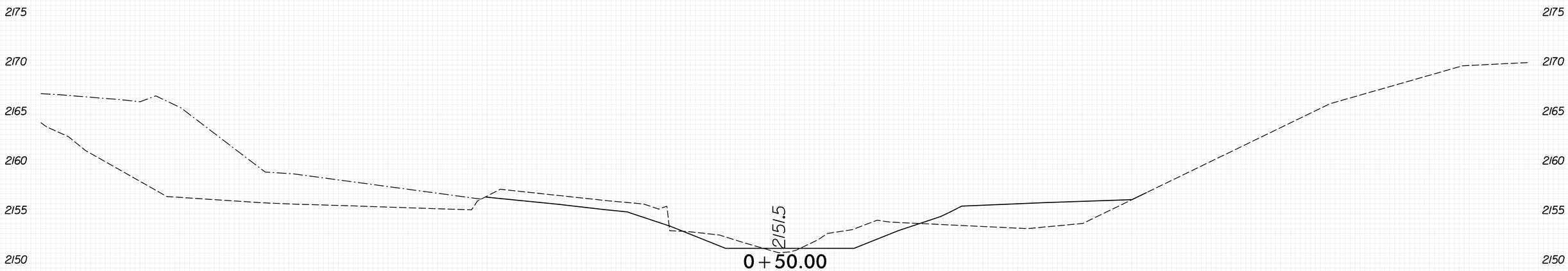
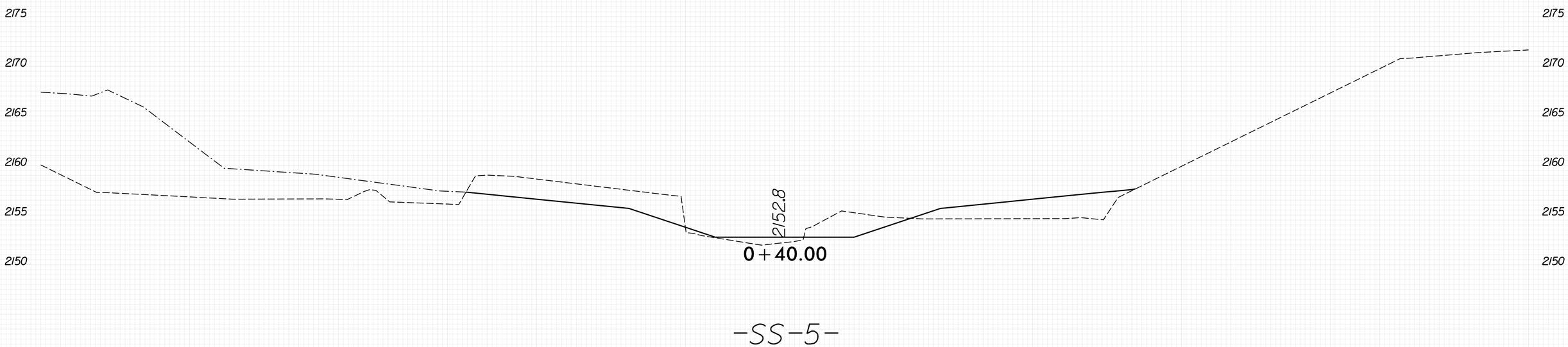
FOR INFORMATION ONLY





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8/23/99

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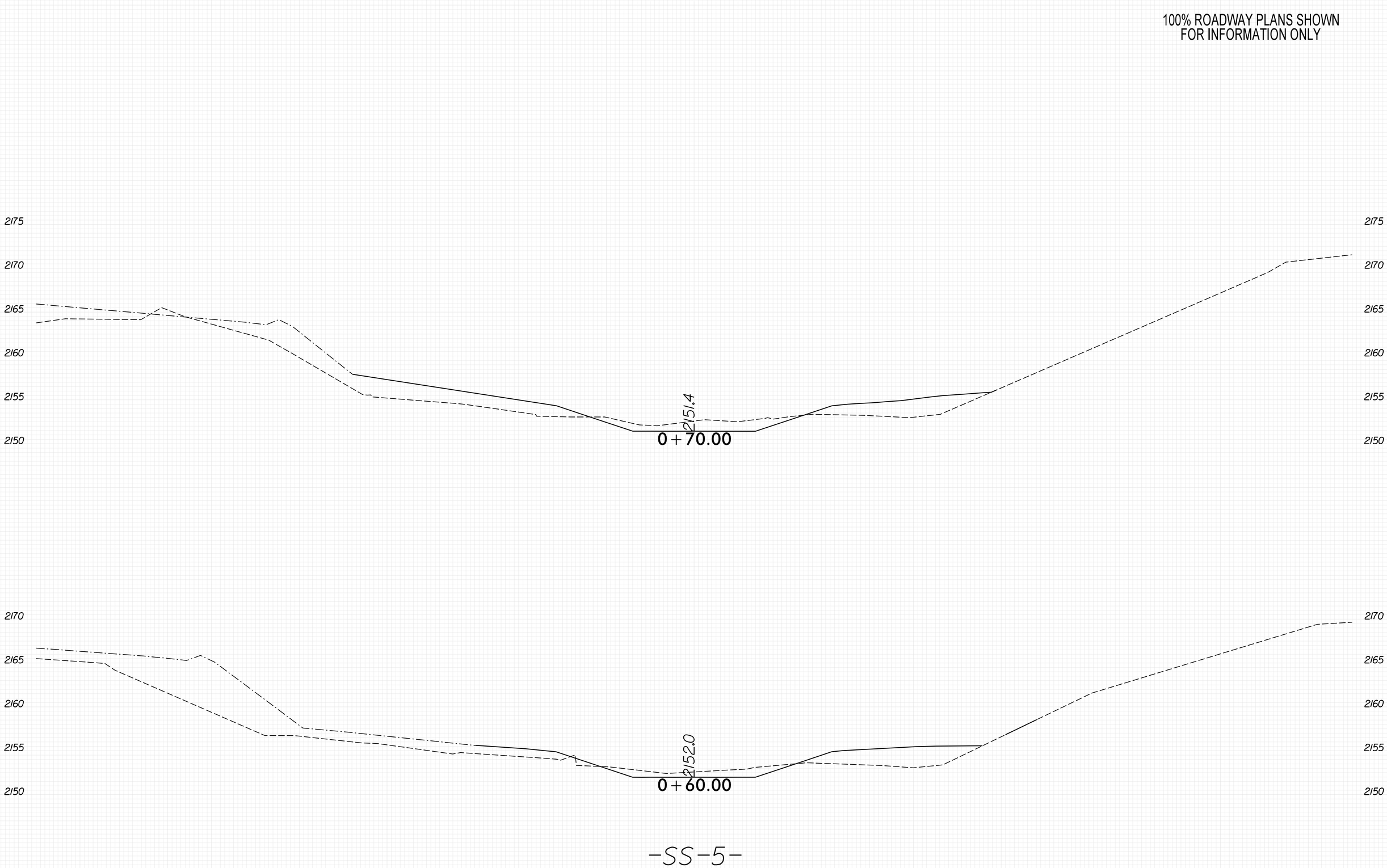
FOR INFORMATION ONLY



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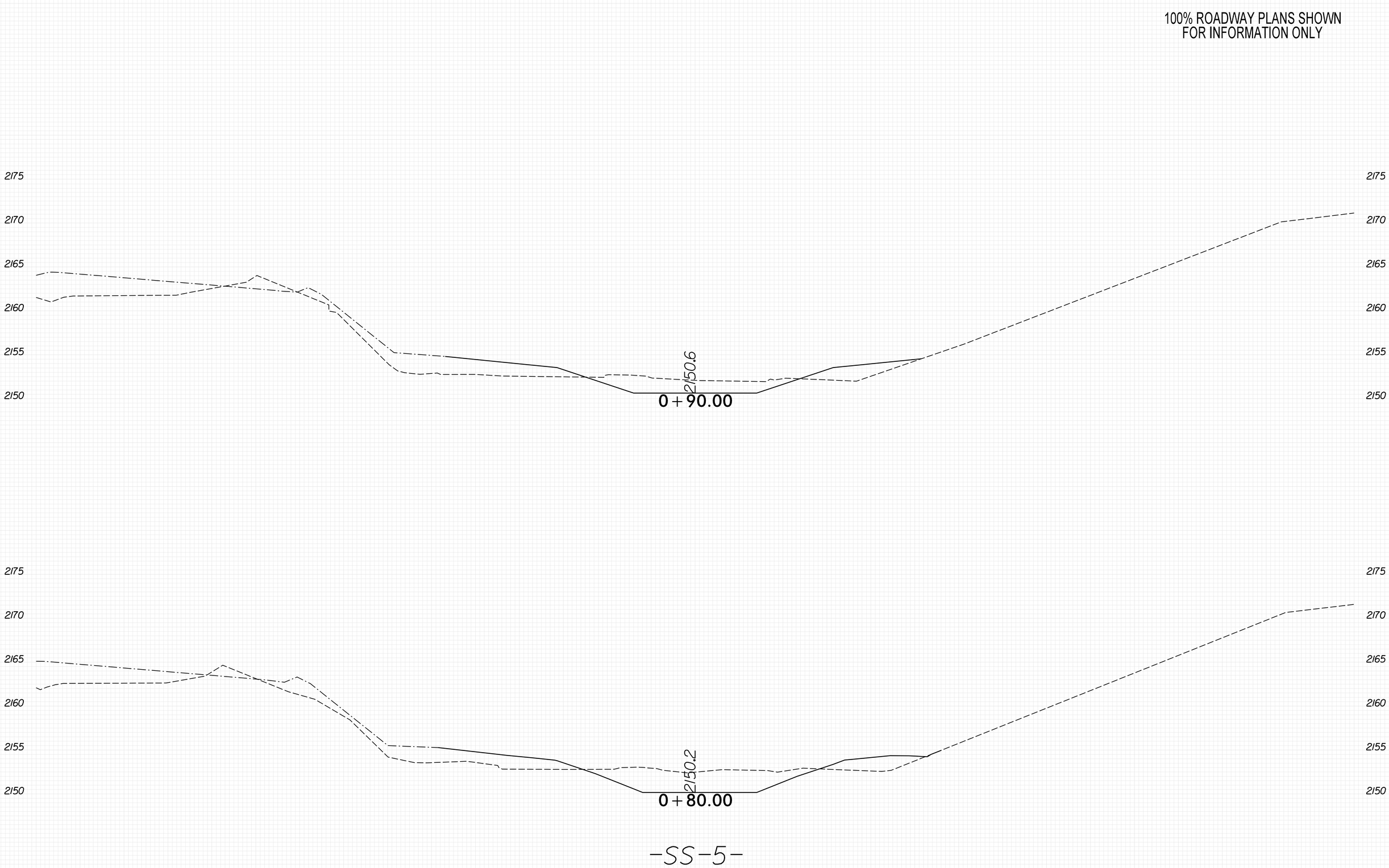
FOR INFORMATION ONLY



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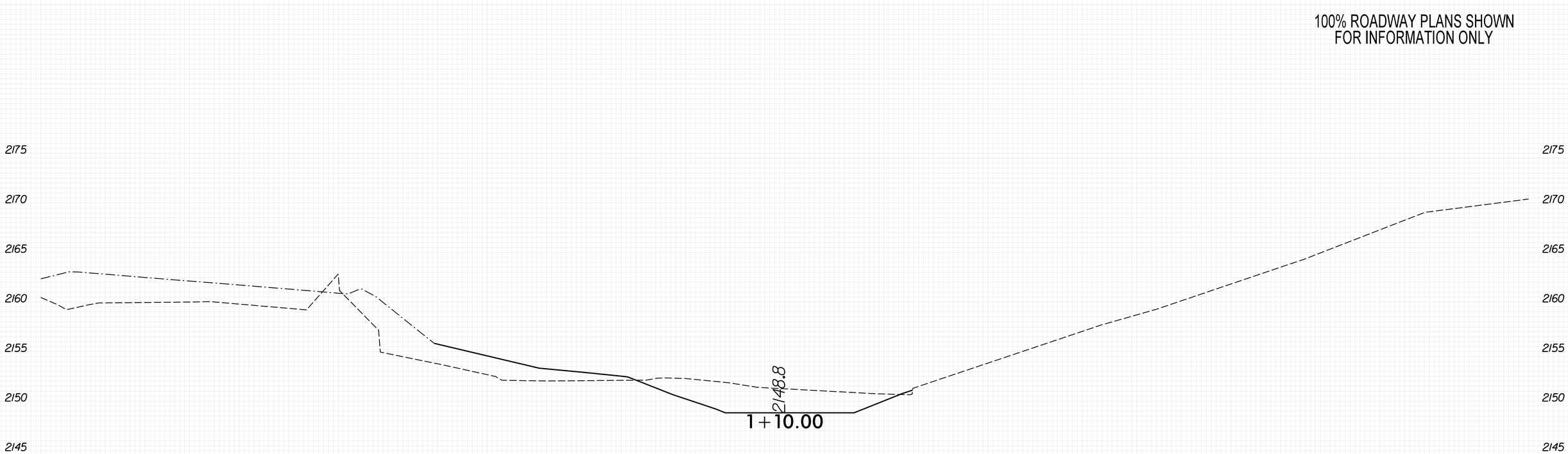
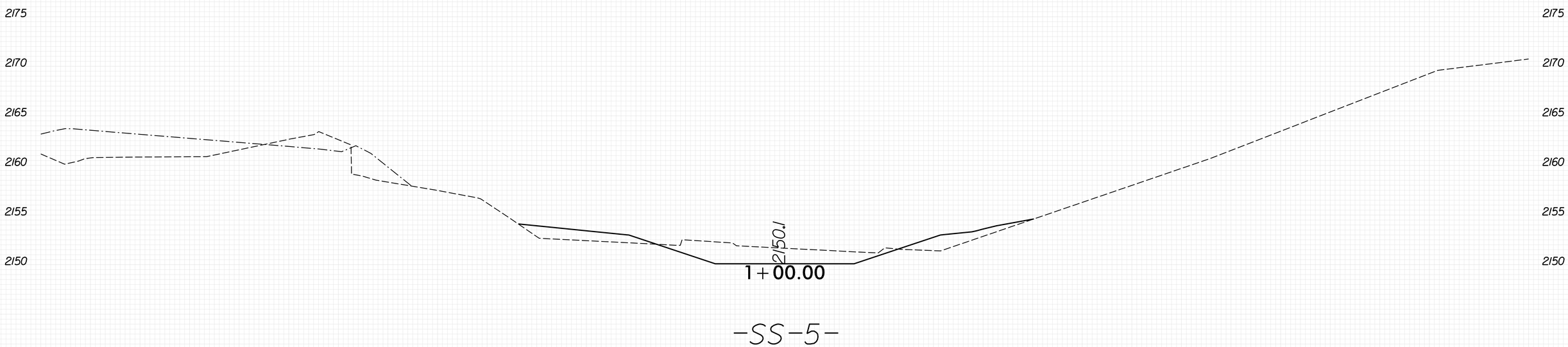
FOR INFORMATION ONLY





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8/23/99

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USER: KCLATTERBU
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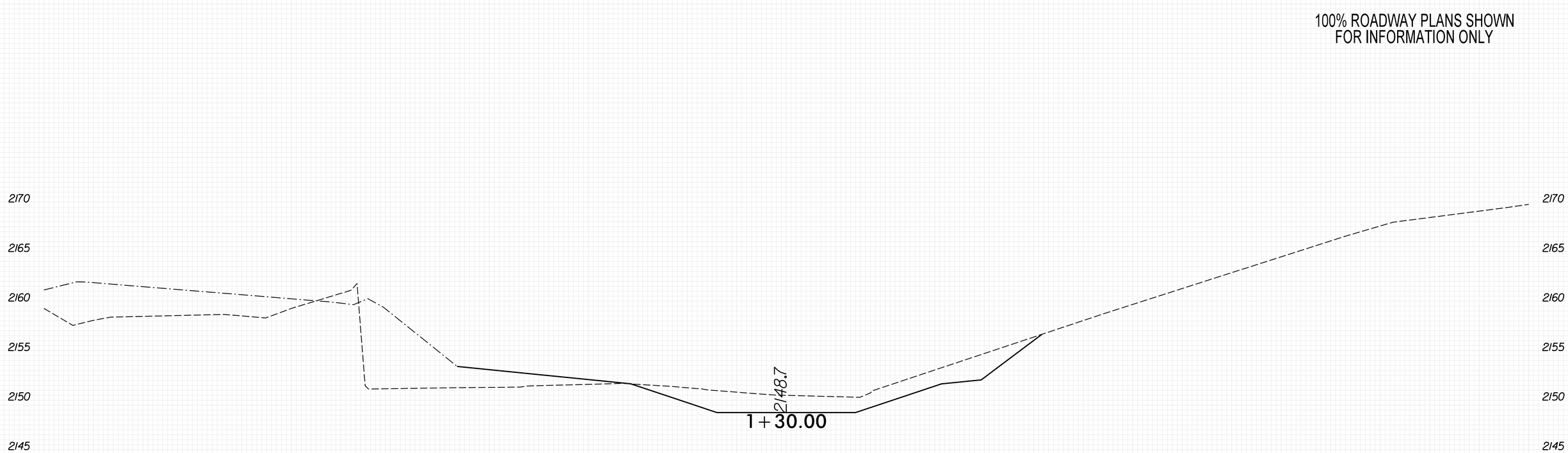
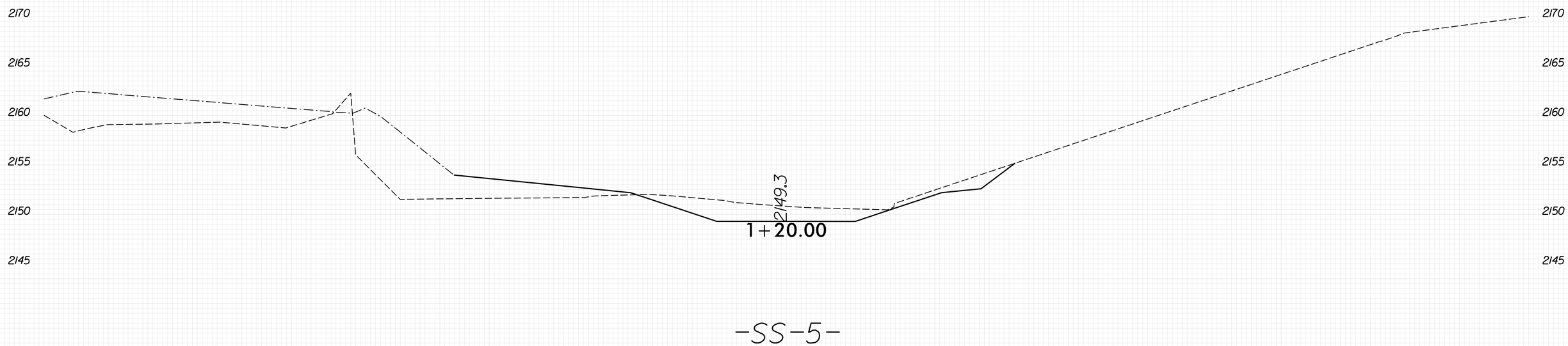
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-7

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





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8/23/99

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PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
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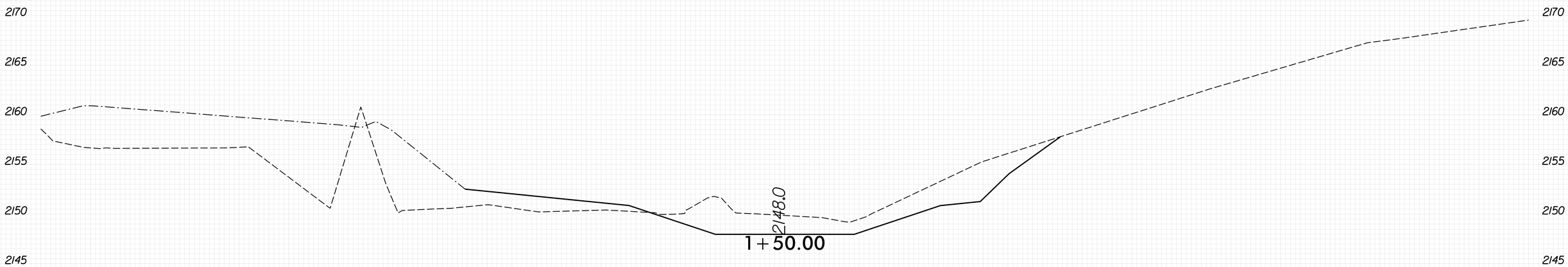
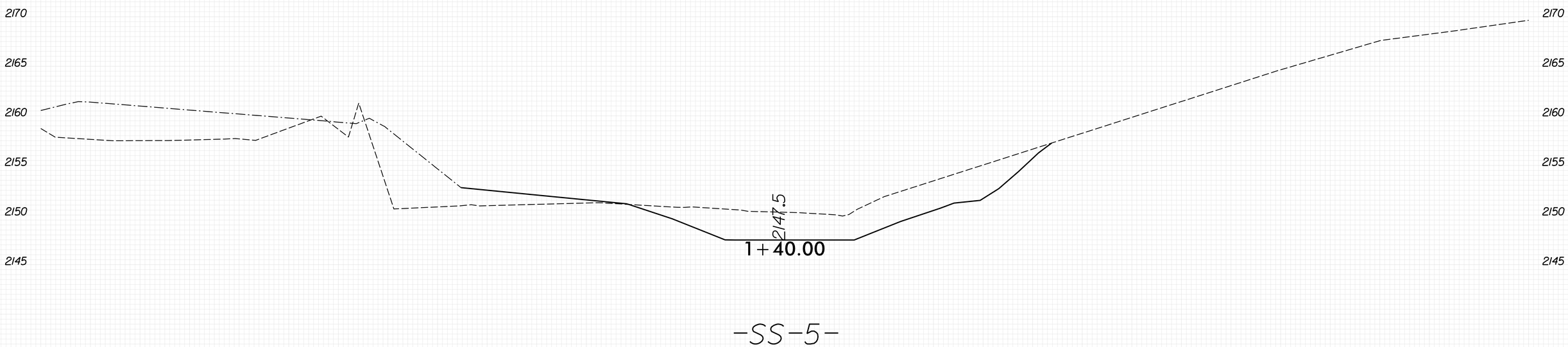
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





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8/23/99

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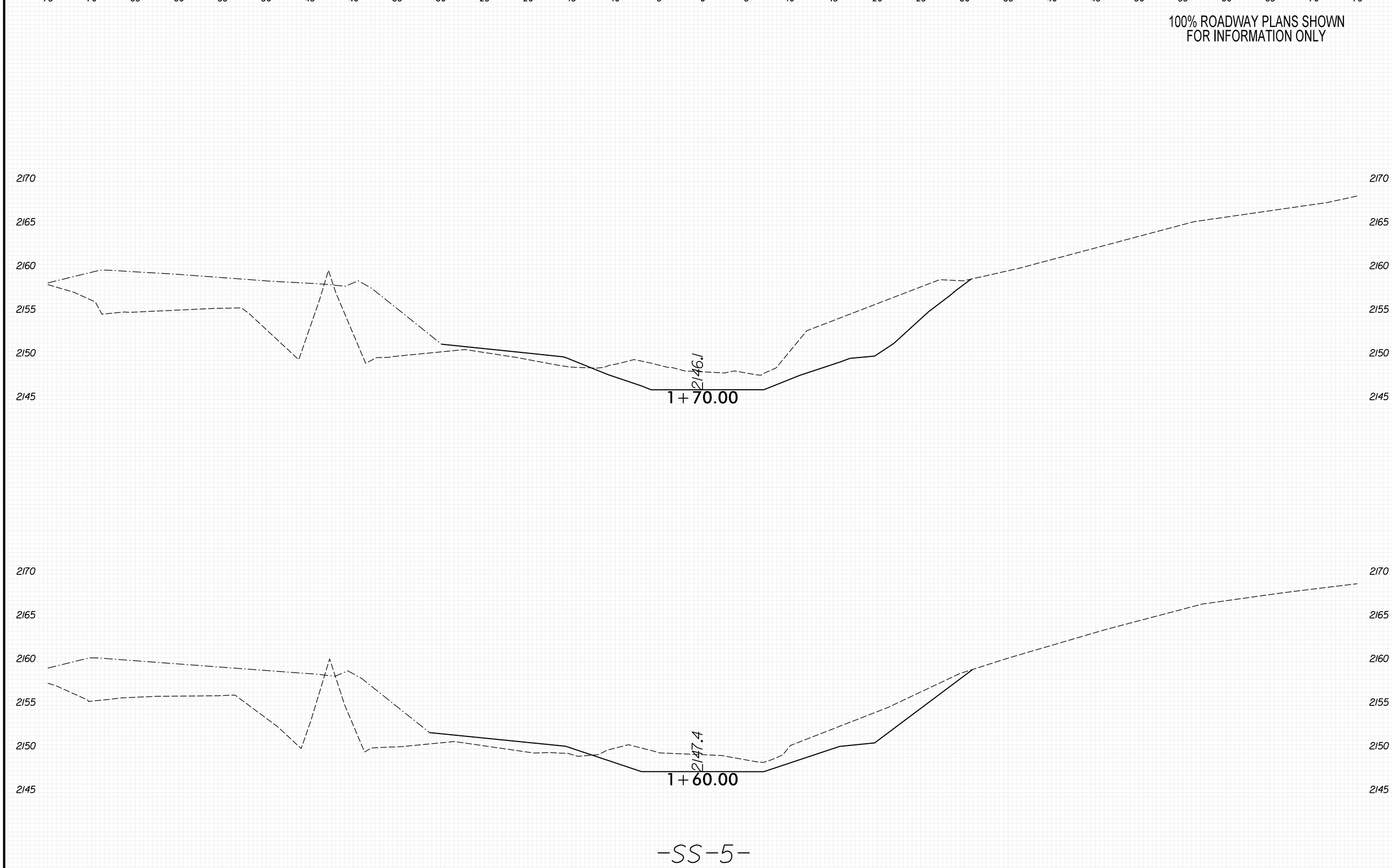
	18314.1045039	X-9

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



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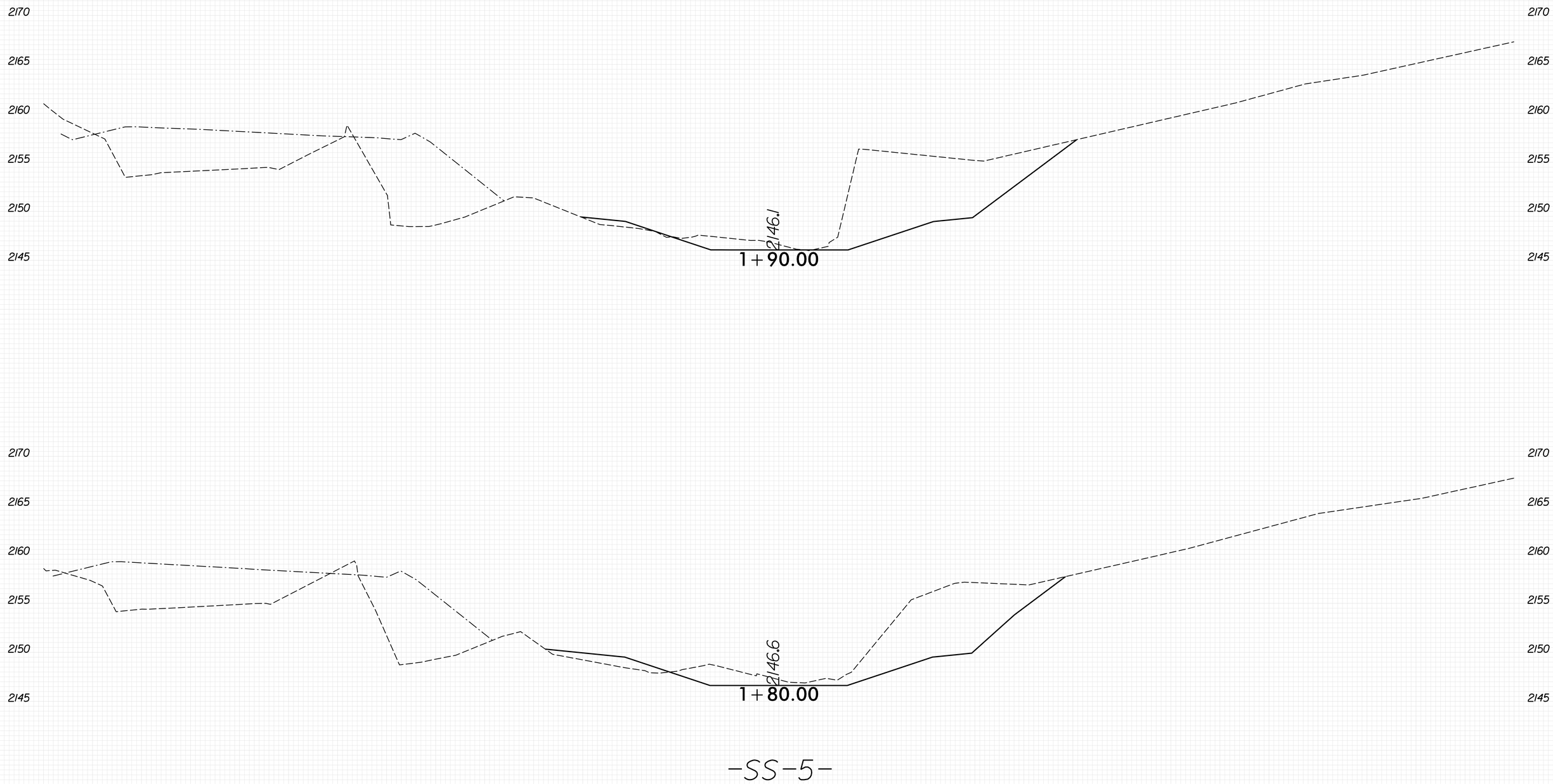
	18314.1045039	X-10

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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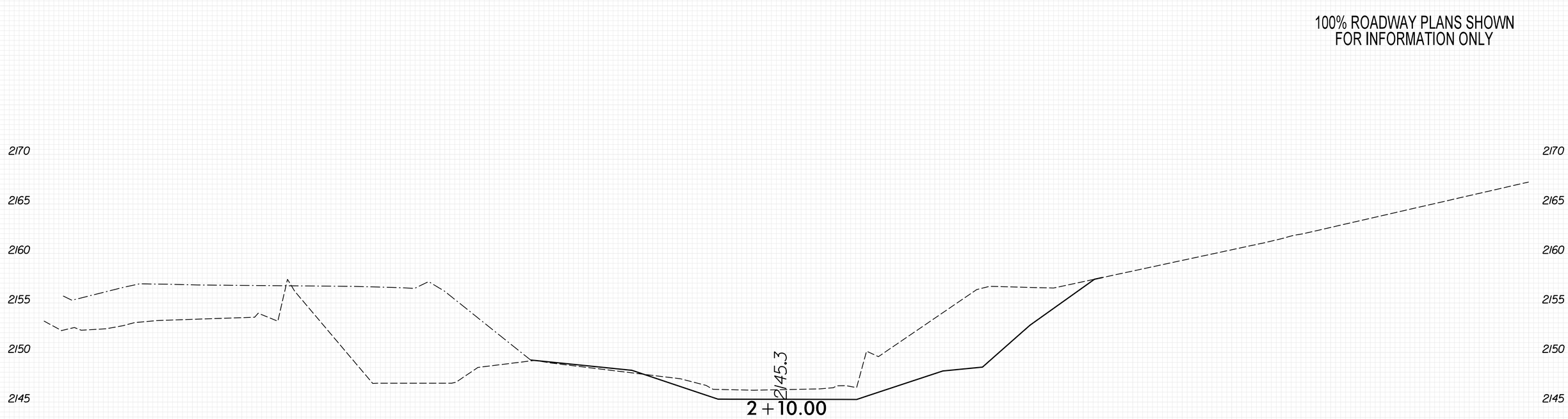
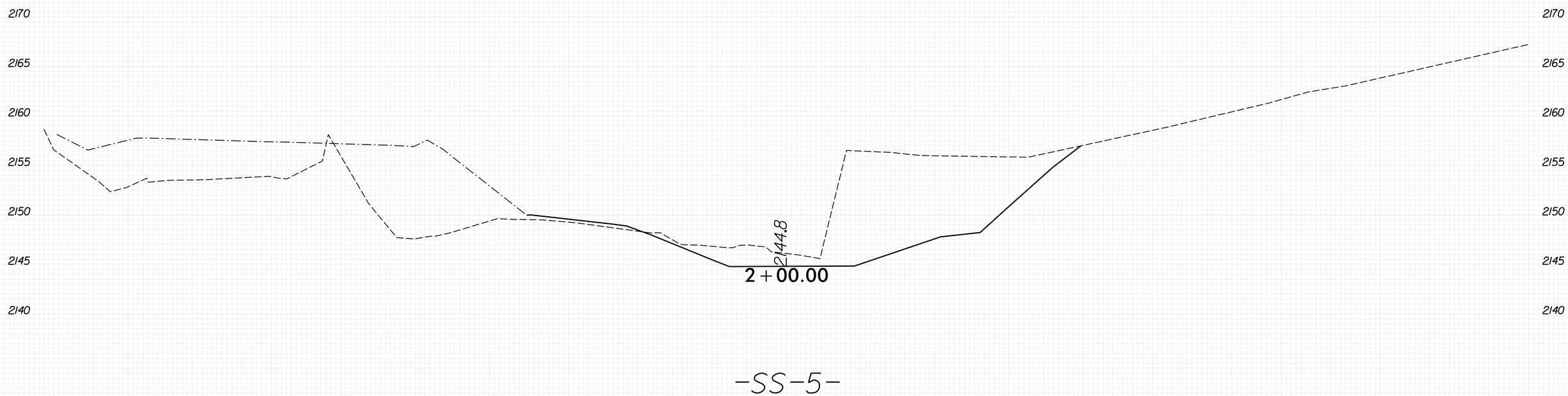
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-11

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





-SS-5-

8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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DATE: 5/29/2026
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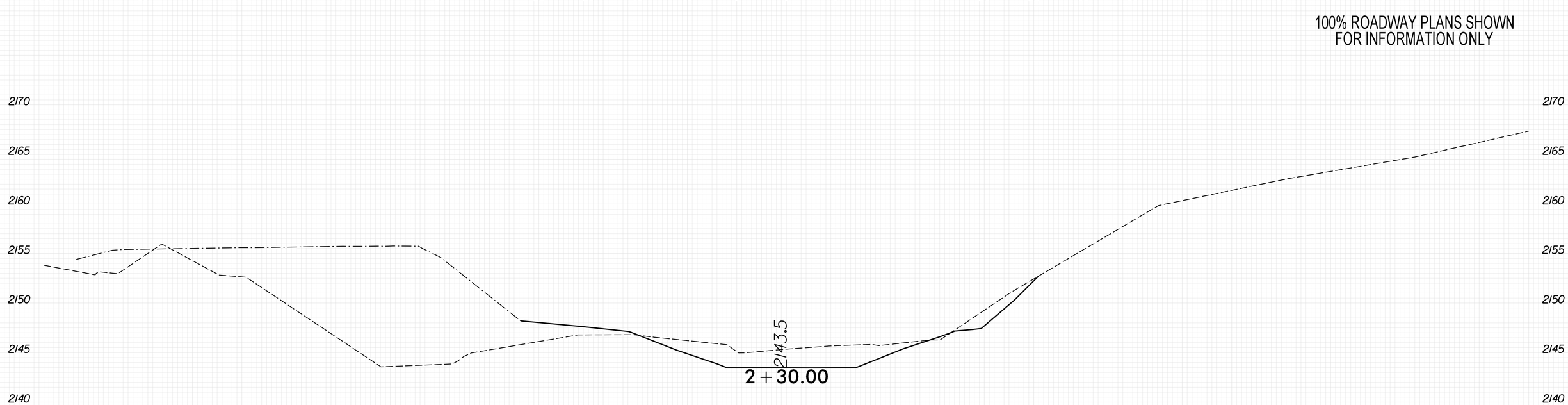
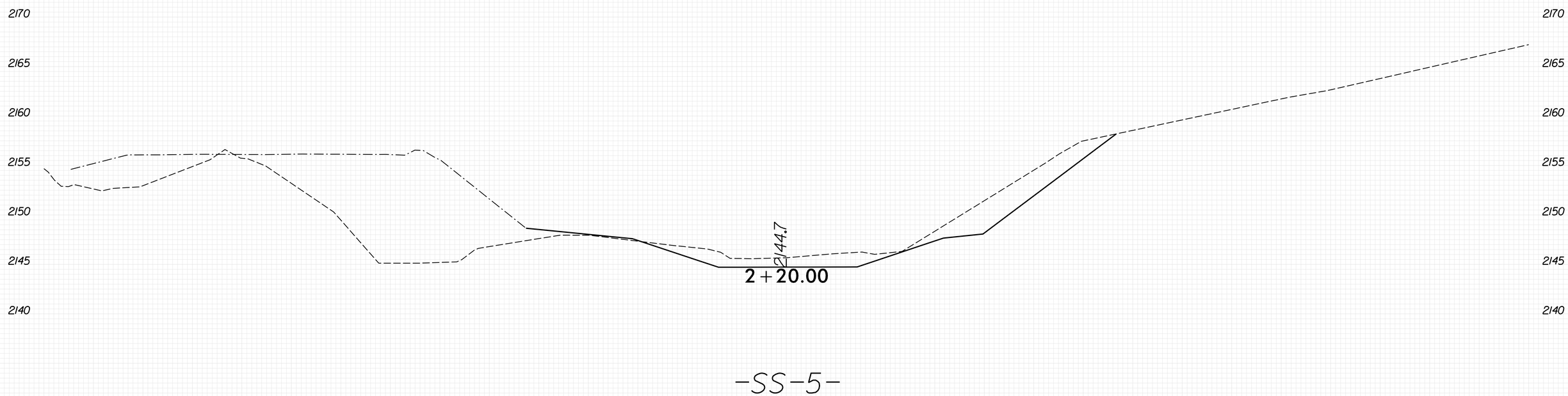
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-12

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





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8/23/99

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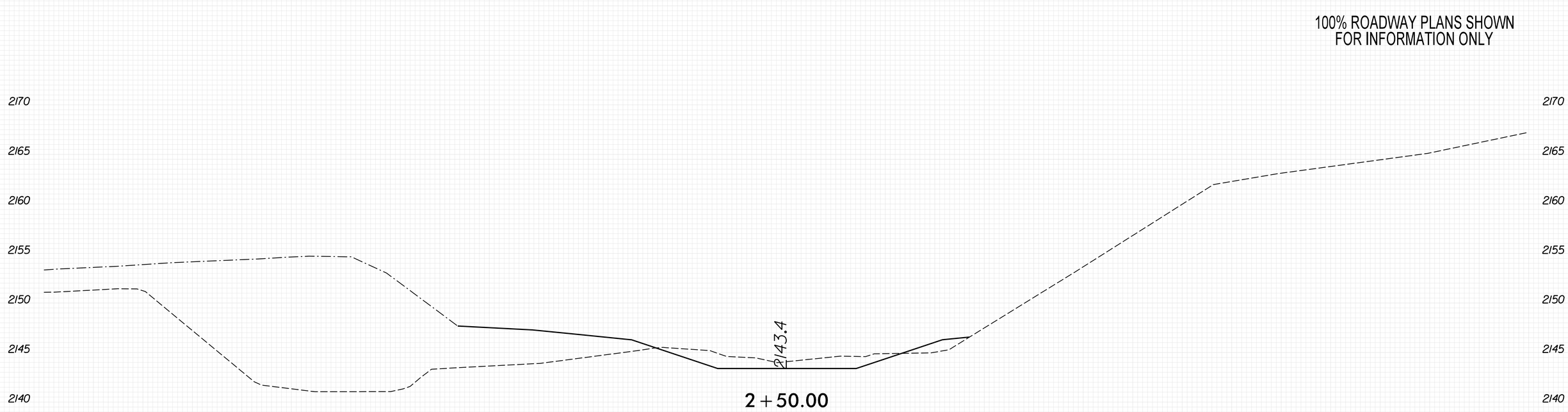
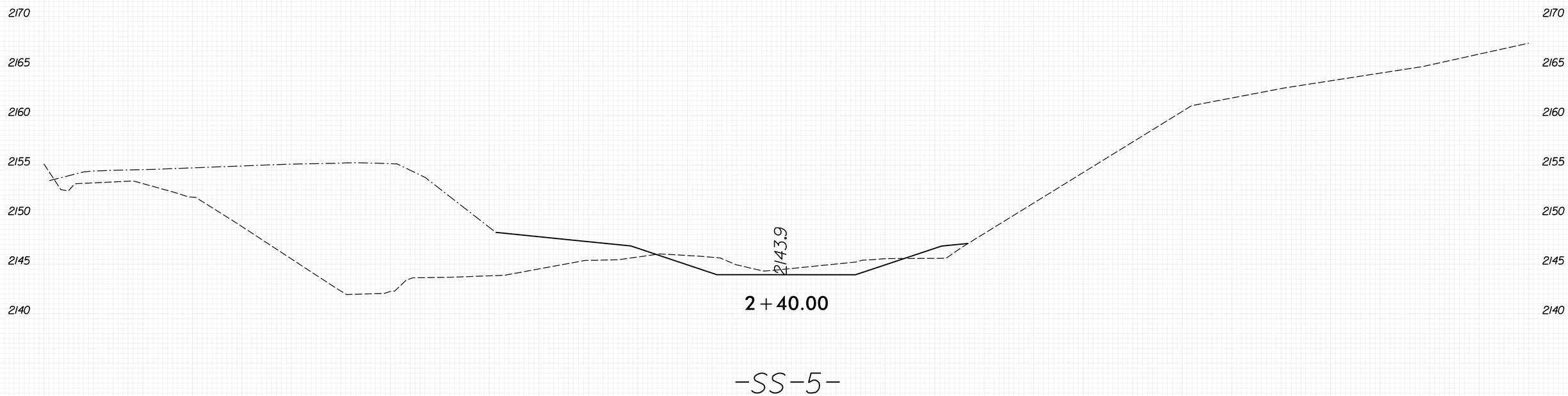
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-13

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





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8/23/99

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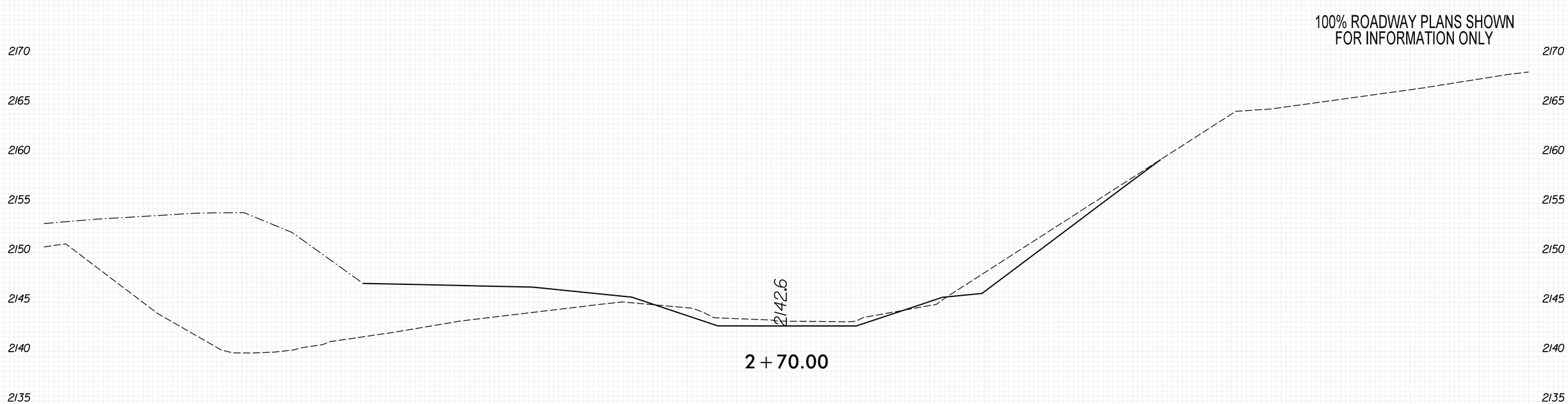
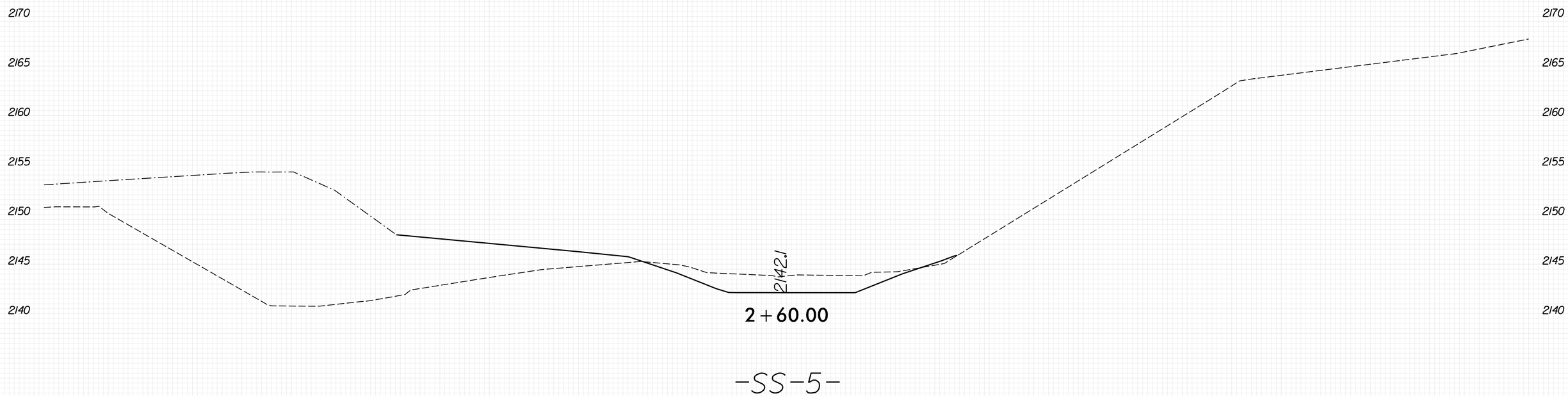
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:48:57 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-14

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





8/23/99
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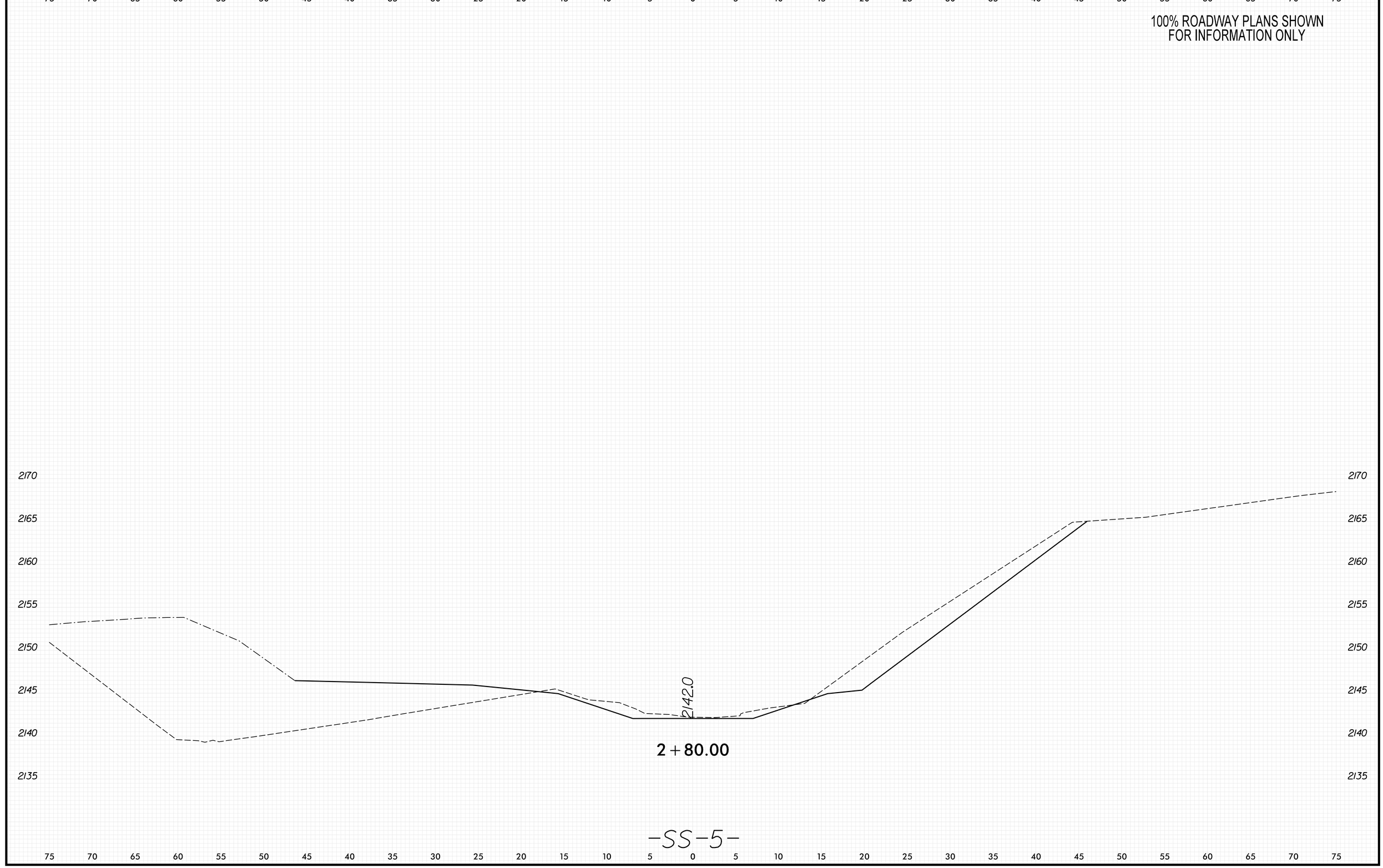
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:48:58 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-15

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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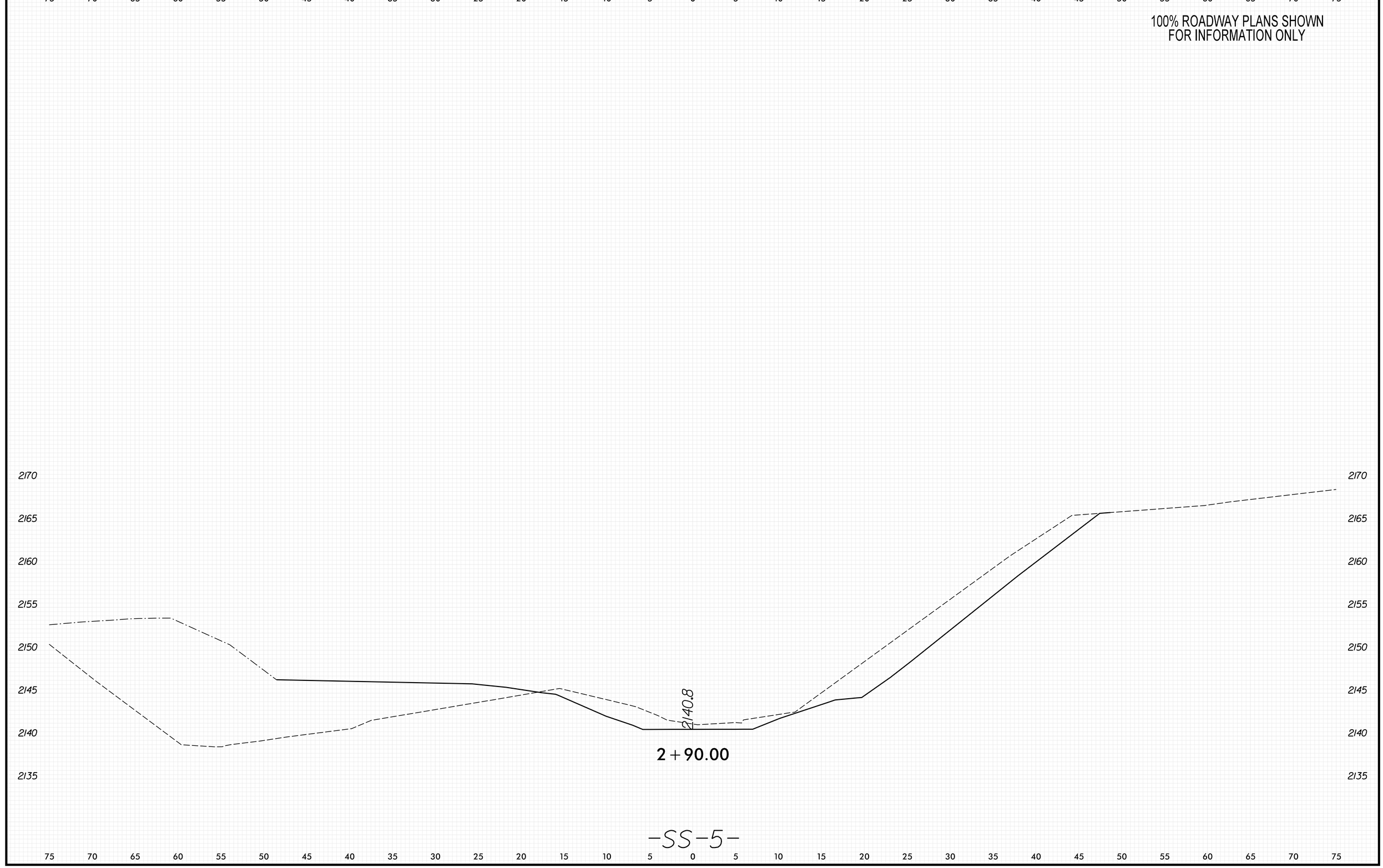
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-16

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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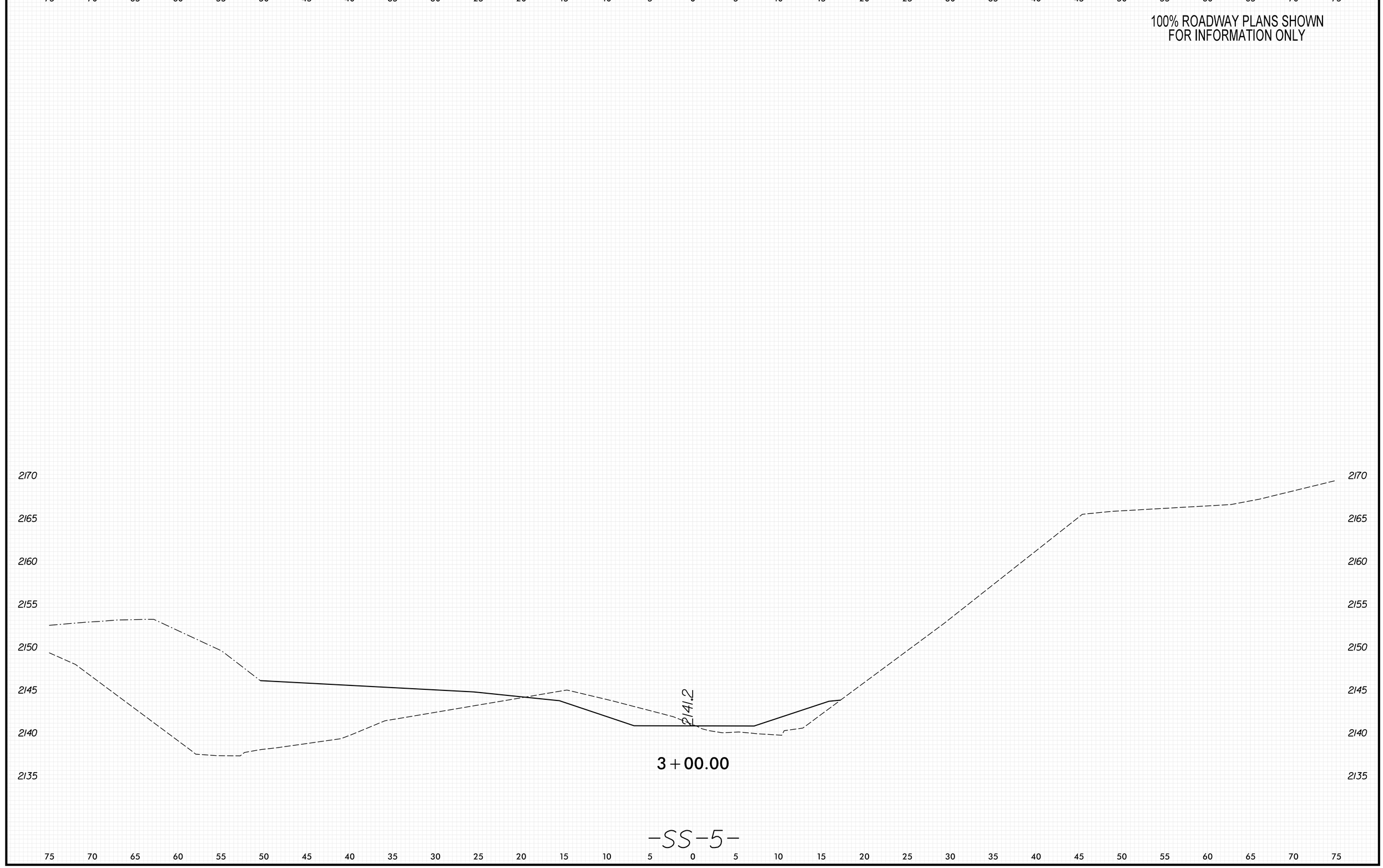
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-17

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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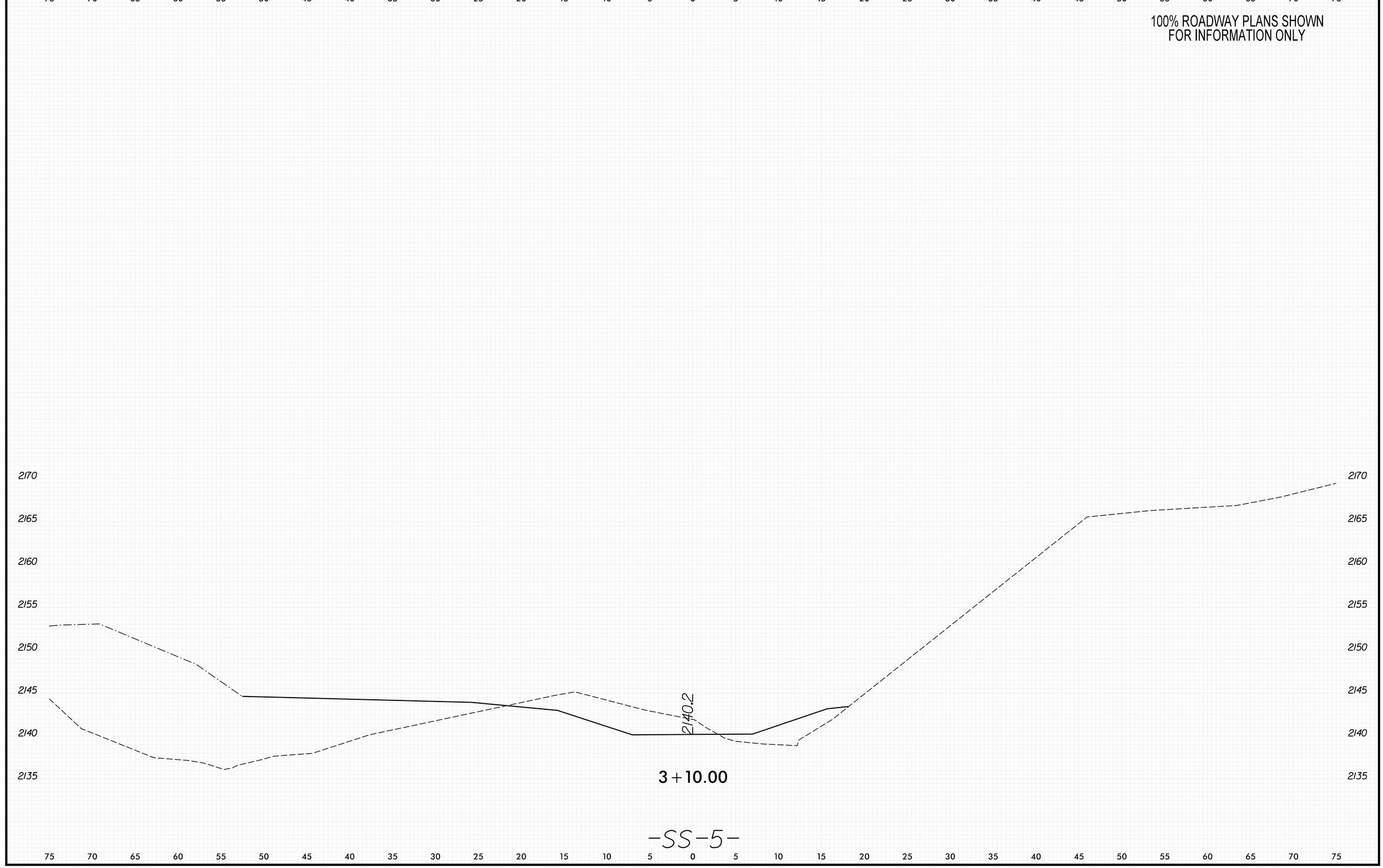
TIME: 8:49:03 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-18

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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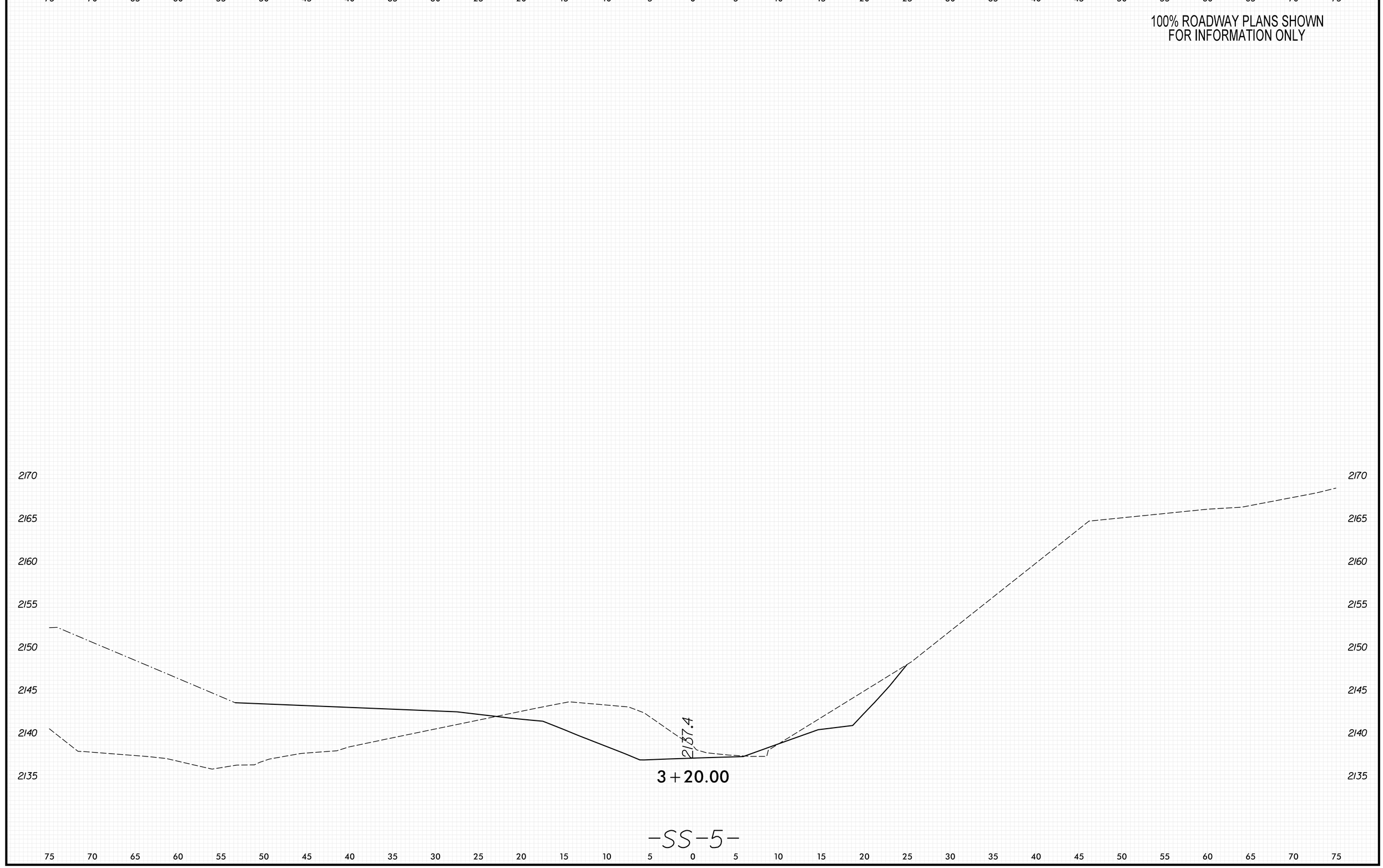
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-19

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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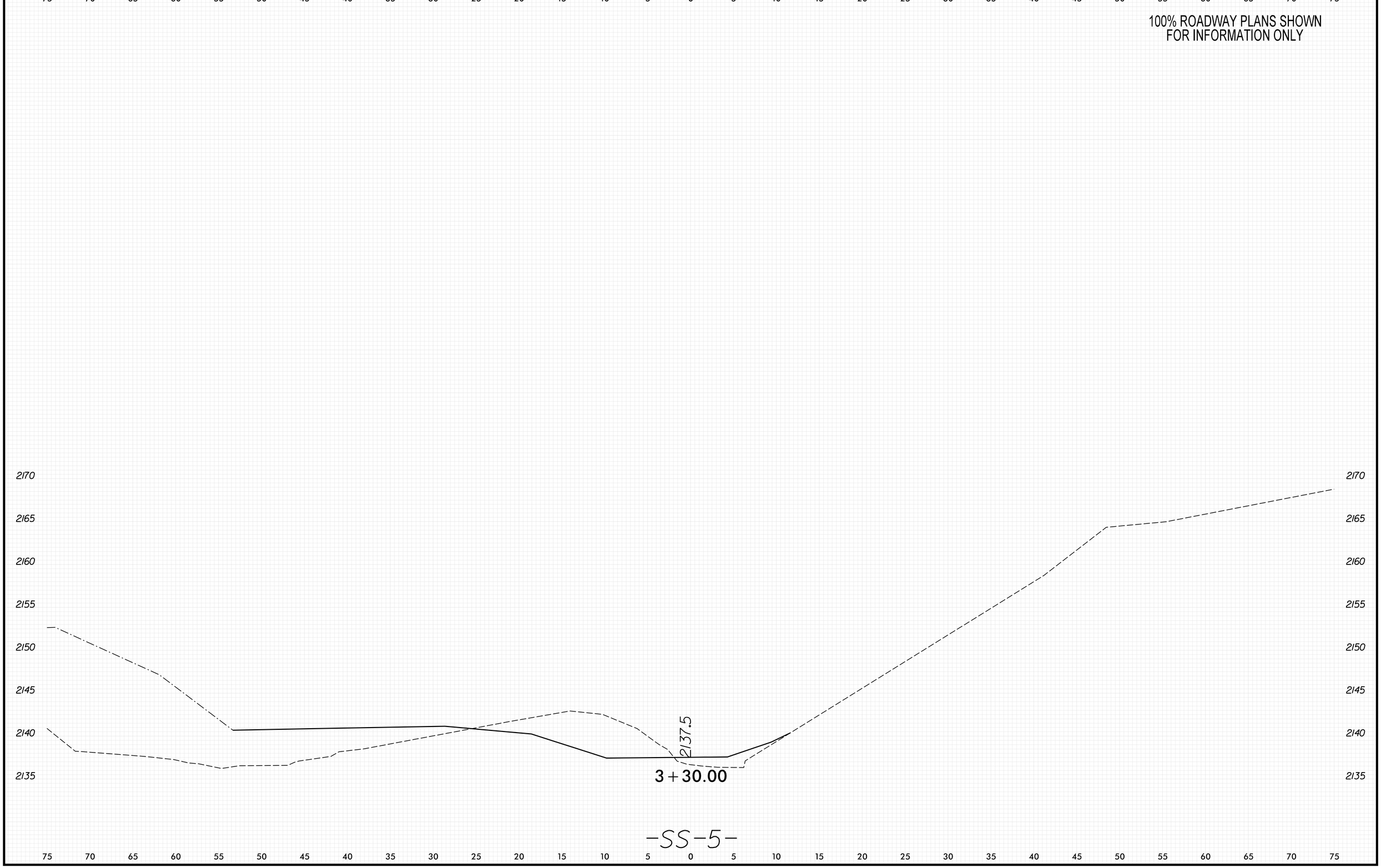
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-20

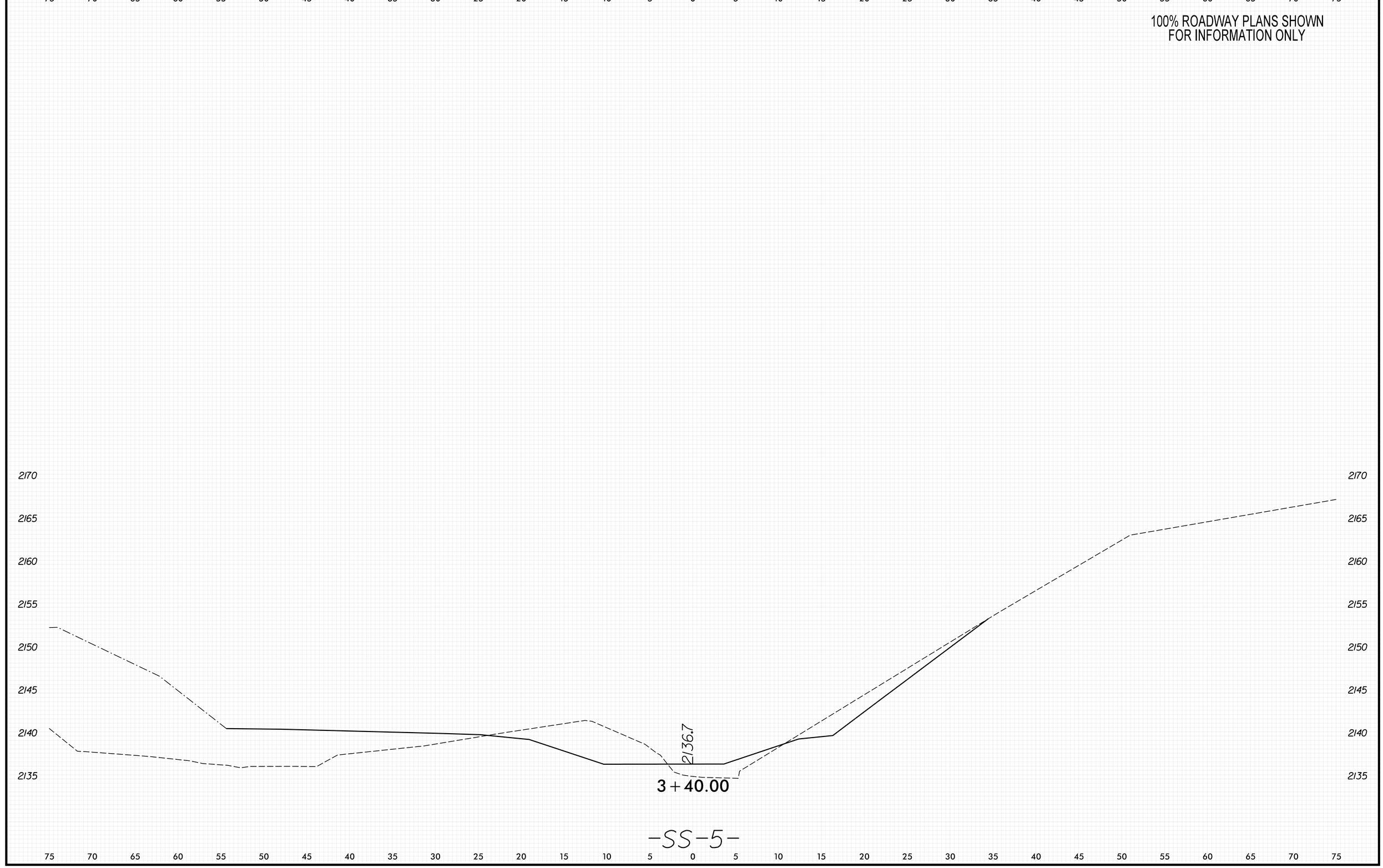
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:07 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-21

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
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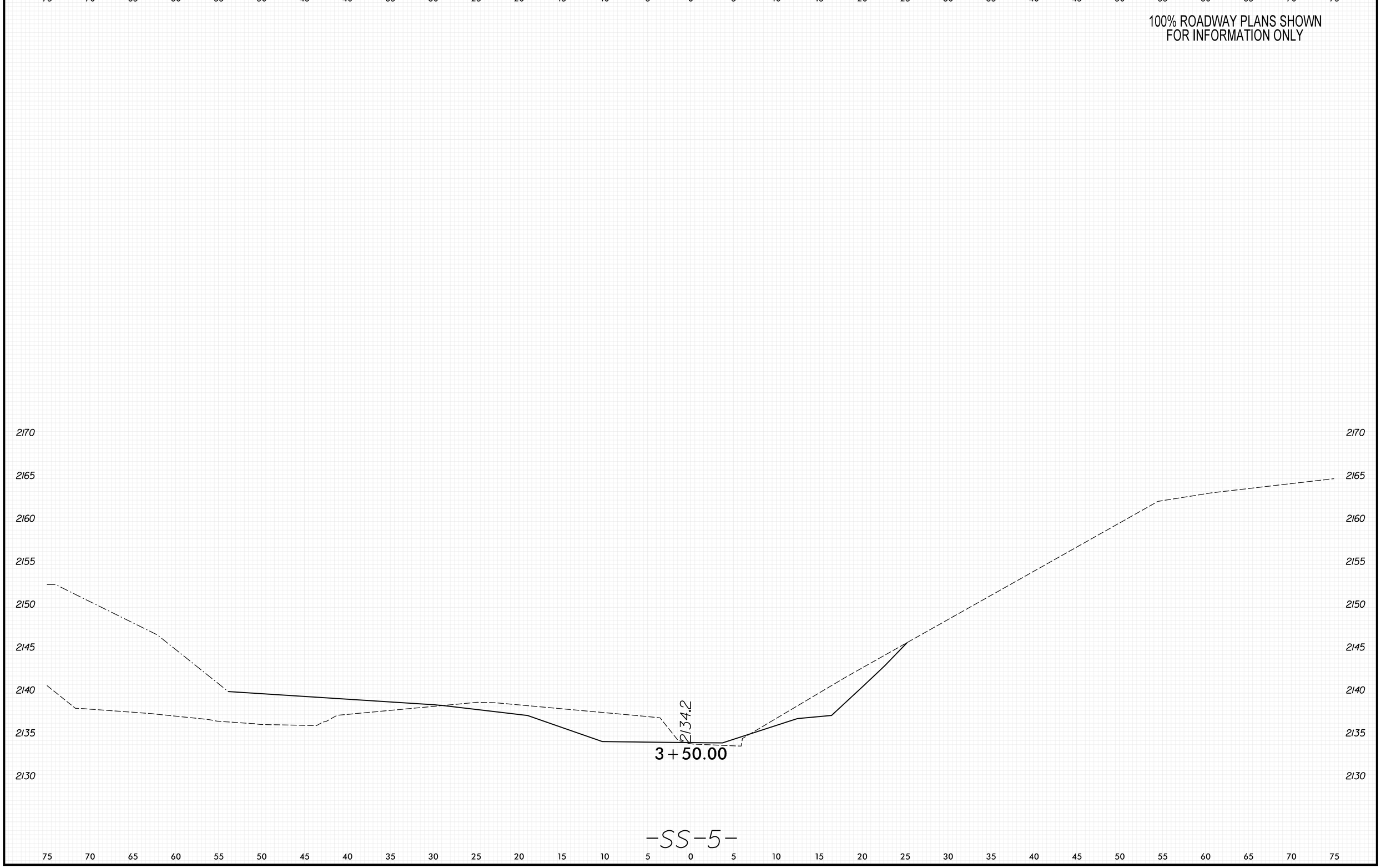
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-22

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

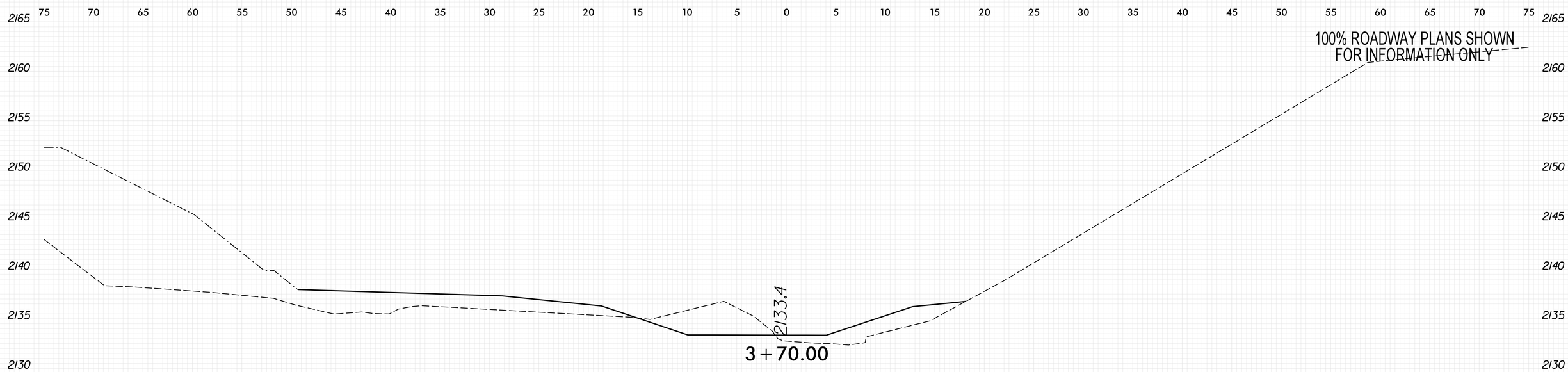


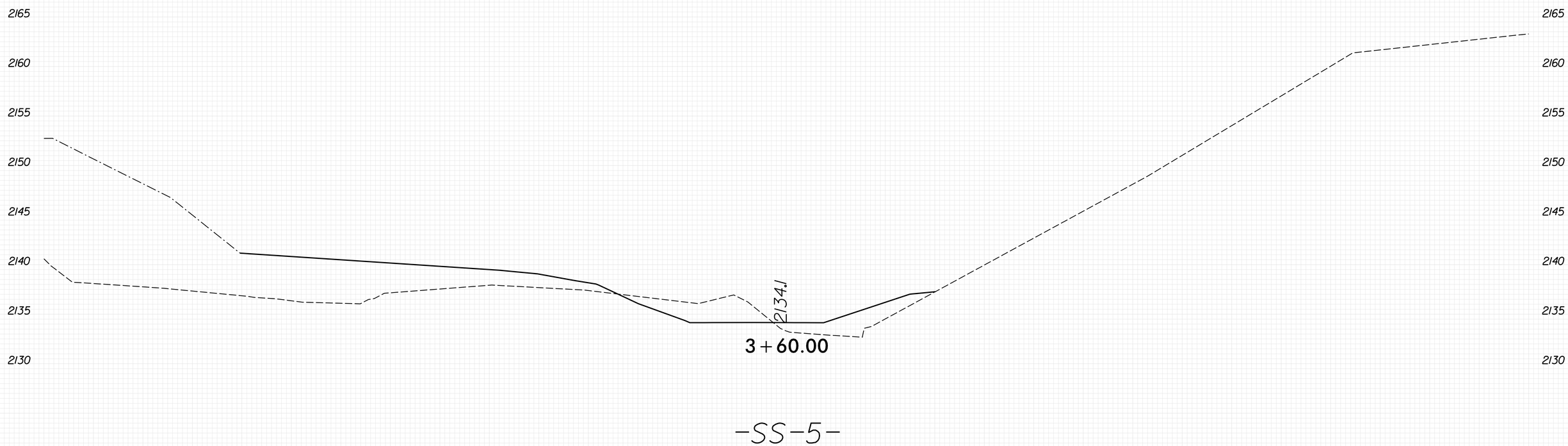
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:11 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-23





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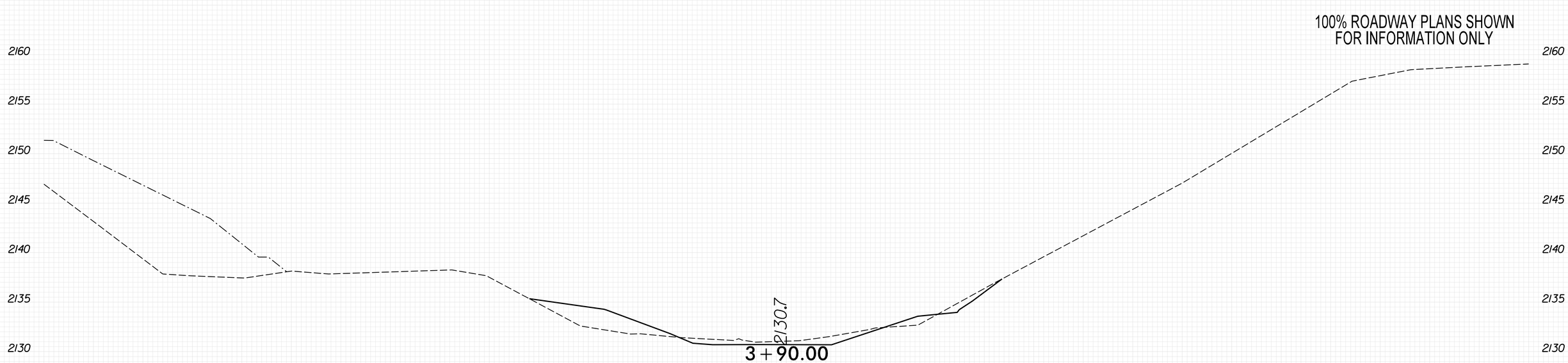
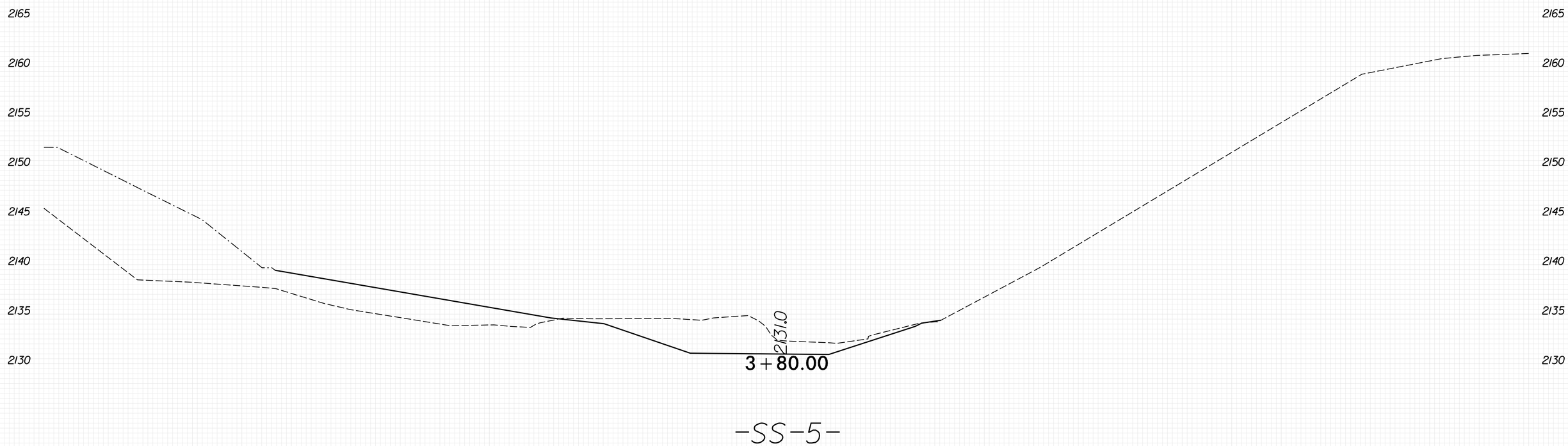
8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:12 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-24

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





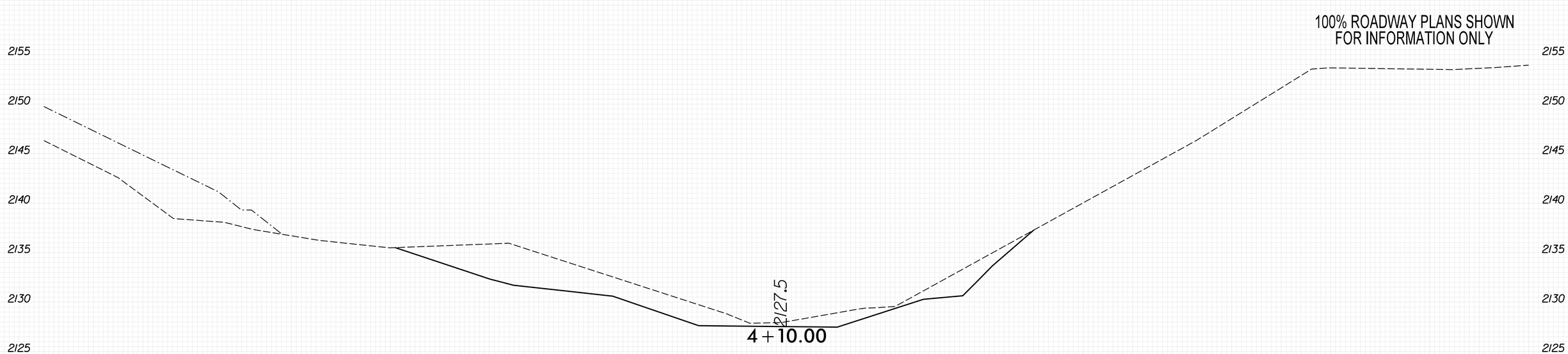
-SS-5-

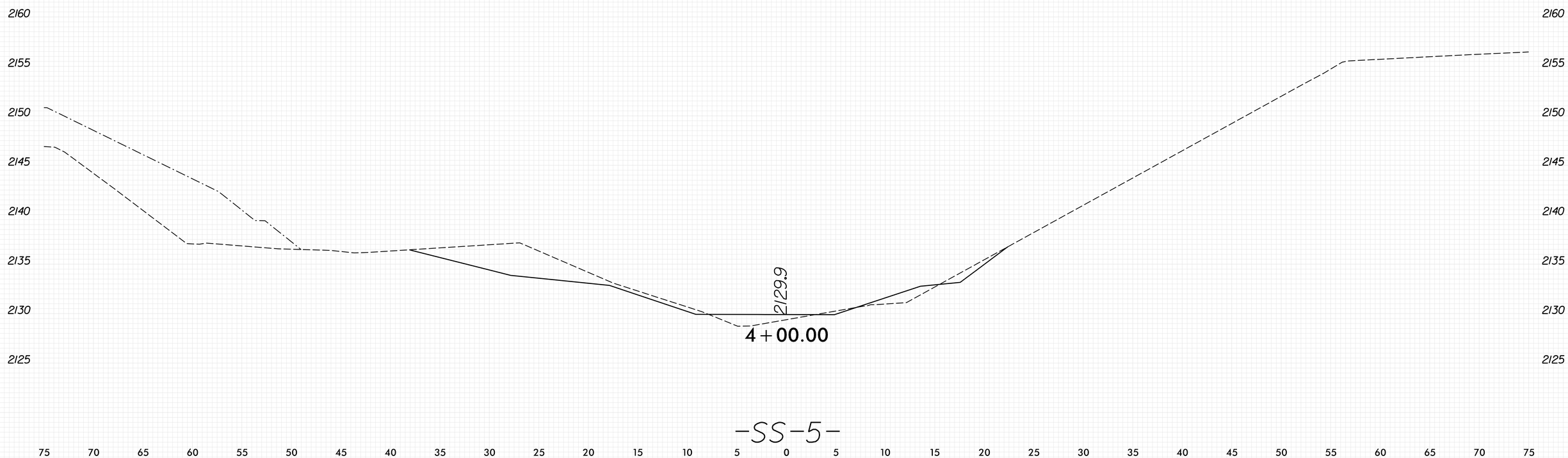
8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:49:14 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-25

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





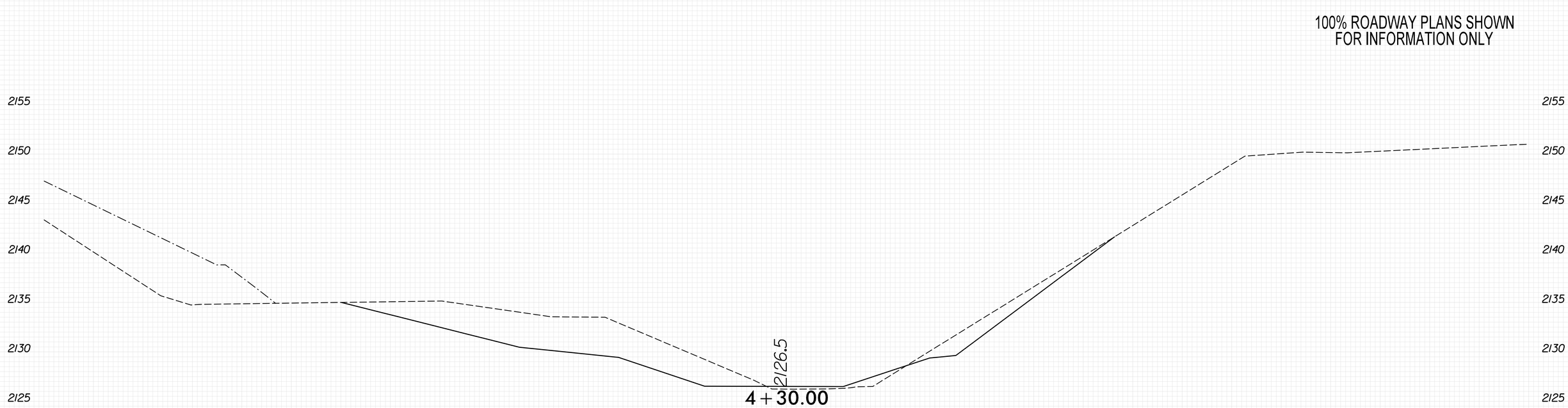
-SS-5-

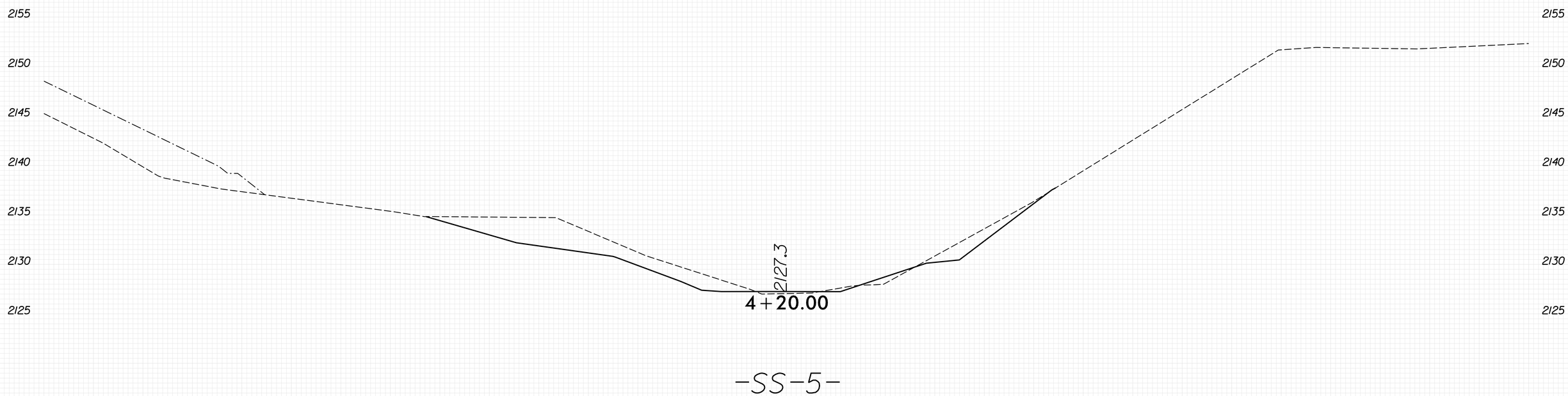
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:15 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-26

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





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8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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DATE: 5/29/2026
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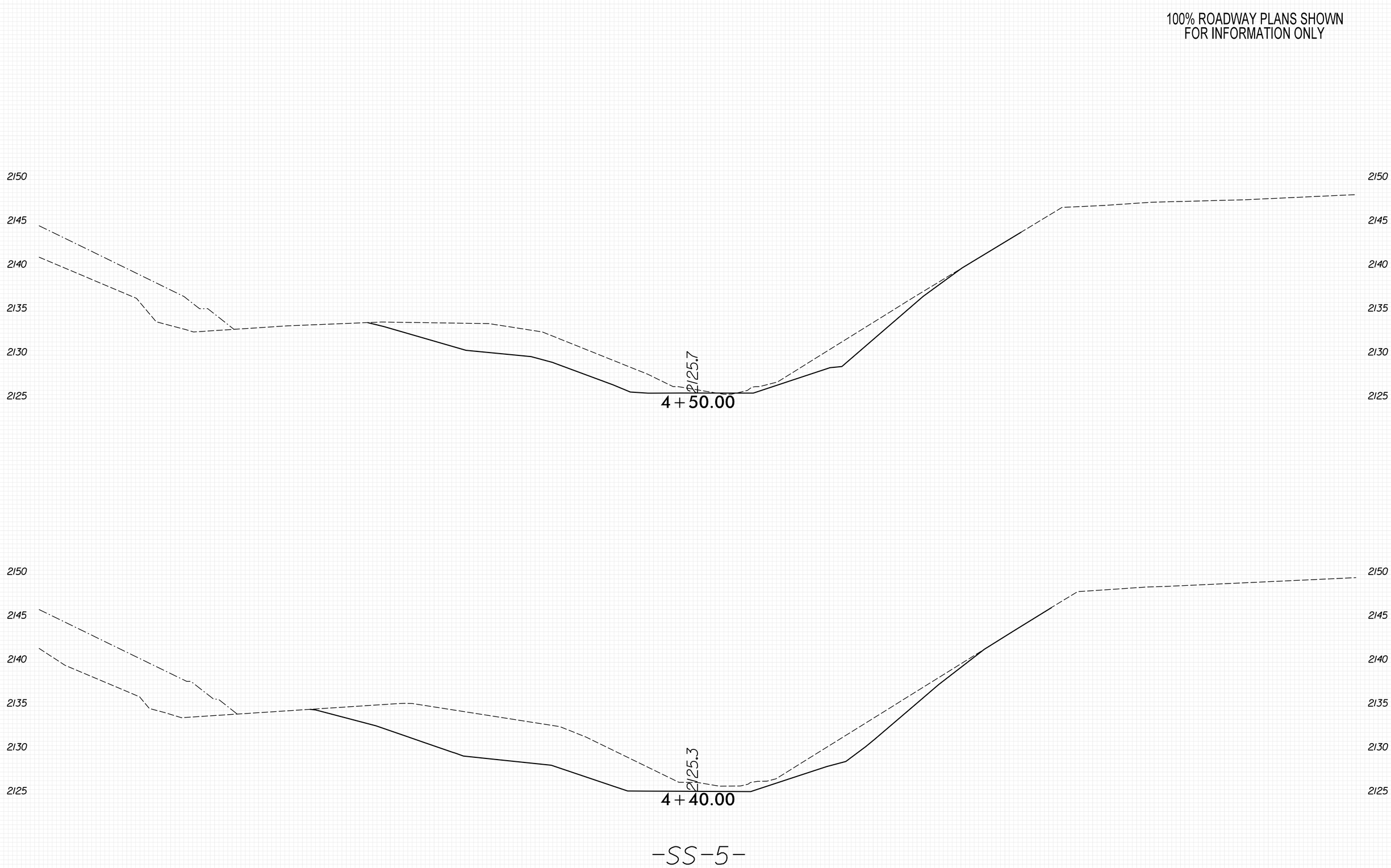
TIME: 8:49:17 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-27

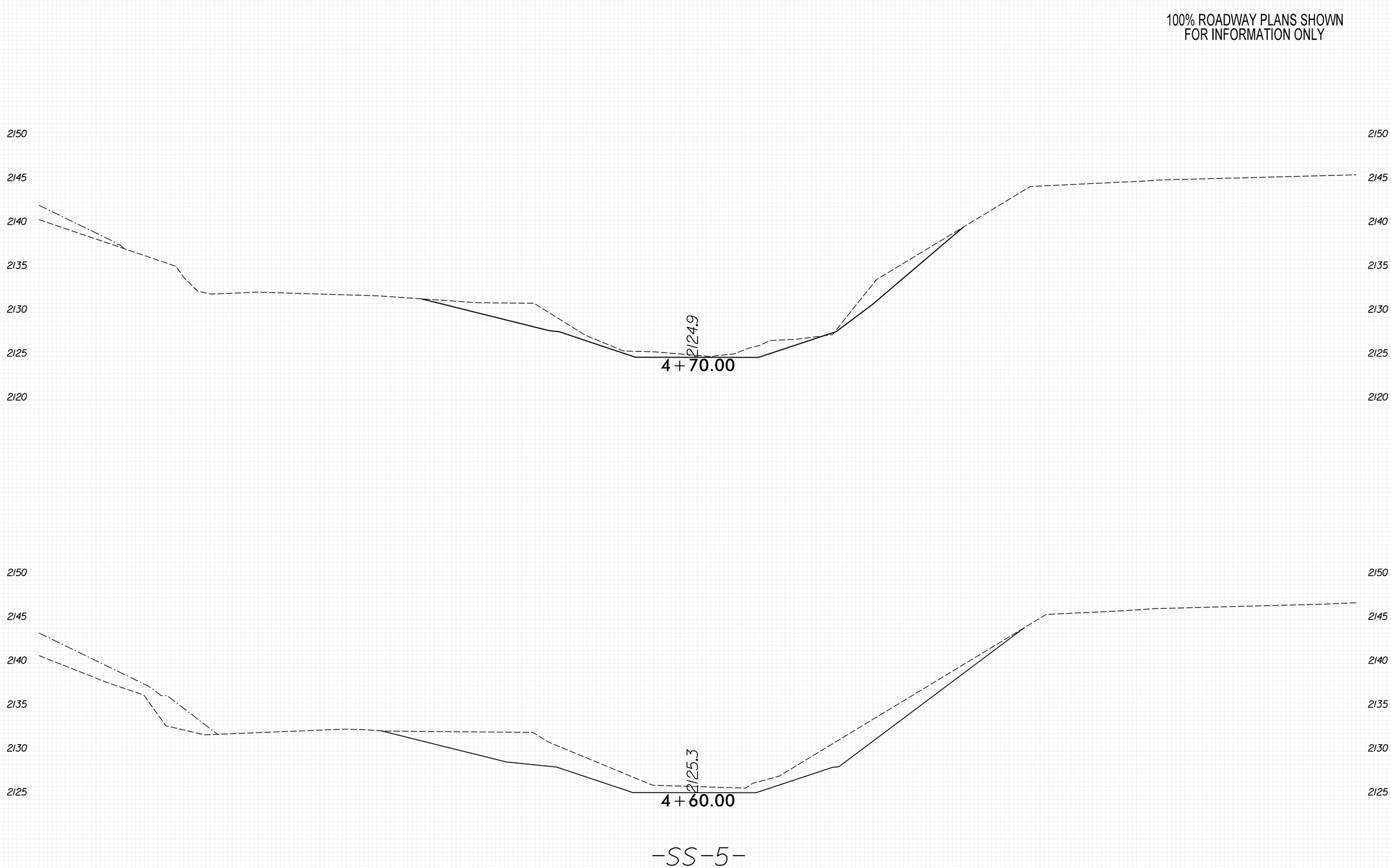
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:18 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-28

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

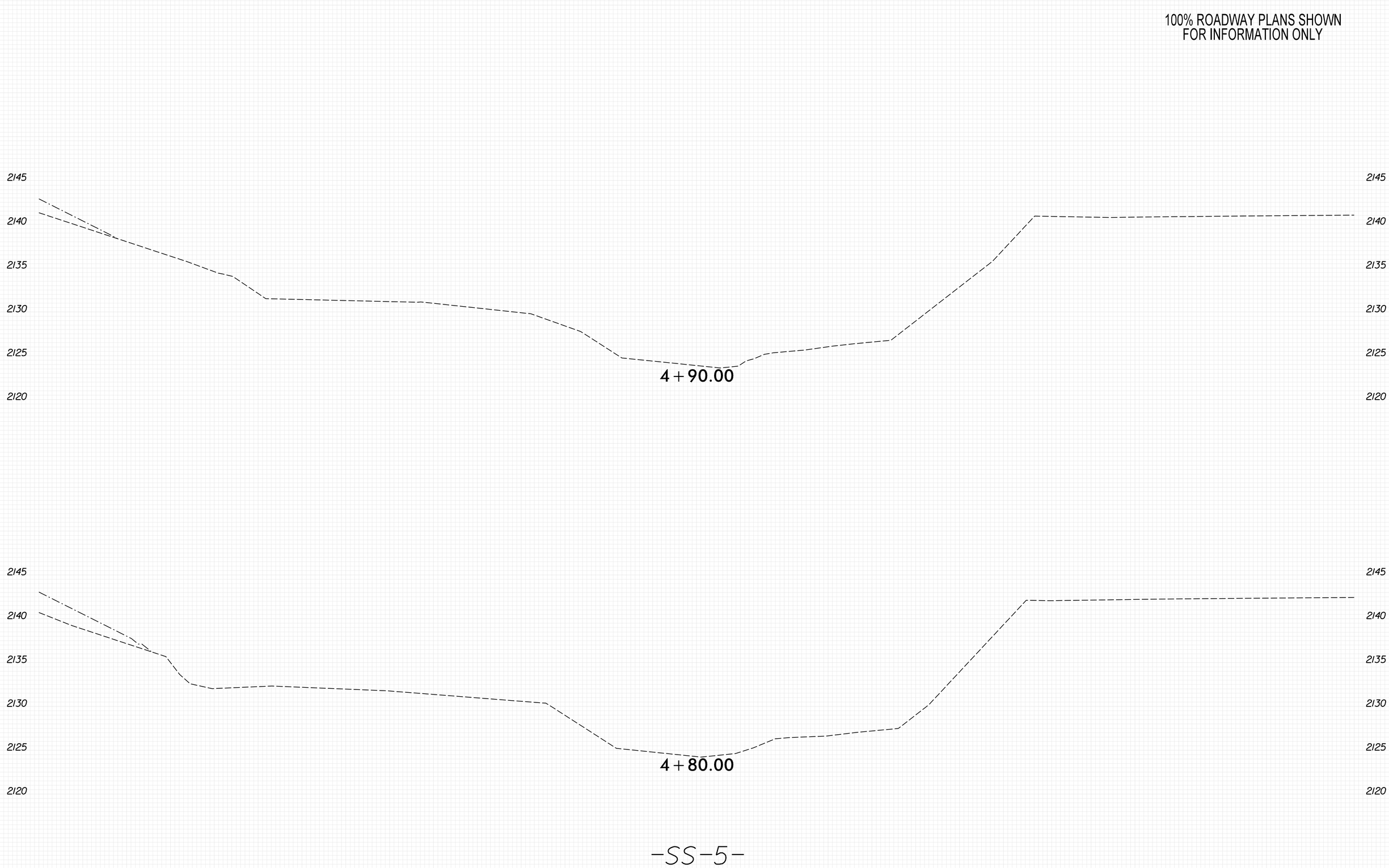


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:20 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-29

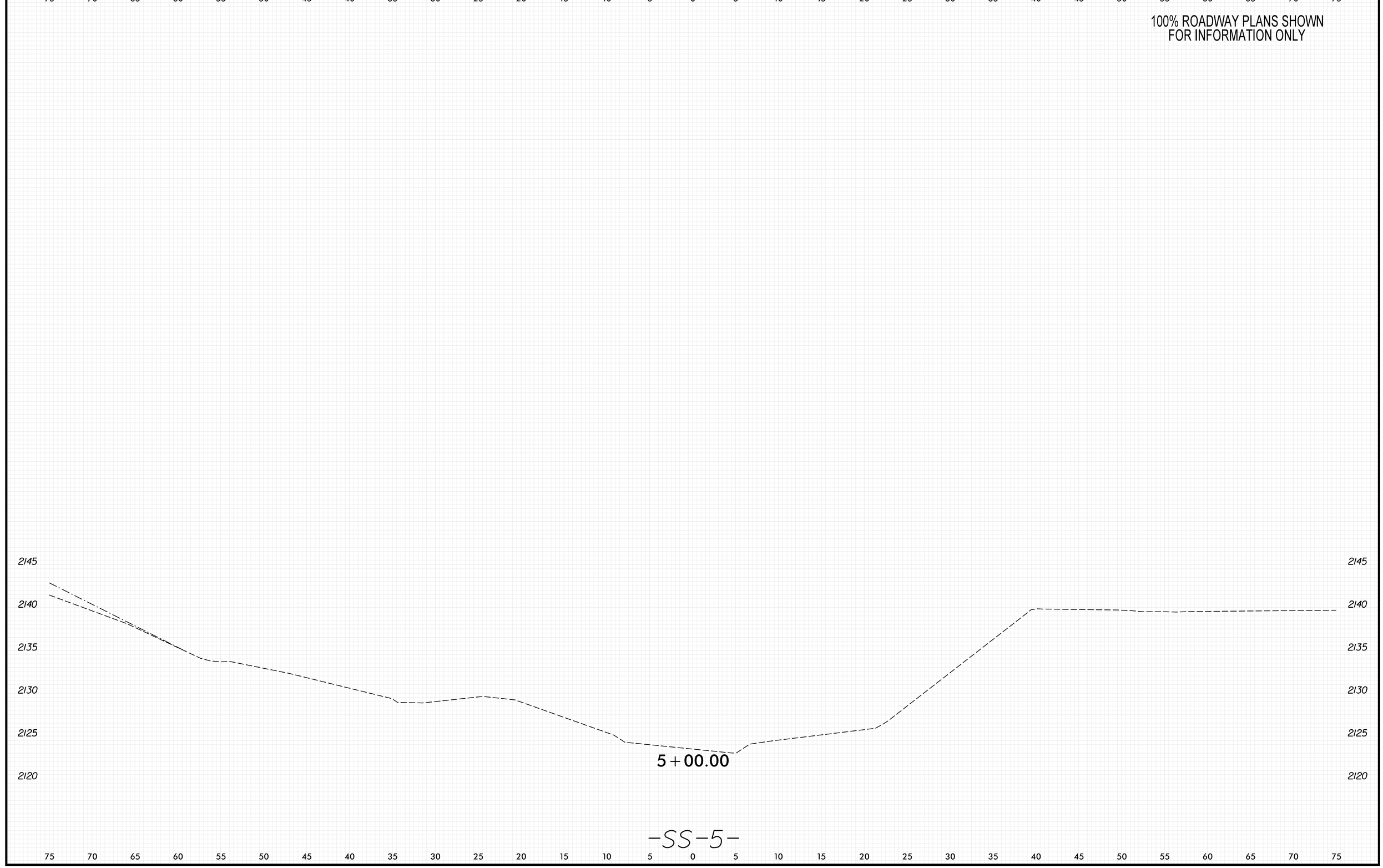
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:22 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-30

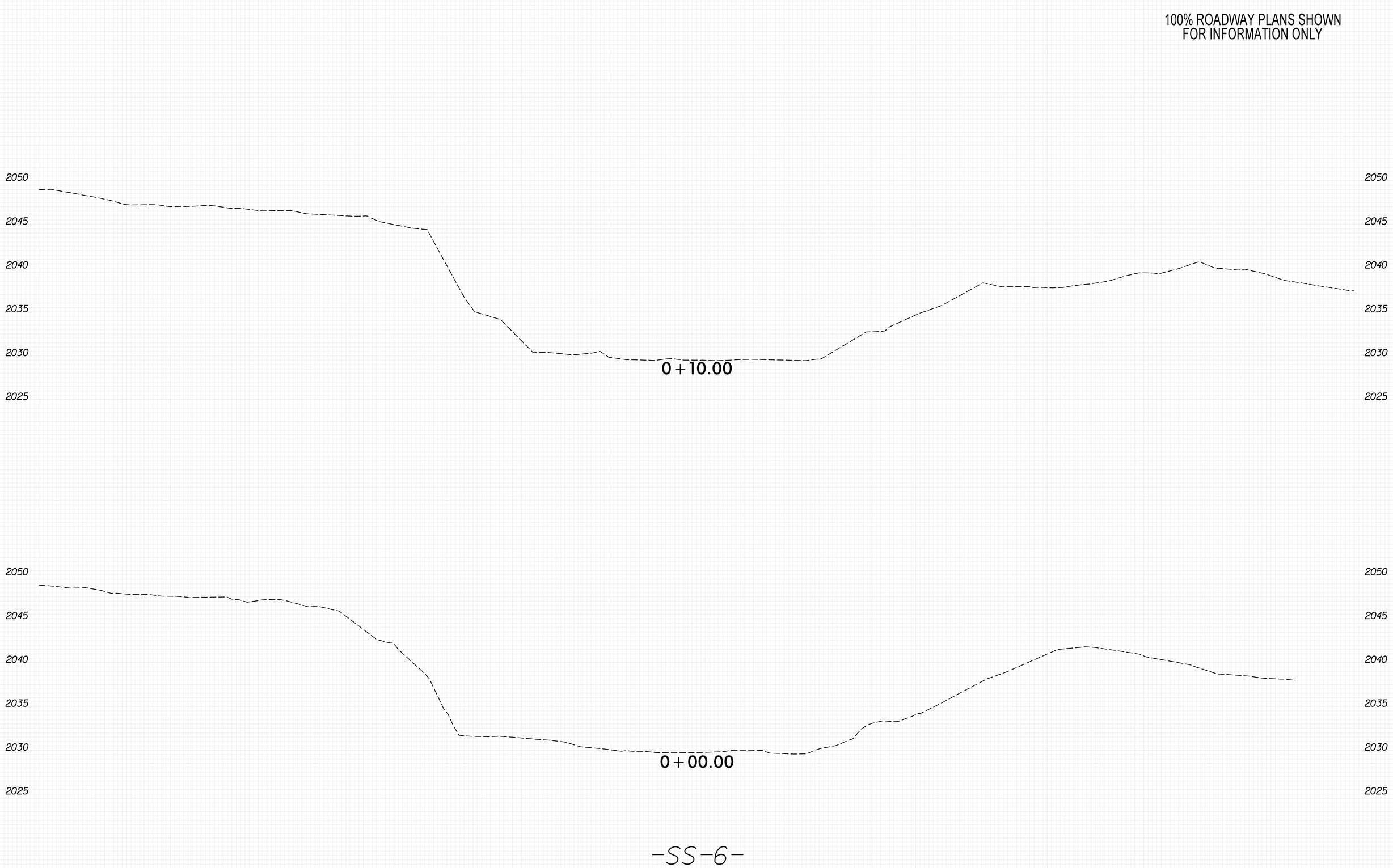
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:49:24 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-31

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



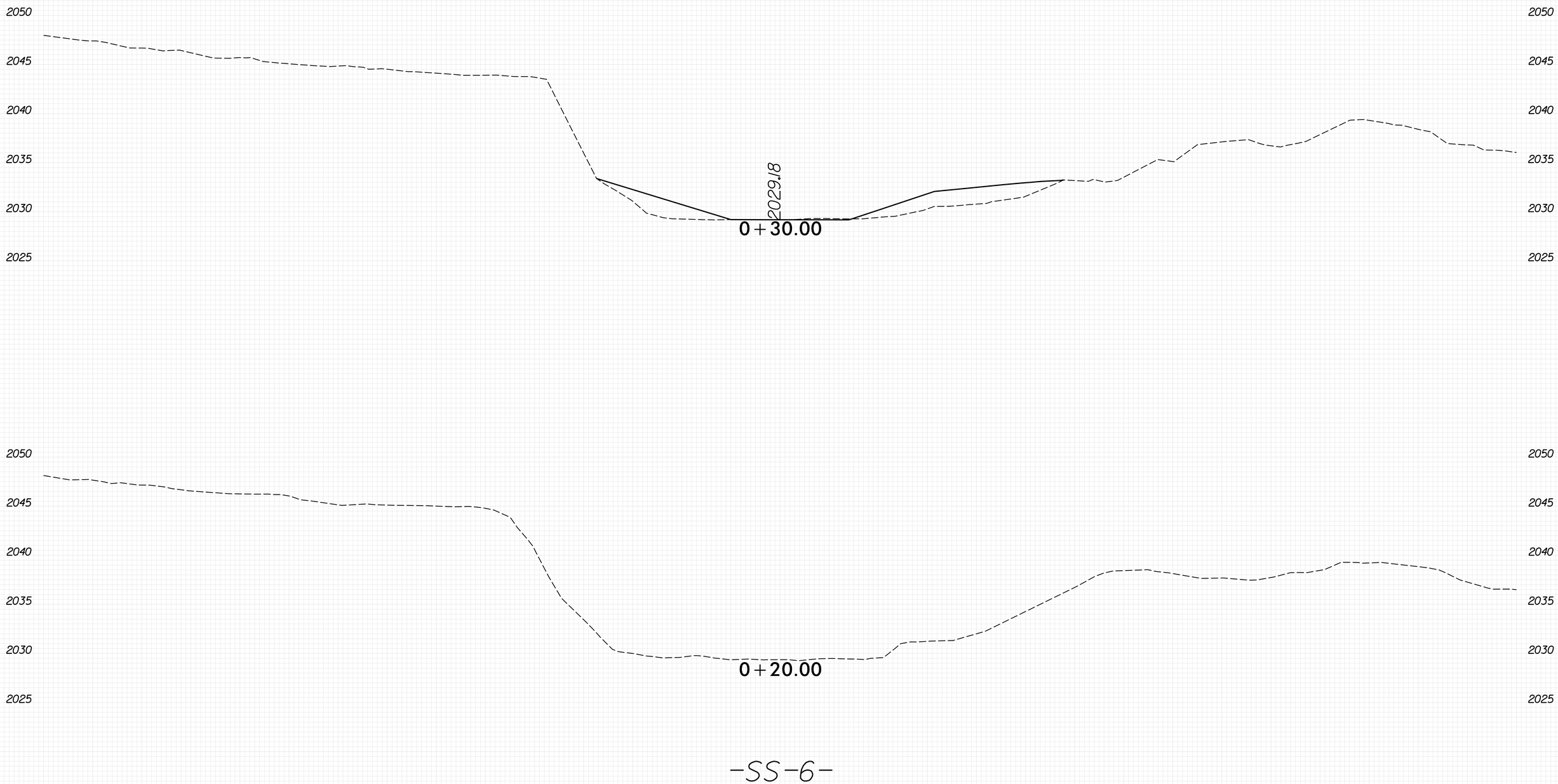
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:50:17 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-32

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

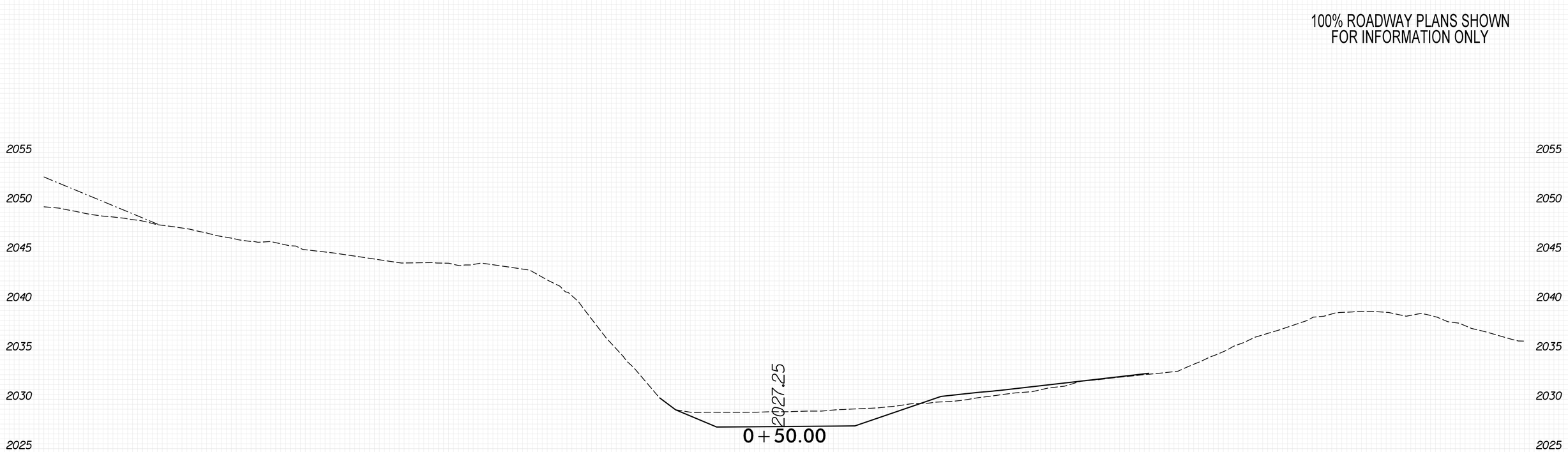


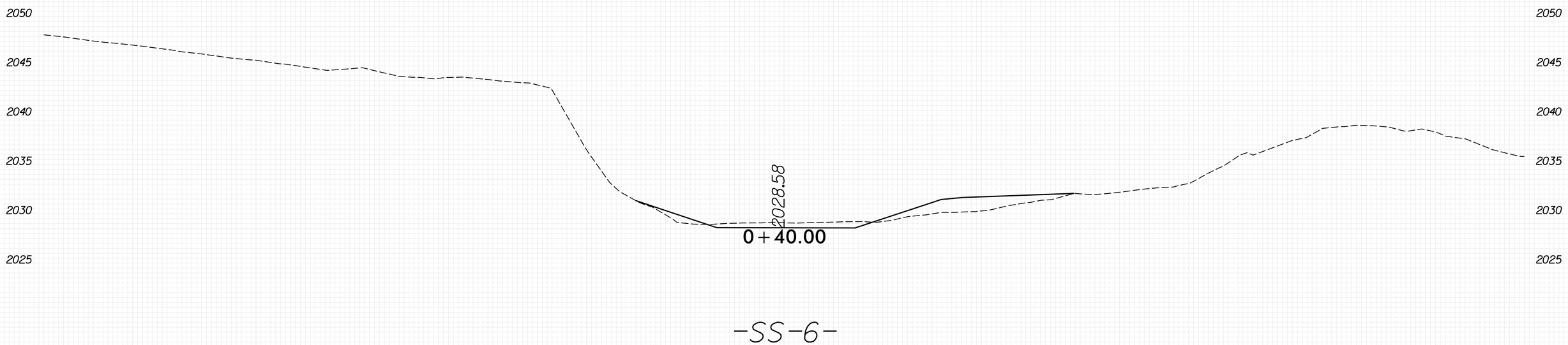
8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:19 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-33

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:21 AM

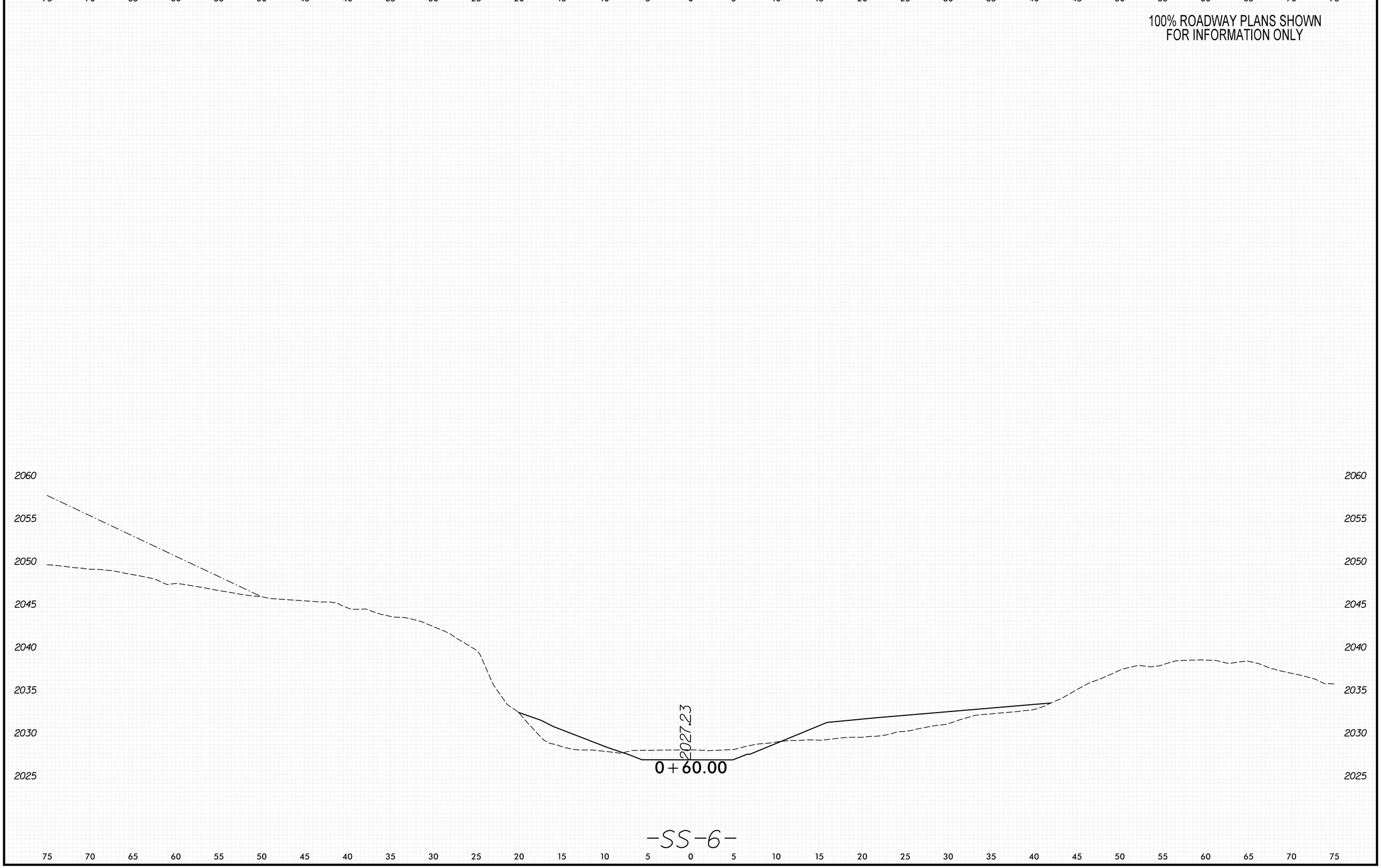
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-34

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

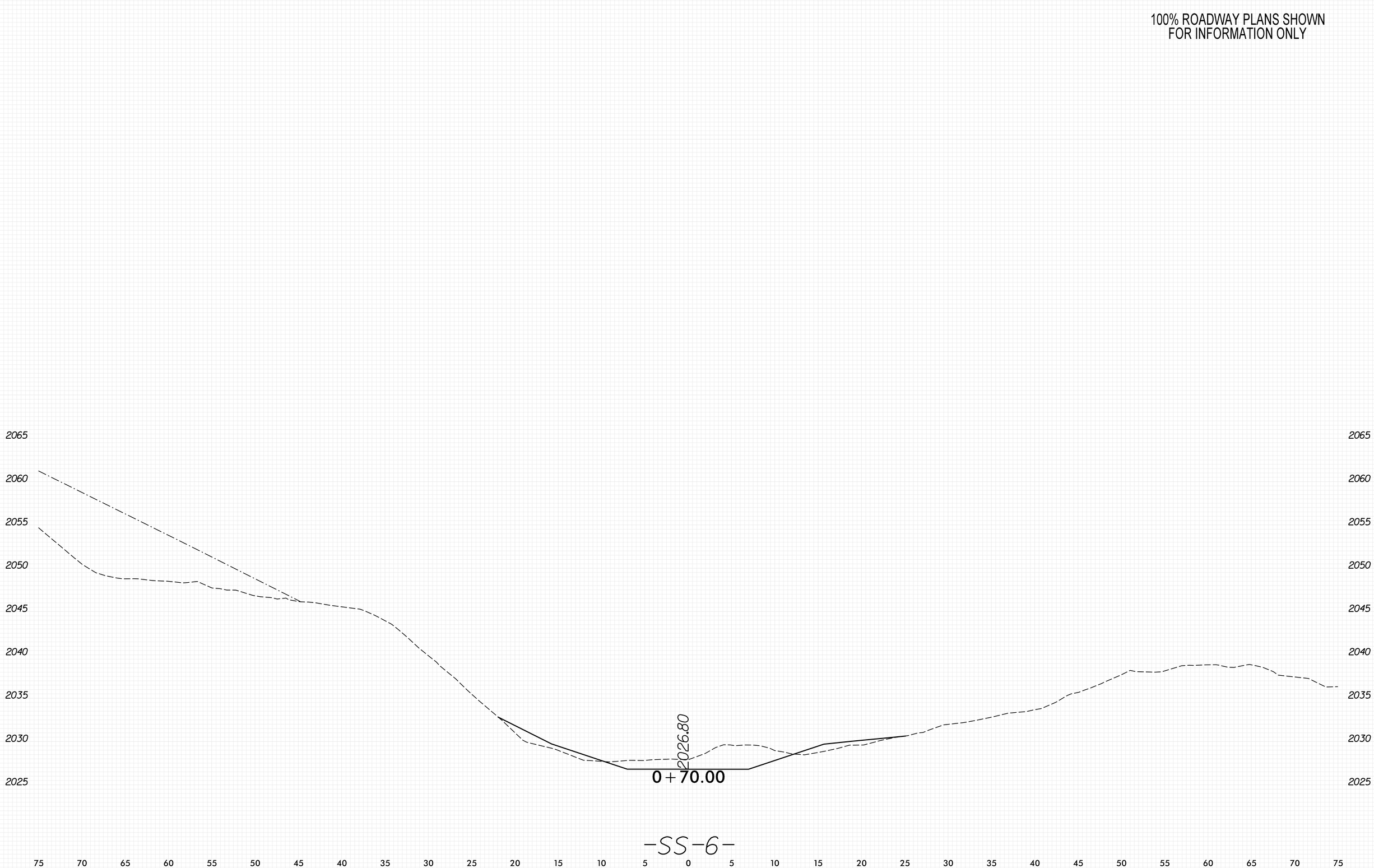


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:50:23 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-35

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:24 AM

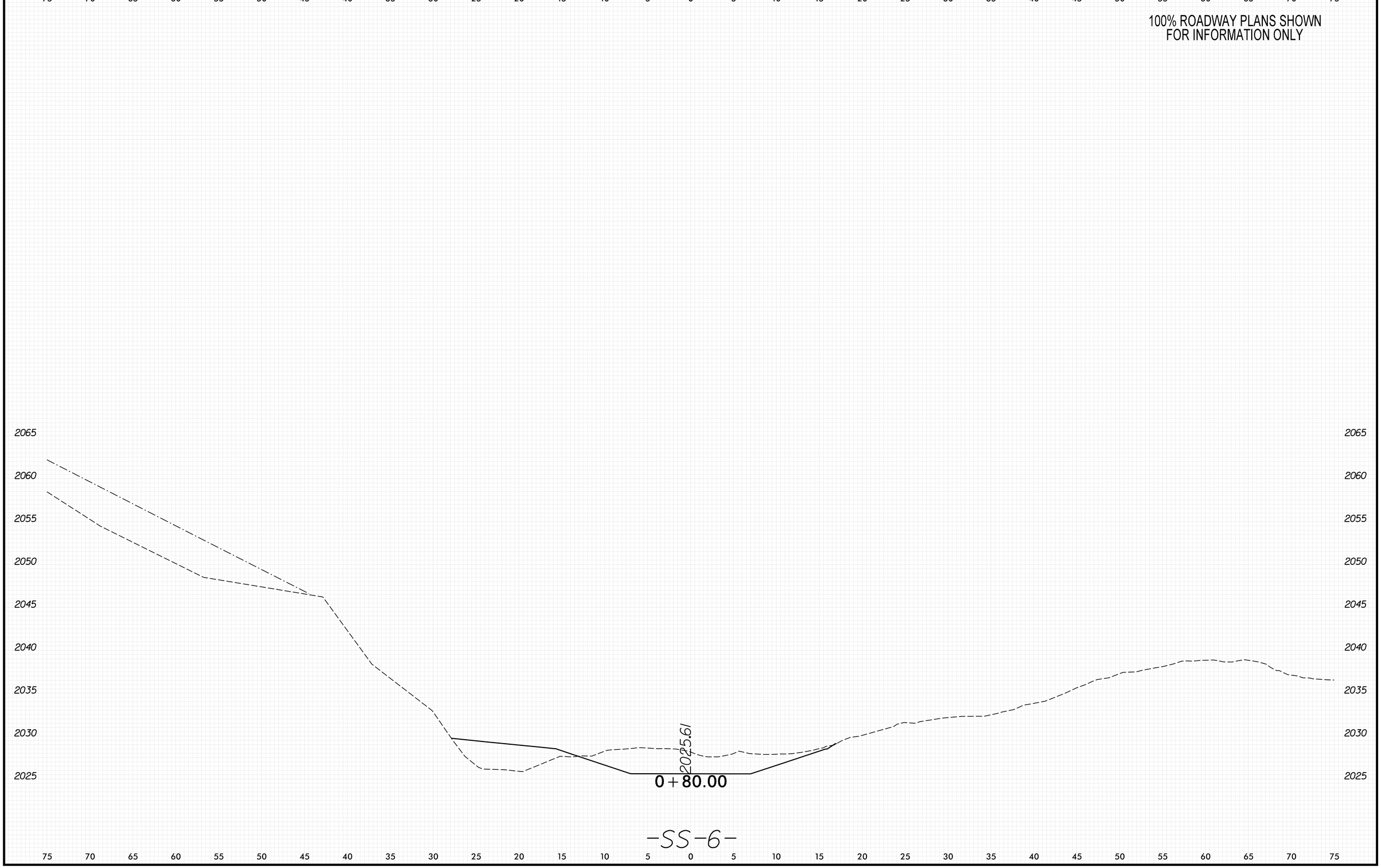
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-36

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

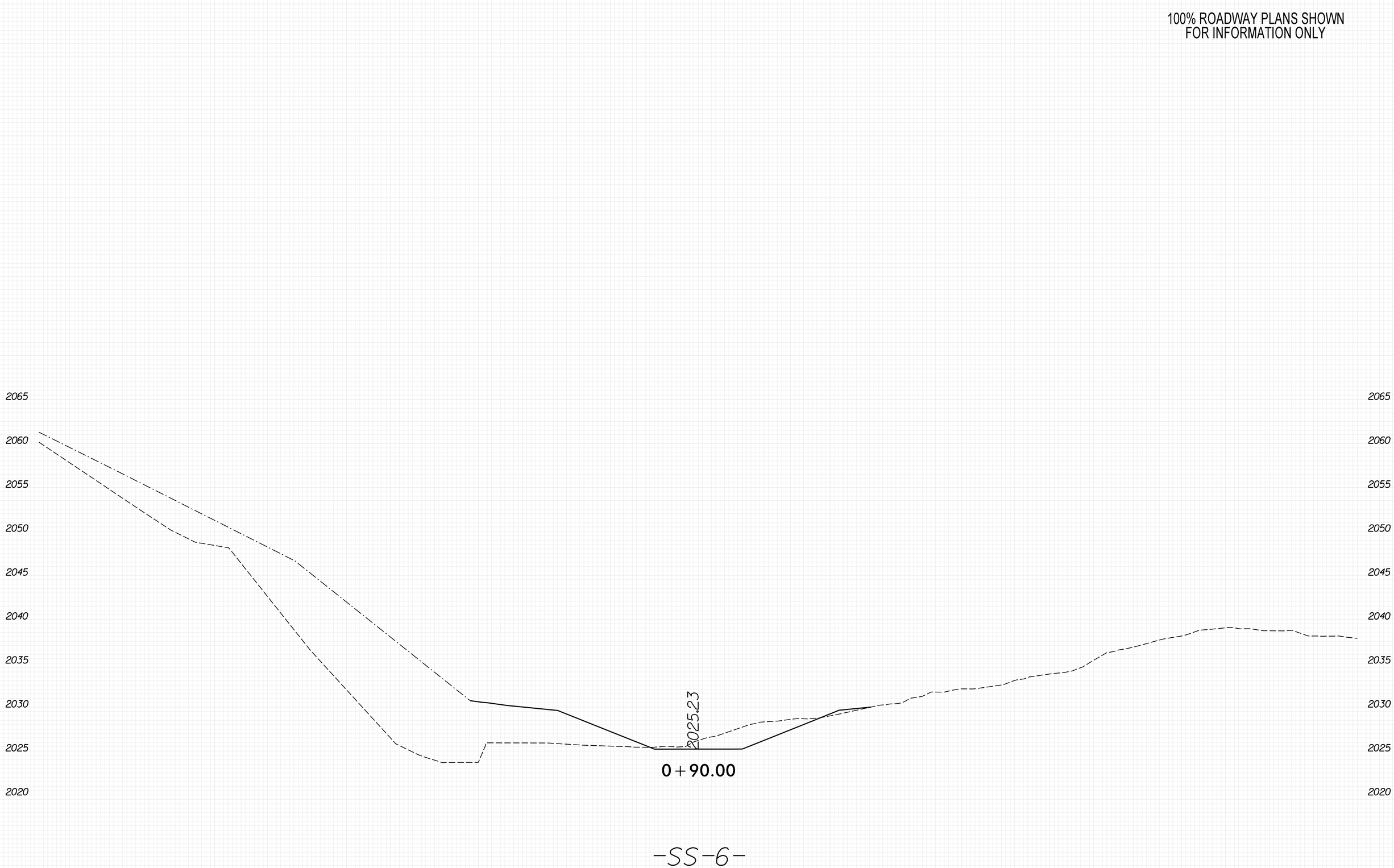


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:26 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-37

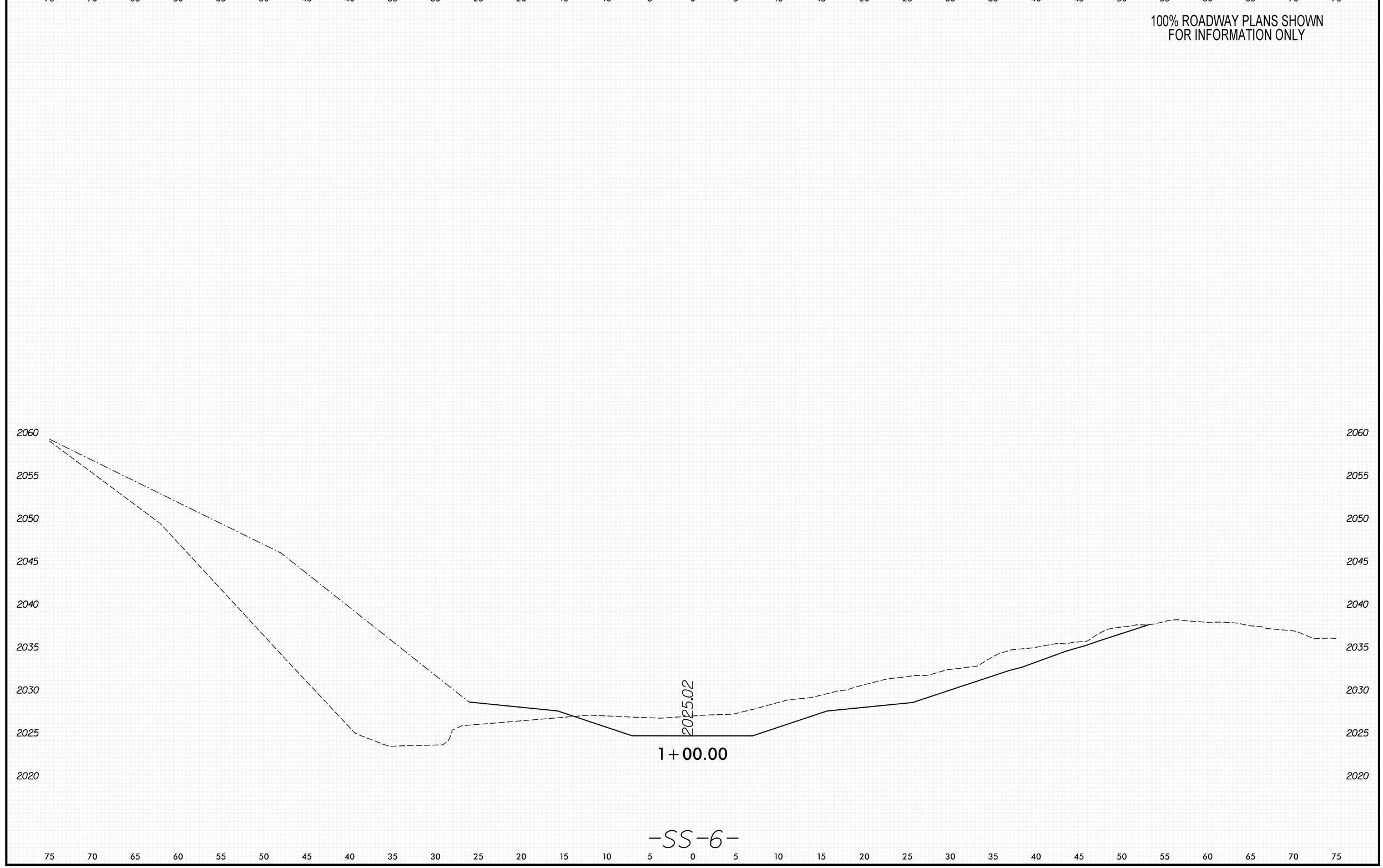
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:28 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-38

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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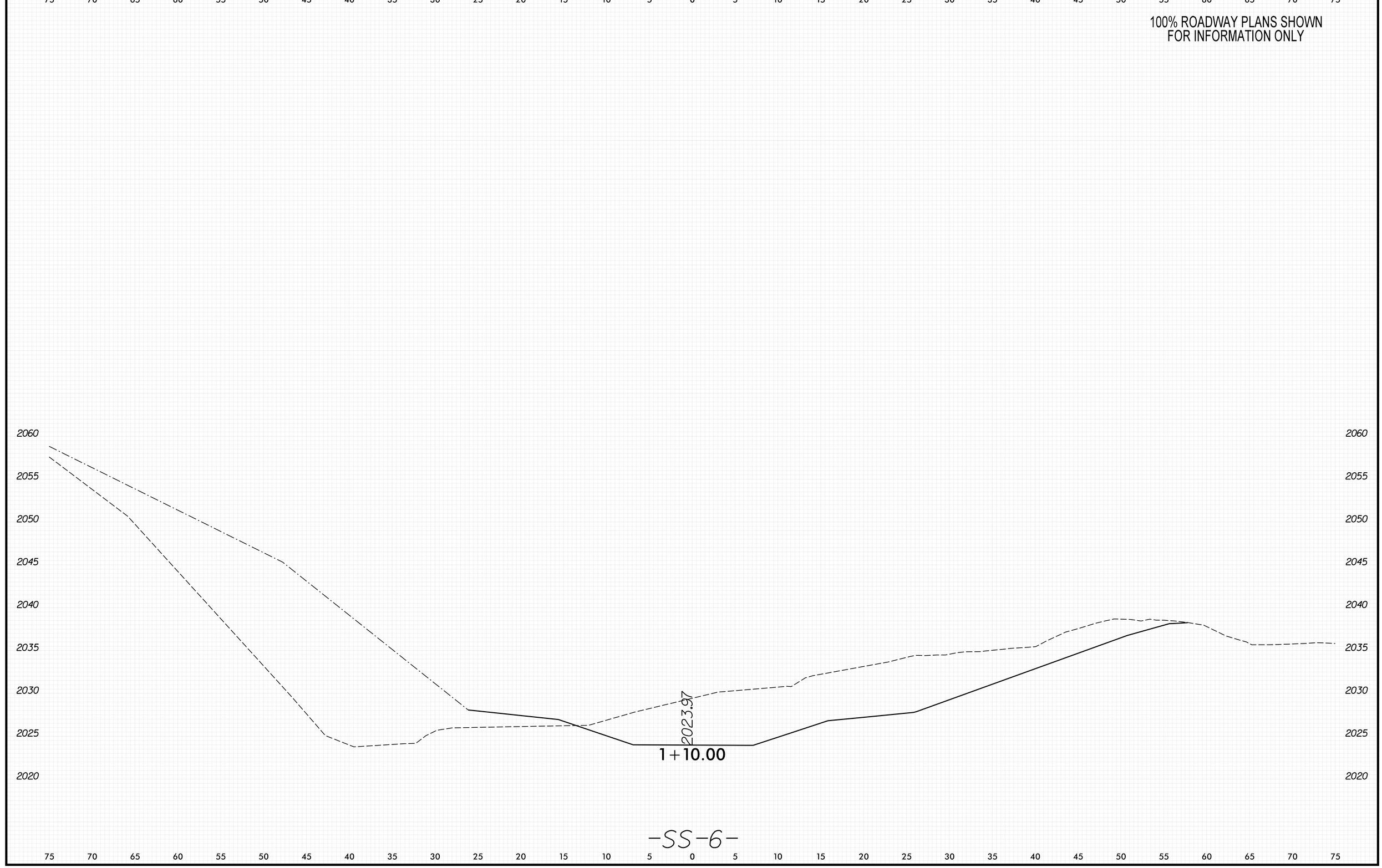
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-39

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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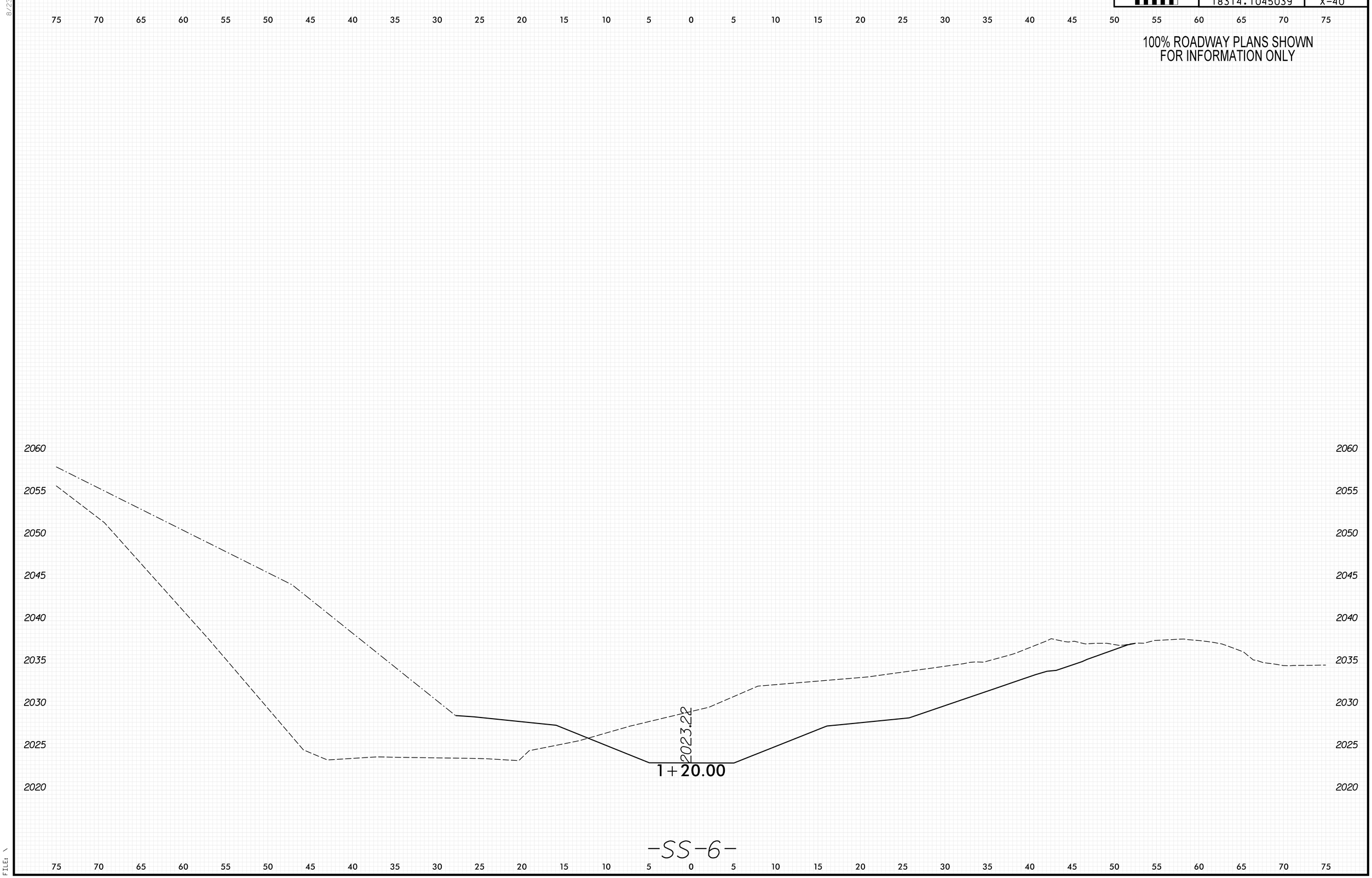
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-40

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

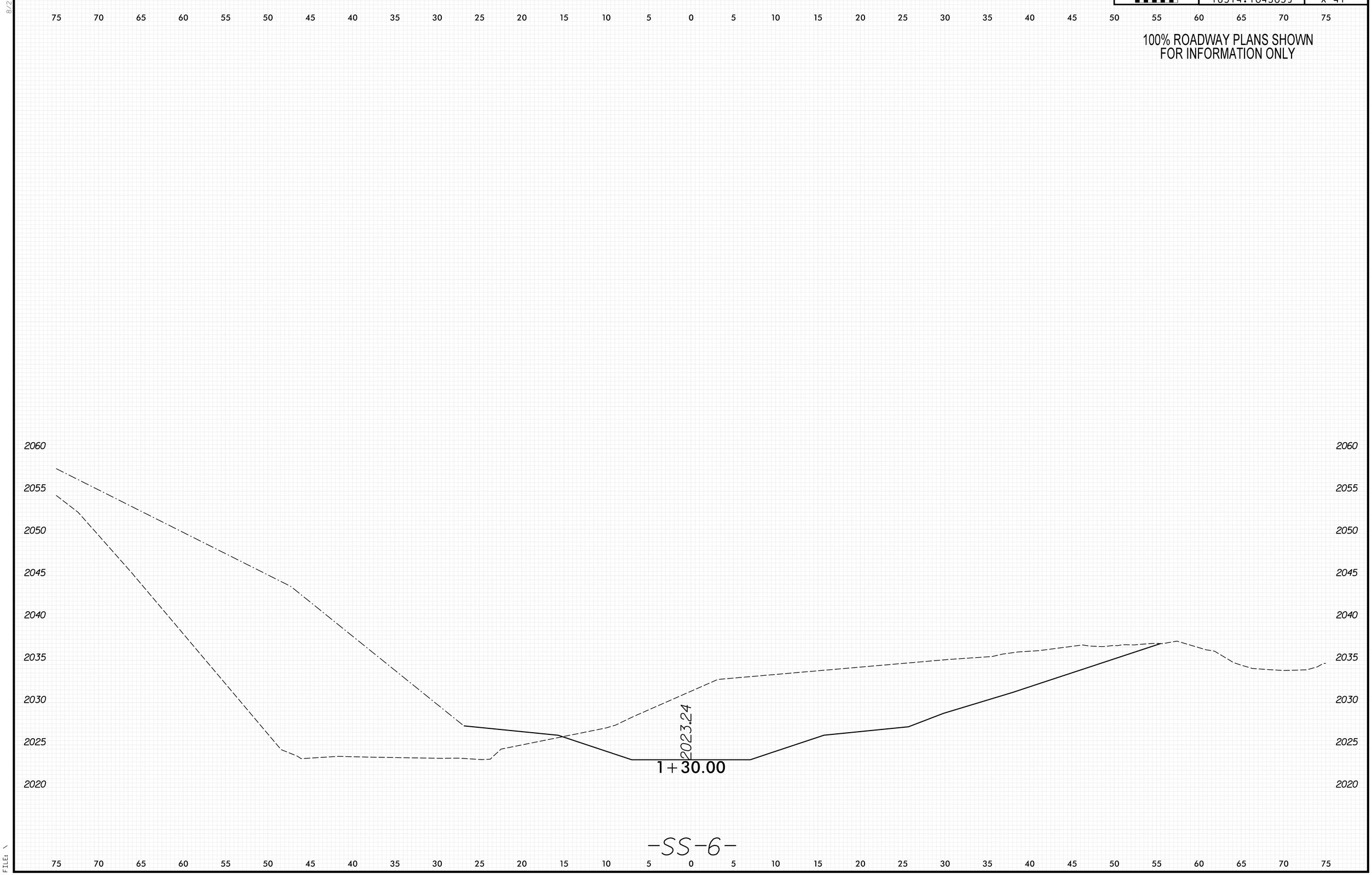
PENTABLE: xpl_eh_v8.tbl
TIME: 8:50:33 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-41

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:34 AM

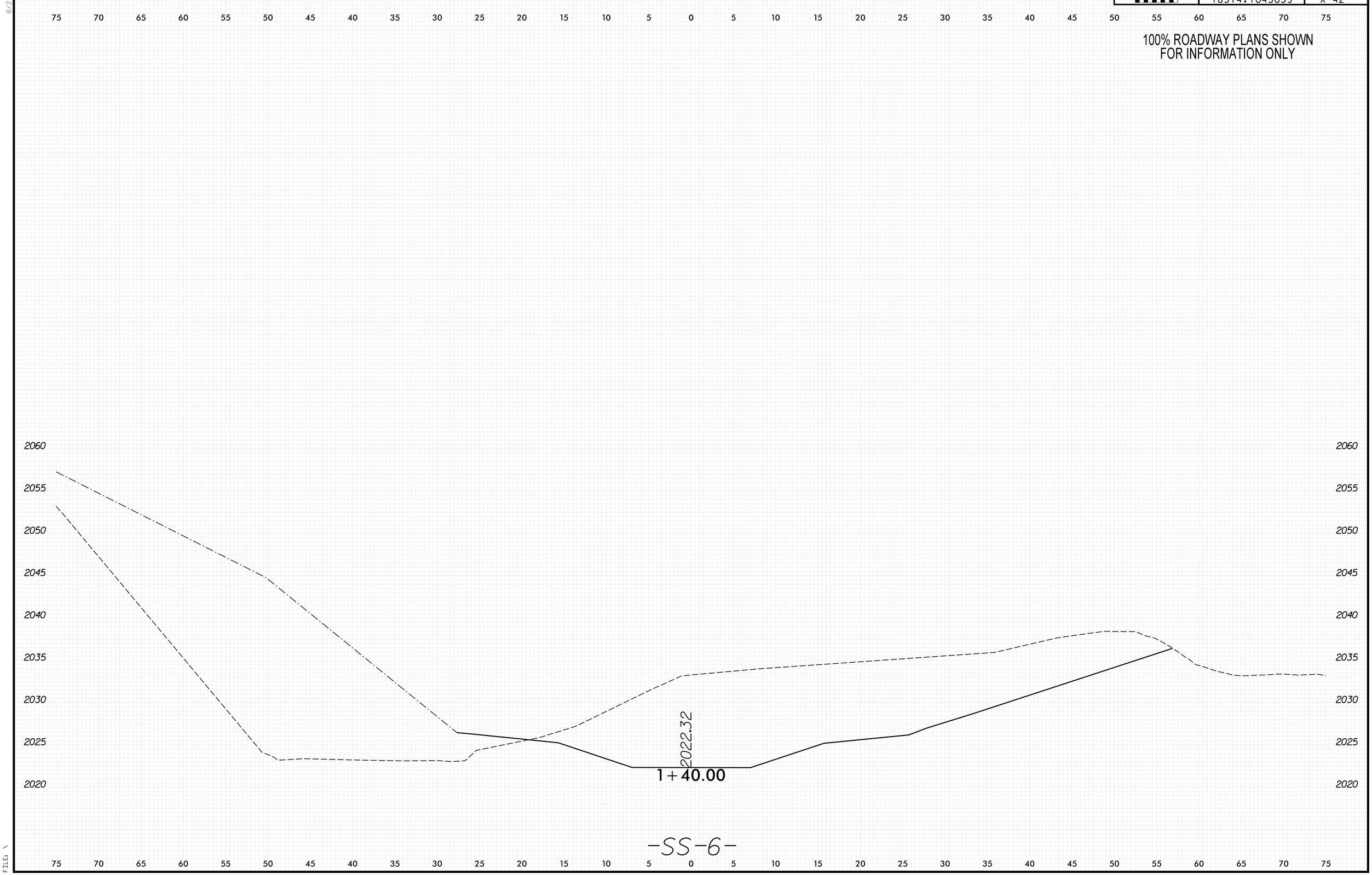
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-42

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

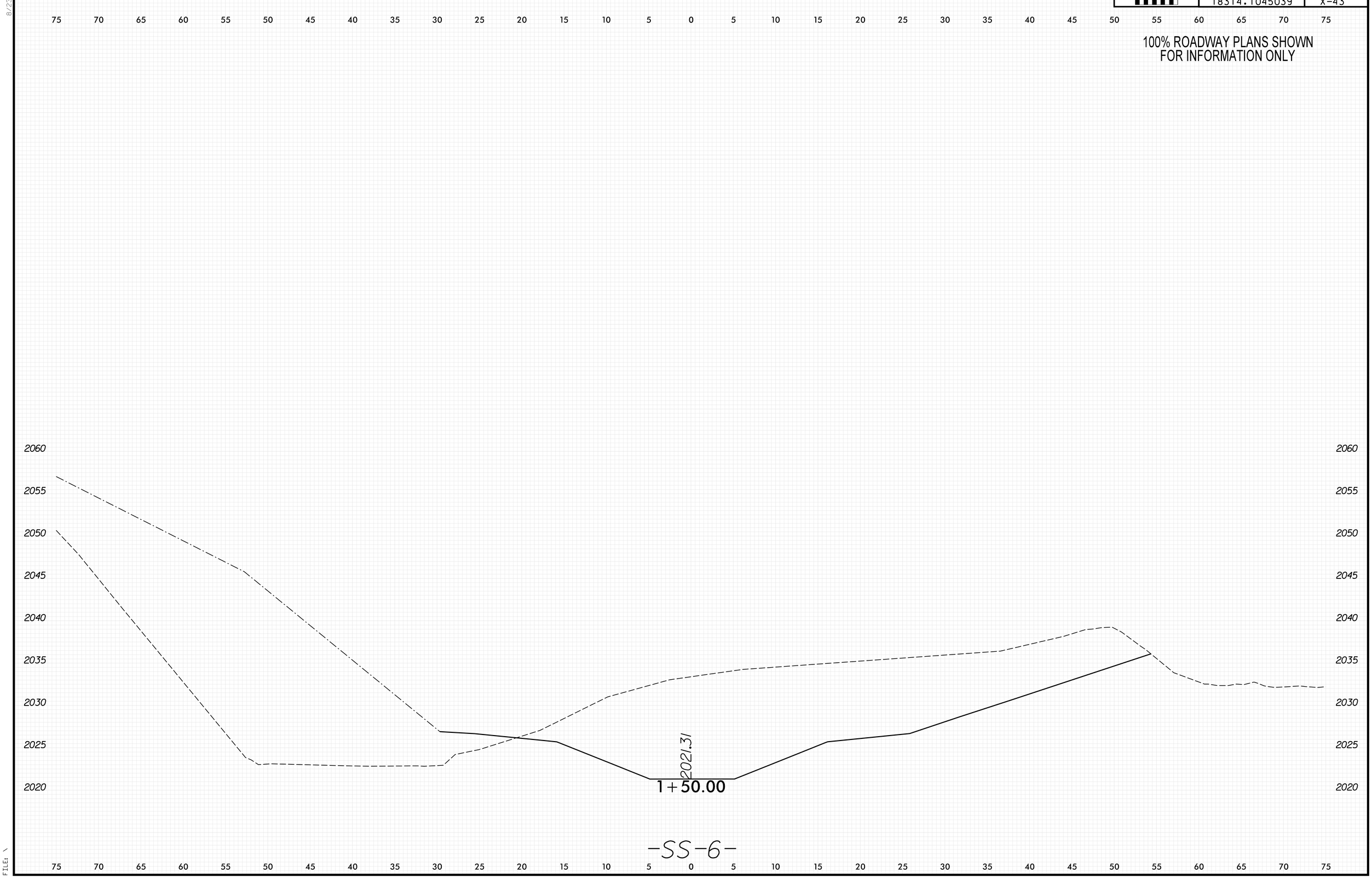


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:50:36 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-43

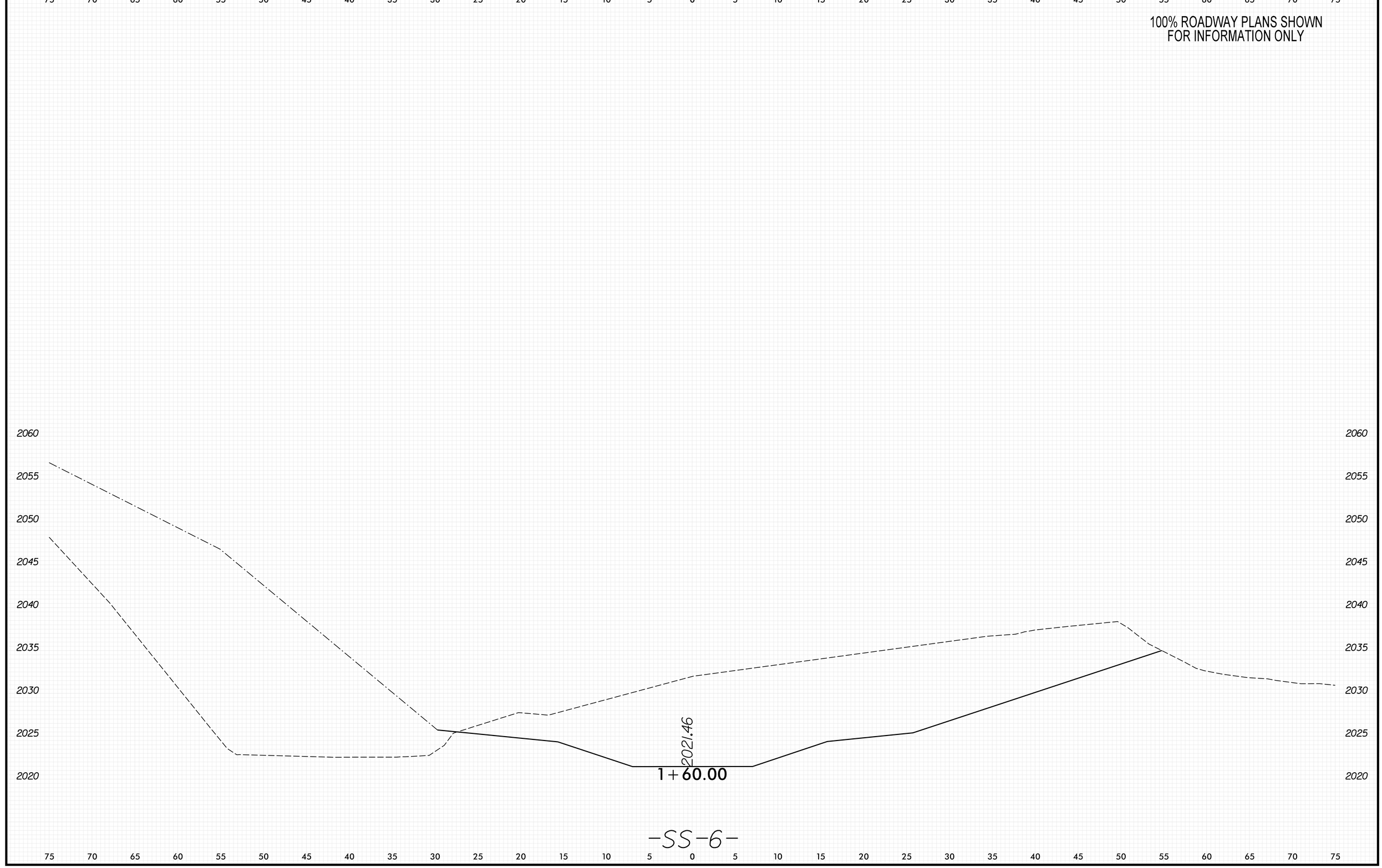
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:50:37 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-44

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

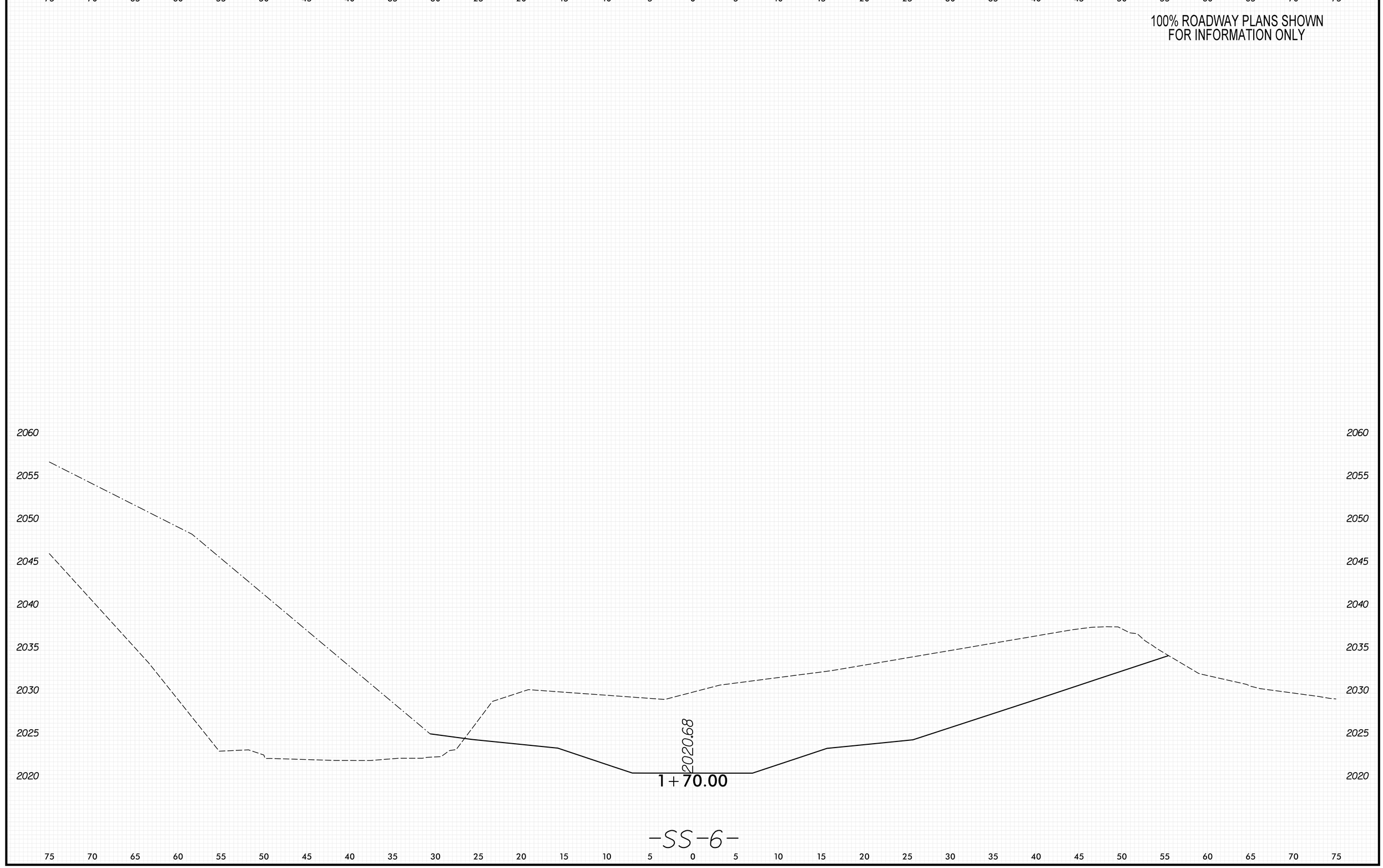


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:39 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-45

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:41 AM

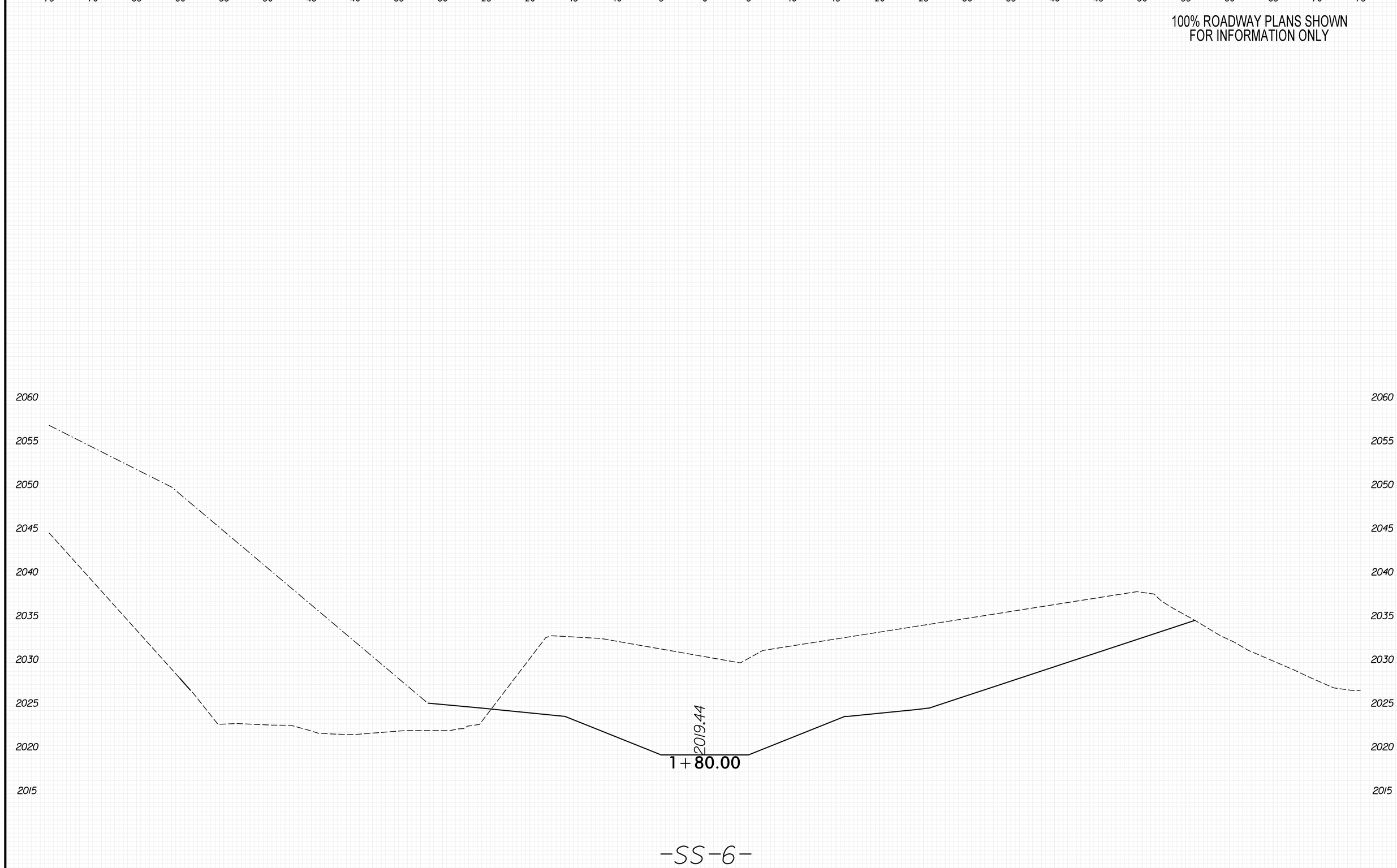
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-46

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

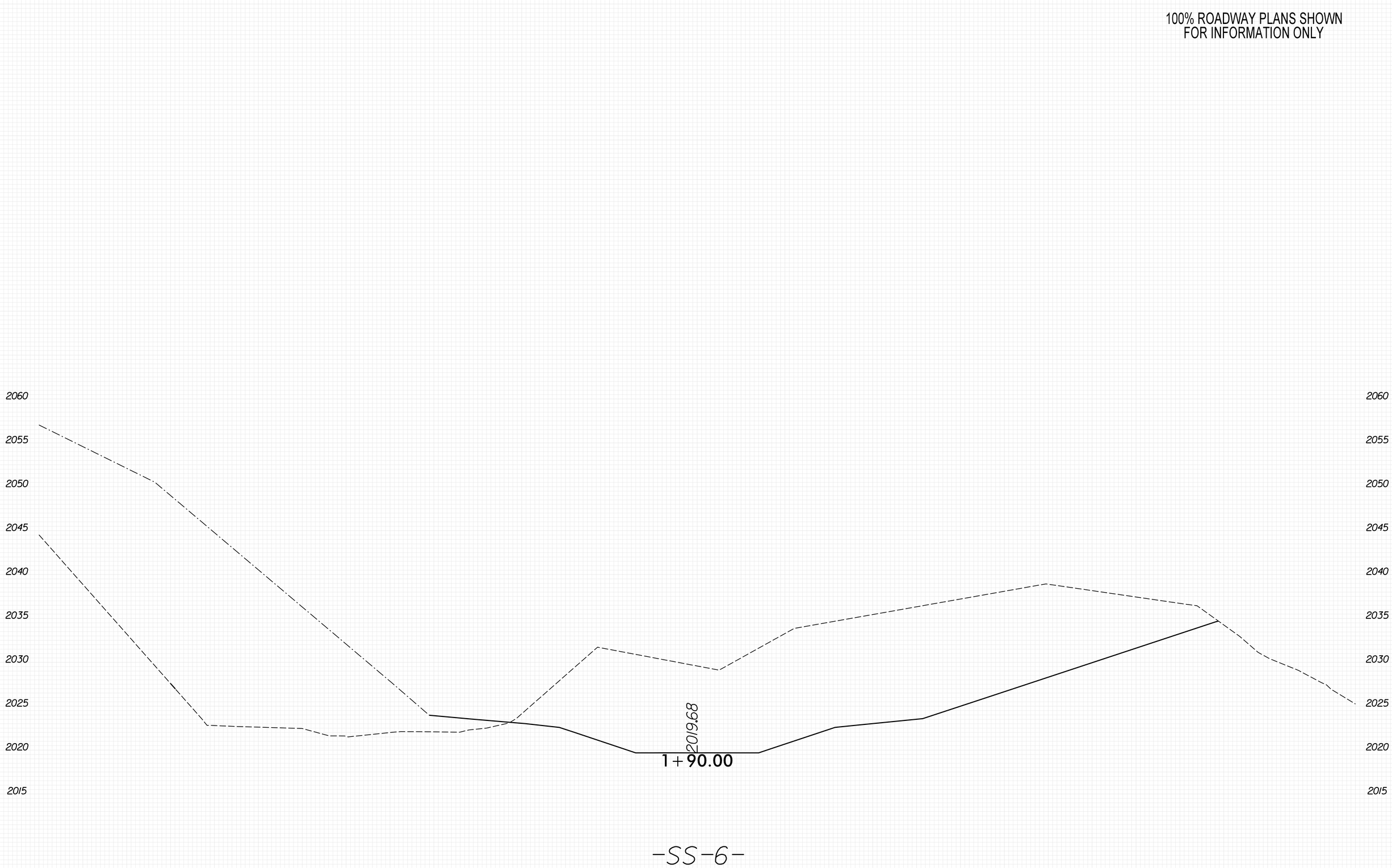


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:43 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-47

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

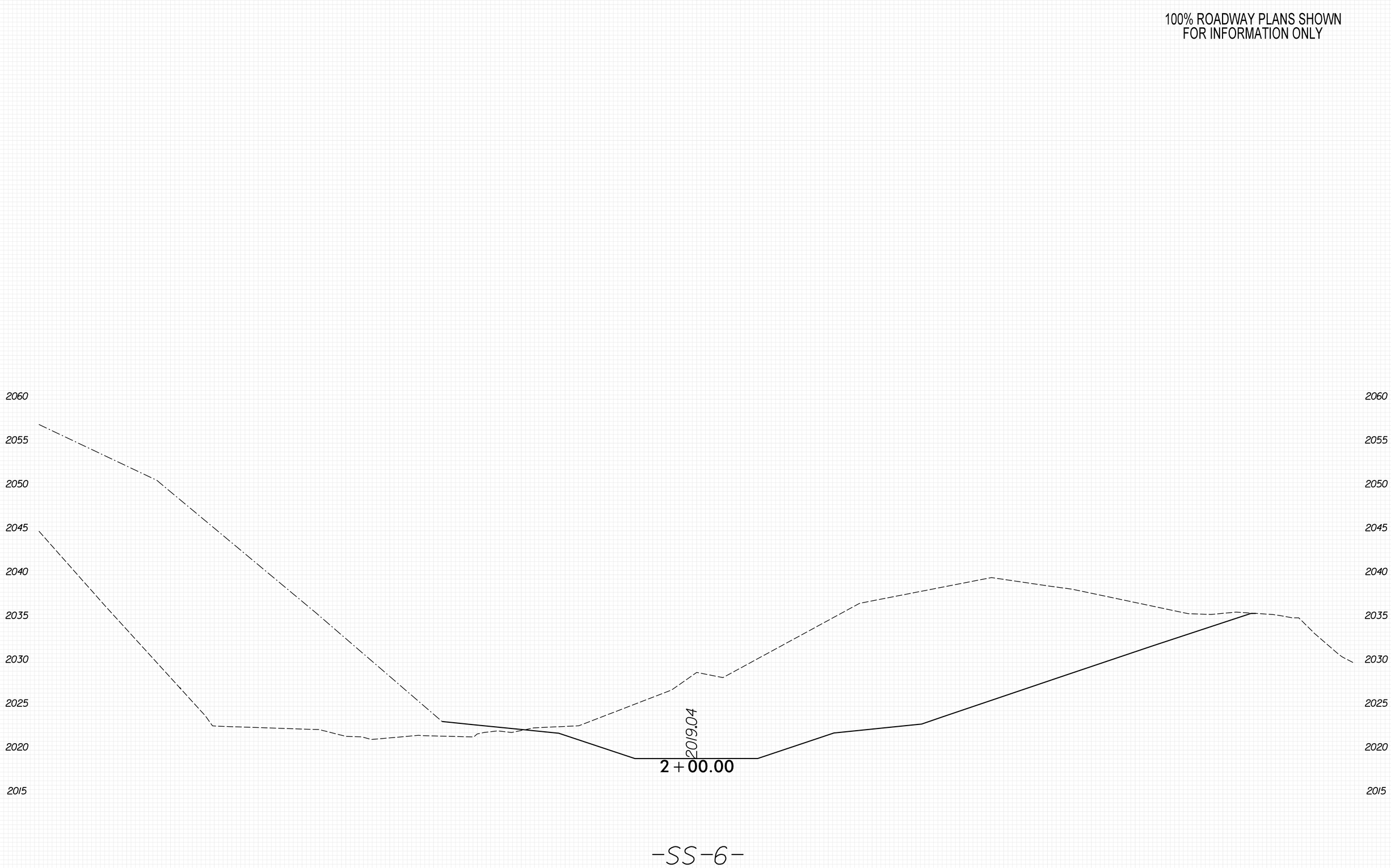


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:47 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-48

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

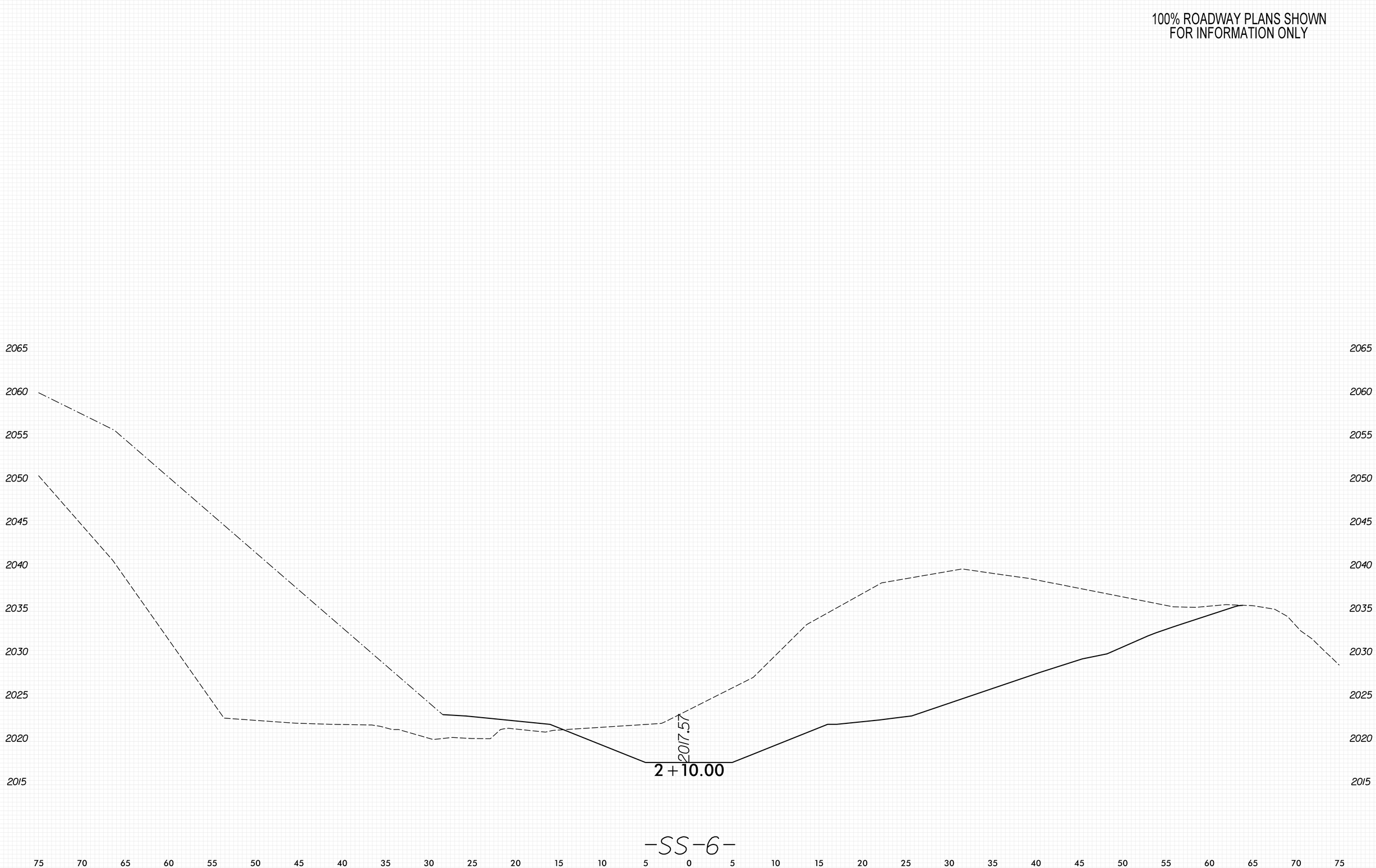


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:51 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-49

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

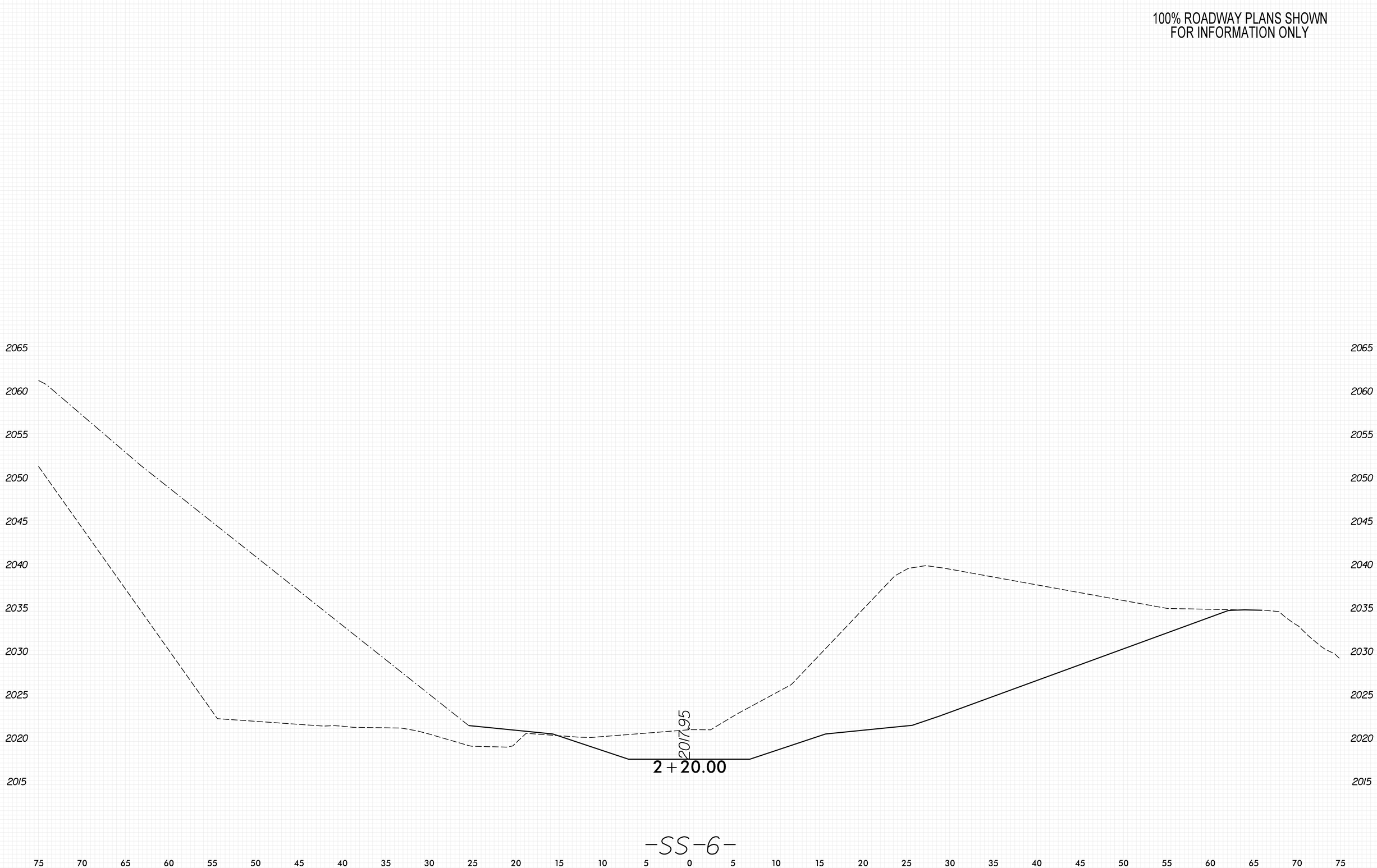
PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:53 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-50

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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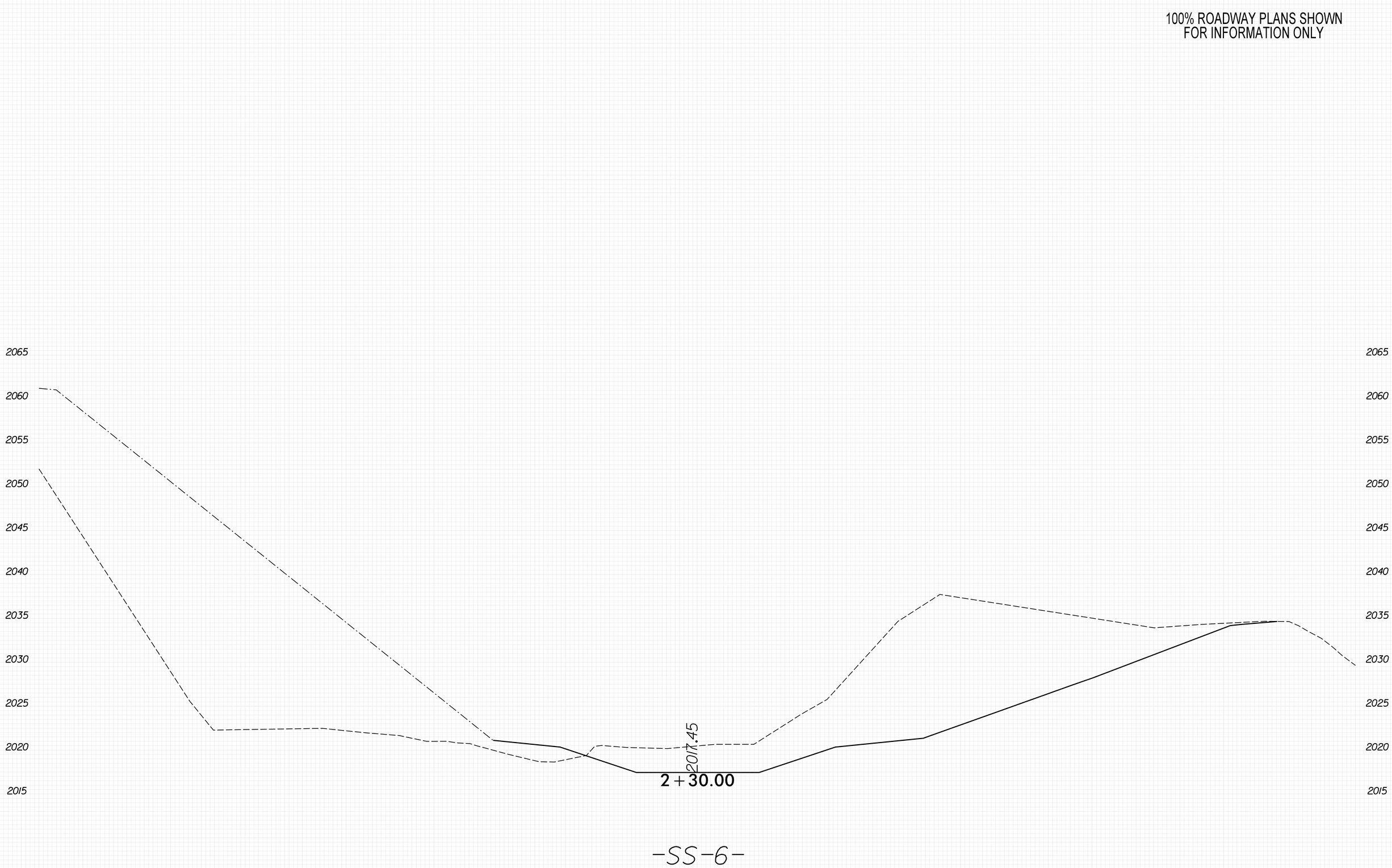
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-51

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

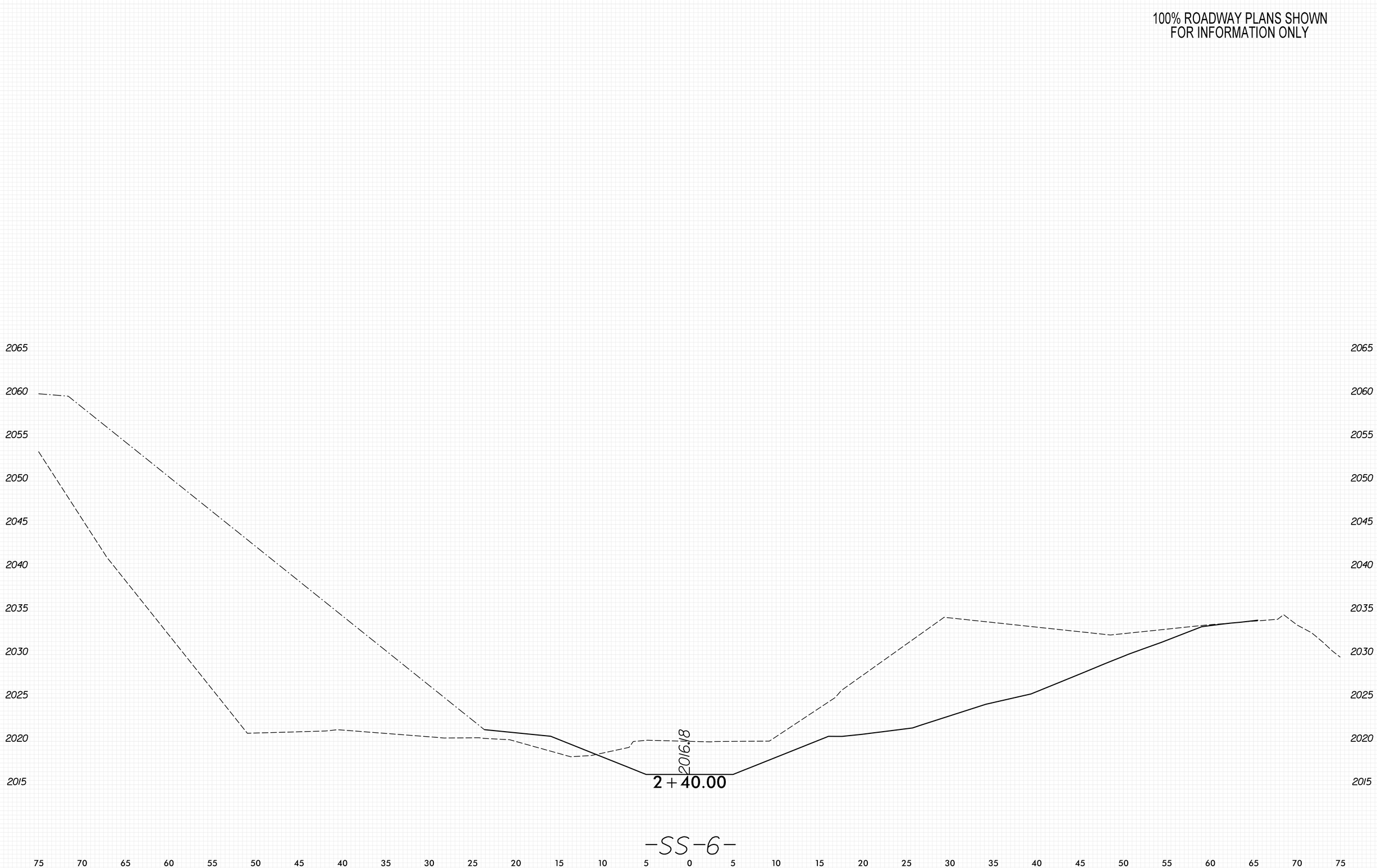


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:50:58 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-52

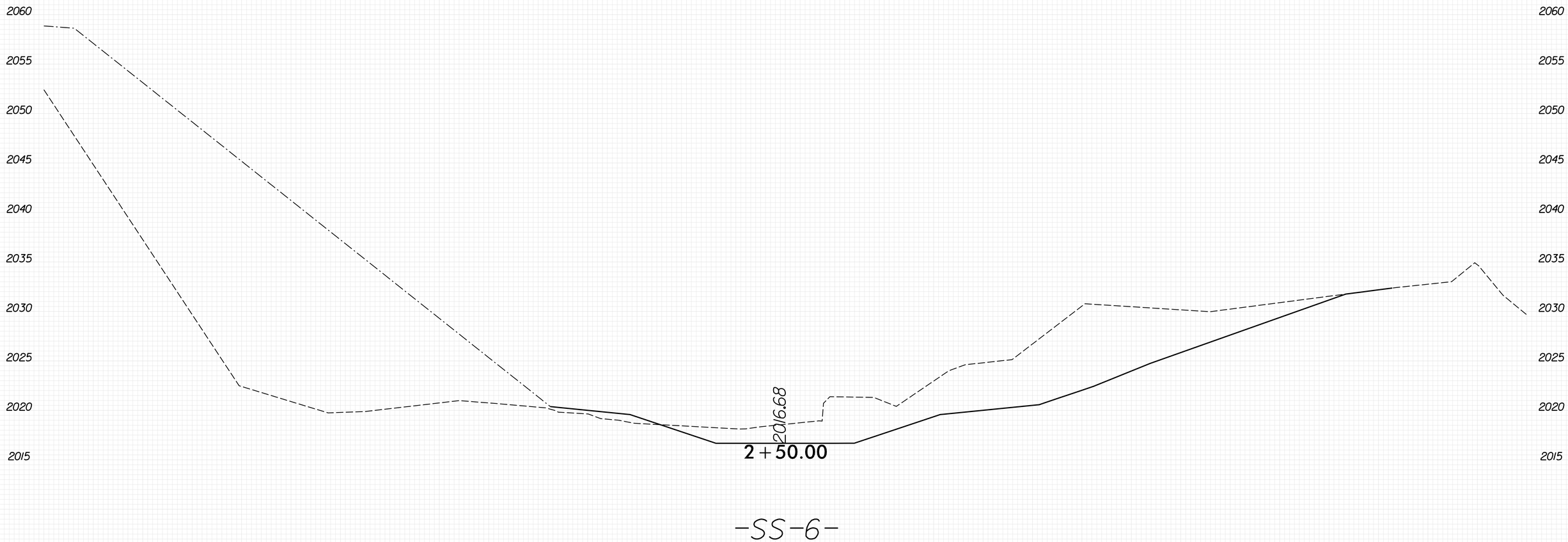
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:00 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-53

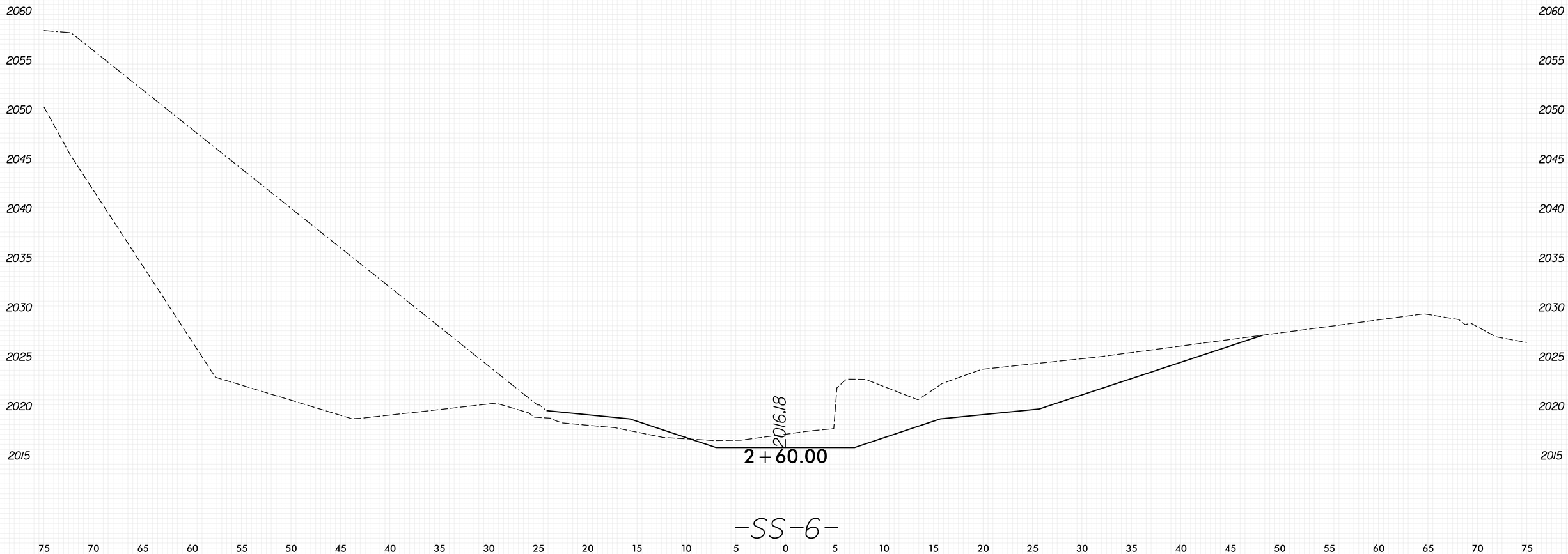
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:02 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-54

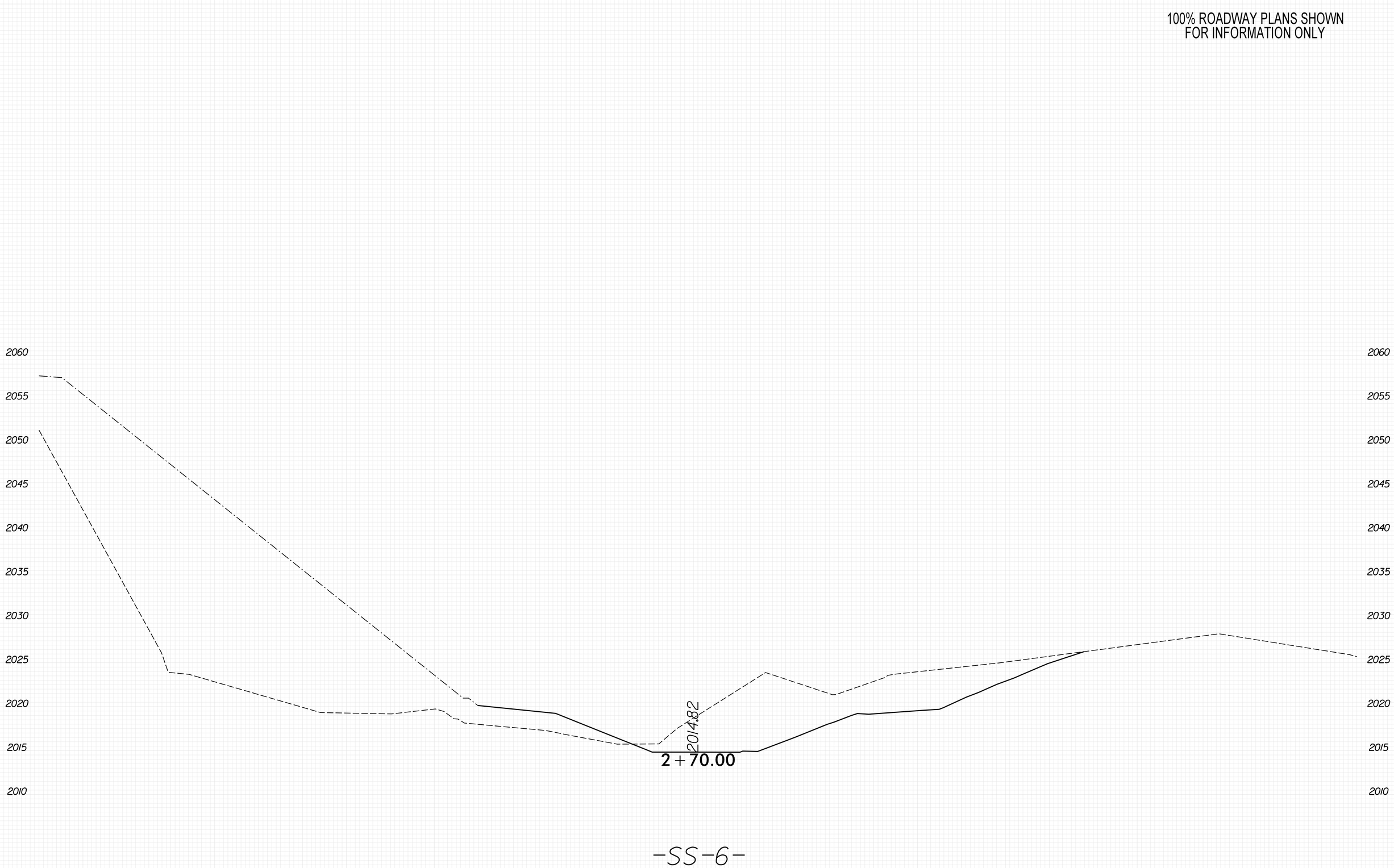
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:05 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-55

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



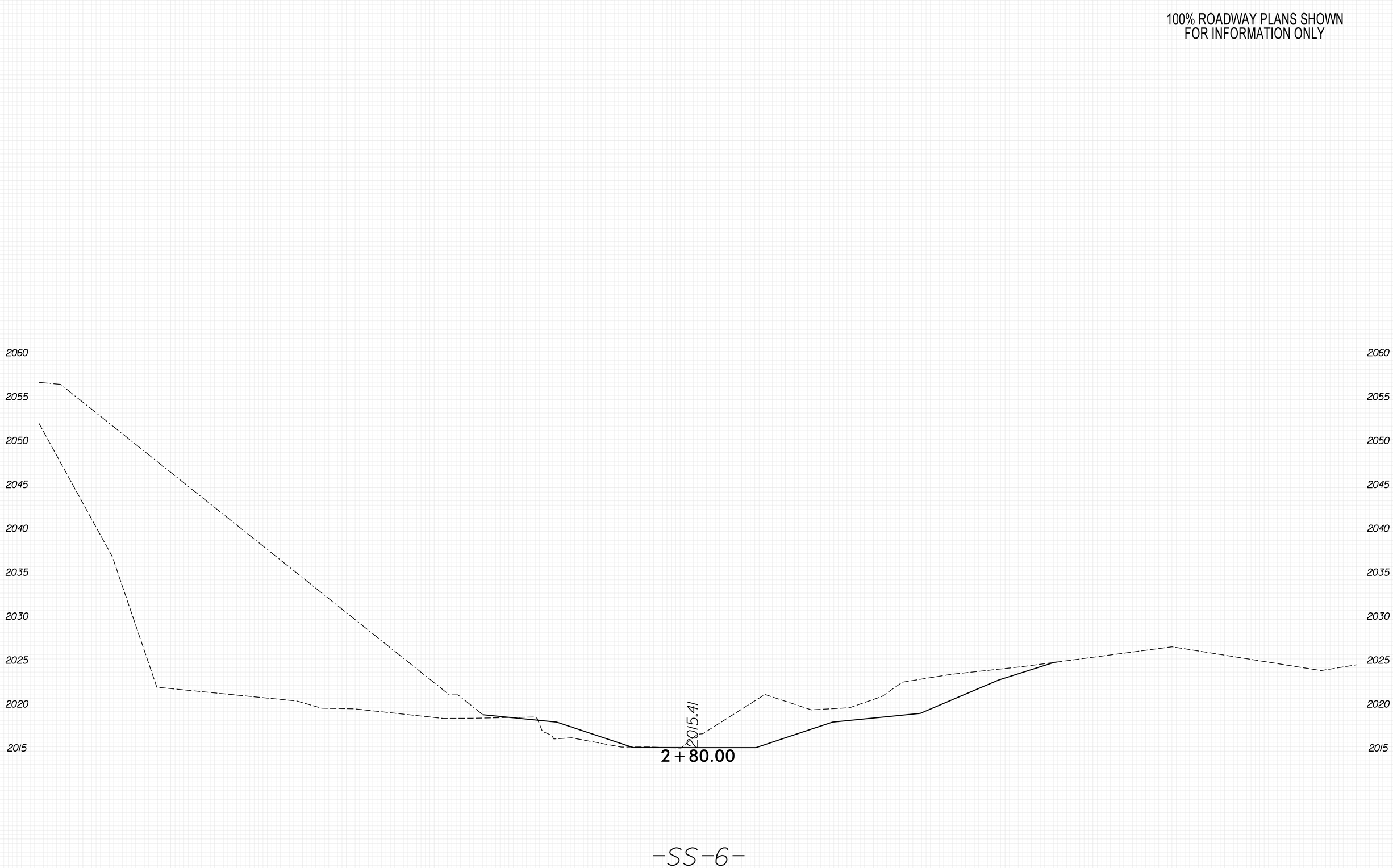
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_en_v8.tbl
DATE: 5/29/2026
TIME: 8:51:07 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-56

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:51:08 AM

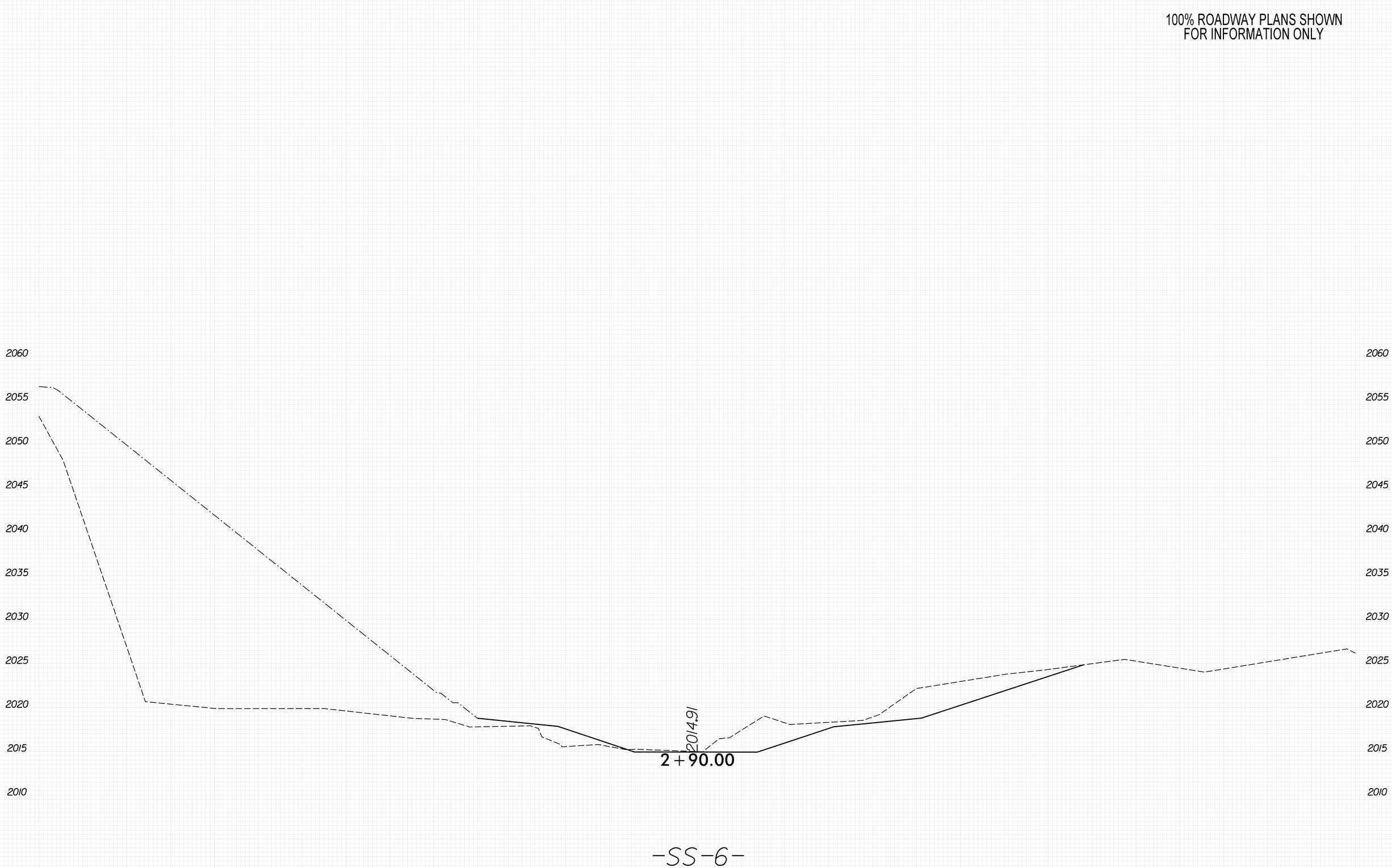
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-57

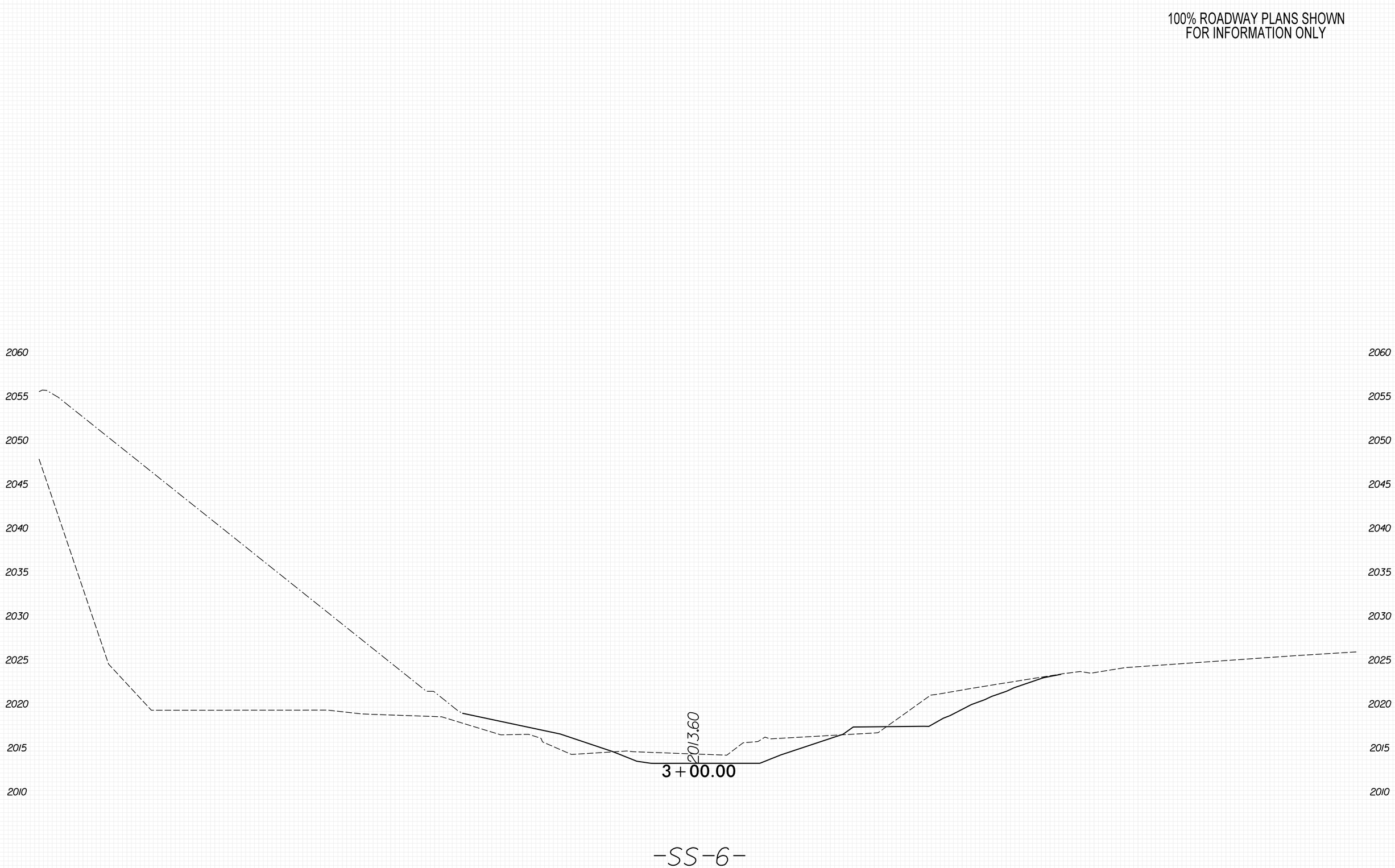
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:11 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-58

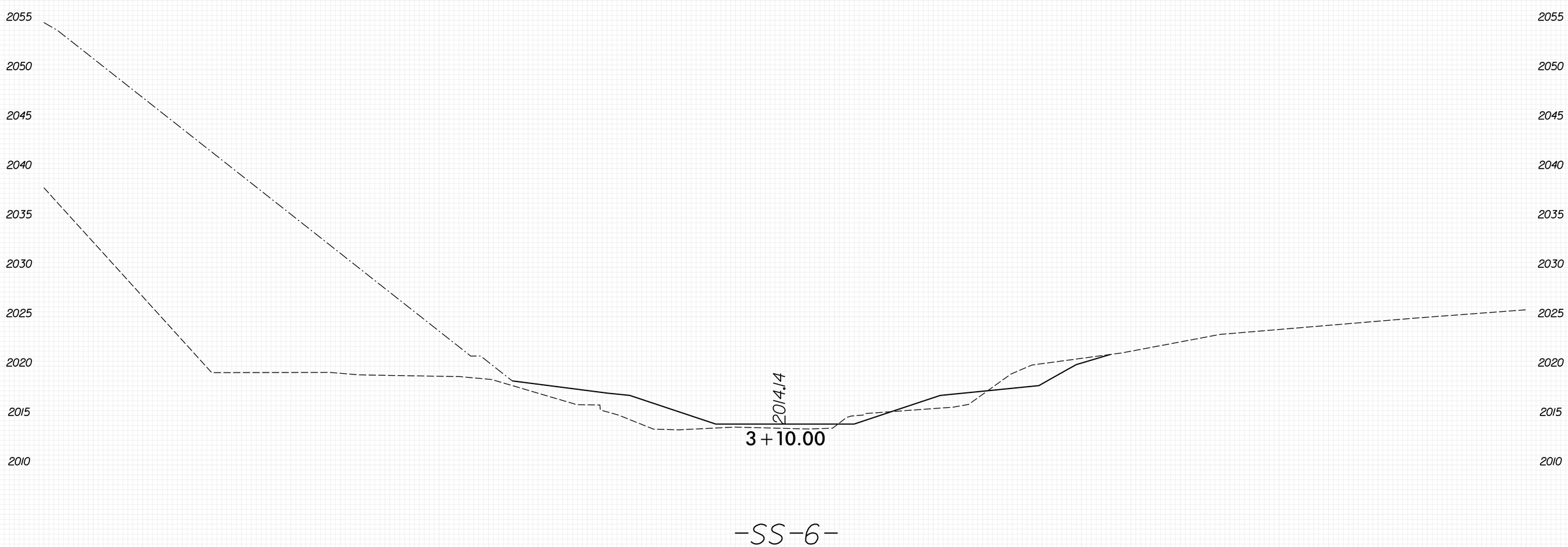
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:14 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-59

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

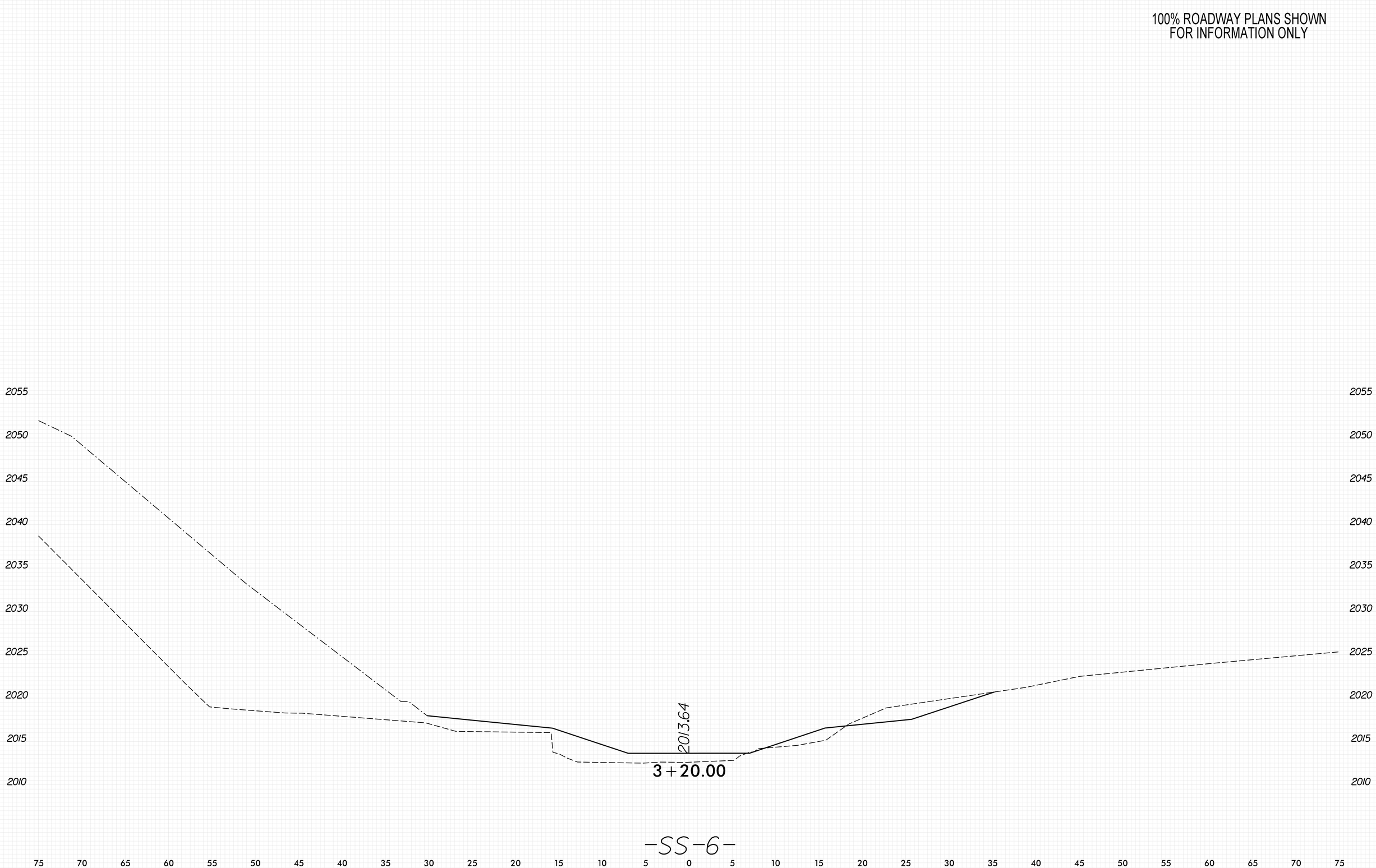


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_en_v8.tbl
TIME: 8:51:17 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-60

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

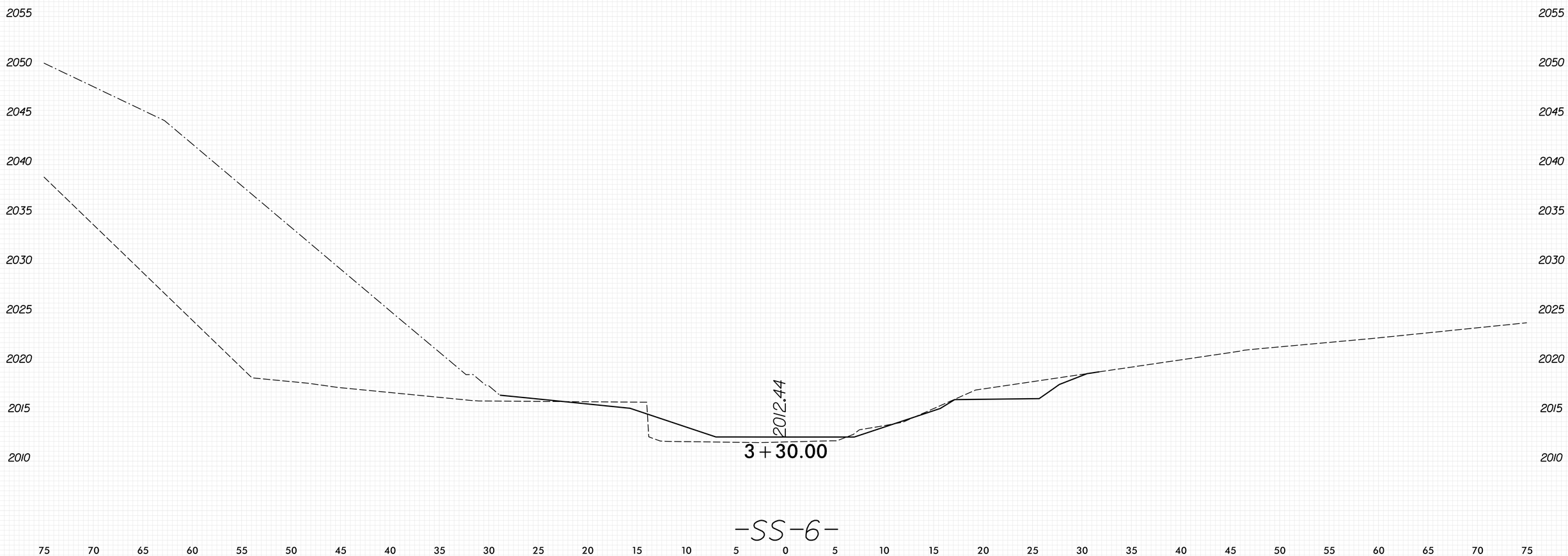


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:20 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-61

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:51:22 AM

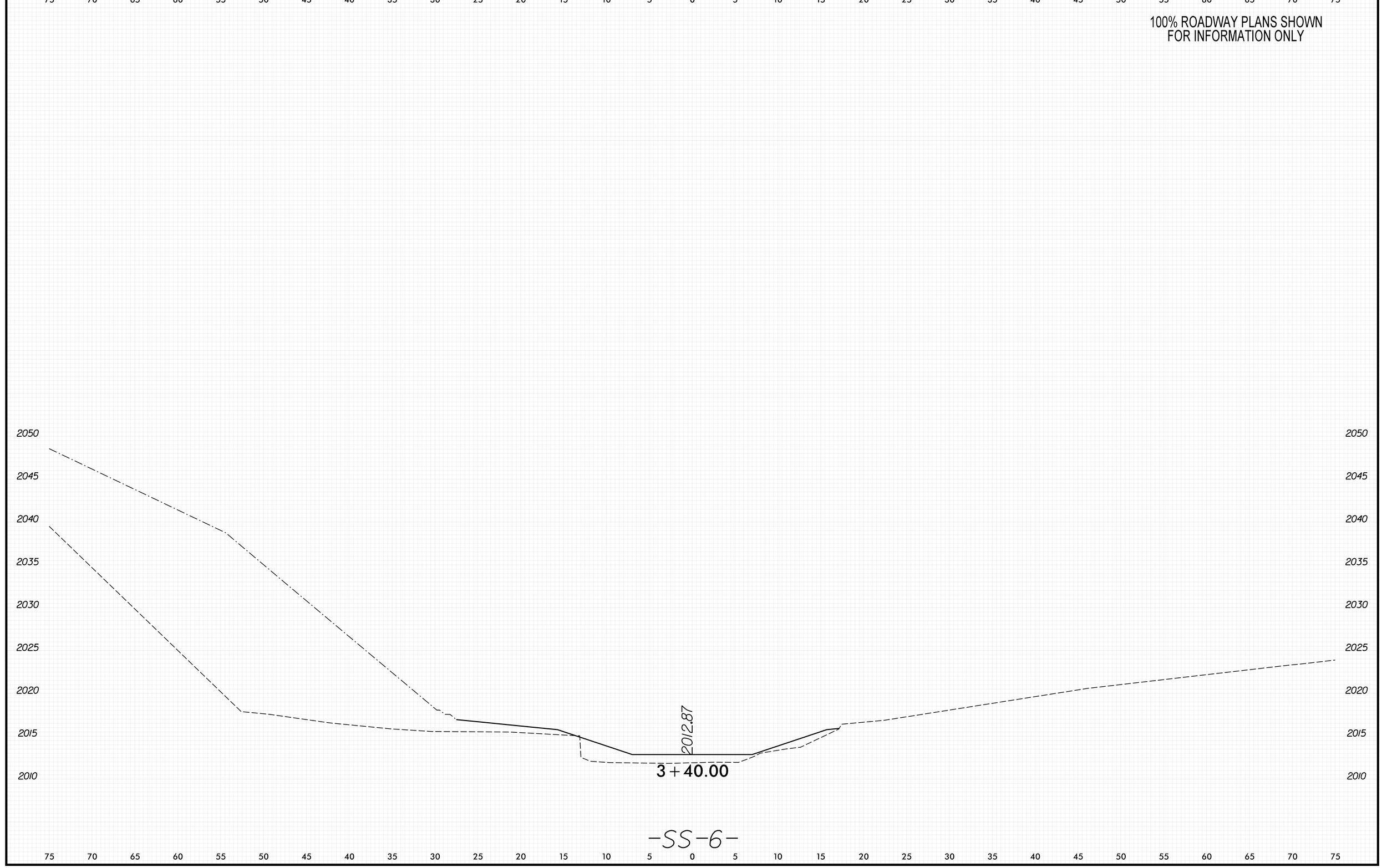
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-62

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:51:24 AM

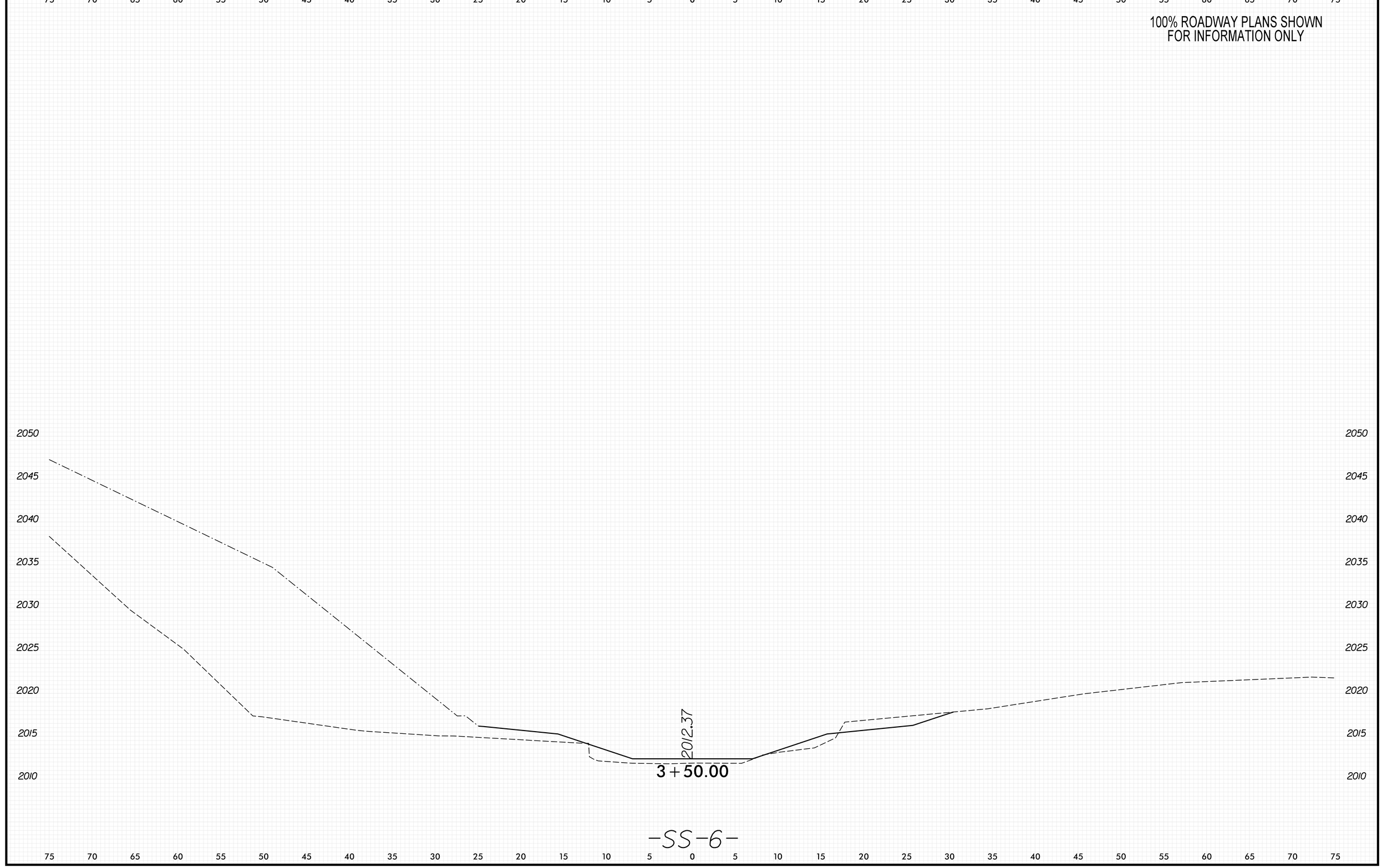
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-63

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:51:26 AM

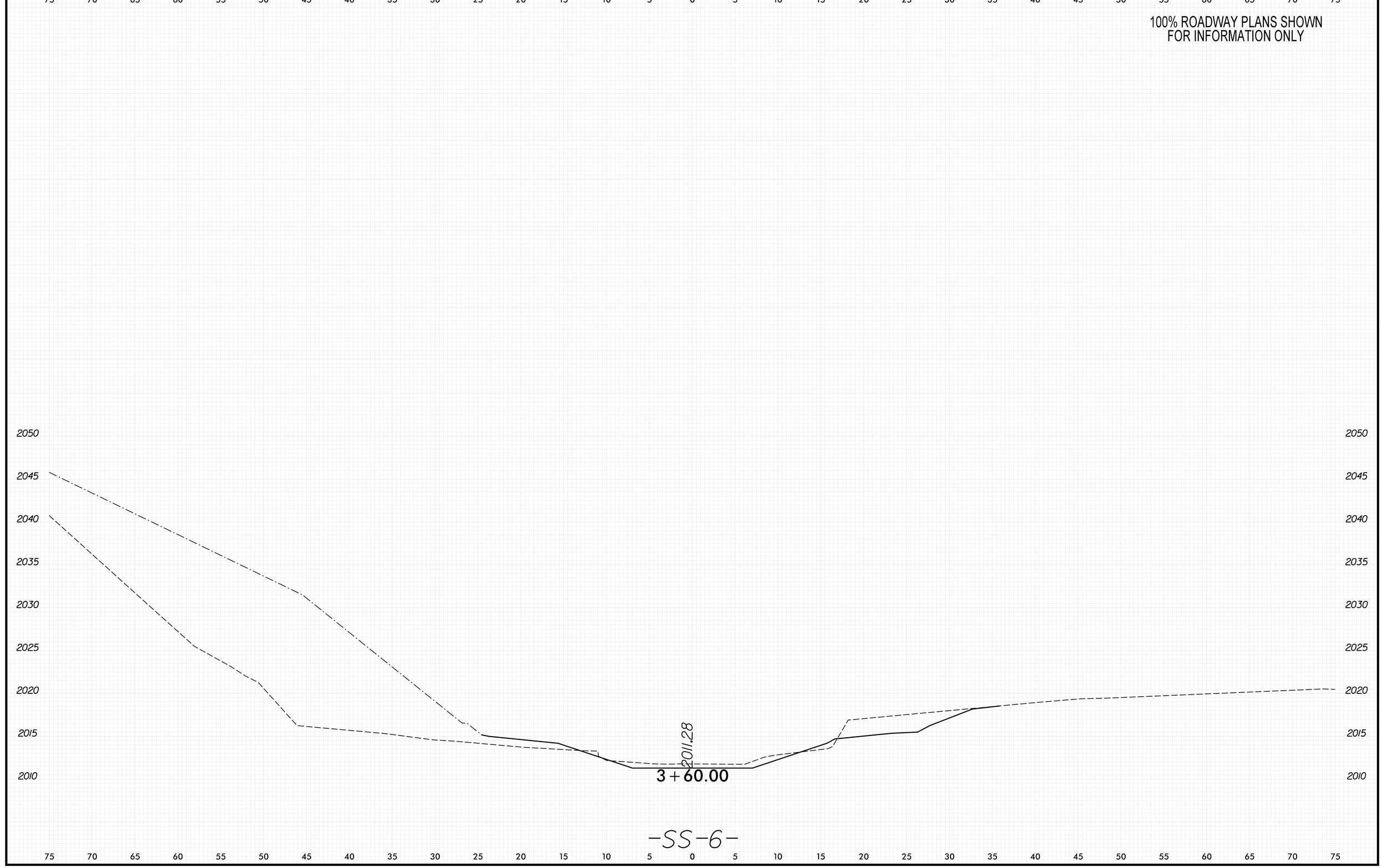
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-64

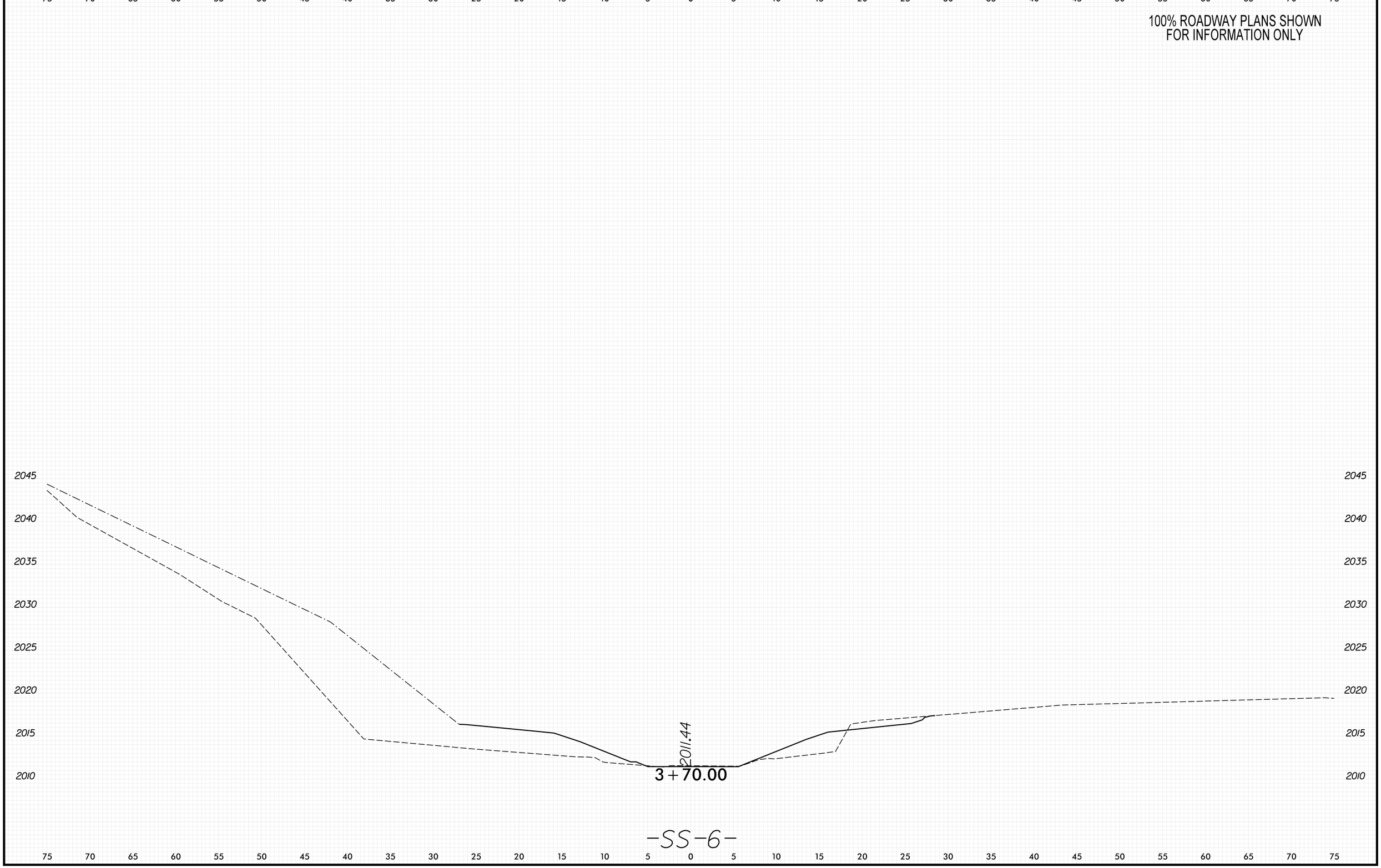
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:28 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-65

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

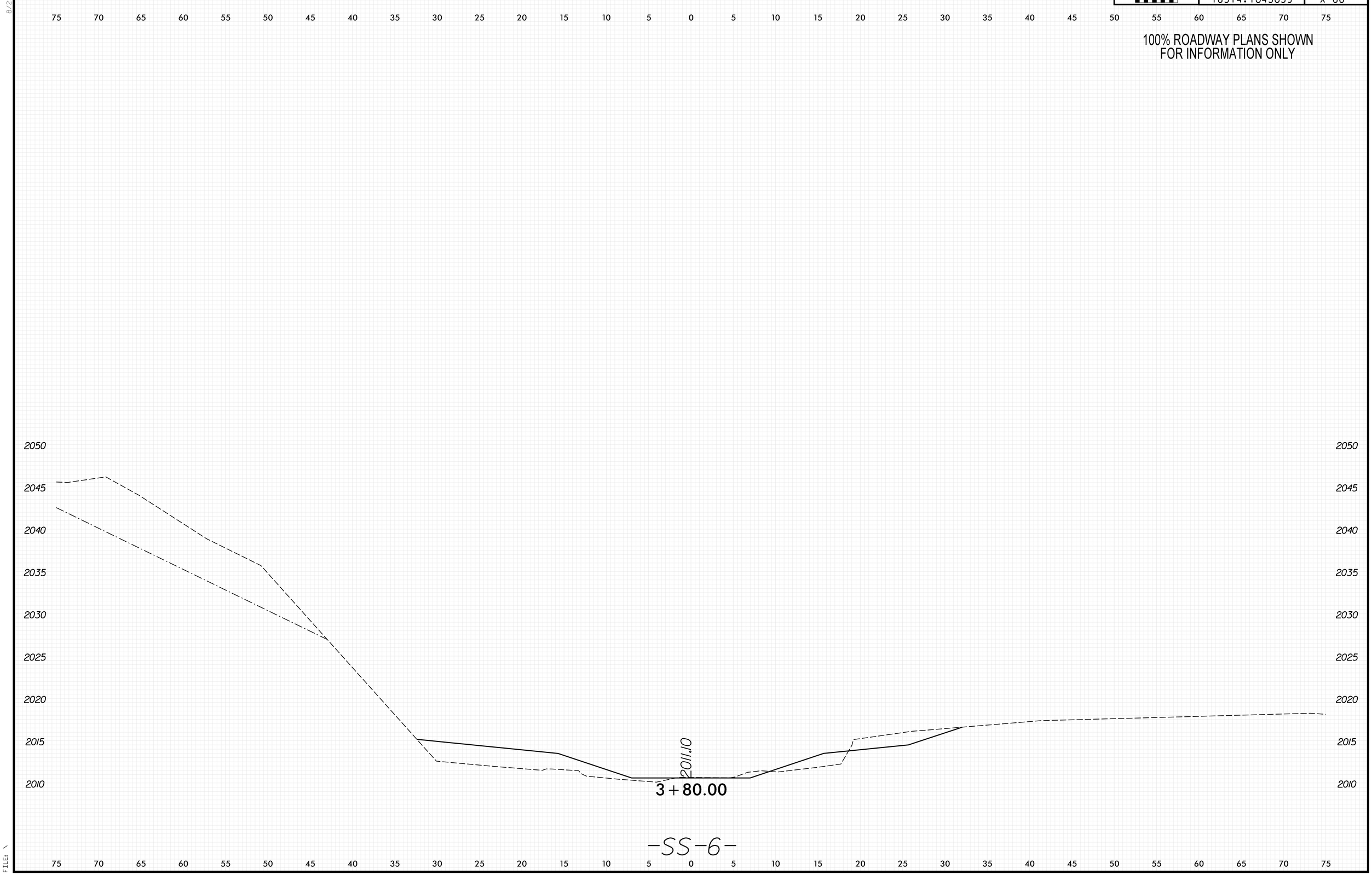
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:30 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-66

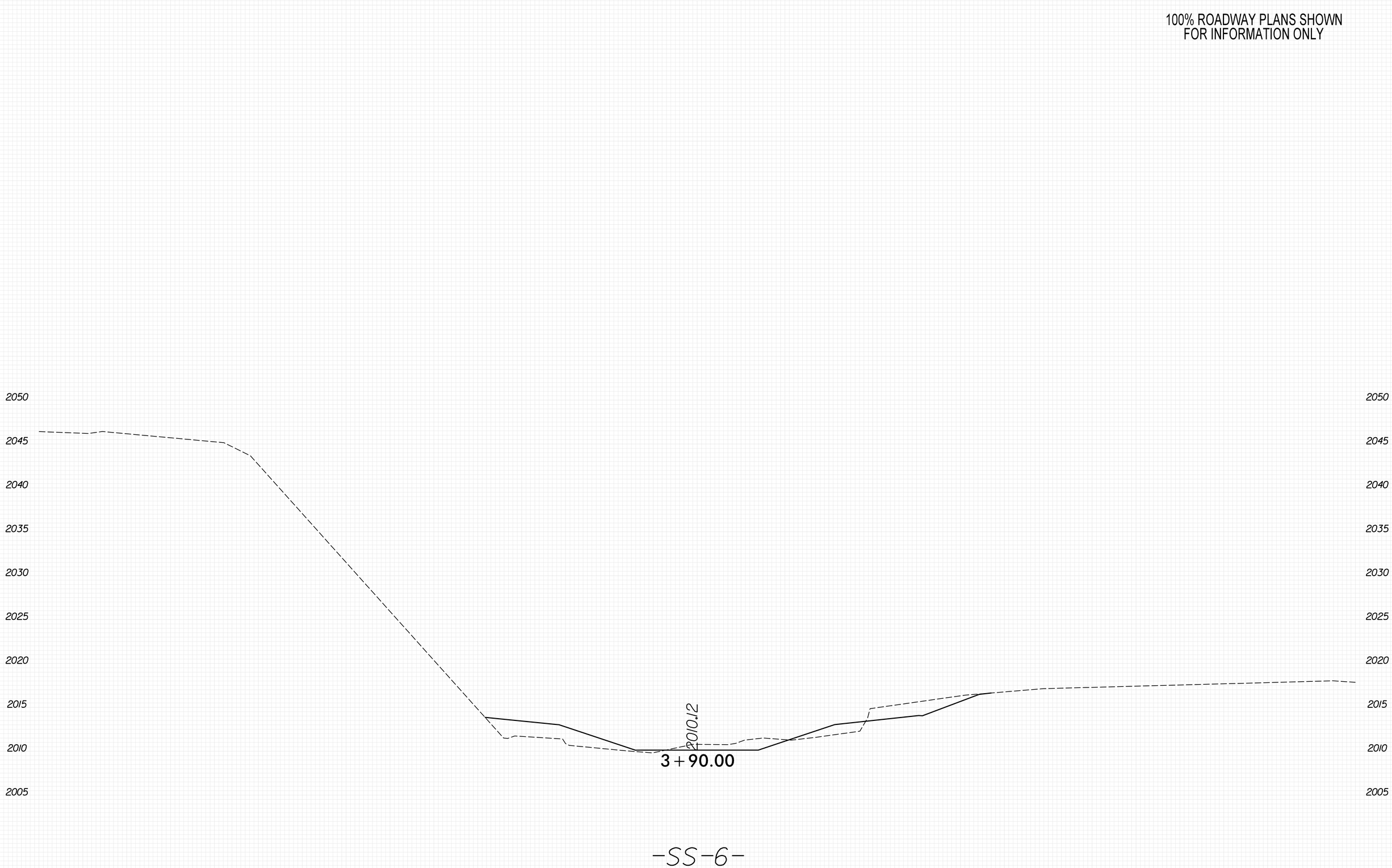
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:32 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-67

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:51:33 AM

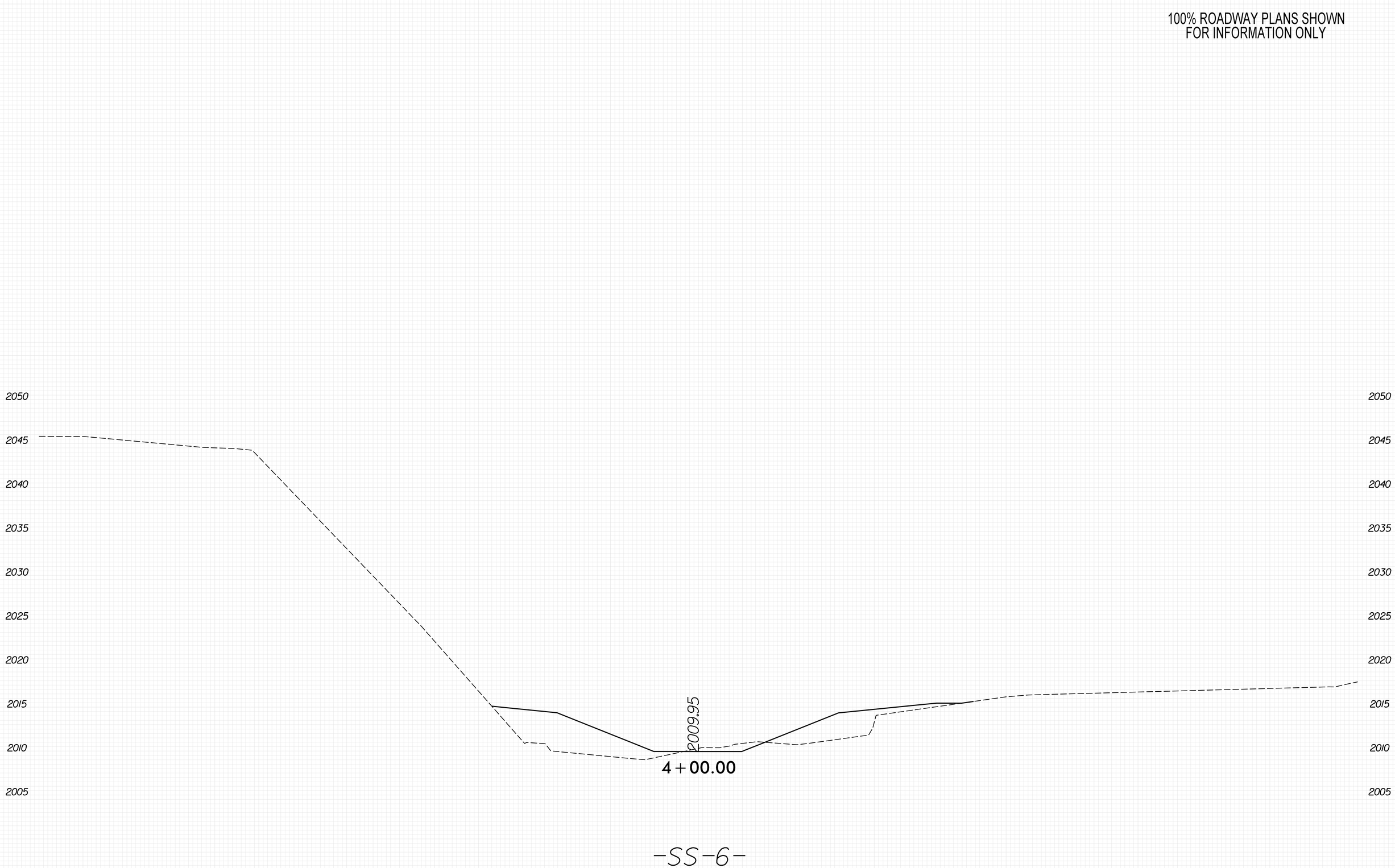
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-68

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

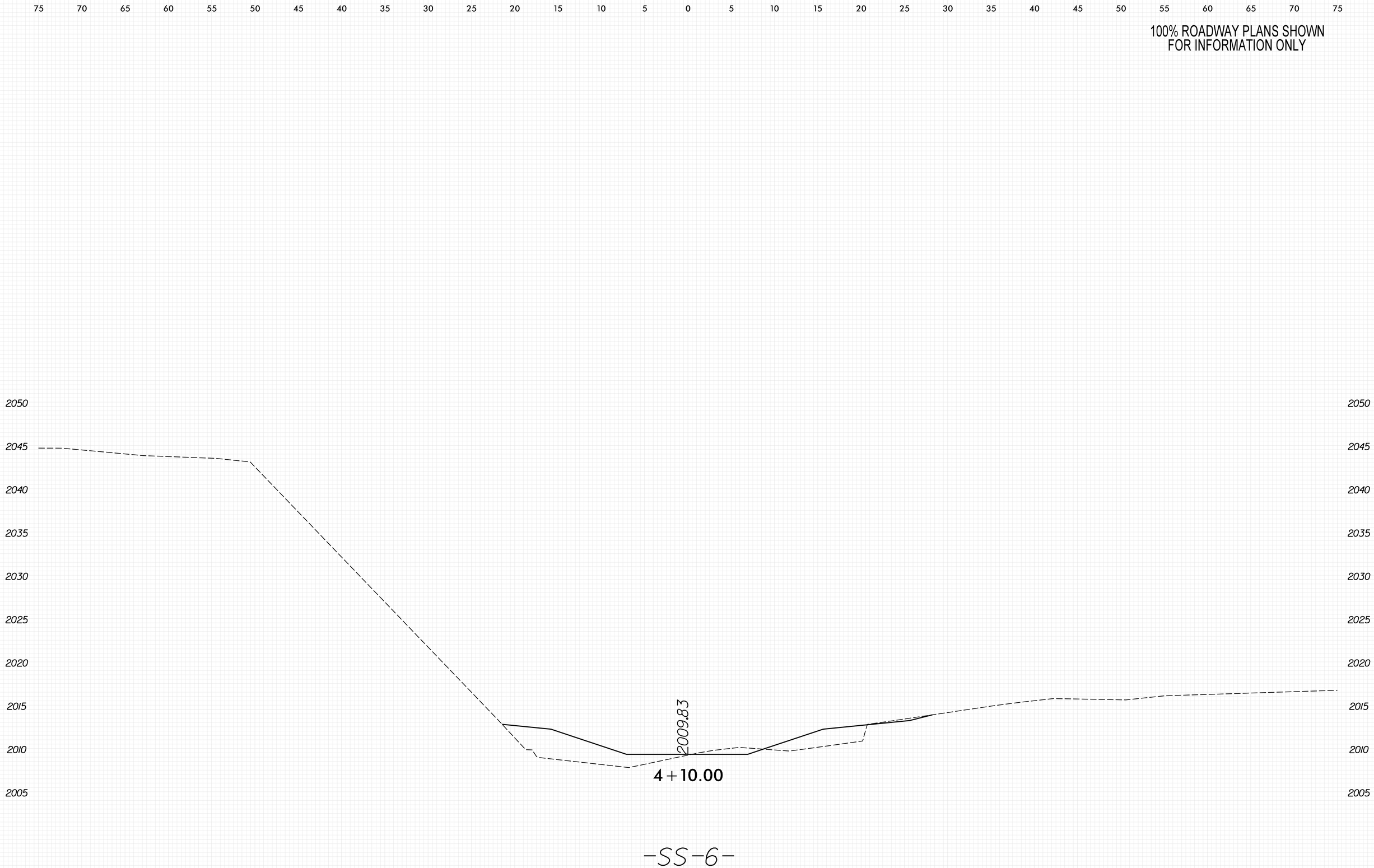


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:35 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-69

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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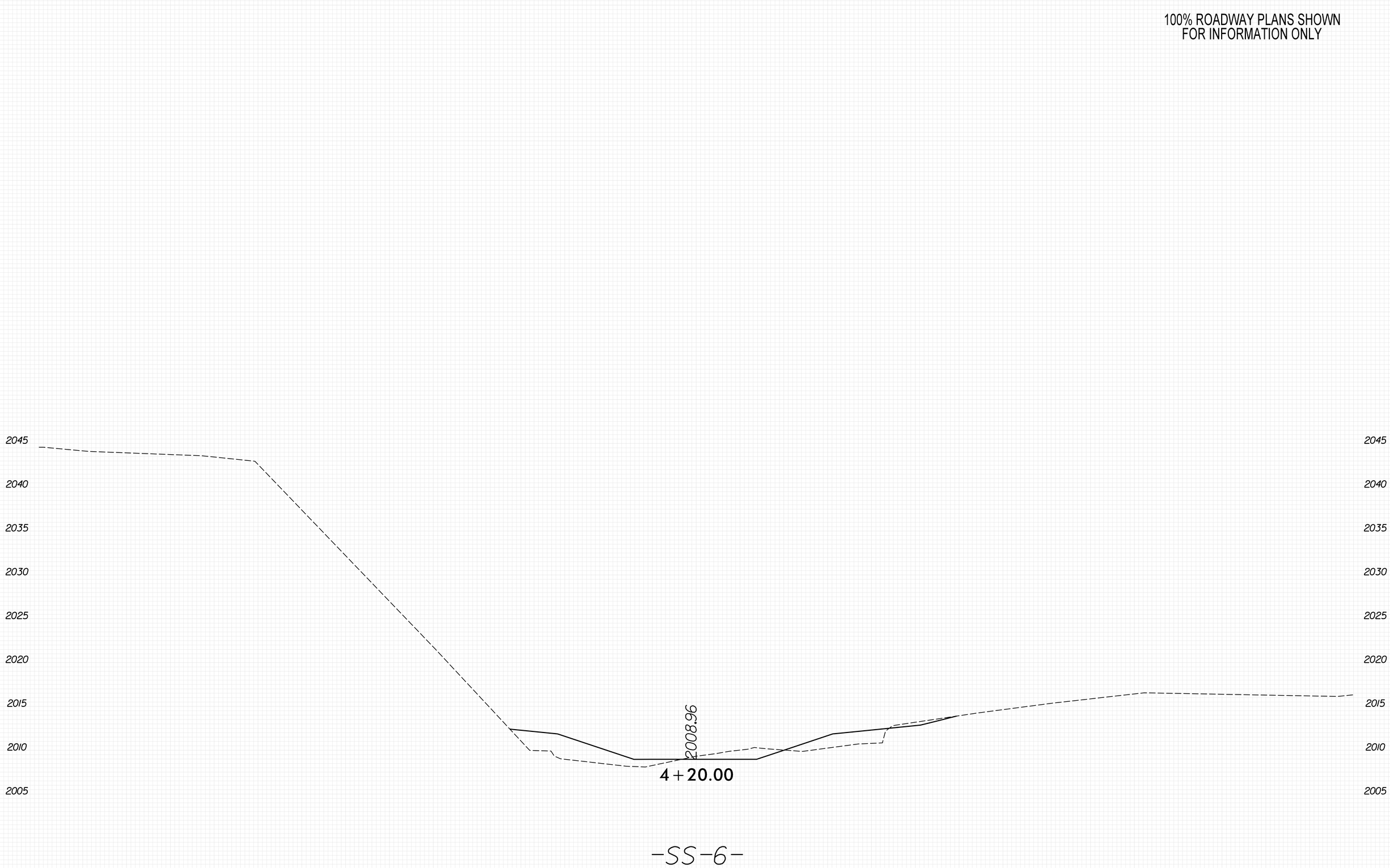
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-70

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:51:39 AM

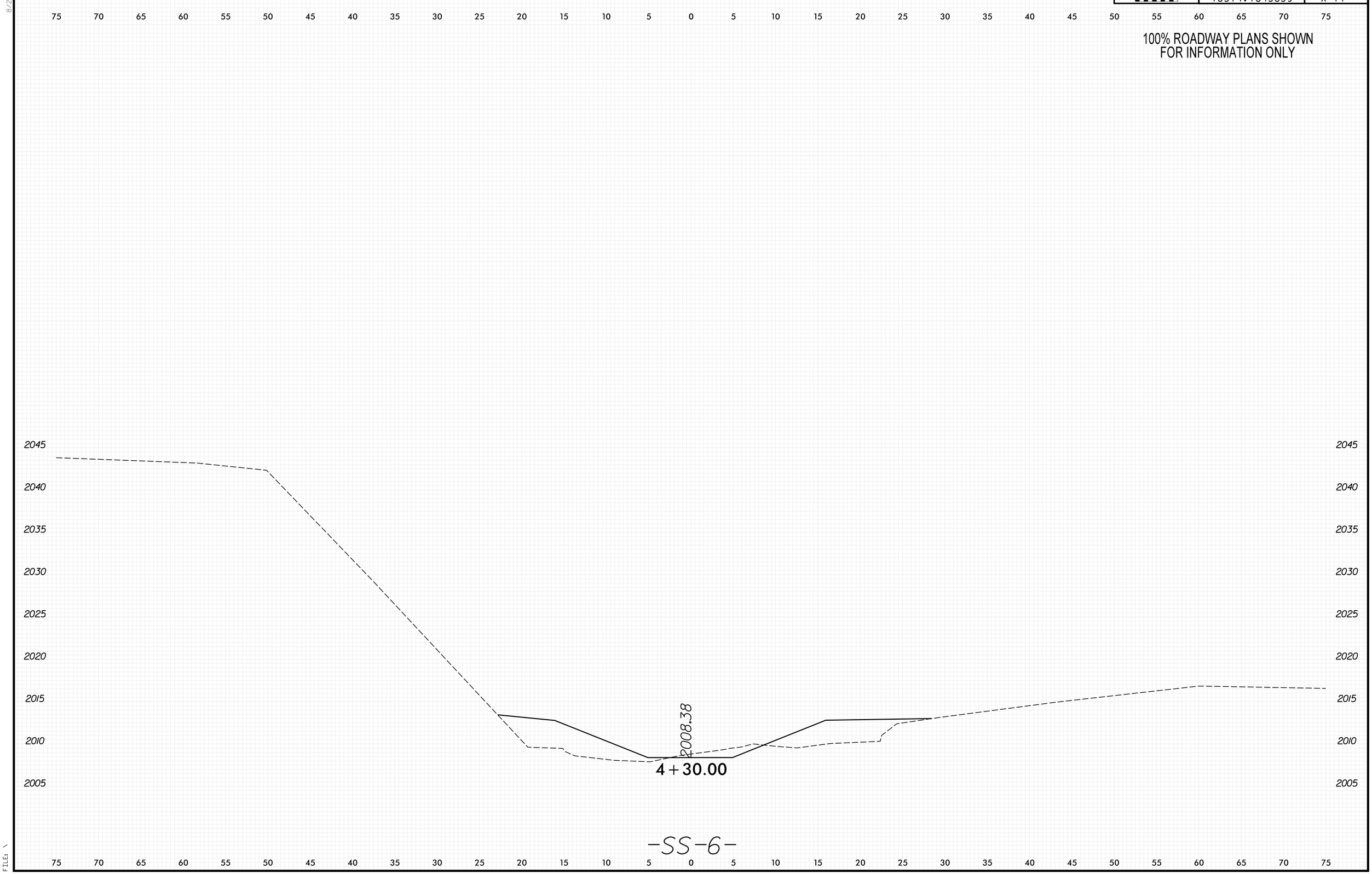
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-71

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:41 AM

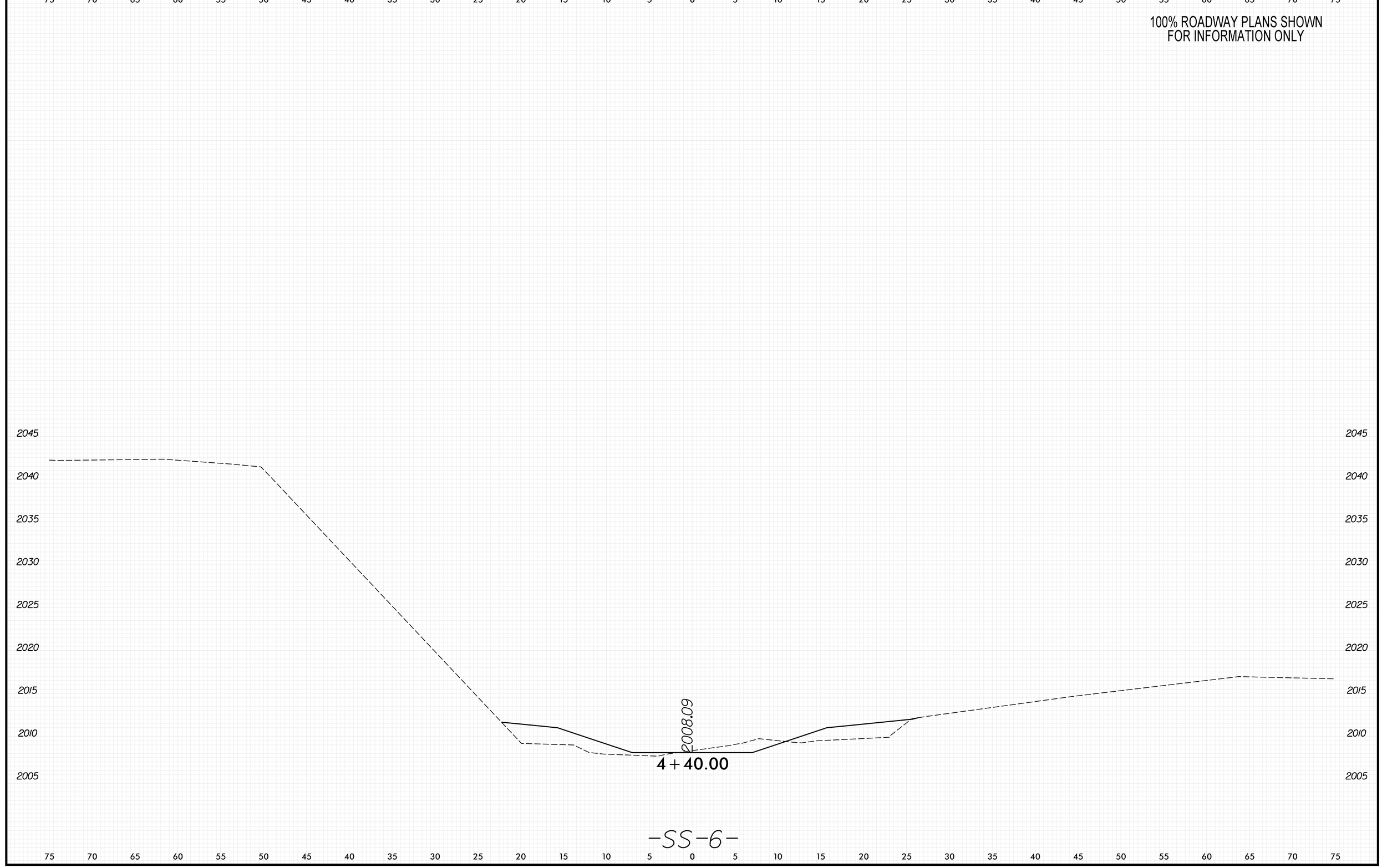
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-72

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
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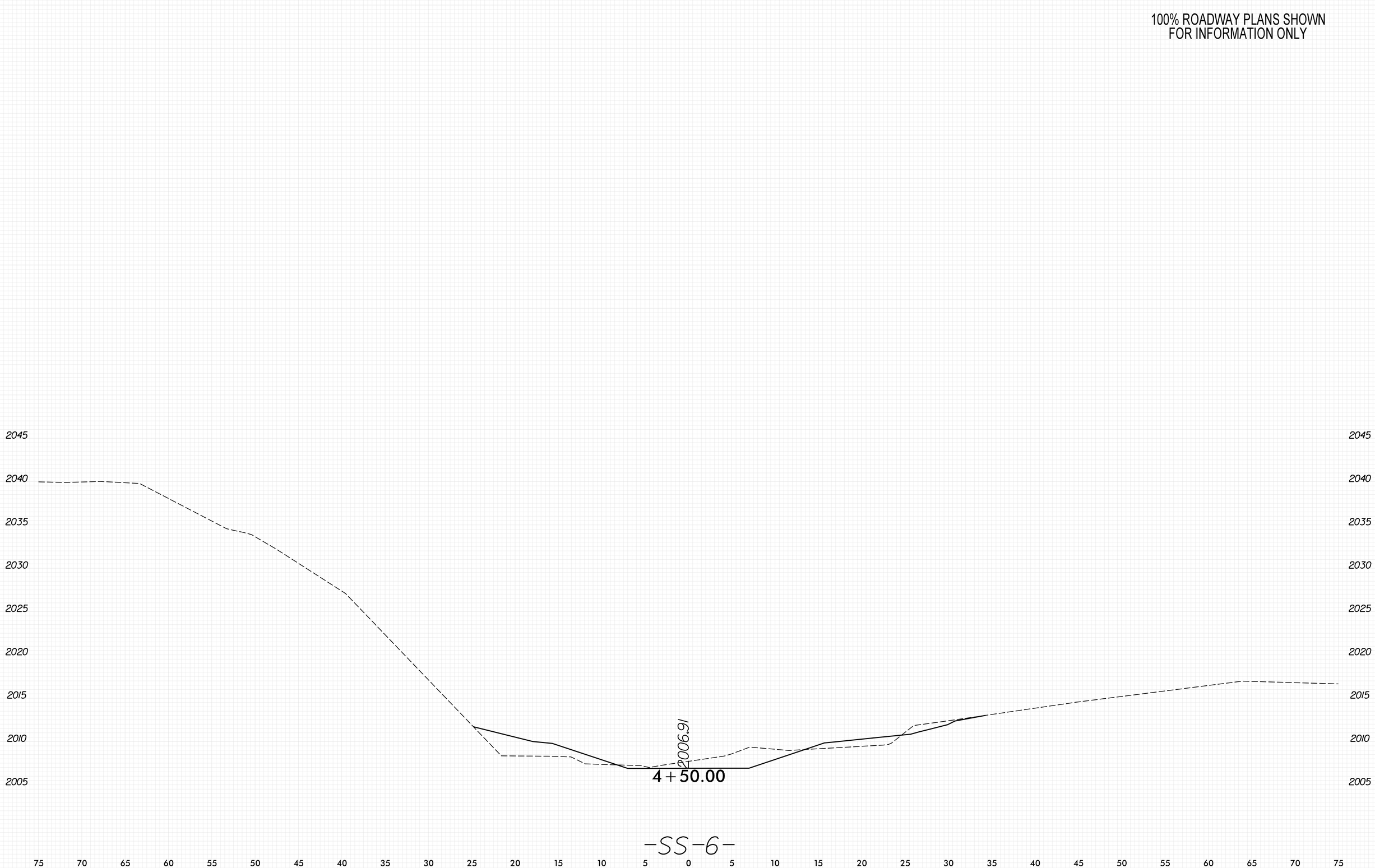
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-73

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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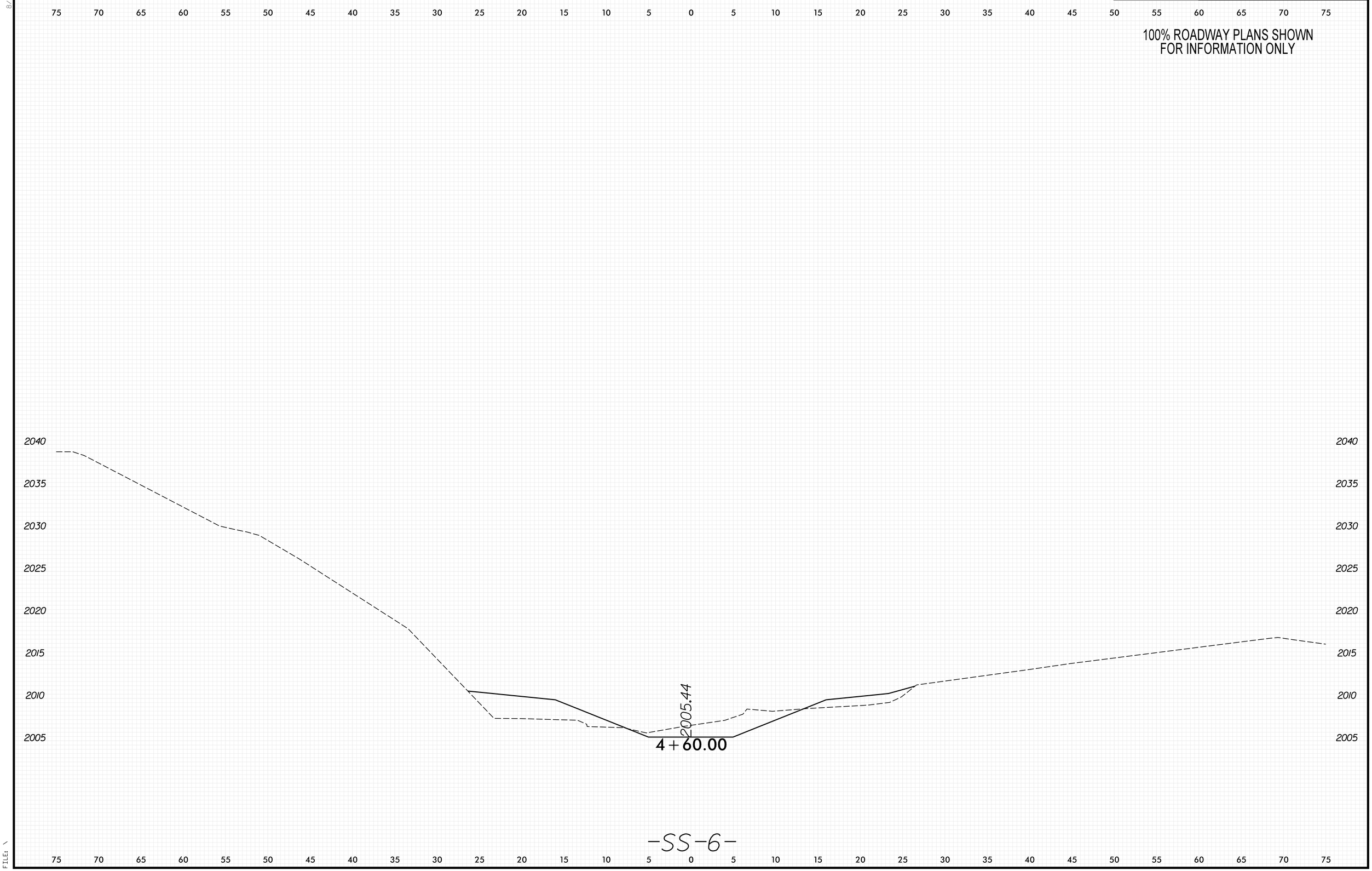
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-74

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl.eh_v8.tbl
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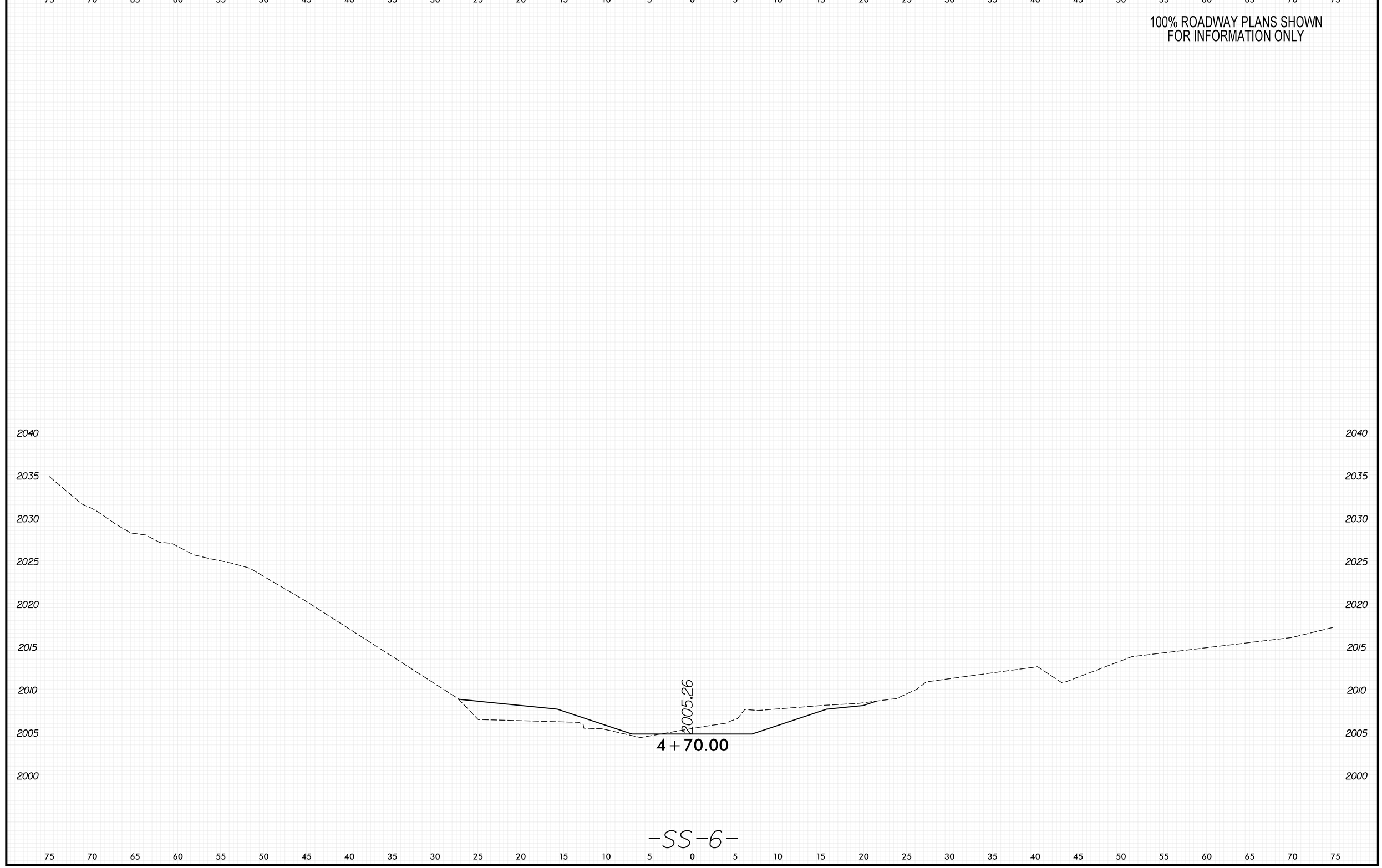
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-75

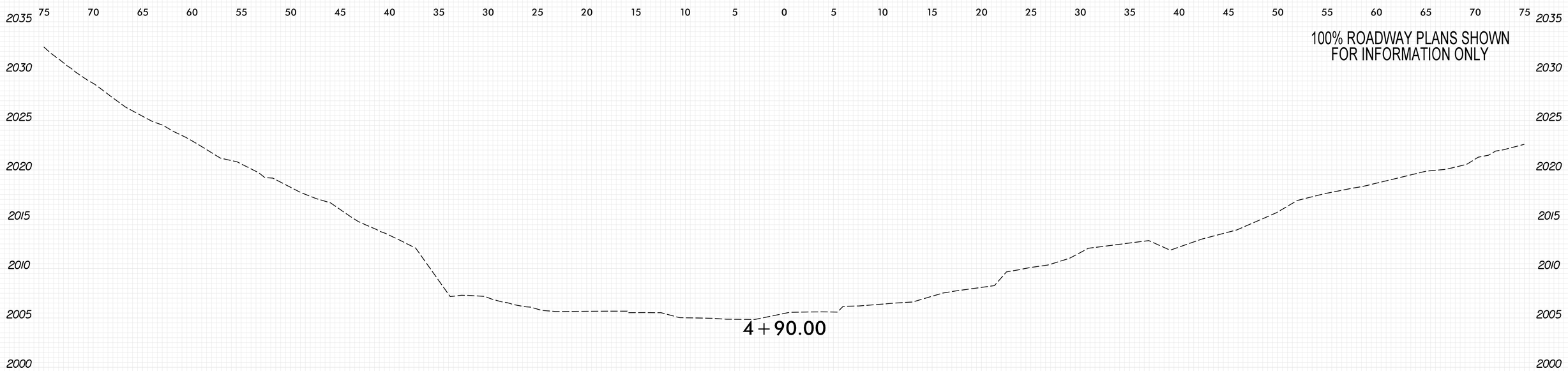
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

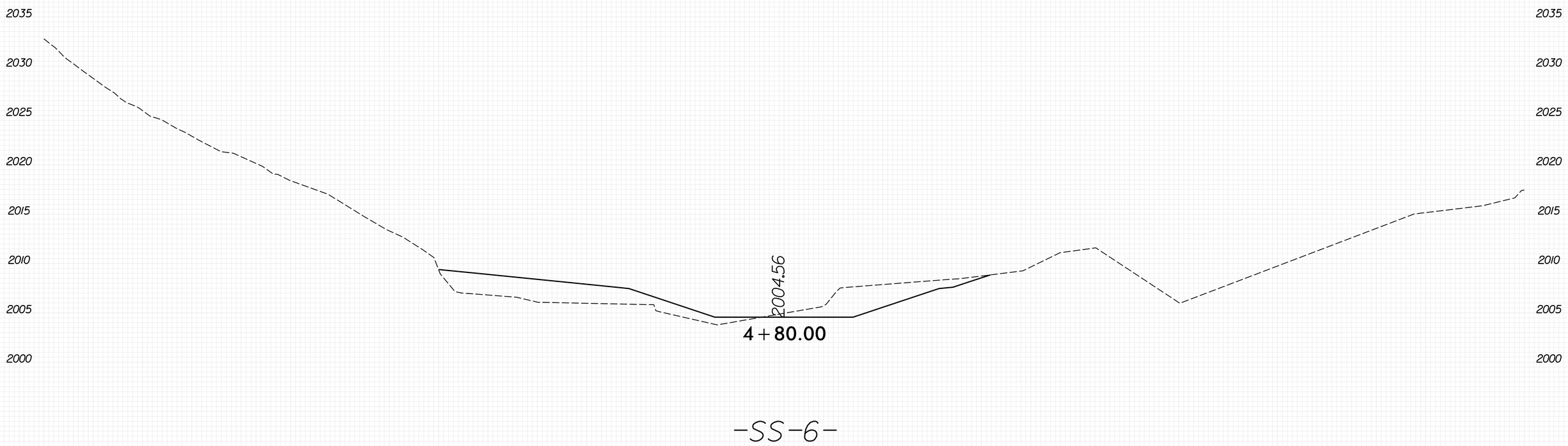


8/23/99
PENTABLE: xpl.eh_v8.tbl
TIME: 8:51:49 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-76

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





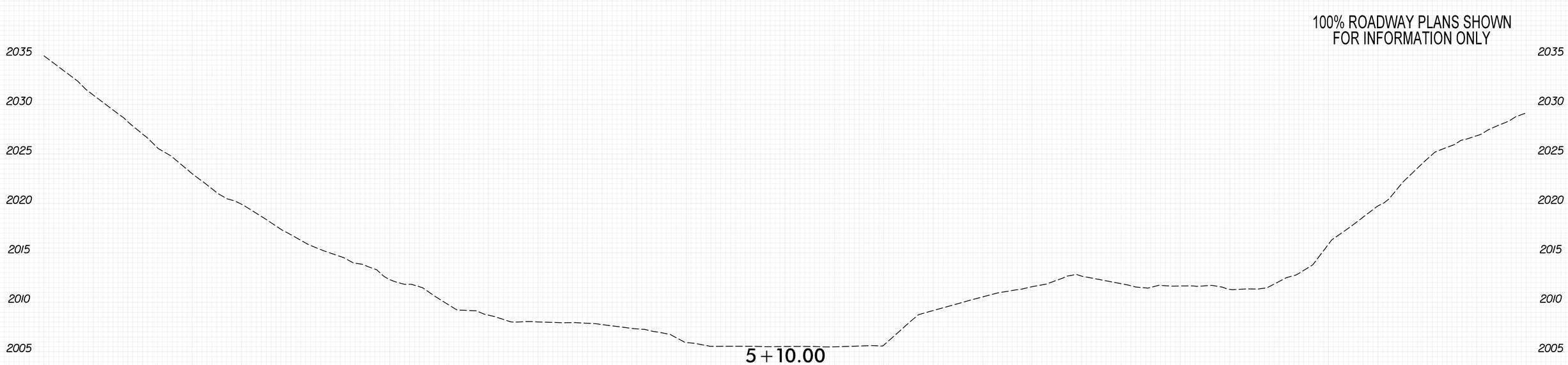
-SS-6-

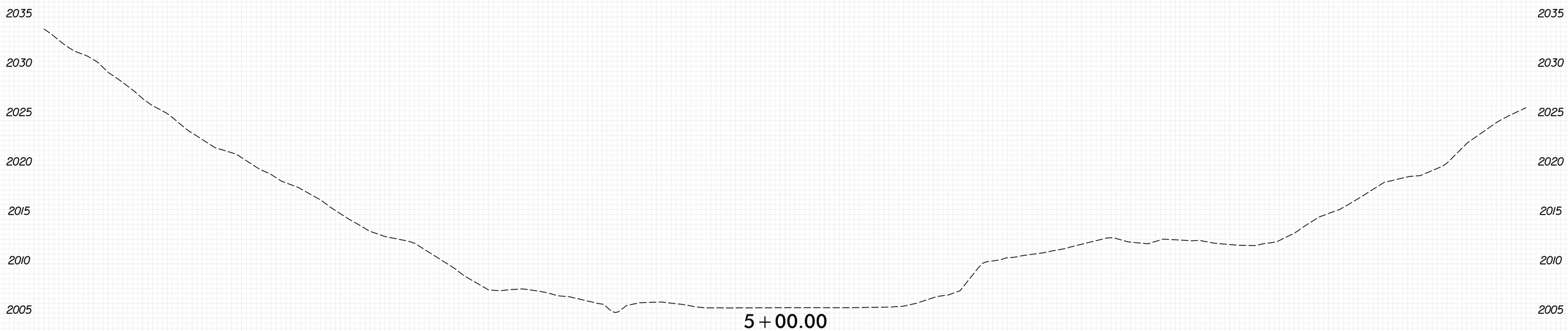
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:51 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-77

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





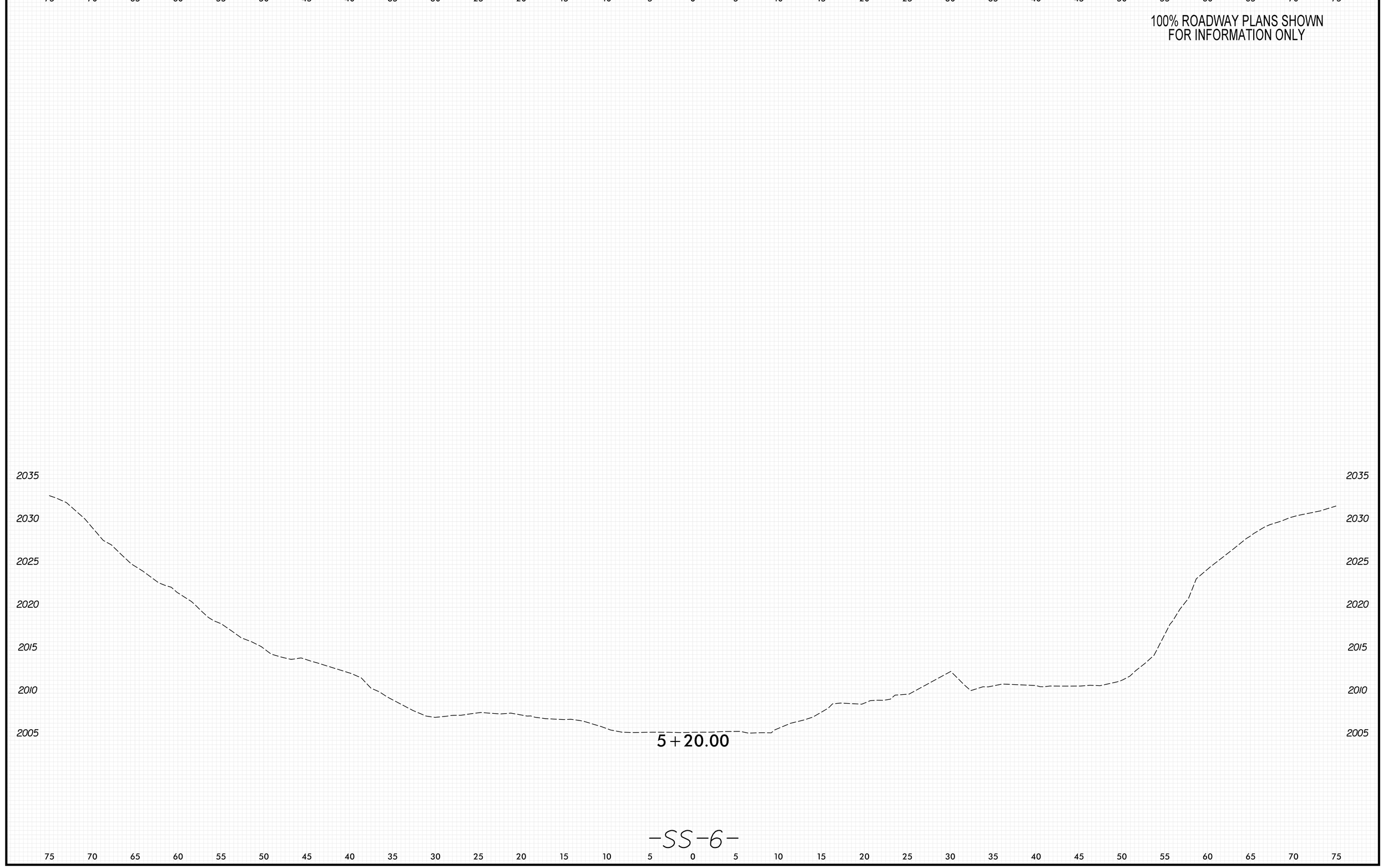
-SS-6-

8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:52 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-78

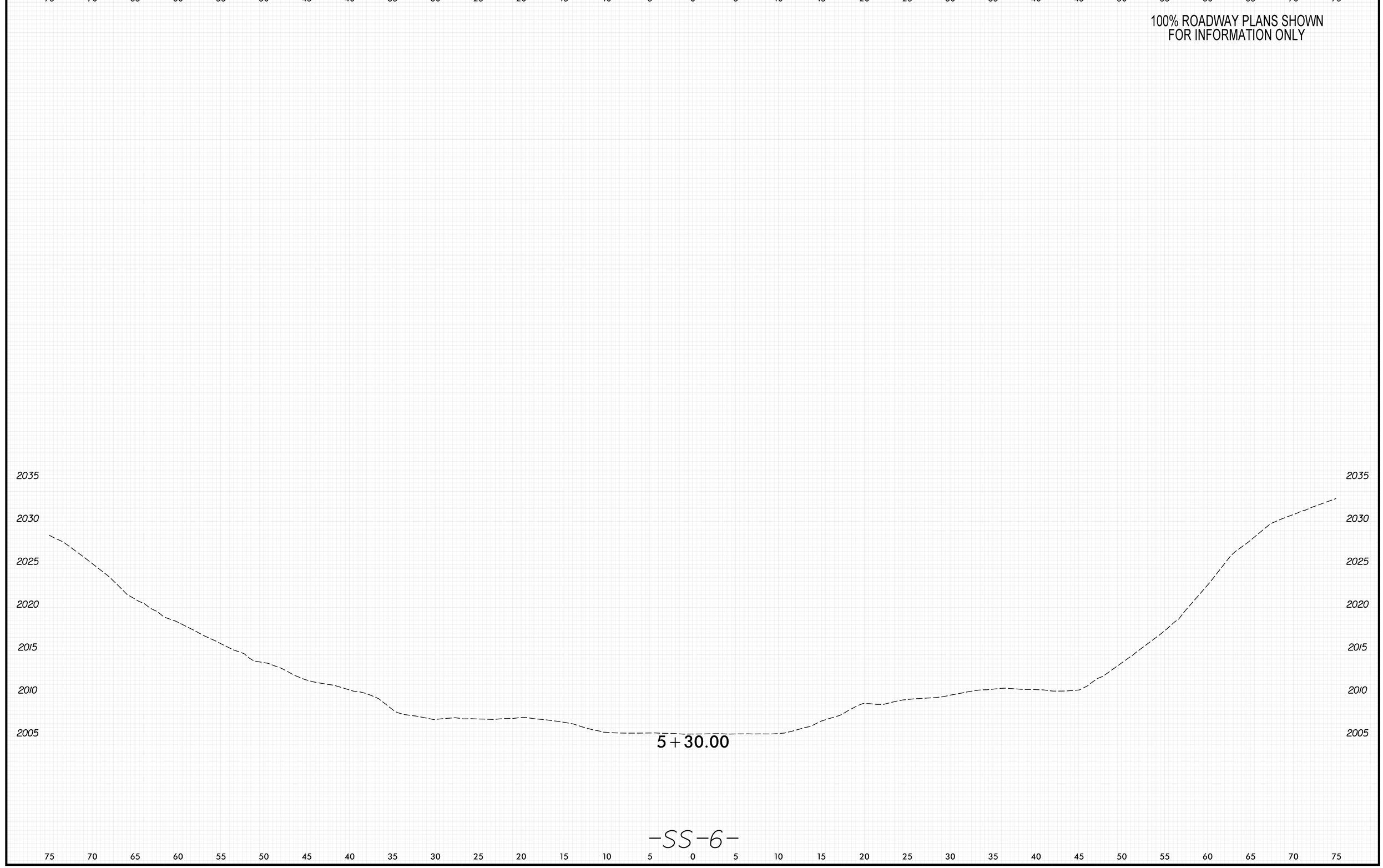
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:54 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-79

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:51:57 AM

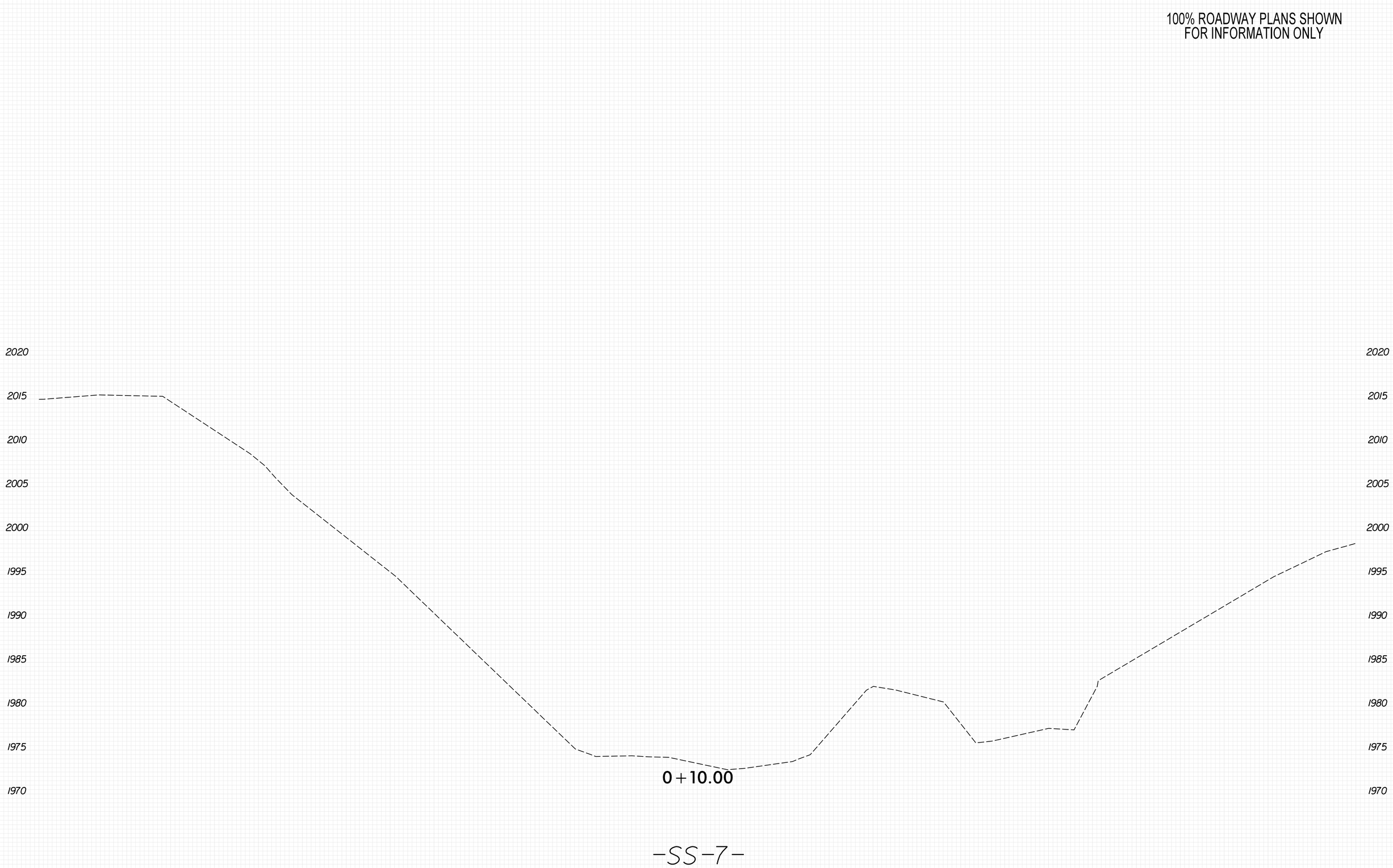
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-80

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:52:51 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-81

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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TIME: 8:52:53 AM
DATE: 5/29/2026
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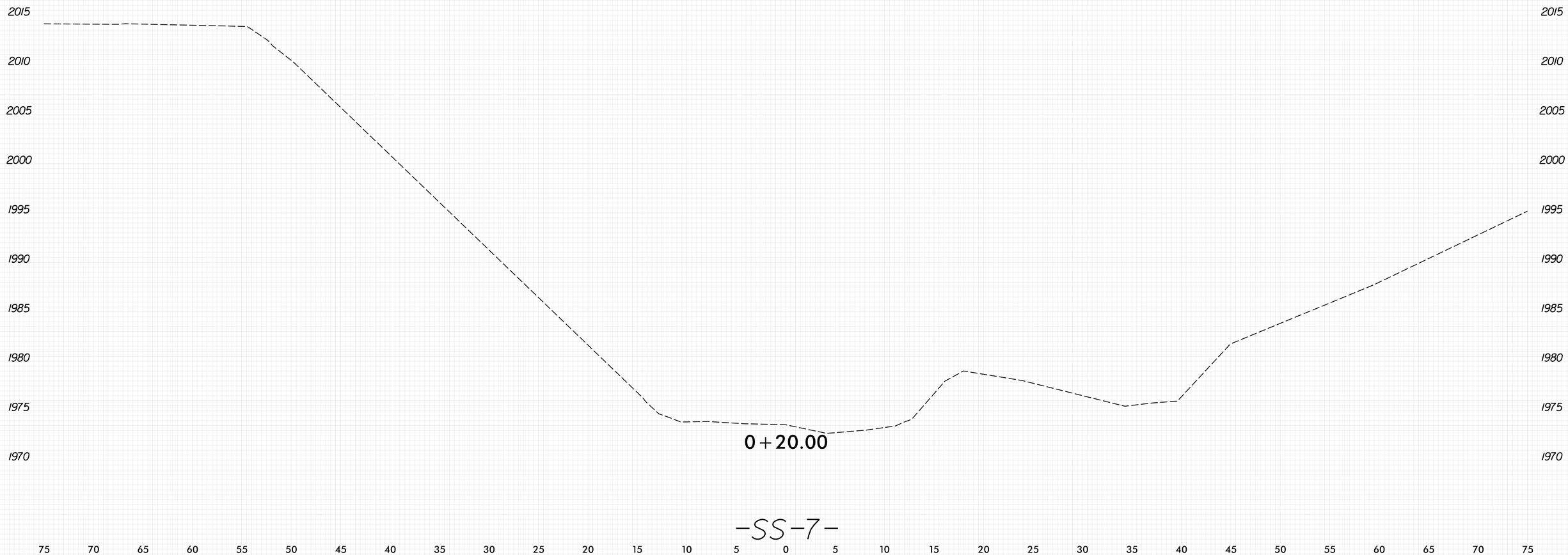
USER: KCLATTERBU
FILE: \

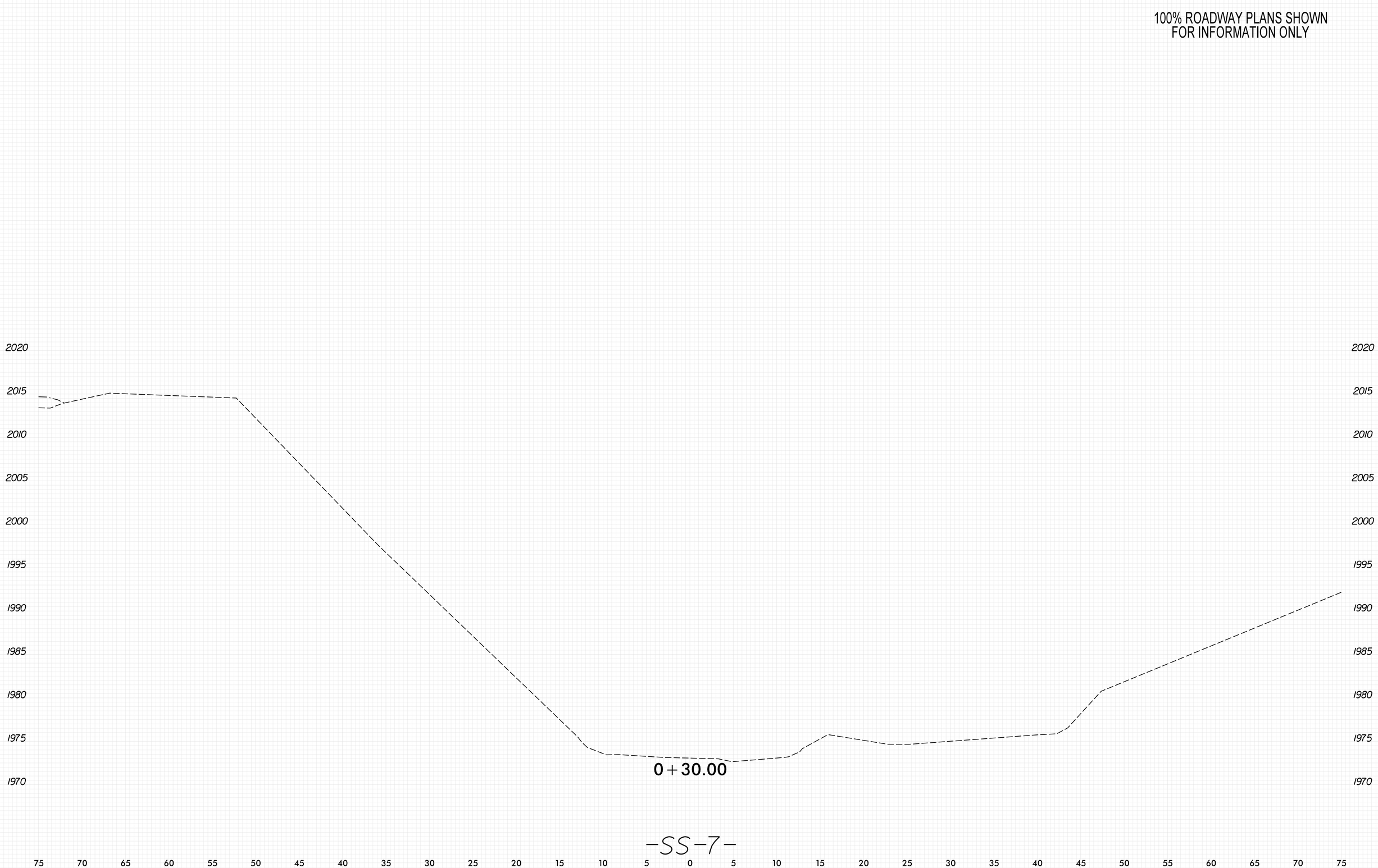
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/29/2026
TIME: 8:52:55 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-83

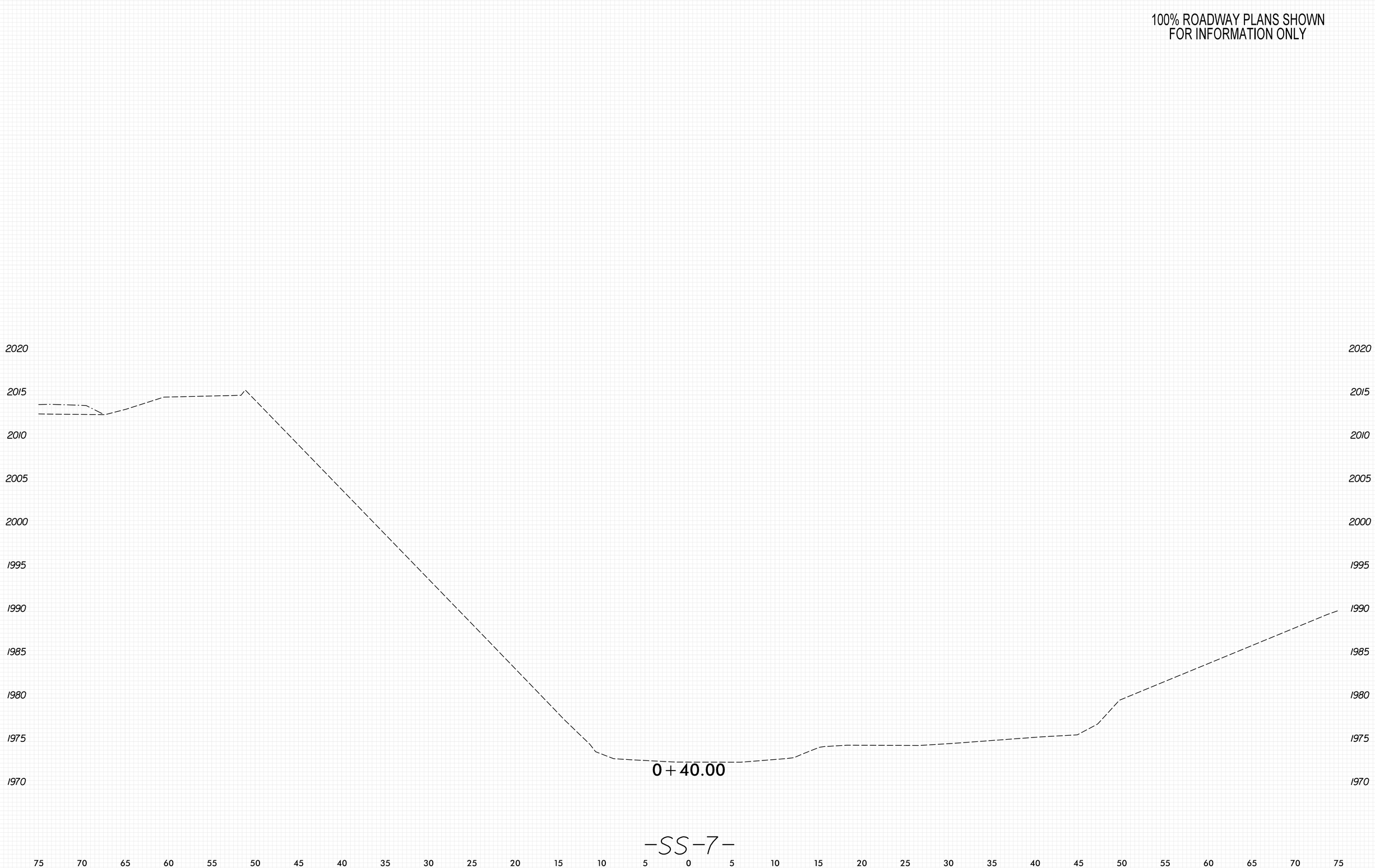
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:52:56 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-84

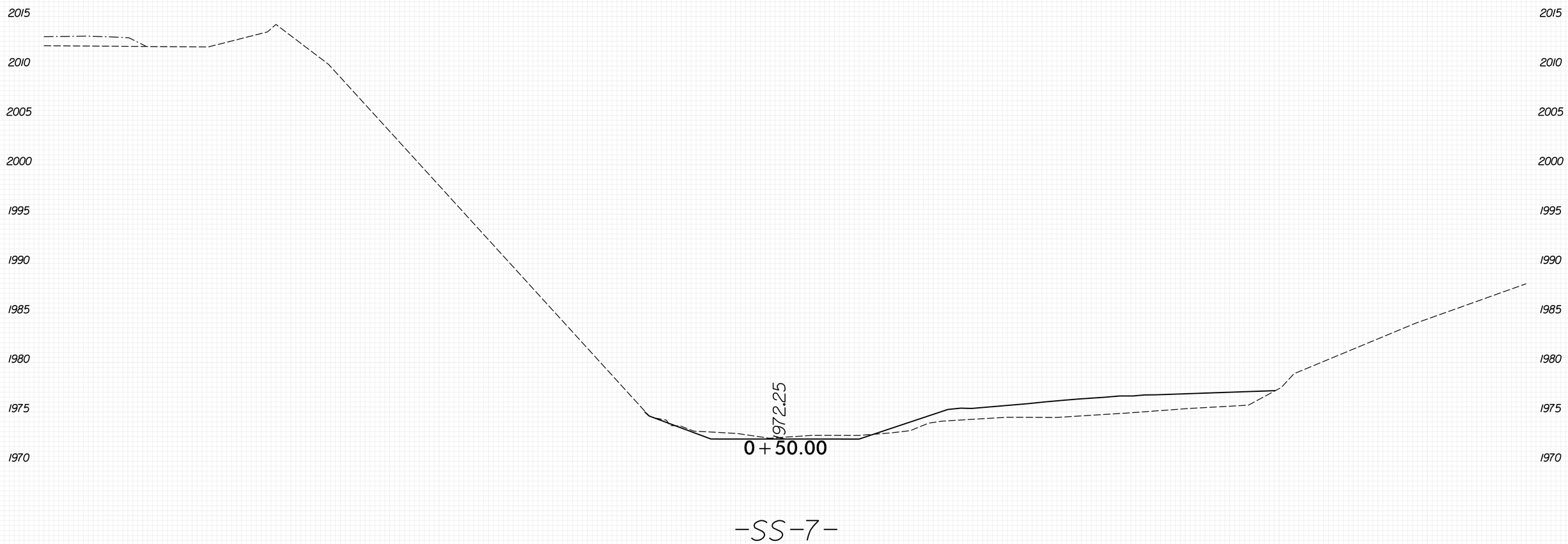
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:52:58 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-85

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



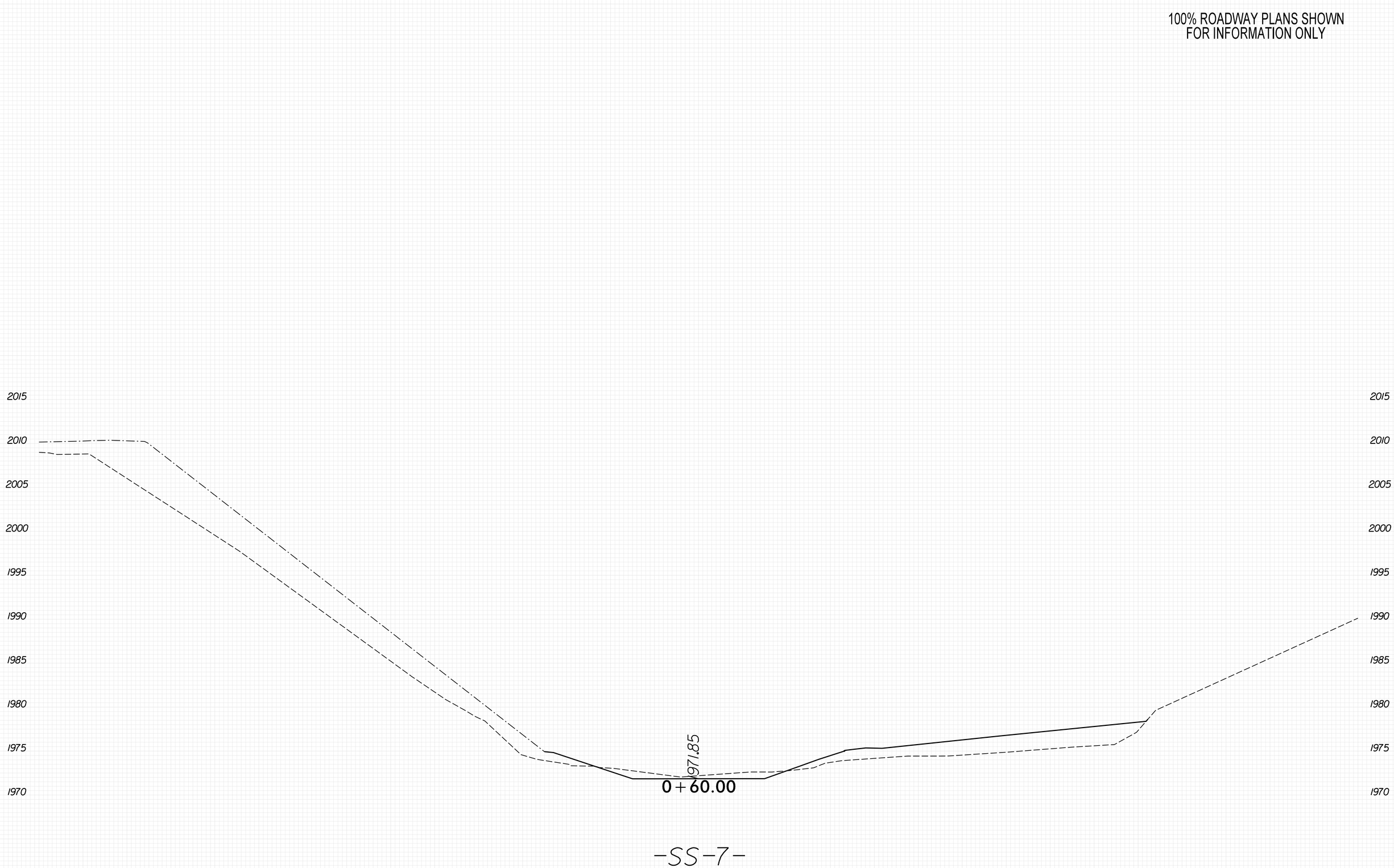
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:52:59 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-86

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



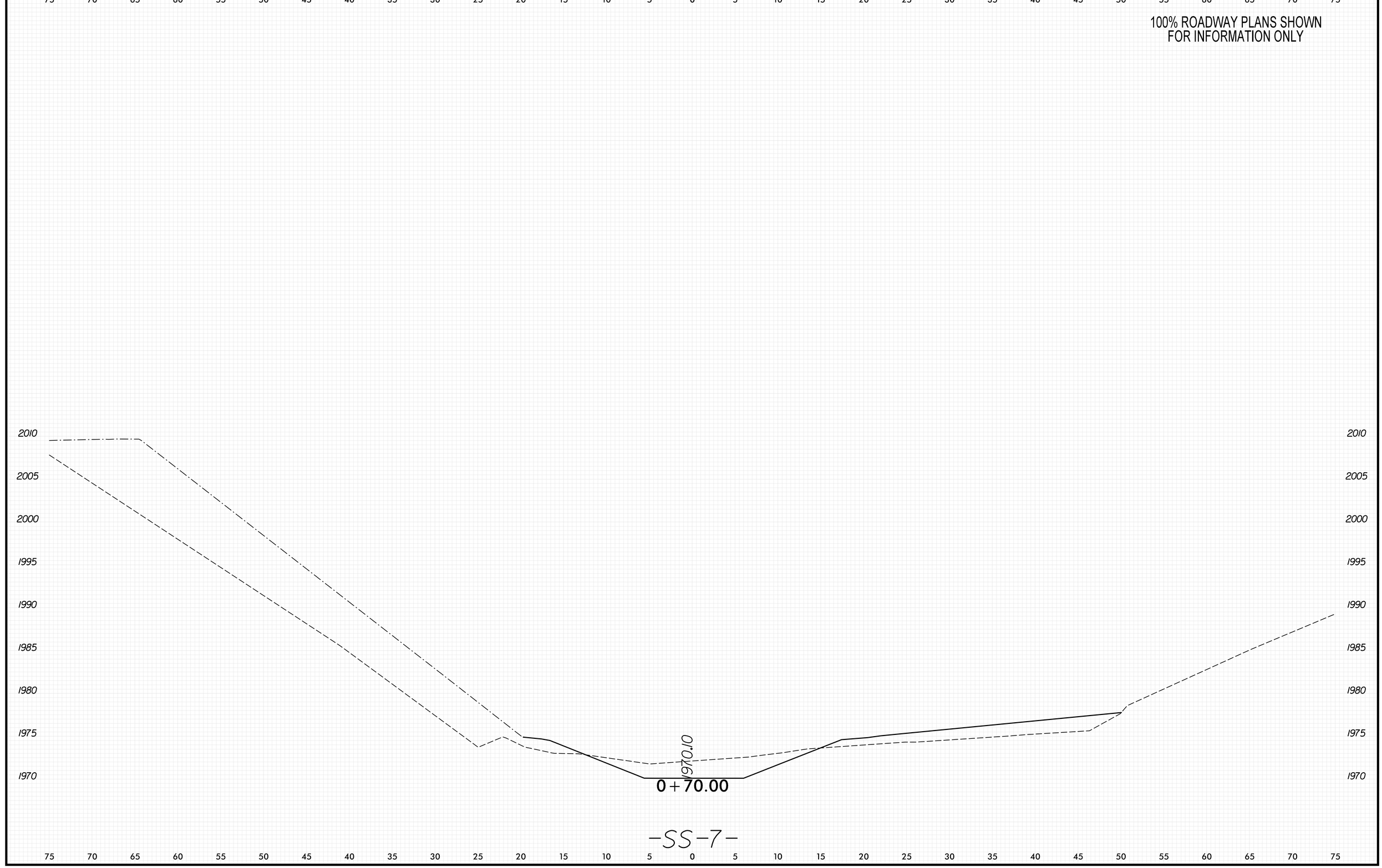
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:53:01 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-87

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

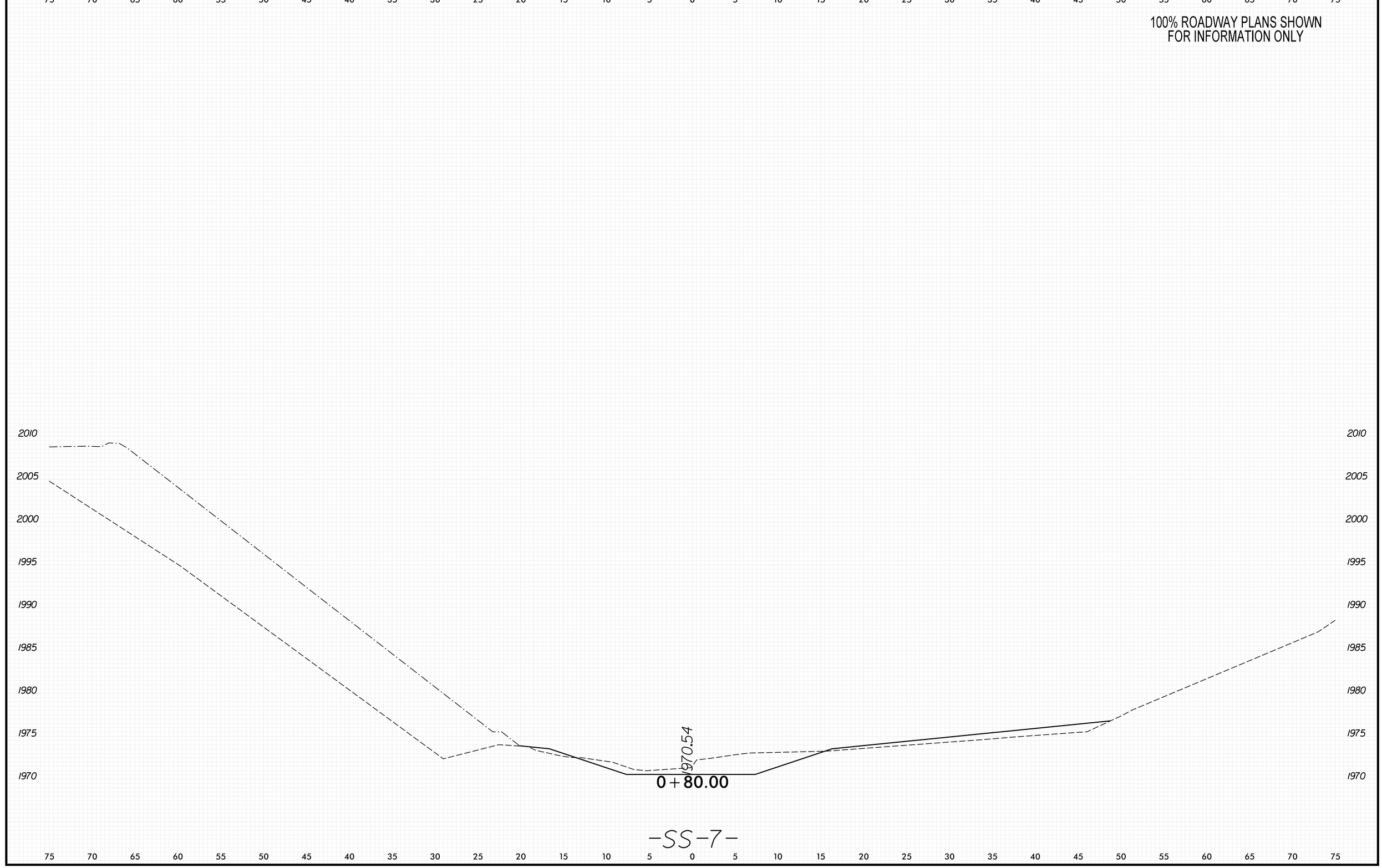
PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:03 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-88

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

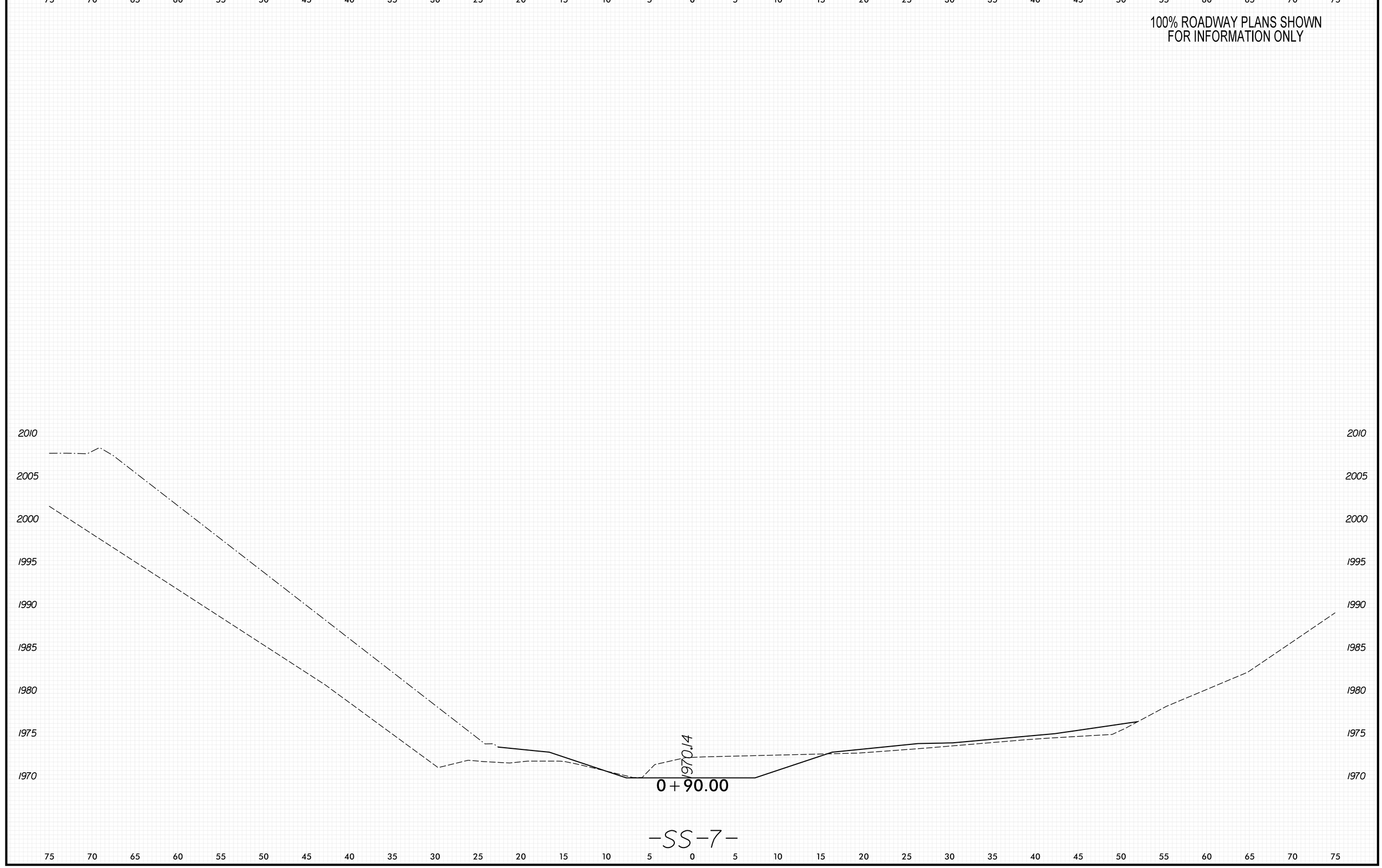


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:05 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-89

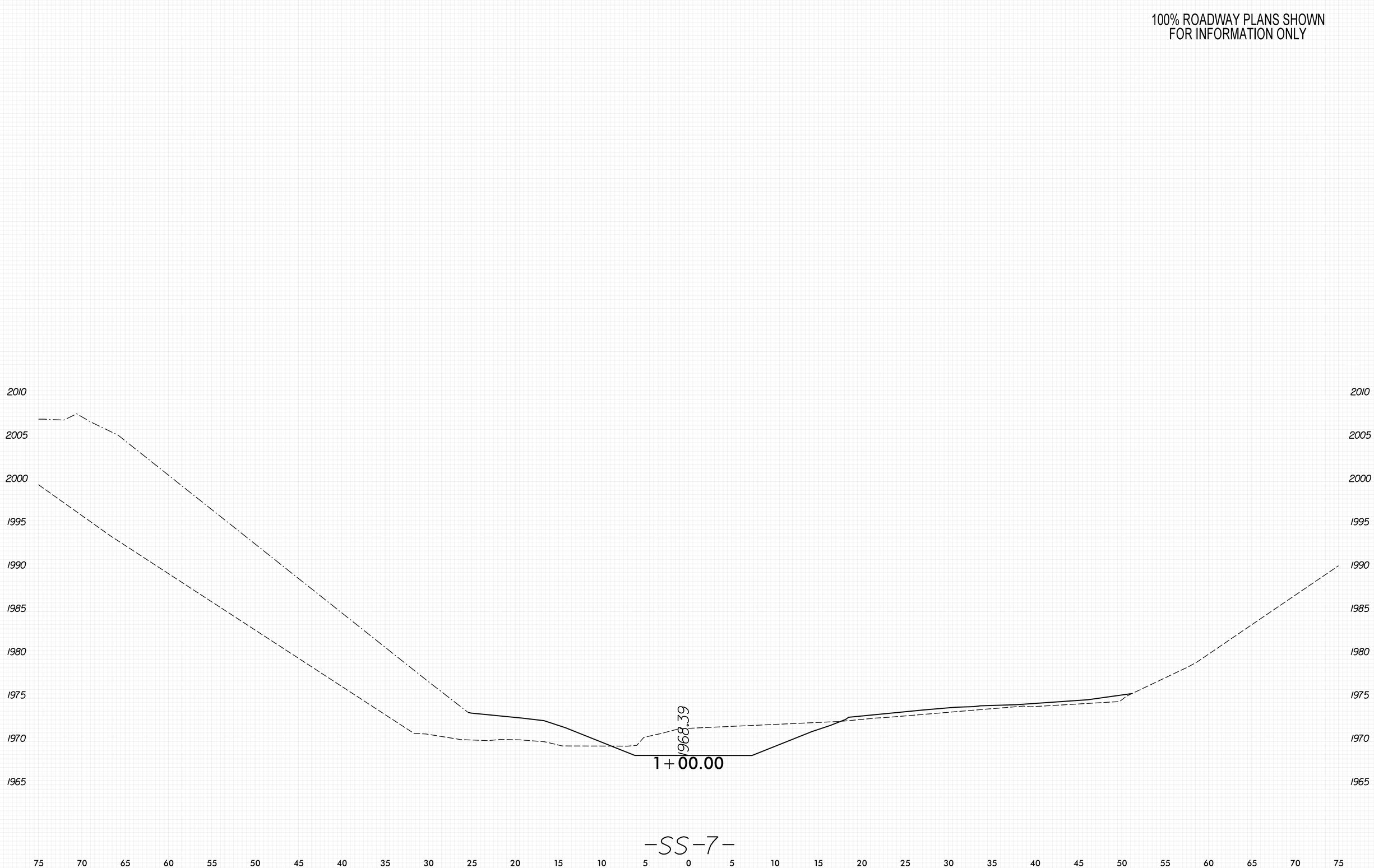
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:07 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-90

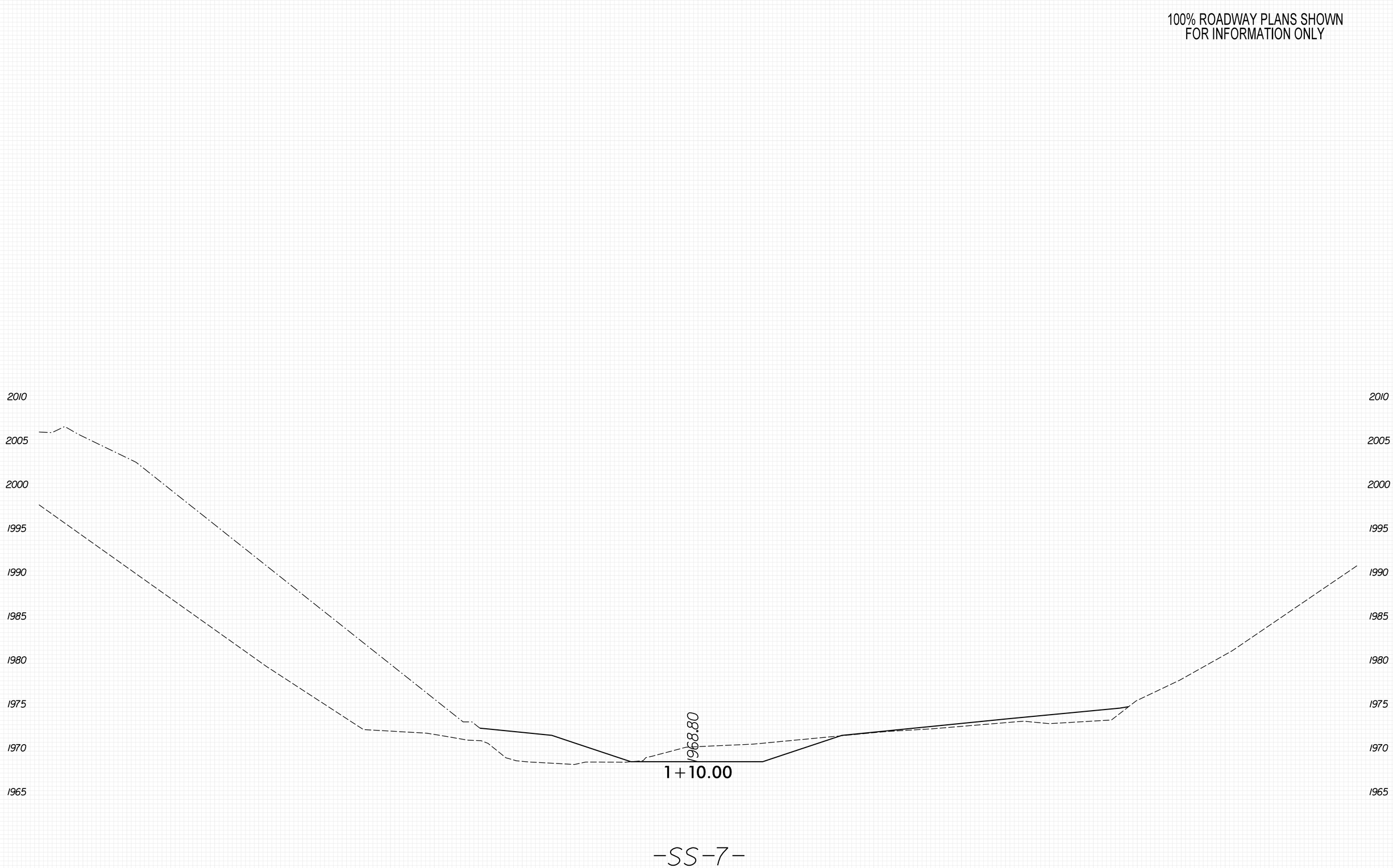
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:08 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-91

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



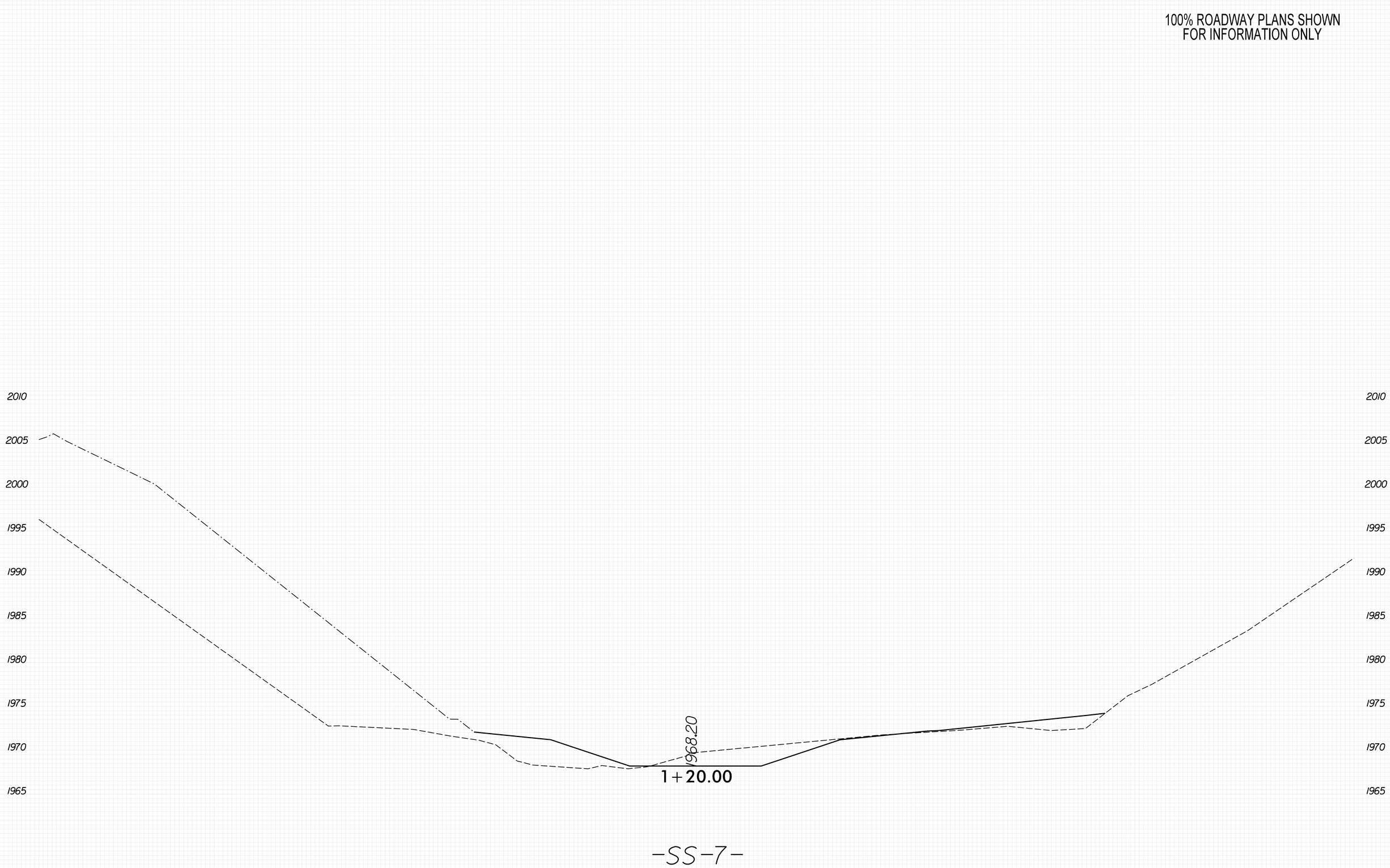
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:53:10 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-92

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

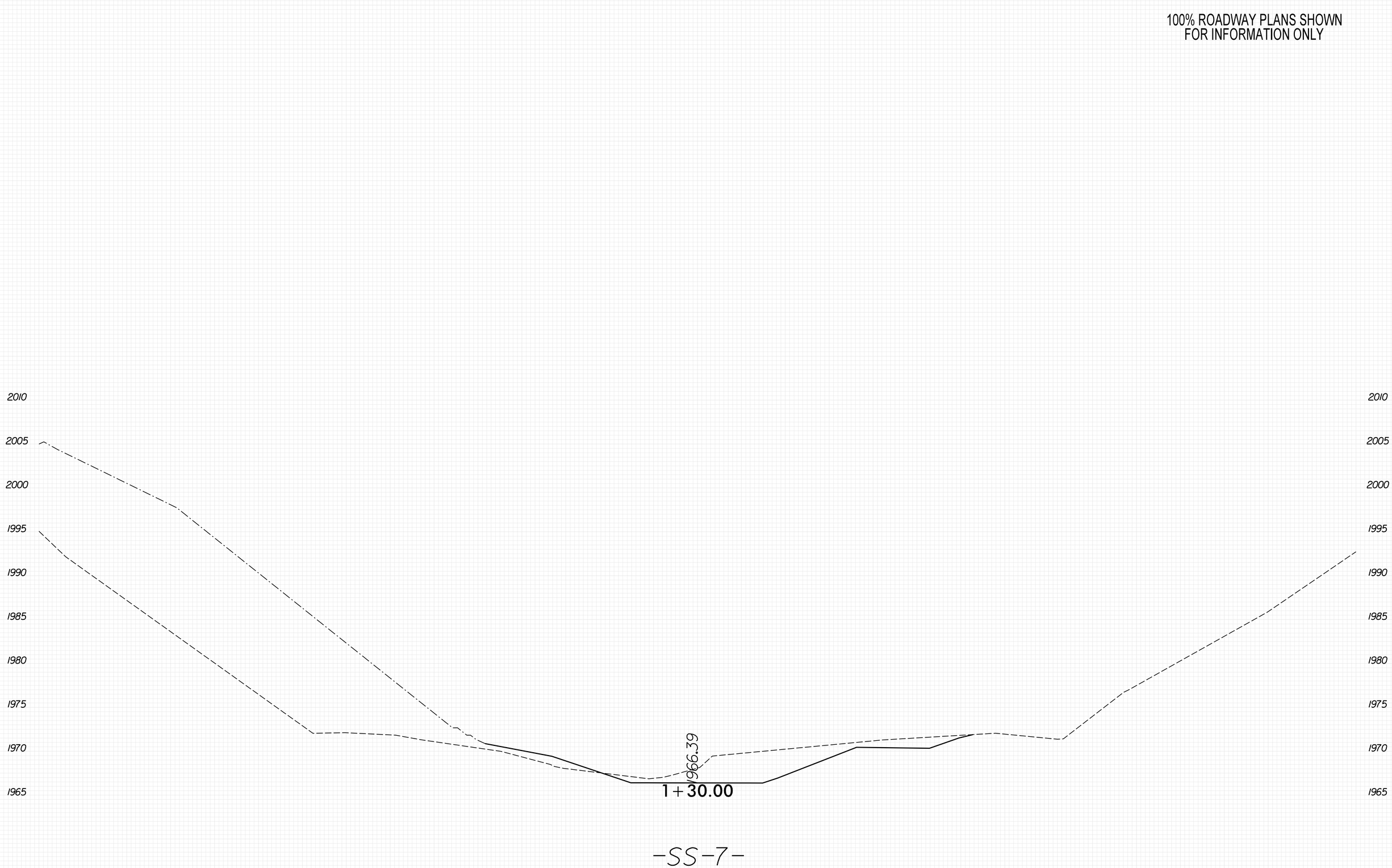


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:12 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-93

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

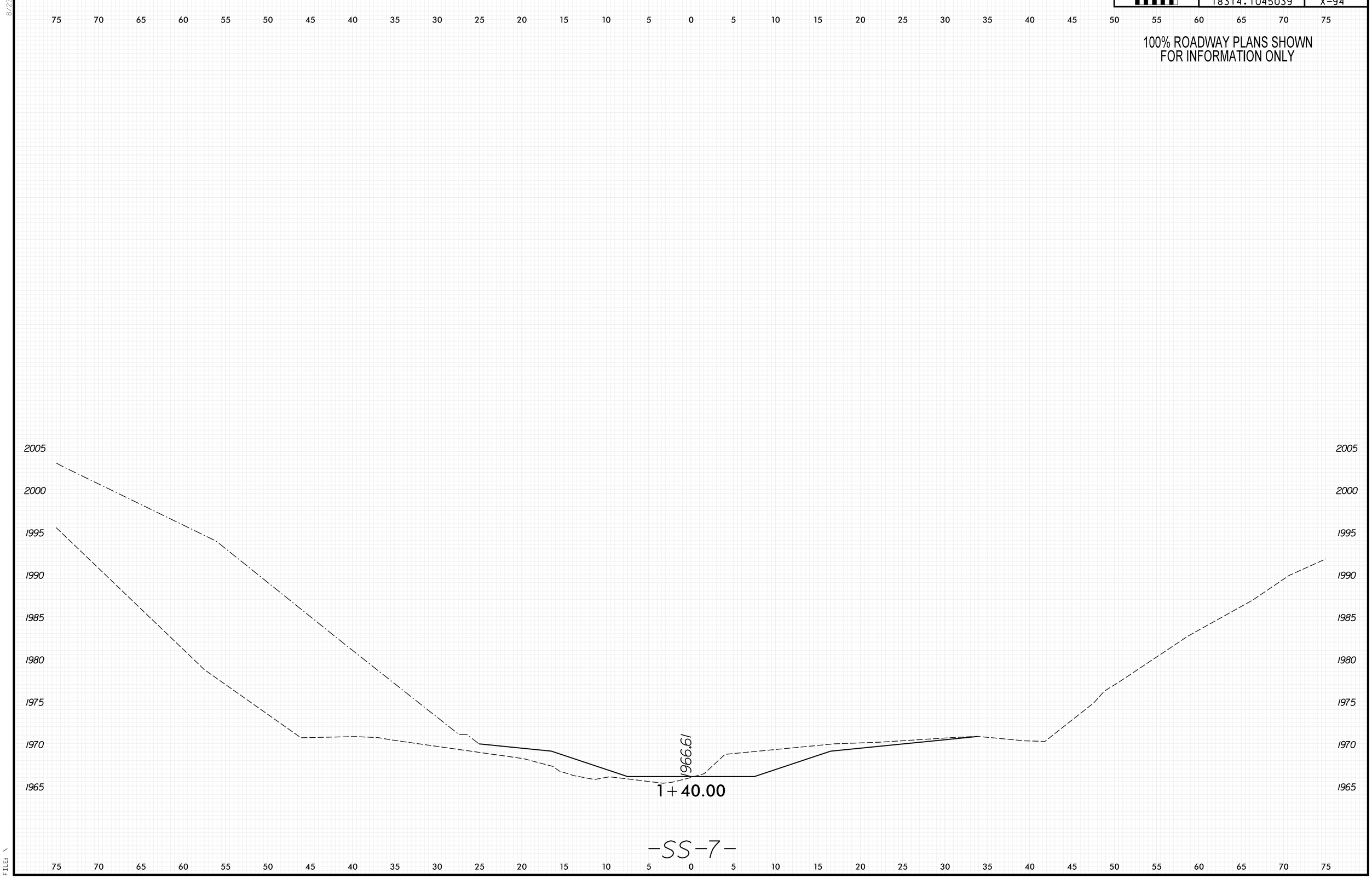


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:13 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-94

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

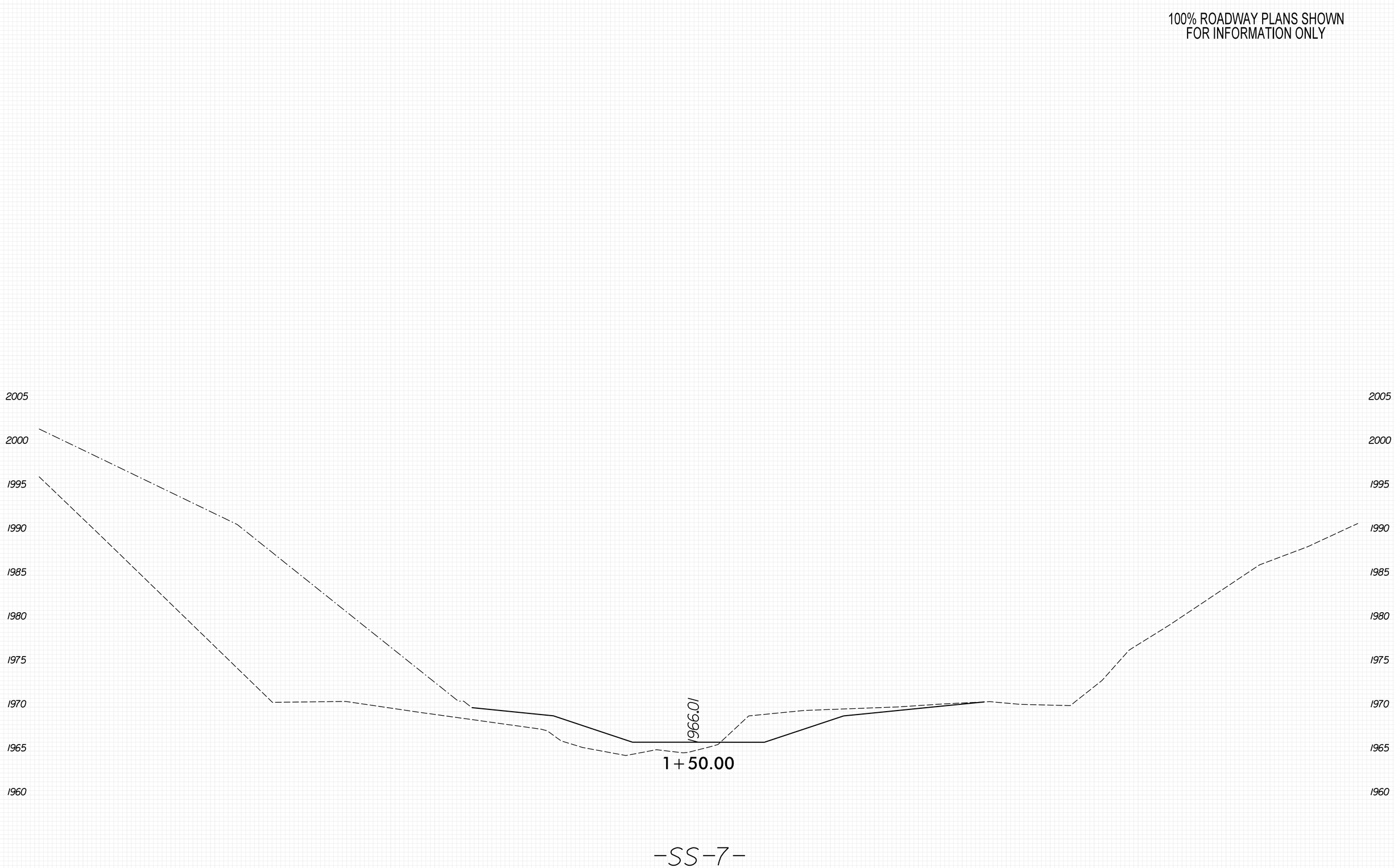


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:53:14 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-95

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

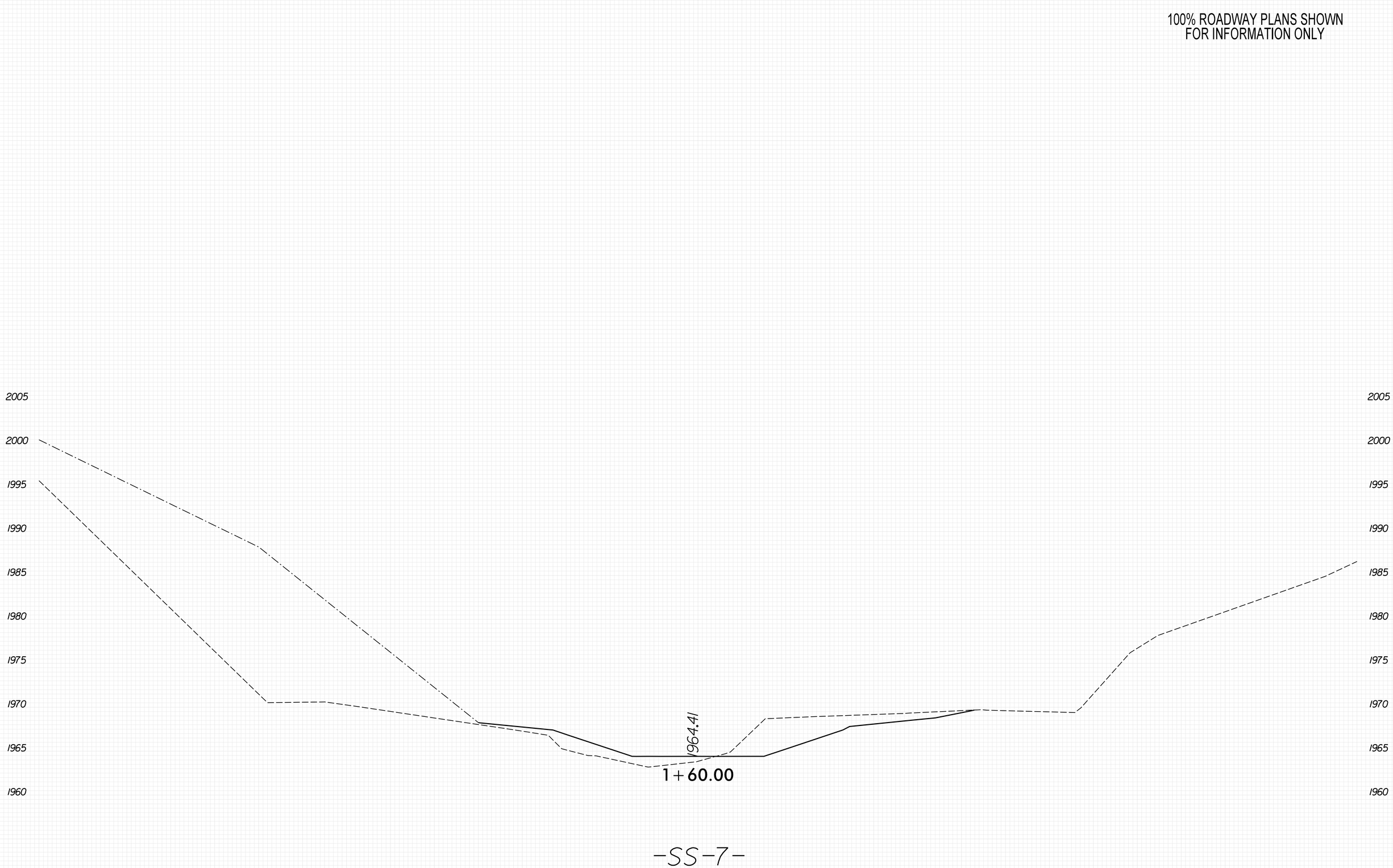


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:53:16 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-96

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

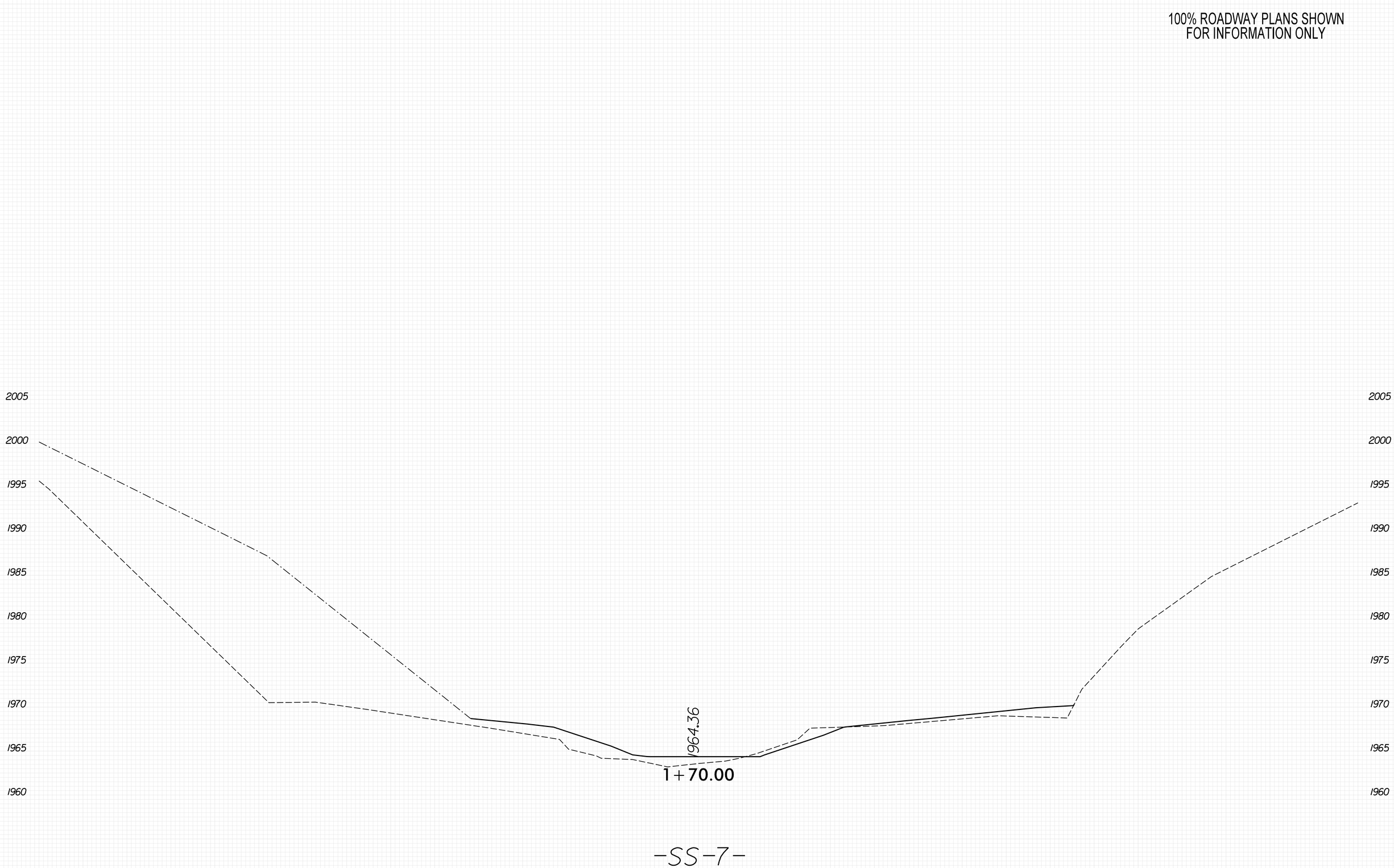


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:17 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-97

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

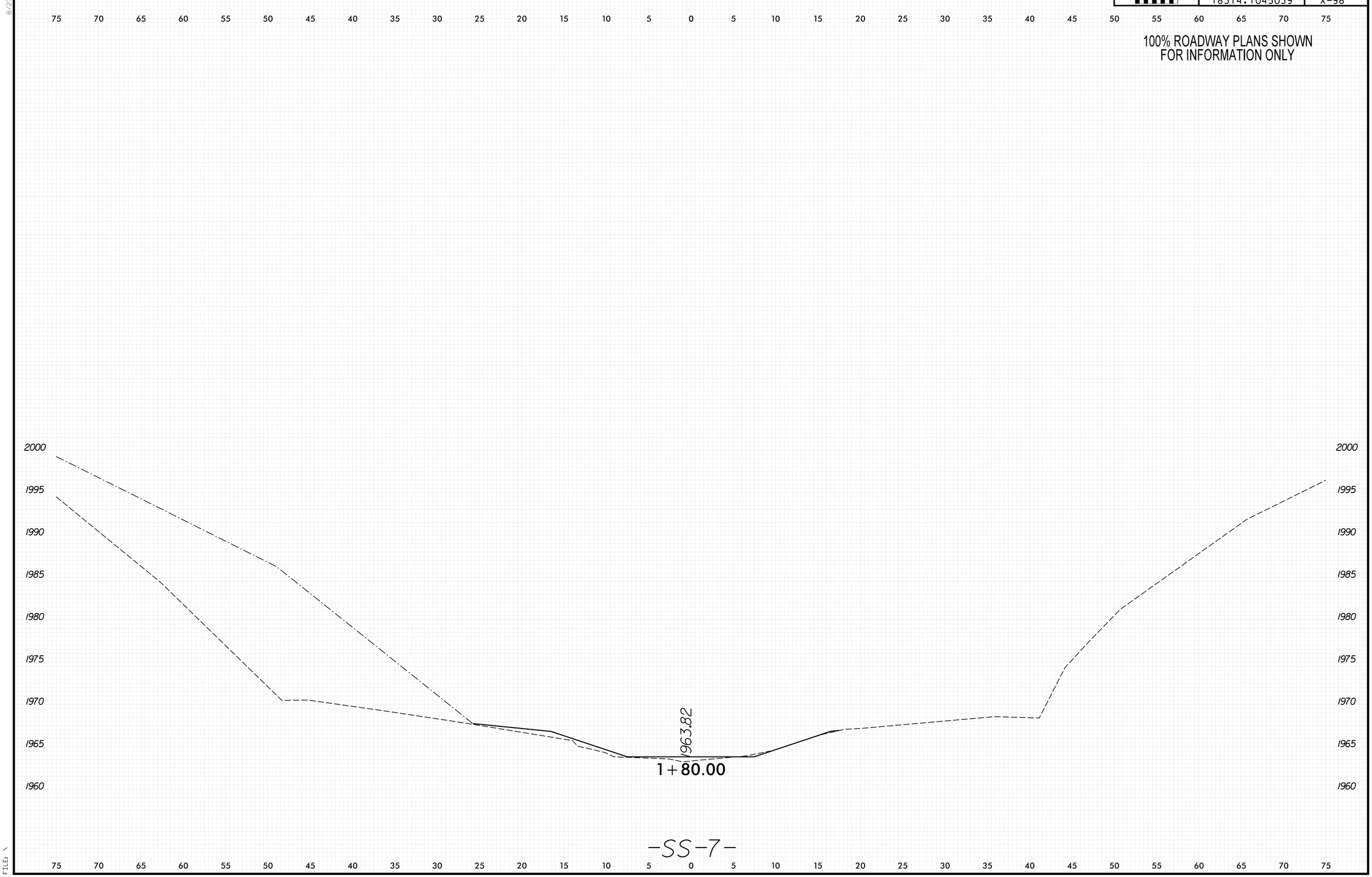


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:19 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-98

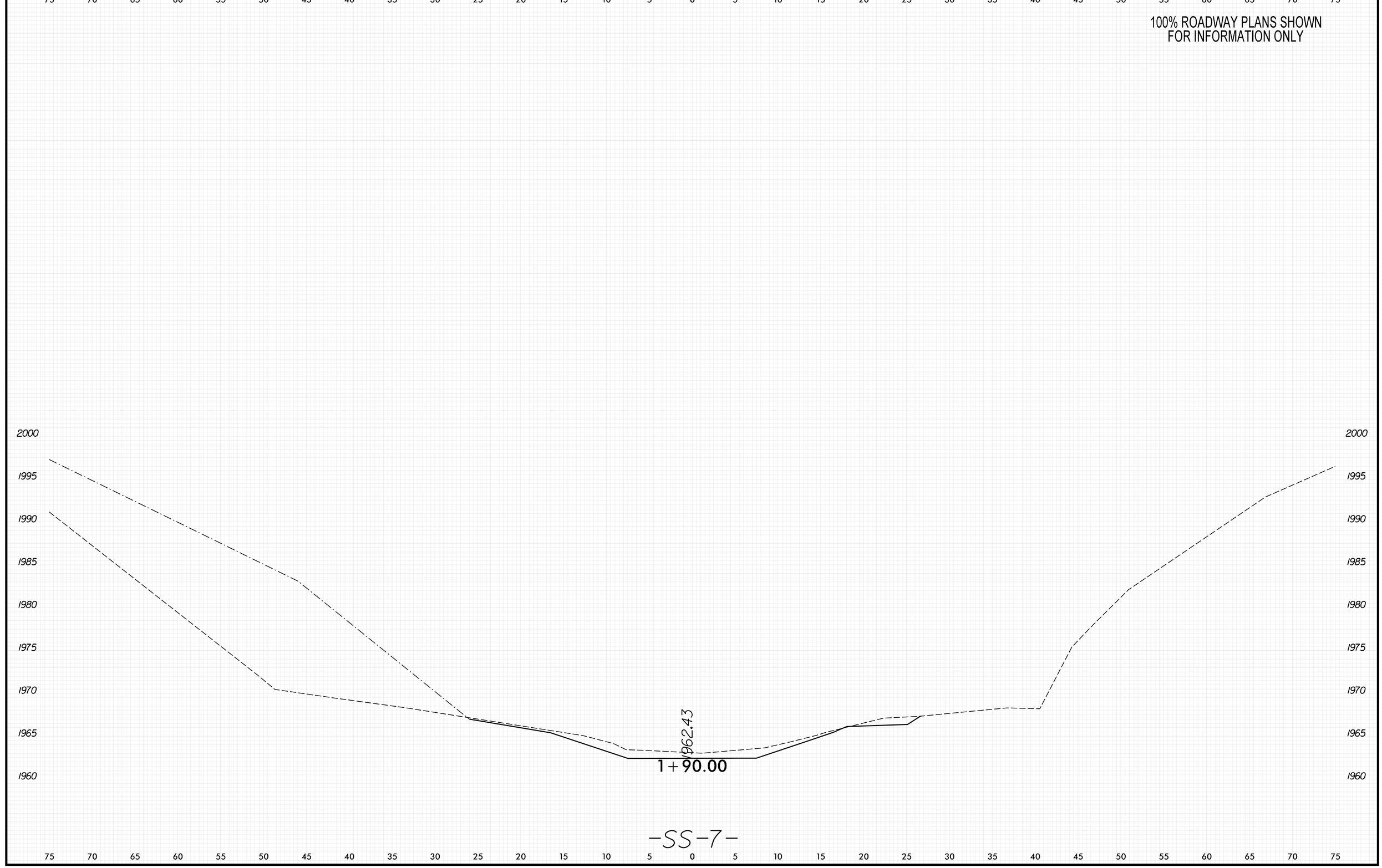
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl.eh_v8.tbl
TIME: 8:53:20 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-99

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

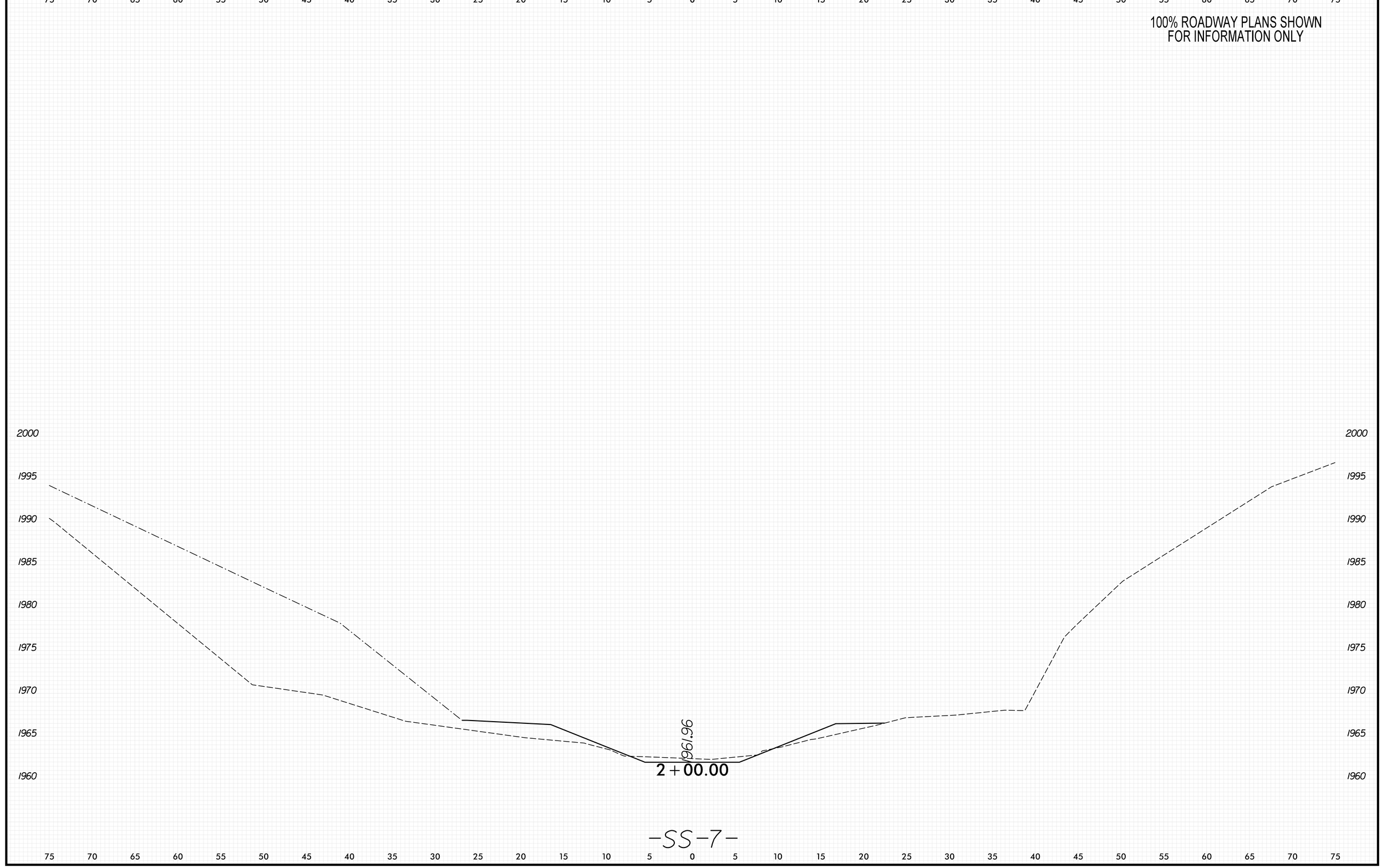


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:53:22 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-100

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

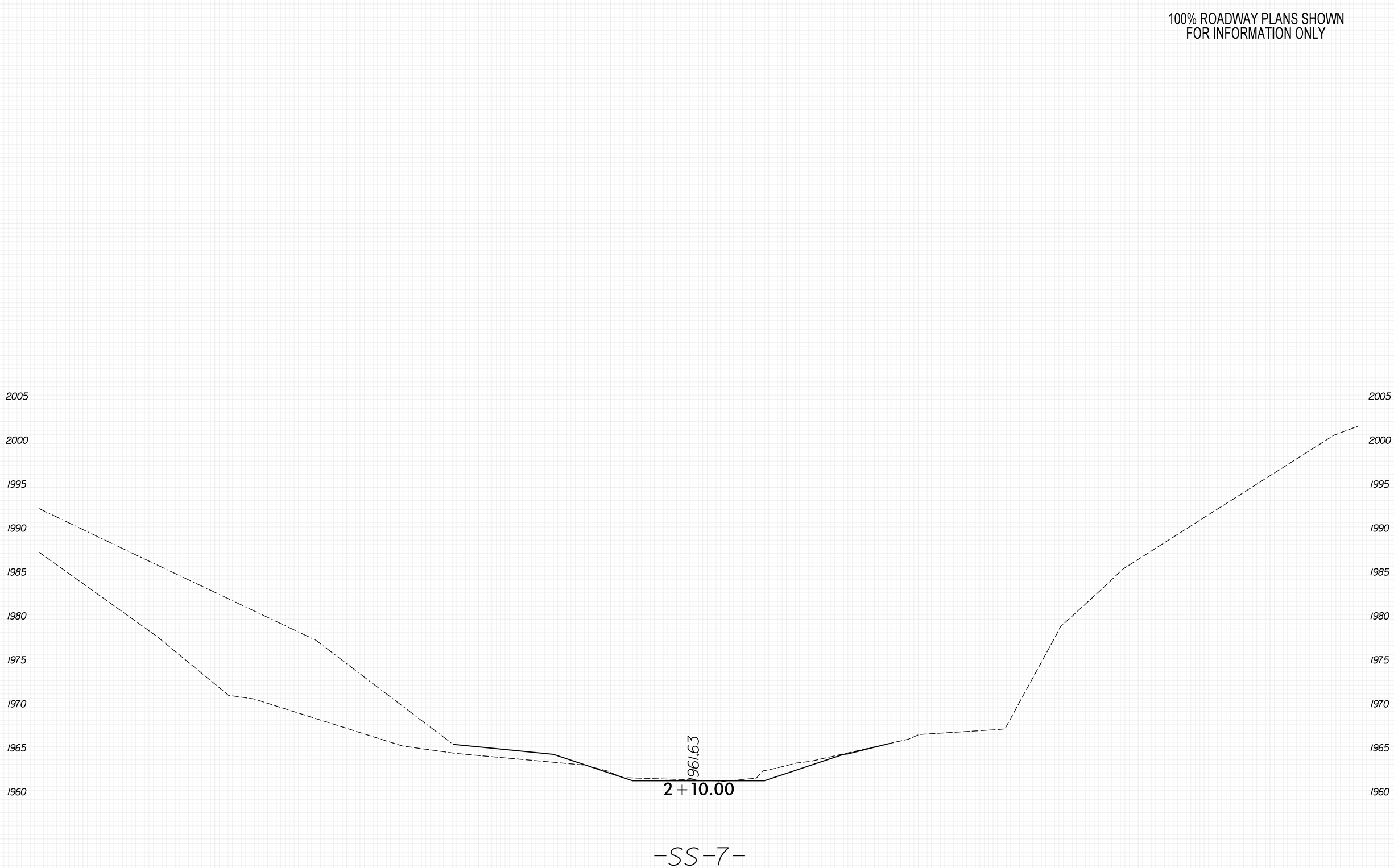


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:53:23 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-101

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



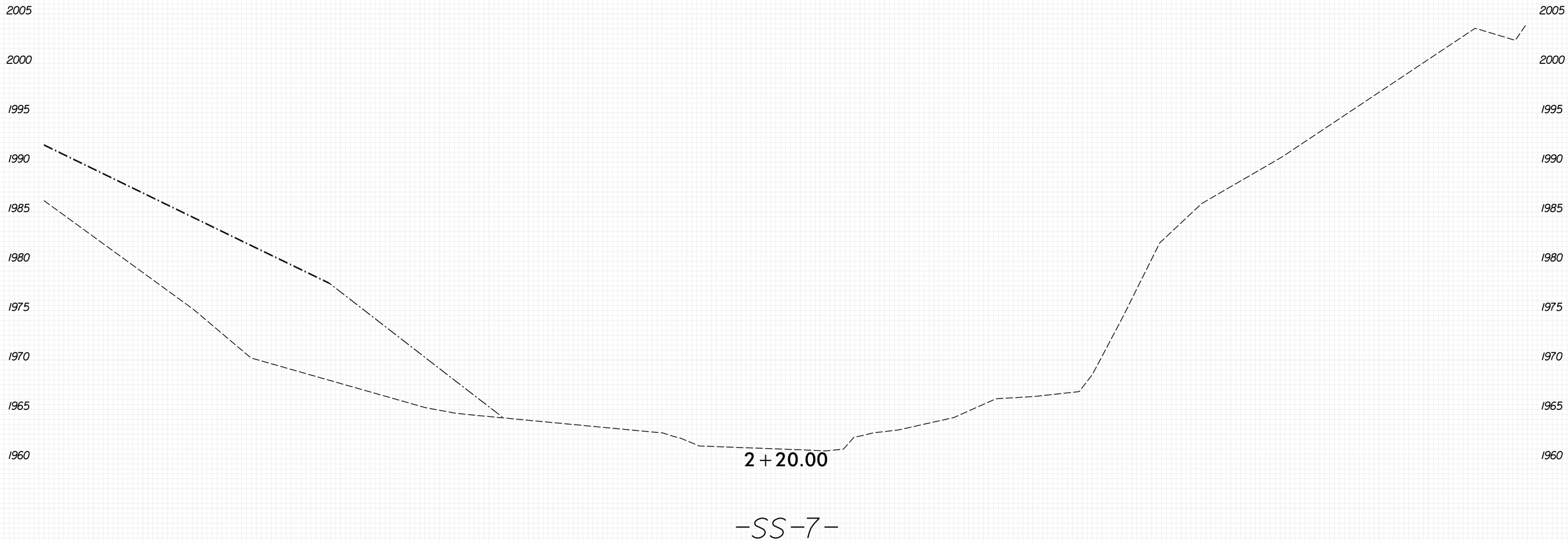
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:55:56 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-102

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



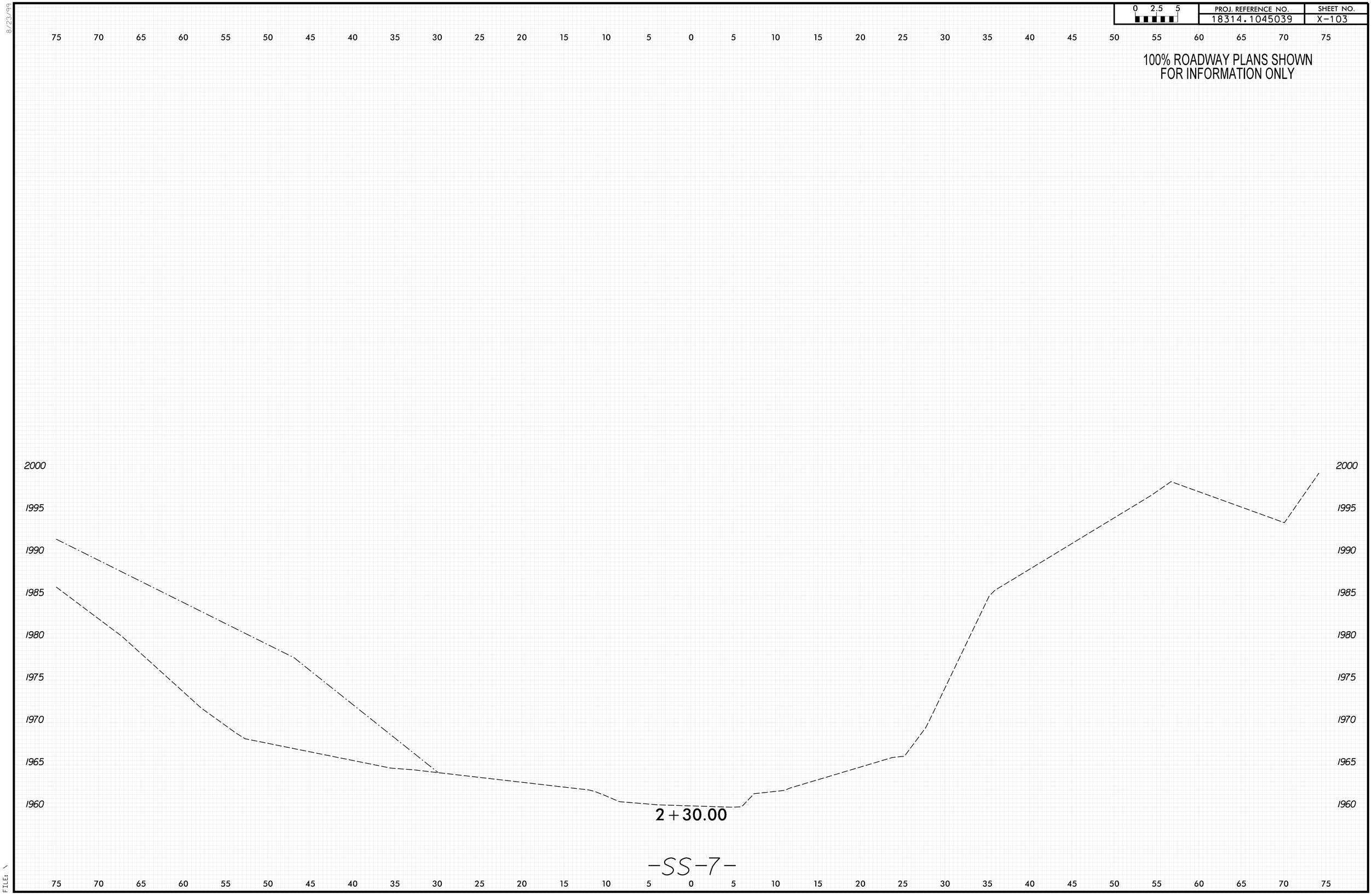
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:55:58 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-103

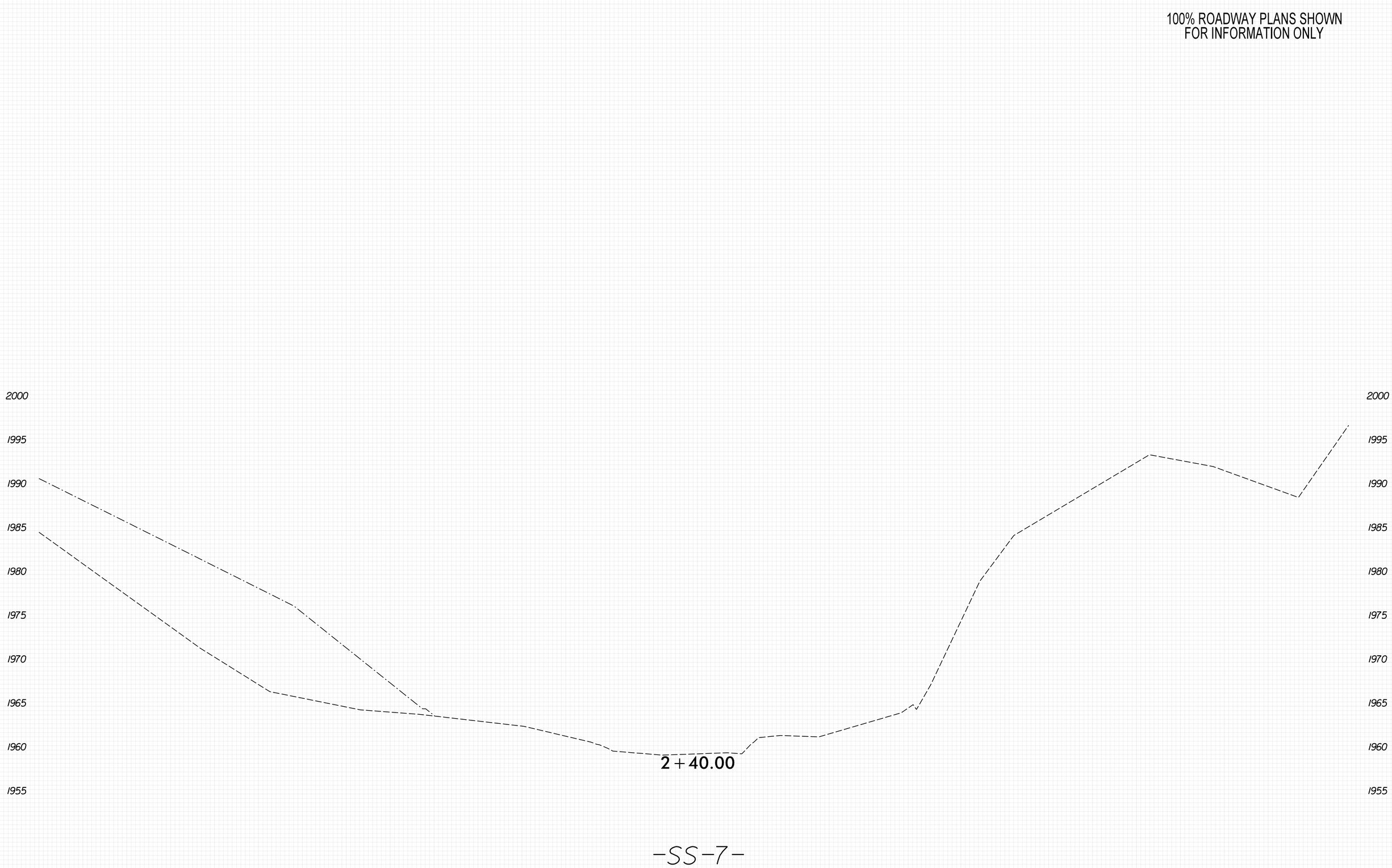
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:56:00 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-104

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

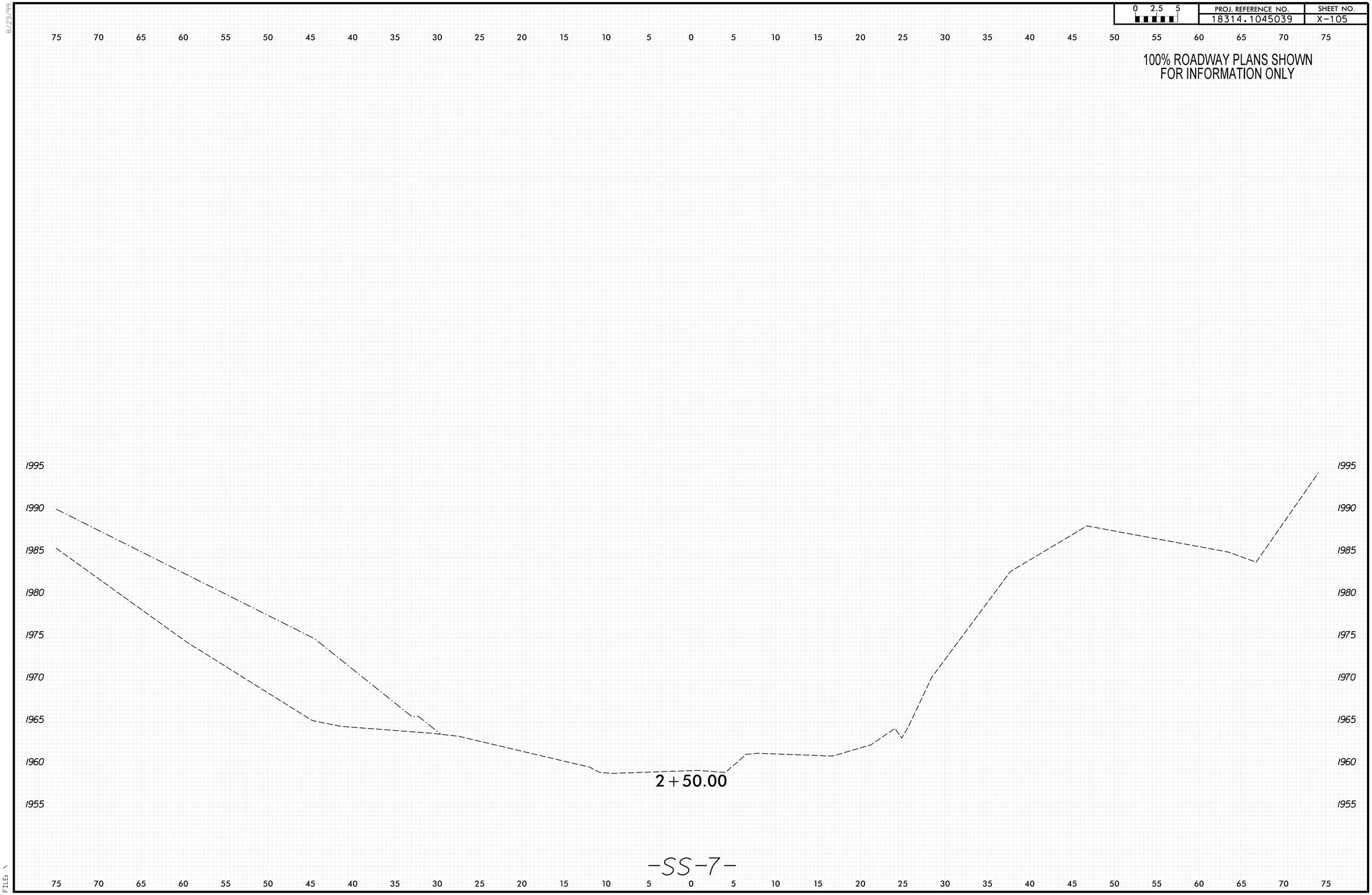


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:56:02 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-105

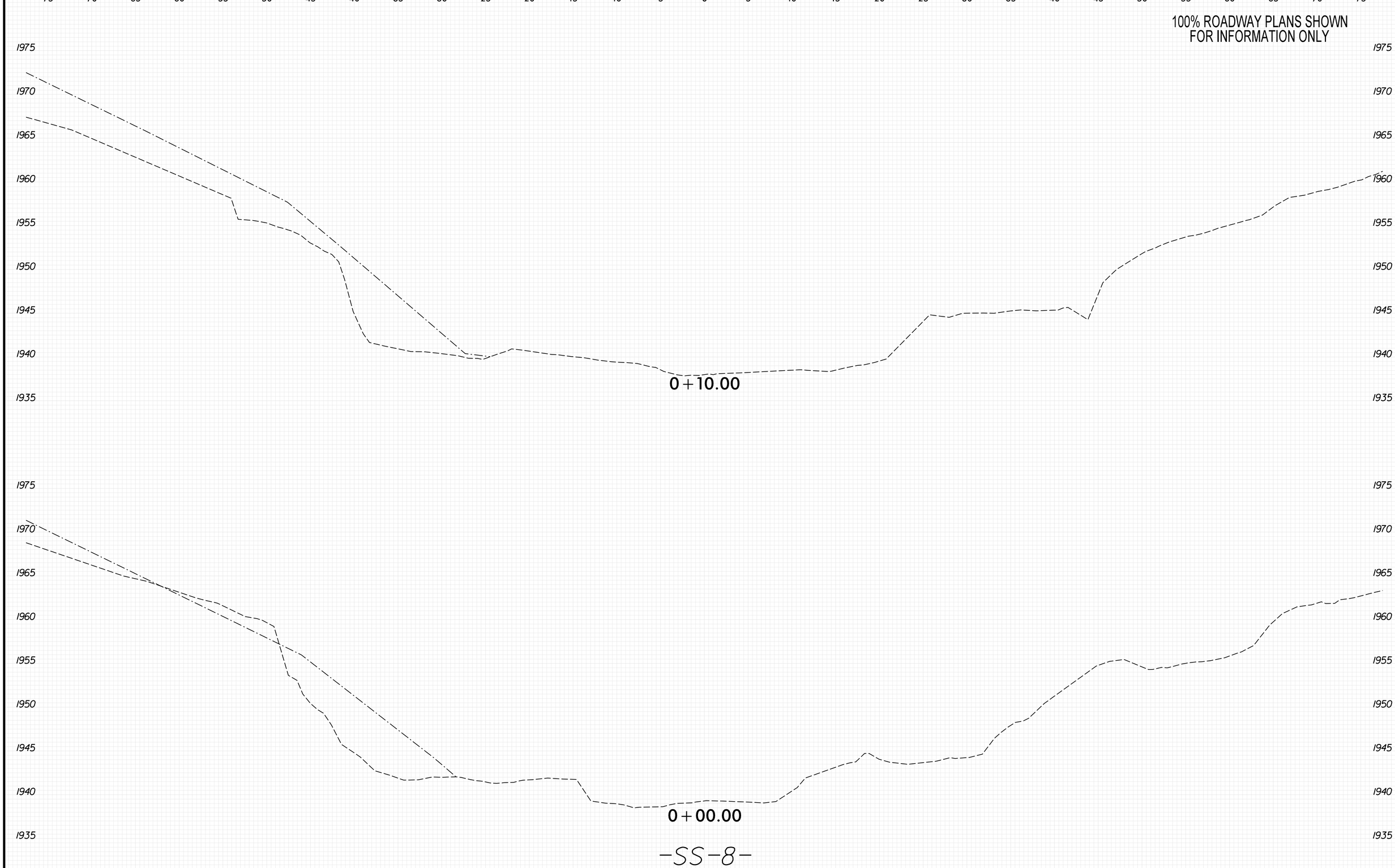
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:56:03 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-106

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

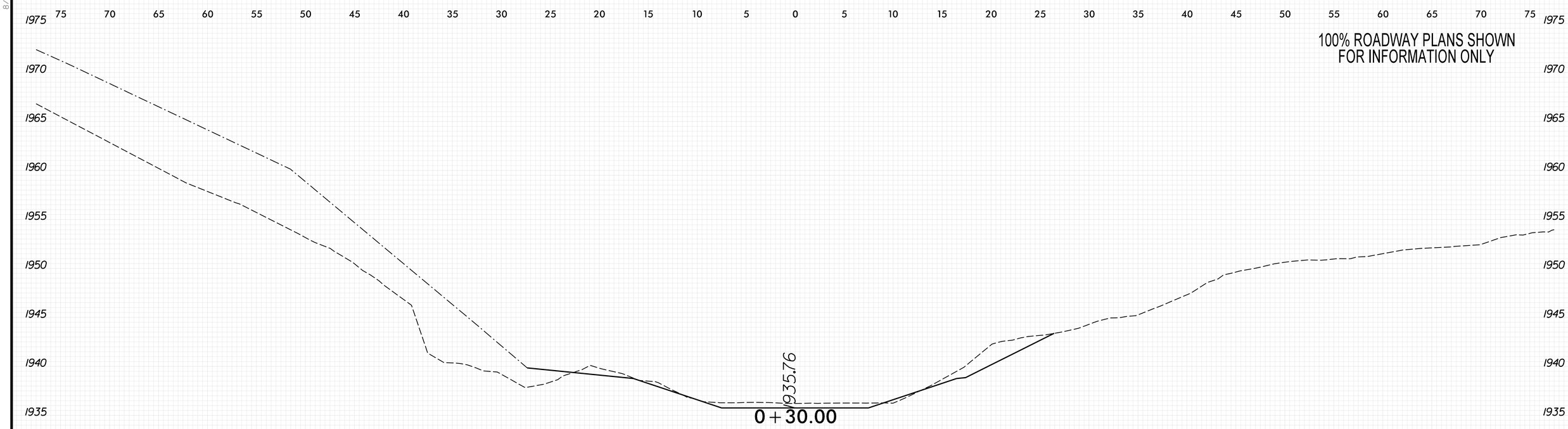


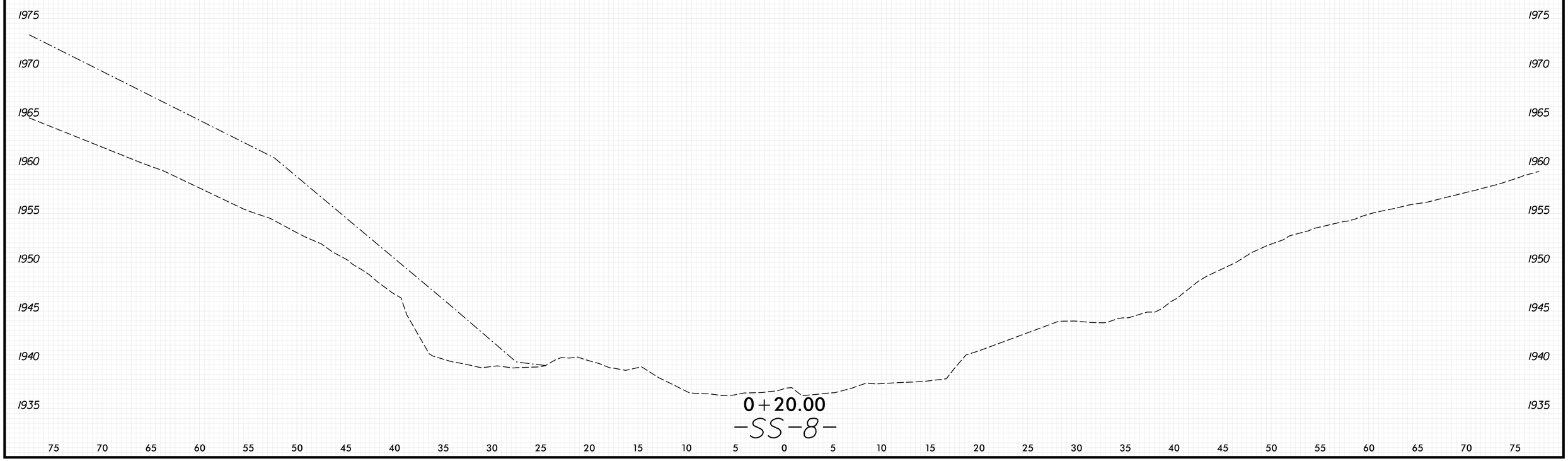
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:56:57 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-107

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



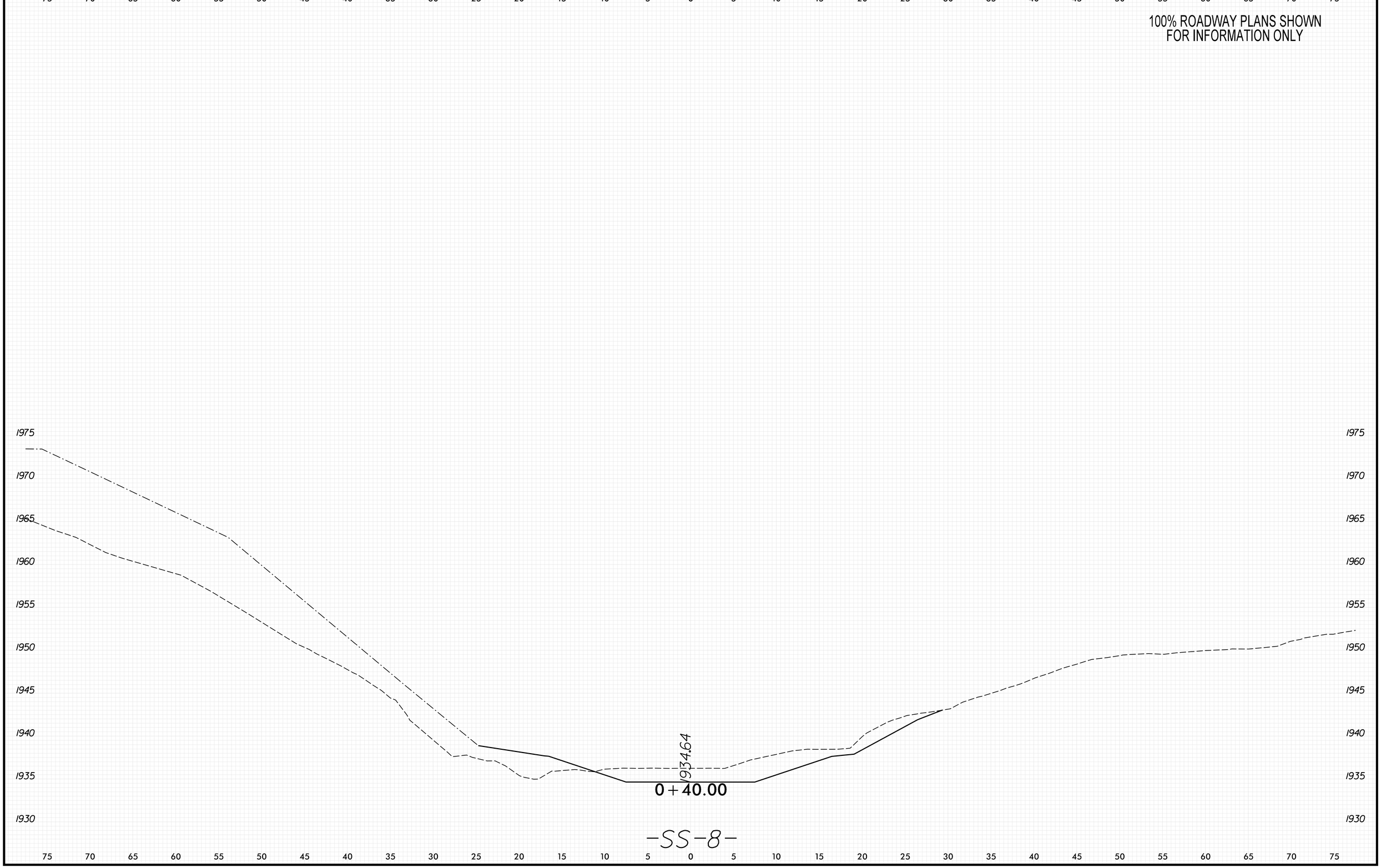


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: xpl_eh_v8.tbl
USER: KCLATTERBU DATE: 5/29/2026 TIME: 8:56:58 AM
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-108

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

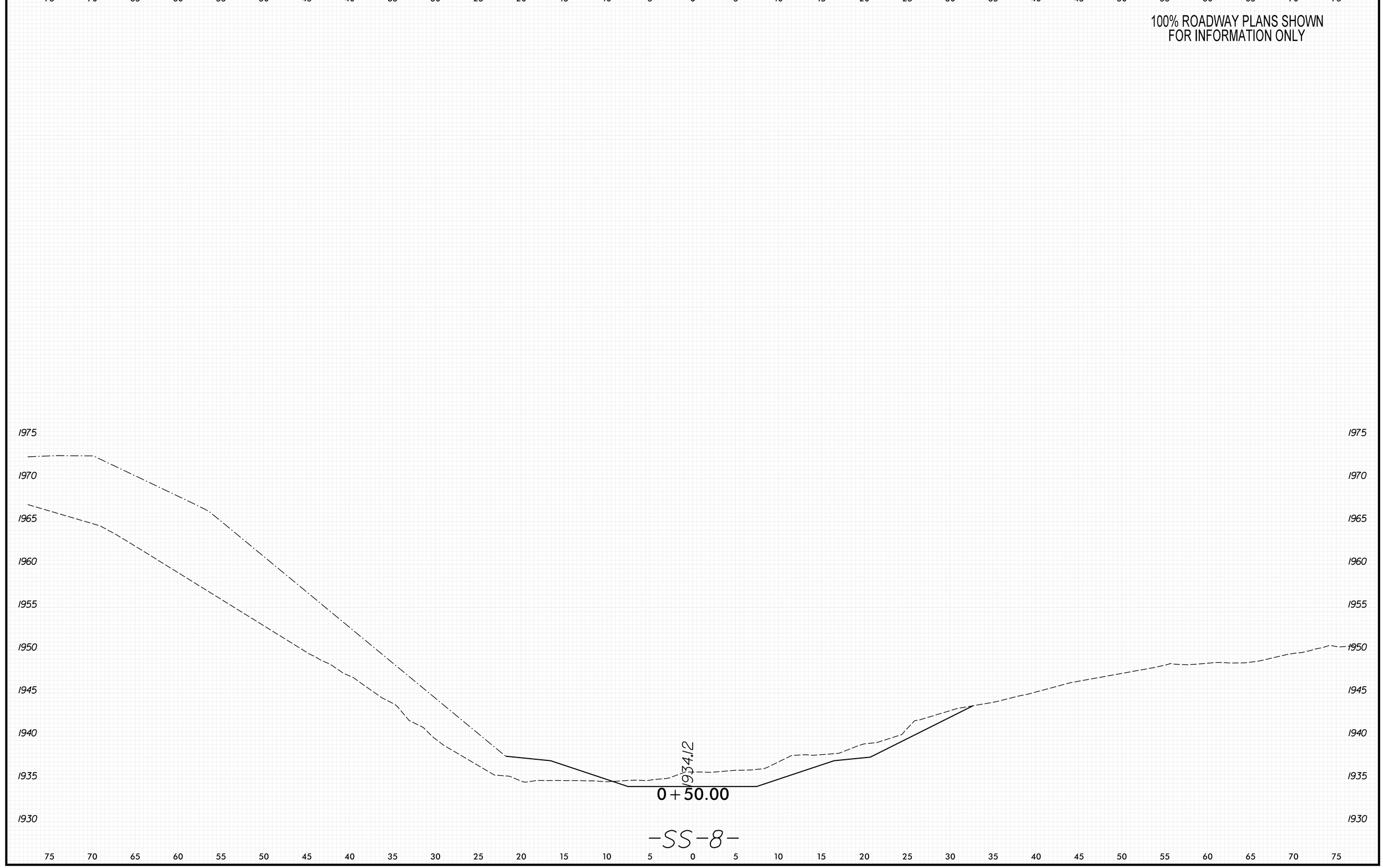
PENTABLE: xpl.eh_v8.tbl
TIME: 8:57:00 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-109

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

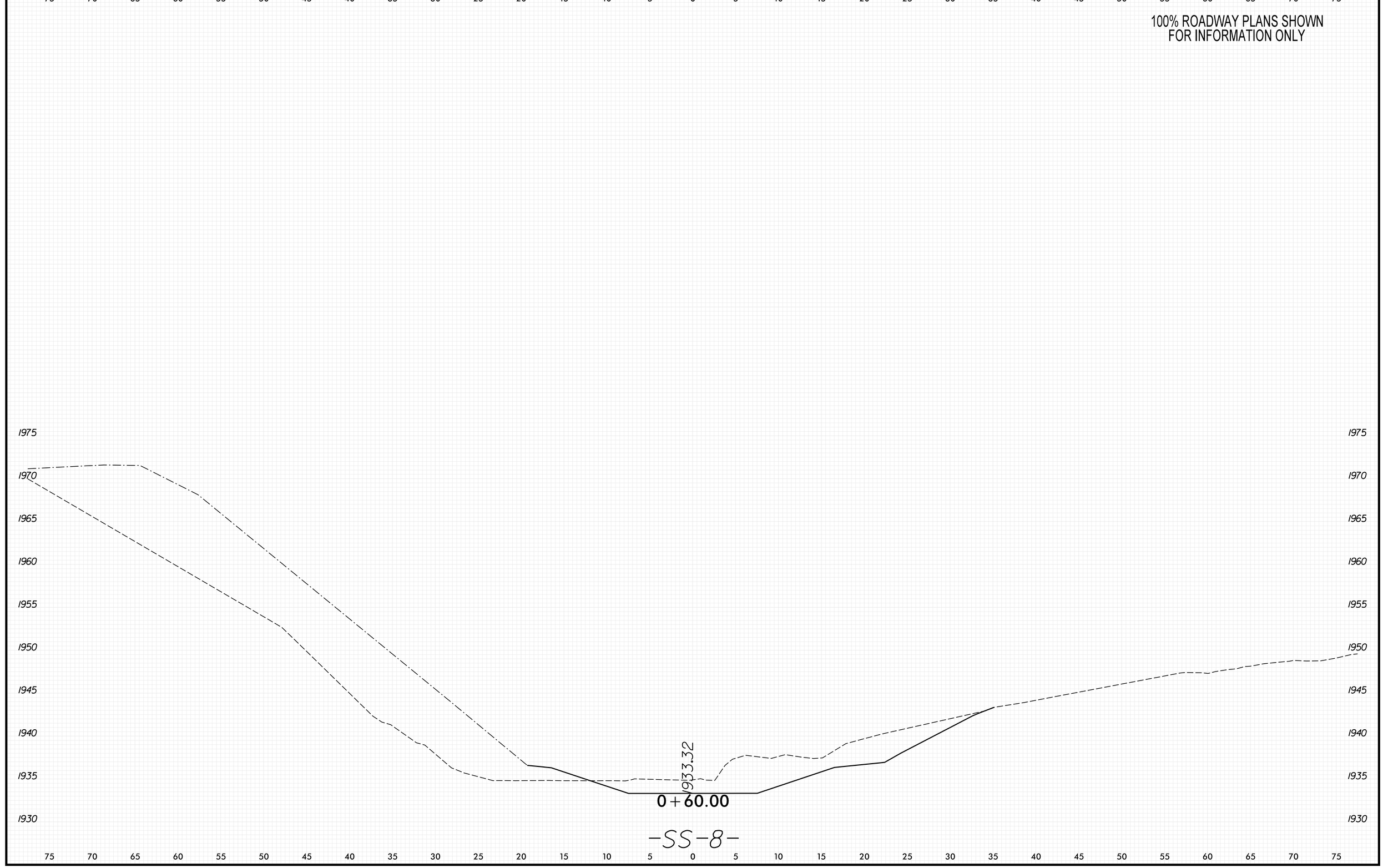


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:01 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-110

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:03 AM

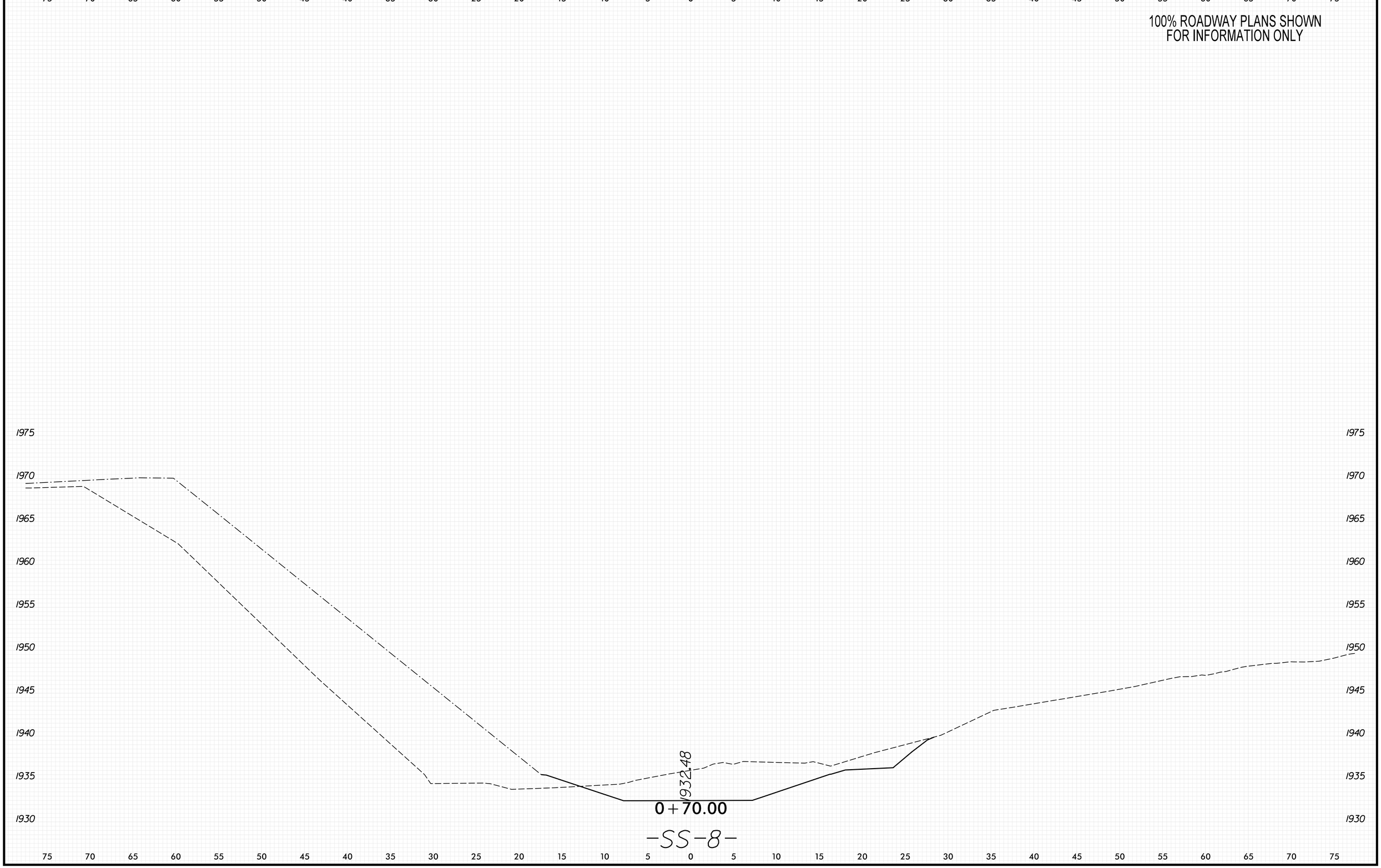
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-111

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

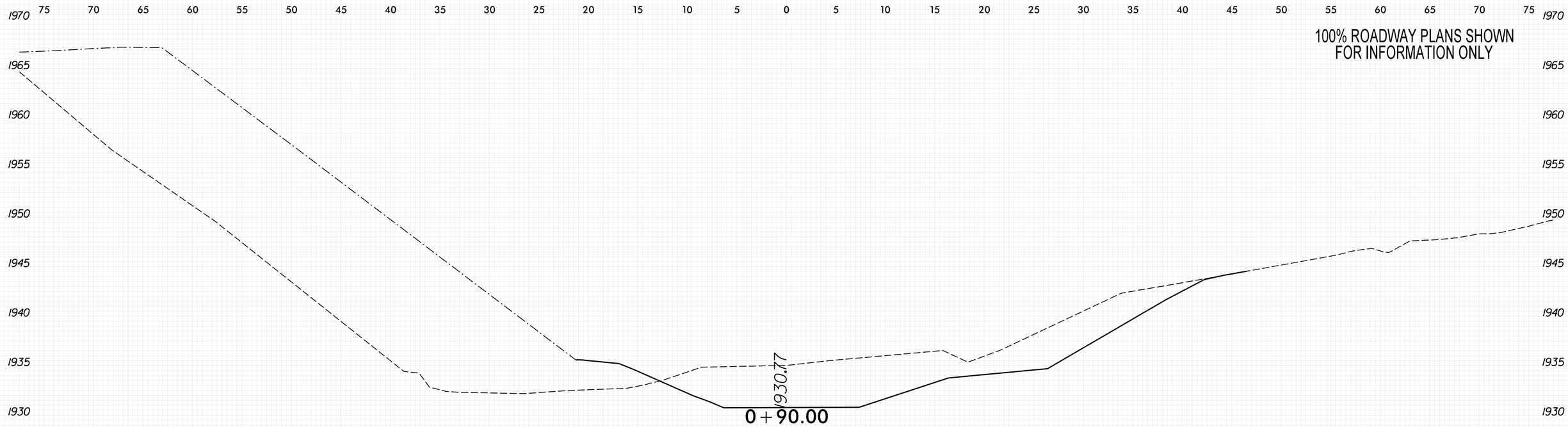


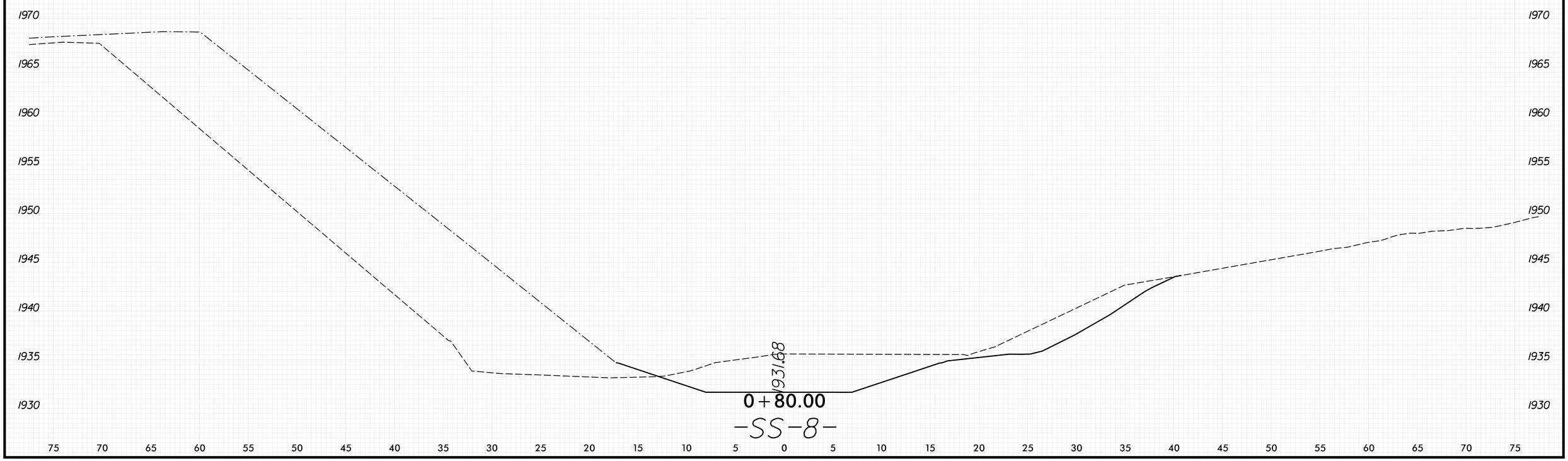
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:05 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-112

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



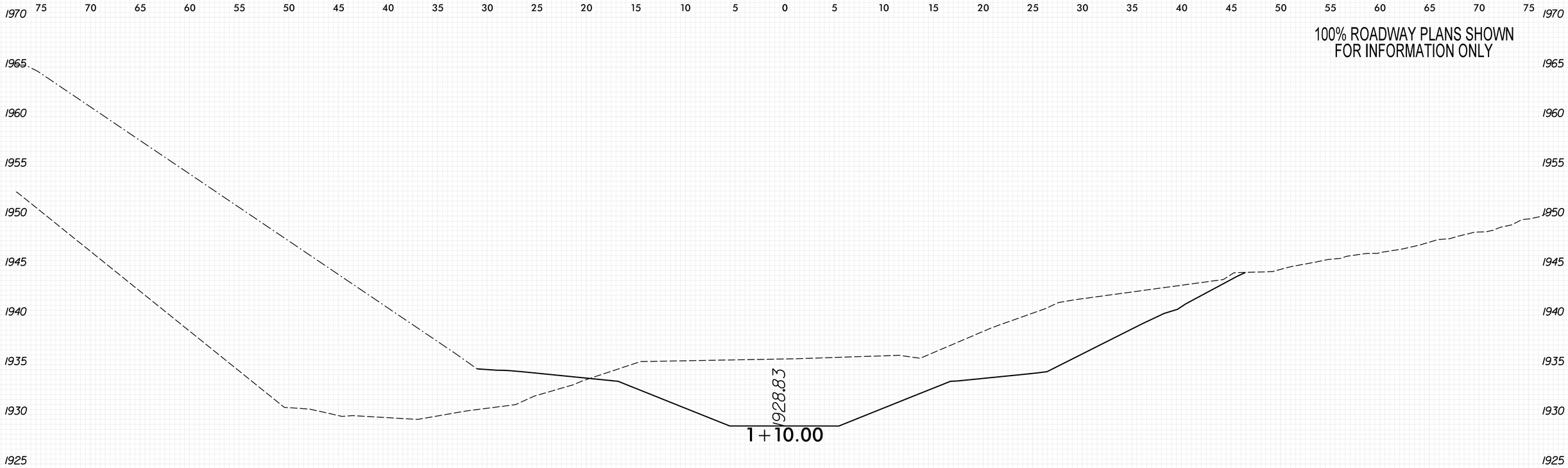


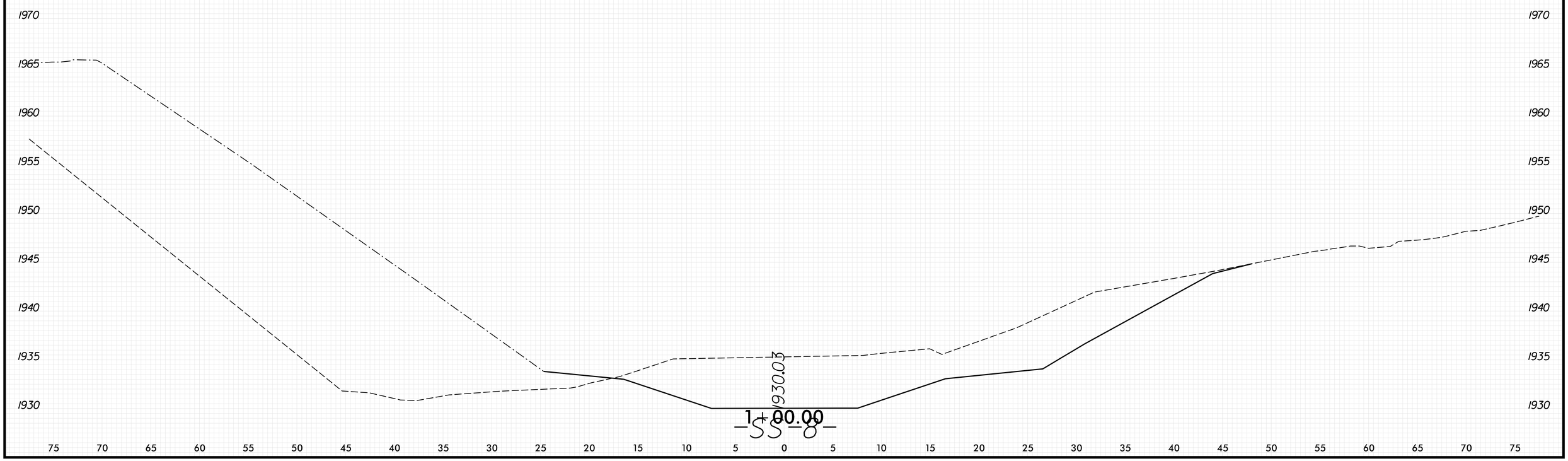
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:07 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-113

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

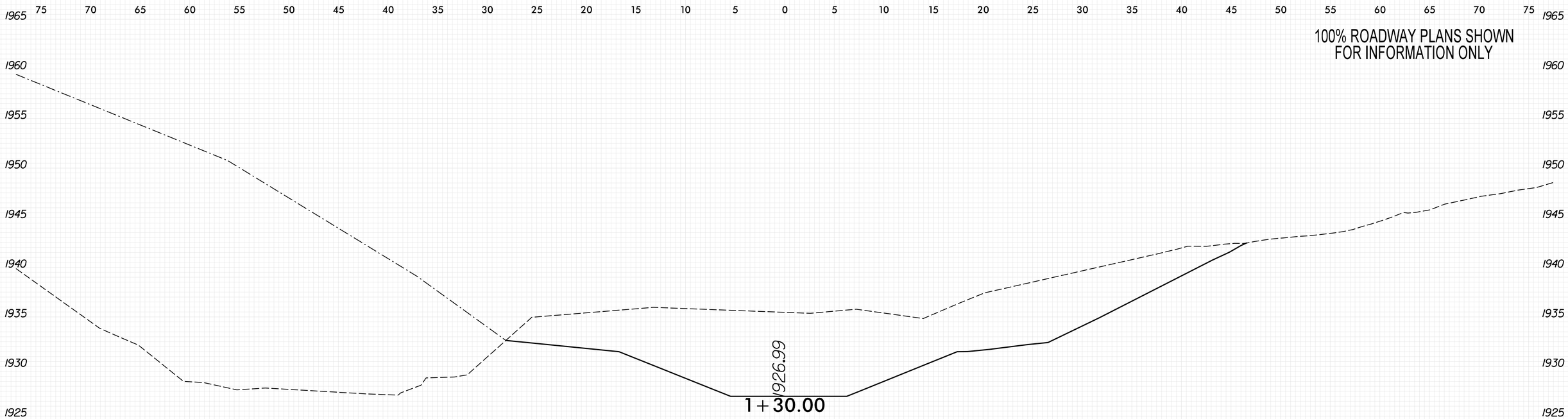


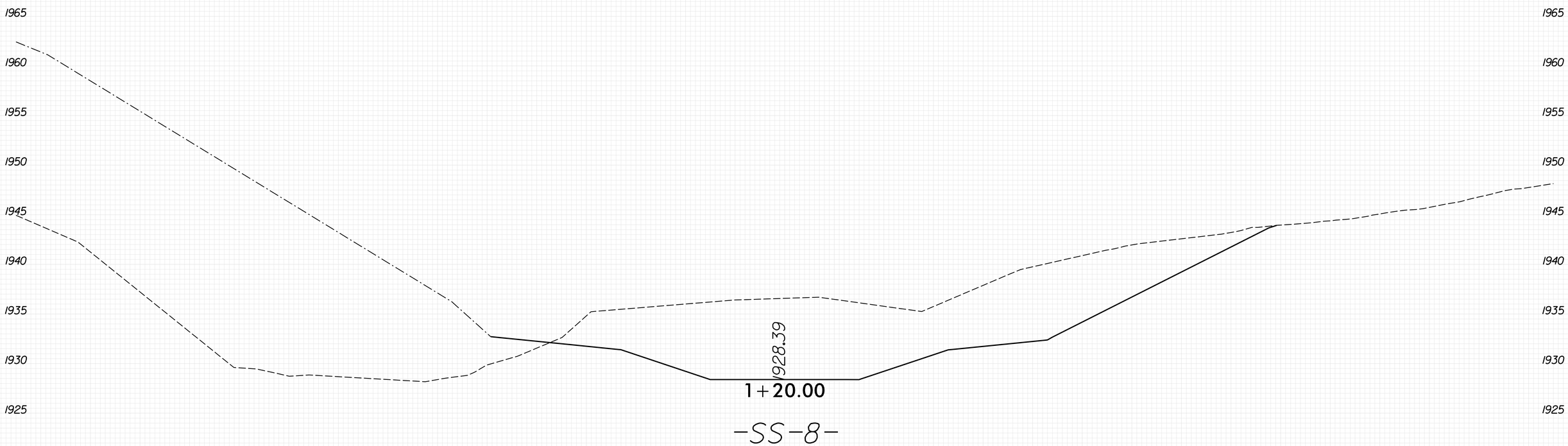


8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:08 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-114

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

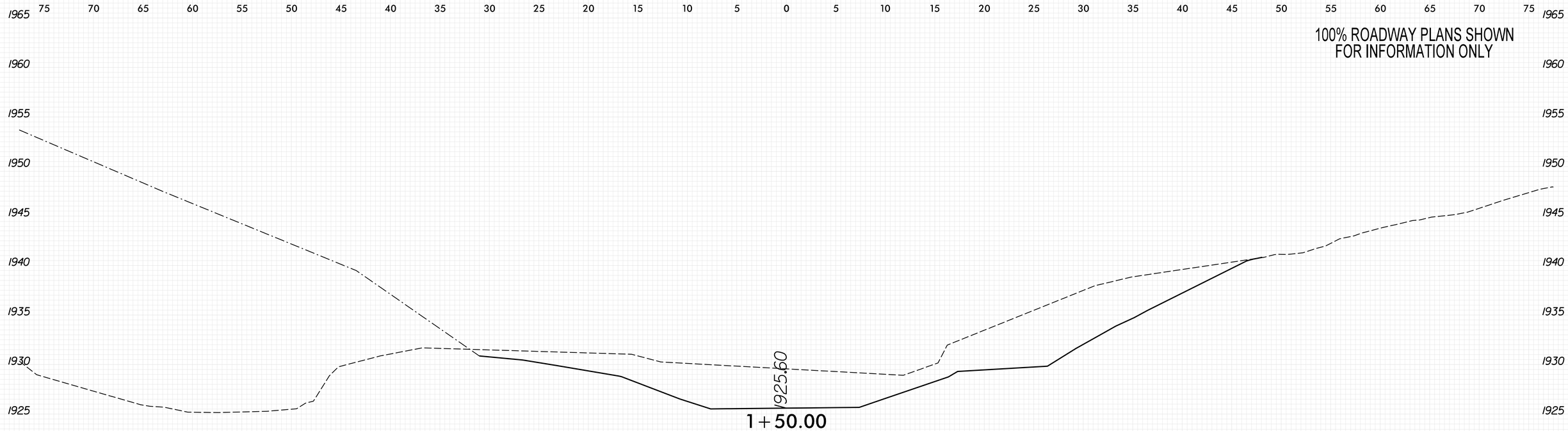


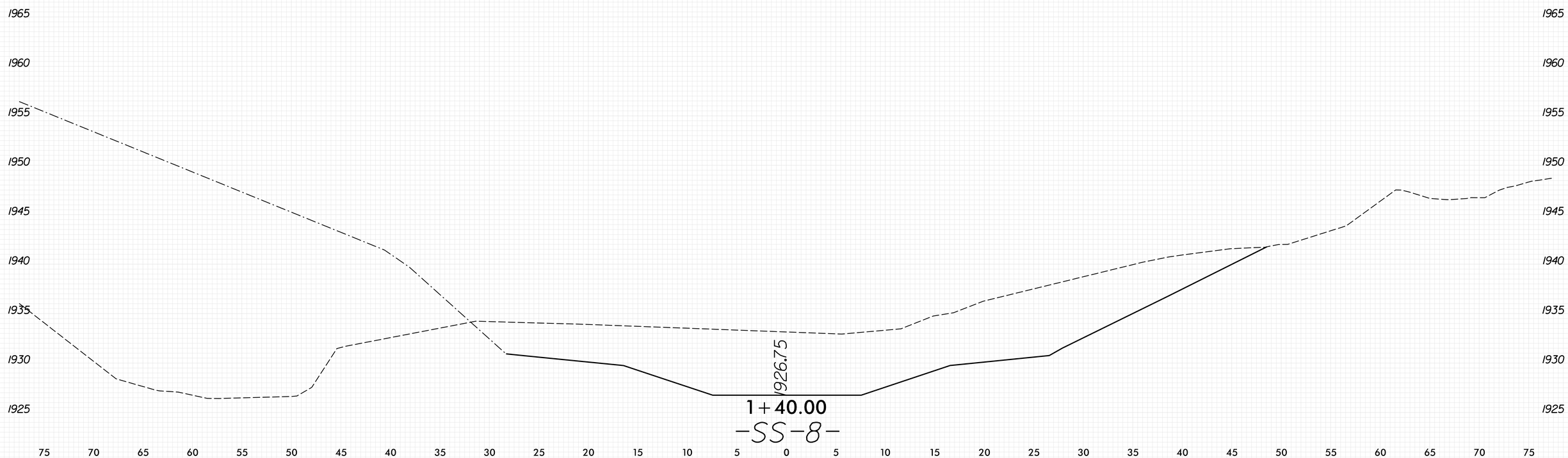


8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:10 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-115

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



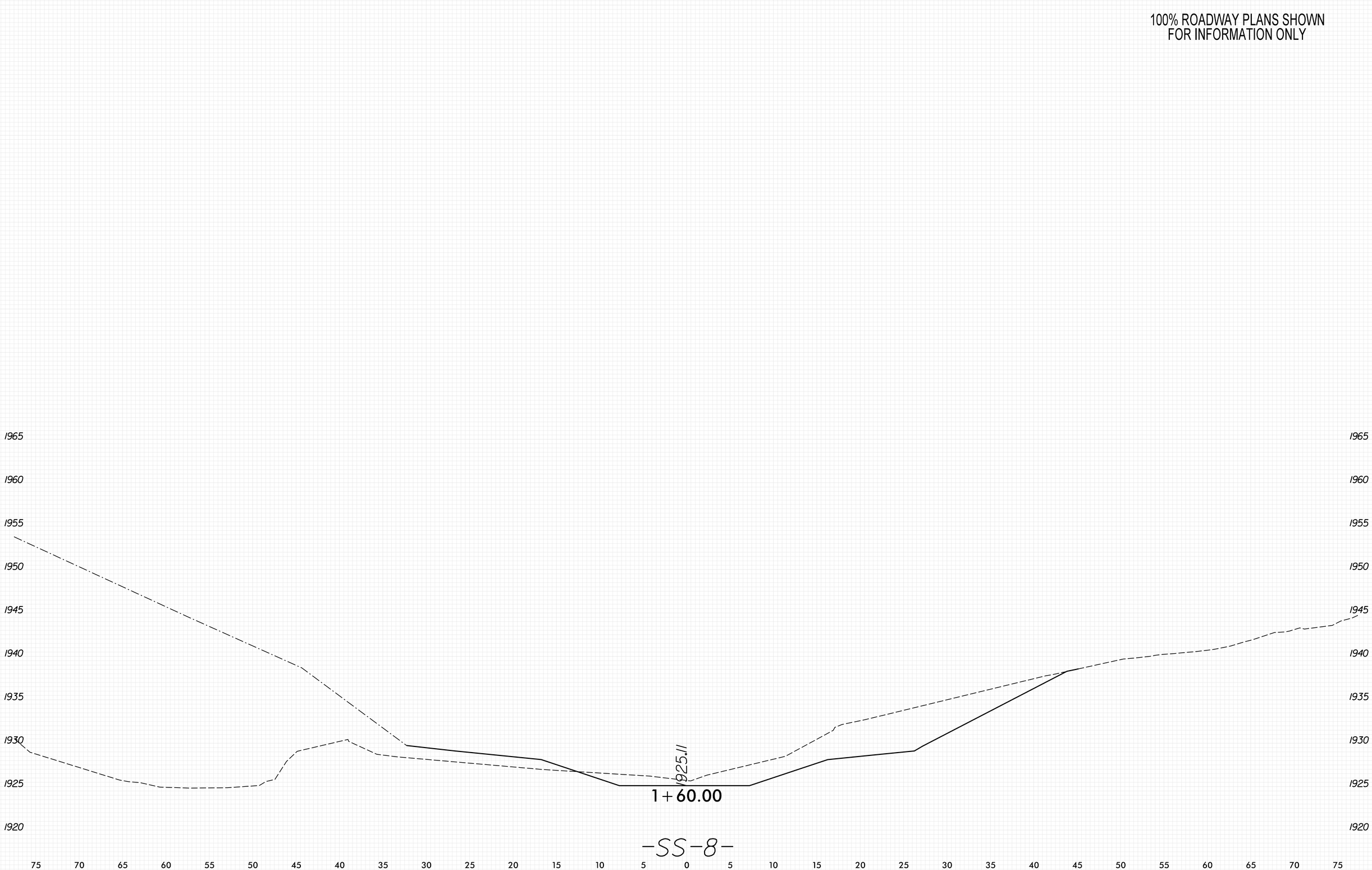


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:11 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-116

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

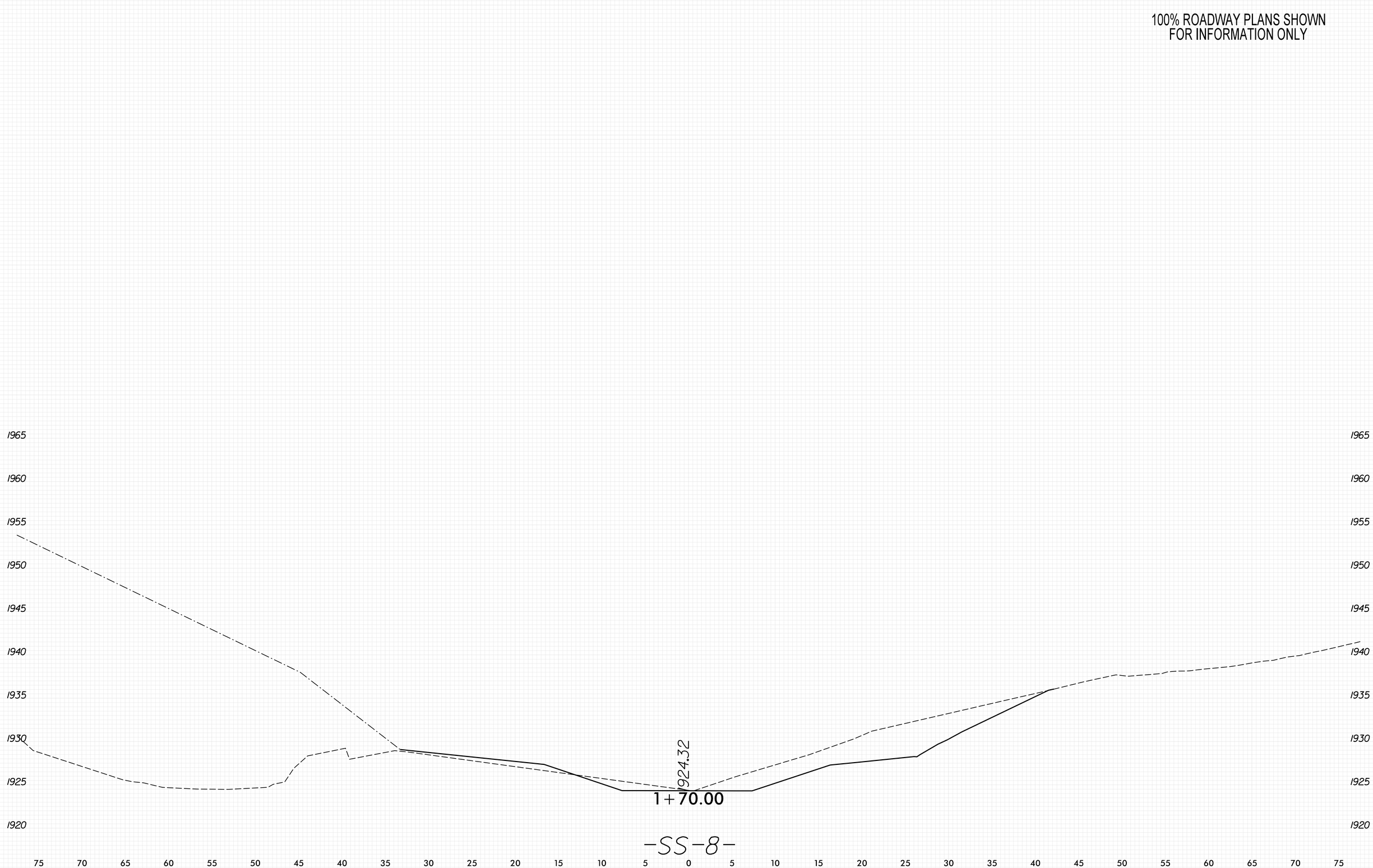


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:13 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-117

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

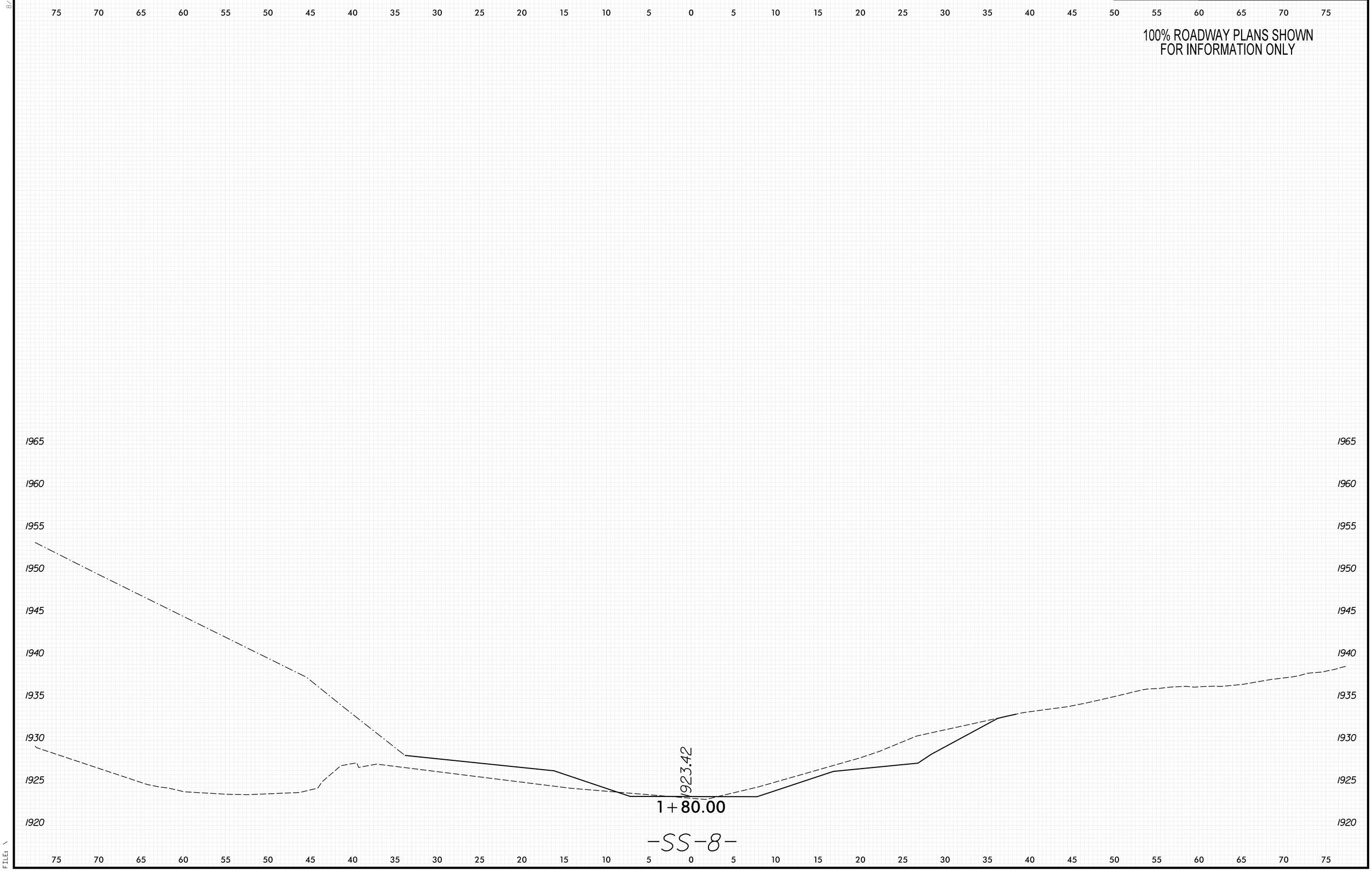
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:14 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-118

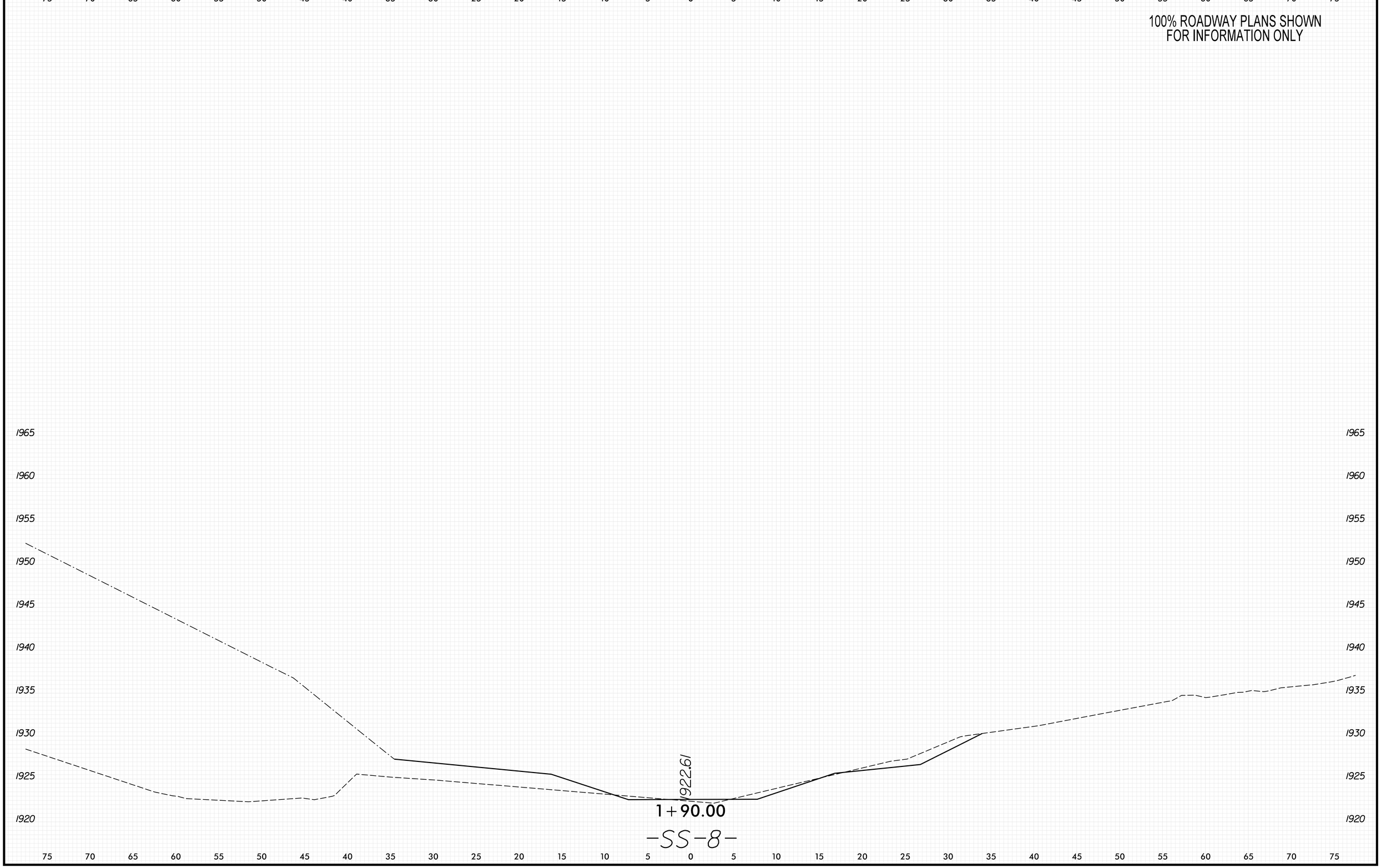
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:16 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-119

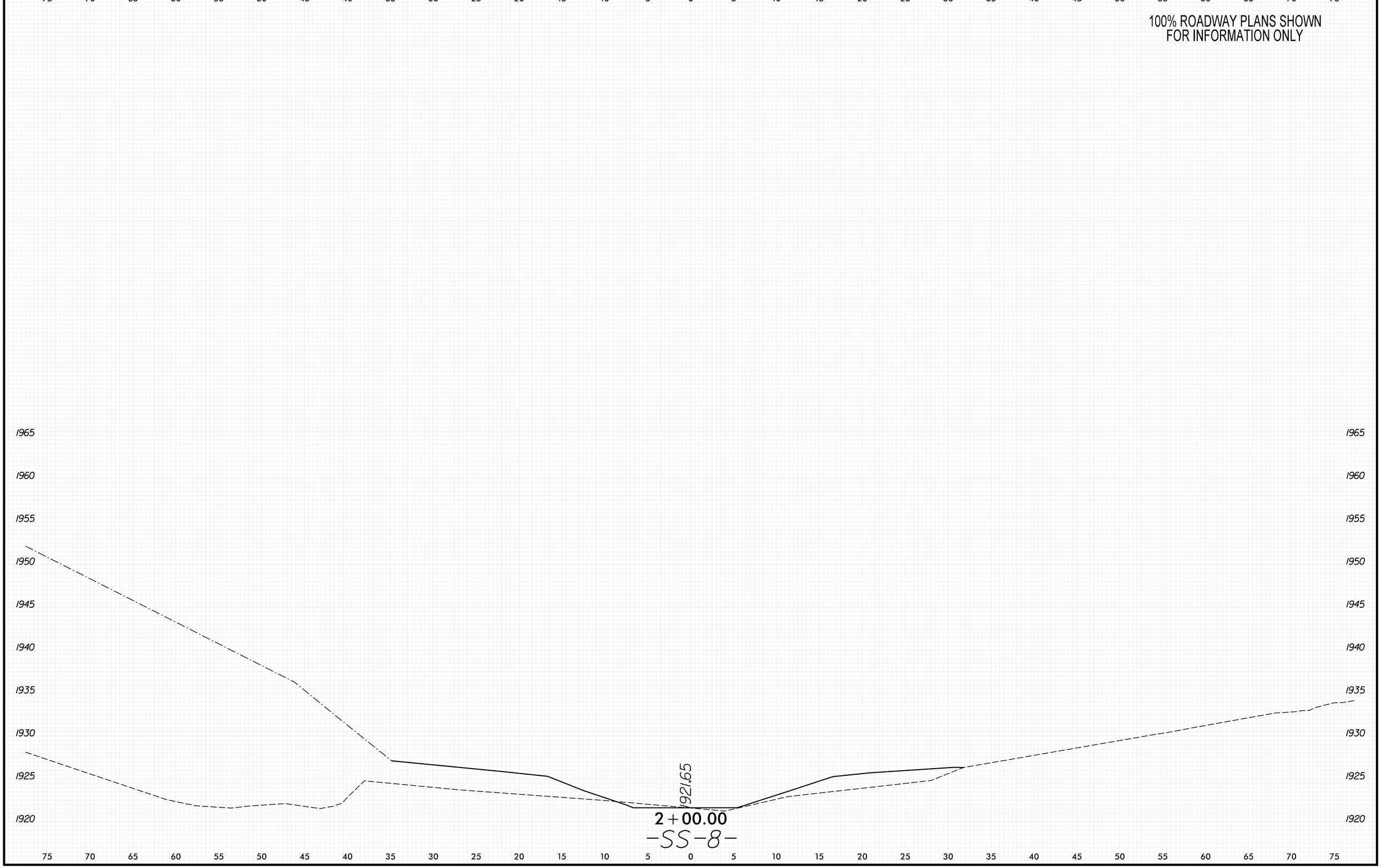
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:17 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-120

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

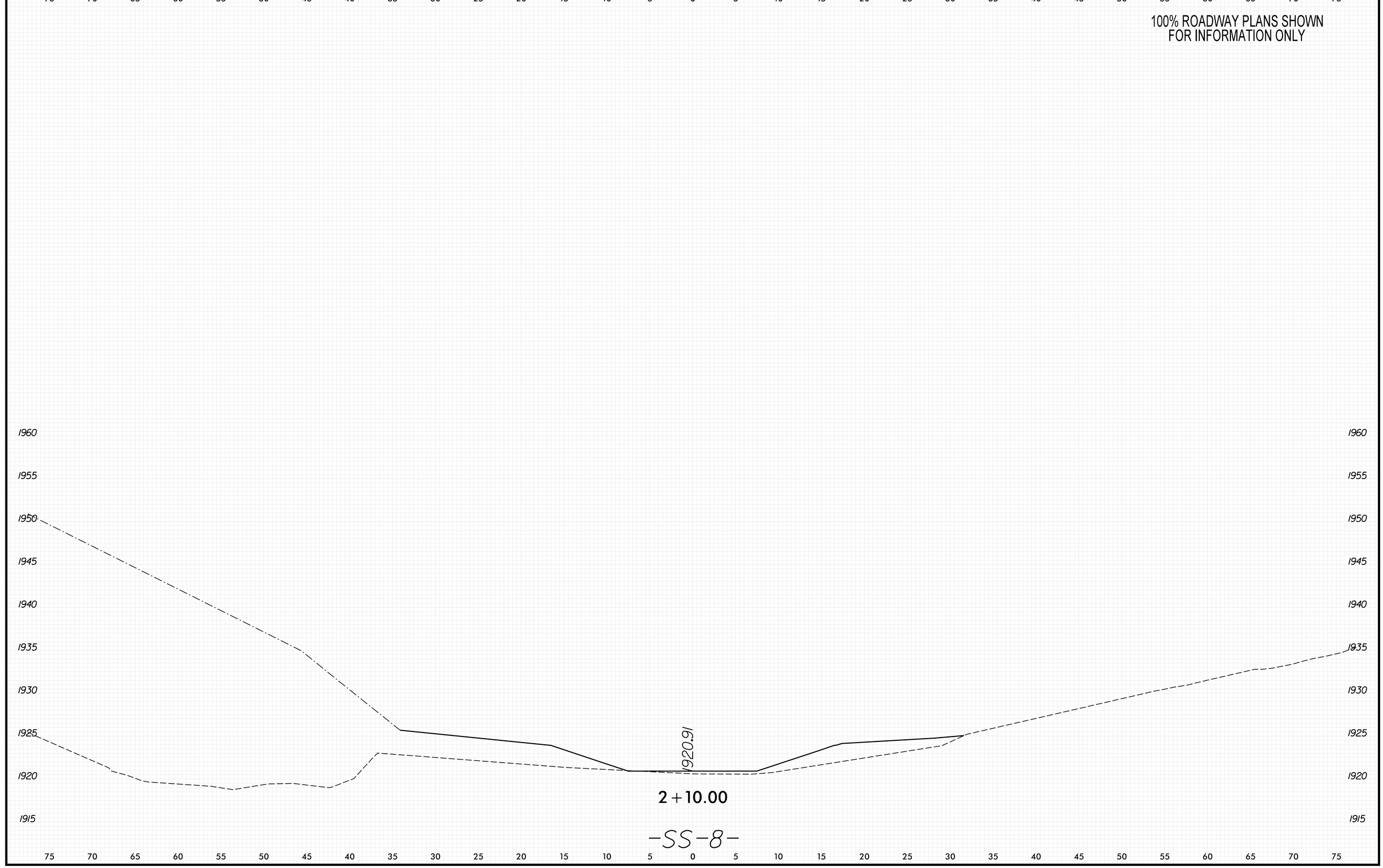


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:19 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-121

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

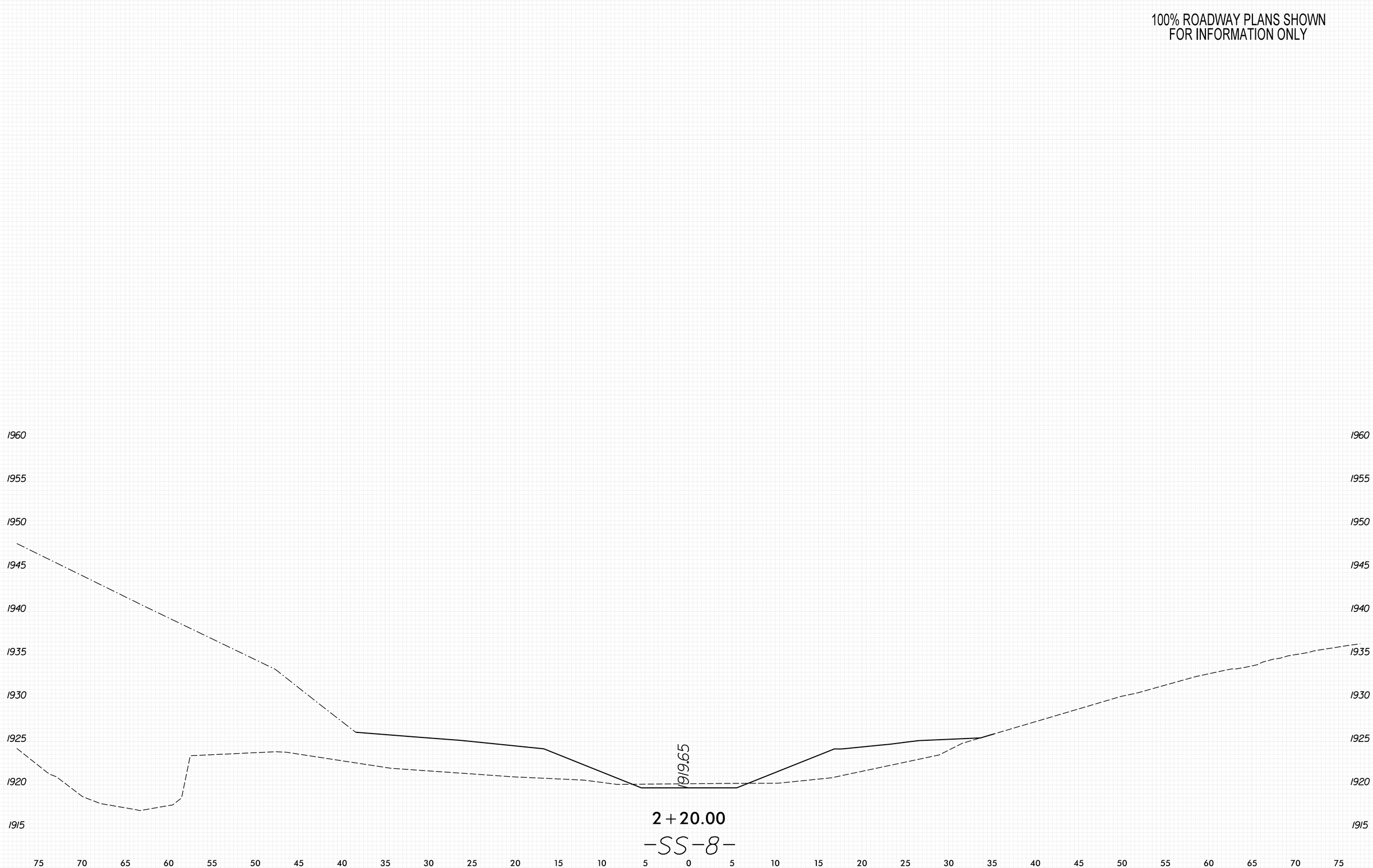


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:57:20 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-122

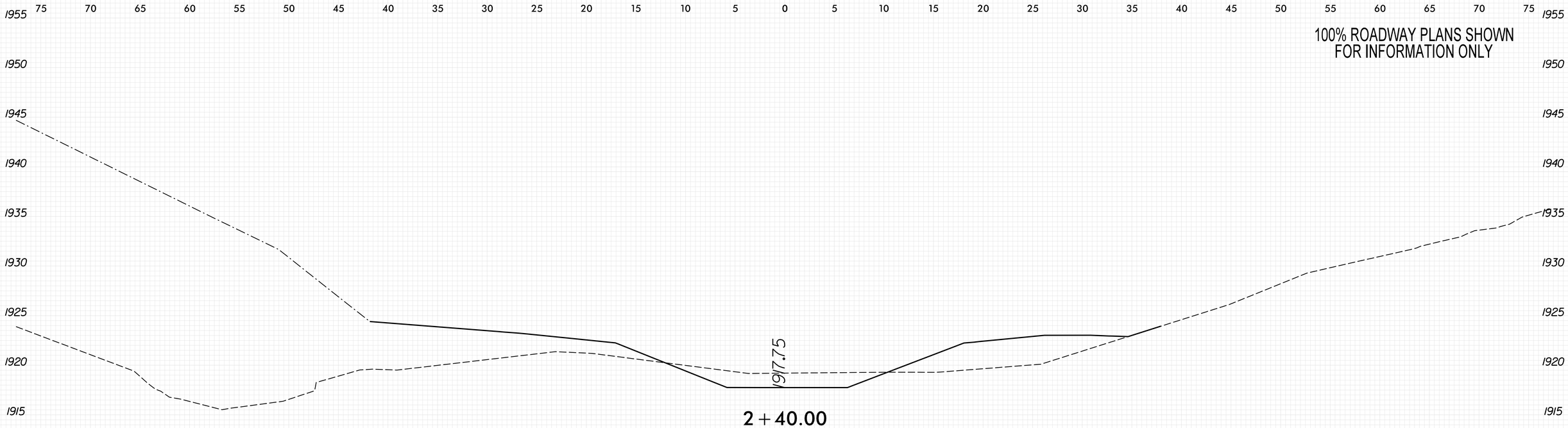
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

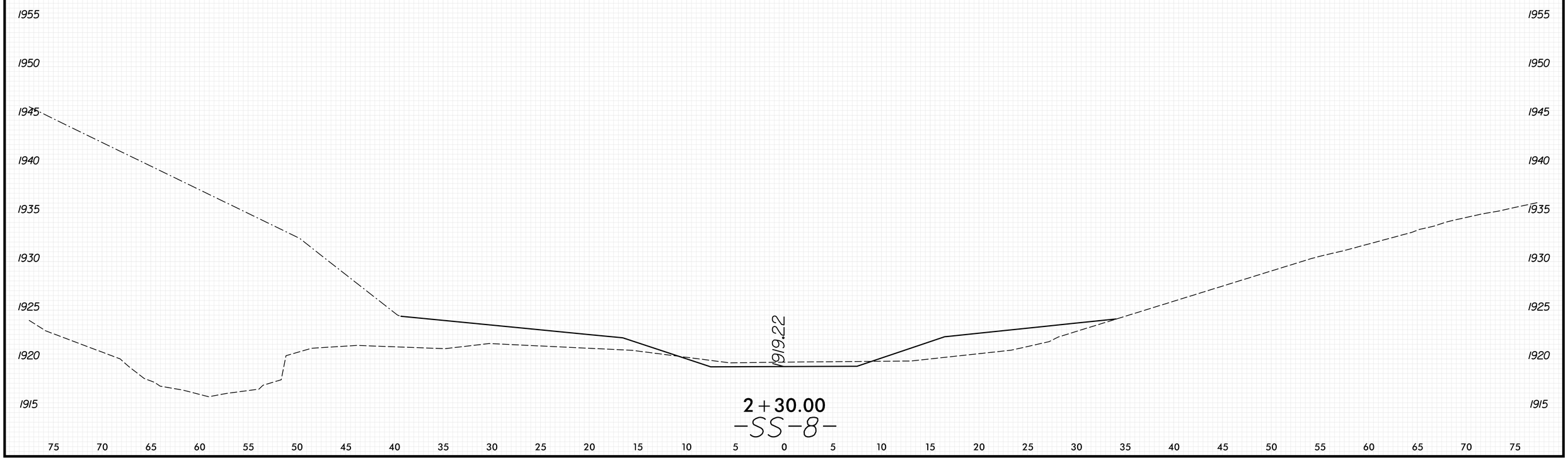


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:23 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-123

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





8/23/99

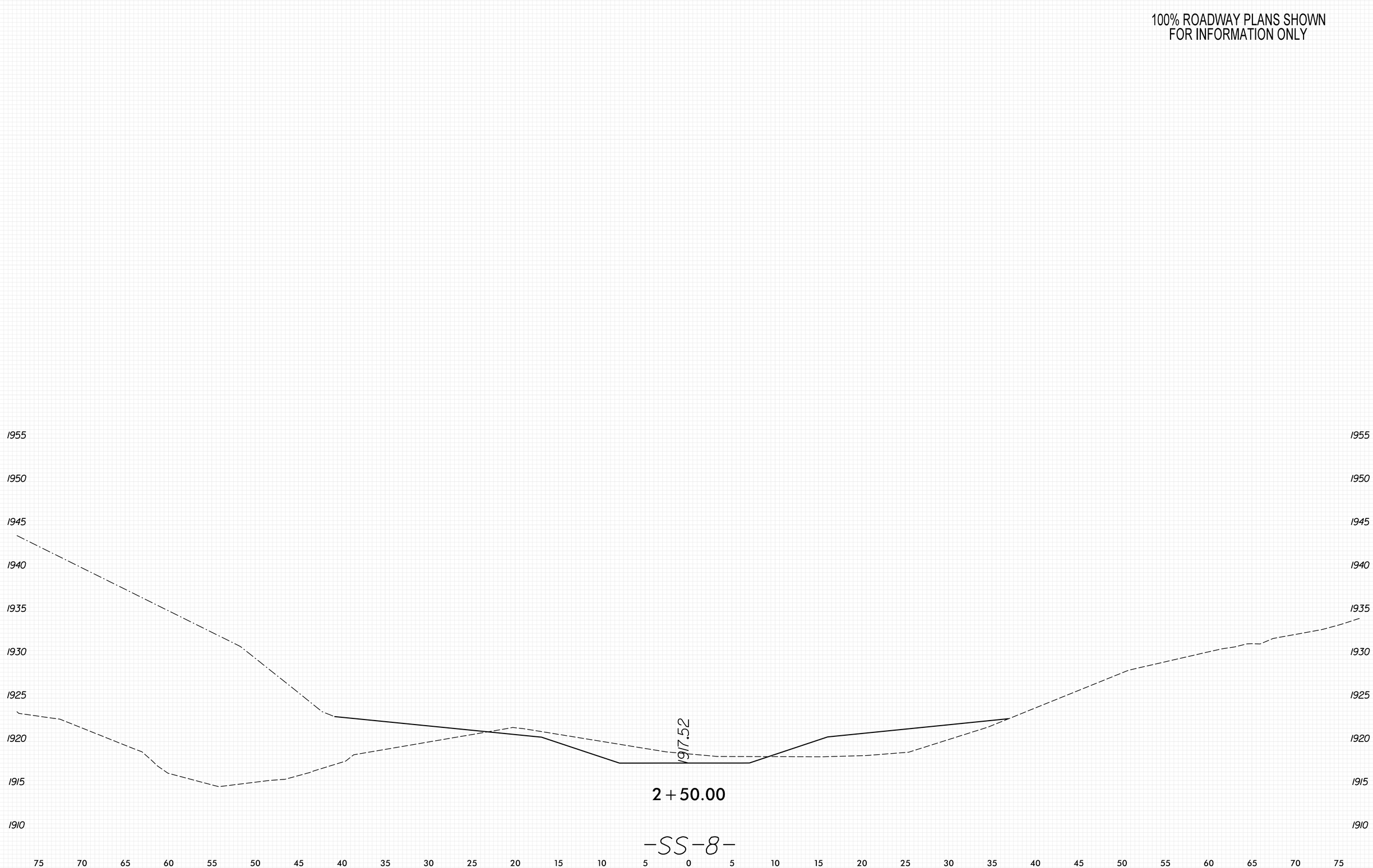
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:24 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-124

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

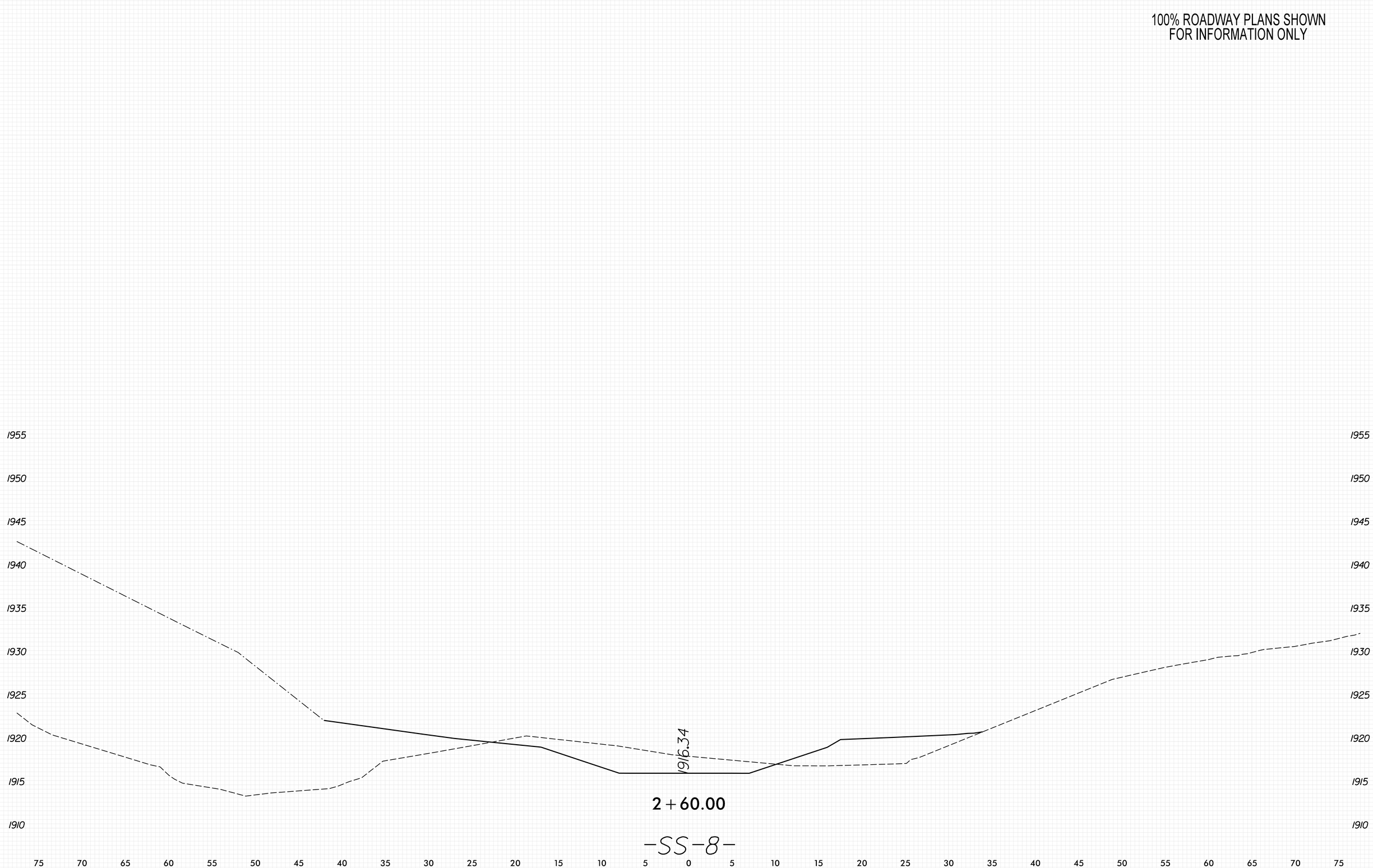


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:26 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-125

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

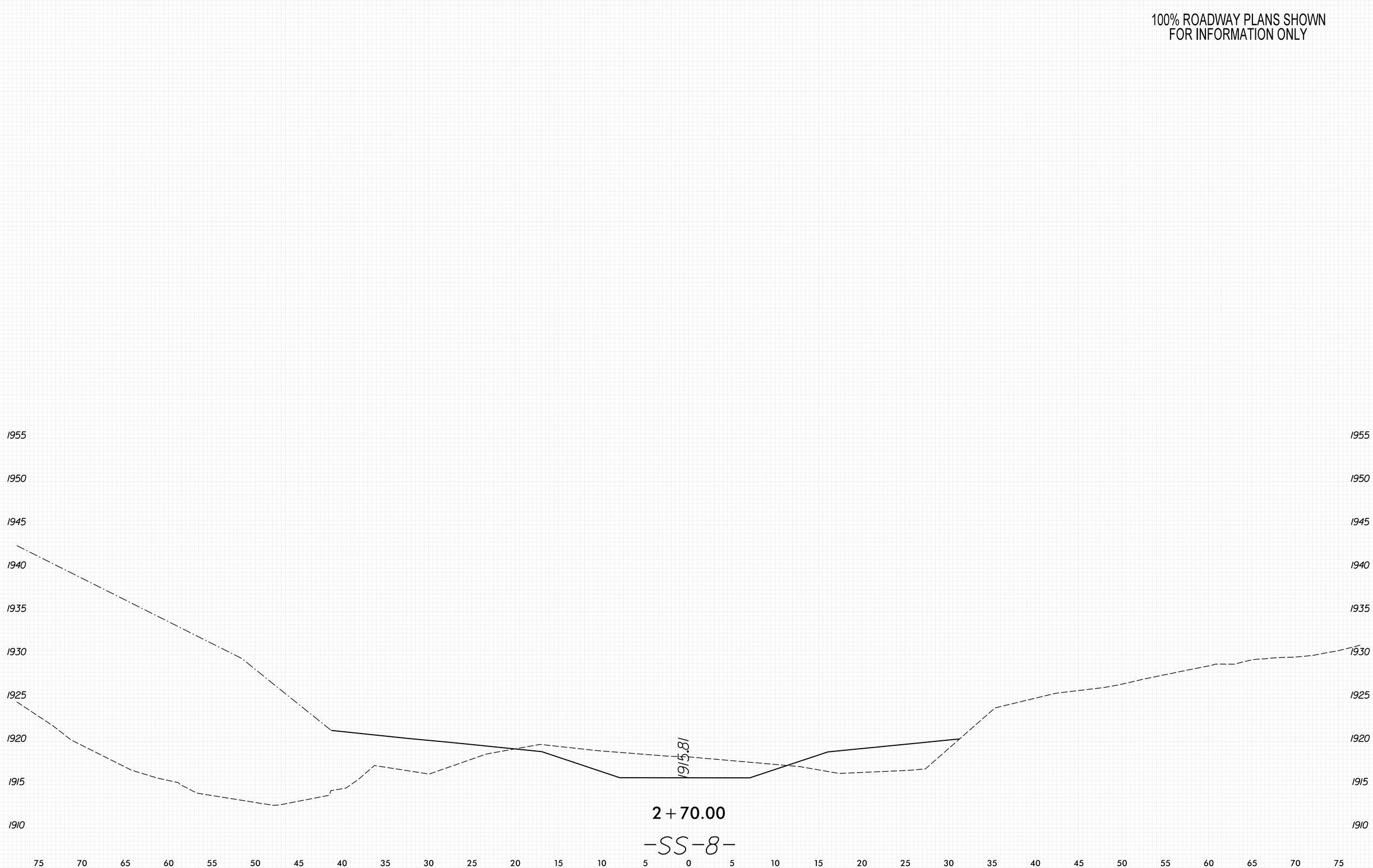


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:28 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-126

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:29 AM
DATE: 5/29/2026
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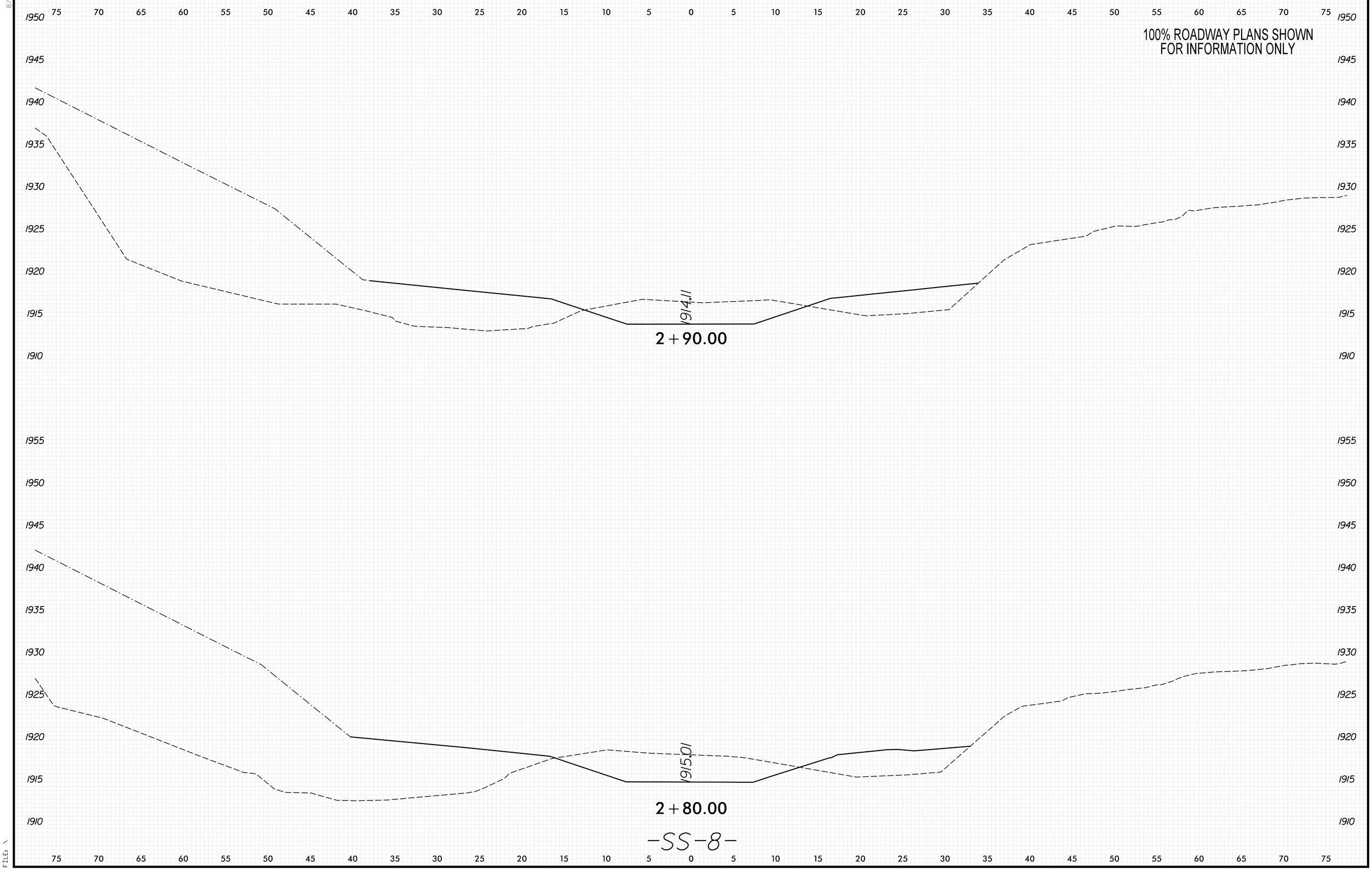
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-127

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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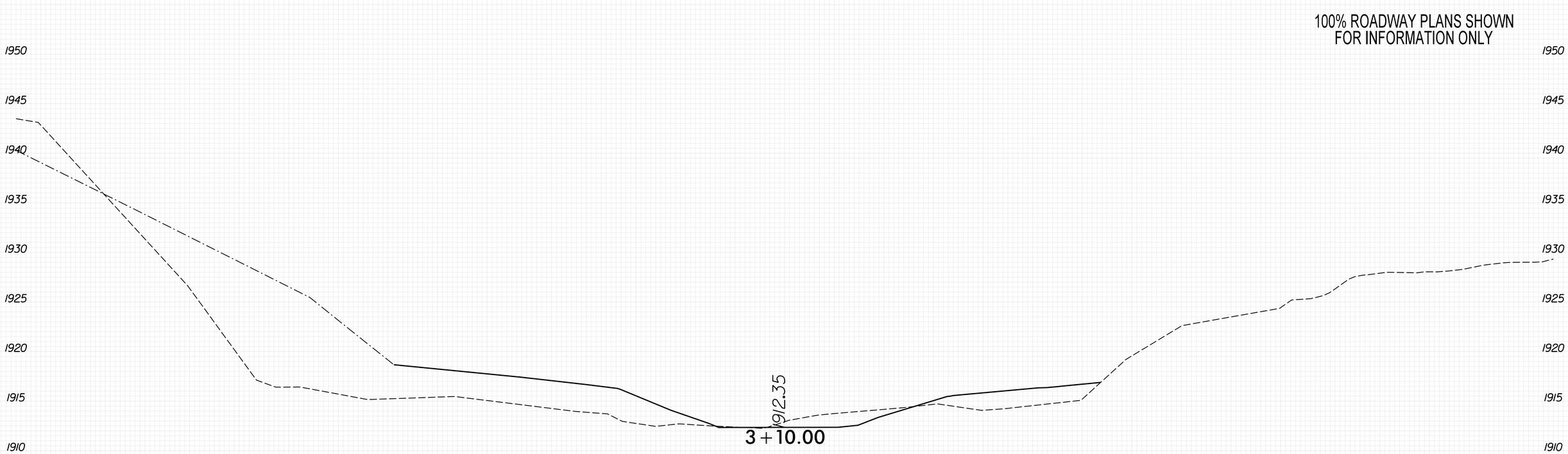
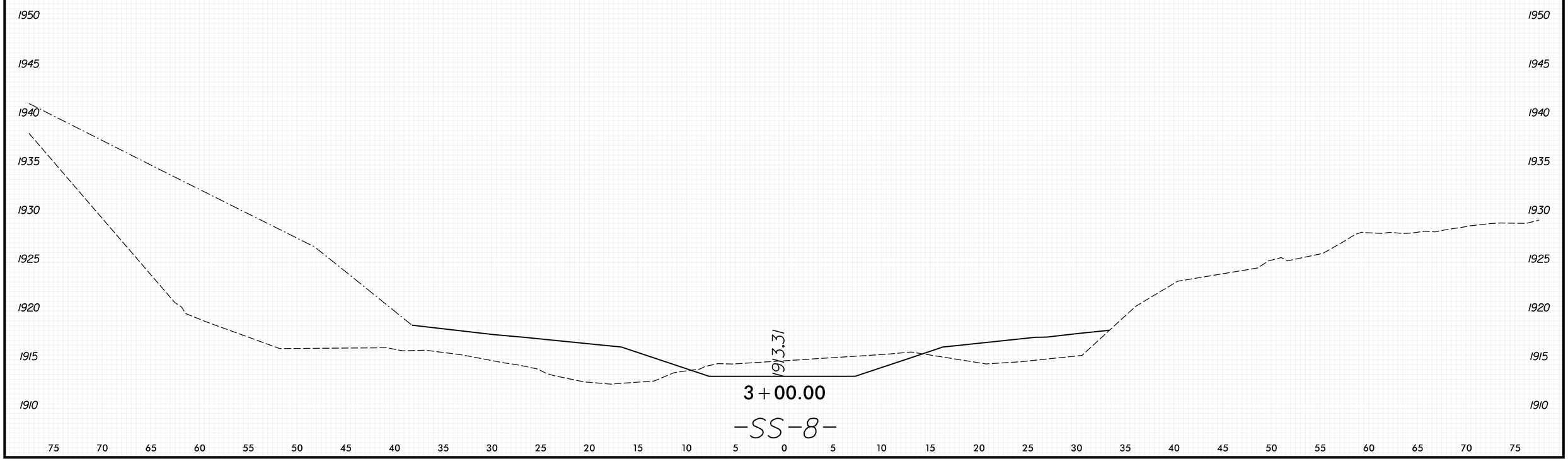
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-128

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





8/23/99

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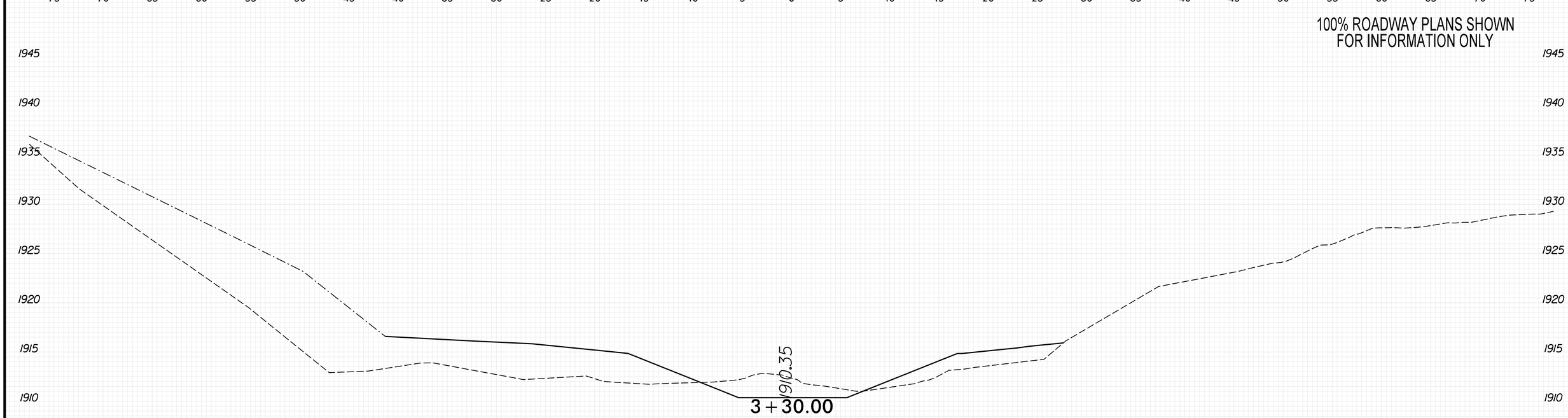
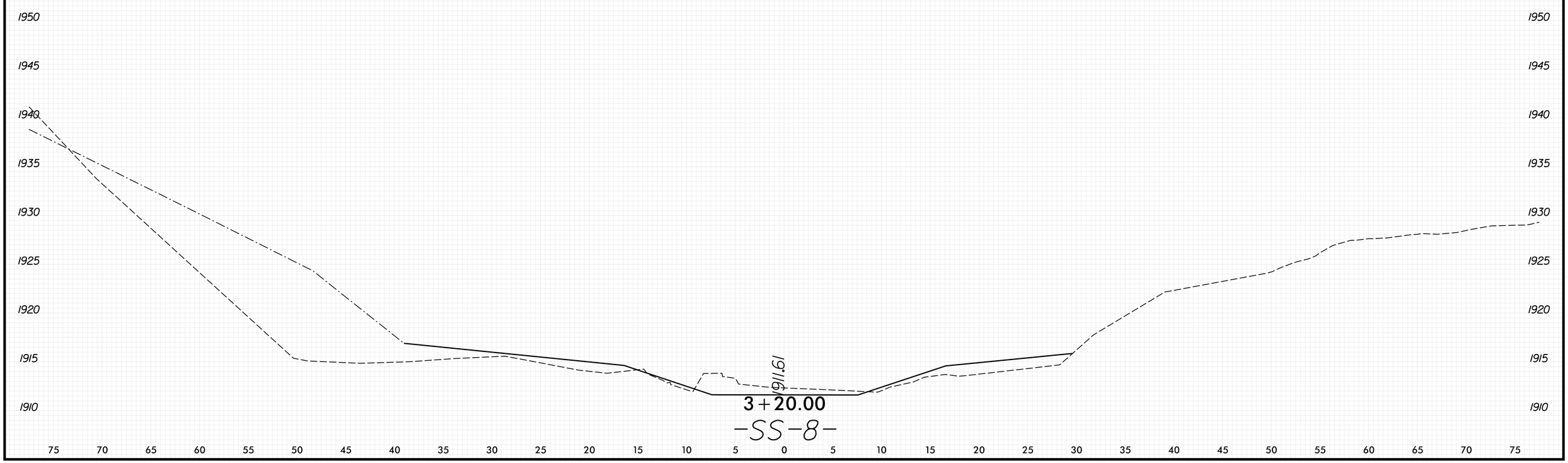
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-129

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





8/23/99

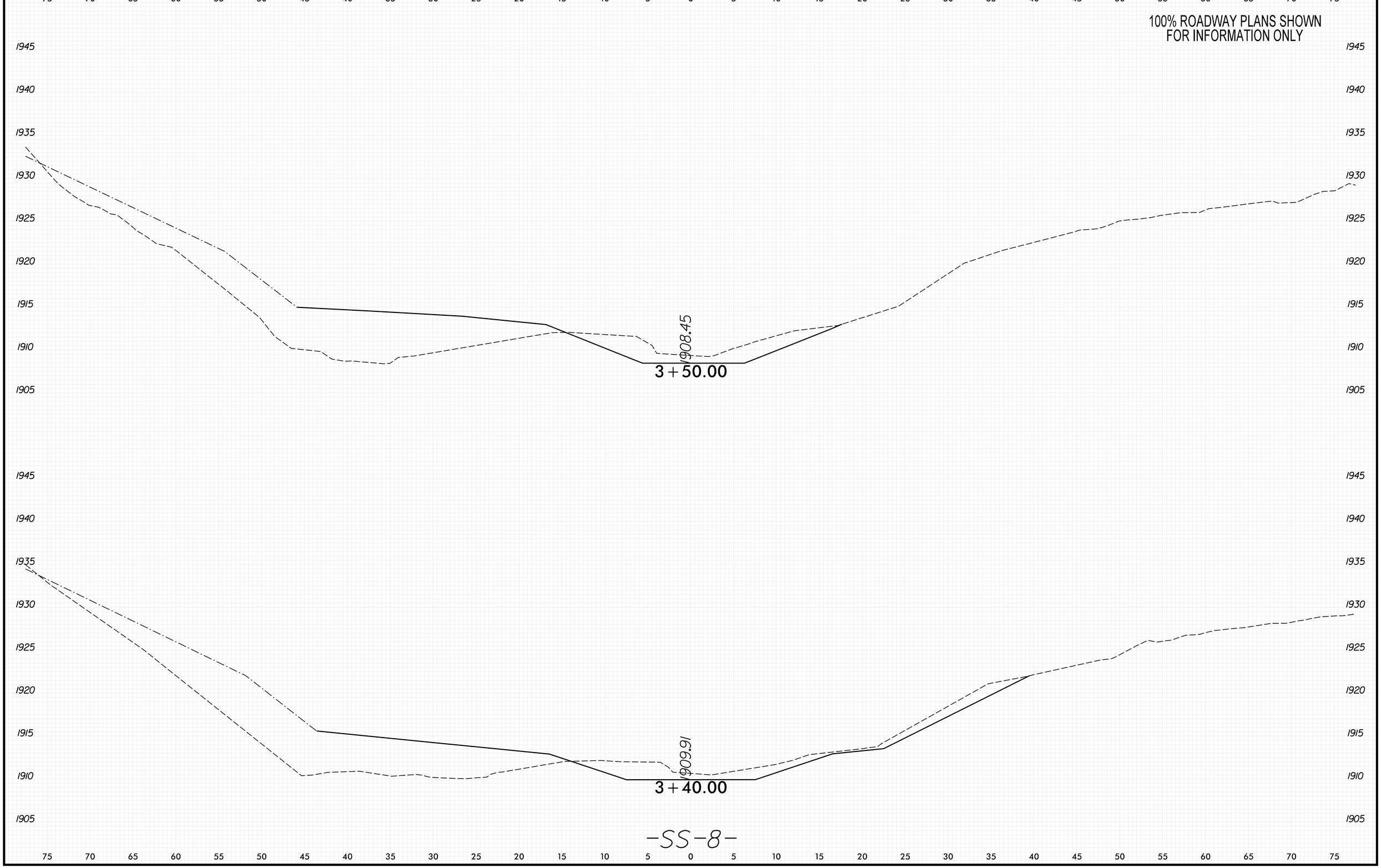
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:34 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-130

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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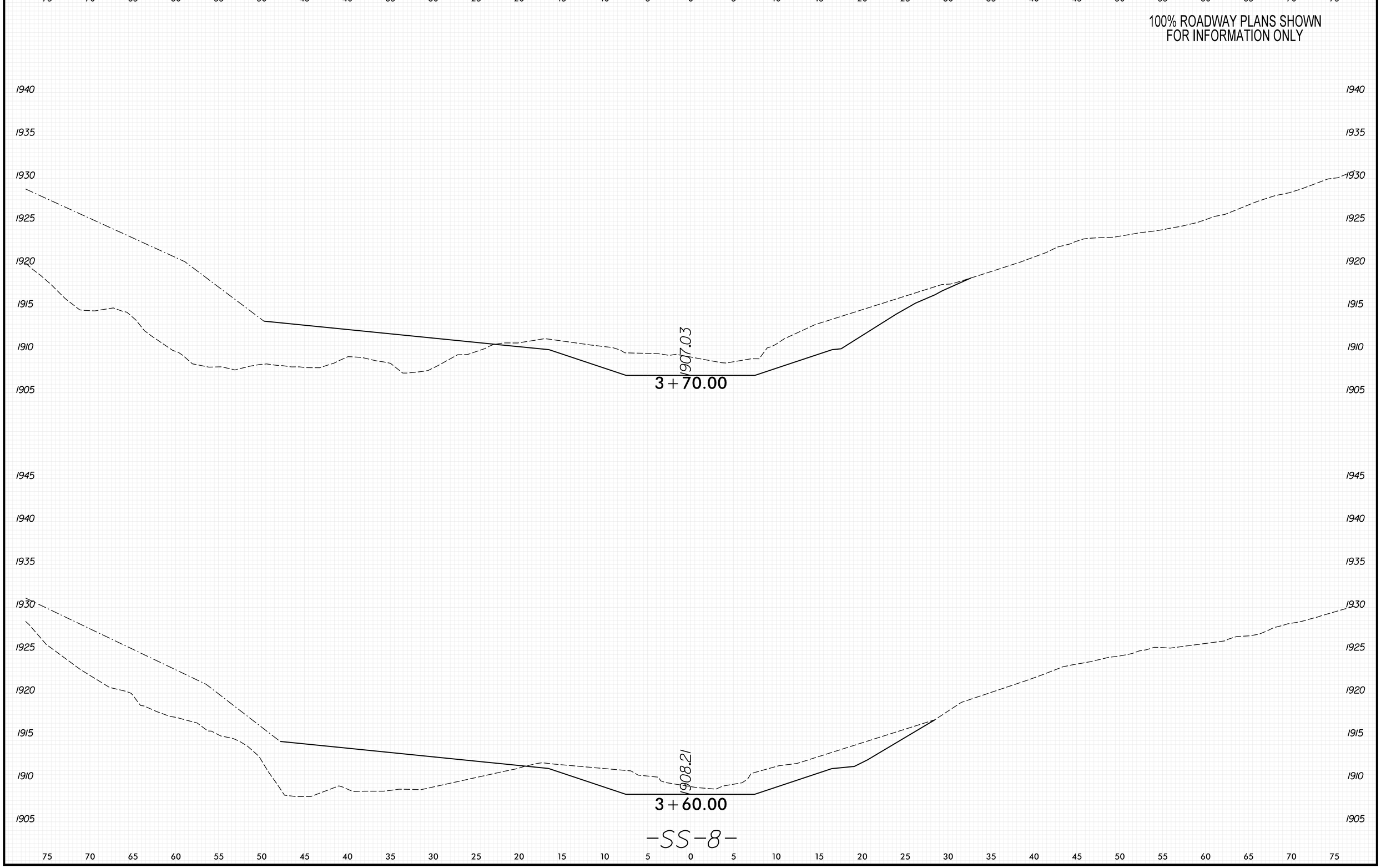
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-131

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
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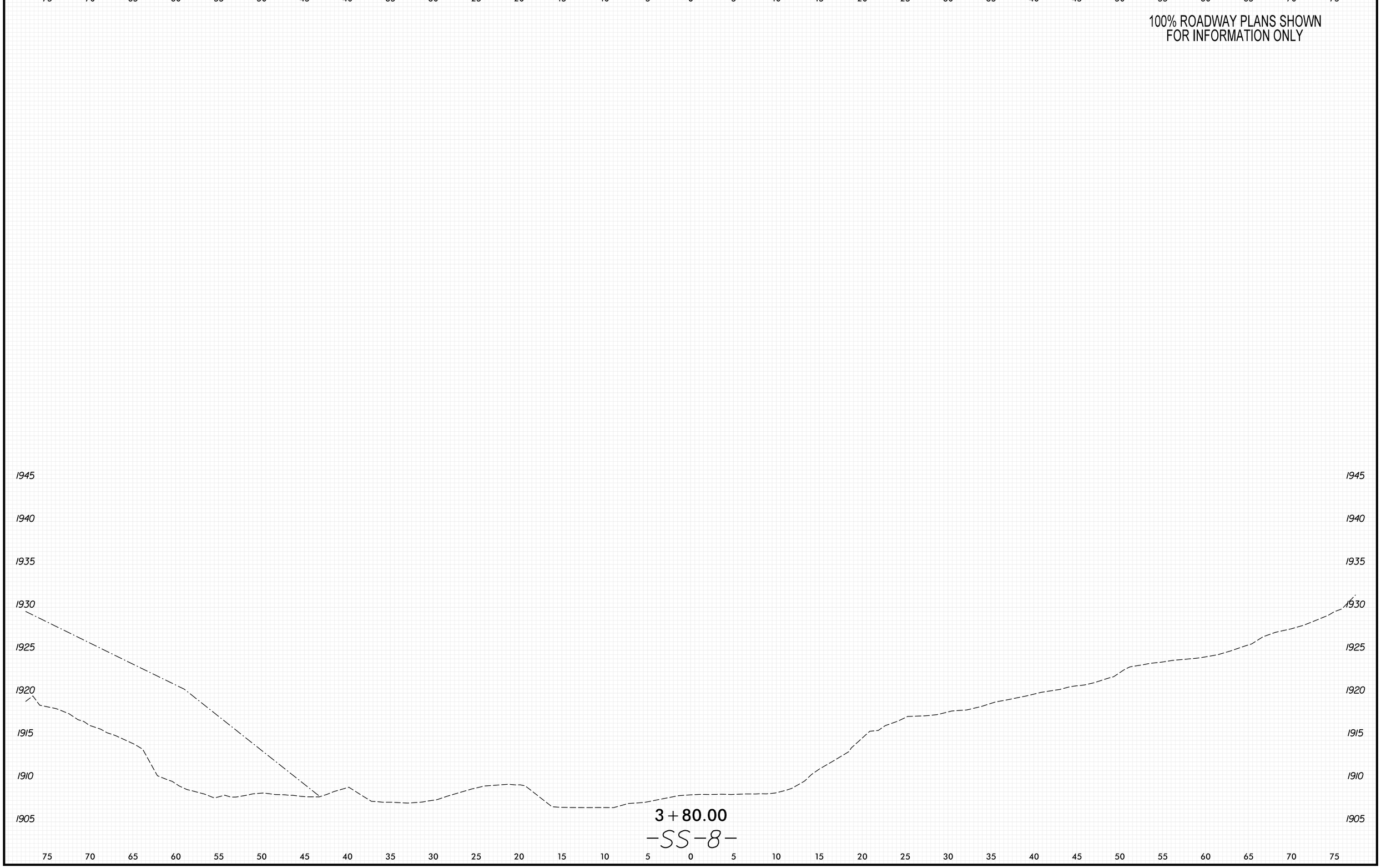
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-132

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

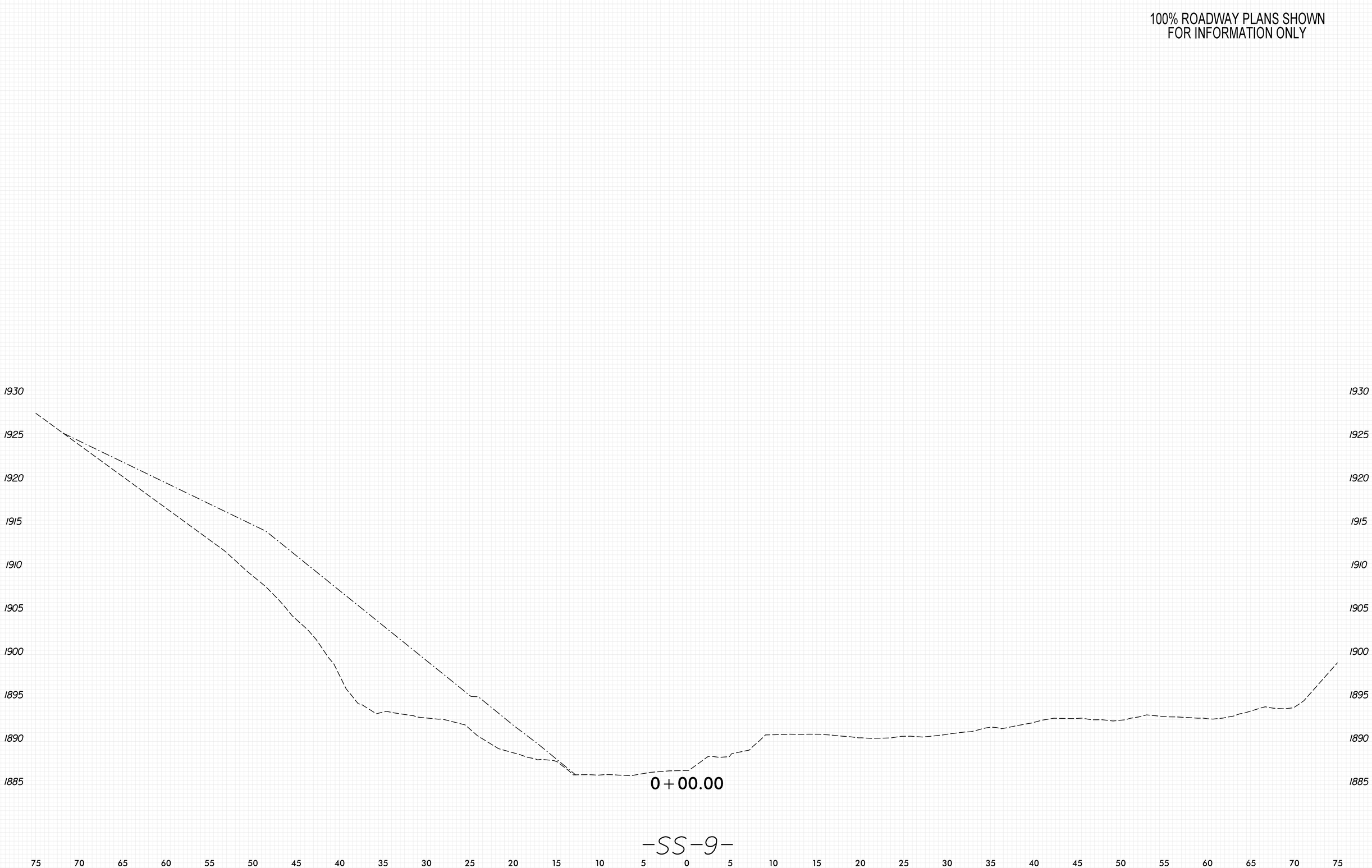
PENTABLE: xpl_eh_v8.tbl
TIME: 8:57:38 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-133

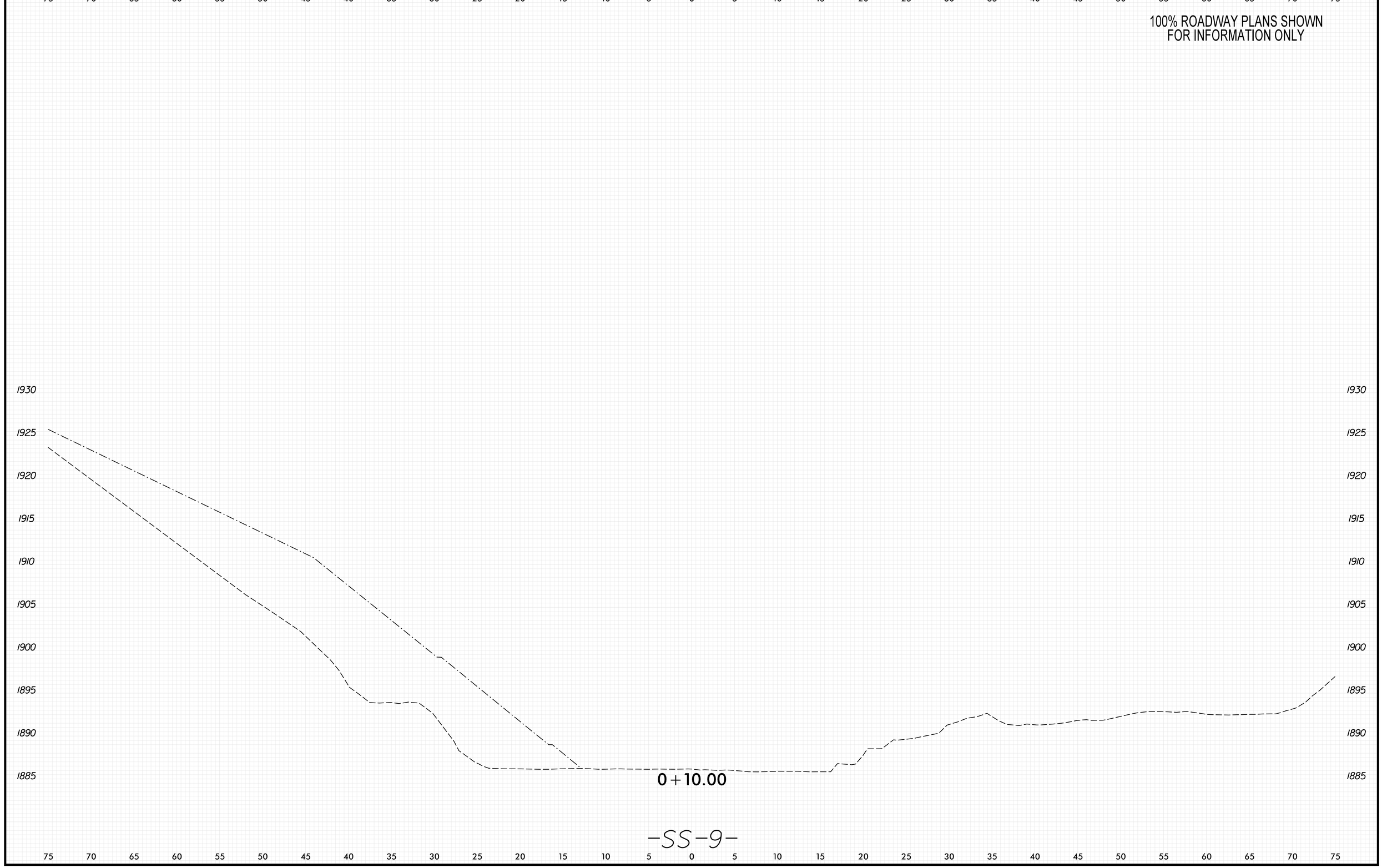
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:32 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-134

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



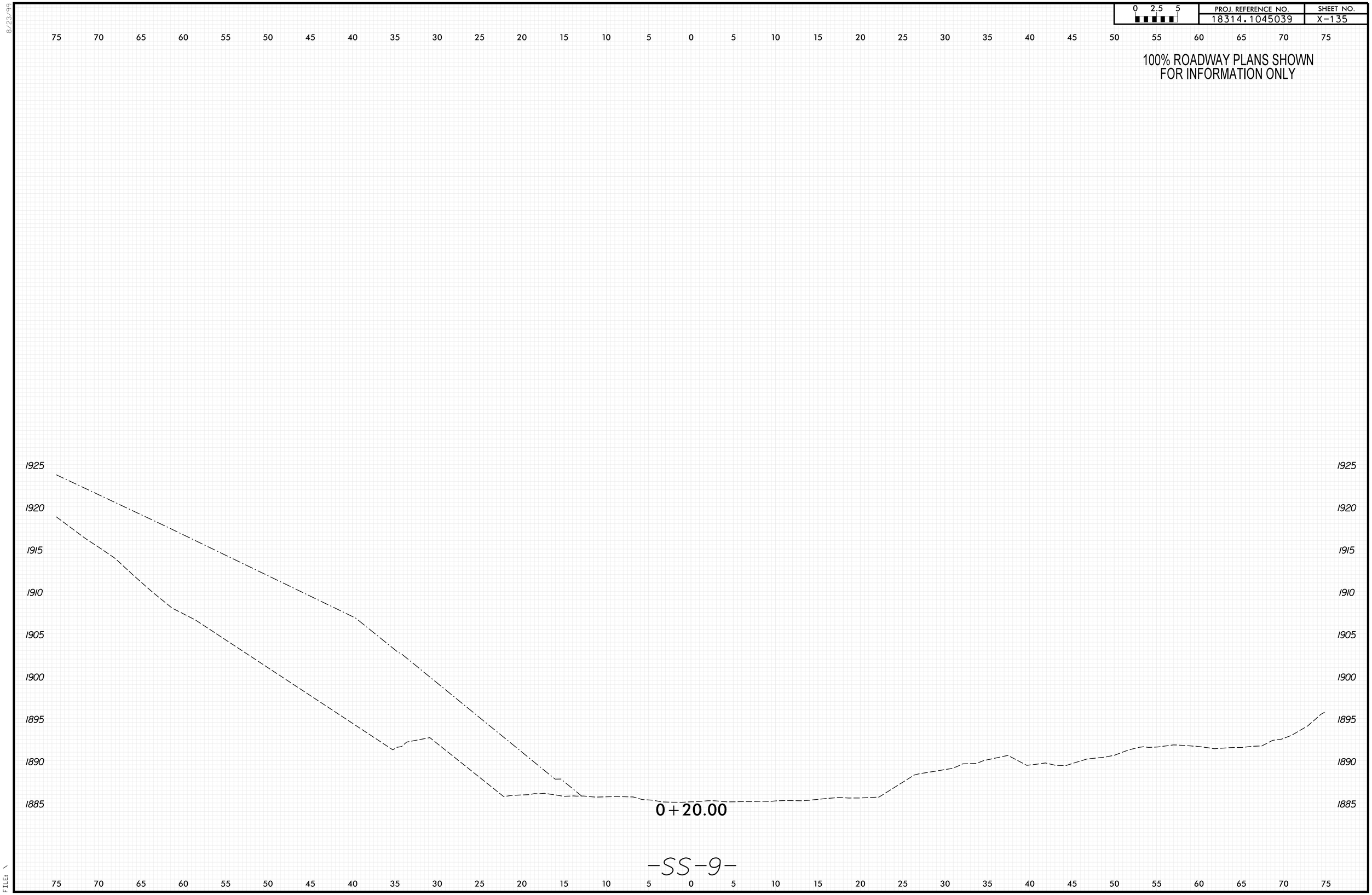
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:58:34 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-135

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

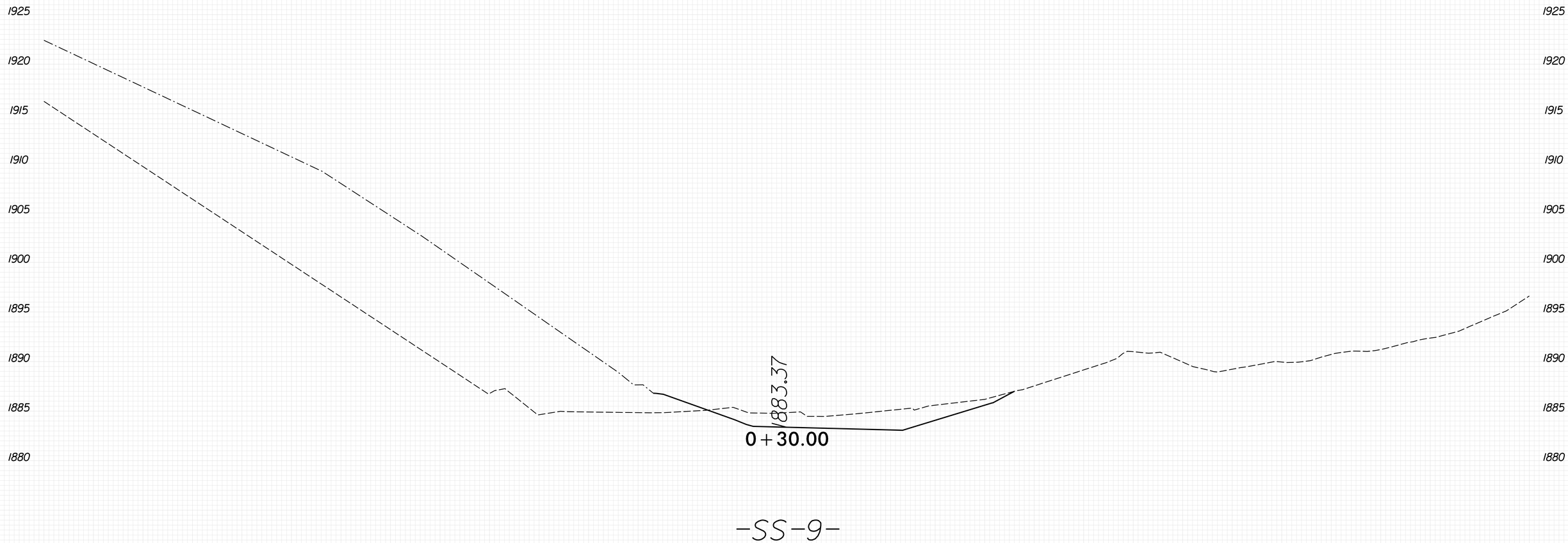


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:36 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-136

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:38 AM

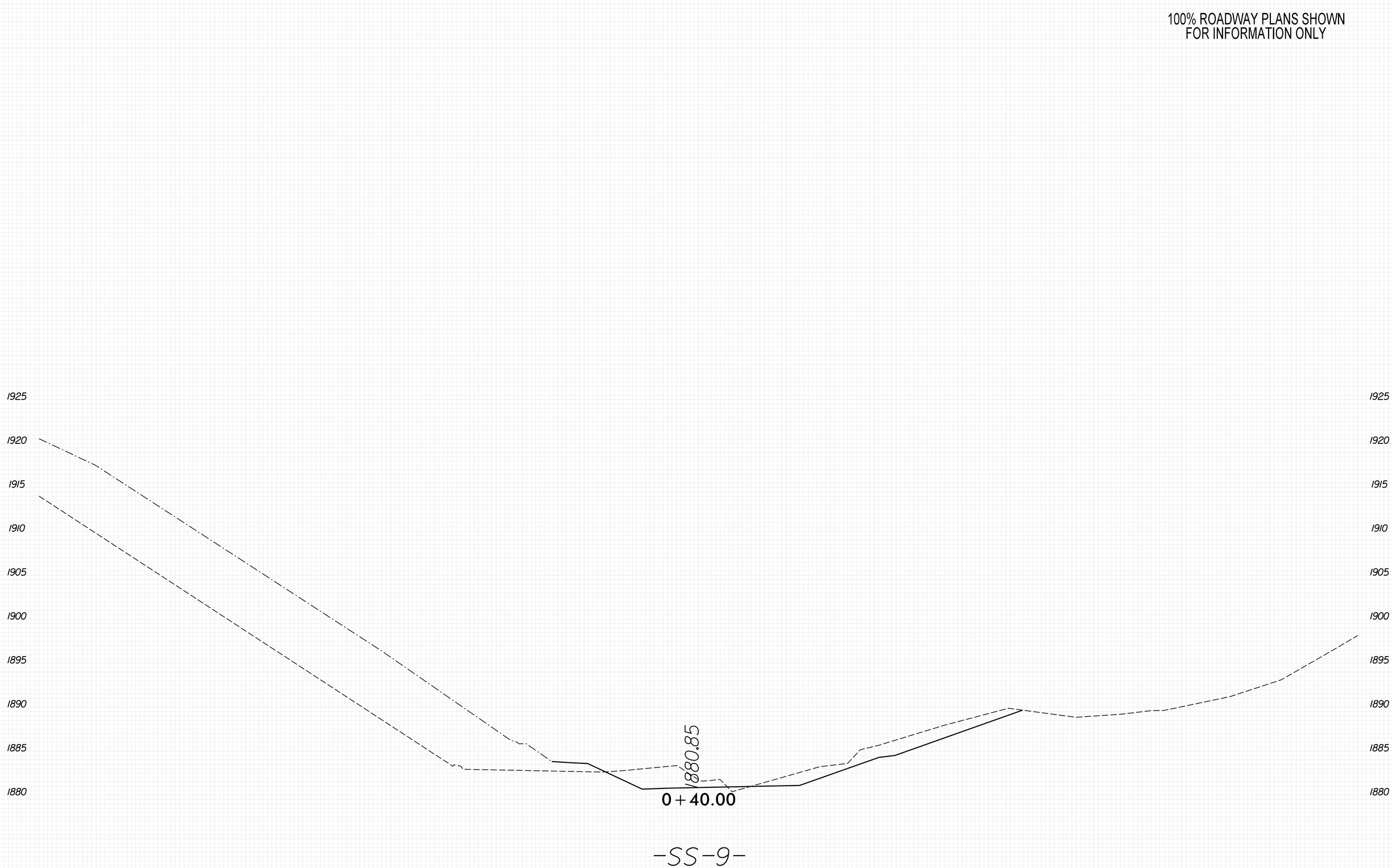
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-137

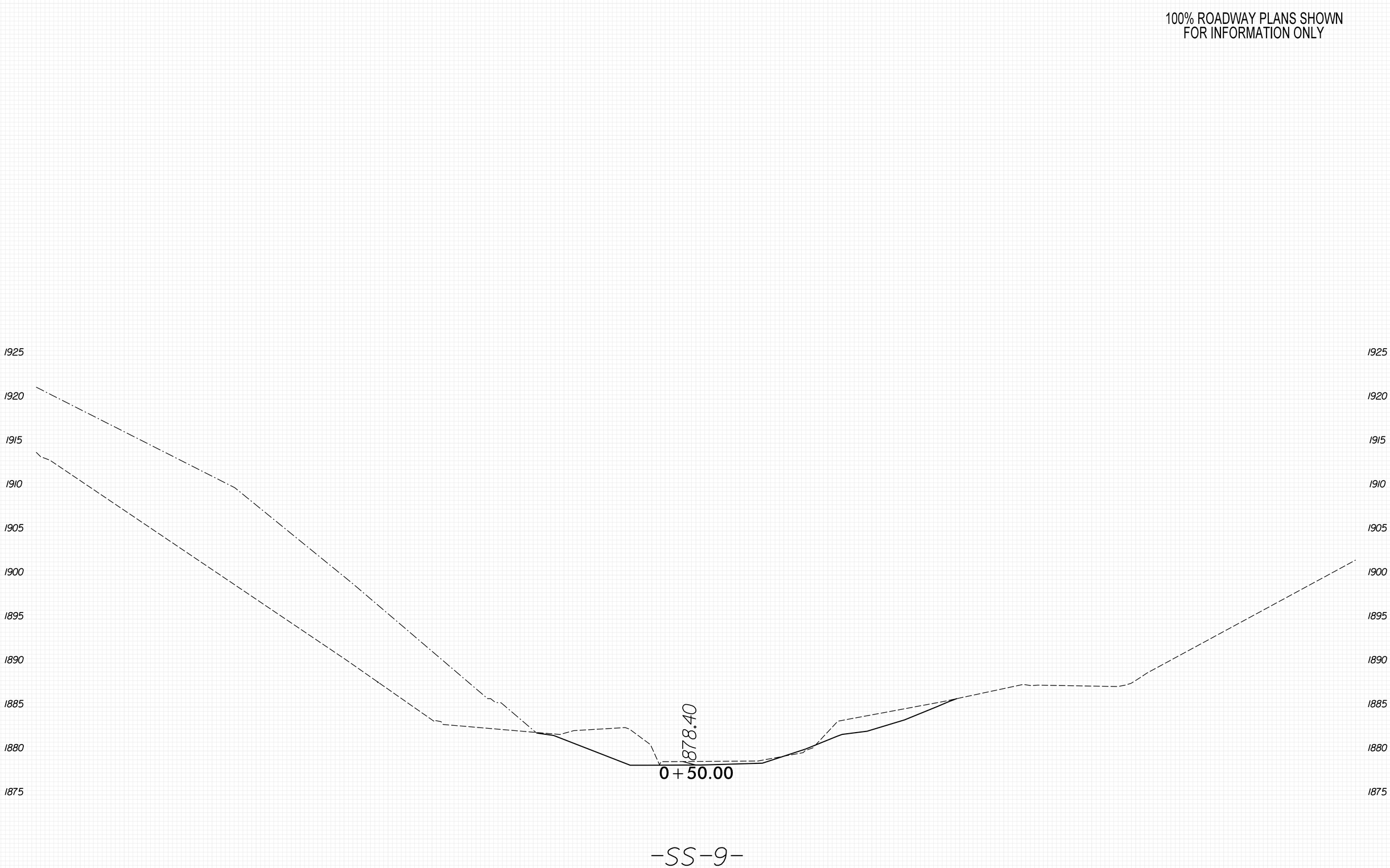
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:41 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-138

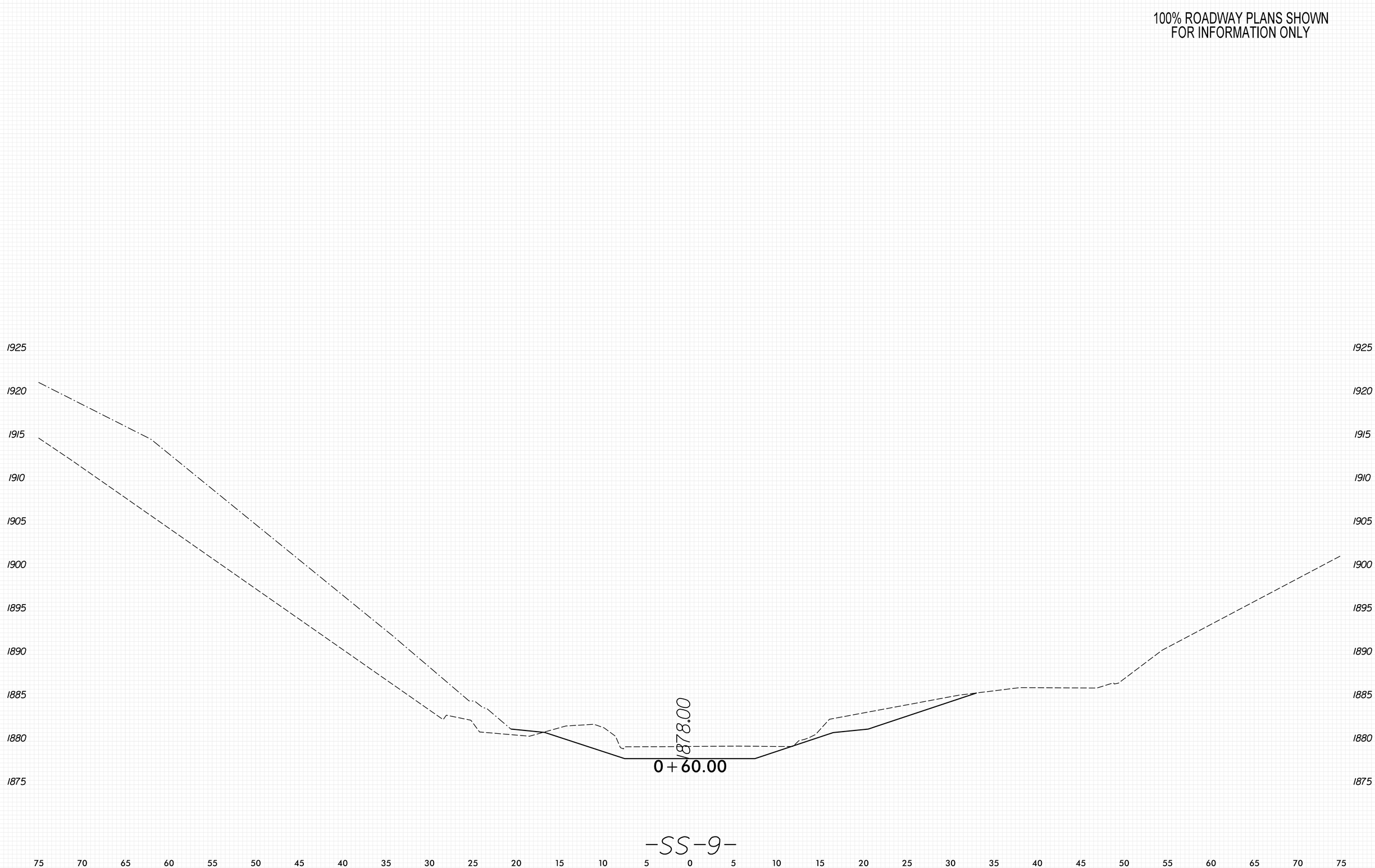
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:43 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-139

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

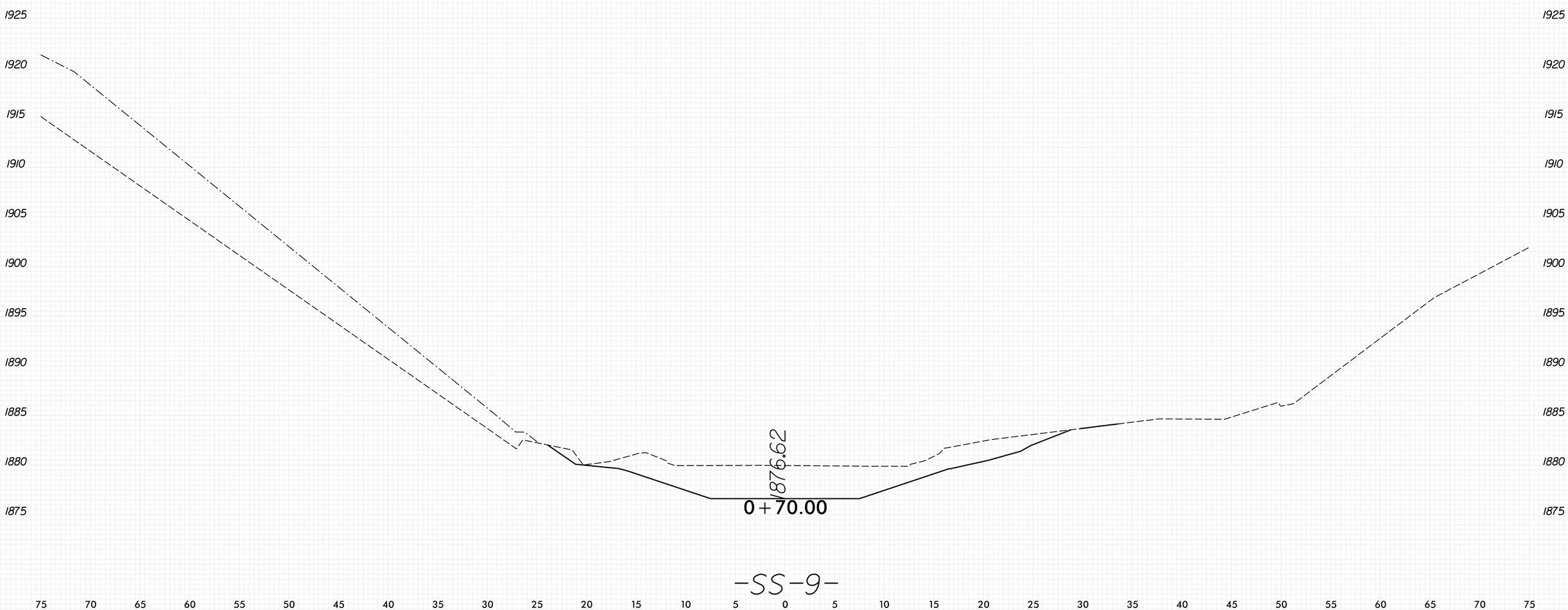
PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:44 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-140

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

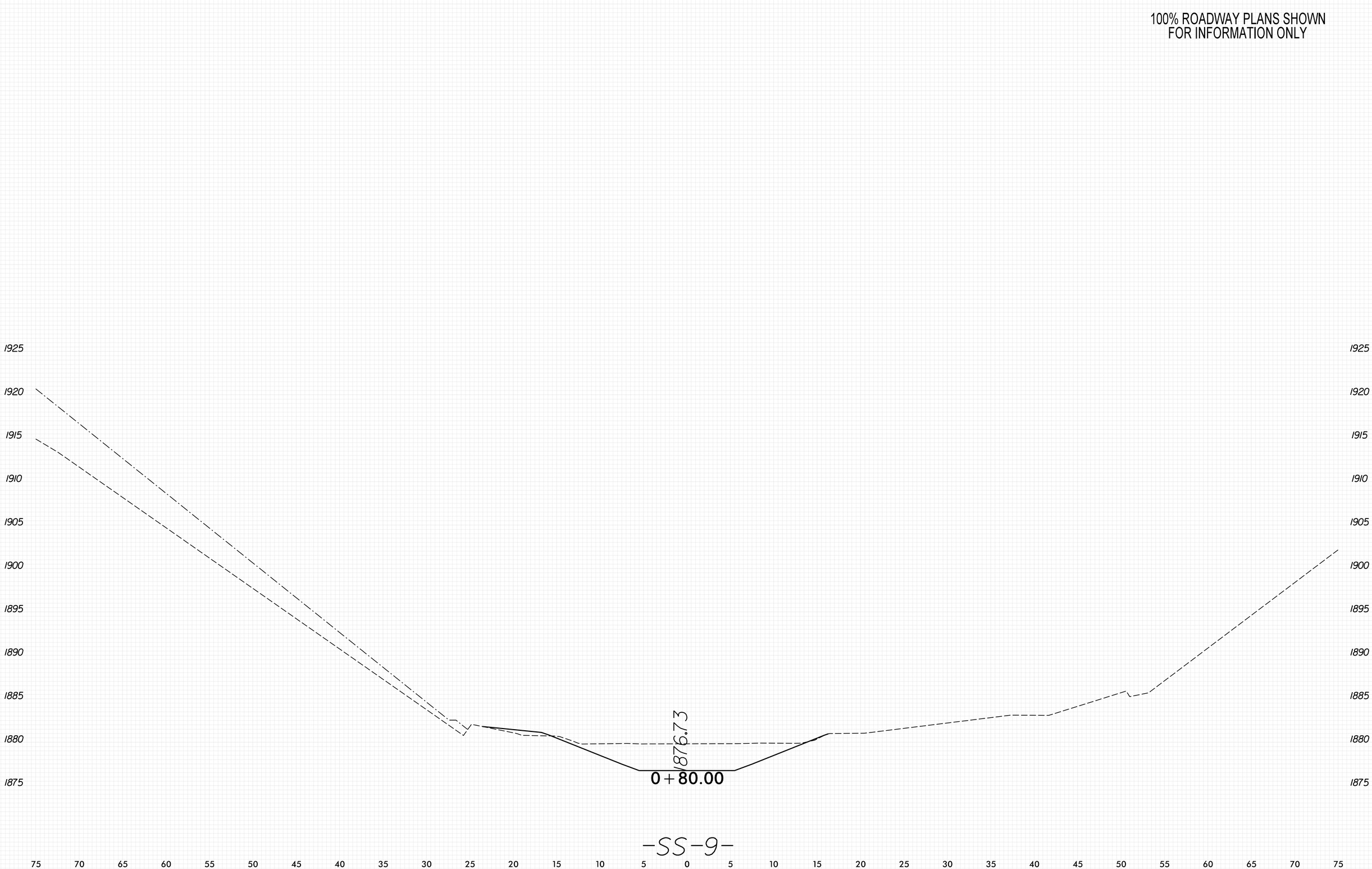


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:47 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-141

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

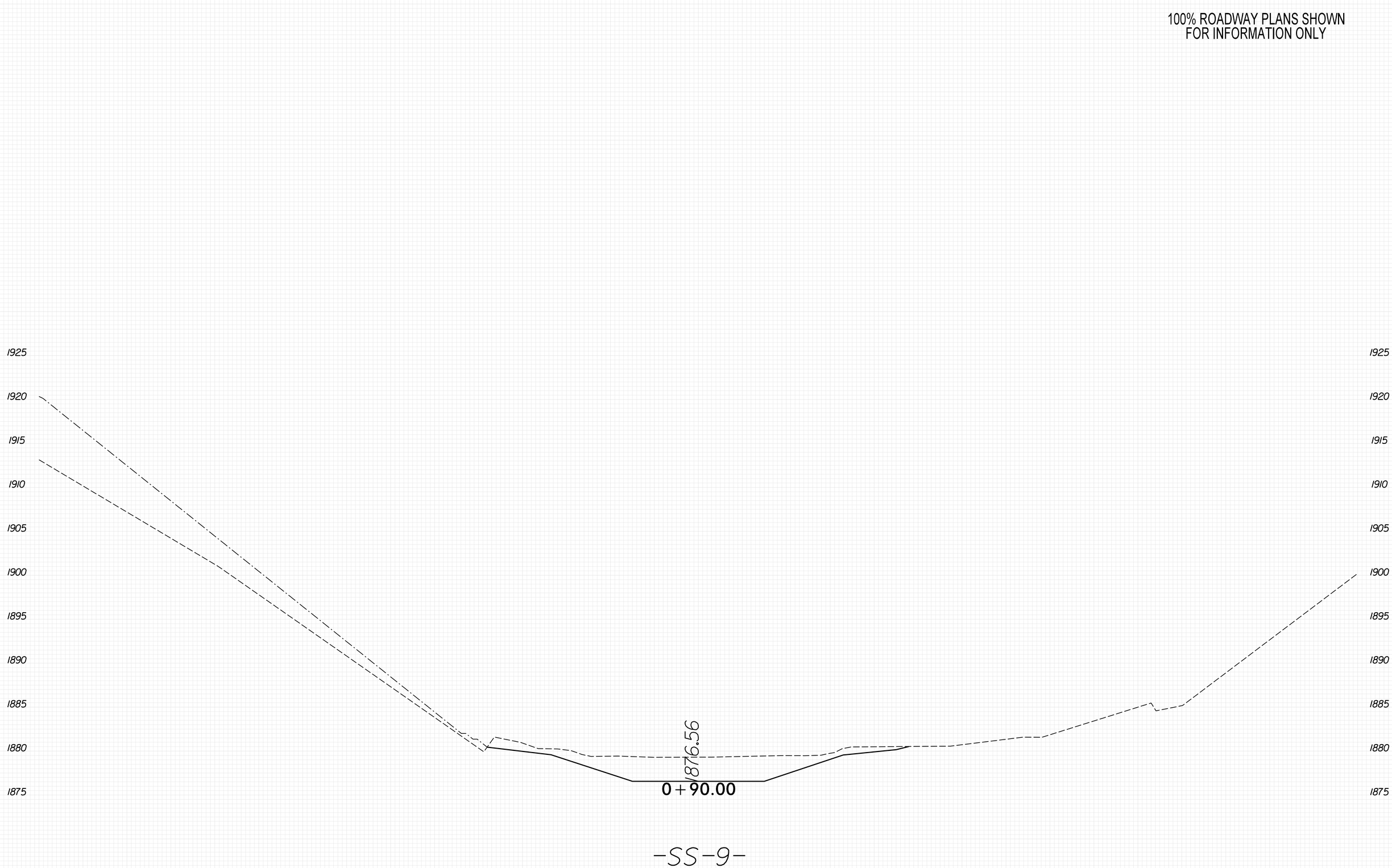


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:49 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-142

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

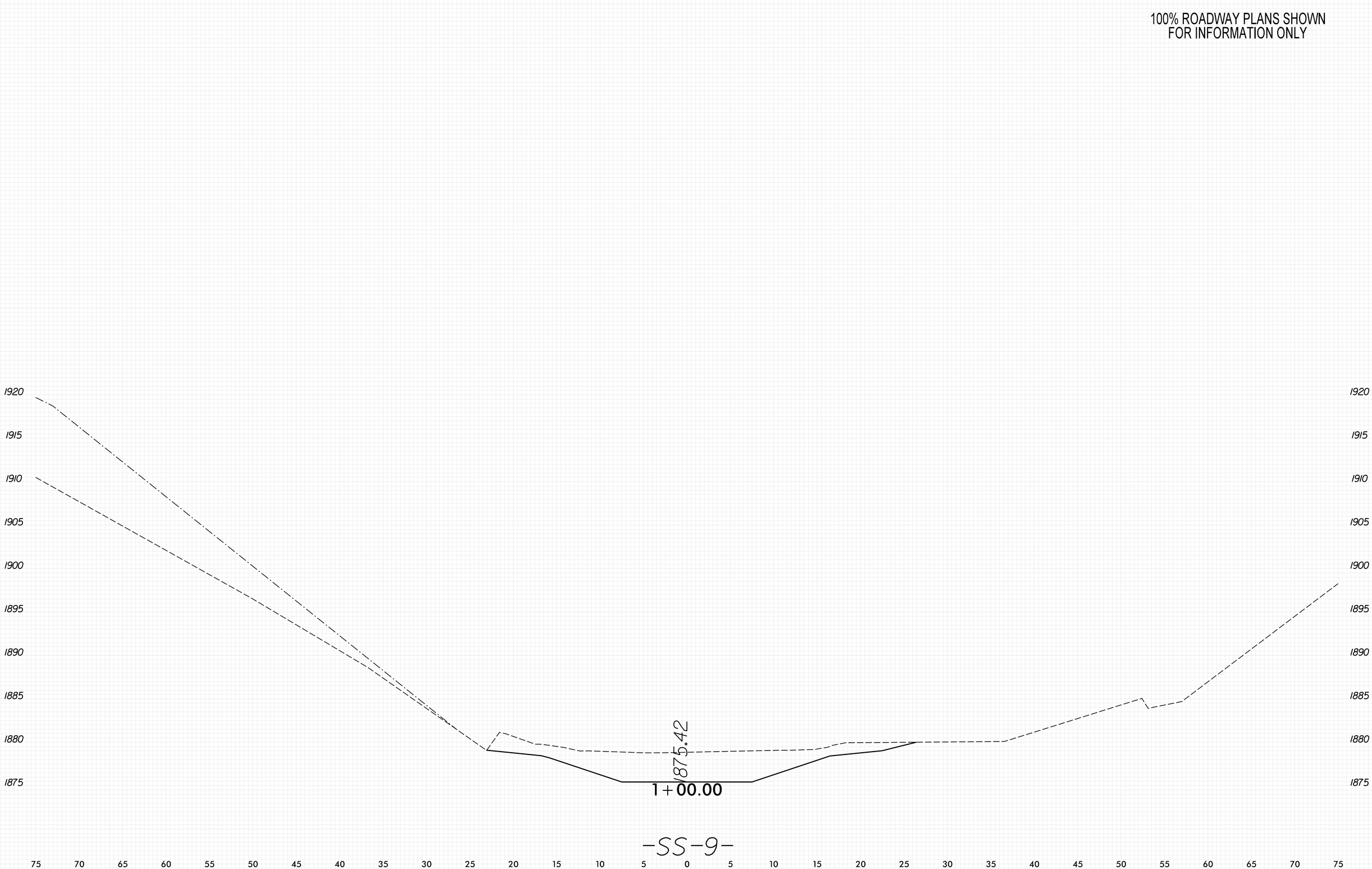


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:58:50 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-143

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

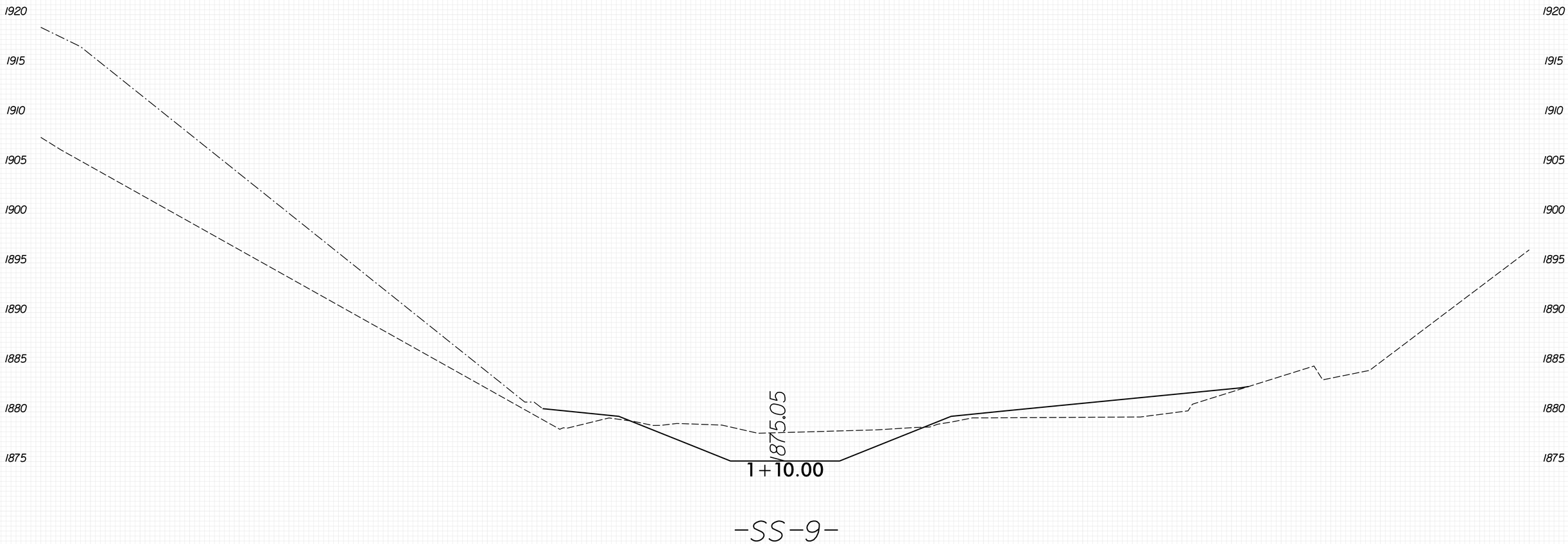


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:58:52 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-144

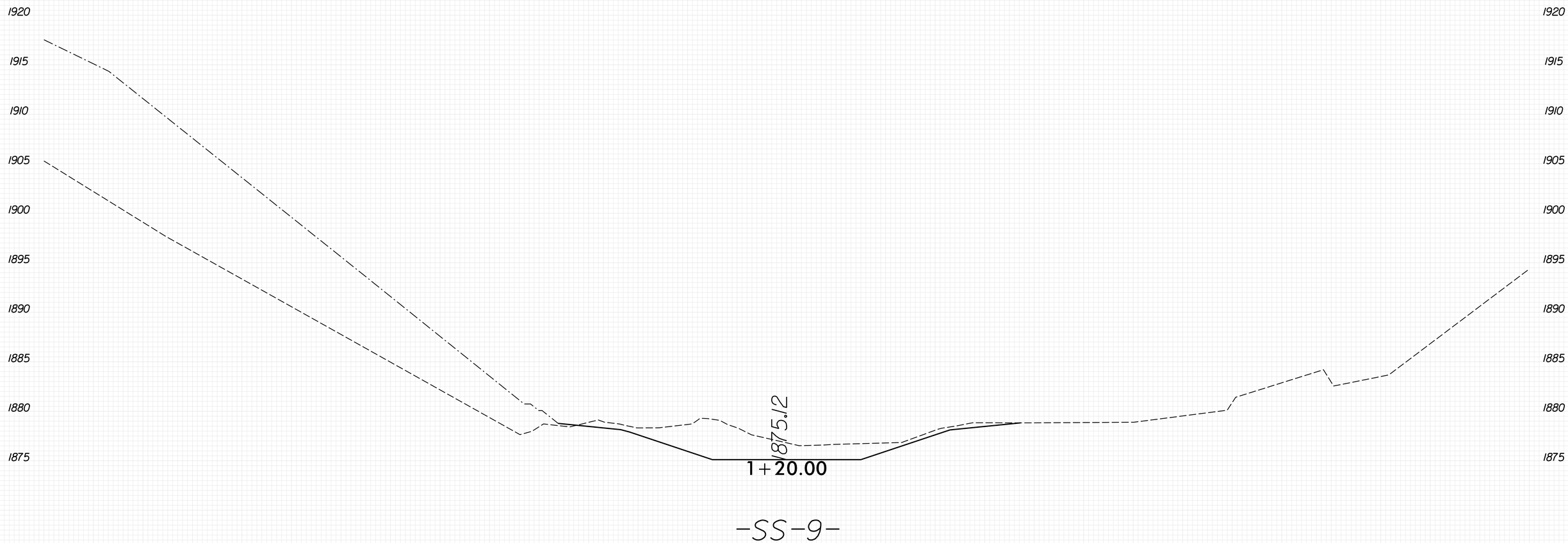
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:58:53 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-145

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:58:55 AM
DATE: 5/29/2026
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USER: KCLATTERBU
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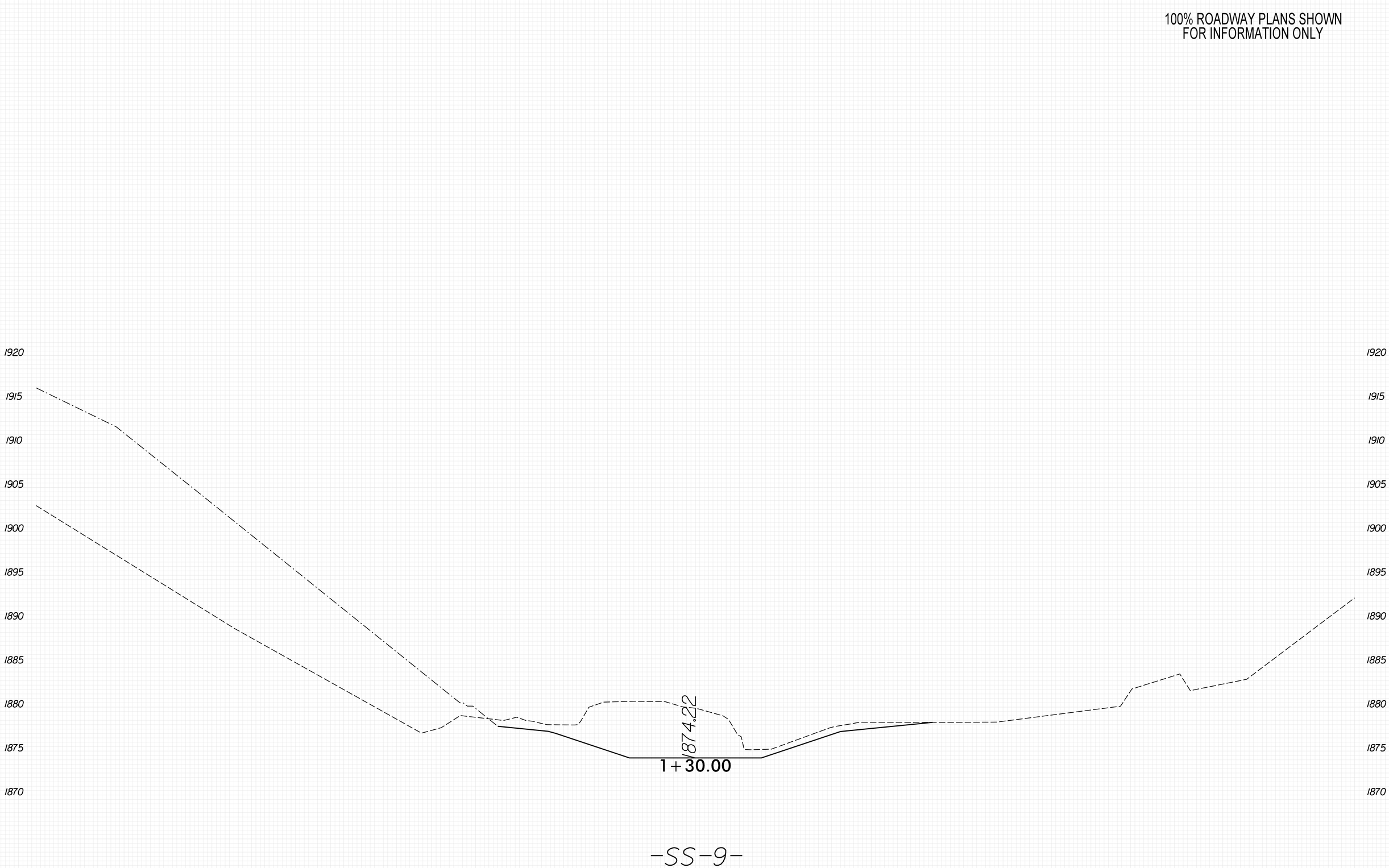
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-146

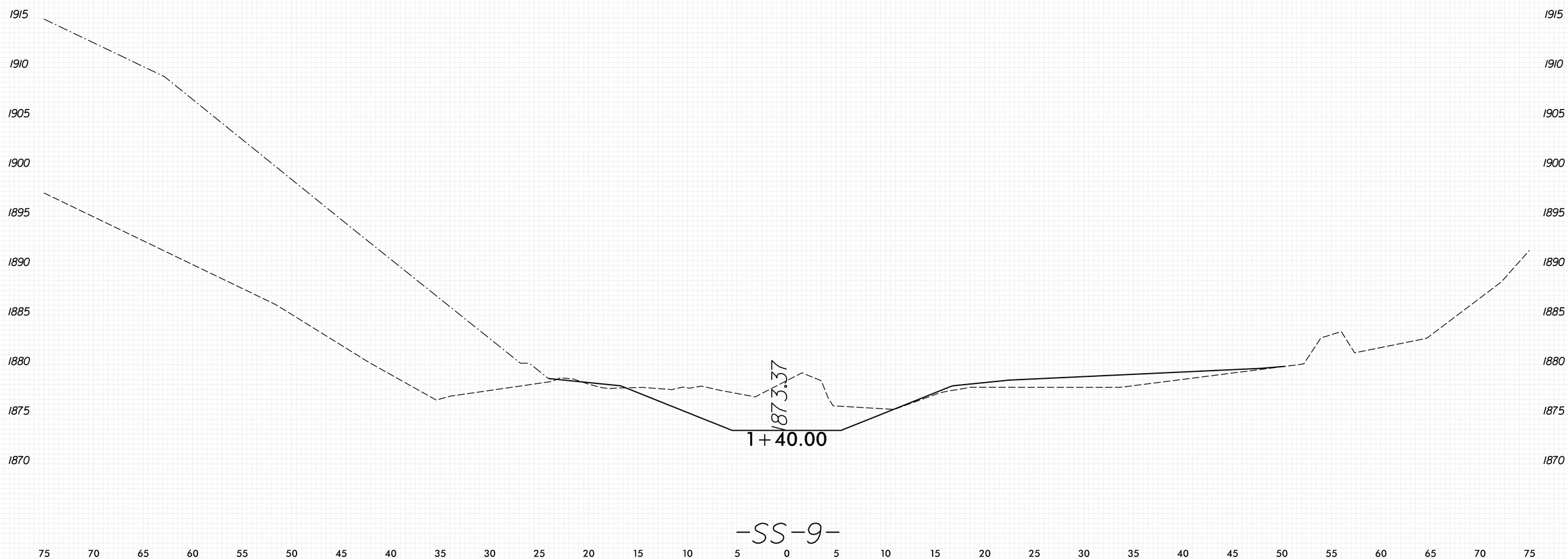
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_en_v8.tbl
TIME: 8:58:57 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-147

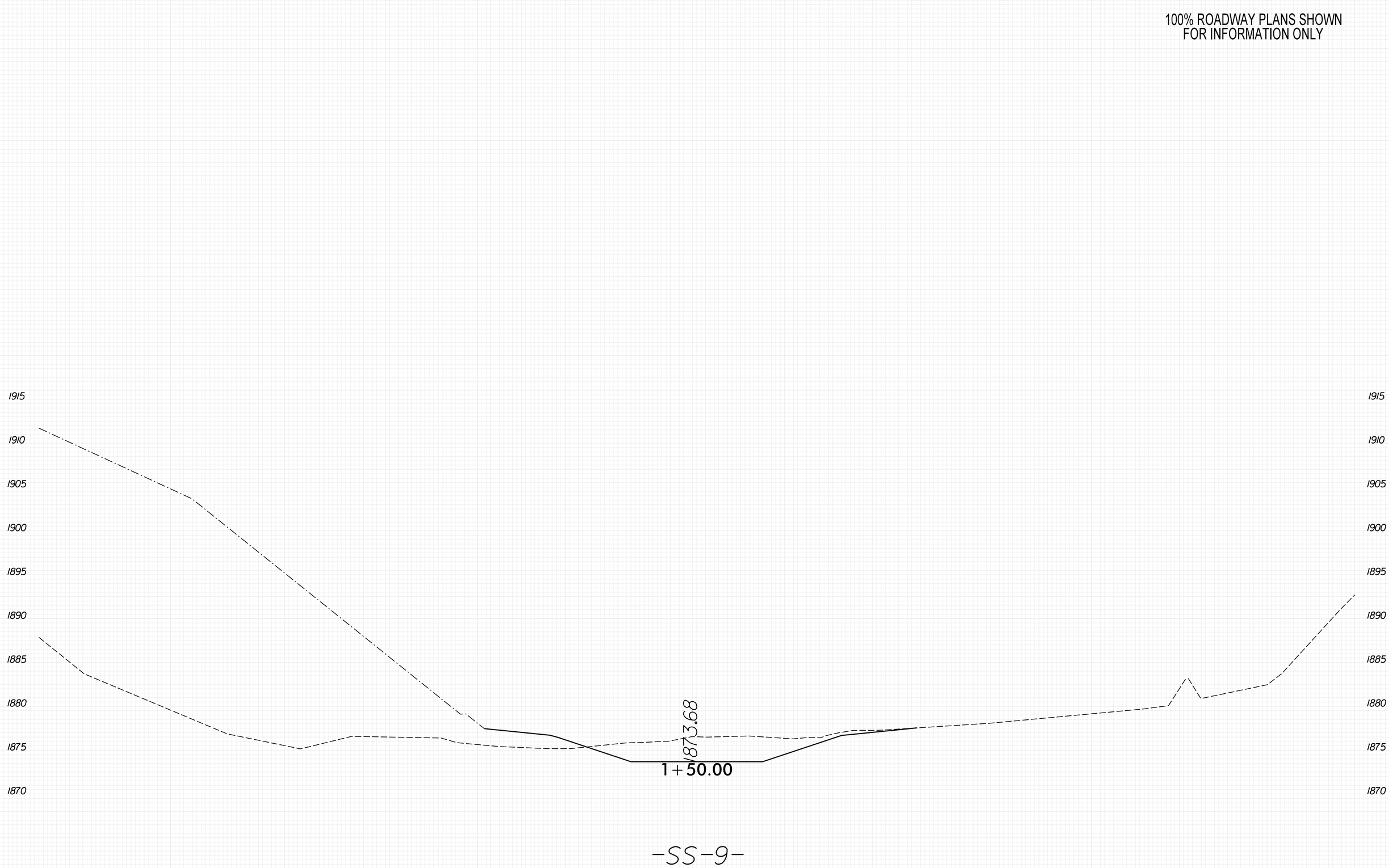
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_en_v8.tbl
TIME: 8:58:58 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-148

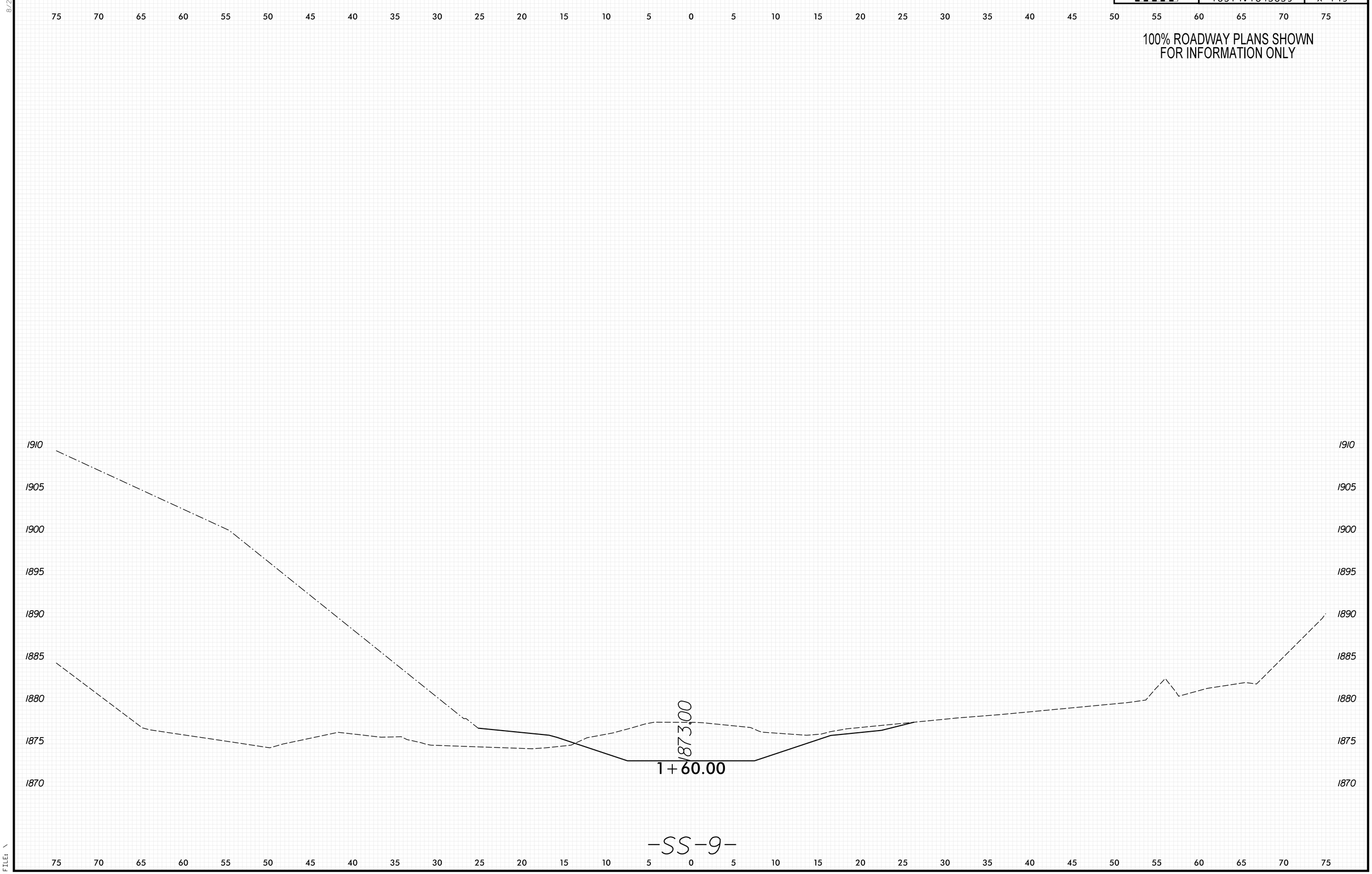
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:00 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-149

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

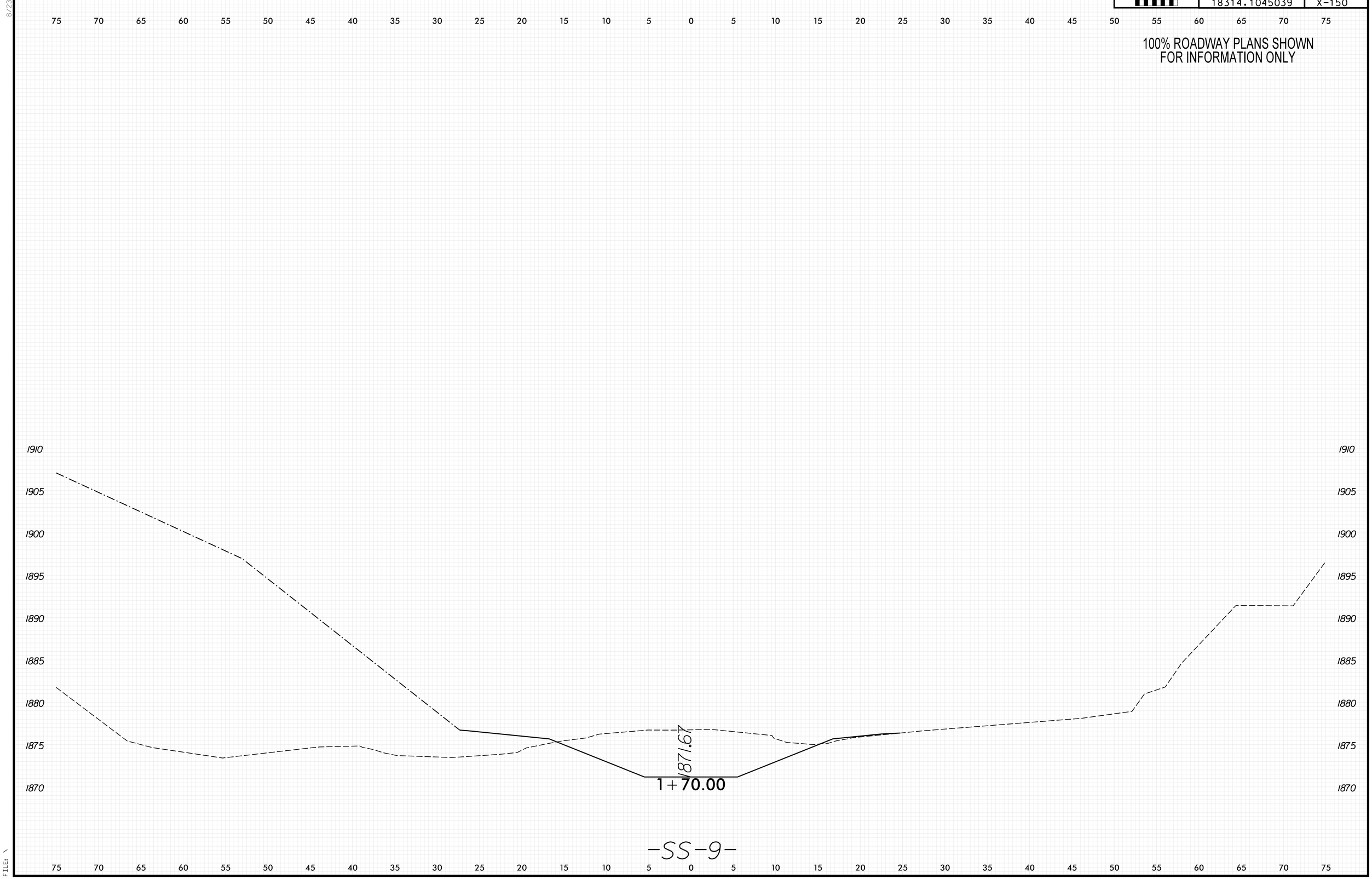


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:02 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-150

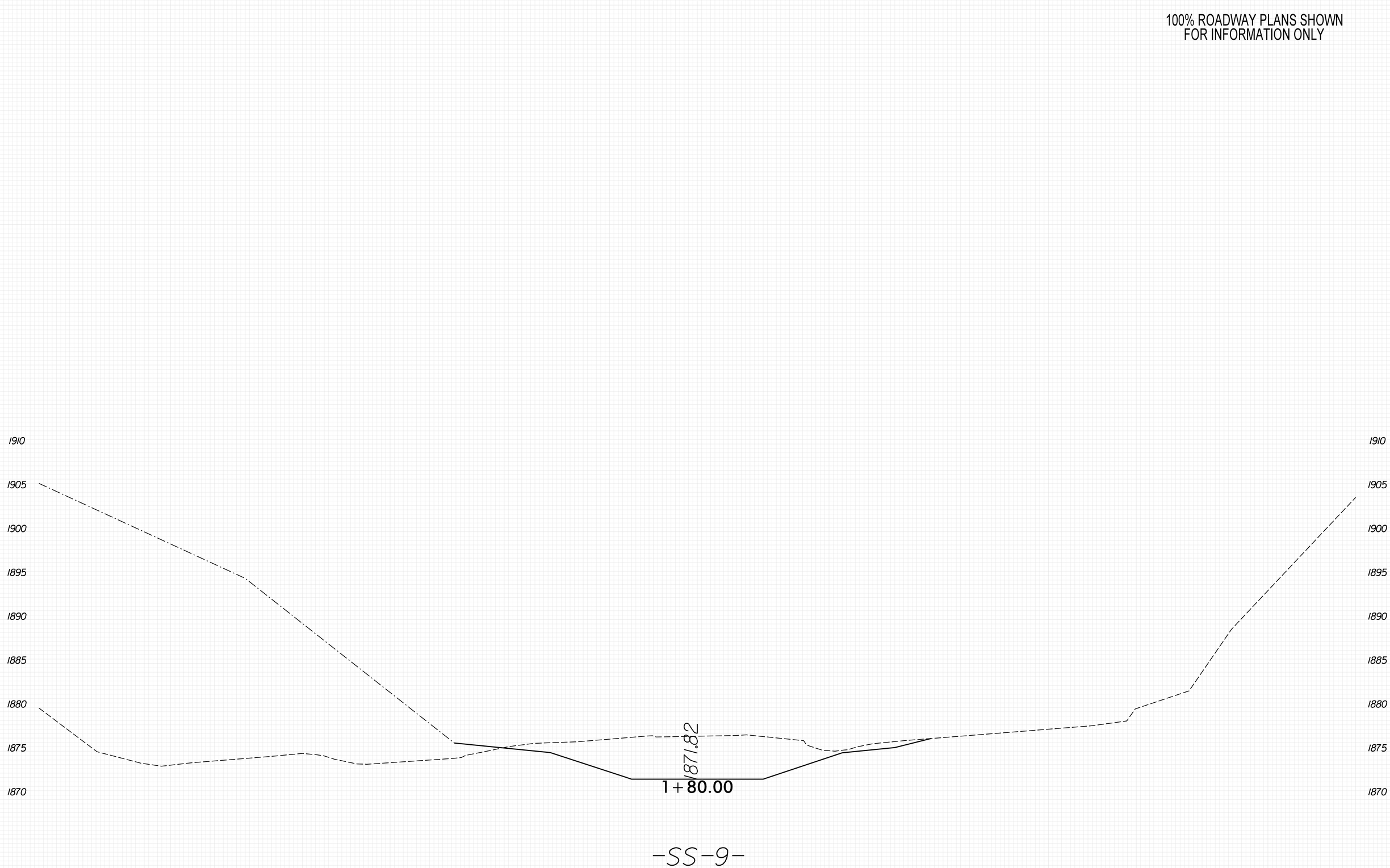
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:03 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-151

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

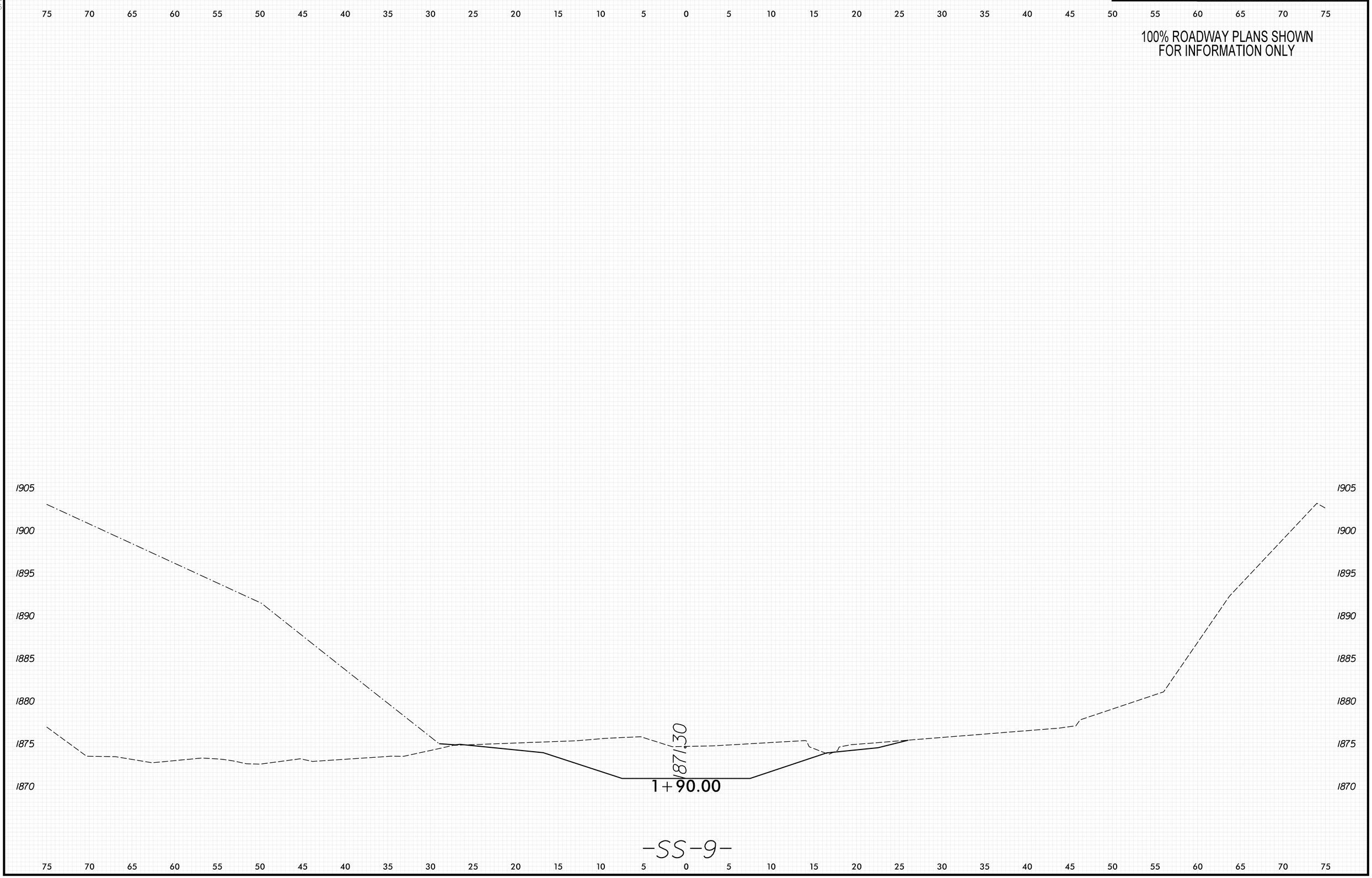


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:05 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-152

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

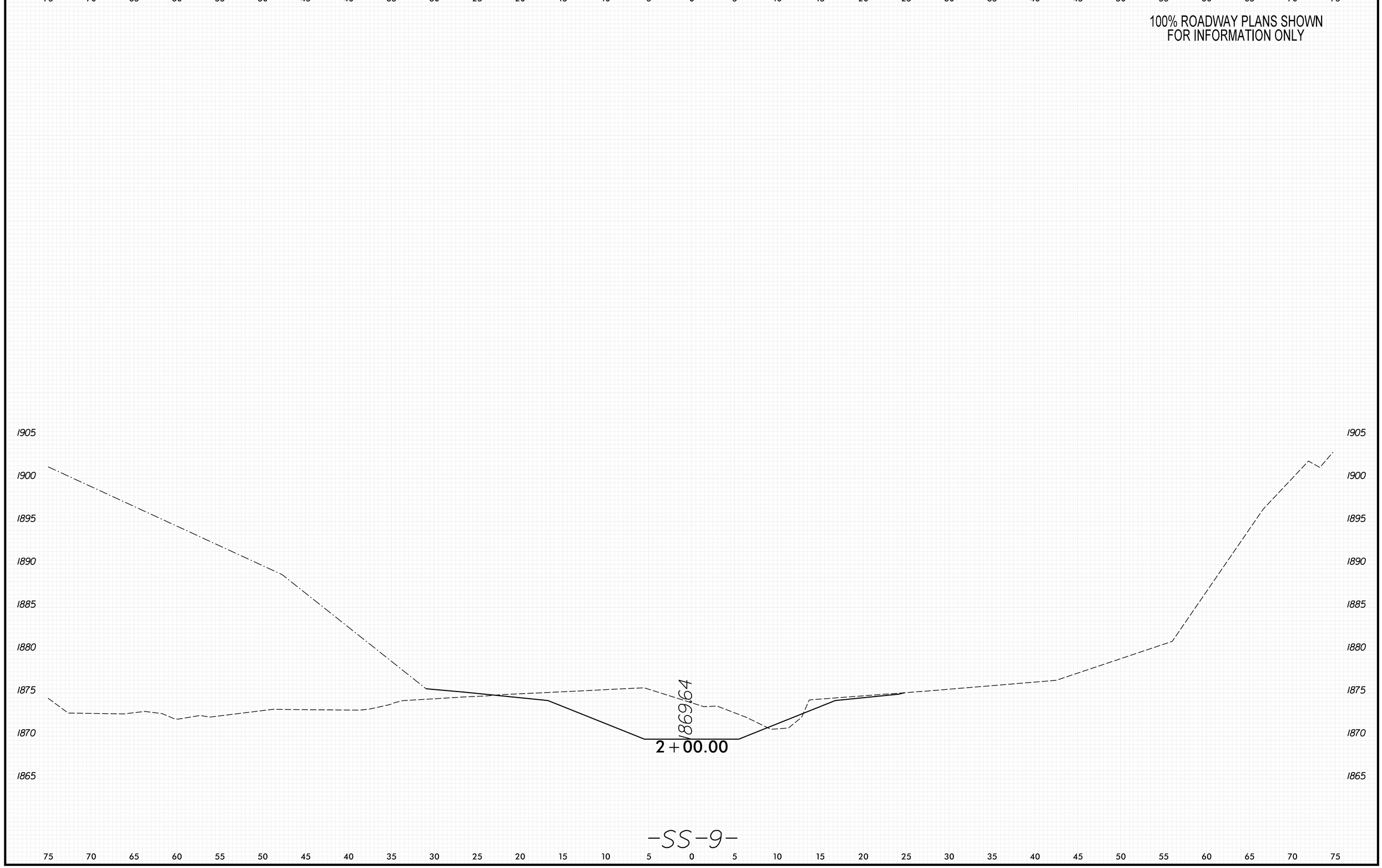


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:06 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-153

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

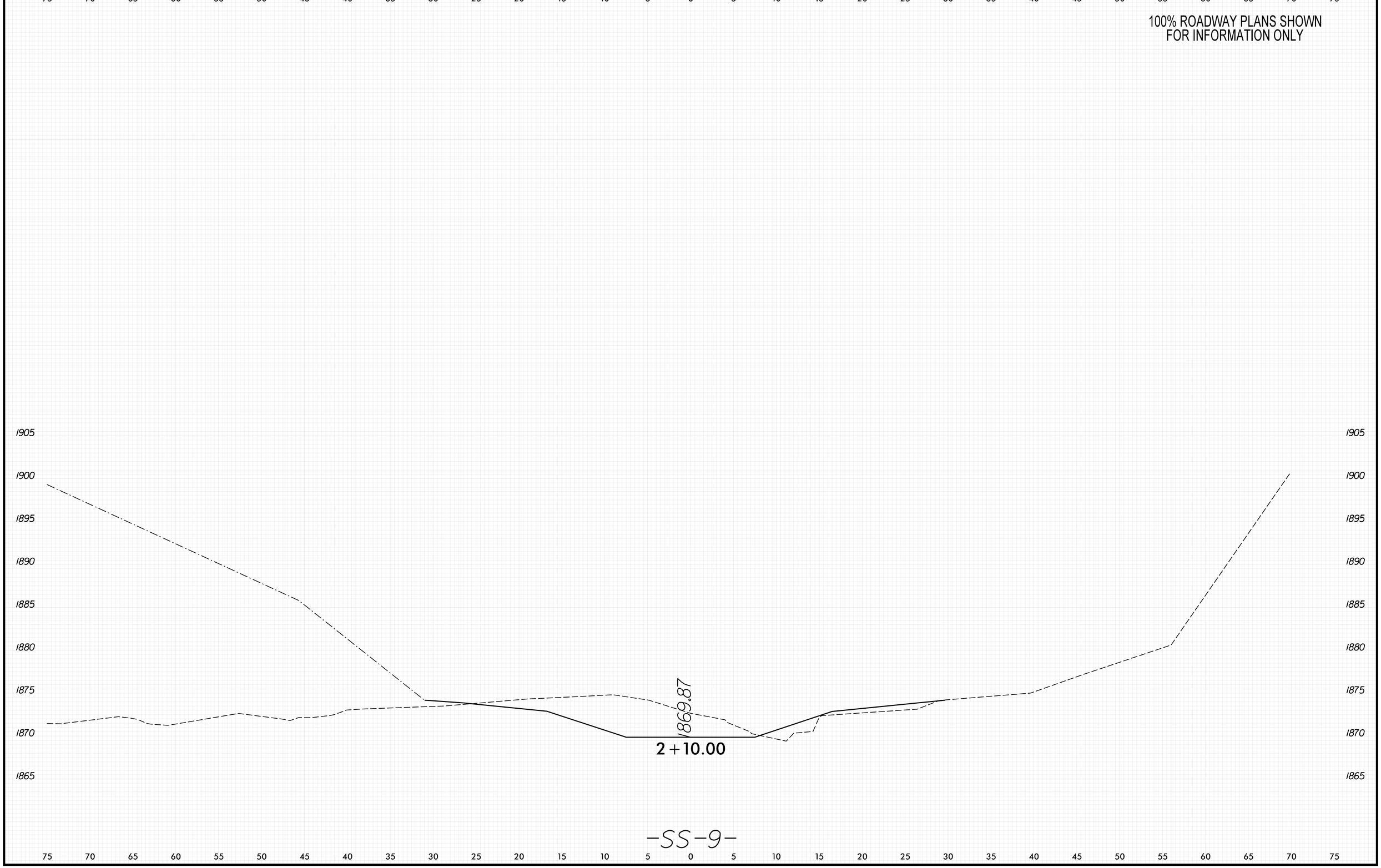


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:59:08 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-154

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



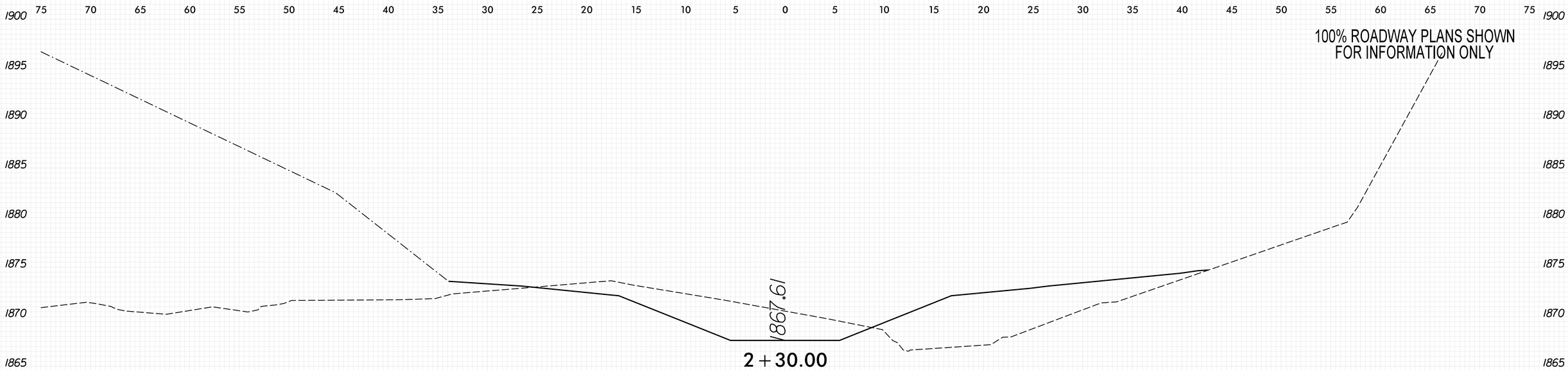
8/23/99

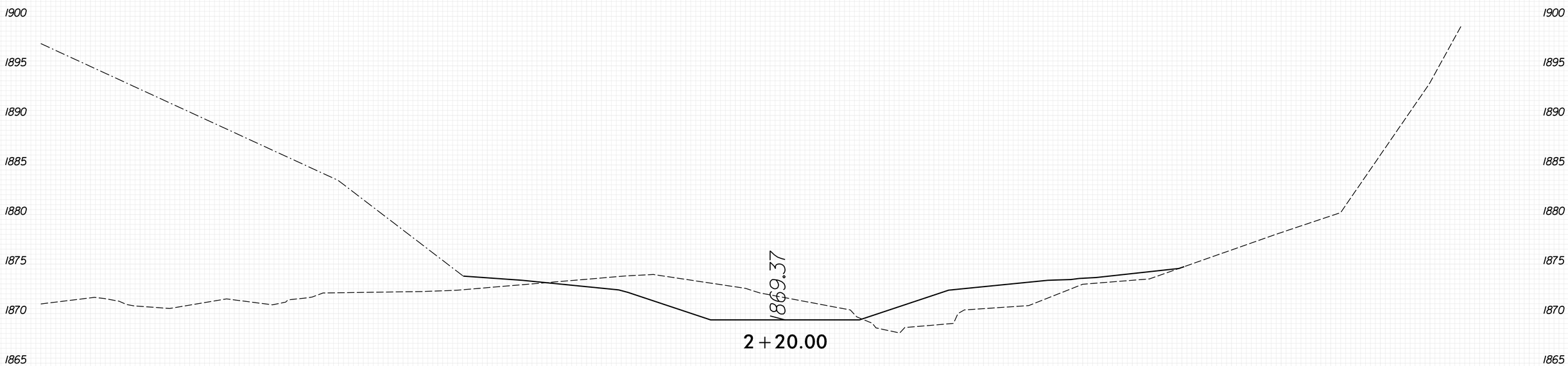
PENTABLE: xpl.eh_v8.tbl
TIME: 8:59:10 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-155



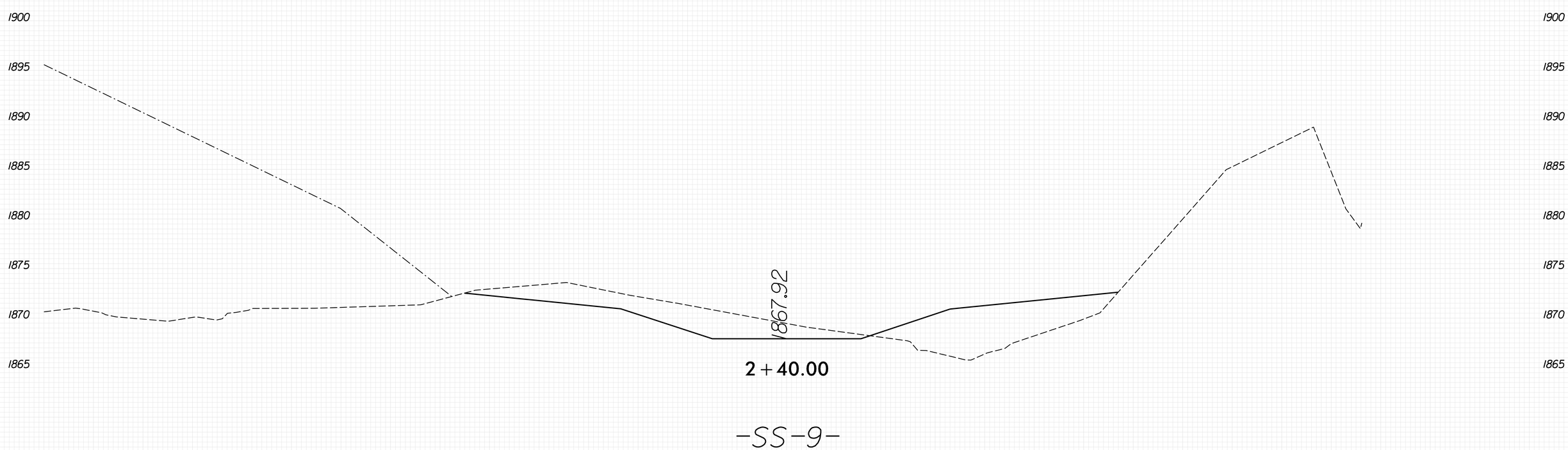


-SS-9-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:11 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-156

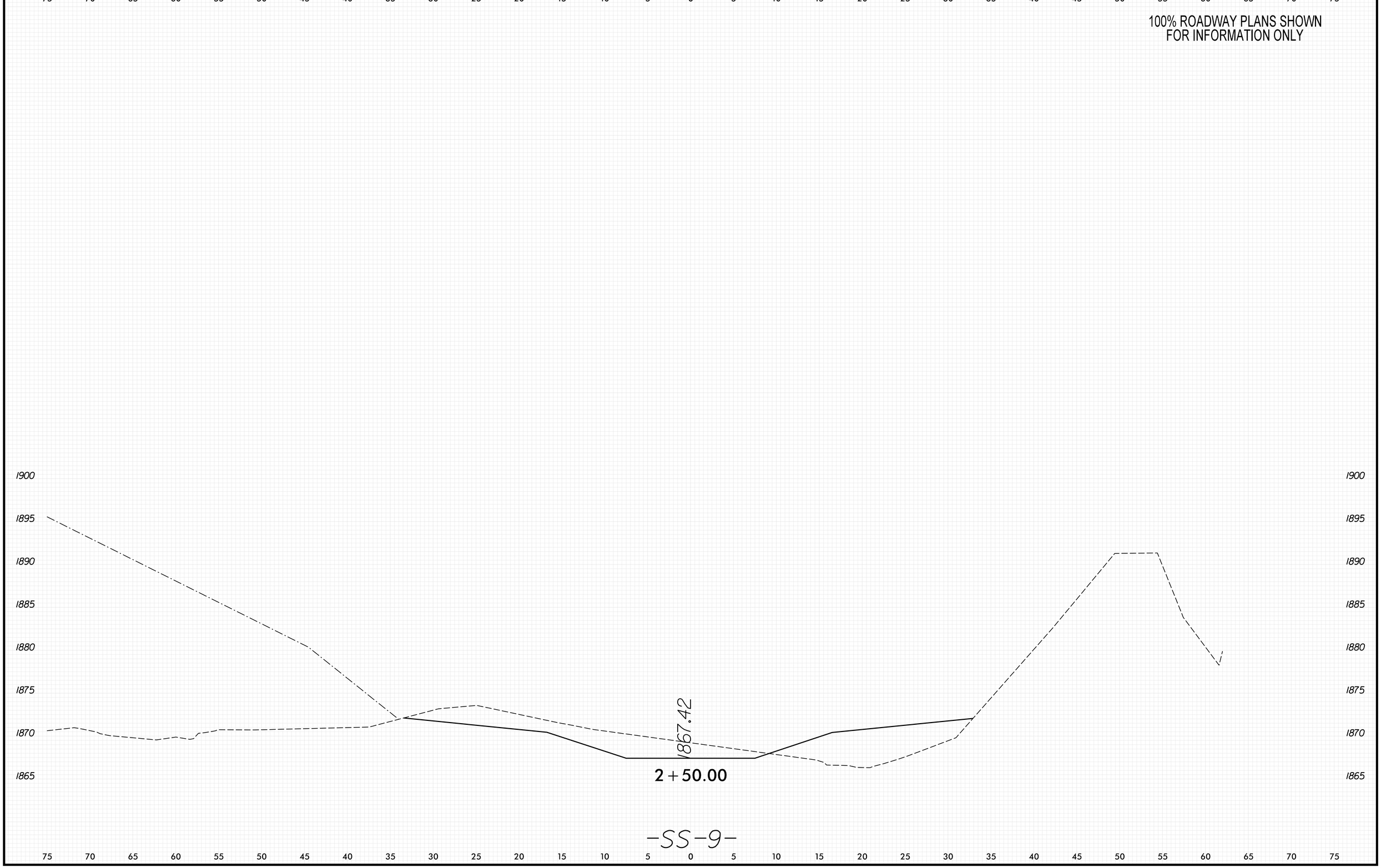
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:13 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-157

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

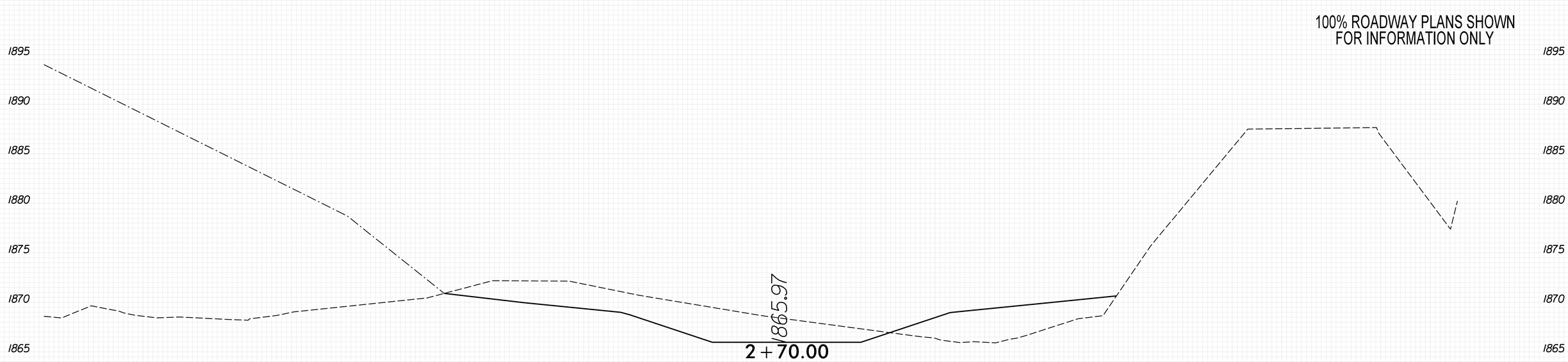


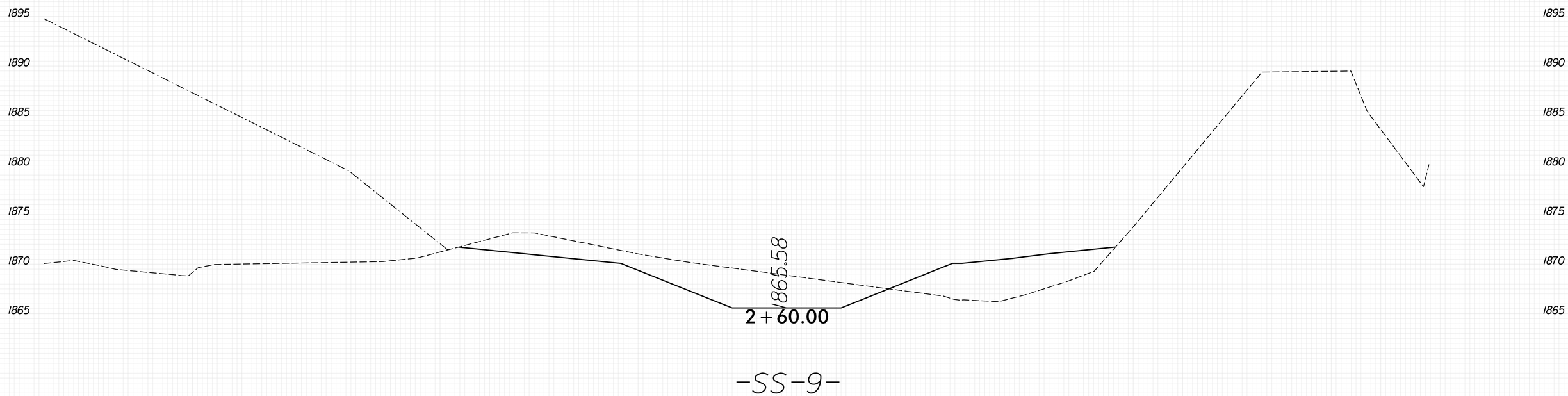
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:15 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-158

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



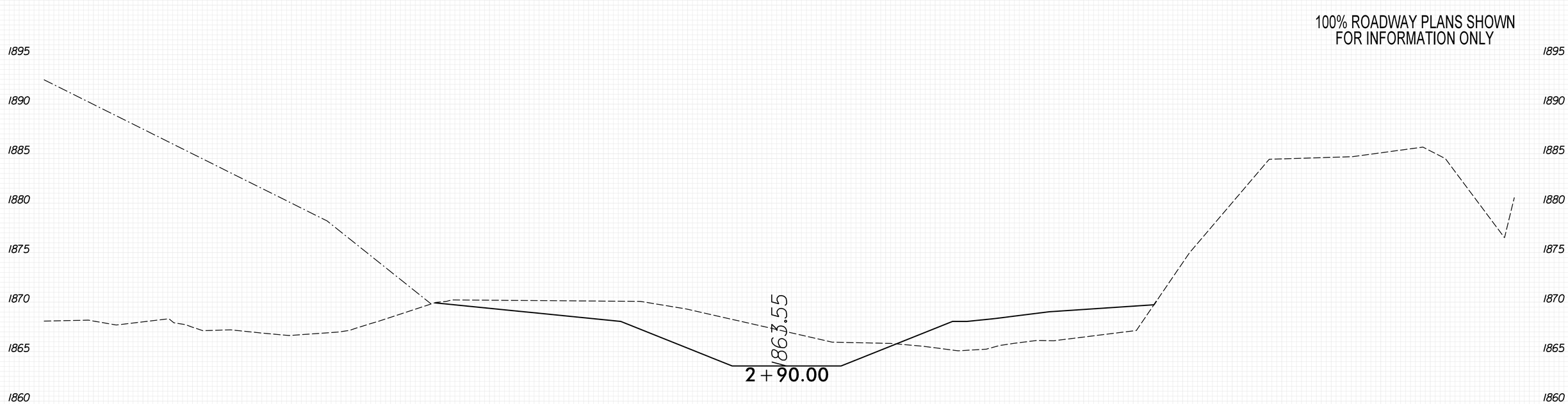


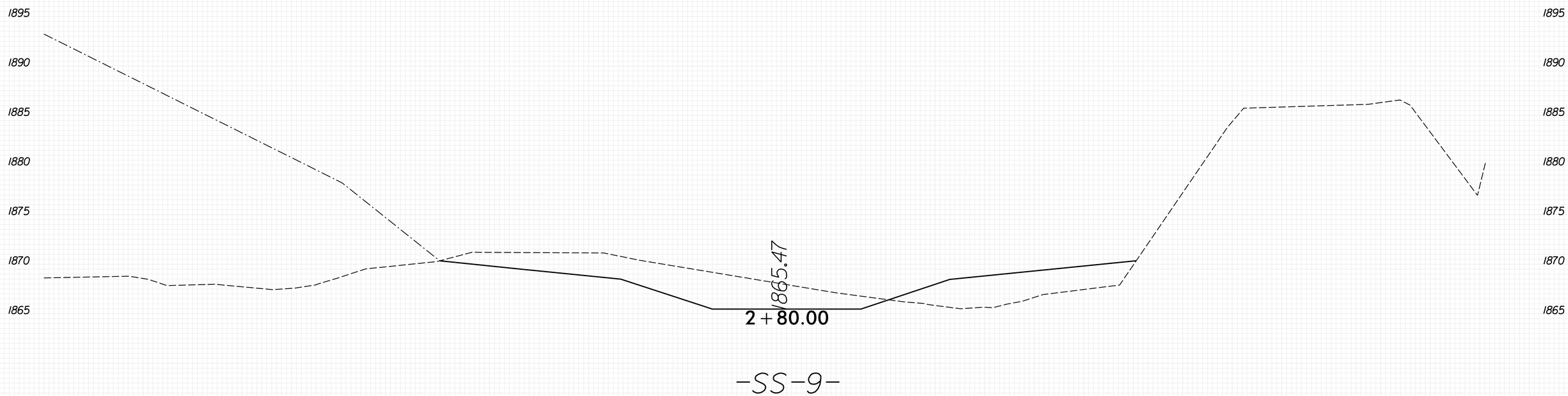
-SS-9-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:17 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-159

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





-SS-9-

8/23/99

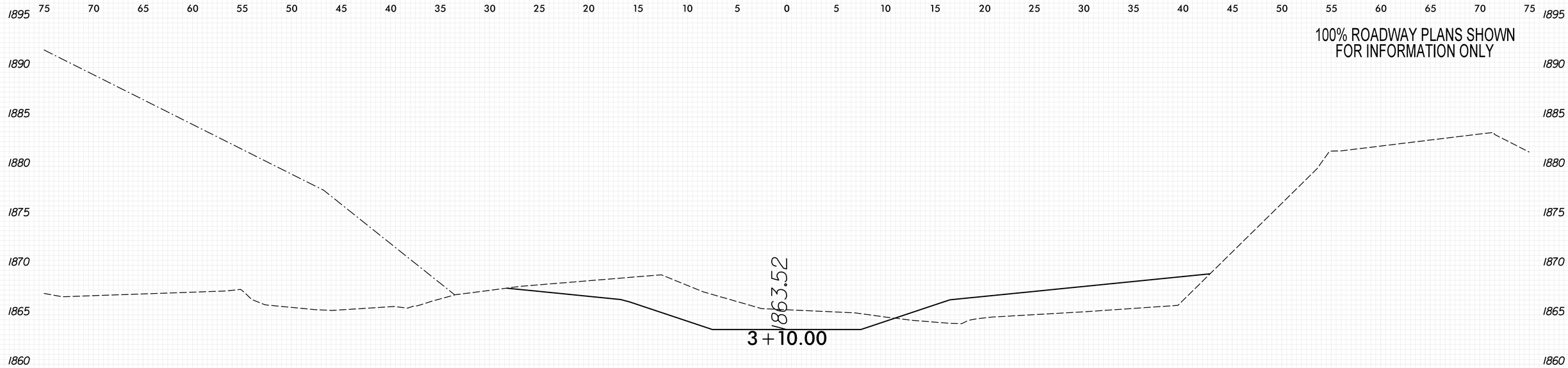
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:19 AM

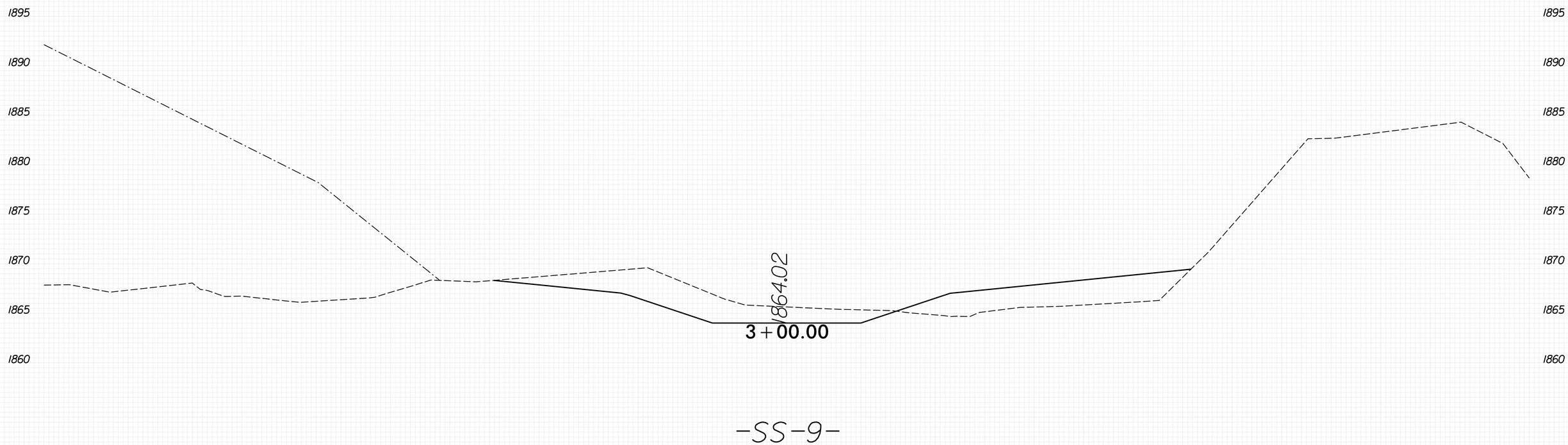
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-160

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





-SS-9-

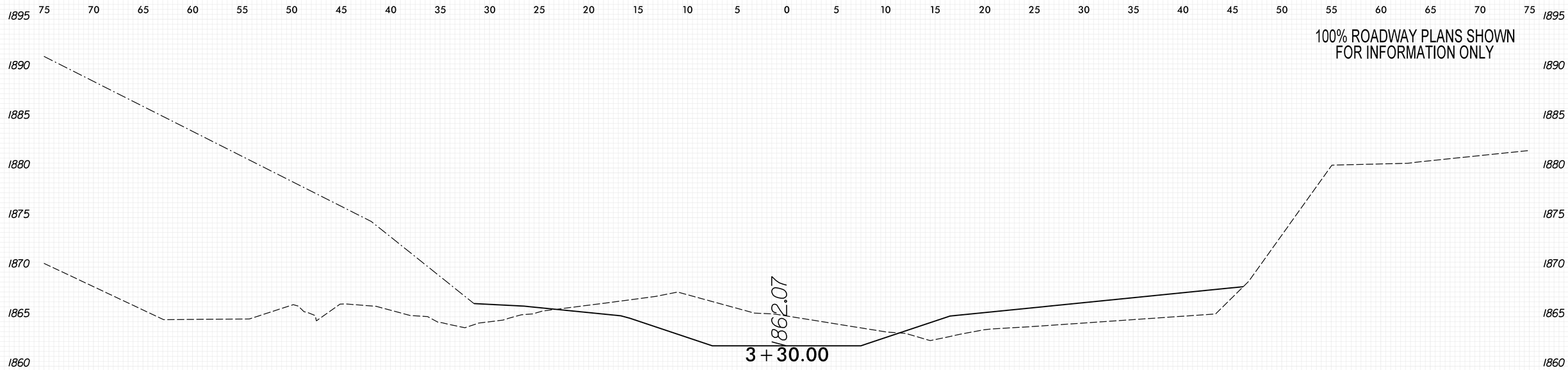
8/23/99

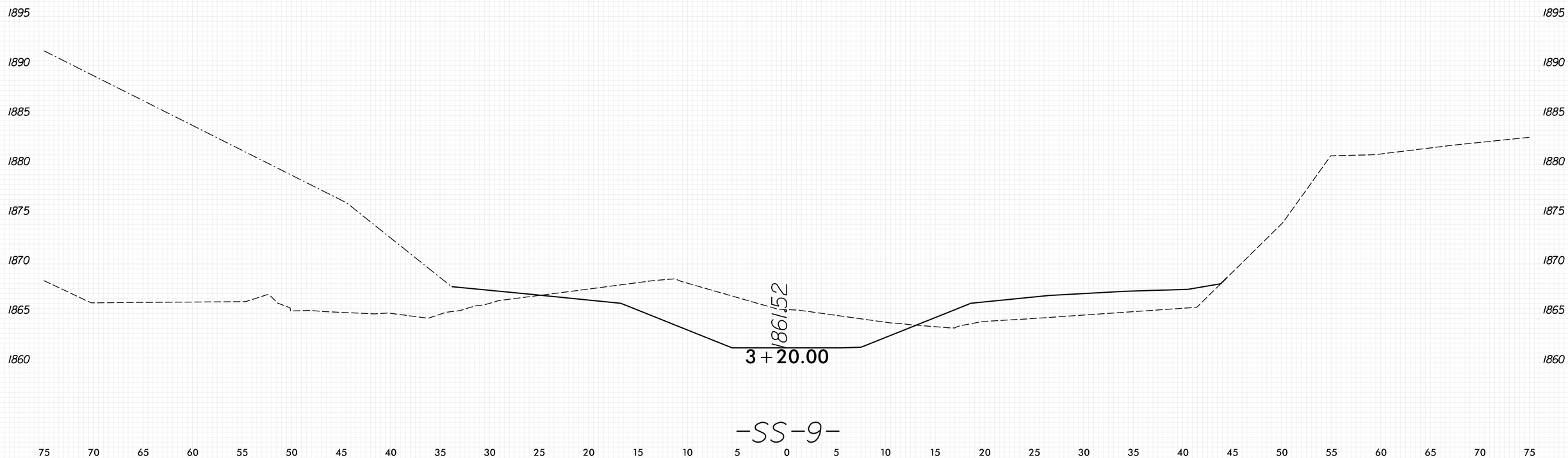
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:59:22 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-161

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





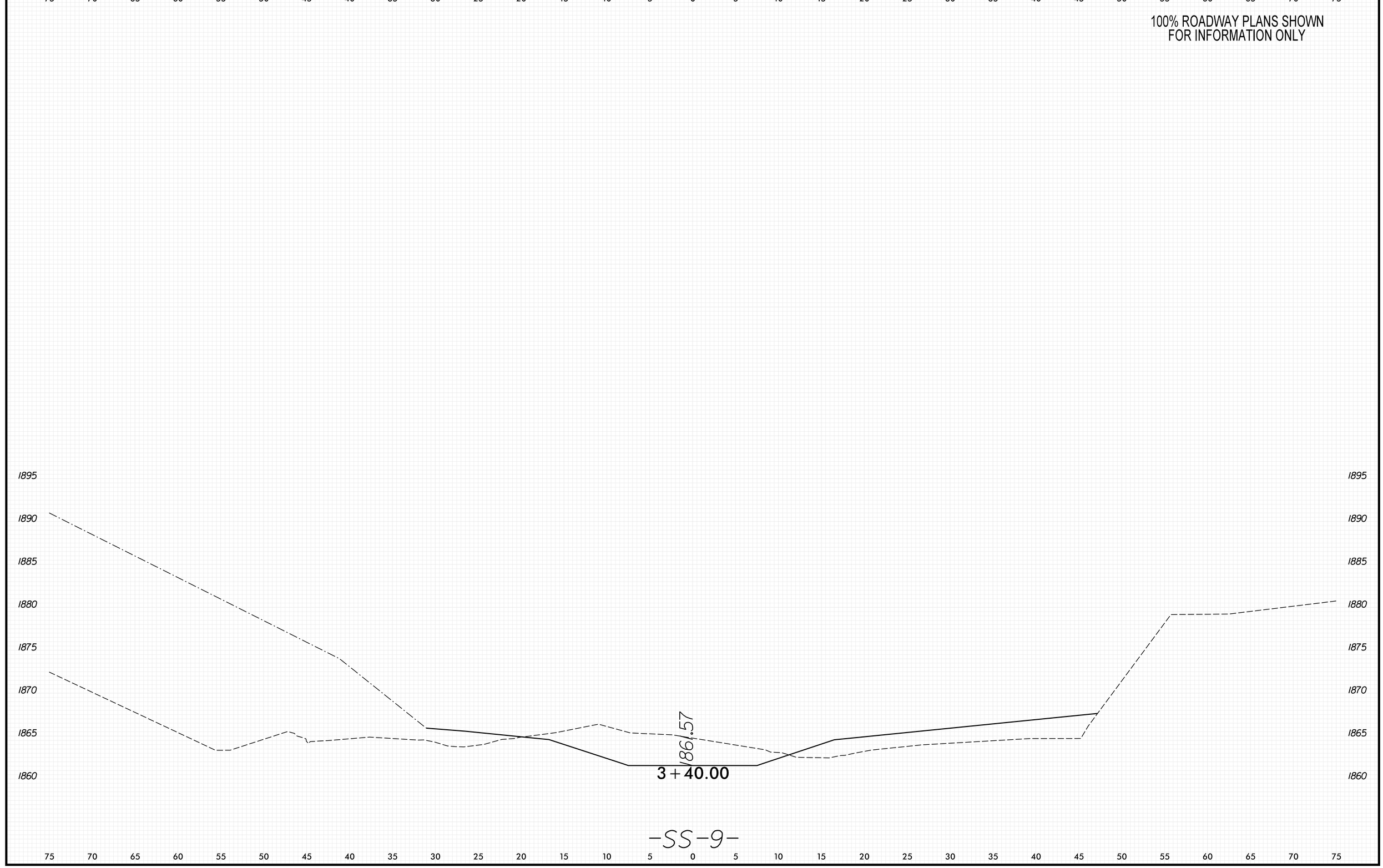
-SS-9-

8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:23 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-162

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

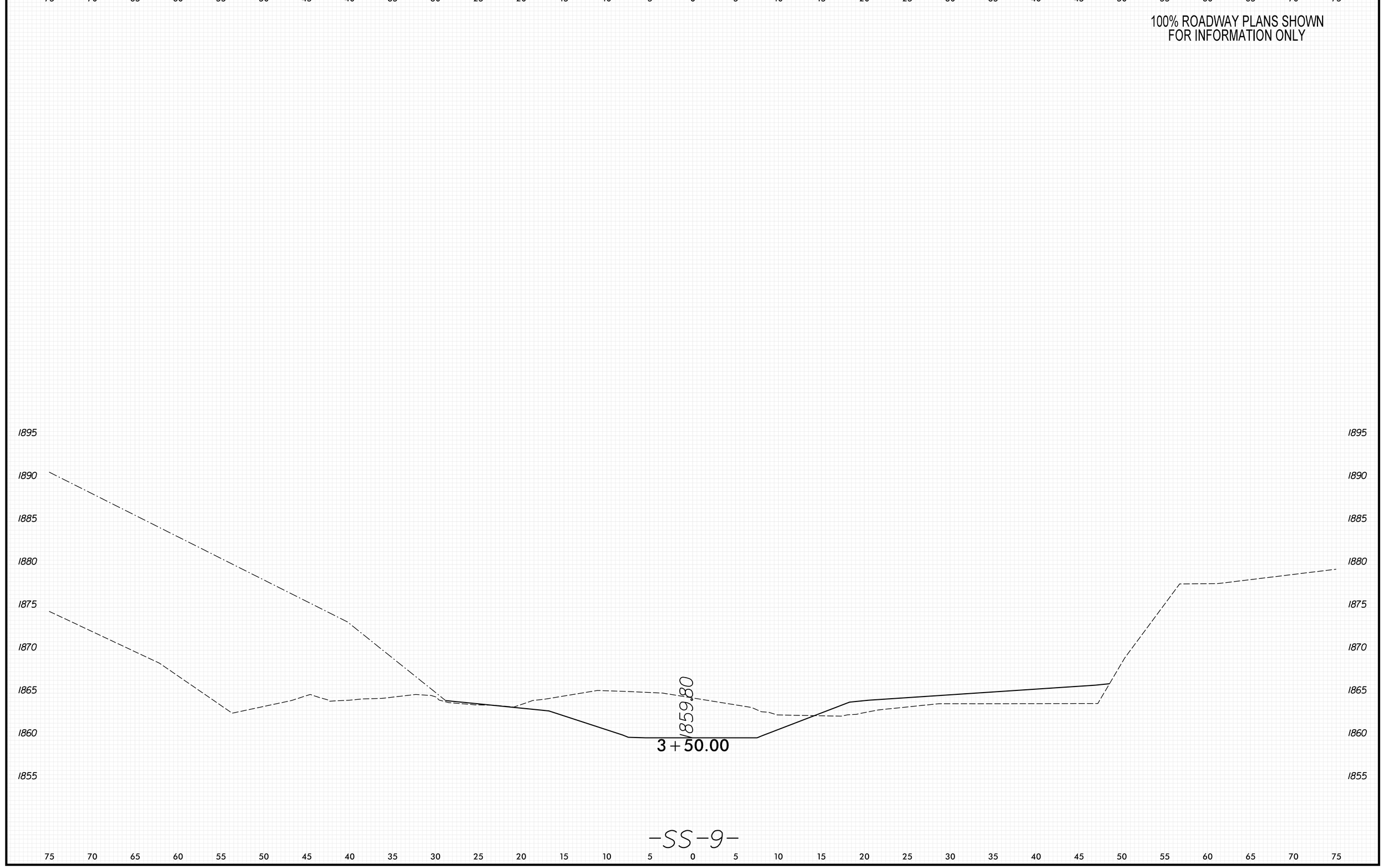


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:25 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-163

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

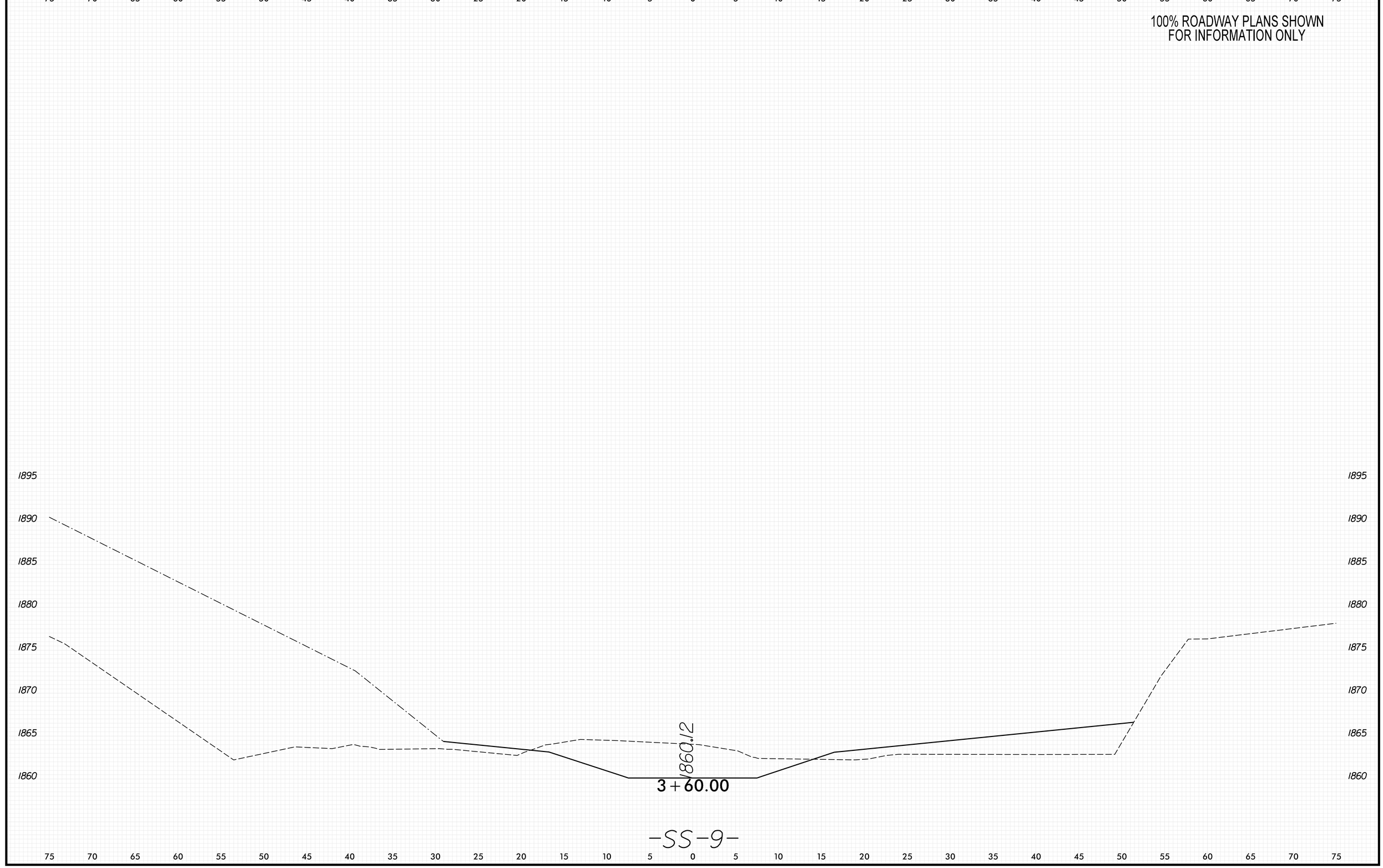
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:27 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-164

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

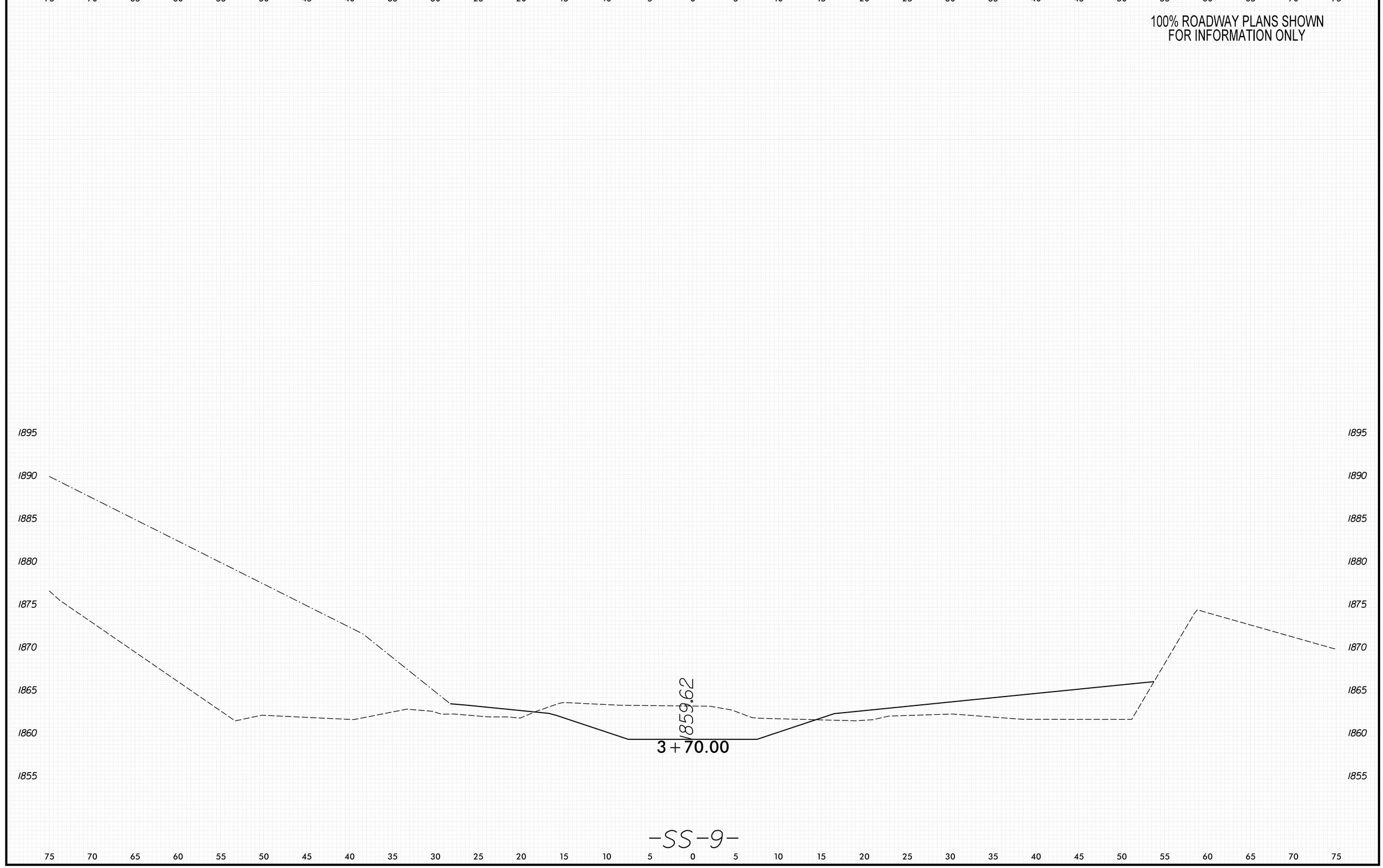


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 8:59:28 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-165

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

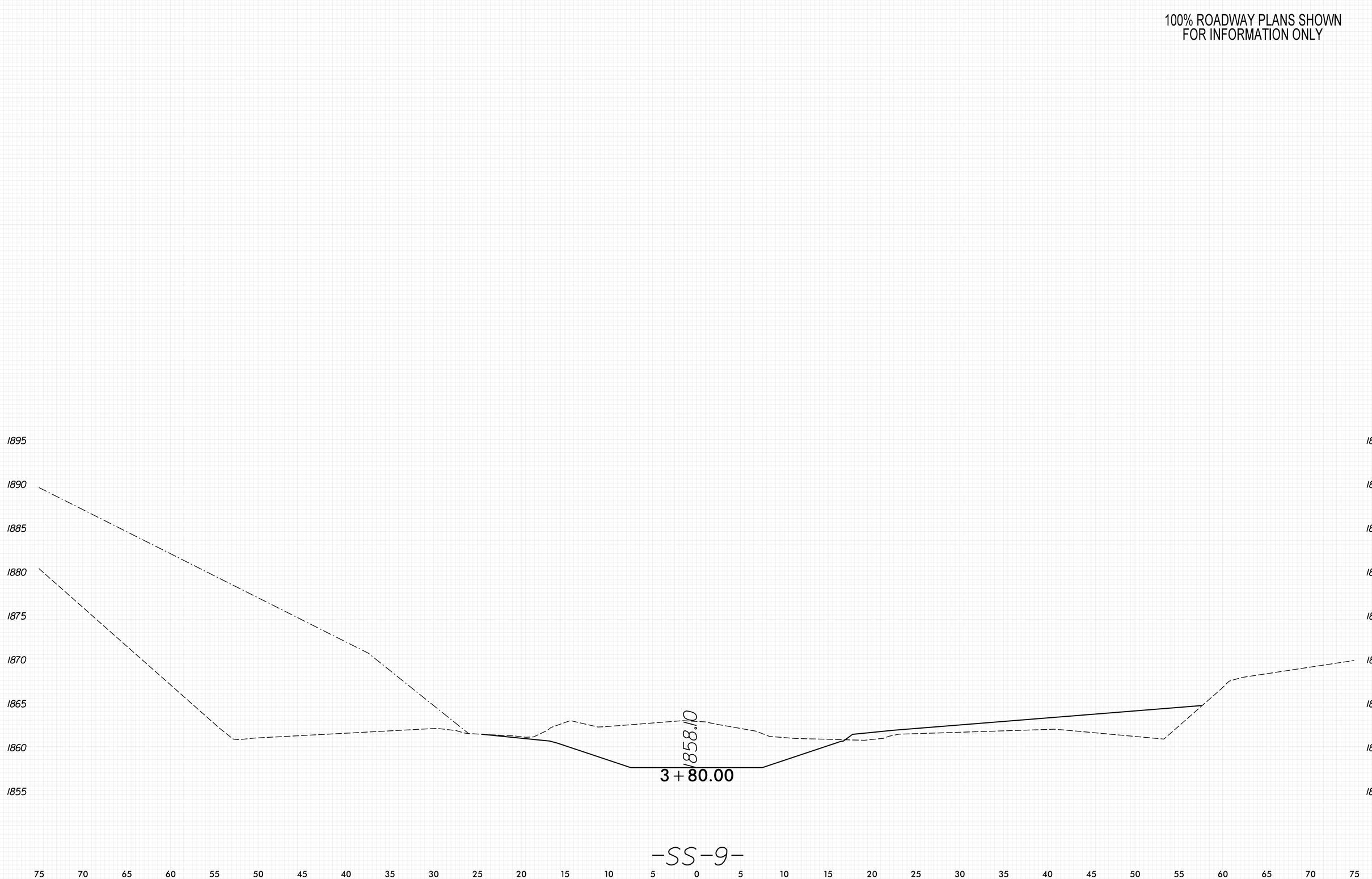
PENTABLE: xpl.eh_v8.tbl
TIME: 8:59:30 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-166

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

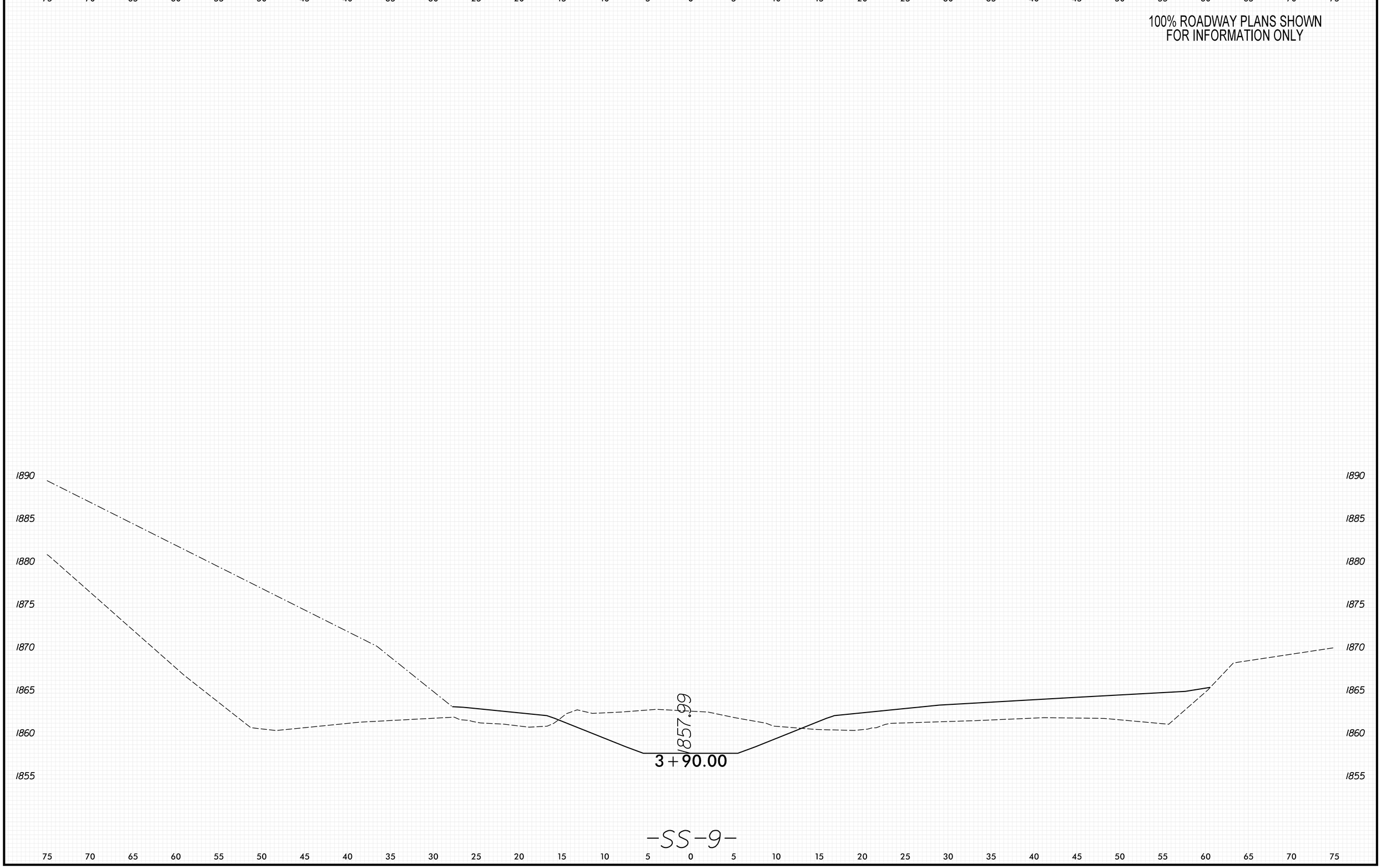
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:32 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-167

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:34 AM

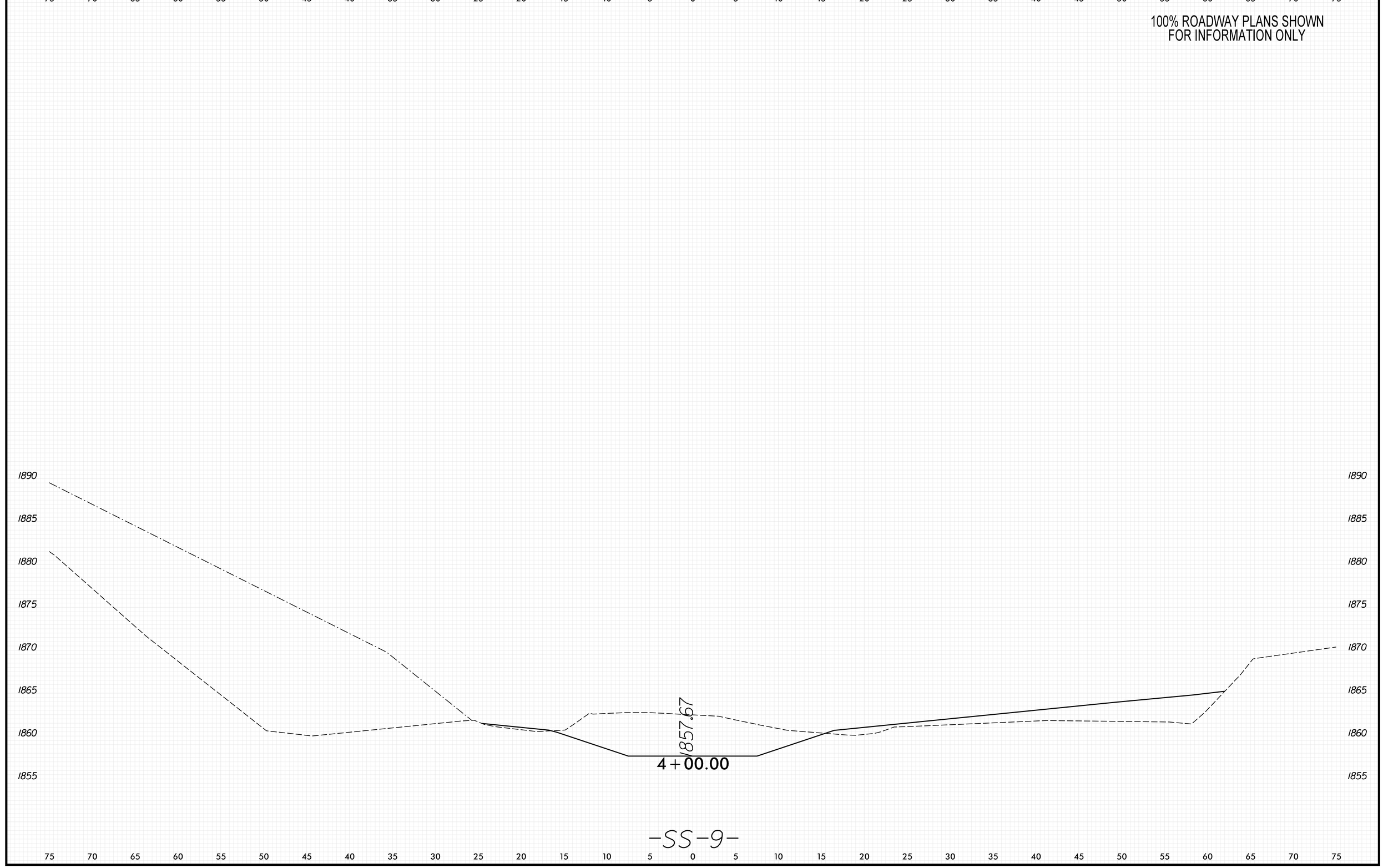
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-168

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



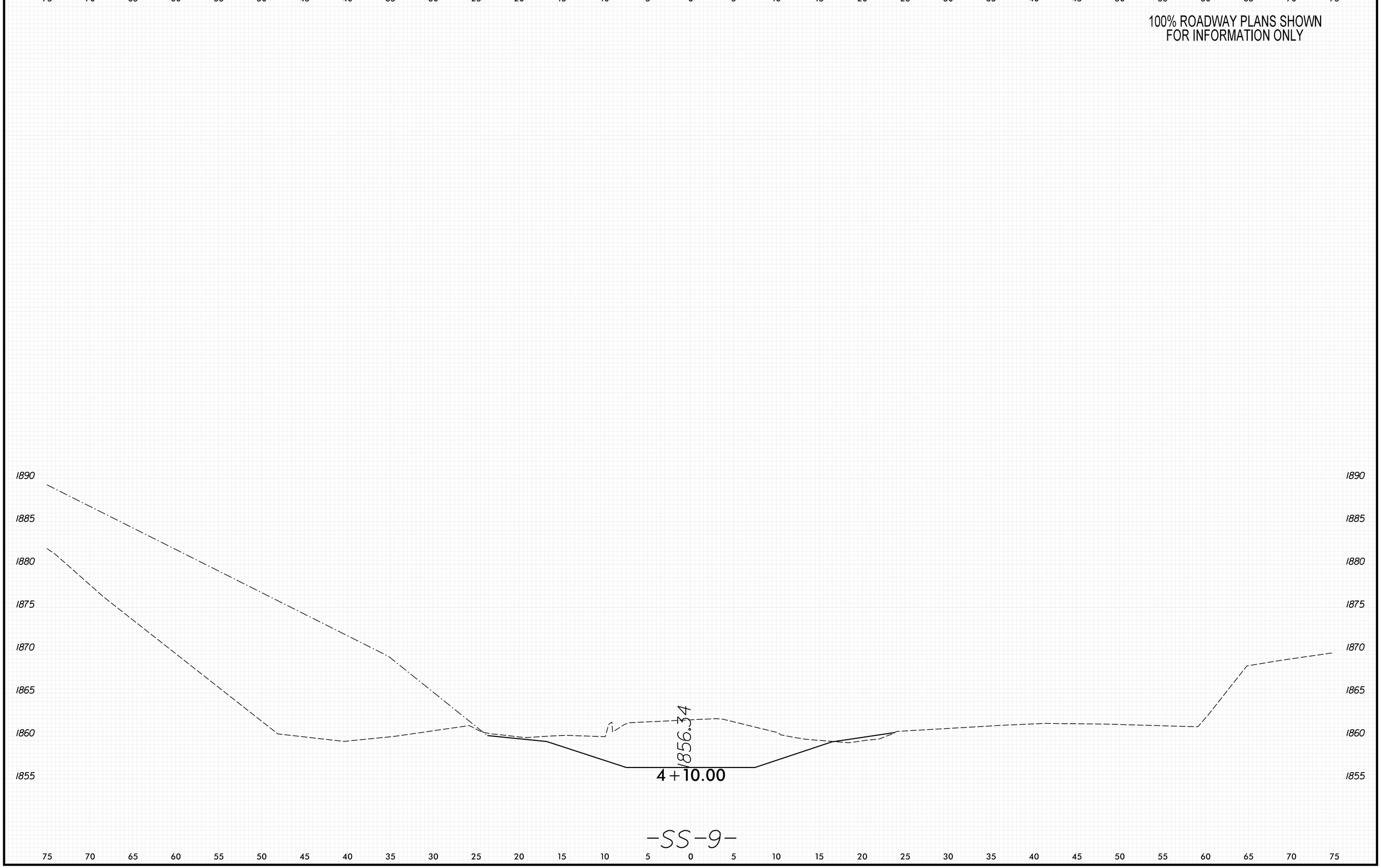
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 8:59:35 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-169

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

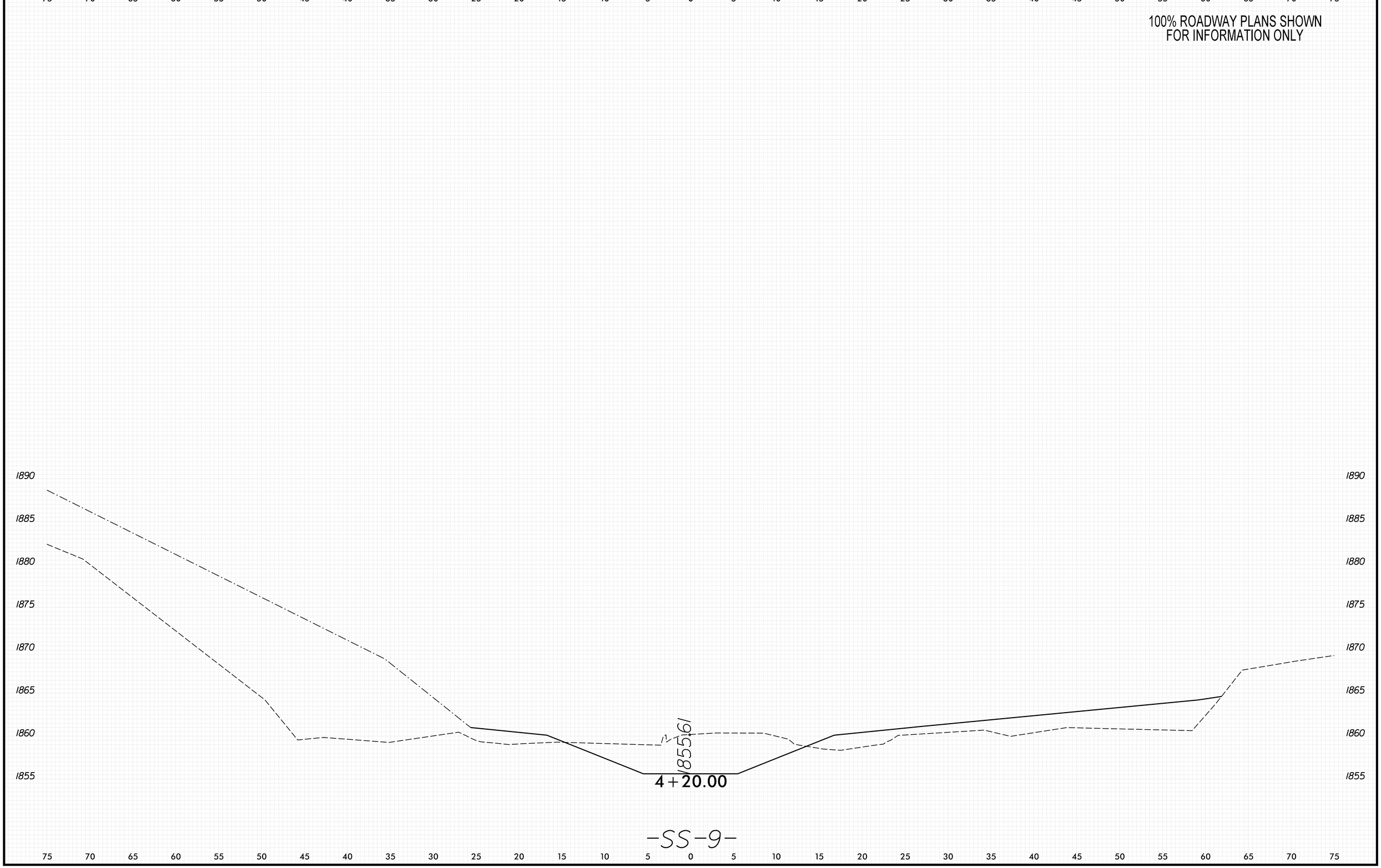


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:37 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-170

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

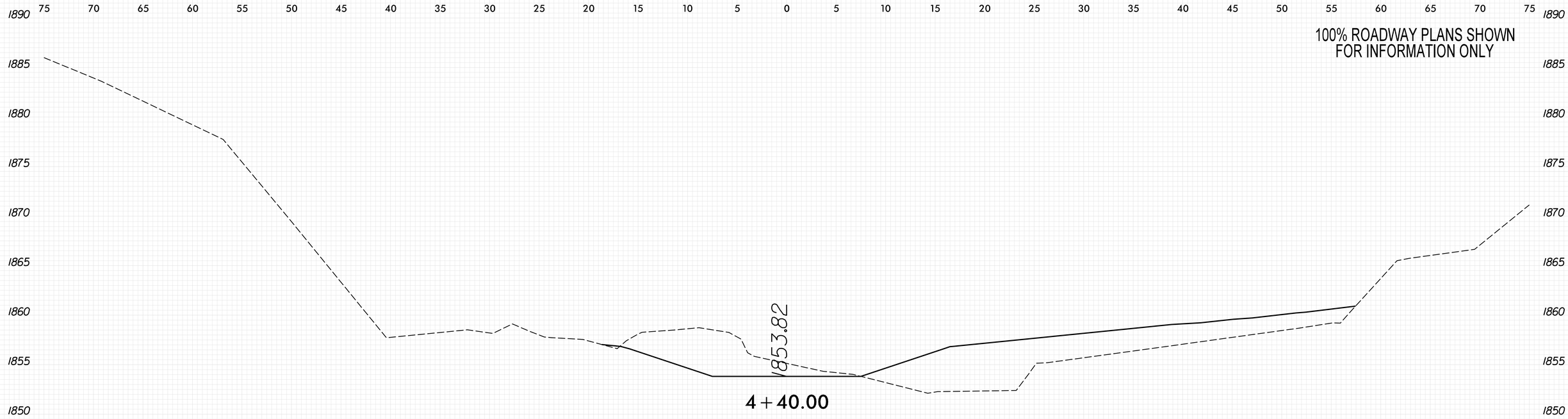


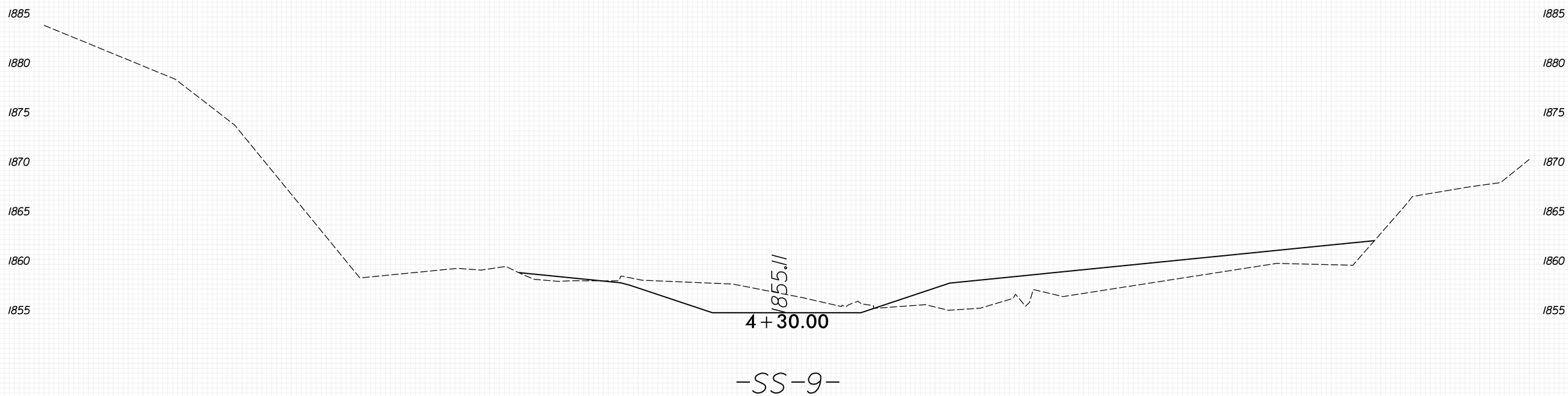
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:38 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-171

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



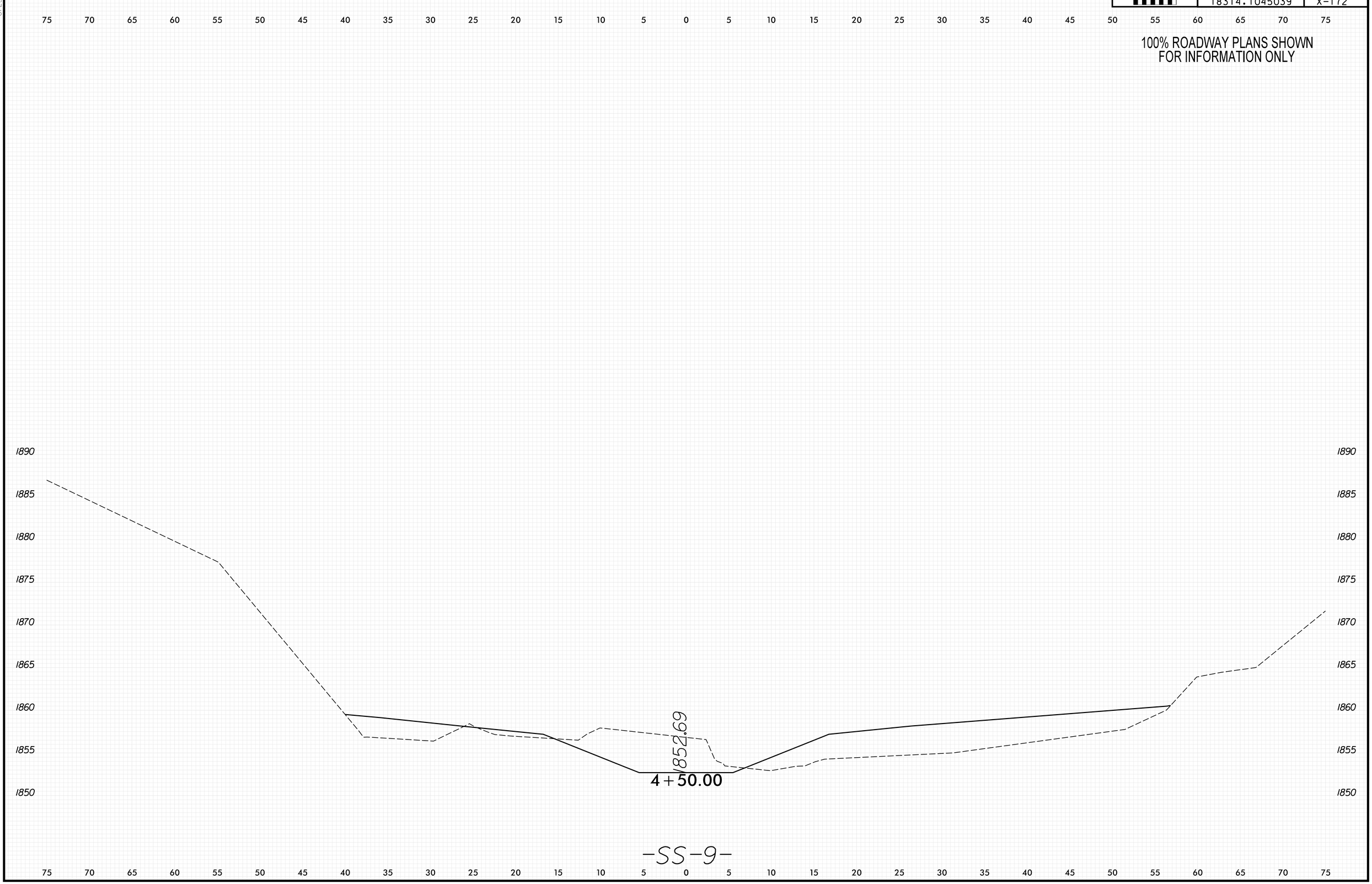


-SS-9-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:40 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-172

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:41 AM

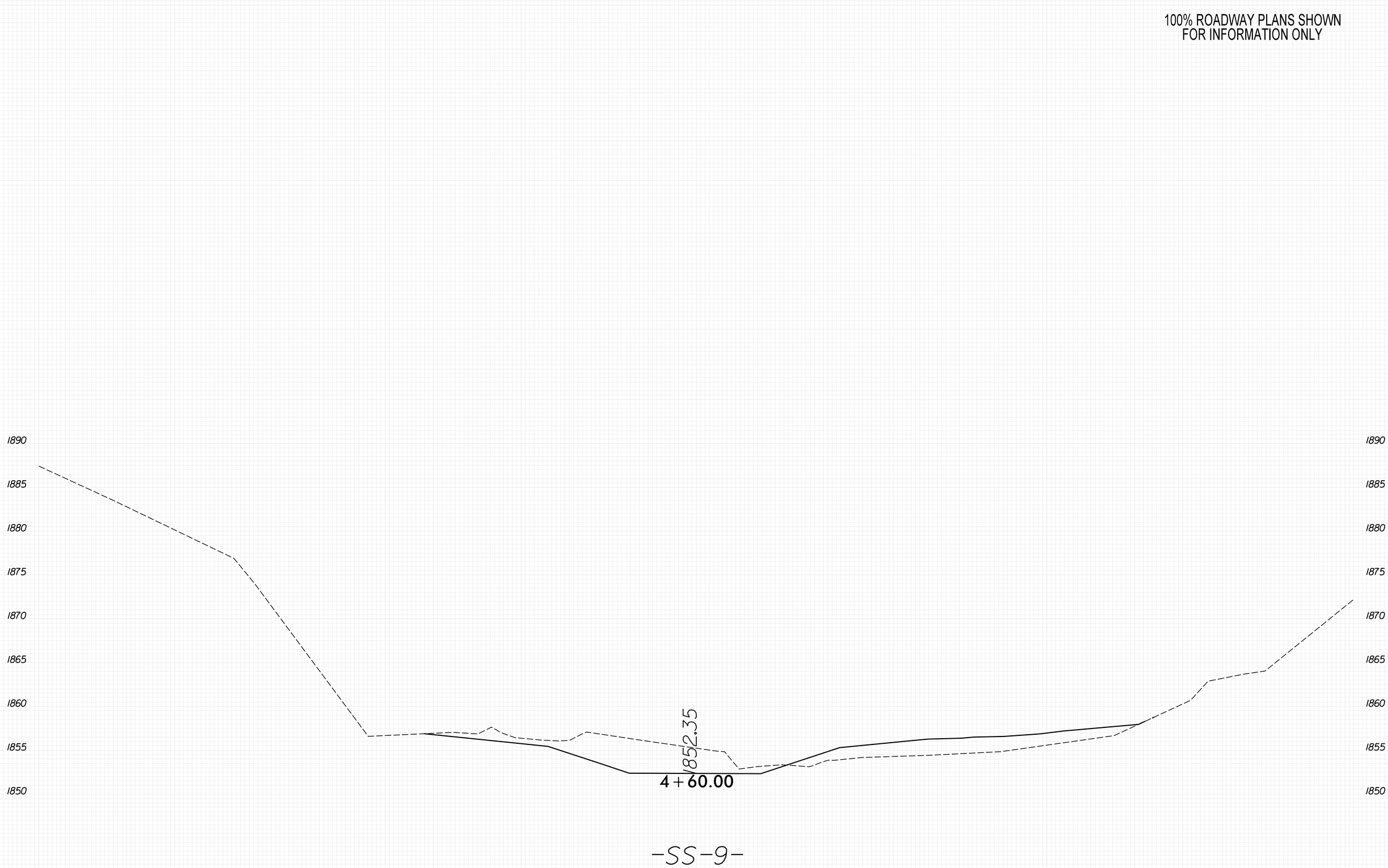
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-173

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

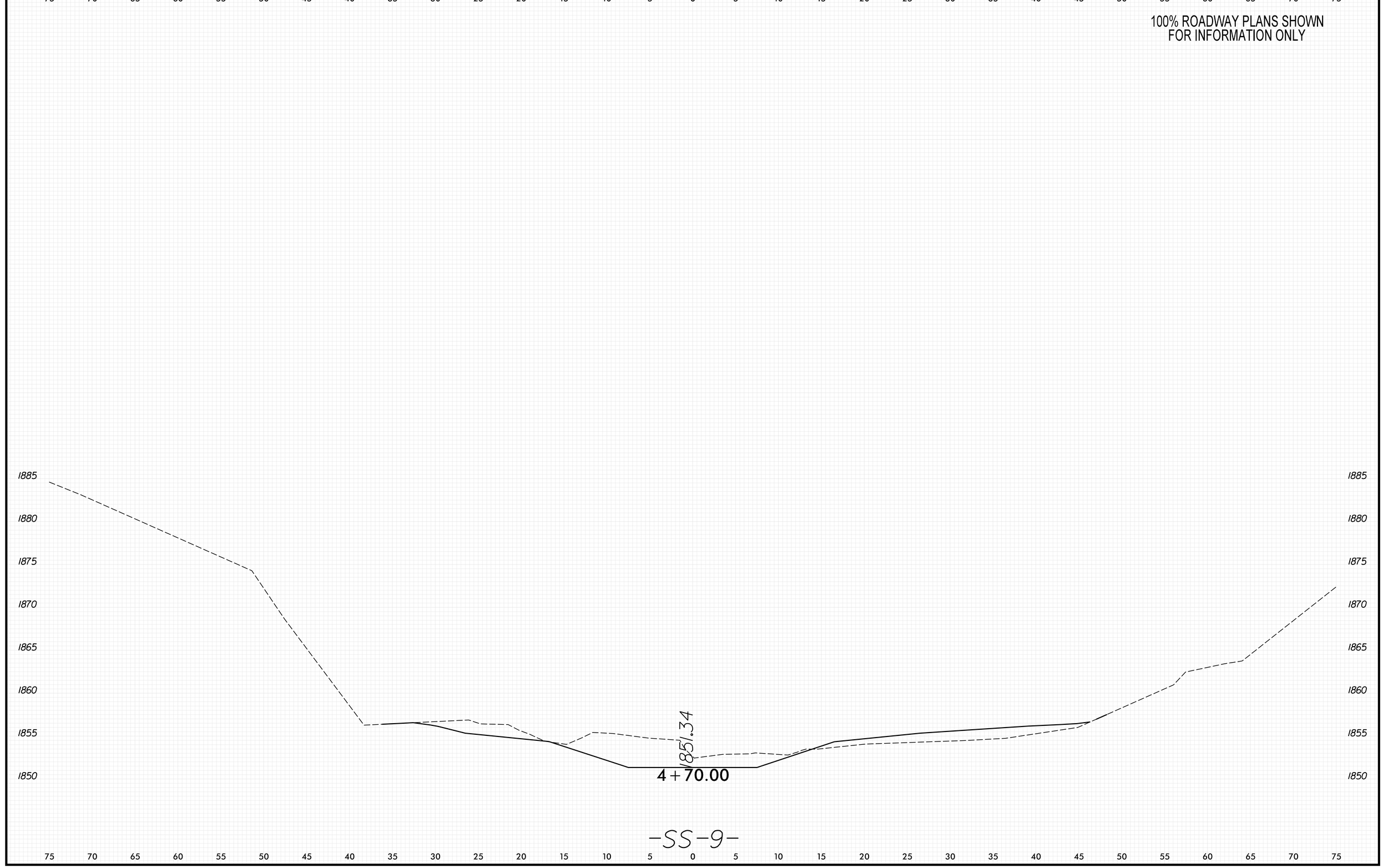


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:43 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-174

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

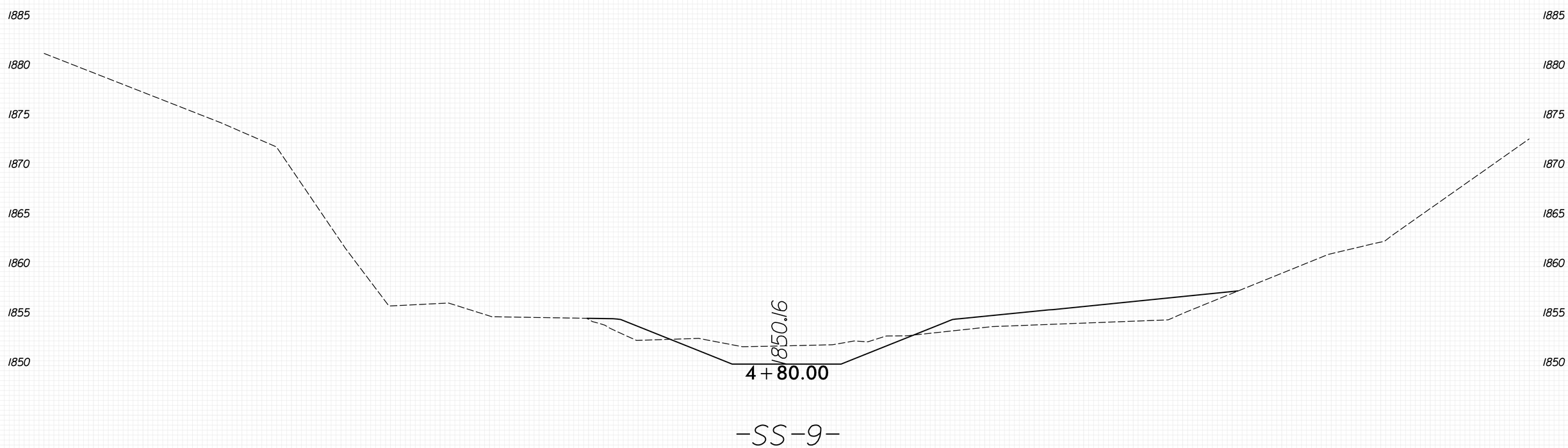


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:44 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-175

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

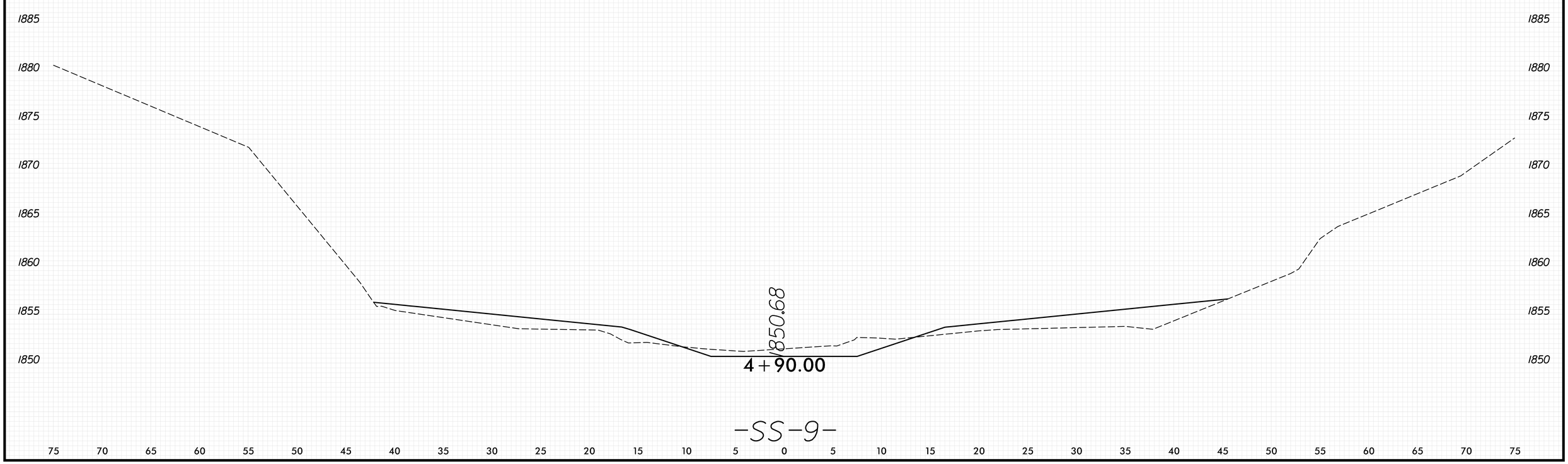


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:46 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-176

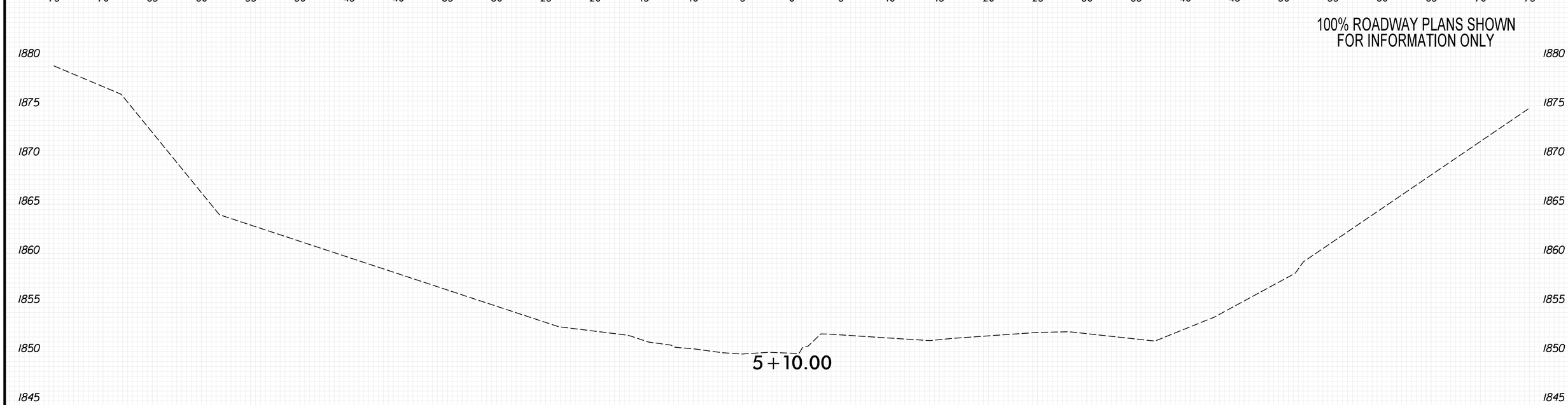
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

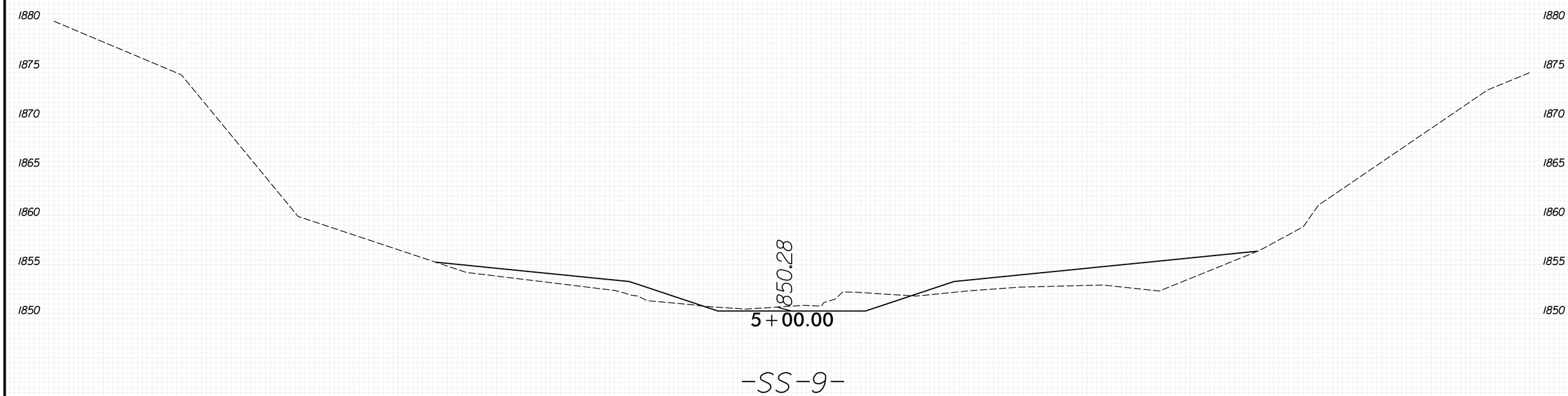


8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:47 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-177

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



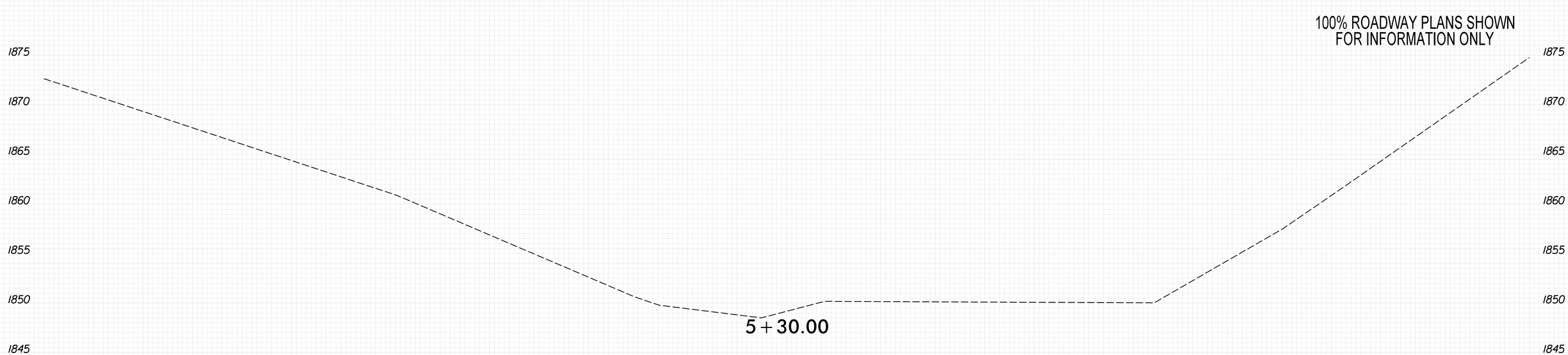


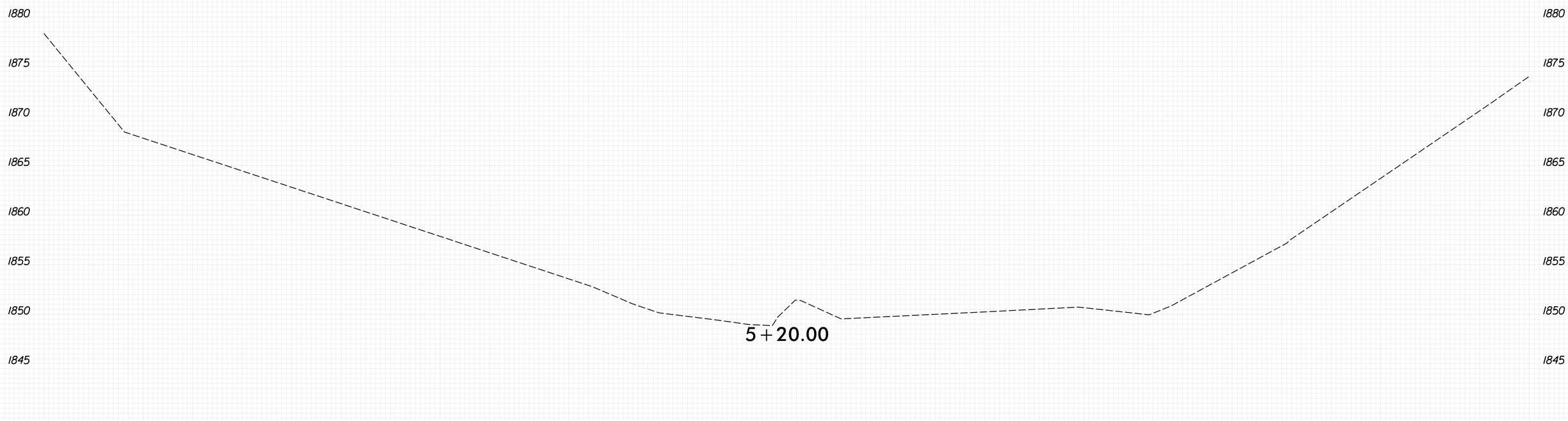
-SS-9-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:48 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-178

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





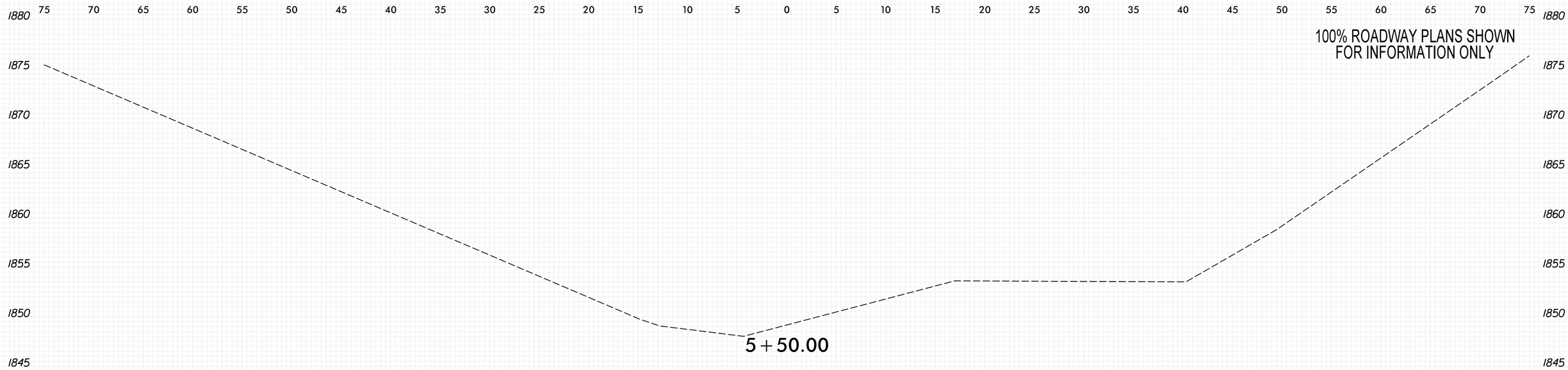
-SS-9-

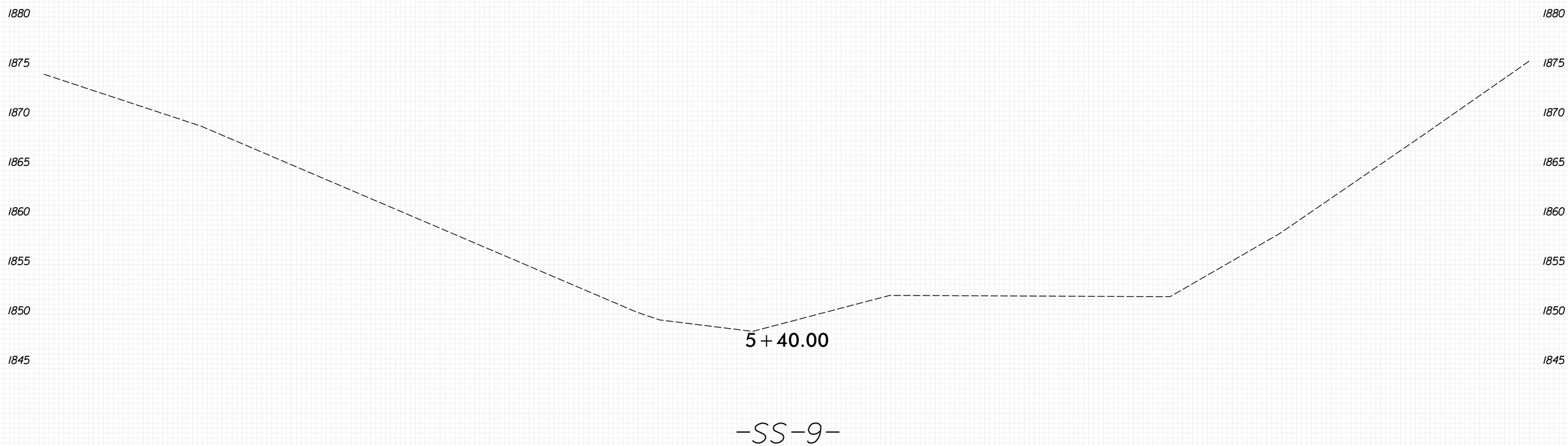
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 8:59:50 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-179

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





-SS-9-

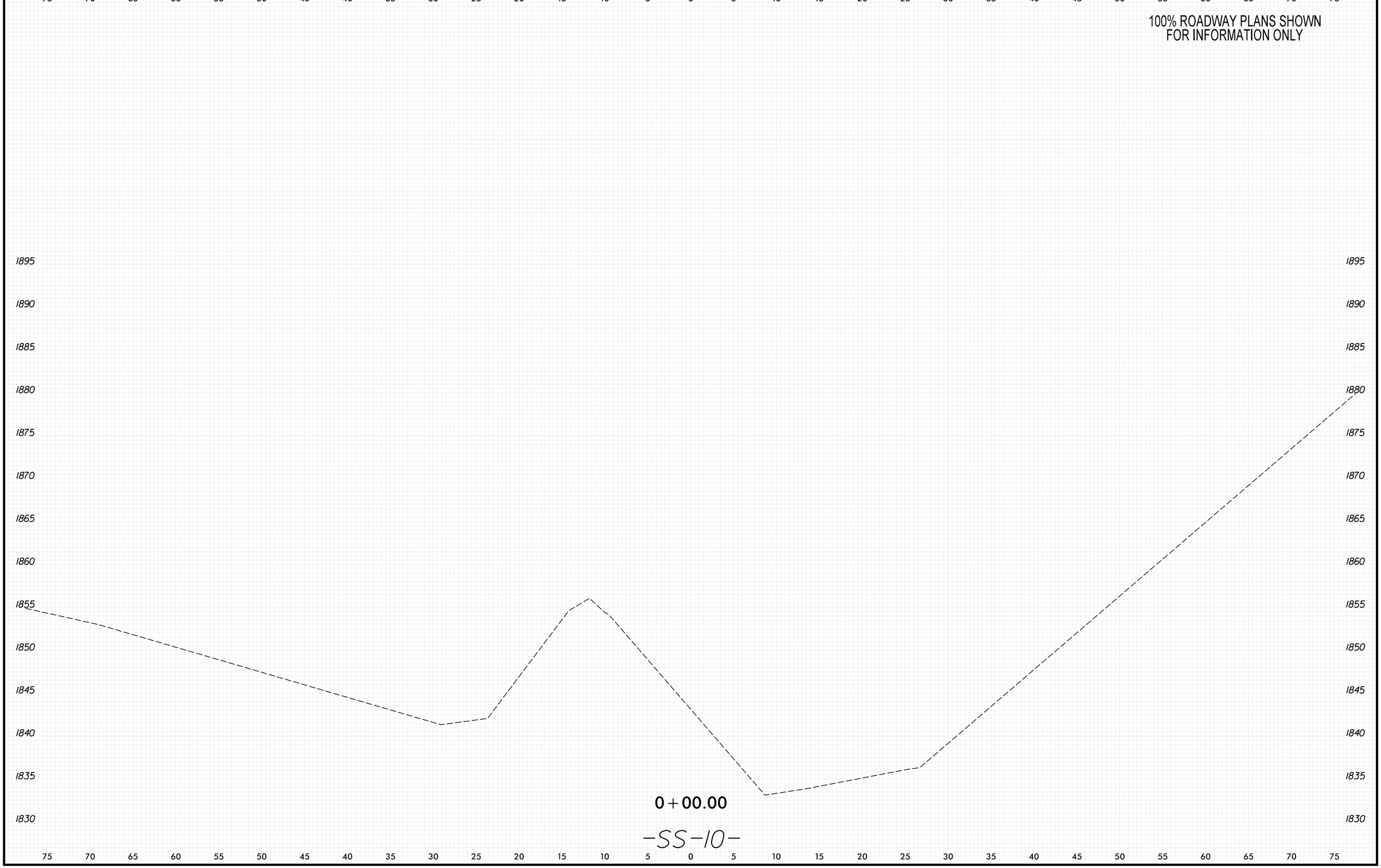
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl.eh_v8.tbl
DATE: 5/29/2026
TIME: 8:59:51 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-180

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

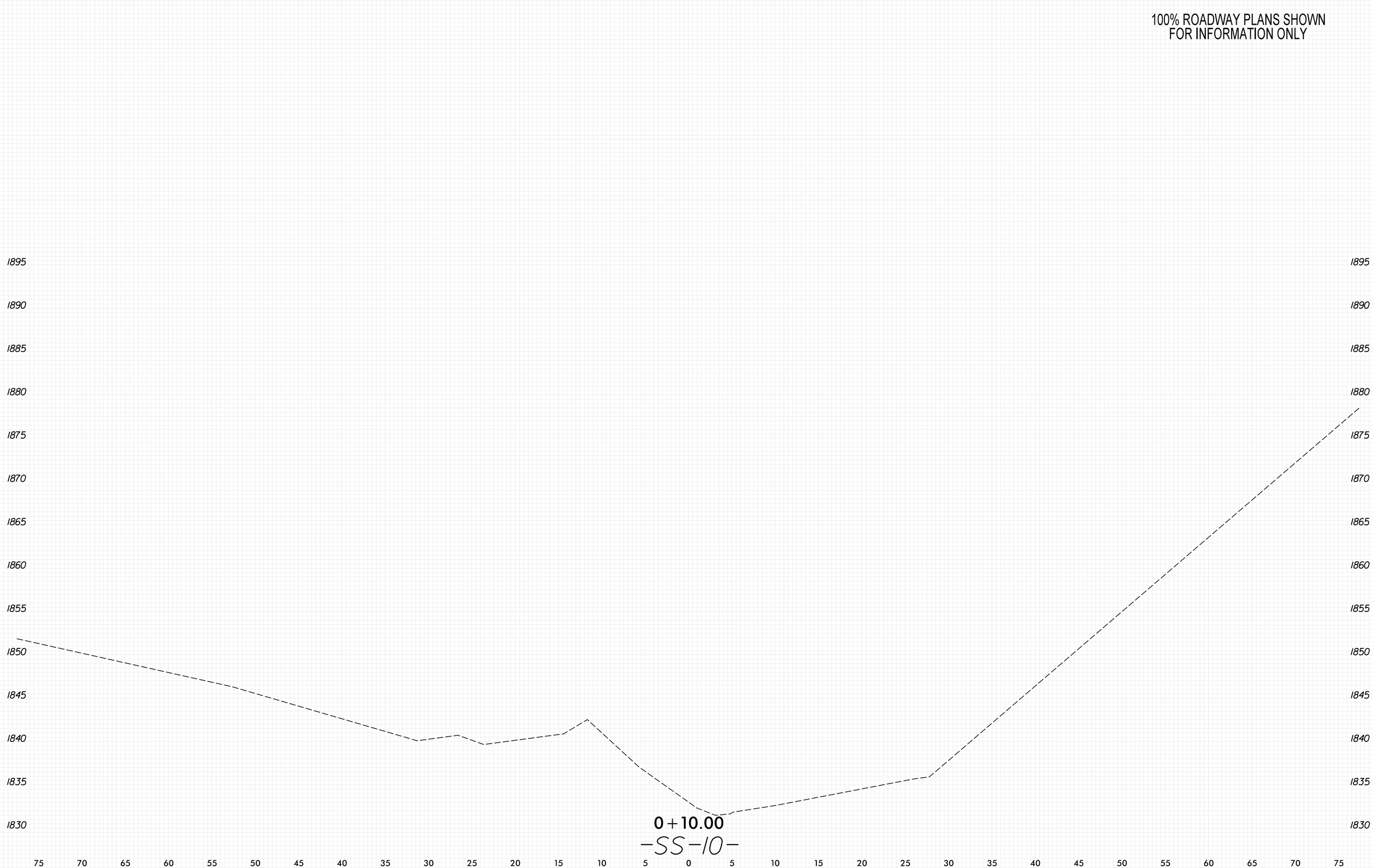


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:00:44 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-181

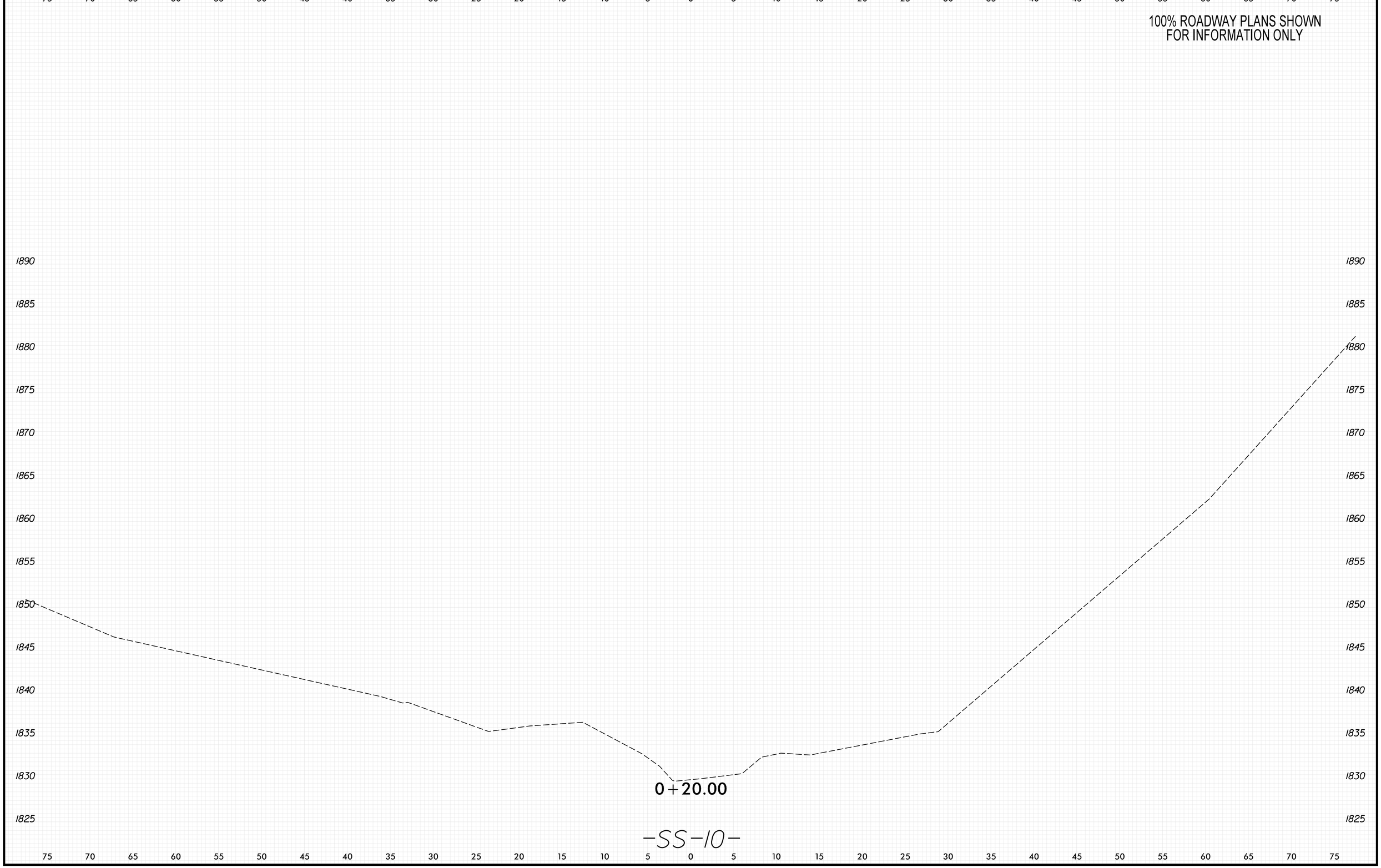
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:00:45 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-182

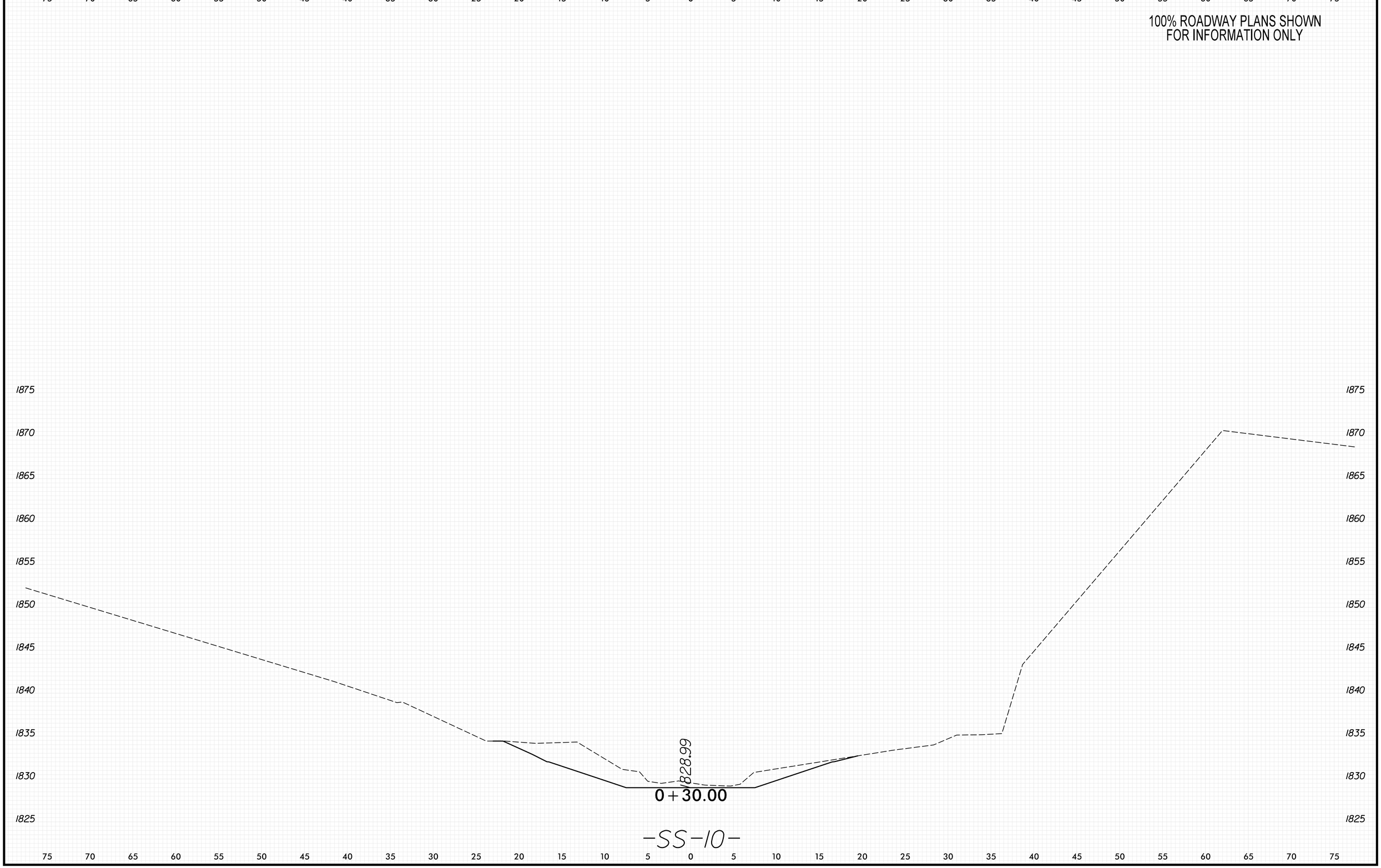
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:00:46 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-183

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

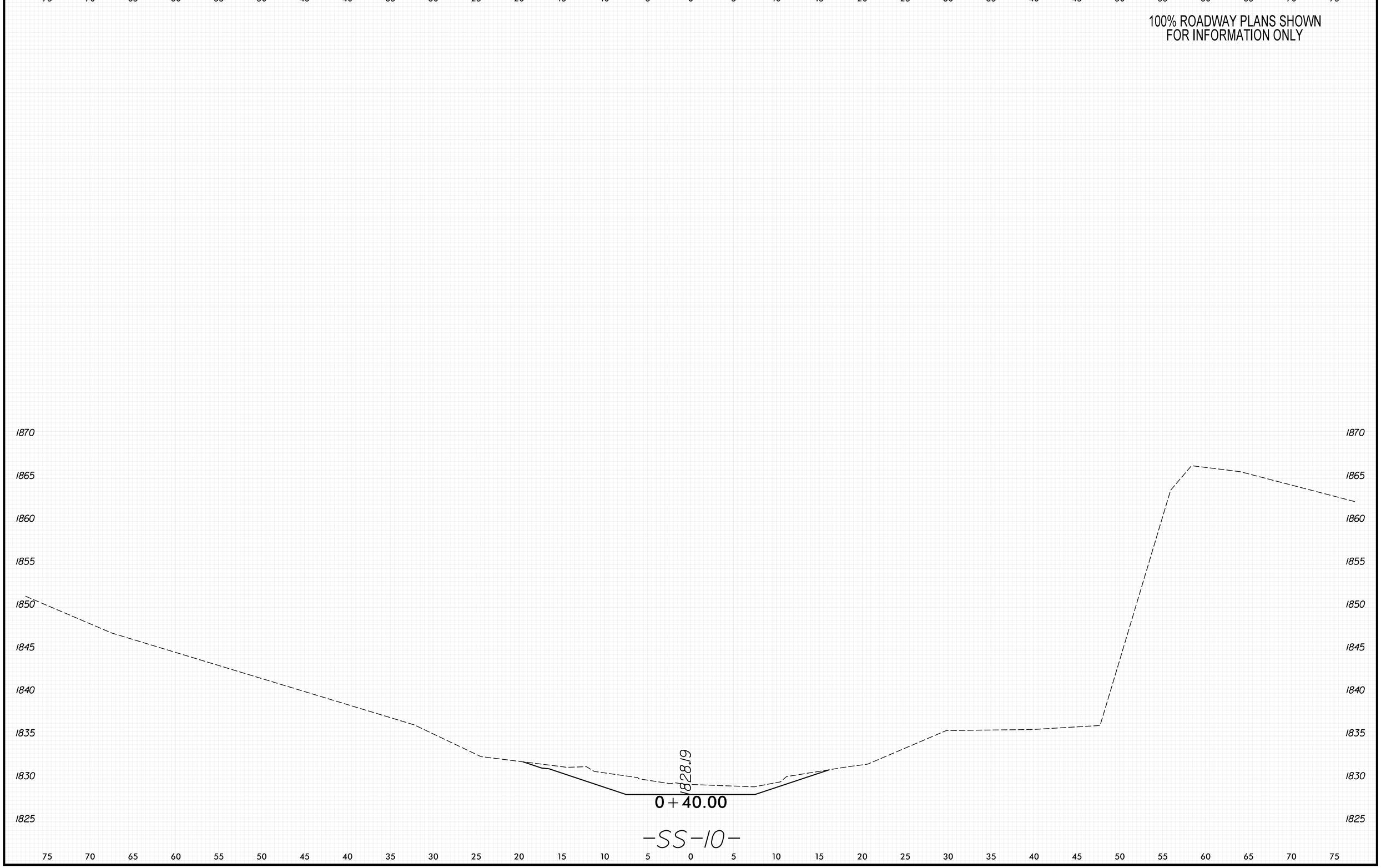


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:00:48 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-184

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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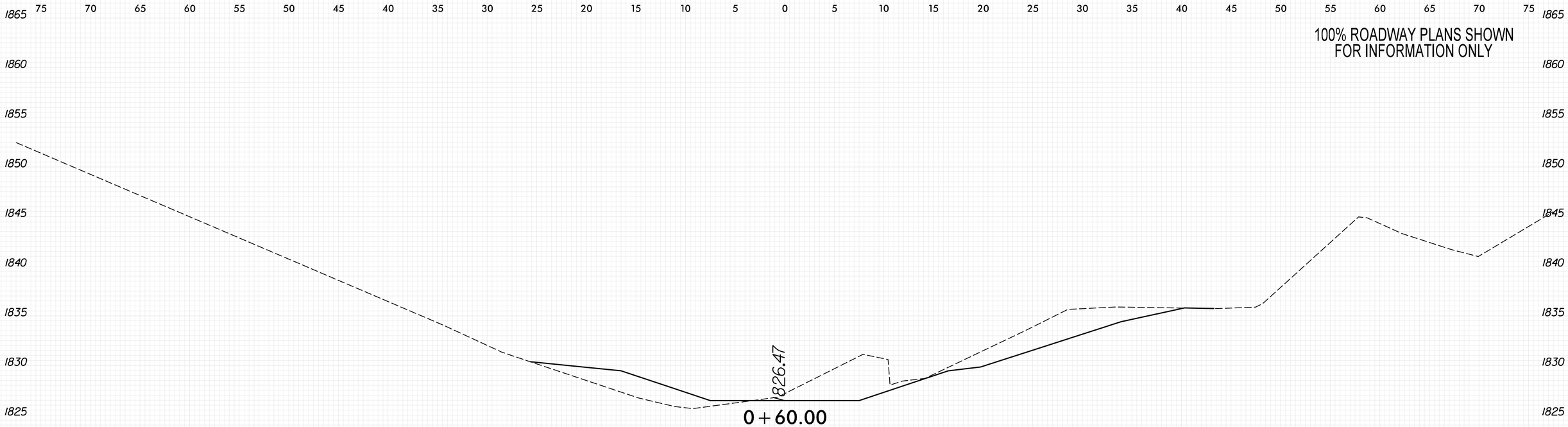
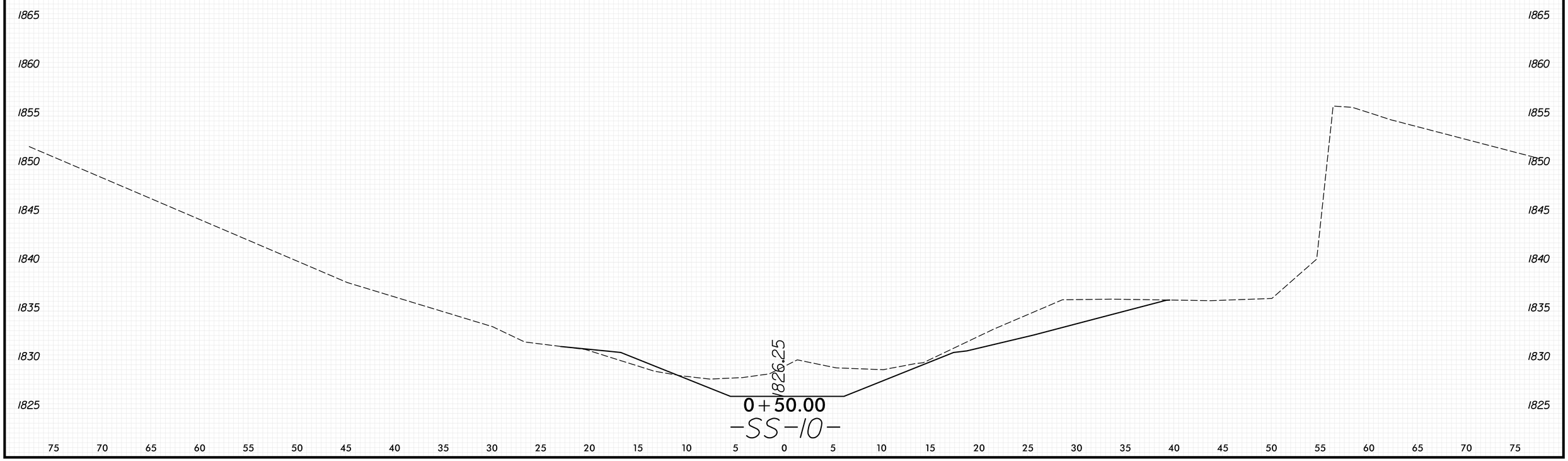
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-185

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



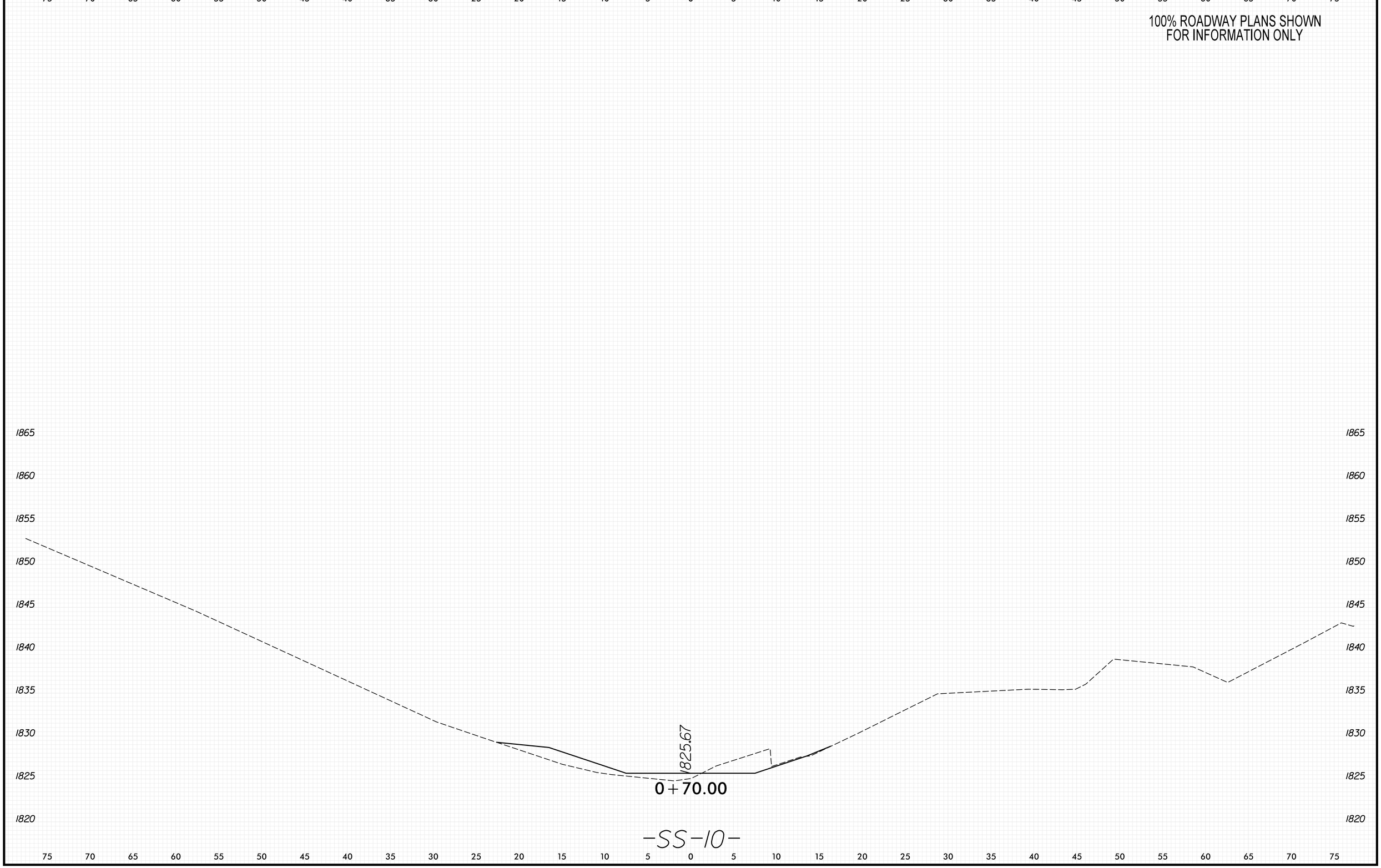


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:00:51 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-186

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:00:52 AM
DATE: 5/29/2026
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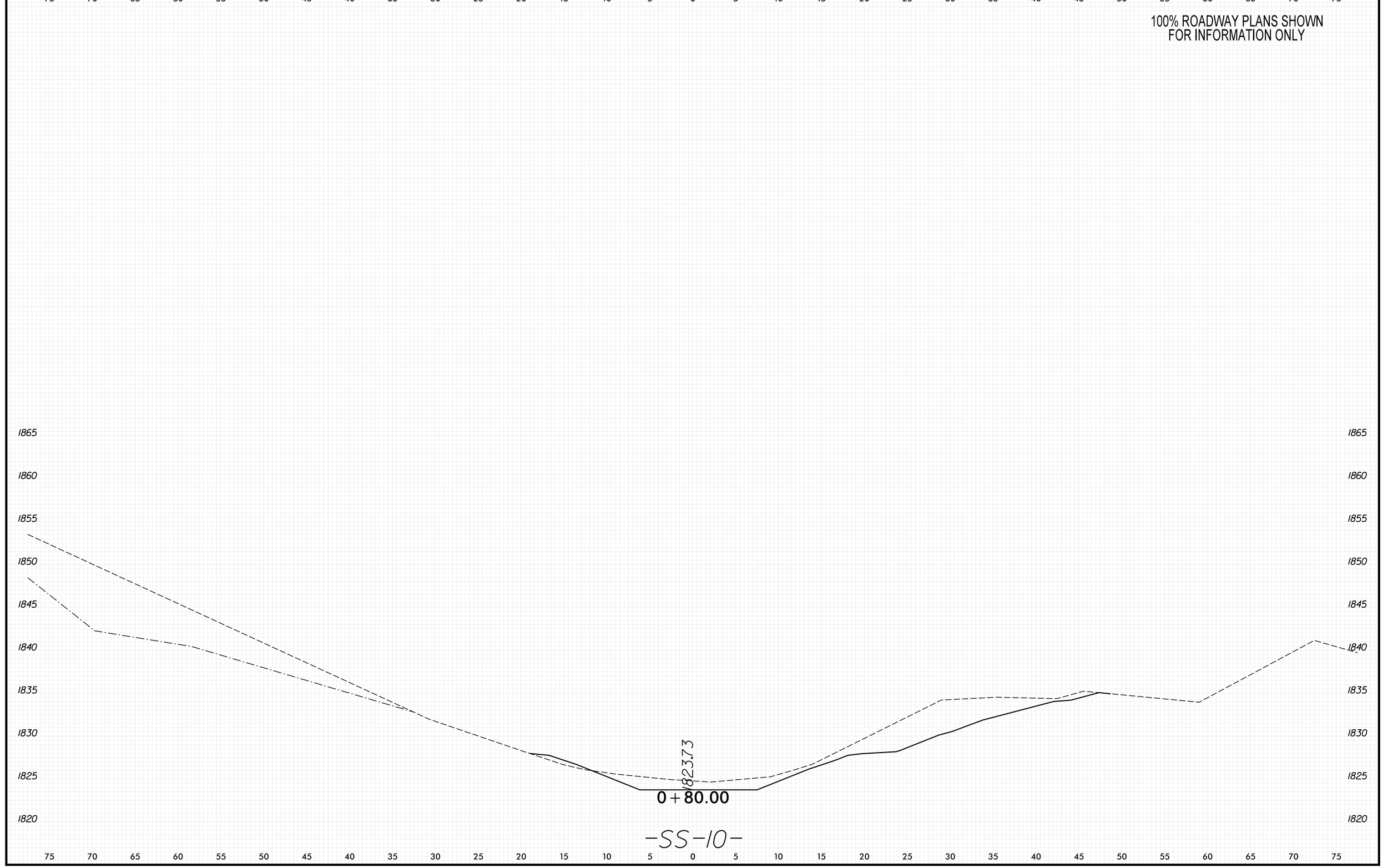
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-187

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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DATE: 5/29/2026
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USER: KCLATTERBU
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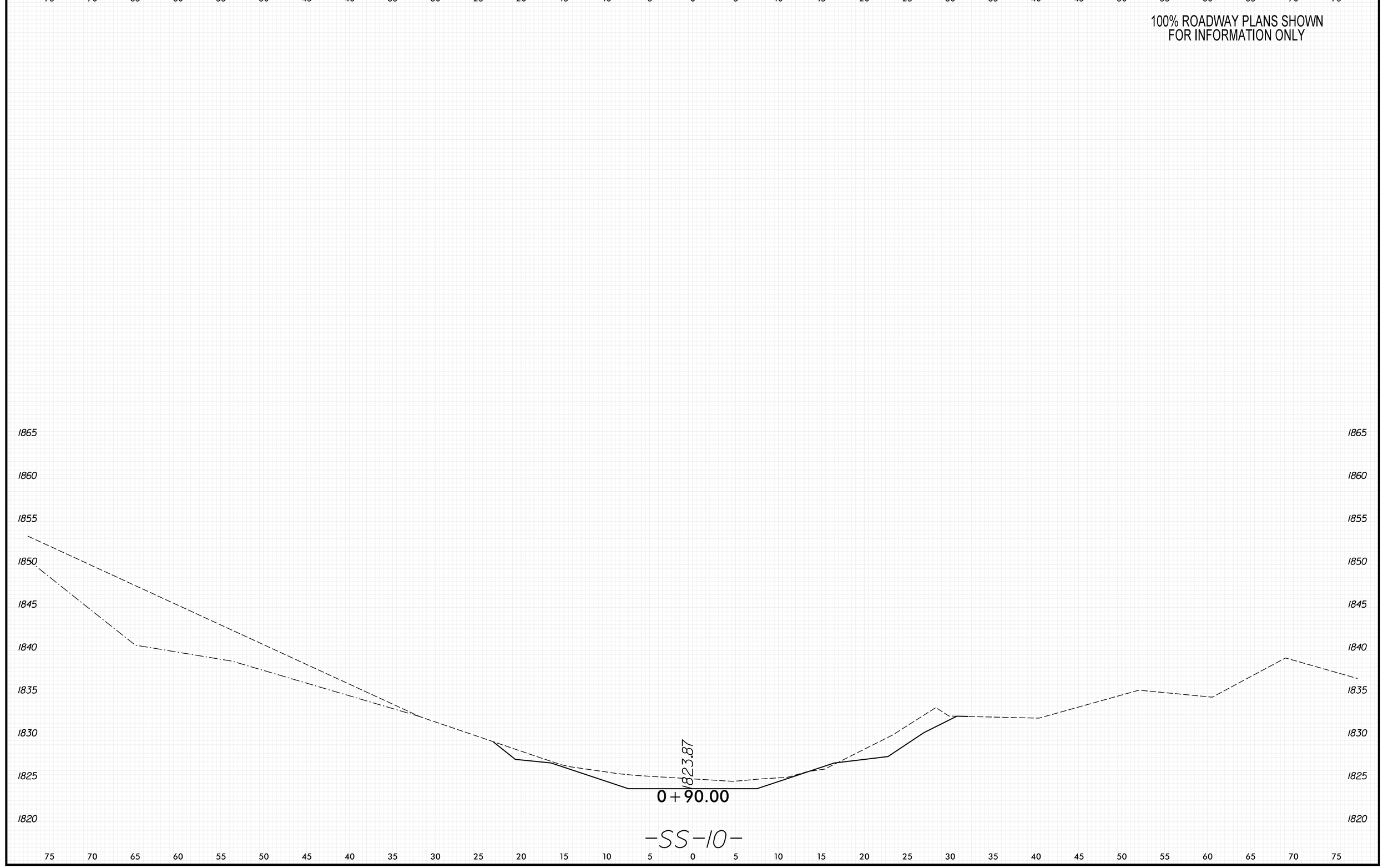
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-188

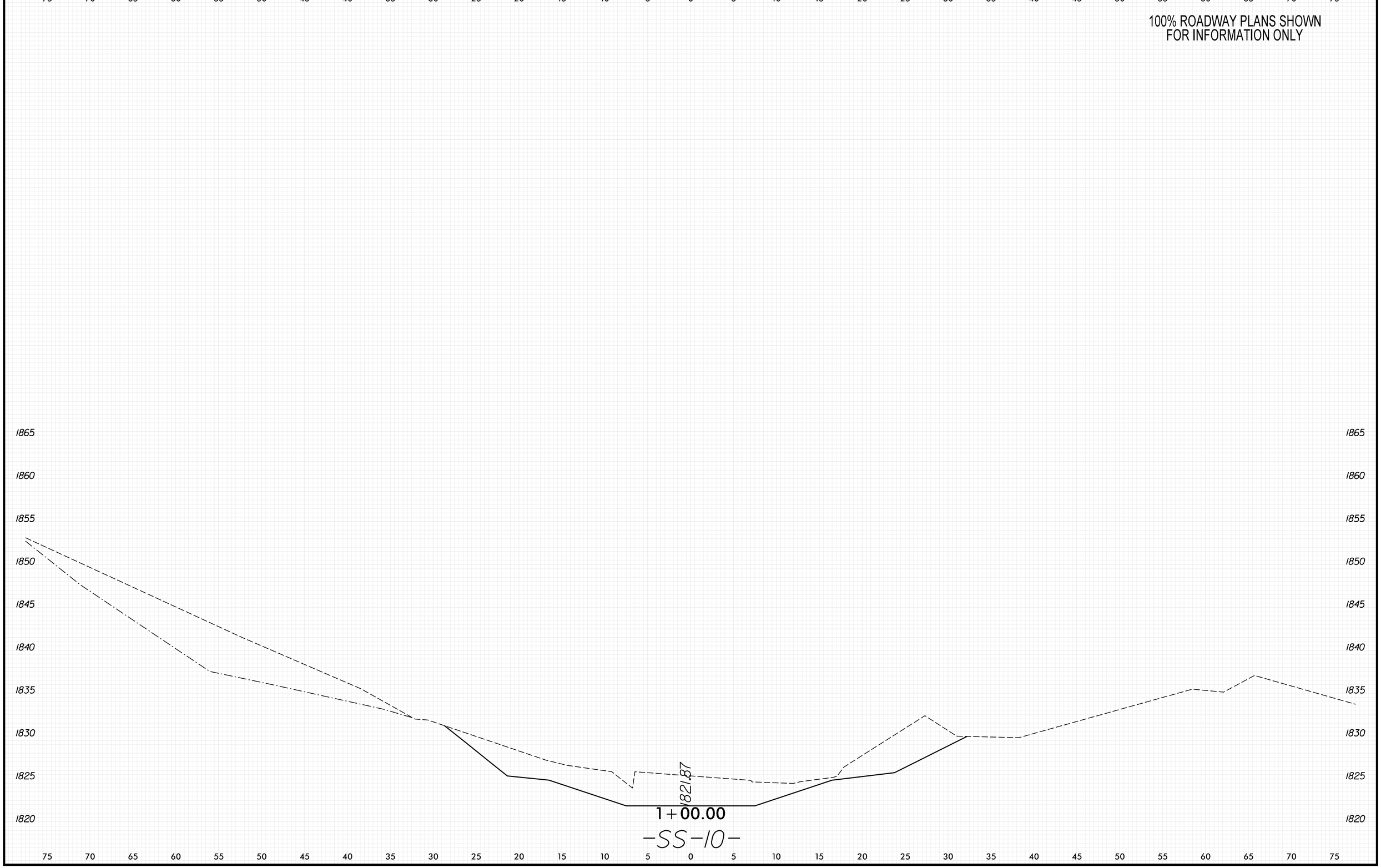
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:00:55 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-189

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

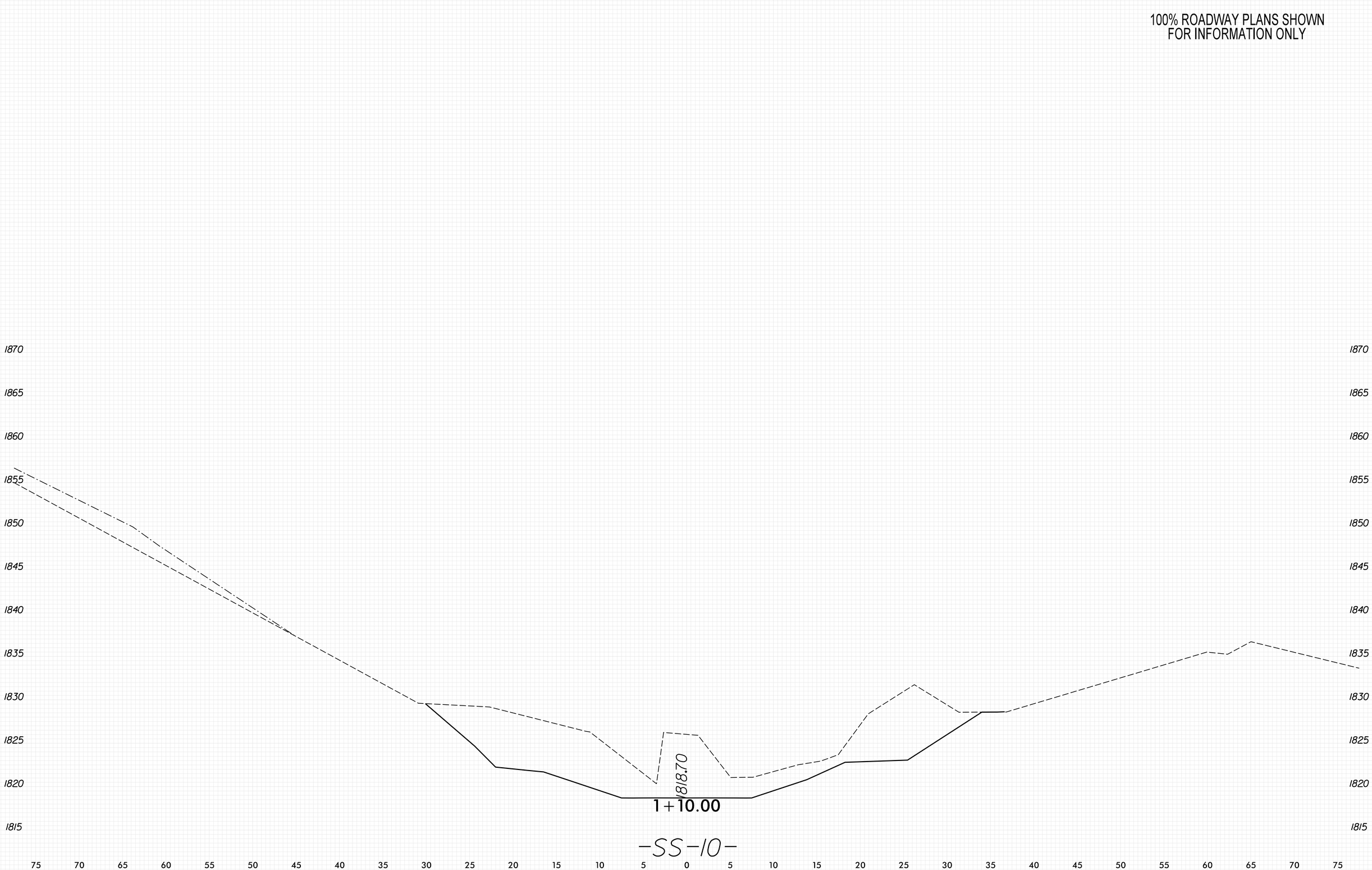


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:00:57 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-190

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

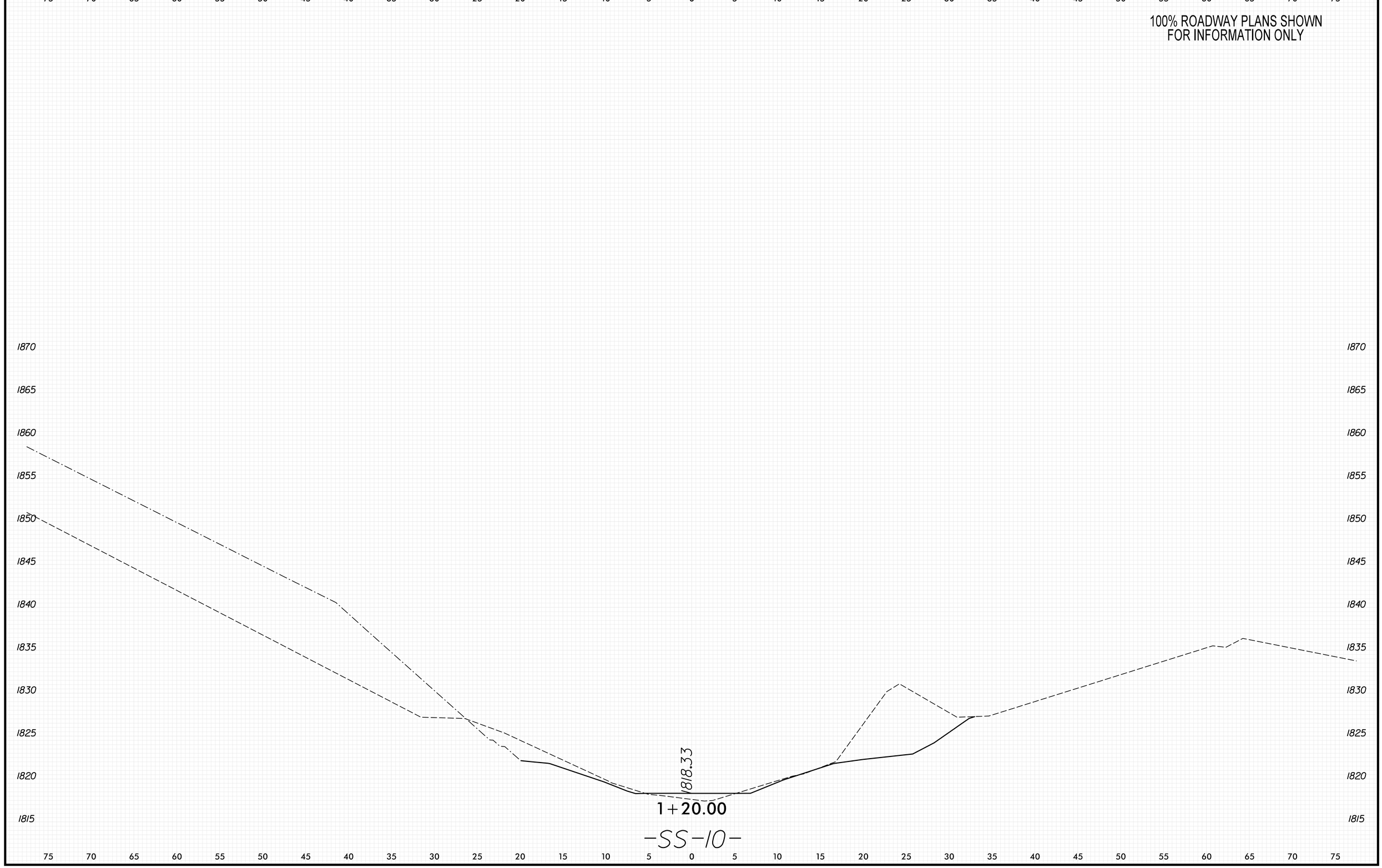


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:00:58 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-191

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

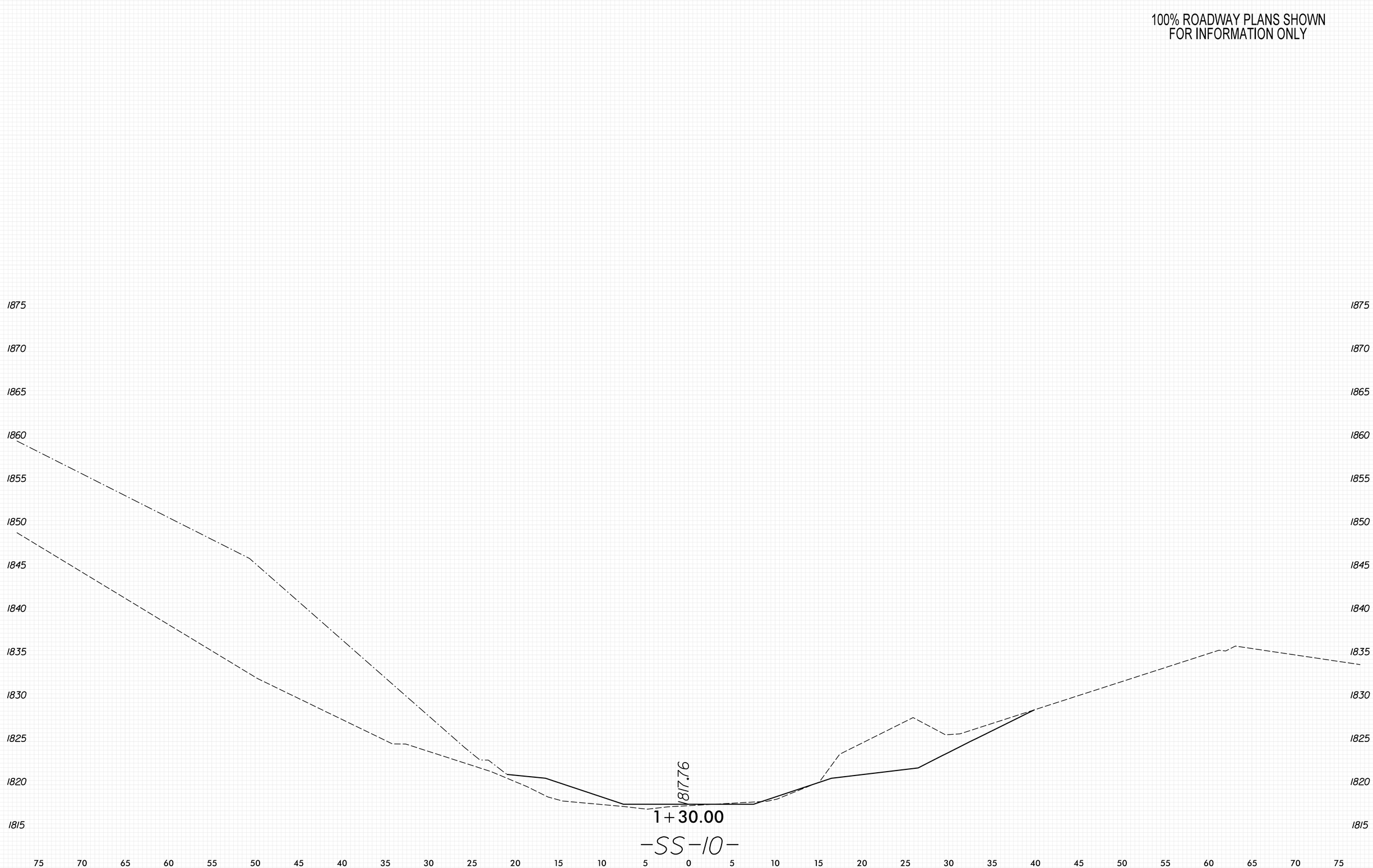


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:00 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-192

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:02 AM

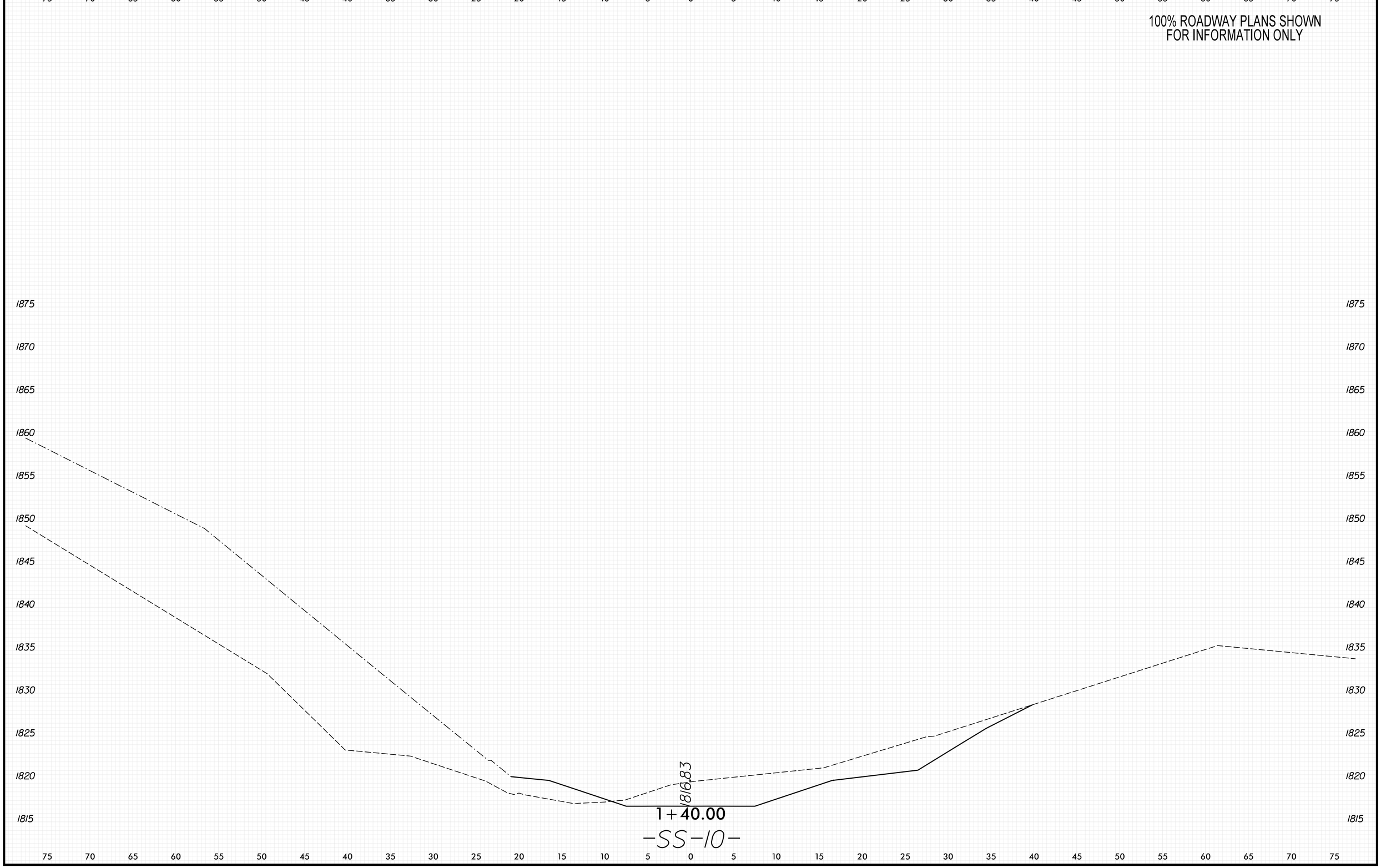
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-193

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

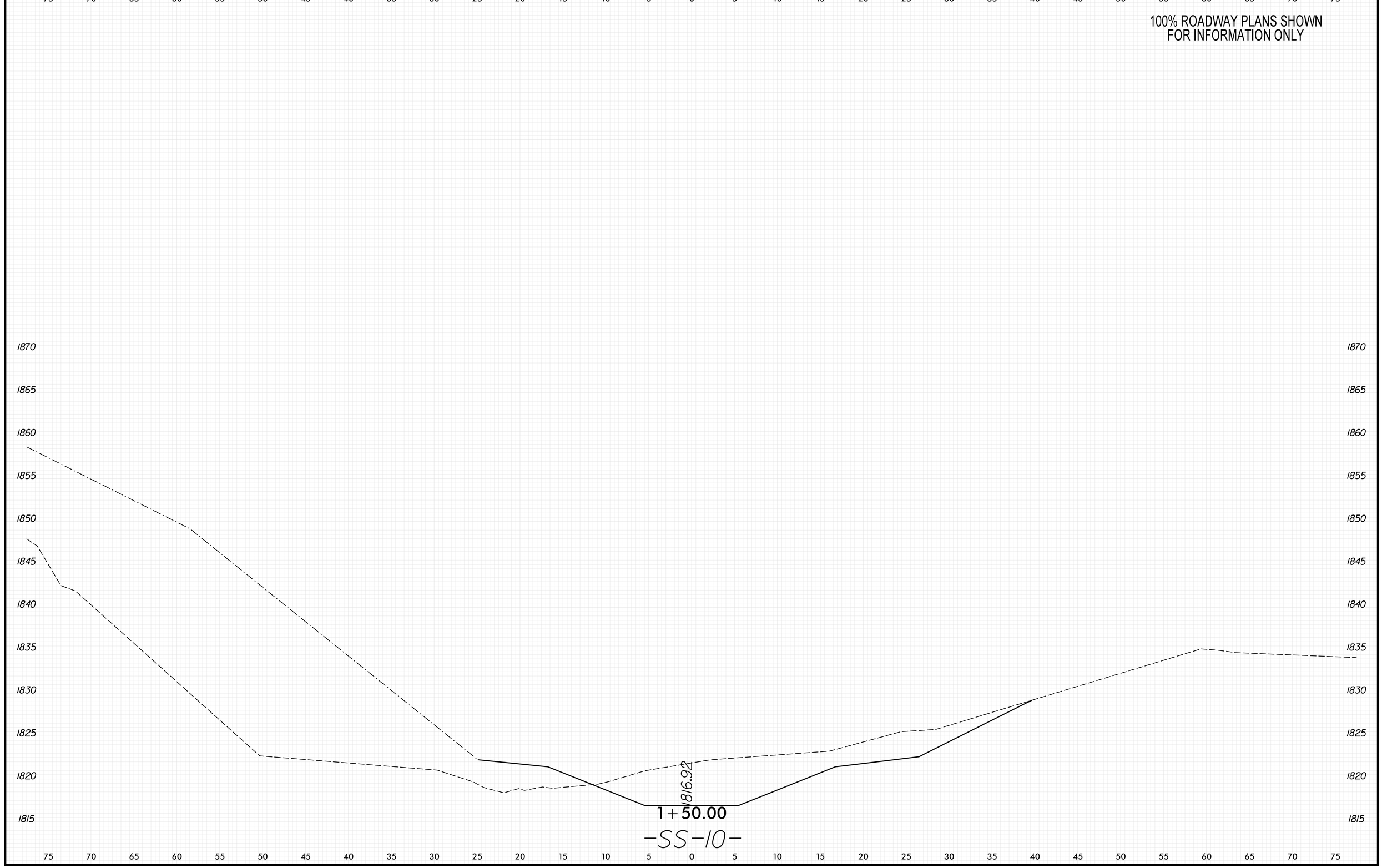


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:03 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-194

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

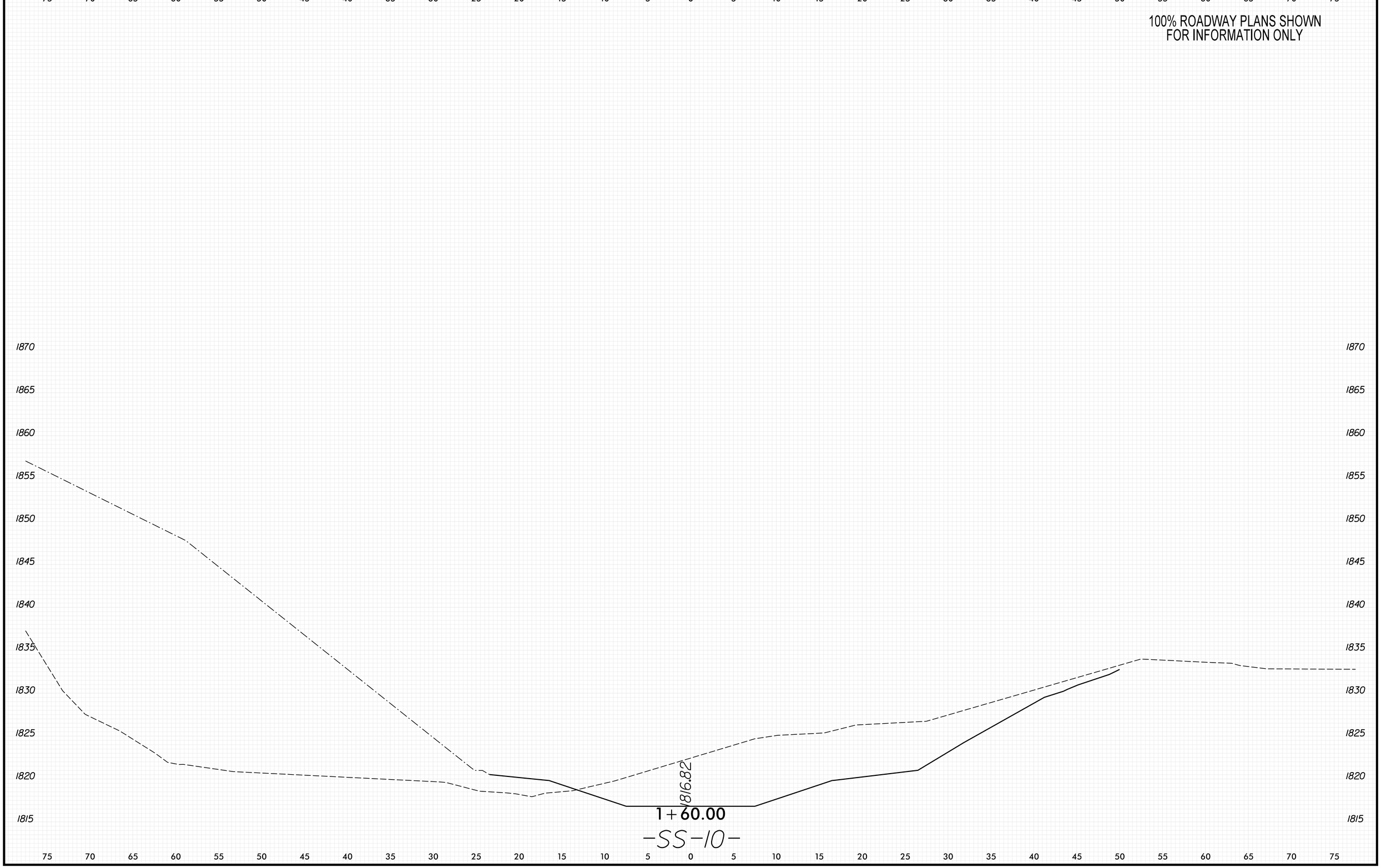


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:05 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-195

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

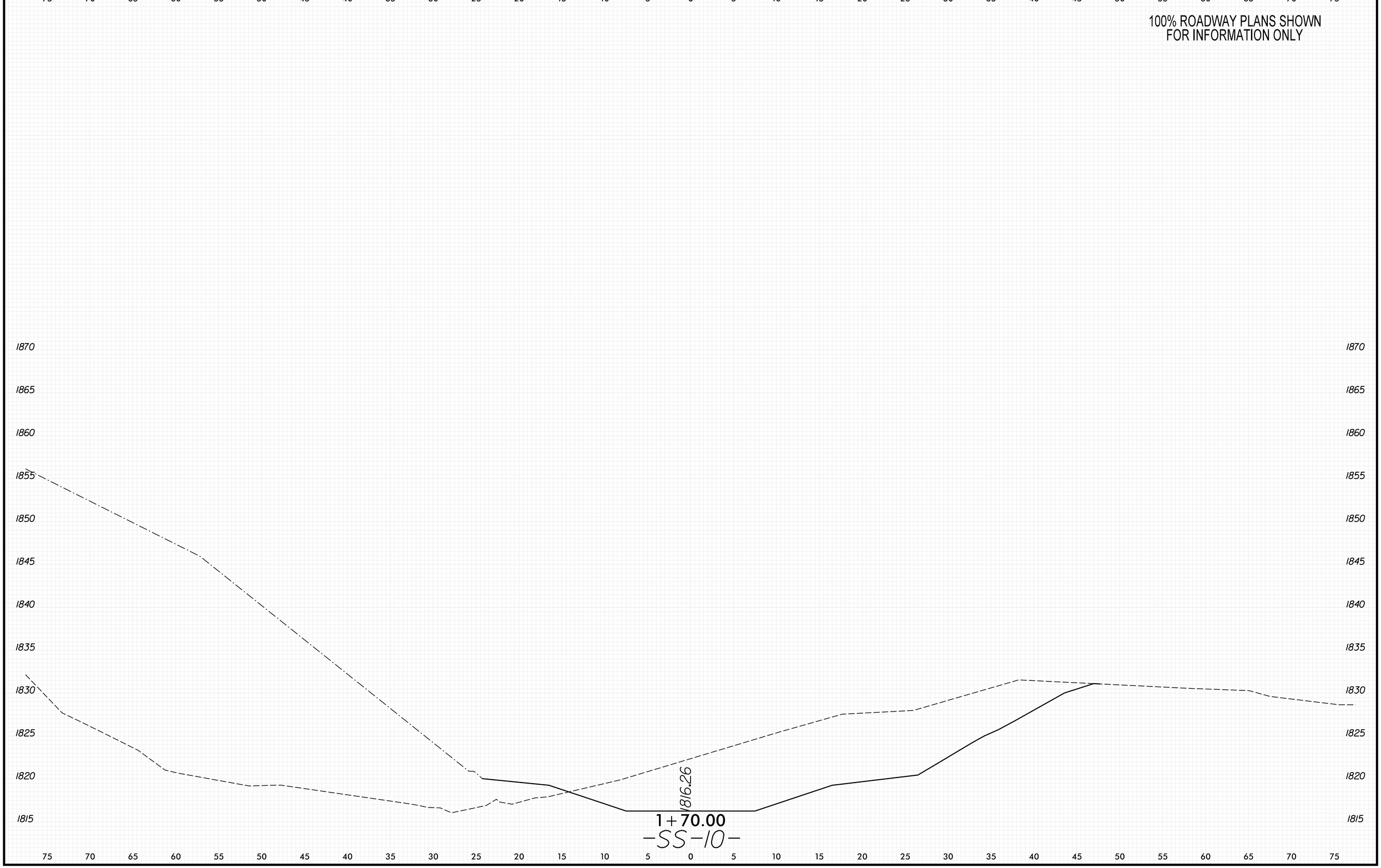


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:06 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-196

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

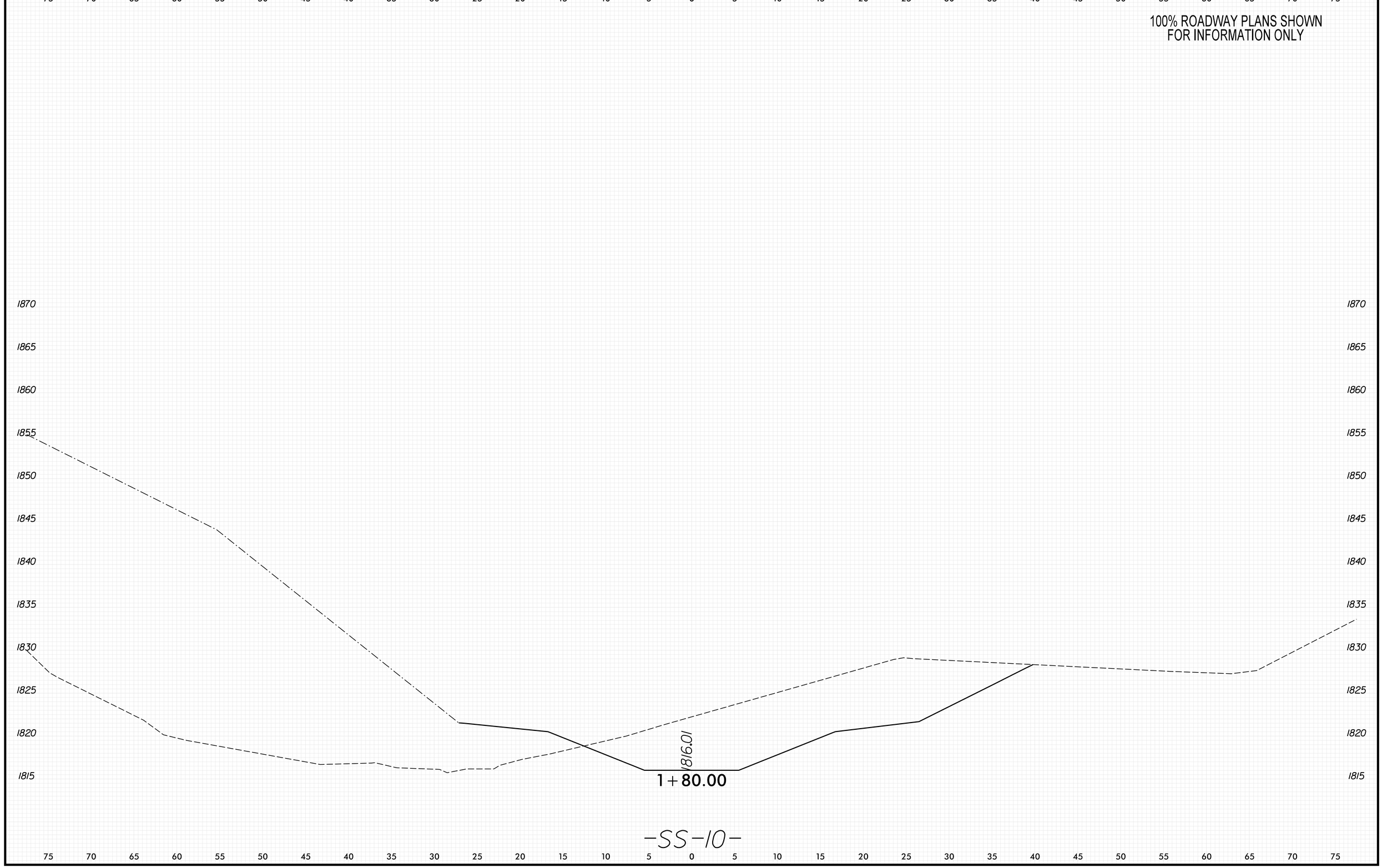


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:08 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-197

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

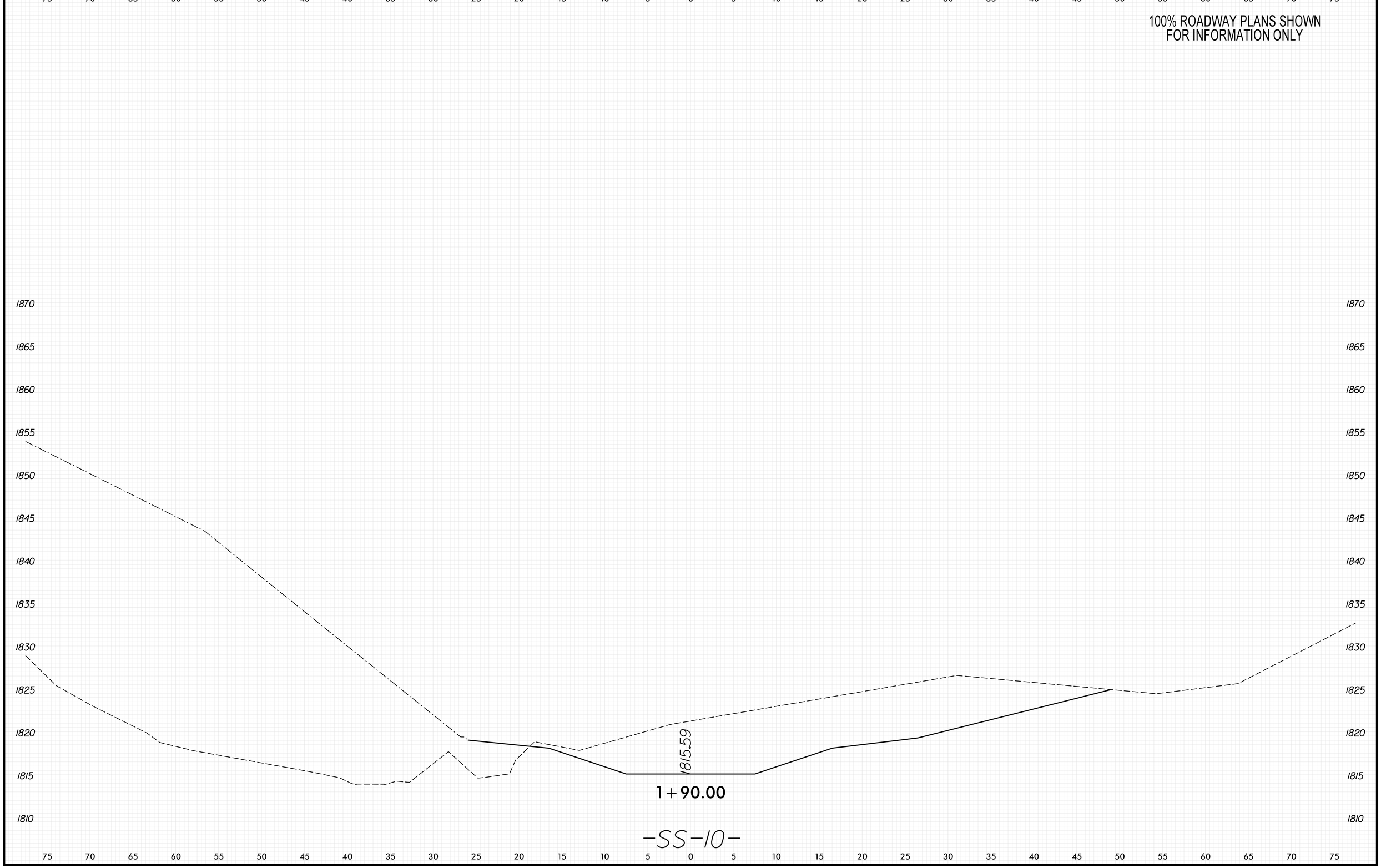


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:09 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-198

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

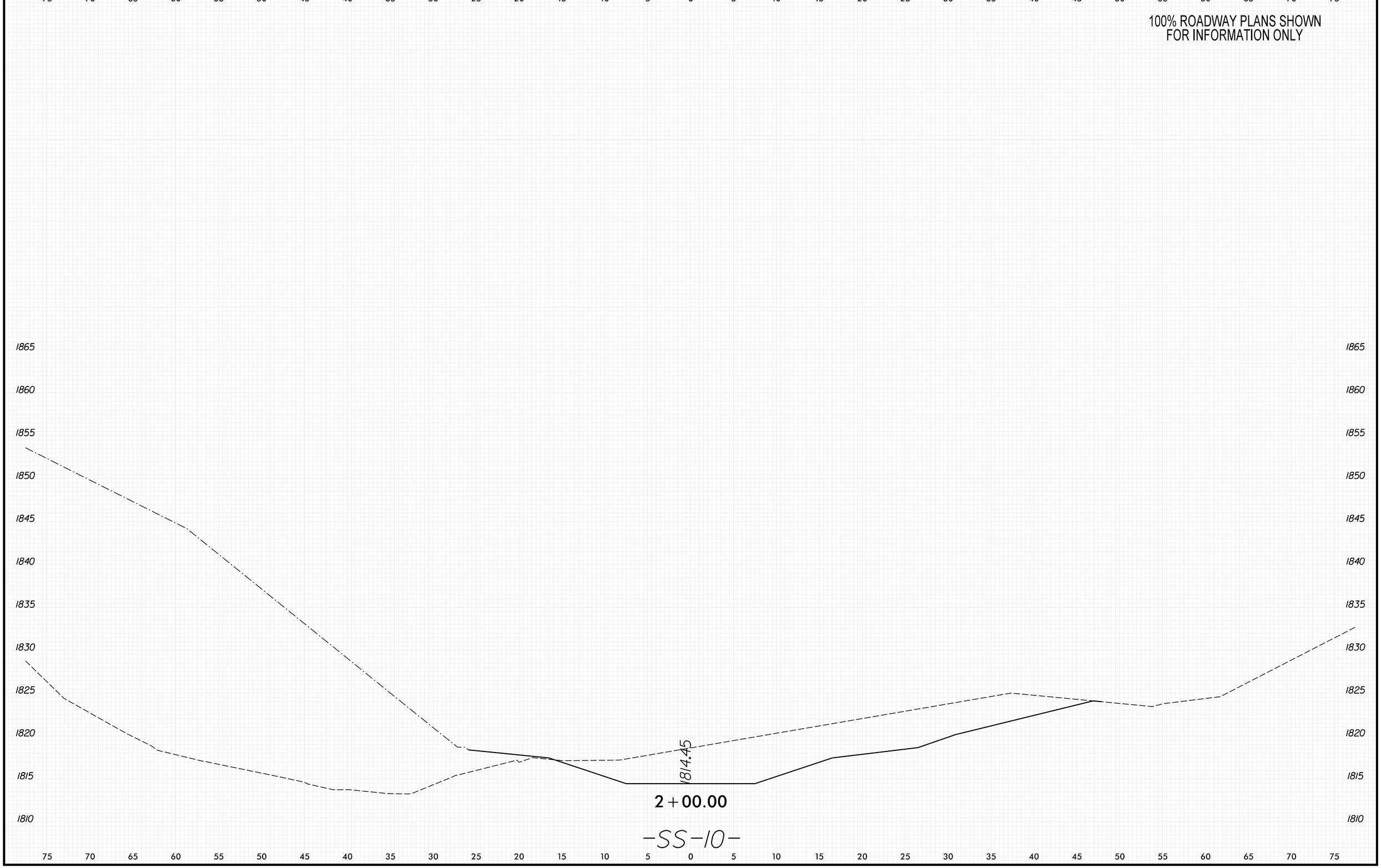


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:11 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-199

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

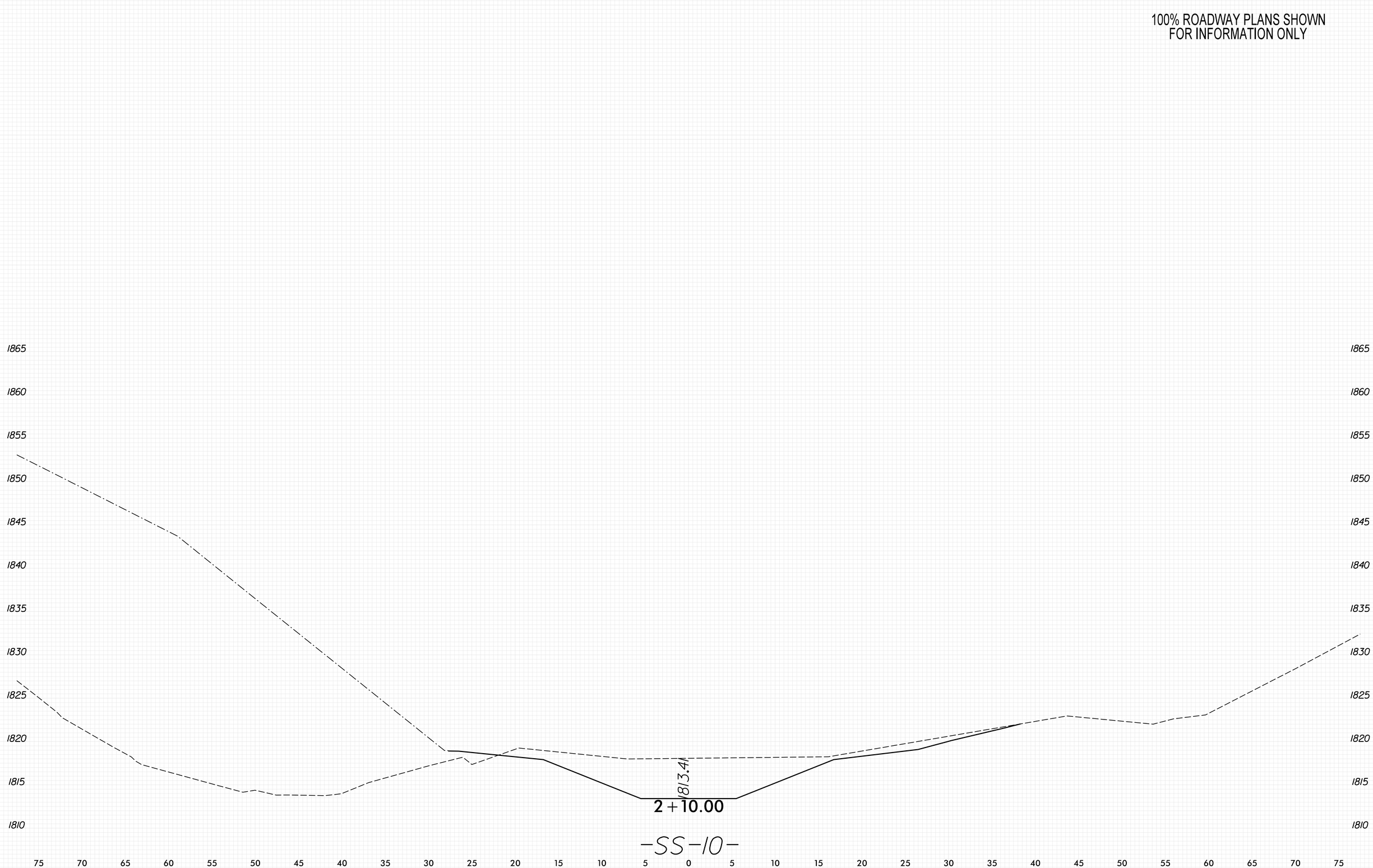


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:12 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-200

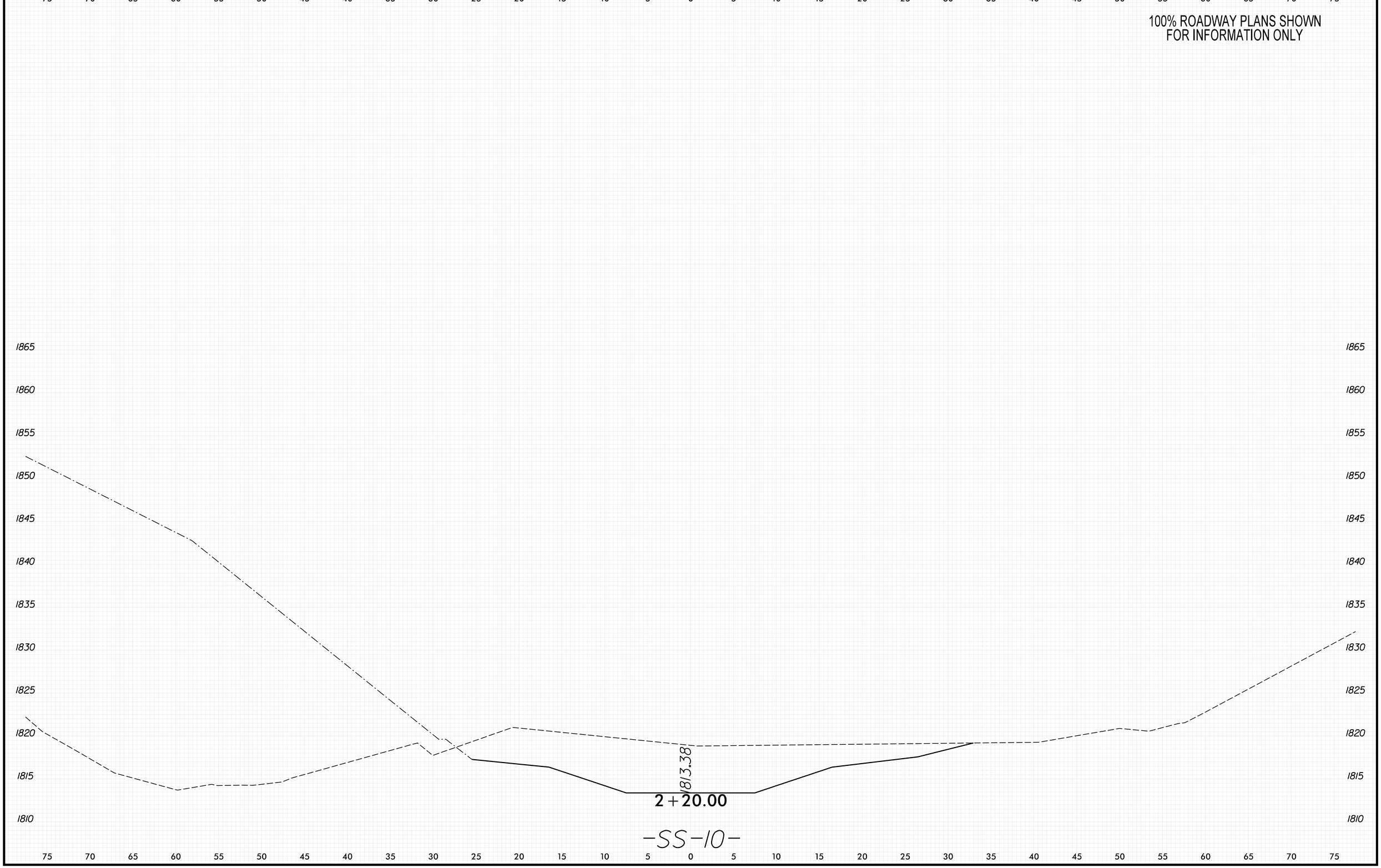
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:01:14 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-201

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



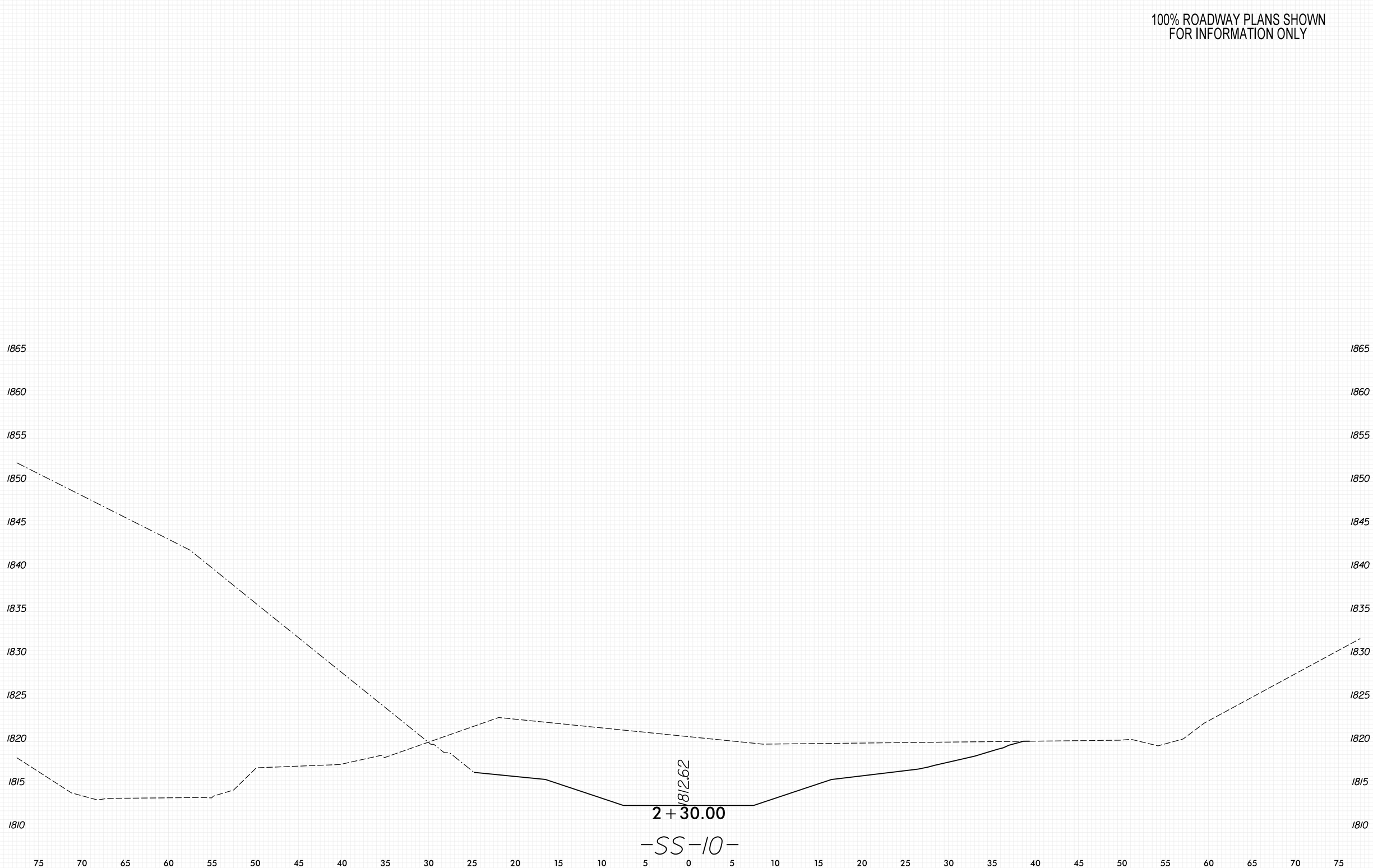
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:03:49 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-202

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

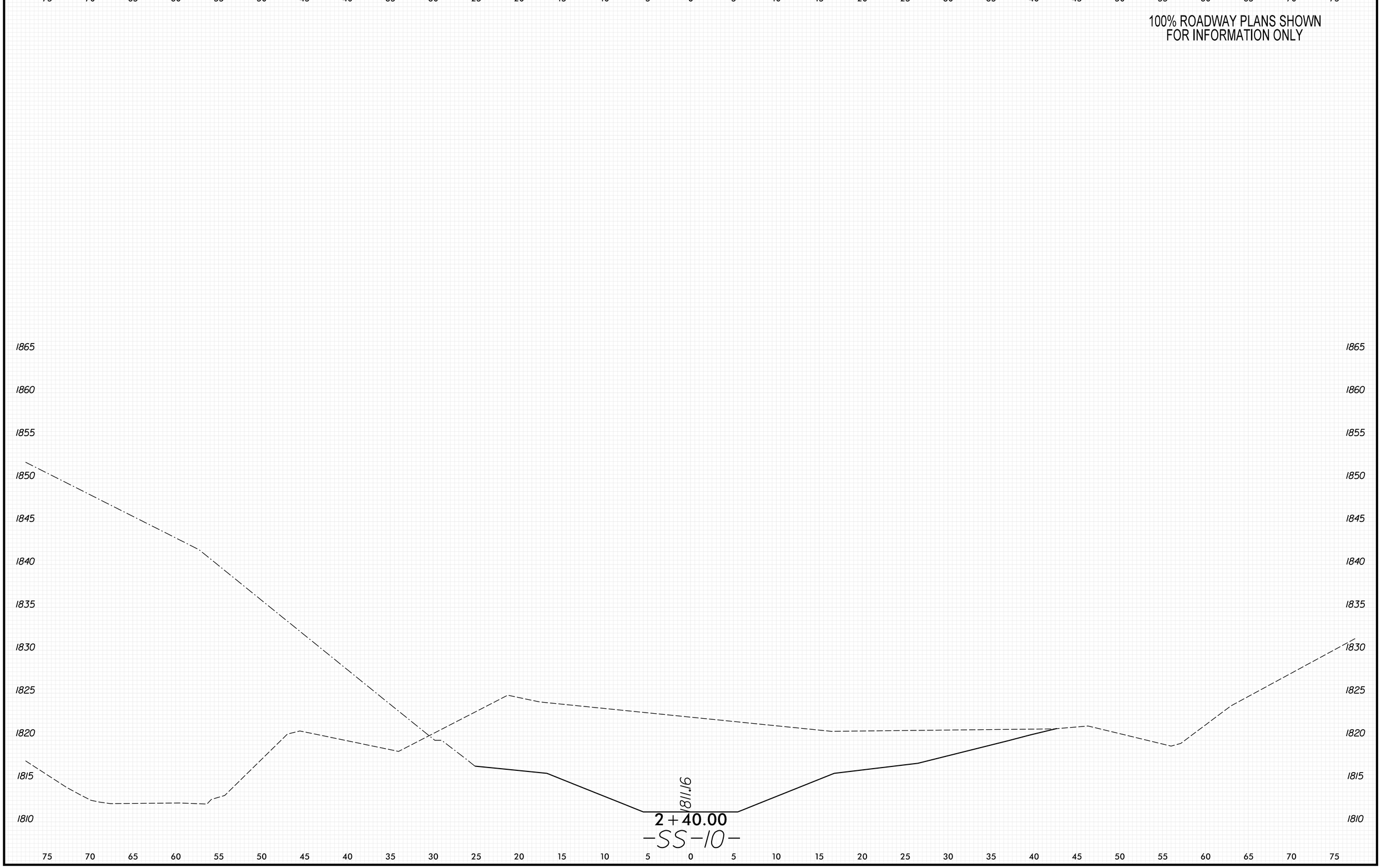


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:03:50 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-203

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:03:51 AM

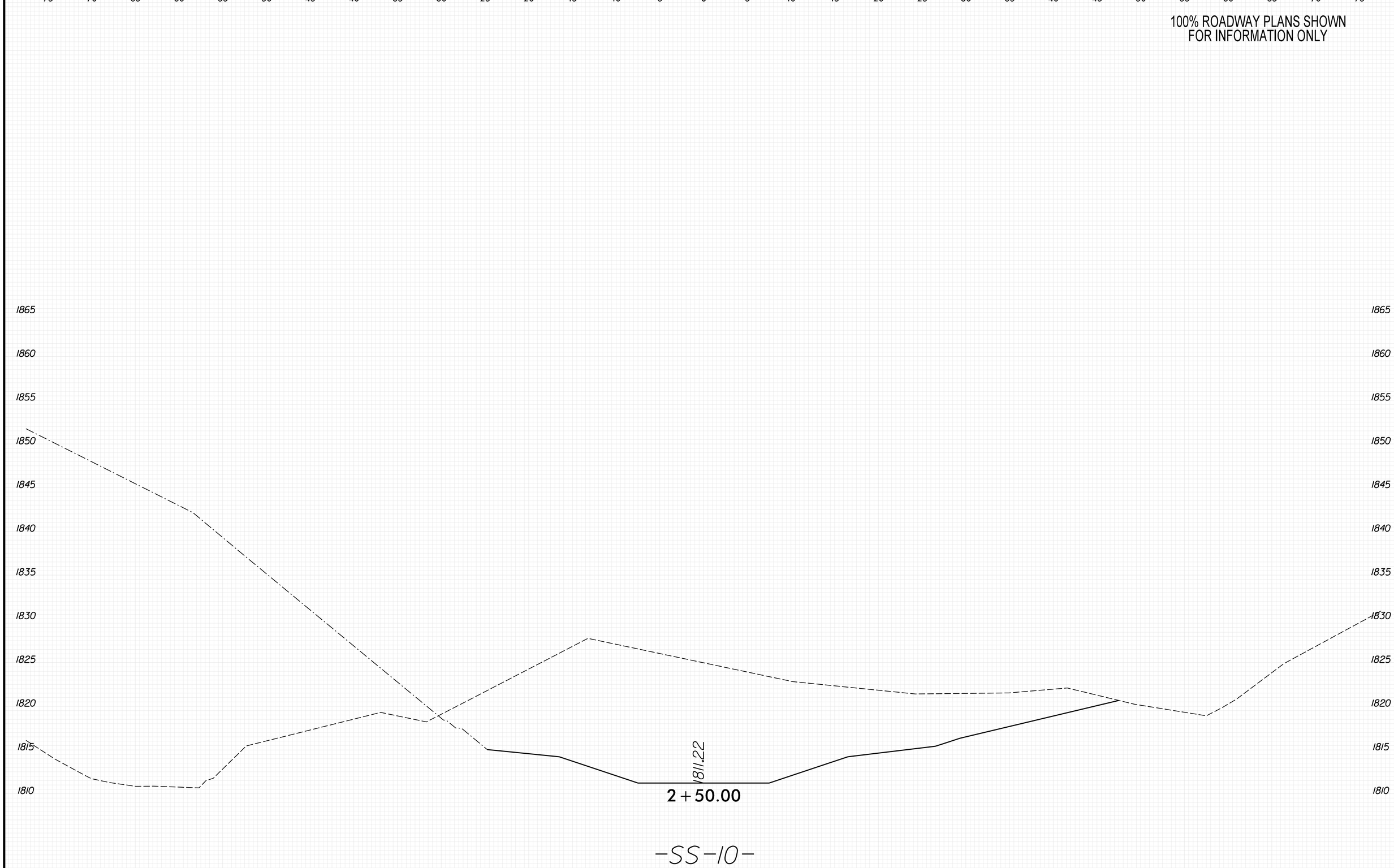
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-204

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:03:53 AM

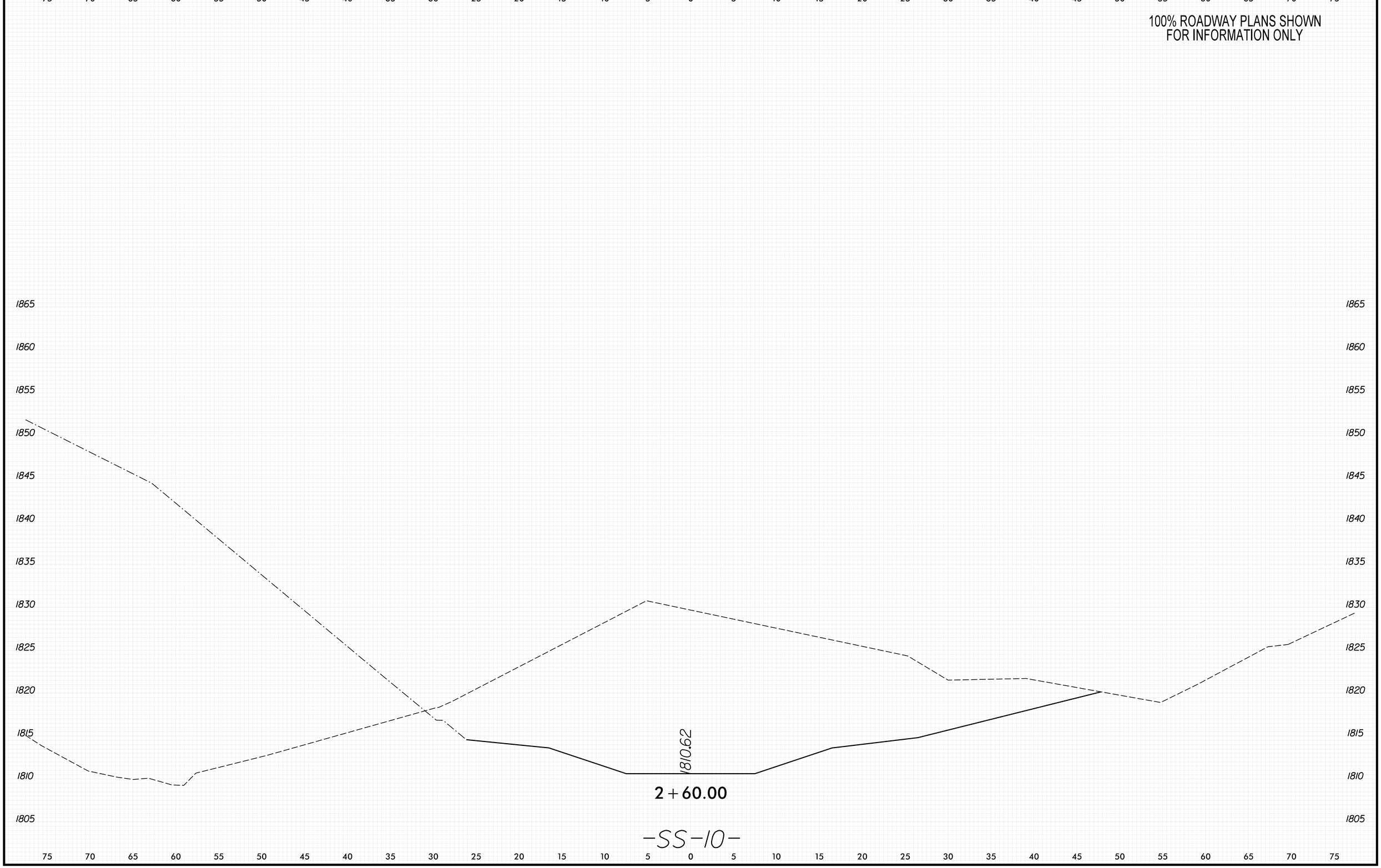
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-205

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

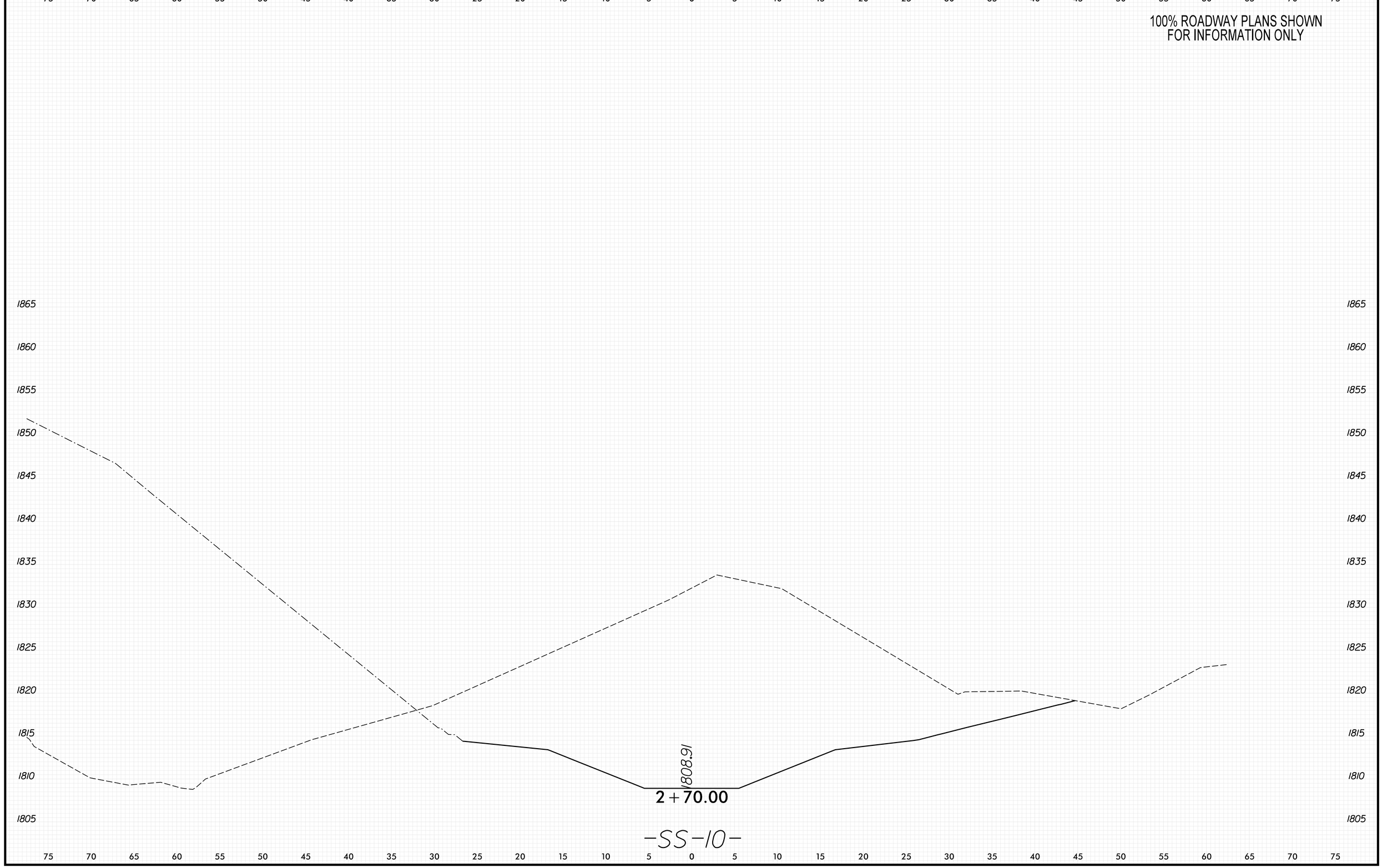
PENTABLE: xpl_eh_v8.tbl
TIME: 9:03:55 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-206

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

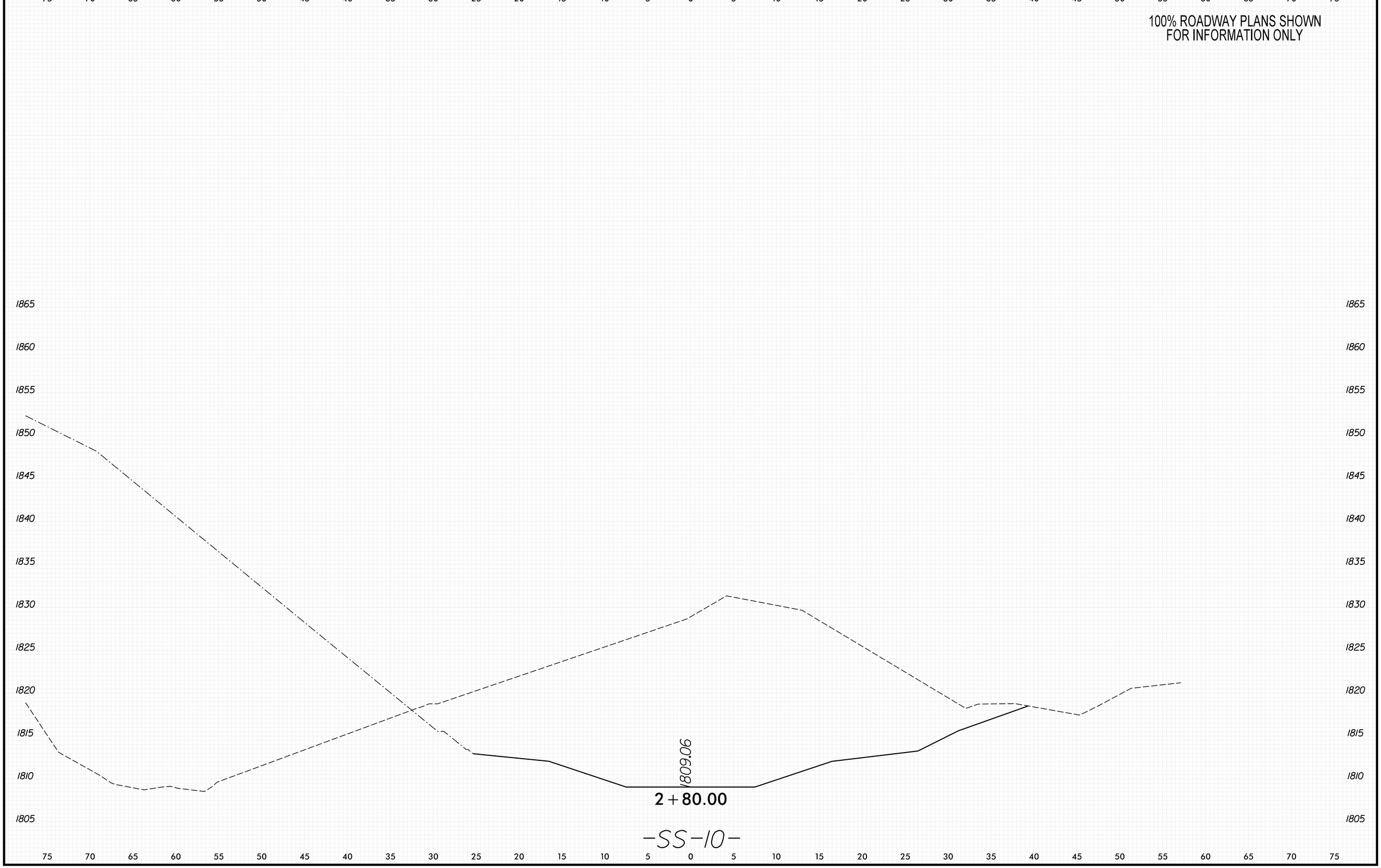


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:03:56 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-207

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

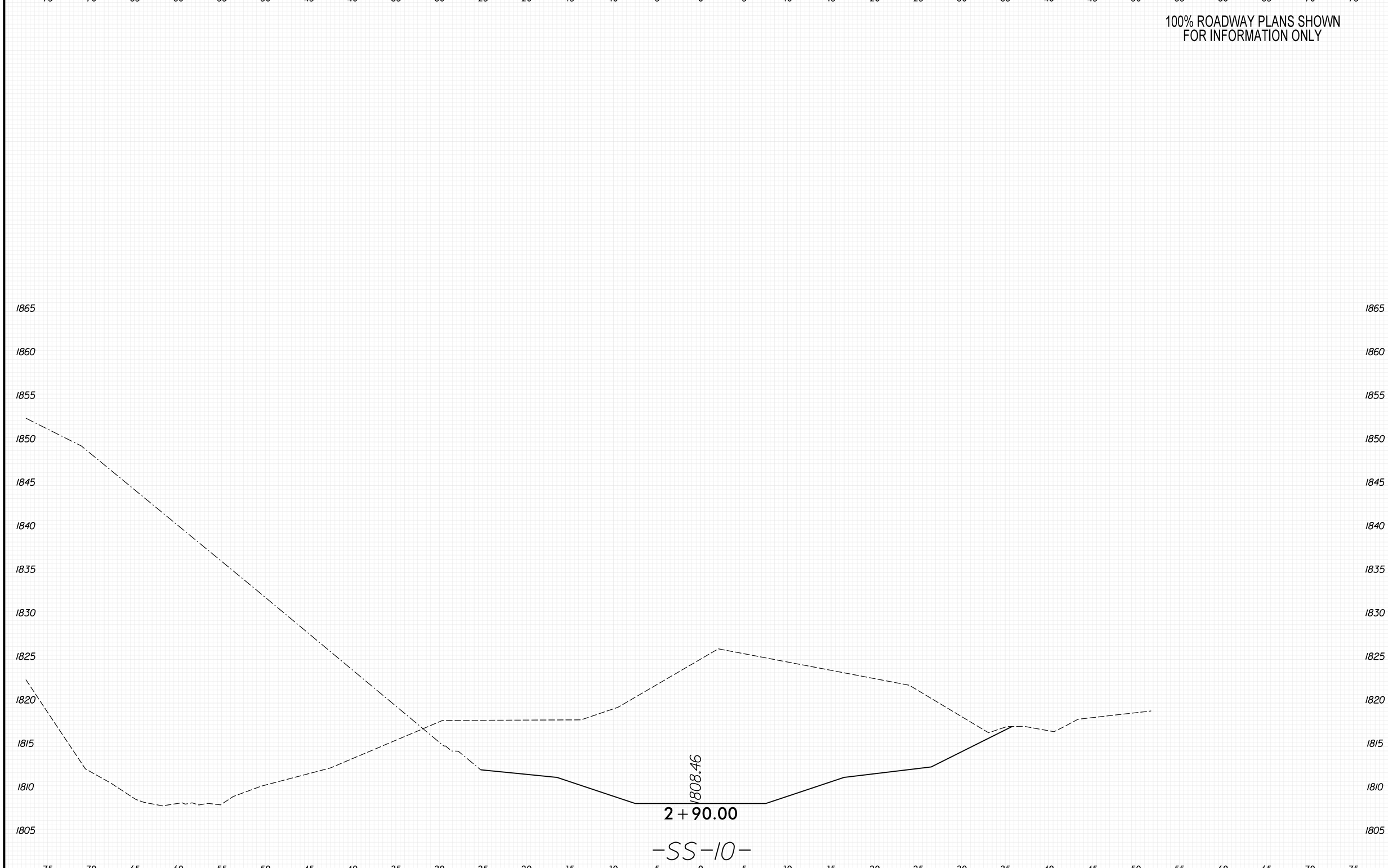


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:03:57 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-208

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



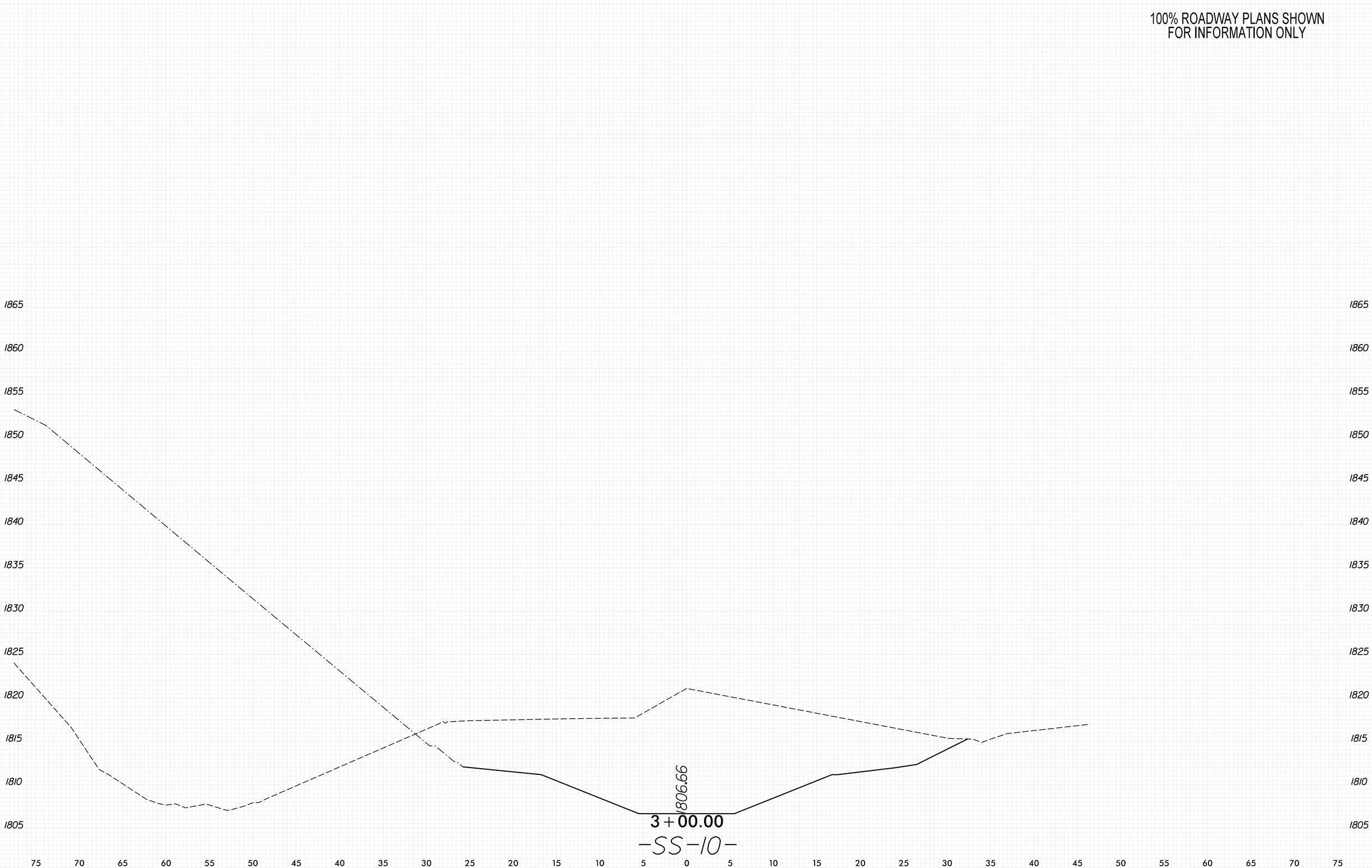
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_en_v8.tbl
DATE: 5/29/2026
TIME: 9:03:59 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-209

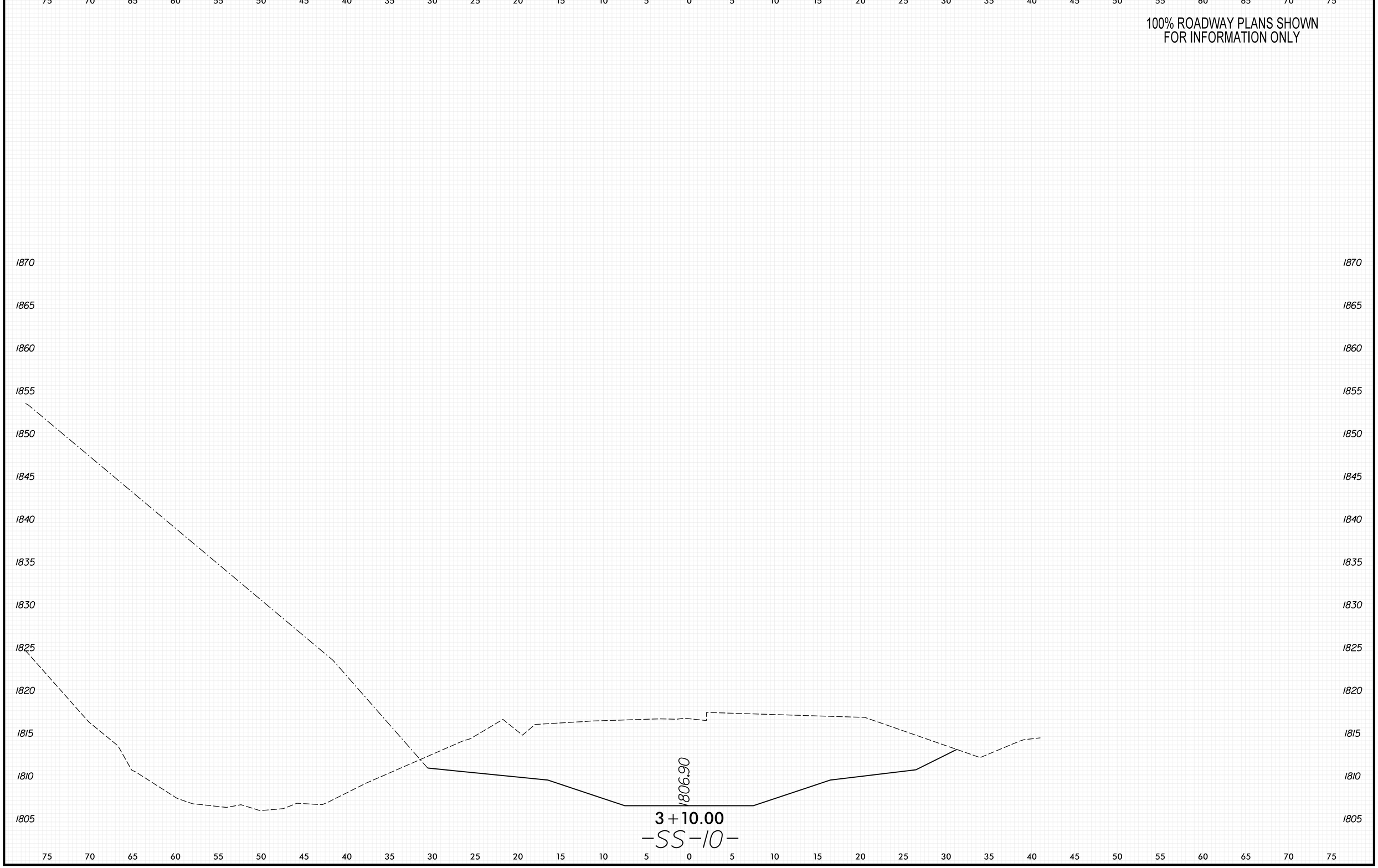
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:01 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-210

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



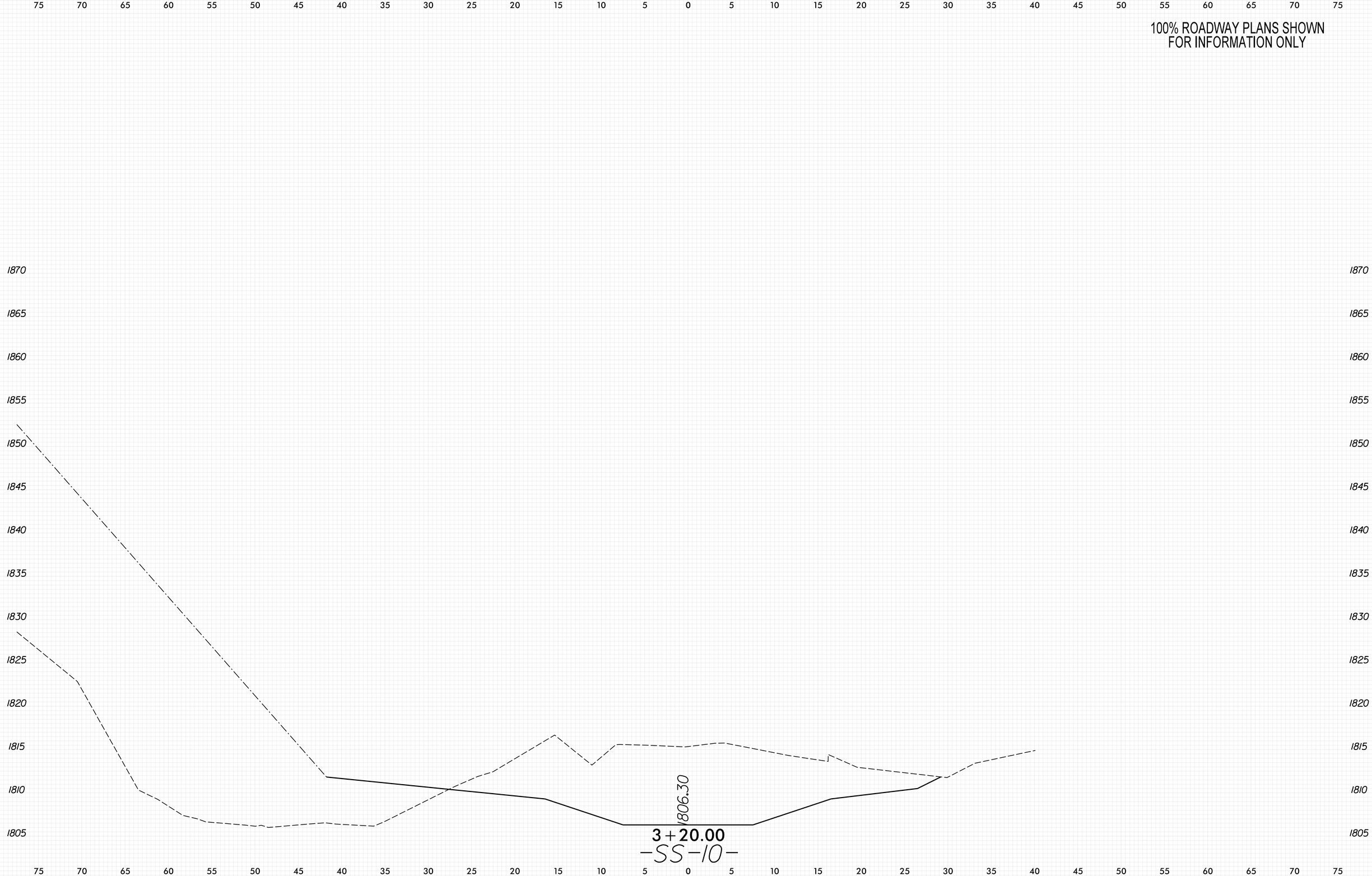
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_en_v8.tbl
DATE: 5/29/2026
TIME: 9:04:03 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-211

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

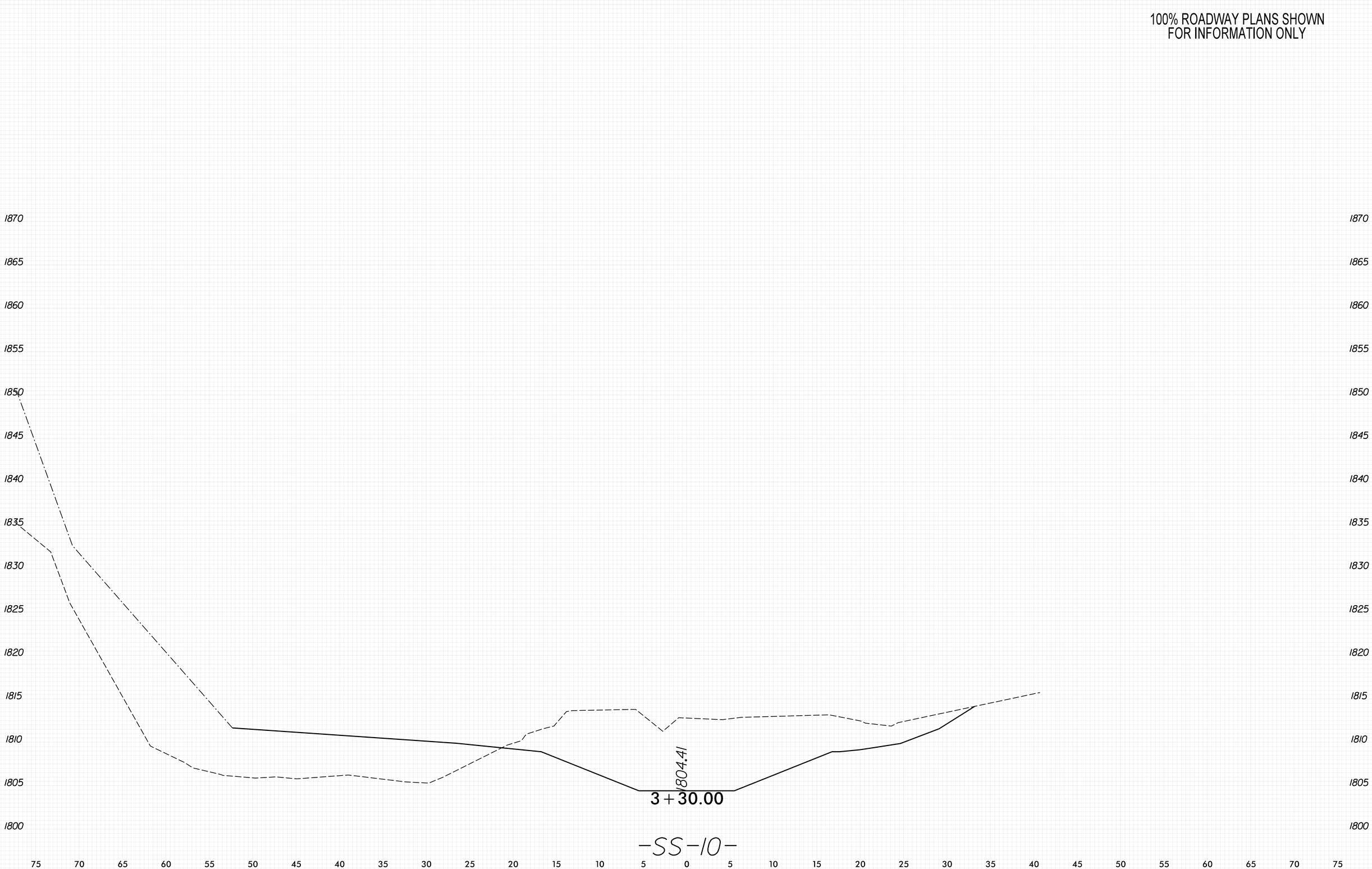


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:04 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-212

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

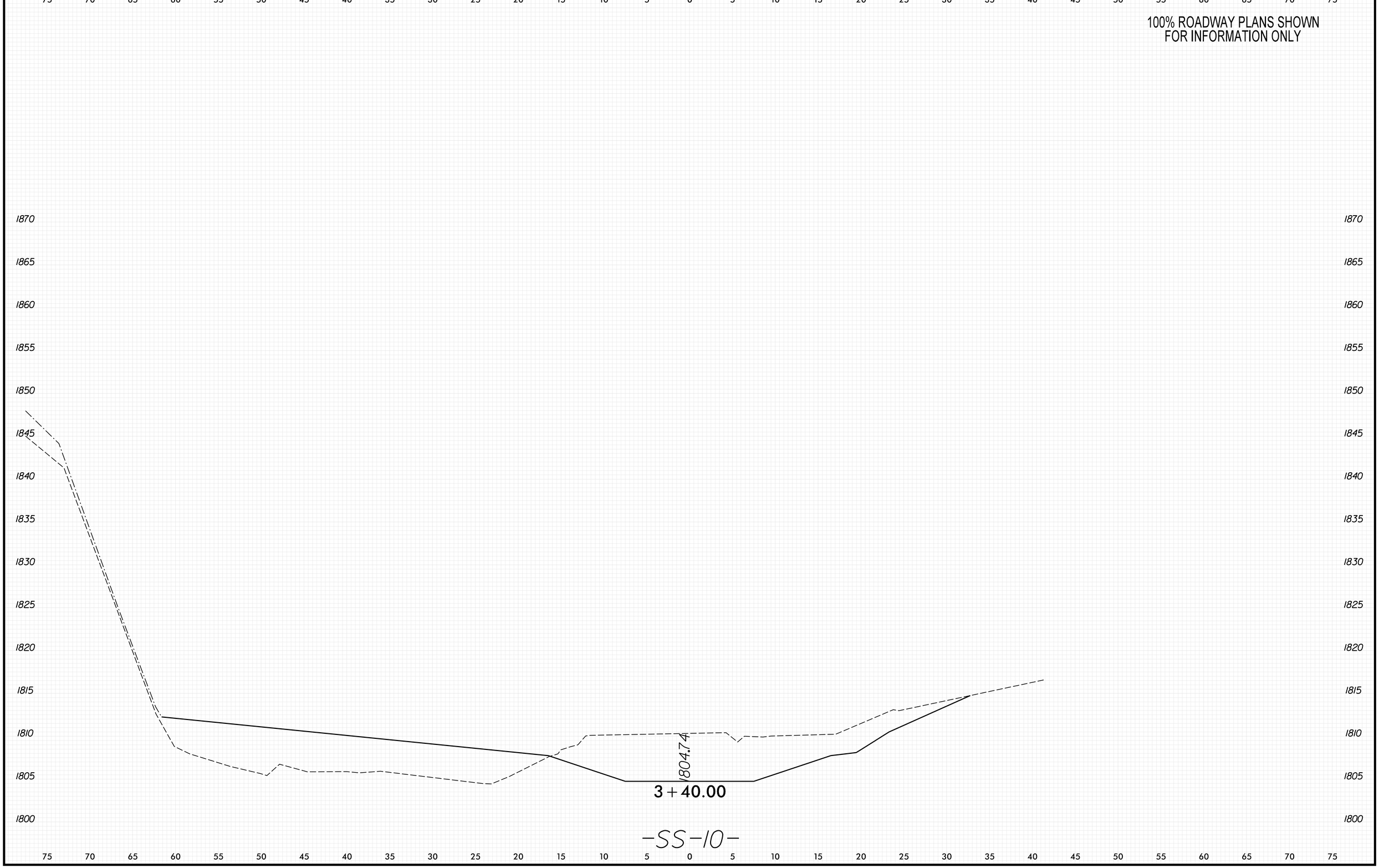


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:06 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-213

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_en_v8.tbl
TIME: 9:04:07 AM

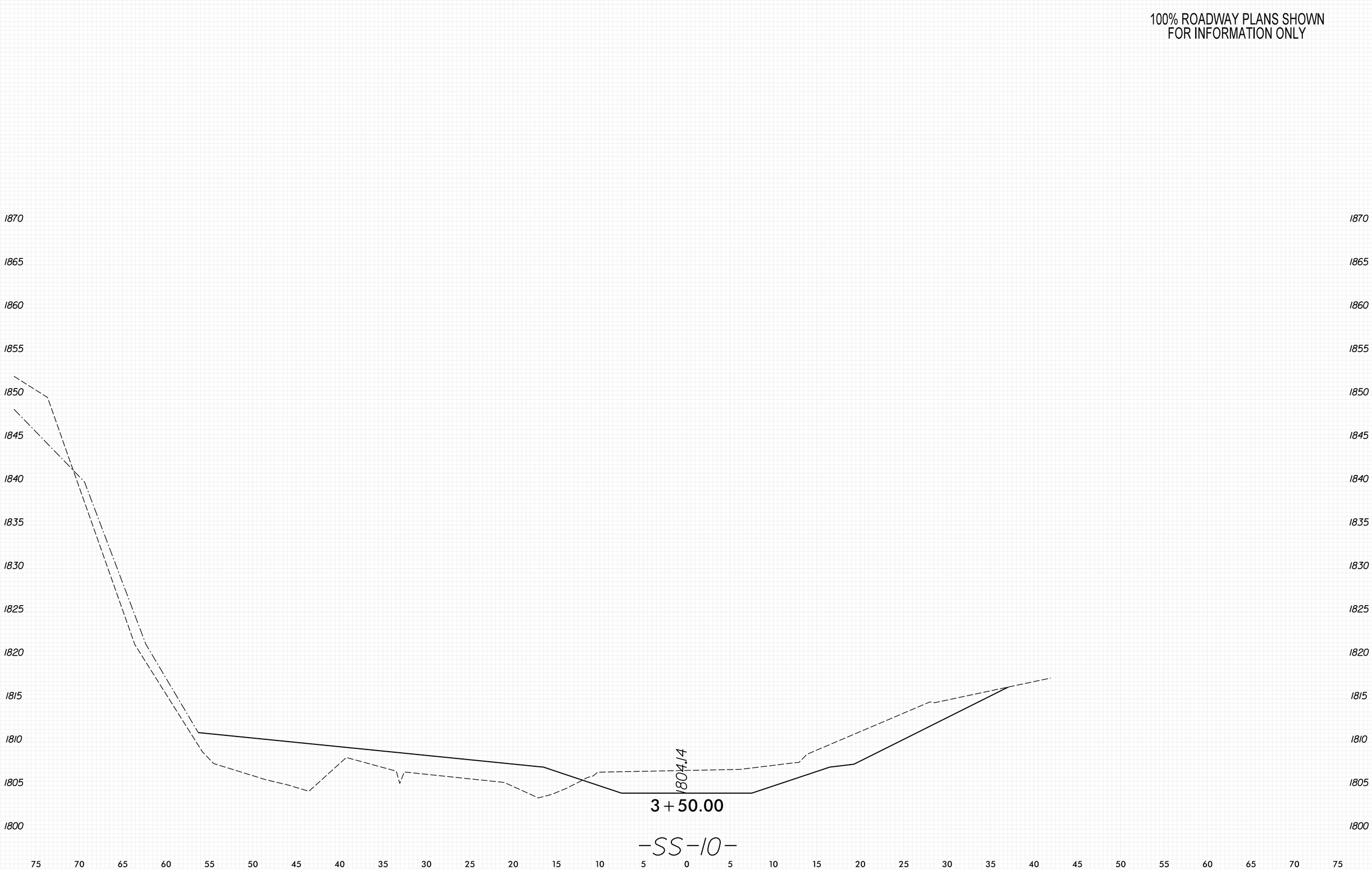
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-214

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

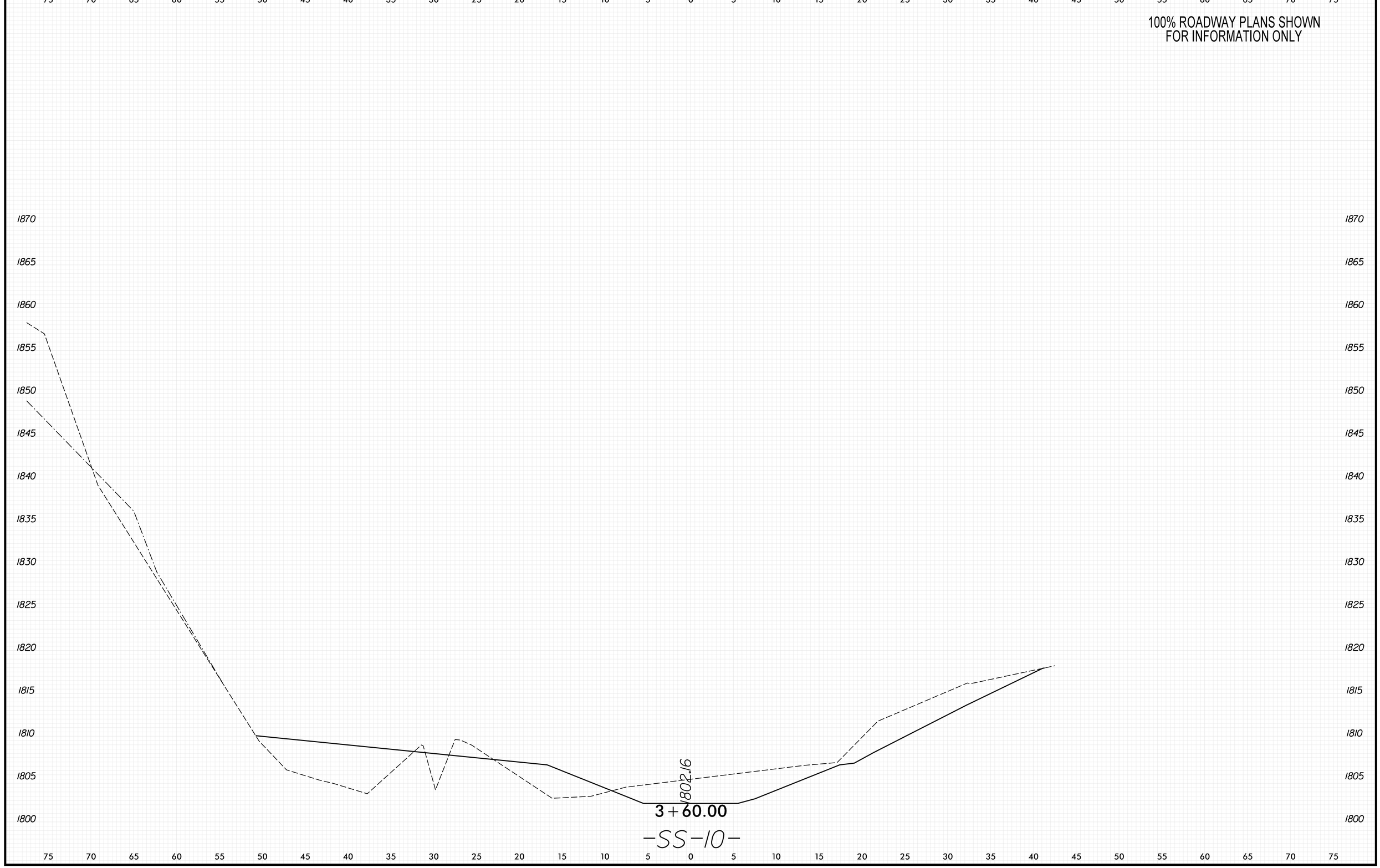
PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:09 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-215

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

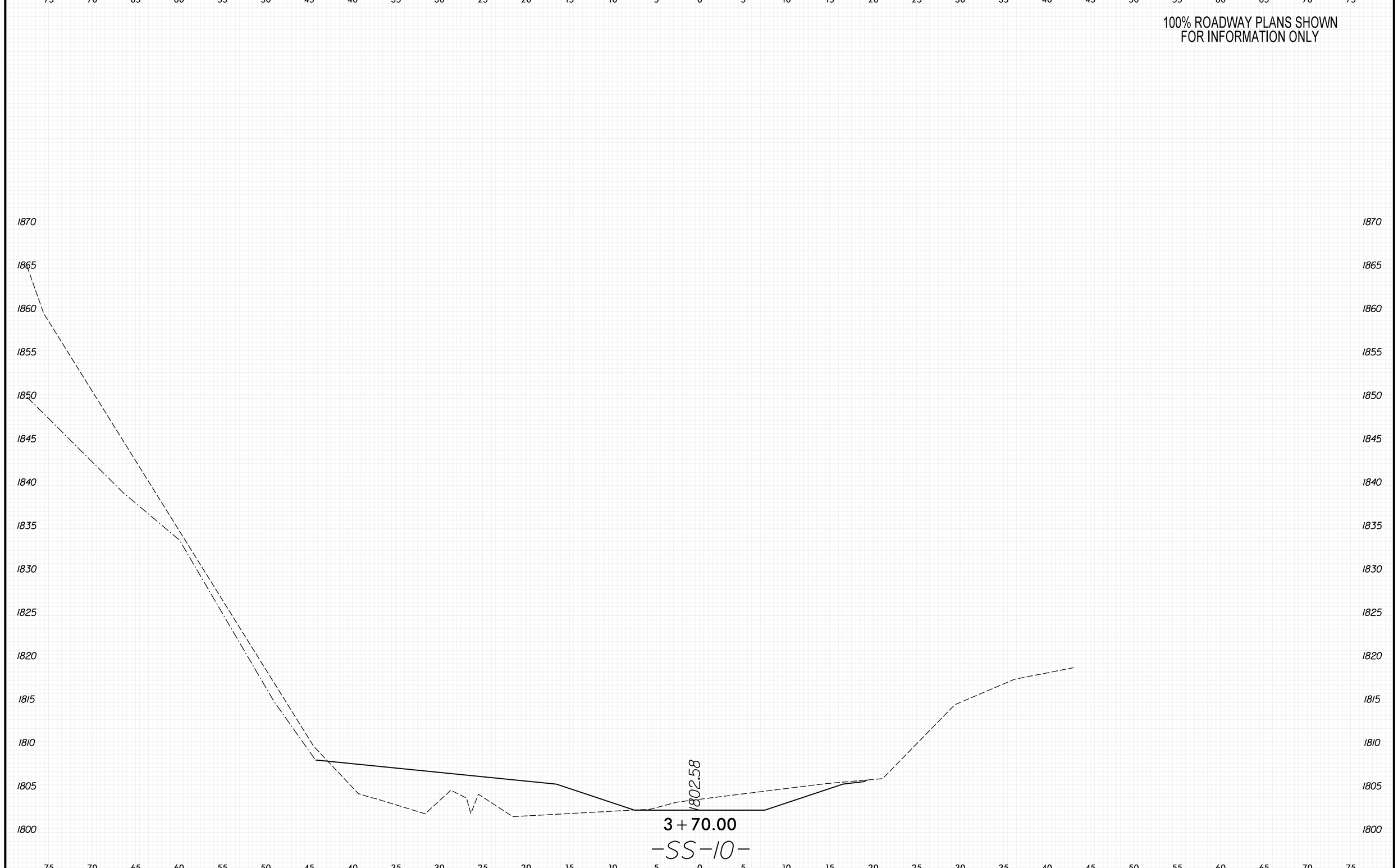


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:11 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-216

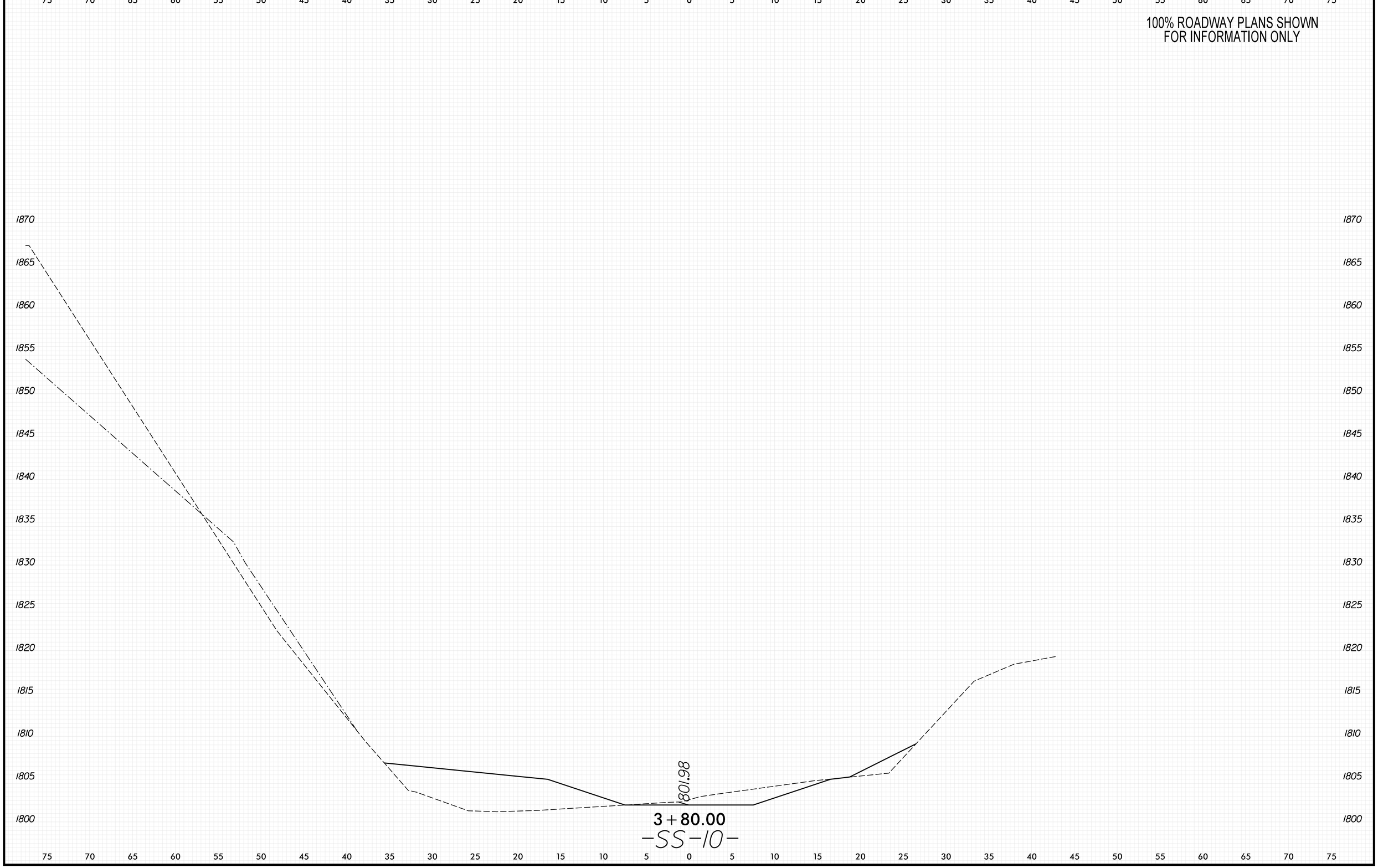
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:12 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-217

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



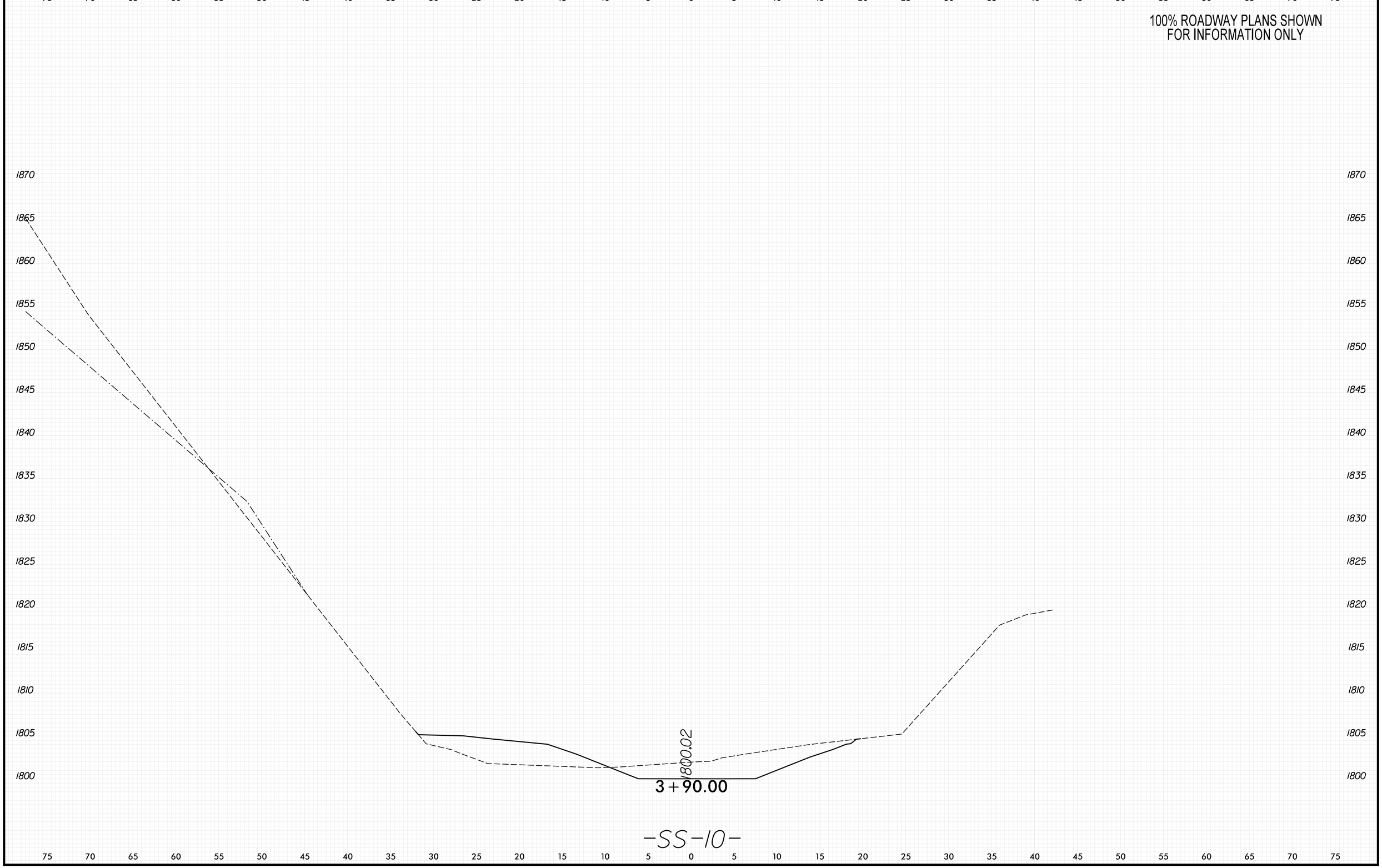
8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:04:14 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-218

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



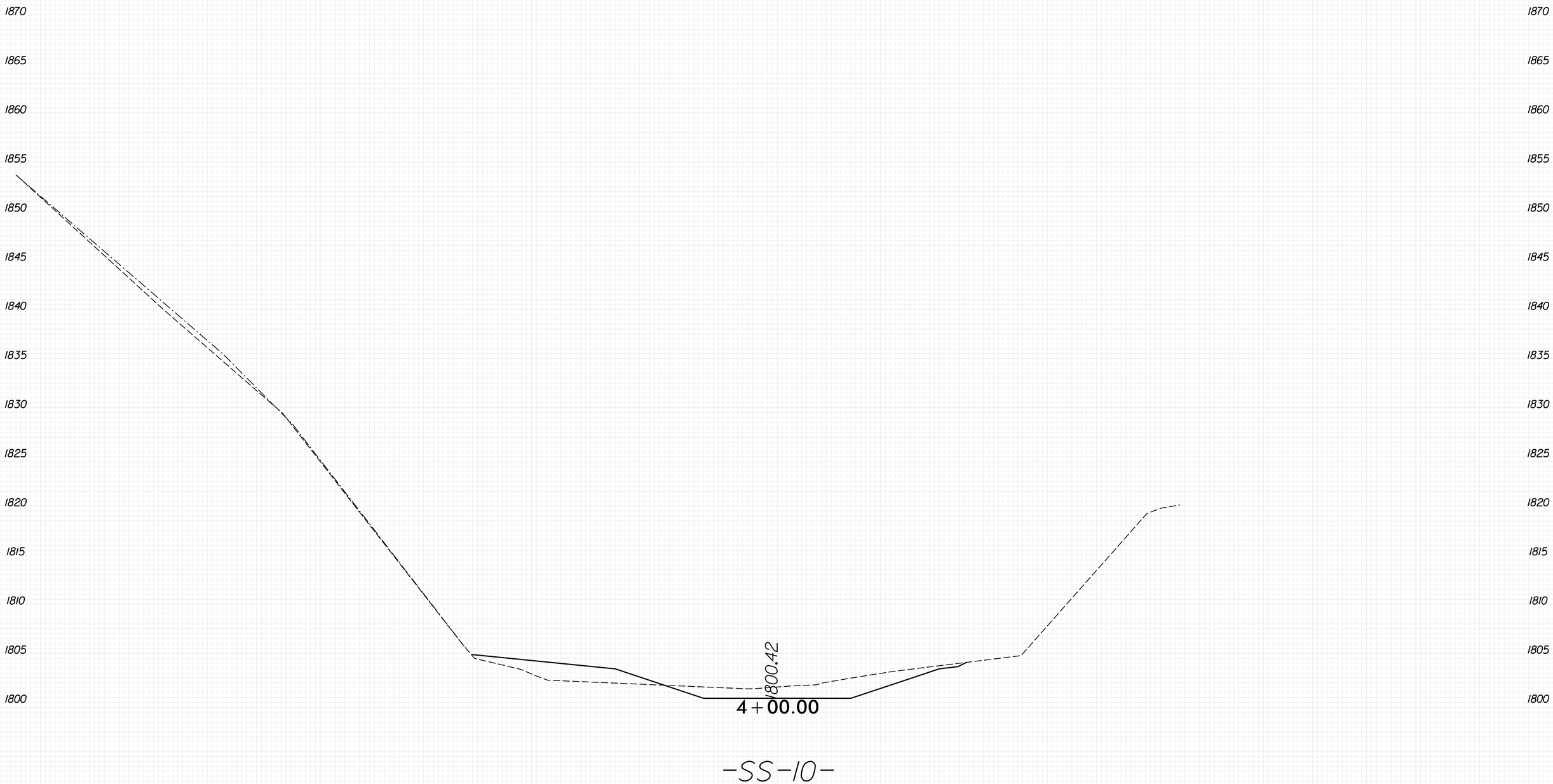
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:16 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
DATE: 5/29/2026
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-219

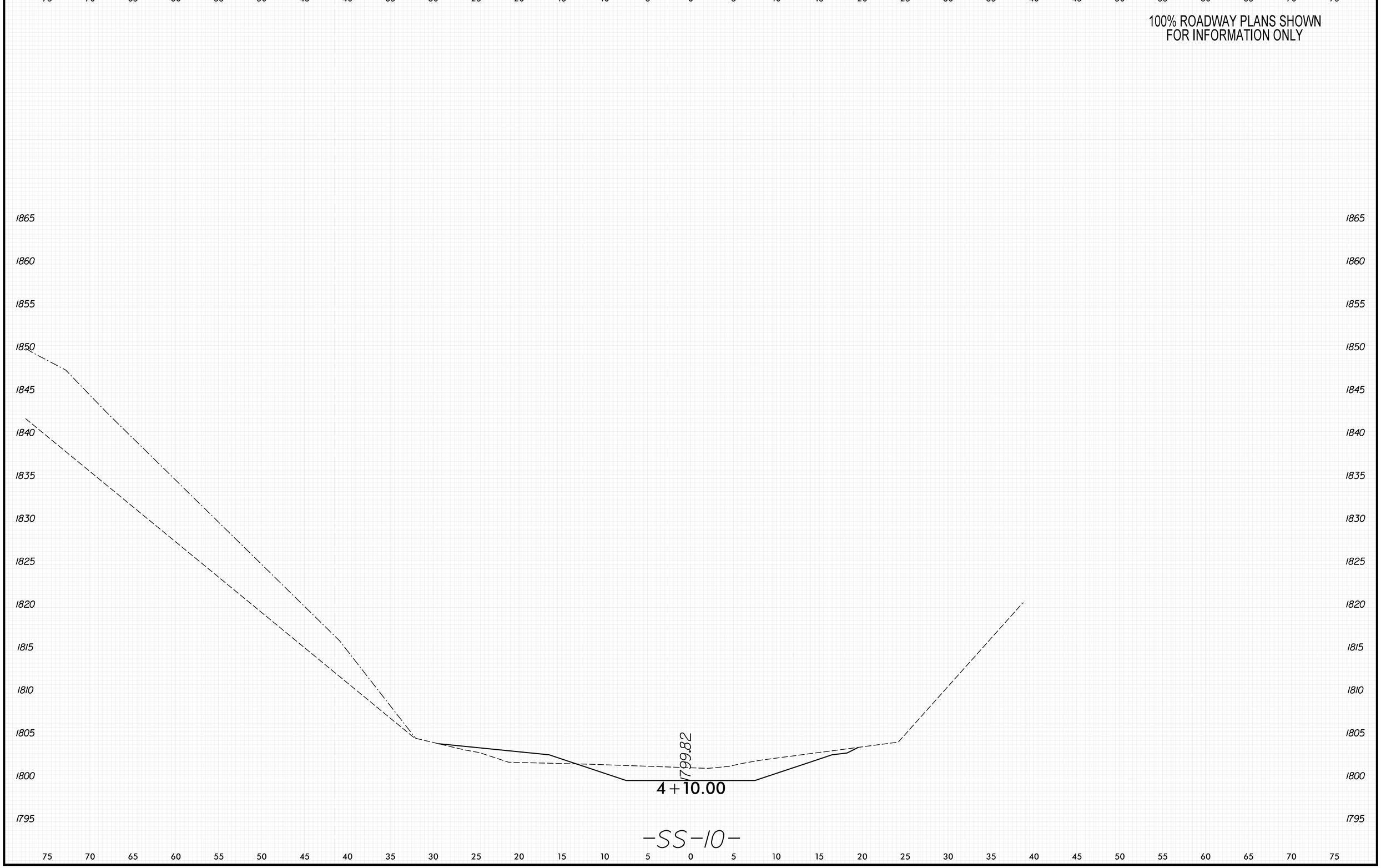
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl.eh_v8.tbl
TIME: 9:04:17 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-220

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

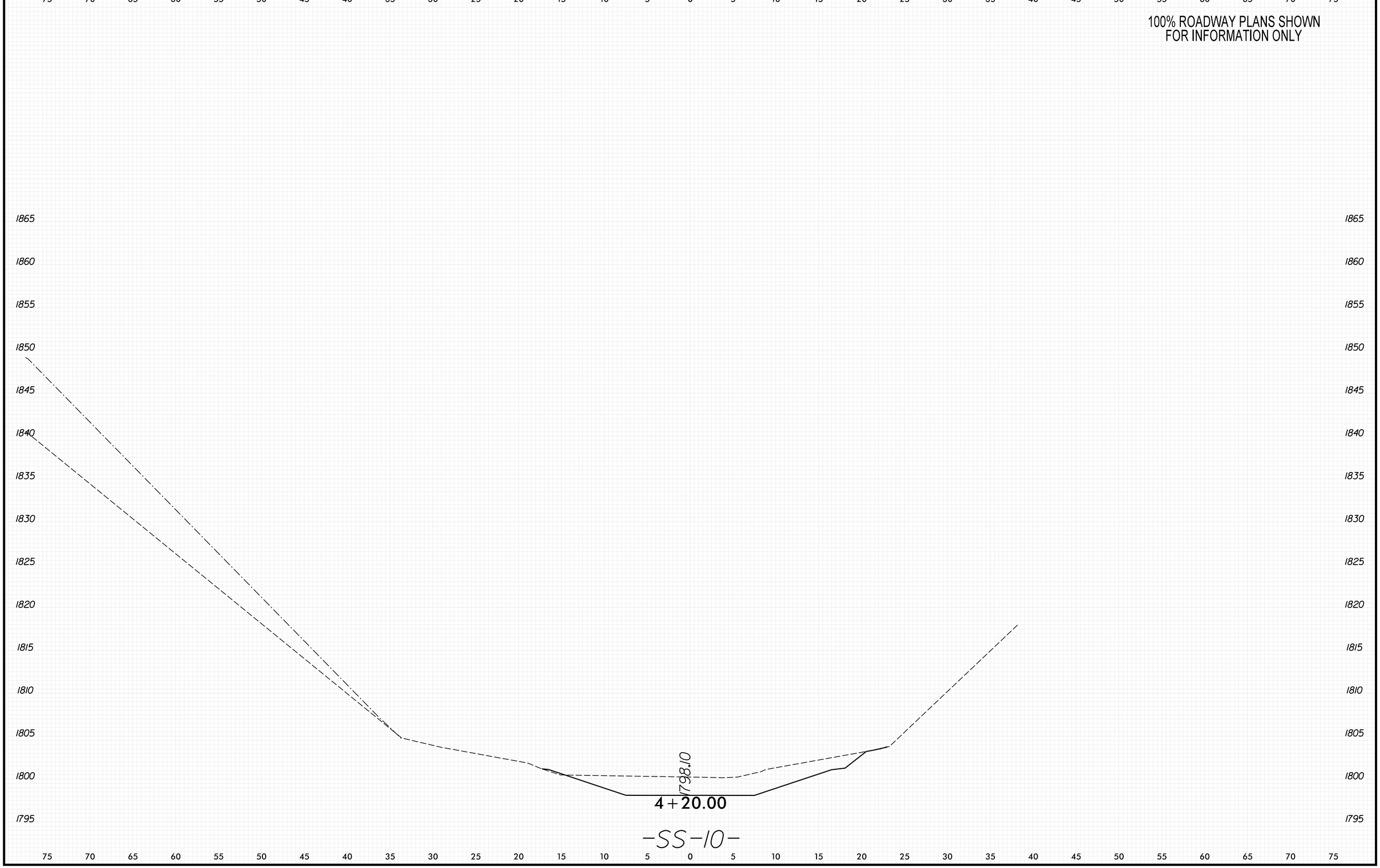


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:04:19 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-221

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

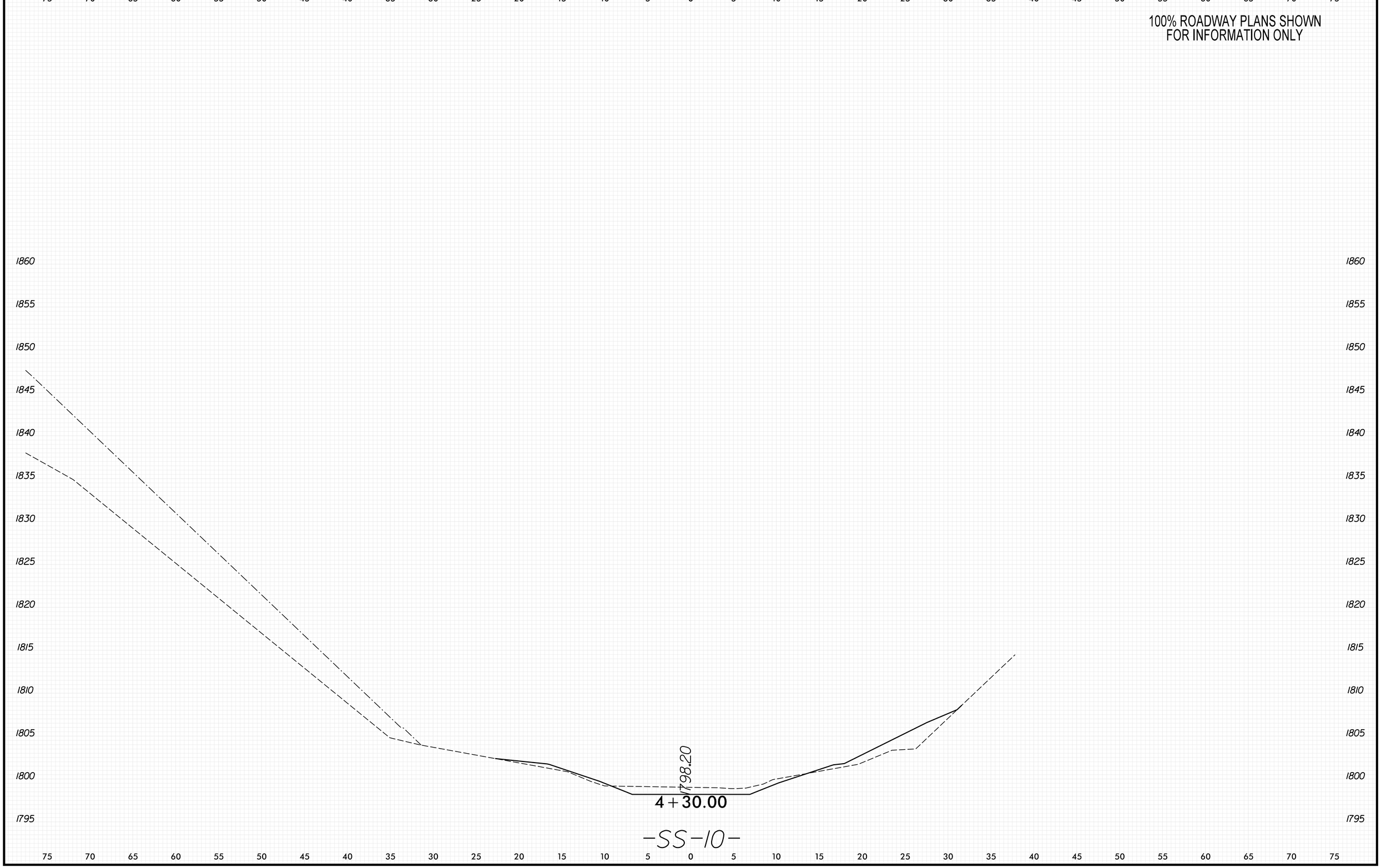


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:21 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-222

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

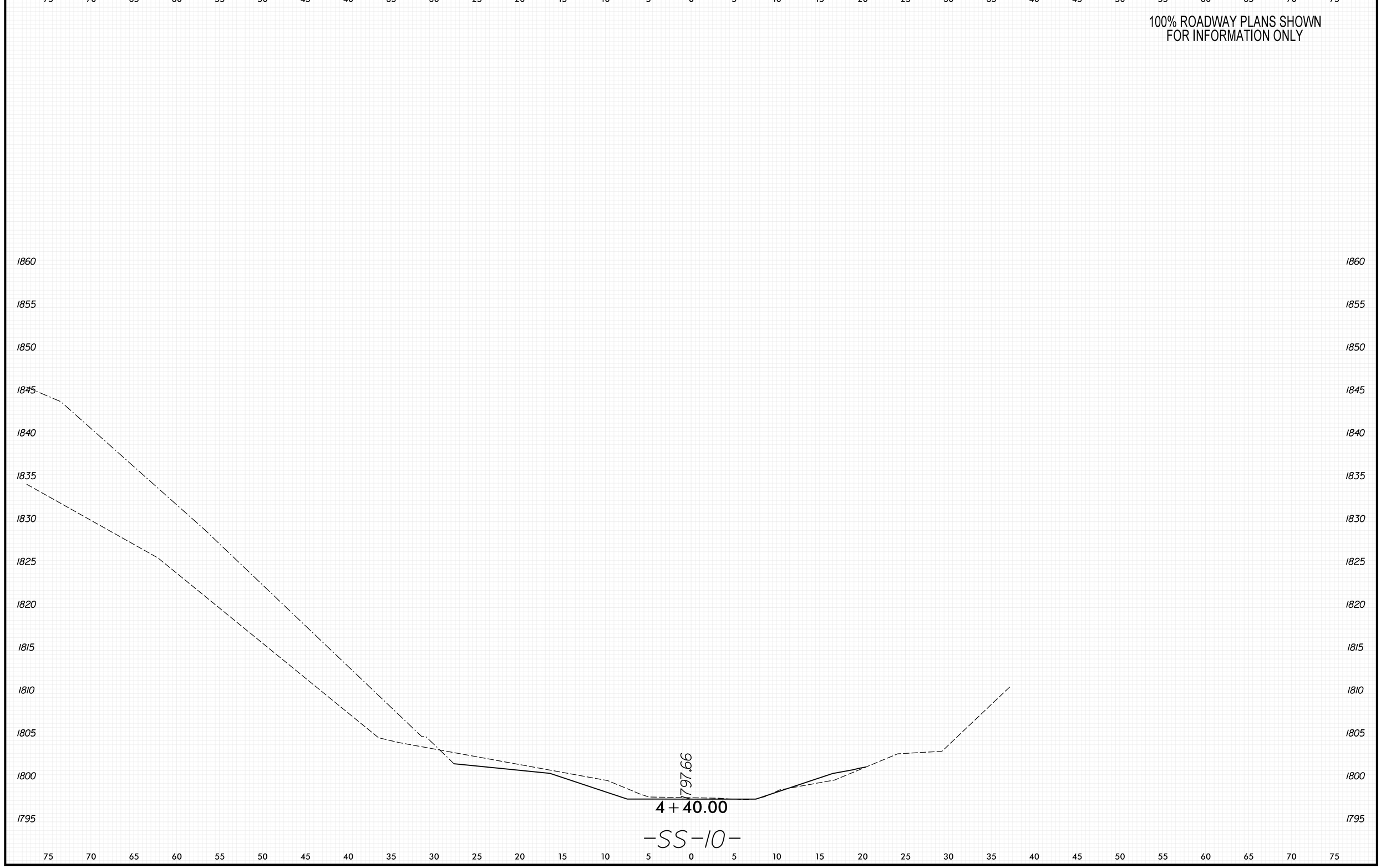


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:23 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-223

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:25 AM

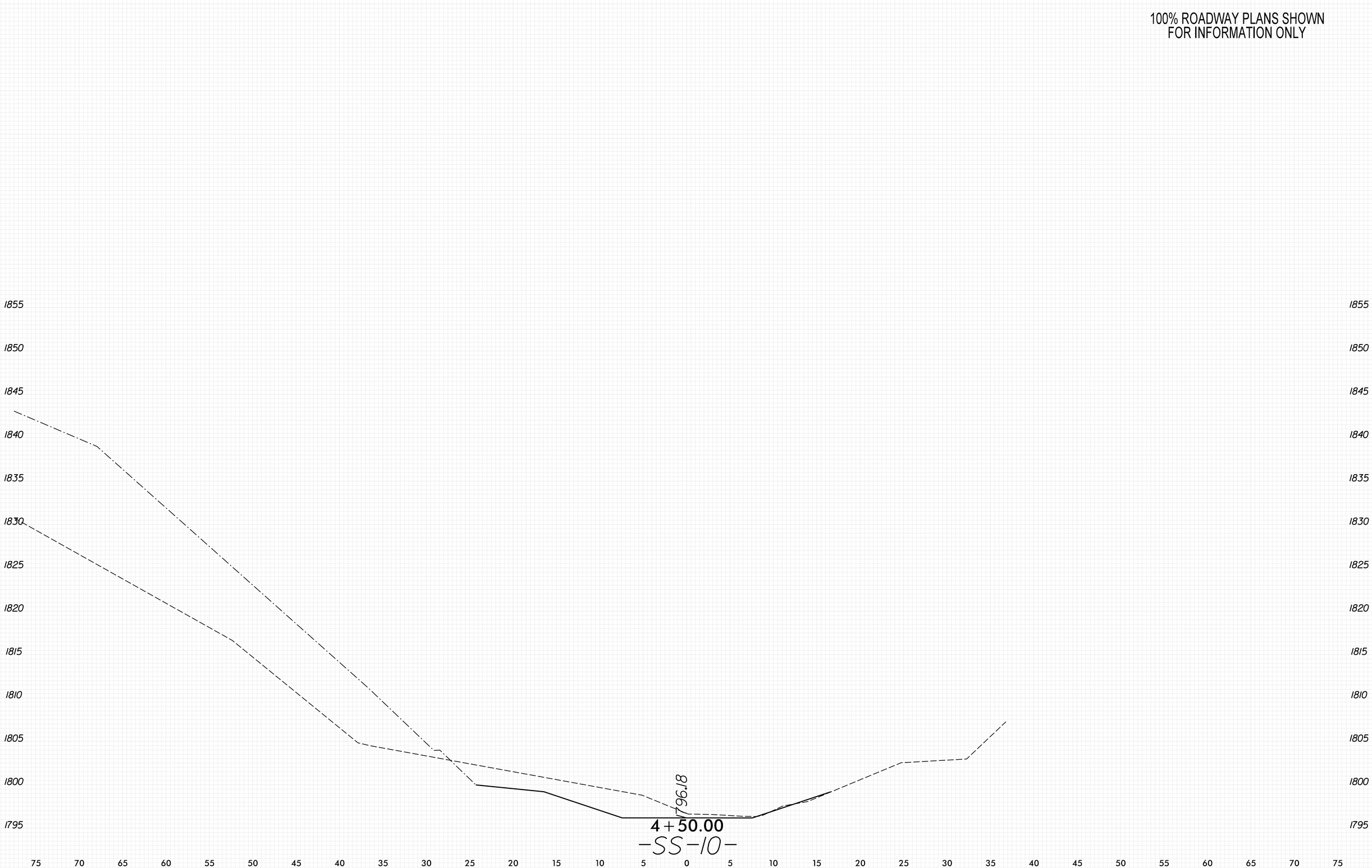
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-224

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

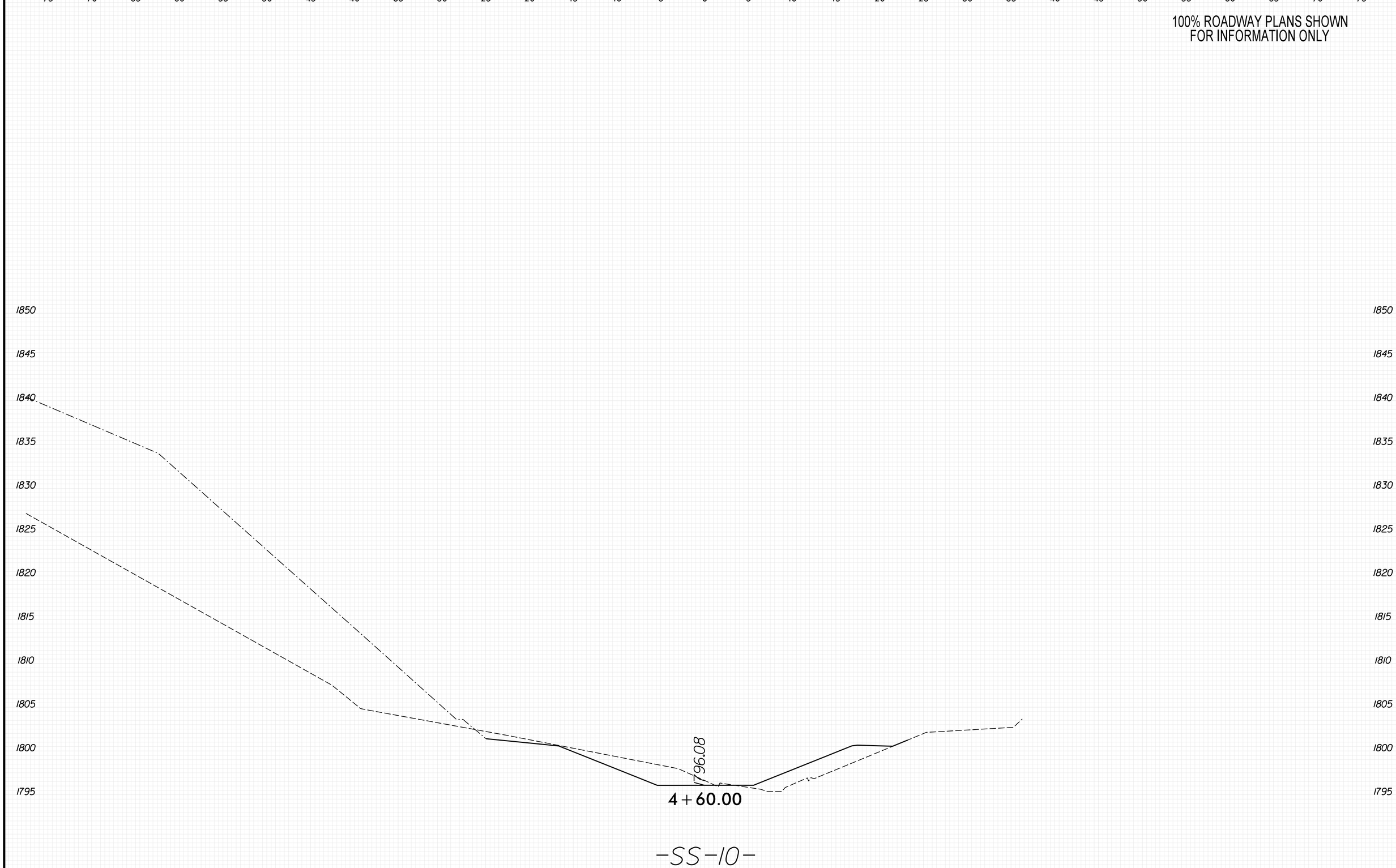


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:26 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-225

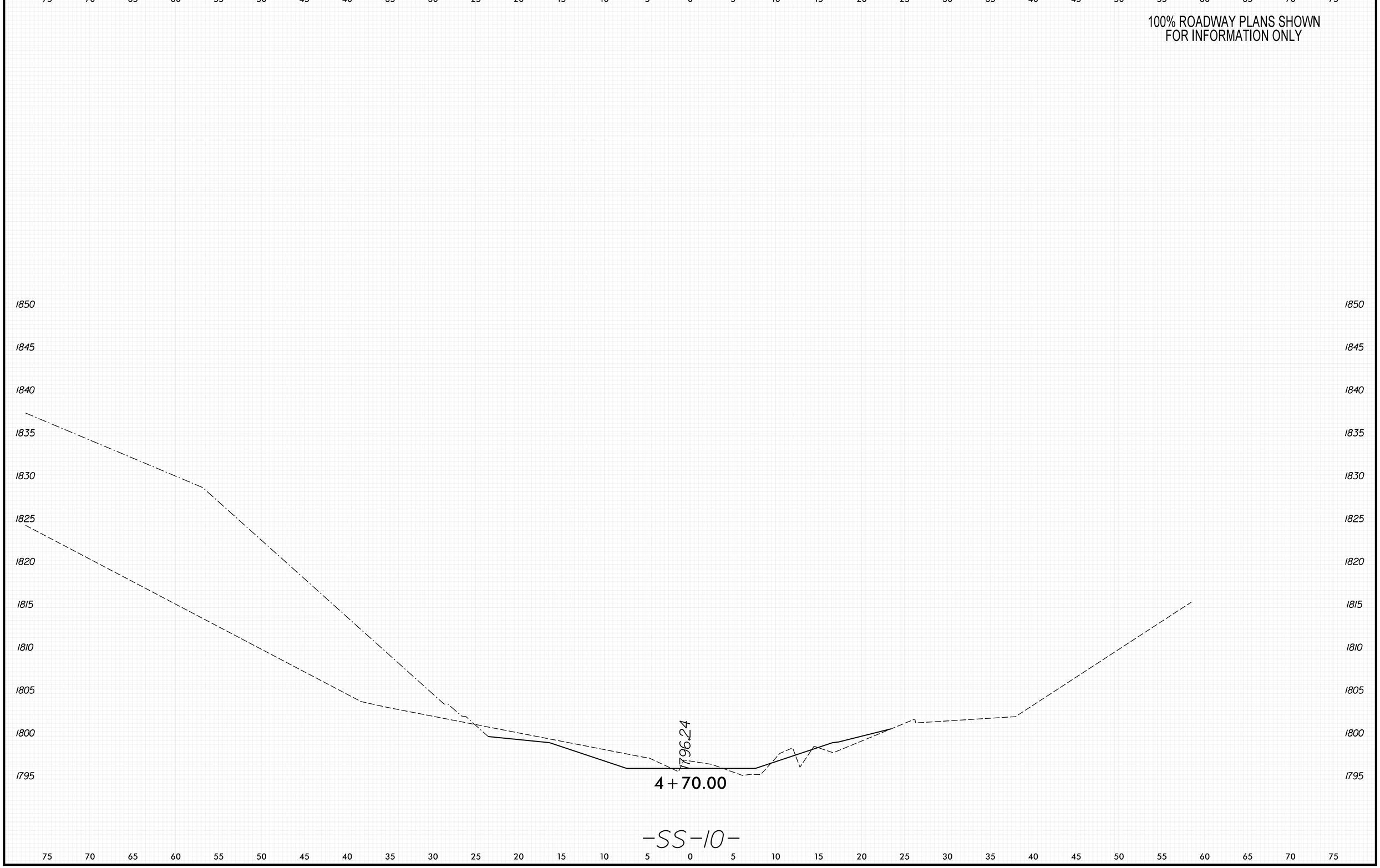
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/29/2026
TIME: 9:04:28 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-226

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

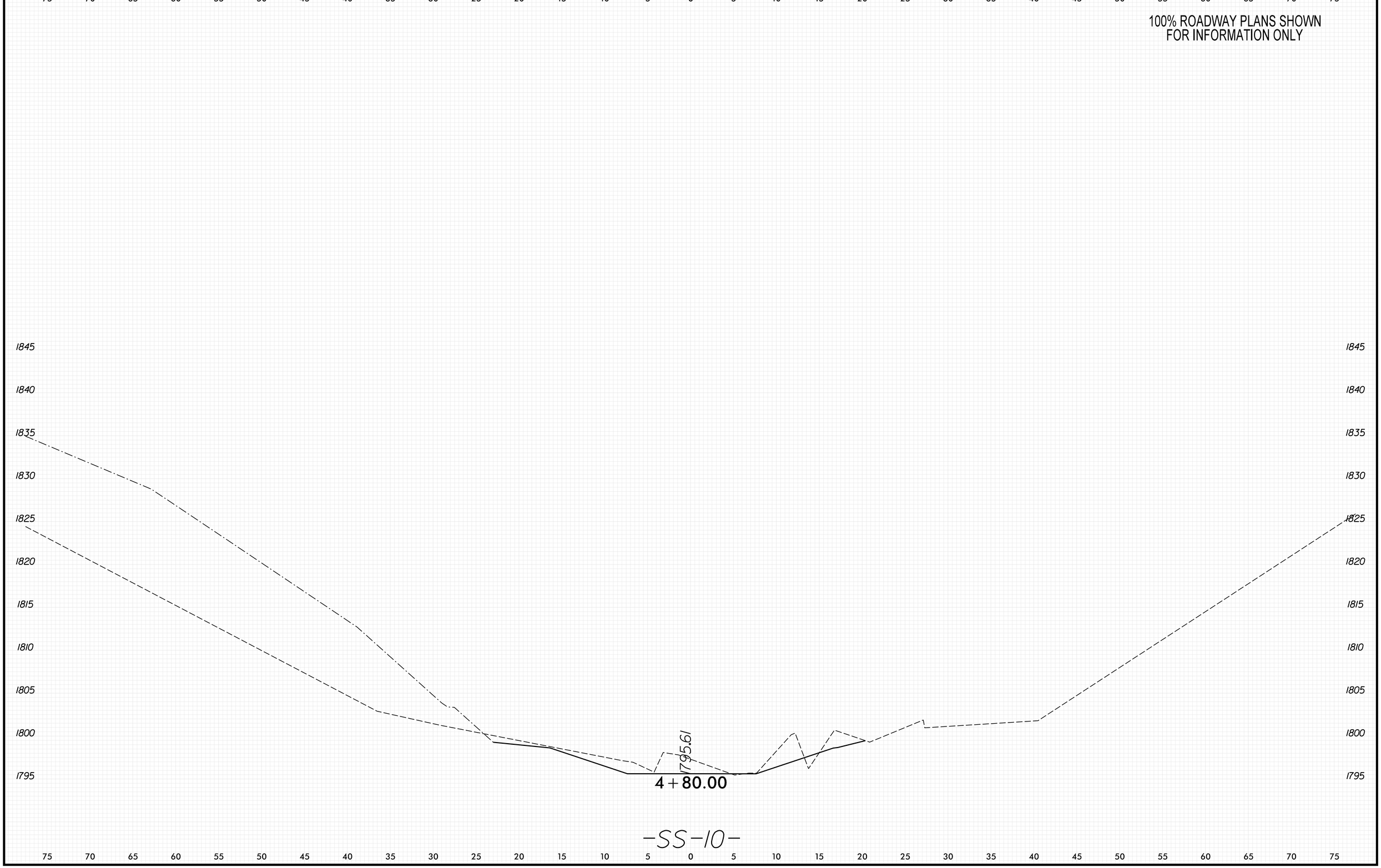


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl.eh_v8.tbl
TIME: 9:04:29 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-227

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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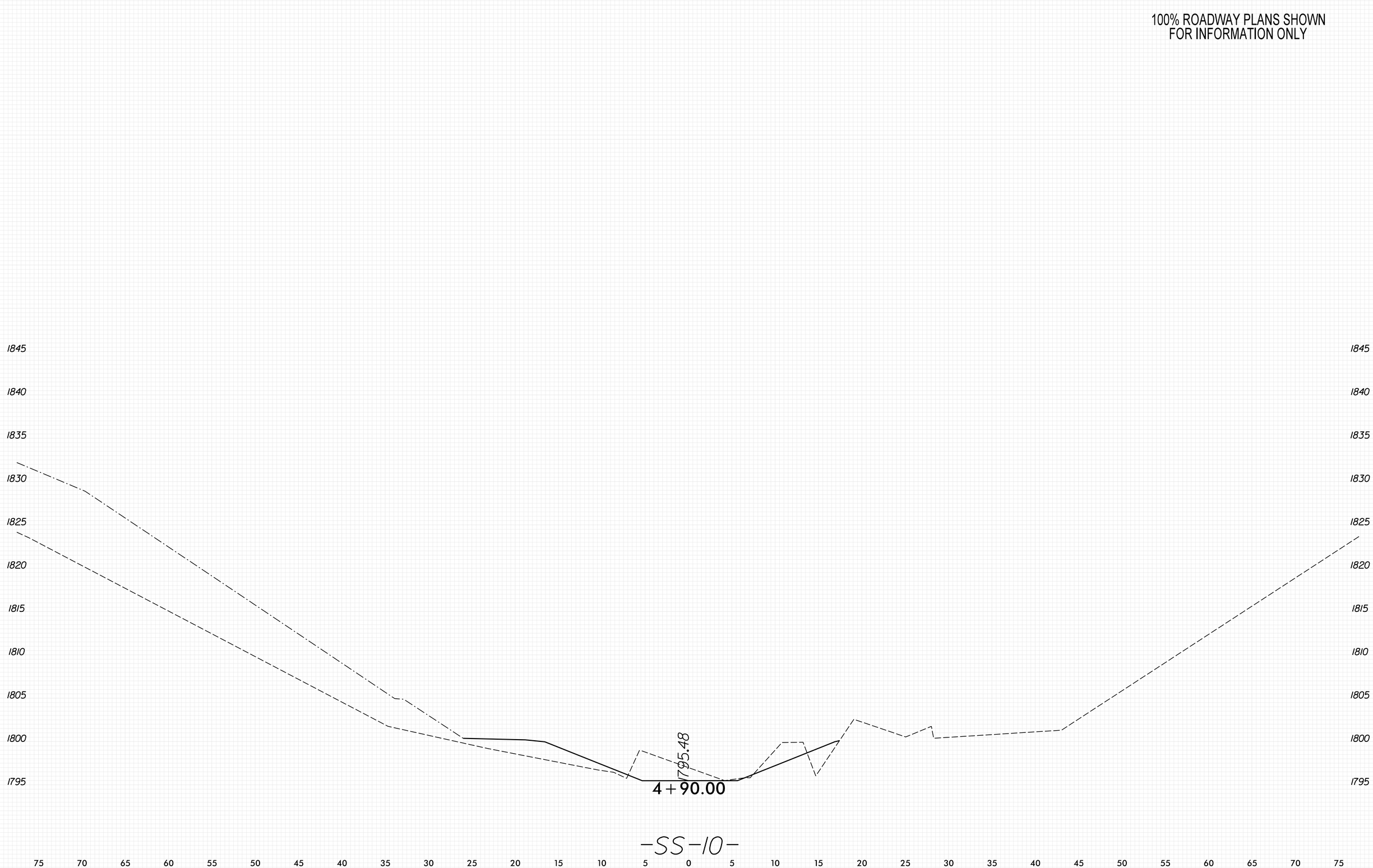
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-228

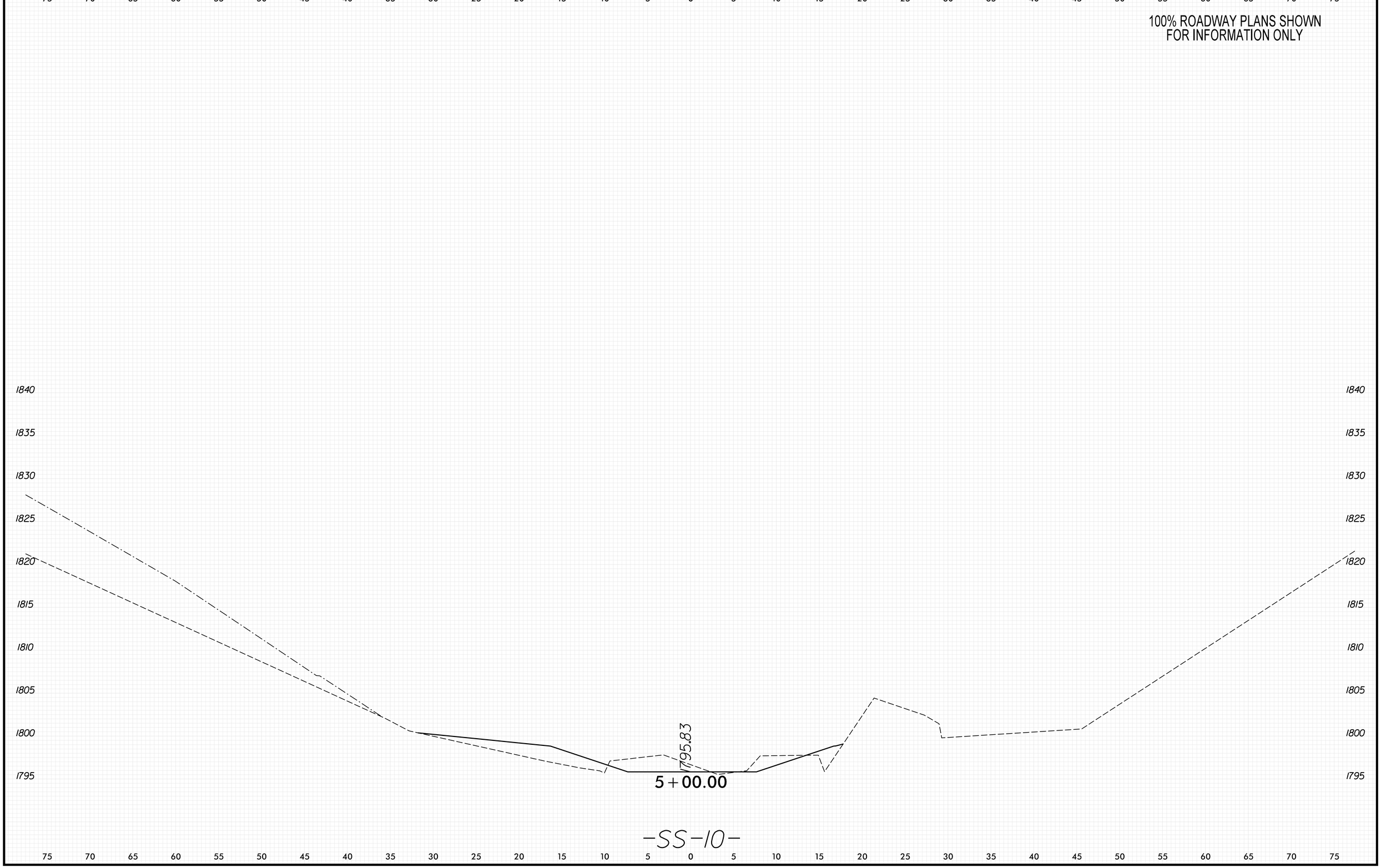
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:33 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-229

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

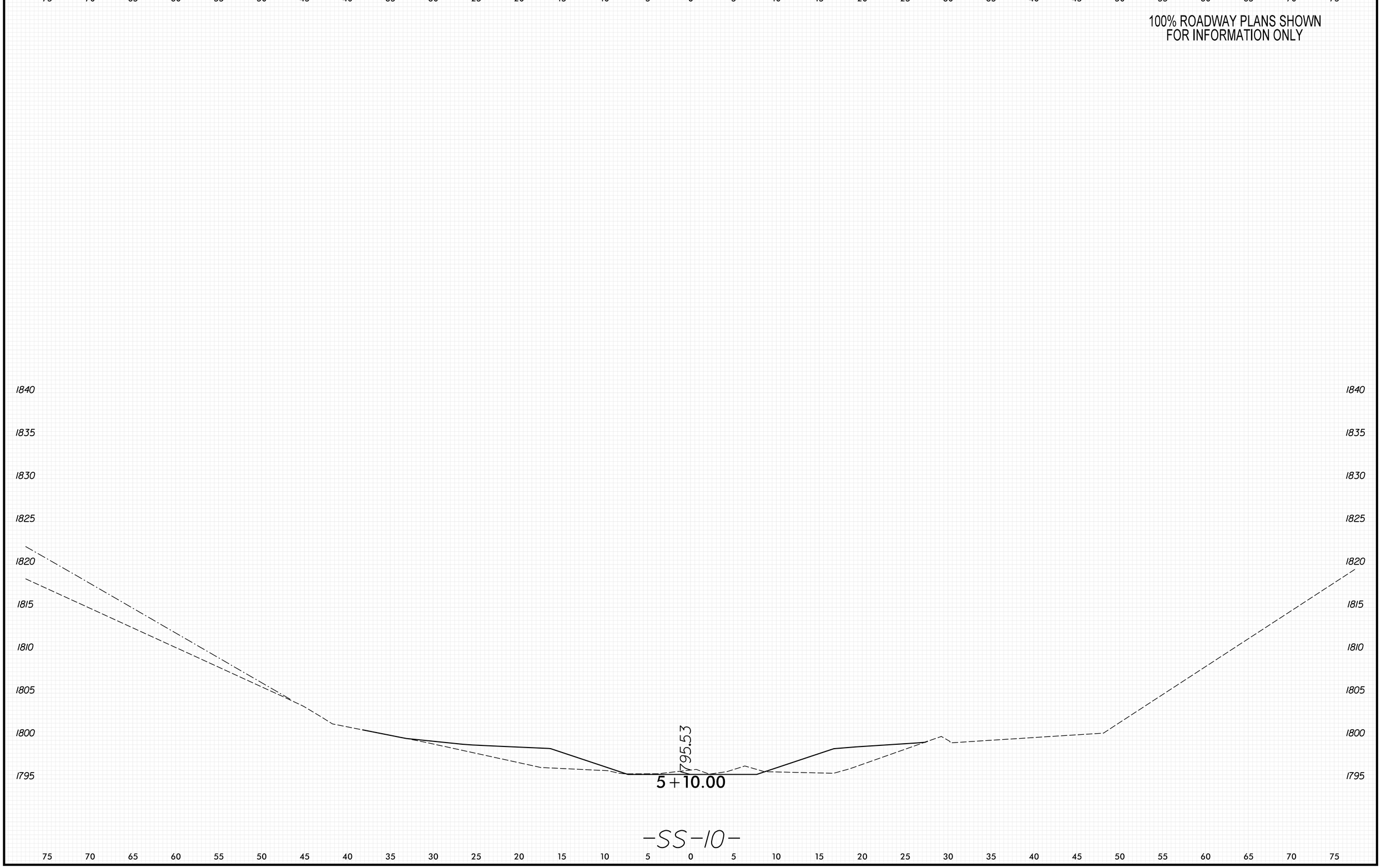


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:35 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-230

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

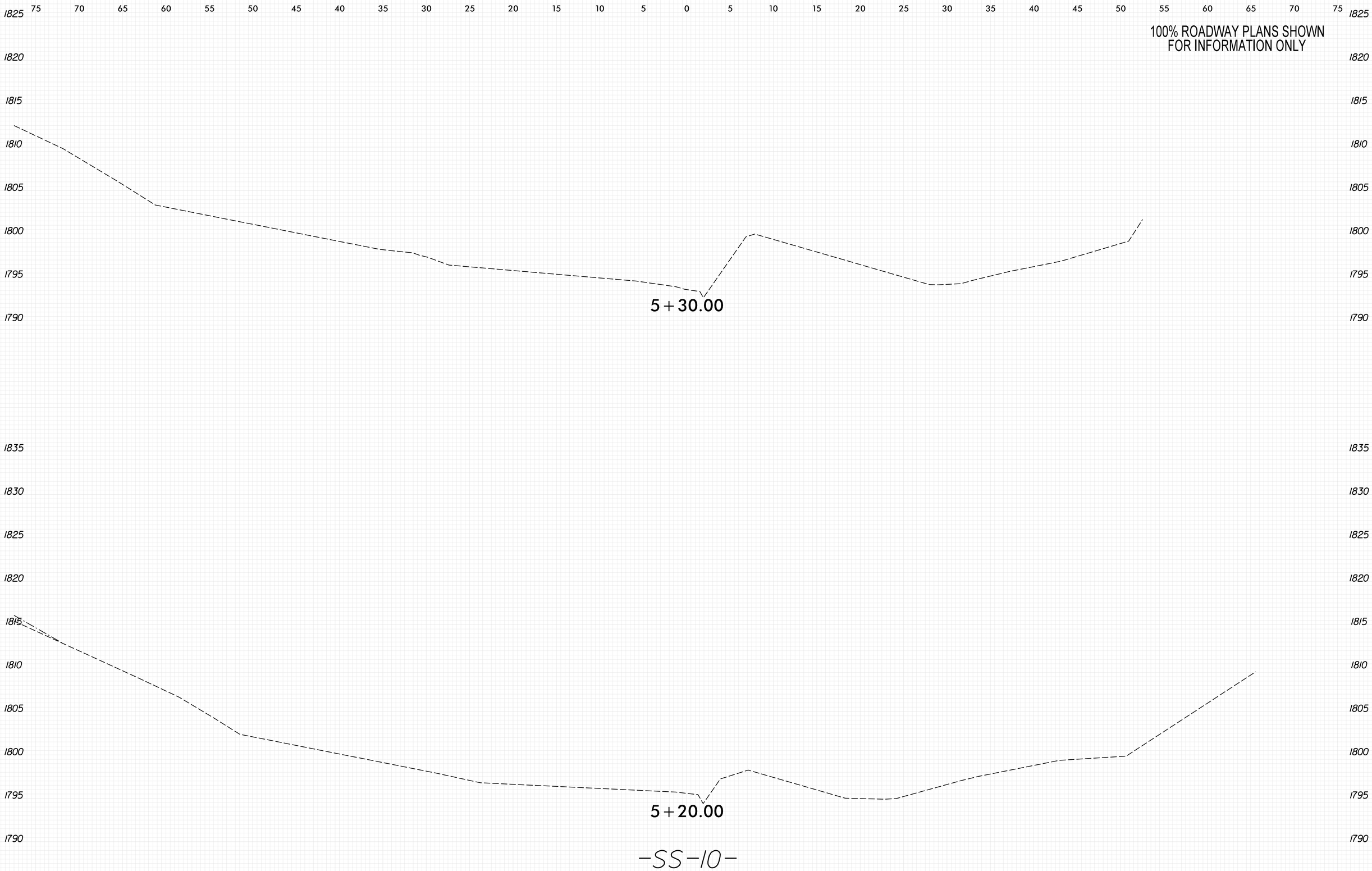


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:36 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-231

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

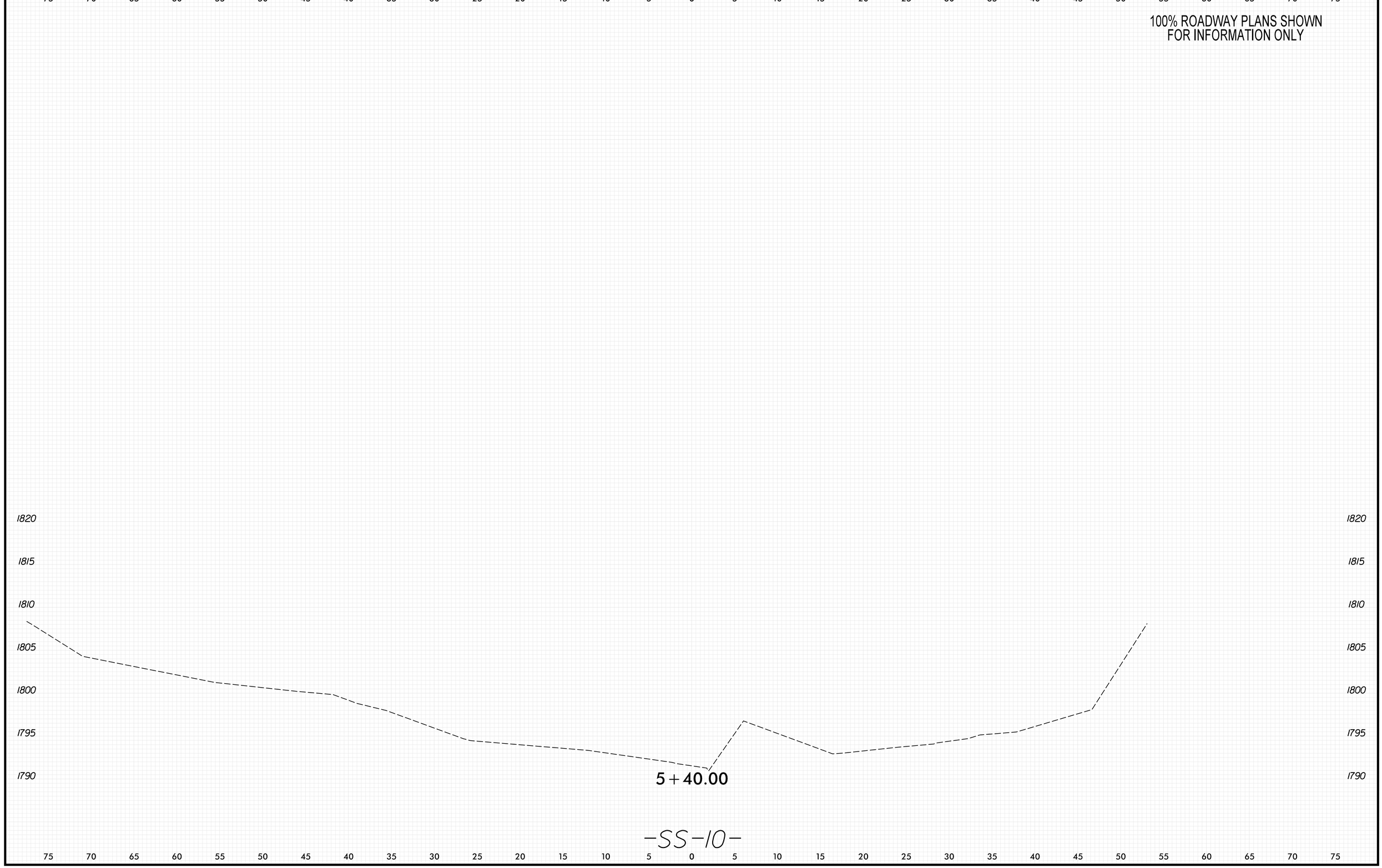


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:38 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-232

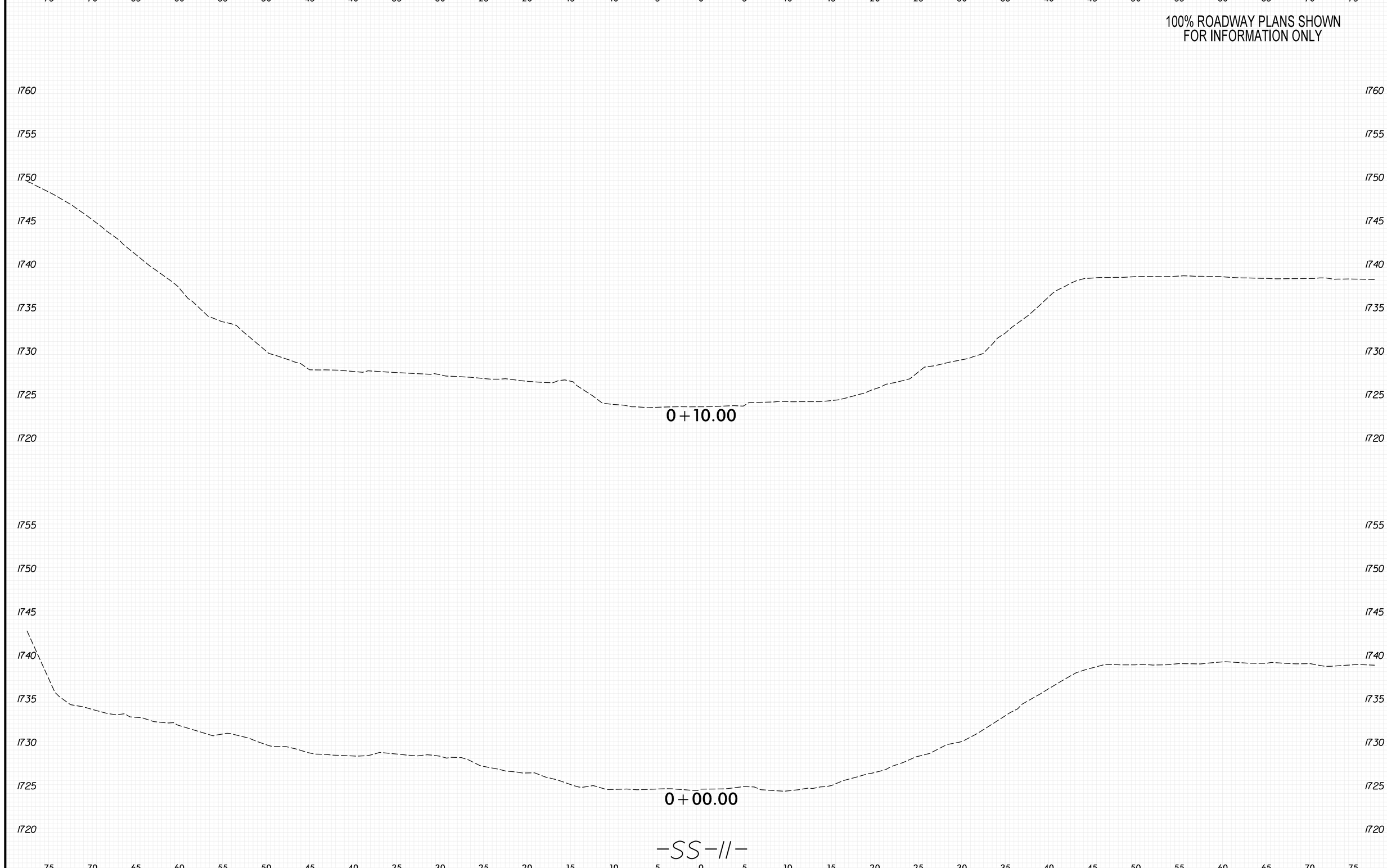
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:04:40 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-233

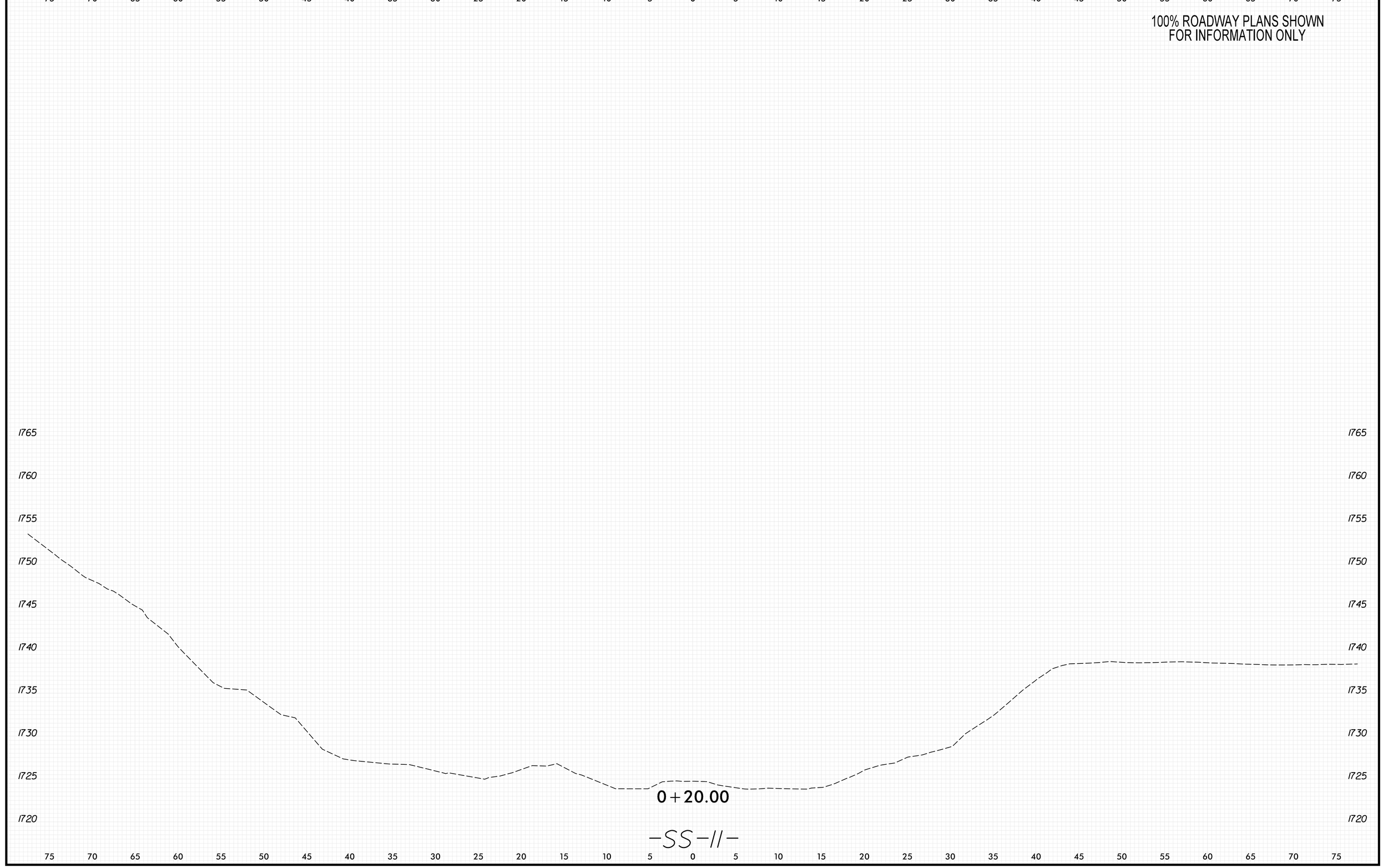
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:05:33 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-234

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

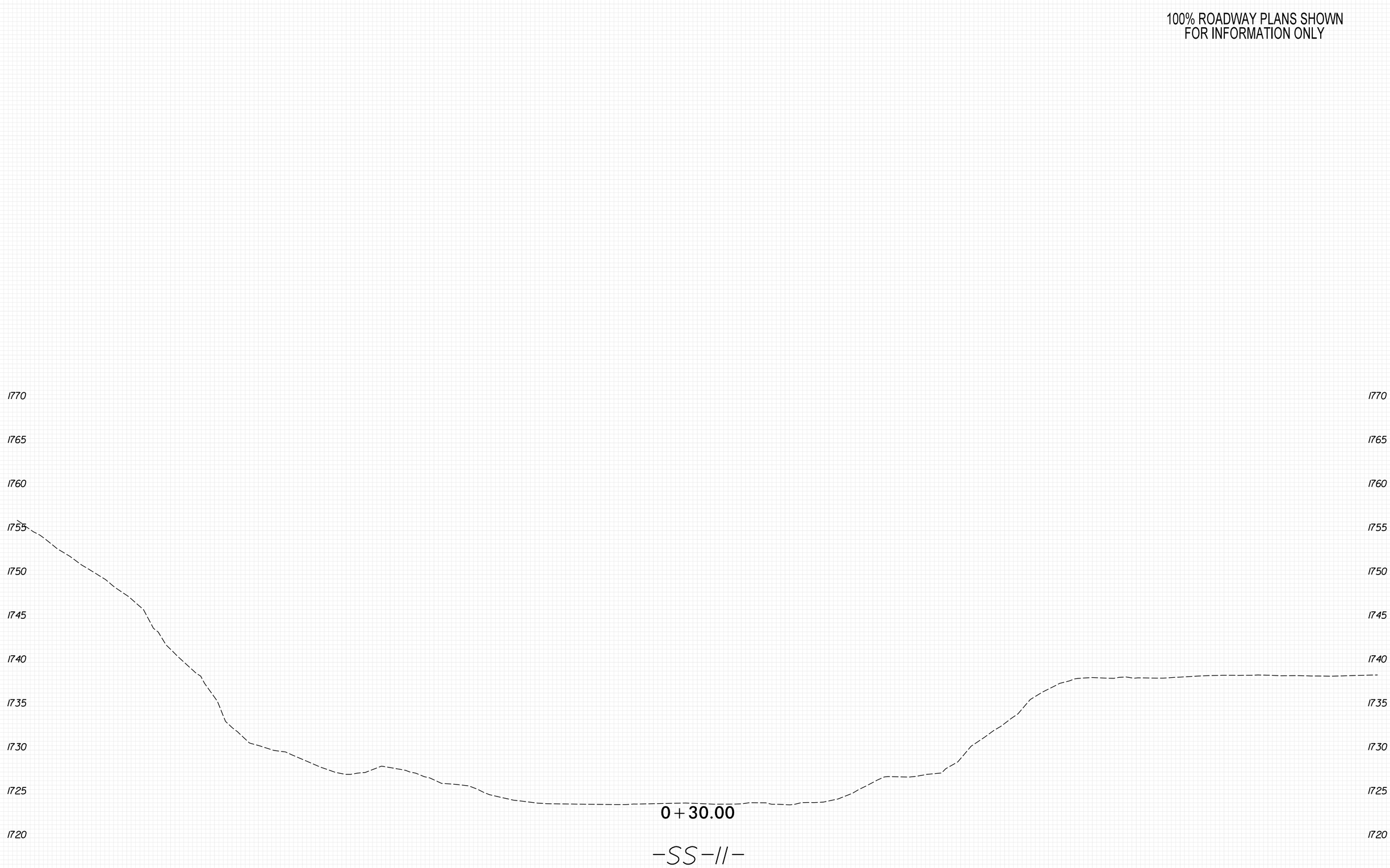


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:35 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-235

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

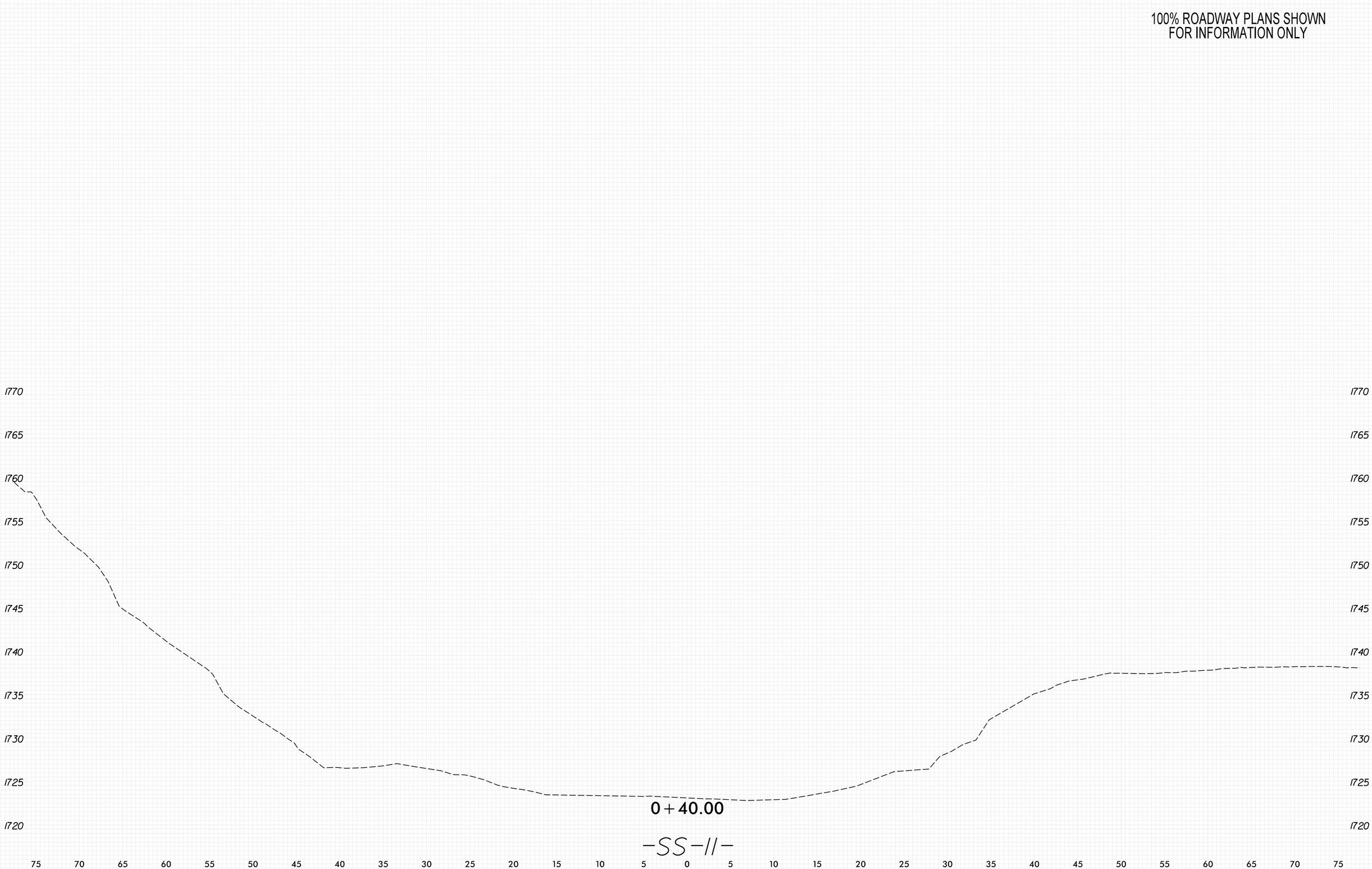


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:36 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-236

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

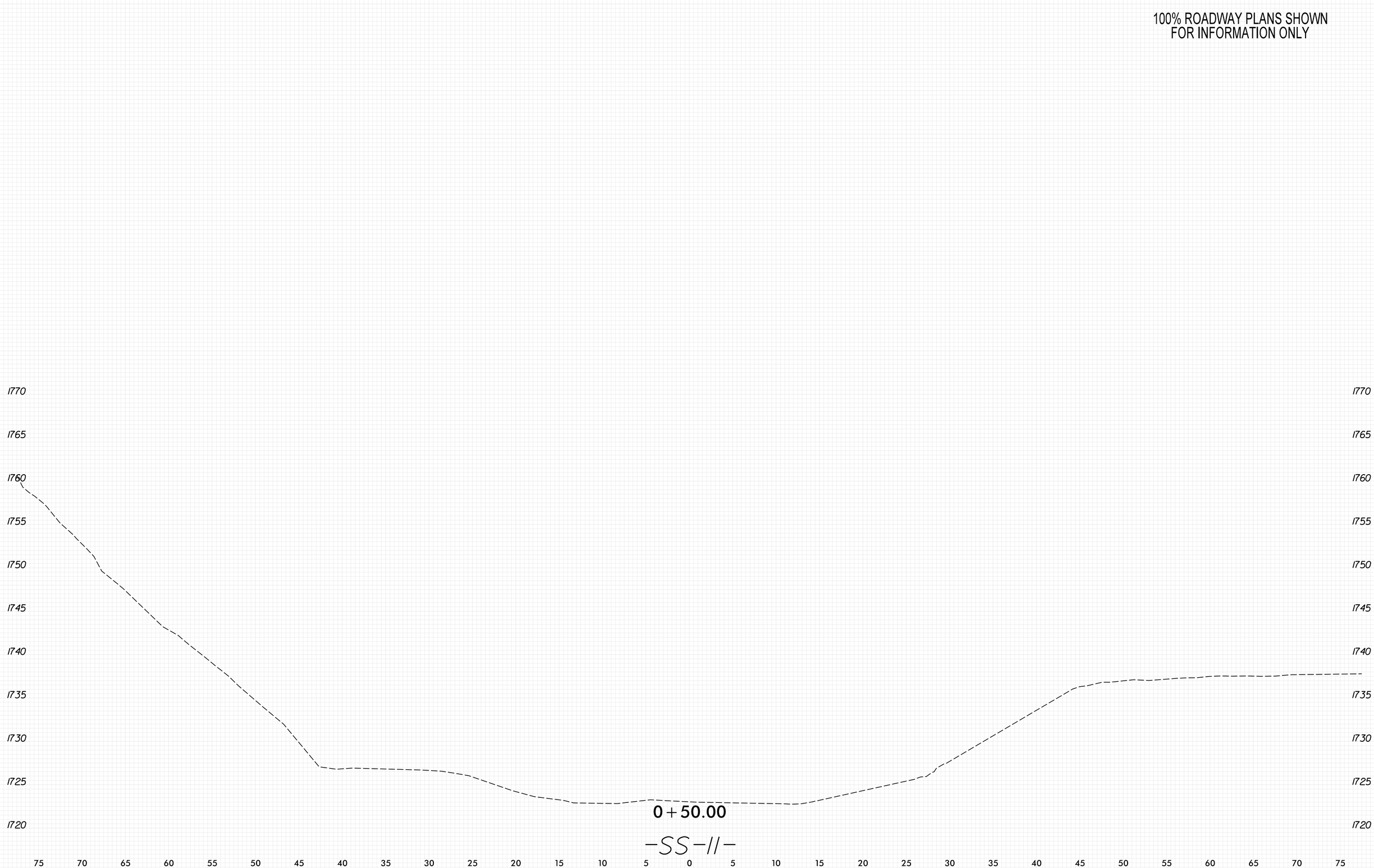


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:38 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-237

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

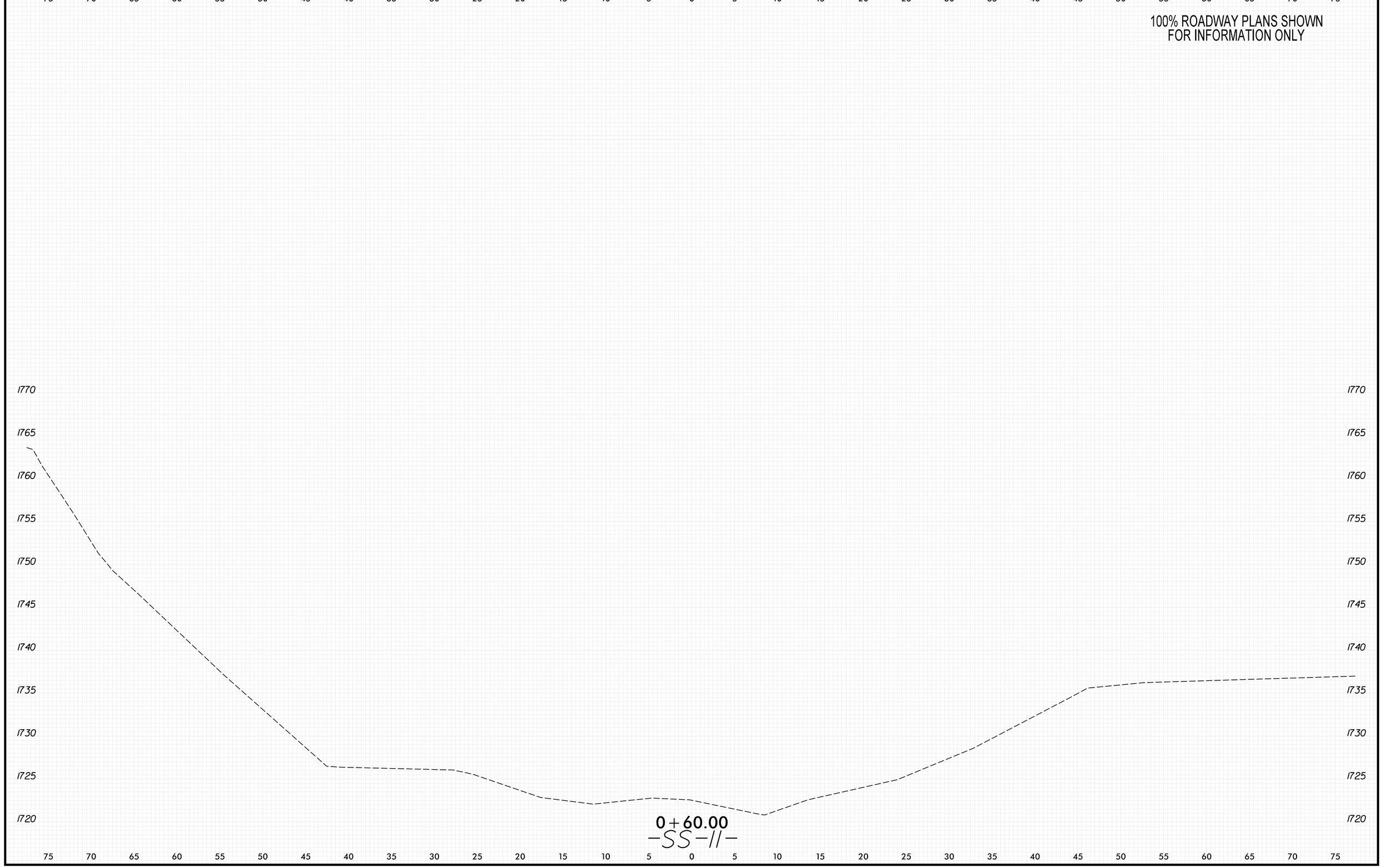


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:40 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-238

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

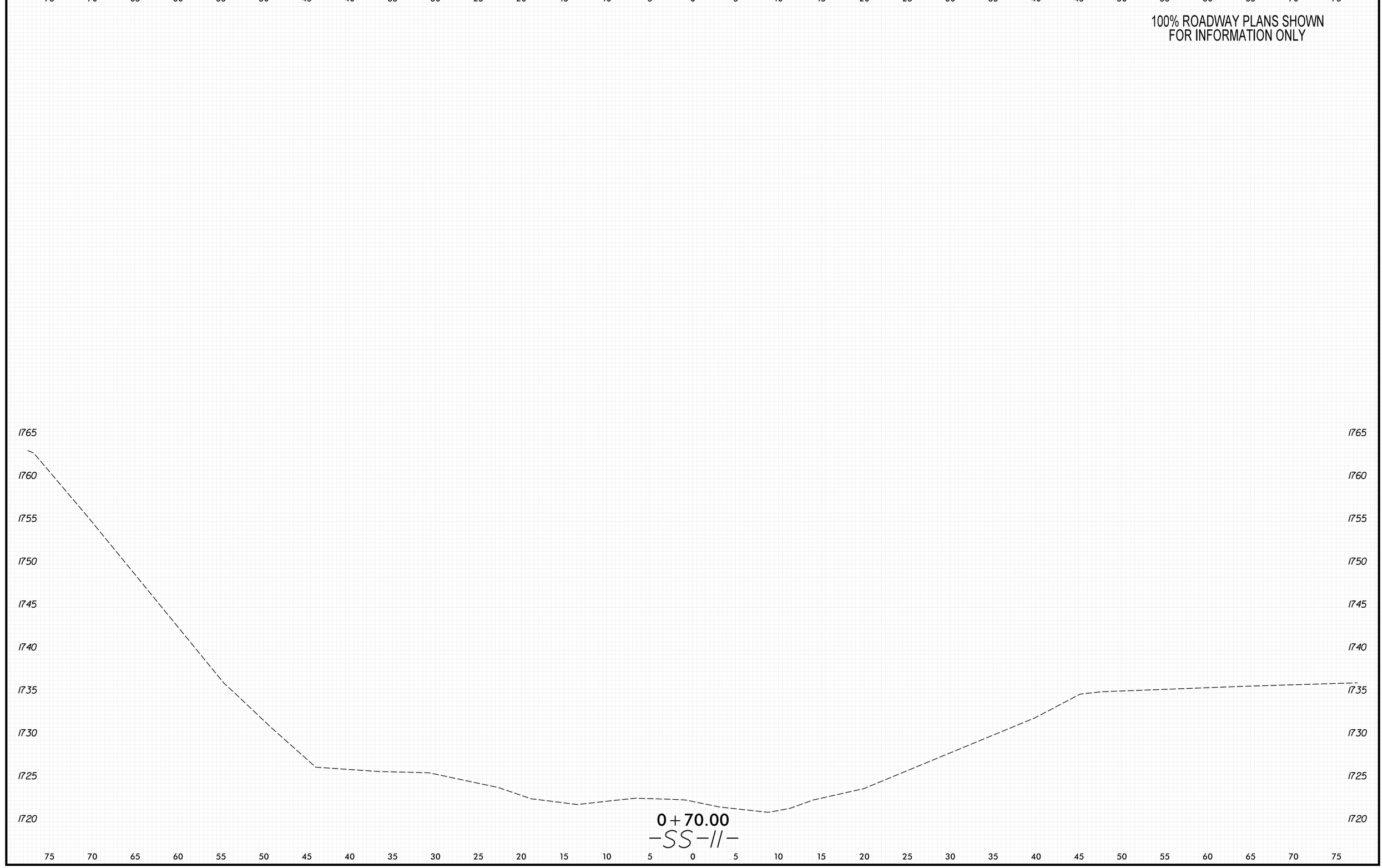
PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:41 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-239

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

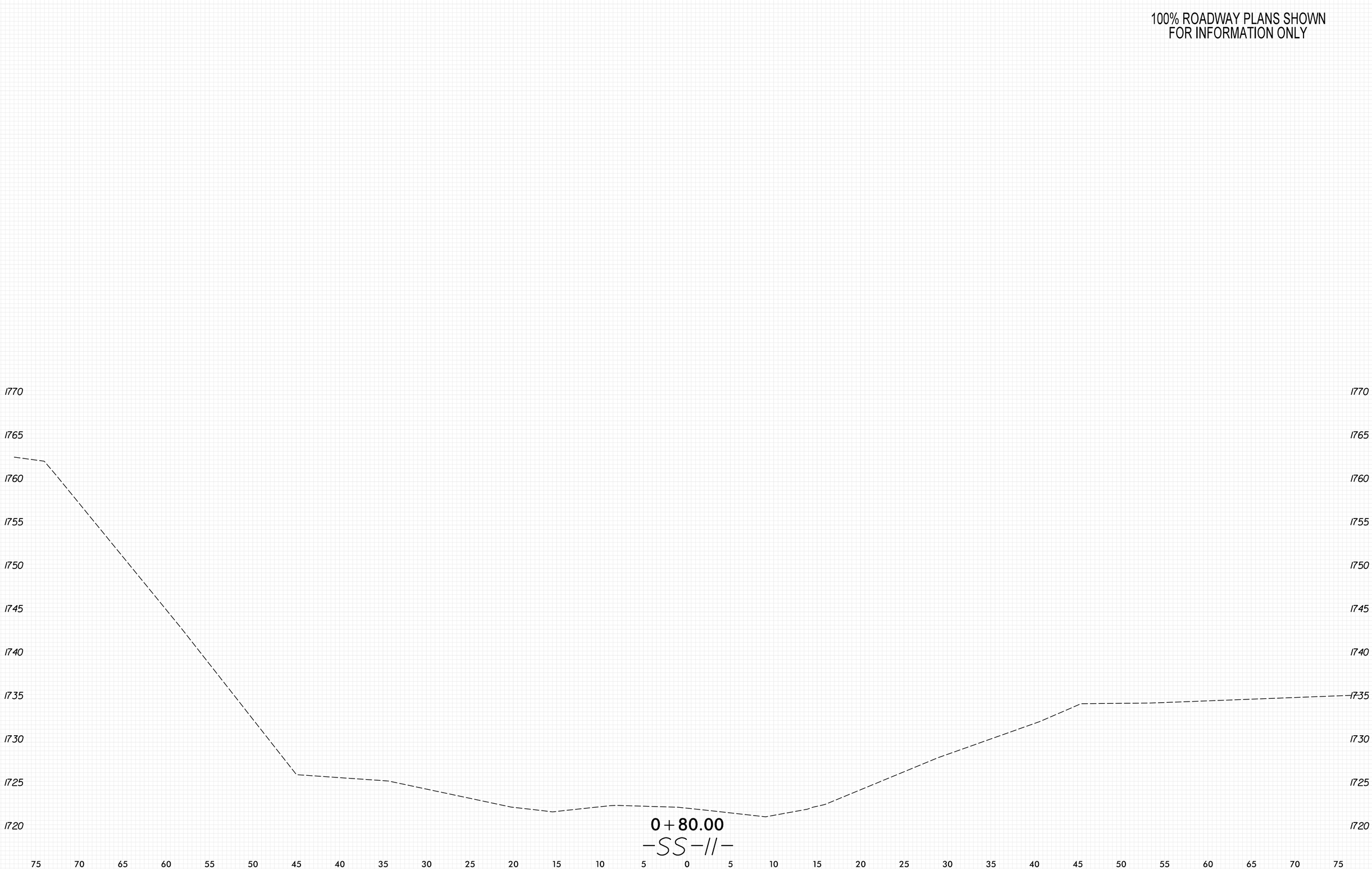
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

DATE: 5/29/2026

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:43 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-240

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

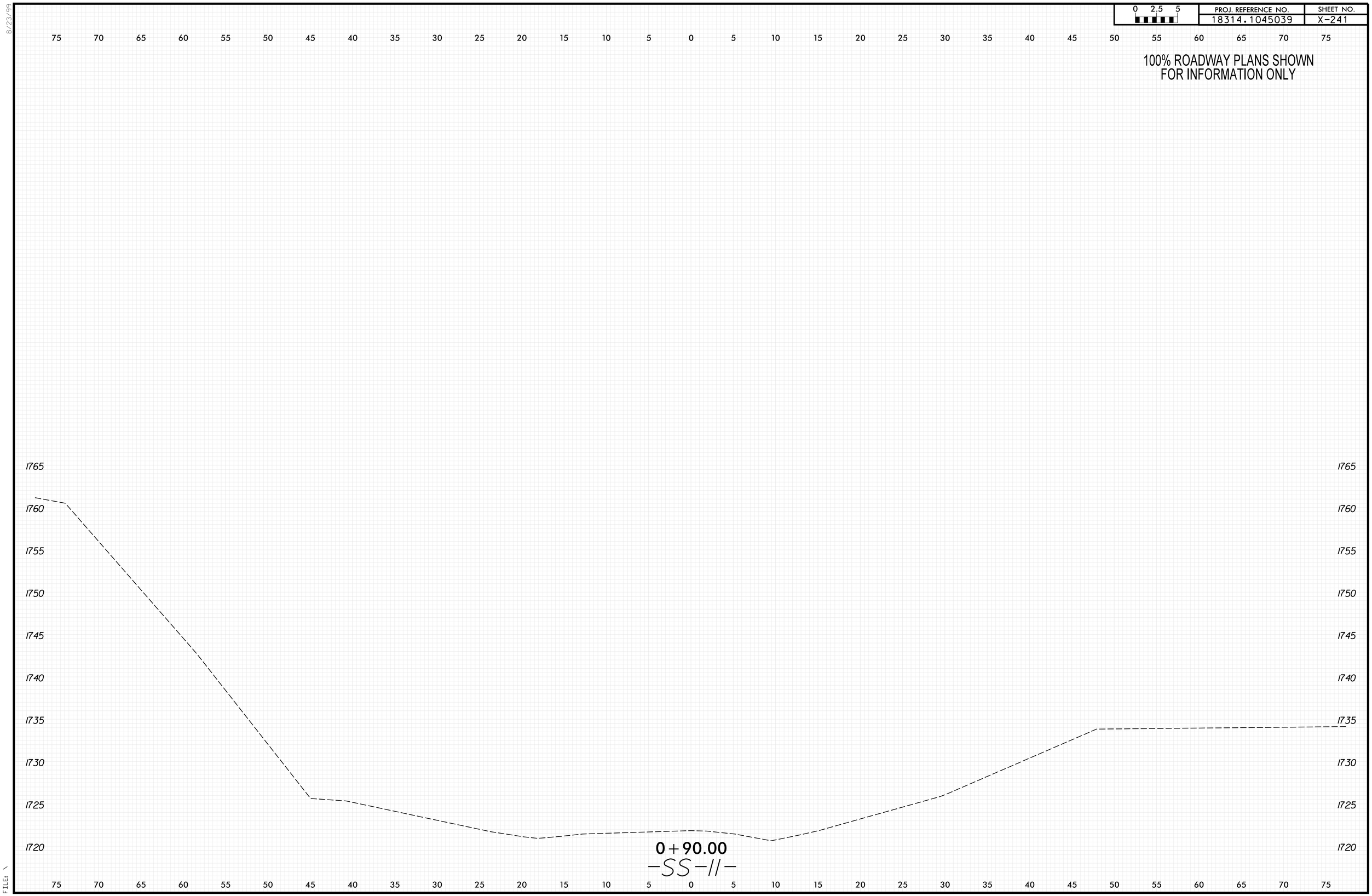


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:44 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-241

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

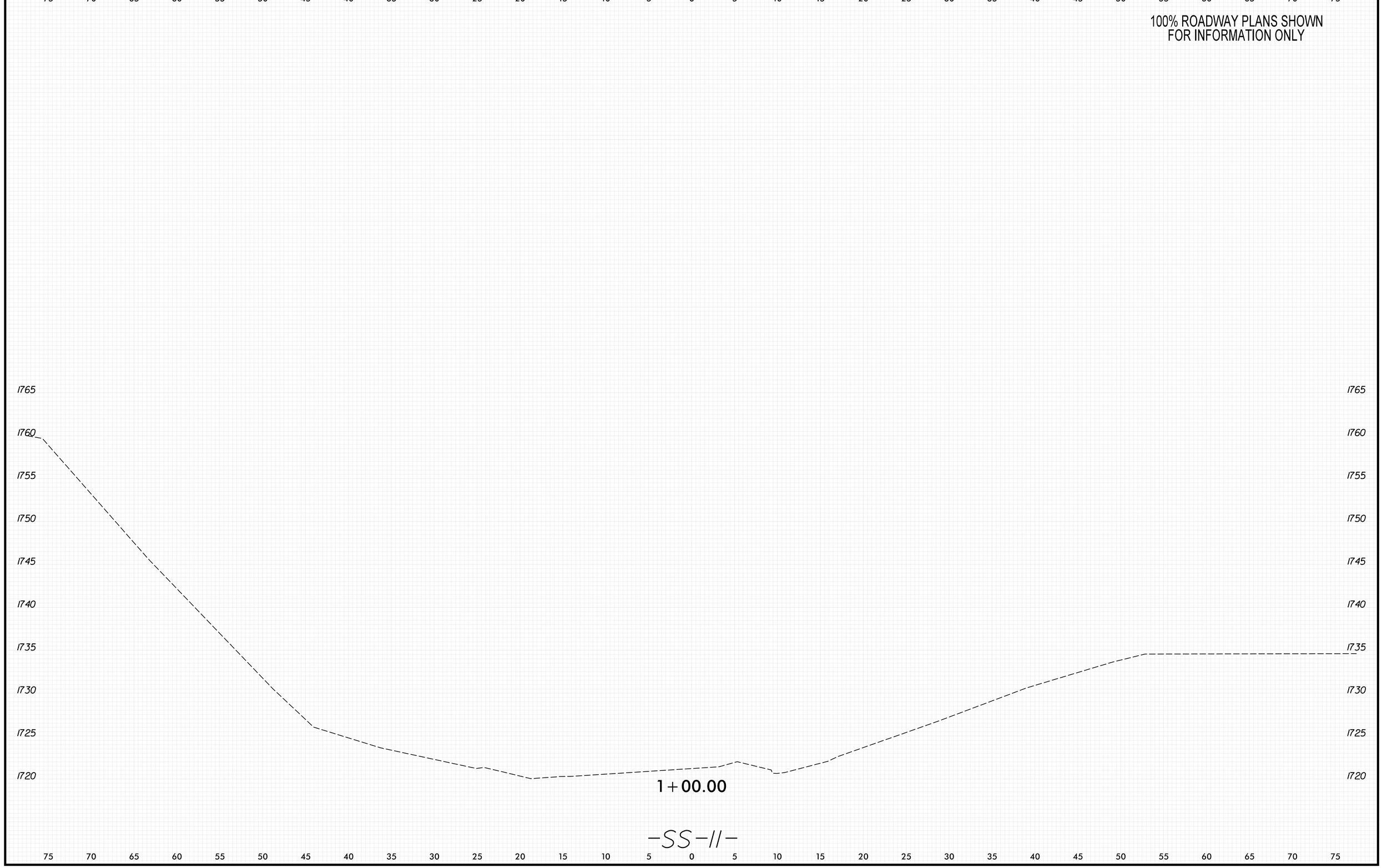
PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:46 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-242

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

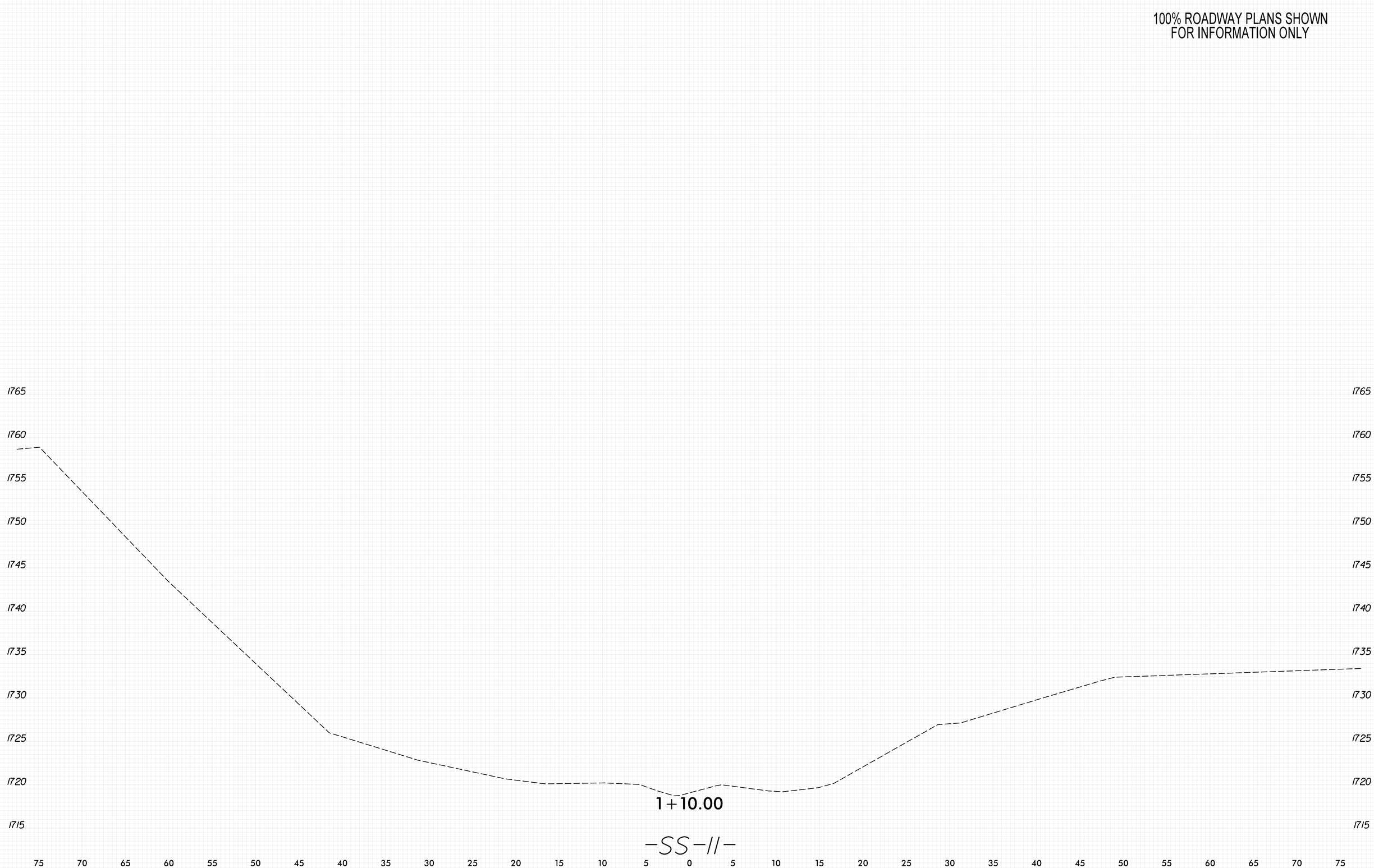


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:47 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-243

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

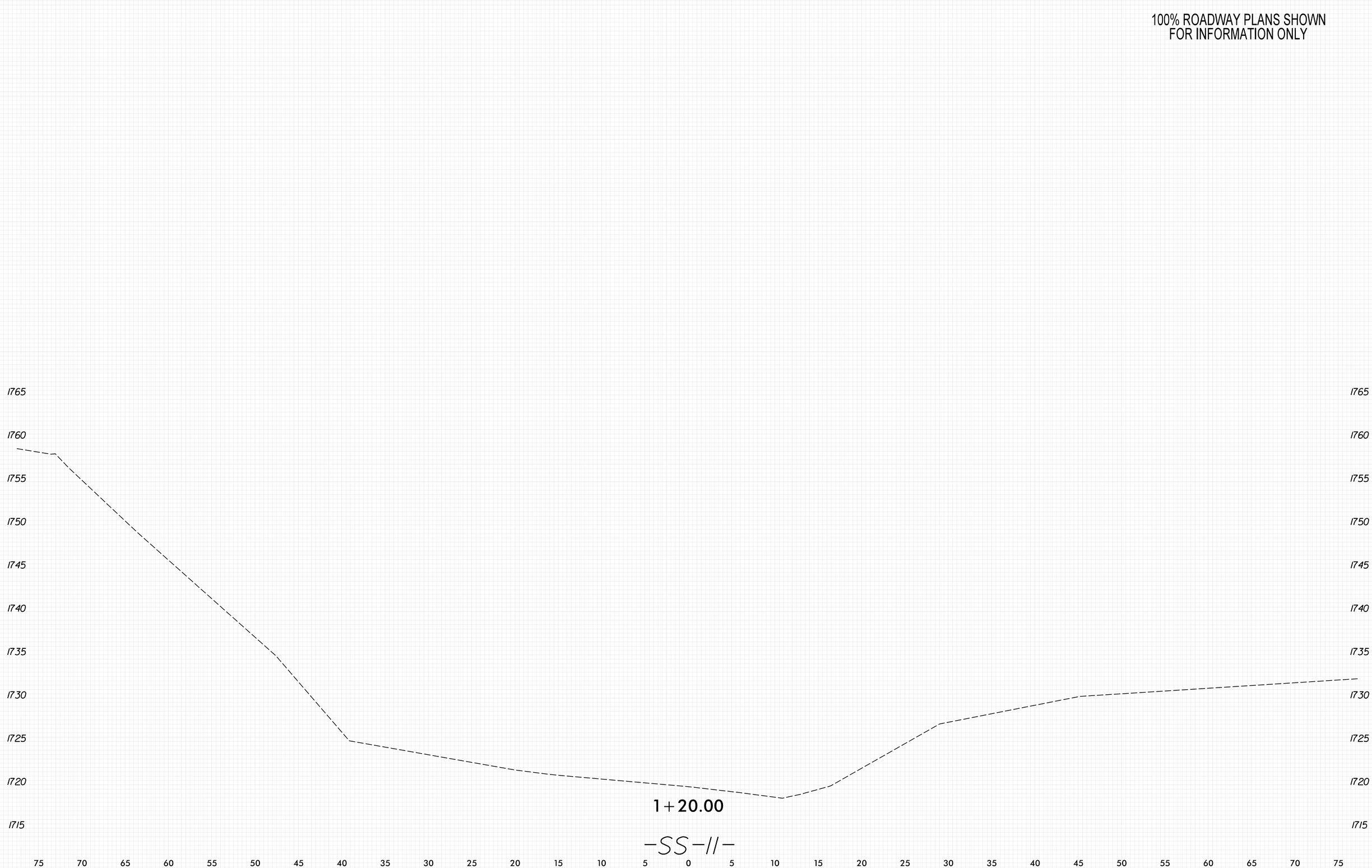


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:49 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-244

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

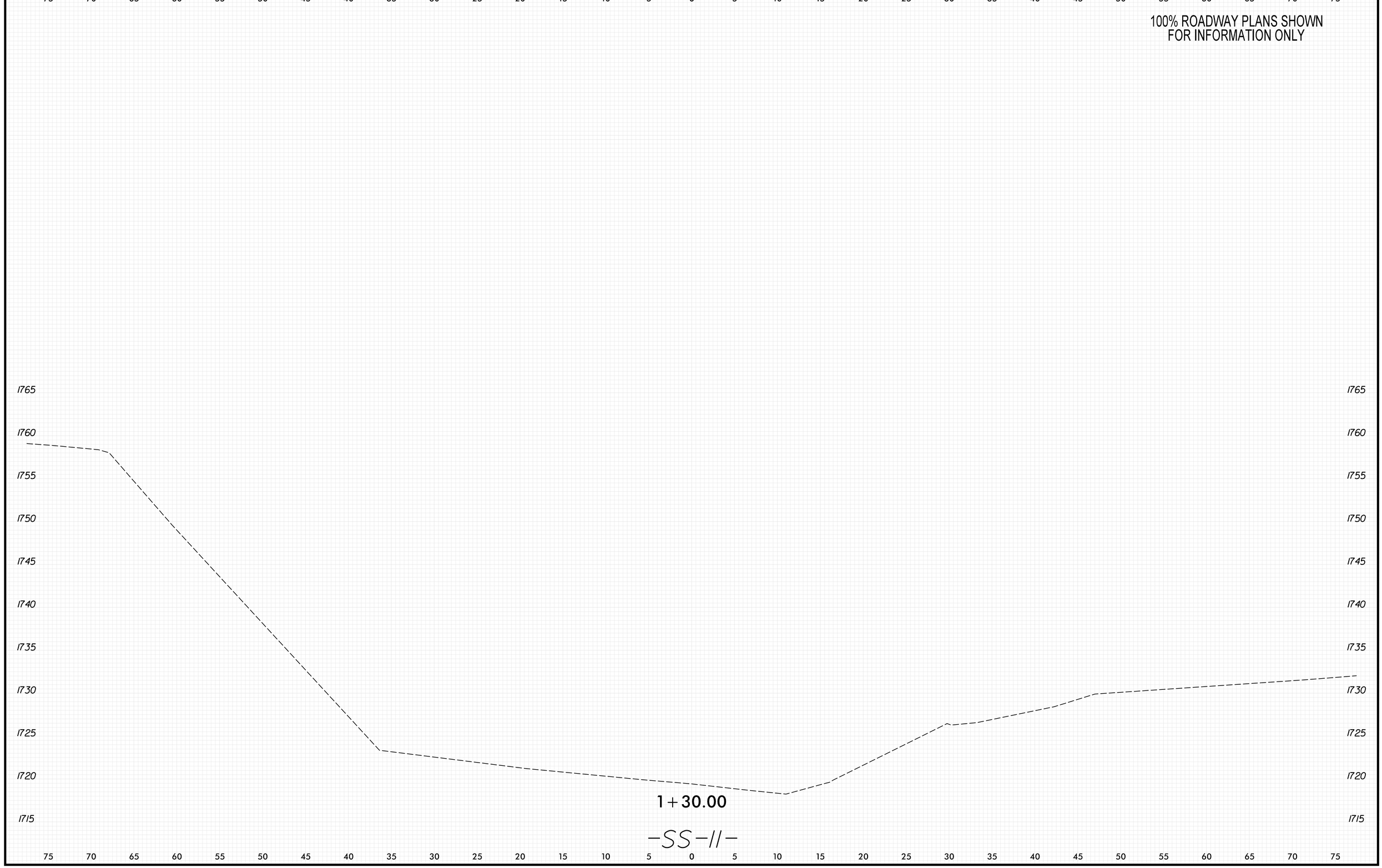


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:05:50 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-245

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

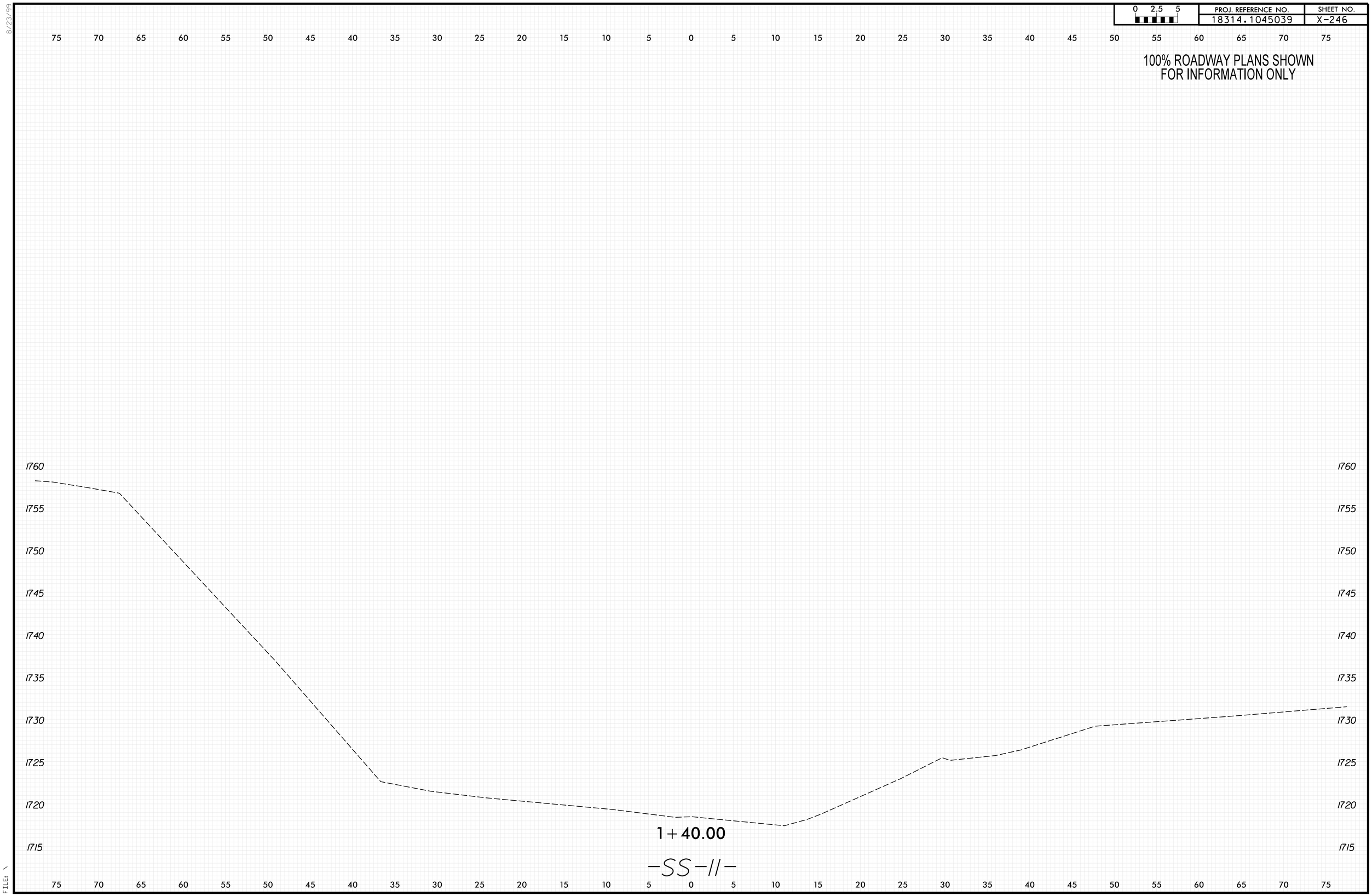
PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:51 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-246

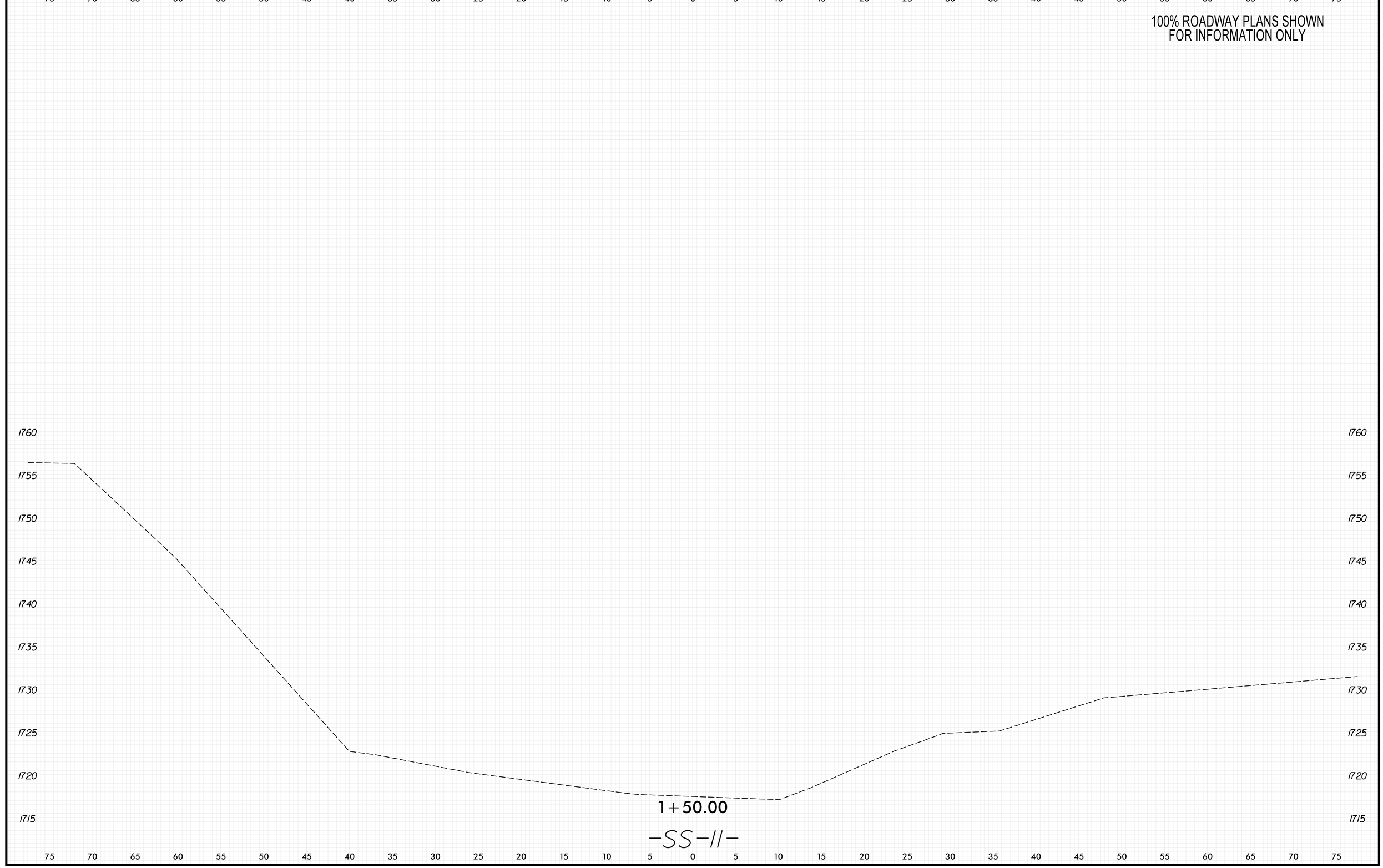
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:53 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-247

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

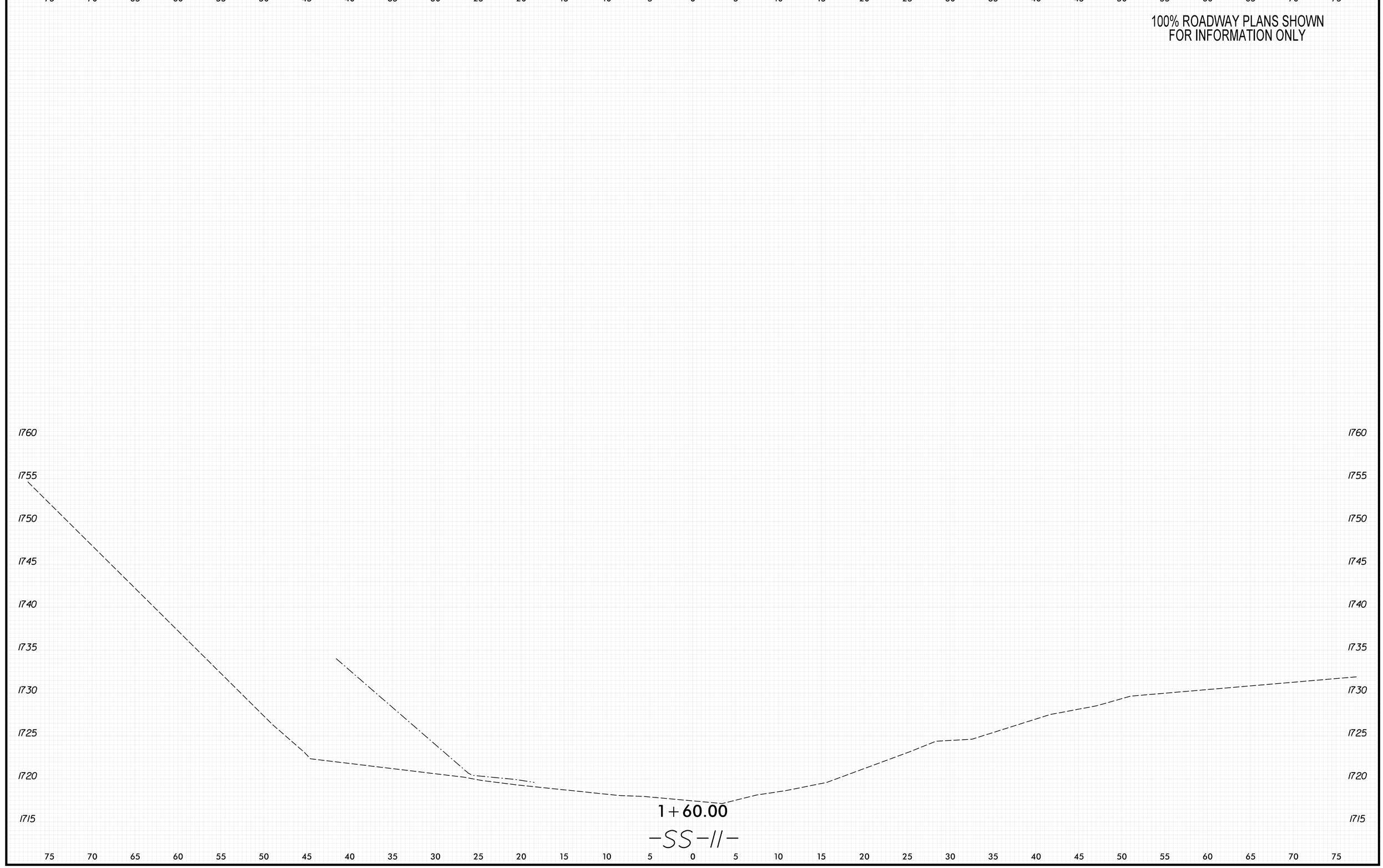


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:55 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-248

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

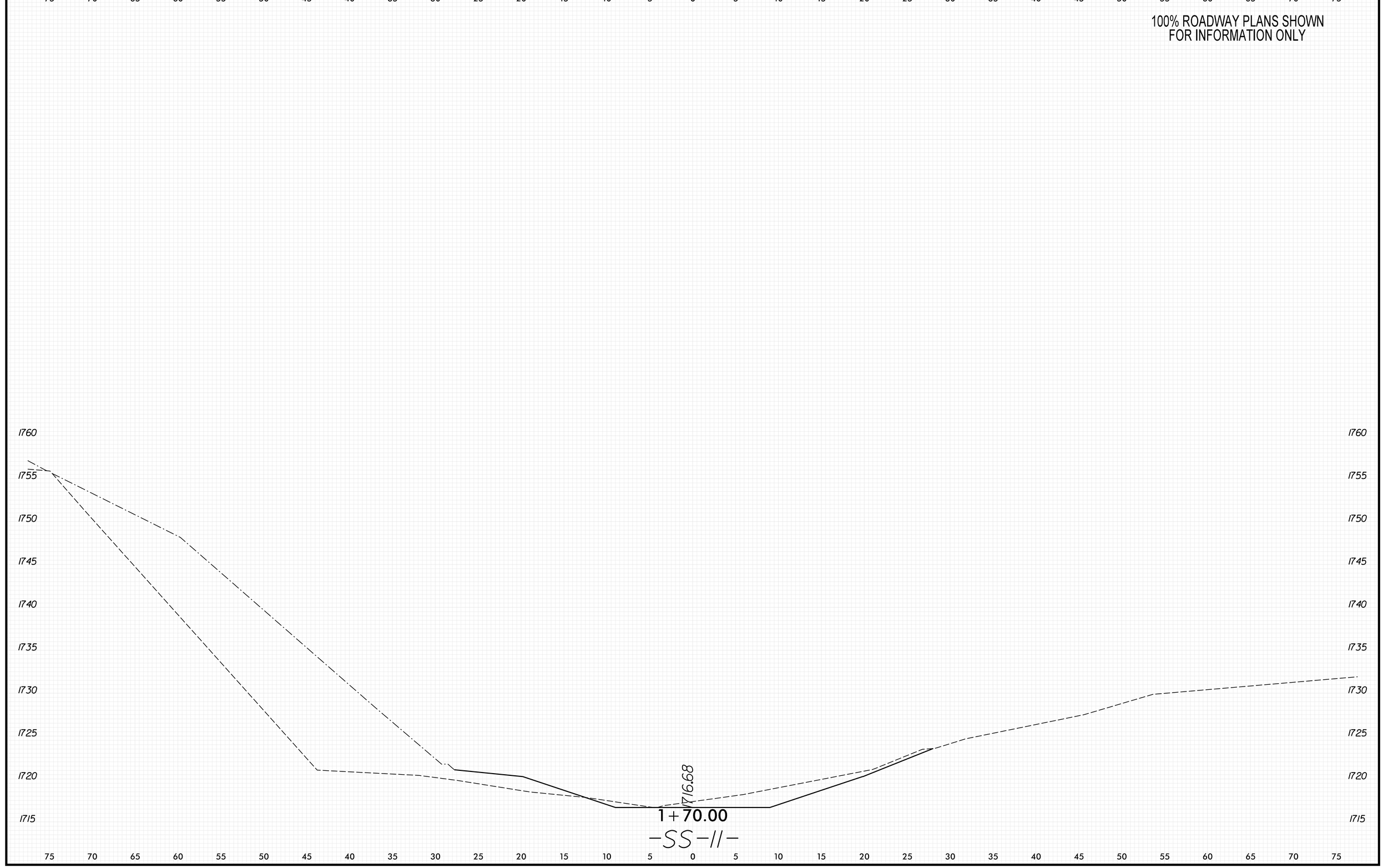


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:56 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-249

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

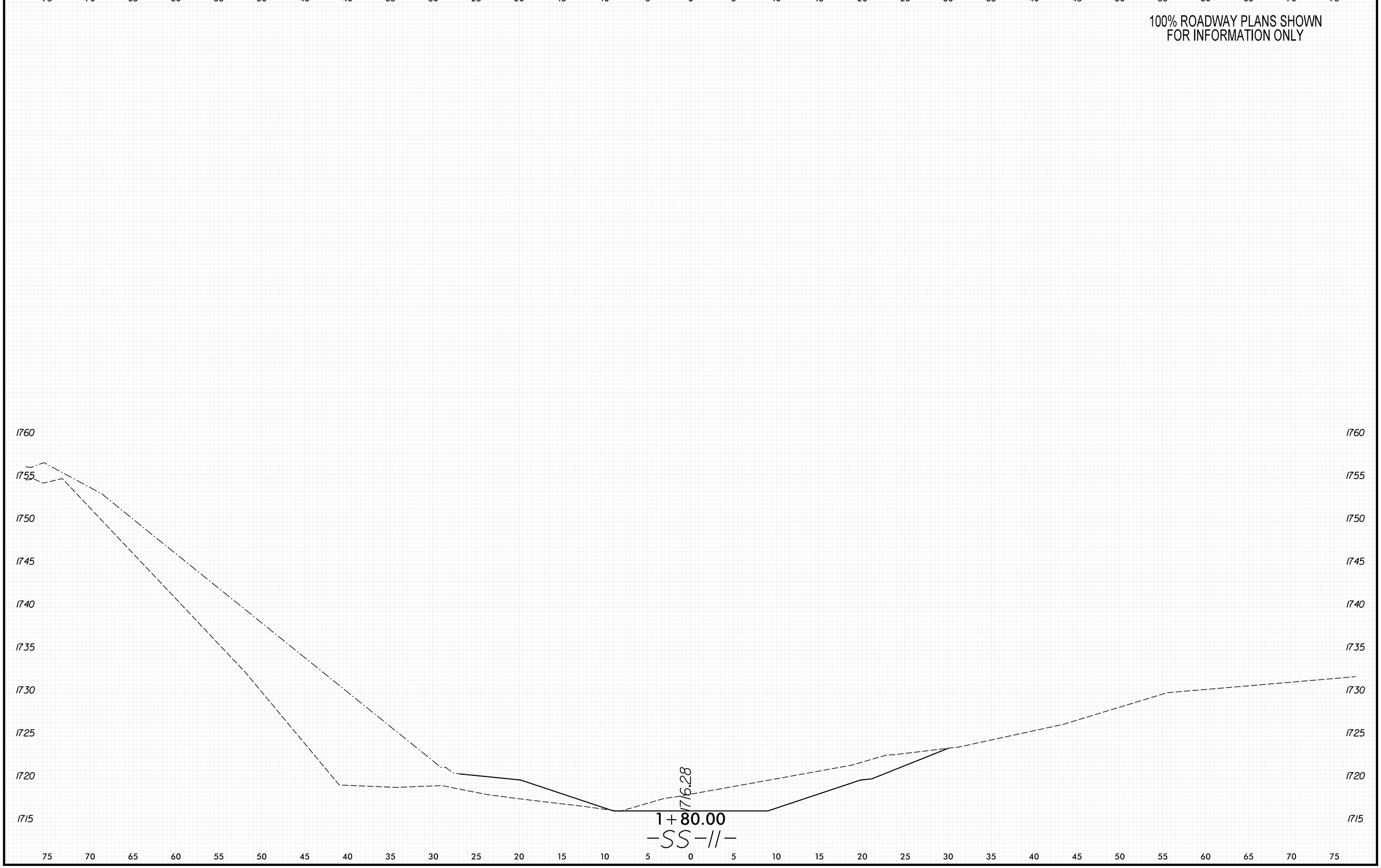


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:57 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-250

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

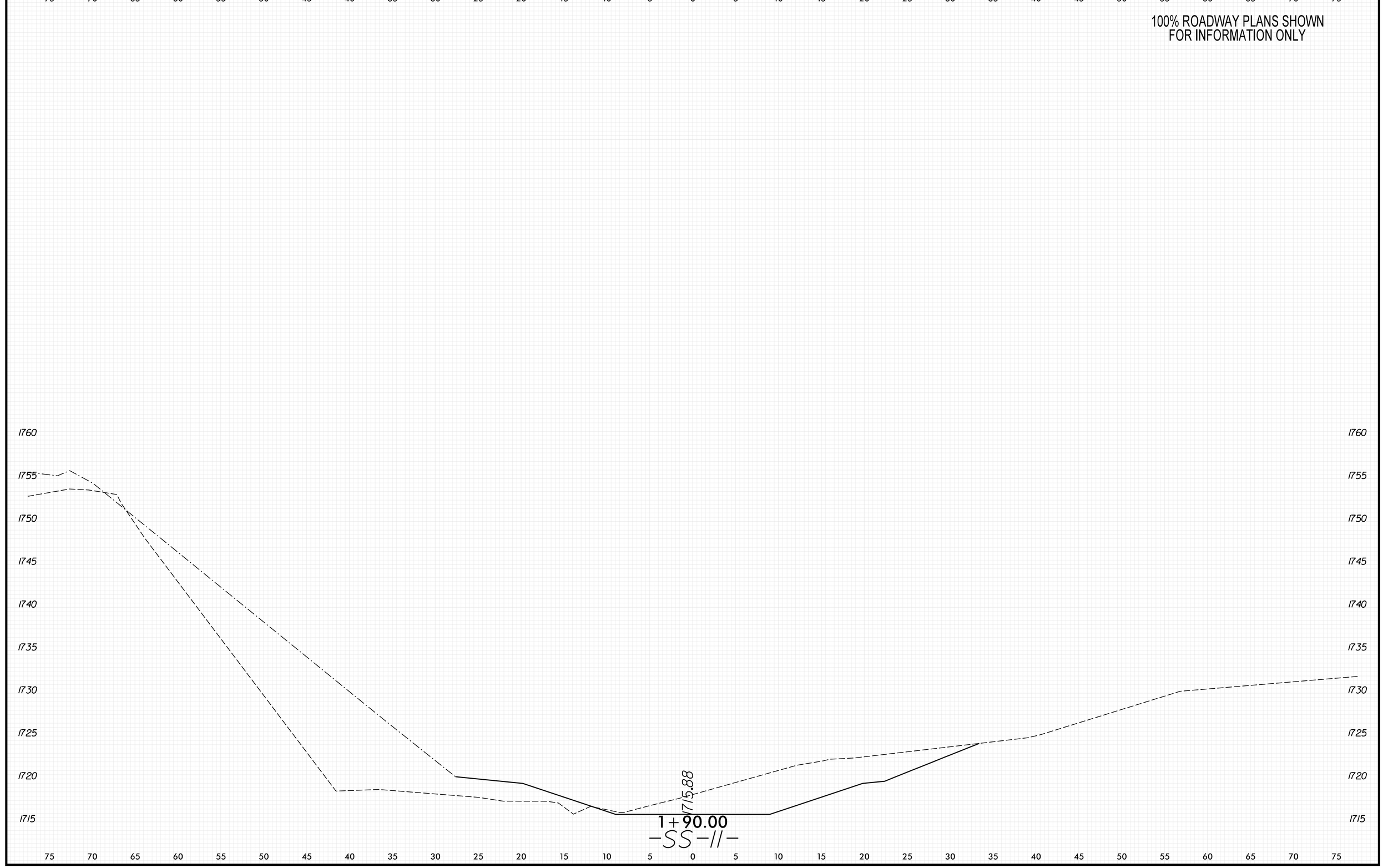


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:05:59 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-251

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

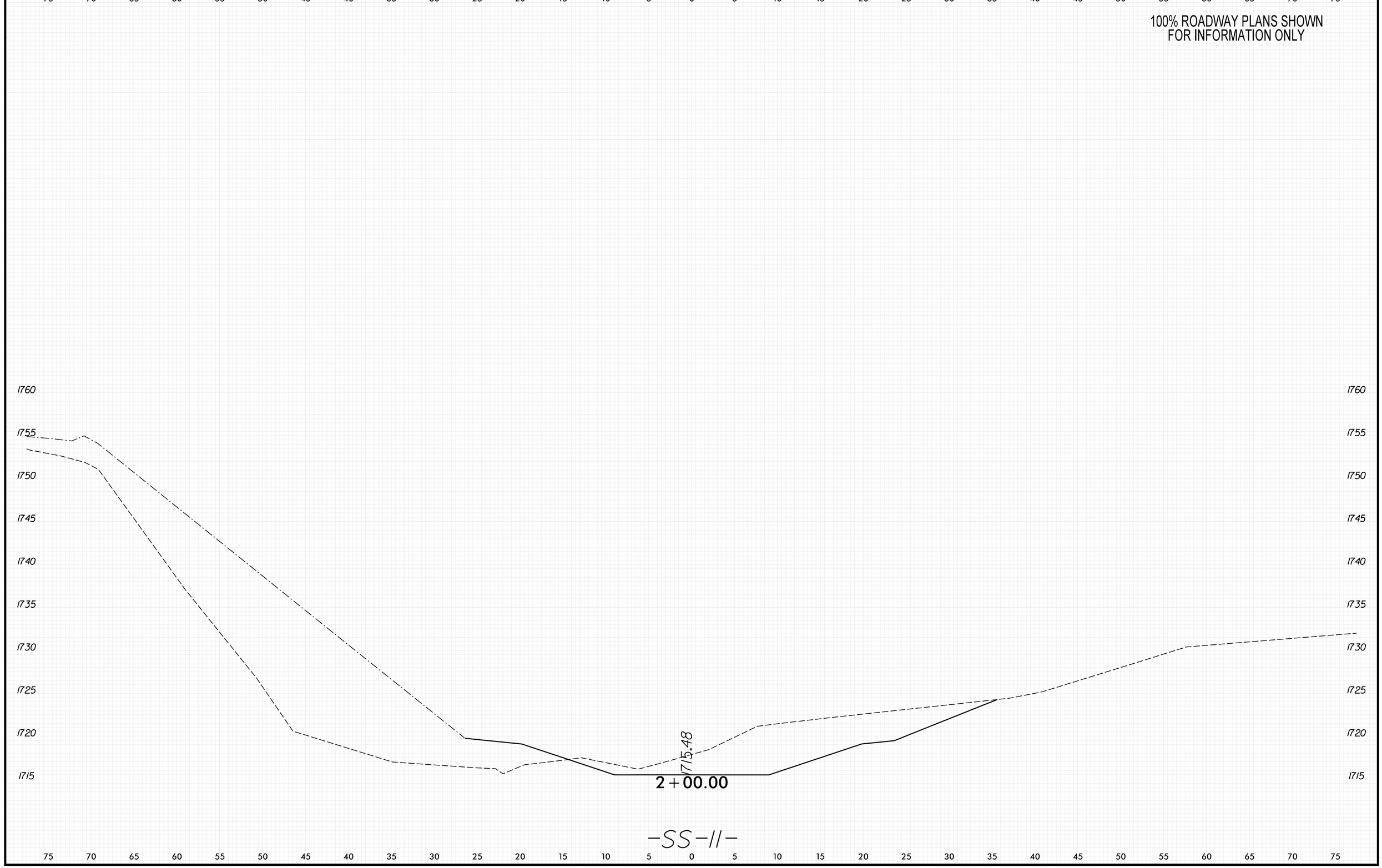


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:00 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-252

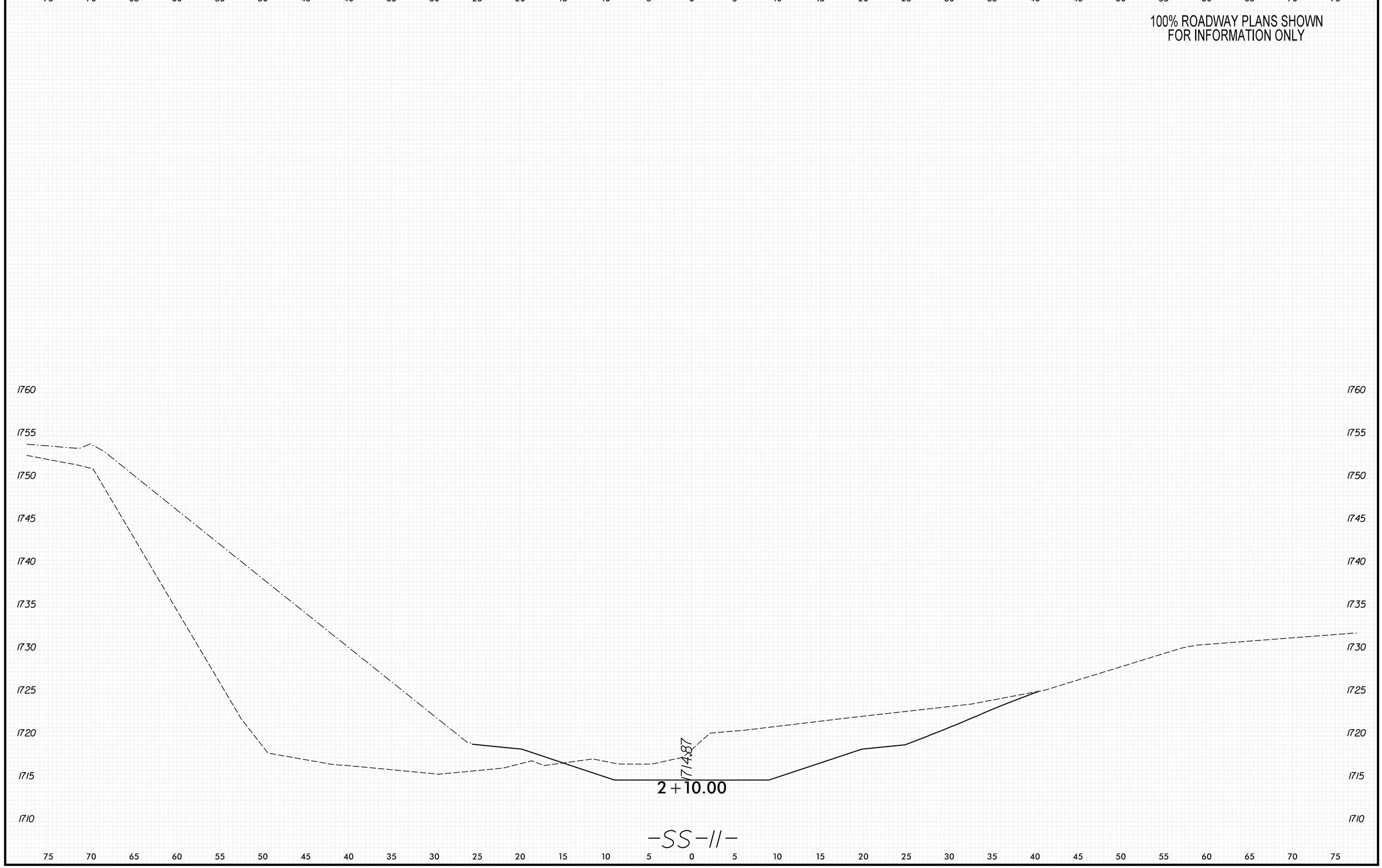
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:01 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-253

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

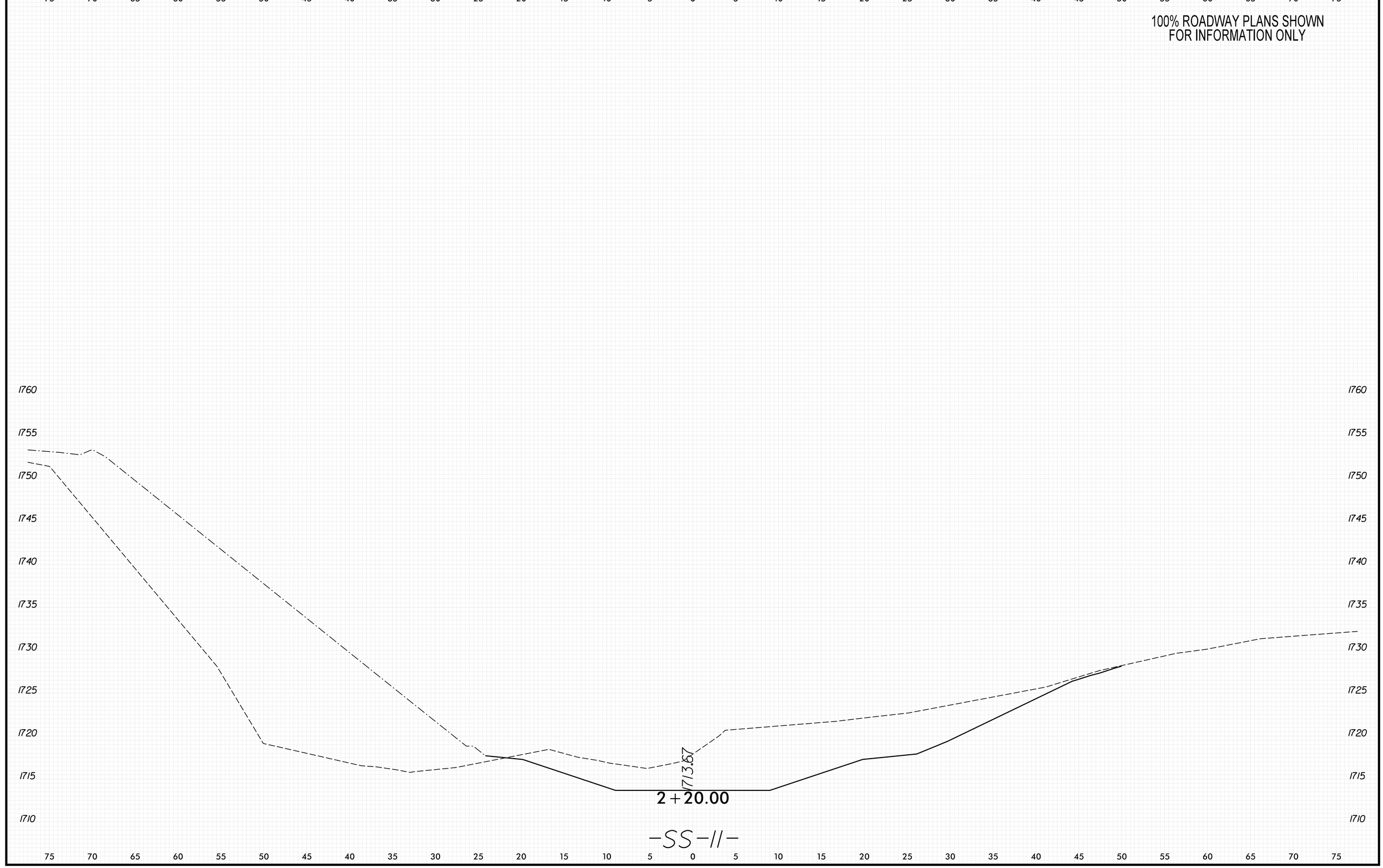


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:03 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-254

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

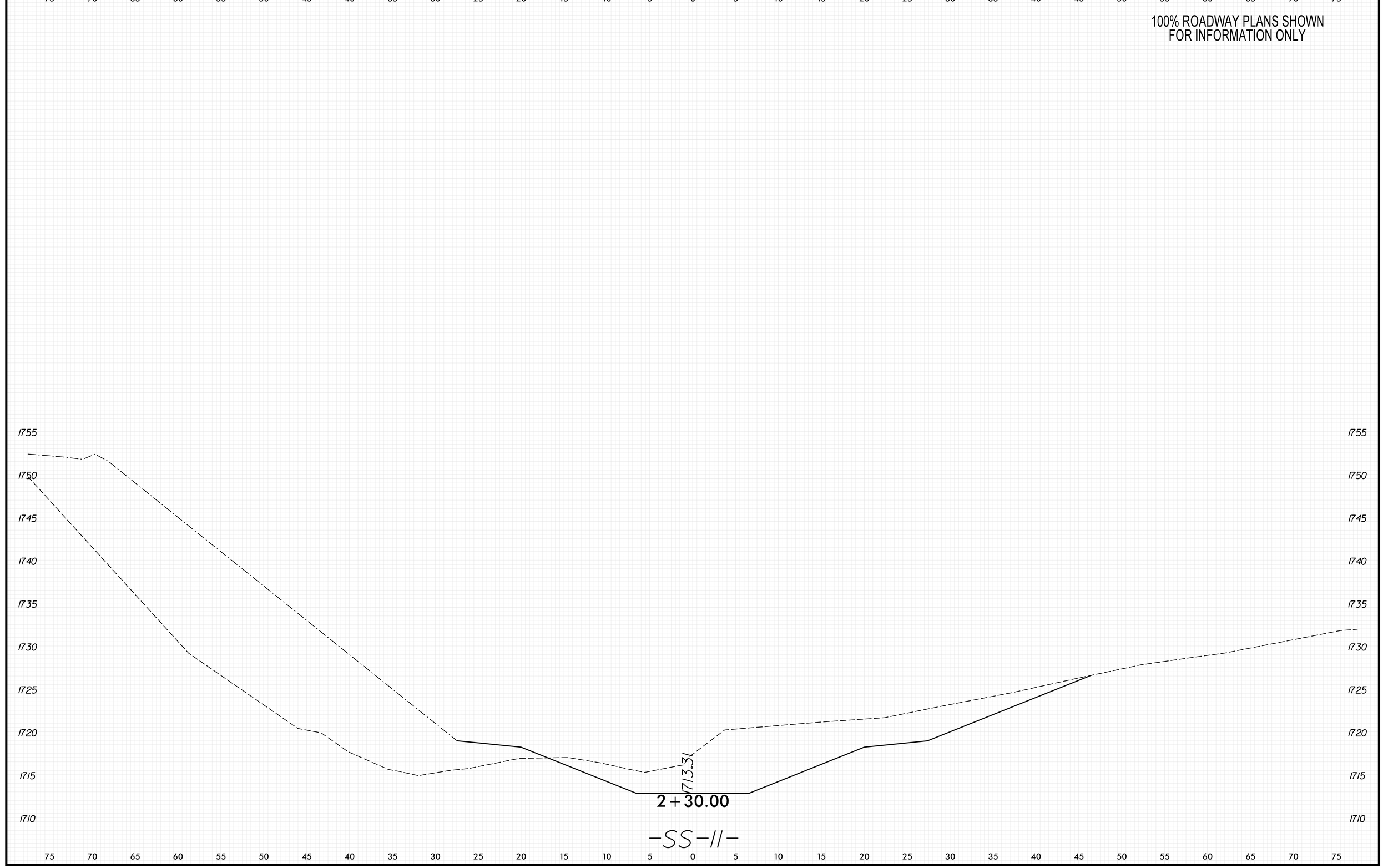


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:04 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-255

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

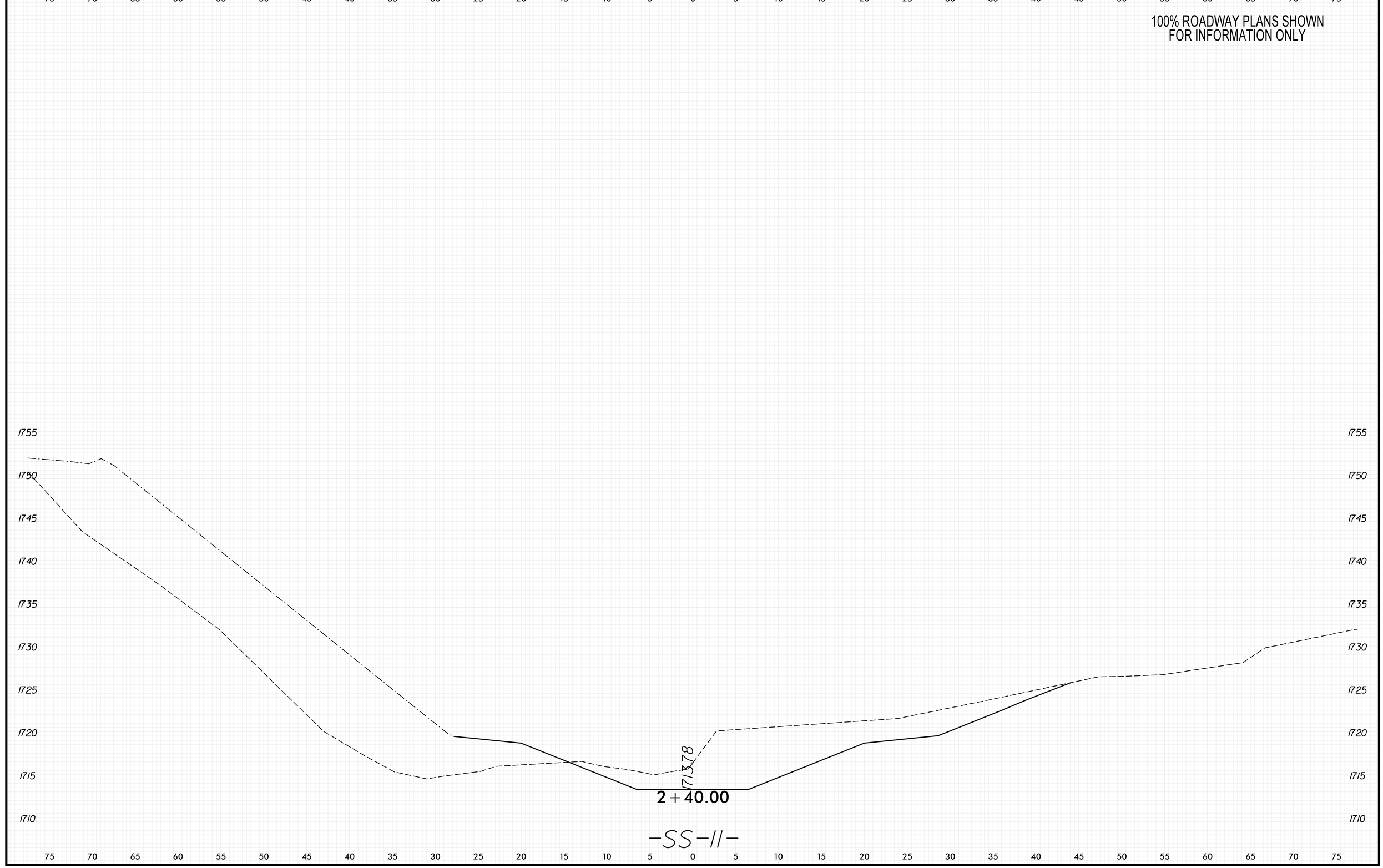


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:06 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-256

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:07 AM

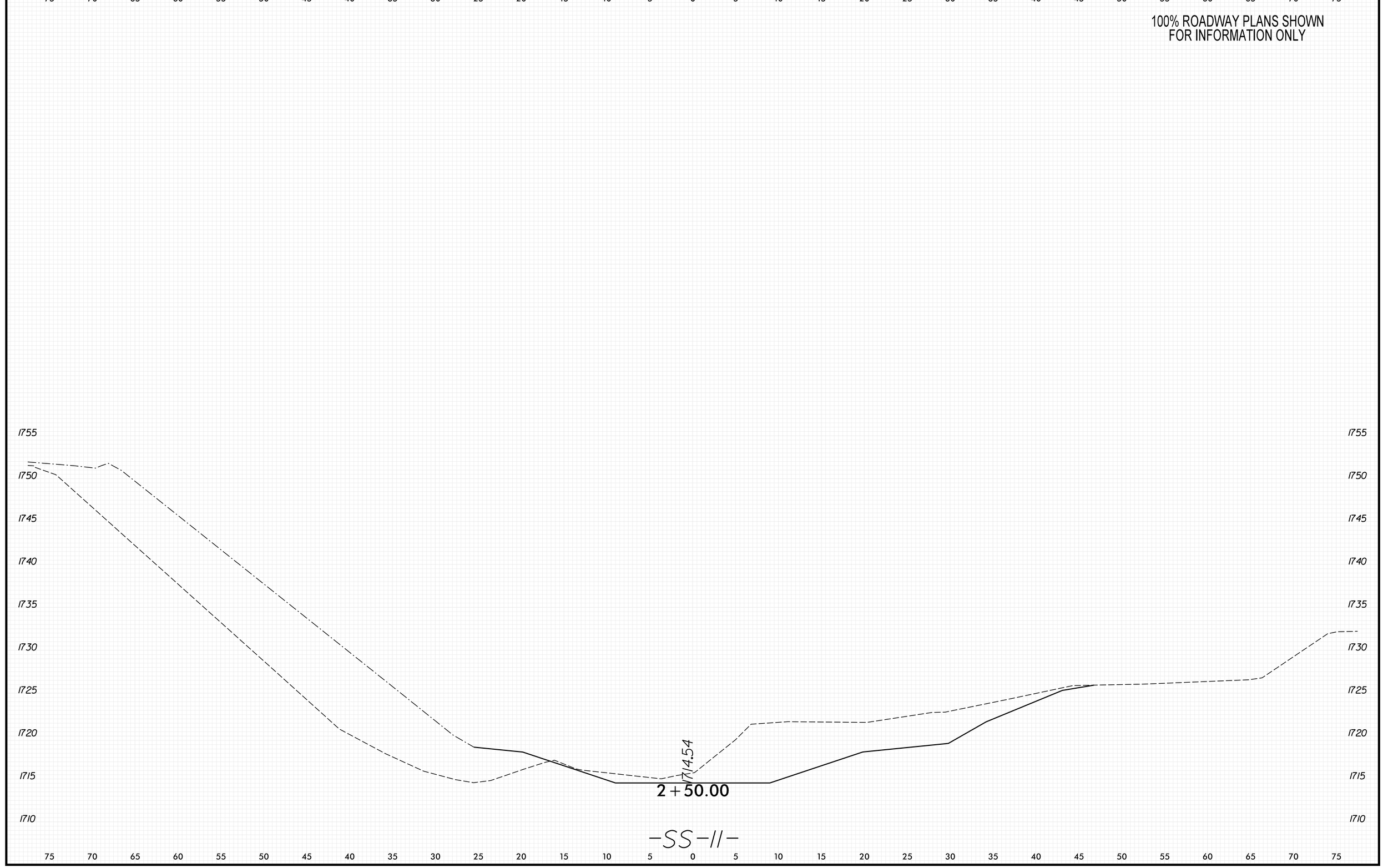
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-257

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

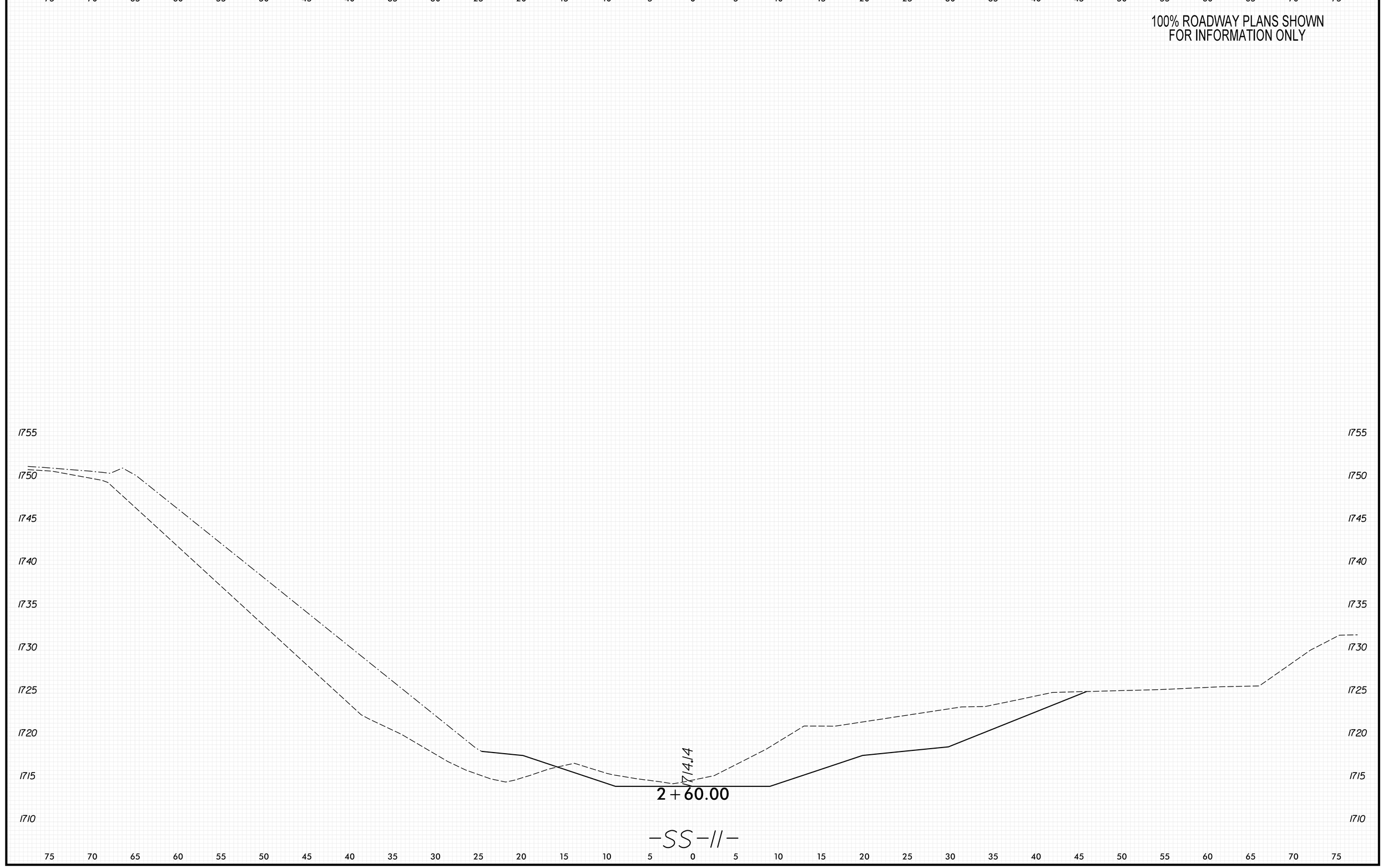


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:09 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-258

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

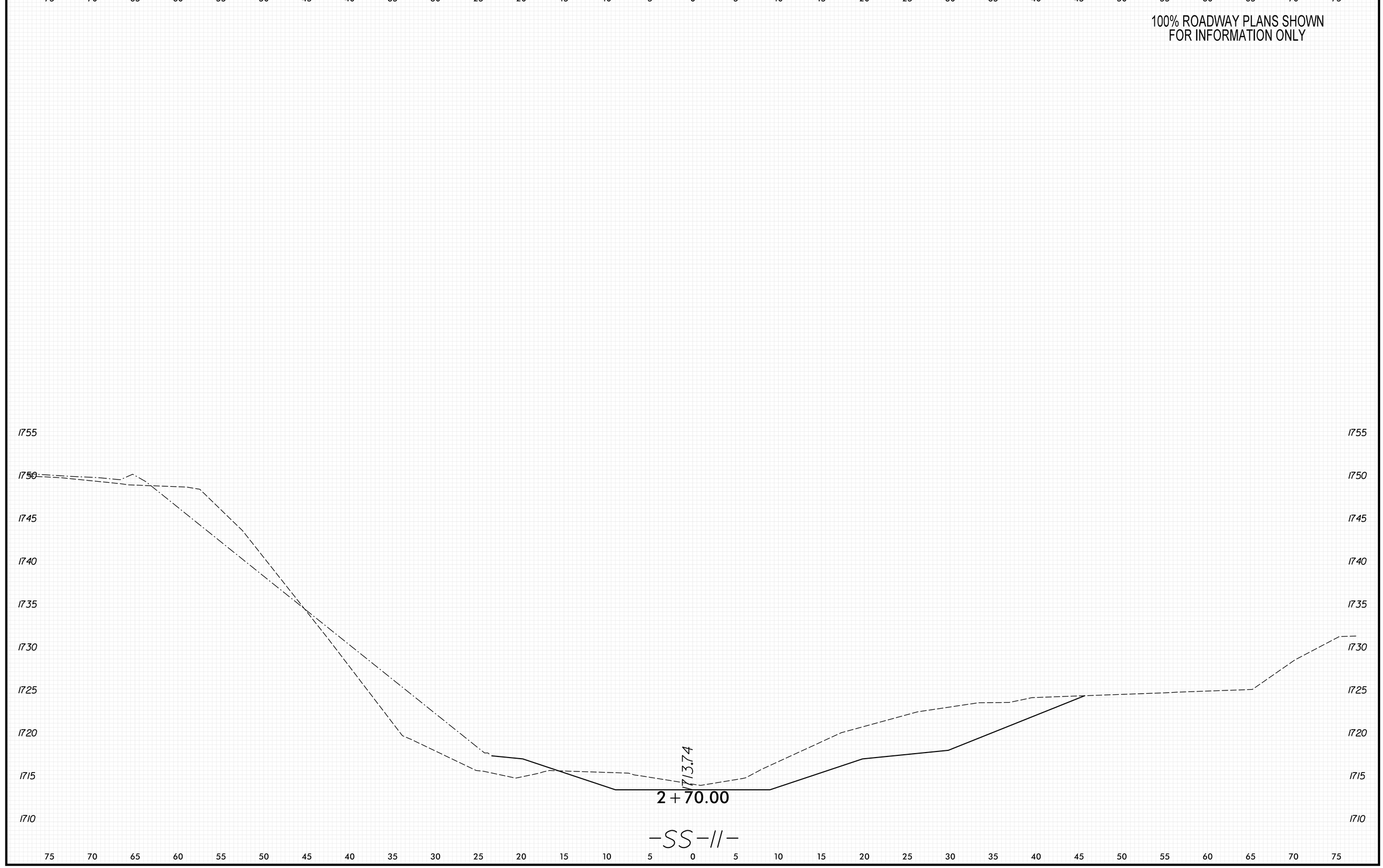


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:10 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-259

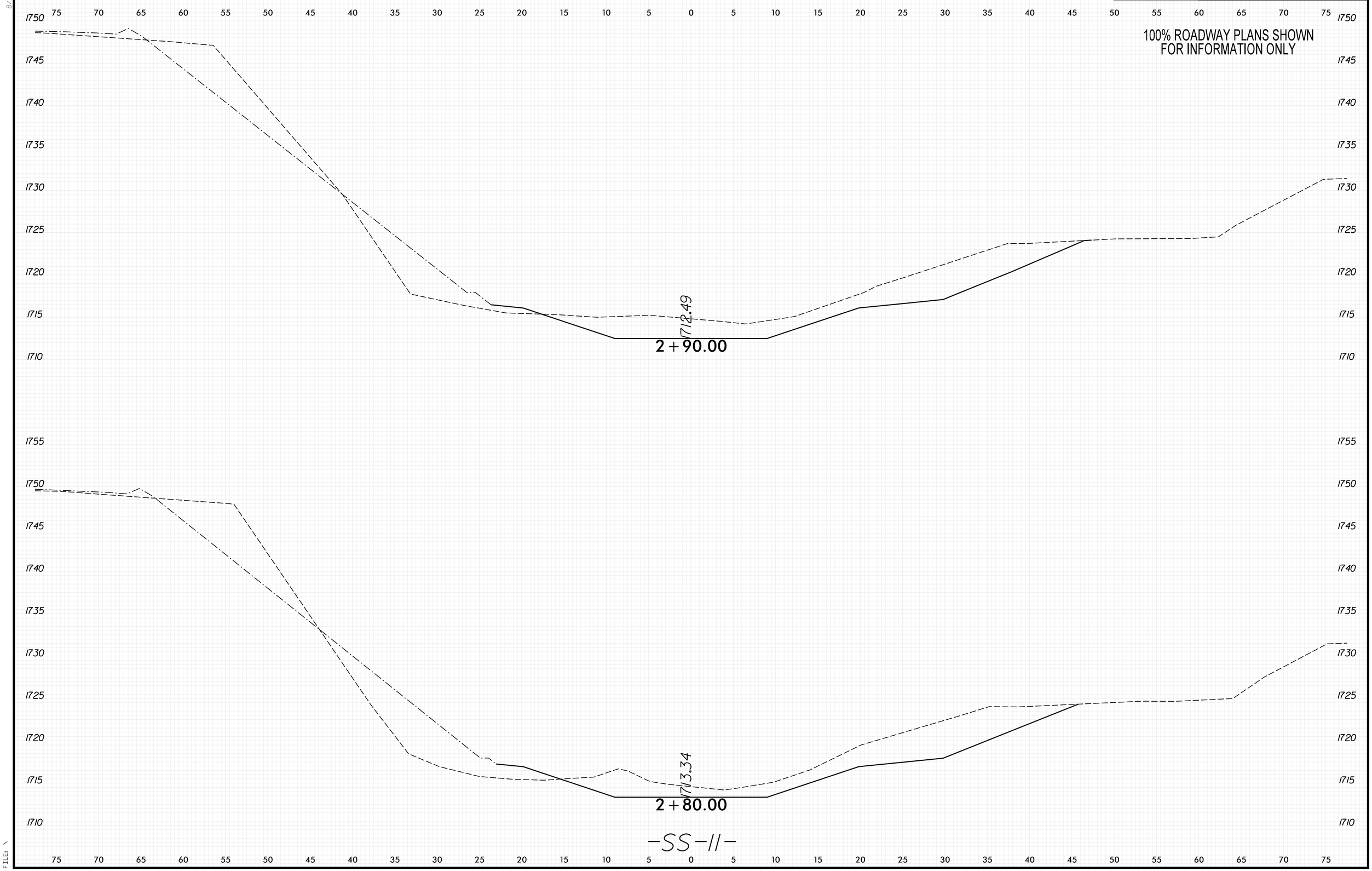
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:11 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-260



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:13 AM

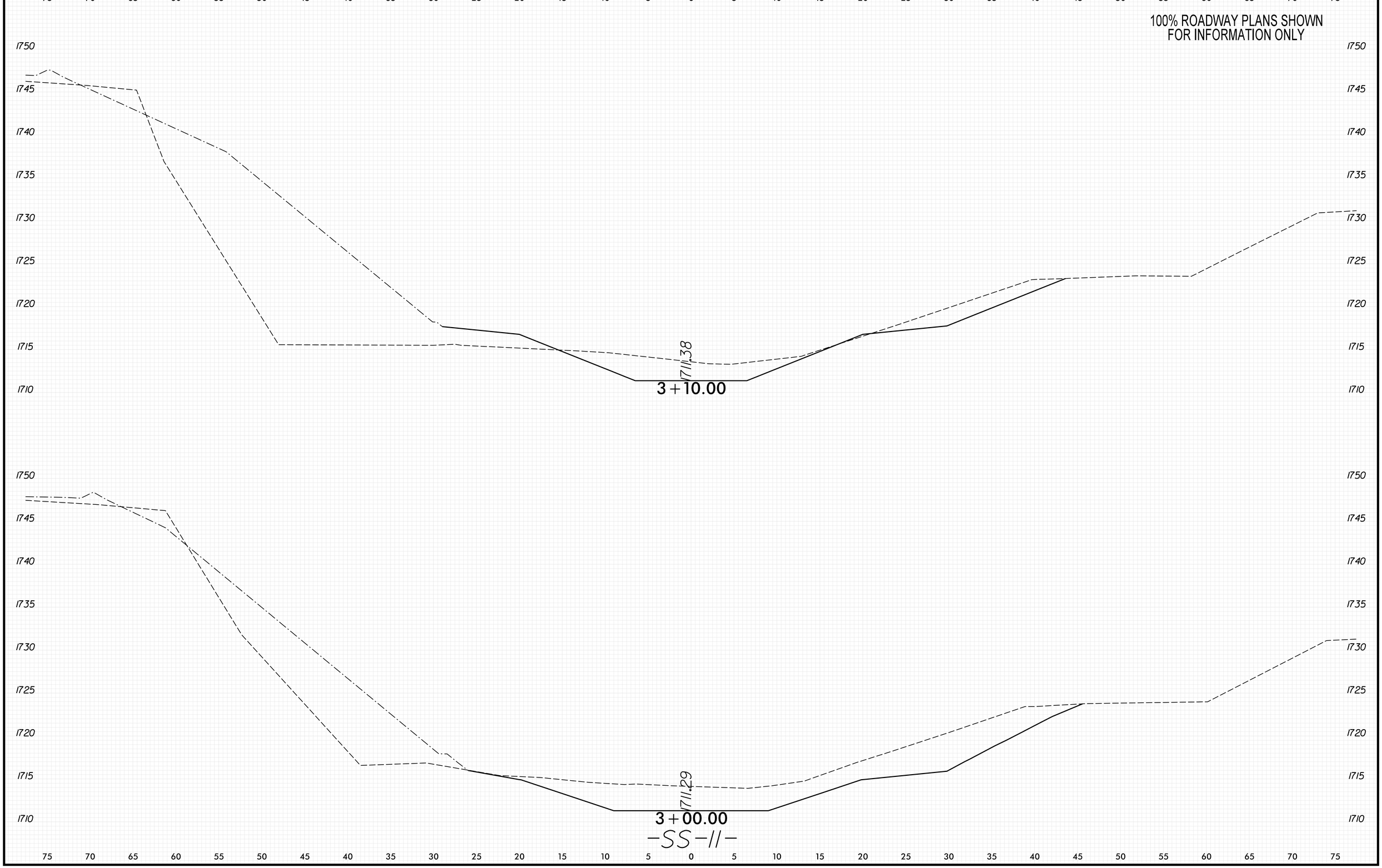
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-261

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

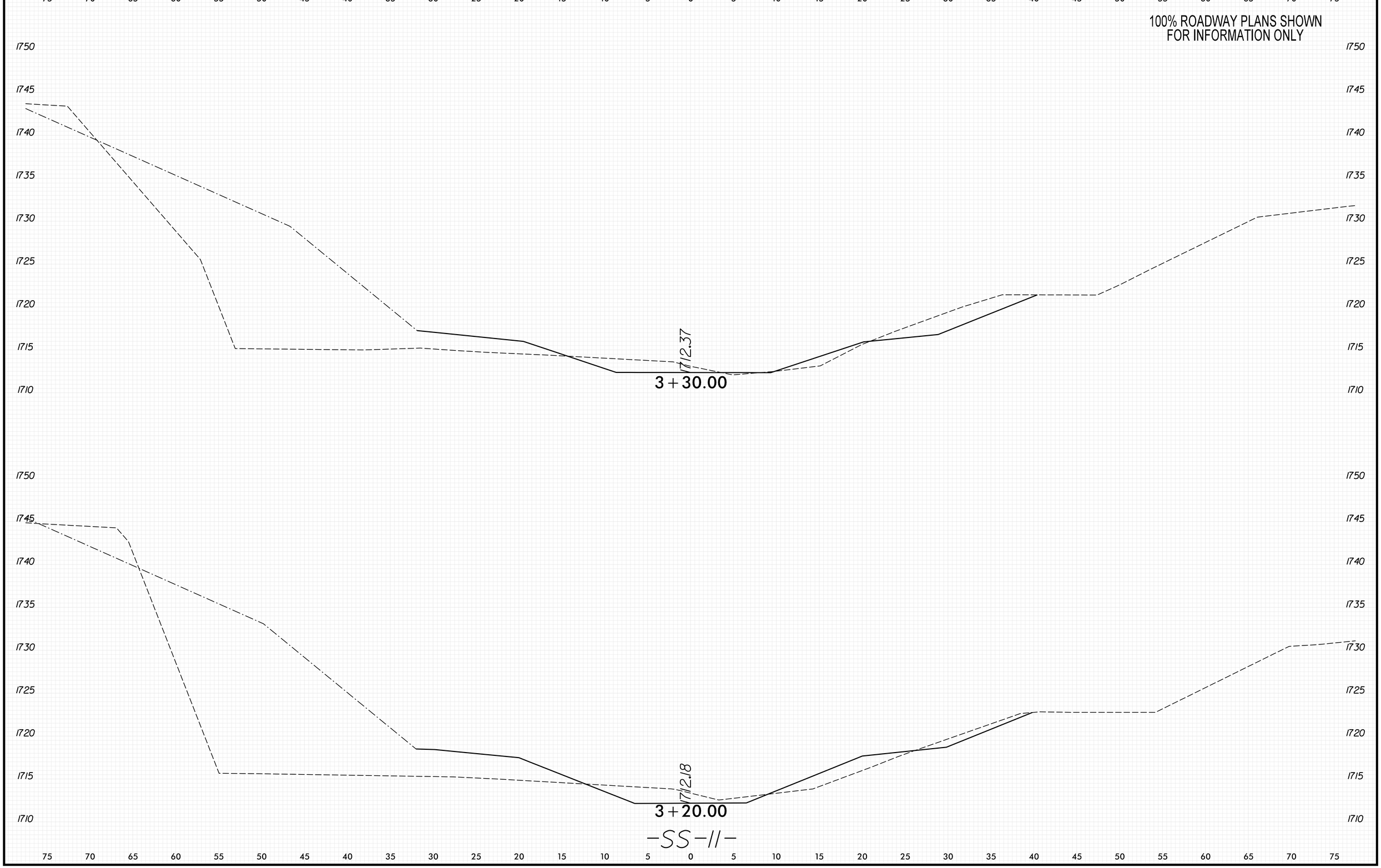


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:14 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-262

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

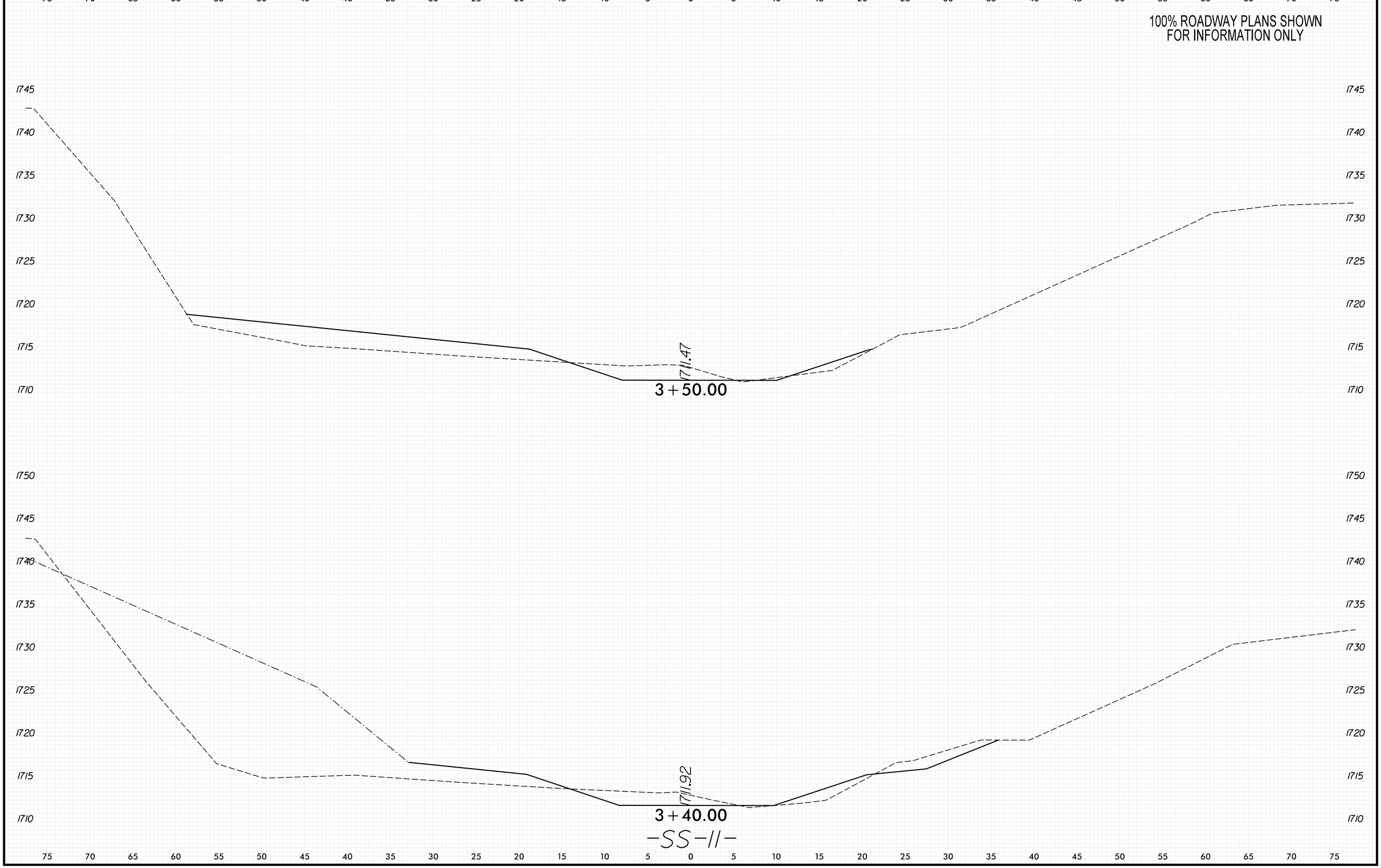


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:15 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-263

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

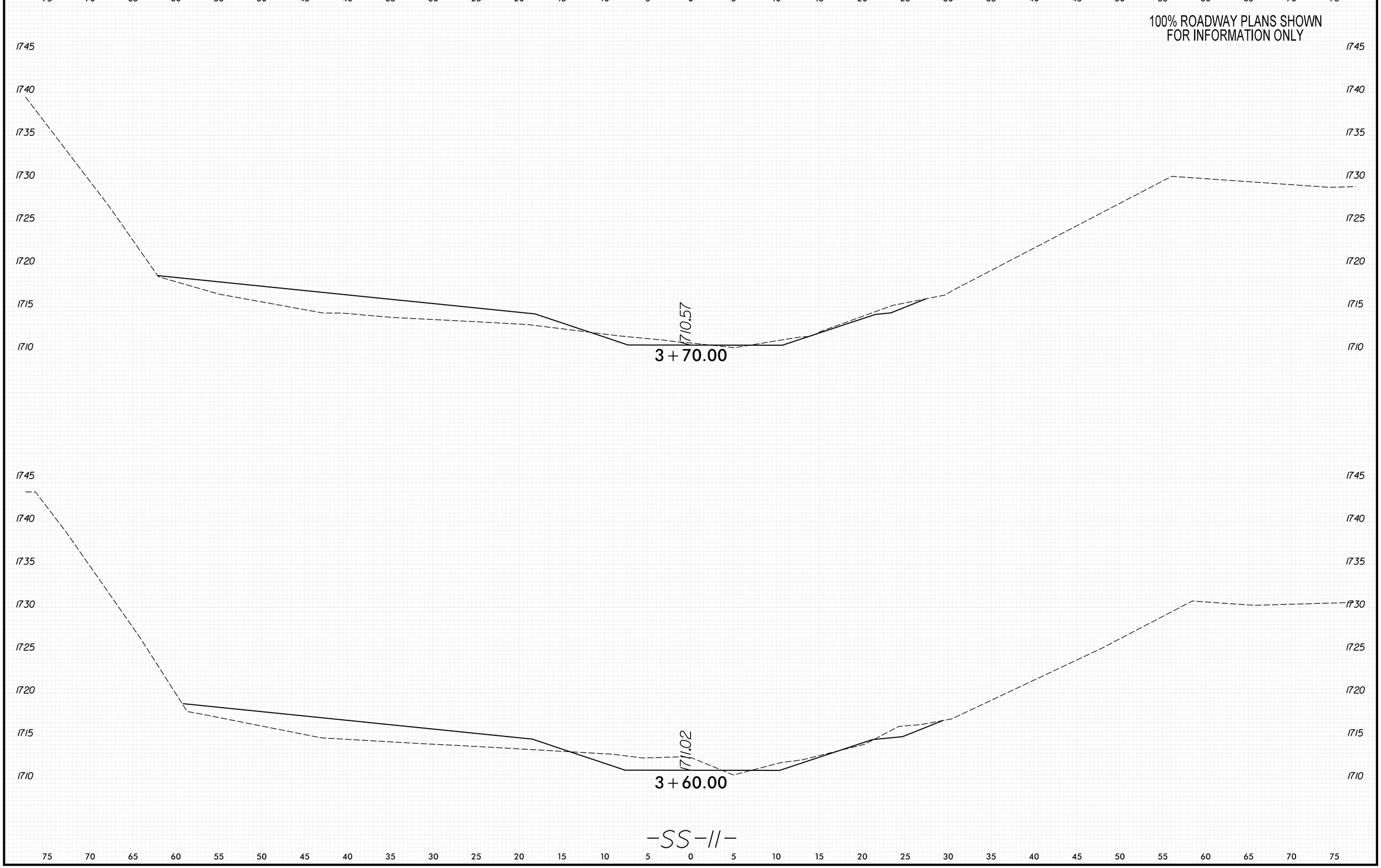


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:17 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-264

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

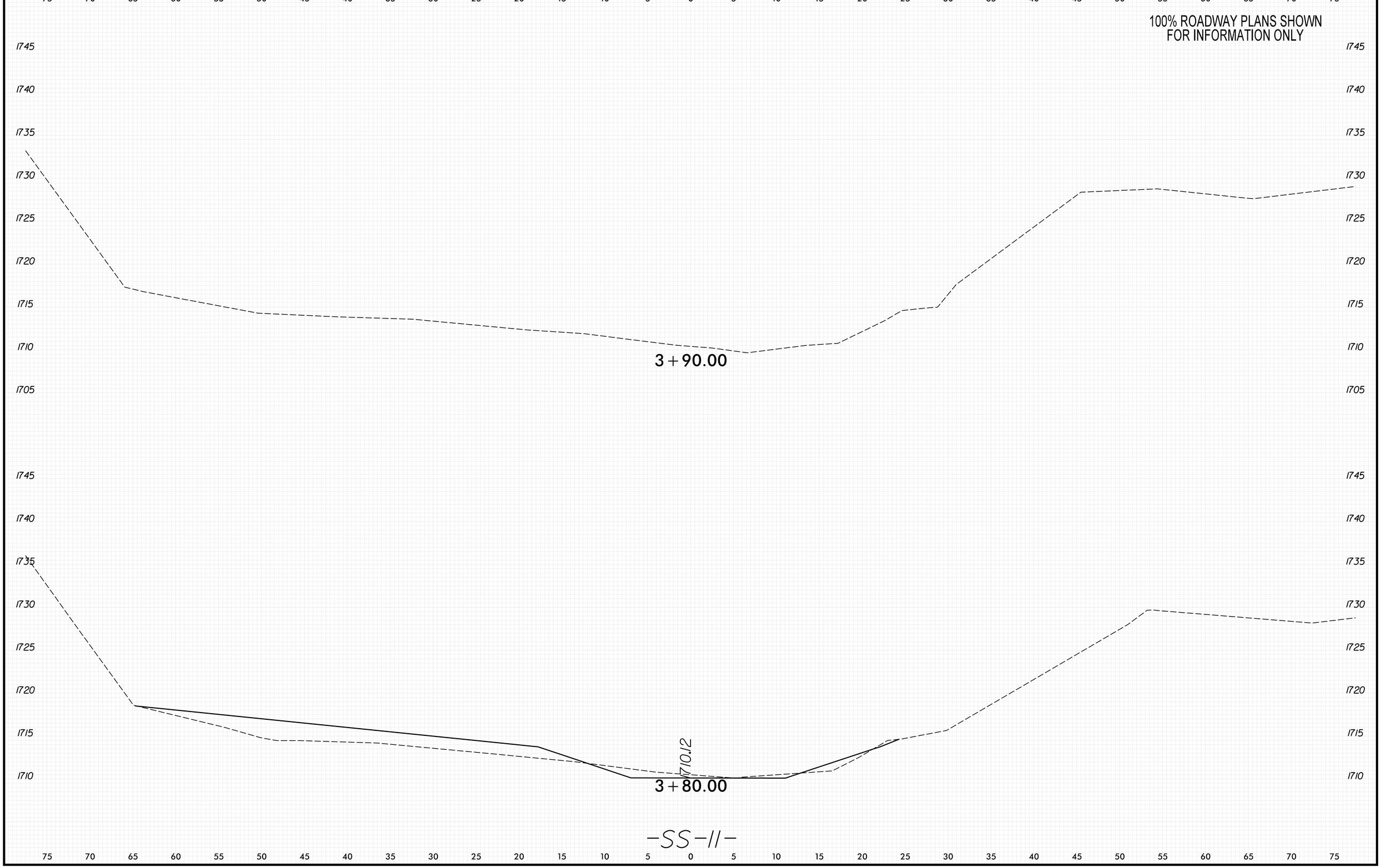


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:18 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-265

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

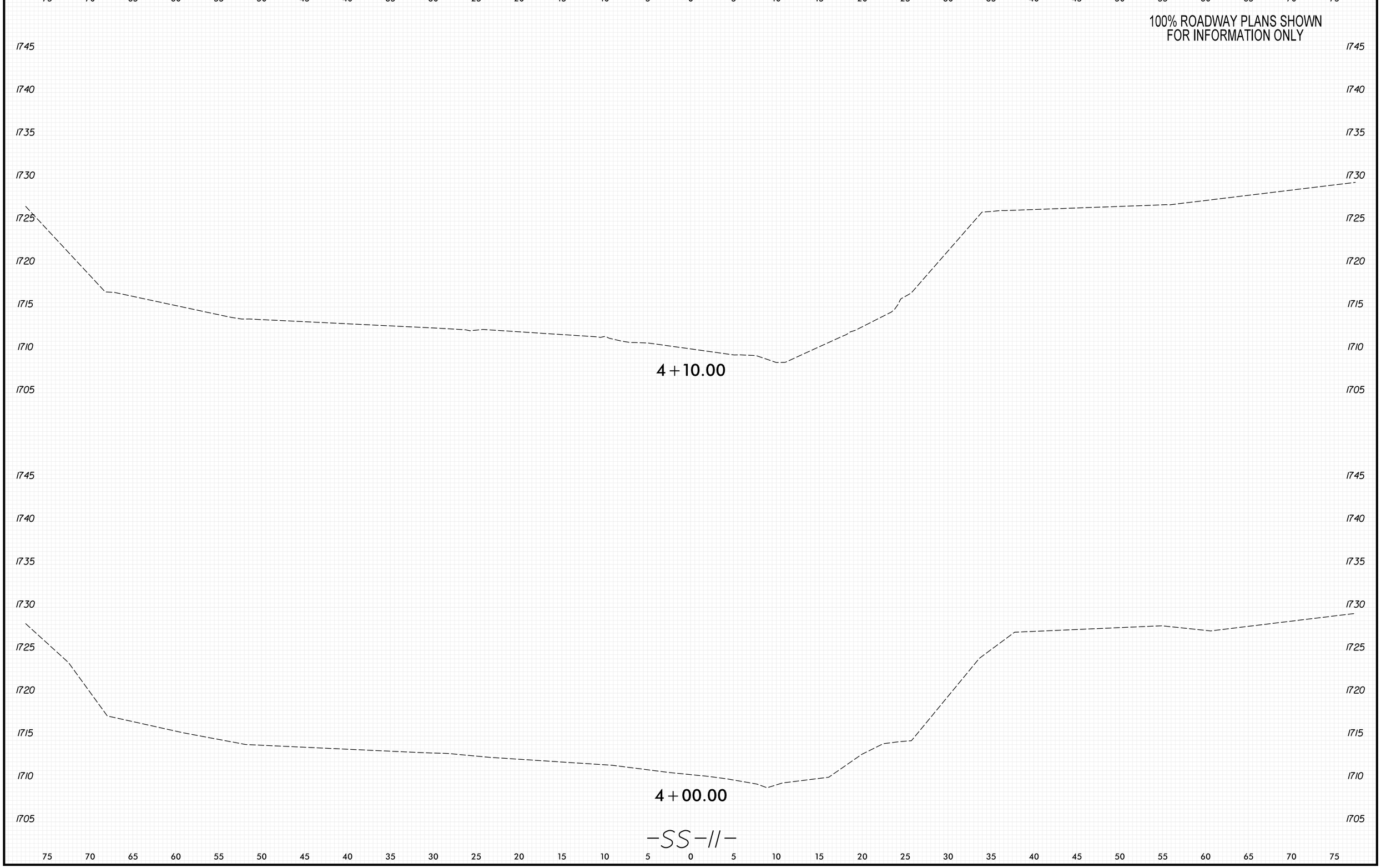


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:20 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-266

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

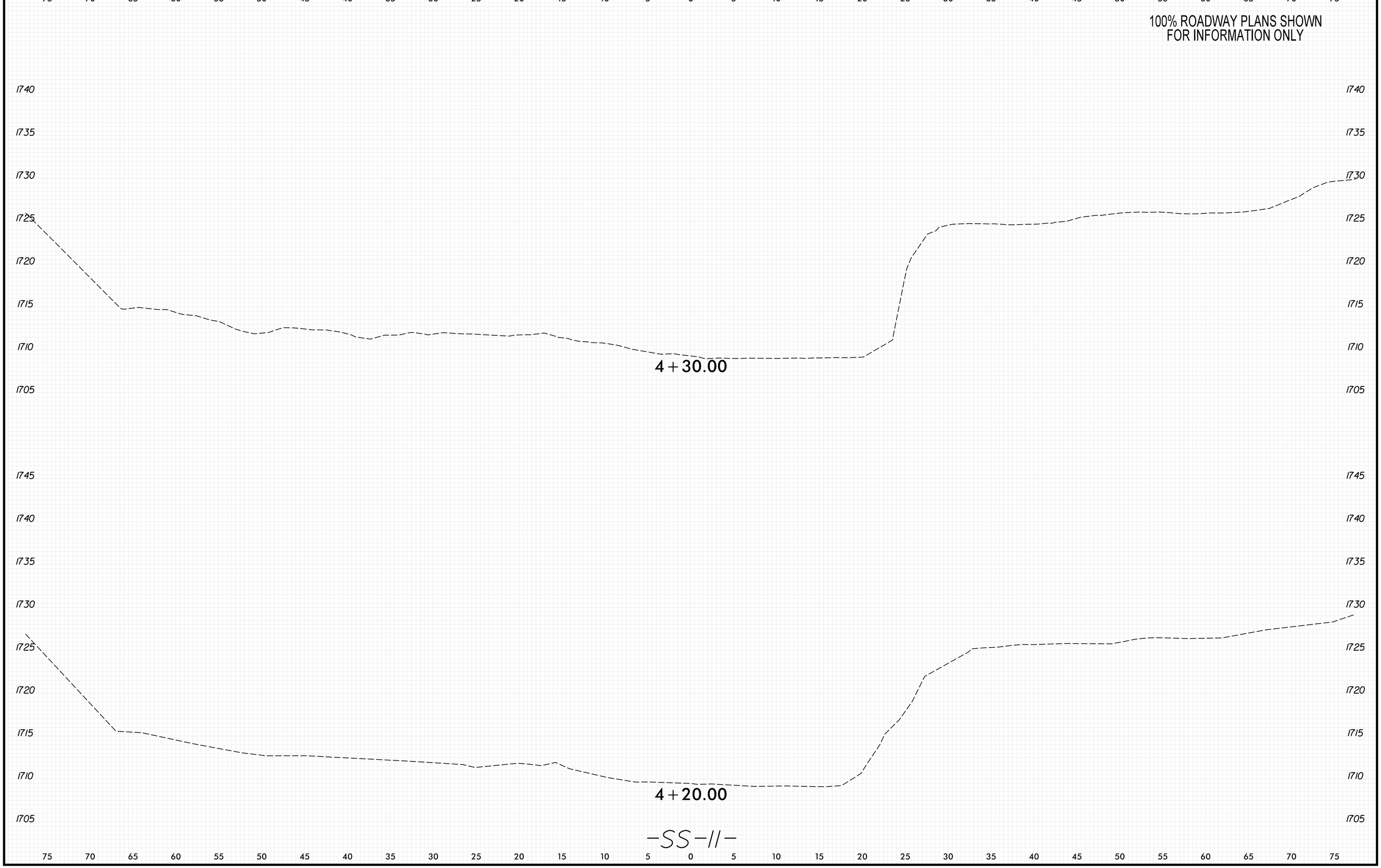


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:22 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-267

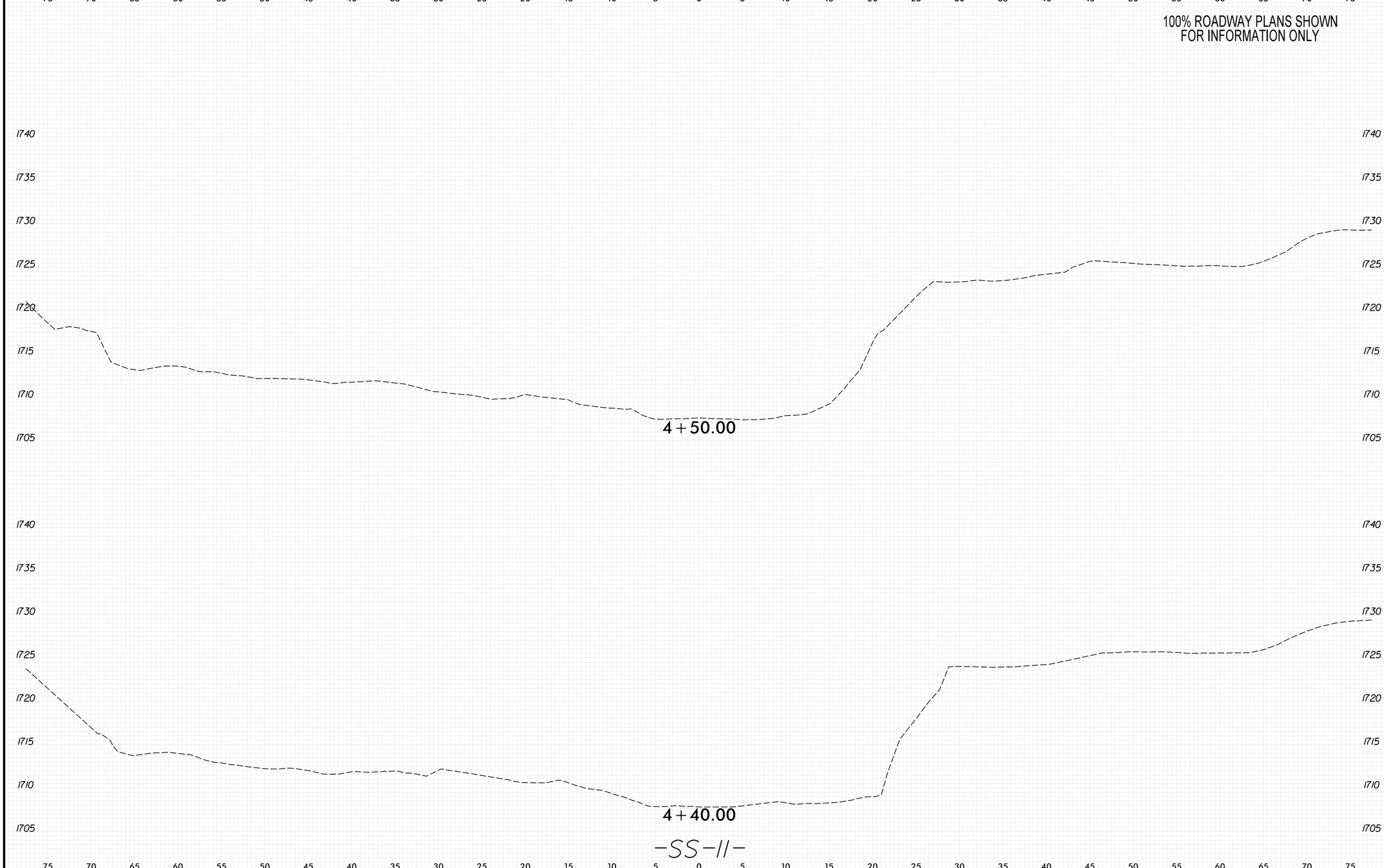
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:24 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-268

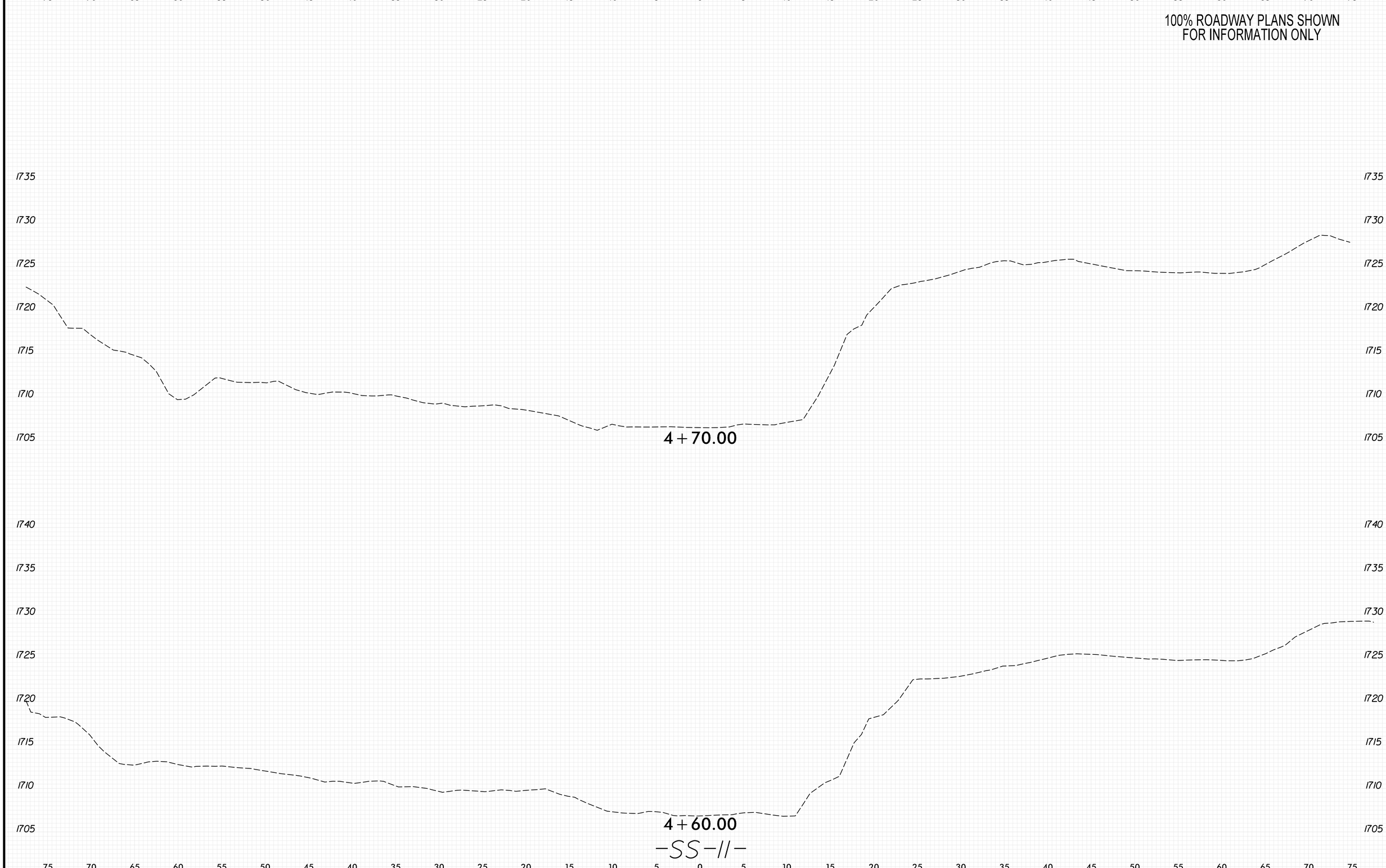
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:06:25 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-269

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



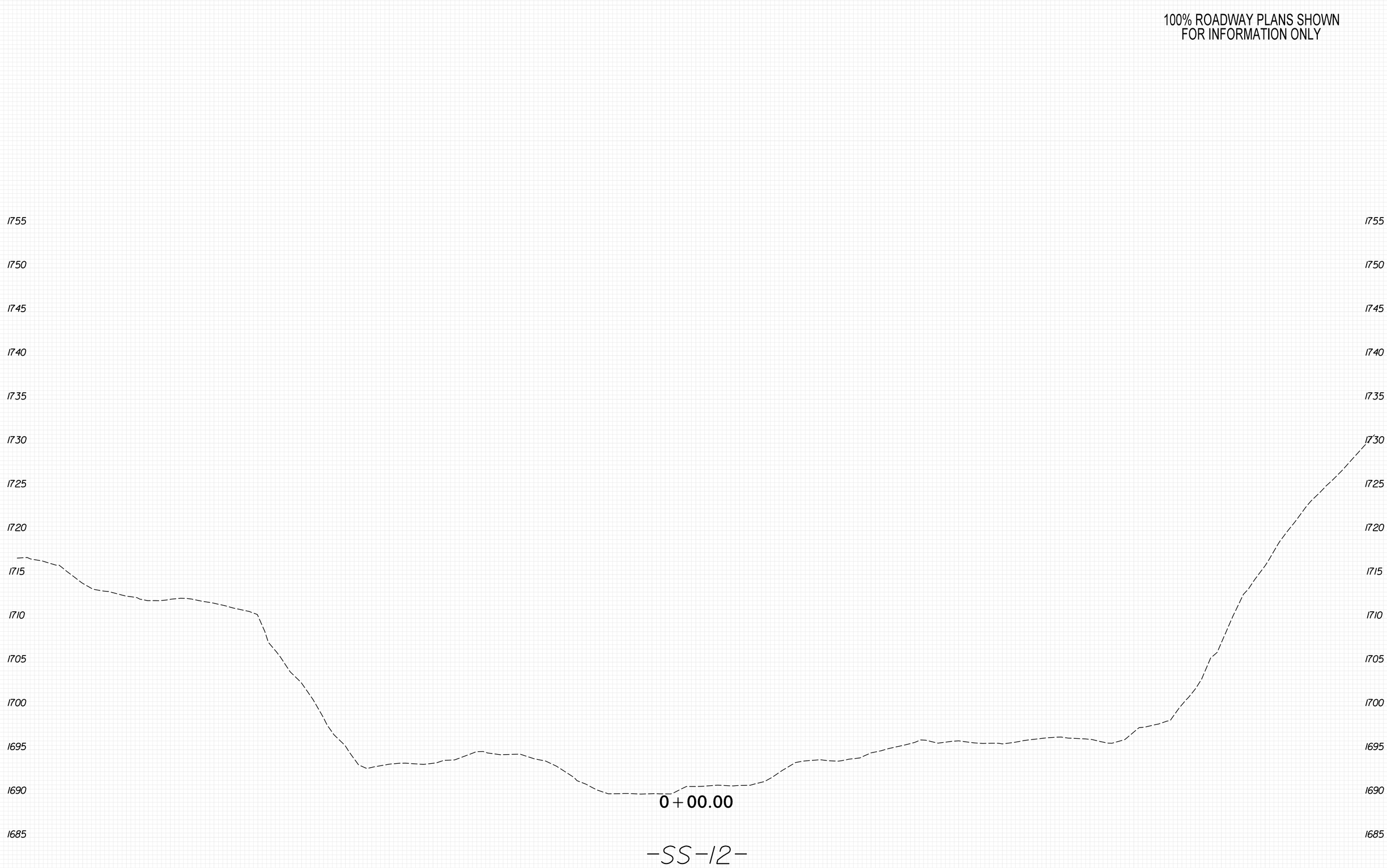
8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:06:26 AM

PLOT DRIVER: NCDOT.pdf.color.eng.50.plt
USER: KCLATTERBU
DATE: 5/29/2026
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-270

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

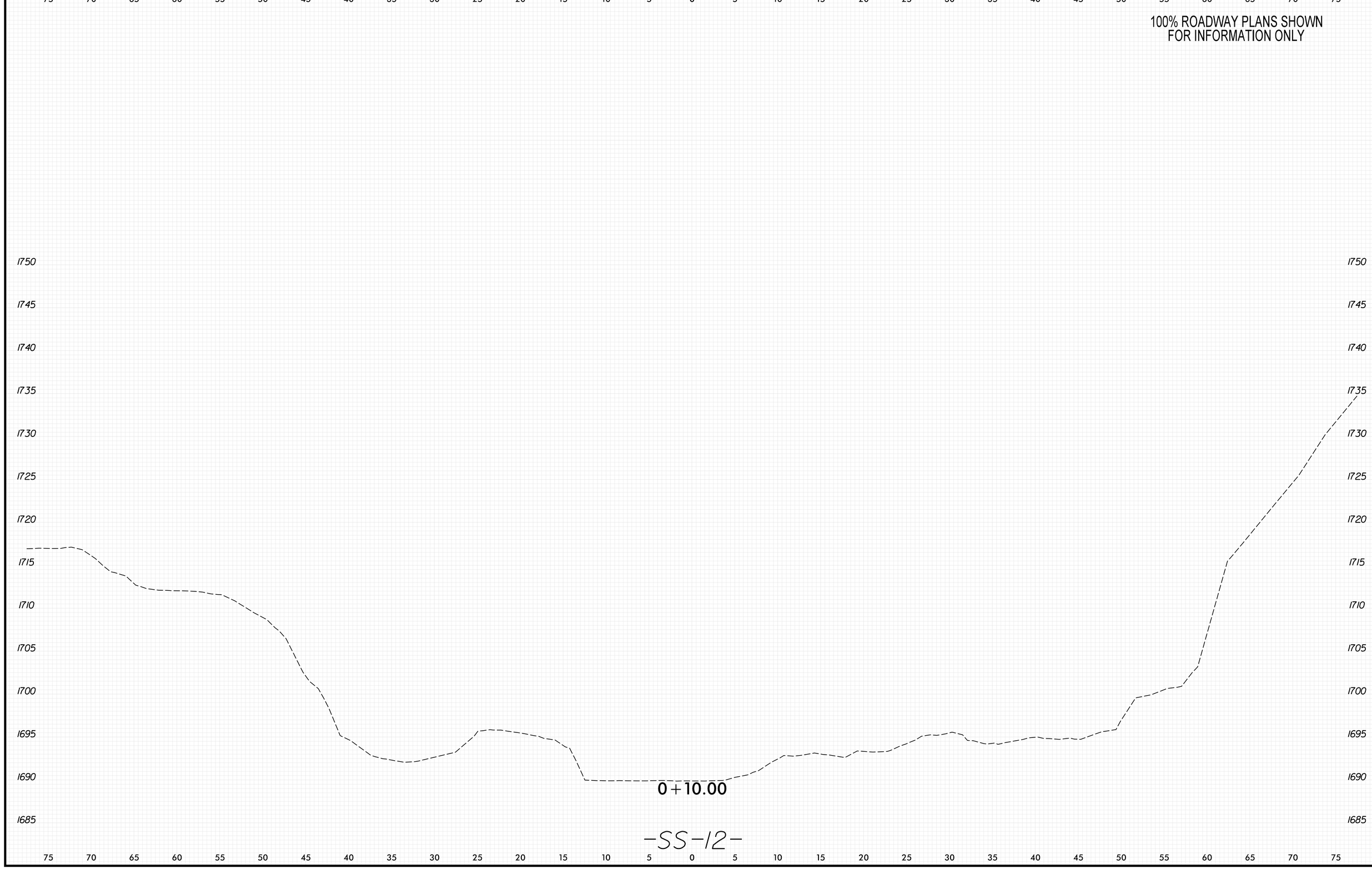
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:23 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-271

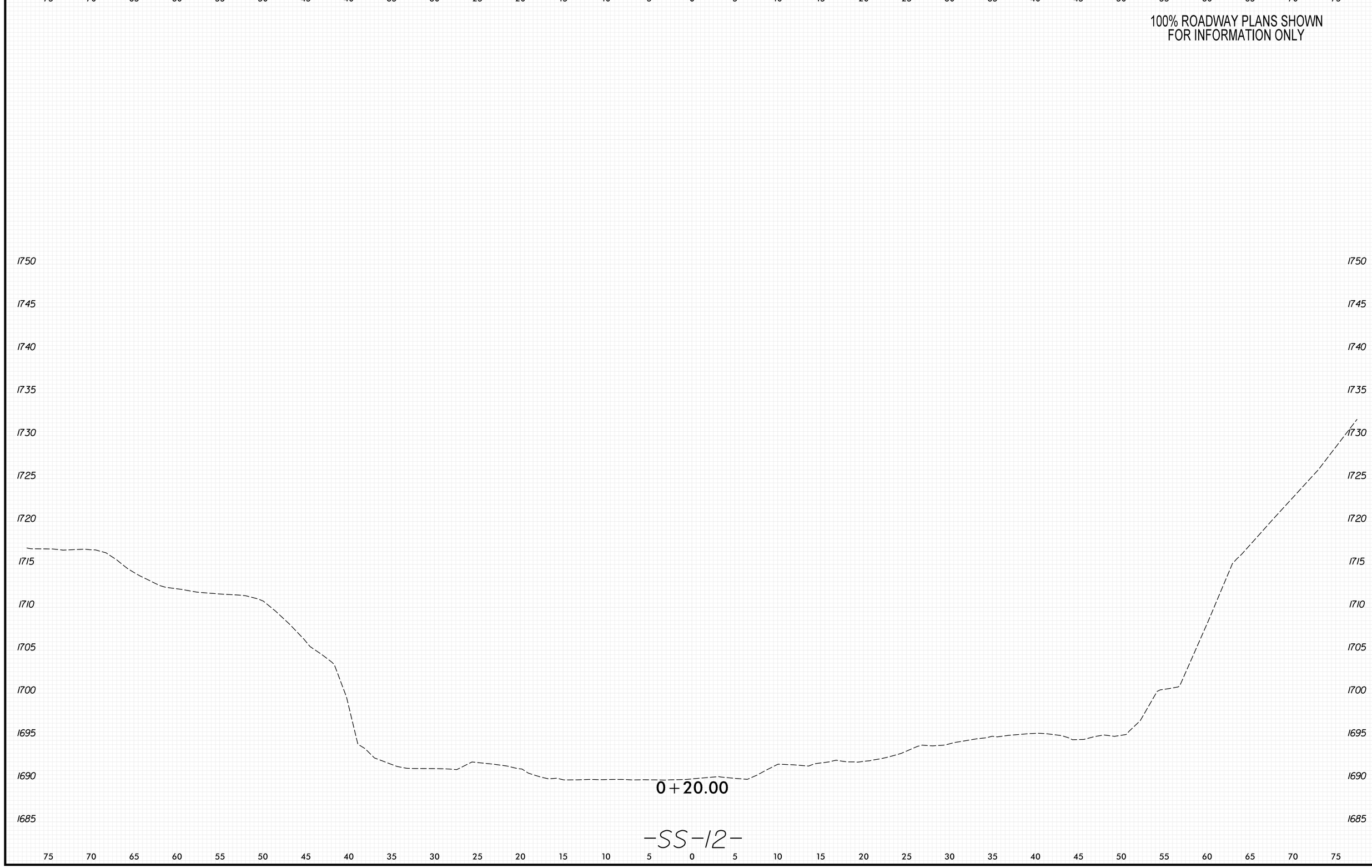
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:26 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-272

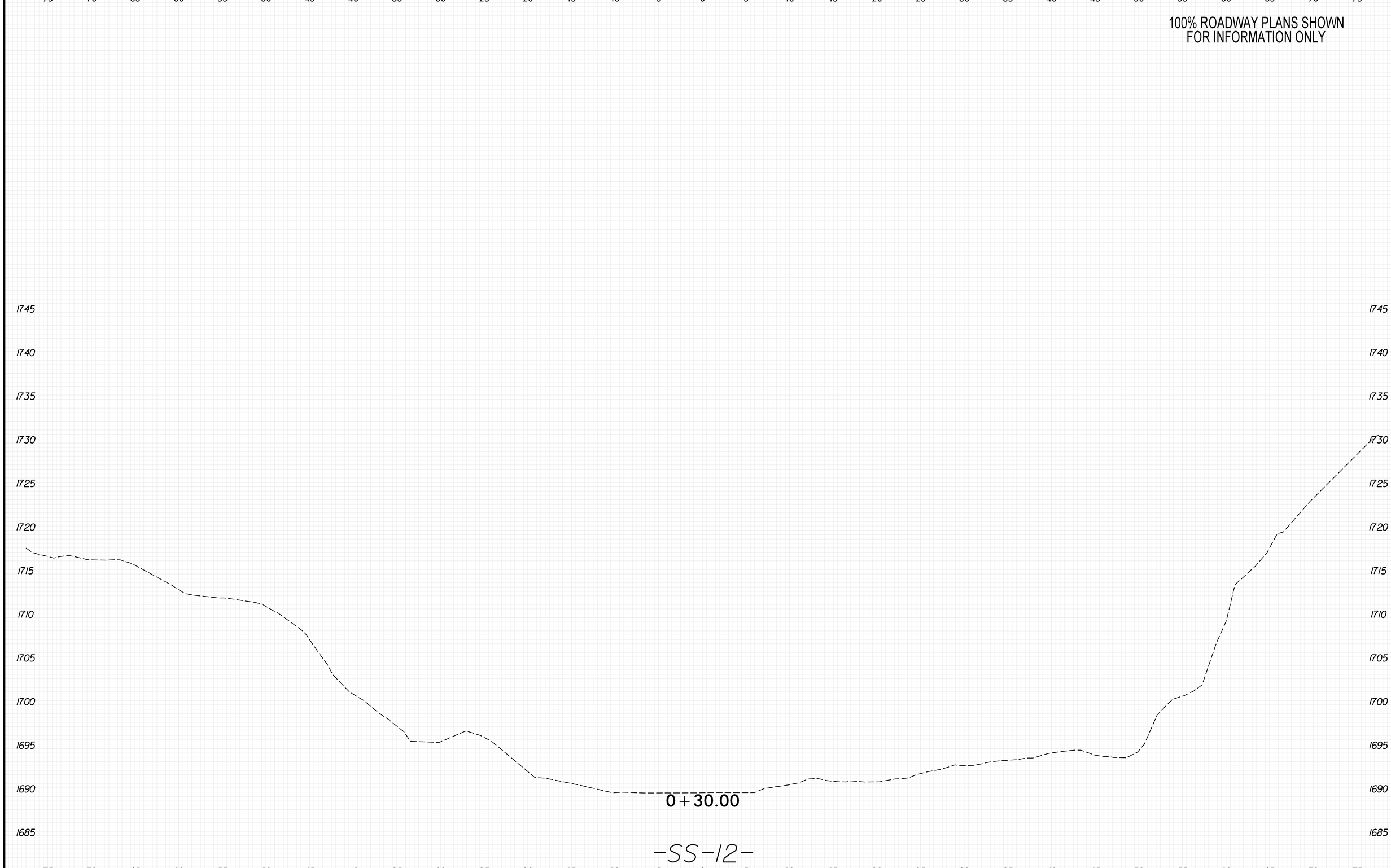
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:29 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-273

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

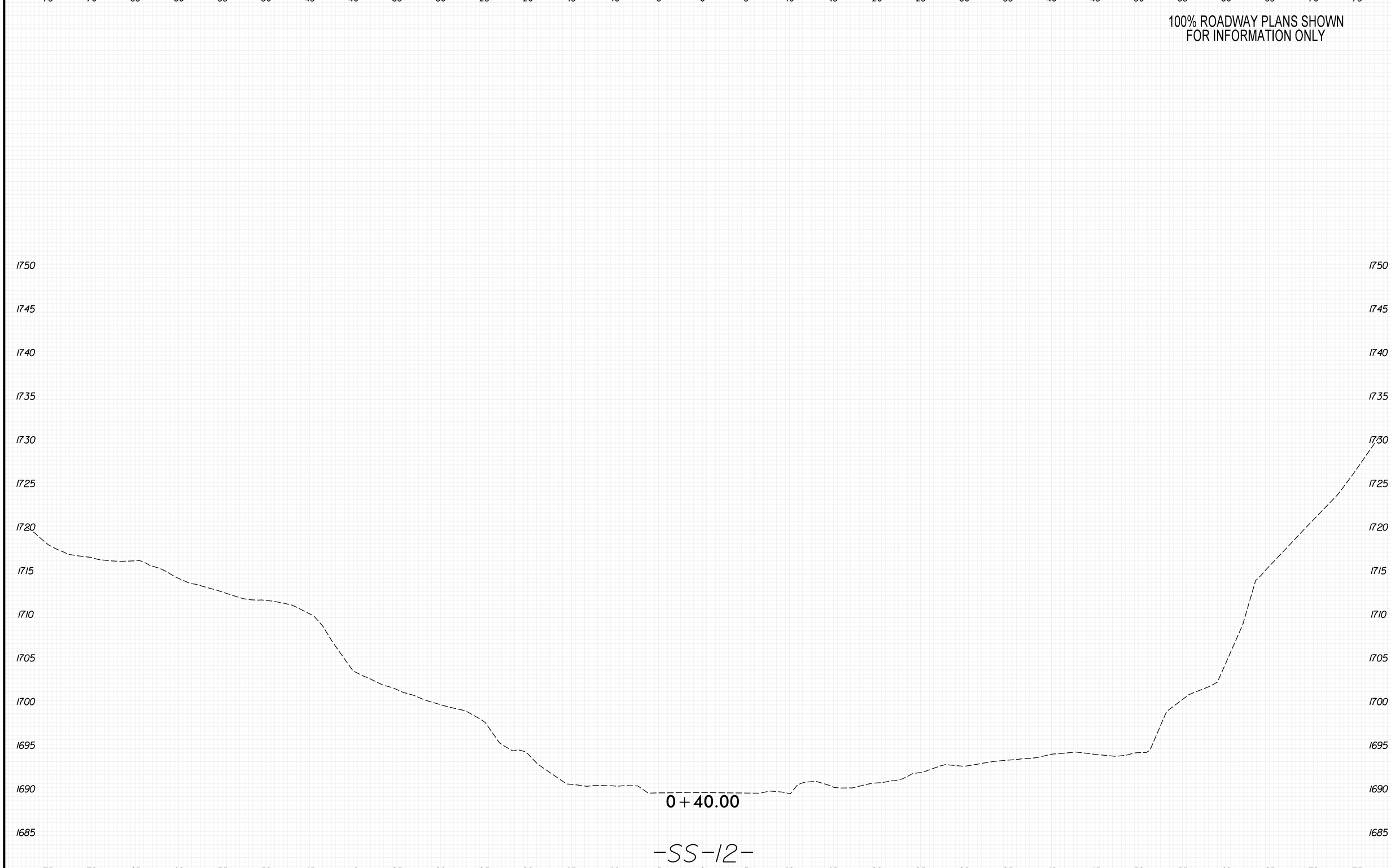
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:31 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-274

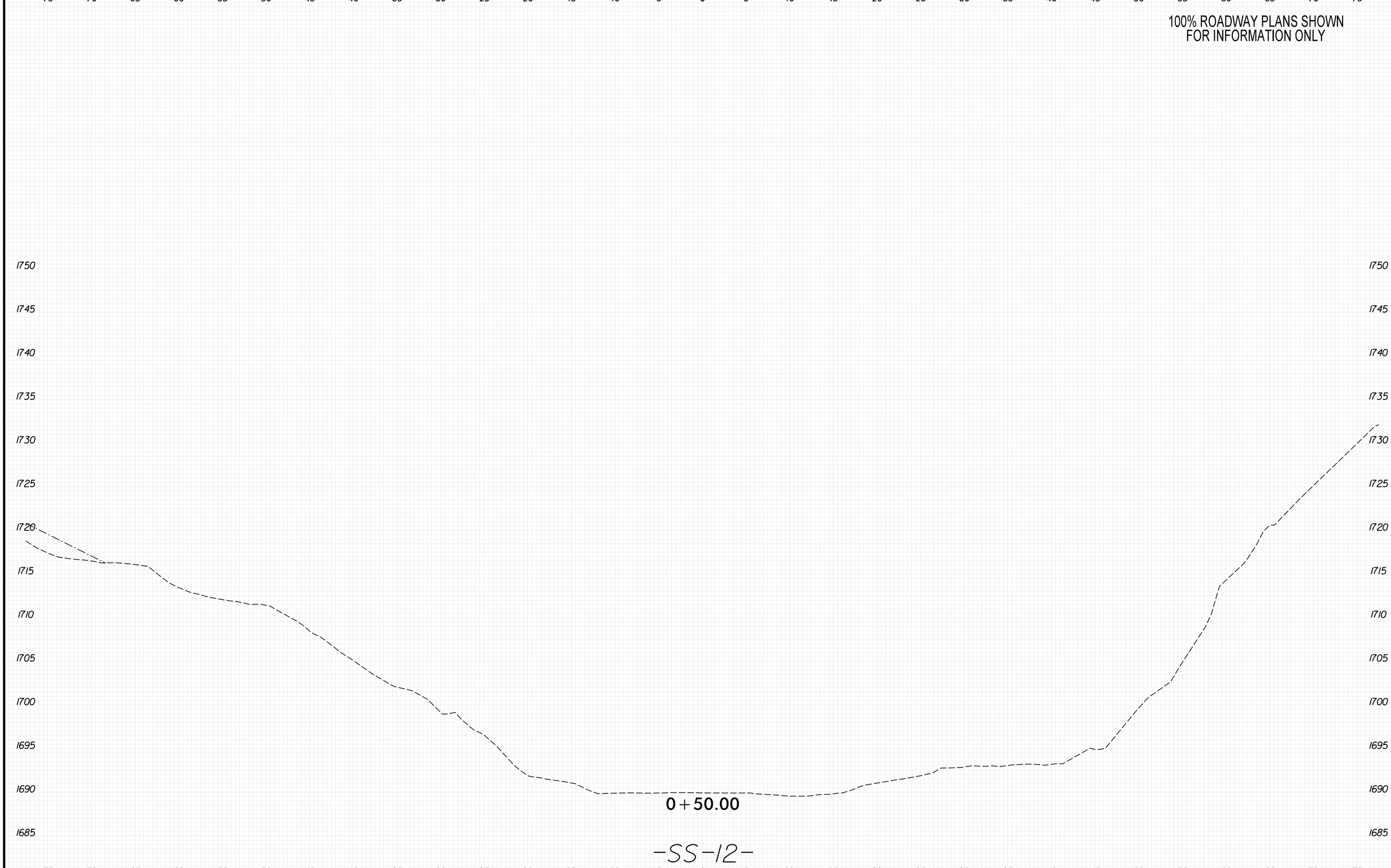
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:35 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-275

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



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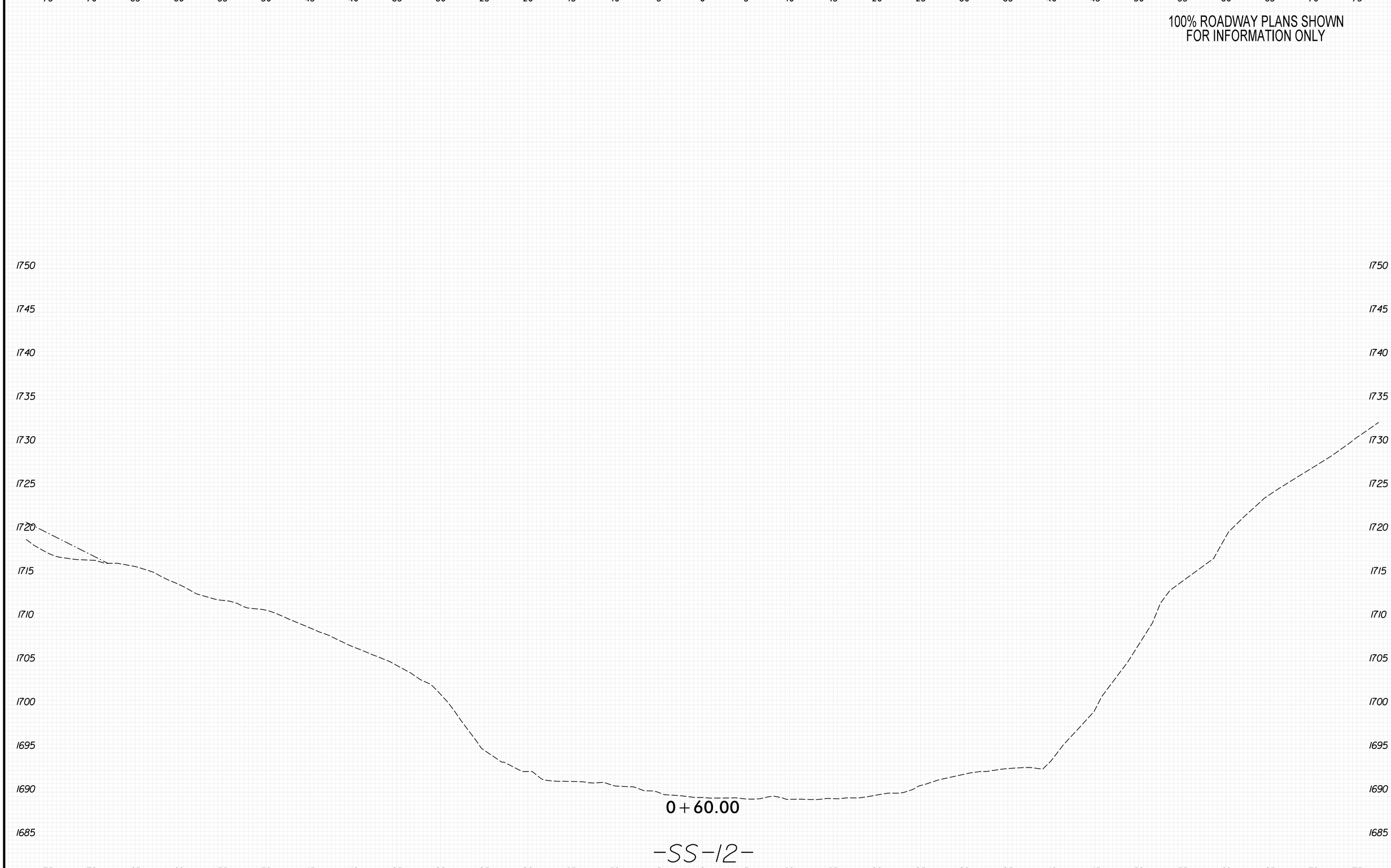
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:38 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-276

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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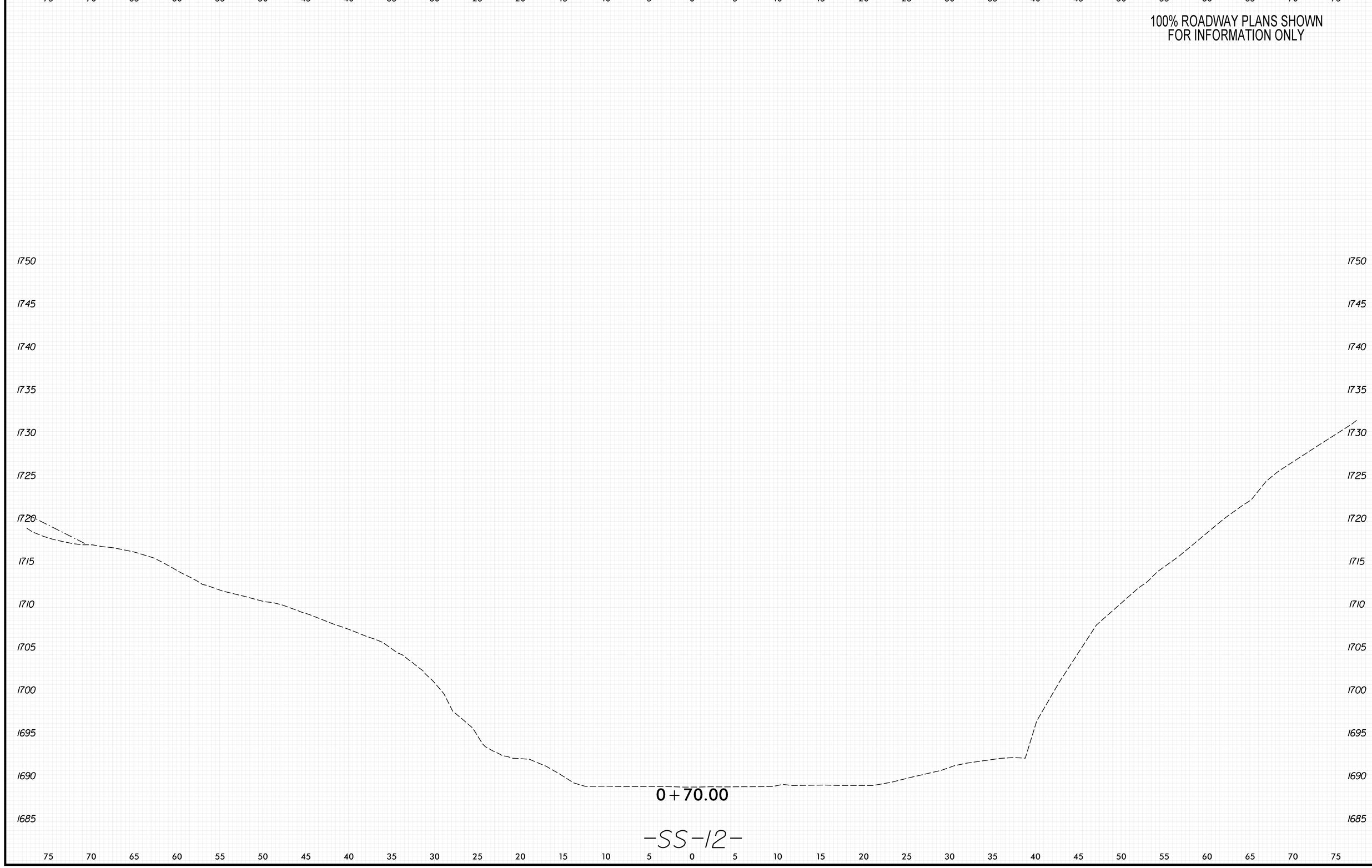
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-277

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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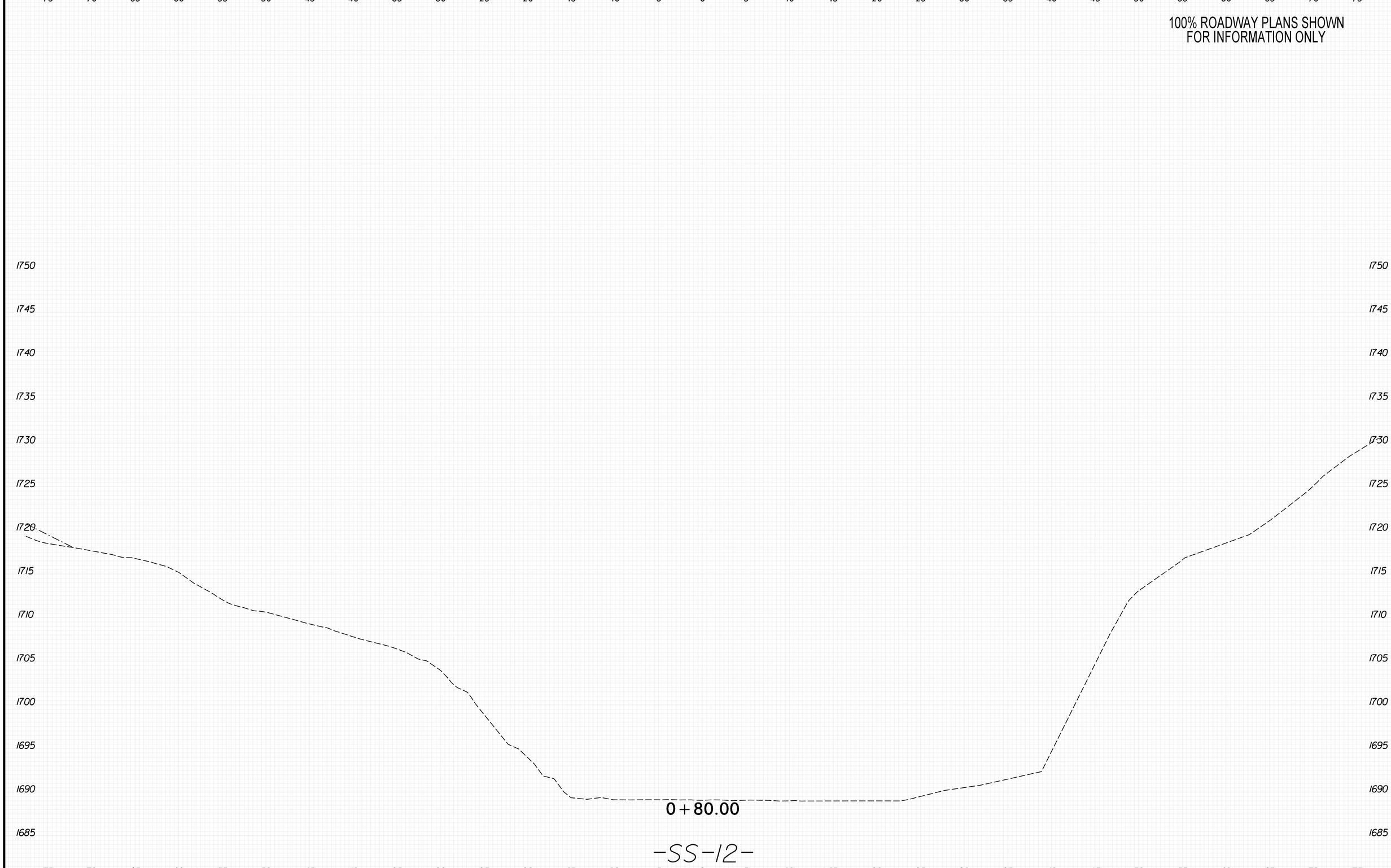
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-278

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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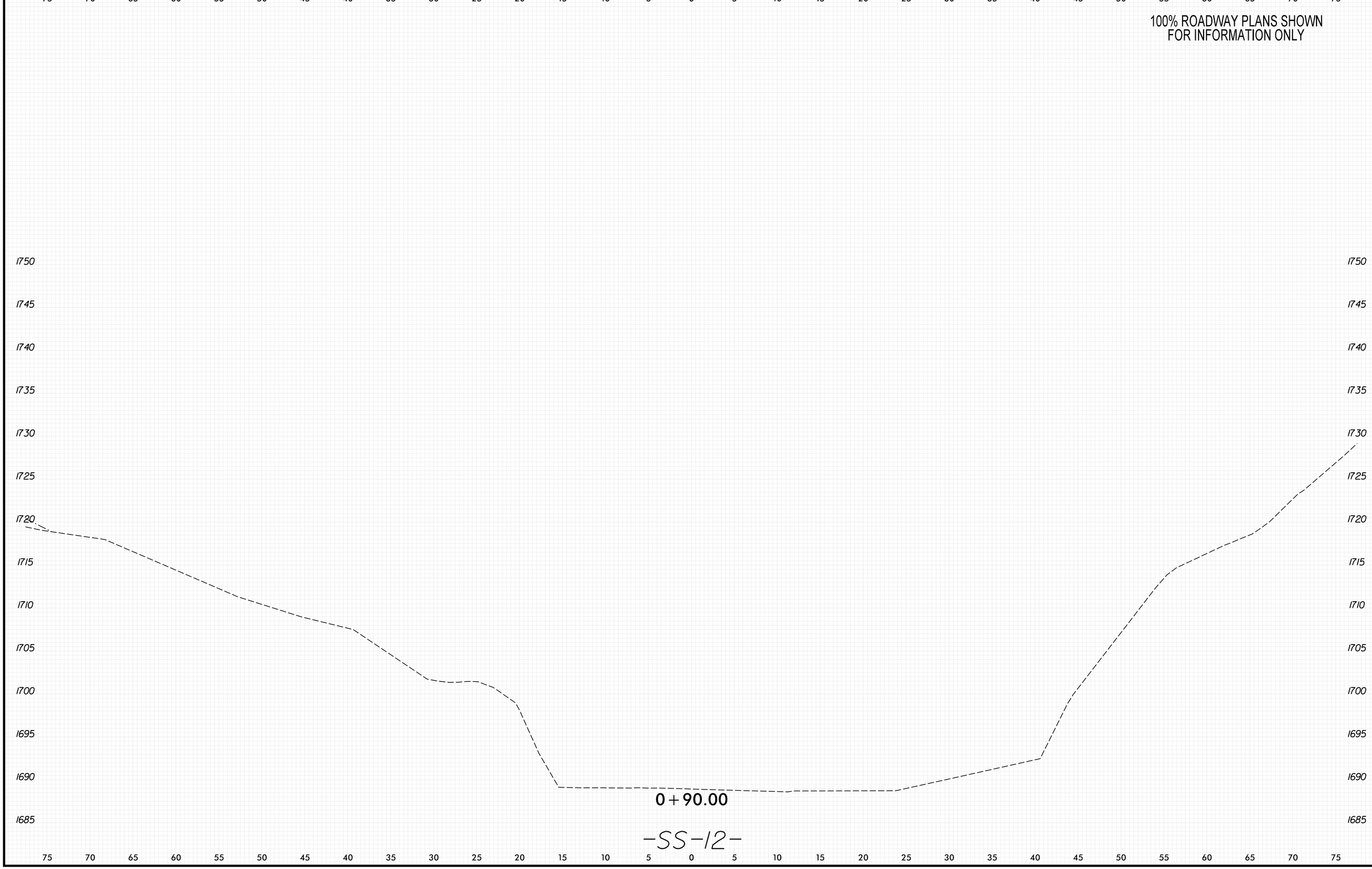
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-279

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

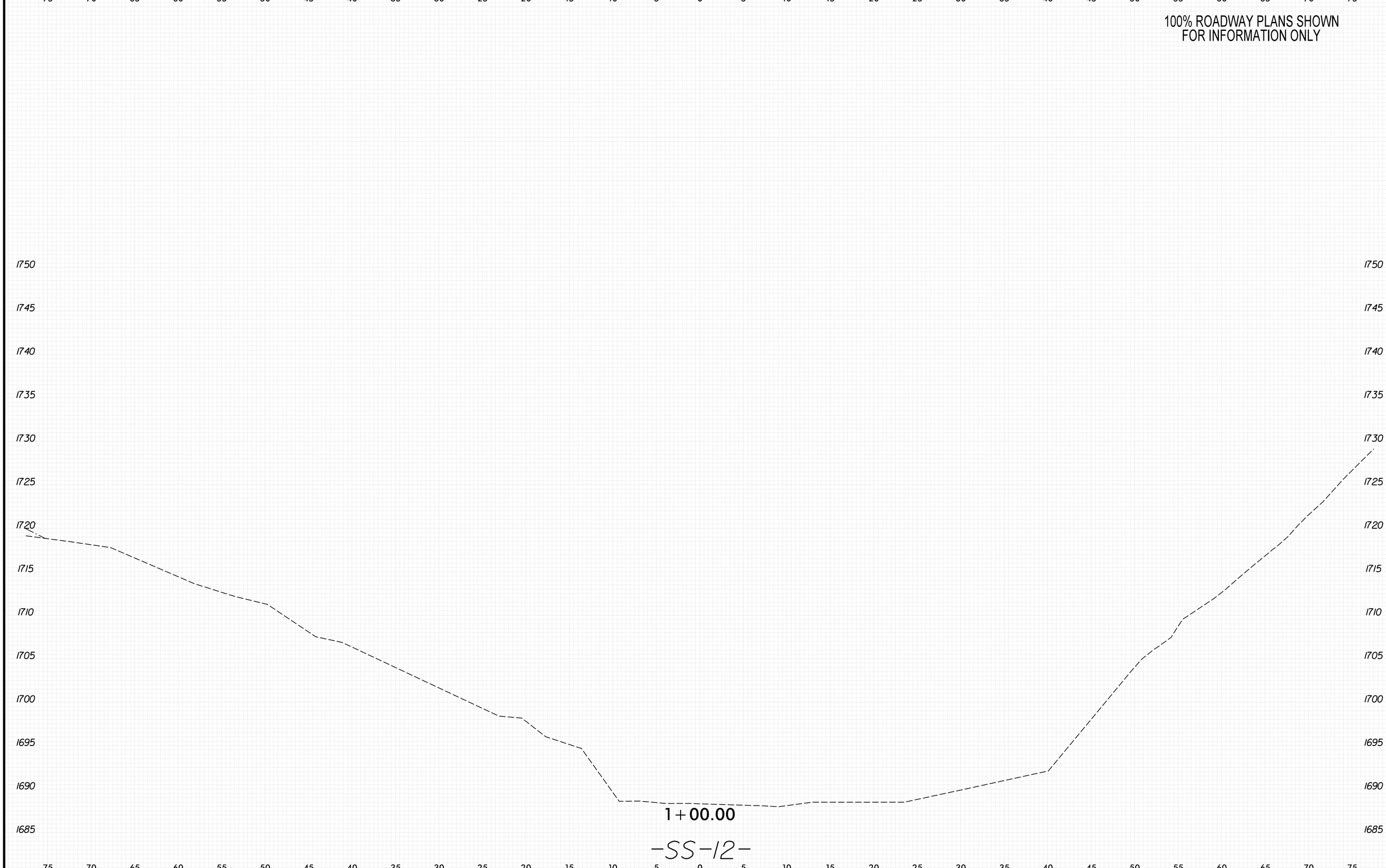
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:49 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-280

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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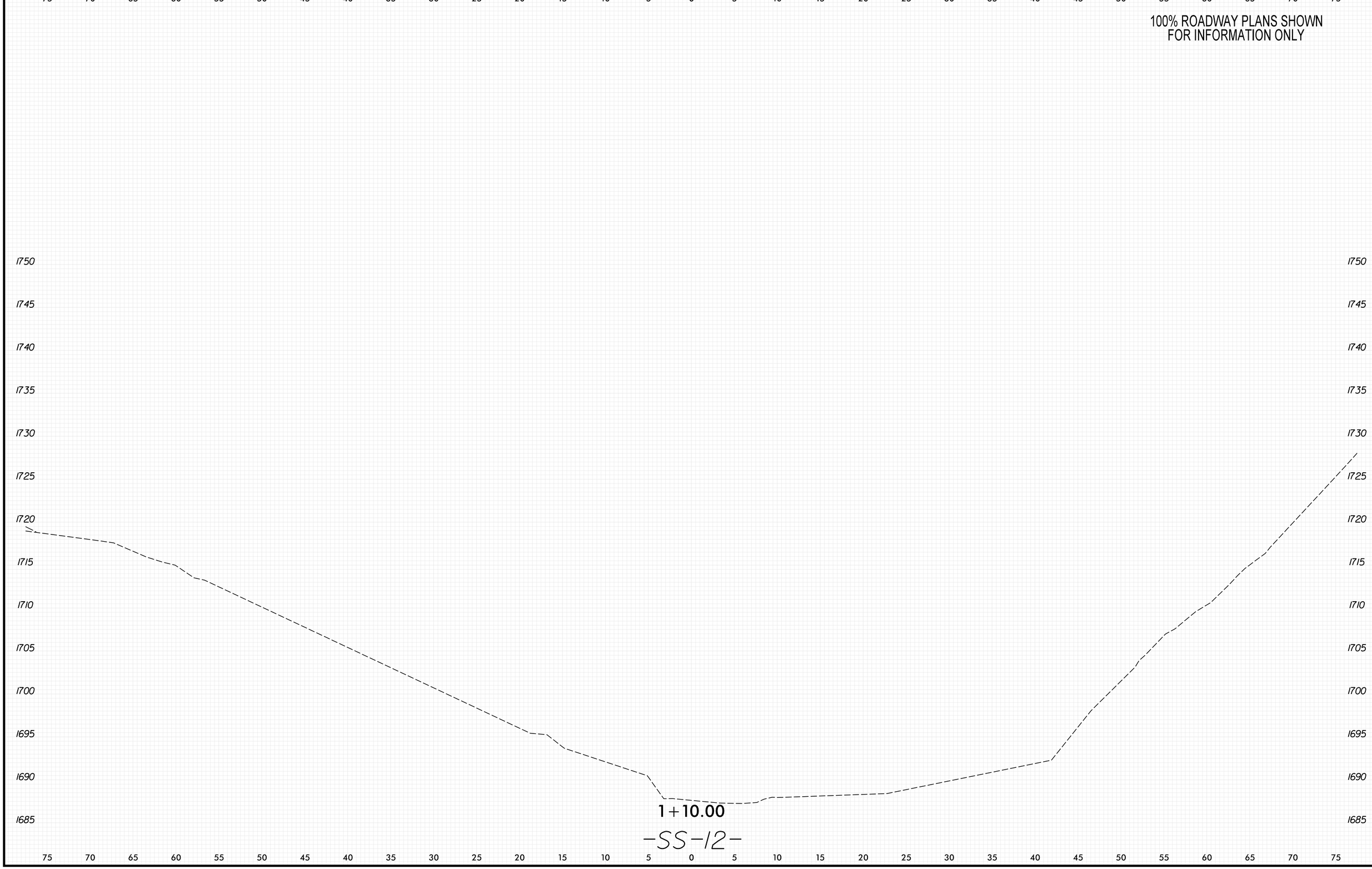
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-281

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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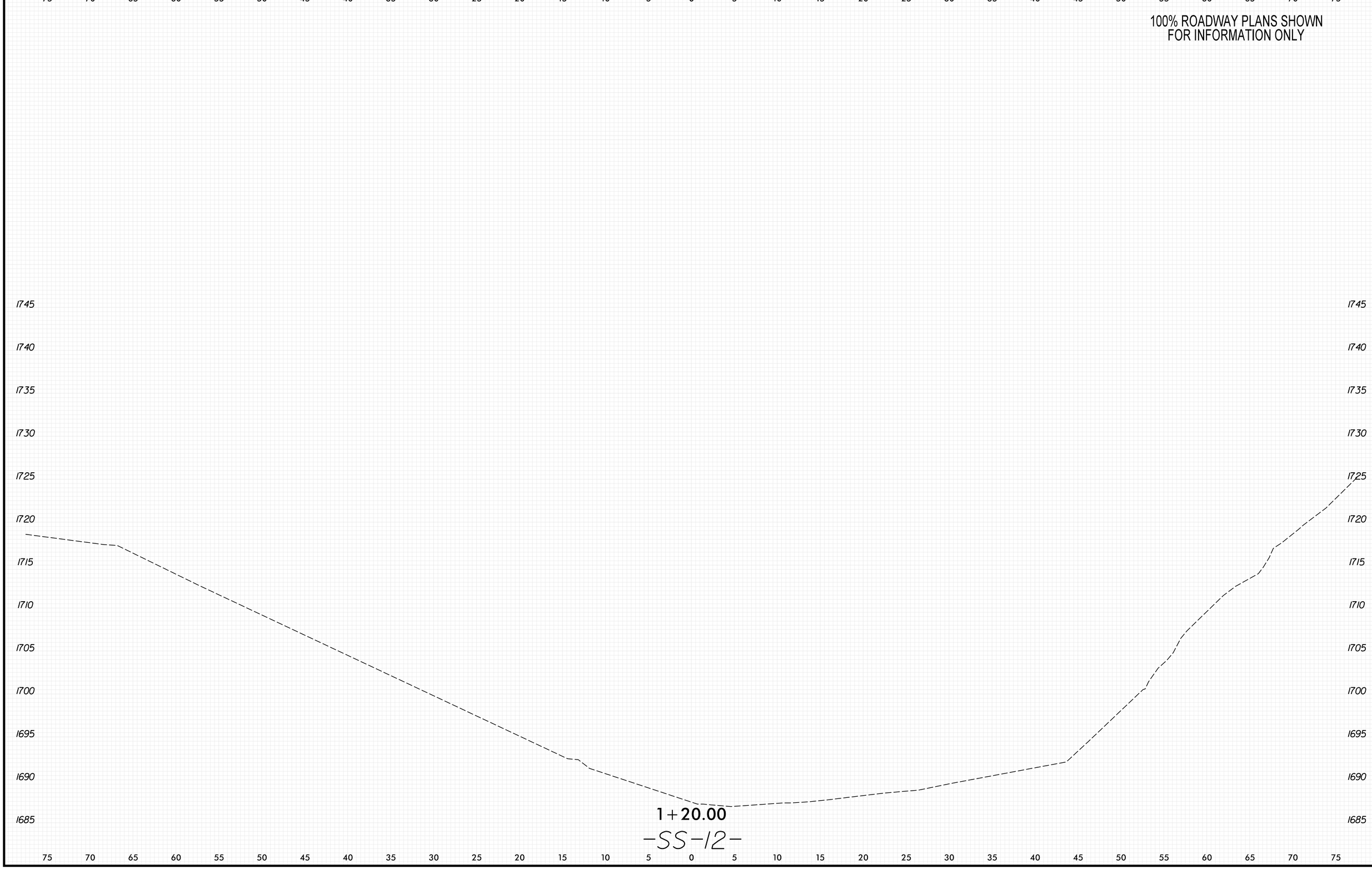
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-282

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

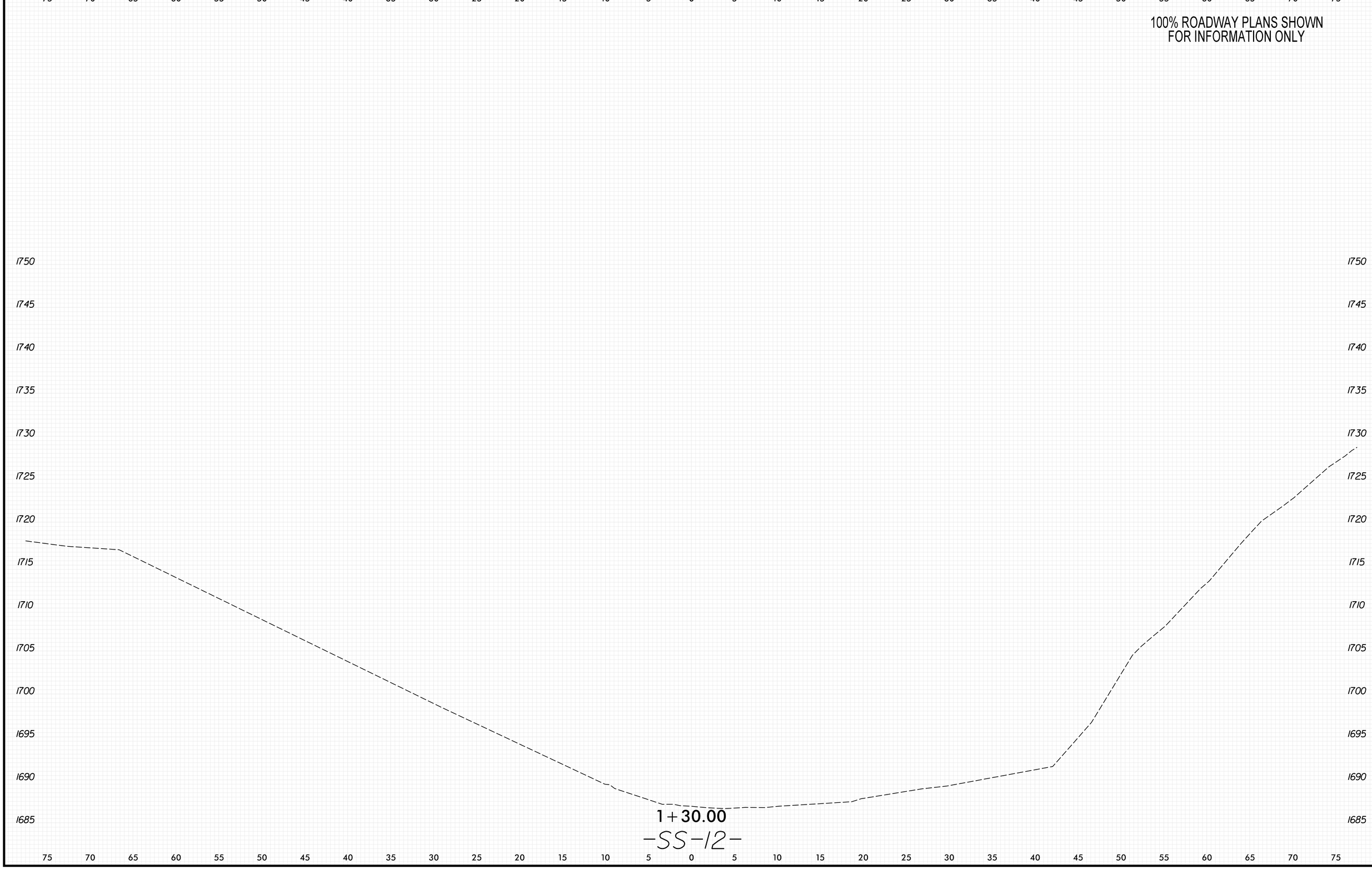
PENTABLE: xpl_eh_v8.tbl
TIME: 9:07:58 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-283

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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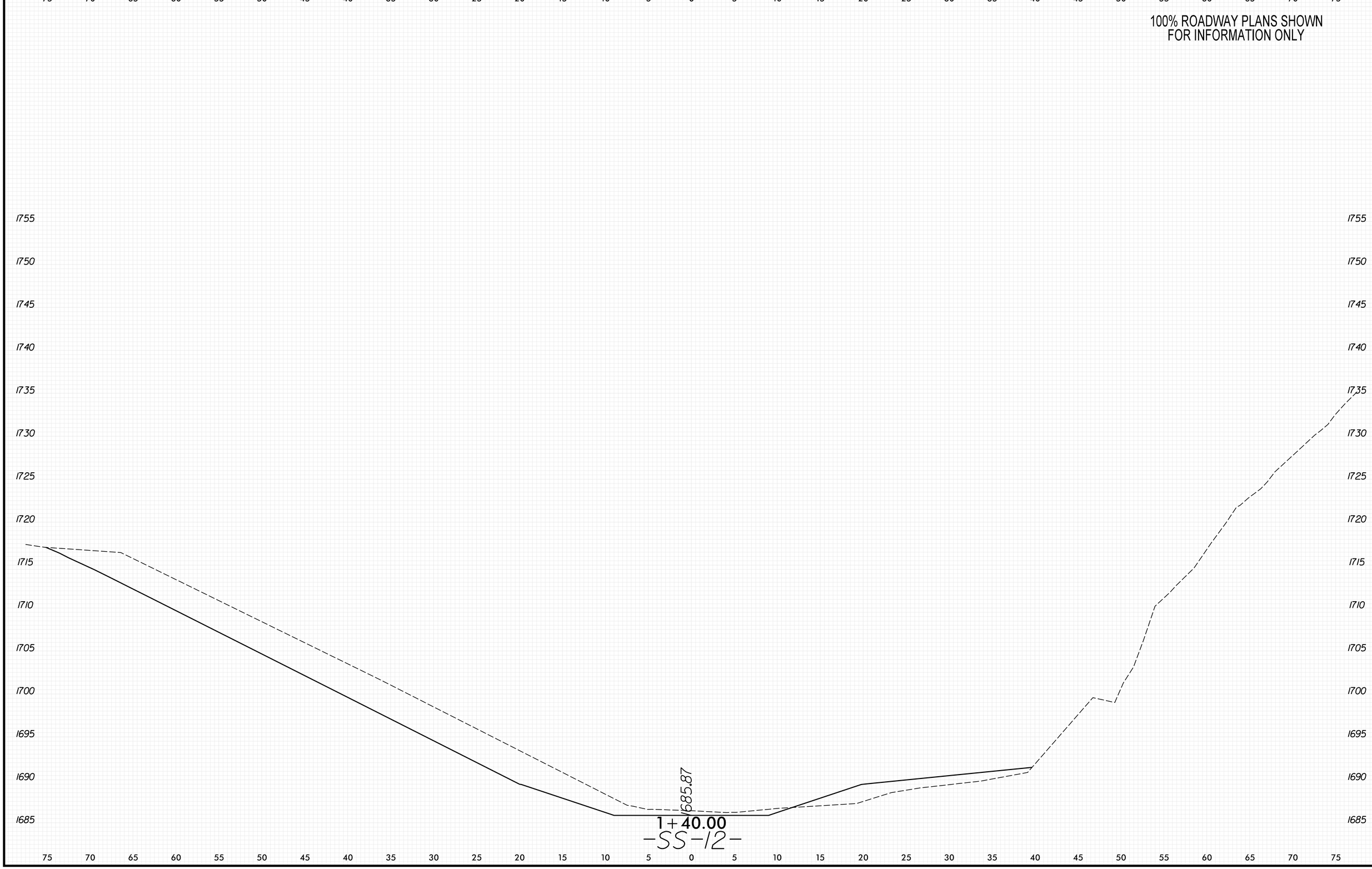
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-284

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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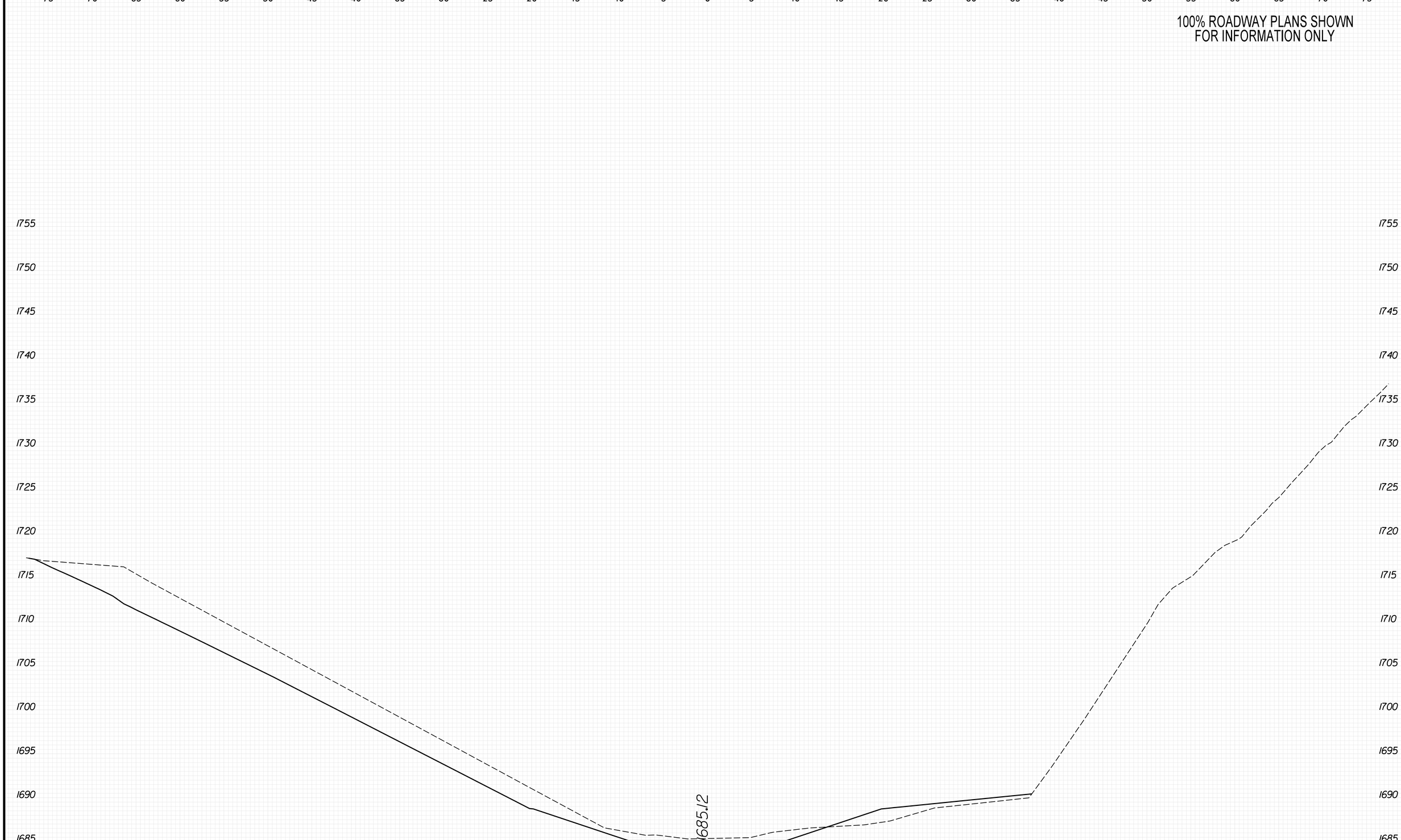
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-285

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
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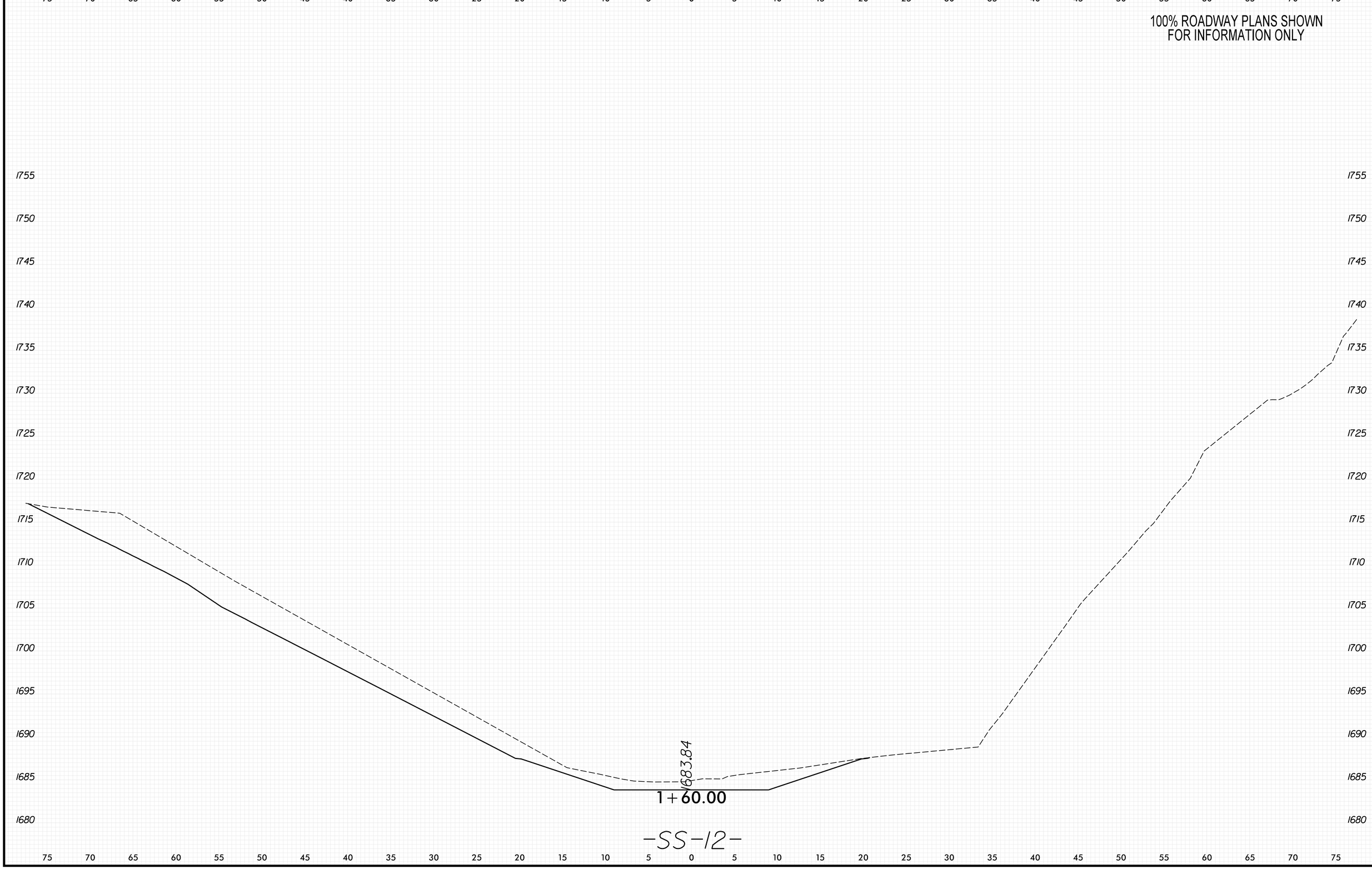
TIME: 9:08:08 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-286

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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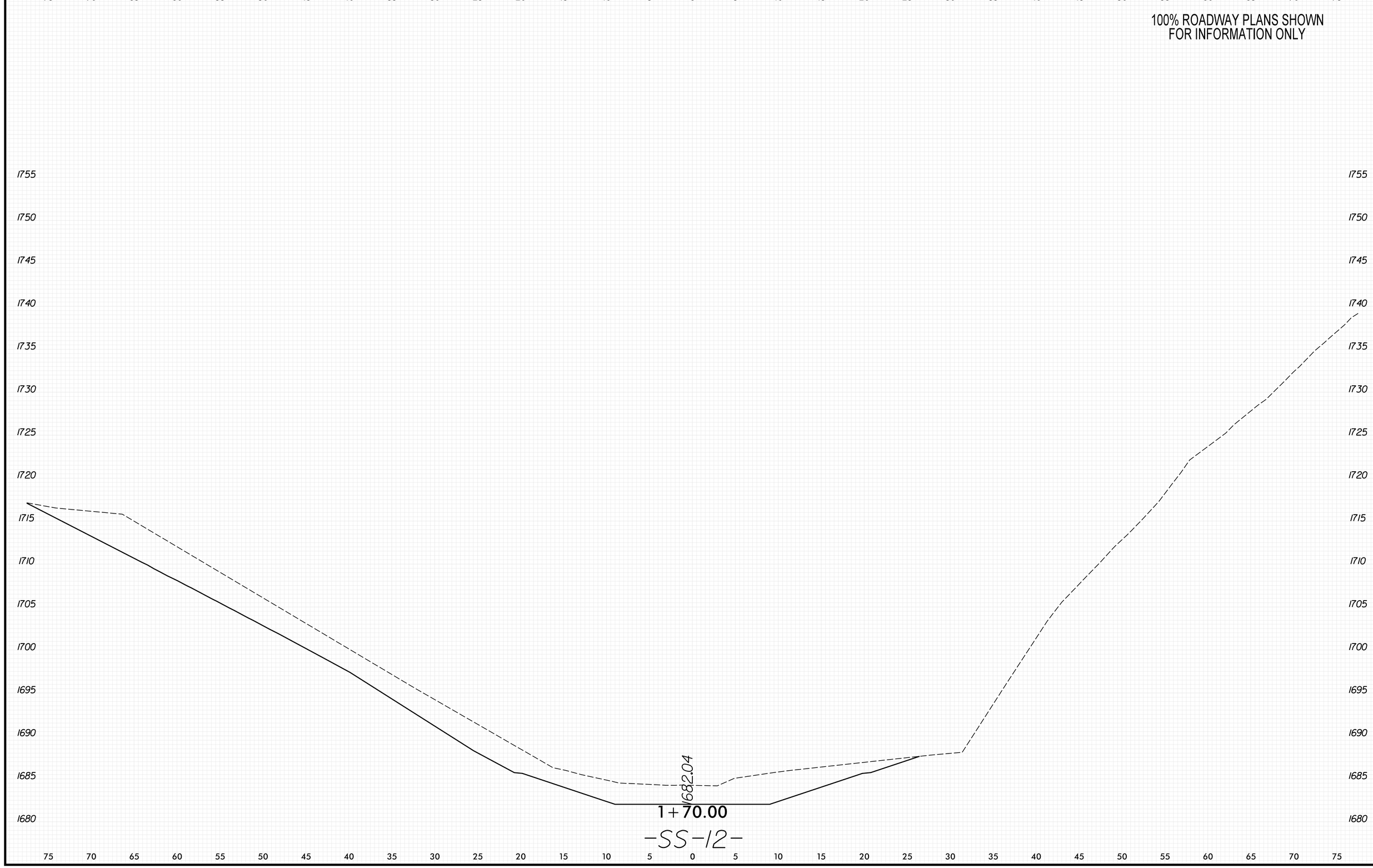
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

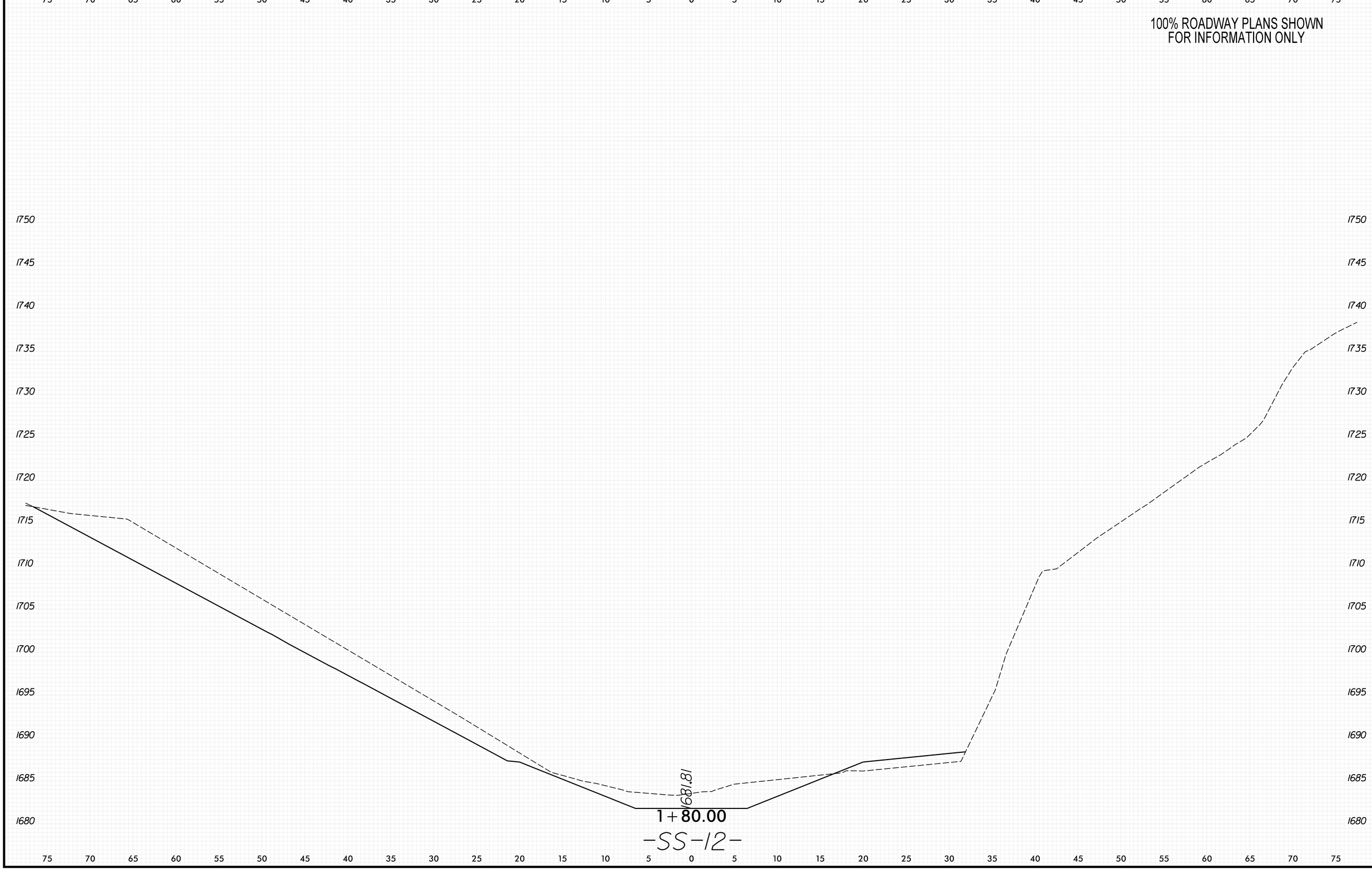
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:13 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-288

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

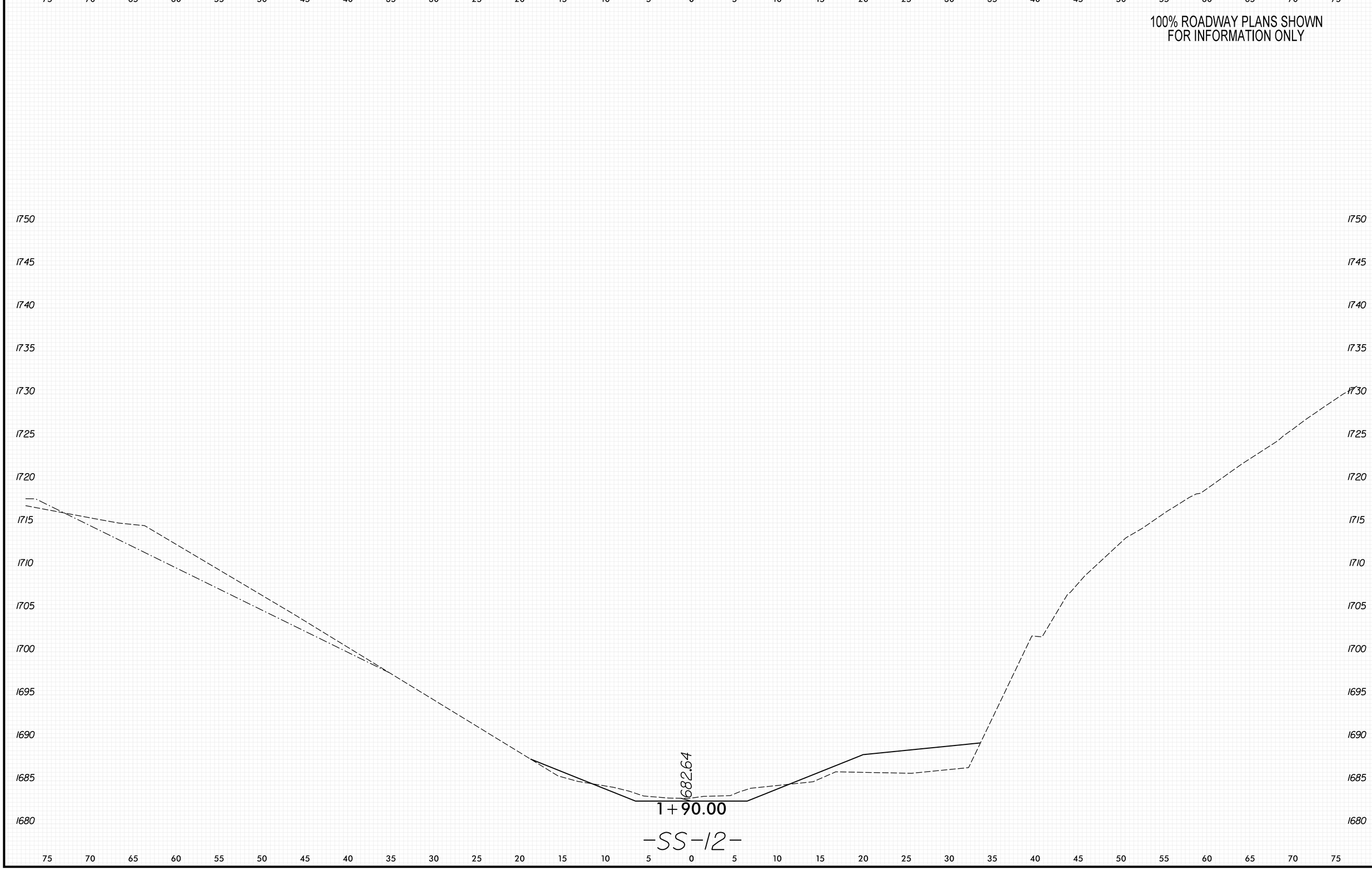
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:16 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-289

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

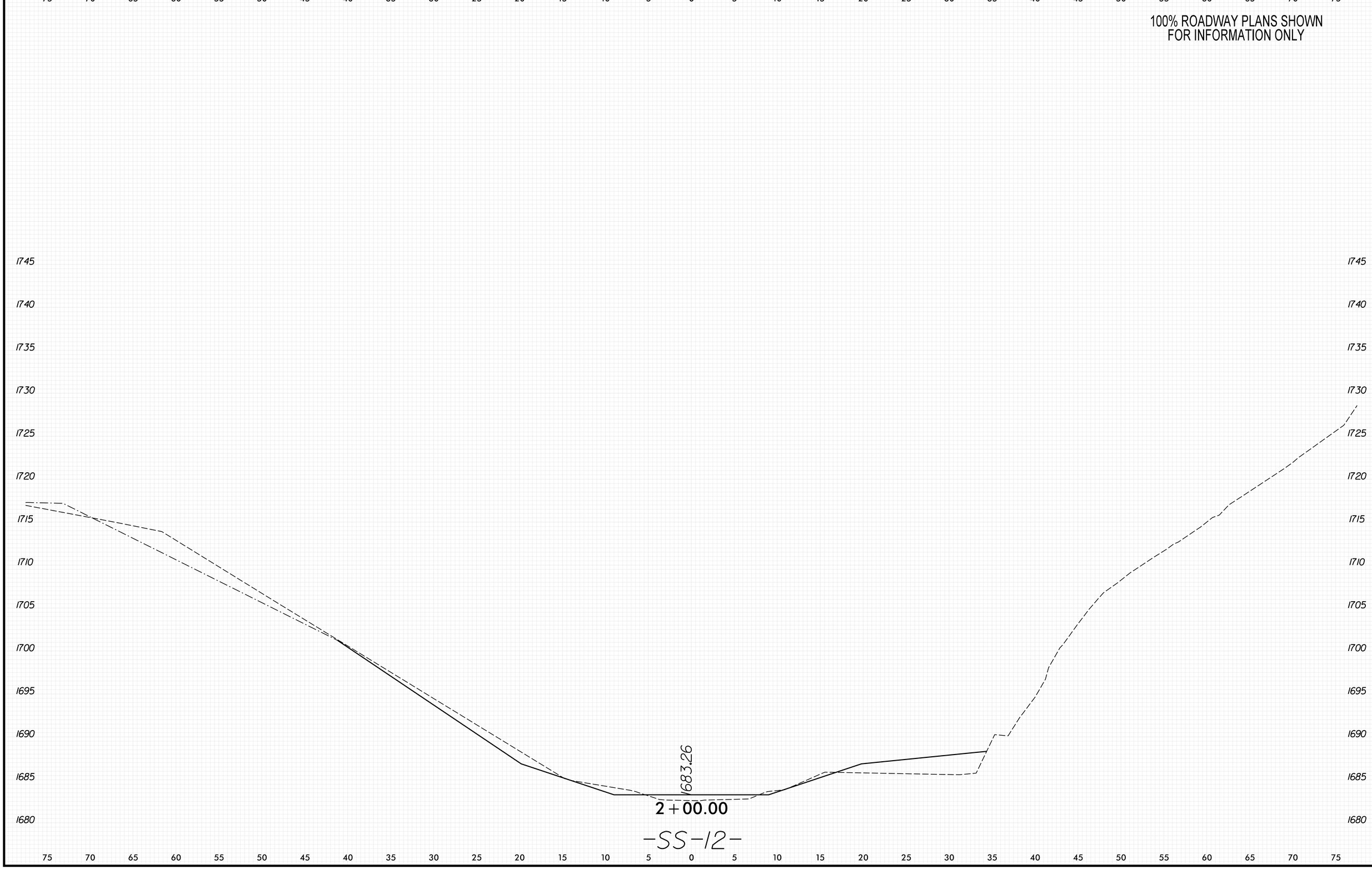
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:20 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-290

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

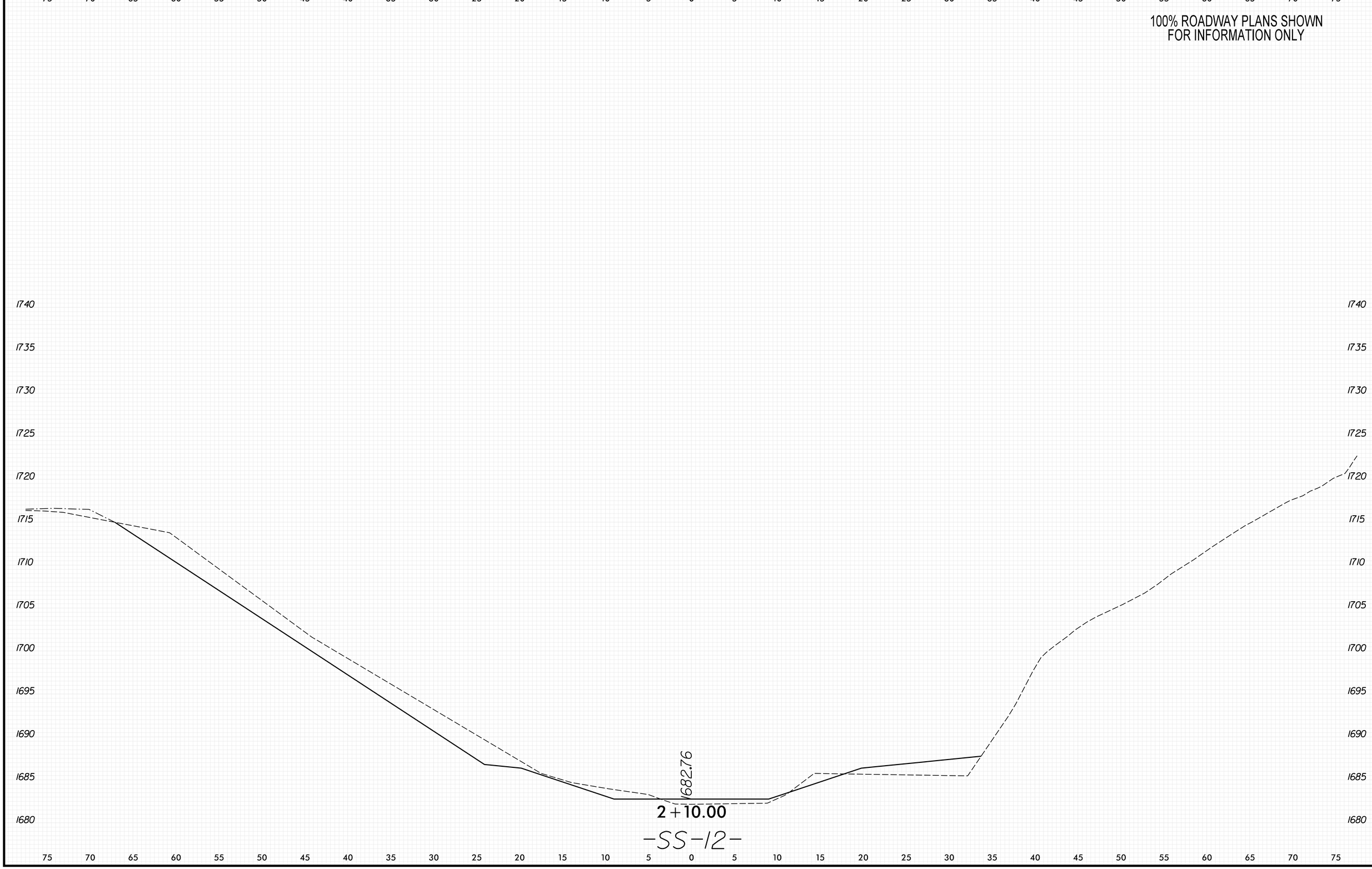
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:24 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-291

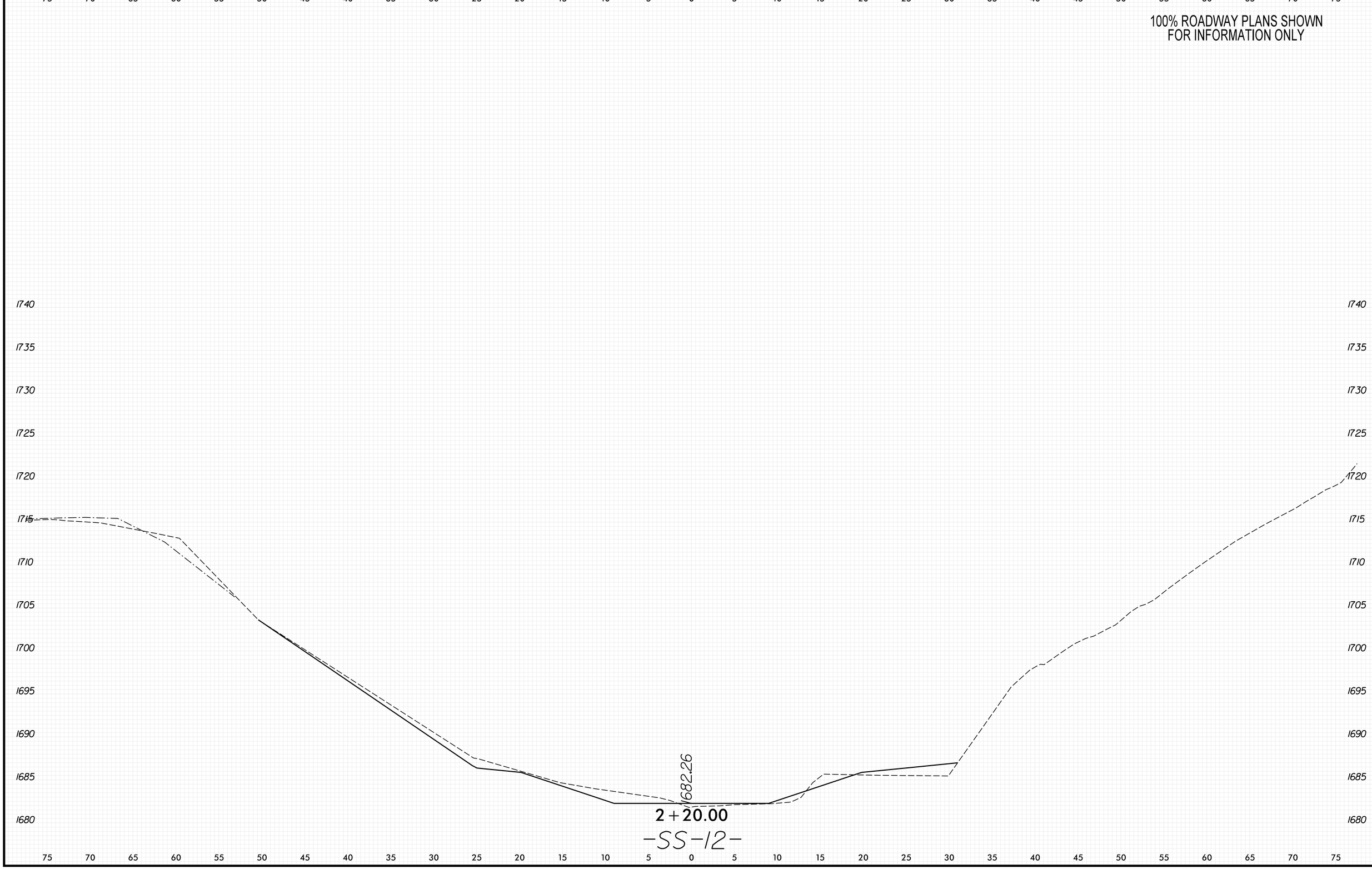
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:27 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-292

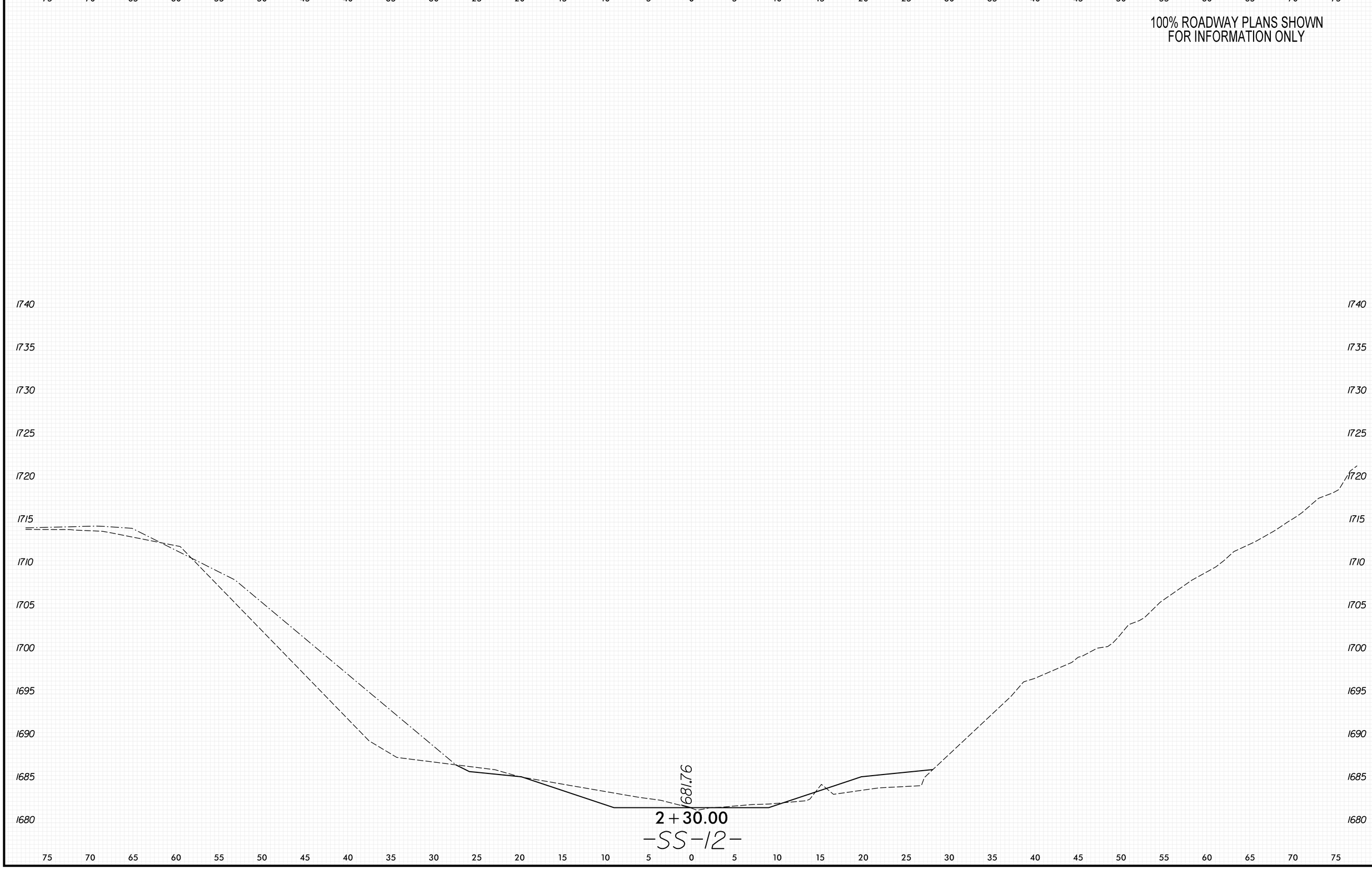
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:31 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-293

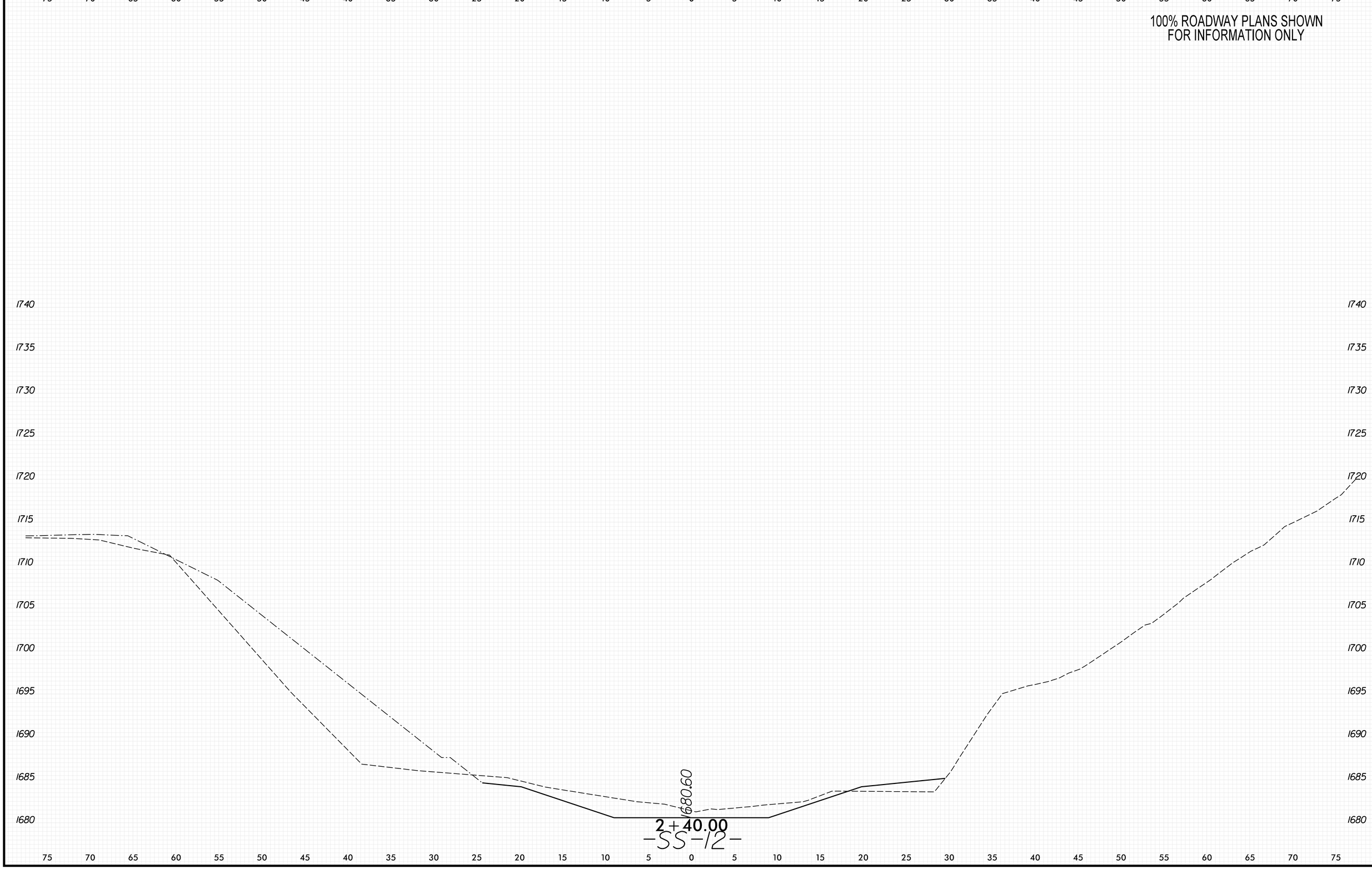
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:34 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-294

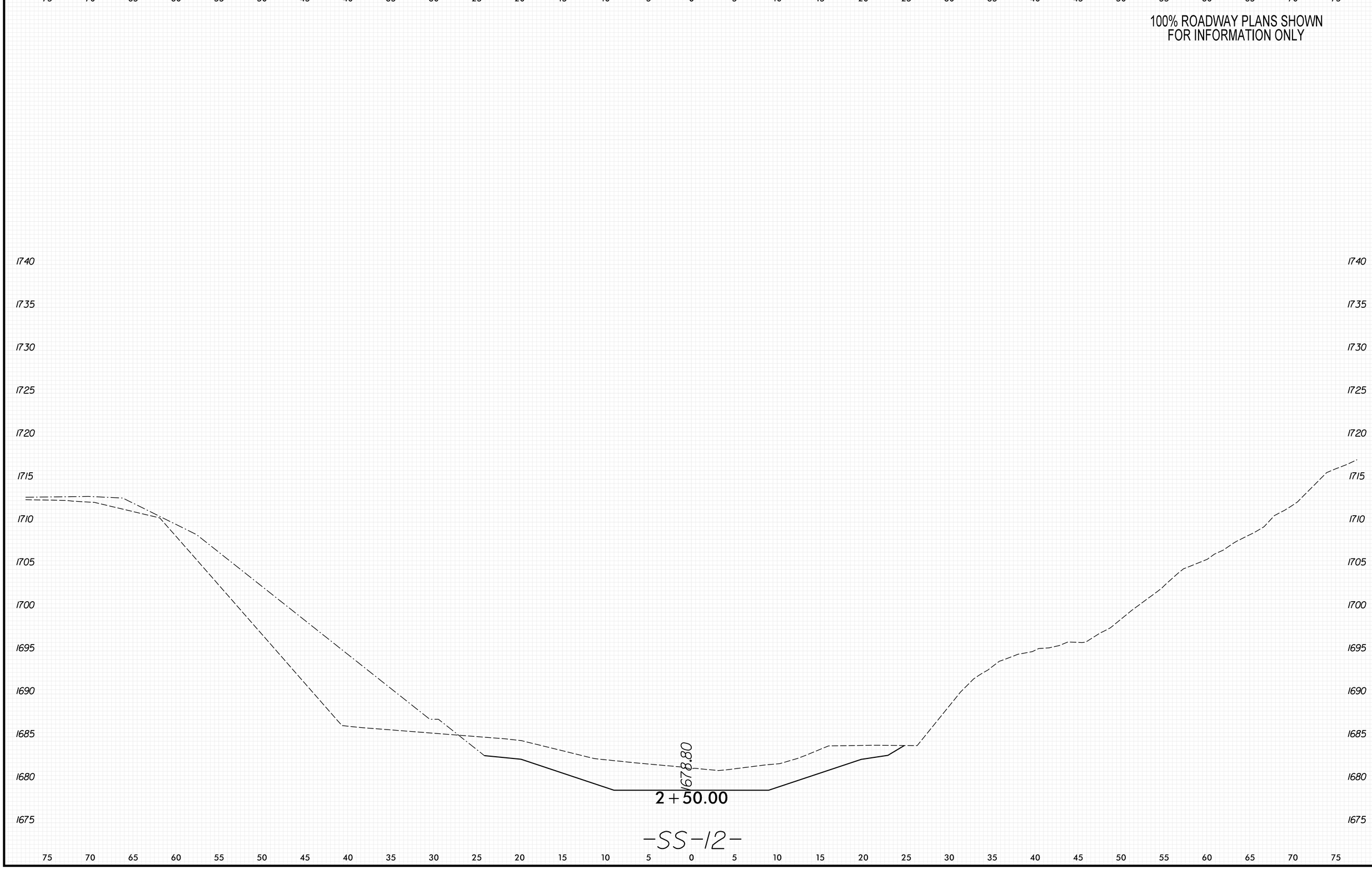
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
TIME: 9:08:37 AM
PENTABLE: xpl_eh_v8.tbl
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-295

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

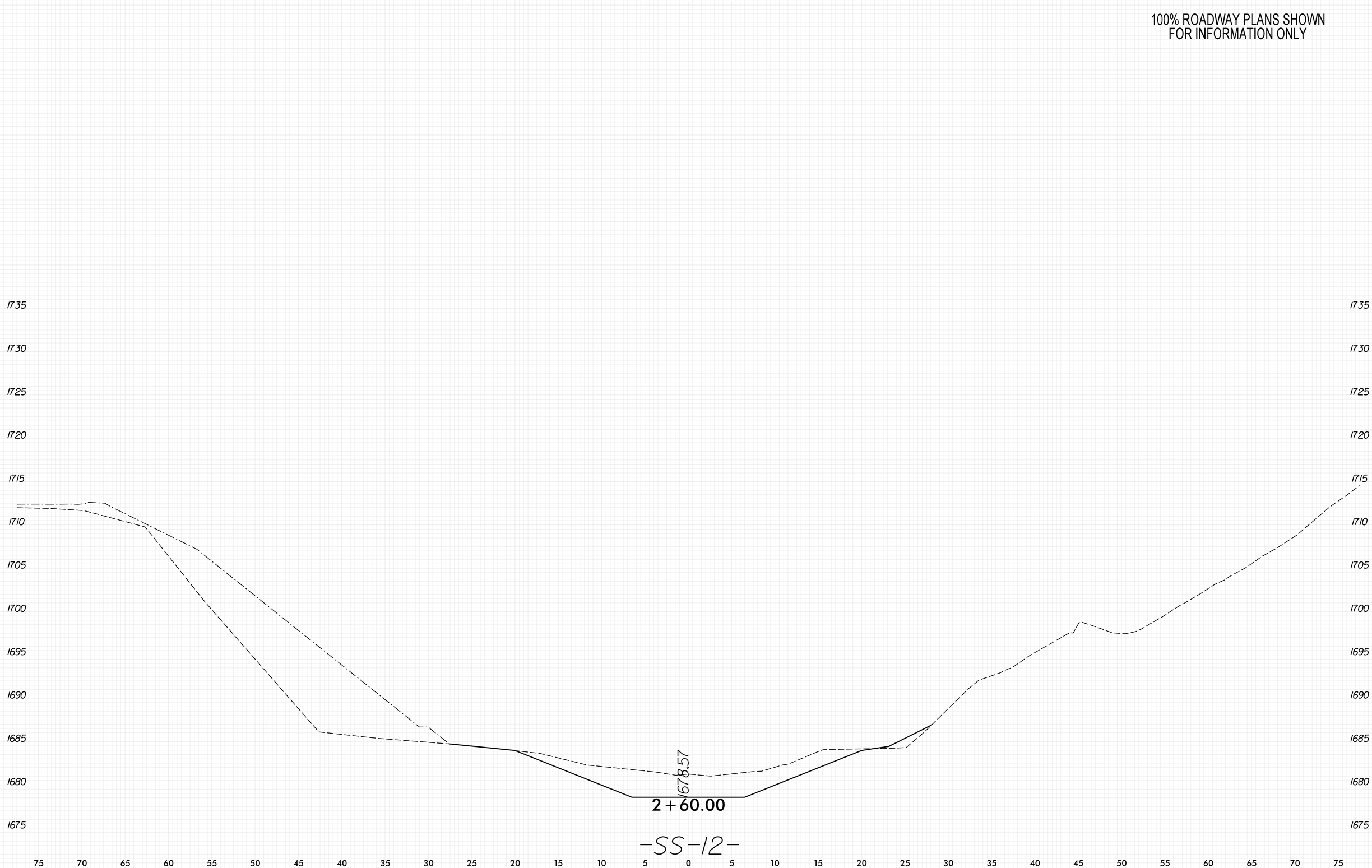
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:42 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-296

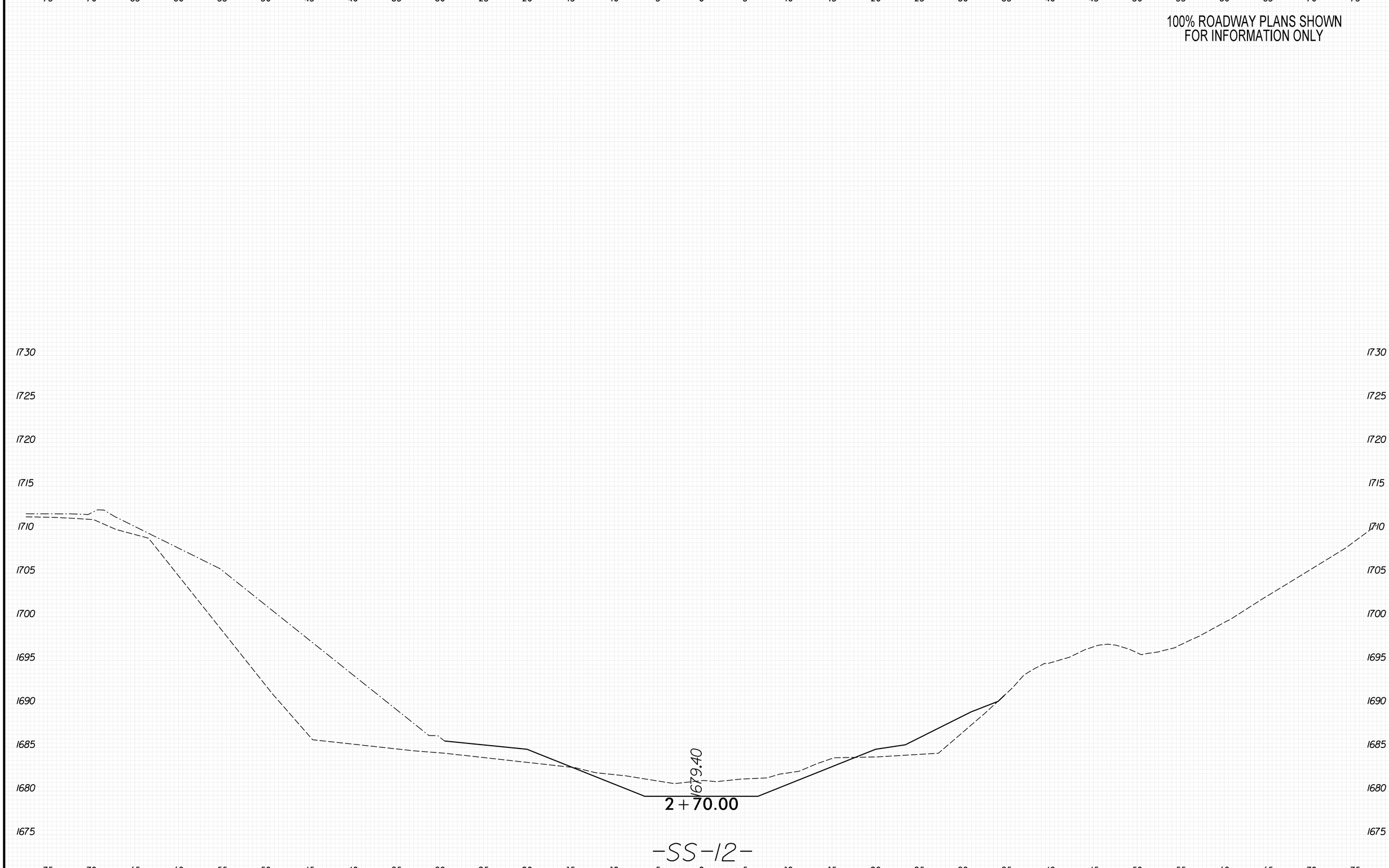
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:46 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-297

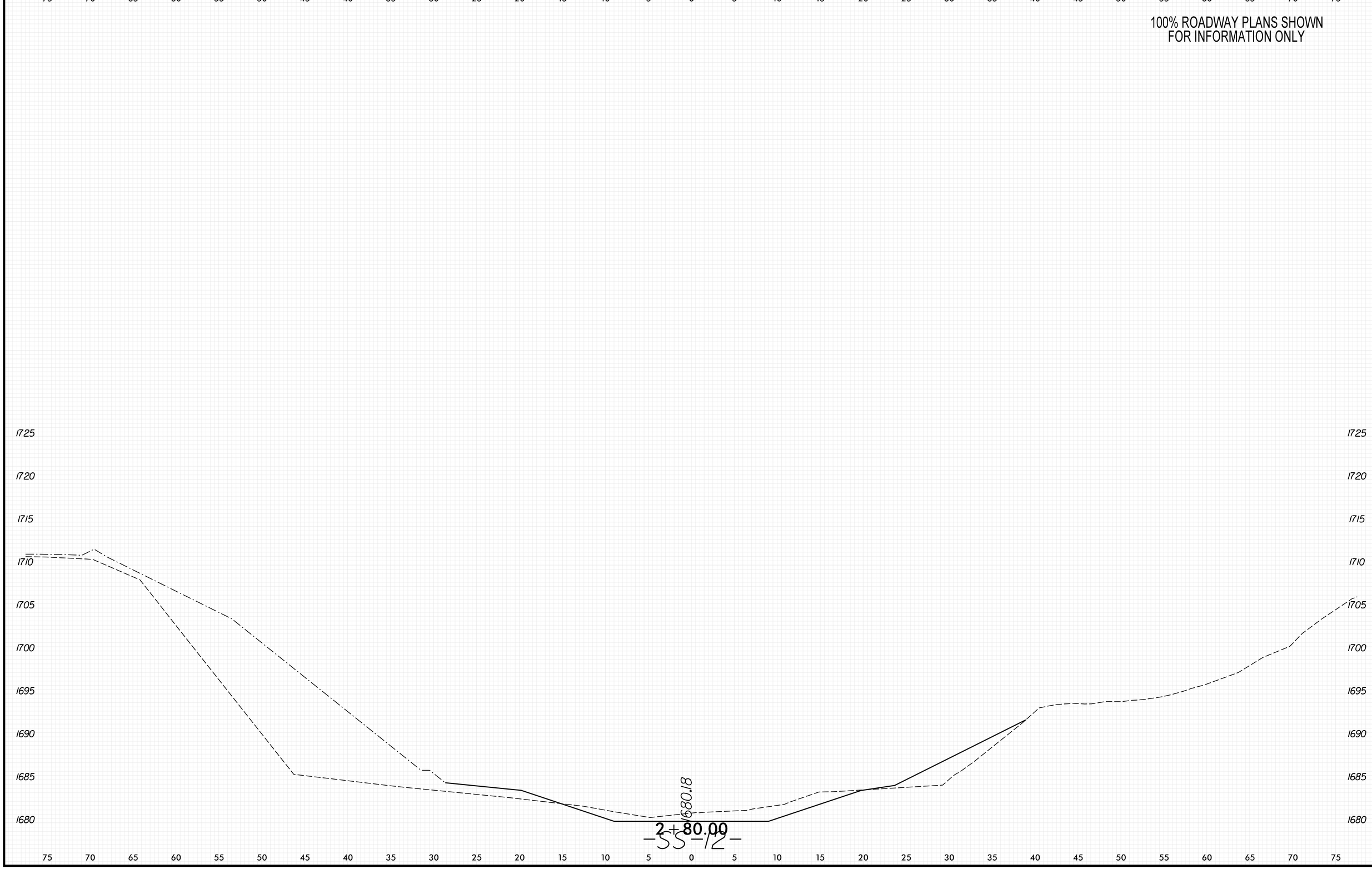
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:49 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-298

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

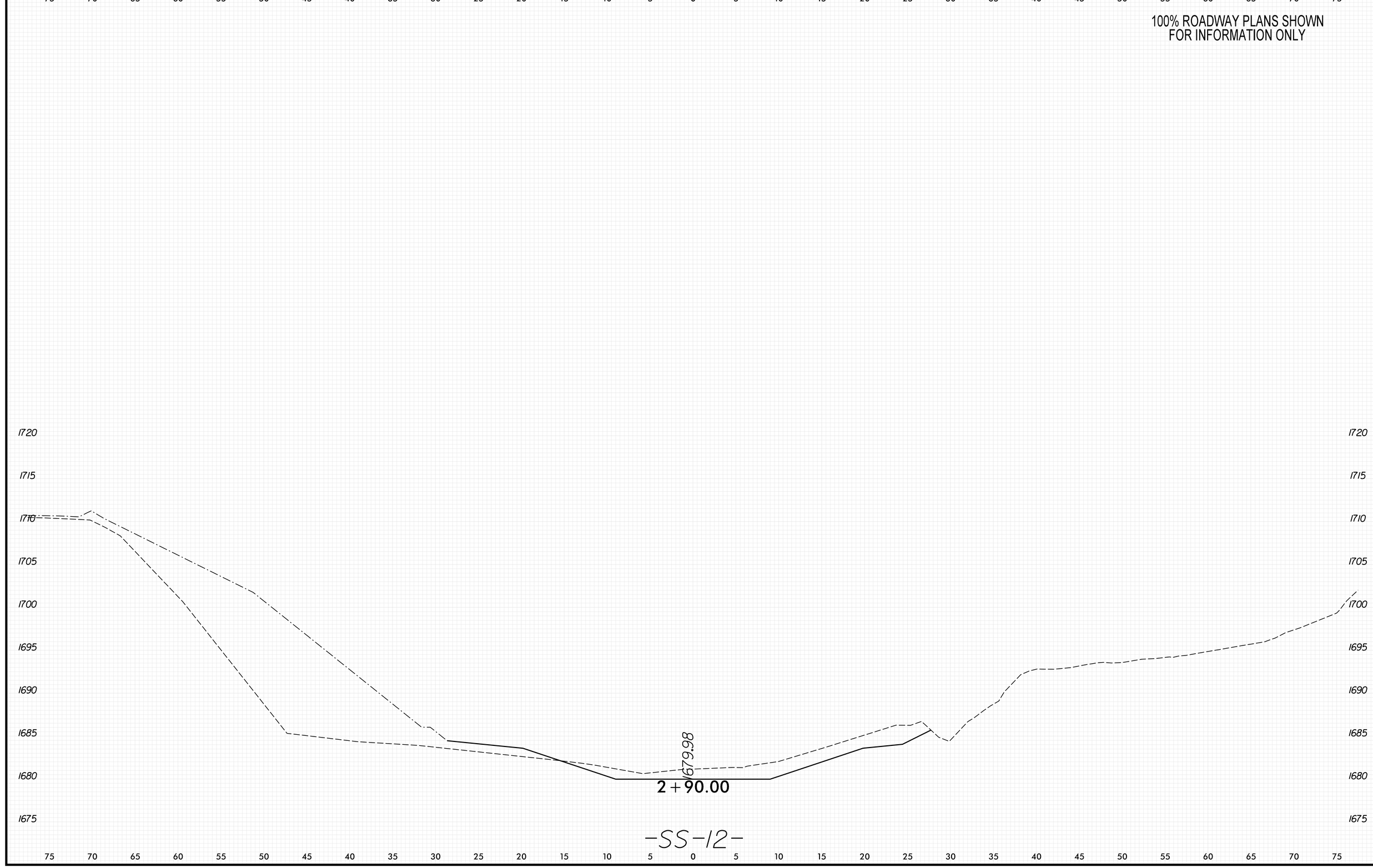
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:52 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-299

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

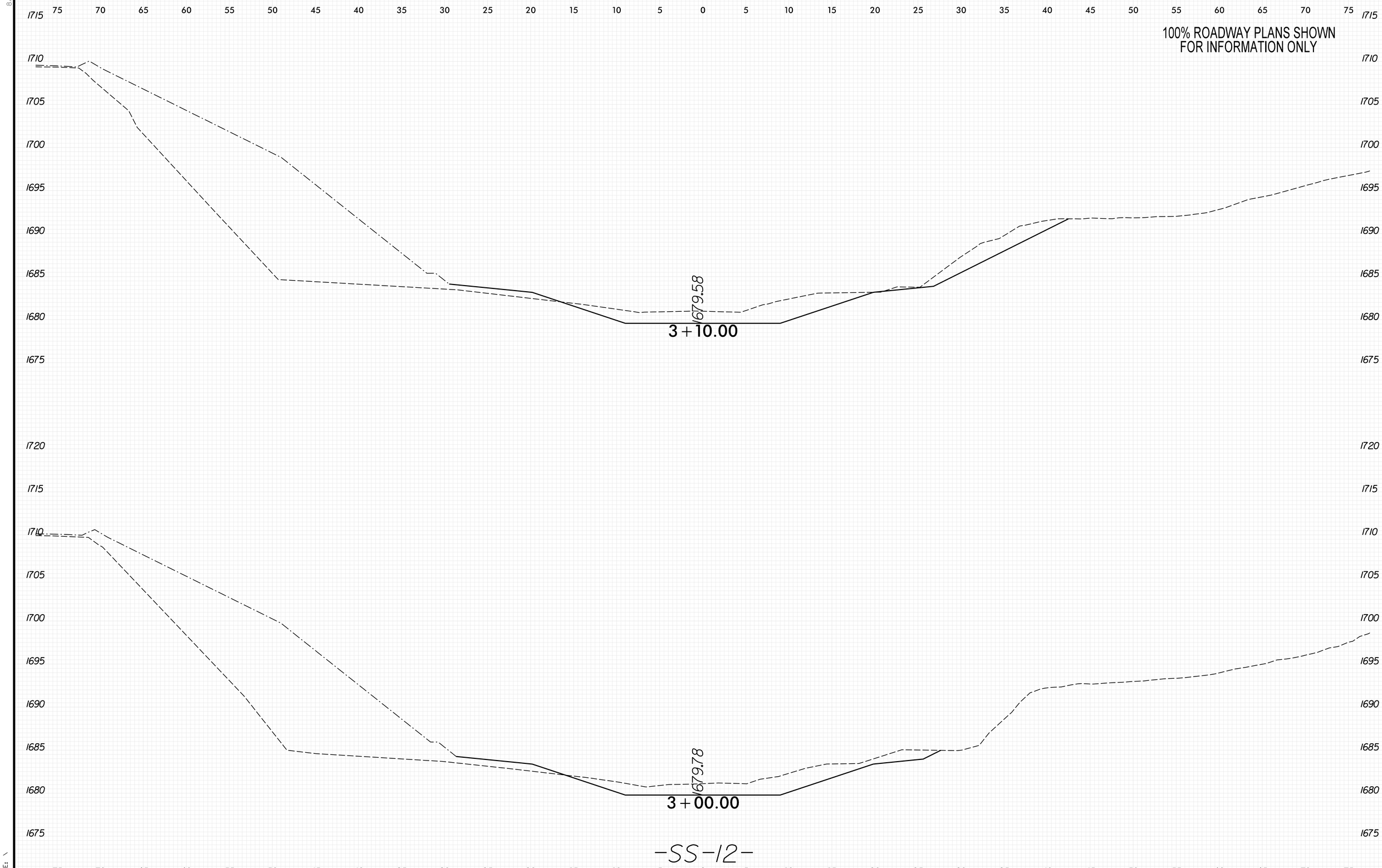
PENTABLE: xpl_eh_v8.tbl
TIME: 9:08:56 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-300

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

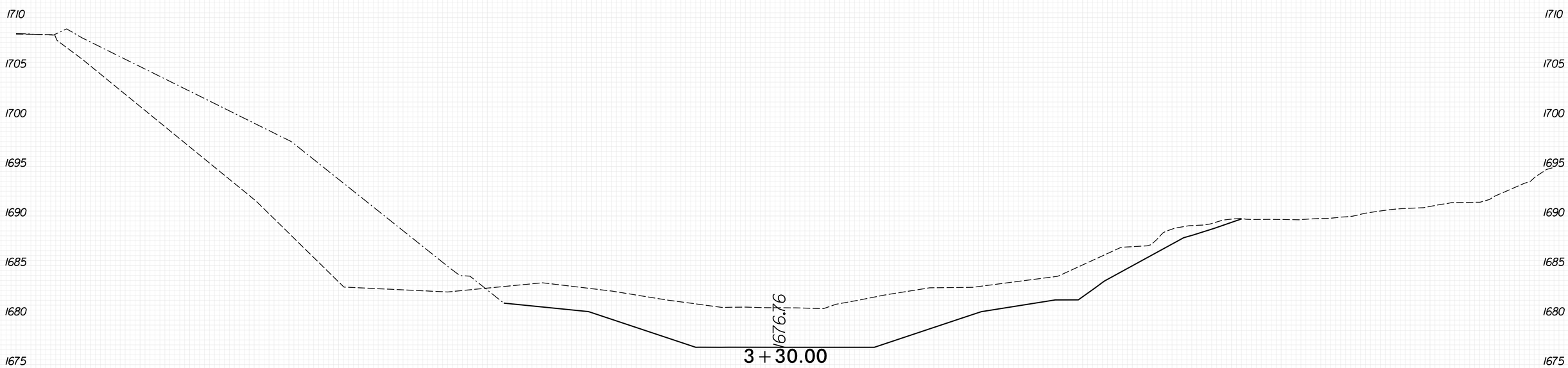
PENTABLE: xpl_eh_v8.tbl
TIME: 9:09:00 AM

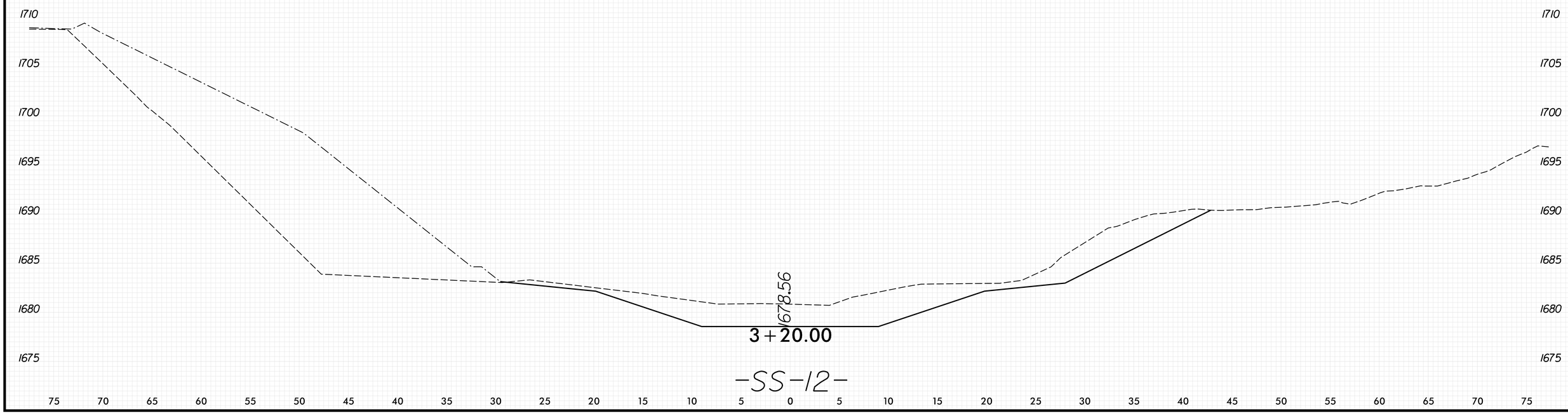
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-301

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





8/23/99

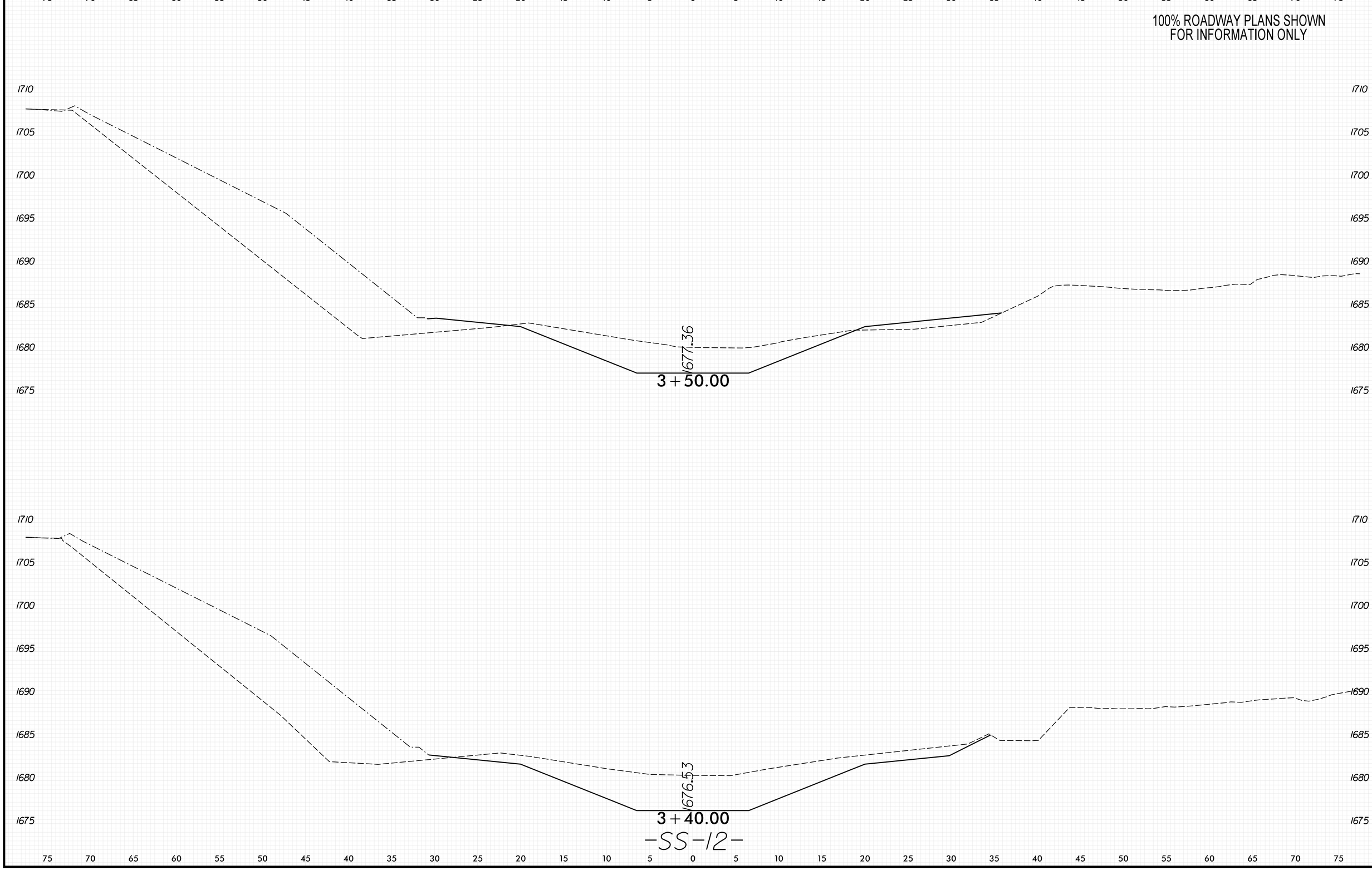
PENTABLE: xpl_eh_v8.tbl
TIME: 9:11:36 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-302

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

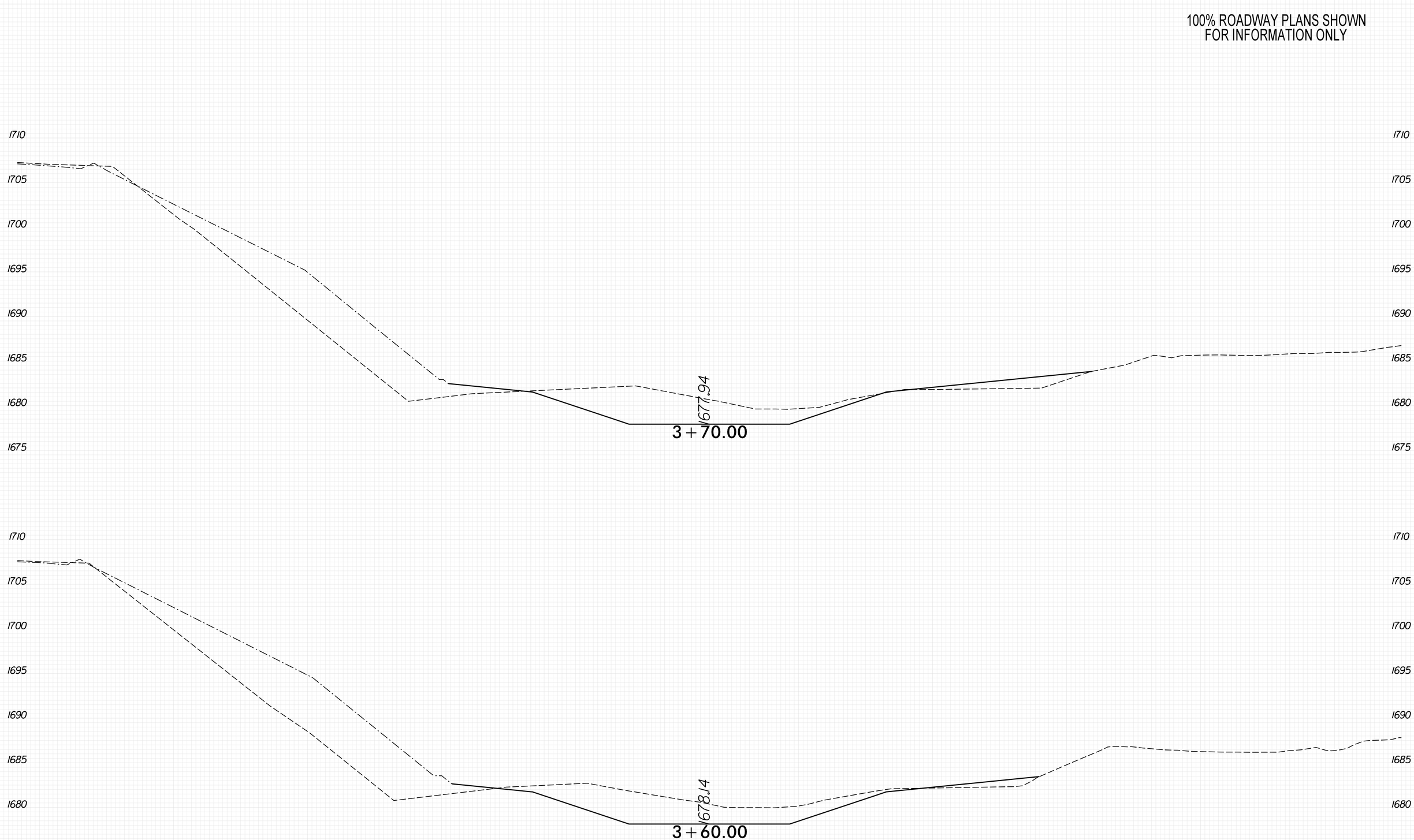
PENTABLE: xpl_eh_v8.tbl
TIME: 9:11:39 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-303

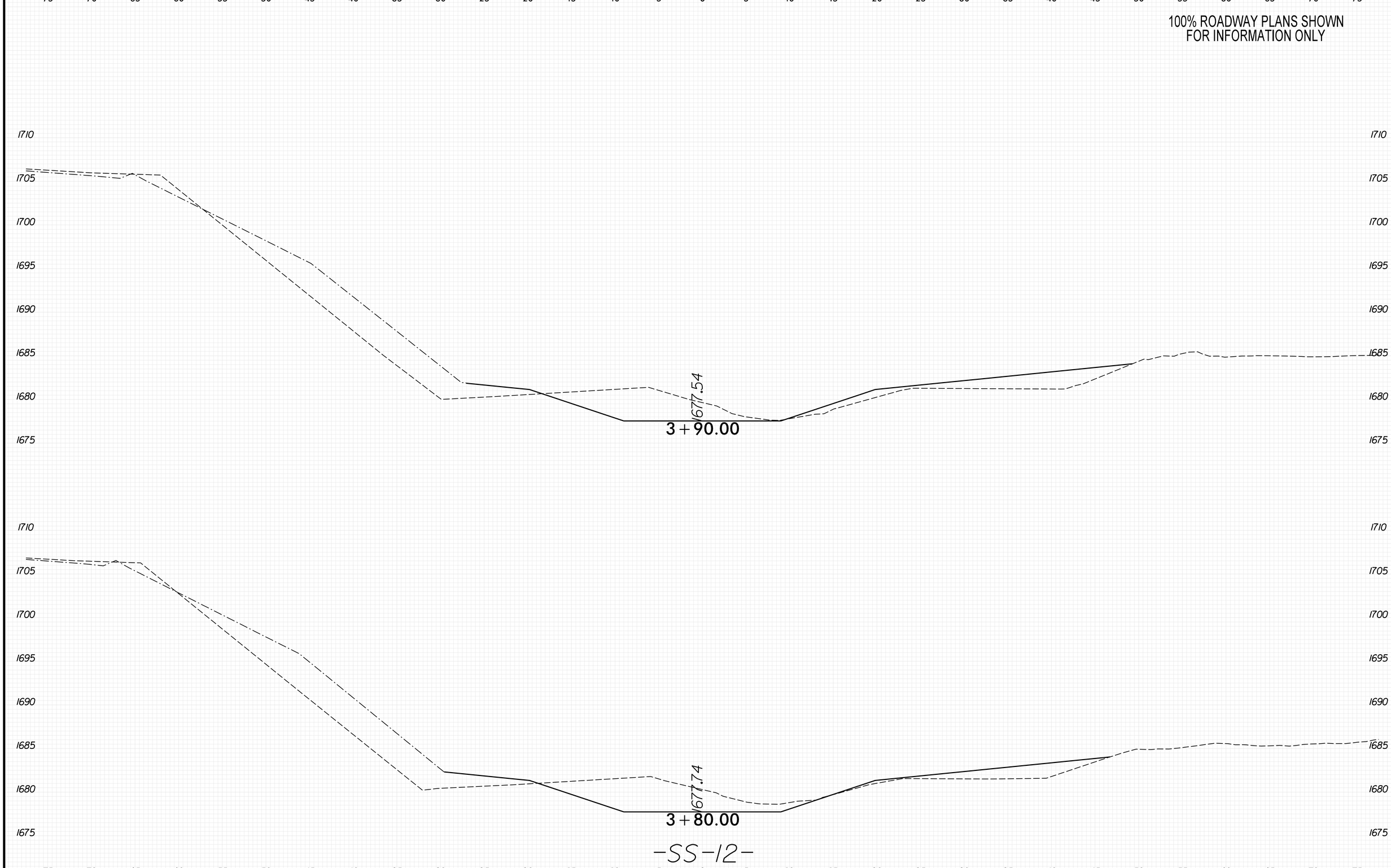
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl.eh_v8.tbl
DATE: 5/29/2026
TIME: 9:11:42 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-304

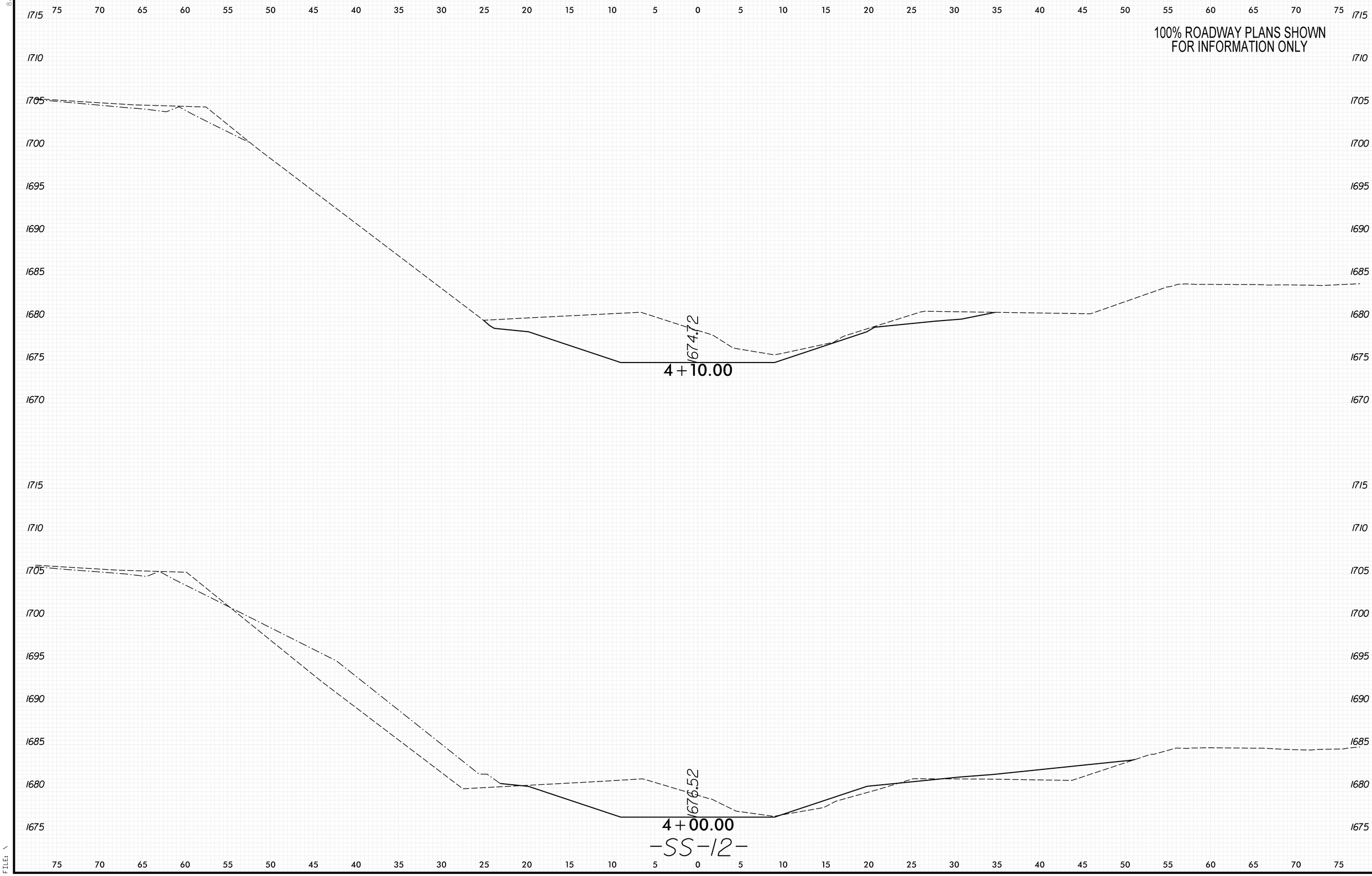
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:11:45 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-305

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



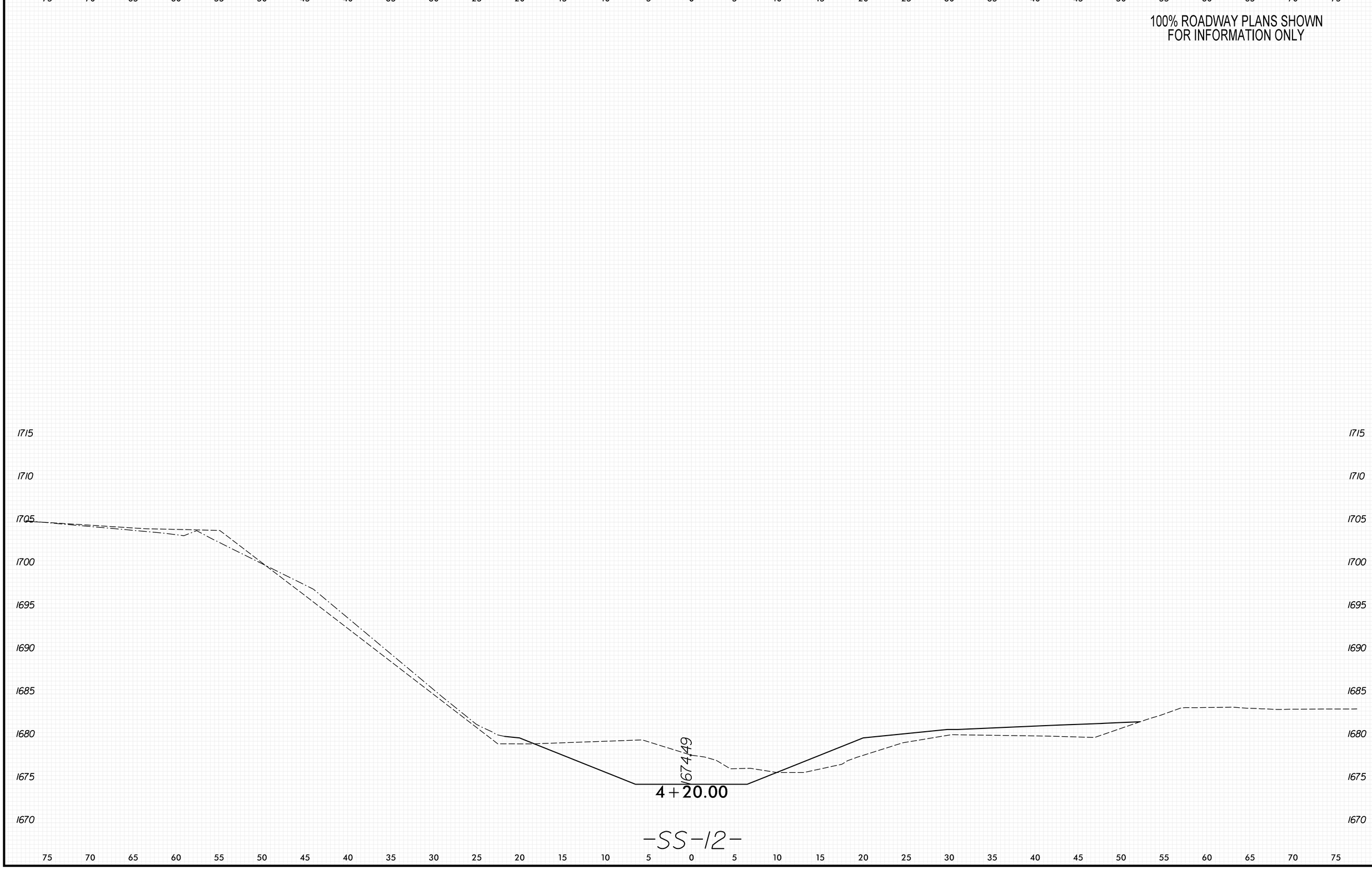
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:11:48 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-306

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

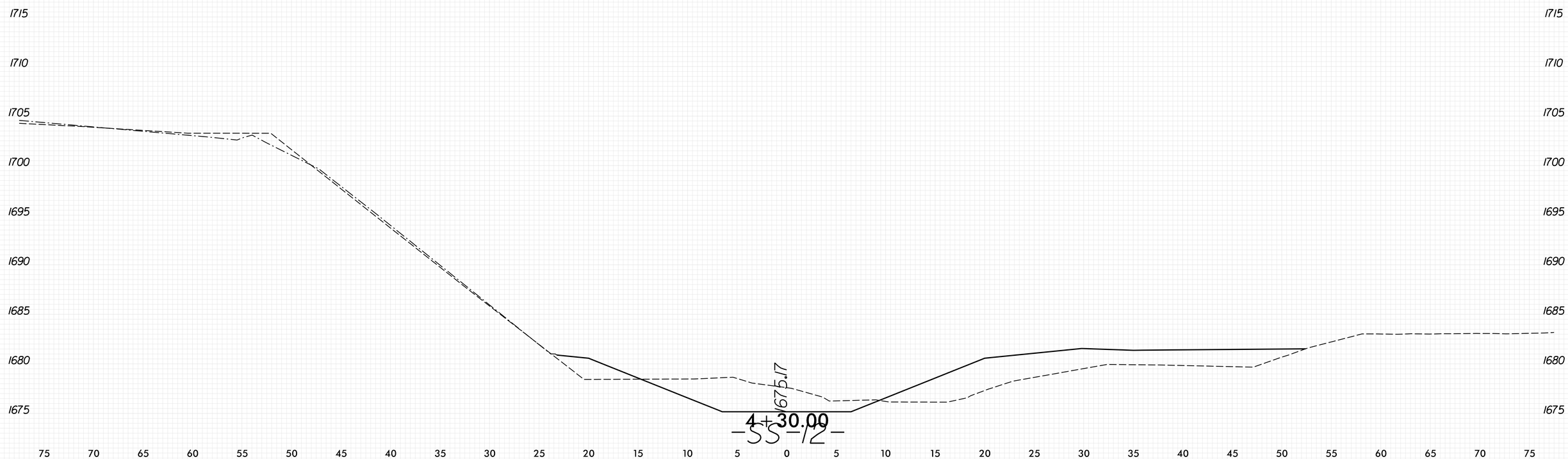
PENTABLE: xpl_eh_v8.tbl
TIME: 9:11:51 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-307

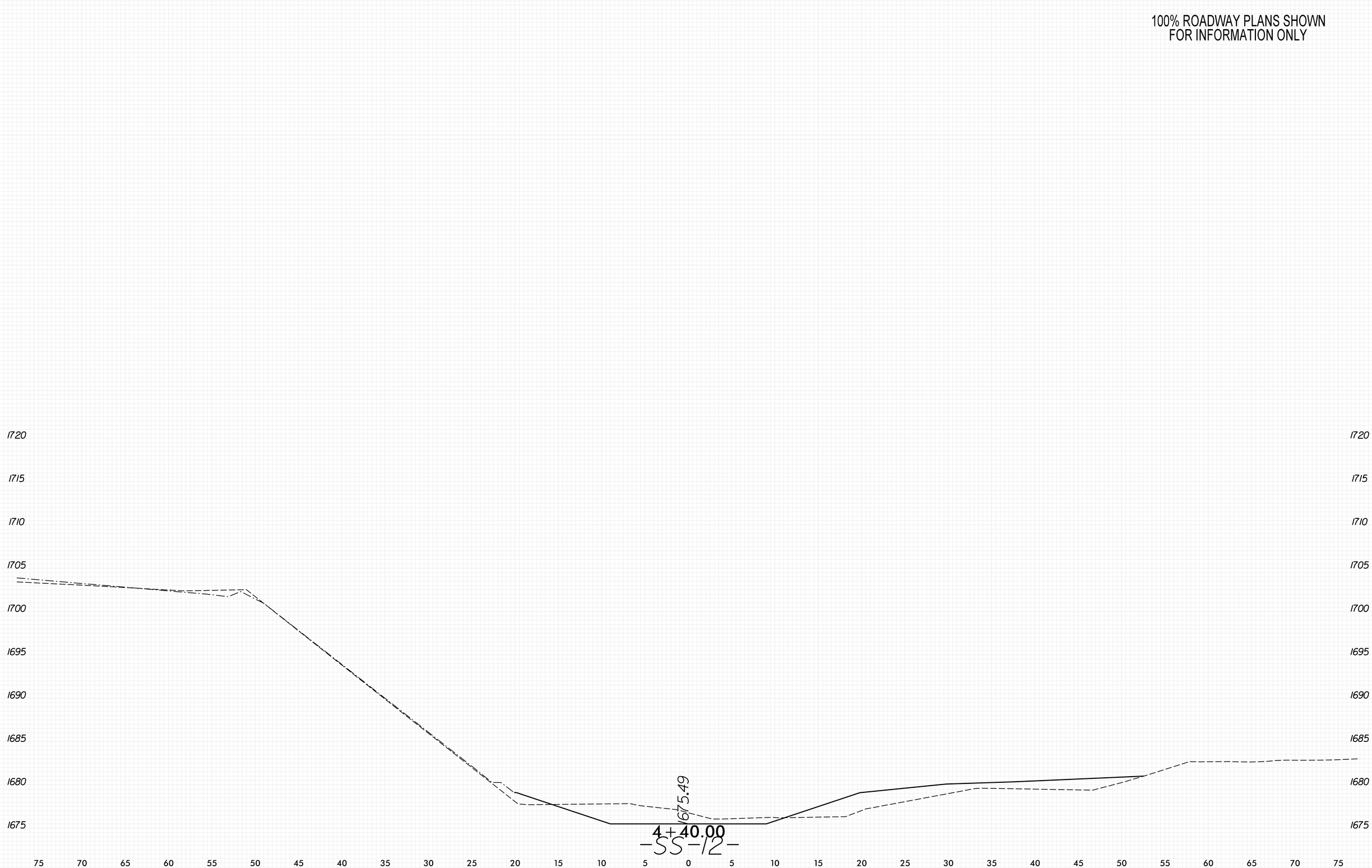
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:11:54 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-308

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

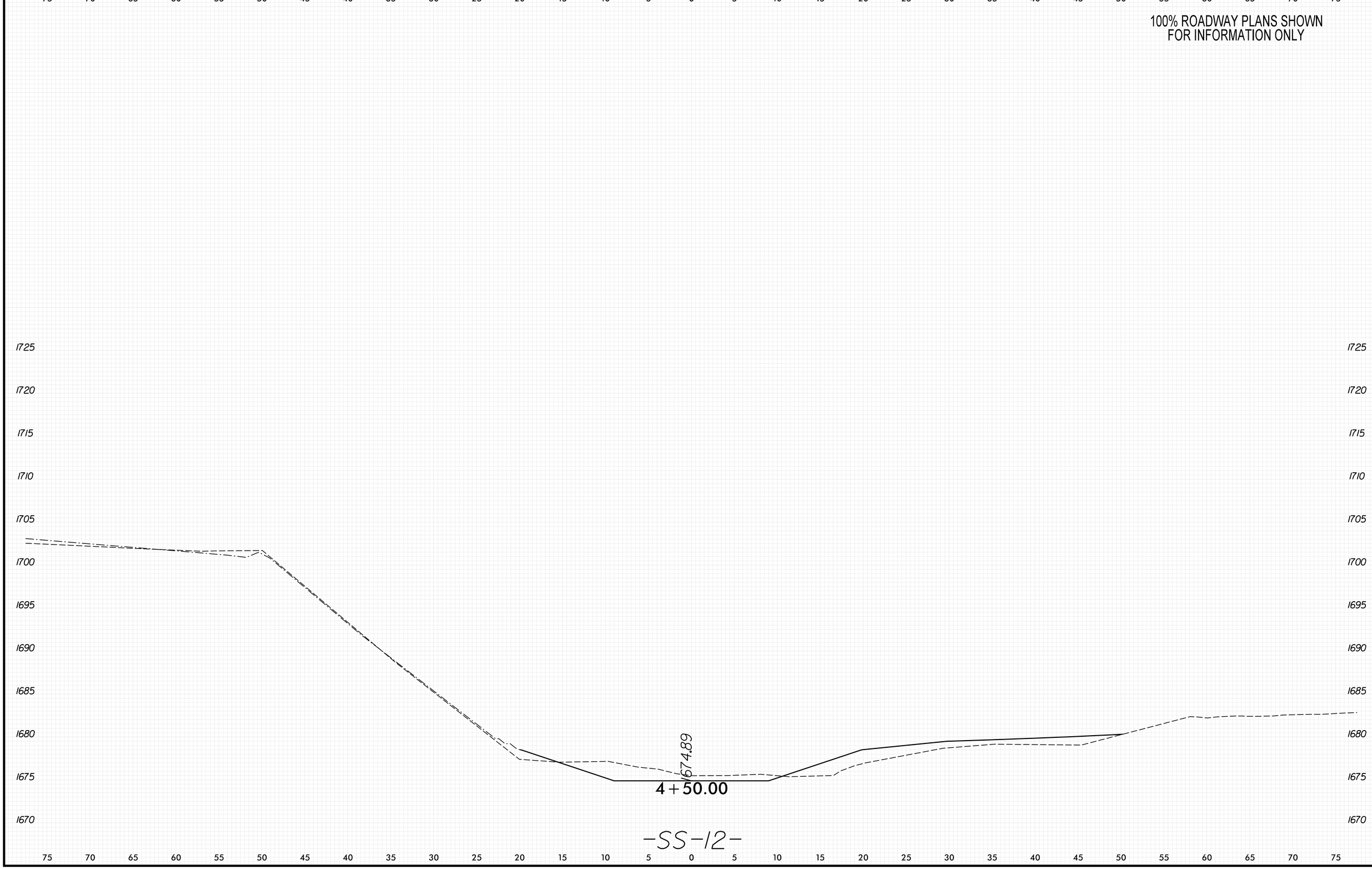
PENTABLE: xpl_eh_v8.tbl
TIME: 9:11:57 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-309

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

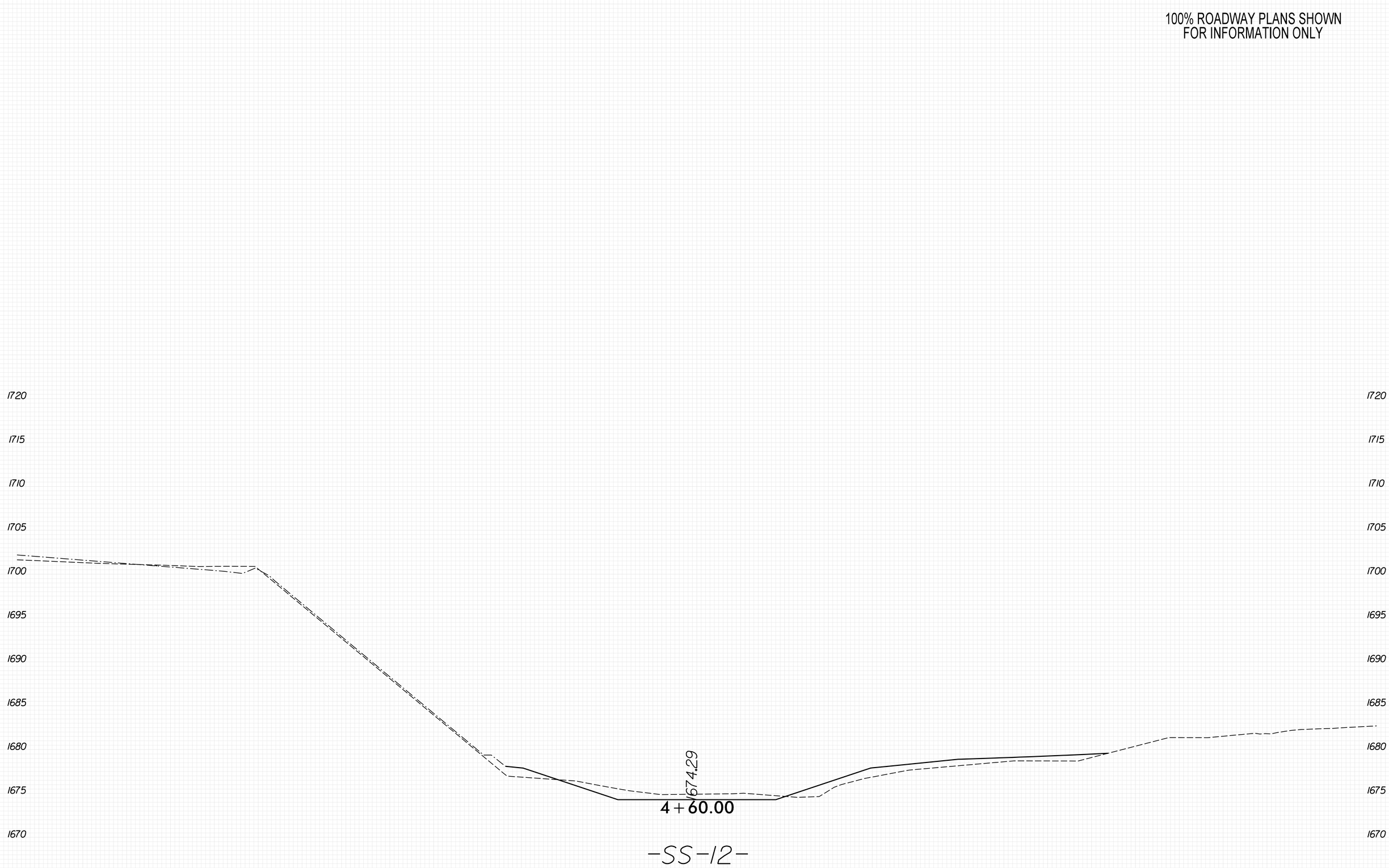


PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:00 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-310

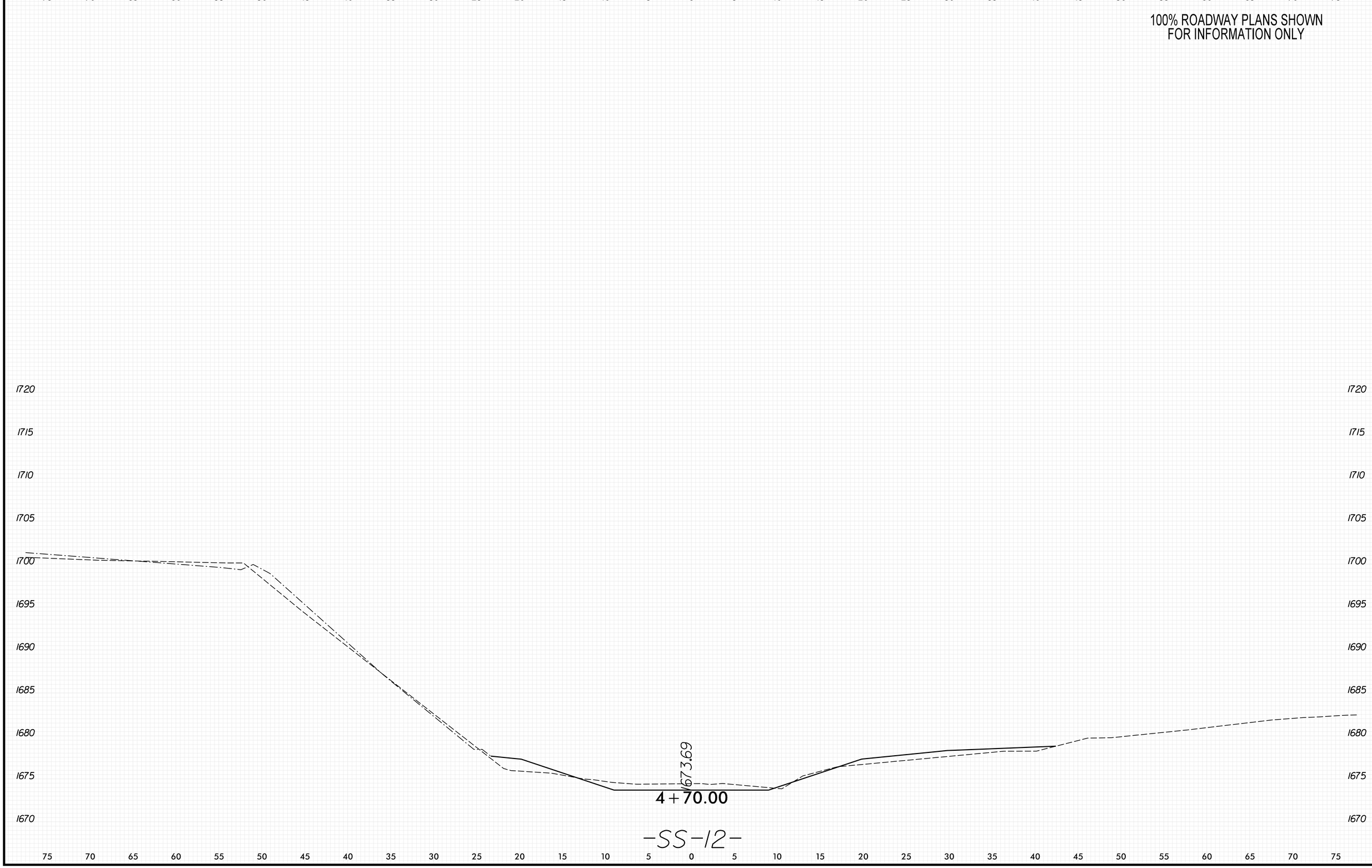
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:03 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-311

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

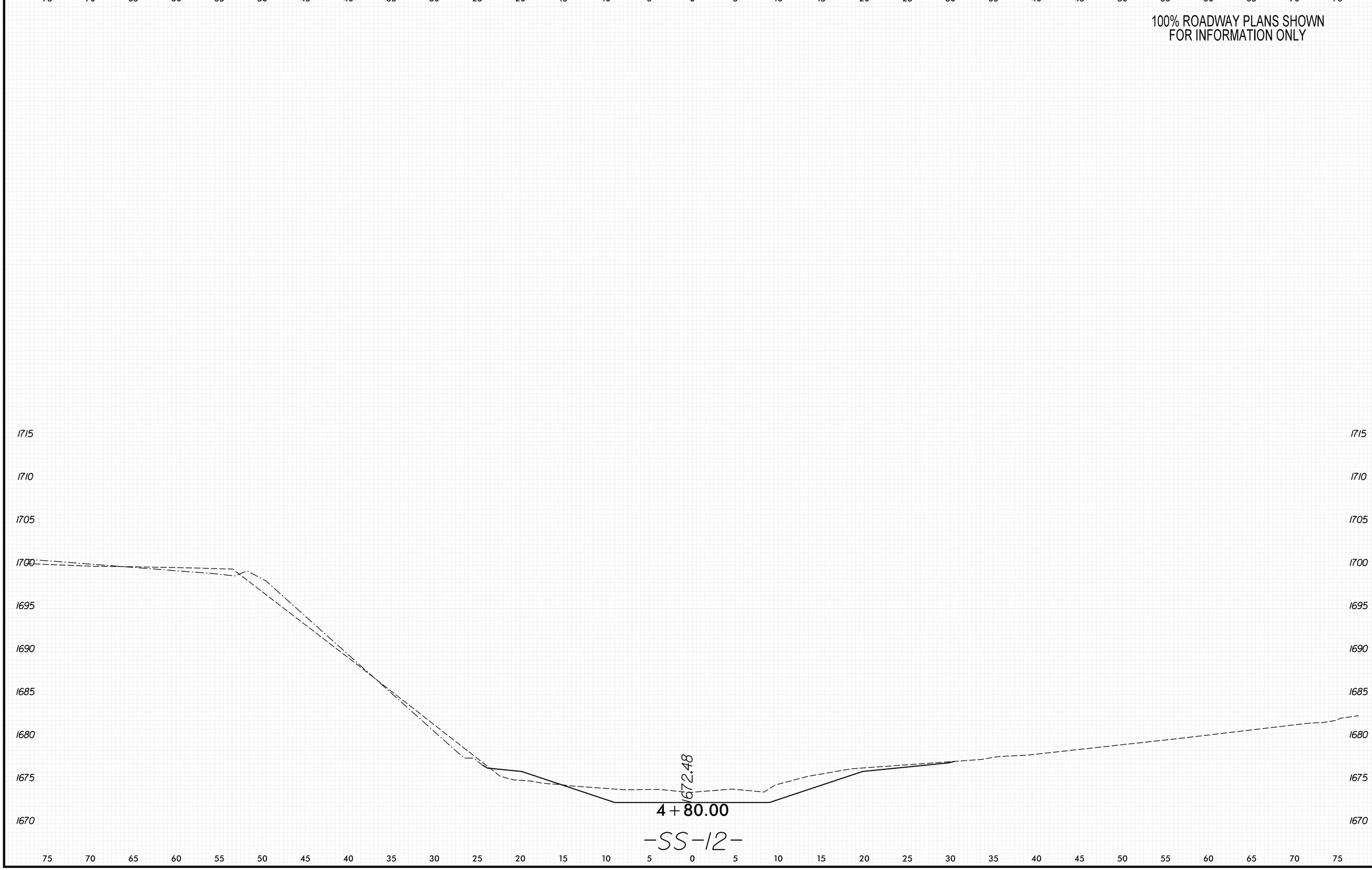
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:06 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-312

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

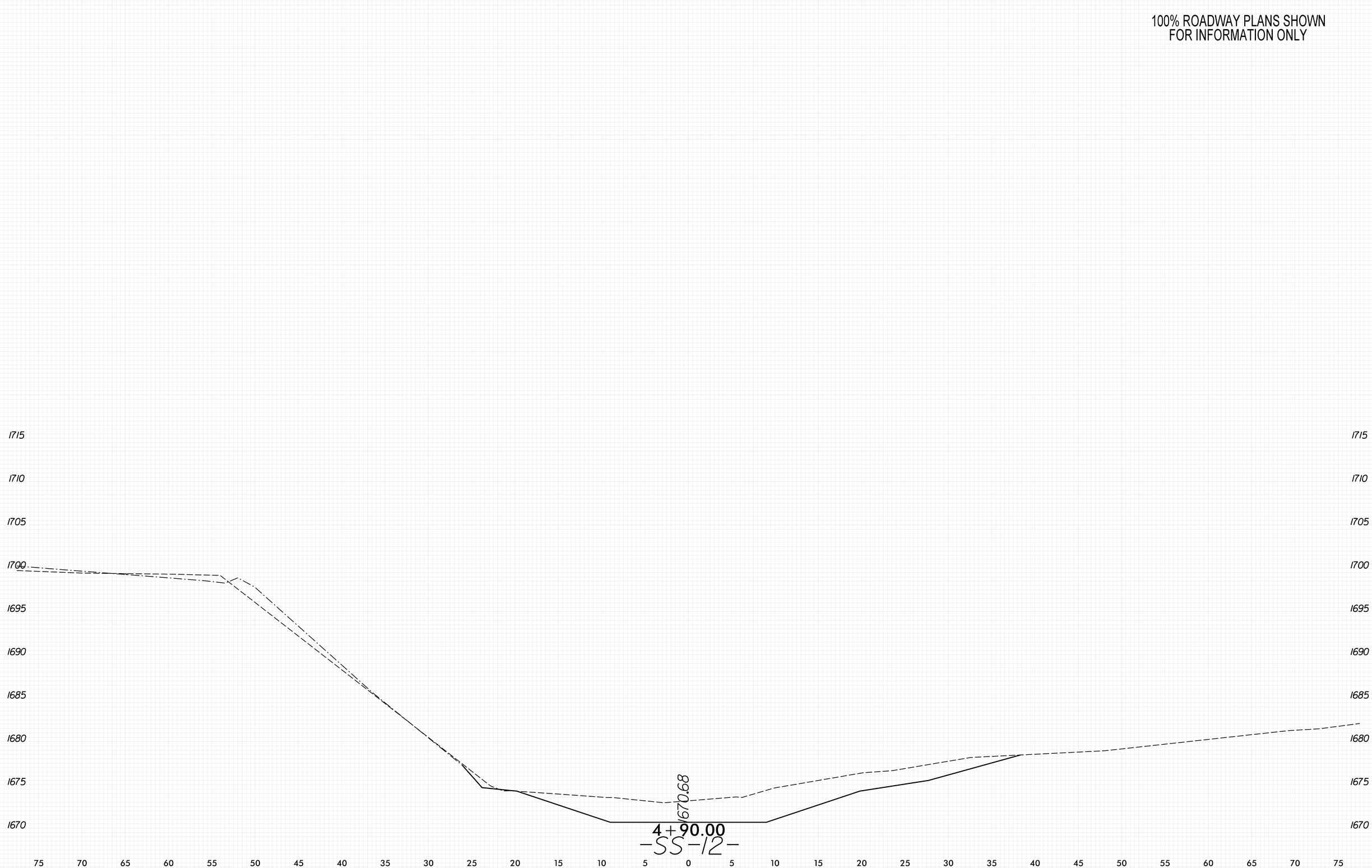
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:09 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-313

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

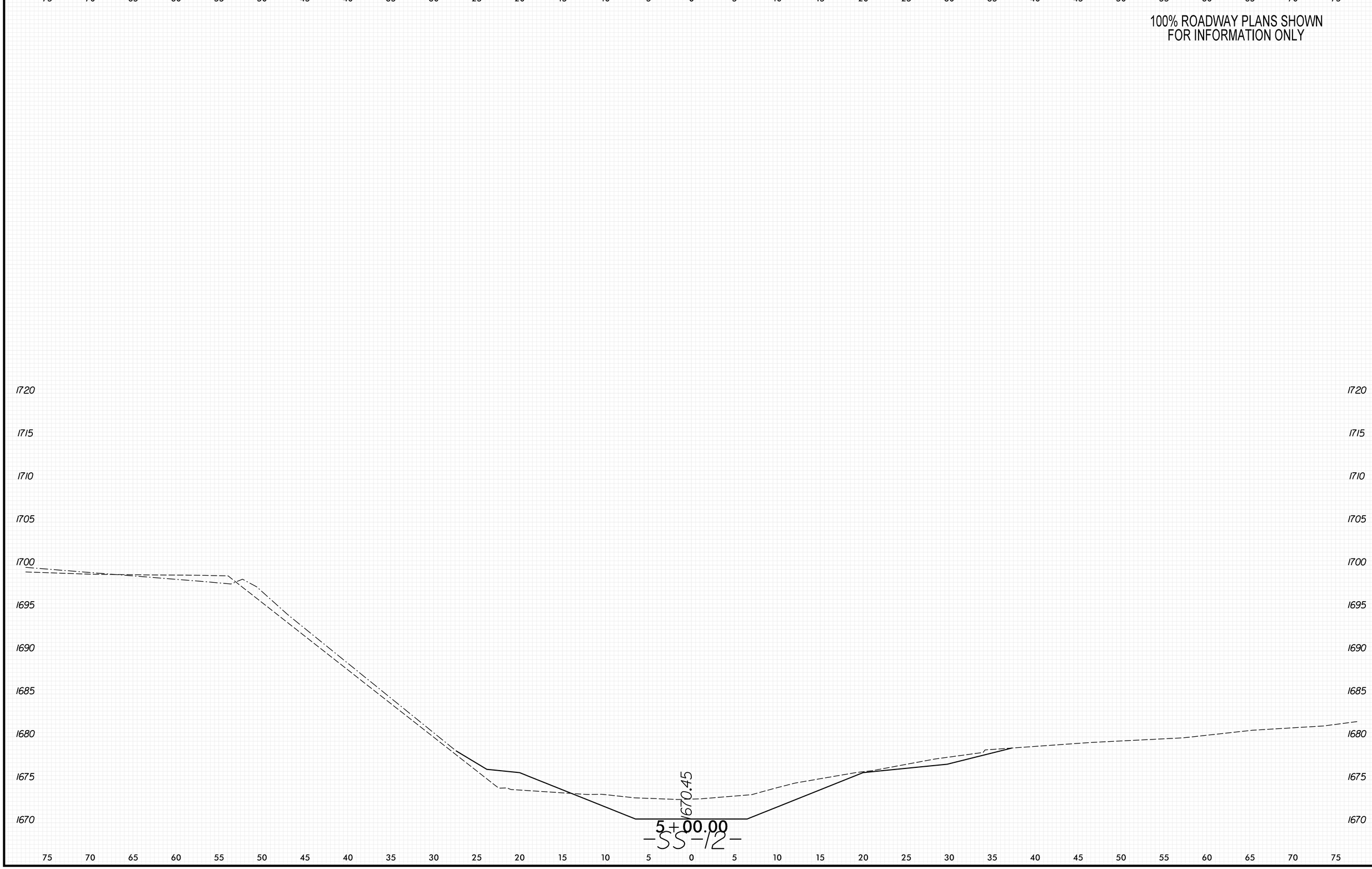
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:11 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-314

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

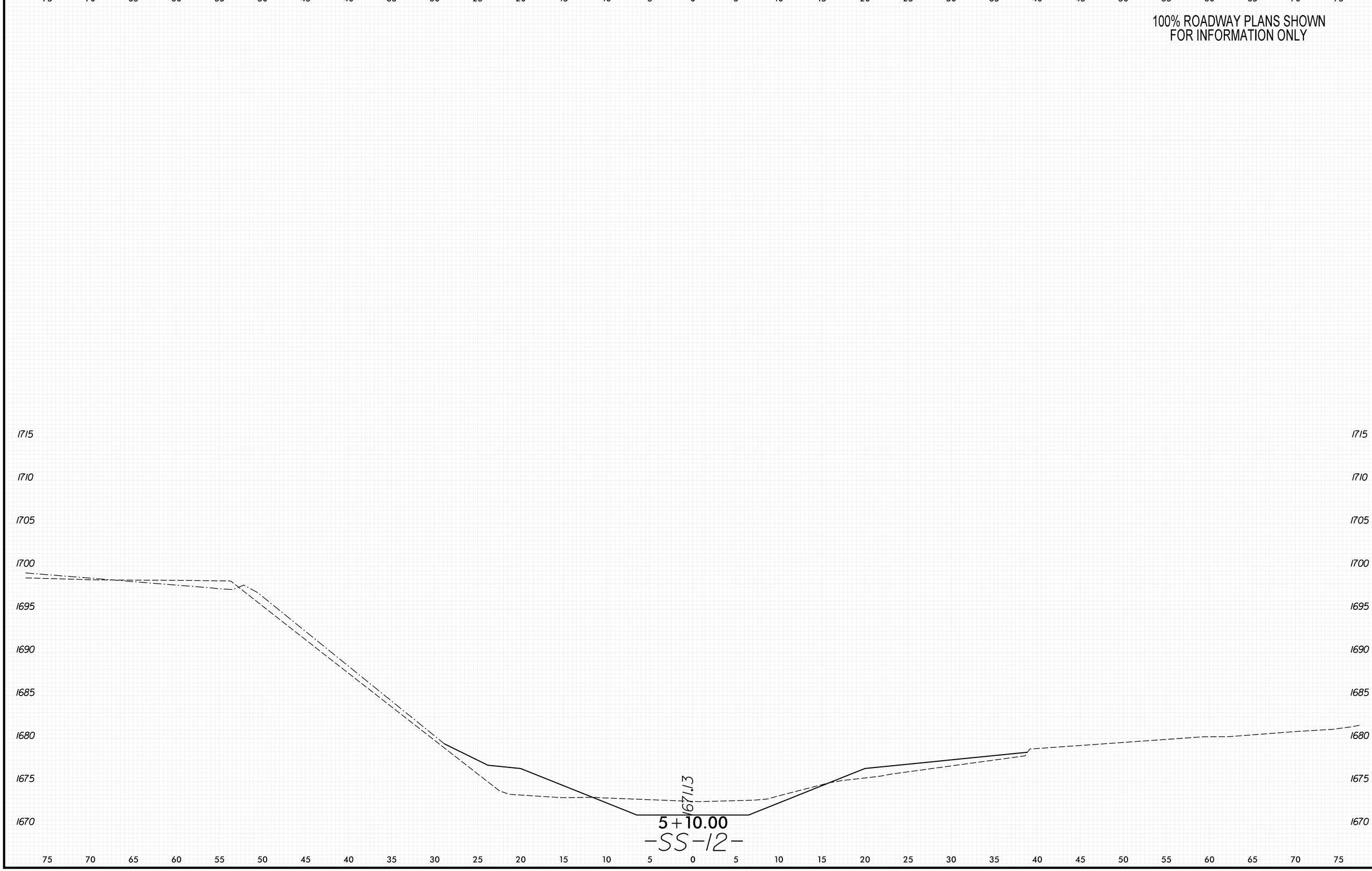


PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:14 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-315

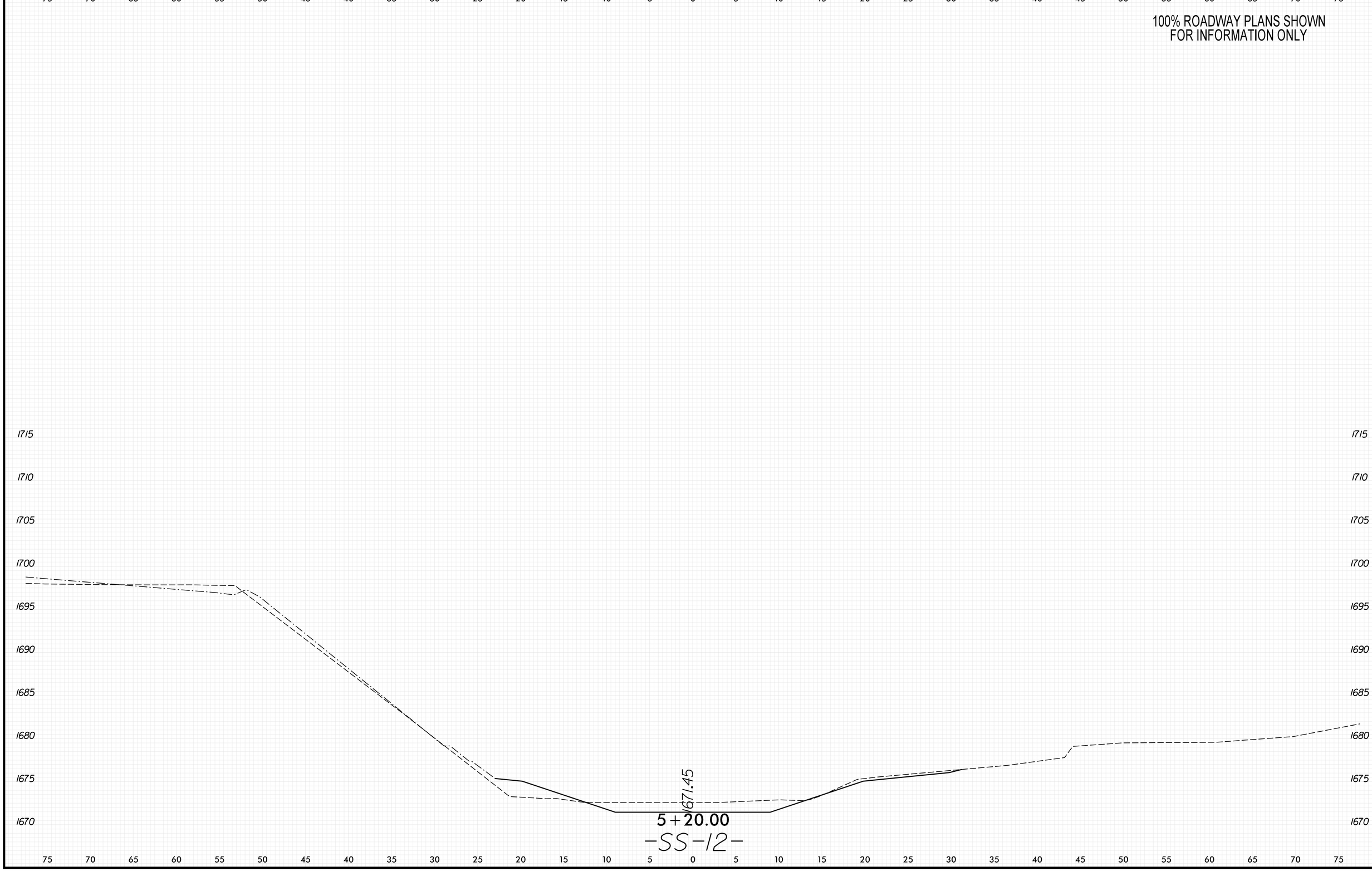
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:17 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-316

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

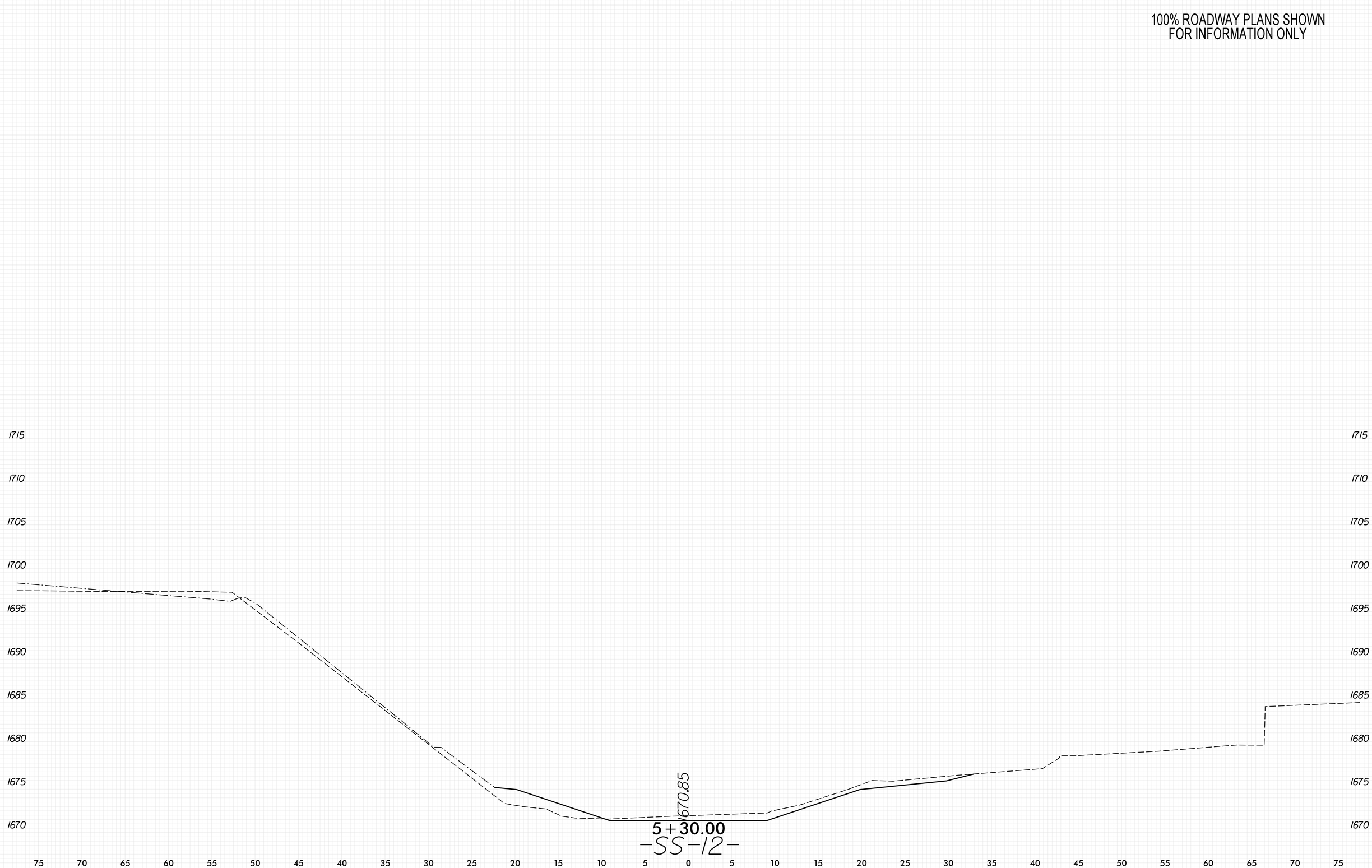
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:20 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-317

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

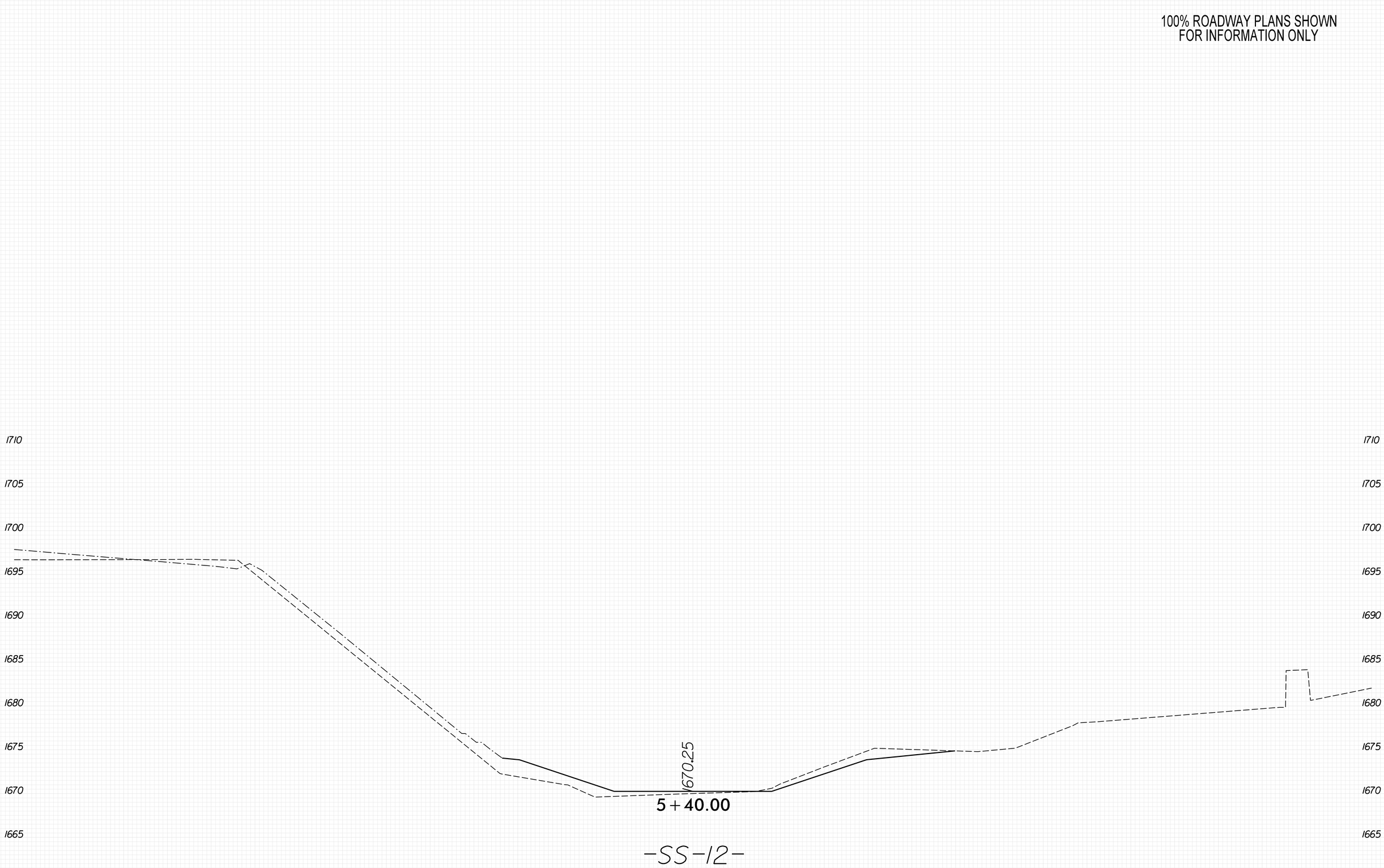
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:24 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-318

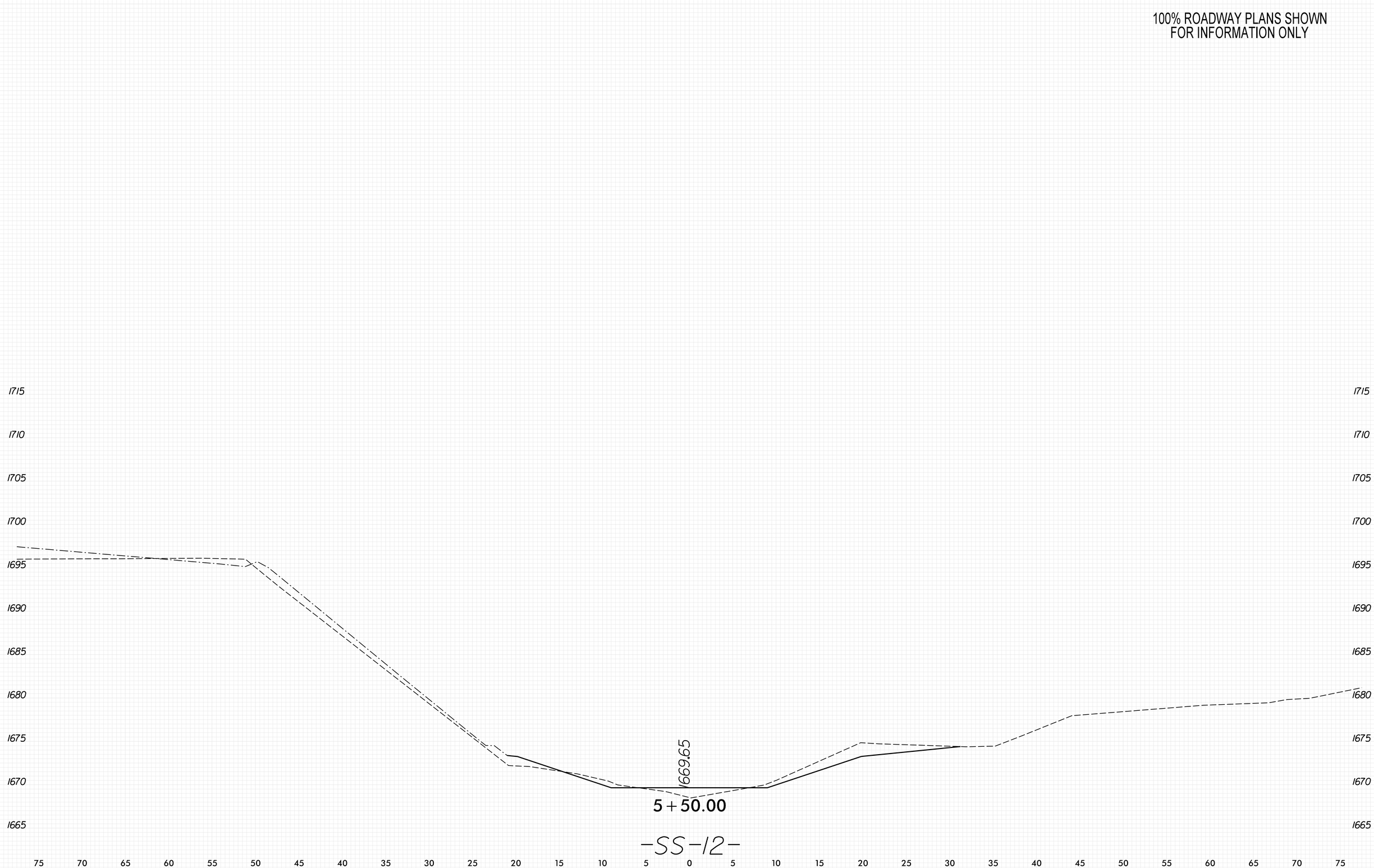
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:28 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-319

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

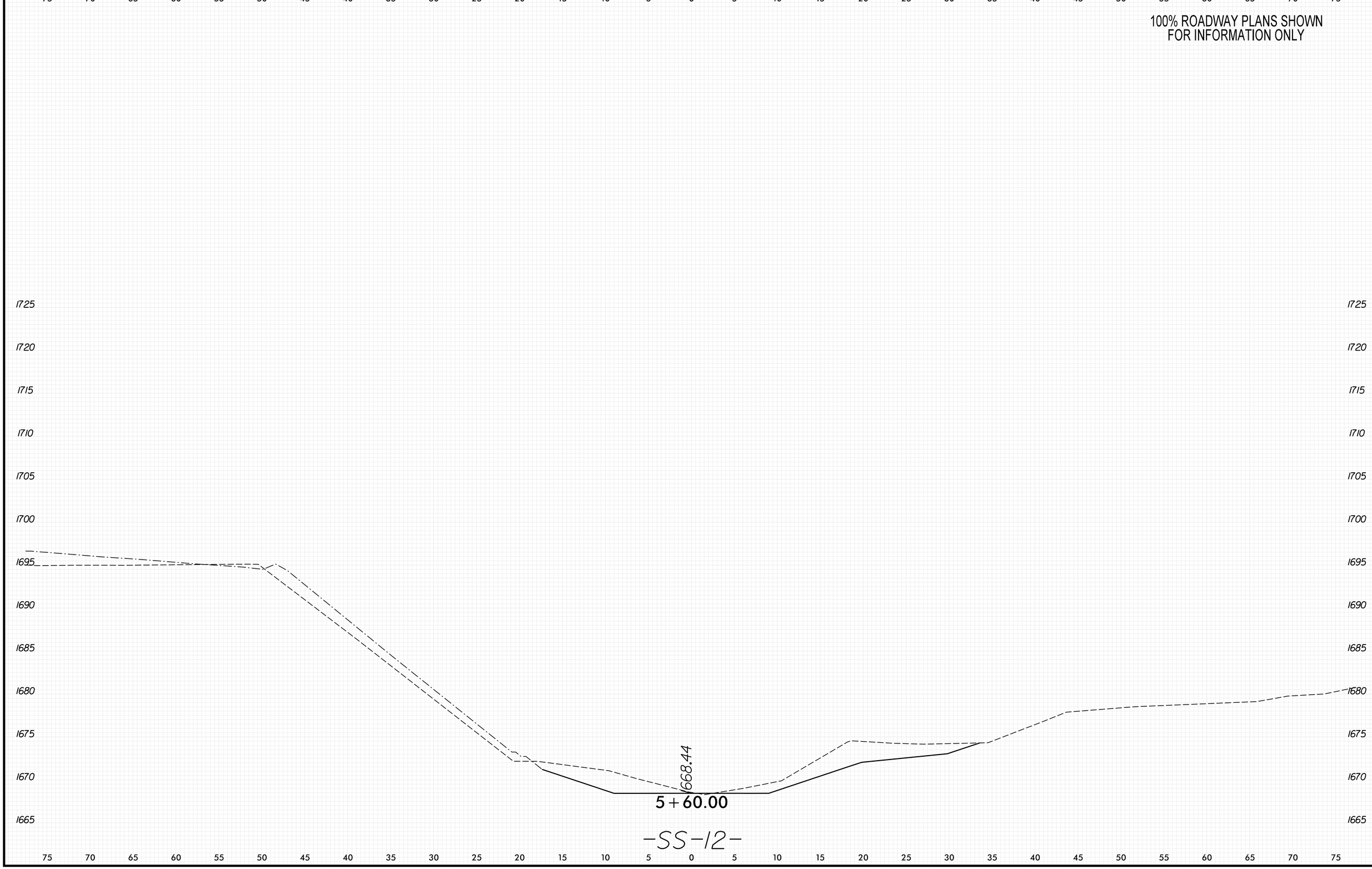
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:34 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-320

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

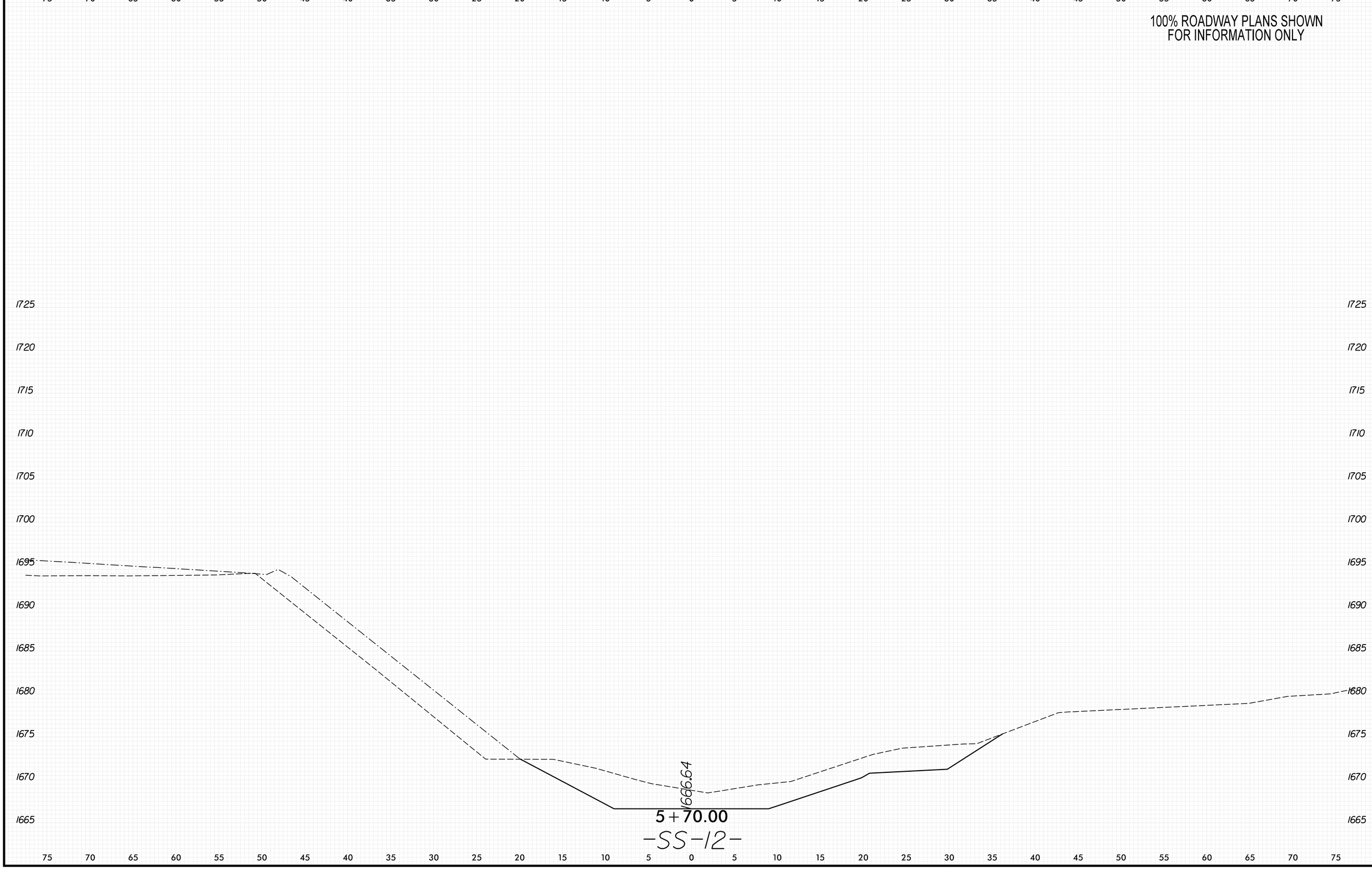
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:39 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-321

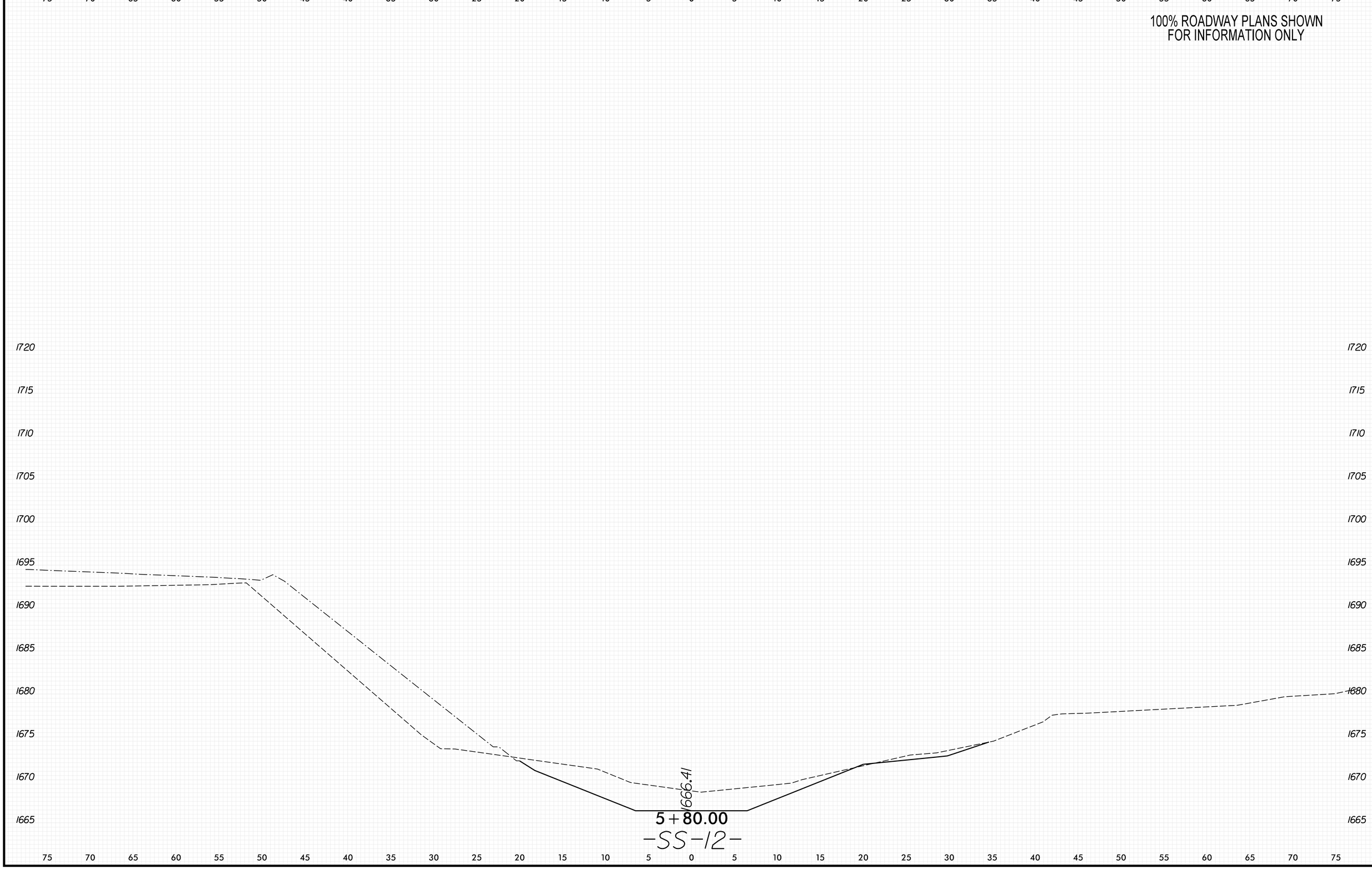
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:43 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-322

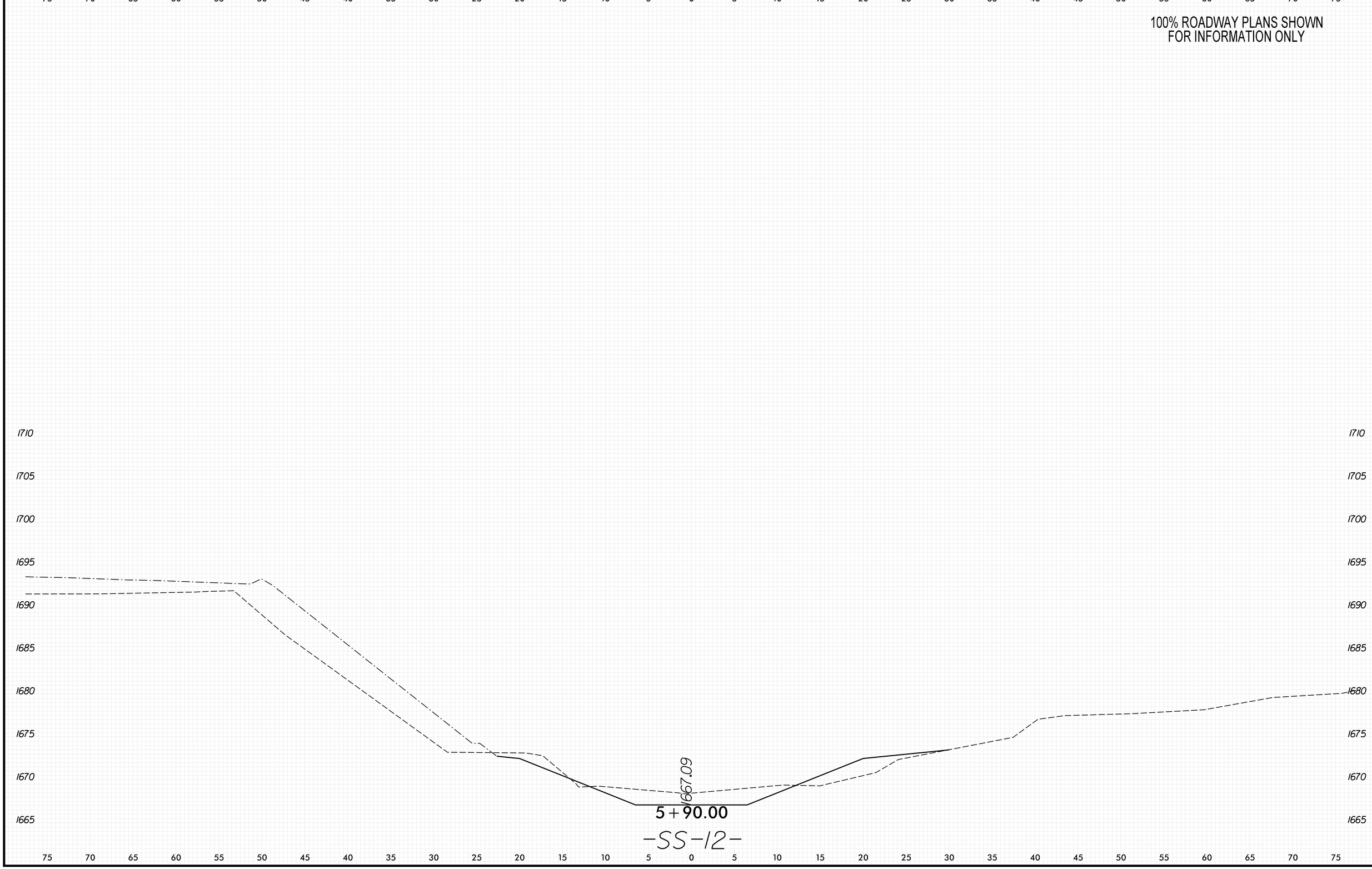
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:47 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-323

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

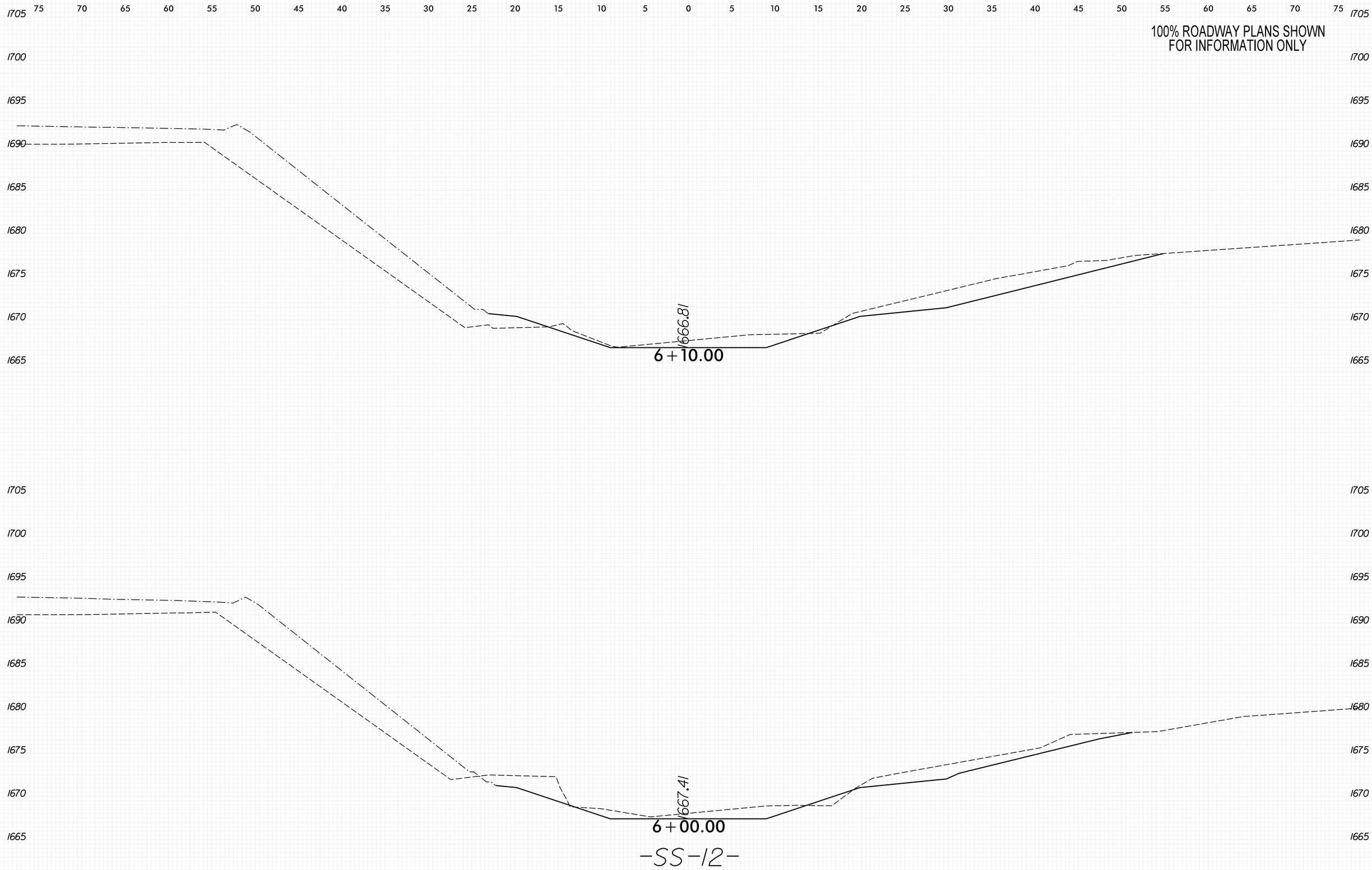
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:51 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-324

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

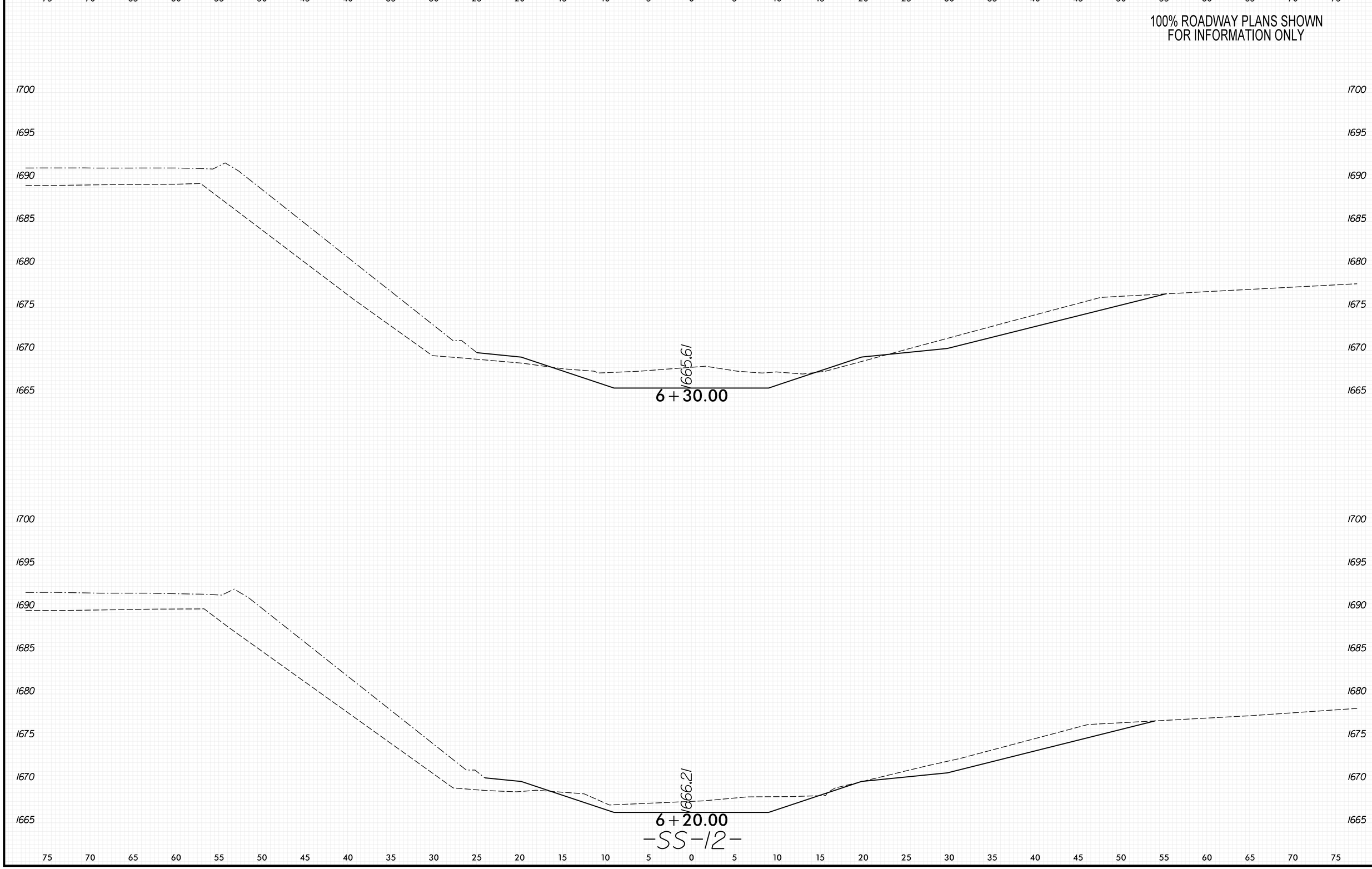
PENTABLE: xpl_eh_v8.tbl
TIME: 9:12:56 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-325

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

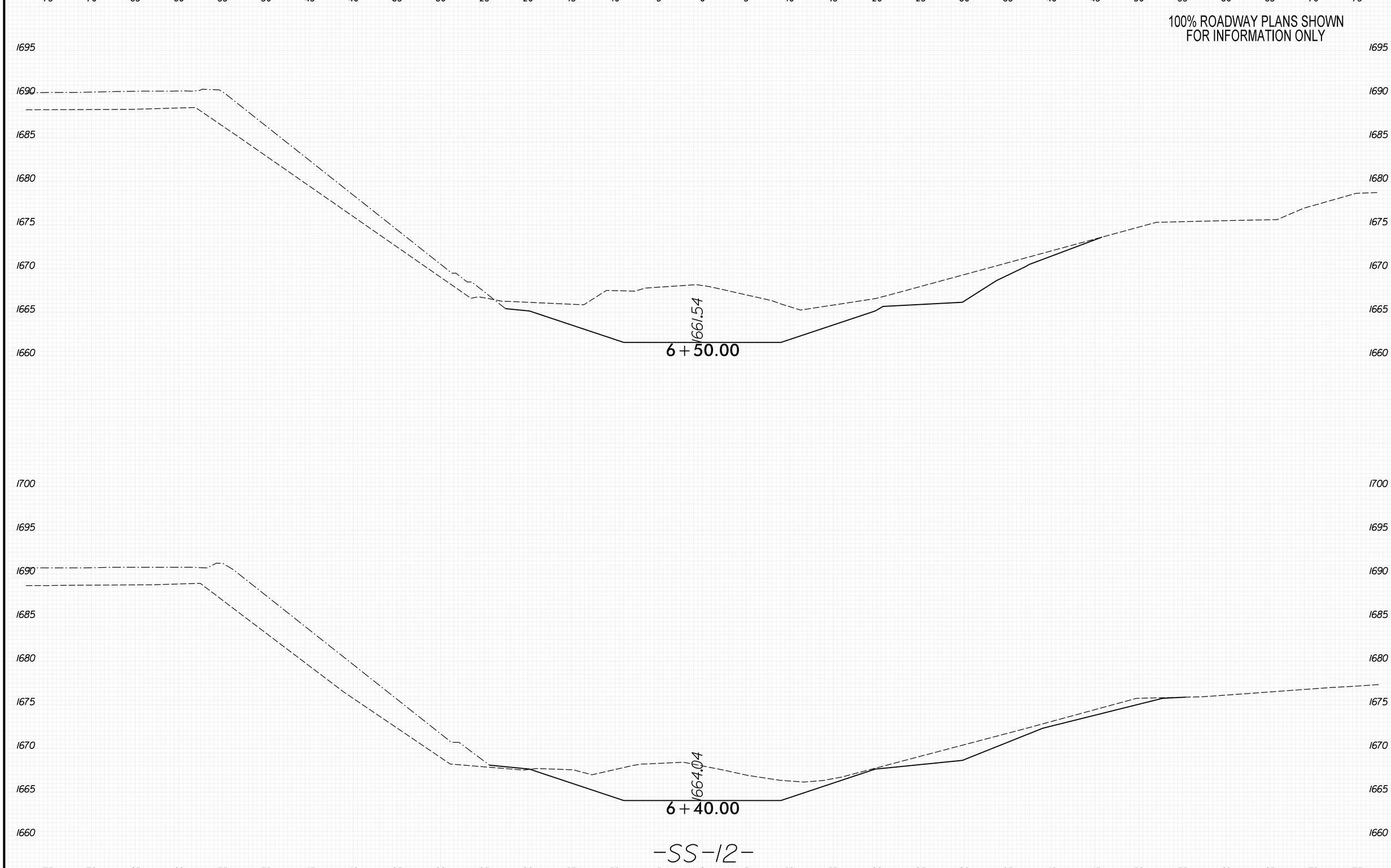
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:00 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-326

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

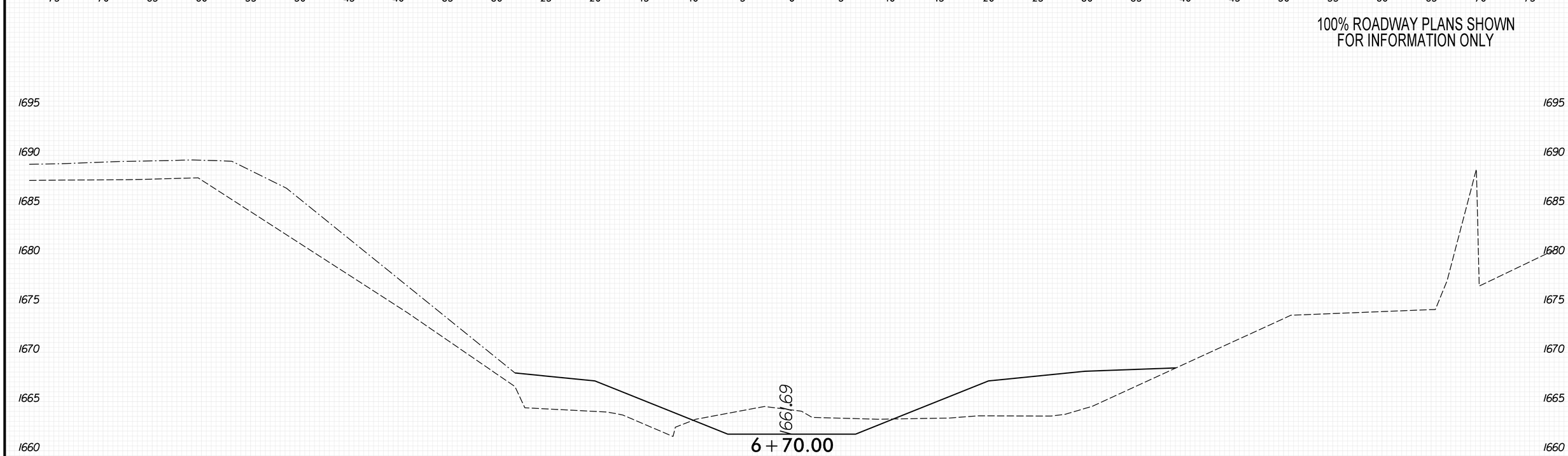
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:04 AM

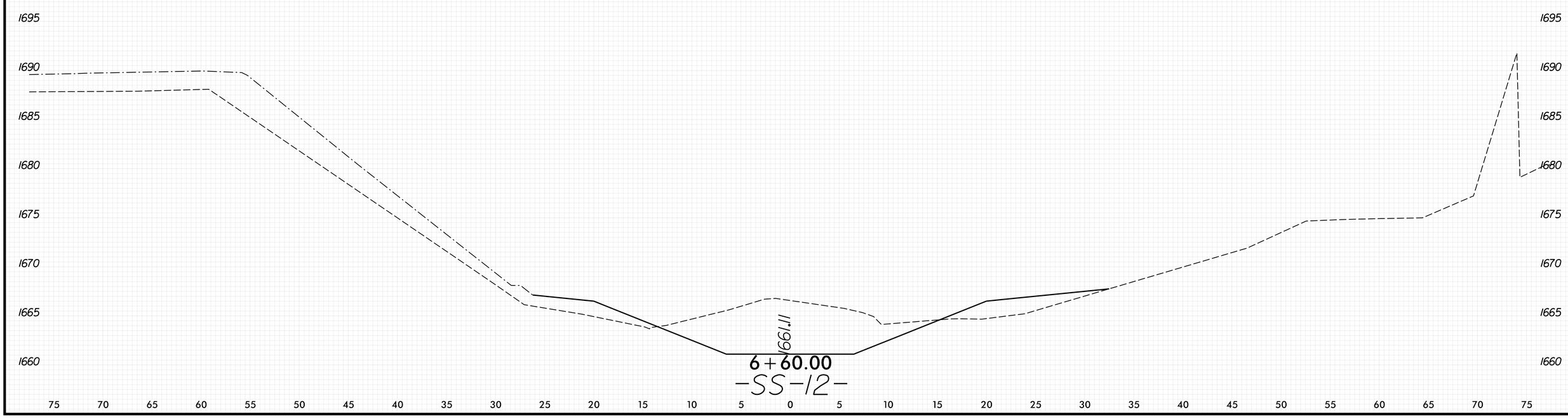
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-327

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





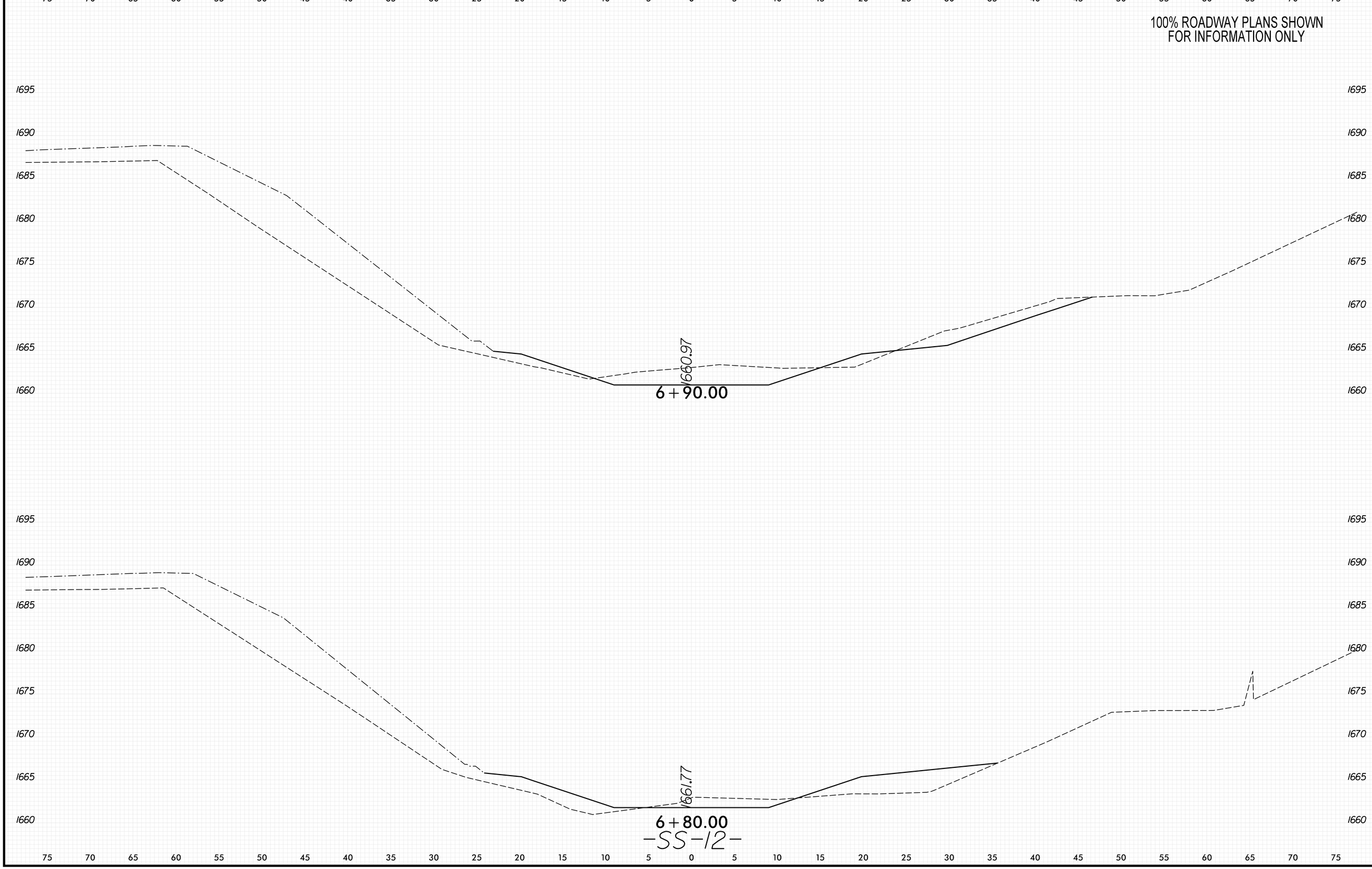
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

DATE: 5/29/2026
TIME: 9:13:10 AM
PENTABLE: xpl_eh_v8.tbl

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-328

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

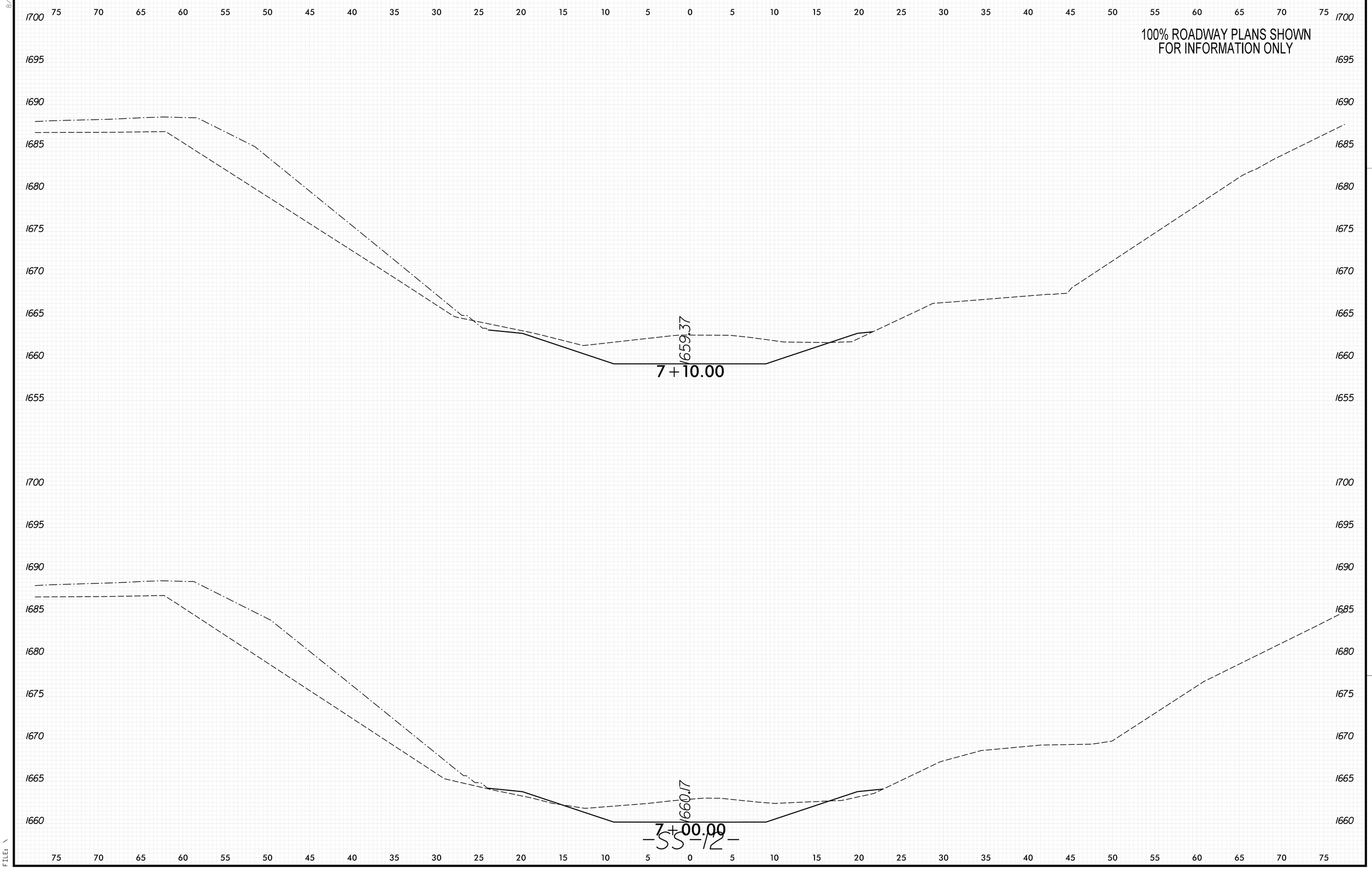
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:15 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-329

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-12-

8/23/99

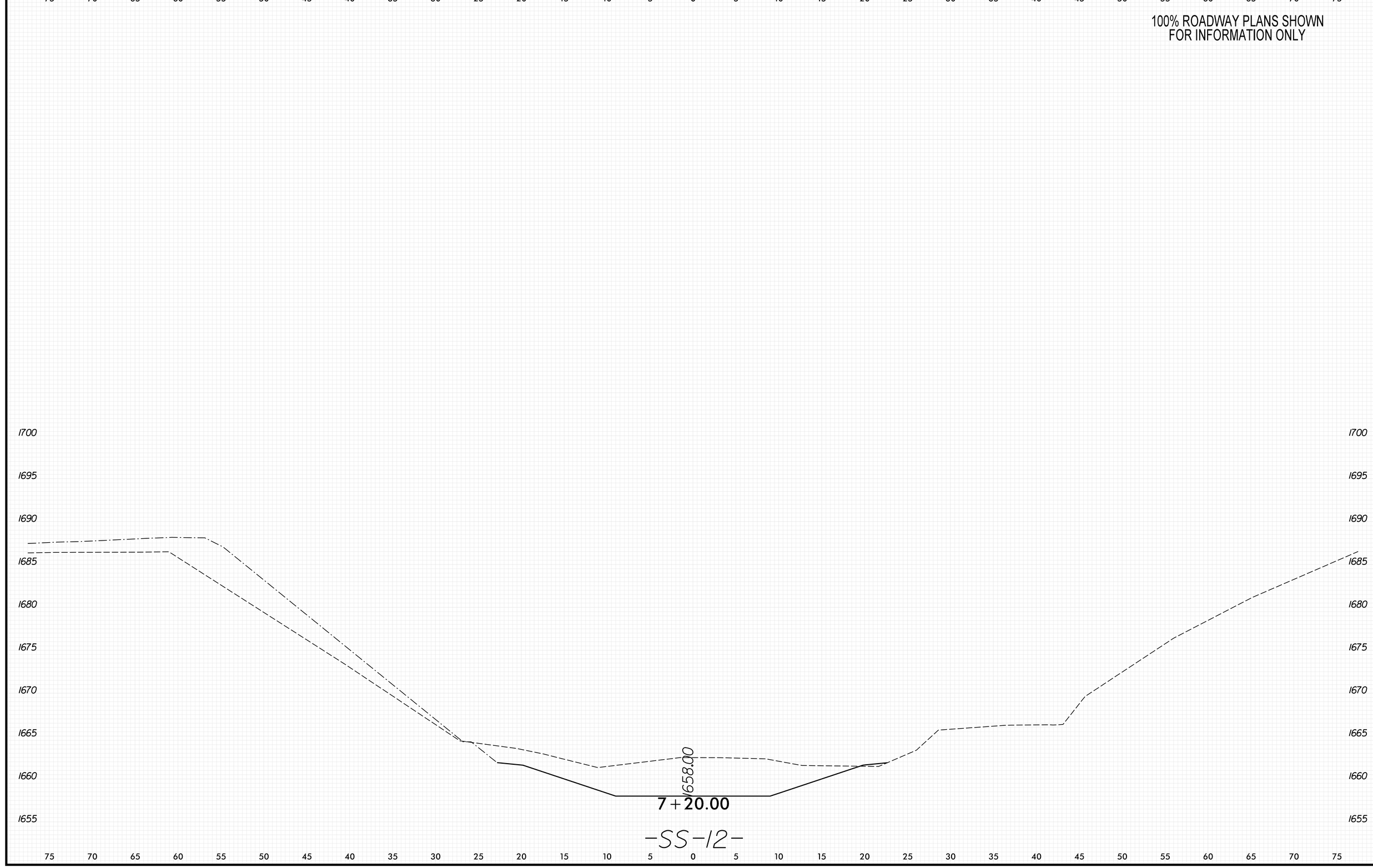
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:20 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-330

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

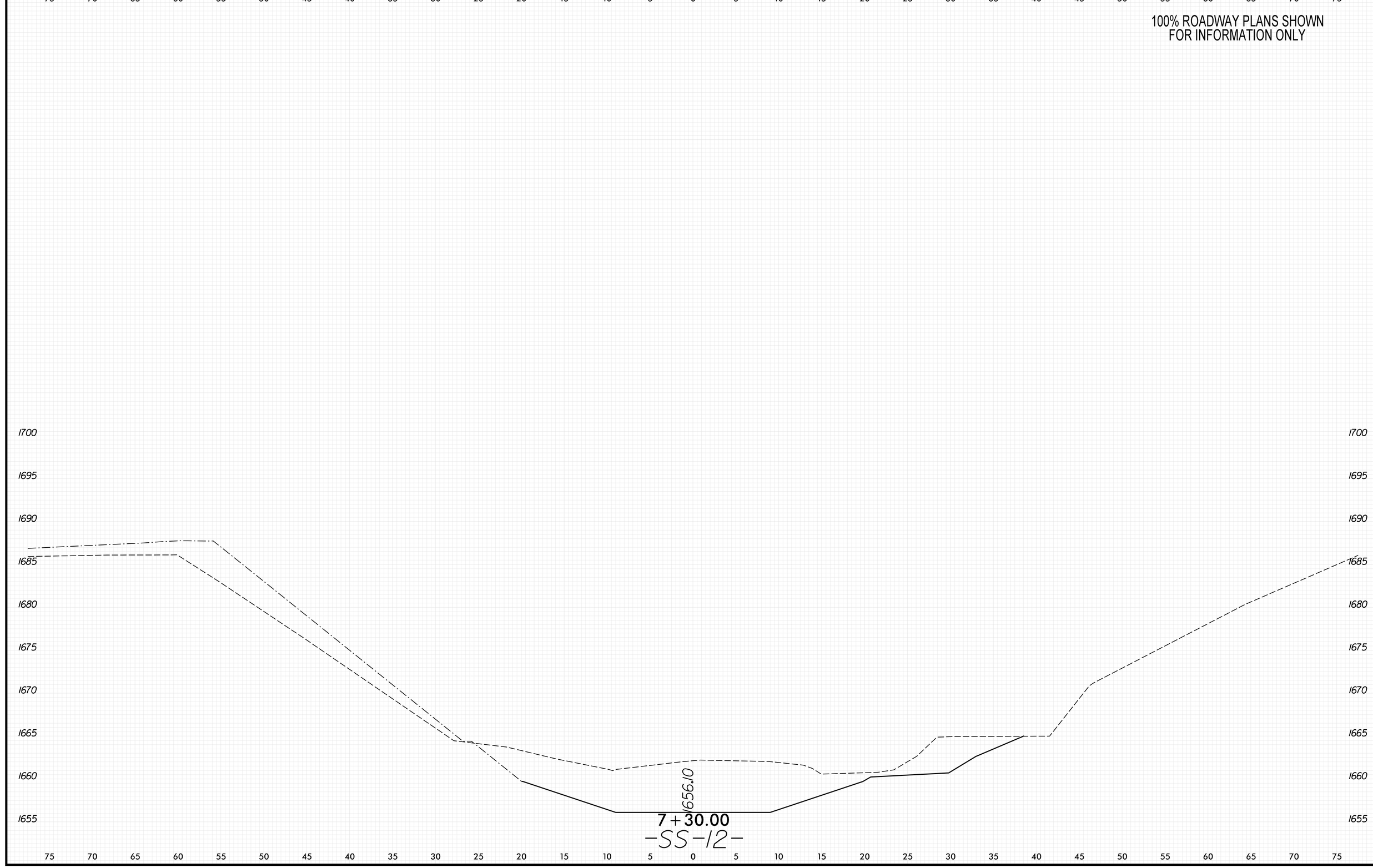
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:27 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-331

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

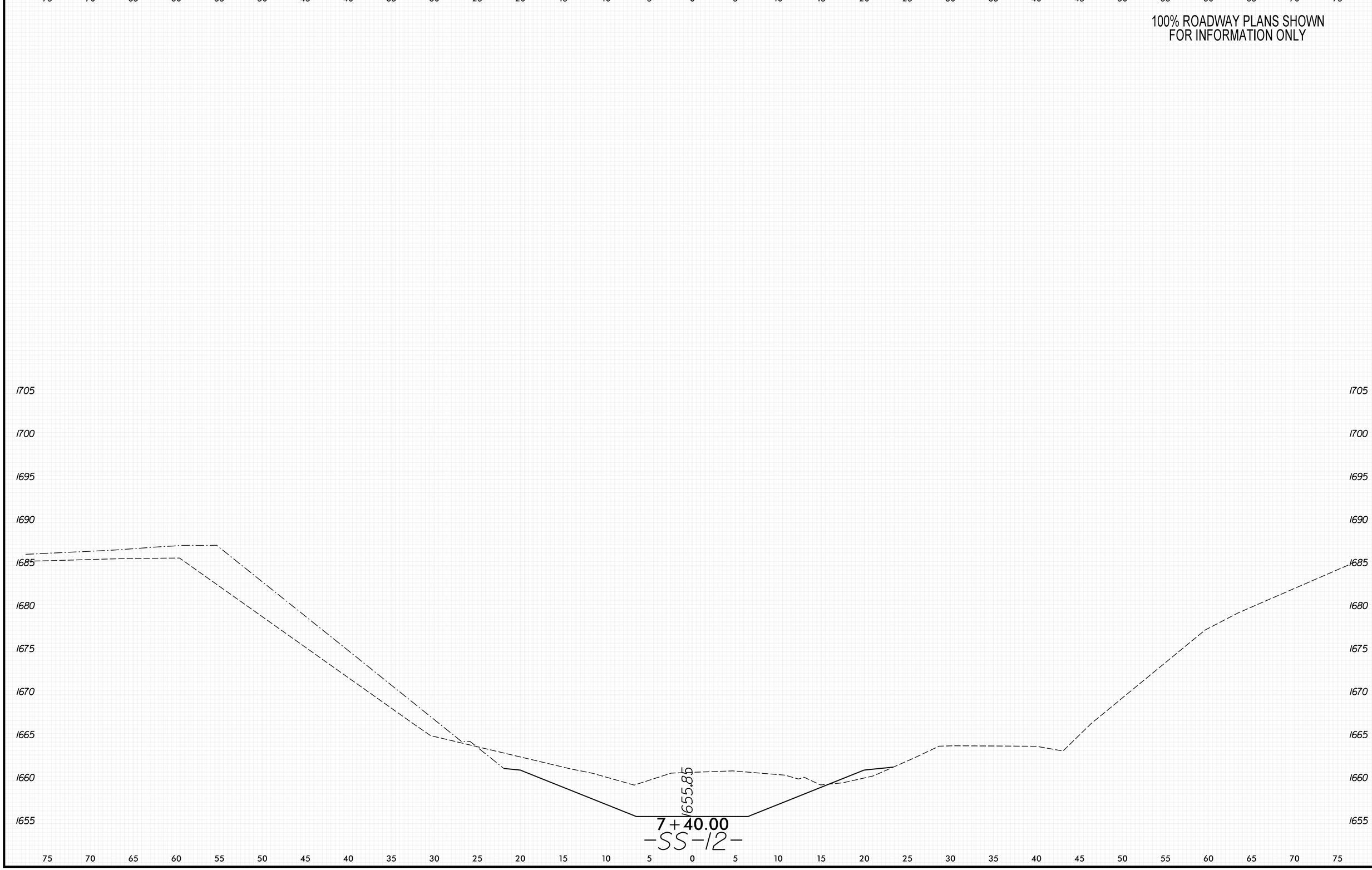
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:34 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-332

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

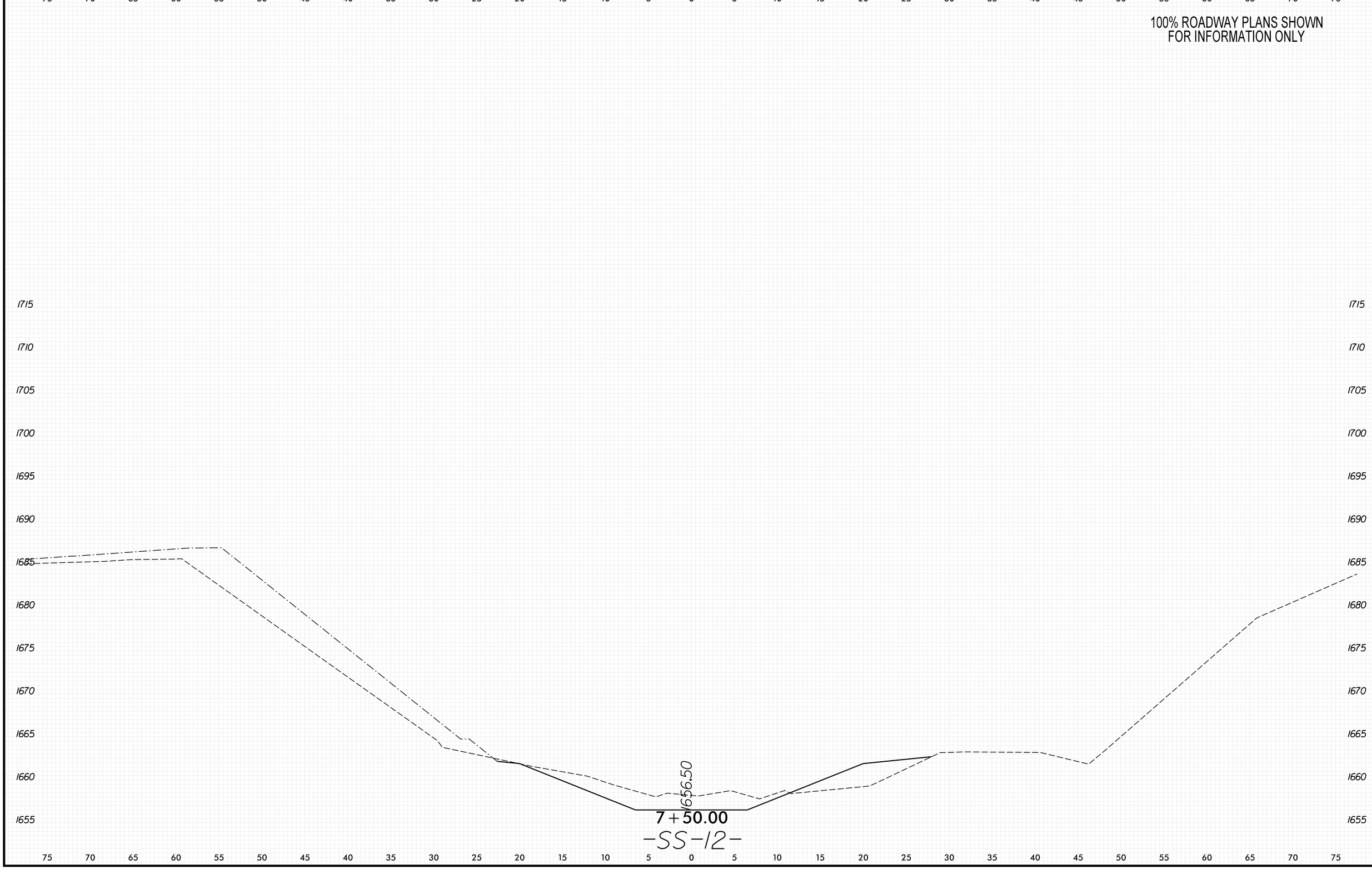
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:41 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-333

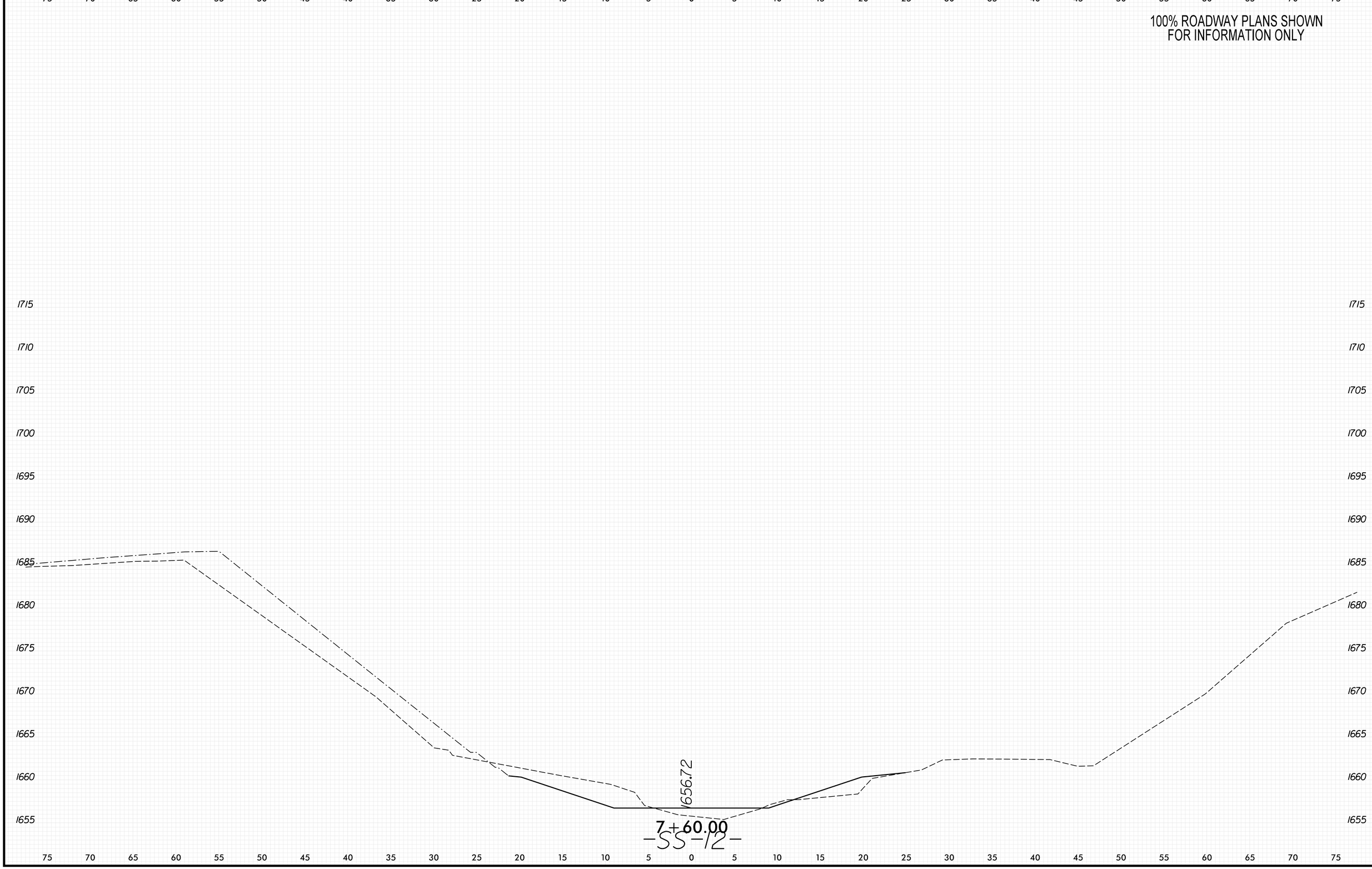
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:48 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-334

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

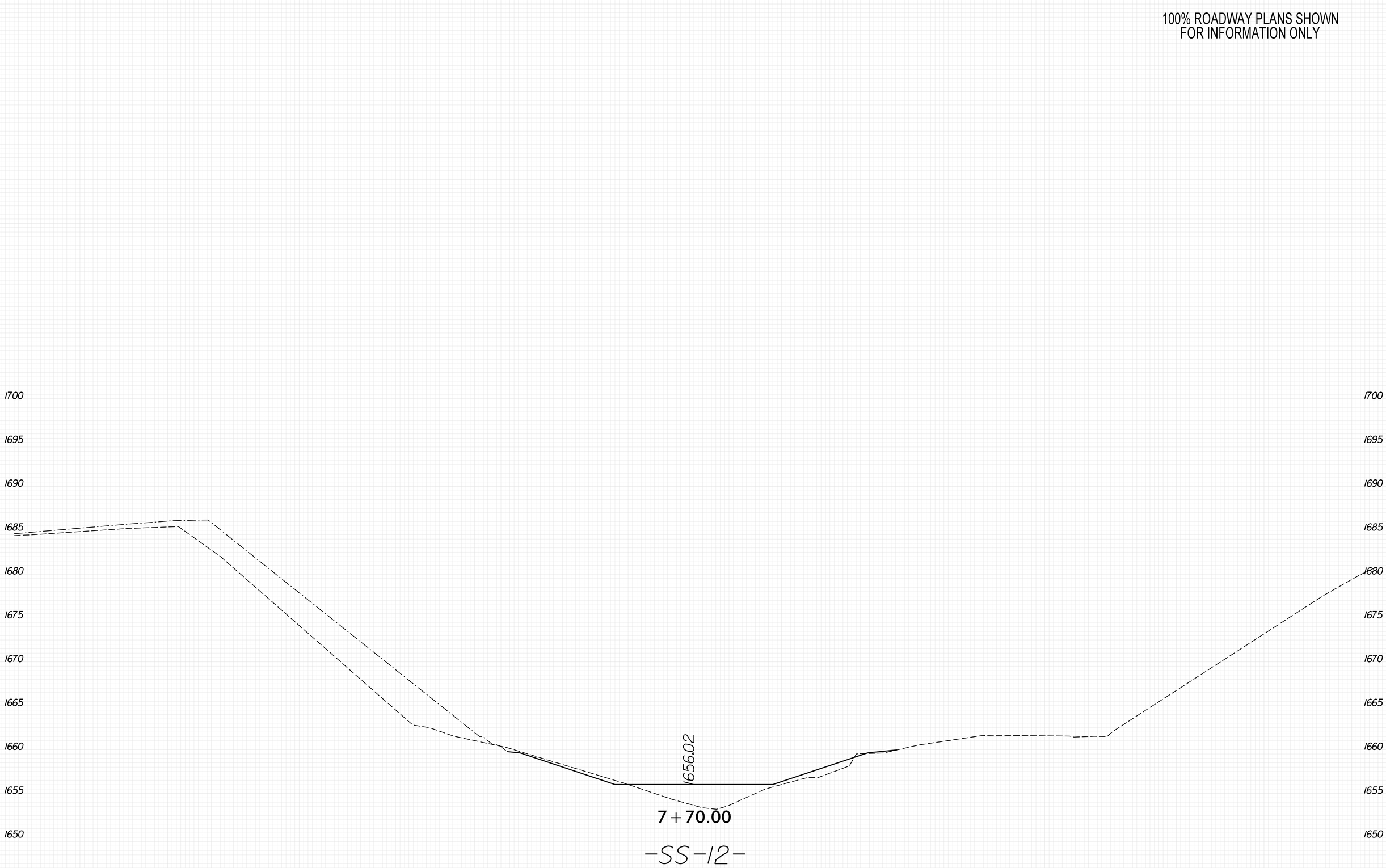
PENTABLE: xpl_eh_v8.tbl
TIME: 9:13:55 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-335

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

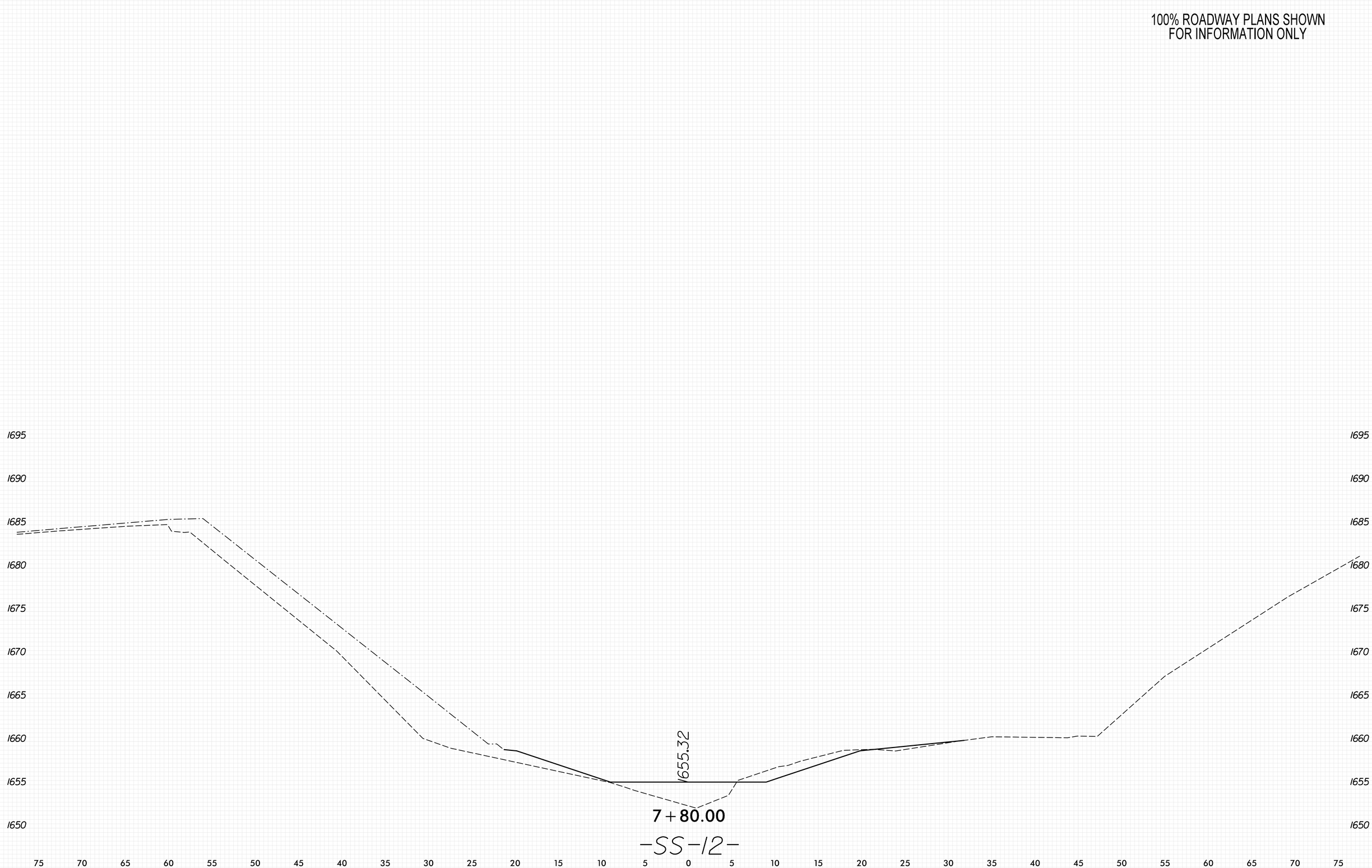


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:01 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-336

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

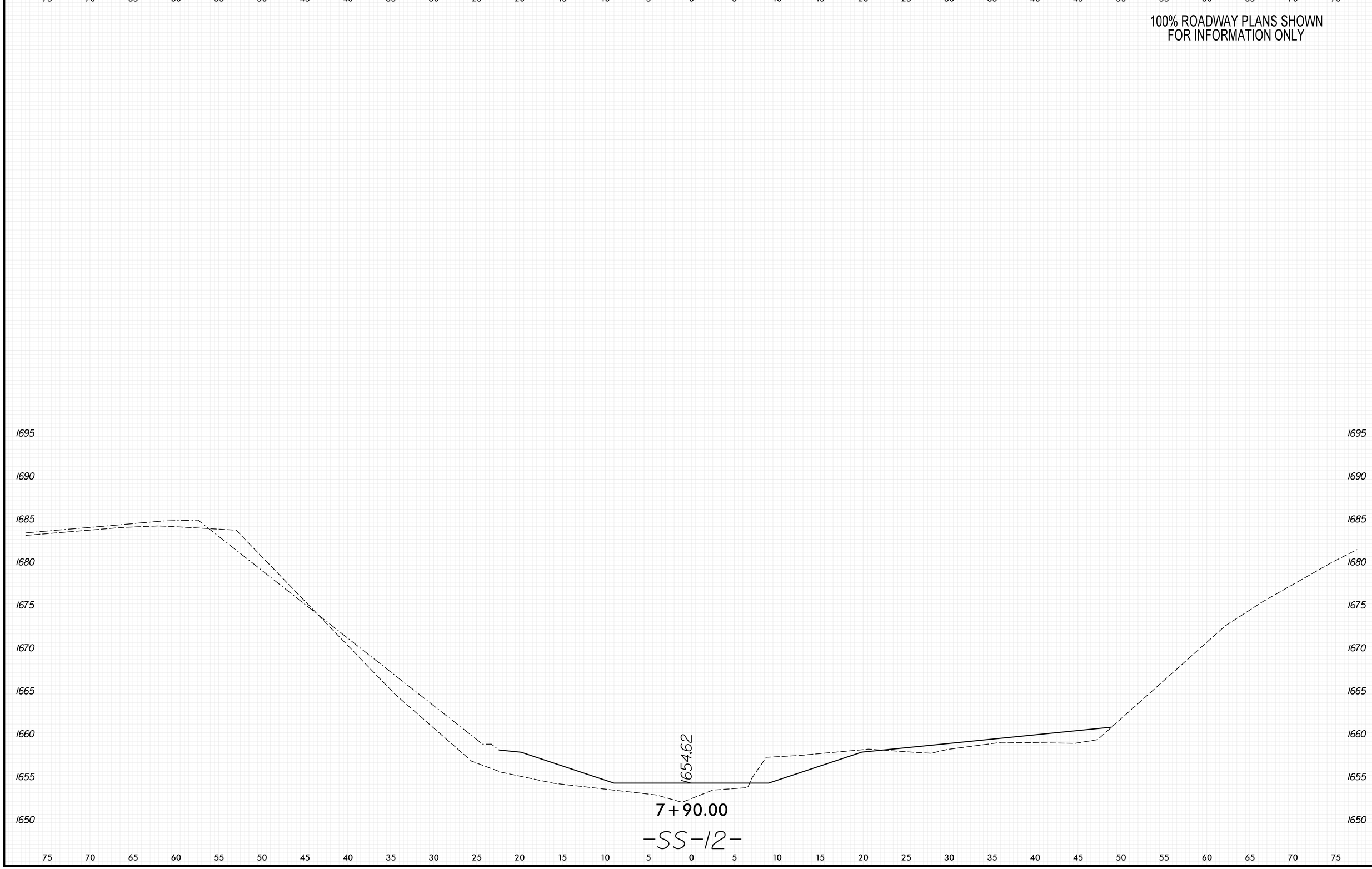
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:08 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-337

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

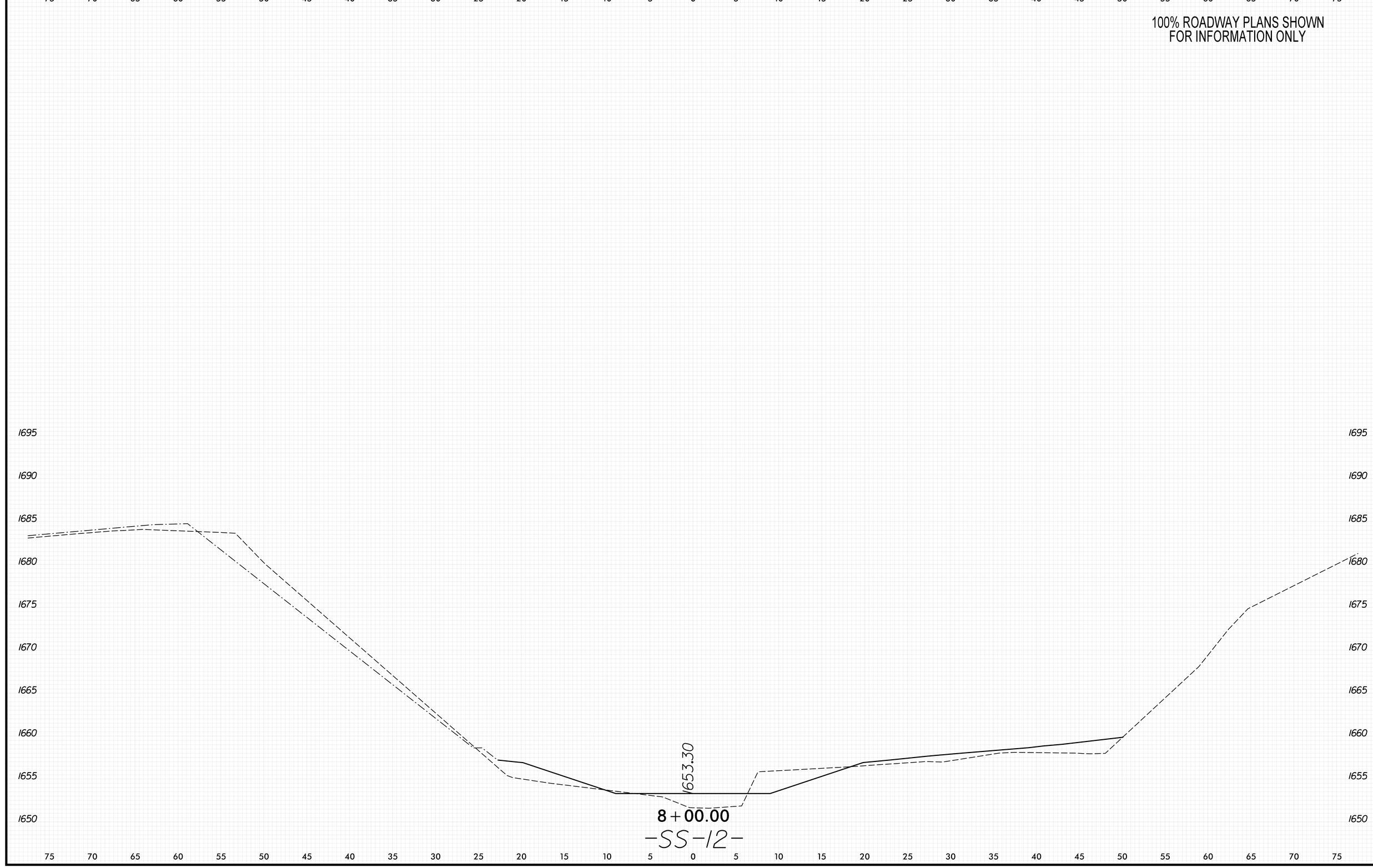
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:15 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-338

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

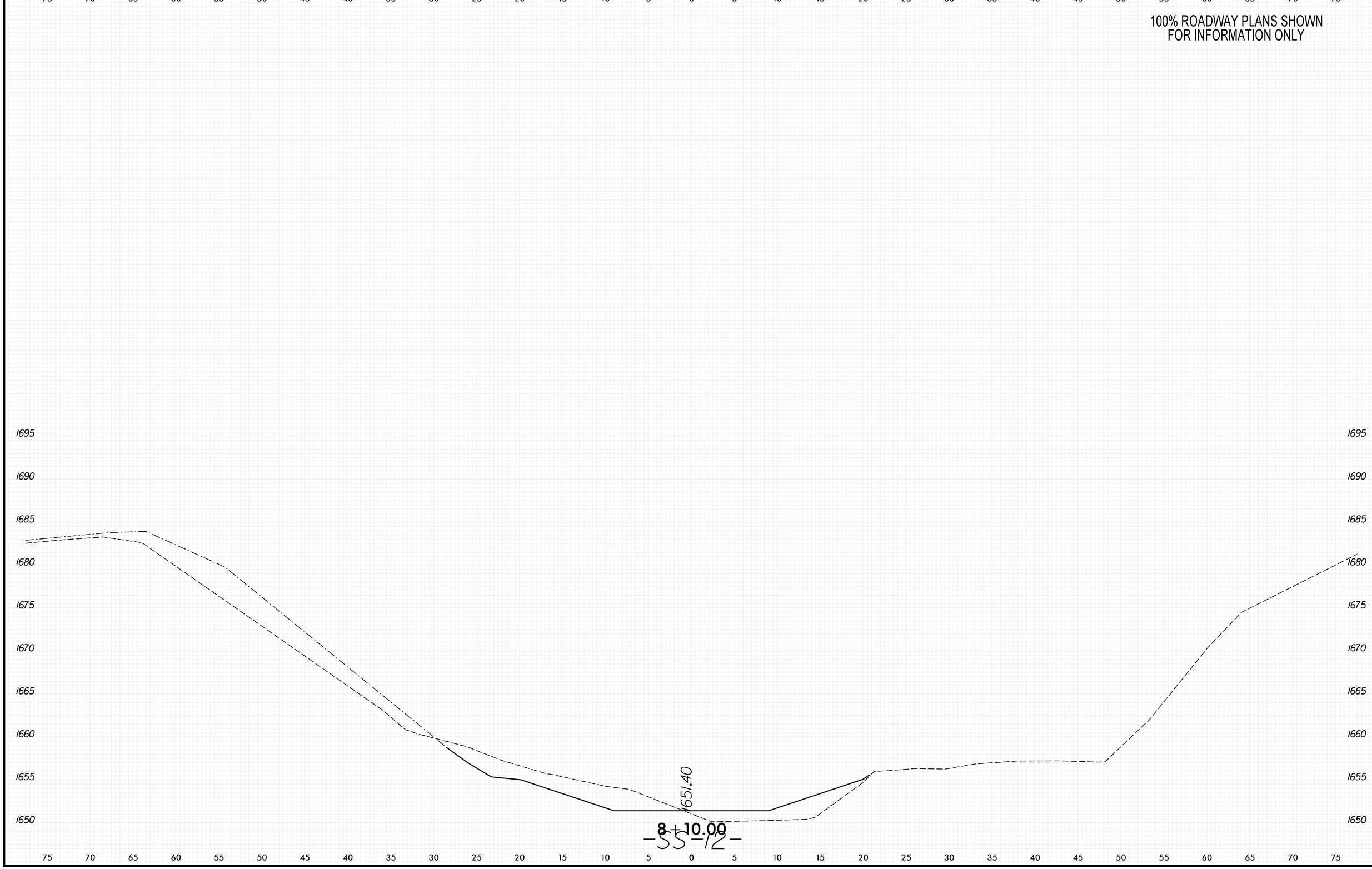
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:22 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-339

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

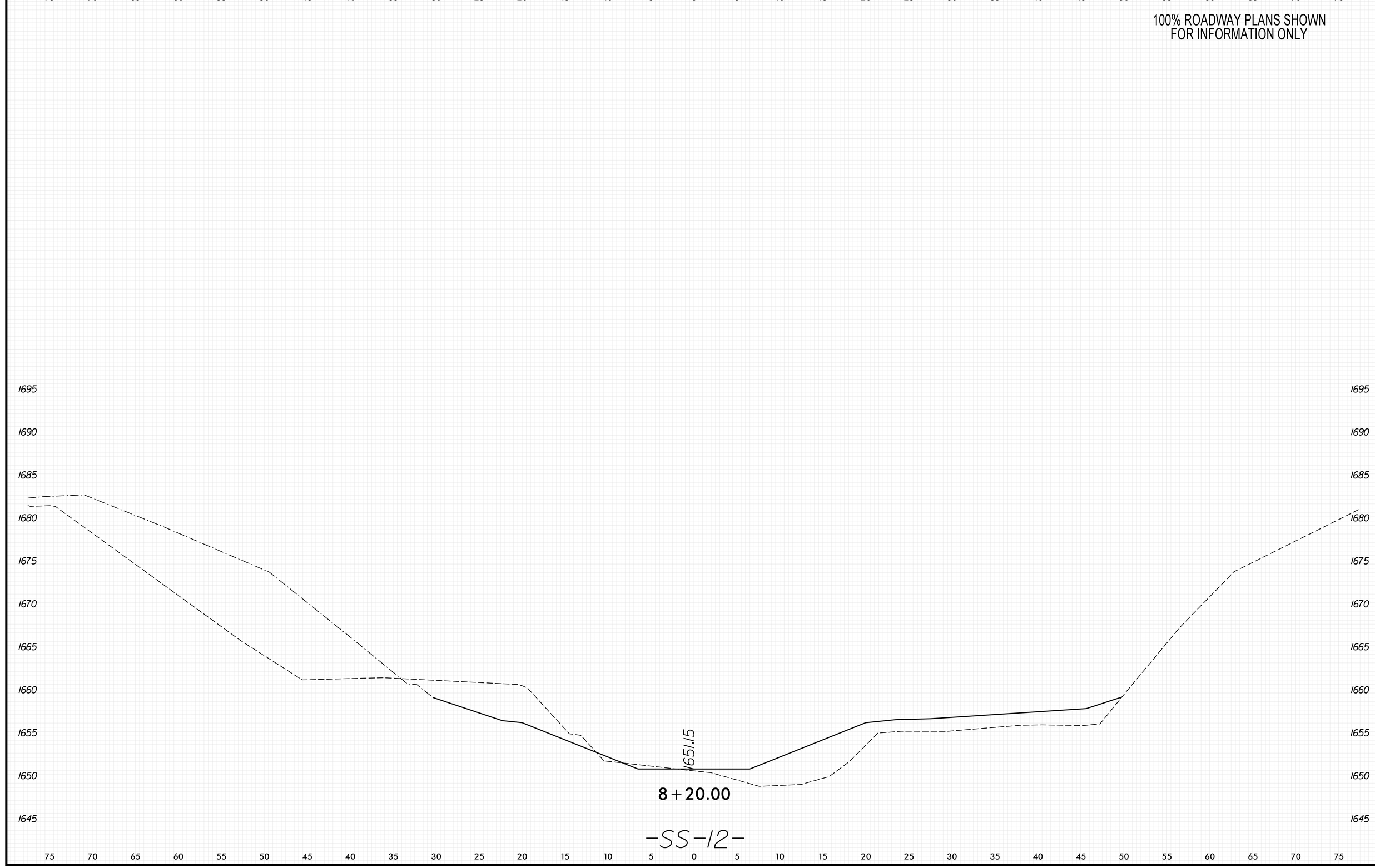
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:29 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-340

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



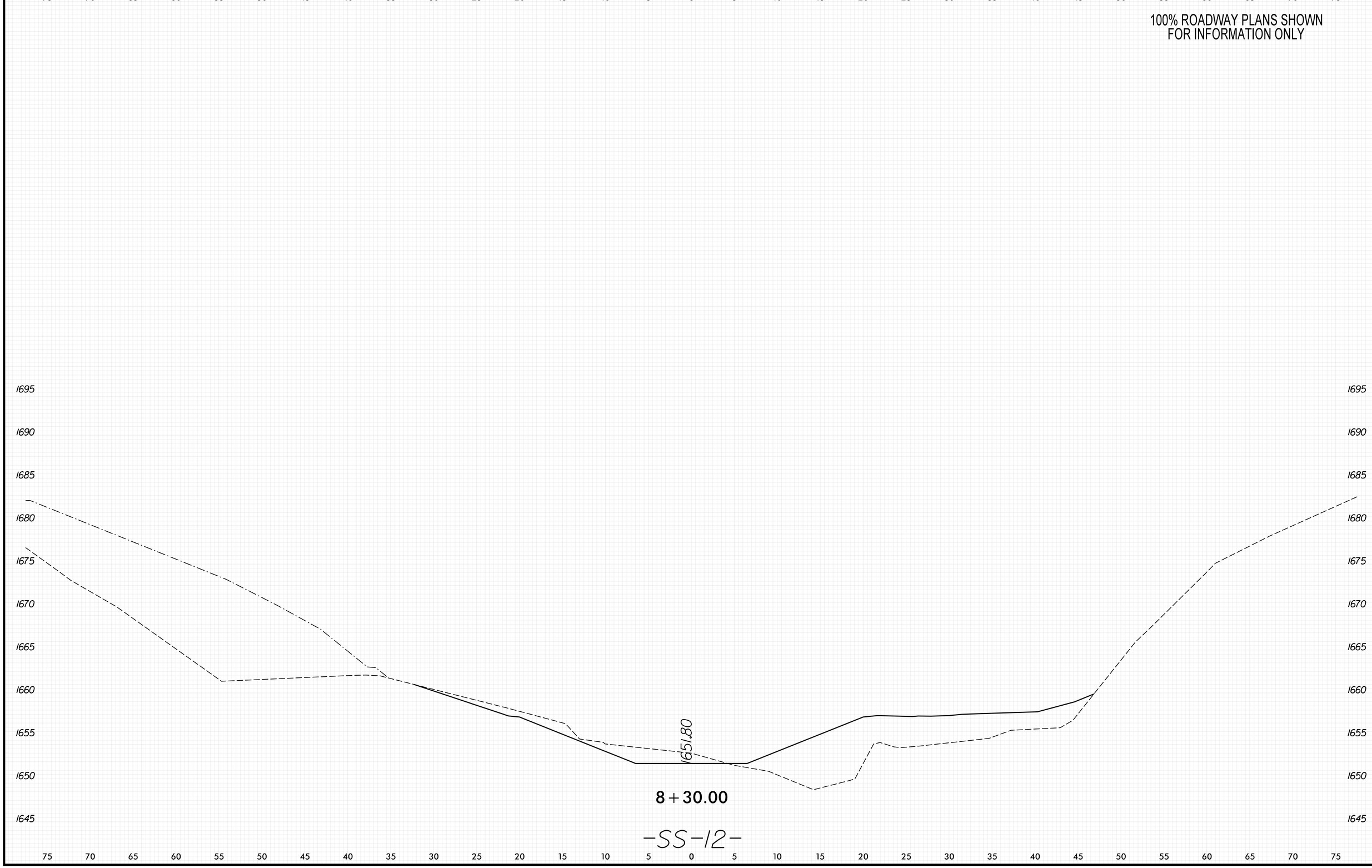
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:36 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-341

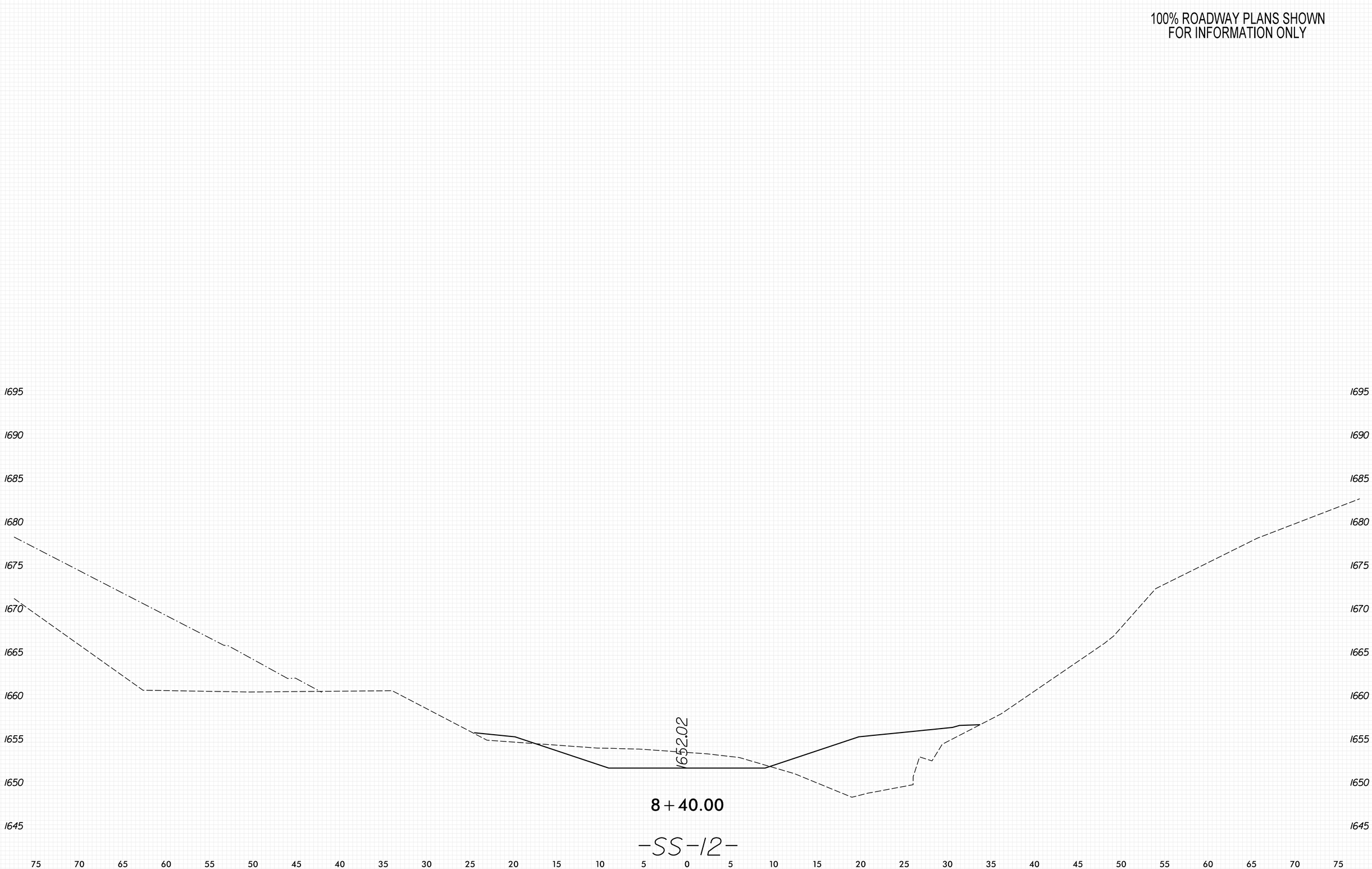
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:44 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-342

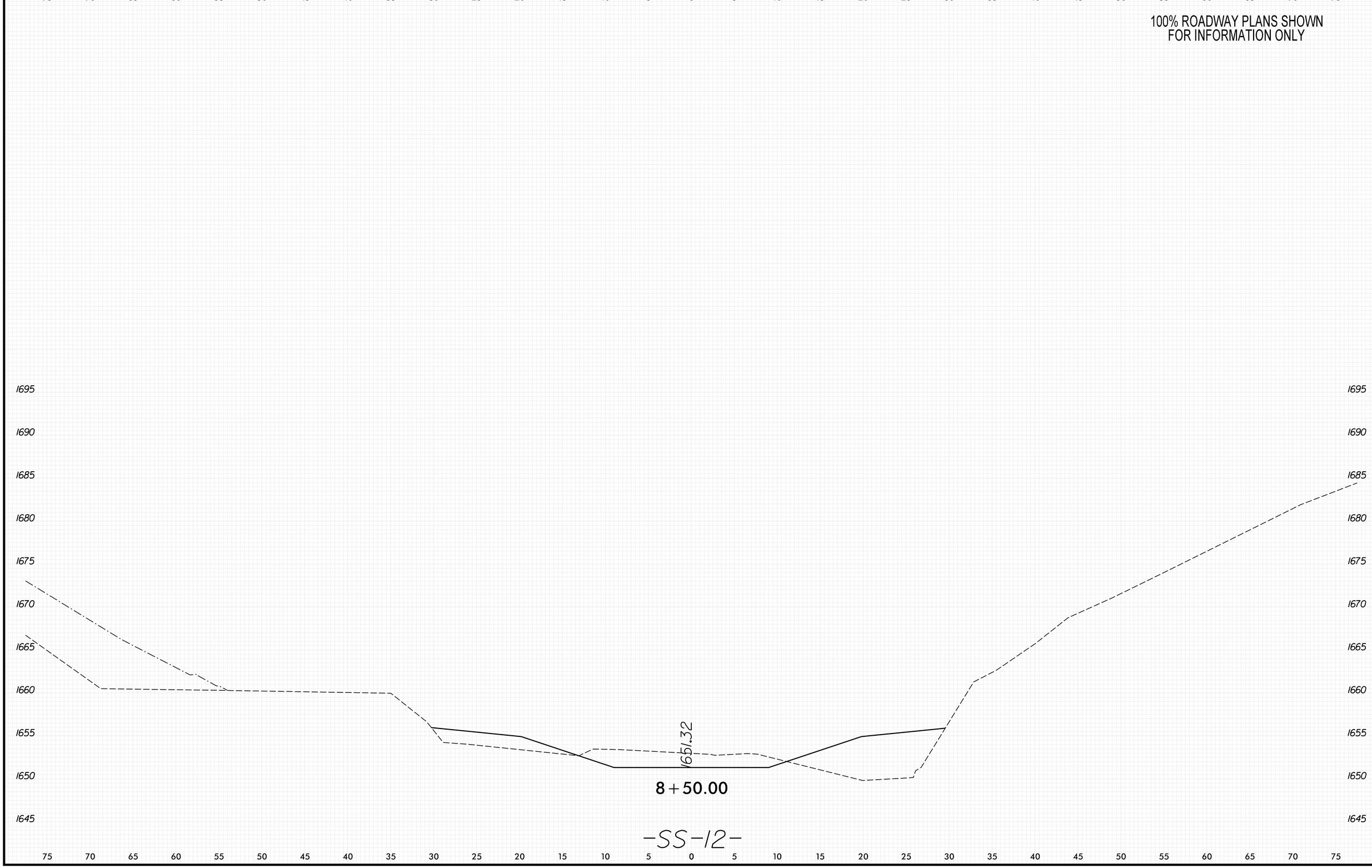
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:51 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-343

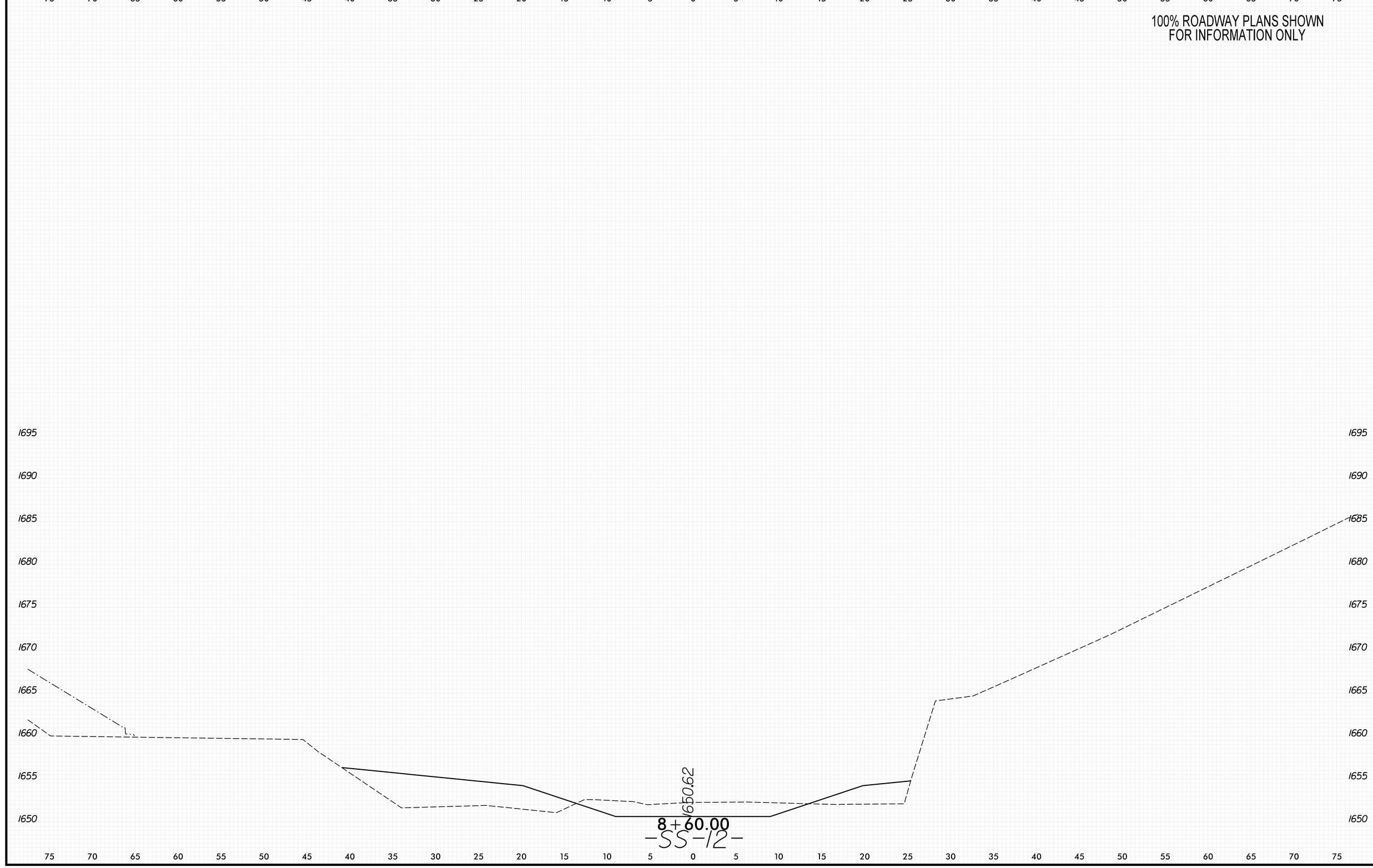
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:14:58 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-344

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

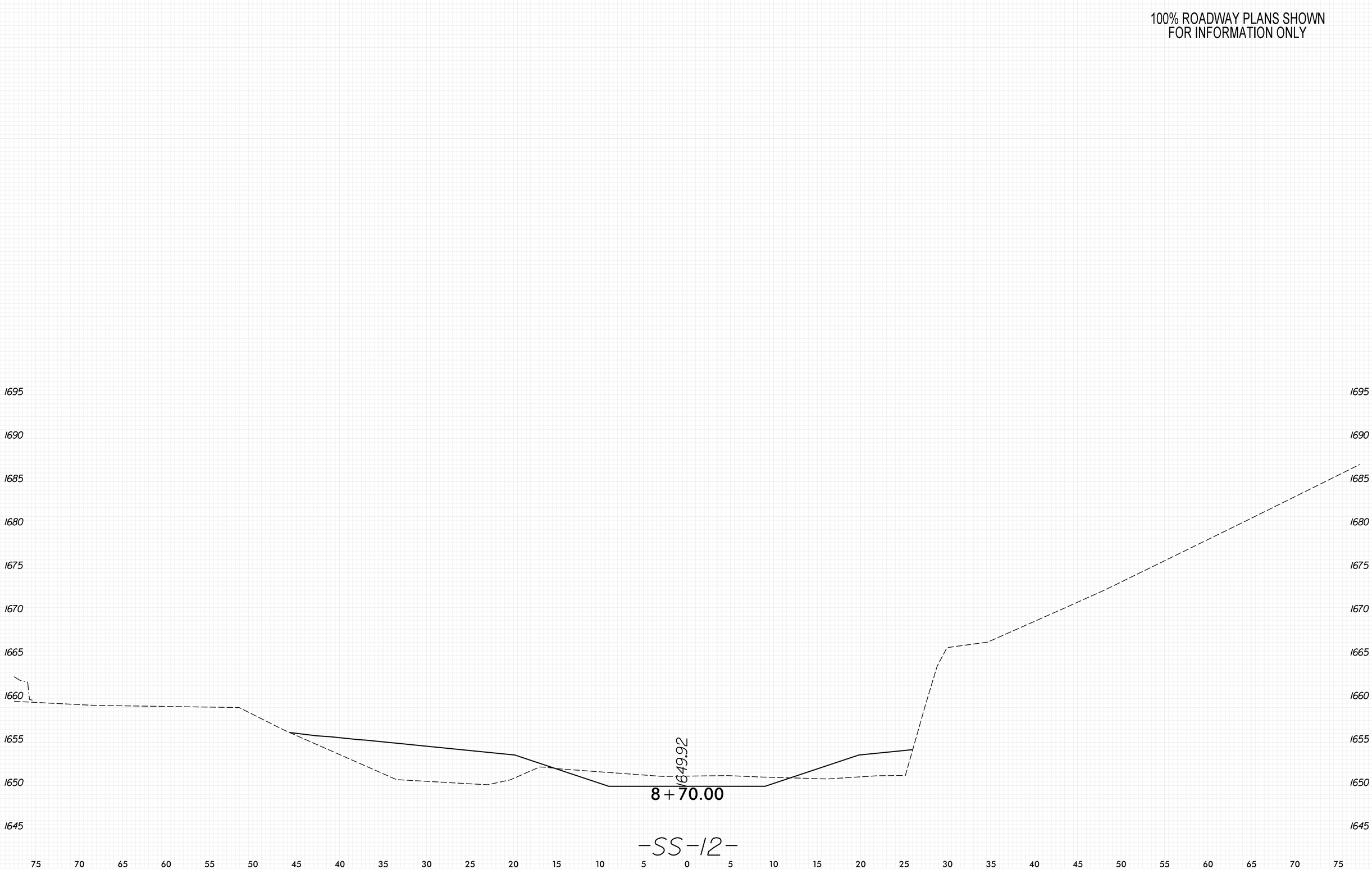
PENTABLE: xpl_eh_v8.tbl
TIME: 9:15:05 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-345

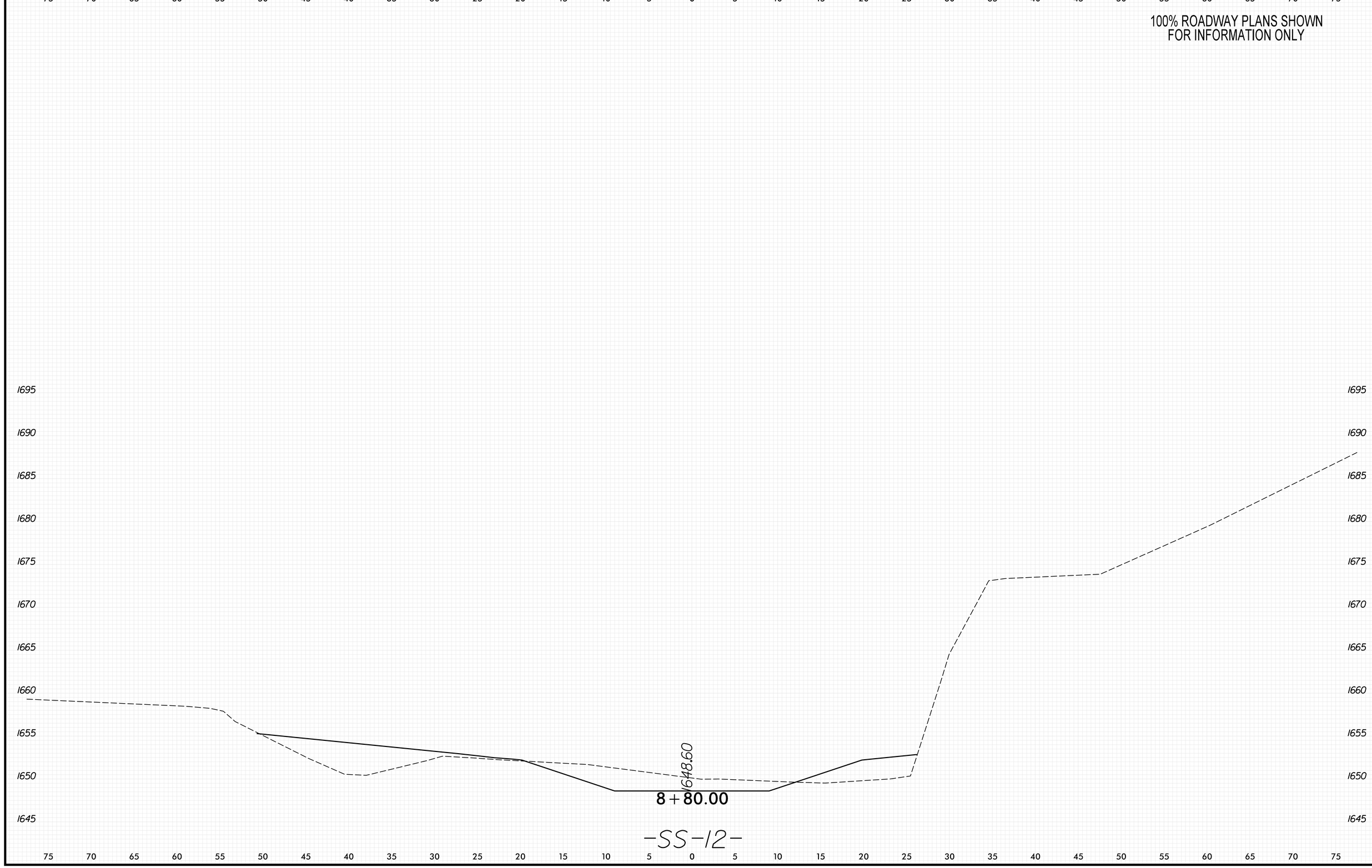
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:15:12 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-346

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

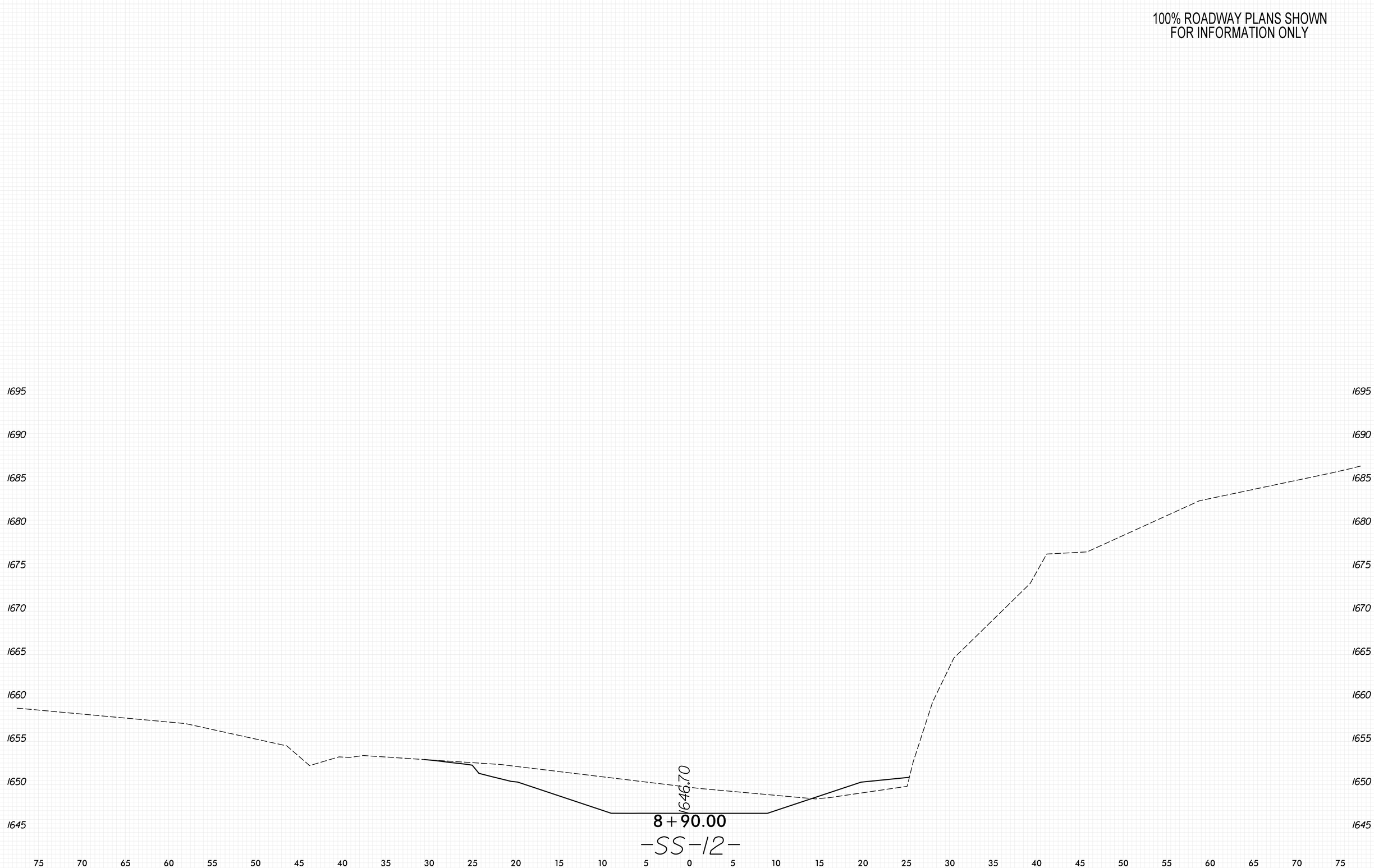


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
TIME: 9:15:19 AM
PENTABLE: xpl_eh_v8.tbl

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-347

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

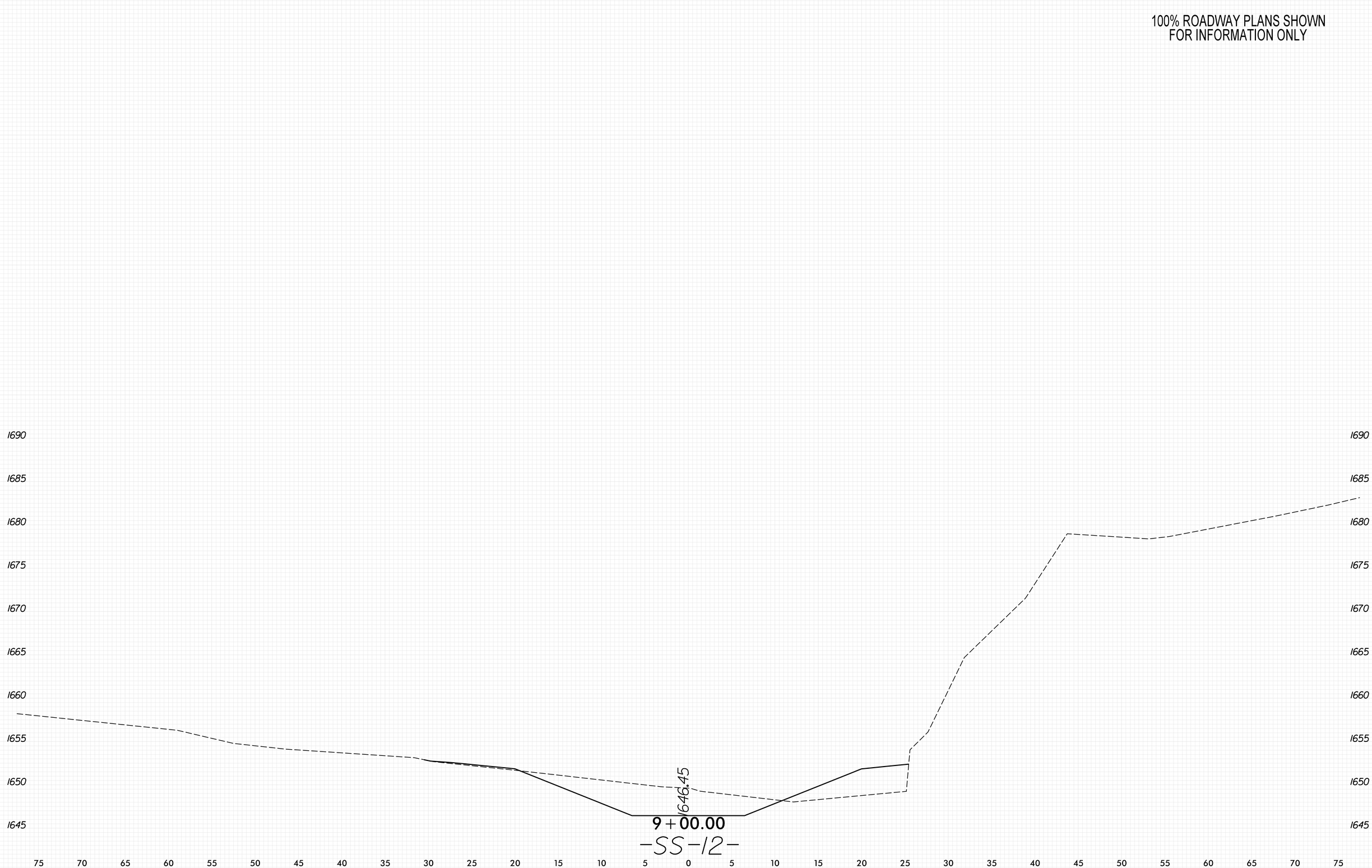
PENTABLE: xpl_eh_v8.tbl
TIME: 9:15:27 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-348

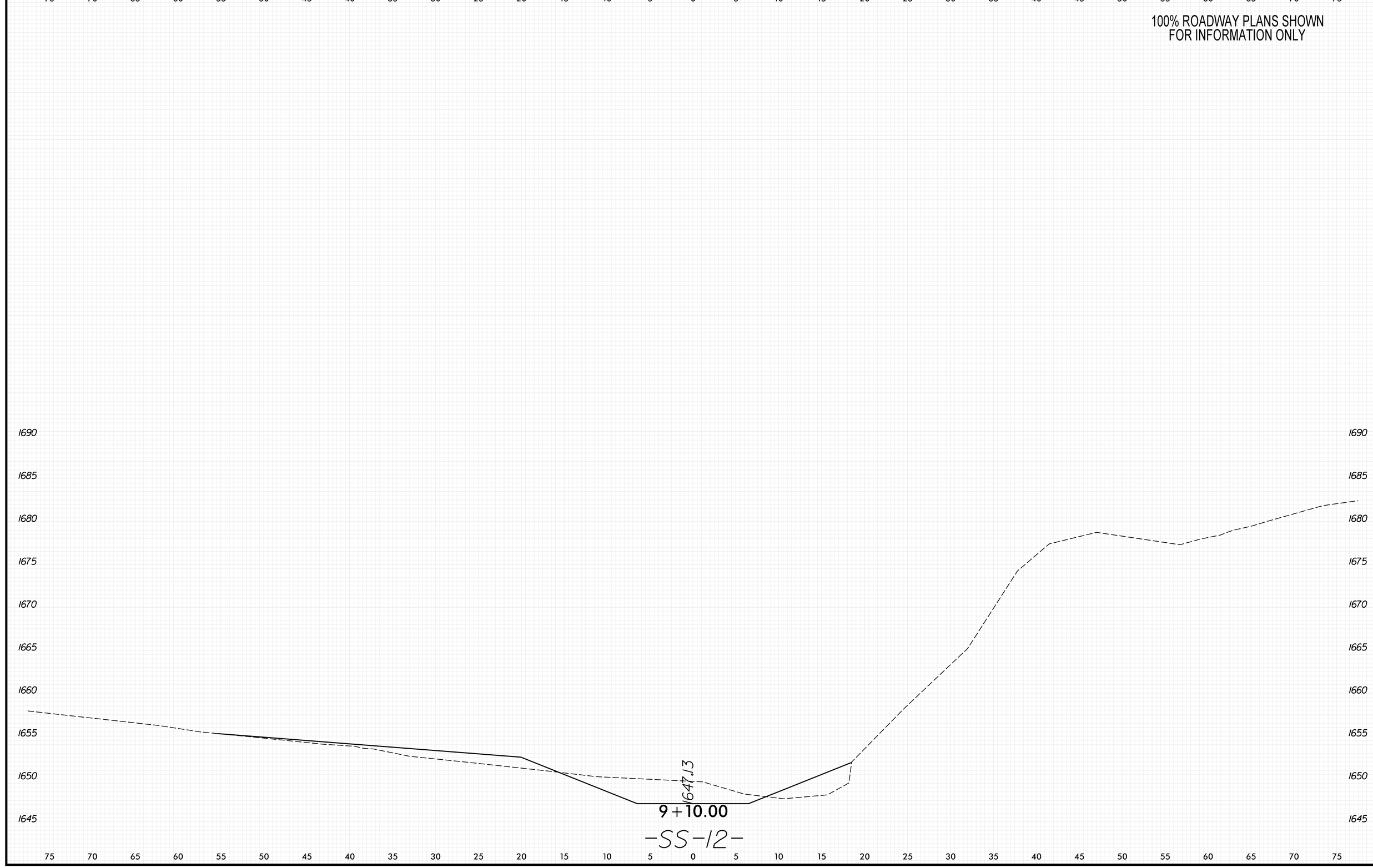
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:15:33 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-349

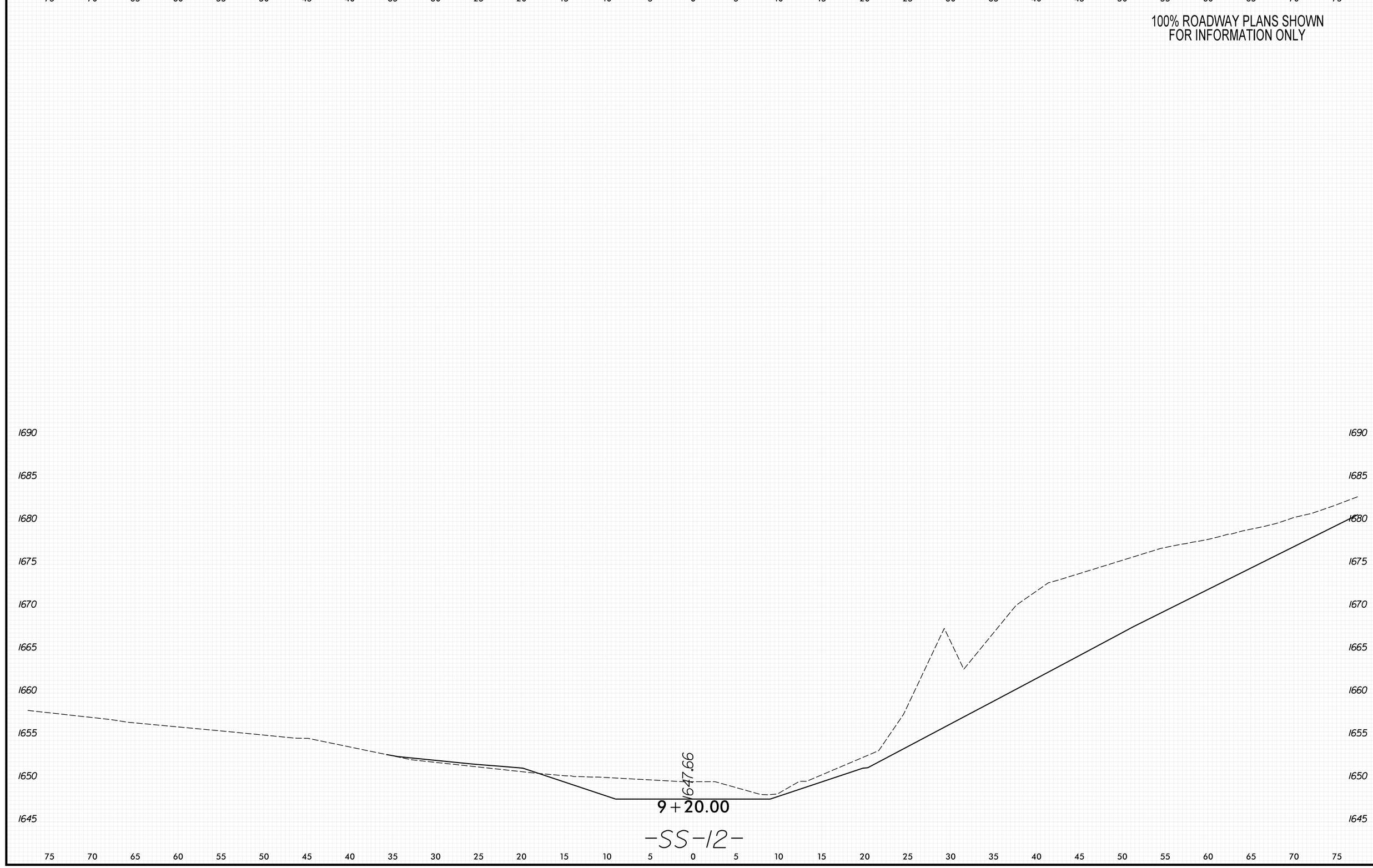
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:15:41 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-350

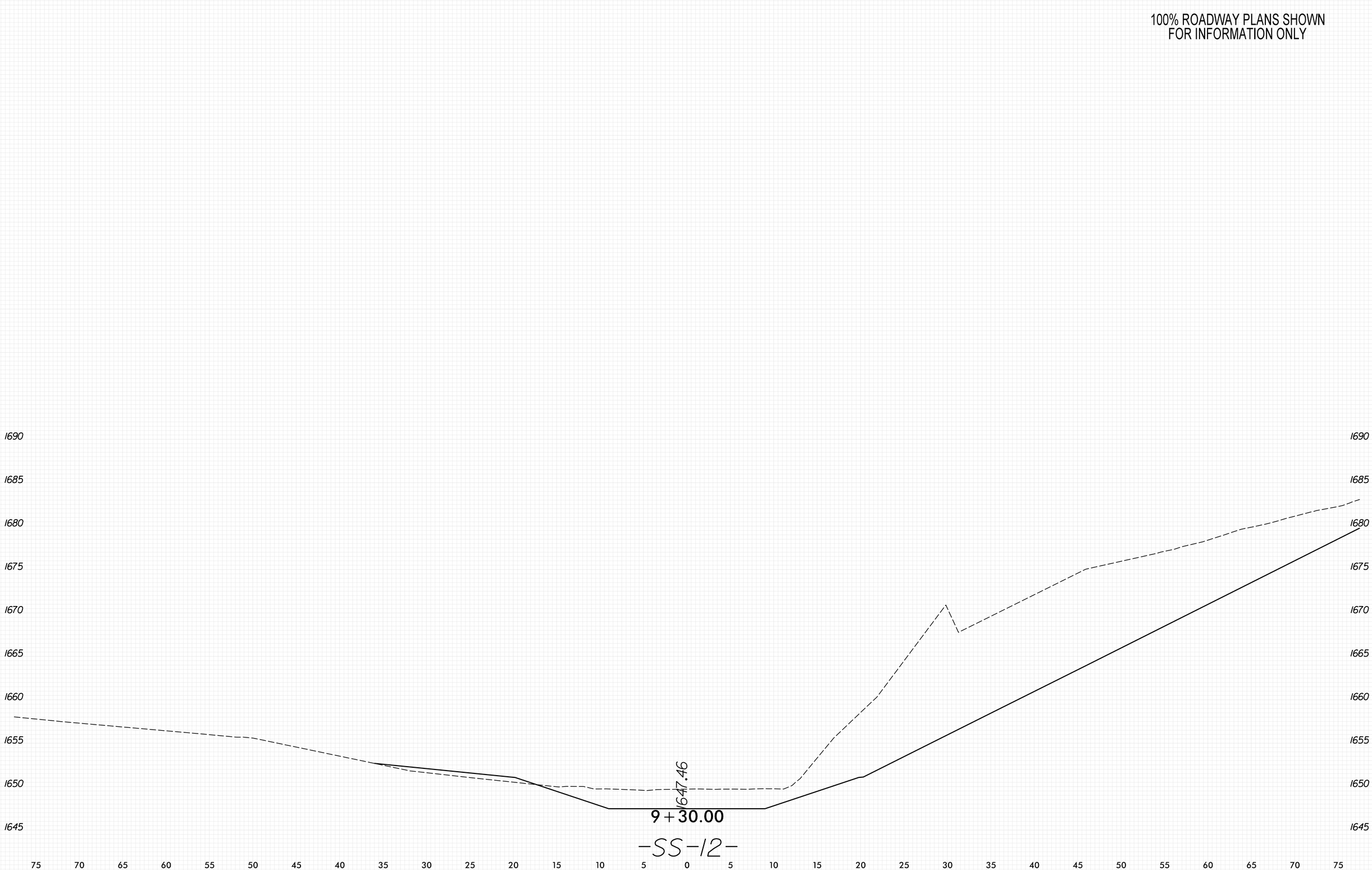
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:15:48 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-351

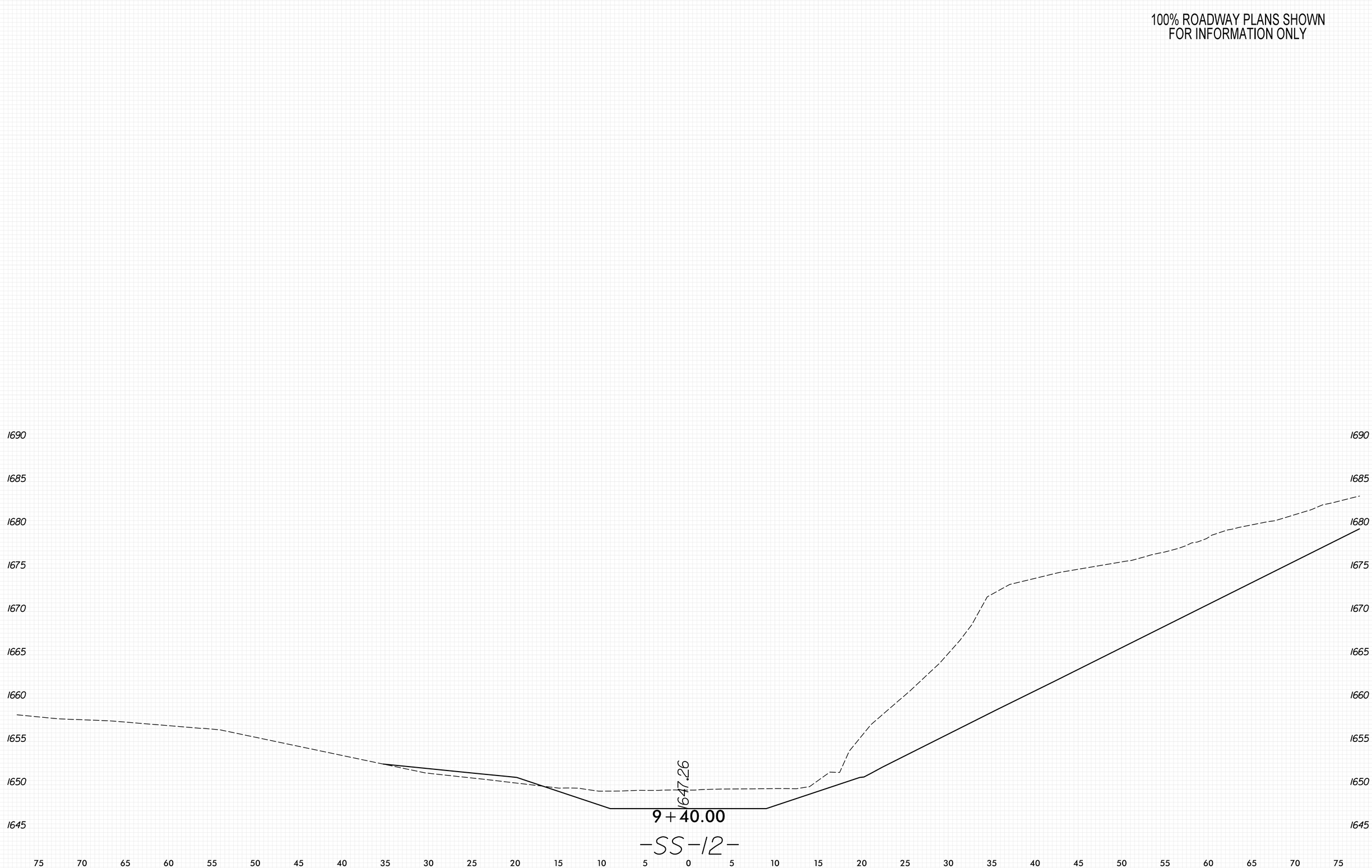
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:15:55 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-352

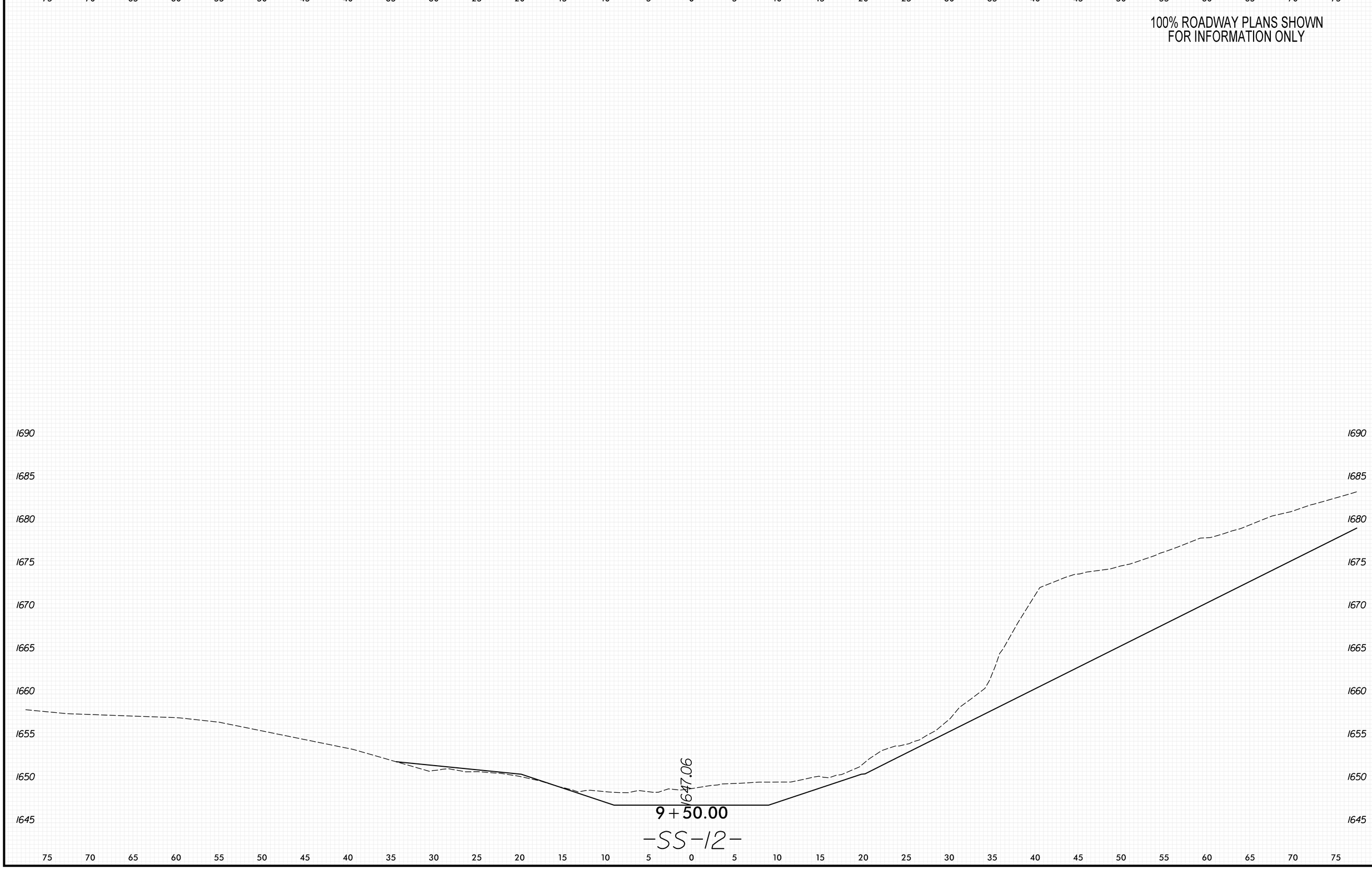
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:02 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-353

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

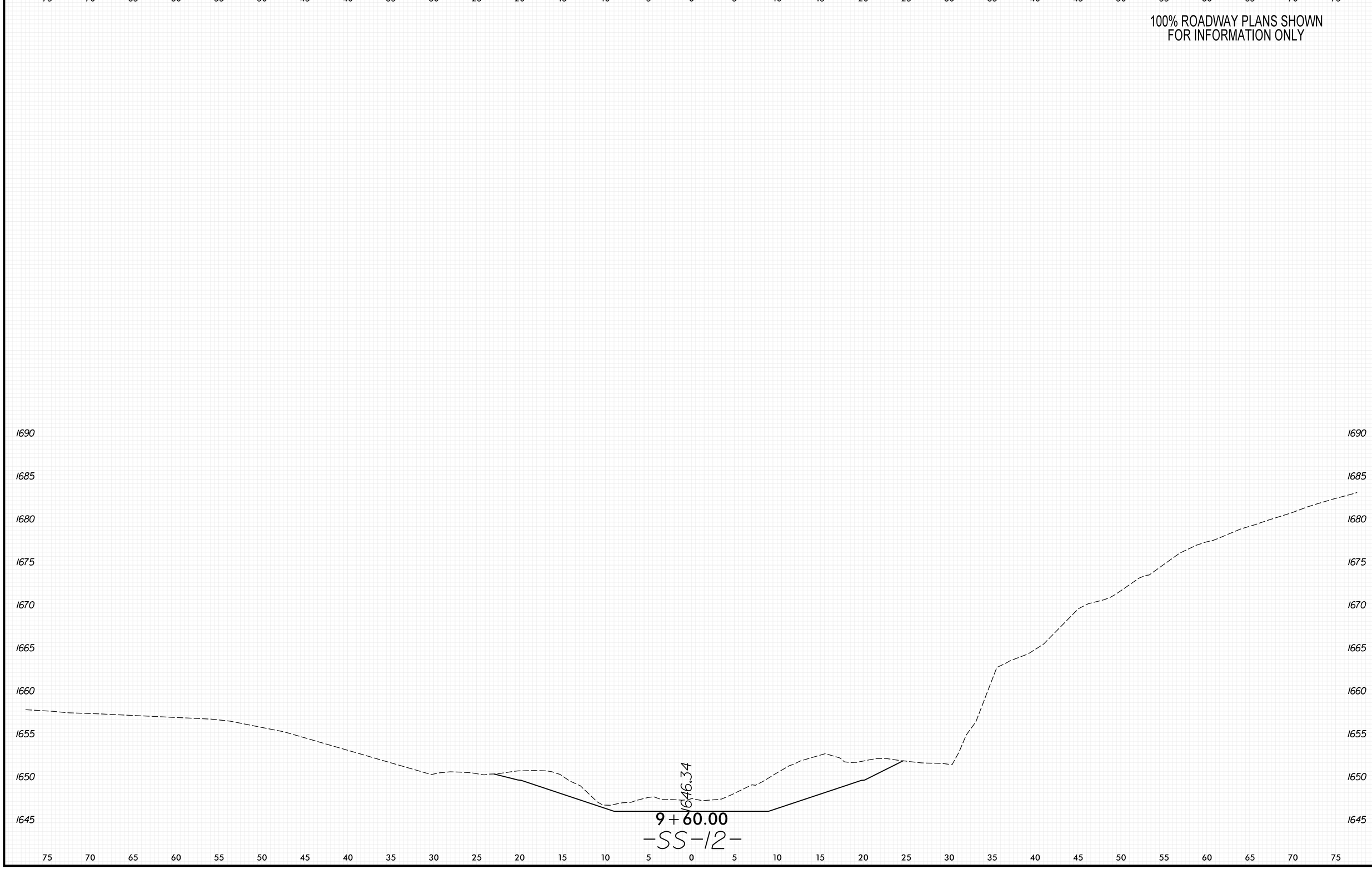
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:09 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-354

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

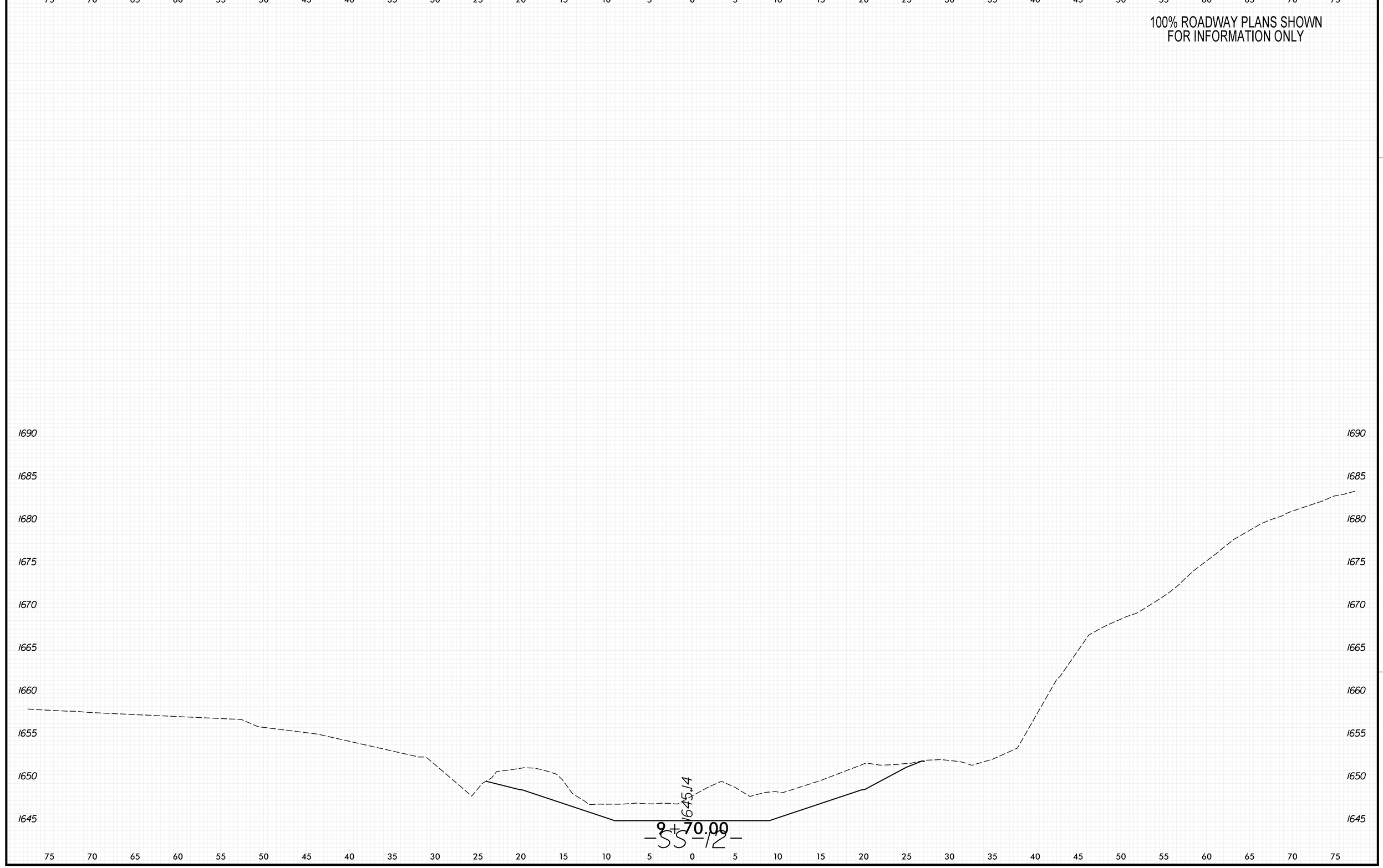
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:17 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-355

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

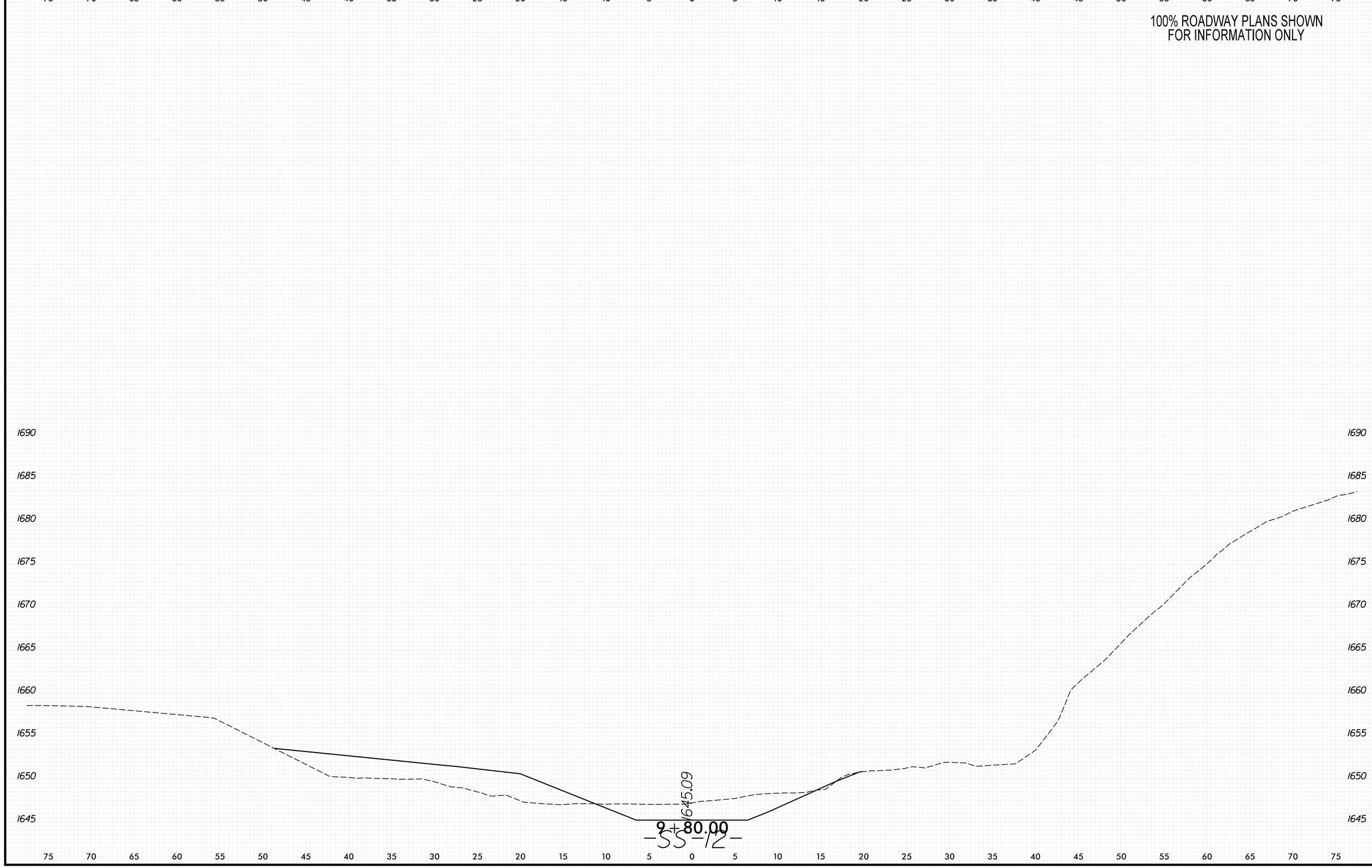
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:23 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-356

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

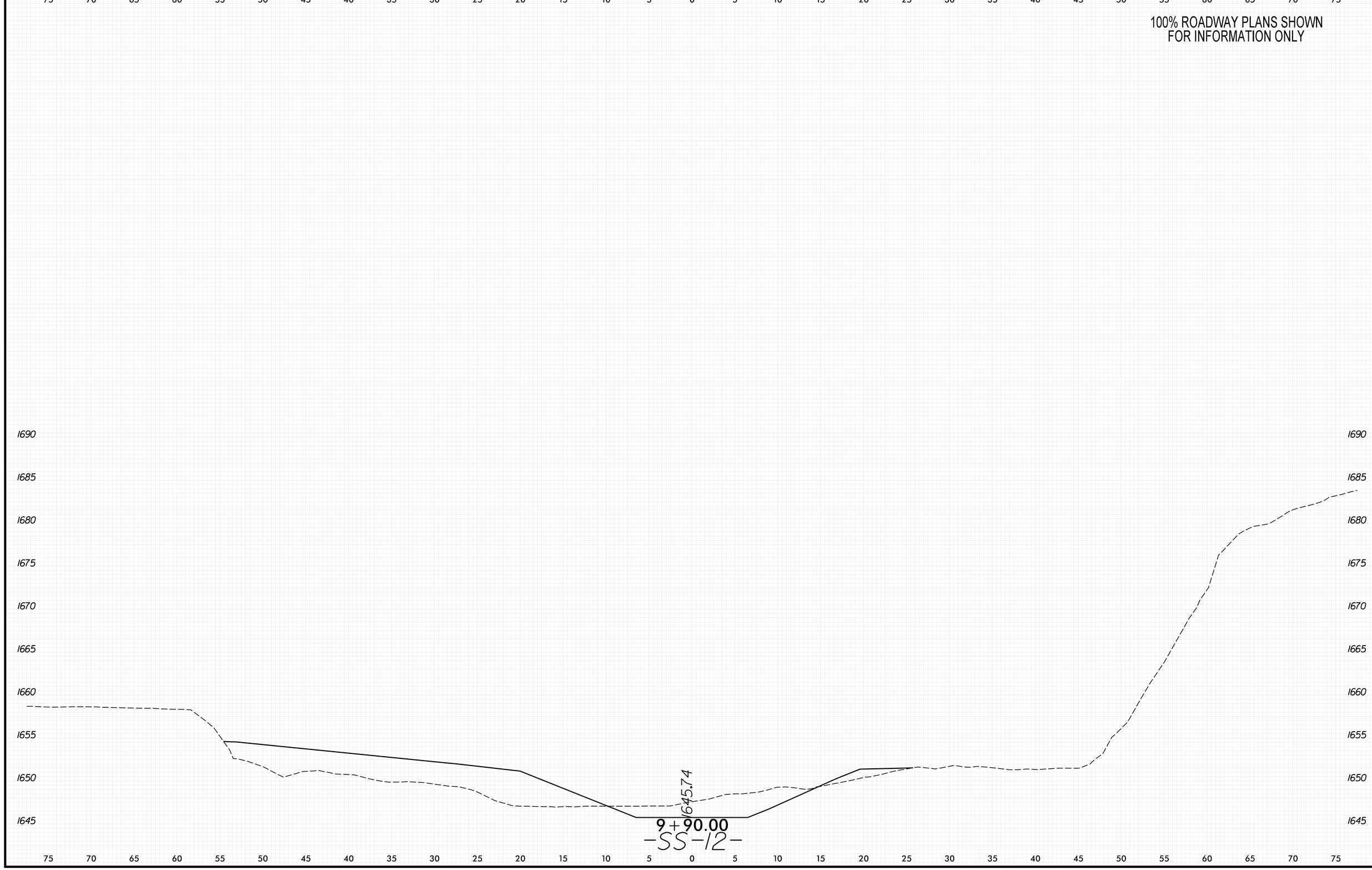
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:30 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-357

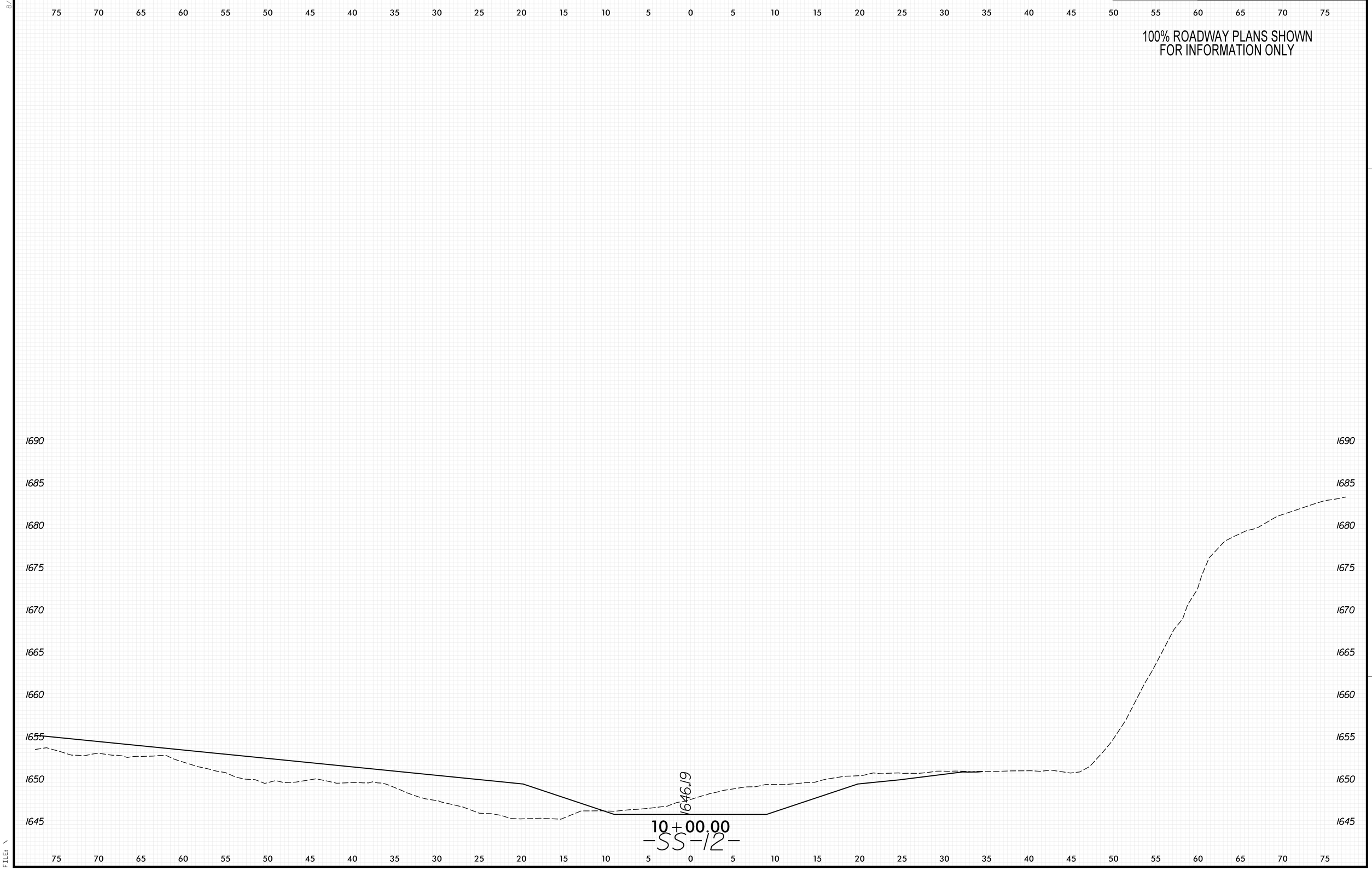
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:37 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-358

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

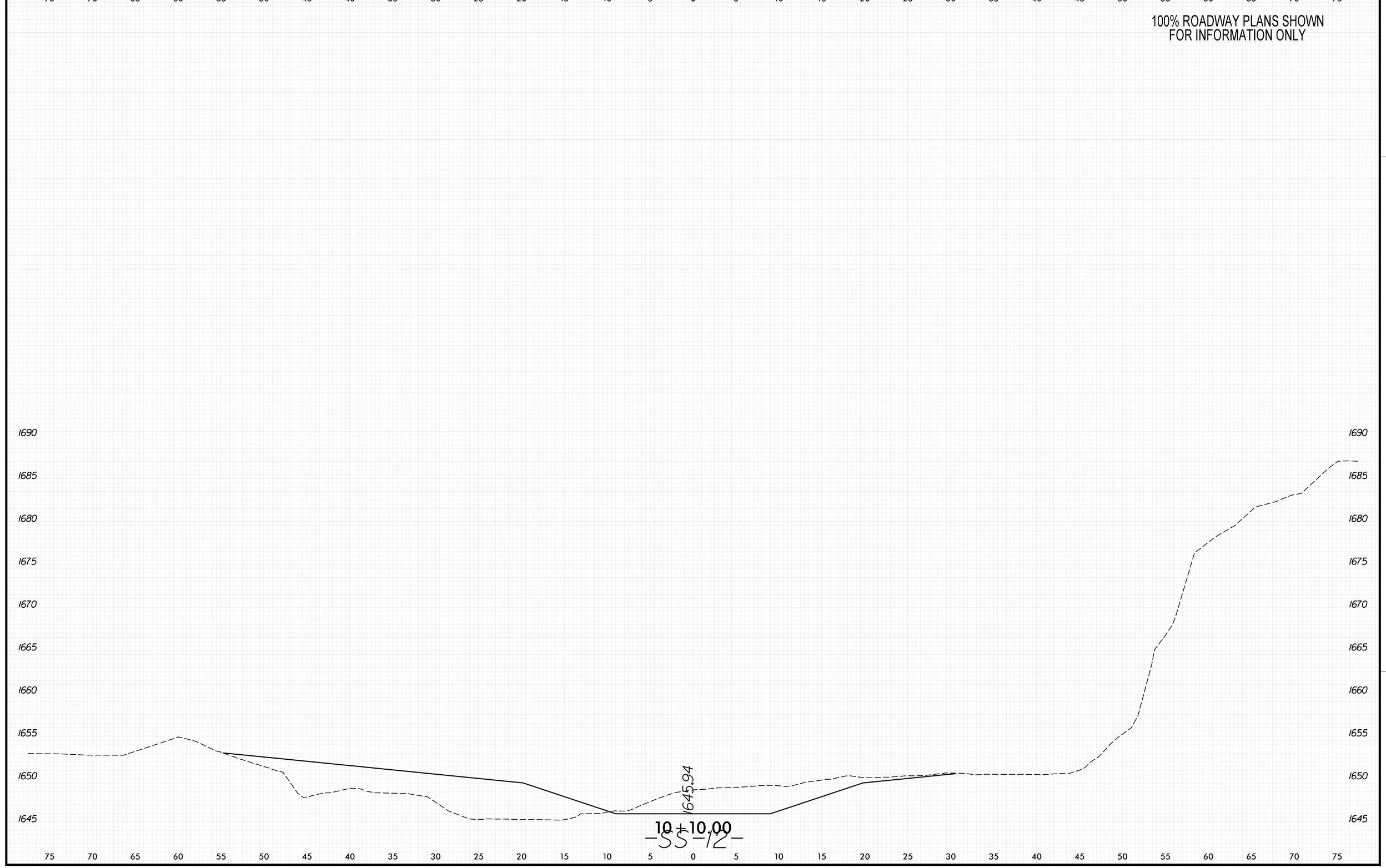
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:44 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-359

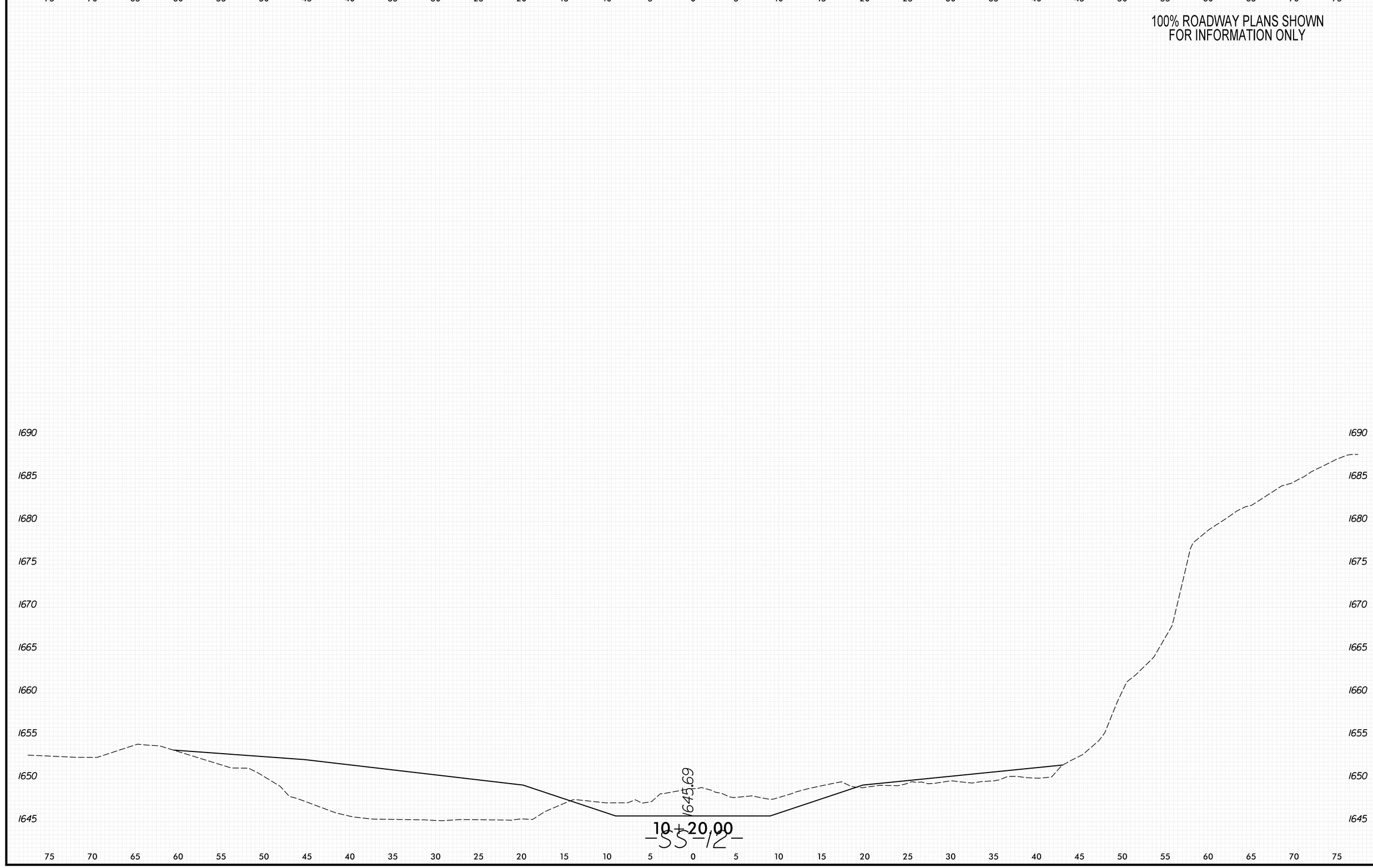
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:50 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-360

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

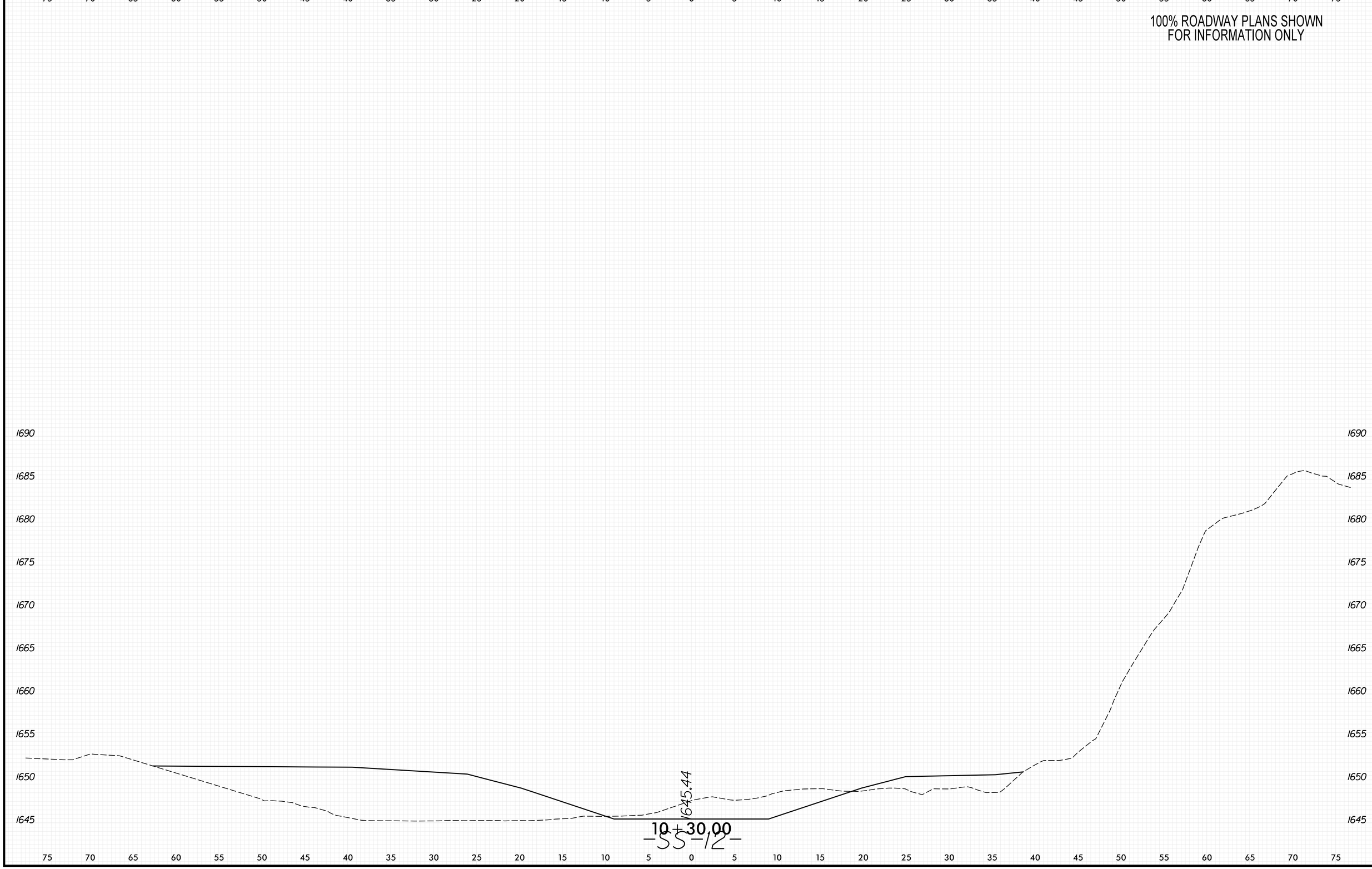
PENTABLE: xpl_eh_v8.tbl
TIME: 9:16:57 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-361

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



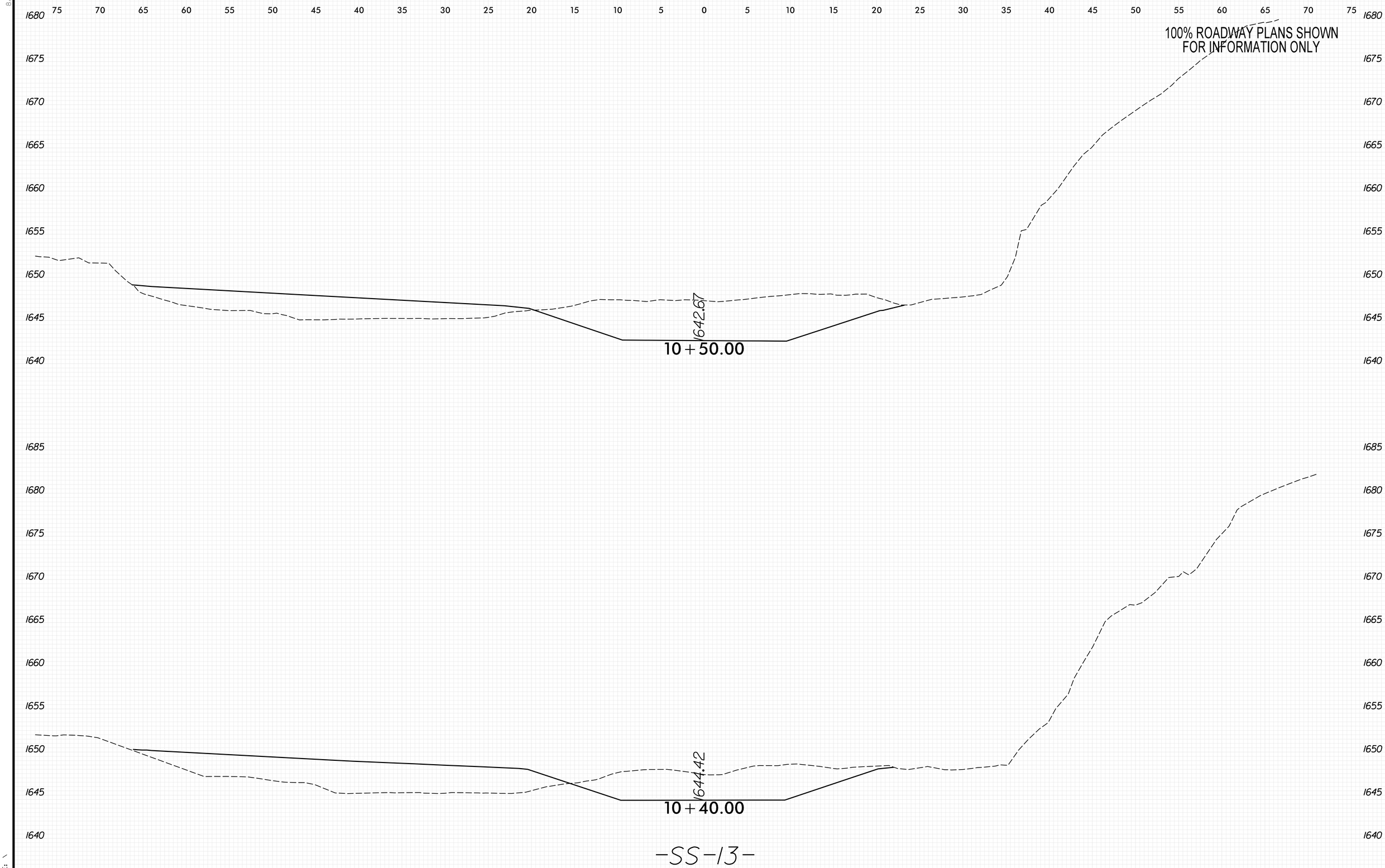
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:04 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-362

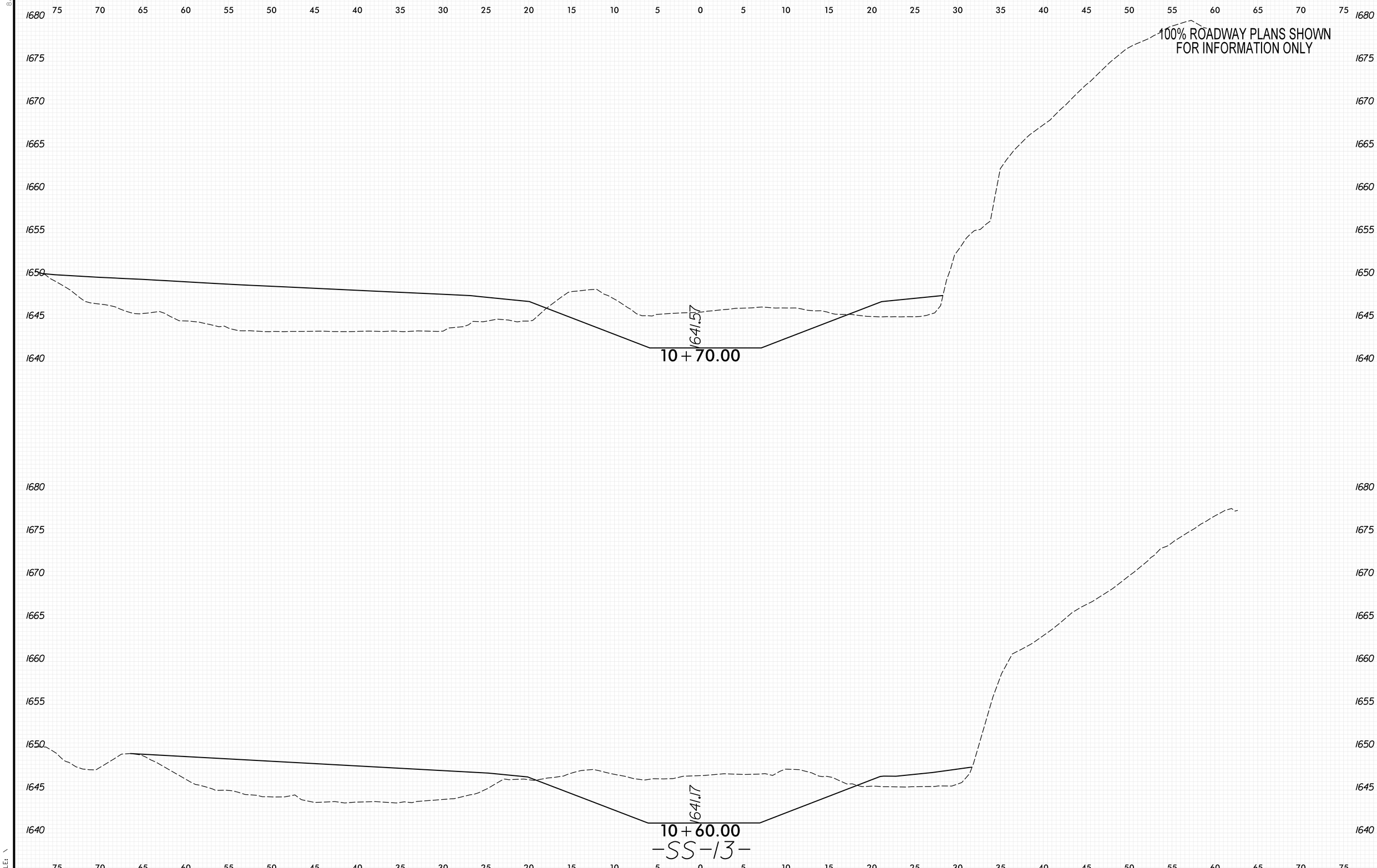


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:10 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026

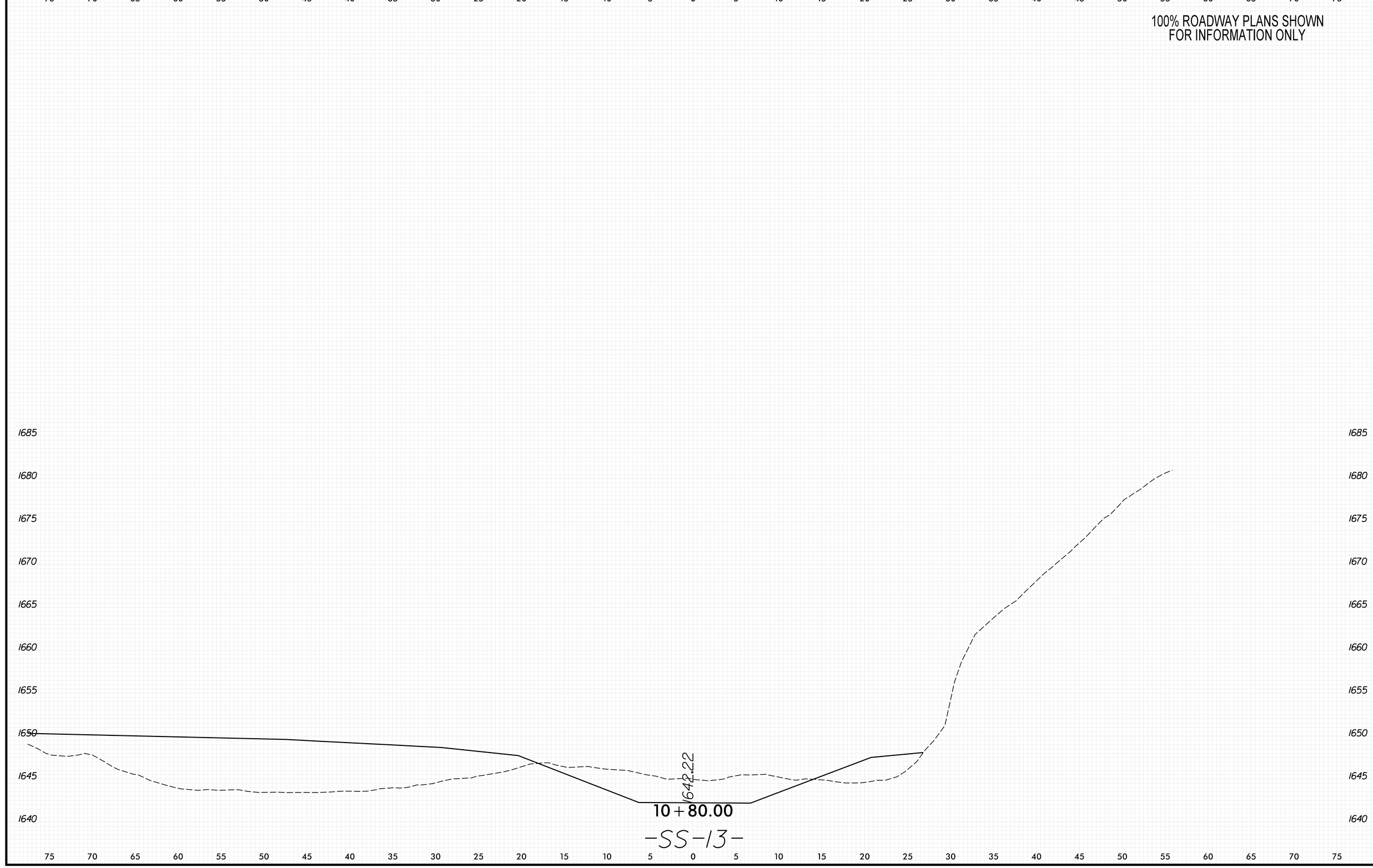
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-363



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:17 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-364

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

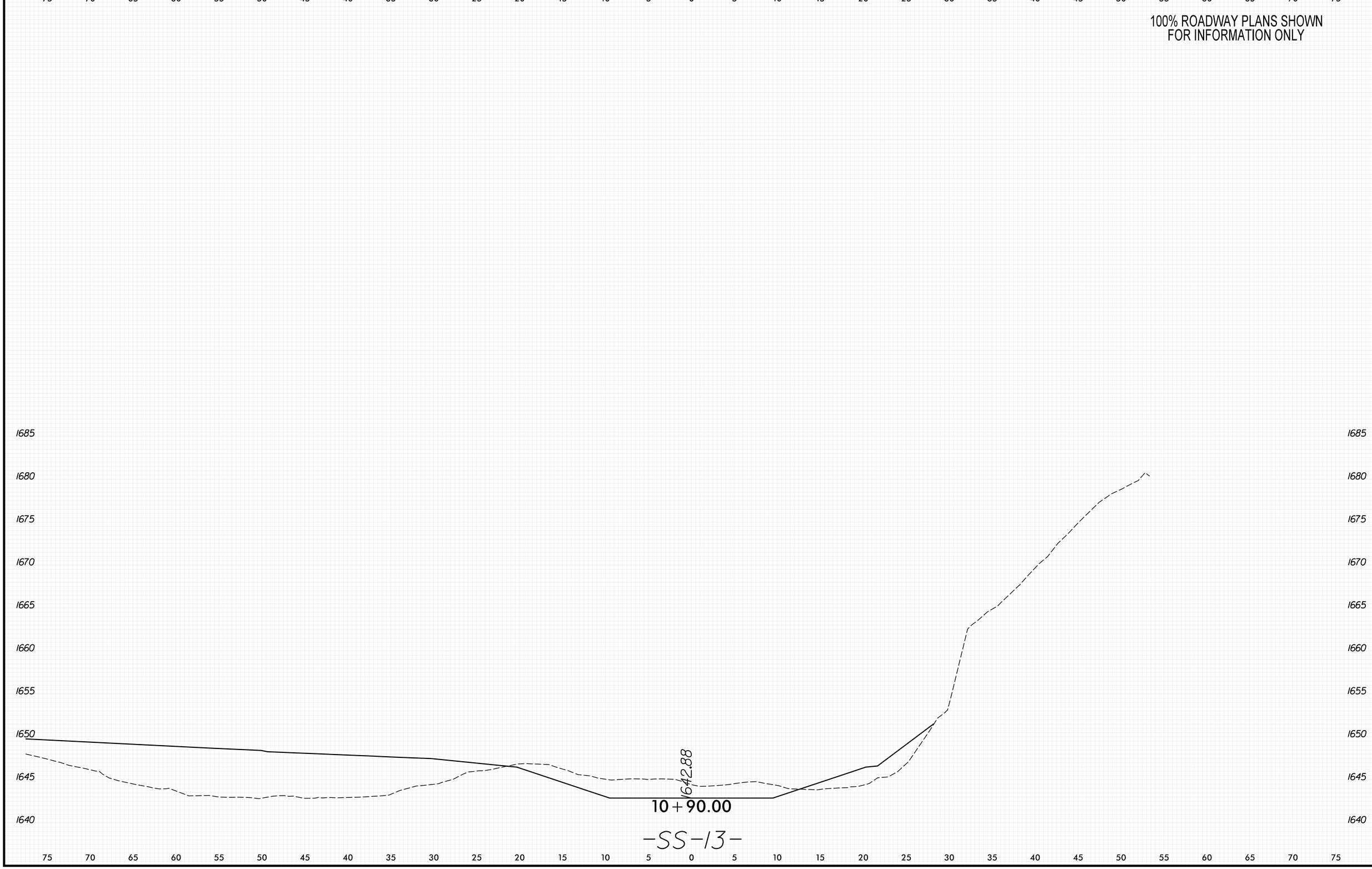
PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:24 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-365

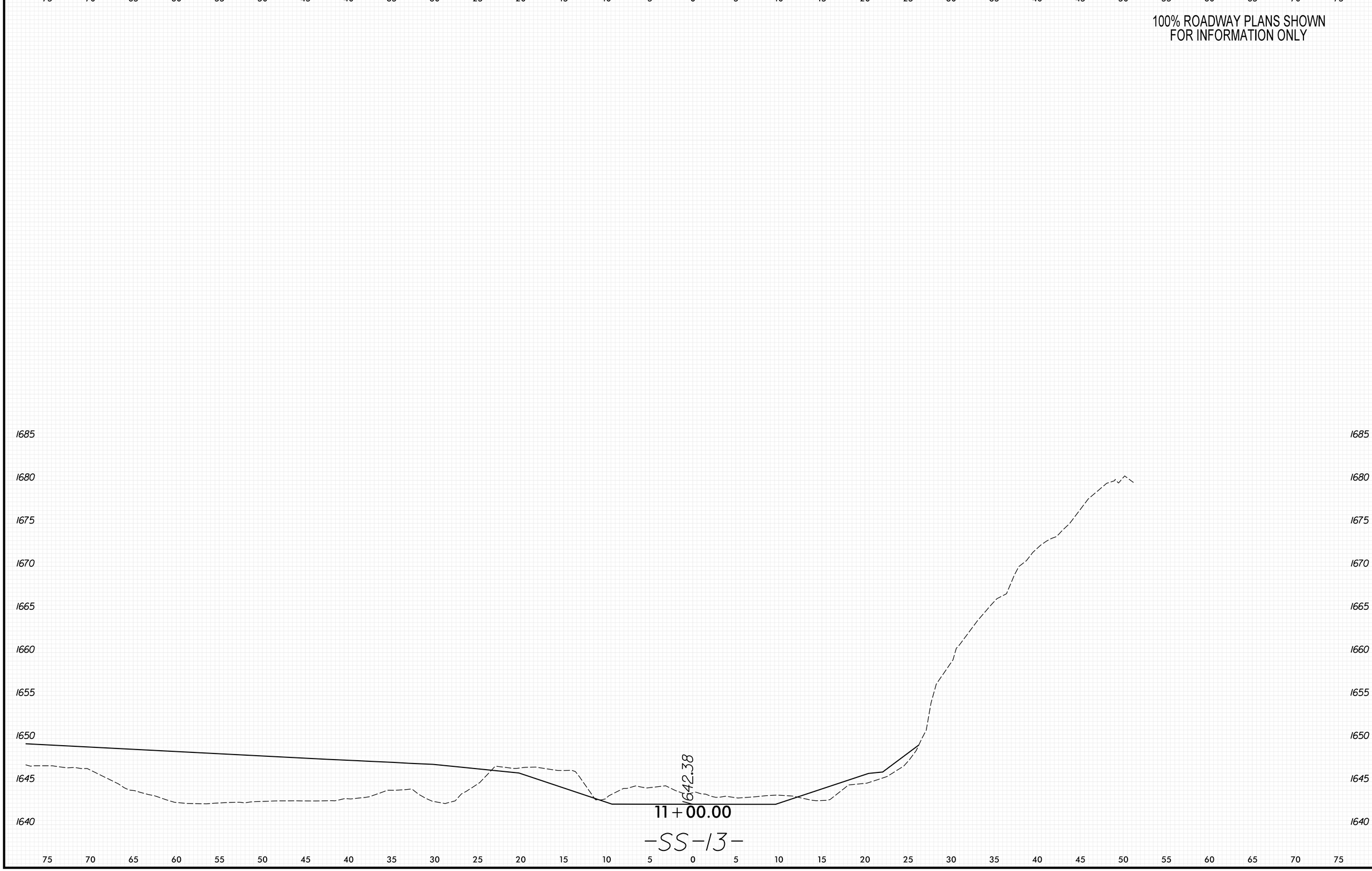
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:31 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-366

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

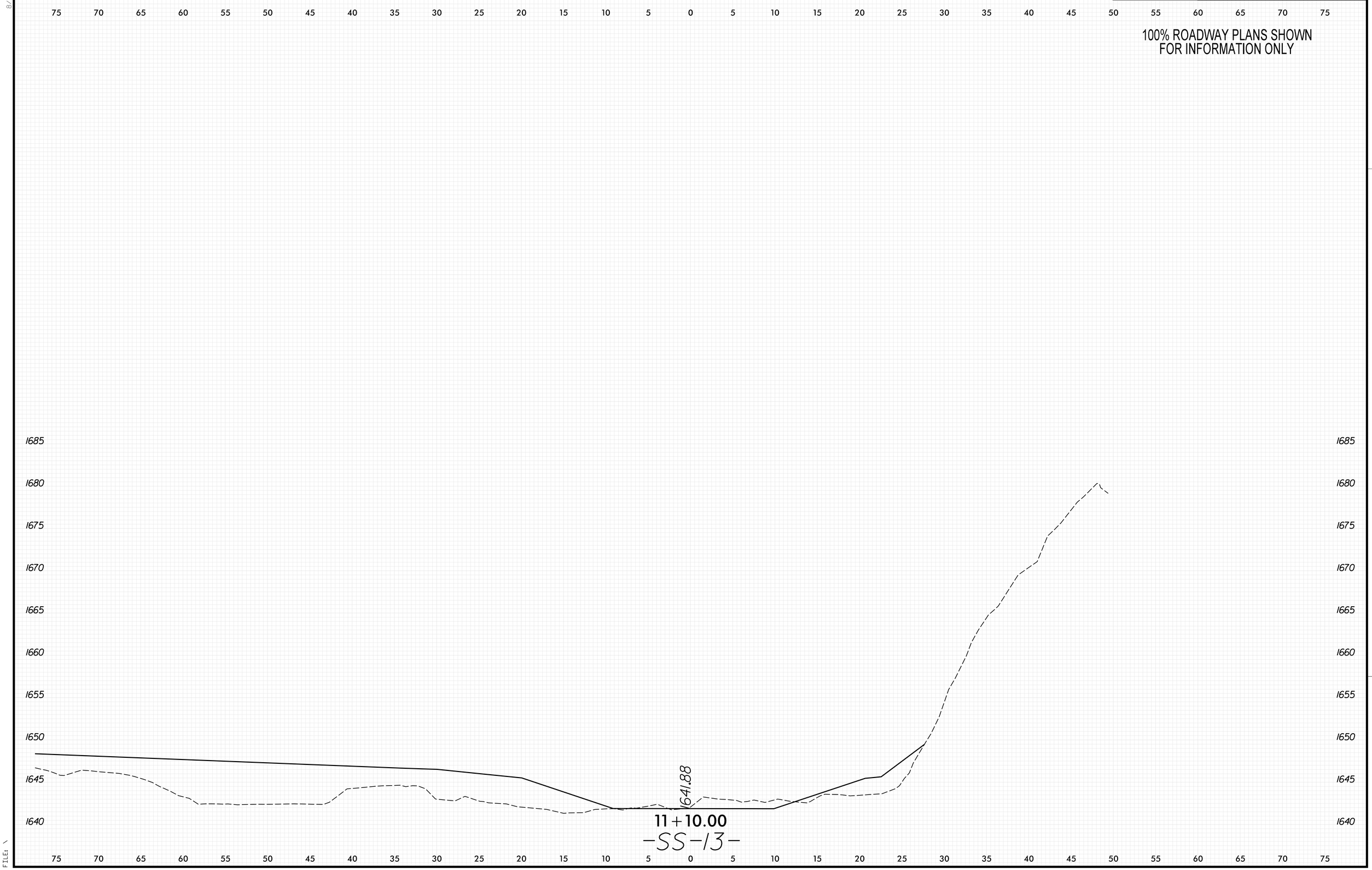
PENTABLE: xpl.eh_v8.tbl
TIME: 9:17:38 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-367

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



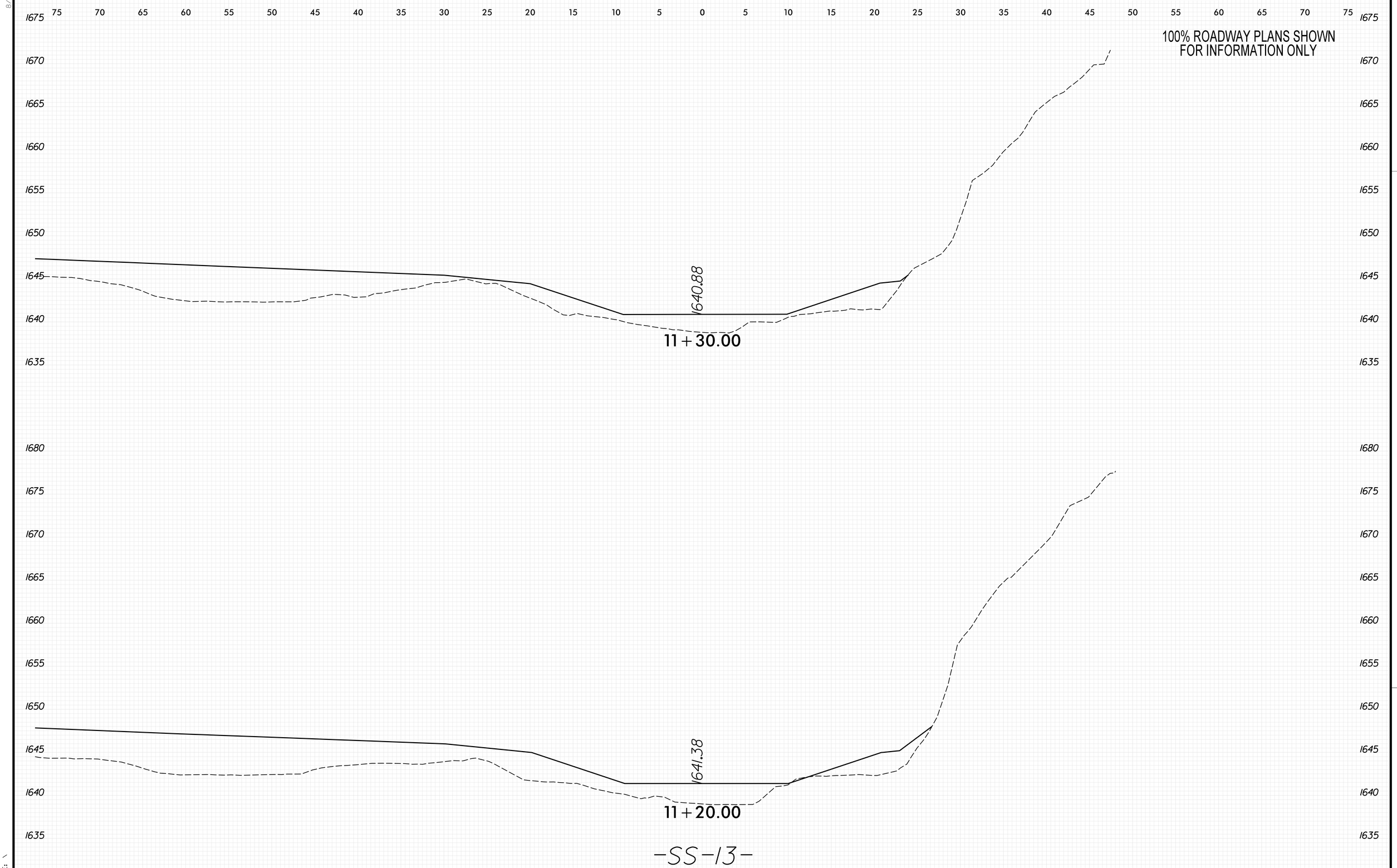
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:44 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-368



8/23/99

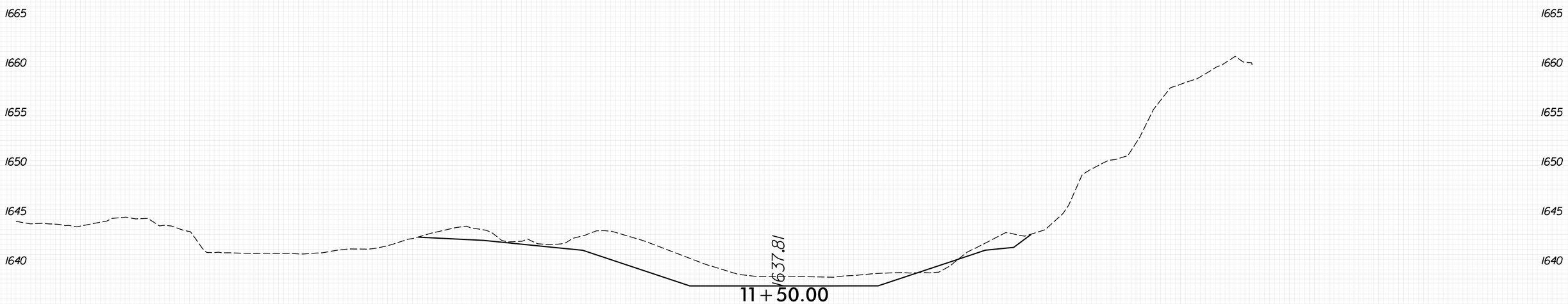
PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:51 AM

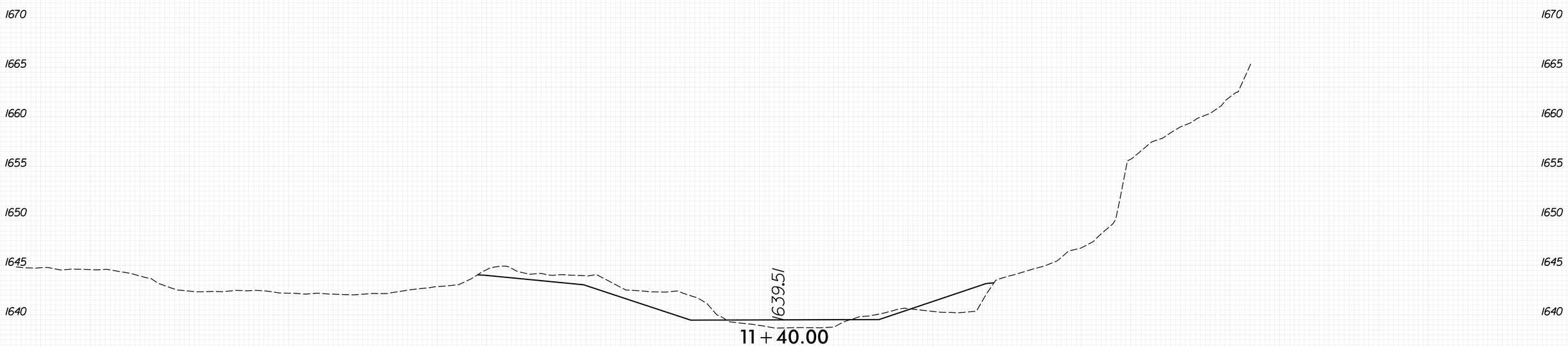
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-369

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



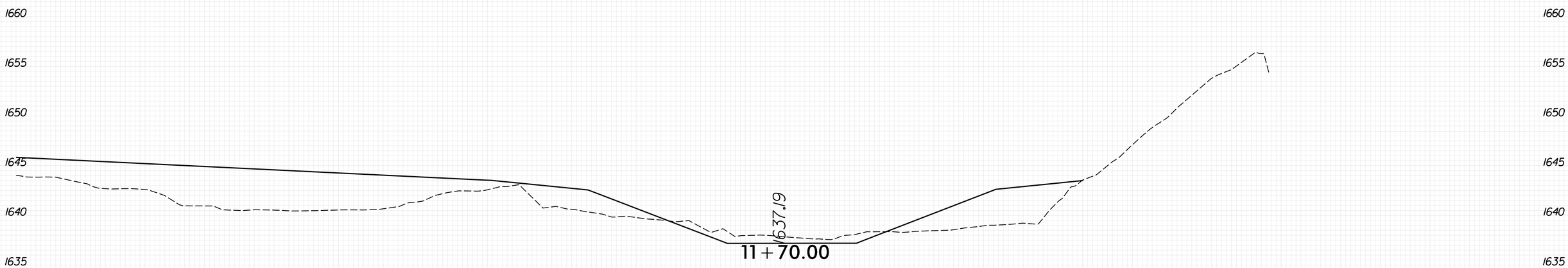


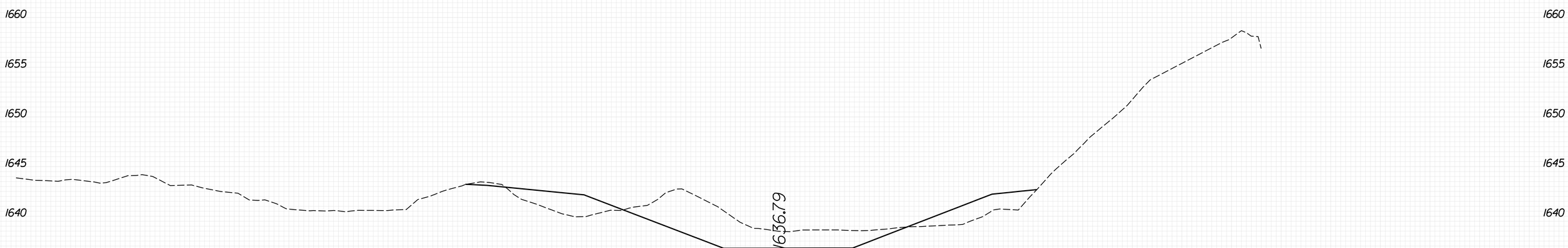
-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:17:58 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-370

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



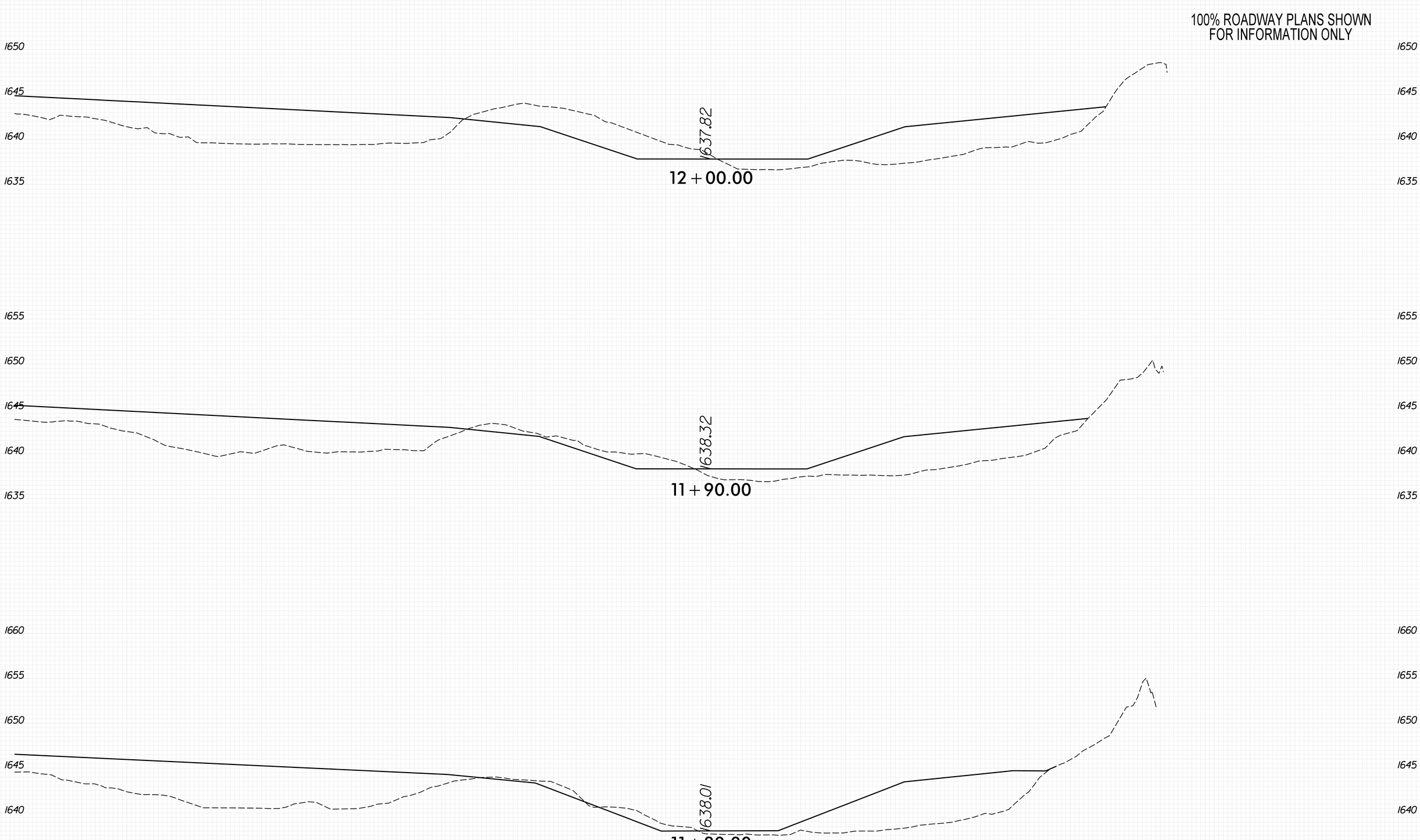


-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl.eh_v8.tbl
TIME: 9:18:05 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-371

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

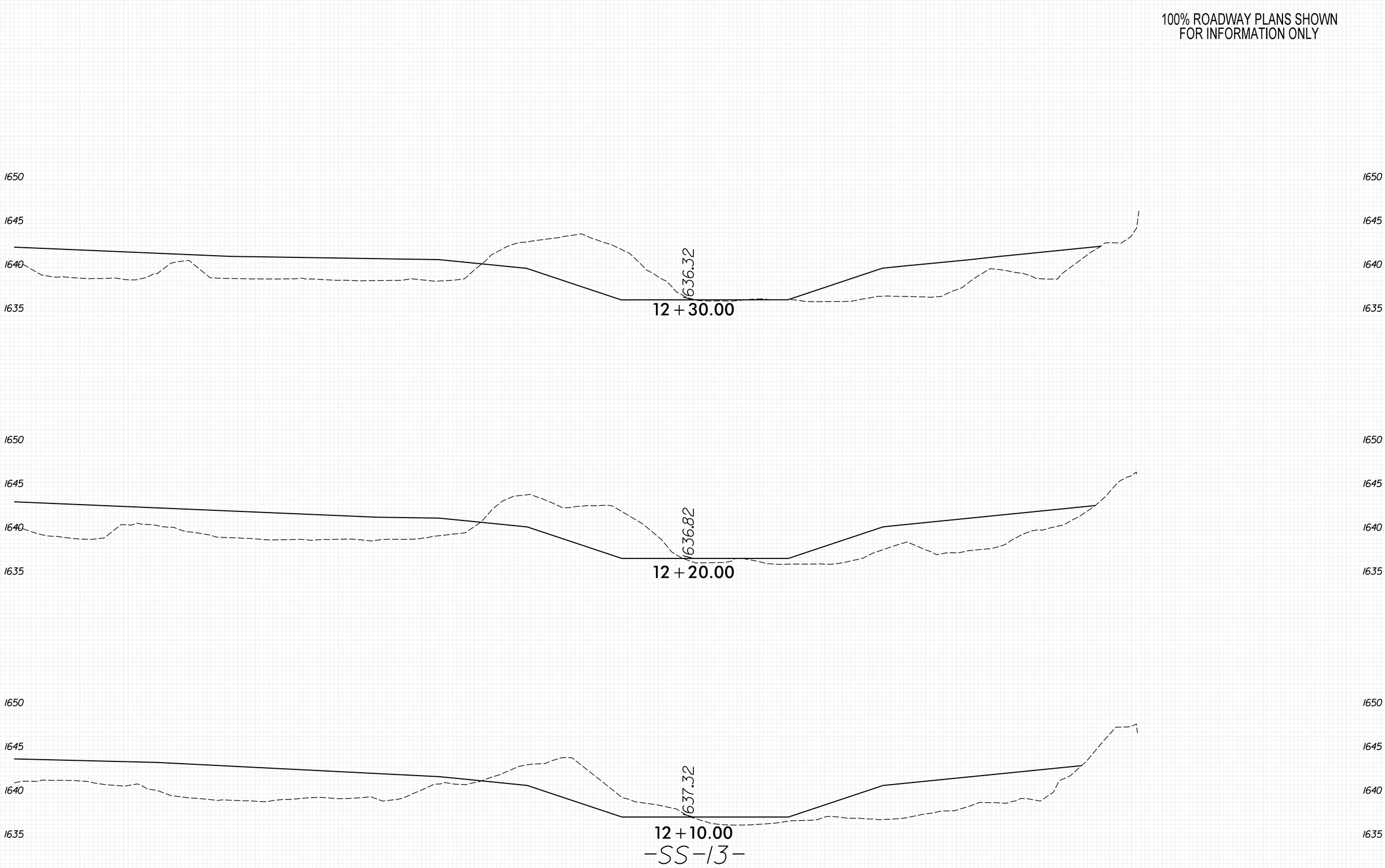


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:18:12 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-372

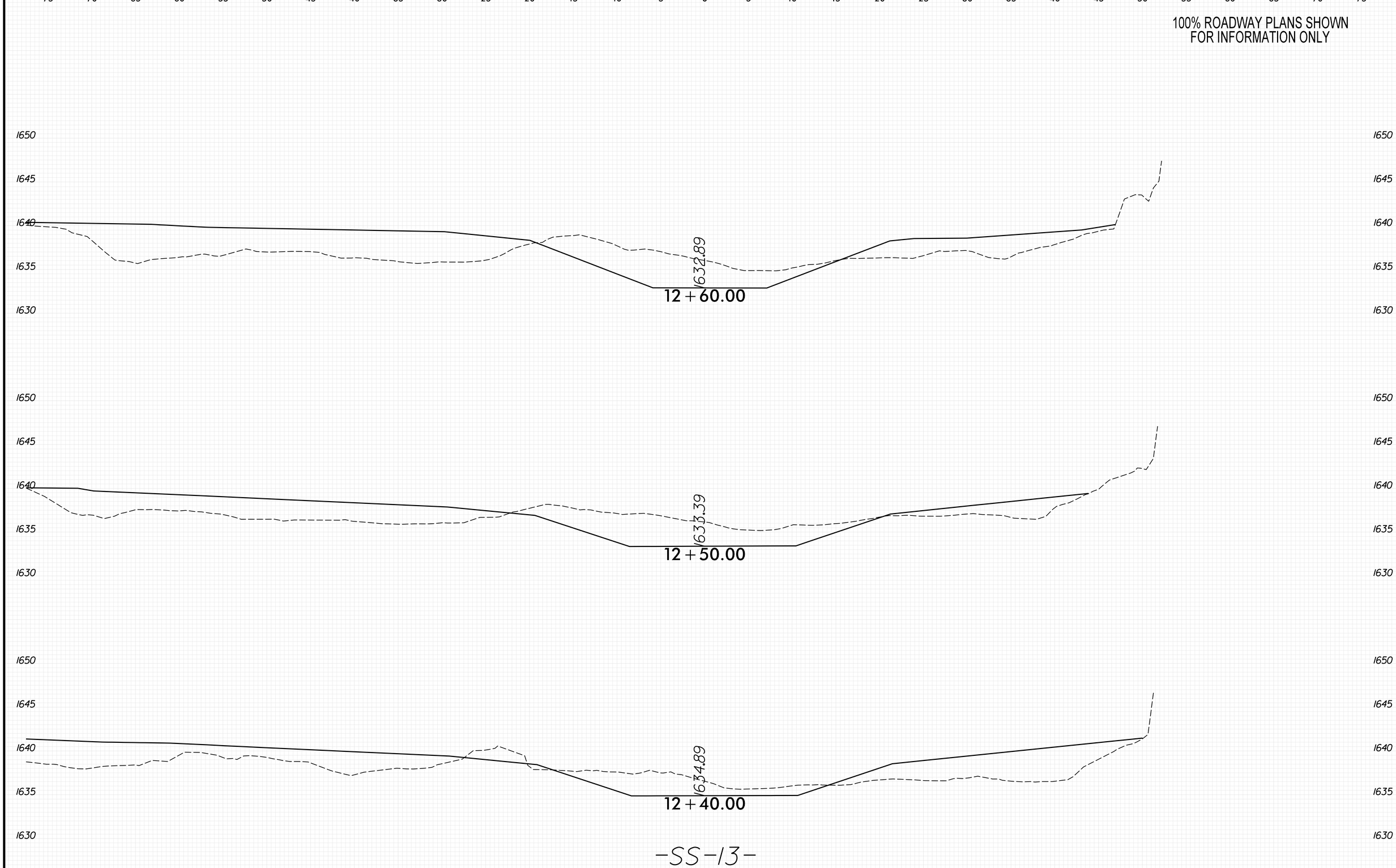
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:18:19 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-373

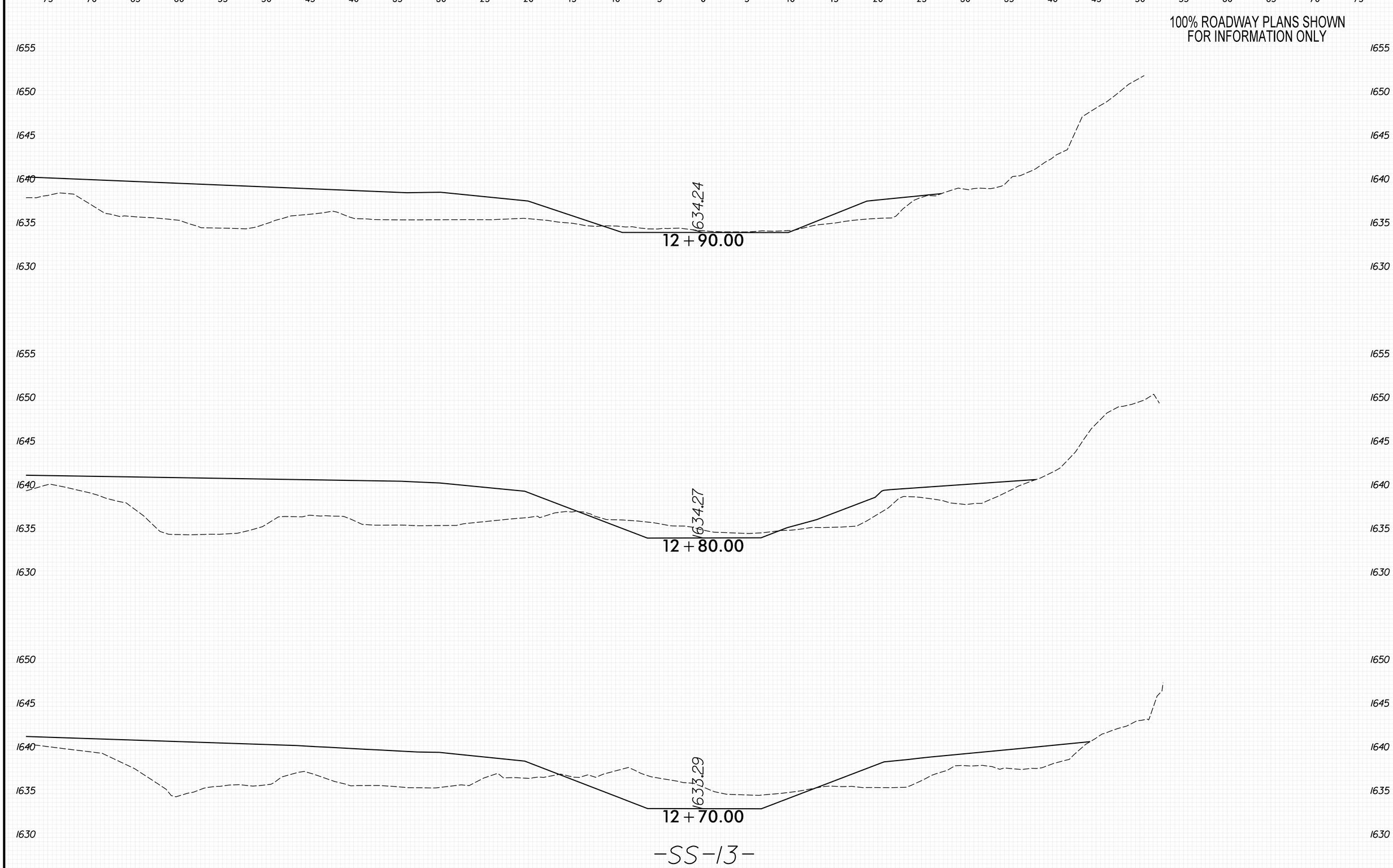
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:18:26 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-374

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



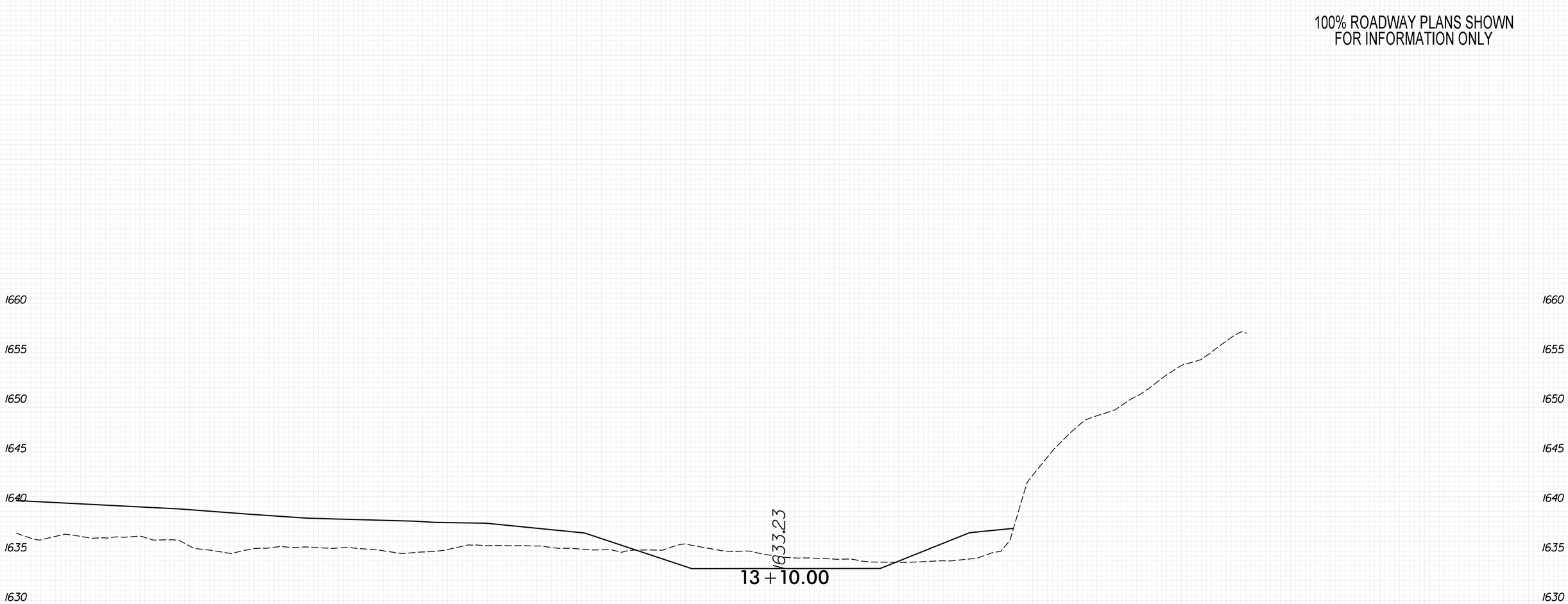
8/23/99

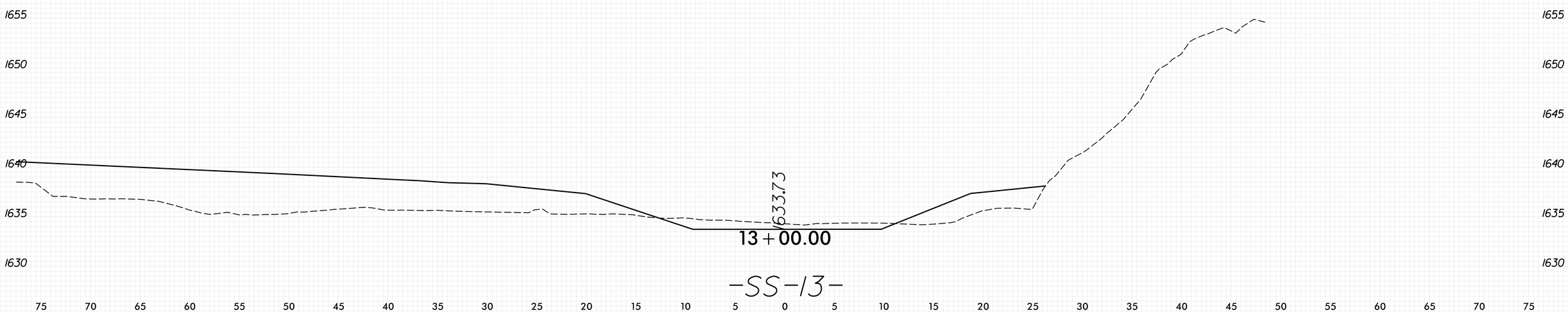
PENTABLE: xpl_eh_v8.tbl
TIME: 9:18:33 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



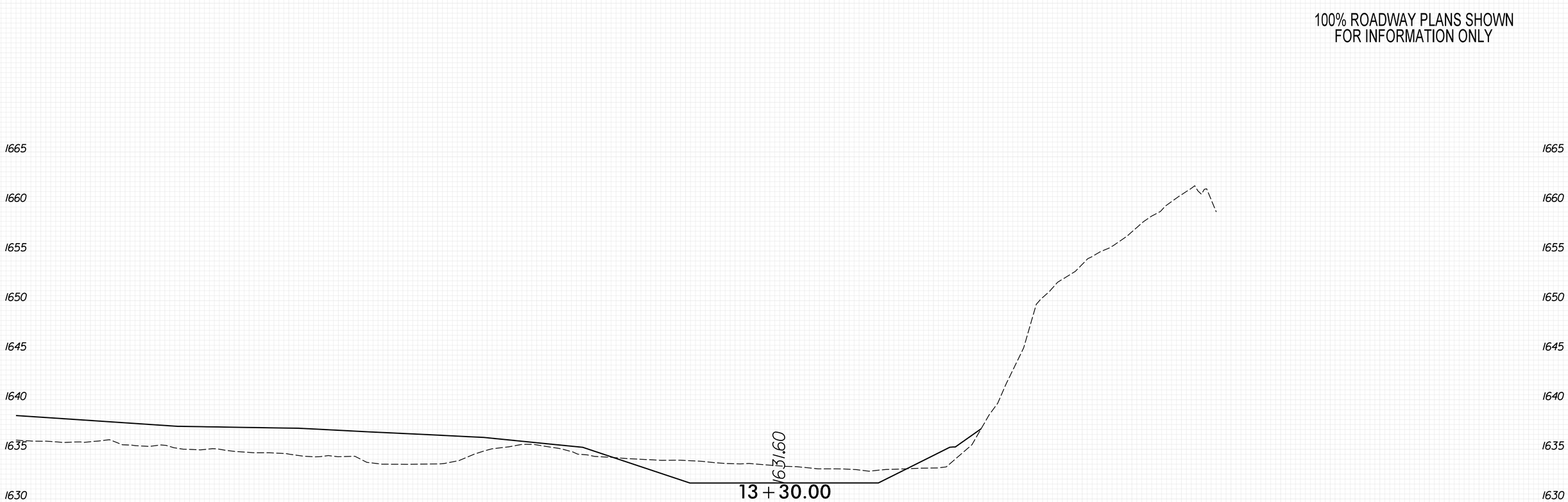


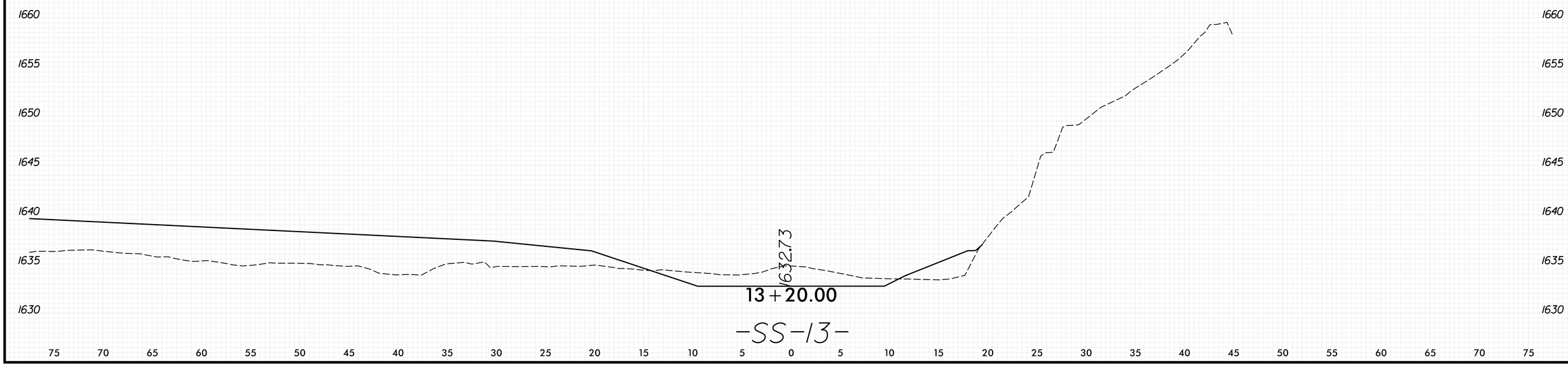
-SS-13-

8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:18:40 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-376

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

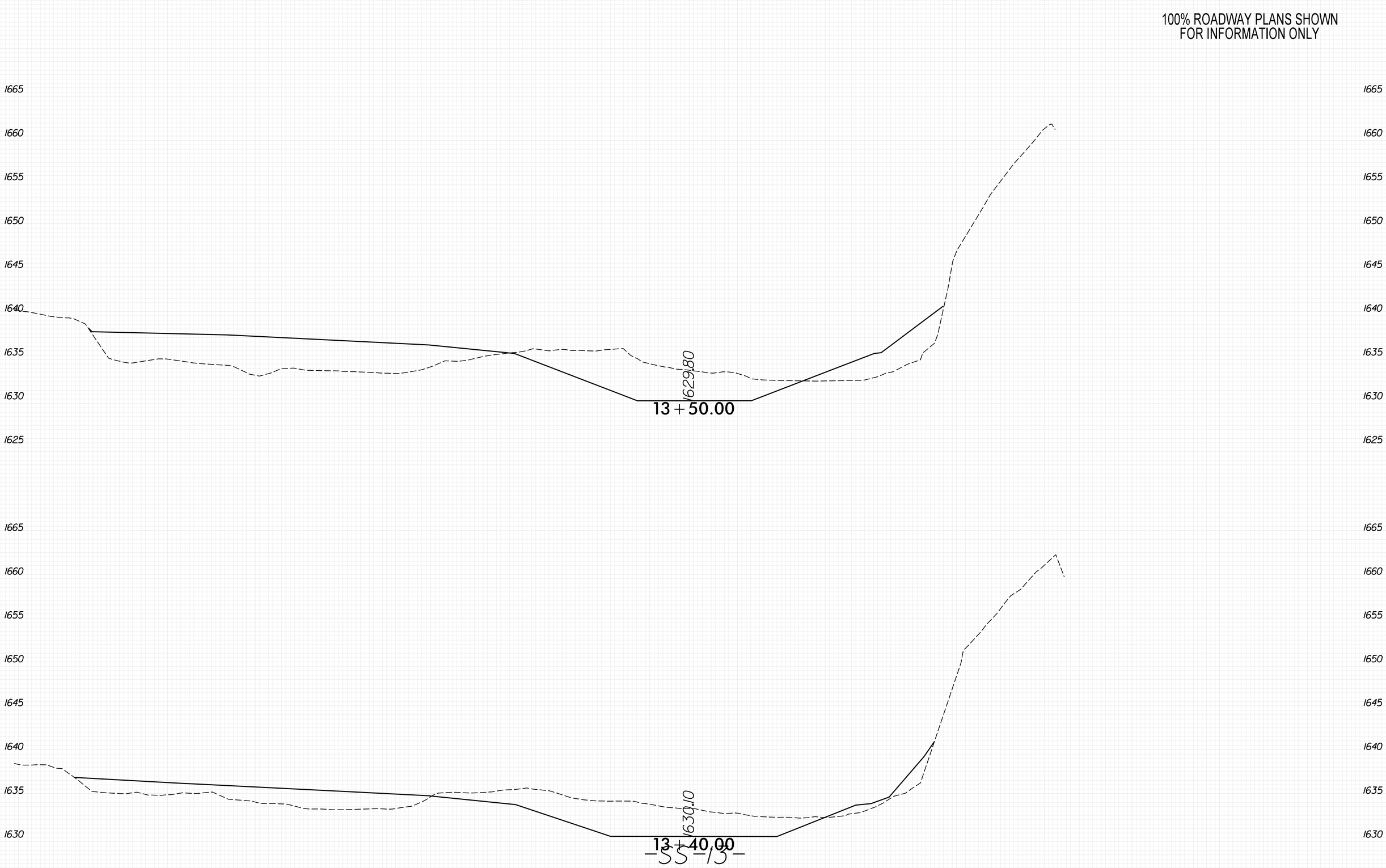




8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:18:47 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-377

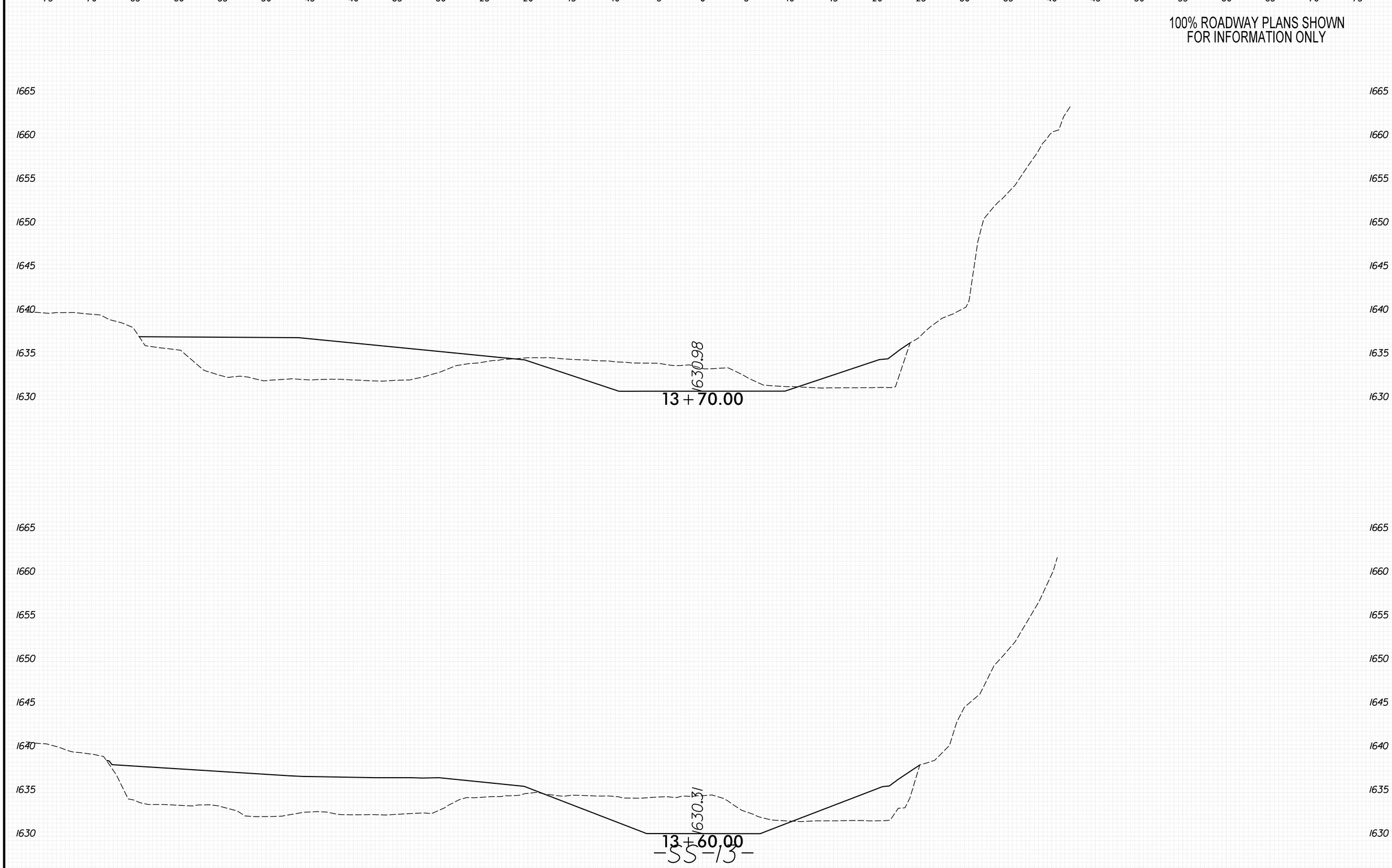
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:18:54 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-378

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



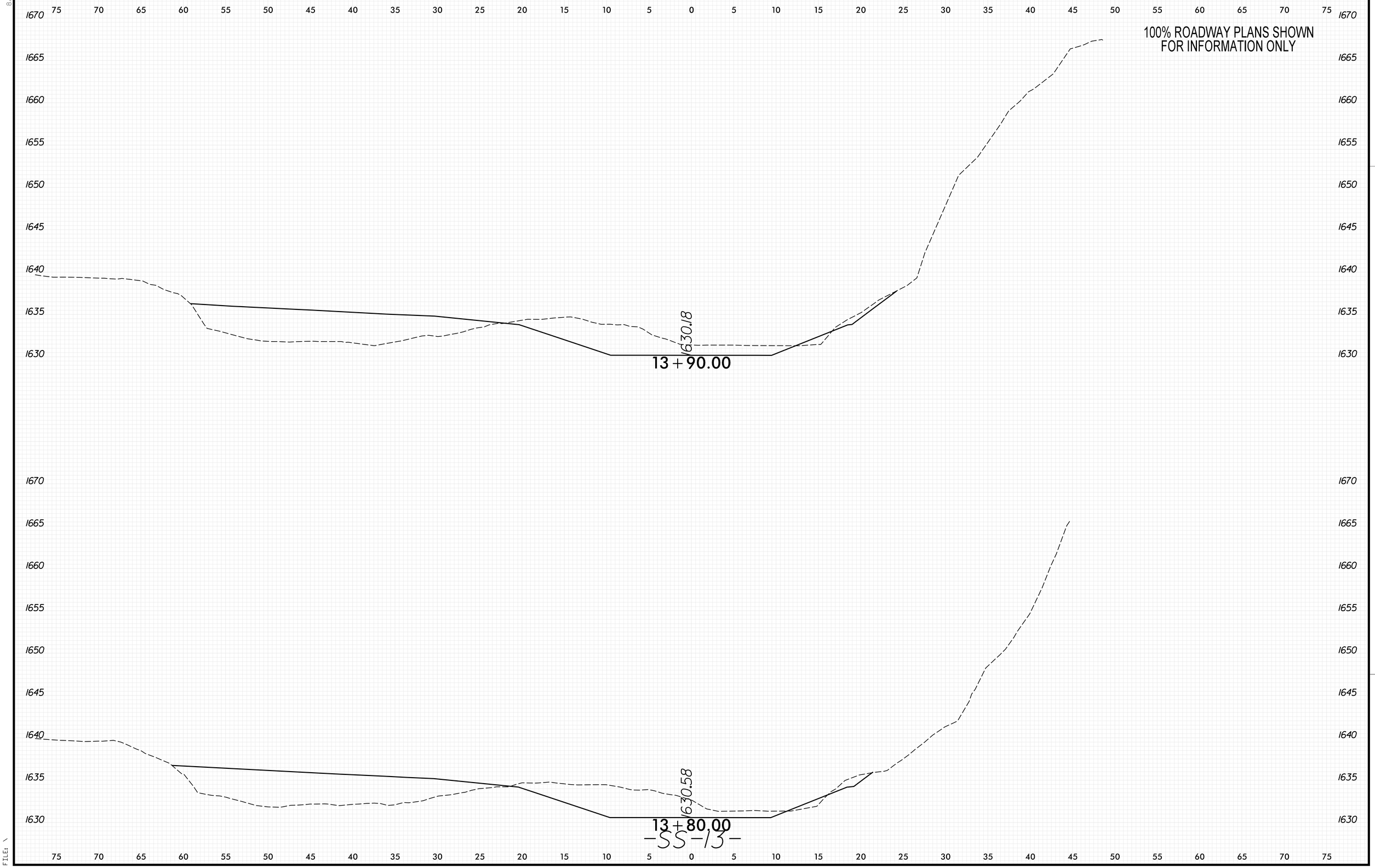
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:19:01 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-379



8/23/99

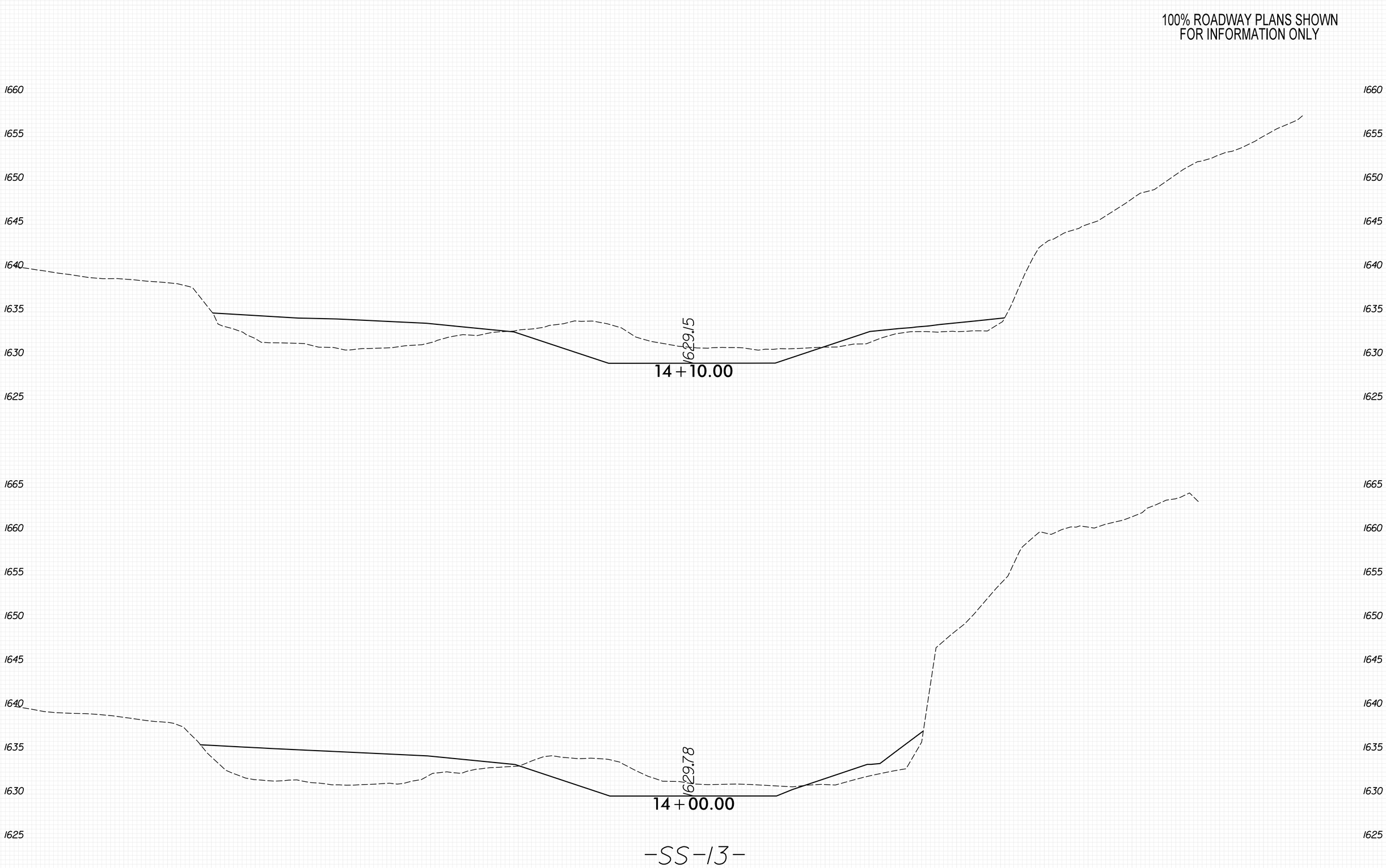
PENTABLE: xpl_eh_v8.tbl
TIME: 9:19:08 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-380

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

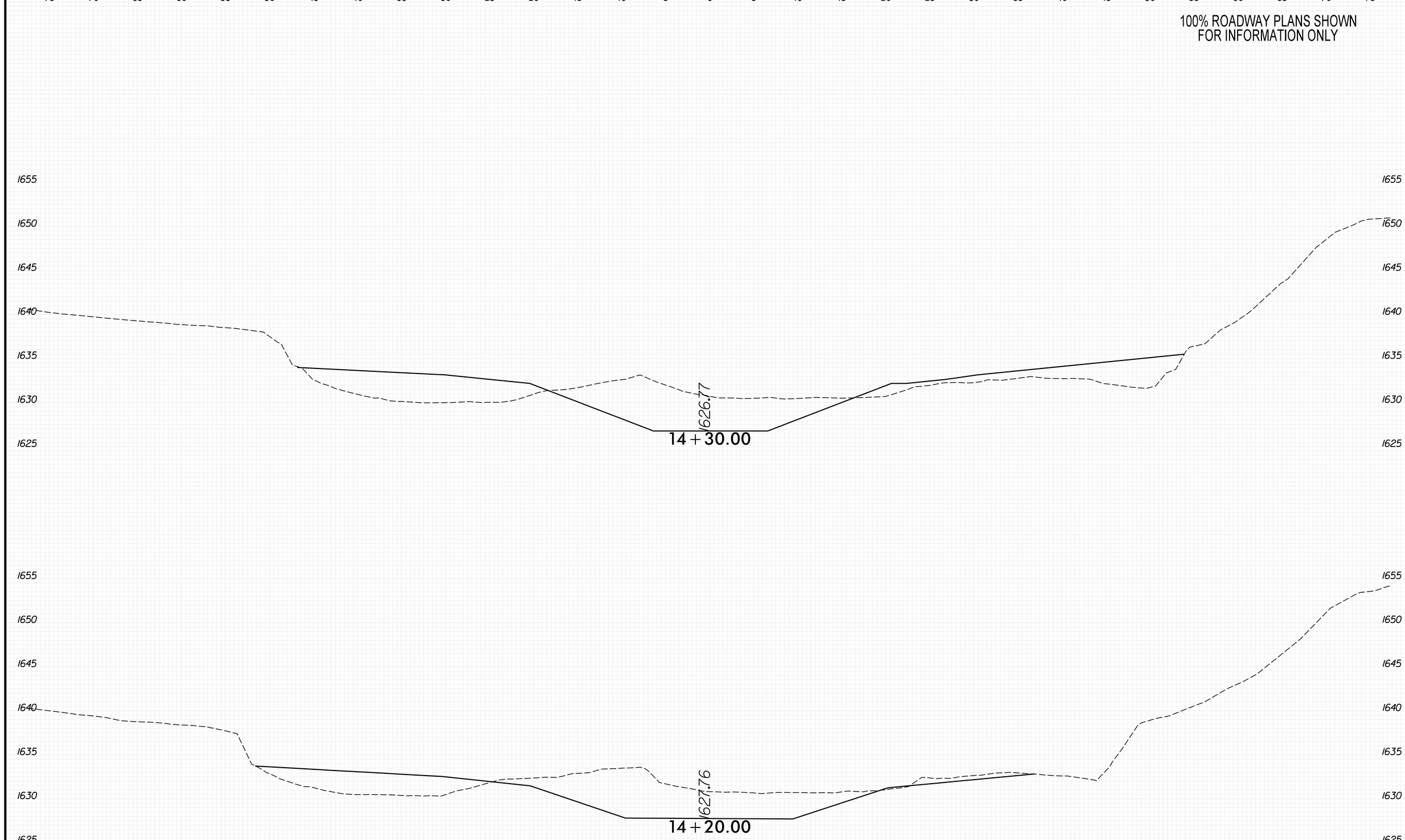
PENTABLE: xpl_eh_v8.tbl
TIME: 9:19:14 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-381

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

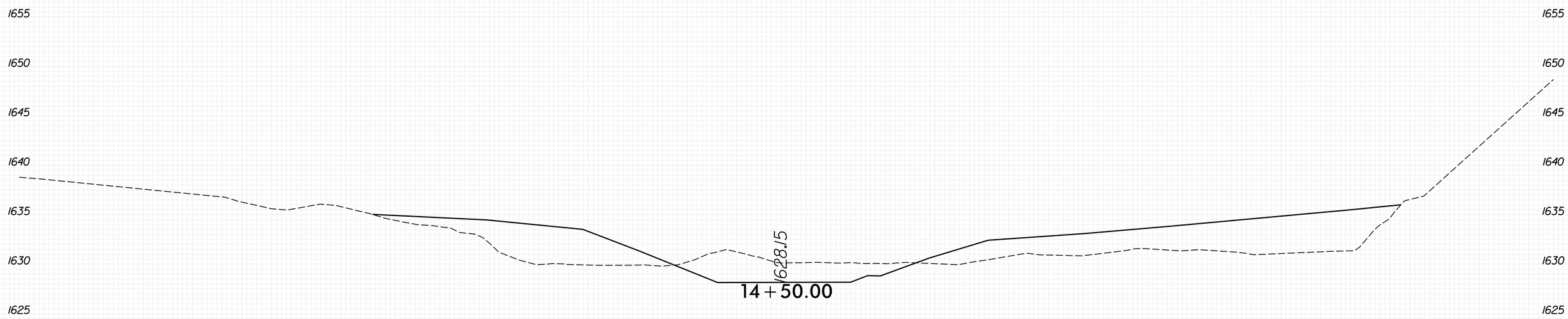
PENTABLE: xpl_eh_v8.tbl
TIME: 9:19:21 AM

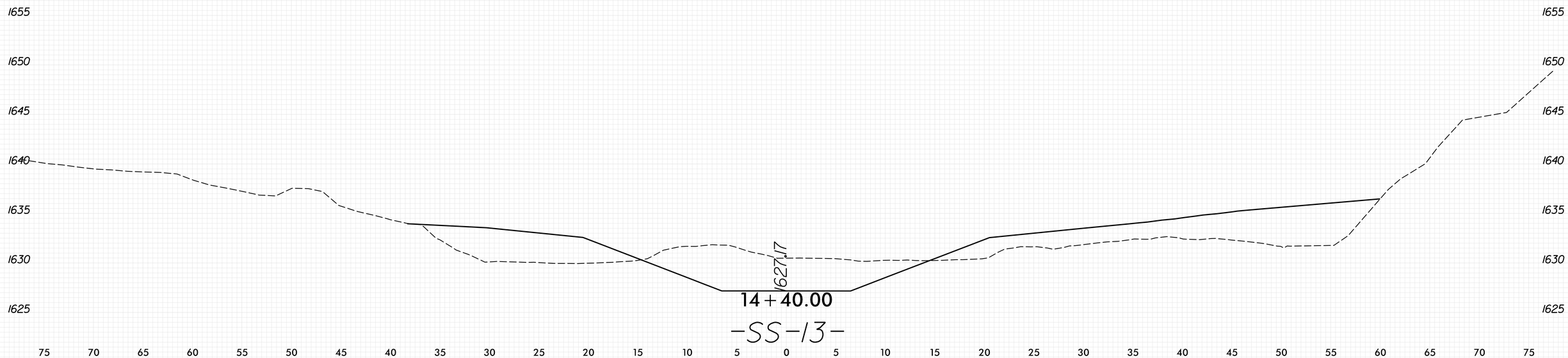
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-382

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



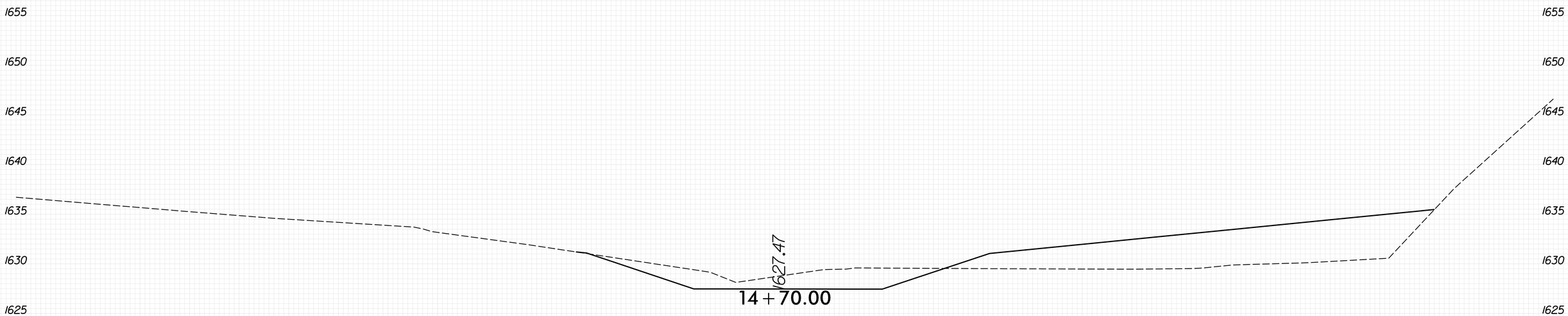


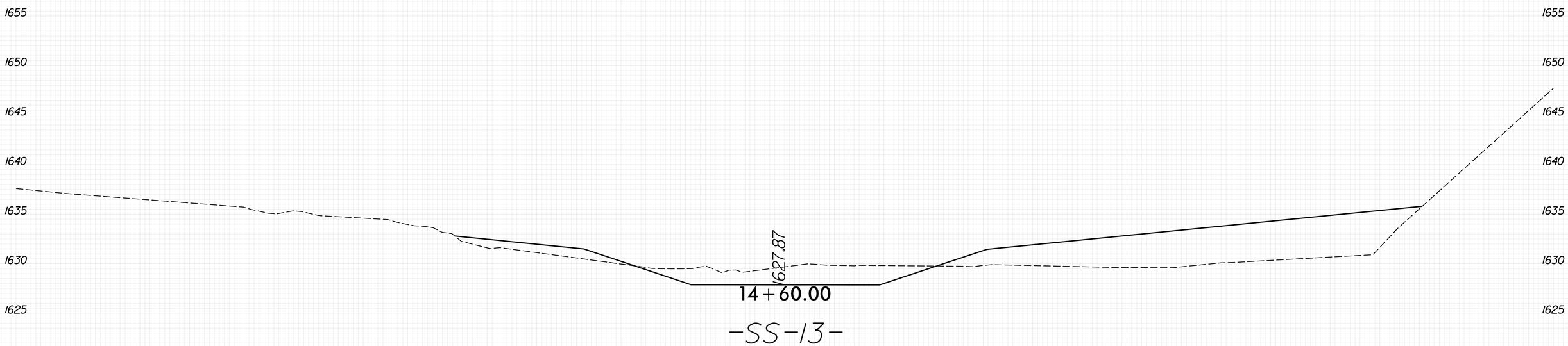
-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt DATE: 5/29/2026
USER: KCLATTERBU TIME: 9:19:27 AM
FILE: \ PENTABLE: xpl_eh_v8.tbl

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-383

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



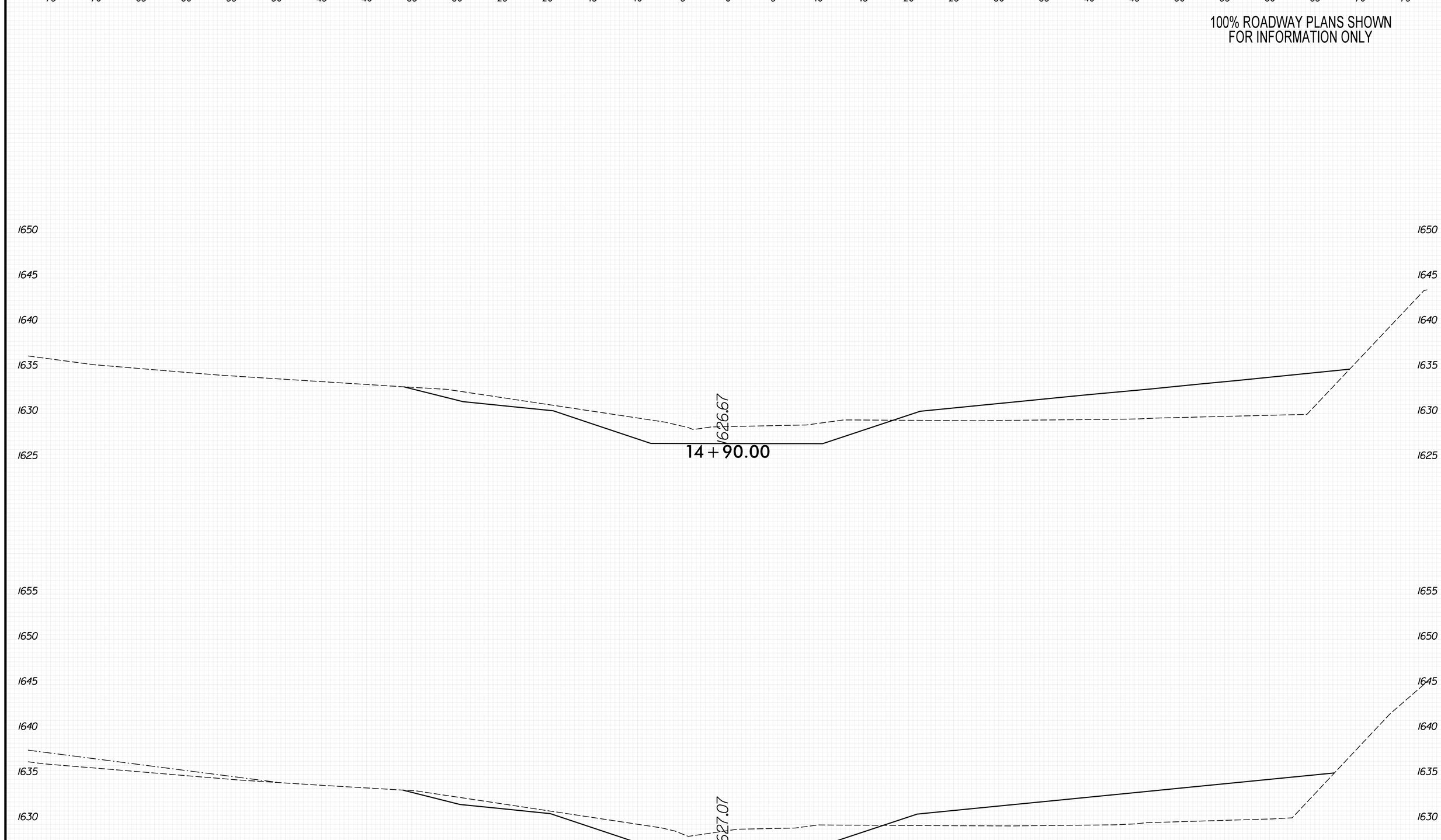


-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:19:34 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-384

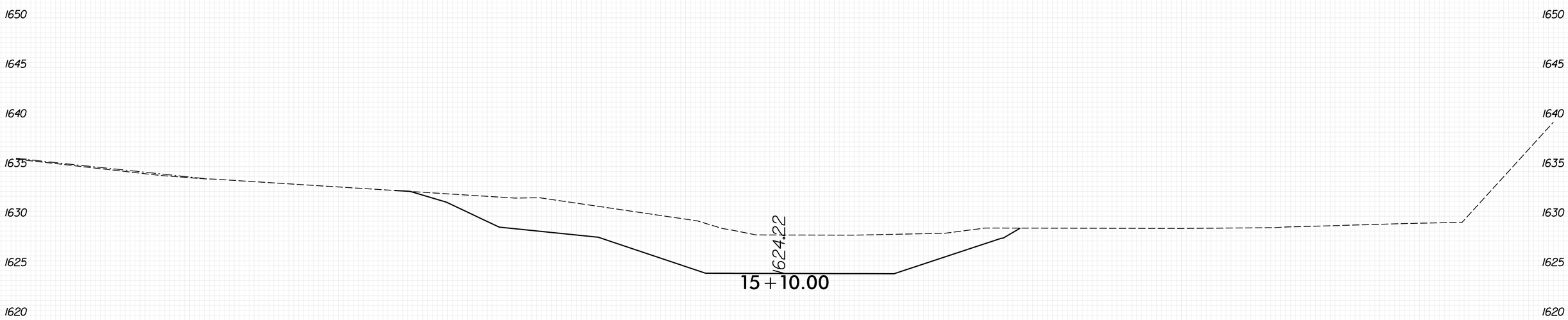
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

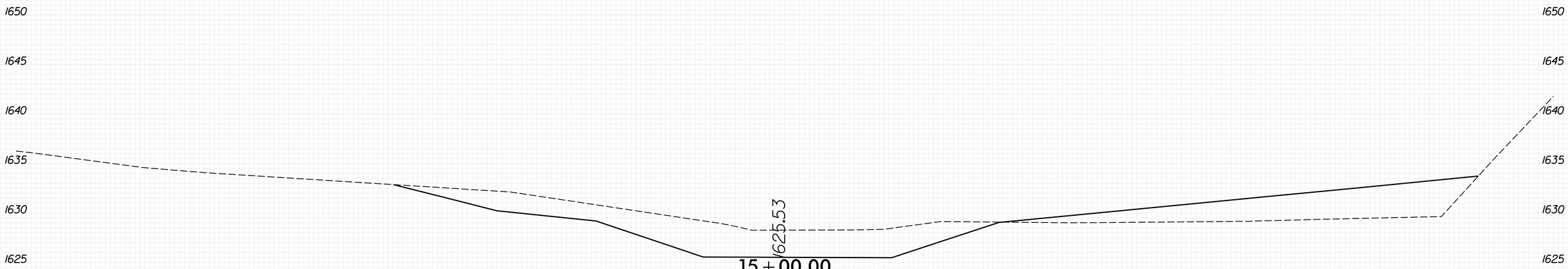


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:19:40 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-385

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



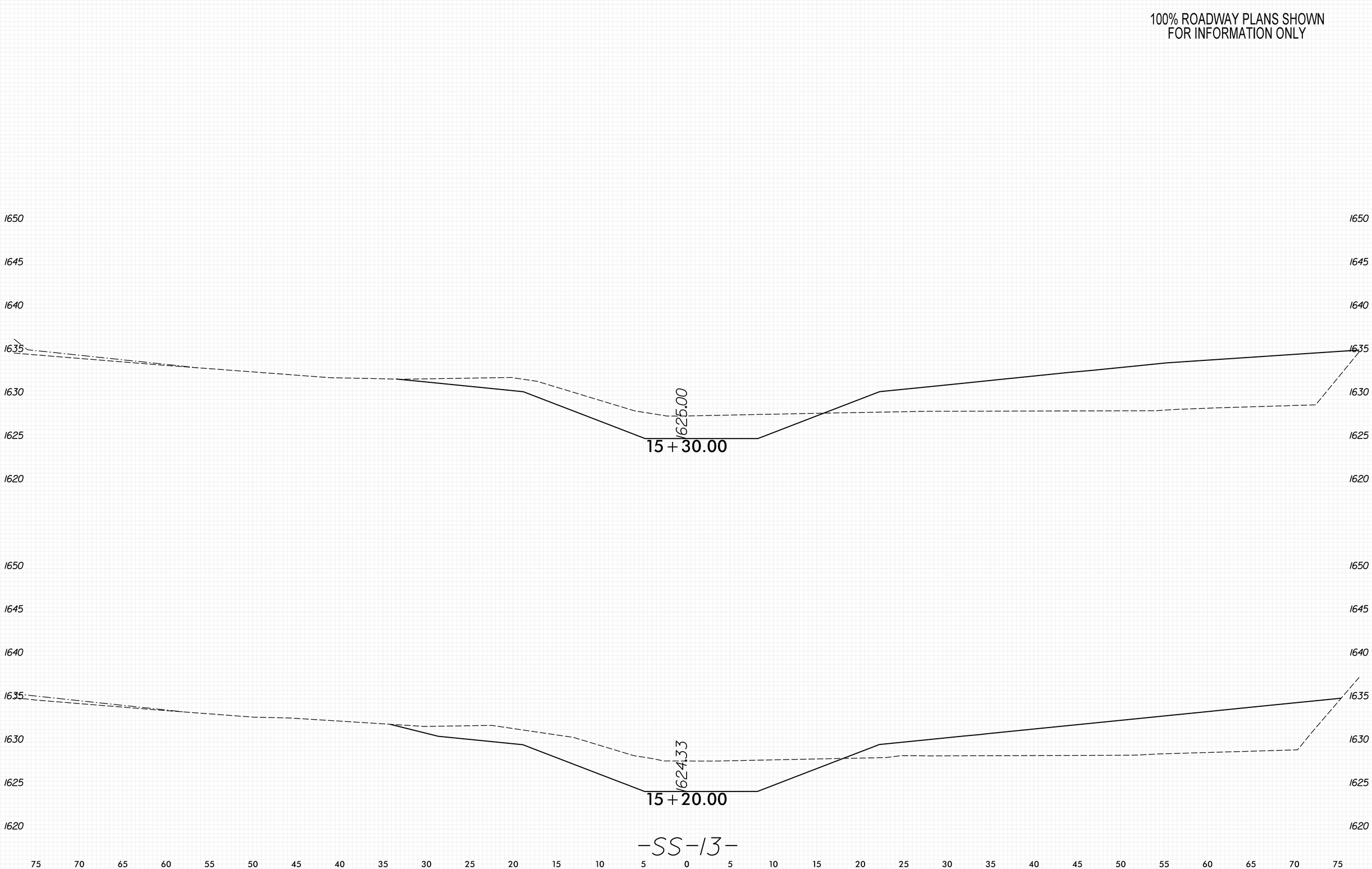


-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt DATE: 5/29/2026
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl TIME: 9:19:46 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-386

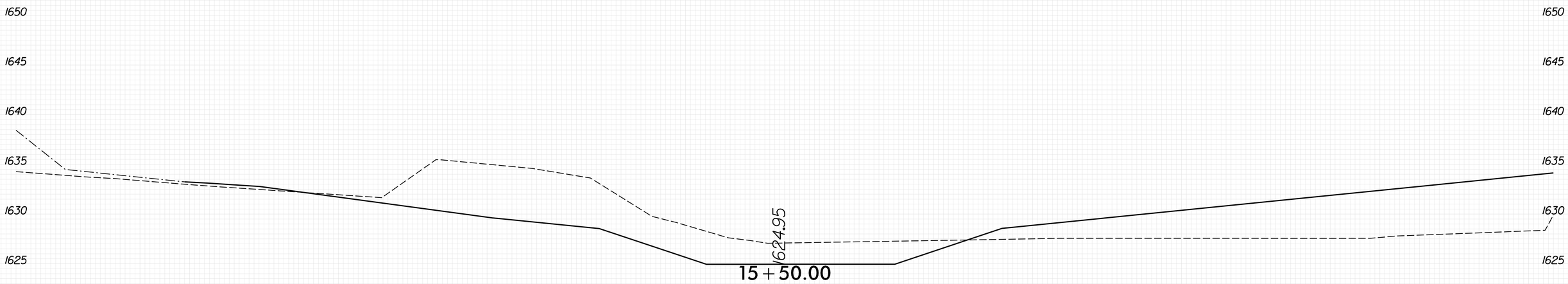
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

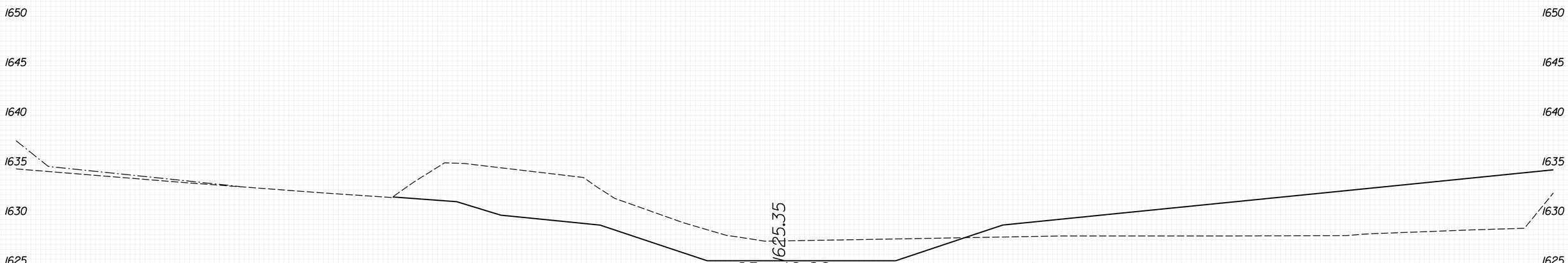


PENTABLE: xpl.eh_v8.tbl
TIME: 9:19:53 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-387

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

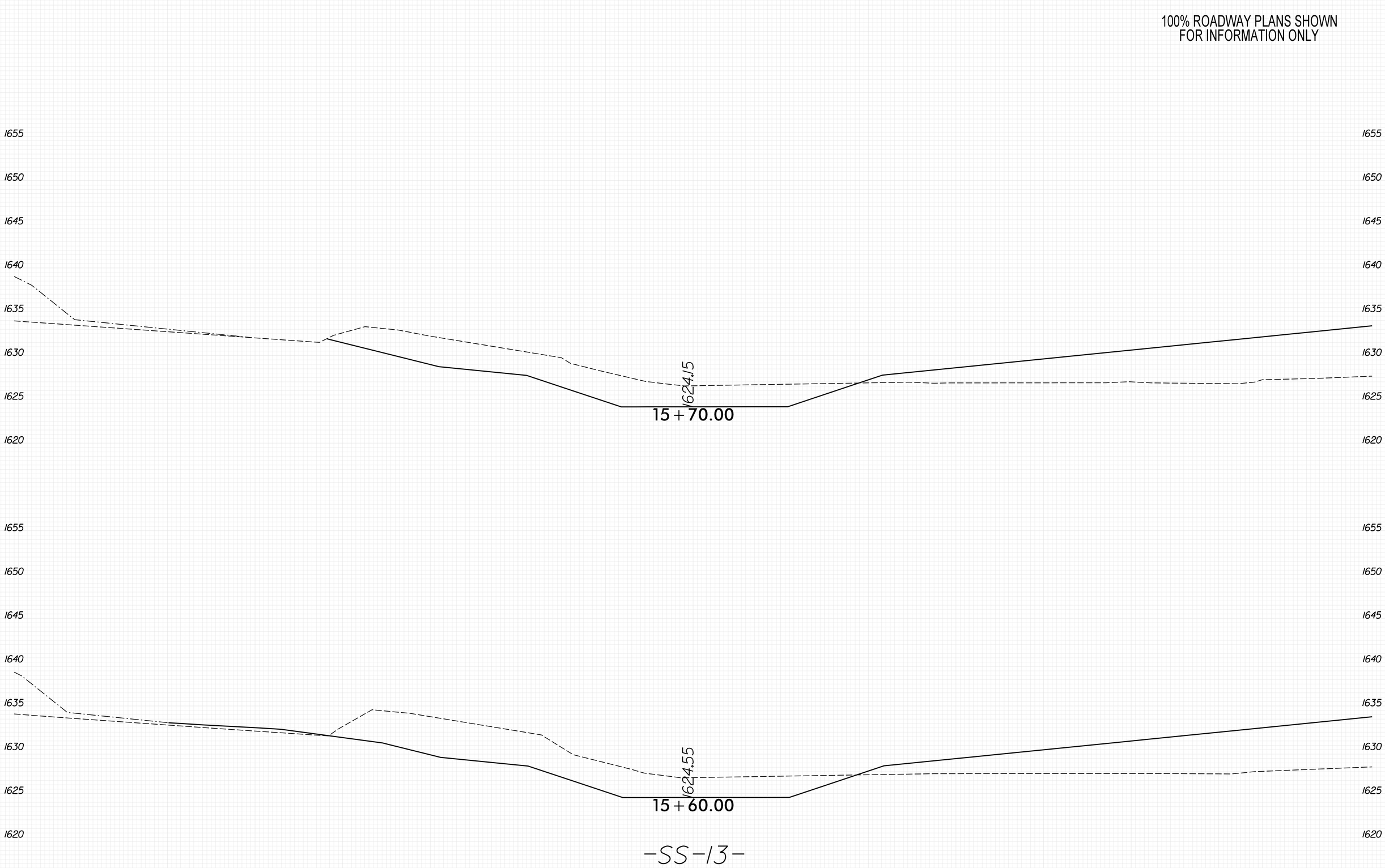




8/23/99
PENTABLE: xpl.eh_v8.tbl
TIME: 9:19:59 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-388

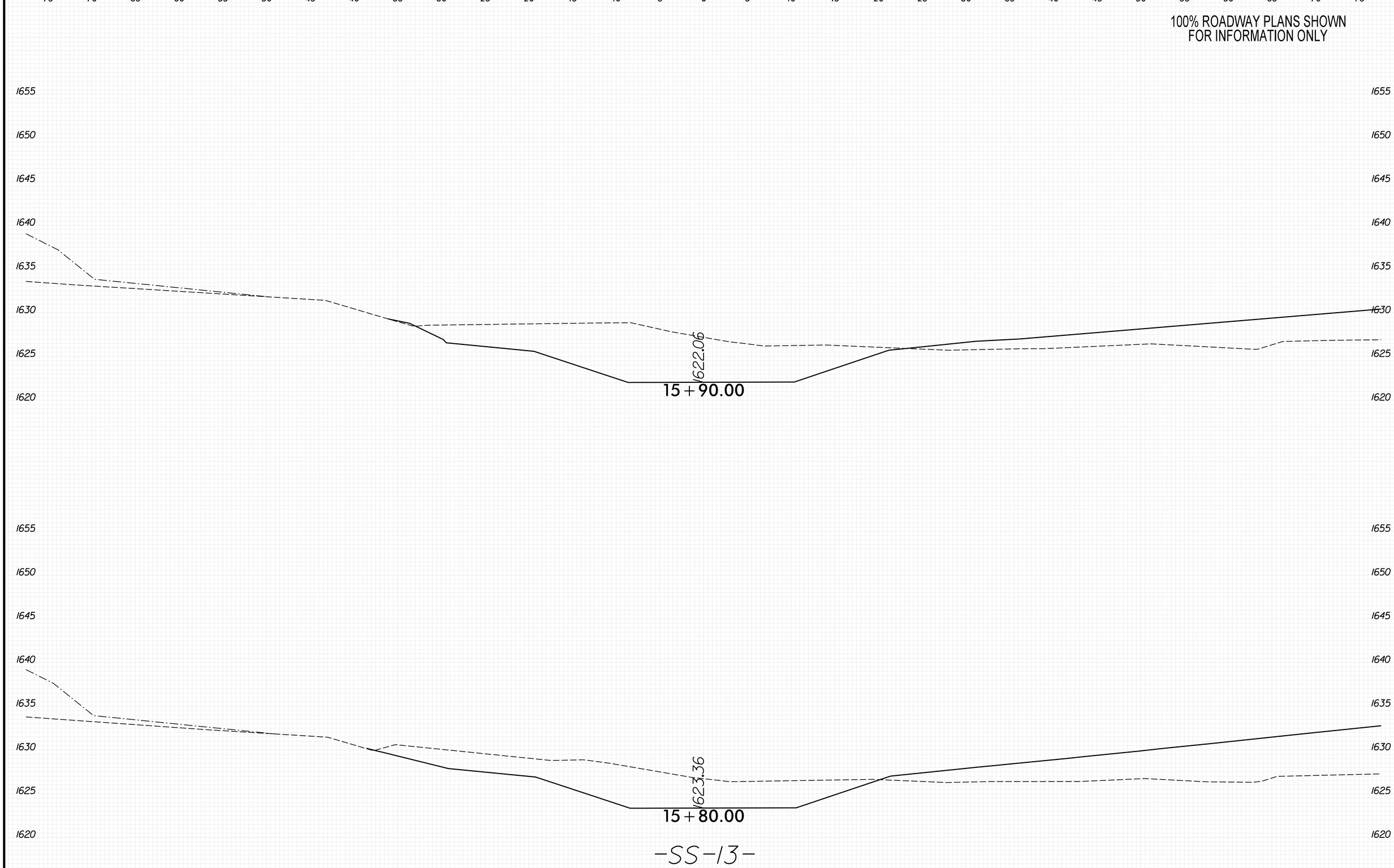
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:05 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-389

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

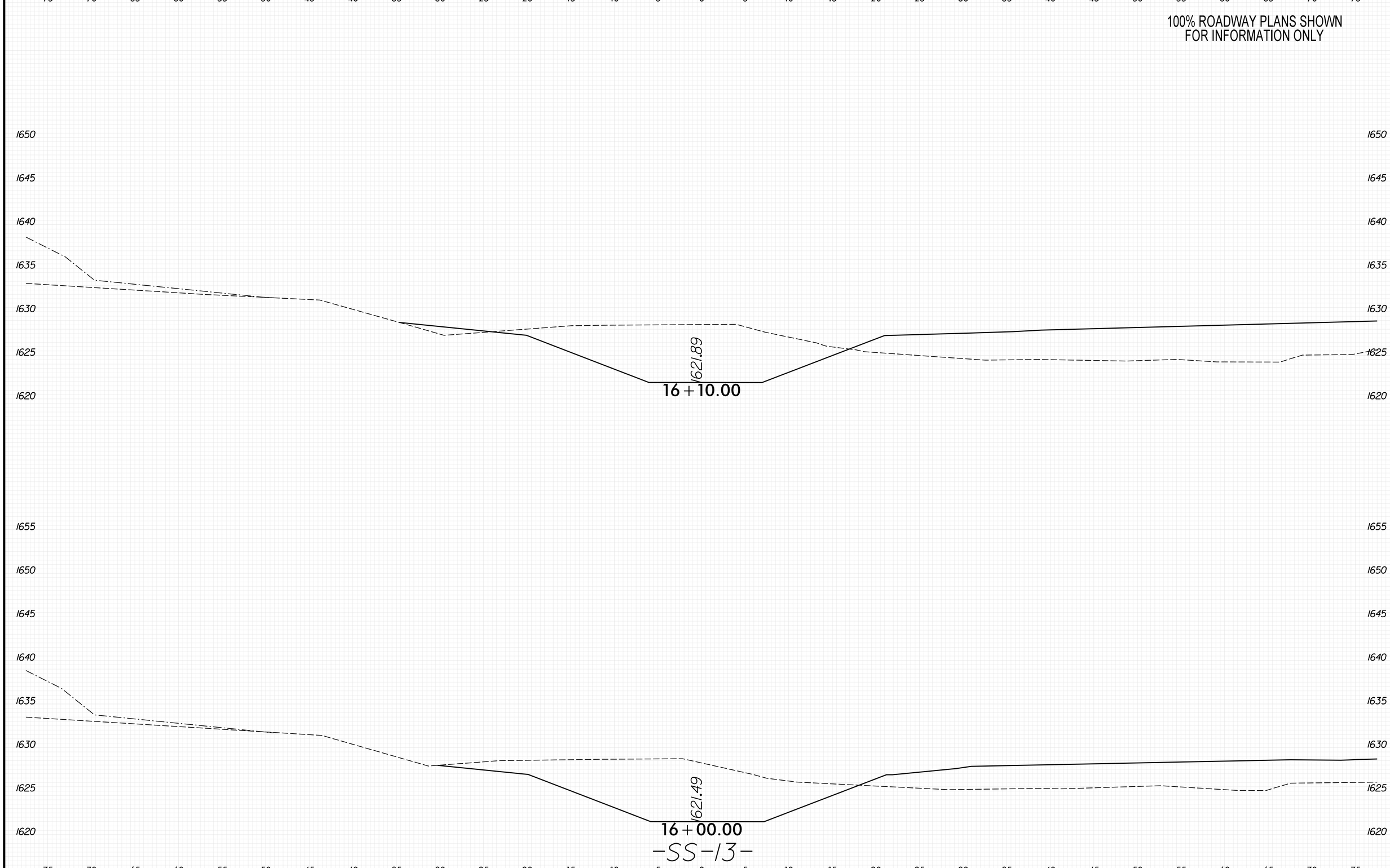
PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:11 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-390

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

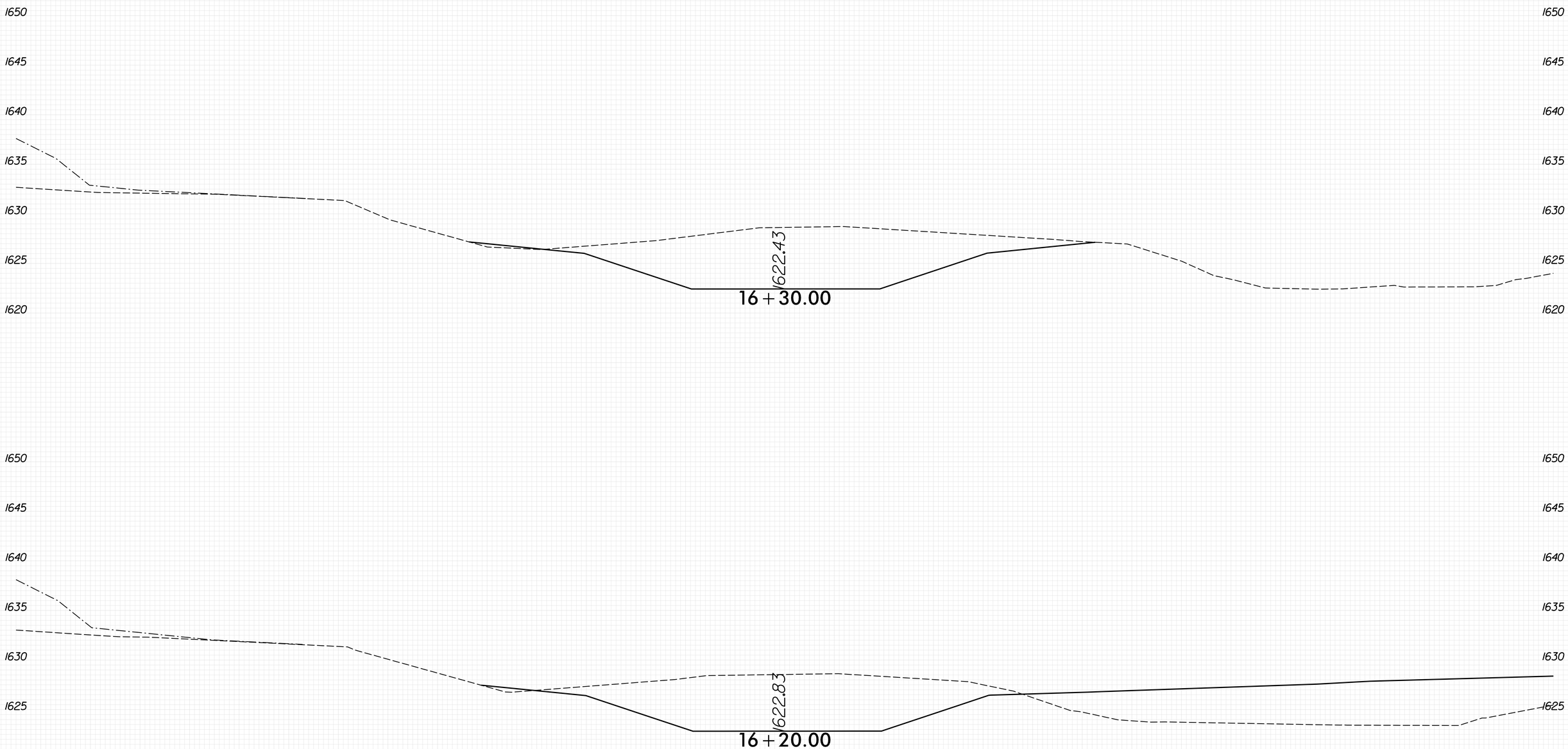
PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:18 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-391

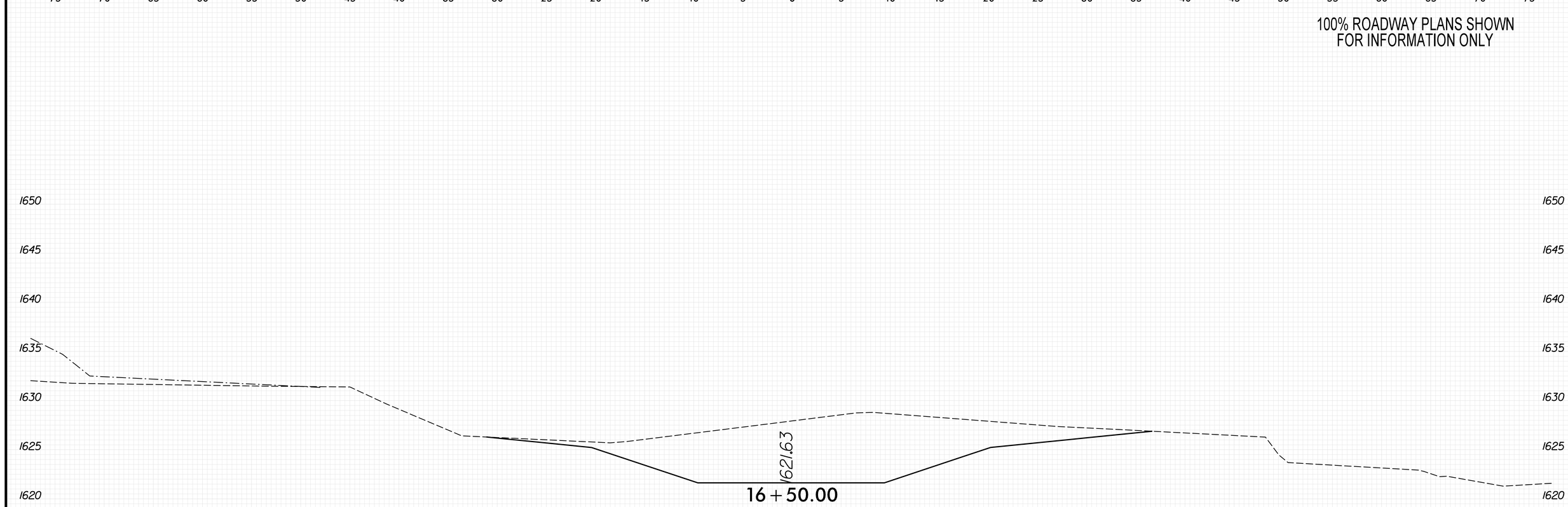
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

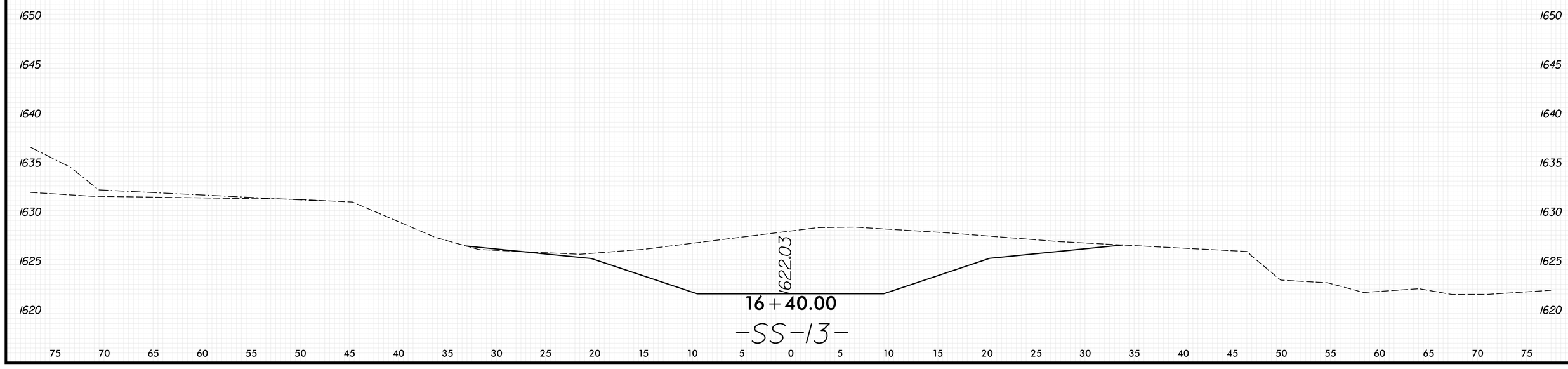


PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:24 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-392

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



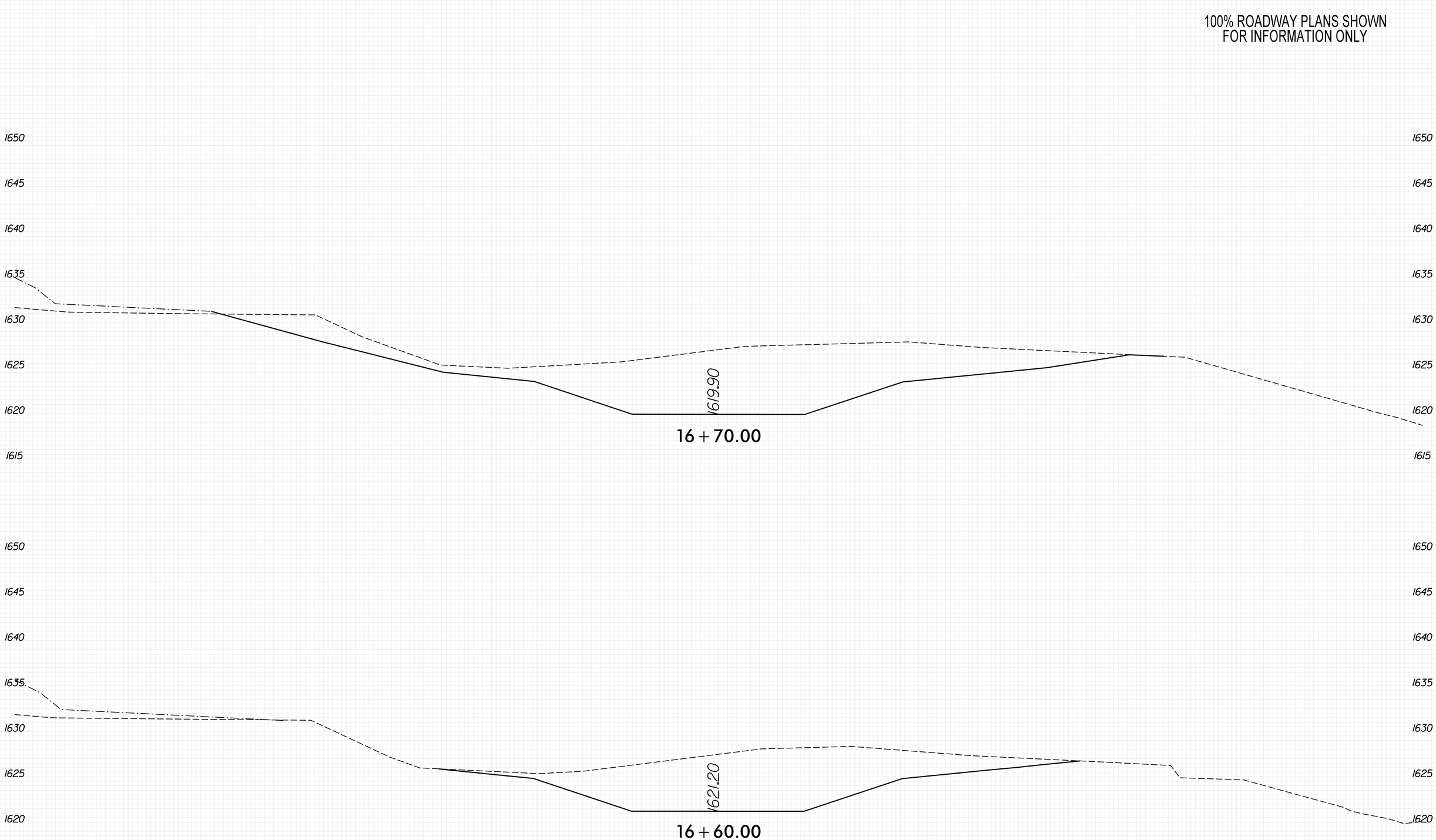


-SS-13-

8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:30 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-393

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

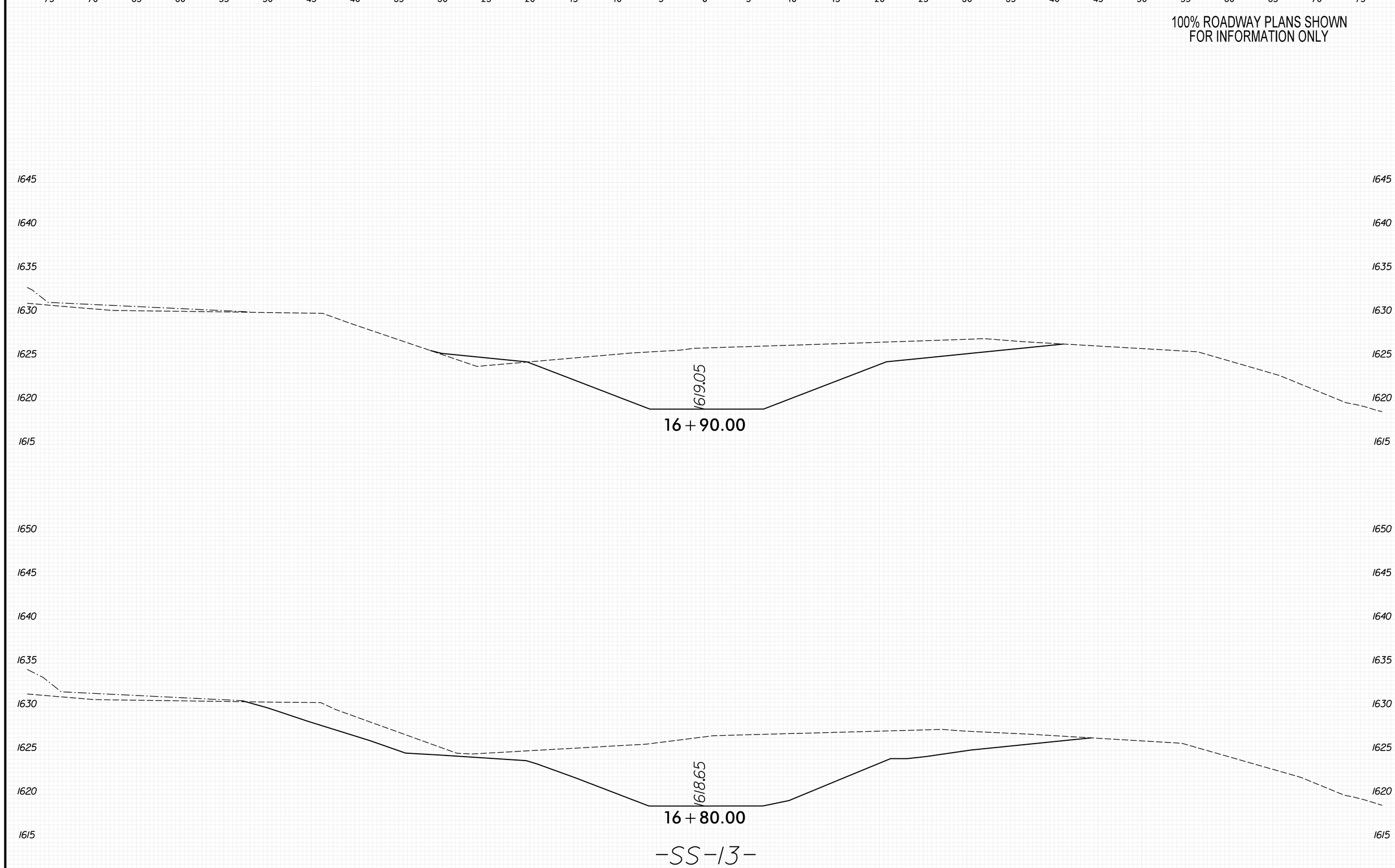


-SS-13-

8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:36 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-394

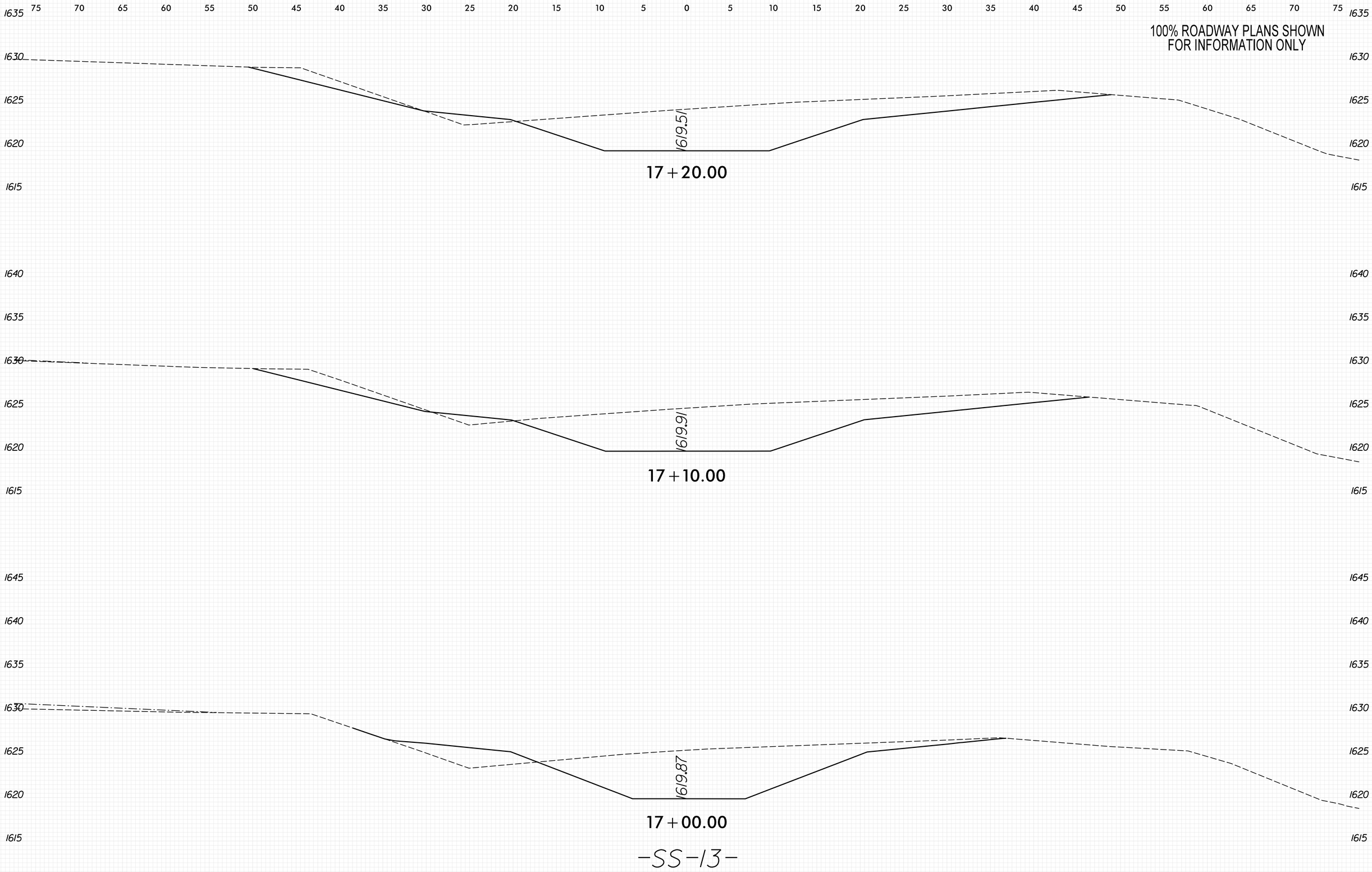
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:43 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-395

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:49 AM

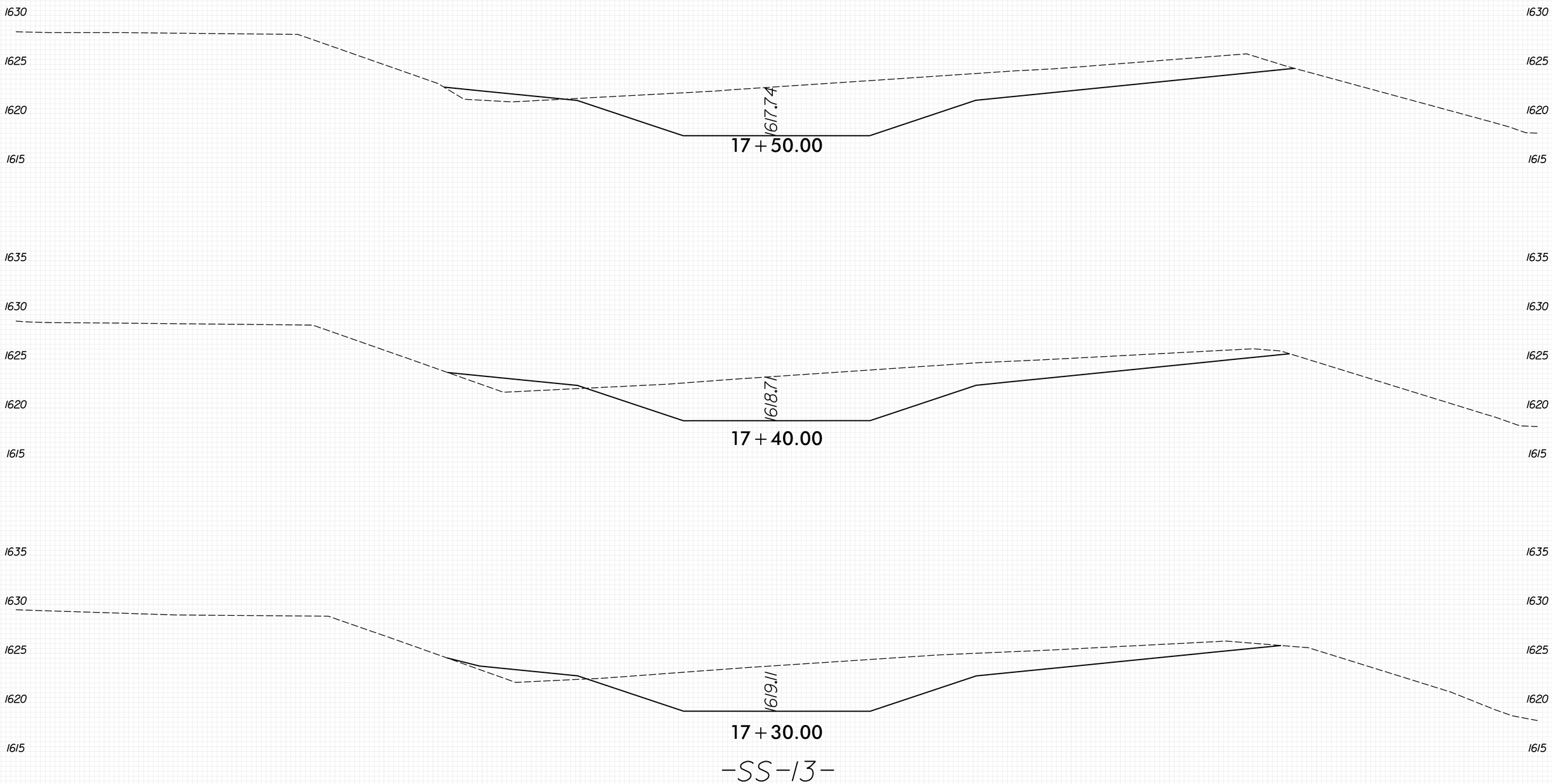
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU

FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-396

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

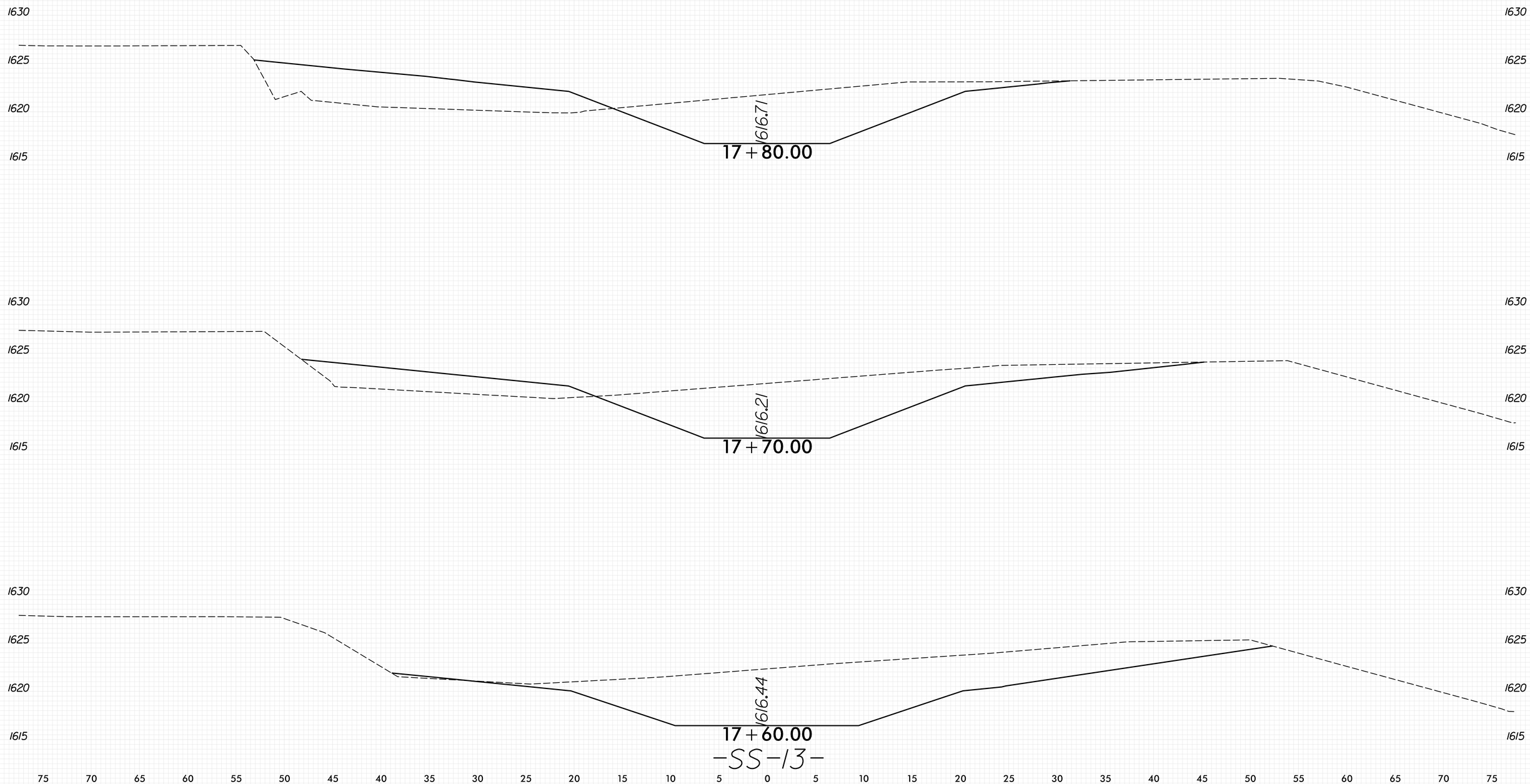
PENTABLE: xpl_eh_v8.tbl
TIME: 9:20:55 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-397

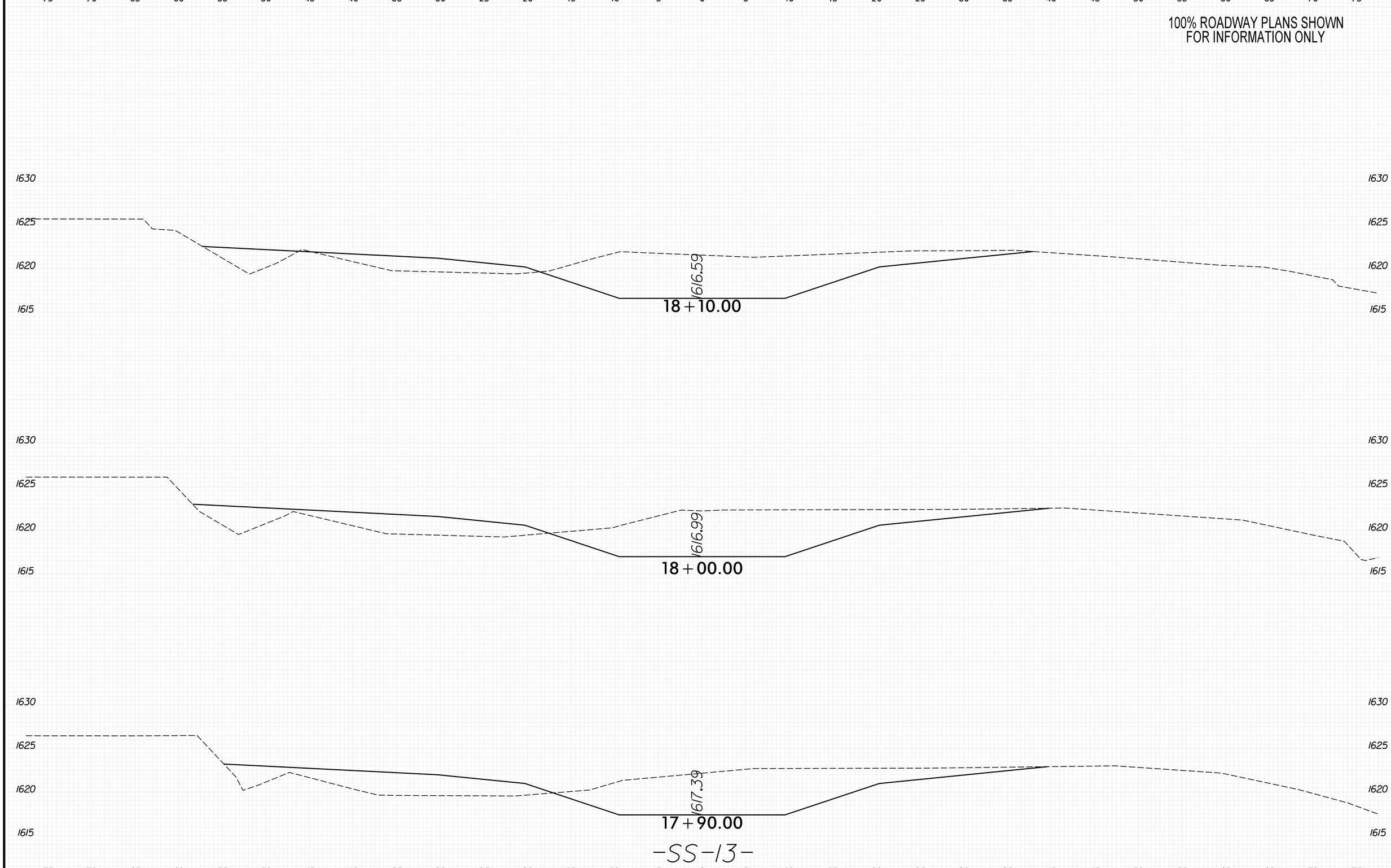
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:21:02 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-398

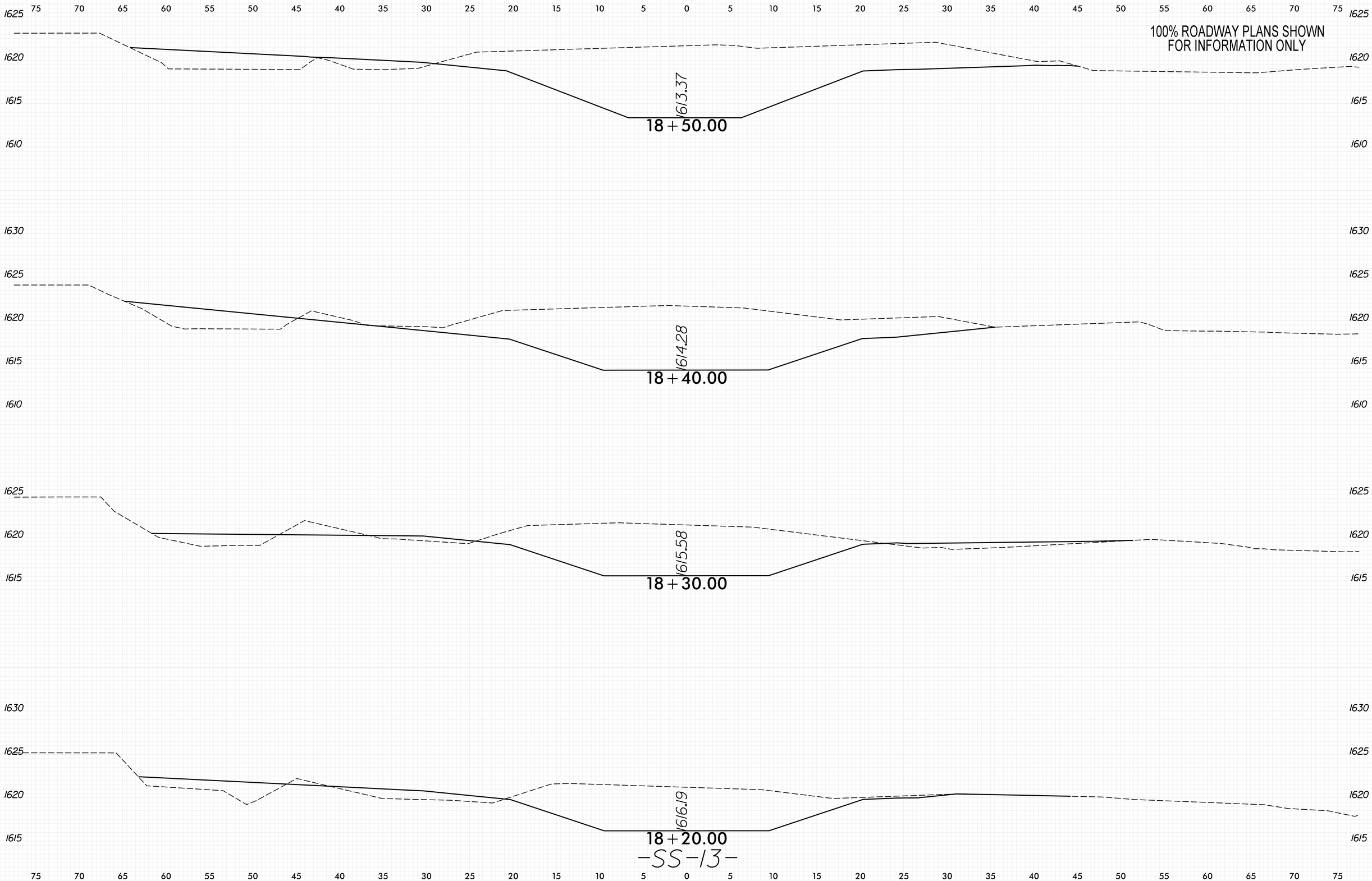
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:21:08 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-399

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-13-

8/23/99

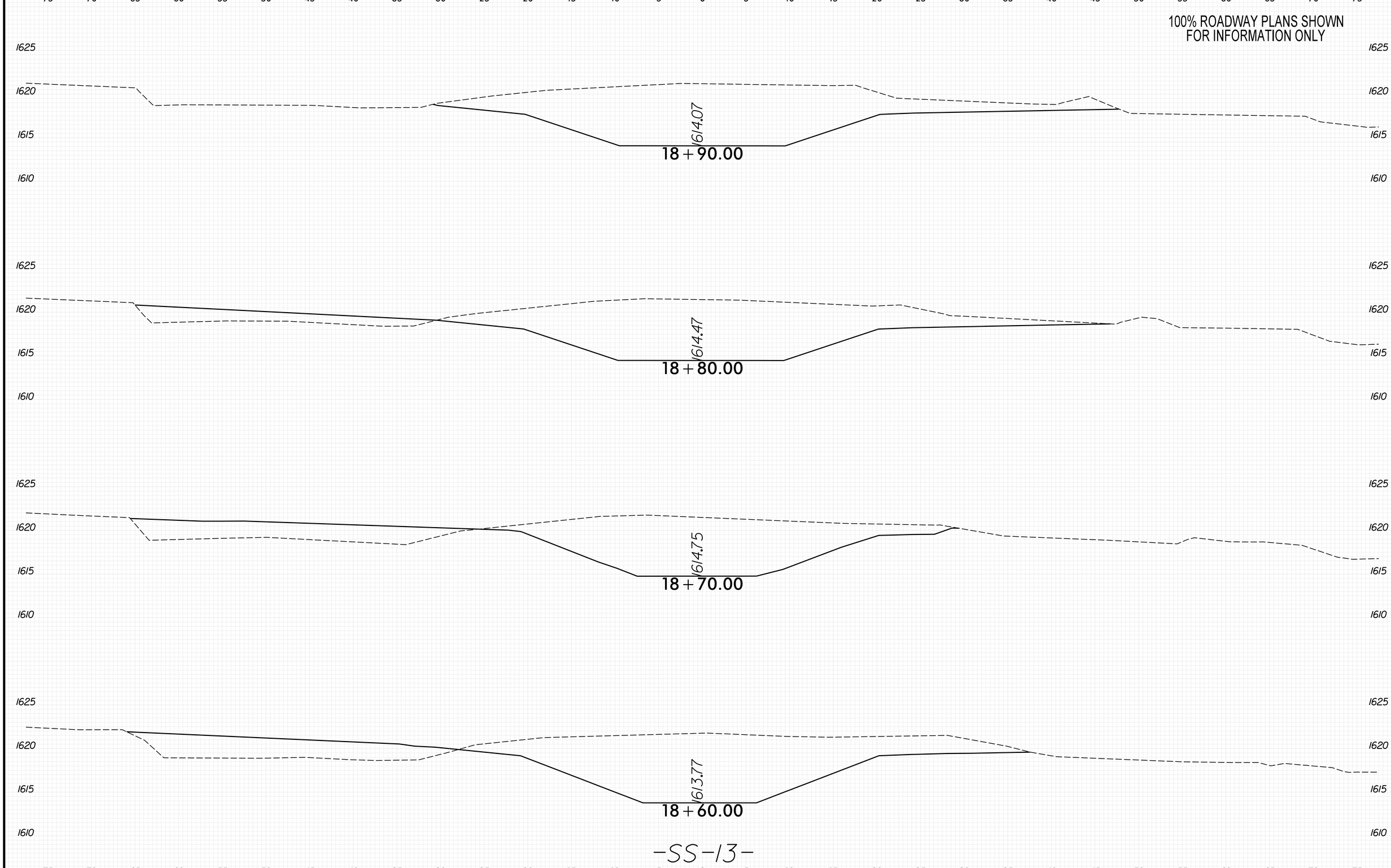
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

DATE: 5/29/2026

PENTABLE: xpl_eh_v8.tbl
TIME: 9:21:14 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-400

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

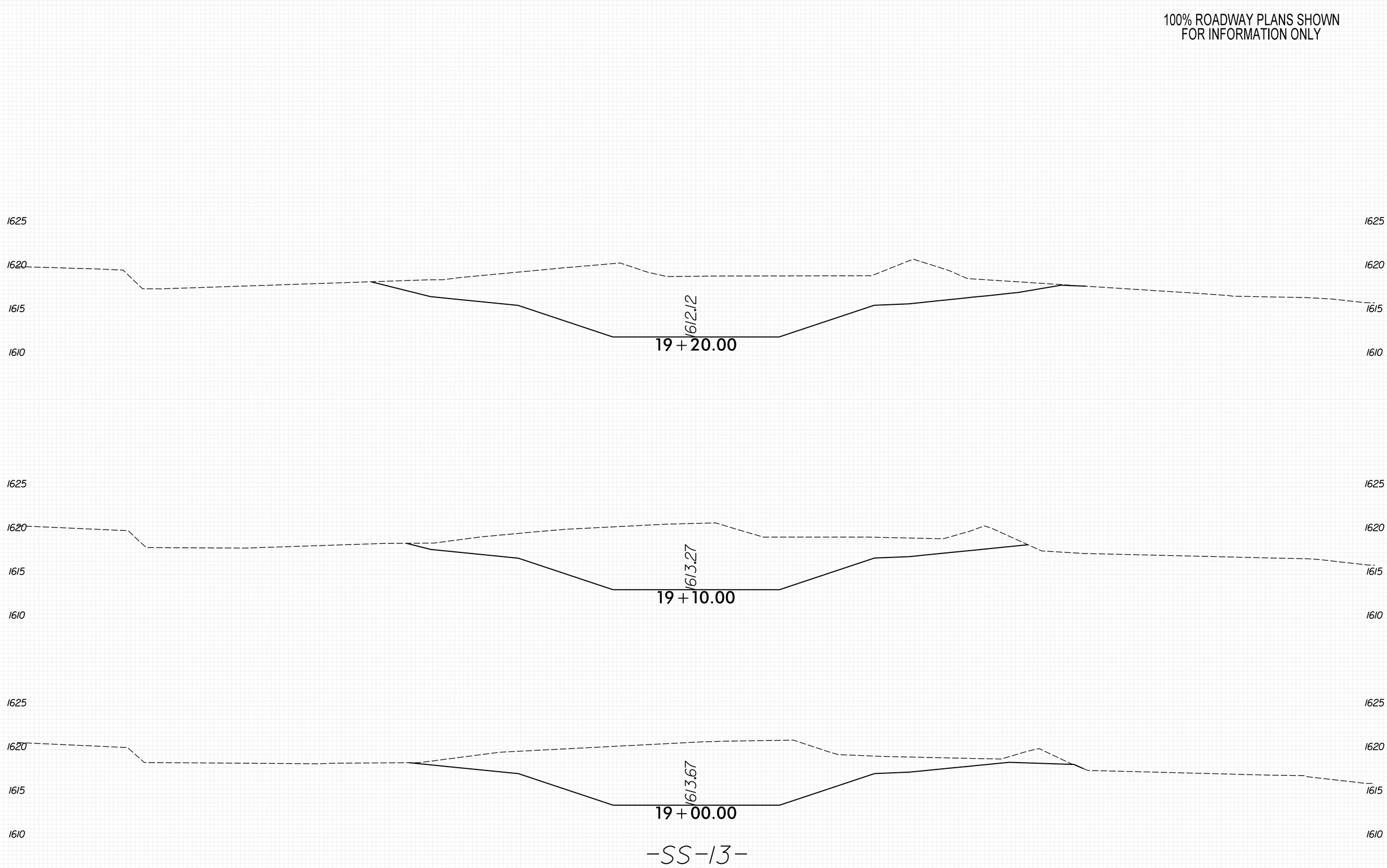


-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:21:21 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-401

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



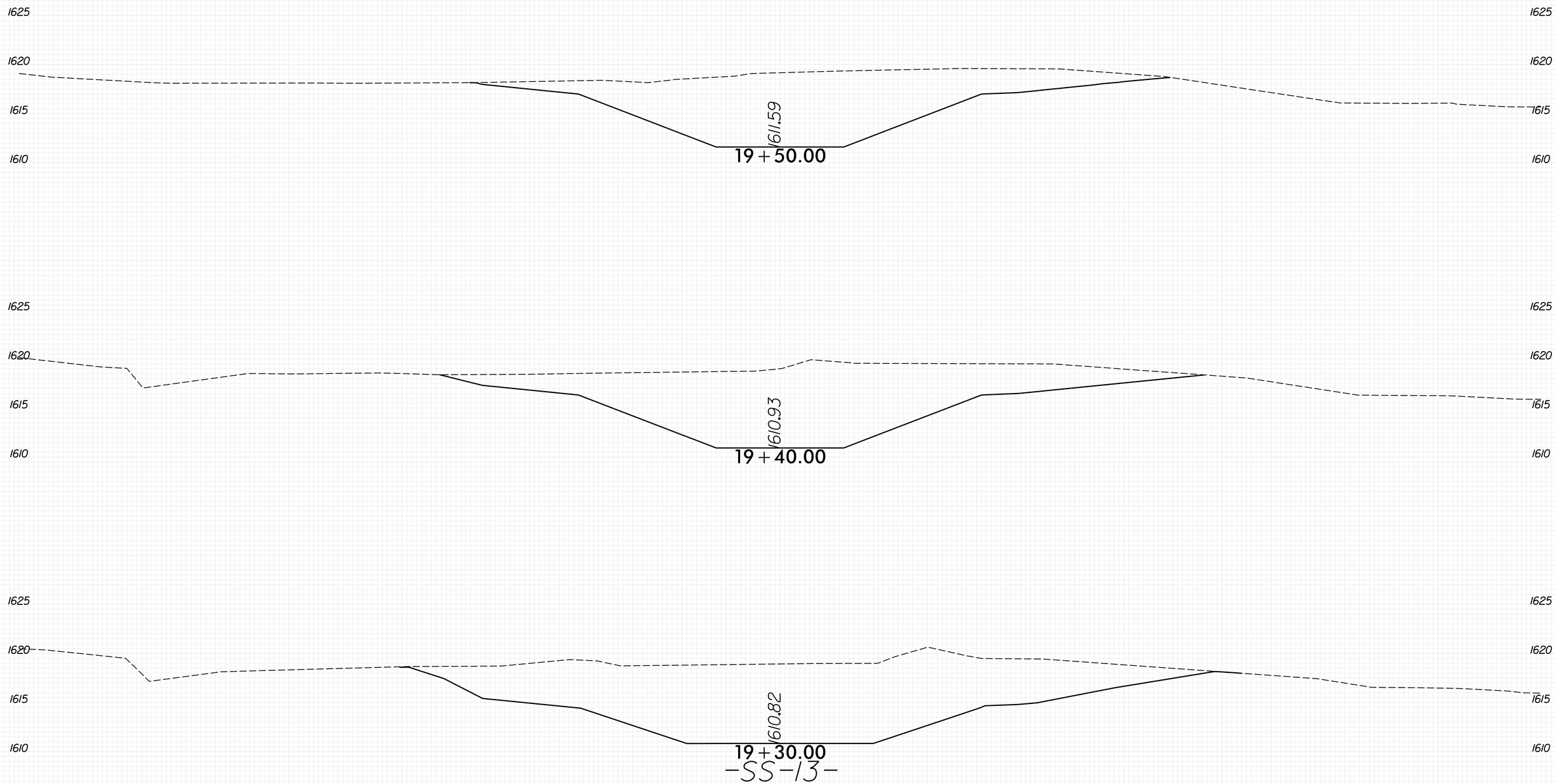
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:24:28 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026

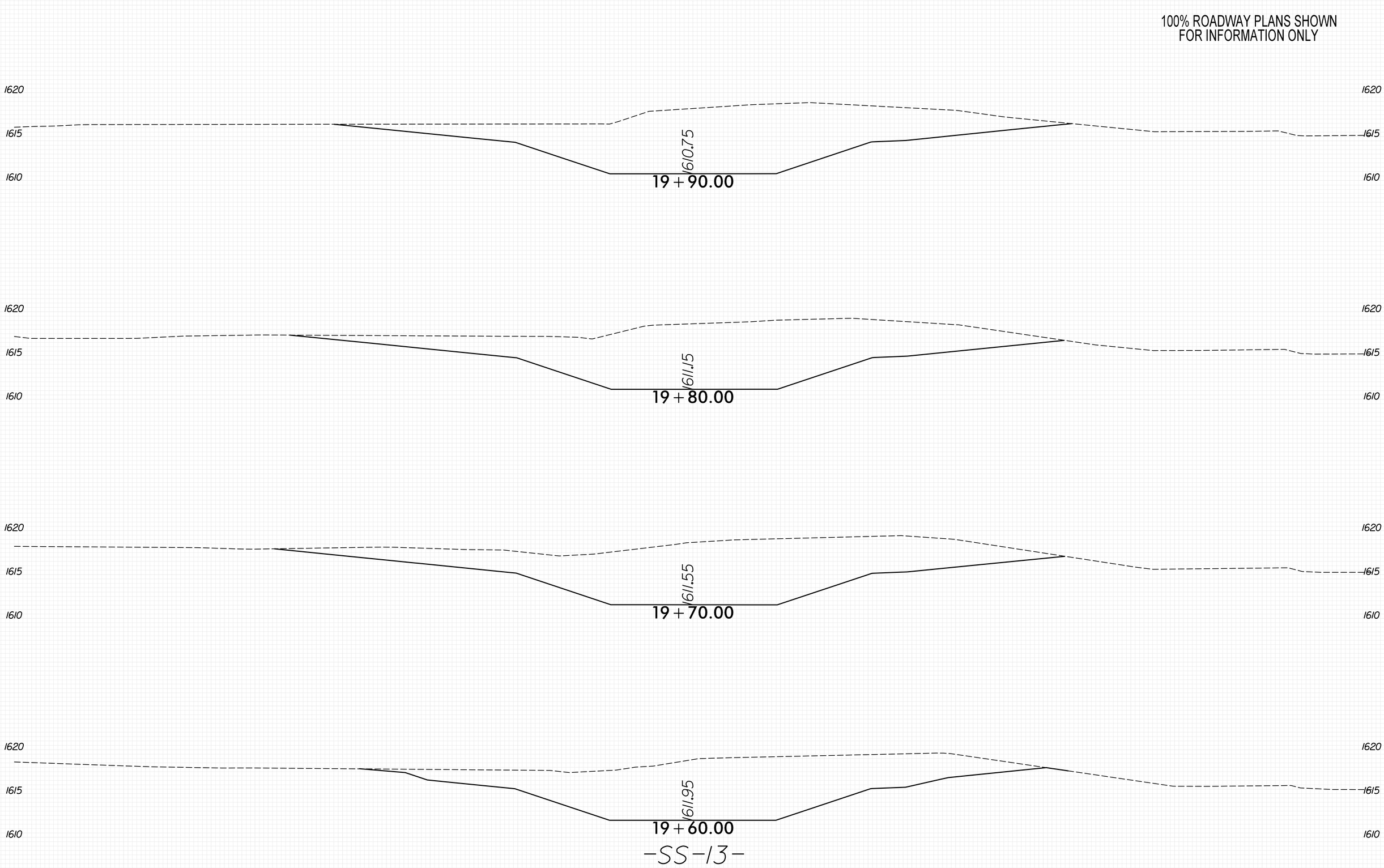
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-402

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:24:34 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

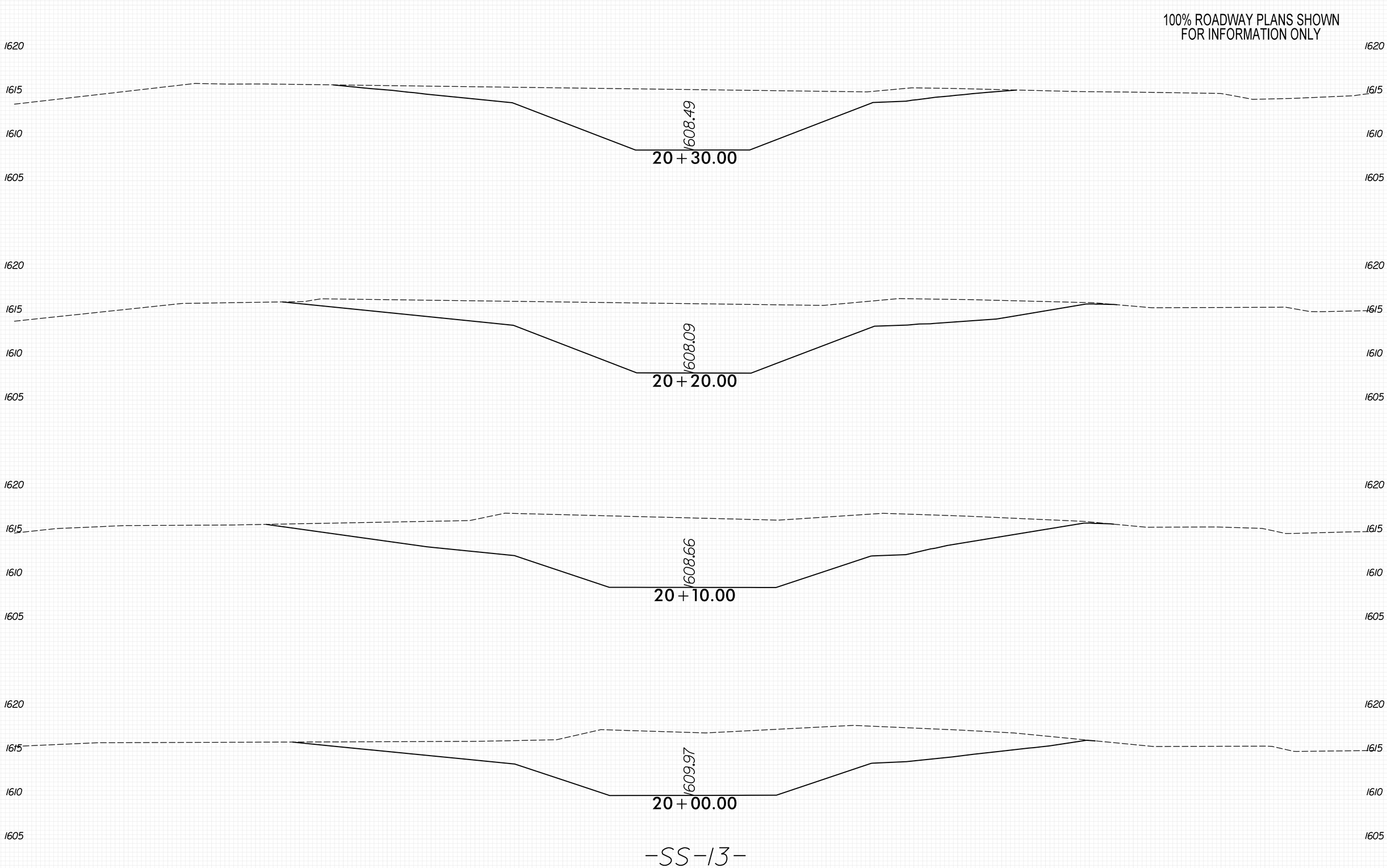
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:24:41 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-404

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

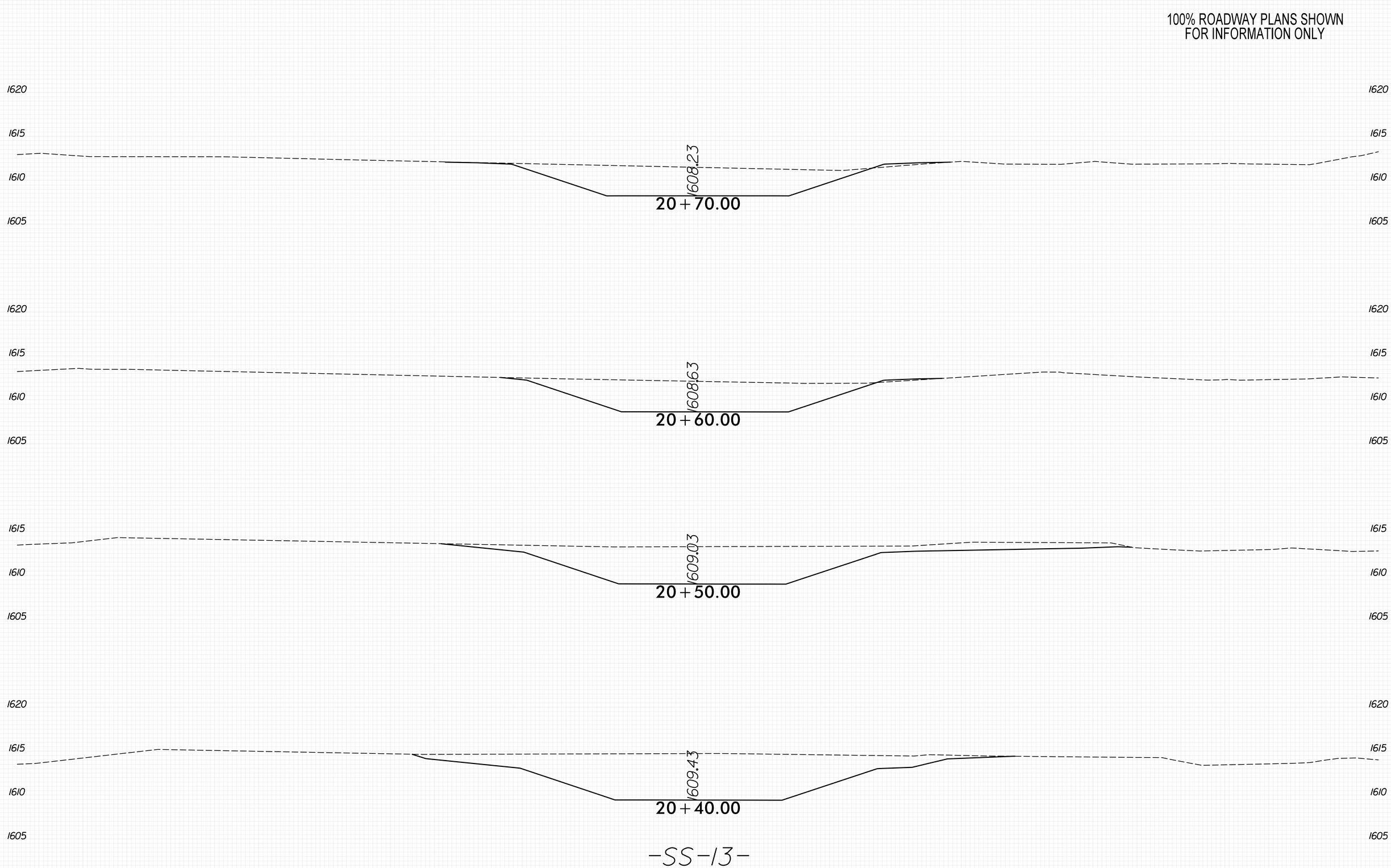


-SS-13-

8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:24:47 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-405

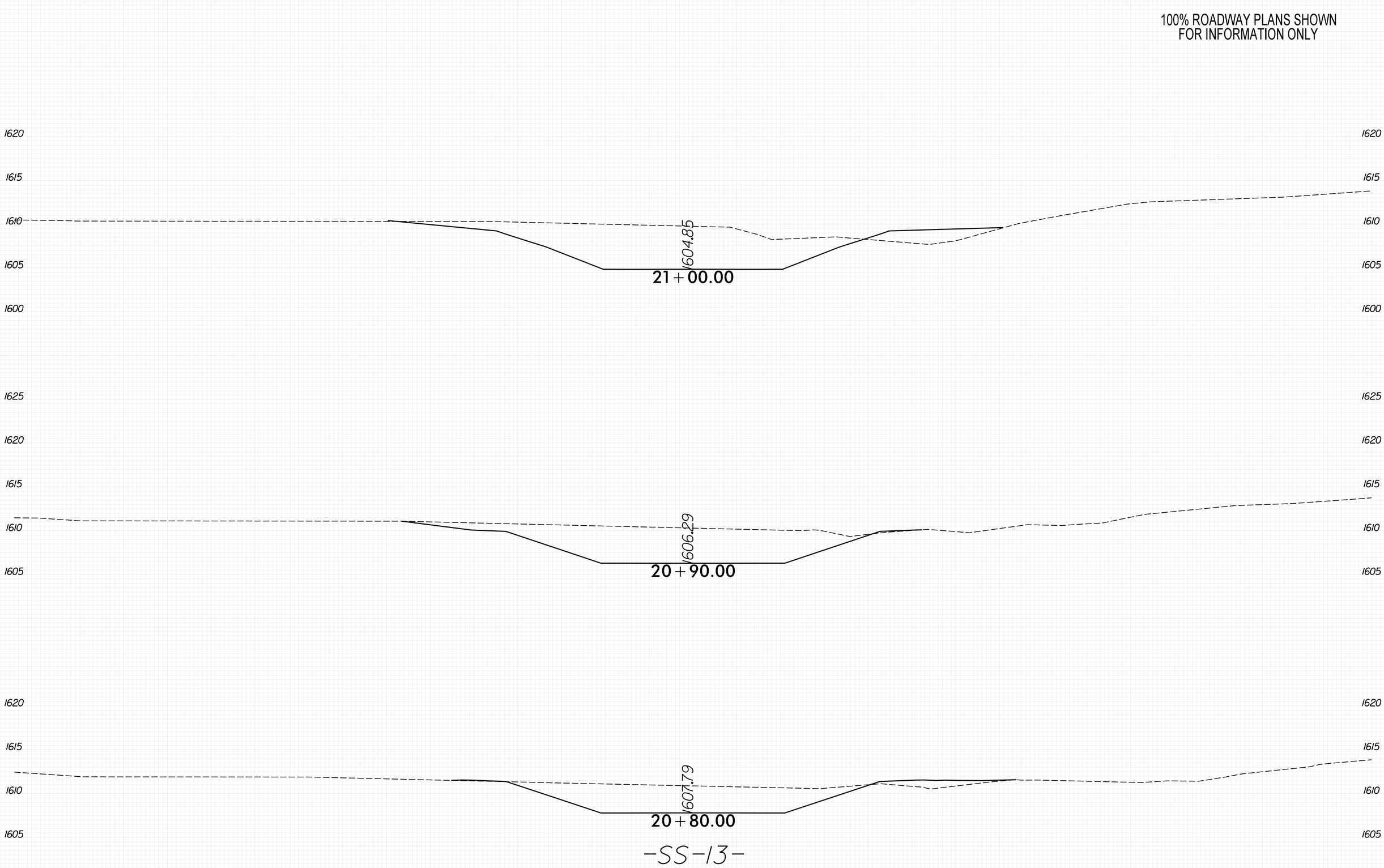
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:24:53 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-406

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



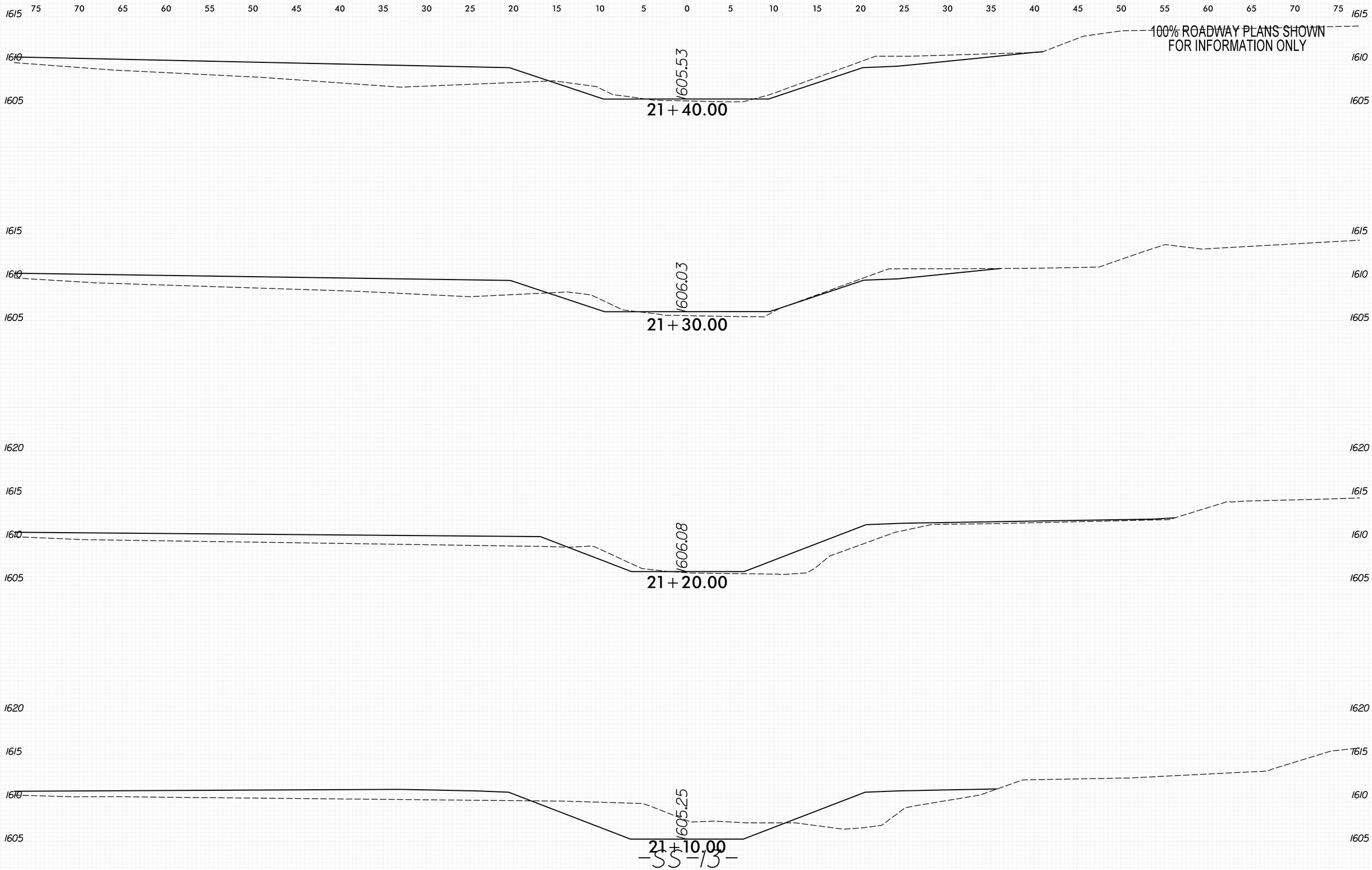
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:00 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026

USER: KCLATTERBU
FILE: \

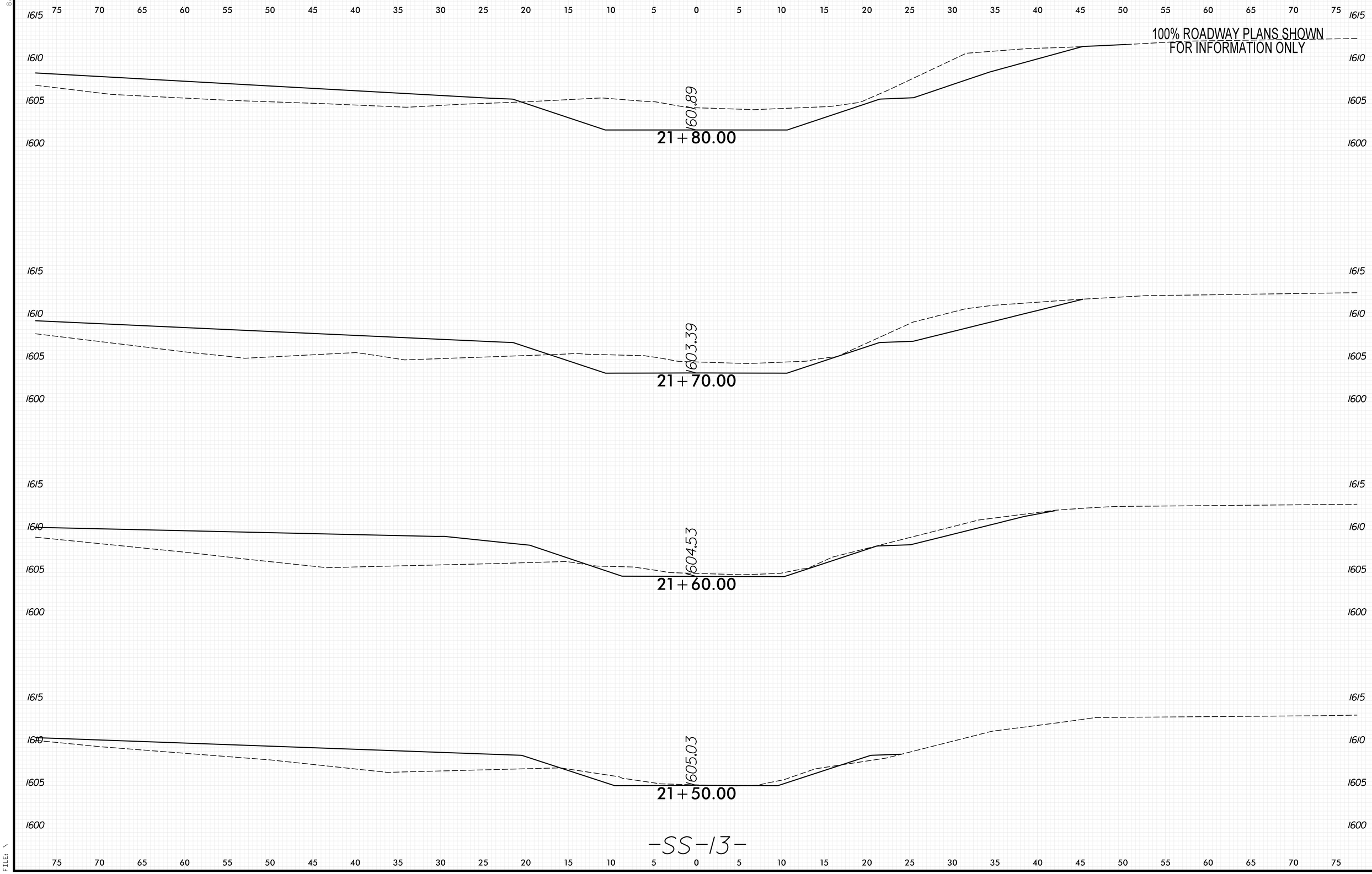
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-407



-SS-13-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:07 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-408



-SS-13-

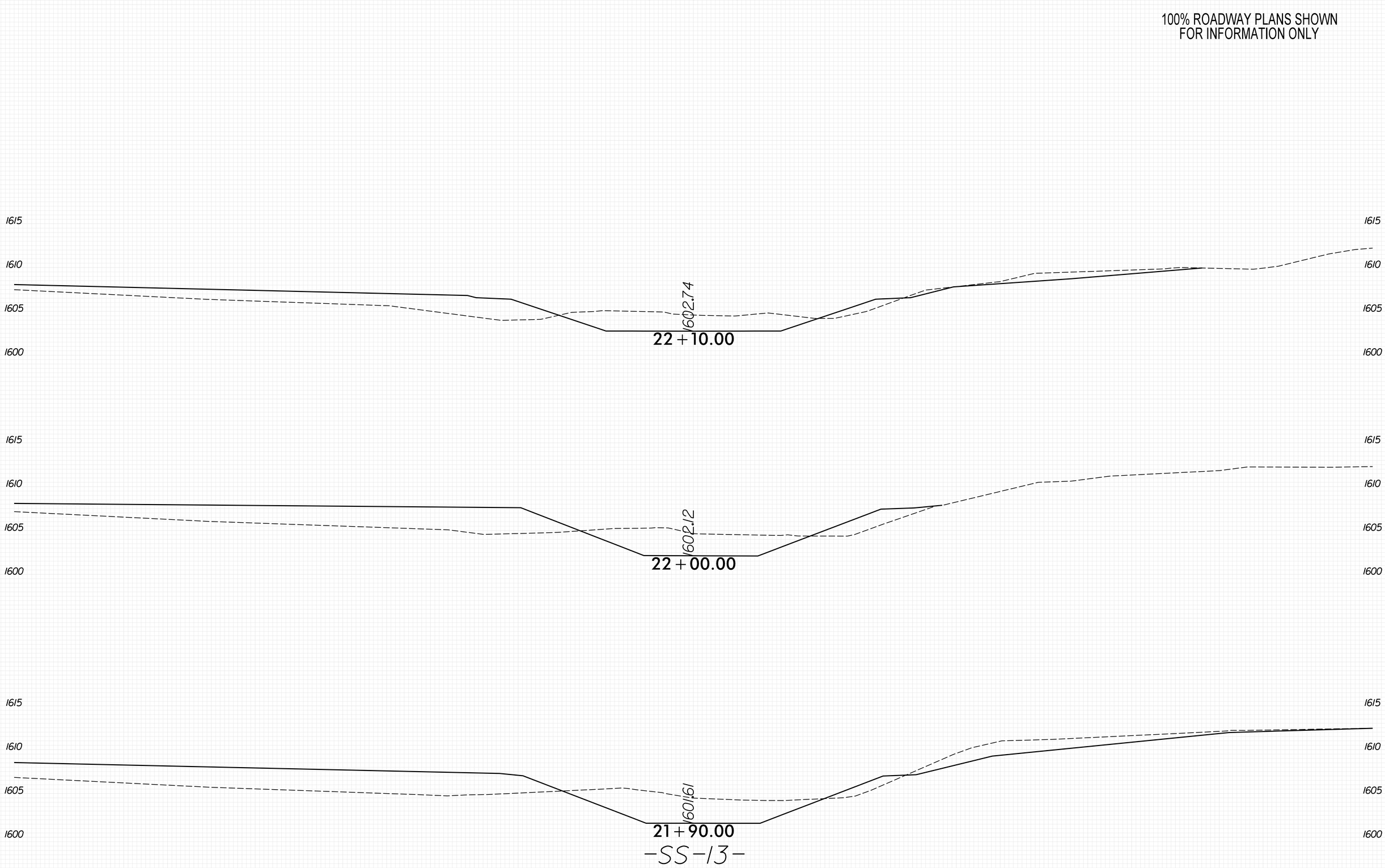
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:13 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-409

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



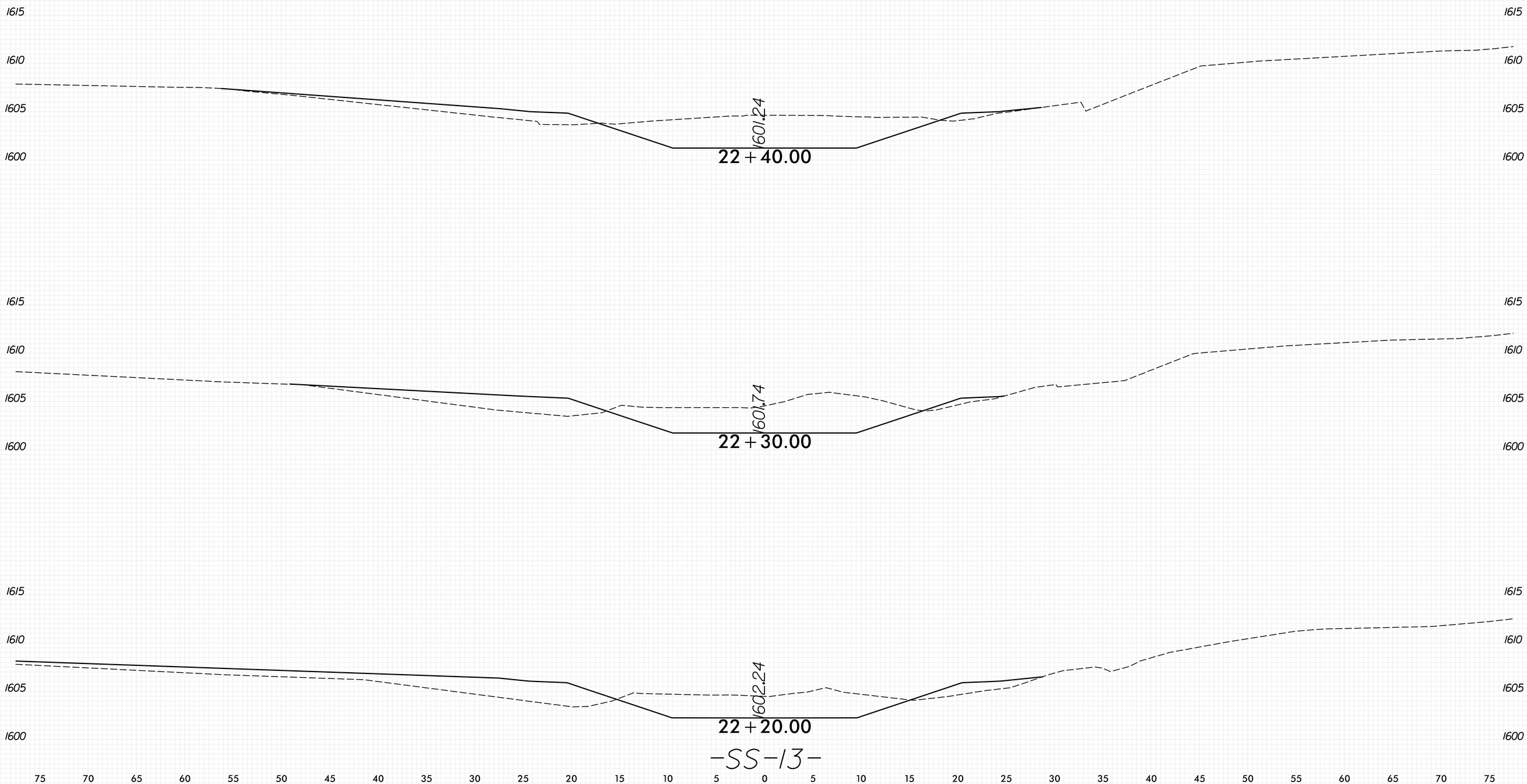
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:19 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-410

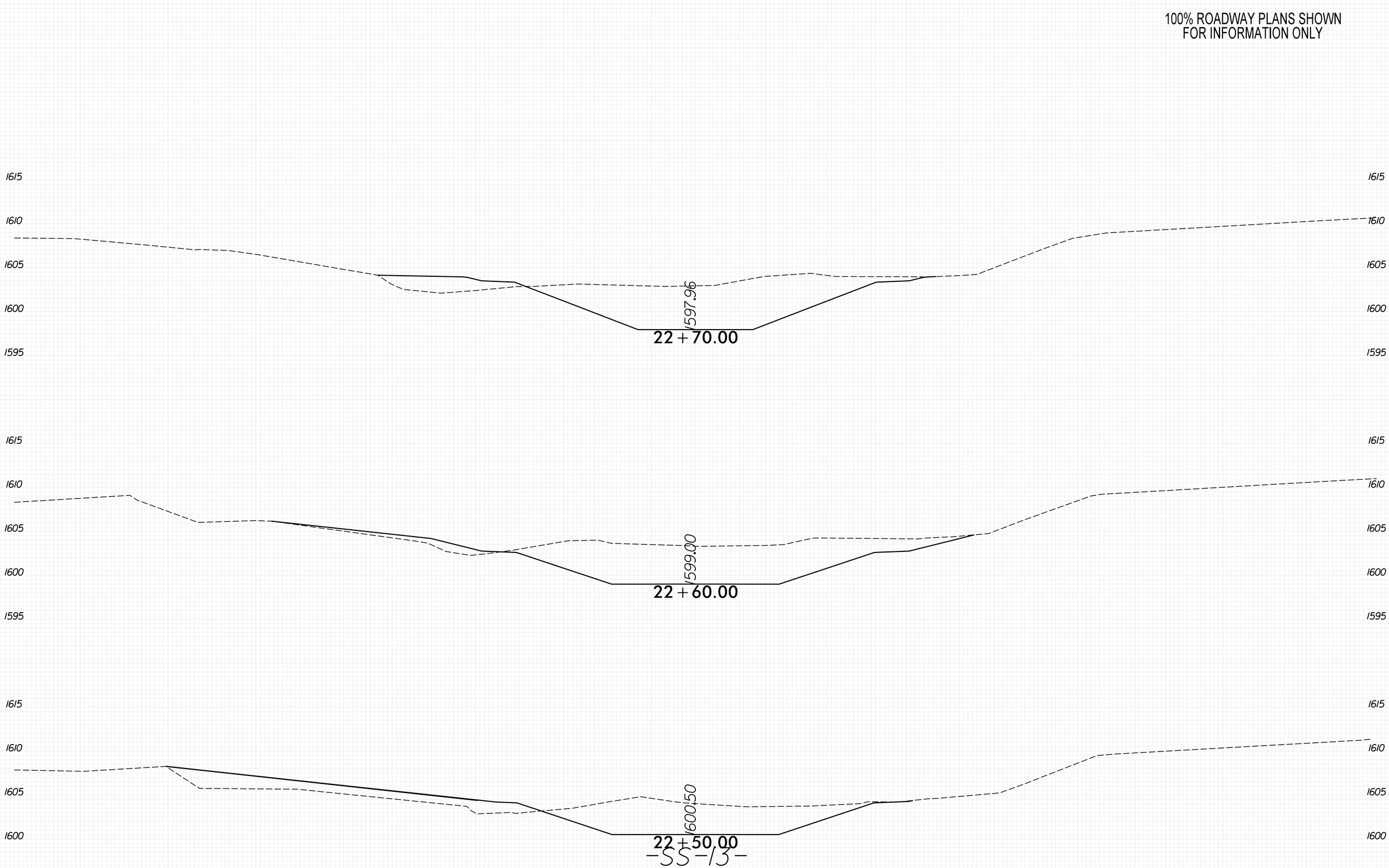
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:26 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-411

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-13-

8/23/99

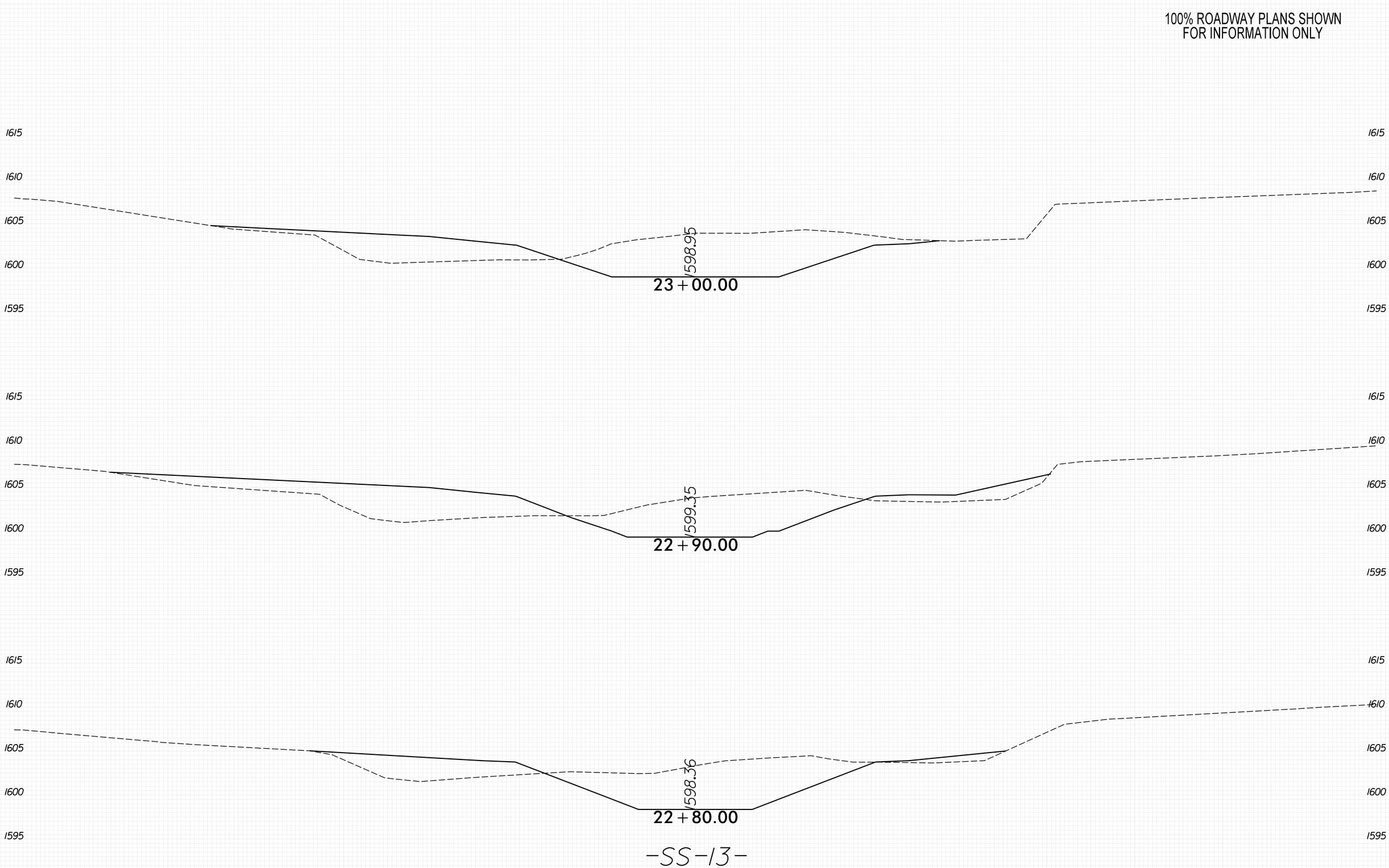
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

DATE: 5/29/2026
TIME: 9:25:33 AM

PENTABLE: xpl_eh_v8.tbl

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-412

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

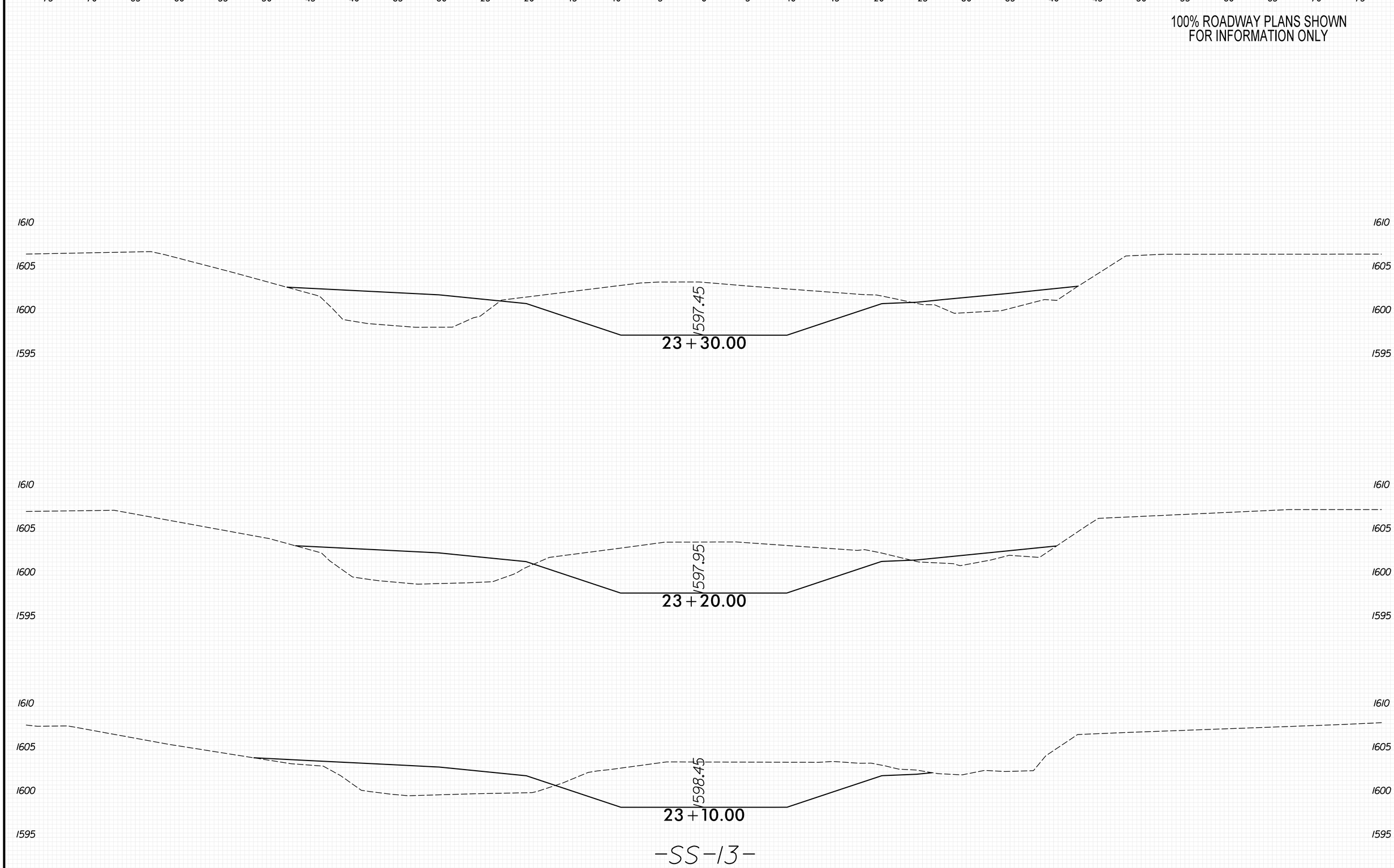


-SS-13-

8/23/99
PENTABLE: xpl.eh_v8.tbl
TIME: 9:25:39 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-413

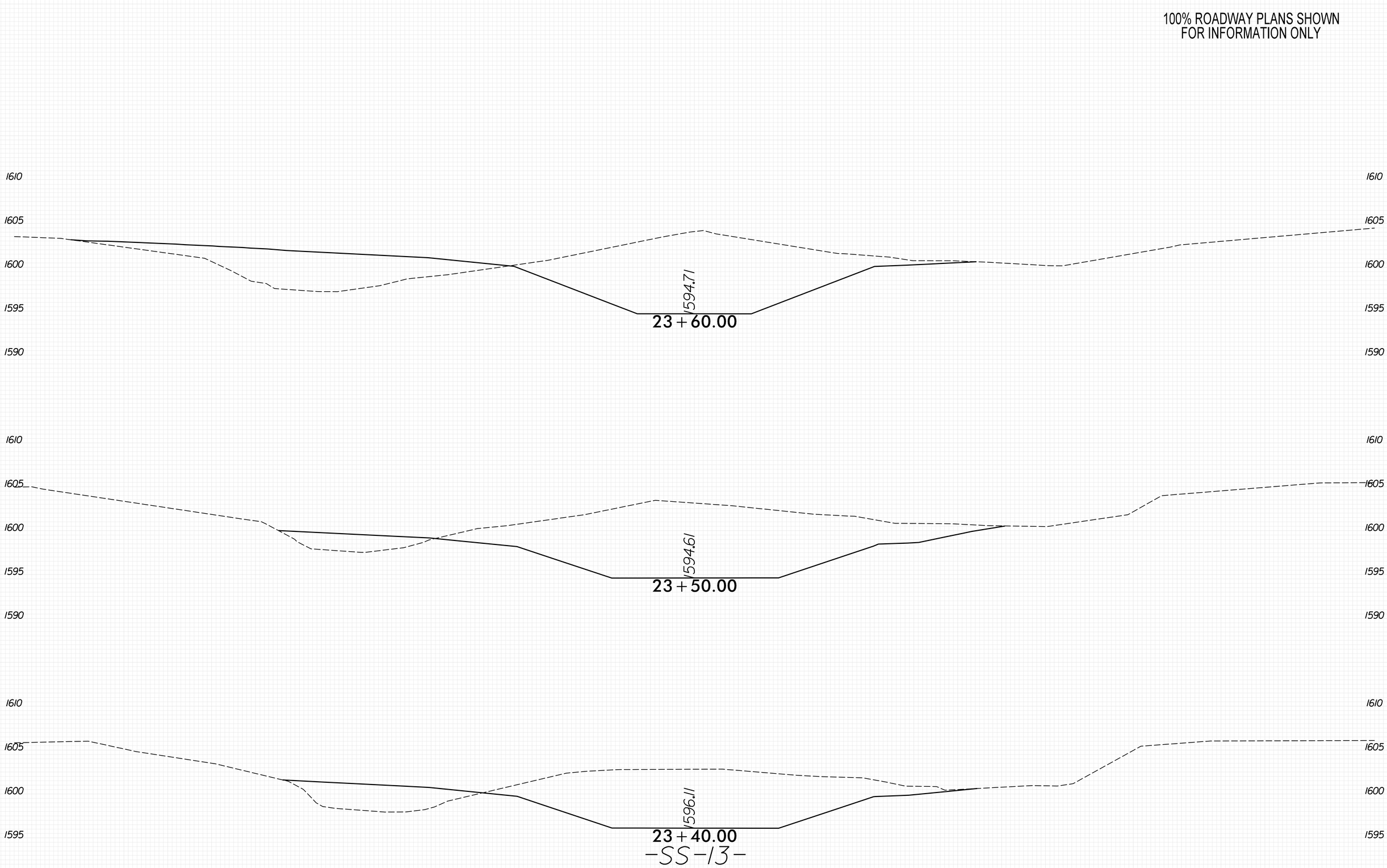
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:46 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-414

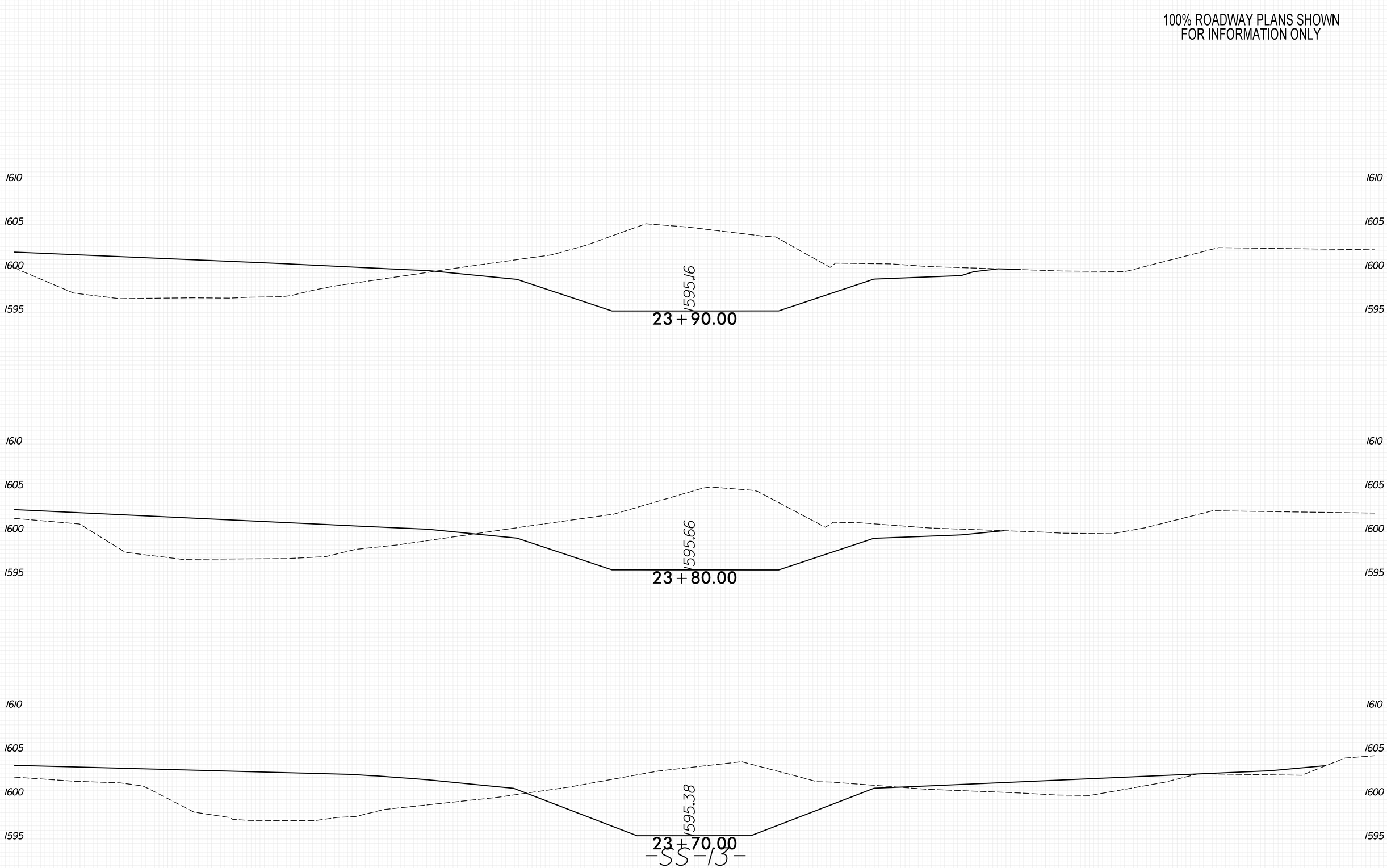
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:52 AM
8/23/99

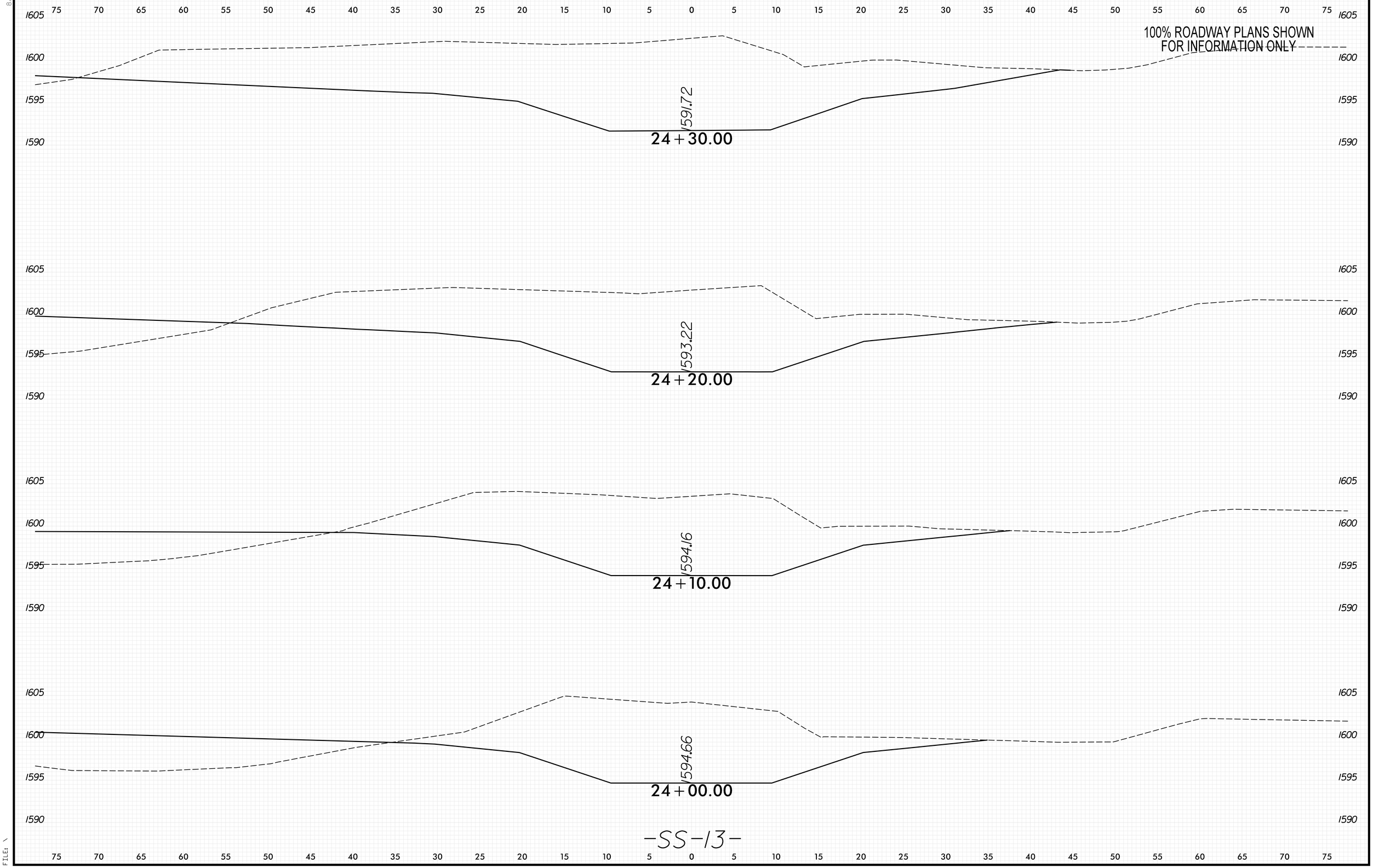
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-415

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:25:59 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-416



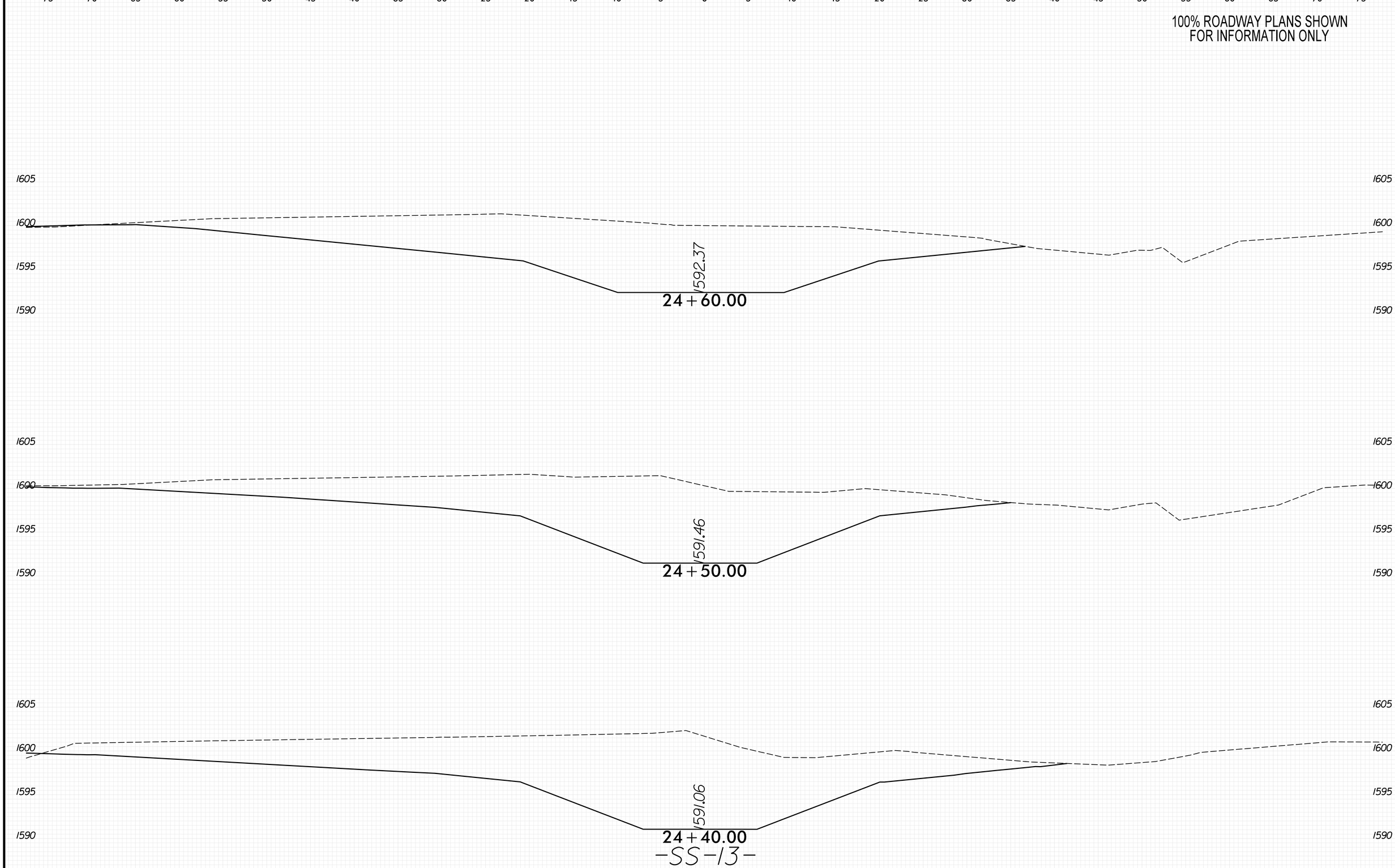
8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:26:05 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-417

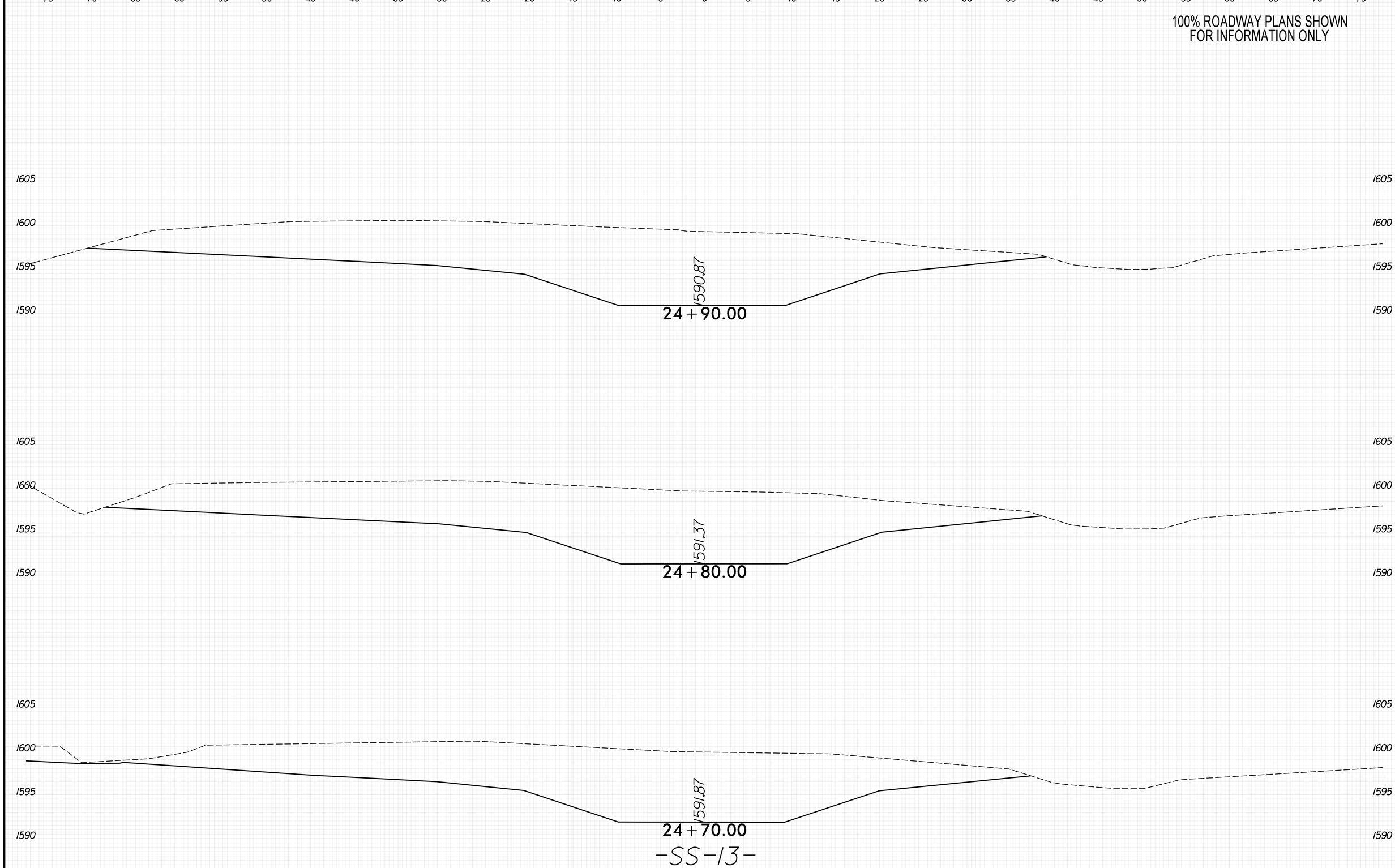
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:26:12 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-418

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



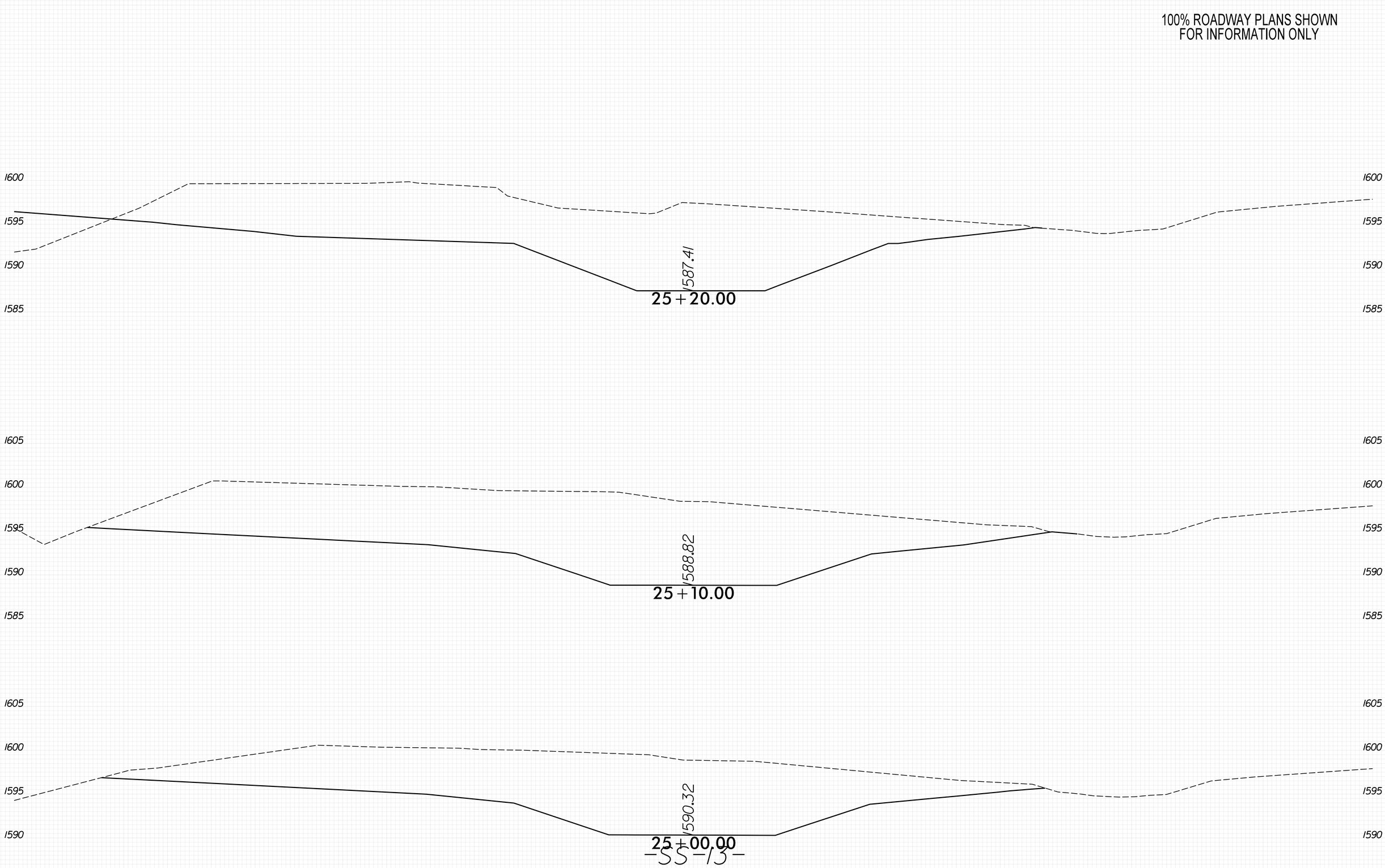
8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:26:19 AM

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-419

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



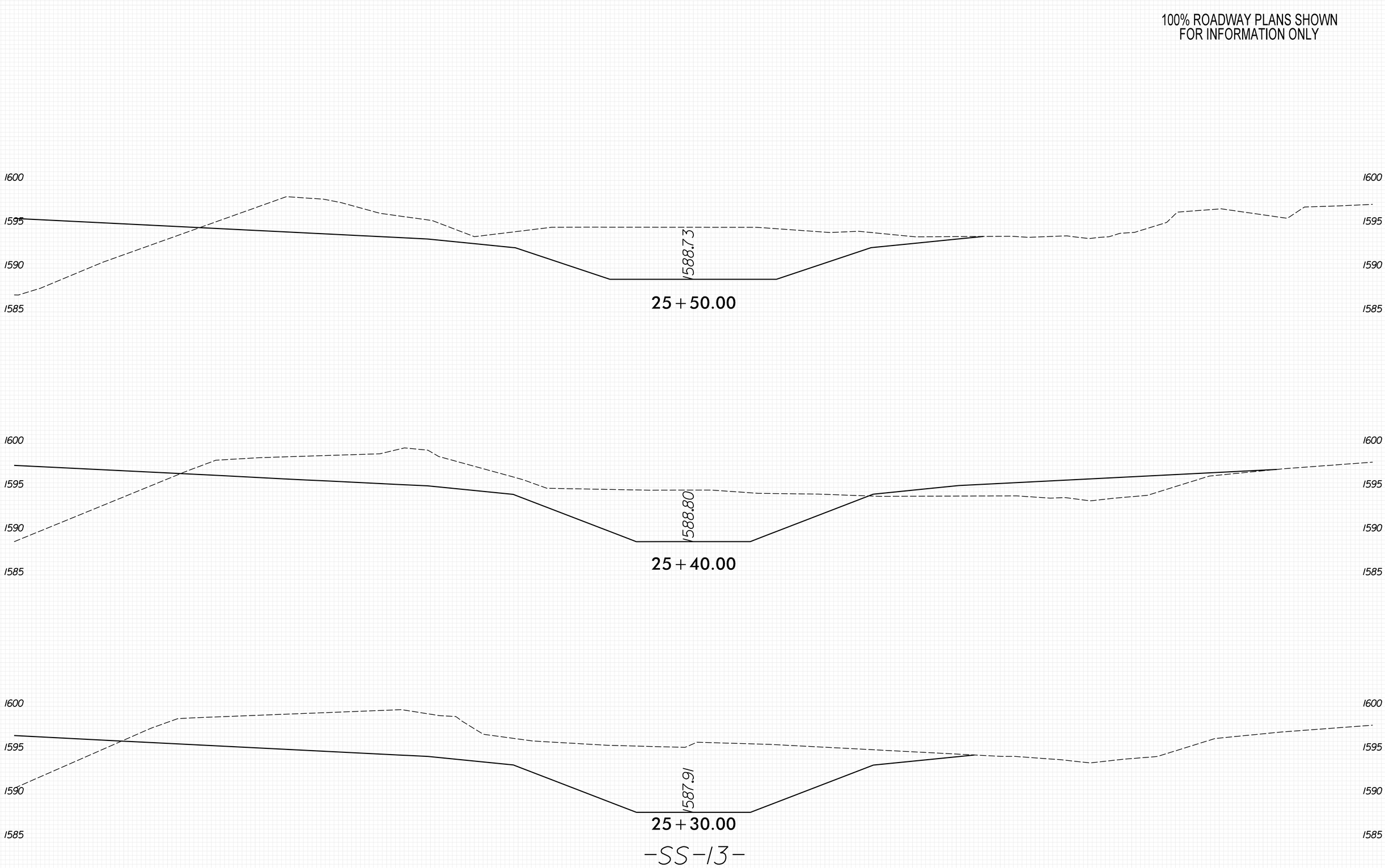
-SS-13-

8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:26:26 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-420

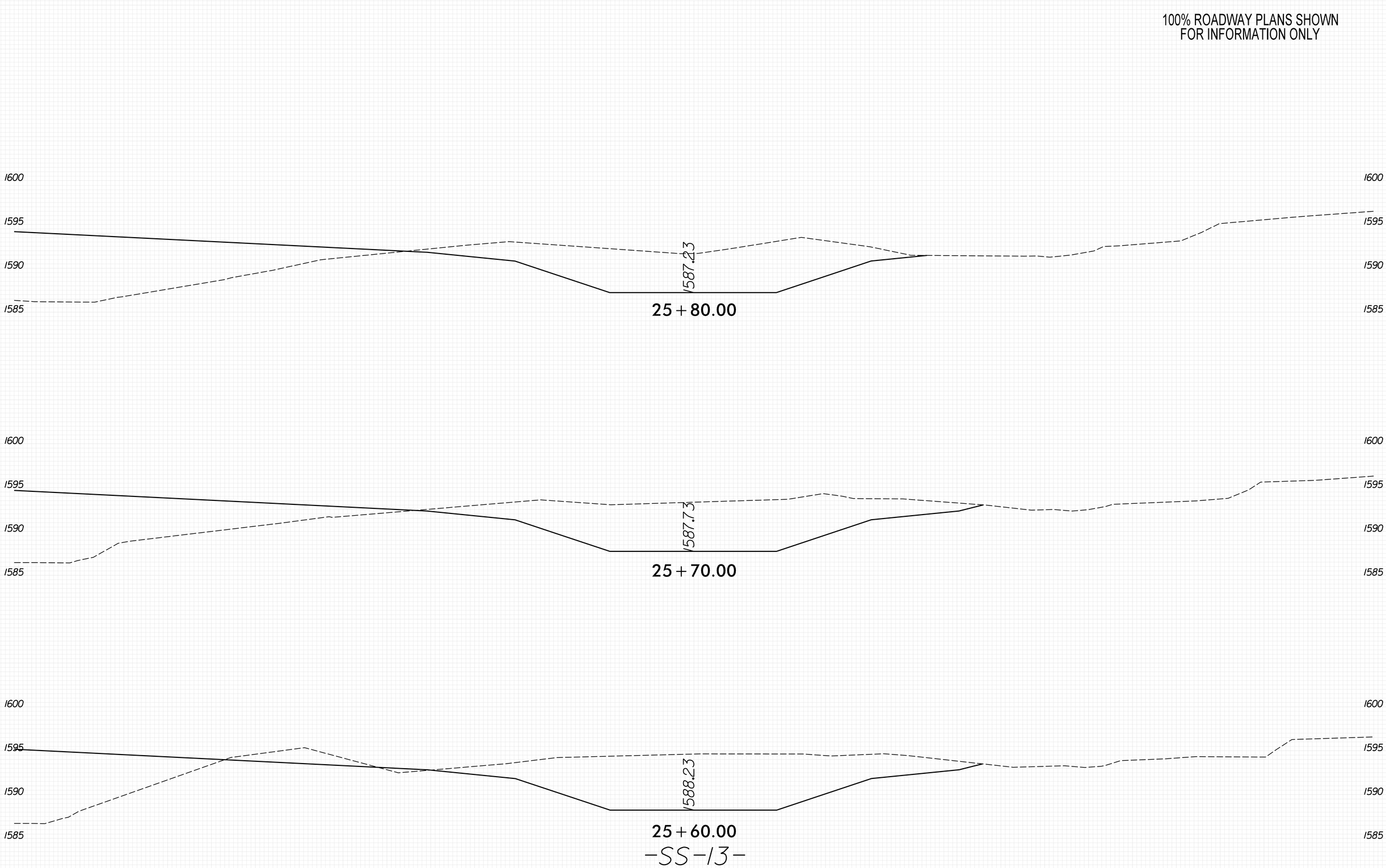
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:26:33 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-421

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

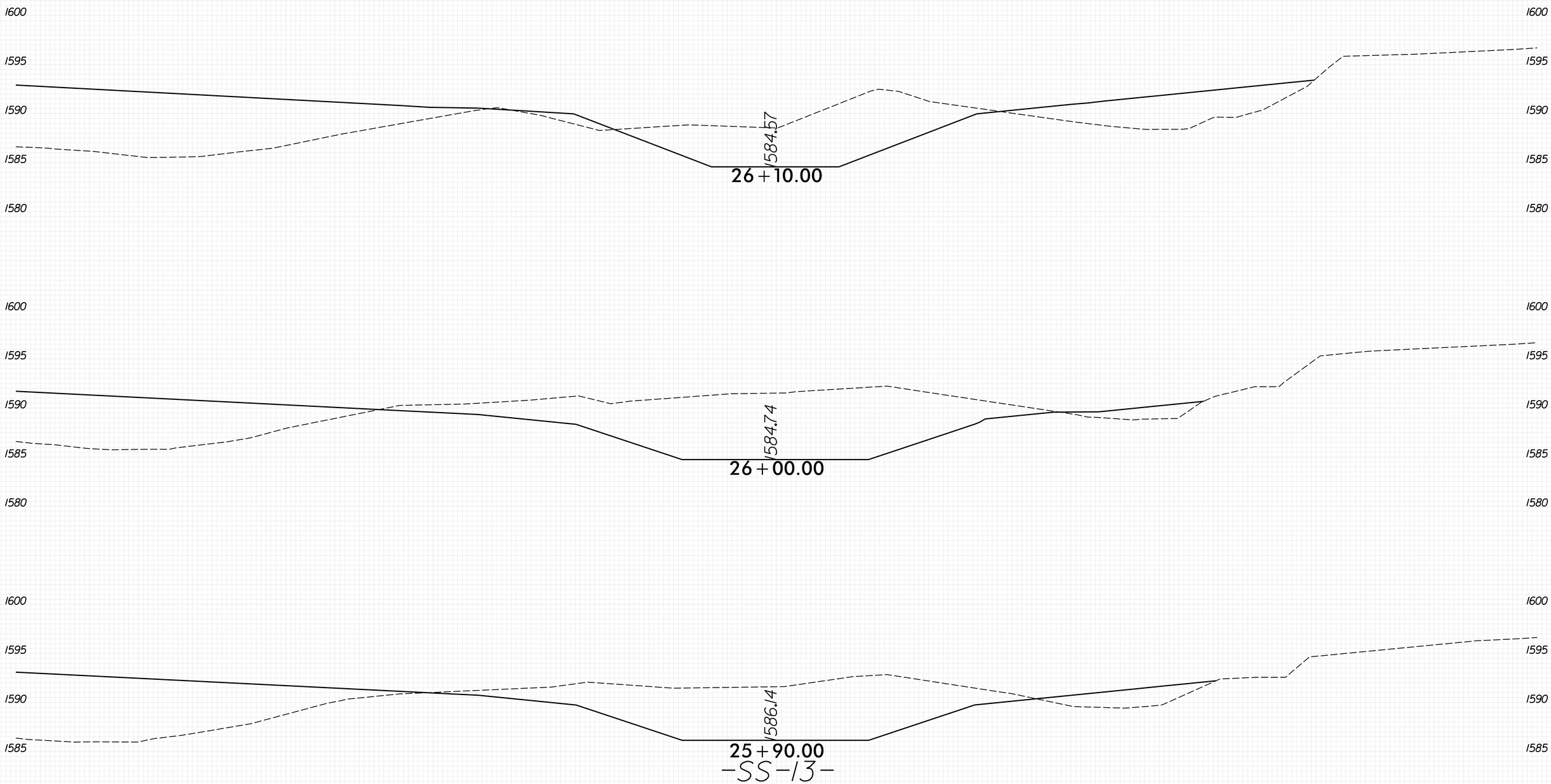


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:26:40 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-422

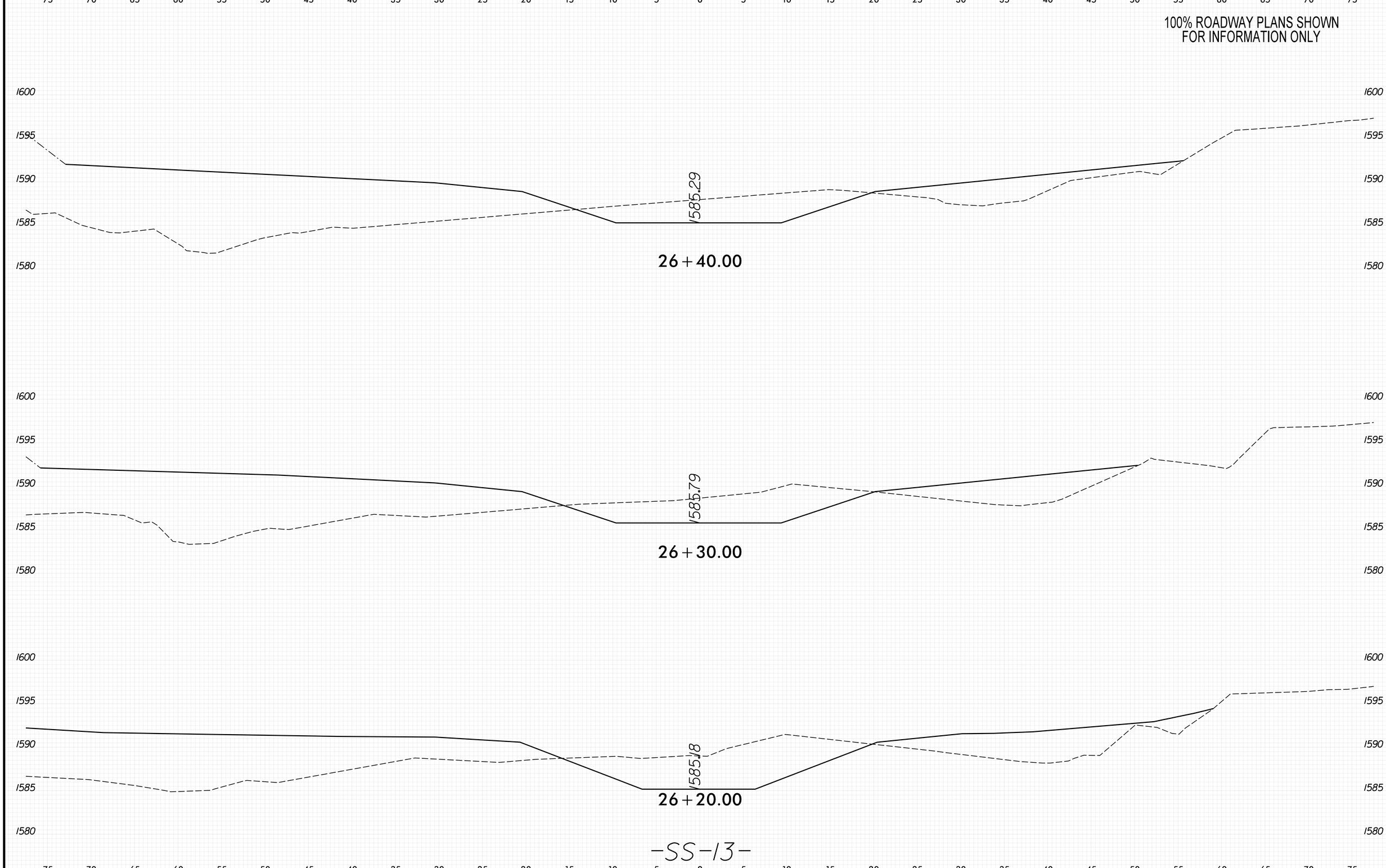
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:26:47 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-423

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

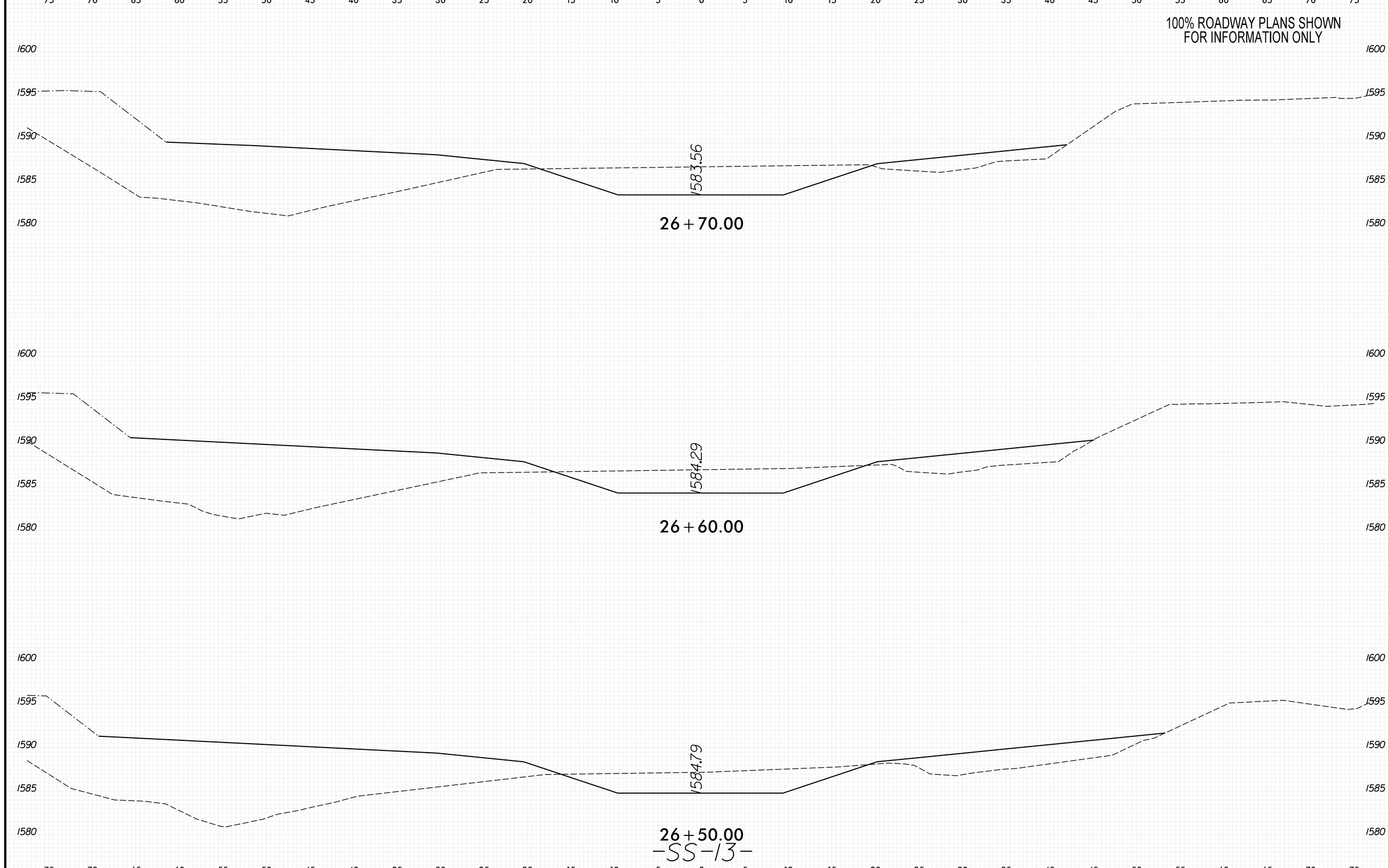


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:26:54 AM

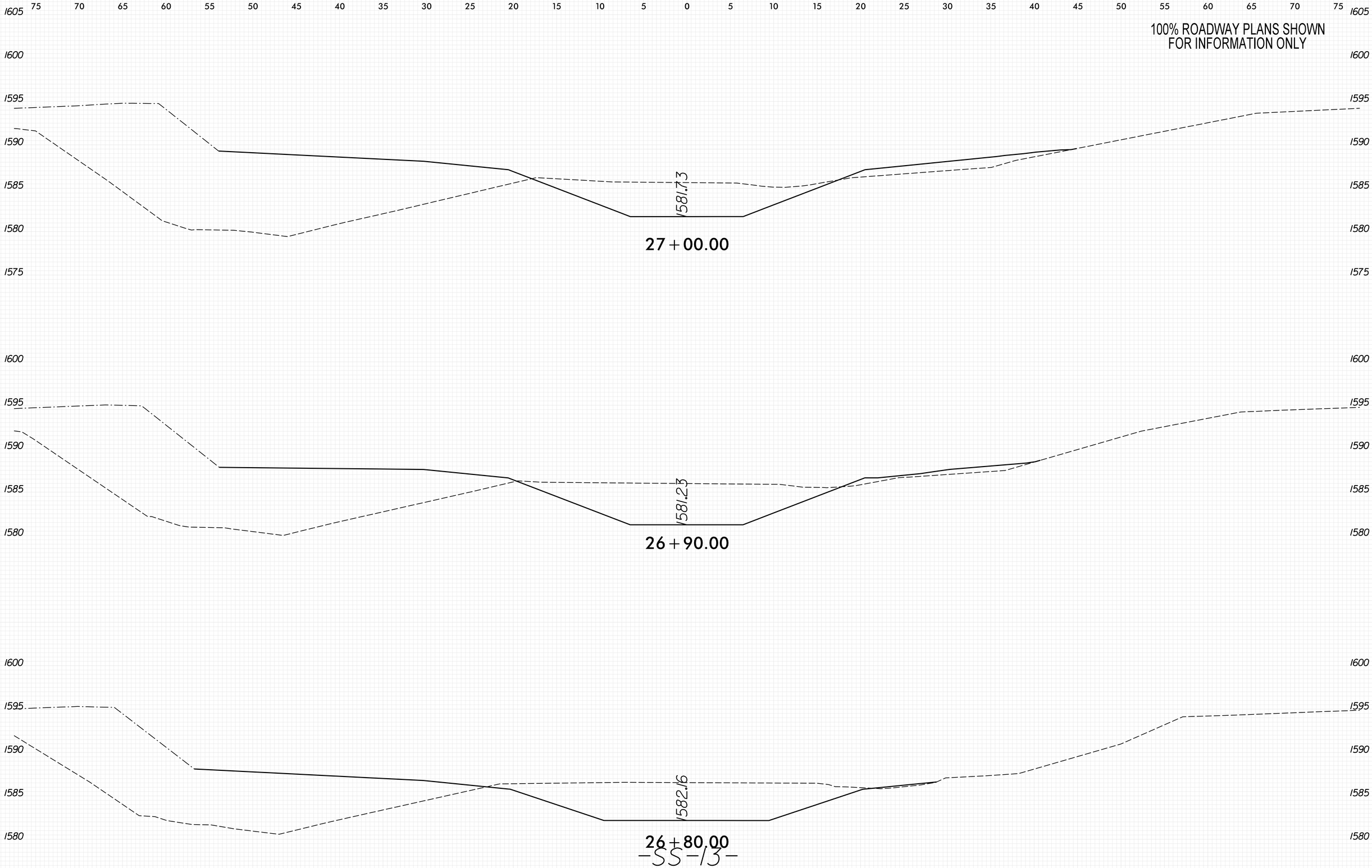
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-424

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:27:01 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-425

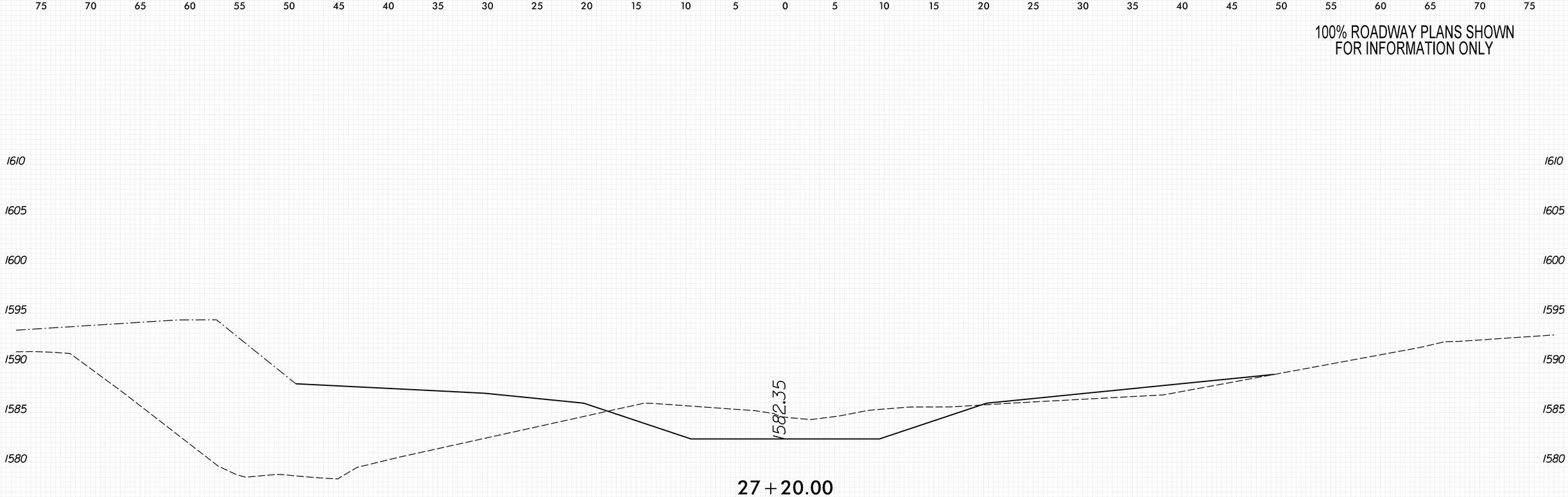


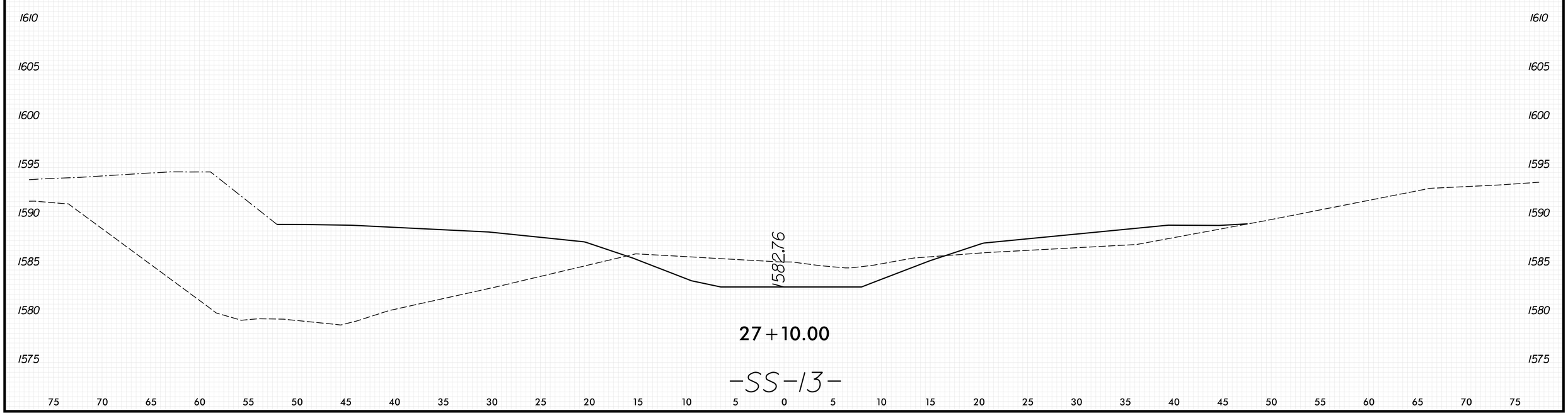
-SS-13-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/29/2026
TIME: 9:27:07 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-426

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



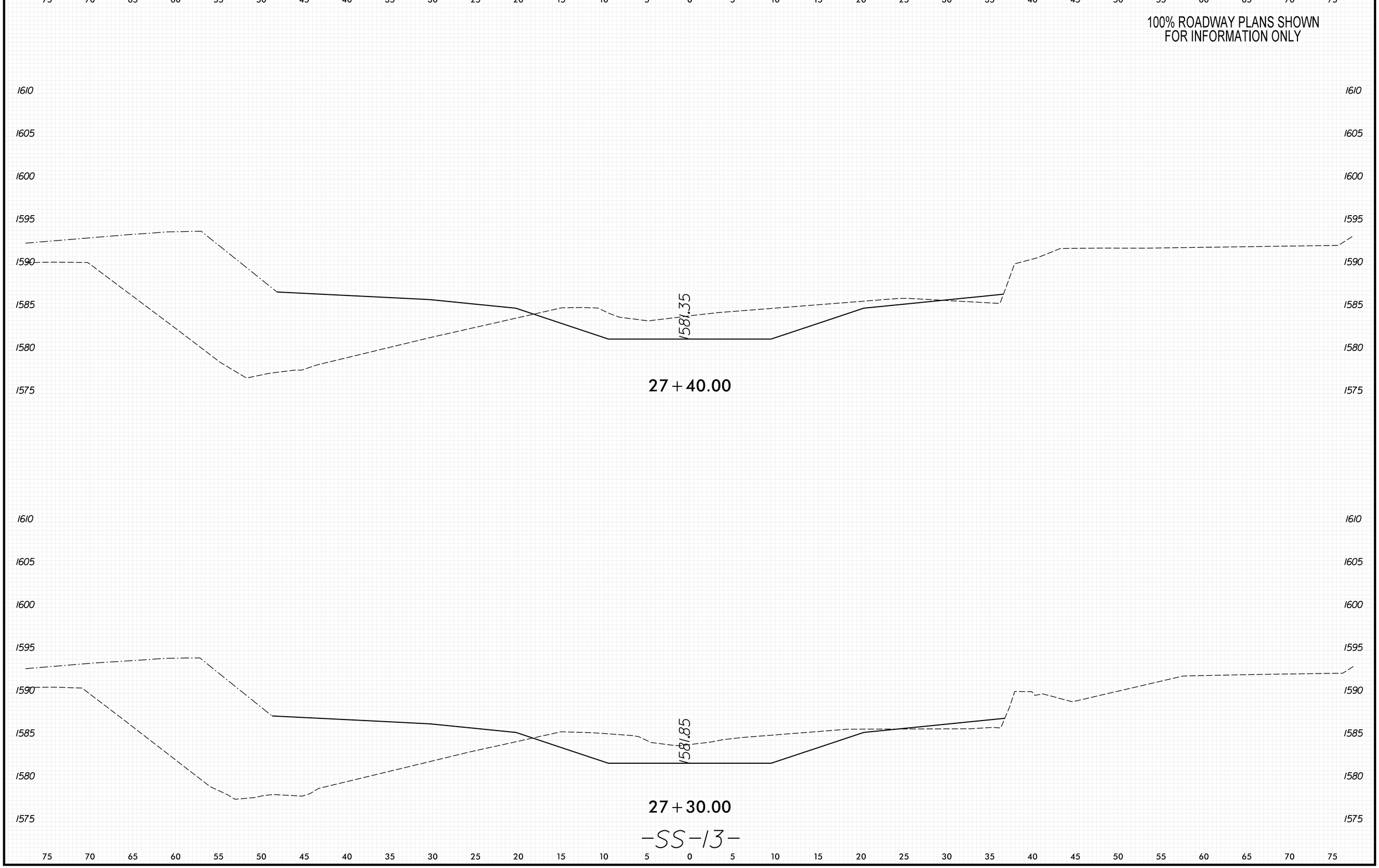


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:27:14 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-427

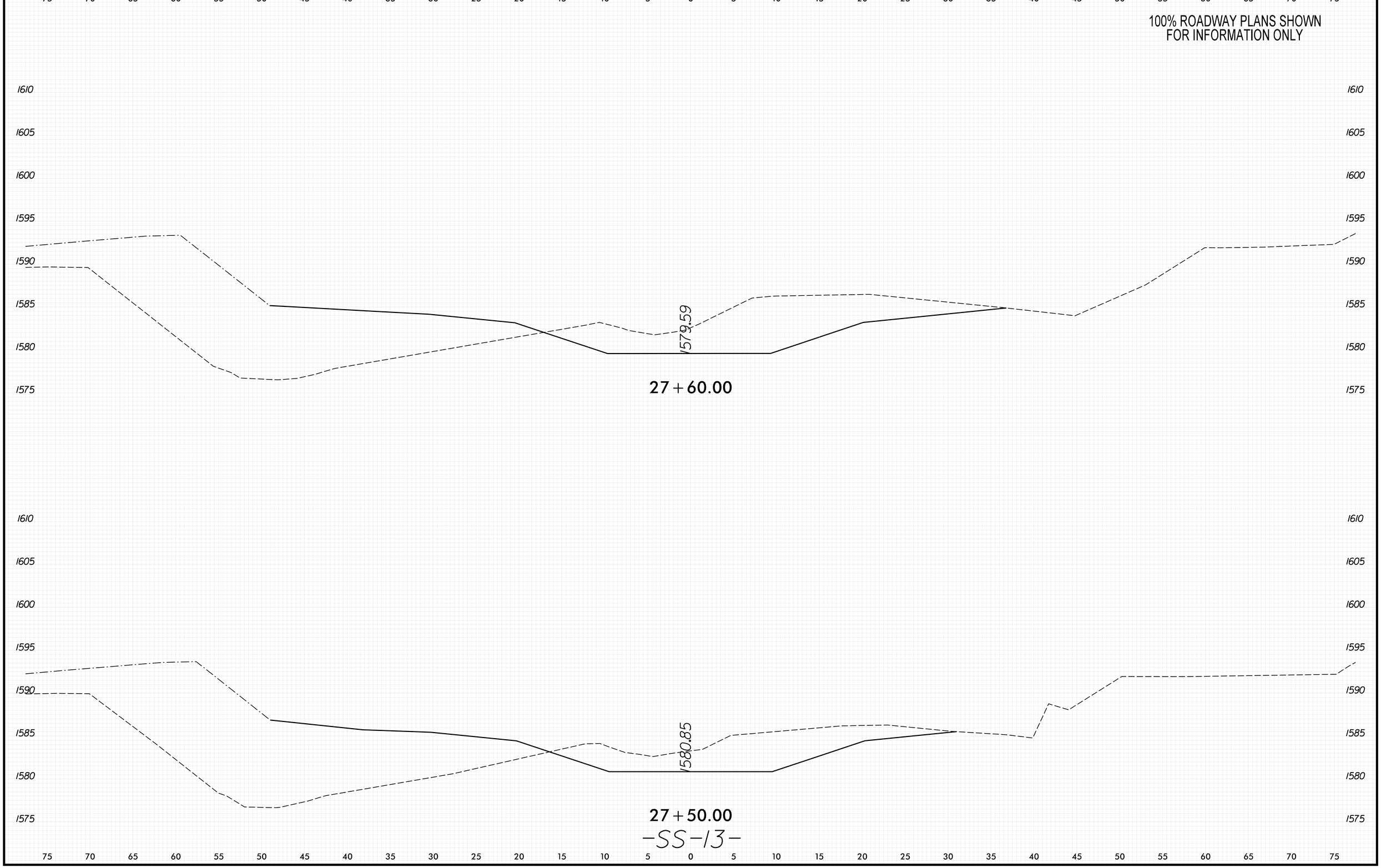
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:27:21 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-428

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

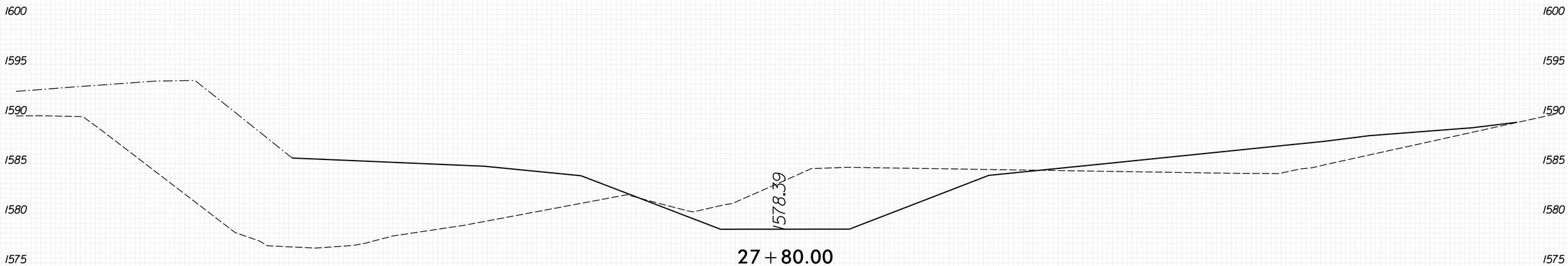


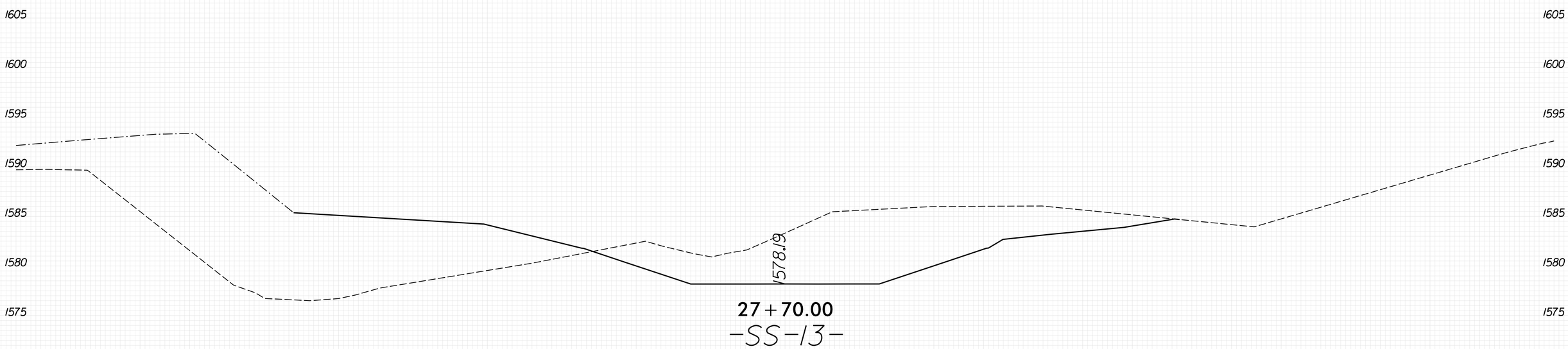
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:27:28 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-429

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

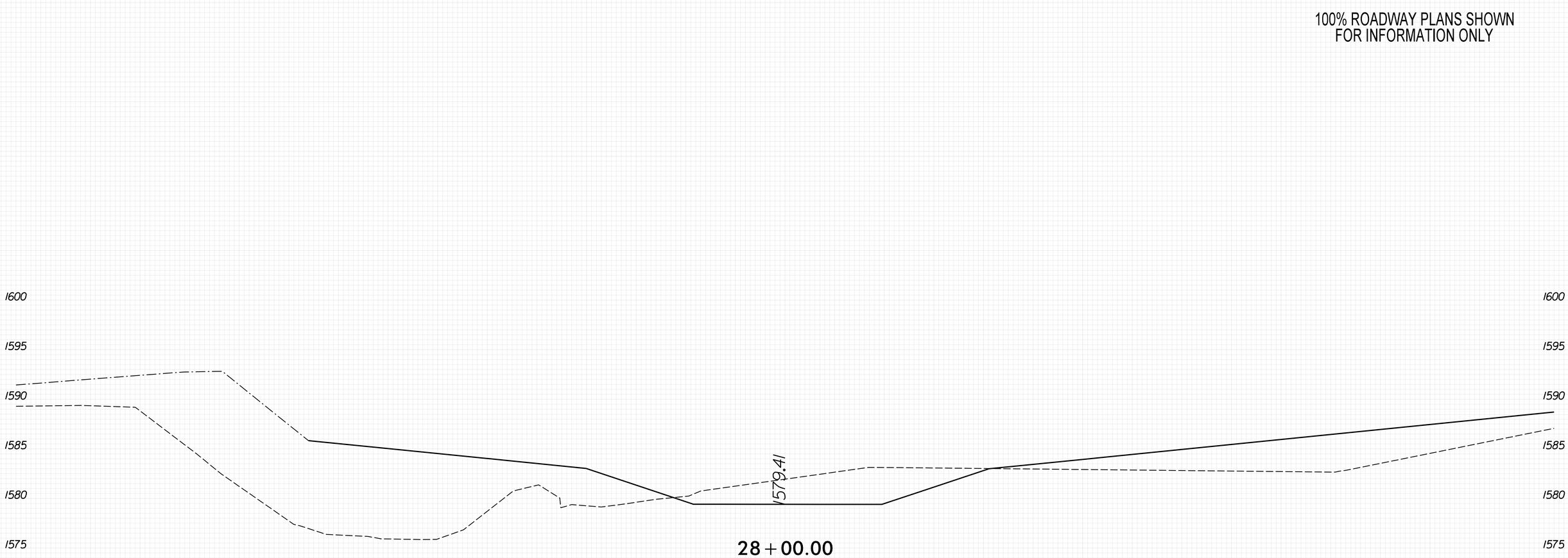


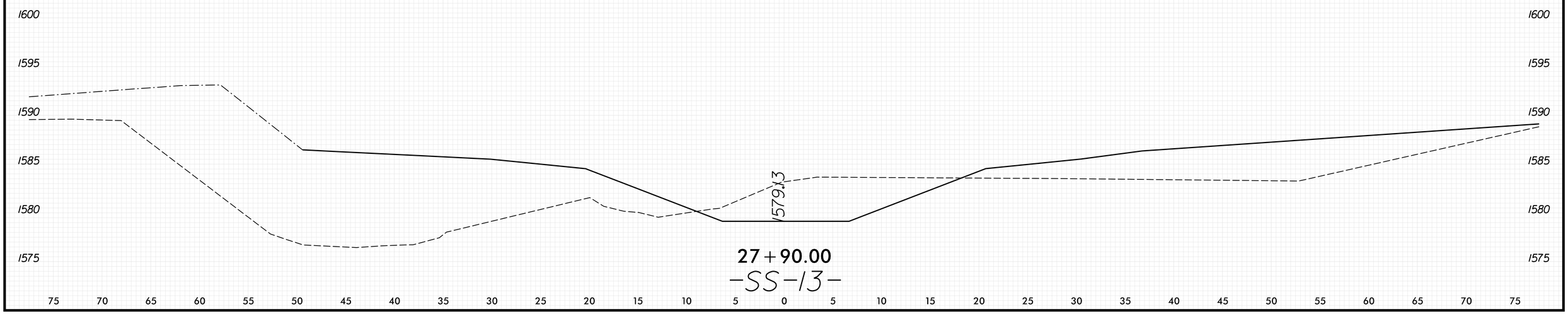


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:27:35 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-430

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

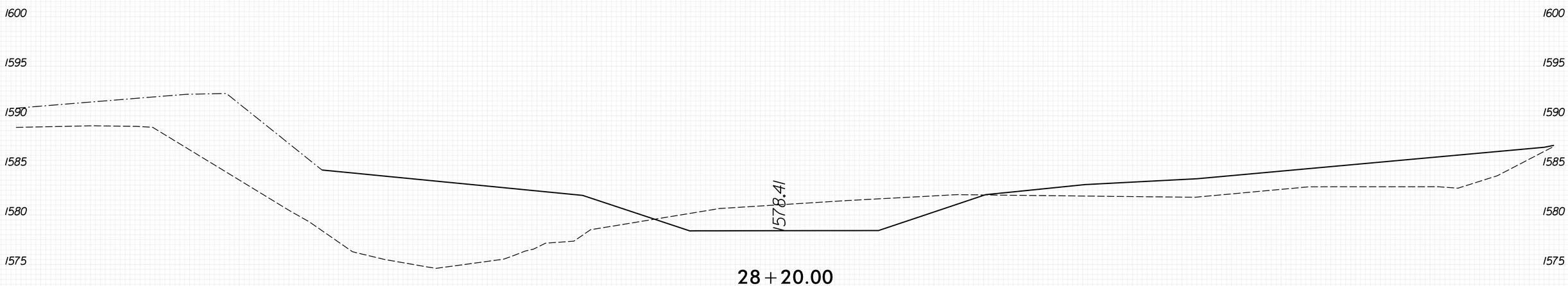


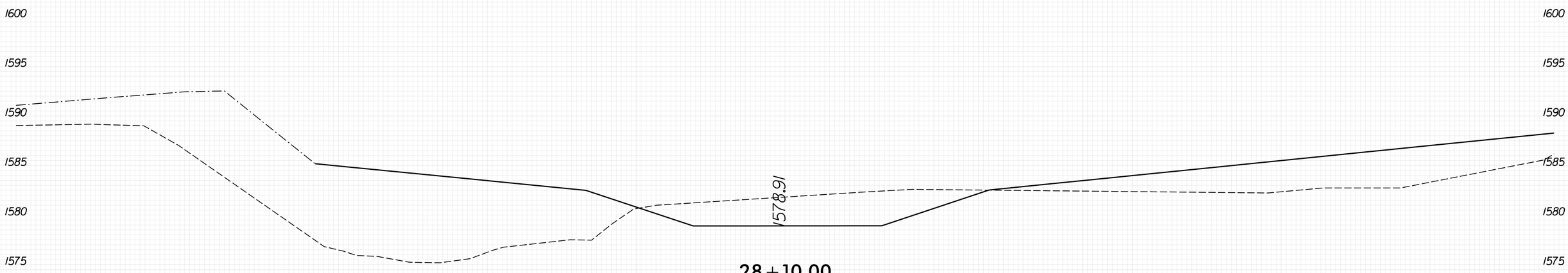


8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:27:42 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-431

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



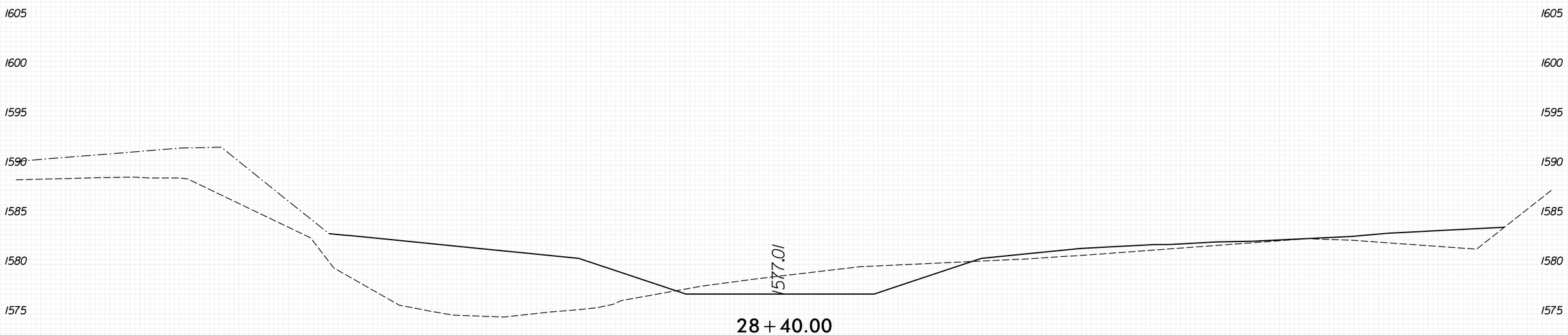


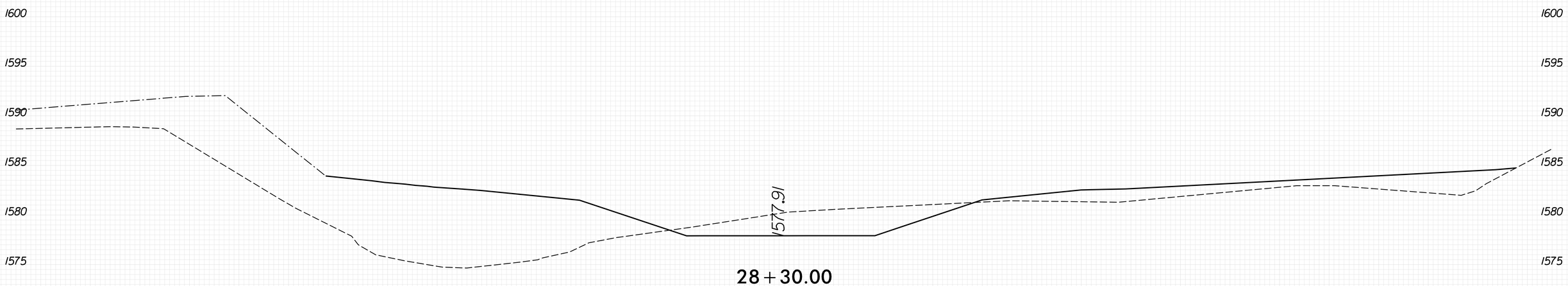
-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:27:49 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-432

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





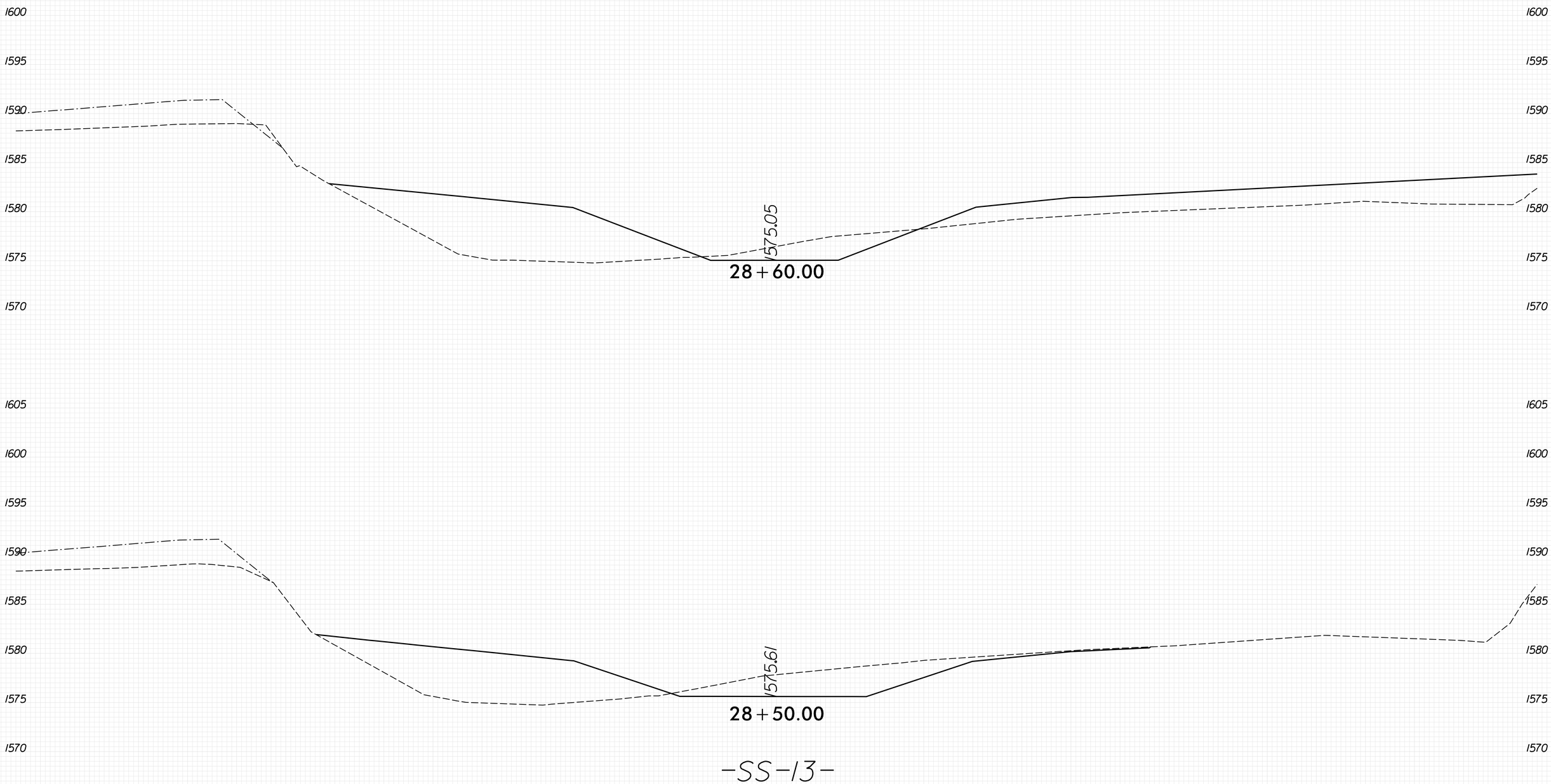
-SS-13-

8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:27:56 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-433

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

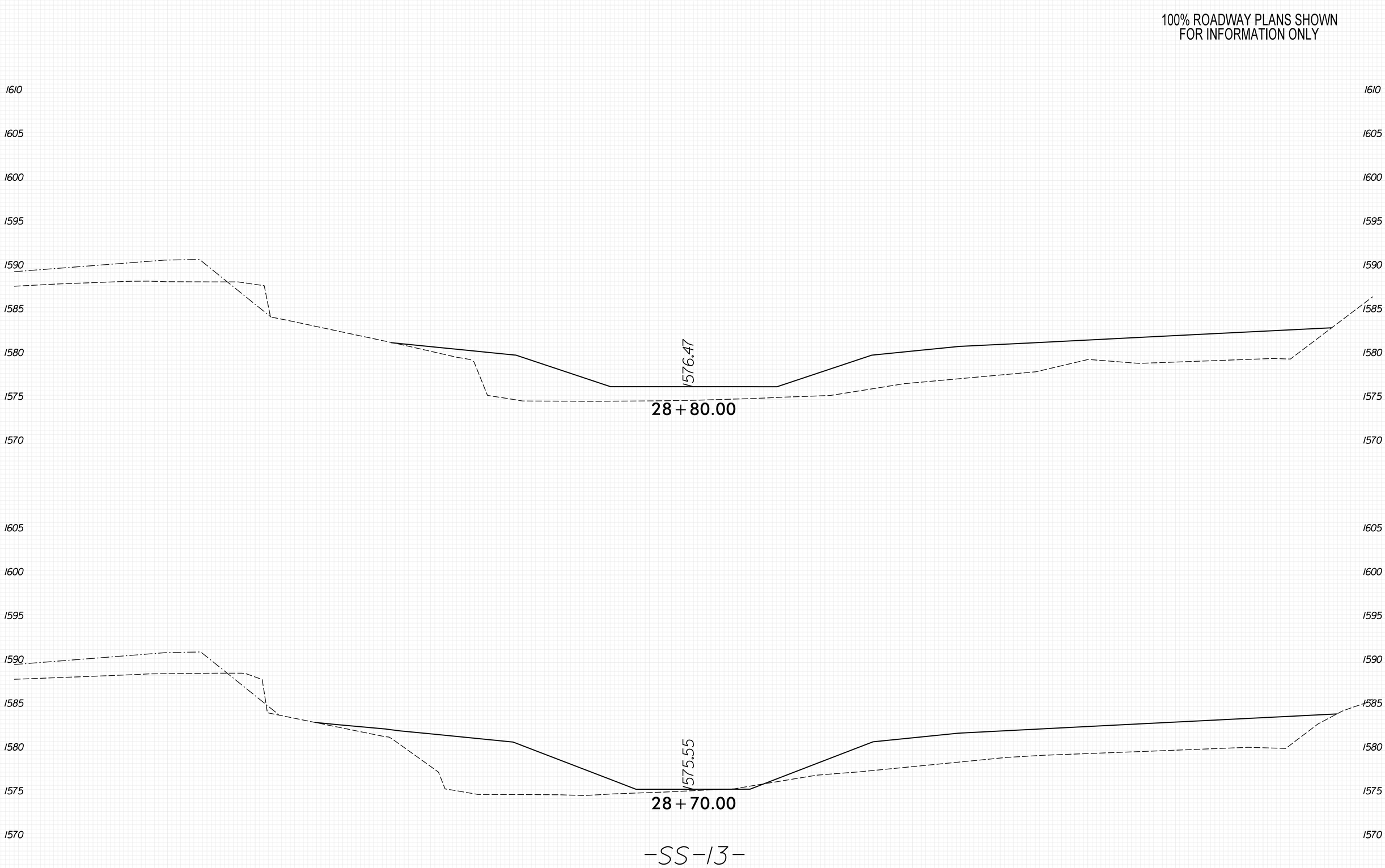


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:03 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-434

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

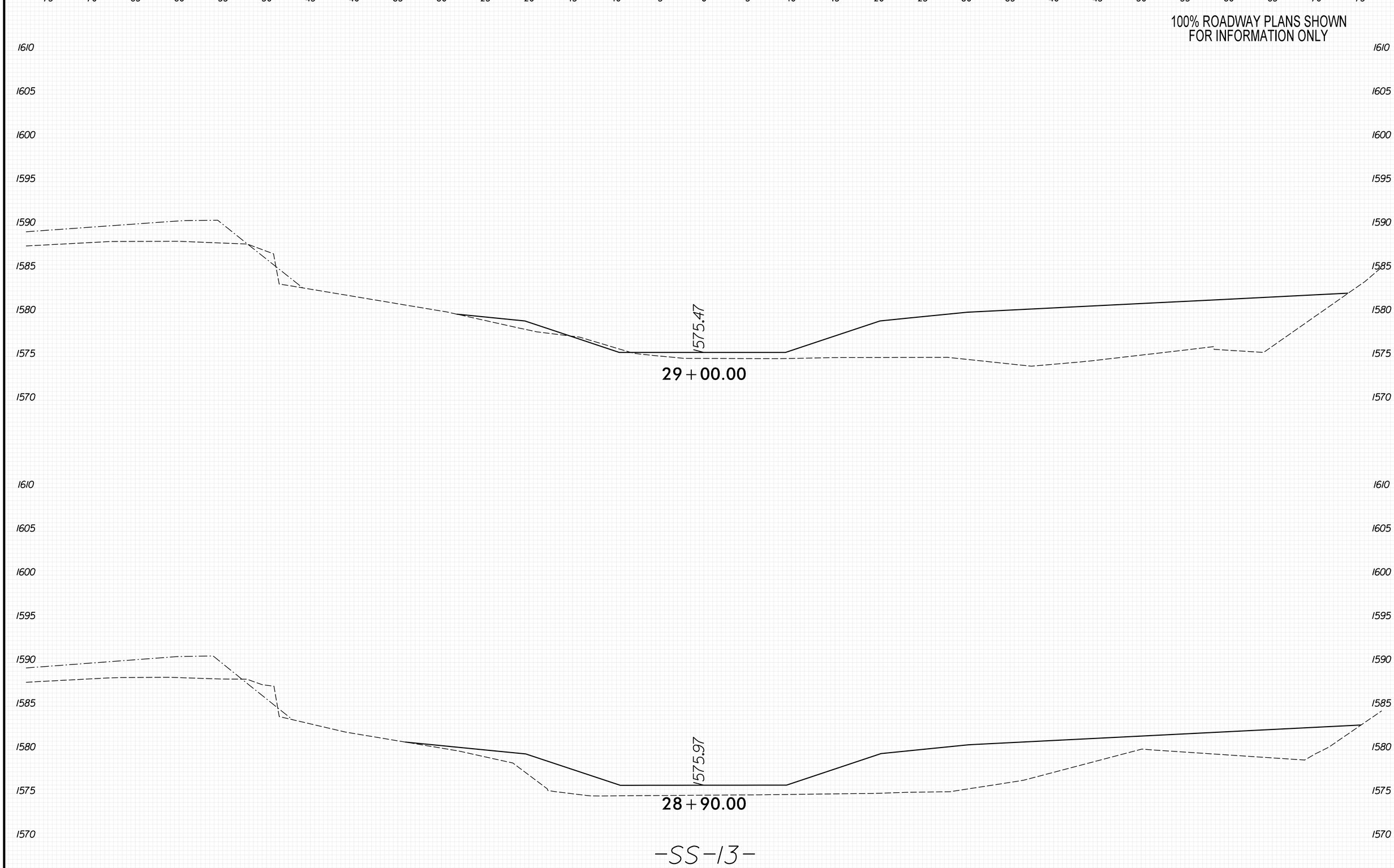


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:10 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-435

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

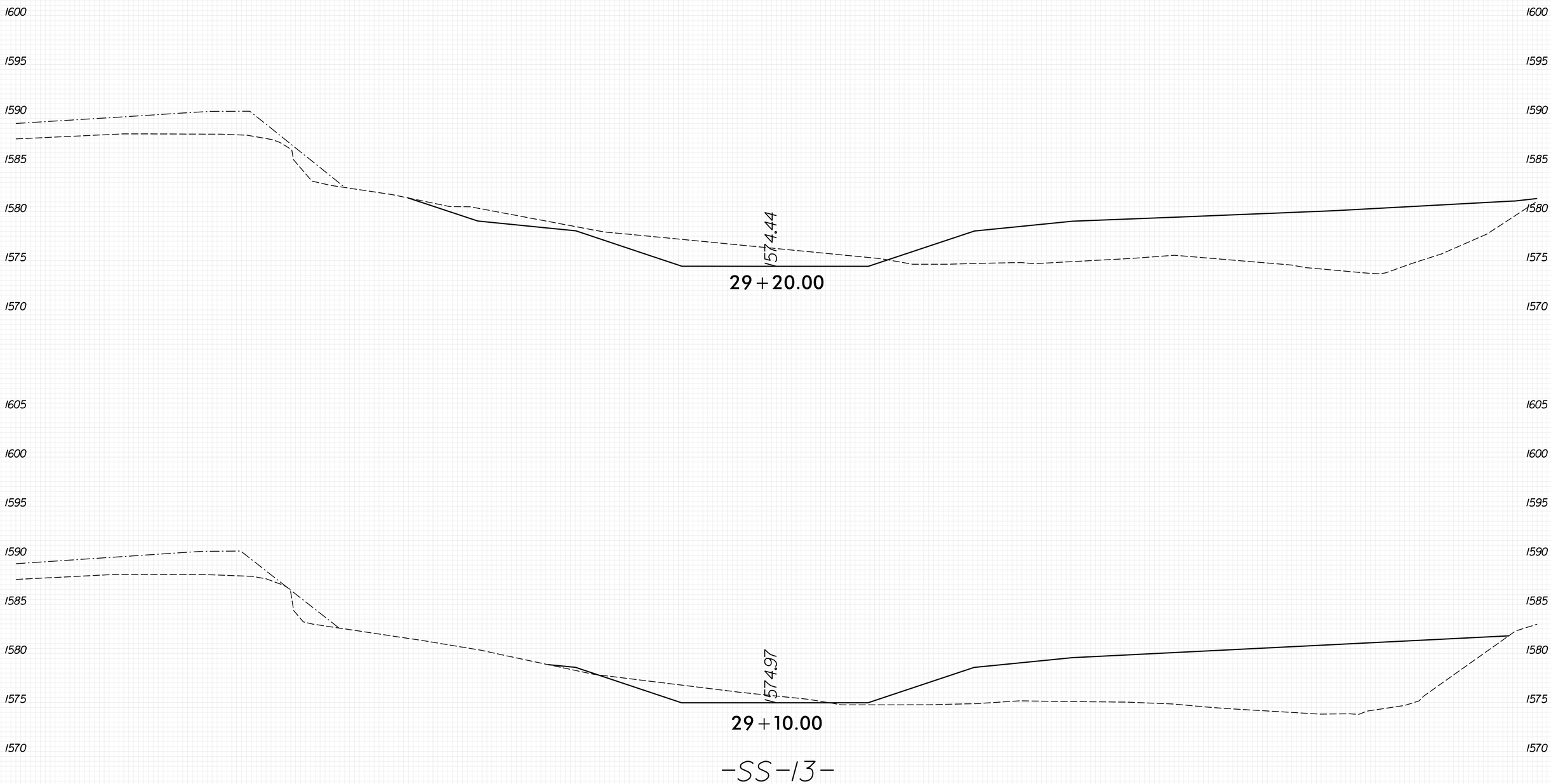


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:16 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-436

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

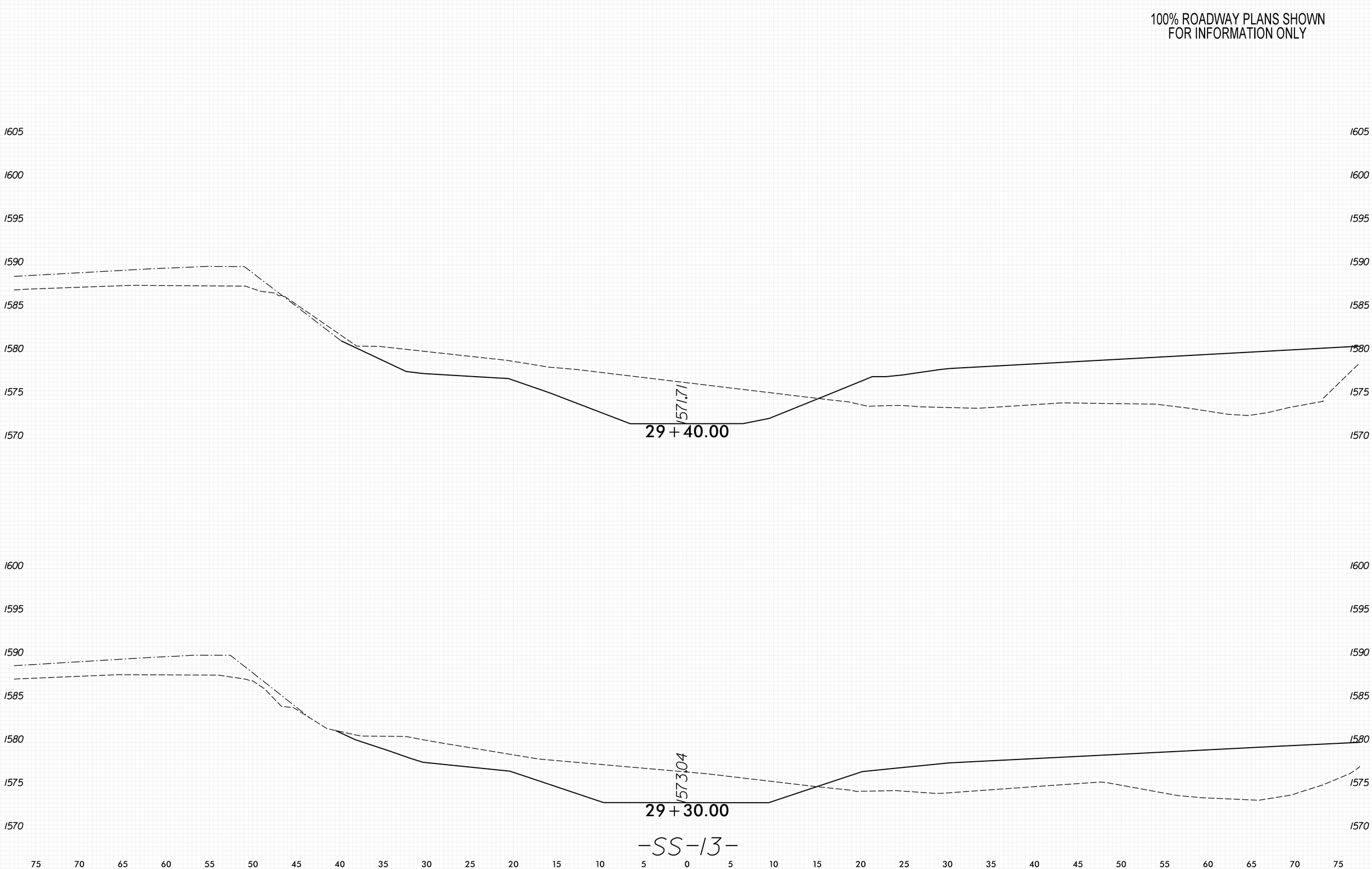


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:28:23 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-437

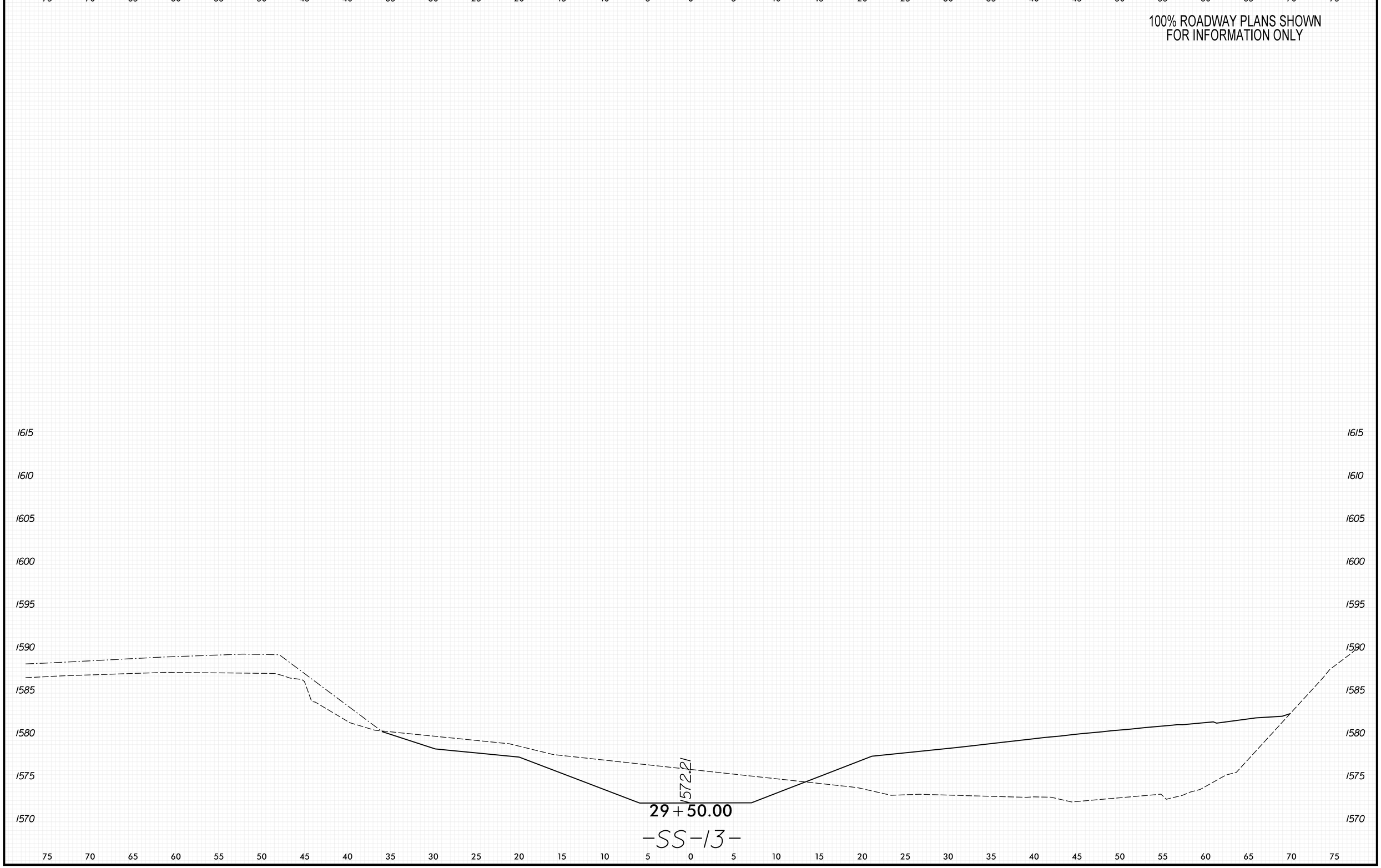
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:30 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-438

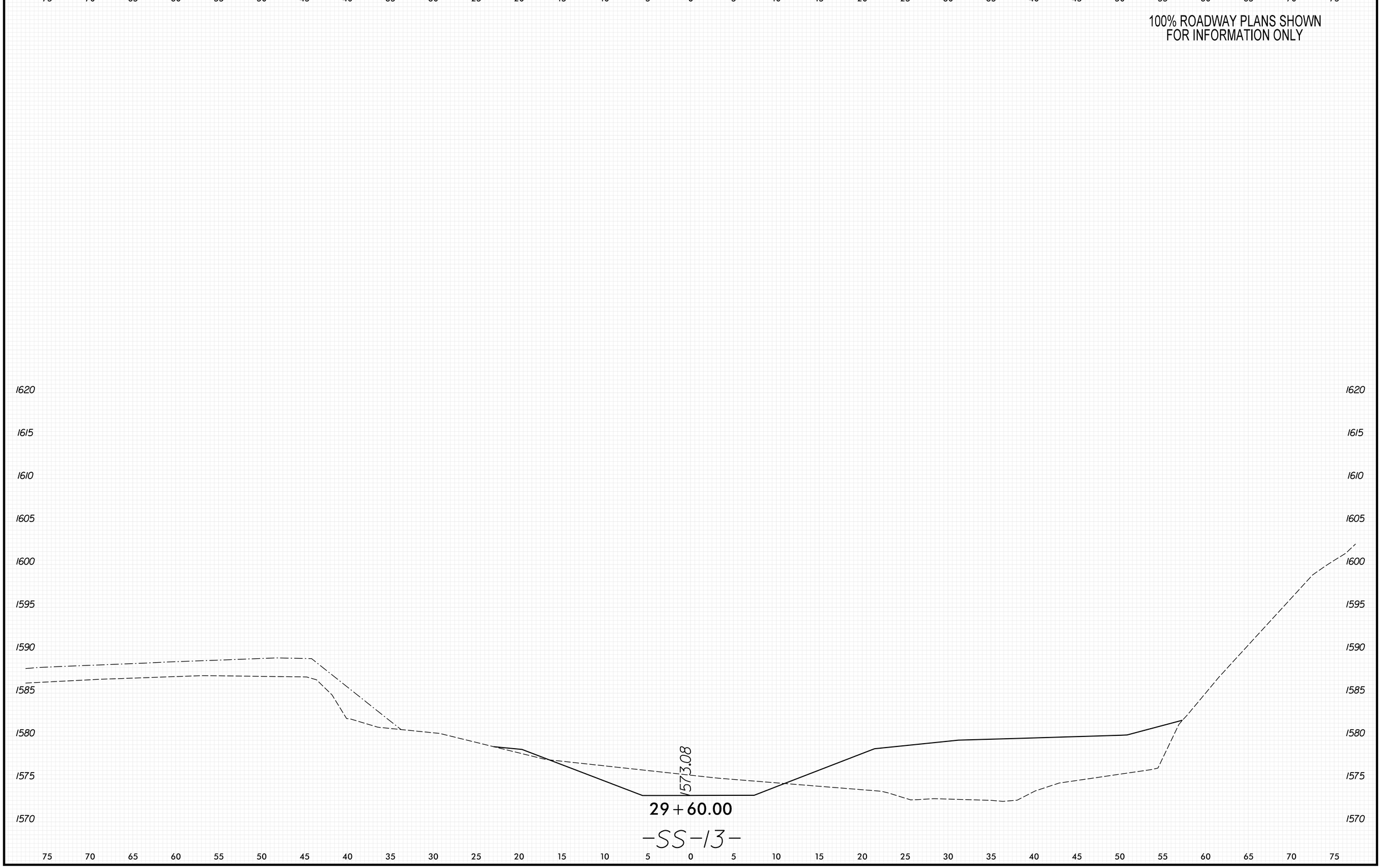
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:37 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-439

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

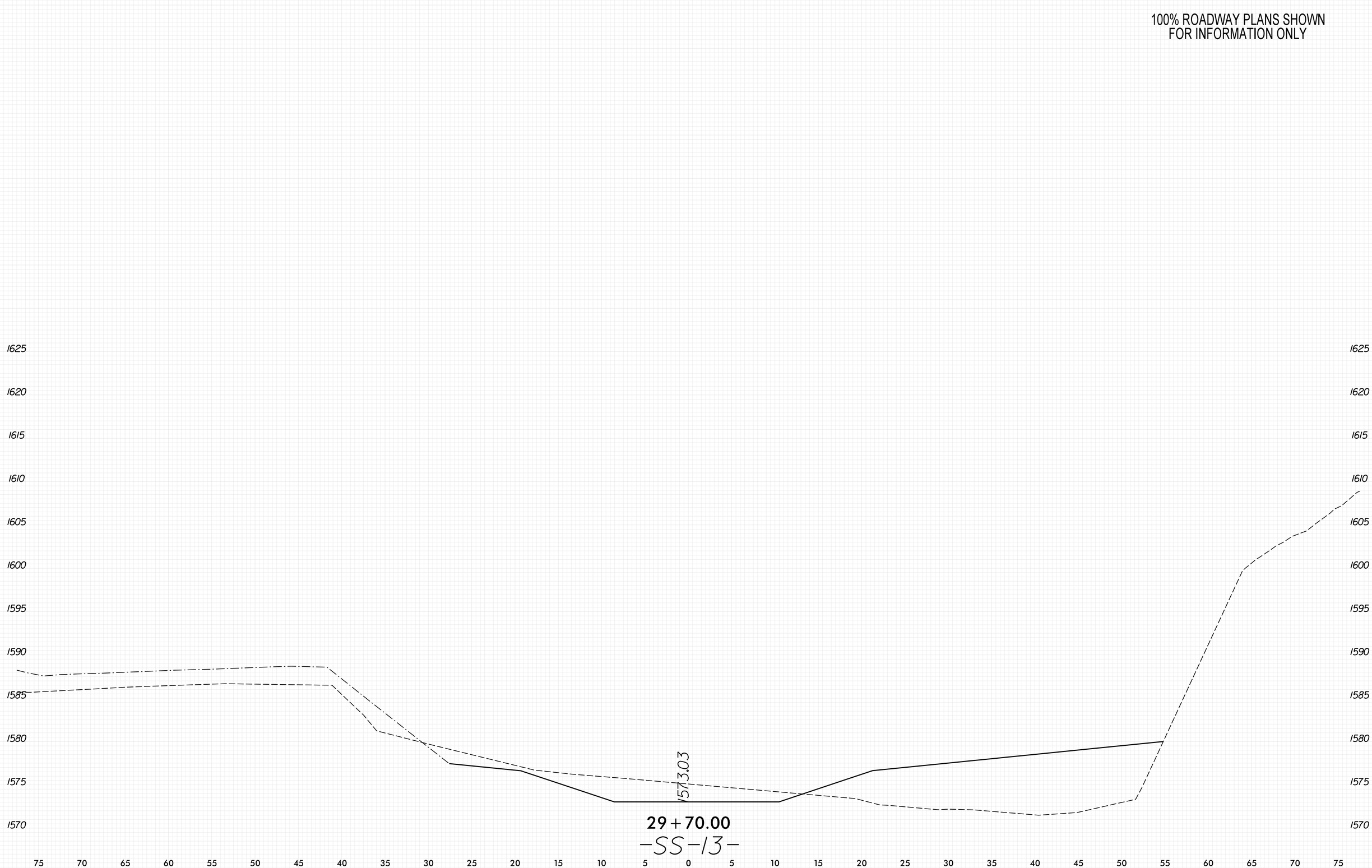


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:44 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-440

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

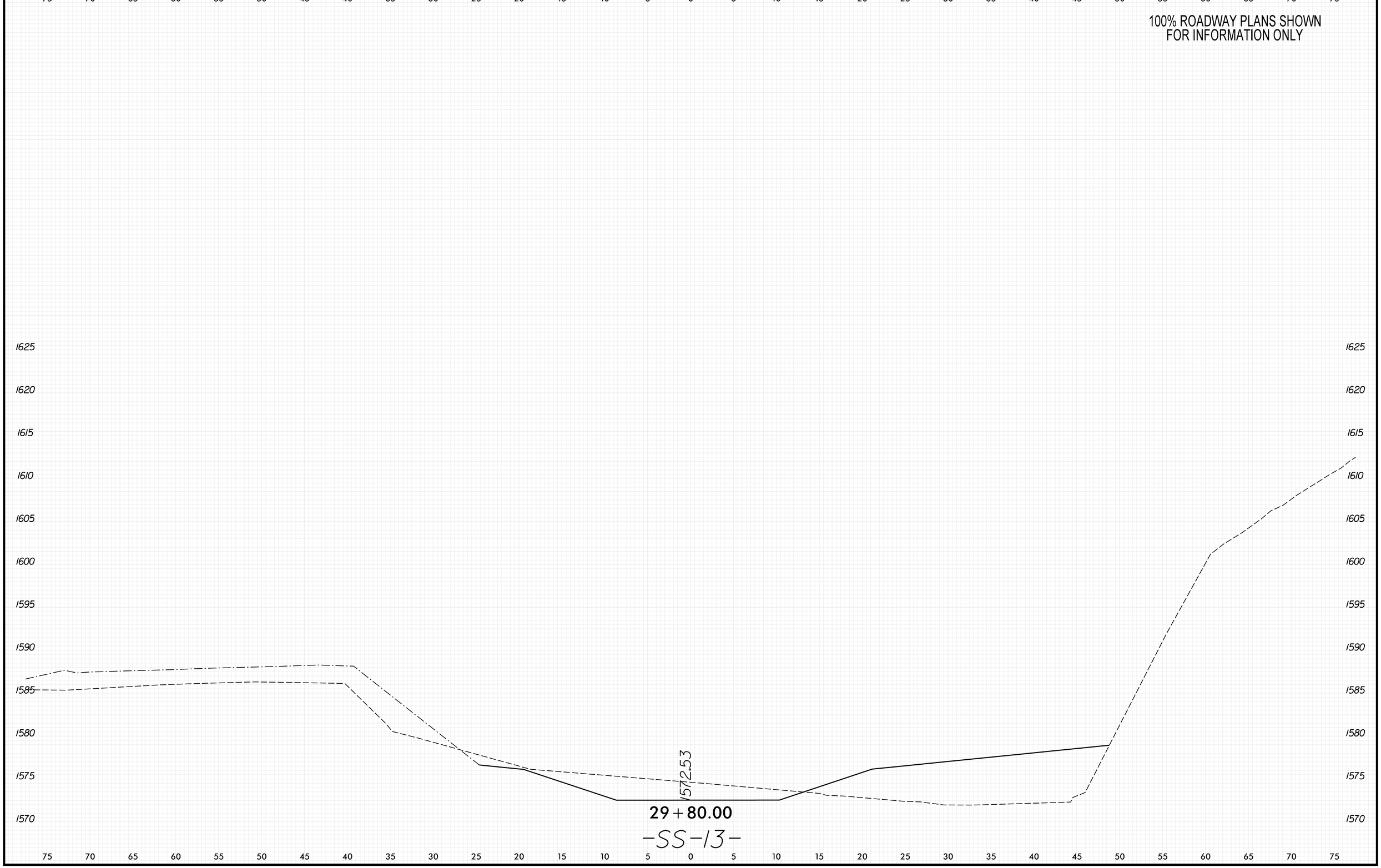


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:51 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-441

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

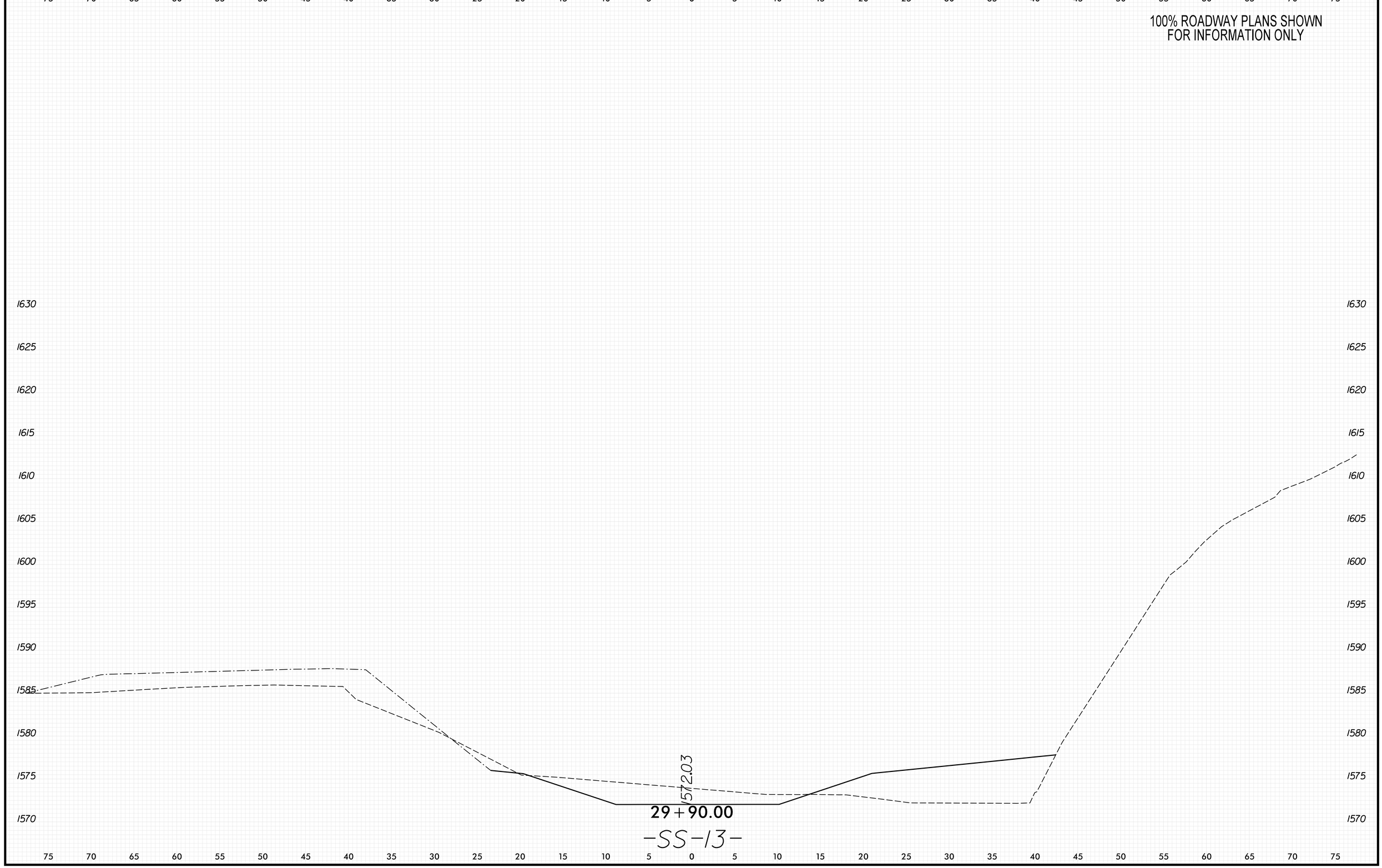


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:28:58 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-442

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

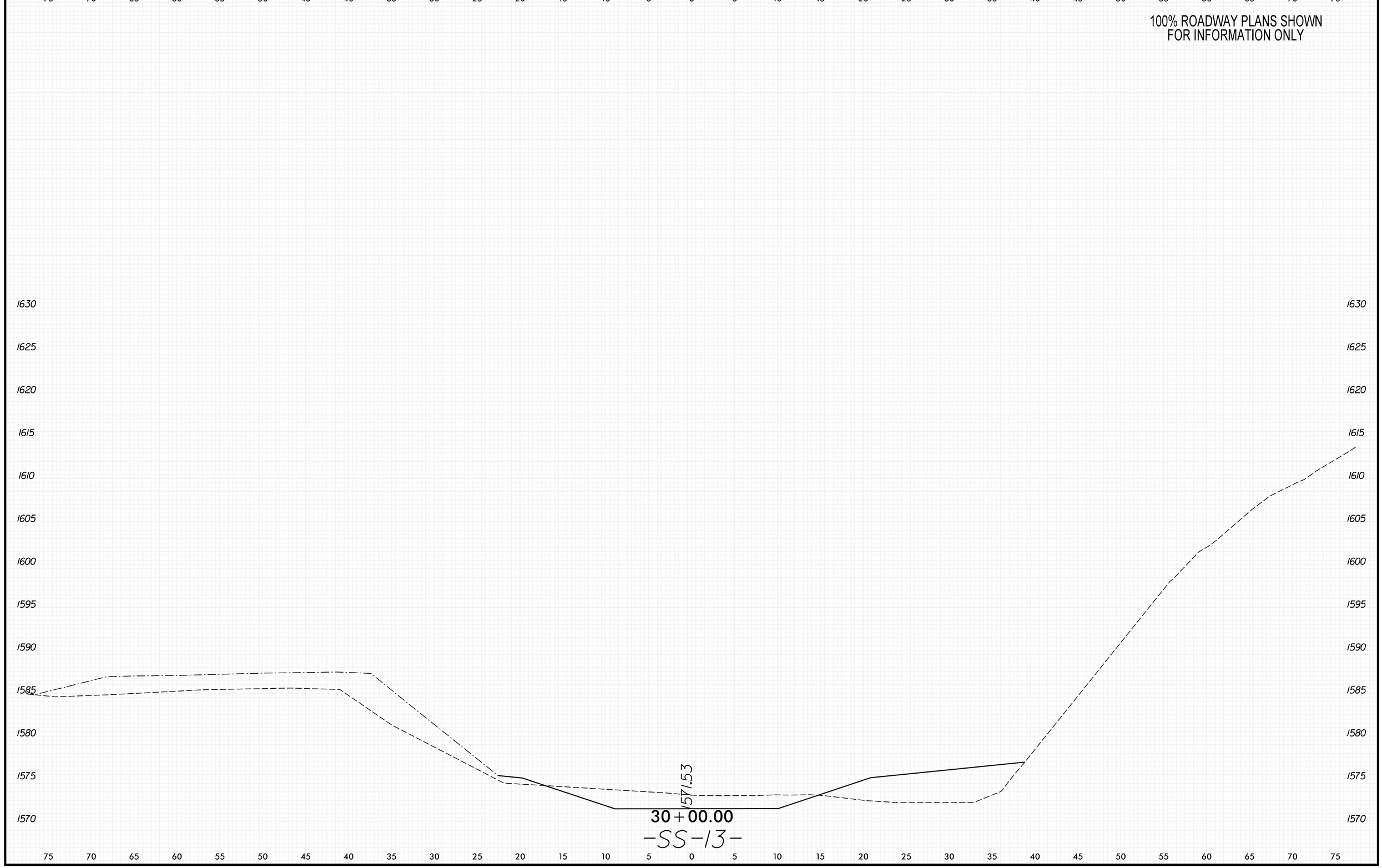


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:29:05 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-443

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

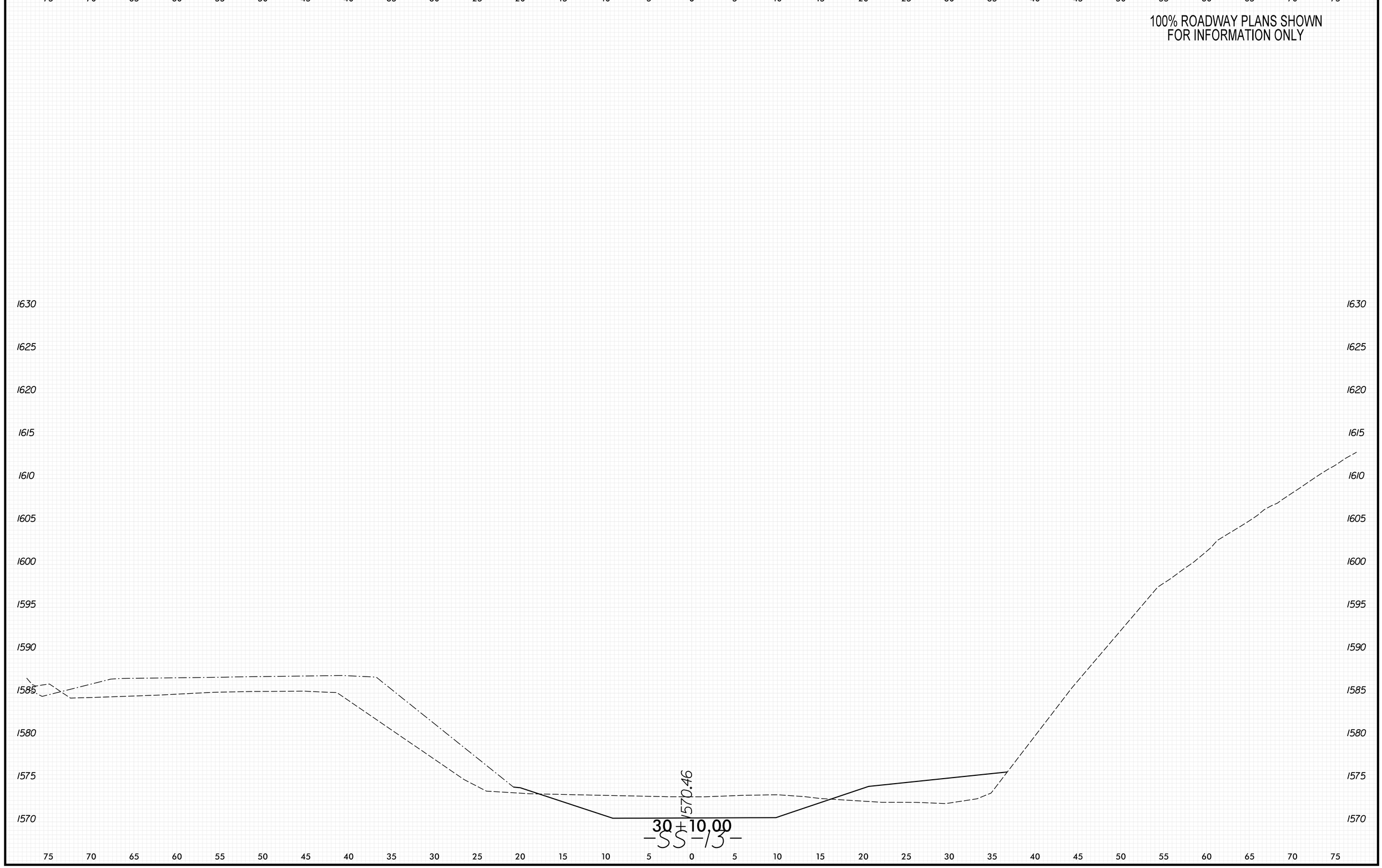


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:29:12 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-444

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

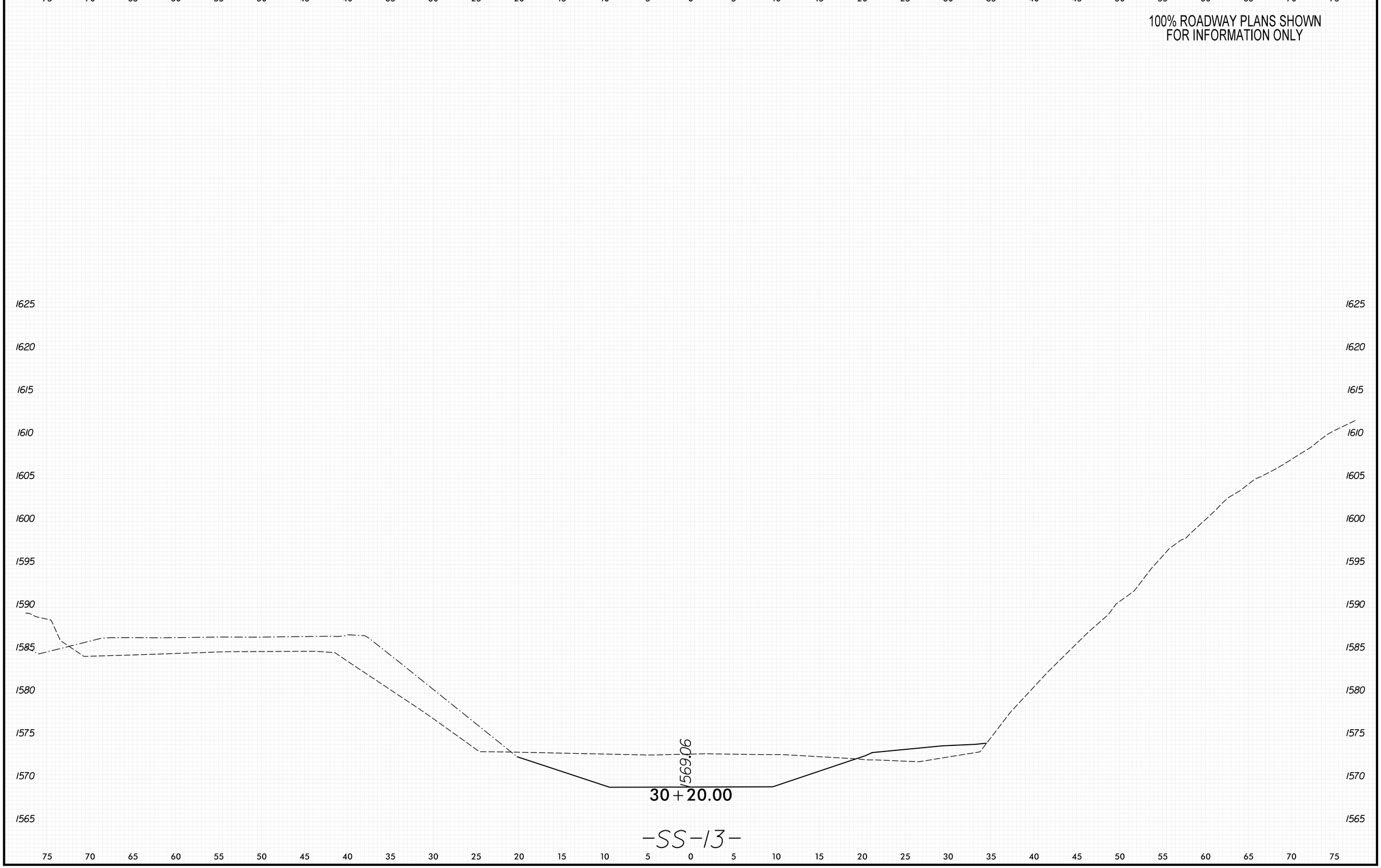


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:29:18 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-445

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

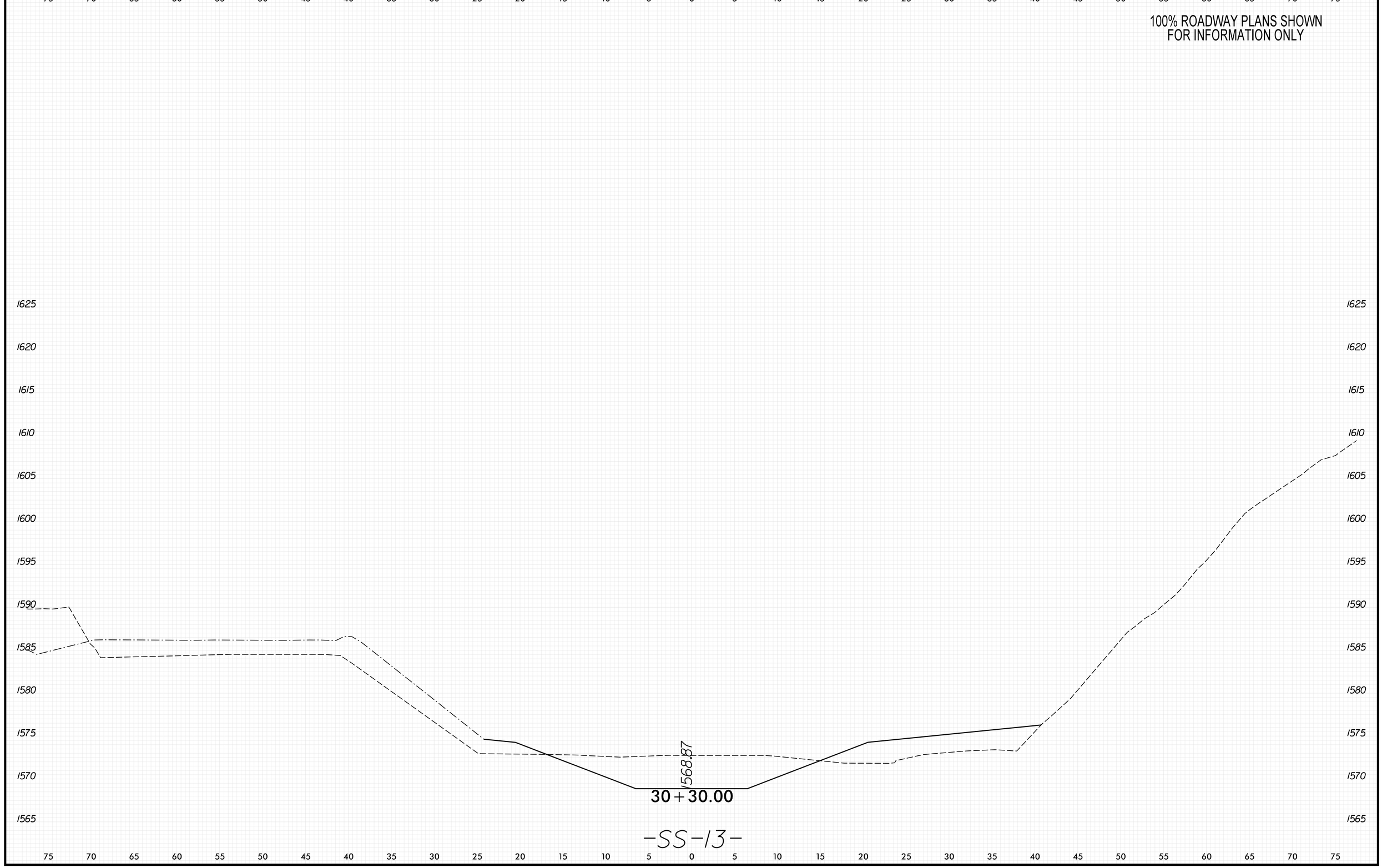


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:29:25 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-446

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

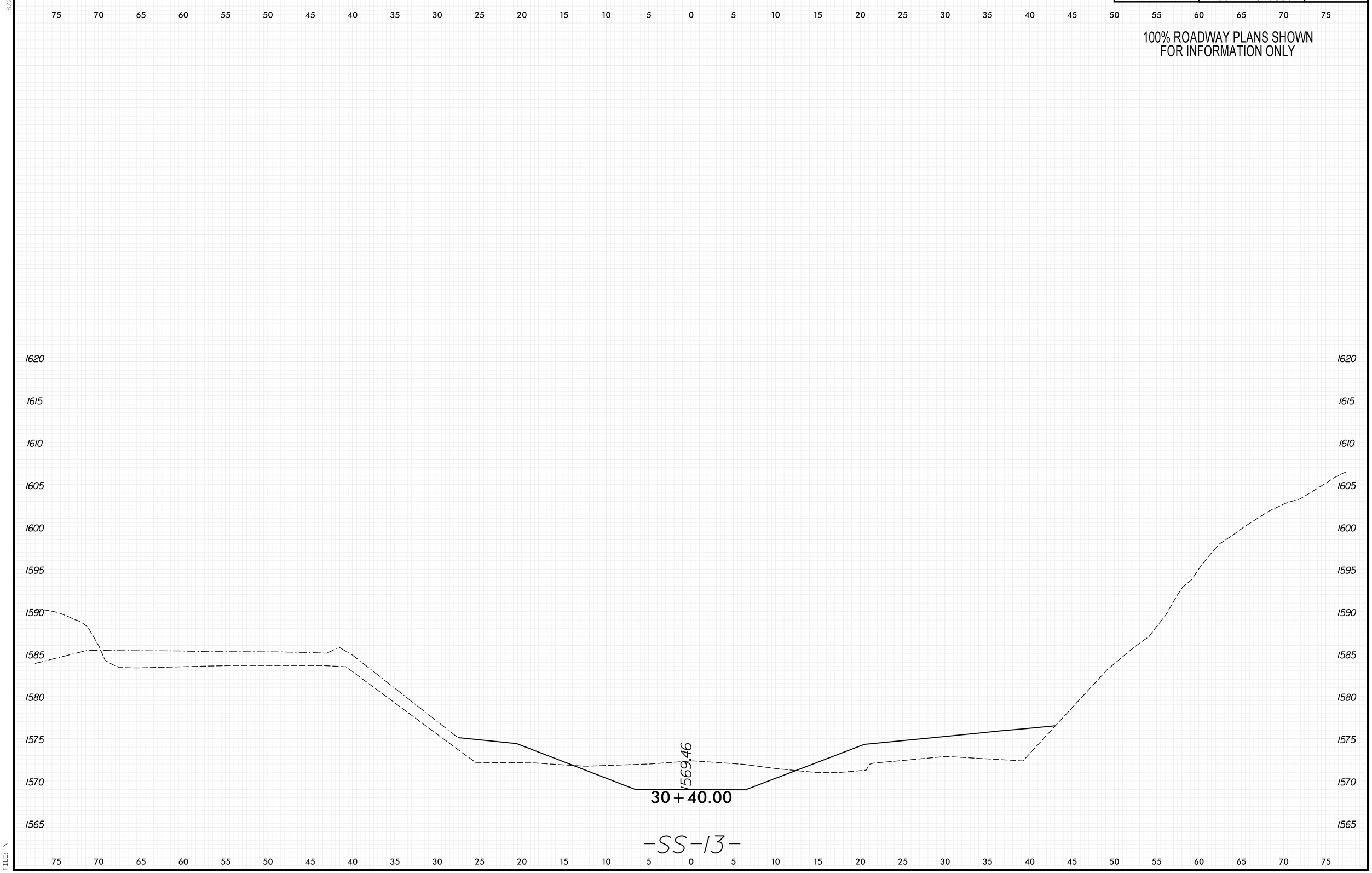


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:29:32 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-447

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

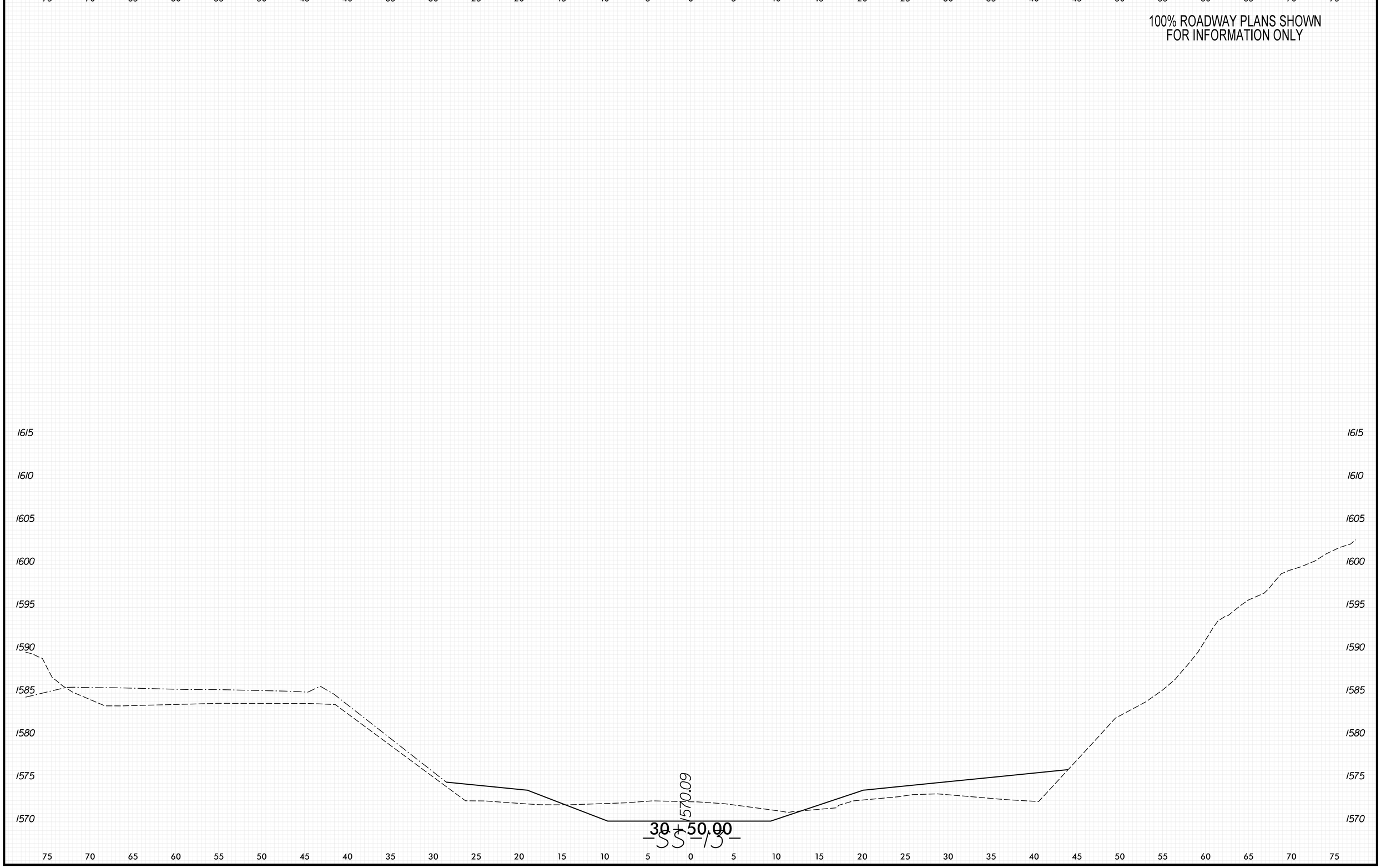


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:29:39 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-448

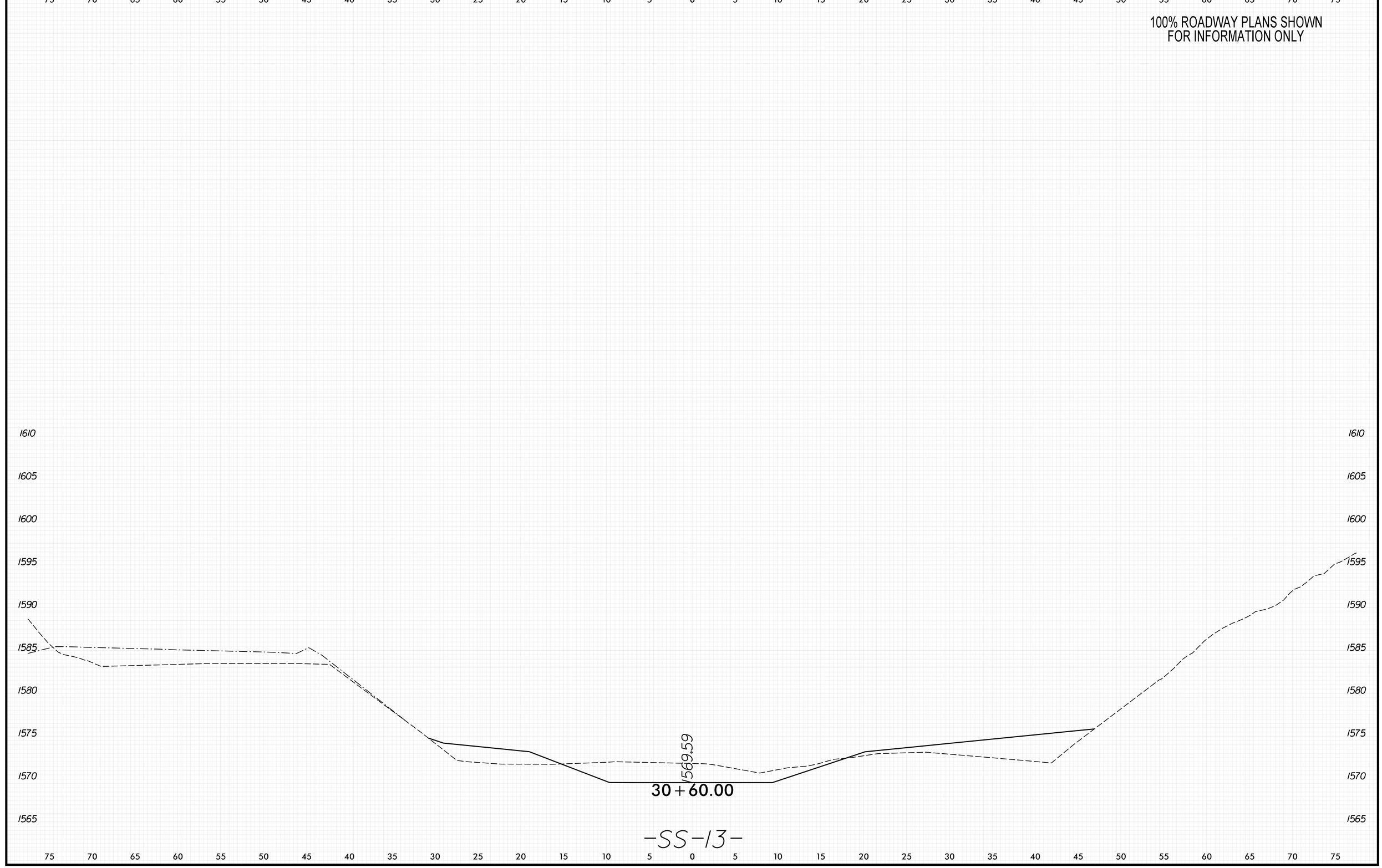
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:29:46 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-449

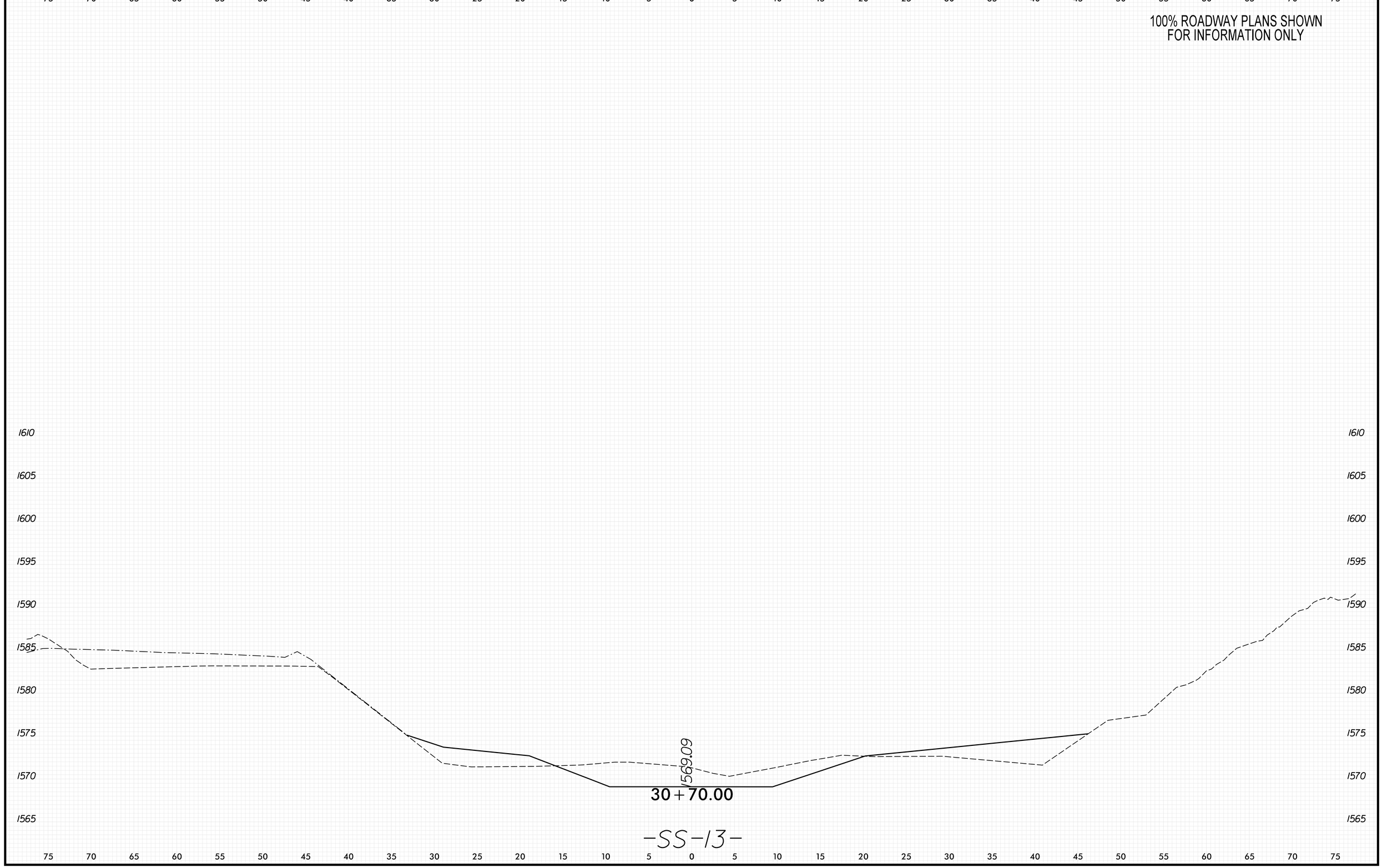
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:29:53 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-450

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

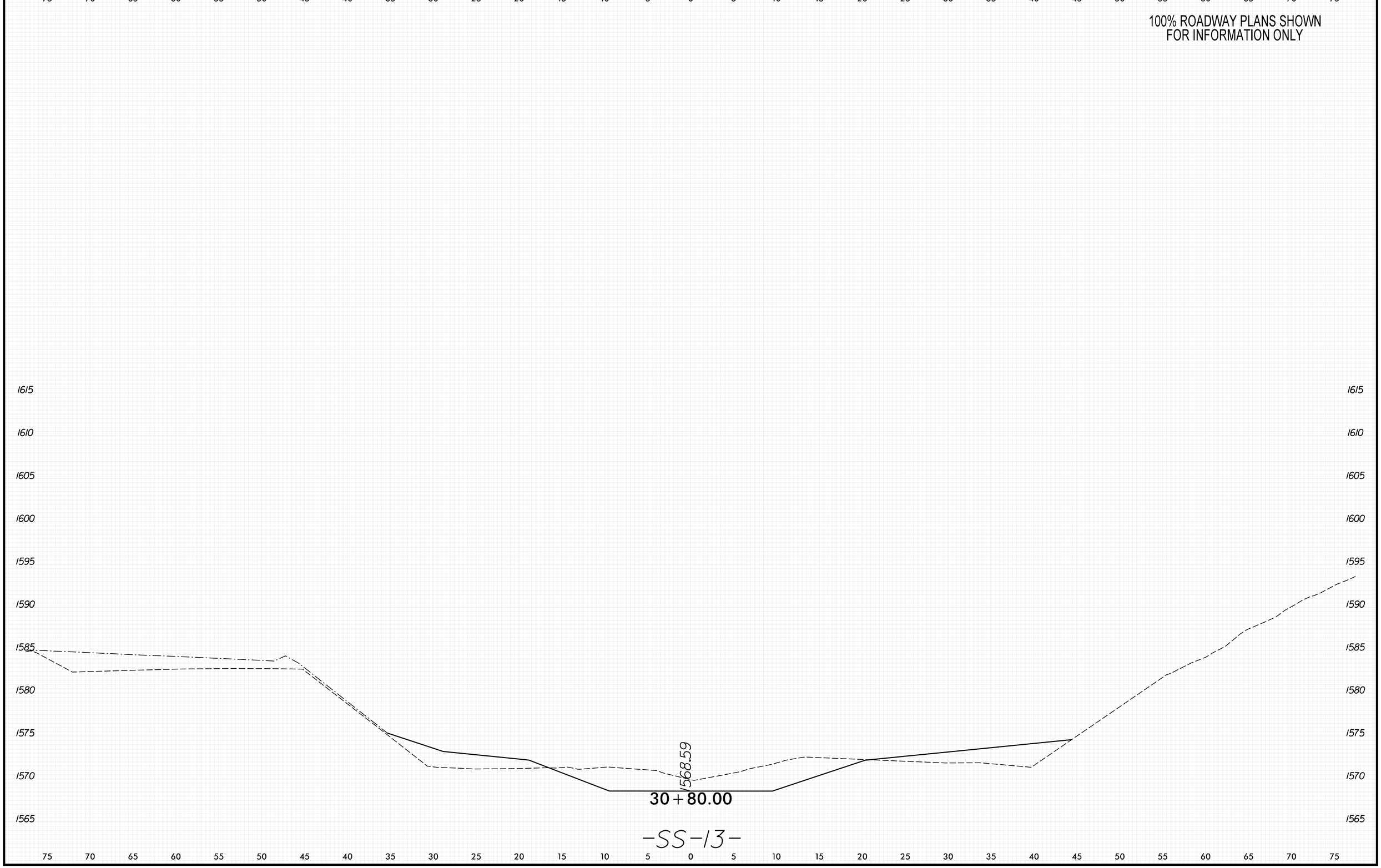


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:29:59 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-451

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

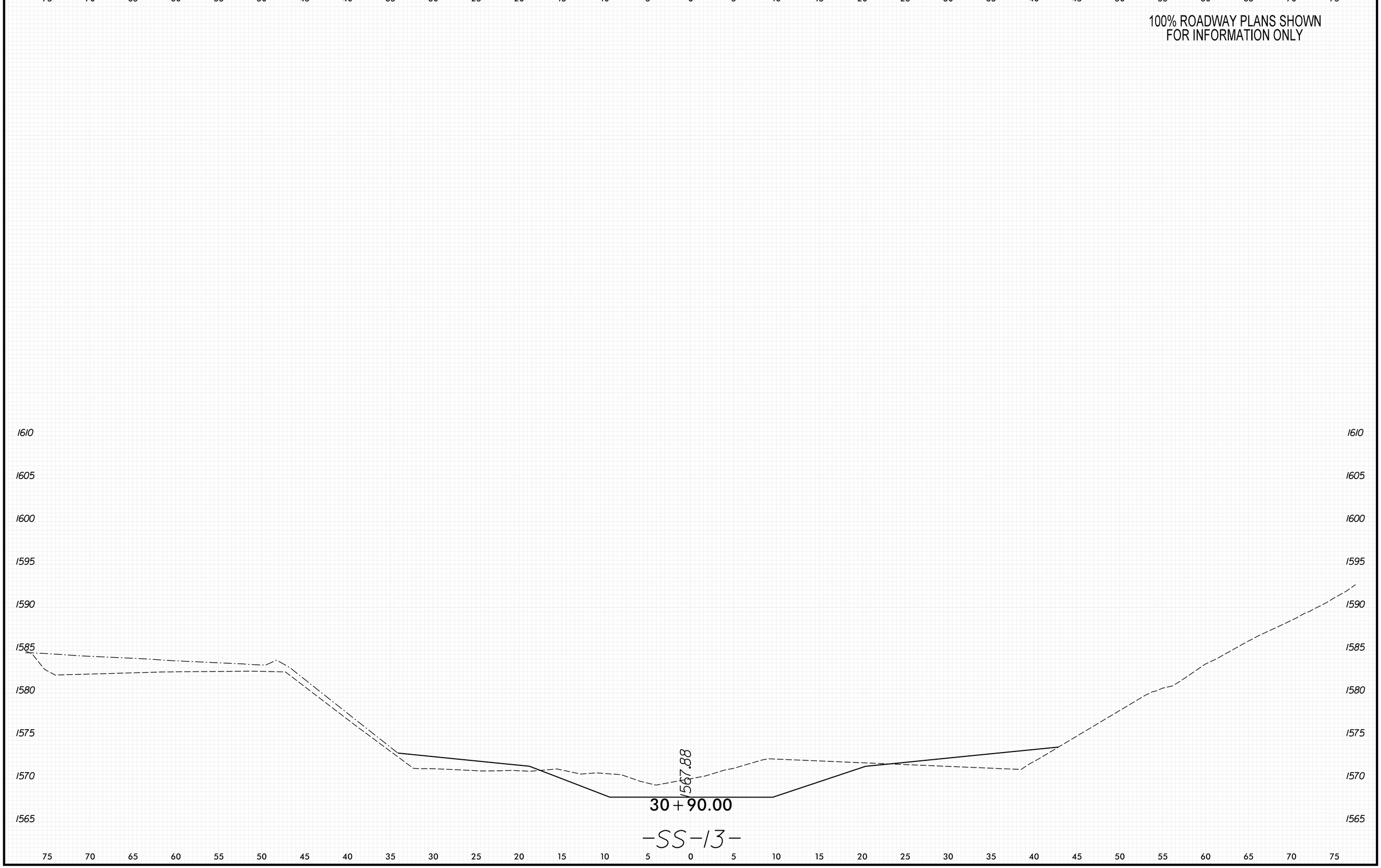


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:30:07 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-452

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

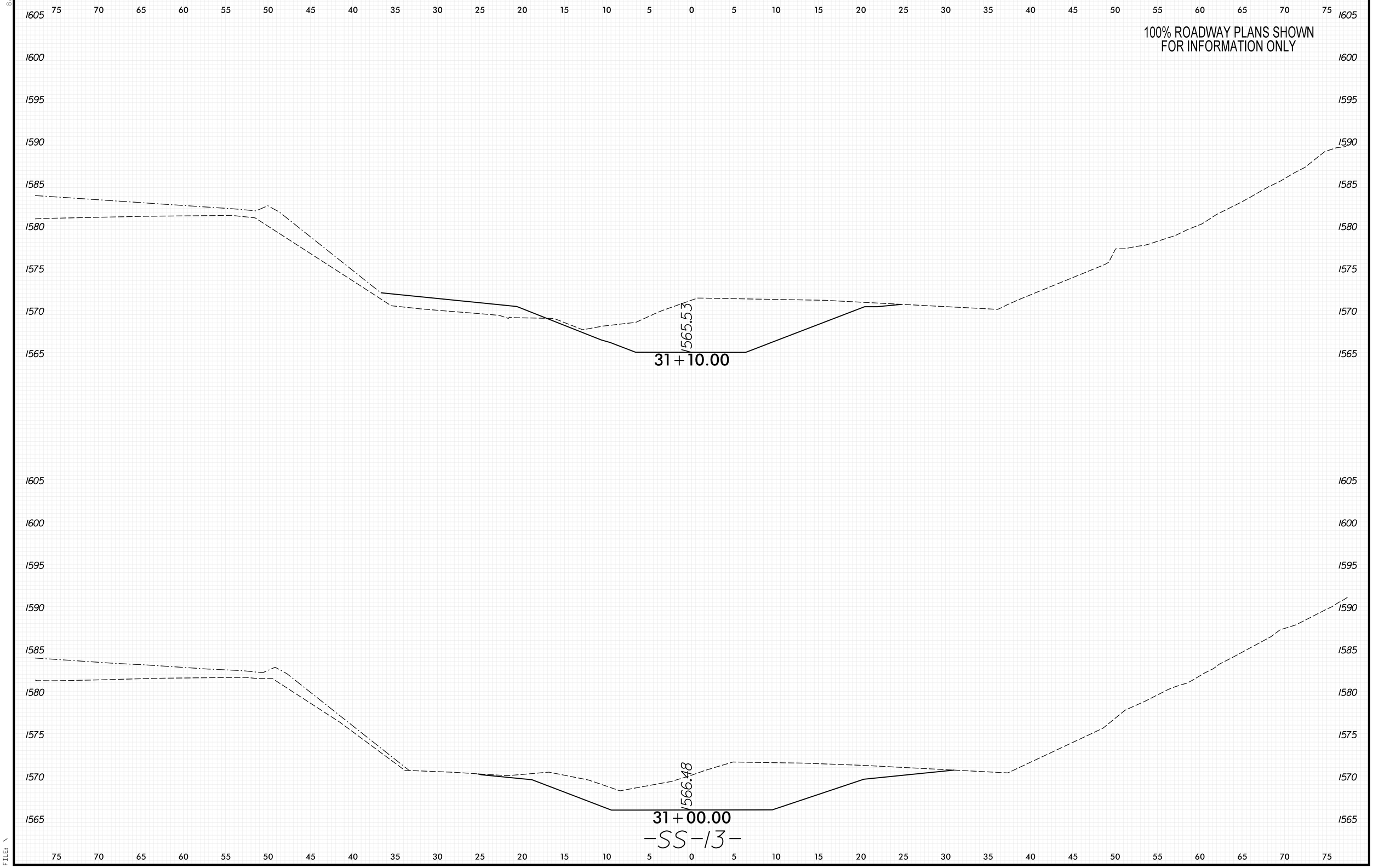


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:30:14 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-453

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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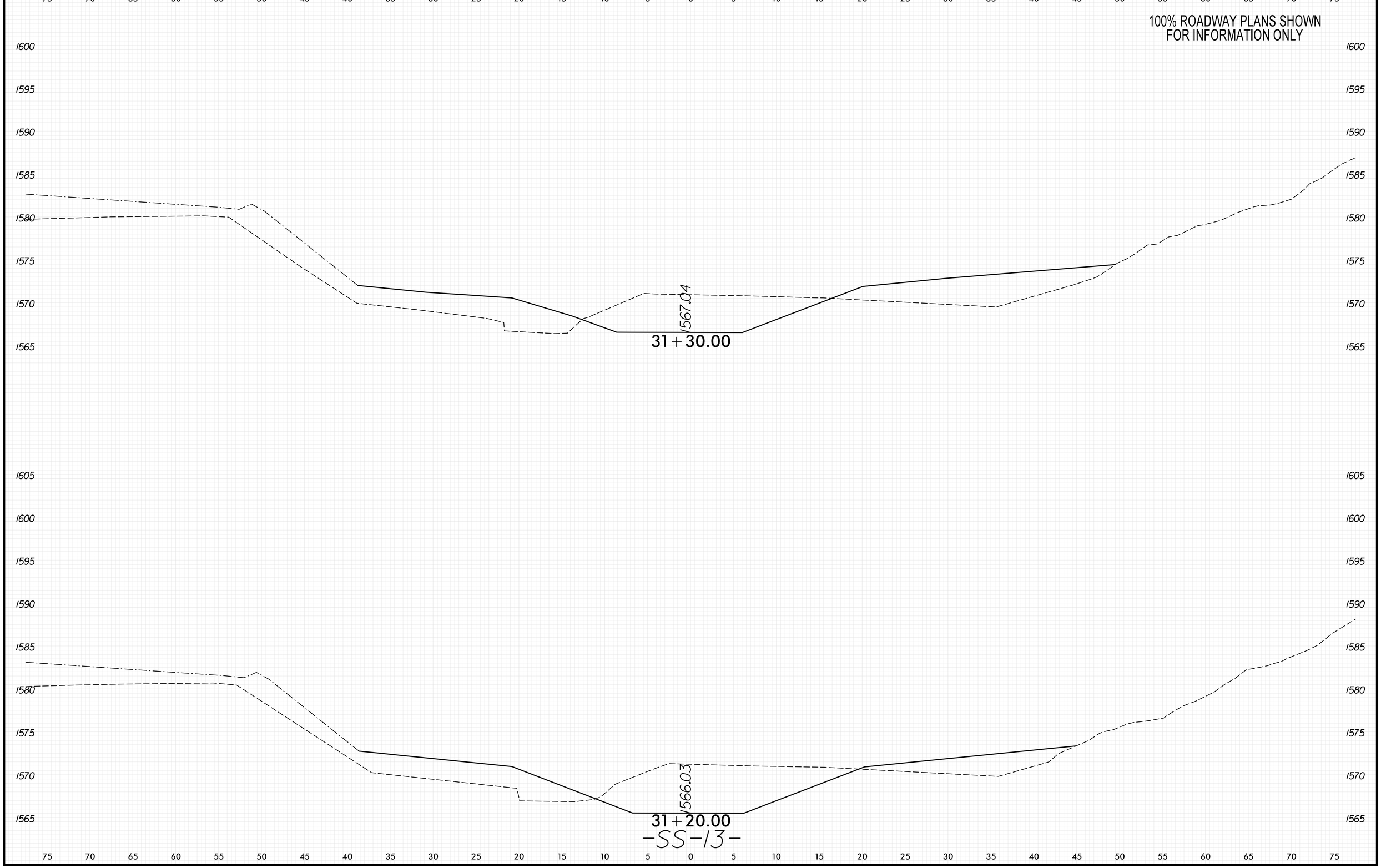
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-454

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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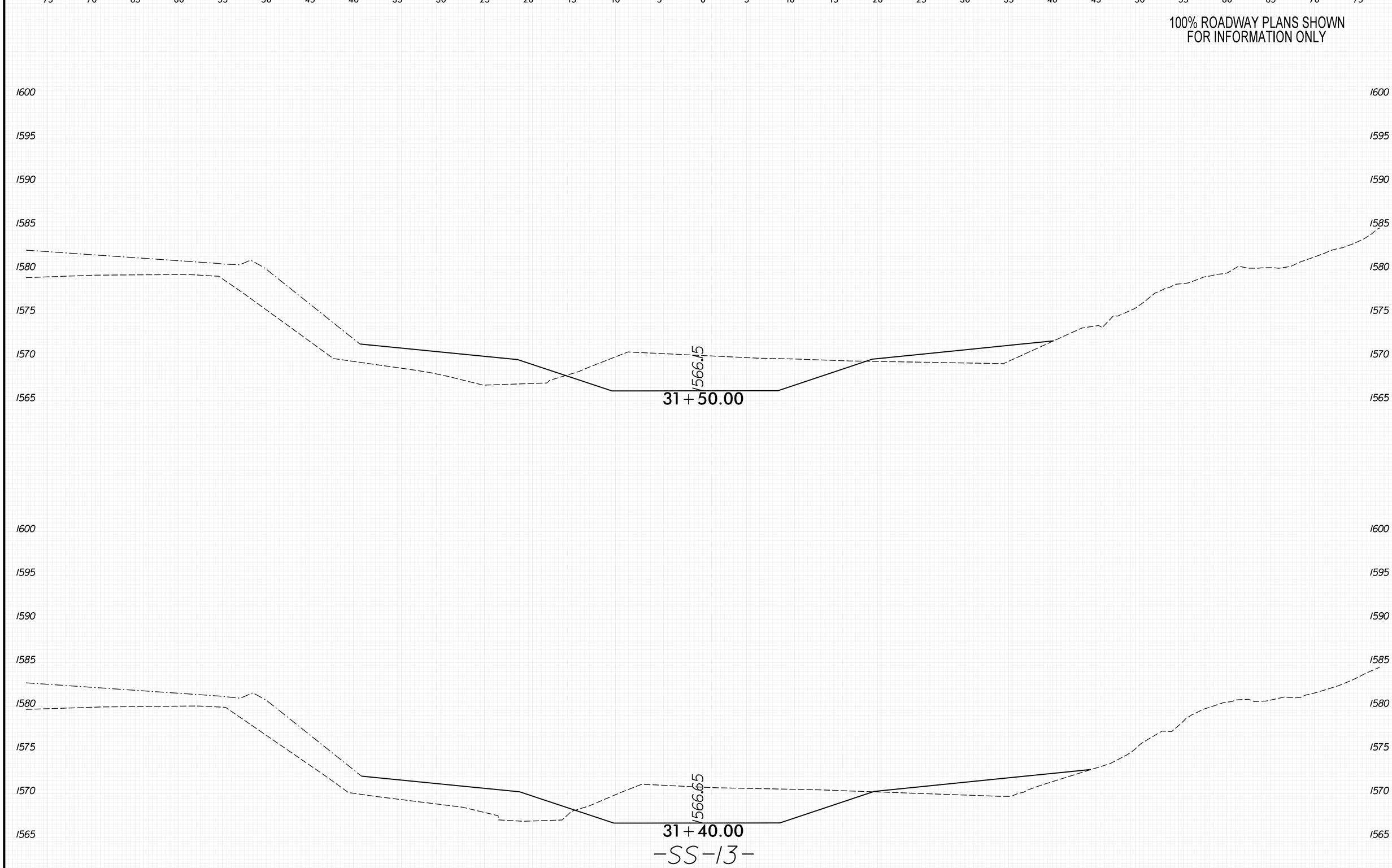
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:30:28 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-455

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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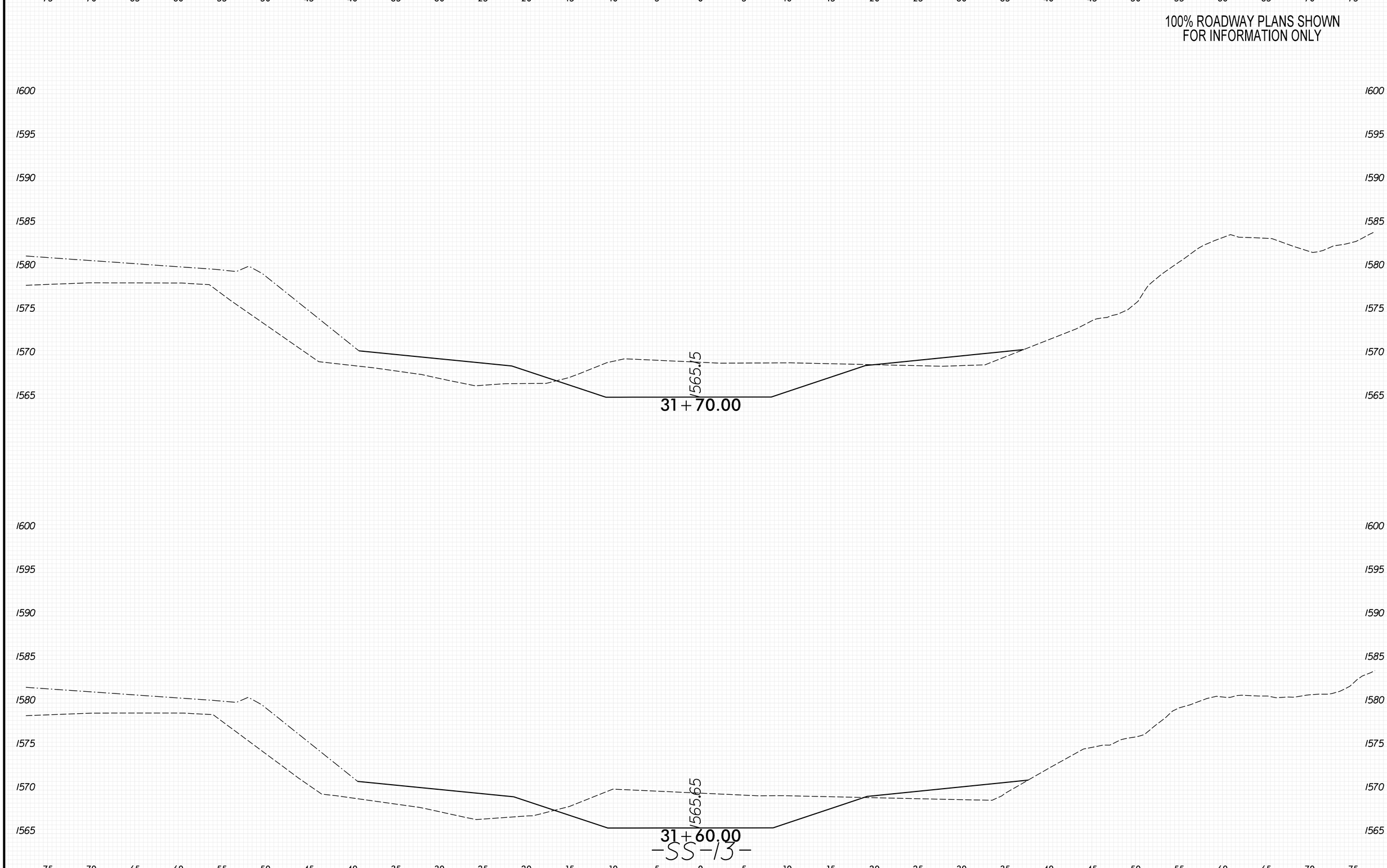
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-456

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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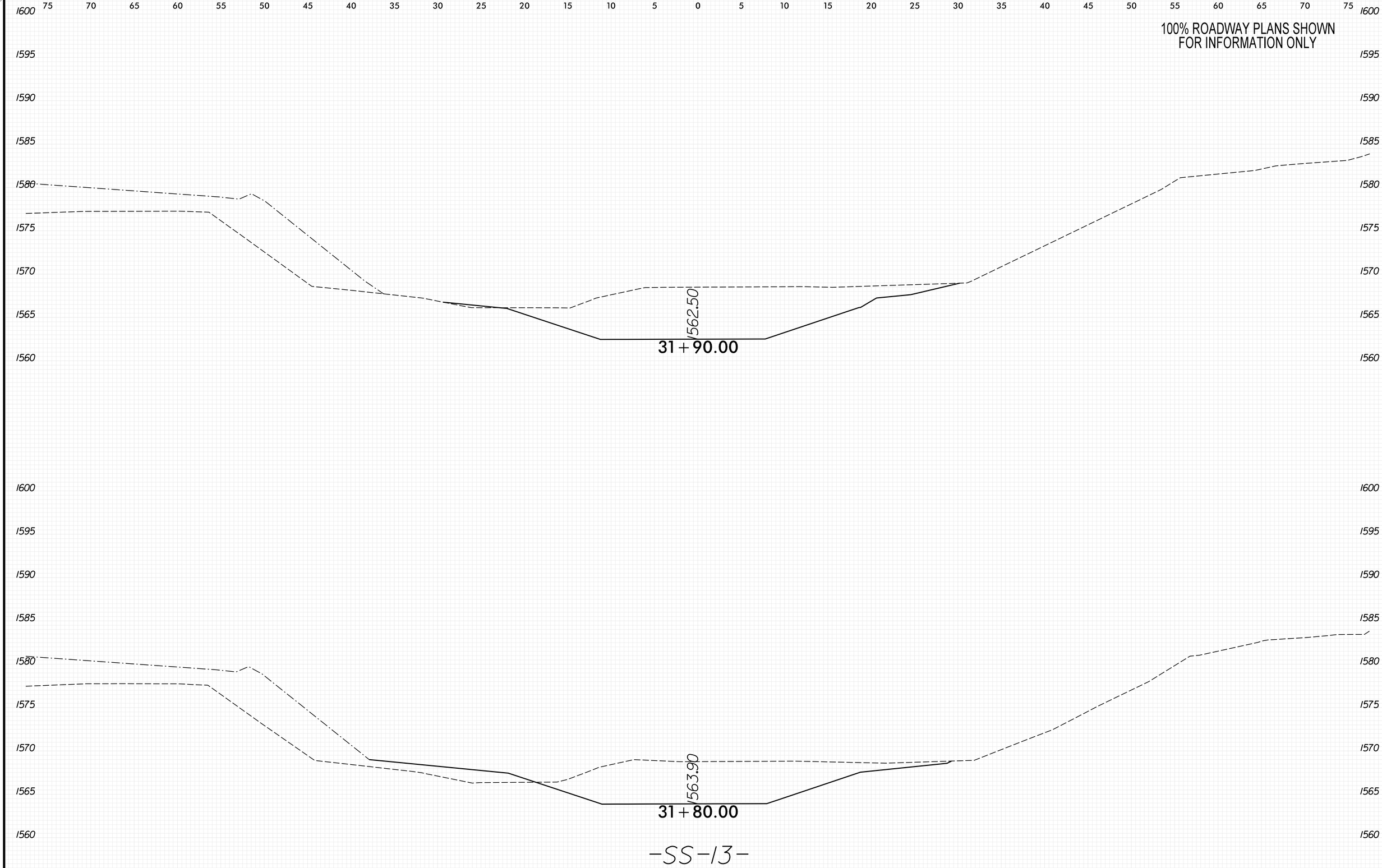
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-457

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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USER: KCLATTERBU
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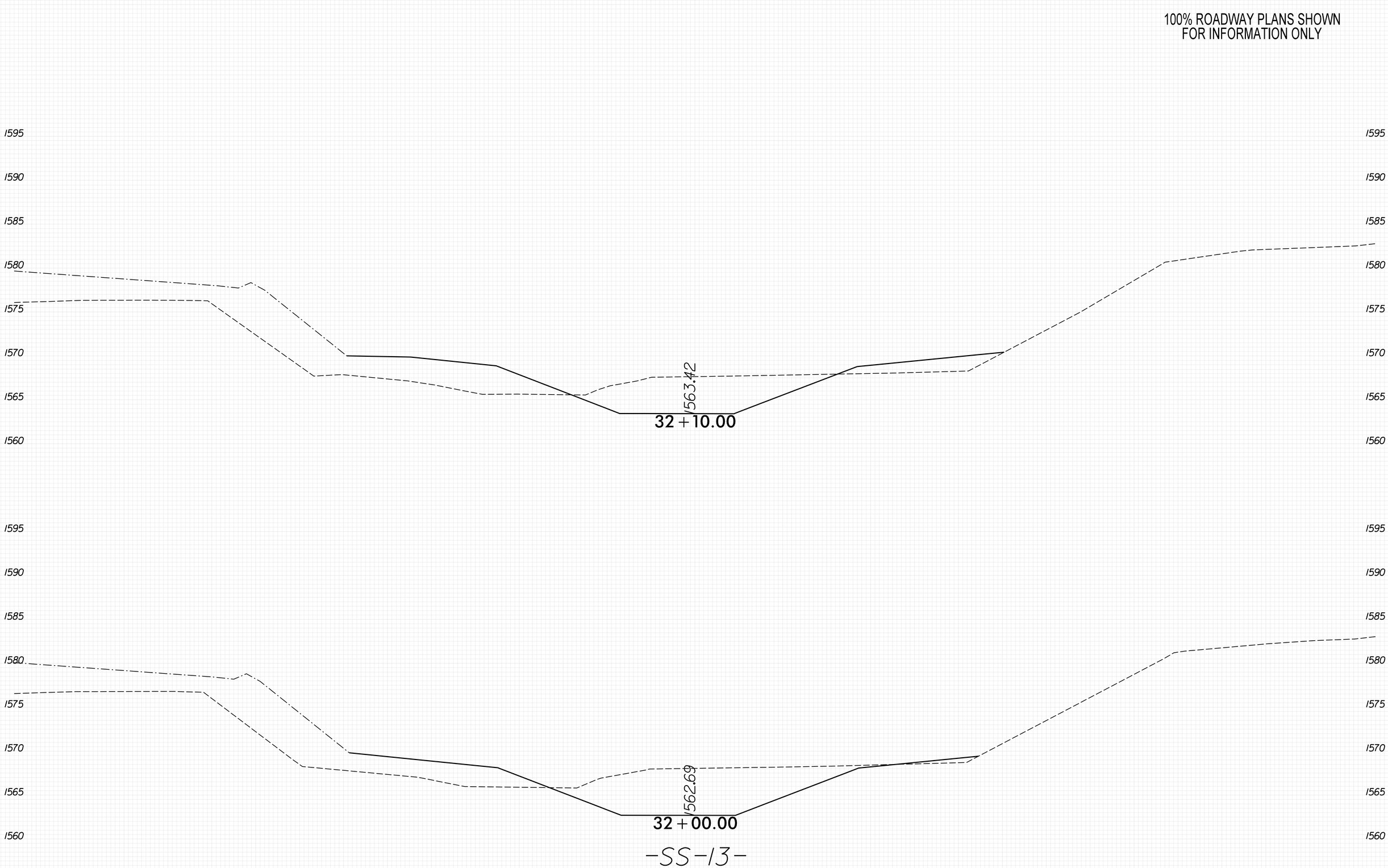
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-458

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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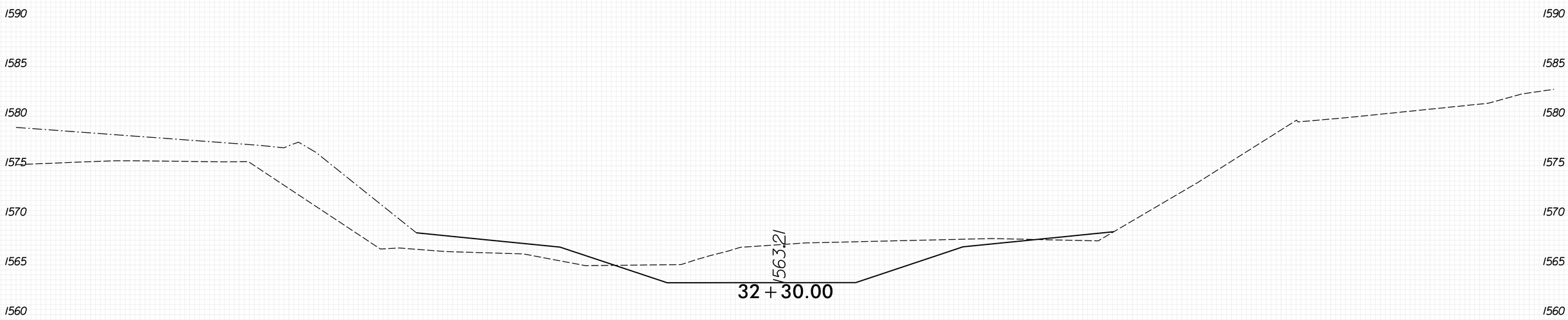
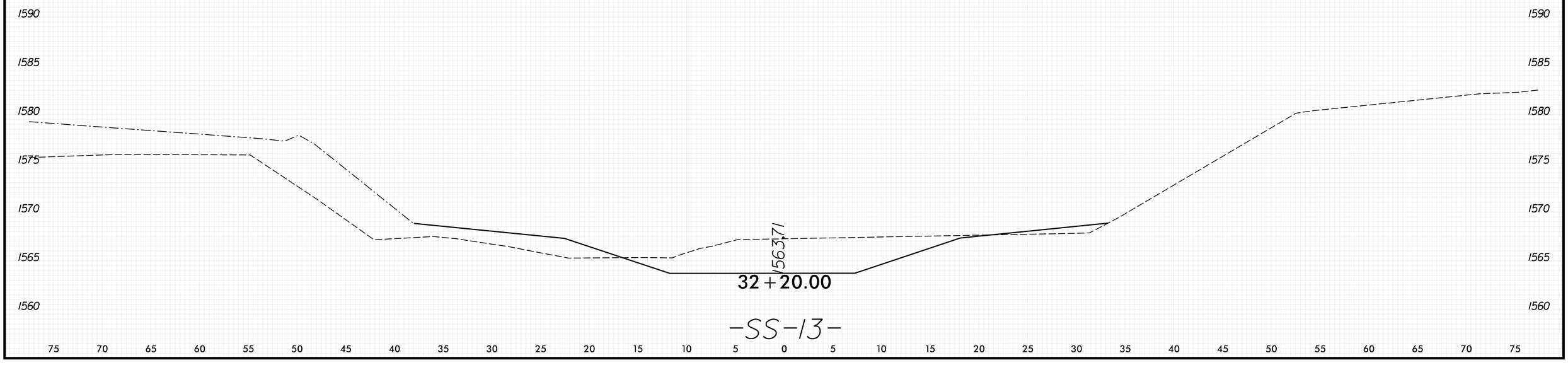
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-459

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





-SS-13-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: xpl_eh_v8.tbl
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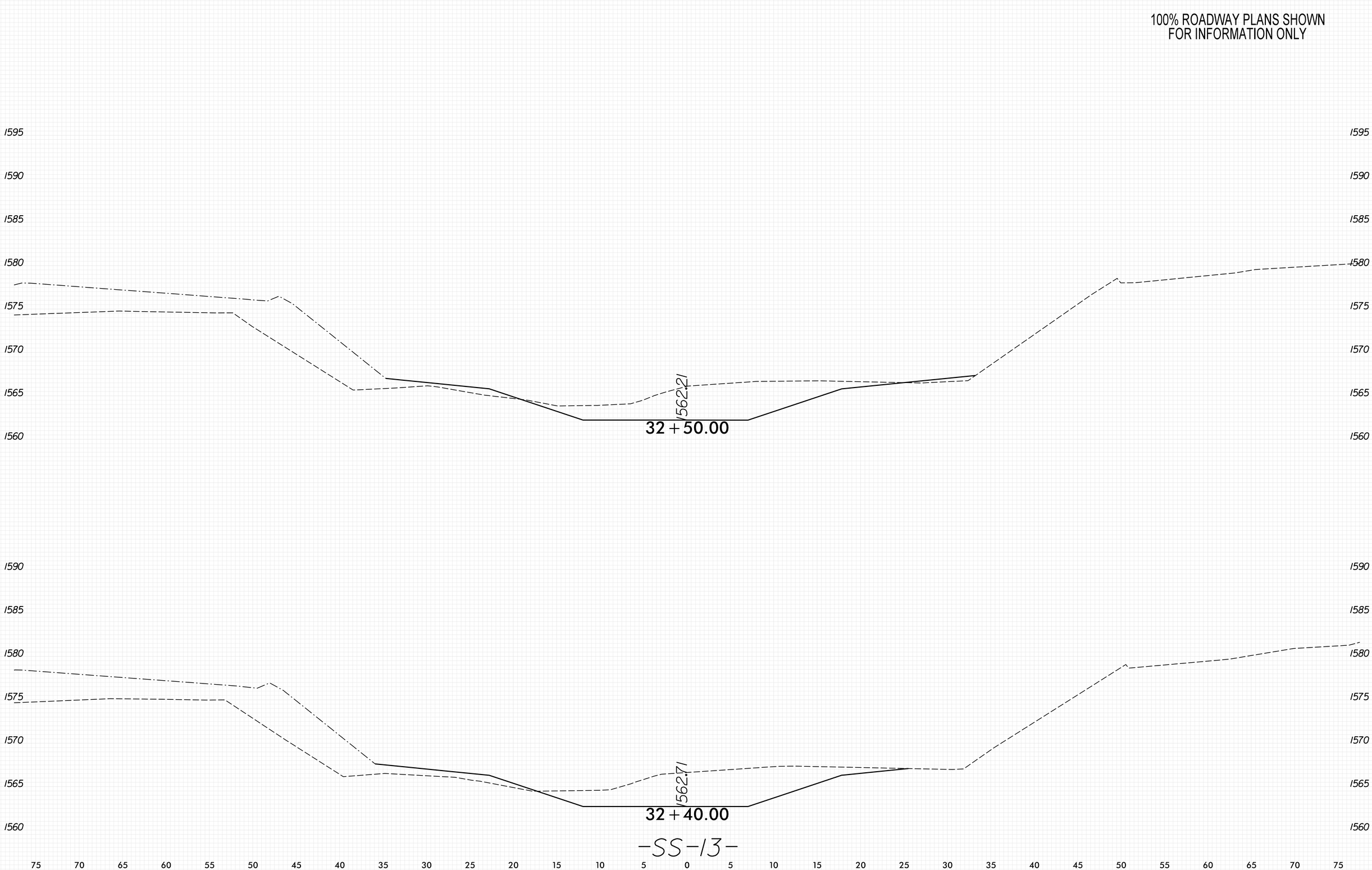
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-460

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



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DATE: 5/29/2026
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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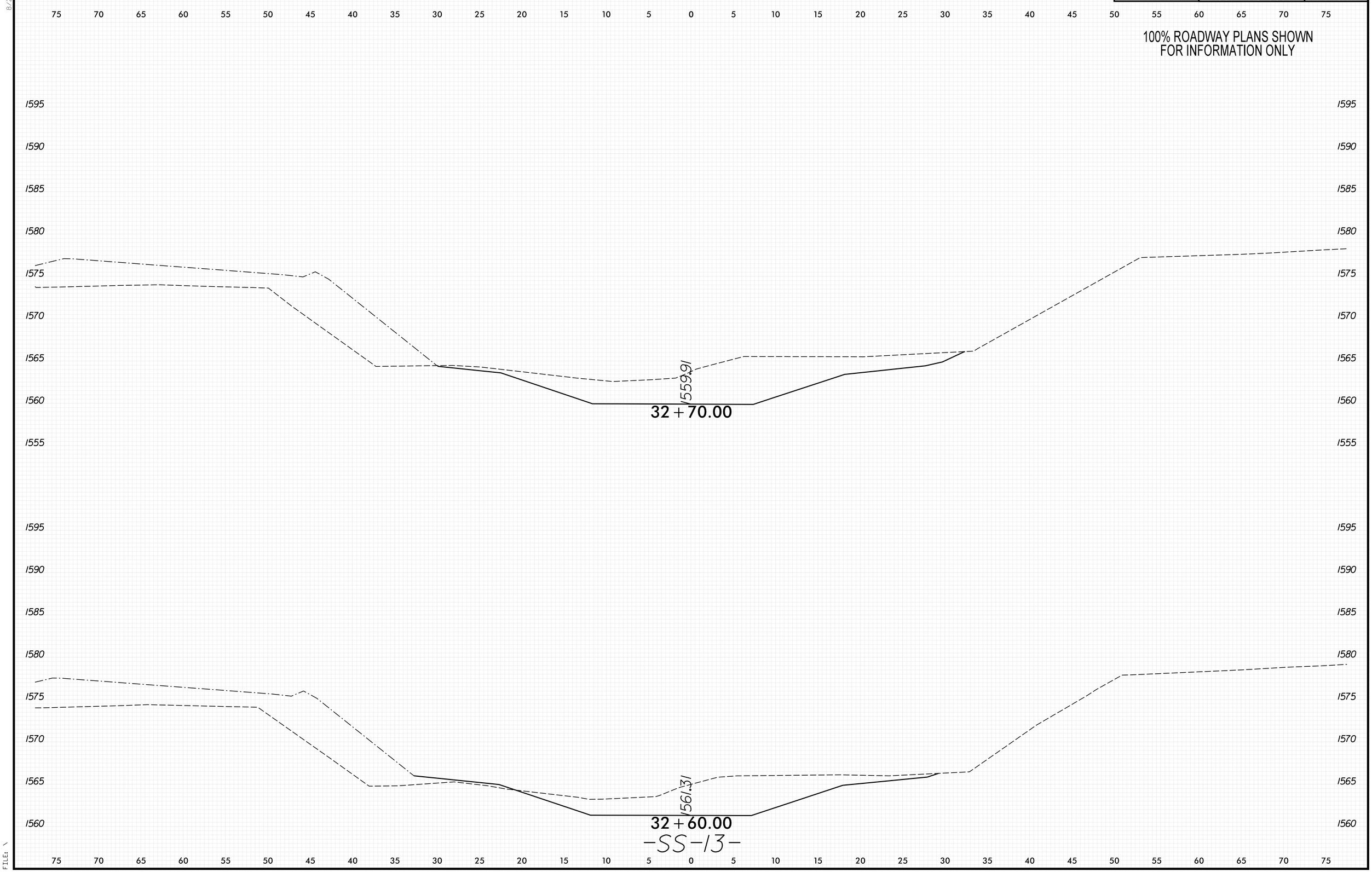
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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DATE: 5/29/2026
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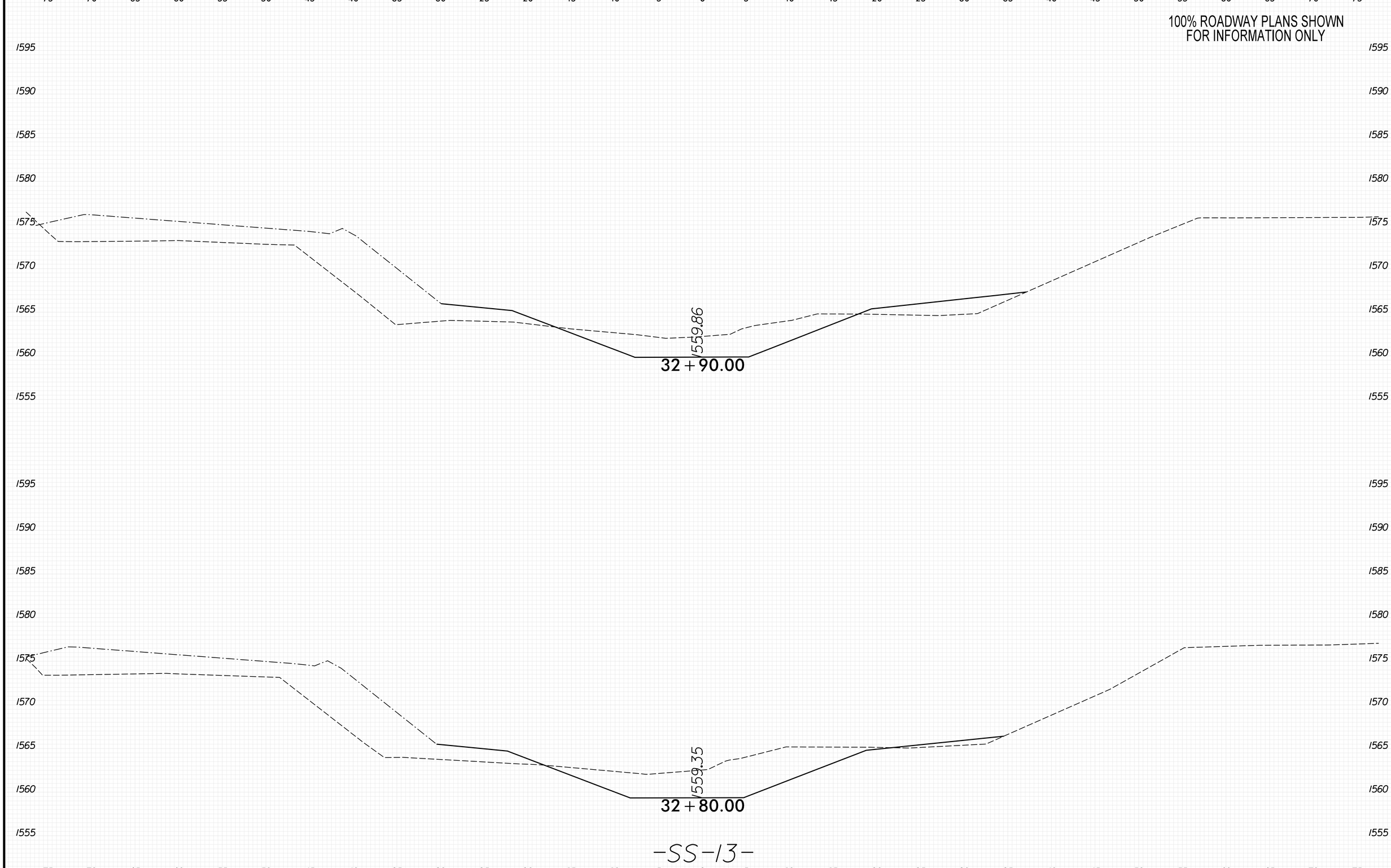
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-462

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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DATE: 5/29/2026
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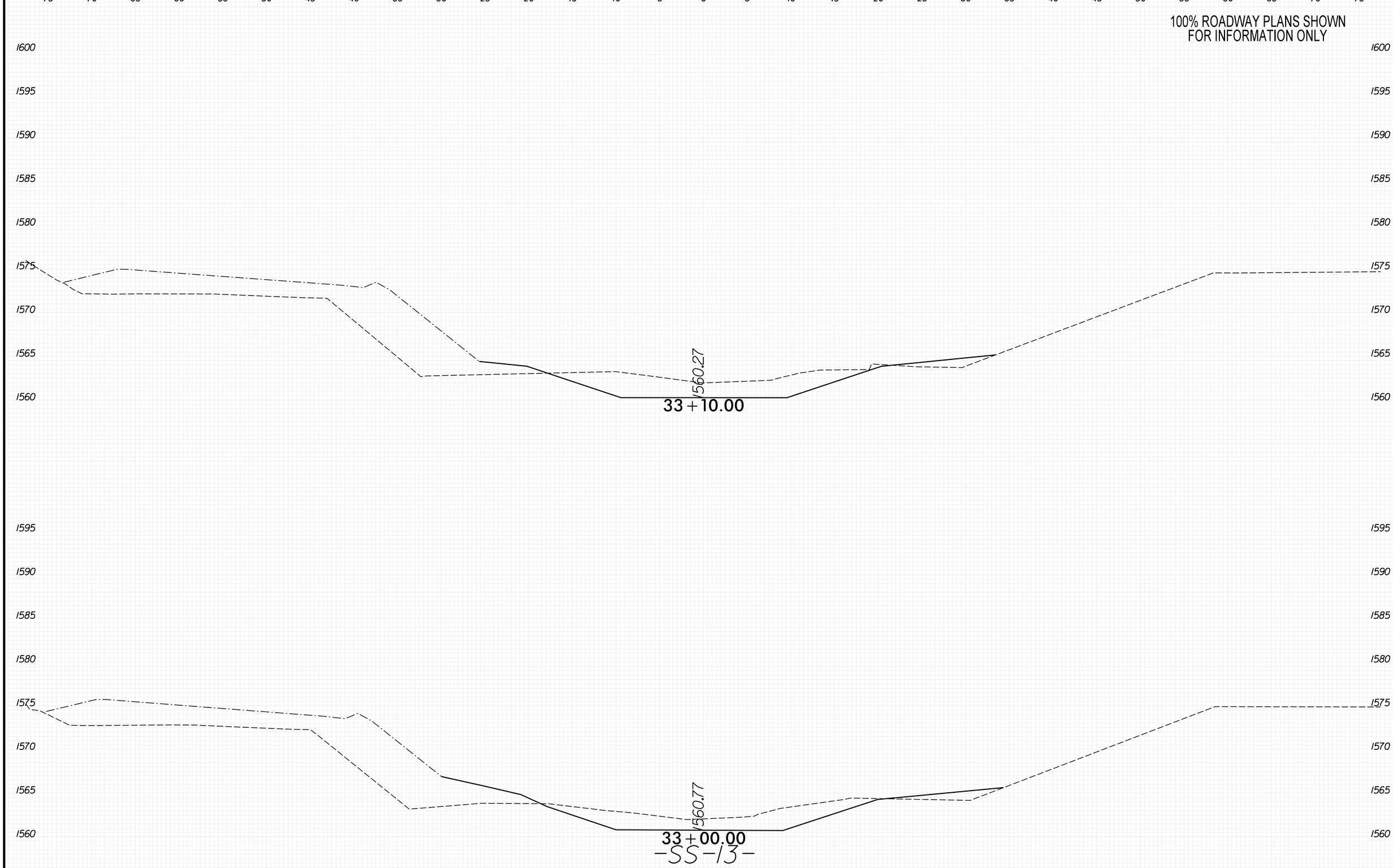
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-463

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



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USER: KCLATTERBU
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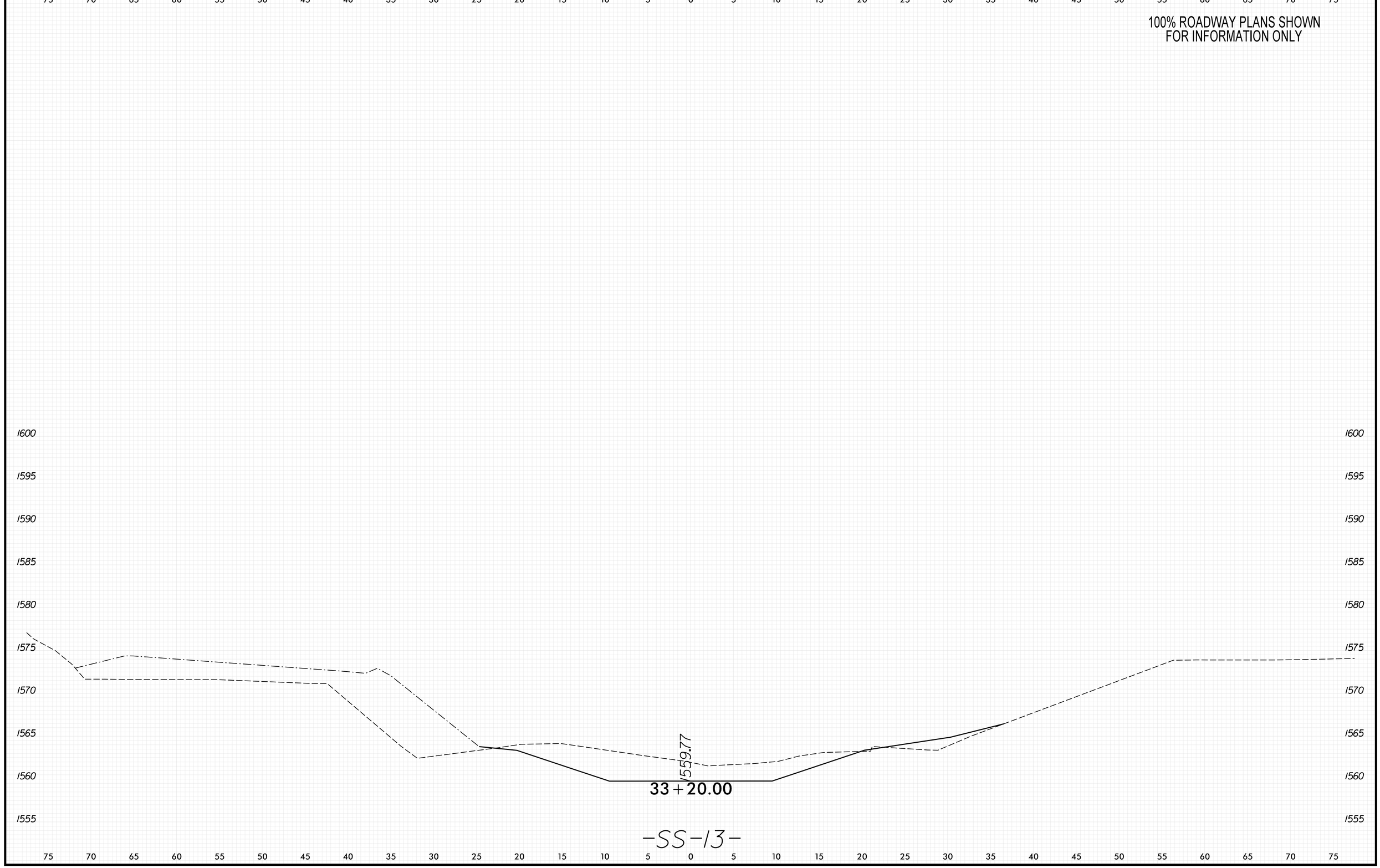
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-464

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
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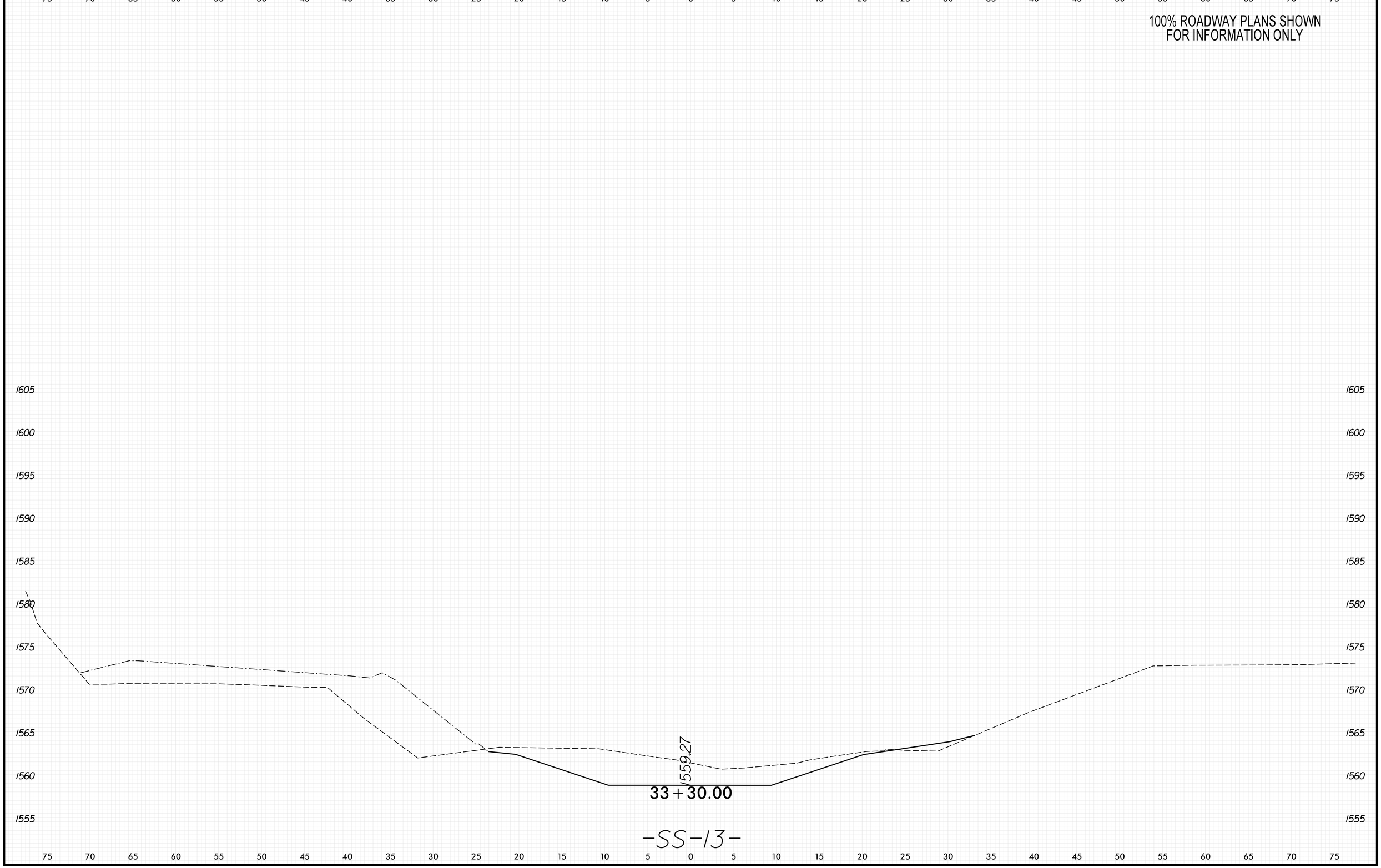
TIME: 9:31:35 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-465

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl.eh_v8.tbl
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USER: KCLATTERBU
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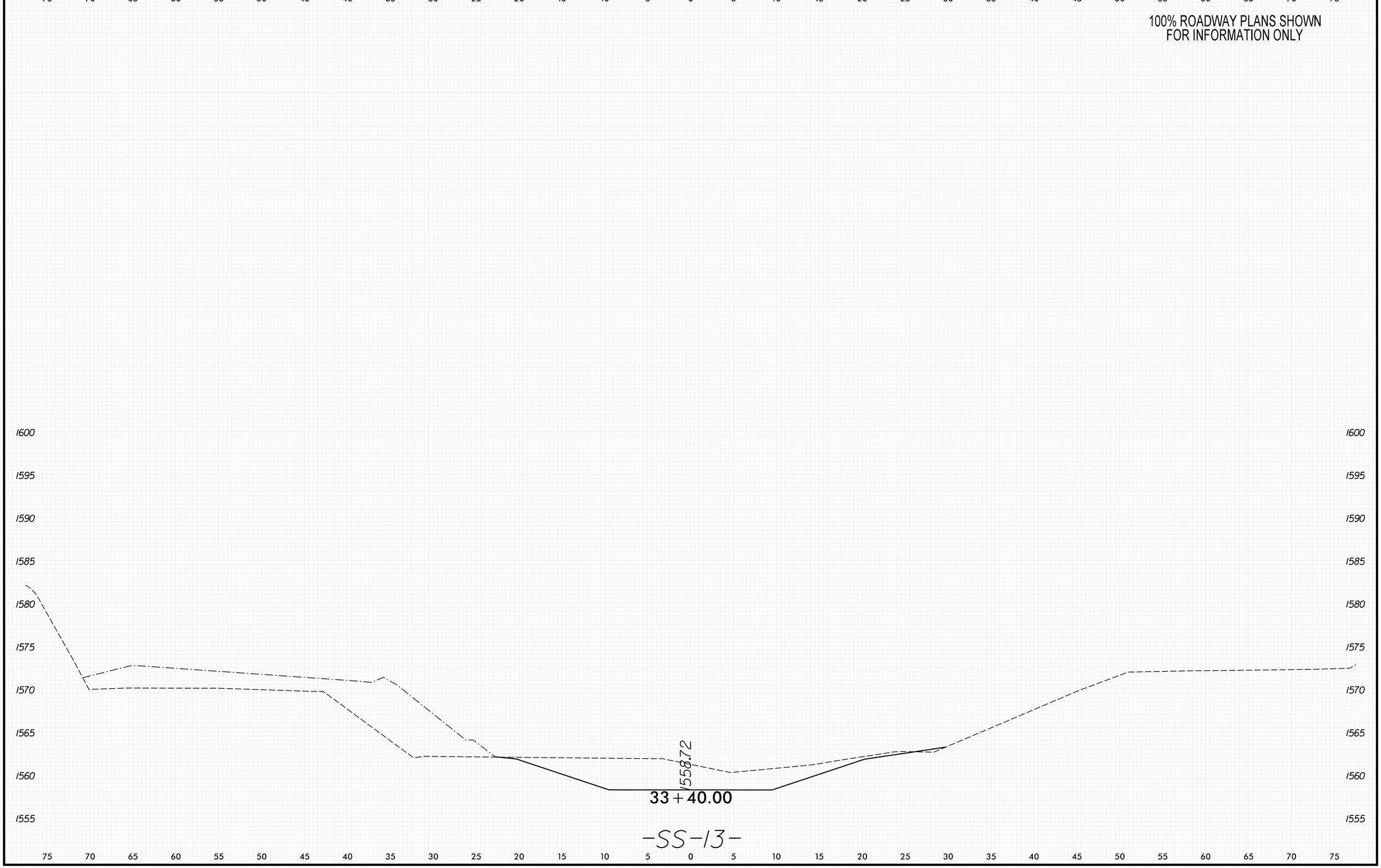
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-466

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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PENTABLE: xpl_eh_v8.tbl
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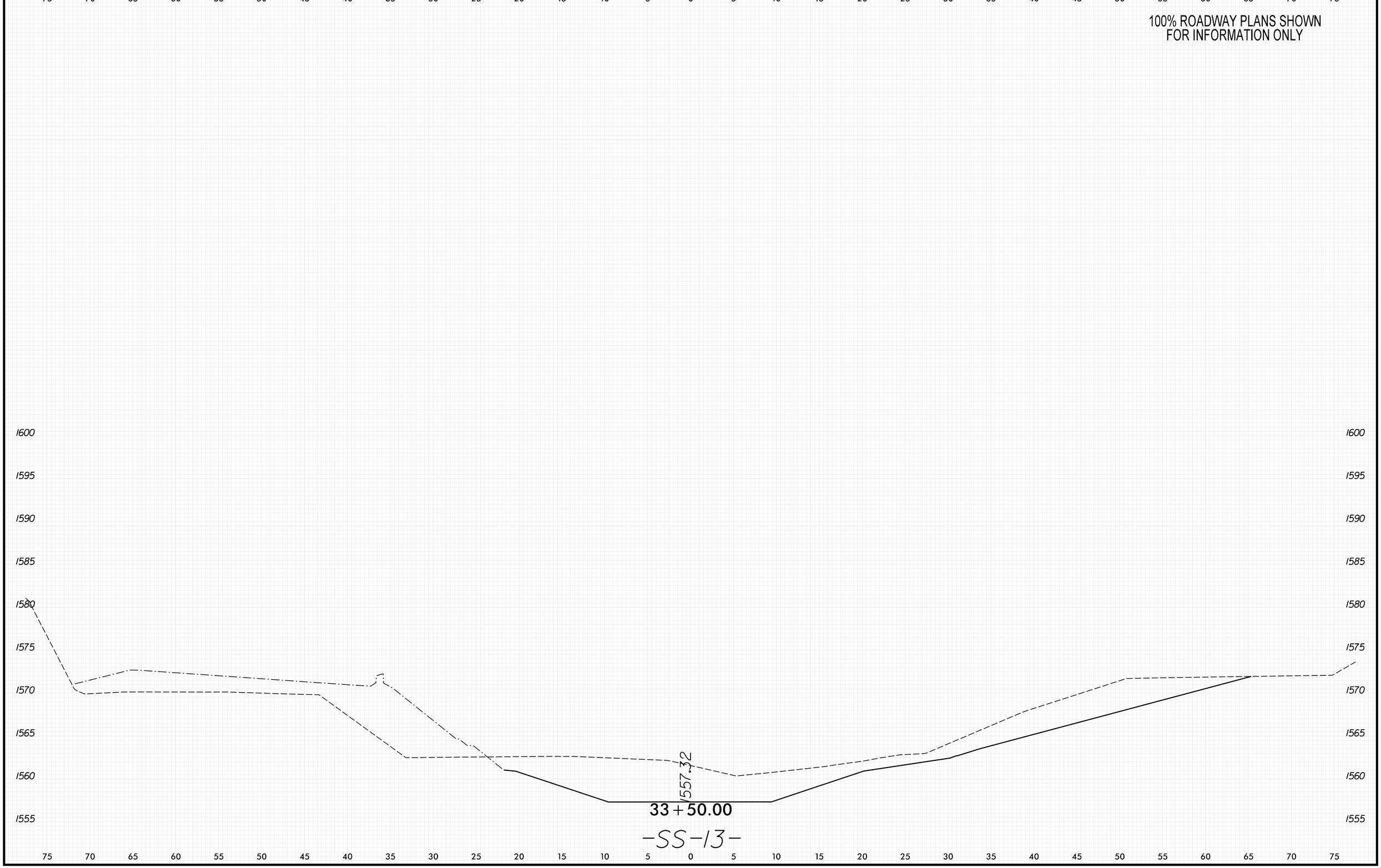
TIME: 9:31:48 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-467

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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USER: KCLATTERBU
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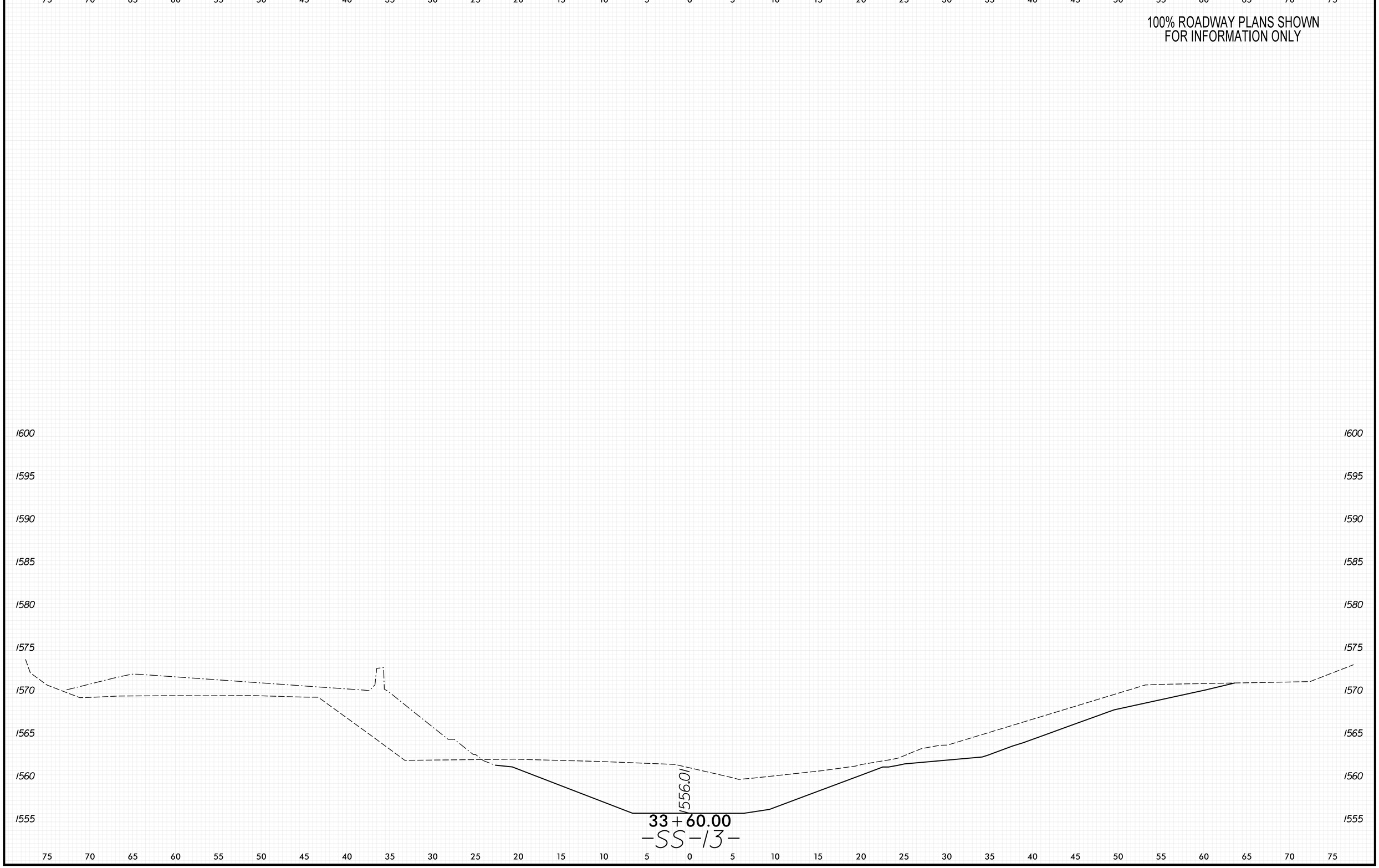
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-468

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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USER: KCLATTERBU
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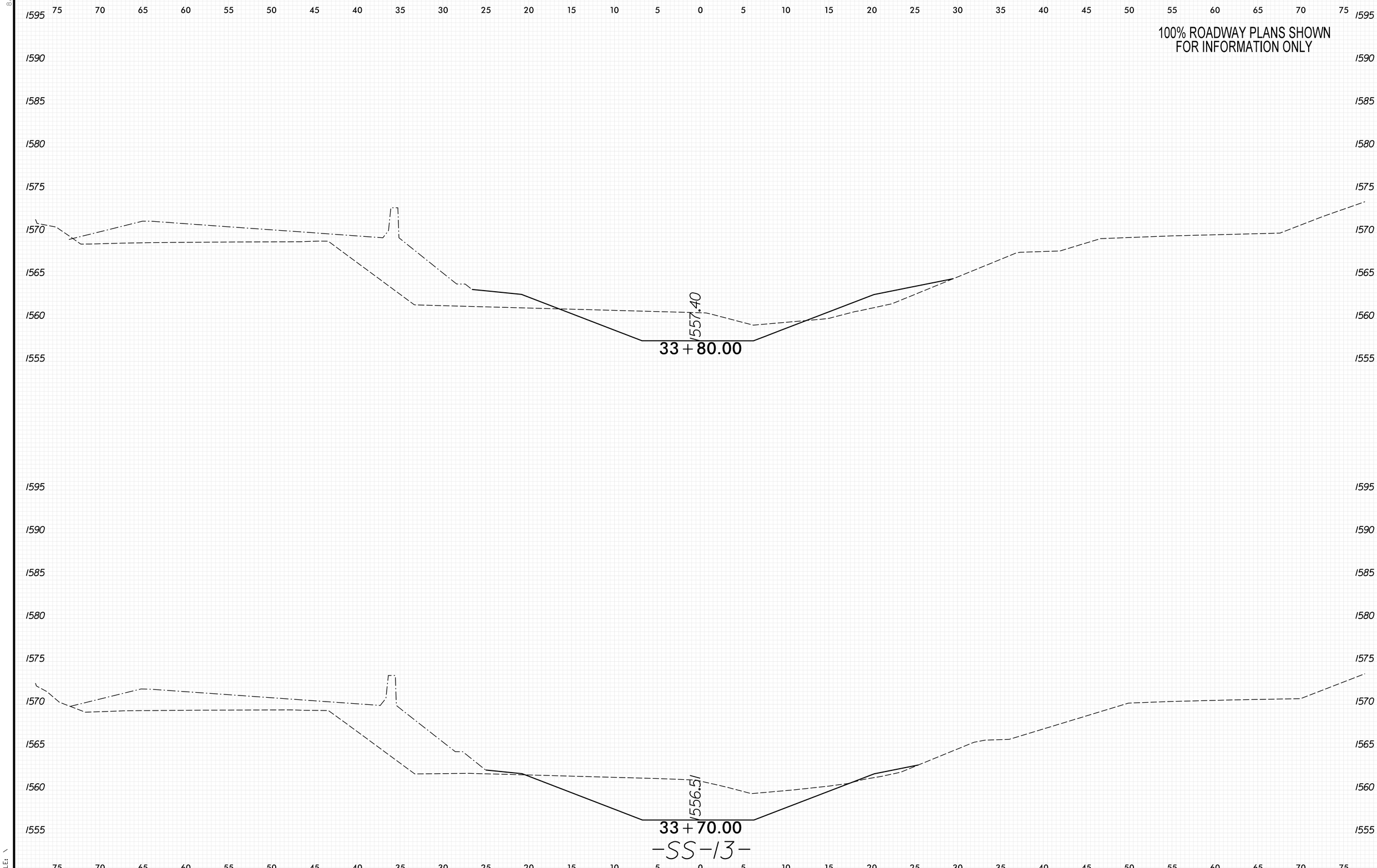
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-469

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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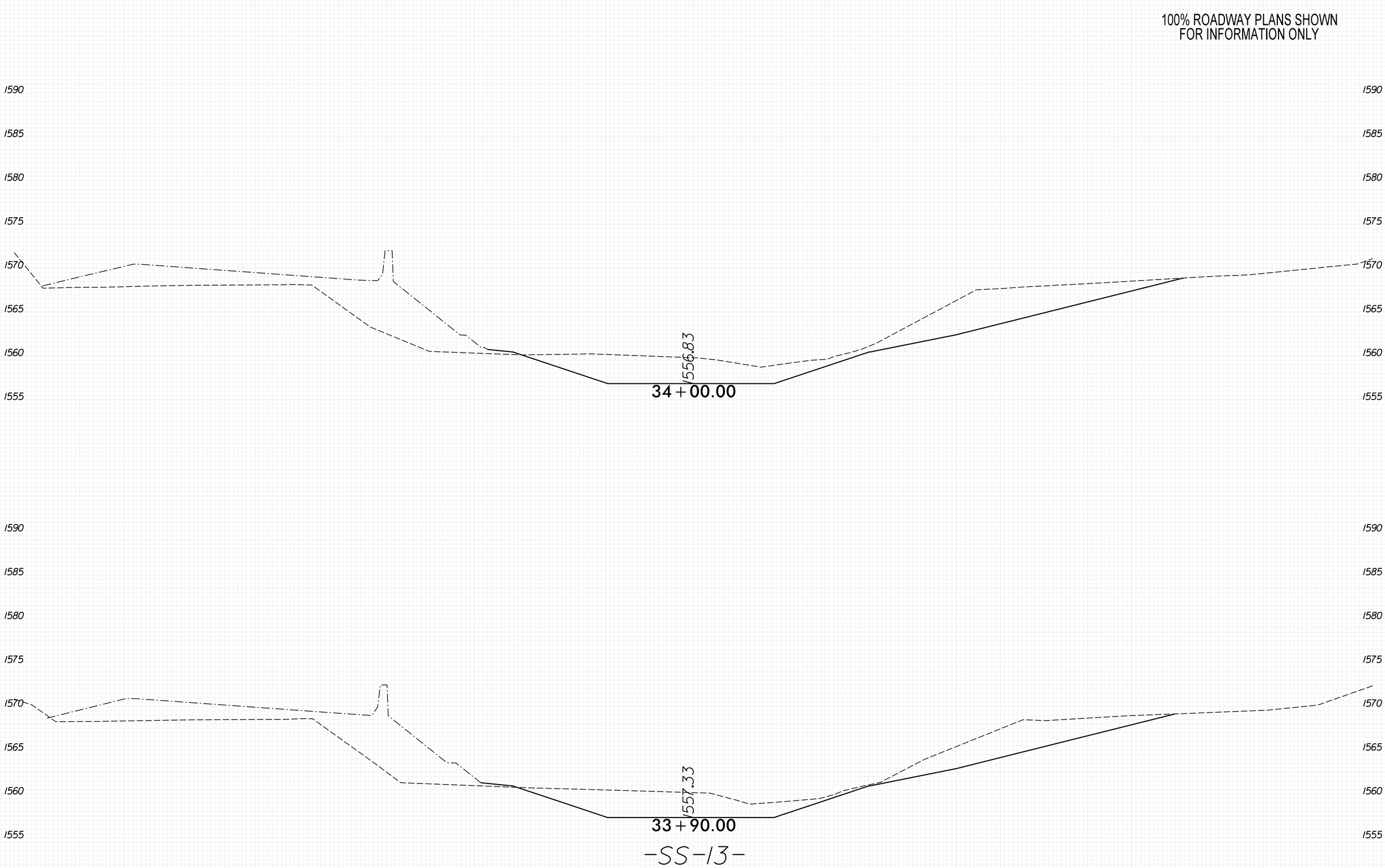
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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TIME: 9:32:15 AM
DATE: 5/29/2026
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USER: KCLATTERBU
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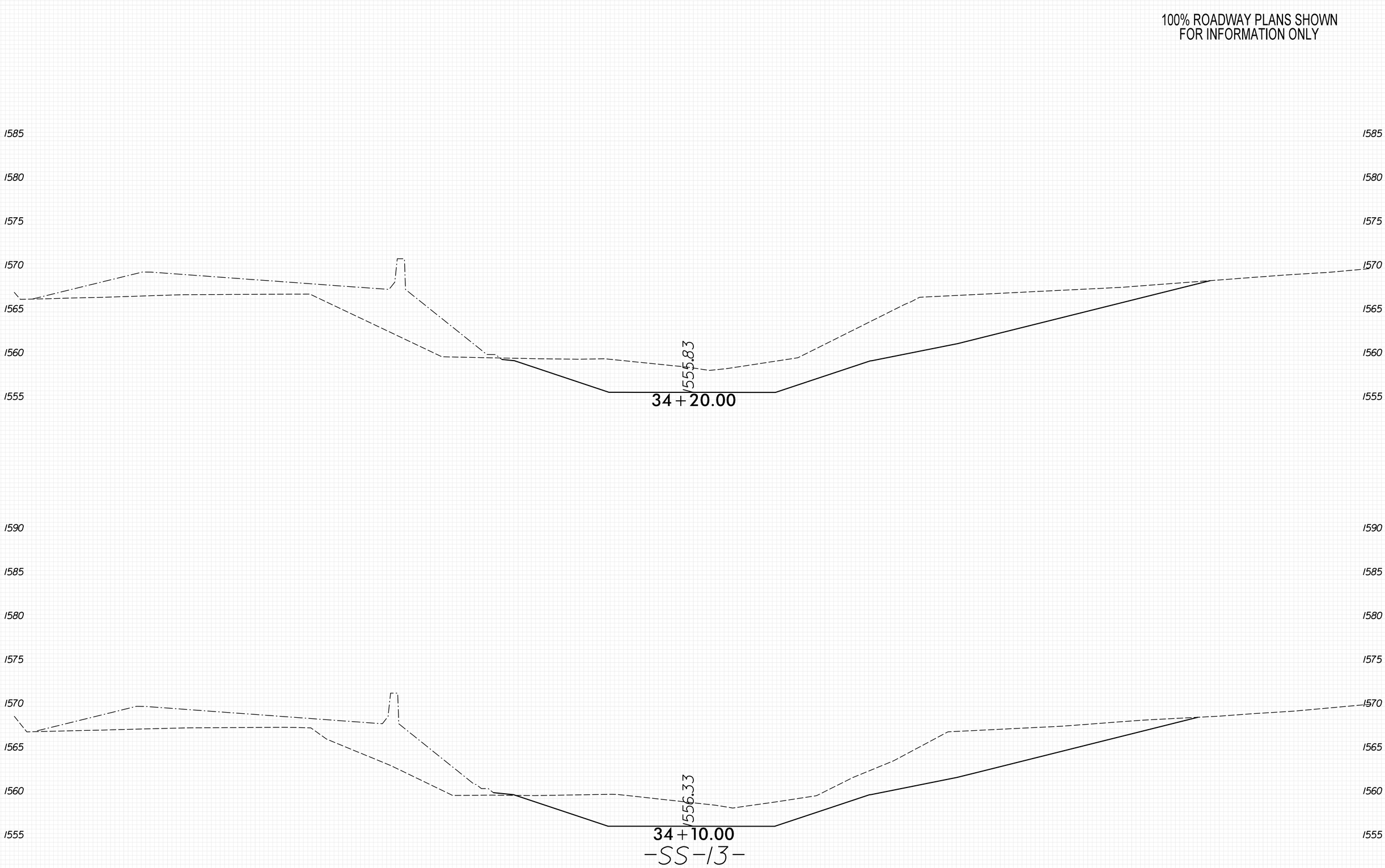
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-471

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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USER: KCLATTERBU
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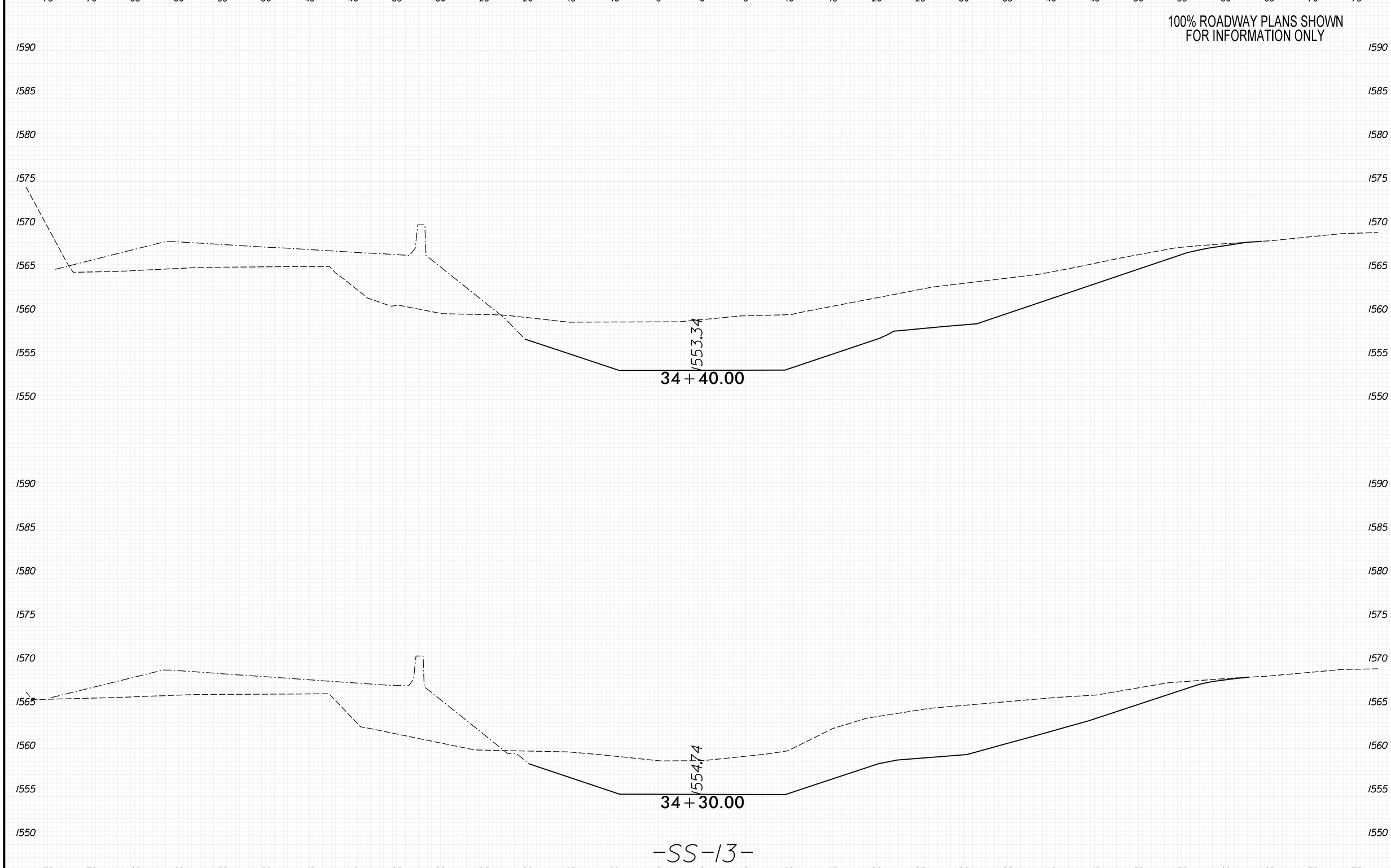
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-472

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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USER: KCLATTERBU
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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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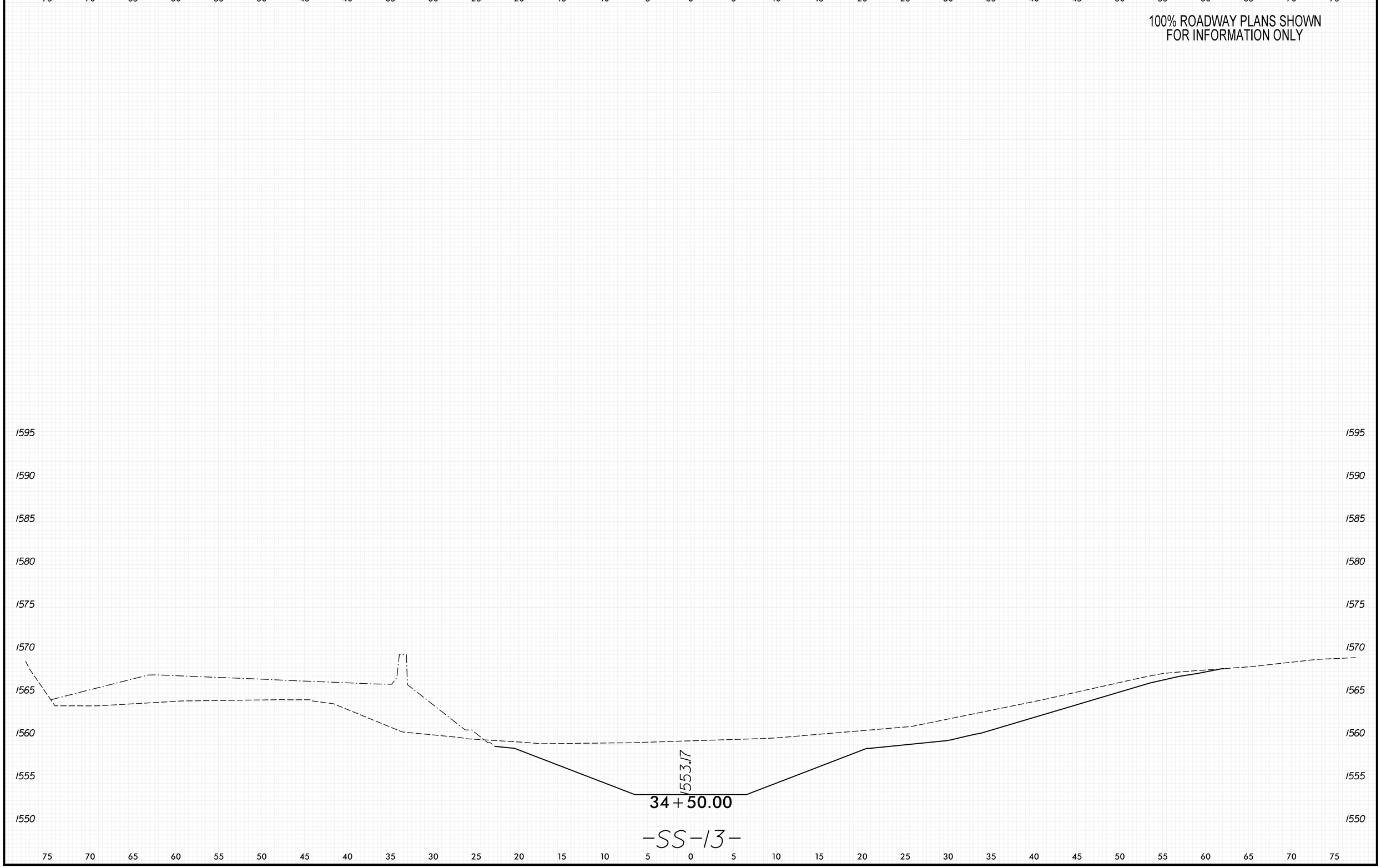
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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TIME: 9:32:35 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
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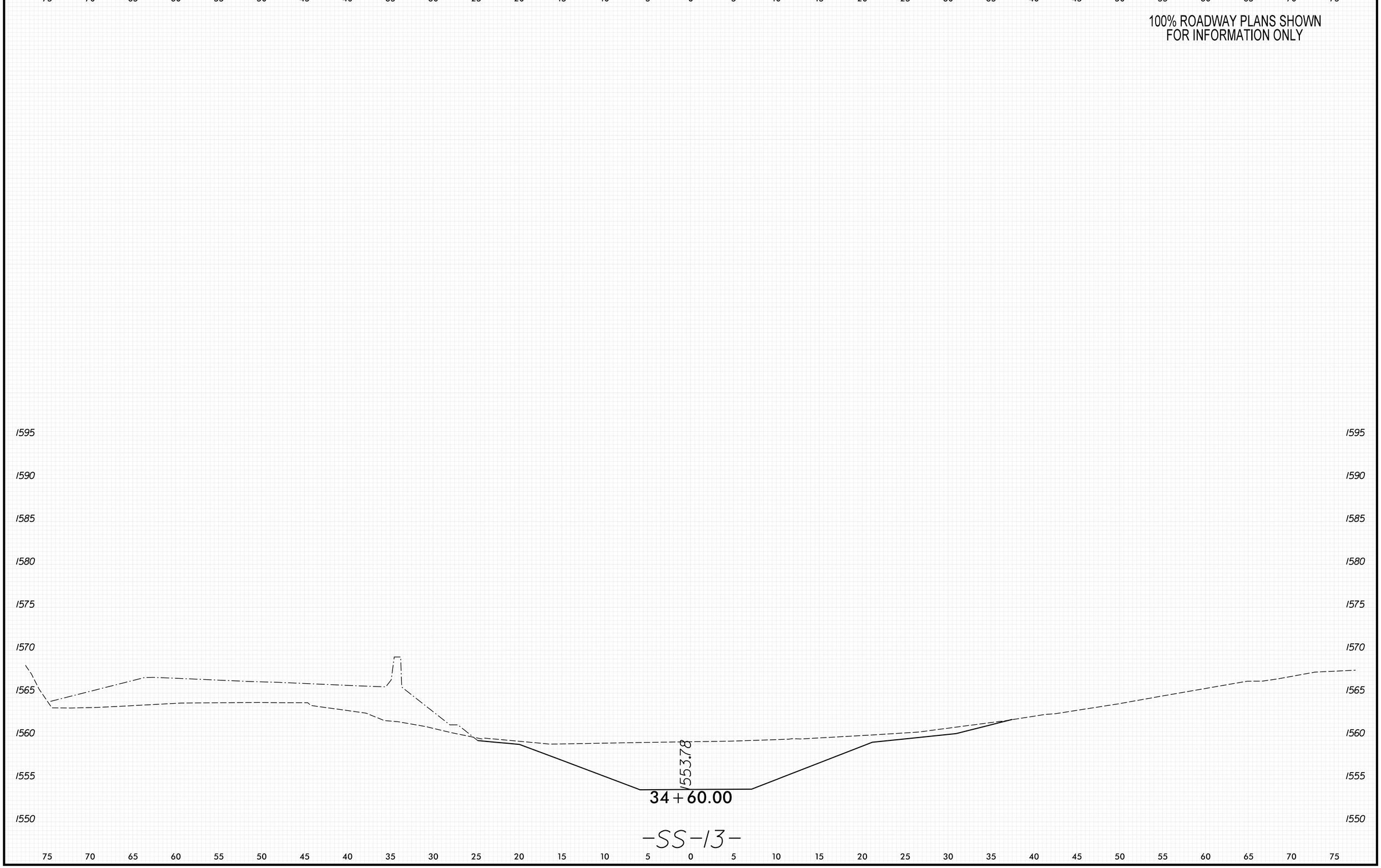
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-474

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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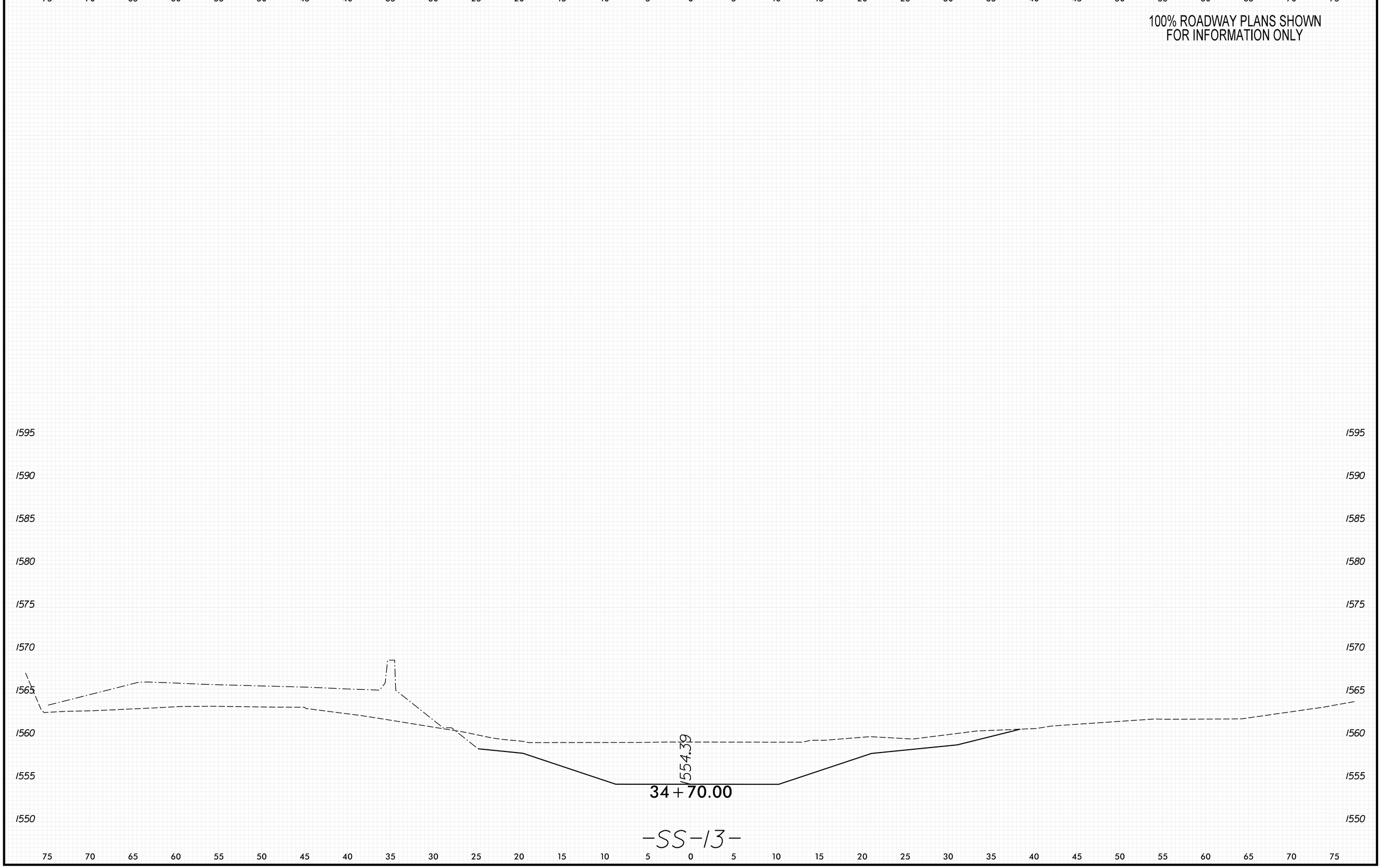
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-475

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
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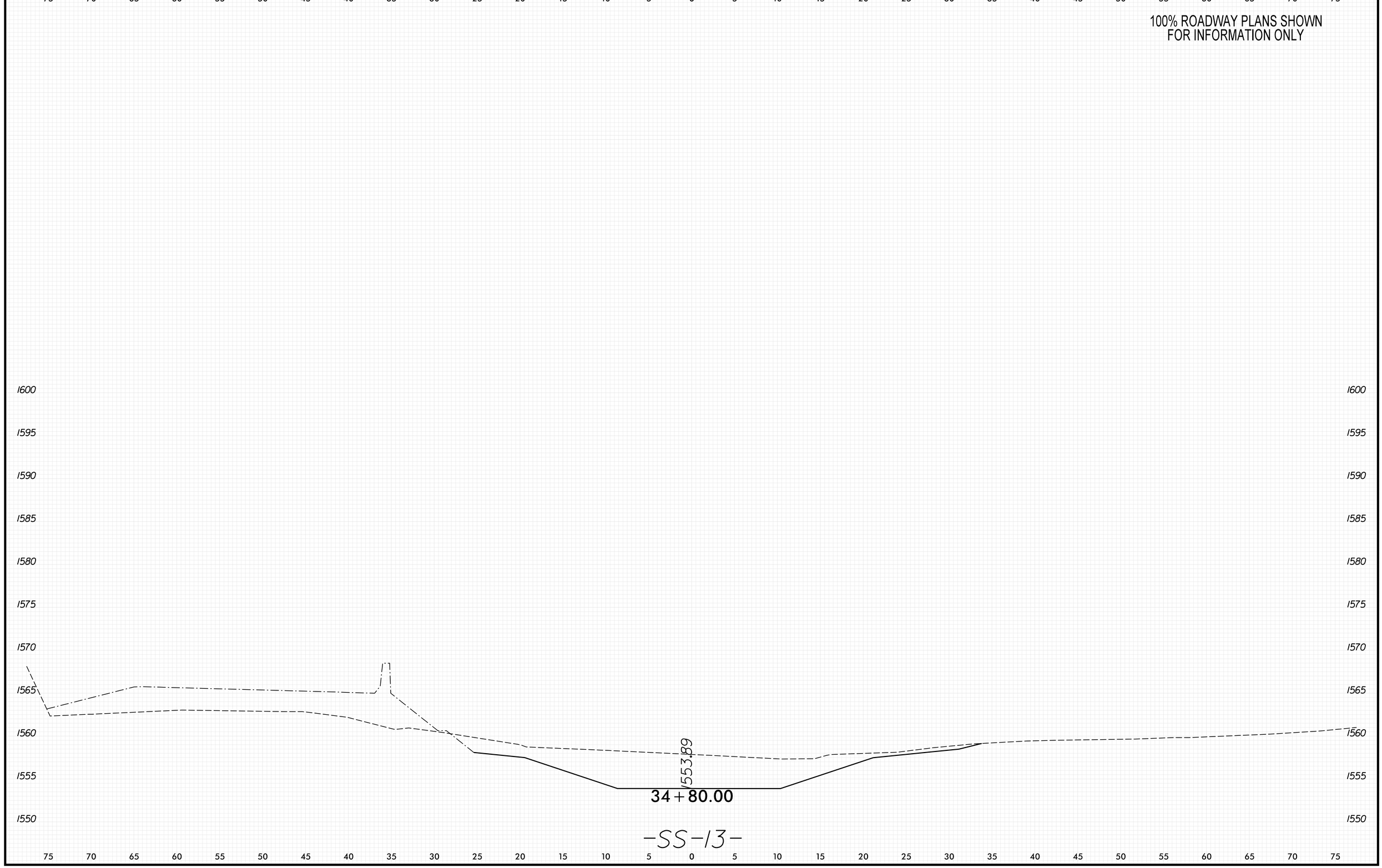
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-476

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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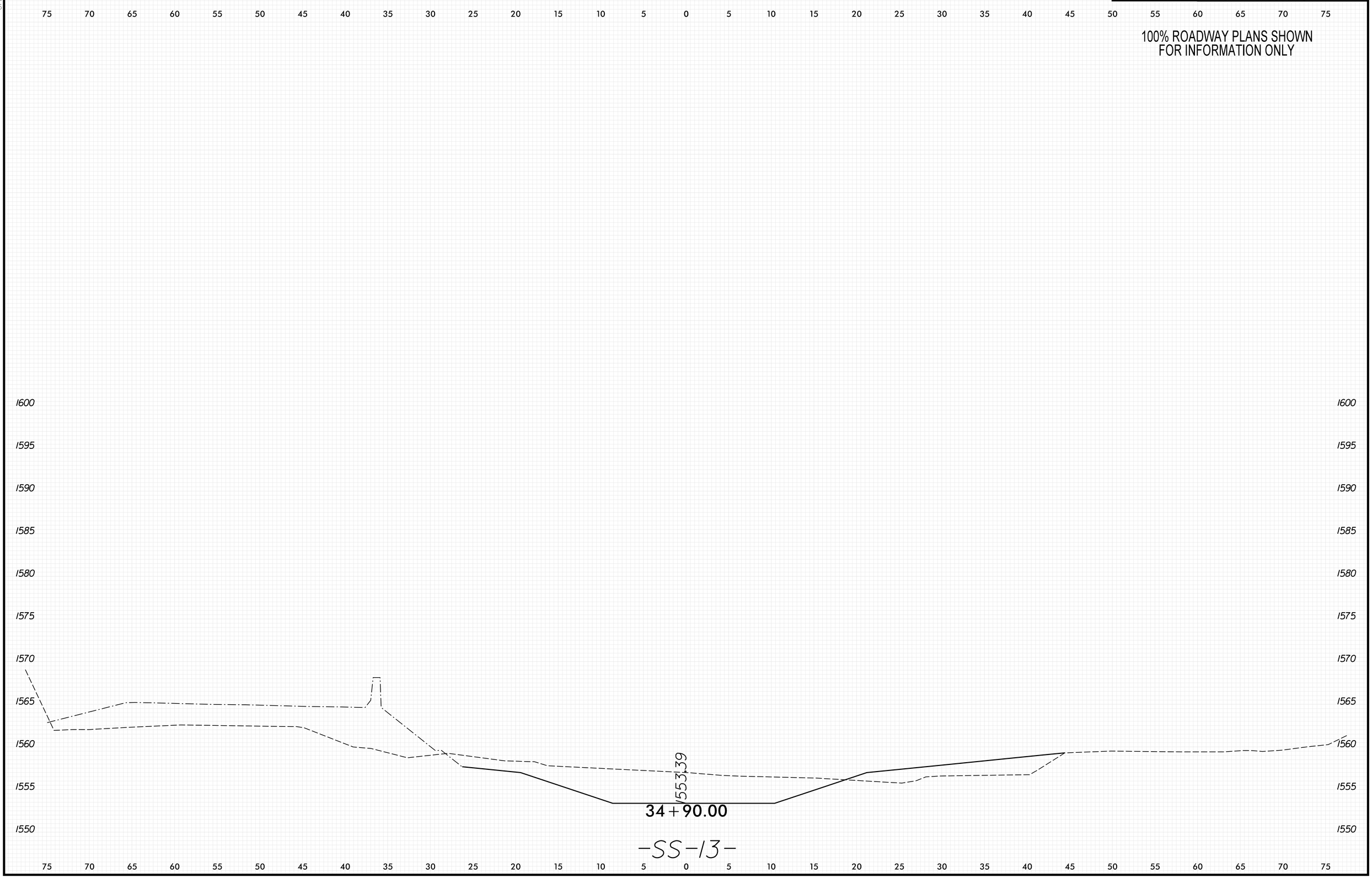
TIME: 9:32:55 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-477

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

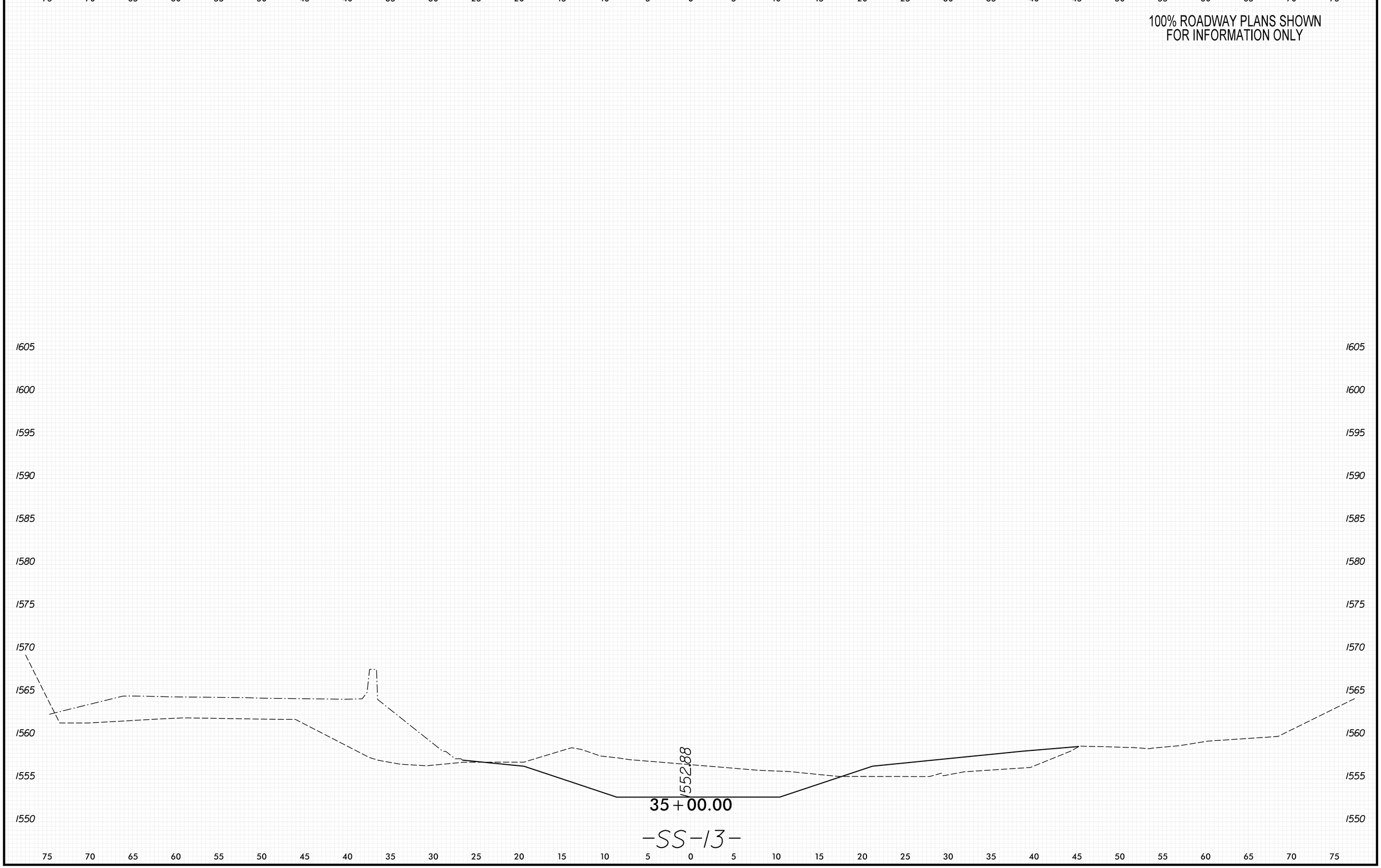


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:33:02 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-478

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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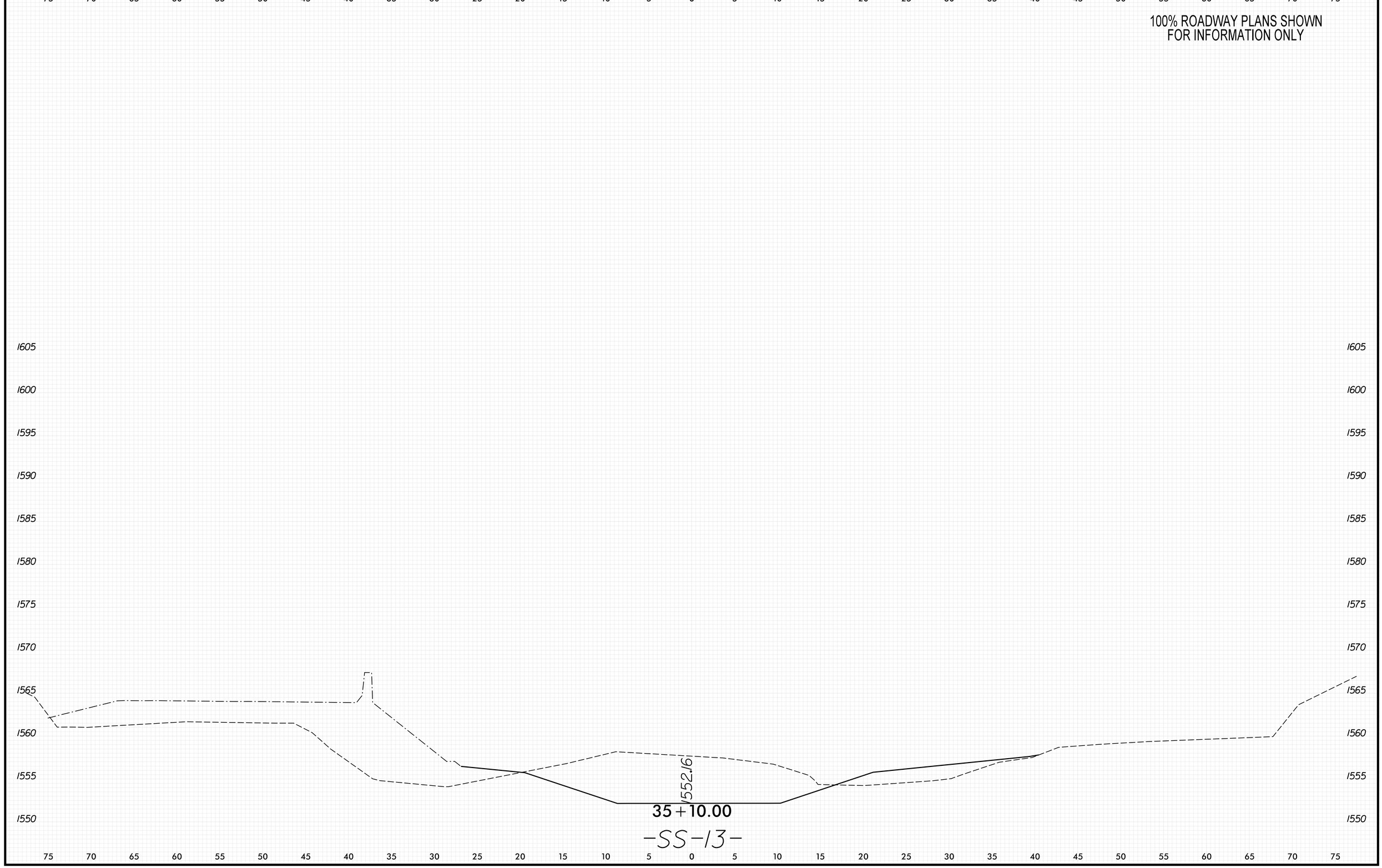
TIME: 9:33:09 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-479

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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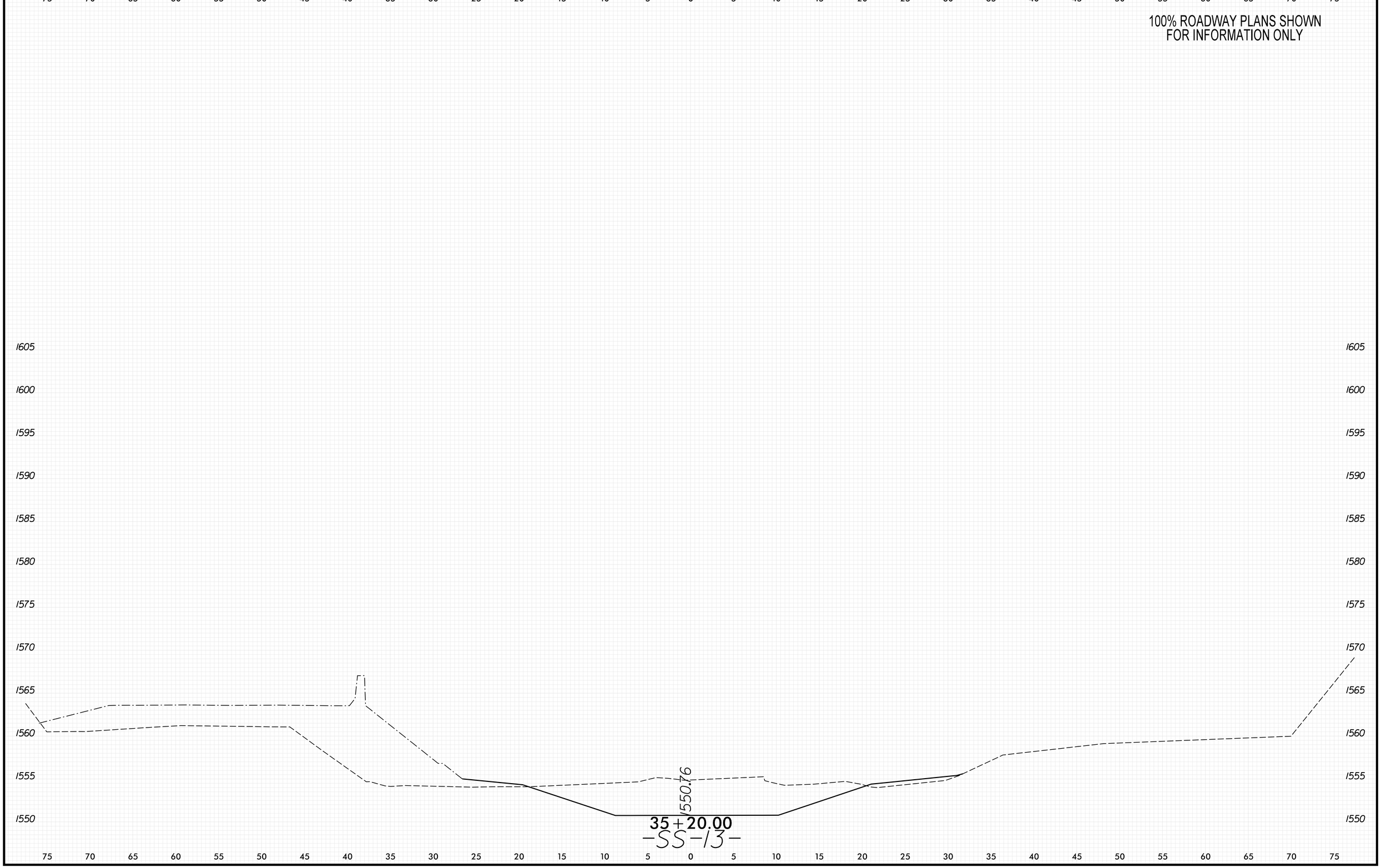
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-480

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:33:22 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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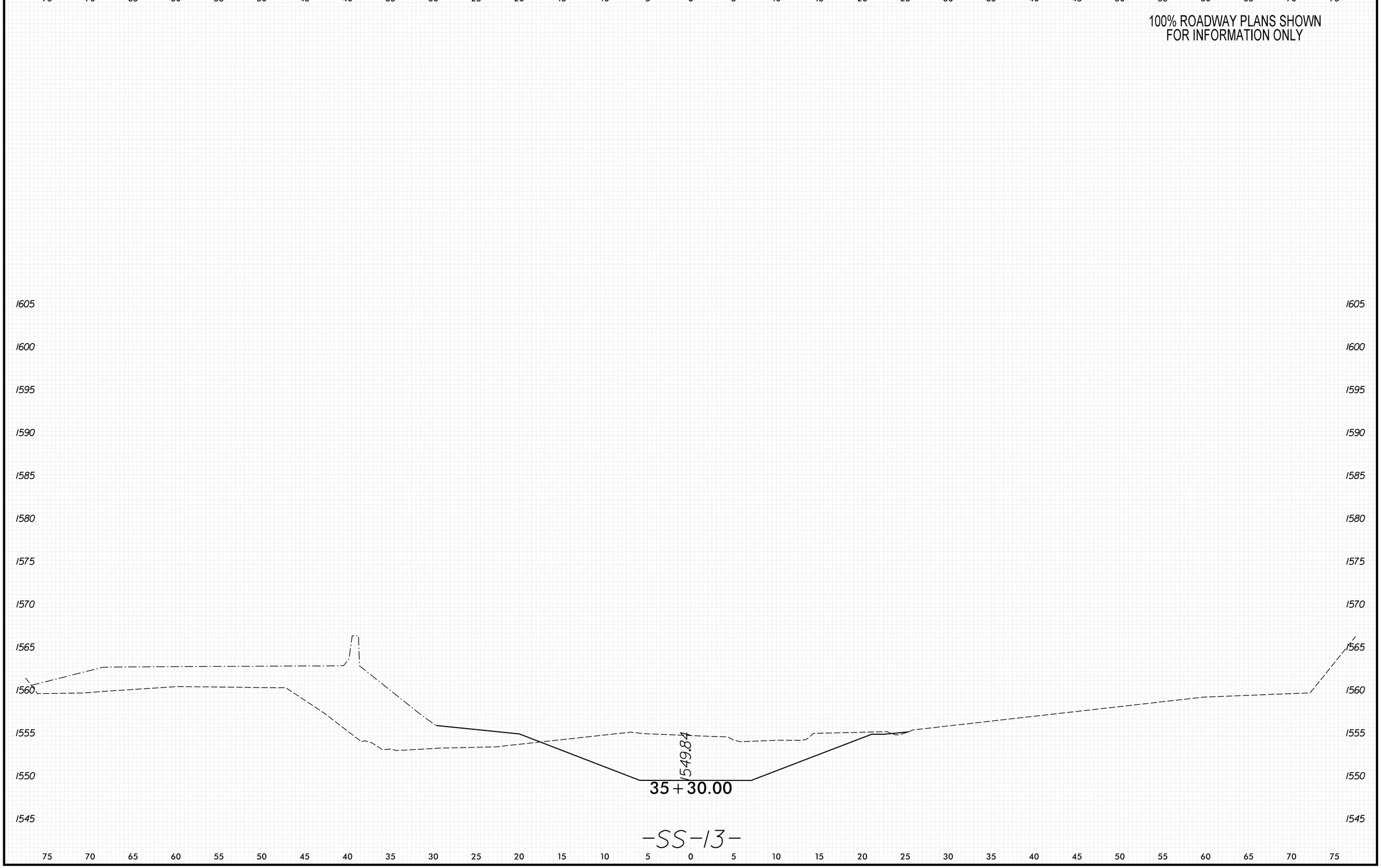
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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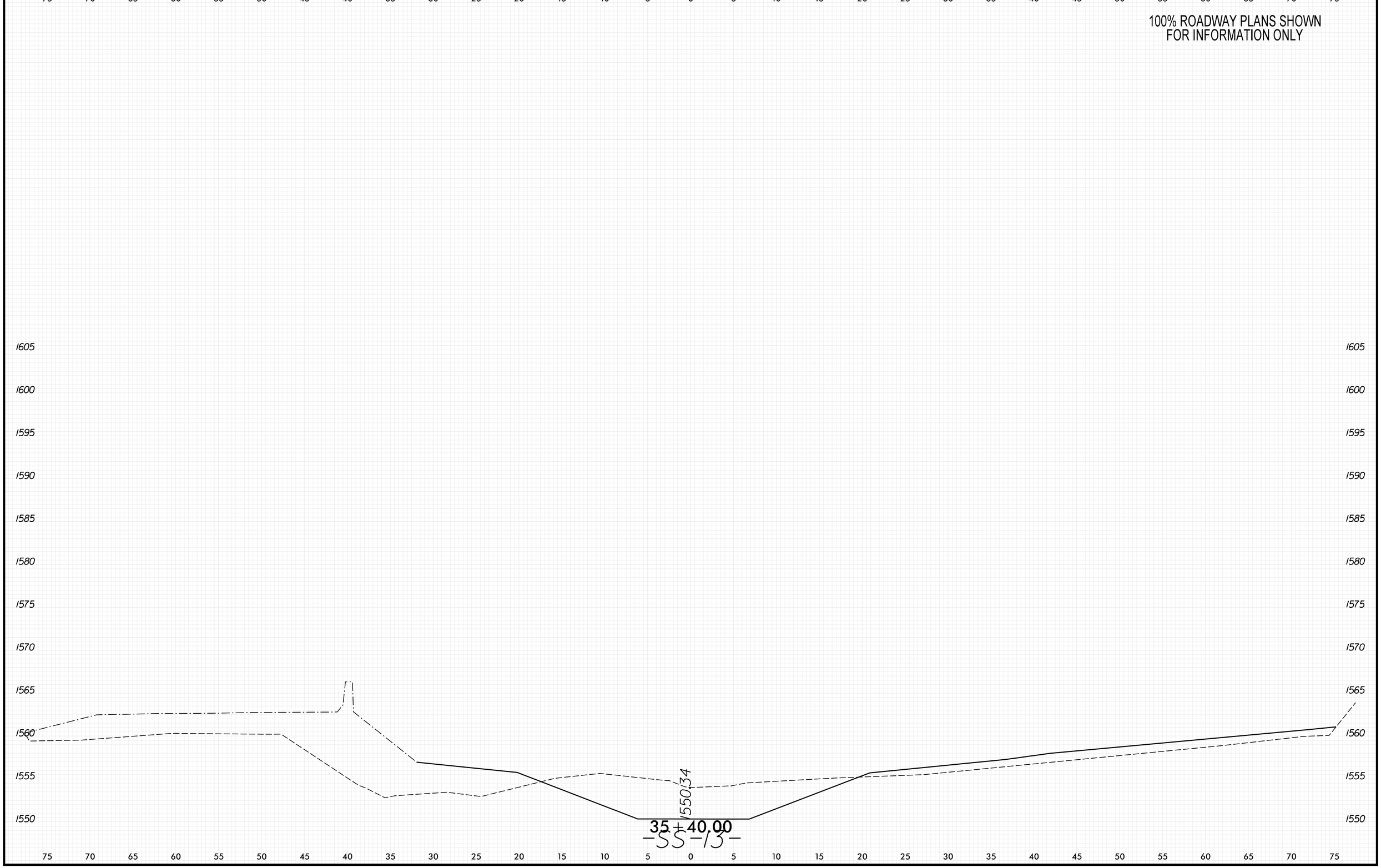
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:33:35 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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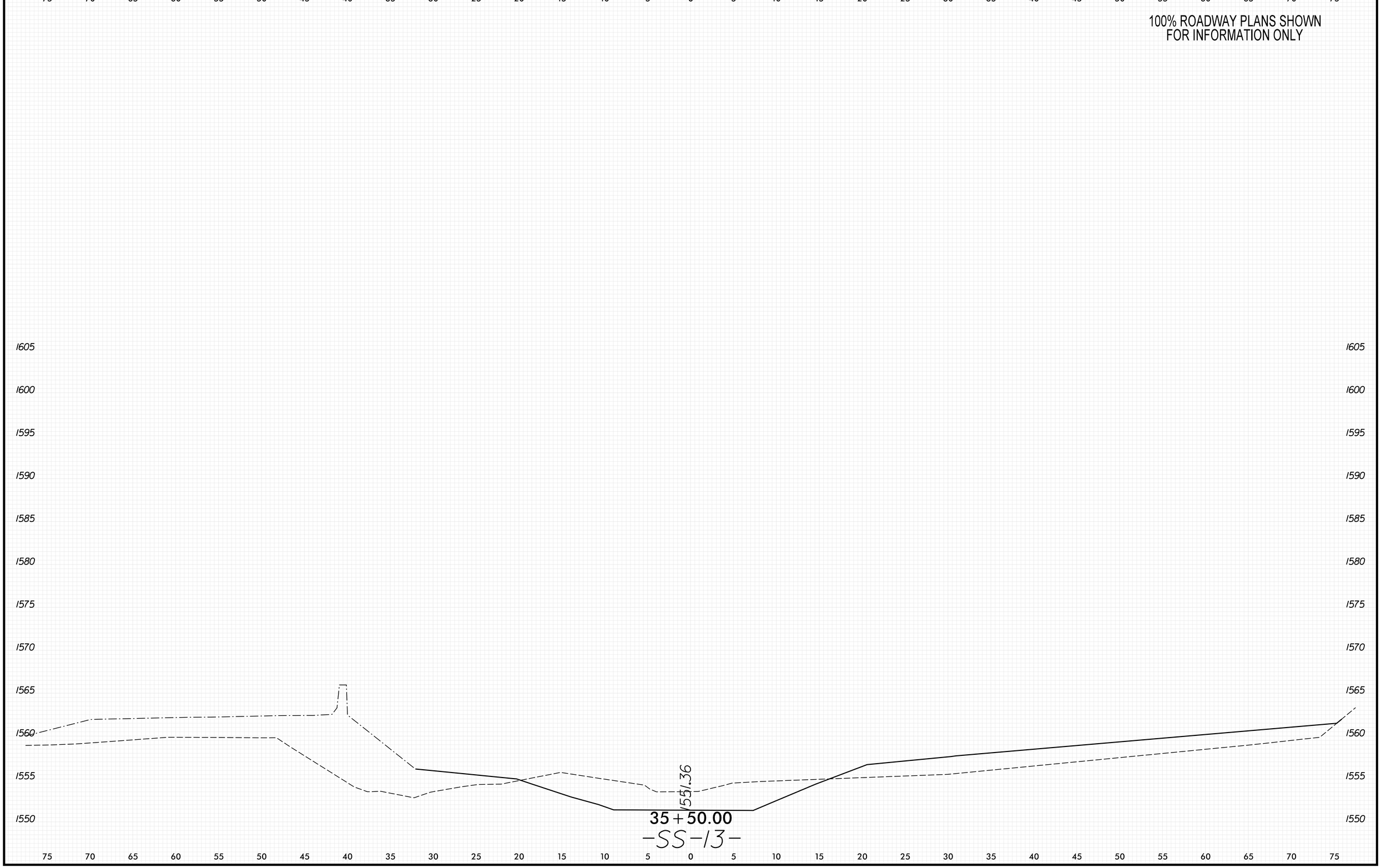
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-483

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:33:43 AM
DATE: 5/29/2026
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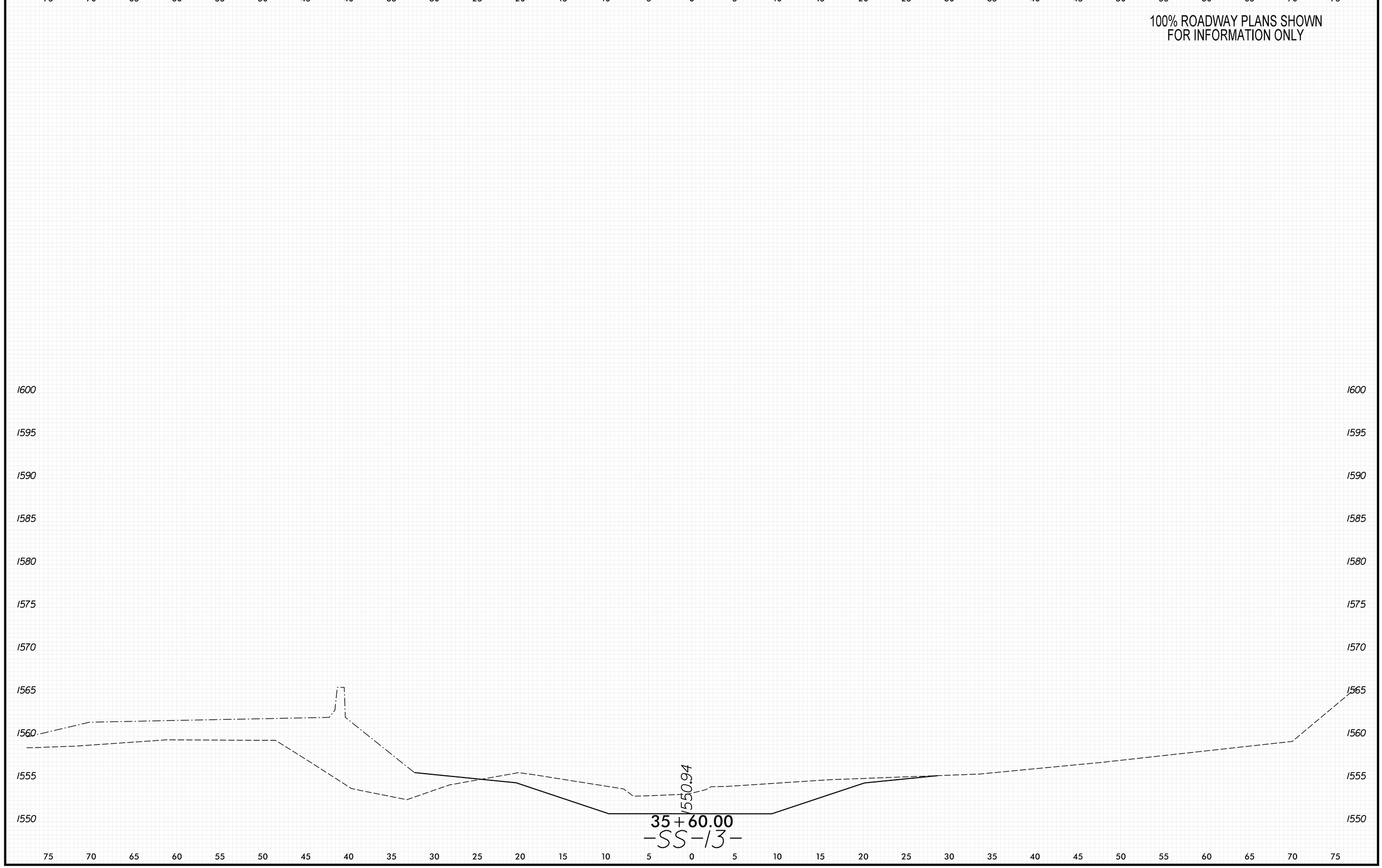
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-484

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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USER: KCLATTERBU
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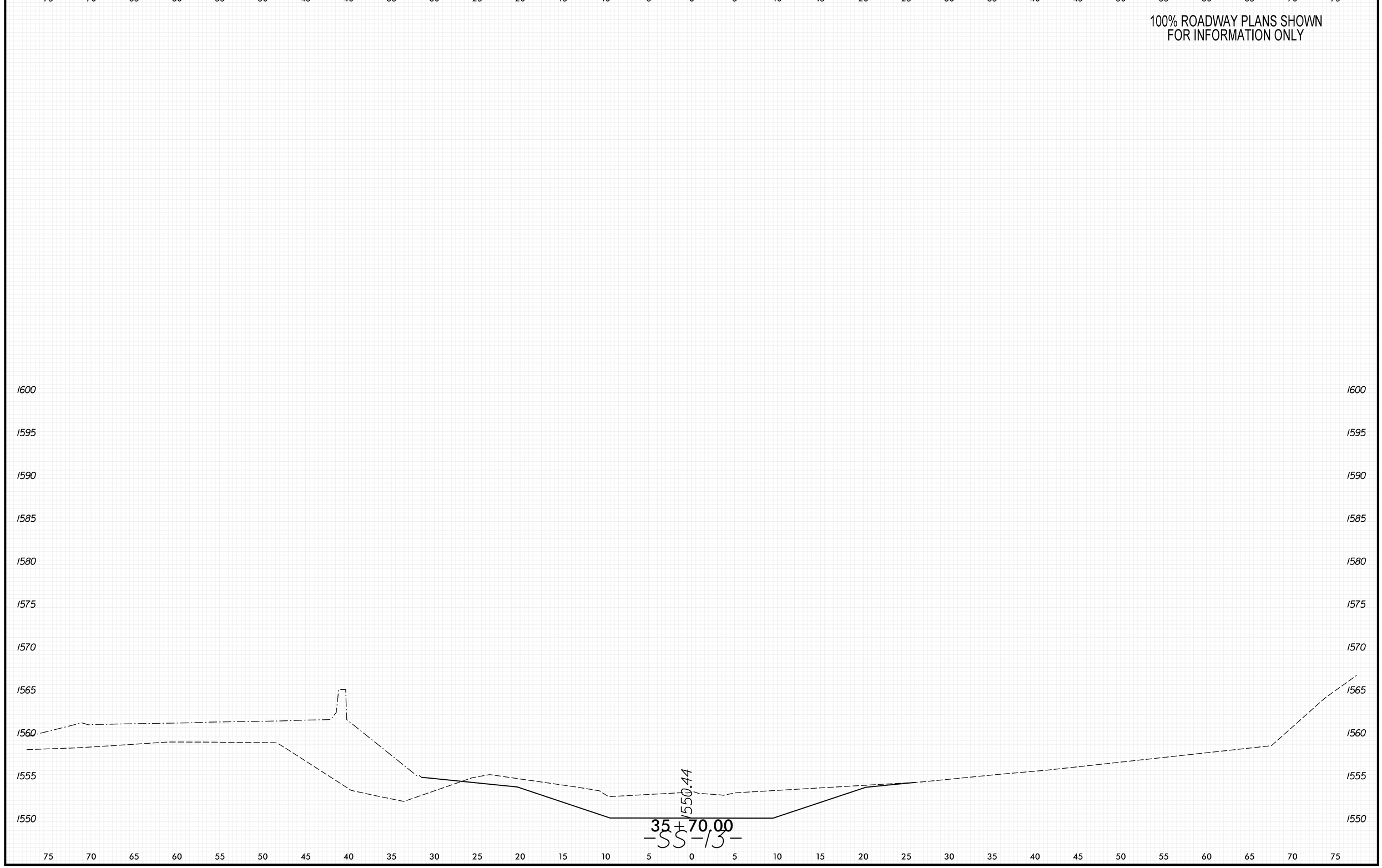
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-485

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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USER: KCLATTERBU
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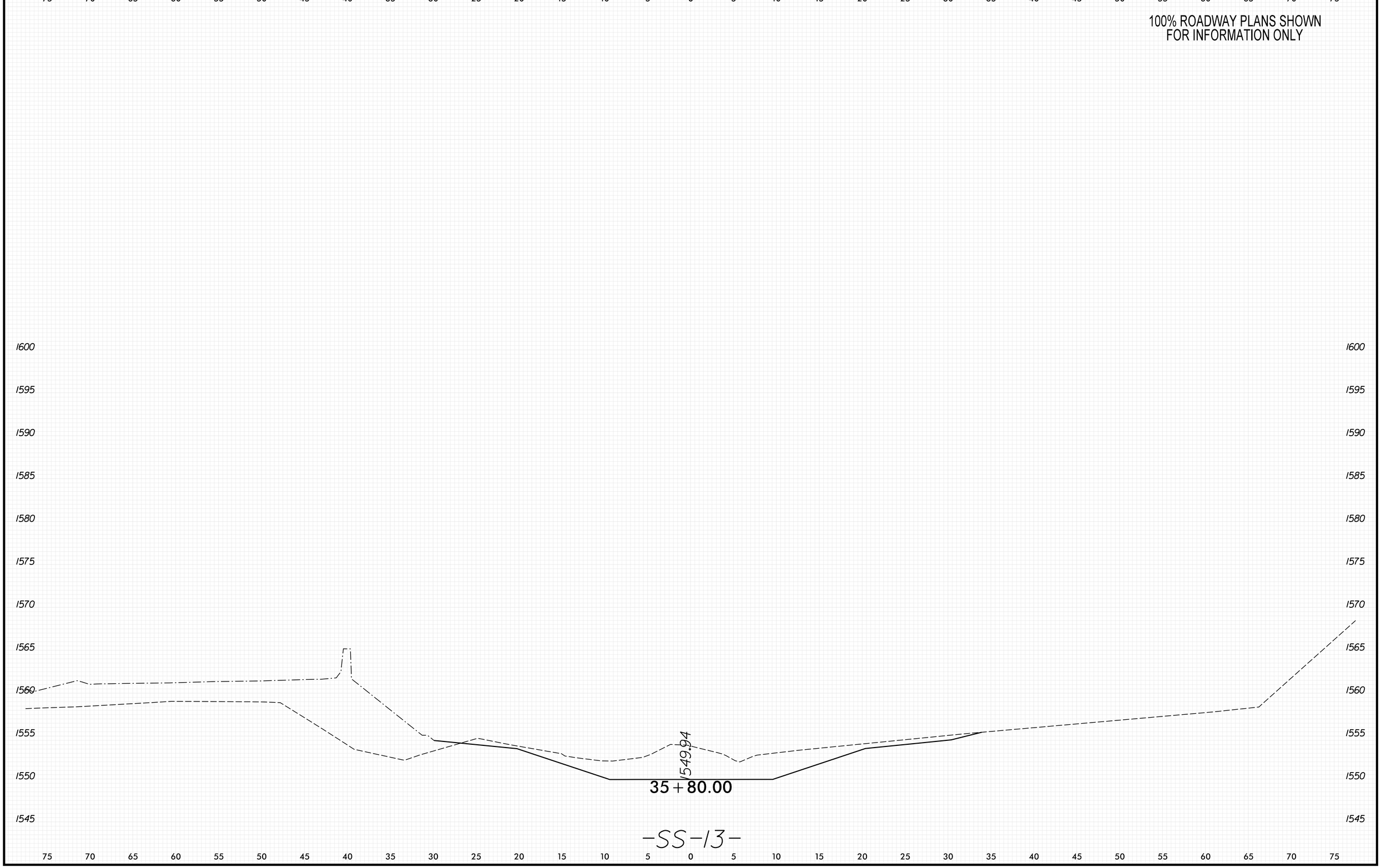
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-486

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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USER: KCLATTERBU
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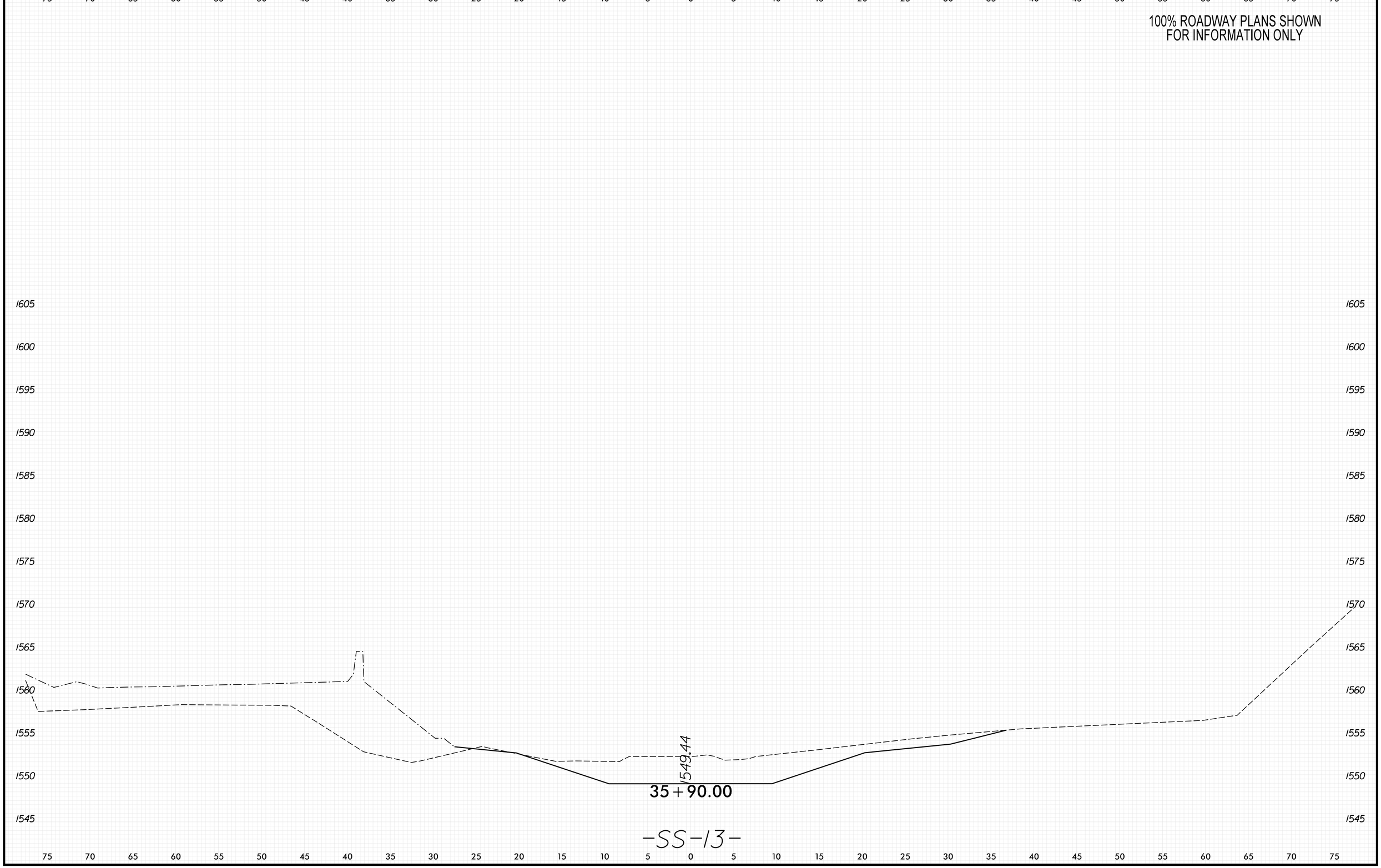
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-487

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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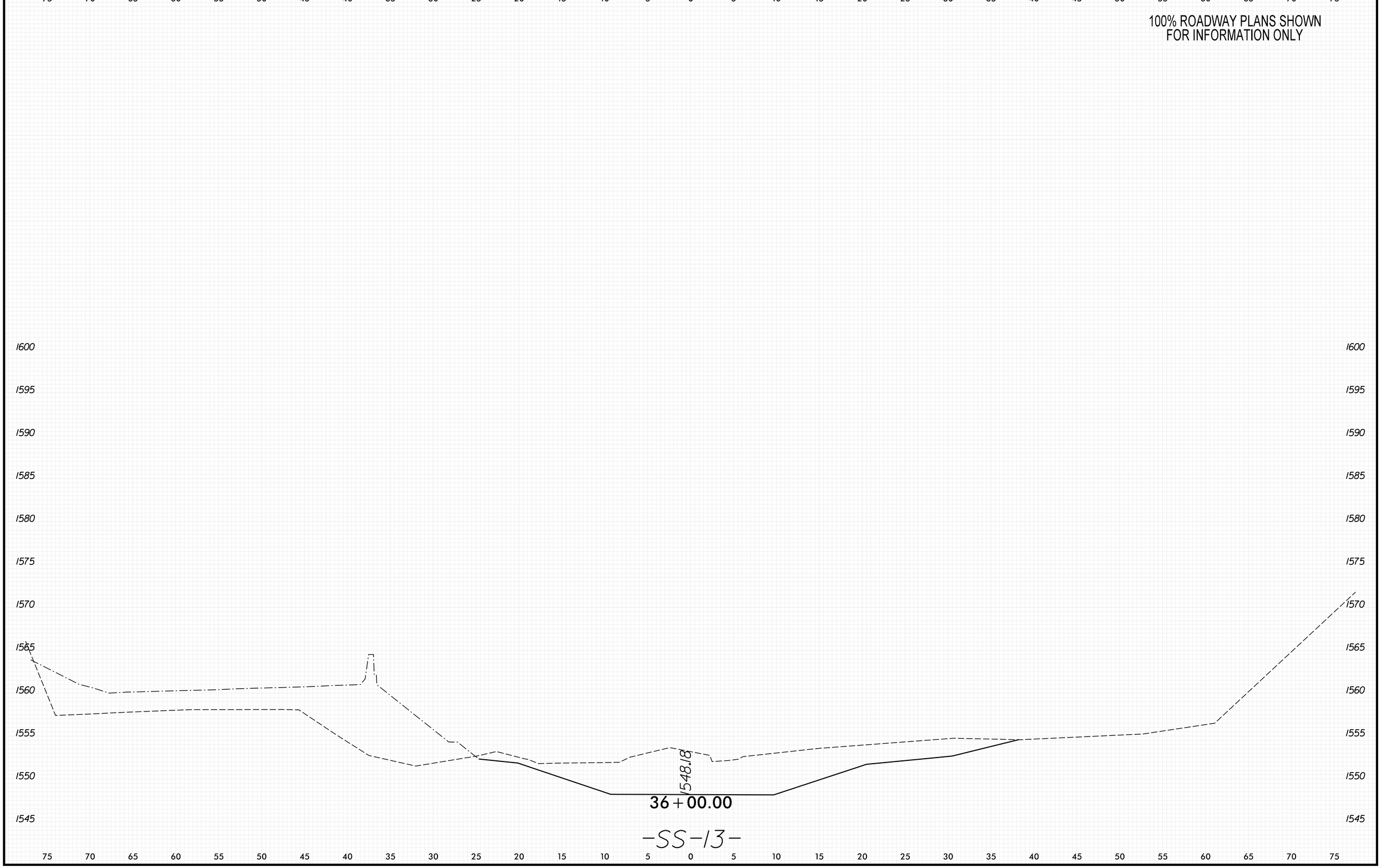
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-488

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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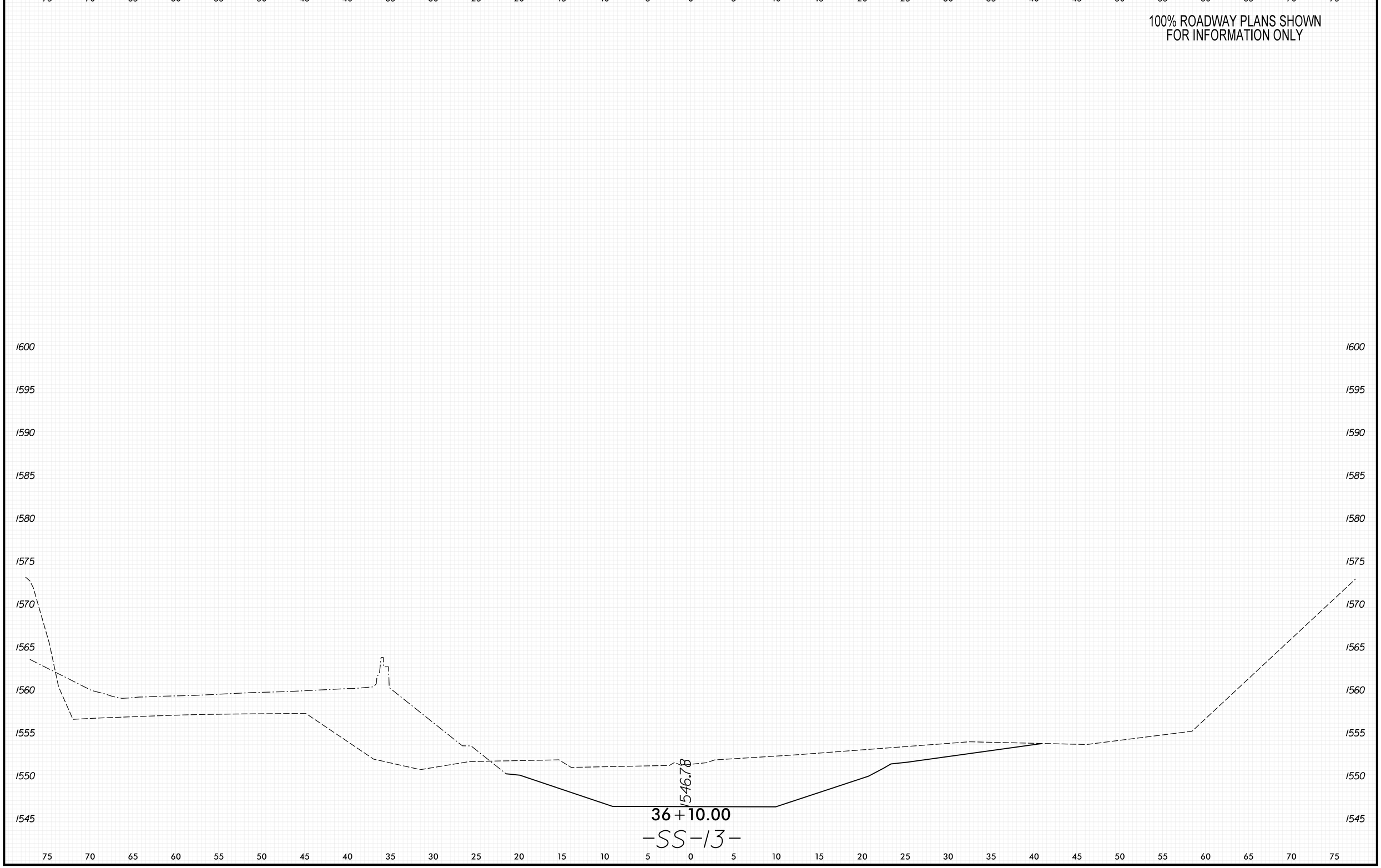
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-489

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
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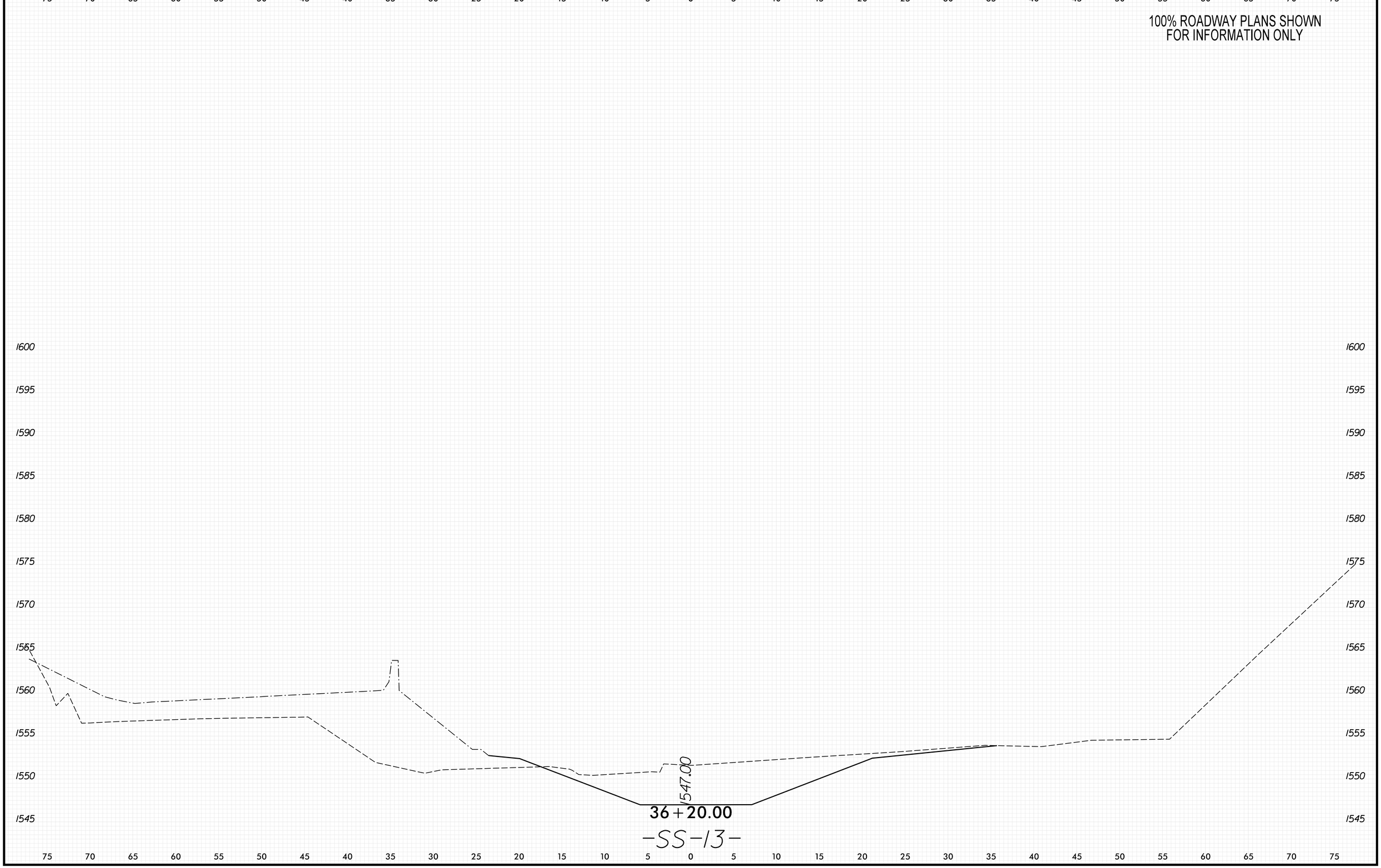
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-490

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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USER: KCLATTERBU
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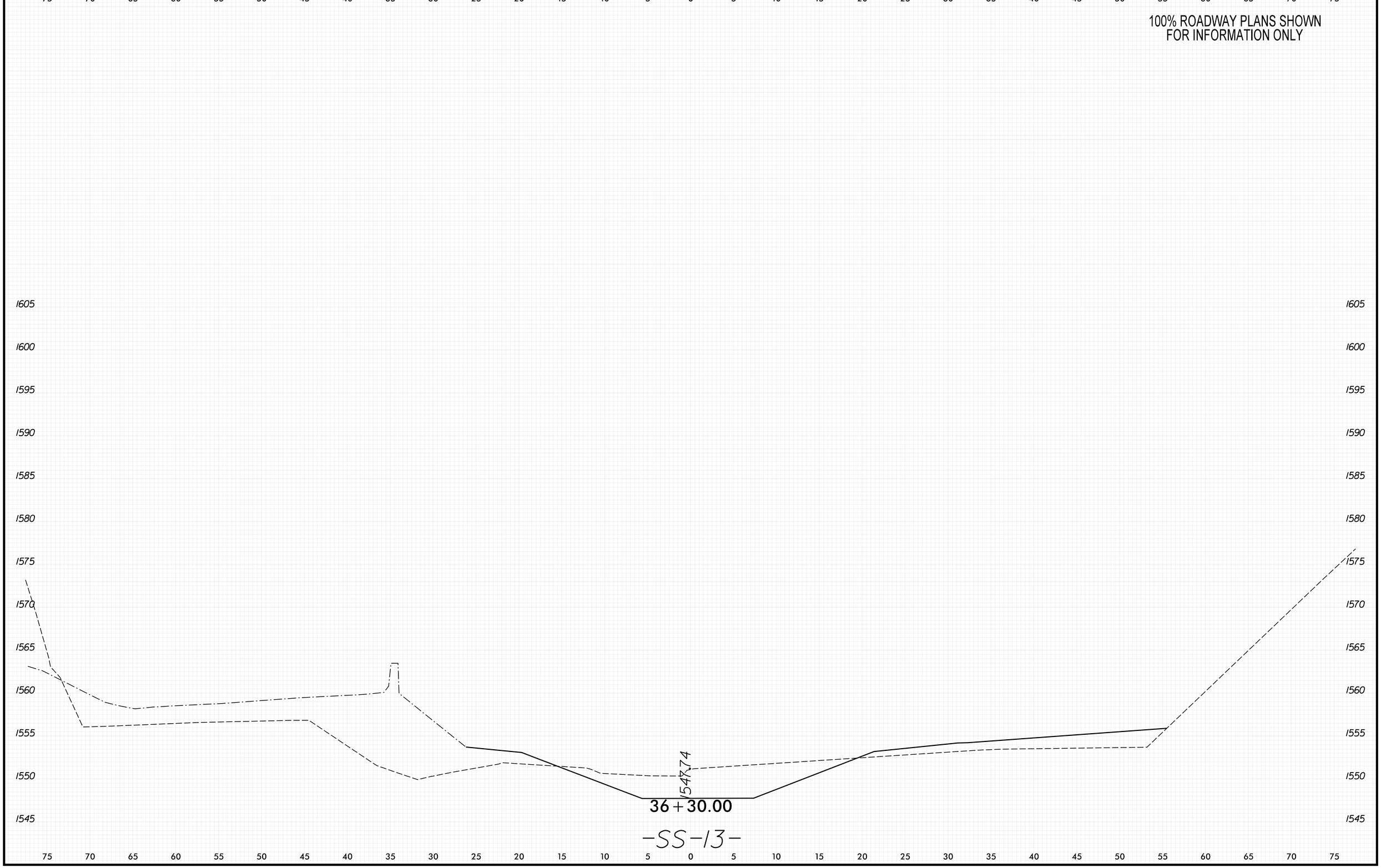
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-491

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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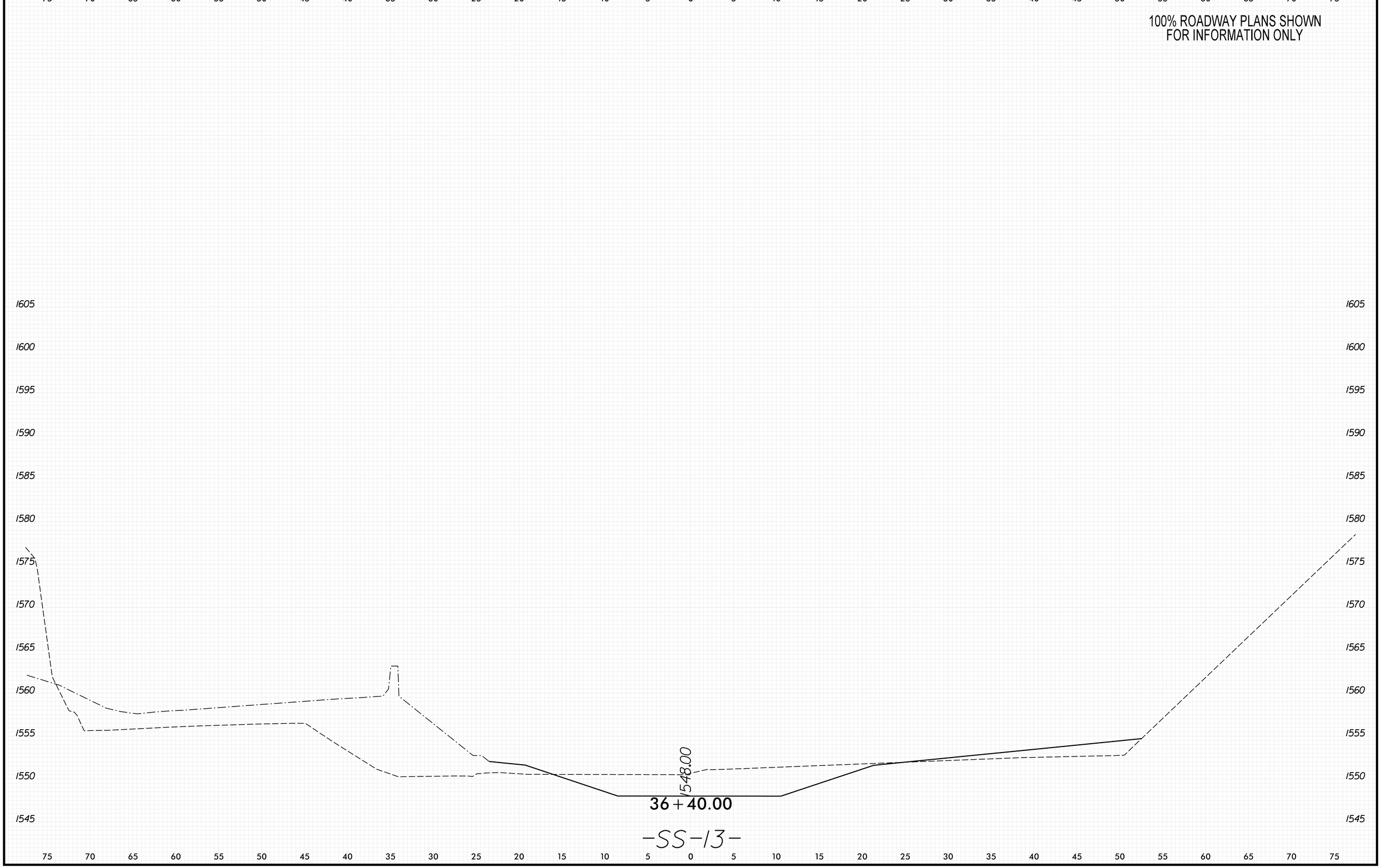
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-492

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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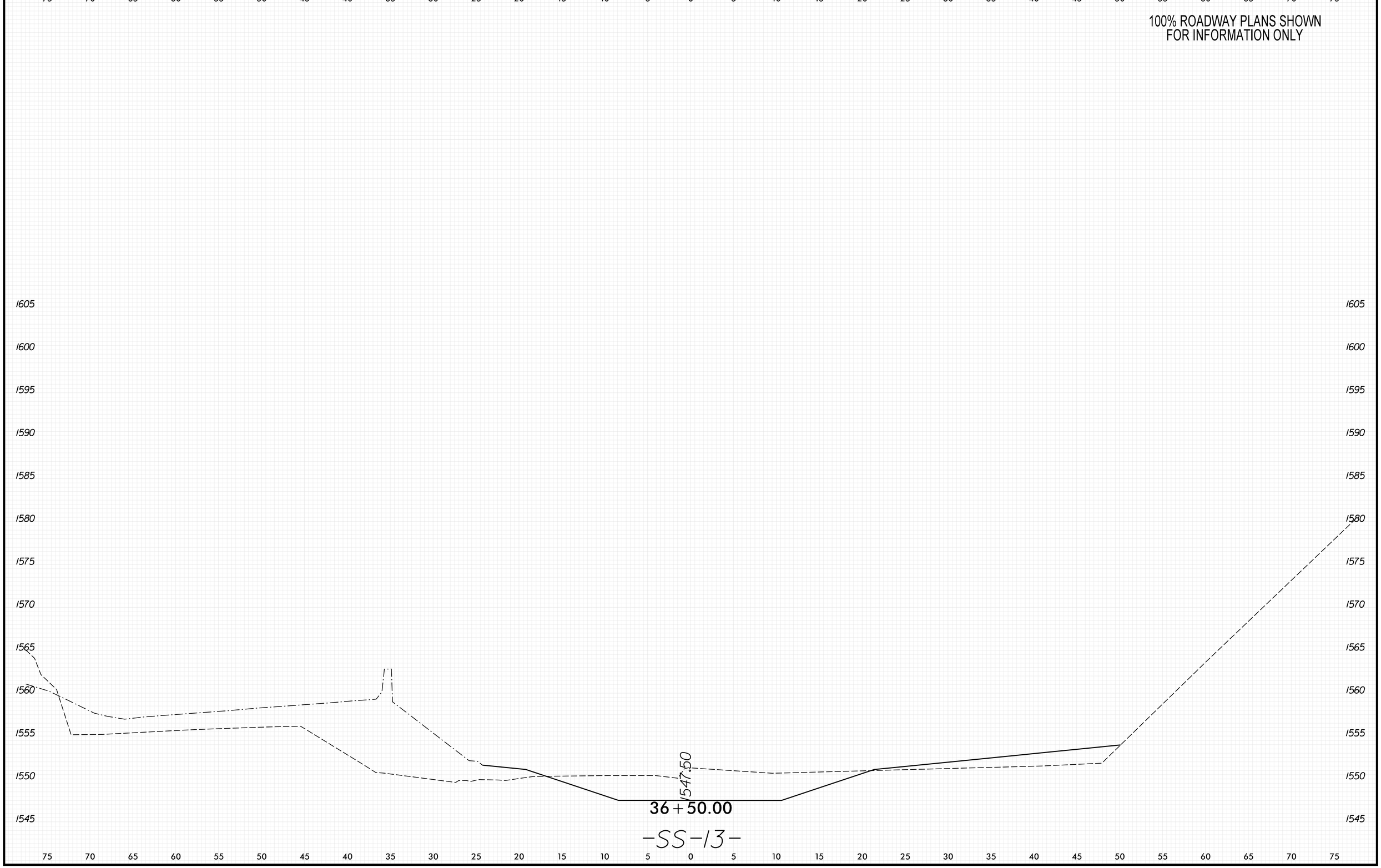
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-493

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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DATE: 5/29/2026
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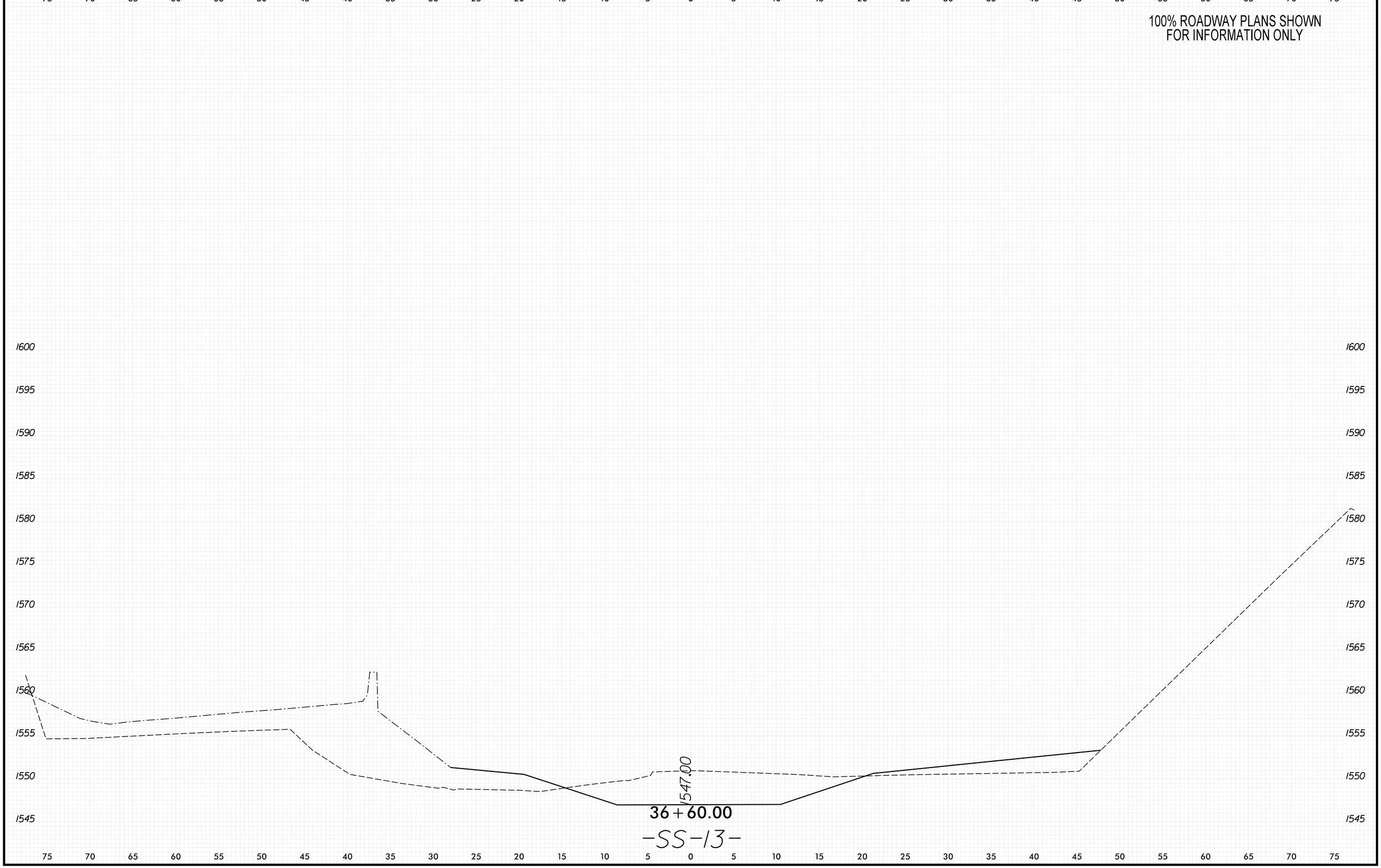
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-494

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

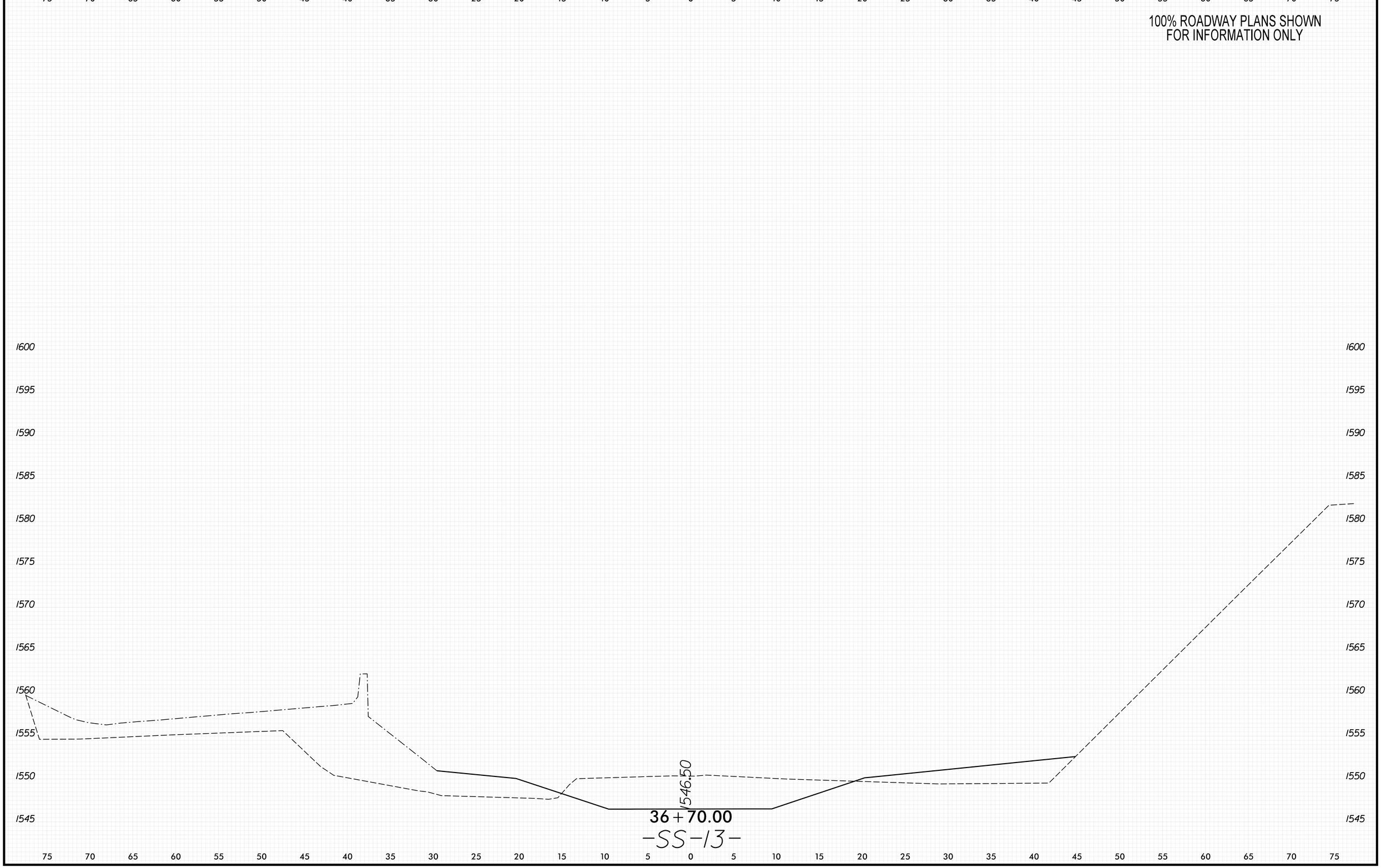


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:34:56 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-495

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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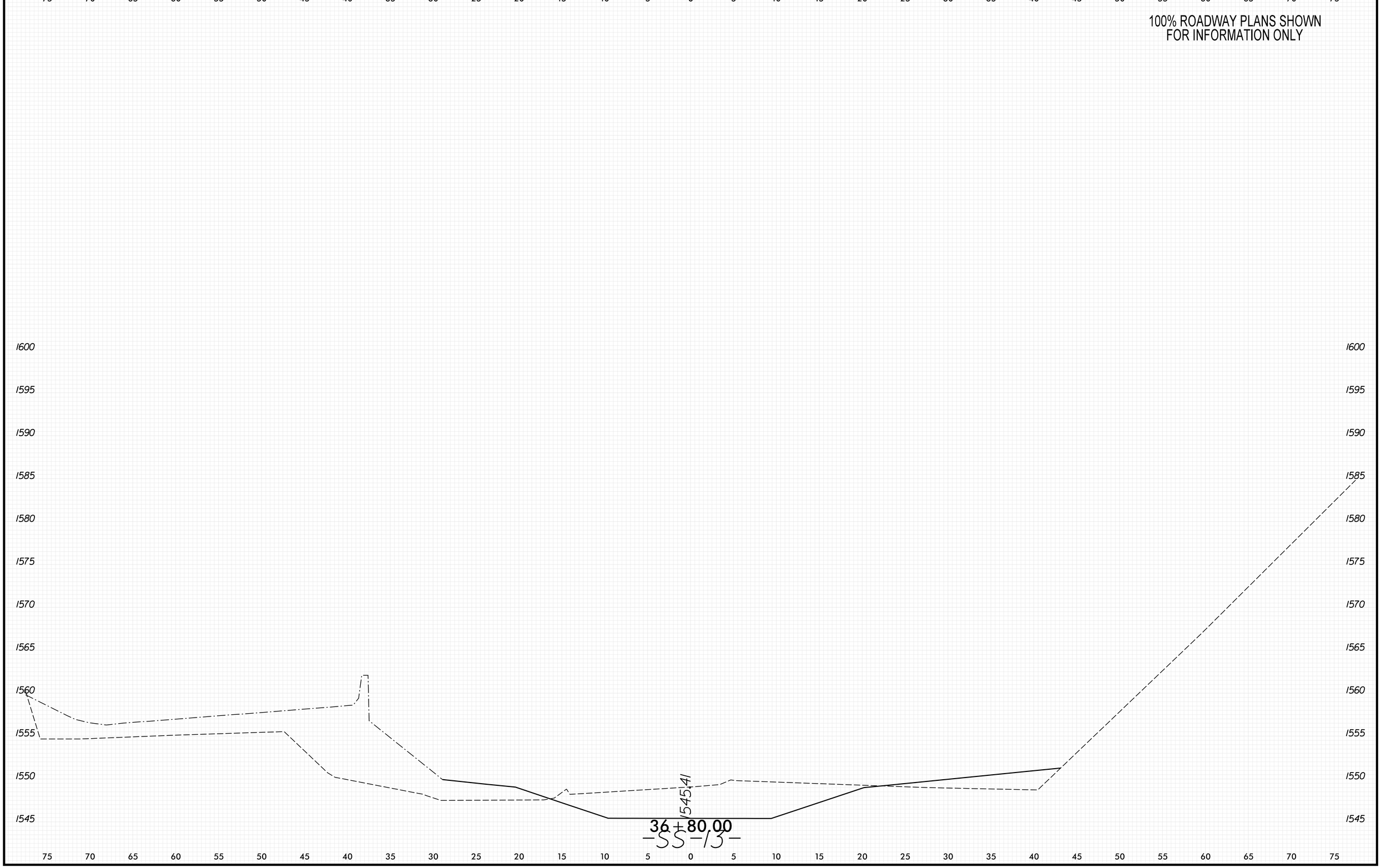
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-496

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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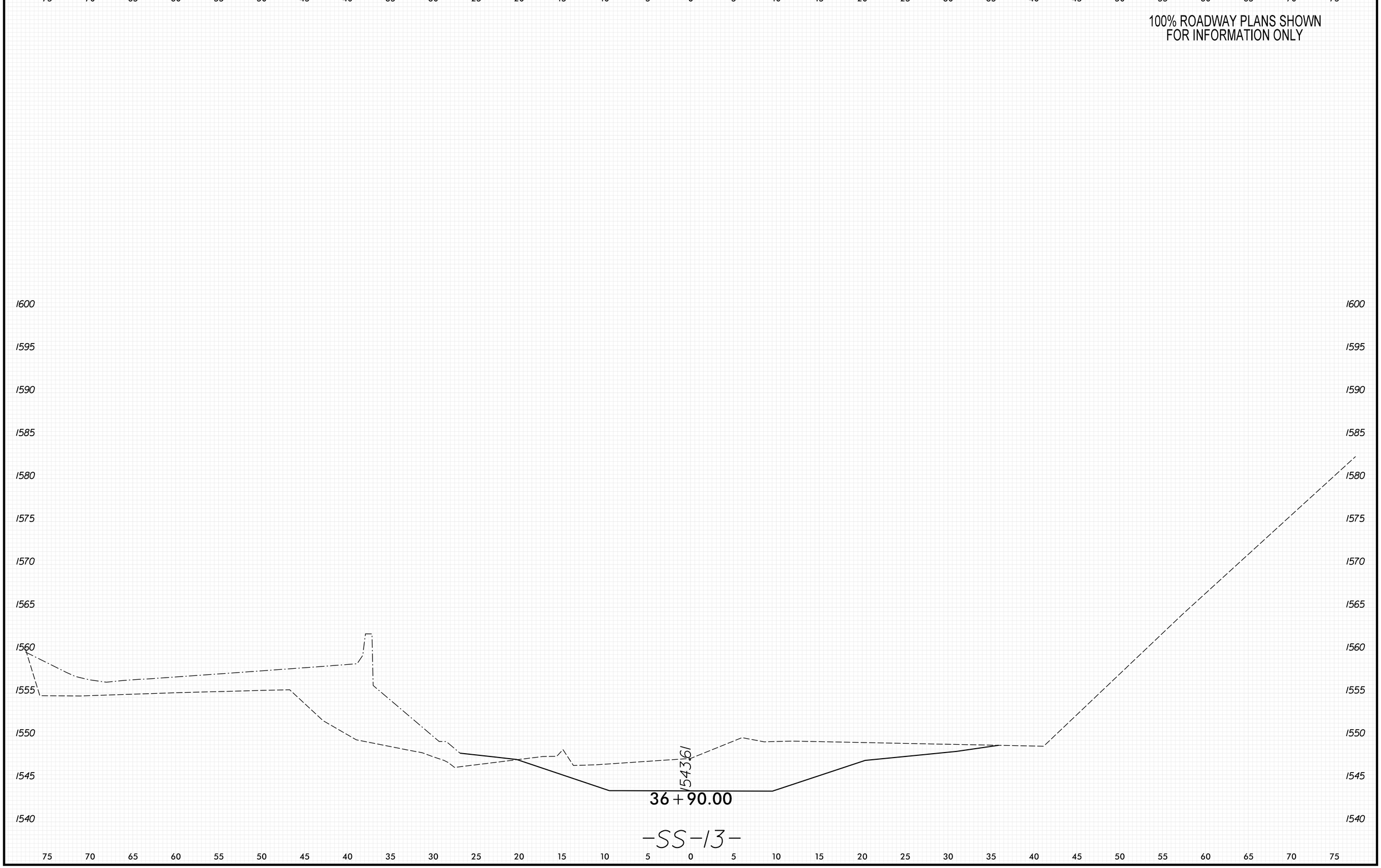
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-497

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
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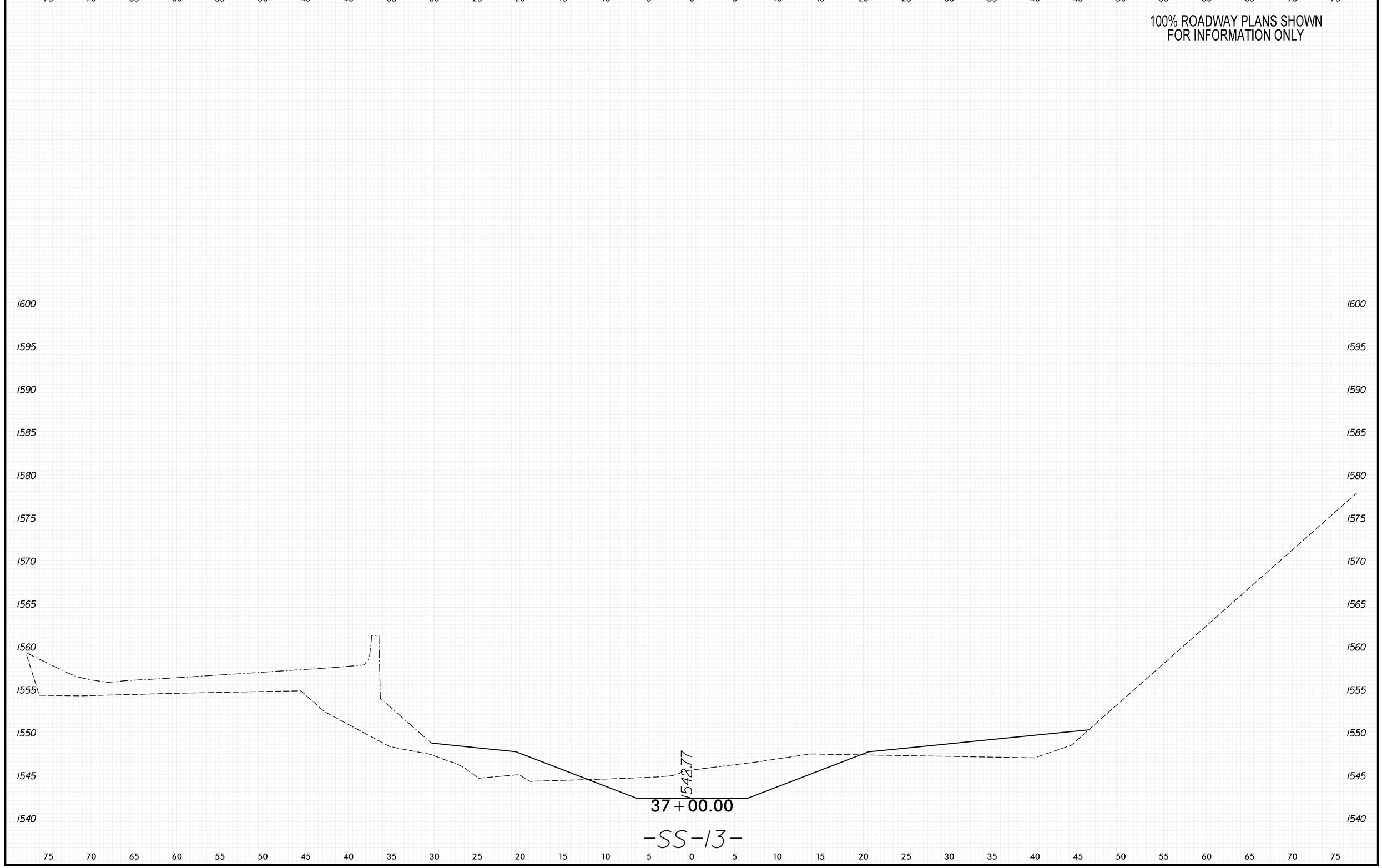
TIME: 9:35:16 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-498

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

PENTABLE: xpl_eh_v8.tbl
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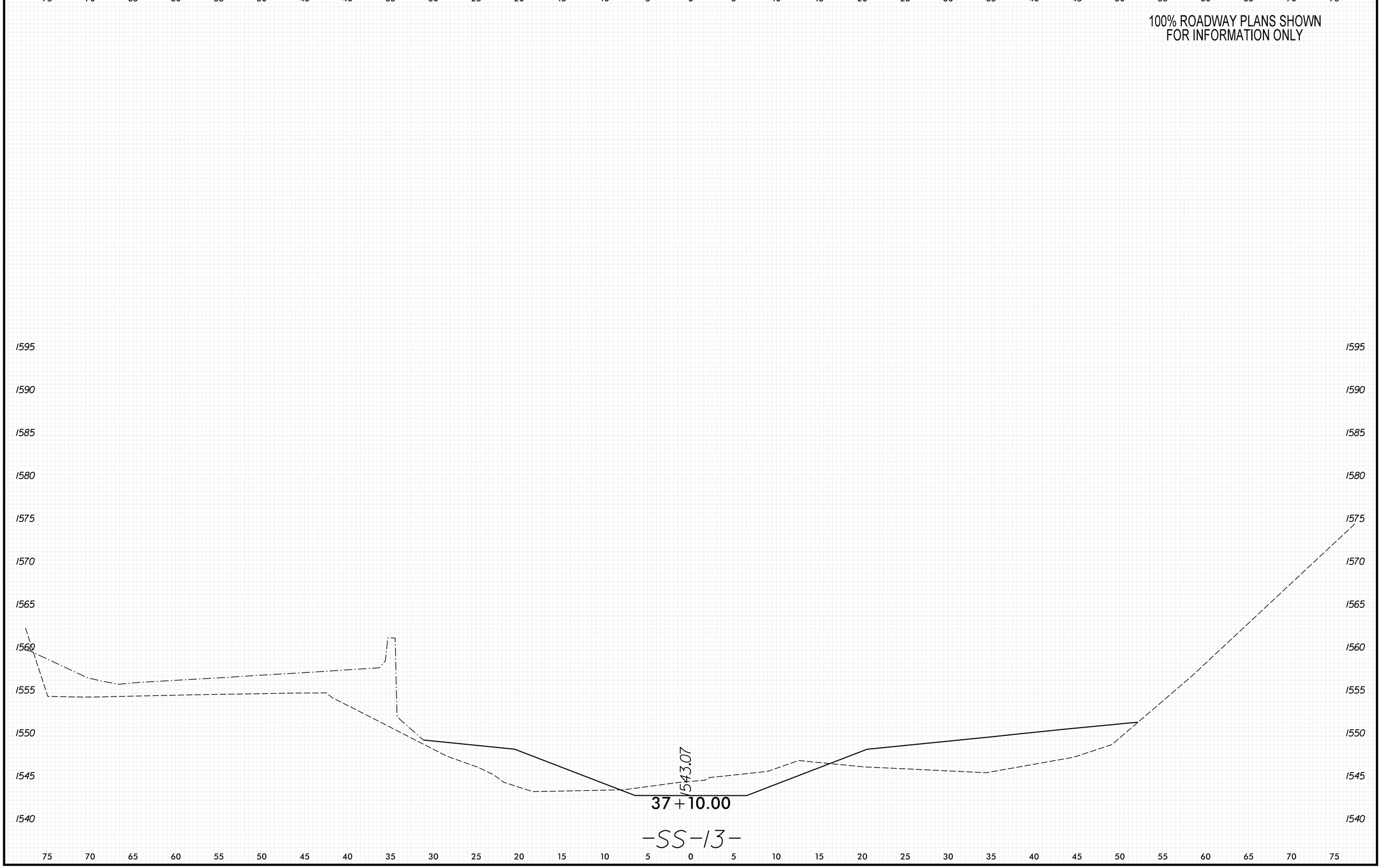
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-499

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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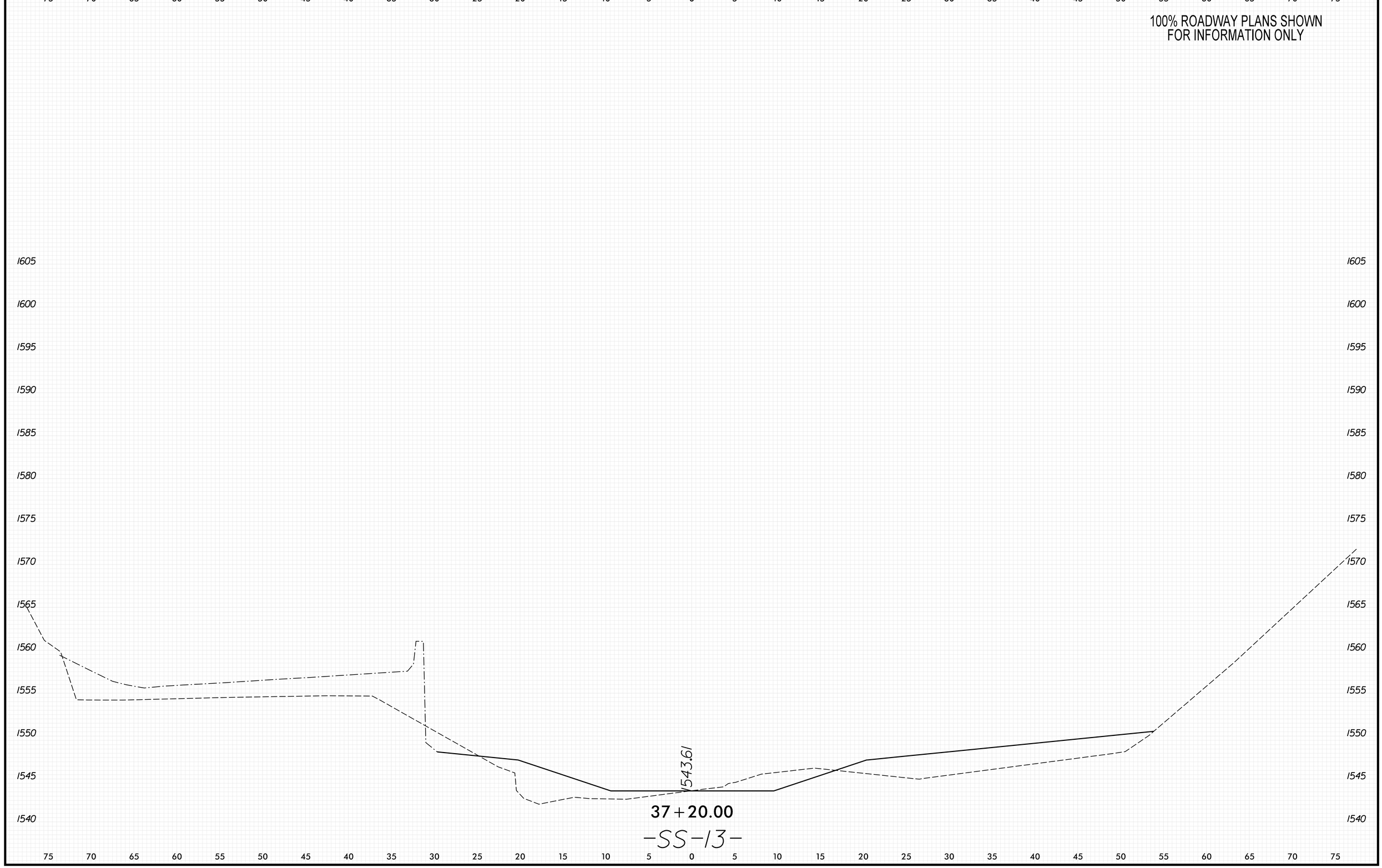
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-500

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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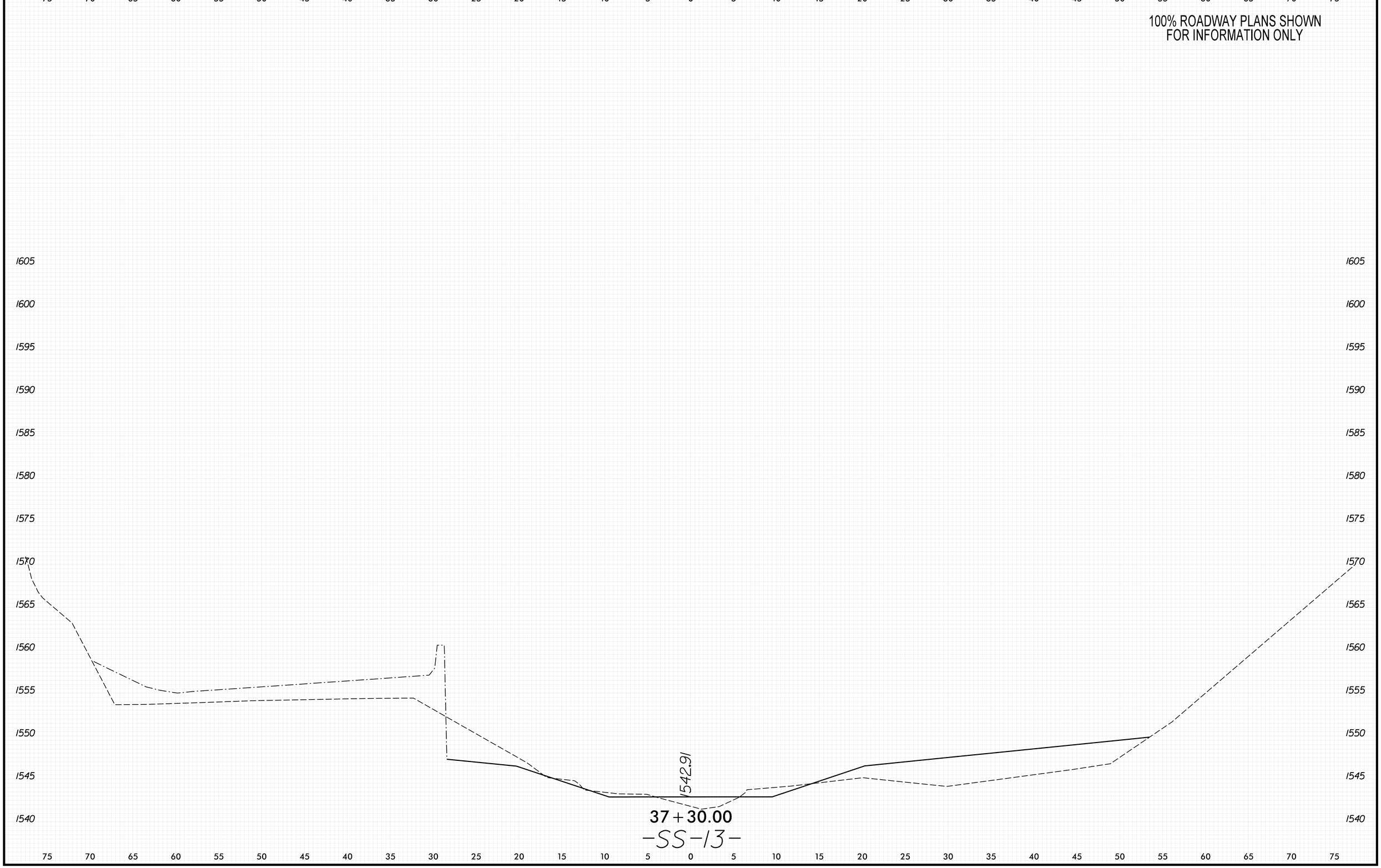
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-501

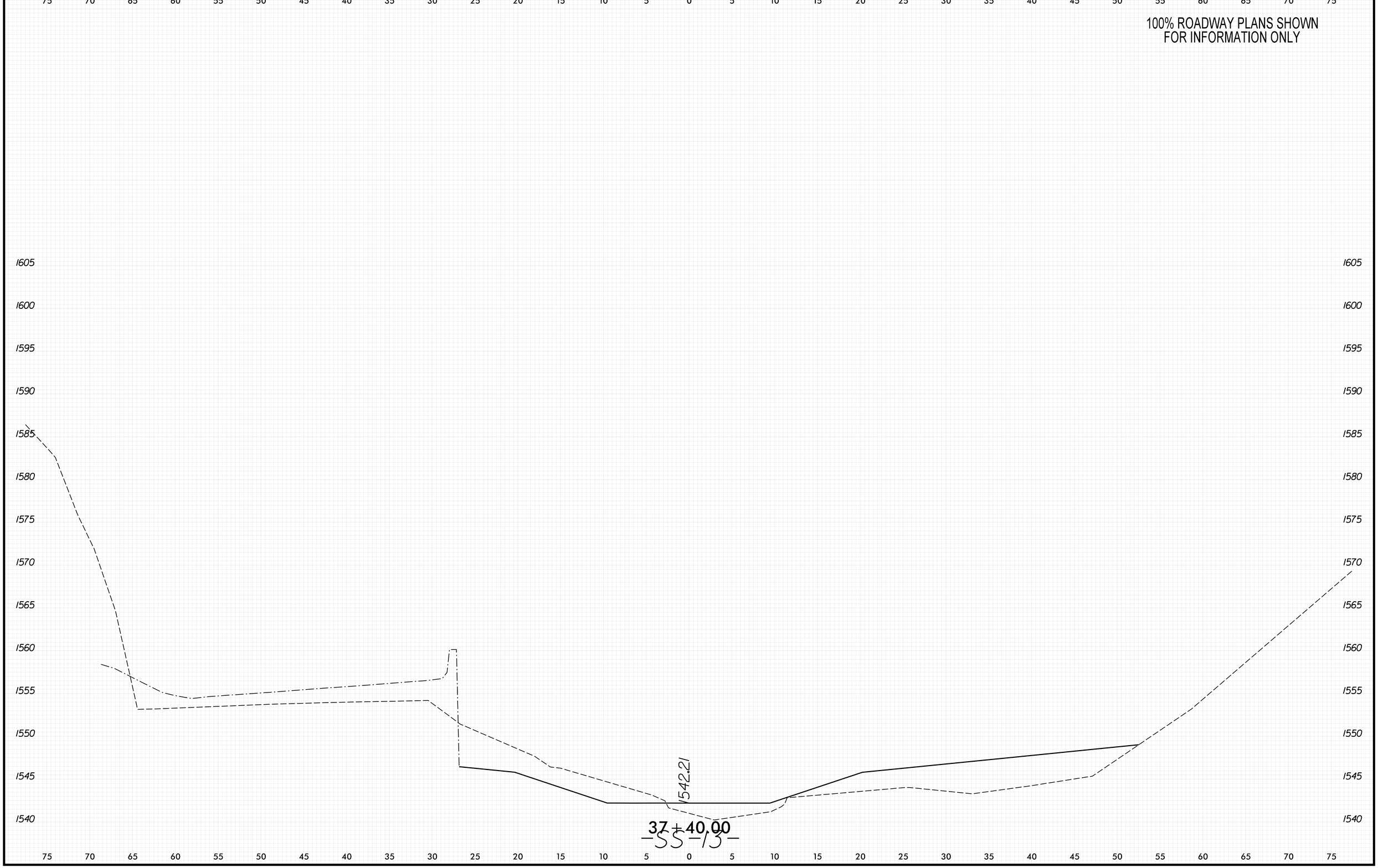
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PENTABLE: xpl_eh_v8.tbl
TIME: 9:38:40 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-502

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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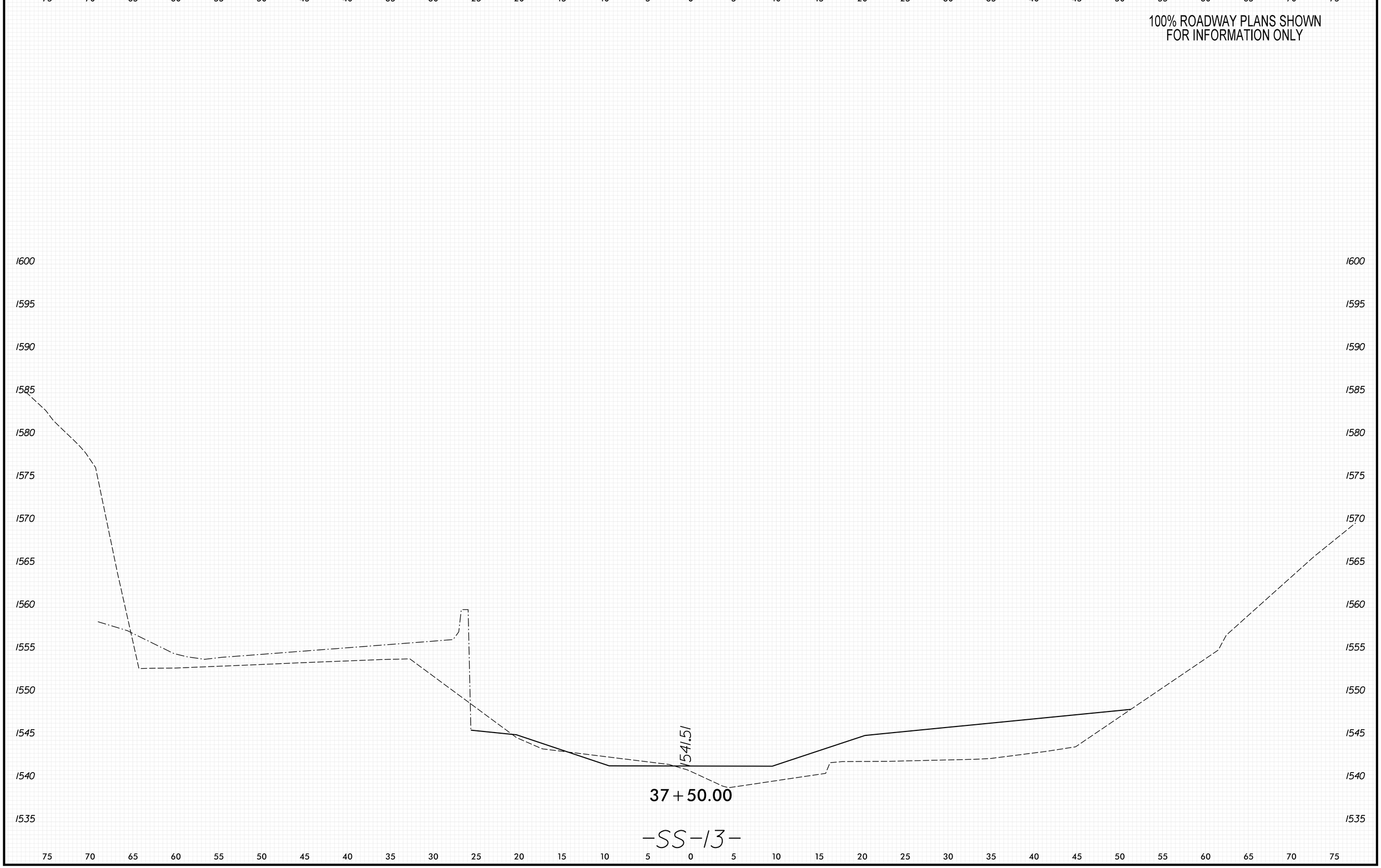
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-503

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

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DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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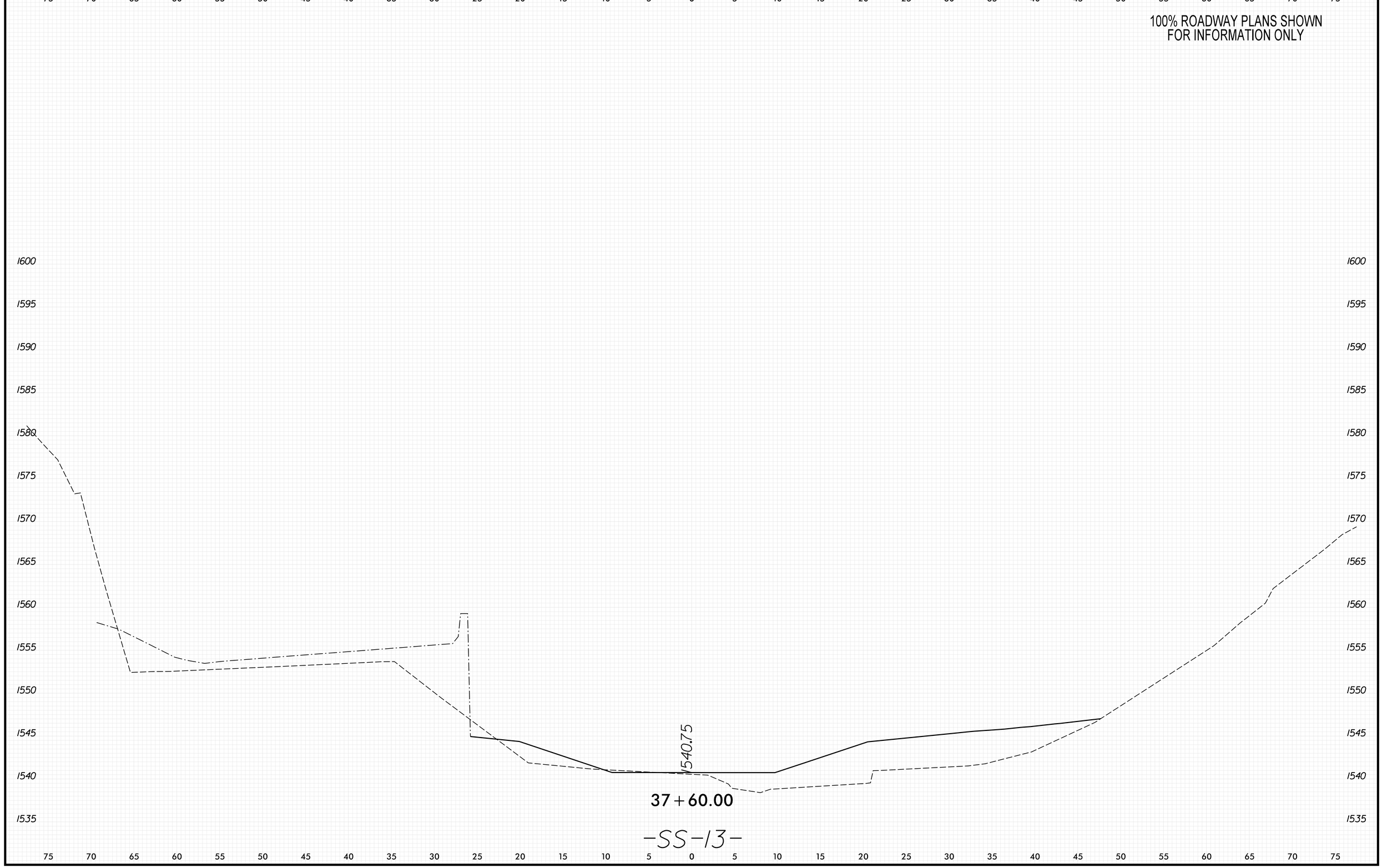
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-504

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

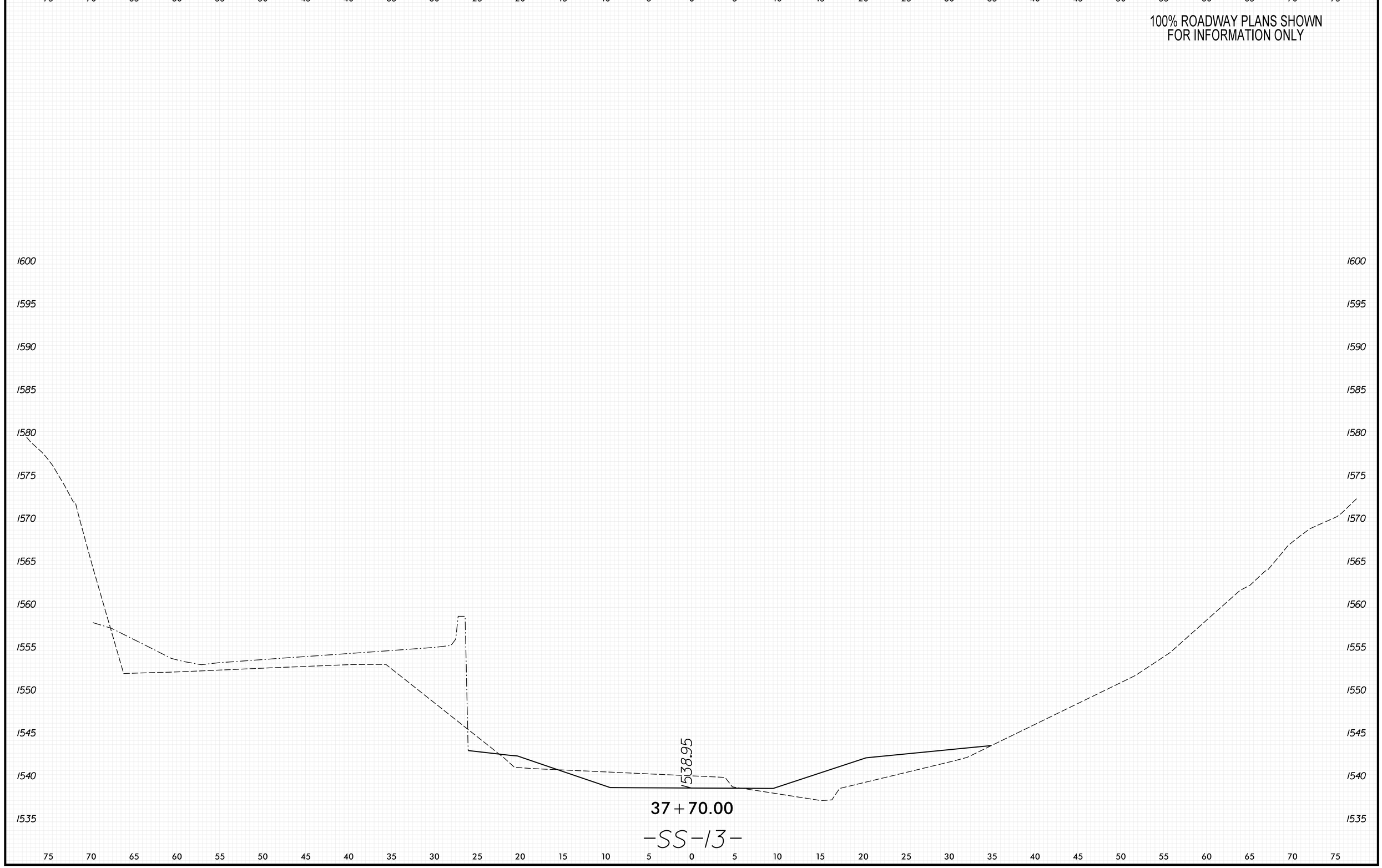


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:39:02 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-505

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

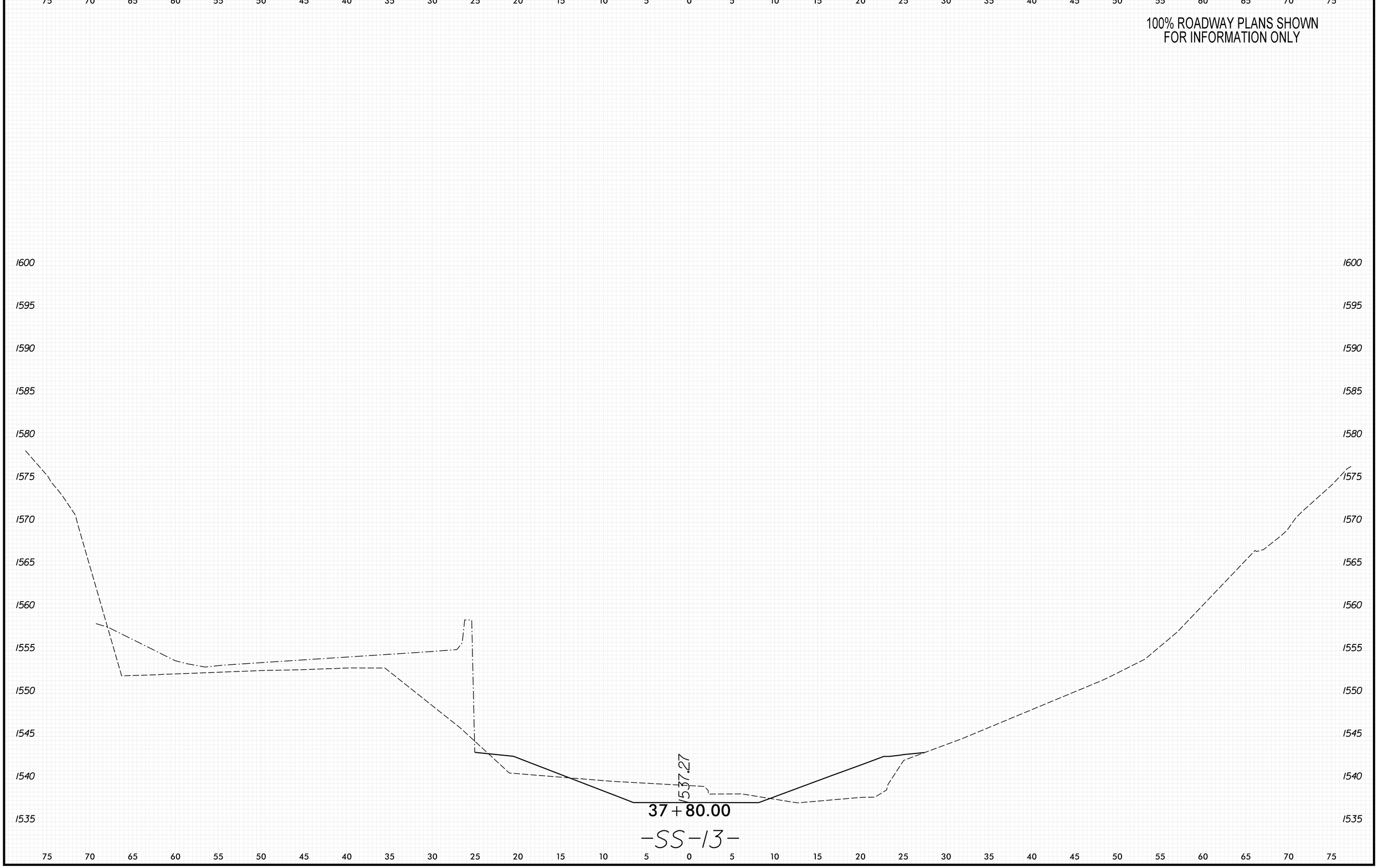


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:39:09 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-506

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

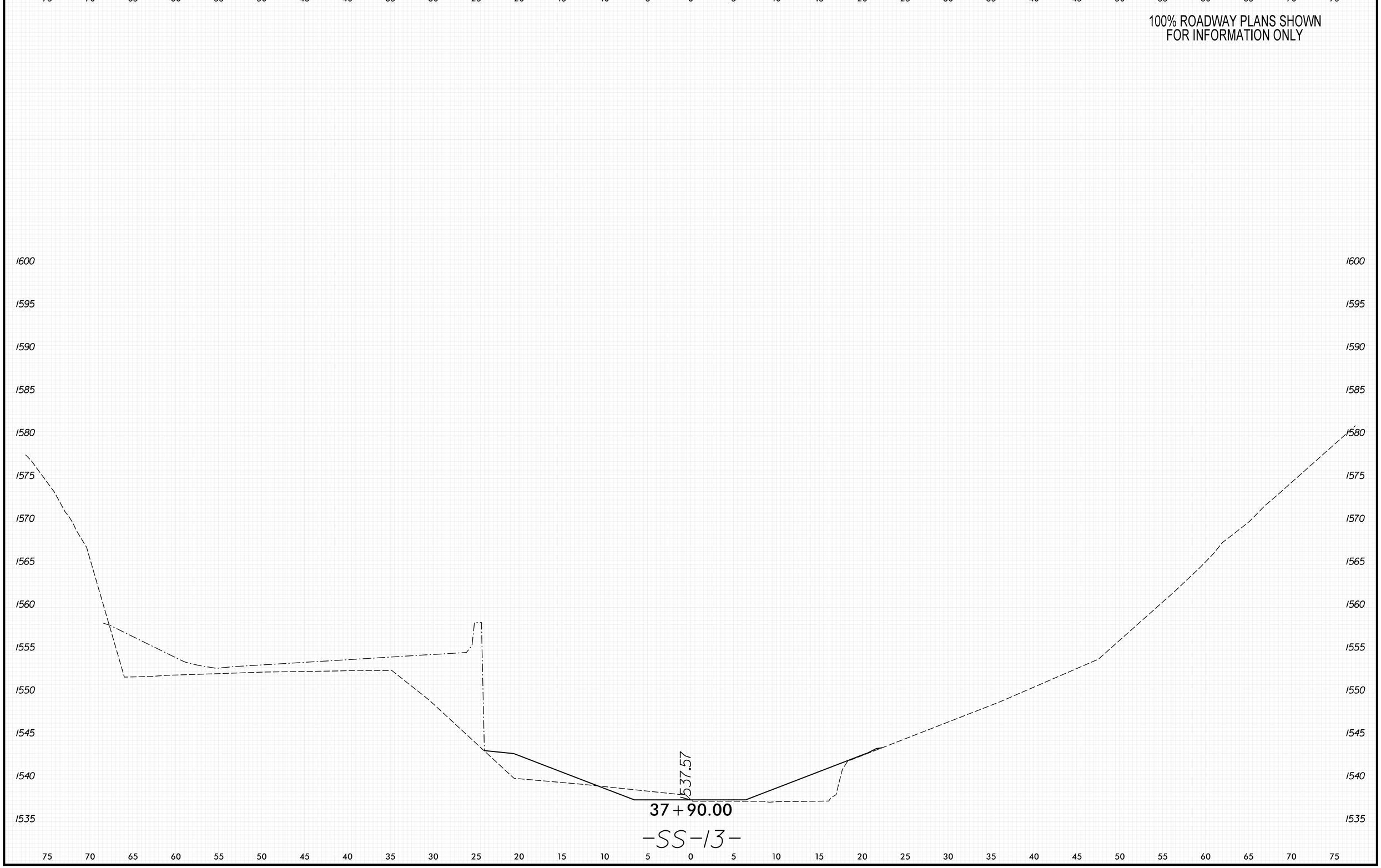


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:39:16 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-507

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

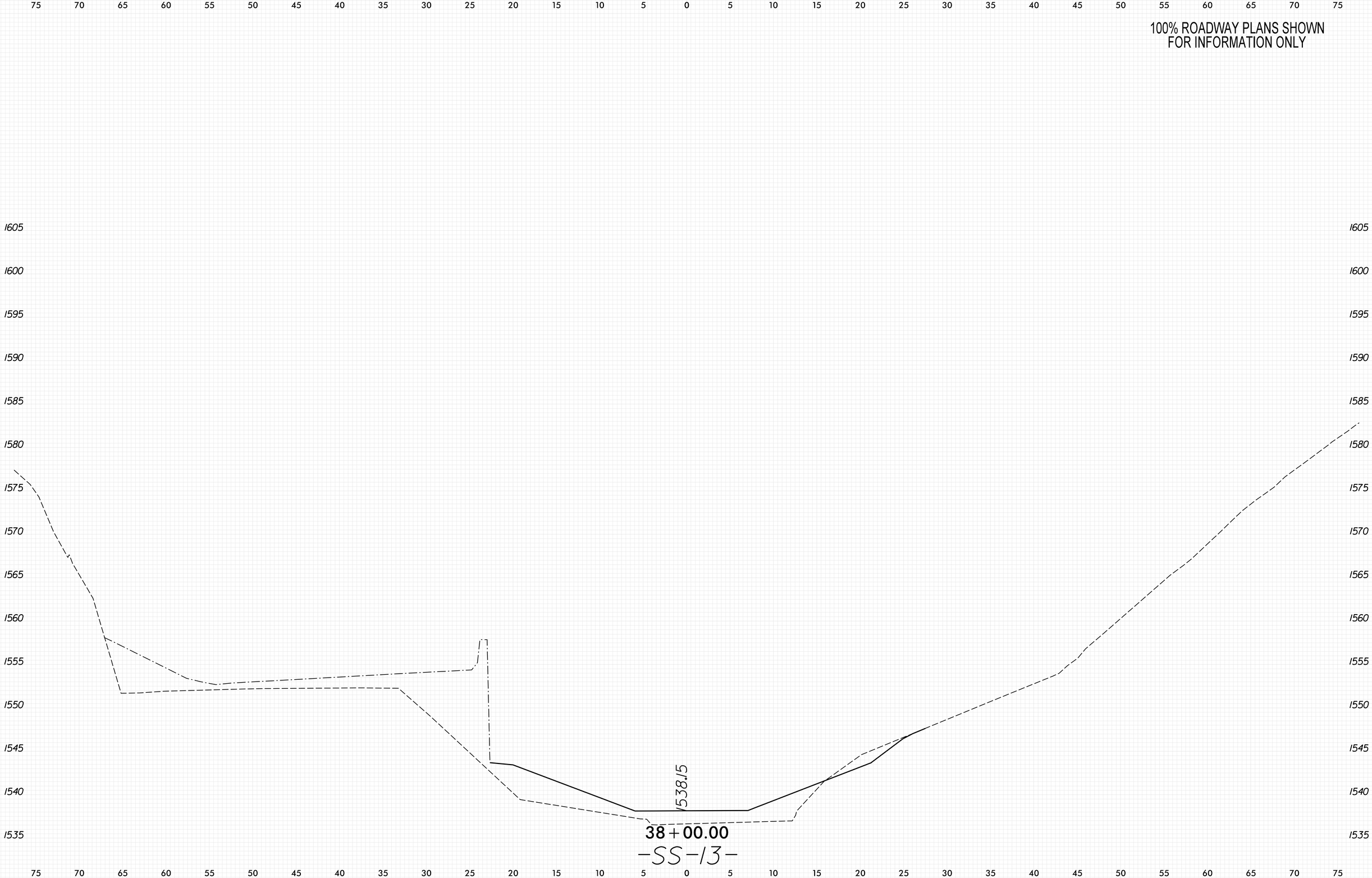


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:39:23 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-508

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

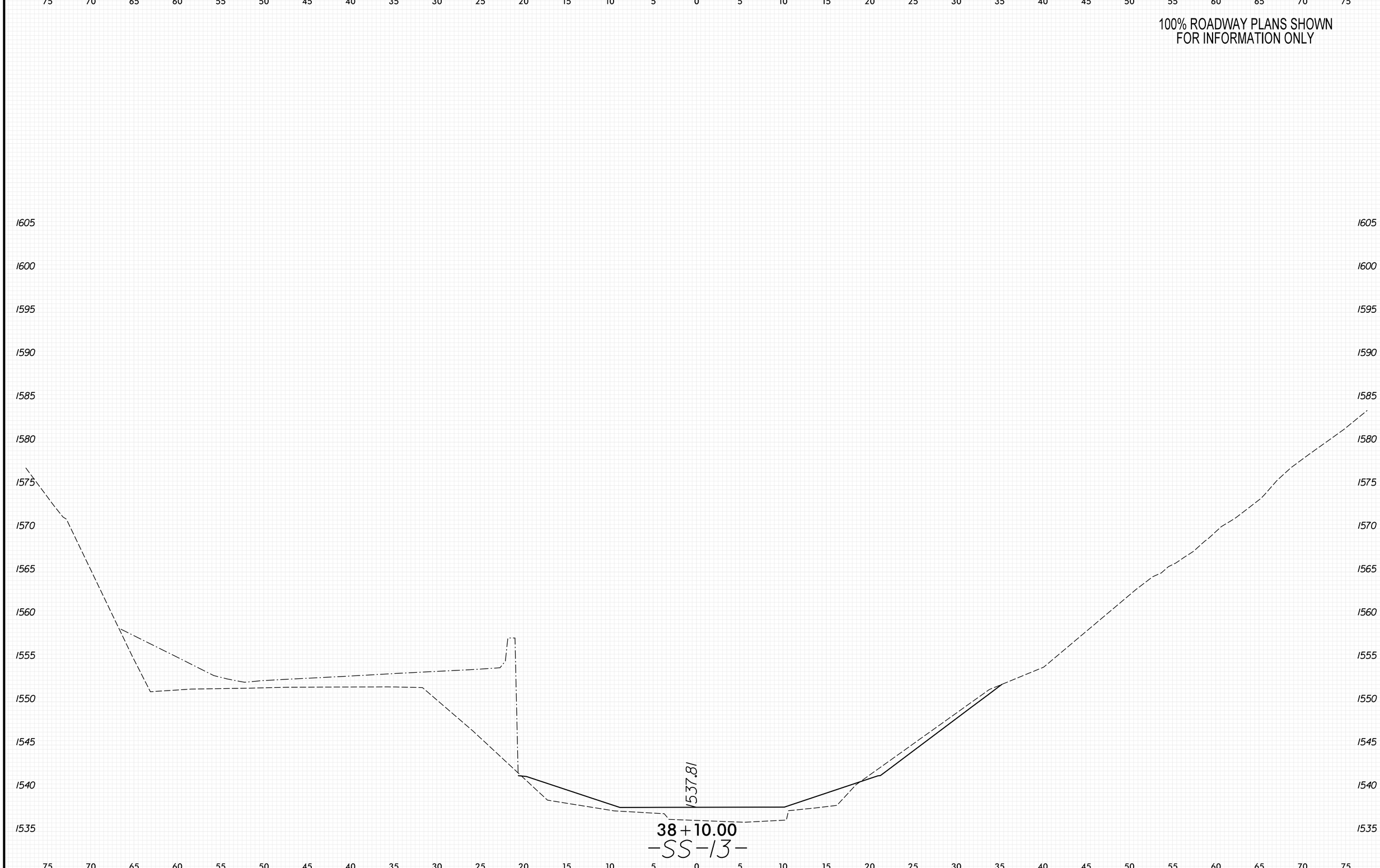


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:39:30 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-509

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

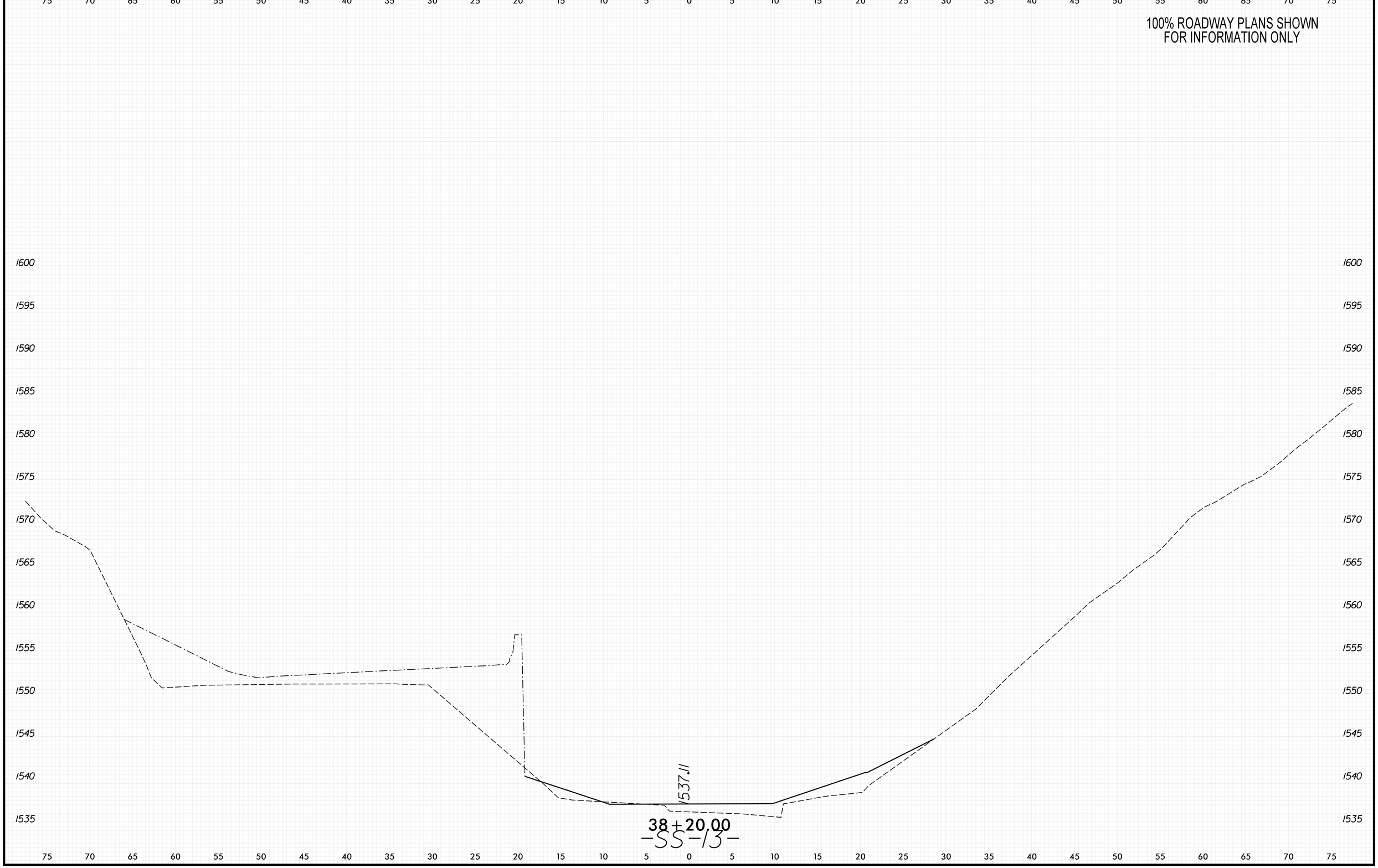


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:39:37 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-510

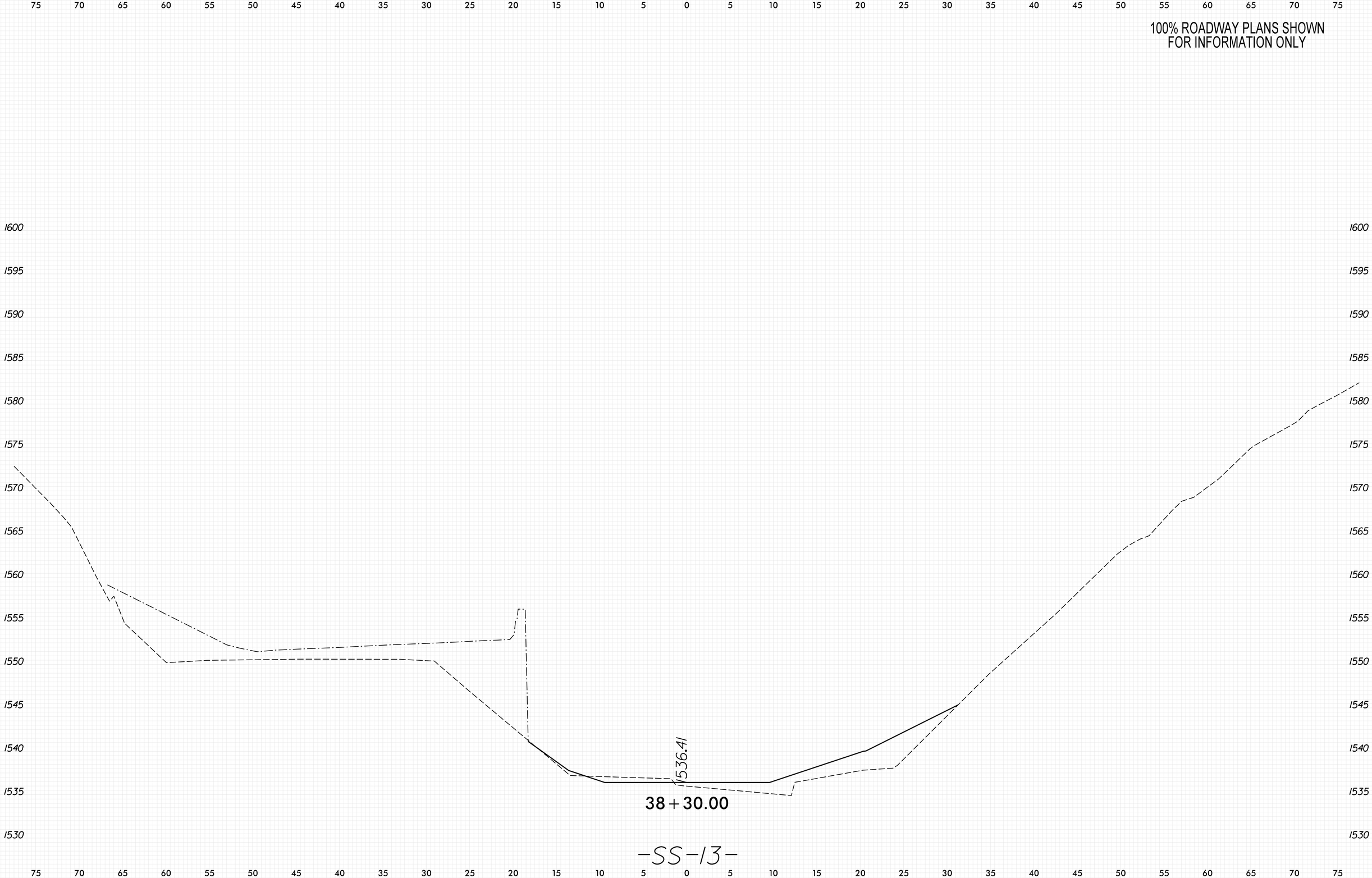
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:39:45 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-511

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

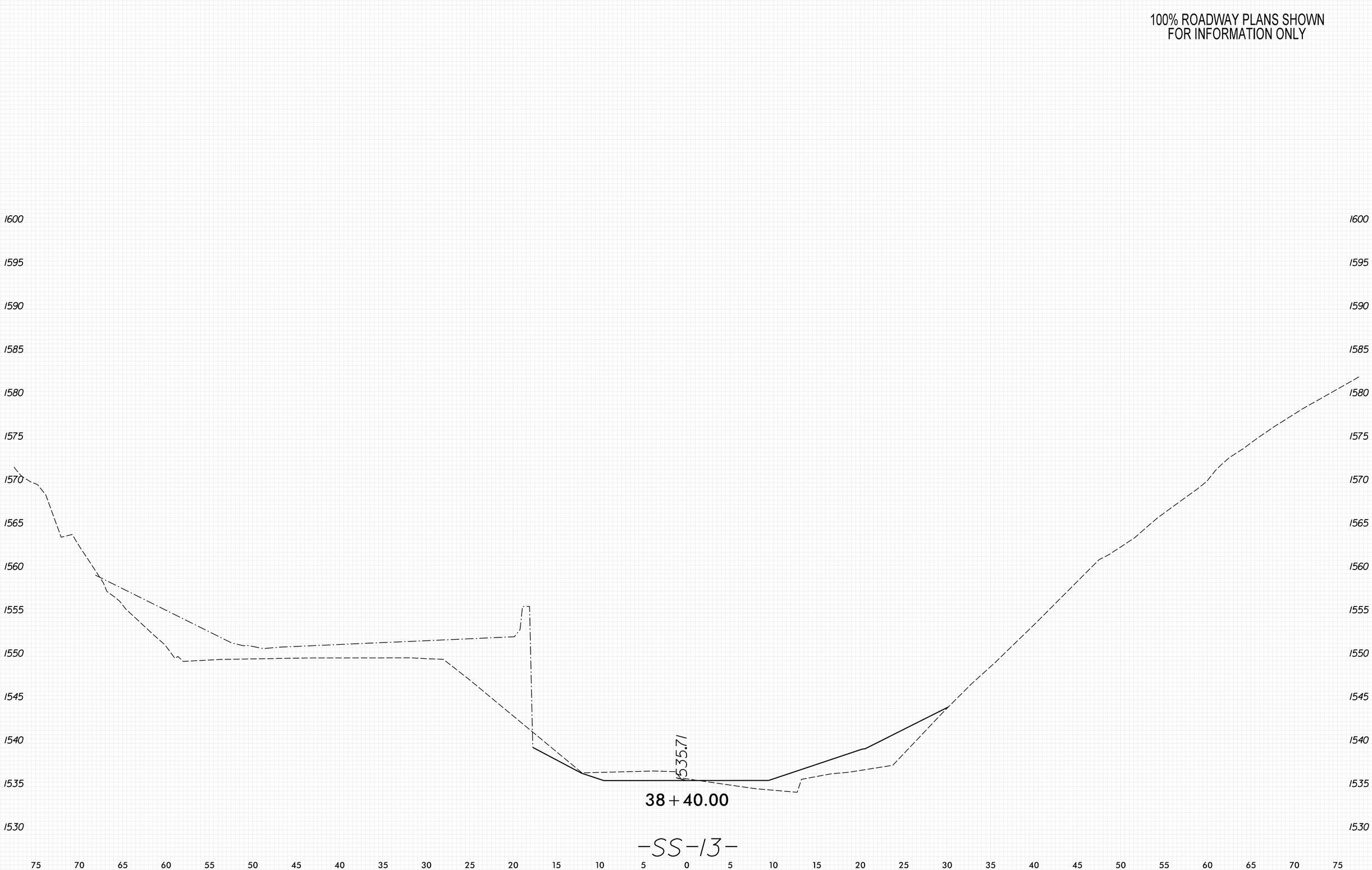


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:39:52 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-512

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

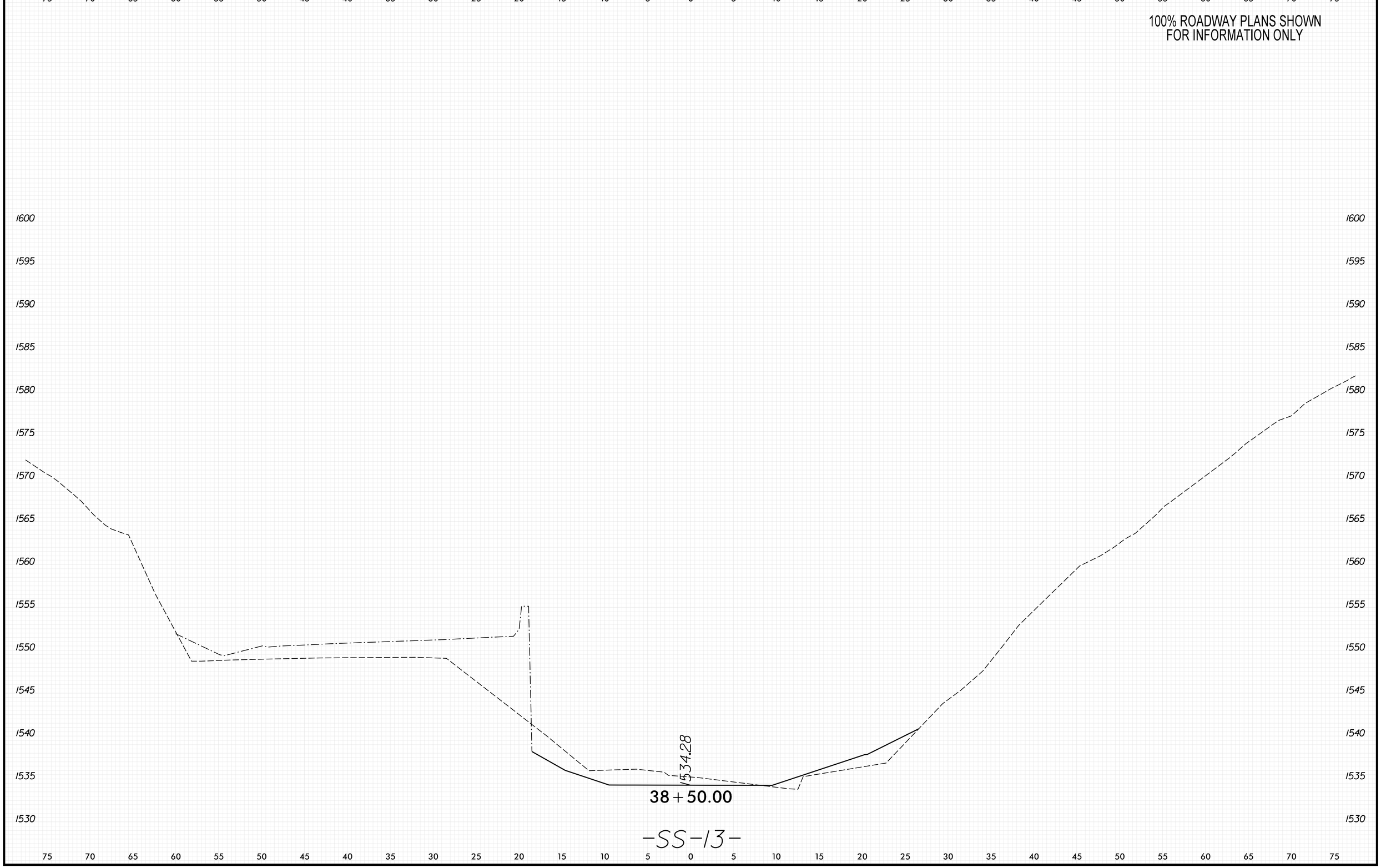


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:39:59 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-513

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

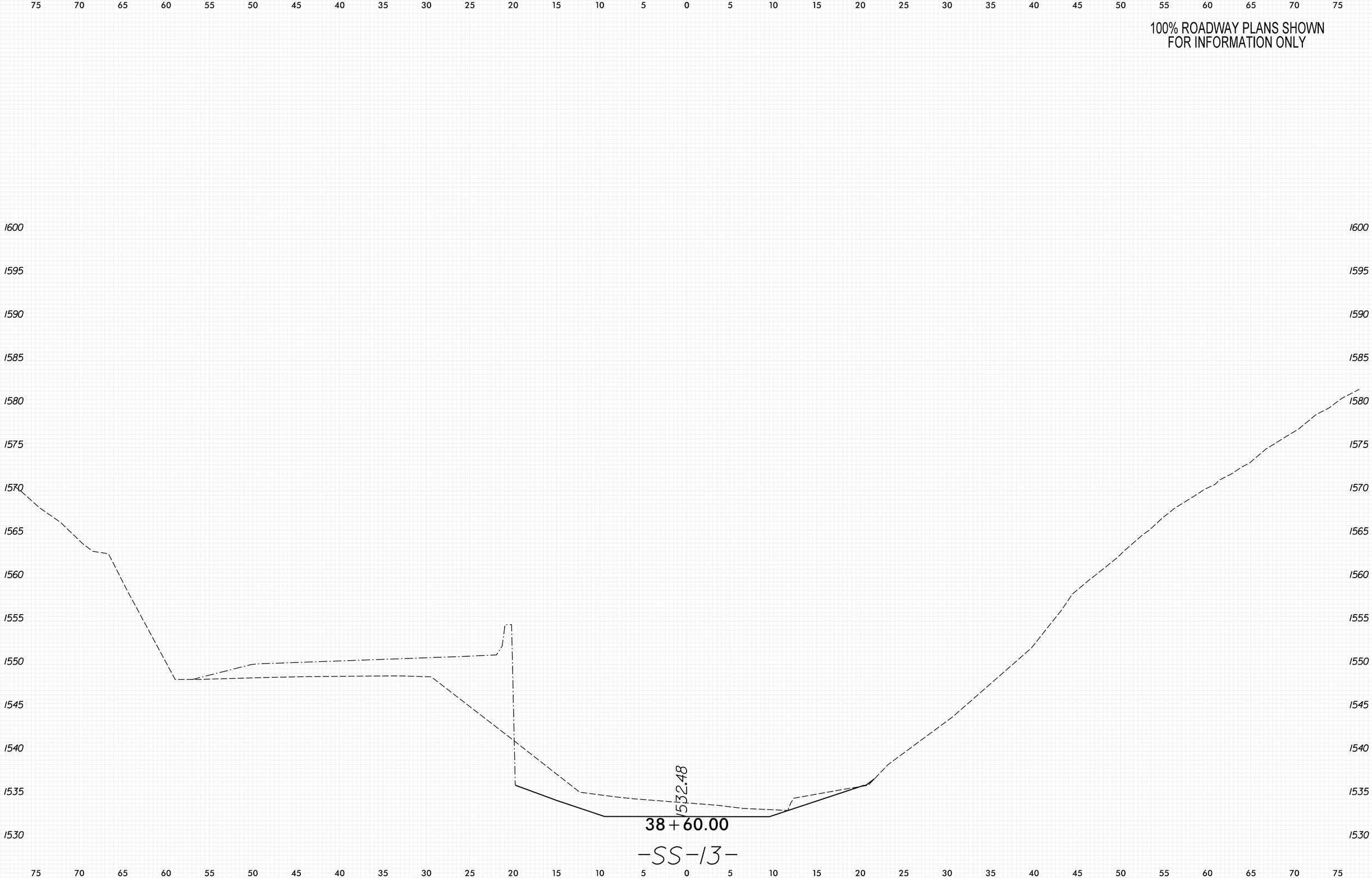


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:40:06 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-514

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

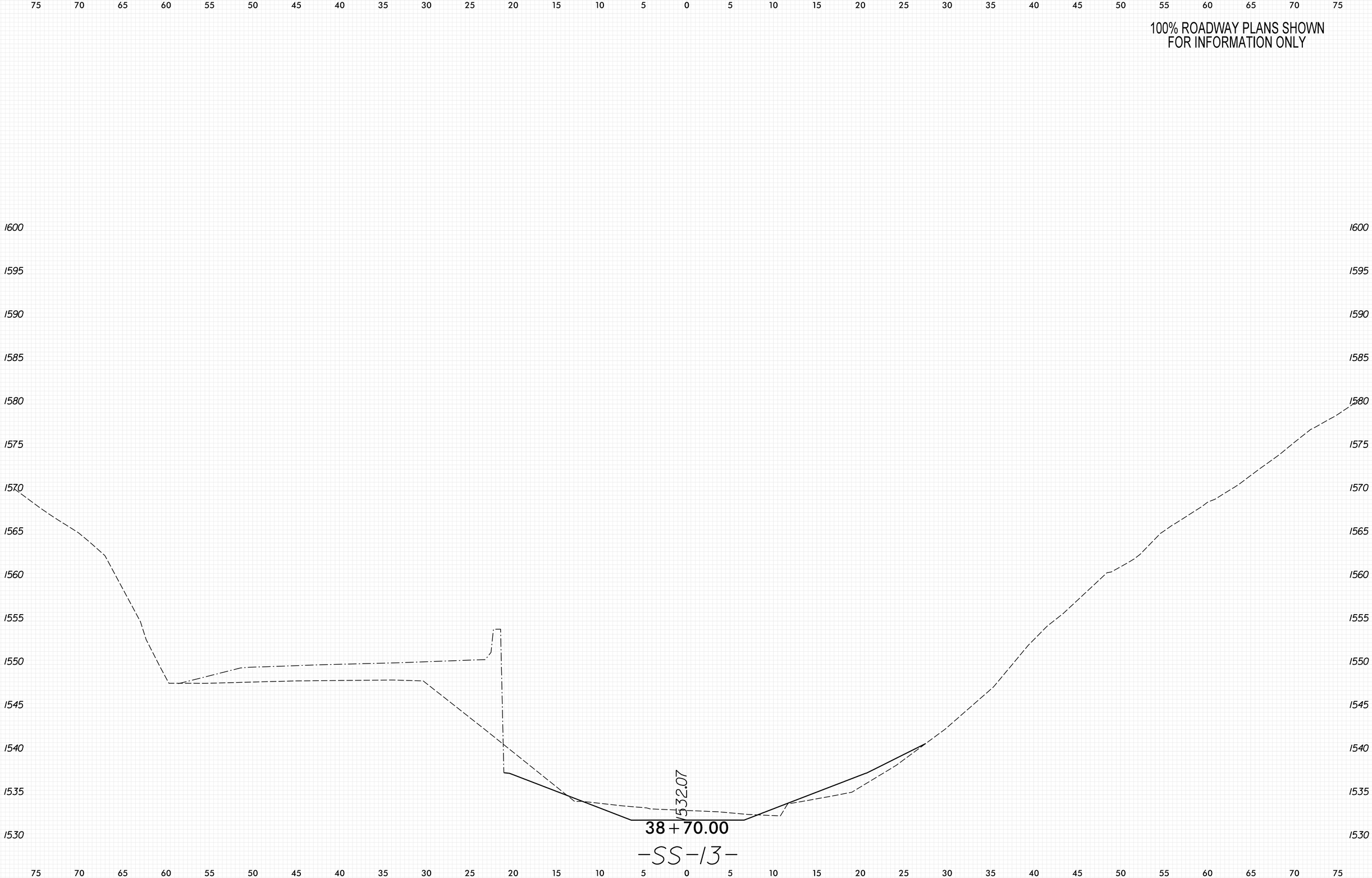


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:40:13 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-515

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

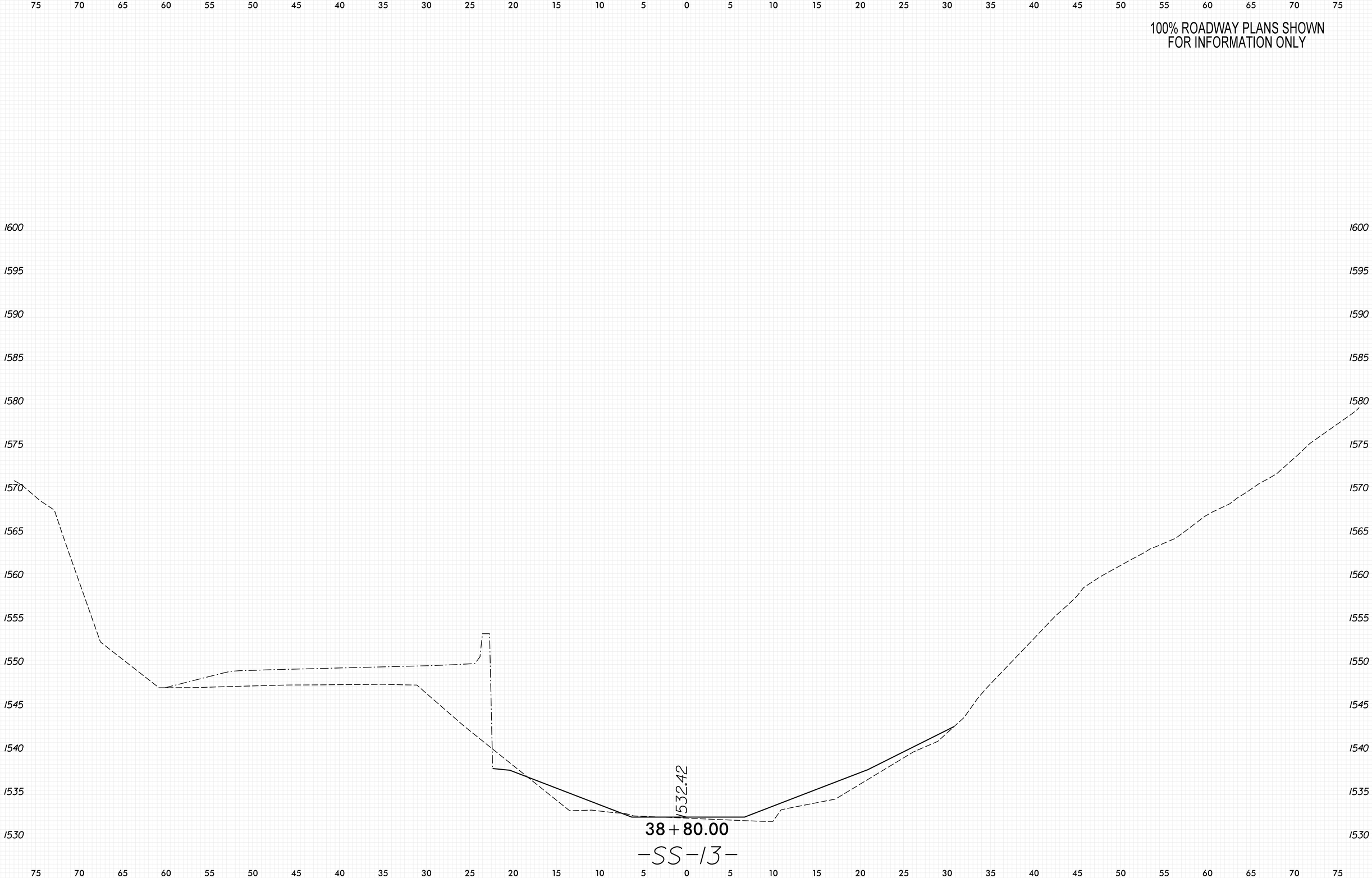


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/29/2026
TIME: 9:40:19 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-516

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

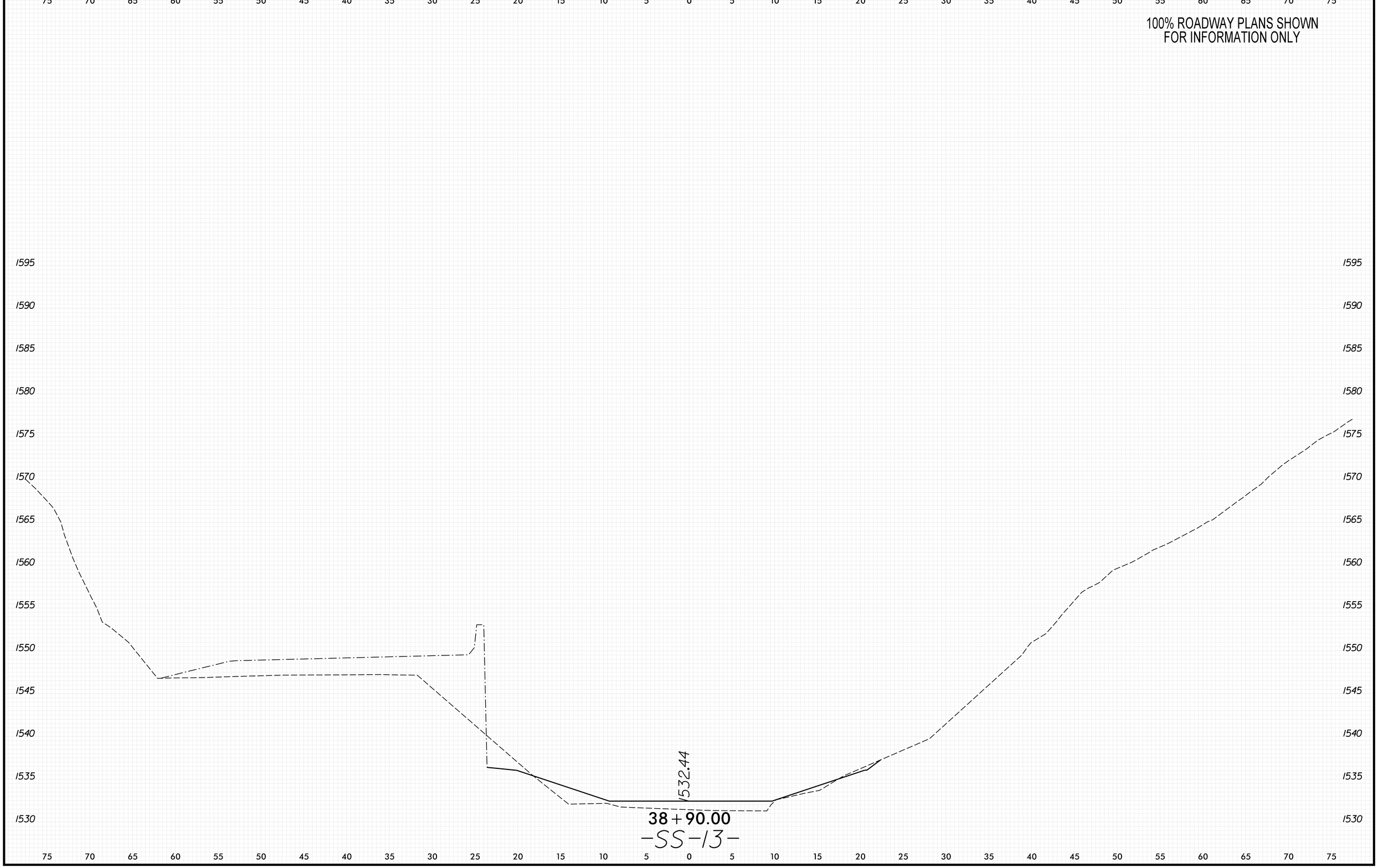


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:40:25 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-517

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

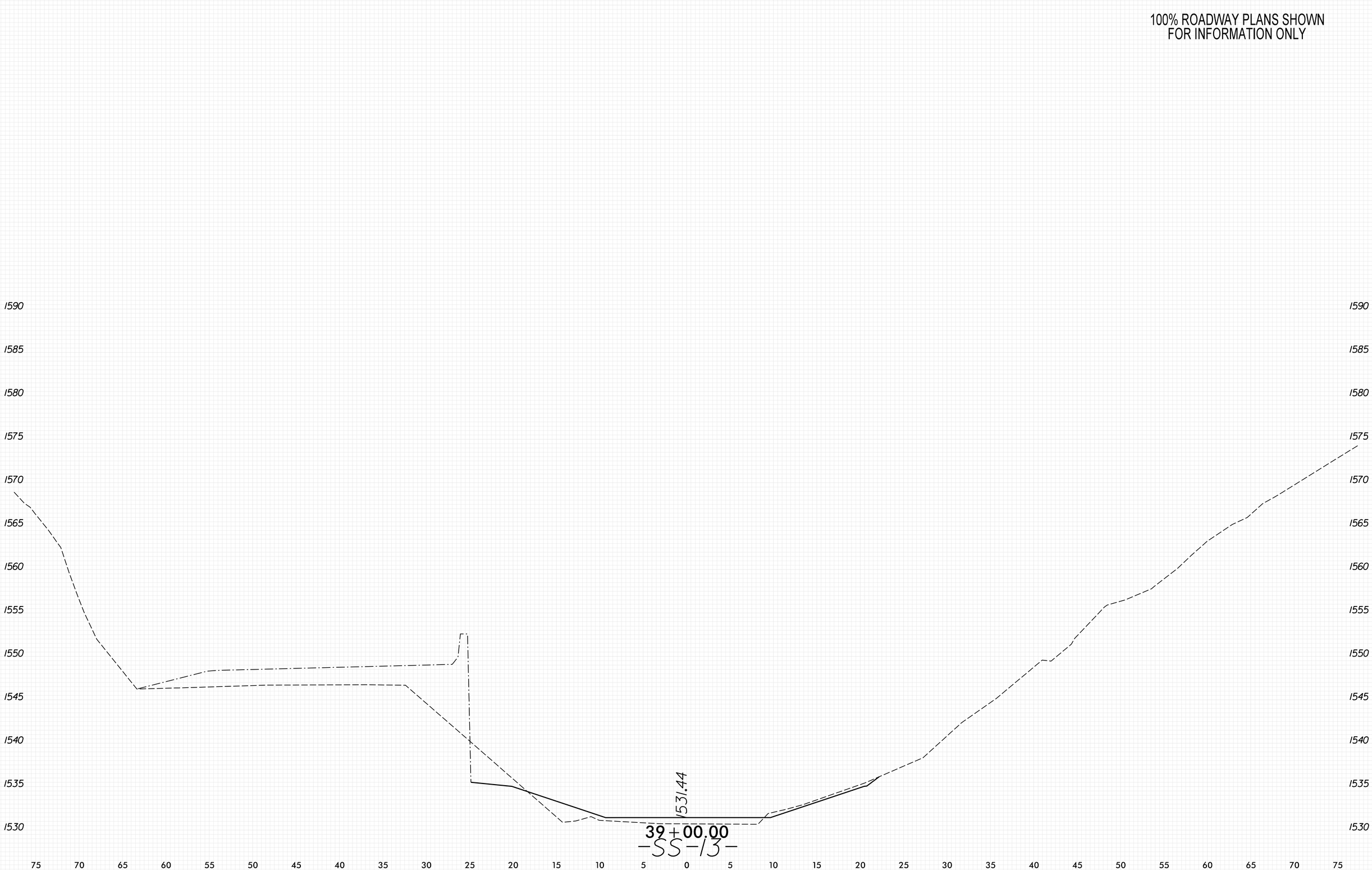


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:40:32 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-518

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

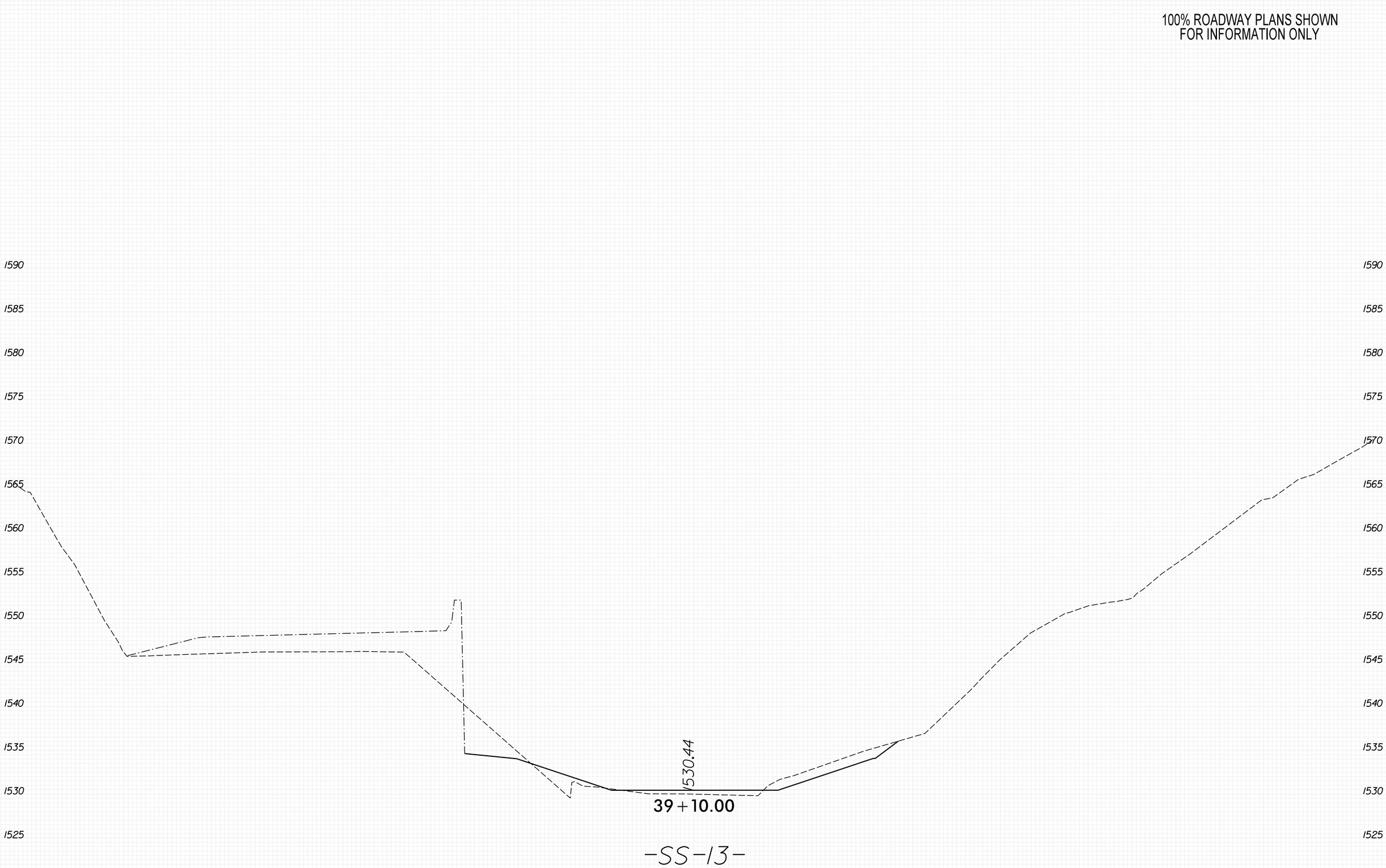


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:40:38 AM
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
DATE: 5/29/2026
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-519

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

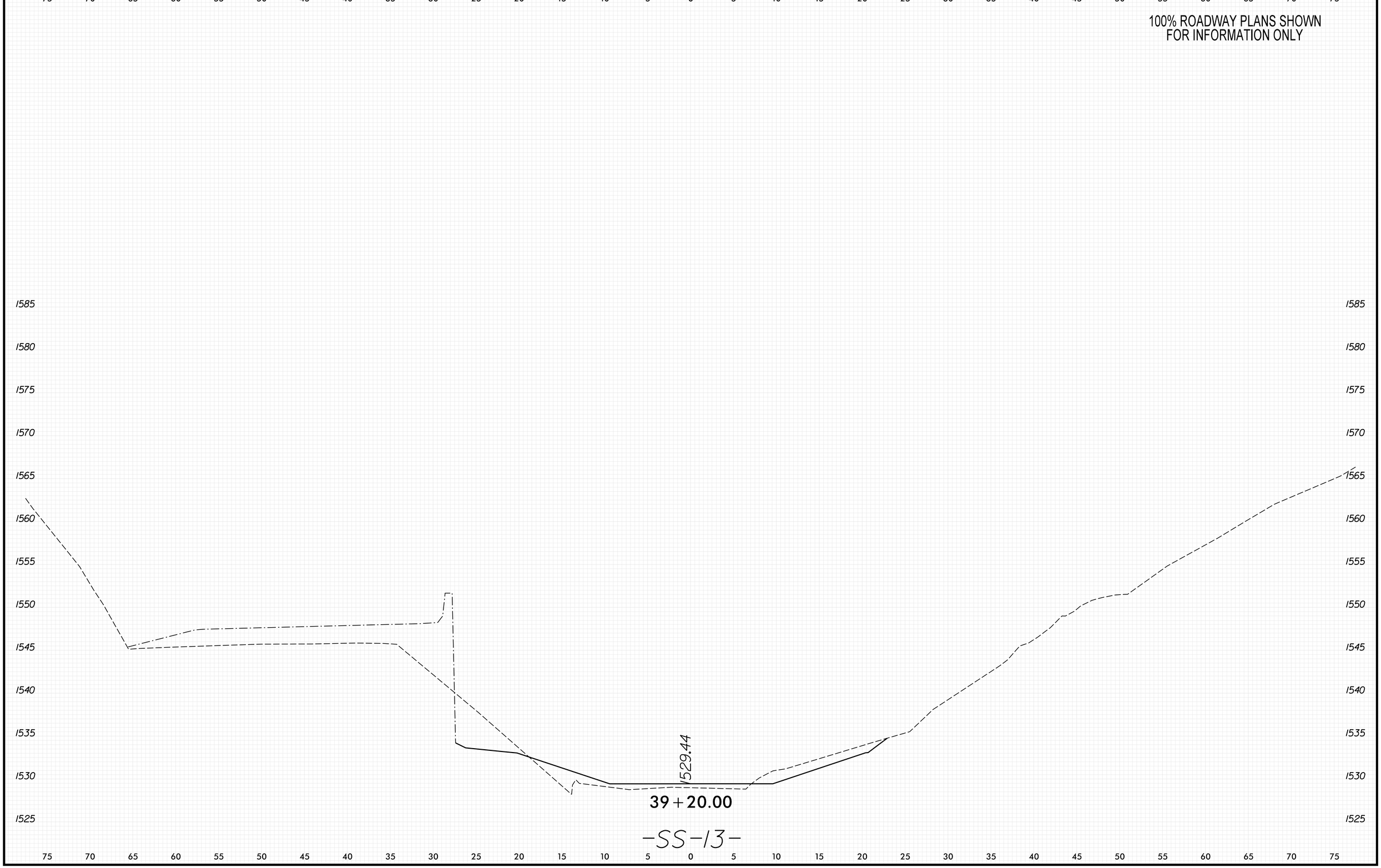


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:40:44 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-520

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

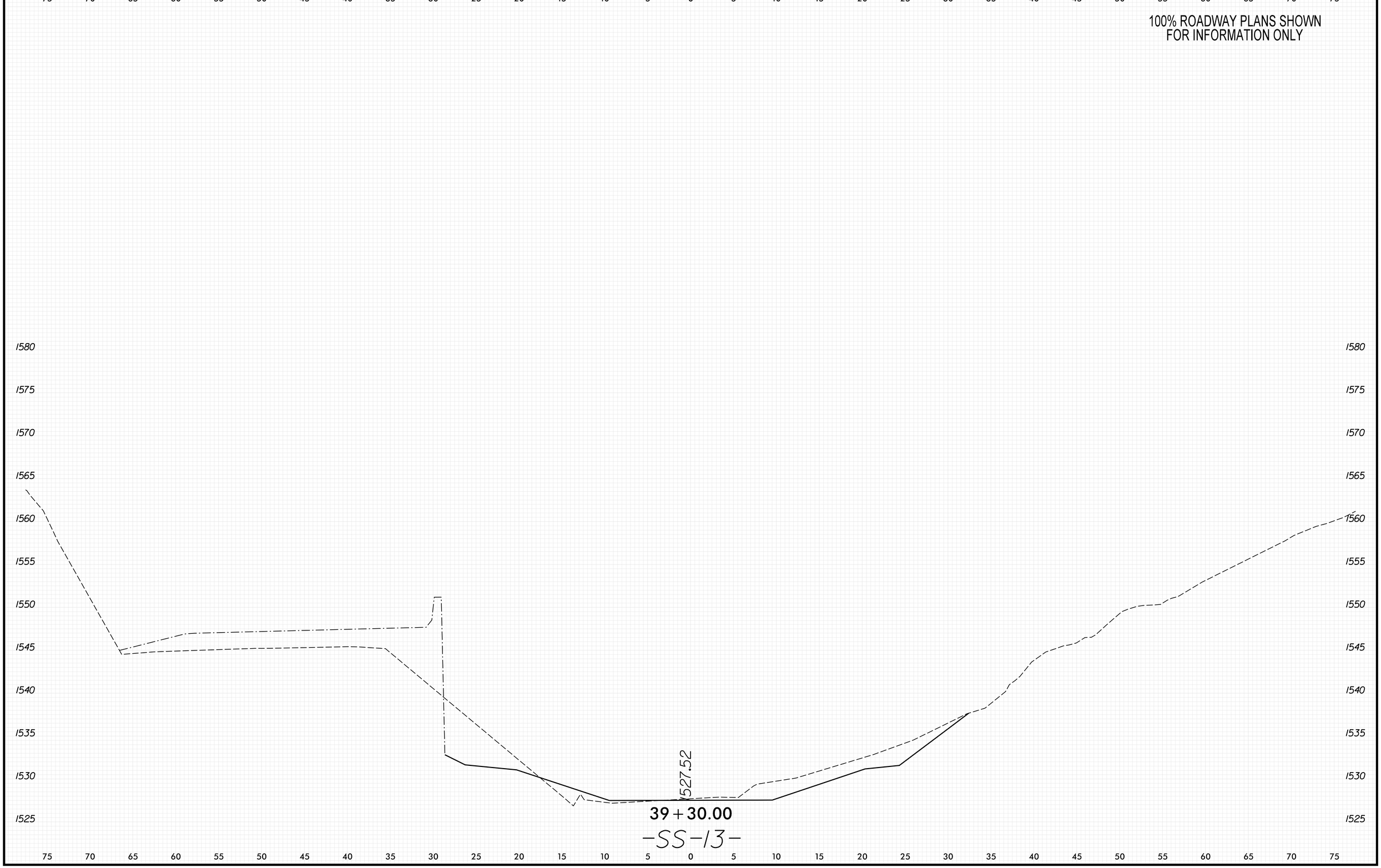


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:40:50 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-521

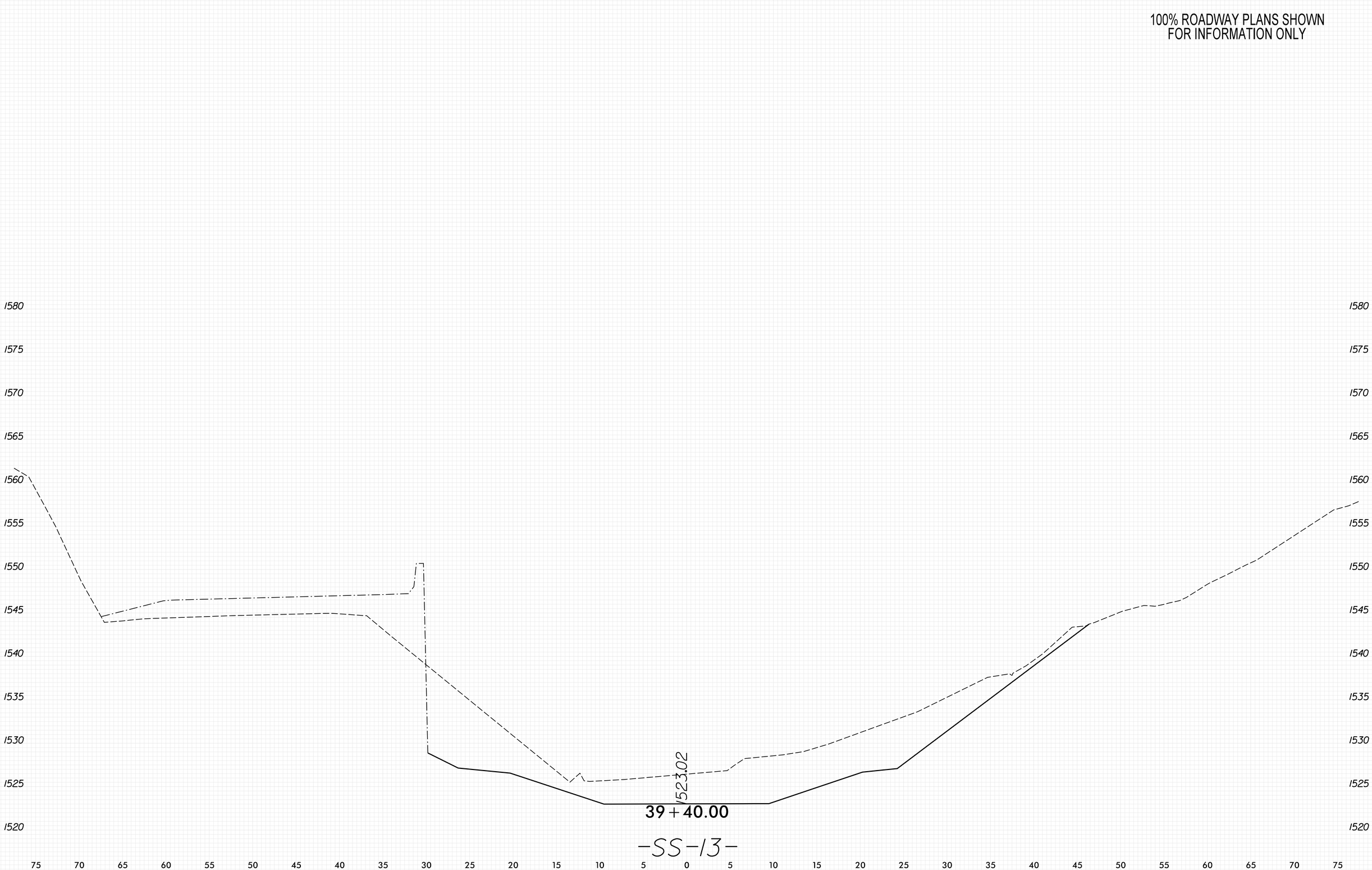
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:40:57 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-522

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

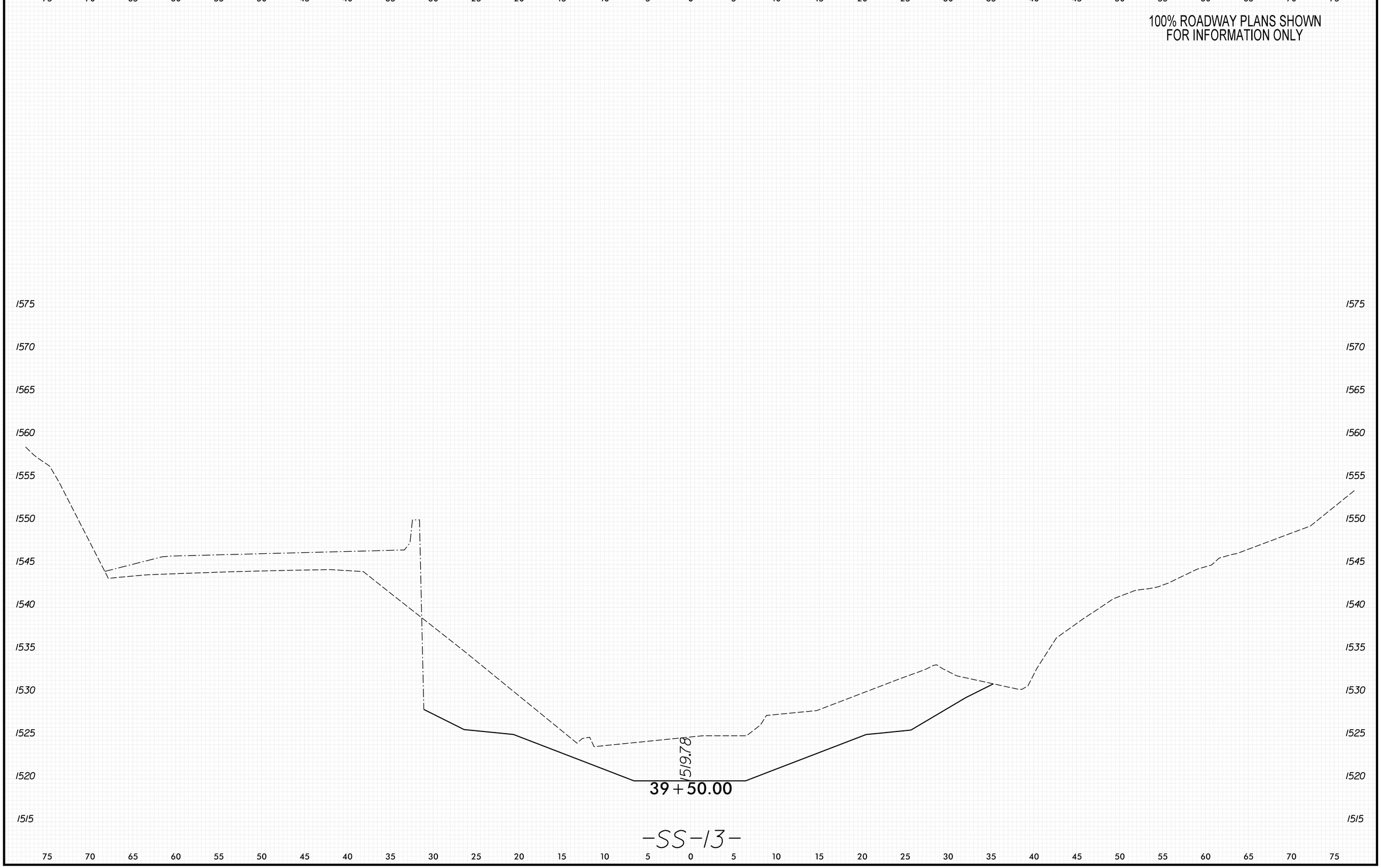


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:03 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-523

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

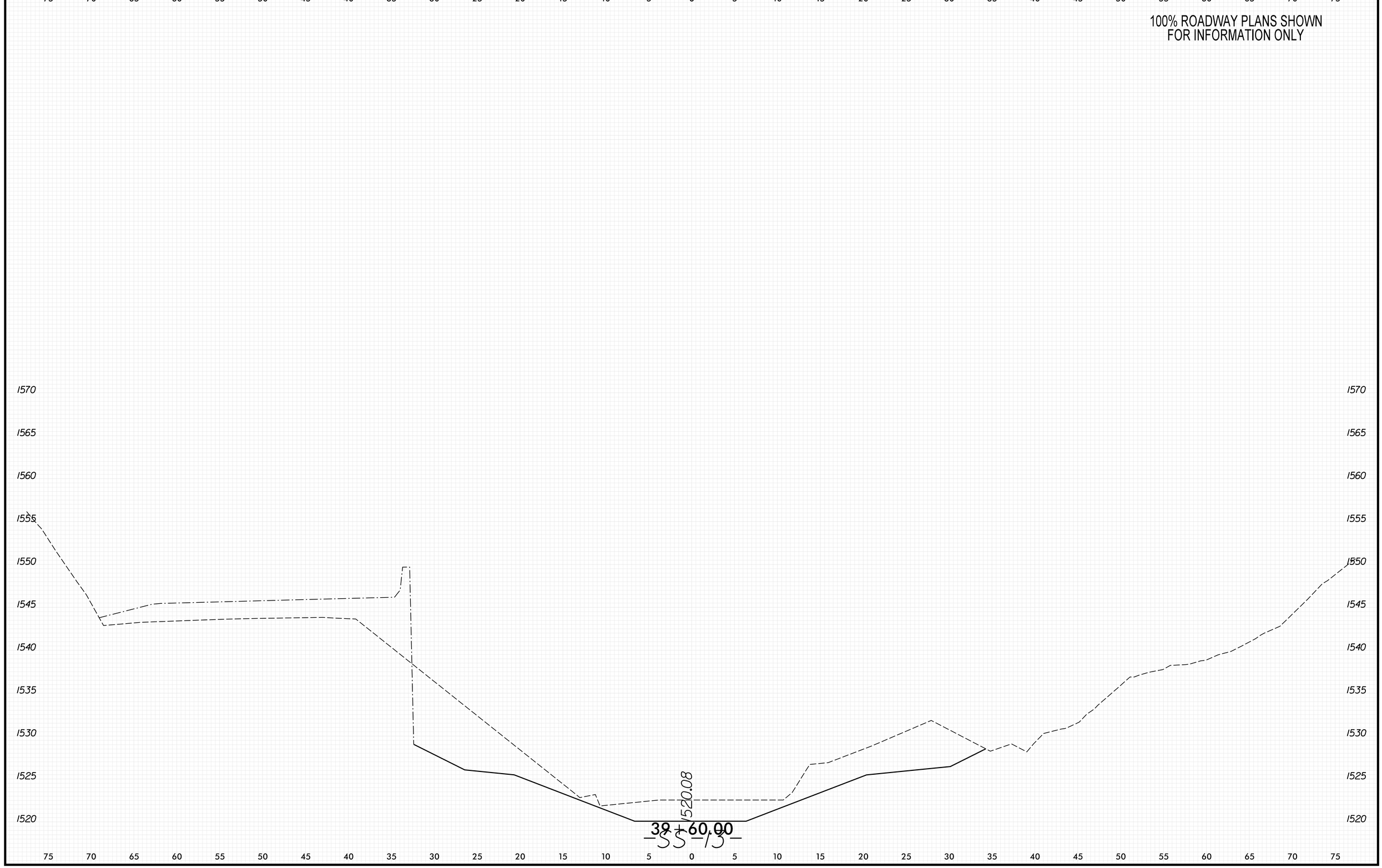


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:09 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-524

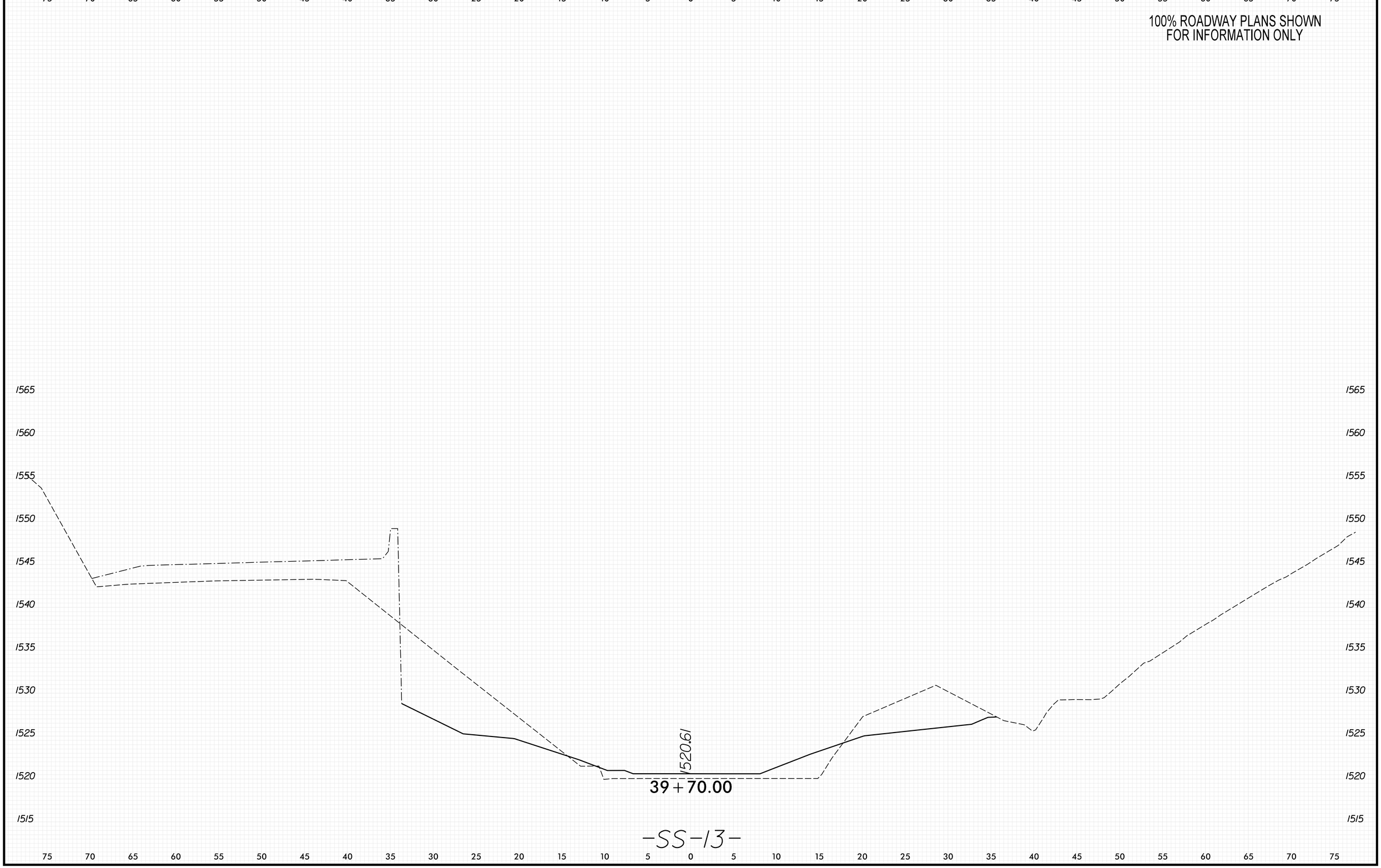
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:15 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-525

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

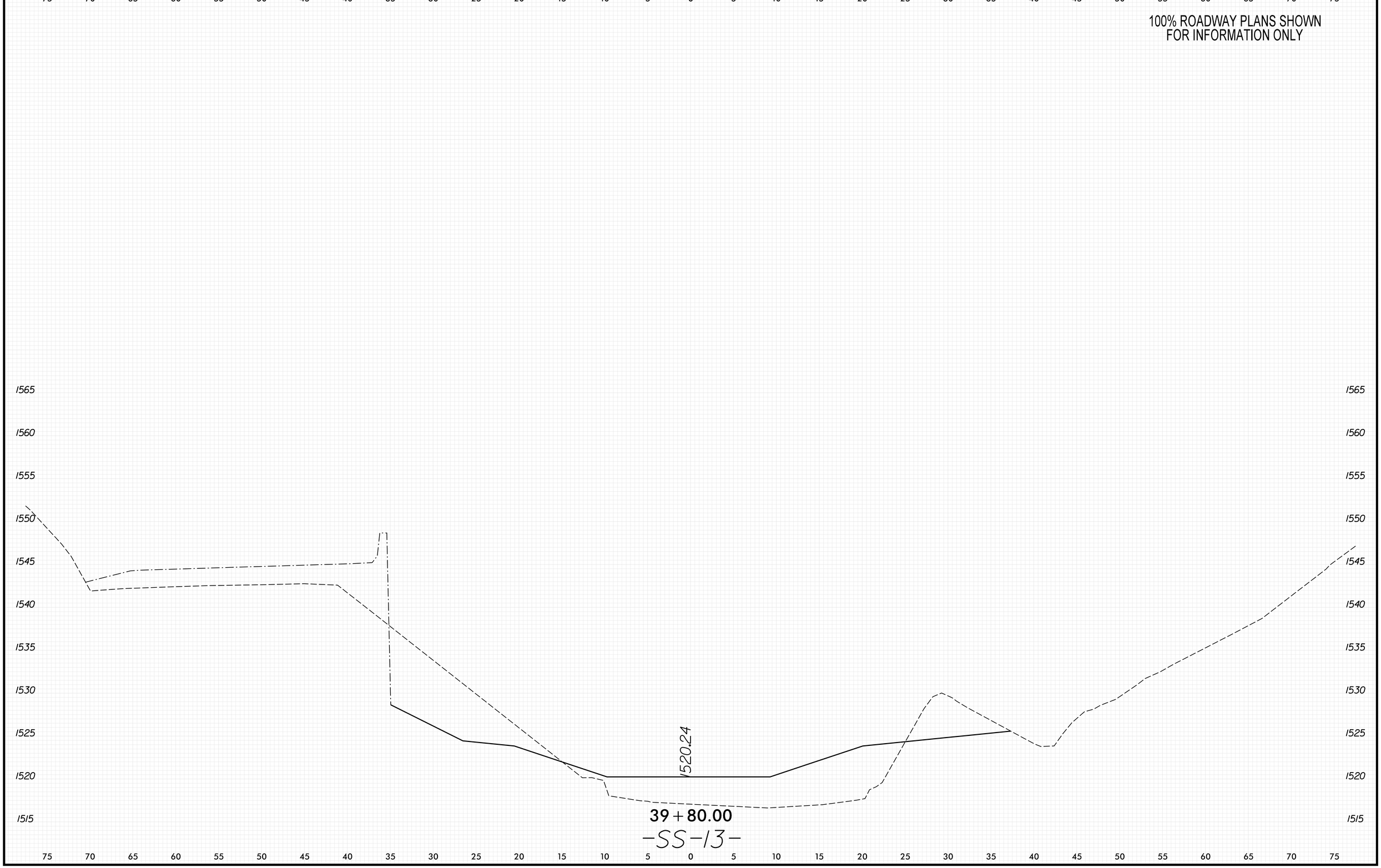


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:21 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-526

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

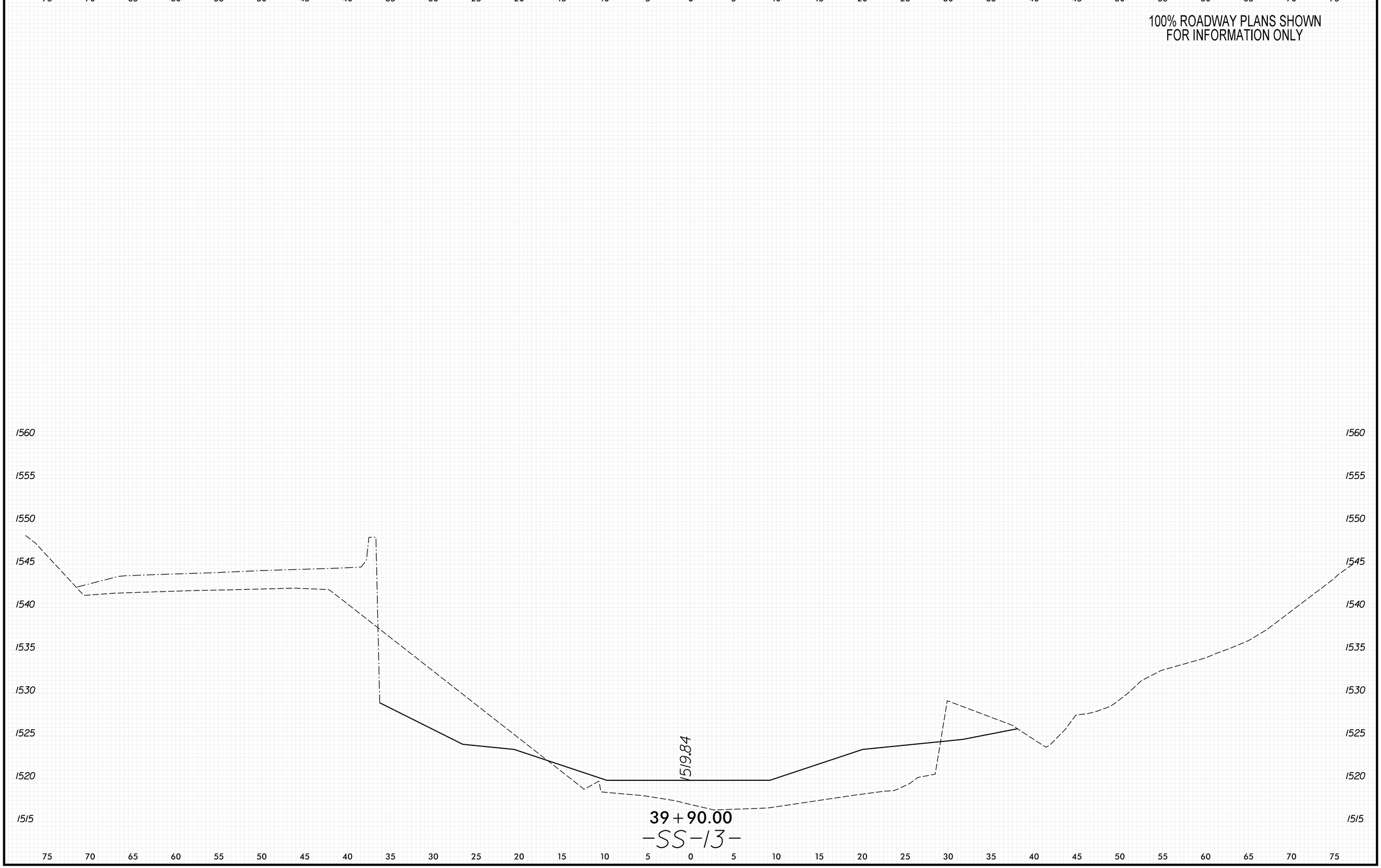


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:27 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-527

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

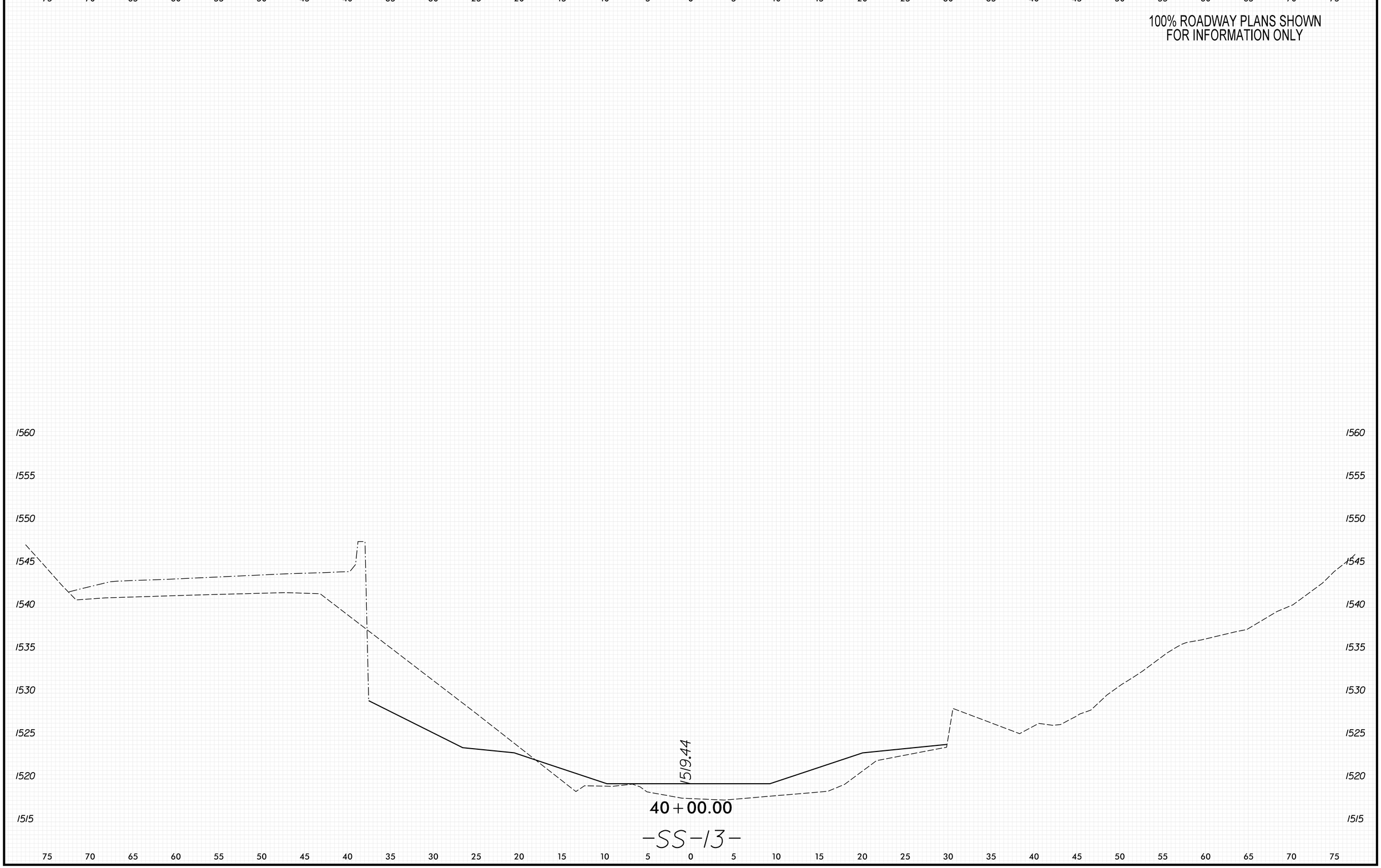


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:34 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-528

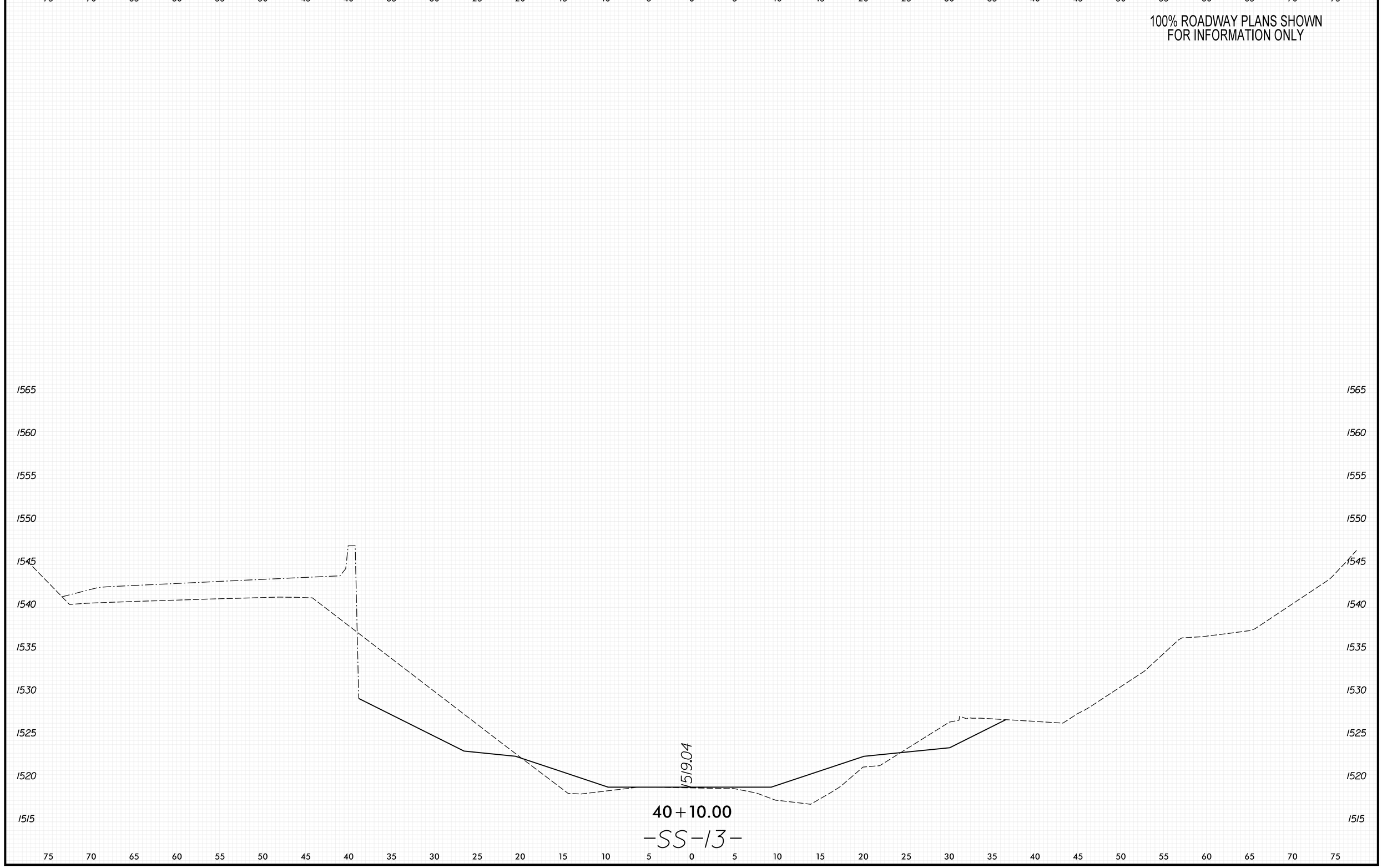
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:40 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-529

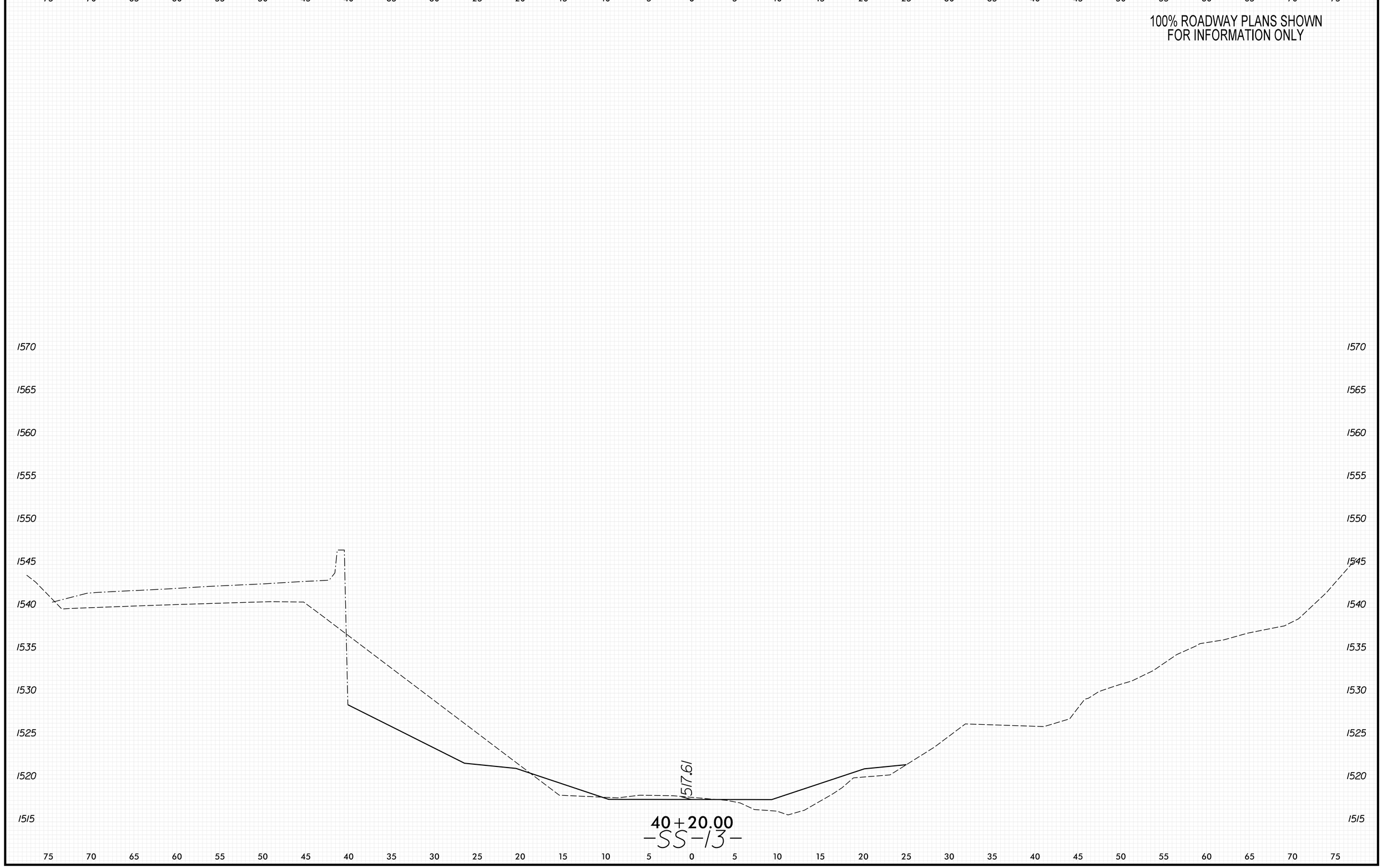
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:46 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-530

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

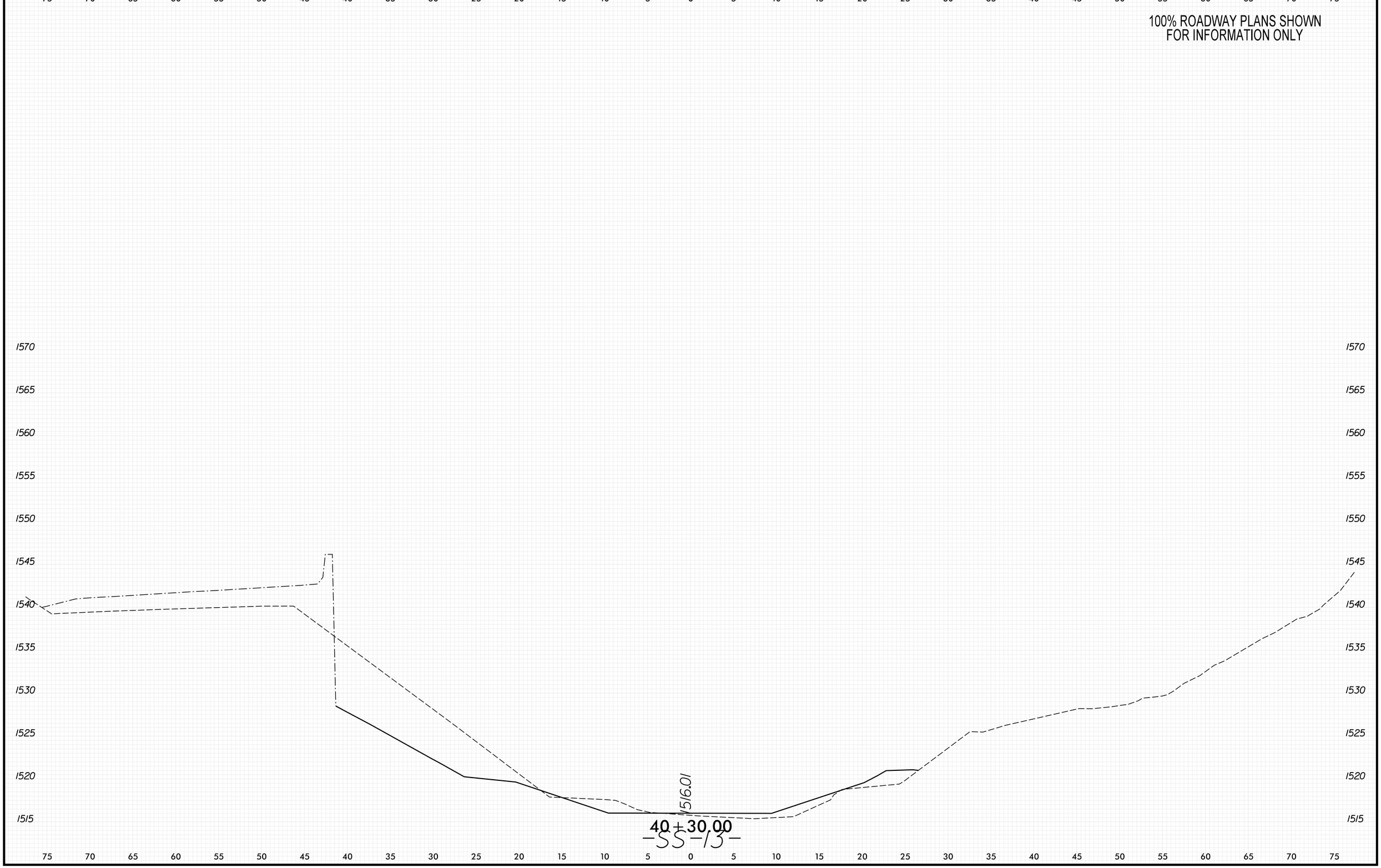


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:53 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-531

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

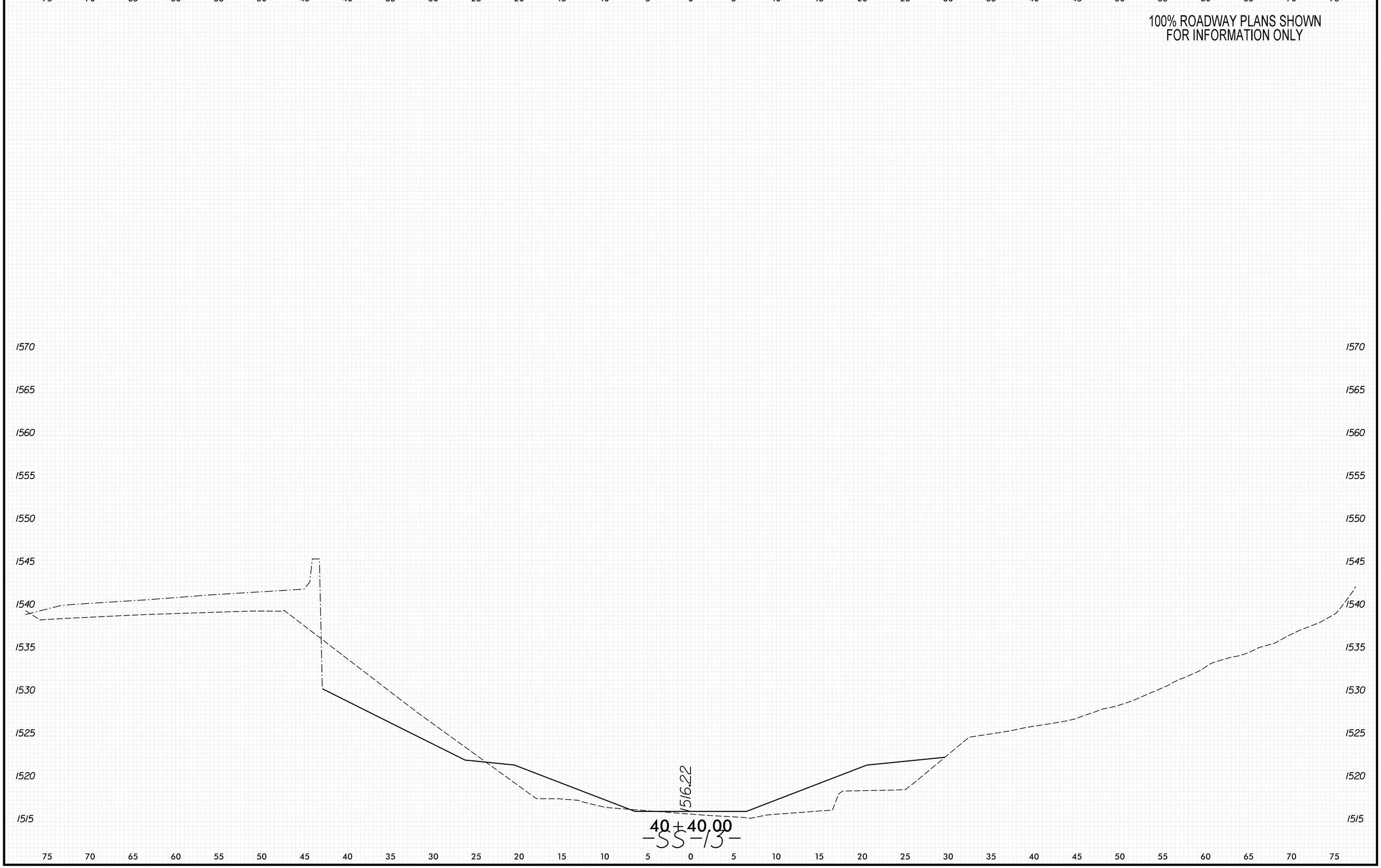


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:41:59 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-532

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

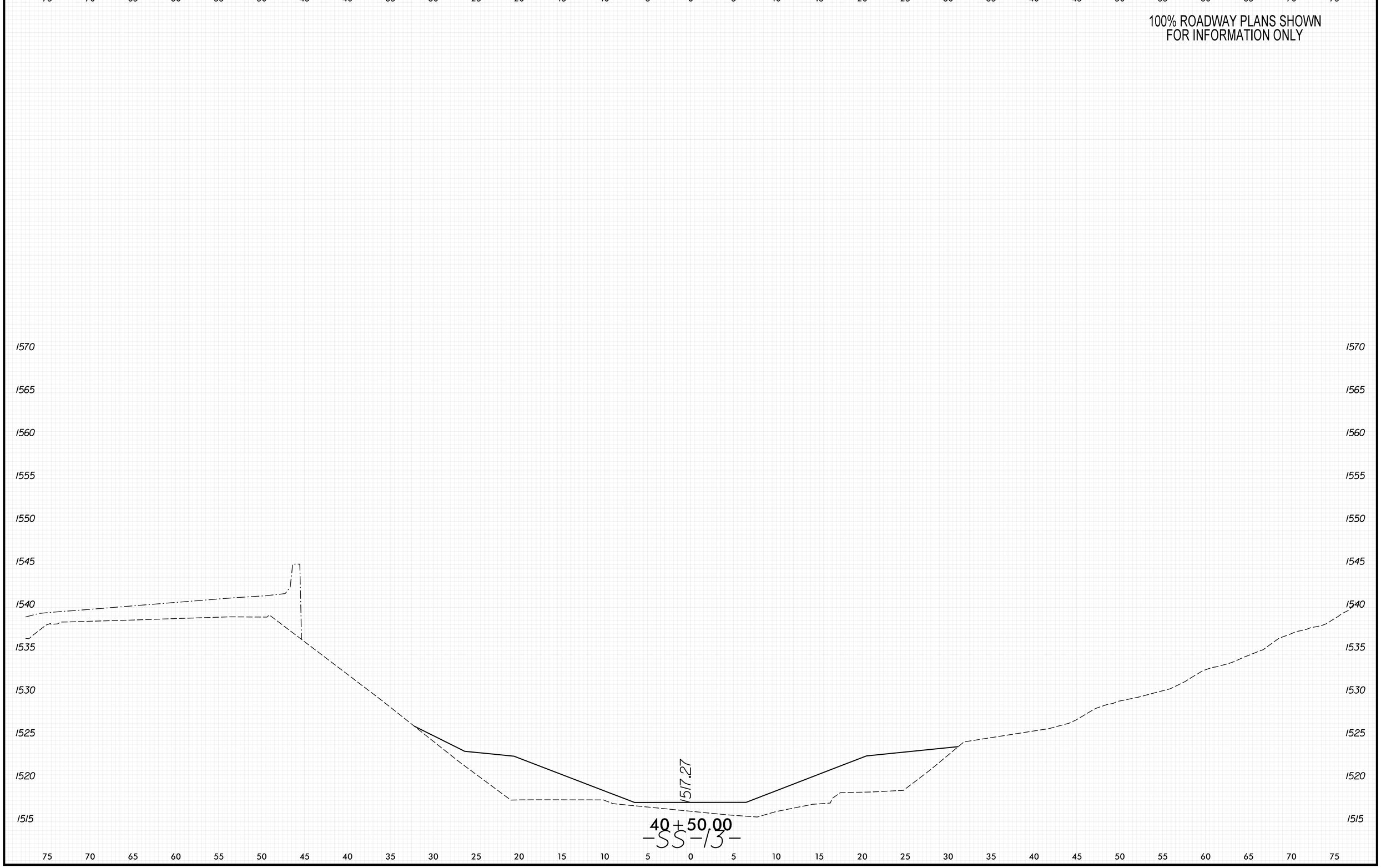


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:05 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-533

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

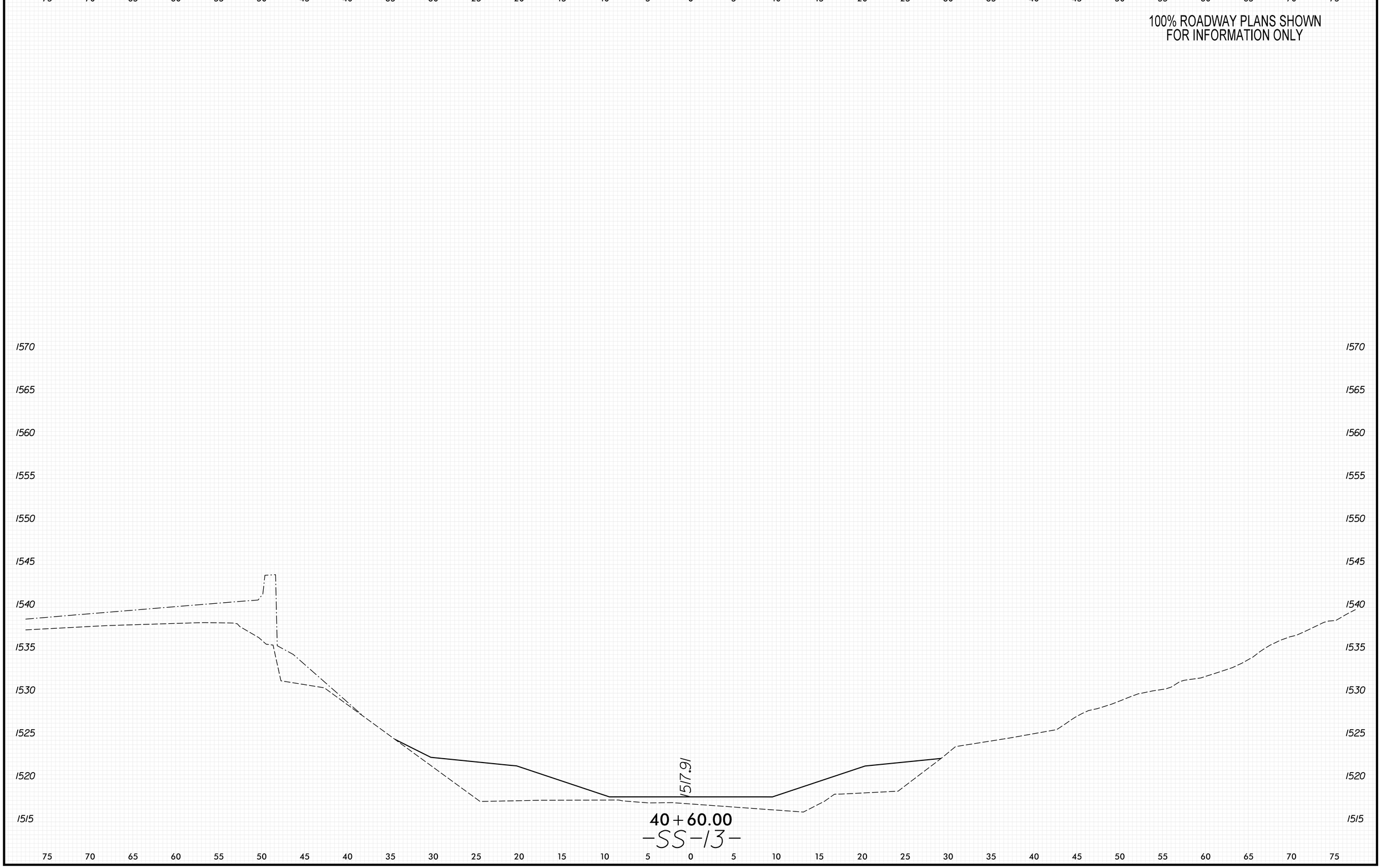


PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:11 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-534

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

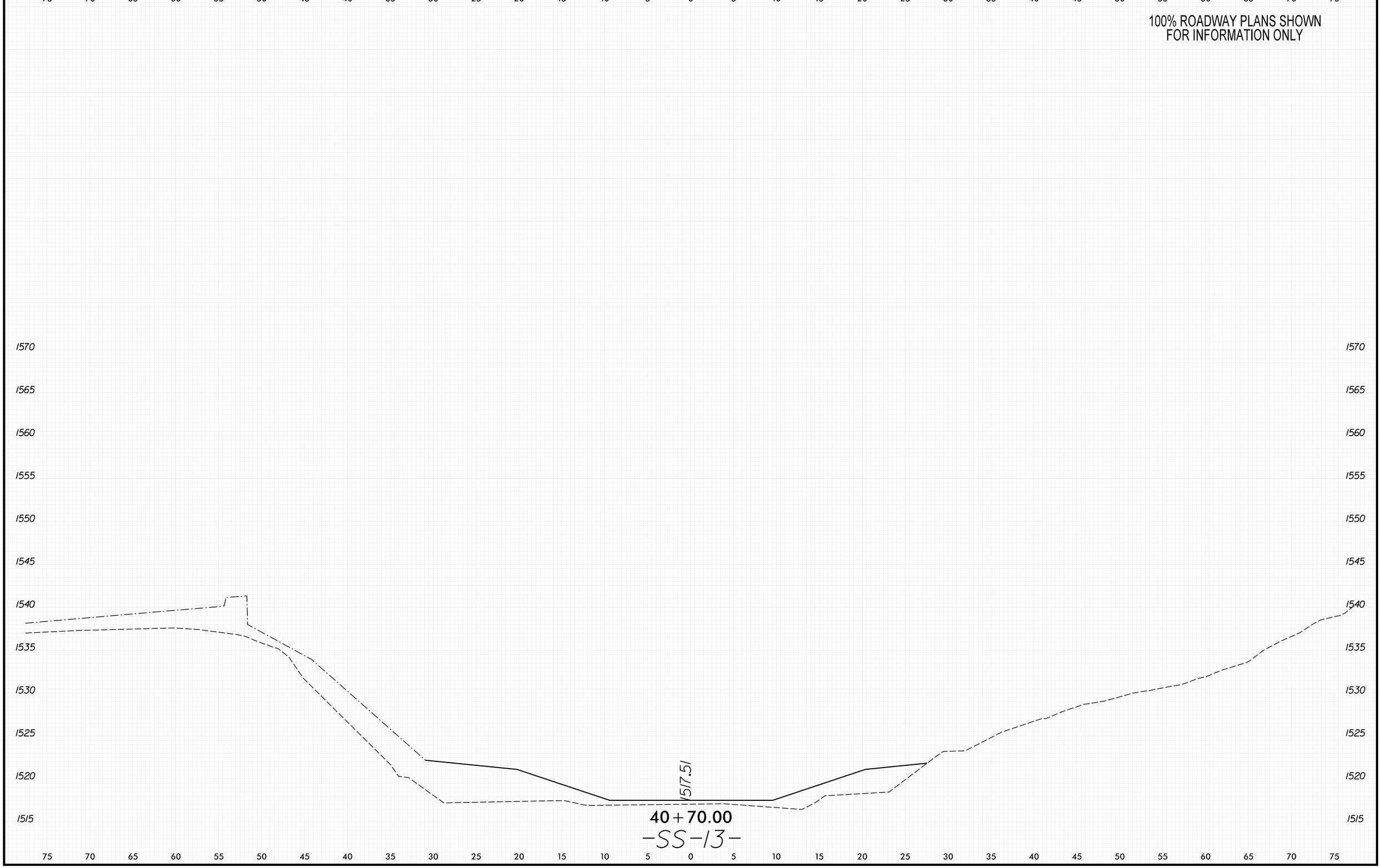


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:17 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-535

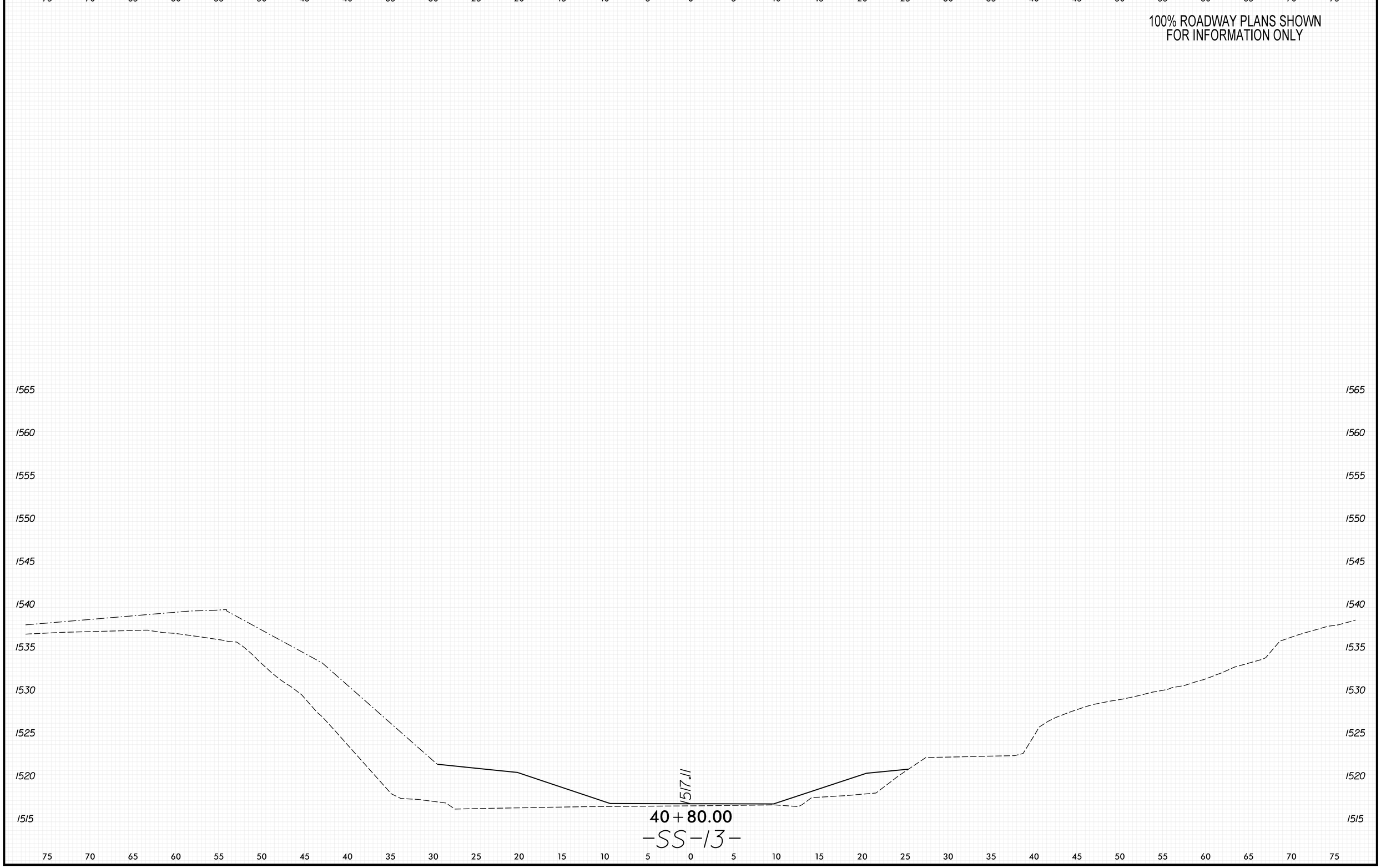
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:24 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-536

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

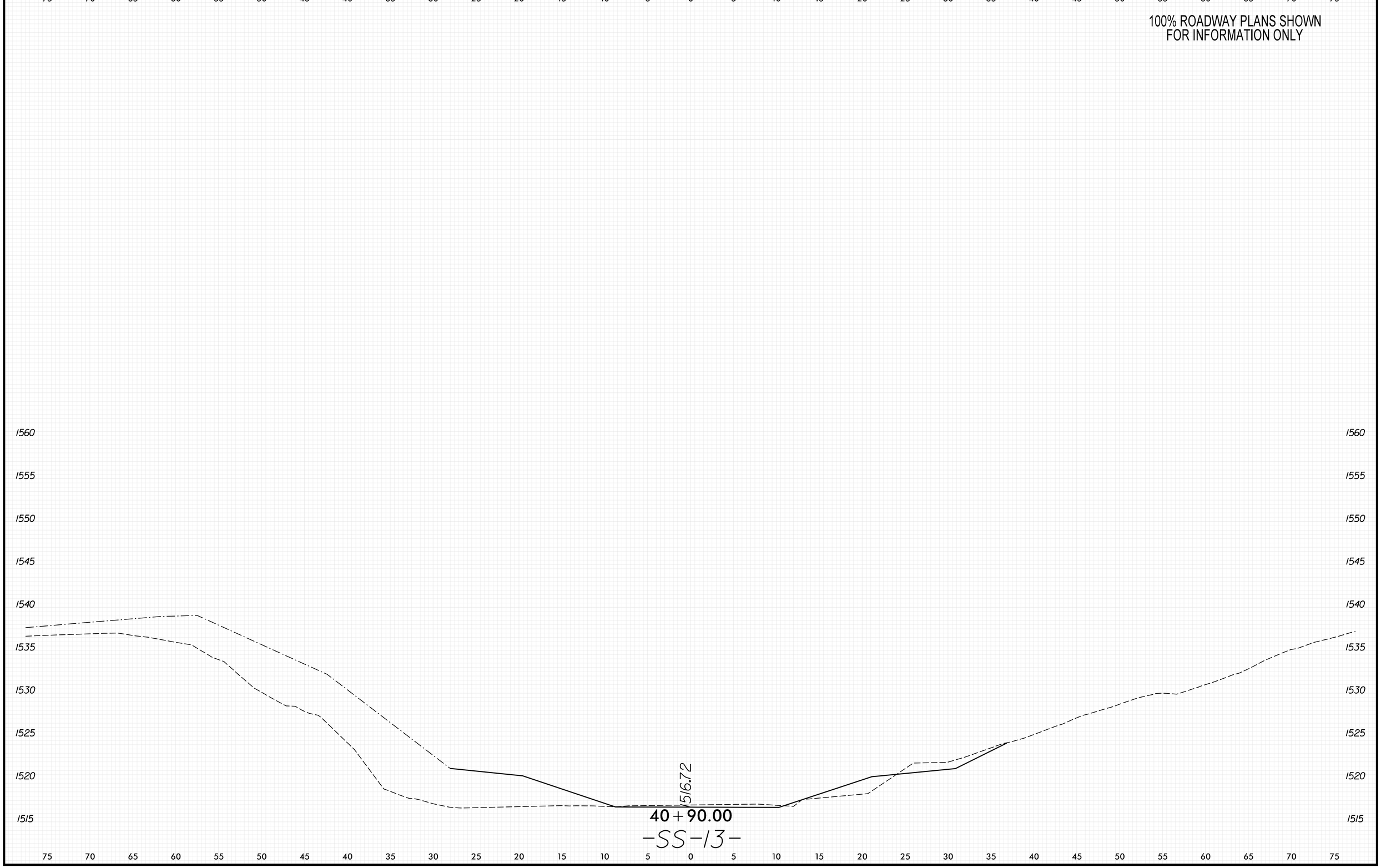


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:30 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-537

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

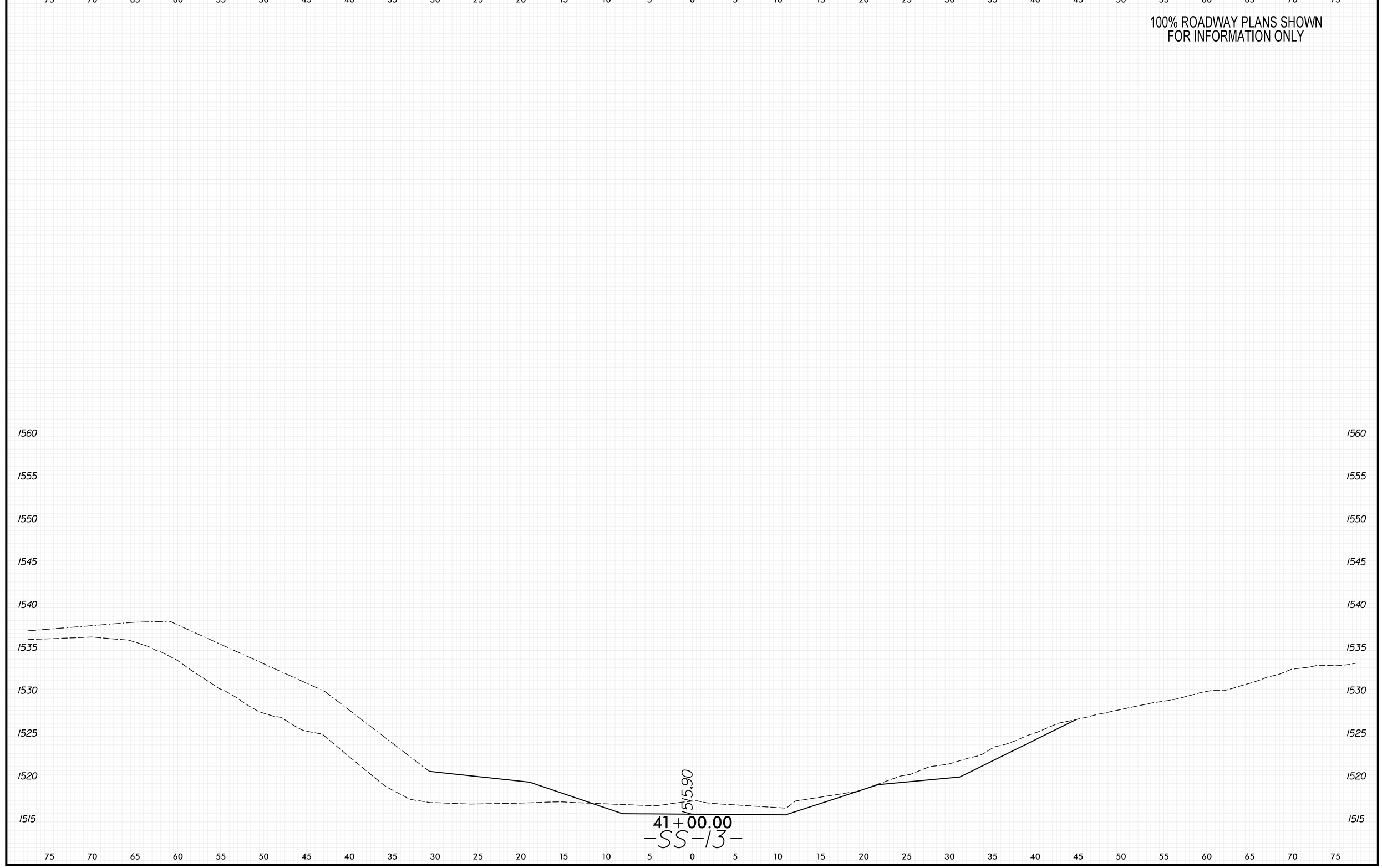


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:36 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-538

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

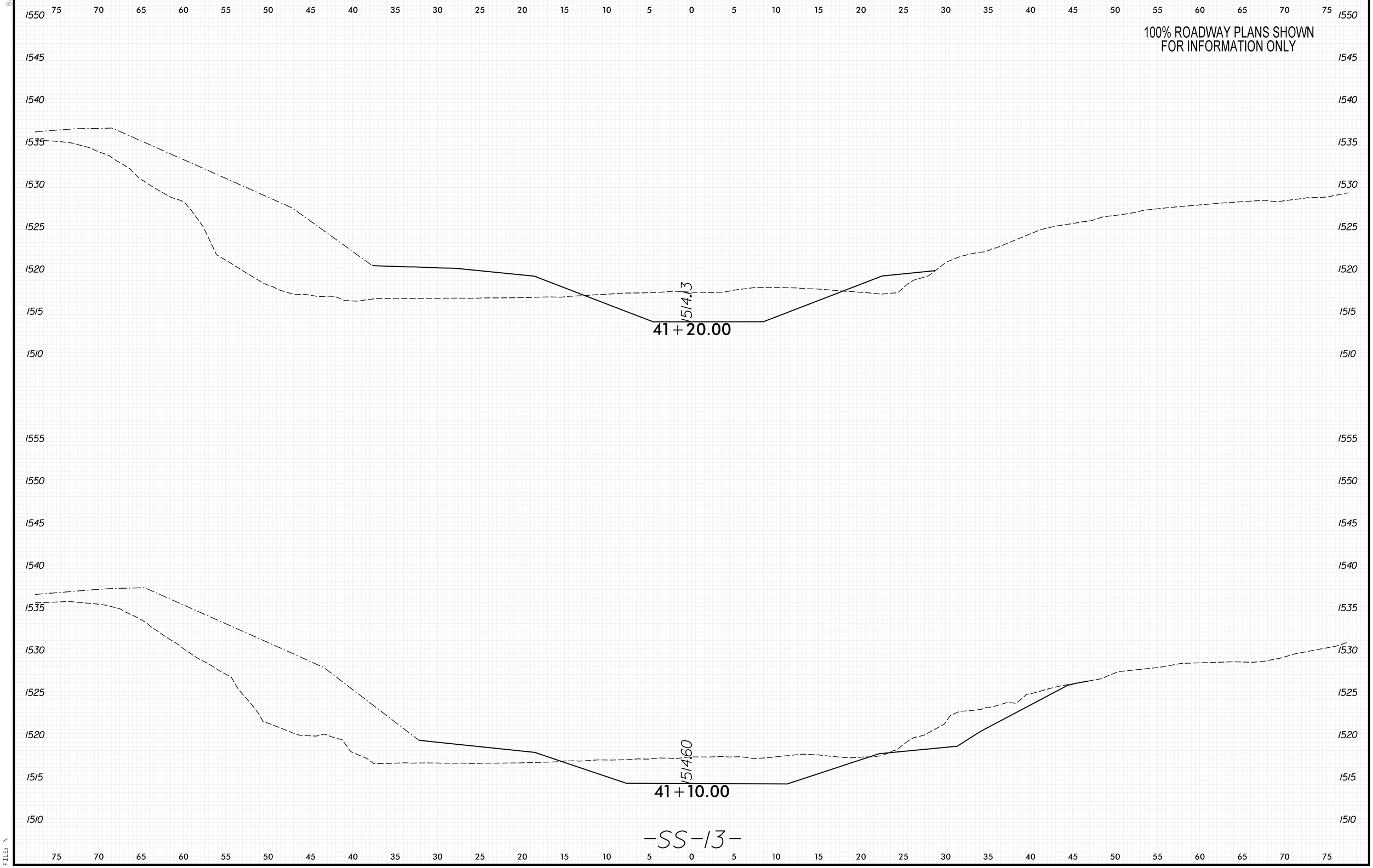


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:41 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-539

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

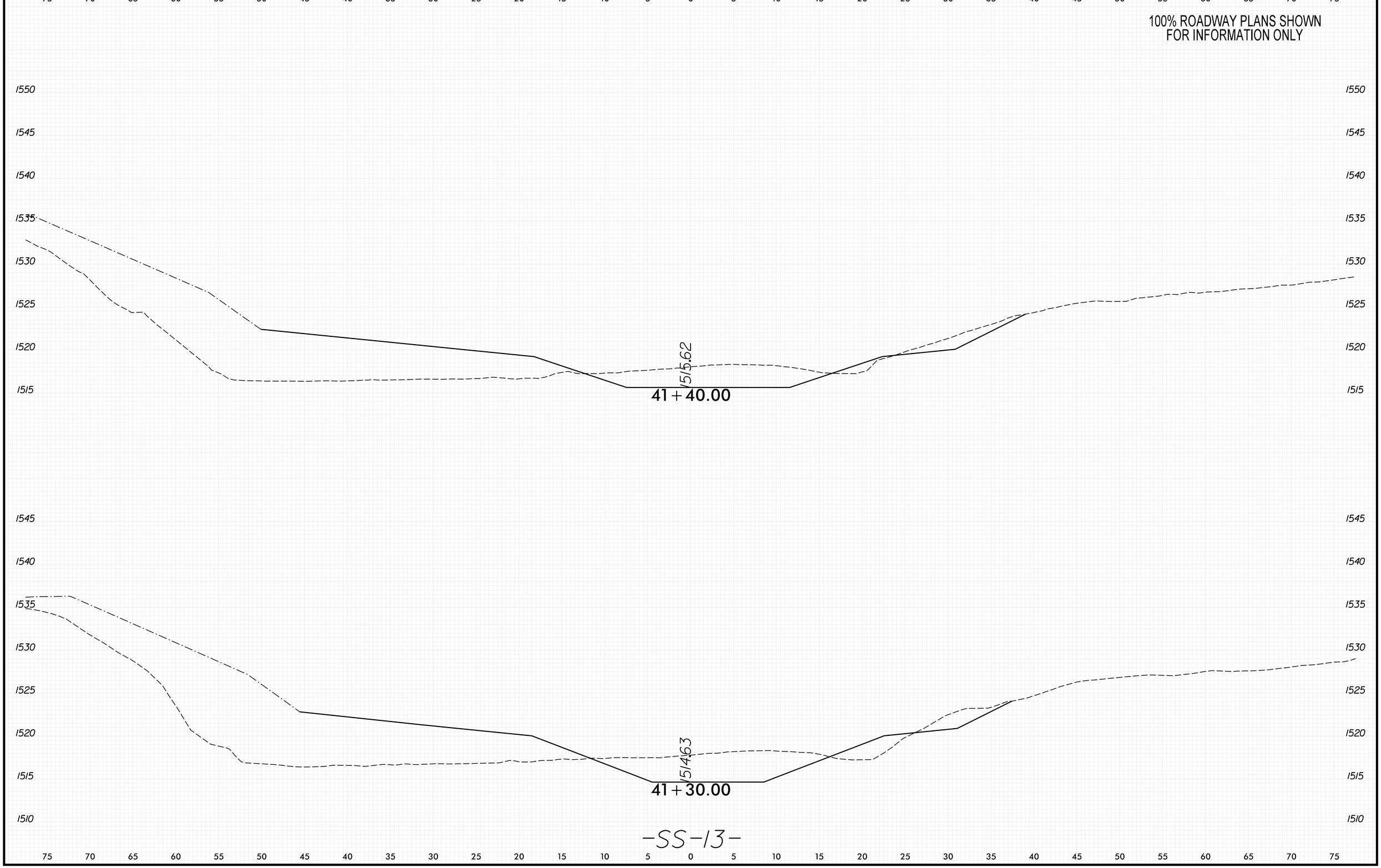


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:47 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-540

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

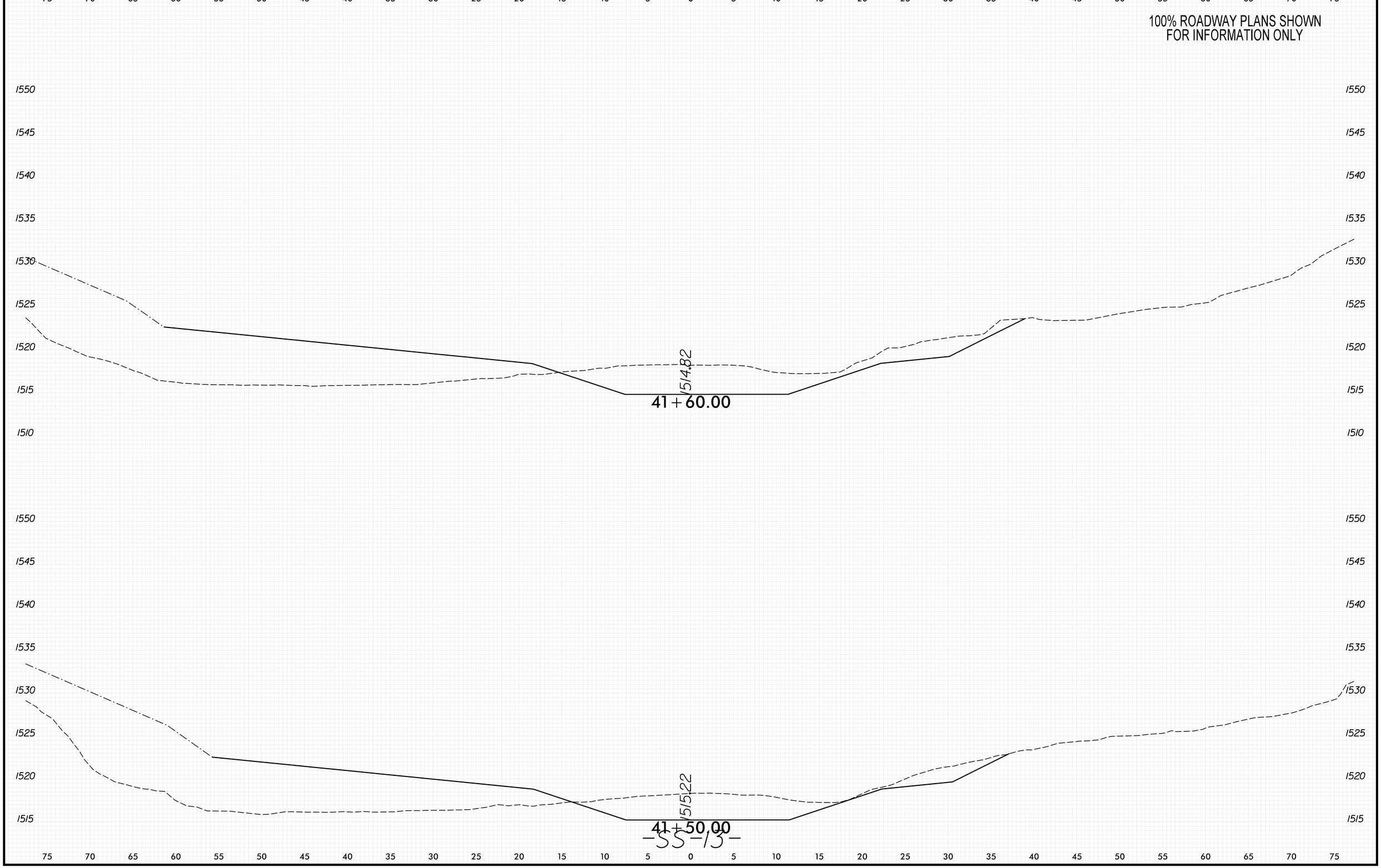


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:42:53 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-541

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

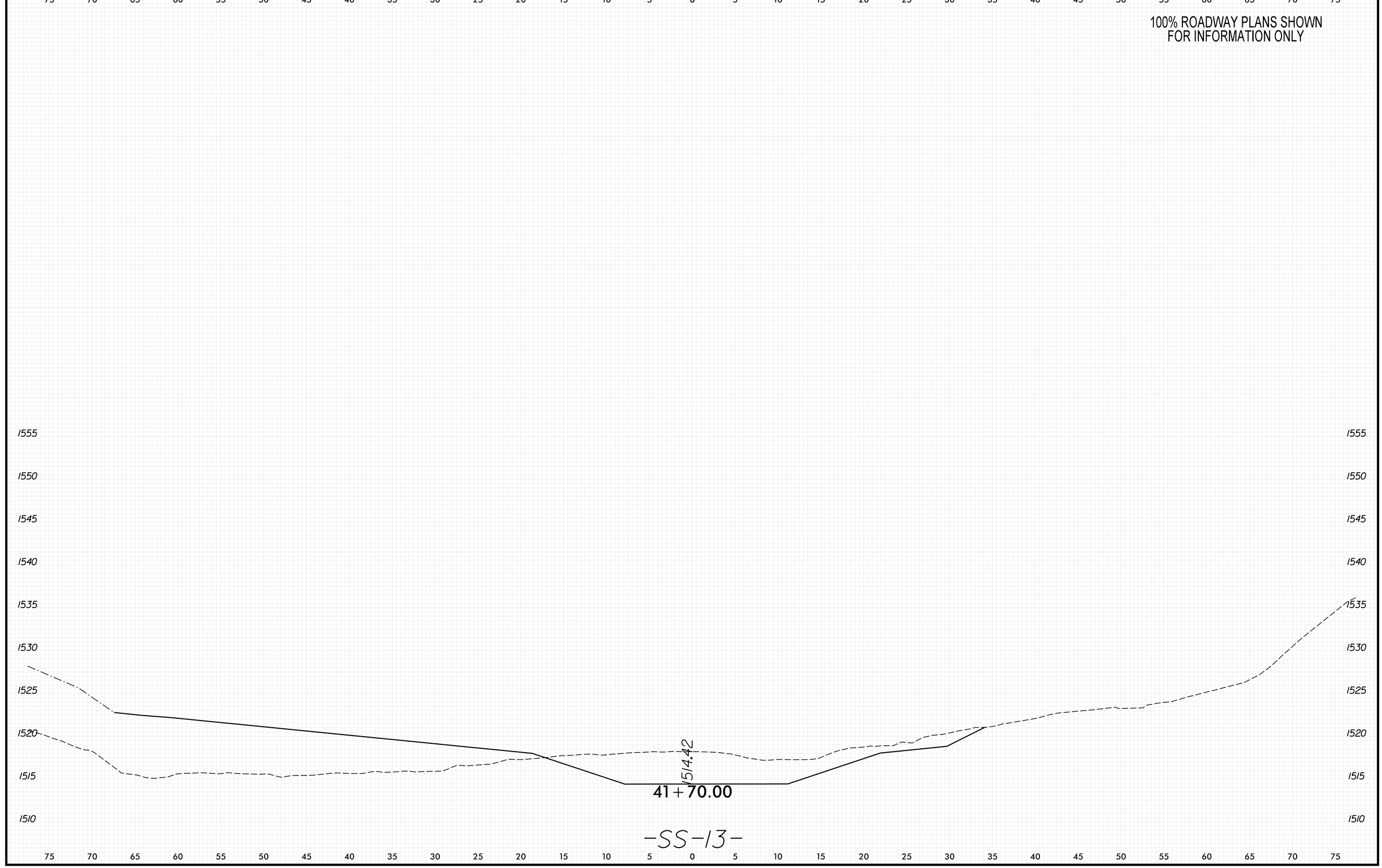


8/23/99

PENTABLE: xpl.eh_v8.tbl
TIME: 9:42:59 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-542

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

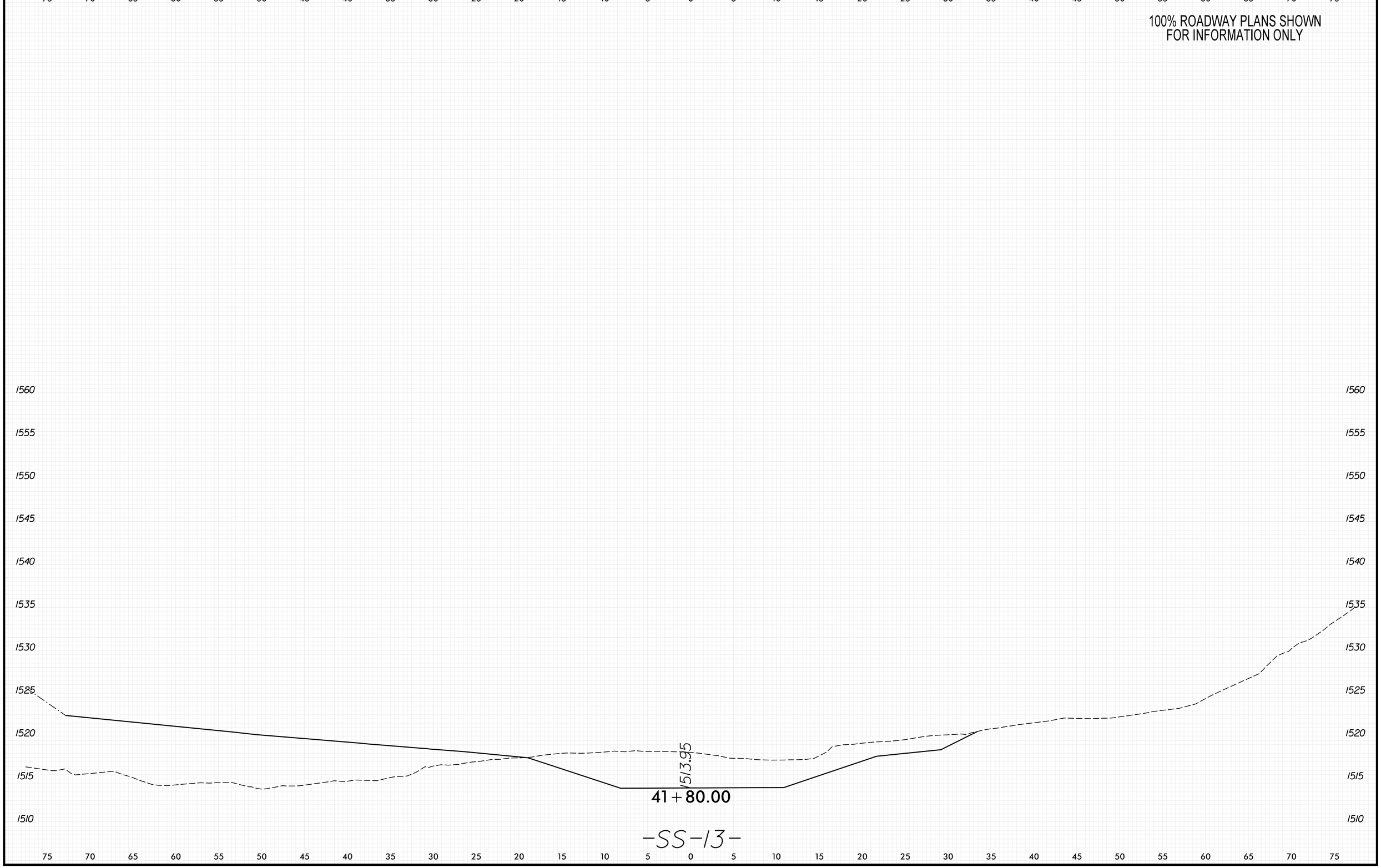


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:43:04 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-543

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

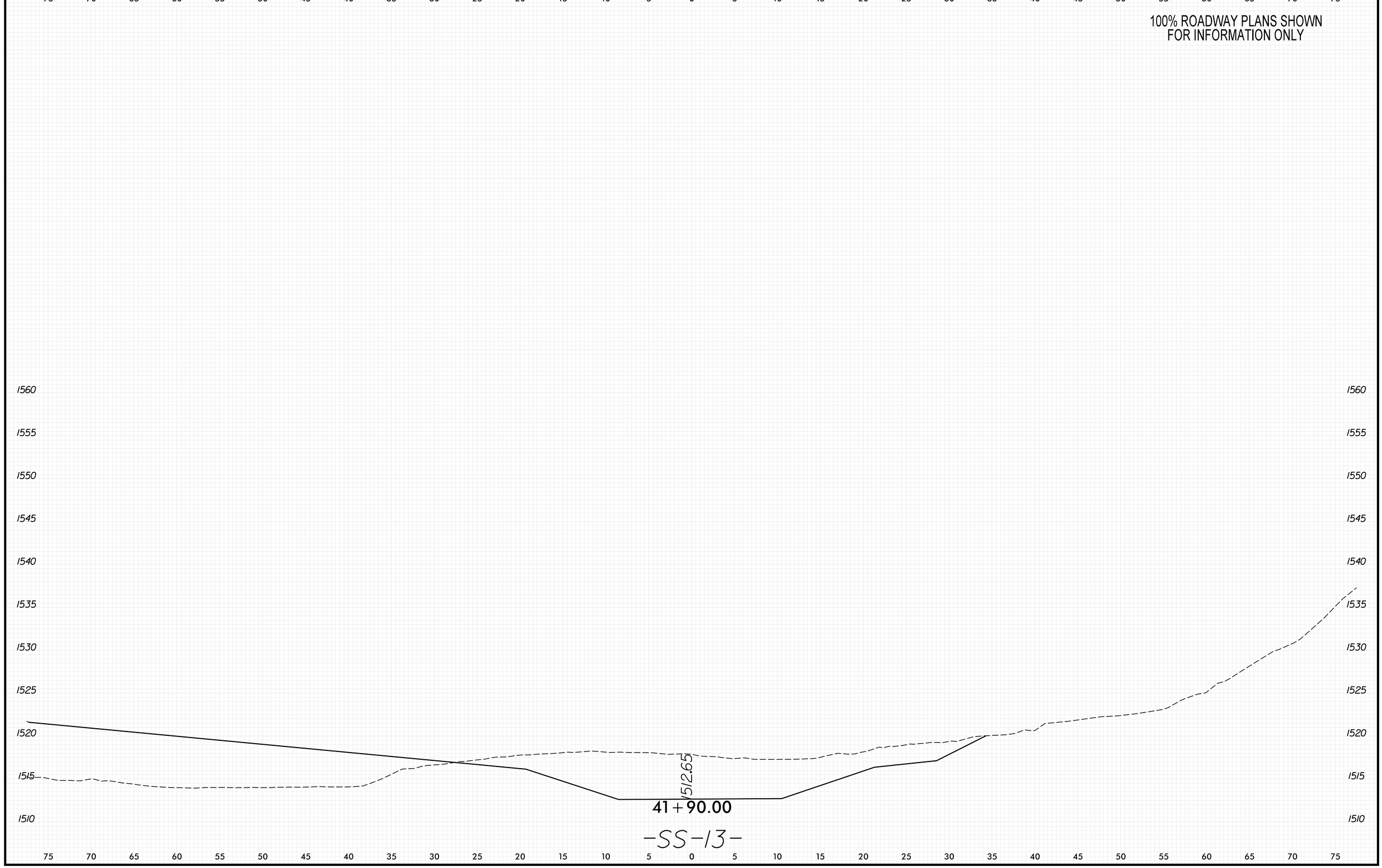


8/23/99

PENTABLE: xpl_eh_v8.tbl
TIME: 9:43:10 AM
DATE: 5/29/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-544

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

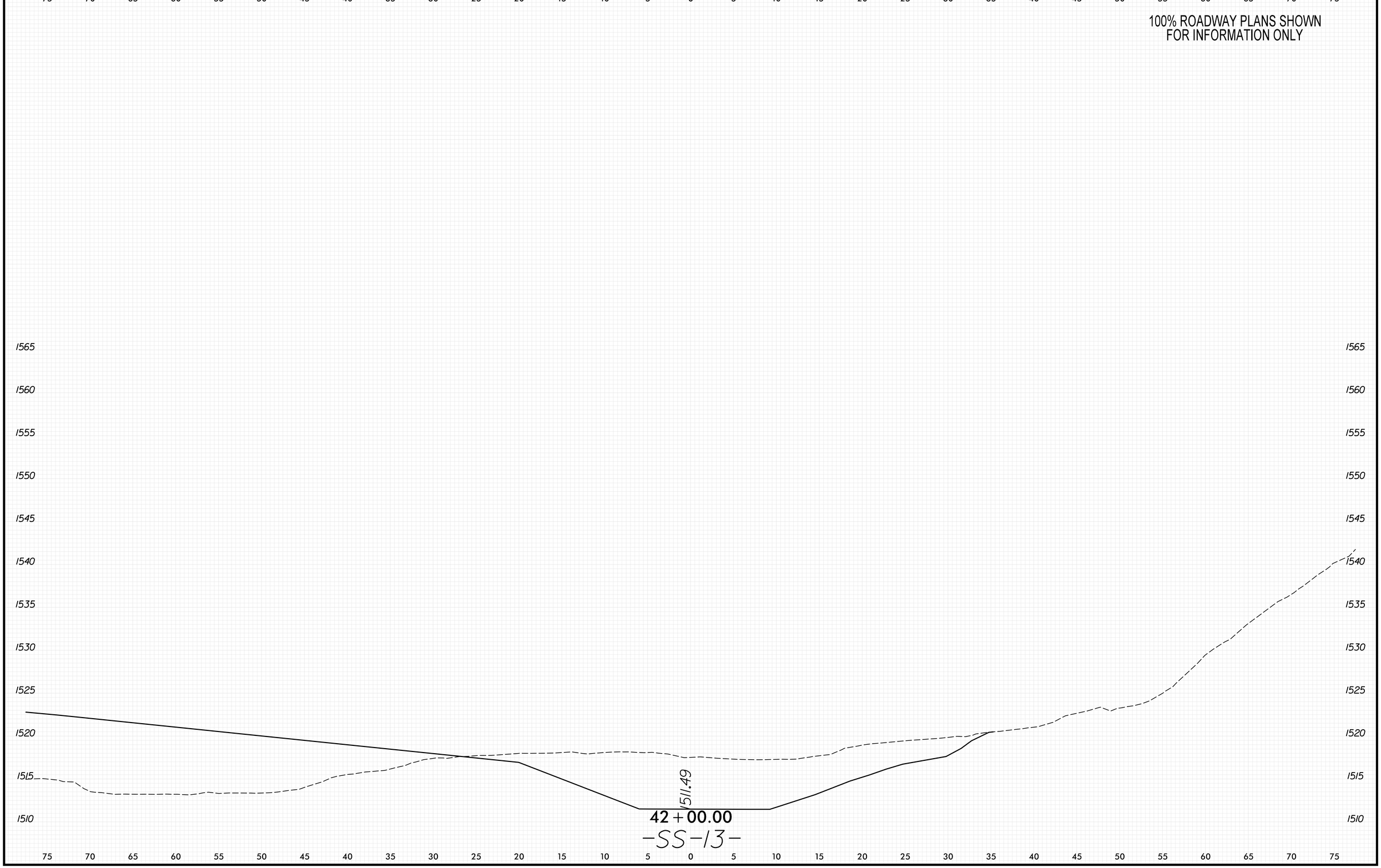


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/29/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:43:16 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-545

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



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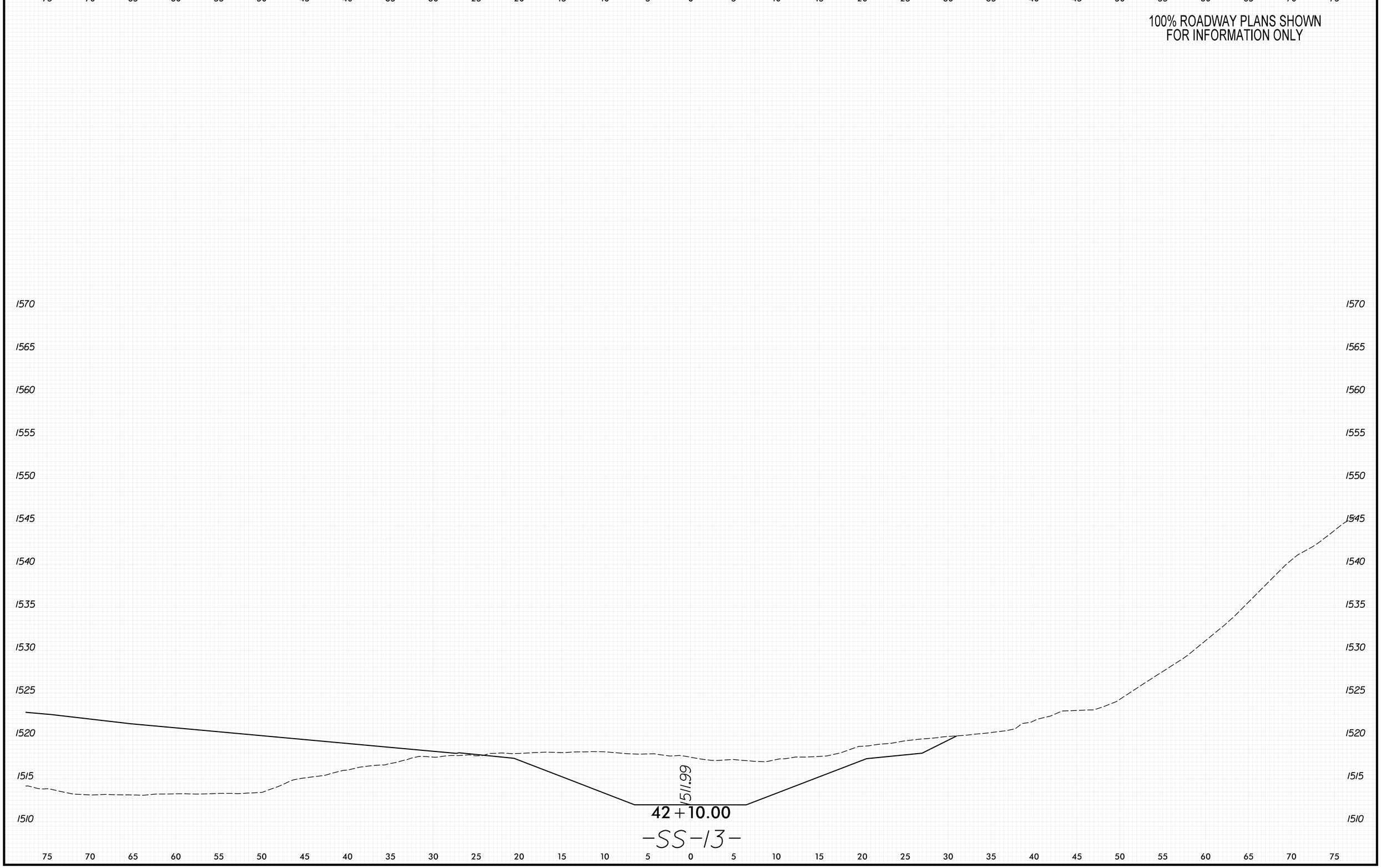

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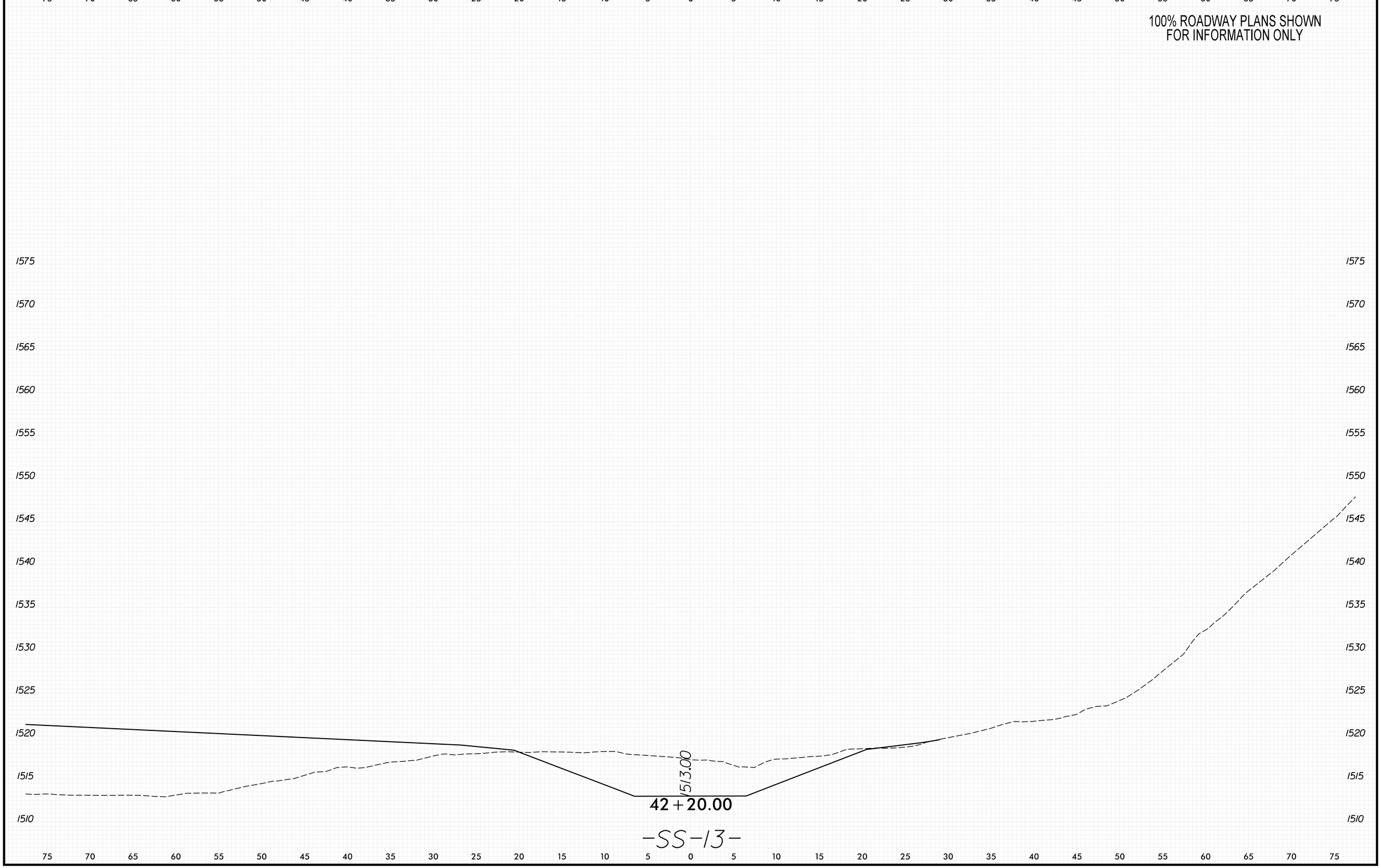

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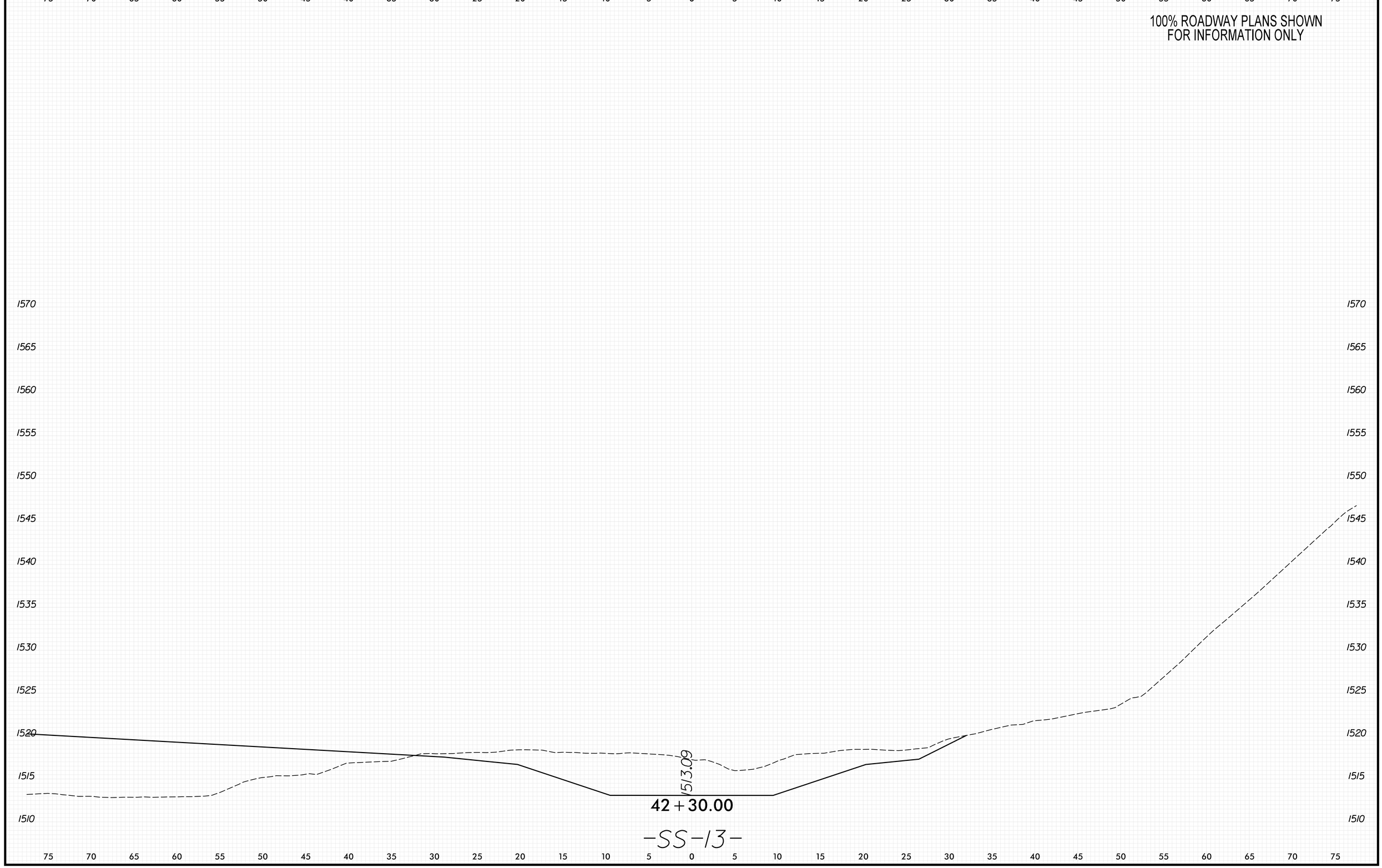

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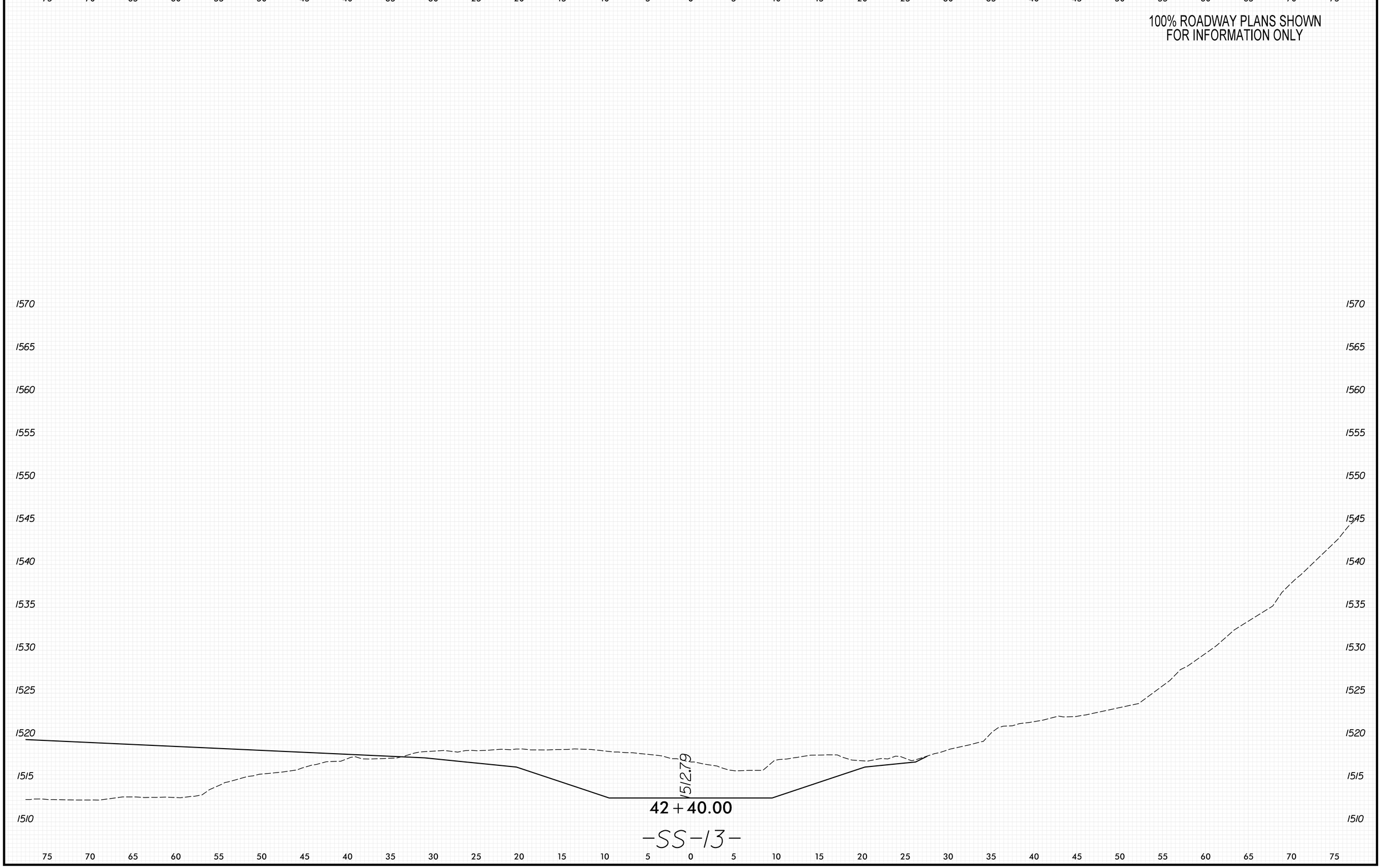

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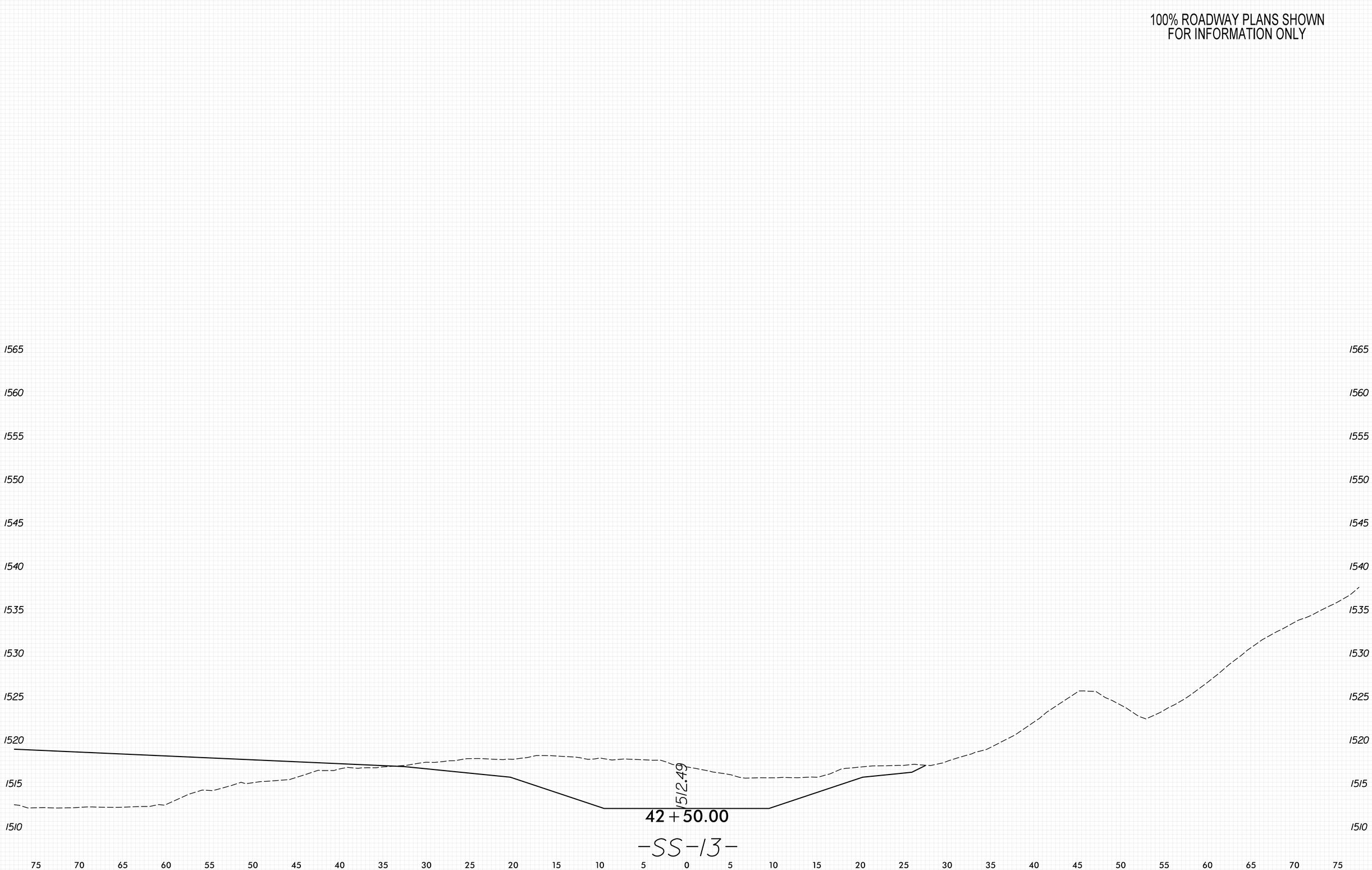

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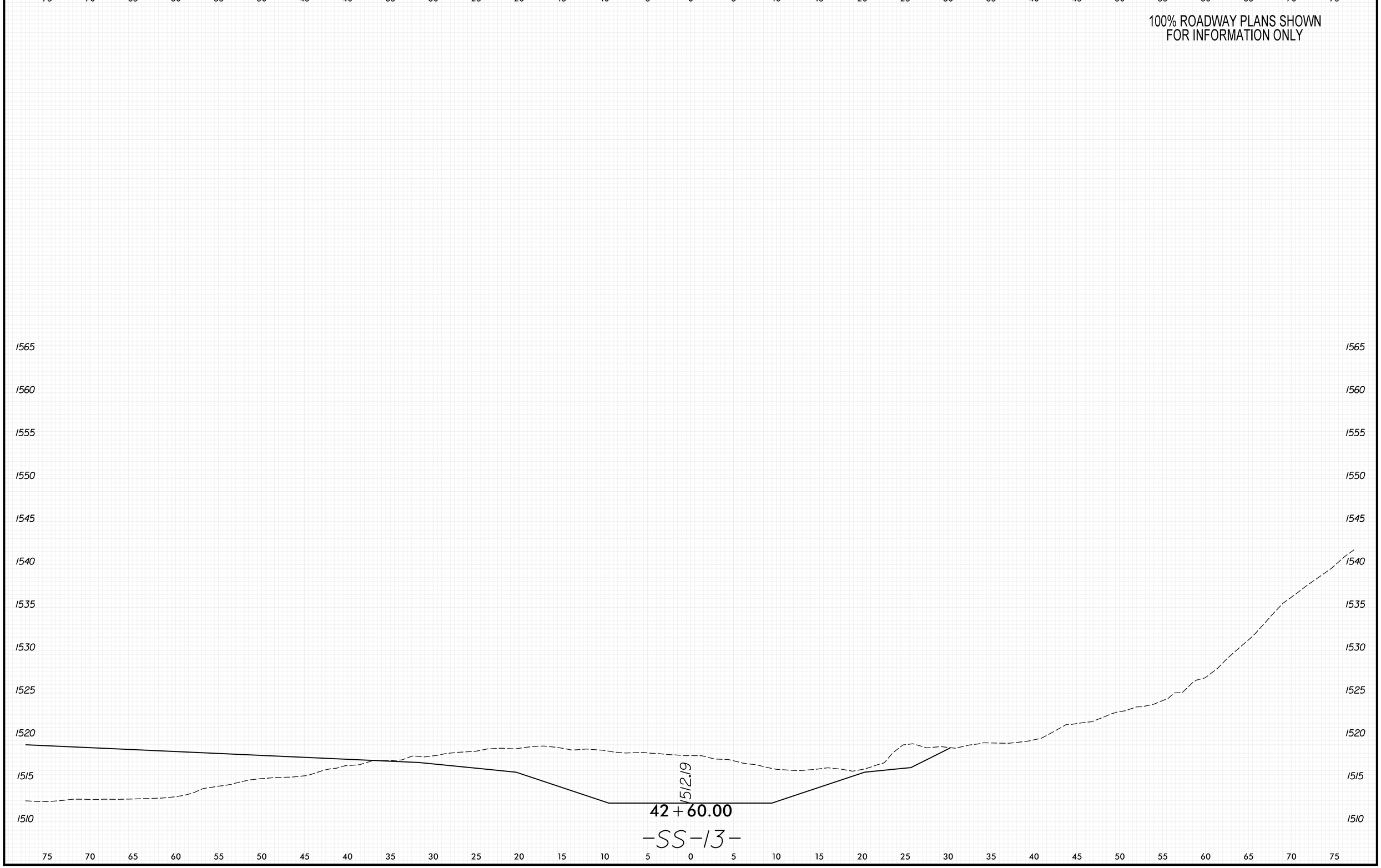

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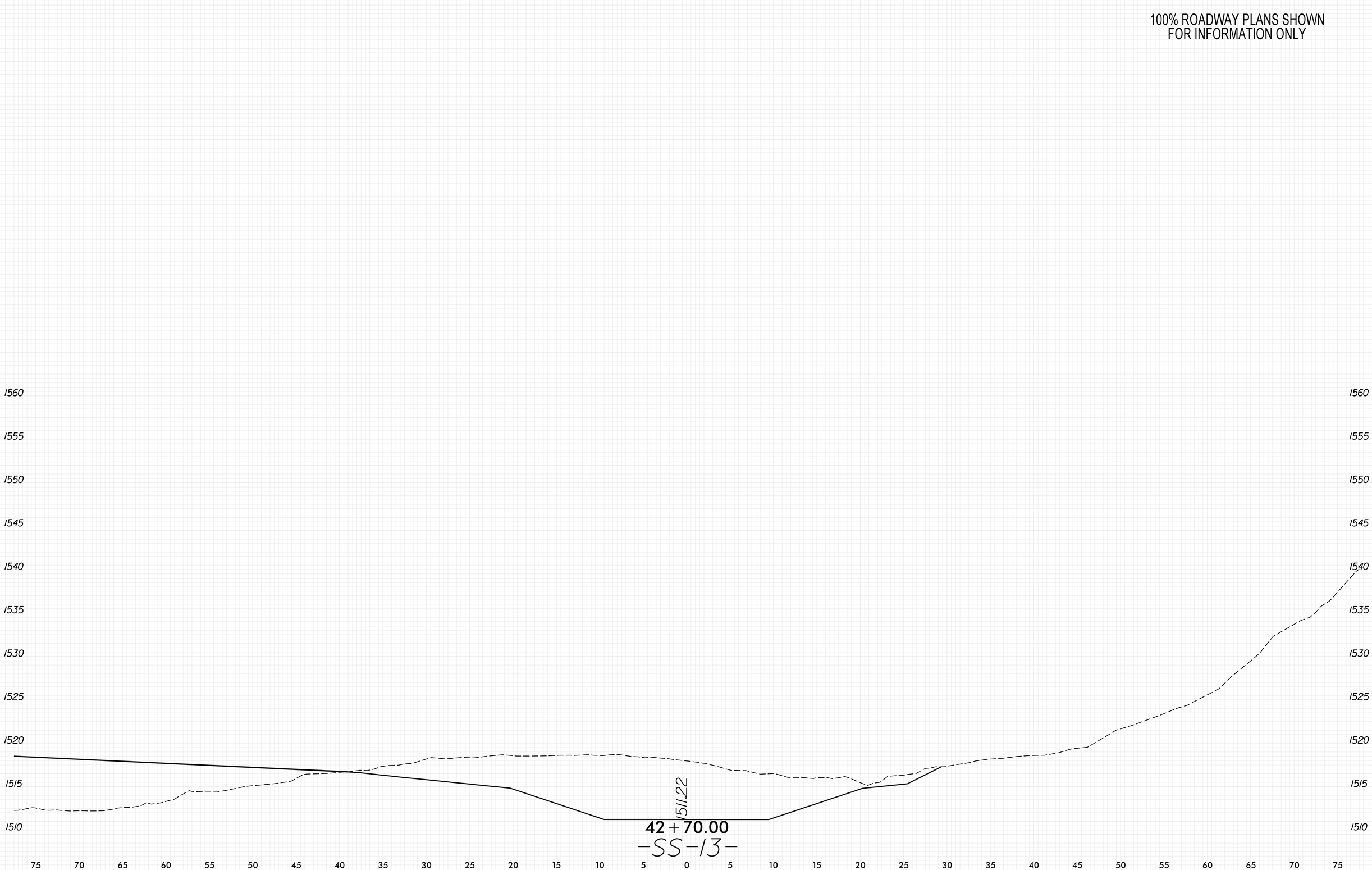

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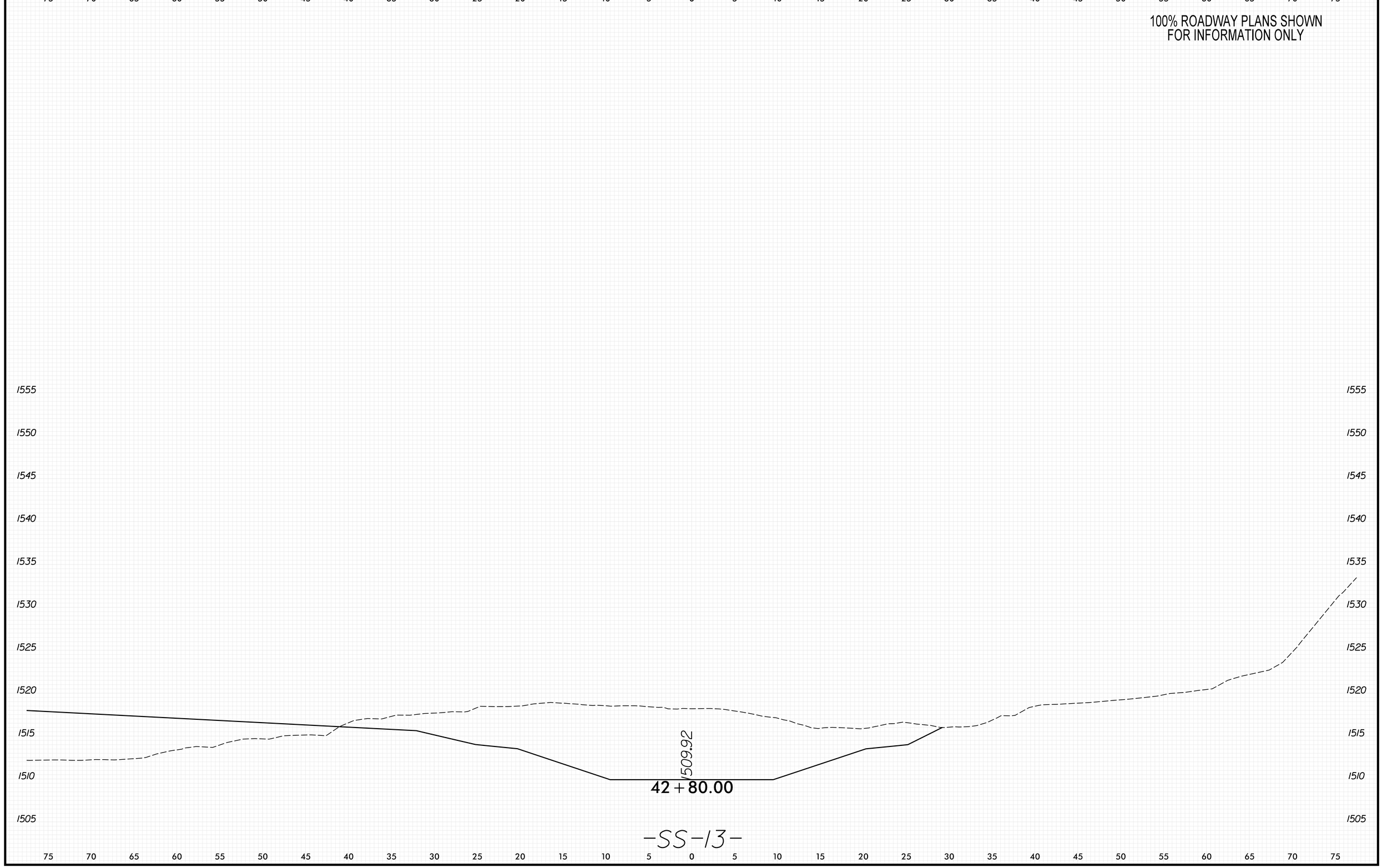

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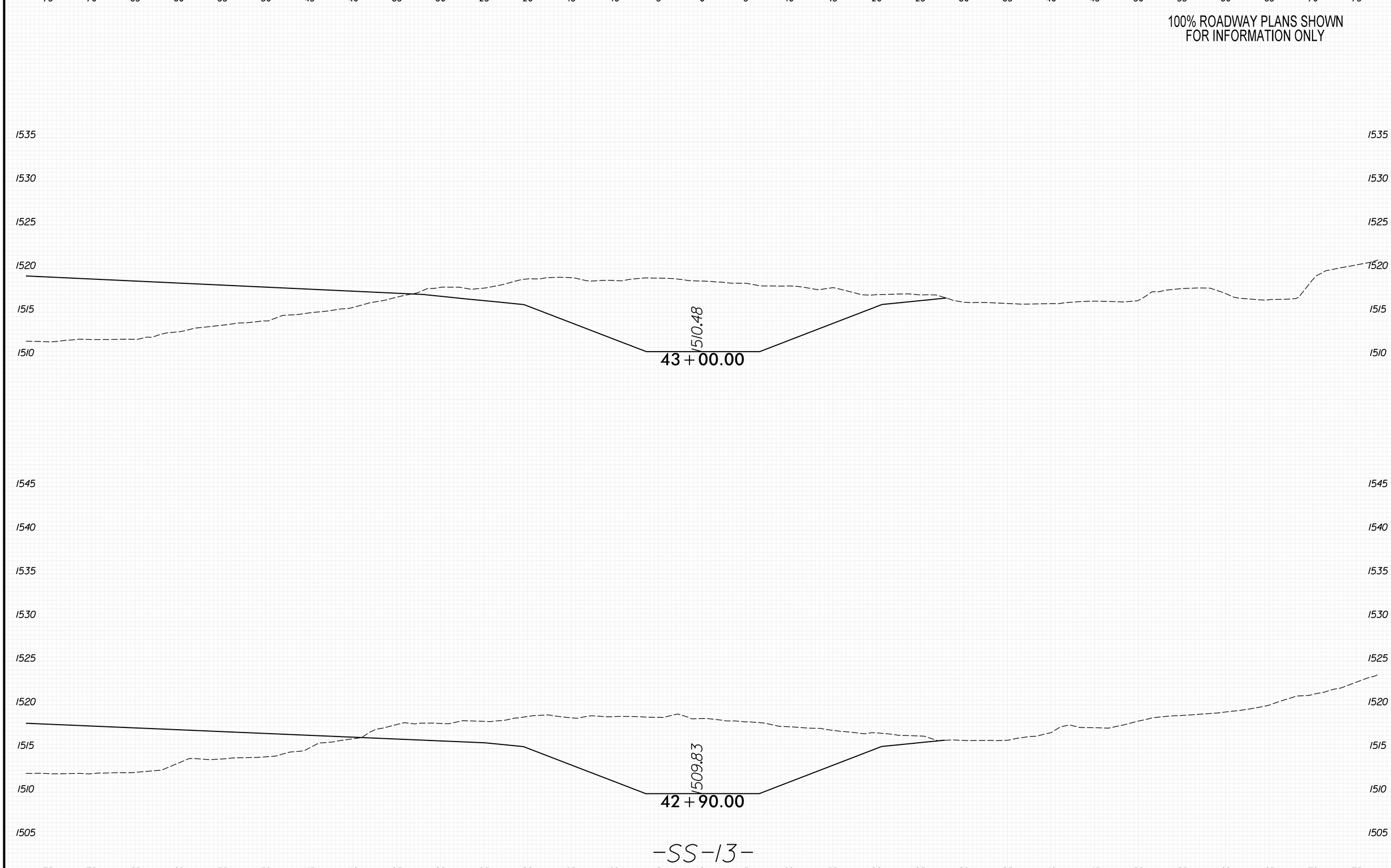

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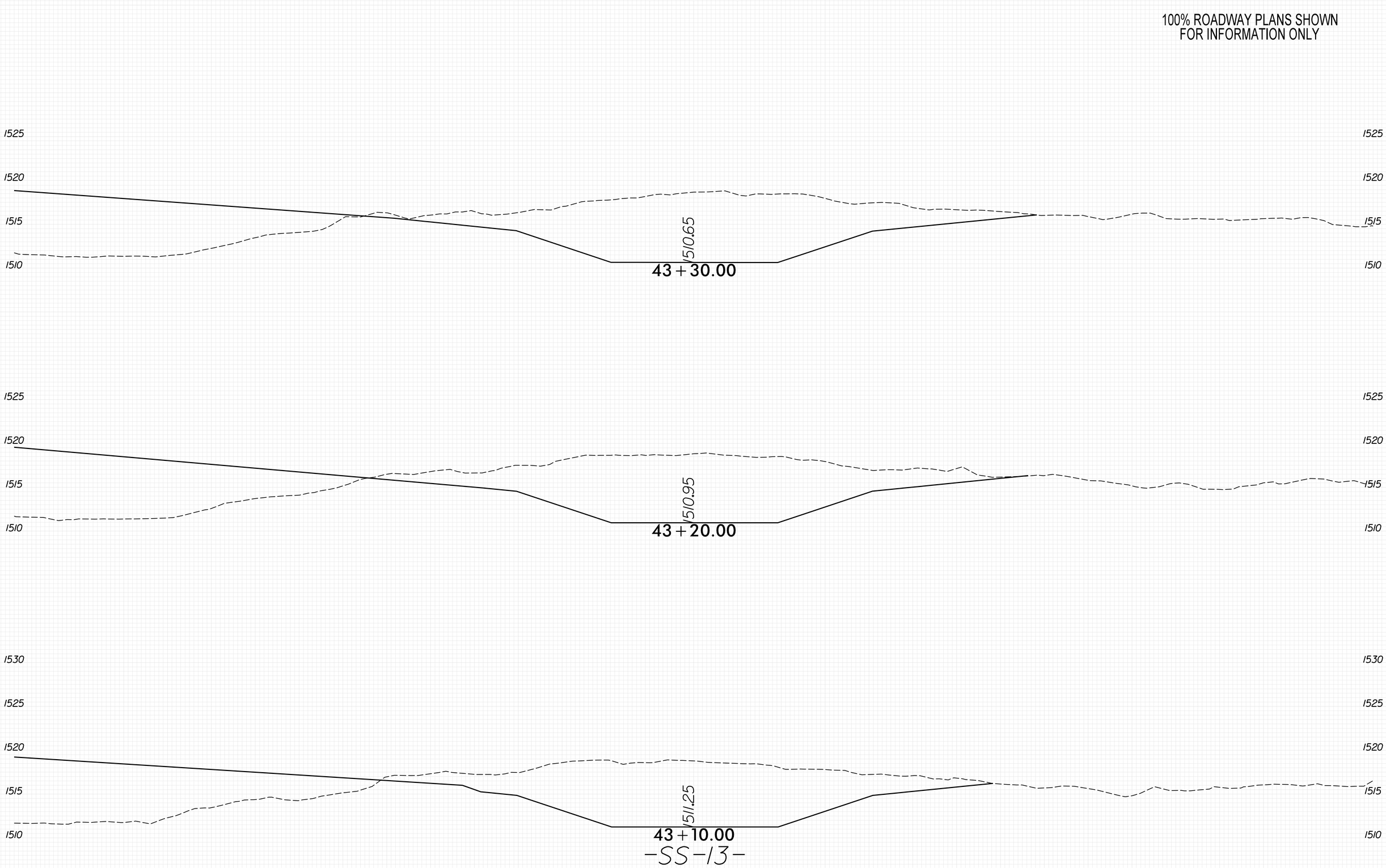

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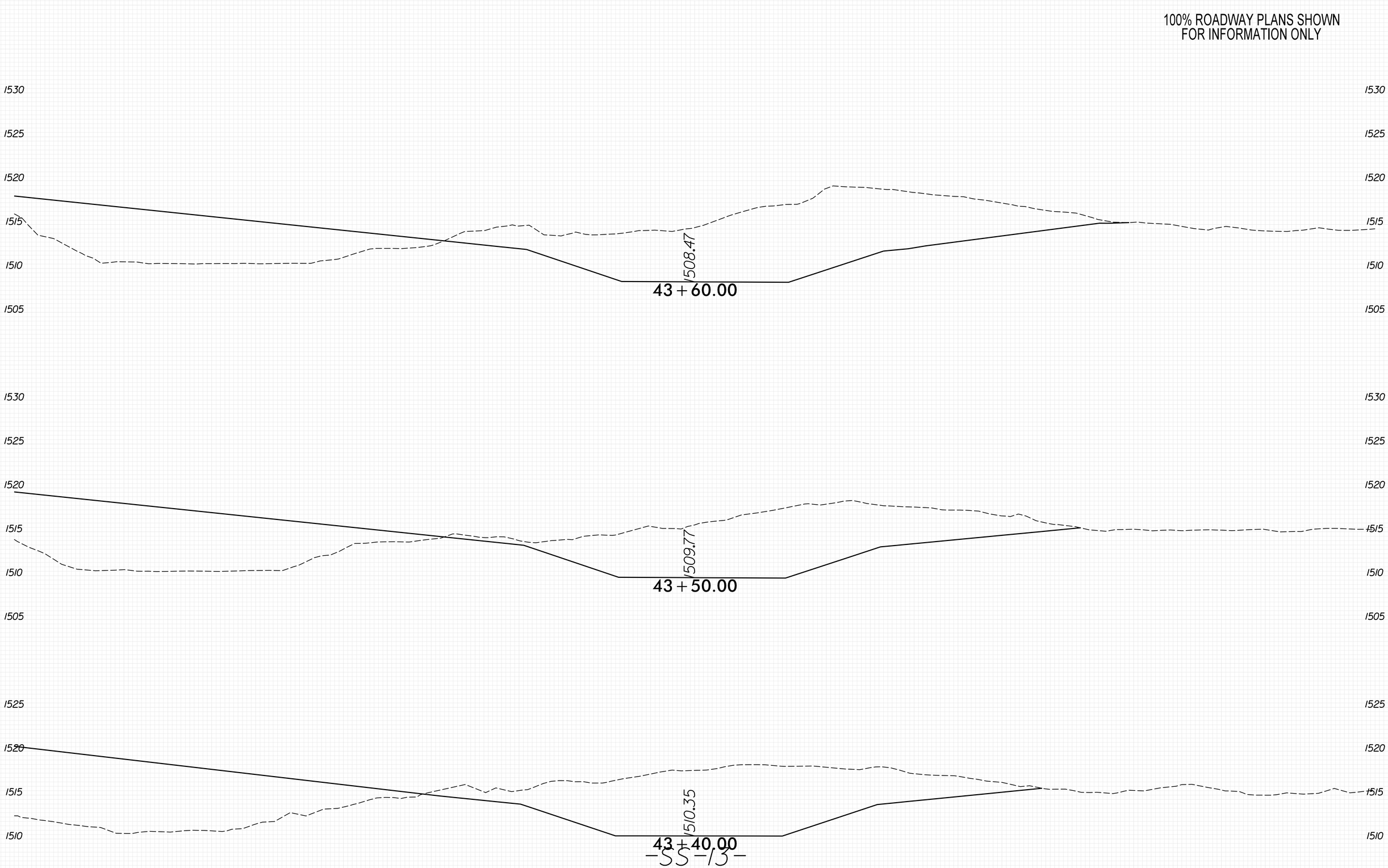

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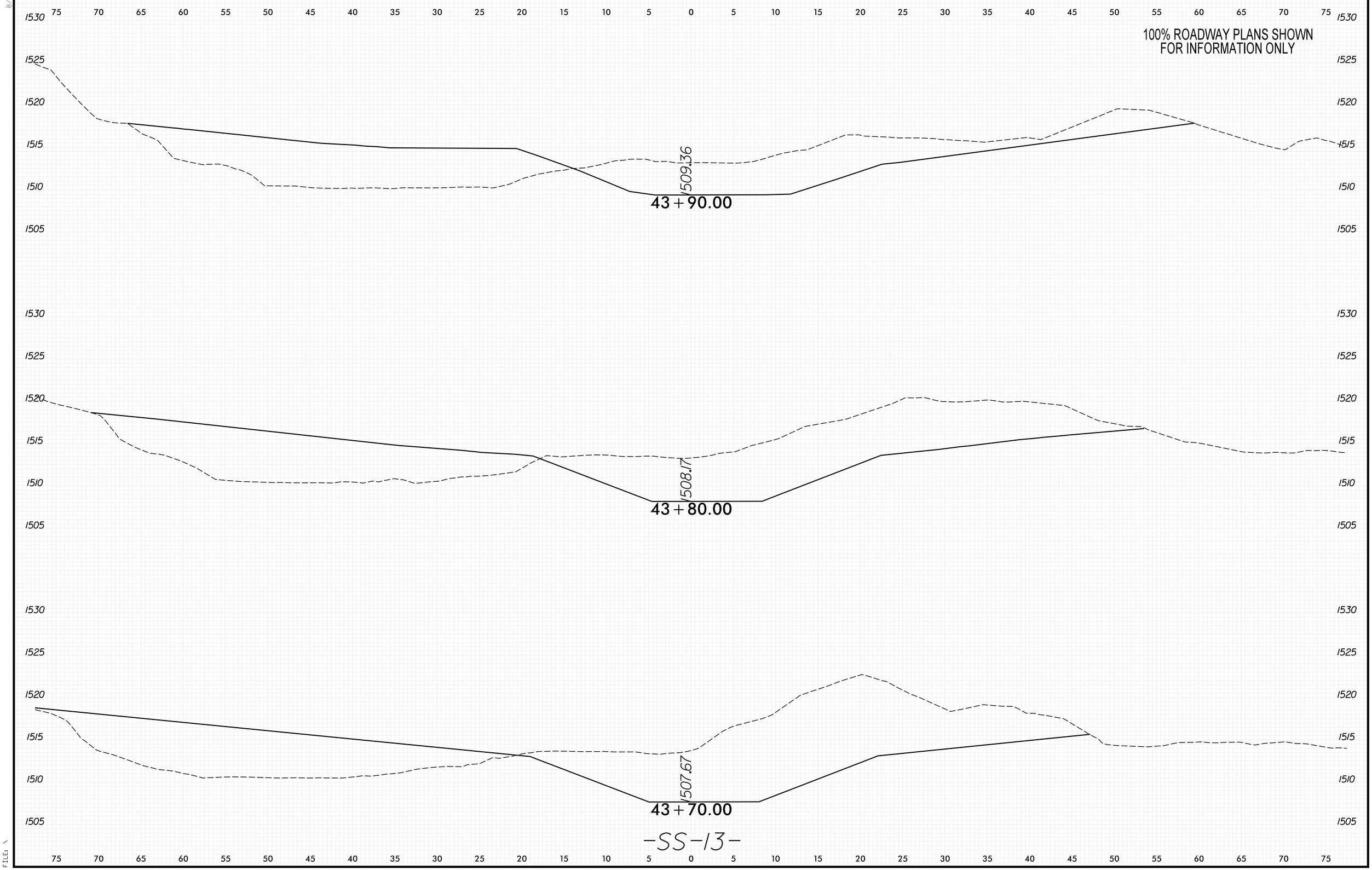

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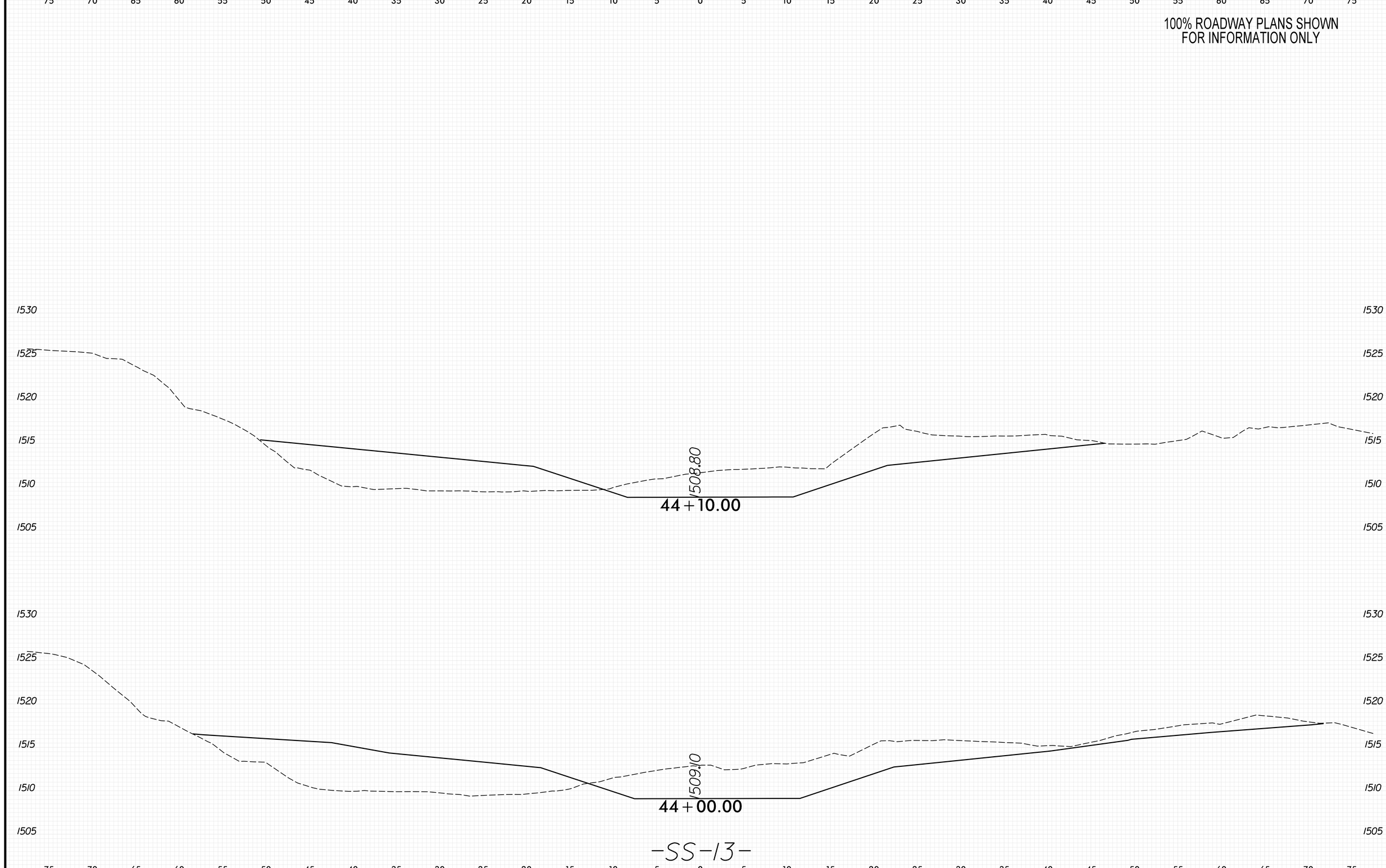

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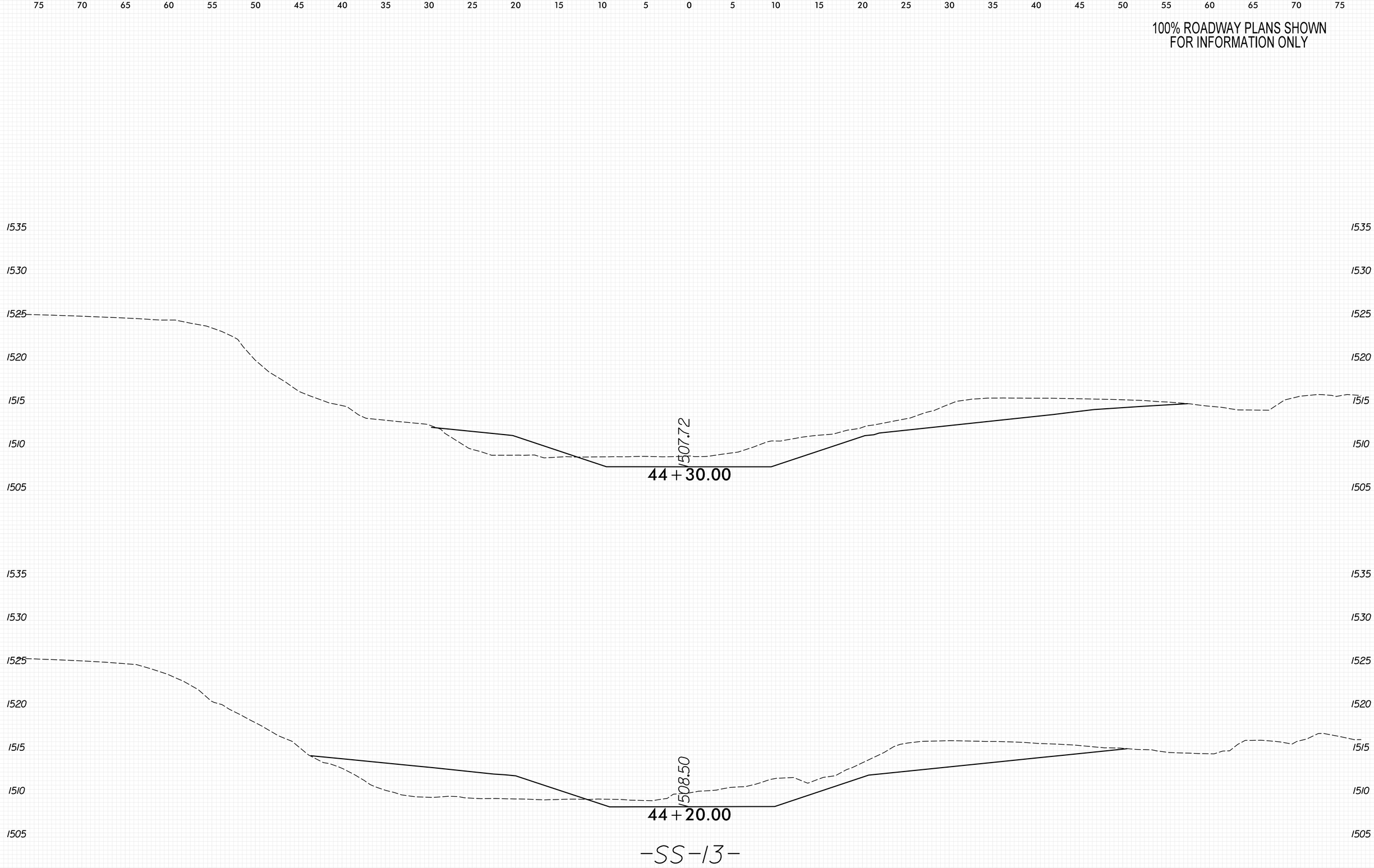

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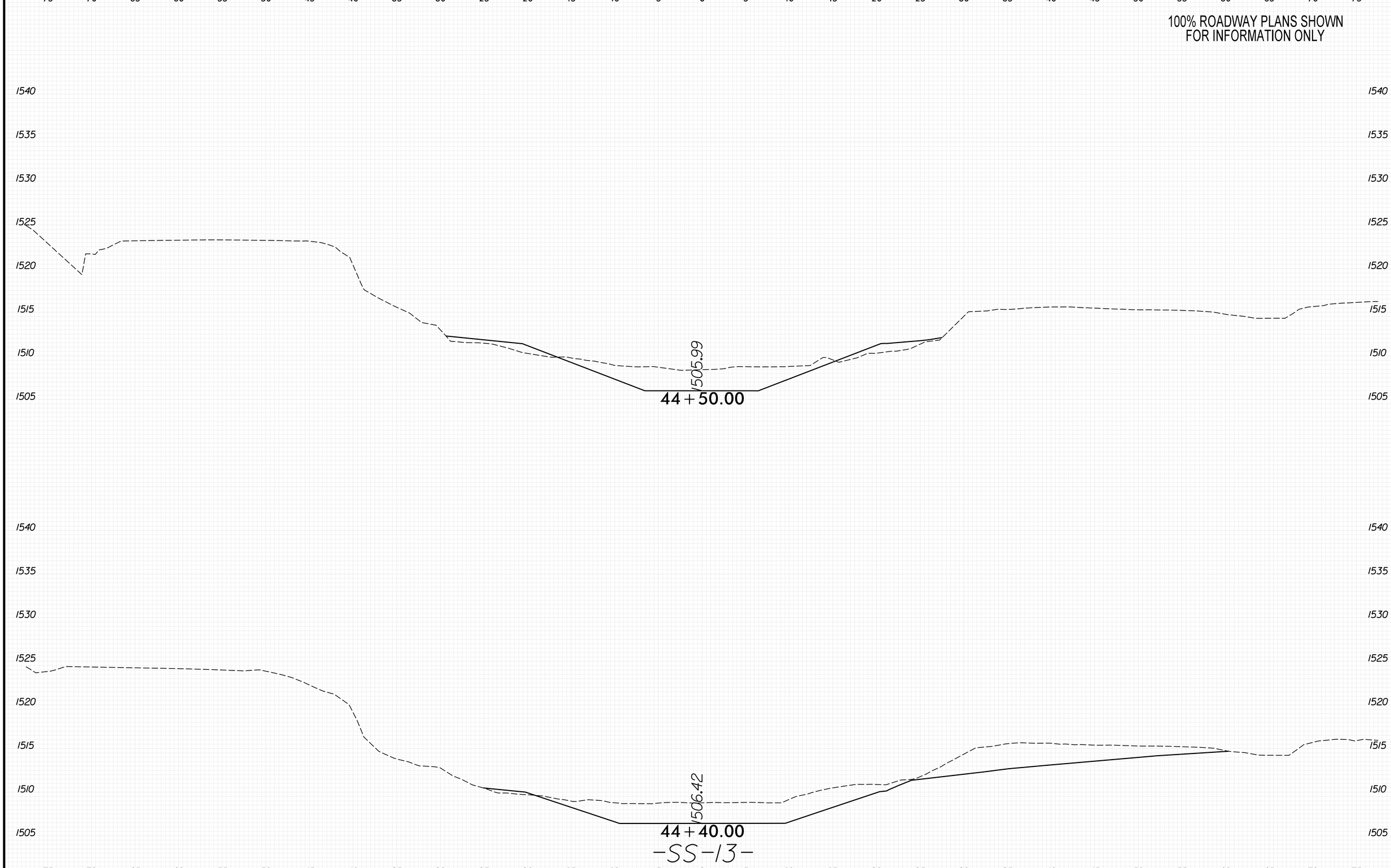

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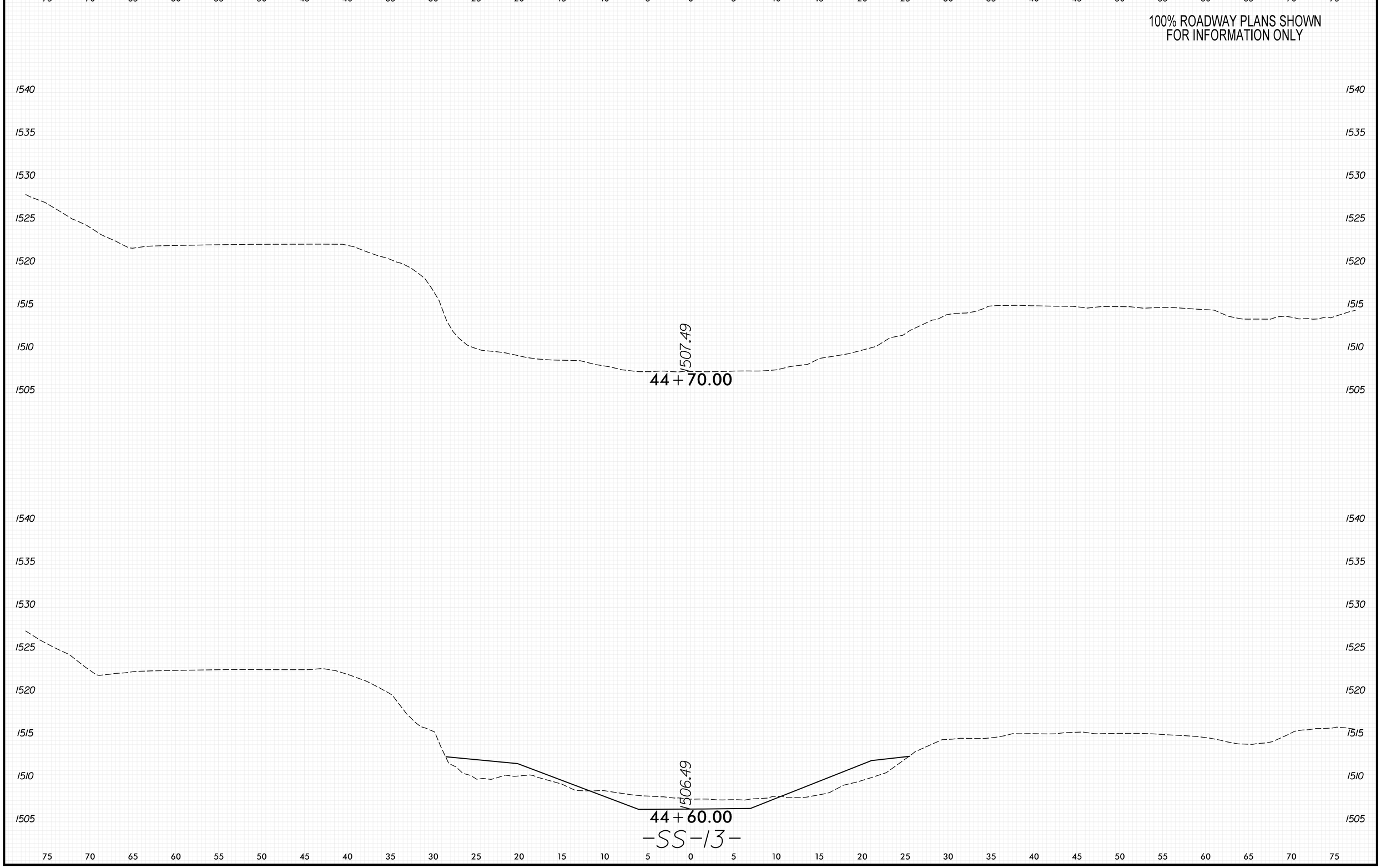

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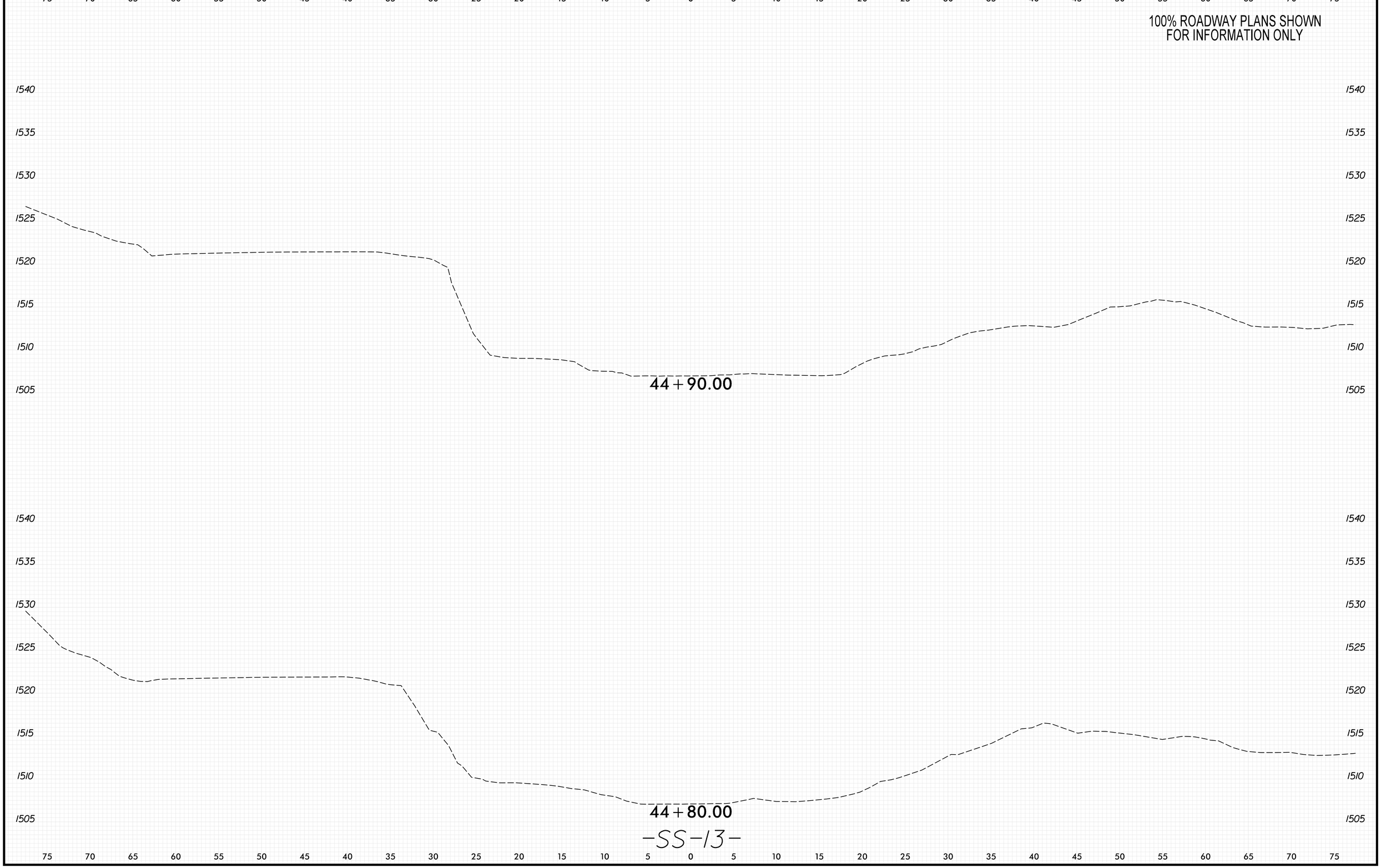

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Mitigation Plan

Mitigation Plan

Relocation of Hickory Creek

Henderson County

WBS# 18314.1045039

September 21, 2026

Area: Work Package 4

1.0 Baseline:

The North Carolina Department of Transportation (NCDOT) will perform stream relocation efforts along Hickory Creek that parallels US-74A in Henderson County NC. The relocation project will take place along US-74A between Bearwallow Mountain Road and Grant Mountain Road, southeast of Asheville NC. This area along US-74 was heavily impacted during the Helene Hurricane in the fall of 2024. Hickory Creek is located within the USGS HUC 03050105 Broad River Basin. These relocation sites along Hickory Creek will improve stream stability, reduce hazard mitigation to the roadway structure and create a functional uplift to the currently failed stream.

2.0 Site Selection:

Hickory Creek runs at the toe of the existing roadway section of US-74A. Moving the stream away from US-74A will provide a long-term separation from the river and the established buffer from the existing roadway. These relocation efforts will facilitate a "jump start" to stream stability as well as prevent future destabilization of US-74A during high flow events such as Hellene.

3.0 Site Protection Instrument:

Due to the unique nature of this recovery project, including the presence of adjacent private property requiring access to US 74A, NCDOT will be unable to manage the proposed relocation site or prohibit any use inconsistent with its use as mitigation property.

At this time, NCDOT is aware of the need for potential driveway crossings throughout the project corridor, either by ford or by bridge. NCDOT has no involvement with these private undertakings with the exception of its legal responsibilities to grant driveway permits.

4.0 Objectives:

The goal of these relocation efforts is to relocate 4,048 ft of Hickory Creek to new location along the southeast side of US-74A. The functional relocation of these sections of stream will be accomplished through the engineered natural stream design, by Grant Ginn Consulting.

5.0 Mitigation Work Plan:

Due to the unique nature of this recovery project, the relocation sites will be constructed at the same time as the US-74A roadway reconstruction. Construction activities along US-74A will involve the permanent re-establishment of US 74A to modern highway standards, site grading, site planting, and natural stream design. Attached are the design plans of the areas that will be relocated.

6.0 Performance Standards:

Not applicable.

7.0 Monitoring Requirements:

The permittee shall monitor the restored channel for three years. To do this, the permittee shall establish three points along the restored reach (two within 50' on each end), take photographs at these points:
(1) immediately after restoration and stabilization activities have been completed, and
(2) every year after that for three years.
The permittee shall submit these photographs and a text description of observed channel stability within 60 days of completion of the project, then once a year for the next 3 years. If the restored channel is unstable for any reason during this three-year monitoring period (e.g., bank erosion, downcutting, etc.), or causes upstream or downstream bank erosion, the permittee shall immediately contact the USACE suggest corrective actions. Note that the required monitoring period may be extended if corrective actions are necessary.

8.0 Other Information:

Not applicable.

9.0 Determination of Credits:

The success of the relocation area and determination of final credits will be based upon successful completion of the relocation and closeout of the monitoring period to determine the use of this site to offset impacts associated with US-74A.

9.1 Credit Release Schedule:

NCDOT proposes to offset the impacts to the relocated portion of stream at varying stream ratios as noted in the Mitigation Summary document.

10.0 Geographic Service Area:

The proposed Geographic Service Area (GSA) for the relocations is composed of the Hydrologic Cataloging Unit (HUC) (03050105). All stream credits generated during these relocations will be used to offset impacts associated with US-74A (WBS# 18314.1045039)

11.0 Maintenance Plan:

Once monitoring is completed and the site is closed out, the need for long-term maintenance is not anticipated for the relocated sections of stream. Should destabilization or repair be required, NCDOT, in consultation with the appropriate environmental agencies, will propose a plan to re-stabilize an area of stream, if necessary.

12.0 Long Term Adaptative Management Plan

The site will be monitored by NCDOT according to the relocation plan. In the event that unforeseen issues arise that affect the management of the site, any remediation will be addressed by NCDOT, in consultation with the environmental agencies.

ESA Consultation

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street Suite B
Asheville, North Carolina 28801

July 7, 2025

Subject: Review Response for Transportation Project(s) Covered by the Western North Carolina Bat Programmatic Biological Opinion

Greetings:

The U.S. Fish and Wildlife Service, Asheville Ecological Services Field Office, has reviewed the project(s) submitted on May 15, 2025 for coverage under the Western North Carolina (WNC) Bat Programmatic Biological Opinion (PBO), issued April 1, 2025. Based on the submitted materials and any supplemental information provided, we confirm the project(s) meet the criteria for coverage under this PBO in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531–1543) (ESA), thus concluding formal consultation for the project(s).

This correspondence conveys our review for listed/proposed bats covered by the WNC Bat PBO only. The lead federal agency (Federal Highway Administration or North Carolina Department of Transportation as their designee, or U.S. Army Corps of Engineers) remains responsible for ensuring that any other listed or proposed species and/or designated critical habitat that occurs within the project action area are addressed in accordance with section 7 of the ESA. For other listed species potentially occurring in the action area, if suitable habitat is absent from the action area, "No Effect" determinations are appropriate. For plants, in instances where suitable habitat is present and botanical surveys conducted during the optimal survey window and within the past one or two years (depending on the species) have negative results, we would concur with a biological determination of "may affect, not likely to adversely affect".

Review and concurrence under the WNC Bat PBO are considered complete for the following project(s):

Project Title	NCDOT STIP/ID #	USFWS Log #
Widen US 321 from US 70 to SR 1933	U-4700	25-179
Widen US 21 from SR 2136 to Holly Point Drive, and from Northcross Center Ct. to SR 2147	U-5771/U-5767	25-180
Bearwallow Mountain Rd./US74A in-kind repairs	DF18314.2045120 W03290	25-181
US74A Gerton from Bearwallow Mtn Rd to US64/74A/NC9	18314.1045999CMGC	25-182
US74A/Middle Fork Rd./ Tom Falls Rd. repairs	DF18314.2045207 W03292	25-183
Bald Rock Rd. – Gilliam Mtn Rd./Sugarloaf Mtn Rd. repairs	DF18314.2045060 W03289	25-184

NC9 from 74A to Buncombe Co. line repairs	18314.1045035 W0920	25-185
NC88 landslide repair	28DE NC88 landslide	25-186

We appreciate the opportunity for review and comment.

Sincerely,

U.S. Fish and Wildlife Service, Asheville Field Office

Archaeology

Project Tracking No.

25-01-0001

NO NATIONAL REGISTER OF HISTORIC PLACES ELIGIBLE OR LISTED ARCHAEOLOGICAL SITES PRESENT FORM

This form only pertains to ARCHAEOLOGICAL RESOURCES for this project. It is not valid for Historic Architecture and Landscapes. You must consult separately with the Historic Architecture and Landscapes Team.

PROJECT INFORMATION

Project No:	**US 74A Helene**	*County:*	**Henderson**
WBS No:	**Helene 44 US74A[ET]6570**	*Document:*	**CE**
F.A. No:	**tbd**	*Funding:*	☐ State ☒ Federal

Federal Permit Required? ☒ Yes ☐ No *Permit Type:* (pending) USACE

NCDOT proposes to repair and reestablish portions of the US 74A highway damaged or destroyed by Hurricane Helene parallel Hickory Creek from near Gerton to near Bat Cave in Henderson County. For this emergency restoration and repair for segments of the highway removed from the landscape following devastating flooding, there is potential for federal funding and USACE coordination is expected. Section 106 of the National Historic Preservation Act applies for this federal undertaking.

The project's western limit is west of the intersection of US 74A and Little Pisgah Road (SR 1693). The highway continues eastward near Red Anderson Road (SR 1611). Overall, the project length covers about 6.1 miles of highway including travel lanes which have been removed, destroyed, damaged, or compromised by flooding (see Figure 1). Repair, temporary roadway, or road rebuilding is required throughout the project. Note, PA 24-11-0012 is a related, separate archaeological review of US 64 (Lake Lure Highway) beginning east of the current project, extending from Bat Cave to Chimney Rock.

For the Archaeological Area of Potential Effects (APE), this investigation considers all areas of potential earth disturbing activities, including all the current and any proposed new ROW. The high volume, scouring floods deposited new terrain and reformed or replaced much of the landforms associated with US 74A. This unique circumstance requires earthmoving, fill, and cuts to grade and drain the recently modified terrain. The APE length end to end is about 5.0 miles (26,400 feet). No formal design was available at the time of this review; therefore, the APE width is buffered to allow flexibility to study a range of potential, successful roadway solutions. The width is 200 feet to either side of US 74. Additional investigations were recommended on April 22, 2025, to better map, document, and evaluate site 31Hn432 (the Conner Cemetery) located on an elevated and sloping landform between Possom Hollow Road and US 74A.

SUMMARY OF ARCHAEOLOGICAL FINDINGS

The North Carolina Department of Transportation (NCDOT) Archaeology Team has reviewed the subject project and determined:

☒ There are no National Register listed ARCHAEOLOGICAL SITES within the project's area of potential effects. (Attach any notes or documents as needed.)

☒ No subsurface archaeological investigations were required for this project.

☐ Subsurface investigations did not reveal the presence of any archaeological resources.

☐ Subsurface investigations did not reveal the presence of any archaeological resources considered eligible for the National Register.

☒ All identified archaeological sites located within the APE have been considered and all compliance for archaeological resources with Section 106 of the National Historic Preservation Act and GS 121-12(a) has been completed for this project.

(continued)

SUPPORT DOCUMENTATION

See attached: ☒ Map(s) ☐ Previous Survey Info ☒ Photos ☐ Correspondence

Other:

Signed:

JULY 28, 2025

NCDOT ARCHAEOLOGIST Date

Brief description of review activities, results of review, and conclusions:

The undertaking involves repairs, restoration, and replacement for sections of US 74A, also known as the Gerton Highway, that were badly damaged or destroyed during catastrophic flooding because of Helene's flooding in late September 2024. Damage to the highway and surrounding terrain include landslides, erosion of hillsides and stream channels, and several locations of destroyed roadway. Archaeological site 31Hn432, the Conner Cemetery, is partially or completely within the buffered project APE, outside of assumed ROW (see Figure 2). The cemetery is perched on a ridge spur overlooking the US 74A and Hickory Creek to the south and west. The west, south, and east side of this landform are very steep, nearly vertical side slopes. The landform is flatter at its peak, sloping upward to the northeast where it is flanked by Possom Hollow Road and the larger mountainside beyond.

A landslide covered the northern end of the cemetery in several feet of colluvium. Sheet wash of soils have accumulated at the south, lower end of the cemetery where three horizontal markers were relocated under a cumulative 3-7 inches of reposited soil from uphill. Small erosional gulleys have formed in the cemetery which are shifting a few of the markers that are undercut. The edges of the ridge further eroded during the floods, the greatest on the east side where bedrock is now exposed in the deepened erosional cut. LiDAR-based ground surfaces were created for this study which use very detailed, post-Helene elevation data which has been compared to available earlier elevation data before the recent damage (see Figure 3). Initial visual inspections following Helene suggested the cemetery was threatened by further erosion or undercut slopes. Recent engineering evaluations conclude that the landform is stable, however measures to avoid or reduce further damage are being pursued.

In recent months, actions to stop and help prevent new changes to the cemetery's landform have occurred as part of the storm recovery. Possom Hollow Road, damaged by a collapsed mountain side, has been repaired and restored north and above the cemetery. The deepest of the colluvium which buried the north side of the cemetery close to Possom Hollow Road has been regraded and cut back to approximately the same elevation that existed prior to Helene (see Figure 4). Caretakers have installed a small ditch and berm to redirect runoff away from the cemetery. It is unknown if the mountainside north of Possom Hollow Road is now less stable or, perhaps, more stable after the partial collapse.

The Conner Cemetery is not surrounded by a wall or fence that defines its boundaries. However, the limited, flat topography and very steep side slopes create a terrain feature on which the cemetery is enclosed. The cemetery is active and has regular burials through at least 2018. Maintained by volunteers and family members, photographs from the past fifteen years show a well-groomed lawn and undamaged markers. Evergreen vegetation common at small, southeastern cemeteries is present,

including the low groundcover, periwinkle, and two or more cedar trees (see Figure 5). A small number of ornamentals and flowering bulbs were seen but the blooming period had passed at the time of the survey. A low number of bushes/shrubbery and other trees are inside the cemetery, and older, larger trees are present on the south and western slopes. A utility pole with guy-lines is positioned on the top of the southern slope just south of the cemetery. The placement of memorial, artificial flowers indicate it is regularly visited. The recent redeposit of soil, erosion, bare soil, and nearby grading contradict the established age and setting of the cemetery (see Figure 6).

The primary objective of this investigation was to collect detailed data and condition information for the Conner Cemetery, update the site form (31Hn432) with the NC Office of State Archaeology (OSA), and evaluate its eligibility for listing on the National Register of Historic Place. The cemetery investigation was conducted May 15-16, 2025, by NCDOT archaeologists Brian Overton and Paul J. Mohler. The work included a complete visual inspection of the setting and condition of the landform and cemetery, general and burial specific photography, updating a sketch map provided by the caretaker who is also a family member, recording information and locations using a GPS data collector, and cross referencing known cemetery inventories with observations in the field. Additionally, the Hill Cemetery, located 0.25 miles to the northeast, was briefly visited. The Hill Cemetery name had been incorrectly applied to the Conner Cemetery inventory listed in *Henderson County, North Carolina Cemeteries* compiled by the Henderson County Genealogical and Historical Society (1995). No entry was identified for the Conner Cemetery in the Henderson County Cemetery Survey Records data collected c. 1937-1938 by the Works Projects Administration for the Tombstone Transcription Project (176.1 MARS ID, Series). Find-A-Grave has an entry for the cemetery which includes an inventory, photos of individual graves, and GPS locations.

The graves are arranged by general family groupings and informal rows. Burials appear to have been marked though not always with identifying information, or not until commercial granites replacement stones were installed. Depressions over burials, present at some cemeteries, were absent. Markers are oriented traditionally with headstones on the west side and accompanying footstones to the east, in this case more southeast which reflects the topography of the landform. Markers within the rows are closely spaced, with infrequent gaps within groupings. The length between headstones and footstones varies and several unidentified burials have short grave lengths, likely children.

Many of the headstone markers are crafted and shaped from tabular stone, some finely hewn from natural, local rocks to create a thin cross section with rounded edges. Footstones, mostly shaped fieldstone, are present for most of the observed burials. Visible markings are lacking on most of this category of headstones, with one exception. The name and date of death have been etched onto Ambrose Owensby's original headstone. However, several graves have new, formal, and polished granite markers which add identifying information and dates of birth and death. When present, these replacements are immediately adjacent to the corresponding stone markers. A smaller number of marble gravestone markers are present, most being issued by the US Department of Veterans Affairs in the commonly known forms. The size of the markers varies for both the natural and later polished headstones, except for the well-defined V.A. markers. The natural headstones are all upright in form. There is a combination of upright and horizontal formal granite and marble markers. A small number of temporary funeral home markers were observed during the investigation, though those have permanent headstone now. There are no other observed physical or encountered documentation that suggest there are burials beyond the visual limits of the cemetery or outlying the top of the landform.

A 1986 inspection of the cemetery incorrectly names this the "Hill Family Cemetery," which is the proper name for another graveyard a quarter mile towards the north, on page 277 of *Henderson County, North Carolina Cemeteries*. The data presented, however, does represent the combination of graves marked with names and those without names in other recent inventories and observations

made in the field. The information from the cemetery survey suggests some 59 burials were observed at that time. Since the mid-1980s, an additional seven burials were added during the period of 1990 to 2018. This increases the number of burials present to near 66.

A total of 36 burials were observed and recorded which have identifying information, including names, and dates of birth and death. This represents 36 of 39 named burials according to Find-a-Grave data for the Conner Cemetery, three of which had been concealed towards the southern limits, buried by washes of accumulated soils, but were relocated. Of the three listed but not observed, one has a photograph of the formal, horizontal, granite marker on Find-a-Grave, and is likely also buried near the others found under the layer of accumulated soil in the southwestern corner of the cemetery. The two others are infants believed to have been buried at the cemetery based on death certificate information and, if present, they do not have markers with inscriptions. About 26 of the graves have unadorned markers, or at least no easily seen inscriptions or symbols, usually a shaped headstone with a footstone. The total number of visually confirmed graves is 62.

Mapping included updating an earlier sketch map of the cemetery which included placement, spacing and order of graves and noted some names and death dates. Digital mapping and recording of marker information was conducted using a GPS receiver capable of sub-meter accuracy. The GPS data was postprocessed using Trimble software, however, only 60% of the data points were accurate to less than one meter, 30% within 1 to 2 meters, and 10% between 2 to 5 meters. Errors in the order and row of graves, and two outliers of twenty feet, were identified. With corrections, the resulting map depicts the concentration of graves, extent of the cemetery, and head and foot stone locations (see Figure 7). A very detailed, 3D terrain model was created from available cloud point data extracted from post-Helene LiDAR. This high-resolution mapping shows the exact nature of the terrain, including changes to side slopes, erosional gulleys around and through the cemetery, and details inside the cemetery such as curbing.

Data collected in the field and Find-A-Grave for the 39 individuals were analyzed by NCDOT archaeologist, Paul J. Mohler, which will be summarized and presented here. The time of burial shows that six are 19th century (15.4%), 27 are 20th century (69.2%), and 6 are 21st century (15.4%). Two died as soldiers during the Civil War and are believed to have been the earliest two burials which were placed at "the end of the garden plot." Two decades have five or more burials from that period, the 1910s (9) when both the flu and deaths from a landslide occurred, and the 1940s (5). Several of the unknown markers may have also died of the flu in the 1910s.

Eight (8) are documented as under 15 years of age, though the length of several graves suggests there are more than eight infants and children present. Fifteen (15) are of working age, from 15 to 64 years old. The remaining 16 known individuals are 65 years old and older. All ages are represented from newborn through 96, with a median of 51, and average age of 46. However, since many of the unknown graves are likely children, the median and average age for the entire cemetery would be younger.

Nine unique surnames are present in this local, family cemetery. These include Conner/Connor, Freeman, Hill, Anderson, Dalton, Myers, Owensby, Williams, and Winters. A third (13) have the Conner last name, and about a quarter have Freeman (9). The Hills (7) and Andersons (4) make up less than a fifth of the count, and Dalton (2), Myers (1), Owensby (1), Williams (1), and Winters (1) having only one or two named individuals.

While cemeteries are category that is not ordinarily considered eligible for listing in the National Register of Historic Places (NRHP), criteria a-d was reviewed. The Conner Cemetery is not known to be associated with a) significant events, b) person, c) style or quality, or d) likely to yield significant, new historic information. Therefore, site 31Hn432 is not recommended as eligible for

listing in the NRHP. A revised North Carolina Archaeological Site Form will be submitted to the OSA.

Areas of the US 74A highway directly damaged by the Helene's floods suffered significant scouring of soils and these locations are unlikely to have contained and protected archaeological sites, especially significant, intact resources. No intensive field survey was required for the damaged highway corridor except for data collection at 31Hn432. Emergency repair for US 74A has been ongoing as portions of washed-out roadway are temporarily restored for motor vehicle traffic. Some locations within the APE may require new designs, especially near bridges or other areas that have a high risk of future flooding, failure, or hillside slides. Design work is still underway therefore it is unknown if the Conner Cemetery falls within potential construction areas, including required cuts of mountainsides or protection of more vertical slopes. Avoidance of the cemetery is recommended and likely for the road design, however, slope stabilization is being studied for the overall landform. If complete avoidance is not possible, then relocation of burials under North Carolina General Statutes No. 65 or action under NC General Statutes No. 70 would be required.

(This project falls within North Carolina Counties in which the following federally recognized tribes have expressed an interest: the Catawba Indian Nation, the Cherokee Nation, the Eastern Band of Cherokee Indians, the United Keetoowah Band of Cherokee Indians, and the Muscogee (Creek) Nation*. We recommend that you ensure that this documentation is forwarded to these tribes using the process described in the current NCDOT Tribal Protocol and PA Procedures Manual.)*

Table 1. Conner Cemetery (1862-2018 [ACTIVE - 156 years between 1st & most recent burial], [n=39]
SEE - https://www.findagrave.com/cemetery/47153/conner-cemetery

Surname	Given Names	DOB	DOD	Age
Anderson	Isaiah Michael	March 2, 1992	November 13, 2010	18
Anderson	Margaret Estelle Freeman	November 11, 1930	December 16, 2015	85
Anderson	Mark Freeman	December 28, 1954	August 13, 2007	52
Anderson	William Boyce	March 2, 1992	January 24, 2018	25
Conner	Alexander Lafayette	1838	March 22, 1862	24
Conner	Bertha	December 10, 1914	December 14, 1914	4d
Conner	Bushrod "Bush"	1815	1886	71
Conner	Dove Charlotte "Dovie"	May 12, 1852	February 16, 1940	87
Conner	Gladys P.	April 23, 1918	September 27, 1918	5m
Conner	Ina M. Hill	October 17, 1886	April 11, 1976	89
Conner	John Dort	December 8, 1876	March 15, 1942	65
Conner	Jonathan "John"	February 14, 1834	March 28, 1906	72
Conner	Masey "Massa" Conner	1810	1882	72
Conner	Nancy Adaline Griggs	July 10, 1838	February 26, 1935	96
Conner	Robert J.	1844	April 16, 1862	18
Connor	Gordon	November 16, 1908	February 27, 1960	51
Connor	Wilburn Doc	January 1, 1912	February 19, 1990	78
Dalton	John Jay	May 21, 1943	November 22, 2001	58
Dalton	Robert Tuft	July 14, 1948	August 20, 2008	60
Freeman	Carol	March 7, 1907	April 11, 1924	17
Freeman	Charlie Lee	August 12, 1882	January 11, 1918	35
Freeman	Hollis Horace	February 26, 1908	May 7, 1911	3
Freeman	Maude Naomi Conner	January 6, 1891	October 14, 1978	87
Freeman	Minnie Etta Bailey	May 7, 1915	March 19, 1986	70
Freeman	Plenny Jay, Sr.	January 18, 1887	December 1, 1930	43
Freeman	Robert J.	May 27, 1942	June 3, 1942	1wk
Freeman	Thomas Hendrick	March 17, 1885	May 3, 1910	25
Freeman	Woodrow Ned	July 22, 1913	April 11, 1985	71
Hill	Bonnie	1908	July 16, 1916	8
Hill	Fannie Louise Fowler	July 11, 1878	February 8, 1953	74
Hill	Fred	1905	July 16, 1916	11
Hill	Henry Washington	January 2, 1866	February 18, 1941	75
Hill	Lolie	1898	1899	1
Hill	Rebecca Sawyer	1881	1911	30
Hill	Samuel Hector	August 29, 1911	May 13, 1940	28
Myers	Rufus Cleodus, Sr.	September 25, 1906	July 4, 1938	31
Owensby	Ambrose	1806	January 8, 1891	85
Williams	Tabitha "Bitha" Conner	October 2, 1849	October 28, 1918	69
Winters	Linda Caroline	August 24, 1950	August 26, 1950	2d

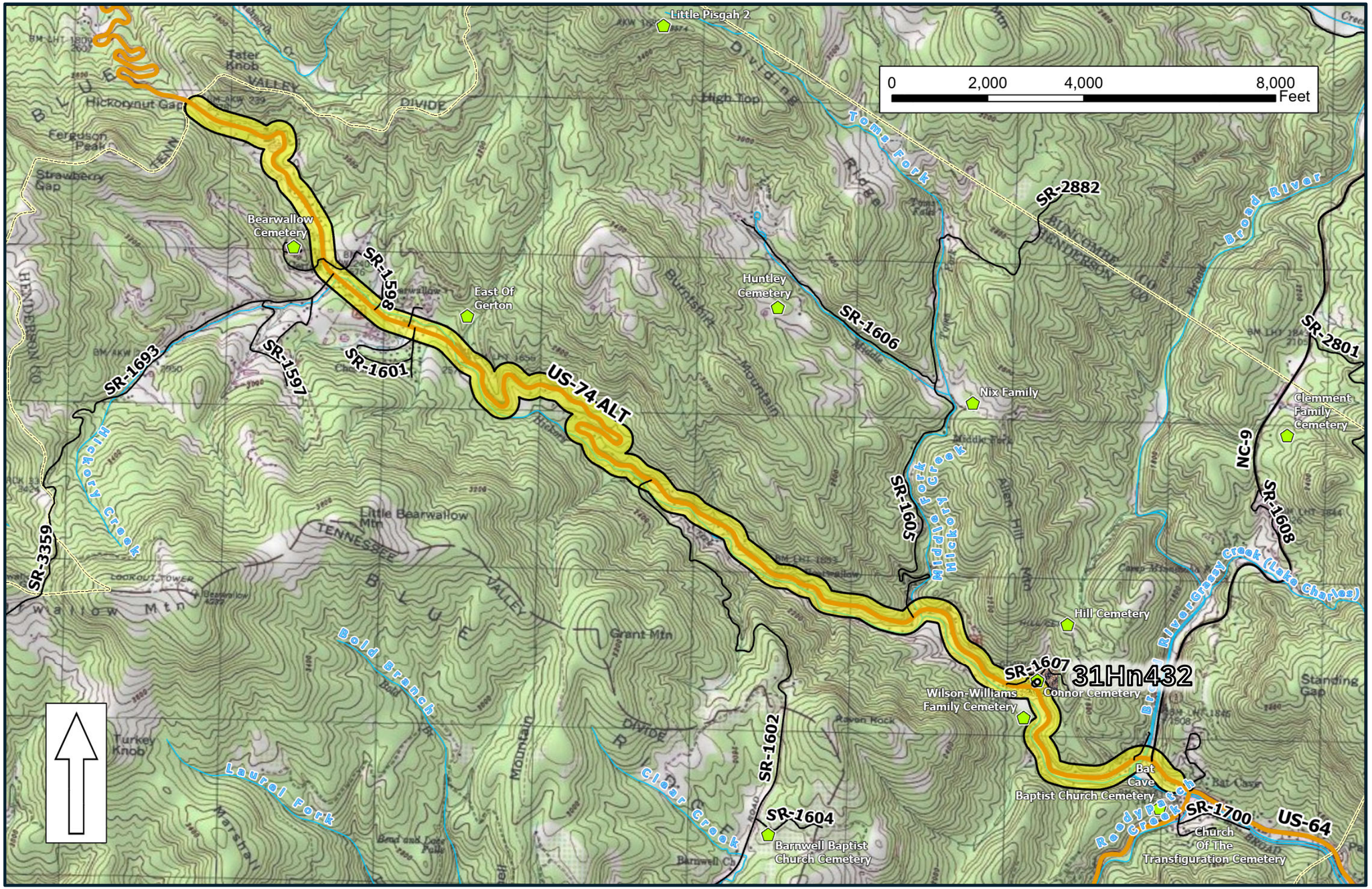

Figure 1. Vicinity for the repair of destroyed, damaged, and compromised portions of US 74A between Gerton and Bat Cave shown on USGS mapping (Bat Cave). The approximate APE is shaded yellow with a black outline. Known cemeteries are labeled.

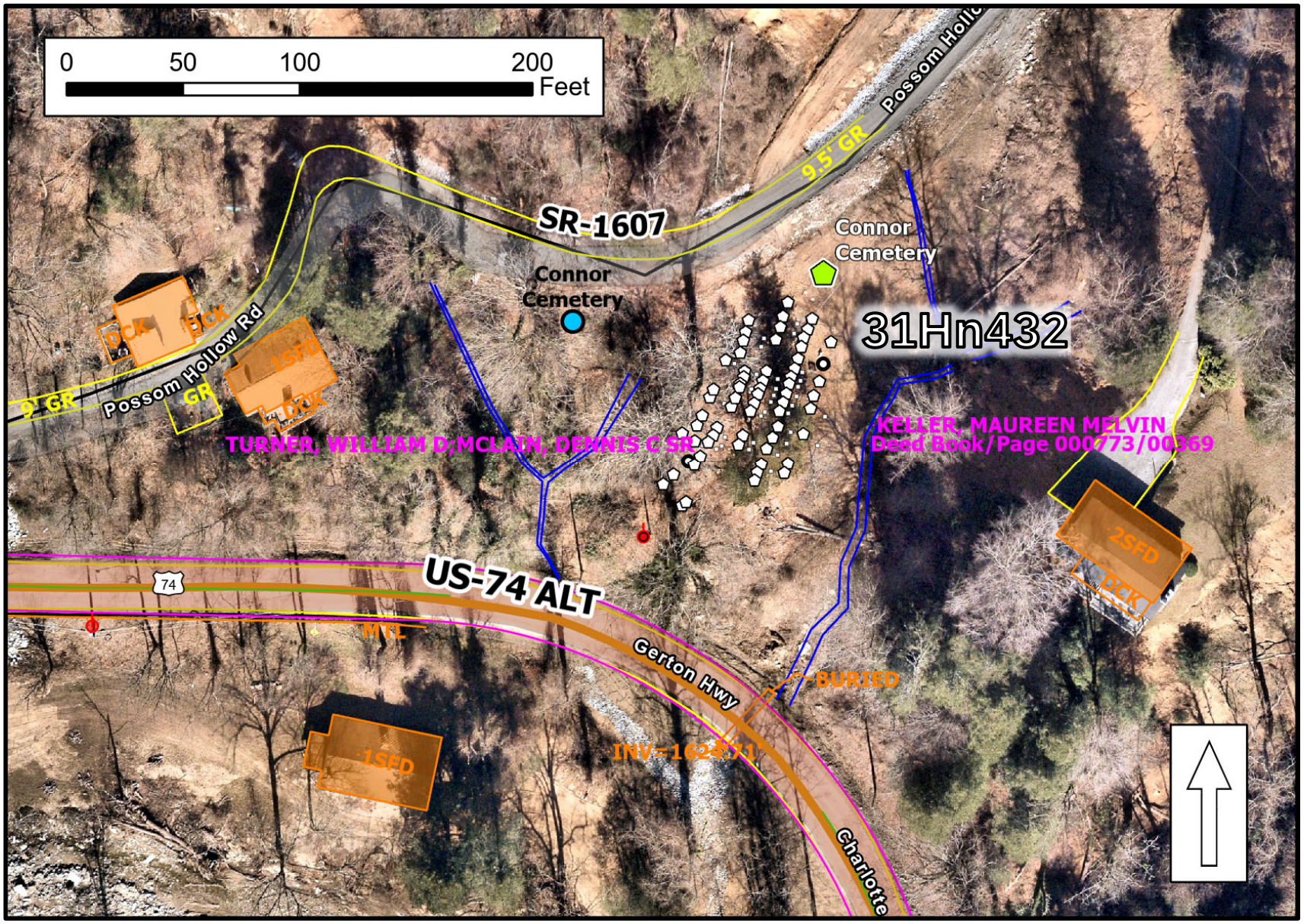

Figure 2. Aerial dated January 2025 showing pattern of headstones at Conner Cemetery (white pentagons). Storm damage, mountain slides, and debris are visible. Note previous, incorrectly mapped cemetery location, a blue dot west of the cemetery.

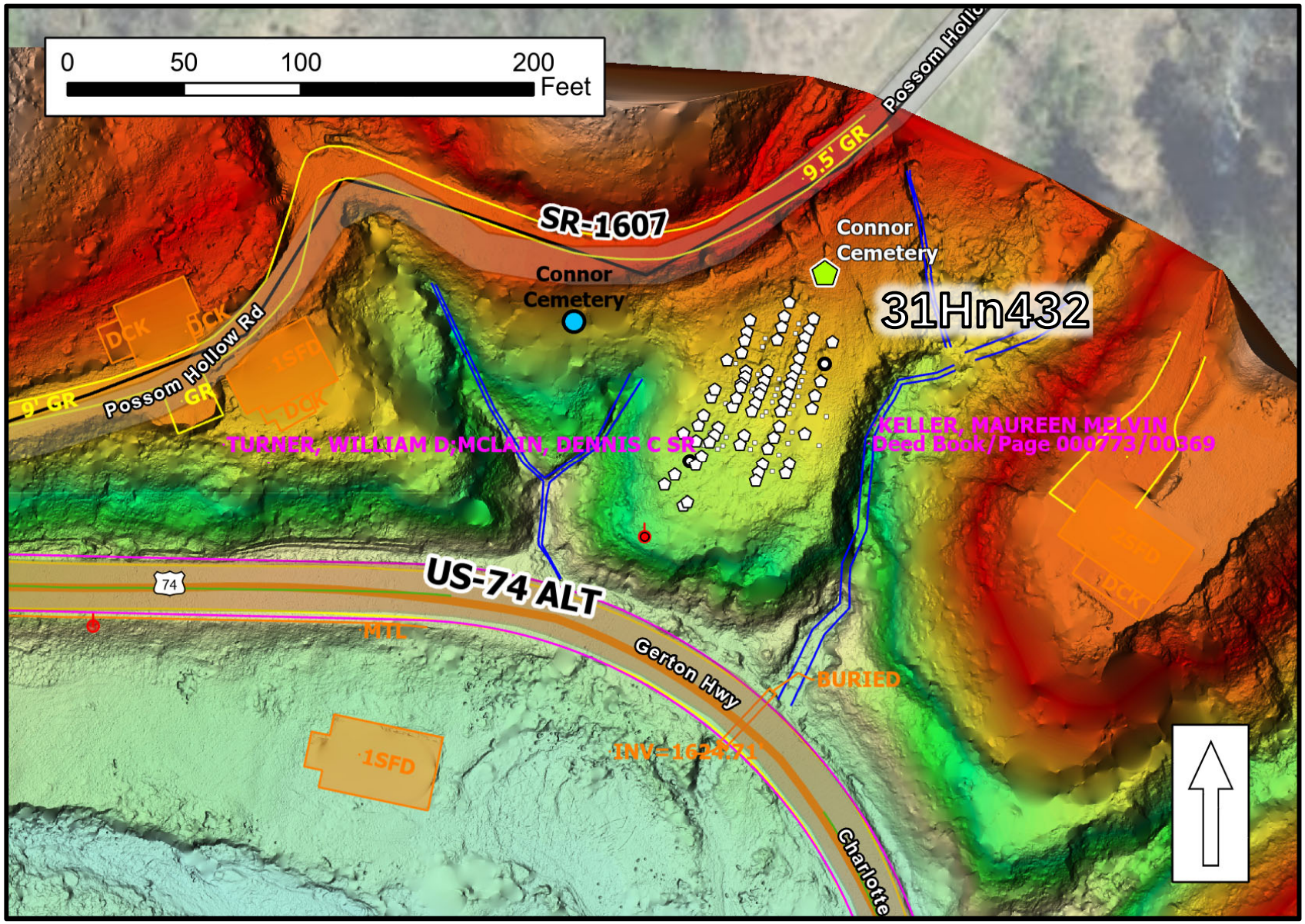

Figure 3. Post-Helene LIDAR-based 3D imaging highlights the extreme topographic setting of the cemetery perched above US 74. The cemetery is flanked by deep drainages, a very steep southern slope, and the mountain slide to the north.

Figure 4. View of Conner Cemetery, facing west on the northern section adjacent to Possom Hollow Road, which has been temporarily repaired following a mountain slide cause by Helene's rains. The photograph highlights that a significant amount of this slide's overburden has been removed from around these northern gravestones.

Figure 5. Conner Cemetery, facing northeast from near the top of the slope over US 74A. Periwinkle, cedars, and other ornamentals survived in this section. Years of sheetwash buried three horizontal markers, though they were relocated and mapped. Note the riprap used for terrain repair in the background at the road and side slope.

Figure 6. Aftermath of Helene-induced mountain slides above Conner Cemetery, facing southeast. The cemetery is seen in the upper right corner. Possum Hollow Rd. is just beyond the picture frame. Note grading and slope stabilization.

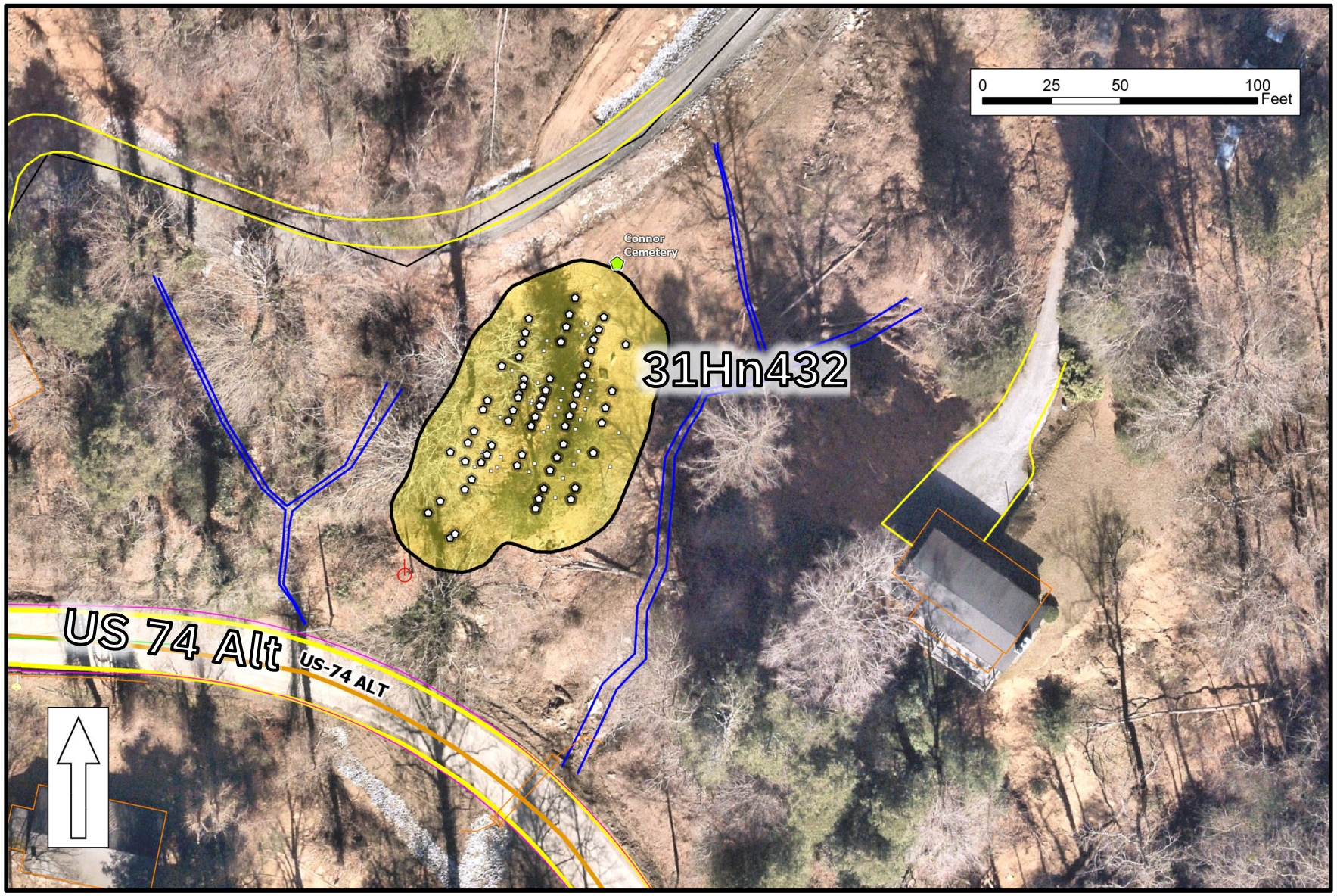

Figure 7. Detailed aerial at Conner Cemetery showing the boundary of archaeological site 31Hn432 (shaded yellow) and immediate surroundings. Emergency repairs from Helene's damage are visible, including grading and placed riprap.

Historic Architecture & Landscapes

North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Josh Stein
Secretary Pamela B. Cashwell

Office of Archives and History
Deputy Secretary Darin J. Waters, Ph.D.

February 1, 2026

MEMORANDUM

TO: Mary Pope Furr mpfurr@ncdot.gov
Historic Architecture Group
NC Department of Transportation

FROM: Renee Gledhill-Earley
Environmental Review Coordinator

SUBJECT: Helene Permanent Repairs on US74 A from Bearwallow Mountain Road to Red Anderson Road, Henderson County, TIP# none, WBS# 49082.2.14, PA# 25-01-0001, ER 26-0013

Thank you for your December 22, 2025, memorandum transmitting the Historic Structures Survey Report (HSSR) for the above-referenced undertaking. We have reviewed the report, accepted it as final, and offer the following comments.

We concur that Ceif Huntley House (HN1178), Connor Cemetery (HN1118), and Hardison Summer House (HN1156) are not eligible for listing in the National Register of Historic Places under any Criteria.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@dncr.nc.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Tribal Coordination

Docusign Envelope ID: 44270CC7-3599-41B5-B6D0-58E68069F4BD

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

January 6, 2025

Dr. Wenonah Haire
Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, SC 29730

Dear Dr. Haire,

The North Carolina Department of Transportation is currently working on environmental and engineering studies for the permanent repair to US 74A due to the damage caused by Hurricane Helene. The repair area extends approximately 4.8 miles on US 74A from Bearwallow Mountain Road in Gerton to the US 64 / US 74A / NC 9 intersection in Henderson County.

The Federal Highway Administration (FHWA) is the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) and a Permit is anticipated under the Section 404 Process with the USACE. A project vicinity map is attached. The coordinates for this project are approximately: Western terminus: 35.479, -82.348, Eastern terminus: 35.453, -82.289.

We would appreciate any information you might have that would be helpful in evaluating potential environmental impacts of the project including recommendation of alternates to be studied. Your comments may be used in the preparation of a NEPA Environmental Document. In accordance with Section 106 of the NHPA, we also request that you inform us of any historic properties of traditional religious or cultural importance that you are aware of that may be affected by the proposed project. Be assured that, in accordance with confidentiality and disclosure stipulations in Section 304 of the NHPA, we will maintain strict confidentiality about certain types of information regarding historic properties. Additionally, our ongoing studies will be provided to you if any applicable resources are identified.

Please respond by January 31 so that your comments can be used in the scoping of this project. Due to the emergency nature of this project, comments received before January 31 are greatly appreciated.

If you have any questions concerning this project, or would like any additional information, please contact me at johnjamison@ncdot.gov or (919) 707-6140.

Thank you,

DocuSigned by:
C4084B4A6412432...

John Jamison, NCDOT Environmental Policy Unit Head

Cc: Matt Wilkerson, NCDOT Archaeology Team Leader
Crystal Amschler, USACE Project Manager
Clarence Coleman, FHWA NC Division

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH, NC 27699-1598

Telephone: (919) 707-6000
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
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RALEIGH, NC 27610

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

January 6, 2025

Elizabeth Toombs
Tribal Historic Preservation Officer
PO Box 948
Tahlequah, OK 744465

Dear Ms. Toombs,

The North Carolina Department of Transportation is currently working on environmental and engineering studies for the permanent repair to US 74A due to the damage caused by Hurricane Helene. The repair area extends approximately 4.8 miles on US 74A from Bearwallow Mountain Road in Gerton to the US 64 / US 74A / NC 9 intersection in Henderson County.

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STATE OF NORTH CAROLINA
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JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

January 6, 2025

Russell Townsend
Tribal Historic Preservation Officer
2077 Governors Island Road
Bryson City, NC 28713

Dear Mr. Townsend,

The North Carolina Department of Transportation is currently working on environmental and engineering studies for the permanent repair to US 74A due to the damage caused by Hurricane Helene. The repair area extends approximately 4.8 miles on US 74A from Bearwallow Mountain Road in Gerton to the US 64 / US 74A / NC 9 intersection in Henderson County.

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

January 6, 2025

PO Box 580
Okmulgee, OK 74447

To Whom it May Concern,

The North Carolina Department of Transportation is currently working on environmental and engineering studies for the permanent repair to US 74A due to the damage caused by Hurricane Helene. The repair area extends approximately 4.8 miles on US 74A from Bearwallow Mountain Road in Gerton to the US 64 / US 74A / NC 9 intersection in Henderson County.

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

January 6, 2025

Roger Cain
Section 106 Coordinator
PO Box 746
Tahlequah, OK 74465

Dear Mr. Cain,

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Legend

- US74A Gerton Study Area
- County Boundary
- Stream

N

0 0.25 0.5 Mile

Figure 1.
Study Area Map
US 74A Gerton Highway
Hurricane Helene Emergency Repair Project
in Henderson County

Sources: NCDOT, ESRI ArcGIS Basemap, HNTB. 2024.