

**ADDENDUM FIVE  
HCSO-CPD RANGE REMEDIATION AND MAINTENANCE  
CONTRACT NUMBER P-15-001-202  
CITY OF CHATTANOOGA, TENNESSEE**

The following changes are hereby made to the Contract Documents, Specifications, and Drawings:

**I. Bid Date**

A. The bid opening date is extended to Thursday, August 25<sup>th</sup> at 2:00 PM.

**II. Revised Answer to Questions (Refer to Addendum 4)**

1) *Q: Will the cleaning of the trench between the shooting area and the backstop be part of this work?*

*A: Add Alternate 3 has been revised and will not include cleaning the trench between the shooting area and the backstop.*

2) *Q: Will the targets be removed prior to beginning this work?*

*A: The targets can be removed prior to beginning the work. Target removal must be coordinated with Range staff.*

**III. Updated Bid Schedule**

A. A new Bid Schedule (Section 301-2) is included with this Addendum.

**IV. Updated Specifications**

A. New Specification Section 00417 is included with this Addendum.

B. A revised Section 13200 is included with this Addendum, addressing the alterations to Add Alternate 3. Section 13200.6.6 is the relevant portion updated.

C. A brief summary of the revisions to Section 13200 is as follows:

- i. Add Alternate 3: Cleaning, Filling and Improving Target Trench is removed from the project.
- ii. Add Alternate 3: Remove & Replace Target Trench French Drain shall be added to the project, including the following scope of work:
  1. Removal of the existing aggregate and 4" perforated pipe French drain system in the target trench.
  2. Saw cut and removal of existing circular ditch section and portions of the concrete pads for the mechanical target actuator assemblies, and excavate these areas to sufficient depth, along with the balance of the French drain, to receive a new French drain system.

3. Install 12" nominal clean, washed #57 stone for French drain along with (2) geotextile fabric wrapped 4" HDPE perforated pipes. The upper portion of the French drain where the circular ditch is removed will receive only a single 4" HDPE perforated pipe. The pipes shall be laid to grade to drain to the receiving outlet channel.
4. Prior to saw cutting the concrete pads, the Contractor shall carefully remove and disconnect the existing target system mechanical actuator assemblies and targets to allow the City to store for future use.

## **V. Updated Drawings**

- A. Updated Plan Sheets 3, and 6-11 are included with the Addendum.

August 16, 2016

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/s/ Justin C. Holland, Administrator  
City of Chattanooga  
Department of Public Works

**Bid Schedule**  
**Contract W-15-015**  
**City of Chattanooga**

<b>Note: Unless otherwise stated, all bid items shall be complete installation as specified and or shown on the drawings.</b>					
<b>BASE BID</b>					
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Est. No of Units</b>	<b>Unit Price</b>	<b>Item Total</b>
717	Mobilization (Includes Plans and Project Permitting Costs)	LS	1	\$	\$
13200-6.2.1	Excavation and Lead Screening of Contaminated Soils (Includes all hauling, re-hauling, final placement or disposal for post-screened material)	CY	1200	\$	\$
13200-6.2.2	CREDIT: City's 50% Share of Value of Recycled Lead (less proportional share of recycling expenses)	TON	100000	\$	\$(CR)
13200-6.3.1	Guaranteed chemical treatment of screened soil, and confirmation sampling by Certified Laboratory	CY	1200	\$	\$
13200-6.3.2	Site restoration, including finish grading, placement of topsoil, seeding, mulching, post-construction cleanup	LS	1	\$	\$
13200-6.3.3	Rough grading , minor drainage improvements, contour restoration	CY	250	\$	\$
13200-6.4.1	Trenching for Infiltration Trench in Main Range Impact Area (Common)	CY	300	\$	\$
13200-6.4.2	Trenching for Infiltration Trench in Main Range Impact Area (Rock)	CY	10	\$	\$
13200-6.4.3	Geotextile Fabric Type I	SY	991	\$	\$
13200-6.4.4	#3 Washed Stone (Infiltration trench)	TON	525	\$	\$
13200-6.4.5	6" HDPE Perforated Drain Pipe	LF	380	\$	\$
13200-6.4.6	12" Sand Cap (Infiltration trench)	CY	80	\$	\$
13200-6.4.7	Surface Ditch Grading at Infiltration Trench in Main Range Impact Area	CY	200	\$	\$
				<b>Total Base Bid</b>	<b>\$</b>
<b>ADD ALTERNATE 1: RANGE DRAINAGE A</b>					
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Est. No of Units</b>	<b>Unit Price</b>	<b>Item Total</b>
15-1	Saw Cutting and Removing Existing Concrete Sidewalk	SF	410	\$	\$
23-1	Removal of Structures and Obstructions	LS	1	\$	\$
13200-6.4.1A	Trenching for Infiltration Trenches on Main Range Deck (Common)	CY	900	\$	\$
13200-6.4.2A	Trenching for Infiltration Trenches on Main Range Deck (Rock)	CY	10	\$	\$
13200-6.4.3A	Geotextile Fabric Type I	SY	10350	\$	\$
13200-6.4.4A	#3 Washed Stone (Infiltration trench)	TON	1560	\$	\$
13200-6.4.5A	6" HDPE Perforated Drain Pipe	LF	1380	\$	\$
13200-6.4.6A	Topsoil	CY	80	\$	\$
13200-6.4.7A	Surface Grading	CY	50	\$	\$
				<b>Total Add Alternate 1</b>	<b>\$</b>
<b>ADD ALTERNATE 2: RANGE DRAINAGE B</b>					
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>	<b>Est. No of Units</b>	<b>Unit Price</b>	<b>Item Total</b>

**Bid Schedule  
Contract W-15-015  
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Item No.	Description	Unit	Est. No of Units	Unit Price	Item Total
13200-6.5.1	Drainage Excavation (Unclassified)	CY	90	\$	\$
13200-6.5.2	Class B Concrete Pad (8'x6'x6")	CY	1	\$	\$
13200-6.5.3	3'x3'x18" Galvanized Gabion Basket, Geotextile Fabric Lined, filled with #57 Stone	EA	1	\$	\$
13200-6.5.4	4'x4' Precast V-Notch Weir Outlet Structure with Cast Iron Grate	EA	1	\$	\$
13200-6.5.5	Geotextile Fabric Type I	SY	400	\$	\$
13200-6.5.6	24" CMP Outlet Pipe with Anti-Seep Collar	LF	22	\$	\$
13200-6.5.7	Clay Embankment (Pond Berm)	CY	50	\$	\$
13200-6.5.8	Rip Rap Class A-3	TON	125	\$	\$
13200-6.5.9	Rip Rap Class A-1	TON	50	\$	\$
13200-6.5.10	High Slump Grout for Rip Rap	CY	10	\$	\$
13200-6.5.11	Pond Impact Berm Embankment in Place	CY	40	\$	\$
<b>Total Add Alternate 2</b>				<b>\$</b>	
<b>ADD ALTERNATE 3: REMOVE &amp; REPLACE TARGET TRENCH FRENCH DRAIN</b>					
Item No.	Description	Unit	Est. No of Units	Unit Price	Item Total
13200-6.6.1	Excavating Ex. Aggregate and Removing Ex. 4" Perf. Pipe French Drain (Includes Removing Ex. Mechanical Boxes and disconnecting Ex. Targeting System)	LS	1	\$	\$
13200-6.6.2	Geotextile Fabric-Wrapped 4" Perforated Pipe Drain	LF	700	\$	\$
13200-6.6.3	#57 Clean Washed Stone	TON	100	\$	\$
13200-6.6.4	Saw Cutting and Removing Portions of Ex. Concrete Slabs for Continuous Drainage System	SF	130	\$	\$
<b>Total Add Alternate 3</b>				<b>\$</b>	
<b>ADD ALTERNATE 4: WATER QUALITY DITCH IMPROVEMENT AND OUTLET REPAIR</b>					
Item No.	Description	Unit	Est. No of Units	Unit Price	Item Total
13200-6.7	Regrading ditch, placing fill and/or Class B concrete under outlet pipe, reconstructing/repairing 18" CMP outlet pipe at ditch station 7+65.40	LS	1	\$	\$
<b>Total Add Alternate 4</b>				<b>\$</b>	
<b>Total for Base Bid:</b>					
<b>Total for Add Alternates 1-4:</b>					
<b>TOTAL PROJECT BID (sum of Base Bid and all Add Alternates)</b>					
BIDDER				DATE	
BY (Signature)				TITLE	
ADDRESS					
CITY		STATE		ZIP CODE	
TELEPHONE NUMBER					

**Chapter No. 817 (HB0261/SB0377). "Iran Divestment Act" enacted.**

**Vendor Disclosure and Acknowledgement**

**By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to § 12-12-106.**

**(SIGNED)** \_\_\_\_\_

**(PRINTED NAME)** \_\_\_\_\_

**(BUSINESS NAME)** \_\_\_\_\_

**(DATE)** \_\_\_\_\_

## SECTION 13200

### FIRING RANGE LEAD RECLAMATION AND STABILIZATION

#### PART 1 – GENERAL

##### 1.0 SCOPE OF WORK OVERVIEW

The **City of Chattanooga Police Department** will be procuring the services of a CONTRACTOR to perform the remedial services at the **HCSO/CPD firing range at Moccasin Bend**. This project is expected to include the following tasks to meet US EPA and **State of Tennessee** Best Management Practices (BMPs) for Outdoor Shooting Ranges.

- Environmental Range Assessment and delineation of lead-impacted soils and sediments
- Mobilization, Site preparations, and Clearing and Grubbing (as needed)
- Excavation of lead-impacted soils from the range backstop berms, apron areas, range floor, and overshot areas
- Physical separation of lead bullets and bullet fragments from range soils
- Recycling of recovered lead at a licensed paying recycling facility approved by the **City of Chattanooga Police Department** and provision of certificates of recycling
- Chemical treatment to reduce the leachability of lead fines in soils and sediments to levels below US EPA Resource and Recovery Act (RCRA) non-hazardous criteria
- Site restoration with improvements to the range configuration that will enhance future lead recovery and recycling and provide further environmental protection and shooter safety
- Demobilization
- Final Reporting

The following tasks will be performed only at the direction of the Owner, and in addition to the base tasks listed above:

- Saw-cutting and removing existing concrete and trenching in preparation for installation of new drainage system and utility conduit at Range 1.
- Excavating and shaping drainage ditch between existing target trench and impact berm.
- Removing soil, lead, target stands and targeting system, and debris from existing target trench.
- Performing ditch cleaning, re-shaping, and other drainage improvements downstream of the target trench and treating the contaminated soil.

The above services must be provided in accordance with all applicable federal and state laws, rules, and regulations including, at a minimum applicable United States Code, Code of Federal Regulation, and State Statutes.

In addition, services must be provided in compliance with all components of the Occupational Safety and Health Administration (OSHA) Standard 1920, and all other federal and state requirements for workplace safety applicable to the collection of lead and lead by-products.

The selected provider must provide for all travel expenses, tools, machinery, labor and all other related expenses and fees required to complete the project.

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#### PART 2 – QUALIFICATIONS

##### 2.0 CONTRACTOR QUALIFICATION REQUIREMENTS

To ensure that the **City of Chattanooga Police Department** selects the most qualified, cost-effective provider and to minimize financial and performance risk to the **City of Chattanooga Police Department**, the following requirements have been assembled for consideration. To best serve **The City of Chattanooga Police Department**, the selected range remediation company should meet the following general qualification requirements:

1. **Established operating history of a minimum of 5 years** performing similar range remediation projects in the State of **State of Tennessee** and nationwide.
2. **Sufficient company personnel resources and proven equipment for lead recovery.** This will minimize schedule risk, and ensure successful separation and processing of bullets and bullet fragments from the range.
3. **Proven Safe Health and Safety Historical Record** as demonstrated by a submitted **written H&S Program and Plans, OSHA HAZWOPER-trained personnel, OSHA 300 logs, and based on their existing EMR insurance rating.** This commitment to Safety will minimize the **City of Chattanooga Police Department's** exposure to potential workers' compensation suits as well as potential OSHA violations, and it ensures that workers are properly trained and protected,
4. **Legally required levels of Workers Compensation and Auto insurance as well as General Liability Insurance, and Pollution Liability Insurance.** A minimum of \$3 million in coverage for:
  - General Liability Insurance - provides coverage in event of an accident, damage to the facility, or injury
  - Pollution Liability Insurance - covers potential damages that could result from lead and environmental issues
  - Workers Compensation Insurance - protects the **City of Chattanooga Police Department** in the event of a worker injury or law suit
  - Auto Insurances - protects the **City of Chattanooga Police Department** in the event of an accident associated with automobile operation
  - Both Workers Compensation and Automobile Insurance should be at State required levels
5. **Performance and Payment Bonding Capability/Capacity.** Performance and Payment Bonds are surety bonds that guarantee the **CONTRACTOR's** faithful performance of the contract agreement to terms and conditions, and schedule compliance.

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#### PART 3 – QUALIFICATION SUBMITTALS

##### 3.0 CONTRACTOR SUBMITTALS FOR QUALIFICATIONS EVALUATION

To demonstrate that a company can meet the project requirements, it is recommended that respondents submit the following for evaluation of a qualifications-based selection.

1. **Documentation of at least 5 years recent experience, demonstrating performance of 5 identical projects within the past 5 years.** As evidence, the potential CONTRACTOR should submit project descriptions for projects in the **State of Tennessee** that include:
  - Site name/project name
  - Project References with contact names and numbers
  - Discussion of how the project scope compares to the current project
  - Amount of lead recovered (minimum 100,000 lbs) and soil treated (minimum 5,000 tons) ,
  - Project cost
  - Bonding requirements that were satisfied
2. **Resumes demonstrating a minimum of 3 years' training and education experience for personnel who will be assigned to the project.** Personnel resumes should be cross-referenced with the referenced project descriptions to ensure that the experienced personnel get assigned to this project.
3. **Description of the company's experience performing range assessments, obtaining required permits and addressing regulatory issues.** This discussion should include identification of the number of range assessment and Environmental Stewardship plans they have developed. In addition the company's should demonstrate its knowledge of environmental regulations, local laws and regulations, and range guidance provided by the US EPA and **State of Tennessee**. Lastly, permit requirements and how they will be satisfied should be discussed in terms of activities associated with this particular project.
4. **Description of the company's lead recovery and screening equipment and capabilities.** This discussion should include specific mention of the company's experience and capabilities in separating lead from soils, sand, gravel, and sediments. Included should be a discussion of the overall lead recovery efficiency associated with the company's lead separation systems. The company should also provide a discussion of the lead value expected to be credited to the Project and experience working with licensed approved recyclers.
5. **Description of the company's lead stabilization treatment capabilities.** This discussion should include description of lead stabilization technology which provides for long-term treatment of lead particles to ensure long term environmental protection of groundwater. This technology must also have been previously approved on prior projects by the US EPA and **State of Tennessee**. The company should describe add- rates, target treatment levels such as RCRA TCLP standards if applicable, as well as its ability to guarantee treatment to requested levels.



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6. **Workplan and Safety Plans/Records.** The company should provide evidence of or an example of a project Workplan demonstrating the technical approach to completing the Project and provide a typical Safety and Health Plan that can be evaluated for completeness and compliance against **the City of Chattanooga Police Department** and State requirements. The Company should submit its OSHA 300 logs and its current EMR rating for evaluation of a safe operating history.
7. **Bonding and Insurance.** The company should submit confirmation from their bond company that they have the capacity to fully bond the project to **City of Chattanooga Police Department** requirements. **The City of Chattanooga Police Department** should require the company to provide a Bid Bond, and a Performance and Payment Bond in the amount of the project price.  
  
The **City of Chattanooga Police Department** should also require the company to provide an insurance certificate specifying the **City of Chattanooga Police Department** as an additional insured to a minimum of \$6 million in General Liability Insurance, Pollution Liability Insurance, and regulatory required levels for Worker's Compensation Insurance, and Automobile Insurance coverage.
8. **Pricing with assumptions.** The company should provide unit rate and lump sum total pricing to cover all work to be performed. The company must be willing to offer guarantees of performance levels. Pricing assumptions should be made clear.
9. **Cost saving options.** The Company should provide a discussion of innovative approaches that could yield cost savings or risk reductions to the **City of Chattanooga Police Department**.
10. **Schedule.** The Company should provide a discussion of its availability and schedule to complete the range remediation tasks.

## PART 4 – EVALUATION

### 4.0 EVALUATION CRITERIA FOR THE BEST VALUE PROPOSALS

#### 4.1 Evaluation of Best Value Bid Proposal

In accordance with the City *Code of Ordinances* Sec. 2-560, this public improvement contract shall be let to the bidder providing the best value, as determined by the City Council, and the Council reserves to right to reject any and all bids. Each bid proposal shall be reviewed for responsiveness and evaluated for providing the best value to the public.

#### 4.2 Review of Proposals for Responsiveness

Each proposal will be reviewed to determine if the proposal is responsive to the submission requirements outlined in this Solicitation. A responsive proposal is one which follows the requirements of this Solicitation, includes all documentation, is submitted in the format outlined in this Solicitation, is of timely submission, and has the appropriate signatures as required on each document. Failure to comply with these requirements may result in the proposal being deemed non-responsive.

#### 4.3 Evaluation Criteria

At the Owner's option, proposals may be evaluated to rank proposals by an Evaluation/Selection Committee (or Review Team) on criteria listed below. The Owner reserves the right to select the best value proposal solely on bid price in lieu of the criteria listed below. The Evaluation/Selection Committee will be comprised of appropriate **City of Chattanooga Engineering, Purchasing, and Police**

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**Department** personnel, as deemed necessary, with the appropriate experience and/or knowledge. The criteria are itemized with their respective weights for a maximum total of one hundred (100) points per Evaluation/Selection Committee member.

#### 4.4 Technical Criteria Points:

1. Proposer's relevant experience, qualifications, and past performance – 20%
2. Expediency of proposed project timeline - 20%
3. Proposer's approach to providing all the requested services - 20%

#### 4.5 Price Criteria Points:

1. Proposer's proposed price - 40%

## PART 5 – STANDARDS

### 5.0 CODES, REGULATIONS, AND STANDARDS FOR LEAD REMEDIATION

#### 5.1 Administrative and Supervisory Personnel

- A. Supervisory Personnel:** Contractor should provide a full-time Site Supervisor who is experienced in the administration and supervision of lead remediation projects including work practices, protective measures for building and personnel, disposal procedures, etc. The Site Supervisor is the Contractor's Representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to lead-containing materials.
- B. Experience and Training:** The Site Supervisor must have completed a course at an EPA Training Center or hold equivalent experience with a minimum of five (5) years on-the-job training in lead remediation procedures. The Site Supervisor must also have adequate experience working on similar projects.
- C. Accreditation/Qualifications:** The Site Supervisor is to be (1) a Competent Person as required by OSHA in 29 CFR 1926, and (2) accredited and certified in accordance with the OSHA 29 CFR Part 1926.62.

#### 5.2 Codes, Regulations, and Standards

- A.** The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site.
- B.** The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations.
- C.** The Contractor shall hold Owner harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his SUBCONTRACTORS.
- D.** All work performed under this contract shall comply with applicable provisions, including most current versions, and not limited to the listed codes and regulations.

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- 1. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:**
    - i. Lead in Construction United States Environmental Title 29 Part 1926.62 of the Code of Federal Regulations
    - ii. Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations
    - iii. Construction Industry Title 29, Part 1926, of the Code of Federal Regulations
    - iv. Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations
    - v. Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations
    - vi. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations
  - 2. DOT: U. S. Department of Transportation, including but not limited to:**
    - i. Hazardous Material Regulations Title 49, Part 171-1 80 Code of Federal Regulations (CFR)
  - 3. EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:**
    - i. 40 CFR 260, Hazardous Waste Management Systems: General
    - ii. 40 CFR 261, Identification and Listing of Hazardous Waste
    - iii. 40 CFR 262, Generators of Hazardous Waste
    - iv. 40 CFR 263, Transporters of Hazardous Waste
    - v. 40 CFR 264, Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
    - vi. 40 CFR 265, Interim Status Standard for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
    - vii. 40 CFR 268, Land Disposal Restrictions
  - 4. RCRA: Resource Conservation and Recovery Act**
    - i. 42 U.S.C. 6901 to 6992k
- E. State and Local Requirements which govern lead remediation work or hauling and disposal of lead- hazardous waste materials shall also be complied with.**

## **PART 6 – EXECUTION**

### **6.0 EXECUTION**

#### **6.1 Planning, Mobilization, Site Set-up and Preparation (BASE BID)**

- A. Contractor shall perform on-site evaluation, sampling, and testing to establish pre-treatment TCLP and SPLP lead content levels in the backstop impact area and**

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grassed outlet drainage channel of Range 1. A minimum of 6 pre-treatment samples will be tested, taken at various depths, by the following schedule:

1. 2 TCLP samples from backstop impact area
2. 2 SPLP samples from backstop impact area
3. 1 TCLP samples from grassed outlet drainage channel
4. 1 SPLP samples from grassed outlet drainage channel

Samples shall be tested by an independent laboratory and performed at the Contractor's cost. Test results shall be provided to the Owner for documentation.

- B.** Contractor shall develop Work Plan and Health and Safety Plan preparation
- C.** Contractor shall develop a Storm Water Pollution Prevention Plan (SWPPP) and apply for a City of Chattanooga Land Disturbance Permit. Contractor shall be responsible for all associated fees.
- D.** Contractor shall attend a pre-construction meeting with Owner's personnel and walk on site to review the project, determine utility locations and potential conflicts, determine areas of excavation and processing.
- E.** The Contractor shall coordinate project schedule with Owner's personnel to avoid impacts to range operations. Contractor shall make every reasonable effort to accommodate scheduled range activities and provide as much advance notice as possible prior to initiating disruptive Work.
- F.** The Contractor shall install stormwater and erosion control BMPs in accordance with the terms of the Land Disturbance Permit and the SWPPP, prior to setting up equipment on site.
- G.** The Contractor shall be responsible for clearing and grubbing, if required.

#### **6.2 Excavation, Screening, and Lead Recovery (BASE BID)**

- A.** The Contractor shall excavate soil in the identified areas to a minimum depth of 0.5' to a typical depth of 1.0' in the range backstop impact areas and other identified areas. Excavated soils shall be moved to the selected processing are(s) and processed through mechanical separation equipment.
- B.** The Contractor shall exercise caution to avoid potential damage to the existing sidewalks, target trench, target systems, and other site facilities. Damage to sidewalks, timber walls, and site facilities identified by the Owner to remain in place shall be repaired at the Contractor's expense.
- C.** Additional site excavation and earthwork, conducted at the Owner's option for drainage improvements and preparation for installing new targeting systems, will be performed in accordance with the Specifications and in compliance with all OSHA requirements as applicable. The Contractor shall coordinate these activities with the Owner's construction personnel, if necessary, to facilitate range improvements and to ensure range safety.
- D.** Bullets and bullet fragments in excavated soils will be screened and containerized using appropriately sized "dry screening" equipment. The remaining excavated materials will be screened to remove oversized materials and debris, and will be

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staged in an agreed-upon area. The Contractor shall make necessary provisions to achieve lead dust control.

- E. Removed metal fragments and shooting related materials shall be stored securely and transported to a licensed lead recycler. The Contractor shall provide the Owner with documentation of transportation and certificate of recycling.
- F. The Owner will receive a 50% credit for the value of recycled lead minus a proportional split of the cost for containers and transportation to the recycling facility. The Contractor shall provide the Owner with detailed documentation of the recycling value and associated costs. The credit shall be included with the project invoice. In the event the Owner's share of the value of recycled material exceeds the total project costs, the remainder shall be paid to the Owner.

#### 6.3 Site Restoration

- A. The Contractor shall apply a chemical treatment to the screened soils containing lead fines. The chemical treatment shall be comprised of a dry, granular, nonhazardous product that has been previously accepted for lead treatment use by the US EPA. It shall be applied at a rate not exceed 2-3% by weight and will not change the physical characteristics of the soil.
  - 1. Treatment shall ensure that returned soils' lead concentration is less than the EPA Resource Conservation and Recovery Act (RCRA) hazardous lead Toxicity Characteristic Leaching Procedure (TCLP) of 5.0 mg/L.
  - 2. Following a 12-24 hour post-treatment curing period, the Contractor shall take a five point composite sample from each 250 CY of treated soil. Samples will be sent to a certified, third-party laboratory for lead TCLP analysis. Should sample test results indicate a failure to achieve RCRA TCLP level of 5.0 mg/L, the Contractor shall retreat all the screened soil and repeat the test, all at no cost to the Owner. The results of all TCLP tests shall be provided to the Owner.
  - 3. In addition to the TCLP test, the Contractor shall collect a five point composite sample from each 500 CY of treated soil and submit to a certified third-party laboratory for lead SPLP analysis. The results of this test shall be provided to the Owner for documentation.
- B. The Contractor shall clean up all debris resulting from all items of Work, spread topsoil over re-graded areas, complete finish grading and/or restore contours in disturbed areas (as directed by the Owner), and apply permanent seed and mulch in accordance with Sections 00001, 00035, 00036, and 02260. The Contractor shall not complete these final site restoration items until the Owner agrees that no additional Add Alternate items of Work are to be performed.
- C. Following the completion of site restoration, the Contractor may begin demobilization and project closeout.

#### 6.4 Infiltration Trench Construction (ADD ALTERNATE 1: RANGE DRAINAGE A)

- A. At the Owner's option, the Contractor shall perform concrete saw-cutting, existing catch basin and pipe removal, and open-cut trenching in preparation for construction of Infiltration Trenches at the locations indicated on the Plans and at the direction of the owner. Saw cuts shall be made in accordance with Section 00015. Trenching shall be performed in accordance with Sections 00001, 00002,

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02220, and other related Sections. The Contractor shall be solely responsible for trench safety and compliance with all OSHA requirements. These trenching activities shall be coordinated with the Owner's personnel for installation of geotextile fabric, aggregate, piping, and other items necessary for completion of the Infiltration Trenches.

- B. An associated item of Work for the Contractor to perform is construction of a permanent ditch on top of a completed Infiltration Trench behind the existing target trench. This work shall be performed as described in the following section.

#### **6.5 Ditch Shaping, Site Earthwork, and Drainage System Improvements (ADD ALTERNATE 2: RANGE DRAINAGE B)**

- A. At the Owner's option, the Contractor shall perform ditch construction, ditch-reshaping, detention basin construction, ditch cleaning, and finish grading and seeding/mulching operations at locations indicated on the Plans and as directed by the Owner.
- B. Ditches to be cleaned or reshaped shall be regraded for positive drainage and restored to a defined shape as indicated in the Plans. New ditches shall be cut to the shape and grade defined in the plans or as directed by the Owner. All ditches shall be seeded and mulched or sodded or lined with rip rap specified by the Owner.
- C. Soil excavated from the site as part of these operations shall be screened and processed before being replaced or otherwise reused.
- D. Construction of the detention basin shall be performed in accordance with the aforementioned specifications for earthwork and the additional requirements below.
  - 1. All channels and pipes conveying flow to the basin location shall be routed away from the basin area until the basin is complete and stabilized.
  - 2. Clear, grub, and strip the area under the embankment of all vegetation and root mat. Excavate beneath the outlet berm a minimum of 2' depth. Remove all surface soil containing high amounts of organic matter and stockpile for screening, treatment, and reuse. Remove all unused fill material to the designated disposal area.
  - 3. Ensure that fill material for the embankment is free of roots, woody vegetation, organic matter, and other objectionable material. Place the fill in lifts not to exceed 9 inches and machine compact it. Embankment from the base of the 2' minimum undercut depth to a minimum of 1' above the existing grade line shall be placed in maximum 6 inch lifts and compacted to 100% of maximum density. The remainder of the embankment may be compacted to 95% of maximum density. The embankment shall be overfilled to 6" above design grade to allow for settlement.
  - 4. Inlet and outlet control structures. Outlet structure shall be precast concrete with minimum 28-day compressive strength of 4,000 psi, and shall have factory-cast or factory-cored low-flow outlets and v-notch weirs, and a cast iron grate overflow structure. Outlet structure shall also consist of a galvanized steel gabion basket filled with #57 stone lined with geotextile fabric, and placed on a concrete pad at such elevation to provide filtration for the low-flow outlets. The

## **SECTION 13200**

### **FIRING RANGE LEAD RECLAMATION AND STABILIZATION**

outlet riser shall be drained by a CMP or RCP pipe of the size and set to grade as indicated on the Plans. The pipe outlet shall be protected with machined rip rap Class A-3 in the outlet ditch for a minimum distance of 10' beyond the outlet and to a minimum elevation of 2' above the ditch flowline.

5. The basin bottom shall be lined with rip rap Class A-3 to a minimum elevation of 2'. All rip rap shall be limestone for additional lead treatment characteristics.
6. Emergency spillway shall be lined with Class A-1 rip rap on top of geotextile fabric Type I. The rip rap shall be filled with high-slump grout poured to 50% of the depth of the rip rap.
7. Grade the basin bottom at 2% toward the outlet structure.
8. Stabilize all berms and embankment in accordance with City standard specifications.
9. Restore flow to detention basin once basin and outlet channel are fully stabilized.

#### **6.6 Target Trench Cleaning/Filling (ADD ALTERNATE 3: REMOVE & REPLACE TARGET TRENCH FRENCH DRAIN)**

- A. At the Owner's option, the Contractor shall excavate and remove the existing aggregate and plastic perforated pipe French drain system in the target trench area. Additionally, the Contractor shall saw cut and remove the 2' circular concrete ditch in the upper portion of the trench and saw cut and remove the projecting concrete pads for the mechanical actuator equipment. The mechanical actuator equipment shall be carefully disconnected from the targeting system and removed by the Contractor and stored for future use. The areas saw cut and removed shall be excavated to sufficient depth to permit installation of a 12" nominal thickness of #57 clean, washed stone and (2) 4" geotextile fabric-lined HDPE perforated pipes (a single pipe will be permitted in the upper portion of the trench). The pipes shall be graded at 0.5% minimum slope and shall be outlet into the receiving drainage channel at the lower end of the target trench. The Contractor shall be responsible for repairing any damage to the existing target stands or other equipment not designated for removal.

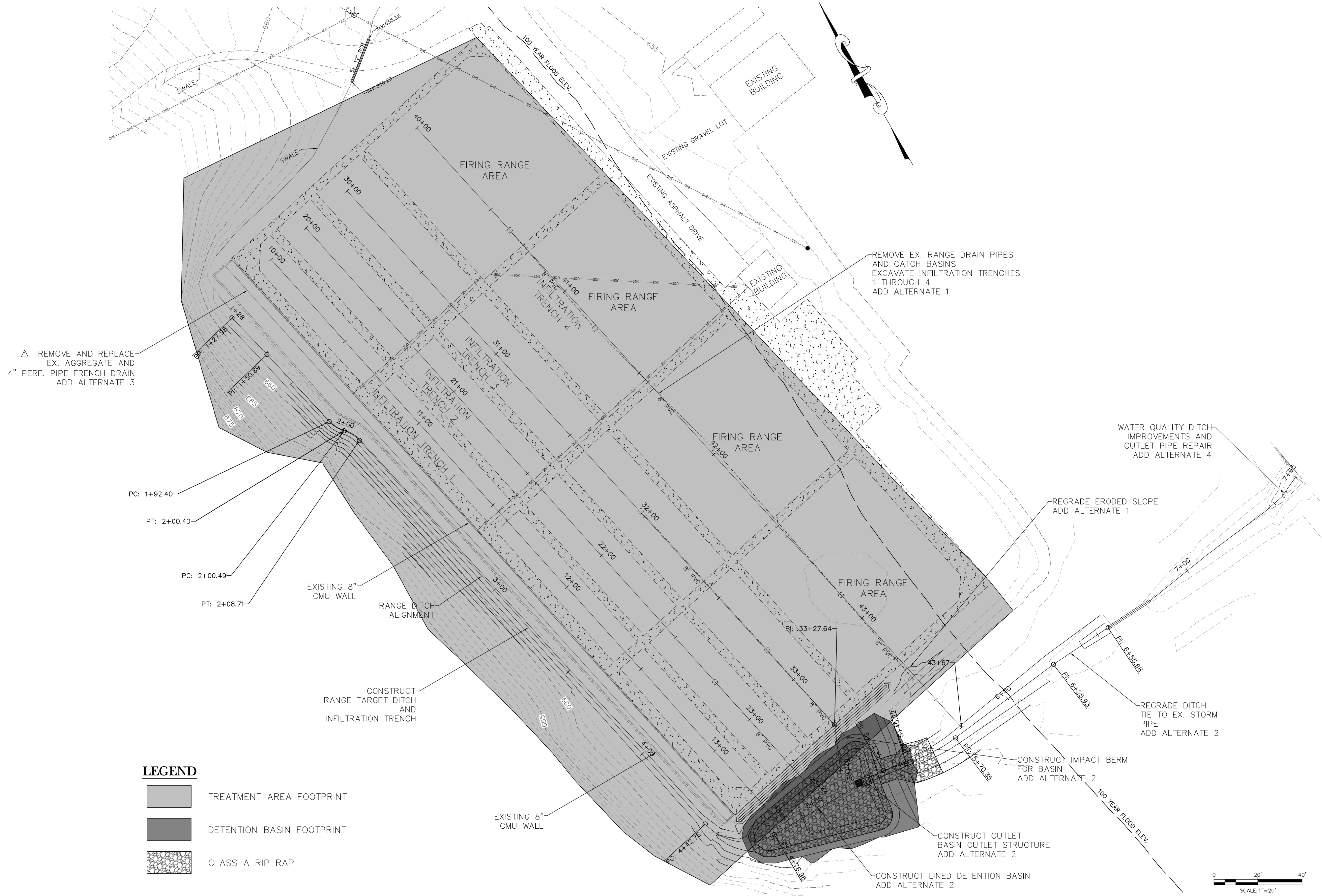
#### **6.7 Water Quality Ditch Improvements and Outlet Pipe Repair (ADD ALTERNATE 4: WATER QUALITY DITCH IMPROVEMENT AND OUTLET REPAIR)**

- A. At the Owner's option, the Contractor regrade and dress main range outlet ditch, reconstruct and repair outlet pipe structure, and fill and compact material under the outlet pipe to restore flow to the pipe. Fill material under the pipe shall be suitable soil and/or Class B concrete. The existing pipe shall be cut, extended, or reshaped as necessary and appropriate inlet headwalls shall be provided to direct flow into the pipe.

**\*\*END OF SECTION\*\***



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CITY OF  
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DIVISION

ADMINISTRATOR:  
JUSTIN C. HOLLAND  
CITY ENGINEER:  
WILLIAM C. PAYNE, P.E.

HCSO-CPD RANGE  
REMEDIATION AND MAINTENANCE  
SITE PLAN

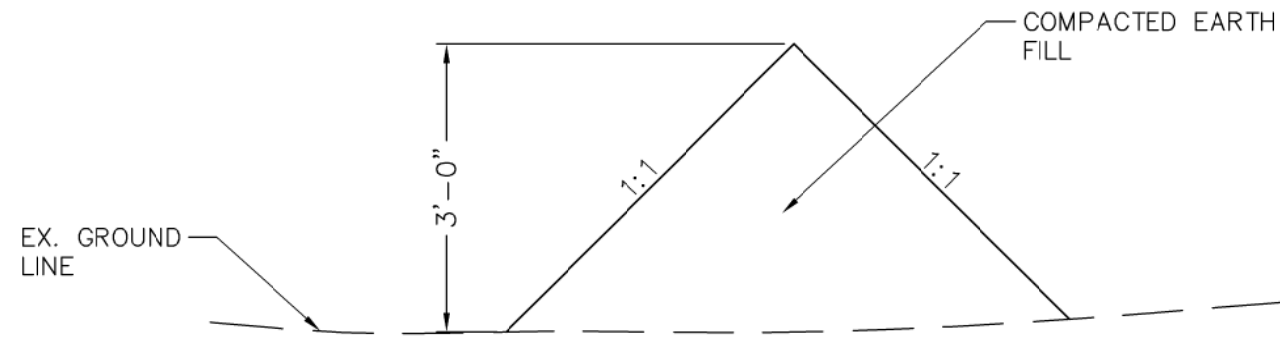
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1	8/17/16	ADD ALT. 3	Δ

CONTRACT#	P-15-001-202
SCALE:	1"=20'
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ABM



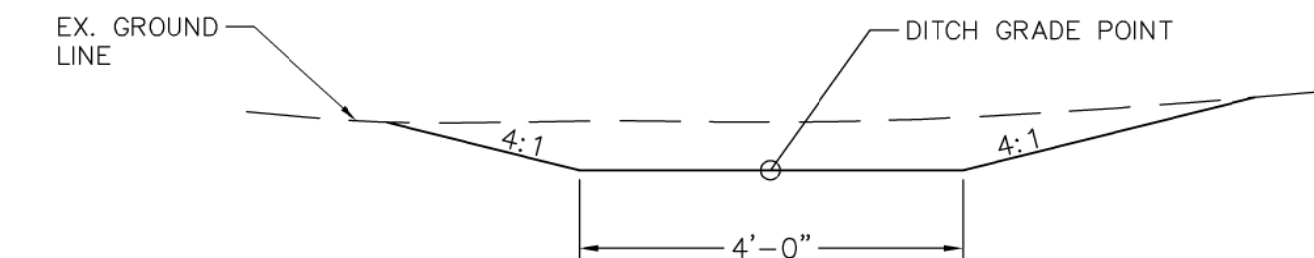


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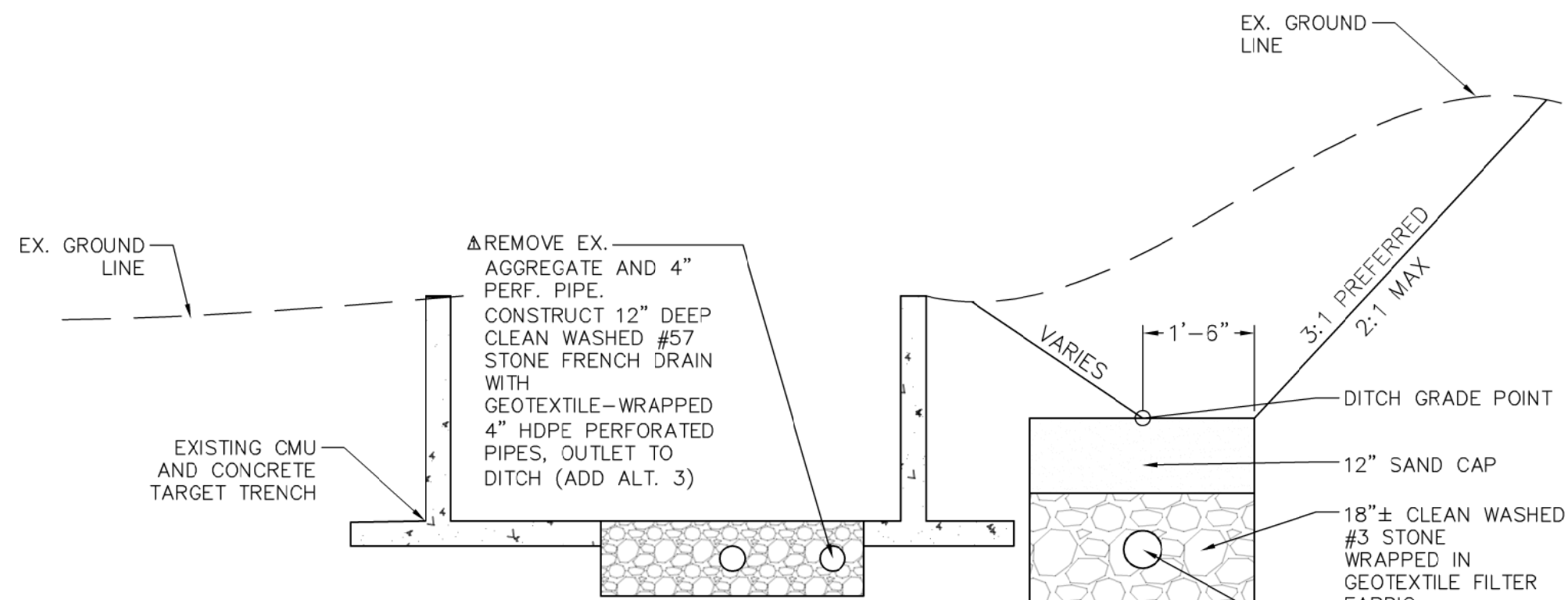
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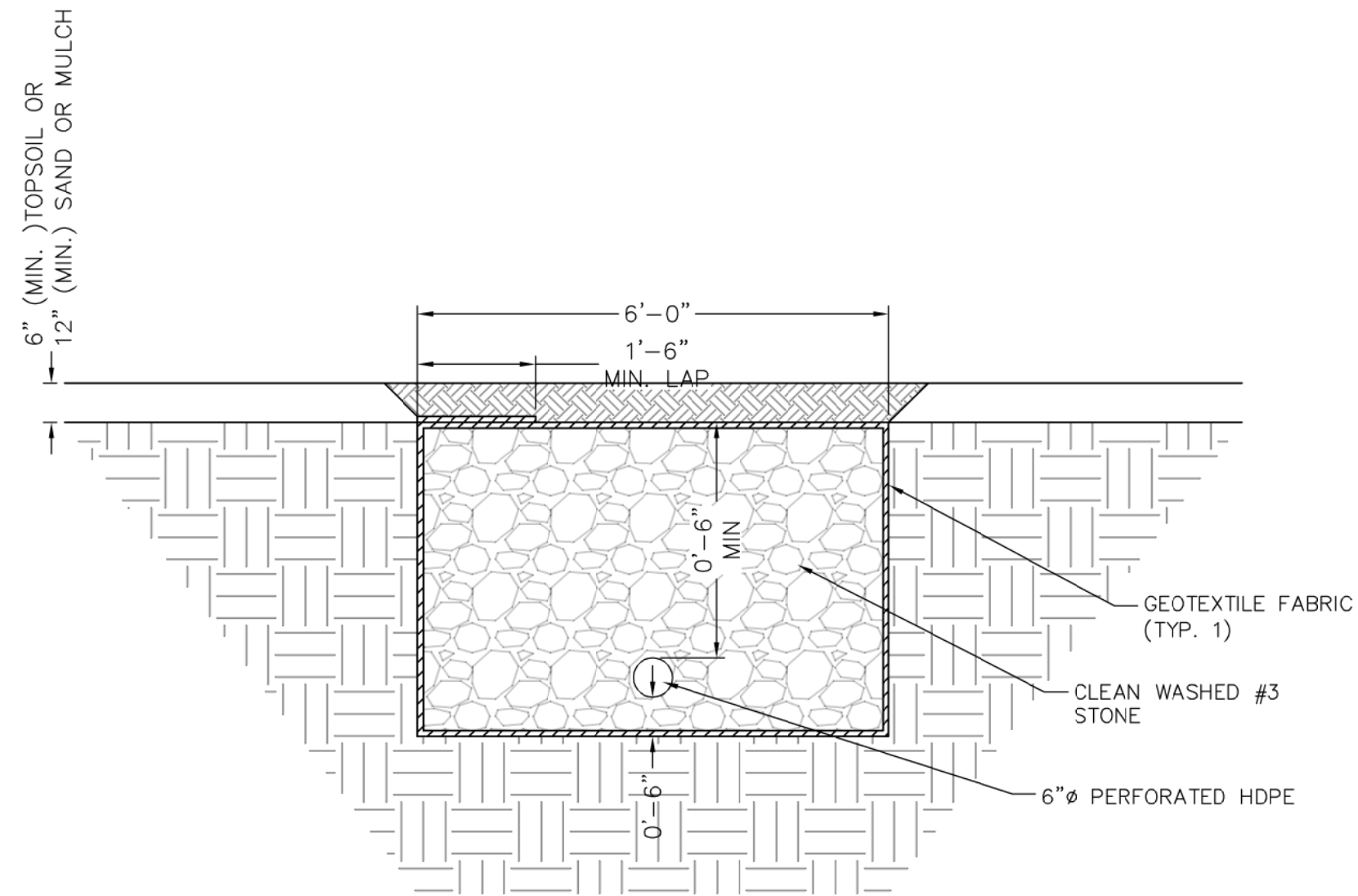
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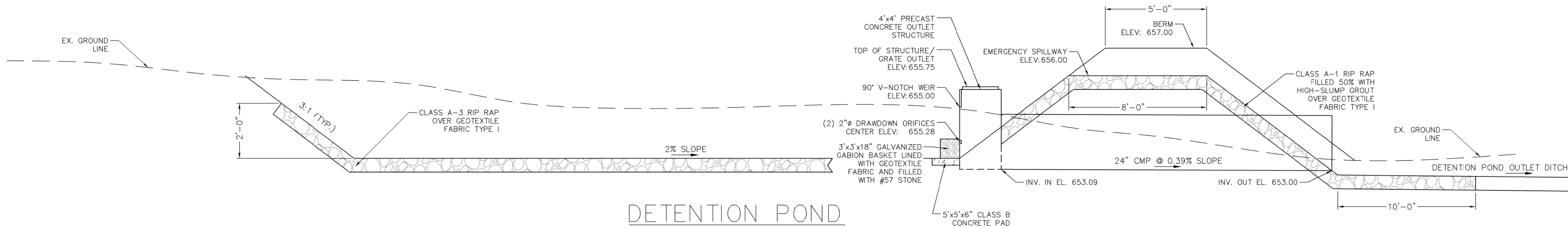
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TYPICAL SECTION

SCALE: NTS



INFILTRATION TRENCH  
TYPICAL SECTION

SCALE: 1/2"=1'



DETENTION POND  
LONG AXIS

SCALE: NTS



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PUBLIC WORKS  
ENGINEERING  
DIVISION

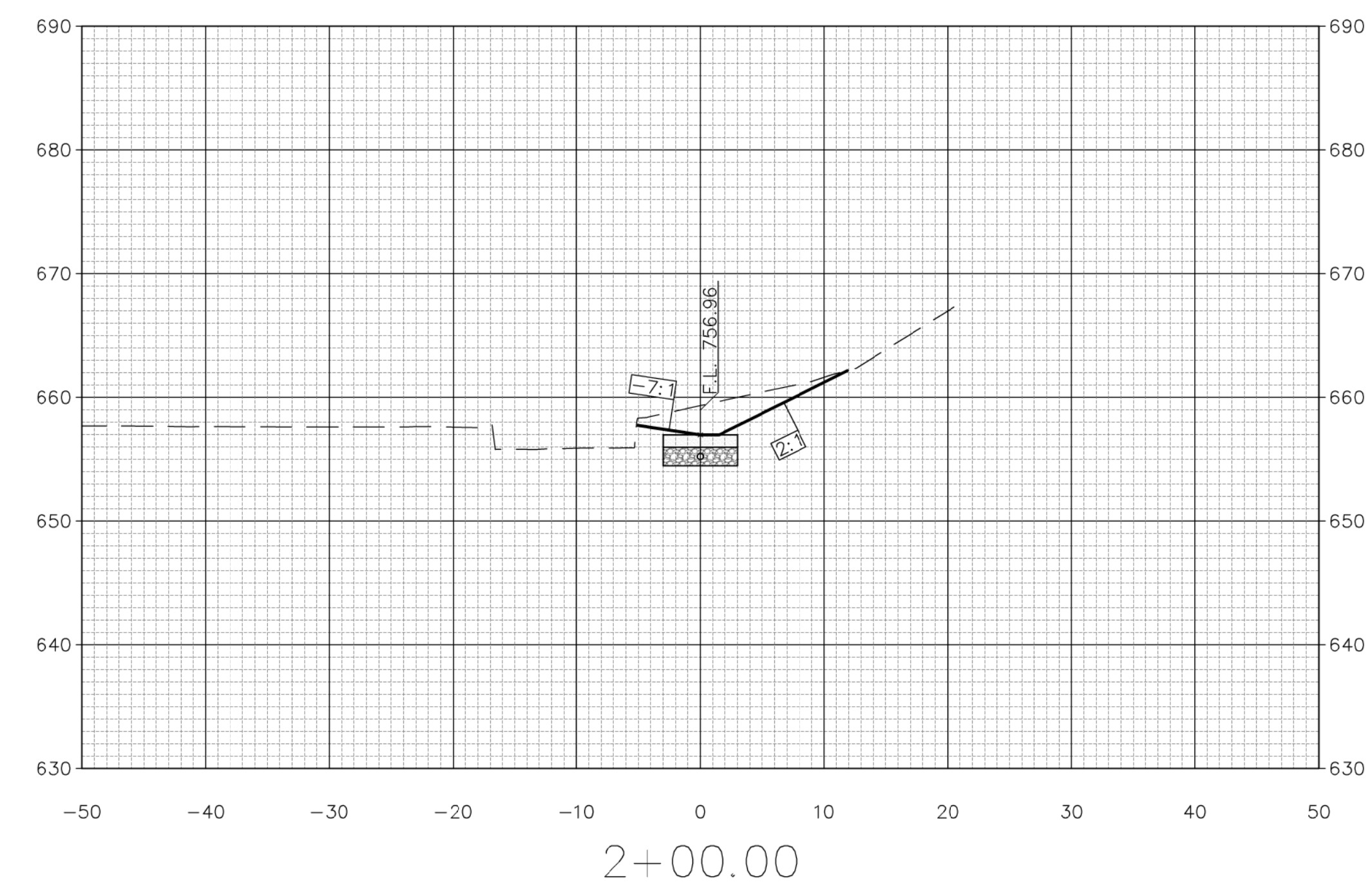
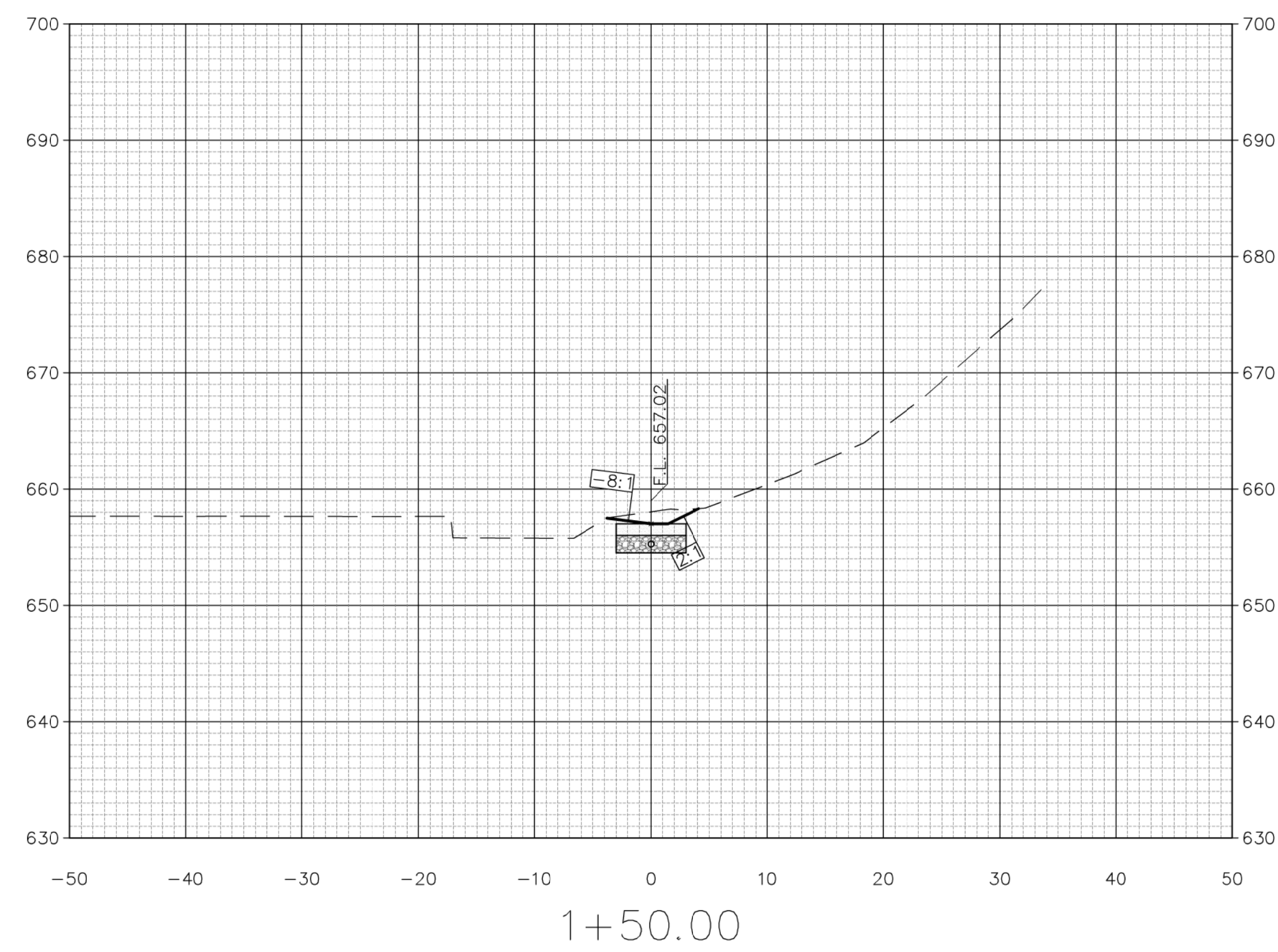
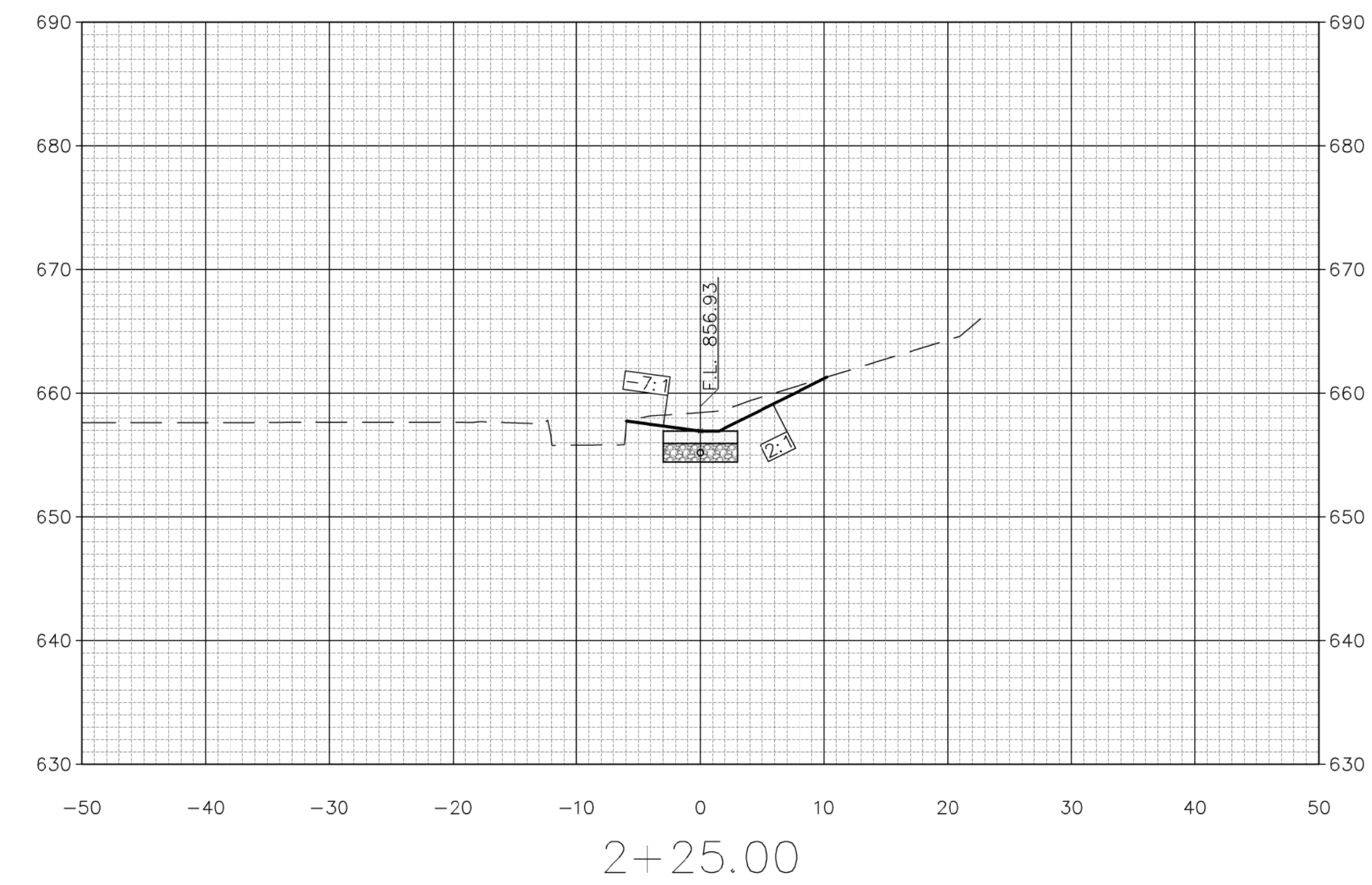
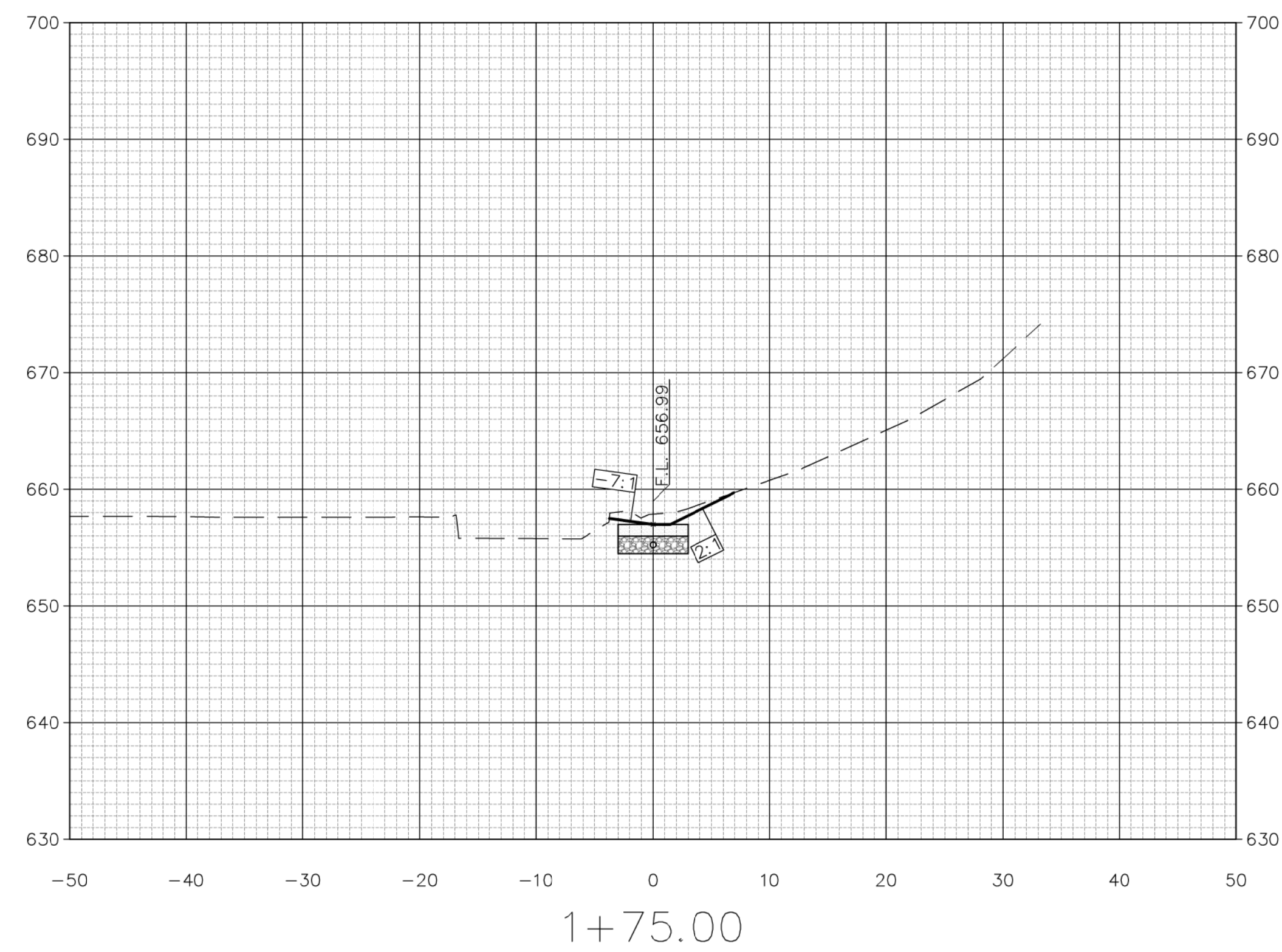
ADMINISTRATOR:  
CH  
CITY ENGINEER:  
WILLIAM C. PAYNE, P.E.

HCSO-CPD RANGE  
REMEDIATION AND MAINTENANCE  
SITE DETAILS

NO.	DATE	REVISION	SIG.
1	8/17/16	ADD ALT. 3	Δ

CONTRACT#	P-15-001-202
SCALE:	AS NOTED
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ABM





RANGE DITCH CROSS SECTIONS

SCALE: 1"=20'



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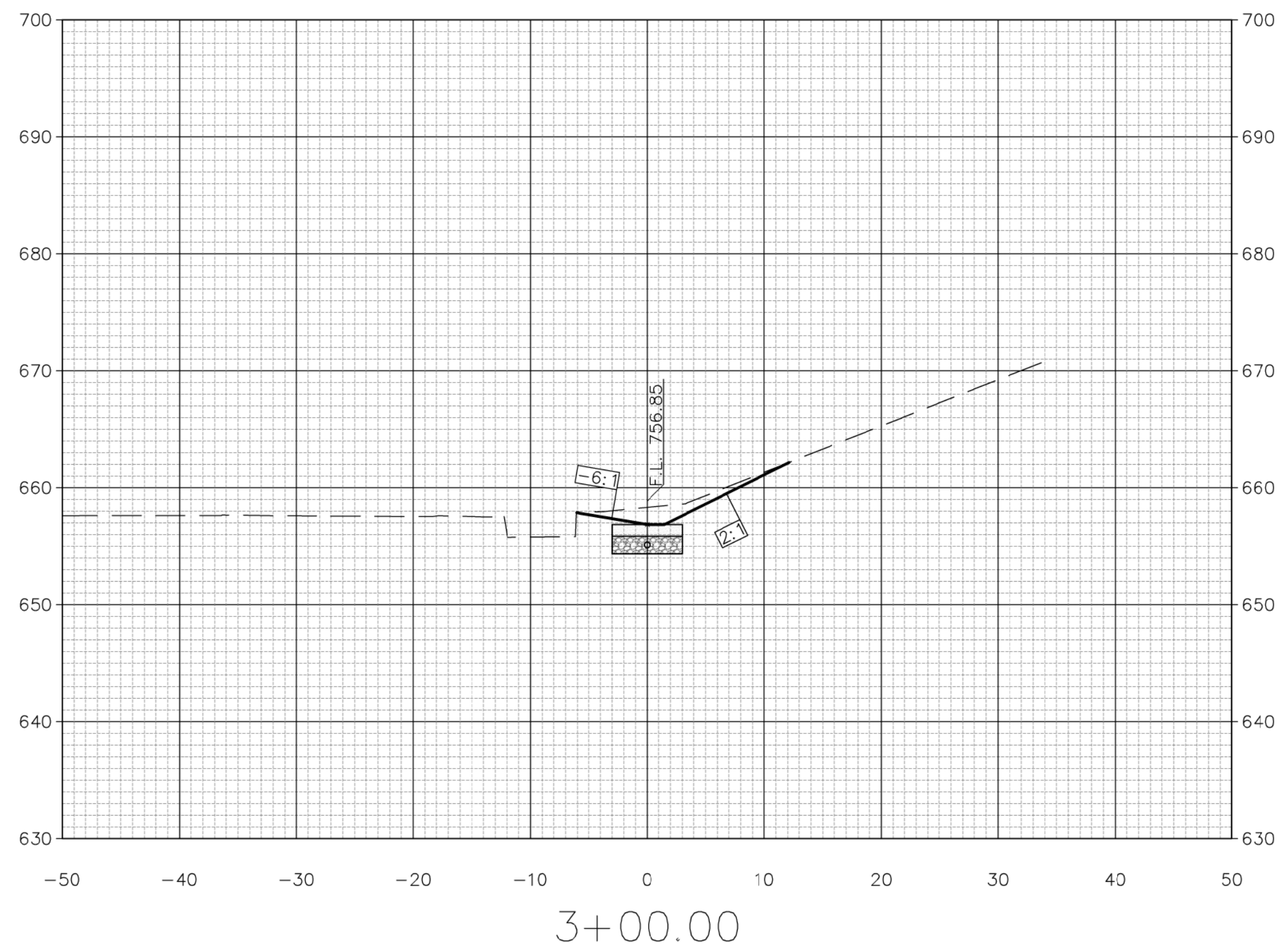
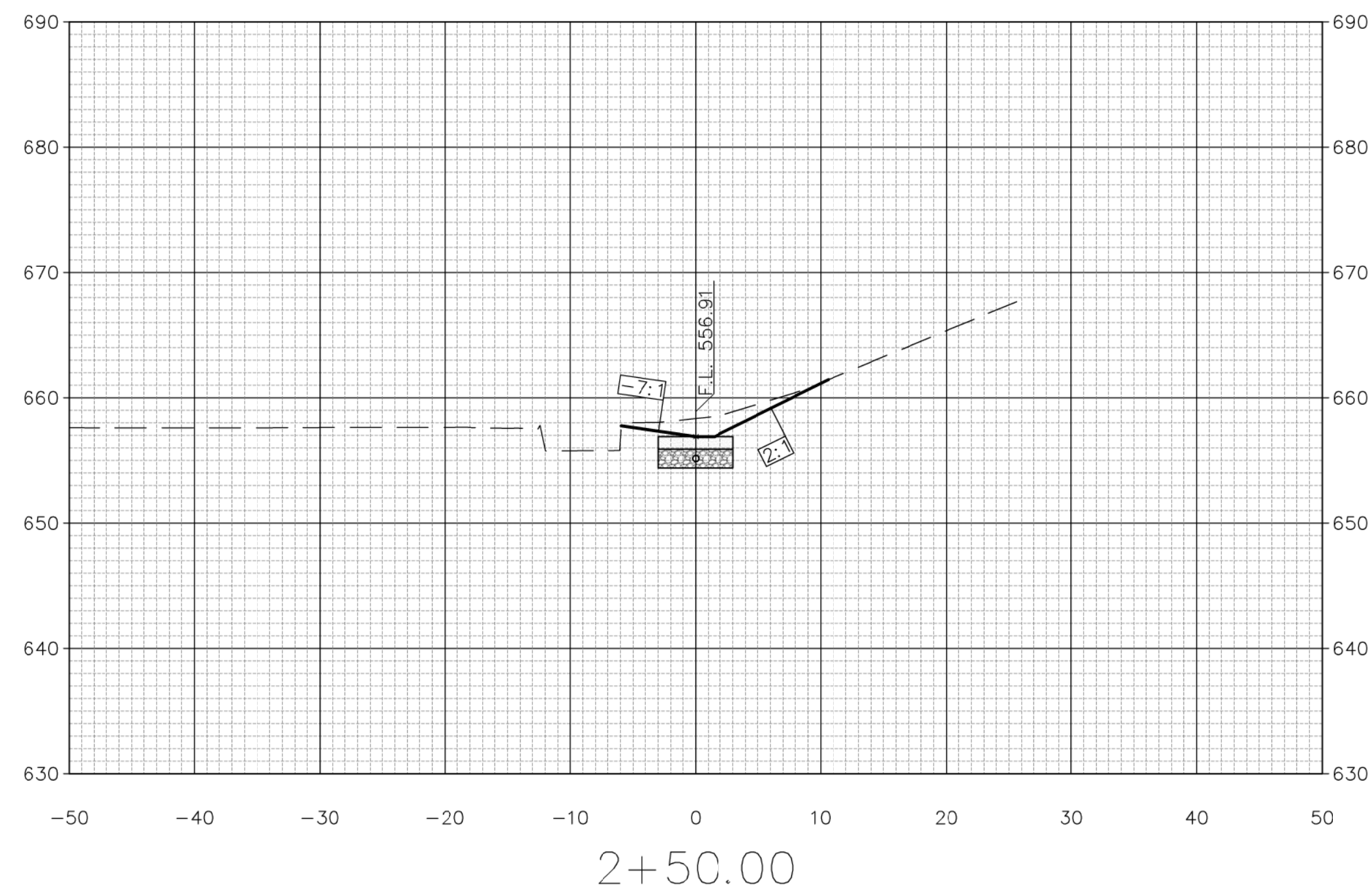
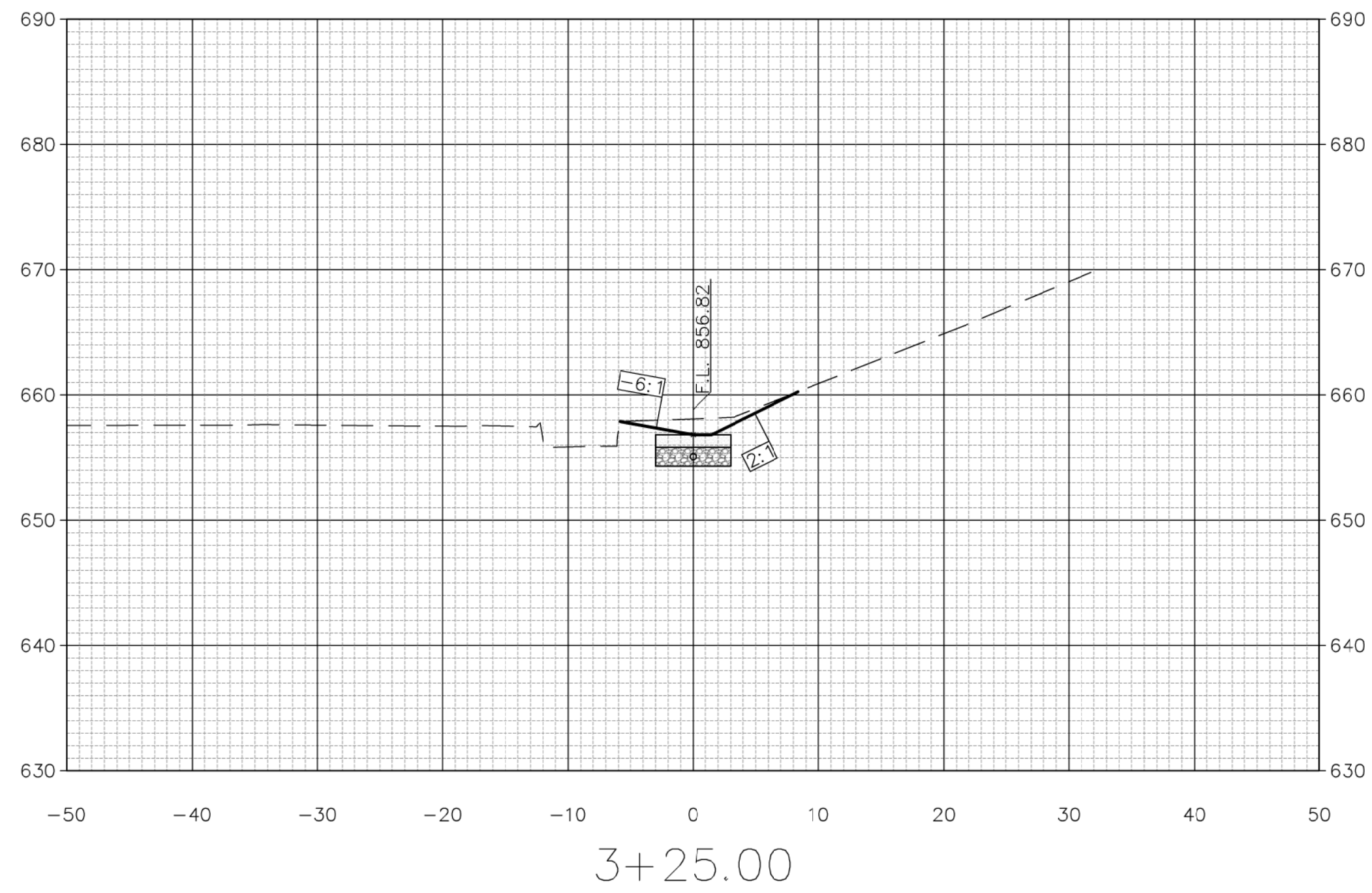
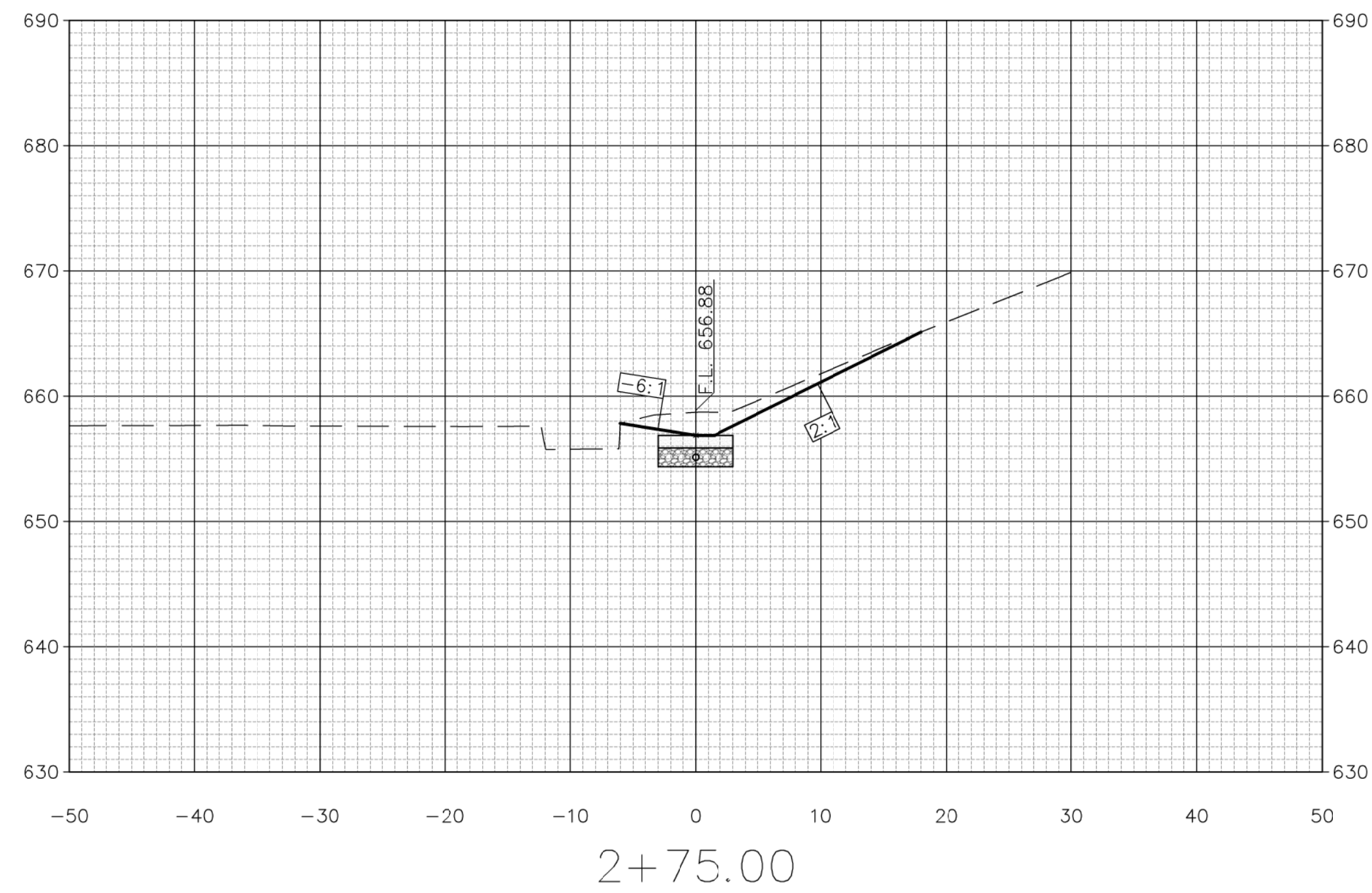
# *HCSO-CPD RANGE REMEDIATION AND MAINTENANCE DITCH SECTIONS*

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HEET: 7 OF 10



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RANGE DITCH CROSS SECTIONS  
SCALE: 1"=20'



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CITY ENGINEER:  
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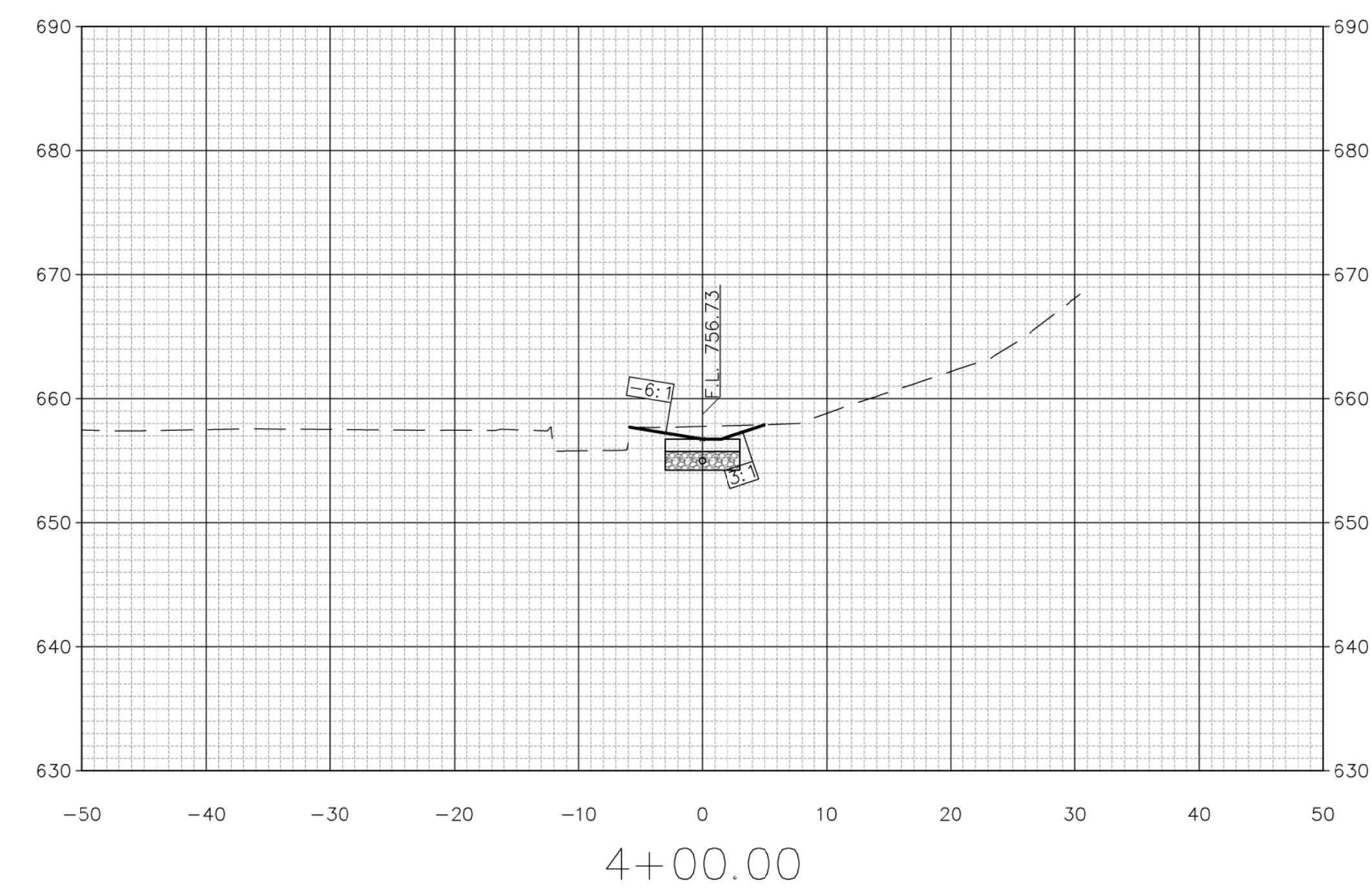
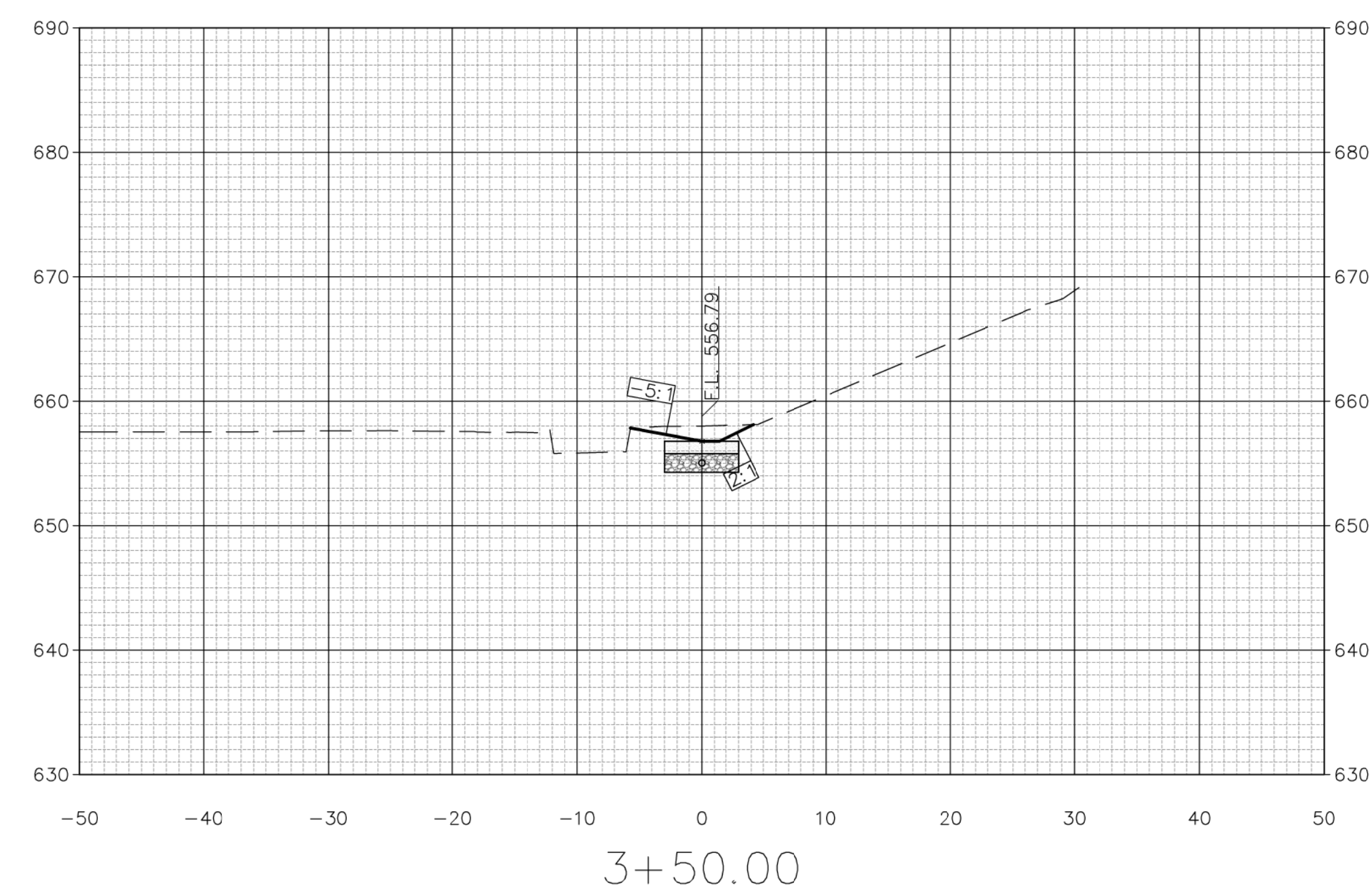
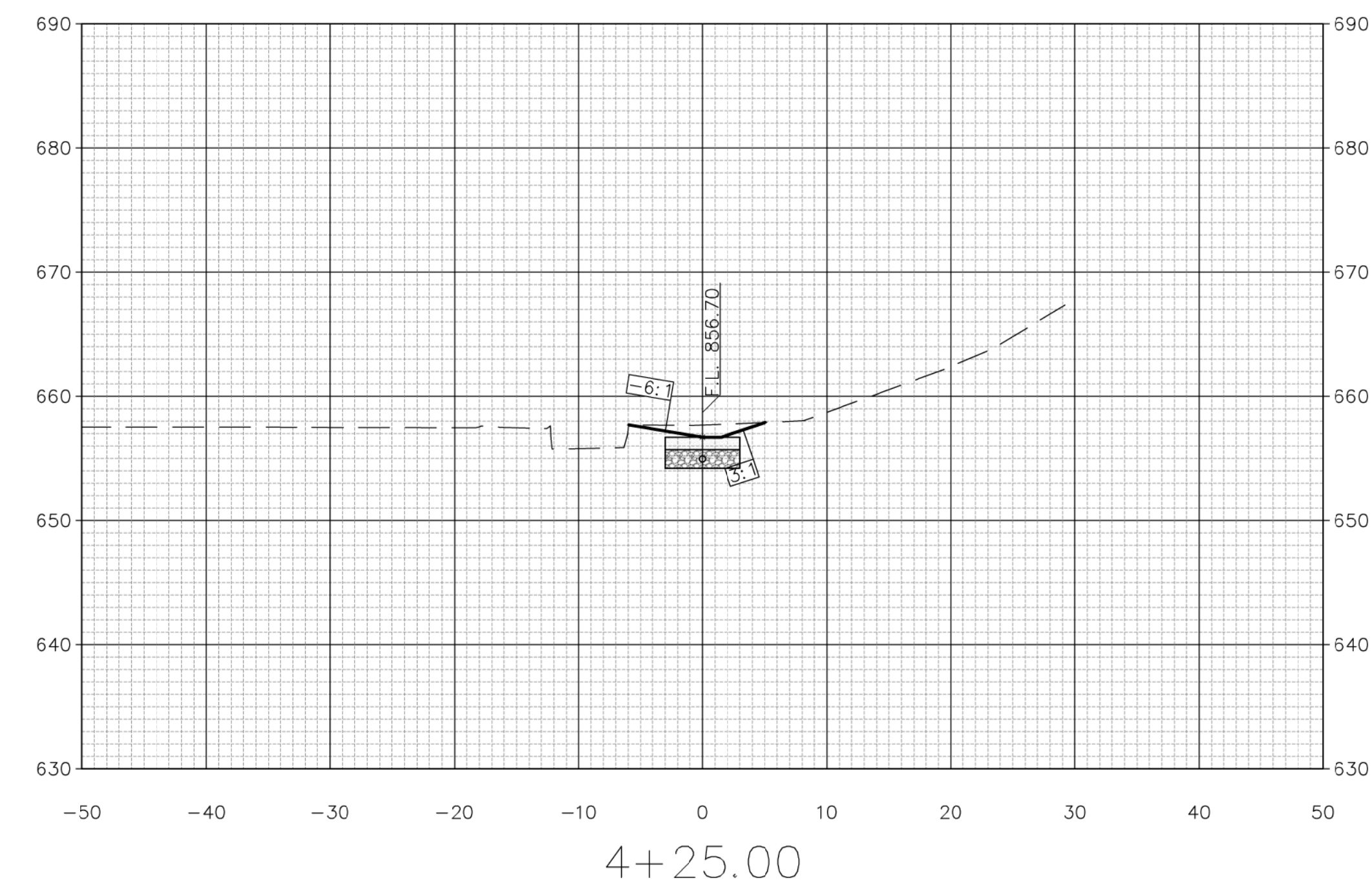
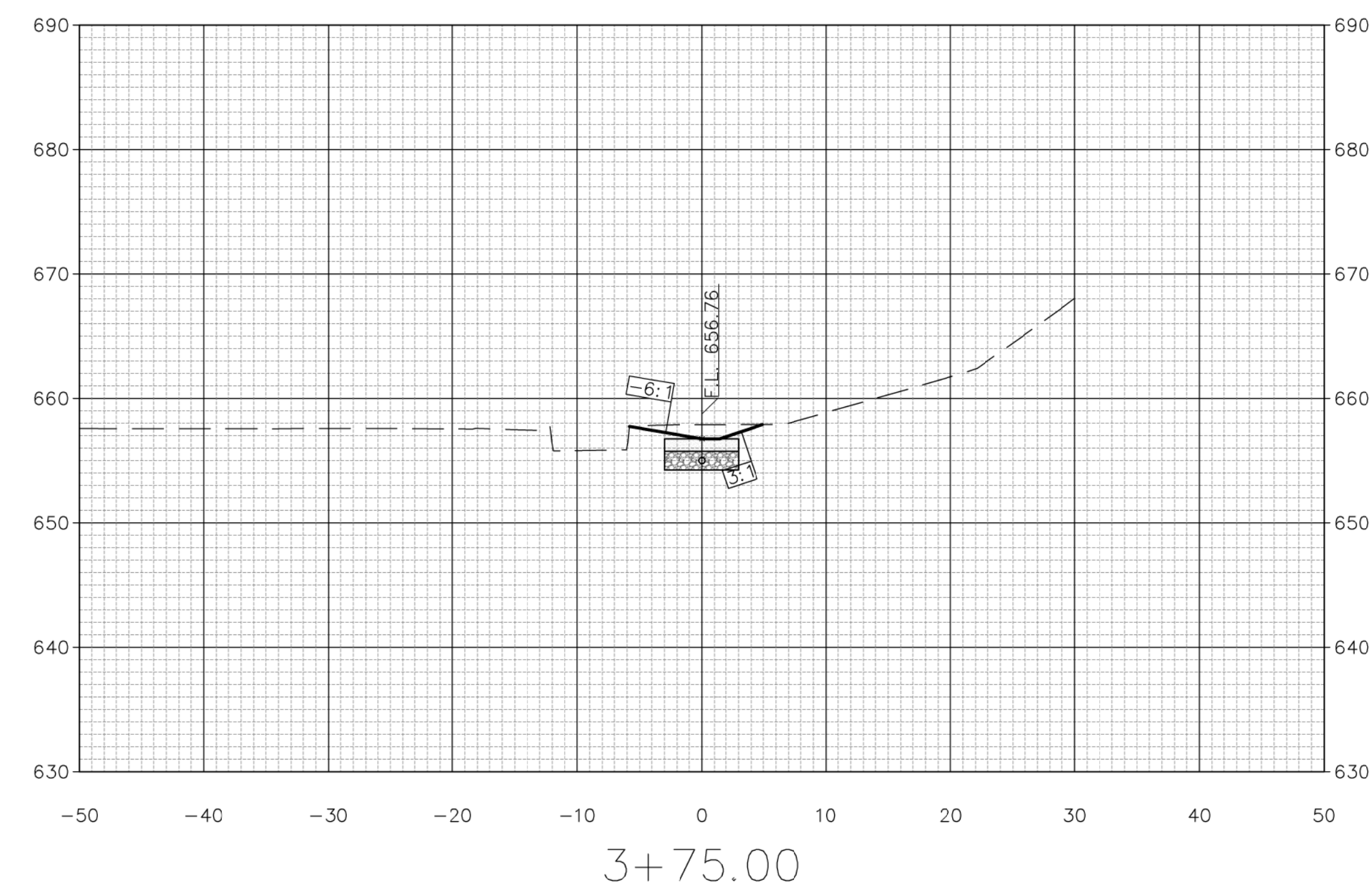
HCSO-CPD RANGE  
REMEDIATION AND MAINTENANCE  
DITCH SECTIONS

NO.	DATE	REVISION	SIG.
1	8/17/16	ADD ALT. 3	Δ

CONTRACT#	P-15-001-202
SCALE:	AS NOTED
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ABM







# RANGE DITCH CROSS SECTIONS

SCALE: 1"=20'


SCALE: 1"=20'



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ITY ENGINEER:
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## *HCSO-CPD RANGE REMEDIATION AND MAINTENANCE DITCH SECTIONS*

NO.	DATE	REVISION	SIG.
1	8/17/16	ADD ALT. 3	

CONTRACT#	P-15-001-202
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SCALE:	AS NOTED
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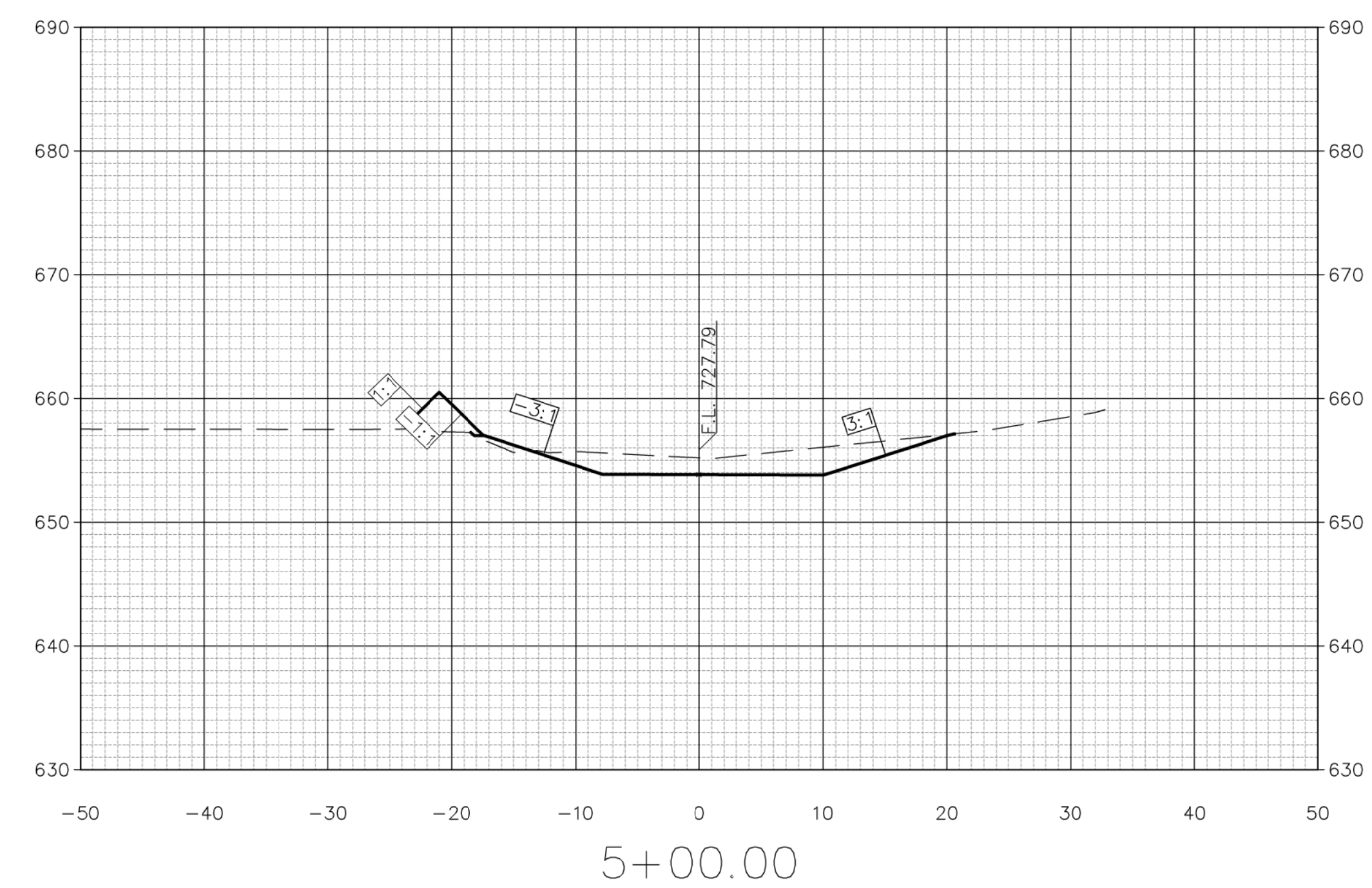
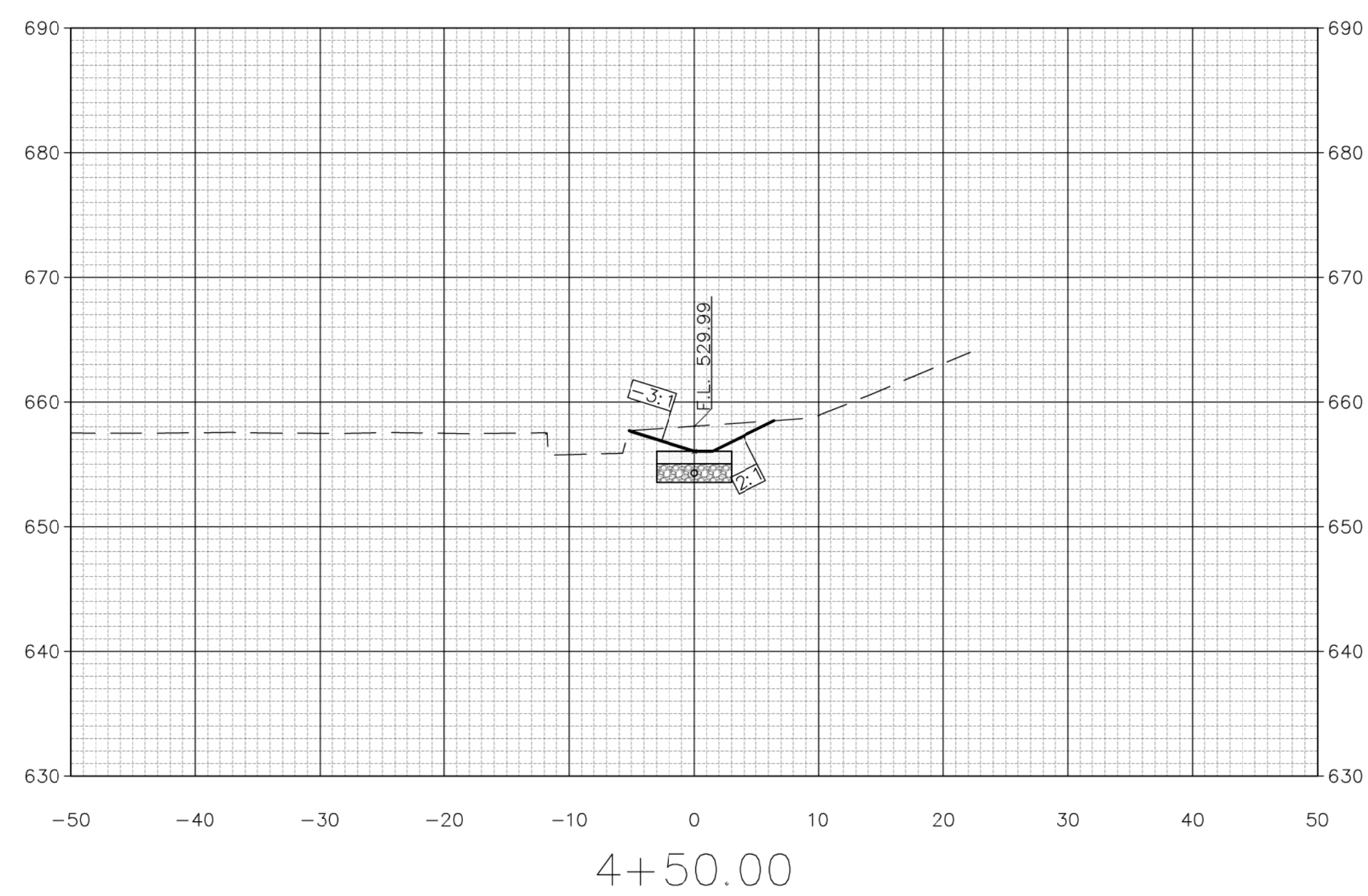
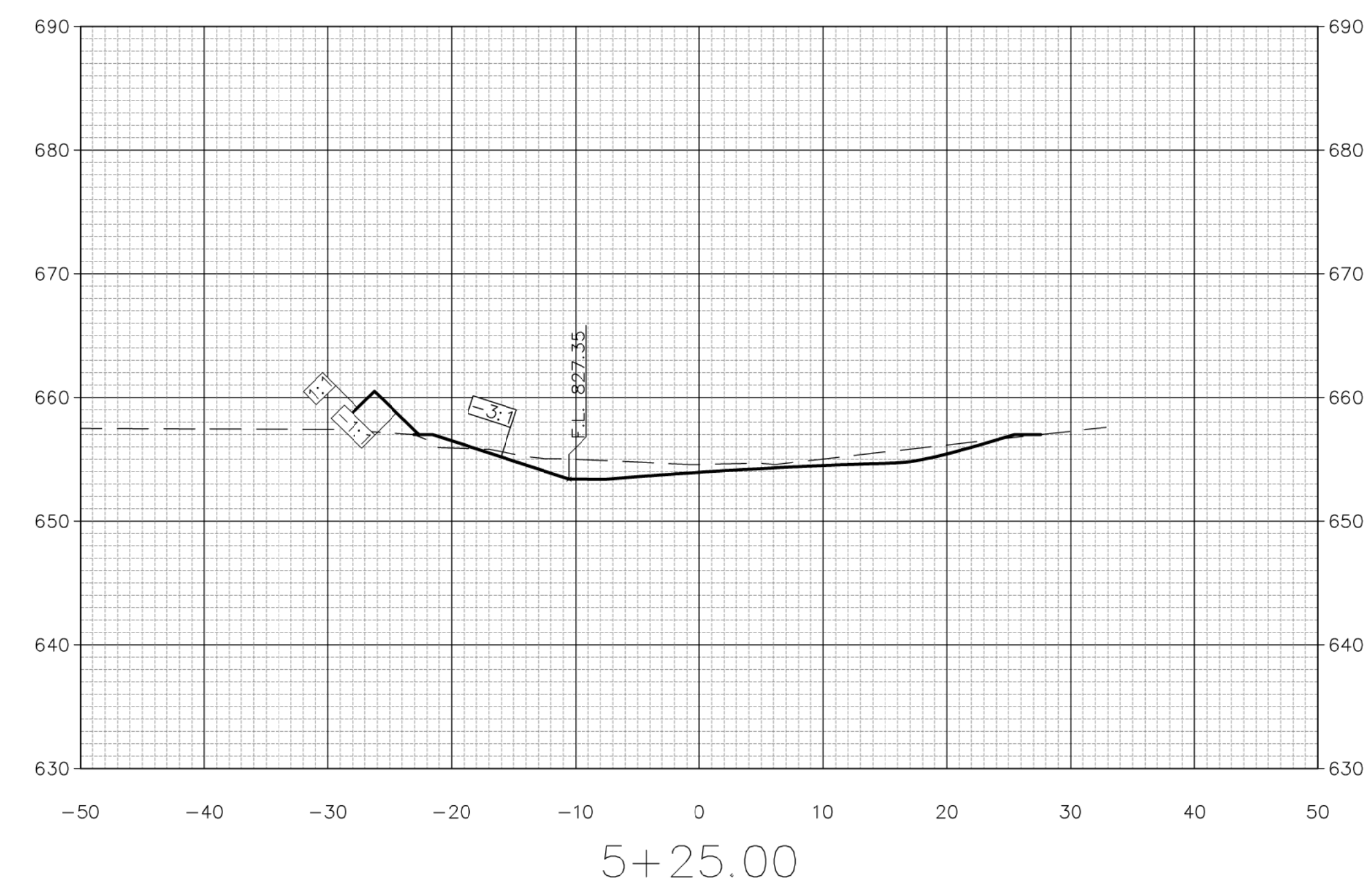
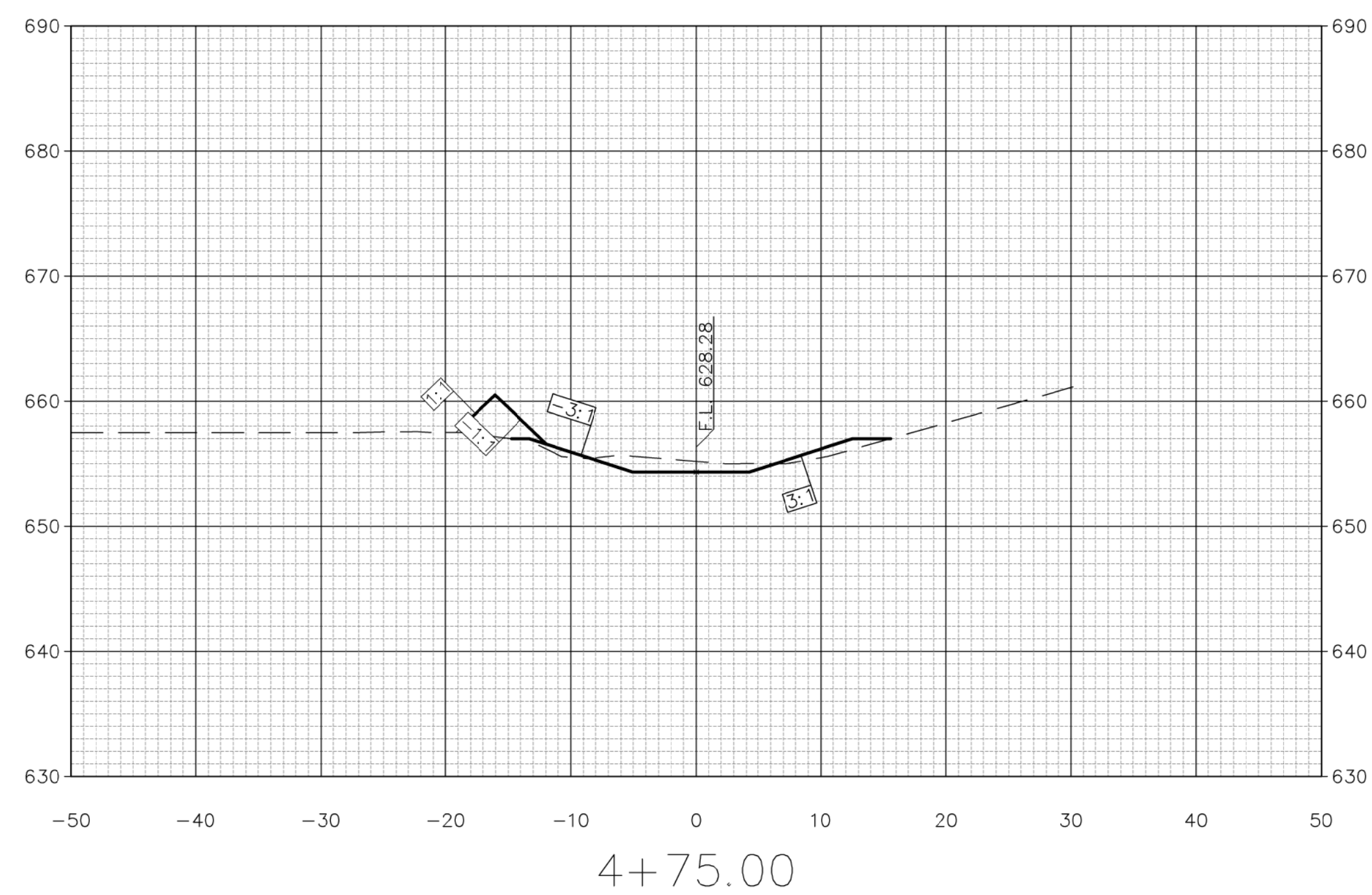
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DESIGN:	ACH
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DESIGN:	ACT
CHECKED:	ABM



HEET: 9 OF 14



RANGE DITCH CROSS SECTIONS  
SCALE: 1"=20'

SCALE: 1"=20'



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# HCSO-CPD RANGE REMEDIATION AND MAINTENANCE DITCH SECTIONS

NO.	DATE	REVISION	SIG.
1	8/17/16	ADD ALT. 3	

CONTRACT#	P-15-001-202
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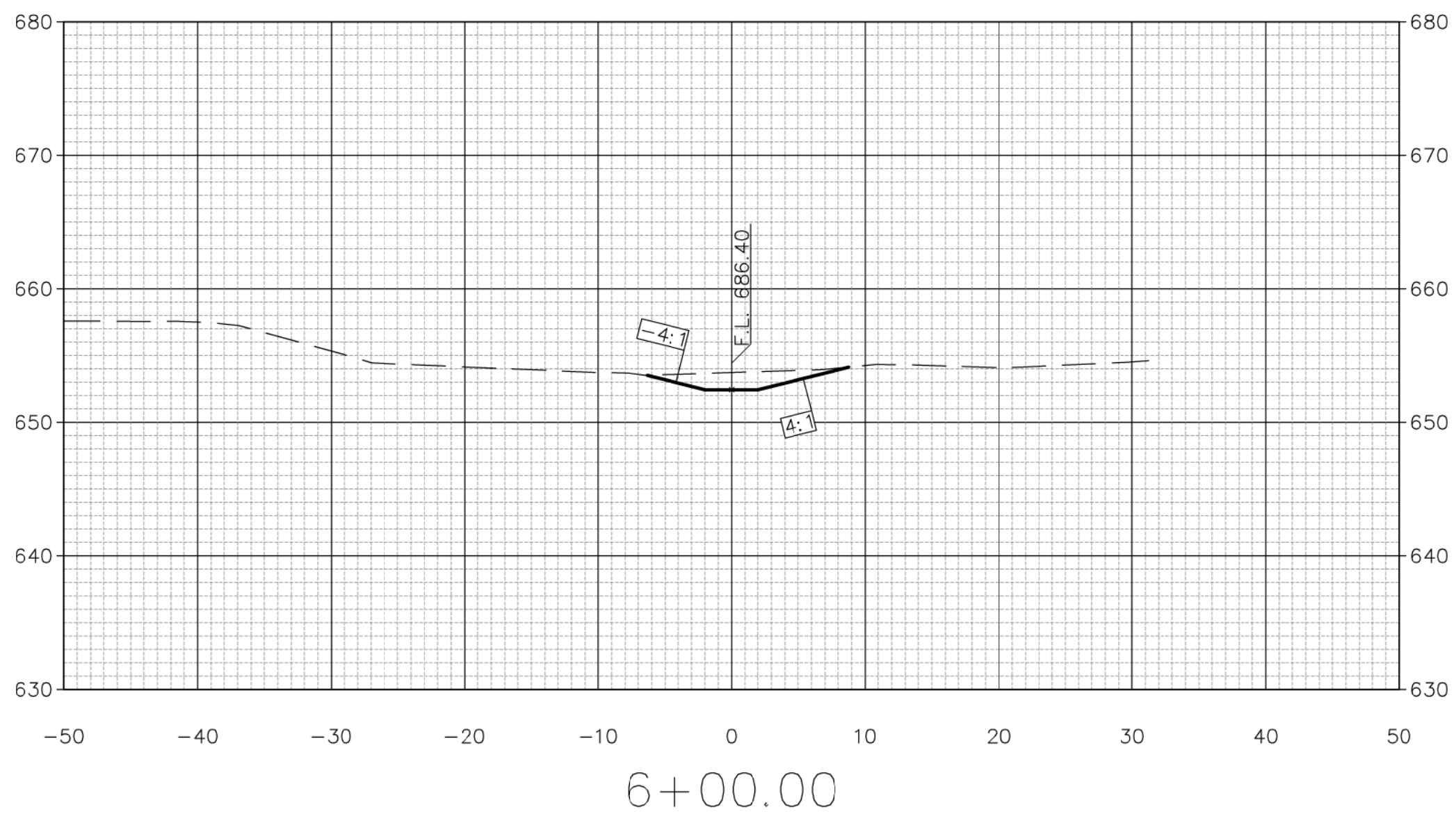
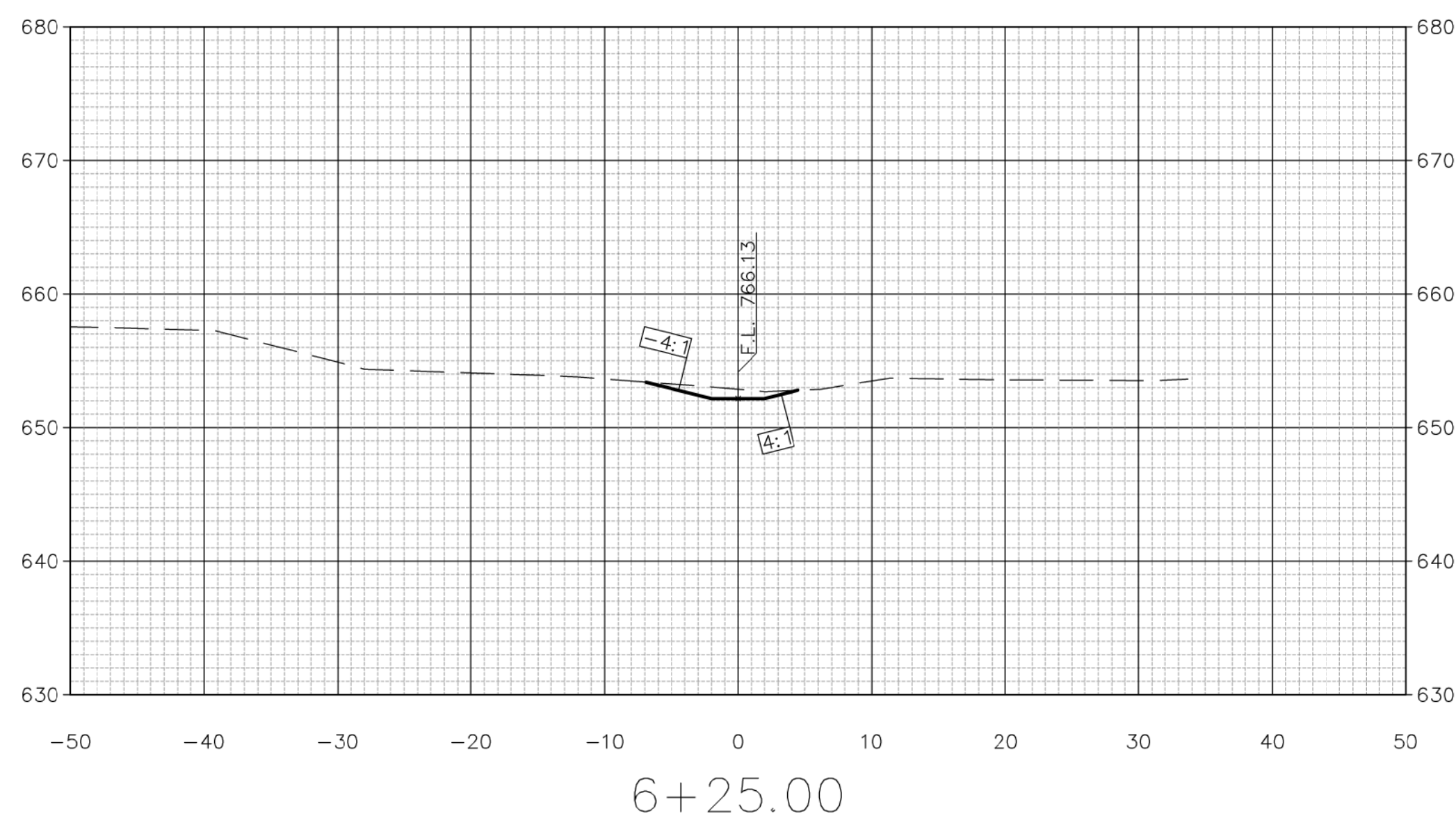
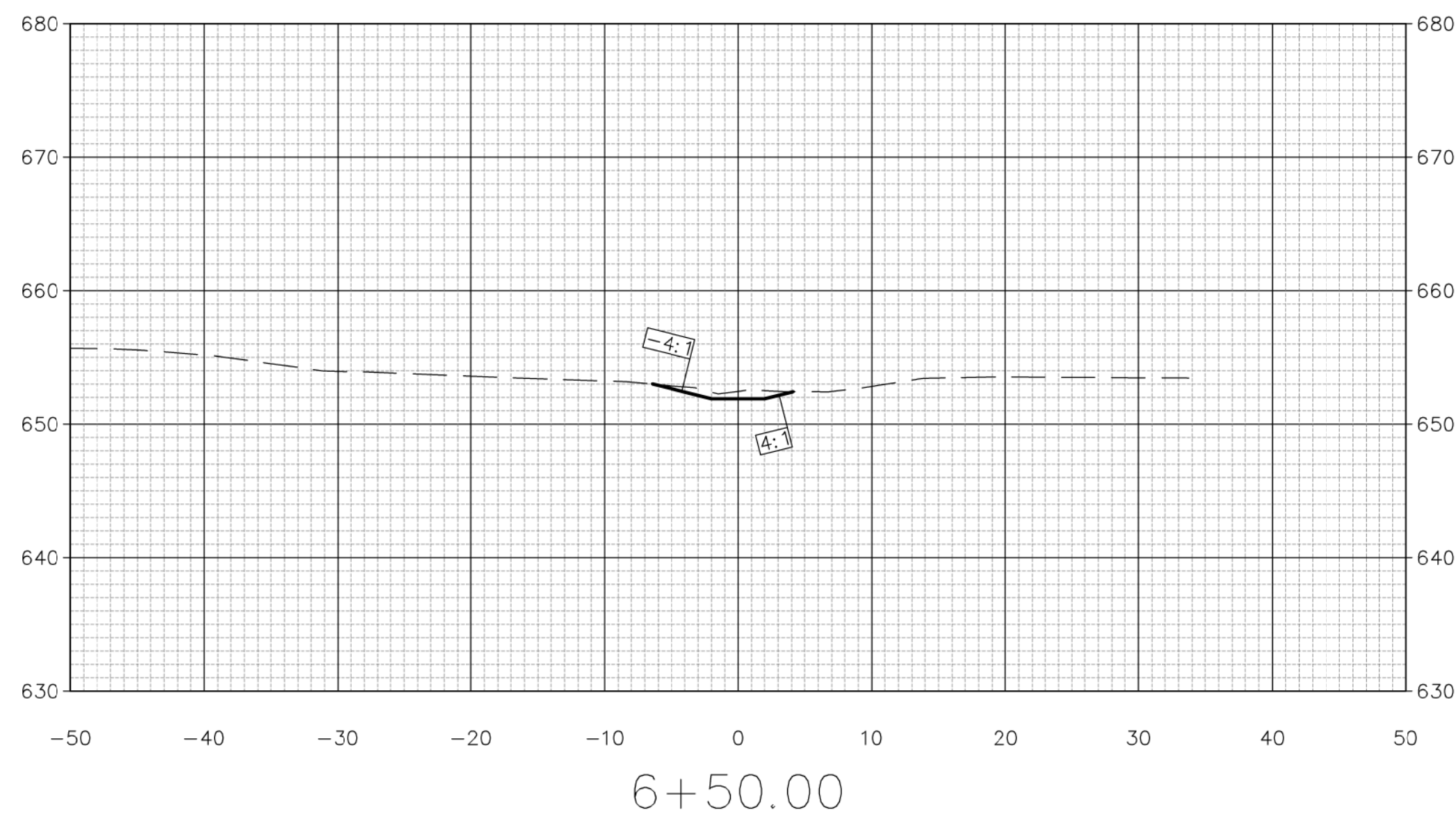
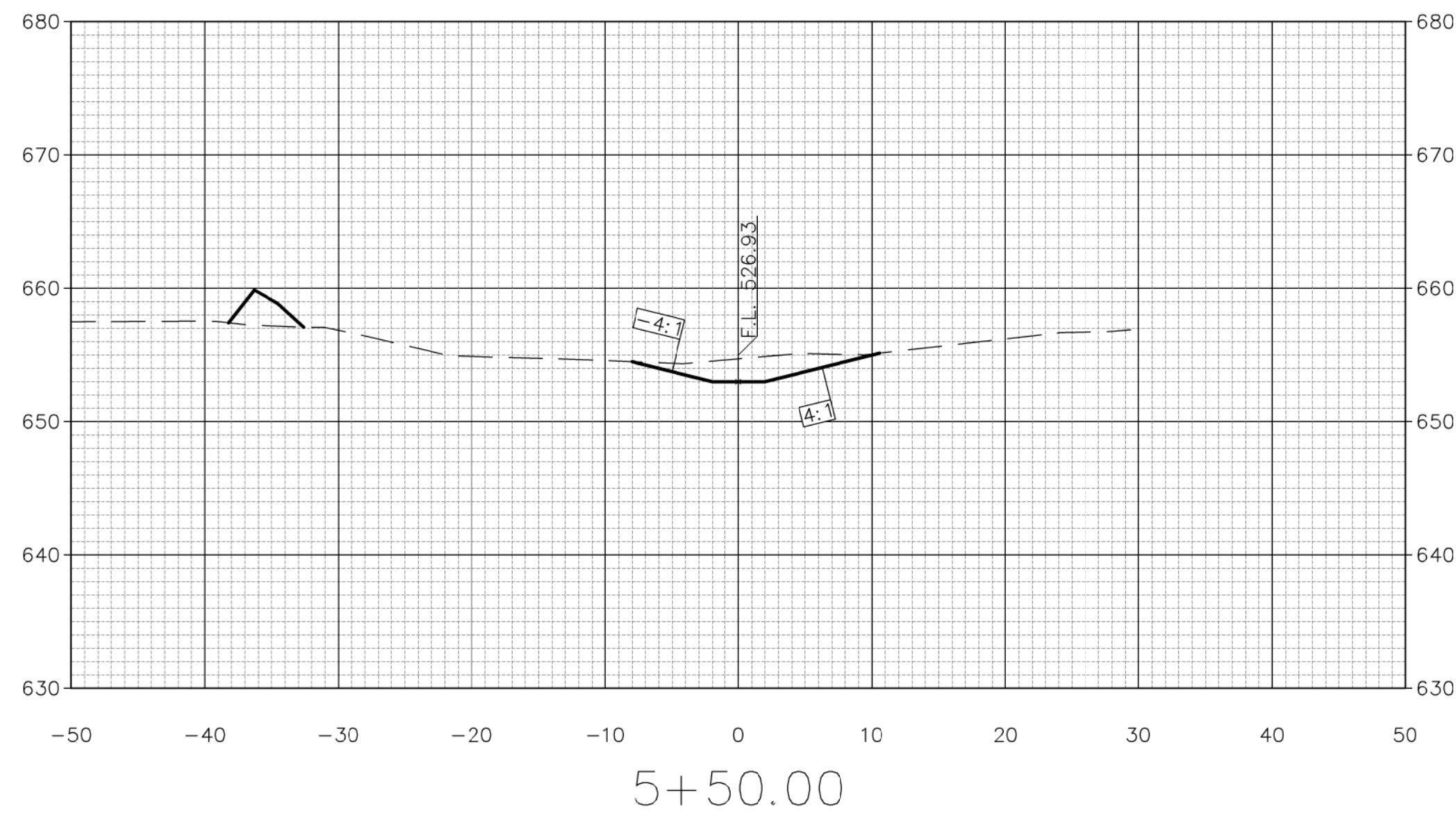
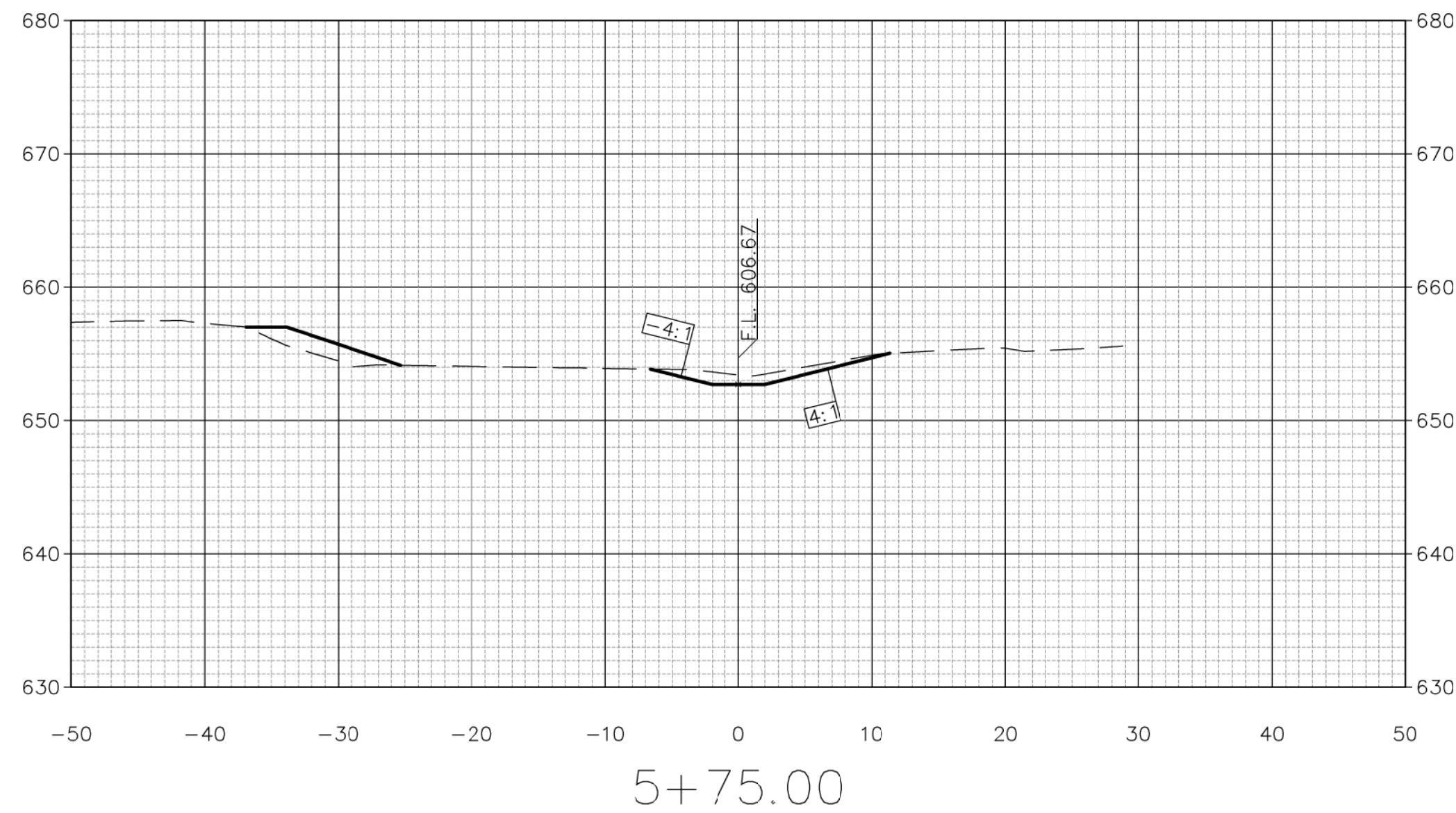
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HEET: 10 OF 14



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RANGE DITCH CROSS SECTIONS  
SCALE: 1"=20'



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ADMINISTRATOR:  
CH  
CITY ENGINEER:  
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HCSO-CPD RANGE  
REMEDIATION AND MAINTENANCE  
DITCH SECTIONS

NO.	DATE	REVISION	SIG.
1	8/17/16	ADD ALT. 3	Δ

CONTRACT#	P-15-001-202
SCALE:	AS NOTED
DRAWN:	JAH
DESIGN:	ACH
CHECKED:	ABM

