

# Fish Lake Trail Connection Study

## Concept Development Report

March 2021 | Final Report







# Acknowledgements

This Concept Development Report is the result of the effort and input of the City of Spokane and the Project Advisory Committee which was comprised of Neighborhood Councils and Special Interest Groups. A special thanks is extended to everyone who participated in the process and provided input on the study to make this connection the best it can be and reach its full potential as a valuable asset to the community.

- Neighborhood Councils
  - Grandview/Thorpe (Joy Sheikh)
  - Latah/Hangman (Kai Huschke)
  - Peaceful Valley (Bill Forman / Jan Loux)
  - West Hills (Karen Carlberg)
- Special Interest Groups
  - Spokane Tribe of Indians (Randy Abramson)
  - Friends of the Fish Lake Trail (Dan Schaffer)
  - Inland Northwest Trails Coalition (Lunelle Haught)
  - Bicycle Advisory Board (Grant Shipley)
  - Friends of the Bluff (Pat Keegan)
  - Friends of the Centennial Trail (Loreen McFaul)
  - Washington State Parks (Diana Dupuis)
  - Spokane Bicycle Club (Jim O'Hare)
  - Disc Golf Club (Jeremy Thornton)
- City of Spokane
  - Integrated Capital Management (Nathan Anunson)
  - Traffic Planning (Inga Note)
  - Pedestrian and Bicycle Planning (Colin Quinn-Hurst)
  - Parks Department (Nick Hamad)



# Concept Development Report

March 2021

Prepared for:

City of Spokane  
Integrated Capital Management  
808 West Spokane Falls Boulevard  
Spokane, WA 99201

Prepared by:

KPFF Consulting Engineers  
1601 Fifth Avenue, Suite 1600  
Seattle, WA 98101

Subconsultants:

Alta Planning + Design  
1402 Third Avenue, No. 206  
Seattle, WA 98101

Anderson Environmental Consulting, LLC  
14234 North Tormey Road  
Nine Mile Falls, WA 99026

Historical Research Associates  
1904 Third Avenue, No. 240  
Seattle, WA 98101

Budinger & Associates  
1101 North Fancher Road  
Spokane Valley, WA 99212

H2  
7600 North Mineral Drive, No. 900  
Coeur d'Alene, ID 83815

This page intentionally left blank.

# Table of Contents

<b>1. Executive Summary</b> .....	<b>2</b>
<b>2. Introduction</b> .....	<b>3</b>
Report Objectives .....	3
Project Funding and Schedule .....	3
Existing Trails and Connections .....	3
Previous Studies .....	4
Project Goals .....	4
Relevant Standards and Design Criteria .....	5
Stakeholder and Public Engagement .....	6
Project Advisory Committee (PAC) .....	6
Public Outreach .....	6
Transportation Subcommittee and Transportation Technical Committee .....	7
<b>3. Resource Inventory and Compliance</b> .....	<b>7</b>
Natural Resources .....	8
Cultural Resources .....	9
Neighborhood Impacts, Equity, and Social Justice .....	11
Permits, Reviews, and Approvals .....	11
Utilities.....	13
Competing Uses in High Bridge Park .....	14
Stormwater Design .....	14
<b>4. Overview of Alignments</b> .....	<b>14</b>
Beginning and Endpoints and Elevations .....	14
Crossing Latah Creek and Riverside Avenue .....	16
<b>5. Detailed Description of Alignment Alternatives</b> .....	<b>18</b>
Red Alignment .....	18
Blue Alignment.....	20
Purple Alignment.....	22
Green Alignment .....	23
Thorpe Road Connection.....	25
<b>6. Evaluation of Alternatives</b> .....	<b>26</b>
Evaluation Criteria.....	26
User Experience .....	26
Environmental.....	28
Cultural Resources .....	28
Compliance.....	28
Constructability .....	28
Construction Cost.....	29
Alternatives Evaluation .....	29
Public Input.....	29
Red Alignment – Riverside / Government Way.....	30



Blue Alignment – Through High Bridge Park.....	31
Purple Alignment – Through High Bridge Park .....	32
Green Alignment – East of Latah Creek.....	33
Thorpe Road Connection .....	34
Evaluation Matrix .....	34
Recommended Alternative .....	35

## List of Figures

Figure 3-1: Critical Areas .....	9
Figure 4-1: Latah Creek Bridge - Blue & Purple Alternatives (ST-1).....	17
Figure 4-2: Latah Creek Bridge - Red Alternative (ST-2).....	17
Figure 4-3: Latah Creek and West Riverside Avenue Bridge - Red Alternative (ST-3) .....	17
Figure 5-1: South Government Way Channelization .....	19
Figure 5-2: South Government Way Channelization at Retaining Wall .....	19
Figure 5-3: South Milton Street and West 8th Avenue .....	21
Figure 5-4: West 11th Avenue Bridge Modifications .....	24
Figure 6-1: Comment Types by Route .....	30

## List of Tables

Table 2-1: AASHTO Trail Design Guidelines .....	5
Table 3-1: Environmental Permit Matrix .....	12
Table 6-2: Alternatives Evaluation Matrix .....	35

## Appendices

- Appendix A – Concept Alignment Plans
- Appendix B – Public Comments
- Appendix C – Cost Estimates
- Appendix D – Environmental Review – Fish Lake Trail Connection Study
- Appendix E– Existing Utility Information
- Appendix F – Geotechnical Memorandum

# 1. Executive Summary

The City of Spokane Parks and Recreation is proposing to extend the Fish Lake Trail to formalize the connection to the Spokane River Centennial State Park Trail (Centennial Trail) and the South Gorge Trail. In its entirety, the Fish Lake Trail will extend over 6.5 miles from Queen Lucas Lake in the south to the Centennial Trail on the north side of the Spokane River. There exists a gap in the alignment where the trail crosses two BNSF rail lines. These projects have been designed and are currently pending funding for construction. The proposed connection would begin at the current northern terminus of Fish Lake Trail, located at South Lindeke Street near the I-90 and US 195 interchange, and end at the Sandifur Bridge and People's Park trailhead off Clarke Avenue. The study will also evaluate options for providing a connection to the trail from Thorpe Road. This Concept Development Report (CDR) documents the preliminary planning and alternative improvement evaluations considered to make this connection.

Fish Lake Trail is a key component of the City's network of regional trails, which are shared-use paths, providing access for both pedestrians and bicyclists, and are part of the regional transportation plan. Shared-use paths are designed to American Association of State Highway and Transportation Officials (AASHTO) standards.

Users are anticipated to be a combination of recreational users as well as commuters. A goal of this project is to provide improved access to other trails and State Parks, but this connection will also provide a more direct connection to the commercial and business districts of downtown Spokane for the communities of West Hills, Latah/Hangman, Vinegar Flats and Grandview/Thorpe neighborhoods.

The study reviewed existing documentation including previous studies, historical ownership, traffic data, as-built documents of structures and utilities, GIS data and available topographic information. The topographic information was supplemented in critical areas with field survey to validate the accuracy of the information. Field reconnaissance was performed to validate the concepts and collect information regarding existing conditions, utilities, and environmentally sensitive areas.

Environmental and Cultural Resources were reviewed using available databases, existing reports and by conduct. A field survey was conducted to identify natural or potential cultural resources or historic property concerns that should be considered in the alternatives analysis.

This study evaluated four routes:

1. Routing the trail north along the existing Government Way shared-use path, then building a new path easterly through park land along the south side of Riverside Avenue to Latah Creek.
2. Traversing the hillside beneath the Railroad Bridge and High Bridge and continuing north through High Bridge Park to Riverside Avenue on the west side of Latah Creek.
3. Traversing the hillside underneath the railroad and High Bridge, then turning north and through High Bridge Park on the existing road.
4. Traversing the hillside underneath the railroad and High Bridge south, then crossing the 11th Avenue Bridge and following the existing gravel sewer easement north to Riverside Avenue on the east side of Latah Creek.

Factors were considered in determining the best solution for the connection. Among these were:

- User Experience (connections, grades, safety, interpretive opportunities)

- Environmental Impacts
- Cultural Resource Impacts
- Constructability
- Construction Costs

The preferred alignment has been identified as the Red Alignment which follows South Government Way with a shared-use path along the east side of the road before traversing the northern limits of High Bridge Park and crossing of West Riverside Drive and Latah Creek with a grade-separated with a pedestrian bridge. The alignment terminates at the trailhead parking lot of the South Gorge Trail and the Sandifur Bridge providing access to the Centennial Trail.

Priorities as the City moves forward with this project include development of the preferred concept to a 30% design level and refining the cost estimate. It is likely that implementation of the project may need to be further defined as smaller projects based on available funding. Developing an implementation plan will need to consider fully-developed sections of the trail that cover a shorter distance versus longer distances that have less developed sections. A discussion over the priorities will be needed with City staff and stakeholders to identify limits and define the scope of a phased implementation.

## 2. Introduction

### **REPORT OBJECTIVES**

The objective of this CDR is to evaluate and document the decision criteria and methodology used to evaluate the alignment alternatives for the connection between the Fish Lake Trailhead, located near the I-90 / US 195 interchange, and the Centennial Trail on the north side of the Spokane River. Additionally, the project will provide a connection from Fish Lake Trail to Thorpe Road in order to improve accessibility to the Canyon Bluffs and Vinegar Flats communities.

Factors considered in the evaluation process include, but are not limited to: effectively making connections to the existing network, user experience, grades, safety, impacts to cultural resources and environmentally critical areas, constructability considerations and costs.

### **PROJECT FUNDING AND SCHEDULE**

The project proponent is the City of Spokane Department of Integrated Capital Management. The City received a grant in the form of Transportation Alternatives Program (TAP) funding from the Spokane Regional Transportation Council (SRTC) to perform this study. Upon the selection of the preferred alternative, preliminary design will be funded through the City. Funding for construction has not been identified at this time.

### **EXISTING TRAILS AND CONNECTIONS**

The network of existing trails in the region includes:

- The Centennial Trail which is located along the north side of the Spokane River and accessed via the Sandifur Bridge.

- Fish Lake Trail that extends south to Queen Lucas Lake and north providing access to Spokane Falls Community College. Continuous access to Queen Lucas Lake is interrupted by two crossings over two active BNSF rail lines. This missing link has been designed but requires funding of \$8 million to construct the bridge crossings.
- South Gorge Trail has a trailhead on Clarke Avenue at the intersection of Riverside Avenue near the south end of the Sandifur Bridge. The trail leads east from the trailhead along the south side of the Spokane River to Riverfront Park creating a loop with the Centennial Trail on the north side of the river.
- Trolley Trail in the Grandview/Thorpe neighborhood is currently an unimproved trail used by walkers, runners and mountain bikers. It is managed by the City of Spokane Parks and Recreation.

## **PREVIOUS STUDIES**

Previous planning efforts of several groups and agencies have recommended similar improvements to regional parks, recreational areas, and the non-motorized transportation network and has informed elements of this concept study.

- The Great Spokane River Gorge Strategic Master Plan (2005)
- Parks and Recreation Roadmap to the Future (2010)
- Spokane County Regional Trail Plan (2014)
- Peaceful Valley Neighborhood Action Plan (2015)
- Spokane Comprehensive Plan including the Spokane Bicycle Master Plan (2017)
- Latah Valley Hangman Creek Trail Corridor Trail Concept Study (2018)
- Sunset Highway / U.S. Route 2 Pathway (2018)

## **PROJECT GOALS**

The project goals are to provide a connection between the Fish Lake and Centennial Trails while at the same time improving access and connections to the neighboring communities. An additional goal is improving the experience of High Bridge Park by making the park more accessible and increasing park use. The newly constructed bike lane beginning at West Sunset Boulevard and South Government Way will also benefit from the connectivity this project will provide.

The design alternatives proposed in this report have been evaluated using the following criteria:

- User Experience
- Environmental Compliance and Critical Area Impacts
- Cultural Resources Avoidance
- Permitting Compliance
- Constructability
- Construction Costs

## RELEVANT STANDARDS AND DESIGN CRITERIA

The alternatives developed for this study are based on the following guidance manuals and design standards:

- AASHTO Guide for the Development of Bicycle Facilities (2012)
- AASHTO Green Book: A Policy on Geometric Design of Highways and Streets, 5th Edition (2011)
- NACTO Urban Bikeway Design Guide
- AASHTO Geometric Design of Very Low-Volume Local Roads (2001)
- AASHTO LRFD Guide Specifications for Design of Pedestrian Bridges, 2nd Edition (December 2009 with Interim Revisions)
- AASHTO Guide Specifications for LRFD Seismic Bridge Design, 2nd Edition (2011 with Interims through 2015)
- AASHTO LRFD Bridge Design Specifications, Eighth Edition (2017)
- WSDOT Design Manual (2019)
- WSDOT Bridge Design Manual (2019)
- City of Spokane Engineering Services Design Standards

**Table 2-1: AASHTO Trail Design Guidelines**

Fish Lake Trail Connector	
Trail Width	10 feet min, 14 feet desired 12 feet proposed 16 to 18 feet along switchbacks
Shoulder Width	2 feet
Railings and Fall Protection	54-inch height
Design Speed	18 to 22 mph
Grade	5% maximum

The design speed of the trail will be selected based on the final alternative chosen. Some of the alternatives have longer segments of sustained grade approaching the maximum allowable of five percent. In these cases, a higher design speed will be selected to account for cyclists traversing downhill.

Due to the challenging grades, design deviation may become necessary. If topographic challenges present a situation where horizontal curve radii are smaller than needed for the proposed design speed, warning signs will be implemented to help alert the user. It may also be beneficial to widen the trail in these challenging areas, similar to the widening required for switchbacks.

Roadway crossings may occur beyond the calculated vehicular sight distance at Riverside Drive. If this is found to be the case, mitigating pedestrian signals and signage will be installed to alert drivers of the crossing.



## **STAKEHOLDER AND PUBLIC ENGAGEMENT**

A Community Involvement Plan was prepared for this project to establish timely, transparent, understandable, and objective communications and create ample opportunities for public and stakeholder engagement throughout the alternatives analysis and preliminary design process.

The Community Involvement Plan (Plan) included the following elements:

### **Project Advisory Committee (PAC)**

The PAC was established of stakeholder groups to help guide the study on behalf of key stakeholders and was comprised of the following Neighborhood Councils and Special Interest Groups:

- Neighborhood Councils
  - Grandview/Thorpe
  - Latah/Hangman
  - Peaceful Valley
  - West Hills
- Special Interest Groups
  - Spokane Tribe of Indians
  - Friends of the Fish Lake Trail
  - Inland Northwest Trails Coalition
  - Bicycle Advisory Board
  - Friends of the Bluff
  - Friends of the Centennial Trail
  - Washington State Parks
  - Spokane Bicycle Club
  - Disc Golf Club
- City Departments
  - Integrated Capital Management
  - Pedestrian and Bicycle Planning
  - Traffic Planning
  - Parks Department

### **Public Outreach**

The outreach efforts included engagement opportunities with the PAC as well as the general public. All events were held virtually. The outreach events include three meetings with the PAC with two outreach events to the public. The three Phase 1 PAC meetings are summarized as follows:

#### PAC Meeting No. 1 – Study Goals, Issues, and Opportunities

The intent of this initial meeting which was intended to be held upon completion of the baseline conditions studies was to affirm the study goals and objectives, discuss preliminary baseline conditions findings, and discuss issues, opportunities, and solution ideas with the PAC.

#### PAC Meeting No. 2 – Initial Alternatives, Evaluation Process

The second meeting with the PAC was held upon completion of the alternatives development tasks. The purpose of this meeting was to review initial alternative solutions and review evaluation process and criteria with the PAC.

#### PAC Meeting No. 3 – Evaluation Results, Preferred Solution

The third and final PAC Meeting was held upon completion of the alternatives evaluation. The purpose of this meeting was to review evaluation process results and the preferred solution with the PAC. Refinements to the preferred solution will be incorporated into the 30% design upon the completion of the study.

The two Phase 1 public meetings are summarized as follows:

#### Public Meeting No. 1 – Study Objectives, Initial Alternatives, Evaluation Process

Public Meeting No. 1 was held following completion of the alternatives development tasks and after PAC Meeting No. 1. The purpose of this meeting was to introduce the project, review goals and objectives, explore issues and opportunities, introduce initial alternative solutions, and review evaluation process and criteria with the community. Initial feedback gathering will focus on user acceptability/preference of the possible alternatives.

#### Public Meeting No. 2 – Evaluation Results, Preferred Solution

Public Meeting No. 2 was held upon completion of the alternatives evaluation and after PAC Meeting No. 2. The purpose of this meeting will be to review evaluation process results and the preferred solution with the community and to gather feedback to enhance the user experience for the preferred solution. Refinements to the preferred solution will be incorporated into the 30% design.

#### **Transportation Subcommittee and Transportation Technical Committee**

The project was presented to the City's Transportation Sub-Committee of the Plan Commission on October 6, 2020, and the Transportation Technical Committee (TTC) of the Spokane Regional Transportation Council on November 3, 2020. The presentations provided a general overview of the project but was specifically to inform the Transportation Sub-Committee and City Plan Commission of changes being considered to South Government Way and the closure of High Bridge Park Road to traffic permanently.

### **3. Resource Inventory and Compliance**

An environmental review of the project was prepared by Anderson Consulting in order to provide a comparison of the potential impacts associated with each of the alternatives to the natural and built environment. A Cultural Resource review was prepared by Historical Research Associates, Inc. to specifically provide a review of the archaeological and historical issues associated with the trail alignments.

## NATURAL RESOURCES

There is a variety of protected resources and critical areas within the project vicinity. These include aquatic resources, shorelines of the State, riparian habitat, flood plains, geological hazards, a sole source aquifer and the presence of priority habitat and species.

There are no wetlands identified or delineated through the City of Spokane GIS. However, a formal aquatic resource delineation has not been conducted, and a potential hillside seep wetland may exist between I-90 and Sunset Boulevard over Latah Creek.

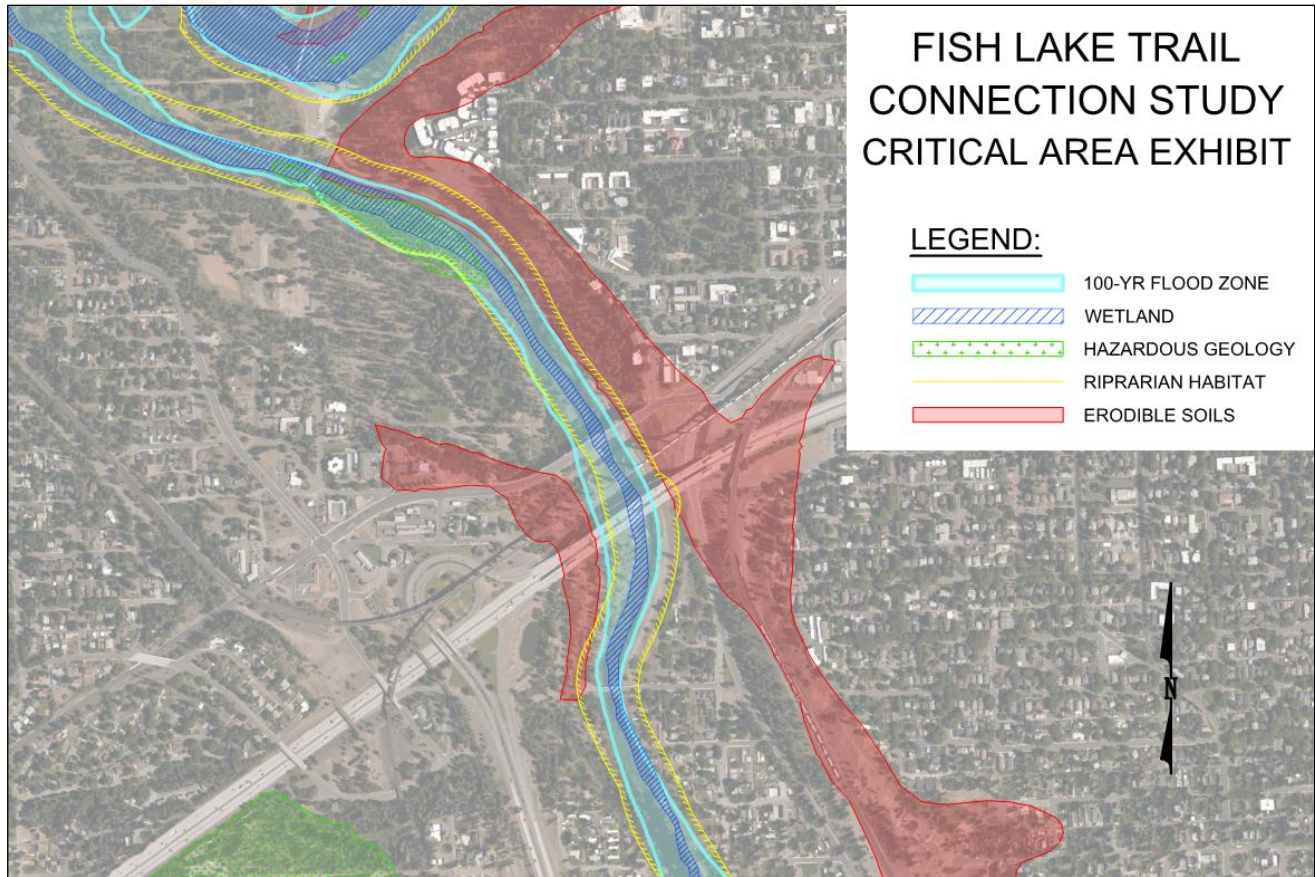
The aquatic resources within the study area include Latah Creek, Garden Springs Creek, the Spokane River and wetlands associated with these water bodies. They are regulated under the City's Critical Areas Ordinance and the Clean Water Act. A single potential seep wetland was identified by Anderson Consulting on their site visit in June of 2020. The seep is located along the steep slope adjacent to High Bridge Park Road, which the design of the trail should take efforts to avoid. New pedestrian bridges associated with three of the four alternatives may result in direct impacts to Latah Creek.

Latah Creek and the Spokane River are both within the jurisdiction of the City of Spokane's Shoreline Management Plan (SMP) which includes associated wetlands, floodways, and the 100-year floodplain. The project must incorporate and comply with the requirements of the SMP related to the shoreline buffer, shoreline districts and designations, design standards, and the requirements for recreational uses. The two water bodies are also within the Urban Conservancy Environment environmental designation, which extends the shoreline jurisdiction and buffer 200 feet landward from the ordinary high-water mark. Recreational development, such as this trail, is allowed within the shoreline jurisdiction under a conditional use permit with a habitat management plan.

The riparian habitat areas (RHA) are area-protected under the Spokane Municipal Code as wildlife habitat bounding aquatic resources that support fish and other wildlife. The widths of these areas are defined in the code as the outer edge of the 100-year floodplain or 130 feet from the ordinary high-water mark, whichever is greater. Latah Creek within the Project Area is within riparian zone 5 and the Spokane River is within riparian zone 2. Trails are allowed within these zones but require a habitat management plan.

Any new bridges that have piers or abutments placed within the Zone A designated floodplain will require a Floodplain Development Permit from the City. Use of existing bridges, such as is proposed as part of the Green Alignment using 11th street bridges to cross Latah Creek, would avoid impacts to the floodplain.

A single geological hazard has been identified which is along the slope beneath the I-90 and Sunset Boulevard Bridges. This slope, along which three of the alignments will traverse, has been identified as being comprised of erodible soils. The slope along the right bank of Latah Creek, along the toe of which the Green Alignment will traverse, is also identified as an erodible slope. See Figure 3-1 for a depiction of all critical areas near the project area.



**Figure 3-1: Critical Areas**

**CULTURAL RESOURCES**

A Cultural Review of the alternatives was conducted by Historical Research Associate, Inc. (HRA) in July of 2020. The study provided high level information on potential cultural resource or historic property concerns for each alignment and the Thorpe Road Connector. While the alignments have evolved slightly since that time to address site-specific challenges or other improvements to the trail, the changes do not affect the findings of this review. A full assessment of NRHP eligibility will be conducted for the selected option during the design process.

Background research identified previously recorded cultural resources located near or adjacent to each of the alignment alternatives. The DAHP predictive model, which is used to establish probabilities for precontact cultural resources, depicts all four alignment alternatives as within a Very High-Risk area, primarily due to the proximity of the Spokane River and Hangman (Latah) Creek, and the use history throughout the precontact and historic periods. The research also identified data gaps in the vicinity of and adjacent to all four alignments, as discussed in each option below.

The DAHP predictive model places the Thorpe Rd. Connector within a Very High-Risk area for archaeological resources. In addition, two archaeological sites lie within the Thorpe Road Connector.

The Thorpe Road Connector may affect a historic-period resource with any changes to the existing tunnel beneath the BNSF alignment. The tunnel was built in 1913 and is a board-formed poured concrete, closed-spandrel arch railroad viaduct over Thorpe Road on the BNSF Spokane Subdivision (DOT Crossing Inventory No. 095928U). This historic-period resource has not been surveyed or recorded and has no determination of NRHP eligibility.

HRA reviewed archaeological and architectural site records, previous cultural resources studies, and DAHP's predictive model for the three alignments alternatives. As noted above, there are two archaeological sites within the Thorpe Road Connector (45SP569 and 45SP570), but both have been determined to be not eligible for listing in the NRHP. While the connector is located in a Very High-Risk area, the entire alignment has been previously surveyed for archaeological resources, and no other resources have been identified. All options utilize the Thorpe Road Connector, which travels through the BNSF Spokane Subdivision viaduct tunnel. The viaduct is an historic-period resource associated with the growth of Spokane County's transportation infrastructure, which may need to be evaluated for listing in the NRHP depending on the potential for Project effects.

The Red Alignment is located in a Very High-Risk area for archaeological resources, and, although no archaeological resources have been previously recorded within the alignment, most of it has not been surveyed. The alignment is located within 10 m of unevaluated site 45SP551, which includes the structural remnants of an unknown commercial operation. There is no NRHP-listed resource located within or adjacent to the alignment, though one park (the 1908 High Bridge Park) may be eligible for NRHP listing. Option 3 also aligns adjacent to historic-period residential resources associated with the West Hills neighborhood, which may need to be evaluated for listing in the NRHP depending on the potential for project effects. Additionally, Option 3 would construct a new bridge atop the relic piers of the no longer extant High Bridge, which may need to be evaluated for listing in the NRHP depending on the potential for project effects

Additionally, the Red Alignment would construct a new bridge atop the relic piers of the no longer extant High Bridge, which may need to be evaluated for listing in the NRHP depending on the potential for project effects.

The Blue and Purple Alignments is located in a Very High-Risk area for archaeological resources and is within 70 m of an unevaluated precontact archaeological site (Site 45SP16); most of the alignment has not been surveyed for archaeological resources. One NRHP-listed resource (the 1911 Sunset Boulevard Bridge) is located within these alignments. The alignment is proximate to two additional historic-period bridges (the 1920 Riverside Avenue Bridge and the 1972 BNSF Hangman Creek [Latah Junction] Bridge) and one park (the 1908 High Bridge Park), all of which may be eligible for NRHP listing.

Blue and Purple also align adjacent to historic-period residential resources associated with the West Hills neighborhood, which may need to be evaluated for listing in the NRHP depending on the potential for project effects.

The Green Alignment is located in a Very High-Risk area for archaeological resources, includes the locations of two known archaeological sites (Sites 45SP266 and 45SP713), and is within approximately 60 m of two additional archaeological sites (Sites 45SP17 and 45SP438). One of these sites (45SP266) is eligible for the NRHP, while the others are unevaluated. Only a portion of the alignment has been surveyed for archaeological resources. One NRHP-listed resource (the 1911 Sunset Boulevard Bridge) is located within the Option 2 alignment. The alignment is proximate to three additional historic-period bridges (the 1927 11th Avenue Bridge, 1920 Riverside Avenue Bridge, and the 1972 BNSF Hangman Creek [Latah Junction] Bridge), all of which may be eligible for NRHP listing. Portions of the Option 2 alignment are adjacent to two NRHP-listed historic



districts (the Ninth Avenue Historic District and the Browne’s Addition Historic District). Option 2 also aligns adjacent to historic-period residential resources associated with the West Hills neighborhood, which may need to be evaluated for listing in the NRHP depending on the potential for Project effects.

## **NEIGHBORHOOD IMPACTS, EQUITY, AND SOCIAL JUSTICE**

Pro-equity practices, processes, and outcomes are reviewed throughout the project lifecycle. A public Communications and Outreach Plan was developed for this project that identified project stakeholders and provided an outreach strategy to inform the public of the status and scope of the project and to receive input and feedback on the alternatives. There exist minority and low-income populations within a 1-mile radius of the study area. The stated goals of this project are to improve connections from adjacent neighborhoods to trails that can connect users to downtown and other areas of the city. It is anticipated that this project will be a benefit to the local community. No residential relocations are required for the project.

Depending on the alternative selected, construction of the project may result in impacts to traffic on South Government Way. Changes to the channelization on South Government Way may result in traffic impacts which will need further study to assess the impacts to level of service.

There are a number of residential properties near some of the proposed alternatives. The project will increase pedestrian traffic which may raise privacy and safety concerns with these property owners. These properties include residences near Milton Street and 8th Avenue, and at West 11th Avenue and High Bridge Park Road.

Minority and low-income populations are present within close proximity of the Project area. The Project is expected to be beneficial to any populations present in the area. Displacements or significant acquisitions are not anticipated as part of the project.

There exists unauthorized camping by homeless populations along the shoreline of Latah Creek and within High Bridge Park. The increased public use and maintenance of the trail could discourage this activity and displace some of the homeless population but would also improve public safety.

High Bridge Park, Fish Lake Trail and Centennial Trail are publicly owned parks or recreational areas that are 4(f) resources, and as such will require approval from the agency with jurisdiction, whether that is FHWA or WSDOT, for impacts to these areas, public involvement and potentially mitigation.

## **PERMITS, REVIEWS, AND APPROVALS**

Anticipated permits and approvals are listed in the table below. This list will be updated as necessary as the design of the selected alternative is developed. During the subsequent design phase, as the project develops and those elements can be better defined, all applicable permits and approvals will be pursued. In addition, the project design will be reviewed by the Spokane Nation of Tribes. Descriptions of the necessary and potential permits, approvals, and environmental review processes that may be needed for this project include the following:

Funding for the Project is provided through a Transportation Alternatives Program (TAP) grant provided by the Federal Highway Administration (FHWA) and administered by the Washington State Department of Transportation (WSDOT). Therefore, the project is subject to Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR Part 800).

**Table 3-1: Environmental Permit Matrix**

Environmental Review Process/Product or Permit/Approval	Responsible Agency	Overview of Permit/Approval Trigger	Permit/Approval Regulatory Code and Pertinent Information
<b>FEDERAL</b>			
National Environmental Policy Act	FHWA/SDOT Local Programs	Federal Nexus: funding	Approved NEPA Categorical Exclusion (CE) evaluating full range of disciplines
Threatened and Endangered species	USFWS and/or NMFS	Federal Nexus: USACE permit.	Endangered Species Act (1973), Section 7 and Section 4(d); 50 CRF, Part 402  Biological Assessment or No Effect determination required for CE/NEPA approval and 404 permits
Magnuson –Stevens Fishery and Conservation Act	NMFS	Federally funded or permitted projects that may adversely affect designated essential fish habitat (EFH).	The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267)
Section 106 Review	City of Spokane coordinates with the State Department of Archeology and Historic Preservation (DAHP) and the Spokane Tribe	Projects are screened for potential cultural resources, regardless of funding, which will determine if a survey is required to comply with Section 106 and Spokane Historic Preservation Program requirements.	Section 106 of the National Historic Preservation Act of 1966
Section 4f	City of Spokane, Spokane Tribe & DAHP	Federally funded or permitted projects that may impact parks or recreational areas.	Section 4(f) the National Historic Preservation Act of 1966
Clean Water Act Section 404 Nationwide Permit	USACE	Any discharge of fill in the waters of the U.S. (includes tidal, lakes, streams and wetlands). Includes temporary discharges such as sandbags or incidental fallback during dredging.  Threshold for using Nationwide Permit 14 (Linear Transportation Projects) is < 1/2-acre loss of freshwater, < 1/3-acre loss of tidal water.	Clean Water Act 1972 Discharges requiring a permit 33 CFR 323.3
Floodplain	DEMA and City of Spokane	Impact to 100-year floodplain and no rise certification	JARPA and No Rise Certification and Hydraulic Analysis if applicable

Environmental Review Process/Product or Permit/Approval	Responsible Agency	Overview of Permit/Approval Trigger	Permit/Approval Regulatory Code and Pertinent Information
<b>STATE</b>			
State Environmental Policy Act (SEPA)	Ecology and the City of Spokane	Work over or within water	SEPA Checklist and Determination of Non-significance
Hydraulic Project Approval (HPA)	WDFW	Working within waters of the state. This also includes work that has the potential to impact waters of the state occurring landward within 200 feet of the OHWM	Chapter 75.20 RCW Chapter 220-110 WAC
CWA-NPDES/Non-point source pollution	Ecology and City of Spokane	Greater than 1 acre and potential to discharge to waters of US	Clean Water Act, Section 401 Chapter 173-225 WAC  NPDES Notice of Intent for coverage under Construction General Permit and Stormwater Pollution Prevention Plan/Temporary Erosion and Sediment Control Plan
<b>LOCAL</b>			
Shoreline Master Program	City of Spokane and Ecology	Work within 200 feet of OHWM	Shoreline Conditional Use Permit/Shoreline Substantial Development Permit. Habitat Management Plan. Public Process (community meeting, hearing, and notices).
Critical Areas Ordinance	City of Spokane, Ecology, USACE	Impact to wetlands and/or buffers	JARPA for 404, 401 and CAO Checklist for City permit Habitat Management Plan
Environmental Justice	City of Spokane	Low income and minority populations	Communication and signage with low income and minority populations
Grading Permit	City of Spokane	Earth moving activities	Grading Permit and plans

## UTILITIES

The following utilities have been identified within the project limits:

- Sanitary Sewer, Interceptor, gravity and pressure mains
- Water Transmission and Distribution Main
- Gas Line
- Overhead Electrical Lines in north end of the park near Riverside
- Underground conductors at intersection of West Riverside Avenue and Clarke Avenue, as well as end of West 8th Avenue

Coordination with all utilities will occur during the subsequent design phases and construction process. Measures will be taken during the design phase to avoid any conflict with the identified utilities. The most significant challenge may be avoidance of the 36-inch water distribution which traverses the valley between the Sunset Boulevard Bridge and the BNSF Rail Bridge. Routing and grading design consideration should be taken to avoid cut over this line.

A 42-inch concrete sewer interceptor is located underneath the gravel path along the east bank of Latah Creek, which shares an alignment with the proposed Green alternative. Subsequent design will need to assess possible impacts from fill over the main or impacts due to wall construction. Soldier pile walls will need to be offset to avoid the utility.

Downstream of the Marne Bridge is a series of three parallel sanitary sewer siphons that run beneath Latah Creek. Assuming the existing piers are in suitable condition to be used for the new bridge, there will be no impacts to these lines.

The storm conveyance system along Government Way will need to be relocated in line with adjusted curb line in the Red Alignment.

## **COMPETING USES IN HIGH BRIDGE PARK**

The alignments have been developed with consideration of the existing uses in High Bridge Park. These include a fenced in dog park located near the northeastern corner of the park and a Disc Golf Course that is well used within the park. The course is located in the northern limits of the park and extends from Avenue A to the riparian areas adjacent to Latah Creek. As a part of this study, Disc Golf Course representatives were reached out to for recommendations and to explain planned changes. There are plans for revisions to the course but no specifics at this time. Any changes to the course will be within its existing footprint. Proposed alignments within the park can follow the existing roads as a way of avoiding any potential conflicts with the course.

## **STORMWATER DESIGN**

Stormwater mitigation will be required to address increased runoff from the new impervious surfaces associated with the selected alternative. Stormwater mitigation will be addressed in the subsequent preliminary design of the preferred alternative. For the purpose of evaluating the alternatives in this study, a qualitative approach has been taken. Those alternatives with a greater project footprint of new paved areas will require more mitigation. The Red alignment, for example, will share the existing footprint of Government Way, and therefore will require less mitigation.

# **4. Overview of Alignments**

## **BEGINNING AND ENDPOINTS AND ELEVATIONS**

Several alignments had been sketched in previous reconnaissance. All alignments begin at the Fish Lake Trailhead and end in the People's Park parking lot south of the Spokane River. The Red alignment is adjacent to Government Way and parallels Riverside Avenue as it passes through High Bridge Park, then crossing Latah Creek with a new pedestrian bridge located north of West Riverside Avenue. West Riverside Avenue is carried over Latah Creek by the Marne Bridge. The Blue alignment crosses the creek via a new bridge located

south of the Marne Bridge and passes directly through High Bridge Park, under the Sunset Boulevard Bridge before coming out of the valley at West 8th Avenue. The Green passes beneath the I-90 and BNSF bridges, crosses Latah Creek via the West 11th Street Bridge and follows the right bank of Latah Creek to reach the People's Park parking lot. During the course of this study, changes and refinements have been made to the initially defined options and a fourth – the Purple alignment – that follows the Green Alignment from the point of beginning and down the steep slopes beneath the bridges. Once at High Bridge Park Road, the Purple alignment heads north through the park following the existing roadway until crossing the creek at the same location as proposed for the Blue alignment.

All alignments run downhill from the 1900-foot elevation of the Fish Lake Trailhead to the 1750-foot elevation of the People's Park parking lot. In addition, this area slopes towards Latah Creek. Most of the alignments (Blue, Purple, and Green) utilize new wall structures to allow the trail to navigate the change in elevation and traverse across the hillside. The length of trail and steepness of the hillside results in walls of significant length and height. The Red alignment is the exception. It minimizes the number of new walls required by utilizing S Government Way,

Utilizing consistent wall types throughout the project facilitates efficiency in construction. It also allows for the direct comparison between alignment alternatives. For those reasons, the number of wall types considered for this evaluation were minimized. In general, a cut wall type was chosen that could be used for most cut walls on the project, and a fill wall type was chosen for most fill walls on the project. In subsequent design phases, once a preferred alignment is chosen and site-specific geotechnical information is available, additional wall types can be evaluated.

For the fill walls, the maximum wall heights vary from nine to 35 feet. There are two unique applications. The first is where there are no specific site constraints. This is applicable for the majority of the project area. The second application is for fill walls located under existing bridges. This second application is seen on the Green and Purple alignments that have trail switchbacks under BNSF and I-90 bridges. These two applications are distinct enough from a structural and cost perspective that they require the use of two different wall types.

For fill walls with no specific site constraints, possible wall types include concrete or metal crib walls and mechanically-stabilized earth (MSE) walls. These walls require a base width of 50-70% of their height. They are economical as long as there is not near surface bedrock that must be excavated to accommodate the base width. Excavating bedrock or adopting an alternative wall type, such as fill behind soldier piles or cast-in-place concrete walls, would add to the project's construction cost. Geotechnical investigations in the preliminary design phase will help to determine the probability of this risk being realized. In the absence of more information, MSE walls were assumed for the fill walls due to their economy, ability to accommodate soil settlement, and availability of different facing options. MSE walls can utilize sculpted shotcrete rock, precast concrete fascia panels, or rock-filled gabion baskets for facing to achieve different aesthetic goals.

For fill walls located under existing bridges, adding loads to the existing bridge foundations is a concern. One way to minimize the load from fill is to use a lightweight fill material, such as geofoam. The geofoam would be placed on top of a MSE or cast-in-place concrete base and, since this material is self-supporting, it would not require a wall structure to contain it. It is simply covered by a membrane to increase its durability and faced with precast concrete panels. In addition to minimizing loads on the existing bridge foundations, using lightweight fill in the multi-tiered walls would reduce demands for the geotechnical global stability analysis on this steep hillside.



Similar to the fill walls, there are two applications for cut walls: locations with no specific site constraints and under existing bridges, in particular the I-90 Bridge. The maximum wall heights vary from five to 27 feet. Soil nail and soldier pile walls are the preferred wall types for cut walls because during construction they do not require temporary shoring or excavation. However, soldier pile walls would not be feasible under the I-90 Bridge because overhead clearance is required for the installation of the piles. To facilitate a direct comparison between the alternatives, soil nail walls are assumed for all cut walls on the project. In future design phases, walls for the chosen alignment will be examined in further detail and additional wall types will be considered, particularly for walls with maximum heights less than 12 feet.

## **CROSSING LATAH CREEK AND RIVERSIDE AVENUE**

All alternatives will cross Latah Creek at some point, and all alternatives need to cross West Riverside Avenue. Like all waterbodies in Washington, Latah Creek is subject to a Shoreline Management Program. In addition to municipal policies and regulations, trail and bridge construction near and crossing Latah Creek is regulated by the state Department of Ecology and the US Army Corp of Engineers. Latah Creek, with a history of flooding in this reach, is approximately 60-miles long, draining more than 670 square miles of Washington and Idaho, entering the Spokane River at the study area. The Latah Creek floodplain is constrained by the existing Marne Bridge which carries West Riverside Avenue over Latah Creek.

Three options for crossing Latah Creek were considered: a new bridge using the relic High Bridge foundations (Bridge ST-2 and ST-3); a new bridge east of the Marne Bridge (Bridge ST-1); and reconfiguration of the W 11th Avenue Bridge at Vinegar Flats. A reconfiguration of the Marne Bridge was not considered due to the geometric constraints and safety considerations.

The Blue, Red, and Purple alignments could mix and match bridge alternatives (ST-1, ST-2, ST-3). All three alignments have the majority of their trail length on the west side of Latah Creek and cross the creek in the vicinity of West Riverside Avenue. The Green alignment is unique in that the majority of the trail length is on the east side of Latah Creek, and it crosses Latah creek further south, on the W 11th Avenue Bridge.

A key consideration for the Blue, Red, and Purple alignments primarily on the west side of Latah Creek is creating a safe trail crossing of West Riverside Avenue. West Riverside Avenue carries a relatively modest average of 2,270 motor vehicles per day and has a posted speed of 30 miles per hour. Observed speeds can be much higher though there are no reported collisions resulting in fatalities or serious injuries. Collisions in general in the Marne Bridge vicinity of West Riverside Avenue are not out of line with similar locations in the city, perhaps as a result of the caution motorists, cyclists, and pedestrians exercise due to obvious challenges of the alignment. Rough terrain, roadside vegetation, intersections, vehicle speeds, and roadway curvature present visibility challenges.

West Riverside Avenue crossing options include an at-grade crossing (Red Alignment, Bridge ST-2) and a grade-separated overcrossing (Red Alignment, Bridge ST-3). The at-grade crossing could feature a pedestrian refuge and rectangular rapid flashing beacons (RRFB). The Blue and Purple alignments avoid crossing West Riverside Avenue by staying south and east of the roadway.

For simplicity and to allow direct comparison between the trail alignment alternatives, all new bridge structures are assumed to be weathered steel through trusses with a concrete deck. The cost for that type of structure is around \$450 per square foot. If there is interest, signature bridge structure types such as suspension or cable-stayed can be investigated further in the next design phase. For planning purposes, a cost of \$900 per square

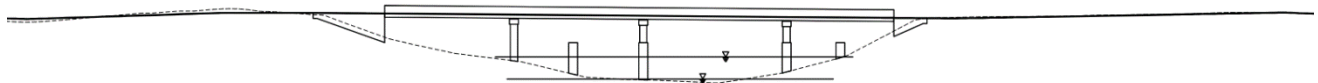
foot can be used for those bridge types. The bridge cost estimates include the bridge and associated approach walls.

On the Blue and Purple alignments, at the location of Bridge ST-1, east of the Marne Bridge, the creek channel is shallow, resulting in a wide floodplain. To avoid placing fill in the floodplain, the bridge is assumed to span it. This results in a bridge length of 310 feet. For a steel through truss structure, this would be comprised of three, approximately 100-foot spans, two new bridge piers, and two new abutments with approach walls. Providing adequate clearance from the flood elevation to the bottom of structure will need to be considered. The critical clearance location is on the north side of the creek.



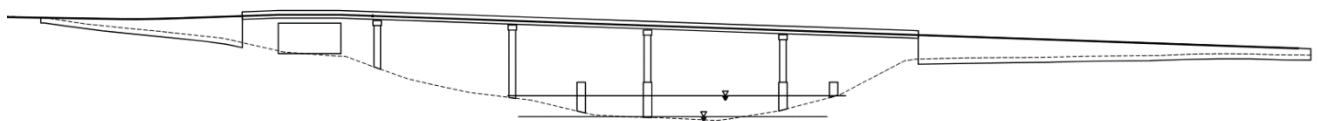
**Figure 4-1: Latah Creek Bridge - Blue & Purple Alternatives (ST-1)**

On the Red alignment, Bridge ST-2 and ST-3 cross Latah creek at the same location. Bridge ST-2 has an at-grade crossing of West Riverside Avenue Bridge ST-3 has a grade separated crossing, resulting in a higher, longer bridge. Both bridges provide the opportunity to use existing, relic piers. An inspection and geotechnical evaluation are required to determine if the relic piers can be used for a new bridge structure. The addition of a concrete column and cap would be required to bring the relic piers to the elevation of the trail. Assuming they can be used, the longest span between relic piers, over the center of Latah Creek, is approximately 80 feet. To reduce construction cost and minimize work within the creek, it is assumed those two piers will be utilized for the new bridge.



**Figure 4-2: Latah Creek Bridge - Red Alternative (ST-2)**

To efficiently use a consistent superstructure type and depth, an 80-foot span is adopted as the typical bridge span and used to determine the location of the remaining piers for both Bridge ST-2 and ST-3. The total bridge length is determined by considering the typical span length and limiting walls to about 15 feet tall. For Bridge ST-2 this results in a 285-foot bridge consisting of four spans, one new bridge pier, and two new abutments with approach walls. For Bridge ST-3, this results in a 400-foot bridge consisting of five spans, two new bridge piers, and two new abutments with approach walls. All new bridge piers are anticipated to be single concrete columns with a cap.

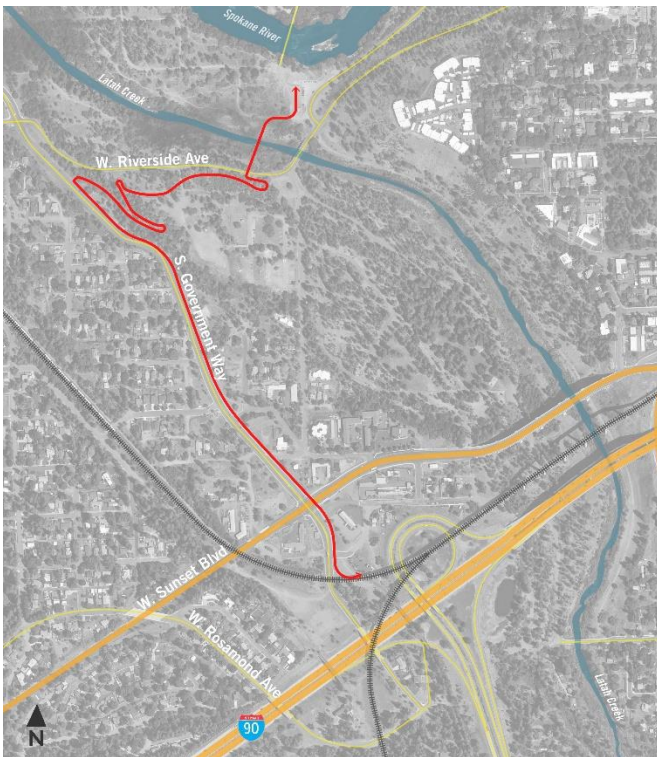


**Figure 4-3: Latah Creek and West Riverside Avenue Bridge - Red Alternative (ST-3)**

# 5. Detailed Description of Alignment Alternatives

## RED ALIGNMENT

Beginning at the Fish Lake Trailhead at South Lindeke Street, the Red Alignment proceeds north along South Government Way crossing Sunset Boulevard and continues along the South Government Way alignment. Today there is a 10-foot-wide asphalt path on the east side of the road. The proposed 12-foot-wide shared-use path would use this footprint and reconstruct the path, the condition of which is deteriorated. A five-foot separation from traffic would be required at a minimum which would be included in the form of a planter strip. Other elements of the concept include adding bike lanes in the existing shoulders of the roadway. Bicyclists would still be allowed to use the shared-use path separated from the roadway, but for those that are more comfortable driving in a dedicated bike lane next to traffic that would be an option available to them.

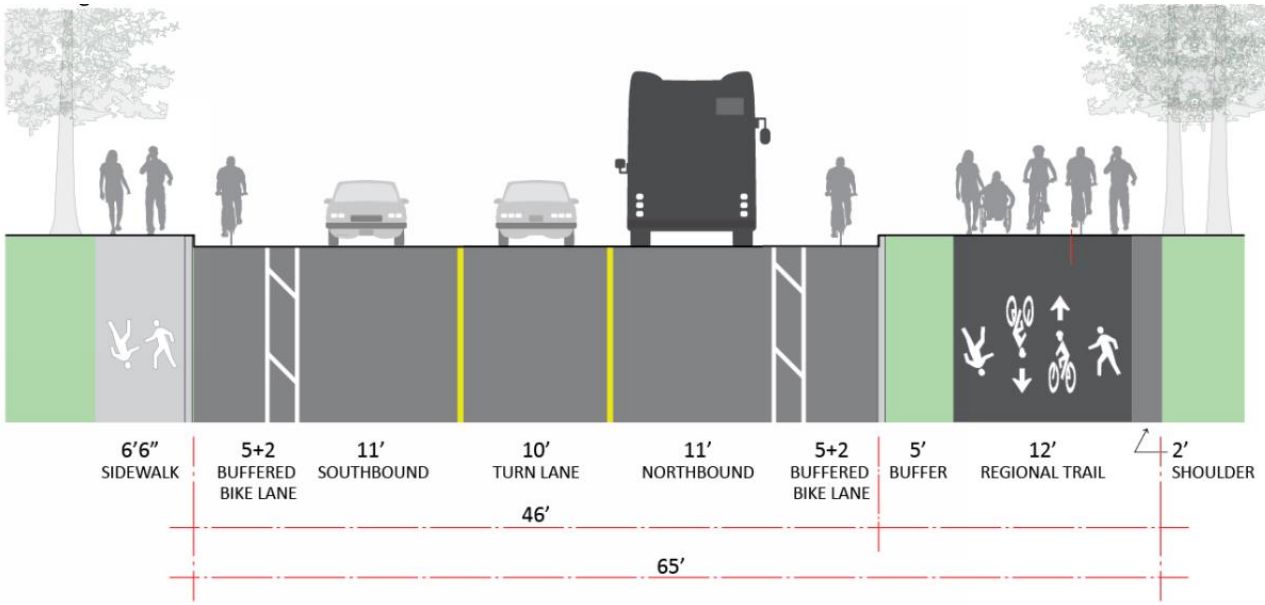


A grade-separated option of a pedestrian bridge had been considered for the crossing of Sunset Boulevard, but ultimately a suitable location could not be found. The ability to construct a pedestrian bridge on an alignment that would achieve the required 17-foot clearance from the roadway posed feasibility and cost issues and property impacts that ruled it out. An at-grade crossing of Sunset Boulevard will require minor modifications to the existing signal. A spurred connection to the dog park and High Bridge Park can be included just south of the West Riverside Avenue crossing.

South Government Way is a four-lane arterial with an average daily traffic volume of 8,055 vehicles per day (vpd) and is classified as a truck route. This study looked at modifications to the channelization of the roadway to accommodate a shared-use path within the existing right of way which would convert the four-lane roadway to a single lane in each direction with a dedicated left-turn lane. The existing

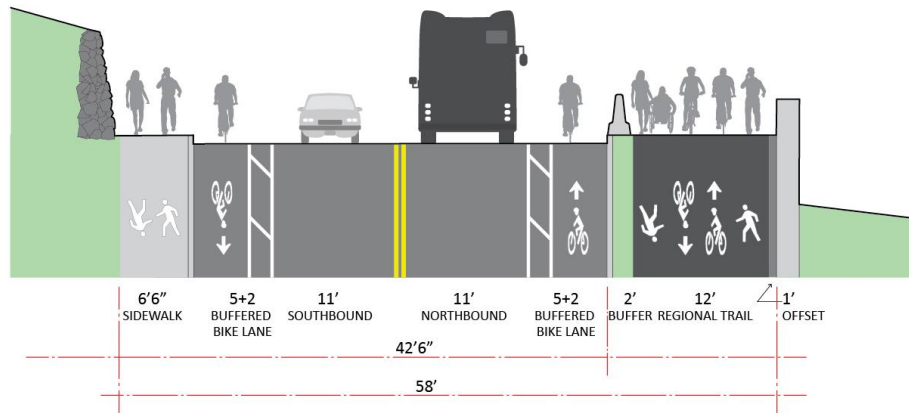
roadway is 45 feet wide from face of curb to face of curb with a 10-foot-wide paved path on the east side. A 5-foot sidewalk is located on the west side between Sunset Boulevard and West 5th Avenue where it terminates. A retaining wall is located on the east side beginning approximately 175 feet north of West 5th Avenue. The widened path maintains its 10-foot width through this section, while there is no sidewalk on the west side.

The concept is illustrated in the graphics below which would provide a 12-foot path on the east side of the roadway where the widened path exists today with a 5-foot separation from the roadway. Bikes would be accommodated within the roadway with dedicated buffered bike lanes to provide commuters or other riders who are more comfortable riding with traffic an option from sharing the path with other users where speeds may not be compatible. The center turn lane will also provide opportunities for pedestrian refuge islands at several intersections which will make crossing Government Way much safer, particularly residents of the West Hills neighborhood. This concept could also take advantage of Parks-owned property on the east side of Government Way to allow the path to meander from the roadside.



**Figure 5-1: South Government Way Channelization**

Within the limits of the retaining wall, the two-way left turn lane will be removed to allow space for dedicated bike lane, both northbound and southbound. A sidewalk adjacent to the southbound lanes and a barrier separating the regional trail from the roadway will also be implemented. The roadway width would be reduced to 22 feet. It should be noted that this alternative incurs the most traffic exposure for pedestrian users and will be a safety detriment compared to other alignments.



**Figure 5-2: South Government Way Channelization at Retaining Wall**

As the trail approaches Riverside Avenue, users head east and enter High Bridge Park approximately 500 feet south of the Riverside Avenue intersection. It had been considered to place the trail along Riverside Avenue, but the narrow width and steep slopes along the south made it impractical. The route through the park will provide an improved experience for users and will traverse the slope down into the park with a sinuous alignment following the northern boundary and to a crossing at Riverside Avenue. Walls will be needed to accommodate the alignment as it traverses the slope.

Rechannelization efforts will be necessary between West Riverside Avenue and West Greenwood Road to reduce the existing four lanes down to two lanes, in order to match the new channelization proposed along the Government Way rockery.

The trail will need to negotiate the presence of overhead power lines and avoid the dog park that is located in this corner of the park.

Two crossings of Riverside Avenue have been evaluated for the Red alignment. The first is an at-grade crossing to the west of South A Street. The primary issue with an at-grade crossing at this location is the limited sight distance available to drivers due to the horizontal curvature of the roadway and the trees on the inside of the curve. If this crossing is selected it would require advanced warning for motorists, speed control, view clearing and vegetation management, and active crossing control such as a Rectangular Rapid Flashing Beacon (RRFB). In addition to the RRFB and conventional crosswalk striping, a pedestrian refuge island would enhance active transportation safety at this crossing. Once on the north side of Riverside Avenue, the trail would cross Latah Creek on an active transportation (pedestrian) bridge aligned with the relic piers in Latah Creek, using the historic foundations of the High Bridge which was demolished in 1978. Similar to the federally funded construction in 2004 of the nearby Sandifur Bridge, this repurposing could reduce construction costs as well as resource damage, permitting, and mitigation. New construction to complete the bridge and trail connections could necessitate excavation and potential cultural resource disturbance.

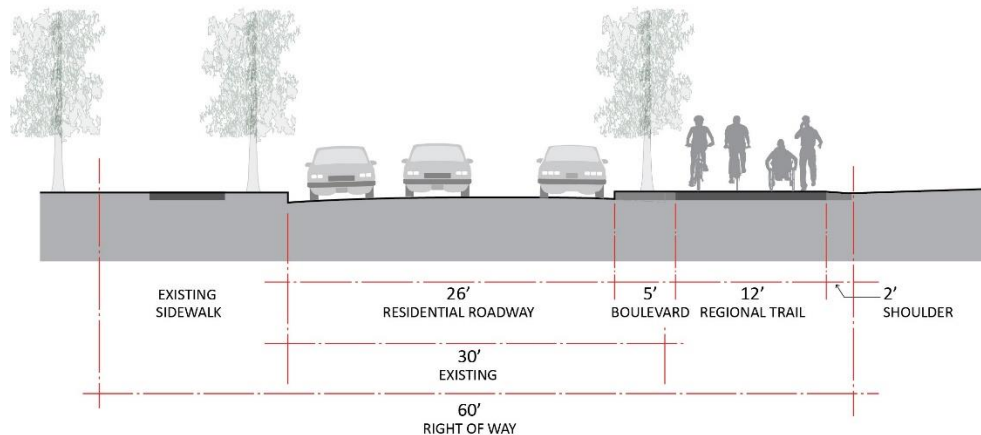
An alternate crossing would be a grade-separated option of a bridge that would follow the same alignment of the bridge described above but with an abutment up the slope from Riverside Avenue in the park. The pedestrian bridge would cross the roadway with a minimum clearance to the underside of the bridge of 17 feet, placing the deck surface approximately 20 feet above the elevation of Riverside Avenue. This bridge would be considerably longer but would eliminate the safety issues associated with the at-grade crossing. Depending upon the location of the intermediate piers, it would also have fewer shoreline issues and reduce the risk of encountering historical artifacts.

Once on the right bank of Latah Creek, the trail will follow existing informal paths and other previously disturbed areas to connect to the existing trail and the Sandifur Bridge. Excavation within People's Park should be avoided due to the cultural sensitivity of the area.

## **BLUE ALIGNMENT**

From the Fish Lake Trailhead, the Blue alignment proceeds from the parking lot toward South Milton Street and then east along West 8th Avenue toward the park. 8th Avenue is bound by the I-90 interchange to the south and a commercial property and five residential properties to the north. It is a low volume roadway as it serves only these five homes and terminates at the east end in a cul-de-sac. The cul-de-sac could be removed and another configuration provided as a means for vehicles to turn around as there is not outlet to Sunset Boulevard. A shared-use path would be constructed on the east side of Milton and the south side of West 8th Avenue as illustrated in Figure 5-3. Routing the trail along the perimeter of the I-90 loop ramp, within the WSDOT right of way was considered, but ultimately found to be impractical given the topography and constrained space.





**Figure 5-3: South Milton Street and West 8th Avenue**

The boundary of High Bridge Park is located at the east end of West 8th Avenue, and the steep slope down into Latah Creek Valley. The alignment continues with long switchbacks in order to descend in elevation as soon as possible. The presence of a 30-inch water main has dictated the alignment in this area to avoid cut over the pipe. The trail traverses the slope initially to the south crossing beneath the BNSF trestle before turning back 180 degrees and heading north beneath West Sunset Boulevard. Longitudinal grades are 4.3 percent, which meets ADA requirements, but is a challenging grade over a distance of 1,800 feet. There is a combination of both fill and cut walls through these limits. As it traverses the steep slope and crosses beneath the bridge through the arched segment, the trail has been laid out to balance the cut and fill. Refer to the cross sections included in Appendix A. Beneath the West Sunset Boulevard bridge there will be both cut and fill walls to avoid impacts to the structure. Continuing north, the trail will continue to follow the slope at a 4.3 percent grade until matching the grade of an existing gravel road in the park.

From this point, an effort has been made to build the trail on the existing gravel roads and other previously disturbed areas to minimize the risk of encountering historical or cultural artifacts. It is proposed to route the trail through the existing lawn area that is landscaped with mature trees but will be constructed at grade to the extent possible, routing back on to High Bridge Park Road before crossing Latah Creek via a new bridge proposed upstream of the Marne Bridge at Riverside Avenue. There are opportunities to consider other routes through the park that follow the existing roadways in subsequent design should this alternative be selected.

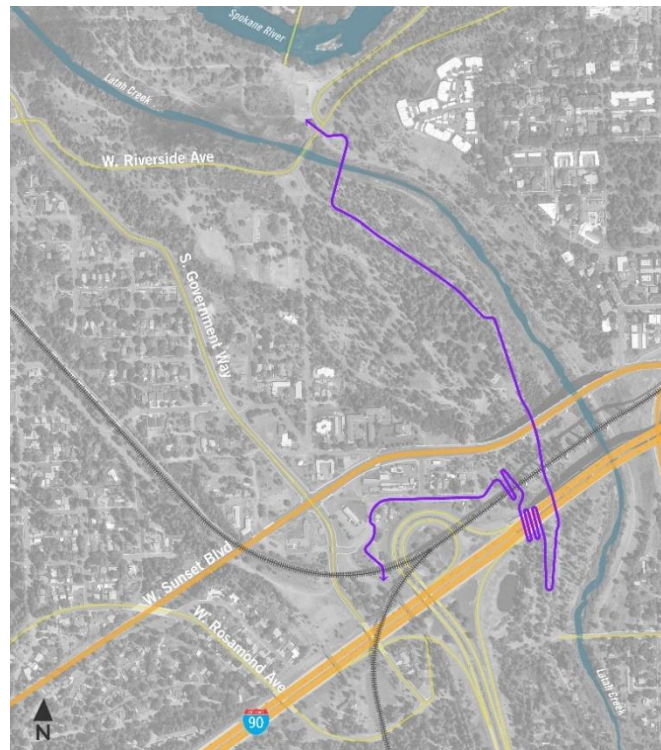
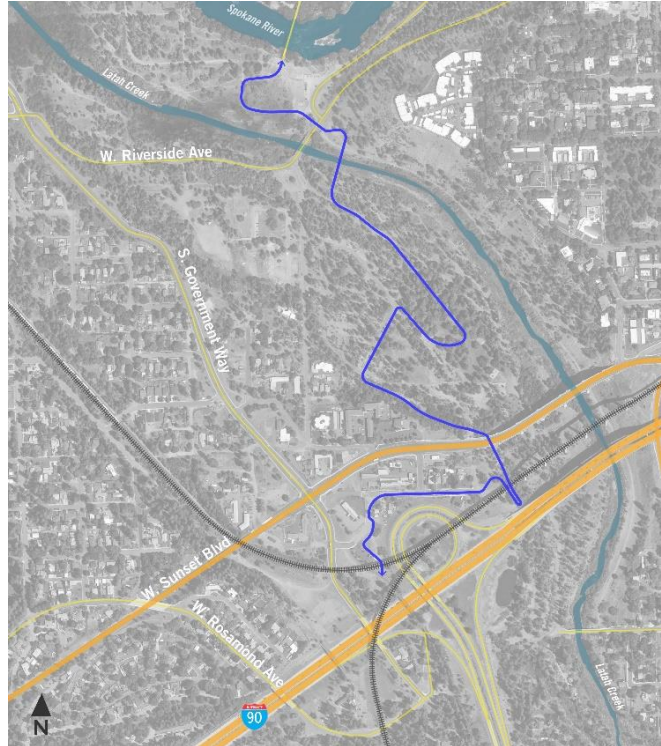
Once on the east side of the creek, the trail will work its way up to an at-grade crossing of West Riverside Avenue near the intersection with Clarke Avenue. The Clarke Avenue intersection is more heavily traveled on each leg (meaning motorists are more likely to observe caution) and presents good sightlines from most approaches. A trail crossing at Clarke Avenue would be improved by installing an RRFB in addition to signing and striping. Further study is required to determine if a pedestrian refuge can be used where the eastbound Riverside to Clarke left turn traffic crosses the alignment.

A new pedestrian bridge across Latah Creek would require permitting for shoreline, floodplain and critical area impacts. The abutments will be set beyond the limit of the 100-year floodplain, but an intermediate pier may be required within the ordinary high water (OHW).

### PURPLE ALIGNMENT

The Purple alignment is similar to the Blue from the point of beginning to the point where it enters High Bridge Park and must make its way down the steep slope beneath the BNSF and WSDOT bridges. Instead of heading north beneath the West Sunset Boulevard bridge, however, this alignment will head south and navigate its way down the slope via series of switchbacks passing beneath the BNSF trestle, and then the I-90 bridge. The walls needed to accommodate this alternative are significant, reaching heights as much as 30 feet, but more typically between 5 and 10 feet in height. If selected as the preferred alignment, subsequent design refinements can be made to incorporate reinforced slopes and other measures to reduce some of the more extreme walls.

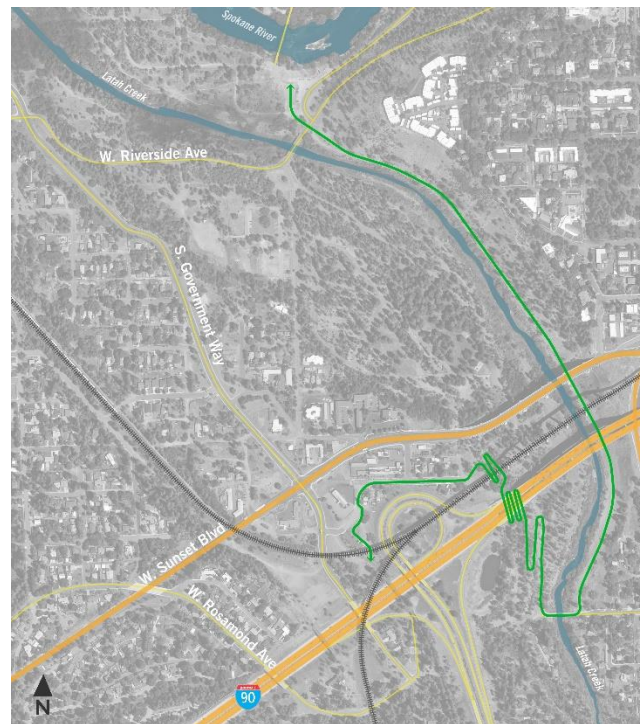
WSDOT and BNSF input will be solicited for feedback on alignments that intersect their rights of way and incorporated into the study for the final evaluation. Trail construction beneath and adjacent to their structures will need to consider impacts on the existing structures as well as for additional loads that may be applied to the existing foundations.



The trail touches down at High Bridge Park Road 500 feet south of the I-90 Bridge crossing and from that point the trail follows High Bridge Park Road until it crosses Latah Creek. By building on the existing road, risks associated with encountering cultural artifacts are minimized and conflicts with the Disc Golf Course are eliminated. The existing road is gravel surface and nearly 40 feet in width. The gravel surface could remain for runners and walkers, with a dedicated asphalt-paved path for cyclists.

Should this alternative be selected there are other additions that could be made such as adding a spur to the south from where the path touches down at High Bridge Park Road toward the 11th Street Bridge. This would improve connectivity to the Vinegar Flats neighborhood at a relatively low cost.

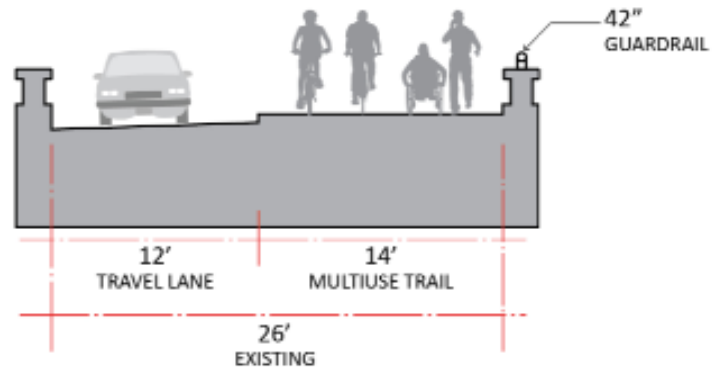
High Bridge Park Road is maintained by the Spokane Parks and Recreation. It is gated at either end – at the intersection A Street to the north and at 11th Street to the south. It is periodically closed by their maintenance staff and has been closed during the pandemic. Discussions to permanently have been initiated and Parks and Recreation is open to this. The selection of this alternative is not dependent upon that closure, but the closure would be a positive development.



## GREEN ALIGNMENT

The Green alignment is the same as the Purple from the point of beginning to the point where it touches down on High Bridge Park Road. Instead of heading north at this point, the Green will head south toward the West 11th Avenue Bridge and cross Latah Creek. West 11th Avenue is a low volume roadway which serves two residences on the west side of Latah Creek. On the east side of the creek is the Vinegar Flats neighborhood. The concrete arch bridge was constructed in 1927 and is 25 feet in width railing to railing; 20 feet is roadway and 5 feet sidewalk located on the north side. The bridge has a sufficiency rating of Good, although there is evidence of recent repairs for spalling of the concrete railings. Serving so few properties, and the often-closed road through High Bridge Park, trail use of this bridge would require simple signing and striping as a shared use facility. With almost no motorized traffic and with adequate sight lines, traffic could be managed as single lane bridge with drivers yielding to each other in the event more than one car approaches at a time.





**Figure 5-4: West 11th Avenue Bridge Modifications**

At the east end of the bridge, the trail turns left heading north following the right bank of Latah Creek along an existing gravel path constructed over a 42-inch sanitary sewer interceptor line. The trail will cross private property immediately north of 11<sup>th</sup> Avenue which will require property acquisition. The interceptor runs the entire distance to West Riverside Avenue where it crosses at the Clarke Avenue intersection and then continues along the south bank of the Spokane River. The gravel path is approximately 15 feet wide in the southern limits of this study. It is located in an overbank area of the creek but beyond the 100-year floodplain. Grading of the trail can follow the existing grade without the need for much earthwork. To the north as the trail approaches the I-90 overpass, the trail begins to approach the steep slopes of the bluff beneath the Browne's Addition neighborhood and narrows in width. A retaining wall will be needed for a length of 3,250 linear feet with heights generally in the range of 5 to 10 feet, but at times taller. Within the reach that contains the steep bluff with erodible soils, the trail alignment needs to avoid fill toward the creek to avoid fill within the 100-year floodplain, which results in cut into the slope to build the trail. The trail section is the same as for the rest of the study with a 12-foot path and 2-foot shoulders. In addition, the wall has been offset from the trail to provide space for a ditch to convey drainage runoff.

The existing path along the east bank had been previously identified in the Latah Valley Hangman Creek Trail Corridor Concept Study as a potential location for a narrower width nature trail. This study had recommended a share-use path trail to be installed on the west side of the creek, similar to what is proposed for the Purple alignment.

## THORPE ROAD CONNECTION

Thorpe Road is an Urban Minor Arterial located one mile south along the Fish Lake Trail, connecting the Grandview/Thorpe neighborhoods and beyond to SR195. It is a two-lane roadway with an ADT of 2,370 vpd and posted speed of 20 mph. Thorpe Road passes through a tunnel beneath the trail which is situated on a former railroad berm approximately 40 feet in height. Thorpe Road passes through a similar tunnel under the active BNSF line 370 feet to the west of the Fish Lake Trail. The Thorpe neighborhood is located west of this tunnel. The Thorpe Road Connection will provide an access for the community to the Fish Lake Trail from a vacant WSDOT-owned parcel between the tunnels.

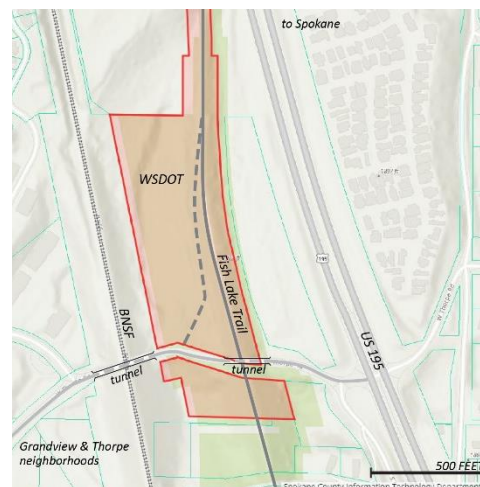
The connection would traverse the west slope of the Fish Lake Trail embankment at a grade of less than 5 percent. There is an opportunity to reduce the earthwork associated with this element by extending the connector trail further north, approximately 300 feet, to take advantage of the rise in grade. The limits of the WSDOT parcel will determine how much the earthwork can be reduced.

The tunnels each have 9' travel lanes, and a four-foot concrete sidewalk providing passage for pedestrians. Options to improve the tunnel for trail users are limited, but they include improvements to the accessibility of the sidewalk for pedestrians. There are currently no ramps, and the sidewalk is blocked by a lane edge warning sign and begins abruptly with no approach or transition.

At a minimum, improved signage and lane markings are recommended to alert drivers to the presence of bicyclist sharing the travel lanes. A user-activated beacon, such as that shown at right, could provide a measure of safety as people walking or riding bicycles travel through the tunnel.

Stop or signal protected, alternating, single lane, one-way configurations could provide safer passage for motorists, trucks and people walking or riding bicycles.

Providing new, separate dedicated tunnels would remove active transportation traffic completely from the roadway. If a new tunnel is desired, attention will be paid to the existing sewer lines running parallel to Thorpe Road on the north side. Relocation of the existing 42" and 48" sewer may be required; however, tunnel alignment can also be shifted north to avoid conflict.



## 6. Evaluation of Alternatives

### EVALUATION CRITERIA

Evaluation criteria were developed amongst the Project Team based on the defined goals and objectives of the project. This section defines each of these criteria and how the benefits or impacts were interpreted as good or poor. The criteria are listed in order of relative importance. Relative importance was a subjective decision that considered the City's priorities.

#### User Experience

Through the Project Advisory Committee and Public Outreach process, six criteria were established for evaluating the alignments based on what was deemed important to the community. Those criteria were, traffic stress, local access and connections to the community, scenic views, interpretive opportunities, grades and distance.

#### Traffic Stress Experience

An alignment reduces exposure to vehicular traffic and provides separation from roadways and vehicular traffic is preferable as it provides both safety and an improved experience. Along South Government Way, the Red alignment will provide design features to mitigate for the proximity to a relatively high-volume traffic route, such as providing physical separation, but an alignment that reduced exposure to traffic would be viewed as preferable.

The other alignments may share the roadway along 8th Avenue and 11th Avenue; however, these are a very low-volume, low stress residential streets. The Blue and Purple alignments, and to a certain extent, the Green, follow some of the existing roadways in High Bridge Park including High Bridge Park Road. There have been discussions with the Parks Department, which maintains the road, about the possibility of closing the road to traffic permanently, to which they are supportive.

#### Traffic Safety

All four alignments will have to cross West Riverside Avenue. An at-grade crossing must be designed to provide adequate sight distance for approaching cars. Some alignments are better suited for safe crossings. The location of the Red alignment has significant deficiencies for sight distance due to the horizontal curve west of the Marne Bridge and large trees that would obstruct the views of approaching drivers.

#### Local Access / Connections

The ability of the trail connection to improve access to the trail and connections beyond is an important goal of the project. The qualitative measure of this would be the proximity of the trail alignment to residential areas of density. The more residents that live or work closer to the trail would be a positive feature. That said, there is limited integration of residential properties, community resources, or commercial uses. For options that run near residences, the trail connection would benefit residents providing direct access to the trail system; however, some landowners could consider an increase in pedestrian traffic as a privacy or security concern.

The Red alignment would arguably provide the most opportunities for access and connections as it parallels the West Hills neighborhood along S Government Way and would provide an improvement to the connection to Spokane Falls Community College to the north.

The Blue, Purple and Green alignments are located directly adjacent to several residential properties near the intersection of South Milton Street and West 8th Avenue. The Green alignment also passes near residences

where it crosses Latah Creek via the West 11th Avenue Bridge, an element that could be easily added to the Blue and Purple alignments with minimal cost. Outreach to affected owners may be warranted regarding privacy or safety concerns. Maintaining the trail and trail use by the community could reduce unauthorized camping and increase security.

### Scenic Views

High Bridge Park offers commanding views of both the natural and built environment. Alignments that offer more opportunities take advantage of the vistas and create spaced for uses to linger and appreciate them would be a positive attribute.

### Interpretive Opportunity

Latah Creek Valley and High Bridge Park offer the potential for creating a truly experiential trail. The vision behind this segment of the Fish Lake Trail is to create something more than just a corridor for passing through and making connections, but to create opportunities to stop and take in the vista and the history of this location. Those histories include Native American, rail, industrial and geologic stories of the Latah Valley. Alignments that offer more opportunities to create these elements to recognize the history of the park or to take advantage of the vistas would be seen as favorable.

### Grade

The elevation gain from Latah Creek to the Fish Lake Trailhead is approximately 180 feet. Most of the climb is concentrated in the basalt bedrock and talus river bluff geologic feature that defines the gorges of the Spokane River and Latah Creek. The steep slopes from Latah Creek up to Government Way present the core challenge of these alternatives.

In order to make the trail grades both compliant with respect to ADA requirements, but also more comfortable so that users won't be deterred from using it, distance must be added. The alternatives have been designed to achieve a target maximum grade of less than 5 percent.

### Distance

Direct routes, to the extent possible, are preferable for reducing the distance users must travel to make the connection between the Fish Lake Trailhead and the Centennial Trail. On the other hand, providing some variety to the alignment can make for a more interesting experience for users, so there is a balance to be struck.

### Personal Security

The trail design needs be designed for all ages and abilities. Design of the trail in areas of the hill climb and the incorporation of switchbacks will create environments of differing speeds for bicyclists and those less comfortable with tight turns. Those climbing uphill will be travelling at slower speeds than those travelling downhill and more comfortable with the tight corners.

Safety issues associated with the trail include traffic and roadway crossings as discussed above, but there also exist perceived safety issues the built environment. Design elements that improve the perception of safety among users include improved visibility and lines of sight, creating open spaces. Elements that could create environments that feel less safe include tunnels, high walls and limited sight distance. The design should work to minimize the impacts associated with these elements.

## **Environmental**

The objective is to develop an alignment that avoids or minimizes impacts to the natural environment. Environmentally sensitive areas within the project area include Latah Creek, associated wetlands and buffers and geological hazard areas. The scoring categories in this section are broken down as follows: Wetlands, Floodplains; Priority Habitat and Species; Trees.

## **Cultural Resources**

All alignments, as well as the Thorpe Road connection, are located in high-risk areas for encountering cultural artifacts. As the design progresses the City should coordinate with the Spokane Nation of Indians to confirm the design is making the right choices to reduce the risk of impacts. The scoring categories in this section are broken down as follows: Tribal; SHPO/Local Historic; Section 4(f).

## **Compliance**

All alternatives will be evaluated based on their predicted compliance with anticipated permitting timelines and mitigation requirements. They will also be screened for possible litigation, or other challenges, that may arise based on each alignment location.

## **Constructability**

The wall and bridge structures represent the primary constructability concerns for the project. For the walls, the construction risks include the proximity to existing structures and the site's geological conditions. The Blue, Green, and Purple alignments include switchbacks beneath a BNSF rail bridge. In addition, the Green and Purple alignments include switchbacks under an I-90 bridge. The trail's proximity to these structures will require coordination with BNSF and WSDOT during the design and construction.

All alignment alternatives include fill and cut walls, which each have unique risks tied to the site's geologic conditions. For this evaluation, the fill walls have been assumed to be mechanically-stabilized earth (MSE) walls. This wall type typically requires a base width of about 70 percent of its height. When near surface bedrock is present, it must be excavated to achieve that base width. This can be costly and time consuming.

Cut walls for all alignments have been assumed to be soil nail walls. The construction of this wall type requires the soil behind the wall to stand up, without support, until a temporary shotcrete facing can be applied. General knowledge of the project area indicates that loose soils may be present where the trails pass under the BNSF and I-90 bridges and on the Green alignment on the north side of Latah Creek. There are methods to install soil nail walls in loose soil conditions, but they result in more costly and slower construction.

Geotechnical investigations during preliminary design are the main way to mitigate the risks of near surface bedrock and loose soils, though it cannot be eliminated. With information regarding the location and extent of these conditions, the design and cost estimate can be tailored to the project's circumstances. For fill walls, different wall types such as, fill behind soldier piles or cast-in-place concrete walls, may be incorporated. For cut walls, the presence and extent of loose soils would be clearly communicated in the contract so that the contractor can anticipate the need for mitigating measures such as adding vertical elements to stabilize the wall face during construction.

The project's exposure to risks associated with wall construction is roughly proportional to the quantity of walls included in each alternative.

In addition to wall construction, the construction of a new bridge adds to the complexity of the project. All alignments, except the Green alignment, include construction of a new bridge. Though it adds complexity, a

new bridge is considered to add less constructability risk than walls because of its small foundation footprint. Geotechnical data can be collected at each pier location, while it is impractical to collect information at short intervals for the entire length of the walls.

### **Construction Cost**

A quantitative comparison of the alternatives was made using preliminary cost estimates developed for each alternative considering only those items that would differ in quantity between the two. Note that the estimates provided do not present a total construction cost. That will ultimately be developed for the preferred alternative only. For the purpose of evaluating the alternatives, a comparative approach was used to assess the relative cost (low, medium, high). Where estimated construction costs are within 10 percent, the alternatives were considered equivalent in this regard. These estimates include costs for earthwork, structures, shoring, paving, stream and habitat improvements, and other work incidental to construction (temporary erosion and sediment control, pollution control, traffic control, etc.).

## **ALTERNATIVES EVALUATION**

### **Public Input**

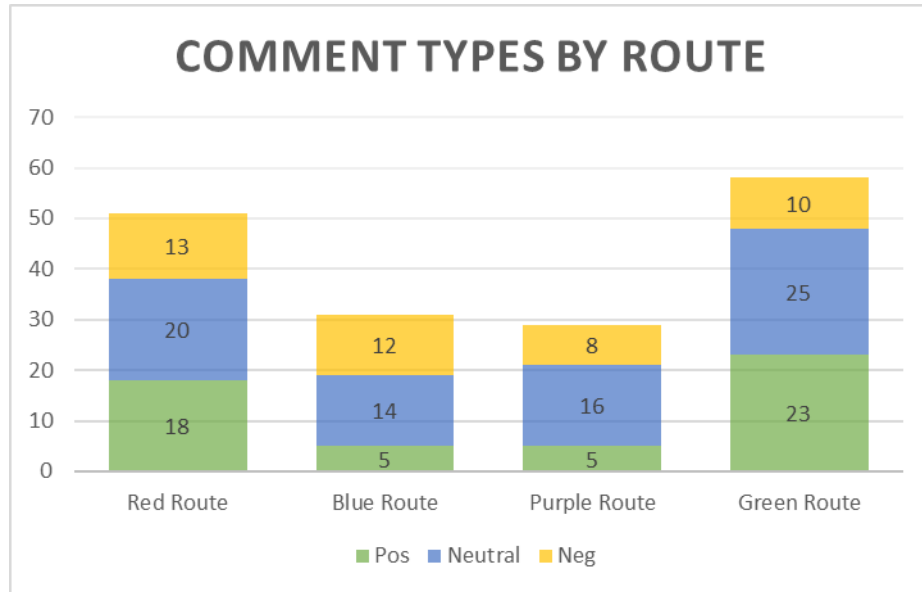
Through our public outreach process described in Section 2 of this report, we gathered feedback from neighborhood councils, interest groups and others. Feedback was collected through an online presentation of the project and its alternatives. The public was also encouraged to provide their comments directly to the City as well as on a WikiMap page and Conceptboard which were accessible through the City's project website.

Approximately 100 comments were received between the live presentation and subsequent follow up through the online tools. We have analyzed these comments categorizing them by route, evaluation criteria and specific design elements.

The breakdown of comments by alignment found that the Green alignment was most commented upon with 44 comments followed by Red. Blue and Purple we commented upon more or less equally. Those comments were further categorized as positive, negative or neutral. Green received by far the highest number of positive comments at 18 and the ratio of positive to negative was 3 to 1. The Red by comparison, received a total of 10 positive comments but also had 10 negative comments for a ratio of 1 to 1.

The comments specific to each route were analyzed to see what the primary concerns were with each alignment. The following were found to be the most commented upon elements of each route.





**Figure 6-1: Comment Types by Route**

### Red Alignment

- Riding adjacent to Government Way is not an ideal trail condition
- Access to West Hills and Spokane Falls Community College; neighborhood connections

### Blue Alignment

- Compatible and works well with Latah Creek Nature Trail plan
- Park area is not presently comfortable for lone female riders

### Purple Alignment

- In large part this alternative already exists
- Could include a spur to 11th Avenue Bridge for a connection to Vinegar Flats

### Green Alignment

- Preferred by most for safety and scenic value, despite being the longest
- Conflicts with the Latah Creek Nature Trail plan

Comments were also provided on elements related to user experience or specific issues associated with the transportation network, such as the crossings at Sunset Boulevard and Riverside Avenue. In total, over 100 comments were provided on the topics of making connections, creating experiences and taking advantage of the vistas, safety and grade of the trail. The compilation of comments is included in Appendix C.

### **Red Alignment – Riverside / Government Way**

Following South Government Way, this alignment received low marks for user experience largely due to the anticipated traffic stress. While this can be mitigated by dedicating more of the right of way to the non-motorized uses and providing separation from traffic, this alternative will certainly have the highest exposure to traffic.

On the other hand, being located adjacent to the roadway offers the best opportunities for access to local neighborhoods and connections to the north including Spokane Falls Community College. The routing through the north end of High Bridge Park provides improved access to the park. From a perceived safety standpoint this may offer the best of the four alternatives as it will have the best sightlines due to the lack of cut walls and the fact it does not pass beneath the bridges.

The route is 6,475 linear feet – 3,300 of that is along West Sunset Boulevard. The long consistent grade helps to ameliorate the climbs by providing more consistent moderate grades. At the same time, it does not provide area of rest. Compared to the other alternatives that all address the grade change along the steep slopes beneath the I-90 and BNSF bridges, the hill climb would be less intimidating along this route.

View opportunities are limited to that portion of the alignment that is within the park and for the bridge crossing of Latah Creek. As compared to the others, the Red alignment has less to offer and the engagement with the park is more limited.

This alternative would cross the shoreline jurisdiction perpendicularly for approximately 740 feet on a proposed new pedestrian bridge located west of the existing Marne Bridge. This would require a shoreline conditional use permit and a Habitat Management Plan (HMP). Latah Creek is a jurisdictional water body as are its associated wetlands and it would travel through approximately 680 feet of potential wetland buffer along Latah Creek. This would require appropriate permitting under Section 404 of the Clean Water Act, i.e., a joint application for permits with the USACE and Washington Department of Ecology, as well as compliance with the City's Critical Areas Ordinance (CAO) on wetlands and wetland buffers.

This alignment reduces the risks of encountering culturally significant sites by following South Government Way for a large extent of the trail. Once in the park, the risks are considerably higher, and in particular because the trail follows a course that has not been previously disturbed and does not follow existing roads.

Of the four alternatives, the Red alignment is considered the easiest to construct. Though it includes the construction of a new bridge, it includes minimal new walls and avoids the steep and erodible slopes associated with the valley. It has less than one half the amount of wall as the next closest alternatives (Blue and Purple) and one fifth as much wall as the Green alignment.

The estimated construction cost of the Red alignment is \$7.5 million for the alternate that includes an at-grade crossing with Riverside Avenue. If the longer span that separates the trail users from Riverside Avenue, the cost would increase by \$1.4 million for a total of \$8.9 million. It is the lowest cost alternative evaluated.

### **Blue Alignment – Through High Bridge Park**

Leaving the parking lot at the Fish Lake Trailhead and following South Milton Street and West 8th Avenue, the Blue alignment provides an improvement with respect to exposure to traffic as compared to the previous alternative. At the end of 8th Avenue, as it drops down into the park along the bluff, there are other safety considerations to consider – the comfort of users of different abilities to negotiate the tight alignment with switchbacks and to provide a sense of comfort as it travels beneath the BNSF Bridge. Design for this alignment will need to address the environment which today has occasional homeless encampments.

This alternative will provide great opportunities to allow users to interact with the park with improved opportunities for interpretative elements and viewpoints. While this is an improvement over the Red in terms of connecting the users with the park, is it less effective in making connections to the adjacent neighborhoods and destinations beyond.



As the alignment works its way through High Bridge Park, it will avoid impacts to other uses – primarily the Disc Golf Course and the dog park.

This alignment has a total length of 6,900 linear feet and does a reasonable job of balancing the grades between the trailhead and the Latah Creek crossing with minimal use of switchbacks. As the trail departs the trailhead, subsequent design will be needed to add length to the trail to obtain compliant grades before reaching South Milton Street. There is a stretch of 1,800 linear feet from the end of 8th Avenue until the trail reaches the existing roads in High Bridge Park where the trail has a grade of 4.3 percent, but beyond that grades are relatively flat.

The bridge crossing upstream of the Marne Bridge would cross the shoreline jurisdiction of Latah Creek perpendicularly for approximately 765 feet. Depending on the amount of impact/ground disturbance required to either expand the bridge or construct a new one, a shoreline conditional use permit with a Habitat Management Plan (HMP) would be required.

It would travel approximately 690 feet through wetland buffers along Latah Creek and may impact the wetland buffer of the small hillside seep located between the Sunset Boulevard Bridge and I-90 Bridge depending on final alignment and cut/fill lines. The hillside seep is likely non-jurisdictional under Section 404 of the Clean Water Act due to no connectivity to a water of the US. Compliance with the City's CAO wetlands and wetlands buffers may require an HMP and CAO permit.

To the extent practicable, the Blue alignment will follow the existing roads within the park to reduce the risk of cultural impacts.

**Constructability:** From a constructability perspective the Blue alignment has more construction risk than the Red alignment but less than the other two due to the avoidance of the series of switchbacks located beneath the I-90 Bridge.

The estimated construction cost of the Blue alignment is \$11.8 million.

### **Purple Alignment – Through High Bridge Park**

The location where the Purple alignment deviates from the Blue is at the descent into the park beneath the bridges. Traversing the slopes south beneath the trail descends via a series of seven switch backs to negotiate the slope down to High Bridge Park Road. The grades along these switch backs are 4 percent, and the trail width is wider than the minimum to make more comfortable and safer for users. This additional width comes at the expense of higher walls which are as high as 30 feet in places. Subsequent design would need to refine the alignment to reduce the size of these walls.

The Purple is comparable to the Blue alignment in terms of separating from traffic and reducing traffic stress. The Purple alignment has a higher number of switch backs and has a longer footprint as it negotiates the steep slopes beneath the existing bridges.

The Purple is also less effective than Red and making connections to the neighborhoods, but does provide increased access to the park.

The length of this alignment is 9,500 linear feet. Once at the base of the bluff, the trail follows the existing road through the park which has moderate grades.

The interpretive and storytelling opportunities with this alignment are similar to that of the Blue and are good. The switchback descent into the Park, if nothing else, does provide an opportunity to take in the vistas of the valley.

This alternative would parallel Latah Creek on the west side and then cross the creek on or adjacent to the existing Marne Bridge. Approximately 1,195 feet of the alignment would be within the shoreline jurisdiction. A shoreline conditional use permit with a Habitat Management Plan (HMP) would be required.

It would also impact the potential hillside seep wetland described above and travel approximately 1,240 feet through wetland buffers near the seep and at the Marne Bridge crossing. The hillside seep is likely non-jurisdictional under Section 404 of the Clean Water Act due to no connectivity to a WOTUS. Compliance with the City's CAO wetlands and wetlands buffers may require an HMP and CAO permit.

Along the hillside, there is risk of encountering cultural artifacts, although less so as might be expected near the creek. Once at the bottom of the slope, the alignment largely follows High Bridge Park Road reducing the potential impacts to cultural sites.

From a constructability perspective, the Blue and Purple alignments are very similar. They both cross Latah Creek on a new bridge and have similar amounts of walls. They have more construction risk than the Red alignment but less than the Green alignment. However, the switchbacks under I-90, result in higher construction risk with the Purple alignment as compared to the Blue.

The estimated construction cost of the Purple alignment is \$14.3 million.

### **Green Alignment – East of Latah Creek**

The Green alignment is the same as the Purple alignment from the trailhead to High Bridge Park road and has the same positive attributes of separation from traffic and the drawbacks of neighborhood access, grades and perceived safety. This alignment will deliver beneficial access east of the West 11th Avenue bridge by providing a direct trail connection to Vinegar Flats. The length of this alignment is comparable to the Purple at 9,400 linear feet. From High Bridge Park Road, the trail crosses the West 11th Avenue Bridge and follow the east bank of the creek with gentle grades until the approach to the crossing at Riverside Avenue.

The interpretive and storytelling opportunities are reduced with this alternative as compared to Blue and Purple which are in the heart of High Bridge Park. Along the east bank, it is a longer and more direct route with increased exposure without the shade of the trees that are in the park. That exposure, however, allows for impressive views of the valley.

The Green alignment would cross the shoreline jurisdiction perpendicularly on the existing West 11th Avenue Bridge, and then parallel Latah Creek on the east side. Approximately 4,992 feet of the alignment would be within the shoreline jurisdictional area. A shoreline conditional use permit with a Habitat Management Plan (HMP) would likely be required.

Similar to Purple, Green could impact the small hillside seep buffer, although it would likely be non-jurisdictional under Section 404, and therefore would only require compliance with the City's CAO on wetlands and wetland buffers. Although this alignment would not be likely to directly impact the wetlands along Latah Creek, it would travel through approximately 4,842 feet of wetland buffer as it parallels the creek on the east side, and mitigation would be required.

Constructability: The Green alignment has the most construction risk. It does not include a new bridge, but it has substantially more walls than the other alternatives. It has twice as much wall as the Blue and Purple alignments, and six times as much as the Red alignment.

The estimated construction cost of the Green alignment is \$21.9 million.

### **Thorpe Road Connection**

The connection to Thorpe Road and make safety improvements to the existing tunnel is approximately \$900,000. The alternate to install a new tunnel parallel to the existing tunnel will cost an additional \$1.6 million.

### **Evaluation Matrix**

The quantitative ranking was used to evaluate the alternatives in the table below for the established criteria. The rating applied to each criterion was the higher value being a positive interpretation of the criteria and the lower value an unfavorable ranking. Each criterion was provided a ranking that was based on feedback from stakeholders and the public.

**Table 6-1: Alternatives Evaluation Matrix**

		Weight 1-5 (least important to most)	RED Riverside/ Government Way	BLUE Through High Bridge Park	PURPLE Through High Bridge Park	GREEN East of Latah Creek
<b>User Experience</b>	Traffic Stress Experience	5	1	5	5	5
	Traffic Safety	5	3	4	4	4
	Local Access / Connections	3	4	2	3	3
	Scenic Views	4	2	3	4	5
	Interpretive Opportunity	2	3	4	4	3
	Grade	3	3	3	2	2
	Distance	1	4	3	2	2
	Personal Security	5	4	2	2	3
<b>Environment</b>	Wetlands, Floodplains	4	4	3	2	1
	Priority Habitat and Species	4	4	3	2	1
	Trees	2	4	2	3	3
<b>Cultural Resources</b>	Tribal	5	4	3	3	2
	SHPO/Local Historic	4	3	3	3	3
	Section 4(f)	2	4	2	3	3
<b>Compliance</b>	Permitting Timelines	1	4	3	3	2
	Mitigation Requirements	3	4	3	3	1
	Litigation / Challenges	2	3	3	2	2
<b>Constructability</b>	Bridge over Latah Creek	1	2	3	3	5
	Cut/fill	3	4	2	2	1
	Walls	4	3	2	1	1
	Existing Infrastructure	5	4	3	1	1
	Schedule	2	3	2	2	1
<b>Construction Cost</b>		3	5	3	2	1
<b>Average:</b>		unweighted	3.43	2.87	2.65	2.39
		weighted	3.41	2.93	2.68	2.42

**Legend**

5	Most Favorable
4	
3	
2	
1	Least Favorable

**Recommended Alternative**

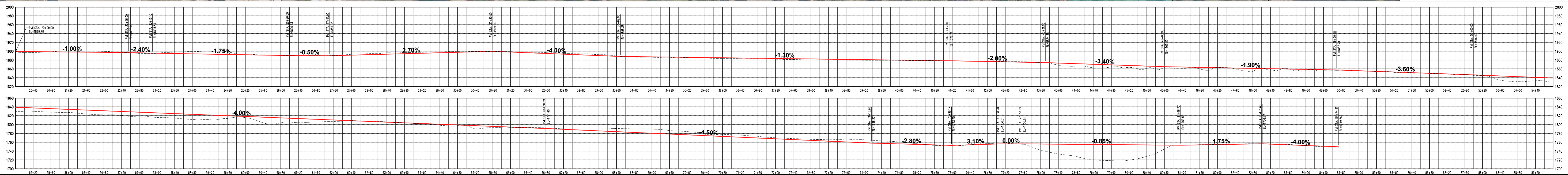
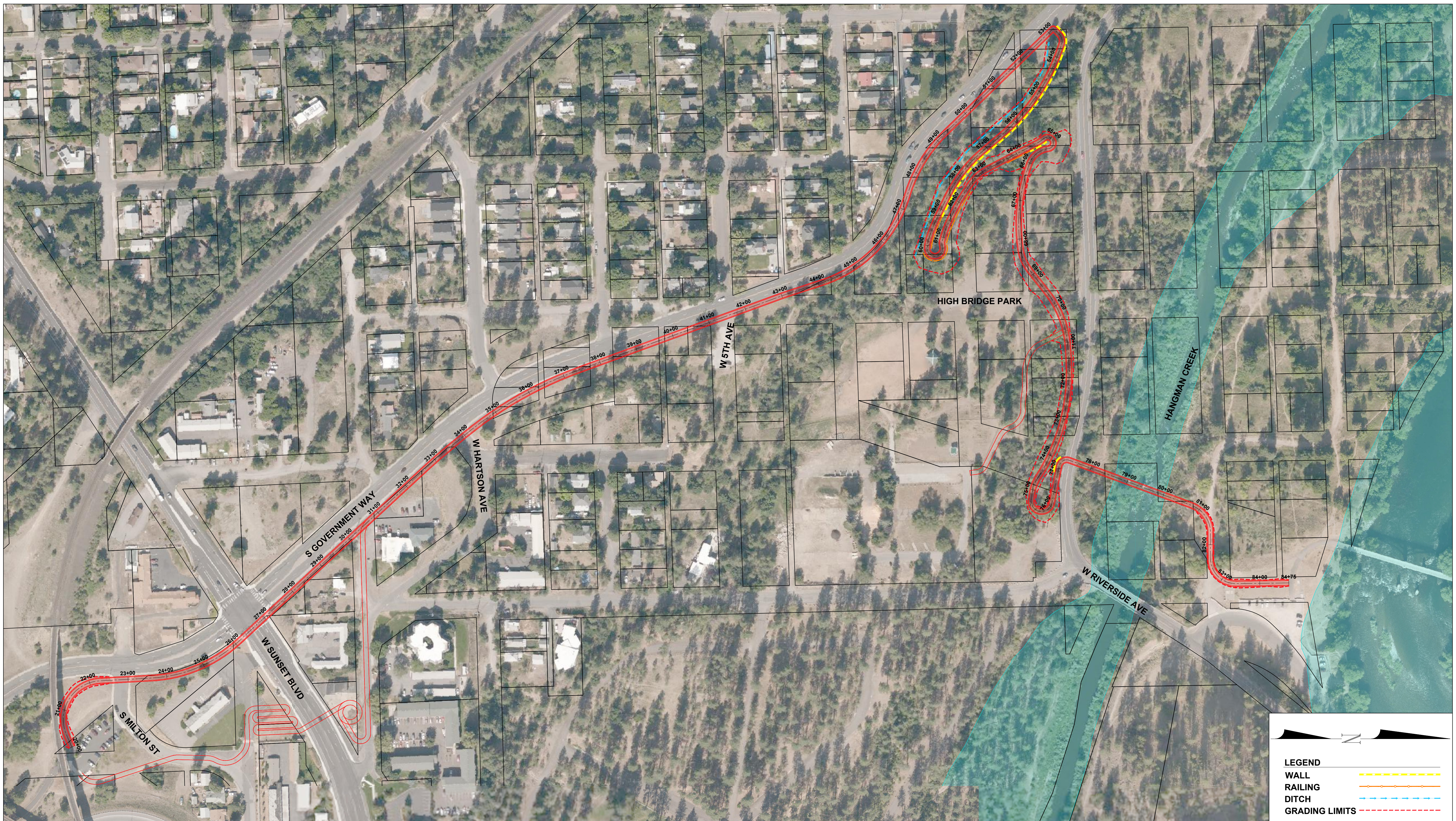
The recommended alternative for the Fish Lake Trail Connection is the Red Alignment. Moving forward, this study will be presented to the City of Spokane Parks Board for concurrence. As the project moves into the design phase, refinements will be made to study concept to improve safety, separation from traffic and to reduce impacts and costs. Given the scope and costs associated with this alternative, the City will look at phasing options as it seeks funding. As funding becomes available and as community needs dictate, there are a number of phasing scenarios that could be considered that focus on addressing existing deficiencies that can be addressed with the available budget.

# Appendix A

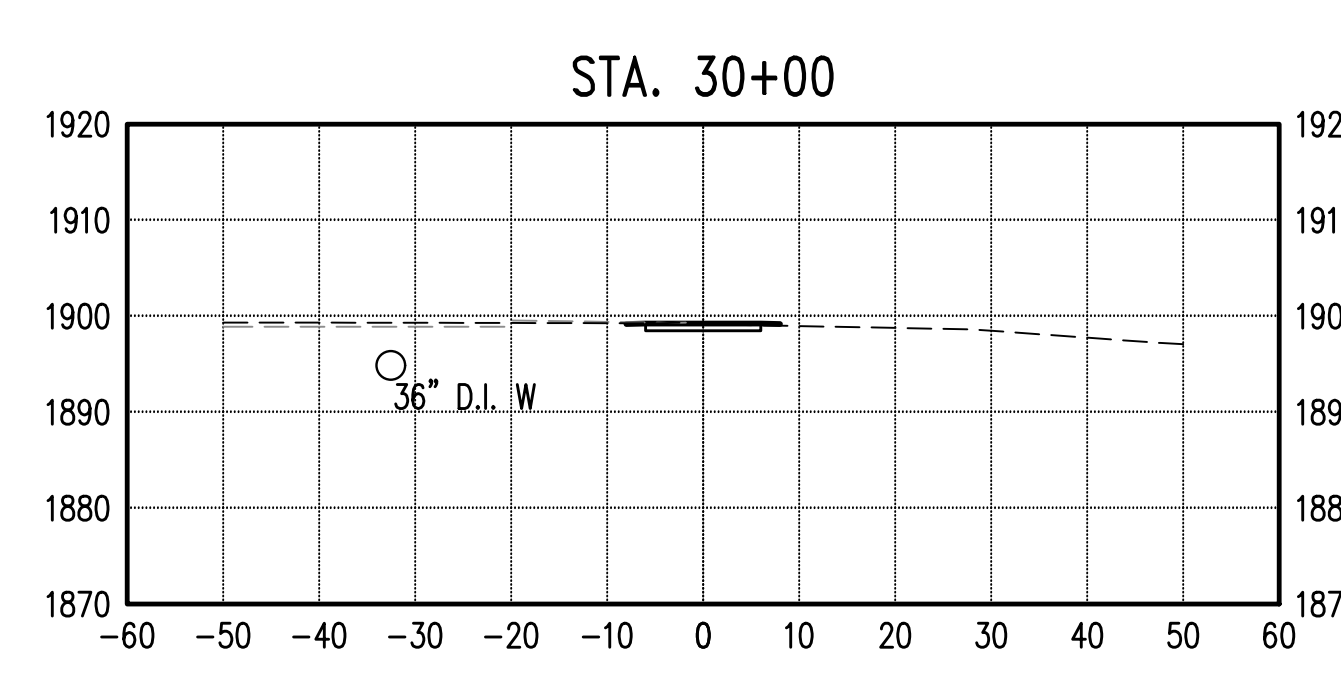
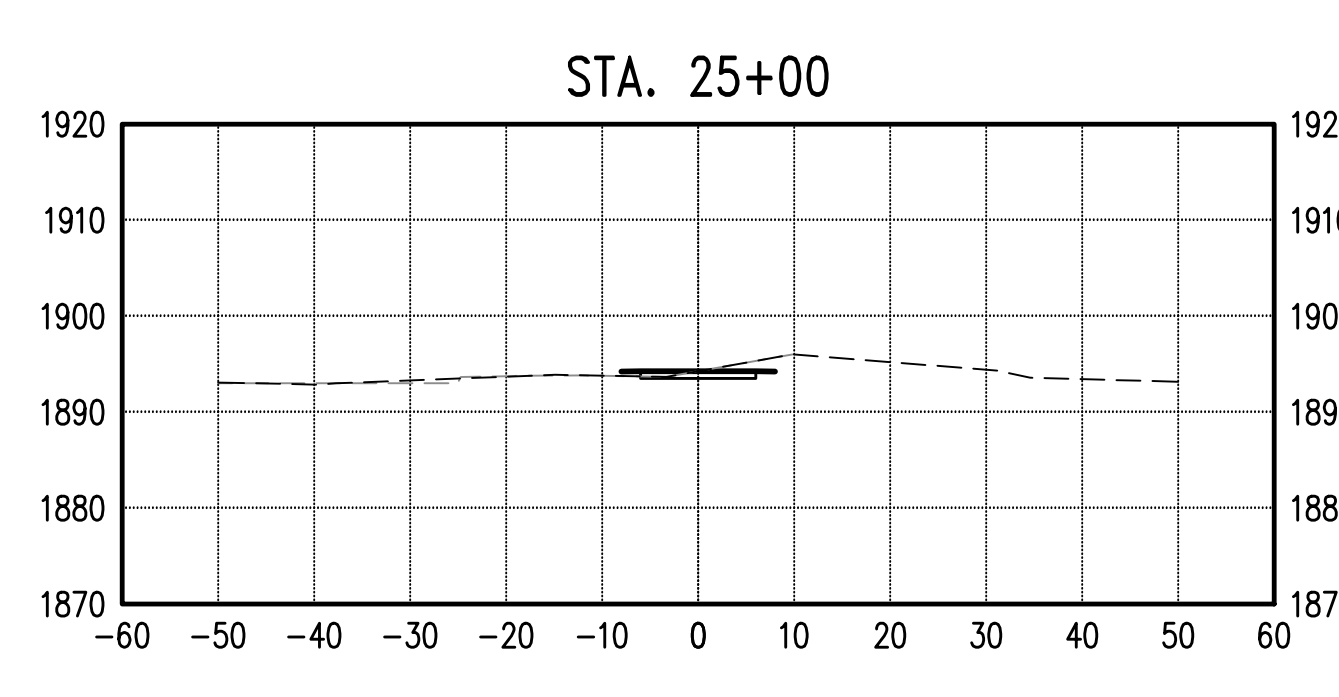
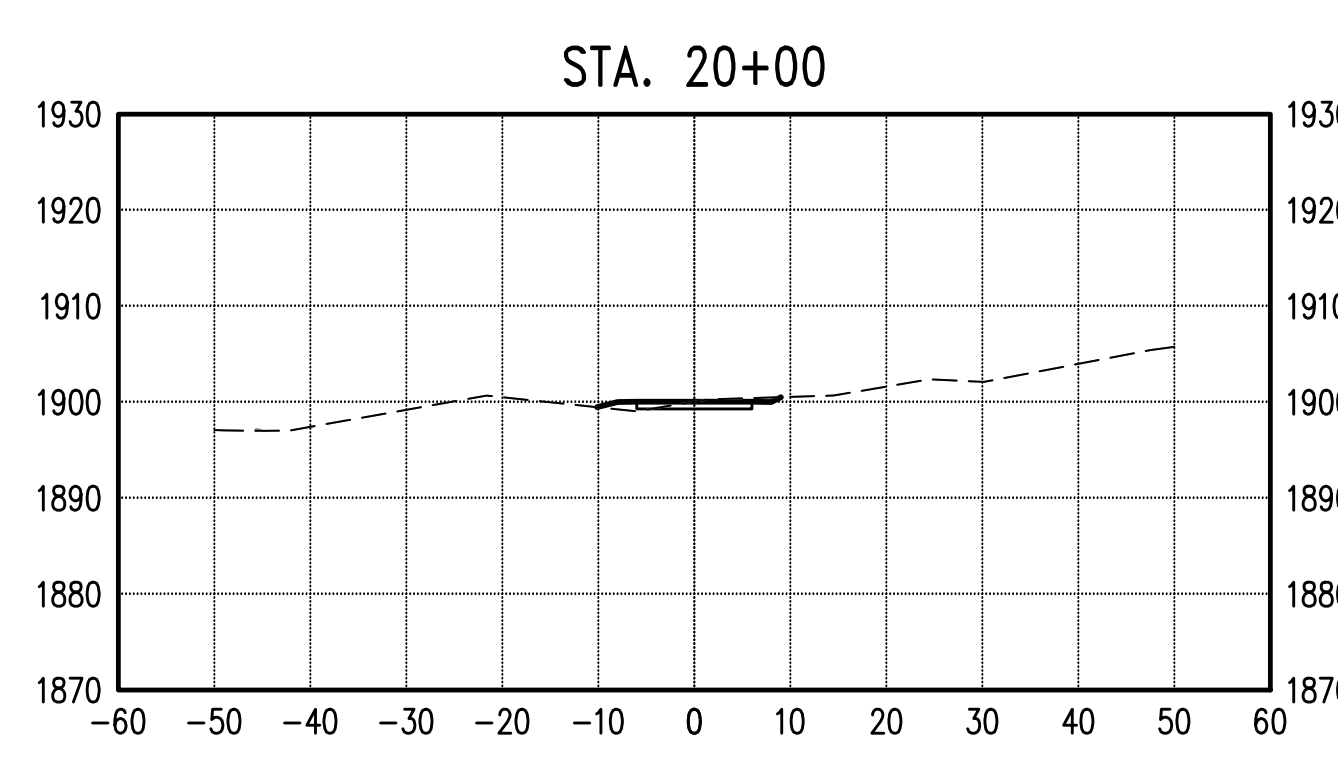
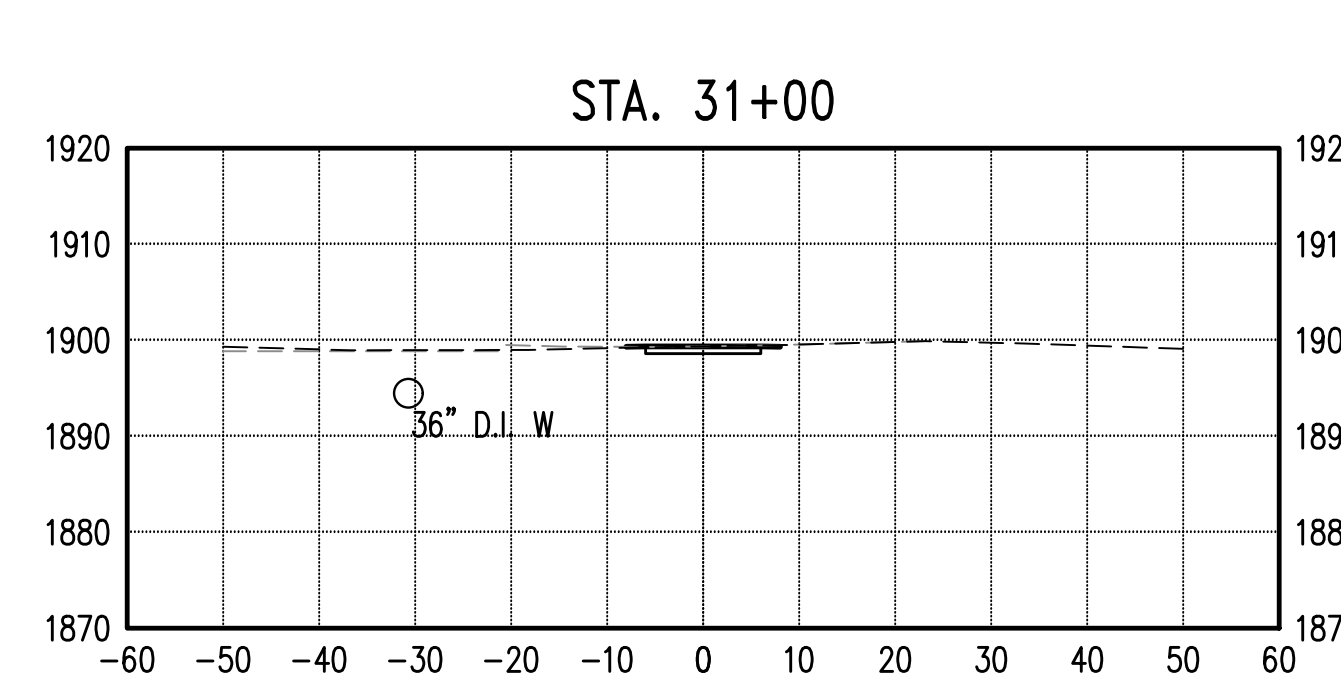
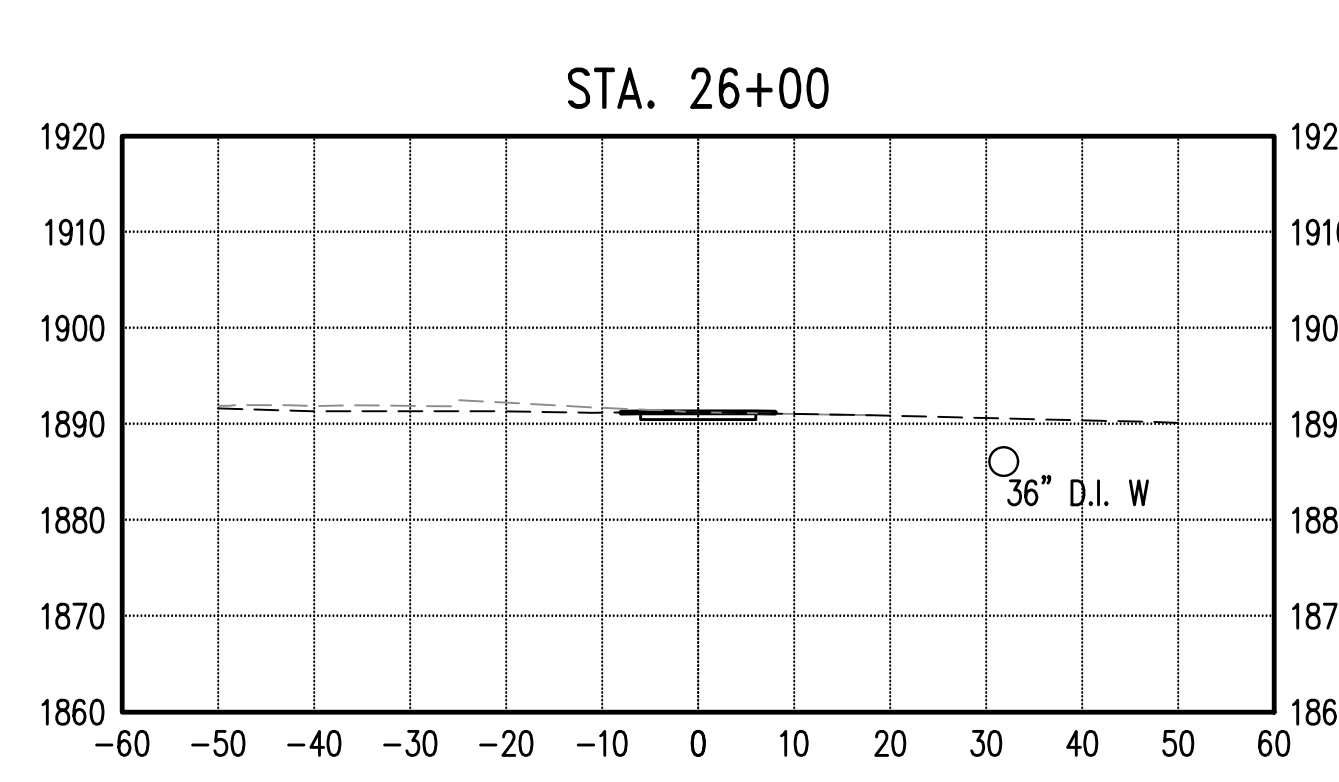
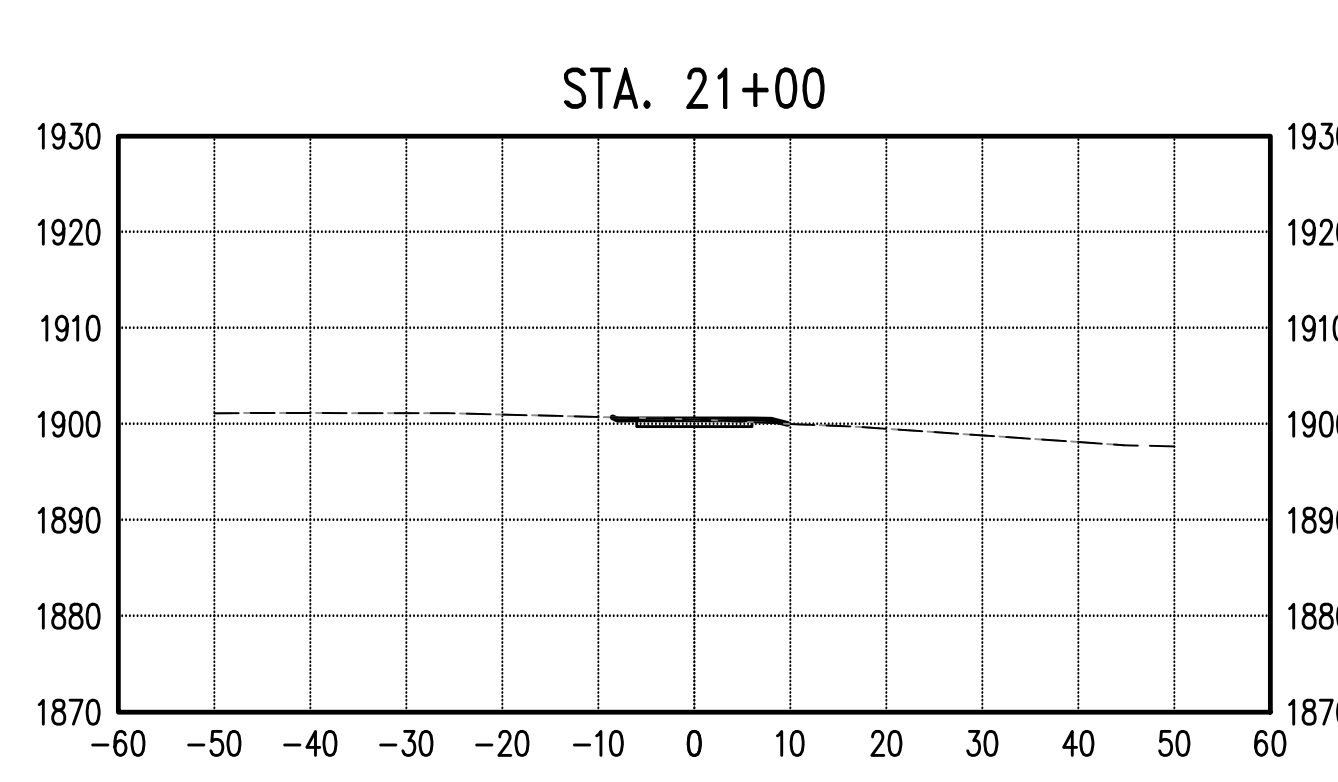
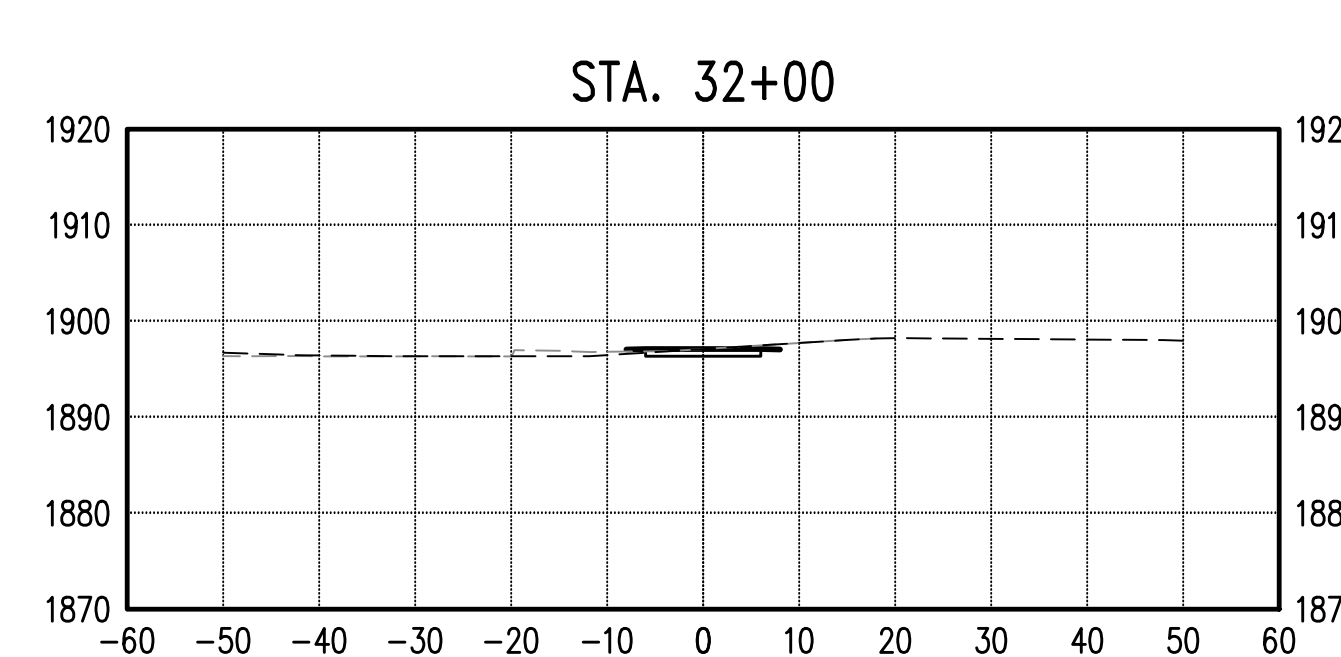
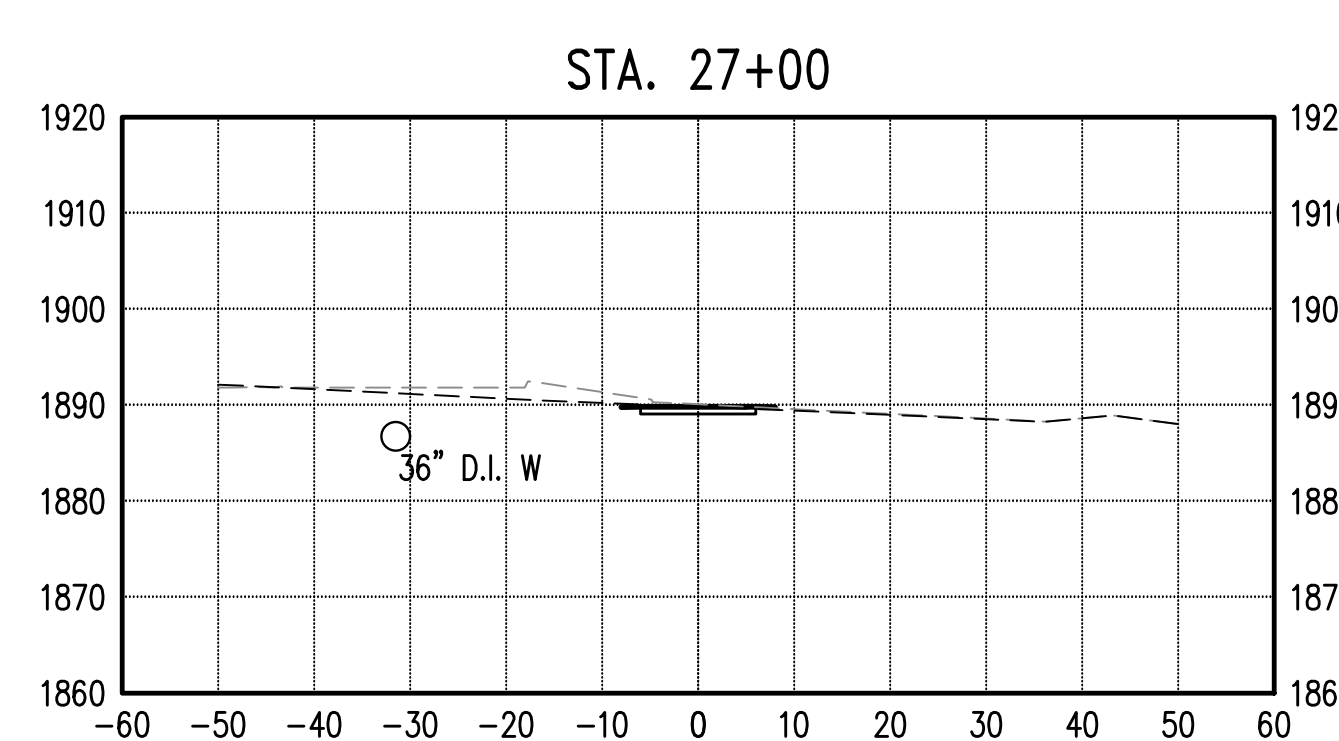
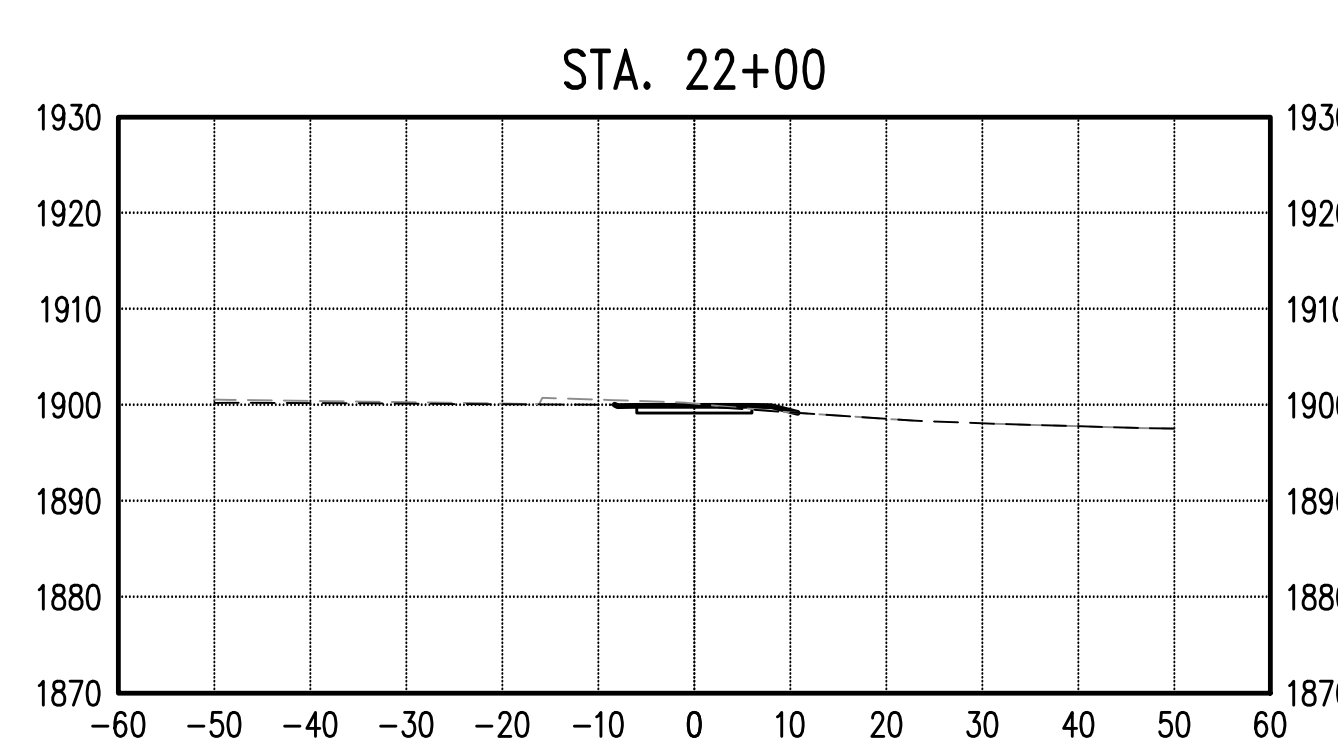
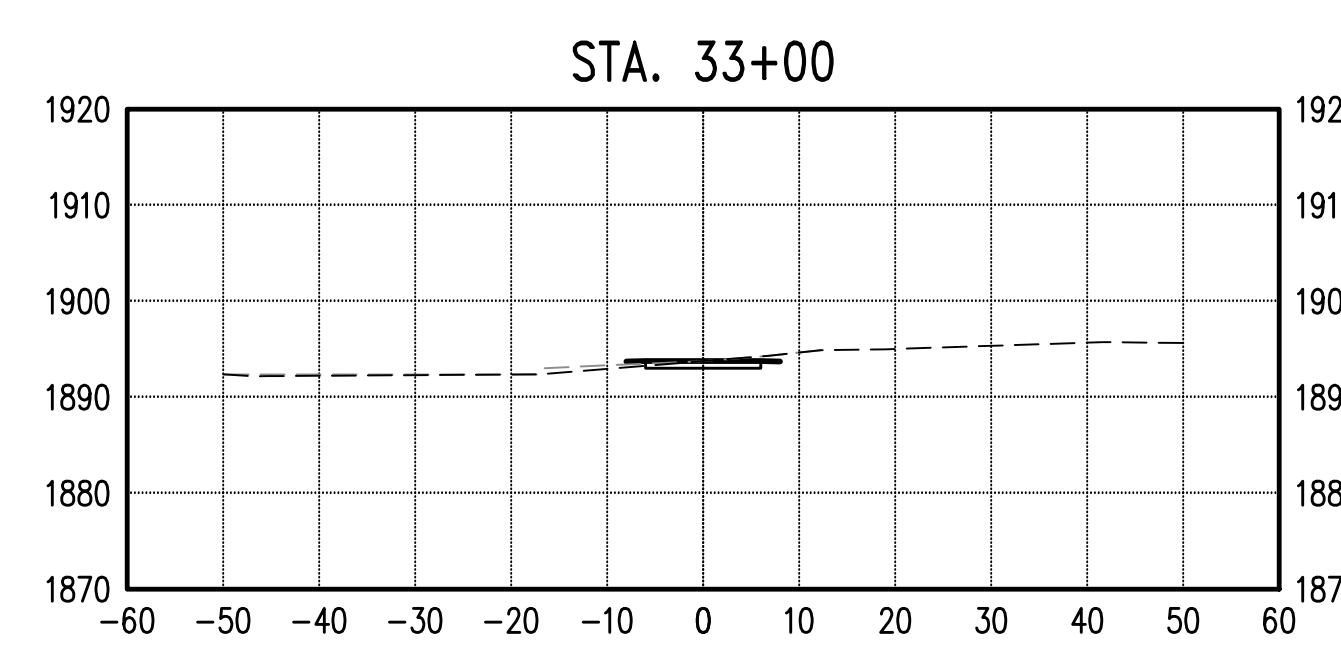
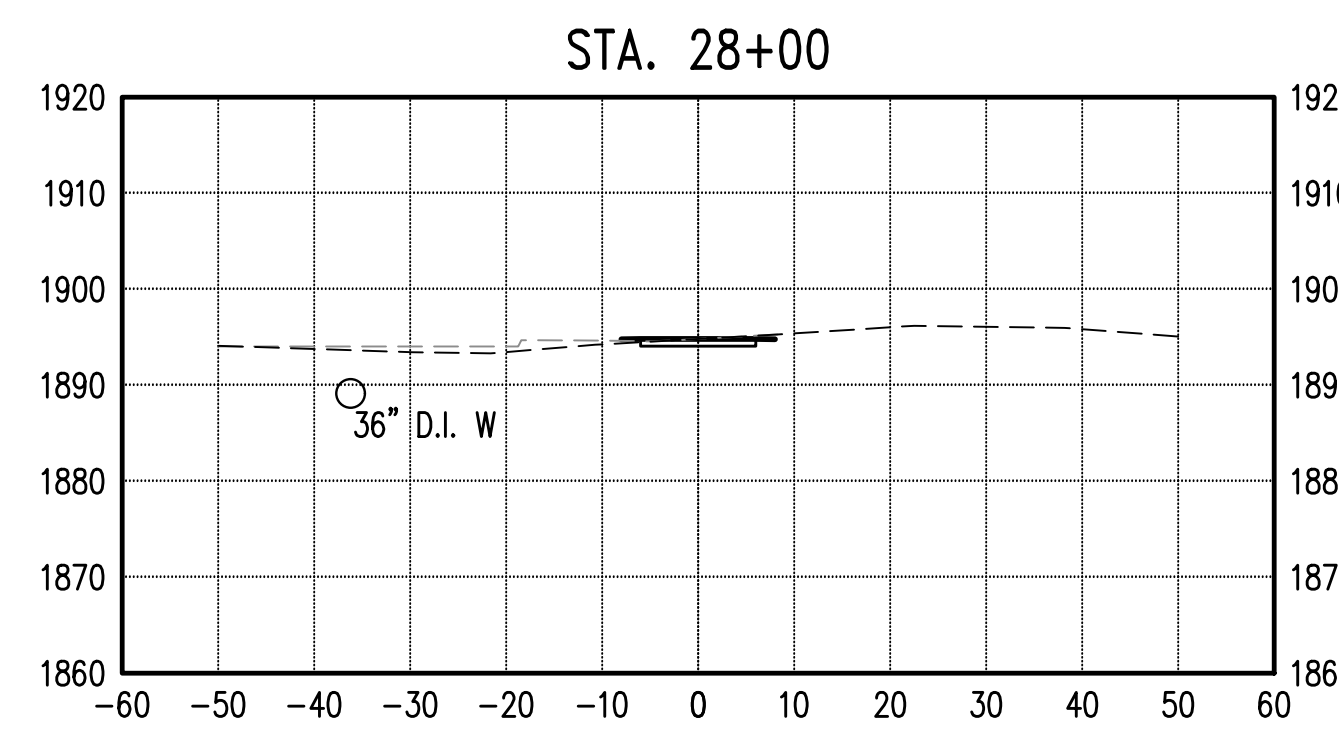
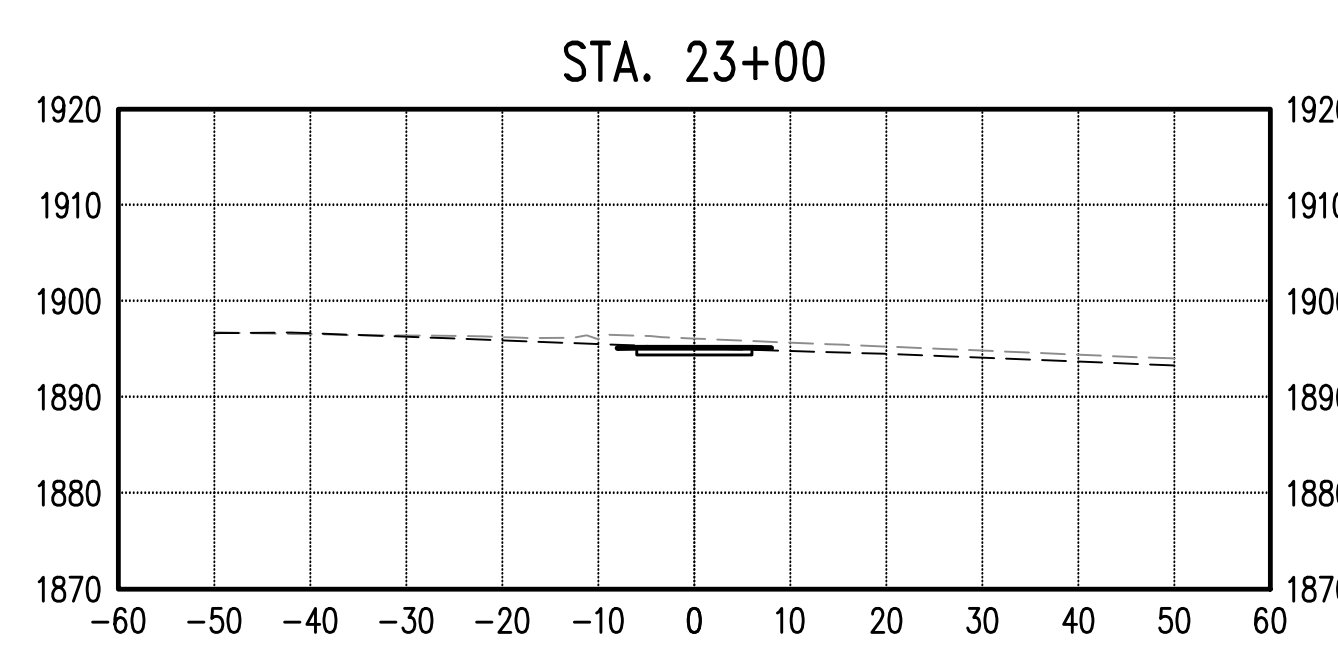
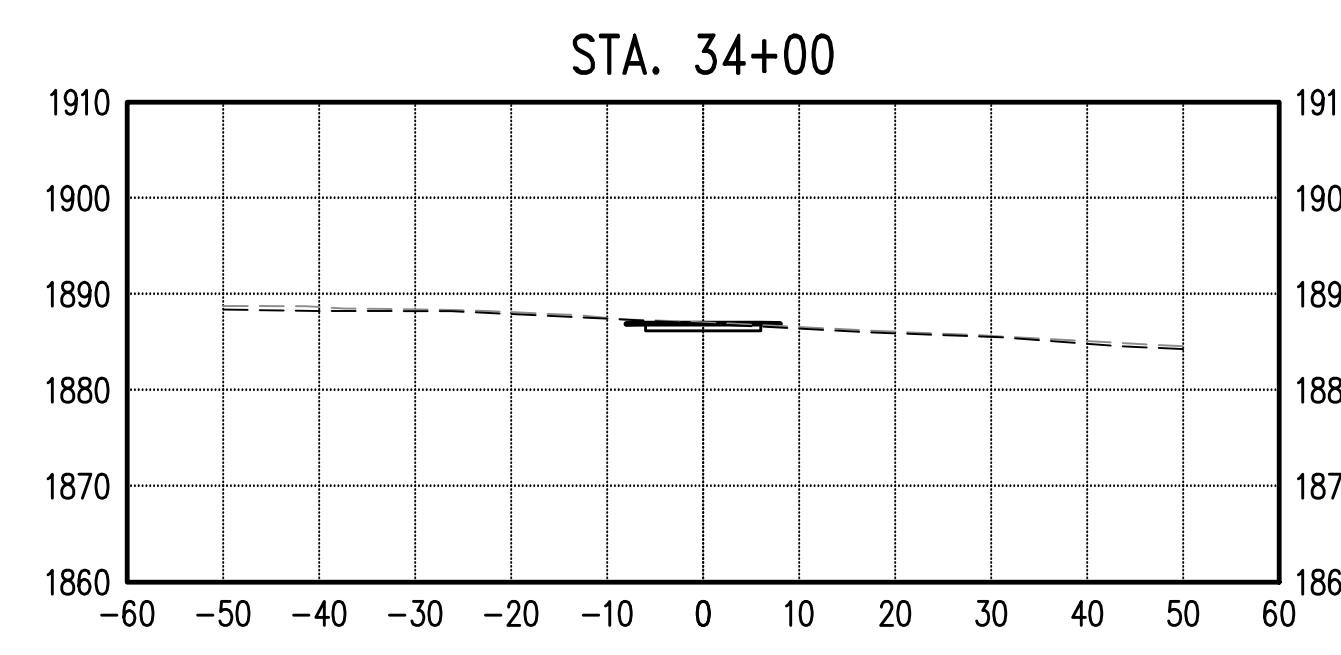
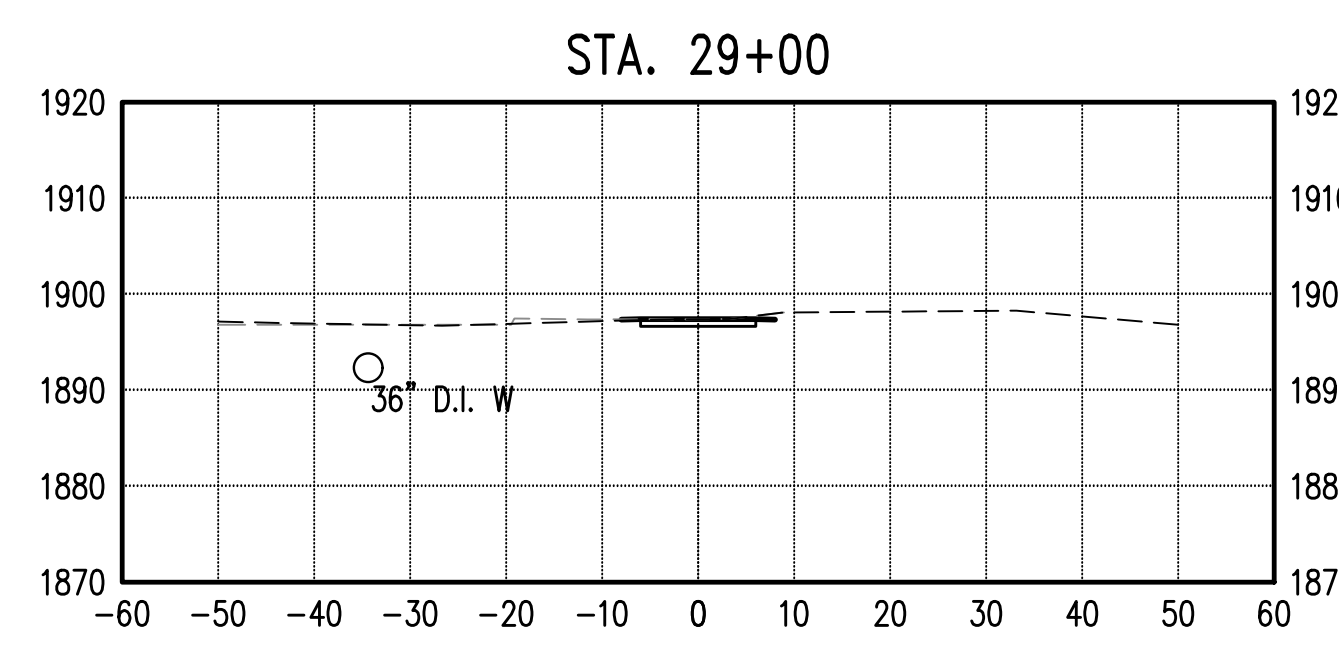
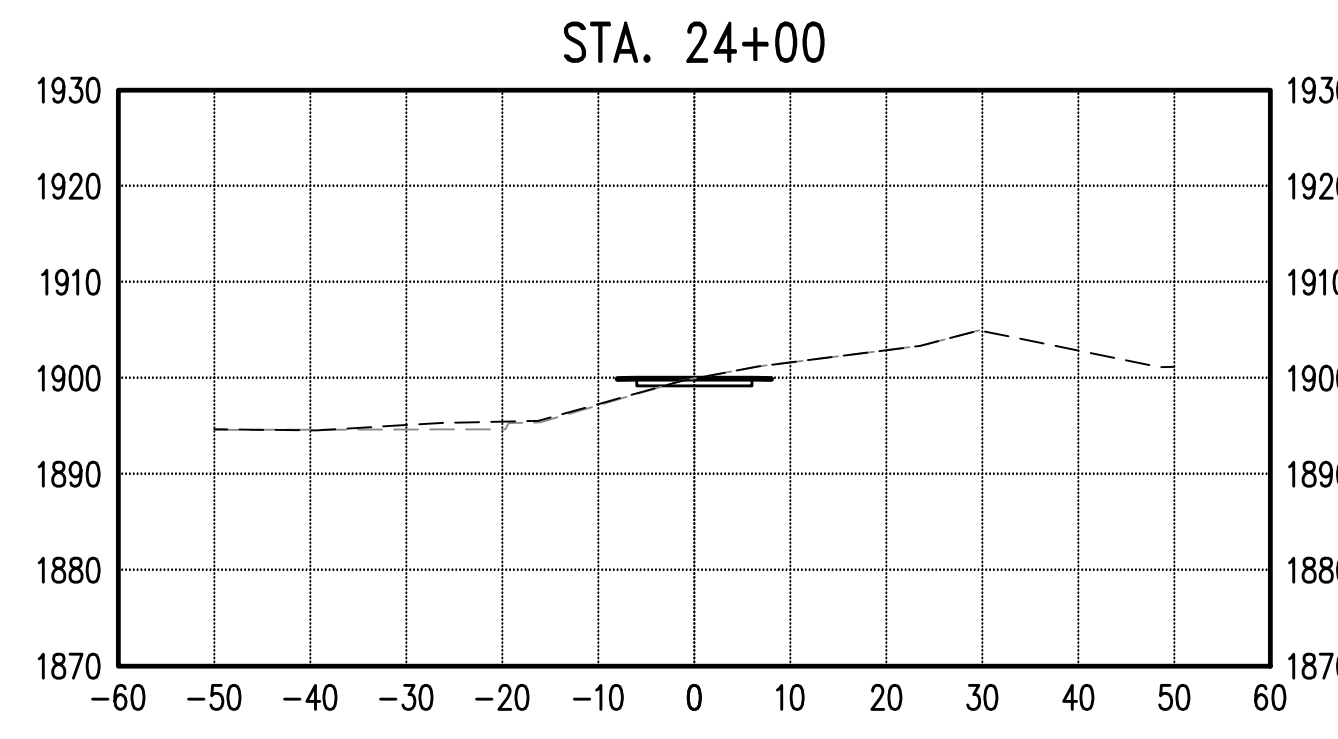
## Concept Alignment Plans



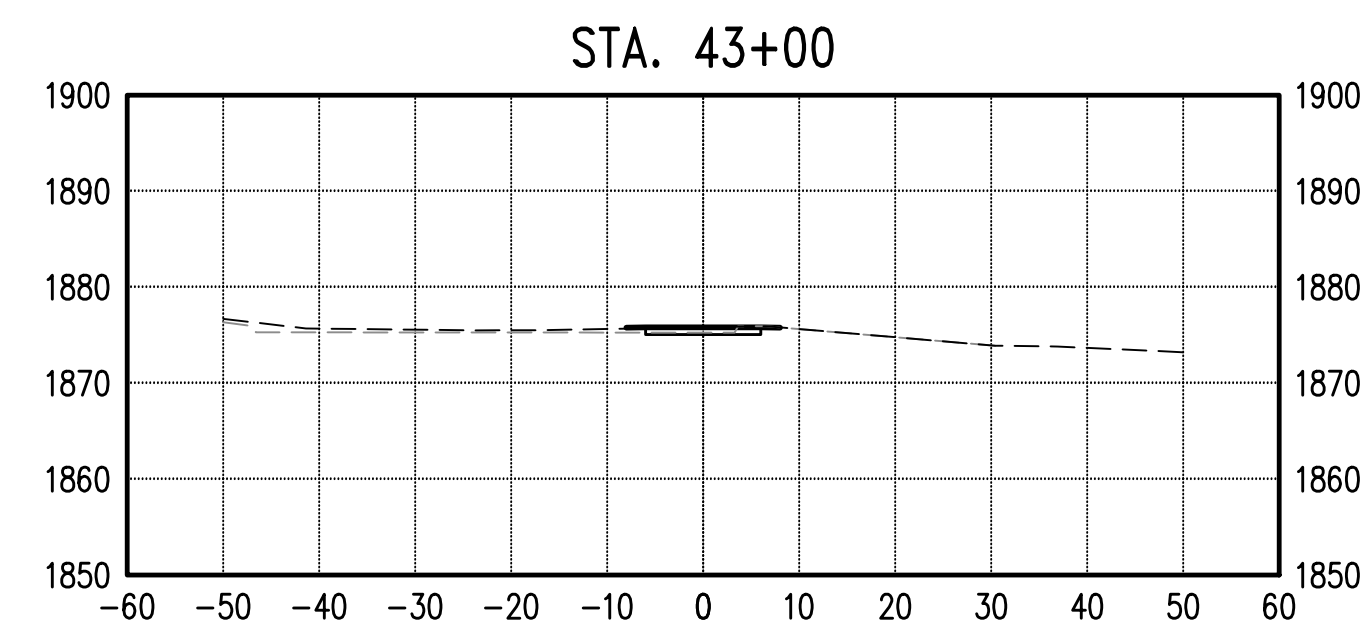
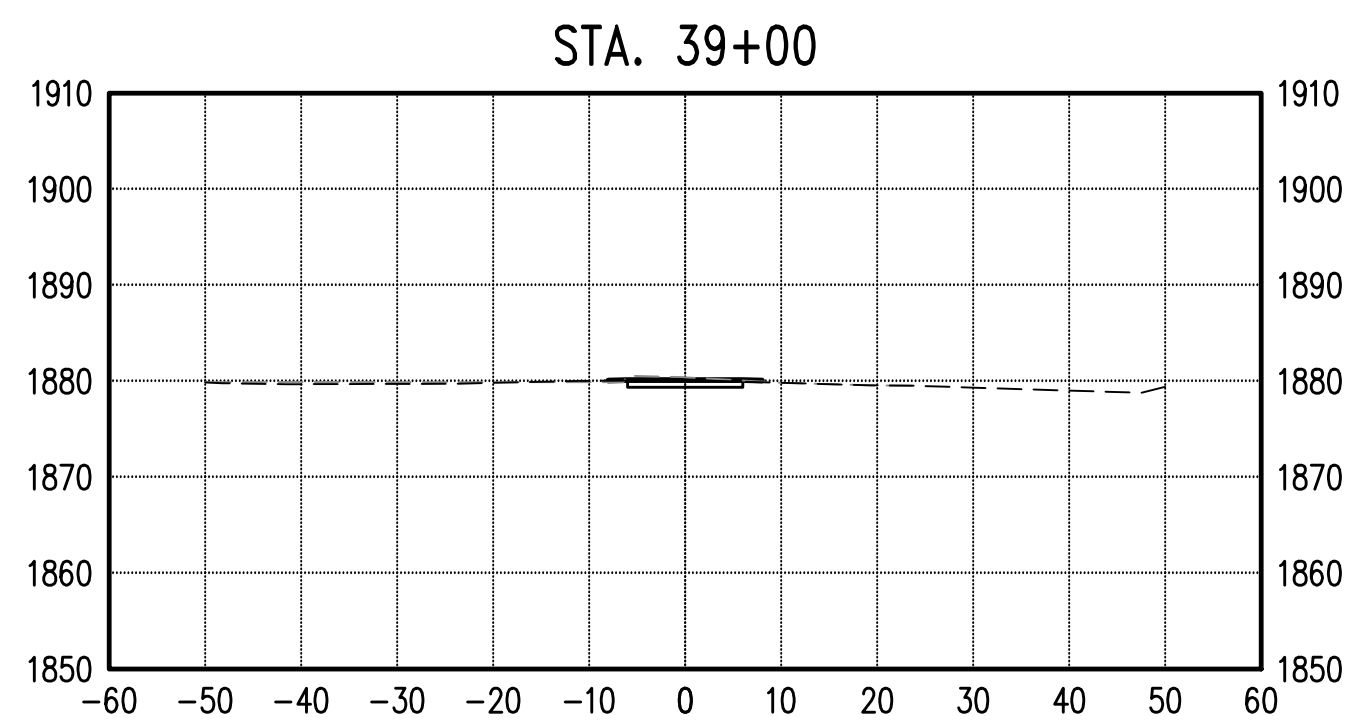
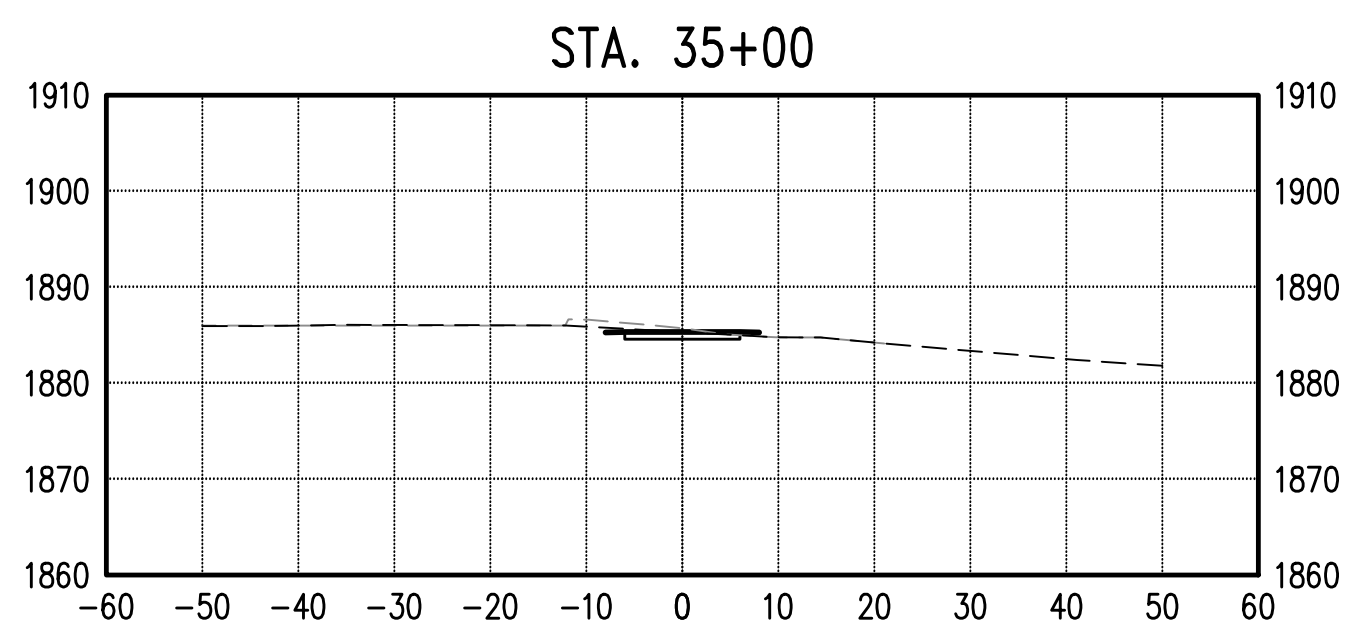
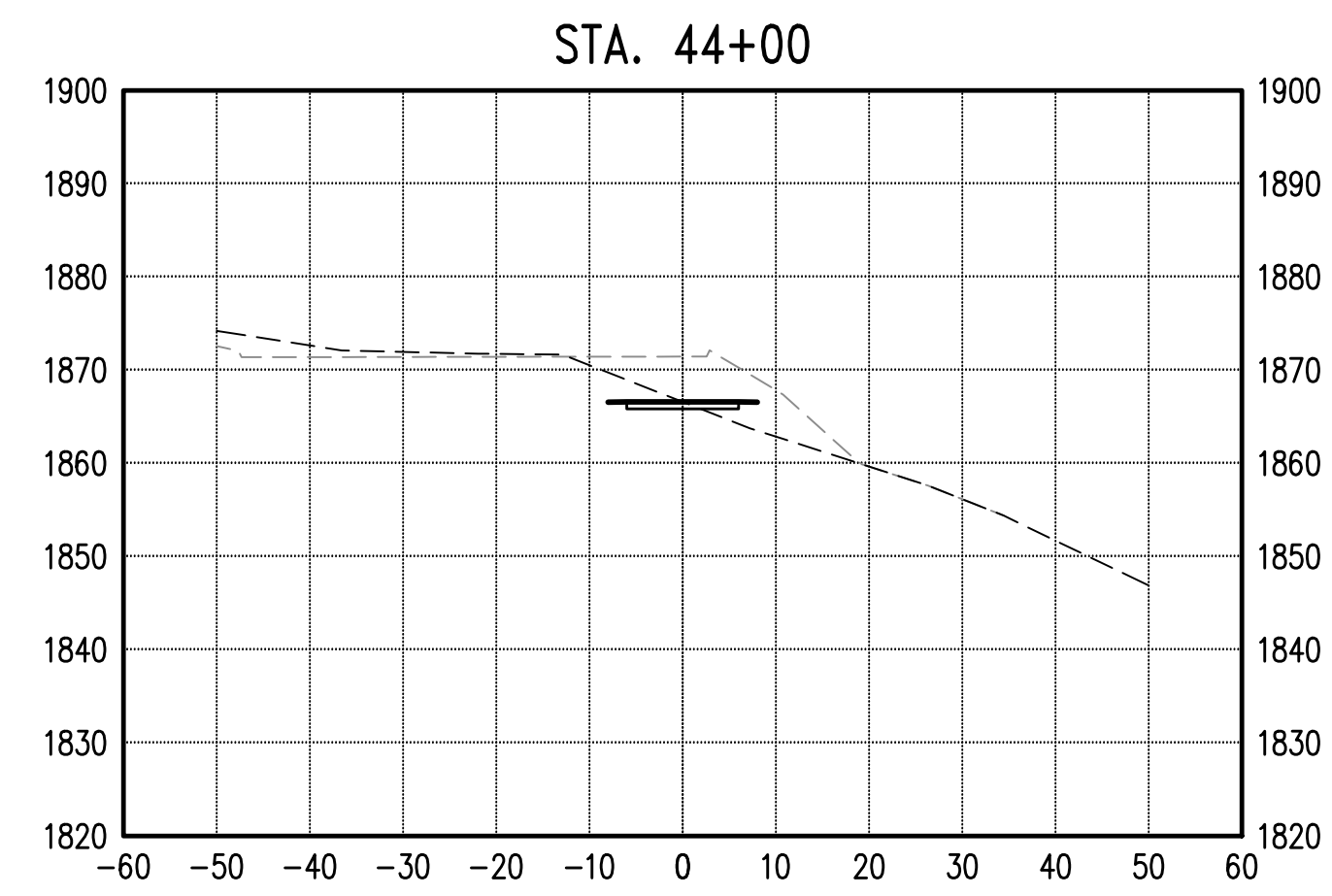
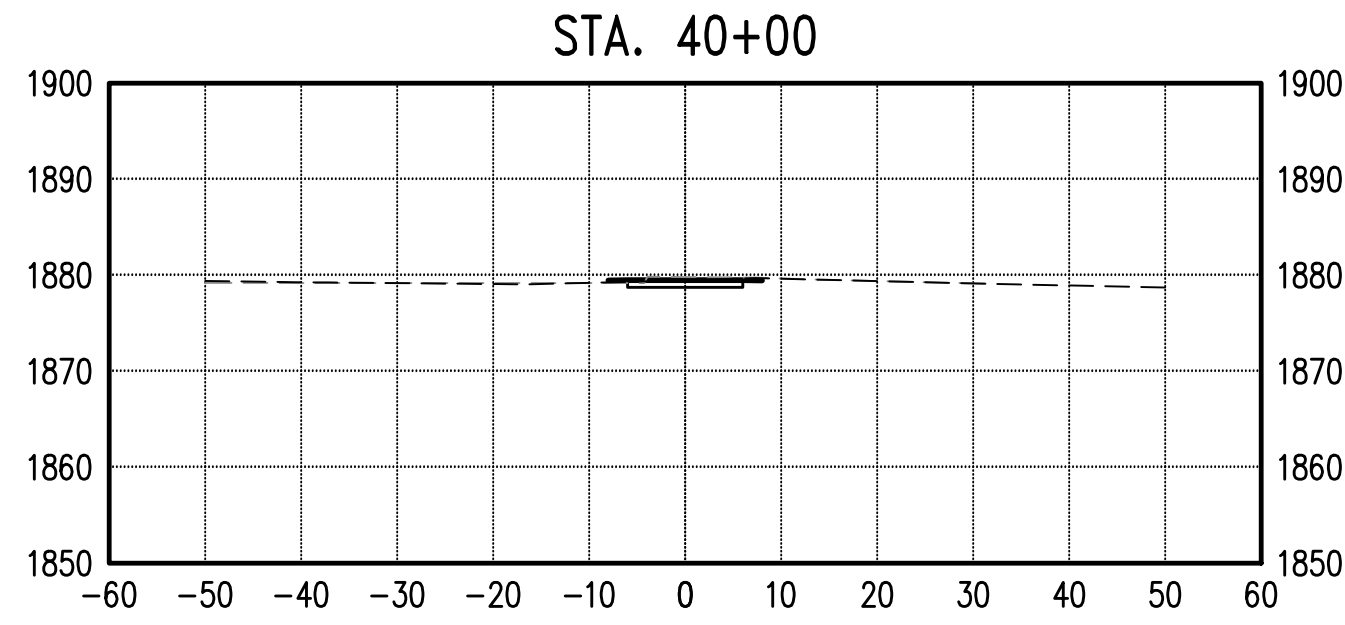
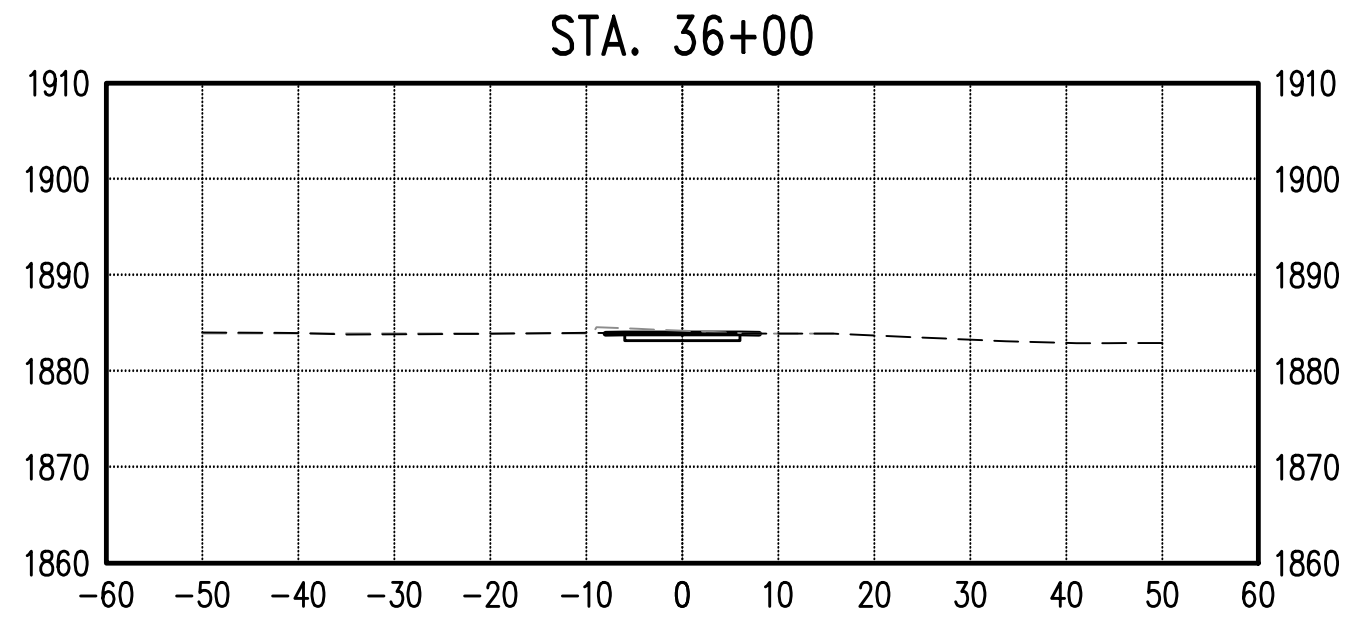
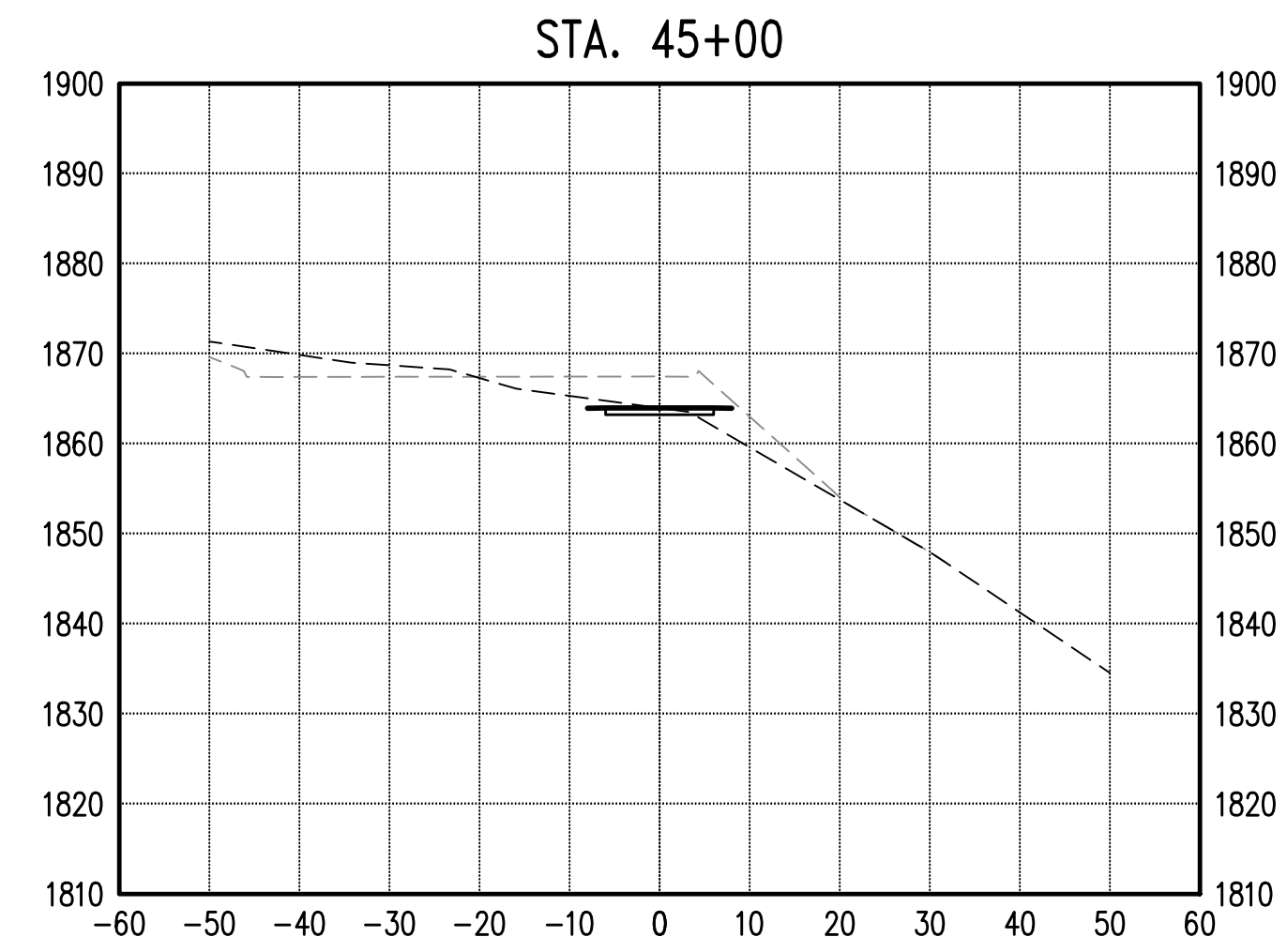
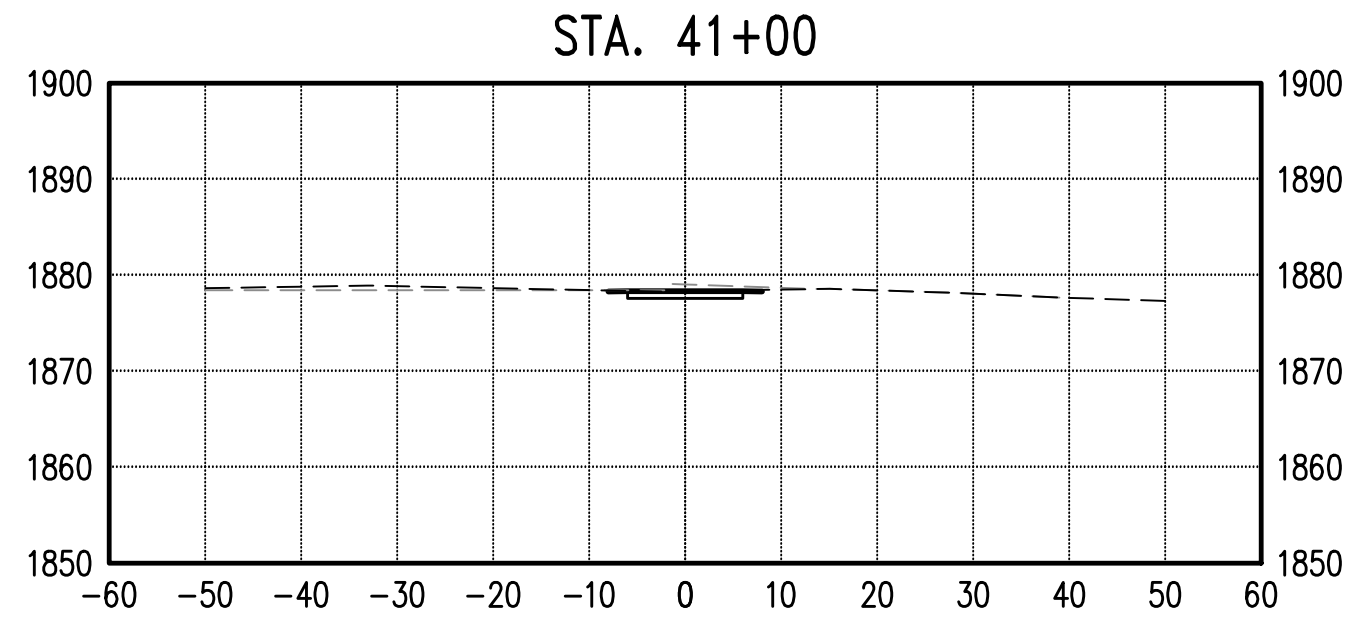
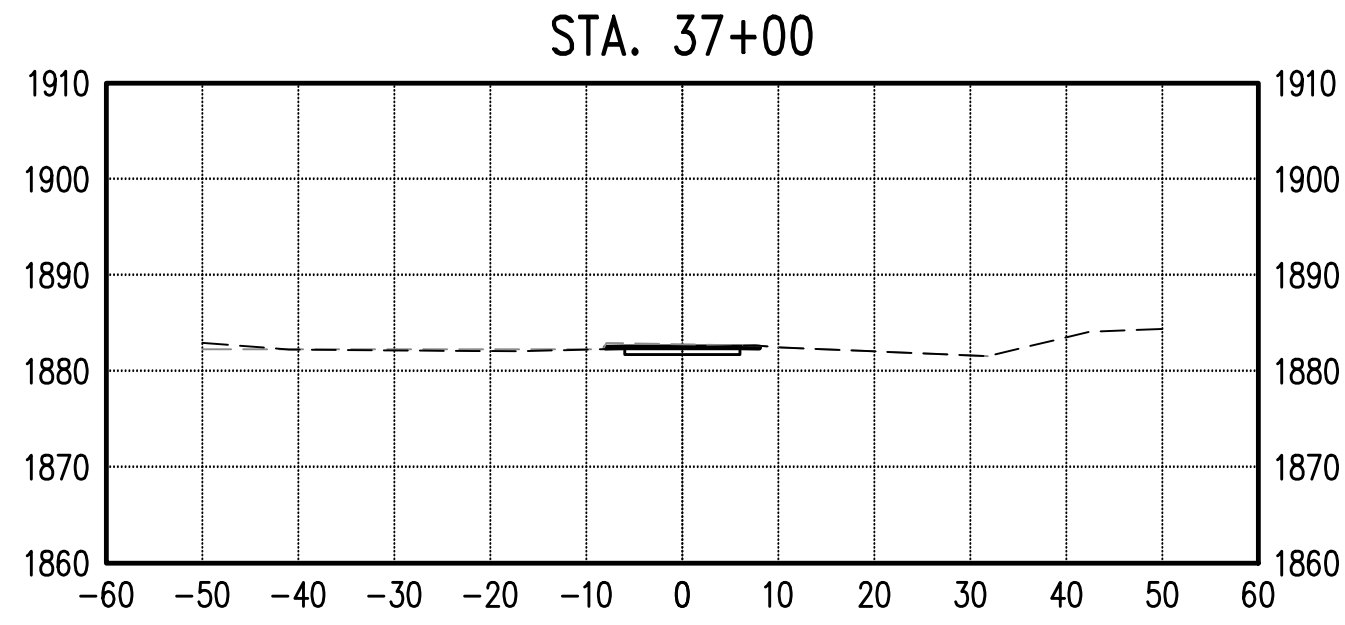
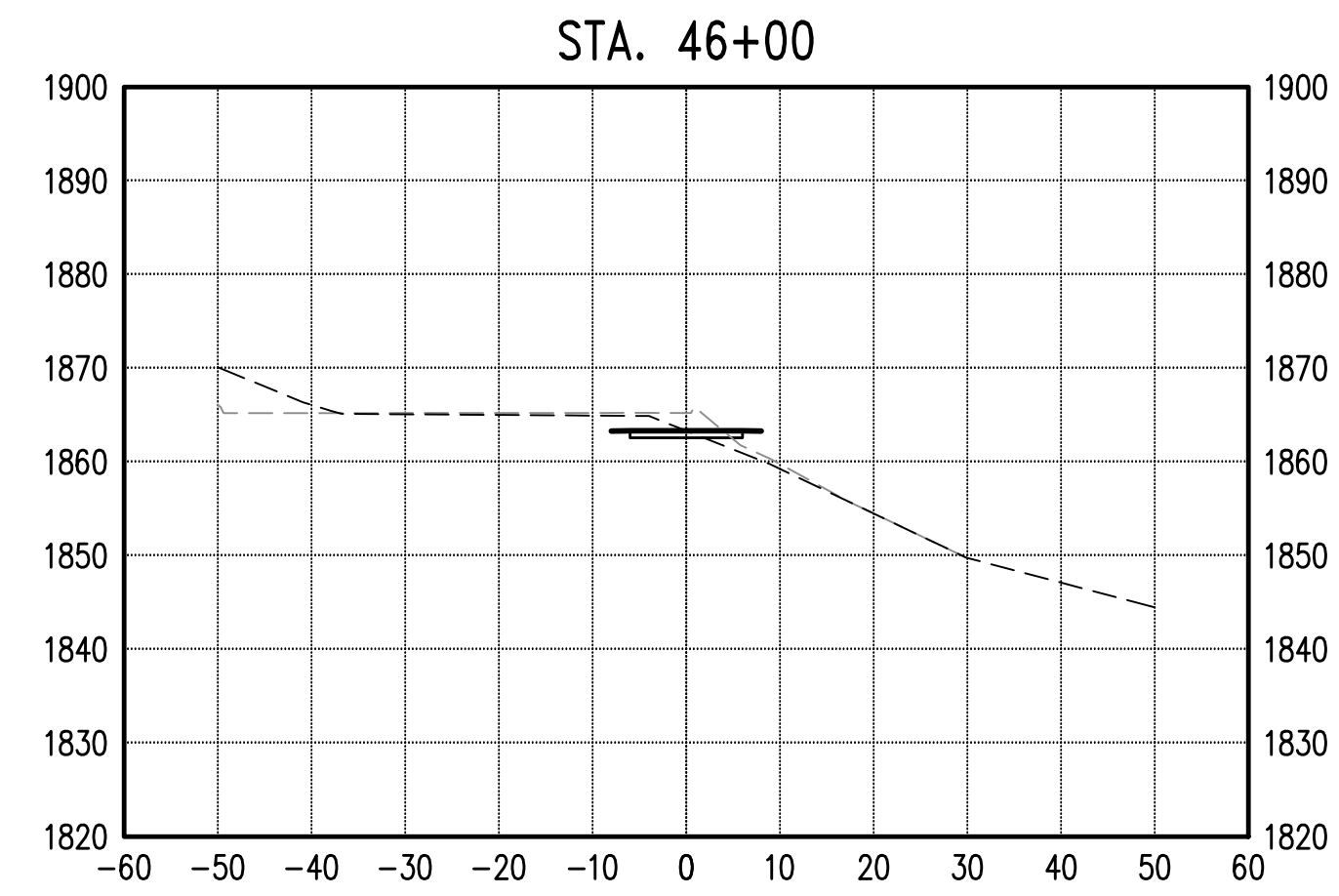
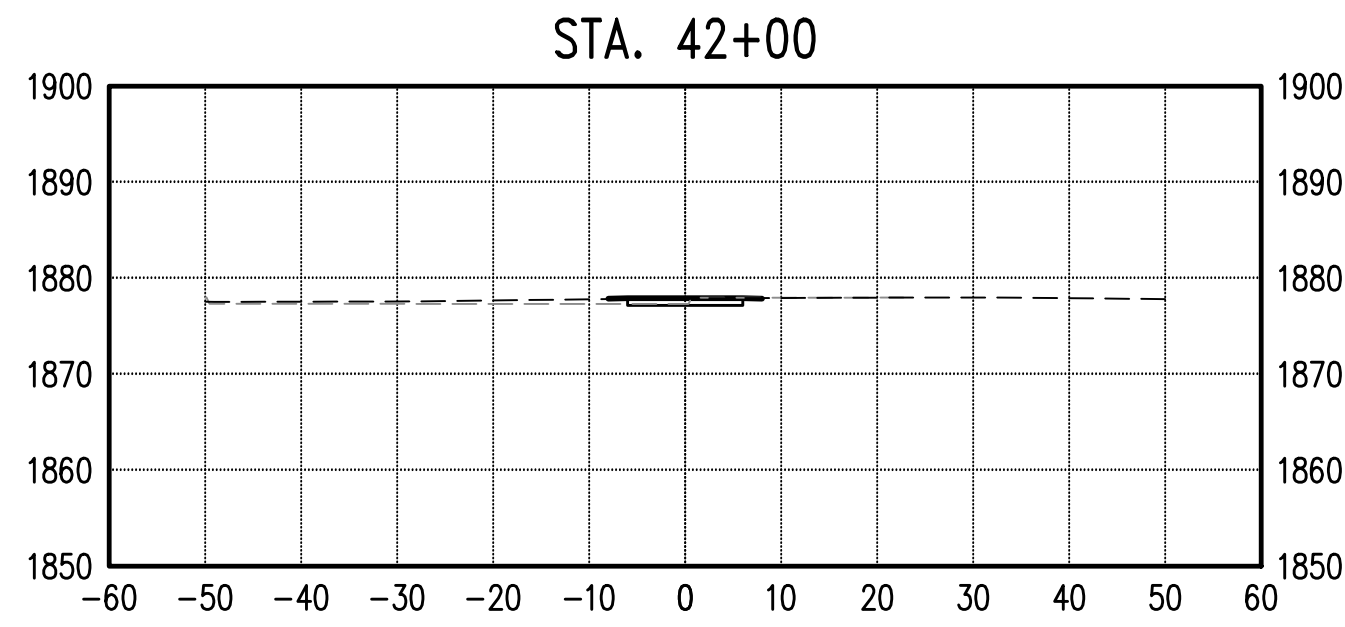
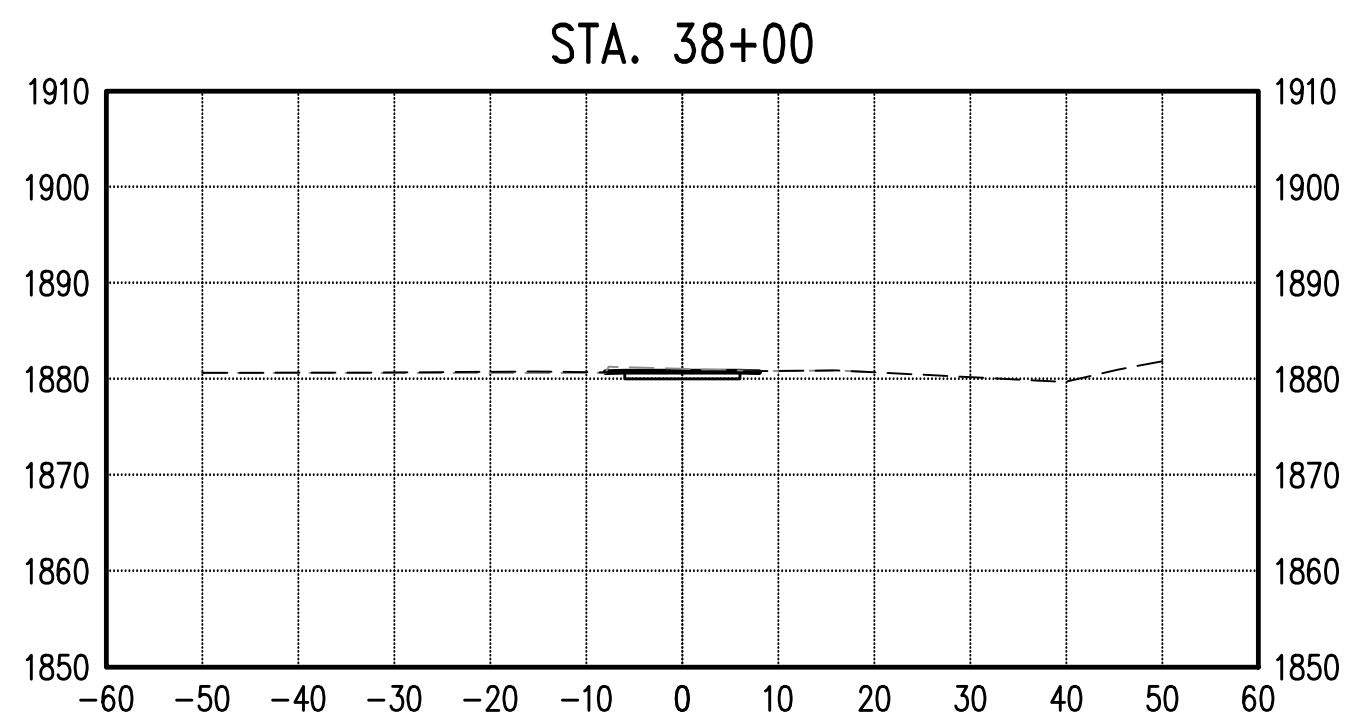


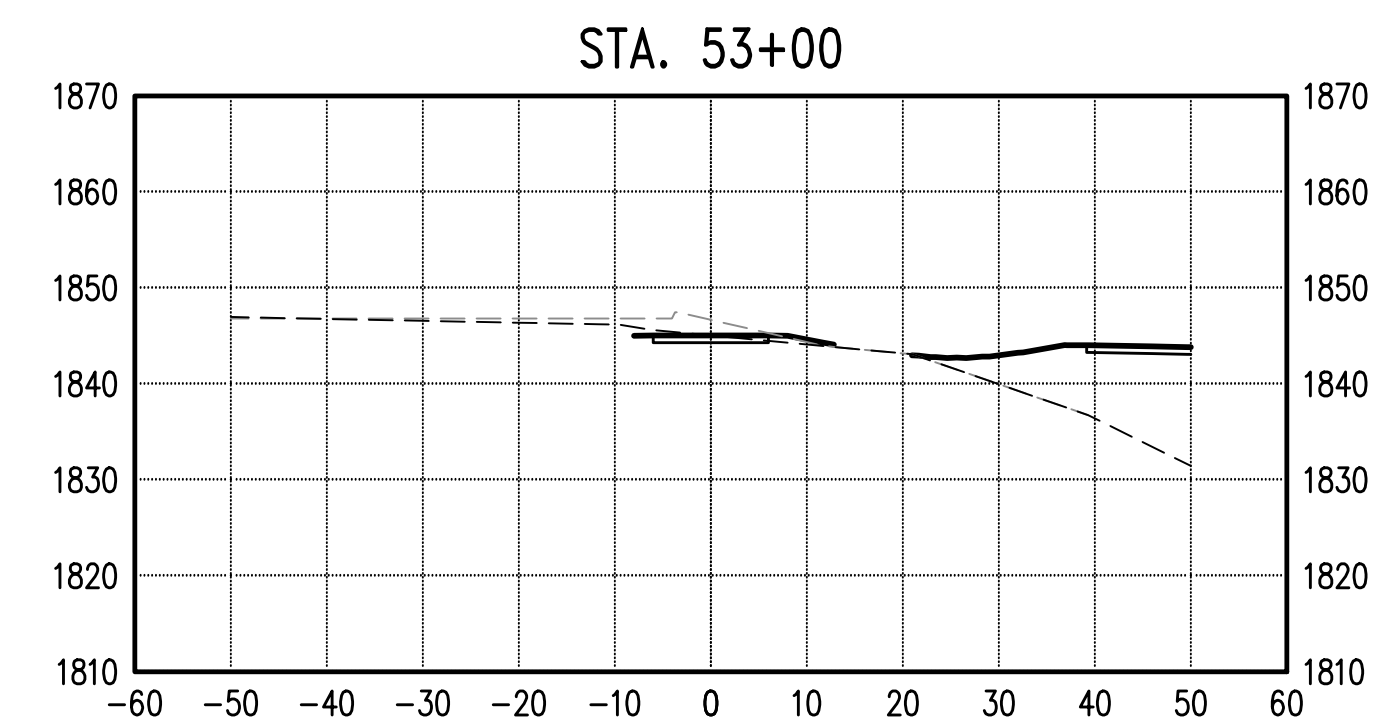
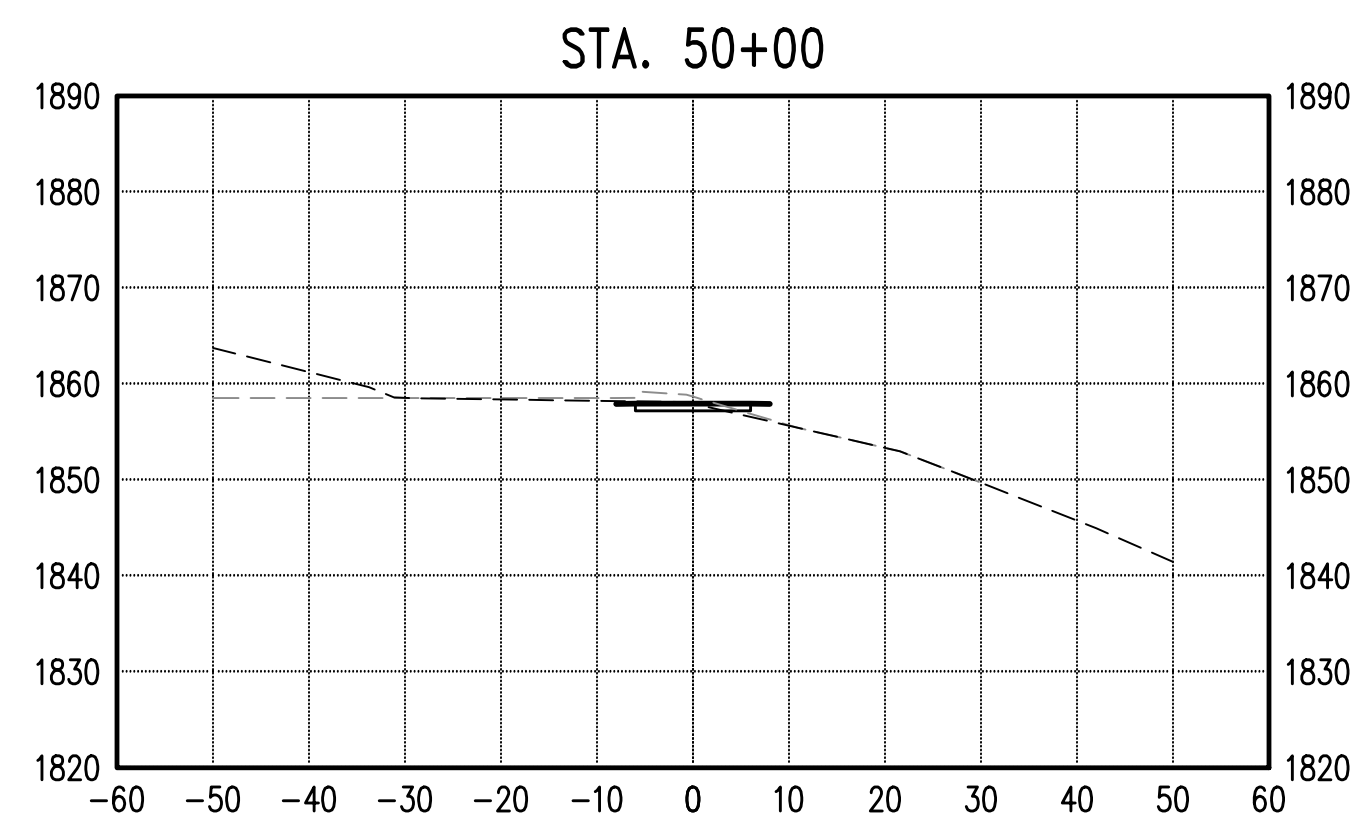
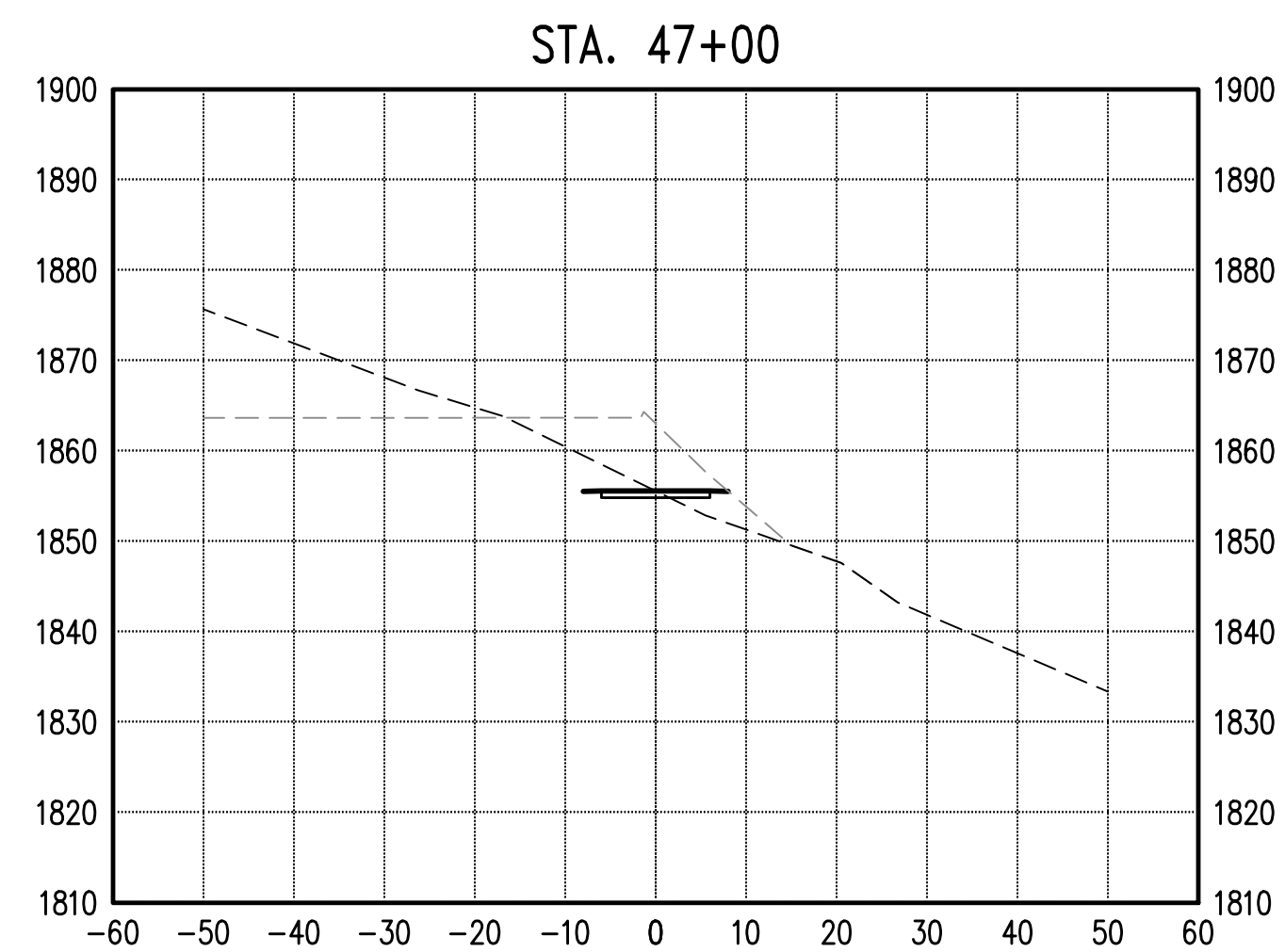
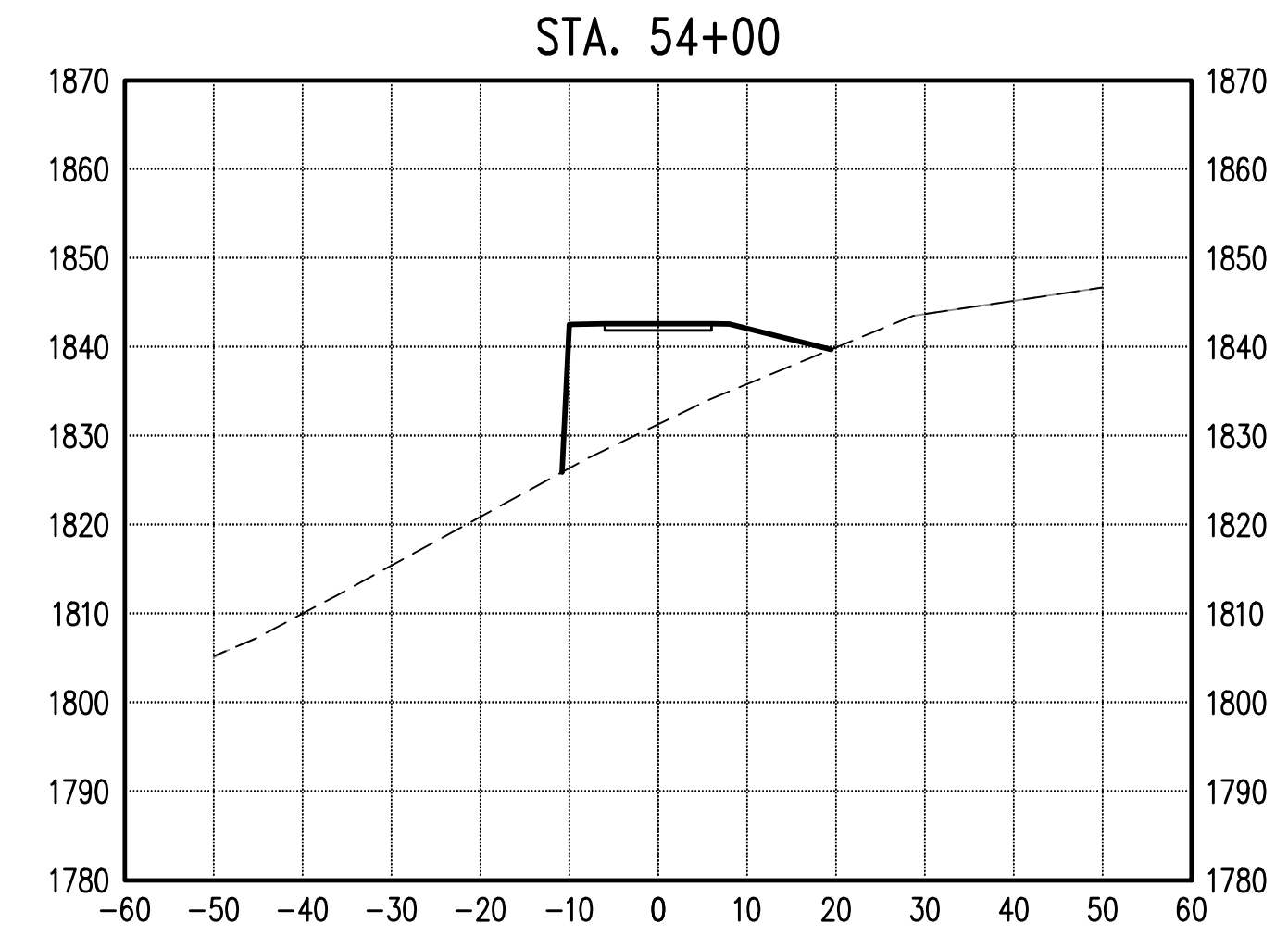
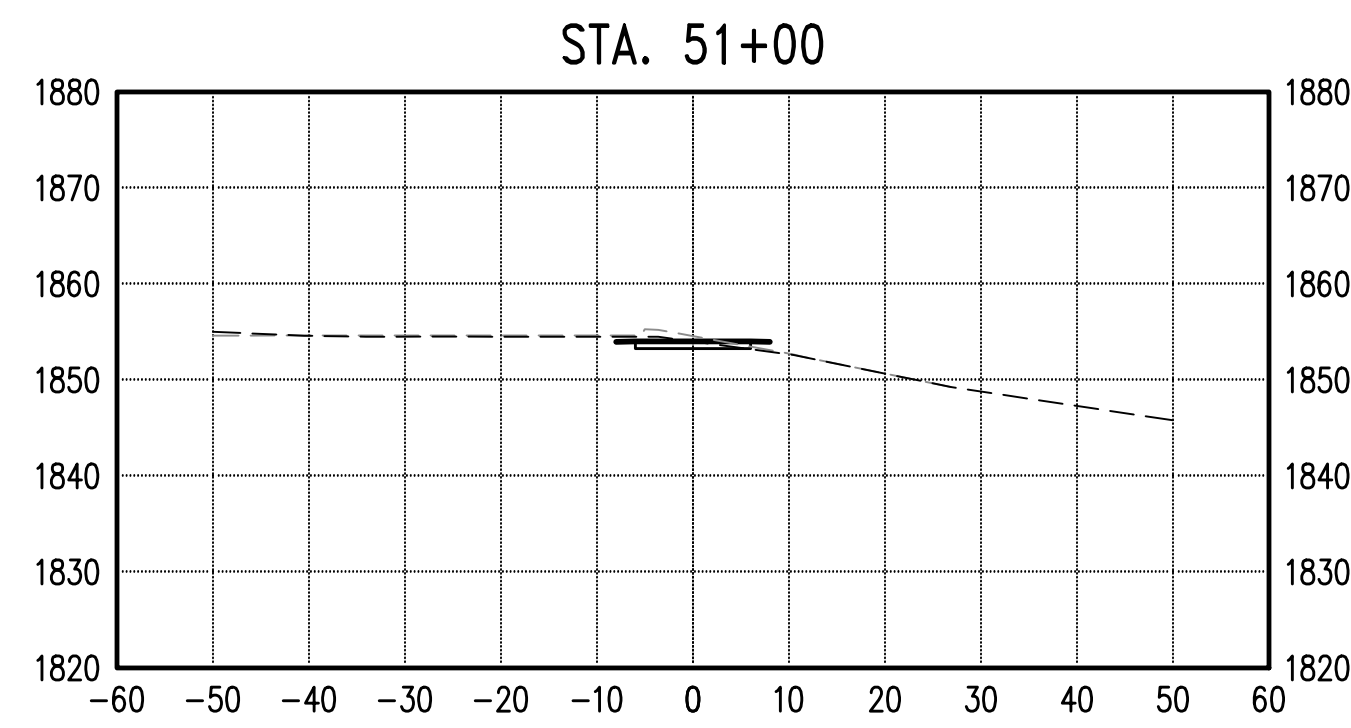
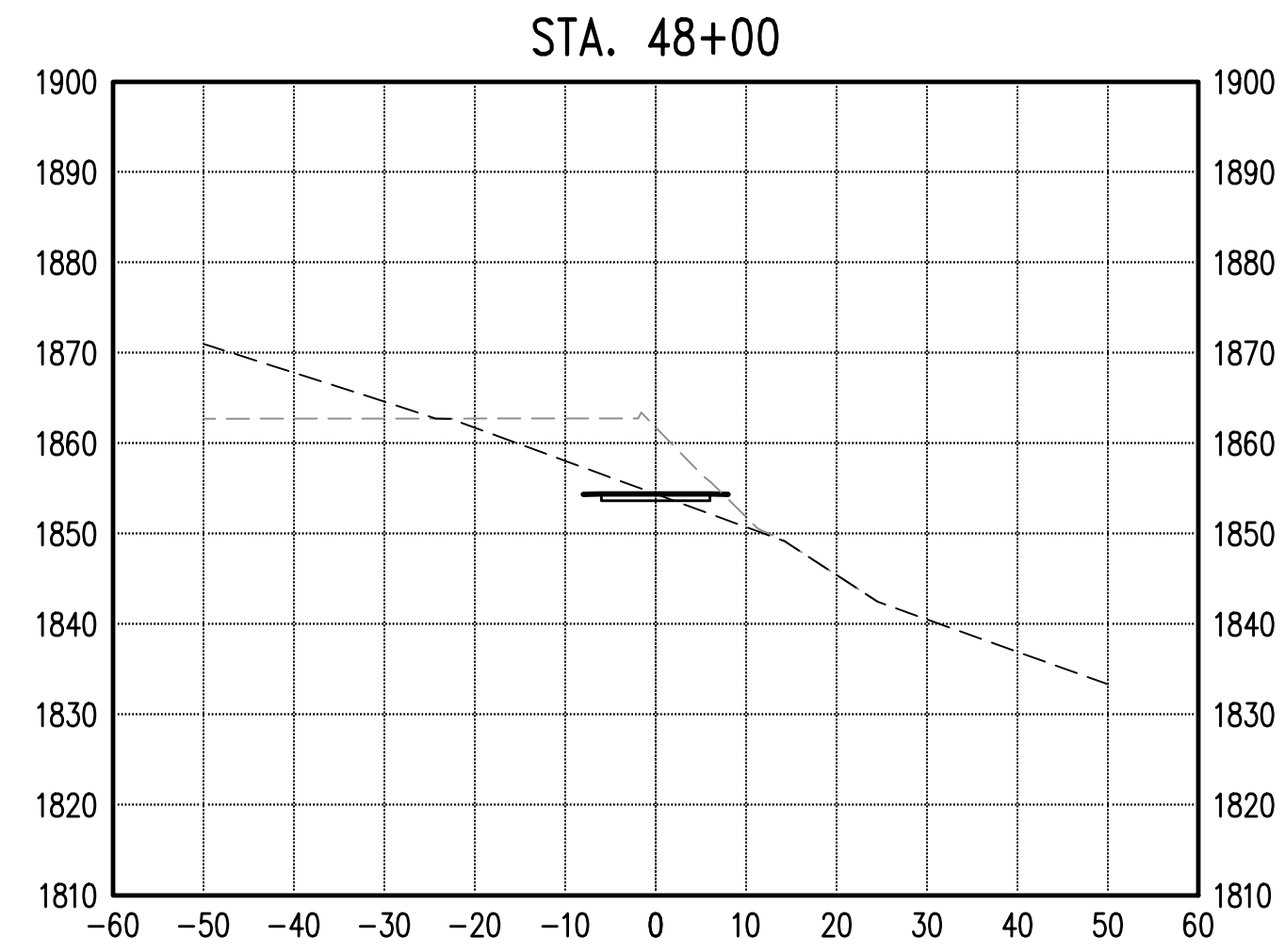
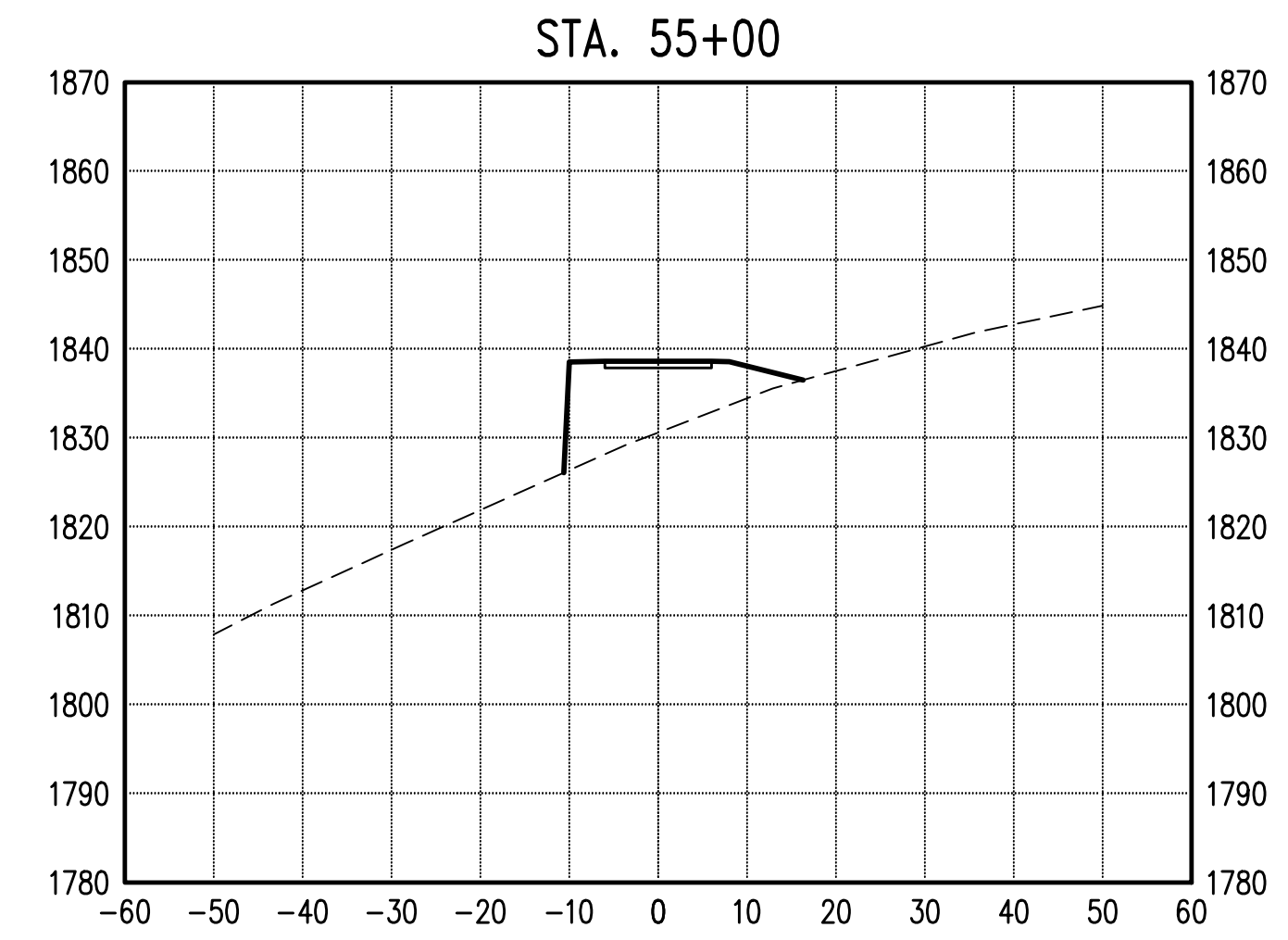
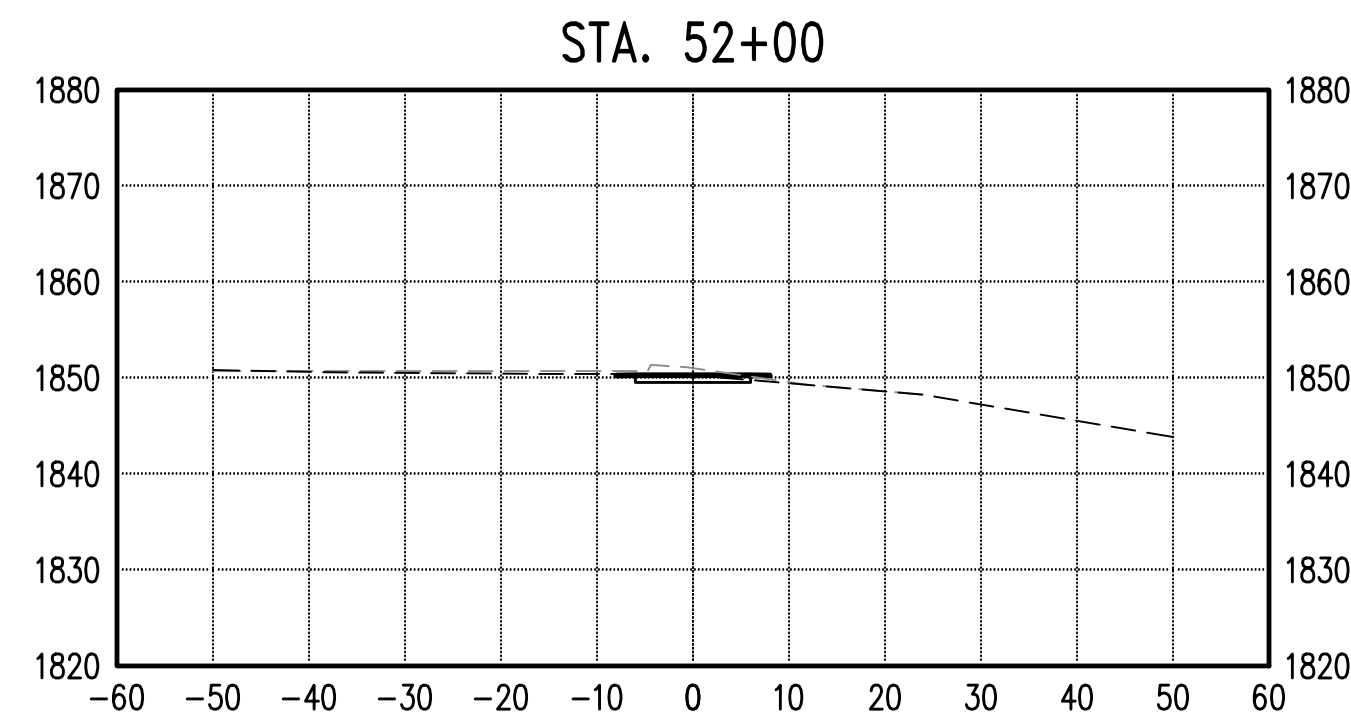
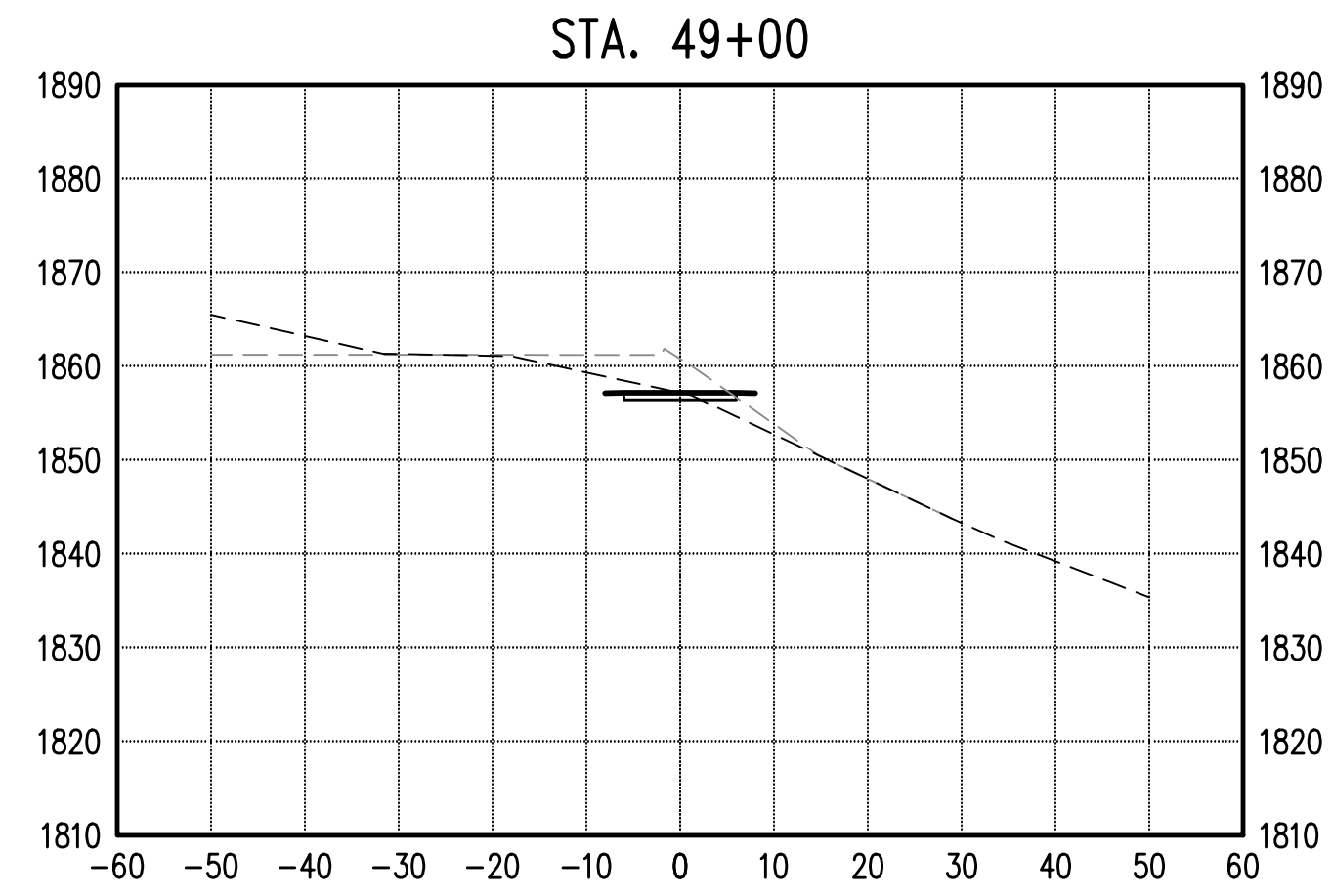


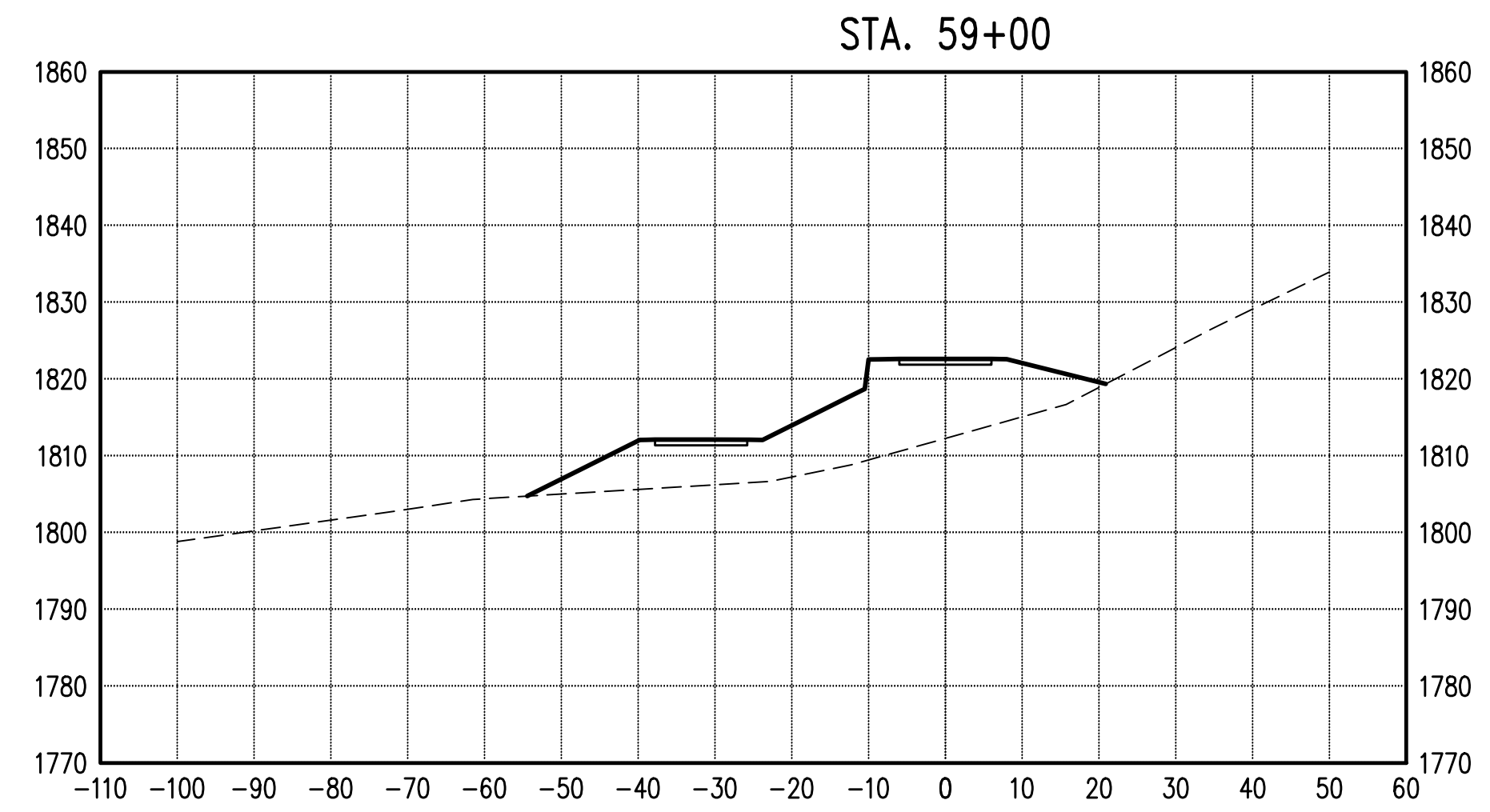
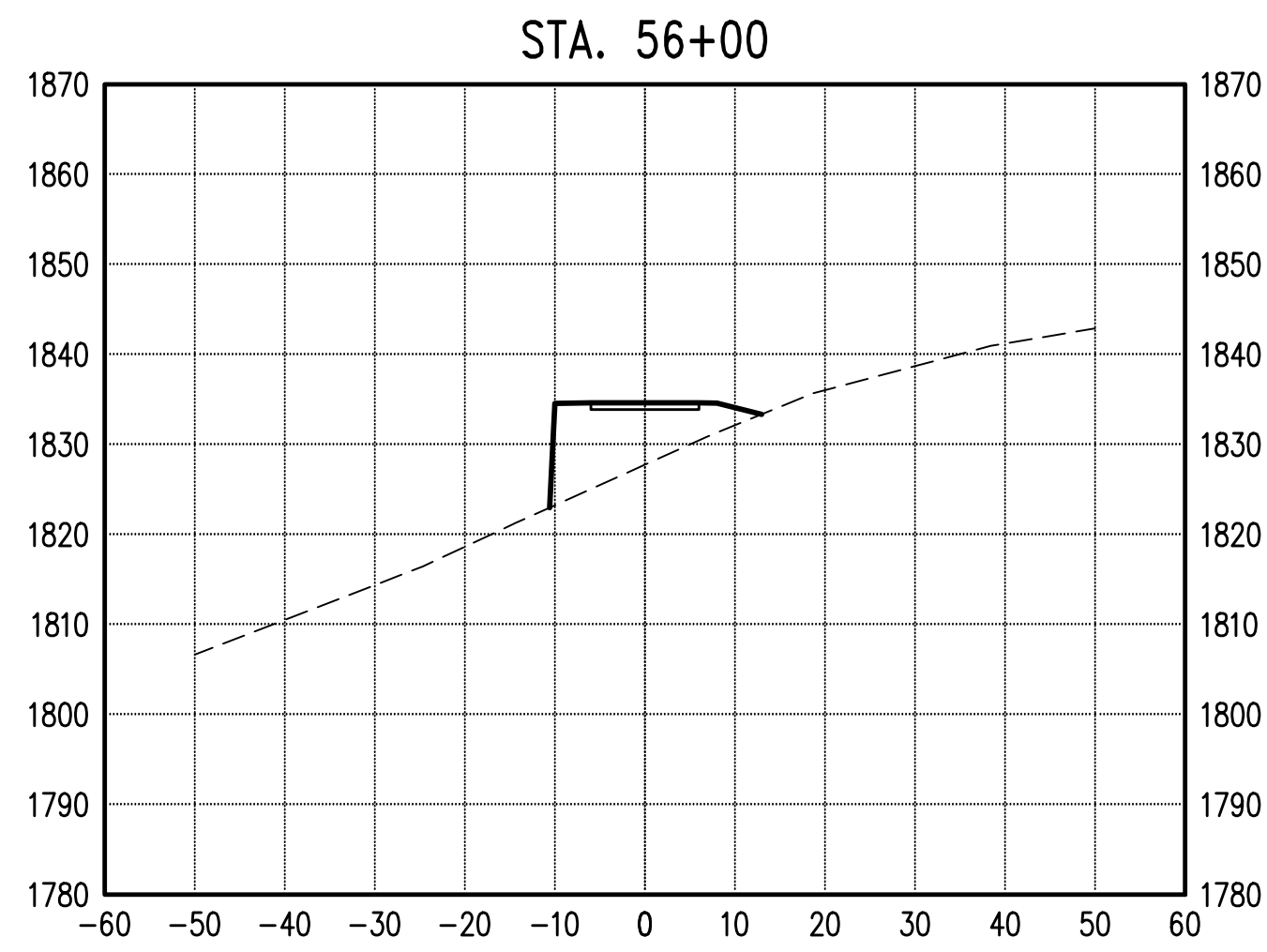
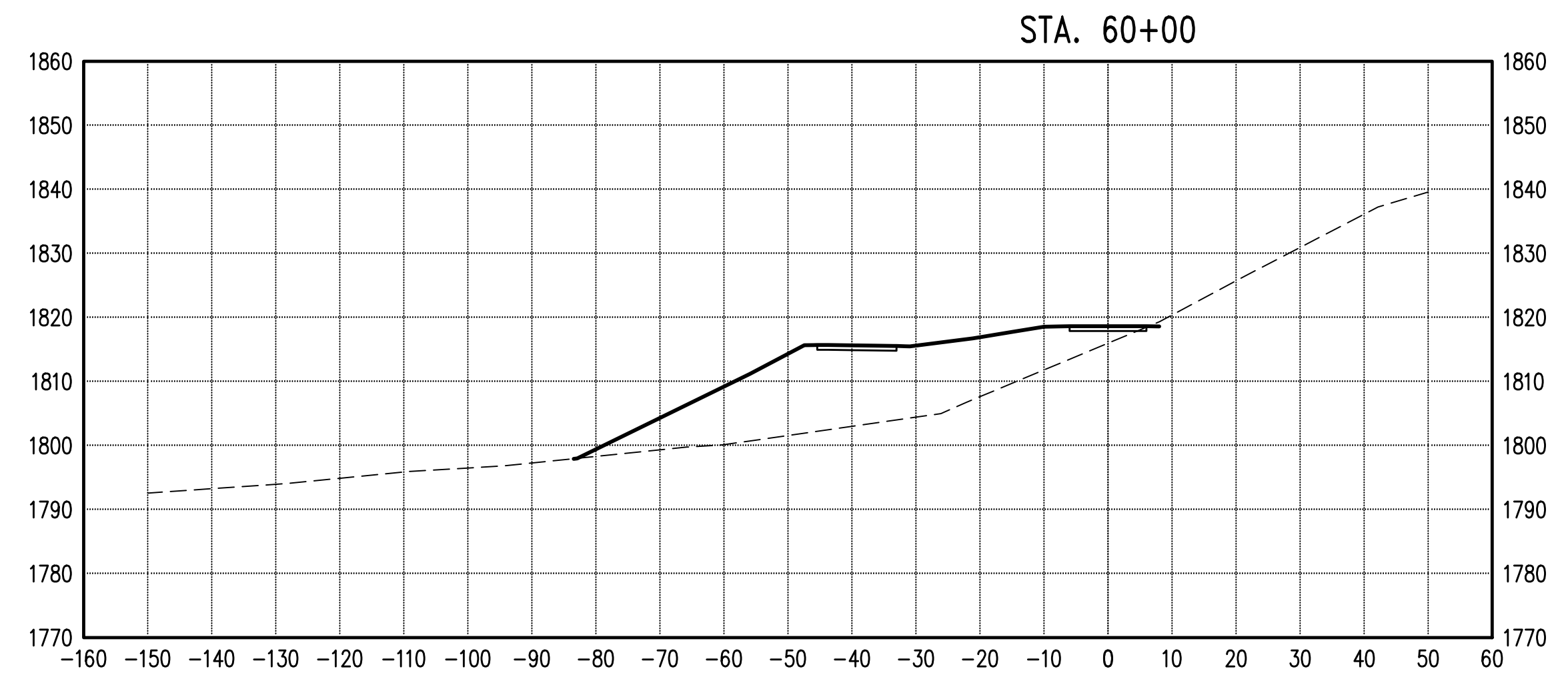
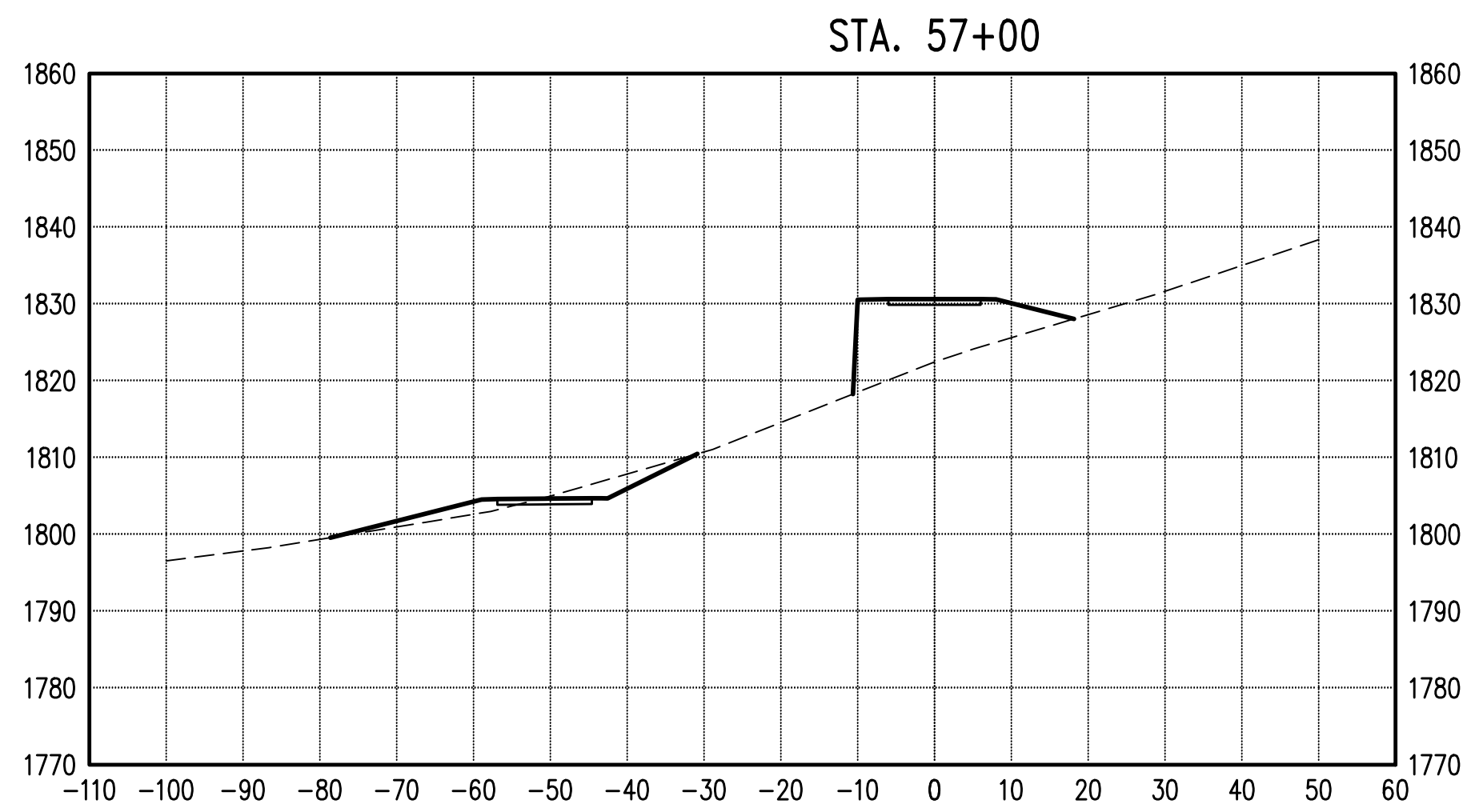
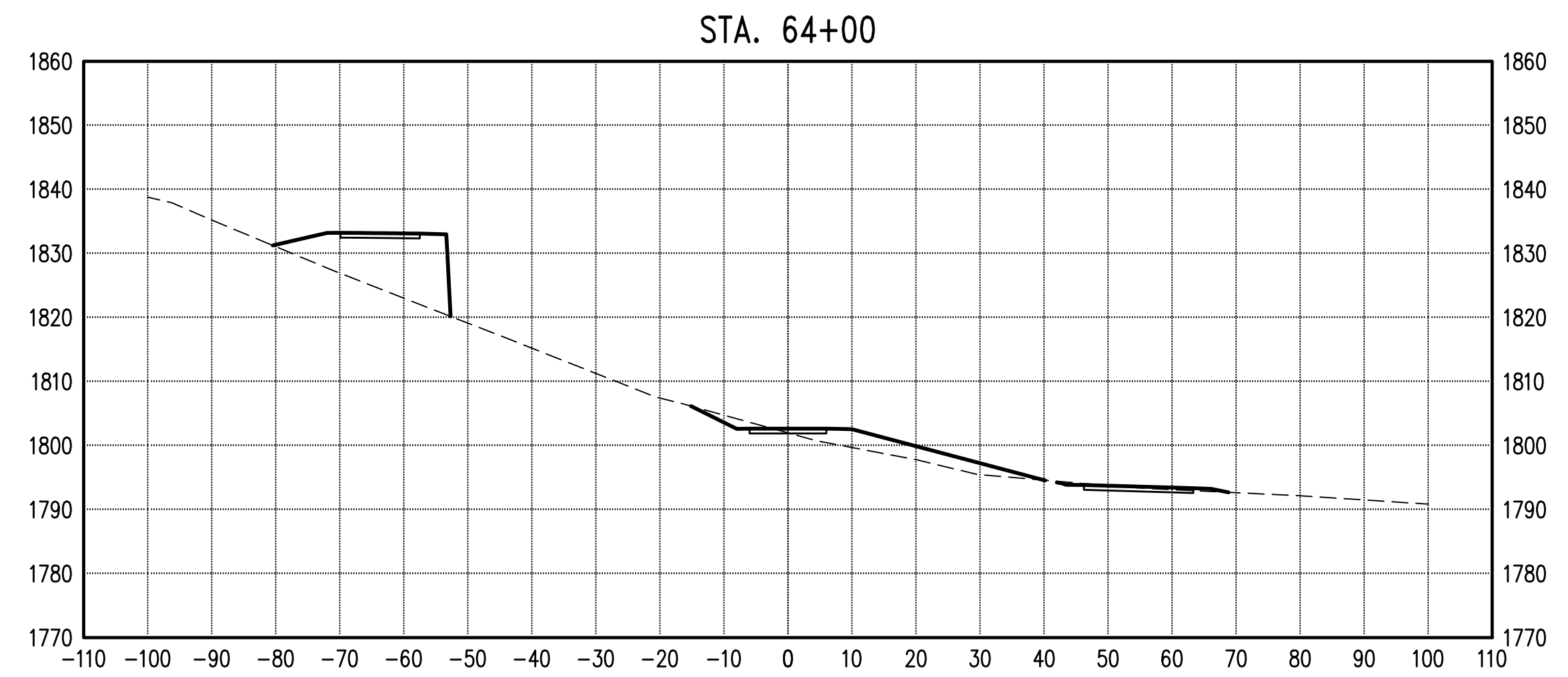
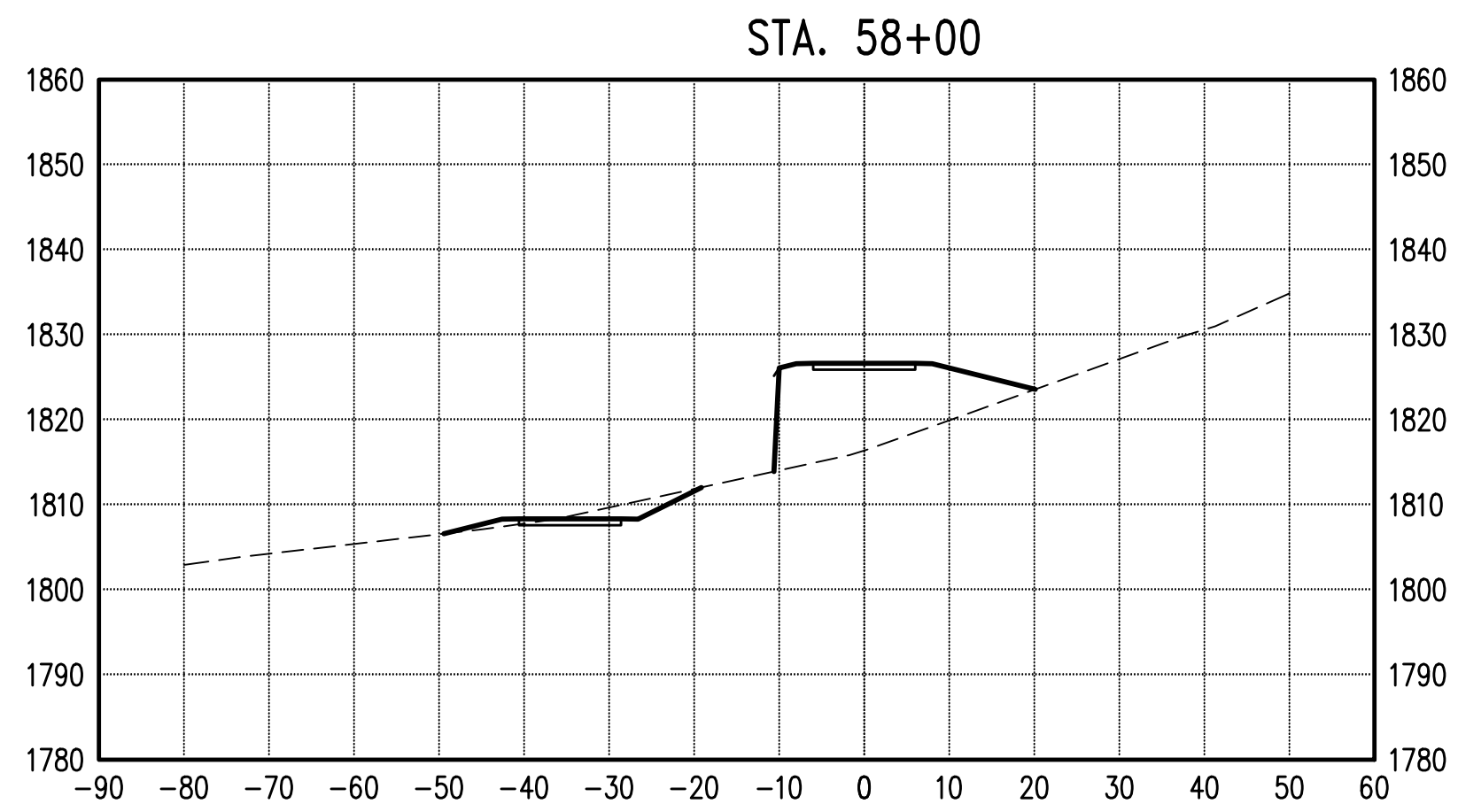


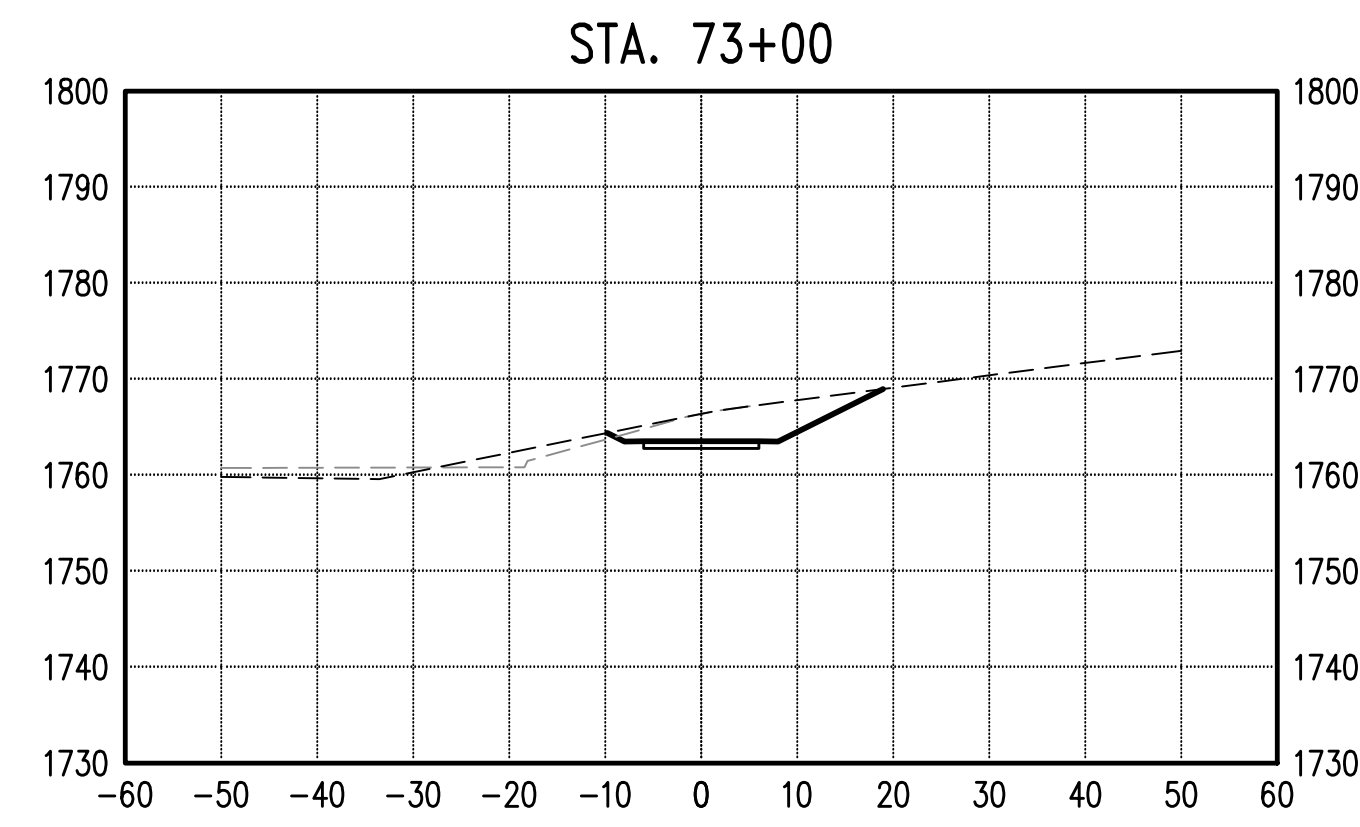
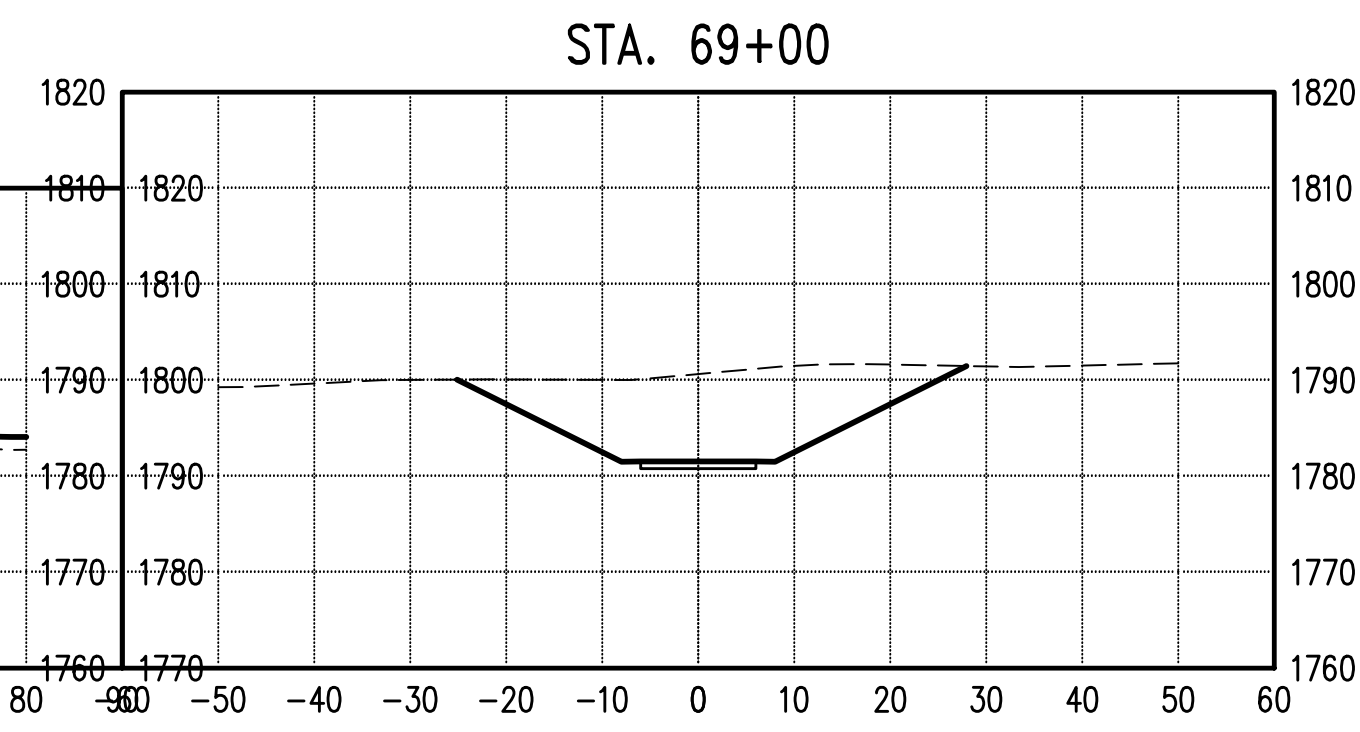
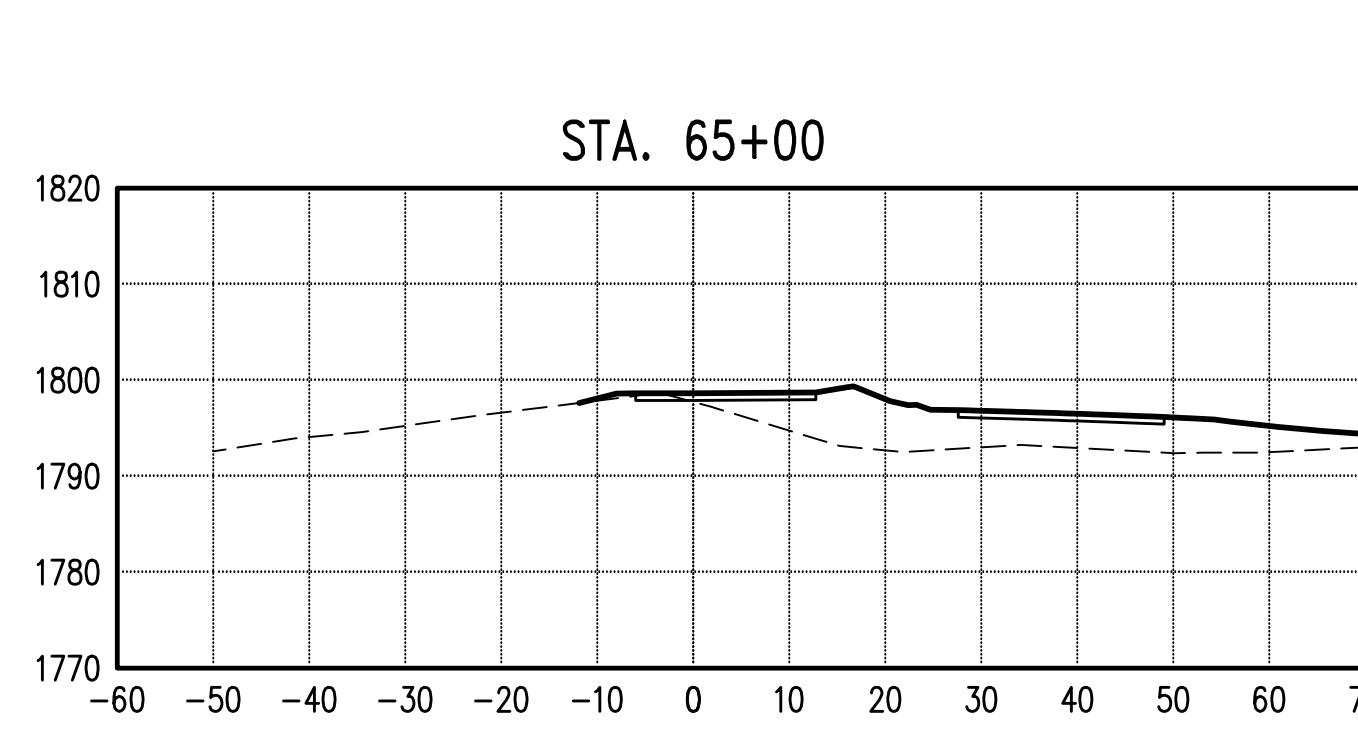
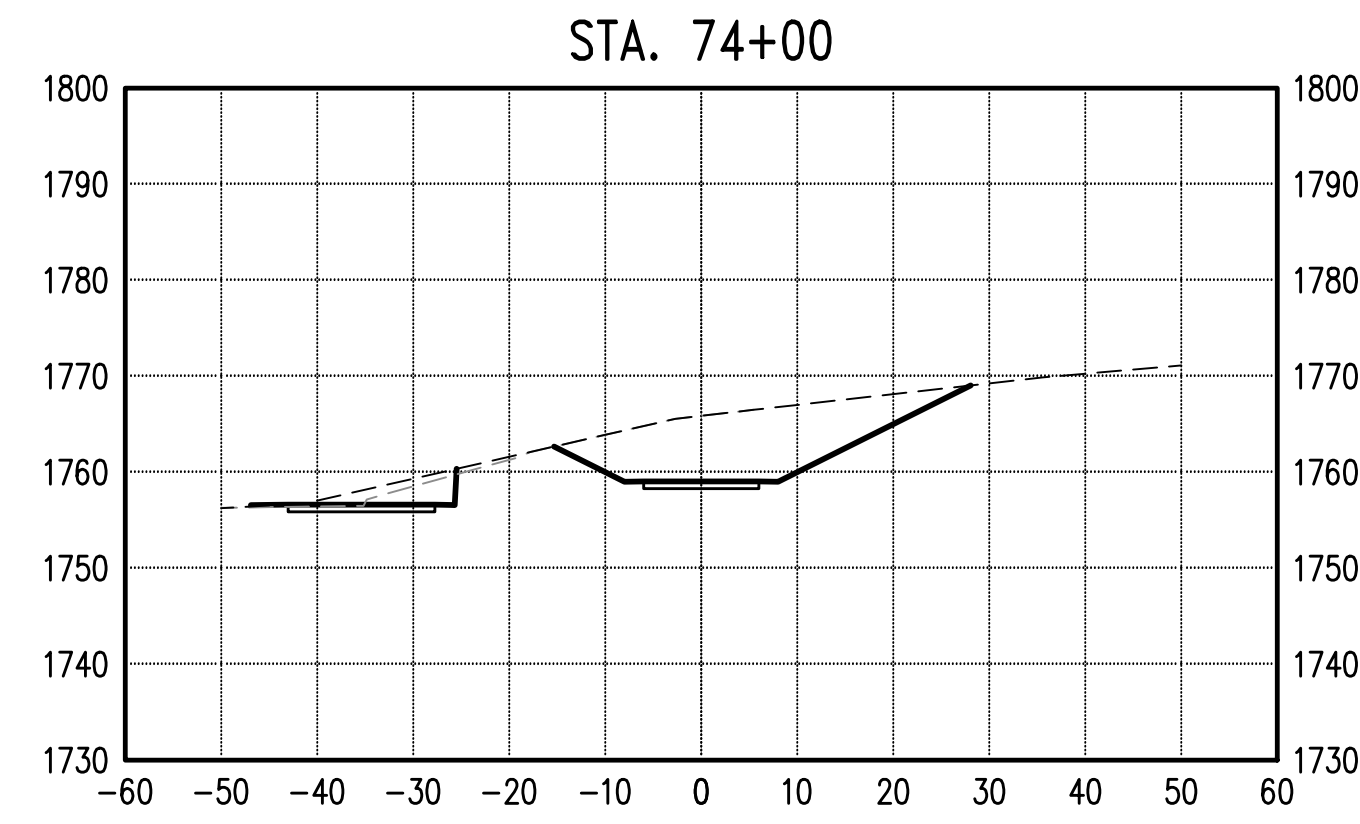
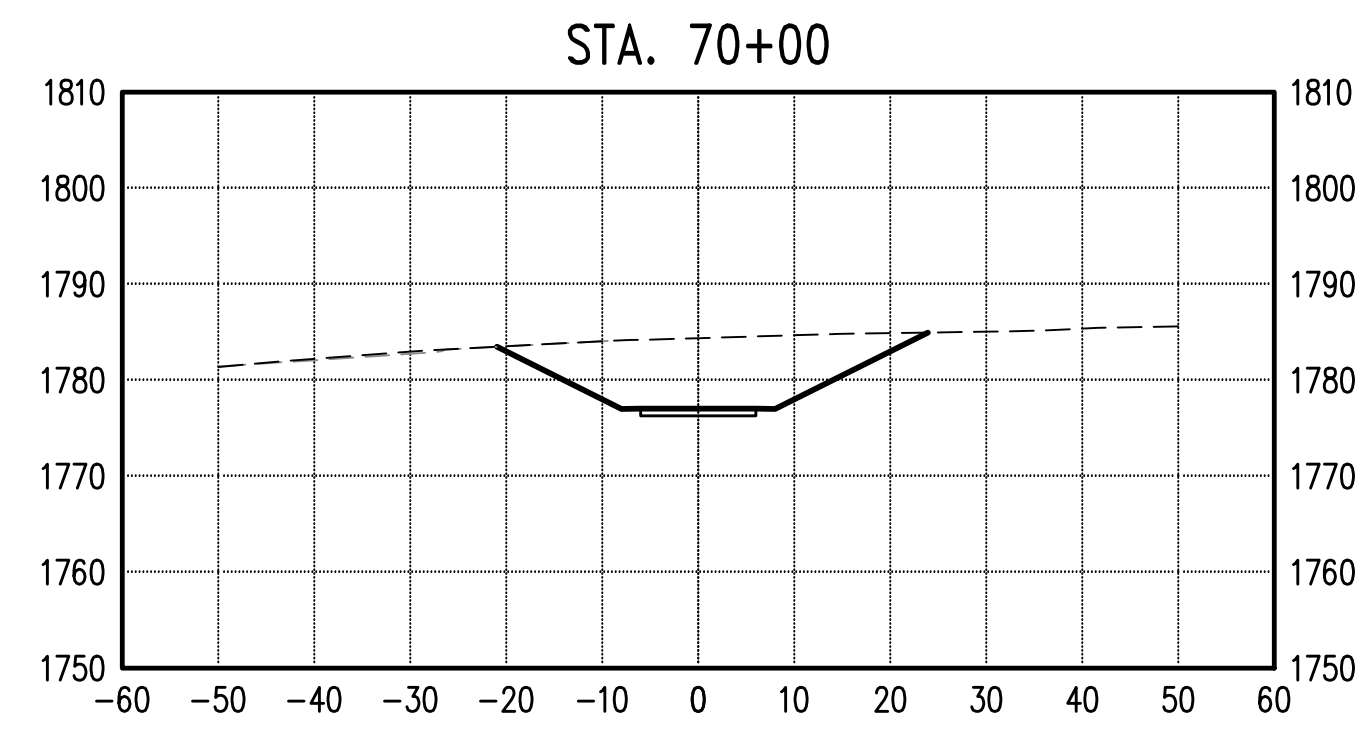
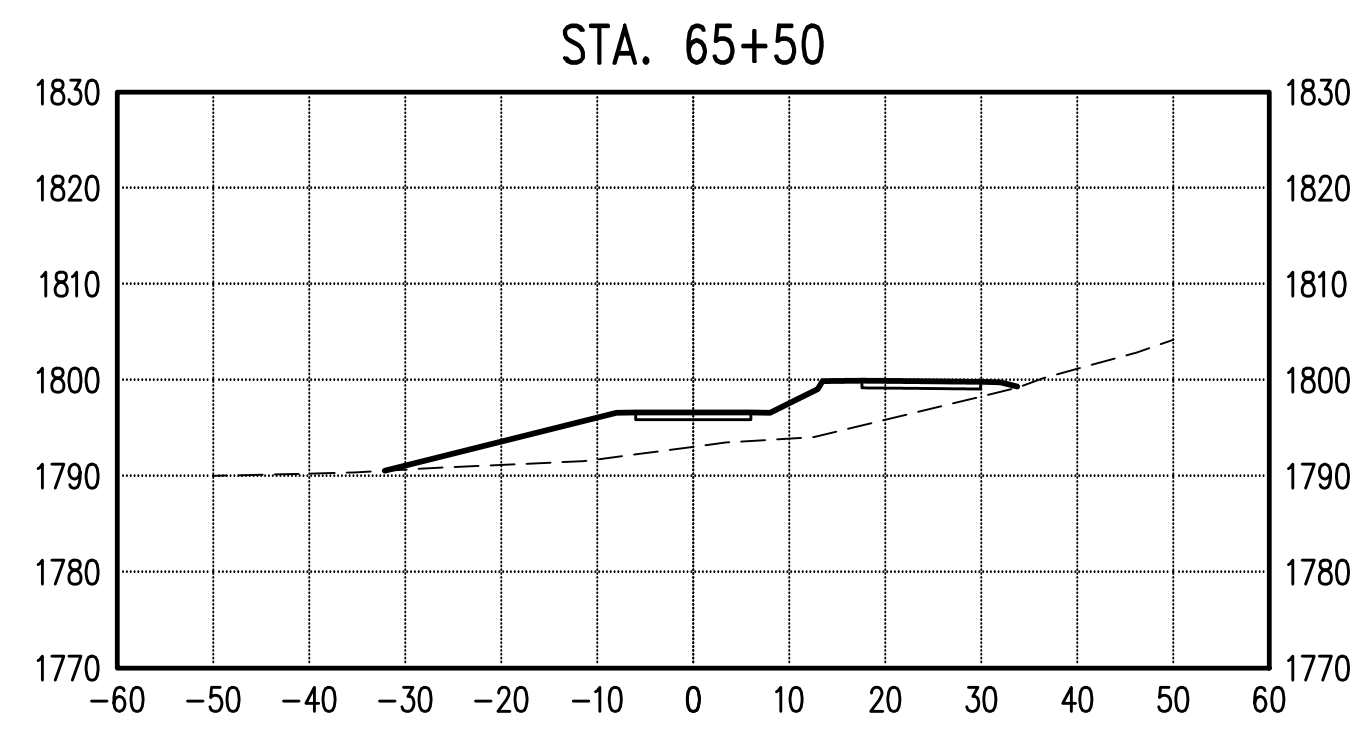
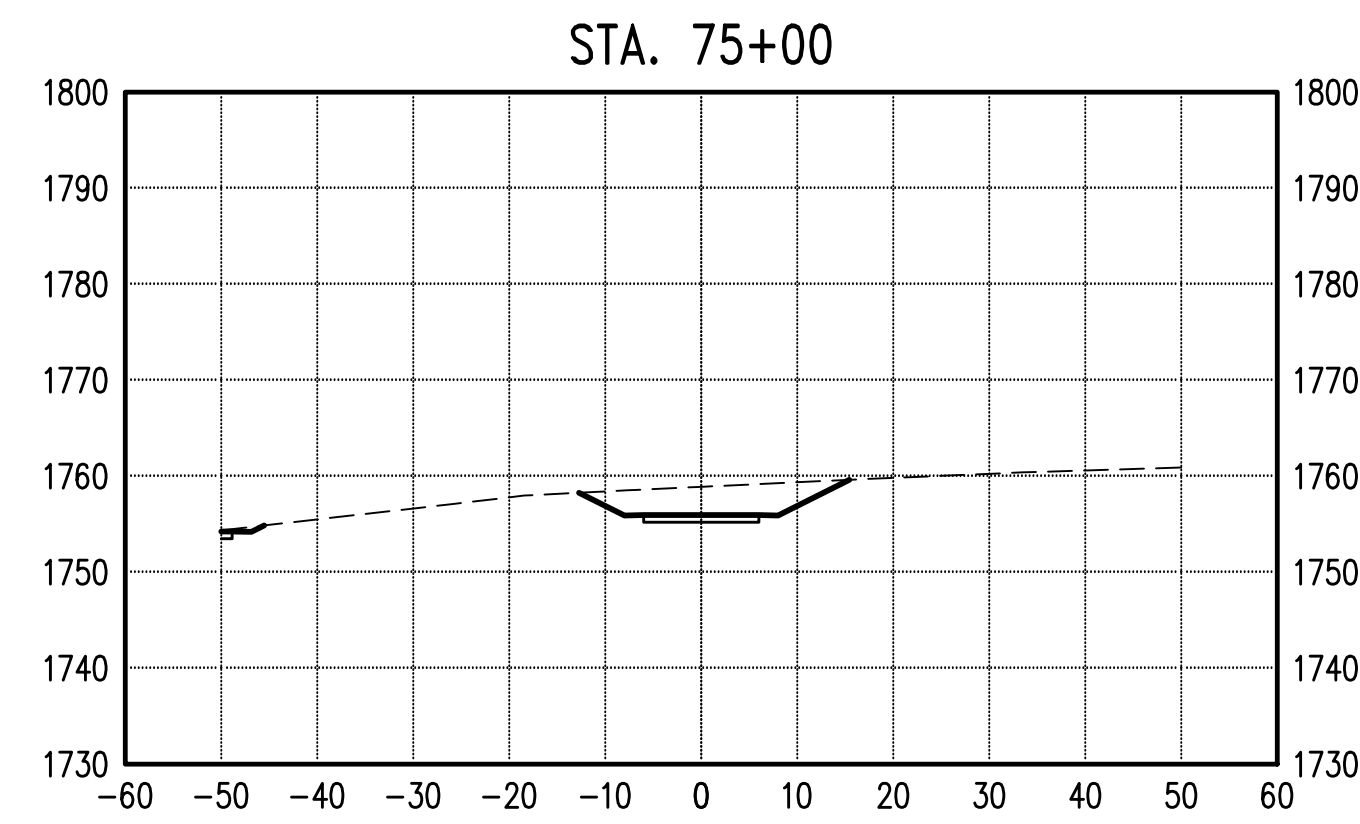
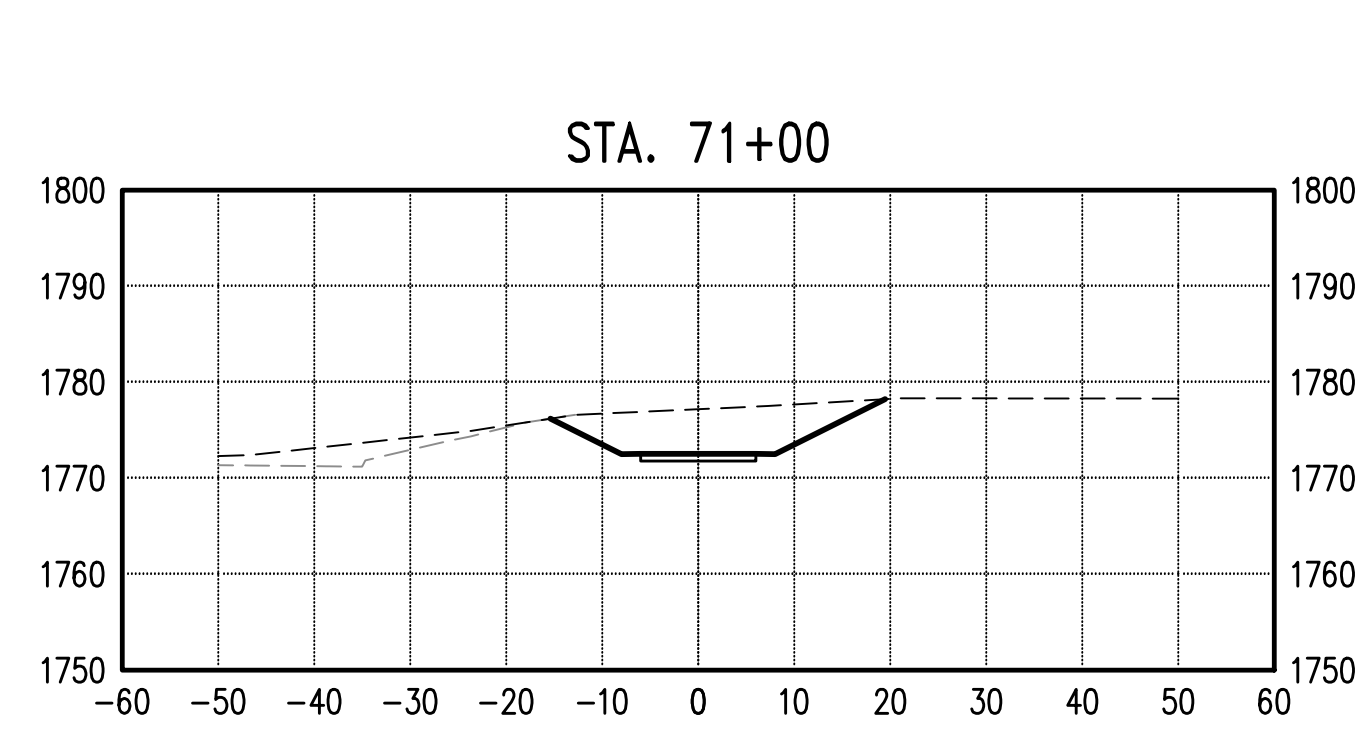
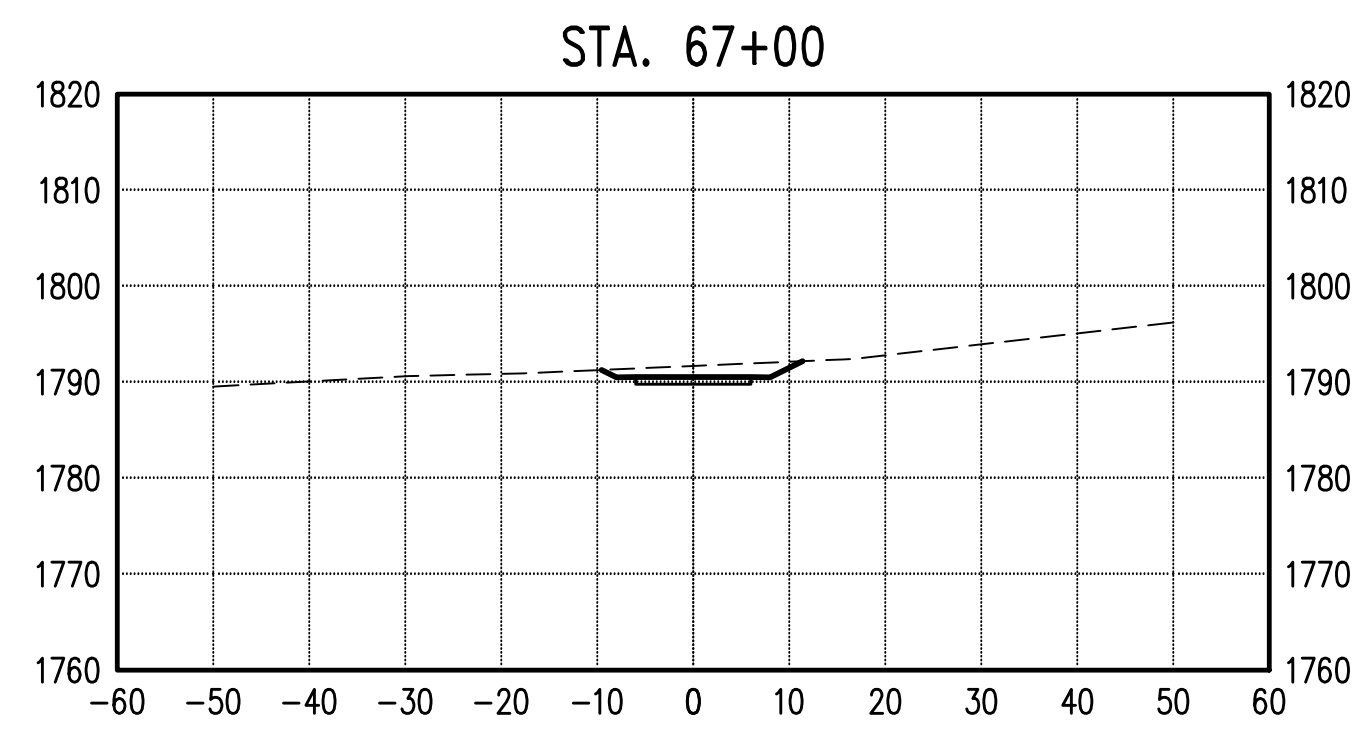
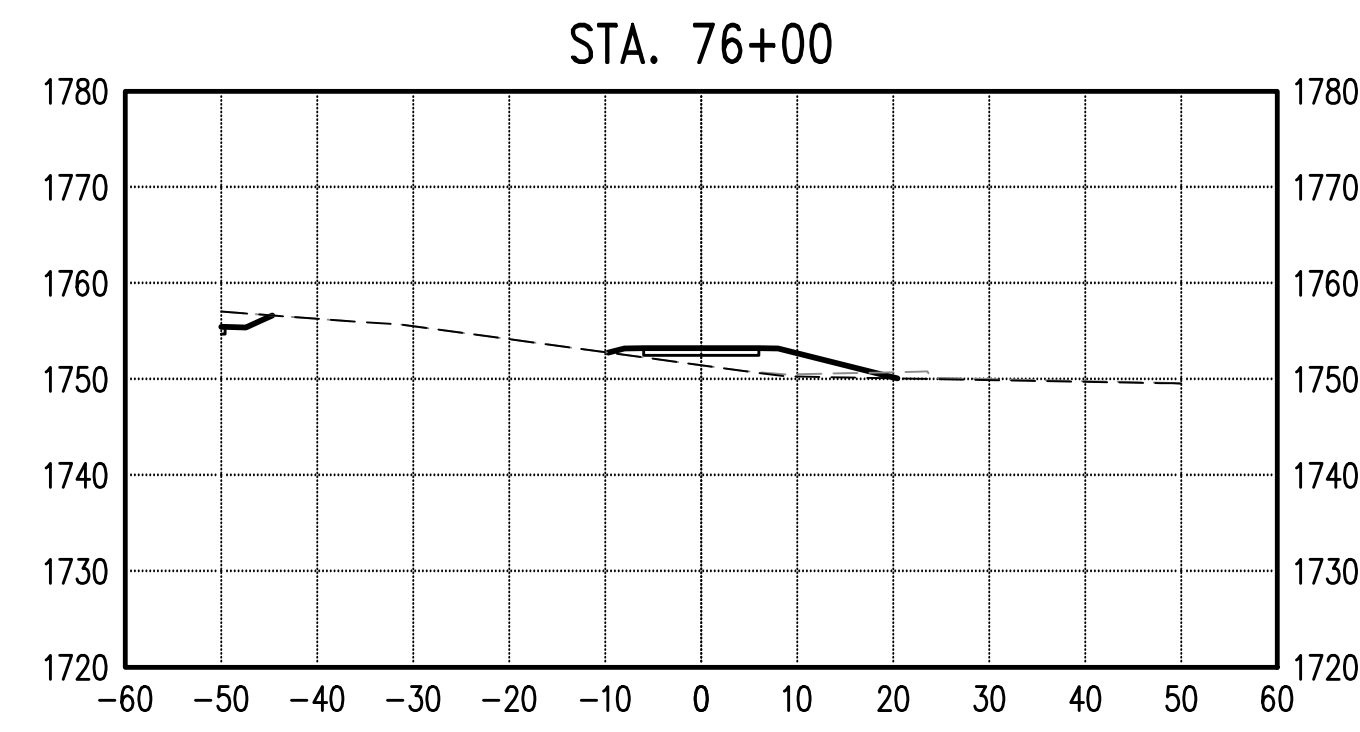
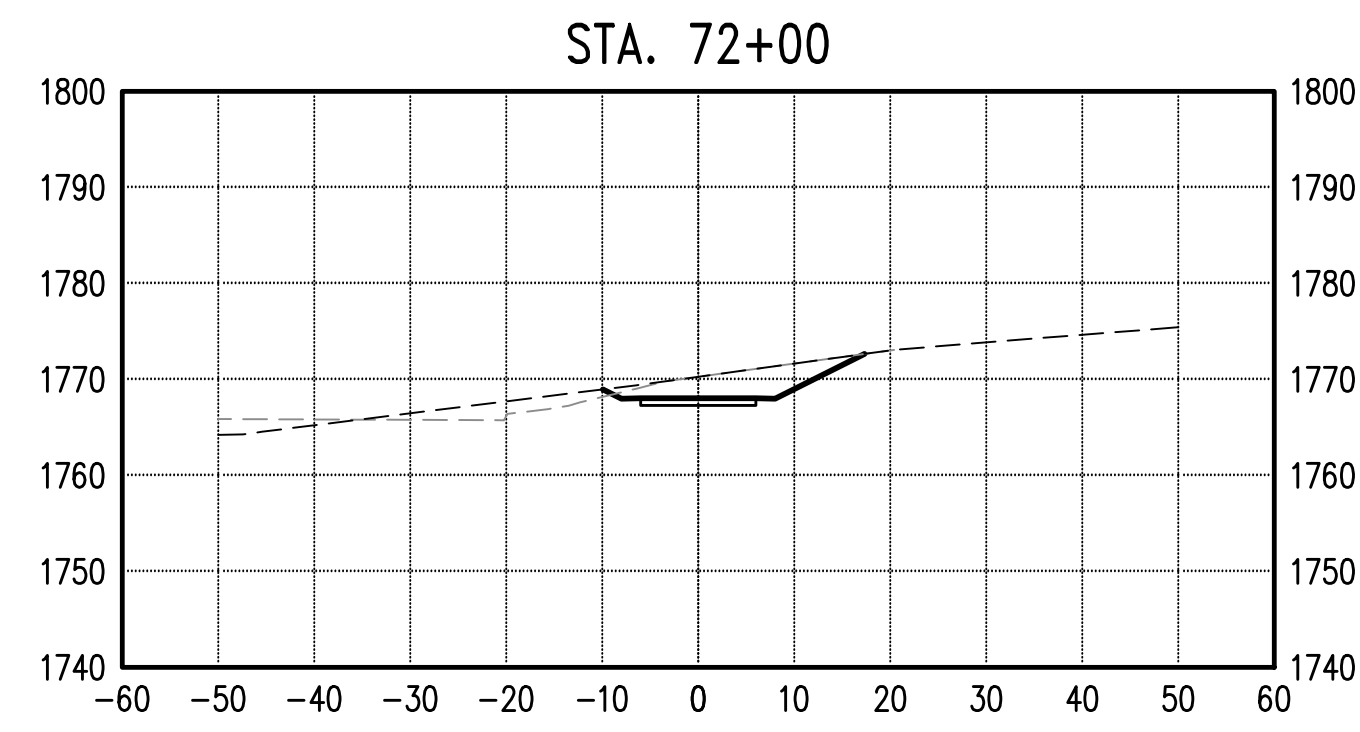
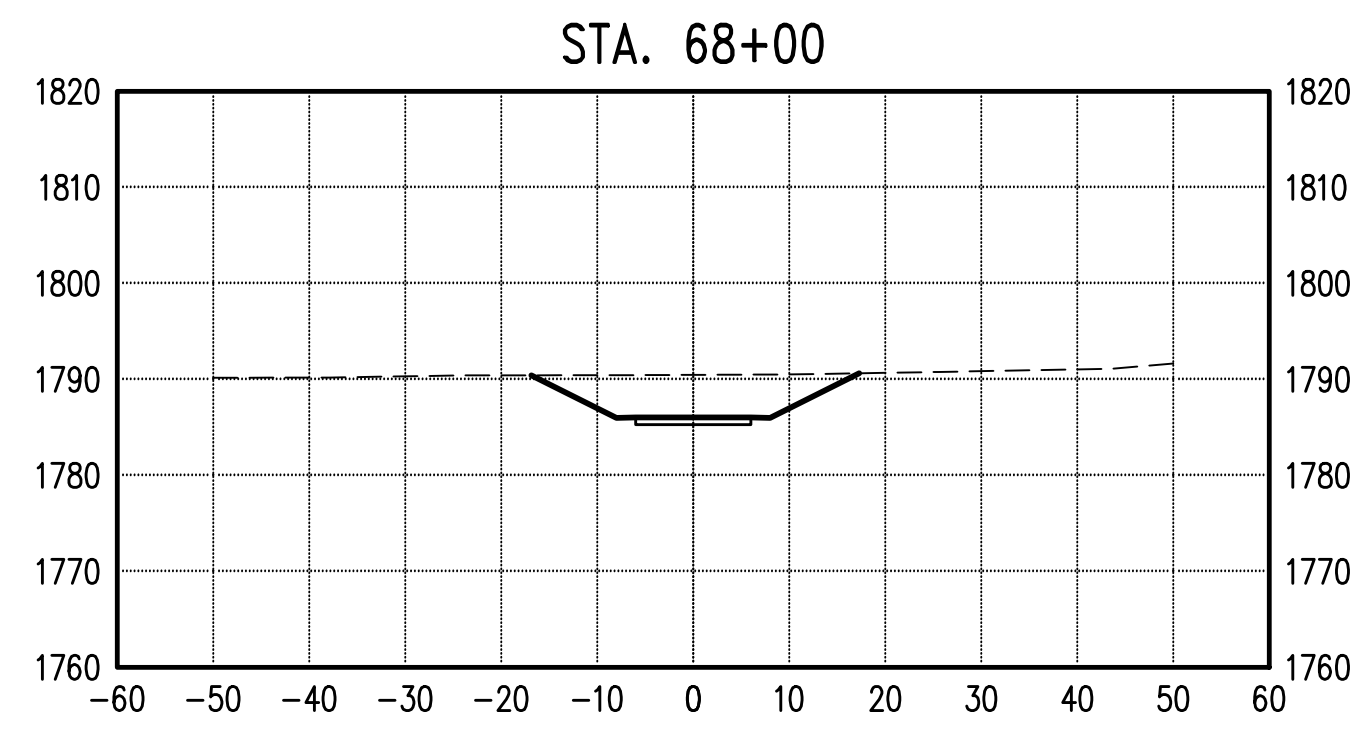


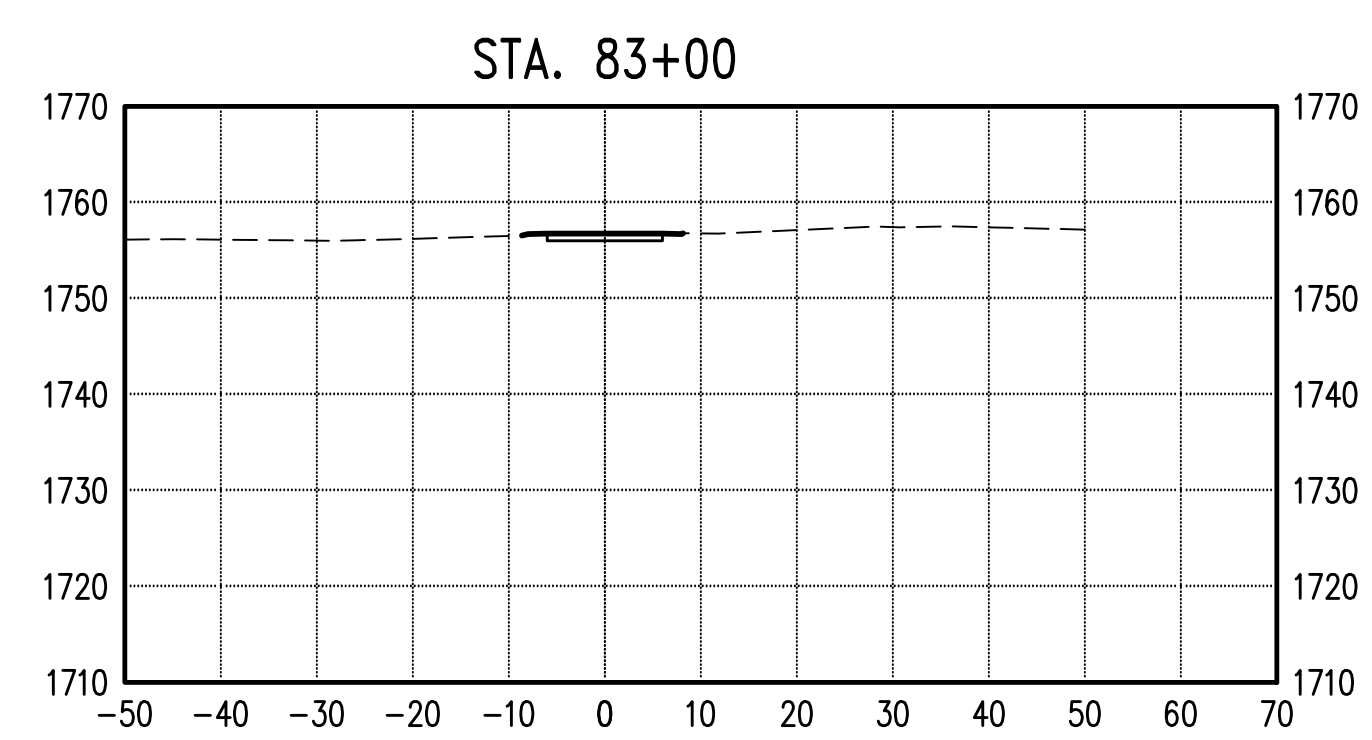
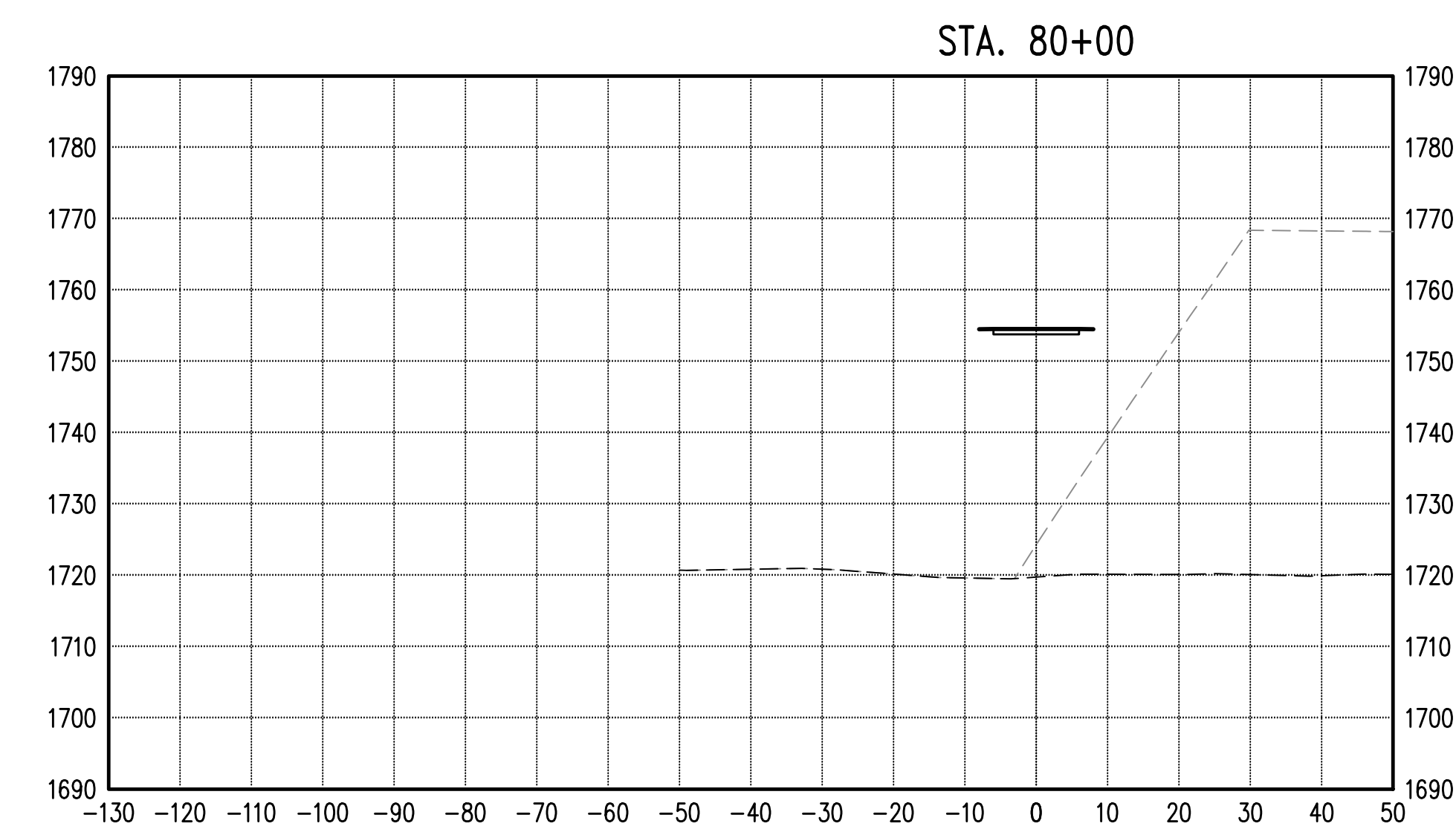
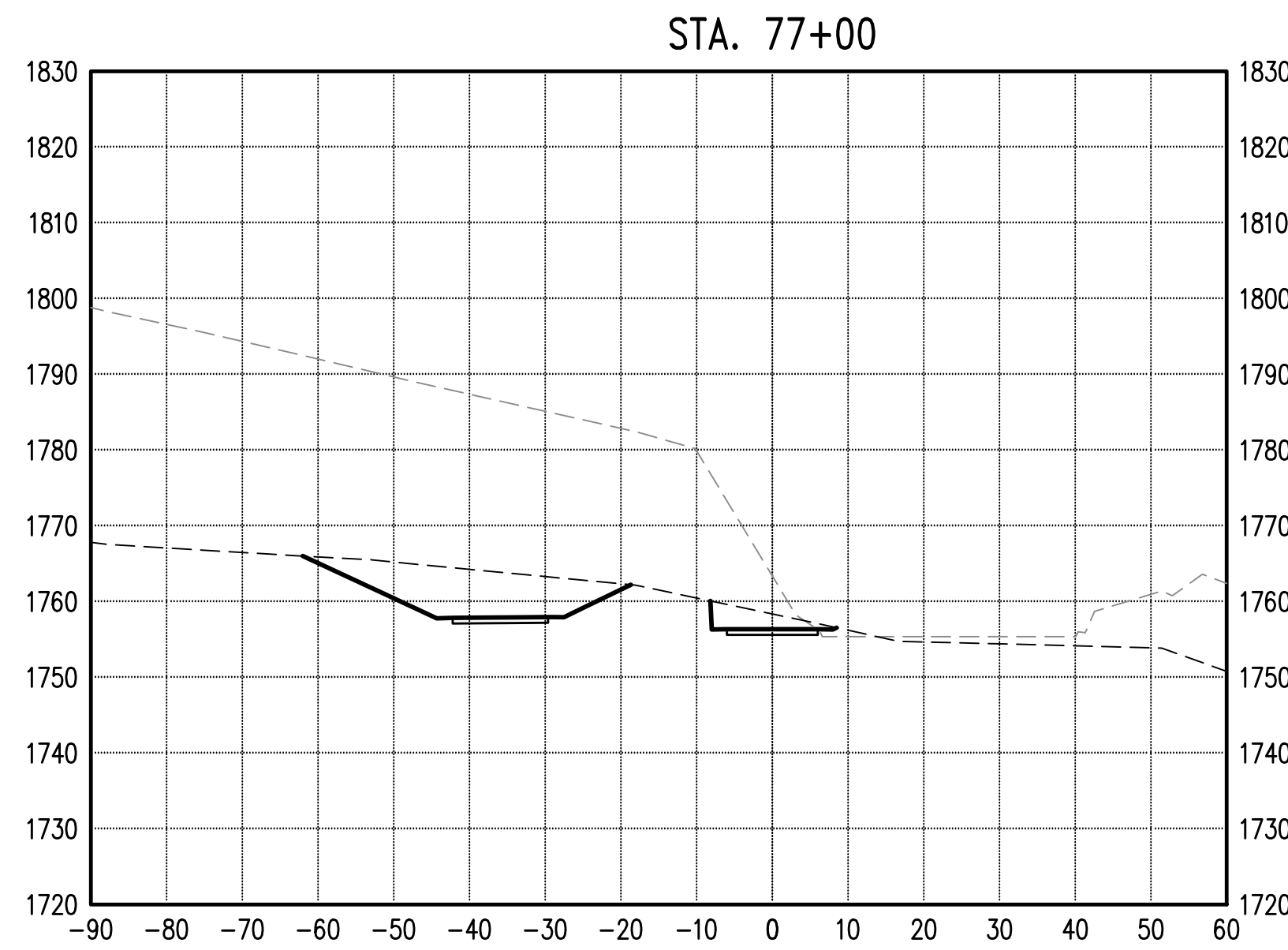
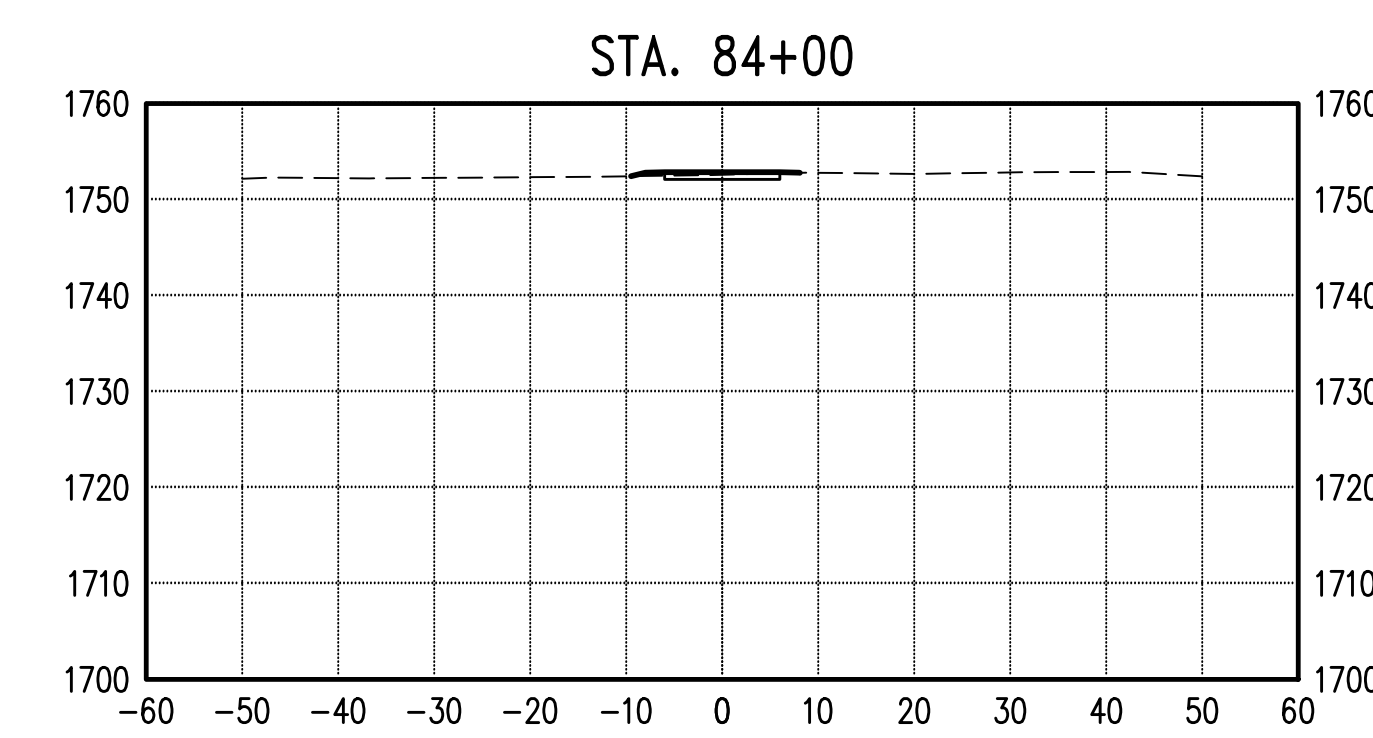
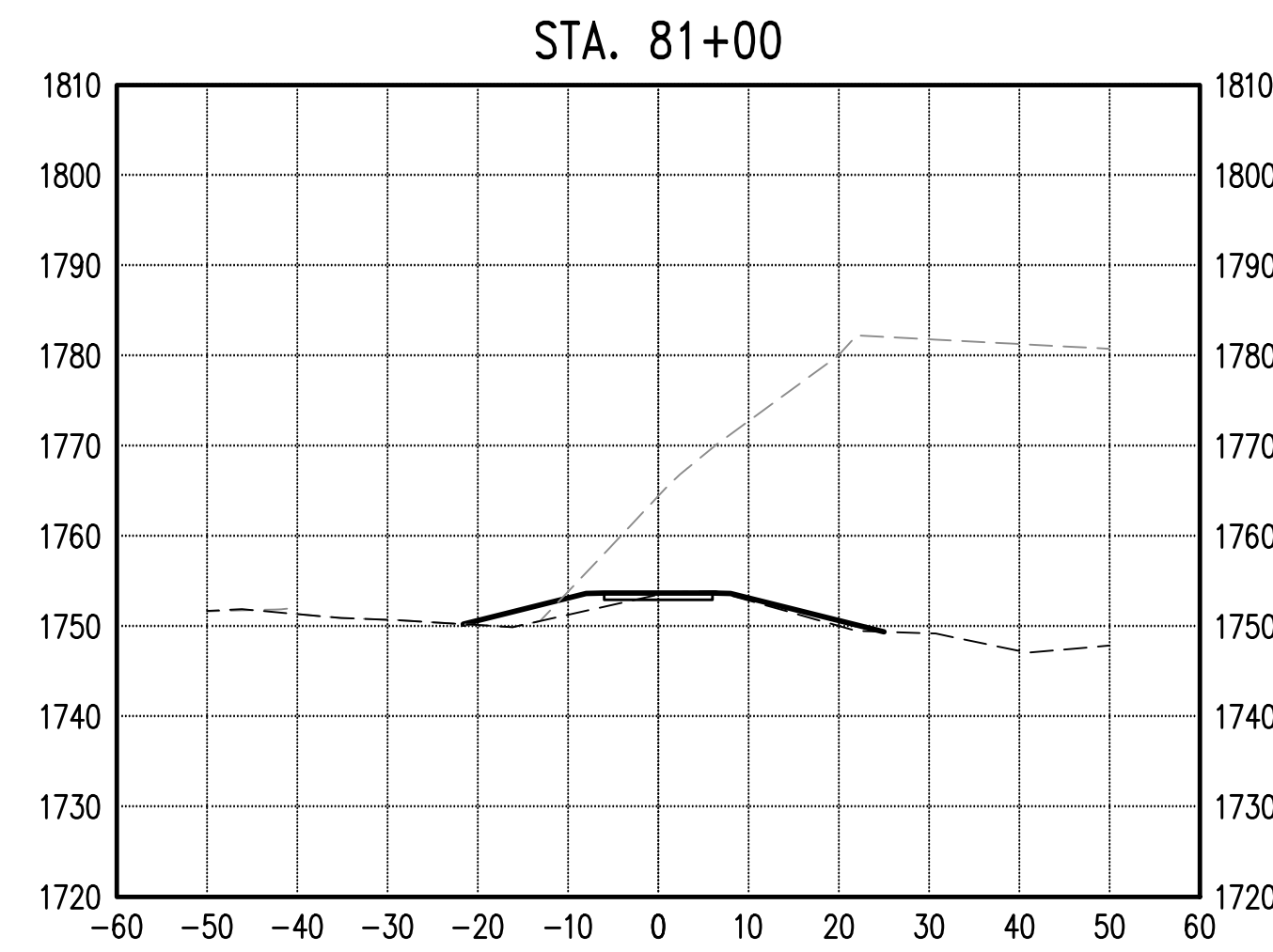
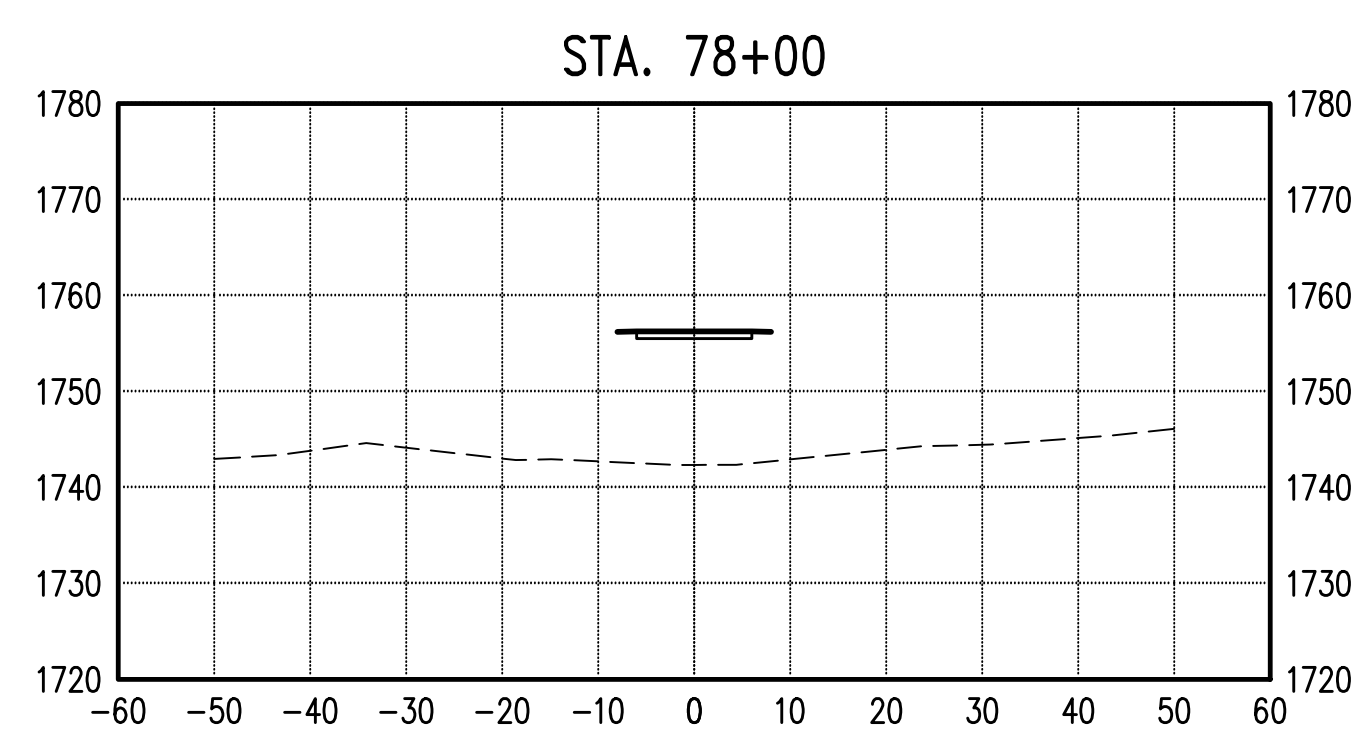
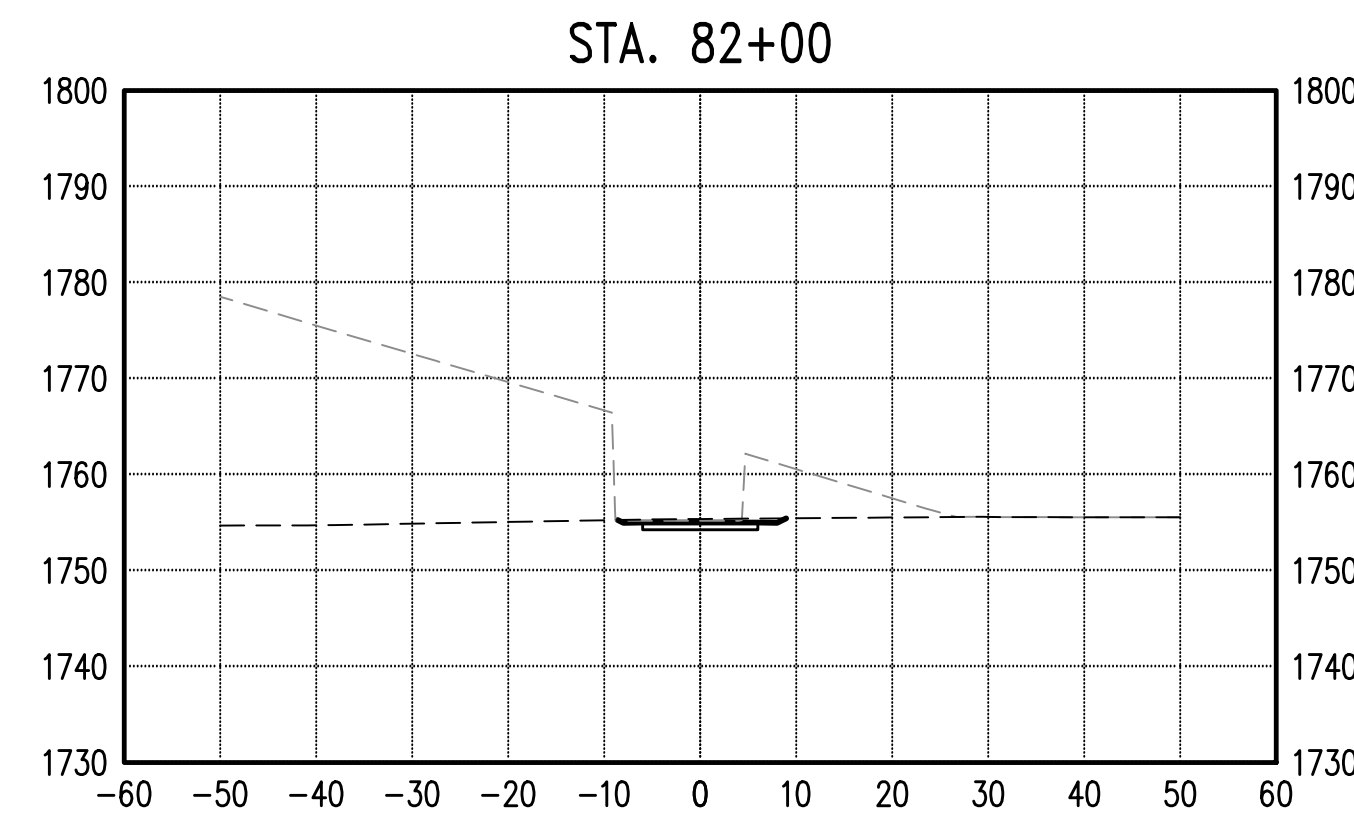
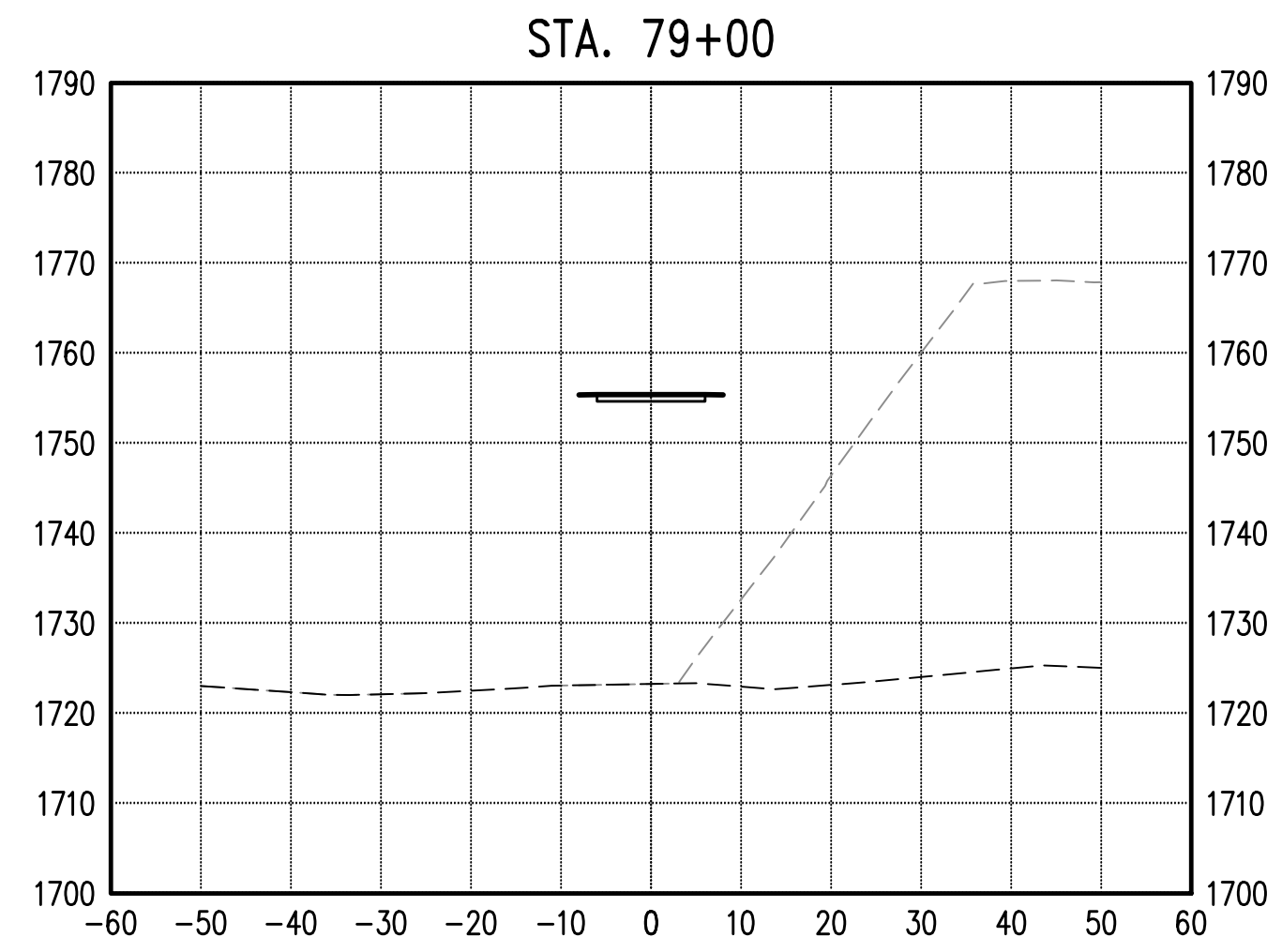






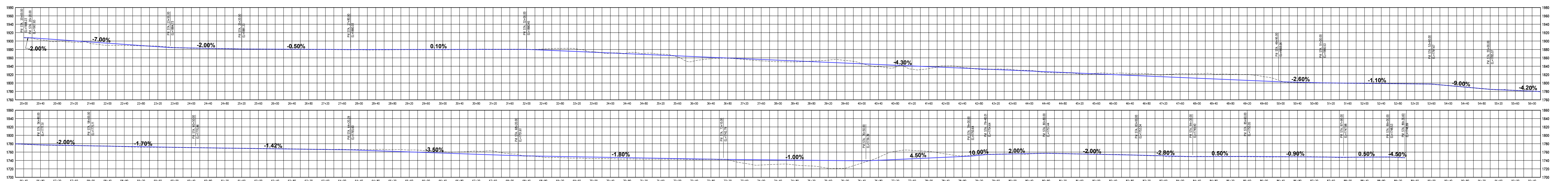
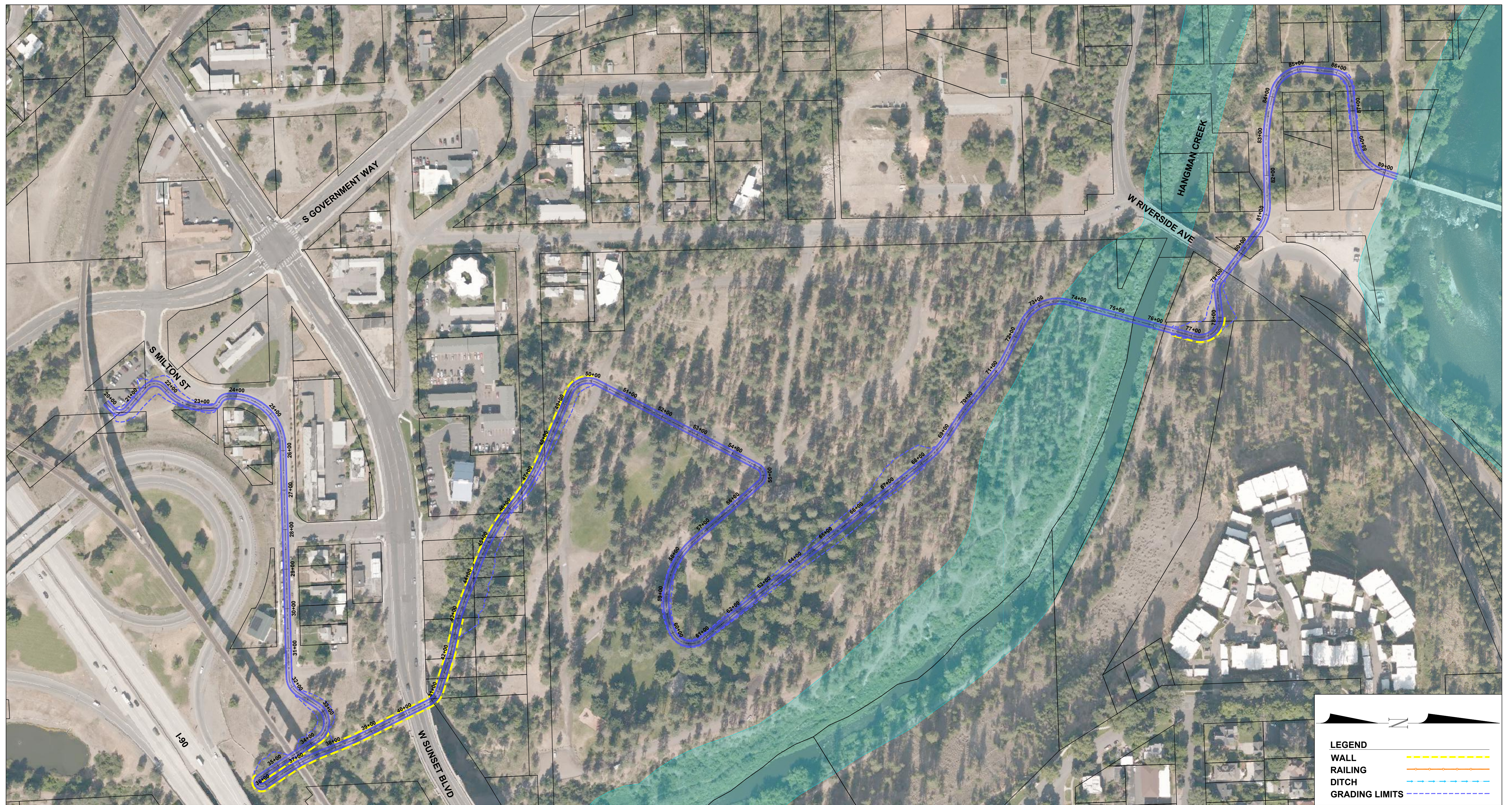








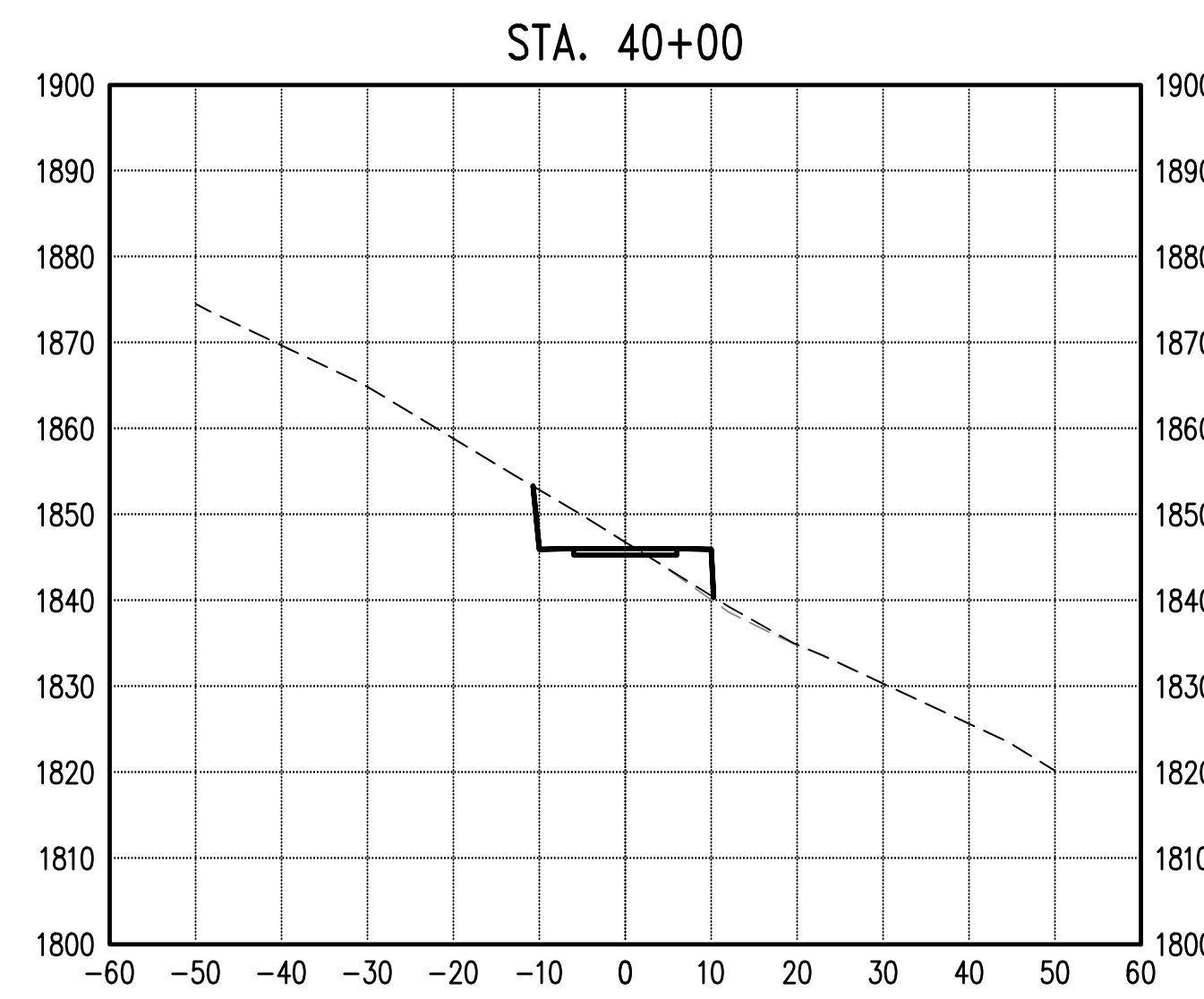
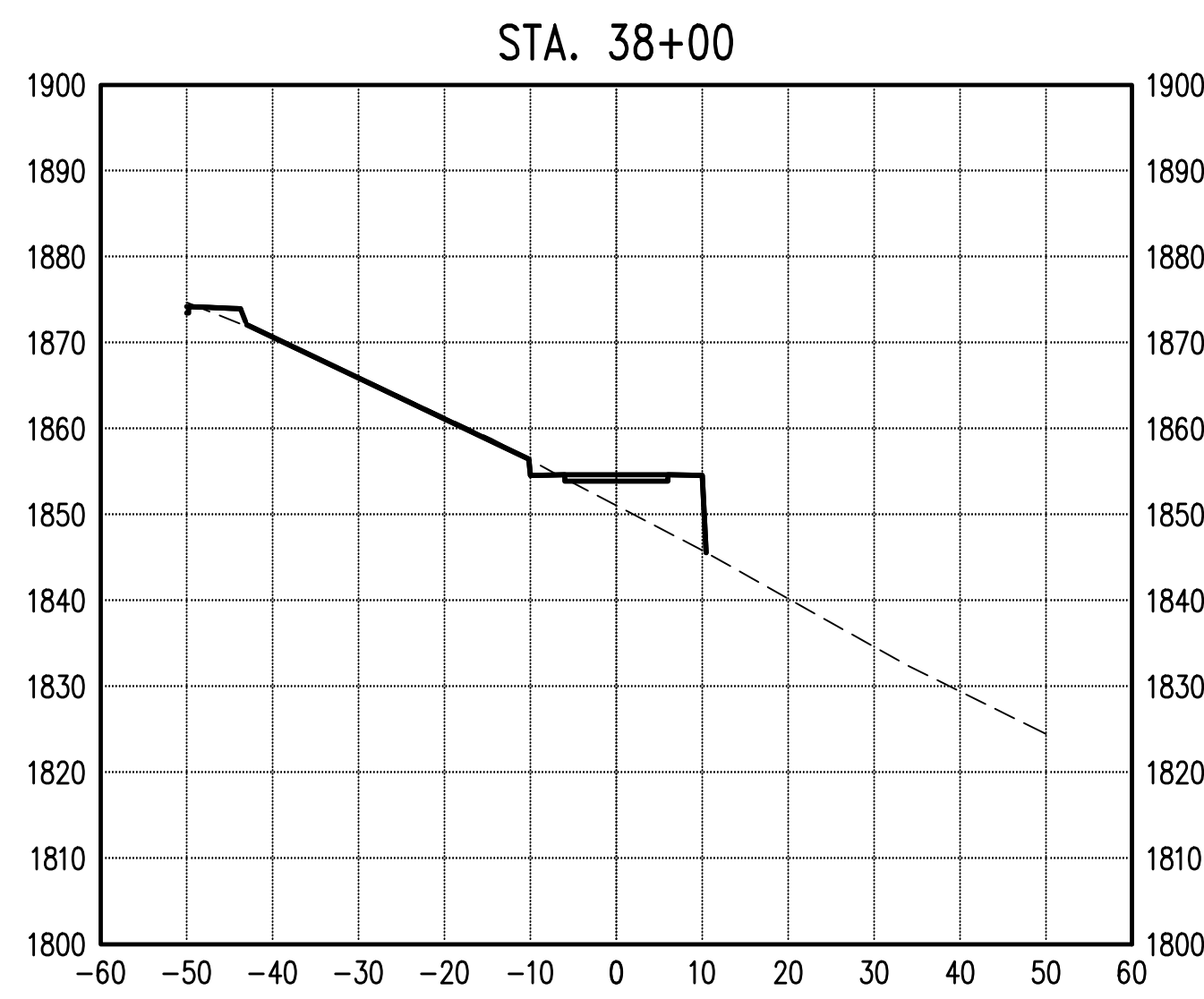
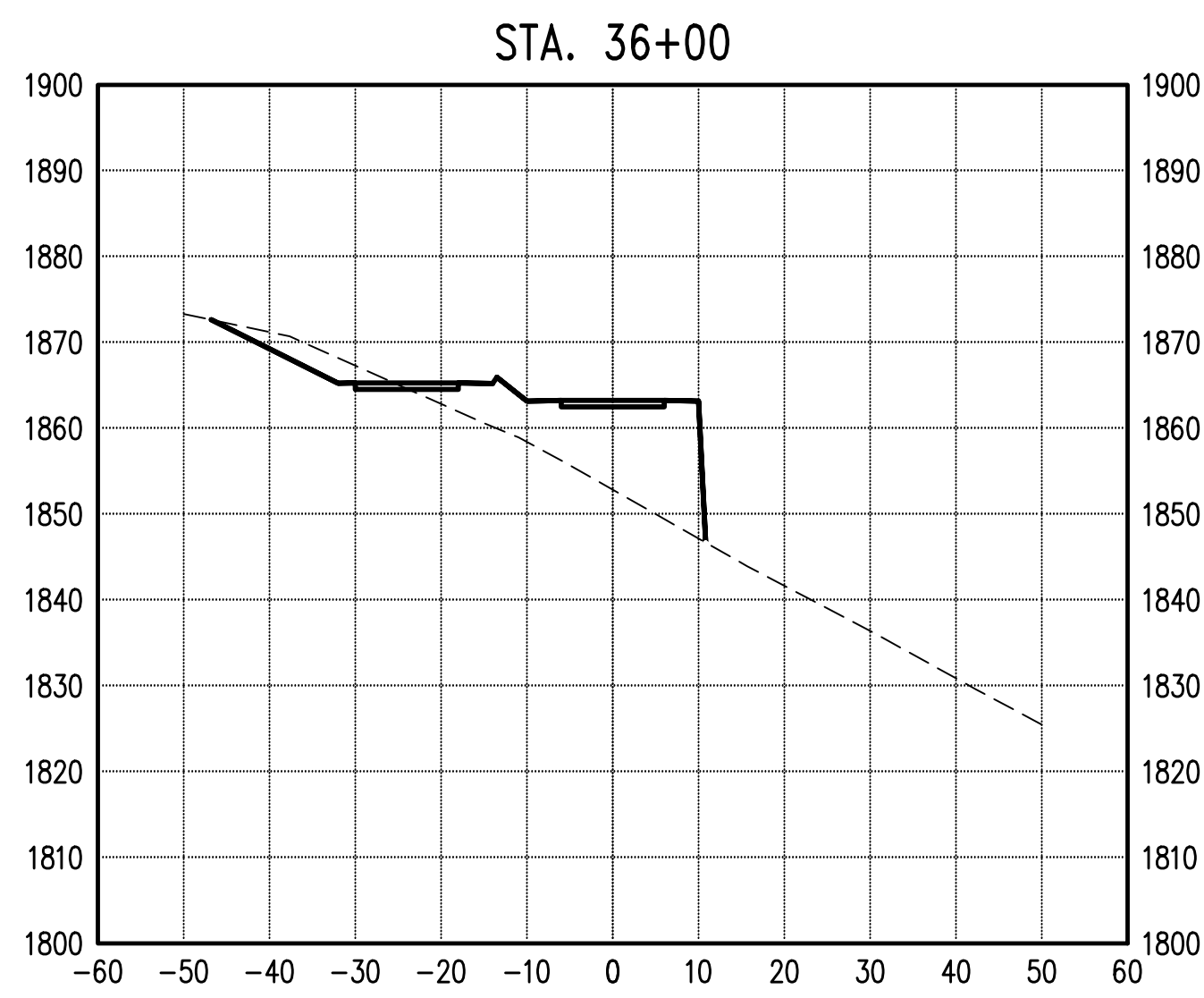
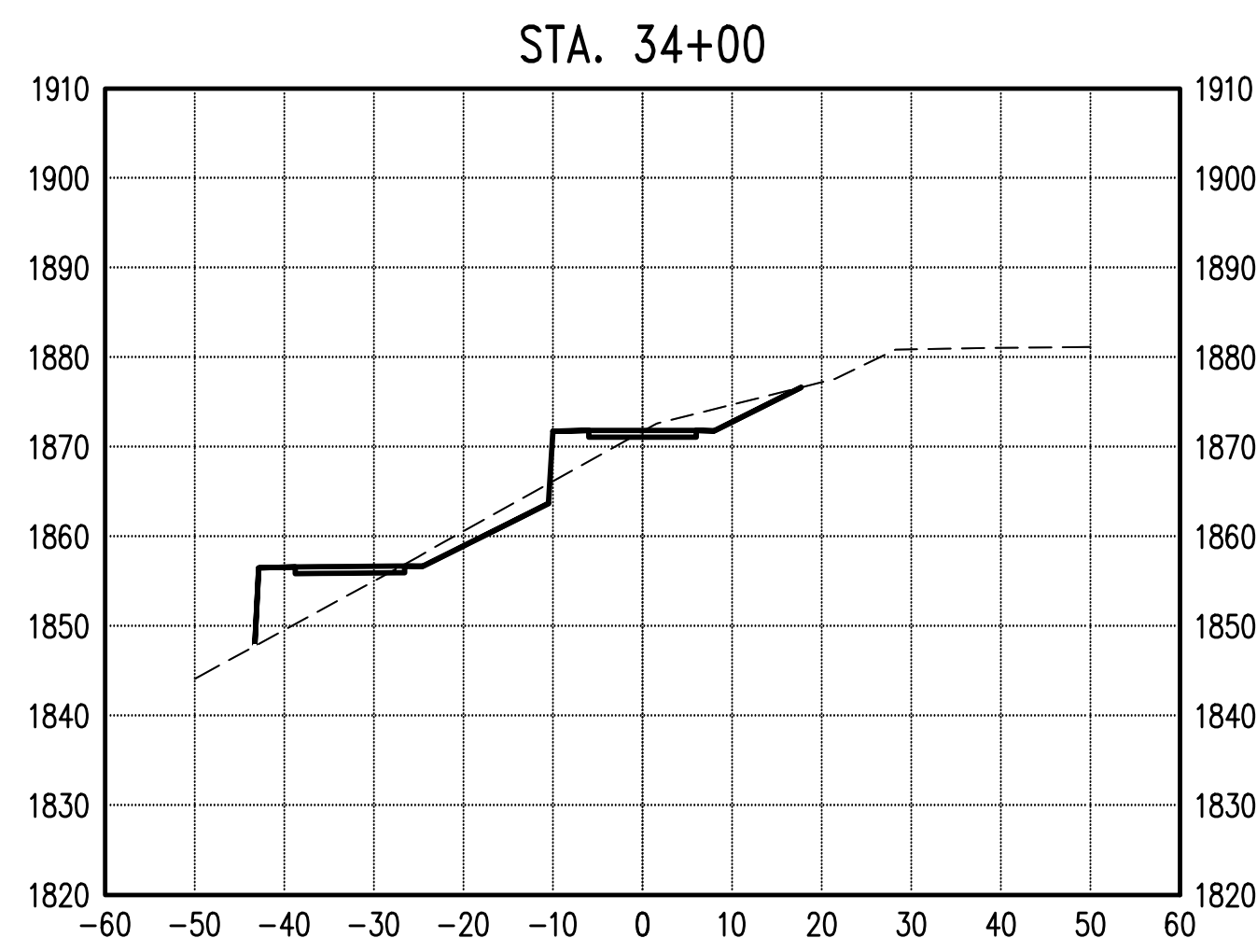
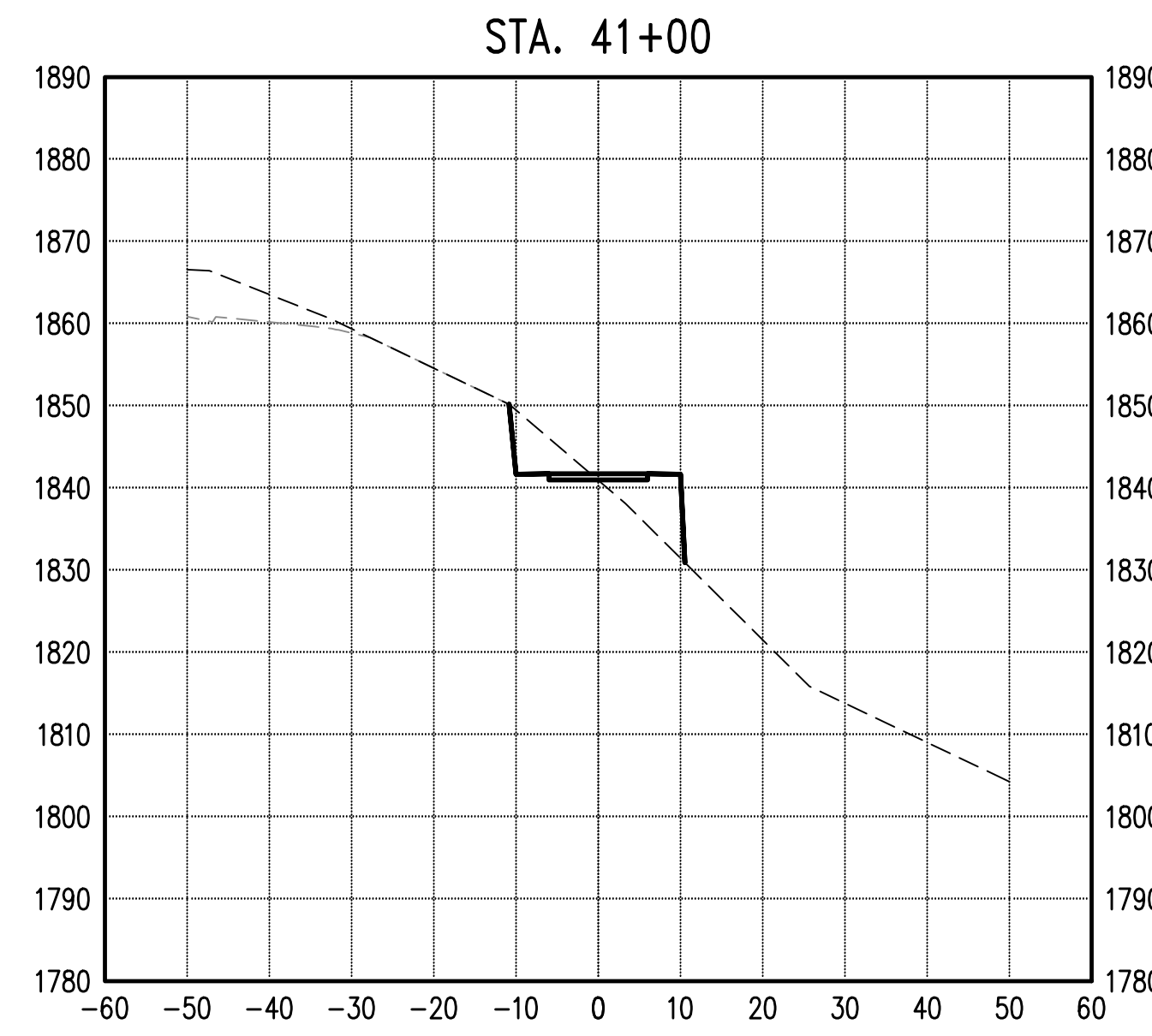
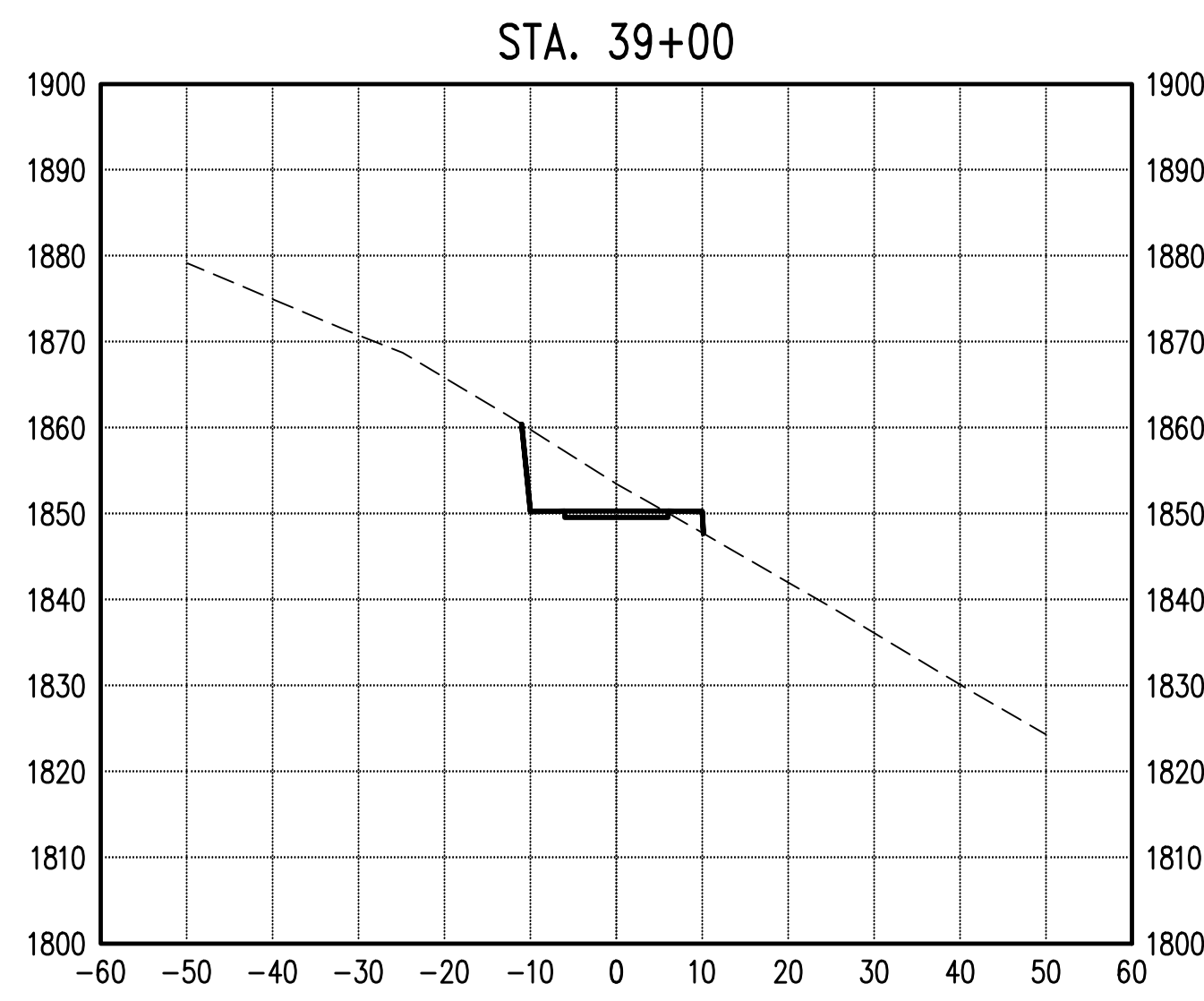
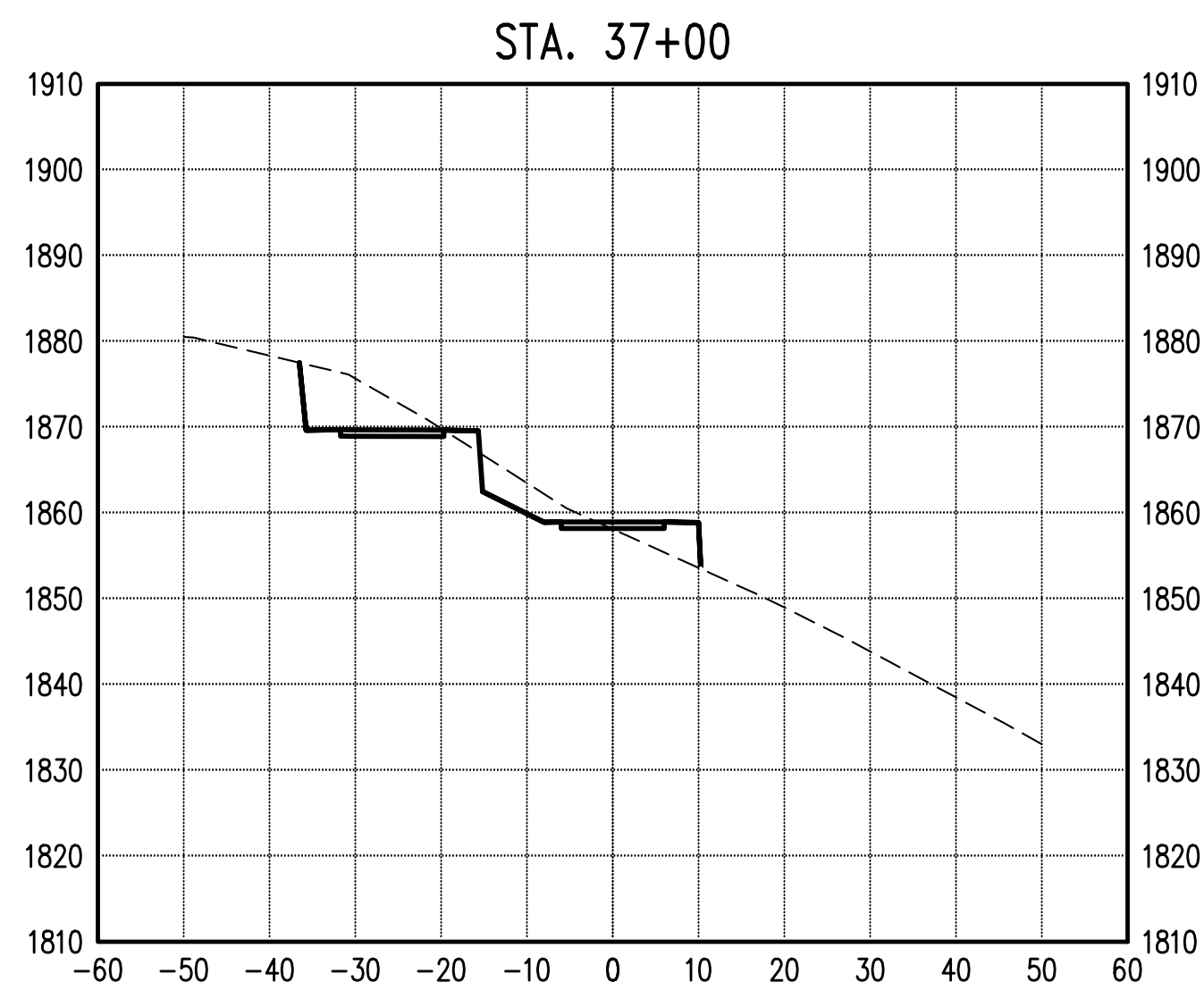
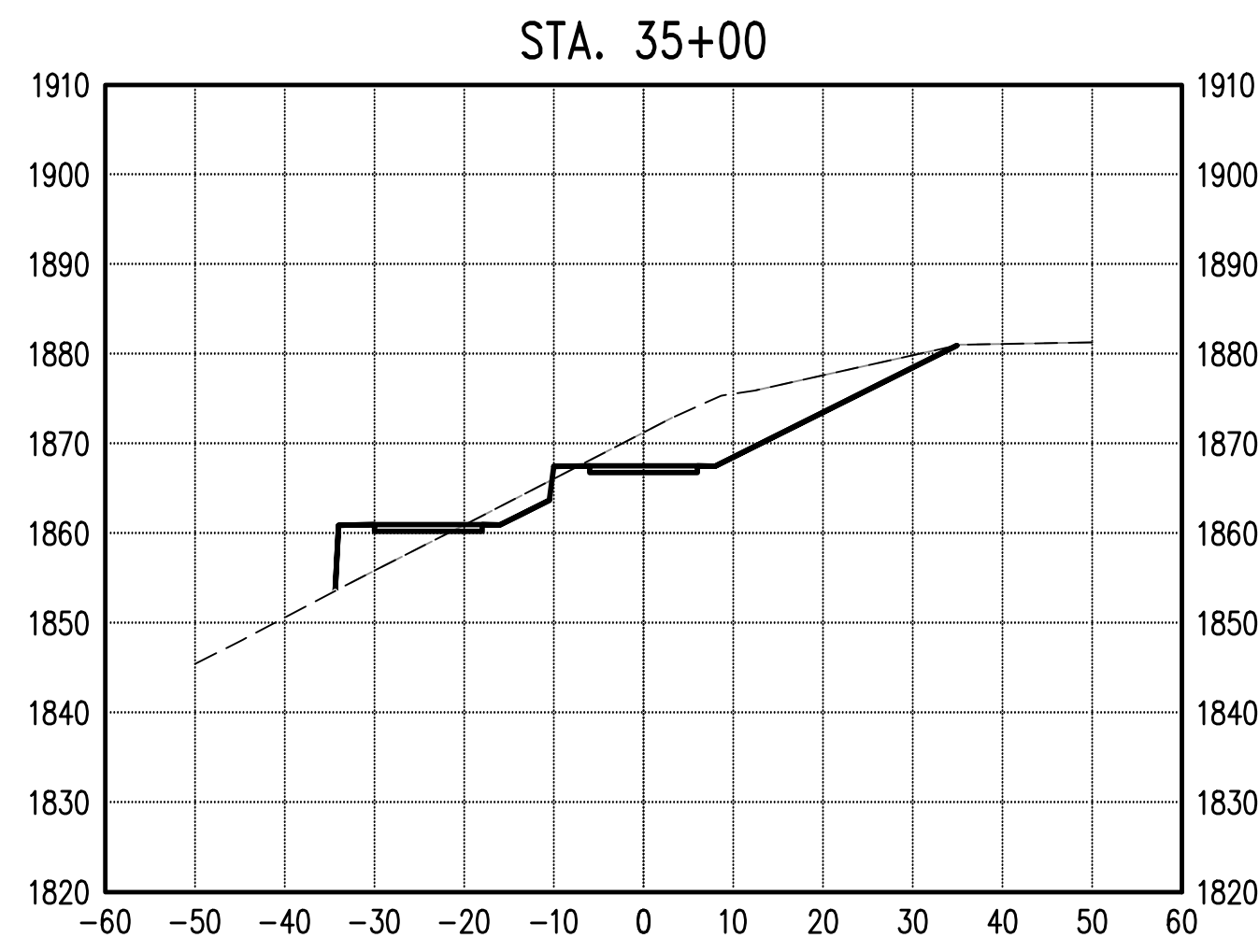


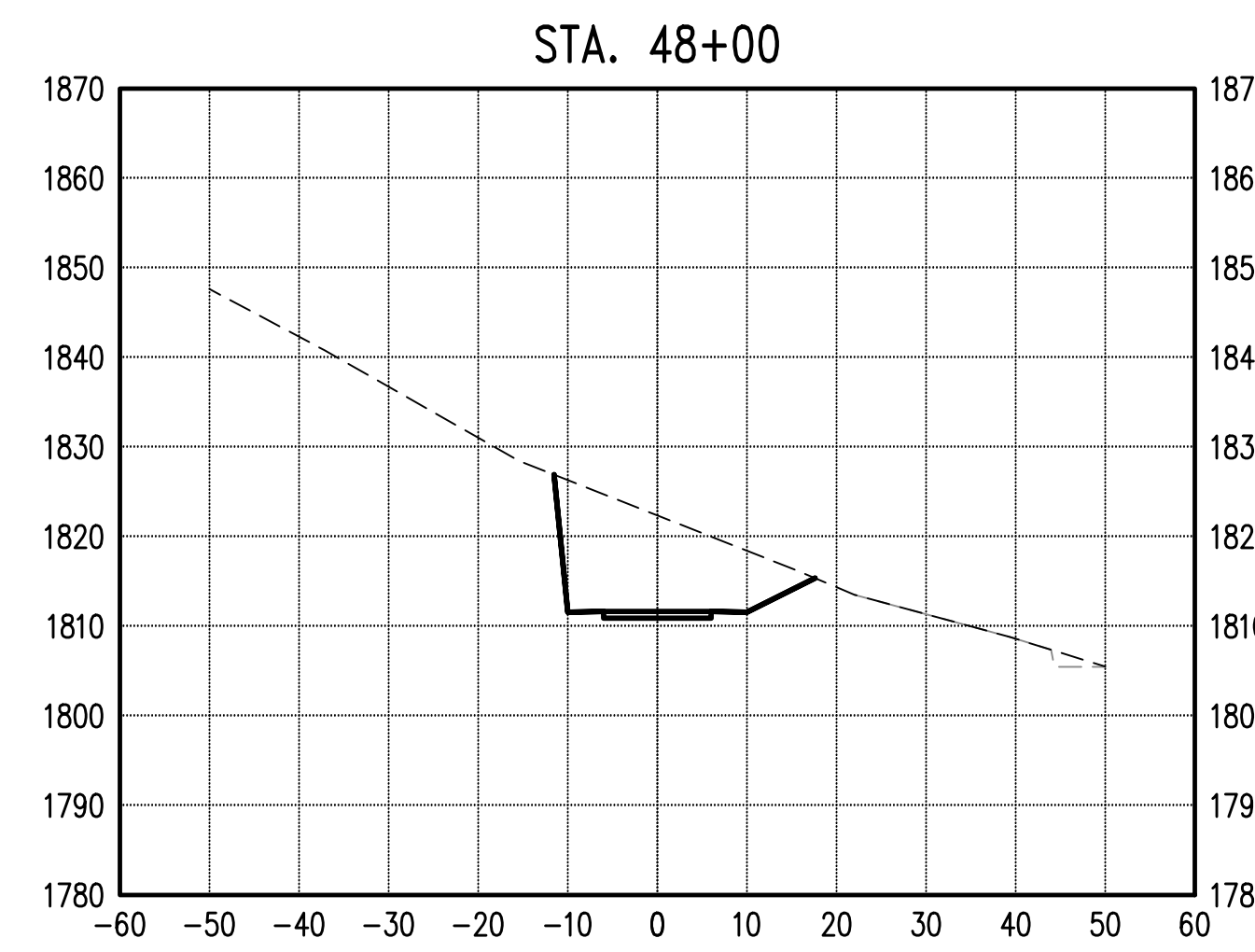
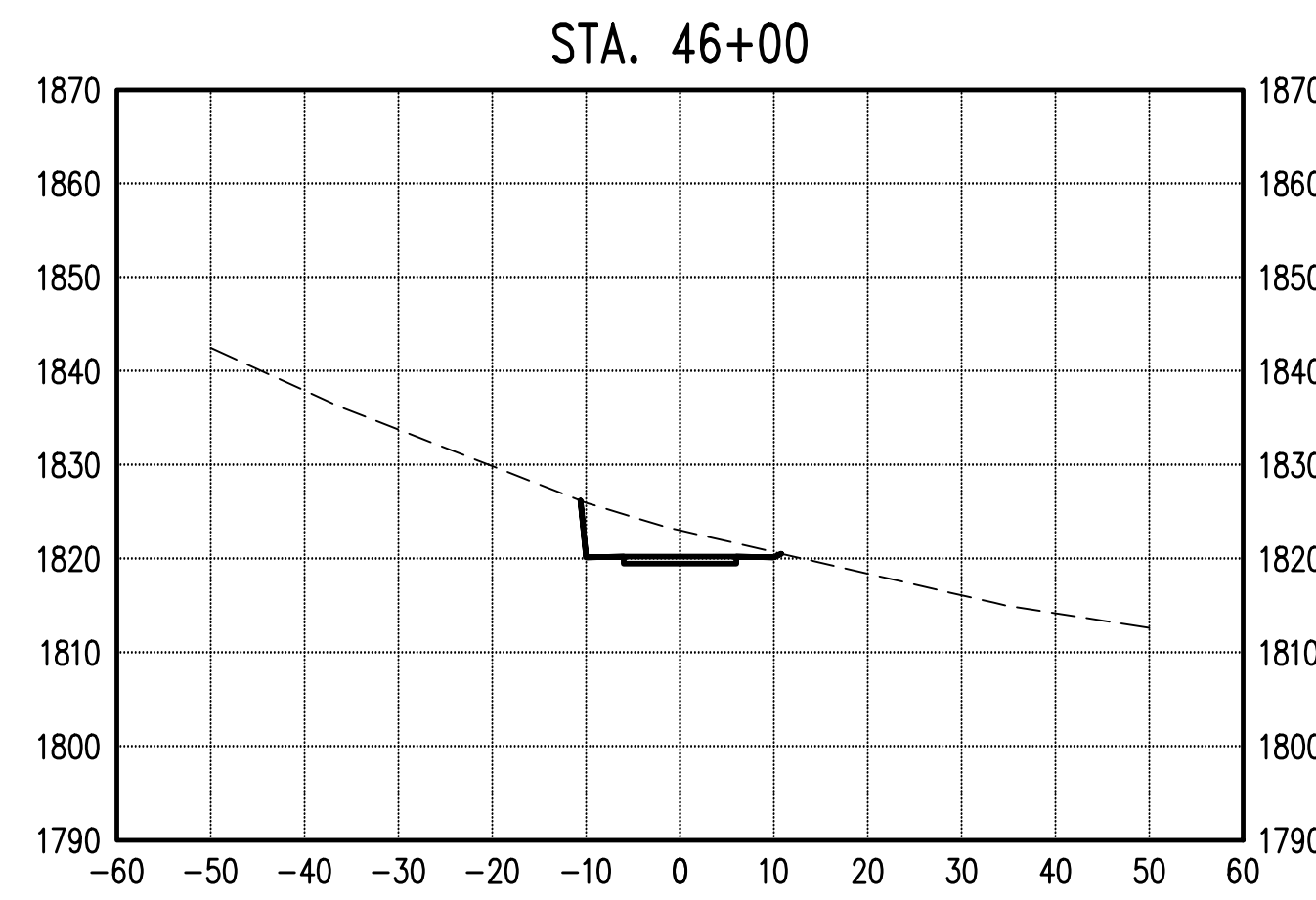
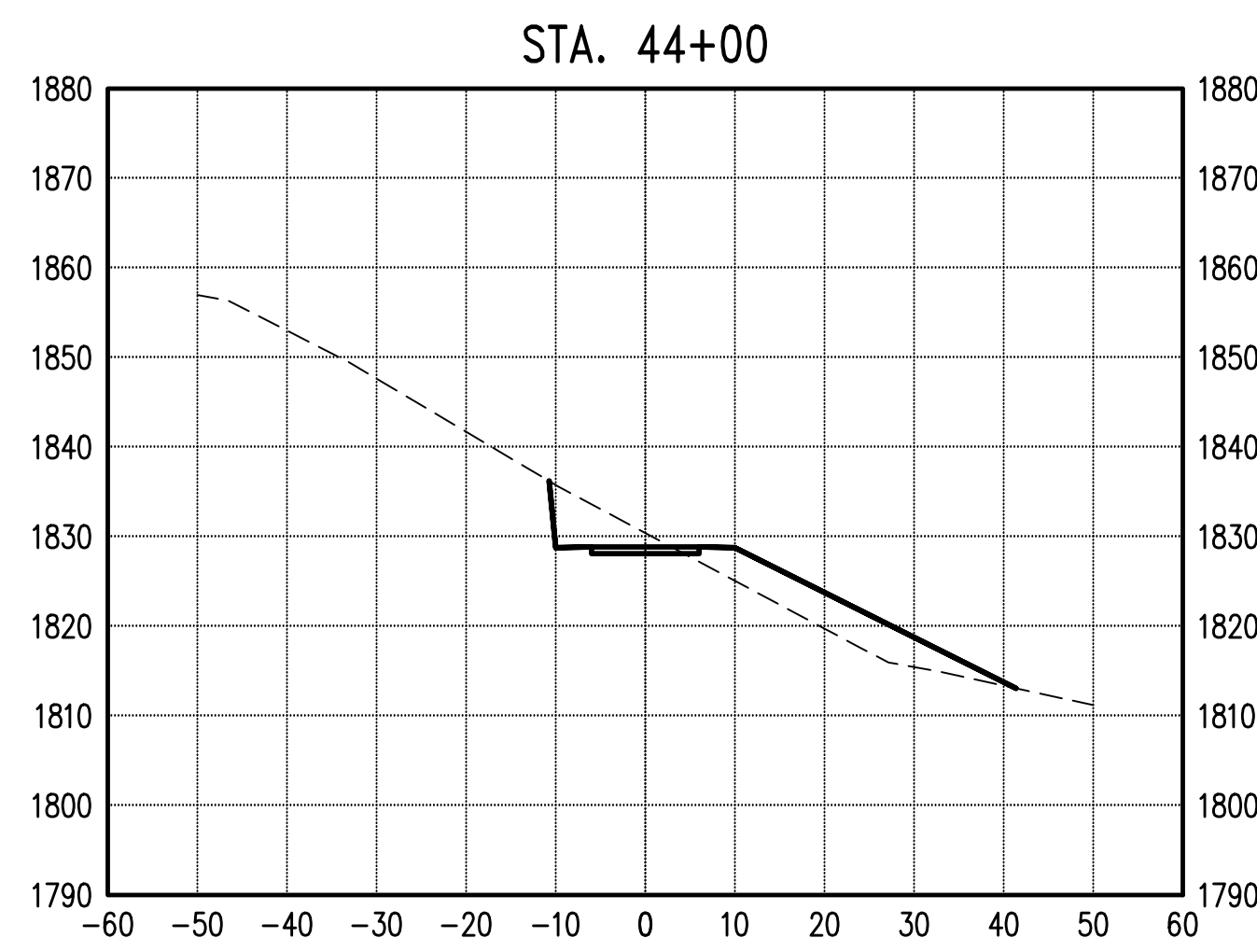
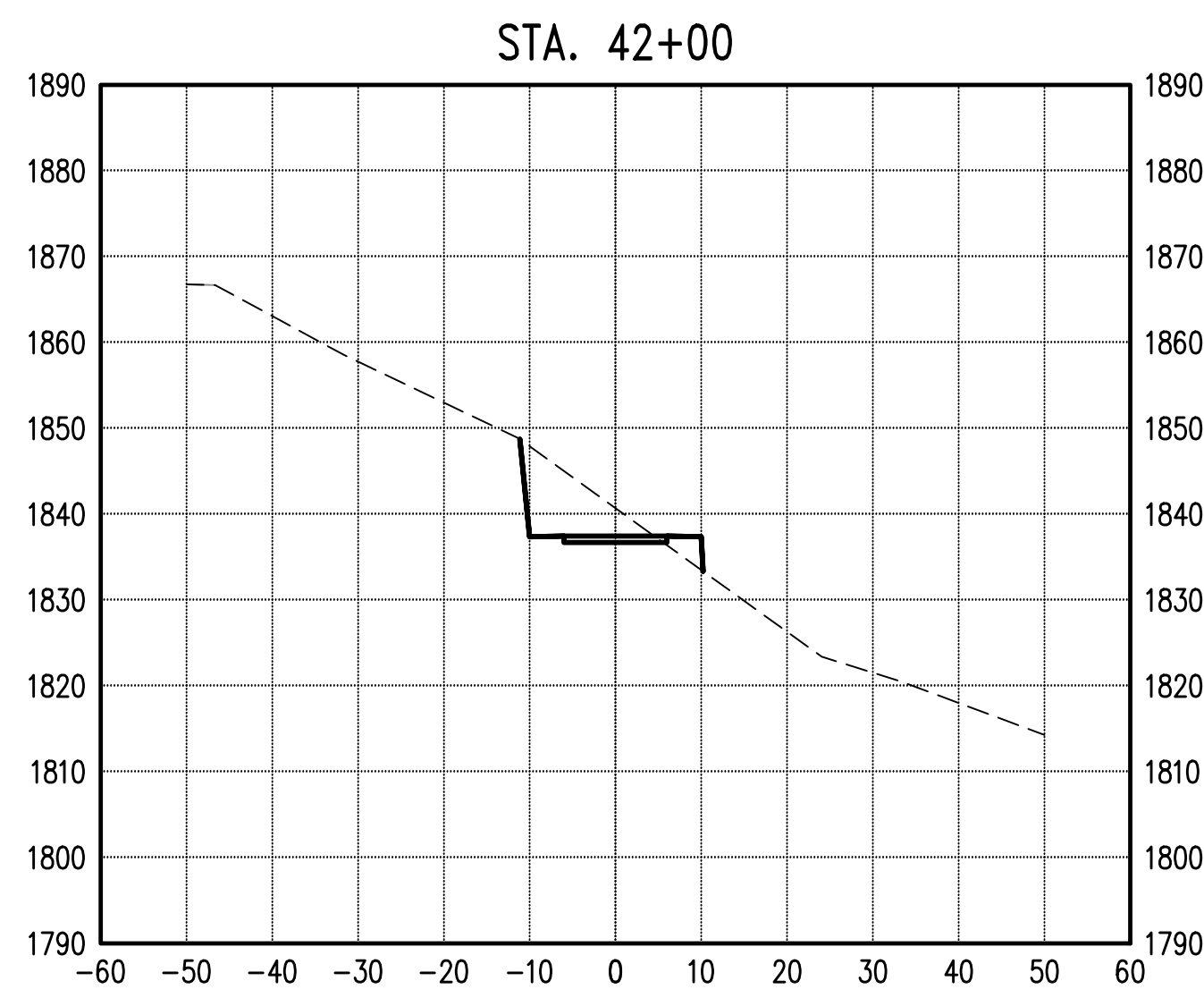
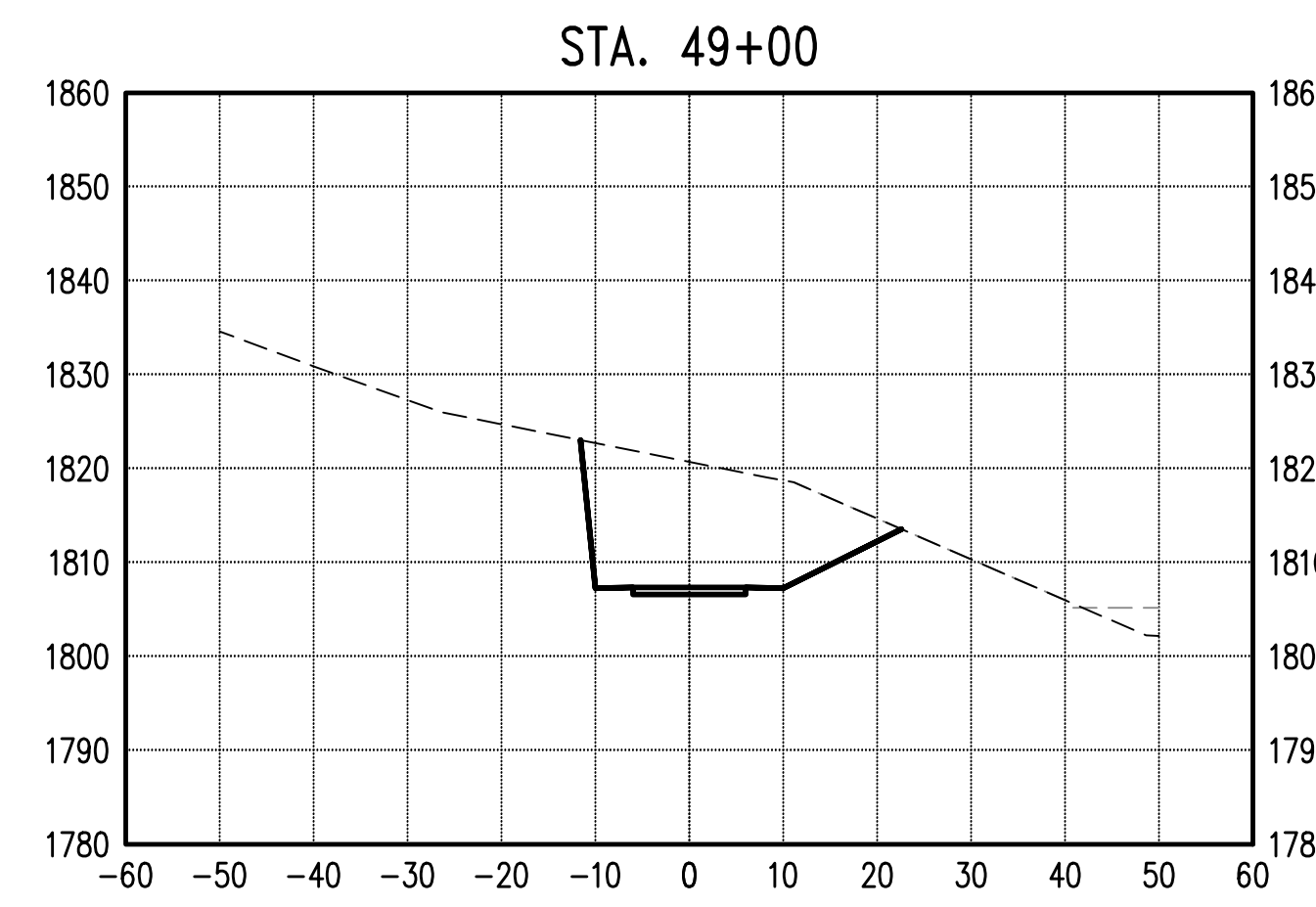
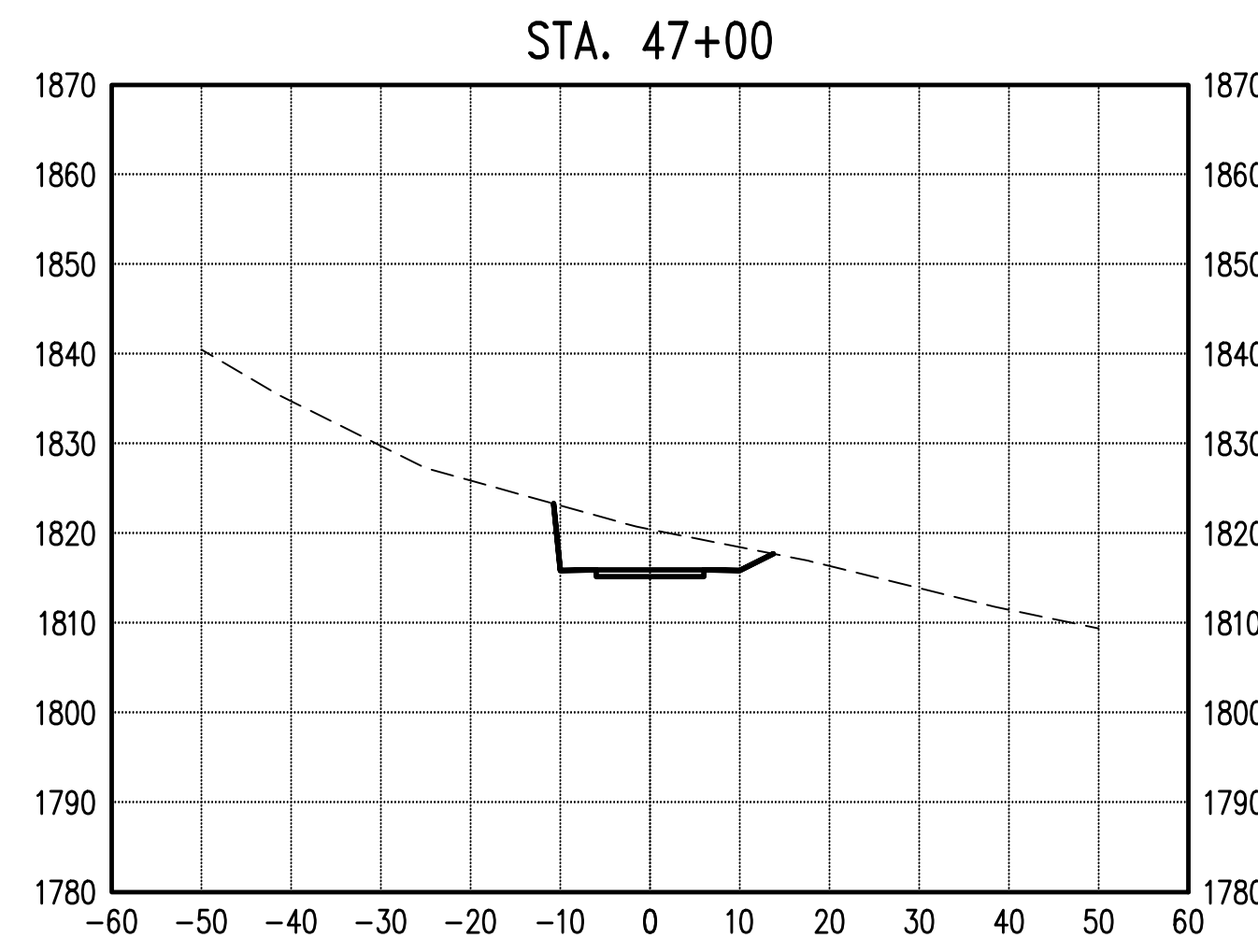
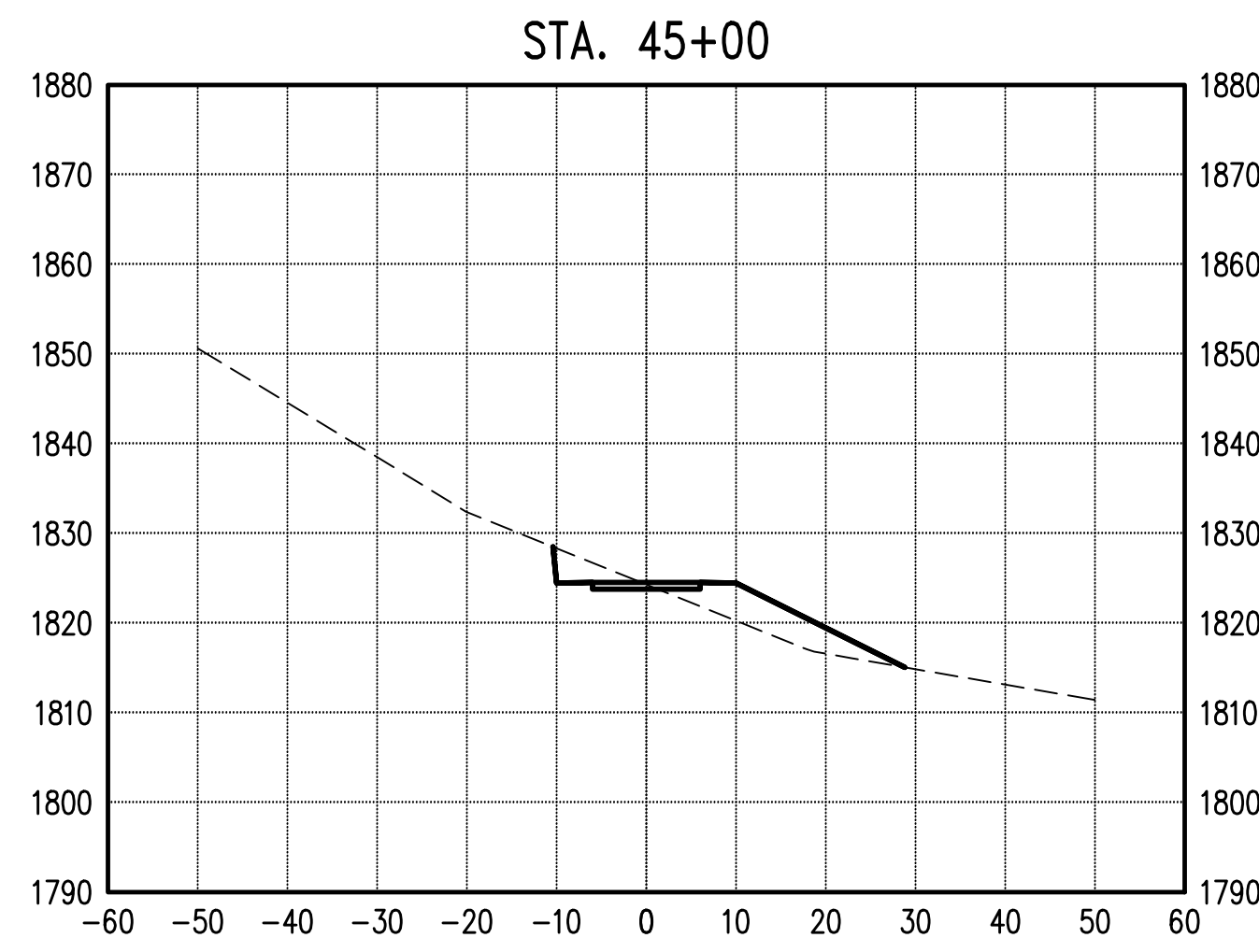
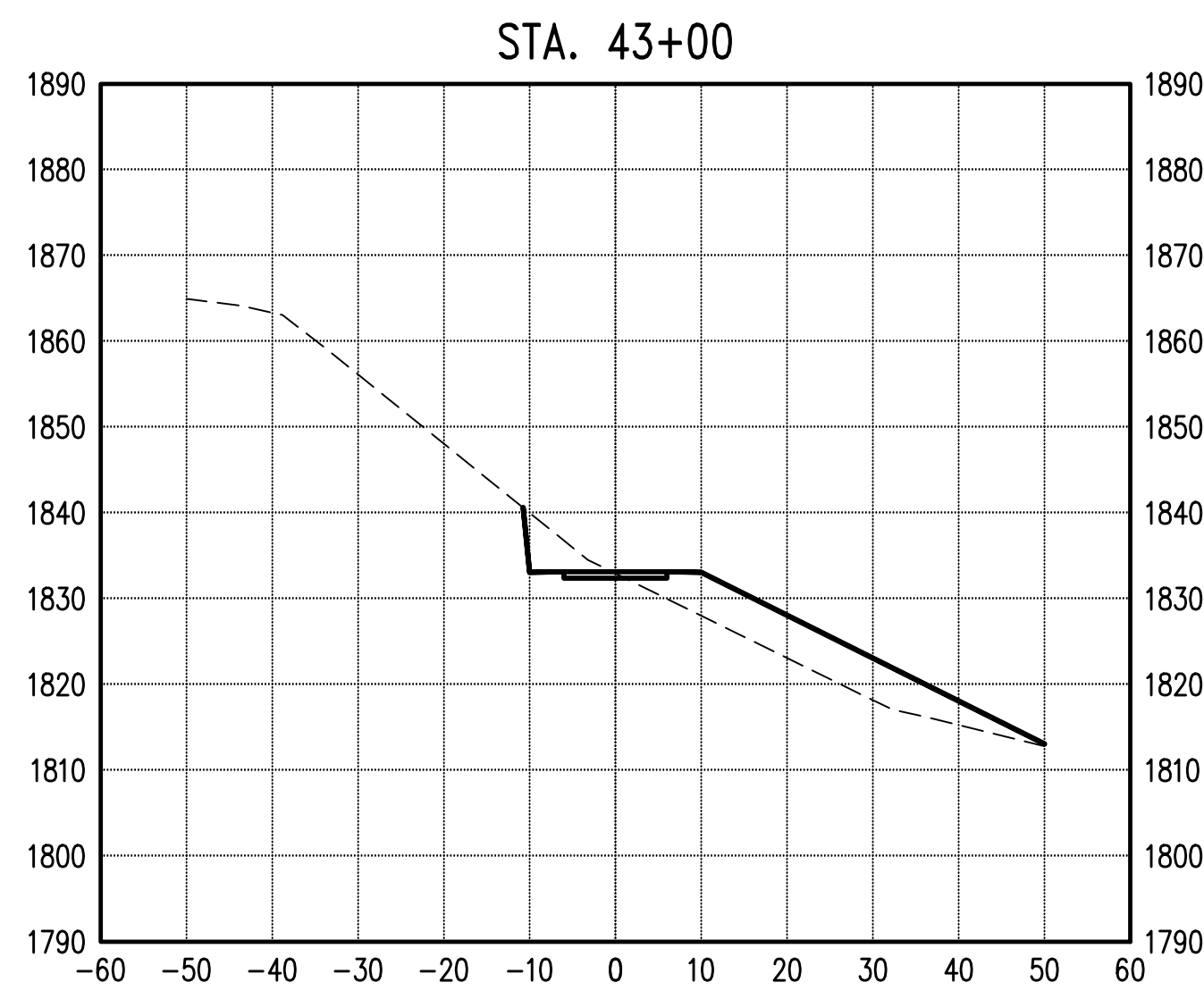


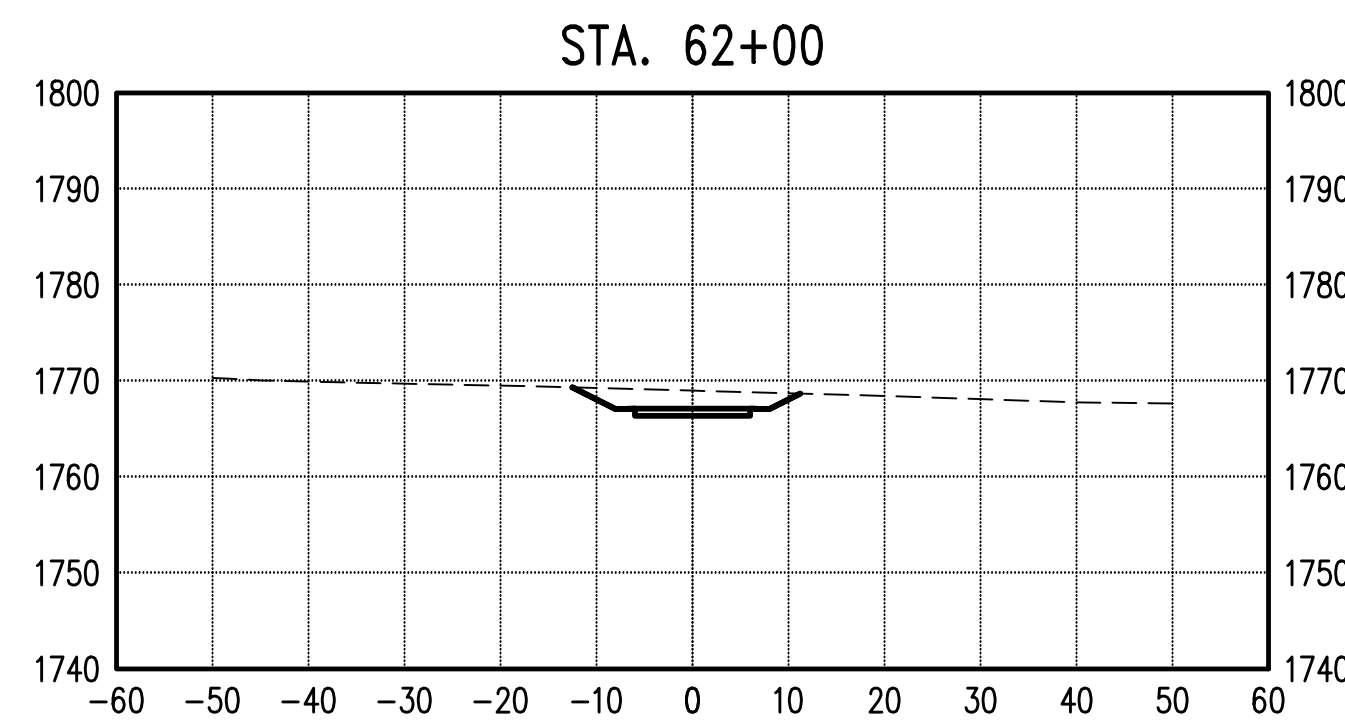
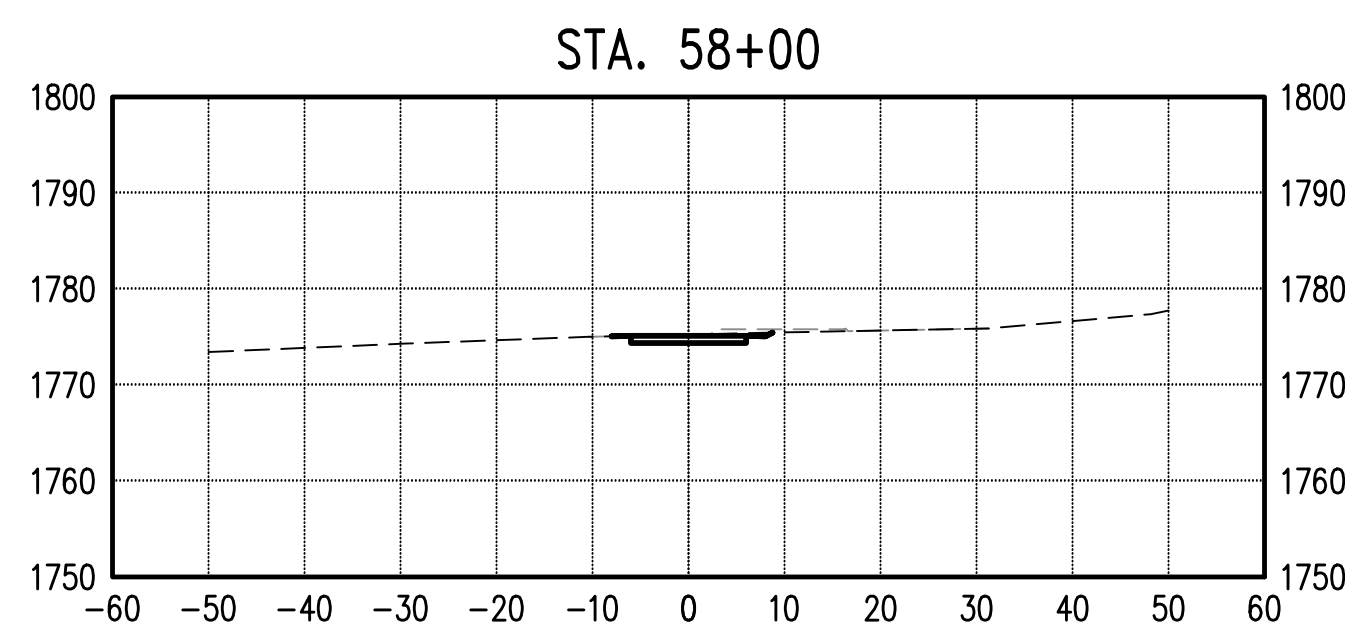
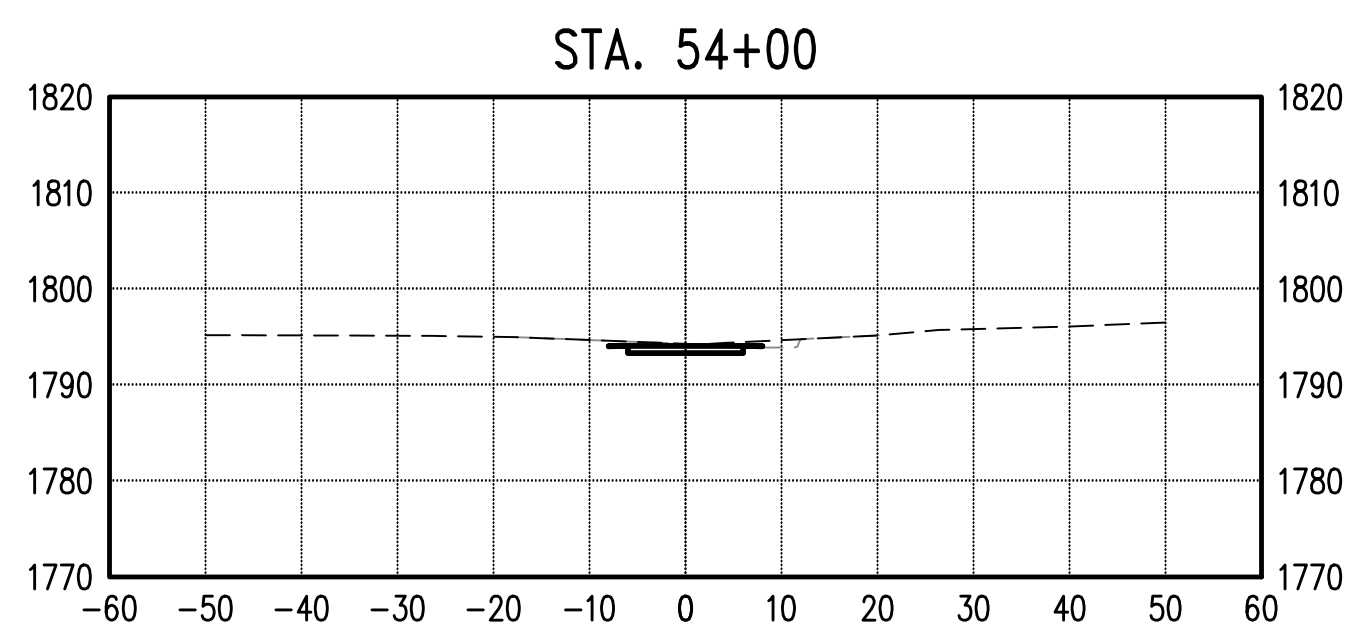
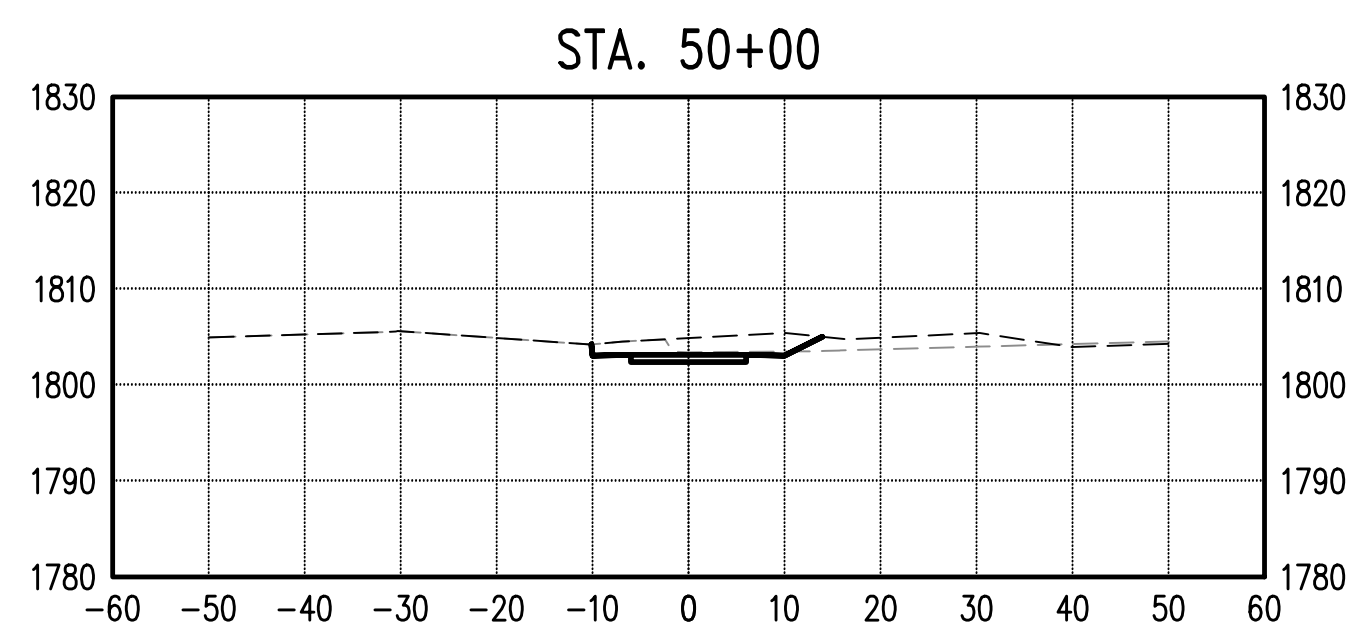
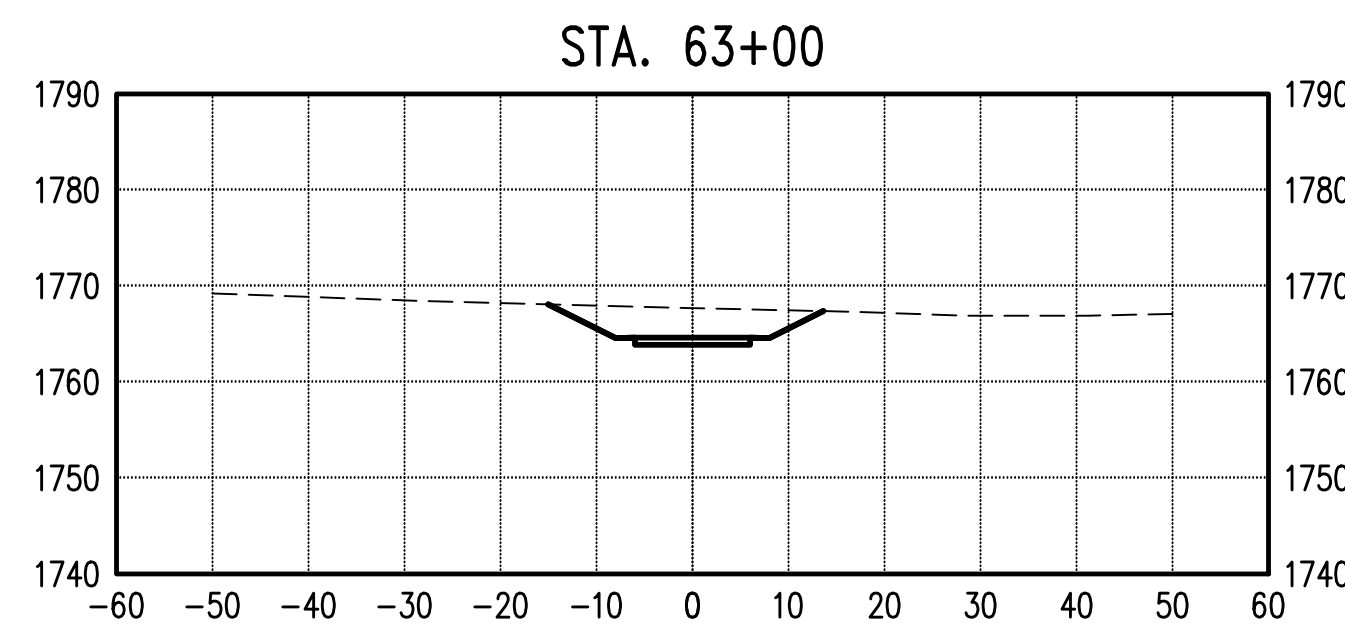
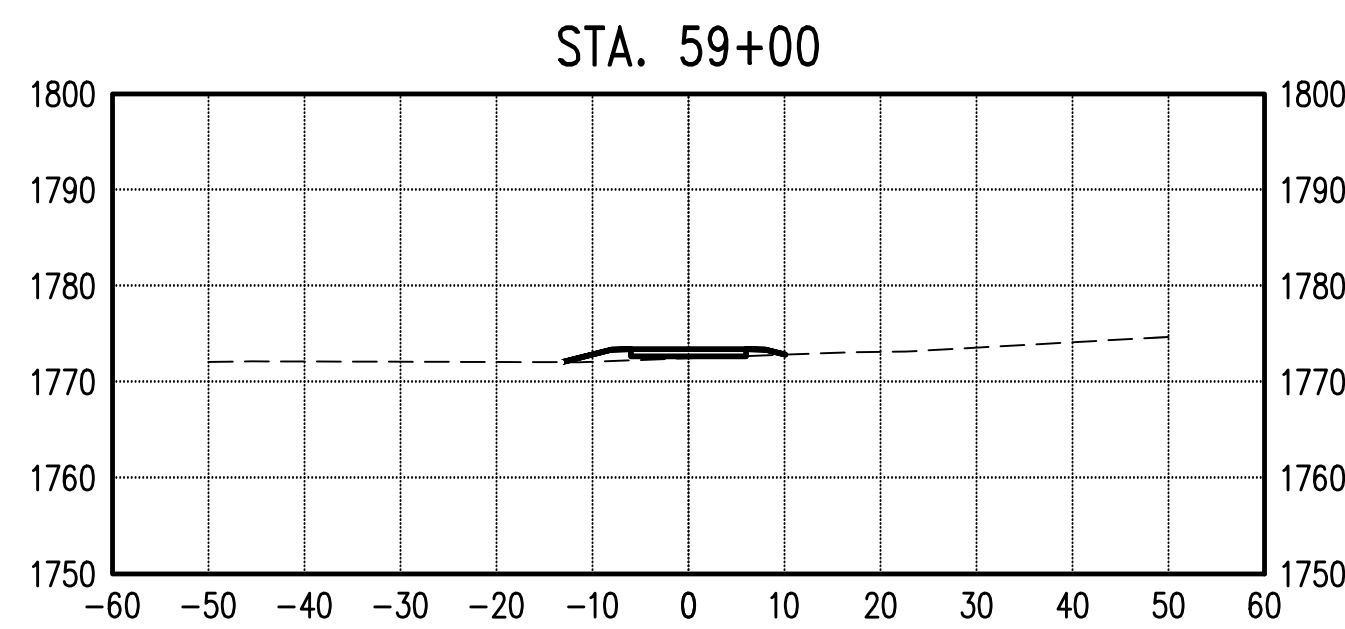
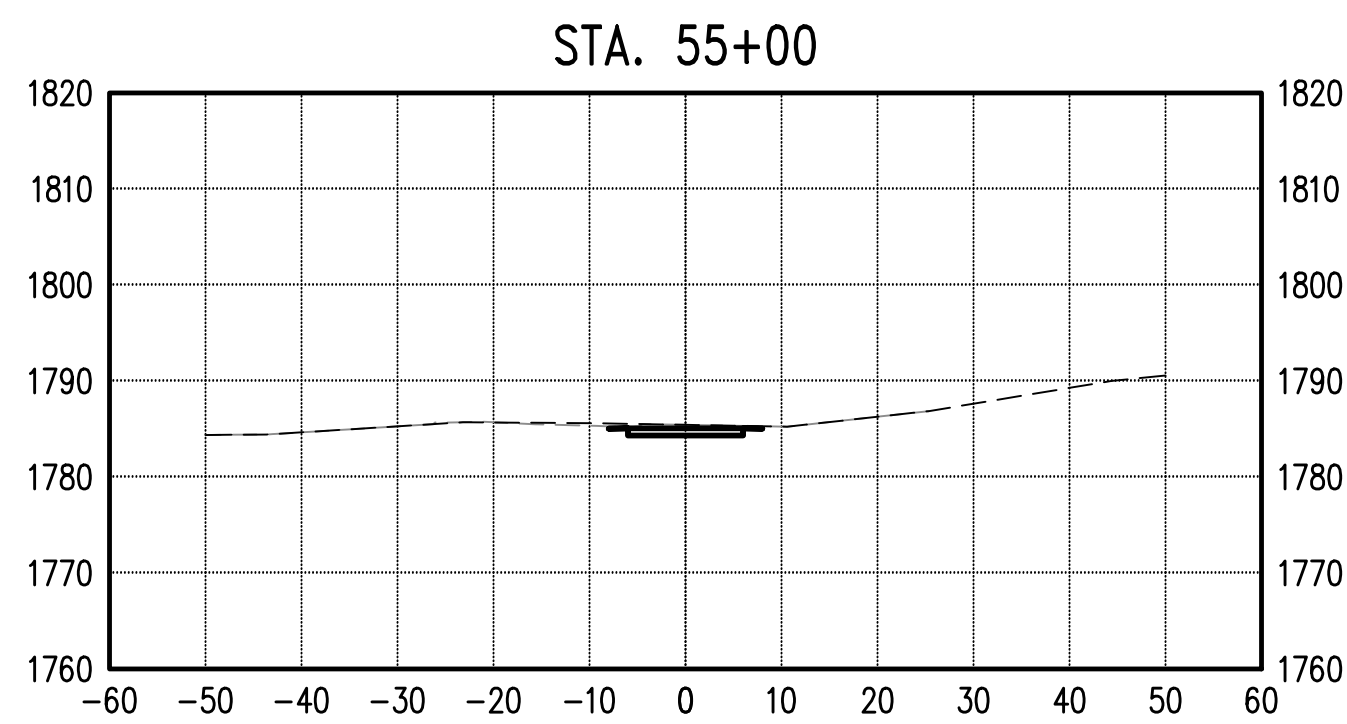
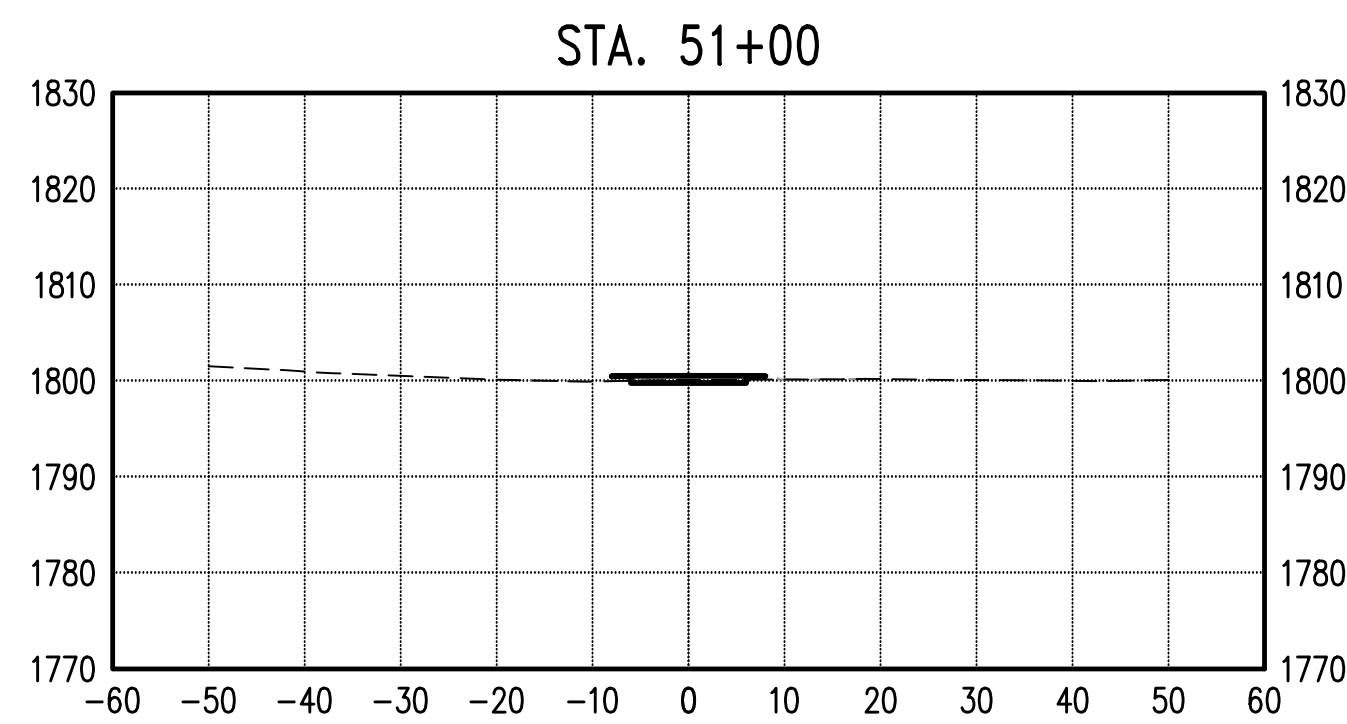
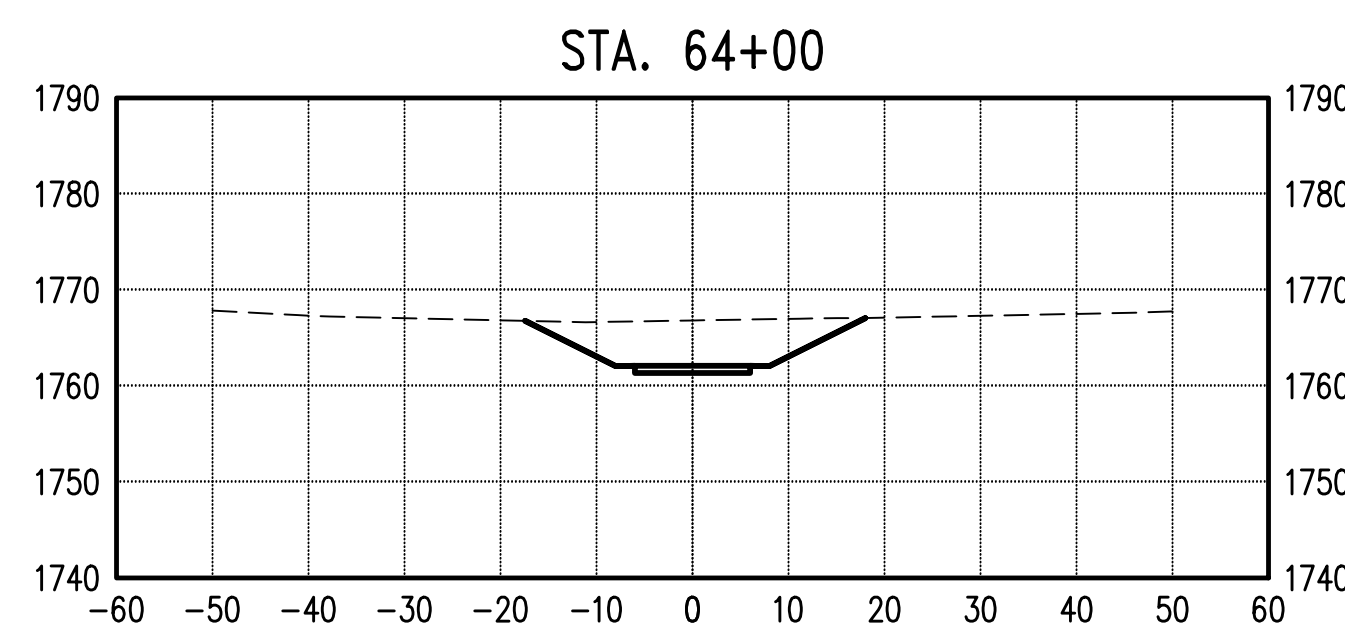
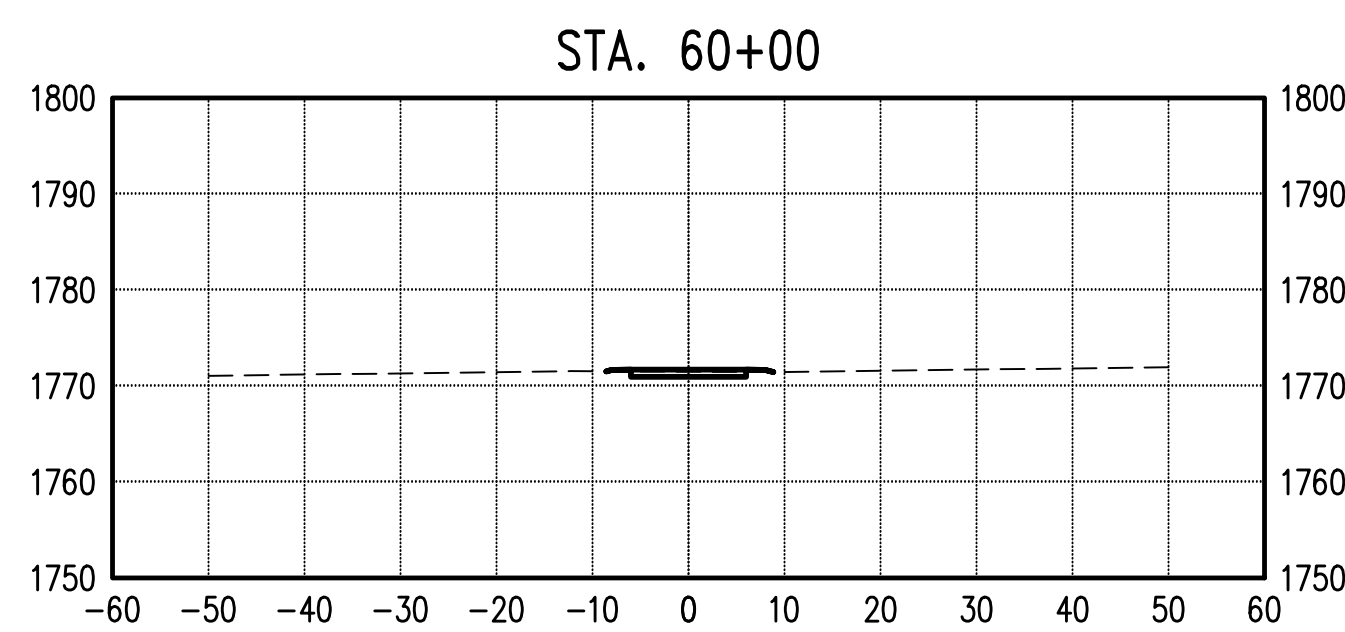
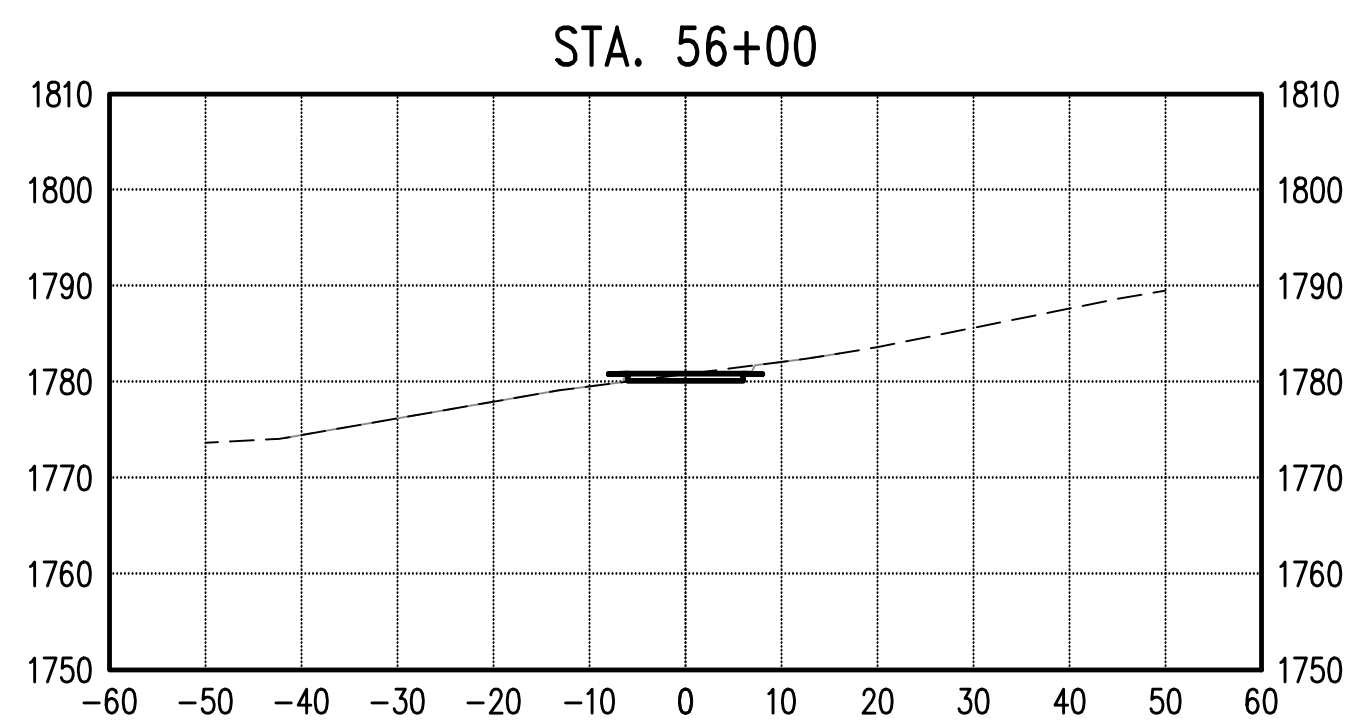
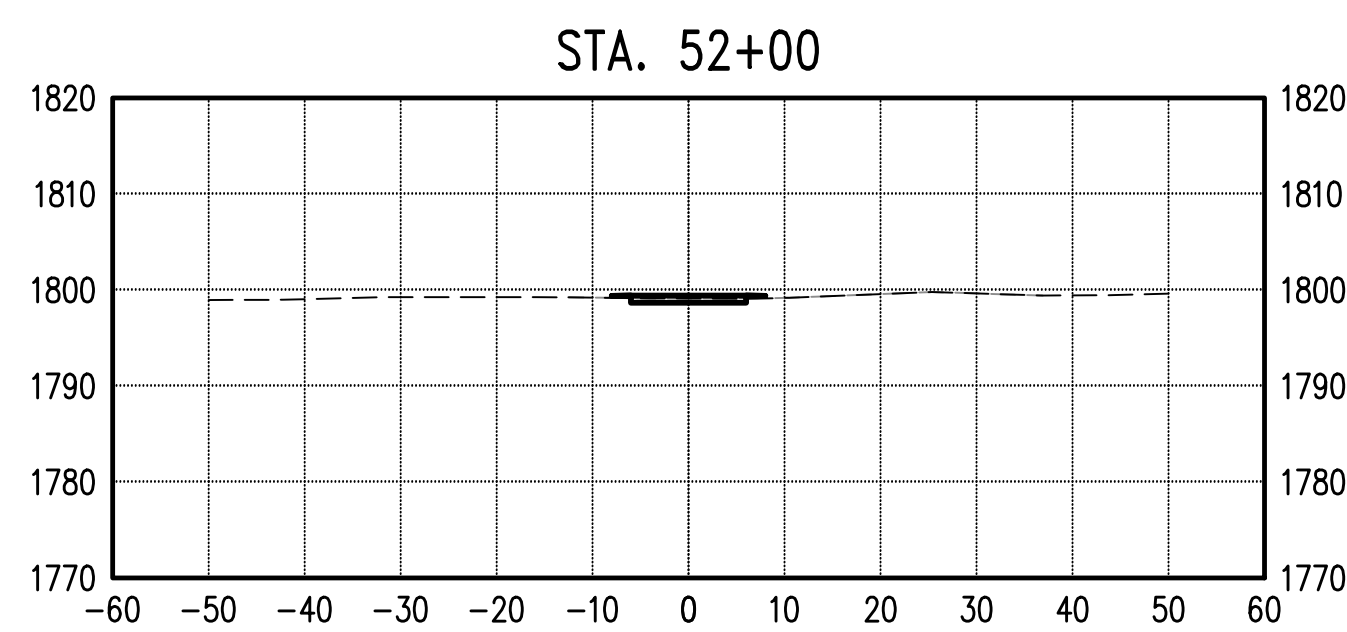
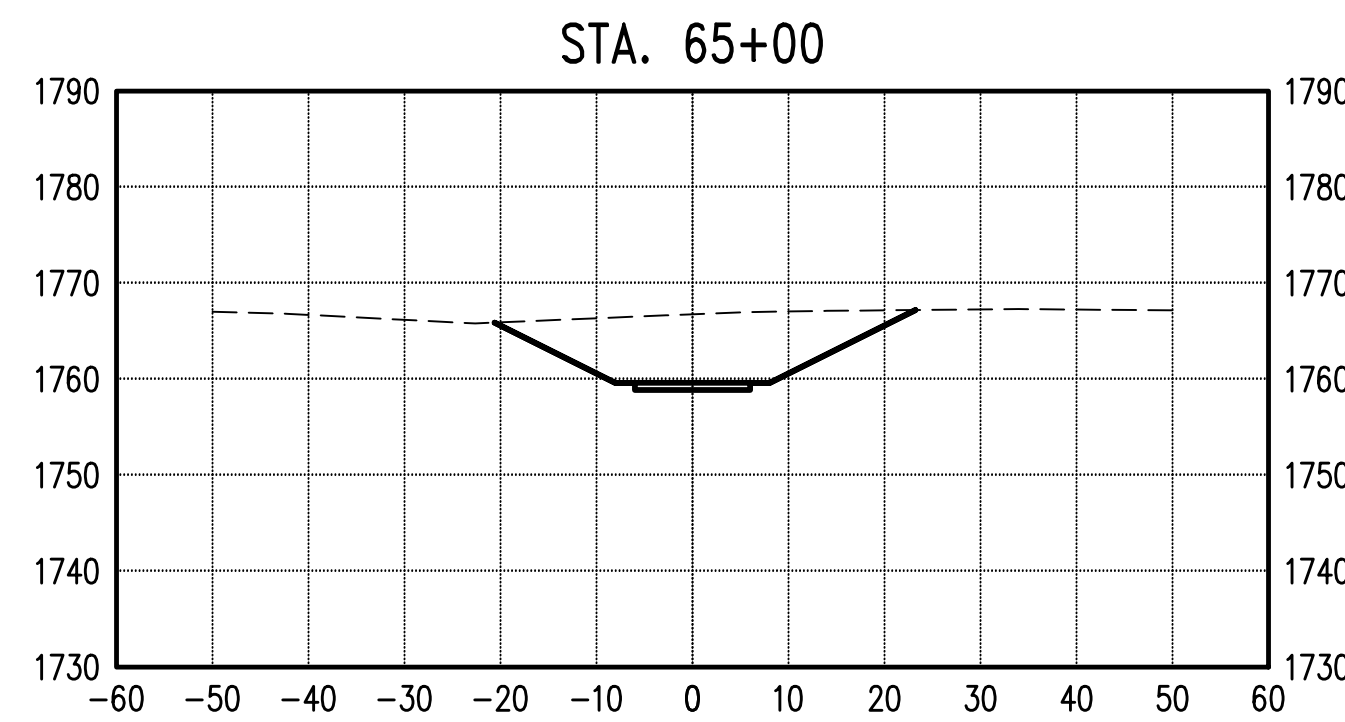
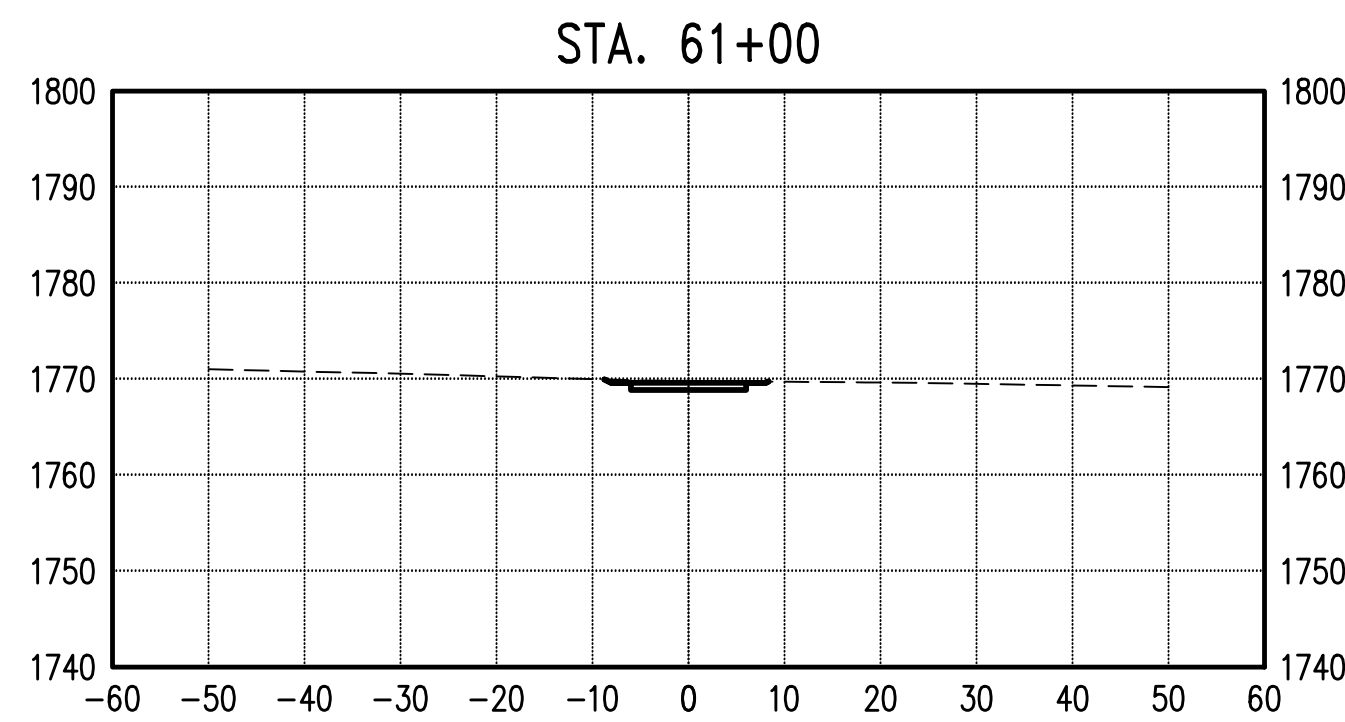
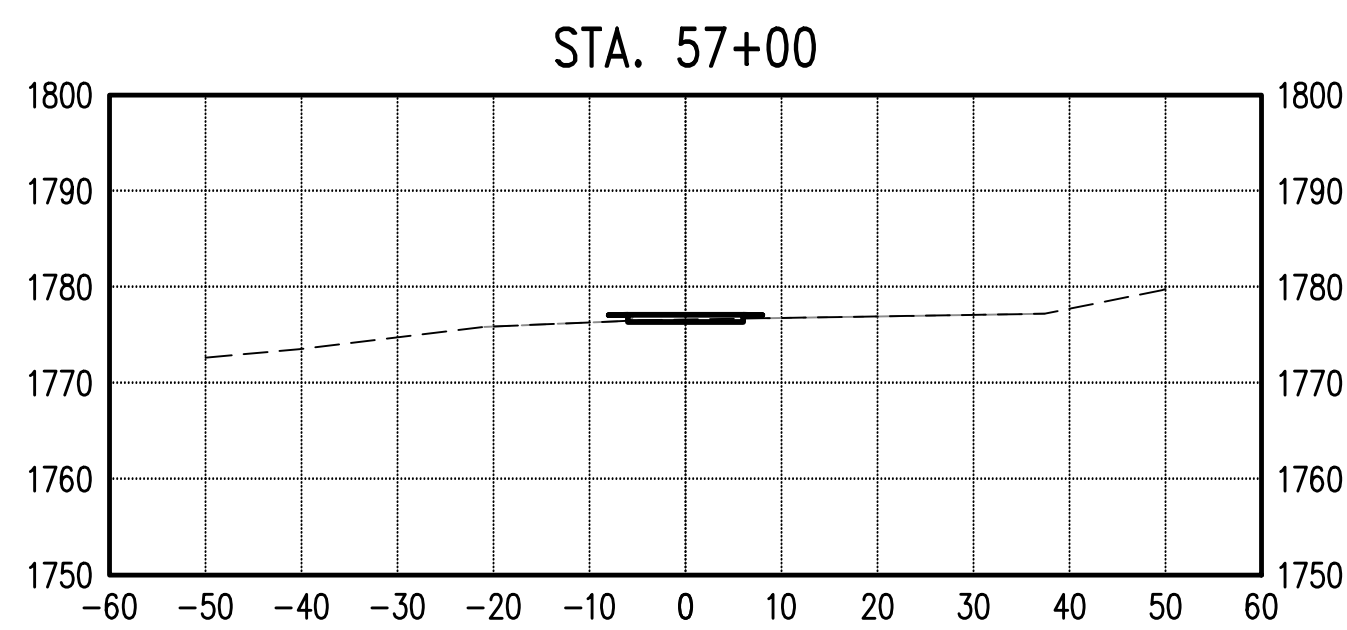
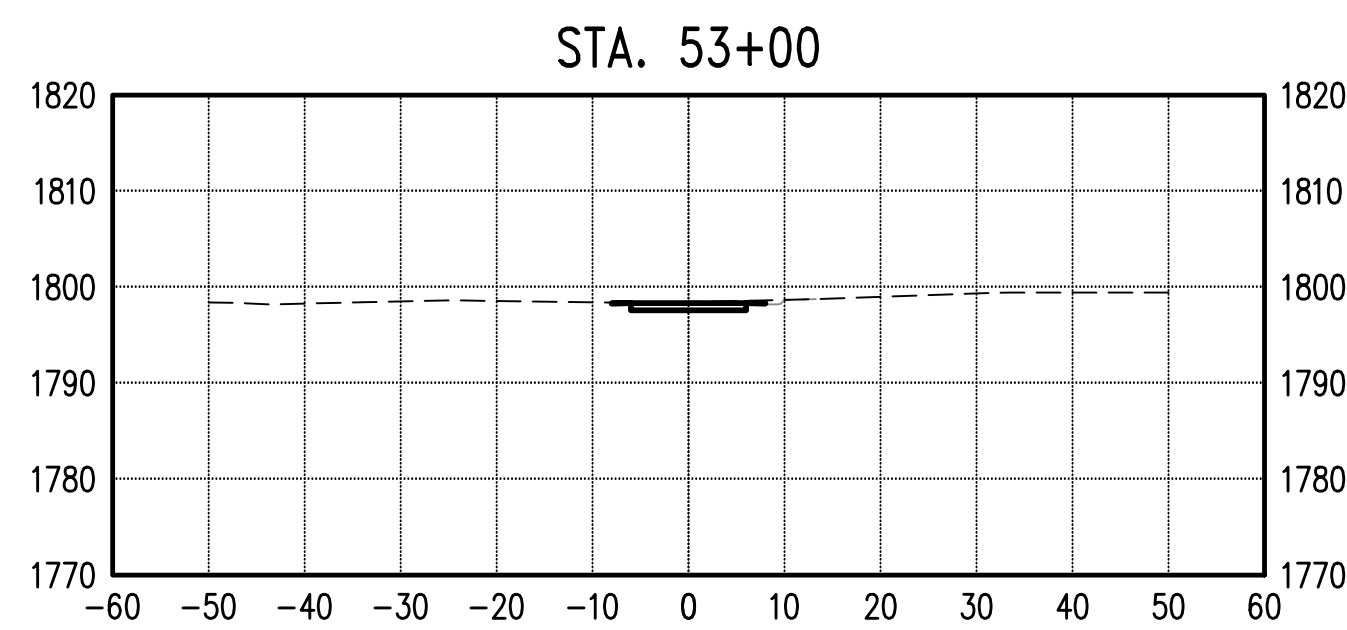


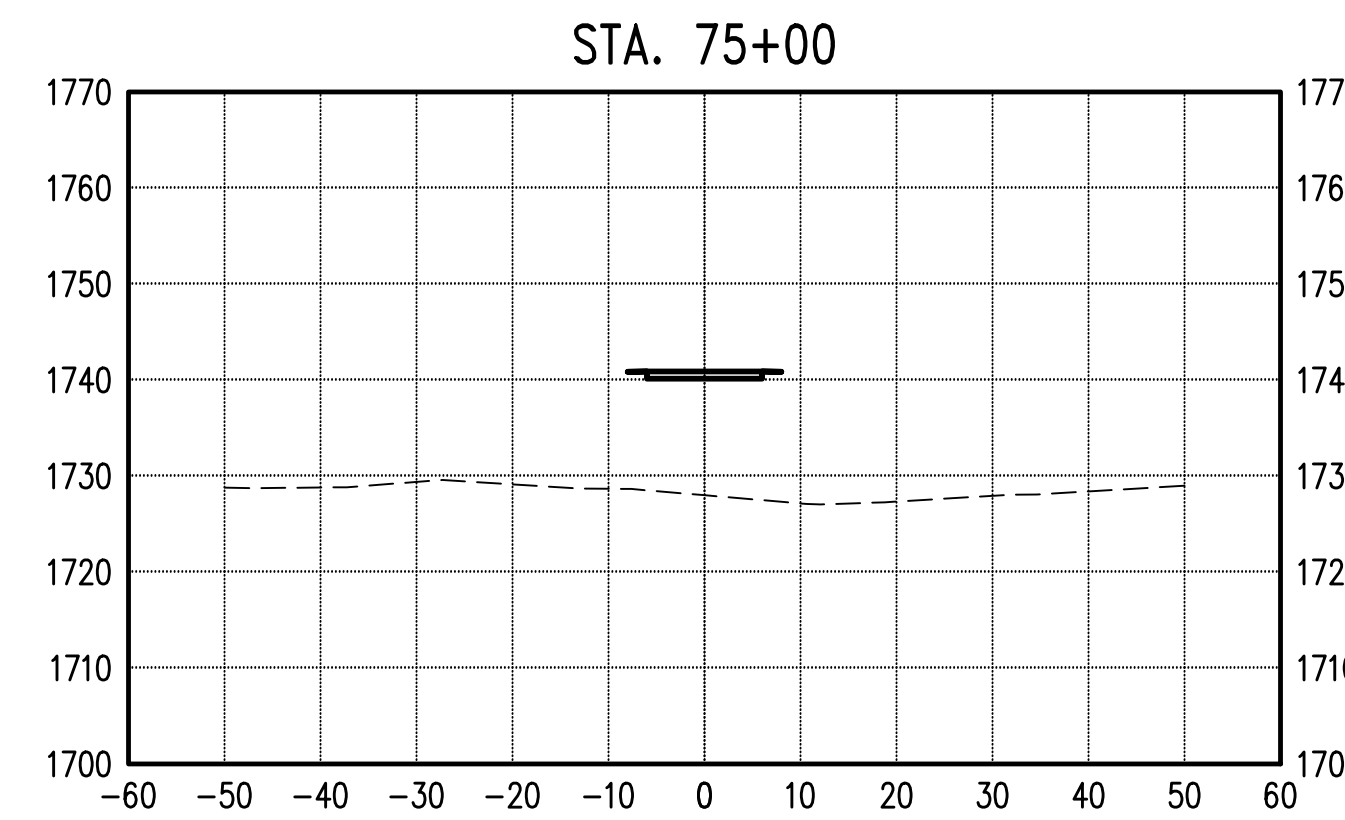
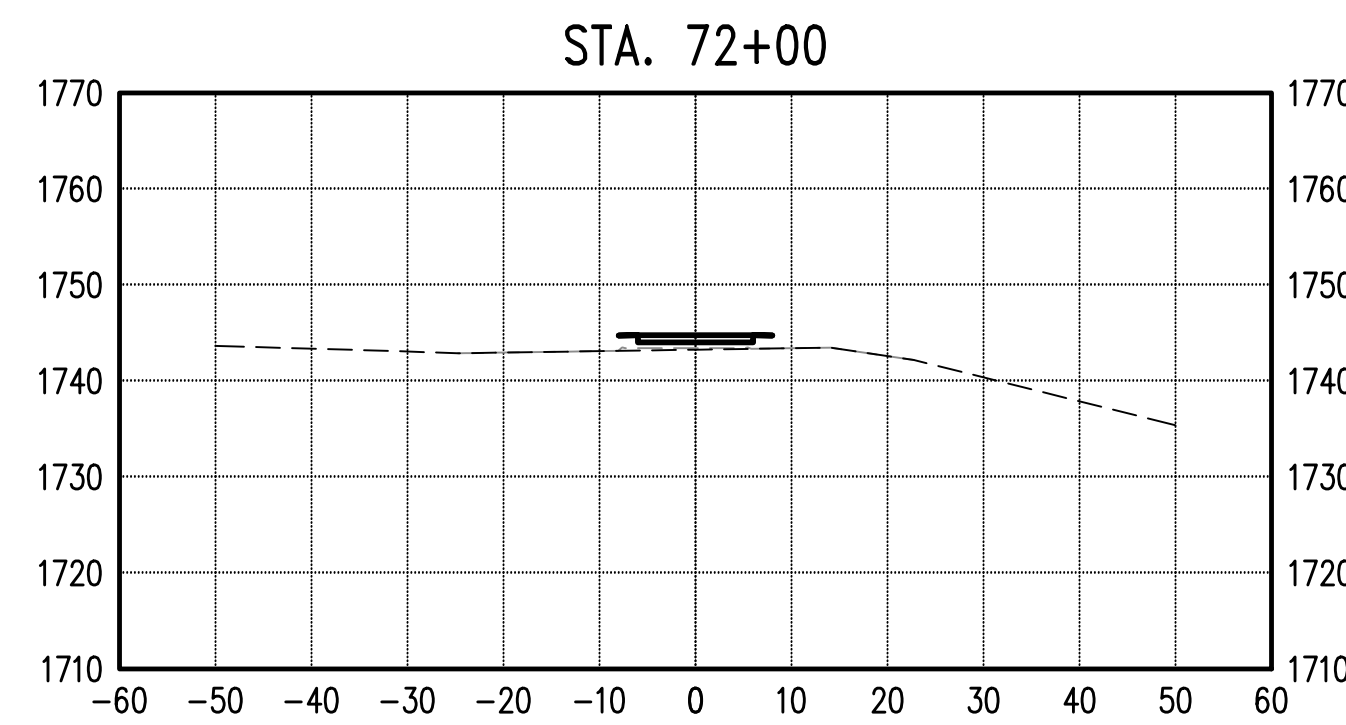
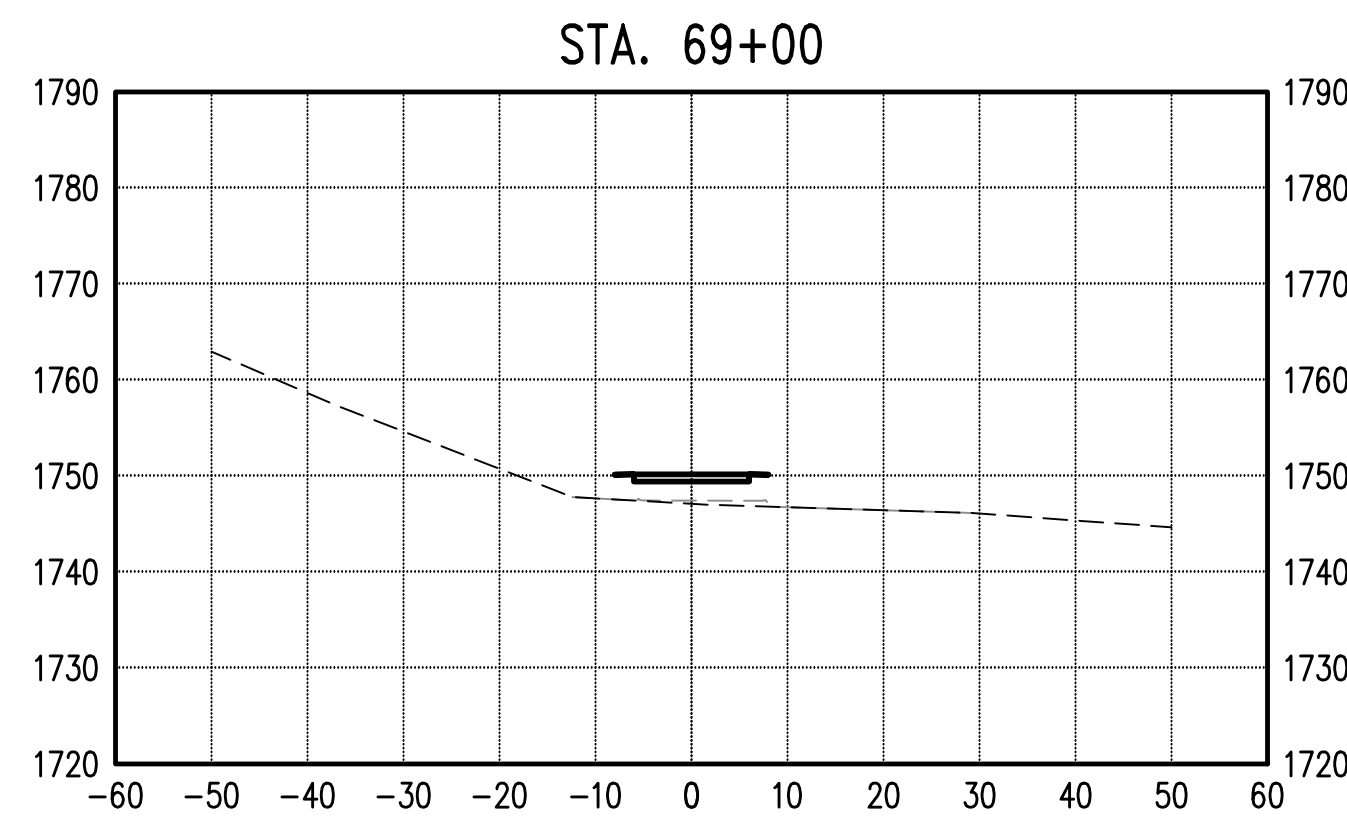
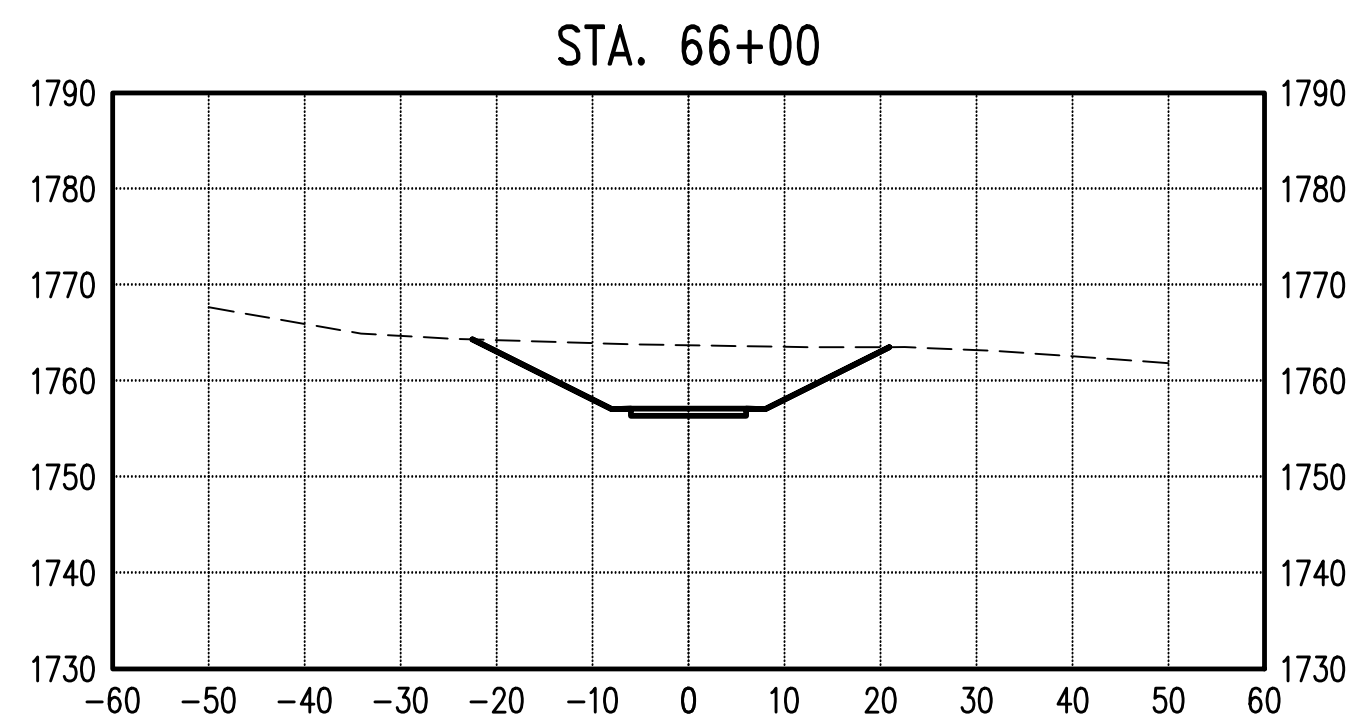
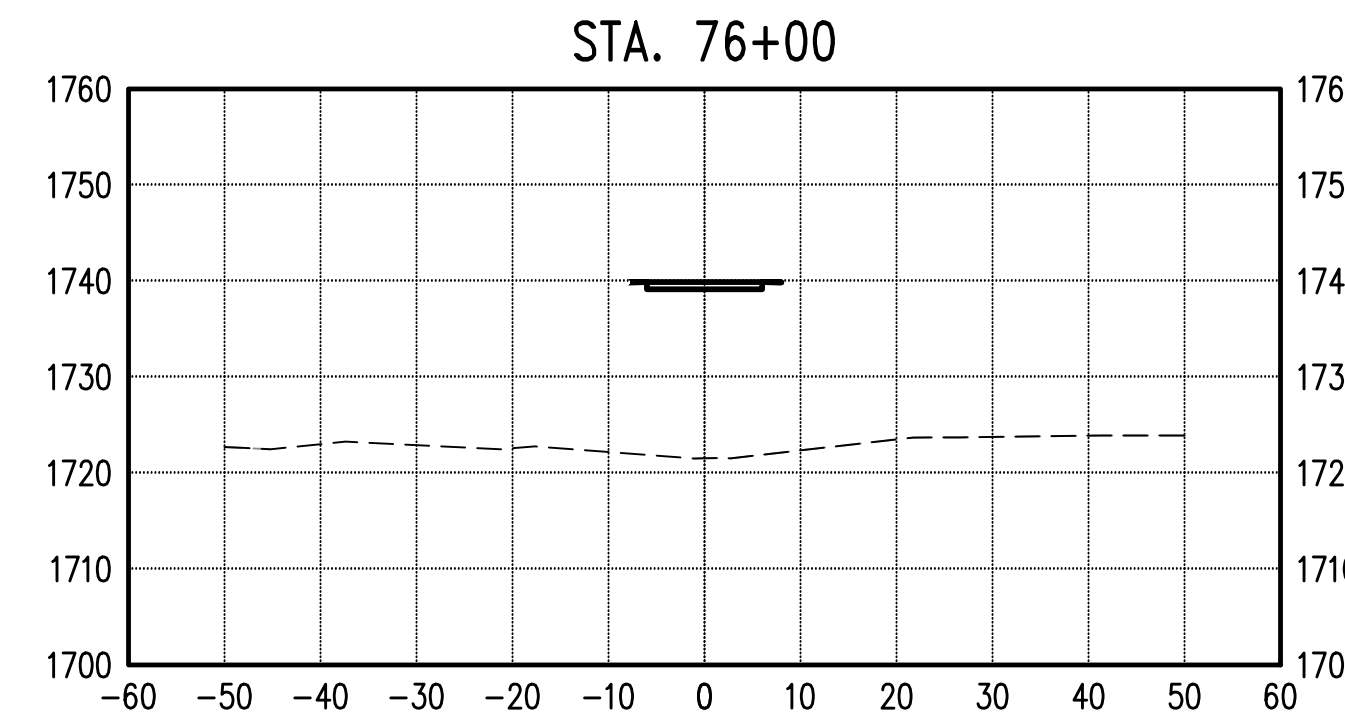
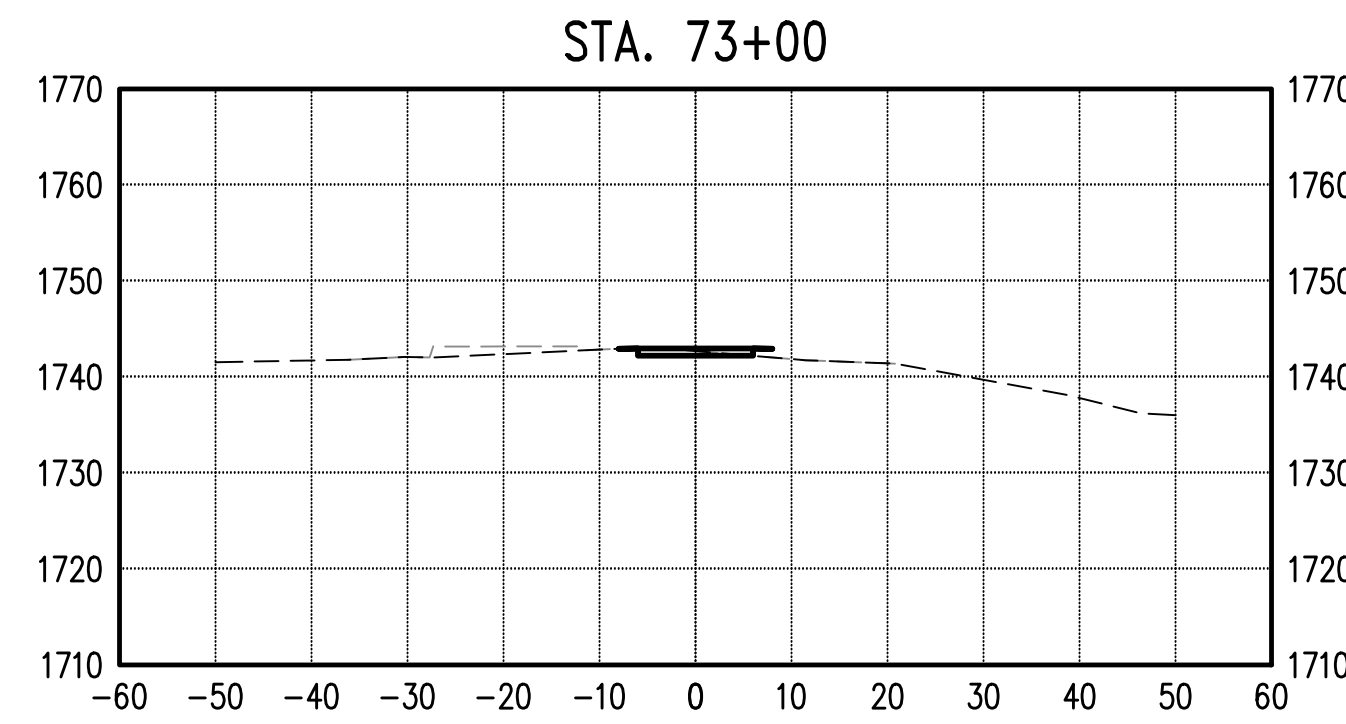
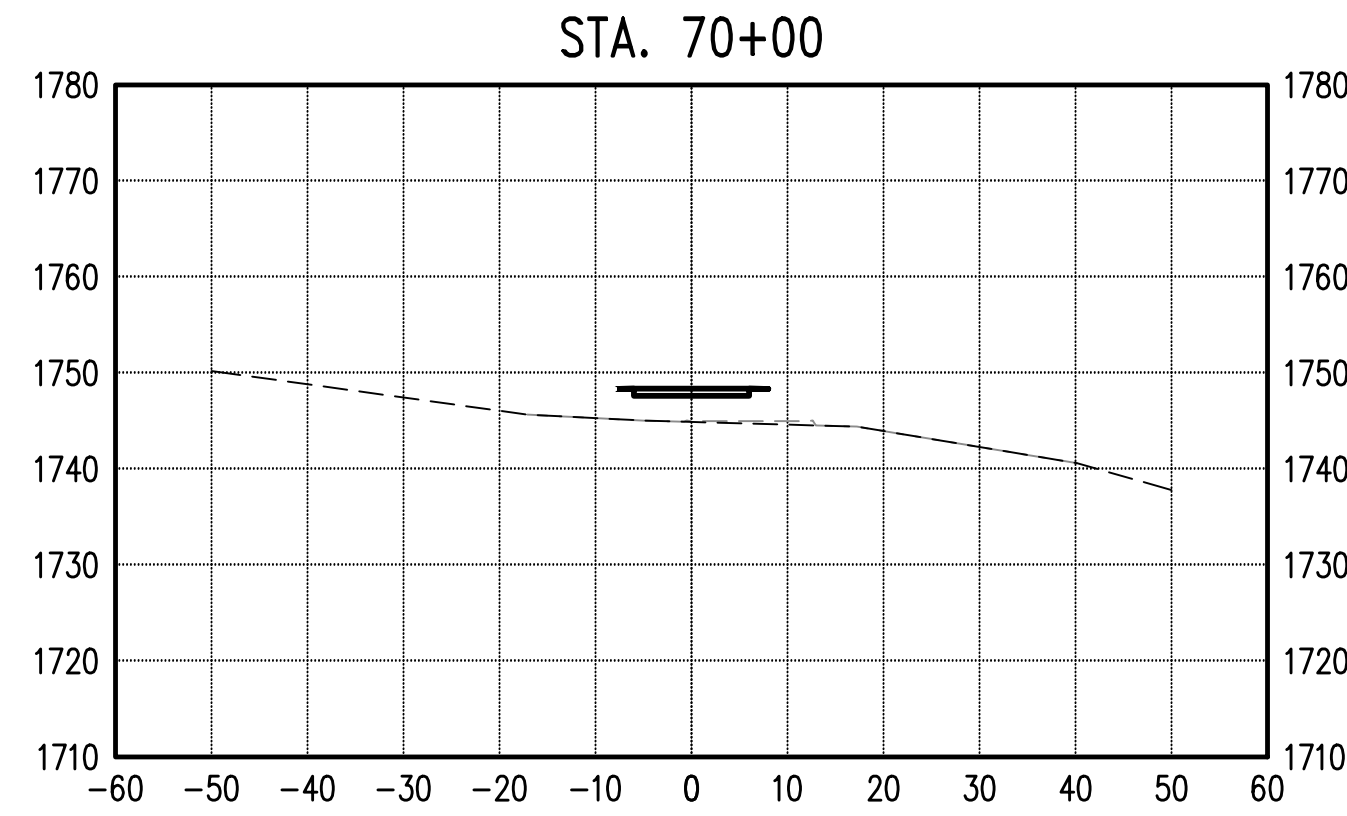
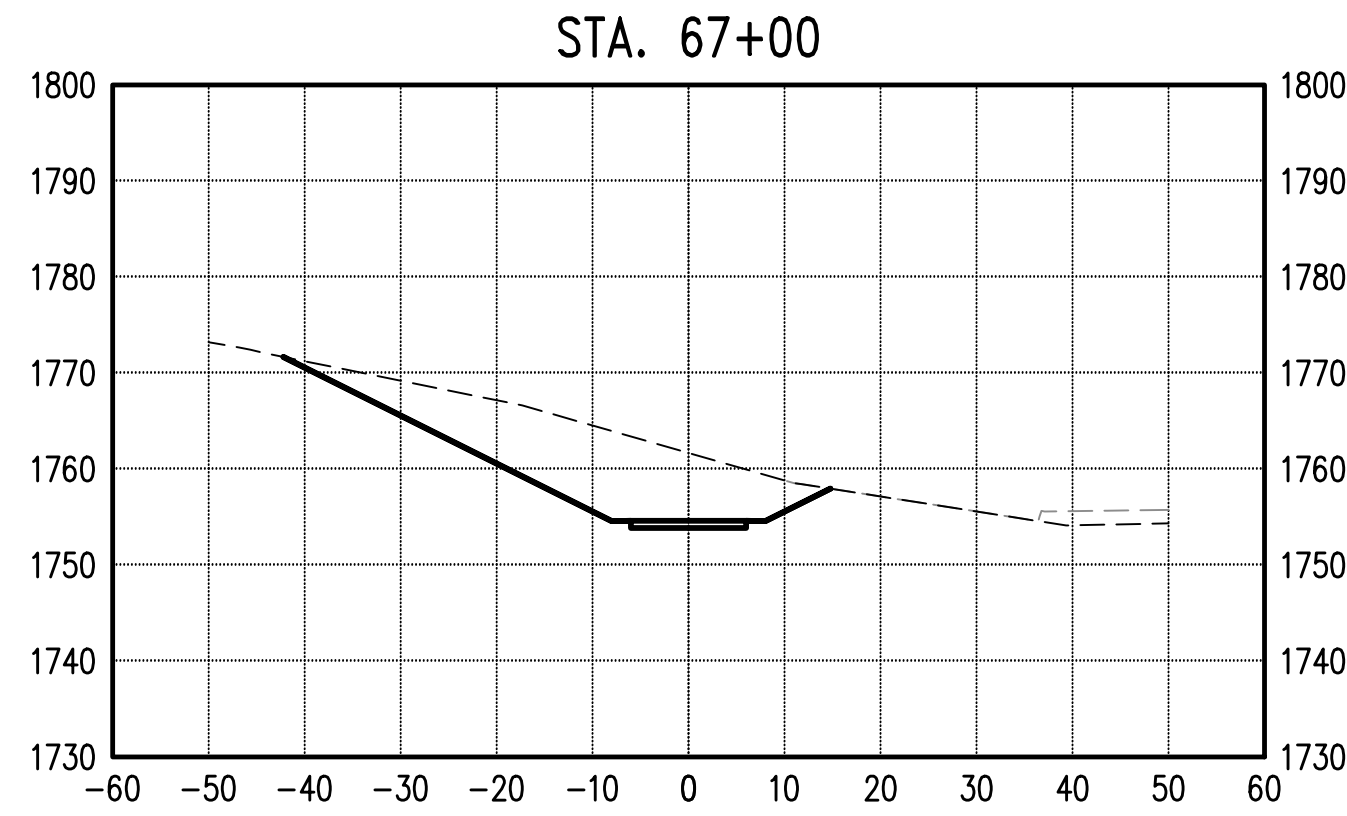
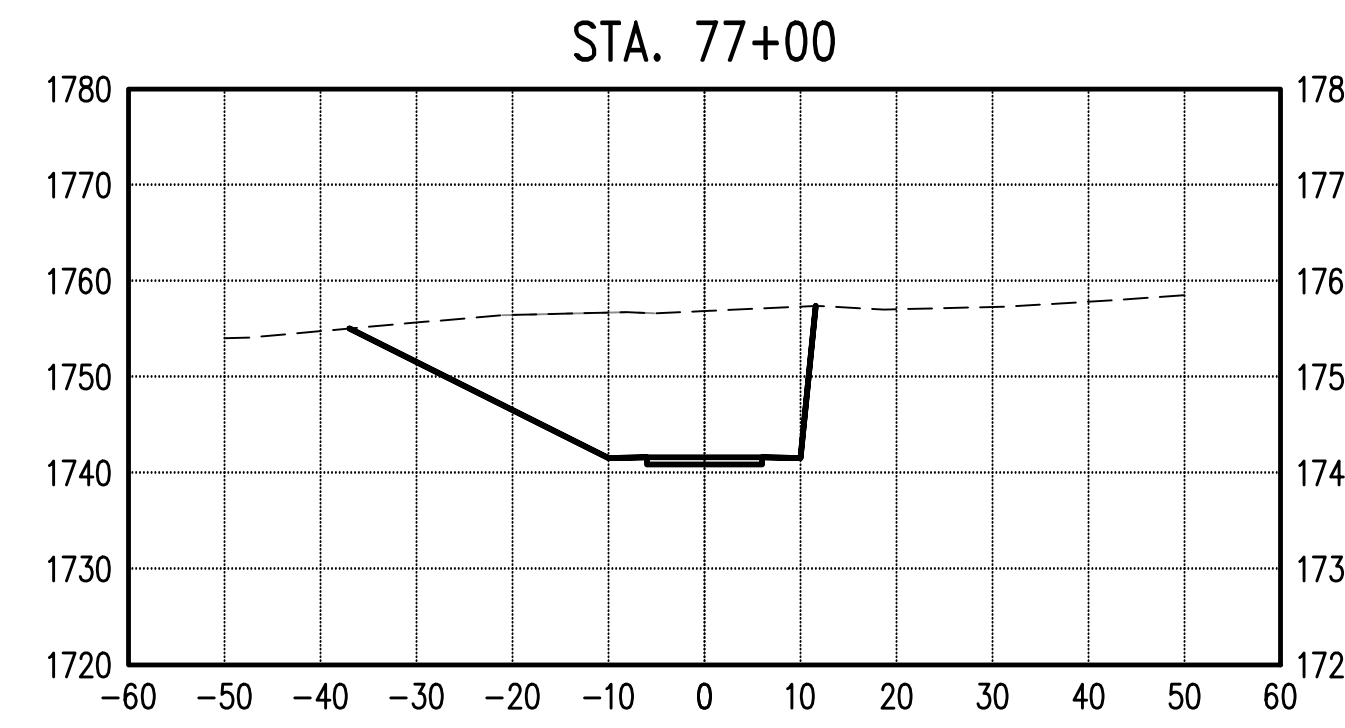
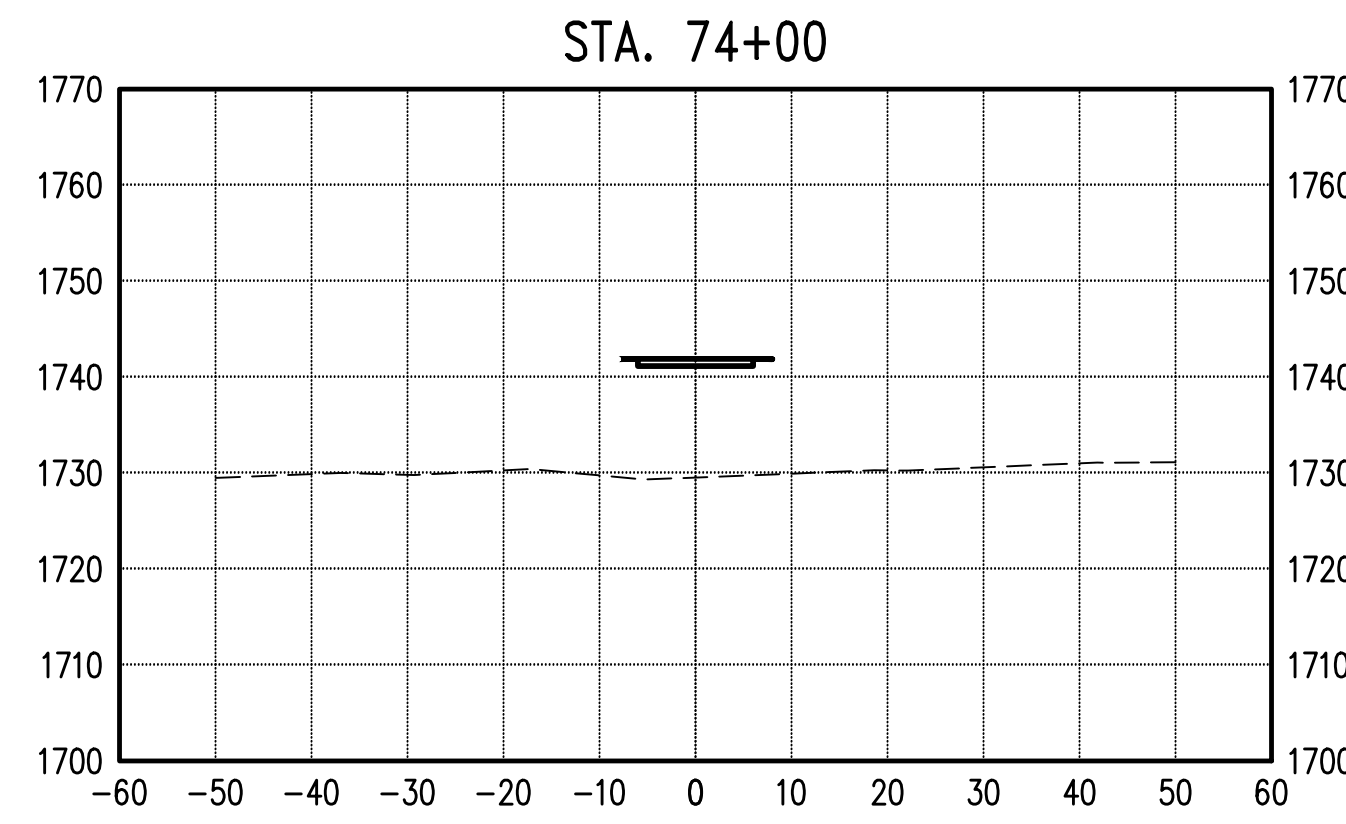
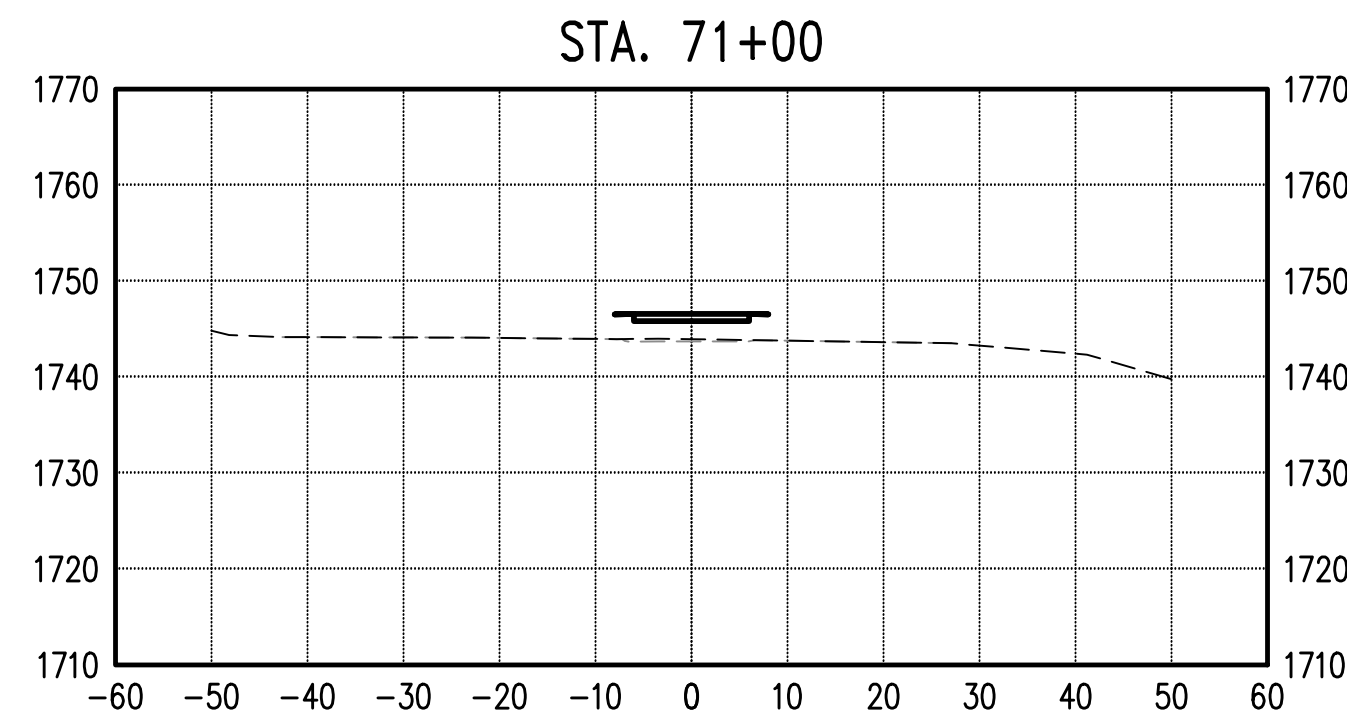
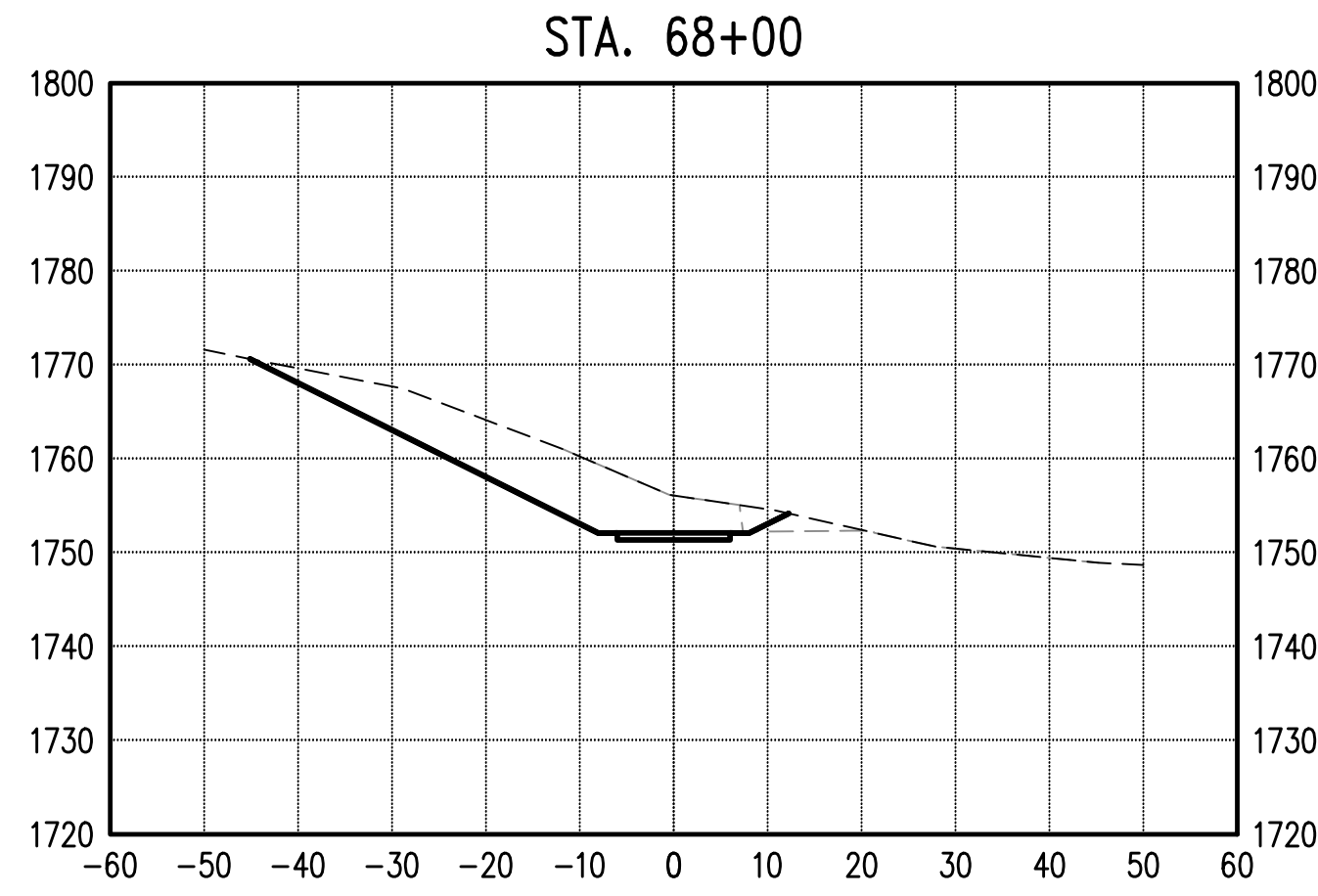


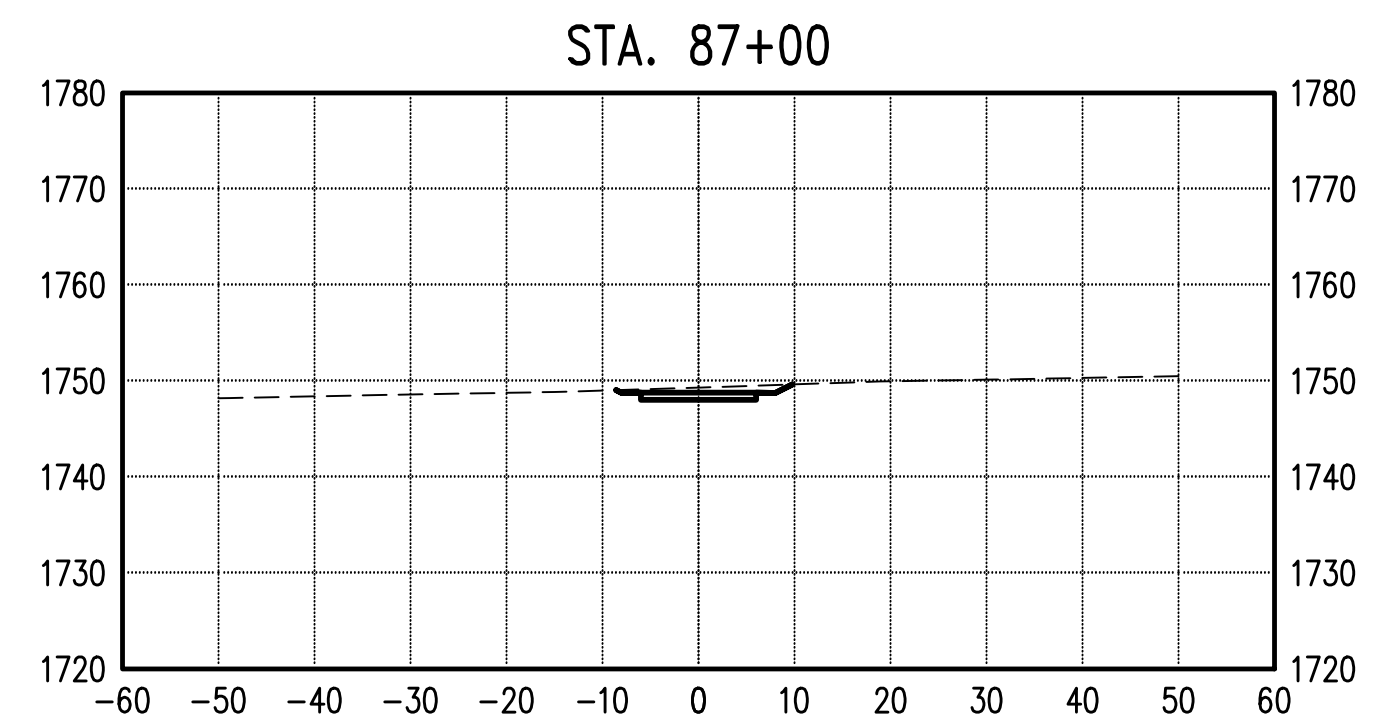
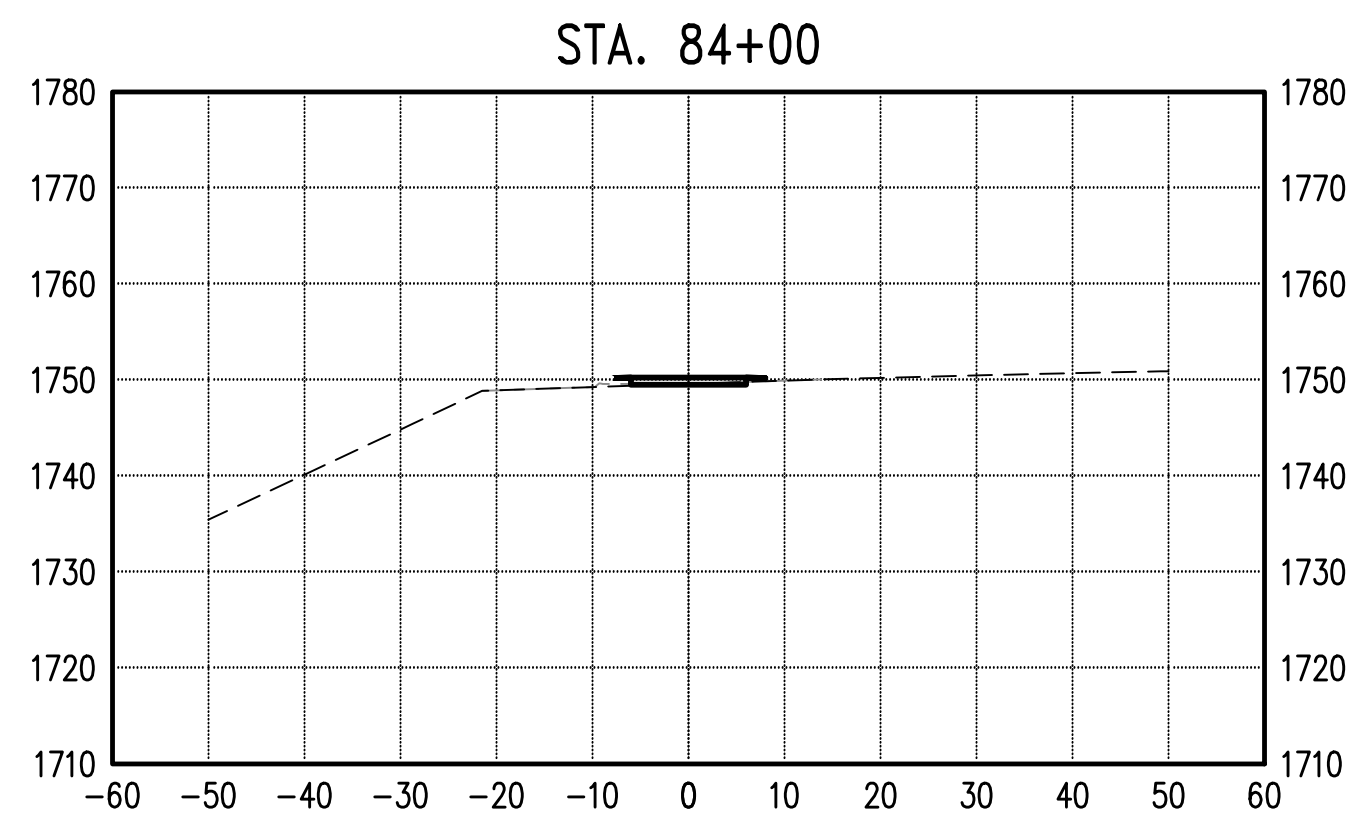
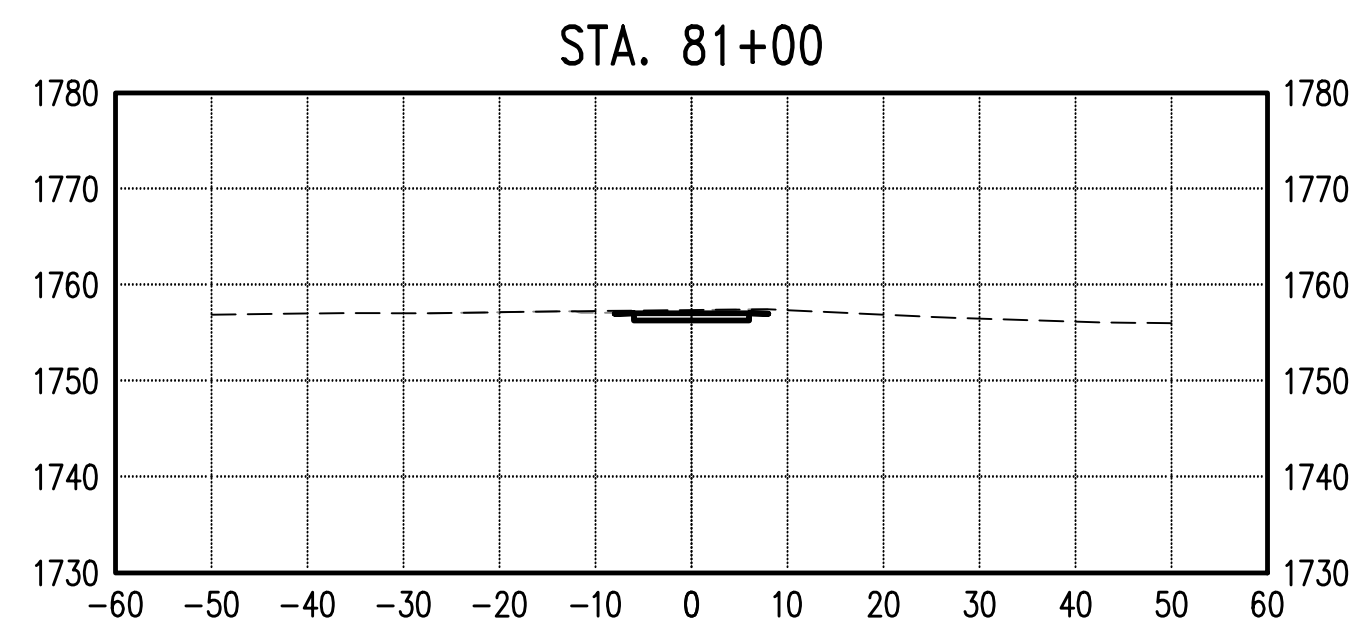
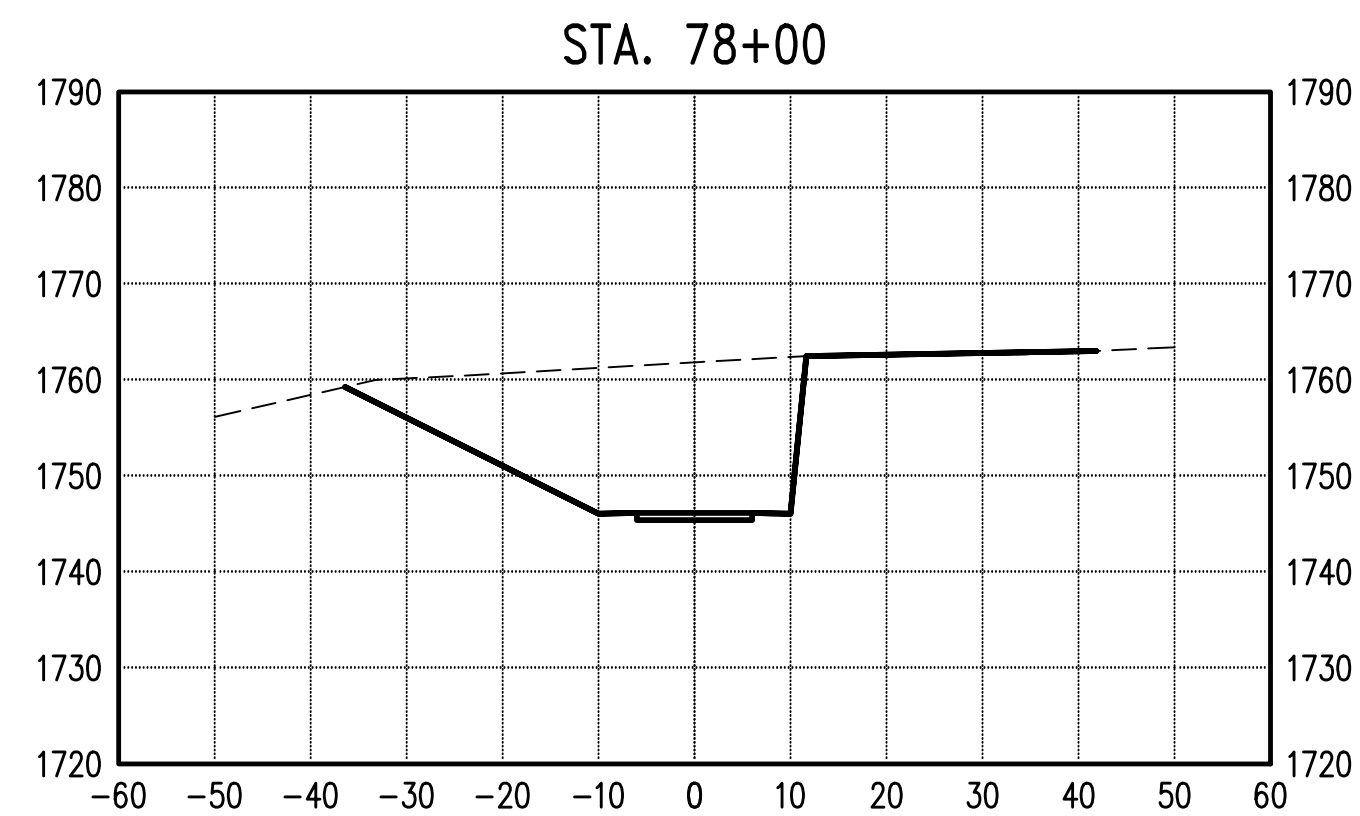
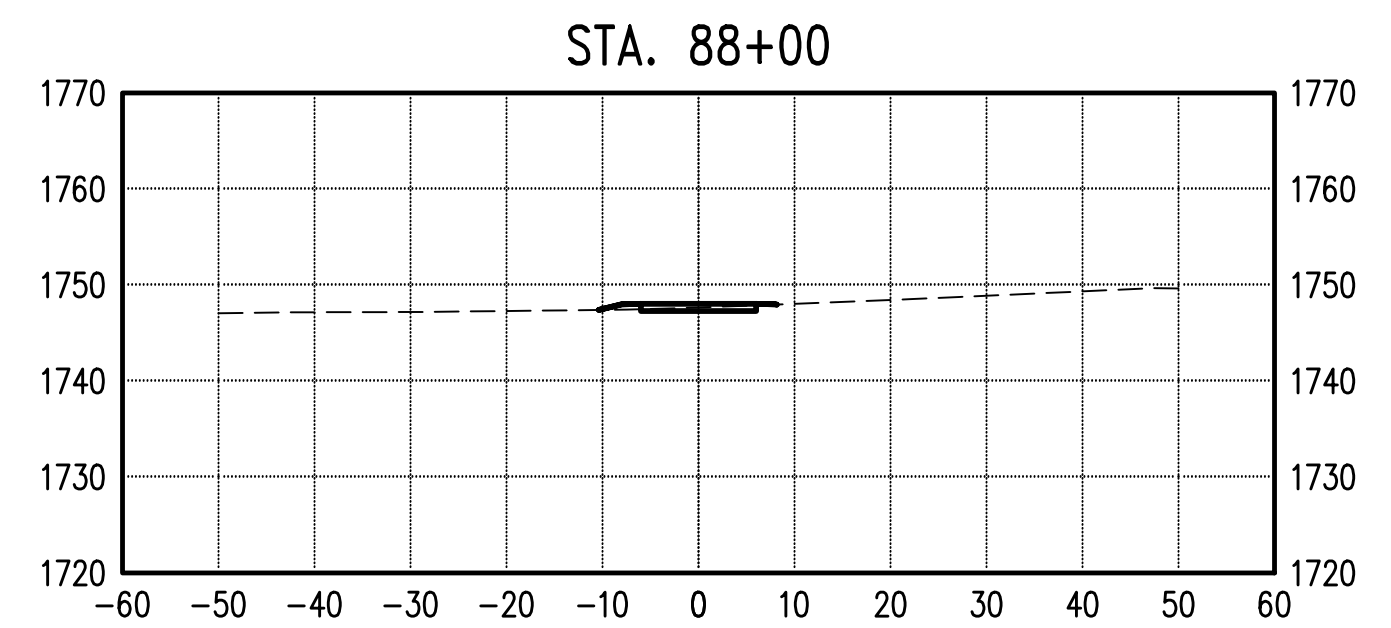
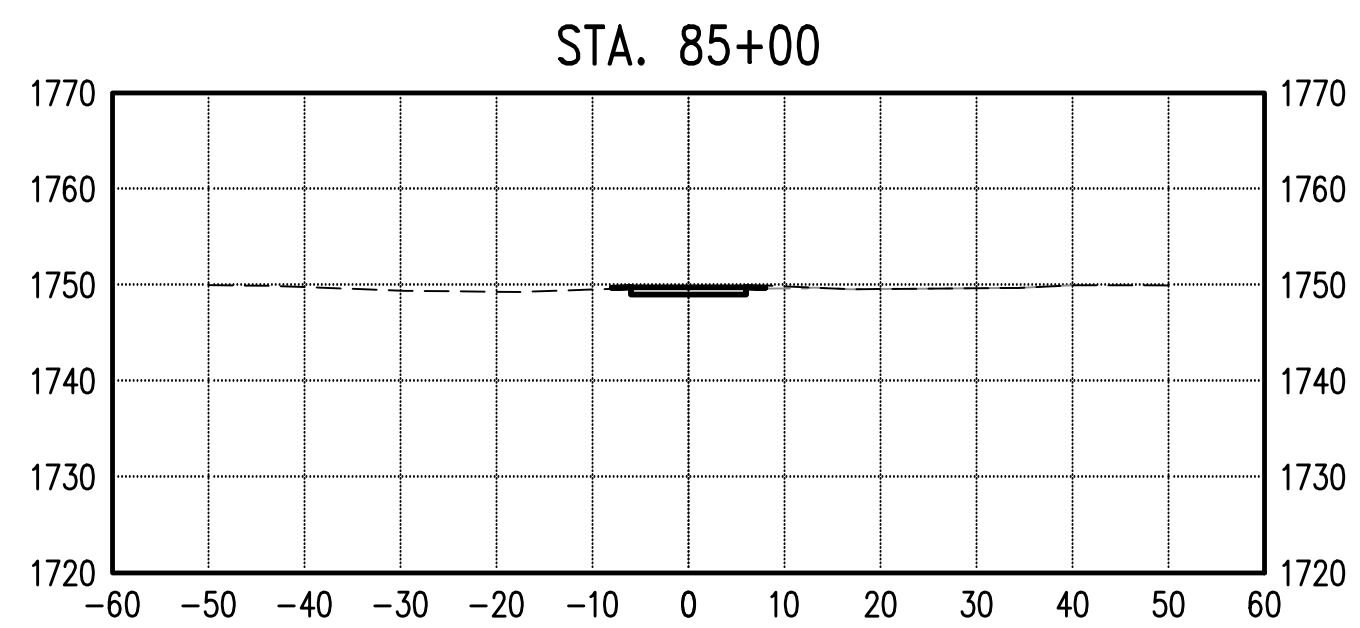
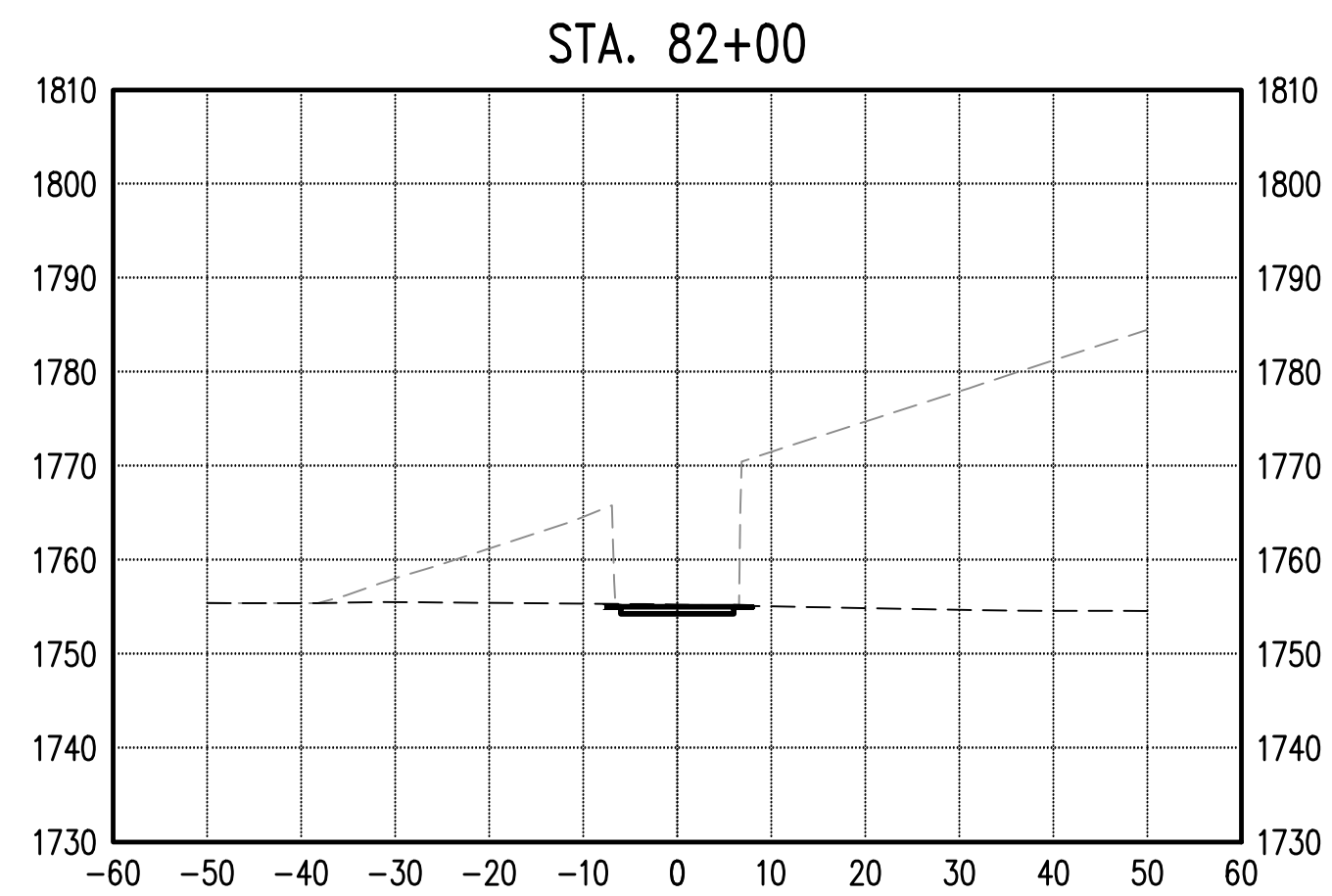
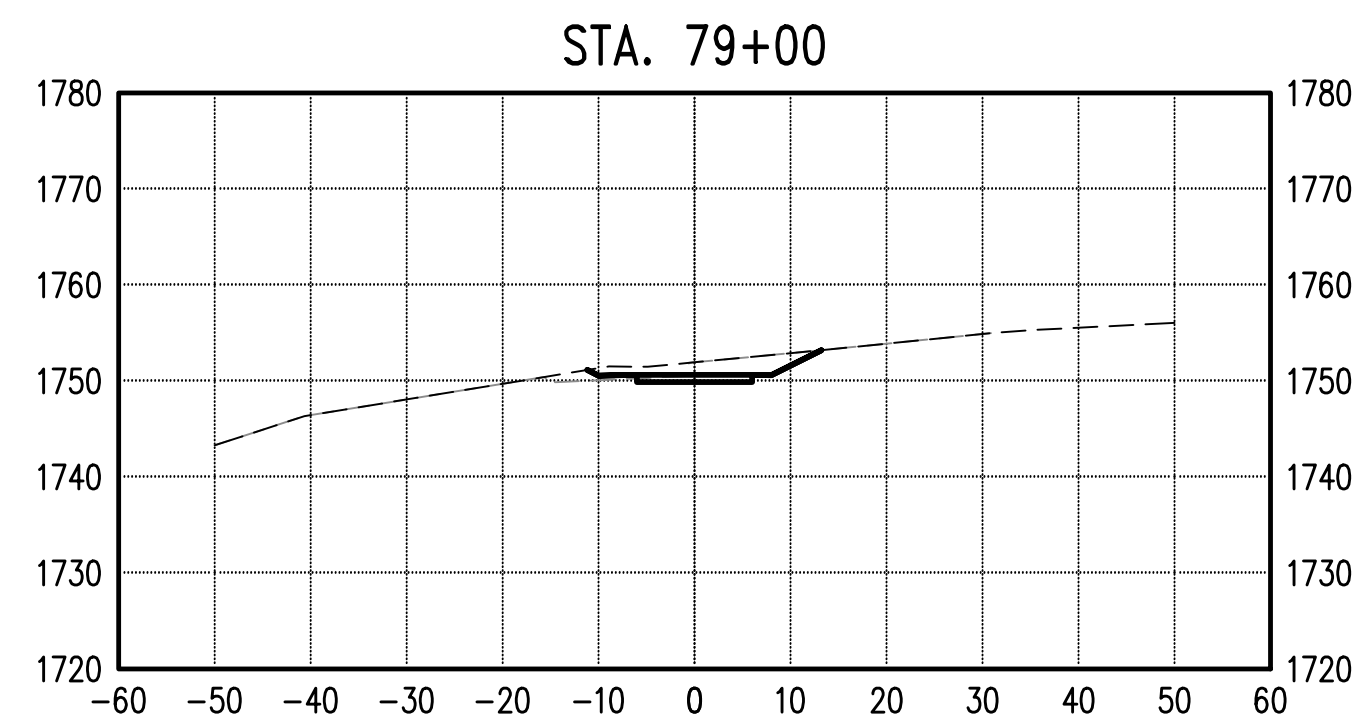
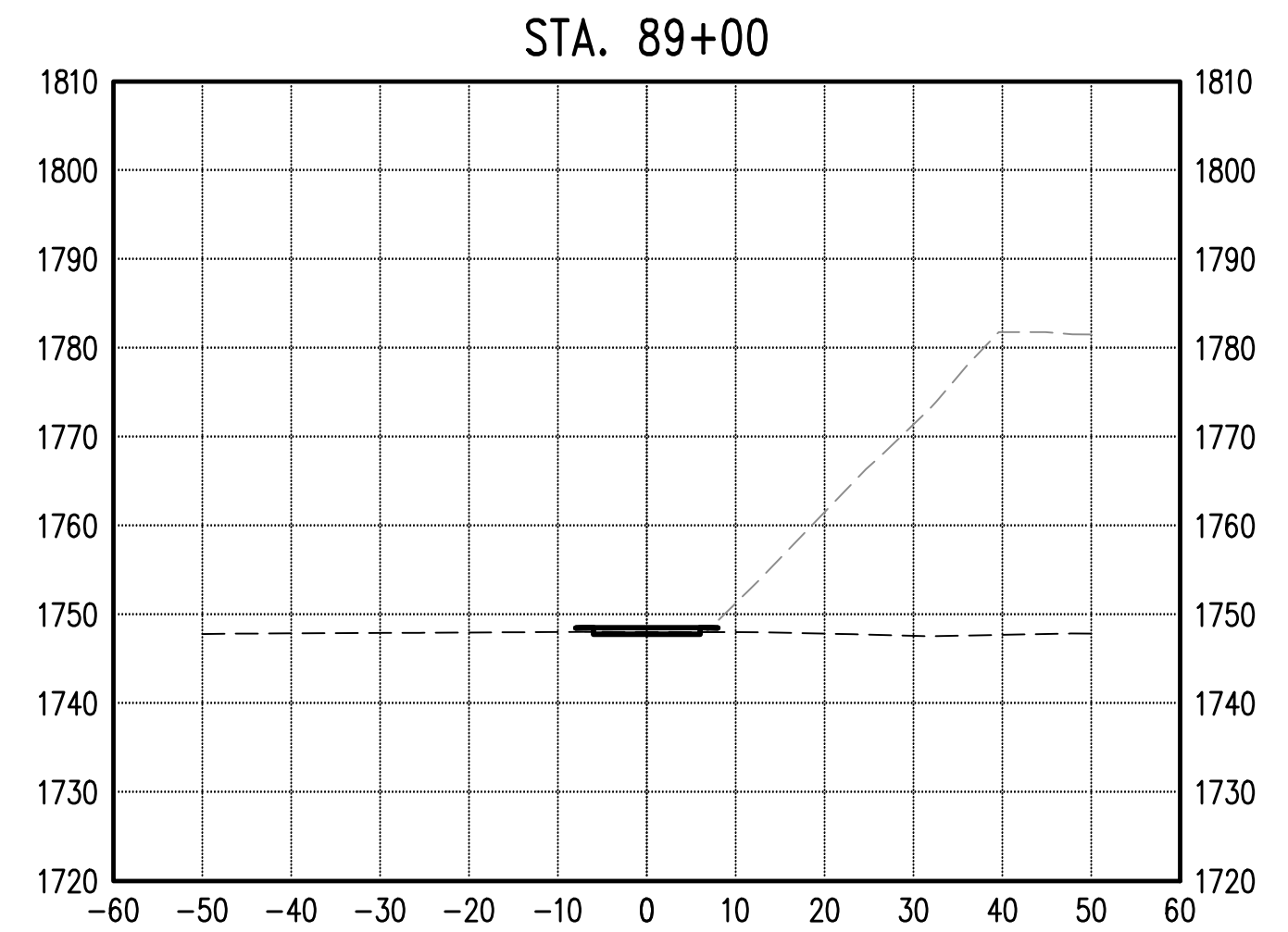
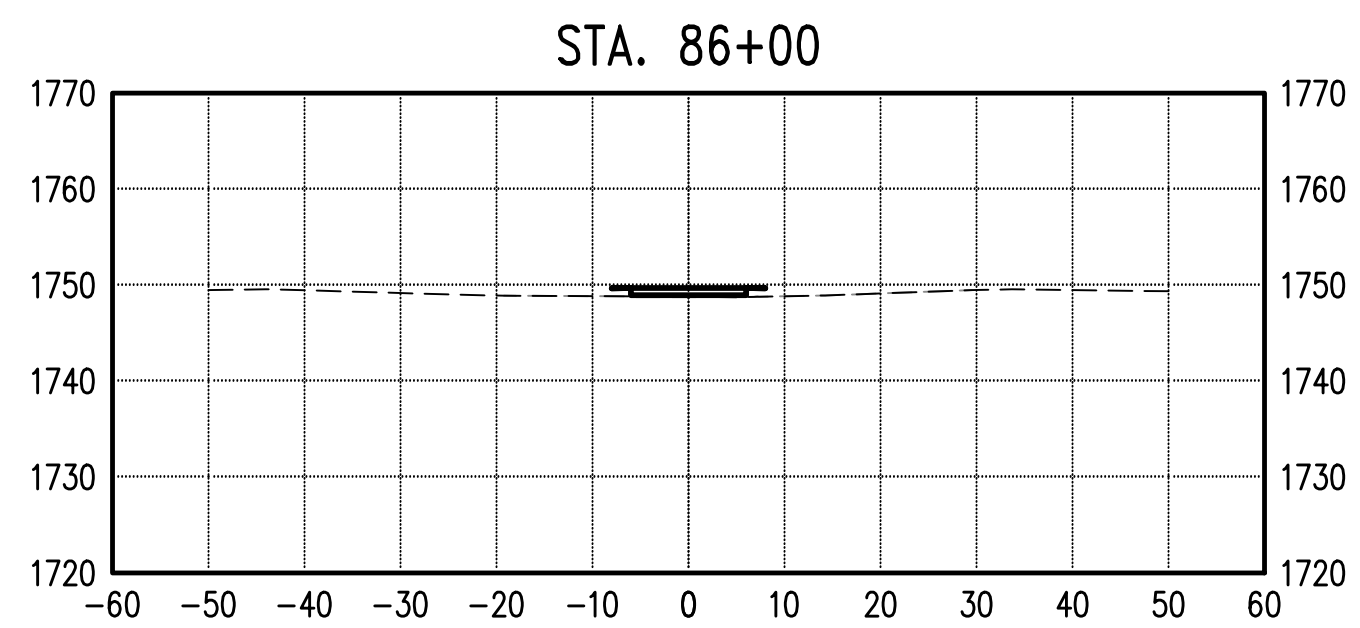
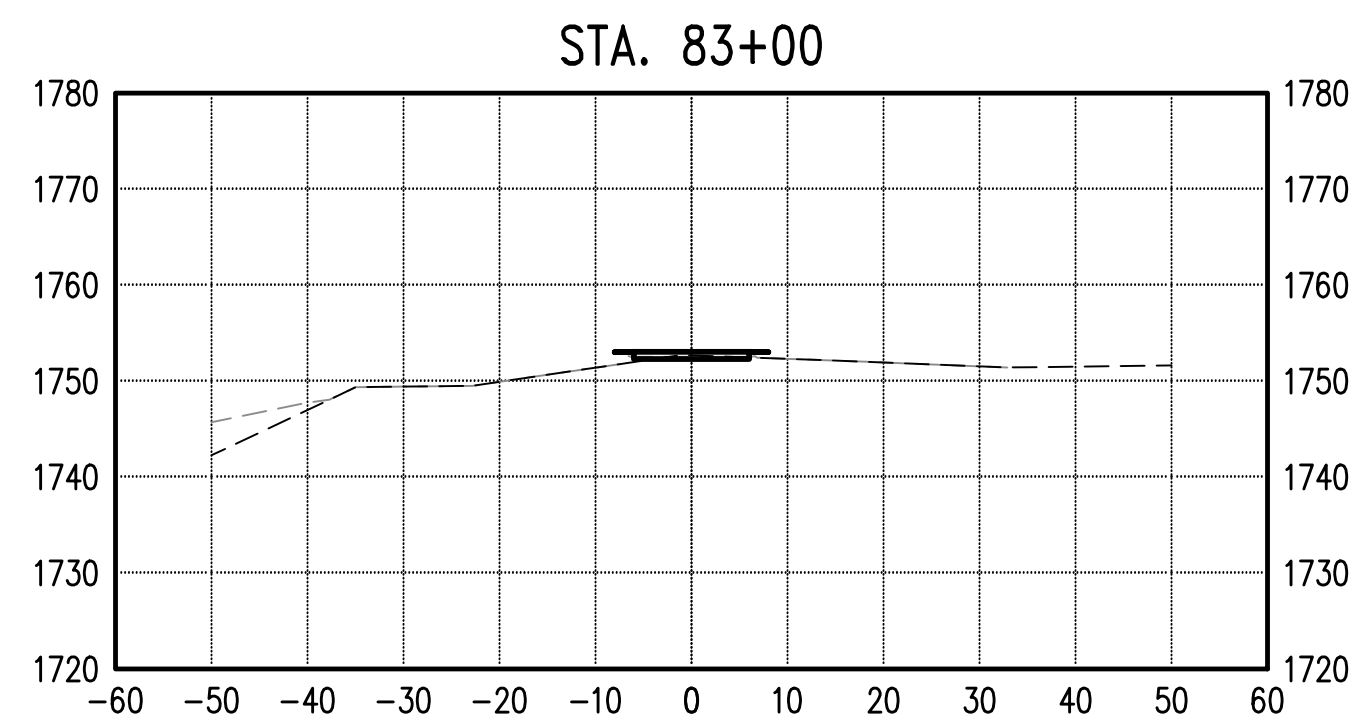
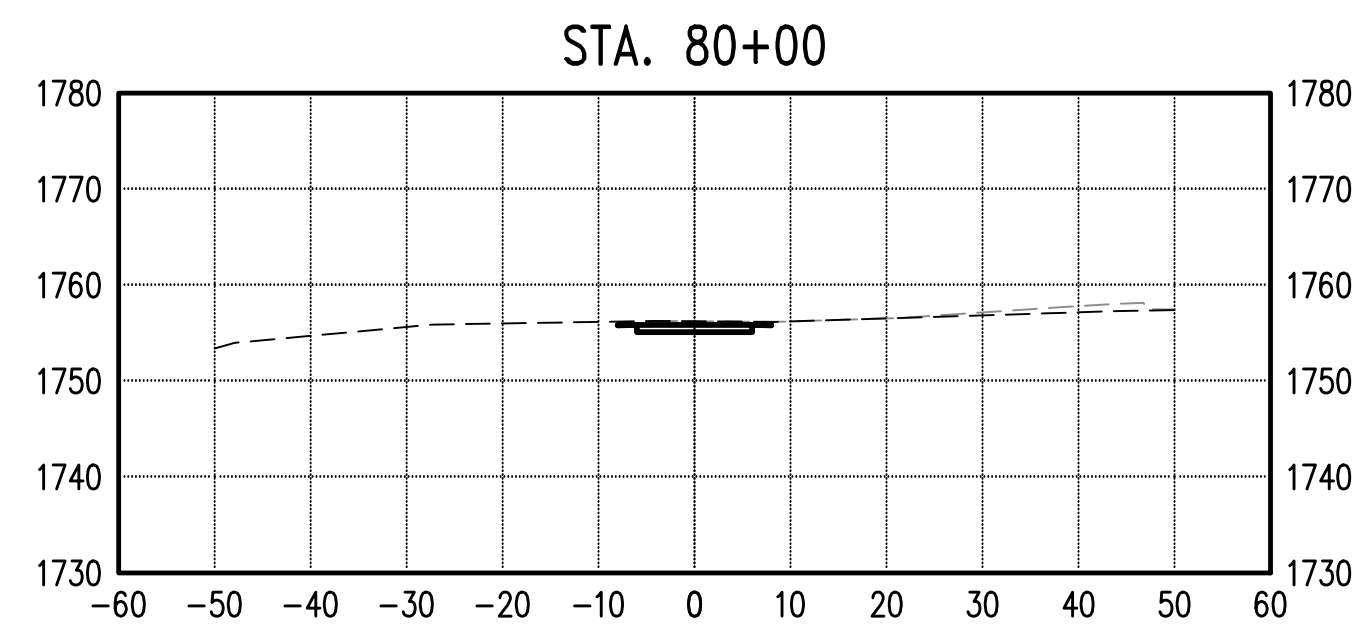






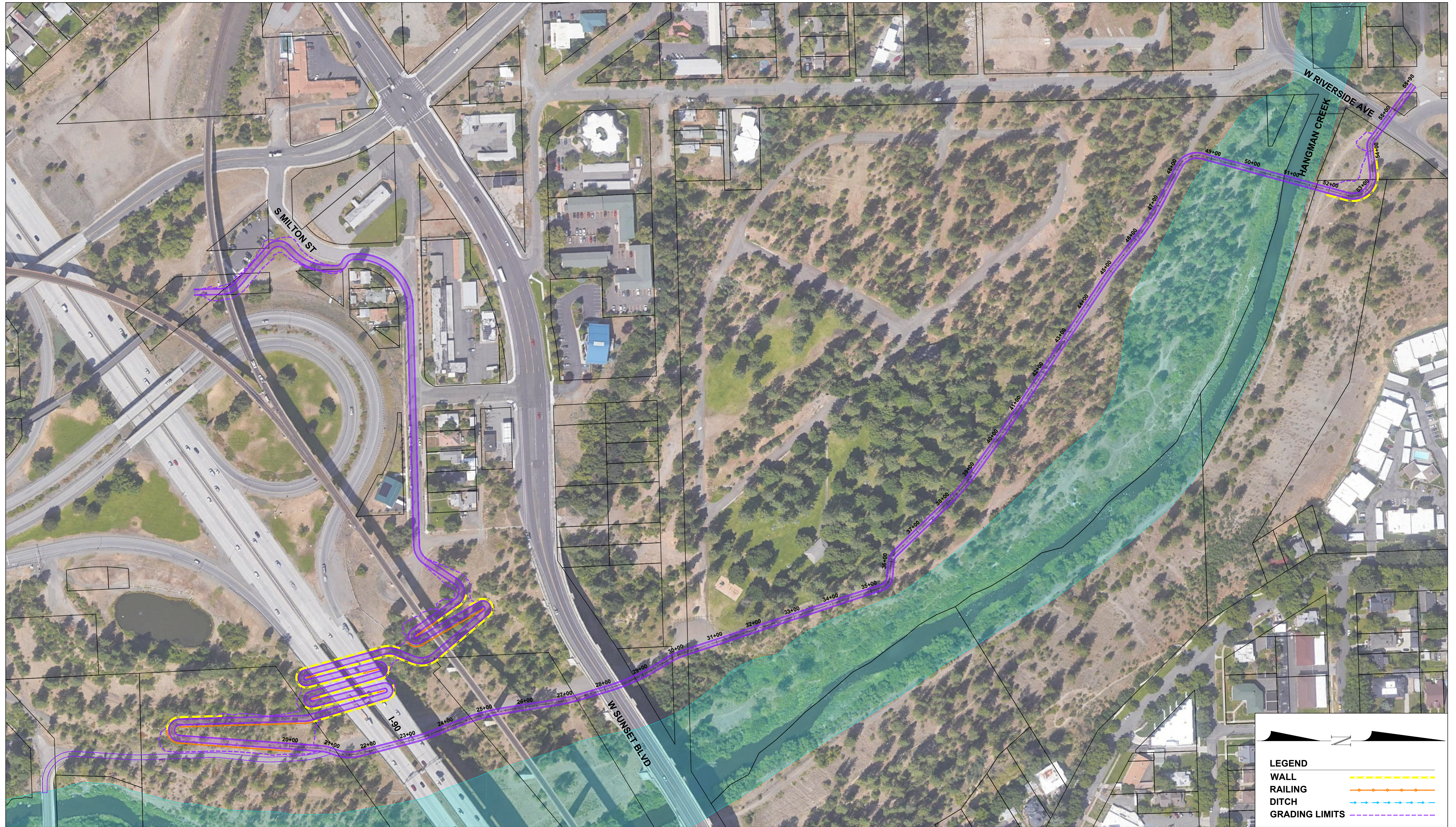




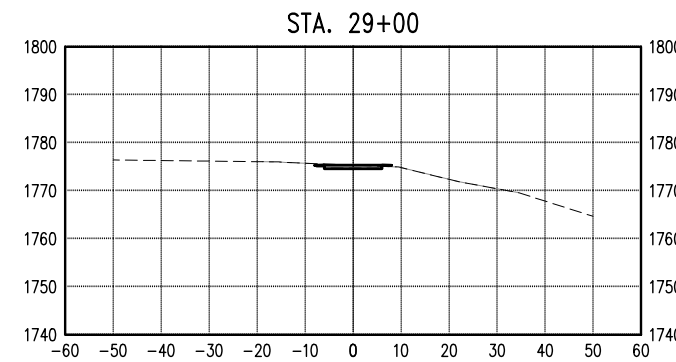
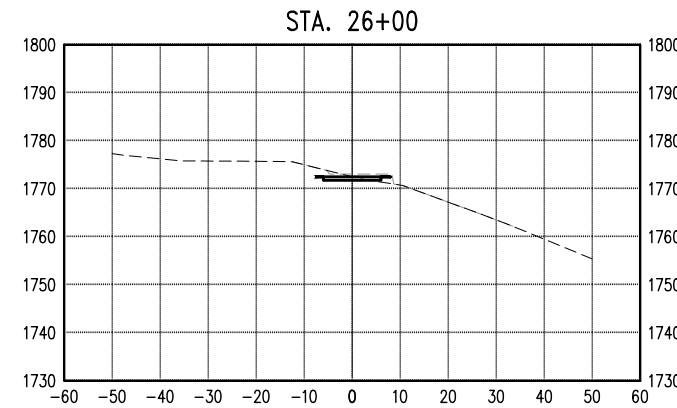
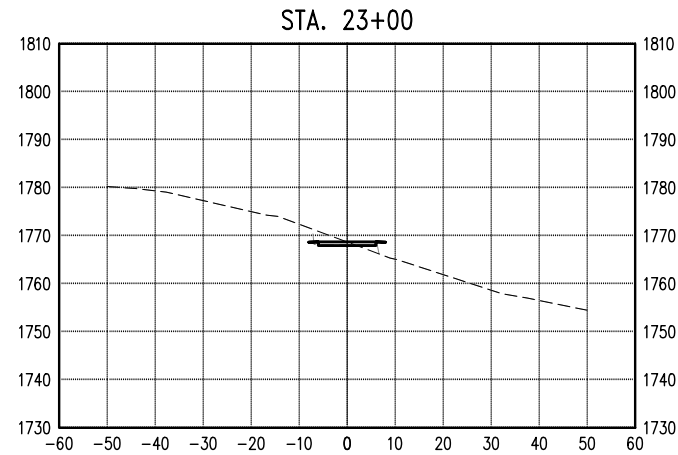
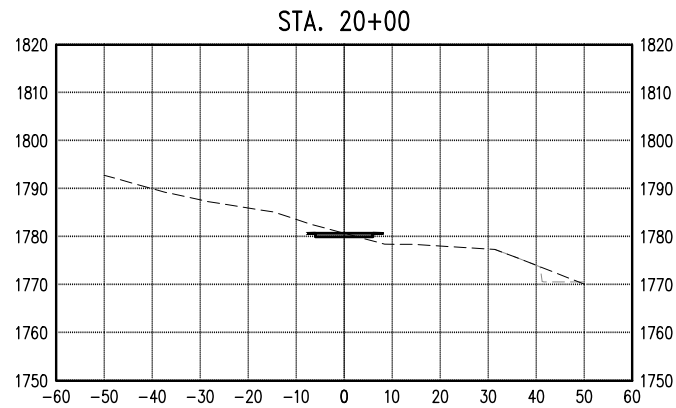
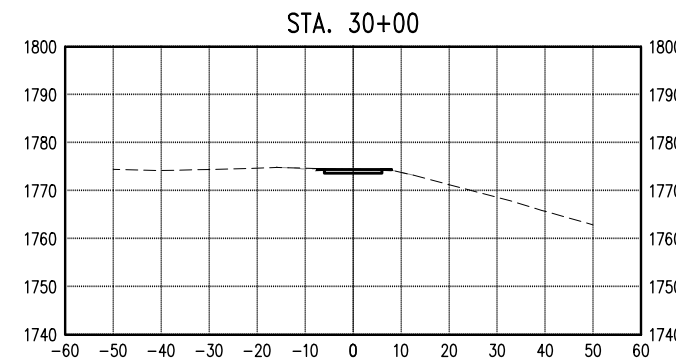
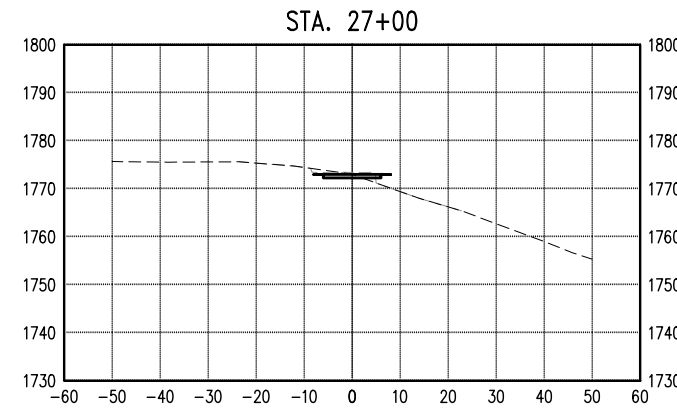
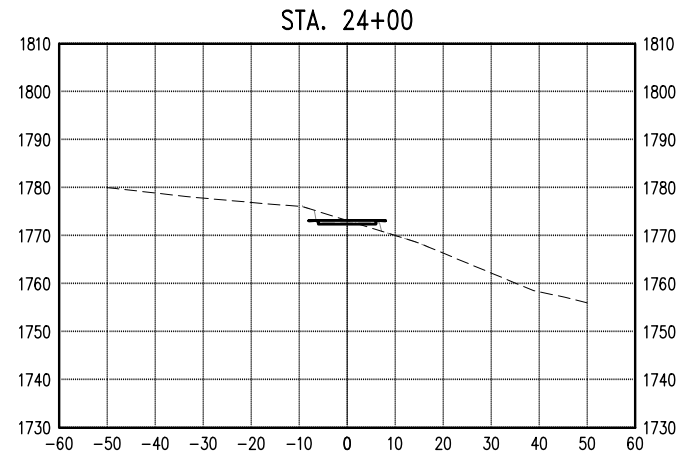
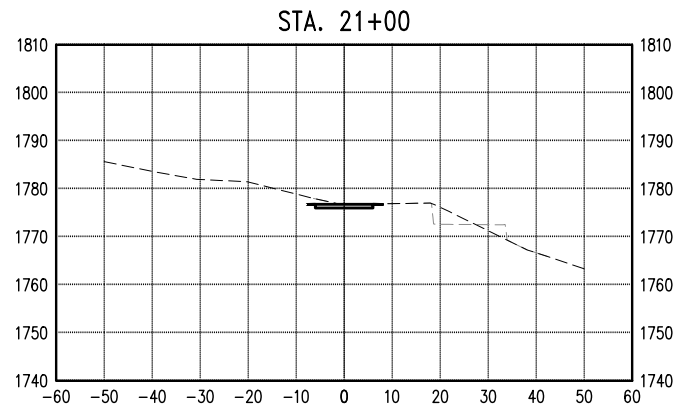
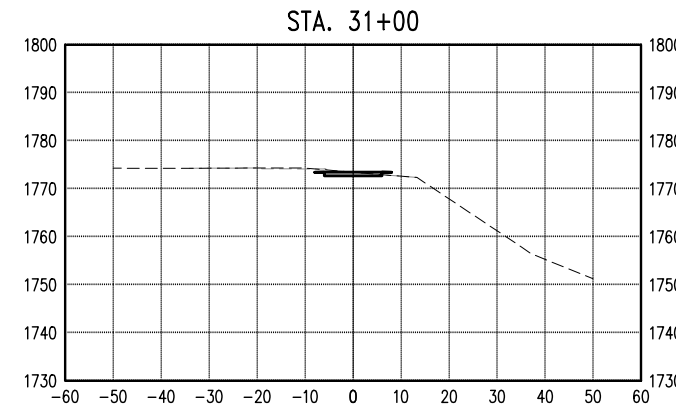
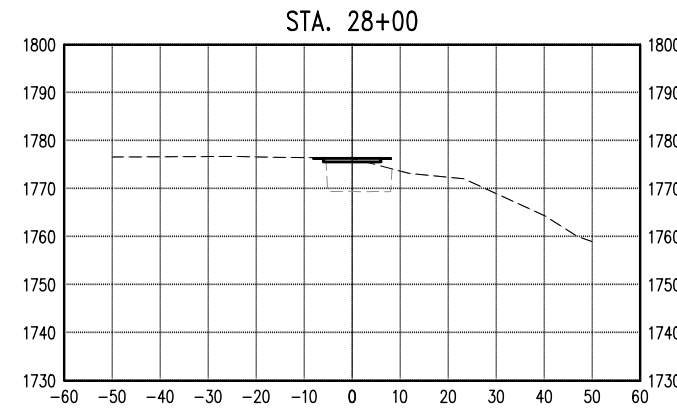
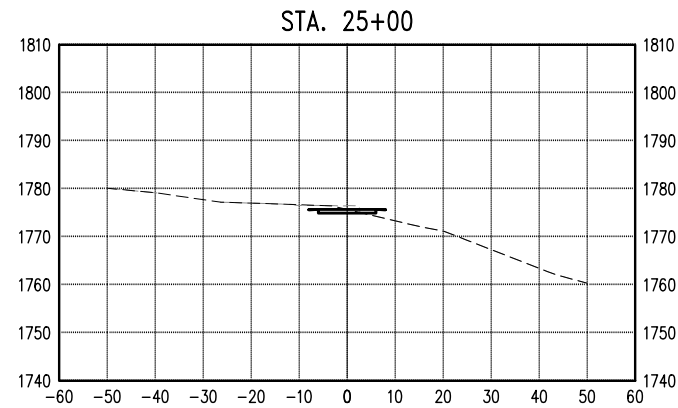
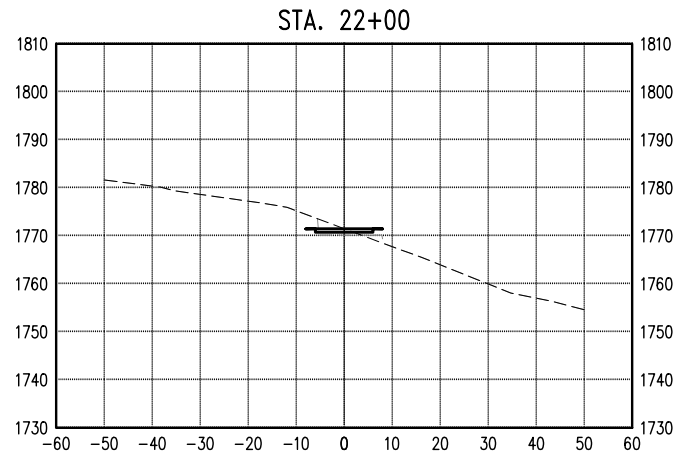


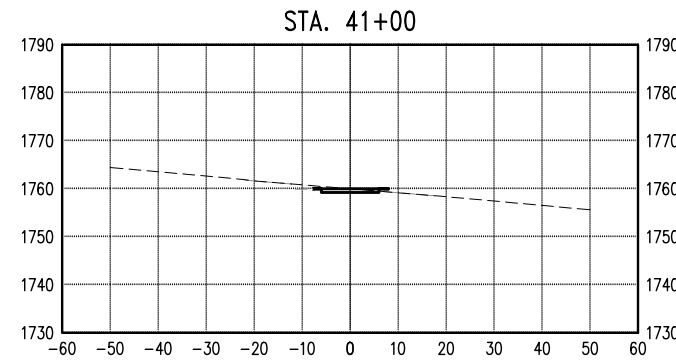
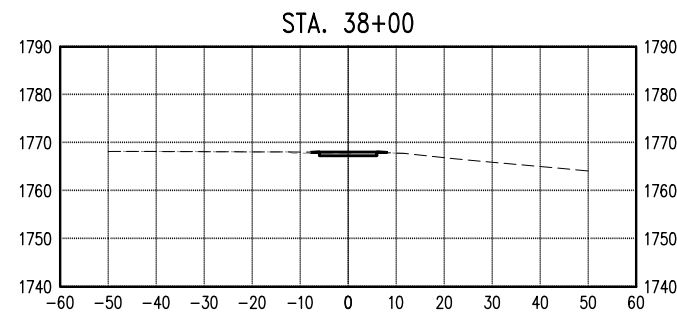
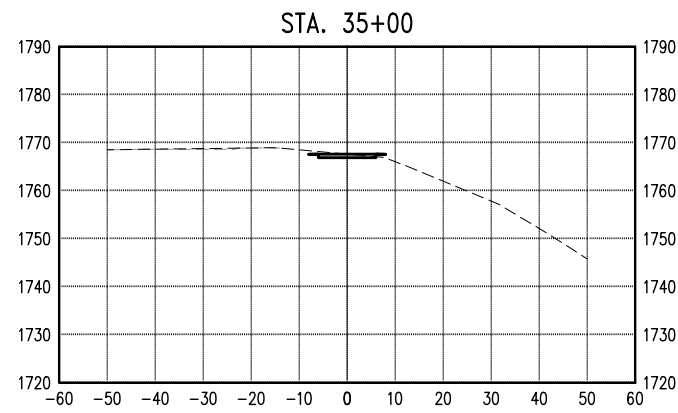
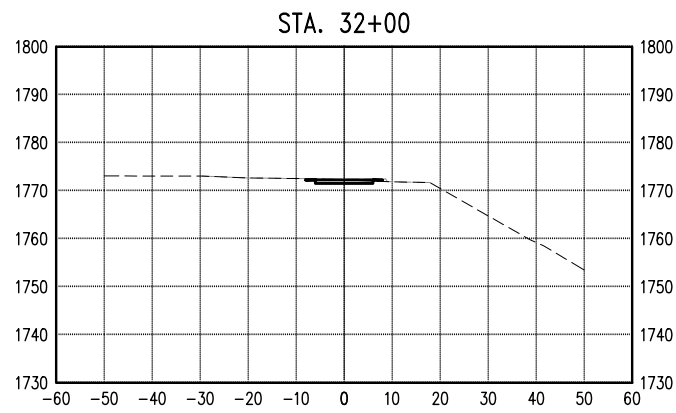
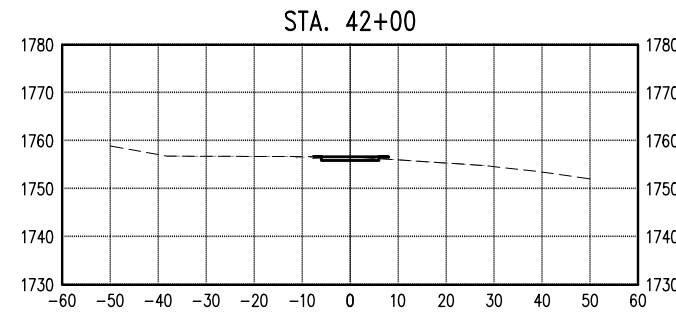
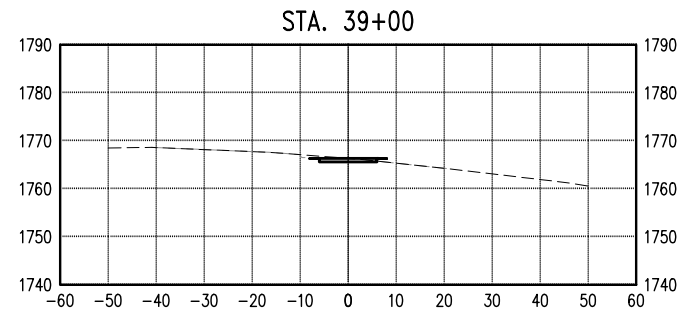
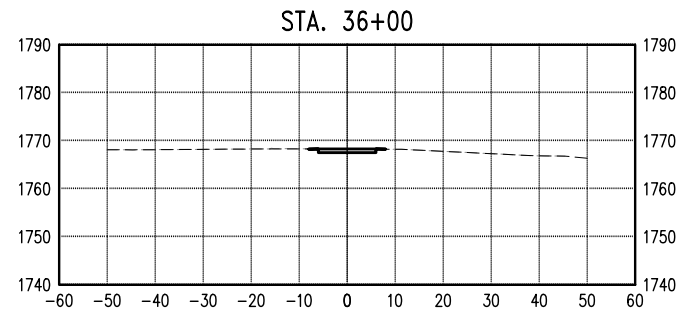
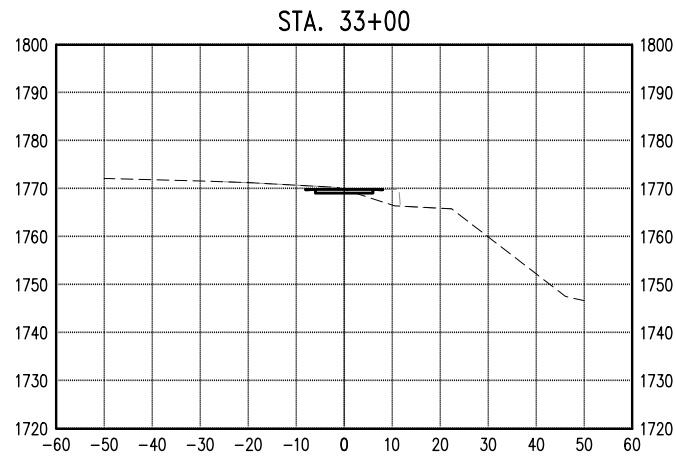
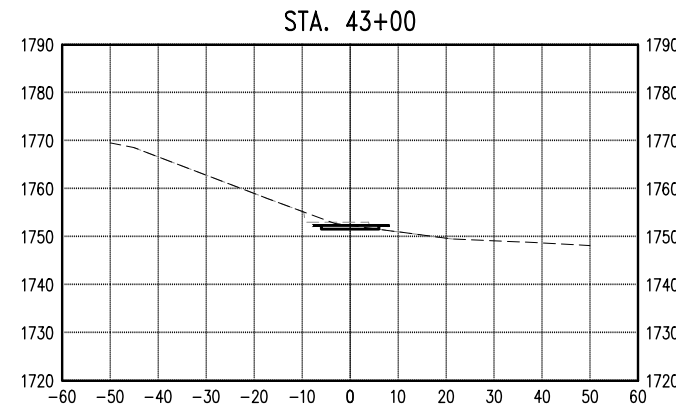
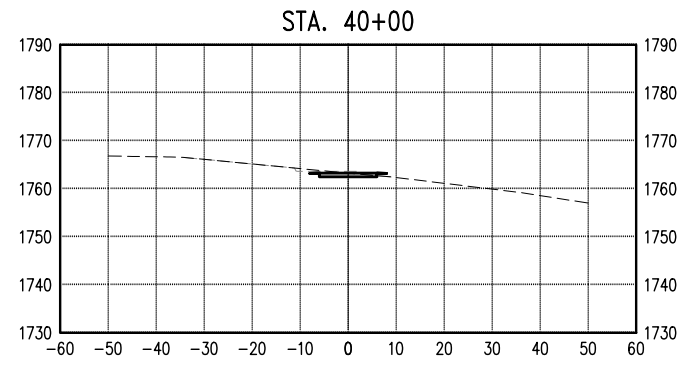
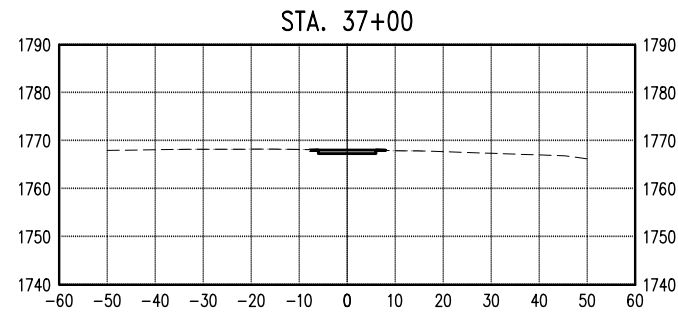
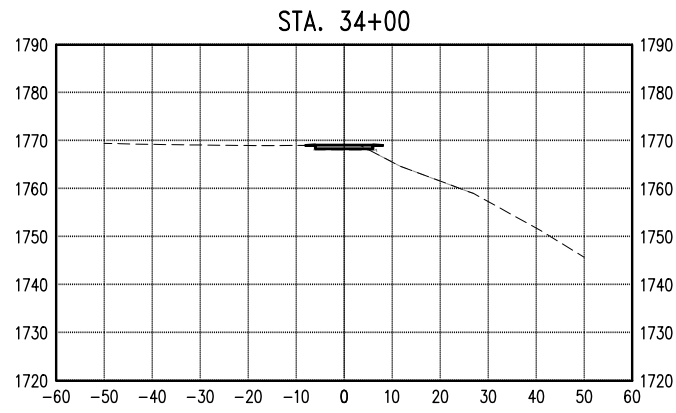


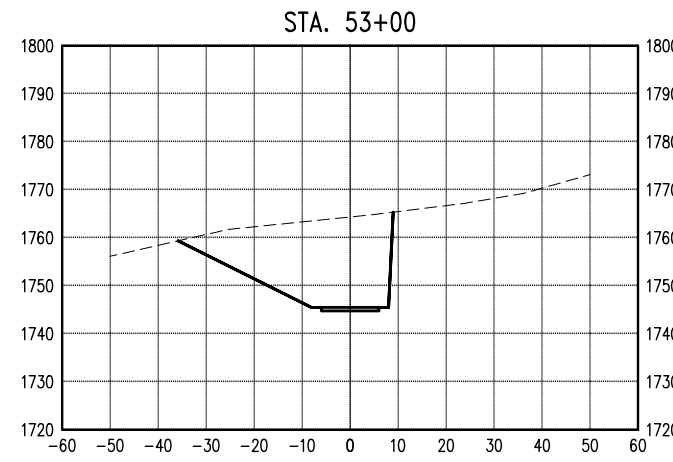
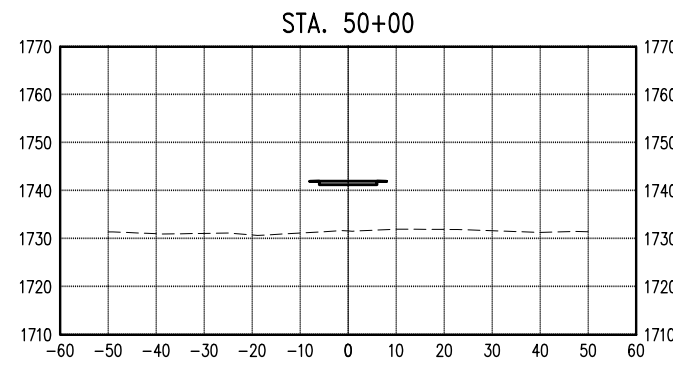
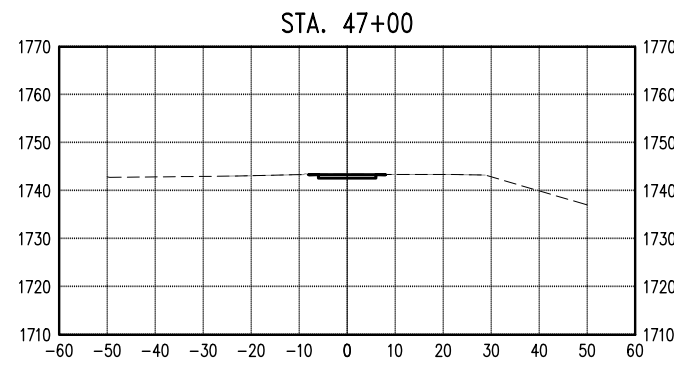
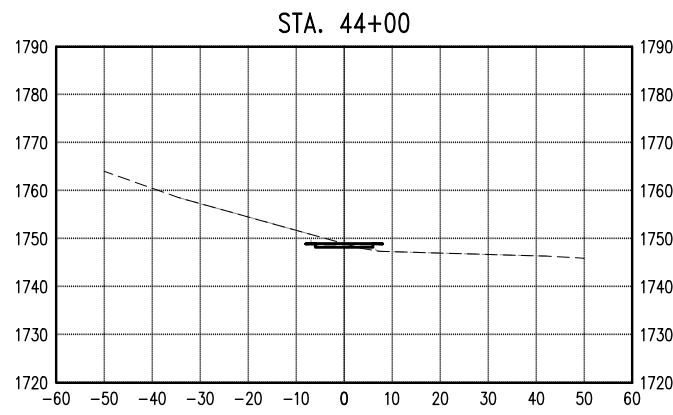
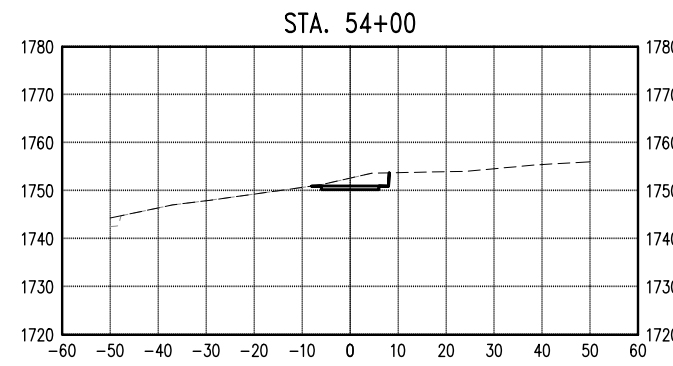
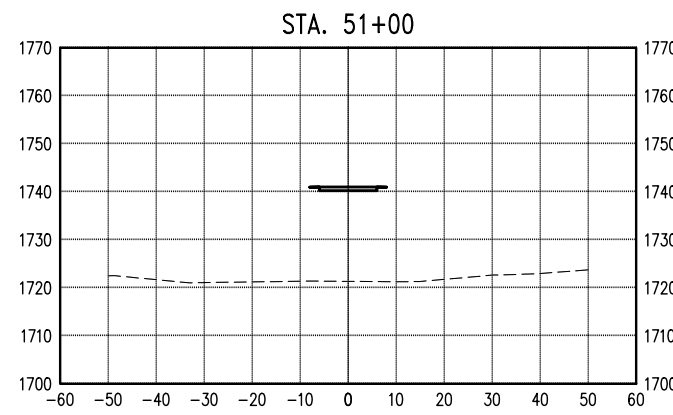
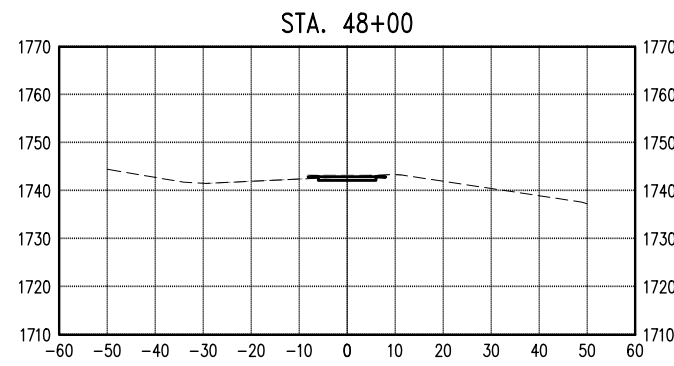
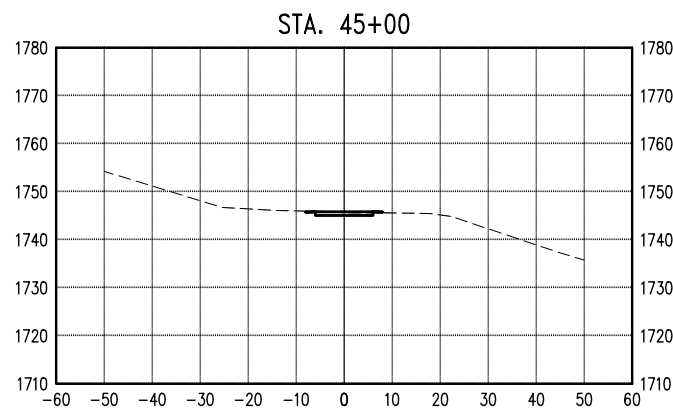
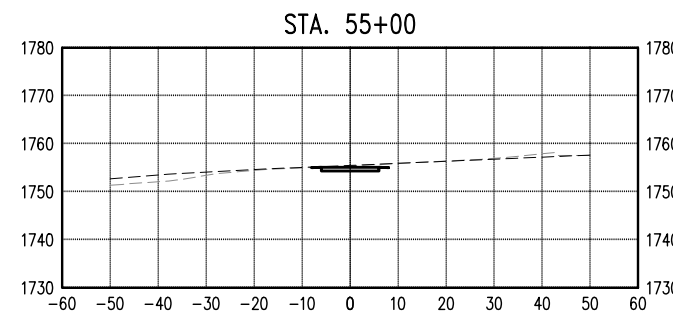
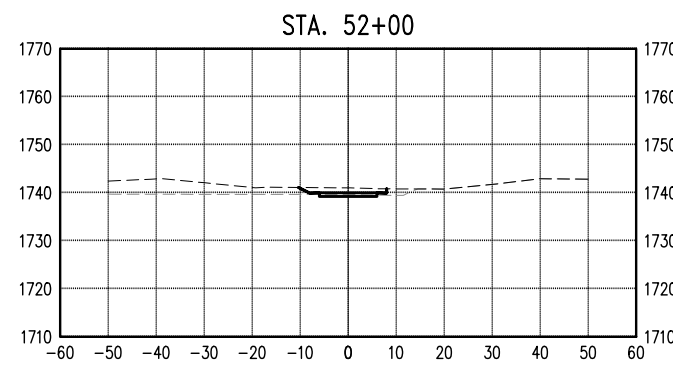
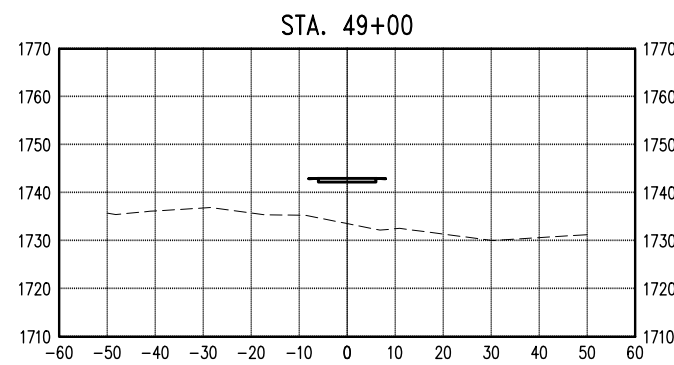
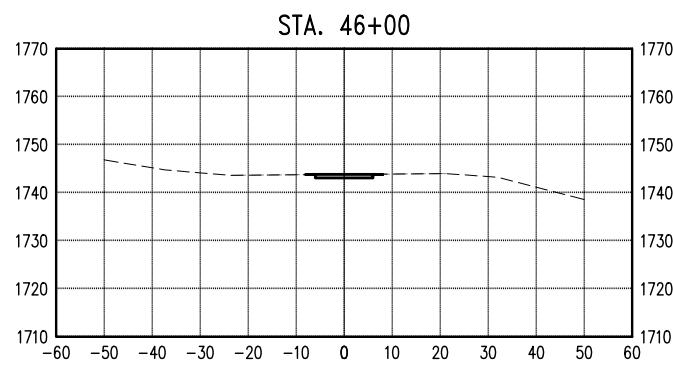




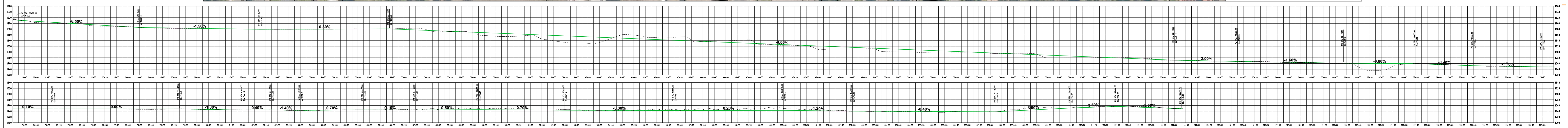
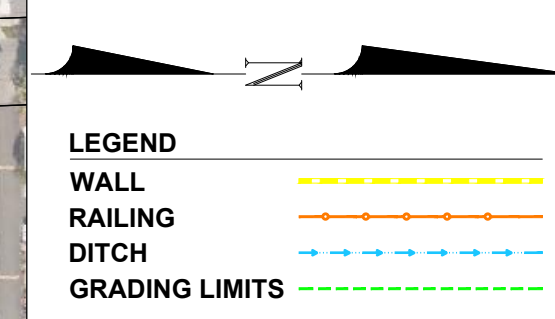
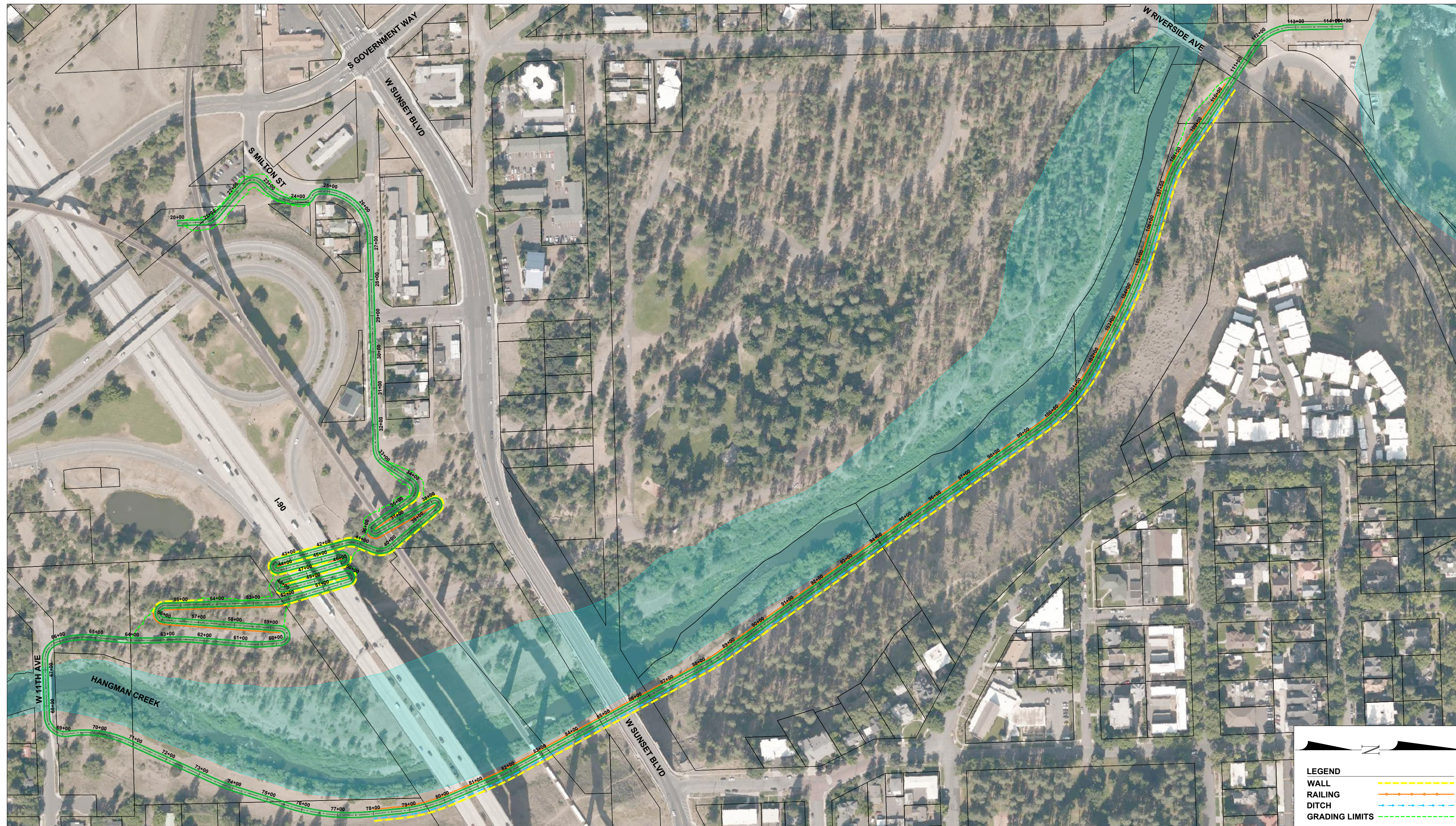




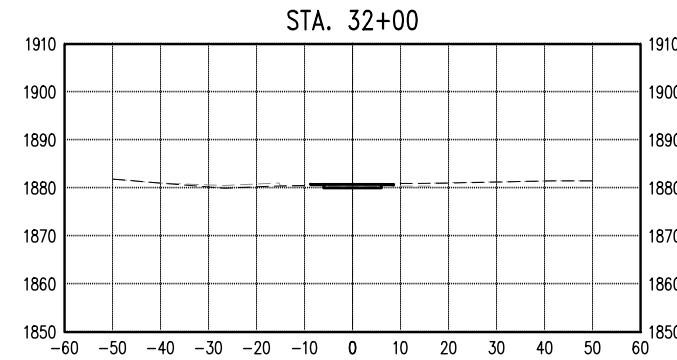
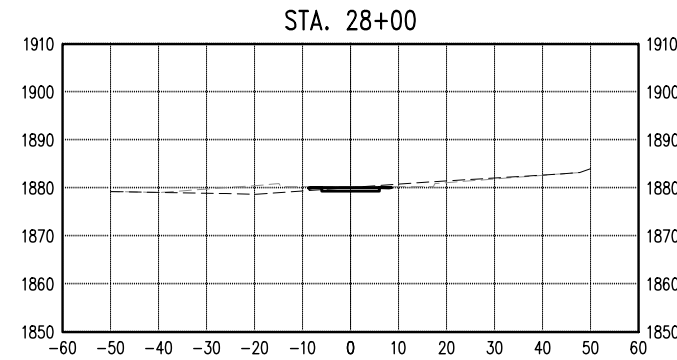
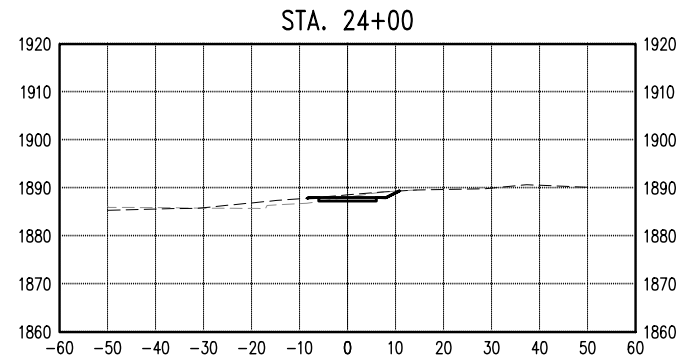
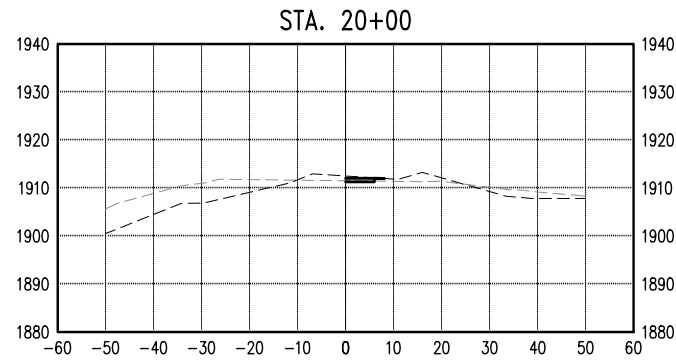
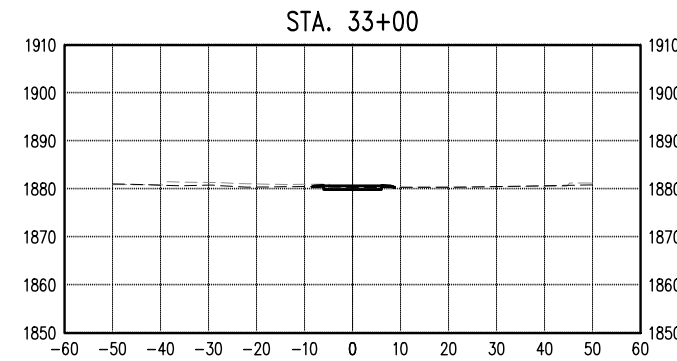
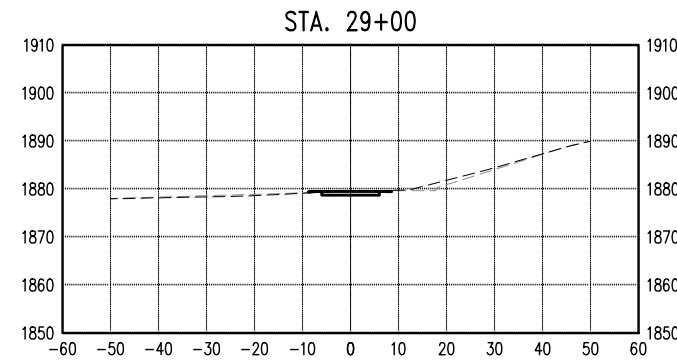
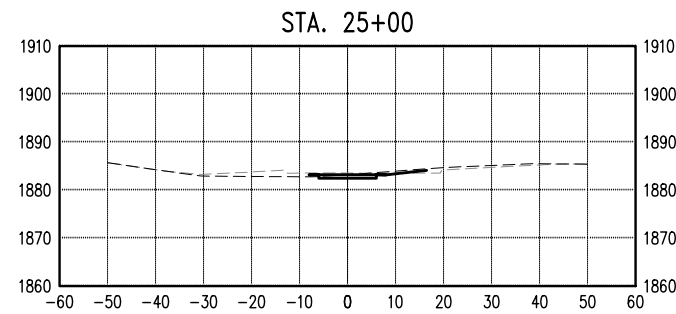
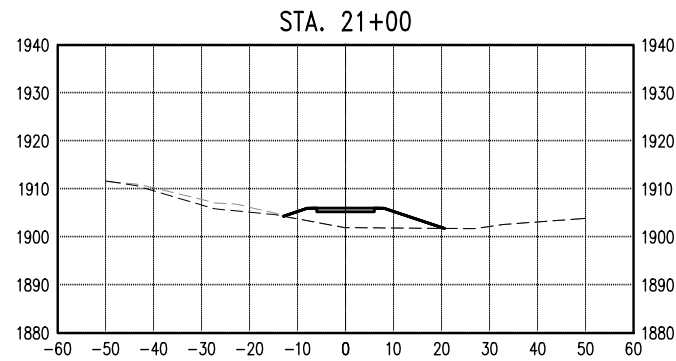
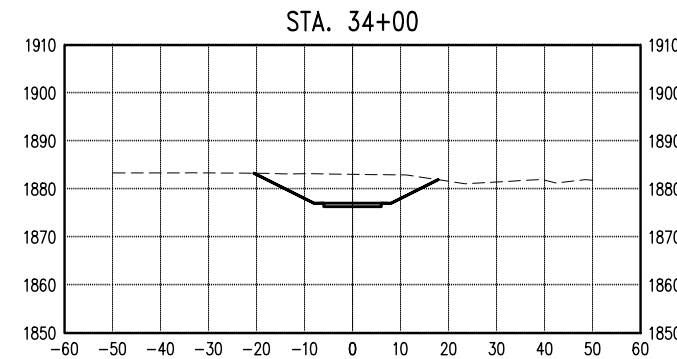
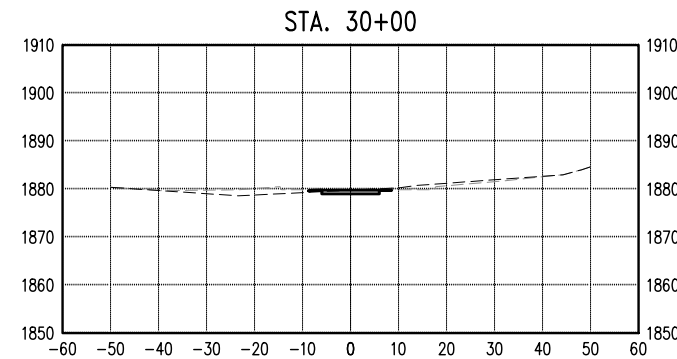
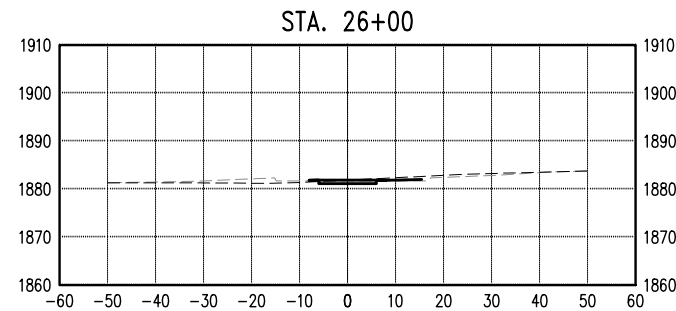
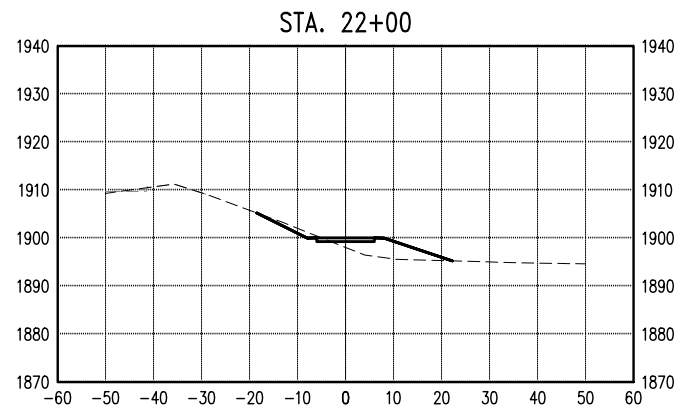
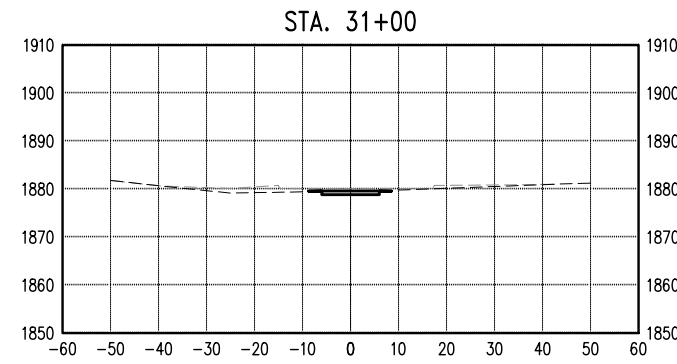
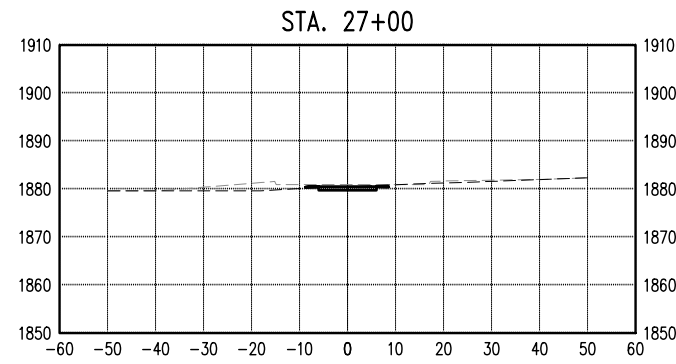
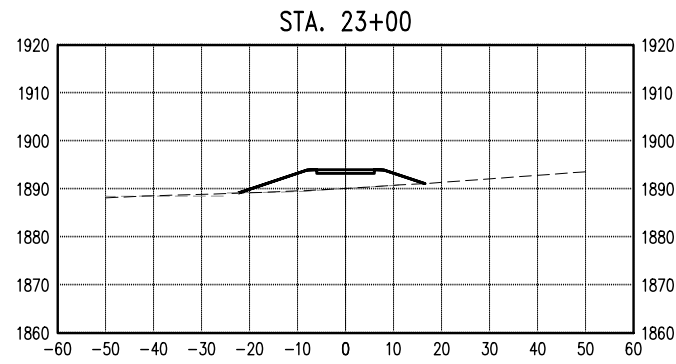




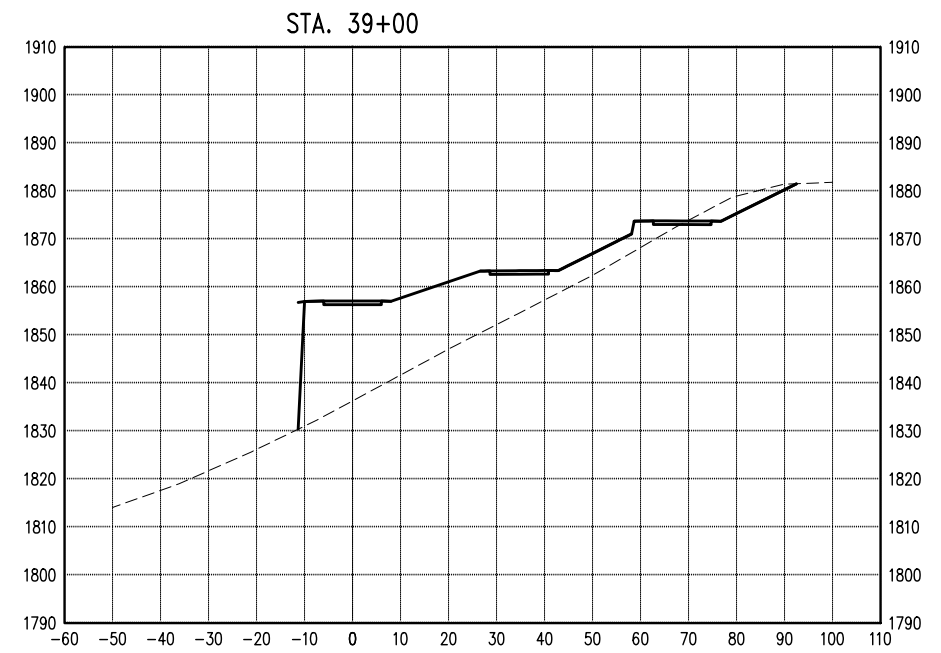
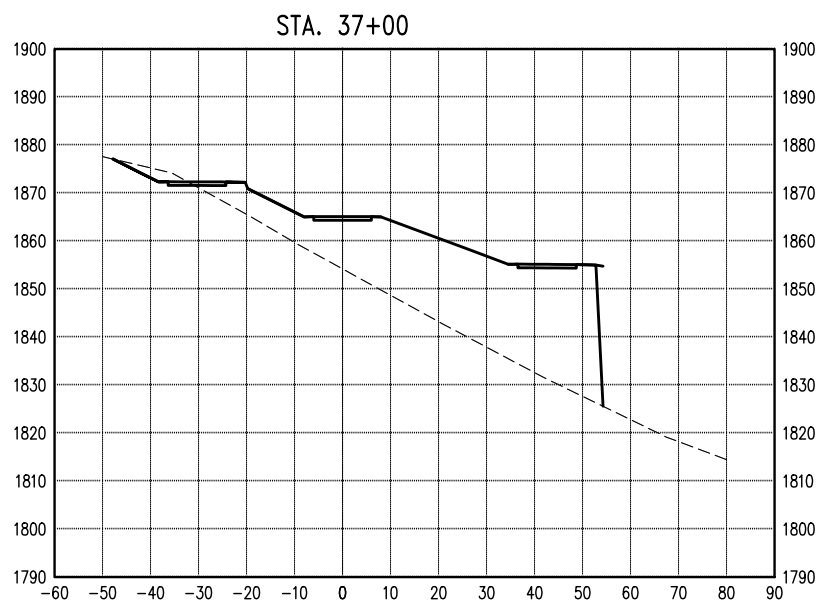
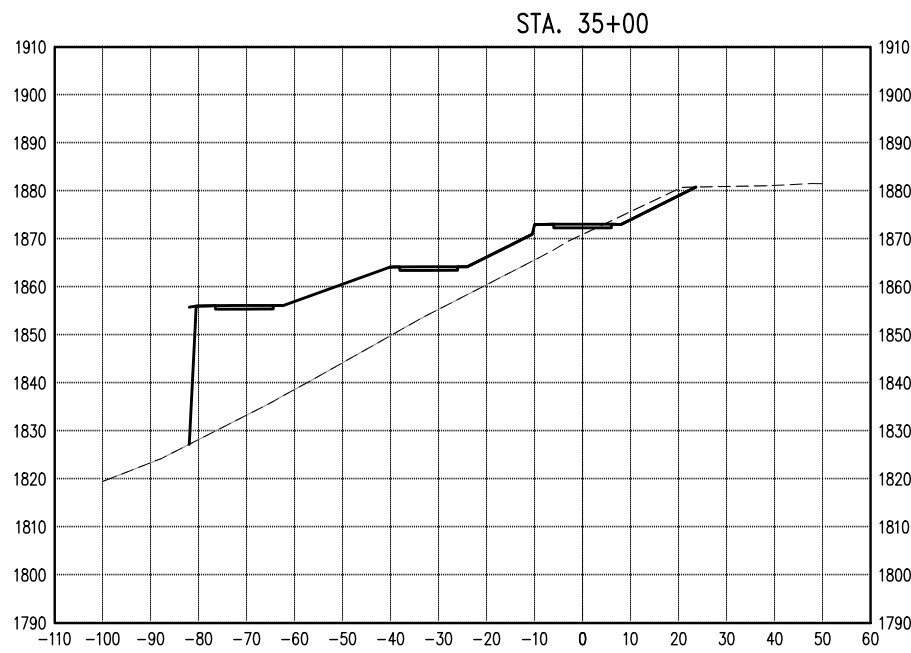
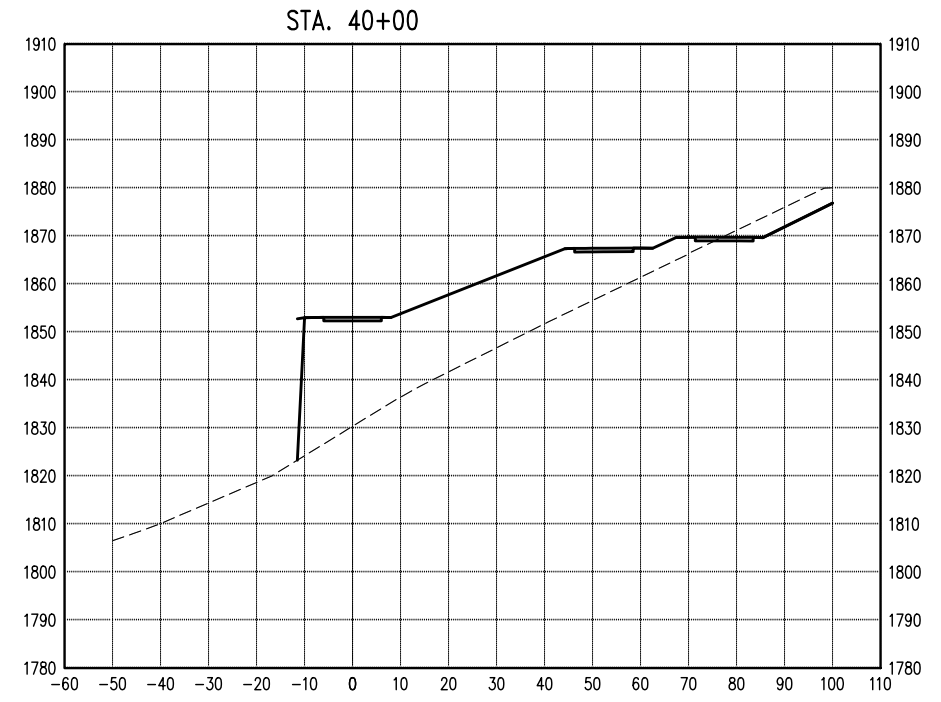
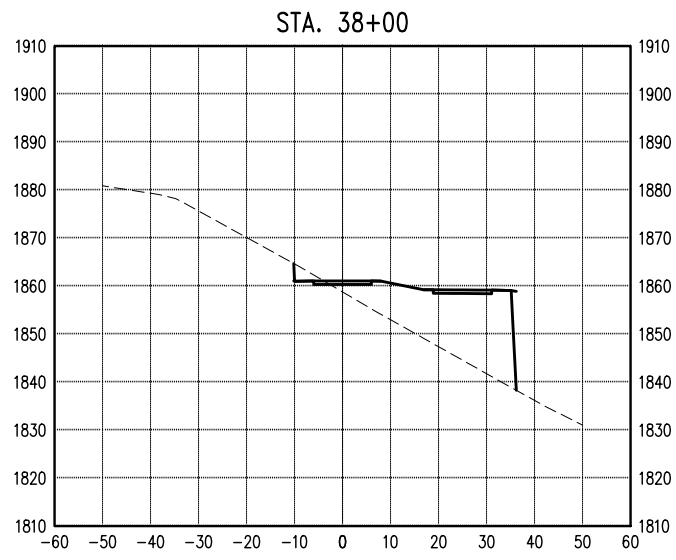
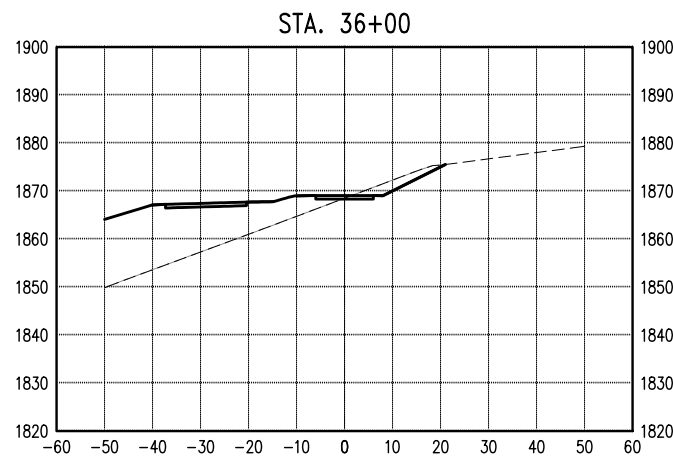




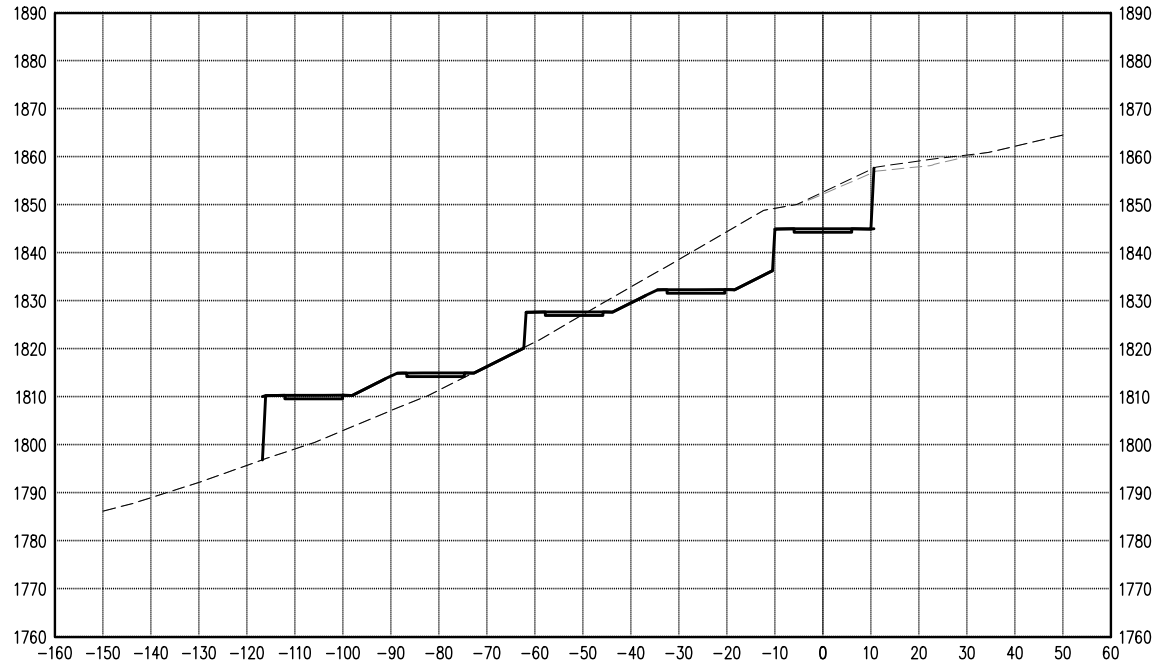




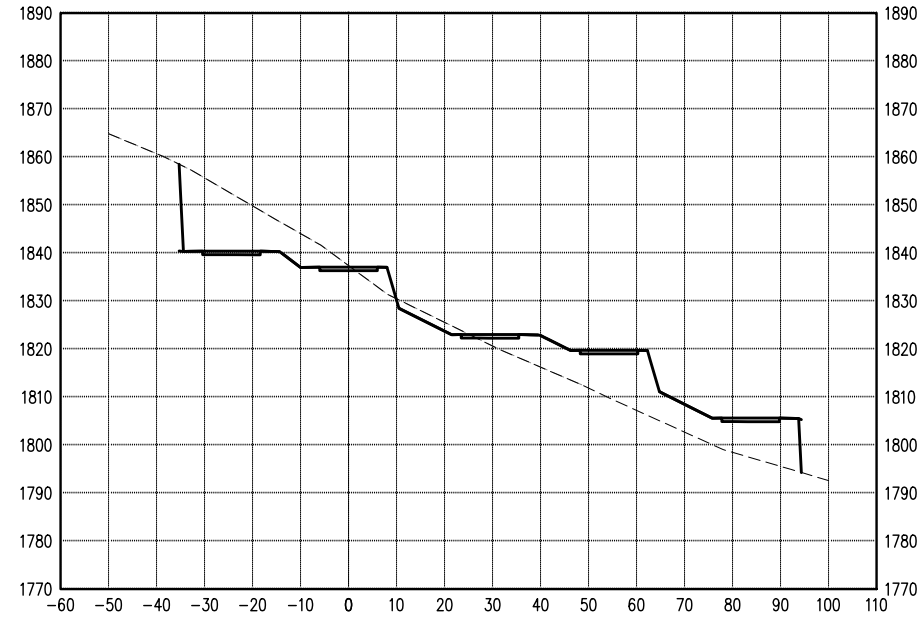




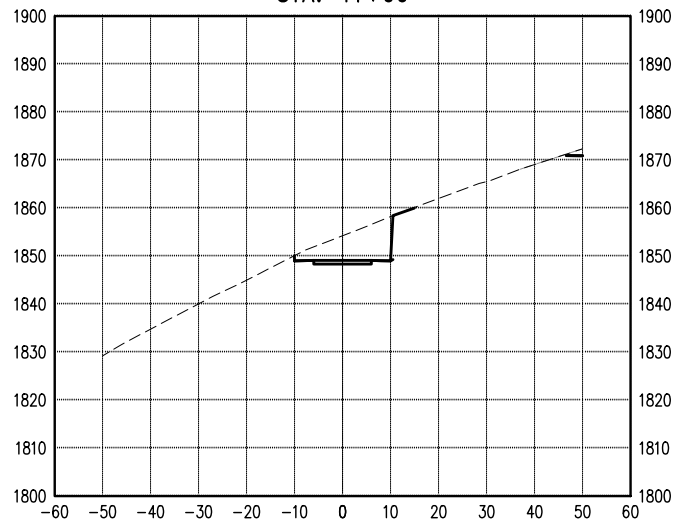
STA. 42+00



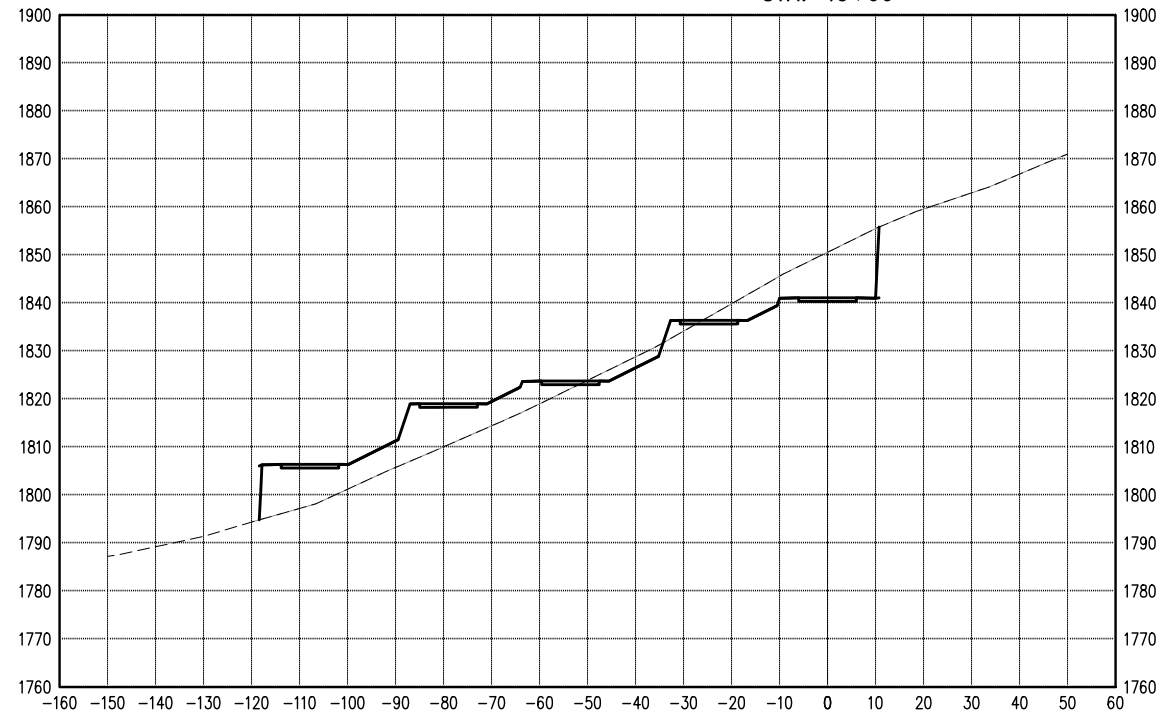
STA. 44+00

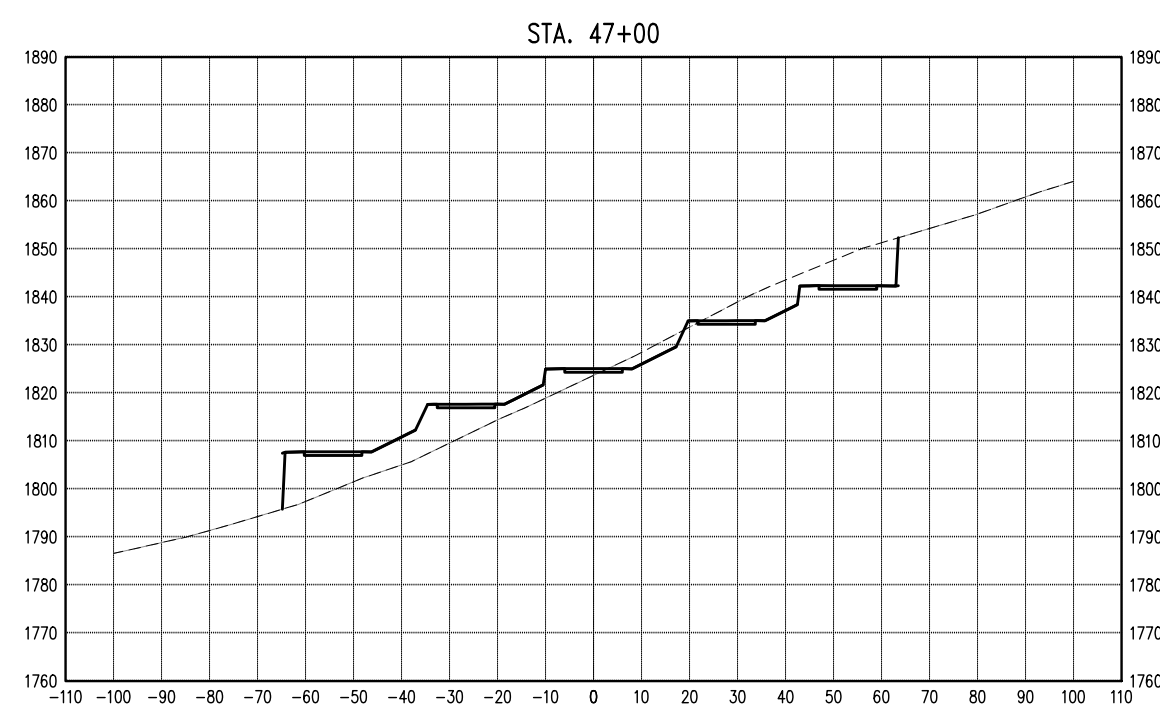
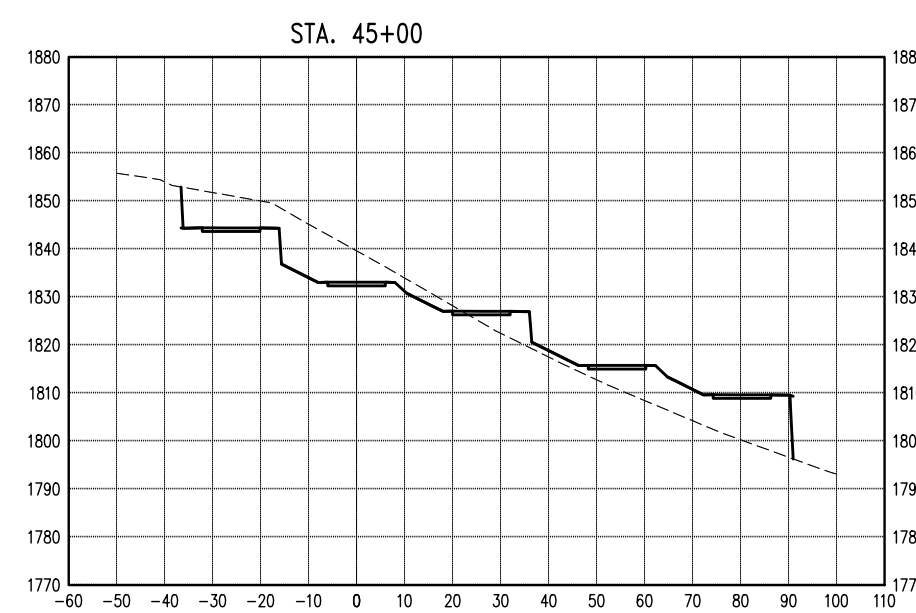
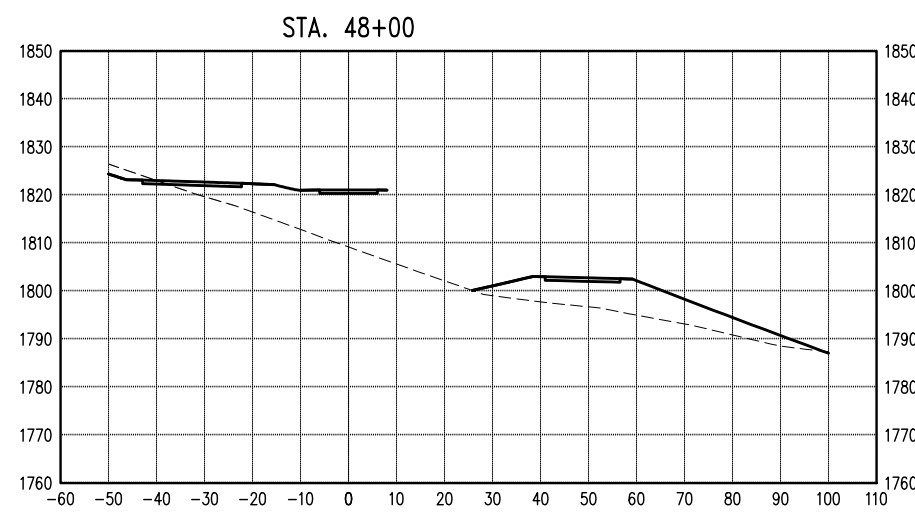
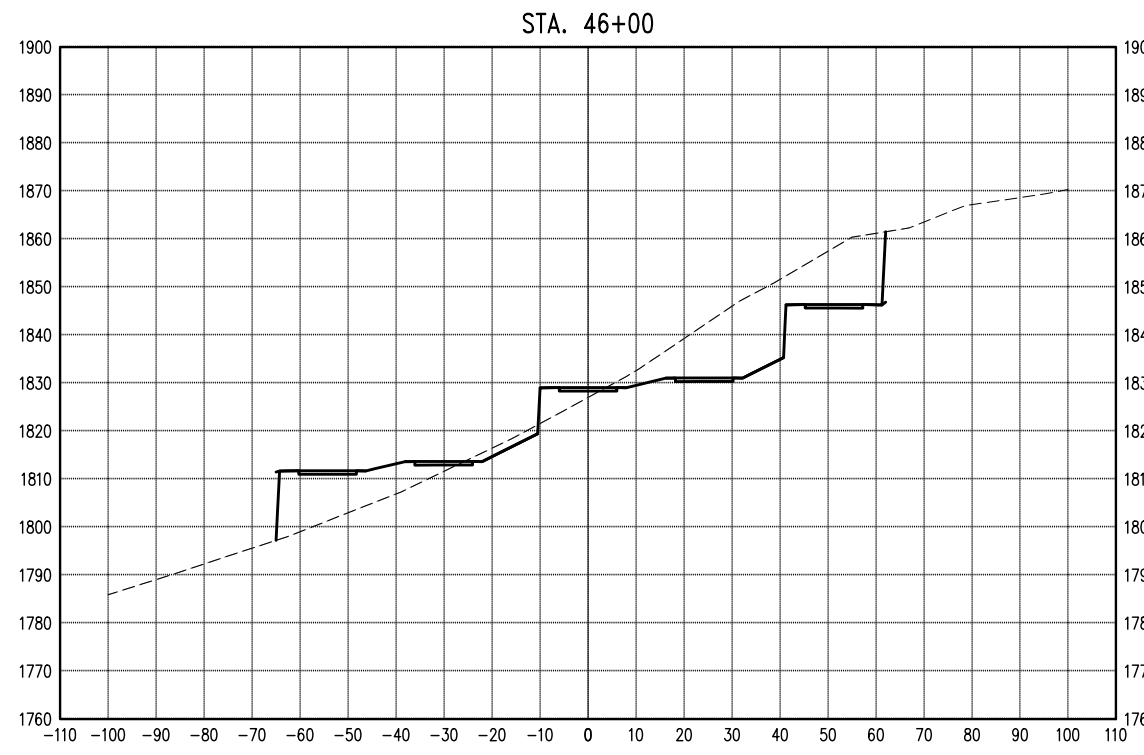


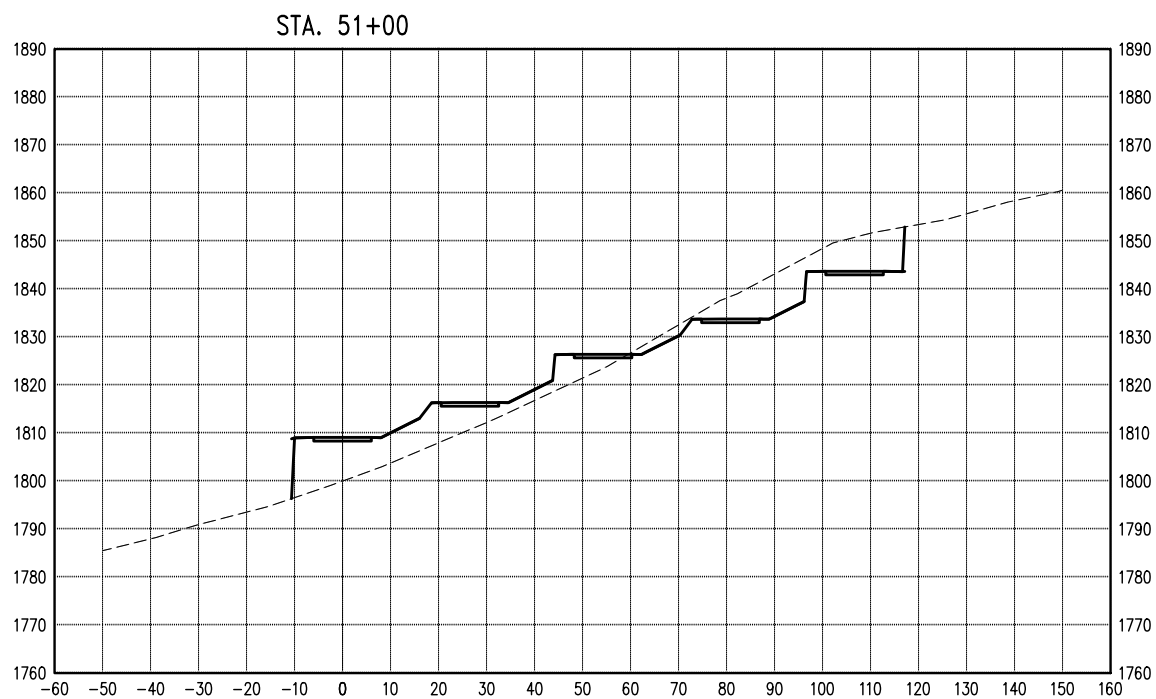
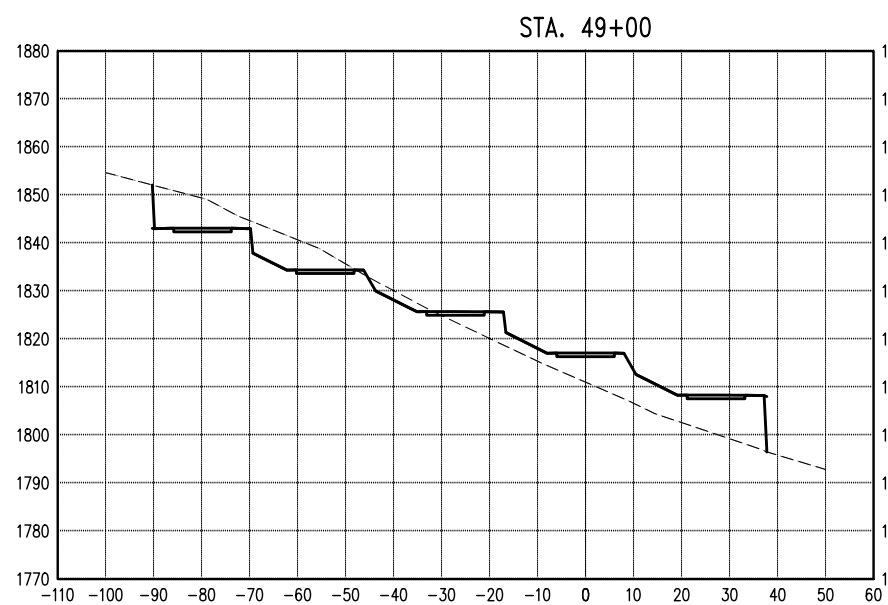
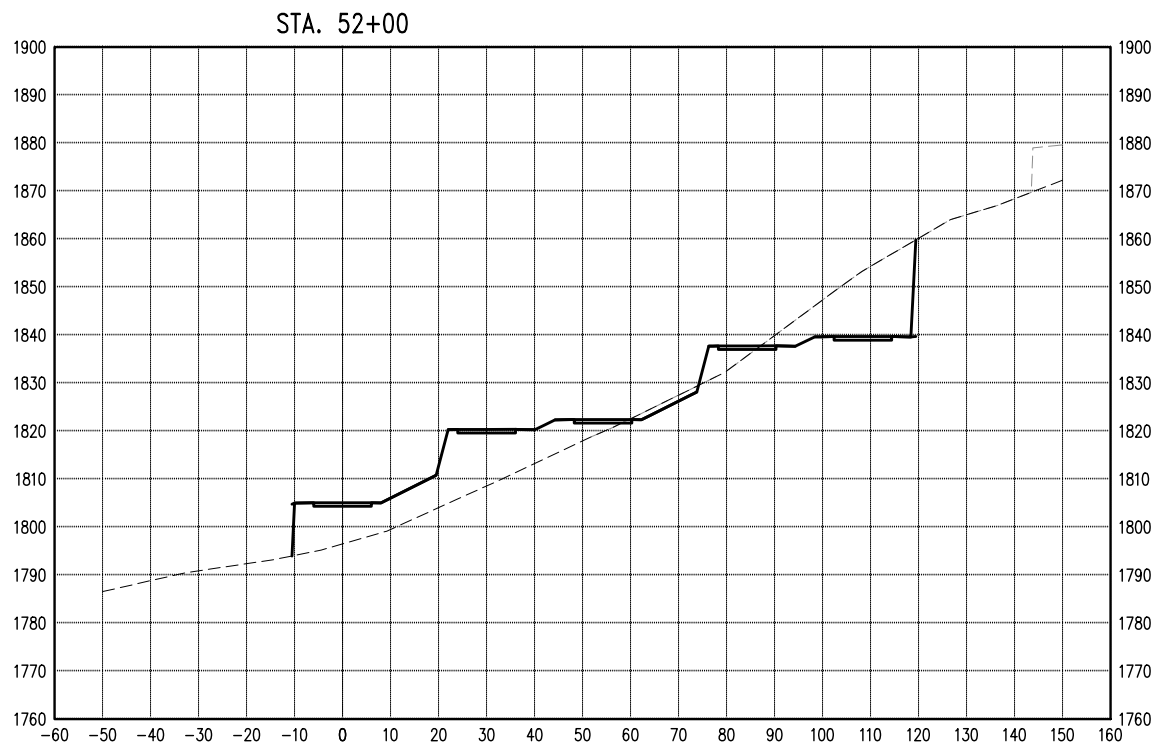
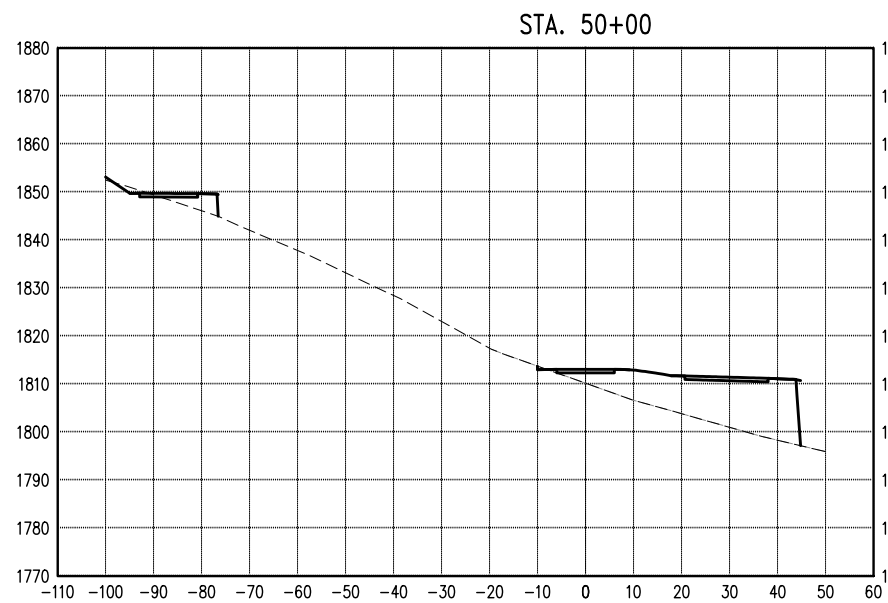
STA. 41+00



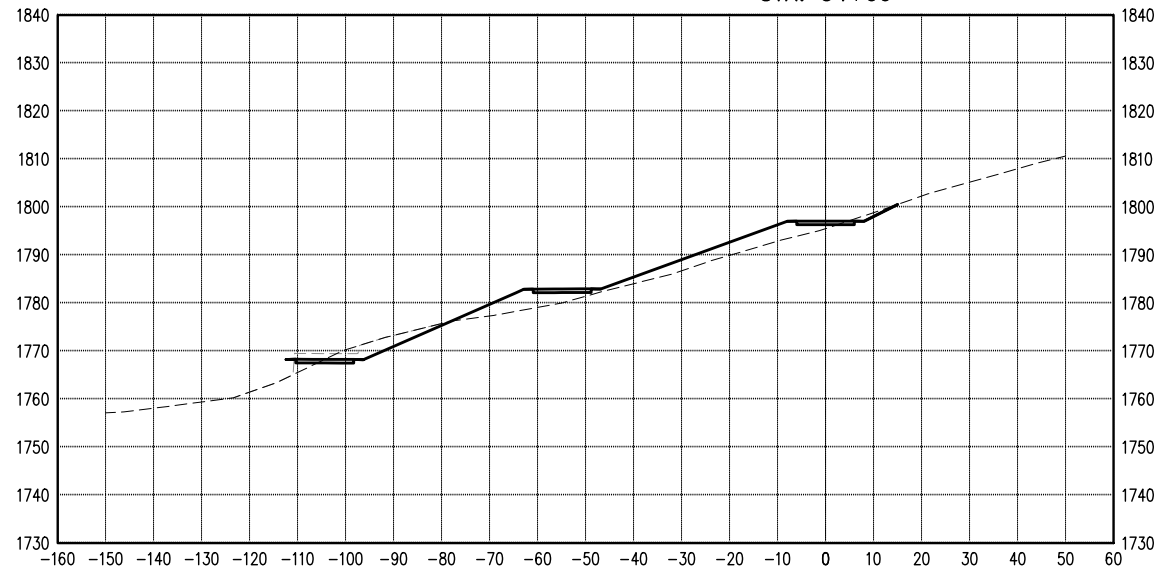
STA. 43+00



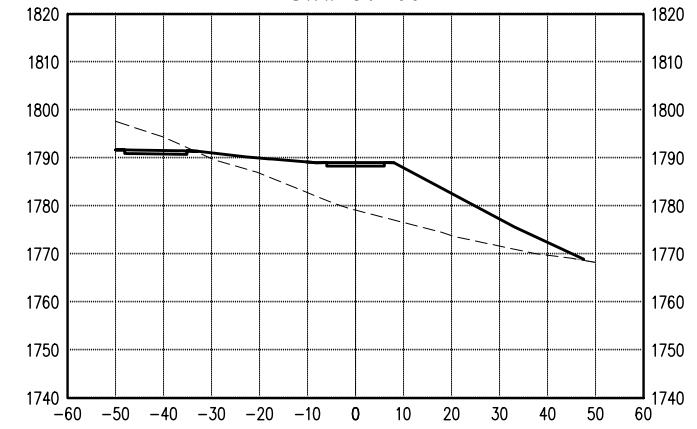




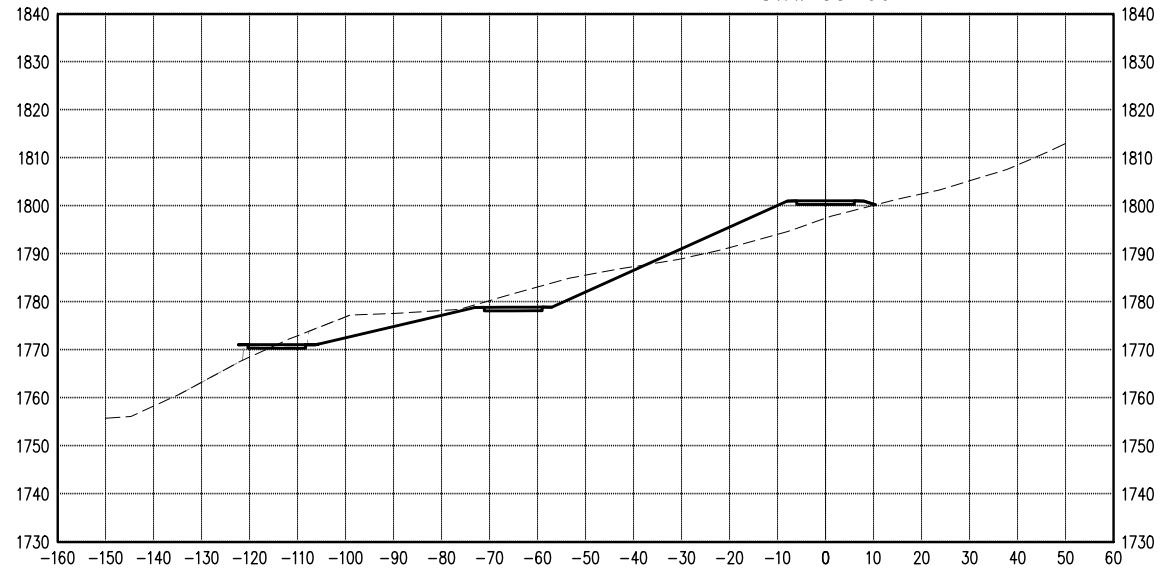
STA. 54+00



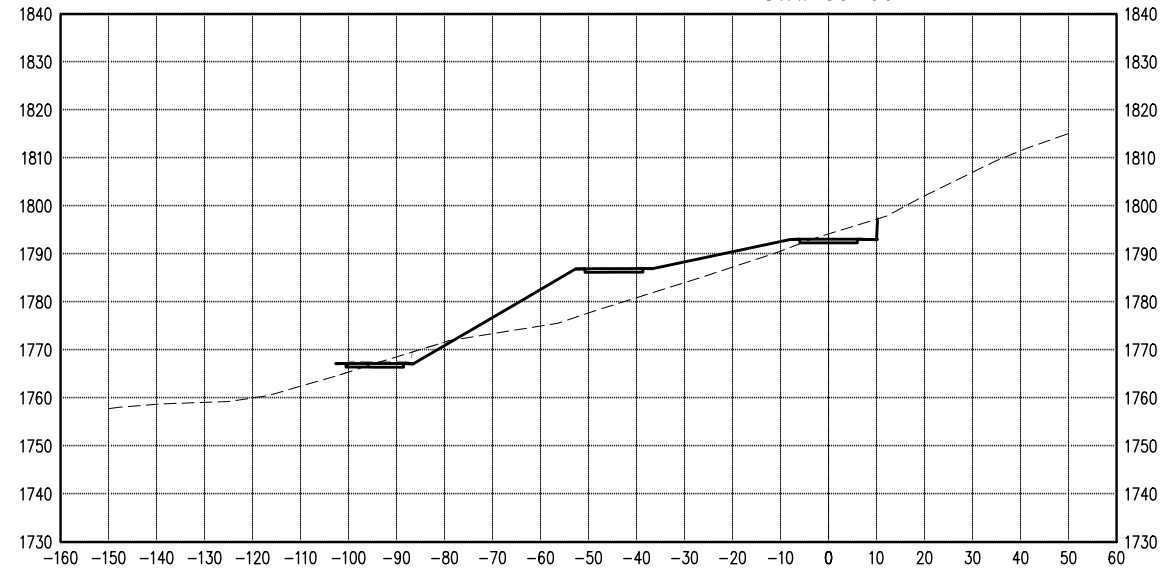
STA. 56+00

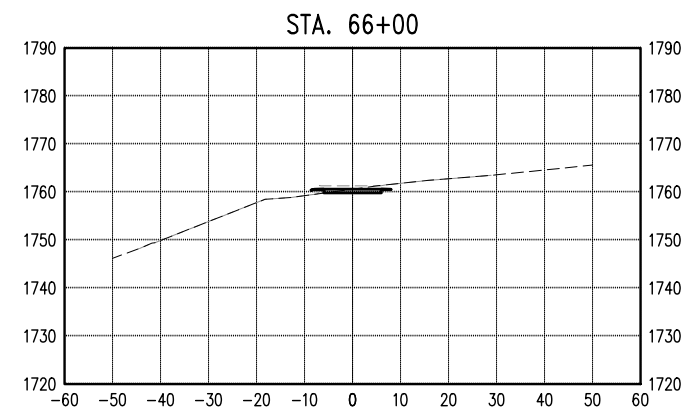
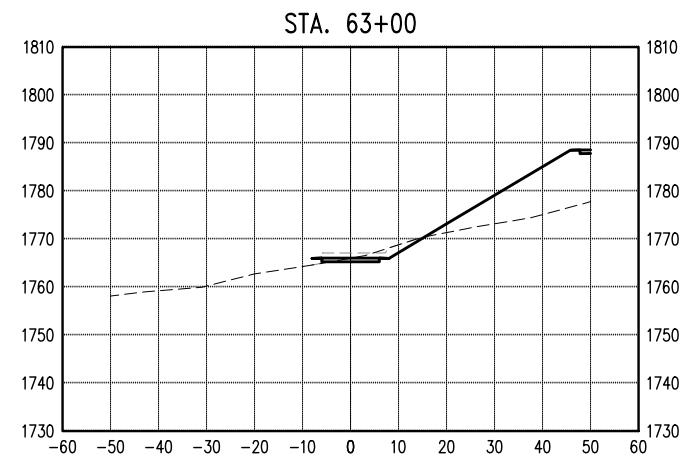
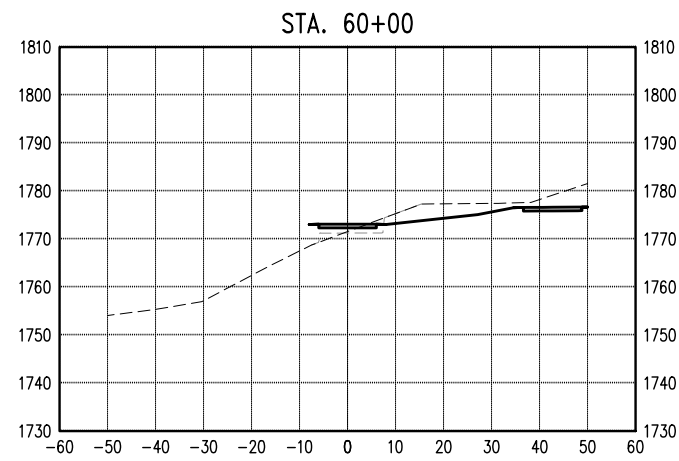
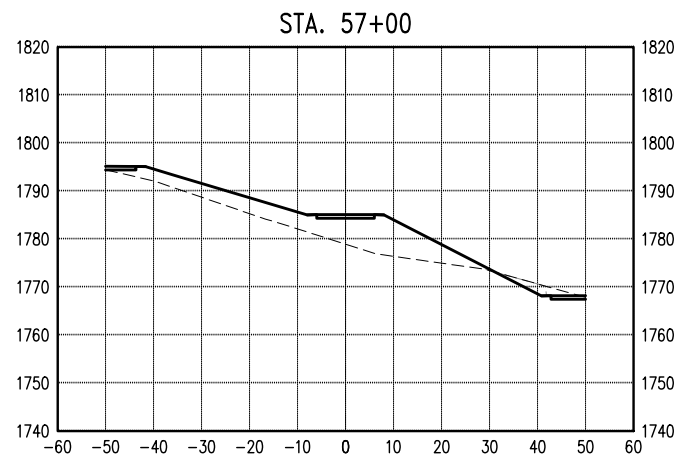
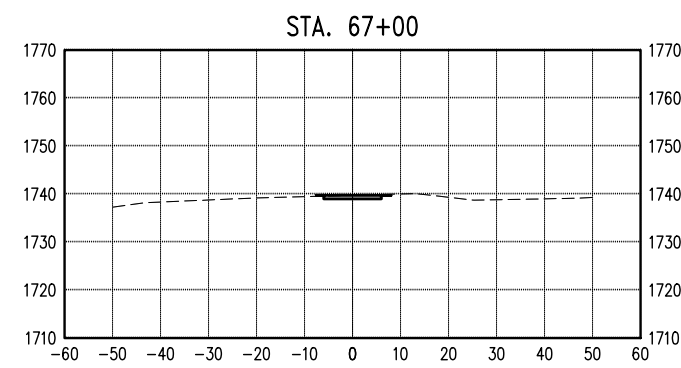
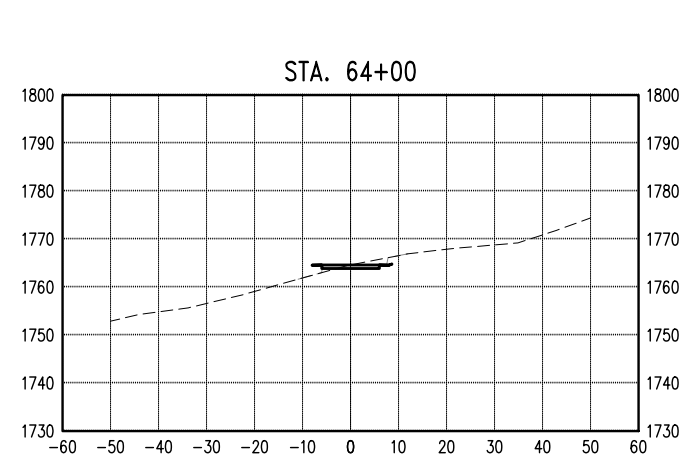
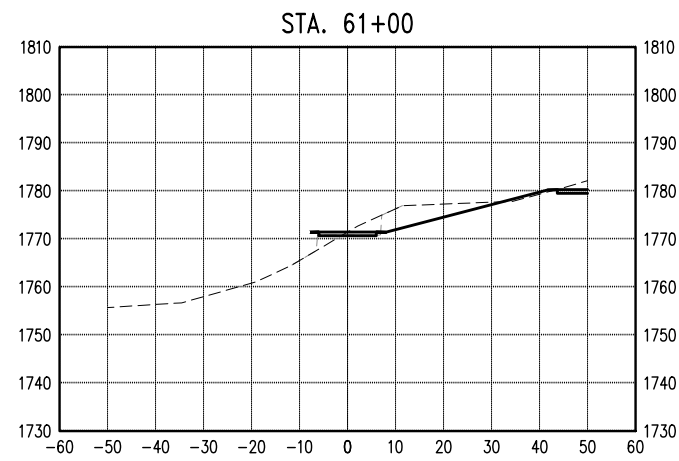
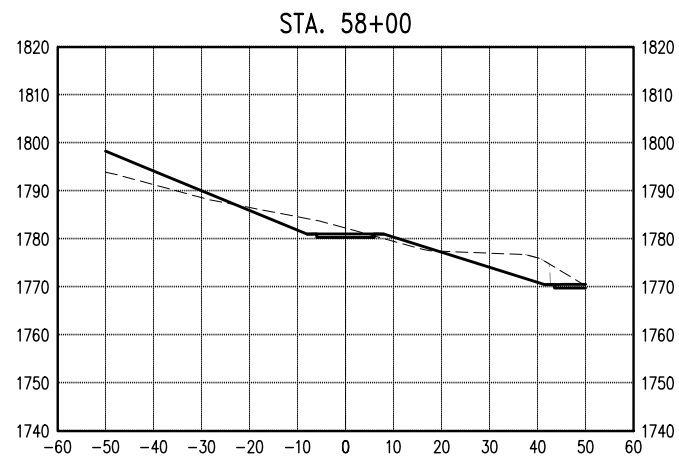
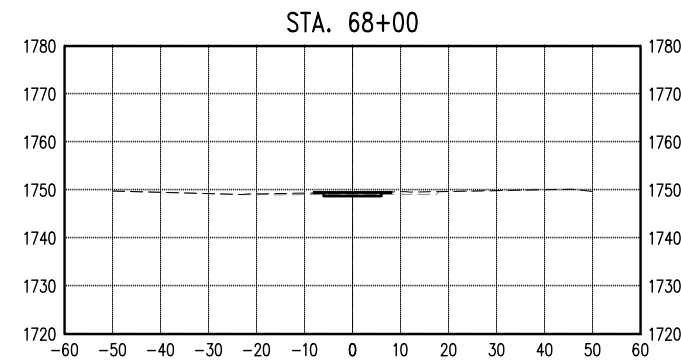
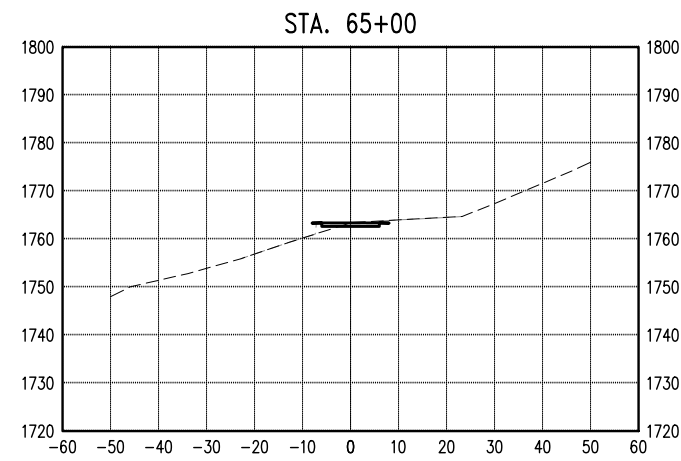
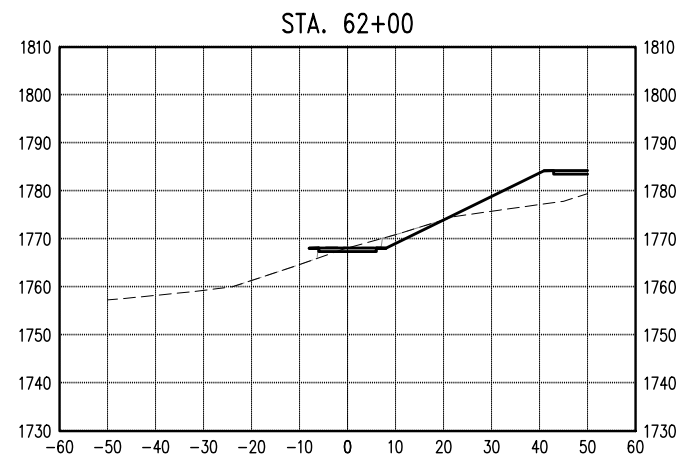
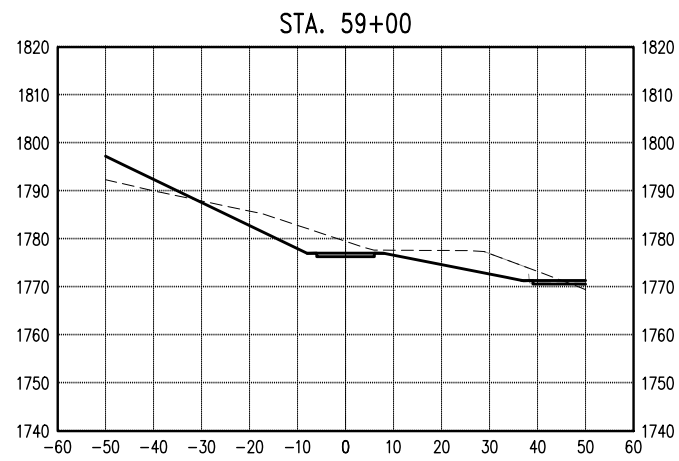


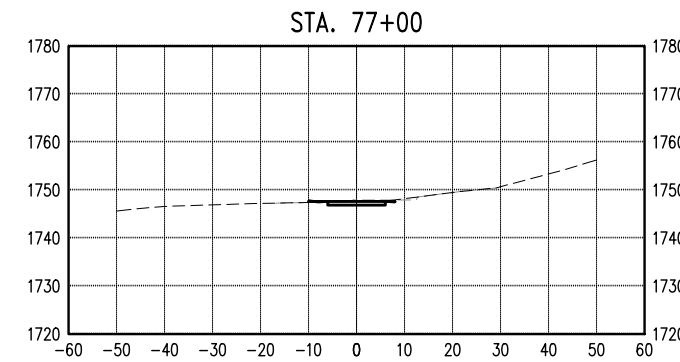
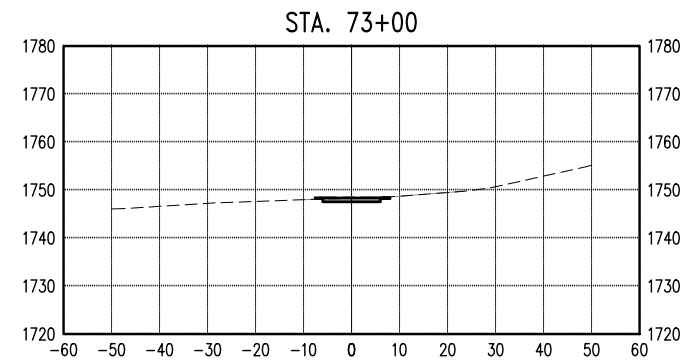
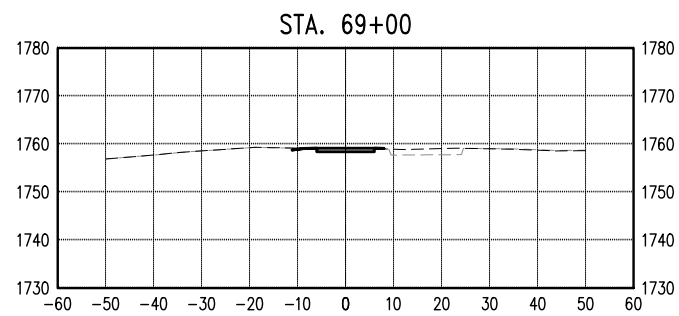
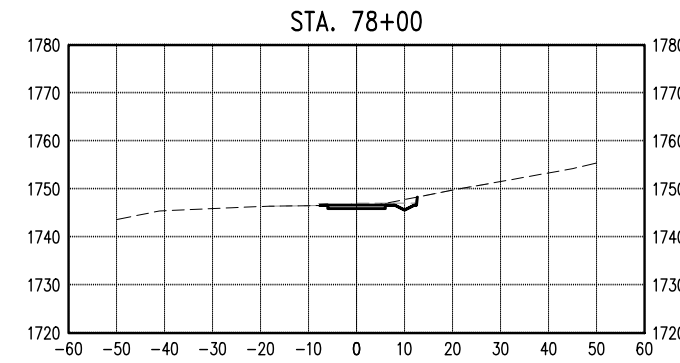
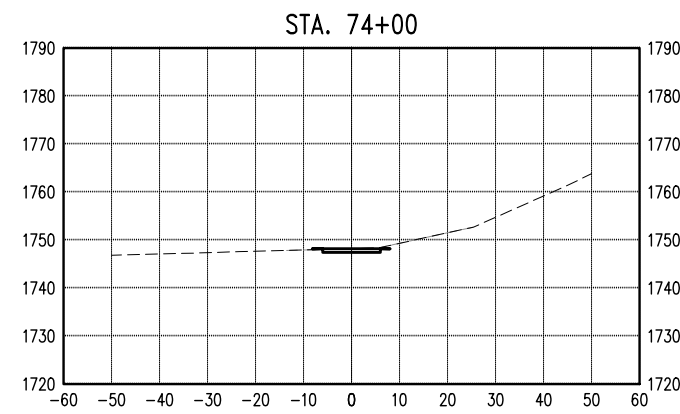
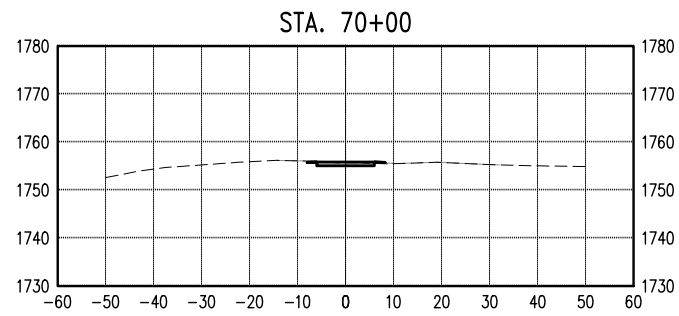
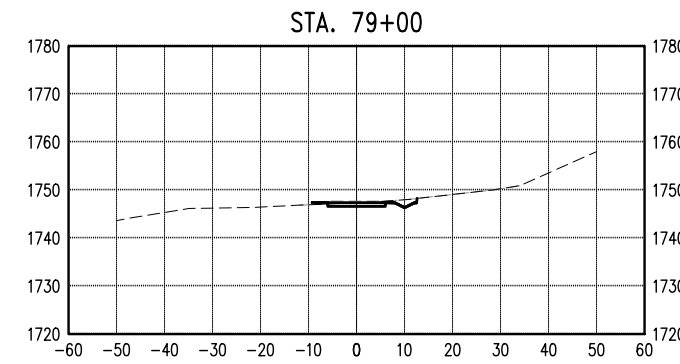
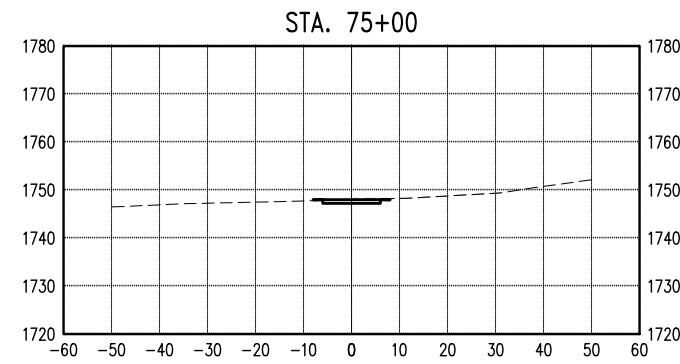
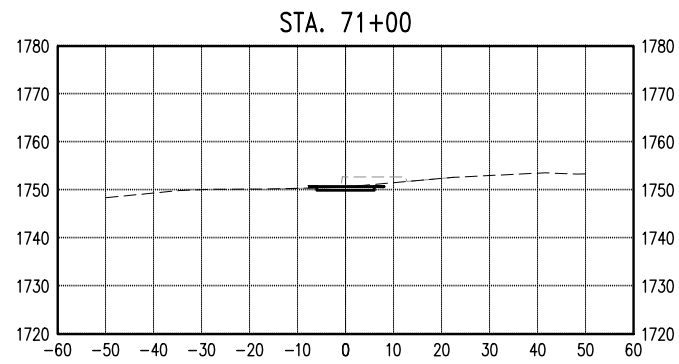
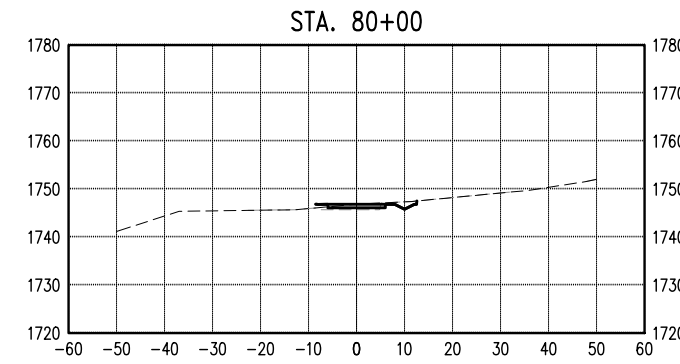
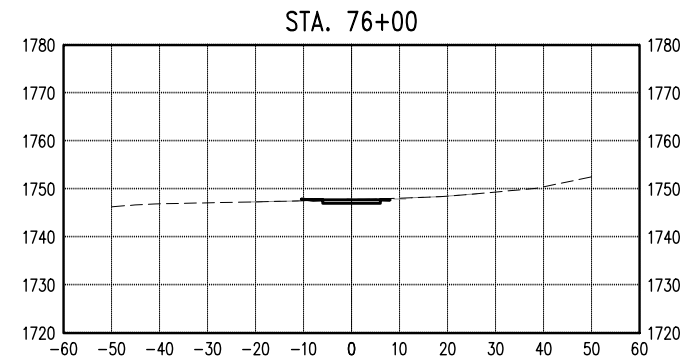
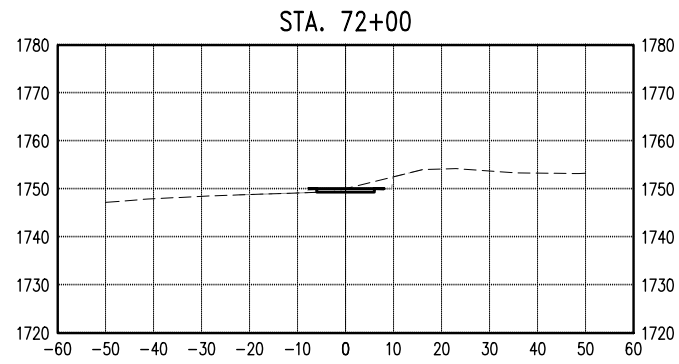
STA. 53+00



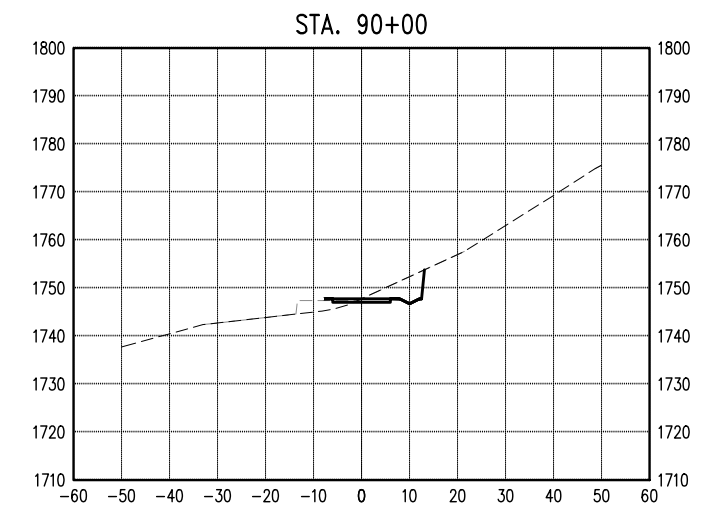
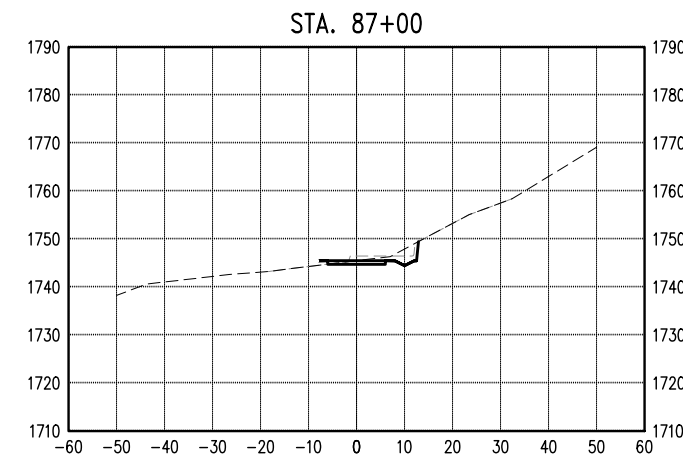
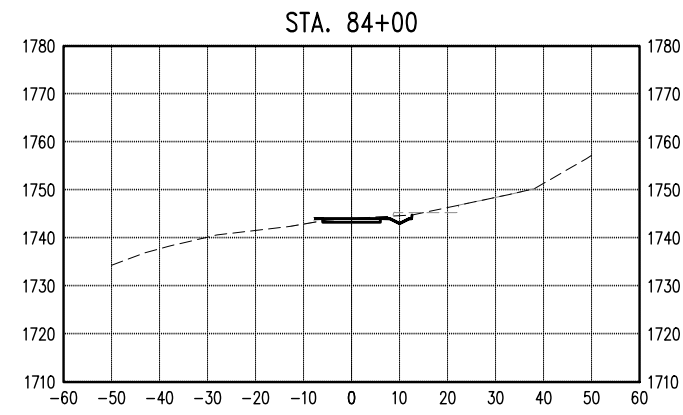
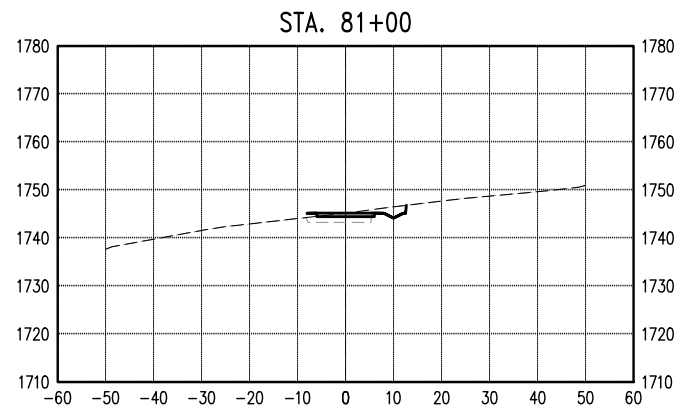
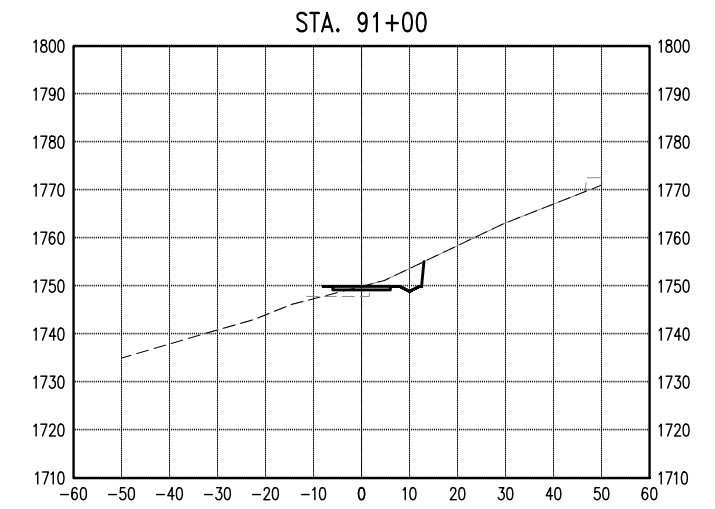
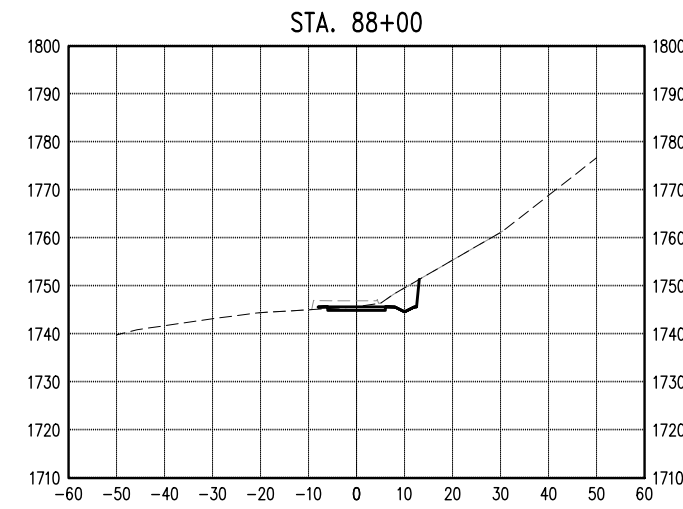
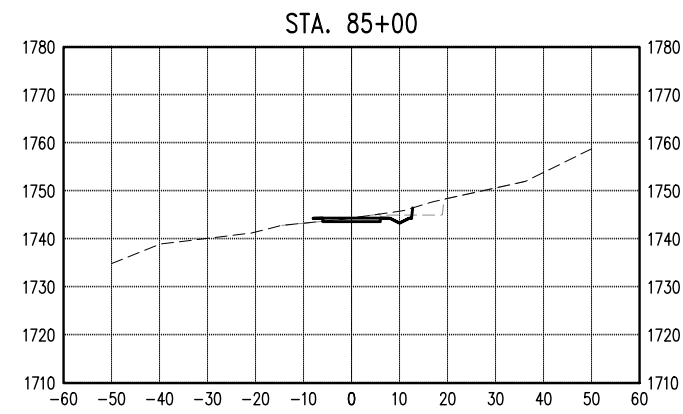
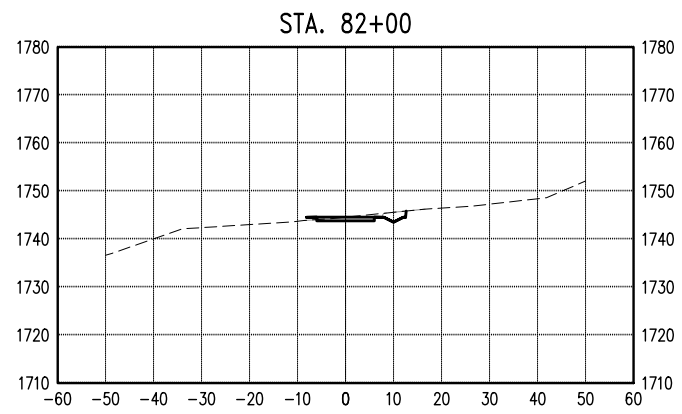
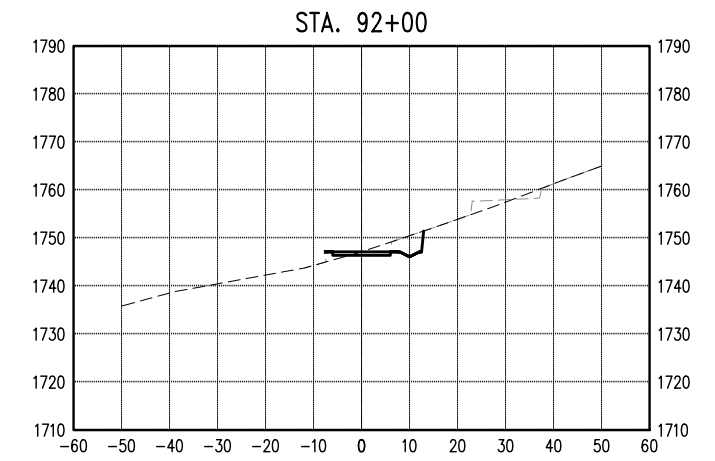
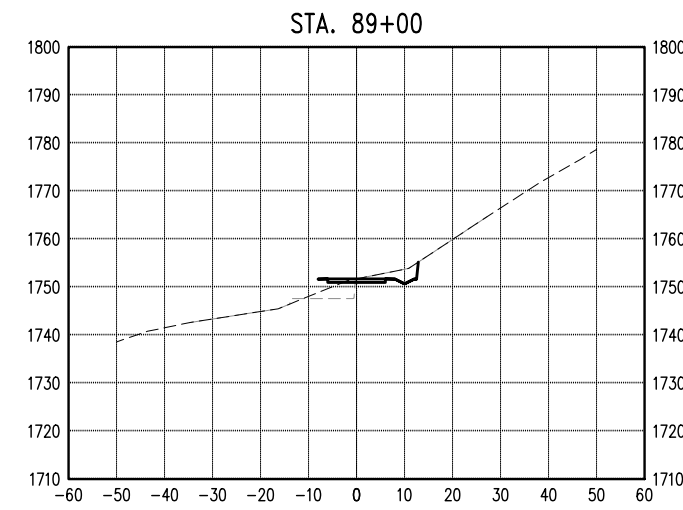
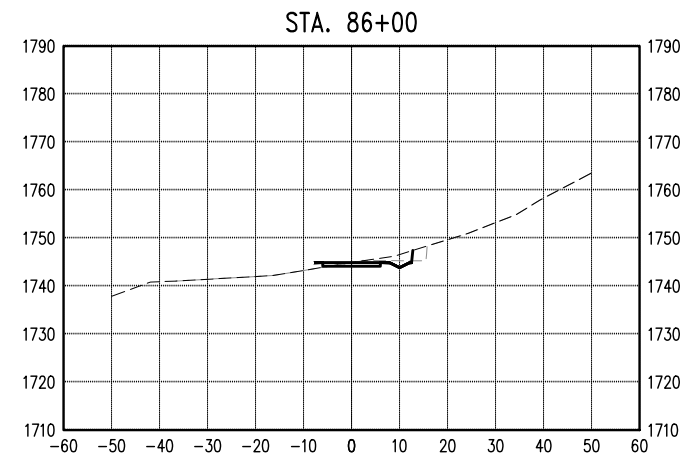
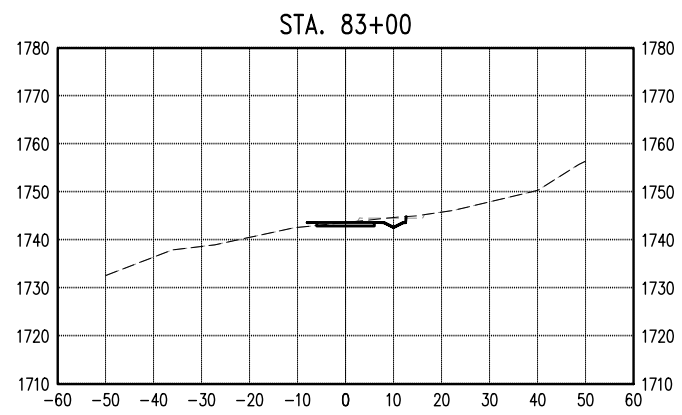
STA. 55+00

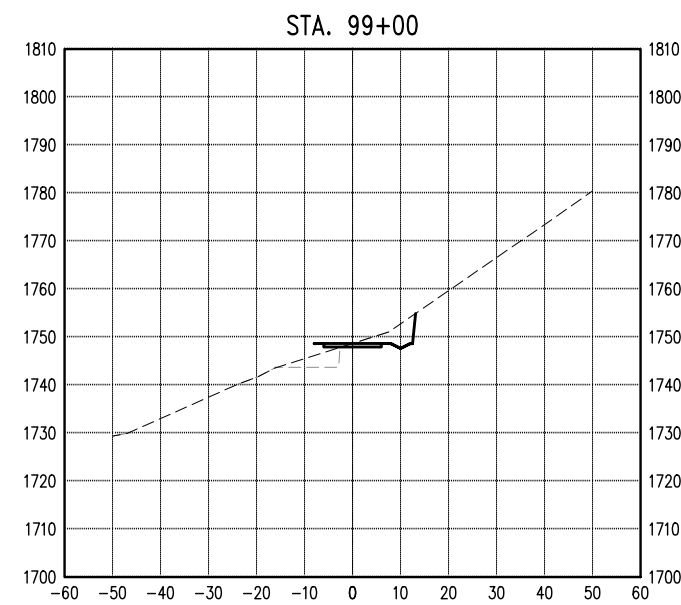
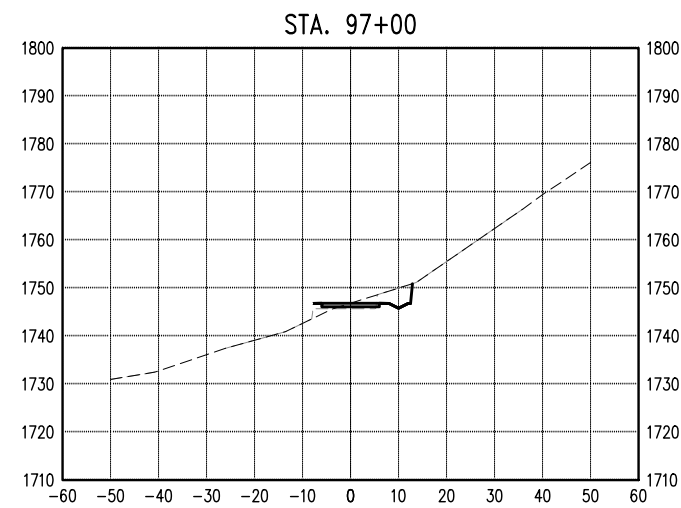
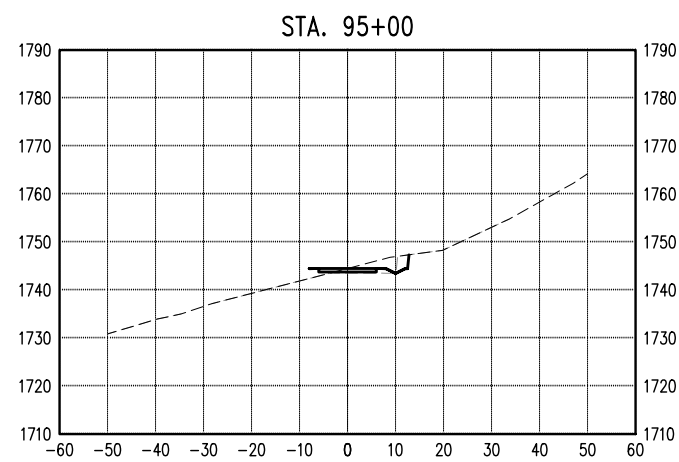
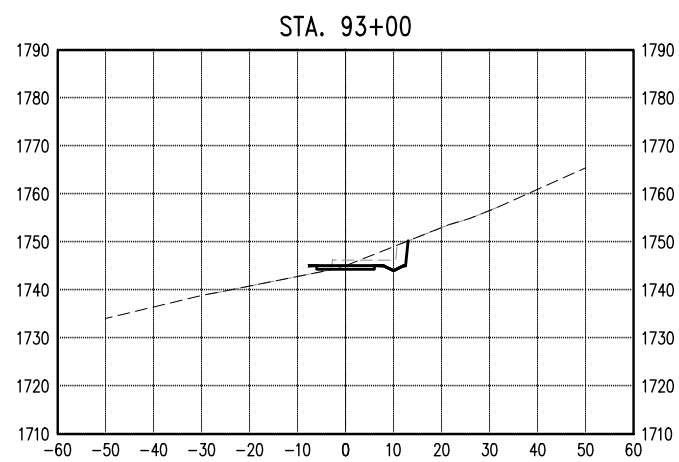
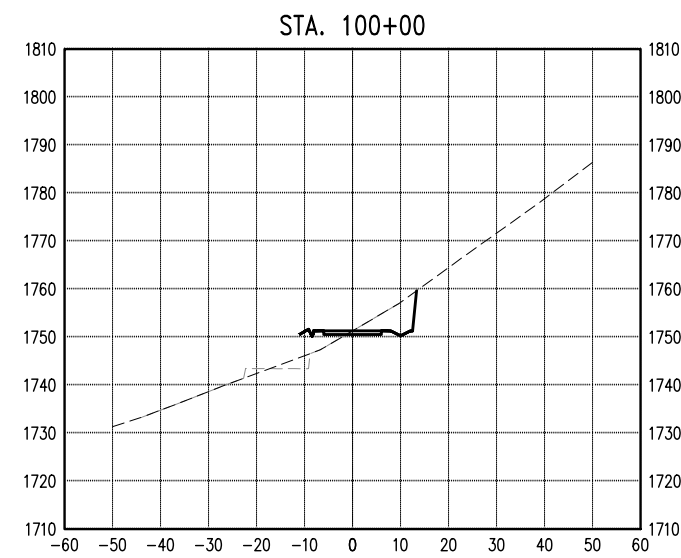
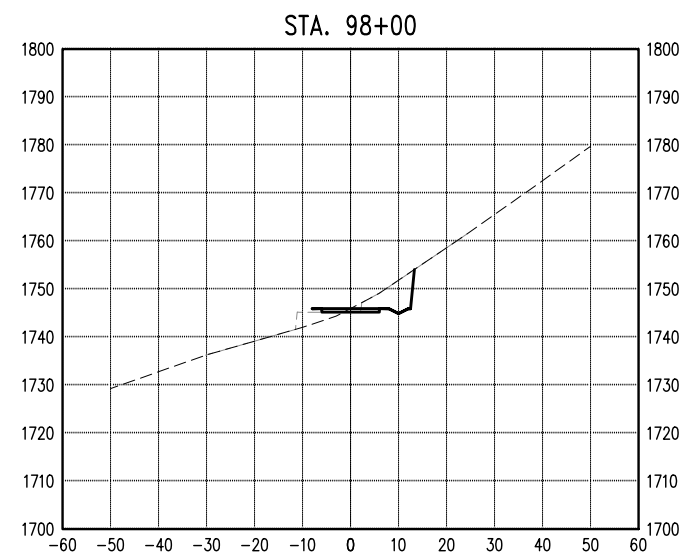
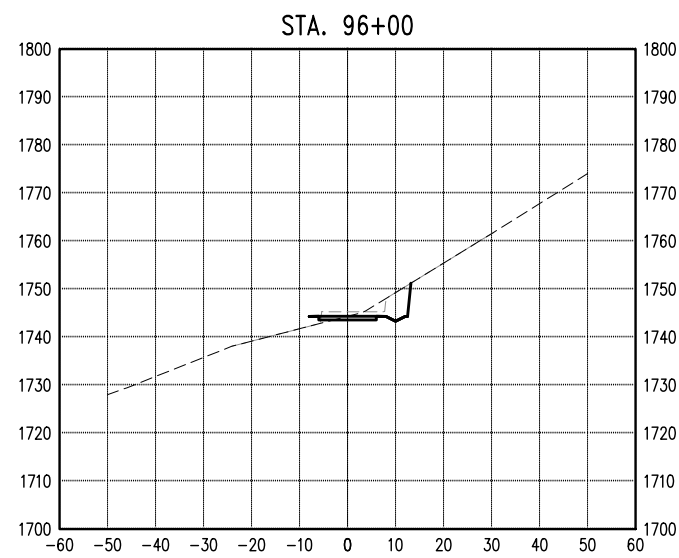
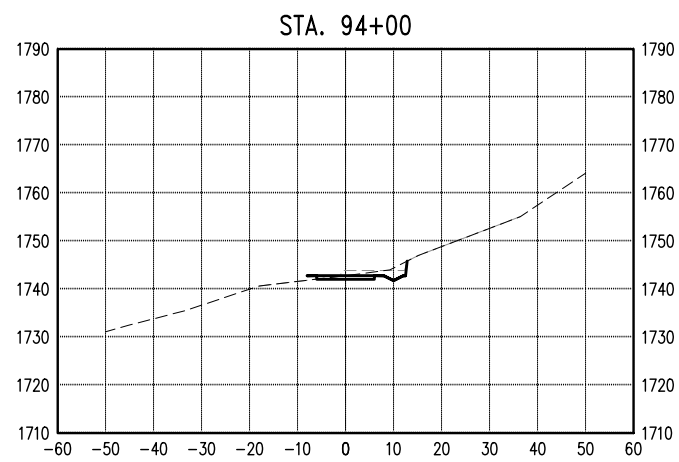


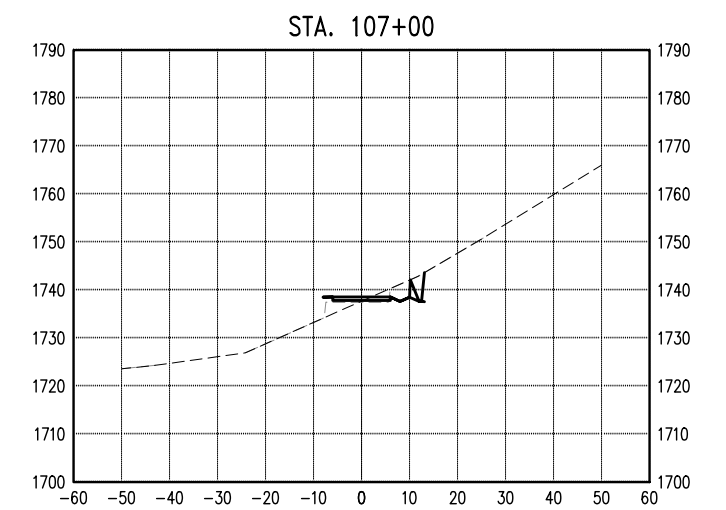
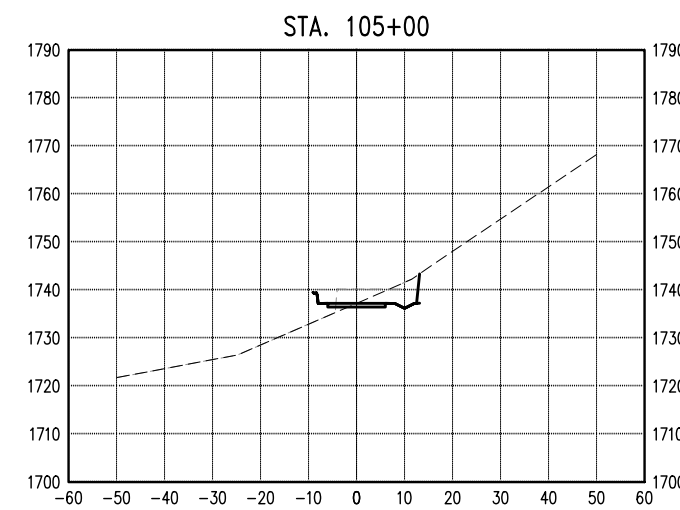
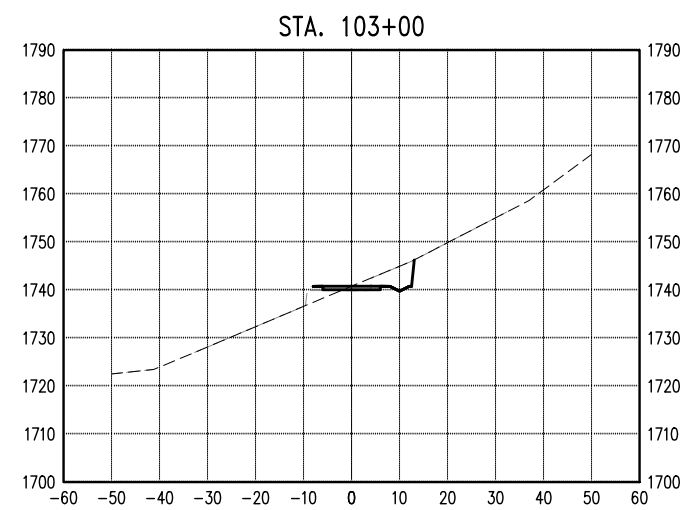
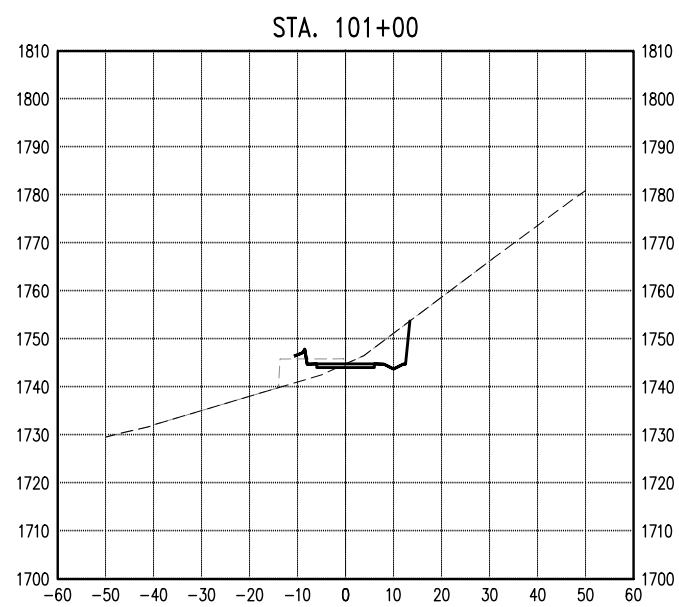
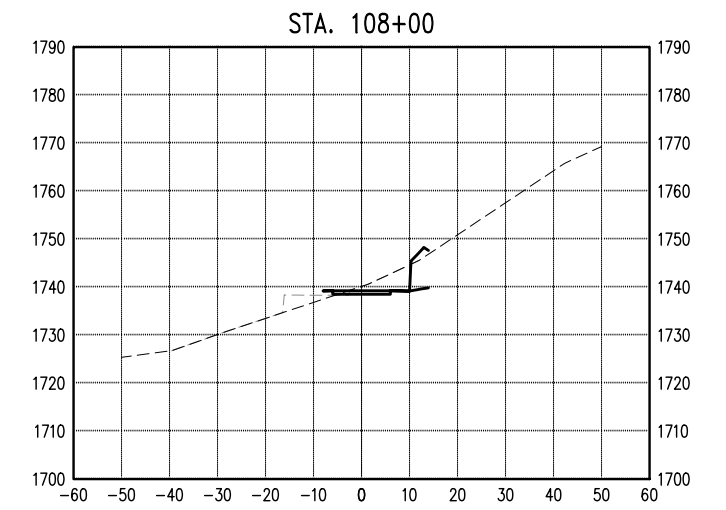
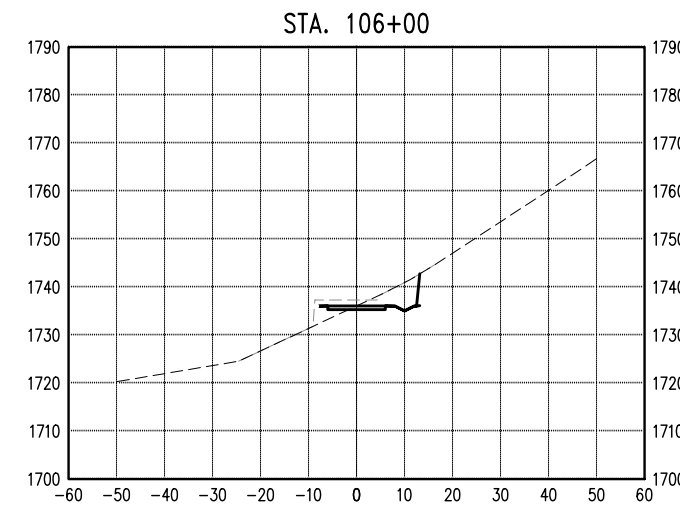
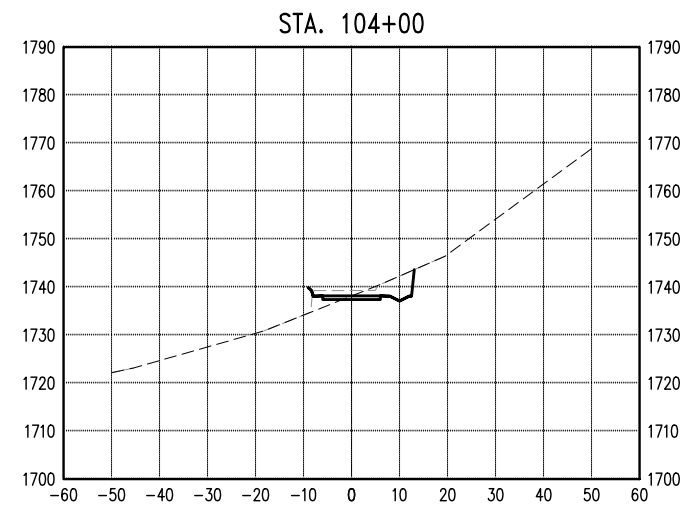
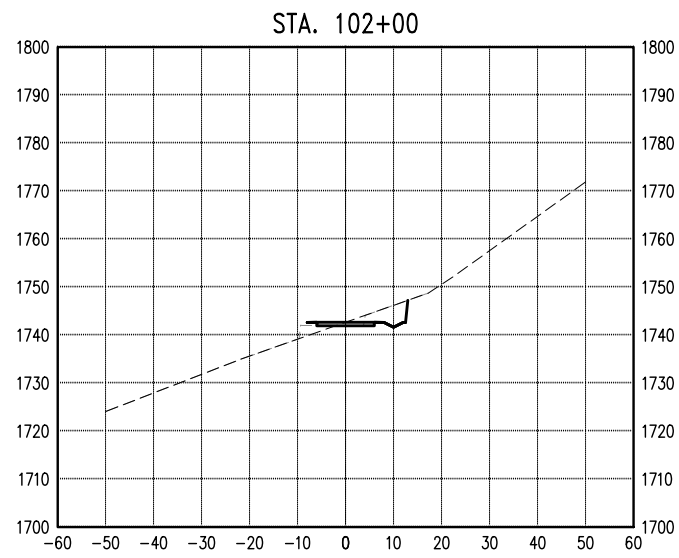


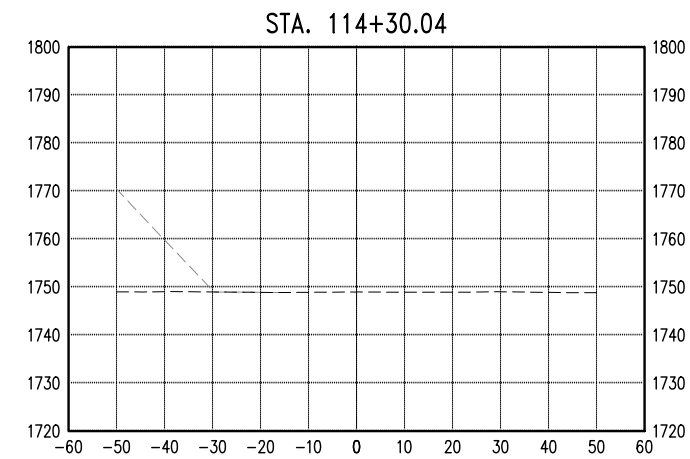
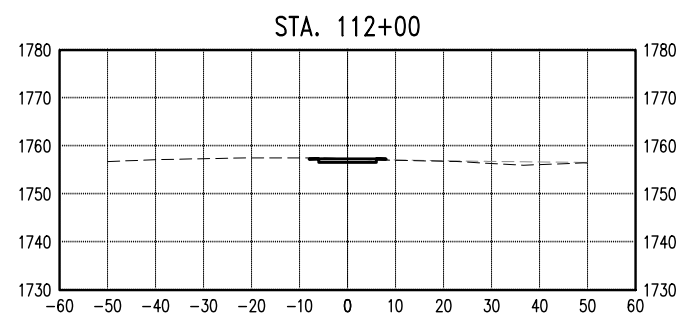
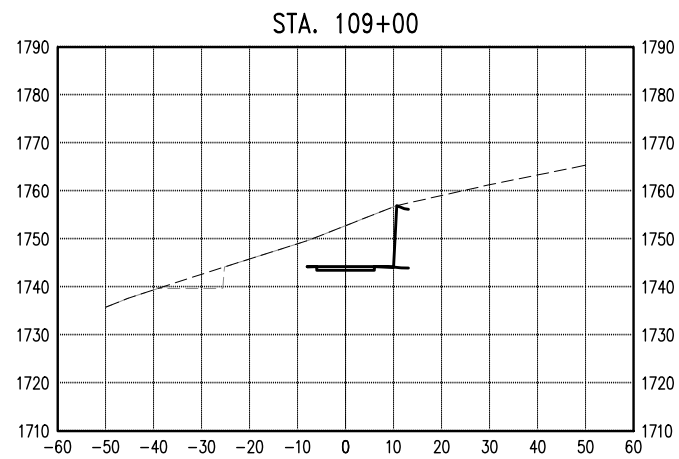
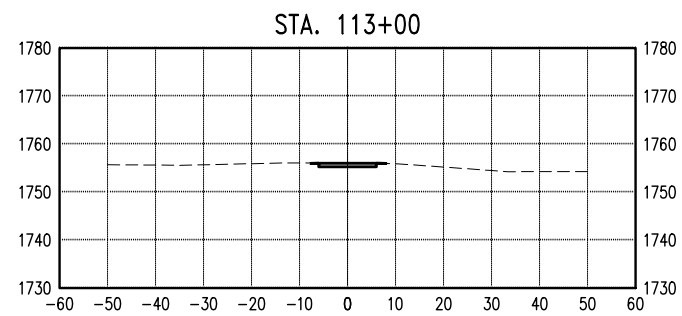
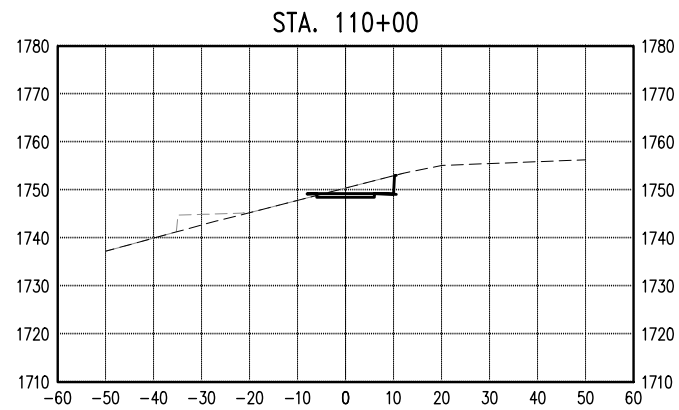
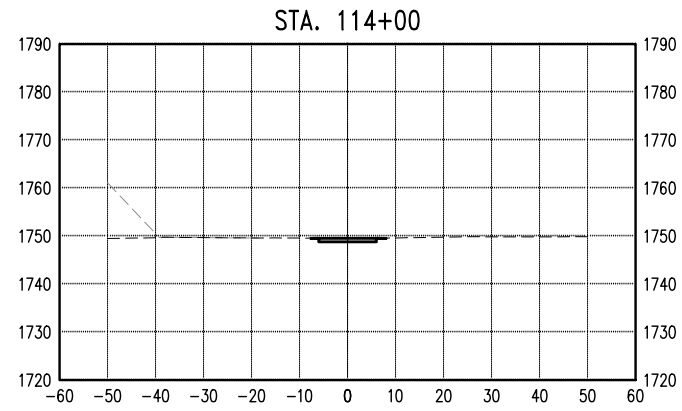
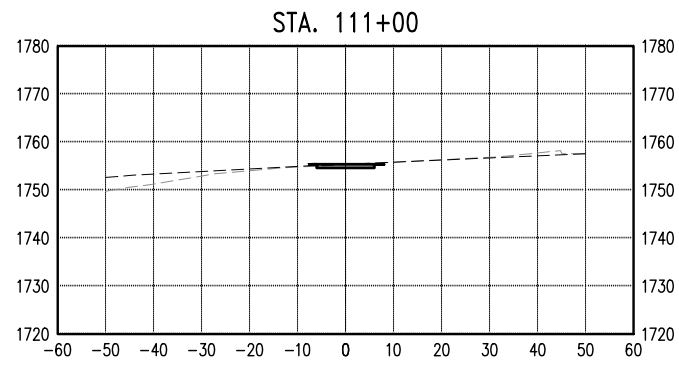












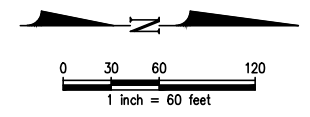






# FISH LAKE TRAIL CONNECTION STUDY

## THORPE ROAD CONNECTION









# Appendix B

## Public Comments



Fish Lake Trail Connector Study Feedback

Person	Original Comment	Source
Patti Worley	Following the green route from the north along the east side of Latah Creek it goes south, past 11th Avenue, then crosses the creek and heads north towards High Bridge Park. Why does it not cross the creek at the 11th Ave bridge? The way it is drawn, it crosses private property and protected watershed needlessly. I hope this is not in the plans.	Wiki
Levi Basinger	Should provide access to this neighborhood either by Green Line or by spur trail if another option is chosen.	Wiki
Seth R	Often run along Inland Empire way and would love a safe option to access Sandifur/Centennial + Fish Lake Trail without dealing with heavy traffic.	Wiki
Seth R	Usually avoid the unpaved section east of latah due to homeless camps	Wiki
Phil Larkin	The area along the Green Line is in need of attention and care. Having an well traveled trail in this area will help to keep it clean.	Wiki
Phil Larkin	This trail connection provides access to 30 miles of trails that extend south to w 57th. It would be great to someday connect the paved network further south onto the Bluff and south hill.	Wiki
Phil Larkin	This section provides an amazing view of the bridges and creek.	Wiki
Phil Larkin	The Green Line provides many benefits. It is the furthest from car travel, closest to nature, and provides access to more trails to the south.	Wiki
Jeff Corkill	I favor having both the purple routes after dropping down from existing end of the trail.	Wiki
Jeff Corkill	The switchback down into the valley will need to be 'gentle' for walkers and bikers to get up.	Wiki
Jeff Corkill	The green and purple tracks already exit (I used them ) & don't really require any new preparation.	Wiki
Jeff Corkill	Do we really need those bridges at the Marne Bridge?Use exist bridge with barricades from traffic...traffic need calming here anyways.	Wiki
BAB	Potential for Traffic Calming on Govt. Way	PAC CB
BAB	Likely the best use of existing infrastrucure	PAC CB
BAB	Strong safety concerns about crossing Riverside on the curve.	PAC CB
BAB	Assuming that the bridge would utilize existing supports. Currently Herons roost on the supports	PAC CB
BAB	Section along Government Way has the potential to be a snow-deposit zone during winter plowing	PAC CB
BAB	Shortest route	PAC CB
BAB	Possibly the best multiple use of resources with the proposed Latah Creek Trail.	PAC CB
BAB	Longer and more complex switchback section.	PAC CB
BAB	Utilizes Marne Bridge which is on the Bloomsday Route.	PAC CB
BAB	Most extra elevation change (Hills that must be climbed twice).	PAC CB
BAB	Most potential for connections to underserved communities, notably, Vinegar Flats	PAC CB
BAB	Best potential for interactions/views of Latah Creek	PAC CB
BAB	Best potential for views of the three high bridges.	PAC CB
BAB	Only potential for viewing/interacting with the 11th Ave bridge.	PAC CB



BAB	Likely the best complimentary route to the proposed Latah Creek Trail.	PAC CB
	Potential for routing switchbacks through the western arches of the Sunset Blvd	
BAB	Bridge	PAC CB
BAB	Offers rare views of the three high bridges	PAC CB
BAB	Longest	PAC CB
BAB	Potentially most expensive	PAC CB
	Questions about winter maintenance/snow removal, specifically if different	
BAB	maintenance schedules would exist depending on which route was selected.	PAC CB
BAB	Concerns about price variations between routes were raised	PAC CB
	Overall, the Green route was deemed to be the best option as the safest and most	
BAB	scenic route.	PAC CB
Karen Carlberg	Could put flashing lights on Riverside to warn drivers of crossing	PAC CB
	Sharp Switchback turns are hard to navigate on a bike, especially on a steep uphill	
Karen Carlberg	or downhill	PAC CB
Lunell Haught	When INTC co-sponsored a process to explore the possibility of a nature path along	email
Grant Shipley	Improve access to Thorpe/Grandview neighborhood.	Wiki
Grant Shipley	Improve access to Vinegar Flats neighborhood.	Wiki
Grant Shipley	I would like to see the 11th Avenue bridge utilized.	Wiki
	Instead of connecting right at the Fish Lake Trailhead, can the trail connect	
	somewhere south of the trailhead using the purple or green routes. Trailhead is for	
	parking while connection is for continuous route riding and not riding through a	
Steven D Johansen	parking area.	Wiki
Grant Shipley	Maximize views of and interactions with the Sunset Blvd. bridge.	Wiki
R. Young	Currently this area isn't comfortable when I'm alone as a female bike rider.	Wiki
	Alternative route tame the grade along A Street. Construct new sidewalk & install a	
	bike escalator on west side of A Street. Escalator would be a magnet for Spokane in	
	attracting bicycle tourists and the only one in North America.	
	<a href="https://www.citymetric.com/transport/norway-contains-worlds-only-bike-escalator-and-it-excellent-555">https://www.citymetric.com/transport/norway-contains-worlds-only-bike-escalator-</a>	
Gerald Schuldt	<a href="https://www.citymetric.com/transport/norway-contains-worlds-only-bike-escalator-and-it-excellent-555">and-it-excellent-555"</a>	Wiki
	Additional bridge doesn't seem the best use of public funds when there's plenty of	
R. Young	room across creek on existing bridge.	Wiki
	This would be a highly undesirable crossing due to speed and roadway geometrics	
R. Young	for cars coming from either direction	Wiki
	I have ridden, walked and studied all three of these proposed routes. Overall, I	
	prefer the Green option, primarily for it's connections to more neighborhoods and	
Grant Shipley	stunning views of some of Spokane's best and most underappreciated bridges.	Wiki
	Use this route but would like more formalized to improve use and security (more	
	people on it would make it more comfortable). Beautiful views and important	
R. Young	connection.	Wiki
Grant Shipley	Riverside has poor visibility, and vehicle traffic tends to be fairly fast.	Wiki
	Existing route is cost effective with upgrades: 1. widen south shoulder along south	
	side of W Riverside Ave. to Government Way intersection. 2. min. striped crossing	
	across W. Riverside Ave. in alignment of future foot bride 3. Construct bridge across	
	Latah Creek. 4. Improve on grade pedestrian/bicycle crossing at W. Sunset Blvd/S.	
	Govt. Way. 5. Construct New (red) path. Other routes: Blue, Green & Purple have	
Gerald Schuldt	more scenic vistas of historical bridges and valley, concern with qty of switchbacks	Wiki

R. Young	Use this route a lot to access Riverside S.P. Difficult to cross over Government Way to bike path. Bike path not well marked so many think its just a wide sidewalk.	Wiki
Jessica Engelman	Noisy and lots of car emissions Side-street access into Vinegar Flats	Wiki
Jessica Engelman	Vinegar Flats to downtown route. Ideally it would continue north on Maple for one block, then connect to the existing bike lanes on 4th via a physically-protected bikeway on Freeway Ave (two-way jersey-barrier protected bike lane on the south side of the street?) Improving this route would also improve south-of-the-river access to the new Fish Lake Trail connector.	Wiki
Jessica Engelman	Sunset Blvd could be a connection route to the Fish Lake Trail, but is an uncomfortable place to be. Cycling shoulder is covered in glass and debris, and needs physical protection from fast-moving traffic. Also needs several robust crossing improvements to provide access into neighborhoods. Switchbacks are simply no fun, and create conflict between users with their tight curves and large speed differences between uphill and downhill users. They should be creatively avoided where possible, and made with as minimal a grade as feasible. The existing swithchbacks from the Sandifur Bridge to the Centennial Trail are too steep, don't have good visibility, and should be a guide for how not to build them.	Wiki
Jessica Engelman	Another one of the ways to access the new Fish Lake Trail connector from western downtown. The separated path is nice, where it exists, but needs to be completed. I really don't enjoy the steep climb up the sidewalk on Main Ave; while the altitude gain is inevitable, a dedicated bike facility would make it more comfortable.	Wiki
Jessica Engelman	One of the most direct ways to access this new Fish Lake Trail connector from Browne's Addition and western downtown. I do not like the current cycling conditions: the hill is too steep and visibility too poor for a cycling facility that isn't physically separated from auto traffic.	Wiki
Jessica Engelman	Poor visibility at the bend.	Wiki
Jessica Engelman	What's the justification for a new bridge here? Seems like an unnecessary cost.	Wiki
Jessica Engelman	Uncomfortably steep climb. The Fish Lake Trail connection should not be any steeper, and ideally should be a lesser grade, even if that means a longer climb.	Wiki
Jessica Engelman	Improved access to SFCC	Wiki
Steve Schroeder	I live in the Eagle Ridge area and connecting the trails would allow me to have easier access to Spokane via the trails.	Pub Mtg
Levi Basinger	Enhancing connections to the larger bike network.	Pub Mtg
marcia	not too steep of a grade	Pub Mtg
Dana D.	Connection to Cheney trail	Pub Mtg
Olga Lucia Herrera	It allow some of us to get to another trail without driving as much. It also connects neighborhoods that are not currently connected	Pub Mtg
Jeff Sevela	I frequently cycle between FLT and CT via Govt Wy & Riverside, would be nice to have alternate away from traffic. Also agree w/Jessica for increased access into neighborhoods (Inland Empire Wy area) Also increase accessibility for variety of users	Pub Mtg
Olga Lucia Herrera	Feel free to add Scenic view; and fun activities for visitors	Pub Mtg
Mary's iPad	safety from autos	Pub Mtg

Olga Lucia Herrera	I second the emphasis on the communication with neighbors of the trail.	Pub Mtg
Seth Rima	I'd just appreciate a continued commitment to expand the bike/run/walk network that is grade-separated and accessible	Pub Mtg
Jeff Sevela	My opinion, Govt Wy overengineered; I cycle it frequently and I don't think I've ever seen traffic levels requiring 4 lanes of car travel	Pub Mtg
Levi Basinger	A road diet should be implemented on Govt way	Pub Mtg
sabrina keckalo	Government way probably doesn't need 4 traffic lanes. They very unnatural corners already (lanes feel narrow)	Pub Mtg
Seth Rima	Govt way could do with a road diet and would not lose much efficacy for vehicular traffic - though would obviously be a bit more testy by the "cars rights" crowd	Pub Mtg
Levi Basinger	Govt Way alignment may not be the most scenic but would be the most direct and convenient for commuters	Pub Mtg
Olga Lucia Herrera	Can those lanes have a buffer, be protected?	Pub Mtg
Nigel Davies	Highbridge park road is never open to traffic	Pub Mtg
Jessica Engelman	Right-sizing Government Way would greatly improve access to Spokane Falls Community College. Traffic counts don't support the current four-lane configuration, and in fact a two-lane configuration may be sufficient. A traffic study to determine turning patterns might be worthwhile.	Pub Mtg
Bill Bende	If Gov Way is used, what sort of facility is used to cross Sunset?	Pub Mtg
Jeff Sevela	Would safety screens need to be installed on the sides of the railway where the trail would cross underneath? (BNSF issue)	Pub Mtg
Levi Basinger	Green Trail would provide good connections between the neighborhood along Inland Empire Way, the centennial trail, and downtown	Pub Mtg
Danielle Milton	I think the green route would be the easiest and likely cost effective to implement and would improve that area that is often prone to homeless camps.	Pub Mtg
Danielle Milton	It's also very scenic (the green route).	Pub Mtg
Charlie Greenwood	Road diet for Government Way with two or three lanes. Eliminate curbs and gutters along Government Way and replace them with broad shoulders so it interfaces with the road past the cemeteries. Cyclists presently ride in the traffic lanes often on blind curves.	Pub Mtg
Jeff Sevela	Green route would get my vote for scenic and also neighborhood access	Pub Mtg
Seth Rima	Also wanted to ask - I'd read about at some point there may be a trail along Latah Creek with possible canoe/kayak facilities even at Campion Park / Hatch Road. If that is a possibility in the future, it would make sense to get the Green path paved to limit the work needed connecting a future trail to the north/east of the Creek	Pub Mtg
Mary's iPad	purple/green is my vote because it more scenic	Pub Mtg
Gary Rogers	IMO road diets creates dangerous roadways. It is insanity to continue to try to mix trails, particularly for bicycle use with vehicular traffic. Distracted driving is only going to increase. I like enjoying my bike ride/walk, not stressing about crazy drivers putting me a risk.	Pub Mtg
Charlie Greenwood	High bridge park deservatly needs to be paved.	Pub Mtg
Levi Basinger	Maybe purple trail with spur to neighborhood following green trail -- could have unpaved trail on east side of creek	Pub Mtg
Charlie Greenwood	I use green and purple depending on which direction I'm going and what kind of bike I'm on.	Pub Mtg
Nigel Davies	To access the south hill the green trail is of greatest appeal	Pub Mtg



Jessica Engelman	If the green or purple routes are not chosen, the city should definitely consider alternative walking/cycling access improvements for Vinegar Flats. Inland Empire/7th/6th/Maple/5th/Jefferson is a direct route to downtown that's relatively flat, but requires re-purposing some automotive lanes to a protected bike lane/multi-use path along the Maple-through-Jefferson stretch.	Pub Mtg
Nigel Davies	The connectivity off thorpe road would be fantastic it is also prone to camping. That said I don't believe that it would create true connectivity to the trolley trail but a great start! (Plus all of those condos/apt would have access to the trail)	Pub Mtg
Seth Rima	Interested to see if the better way to connect the Trolley trail would be to expand upon the proposed Susie Stephens trail that will connect to Finch Arboretum, connect Finch to FLT, to clarify	Pub Mtg
Charlie Greenwood	The trail should not cross Clarke at the bottom of a hill and around blind corners.	Pub Mtg
sabrina keckalo	Also wildlife, herons fish from the old bridge pillars. the scenic route along the creek is by far the best!	Pub Mtg
Nigel Davies	If the trail extension headed east instead of north from the FLT it likely will never be developed	Pub Mtg
Levi Basinger	Center median could be an issue during Bloomsday	Pub Mtg
Charlie Greenwood	Islands are hazards to cyclists.	Pub Mtg
Levi Basinger	Proper wayfinding especially where trails intersect with south gorge trail	Pub Mtg
Olga Lucia Herrera	Yes to way finding!	Pub Mtg
Eric Hatton	I think it is great that the city is looking at connecting the FLT to the Centennial. Any paved connection away from roads is a welcome and beneficial improvement to the city infrastructure. Personally I think the connector that goes down by Vineager Flats (marked green on your map) is the most beneficial route. I feel that route will not only help that community access both the FLT and the Centennial, but also, it helps add access to downtown via the Centennial. That route would become more than just a connector, but would also become a path of opportunity.	email
Jason Oestreicher	While I actually enjoy switchbacks, I do agree that they need to be designed for all users to be able to safely use them. I see lots of people pushing bikes up the Sandifur/CT switchbacks.	Wiki
Jeff	Agree switchbacks on north side of Sandifur Bridge too steep, but not sure how else you can climb a steep slope here without switchbacks of some sort. Too utilize gentle curves while still climbing would take a large amount of real estate (and pavement) to accomplish.	Wiki
Spencer Gardner	A connection to Browne's Addition in some form would be really useful. There are no easily-accessible bike-friendly options for getting to Browne's from the north side currently.	Wiki
Spencer Gardner	The design of Riverside Ave doesn't offer any visual cues to expect bike/ped crossing traffic on this stretch. I don't know what speeds are like currently but it definitely *feels* like you're trying to cross a highway.	Wiki
Mike	Bringing trail close to Latah Creek makes it more of a destination trail rather than just a connection between two existing long distance trails. Improvements here also	Wiki
Mike	Benefit over alternatives of connectivity between Sunset Hills and Vinegar Flats neighborhoods.	Wiki
Mike	Busy intersection	Wiki

Mike	Unpleasant recreational experience with trail adjacent to traffic	Wiki
Mike	Latah Creek views	Wiki
Jason Oestreicher	I ride this frequently and prefer this option. I think it would work well if there was a signed crossing at Riverside with the ability for trail users to push a crosswalk button (like on Grand Blvd. at Manito Park) and have warning lights alert cars to their presence in the roadway.	Wiki
David Jones	The route drawn here is the one we most use. We use the existing "trail" next to the sidewalk heading from Kendall Yards to Fish Lake and use Govt. Way on the way back unless traffic is too bad, then we use the trail again.	Wiki
Jeff Leone	We need a way to connect the Appleway trail to the downtown area and other trail systems.	Wiki
Jeff	Outside of the FLT proposals here, Government Way should be improved for cycling by elimination of one travel lane each direction from Greenwood to Milton and installation of bike lanes each side. Traffic load on Gov't Way does not require 4 lanes for motor vehicles.	Wiki
JD Strong	This crossing is not engineered for the mixed use path, and it's unclear on how to get into the Fish Lake Trailhead parking lot.	Wiki
JD Strong	Getting onto the Govt Way mixed use path is tricky at this intersection.	Wiki
JD Strong	Curb cuts here do not support the mixed use path.	Wiki
JD Strong	Either complete the trail, or provide signage here to transfer to Cheney-Spokane Road to get to Fish Lake.	Wiki
Kathy Brooks	Continue the Fish Lake Trail to Fish Lake and beyond.	Wiki
Rocky	There isn't even a curb ramp here! The trail abruptly ends with an abrupt 6" drop if you aren't paying close attention. (Government Way)	Wiki
Gary L Gunning	I prefer the Government Way route, more gentle, fairly direct.	Wiki
John F	Camp with debris/hazards on existing trail	Wiki
John F	Routes on the West side of Latah Creek/through High Bridge Park often hold snow/ice/moisture longer than any other areas in Spokane. Trail would be more accessible on more days, on East side of creek.	Wiki
John F	Mountain bike and trail running access to Polly Judd trail near High Drive. Awesome Views!	Wiki
John F	Playground access and improved park	Wiki
Don	Natural surface trail here needs retread/rework. Though marked as an official trail, it's construction is similar to a poorly constructed user trail. Erosion problems. (Bluff Trail connecting to Polly Judd)	Wiki
John F	I use this route to travel from Sandifur park to Upper South Hill. Mix of unpaved multi-use paths, Mtn Bike trails and streets. (Bluff Trail connecting to Polly Judd)	Wiki
John F	Kendall Yards to High Drive on bicycle (Bluff Trail at Inland Empire Way)	Wiki

			Wiki
John F	I use this route to travel from Sandifur Bridge to the Finch Arboretum on an electric bike. It's very steep and has no improvements for bicycles or pedestrians.		
John F	Poor connection from Fish Lake Trail to Lindeke Ct. with pot holes, poor drainage, no ADA access and hazards. (13th Ave near FLT)		Wiki
John F	Finch Arboretum and surrounding area		Wiki
John F	Connection here is steep and currently blocked by an adjacent landowner (14th Ave at Cochran St)		Wiki
John F	Don't feel safe in this area. Often individuals camping and yelling at people using the existing trail/park. (11th Ave Bridge - High Bridge Road)		Wiki
Steven D Johansen	Instead of connecting right at the Fish lake trailhead, can the trail connect somewhere south of the trailhead using the purple or green routes. Trailhead is for parking while connection is for continuous route riding and not riding through a parking area. (11th Ave Bridge)		Wiki
John F	Connection with planned Susie Stephens trail and Finch Arboretum. Could be a wonderful and marketable destination from Riverfront Park by bike. (Finch Arboretum)		Wiki
John F	Trolley Trail access		Wiki
Charlie Greenwood	Placing a bridge on the old piers would create another point of conflict on a blind curve. The Marne Bridge is adequate for all users I have been using it all my life.		Pub Mtg2
Phillip Tencick	For red: Could Riverside be crossed at government way and the switchbacks located on the undeveloped land north of Riverside?		Pub Mtg2
Charlie Greenwood	A trail could be brought up to Government Way on the North side of Riverside. There are already mountain bike paths there and the grade could be stretched out before it doubles back.		Pub Mtg2
Chris Bauman	These switchbacks look bothersome. for both recreational users and commuters		Pub Mtg2
Phillip Tencick	Will the disc golf course in High Bridge park need to be altered to prevent conflict on the blue and purple routes?		Pub Mtg2
Charlie Greenwood	There is a road starting under the I-90 bridge heading South up the hill until it runs into the fill of 195 at about 11th Avenue. It could be doubled back under the I-90 bridge to the trailhead.		Pub Mtg2
Bill Forman	How big a change to the size of the dog park would result on the red route?		Pub Mtg2
Kevin O'Grady	don't disk players traverse across the street to play the course? more concerned about walkers and cyclists conflicting		Pub Mtg2
Phil Larkin	The green alignment traverses private property before it enters the 11th street bridge. Has the owner been contacted? Would this be a big barrier?		Pub Mtg2
Charlie Greenwood	Some fill needs to be placed around the sewer heads along the creek trail. It has eroded away so they protrude and have become a hazard.		Pub Mtg2
Phillip Tencick	How will creekside options impact wildlife? There are large marmot populations.		Pub Mtg2
Melanie Keiser	Can we go under Govy Way? Tunnel?		Pub Mtg2
Inga Note	Yes the dog park comes up to the retaining wall.		Pub Mtg2
Chuck Boehme	Green route seems to be the most picturesque route.		Pub Mtg2
Phillip Tencick	Will the green route preserve the connecting trail to Browne's Addition?		Pub Mtg2



If Government Way was reconfigured in the same way as it is through the cemeteries with a third lane in the middle for turning on corners and intersections and broad shoulders it would work best for all users and be easier to maintain and construction costs would be reduced.

There is curbing that intrudes in the right of way at the east end of the Marne Bridge forcing cyclists into the traffic before they can swerve back onto the shoulder. this piece of curbing causes a problem when I'm driving my car too. I'm often driving over it to avoid getting hit when pulling onto Riverside.

Charlie Greenwood

Pub Mtg2

How similar would the switchbacks under I-90 be to the switchbacks on the CT going down to Long Lake?

Don Barden

Pub Mtg2

The Marne Bridge would work better if the curbing and walls along Clarke Avenue were eliminated and replaced with broad shoulders.

Charlie Greenwood

Pub Mtg2

Jerry Compton

Pub Mtg2

Short line trolley!!!

Tim Hansen

Pub Mtg2

I like Red or Blue line. Thanks for your good work!

David Keckalo

Pub Mtg2

Maybe cross 195 at Thorp? The W side is already high.

If two new tunnels were bored for Thorpe Road they could become one way tunnels.

Charlie Greenwood

Pub Mtg2

Charlie Greenwood

Place a footbridge across 195 at about 27th avenue.

Pub Mtg2

I'm actually more interested in the features that the \$s are supposed to buy than the cost # itself.

Paul Kropp

Pub Mtg2

I feel safer crossing 195 on my bicycle. Now it's become impossible to cross in a car. Government Way is not the highest stress for bicyclists but can it become attractive for all ages and abilities?

Charlie Greenwood

Pub Mtg2

Jerry Compton

Pub Mtg2

Not sure how the changes in Government Way will affect our West Hills

Karen Jurasin

Pub Mtg2

Neighborhood. That route is also less scenic,

Rhonda Young

Pub Mtg2

The high stress is the crossing of Sunset in my opinion

Paul Kropp

Pub Mtg2

Agree about Gov't Way proposed improvements.

Don Barden

Pub Mtg2

I like the "no turn on" red at the Sunset crossing

Dan Schaffer

Pub Mtg2

I still do not like the idea of the trail being so close to Govt Way Red seems like a good solution. Crossing Riverside at Government Way may address the biggest shortcoming.

Phillip Tencick

Pub Mtg2

The proposed improvements on the Government Way multi-use trail would seem to well address concerns about safety; it is not "scenic," but it is a relatively short section with a steady, gentle grade. Having commuted across the I-90 bridge at Lake Washington, separated from high speed traffic by a jersey barrier, the proposed improvements on GW make sense.

Don Barden

Pub Mtg2

# Appendix C

## Cost Estimates







# Cost Estimate

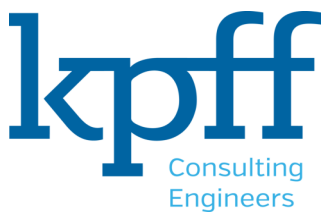
Project Name: Fish Lake Trail Connector  
 Project Phase: Pre-Design  
 Prepared By: PDS/JRG/RL  
 Checked By: PDS

Date: 12/9/2020

## RED ALIGNMENT

ITEM AND DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	SUBTOTAL
MOBILIZATION (10%)					\$ 526,101
SURVEYING	1	LS	\$ 75,000	\$ 75,000	\$ 75,000
DEMOLITION & SITE PREP					
Clear & Grub (6" depth incl. trees under 8" dbh)	12,342	SY	\$ 3	\$ 37,025	
Remove Concrete Paving (4" depth)	789	SY	\$ 20	\$ 15,789	
Remove HMA (4" depth)	2,889	SY	\$ 20	\$ 57,778	
Remove Curb and Gutter	2,600	LF	\$ 25	\$ 65,000	
Roadway Excavation	17,700	CY	\$ 20	\$ 354,000	
Remove Misc. Items	1	ALLOW	\$ 20,000	\$ 20,000	\$ 549,591
EARTHWORK					
Earthwork (cut)	5,225	CY	\$ 24	\$ 125,400	
Earthwork (fill, place, compact)	8,868	CY	\$ 10	\$ 88,680	
Geofoam (structural fill)	0	CY	\$ 125	\$ -	\$ 214,080
SURFACING					
HMA Surface (4" depth)	1,808	TN	\$ 120	\$ 216,985	
Concrete Sidewalk	350	SY	\$ 100	\$ 35,000	
Top Course: Under HMA/Sidewalk, Shldr (6" depth)	3,840	TN	\$ 80	\$ 307,240	
Cement Concrete Curb and Gutter	500	LF	\$ 50	\$ 25,000	\$ 584,225
STRUCTURAL					
Bridge ST-2	1	LS	\$ 2,132,000	\$ 2,132,000	
Wall R1	1	LS	\$ 768,098	\$ 768,098	
Wall R2	1	LS	\$ 33,988	\$ 33,988	
Wall R3	1	LS	\$ 28,811	\$ 28,811	\$ 2,962,897
DRAINAGE					
Drainage	1	ALLOW	\$ 150,000	\$ 150,000	\$ 150,000
UTILITIES					
Utility Adjustments	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
BARRICADES					
Fall Protection (Beyond Walls/Bridges)	410	LF	\$ 50	\$ 20,500	
Bridge Railing	655	LF	\$ 200	\$ 131,000	\$ 151,500
AMENITIES					
Kiosks, Benches, Picnic Tables	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
CHANNELIZATION AND SIGNAGE					
Paint Stripe	15,000	LF	\$ 1	\$ 15,000	
Permanent Signing	1	LS	\$ 15,000	\$ 15,000	\$ 30,000
ILLUMINATION					
Trail Lighting	0	LS	\$ -	\$ -	\$ -
EROSION CONTROL					
Erosion and Water Pollution Control Measures	1	ALLOW	\$ 340,600	\$ 340,600	\$ 340,600
PLANTING					
Shrubs, Seeding, Grouncover	6,875	SY	\$ 15	\$ 103,120	\$ 103,120
ITEM SUBTOTAL					\$ 5,787,114
Estimating Contingency (30%)					\$ 1,157,423
<b>SUBTOTAL</b>					<b>\$ 6,944,537</b>
WSST (8.90%)					\$ 618,064
<b>TOTAL</b>					<b>\$ 7,562,601</b>

\*Alternative option for Red Alignment is a full span bridge over Riverside Avenue and Latah Creek that would replace Bridge ST-2.  
 Cost = \$3,513,000 LS



# Cost Estimate

Project Name: Fish Lake Trail Connector  
 Project Phase: Pre-Design  
 Prepared By: PDS/JRG/RL  
 Checked By: PDS

Date: 12/9/2020

## BLUE ALIGNMENT

ITEM AND DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	SUBTOTAL
MOBILIZATION (10%)					\$ 821,102
SURVEYING	1	LS	\$ 75,000	\$ 75,000	\$ 75,000
DEMOLITION & SITE PREP					
Clear & Grub (6" depth incl. trees under 8" dbh)	16,520	SY	\$ 3	\$ 49,560	
Remove Concrete Paving (4" depth)	0	SY	\$ 20	\$ -	
Remove HMA (4" depth)	0	SY	\$ 20	\$ -	
Remove Curb and Gutter	0	LF	\$ 25	\$ -	
Roadway Excavation	0	CY	\$ 20	\$ -	
Remove Misc. Items	1	ALLOW	\$ 20,000	\$ 20,000	\$ 69,560
EARTHWORK					
Earthwork (cut)	12,873	CY	\$ 24	\$ 308,952	
Earthwork (fill, place, compact)	3,802	CY	\$ 10	\$ 38,020	
Geofoam (structural fill)	0	CY	\$ 125	\$ -	\$ 346,972
SURFACING					
HMA Surface (4" depth)	1,351	TN	\$ 120	\$ 162,180	
Top Course: Under HMA, Shldr, Con (6" depth)	2,870	TN	\$ 80	\$ 229,638	\$ 391,817
STRUCTURAL					
Bridge ST-1	1	LS	\$ 2,260,000	\$ 2,260,000	
Wall B1	1	LS	\$ 112,622	\$ 112,622	
Wall B2	1	LS	\$ 709,069	\$ 709,069	
Wall B3	1	LS	\$ 2,509,038	\$ 2,509,038	
Wall B4	1	LS	\$ 614,587	\$ 614,587	\$ 6,205,316
DRAINAGE					
Drainage	1	ALLOW	\$ 150,000	\$ 150,000	\$ 150,000
UTILITIES					
Utility Adjustments	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
BARRICADES					
Fall Protection (Beyond Walls/Bridges)	0	LF	\$ 50	\$ -	
Bridge Railing	995	LF	\$ 200	\$ 199,000	\$ 199,000
AMENITIES					
Kiosks, Benches, Picnic Tables	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
CHANNELIZATION AND SIGNAGE					
Paint Stripe	0	LF	\$ 1	\$ -	
Permanent Signing	1	LS	\$ 10,000	\$ 10,000	\$ 10,000
ILLUMINATION					
Trail Lighting	0	LS	\$ -	\$ -	\$ -
EROSION CONTROL					
Erosion and Water Pollution Control Measures	1	ALLOW	\$ 534,900	\$ 534,900	\$ 534,900
PLANTING					
Shrubs, Seeding, Grouncover	8,564	SY	\$ 15	\$ 128,458	\$ 128,458
ITEM SUBTOTAL					\$ 9,032,126
Estimating Contingency (30%)					\$ 1,806,425
<b>SUBTOTAL</b>					<b>\$ 10,838,551</b>
WSST (890%)					\$ 964,631
<b>TOTAL</b>					<b>\$ 11,803,182</b>





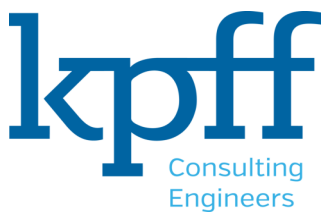
# Cost Estimate

Project Name: Fish Lake Trail Connector  
 Project Phase: Pre-Design  
 Prepared By: PDS/JRG/RL  
 Checked By: PDS

Date: 12/9/2020

## PURPLE ALIGNMENT

ITEM AND DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	SUBTOTAL
MOBILIZATION (10%)					\$ 994,513
SURVEYING	1	LS	\$ 75,000	\$ 75,000	\$ 75,000
DEMOLITION & SITE PREP					
Clear & Grub (6" depth incl. trees under 8" dbh)	14,155	SY	\$ 3	\$ 42,465	
Remove Concrete Paving (4" depth)	0	SY	\$ 20	\$ -	
Remove HMA (4" depth)	0	SY	\$ 20	\$ -	
Remove Curb and Gutter	0	LF	\$ 25	\$ -	
Roadway Excavation	0	CY	\$ 20	\$ -	
Remove Misc. Items	1	ALLOW	\$ 20,000	\$ 20,000	\$ 62,465
EARTHWORK					
Earthwork (cut)	8,061	CY	\$ 24	\$ 193,464	
Earthwork (fill, place, compact)	15,540	CY	\$ 10	\$ 155,400	
Geofoam (structural fill)	11,180	CY	\$ 125	\$ 1,397,500	\$ 1,746,364
SURFACING					
HMA Surface (4" depth)	1,099	TN	\$ 120	\$ 131,872	
Top Course: Under HMA, Shldr, Con (6" depth)	2,334	TN	\$ 80	\$ 186,724	\$ 318,597
STRUCTURAL					
Structure ST-1	1	SF	\$ 2,260,000	\$ 2,260,000	
Wall G1	1	SF	\$ 72,486	\$ 72,486	
Wall G2	1	SF	\$ 1,028,621	\$ 1,028,621	
Wall G3	1	SF	\$ 1,621,331	\$ 1,621,331	
Wall G4	1	SF	\$ 167,291	\$ 167,291	
Wall G5	1	SF	\$ 109,849	\$ 109,849	
Wall G6	1	SF	\$ 219,436	\$ 219,436	
Wall G7	1	SF	\$ 342,174	\$ 342,174	
Wall B4	1	SF	\$ 614,587	\$ 614,587	\$ 6,435,775
DRAINAGE					
Drainage	1	ALLOW	\$ 150,000	\$ 150,000	\$ 150,000
UTILITIES					
Utility Adjustments	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
BARRICADES					
Fall Protection (Beyond Walls/Bridges)	1,093	LF	\$ 40	\$ 43,720	
Bridge Railing	1,160	LF	\$ 200	\$ 232,000	\$ 275,720
AMENITIES					
Kiosks, Benches, Picnic Tables	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
CHANNELIZATION AND SIGNAGE					
Paint Stripe	0	LF	\$ 1	\$ -	
Permanent Signing	1	LS	\$ 10,000	\$ 10,000	\$ 10,000
ILLUMINATION					
Trail Lighting	0	LS	\$ -	\$ -	\$ -
EROSION CONTROL					
Erosion and Water Pollution Control Measures	1	ALLOW	\$ 648,400	\$ 648,400	\$ 648,400
PLANTING					
Shrubs, Seeding, Grouncover	8,187	SY	\$ 15	\$ 122,812	\$ 122,812
ITEM SUBTOTAL					\$ 10,939,646
Estimating Contingency (30%)					\$ 2,187,929
<b>SUBTOTAL</b>					<b>\$ 13,127,575</b>
WSST (8.90%)					\$ 1,168,354
<b>TOTAL</b>					<b>\$ 14,295,930</b>



# Cost Estimate

Project Name: Fish Lake Trail Connector  
 Project Phase: Pre-Design  
 Prepared By: PDS/JRG/RL  
 Checked By: PDS

Date: 12/9/2020

## GREEN ALIGNMENT

ITEM AND DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	SUBTOTAL
MOBILIZATION (10%)					\$ 1,521,074
SURVEYING	1	LS	\$ 75,000	\$ 75,000	\$ 75,000
DEMOLITION & SITE PREP					
Clear & Grub (6" depth incl. trees under 8" dbh)	21,414	SY	\$ 3	\$ 64,242	
Remove Concrete Paving (4" depth)	0	SY	\$ 20	\$ -	
Remove HMA (4" depth)	0	SY	\$ 20	\$ -	
Remove Curb and Gutter	0	LF	\$ 25	\$ -	
Roadway Excavation	0	CY	\$ 20	\$ -	
Remove Misc. Items	1	ALLOW	\$ 20,000	\$ 20,000	\$ 84,242
EARTHWORK					
Earthwork (cut)	14,715	CY	\$ 24	\$ 353,160	
Earthwork (fill, place, compact)	15,728	CY	\$ 10	\$ 157,280	
Geofoam (structural fill)	11,180	CY	\$ 125	\$ 1,397,500	\$ 1,907,940
SURFACING					
HMA Surface (4" depth)	2,279	TN	\$ 120	\$ 273,486	
Top Course: Under HMA, Shldr, Con (6" depth)	4,841	TN	\$ 80	\$ 387,243	\$ 660,729
STRUCTURAL					
Wall G1	1	LS	\$ 72,486	\$ 72,486	
Wall G2	1	LS	\$ 1,028,621	\$ 1,028,621	
Wall G3	1	LS	\$ 1,621,331	\$ 1,621,331	
Wall G4	1	LS	\$ 167,291	\$ 167,291	
Wall G5	1	LS	\$ 109,849	\$ 109,849	
Wall G6	1	LS	\$ 219,436	\$ 219,436	
Wall G7	1	LS	\$ 342,174	\$ 342,174	
Wall G8	1	LS	\$ 6,987,773	\$ 6,987,773	\$ 10,548,961
DRAINAGE					
Drainage	1	ALLOW	\$ 150,000	\$ 150,000	\$ 150,000
UTILITIES					
Utility Adjustments	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
BARRICADES					
Fall Protection (Beyond Walls/Bridges)	4,370	LF	\$ 50	\$ 218,500	
Bridge Railing	1,160	LF	\$ 200	\$ 232,000	\$ 450,500
AMENITIES					
Kiosks, Benches, Picnic Tables	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
CHANNELIZATION AND SIGNAGE					
Paint Stripe	0	LF	\$ 1	\$ -	
Permanent Signing	1	LS	\$ 10,000	\$ 10,000	\$ 10,000
ILLUMINATION					
Trail Lighting	0	LS	\$ -	\$ -	\$ -
EROSION CONTROL					
Erosion and Water Pollution Control Measures	1	ALLOW	\$ 990,200	\$ 990,200	\$ 990,200
PLANTING					
Shrubs, Seeding, Grouncover	15,544	SY	\$ 15	\$ 233,167	\$ 233,167
ITEM SUBTOTAL					\$ 16,731,812
Estimating Contingency (30%)					\$ 3,346,362
<b>SUBTOTAL</b>					<b>\$ 20,078,175</b>
WSST (8.00%)					\$ 1,786,958
<b>TOTAL</b>					<b>\$ 21,865,133</b>





# Cost Estimate

Project Name: Fish Lake Trail Connector  
 Project Phase: Pre-Design  
 Prepared By: PDS/JRG/RL  
 Checked By: PDS

Date: 12/9/2020

## THORPE ROAD CONNECTION

ITEM AND DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	SUBTOTAL
MOBILIZATION (10%)					\$ 62,687
SURVEYING	1	LS	\$ 25,000	\$ 25,000	\$ 25,000
DEMOLITION & SITE PREP					
Clear & Grub (6" depth incl. trees under 8" dbh)	11,000	SY	\$ 3	\$ 33,000	
Remove Concrete Paving (4" depth)	0	SY	\$ 20	\$ -	
Remove HMA (4" depth)	0	SY	\$ 20	\$ -	
Remove Curb and Gutter	0	LF	\$ 25	\$ -	
Roadway Excavation	0	CY	\$ 20	\$ -	
Remove Misc. Items	1	ALLOW	\$ 5,000	\$ 5,000	\$ 38,000
EARTHWORK					
Earthwork (cut)	1,000	CY	\$ 24	\$ 24,000	
Earthwork (fill, place, compact)	13,000	CY	\$ 10	\$ 130,000	
Geofoam (structural fill)	0	CY	\$ 125	\$ -	\$ 154,000
SURFACING					
HMA Surface (4" depth)	565	TN	\$ 120	\$ 67,830	
Top Course: Under HMA, Shldr, Con (6" depth)	1,201	TN	\$ 80	\$ 96,044	\$ 163,875
DRAINAGE					
Drainage	1	ALLOW	\$ 15,000	\$ 15,000	\$ 15,000
UTILITIES					
Utility Adjustments	1	ALLOW	\$ 50,000	\$ 50,000	\$ 50,000
BARRICADES					
Fall Protection (Beyond Walls/Bridges)	0	LF	\$ 40	\$ -	
Bridge Railing	0	LF	\$ 200	\$ -	\$ -
AMENITIES					
Kiosks, Benches, Picnic Tables	1	ALLOW	\$ 10,000	\$ 10,000	\$ 10,000
CHANNELIZATION AND SIGNAGE					
Paint Stripe	1,000	LF	\$ 1	\$ 1,000	
Permanent Signing	1	LS	\$ 10,000	\$ 10,000	
Signalized Improvements	1	LS			\$ 11,000
ILLUMINATION					
Trail Lighting	0	LS	\$ -	\$ -	\$ -
EROSION CONTROL					
Erosion and Water Pollution Control Measures	1	ALLOW	\$ 24,700	\$ 24,700	\$ 24,700
PLANTING					
Shrubs, Seeding, Groundcover	9,020	SY	\$ 15	\$ 135,300	\$ 135,300
ITEM SUBTOTAL					\$ 689,562
Estimating Contingency (30%)					\$ 137,912
<b>SUBTOTAL</b>					<b>\$ 827,475</b>
WSST (8.90%)					\$ 73,645
<b>TOTAL</b>					<b>\$ 901,120</b>
<b>ALTERNATE - New Tunnel</b>					
250 LF 16-ft Diameter Tunnel	1	SF	\$ 12,500,000	\$ 12,500,000	
Credit Signalized Improvements	-1	LS	\$ 130,000	\$ (130,000)	
<b>TOTAL</b>					<b>\$ 12,370,000</b>





# Appendix D

Environmental Review – Fish Lake Trail Connection Study



# ENVIRONMENTAL REVIEW

## FISH LAKE TRAIL CONNECTION STUDY

### ALTERNATIVES ANALYSIS

---

*Prepared By:*

Michelle Anderson, Sr. Biologist &  
Jacob Taylor, Biological Technician  
Anderson Environmental Consulting, LLC  
707 N Cedar St. STE 1B  
Spokane WA, 99201  
Ph: 509-220-0045  
[MCA@aec-enviro.com](mailto:MCA@aec-enviro.com)

*Prepared For:*

Pat Sloan, PE  
KPFF Consulting Engineers, Inc.  
1601 Fifth Avenue, Suite 1600  
Seattle, WA 98101  
206-926-0440

*and*

The City of Spokane

**August 24<sup>th</sup>, 2020**



## TABLE OF CONTENTS

<b>1</b>	<b>Introduction</b> .....	<b>1</b>
1.1	Project Purpose.....	1
1.2	Methodology .....	1
1.3	Location .....	1
1.4	Options .....	2
1.5	Environmental Setting.....	3
1.6	Photos.....	3
<b>2</b>	<b>Environmental Inventory and Options’ Effects</b> .....	<b>6</b>
2.1	Neighborhood Impacts.....	7
2.2	Environmental Justice-Minorities and Low-income populations .....	9
2.3	Section 4(f) Resources .....	9
2.4	Cultural Resources .....	10
2.5	Visual Impacts .....	18
2.6	Known/Suspected Hazmat Risks.....	18
2.7	Critical Areas .....	20
2.7.1	Shorelines .....	20
2.7.2	Riparian Habitat Area .....	20
2.7.3	Aquatic Resources.....	23
2.7.4	Flood Plains.....	27
2.7.5	Geological Hazards.....	29
2.7.6	Sole Source Aquifer .....	31
2.7.7	Priority Habitat and Species.....	33
<b>3</b>	<b>Environmental Requirements and Considerations for Design and Construction</b> .....	<b>34</b>

## ATTACHMENTS

	Attachment A. Demographic Data .....	1
	Attachment B. Hazardous material Sites.....	1
	Attachment C. Wildlife Information .....	1
•	IPaC Species List (USFWS) .....	1
•	Priority Habitat and Species Report (WDFW) .....	1

## FIGURES

	Figure 1: Vicinity Map.....	2
	Figure 2: Options Overview .....	6
	Figure 3: Neighborhood Impacts.....	8

Figure 4: Hazmat Map ..... 19

Figure 5: Shoreline Map..... 22

Figure 6: National Wetland Inventory Map ..... 24

Figure 7: Aquatic Resources..... 26

Figure 8: FEMA Flood Map..... 28

Figure 9: Geological Hazards..... 30

Figure 10: SVRP Aquifer ..... 32

**TABLES**

Table 2-1.Options 1a and 1b -Potential Historic Properties ..... 11

Table 2-2. Option 2-Potential Historic Properties ..... 12

Table 2-3. Option 3 Potential Historic Properties ..... 14

Table 2-4. Thorpe Road Connector Potential Historic Properties..... 15

Table 2-5. Potential Historic Properties in the Project Area..... 16

Table 2-6. Visual Impacts ..... 18

**PHOTOS**

Photo 1: Fish Lake Trailhead. .... 3

Photo 2: Residential Properties adjacent to Options 1a, 1b, and 2 on W. 8<sup>th</sup> Ave..... 3

Photo 3: Top of slope (potential Geological Hazard area) Options 1a, 1b, and 2..... 4

Photo 4: Potential seep area at toe of slope. .... 4

Photo 5: Option 1b, view to the north, towards High Bridge Park and the Sunset Bridge. .... 4

Photo 6: Option 2, Latah Creek and 11<sup>th</sup> St Bridge..... 4

Photo 7: Option 2, 11<sup>th</sup> St Bridge..... 4

Photo 8: Option 2, view to the north, toward I-90, BNSF, and Sunset Bridges. .... 4

Photo 9: Options 1a and 1b, Latah Creek and Marne Bridge. .... 5

Photo 10: Options 1a and 1b, Marne Bridge. .... 5

Photo 11: Option 1a in High Bridge Park. .... 5

Photo 12: Option 3, Government Way, view to the north, from the Spokanimal Dog Park parking lot..... 5

## LIST OF ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey (US Census Bureau)
AEC	Anderson Environmental Consulting, LLC
AHSR	Archeological and Historic Survey Report
Ave.	Avenue
Blvd.	Boulevard
BMP	Best Management Practices
CE	Categorical Exclusion
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
DOE	Determination of Effect
Ecology	Washington State Department of Ecology
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLT	Fish Lake Trail
HPA	Hydraulic Project Approval
IPaC	Information for Planning and Consultation
JARPA	Joint Aquatic Resource Permit Application
LUST	Leaking Underground Storage Tank
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
OHWM	ordinary high-water mark
PEM	Palustrine Emergent (Cowardin Class)
Project	Fish Lake Trail Connection
PSS	Palustrine Scrub Shrub (Cowardin Class)
R3UBH	Riverine, Upper Perennial, Unconsolidated Bottom, Permanently Flooded (Cowardin Class)
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded (Cowardin Class)
RCRA	Resource Conservation and Recovery Act
SEPA	State Environmental Policy Act
SPCC	Spill Prevention Control and Countermeasure
SSA	Sole Source Aquifer
St.	Street
SWPPP	Storm Water Pollution Prevention Plan
TESC	Temporary Erosion and Sediment Control Plan



USACE	United States Army Corps of Engineers
UST	Underground Storage Tank
WDFW	Washington Department of Fish and Wildlife
WOTUS	Waters of the US

# 1 INTRODUCTION

## 1.1 PROJECT PURPOSE

The City of Spokane Parks and Recreation is proposing to extend the Fish Lake Trail to connect it to the Spokane River Centennial State Park Trail (Centennial Trail) and the Peaceful Valley Trail. The Fish Lake Trail Connection (Project), would begin at the current northern terminus located at S. Lindeke Street and would end at the Peoples Park trailhead, immediately south of the Sandifur Bridge. From the People's Park trailhead, the Peaceful Valley Trail heads east along the south side of the Spokane River and an access trail crosses the Sandifur Bridge to connect to the Centennial Trail. Additionally, the Project connect the FLT and Thorpe Road. This Project would expand and improve the connectivity of the bicycle/pedestrian system in the Spokane area.

The purpose of this report is to provide comparative, high level information regarding the Options' potential impacts to the built and natural environmental resources present in the project area. This information will inform the design team and public regarding potential impacts, mitigation, and regulatory and funding requirements for each alignment Option. This report was prepared assuming Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) funding would be pursued.

## 1.2 METHODOLOGY

The City of Spokane Parks and Recreation and the Design team identified four conceptual options with input from the public and key stakeholders. The conceptual level options were digitized, and resources mapped using GIS. At present, there is no geotechnical or survey grade topography data; therefore, pending more specific design detail, specific impacts are not known. Potential environmental impacts were identified by evaluating aerial photography, reviewing agency databases, and through a site visit during June of 2020. Information sources from agency databases are included as footnotes in this document.

## 1.3 LOCATION

The Project is located north of the City of Spokane in Township 25 north, Range 42 east, Sections 23, 24, and 25 in Spokane County, Washington. See **Figure 1**.

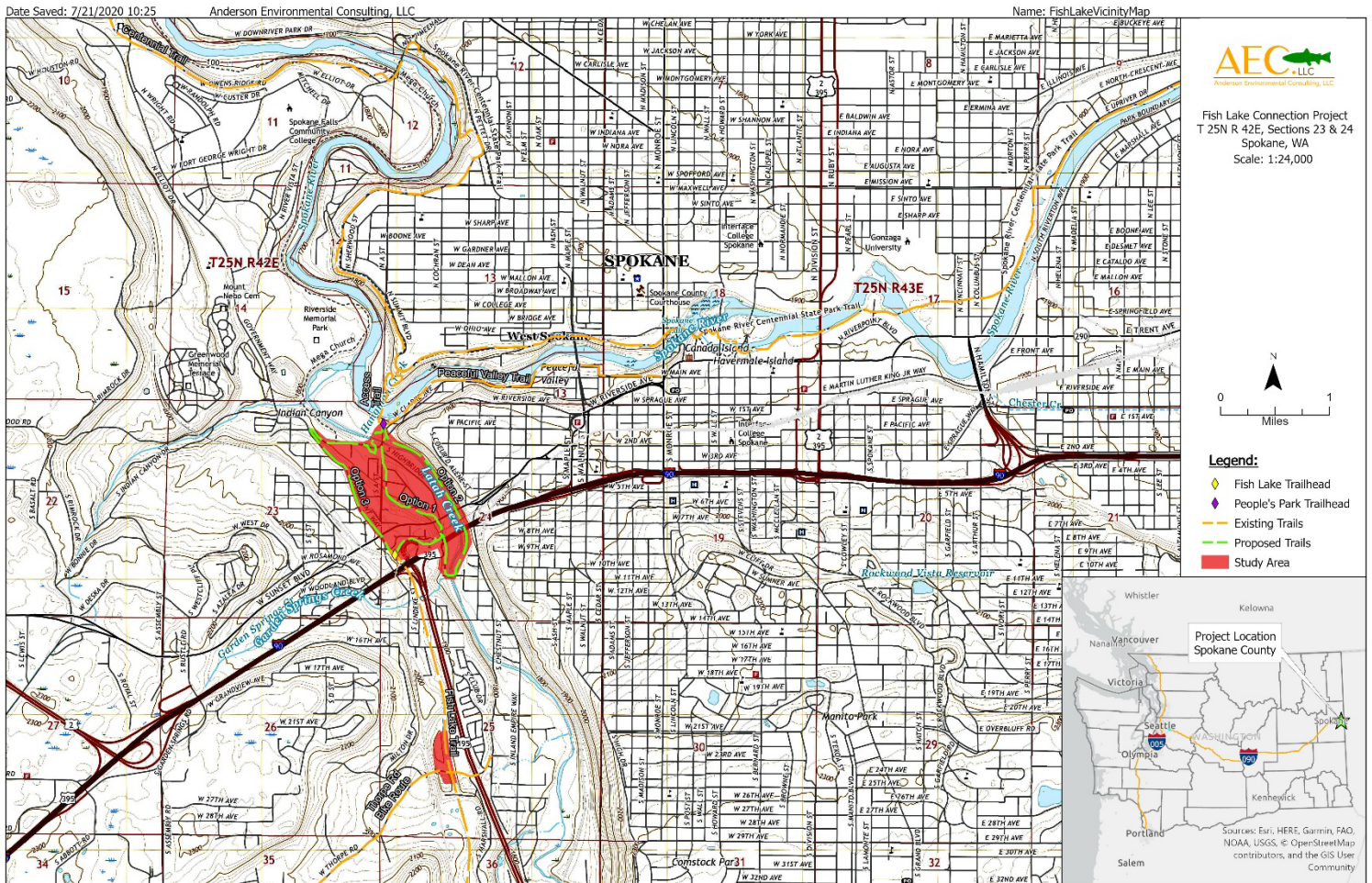


Figure 1: Vicinity Map

## 1.4 OPTIONS

Three primary Option alignments (Options) were identified to meet the project purpose. All Options begin at the northern terminus of the FLT at S. Lindeke Street and end at the People’s Park trailhead immediately south of the Sandifur Bridge. Option 1 has two options for crossing through High Bridge Park, 1a (Blue) and 1b (Purple). The Options also include a connection between the FLT and Thorpe Road. The Options are shown in Figure 2 and described below:

**Option 1a (Blue)** – From the Fish Lake trailhead, Option 1 goes easterly skirting the highway on-ramp, passes under the railroad and down the slope towards Latah Creek with switchbacks. It crosses under the Sunset Boulevard Bridge (aka Latah Creek Bridge) and continues northwest through High Bridge Park. Within the Park, Option 1a (Blue) crosses through the Disc golf course before crossing Latah Creek using the Marne Bridge (aka Riverside Avenue Bridge) ending at the People’s Park trailhead and the Sandifur Bridge.

**Option 1b (Purple)** – From the FLT trailhead, this Option travels easterly, skirting the highway on-ramp and crosses under the Sunset Boulevard Bridge (aka Latah Creek Bridge), the BNSF Hangman Creek



Bridge, and I-90. The Option then turns north and travels through High Bridge Park using the existing road network in the park to access Marne Bridge (aka Riverside Avenue Bridge) to cross Latah Creek ending at the People’s Park trailhead and the Sandifur Bridge.

**Option 2 (Green)** – From the FLT trailhead this alternative travels easterly, skirting the highway on-ramp and passing under the railroad before switch-backing downslope towards Latah Creek. It then heads south under the BNSF Hangman Creek Bridge and I-90 to 11<sup>th</sup> Ave. It continues east crossing Latah Creek on the 11<sup>th</sup> Ave. Bridge, then follows an existing unpaved utility bench on the east side of Latah Creek to the People’s Park trailhead and the Sandifur Bridge.

**Option 3 (Red)** – From the FLT trailhead this Option crosses Sunset Blvd. to Government Way. It continues along the east side of Government Way on a separate path, then crosses into High Bridge Park from the north immediately before intersecting with W. Riverside Ave. It would be aligned parallel to Riverside Ave. within the park then would cross Riverside to a new river crossing that would use existing footings within Latah Creek to connect with the People’s Park trailhead.

**Thorpe Road Extension (Yellow)** – A short trail connection would be constructed along the edge of the WSDOT owned "Thorpe pit" between the railroad and the existing FLT.

1.5 ENVIRONMENTAL SETTING

The proposed Project is in a primarily commercial and urban area in the City of Spokane, the park setting of High Bridge Park and the riparian areas along Latah Creek. The terrain includes a steep grade between the FLT trailhead and Latah Creek. Along the Latah Creek shoreline, the grade is relatively flat with mature Ponderosa pine stands in High Bridge Park and along the Latah Creek shoreline. The alignments travel along public roadways, through High Bridge Park, and through riparian areas of Latah Creek. See Photos 1-12.

1.6 PHOTOS



Photo 1: Fish Lake Trailhead.



Photo 2: Residential Properties adjacent to Options 1a, 1b, and 2 on W. 8<sup>th</sup> Ave.





**Photo 3: Top of slope (potential Geological Hazard area) Options 1a, 1b, and 2.**



**Photo 4: Potential seep area at toe of slope.**



**Photo 5: Option 1b, view to the north, towards High Bridge Park and the Sunset Bridge.**



**Photo 6: Option 2, Latah Creek and 11<sup>th</sup> St Bridge.**



**Photo 7: Option 2, 11<sup>th</sup> St Bridge.**



**Photo 8: Option 2, view to the north, toward I-90, BNSF, and Sunset Bridges.**





**Photo 9: Options 1a and 1b, Latah Creek and Marne Bridge.**



**Photo 10: Options 1a and 1b, Marne Bridge.**



**Photo 11: Option 1a in High Bridge Park.**



**Photo 12: Option 3, Government Way, view to the north, from the Spokanimal Dog Park parking lot.**



## 2 ENVIRONMENTAL INVENTORY AND OPTIONS' EFFECTS

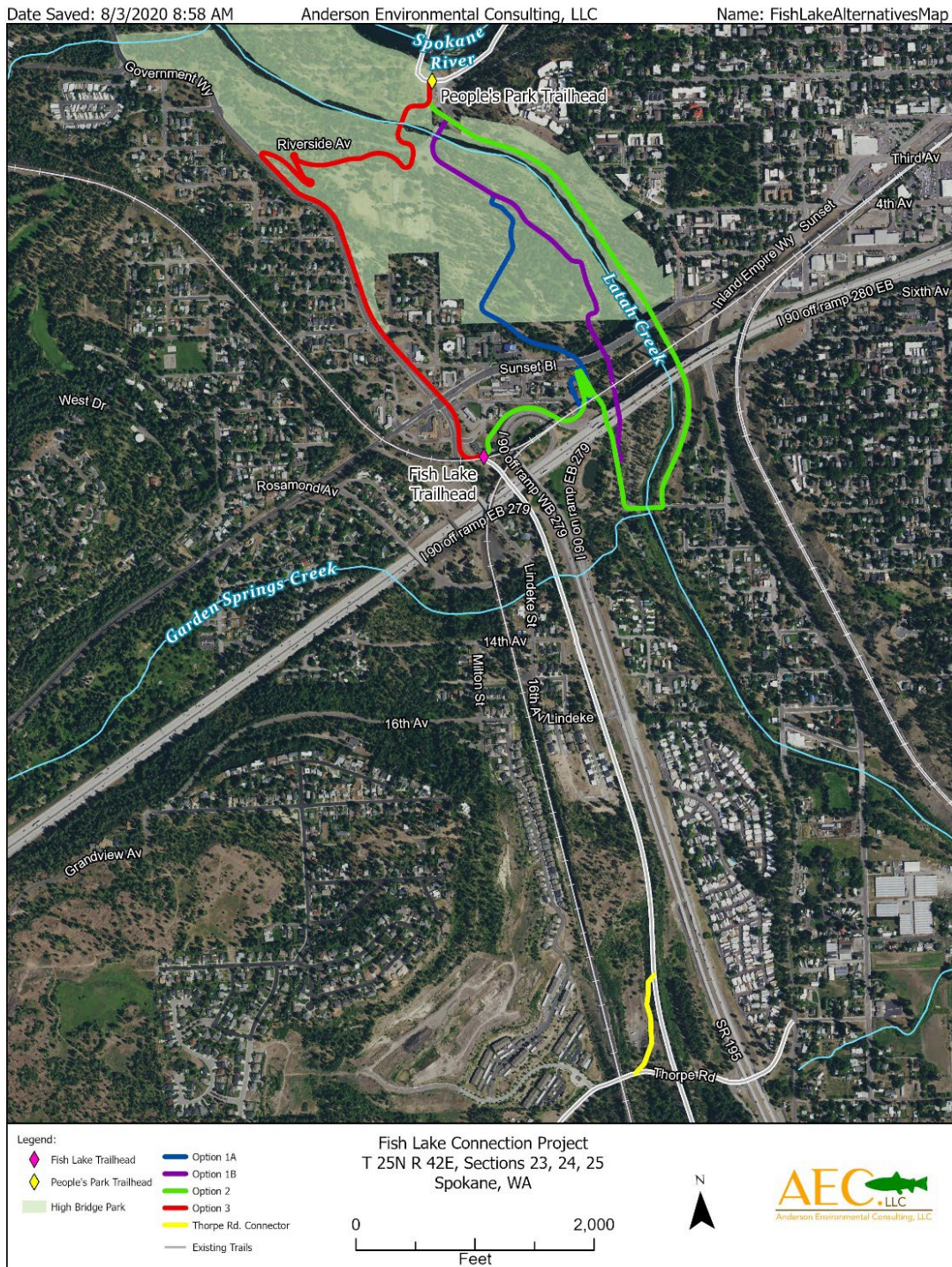


Figure 2: Options Overview

## 2.1 NEIGHBORHOOD IMPACTS

Any of the options could benefit the surrounding neighborhood and community and would have limited impact.

There is limited integration of residential properties, community resources, or commercial uses. For Options that run near residences, the trail connection would benefit residents providing direct access to the trail system; however, some landowners could consider an increase in pedestrian traffic as a privacy or security concern. Options 1a, 1b and 2 run directly adjacent to several residential properties near the intersection of Milton Street and 8th Avenue. Coordination with the property owners and Park staff may be warranted regarding privacy or safety concerns. Maintaining the trail and trail use by the community could reduce unauthorized camping and increase security.

**Option 1A** may conflict with other uses within High Bridge Park, primarily the disc golf course.

**Option 1B** may conflict with the disc golf course, but to a lesser extent than Option 1B, as it more closely follows more existing roads and does not cross through as many fairways as Option 1B.

**Option 2** has no known negative neighborhood impacts. This alternative would not impact other uses in High Bridge Park, as it cuts through the park in an area along the east bank of Latah Creek that already contains a gravel trail used by bike and pedestrian traffic. This option may provide additional benefit if unauthorized camps and litter along the shoreline of Latah Creek are cleaned up and if the area is better maintained and patrolled for public use.

**Option 3** runs directly adjacent to Government Way. This would have more traffic/pedestrian/bicycle conflict opportunities compared to the other options. This alternative cuts through High Bridge Park in a relatively underused area, although it will impact the dog High Bridge Dog Park run by the Spokanimal Humane Society. The proposed alignment will likely encroach upon the northwest corner of the fenced dog park.

**Figure 3:** Neighborhood Impacts shows park uses within High Bridge Park, including the dog park area and the fairway locations in the disc golf course<sup>1</sup>.

---

<sup>1</sup> <http://branvis.com/discgolf/highbridge/>



Date Saved: 8/3/2020 8:58 AM

Anderson Environmental Consulting, LLC

Name: FishLakeParkMap

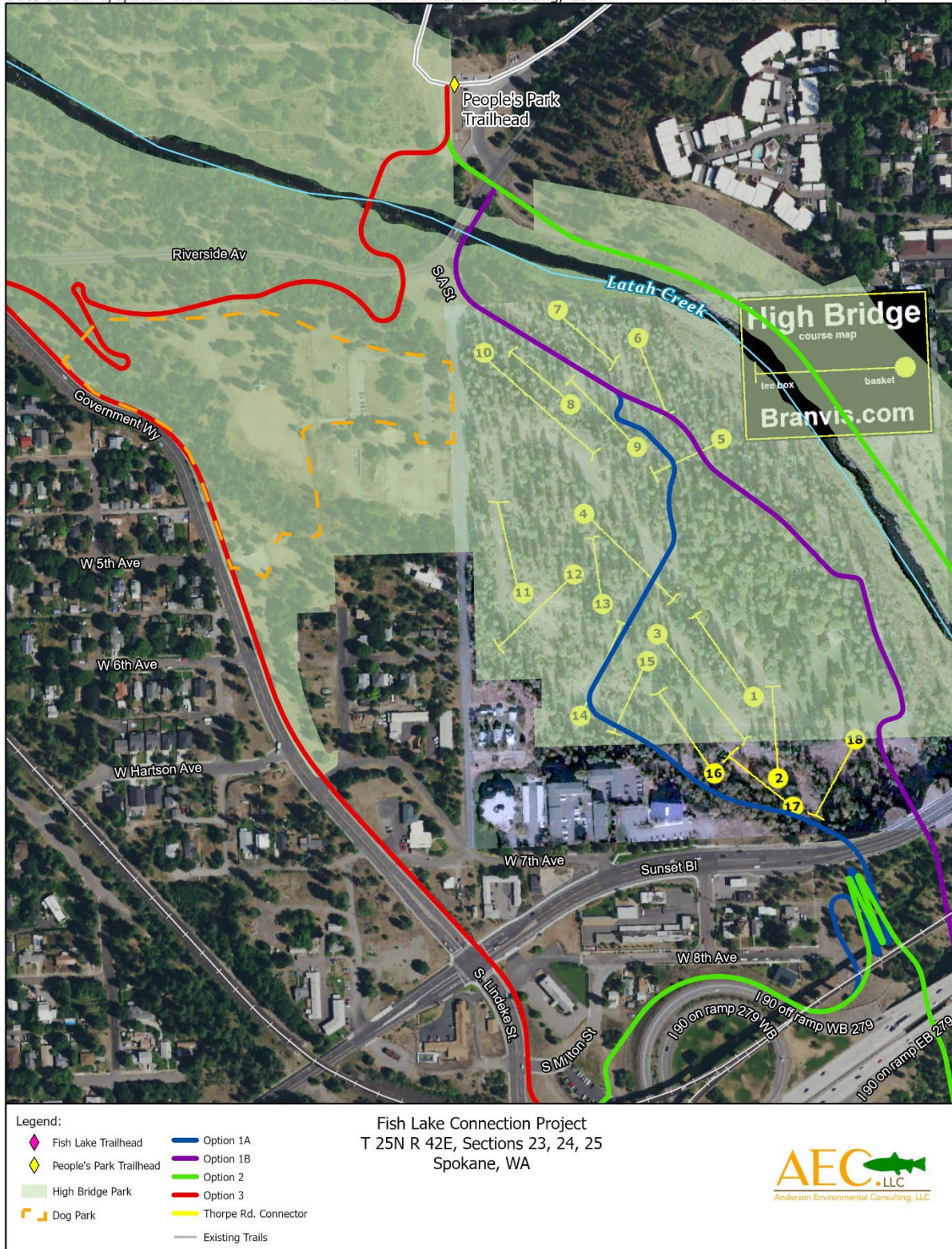


Figure 3: Neighborhood Impacts



## 2.2 ENVIRONMENTAL JUSTICE-MINORITIES AND LOW-INCOME POPULATIONS

The 2013-2017 American Community Survey (ACS) data<sup>2</sup> shows that minority and low-income populations are present within a 1-mile radius of the Project area. Minorities make up approximately 20% of the population and approximately 20% of the population makes under 15,000 dollars annually. See **Attachment A** for demographic data.

The Project is expected to be beneficial to any populations present in the area and no displacements or significant acquisitions are expected for any of the Options. The majority of the Project area is commercial or publicly owned property. There is, however, substantial unauthorized camping by homeless populations along the shoreline of Latah Creek and within High Bridge Park. The increased public use and maintenance of the trail could discourage this activity and displace some of the homeless population but would also improve public safety.

## 2.3 SECTION 4(F) RESOURCES

Section 4(f) of the US Department of Transportation Act requires that FHWA and other DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless:

- There is no feasible and prudent avoidance alternative to the use of land; and the action includes all possible planning to minimize harm to the property resulting from such use;
- The Administration determines that the use of the property will have a de minimis impact.

High Bridge Park, Fish Lake Trail and the Centennial Trail are publicly owned recreational facilities and therefore Section 4(f) resources. All Options would require a Section 4(f) evaluation for recreational facilities, which requires coordination with agencies with jurisdiction, potential mitigation, and some public involvement to share the potential impacts to the recreational facilities.

**Options 1a and 1b** would travel the greatest distance through the park and would impact an area currently being used as a disc golf course and would have the greatest impact to recreational uses.

**Option 2** would have the least impact.

**Options 2 and 3** both travel shorter distances through the park and primarily through under-utilized areas of the park or areas that are already used for hiking, running, and biking.

Historic sites that are listed or potentially eligible for the National Register of Historic Places (NRHP) are also considered Section 4(f) resources but these have not yet been evaluated sufficiently to determine NRHP eligibility for the majority of the resources and to determine if they are Section 4f resources.

At this time the known historic resources that are anticipated to be Section 4(f) resources include High Bridge Park, the Marne and 11<sup>th</sup> Ave. Bridges, the Sunset and Railroad bridges. All of the Options would either cross through High Bridge Park and/or cross a bridge. If the project results in an adverse effect to these resources, then a Section 4(f) evaluation would be required. The amount of impact could determine whether the project would qualify as a Programmatic or Individual Section 4(f) Evaluation.

---

<sup>2</sup> <https://ejscreen.epa.gov/mapper/>

Avoidance and/or minimization of impacts to these resources will be required. See **Section 2.4** regarding cultural resources.

## 2.4 CULTURAL RESOURCES

A Cultural Review of Alignment Alternatives for the Fish Lake Trail Connection Study was conducted by Historical Research Associate, Inc. (HRA) in July of 2020. The study provided high level information on potential cultural resource or historic property concerns for each alignment and the Thorpe Road Connector. A full assessment of NRHP eligibility will be conducted for the selected Option during the design process.

### Options 1a and 1b

- Options 1a and 1b are located in a Very High-Risk area according to the DAHP predictive model pertaining to pre-contact cultural resources and most of the alignment has not been surveyed. One known pre-contact site is in the vicinity, approximately 70 meters from the alignments. This resource is unevaluated for listing on the NRHP.
- All but Option 3 passes under the NRHP listed 1911 Sunset Boulevard Bridge (aka the Latah Creek Bridge).
- Two properties in the immediate vicinity of Options 1a and 1b have been recommended eligible: the 1972 BNSF Hangman Creek Bridge (recommended eligible when it reaches the 50-year threshold in 2022) and the Sue Save Grocery/Gas Station at 2631 W Sunset Blvd. The Options pass under the BNSF bridge and pass within 500 ft of the gas station.
- Options 1a and 1b pass through High Bridge Park. The park dates to 1908 and meets temporal registration requirements of the MPD. The park was documented in 2011 and recommended not eligible for listing on the NRHP, however, a formal DOE has not been made.
- Options 1a and 1b are adjacent to approximately 10 historic period residential resources (9 resources 1a and 1b; an additional resource 1a only) associated with the West Hills neighborhood. These properties have not been surveyed or recorded and may need to be evaluated depending on the potential for project effects.
- Option 1a and 1b cross the 1920 Riverside Avenue Bridge (aka the Marne Bridge). This bridge has not been previously surveyed but meets the temporal requirements of the MPD. These alignments include either the expansion of the bridge or construction of an adjacent bridge to address safety concerns associated with the narrow historic bridge. **Table 1** shows potential historic sites near Options 1a and 1b.

**Table 2-1.Options 1a and 1b -Potential Historic Properties**

Resource Name	Resource Type	Eligibility Status
Gorge Park (Highbridge Park; Herbert M. Hamblen Conservation Area)	District/Park	Recommended Not Eligible; no DOE
Sunset Boulevard Bridge (aka Latah Creek Bridge)	Structure/Bridge	Listed on the NRHP
BNSF Hangman Creek Bridge (Latah Junction)	Structure/Bridge	Recommended Eligible (when it reaches the 50-year threshold in 2022)
Riverside Avenue Bridge (aka Marne Bridge)	Structure/Bridge	Not documented; meets temporal registration requirements of the MPD
Sue Save Grocery/Gas Station/2631 Sunset Blvd.	Building	Recommended Eligible; No DOE
West Hills Neighborhood - 2826 W Hartson Ave./25242.2205 (Option 1a only)	Building/Residence	Not documented
West Hills Neighborhood - 2727 W 8th Ave./25243.1607	Building/Residence and garage	Not documented
West Hills Neighborhood - 2723 W 8th Ave./25243.1606	Building/Residence	Not documented
West Hills Neighborhood - 2717 W 8th Ave./25243.1616	Building/Residence	Not documented
West Hills Neighborhood - 2728 W 8th Ave./25243.1209	Building/West Wynn Motel	Not documented
West Hills Neighborhood - 2628 W 8th Ave./25243.1304	Building/Residence and garage	Not documented
West Hills Neighborhood - 2624 W 8th Ave./25243.1305	Building/Residence and garage	Not documented
West Hills Neighborhood - 2618 W 8th Ave./25243.1306	Building/Residence and garage	Not documented
West Hills Neighborhood - 2614 W 8th Ave./25243.1307	Building/Residence and garage	Not documented
West Hills Neighborhood - 2610 W 8th Ave./25243.1308	Building/Residence	Not documented

**Option 2**

- Option 2 is located in a Very High-Risk area according to the DAHP predictive model for archaeological resources and only the northern and southern portions of the alignment have been surveyed. One known archaeological site in the vicinity, approximately 75 meters from the



alignment, is recommended eligible for inclusion on the NRHP. There are three archaeological sites in the vicinity, less than 60 meters from the alignment, that have not been evaluated for listing on the NRHP.

- Option 2 uses the 11<sup>th</sup> Avenue Bridge and passes under the BNSF Hangman Creek Bridge (Latah Junction). The 11<sup>th</sup> Avenue Bridge meets the temporal requirement of the MPD but a formal DOE has not been completed and the BNSF Hangman Creek Bridge (Latah Junction) has been recommended Eligible for listing on the NRHP when it reaches the 50-year threshold.
- Option 2 passes in the immediate vicinity of three historic properties. The Sunset Boulevard Bridge is listed on the NRHP, the 1920 Riverside Avenue Bridge (aka Marne Bridge) meets the temporal registration requirements of the MPD but has not been surveyed, and the Sue Save Grocery/Gas Station has been recommended Eligible for the NRHP.
- Option 2 is adjacent to approximately 9 historic period residential resources associated with the West Hills neighborhood. These properties have not been surveyed or recorded and may need to be evaluated depending on the potential for project effects. Option 2 travels through the historic Vinegar Flats Neighborhood. The neighborhood has not been previously surveyed and there are approximately seven residential buildings in the vicinity of Option 2 that may need to be evaluated depending on project effects.
- Option 2 passes through High Bridge Park. The park dates to 1908 and meets temporal registration requirements of the MPD. The park was documented in 2011 and recommended not eligible for listing on the NRHP, however, a formal DOE has not been made.
- Alignment 2 travels adjacent to the roughly western boundaries of the Ninth Avenue Historic District and the Browne’s Addition Historic District. Both neighborhoods are listed on the NRHP but are located up a steep slope above Latah Creek and the alignment.
- A rock retaining wall, recommended Not Eligible for inclusion on the NRHP, is located along W Clark Avenue, however, there is not a formal DOE. Table 2 shows potential historic sites near Option 2.

**Table 2-2. Option 2-Potential Historic Properties**

Resource Name	Resource Type	Eligibility Status
Gorge Park (Highbridge Park; Herbert M. Hamblen Conservation Area)	District/Park	Recommended Not Eligible; no DOE
Sunset Boulevard Bridge (aka Latah Creek Bridge)	Structure/Bridge	Listed on the NRHP
BNSF Hangman Creek Bridge (Latah Junction)	Structure/Bridge	Recommended Eligible (when it reaches the 50-year threshold in 2022)

Resource Name	Resource Type	Eligibility Status
Riverside Avenue Bridge (aka Marne Bridge)	Structure/Bridge	Not documented; meets temporal registration requirements of the MPD
11th Avenue Bridge over Latah Creek	Structure/Bridge	Not documented; meets temporal registration requirements of the MPD
Sue Save Grocery/Gas Station/2631 Sunset Blvd.	Building	Recommended Eligible; No DOE
West Hills Neighborhood - 2826 W Hartson Ave./25242.2205	Building/Residence	Not documented
West Hills Neighborhood - 2727 W 8th Ave./25243.1607	Building/Residence and garage	Not documented
West Hills Neighborhood - 2723 W 8th Ave./25243.1606	Building/Residence	Not documented
West Hills Neighborhood - 2717 W 8th Ave./25243.1616	Building/Residence	Not documented
West Hills Neighborhood - 2728 W 8th Ave./25243.1209	Building/West Wynn Motel	Not documented
West Hills Neighborhood - 2628 W 8th Ave./25243.1304	Building/Residence and garage	Not documented
West Hills Neighborhood - 2624 W 8th Ave./25243.1305	Building/Residence and garage	Not documented
West Hills Neighborhood - 2618 W 8th Ave./25243.1306	Building/Residence and garage	Not documented
West Hills Neighborhood - 2614 W 8th Ave./25243.1307	Building/Residence and garage	Not documented
West Hills Neighborhood - 2610 W 8th Ave./25243.1308	Building/Residence	Not documented
Ninth Ave Historic District	District/Neighborhood	Listed on the NRHP
Browne's Addition Historic District	District/Neighborhood	Listed on the NRHP
Rock Retaining Wall on W Clarke Ave.	Structure	Recommended Not Eligible; no DOE
Vinegar Flats Neighborhood - NKN W 11th Ave./25243.3705	Building/Barn	Not documented
Vinegar Flats Neighborhood - 1102 W 11th Ave./25243.3801	Building/Residence	Not documented
Vinegar Flats Neighborhood - 2227 W 11th Ave./25243.3905	Building/Residence	Not documented

Resource Name	Resource Type	Eligibility Status
Vinegar Flats Neighborhood - 2226 W 11th Ave./25243.3607	Building/Residence	Not documented
Vinegar Flats Neighborhood - 2225 W 10th Ave. /25243.3605	Building/Residence	Not documented
Vinegar Flats Neighborhood - 2218 W 10th Ave./25243.3606	Building/Residence	Not documented
Vinegar Flats Neighborhood - 2219 W 9th Ave./25243.0301	Building/Residence	Not documented

### Option 3

Option 3 is located in a Very High-Risk area for archaeological resources. A majority of the alignment has not been surveyed. One site is located approximately 10 meters from the alignment and has not been evaluated for inclusion on the NRHP.

Option 3 passes through High Bridge Park. The park dates to 1908 and meets temporal registration requirements of the MPD. The park was documented in 2011 and recommended not eligible for listing on the NRHP, however, a formal DOE has not been made.

Option 3 passes through the historic West Hills neighborhood and in proximity to 11 historic period residential resources that have not been surveyed or recorded and may need to be evaluated depending on the potential for project effects. One residence in the neighborhood has been documented and was recommended Not Eligible for inclusion on the NRHP, however, a formal DOE has not been made.

Table 3 shows potential historic sites near Option 3.

**Table 2-3. Option 3 Potential Historic Properties**

Resource Name	Resource Type	Eligibility Status
Gorge Park (Highbridge Park; Herbert M. Hamblen Conservation Area)	District/Park	Recommended Not Eligible; no DOE
West Hills Neighborhood - 2834 W Sunset Blvd./25243.1103	Building/Motel	Not documented
West Hills Neighborhood - 2915 W 7th Ave./25234.1001	Building/Residence and garage	Not documented
West Hills Neighborhood - 607 S Government Way/25234.0109	Building/Commercial	Not documented
West Hills Neighborhood - 3010 W 7th Ave./25234.0206	Building/Residence	Not documented
West Hills Neighborhood - 3007 W 6th Ave./25231.5401	Building/Two garages	Not documented



Resource Name	Resource Type	Eligibility Status
West Hills Neighborhood - 512 S Government Way/25231.5002	Building/Residence and garage	Not documented
West Hills Neighborhood - 3101 W 5th Ave./25231.5001	Building/Residence and garage	Not documented
West Hills Neighborhood - 3114 W 5th Ave./25231.4108	Building/Residence and garage	Not documented
West Hills Neighborhood - 3117 W 4th Ave./25231.4102	Building/Residence and garage	Not documented
West Hills Neighborhood - 3128 W 4th Ave./25231.3607	Building/Residence and garage	Not documented
West Hills Neighborhood - 3223 W 3rd Ave./25231.3511	Building/Residence	Not documented
West Hills Neighborhood - 3208 W Third Ave. residence	Building/Residence	Recommended Not Eligible; no DOE

**Thorpe Road Connector**

The Thorpe Road connector is located in a Very High-Risk area, however, the entire alignment has been previously surveyed for archaeological resources. Two archaeological sites have been documented within 150 meters of the connector, however, both sites have been determined Not Eligible for inclusion in the NRHP.

The connector travels through the BNSF Spokane Subdivision viaduct tunnel (DOT Crossing Inventory No. 095928U). This historic resource has not been documented and may need to be evaluated for listing in the NRHP depending on the potential for project effects. See Table 4.

**Table 2-4. Thorpe Road Connector Potential Historic Properties**

Resource Name	Resource Type	Eligibility Status
BNSF Spokane Subdivision viaduct tunnel (DOT Crossing Inventory No. 095928U)	Structure/Tunnel	Not documented

DAHP and the Spokane Tribe of Indians should be contacted early in the development of the Project design, both for compliance with Section 106 and to understand tribal concerns in the Project area. Once a preferred alignment is chosen, additional background research and an archaeological survey (including pedestrian and subsurface survey) may be required prior to finalizing Project design and/or construction. Additionally, historic-period architectural resources (located within and possibly adjacent to the preferred alignment) will require survey, inclusive of a compliance-level evaluation of each resource under all NRHP criteria for listing (Table 5).

Table 2-5. Potential Historic Properties in the Project Area

Resource Name/Address	Resource Type	Eligibility Status	Option(s)
Gorge Park (Highbridge Park; Herbert M. Hamblen Conservation Area)	District/Park	Recommended Not Eligible; no DOE	1a, 1b: Travels through 2: Travels through 3: Travels through
Sunset Boulevard Bridge (aka Latah Creek Bridge)	Structure/Bridge	Listed on the NRHP	1a,1b: Passes under 2: In vicinity
BNSF Hangman Creek Bridge (Latah Junction)	Structure/Bridge	Recommended Eligible (when it reaches the 50-year threshold in 2022)	1a, 1b: Passes under 2: Passes under
Riverside Avenue Bridge (aka Marne Bridge)	Structure/Bridge	Not documented; meets temporal registration requirements of the MPD	1a, 1b: Expansion of or adjacent bridge construction 2: In vicinity
11th Avenue Bridge over Latah Creek	Structure/Bridge	Not documented; meets temporal registration requirements of the MPD	2: Uses
Sue Save Grocery/Gas Station/2631 Sunset Blvd.	Building	Recommended Eligible; No DOE	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2826 W Hartson Ave./25242.2205	Building/Residence	Not documented	1a only: In vicinity
West Hills Neighborhood - 2727 W 8th Ave./25243.1607	Building/Residence and garage	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2723 W 8th Ave./25243.1606	Building/Residence	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2717 W 8th Ave./25243.1616	Building/Residence	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2728 W 8th Ave./25243.1209	Building/West Wynn Motel	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2628 W 8th Ave./25243.1304	Building/Residence and garage	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2624 W 8th Ave./25243.1305	Building/Residence and garage	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2618 W 8th Ave./25243.1306	Building/Residence and garage	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2614 W 8th Ave./25243.1307	Building/Residence and garage	Not documented	1a, 1b: In vicinity 2: In vicinity
West Hills Neighborhood - 2610 W 8th Ave./25243.1308	Building/Residence	Not documented	1a, 1b: In vicinity 2: In vicinity
Ninth Ave Historic District	District/Neighborhood	Listed on the NRHP	2: In vicinity of boundary
Browne's Addition Historic District	District/Neighborhood	Listed on the NRHP	2: In vicinity of boundary
Rock Retaining Wall on W Clarke Ave.	Structure	Recommended Not Eligible; no DOE	2: In vicinity

Vinegar Flats Neighborhood - NKN W 11th Ave./25243.3705	Building/Barn	Not documented	2. In vicinity
Vinegar Flats Neighborhood - 1102 W 11th Ave./25243.3801	Building/Residence	Not documented	2. In vicinity
Vinegar Flats Neighborhood - 2227 W 11th Ave./25243.3905	Building/Residence	Not documented	2. In vicinity
Vinegar Flats Neighborhood - 2226 W 11th Ave./25243.3607	Building/Residence	Not documented	2. In vicinity
Vinegar Flats Neighborhood - 2225 W 10th Ave. /25243.3605	Building/Residence	Not documented	2. In vicinity
Vinegar Flats Neighborhood - 2218 W 10th Ave./25243.3606	Building/Residence	Not documented	2. In vicinity
Vinegar Flats Neighborhood - 2219 W 9th Ave./25243.0301	Building/Residence	Not documented	2. In vicinity
West Hills Neighborhood - 2834 W Sunset Blvd./25243.1103	Building/Motel	Not documented	3: In vicinity
West Hills Neighborhood - 2915 W 7th Ave./25234.1001	Building/Residence and garage	Not documented	3: In vicinity
West Hills Neighborhood - 607 S Government Way/25234.0109	Building/Commercial	Not documented	3: In vicinity
West Hills Neighborhood - 3010 W 7th Ave./25234.0206	Building/Residence	Not documented	3: In vicinity
West Hills Neighborhood - 3007 W 6th Ave./25231.5401	Building/Two garages	Not documented	3: In vicinity
West Hills Neighborhood - 512 S Government Way/25231.5002	Building/Residence and garage	Not documented	3: In vicinity
West Hills Neighborhood - 3101 W 5th Ave./25231.5001	Building/Residence and garage	Not documented	3: In vicinity
West Hills Neighborhood - 3114 W 5th Ave./25231.4108	Building/Residence and garage	Not documented	3: In vicinity
West Hills Neighborhood - 3117 W 4th Ave./25231.4102	Building/Residence and garage	Not documented	3: In vicinity
West Hills Neighborhood - 3128 W 4th Ave./25231.3607	Building/Residence and garage	Not documented	3: In vicinity
West Hills Neighborhood - 3223 W 3rd Ave./25231.3511	Building/Residence	Not documented	3: In vicinity
West Hills Neighborhood - 3208 W Third Ave. residence	Building/Residence	Recommended Not Eligible; no DOE	3: In vicinity
BNSF Spokane Subdivision viaduct tunnel (DOT Crossing Inventory No. 095928U)	Structure/Tunnel	Not documented	Thorpe Road Connector



## 2.5 VISUAL IMPACTS

Overall, the Project is expected to improve views towards and from the proposed trail, regardless of the alignment chosen.

Option 2 would likely provide the most enjoyable view for trail users as it would have the closest views of Latah Creek riparian areas and the Sunset Bridge through the river valley. Options 1a and 1b would provide enjoyable views for trail users travelling through High Bridge Park. However, as these alignments travel through a designated disc golf course. Option 3 is directly adjacent to Government Way, a heavily trafficked arterial roadway making this the least aesthetic option for trail users, however, the view from Government Way towards the trail could be improved as landscaping associated with the construction of this alignment could improve the aesthetics which currently consists an asphalt sidewalk and gravel shoulders with roadside weeds and grasses. See Table 6.

Table 2-6. Visual Impacts

Option	1a	1b	2	3
Aesthetic experience from trail	Travels through forested High Bridge Park along disc golf course	Travels through forested High Bridge Park along disc golf course	Travels along Latah Creek shoreline with open views of river and bridges	Travels along Government Way, a heavily trafficked roadway

## 2.6 KNOWN/SUSPECTED HAZMAT RISKS

A reconnaissance survey was conducted in the vicinity of the Project to identify potential hazardous materials sites and an administrative review of available databases<sup>3</sup> (CERCLA, USTs, LUSTs and other hazardous material risks) within a ½ mile was conducted. See **Attachment B** for search results.

The Sunset Food Mart located at 2627 W Sunset Blvd. has a Leaking Underground Storage Tank (LUST) site and is approximately 290 feet from **Option 2** and approximately 240 feet from **options 1a and 1b** but would be avoided.

The old BNSF railroad grade along the existing Fish Lake Trail alignment is remediated and listed as “No Further Action” (NFA); however, it is likely to have soil contaminated with petroleum and potentially heavy metals.

The closest NPL site is over 5 miles east of the Project, General Electric Spokane Apparatus Service Shop.

No known hazardous materials could be affected by any of the Options and there is a low likelihood of encountering hazardous material sites. As a non-motorized trail, contamination is not expected due to any of the Options. However, if winter maintenance, such as deicing, of the finished trail is incorporated into the City’s maintenance plan then stormwater runoff may cause concern for pollution of Latah Creek. See **Figure 4**.

<sup>3</sup><https://apps.ecology.wa.gov/neighborhood/>  
<https://www.epa.gov/superfund/search-superfund-sites-where-you-live#map>  
<https://www.epa.gov/cleanups/cleanups-my-community>  
<https://enviro.epa.gov/facts/multisystem.html>

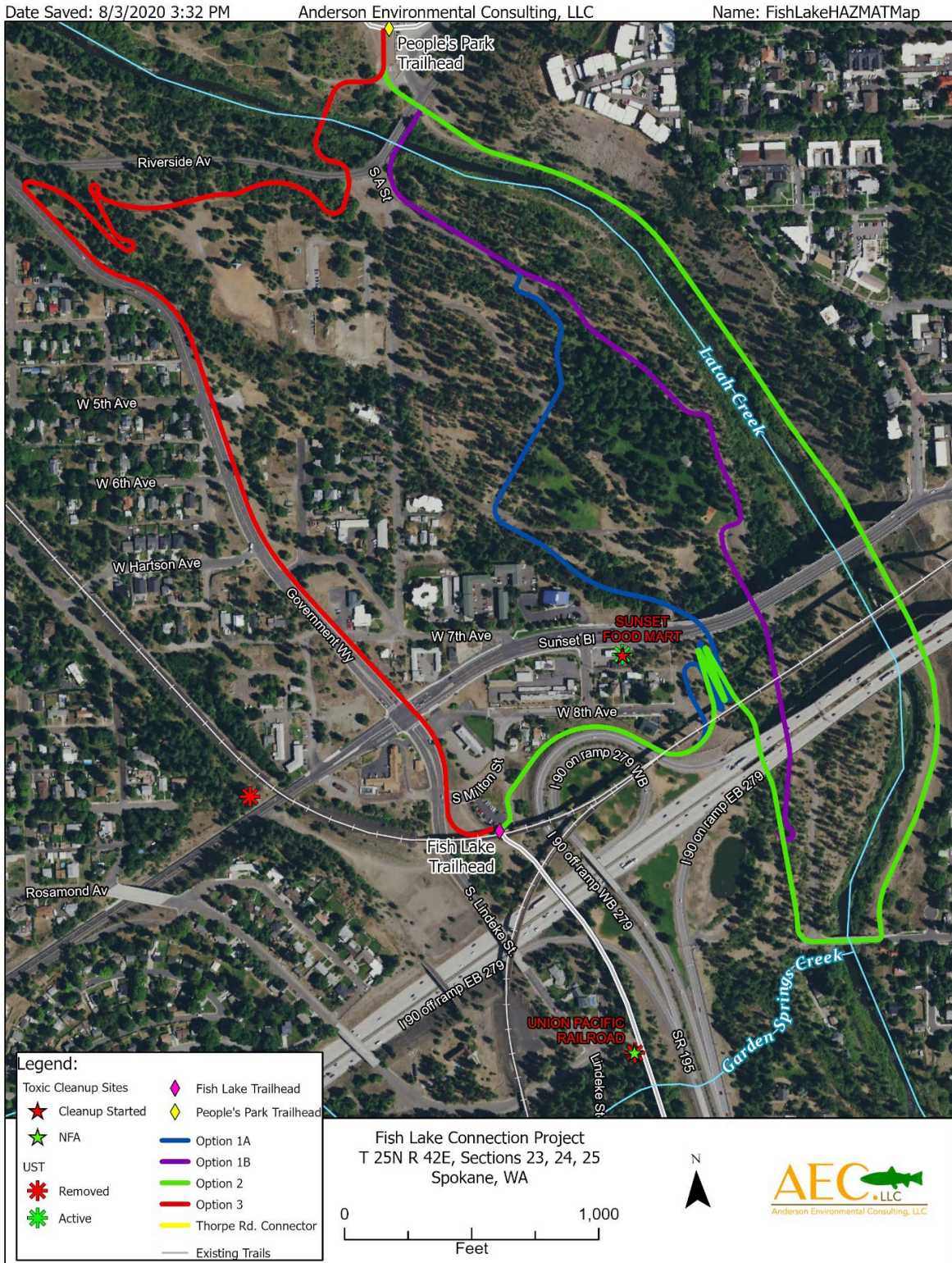


Figure 4: Hazmat Map



## 2.7 CRITICAL AREAS

### 2.7.1 Shorelines

Latah Creek and the Spokane River are both under jurisdiction of the City of Spokane's Shoreline Management Plan (SMP). The shoreline jurisdiction also includes the associated wetlands, floodways, and the 100-year floodplain. The Project must incorporate and comply with the requirements of the SMP related to the shoreline buffer, shoreline districts and designations, design standards, and the requirements for recreational uses.

Latah Creek and the Spokane River are both within the Urban Conservancy Environment environmental designation, meaning that shoreline jurisdiction and buffer extends 200 feet landward from the OHWM (Section 17E.060.060, City of Spokane Municipal Code). Recreational development is allowed within the shoreline jurisdiction under a conditional use permit, requiring a habitat management plan.

**Option 1a** would cross the shoreline jurisdiction of Latah Creek perpendicularly for approximately 765 feet on or adjacent to the existing Marne Bridge. Depending on the amount of impact/ground disturbance required to either expand the bridge or construct a new one, a shoreline conditional use permit with a Habitat Management Plan (HMP) would be required.

**Option 1b** would parallel Latah Creek on the west side and then cross the creek on or adjacent to the existing Marne Bridge. Approximately 1,195 feet of the alignment would be within the shoreline jurisdiction. A shoreline conditional use permit with a Habitat Management Plan (HMP) would be required.

**Option 2** would cross the shoreline jurisdiction perpendicularly on the existing 11th Avenue Bridge, and then parallel Latah Creek on the east side. Approximately 4,992 feet of the alignment would be within the shoreline jurisdictional area. A shoreline conditional use permit with a Habitat Management Plan (HMP) would likely be required.

**Option 3** would cross the shoreline jurisdiction perpendicularly for approximately 740 feet on a proposed new pedestrian bridge located west of the existing Marne Bridge. This would require a shoreline conditional use permit and an HMP. See **Figure 5**.

### 2.7.2 Riparian Habitat Area

The City of Spokane Municipal Code defines a Riparian Habitat Area (RHA) as "a defined area used to manage and buffer impacts to wildlife habitat and consists of landscape features that support fish and wildlife in areas near water bodies such as streams, rivers, wetlands and lakes". RHA zones and buffer widths are defined in Section 17E.020.050.

Equestrian/pedestrian/bike trails are allowed within an RHA only if the trail planning is conducted "in conjunction with an approved habitat management plan". Latah Creek within the Project Area is within riparian zone 5 and the Spokane River is within riparian zone 2. Both of these zones require an RHA width of the "Outer edge of 100-year floodplain or 130 feet, whichever is greater". No



improvements or vegetation removal of any kind are allowed within the RHA unless in conjunction with an HMP.

**Option 1a** would cross the RHA of Latah Creek perpendicularly for approximately 358 feet on or adjacent to the existing Marne Bridge. Depending on the amount of vegetation removal/ground disturbance required to either expand the bridge or construct a new one, a shoreline conditional use permit with a Habitat Management Plan (HMP) would likely be required.

**Option 1b** would parallel Latah Creek on the west side and then cross the creek on or adjacent to the existing Marne Bridge. Approximately 406 feet of the alignment would be within the RHA. A shoreline conditional use permit with a Habitat Management Plan (HMP) would likely be required.

**Option 2** would cross the RHA perpendicularly on the existing 11<sup>th</sup> Avenue Bridge, and then parallel Latah Creek within the RHA for approximately 4,534 feet. Disturbance within the RHA would be limited mainly to existing gravel roadways, and vegetation removal would be minimal. An HMP, and shoreline conditional use permit would likely be required for this Option.

**Option 3** would also cross the RHA perpendicularly for approximately 432 feet on a proposed new pedestrian bridge located west of the existing Marne Bridge. New trail and bridge construction would require vegetation removal and soil disturbance within the RHA. This Option would require an HMP, and shoreline conditional use permit.

See **Figure 5** for maps of the Shoreline and buffers.

Date Saved: 8/3/2020 3:32 PM

Anderson Environmental Consulting, LLC

Name: FishLakeShorelineMap

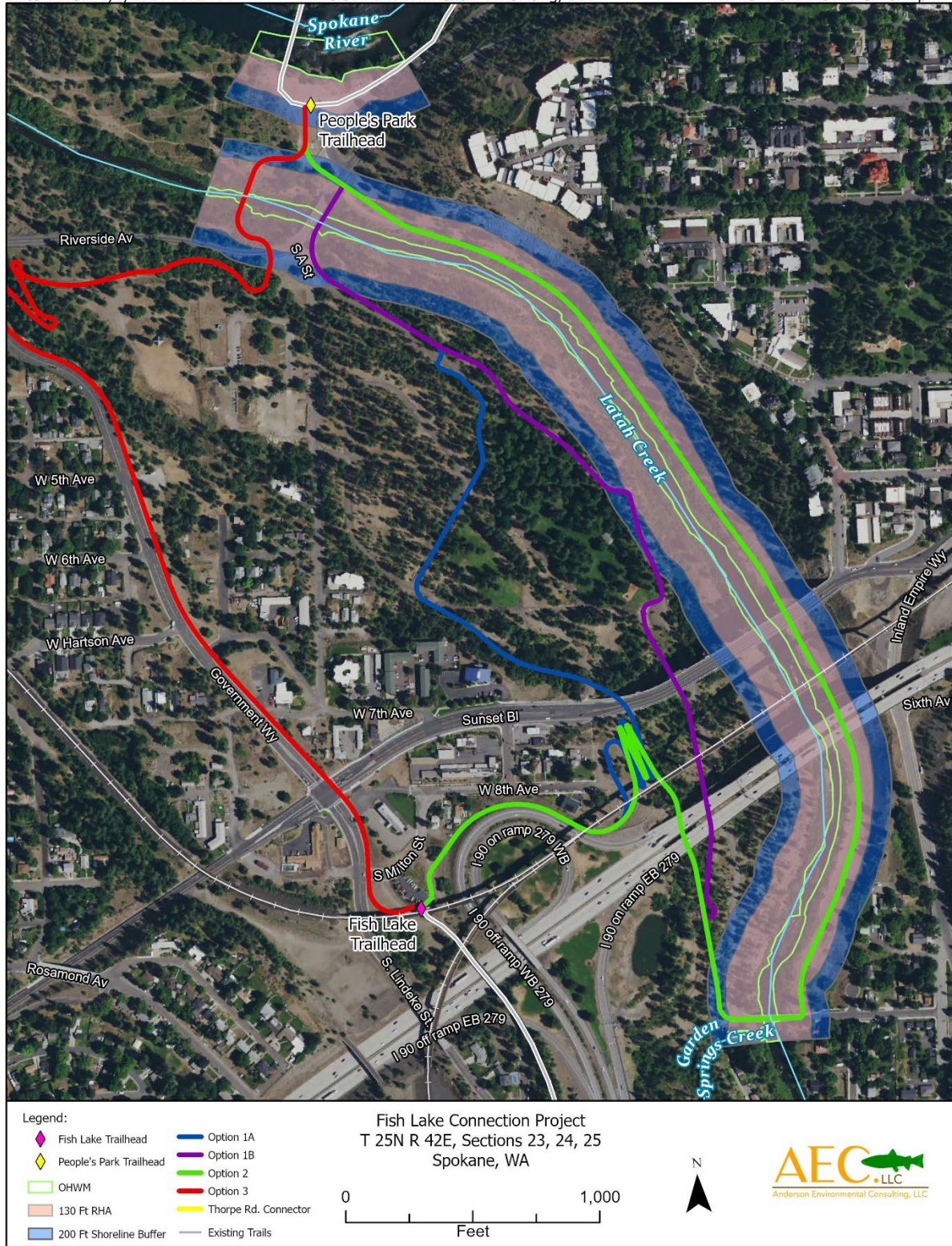


Figure 5: Shoreline Map

### 2.7.3 Aquatic Resources

Impacts to aquatic resources are regulated through the City's CAO, Section 404, and Section 401 of the Clean Water Act and other regulations.

Aquatic resources were investigated using the National Wetlands Inventory (NWI) Maps<sup>4</sup>, The WA DNR Hydrography Dataset<sup>5</sup>, and through a site visit in June of 2020. A formal aquatic resource delineation has not been completed at this time, and all resources described below or shown in maps are estimations based on field observations and/or GIS analysis.

Wetland vegetation and soil saturation were observed above the OHWM along the banks of Latah Creek and Garden Springs Creek, However the banks on the Spokane river are steep and sandy, and the presence of wetlands above the OHWM is unlikely.

---

<sup>4</sup> <https://www.fws.gov/wetlands/data/mapper.html>

<sup>5</sup> <https://geo.wa.gov/datasets/wadnr::dnr-hydrography-watercourses?geometry=-141.661%2C44.625%2C-99.847%2C49.841>



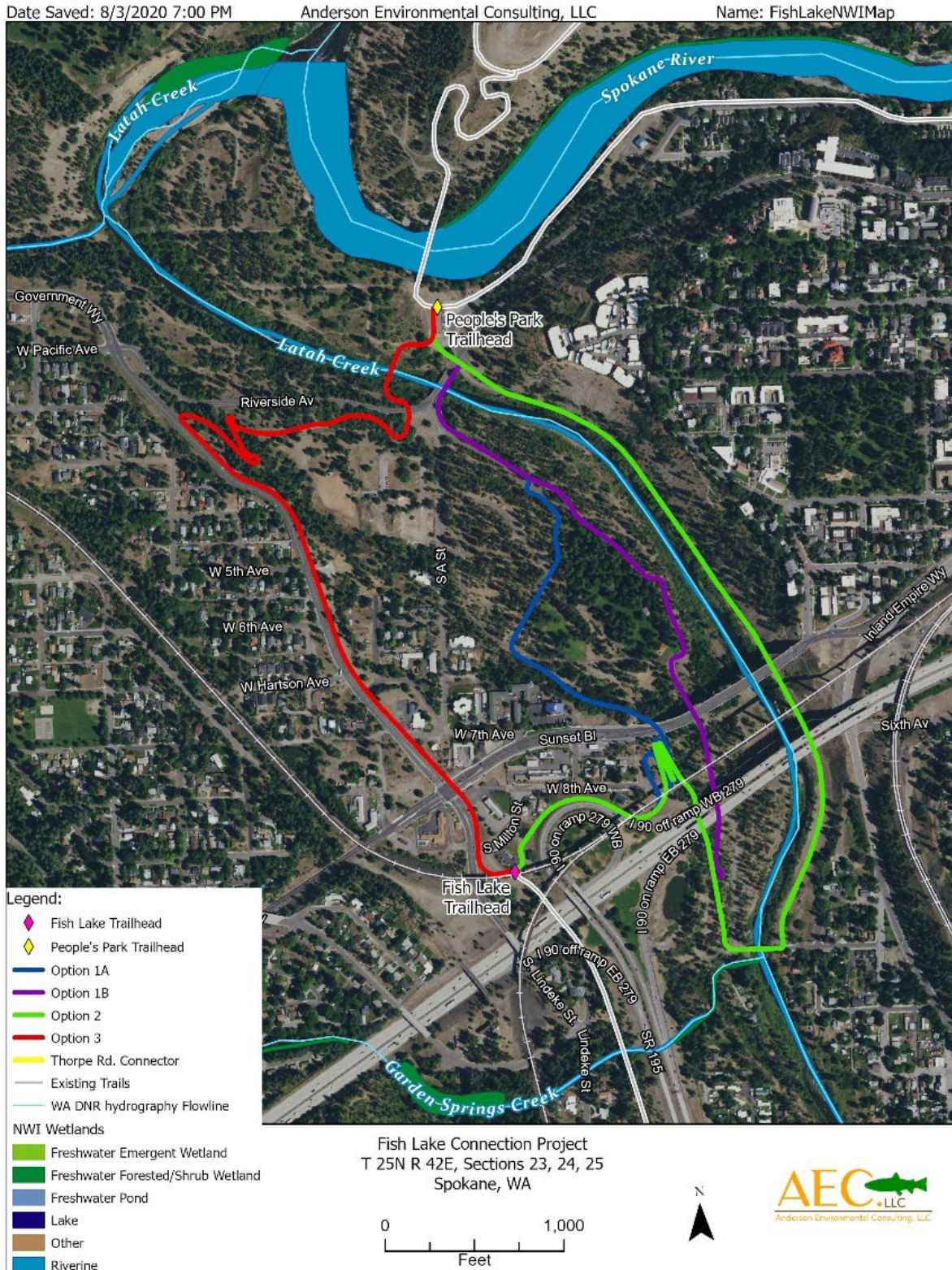


Figure 6: National Wetland Inventory Map

Latah Creek, Garden Springs Creek, and the Spokane River are the only open waters mapped or observed near the Project that may have associated wetlands. A potential wetland may exist in a small hillside between the Sunset Boulevard and I-90 overpasses over Latah Creek, just upslope from an existing gravel road. The potential wetland is located in the path of options 1 and 2, where switchbacks are proposed. Test pits were not investigated at this site, and no surface water, saturation or other hydrologic indicators were observed. Hydrophytic vegetation such as black cottonwood (*Populus balsamifera*) and nootka rose (*Rosa nutkana*) were observed in contrast to the upland ponderosa pine (*Pinus ponderosa*) and bunchgrass vegetation.

Other than the potential impacts to the potential seep wetland on the slope (Option 1b), direct impacts to aquatic resources are unlikely. If Option 3, Option 1a and 1b includes a new pedestrian bridge over Latah Creek, then direct impacts to riverine wetlands and the creek itself are possible.

The City's CAO tables 17E.070.110-2 and 17 E.070.110-3 describe active open space (parks with biking, jogging, etc.) and paved trails as a moderate intensity land use. Wetland buffer widths range from 40-190 feet for moderate uses, depending on a wetland rating<sup>6</sup>. See Figure 7 for aquatic resources.

**Option 1a** would travel approximately 690 feet through wetland buffers along Latah Creek at the Marne Bridge crossing and may impact the wetland buffer of the small hillside seep mentioned above, depending on final alignment and cut/fill lines. The hillside seep is likely non-jurisdictional under Section 404 of the Clean Water Act due to no connectivity to a WOTUS. Compliance with the City's CAO wetlands and wetlands buffers may require an HMP and CAO permit.

**Option 1b** would impact the potential hillside seep wetland described above and travel approximately 1,240 feet through wetland buffers near the seep and at the Marne Bridge crossing. The hillside seep is likely non-jurisdictional under Section 404 of the Clean Water Act due to no connectivity to a WOTUS. Compliance with the City's CAO wetlands and wetlands buffers may require an HMP and CAO permit.

**Option 2**, similarly to Option 1a, could impact the small hillside seep buffer, although it would likely be non-jurisdictional under Section 404, and therefore would only require compliance with the City's CAO on wetlands and wetland buffers. Although this alignment would not be likely to directly impact the wetlands along Latah Creek, it would travel through approximately 4,842 feet of wetland buffer as it parallels the creek on the east side, and mitigation would be required.

**Option 3** would cross a jurisdictional water (Latah Creek) and associated wetland. It would travel through approximately 680 feet of potential wetland buffer along Latah Creek. This would require appropriate permitting under Section 404 of the Clean Water Act, i.e. a joint application for permits with the USACE and WA Department of Ecology, as well as compliance with the City's CAO on wetlands and wetland buffers.

---

<sup>6</sup> <https://my.spokanecity.org/smc/?Section=17E.070.110>



Date Saved: 8/4/2020 8:22 AM

Anderson Environmental Consulting, LLC

Name: FishLakeAquaticResourcesMap

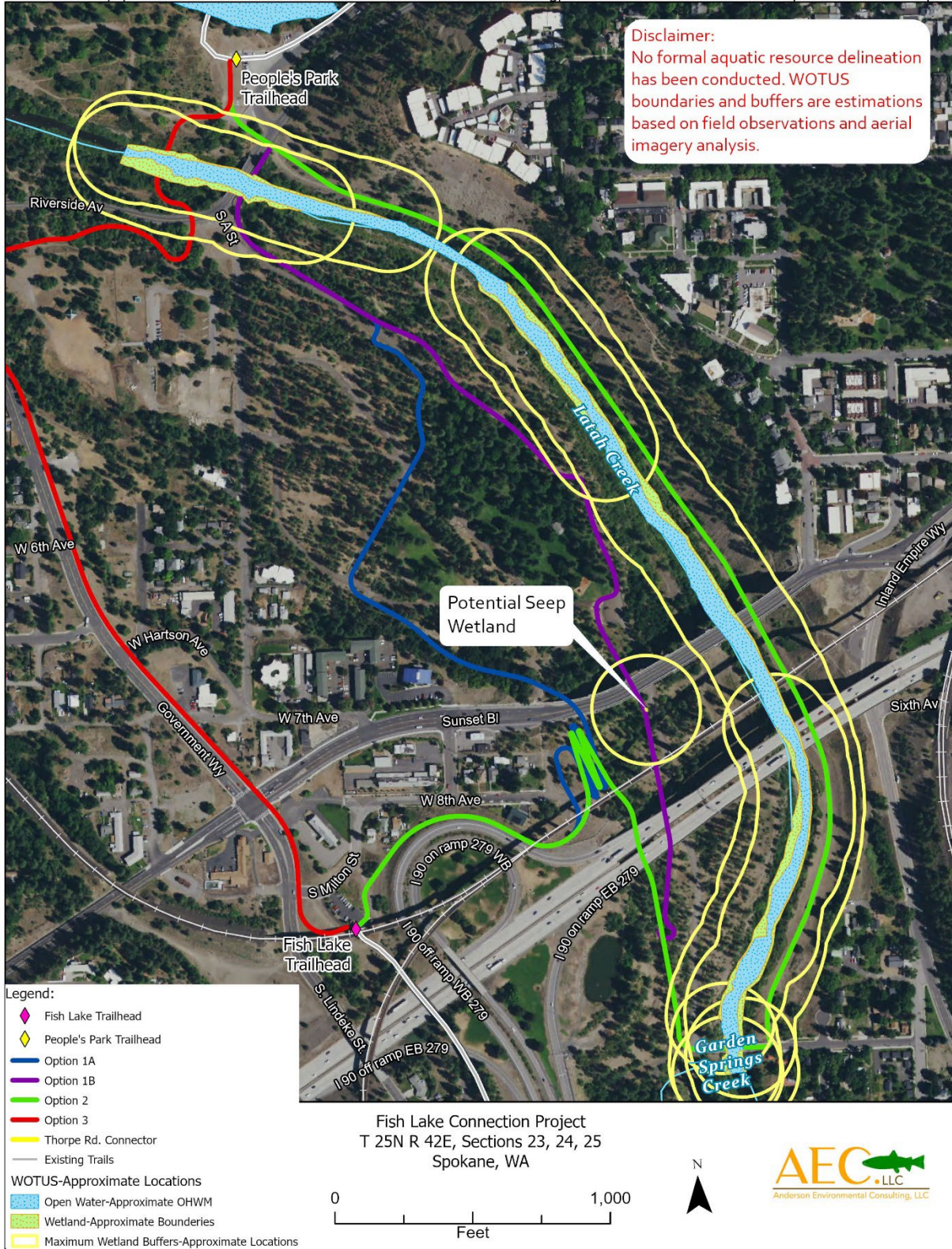


Figure 7: Aquatic Resources



#### 2.7.4 Flood Plains

Federal Emergency Management Agency (FEMA) flood map 53063C0539D (2010) shows the 100- and 500-year floodplain of Latah Creek and the Spokane River in the vicinity of the Project<sup>7</sup>. The City of Spokane requires a Floodplain Development Permit for any development within any Zone A floodplain as identified in the FEMA flood map.

Use of the existing Marne or 11<sup>th</sup> street bridges to cross Latah Creek would avoid impacts to the floodplain. If a new pedestrian bridge is constructed or the Marne Bridge is widened as part of options 1a, 1b, or 3 then a floodplain permit from Spokane County will be required. Option 2 would run parallel and directly adjacent to the 100-year floodplain for much of its' length. See **Figure 8** for a map of the floodplain.

---

<sup>7</sup> <https://msc.fema.gov/portal/search>

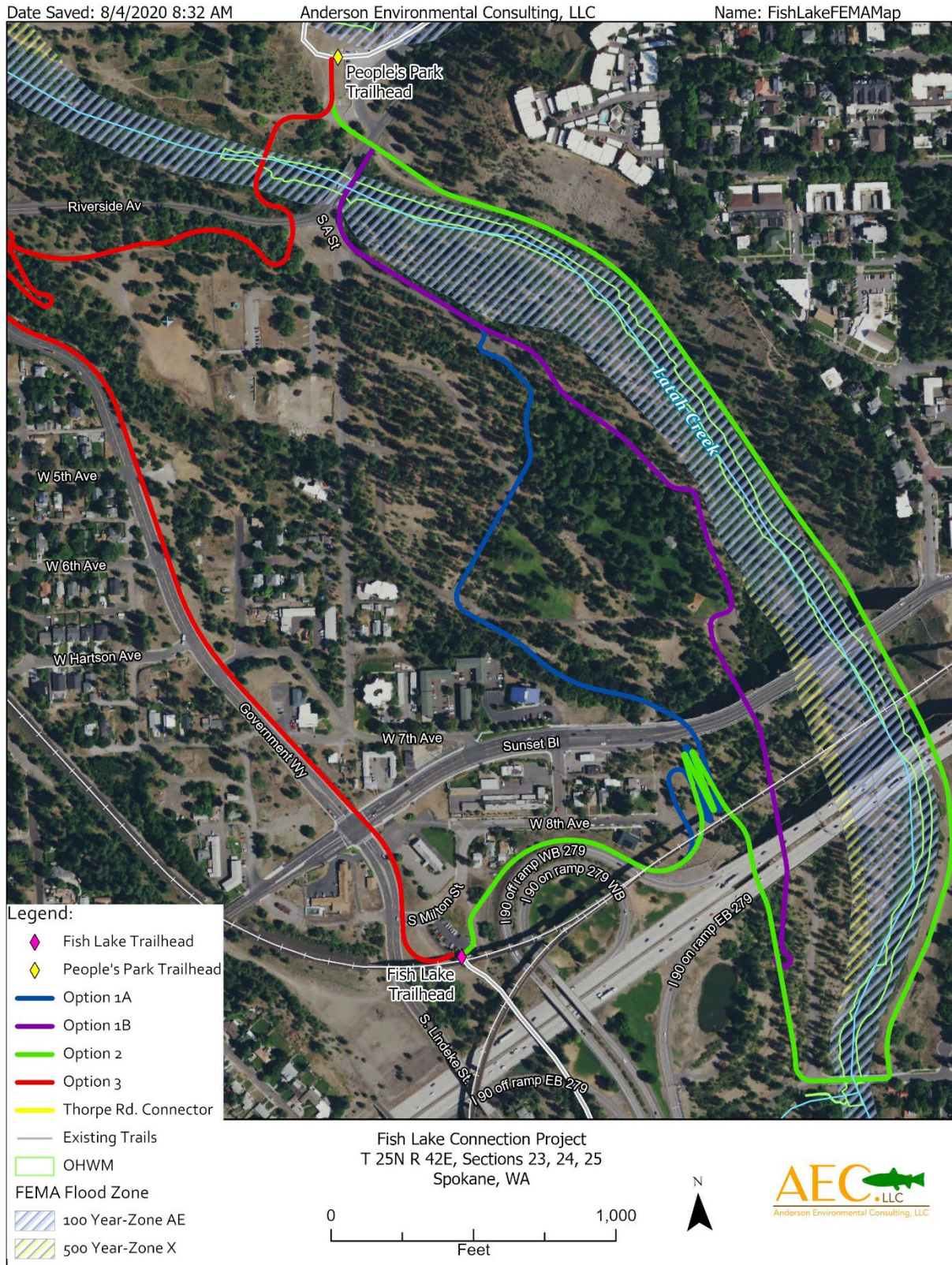


Figure 8: FEMA Flood Map

### 2.7.5 Geological Hazards

There is only one area of potential concern regarding geological hazards, and it is the same above-mentioned slope with a potential seep wetland located at the base of it. Options 1 and 2 are proposed to switchback several times down the slope.

The City of Spokane classifies this slope as “erodible soil”<sup>8</sup>. The NRCS soil survey for Spokane County categorizes this soil unit as 2046—Klickson-Speigle-Rock outcrop complex, 30 to 60 percent slopes, which is made up of mainly gravelly, cobbly, and stony loams, and consists of 20% rock outcrop or “lithic bedrock.” The slope forms a concave surface, which is 50-60% steep near the top, and gradually becoming less steep towards the existing gravel road at the bottom. Extensive geotechnical studies may be necessary during design of a trail in this area. See **Figure 9** for a map of the geologic hazard areas.

---

<sup>8</sup> <https://maps.spokanecity.org/#>



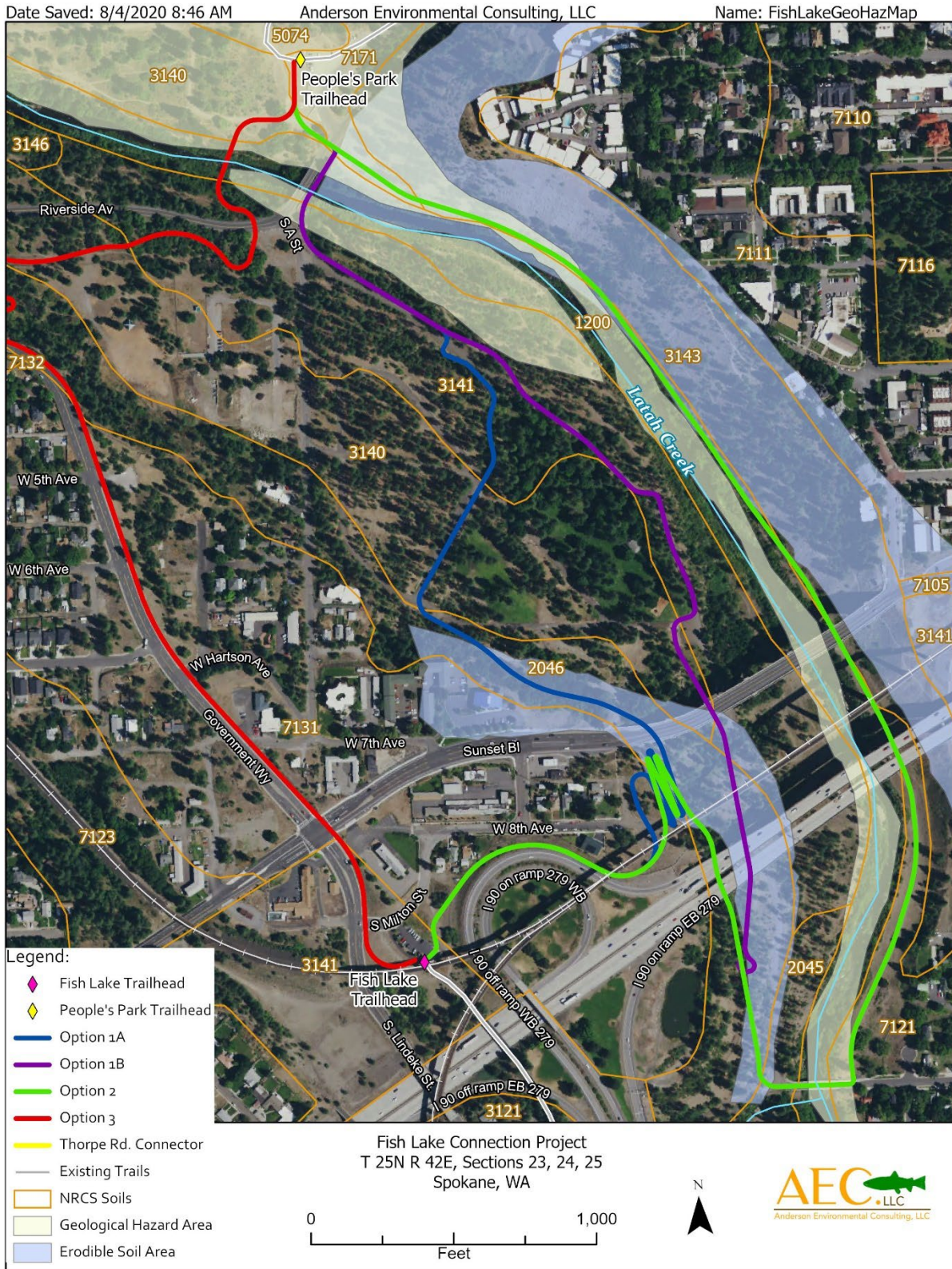


Figure 9: Geological Hazards

### 2.7.6 Sole Source Aquifer

The Spokane Valley Rathdrum Prairie Aquifer (SVRP) supplies drinking water to approximately 100,000 people in Kootenai County, Idaho, and another 400,000 people in Spokane County, Washington.

According to the City of Spokane SRVP map, the Project is located near the boundary of a critical aquifer recharge area to the SVRP. Option 3 is the only Option that lies directly over this recharge area. The Project would be considered a non-pollution generating surface. No permit is required from the City for an increase in non-pollution generating impervious surface.

According to EPA Sole Source Aquifer map, the Project is along the edge of the Spokane Valley Rathdrum Prairie Aquifer area, and the Spokane Valley-Rathdrum Prairie Aquifer Source Area<sup>9</sup>. See **Figure 10** for the aquifer boundary.

---

<sup>9</sup> <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b>.



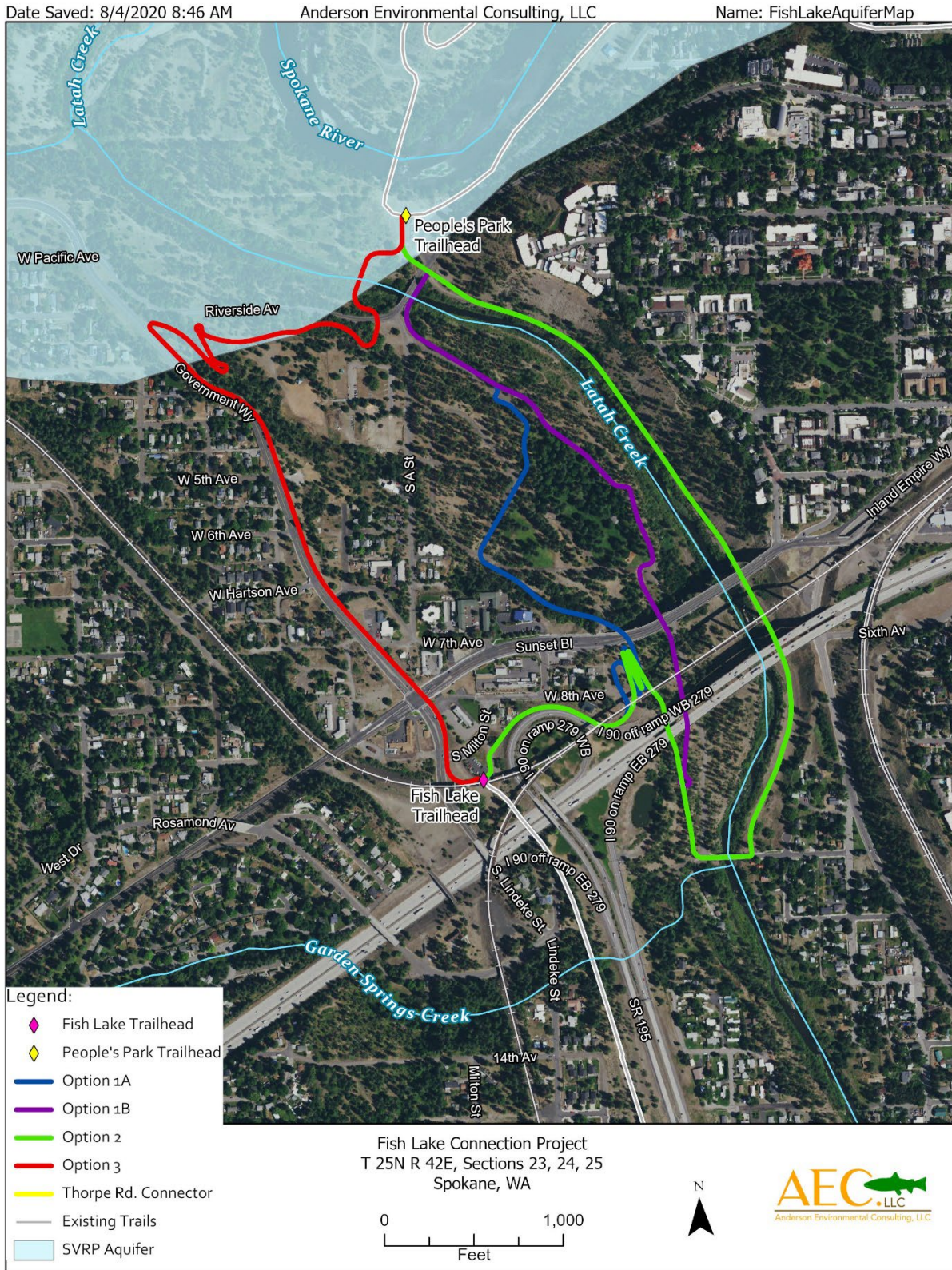


Figure 10: SVRP Aquifer



### 2.7.7 Priority Habitat and Species

WDFW Priority Habitat and Species database and mapping for the study area list rainbow trout (*Oncorhynchus mykiss*), westslope cutthroat trout (*Oncorhynchus clarki lewisi*), Townsend's big-eared Bat (*Corynorhinus townsendii*) and big brown bat (*Eptesicus fuscus*) as species that are likely to occur in the Spokane River and adjacent riparian habitats. Regular concentrations of mule deer (*Odocoileus hemionus*) and northwest white-tailed deer (*Odocoileus virginianus*) are also reported in the Project area. The riparian habitat is generally expected to support a variety of other small mammals, osprey, eagles, birds, and amphibians. Forested wetlands and riparian areas are also considered by WDFW to be Priority Habitats and are present in the study area immediately adjacent to Latah Creek. See **Attachment C** for the PHS report.

The US Fish and Wildlife Service July 2020 IPaC report identifies potential federally listed, threatened or endangered species and designated critical habitat that could occur in the study area which include Yellow-billed cuckoo (*Coccyzus americanus*), water howellia (*Howellia aquatilis*) and bull trout (*Salvelinus confluentus*). None of these species were observed during the site visits.

Yellow-billed cuckoo is not known to occur in Spokane County and requires vast expanses of contiguous deciduous riparian habitat, which is not present in the Project area.

Water howellia is often found in wetlands that are seasonally flooded with stagnant water and does not commonly occur along the Latah Creek Shoreline nor is it expected to occur due to the swift flows. The Project is expected to have no effect to Yellow-billed cuckoo and water howellia.

The USFWS' October 2010 Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for Bull Trout in the Coterminous United States; Final Rule determined the Spokane River in Idaho and Washington is not critical habitat for bull trout. Bull trout are not expected to be present the Spokane River or Latah Creek and the project would have no effect to bull trout. See **Attachment C** for the IPaC report.

### 3 ENVIRONMENTAL REQUIREMENTS AND CONSIDERATIONS FOR DESIGN AND CONSTRUCTION

The Project would not have a significant effect on the natural or human environment.

The following list includes measures that should be considered during design and construction and describes the environmental requirements for the subsequent phases of this Project:

**Table 3-1. Regulatory Requirements**

Regulation	Agency	Trigger/Recommendation	Permit/Application
Clean Water Act	US Army Corps, Washington State Dept of Ecology (Ecology)	Work below Ordinary high water or potential for water pollution	JARPA to obtain 404, 401 and mitigation
WAC-Hydraulic Code	Washington Fish and Wildlife.	Work below OHWM or that could affect fish.	WDFW Apps-HPA
Shoreline Master Program	City of Spokane and Ecology	Work within 200 ft of OHWM	Shoreline Conditional Use Permit/Shoreline Substantial Development Permit. Habitat Management Plan. Public Process (community meeting, hearing, and notices).
City of Spokane Critical Areas Ordinance	City of Spokane Planning	Work within RHA, floodplain, wetlands, streams, aquifers, geologic hazard areas, and their buffers	City of Spokane Critical Areas Ordinance. Habitat Management Plan
Floodplain	City of Spokane/FEMA	Impact to 100 yr floodplain and no rise certification	JARPA and No Rise Certification and Hydraulic Analysis if applicable
CWA-NPDES/Non-point source pollution	Ecology and City of Spokane	Greater than 1 acre and potential to discharge to waters of US	NPDES Notice of Intent for coverage under Construction General Permit and Stormwater Pollution Prevention Plan/Temporary Erosion and Sediment Control Plan
State Environmental Policy Act (SEPA)	Ecology and City of Spokane	Work over or in water	SEPA Checklist & Determination of Non-significance

Regulation	Agency	Trigger/Recommendation	Permit/Application
National Environmental Policy Act (NEPA)	FHWA/WSDOT Local Programs	Federal Nexus/funding	Approved NEPA Categorical Exclusion (CE) evaluating full range of disciplines
Section 106/Cultural/4f	City of Spokane, Spokane Tribe & DAHP	Federal undertaking	Prepare Cultural Resource Survey and get DAHP and Tribal concurrence. If adverse effects, then prepare Determination of Adverse Effect, Memorandum of Agreement. Section 4(f) evaluation. Early contact with Tribes to avoid sites.
Wetland	City of Spokane, Ecology, US Army Corps	Impact to wetlands and/or buffers	JARPA for 404, 401 and CAO Checklist for City permit
Threatened and Endangered species	USFWS	Listed species	Biological Assessment or No Effect determination required for CE/NEPA approval and 404 permits
Grading Permit	City of Spokane	Move soil	Grading Permit and plans
Environmental Justice	City of Spokane	Low income and minority populations	Communication and signage with low income and minority populations



# ATTACHMENT A. DEMOGRAPHIC DATA

Location: User-specified polygonal location  
 Ring (buffer): 1-miles radius  
 Description:

Summary of ACS Estimates		2013 - 2017
Population		18,328
Population Density (per sq. mile)		2,370
Minority Population		3,632
% Minority		20%
Households		9,143
Housing Units		10,593
Housing Units Built Before 1950		5,514
Per Capita Income		31,910
Land Area (sq. miles) (Source: SF1)		7.73
% Land Area		98%
Water Area (sq. miles) (Source: SF1)		0.13
% Water Area		2%

	2013 - 2017 ACS Estimates	Percent	MOE (±)
<b>Population by Race</b>			
Total	18,328	100%	583
Population Reporting One Race	17,238	94%	1,466
White	15,593	85%	487
Black	490	3%	312
American Indian	144	1%	153
Asian	839	5%	374
Pacific Islander	13	0%	39
Some Other Race	159	1%	101
Population Reporting Two or More Races	1,090	6%	210
Total Hispanic Population	1,174	6%	389
Total Non-Hispanic Population	17,154		
White Alone	14,695	80%	463
Black Alone	477	3%	312
American Indian Alone	111	1%	127
Non-Hispanic Asian Alone	839	5%	374
Pacific Islander Alone	13	0%	39
Other Race Alone	0	0%	12
Two or More Races Alone	1,019	6%	170
<b>Population by Sex</b>			
Male	9,088	50%	361
Female	9,240	50%	309
<b>Population by Age</b>			
Age 0-4	1,324	7%	144
Age 0-17	3,133	17%	202
Age 18+	15,195	83%	393
Age 65+	2,552	14%	106

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of any race.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2013 - 2017

Location: User-specified polygonal location  
 Ring (buffer): 1-miles radius  
 Description:

	2013 - 2017 ACS Estimates	Percent	MOE (±)
<b>Population 25+ by Educational Attainment</b>			
Total	12,914	100%	366
Less than 9th Grade	180	1%	77
9th - 12th Grade, No Diploma	723	6%	119
High School Graduate	2,407	19%	162
Some College, No Degree	4,774	37%	207
Associate Degree	1,409	11%	121
Bachelor's Degree or more	4,830	37%	168
<b>Population Age 5+ Years by Ability to Speak English</b>			
Total	17,004	100%	567
Speak only English	15,638	92%	516
Non-English at Home <sup>1+2+3+4</sup>	1,367	8%	205
<sup>1</sup> Speak English "very well"	1,034	6%	177
<sup>2</sup> Speak English "well"	139	1%	55
<sup>3</sup> Speak English "not well"	175	1%	102
<sup>4</sup> Speak English "not at all"	19	0%	27
<sup>3+4</sup> Speak English "less than well"	194	1%	102
<sup>2+3+4</sup> Speak English "less than very well"	332	2%	116
<b>Linguistically Isolated Households*</b>			
Total	78	100%	49
Speak Spanish	8	11%	21
Speak Other Indo-European Languages	29	37%	24
Speak Asian-Pacific Island Languages	8	10%	42
Speak Other Languages	33	42%	46
<b>Households by Household Income</b>			
Household Income Base	9,143	100%	164
< \$15,000	1,785	20%	135
\$15,000 - \$25,000	1,272	14%	98
\$25,000 - \$50,000	2,456	27%	135
\$50,000 - \$75,000	1,470	16%	115
\$75,000 +	2,160	24%	133
<b>Occupied Housing Units by Tenure</b>			
Total	9,143	100%	164
Owner Occupied	3,834	42%	116
Renter Occupied	5,309	58%	155
<b>Employed Population Age 16+ Years</b>			
Total	15,474	100%	482
In Labor Force	9,911	64%	362
Civilian Unemployed in Labor Force	497	3%	131
Not In Labor Force	5,563	36%	305

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of anyrace.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)

\*Households in which no one 14 and over speaks English "very well" or speaks English only.



Location: User-specified polygonal location

Ring (buffer): 1-miles radius

Description:

	2013 - 2017 ACS Estimates	Percent	MOE (±)
<b>Population by Language Spoken at Home*</b>			
Total (persons age 5 and above)	17,560	100%	528
English	16,160	92%	546
Spanish	353	2%	120
French	45	0%	82
French Creole	N/A	N/A	N/A
Italian	N/A	N/A	N/A
Portuguese	N/A	N/A	N/A
German	47	0%	45
Yiddish	N/A	N/A	N/A
Other West Germanic	N/A	N/A	N/A
Scandinavian	N/A	N/A	N/A
Greek	N/A	N/A	N/A
Russian	N/A	N/A	N/A
Polish	N/A	N/A	N/A
Serbo-Croatian	N/A	N/A	N/A
Other Slavic	N/A	N/A	N/A
Armenian	N/A	N/A	N/A
Persian	N/A	N/A	N/A
Gujarathi	N/A	N/A	N/A
Hindi	N/A	N/A	N/A
Urdu	N/A	N/A	N/A
Other Indic	N/A	N/A	N/A
Other Indo-European	89	1%	82
Chinese	10	0%	34
Japanese	N/A	N/A	N/A
Korean	4	0%	17
Mon-Khmer, Cambodian	N/A	N/A	N/A
Hmong	N/A	N/A	N/A
Thai	N/A	N/A	N/A
Laotian	N/A	N/A	N/A
Vietnamese	0	0%	17
Other Asian	244	1%	182
Tagalog	56	0%	61
Other Pacific Island	N/A	N/A	N/A
Navajo	N/A	N/A	N/A
Other Native American	N/A	N/A	N/A
Hungarian	N/A	N/A	N/A
Arabic	146	1%	151
Hebrew	N/A	N/A	N/A
African	N/A	N/A	N/A
Other and non-specified	144	1%	138
Total Non-English	1,400	8%	760

**Data Note:** Detail may not sum to totals due to rounding. Hispanic population can be of any race.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2013 - 2017.

\*Population by Language Spoken at Home is available at the census tract summary level and up.

**ATTACHMENT B. HAZARDOUS MATERIAL SITES**

# Cleanup Site Details

Cleanup Site ID: 2277

**Cleanup Site ID:** 2277     
**Facility/Site ID:** 128     
**UST ID:** N/A     
[Site Page](#)   
[Site Documents](#)   
[View Map](#)  
**Cleanup Site Name:** FUDS GEORGE WRIGHT AFB     
[Glossary](#)  
**Alternate Names:** FUDS GEORGE WRIGHT AFB

**LOCATION**

**Address:** 211 N GOVERNMENT WAY     
**City:** SPOKANE     
**Zip Code:** 99224     
**County:** Spokane  
**Latitude:** 47.65797   
**Longitude:** -117.46519   
**WRIA:** 56   
**Legislative District:** 6   
**Congressional District:** 5   
**TRS:**

**DETAIL**

**Status:** No Further Action     
**NFA Received?** Yes     
**Is PSI site?** No  
**Statute:** Federal - CERCLA     
**NFA Date:** 7/31/2008     
**Current VCP?** No   
**Past VCP?** No  
**Site Rank:** N/A     
**NFA Reason:** NFA-SHA, IRAP, or VCP     
**Brownfield?** No  
**Site Manager:** Johnson, Ronnie     
**Responsible Unit:** Headquarters     
**Active Institutional Control?** No

**CLEANUP UNITS**

Cleanup Unit Name	Unit Type	Unit Status	Resp Unit	Unit Manager	Current Process
FUDS GEORGE WRIGHT AFB	Upland	No Further Action Required	HQ	Johnson, Ronnie	Independent Action

**ACTIVE INSTITUTIONAL CONTROLS**

Instrument Type	Restriction Media	Restrictions/Requirements	Date	Recording Number	Recording County	Tax Parcel
There are no current Institutional Controls in effect for this site.						

**AFFECTED MEDIA & CONTAMINANTS**

Contaminant	MEDIA					
	Soil	Groundwater	Surface Water	Sediment	Air	Bedrock
Petroleum Products-Unspecified	RB					

**Key:**  
B - Below Cleanup Level     
C - Confirmed Above Cleanup Level     
RA - Remediated-Above  
S - Suspected     
R - Remediated     
RB - Remediated-Below

**SITE ACTIVITIES**

Activity	Status	Start Date	End Date/ Completion Date
Site Discovery/Release Report Received	Completed		6/30/1998
Independent Report Review - Unpaid	Completed	7/1/1998	9/1/1999
Site Status Changed to NFA	Completed		7/31/2008



# Cleanup Site Details

Cleanup Site ID: 4797

**Cleanup Site ID:** 4797      **Facility/Site ID:** 23279567      **UST ID:** N/A      [Site Page](#)    [Site Documents](#)    [View Map](#)  
**Cleanup Site Name:** Spokane City West Drive Water Tank      [Glossary](#)  
**Alternate Names:** Spokane City West Drive Water Tank

## LOCATION

**Address:** 812 S WEST DR      **City:** SPOKANE      **Zip Code:** 99224      **County:** Spokane  
**Latitude:** 47.64792    **Longitude:** -117.46563    **WRIA:** 56    **Legislative District:** 6    **Congressional District:** 5    **TRS:** 25N 42E 23

## DETAIL

**Status:** No Further Action      **NFA Received?** Yes      **Is PSI site?** No  
**Statute:** MTCA      **NFA Date:** 8/26/2002      **Current VCP?** No    **Past VCP?** No  
**Site Rank:** N/A      **NFA Reason:** NFA-Site Hazard Assessment      **Brownfield?** No  
**Site Manager:** Eastern Region      **Responsible Unit:** Eastern      **Active Institutional Control?** No

## CLEANUP UNITS

Cleanup Unit Name	Unit Type	Unit Status	Resp Unit	Unit Manager	Current Process
Spokane City West Drive Water Tank	Upland	No Further Action Required	EA	Eastern Region	No Process

## ACTIVE INSTITUTIONAL CONTROLS

Instrument Type	Restriction Media	Restrictions/Requirements	Date	Recording Number	Recording County	Tax Parcel
-----------------	-------------------	---------------------------	------	------------------	------------------	------------

There are no current Institutional Controls in effect for this site.

## AFFECTED MEDIA & CONTAMINANTS

Contaminant	MEDIA					
	Soil	Groundwater	Surface Water	Sediment	Air	Bedrock
Metals Priority Pollutants	C					

**Key:**  
B - Below Cleanup Level      C - Confirmed Above Cleanup Level      RA - Remediated-Above  
S - Suspected      R - Remediated      RB - Remediated-Below

## SITE ACTIVITIES

Activity	Status	Start Date	End Date/Completion Date
Site Discovery/Release Report Received	Completed		4/11/2001
Initial Investigation / Federal Preliminary Assessment	Completed		8/22/2001
Early Notice Letter(s)	Completed		8/24/2001
Site Hazard Assessment/Federal Site Inspection	Completed	11/5/2001	8/30/2002
Site Status Changed to NFA	Completed		8/26/2002

# Cleanup Site Details

Cleanup Site ID: 6358

**Cleanup Site ID:** 6358     
**Facility/Site ID:** 59798911     
**UST ID:** 101121     
[Site Page](#)   
[Site Documents](#)   
[View Map](#)  
**Cleanup Site Name:** SUNSET FOOD MART     
[Glossary](#)  
**Alternate Names:** SUNSET FOOD MART

## LOCATION

**Address:** 2627 W SUNSET BLVD     
**City:** SPOKANE     
**Zip Code:** 99205     
**County:** Spokane  
**Latitude:** 47.64896   
**Longitude:** -117.45082   
**WRIA:** 56   
**Legislative District:** 6   
**Congressional District:** 5   
**TRS:** 25N 42E 24

## DETAIL

**Status:** Cleanup Started     
**NFA Received?** No     
**Is PSI site?** No  
**Statute:** MTCA     
**NFA Date:** N/A     
**Current VCP?** No   
**Past VCP?** No  
**Site Rank:** 5 - Lowest Assessed Risk     
**NFA Reason:** N/A     
**Brownfield?** No  
**Site Manager:** Eastern Region     
**Responsible Unit:** Eastern     
**Active Institutional Control?** No

## CLEANUP UNITS

Cleanup Unit Name	Unit Type	Unit Status	Resp Unit	Unit Manager	Current Process
SUNSET FOOD MART	Upland	Cleanup Started	EA	Eastern Region	No Process

## ACTIVE INSTITUTIONAL CONTROLS

Instrument Type	Restriction Media	Restrictions/Requirements	Date	Recording Number	Recording County	Tax Parcel
-----------------	-------------------	---------------------------	------	------------------	------------------	------------

There are no current Institutional Controls in effect for this site.

## AFFECTED MEDIA & CONTAMINANTS

### MEDIA

Contaminant	Soil	Groundwater	Surface Water	Sediment	Air	Bedrock
Benzene	C					
Lead	B					
Methyl tertiary-butyl ether	B					
Petroleum-Gasoline	C					

**Key:**  
B - Below Cleanup Level     
C - Confirmed Above Cleanup Level     
RA - Remediated-Above  
S - Suspected                     
R - Remediated                     
RB - Remediated-Below

## SITE ACTIVITIES

Activity	Status	Start Date	End Date/Completion Date
Site Discovery/Release Report Received	Completed		1/23/2009
LUST - Notification	Completed		1/23/2009
LUST - Report Received	Completed		4/13/2009
Initial Investigation / Federal Preliminary Assessment	Completed		4/16/2009
Early Notice Letter(s)	Completed		4/20/2009
Site Hazard Assessment/Federal Site Inspection	Completed	11/9/2009	2/17/2010
Hazardous Sites Listing/NPL	Completed		2/17/2010

# Cleanup Site Details

Cleanup Site ID: 7565

Cleanup Site ID: 7565      Facility/Site ID: 4243459      UST ID: 100496      [Site Page](#)      [Site Documents](#)      [View Map](#)  
 Cleanup Site Name: UNION PACIFIC RAILROAD      [Glossary](#)  
 Alternate Names: LATAH STATION, UNION PACIFIC RAILROAD

**LOCATION**

Address: 150 FT E OF LINDEKE & LINDEKE CT      City: Spokane      Zip Code: 99208      County: Spokane  
 Latitude: 47.64467      Longitude: -117.45091      WRIA: 56      Legislative District: 6      Congressional District: 5      TRS: 25N 42E 24

**DETAIL**

Status: No Further Action      NFA Received? Yes      Is PSI site? No  
 Statute: MTCA      NFA Date: 8/30/2011      Current VCP? No      Past VCP? No  
 Site Rank: N/A      NFA Reason: NFA-Initial Investigation      Brownfield? No  
 Site Manager: Eastern Region      Responsible Unit: Eastern      Active Institutional Control? No

**CLEANUP UNITS**

Cleanup Unit Name	Unit Type	Unit Status	Resp Unit	Unit Manager	Current Process
UNION PACIFIC RAILROAD	Upland	No Further Action Required	EA	Eastern Region	Independent Action

**ACTIVE INSTITUTIONAL CONTROLS**

Instrument Type	Restriction Media	Restrictions/Requirements	Date	Recording Number	Recording County	Tax Parcel
-----------------	-------------------	---------------------------	------	------------------	------------------	------------

There are no current Institutional Controls in effect for this site.

**AFFECTED MEDIA & CONTAMINANTS**

Contaminant	MEDIA					
	Soil	Groundwater	Surface Water	Sediment	Air	Bedrock
Petroleum-Other	C					

Key:  
 B - Below Cleanup Level      C - Confirmed Above Cleanup Level      RA - Remediated-Above  
 S - Suspected      R - Remediated      RB - Remediated-Below

**SITE ACTIVITIES**

Activity	Status	Start Date	End Date/ Completion Date
LUST - Notification	Completed		8/25/1994
LUST - Report Received	Completed		9/19/1994
Site Status Changed to NFA	Completed		8/30/2011



# Cleanup Site Details

Cleanup Site ID: 8593

Cleanup Site ID: 8593      Facility/Site ID: 28624855      UST ID: 9653      [Site Page](#)      [Site Documents](#)      [View Map](#)

Cleanup Site Name: GREYHOUND LINES INC SPOKANE      [Glossary](#)

Alternate Names: Greyhound Lines Inc, GREYHOUND LINES INC SPOKANE, GREYHOUND LINES INC UST 9653

## LOCATION

Address: 150 S MAPLE ST      City: SPOKANE      Zip Code: 99204      County: Spokane  
Latitude: 47.65511      Longitude: -117.43582      WRIA: 57      Legislative District: 3      Congressional District: 5      TRS: 25N 42E 24

## DETAIL

Status: Cleanup Started      NFA Received? No      Is PSI site? No  
Statute: MTCA      NFA Date: N/A      Current VCP? No      Past VCP? No  
Site Rank: 5 - Lowest Assessed Risk      NFA Reason: N/A      Brownfield? No  
Site Manager: Eastern Region      Responsible Unit: Eastern      Active Institutional Control? No

## CLEANUP UNITS

Cleanup Unit Name	Unit Type	Unit Status	Resp Unit	Unit Manager	Current Process
GREYHOUND LINES INC SPOKANE	Upland	Cleanup Started	EA	Eastern Region	Independent Action

## ACTIVE INSTITUTIONAL CONTROLS

Instrument Type	Restriction Media	Restrictions/Requirements	Date	Recording Number	Recording County	Tax Parcel
-----------------	-------------------	---------------------------	------	------------------	------------------	------------

There are no current Institutional Controls in effect for this site.

## AFFECTED MEDIA & CONTAMINANTS

### MEDIA

Contaminant	Soil	Groundwater	Surface Water	Sediment	Air	Bedrock
Petroleum-Other	C	C				

**Key:**  
B - Below Cleanup Level      C - Confirmed Above Cleanup Level      RA - Remediated-Above  
S - Suspected      R - Remediated      RB - Remediated-Below

## SITE ACTIVITIES

Activity	Status	Start Date	End Date/Completion Date
LUST - Notification	Completed		3/27/1989
LUST - Report Received	Completed		4/4/1989
LUST - Report Received	Completed		4/2/1990
Site Hazard Assessment/Federal Site Inspection	Completed	3/3/2014	8/12/2014
Hazardous Sites Listing/NPL	Completed		8/12/2014

# Cleanup Site Details

Cleanup Site ID: 10290

**Cleanup Site ID:** 10290      **Facility/Site ID:** 72672238      **UST ID:** 101910      [Site Page](#)      [Site Documents](#)      [View Map](#)  
**Cleanup Site Name:** ZENNER'S TIRE CENTER      [Glossary](#)  
**Alternate Names:** Heins Hot Rods, ZENNER'S TIRE CENTER, ZENNERS TIRE CENTER

## LOCATION

**Address:** 1406 INLAND EMPIRE WAY      **City:** SPOKANE      **Zip Code:** 99204      **County:** Spokane  
**Latitude:** 47.64246      **Longitude:** -117.44166      **WRIA:** 56      **Legislative District:** 6      **Congressional District:** 5      **TRS:** 25N 42E 25

## DETAIL

**Status:** No Further Action      **NFA Received?** Yes      **Is PSI site?** No  
**Statute:** MTCA      **NFA Date:** 8/30/2011      **Current VCP?** No      **Past VCP?** No  
**Site Rank:** N/A      **NFA Reason:** NFA-Initial Investigation      **Brownfield?** No  
**Site Manager:** Eastern Region      **Responsible Unit:** Eastern      **Active Institutional Control?** No

## CLEANUP UNITS

Cleanup Unit Name	Unit Type	Unit Status	Resp Unit	Unit Manager	Current Process
ZENNER'S TIRE CENTER	Upland	No Further Action Required	EA	Eastern Region	Independent Action

## ACTIVE INSTITUTIONAL CONTROLS

Instrument Type	Restriction Media	Restrictions/Requirements	Date	Recording Number	Recording County	Tax Parcel
-----------------	-------------------	---------------------------	------	------------------	------------------	------------

There are no current Institutional Controls in effect for this site.

## AFFECTED MEDIA & CONTAMINANTS

### MEDIA

Contaminant	Soil	Groundwater	Surface Water	Sediment	Air	Bedrock
Petroleum-Other	C					

**Key:**  
B - Below Cleanup Level      C - Confirmed Above Cleanup Level      RA - Remediated-Above  
S - Suspected      R - Remediated      RB - Remediated-Below

## SITE ACTIVITIES

Activity	Status	Start Date	End Date/ Completion Date
LUST - Notification	Completed		1/4/1993
LUST - Report Received	Completed		2/18/1993
Site Status Changed to NFA	Completed		8/30/2011

CSID	FSID	Site Name	Site Status	Cleanup Ty	Region	County	Address	City
1317	675	River Front	NFA	Independe	Eastern	Spokane	Summit Bl	Spokane
2277	128	FUDS GEOI	NFA	Independe	Headquart	Spokane	211 N Gov	Spokane
4797	23279567	Spokane Ci	NFA	No Process	Eastern	Spokane	812 S West	Spokane
6358	59798911	SUNSET FC	Cleanup St	No Process	Eastern	Spokane	2627 W Su	Spokane
6731	83412746	Chevron U:	NFA	Independe	Eastern	Spokane	1821 W Su	Spokane
7565	4243459	UNION PAI	NFA	Independe	Eastern	Spokane	150 Ft E Of	Spokane
8593	28624855	GREYHOU	Cleanup St	Independe	Eastern	Spokane	150 S Mapl	Spokane
10290	72672238	ZENNER'S	NFA	Independe	Eastern	Spokane	1406 Inlan	Spokane
10619	81666741	TEXACO @	NFA	Independe	Eastern	Spokane	1527 W 3r	Spokane
13308	4752	City of Spo	NFA	Independe	Eastern	Spokane	2110 E Riv	Spokane



Latitude	Longitude	Legislative	Zip Code	Responsibl	Site Rank	Congressio
47.661840	-117.448820	3	99201	ERO		5
47.657970	-117.465190	6	99224	ERO		
47.647920	-117.465630	6	99224	ERO		
47.648960	-117.450820	6	99205	ERO		5
47.653820	-117.438460	3	99204	ERO		
47.644670	-117.450910	6	99208	ERO		
47.655110	-117.435820	3	99204	ERO		5
47.642460	-117.441660	6	99204	ERO		
47.653250	-117.435150	3	99204-162	ERO		
47.657360	-117.443200	3	99201	ERO		

## Cleanup Site Page

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=1317>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=2277>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4797>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=6358>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=6731>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=7565>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=8593>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=10290>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=10619>

<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=13308>

## Underground Storage Tank System Summary

UST ID: 4132

**Site Name:** JACK POT FOOD MART 013 [Glossary](#)

<b>UST ID:</b> 4132	<b>Facility/Site ID:</b> 72321254	<b>Latitude:</b> 47.64761	<b>Active Tag(s):</b> N/A
<b>Address:</b> 2810 W SUNSET BLVD		<b>Longitude:</b> -117.45686	<b>Responsible Unit:</b> Eastern
SPOKANE, WA 99207		<b>County:</b> Spokane	

### Tank Summary

Tank Name	Tank Status	Tank Install Date
951	Removed	12/31/1964
952	Removed	12/31/1964

**Tank Name:** 951 **Tank Status:** Removed

**Tank Installation:** 12/31/1964 **Tank Upgrade:** **Business License Endorsement Expiration:**

**Tank Status Date:** 8/6/1996 **Piping Installation:** **Tank Permanently Closed Date:**

Tank Information	Piping Information
------------------	--------------------

<b>Material:</b> Steel	<b>Material:</b> Steel
<b>Construction:</b> Single Wall Tank	<b>Construction:</b>
<b>Corrosion Protection:</b>	<b>Corrosion Protection:</b>
<b>Manifolded Tank:</b>	<b>SFC* at Tank:</b>
<b>Release Detection:</b>	<b>SFC* at Dispenser/Pump:</b>
<b>Tightness Test:</b>	<b>Primary Release Detection:</b>
<b>Spill Prevention:</b>	<b>Secondary Release Detection:</b>
<b>Overfill Prevention:</b>	<b>Pumping System:</b>
<b>Actual Capacity:</b>	<b>Turbine Sump Construction:</b>
<b>Capacity Range:</b>	*SFC = Steel Flex Connector

Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		



<b>Tank Name:</b> 952		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 12/31/1964	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b>	
<b>Tank Status Date:</b> 8/6/1996	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>	
Tank Information		Piping Information	
<b>Material:</b> Steel		<b>Material:</b> Steel	
<b>Construction:</b> Single Wall Tank		<b>Construction:</b>	
<b>Corrosion Protection:</b>		<b>Corrosion Protection:</b>	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b>		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b>		<b>Primary Release Detection:</b>	
<b>Spill Prevention:</b>		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b>		<b>Pumping System:</b>	
<b>Actual Capacity:</b>		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b>		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		

# Underground Storage Tank System Summary

UST ID: 12116

**Site Name:** CENTRAC INC DBA THRIFTY RENT-A-CAR [Glossary](#)

<b>UST ID:</b> 12116	<b>Facility/Site ID:</b> 81863395	<b>Latitude:</b> 47.65200	<b>Active Tag(s):</b> N/A
<b>Address:</b> 516 W SUNSET HIGHWAY		<b>Longitude:</b> -117.44313	<b>Responsible Unit:</b> Eastern
SPOKANE, WA 99204		<b>County:</b> Spokane	

## Tank Summary

Tank Name	Tank Status	Tank Install Date
1	Removed	12/31/1964

**Tank Name:** 1 **Tank Status:** Removed

**Tank Installation:** 12/31/1964 **Tank Upgrade:** **Business License Endorsement Expiration:**

**Tank Status Date:** 8/6/1996 **Piping Installation:** **Tank Permanently Closed Date:**

Tank Information	Piping Information
<b>Material:</b>	<b>Material:</b>
<b>Construction:</b>	<b>Construction:</b>
<b>Corrosion Protection:</b>	<b>Corrosion Protection:</b>
<b>Manifolded Tank:</b>	<b>SFC* at Tank:</b>
<b>Release Detection:</b>	<b>SFC* at Dispenser/Pump:</b>
<b>Tightness Test:</b>	<b>Primary Release Detection:</b>
<b>Spill Prevention:</b>	<b>Secondary Release Detection:</b>
<b>Overfill Prevention:</b>	<b>Pumping System:</b>
<b>Actual Capacity:</b>	<b>Turbine Sump Construction:</b>
<b>Capacity Range:</b> 111 TO 1,100 Gallons	*SFC = Steel Flex Connector

Compartment	Substance Stored	Substance Used	Capacity
1	Unleaded Gasoline		

**Site Name:** INDIAN CANYON G PARKS DEPARTMENT [Glossary](#)

<b>UST ID:</b> 97313	<b>Facility/Site ID:</b> 5733998	<b>Latitude:</b> 47.64621	<b>Active Tag(s):</b> N/A
<b>Address:</b> W 4302 WEST DR		<b>Longitude:</b> -117.47390	<b>Responsible Unit:</b> Eastern
SPOKANE, WA 99204		<b>County:</b> Spokane	

### Tank Summary

Tank Name	Tank Status	Tank Install Date
1	Removed	12/31/1964
2	Removed	12/31/1964

**Tank Name:** 1 **Tank Status:** Removed

**Tank Installation:** 12/31/1964 **Tank Upgrade:** **Business License Endorsement Expiration:**

**Tank Status Date:** 8/6/1996 **Piping Installation:** **Tank Permanently Closed Date:**

Tank Information	Piping Information
------------------	--------------------

<b>Material:</b> Steel	<b>Material:</b> Steel
<b>Construction:</b> Single Wall Tank	<b>Construction:</b>
<b>Corrosion Protection:</b>	<b>Corrosion Protection:</b>
<b>Manifolded Tank:</b>	<b>SFC* at Tank:</b>
<b>Release Detection:</b>	<b>SFC* at Dispenser/Pump:</b>
<b>Tightness Test:</b>	<b>Primary Release Detection:</b>
<b>Spill Prevention:</b>	<b>Secondary Release Detection:</b>
<b>Overfill Prevention:</b>	<b>Pumping System:</b>
<b>Actual Capacity:</b>	<b>Turbine Sump Construction:</b>
<b>Capacity Range:</b> 111 TO 1,100 Gallons	*SFC = Steel Flex Connector

Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		



<b>Tank Name:</b> 2		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 12/31/1964	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b>	
<b>Tank Status Date:</b> 8/6/1996	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>	
Tank Information		Piping Information	
<b>Material:</b>		<b>Material:</b>	
<b>Construction:</b>		<b>Construction:</b>	
<b>Corrosion Protection:</b>		<b>Corrosion Protection:</b>	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b>		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b>		<b>Primary Release Detection:</b>	
<b>Spill Prevention:</b>		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b>		<b>Pumping System:</b>	
<b>Actual Capacity:</b>		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b>	111 TO 1,100 Gallons	*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		

# Underground Storage Tank System Summary

UST ID: 97315

**Site Name:** FINCH ARBORETUM PARKS DEPARTMENT [Glossary](#)

<b>UST ID:</b> 97315	<b>Facility/Site ID:</b> 4626858	<b>Latitude:</b> 47.64418	<b>Active Tag(s):</b> N/A
<b>Address:</b> W 3404 WOODLAND BLVD		<b>Longitude:</b> -117.46234	<b>Responsible Unit:</b> Eastern
SPOKANE, WA 99204		<b>County:</b> Spokane	

## Tank Summary

Tank Name	Tank Status	Tank Install Date
1	Removed	12/31/1964

**Tank Name:** 1 **Tank Status:** Removed

**Tank Installation:** 12/31/1964 **Tank Upgrade:** **Business License Endorsement Expiration:**

**Tank Status Date:** 8/6/1996 **Piping Installation:** **Tank Permanently Closed Date:**

Tank Information	Piping Information
<b>Material:</b> Steel	<b>Material:</b> Steel
<b>Construction:</b> Single Wall Tank	<b>Construction:</b>
<b>Corrosion Protection:</b>	<b>Corrosion Protection:</b>
<b>Manifolded Tank:</b>	<b>SFC* at Tank:</b>
<b>Release Detection:</b>	<b>SFC* at Dispenser/Pump:</b>
<b>Tightness Test:</b>	<b>Primary Release Detection:</b>
<b>Spill Prevention:</b>	<b>Secondary Release Detection:</b>
<b>Overfill Prevention:</b>	<b>Pumping System:</b>
<b>Actual Capacity:</b>	<b>Turbine Sump Construction:</b>
<b>Capacity Range:</b> 111 TO 1,100 Gallons	*SFC = Steel Flex Connector

Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		

**Site Name: LATAH STATION** [Glossary](#)

<b>UST ID:</b>	100496	<b>Facility/Site ID:</b>	4243459	<b>Latitude:</b>	47.64467	<b>Active Tag(s):</b>	N/A
<b>Address:</b>	SW/4 OF THE NE/4 S30 T21N R45E Spokane, WA 99018	<b>Longitude:</b>	-117.45091	<b>Responsible Unit:</b>	Eastern		
		<b>County:</b>	Spokane				

**Tank Summary**

Tank Name	Tank Status	Tank Install Date
1-200	Removed	12/31/1964

**Tank Name:** 1-200 **Tank Status:** Removed

<b>Tank Installation:</b>	12/31/1964	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b>
<b>Tank Status Date:</b>	8/6/1996	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>

Tank Information	Piping Information
<b>Material:</b>	<b>Material:</b>
<b>Construction:</b>	<b>Construction:</b>
<b>Corrosion Protection:</b>	<b>Corrosion Protection:</b>
<b>Manifolded Tank:</b>	<b>SFC* at Tank:</b>
<b>Release Detection:</b>	<b>SFC* at Dispenser/Pump:</b>
<b>Tightness Test:</b>	<b>Primary Release Detection:</b>
<b>Spill Prevention:</b>	<b>Secondary Release Detection:</b>
<b>Overfill Prevention:</b>	<b>Pumping System:</b>
<b>Actual Capacity:</b>	<b>Turbine Sump Construction:</b>
<b>Capacity Range:</b> 111 TO 1,100 Gallons	*SFC = Steel Flex Connector

Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		



<b>Site Name:</b> SUNSET FOOD MART		<a href="#">Glossary</a>	
<b>UST ID:</b> 101121	<b>Facility/Site ID:</b> 59798911	<b>Latitude:</b> 47.64896	<b>Active Tag(s):</b> A4497
<b>Address:</b> 2627 W SUNSET BLVD SPOKANE, WA 99224		<b>Longitude:</b> -117.45082	<b>Responsible Unit:</b> Eastern
		<b>County:</b> Spokane	
<b>Tank Summary</b>			
<b>Tank Name</b>	<b>Tank Status</b>	<b>Tank Install Date</b>	
RPD	Operational	4/29/2009	
3	Removed	6/10/1964	
1	Removed	6/10/1964	
2	Removed	6/10/1964	

<b>Tank Name:</b> RPD	<b>Tank Status:</b> Operational		
<b>Tank Installation:</b> 4/29/2009	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b> 3/31/2020	
<b>Tank Status Date:</b> 12/16/2009	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>	
<b>Tank Information</b>		<b>Piping Information</b>	
<b>Material:</b>	Steel Clad with Corrosion Resistant Composite	<b>Material:</b>	Fiberglass
<b>Construction:</b>	Double Wall Tank	<b>Construction:</b>	Double Wall Pipe
<b>Corrosion Protection:</b>	Corrosion Resistant	<b>Corrosion Protection:</b>	Corrosion Resistant
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b>	Interstitial Monitoring	<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b>	Part of Automatic Tank Gauging (ATG) System	<b>Primary Release Detection:</b>	Automatic Line Leak Detector (ALLD)
<b>Spill Prevention:</b>	Spill Bucket/Spill Box	<b>Secondary Release Detection:</b>	Interstitial Monitoring (or Sump Sensor)
<b>Overfill Prevention:</b>	Ball Float Valve (vent line)	<b>Pumping System:</b>	Pressurized System
<b>Actual Capacity:</b>	20,000 Gallons	<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b>	20,000 to 29,999 Gallons	*SFC = Steel Flex Connector	
<b>Compartment</b>	<b>Substance Stored</b>	<b>Substance Used</b>	<b>Capacity</b>
1	Unleaded Gasoline	Motor Fuel for Vehicles	10,000 Gallons
2	Unleaded Gasoline	Motor Fuel for Vehicles	5,000 Gallons
3	Diesel	Motor Fuel for Vehicles	5,000 Gallons

## Underground Storage Tank System Summary

UST ID: 101121

<b>Tank Name:</b> 3		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 6/10/1964	<b>Tank Upgrade:</b> 11/4/1992	<b>Business License Endorsement Expiration:</b> 3/31/2010	
<b>Tank Status Date:</b> 4/16/2009	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b> 1/15/2009	
Tank Information		Piping Information	
<b>Material:</b> Steel		<b>Material:</b> Steel	
<b>Construction:</b> Single Wall Tank		<b>Construction:</b> Single Wall Pipe	
<b>Corrosion Protection:</b> Impressed Current and Interior Lining		<b>Corrosion Protection:</b> Impressed Current	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b> Automatic Tank Gauging		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b> Part of Automatic Tank Gauging (ATG) System		<b>Primary Release Detection:</b> Safe Suction (No Leak Detection)	
<b>Spill Prevention:</b> Spill Bucket/Spill Box		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b> Automatic Shutoff (fill pipe)		<b>Pumping System:</b> Safe Suction	
<b>Actual Capacity:</b> 4,000 Gallons		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b> 2,001 to 4,999 Gallons		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Unleaded Gasoline	Motor Fuel for Vehicles	4,000 Gallons

<b>Tank Name:</b> 1		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 6/10/1964	<b>Tank Upgrade:</b> 11/4/1992	<b>Business License Endorsement Expiration:</b> 3/31/2010	
<b>Tank Status Date:</b> 4/16/2009	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b> 1/15/2009	
Tank Information		Piping Information	
<b>Material:</b> Steel		<b>Material:</b> Steel	
<b>Construction:</b> Single Wall Tank		<b>Construction:</b> Single Wall Pipe	
<b>Corrosion Protection:</b> Impressed Current and Interior Lining		<b>Corrosion Protection:</b> Impressed Current	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b> Automatic Tank Gauging		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b> Part of Automatic Tank Gauging (ATG) System		<b>Primary Release Detection:</b> Safe Suction (No Leak Detection)	
<b>Spill Prevention:</b> Spill Bucket/Spill Box		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b> Automatic Shutoff (fill pipe)		<b>Pumping System:</b> Safe Suction	
<b>Actual Capacity:</b> 4,000 Gallons		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b> 2,001 to 4,999 Gallons		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline	Motor Fuel for Vehicles	4,000 Gallons

## Underground Storage Tank System Summary

UST ID: 101121

<b>Tank Name:</b> 2		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 6/10/1964	<b>Tank Upgrade:</b> 11/4/1992	<b>Business License Endorsement Expiration:</b> 3/31/2010	
<b>Tank Status Date:</b> 4/16/2009	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b> 1/15/2009	
Tank Information		Piping Information	
<b>Material:</b> Steel		<b>Material:</b> Steel	
<b>Construction:</b> Single Wall Tank		<b>Construction:</b> Single Wall Pipe	
<b>Corrosion Protection:</b> Impressed Current and Interior Lining		<b>Corrosion Protection:</b> Impressed Current	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b> Automatic Tank Gauging		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b> Part of Automatic Tank Gauging (ATG) System		<b>Primary Release Detection:</b> Safe Suction (No Leak Detection)	
<b>Spill Prevention:</b> Spill Bucket/Spill Box		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b> Automatic Shutoff (fill pipe)		<b>Pumping System:</b> Safe Suction	
<b>Actual Capacity:</b> 4,000 Gallons		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b> 2,001 to 4,999 Gallons		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Unleaded Gasoline	Motor Fuel for Vehicles	4,000 Gallons



**Site Name: FAIRMOUNT MEMORIAL PARK** [Glossary](#)

<b>UST ID:</b>	101314	<b>Facility/Site ID:</b>	63185426	<b>Latitude:</b>	47.65824	<b>Active Tag(s):</b>	N/A
<b>Address:</b>	211 N GOVERNMENT WAY SPOKANE, WA 99204			<b>Longitude:</b>	-117.46523	<b>Responsible Unit:</b>	Eastern
				<b>County:</b>	Spokane		

**Tank Summary**

Tank Name	Tank Status	Tank Install Date
1-1000	Removed	12/31/1964

**Tank Name:** 1-1000 **Tank Status:** Removed

<b>Tank Installation:</b>	12/31/1964	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b>
<b>Tank Status Date:</b>	8/6/1996	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>

Tank Information	Piping Information
<b>Material:</b>	<b>Material:</b>
<b>Construction:</b>	<b>Construction:</b>
<b>Corrosion Protection:</b>	<b>Corrosion Protection:</b>
<b>Manifolded Tank:</b>	<b>SFC* at Tank:</b>
<b>Release Detection:</b>	<b>SFC* at Dispenser/Pump:</b>
<b>Tightness Test:</b>	<b>Primary Release Detection:</b>
<b>Spill Prevention:</b>	<b>Secondary Release Detection:</b>
<b>Overfill Prevention:</b>	<b>Pumping System:</b>
<b>Actual Capacity:</b>	<b>Turbine Sump Construction:</b>
<b>Capacity Range:</b>	*SFC = Steel Flex Connector

Compartment	Substance Stored	Substance Used	Capacity
1			

**Site Name: ZENNER'S TIRE CENTER** [Glossary](#)

<b>UST ID:</b>	101910	<b>Facility/Site ID:</b>	72672238	<b>Latitude:</b>	47.64246	<b>Active Tag(s):</b>	N/A
<b>Address:</b>	1406 INLAND EMPIRE WAY SPOKANE, WA 99204			<b>Longitude:</b>	-117.44166	<b>Responsible Unit:</b>	Eastern
				<b>County:</b>	Spokane		

**Tank Summary**

Tank Name	Tank Status	Tank Install Date
1	Removed	12/31/1964
3	Removed	12/31/1964
2	Removed	12/31/1964
4	Removed	12/31/1964

**Tank Name:** 1 **Tank Status:** Removed

<b>Tank Installation:</b>	12/31/1964	<b>Tank Upgrade:</b>		<b>Business License Endorsement Expiration:</b>	
<b>Tank Status Date:</b>	8/6/1996	<b>Piping Installation:</b>		<b>Tank Permanently Closed Date:</b>	

Tank Information	Piping Information		
<b>Material:</b>	<b>Material:</b>		
<b>Construction:</b>	<b>Construction:</b>		
<b>Corrosion Protection:</b>	<b>Corrosion Protection:</b>		
<b>Manifolded Tank:</b>	<b>SFC* at Tank:</b>		
<b>Release Detection:</b>	<b>SFC* at Dispenser/Pump:</b>		
<b>Tightness Test:</b>	<b>Primary Release Detection:</b>		
<b>Spill Prevention:</b>	<b>Secondary Release Detection:</b>		
<b>Overfill Prevention:</b>	<b>Pumping System:</b>		
<b>Actual Capacity:</b>	<b>Turbine Sump Construction:</b>		
<b>Capacity Range:</b> 111 TO 1,100 Gallons	*SFC = Steel Flex Connector		
<b>Compartment</b>	<b>Substance Stored</b>	<b>Substance Used</b>	<b>Capacity</b>
1			

<b>Tank Name:</b> 3		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 12/31/1964	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b>	
<b>Tank Status Date:</b> 8/6/1996	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>	
Tank Information		Piping Information	
<b>Material:</b>		<b>Material:</b>	
<b>Construction:</b>		<b>Construction:</b>	
<b>Corrosion Protection:</b>		<b>Corrosion Protection:</b>	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b>		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b>		<b>Primary Release Detection:</b>	
<b>Spill Prevention:</b>		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b>		<b>Pumping System:</b>	
<b>Actual Capacity:</b>		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b> 111 TO 1,100 Gallons		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		

<b>Tank Name:</b> 2		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 12/31/1964	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b>	
<b>Tank Status Date:</b> 8/6/1996	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>	
Tank Information		Piping Information	
<b>Material:</b>		<b>Material:</b>	
<b>Construction:</b>		<b>Construction:</b>	
<b>Corrosion Protection:</b>		<b>Corrosion Protection:</b>	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b>		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b>		<b>Primary Release Detection:</b>	
<b>Spill Prevention:</b>		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b>		<b>Pumping System:</b>	
<b>Actual Capacity:</b>		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b> 111 TO 1,100 Gallons		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		



<b>Tank Name:</b> 4		<b>Tank Status:</b> Removed	
<b>Tank Installation:</b> 12/31/1964	<b>Tank Upgrade:</b>	<b>Business License Endorsement Expiration:</b>	
<b>Tank Status Date:</b> 8/6/1996	<b>Piping Installation:</b>	<b>Tank Permanently Closed Date:</b>	
Tank Information		Piping Information	
<b>Material:</b>		<b>Material:</b>	
<b>Construction:</b>		<b>Construction:</b>	
<b>Corrosion Protection:</b>		<b>Corrosion Protection:</b>	
<b>Manifolded Tank:</b>		<b>SFC* at Tank:</b>	
<b>Release Detection:</b>		<b>SFC* at Dispenser/Pump:</b>	
<b>Tightness Test:</b>		<b>Primary Release Detection:</b>	
<b>Spill Prevention:</b>		<b>Secondary Release Detection:</b>	
<b>Overfill Prevention:</b>		<b>Pumping System:</b>	
<b>Actual Capacity:</b>		<b>Turbine Sump Construction:</b>	
<b>Capacity Range:</b>		*SFC = Steel Flex Connector	
Compartment	Substance Stored	Substance Used	Capacity
1	Leaded Gasoline		

## **ATTACHMENT C. WILDLIFE INFORMATION**

- **IPAC SPECIES LIST (USFWS)**
- **PRIORITY HABITAT AND SPECIES REPORT (WDFW)**



# WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPublic  
REPORT DATE: 11/05/2019 9.28

Query ID: P191105092820

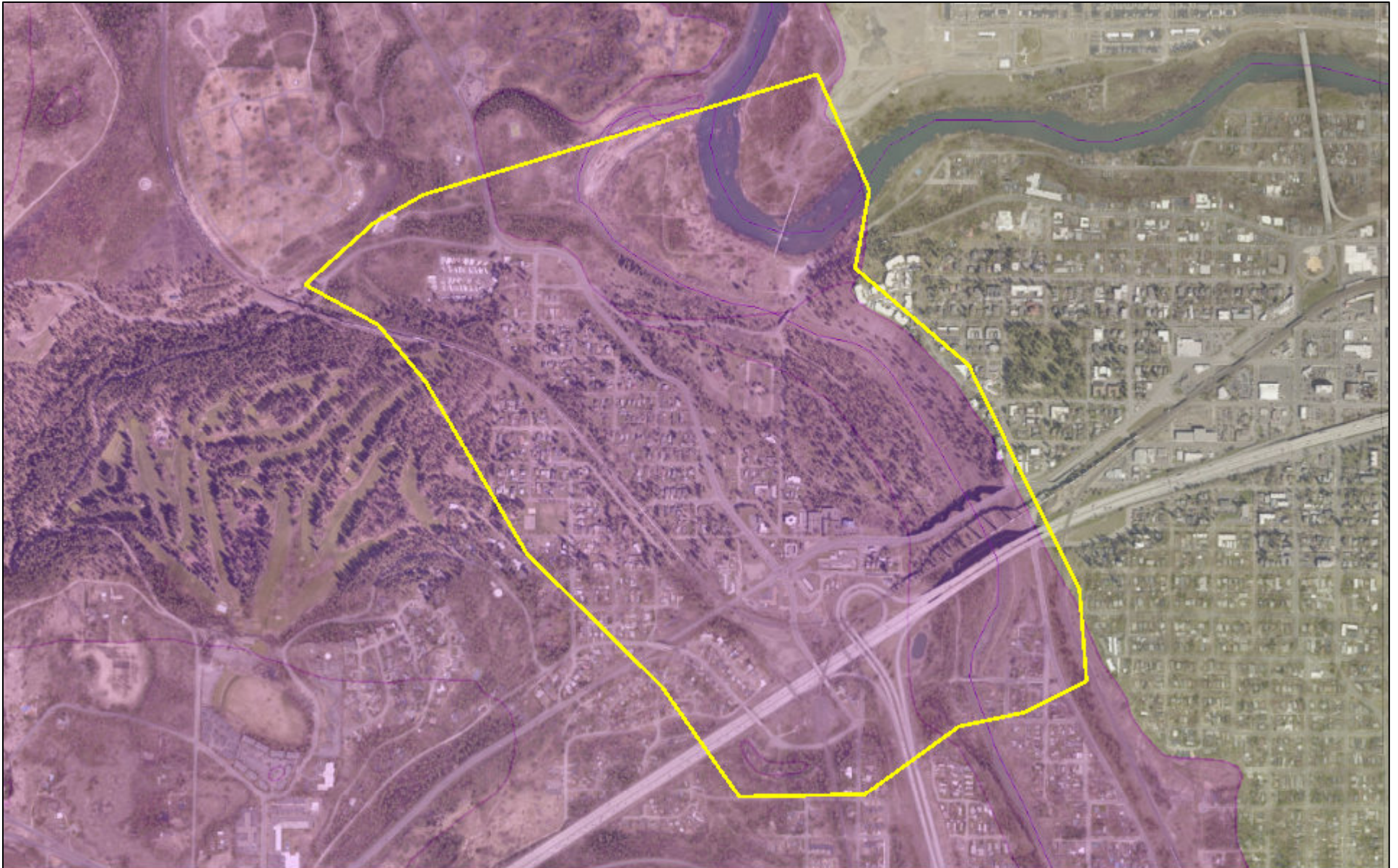
Common Name	Site Name	Priority Area	Accuracy	Federal Status	Sensitive Data	Source Entity
Scientific Name	Source Dataset	Occurrence Type		State Status	Resolution	Geometry Type
Notes	Source Record	More Information (URL)		PHS Listing Status		
	Source Date	Mgmt Recommendations				
Big brown bat Eptesicus fuscus	WS_OccurPoint 149101 February 06, 2013	Communal Roost Biotic detection  <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Biodiversity Areas And	SPOKANE AND LITTLE PHSREGION 920026	Terrestrial Habitat N/A  <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Biodiversity Areas And	LOWER HANGMAN CREEK PHSREGION 903035	Terrestrial Habitat N/A  <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Freshwater Forested/Shrub	N/A NWIWetlands	Aquatic Habitat Aquatic habitat  <a href="http://www.ecy.wa">http://www.ecy.wa.</a>	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Mule deer Odocoileus hemionus	LINCOLN-SPOKANE MULE PHSREGION 920012	Regular Concentration Regular concentration  <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Northwest white-tailed deer Odocoileus virginianus	LAKE ROOSEVELT WHITE - PHSREGION 920017	Regular Concentration Regular concentration  <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	1/4 mile (Quarter)	N/A N/A PHS LISTED	N AS MAPPED	WA Dept. of Fish and Wildlife Polygons
Rainbow Trout Oncorhynchus mykiss	Hangman Creek SWIFD 890	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines










Common Name	Site Name	Priority Area	Accuracy	Federal Status	Sensitive Data	Source Entity
Scientific Name	Source Dataset	Occurrence Type		State Status	Resolution	Geometry Type
Notes	Source Record	More Information (URL)		PHS Listing Status		
	Source Date	Mgmt Recommendations				
Rainbow Trout <i>Oncorhynchus mykiss</i>	Spokane River SWIFD 1950	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Rainbow Trout <i>Oncorhynchus mykiss</i>	Spokane River SWIFD 1951	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	WS_OccurPoint 148484 August 12, 2014	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	Map 1:24,000 <= 40	N/A Candidate PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	WS_OccurPoint 149102 September 20, 2013	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A Candidate PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	WS_OccurPoint 149100 February 06, 2013	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	GPS	N/A Candidate PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Townsend's Big-eared Bat <i>Corynorhinus townsendii</i>	WS_OccurPoint 148485 February 06, 2014	Communal Roost Biotic detection <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	Map 1:24,000 <= 40	N/A Candidate PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Westslope Cutthroat <i>Oncorhynchus clarki lewisi</i>	Spokane River SWIFD 1957	Occurrence/Migration Occurrence/migration <a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a> <a href="http://wdfw.wa.gov/publications/pub.php?">http://wdfw.wa.gov/publications/pub.php?</a>	NA	N/A N/A PHS LISTED	N AS MAPPED	Lines

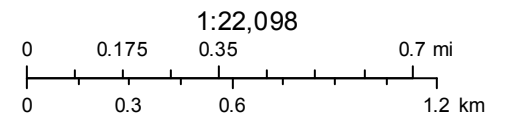
DISCLAIMER. This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

# WDFW Test Map



November 5, 2019

- |   |                      |   |   |   |          |
|---|----------------------|---|---|---|----------|
|  | PHS Report Clip Area | <b>POLY</b>   |  | QTR-TWP   |          |
|  | PT                   |  | AS MAPPED   |  | TOWNSHIP |
|  | LN                   |  | SECTION   |   |          |



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Washington Fish And Wildlife Office  
510 Desmond Drive Se, Suite 102  
Lacey, WA 98503-1263  
Phone: (360) 753-9440 Fax: (360) 753-9405  
<http://www.fws.gov/wafwo/>

In Reply Refer To:

July 22, 2020

Consultation Code: 01EWF00-2020-SLI-1402

Event Code: 01EWF00-2020-E-02662

Project Name: Fish Lake Connection Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website: <http://wdfw.wa.gov/mapping/phs/> or at our office website: [http://www.fws.gov/wafwo/species\\_new.html](http://www.fws.gov/wafwo/species_new.html). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.



A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at <http://www.fws.gov/pacific/eagle/for> information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: <http://www.nmfs.noaa.gov/pr/laws/mmpa/>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:

National Marine Fisheries Service: [http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

Attachment(s):

- Official Species List
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Washington Fish And Wildlife Office**

510 Desmond Drive Se, Suite 102

Lacey, WA 98503-1263

(360) 753-9440

---

## Project Summary

Consultation Code: 01EWF00-2020-SLI-1402

Event Code: 01EWF00-2020-E-02662

Project Name: Fish Lake Connection Project

Project Type: RECREATION CONSTRUCTION / MAINTENANCE

**Project Description:** The proposed Fish Lake Connection Project (Project) would connect Fish Lake Trail from the trailhead at Milton/Lindeke to the Centennial Trail via the Peoples Park Trailhead and Sandifur Bridge. Additionally, the Project would construct a route to make a connection between the Fish Lake Trail and the Thorpe Road bicycle route. An accessible route could be constructed along the edge of the WSDOT owned "Thorpe pit" between the railroad and the trail.

**Project Location:**

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/47.650781058830106N117.45192666941357W>



Counties: Spokane, WA

---



## Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is <b>proposed</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	Threatened

### Fishes

NAME	STATUS
Bull Trout <i>Salvelinus confluentus</i> Population: U.S.A., conterminous, lower 48 states There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8212">https://ecos.fws.gov/ecp/species/8212</a>	Threatened

### Flowering Plants

NAME	STATUS
Water Howellia <i>Howellia aquatilis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7090">https://ecos.fws.gov/ecp/species/7090</a>	Threatened

---

## **Critical habitats**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

---

# Appendix E

## Existing Utility Information



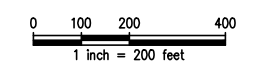
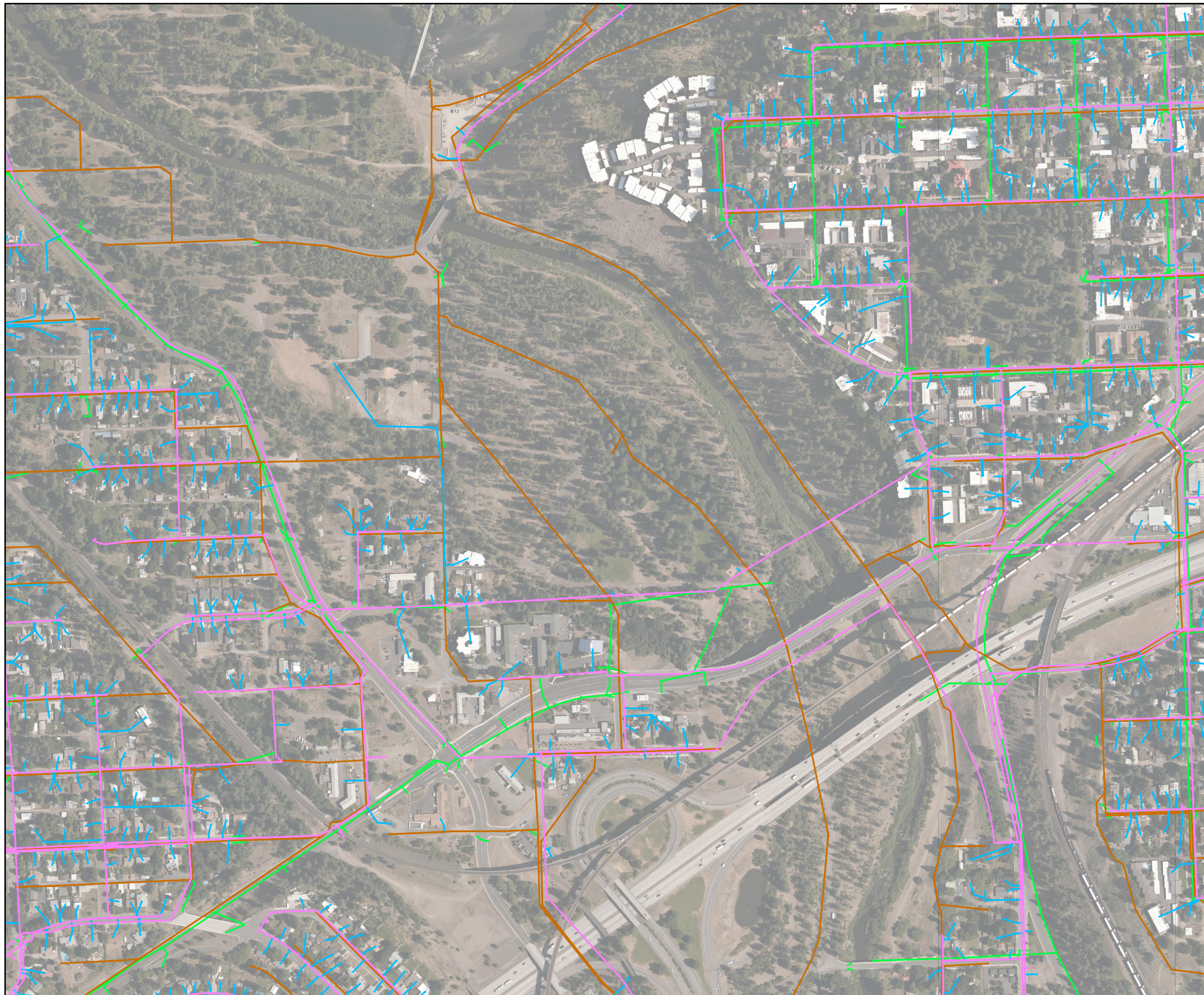




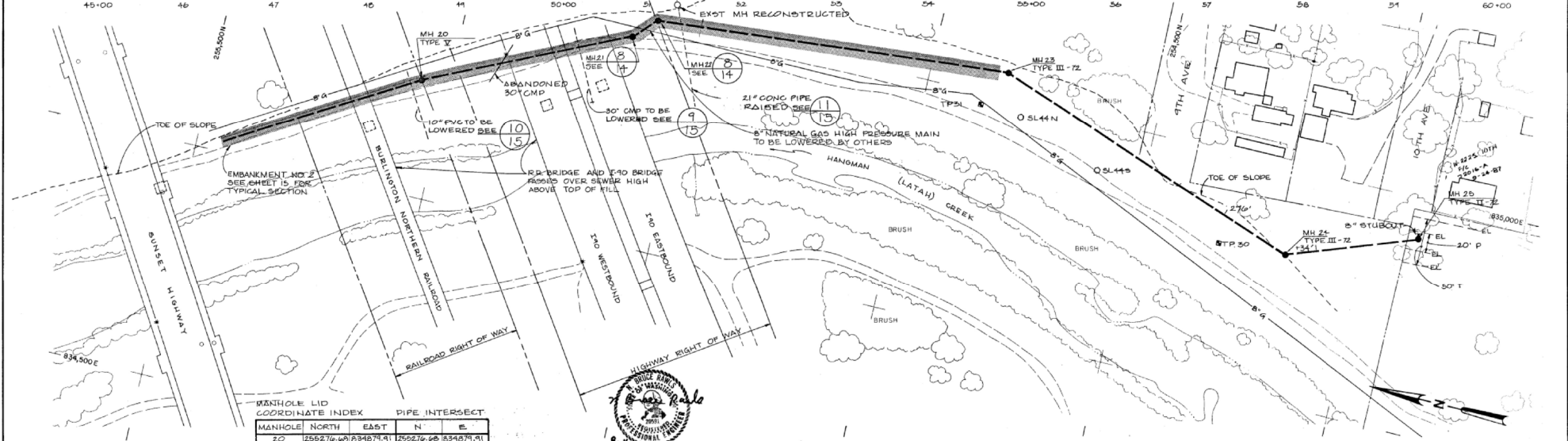
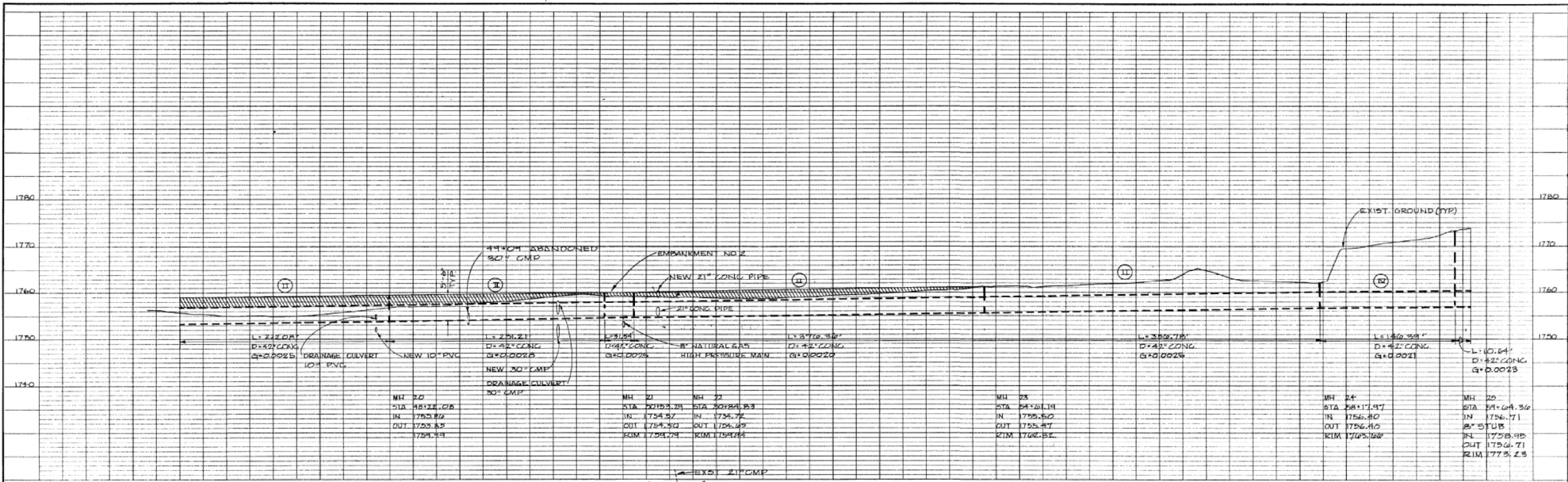
# FISH LAKE TRAIL CONNECTION STUDY UTILITY EXHIBIT

## LEGEND:

- STORMWATER GRAVITY MAIN
- SANITARY SEWER GRAVITY MAIN
- WATER DISTRIBUTION MAIN
- WATER DISTRIBUTION LATERAL







MANHOLE LID COORDINATE INDEX

MANHOLE	NORTH	EAST	N	E
20	255276.68	834874.91	255276.68	834874.91
21	255205.51	834473.02	255205.51	834473.02
22	255213.74	834444.80	255213.74	834444.80
23	254668.74	835021.45	254668.74	835021.45
24	254334.60	834906.01	254334.60	834906.01
25	25445.54	834453.32	25445.54	834453.32

PIPE INTERSECT

MANHOLE	NORTH	EAST	N	E
20	255276.68	834874.91	255276.68	834874.91
21	255205.51	834473.02	255205.51	834473.02
22	255213.74	834444.80	255213.74	834444.80
23	254668.74	835021.45	254668.74	835021.45
24	254334.60	834906.01	254334.60	834906.01
25	25445.54	834453.32	25445.54	834453.32



DSGN J.A. SINCLAIR  
 DR C. CEIER  
 CHK M.H. VANDERAA  
 APVD H.B. RAWLS

NO. DATE  
 1 5-85  
 2 10-88  
 REVISION

ERE JAS  
 JCC NBR  
 BY APVD

VERIFY SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING.  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

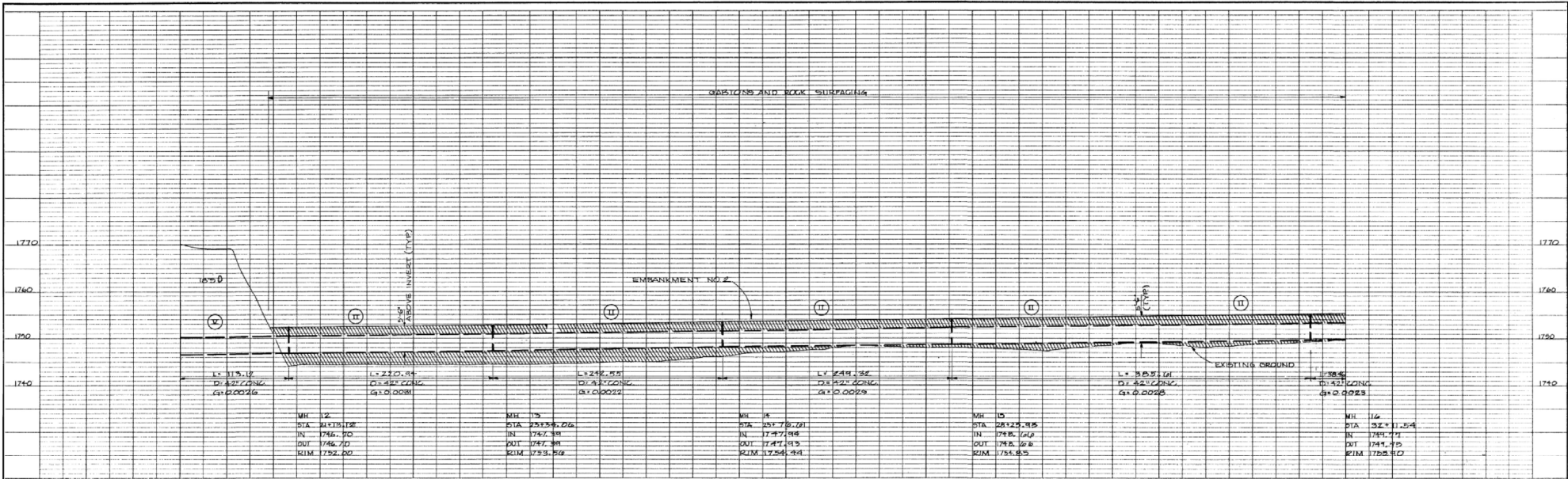
SCALE  
 HORIZONTAL 1"=80'  
 VERTICAL 1"=10'

DEPARTMENT OF PUBLIC WORKS  
 ENGINEERING DIVISION  
 CITY OF SPOKANE, WASHINGTON

S I A TRUNK SEWER  
 SEGMENT NO. 1  
 Plan and Profile Sta. 46+00 to 59+75.00

SHEET 6 of 15  
 PLAN NUMBER 12563  
 PROJ 12563  
 NO. 010000021





MANHOLE LID COORDINATE INDEX

MANHOLE	NORTH	EAST	N	E
12	25720.57	855036.06	257130.55	855036.04
13	257029.64	855247.24	257054.64	855247.24
14	256410.74	855400.00	256410.54	855400.00
15	256276.46	855702.56	256276.46	855702.56
16	256055.10	855476.13	256026.40	855476.13



**CH2M HILL**

DSGN JA SINCLAIR  
 DR C ORIER  
 CHK M H VANDERAA  
 APVD N B RAWLS

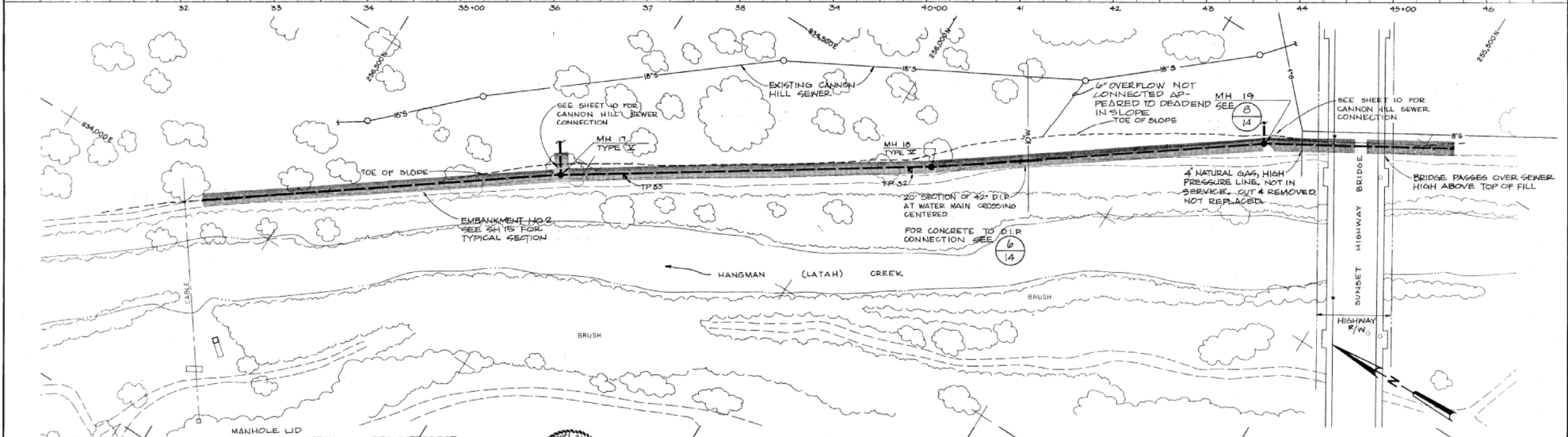
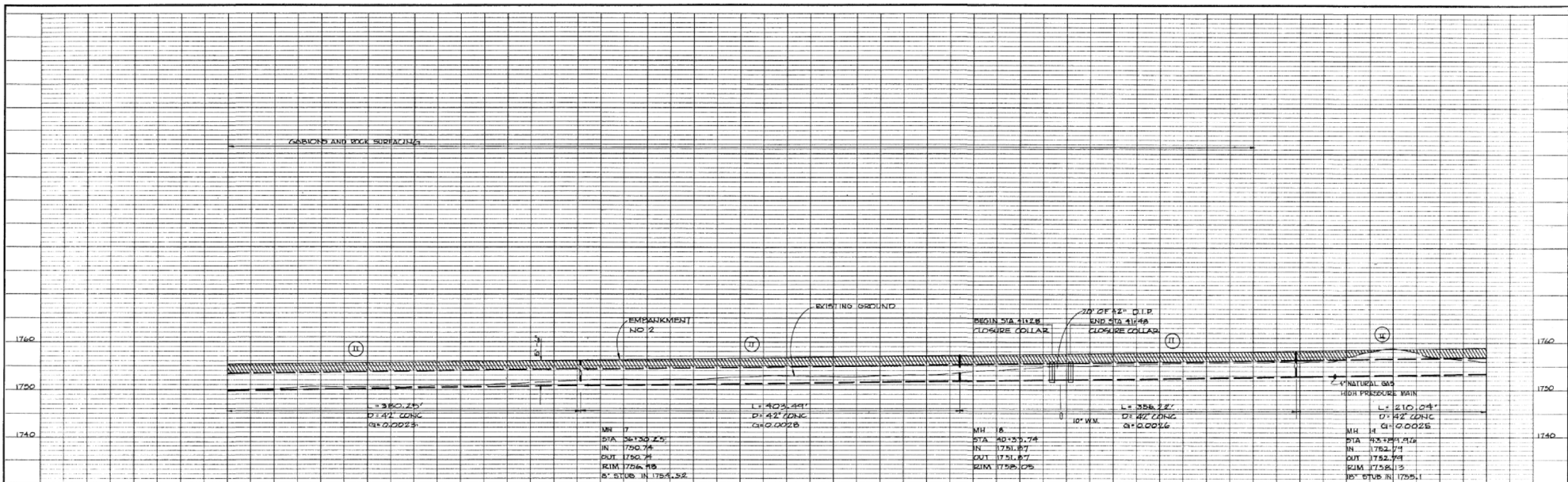
2 588  
 1 10184  
 NO. DATE REVISION

VERIFIED SCALES  
 BAR IS ONE INCH ON ORIGINAL DRAWING  
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SCALE  
 HORIZONTAL 1"=80'  
 VERTICAL 1"=10'  
 PROJ 12563  
 NO. 2222222

DEPARTMENT OF PUBLIC WORKS  
 CITY OF SPOKANE, WASHINGTON  
 ENGINEERING DIVISION  
**SIA TRUNK SEWER**  
 SEGMENT NO. 1  
 Plan and Profile Sta. 20+00 to 32+50

SAN SEWER  
 SHEET 4 of 15  
 PLAN NUMBER E45701 (9) 2  
 24-25-42  
 SEWER



MANHOLE LID COORDINATE INDEX PIPE INTERSECT

MANHOLE	NORTH	EAST	N	E
17	254672.08	835220.84	256272.06	834720.84
18	255134.79	834448.25	255134.79	834448.25
19	255601.14	834662.00	255601.14	834662.00



**CH2M HILL**

DSGN	J.A. SINGLAR	2	5-89	RECORD DRAWING TO MH 19 COORDINATES AND MH LENGTHS AND STATIONS	ERC	JCC	VERIFY SCALES. BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
DR	C. GRIER						
CHK	M.H. VANDERAA						
APVD	N.B. RAWLDS						
NO.	DATE	NO.	DATE	REVISION	BY	APVD	

SCALE	HORIZONTAL 1"=80'
SCALE	VERTICAL 1"=10'
PROJ	12563
NO.	21000001

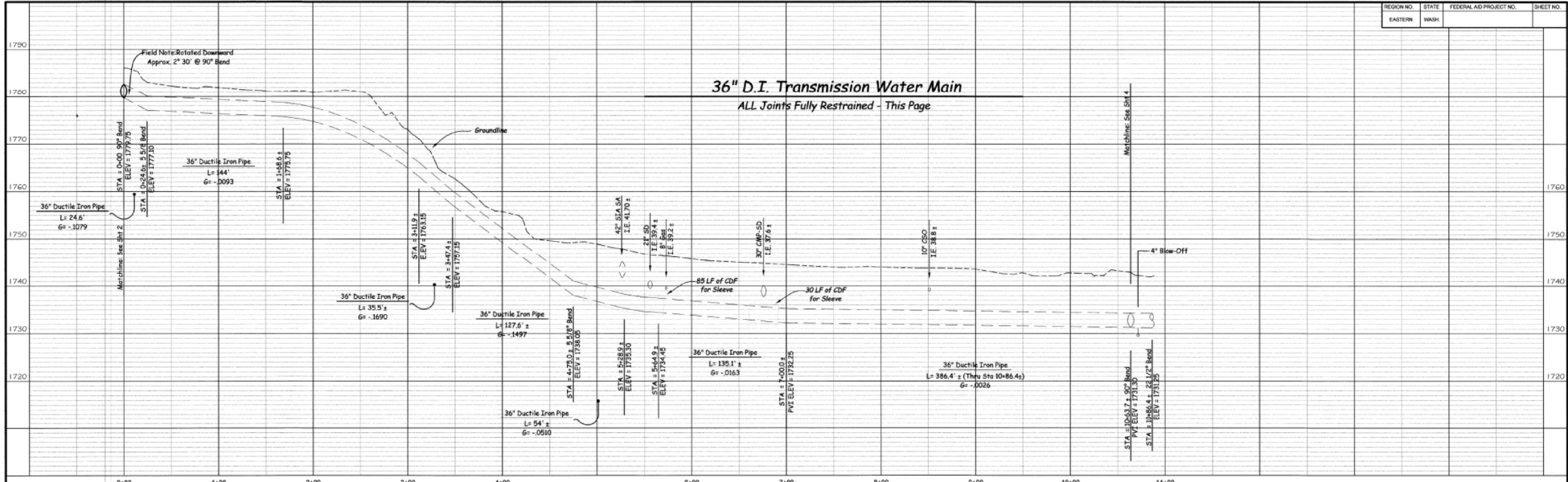
DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION  
CITY OF SPOKANE, WASHINGTON

**SIA TRUNK SEWER  
SEGMENT NO. 1**

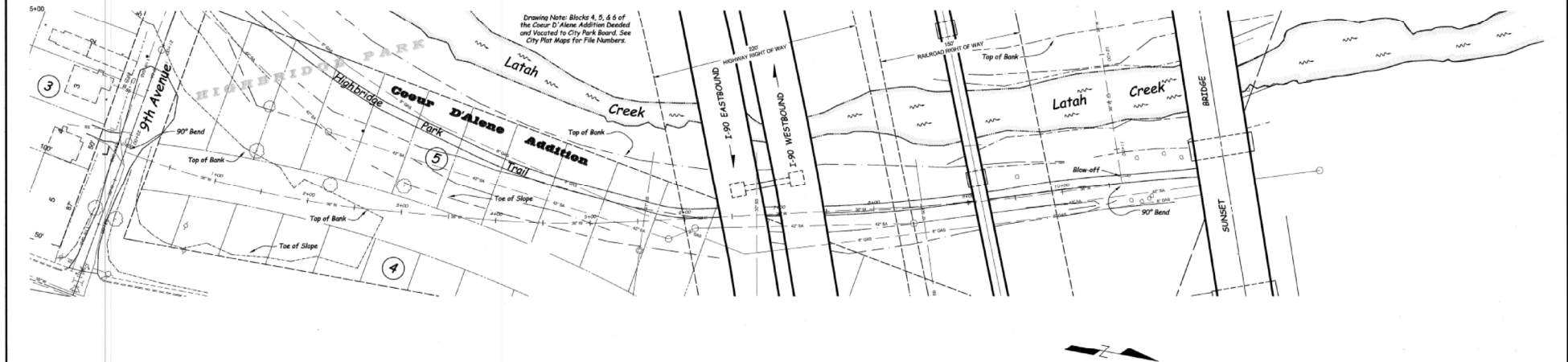
Plan and Profile Sta. 32+00 to 46+00

SHEET 5 of 15  
PLAN NUMBER EA-271(2) 2 4-25-42  
SEWER

ENTERED 12/25/63 BY N.B. RAWLDS



ELEVATIONS ARE TO NAVD88 DATUM



The Engineer's Seal was removed during the Ap-Shift process. The information of record is as follows:

City Project Number	Name of Engineer	State Engineering License Number	Engineer's Approval Date
2001171	DAVID G. BROWN	17023	09/03/20

PLAN NOTE: LOT DIMENSIONS SHOWN ARE PLATTED. ACTUAL DISTANCES MAY VARY.

DATE	BY	DESCRIPTION
		REVISIONS

AS BUILT	GRADE ORDINANCE LIST

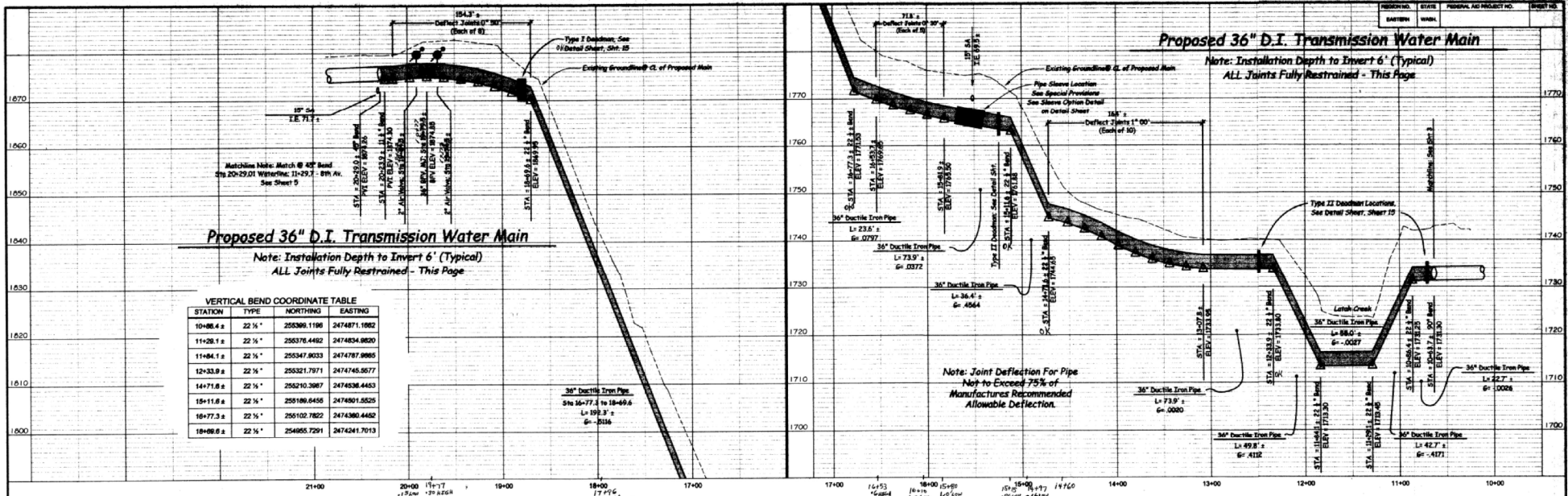
NAV88 DATUM	SCALE
-------------	-------

CITY OF SPOKANE, WASHINGTON  
DEPARTMENT OF ENGINEERING SERVICES  
800 WEST SPOKANE FALLS BLVD.  
SPOKANE, WASHINGTON 99201-3343  
(509) 625-6300

PROJECT NAME	WESTSIDE TRANSMISSION MAIN
SEGMENT LIMITS	HIGHBRIDGE PARK TRAIL 9th Avenue to Sunset Bridge; East Bench of Latah Creek
PROJECT LIMITS	Inland Empire Way to West Drive
CITY PROJECT NUMBER	2001171
CITY PLAN NUMBER	HIGH#A(02)3
DATE	24-25-20

CALL BEFORE YOU DIG 456-8000



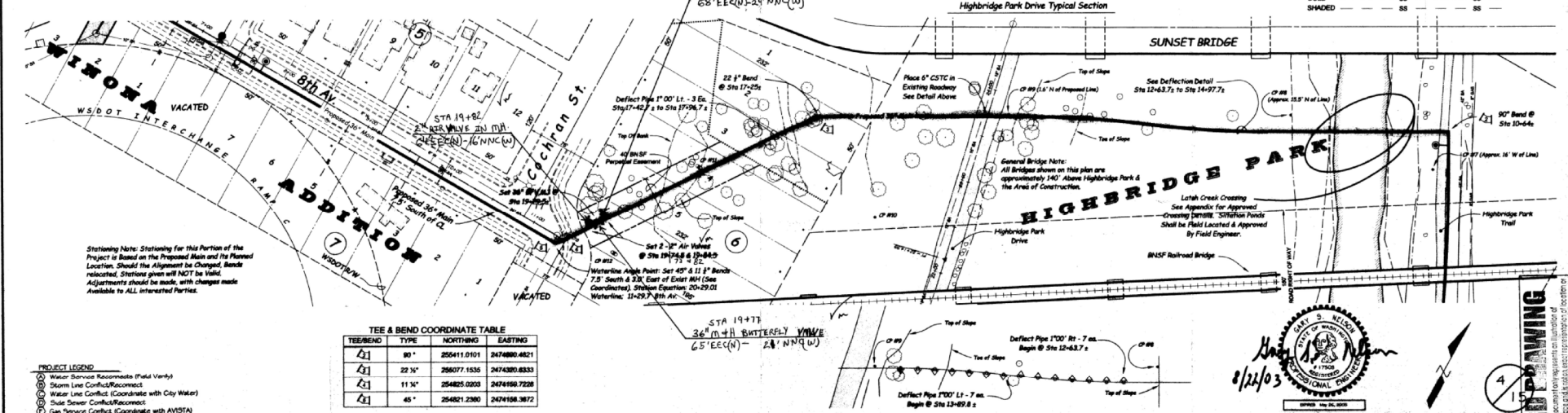


PLAN NOTE: LOT DIMENSIONS SHOWN ARE PLATTED; ACTUAL DISTANCES MAY VARY.

ELEVATIONS ARE TO NAVD83 DATUM.

**Side Sewer Note:**  
 The location of side sewers lying between the 1st floor and 2 feet below the invert of the proposed water main are shown as BOLD in the plan view. For clarity, side sewers anticipated to be deeper than 2 feet below the water main invert, and those not anticipated to be in conflict are shown as SHADED. Example shown below.

BOLD --- SS --- SS --- SS  
 SHADED --- SS --- SS --- SS



**Stationing Note:** Stationing for this portion of the project is based on the proposed main and its planned location. Should the alignment be changed, bands relocated, stationing given will NOT be valid. Adjustments should be made, with changes made available to ALL interested parties.

**General Bridge Note:**  
 All bridges shown on this plan are approximately 140' above Highbridge Park & the Area of Construction.



NO.	DATE	REVISIONS	BY	CHKD.	APP'D.

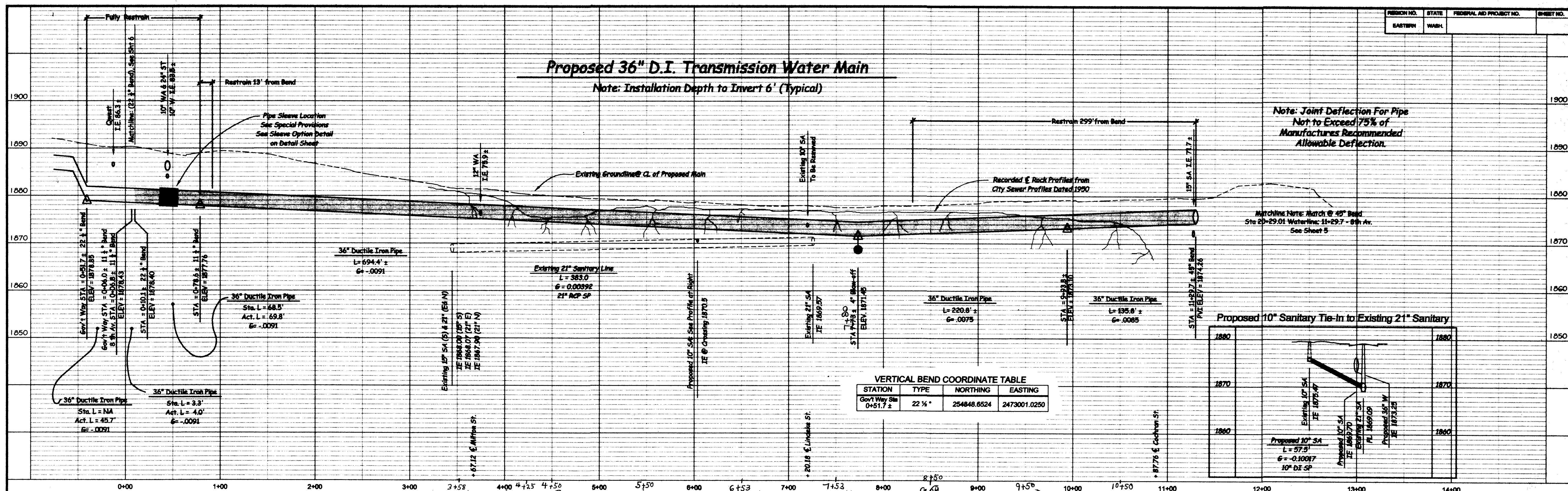
NO.	DATE	REVISIONS	BY	CHKD.	APP'D.

NO.	DATE	REVISIONS	BY	CHKD.	APP'D.



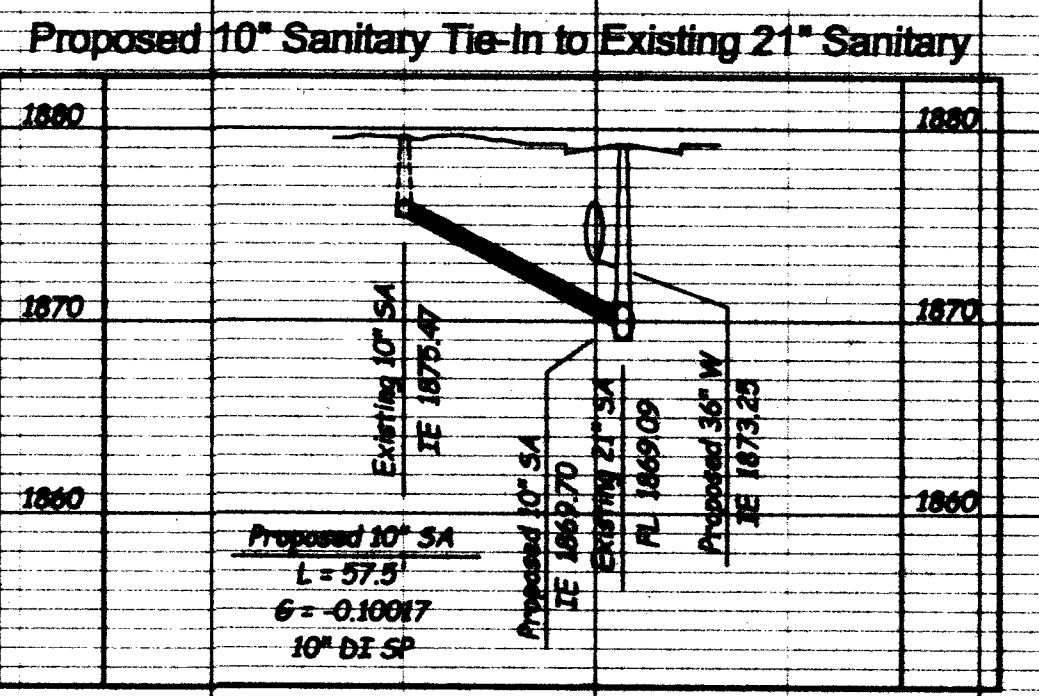
### Proposed 36" D.I. Transmission Water Main

Note: Installation Depth to Invert 6' (Typical)



Note: Joint Deflection For Pipe Not to Exceed 75% of Manufactures Recommended Allowable Deflection.

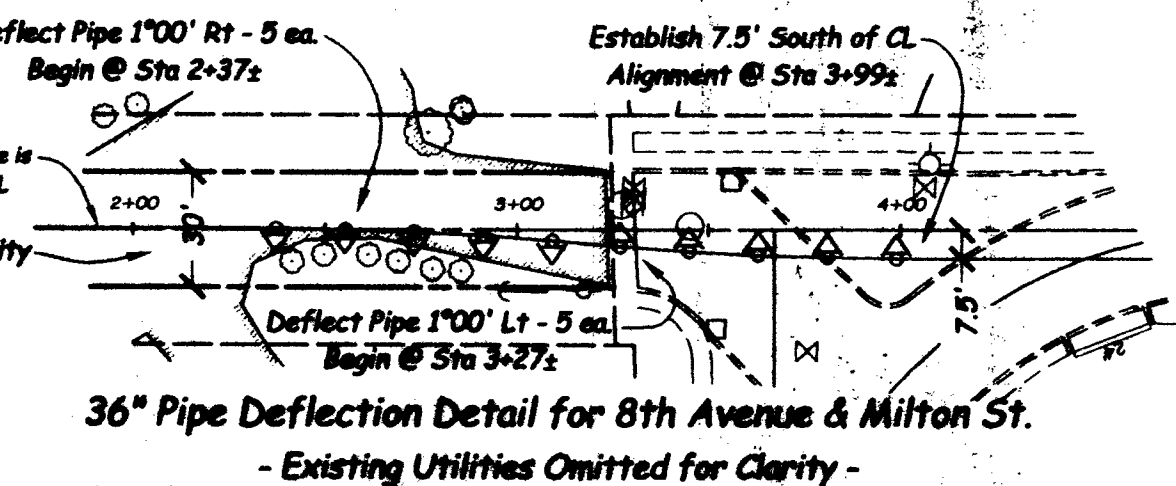
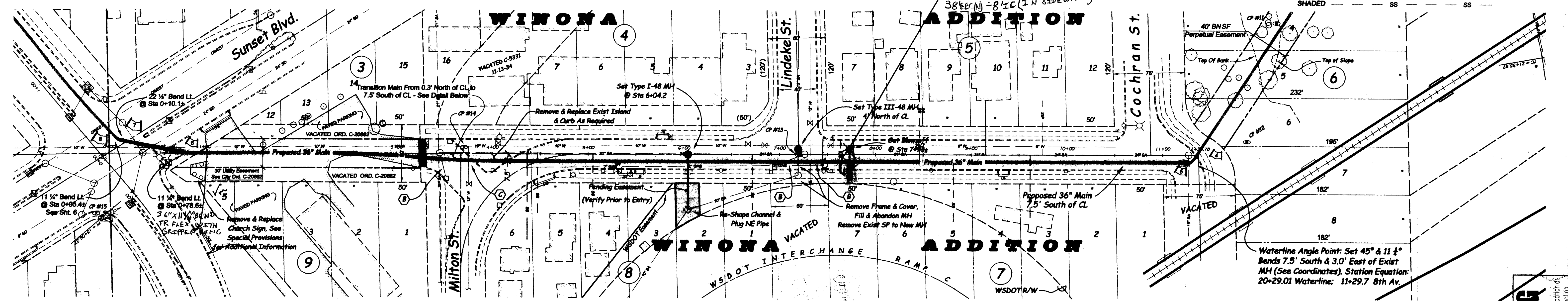
Matching Note: Match @ 40' Bend Sta 20+29.01 Waterline: 11+29.7 - 8th Av. See Sheet 5



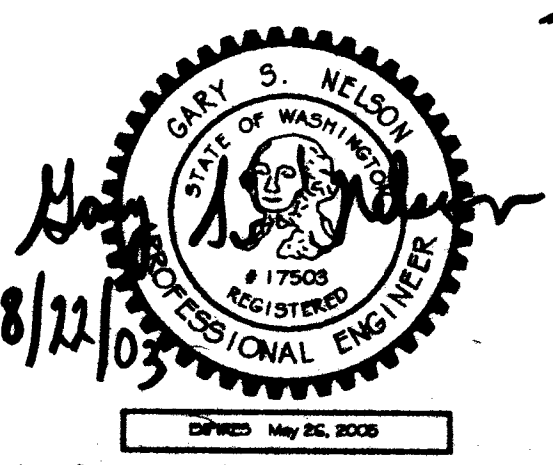
ELEVATIONS ARE TO NAVD88 DATUM

Side Sewer Note  
 The location of side sewers lying between the surface and 2 feet below the invert of the proposed water main are shown as BOLD in the plan view. For clarity, side sewers anticipated to be deeper than 2 feet below the water main invert, and those not anticipated to be in conflict are shown as SHADED. Example's shown below.

BOLD SS SS  
 SHADED SS SS



- PROJECT LEGEND
- (A) Water Service Reconnects (Field Ventry)
  - (B) Storm Line Conflict/Reconnect
  - (C) Water Line Conflict (Coordinate with City Water)
  - (D) Side Sewer Conflict/Reconnect
  - (E) Gas Service Conflict (Coordinate with AVISTA)



PLAN NOTE: LOT DIMENSIONS SHOWN ARE PLATTED; ACTUAL DISTANCES MAY VARY.

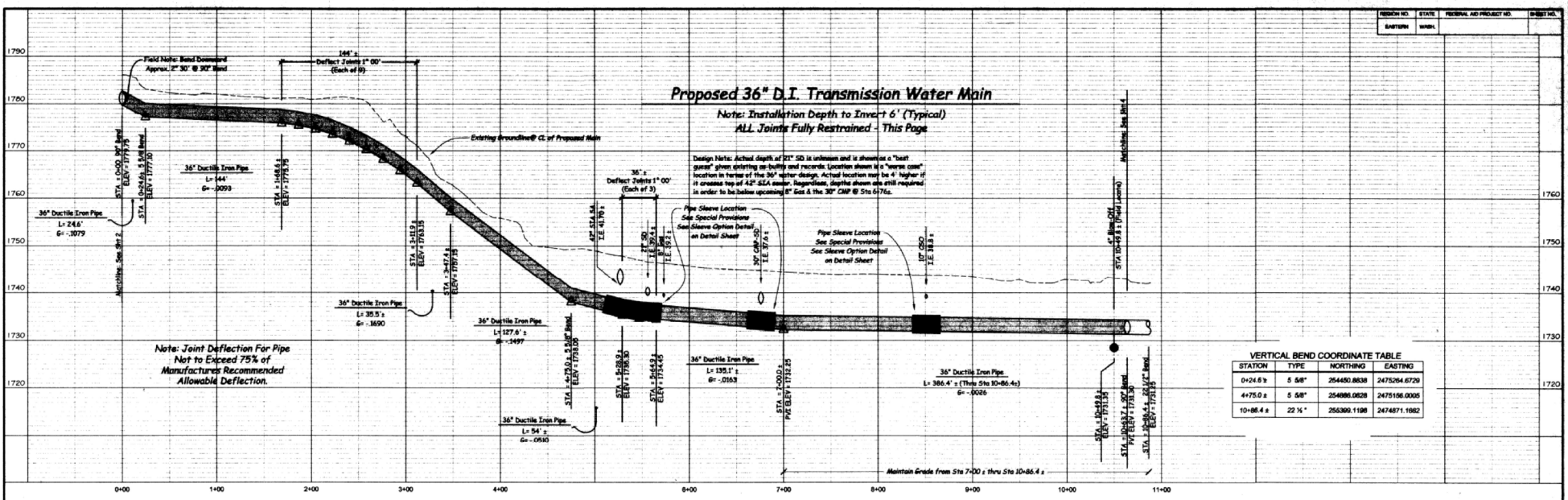
DATE	BY	PREP	DESCRIPTION	DATE	BY	PREP	DESCRIPTION	DATE	BY	PREP	DESCRIPTION

FROM	TO	ORD. NO.	DATE	FILE NO.

NO.	DATE	BY	DESCRIPTION



REVISION NO.	DATE	FEDERAL AID PROJECT NO.	SHEET NO.
EASTERN	WA08		



**Proposed 36" D.I. Transmission Water Main**

Notes: Installation Depth to Invert 6' (Typical)  
ALL Joints Fully Restrained - This Page

Design Note: Actual depth of 21" SD is unknown and is shown as a "best guess" given existing utility and records. Location shown is a "worst case" location in favor of the 36" water design. Actual location may be 4' higher if it crosses top of 42" S&A sewer. Signatures, depths shown are as required in order to be below upcoming 8" Gas & the 30" CMP @ Sta 6+76.

**VERTICAL BEND COORDINATE TABLE**

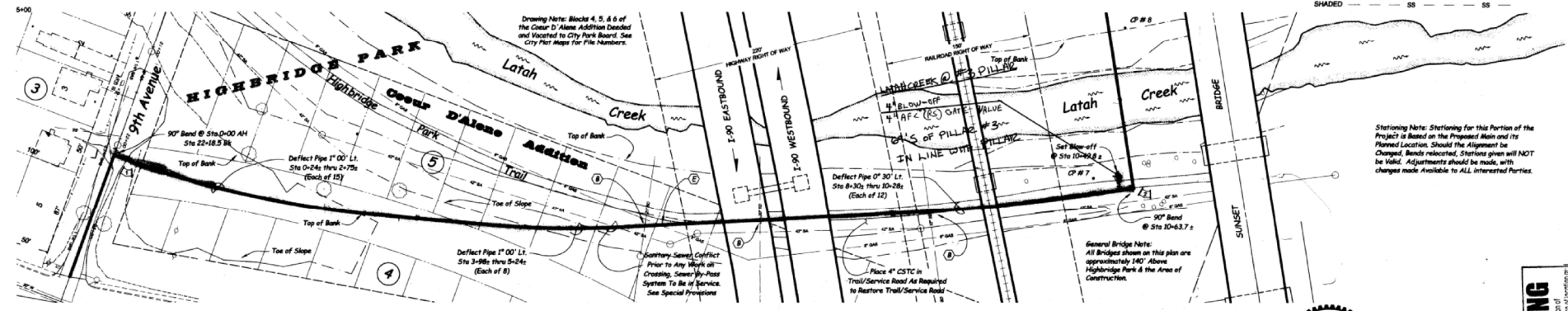
STATION	TYPE	NORTHING	EASTING
0+24.6 ±	5 88"	254440.8638	2475264.6729
4+75.0 ±	5 58"	254886.0628	2475198.0005
10+86.4 ±	22 1/2"	255369.1198	2474871.1882

Note: Joint Deflection For Pipe Not to Exceed 75% of Manufacturer Recommended Allowable Deflection.

ELEVATIONS ARE TO NAVD83 DATUM.

**Side Sewer Note**  
The location of side sewers lying between the surface and 2 feet below the invert of the proposed water main are shown as BOLD in the plan view. For clarity, side sewers anticipated to be deeper than 2 feet below the water main invert, and those not anticipated to be in conflict are shown as SHADED. Examples shown below:

BOLD	SS	SS	SS
SHADED	SS	SS	SS



**TEE & BEND COORDINATE TABLE**

TEE/BEND	TYPE	NORTHING	EASTING
⊥	90°	254426.3133	2475266.8758
⊥	90°	255411.0101	2474880.4821

- PROJECT LEGEND**
- ⊕ Water Service Reconnects (Field Verify)
  - ⊕ Storm Line Conflict/Reconnect
  - ⊕ Water Line Conflict (Coordinate with City Water)
  - ⊕ Side Sewer Conflict/Reconnect
  - ⊕ Gas Service Conflict (Coordinate with AVISTA)

**Stationing Note:** Stationing for this portion of the project is based on the Proposed Main and the Planned Location. Should the Alignment be Changed, Bends relocated, Stations given will NOT be Valid. Adjustments should be made, with changes made Available to ALL interested Parties.

**General Bridge Note:** All Bridges shown on this plan are approximately 140' Above Highbridge Park & the Area of Construction.



PLAN NOTE: LOT DIMENSIONS SHOWN ARE PLATTED; ACTUAL DISTANCES MAY VARY.

NO.	BY	DATE	DESCRIPTION	DATE	BY	DATE	DESCRIPTION

PROJECT NAME: WESTSIDE TRANSMISSION MAIN

SCHEMATIC LIMITS: HIGHBRIDGE PARK TRAIL

9th Avenue to Sunset Bridge, East Bench of Latah Creek

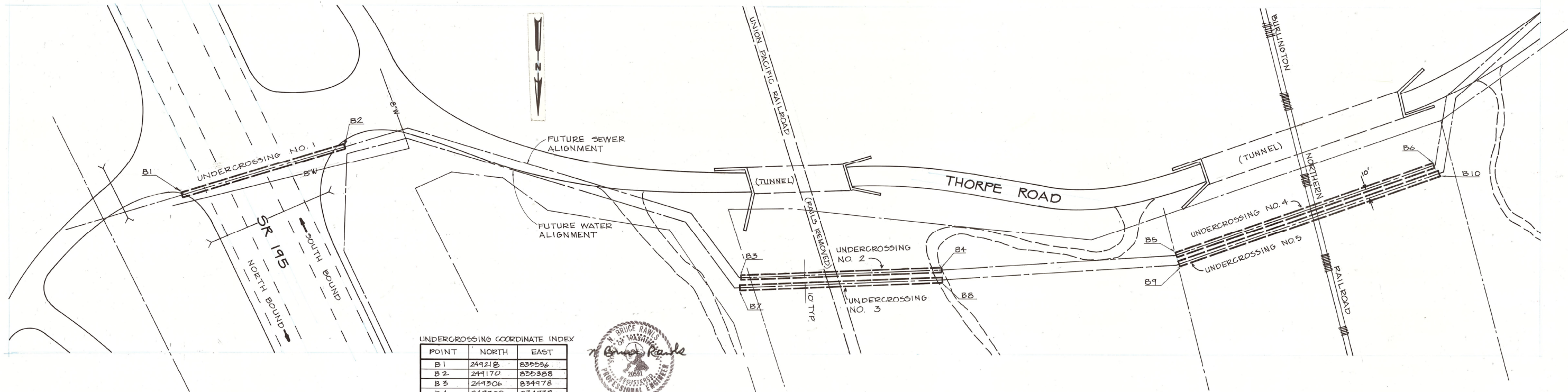
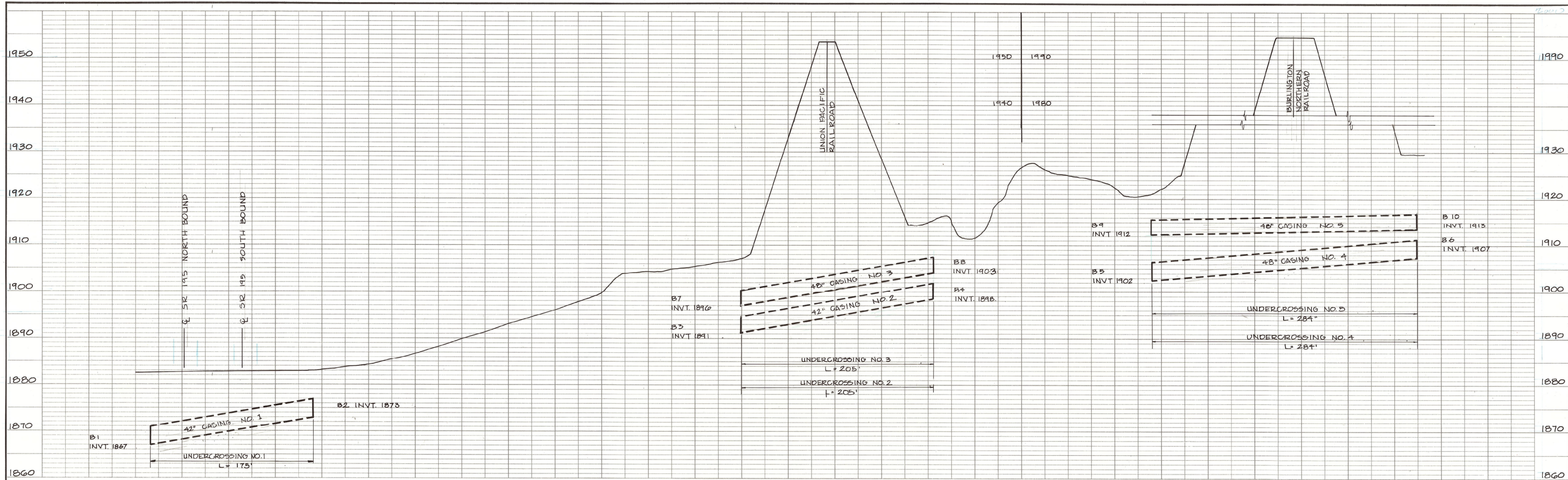
Inland Empire Way to West Drive

CITY PROJECT NUMBER: 2001171

CHECKED: 09/20/06 MLC CALL BEFORE YOU DIG 454-6000

**RECORD DRAWING**  
 This drawing is to be used only in accordance with the specifications and conditions of contract. It is not to be used for any other purpose without the written consent of the engineer.





UNDERCROSSING COORDINATE INDEX

POINT	NORTH	EAST
B1	249218	835556
B2	249170	835388
B3	249306	834978
B4	249300	834773
B5	249286	834536
B6	249192	834268
B7	249318	834982
B8	249512	834779
B9	249295	834534
B10	249201	834266



	DSGN	N.B. Rawls	NO. DATE 1 5-83	RECORD DRAWING REVISION	BY APVD ERG JCC	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	SCALE HORIZONTAL 1"=50' VERTICAL 1"=10' PROJ 12563 NO. -836082-01	DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION CITY OF SPOKANE, WASHINGTON		SHEET 11 of 15
	DR	R. FRIBERG						S I A TRUNK SEWER SEGMENT NO. 1		PLAN NUMBER THORP R(2)3
	CHK	M.H. VANDERAA						Undercrossing Nos. 1,2,3,4&5		25-25-42
	APVD	N.B. RAWLS						SEWER		No. 5-10-90





# Appendix F

Geotechnical Memorandum





## TECHNICAL MEMORANDUM

**To:** Pat Sloan

**From:** John Finnegan, PE, and Rex Lloyd

**Date:** February 3, 2021

**Project:** Fish Lake Trail



2-3-2021

In situ soil/rock conditions along the proposed trail routes consist of primarily granular soils and exposed or buried basalt rock. The granular soils are likely medium-dense although reworked materials could be locally loose. Much of the in situ granular soils appear to be suitable for reuse as fill, but oversized particles will need to be removed. Soils that contain more than about 20 percent fines<sup>1</sup> are considered moisture-sensitive and should not be used for fill. Adequate compaction will be difficult to achieve in wet conditions.

In general, the angle of repose for the granular soils will range from approximately 34 to 38 degrees. This represents the maximum slope angle that would be tenuously stable.<sup>2</sup> In many locations, the existing slope angles appear to be at or slightly less than the angle of repose. Cut and fill operations in these slopes will be challenging and expensive.

Attempts to cut or place fill on soils at or near the angle of repose will fail. In level ground or slopes approximately 2H:1V (approximately 30°) or less, cuts and fills are feasible. Cuts requiring retaining walls will require top-down construction. Retaining wall options include soldier piles with lagging and soil nailing. Soil nailing can be accomplished with lighter and shorter equipment than used for installing soldier piles. In areas of difficult access, such as beneath bridges and steep slopes below the cut, soil nailing will likely be the better option. Soldier piles and soil nailing both require space for anchors or nails. Minimum anchor lengths for soldier pile and lagging walls will be roughly equal to the wall height; soil nails are usually approximately ¾ of the wall height. Stability analysis may require greater lengths. These lengths may vary depending on slope angles above and below the wall. This may become an issue in areas below bridges, especially with switchbacks. Where access is available and cuts are less than 10 to 15 feet deep, cantilevered soldier piles and lagging may be the preferred option because no anchors are required. The maximum depth for cantilevered walls will depend upon the slopes above and below the cut.

<sup>1</sup> Fines are particles passing the #200 U.S. Standard sieve.

<sup>2</sup> Safety factor 1.0

For fills, earth retention may or may not be required pending engineering analysis for specific cases and required slopes. Where fill retention is required, options are cantilever concrete walls, soldier piles and lagging, mechanically stabilized earth (MSE) and gabion walls. Steep slopes below the fills will make equipment access difficult. This may favor the use of MSE or gabion walls because the construction equipment needed to install these walls is lighter and more mobile than for installing soldier piles or concrete walls.

Boulders are common in the in-situ soils and may present difficulties with installation of soldier piles, anchor, and soil nails. Generally, these may be overcome with the proper equipment, but they will tend to slow construction and increase cost. Boulders tend to be a factor in risks of contractor claims of changed conditions.

Shallow or outcropping basalt is present in many locations along the proposed routes. These may present difficulties with profile grading and installation of retaining structures. Where possible, altering the route may be the preferred course of action. Otherwise, ripping and/or blasting may be necessary. Cuts in stable rock may not require retention systems but would require maintenance to monitor and mitigate rock raveling over time.

The most important geotechnical issues concerning the proposed trails are existing slopes, number, length, and height of cuts and fills, exposure to flooding, outcropping or shallow basalt bedrock and potential limitations to crossing and switchbacks under I-90. Based on information provided by KPFF and our reconnaissance, the following are our observations of the issues as they pertain to the proposed routes ranked by estimated geotechnical favorability considering cost, difficulty, and risk.

- 1. Red.** More than half of this route follows the east shoulder of Government Way. Little earthwork and no structures are anticipated for this section. Overall, this route has the lowest total area of walls. This route has three at-grade crossings but does not cross I-90. Flooding is not an issue on this route. This route poses the fewest geotechnical challenges.
- 2. Blue.** Relatively fewer steep slopes are present requiring cut or fill. It has the second-least total area of walls. Two at-grade road crossings are planned and the route does not cross I-90. Flooding is not an issue on this route.
- 3. Purple.** The first 1/3 or so of this route parallels the green route and includes the same I-90 crossings. The remainder of the route is relatively flat with few significant cuts or fills. Flooding risk is low.



- 4. Green.** This route follows along the base of a steep slope over a considerable portion of its length and has, by a large margin, the greatest total area of walls. It also has the tallest walls. This route also crosses I-90 at two locations. Much of this route is along the east bank of Latah Creek, which is prone to flooding ; further investigation of this potential hazard is necessary. In our opinion, this route is the most challenging from a geotechnical standpoint.

Further information of the soil and rock conditions along the proposed routes will be obtained in future field investigations.