



**CALL NO. 203**

**CONTRACT ID. 191064**

**LYON - CALDWELL - TRIGG COUNTIES**

**FED/STATE PROJECT NUMBER 121GR19D064 - NHPP IM**

**DESCRIPTION I-24**

**WORK TYPE JPC PAVEMENT REPAIRS**

**PRIMARY COMPLETION DATE 11/30/2020**

**LETTING DATE: October 25,2019**

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME October 25,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

**NO PLANS ASSOCIATED WITH THIS PROJECT.**

**DBE CERTIFICATION REQUIRED - 8.50%**

**REQUIRED BID PROPOSAL GUARANTY:** Not less than 5% of the total bid.

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# **PART I**

## **SCOPE OF WORK**

**ADMINISTRATIVE DISTRICT - 01**

**CONTRACT ID - 191064**  
**121GR19D064 - NHPP IM**  
**COUNTY - CALDWELL**  
**PCN - DE01700241964**  
**NHPP IM 0242 (075)**

I-24 (MP 55.6) ADDRESS PCC PAVEMENT CONDITIONS ON I-24 FROM MP 55.6 TO MP 57.1 IN CALDWELL COUNTY (MP 57.1), A DISTANCE OF 01.50 MILES.JPC PAVEMENT REPAIRS SYP NO. 01-20011.00.  
GEOGRAPHIC COORDINATES LATITUDE 36:57:44.00 LONGITUDE 87:51:45.00

**COUNTY - LYON**  
**PCN - DE07200241964**  
**NHPP IM 0242 (075)**

I-24 (MP 51.7) ADDRESS PCC PAVEMENT CONDITIONS ON I-24 IN BOTH DIRECTIONS FROM MP 51.7 TO MP 53.9 IN LYON COUNTY (MP 53.9), A DISTANCE OF 02.20 MILES.JPC PAVEMENT REPAIRS SYP NO. 01-20011.00.  
GEOGRAPHIC COORDINATES LATITUDE 36:58:58.00 LONGITUDE 87:55:03.00

**COUNTY - TRIGG**  
**PCN - DE11100241964**  
**NHPP IM 0242 (075)**

I-24 (MP 59.2) ADDRESS PCC PAVEMENT CONDITION ON I-24 FROM MP 59.2 TO MP 67.1 IN TRIGG COUNTY (MP 67.10), A DISTANCE OF 07.90 MILES.JPC PAVEMENT REPAIRS SYP NO. 01-20011.00.  
GEOGRAPHIC COORDINATES LATITUDE 36:53:57.00 LONGITUDE 87:45:52.00

**COMPLETION DATE(S):**  
COMPLETED BY 11/30/2020                      APPLIES TO ENTIRE CONTRACT

## **CONTRACT NOTES**

### **PROPOSAL ADDENDA**

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

### **BID SUBMITTAL**

Bidder must use the Department's electronic bidding software. The Bidder must download the bid file located on the Bid Express website ([www.bidx.com](http://www.bidx.com)) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

### **JOINT VENTURE BIDDING**

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

### **UNDERGROUND FACILITY DAMAGE PROTECTION**

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. When prescribed in said directives, the contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom shall be contacted through their individual Protection Notification Center. Non-compliance with these directives can result in the enforcement of penalties.

### **REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY**

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by [KRS 14A.9-010](#) to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under [KRS 14A.9-030](#) unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in [KRS 14A.9-010](#), the foreign entity should identify the applicable exception. Foreign entity is defined within [KRS 14A.1-070](#).

**For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.**

Businesses can register with the Secretary of State at <https://secure.kentucky.gov/sos/ftbr/welcome.aspx>.

### **SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT**

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to [kytc.projectquestions@ky.gov](mailto:kytc.projectquestions@ky.gov). The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website ([www.transportation.ky.gov/contract](http://www.transportation.ky.gov/contract)). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

### **HARDWOOD REMOVAL RESTRICTIONS**

The US Department of Agriculture has imposed a quarantine in Kentucky and several surrounding states, to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the state. Chipping or burning on site is the preferred method of disposal.

### **INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES**

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

### **ACCESS TO RECORDS**

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially

disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004.

April 30, 2018

### **FEDERAL CONTRACT NOTES**

The Kentucky Department of Highways, in accordance with the Regulations of the United States Department of Transportation 23 CFR 635.112 (h), hereby notifies all bidders that failure by a bidder to comply with all applicable sections of the current Kentucky Standard Specifications, including, but not limited to the following, may result in a bid not being considered responsive and thus not eligible to be considered for award:

- |                                |  |
|--------------------------------|--|
| 102.02 Current Rating          | 102.08 Preparation and Delivery of Proposals |
| 102.13 Irregular Bid Proposals | 102.14 Disqualification of Bidders           |
| 102.09 Proposal Guaranty       |  |

### **CIVIL RIGHTS ACT OF 1964**

The Kentucky Department of Highways, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of the Federal Department of Transportation (49 C.F.R., Part 21), issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that the contract entered into pursuant to this advertisement will be awarded to the lowest responsible bidder without discrimination on the ground of race, color, or national origin.

### **NOTICE TO ALL BIDDERS**

To report bid rigging activities call: 1-800-424-9071.

The U.S. Department of Transportation (DOT) operates the above toll-free “hotline” Monday through Friday, 8:00 a.m. to 5:00 p.m. eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the “hotline” to report such activities.

The “hotline” is part of the DOT’s continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

### **SECOND TIER SUBCONTRACTS**

Second Tier subcontracts on federally assisted projects shall be permitted. However, in the case of DBE’s, second tier subcontracts will only be permitted where the other subcontractor is also a DBE. All second tier subcontracts shall have the consent of both the Contractor and the Engineer.

### **DISADVANTAGED BUSINESS ENTERPRISE PROGRAM**

It is the policy of the Kentucky Transportation Cabinet (“the Cabinet”) that Disadvantaged Business Enterprises (“DBE”) shall have the opportunity to participate in the performance of highway construction projects financed in whole or in part by Federal Funds in order to create a level playing field for all businesses who wish to contract with the Cabinet. To that end, the Cabinet will comply with the regulations found in 49 CFR Part 26, and the definitions and requirements contained therein shall be adopted as if set out verbatim herein.

The Cabinet, contractors, subcontractors, and sub-recipients shall not discriminate on the basis of race, color, national origin, or sex in the performance of work performed pursuant to Cabinet contracts. The contractor shall carry out applicable requirements of 49 CFR 26 in the award and administration of federally assisted highway construction projects. The contractor will include this provision in all its subcontracts and supply agreements pertaining to contracts with the Cabinet.

Failure by the contractor to carry out these requirements is a material breach of its contract with the Cabinet, which may result in the termination of the contract or such other remedy as the Cabinet deems necessary.

### **DBE GOAL**

The Disadvantaged Business Enterprise (DBE) goal established for this contract, as listed on the front page of the proposal, is the percentage of the total value of the contract.

The contractor shall exercise all necessary and reasonable steps to ensure that Disadvantaged Business Enterprises participate in a least the percent of the contract as set forth above as goals for this contract.

### **OBLIGATION OF CONTRACTORS**

Each contractor prequalified to perform work on Cabinet projects shall designate and make known to the Cabinet a liaison officer who is assigned the responsibility of effectively administering and promoting an active program for utilization of DBEs.

If a formal goal has not been designated for the contract, all contractors are encouraged to consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

Contractors are encouraged to use the services of banks owned and controlled by minorities and women.

### **CERTIFICATION OF CONTRACT GOAL**

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the Cabinet and they will be returned to the bidder.

“The bidder certifies that it has secured participation by Disadvantaged Business Enterprises (“DBE”) in the amount of \_\_\_\_\_ percent of the total value of this contract and that the DBE participation is in compliance with the requirements of 49 CFR 26 and the policies of the Kentucky Transportation Cabinet pertaining to the DBE Program.”

**The certification statement is located in the electronic bid file. All contractors must certify their DBE participation on that page. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted.**

### **DBE PARTICIPATION PLAN**

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 14-35 DBE, within **5** days of the letting. This is necessary before the Awards Committee will review and make a recommendation. **The project will not be considered for award prior to submission and approval of the apparent low bidder’s DBE Plan/Subcontractor Request.**

The DBE Participation Plan shall include the following:

1. Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
2. Description of the work each is to perform including the work item, unit, quantity, unit price and total amount of the work to be performed by the individual DBE. The Proposal Line Number, Category Number, and the Project Line Number can be found in the “material listing” on the Construction Procurement website under the specific letting;
3. The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows;
  - a. If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:
    - The entire expenditure paid to a DBE manufacturer;
    - 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to the public, maintain an inventory and own and operate distribution equipment; and
    - The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.



- b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
- c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;
- 4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
- 5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

#### **UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED**

Contractors must submit the signed subcontract between the contractor and the DBE contractor, along with the DBE's certificate of insurance. If the DBE is a supplier of materials for the project, a signed purchase order must be submitted to the Division of Construction Procurement.

Changes to DBE Participation Plans must be approved by the Cabinet. The Cabinet may consider extenuating circumstances including, but not limited to, changes in the nature or scope of the project, the inability or unwillingness of a DBE to perform the work in accordance with the bid, and/or other circumstances beyond the control of the prime contractor.

#### **CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS**

If the DBE participation submitted in the bid by the apparent lowest responsive bidder does not meet or exceed the DBE contract goal, the apparent lowest responsive bidder must submit a Good Faith Effort Package to satisfy the Cabinet that sufficient good faith efforts were made to meet the contract goals prior to submission of the bid. Efforts to increase the goal after bid submission will not be considered in justifying the good faith effort, unless the contractor can show that the proposed DBE was solicited prior to the letting date. DBEs utilized in achieving the DBE goal must be certified and prequalified for the work items at the time the bid is submitted. One complete set (hard copy along with an electronic copy) of this information must be received in the Division of Contract Procurement no later than 12:00 noon of the tenth calendar day after receipt of notification that they are the apparent low bidder.

Where the information submitted includes repetitious solicitation letters it will be acceptable to submit a sample representative letter along with a distribution list of the firms solicited. Documentation of DBE quotations shall be a part of the good faith effort submittal as necessary to demonstrate compliance with the factors listed below which the Cabinet considers in judging good faith efforts. This documentation may include written subcontractors' quotations, telephone log notations of verbal quotations, or other types of quotation documentation.

The Good Faith Effort Package shall include, but may not be limited to information showing evidence of the following:

1. Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2. Whether the bidder provided solicitations through all reasonable and available means;
3. Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4. Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with certainty whether they were interested. If a reasonable amount of DBEs within the targeted districts do not provide an intent to quote or no DBEs are prequalified in the subcontracted areas, the bidder must notify the Disadvantaged Enterprise Business Liaison Officer (DEBLO) in the Office of Civil Rights and Small Business Development to give notification of the bidder's inability to get DBE quotes;
5. Whether the bidder selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise perform these work items with its own forces;
6. Whether the bidder provided interested DBEs with adequate and timely information about the plans, specifications, and requirements of the contract;
7. Whether the bidder negotiated in good faith with interested DBEs not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached;
8. Whether quotations were received from interested DBE firms but were rejected as unacceptable without sound reasons why the quotations were considered unacceptable. The fact that the DBE firm's quotation for the work is not the lowest quotation received will not in itself be considered as a sound reason for rejecting the quotation as unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a DBE quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy DBE goals;
9. Whether the bidder specifically negotiated with subcontractors to assume part of the responsibility to meet the contract DBE goal when the work to be subcontracted includes potential DBE participation;
10. Whether the bidder made any efforts and/or offered assistance to interested DBEs in obtaining the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal; and
11. Any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include DBE participation.

### **FAILURE TO MEET GOOD FAITH REQUIREMENT**

Where the apparent lowest responsive bidder fails to submit sufficient participation by DBE firms to meet the contract goal and upon a determination by the Good Faith Committee based upon the information submitted that the apparent lowest responsive bidder failed to make sufficient reasonable efforts to meet the contract goal, the bidder will be offered the opportunity to meet in person for administrative reconsideration. The bidder will be notified of the Committee's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of the Committee's decision. The reconsideration meeting will be held within two days of the receipt of a request by the bidder for reconsideration.

The request for reconsideration will be heard by the Office of the Secretary. The bidder will have the opportunity to present written documentation or argument concerning the issue of whether it met the goal or made an adequate good faith effort. The bidder will receive a written decision on the reconsideration explaining the basis for the finding that the bidder did or did not meet the goal or made adequate Good Faith efforts to do so.

The result of the reconsideration process is not administratively appealable to the Cabinet or to the United States Department of Transportation.

The Cabinet reserves the right to award the contract to the next lowest responsive bidder or to rebid the contract in the event that the contract is not awarded to the low bidder as the result of a failure to meet the good faith requirement.

### **SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT**

Failure by the prime contractor to fulfill the DBE requirements of a project under contract or to demonstrate good faith efforts to meet the goal constitutes a breach of contract. When this occurs, the Cabinet will hold the prime contractor accountable, as would be the case with all other contract provisions. Therefore, the contractor's failure to carry out the DBE contract requirements shall constitute a breach of contract and as such the Cabinet reserves the right to exercise all administrative remedies at its disposal including, but not limited to the following:

- Disallow credit toward the DBE goal;
- Withholding progress payments;
- Withholding payment to the prime in an amount equal to the unmet portion of the contract goal; and/or
- Termination of the contract.

### **PROMPT PAYMENT**

The prime contractor will be required to pay the DBE within seven (7) working days after he or she has received payment from the Kentucky Transportation Cabinet for work performed or materials furnished.

### **CONTRACTOR REPORTING**

All contractors must keep detailed records and provide reports to the Cabinet on their progress in meeting the DBE requirement on any highway contract. These records may include, but shall not be limited to payroll, lease agreements, cancelled payroll checks, executed subcontracting agreements, etc. Prime contractors will be required to complete and submit a **signed and notarized** Affidavit of Subcontractor Payment (TC 18-7) and copies of checks for any monies paid to each DBE subcontractor or supplier utilized to meet a DBE goal. These documents must be completed and signed within 7 days of being paid by the Cabinet.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers.

#### **\*\*\*\*\* IMPORTANT \*\*\*\*\***

**Please mail the original, signed and completed TC (18-7) Affidavit of Subcontractor Payment form and all copies of checks for payments listed above to the following address:**

Office of Civil Rights and Small Business Development  
6<sup>th</sup> Floor West 200 Mero Street  
Frankfort, KY 40622

The prime contractor should notify the KYTC Office of Civil Rights and Small Business Development seven (7) days prior to DBE contractors commencing work on the project. The contact in this office is Mr. Melvin Bynes. Mr. Bynes' current contact information is email address – [melvin.bynes2@ky.gov](mailto:melvin.bynes2@ky.gov) and the telephone number is (502) 564-3601.

### **DEFAULT OR DECERTIFICATION OF THE DBE**

If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the Cabinet's Good Faith Effort policies and procedures, the prime contractor is unable to replace the DBE, then the unmet portion of the goal may be waived at the discretion of the Cabinet.

7/19/2019

**LEGAL REQUIREMENTS AND RESPONSIBILITY TO THE PUBLIC – CARGO PREFERENCE ACT (CPA).**

**(REV 12-17-15) (1-16)**

SECTION 7 is expanded by the following new Article:

**102.10 Cargo Preference Act – Use of United States-flag vessels.**

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

### **PROJECT TRAFFIC COORDINATOR (PTC)**

Be advised this project is a significant project pursuant to section 112.03.12.

### **DGA BASE**

Unless otherwise noted, the Department estimates the rate of application for DGA Base to be 115 lbs/sy per inch of depth.

### **DGA BASE FOR SHOULDERS**

Unless otherwise noted, the Department estimates the rate of application for DGA Base for Shoulders to be 115 lbs/sy per inch of depth. The Department will not measure necessary grading and/or shaping of existing shoulders prior to placing of DGA Base, but shall be incidental to the Contract unit price per ton for DGA Base.

Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

### **INCIDENTAL SURFACING**

The Department has included in the quantities of asphalt mixtures established in the proposal estimated quantities required for resurfacing or surfacing mailbox turnouts, farm field entrances, residential and commercial entrances, curve widening, ramp gores and tapers, and road and street approaches, as applicable. Pave these areas to the limits as shown on Standard Drawing RPM-110-06 or as directed by the Engineer. In the event signal detectors are present in the intersecting streets or roads, pave the crossroads to the right of way limit or back of the signal detector, whichever is the farthest back of the mainline. Surface or resurface these areas as directed by the Engineer. The Department will not measure placing and compacting for separate payment but shall be incidental to the Contract unit price for the asphalt mixtures.

### **JPC RIDE QUALITY**

The Department will apply JPC Ride Quality requirements on this project in accordance with Section 501.03.19(B).

### **FUEL AND ASPHALT PAY ADJUSTMENT**

The Department has included the Contract items Asphalt Adjustment and Fuel Adjustment for possible future payments at an established Contract unit price of \$1.00. The Department will calculate actual adjustment quantities after work is completed. If existing Contract amount is insufficient to pay all items on the contract with the adjustments, the Department will establish additional monies with a change order.

### **OPTION A**

Be advised that the Department will accept compaction of asphalt mixtures furnished for driving lanes and ramps, at 1 inch (25mm) or greater, on this project according to OPTION A in accordance with Section 402 and Section 403 of the current Standard Specifications. The Department will require joint cores as described in Section 402.03.02 for surface mixtures only. The Department will accept compaction of all other asphalt mixtures according to OPTION B.

# **Commonwealth of Kentucky**

## **DEPARTMENT OF HIGHWAYS**

### **I-24**

## **PAVEMENT AND ROADWAY REHABILITATION**

**MP 51.00 TO MP 69.83**

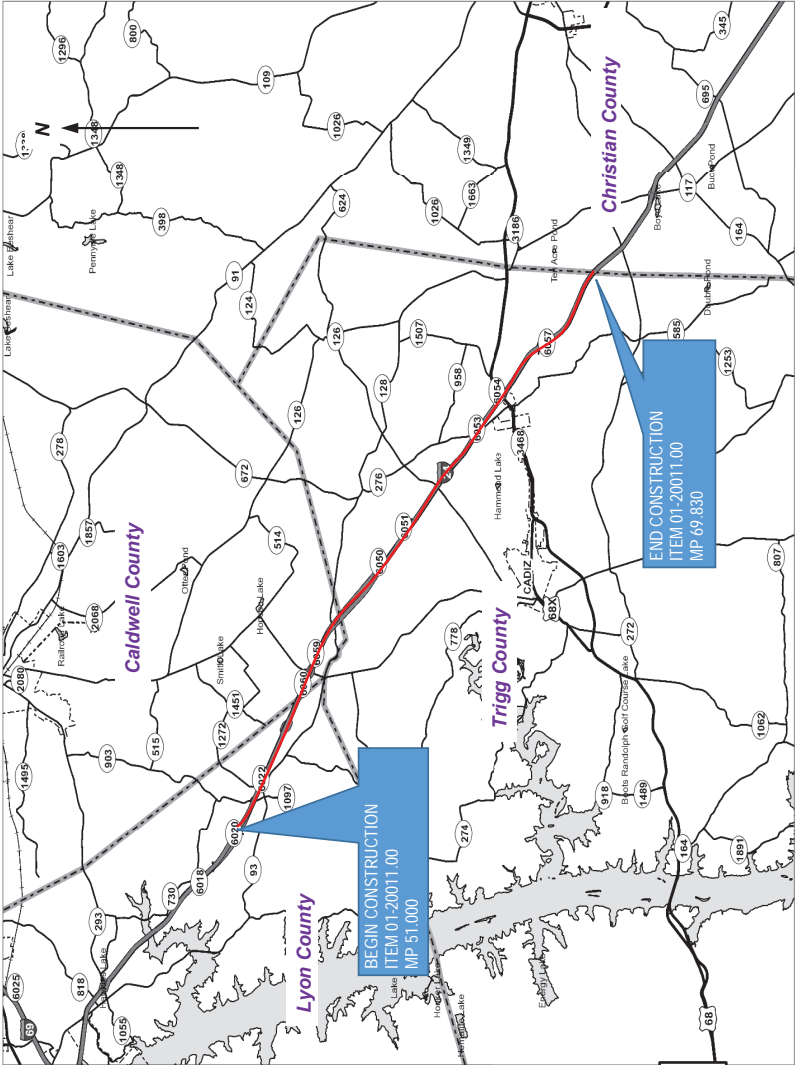
**CALDWELL, LYON, AND TRIGG COUNTY**

**ITEM NO. 01-20011.00**

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Prepared By:  
WSP USA INC.  
1792 ALYSHEBA WAY  
LEXINGTON, KY 40509  
859-272-5400  
September 18, 2019



NOT TO SCALE

THIS PROJECT IS A FULLY  
CONTROLLED ACCESS HIGHWAY

COUNTY(S): CALDWELL, LYON, AND TRIGG	
ITEM NO(S). 01-20011.00	
PROJECT NO(S). FD52 072 0024 051-054, FD52 017 0024 054-057, & FD52 111 0024 057-070	
NHPP IM 0242 (075)	
LETTING DATE: OCTOBER 25TH, 2019	
RECOMMENDED BY: KYTC Project Manager	DATE:
PLAN APPROVED BY: State Highway Engineer	DATE:
FHWA APPROVED BY:	DATE:



ST ND RD DR INGS  
I-2 - C D E ON ND TRIGG COUNT  
P GE 1 O 2

APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD DRAWINGS - CURRENT EDITIONS:

RBB-002	GUARDRAIL AND BRIDGE END DRAINAGE FOR TWIN STRUCTURES
RBI-003	TYPICAL INSTALLATION FOR GUARDRAIL END TREATMENT TYPE 2A
RBM-020	DELINEATORS FOR CONCRETE BARRIERS
RBM-115	CONCRETE BARRIER WALL TYPE 9T (TEMPORARY)
RBM-120	BOX BEAM STIFFENING OF TEMPORARY CONCRETE BARRIER
RBR-005	GUARDRAIL COMPONENTS
RBR-010	GUARDRAIL TERMINAL SECTIONS
RDD-020	FLUME INLET TYPE 1
RDD-021	FLUME INLET TYPE 2
RDP-001	PERFORATED PIPE TYPES AND COVER HEIGHTS
RDP-005	PERFORATED PIPE FOR SUBGRADE DRAINAGE ON TWO-LANE (CLASS 2) AND MULTI-LANE ROADS
RDP-006	PERFORATED PIPE UNDERDRAINS (LONGITUDINAL AND TRANSVERSE)
RDP-010	PERFORATED PIPE HEADWALLS
RDX-210	TEMPORARY SILT FENCE
RDX-215	TEMPORARY SILT FENCE WITH WOVEN WIRE FENCE FABRIC
RDX-220	SILT TRAP TYPE A
RDX-225	SILT TRAP TYPE B
RDX-230	SILT TRAP TYPE C
RGX-001	MISCELLANEOUS STANDARDS
RPM-145	RUMBLE STRIPS TYPE 3
RPS-010	CONCRETE PAVEMENT JOINT DETAILS
RPS-020	EXPANSION AND CONTRACTION JOINT LOAD TRANSFER ASSEMBLIES
RPX-001	STATION MARKINGS CONCRETE PAVEMENT
RPX-010	PREFORMED COMPRESSION JOINT SEAL FOR CONCRETE PAVEMENT
RPX-015	HOT-POURED ELASTIC JOINT SEALS FOR CONCRETE PAVEMENT
RPX-020	SILICONE RUBBER SEALS FOR CONCRETE PAVEMENT
TPM-105	PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS
TPM-126	PAVEMENT MARKER ARRANGEMENT FOR PARALLEL DECELERATION LANE
TPM-135	PAVEMENT MARKER ARRANGEMENT ON-RAMP WITH PARALLEL ACCELERATION LANE
TPM-170	FLEXIBLE DELINEATOR POST ARRANGEMENTS FOR HORIZONTAL CURVES
TPM-171	FLEXIBLE DELINEATOR POST ARRANGEMENTS FOR INTERCHANGE RAMPS AND CROSSOVERS
TTC-115	LANE CLOSURE MULTI-LANE HIGHWAY CASE I
TTC-145	MEDIAN CROSSOVER CASE II
TTC-146	MEDIAN CROSSOVER CASE II
TTD-120	DOUBLE FINES ZONE SIGNS
TTS-120	MOBILE OPERATION FOR DURABLE STRIPING CASE I

**STANDARD DRAWINGS**  
**I-24 - CALDWELL, LYON, AND TRIGG COUNTY**  
**PAGE 2 OF 2**

APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS  
STANDARD DRAWING SEPIAS (ATTACHED):

- 005 SHOULDER AND EDGELINE RUMBLE STRIPS
- 007 SHOULDER RUMBLE STRIP DETAILS TWO LANE ROADWAYS
- 008 RUMBLE STRIP DETAILS MULTI-LANE ROADWAYS AND RAMPS
- 013 GUARDRAIL CONNECTOR TO BRIDGE END TYPE A AND A-1 COMPONENTS
- 015 GUARDRAIL CONNECTOR TO BRIDGE END TYPE A
- 016 GUARDRAIL CONNECTOR TO BRIDGE END TYPE A-1
- 018 CONNECTION DETAILS OF CRASH CUSHION TYPE VI TO DOUBLE FACE  
GUARDRAIL
- 021 CRASH CUSHION TYPE VI-BT
- 023 CRASH CUSHION TYPE IX-A
- 024 TYPICAL GUARDRAIL INSTALLATIONS
- 025 INSTALLATION OF GUARDRAIL END TREATMENT TYPE 1
- 027 STEEL BEAM GUARDRAIL "W" BEAM
- 028 STEEL GUARDRAIL POSTS
- 029 GUARDRAIL END TREATMENT TYPE 1
- 030 GUARDRAIL END TREATMENT TYPE 4A
- 032 DELINEATORS FOR GUARDRAIL
- 033 GUARDRAIL SYSTEM TRANSITION
- 038 GUARDRAIL END TREATMENT TYPE 2A
- 039 TYPICAL ENTRANCE RAMP MARKINGS FOR INTERSTATES AND PARKWAYS
- 040 TYPICAL EXIT RAMP MARKINGS FOR INTERSTATES AND PARKWAYS
- 041 TYPICAL EXIT RAMP MARKINGS FOR INTERSTATES AND PARKWAYS
- 045 TYPICAL MARKINGS FOR GORE AREAS
- 060 CURB AND GUTTER, CURBS AND VALLEY GUTTER

**REFERENCES**  
**I-24 - CALDWELL, LYON, AND TRIGG COUNTY**  
**PAGE 1 OF 1**

- 1. KENTUCKY TRANSPORTATION CABINET, DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
- 2. FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) - CURRENT EDITION WITH REVISIONS.
- 3. APPLICABLE KENTUCKY DEPARTMENT OF HIGHWAYS SUPPLEMENT SPECIFICATIONS (ATTACHED):

SPCL. NOTE	ASPHALT MILLING AND TEXTURING
SPCL. NOTE	TYPICAL SECTION DIMENSIONS
SPCL. NOTE	BEFORE YOU DIG
SPCL. NOTE	FIXED COMPLETION DATE AND LIQUIDATED DAMAGES
SPCL. NOTE	GEOTEXTILE BOND BREAKER INTERLAYER FOR CONCRETE OVERLAY
SPCL. NOTE	LONGITUDINAL TEXTURING OF CONCRETE PAVEMENT
SPCL. NOTE	POLYMER MODIFIED PARTIAL DEPTH PATCHING
MOD. SPCL. NOTE	MODIFIED FULL DEPTH CONCRETE PAVEMENT REPAIR
SPCL. NOTE	HIGH TENSION CABLE-ROPE MEDIAN BARRIER
SPCL. NOTE	BRIDGE BARRIER RETROFIT
SPCL. NOTE	CONCRETE PAVEMENT JOINT AND RANDOM CRACK SEALING
SPCL. NOTE	CLASS 1A GEOTEXTILE FABRICS USED IN STRUCTURAL PAVEMENT DESIGNS
SPCL. NOTE	EXPERIMENTAL KYCT AND HAMBURG TESTING
SPCL. NOTE	GUARDRAIL DELIVERY VERIFICATION SHEET
SPCL. NOTE	PORTABLE CHANGEABLE MESSAGE SIGNS
SPCL. NOTE	CONCRETE SLURRY
SPCL. NOTE	SUBGRADE STABILIZATION

GENER SUMM R							
I-2 - C D E ON ND TRIGG COUNT							
BID CODE	ITEM	UNIT	NOTE	U NTITIES			
				C D E COUNT	ON COUNT	TRIGG COUNT	TOT S
00001	DGA	TON		3,655	6,921	7,593	18,169
00008	CEMENT STABILIZED ROADBED	SY		45,373	52,130	124,503	222,006
00078	CRUSHED AGGREGATE SIZE NO 2	TON	17	58	72	714	844
00080	CRUSHED AGGREGATE SIZE NO 23	TON		60	100	240	400
00100	ASPHALT SEAL AGGREGATE	TON		286	278	744	1,308
00103	ASPHALT SEAL COAT	TON		34	33	89	156
00190	LEVELING WEDGING PG64-22	TON		182	0	730	912
00214	CL3 ASPH BASE 1 00D PG64-22	TON		1,587	3,932	2,495	8,014
00312	CL3 ASPH SURF 0 50D PG64-22	TON		1,609	1,464	4,428	7,501
00356	ASPHALT MATERIAL FOR TACK COAT	TON		6	7	17	30
00358	ASPHALT CURING SEAL	TON		91	104	249	444
01005	PERFORATED PIPE EDGE DRAIN- 4 IN	LF	5	22,820	32,548	60,372	115,740
01015	INSPECT AND CERTIFY EDGE DRAIN SYSTEM	LS		1	1	1	1
01020	PERF PIPE HEADWALL TY 1 - 4 IN	EACH		0	2	3	5
01024	PERF PIPE HEADWALL TY 2 - 4 IN	EACH		0	1	1	2
01028	PERF PIPE HEADWALL TY 3 - 4 IN	EACH		9	26	4	39
01032	PERF PIPE HEADWALL TY 4 - 4 IN	EACH	7	49	43	155	247
01690	FLUME INLET TYPE 1	EACH		0	0	2	2
01691	FLUME INLET TYPE 2	EACH		0	0	2	2
01740	CORED HOLE DRAINAGE BOX CON-4 IN	EACH	3	1	1	3	5
01890	ISLAND HEADER CURB TYPE 1	LF		0	100	75	175
01891	ISLAND HEADER CURB TYPE 2	LF		0	100	50	150
01982	DELINEATOR FOR GUARDRAIL MONO WHITE	EACH		0	8	157	165
01983	DELINEATOR FOR GUARDRAIL MONO YELLOW	EACH		0	7	20	27
01986	DELINEATOR FOR BARRIER - YELLOW	EACH		681	782	1,868	3,331
02058	REMOVE PCC PAVEMENT	SY	2	45,802	69,507	99,603	214,912
02060	PCC PAVEMENT DIAMOND GRINDING	SY		40,470	59,598	274,122	374,190
02069	JPC PAVEMENT - 10 IN (SLAB REPLACEMENT)	SY		650	950	2,500	4,100
02071	JPC PAVEMENT - 11 IN	SY		45,373	52,130	124,503	222,006
02091	REMOVE PAVEMENT	SY	16	650	950	2,500	4,100
02115	SAW-CLEAN-RESEAL TVERSE JOINT	LF	15	16,556	30,717	112,141	159,414
02116	SAW-CLEAN-RESEAL LONGIT JOINT	LF	8	13,797	25,597	93,451	132,845
02165	REMOVE PAVED DITCH	SY		0	0	8,097	8,097
02351	GUARDRAIL - STEEL W BEAM - S FACE	LF		0	796	10,354	11,150
02352	GUARDRAIL - STEEL W BEAM - D FACE	LF		0	245	685	930
02360	GUARDRAIL TERMINAL SECTION NO 1	EACH		0	2	6	8
02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	EACH		0	5	11	16
02365	CRASH CUSHION TYPE XI - A	EACH		0	2	6	8
02367	GR END TREATMENT TYPE 1	EACH		0	4	10	14

GENER SUMM R							
I-2 - C D E ON ND TRIGG COUNT							
BID CODE	ITEM	UNIT	NOTE	U NTITIES			
				C D E COUNT	ON COUNT	TRIGG COUNT	TOT S
02369	GR END TREATMENT TYPE 2A	EACH		0	2	15	17
02381	REMOVE GUARDRAIL	LF		0	1,241	11,978	13,219
02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	EACH		0	4	12	16
02391	GUARDRAIL END TREATMENT TYPE 4A	EACH		0	0	1	1
02483	CHANNEL LINING CLASS II	TON		0	0	1,575	1,575
02542	CEMENT	TON		1,323	1,520	3,631	6,474
02562	TEMPORARY SIGNS	SF	13	600	700	1,800	3,100
02565	OBJECT MARKER TYPE 2	EACH	4	0	2	6	8
02568	MOBILIZATION	LS		1	1	1	1
02569	DEMOBILIZATION	LS		1	1	1	1
02575	DITCHING AND SHOULDERING	LF		13,797	20,317	65,308	99,422
02575	DITCHING AND SHOULDERING (SPECIAL)	LF		0	0	2,198	2,198
02604	FABRIC GEOTEXTILE CLASS 1A	SY	3	650	950	2,500	4,100
02650	MAINTAIN AND CONTROL TRAFFIC	LS	13	1	1	1	1
02655	CROSSOVER ( 1)	LS	13	-	1	-	1
02655	CROSSOVER ( 2)	LS	13	1	-	-	1
02655	CROSSOVER ( 3)	LS	13	1	-	-	1
02655	CROSSOVER ( 4)	LS	13	-	-	1	1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	13	4	2	4	10
02676	MOBILIZATION FOR MILL TEXT	LS		1	-	1	1
02677	ASPHALT MILLING AND TEXTURING	TON		498	0	1,096	1,594
02695	RUMBLE STRIPS TYPE 3	LF		500	1,000	0	1,500
02696	SHOULDER RUMBLE STRIPS	LF	9	7,245	0	18,368	25,613
02701	TEMP SILT FENCE	LF	14	1,350	1,390	1,200	3,940
02702	SAND FOR BLOTTER	TON		113	130	311	554
02705	SILT TRAP TYPE C	EACH	14	2	2	2	6
02726	STAKING	LS		1	1	1	1
02775	ARROW PANEL	EACH	13	0	1	1	2
03171	CONCRETE BARRIER WALL 9T	LF		13,612	15,639	37,351	66,602
03383	PVC PIPE-4 IN	LF	6	2,625	3,602	9,782	16,009
05950	EROSION CONTROL BLANKET	SY	14	10,000	13,000	42,000	65,000
05953	TEMP SEEDING AND PROTECTION	SY	14	717	613	237	1,567
05963	INITIAL FERTILIZER	TON	14	0 2	0 1	0 1	0 4
05964	MAINTENANCE FERTILIZER	TON	14	0 2	0 1	0 1	0 4
05985	SEEDING AND PROTECTION	SY	14	2,323	1,162	1,162	4,647
05992	AGRICULTURAL LIMESTONE	TON	14	1 44	0 72	0 72	2 88
06401	FLEXIBLE DELINEATOR POST-M W	EACH		231	38	465	734
06404	FLEXIBLE DELINEATOR POST-M Y	EACH		64	0	71	135
06511	PAVE STRIPING - TEMP PAINT - 6 IN	LF		54,447	65,541	151,259	271,247

GENERAL SUMMARY							
I-24 - CALDWELL, LYON, AND TRIGG COUNTY							
BID CODE	ITEM	UNIT	NOTE	QUANTITIES			
				CALDWELL COUNTY	LYON COUNTY	TRIGG COUNTY	TOTALS
06513	PAVE STRIPING-TEMP PAINT-12 IN	LF		978	0	0	978
06556	PAVE STRIPING - DUR TY - 6 IN W	LF		34,261	44,946	163,502	242,709
06557	PAVE STRIPING - DUR TY - 6 IN Y	LF		27,408	35,957	130,801	194,166
06560	PAVE STRIPING-DUR TY 1-12 IN W	LF		2,297	0	1,288	3,585
06600	REMOVE PAVEMENT MARKER TYPE V	EACH	12	173	320	1,169	1,662
08903	CRASH CUSHION TY VI CLASS BT TL3	EACH		0	4	4	8
10020NS	FUEL ADJUSTMENT	DOLL		24,821	31,361	63,602	119,784
10030NS	ASPHALT ADJUSTMENT	DOLL		13,203	21,096	29,920	64,219
20362ES403	SHOULDER RUMBLE STRIPS-SAWED	LF	20	26,639	31,279	74,701	132,619
20366NN	REPLACE GRATE	EACH		2	1	2	5
20412ED	REMOVE ASPHALT SHOULDER	SY	10	9,169	0	41,590	50,759
20432ES112	REMOVE CRASH CUSHION	EACH		0	2	6	8
21173EC	SAW-CLEAN-RESEAL RANDOM CRACKS	LF		2,000	2,000	6,000	10,000
22883EN	CONCRETE WEDGE CURB	LF		0	0	2,198	2,198
23032EN	BRIDGE BARRIER RETROFIT	LF		0	0	785	785
23147EN	HIGH TENSION CABLE-ROPE	LF	11	301	416	395	1,112
23148EN	END ANCHORS	EACH	11	4	2	2	8
23949EC	BRIDGE CLEANING AND PREVENTATIVE MAINTENANCE	LS	18	-	1	-	1
23949EC	BRIDGE CLEANING AND PREVENTATIVE MAINTENANCE	LS	19	-	-	1	1
24255EC	REMOVE CABLE GUARDRAIL BARRIER SYSTEM	LF	11	301	416	395	1,112
24489EC	INLAID PAVEMENT MARKERS	EACH		447	449	1,635	2,531
24640ED	OBJECT MARKER TYPE 1	EACH		0	6	10	16
24969ED	LONGITUDINAL SAW CUT	LF		9,282	0	37,351	46,633
24997EC	PARTIAL DEPTH PATCHING - POLYMER MOD	CUFT		216	49	1,991	2,256
25050ED	GEOTEXTILE BOND BREAKER	SY		45,373	52,130	124,503	222,006

NOTES:

- Quantities from all other summary sheets have been carried over and included in this General Summary Sheet.
- For eastbound concrete pavement removal MP 51.886 to MP 64.500.
- Required for slab replacements.
- For guardrail at bridges. See Standard Drawing RBB-002.
- Total includes 2,060 LF for slab replacements.
- Total includes 2,220 LF for slab replacements.
- Total includes 75 headwalls for slab replacements.
- For Diamond Grinding areas.
- Total includes 11,660 LF for MOT impacts.
- Total includes 4290 square yards for MOT impacts from potential deterioration of shoulders from MP 55.668 to MP 64.7 during phase 1 of construction.
- For High Tension Cable-Rope Barrier for crossovers.
- For Diamond Grinding areas. Estimated every 80'.
- For Maintenance of Traffic.
- For erosion control of temporary crossovers.
- For Diamond Grinding areas. Estimated every 20 feet.
- For removal of concrete for slab replacements.
- Total includes 293 tons for perforated pipe headwalls, and 551 tons for erosion repairs.
- For bridges 072B00048L&R in Lyon County.
- For bridges 111B00044L&R in Trigg County.
- For eastbound shoulders from MP 51.886 to MP 64.500.

P I N G R E S							
I-2 - C D E O N N D TRIGG COUNT							
B I D C O D E	I T E M	N O T E	D E P T ( )	S U R E R D S			
				C D E C O U N T	O N C O U N T	T R I G G C O U N T	T O T S
00001	DGA WEDGE		11 00	3,025	3,475	8,300	14,800
00001	DGA WEDGE	1	4 80	2,165	7,820	4,515	14,500
00001	DGA	2,5	2 00	6,379	18,327	5,872	30,578
00001	DGA	6	6 00	1,189	1,326	1,222	3,737
00008	CEMENT STABILIZED ROADBED			45,373	52,130	124,503	222,006
00100	ASPHALT SEAL AGGREGATE			14,288	13,902	37,214	65,404
00103	ASPHALT SEAL COAT			14,288	13,902	37,214	65,404
00190	LEVELING WEDGING PG64-22	1	1 00	3,300	0	13,280	16,580
00214	CL3 ASPH BASE 1 00D PG64-22	6	3 00	2,378	2,651	2,444	7,473
00214	CL3 ASPH BASE 1 00D PG64-22	2	4 50	4,827	14,119	8,451	27,397
00312	CL3 ASPH SURF 0 50D PG64-22	6	1 25	1,189	1,326	1,222	3,737
00312	CL3 ASPH SURF 0 50D PG64-22	2	1 50	7,502	16,637	8,389	32,528
00312	CL3 ASPH SURF 0 50D PG64-22		2 00	8,251	0	33,201	41,452
00356	ASPHALT MATERIAL FOR TACK			15,753	16,637	41,590	73,980
00358	ASPHALT CURING SEAL	4		45,373	52,130	124,503	222,006
02060	PCC PAVEMENT DIAMOND GRINDING	3		40,470	59,598	274,122	374,190
02069	JPC PAVEMENT - 10 IN (SLAB REPLACEMENT)			650	950	2,500	4,100
02071	JPC PAVEMENT - 11 IN			45,373	52,130	124,503	222,006
02542	CEMENT	4		45,373	52,130	124,503	222,006
02677	ASPHALT MILLING AND TEXTURING		1 50	6,036	0	13,280	19,316
02702	SAND FOR BLOTTER	4		45,373	52,130	124,503	222,006
25050ED	GEOTEXTILE BONDBREAKER INTERLAYER			45,373	52,130	124,503	222,006

NOTES:

- 1 D
- 2 T 4290 MOT MP 55 668
- MP 64 7 I
- 3 D 10
- 4 F
- 5 T 4100
- 6 F

P I N G S U M M R							
I-2 - C D E O N N D T R I G G C O U N T							
ITEM CODE	ITEM	NOTES	UNIT	C D E COUNT	ON COUNT	TRIGG COUNT	TOT S
00001	DGA	1	TON	3,655	6,921	7,593	18,169
00008	CEMENT STABILIZED ROADBED		S YD	45,373	52,130	124,503	222,006
00100	ASPHALT SEAL AGGREGATE	3	TON	286	278	744	1,308
00103	ASPHALT SEAL COAT	4	TON	34	33	89	156
00190	LEVELING WEDGING PG64-22	2	TON	182	0	730	912
00214	CL3 ASPH BASE 1 00D PG64-22	2	TON	1,587	3,932	2,495	8,014
00312	CL3 ASPH SURF 0 50D PG64-22	2	TON	1,609	1,464	4,428	7,501
00356	ASPHALT MATERIAL FOR TACK	6	TON	6	7	17	30
00358	ASPHALT CURING SEAL	7	TON	91	104	249	444
02060	PCC PAVEMENT DIAMOND GRINDING		S YD	40,470	59,598	274,122	374,190
02069	JPC PAVEMENT - 10 IN (SLAB REPLACEMENT)		S YD	650	950	2,500	4,100
02071	JPC PAVEMENT - 11 IN		S YD	45,373	52,130	124,503	222,006
02542	CEMENT	9	TON	1,323	1,520	3,631	6,474
02677	ASPHALT MILLING AND TEXTURING	2	TON	498	0	1,096	1,594
02702	SAND FOR BLOTTER	8	TON	113	130	311	554
25050ED	GEOTEXTILE BONDBREAKER INTERLAYER		S YD	45,373	52,130	124,503	222,006

NOTES:

- 1 E 115
- 2 E 110
- 3 E 20 ( )
- 4 E 2 4 ( )
- 5 G S
- 6 E 0 8 4
- 7 E 2 ( )
- 8 E 5
- 9 E 6 108



SC EDU E ND SUMM R O GU RDR I															
I-2 -C D E ON ND TRIGG COUNT															
OC TION								ITEM							
C D E COUNT	ON COUNT	TRIGG COUNT	DIRECTION	ST TIONS	MI EPOINTS	IN. T.			E C						REMO E CR S CUS ION
						REMO E GU RDR I	GU RDR I - STEE CE	GU RDR I - STEE CE	GR END TRE TMENT 1	GR END TRE TMENT 2	GR END TRE TMENT	GU RDR I CONNECTOR TO BRIDGE END T	GU RDR I CONNECTOR TO BRIDGE END T -1	CR S CUS ION T PE I-	
						02381	02351	02352	02360	0236	02369	02391	02363	0238	20 32E S112
	X		EB	4038 15 TO 4040 57	53 366 TO 53 412	199	69	105	1				1	1	1
	X		EB	4038 54 TO 4040 59	53 373 TO 53 412	205	130			1			1		
	X		WB	4038 58 TO 4040 58	53 374 TO 53 412		125			1			1		
	X		WB	4038 62 TO 4040 58	53 375 TO 53 412	196	171				1			1	
	X		WB	4042 20 TO 4044 46	53 443 TO 53 485	226	151			1			1		
	X		WB	4042 20 TO 4044 91	53 443 TO 53 494	227	62	140	1				1	1	1
	X		EB	4042 21 TO 4042 46	53 443 TO 53 447						1			1	
	X		EB	4042 24 TO 4044 12	53 443 TO 53 479	188	88			1			1	1	
		X	WB	4357 95 TO 4369 10	59 423 TO 59 634	1110	1060			1	1				
		X	EB	4360 46 TO 4367 62	59 470 TO 59 606	721	671			1	1				
		X	WB	4397 59 TO 4403 88	60 173 TO 60 292	629	604				1			1	
		X	EB	4399 26 TO 4402 62	60 205 TO 60 269	336	274					1	1		
		X	EB	4400 22 TO 4402 96	60 223 TO 60 275	231	101	105	1				1	1	1
		X	WB	4402 75 TO 4403 50	60 271 TO 60 285					1				1	
		X	EB	4405 91 TO 4410 54	60 331 TO 60 419	463	438				1			1	
		X	EB	4406 32 TO 4406 57	60 339 TO 60 343						1			1	
		X	WB	4406 84 TO 4409 47	60 348 TO 60 398	219	48	146	1					1	1
		X	WB	4407 20 TO 4414 31	60 355 TO 60 490	712	637			1					
		X	EB	4463 86 TO 4670 16	61 428 TO 65 336	632	557			1			1		
		X	WB	4665 28 TO 4670 33	65 243 TO 65 339	505	480				1			1	
		X	EB	4667 65 TO 4670 16	65 288 TO 65 336	220	55	140	1				1	1	1
		X	WB	4670 00 TO 4670 25	65 333 TO 65 337						1			1	

SC EDU E ND SUMM R O GU RDR I																							
I-2 -C D E ON ND TRIGG COUNT																							
OC TION					ITEM																		
C D E COUNT	COUNT		ST TIONS	MI EPOINTS	IN. T.			E C							CR S CUS ION T PE I-	REMO E CR S CUS ION S112							
	ON COUNT	TRIGG COUNT			DIRECTION	REMO E GU RDR I	GU RDR I - STEE CE	GU RDR I - STEE CE	GU RDR I TERMIN SECTION NO 1	GR END TRE TMENT 1	GR END TRE TMENT 2	GR END TRE TMENT	GU RDR I CONNECTOR TO BRIDGE END T	GU RDR I CONNECTOR TO BRIDGE END T -1									
		X	EB	4672 55 TO 4677 36	65 381 TO 65 472	482	02381	02351	02352	02360	0236	02369	02391	02363	0238	02365	20 32E S112						
		X	EB	4672 56 TO 4672 81	65 381 TO 65 386							1			1								
		X	WB	4672 77 TO 4675 20	65 385 TO 65 431	199	74	100		1				1		1	1						
		X	WB	4672 87 TO 4679 92	65 387 TO 65 520	707	632				1			1									
		X	EB	4704 47 TO 4710 46	66 416 TO 66 529	598	523				1			1									
		X	WB	4704 71 TO 4710 75	66 420 TO 66 535	603	578					1			1								
		X	EB	4707 83 TO 4710 56	66 479 TO 66 531	228	72	104		1				1		1	1						
		X	WB	4710 41 TO 4710 66	66 479 TO 66 531							1			1								
		X	EB	4711 96 TO 4719 50	66 557 TO 66 700	749	724					1			1								
		X	EB	4711 98 TO 4712 23	66 557 TO 66 700							1			1								
		X	WB	4712 16 TO 4714 79	66 561 TO 66 611	220	105	90		1				1		1	1						
		X	WB	4712 27 TO 4722 69	66 563 TO 66 761	1052	1002				1												
		X	EB	4798 45 TO 4805 30	68 196 TO 68 325	693	643				1	1											
		X	WB	4800 42 TO 4807 18	68 233 TO 68 361	669	619				1	1											
C D E COUNT					C D E COUNT TOT S					0								0	0	0			
					ON COUNT TOT S					12 1					96	2 5	2	0	5	2			
					TRIGG COUNT TOT S					119 8					1035	685	6	10	15	11	12	6	6
					PRO ECT TOT S					13 219					11 150	930	8	1	1	16	16	8	8

NOTES:

1  
2

R G S

SC EDU E ND SUMM R O P EMENT REP IRS									
I-2 - C D E ON ND TRIGG COUNT									
COUNT			MI EPOINT TO MI EPOINT			S B REP CEMENT (SY)		P RTI DEPT P TC ING - PO MER MOD (CUFT)	
C D E	ON	TRIGG				E STBOUND	ESTBOUND	E STBOUND	ESTBOUND
	X		51 000	TO	51 500	---	100	---	0
	X		51 500	TO	52 000	---	100	---	0
	X		52 000	TO	52 500	---	150	---	3
	X		52 500	TO	53 000	---	100	---	6
	X		53 000	TO	53 500	---	150	---	3
	X		53 500	TO	54 000	---	100	---	6
	X		54 000	TO	54 500	---	100	---	9
	X		54 500	TO	54 848	---	50	---	12
	X		ON SUBTOT S			---	850	---	39
	X		MOT IMP CTS			---	100	---	10
	X		ON TOT S			---	950	---	9
X			54 848	TO	55 000	---	50	---	3
X			55 000	TO	55 500	---	100	---	36
X			55 500	TO	56 000	---	100	---	57
X			56 000	TO	56 500	---	100	---	33
X			56 500	TO	57 000	---	150	---	36
X			57 000	TO	57 461	---	50	---	21
X			C D E SUBTOT S			---	550	---	186
X			MOT IMP CTS			---	100	---	30
X			C D E TOT S			---	650	---	216
		X	57 461	TO	57 500	---	50	---	3
		X	57 500	TO	58 000	---	150	---	30
		X	58 000	TO	58 500	---	100	---	66
		X	58 500	TO	59 000	---	250	---	135
		X	59 000	TO	59 500	---	300	---	138
		X	59 500	TO	60 000	---	250	---	114
		X	60 000	TO	60 500	---	450	---	141
		X	60 500	TO	61 000	---	300	---	144
		X	61 000	TO	61 500	---	200	---	138
		X	61 500	TO	62 000	---	---	---	96
		X	62 000	TO	62 500	---	---	---	105
		X	62 500	TO	63 000	---	---	---	66
		X	63 000	TO	63 500	---	---	---	63
		X	63 500	TO	64 000	---	---	---	36
		X	64 000	TO	64 500	---	---	---	27
		X	64 500	TO	65 000	250	---	69	24
		X	65 000	TO	65 500	---	---	12	24
		X	65 500	TO	66 000	---	---	9	33
		X	66 000	TO	66 500	---	---	6	36
		X	66 500	TO	67 000	---	---	9	27

SC EDU E ND SUMM R O P EMENT REP IRS									
I-2 - C D E ON ND TRIGG COUNT									
COUNT			MI EPOINT TO MI EPOINT			S B REP CEMENT (SY)		P RTI DEPT P TC ING - PO MER MOD (CUFT)	
C D E	ON	TRIGG				E STBOUND	ESTBOUND	E STBOUND	ESTBOUND
		X	67 000	TO	67 500	---	---	12	36
		X	67 500	TO	68 000	---	---	12	33
		X	68 000	TO	68 500	---	---	6	42
		X	68 500	TO	69 000	---	---	9	30
		X	69 000	TO	69 500	---	---	12	24
		X	69 500	TO	69 830	---	---	6	18
		X	TRIGG SUBTOT S			250	2 050	162	1 629
		X	MOT IMP CTS			----	200	----	200
		X	TRIGG TOT S			250	2 250	162	1 829
C D E COUNT TOT S						650		216	
ON COUNT TOT S						950		9	
TRIGG COUNT TOT S						2 500		1 991	
PRO ECT TOT S						100		2 256	

NOTES:

- 1 L J 2019 A E
- 2 MOT MP 51 7 MP  
64 7 P 1 P 2
- 3 G S

SC EDU E ND SUMM R O DR IN GE REP IRS												
I-2 - C D E ON ND TRIGG COUNT												
OC TION							ITEM					
COUNT			DIRECTION	ST TIONS	MI EPOINTS	NOTE	S . D.	TON	E C			
C D E	ON	TRIGG					REMO E P ED DITC	C NNE INING C SS II	REP CE GR TE			
							02165	02 83	20366NN			
	X		EB	3952 06	51 735	3			1			
X			EB	4129 28	55 092	3			1			
X			EB	4165 91	55 785	2			1			
		X	WB	4293 11	58 195	3			1			
		X	WB	4571 59	63 469	3			1			
		X	WB	4626 66 TO 4627 36	64 511 TO 64 524		61	11				
		X	EB	4631 83 TO 4633 77	64 609 TO 64 646		153	28				
		X	WB	4632 62 TO 4633 58	64 624 TO 64 623		79	14				
		X	WB	4648 50 TO 4649 40	64 925 TO 64 942		70	13				
		X	EB	4652 58 TO 4655 19	65 002 TO 65 052		204	37				
		X	EB	4697 21 TO 4697 90	66 278 TO 66 291		93	17				
		X	EB	4703 87 TO 4710 71	66 404 TO 66 534		564	102				
		X	WB	4704 03 TO 4710 67	66 407 TO 66 533		517	93				
		X	EB	4711 19 TO 4712 87	66 543 TO 66 575		131	24				
		X	WB	4713 68 TO 4727 24	66 590 TO 66 847		1208	217				
		X	EB	4715 97 TO 4722 85	66 633 TO 66 764		619	111				
		X	WB	4734 15 TO 4740 41	66 976 TO 67 096		572	103				
		X	WB	4741 78 TO 4741 89	67 122 TO 67 124		48	9				
		X	EB	4747 80 TO 4750 70	67 236 TO 67 291		227	41				
		X	WB	4748 20 TO 4750 42	67 244 TO 67 286		174	31				
		X	EB	4751 85 TO 4754 72	67 313 TO 67 367		226	41				
		X	WB	4763 22	67 529		42	8				
		X	EB	4773 04 TO 4777 78	67 714 TO 67 804		373	67				
		X	WB	4776 14 TO 4778 41	67 773 TO 67 816		175	32				
		X	EB	4792 64 TO 4793 75	68 086 TO 68 107		100	18				
		X	WB	4792 88 TO 4793 74	68 090 TO 68 106		87	16				
		X	EB	4798 53 TO 4802 16	68 197 TO 68 266		292	53				
		X	WB	4799 74 TO 4803 12	68 220 TO 68 284		285	51				
		X	EB	4802 62 TO 4807 68	68 275 TO 68 370		401	72				
		X	WB	4803 86 TO 4808 09	68 298 TO 68 378		348	63				
		X	WB	4855 53 TO 4856 10	69 277 TO 69 288		67	12				
		X	WB	4857 76 TO 4859 18	69 319 TO 69 346		117	21				
		X	WB	4863 75 TO 4867 35	69 432 TO 69 500		291	52				
		X	WB	4867 51 TO 4869 00	69 504 TO 69 532		124	22				
		X	EB	4869 35 TO 4871 65	69 538 TO 69 582		184	33				

NOTES:

1			G	S	
2	DBI	48"	41"	A	C
3	DBI	36"	41"	A	C

SC EDU E ND SUMM R O EROSION REP IRS											
I-2 - C D E ON ND TRIGG COUNT											
OC TION						ITEM					
COUNT			DIRECTION	ST TIONS	MI EPOINTS	S OU DER ND I S OPE EROSION REP IR					
C D E	ON	TRIGG				IN. T.		E C		TON	
						DITC ING ND S D. SPECI	CONCRETE EDGE CURB	UME IN ET T PE 1	UME IN ET T PE 2	CRUS ED GGREG TE SI E NO 2	C NNE INING C SS II
						025 5	22883EN	01690	01691	000 8	02 83
		X	WB	4357 95 TO 4369 08	59 423 TO 59 633	1106	1106			339	20
		X	WB	4359 12	59 445			1			23
		X	WB	4364 08	59 539				1		11
		X	WB	4397 59 TO 4403 88	60 173 TO 60 292	629	629			129	10
		X	WB	4402 64	60 269			1			15
		X	EB	4405 91 TO 4410 54	60 331 TO 60 419	463	463			83	8
		X	EB	4406 02	60 333				1		29
C D E COUNT TOT S						0	0	0	0	0	0
ON COUNT TOT S						0	0	0	0	0	0
TRIGG COUNT TOT S						2 198	2 198	2	2	551	11
PRO ECT TOT S						2 198	2 198	2	2	551	11

NOTES:

- 1
- 2A C L C II
- 3C N 2 2 07
- 4D S (S ) , S F S
- R D

SC EDU E ND SUMM R O P EMENT UNDERDR IN													
I-2 - C D E ON ND TRIGG COUNT													
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C			
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1
								01000	03383	01020	0102	01028	01032
	X		X		3960 03 TO 3962 00	51 886 TO 51 923		197					
	X			X	3960 03 TO 3962 00	51 886 TO 51 923	2	197	59				1
	X		X		3962 00 TO 3965 00	51 923 TO 51 980		300					
	X			X	3962 00 TO 3965 00	51 923 TO 51 980	2	300	60			1	
	X		X		3965 00 TO 3968 00	51 980 TO 52 037		300					
	X			X	3965 00 TO 3968 00	51 980 TO 52 037	2	300	54			1	
	X		X		3968 00 TO 3971 00	52 037 TO 52 094		300					
	X			X	3968 00 TO 3971 00	52 037 TO 52 094	2	300	57				1
	X		X		3971 00 TO 3974 00	52 094 TO 52 151		300					
	X			X	3971 00 TO 3974 00	52 094 TO 52 151	2	300	54			1	
	X		X		3974 00 TO 3977 00	52 151 TO 52 208		300					
	X			X	3974 00 TO 3977 00	52 151 TO 52 208	2	300	54			1	
	X		X		3977 00 TO 3980 00	52 208 TO 52 264		300					
	X			X	3977 00 TO 3980 00	52 208 TO 52 264	2	300	51			1	
	X		X		3980 00 TO 3983 00	52 264 TO 52 321		300					
	X			X	3980 00 TO 3983 00	52 264 TO 52 321	2	300	51			1	
	X		X		3983 00 TO 3986 00	52 321 TO 52 378		300					
	X			X	3983 00 TO 3986 00	52 321 TO 52 378	2	300	54			1	
	X		X		3986 00 TO 3989 00	52 378 TO 52 435		300					
	X			X	3986 00 TO 3989 00	52 378 TO 52 435	2	300	54			1	
	X		X		3989 00 TO 3992 00	52 435 TO 52 492		300					
	X			X	3989 00 TO 3992 00	52 435 TO 52 492	2	300	54			1	
	X		X		3992 00 TO 3997 00	52 492 TO 52 586		500					
	X			X	3992 00 TO 3997 00	52 492 TO 52 586	2	500	54			1	
	X		X		3997 00 TO 4000 00	52 586 TO 52 643		300					
	X			X	3997 00 TO 4000 00	52 586 TO 52 643	2	300	54			1	
	X		X		4000 00 TO 4003 00	52 643 TO 52 700		300					
	X			X	4000 00 TO 4003 00	52 643 TO 52 700	2	300	54			1	
	X		X		4003 00 TO 4006 00	52 700 TO 52 757		300					
	X			X	4003 00 TO 4006 00	52 700 TO 52 757	2	300	54			1	
	X		X		4006 00 TO 4009 00	52 757 TO 52 814		300					
	X			X	4006 00 TO 4009 00	52 757 TO 52 814	2	300	54			1	
	X		X		4009 00 TO 4012 00	52 814 TO 52 870		300					
	X			X	4009 00 TO 4012 00	52 814 TO 52 870	2	300	51			1	
	X		X		4012 00 TO 4015 00	52 870 TO 52 927		300					



SC EDU E ND SUMM R O P EMENT UNDERDR IN														
I-2 - C D E ON ND TRIGG COUNT														
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500			NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT	PER OR TED PIPE INC		P C PIPE INC	E C				
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1	
	X			X	4012 00 TO 4015 00	52 870 TO 52 927	2	300	51				1	
	X		X		4015 00 TO 4018 00	52 927 TO 52 984		300						
	X			X	4015 00 TO 4018 00	52 927 TO 52 984	2	300	57					1
	X		X		4018 00 TO 4021 00	52 984 TO 53 041		300						
	X			X	4018 00 TO 4021 00	52 984 TO 53 041	2	300	57					1
	X		X		4021 00 TO 4024 00	53 041 TO 53 098		300						
	X			X	4021 00 TO 4024 00	53 041 TO 53 098	2	300	57					1
	X		X		4024 00 TO 4027 00	53 098 TO 53 155		300						
	X			X	4024 00 TO 4027 00	53 098 TO 53 155	2	300	54				1	
	X		X		4027 00 TO 4030 00	53 155 TO 53 211		300						
	X			X	4027 00 TO 4030 00	53 155 TO 53 211	2	300	54				1	
	X		X		4030 00 TO 4033 00	53 211 TO 53 268		300						
	X			X	4030 00 TO 4033 00	53 211 TO 53 268	2	300	54					1
	X		X		4033 00 TO 4036 00	53 268 TO 53 325		300						
	X			X	4033 00 TO 4036 00	53 268 TO 53 325	2	300	54					1
	X		X		4036 00 TO 4039 00	53 325 TO 53 382		300						
	X			X	4036 00 TO 4039 00	53 325 TO 53 382	2	300	54					1
	X		X		4039 00 TO 4040 42	53 382 TO 53 409		142						
	X			X	4039 00 TO 4040 42	53 382 TO 53 409	2	142	50		1			
	X			X	4040 42	53 409	2		50	1				
	X		X		4042 35 TO 4044 50	53 445 TO 53 486		215						
	X			X	4042 35 TO 4044 50	53 445 TO 53 486	2	215	90					1
	X		X		4044 50 TO 4046 00	53 486 TO 53 514		150						
	X			X	4044 50 TO 4046 00	53 486 TO 53 514	2	150	50	1				
	X		X		4046 00 TO 4049 00	53 514 TO 53 571		300						
	X			X	4046 00 TO 4049 00	53 514 TO 53 571	2	300	54					1
	X		X		4049 00 TO 4052 00	53 571 TO 53 628		300						
	X			X	4049 00 TO 4052 00	53 571 TO 53 628	2	300	54					1
	X		X		4052 00 TO 4055 00	53 628 TO 53 685		300						
	X			X	4052 00 TO 4055 00	53 628 TO 53 685	2	300	60					1
	X		X		4055 00 TO 4058 00	53 685 TO 53 742		300						
	X			X	4055 00 TO 4058 00	53 685 TO 53 742	2	300	54				1	
	X		X		4058 00 TO 4061 00	53 742 TO 53 798		300						
	X			X	4058 00 TO 4061 00	53 742 TO 53 798	2	300	58					1
	X		X		4061 00 TO 4064 00	53 798 TO 53 855		300						

SC EDU E ND SUMM R O P EMENT UNDERDR IN													
I-2 - C D E ON ND TRIGG COUNT													
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C			
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1
	X				4061 00 TO 4064 00	53 798 TO 53 855	2	300	85			1	
	X		X		4064 00 TO 4067 00	53 855 TO 53 912		300					
	X			X	4064 00 TO 4067 00	53 855 TO 53 912	2	300	51			1	
	X		X		4067 00 TO 4072 00	53 912 TO 54 007		500					
	X			X	4067 00 TO 4072 00	53 912 TO 54 007	2	500	60				1
	X		X		4072 00 TO 4074 00	54 007 TO 54 045		200					
	X			X	4072 00 TO 4074 00	54 007 TO 54 045	2	200	58				1
	X		X		4074 00 TO 4076 50	54 045 TO 54 092		250					
	X			X	4074 00 TO 4076 50	54 045 TO 54 092	2	250	55				1
	X		X		4076 50 TO 4080 50	54 092 TO 54 168		400					
	X			X	4076 50 TO 4080 50	54 092 TO 54 168	2	400	55				1
	X		X		4080 50 TO 4083 50	54 168 TO 54 225		300					
	X			X	4080 50 TO 4083 50	54 168 TO 54 225	2	300	70				1
	X		X		4083 50 TO 4086 50	54 225 TO 54 281		300					
	X			X	4083 50 TO 4086 50	54 225 TO 54 281	2	300	61				1
	X		X		4086 50 TO 4089 50	54 281 TO 54 338		300					
	X			X	4086 50 TO 4089 50	54 281 TO 54 338	2	300	54				1
	X		X		4089 50 TO 4094 00	54 338 TO 54 423		450					
	X			X	4089 50 TO 4094 00	54 338 TO 54 423	2	450	54				1
	X		X		4094 00 TO 4097 00	54 423 TO 54 480		300					
	X			X	4094 00 TO 4097 00	54 423 TO 54 480	2	300	54				1
	X		X		4097 00 TO 4100 00	54 480 TO 54 537		300					
	X			X	4097 00 TO 4100 00	54 480 TO 54 537	2	300	54				1
	X		X		4100 00 TO 4103 00	54 537 TO 54 594		300					
	X			X	4100 00 TO 4103 00	54 537 TO 54 594	2	300	57				1
	X		X		4103 00 TO 4105 03	54 594 TO 54 632		203					
	X			X	4103 00 TO 4105 03	54 594 TO 54 632	2	203	54			1	
	X		X		4105 03 TO 4108 00	54 632 TO 54 689		297					
	X			X	4105 03 TO 4108 00	54 632 TO 54 689	2	297	54			1	
	X		X		4108 00 TO 4111 00	54 689 TO 54 745		300					
	X			X	4108 00 TO 4111 00	54 689 TO 54 745	2	300	59			1	
	X		X		4111 00 TO 4114 00	54 745 TO 54 802		300					
	X			X	4111 00 TO 4114 00	54 745 TO 54 802	2	300	57				1
	X		X		4114 00 TO 4117 00	54 802 TO 54 859		300					
	X			X	4114 00 TO 4117 00	54 802 TO 54 859	2	300	54			1	

SC EDU E ND SUMM R O P EMENT UNDERDR IN													
I-2 - C D E ON ND TRIGG COUNT													
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D			
C D E	ON	TRIGG			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C			
										T PE 1 2 1	T PE 2 3 1	T PE 3 1	T PE 6 1
								01000	03383	01020	0102	01028	01032
	X		X		4117 00 TO 4120 00	54 859 TO 54 916		300					
	X			X	4117 00 TO 4120 00	54 859 TO 54 916	2	300	57				1
	X		X		4120 00 TO 4123 00	54 916 TO 54 973		300					
	X			X	4120 00 TO 4123 00	54 916 TO 54 973	2	300	54			1	
X			X		4123 00 TO 4126 00	54 973 TO 55 030		300					
X				X	4123 00 TO 4126 00	54 973 TO 55 030	2	300	61				1
X			X		4126 00 TO 4128 50	55 030 TO 55 077		250					
X				X	4126 00 TO 4128 50	55 030 TO 55 077	2	250	54			1	
X			X		4128 50 TO 4131 00	55 077 TO 55 124		250					
X				X	4128 50 TO 4131 00	55 077 TO 55 124	2	250	58				1
X			X		4131 00 TO 4134 00	55 124 TO 55 181		300					
X				X	4131 00 TO 4134 00	55 124 TO 55 181	2	300	58				1
X			X		4134 00 TO 4137 00	55 181 TO 55 238		300					
X				X	4134 00 TO 4137 00	55 181 TO 55 238	2	300	58				1
X			X		4137 00 TO 4139 00	55 238 TO 55 276		200					
X				X	4137 00 TO 4139 00	55 238 TO 55 276	2	200	54			1	
X			X		4139 00 TO 4141 00	55 276 TO 55 314		200					
X				X	4139 00 TO 4141 00	55 276 TO 55 314	2	200	58				1
X			X		4181 00 TO 4184 00	56 071 TO 56 128		300					
X				X	4181 00 TO 4184 00	56 071 TO 56 128		300	60				1
X			X		4184 00 TO 4187 00	56 128 TO 56 185		300					
X				X	4184 00 TO 4187 00	56 128 TO 56 185	2	300	49				1
X			X		4187 00 TO 4190 00	56 185 TO 56 242		300					
X				X	4187 00 TO 4190 00	56 185 TO 56 242	2	300	50				1
X			X		4190 00 TO 4193 00	56 242 TO 56 298		300					
X				X	4190 00 TO 4193 00	56 242 TO 56 298	2	300	50				1
X			X		4193 00 TO 4196 00	56 298 TO 56 355		300					
X				X	4193 00 TO 4196 00	56 298 TO 56 355	2	300	90				1
X			X		4196 00 TO 4199 00	56 355 TO 56 412		300					
X				X	4196 00 TO 4199 00	56 355 TO 56 412	2	300	90				1
X			X		4199 00 TO 4202 00	56 412 TO 56 469		300					
X				X	4199 00 TO 4202 00	56 412 TO 56 469	2	300	90				1
X			X		4202 00 TO 4204 63	56 469 TO 56 519		263					
X				X	4202 00 TO 4204 63	56 469 TO 56 519	2	263	51				1
X			X		4204 63 TO 4206 00	56 519 TO 56 545		137					

SC EDU E ND SUMM R O P EMENT UNDERDR IN														
I-2 -C D E ON ND TRIGG COUNT														
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D				
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C				
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1	
X			X	4204 63 TO 4207 00	56 519 TO 56 564	2	237	54			1			
X			X	4207 00 TO 4210 00	56 564 TO 56 620	2	300	22			1			
X			X	4210 00 TO 4213 00	56 620 TO 56 677	2	300	25				1		
X			X	4213 00 TO 4216 00	56 677 TO 56 734	2	300	25				1		
X			X	4216 00 TO 4219 00	56 734 TO 56 791	2	300	22			1			
X			X	4219 00 TO 4222 00	56 791 TO 56 848	2	300	22			1			
X			X	4222 00 TO 4225 00	56 848 TO 56 905	2	300	22			1			
X			X	4225 00 TO 4228 00	56 905 TO 56 961	2	300	25				1		
X			X	4228 00 TO 4231 00	56 961 TO 57 018	2	300	22			1			
X			X	4231 00 TO 4234 00	57 018 TO 57 075	2	300	25				1		
X			X	4234 00 TO 4236 00	57 075 TO 57 113	2	200	43				1		
X			X	4234 00 TO 4236 00	57 075 TO 57 113		200							
X			X	4236 00 TO 4239 00	57 113 TO 57 170	2	300	43			1			
X			X	4236 00 TO 4239 00	57 113 TO 57 170		300							
X			X	4239 00 TO 4242 00	57 170 TO 57 227	2	300	50				1		
X			X	4239 00 TO 4242 00	57 170 TO 57 227		300							
X			X	4242 00 TO 4245 00	57 227 TO 57 283	2	300	50				1		
X			X	4242 00 TO 4245 00	57 227 TO 57 283		300							
X			X	4245 00 TO 4247 50	57 283 TO 57 331	2	250	50				1		
X			X	4245 00 TO 4247 50	57 283 TO 57 331		250							
X			X	4247 50 TO 4250 50	57 331 TO 57 388	2	300	50				1		
X			X	4247 50 TO 4250 50	57 331 TO 57 388		300							
X			X	4250 50 TO 4253 50	57 388 TO 57 444	2	300	50				1		
X			X	4250 50 TO 4253 50	57 388 TO 57 444		300							
X			X	4253 50 TO 4256 50	57 444 TO 57 501		300							
X			X	4253 50 TO 4256 50	57 444 TO 57 501	2	300	50				1		
X			X	4256 50 TO 4259 00	57 501 TO 57 548		250							
X			X	4256 50 TO 4259 00	57 501 TO 57 548	2	250	50				1		
X			X	4259 00 TO 4262 00	57 548 TO 57 605		300							
X			X	4259 00 TO 4262 00	57 548 TO 57 605	2	300	50				1		
X			X	4262 00 TO 4263 50	57 605 TO 57 634		150							
X			X	4262 00 TO 4263 50	57 605 TO 57 634	2	150	53				1		
X			X	4263 50 TO 4266 50	57 634 TO 57 691		300							
X			X	4263 50 TO 4266 50	57 634 TO 57 691	2	300	50				1		
X			X	4266 50 TO 4269 50	57 691 TO 57 747		300							

SC EDU E ND SUMM R O P EMENT UNDERDR IN													
I-2 - C D E ON ND TRIGG COUNT													
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C			
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1
X			X	4266 50 TO 4269 00	57 691 TO 57 738	2	250	50				1	
X			X	4269 00 TO 4271 00	57 738 TO 57 776	2	200	30				1	
X			X	4269 50 TO 4271 00	57 747 TO 57 776	2	150	28				1	
X			X	4271 00 TO 4273 00	57 776 TO 57 814	2	200	55				1	
X			X	4271 00 TO 4273 00	57 776 TO 57 814		200						
X			X	4273 00 TO 4276 00	57 814 TO 57 870		300						
X			X	4273 00 TO 4276 00	57 814 TO 57 870	2	300	50				1	
X			X	4276 00 TO 4279 00	57 870 TO 57 927		300						
X			X	4276 00 TO 4279 00	57 870 TO 57 927	2	300	50				1	
X			X	4279 00 TO 4282 00	57 927 TO 57 984		300						
X			X	4279 00 TO 4282 00	57 927 TO 57 984	2	300	50				1	
X			X	4282 00 TO 4284 50	57 984 TO 58 031		250						
X			X	4282 00 TO 4284 50	57 984 TO 58 031		250	90				1	
X			X	4284 50 TO 4287 00	58 031 TO 58 079		250						
X			X	4284 50 TO 4287 00	58 031 TO 58 079	2	250	54				1	
X			X	4287 00 TO 4290 00	58 079 TO 58 136		300						
X			X	4287 00 TO 4290 00	58 079 TO 58 136	2	300	54				1	
		X	X	4290 00 TO 4293 00	58 136 TO 58 192		300						
		X		X	4290 00 TO 4293 00	58 136 TO 58 192	2	300	54			1	
		X	X		4293 00 TO 4296 00	58 192 TO 58 249		300					
		X		X	4293 00 TO 4296 00	58 192 TO 58 249	2	300	54			1	
		X		X	4296 00	58 249	2		54			1	
		X	X		4296 00 TO 4299 00	58 249 TO 58 306		300					
		X	X		4299 00 TO 4302 00	58 306 TO 58 363	2	300	28			1	
		X	X		4302 00 TO 4305 00	58 363 TO 58 420	2	300	28			1	
		X	X		4305 00 TO 4308 00	58 420 TO 58 477	2	300	28			1	
		X	X		4308 00 TO 4311 00	58 477 TO 58 533	2	300	28			1	
		X	X		4311 00 TO 4314 00	58 533 TO 58 590	2	300	25			1	
		X	X		4314 00 TO 4317 00	58 590 TO 58 647	2	300	25			1	
		X	X		4317 00 TO 4318 50	58 647 TO 58 675	2	150	25			1	
		X	X		4318 50 TO 4321 00	58 675 TO 58 723	2	250	31			1	
		X	X		4321 00 TO 4325 00	58 723 TO 58 798		400					
		X		X	4321 00 TO 4325 00	58 723 TO 58 798	2	400	71			1	
		X	X		4325 00 TO 4328 00	58 798 TO 58 855		300					
		X		X	4325 00 TO 4328 00	58 798 TO 58 855	2	300	69			1	

SC EDU E ND SUMM R O P EMENT UNDERDR IN														
I-2 -C D E ON ND TRIGG COUNT														
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D				
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C				
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1	
		X	X		4328 00 TO 4330 50	58 855 TO 58 903		250						
		X		X	4328 00 TO 4330 50	58 855 TO 58 903	2	250	69					
		X	X		4330 50 TO 4333 00	58 903 TO 58 950	2	250	70					1
		X		X	4330 50 TO 4333 00	58 903 TO 58 950		250						
		X	X		4333 00 TO 4336 00	58 950 TO 59 007	2	300	70					1
		X		X	4333 00 TO 4336 00	58 950 TO 59 007		300						
		X	X		4336 00 TO 4338 00	59 007 TO 59 045		200						
		X		X	4336 00 TO 4338 00	59 007 TO 59 045	2	200	80					1
		X	X		4338 00 TO 4341 00	59 045 TO 59 102		300						
		X		X	4338 00 TO 4341 00	59 045 TO 59 102	2	300	65					1
		X	X		4341 00 TO 4344 00	59 102 TO 59 158		300						
		X		X	4341 00 TO 4344 00	59 102 TO 59 158	2	300	60					1
		X	X		4344 00 TO 4347 00	59 158 TO 59 215		300						
		X		X	4344 00 TO 4347 00	59 158 TO 59 215	2	300	90					1
		X	X		4347 00 TO 4350 00	59 215 TO 59 272		300						
		X		X	4347 00 TO 4350 00	59 215 TO 59 272	2	300	90					1
		X	X		4350 00 TO 4353 00	59 272 TO 59 329		300						
		X		X	4350 00 TO 4353 00	59 272 TO 59 329	2	300	90					1
		X	X		4353 00 TO 4355 00	59 329 TO 59 367		200						
		X		X	4353 00 TO 4355 00	59 329 TO 59 367	2	200	90					1
		X	X		4355 00 TO 4358 00	59 367 TO 59 423		300						
		X		X	4355 00 TO 4358 00	59 367 TO 59 423	2	300	90					1
		X	X		4358 00 TO 4359 10	59 423 TO 59 444		110						
		X		X	4358 00 TO 4359 10	59 423 TO 59 444	2	110	90					1
		X	X		4359 10 TO 4362 00	59 444 TO 59 499		290						
		X		X	4359 10 TO 4362 00	59 444 TO 59 499	2	290	64					1
		X	X		4362 00 TO 4365 00	59 499 TO 59 556		300						
		X		X	4362 00 TO 4365 00	59 499 TO 59 556	2	300	58				1	
		X	X		4365 00 TO 4368 00	59 556 TO 59 613		300						
		X		X	4365 00 TO 4368 00	59 556 TO 59 613	2	300	58					1
		X	X		4368 00 TO 4370 50	59 613 TO 59 660		250						
		X		X	4368 00 TO 4370 50	59 613 TO 59 660	2	250	64					1
		X	X		4370 50 TO 4373 50	59 660 TO 59 717		300						
		X		X	4370 50 TO 4373 50	59 660 TO 59 717	2	300	90					1
		X	X		4373 50 TO 4379 00	59 717 TO 59 821		550						

SC EDU E ND SUMM R O P EMENT UNDERDR IN													
I-2 - C D E ON ND TRIGG COUNT													
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C			
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1
								01000	03383	01020	0102	01028	01032
		X		X	4373 50 TO 4379 00	59 717 TO 59 821	2	550	90				1
		X	X		4379 00 TO 4382 00	59 821 TO 59 878		300					
		X		X	4379 00 TO 4382 00	59 821 TO 59 878	2	300	80				1
		X	X		4382 00 TO 4385 00	59 878 TO 59 935		300					
		X		X	4382 00 TO 4385 00	59 878 TO 59 935	2	300	80				1
		X	X		4385 00 TO 4388 00	59 935 TO 59 992		300					
		X		X	4385 00 TO 4388 00	59 935 TO 59 992	2	300	80				1
		X	X		4388 00 TO 4391 00	59 992 TO 60 048		300					
		X		X	4388 00 TO 4391 00	59 992 TO 60 048	2	300	90				1
		X	X		4391 00 TO 4394 00	60 048 TO 60 105		300					
		X		X	4391 00 TO 4394 00	60 048 TO 60 105	2	300	90				1
		X	X		4394 00 TO 4397 00	60 105 TO 60 162		300					
		X		X	4394 00 TO 4397 00	60 105 TO 60 162	2	300	90				1
		X	X		4397 00 TO 4400 00	60 162 TO 60 219		300					
		X		X	4397 00 TO 4400 00	60 162 TO 60 219	2	300	90				1
		X	X		4400 00 TO 4402 91	60 219 TO 60 274		291					
		X		X	4400 00 TO 4402 60	60 219 TO 60 268	2	260	90		1		1
		X		X	4402 60	60 268	2		29	1			
		X	X		4402 91	60 274	2		27			1	
		X		X	4406 30 TO 4408 50	60 338 TO 60 380	2	220	60	1			
		X	X		4406 43 TO 4408 50	60 341 TO 60 380		207					
		X	X		4408 50 TO 4411 00	60 380 TO 60 427		250					
		X		X	4408 50 TO 4411 00	60 380 TO 60 427	2	250	60	1			
		X	X		4411 00 TO 4412 75	60 427 TO 60 460		175					
		X		X	4411 00 TO 4412 75	60 427 TO 60 460	2	175	65				1
		X	X		4412 75 TO 4416 75	60 460 TO 60 536		400					
		X		X	4412 75 TO 4416 75	60 460 TO 60 536	2	400	90				1
		X	X		4416 75 TO 4419 75	60 536 TO 60 593		300					
		X		X	4416 75 TO 4419 75	60 536 TO 60 593	2	300	90				1
		X	X		4419 75 TO 4425 00	60 593 TO 60 692		525					
		X		X	4419 75 TO 4425 00	60 593 TO 60 692	2	525	90				1
		X	X		4425 00 TO 4428 00	60 692 TO 60 749		300					
		X		X	4425 00 TO 4428 00	60 692 TO 60 749	2	300	58				1
		X	X		4428 00 TO 4431 00	60 749 TO 60 806		300					
		X		X	4428 00 TO 4431 00	60 749 TO 60 806	2	300	54				1

SC EDU E ND SUMM R O P EMENT UNDERDR IN													
I-2 - C D E ON ND TRIGG COUNT													
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C			
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1
		X	X		4431 00 TO 4434 00	60 806 TO 60 863		300					
		X		X	4431 00 TO 4434 00	60 806 TO 60 863	2	300	60			1	
		X	X		4434 00 TO 4436 60	60 863 TO 60 912		260					
		X		X	4434 00 TO 4436 60	60 863 TO 60 912	2	260	90				1
		X	X		4436 60 TO 4439 00	60 912 TO 60 958		240					
		X		X	4436 60 TO 4439 00	60 912 TO 60 958	2	240	90				1
		X	X		4439 00 TO 4442 00	60 958 TO 61 014		300					
		X		X	4439 00 TO 4442 00	60 958 TO 61 014	2	300	90				1
		X	X		4442 00 TO 4445 00	61 014 TO 61 071		300					
		X		X	4442 00 TO 4445 00	61 014 TO 61 071	2	300	70				1
		X	X		4445 00 TO 4447 00	61 071 TO 61 109		200					
		X		X	4445 00 TO 4447 00	61 071 TO 61 109	2	200	75				1
		X	X		4447 00 TO 4450 00	61 109 TO 61 166		300					
		X		X	4450 00	61 166	2		70				1
		X	X		4450 00 TO 4453 00	61 166 TO 61 223		300					
		X		X	4453 00	61 223	2		73				1
		X	X		4453 00 TO 4454 50	61 223 TO 61 251		150					
		X	X		4454 50 TO 4457 50	61 251 TO 61 308		300					
		X		X	4454 50 TO 4457 50	61 251 TO 61 308	2	300	90				1
		X	X		4457 50 TO 4460 50	61 308 TO 61 365		300					
		X		X	4457 50 TO 4460 50	61 308 TO 61 365	2	300	77				1
		X	X		4460 50 TO 4463 50	61 365 TO 61 422		300					
		X		X	4460 50 TO 4463 50	61 365 TO 61 422	2	300	70				1
		X	X		4463 50 TO 4466 50	61 422 TO 61 478		300					
		X		X	4463 50 TO 4466 50	61 422 TO 61 478	2	300	90				1
		X	X		4466 50 TO 4469 50	61 478 TO 61 535		300					
		X		X	4466 50 TO 4469 50	61 478 TO 61 535	2	300	90				1
		X	X		4469 50 TO 4472 50	61 535 TO 61 592		300					
		X		X	4469 50 TO 4472 50	61 535 TO 61 592	2	300	90				1
		X	X		4472 50 TO 4475 50	61 592 TO 61 649		300					
		X		X	4472 50 TO 4475 50	61 592 TO 61 649	2	300	90				1
		X	X		4475 50 TO 4479 50	61 649 TO 61 725		400					
		X		X	4475 50 TO 4479 50	61 649 TO 61 725	2	400	76				1
		X	X		4479 50 TO 4482 50	61 725 TO 61 781		300					
		X		X	4479 50 TO 4482 50	61 725 TO 61 781	2	300	70				1



SC EDU E ND SUMM R O P EMENT UNDERDR IN														
I-2 - C D E ON ND TRIGG COUNT														
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500			NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT	PER OR TED PIPE INC		P C PIPE INC	E C				
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1	
		X	X		4482 50 TO 4485 50	61 781 TO 61 838		300						
		X		X	4482 50 TO 4485 50	61 781 TO 61 838	2	300	69					1
		X	X		4485 50 TO 4488 50	61 838 TO 61 895		300						
		X		X	4485 50 TO 4488 50	61 838 TO 61 895	2	300	67					1
		X	X		4488 50 TO 4491 50	61 895 TO 61 952		300						
		X		X	4488 50 TO 4491 50	61 895 TO 61 952	2	300	70					1
		X	X		4491 50 TO 4494 50	61 952 TO 62 009		300						
		X		X	4491 50 TO 4494 50	61 952 TO 62 009	2	300	71					1
		X	X		4494 50 TO 4497 00	62 009 TO 62 056		250						
		X		X	4494 50 TO 4497 00	62 009 TO 62 056	2	250	77					1
		X	X		4497 00 TO 4498 07	62 056 TO 62 076		107						
		X		X	4497 00 TO 4498 07	62 056 TO 62 076	2	107	80					1
		X	X		4498 07 TO 4501 00	62 076 TO 62 132		293						
		X		X	4498 07 TO 4501 00	62 076 TO 62 132	2	293	72					1
		X	X		4501 00 TO 4504 00	62 132 TO 62 189		300						
		X		X	4501 00 TO 4504 00	62 132 TO 62 189	2	300	64					1
		X	X		4504 00 TO 4507 00	62 189 TO 62 245		300						
		X		X	4504 00 TO 4507 00	62 189 TO 62 245	2	300	90					1
		X	X		4507 00 TO 4510 00	62 245 TO 62 302		300						
		X		X	4507 00 TO 4510 00	62 245 TO 62 302	2	300	90					1
		X	X		4510 00 TO 4513 00	62 302 TO 62 359		300						
		X		X	4510 00 TO 4513 00	62 302 TO 62 359	2	300	69					1
		X	X		4513 00 TO 4516 00	62 359 TO 62 416		300						
		X		X	4513 00 TO 4516 00	62 359 TO 62 416	2	300	76					1
		X	X		4516 00 TO 4517 00	62 416 TO 62 435		100						
		X		X	4516 00 TO 4519 00	62 416 TO 62 473	2	300	60					1
		X		X	4519 00 TO 4522 00	62 473 TO 62 530	2	300	45					1
		X		X	4522 00 TO 4525 00	62 530 TO 62 586	2	300	46					1
		X		X	4525 00 TO 4528 00	62 586 TO 62 643	2	300	46					1
		X		X	4528 00 TO 4531 00	62 643 TO 62 700	2	300	60					1
		X		X	4531 00 TO 4534 00	62 700 TO 62 757	2	300	60				1	
		X	X		4532 00 TO 4534 00	62 719 TO 62 757		200						
		X	X		4534 00 TO 4537 00	62 757 TO 62 814		300						
		X		X	4534 00 TO 4537 00	62 757 TO 62 814	2	300	90					1
		X	X		4537 00 TO 4540 00	62 814 TO 62 870		300						

SC EDU E ND SUMM R O P EMENT UNDERDR IN														
I-2 - C D E ON ND TRIGG COUNT														
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D				
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C				
										T PE1 2 1	T PE2 3 1	T PE3 1	T PE 6 1	
		X		X	4537 00 TO 4540 00	62 814 TO 62 870	2	300	90				1	
		X	X		4540 00 TO 4543 00	62 870 TO 62 927		300						
		X		X	4540 00 TO 4543 00	62 870 TO 62 927	2	300	90					1
		X	X		4543 00 TO 4546 00	62 927 TO 62 984		300						
		X		X	4543 00 TO 4546 00	62 927 TO 62 984	2	300	90					1
		X	X		4546 00 TO 4549 00	62 984 TO 63 041		300						
		X		X	4546 00 TO 4549 00	62 984 TO 63 041	2	300	90					1
		X	X		4549 00 TO 4552 00	63 041 TO 63 098		300						
		X		X	4549 00 TO 4552 00	63 041 TO 63 098	2	300	90					1
		X	X		4552 00 TO 4558 00	63 098 TO 63 211		600						
		X		X	4552 00 TO 4558 00	63 098 TO 63 211	2	600	90					1
		X	X		4558 00 TO 4561 00	63 211 TO 63 268		300						
		X		X	4558 00	63 211	2		90					1
		X	X		4561 00 TO 4564 00	63 268 TO 63 325		300						
		X		X	4561 00	63 268	2		90					1
		X	X		4564 00 TO 4567 00	63 325 TO 63 382		300						
		X		X	4564 00	63 325	2		90					1
		X	X		4567 00 TO 4568 49	63 382 TO 63 410		149						
		X		X	4567 00	63 382	2		67					1
		X	X		4568 49 TO 4571 00	63 410 TO 63 458		251						
		X		X	4568 49	63 410	2		76					1
		X	X		4571 00 TO 4574 00	63 458 TO 63 514		300						
		X		X	4571 00 TO 4574 00	63 458 TO 63 514	2	300	90					1
		X	X		4574 00 TO 4577 00	63 514 TO 63 571		300						
		X		X	4574 00 TO 4577 00	63 514 TO 63 571	2	300	90					1
		X	X		4577 00 TO 4580 00	63 571 TO 63 628		300						
		X		X	4577 00 TO 4580 00	63 571 TO 63 628	2	300	90					1
		X	X		4580 00 TO 4583 00	63 628 TO 63 685		300						
		X		X	4580 00 TO 4583 00	63 628 TO 63 685	2	300	90					1
		X	X		4583 00 TO 4586 00	63 685 TO 63 742		300						
		X		X	4583 00 TO 4586 00	63 685 TO 63 742	2	300	90					1
		X	X		4586 00 TO 4589 00	63 742 TO 63 798		300						
		X		X	4586 00 TO 4589 00	63 742 TO 63 798	2	300	67					1
		X	X		4589 00 TO 4592 00	63 798 TO 63 855		300						
		X		X	4589 00 TO 4592 00	63 798 TO 63 855	2	300	62					1

SC EDU E ND SUMM R O P EMENT UNDERDR IN													
I-2 - C D E ON ND TRIGG COUNT													
COUNT			INSIDE S OU DER	OUTSIDE S OU DER	E STBOUND MP 51.886 TO MP 6 .500		NOTES	IN. T.		-INC PER OR TED PIPE E D			
C	D	E			ST TION	MI EPOINT		PER OR TED PIPE INC	P C PIPE INC	E C			
										T PE 1 2 1	T PE 2 3 1	T PE 3 1	T PE 6 1
		X	X		4592 00 TO 4595 00	63 855 TO 63 912		300					
		X		X	4592 00 TO 4595 00	63 855 TO 63 912	2	300	90				1
		X	X		4595 00 TO 4596 00	63 912 TO 63 931		100					
		X		X	4595 00 TO 4596 00	63 912 TO 63 931	2	100	63				1
		X	X		4596 00 TO 4599 00	63 931 TO 63 988		300					
		X		X	4596 00 TO 4599 00	63 931 TO 63 988	2	300	74				1
		X	X		4599 00 TO 4602 00	63 988 TO 64 045		300					
		X		X	4599 00 TO 4602 00	63 988 TO 64 045	2	300	79				1
		X	X		4602 00 TO 4605 00	64 045 TO 64 102		300					
		X		X	4602 00 TO 4605 00	64 045 TO 64 102	2	300	90				1
		X	X		4605 00 TO 4608 00	64 102 TO 64 158		300					
		X		X	4605 00 TO 4608 00	64 102 TO 64 158	2	300	90				1
		X	X		4608 00 TO 4611 00	64 158 TO 64 215		300					
		X		X	4608 00 TO 4611 00	64 158 TO 64 215	2	300	60				1
		X		X	4611 00 TO 4614 00	64 215 TO 64 272	2	300	60				1
		X		X	4614 00 TO 4618 00	64 272 TO 64 348	2	400	60				1
		X		X	4618 00 TO 4621 00	64 348 TO 64 405	2	300	60				1
		X	X		4621 00 TO 4624 00	64 405 TO 64 461		300					
		X		X	4621 00 TO 4624 00	64 405 TO 64 461	2	300	90				1
		X	X		4624 00 TO 4626 12	64 461 TO 64 502		212					
		X		X	4624 00 TO 4626 12	64 461 TO 64 502	2	212	90				1
		X		X	4626 12	64 502	2		90				1
C D E COUNT TOT S								22 600	2 295	0	0	9	38
ON COUNT TOT S								32 208	3 092	2	1	26	26
TRIGG COUNT TOT S								59 52	8 02	3	1		108
PRO ECT TOT S								11 260	13 699	5	2	39	1 2

NOTES:

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**GENERAL NOTES**  
**I-24 – CALDWELL, LYON, AND TRIGG**  
**PAGE 1 OF 4**

**I. GENERAL**

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Current Edition, Supplemental Specifications, any applicable Special Provisions, and applicable Standard and Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

- (1) Maintain and Control Traffic;
- (2) Remove and reset or replace guardrail and guardrail end treatments at the locations listed and/or as directed by the Engineer;
- (3) Pavement Removal;
- (4) Concrete Pavement;
- (5) PCC Pavement Diamond Grinding;
- (6) Asphalt Pavement;
- (7) Asphalt Pavement Milling and Texturing;
- (8) Inlaid Pavement Markers; and
- (9) All other work specified as part of this contract.

**II. MATERIALS**

Except as specified in these notes or on the drawings, all materials will be according to the Standard Specifications and applicable Special Provisions and Special Notes. The Department will sample and test all materials according to Department's Sampling Manual and the Contractor will have the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

**A. Maintain and Control Traffic**

See Traffic Control Plan.

**B. Dense Graded Aggregate**

Crushed Stone Base may not be furnished in lieu of DGA.

**C. Pavement Markings**

Use Durable Tape

**III. CONSTRUCTION METHODS**

**A. Maintain and Control Traffic**

See Traffic Control Plan and Standard Specifications.

**B. Site Preparation**

Be responsible for all site preparation. Do not disturb existing signs unless noted on the plans. This item will include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; shoulder preparation and restoration, temporary and permanent erosion and pollution control; and all incidentals. Site preparation will be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but will be incidental to the other items of work.

**B. Disposal of Waste**

Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor at no additional cost to the Department. The Contractor will be responsible for obtaining any necessary permits for this work. Temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads will not be allowed. No separate payment will be made for the disposal of waste and debris from the project or obtaining the necessary permits but will be incidental to the other items of the work.

**GENERAL NOTES**  
**I-24 – CALDWELL, LYON, AND TRIGG**  
**PAGE 2 OF 4**

**C. Final Dressing, Clean Up, and Seeding and Protection**

After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. 1. These items are incidental to other items in the contract. Payment, however, will be allowed for erosion control items associated with construction and removal of the temporary crossovers. Disturbed areas for the crossover are to be minimize and limited to the disturbed limits shown on the plans or as approved by the Engineer.

**D. Guardrail**

Remove and replace guardrail and guardrail end treatments listed in this proposal and/or as directed by the Engineer. Guardrail, end treatments and terminal sections are listed by mile points and quantities are approximate only. Actual locations will be determined by the Engineer at the time of construction. Grade and reshape shoulders to proper template for new guardrail and end treatment. Utilize DGA for embankment when required for new end treatments. Remove any existing guardrail with a lane closure in place. Do not leave the area unprotected. After the guardrail is removed, a shoulder closure shall remain in place until the guardrail is replaced in that area. To minimize safety hazards, guardrail removal is to be performed at the latest practical time prior to initiating the paving operation in an area and re-installation is to begin within 5 calendar days from the time that the final base course is completed and shall be pursued until completion. If guardrail installation is not started within 5 calendar days after paving operations ends, liquated damages will be charged as outlined in Section 108 of the current Standard Specifications.

The Contractor shall deliver existing salvaged guardrail system materials to the Central Sign Shop and Recycle Center in Frankfort, KY (502-564-8187) between the hours of 8:00 AM and 3:00 PM, Monday through Friday, and shall be neatly stacked in accordance with section 719.03.07 of the standard specifications. There is a guardrail delivery verification sheet which must be completed. The Contractor, Engineer, and Central Sign/Guardrail Center representative must all sign off on this sheet before payment may be made.

Note that the cable-rope barrier system in the median is not applicable to the above.

**E. Pavement Striping and Pavement Markers**

Permanent striping will be in accordance with Section 714 and temporary striping will be in accordance with Section 112, except that:

- (1) Striping will be 6-inch width (12-inch width for interchange gore areas);
- (2) Permanent and/or temporary striping will be in place before a lane is opened to traffic; and
- (3) Permanent striping will be Durable Tape.

**F. On-Site Inspection**

Each Contractor submitting a bid for this work will make a thorough inspection of the site prior to submitting a bid and will thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

**G. Caution**

Information shown on the drawings and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusions as to the conditions encountered. The Department does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information above.

**GENERAL NOTES**  
**I-24 – CALDWELL, LYON, AND TRIGG**  
**PAGE 3 OF 4**

**H. Utility Clearance**

It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, if it is discovered that the work does require that utilities be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities.

**IV. METHOD OF MEASUREMENT**

**A. Maintain and Control Traffic**

See Traffic Control Plan.

**B. Site Preparation**

Other than the bid items listed, site preparation will not be measured for payment, but will be incidental to the other items of work.

**C. Dense Graded Aggregate**

DGA used for guardrail and guardrail end treatments will be measured for payment.

**D. Inlaid Pavement Markers and Permanent Striping**

Permanent striping is measured per linear foot. Inlaid Pavement Markers are measured as each.

**V. BASIS OF PAYMENT**

No direct payment will be made other than for the bid items listed. All other items required to complete the construction will be incidental to the bid items listed. Existing signs (not to be disturbed) that are damaged by the Contractor will be replaced by the Contractor at his expense.

**A. Maintain and Control Traffic**

See Traffic Control Plan.

**B. Site Preparation**

Other than the bid items listed, no direct payment will be allowed for site preparation, but will be incidental to the other items of work.

**C. Dense Grade Aggregate**

See Section 302 of the Standard Specifications.

**D. Inlaid Pavement Markers and Permanent Striping**

See Standard Specifications and Traffic Control Plan.

**E. Ditching and Shouldering**

In accordance with Section 209 of the Standard Specifications, the bid item "Ditching and Shouldering" includes ditching on both sides of the roadway and the median for the entire length of the project where there is pavement construction work being done. Cleaning of all drainage structures, including drop box inlets, perforated pipe headwalls, and pipe structures 36 inches in diameter or less is also included in this bid item.

**F. Lane Closures**

Contrary to Section 112, lane closures will not be measured for payment but will be incidental to the bid item "Maintain and Control Traffic". Arrow boards, portable message boards, and signs shall be paid for one time regardless of how many times they are moved.

**VI. MISCELLANEOUS**

- A. The dimensions shown on the typical sections for pavement and shoulder widths and thickness are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless specified in the Proposal.

**GENERAL NOTES**  
**I-24 – CALDWELL, LYON, AND TRIGG**  
**PAGE 4 OF 4**

- B. The Contractor is advised that locations of low wires crossing the roadway exist. If any utility is impacted, it will be the Contractor's responsibility to contact the affected utility and cover any costs associated with the impact.
- C. Guardrail, End Treatments, and Terminal Sections to be replaced are listed by mileposts. Exact placement to be approved by the Engineer on construction.
- D. Any signs and any light poles that are damaged during Construction are to be replaced at the Contractor's expense.
- E. The existing edge drain system that is not being replaced is to be preserved. Care should be taken when pavement is removed and replaced, any edge drains damaged during these activities will be replaced at the Contractor's expense.
- F. Pavement rideability requirements in accordance with Section 501 Category A of the standard specifications shall apply on this project.
- G. The Department will accept the compaction of asphalt mixtures furnished for the shoulders at one inch or greater on this project by Option B according to subsections 402 and 403 of the Standard Specifications.
- H. The Contractor shall be responsible for the repair of any pavement in the travelled lanes that becomes detrimental or hazardous to the travelling public during construction. Areas needing repair will be at the discretion of the Engineer. Repair or reconstruction of shoulder pavement due to maintenance of traffic will be paid for with the pavement construction bid items in the contract.
- I. No tree cutting is allowed nor should it be necessary.
- J. Depth of existing base material of existing pavement is not reflected on the cross sections.
- K. Delineators shall meet the requirements of Section 830 and 838 of the Standard Specifications. Delineators shall be placed in accordance with Section 3F of the M.U.T.C.D., current edition and Kentucky Standard Drawings, current edition.
- L. Quantities have been included in the General Summary for pavement repairs. The Engineer will determine the actual locations that will be repaired based upon the condition of the pavement at the time the repairs are accomplished. The Engineer shall determine the extent of the repairs.
- M. Locations of pavement subsurface drainage outlets are listed. These locations may be adjusted by the Engineer. Engineer may elect to add or reduce the number of outlets.
- N. Allowing traffic to travel on milled shoulder surface is not allowed unless approved by the Engineer.
- O. PVC pipe shall be used for all 4-inch non-perforated pipe (minimum schedule 40). The unit bid price for construction of the PVC pipe shall include all fittings, connections, etc.
- P. A vacuum truck shall be required during all milling operations.
- Q. The old rest areas (eastbound and westbound) near MP 54.5 may be used by the Contractor for staging. A staging plan shall be submitted to the Engineer for approval. Upon completion of use of these areas the Contractor shall restore them to original condition as approved by the Engineer. Payment for restoration will not be allowed.
- R. Cement Stabilized Roadbed– Stabilize the top 12 inches of the finished roadbed with Portland cement in accordance with section 208 of the standard specifications. Use selected soils, with a minimum CBR value of 3, for this purpose. The Portland cement content is 6.0 percent by weight, and the estimated plan quantity uses an average dry density of 120 lbs/cubic feet. However, adjust the quantity after constructing the roadbed and submitting the samples for testing. This takes approximately two weeks.
- S. Contrary to Standard Drawing Sepia 8 use 8" rumble length and 1' offset from the edge line on both shoulders.
- T. Special Note For Dowel Bar and Tie Placement in JPC Pavement shall apply to this project.

Commonwealth of Kentucky  
DEPARTMENT OF HIGHWAYS

I-2

ON C D E ND TRIGG COUNTIES

CONCRETE P EMENT ND RO D RE BI IT TION

RO D P NS

INDE O S EETS

R1A --- PROJECT OVERVIEW

R2 - R2G --- TYPICAL SECTIONS AND DETAILS

R3 - R36 --- PLAN AND PROFILE SHEETS

R37 - R41 --- MOT MISC DETAILS AND CROSSOVER SHEETS

P B :  
WSP USA INC  
1792 ALYSHEBA WAY  
LEXINGTON, KY 40509  
859-272-5400  
S 18, 2019



I-24 CONCRETE PAVEMENT REHABILITATION PROJECT OVERVIEW  
LYON, CALDWELL, AND TRIGG COUNTIES

SHEET R1A

NOT TO SCALE

PROPOSED PAVEMENT REHAB. CONSTRUCTION:

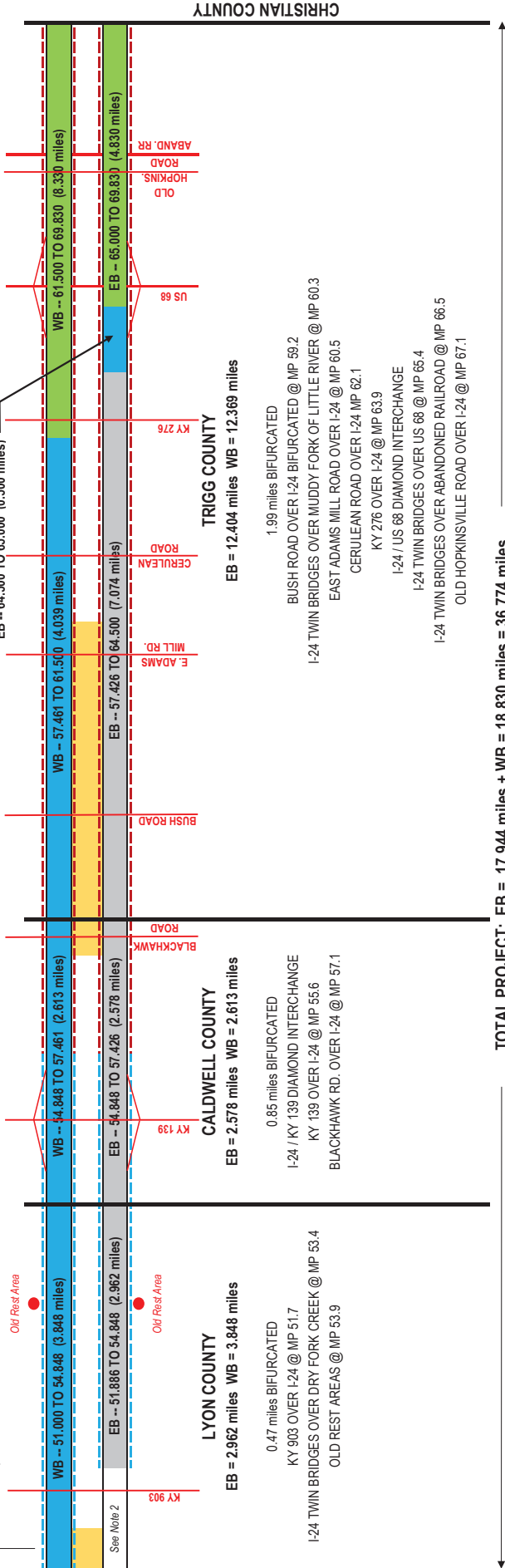
FULL DEPTH PAVEMENT REPLACEMENT: 12.614 EB miles

PATCHING REPAIRS / GRIND PCC: 8.33 WB miles and 4.83 EB miles = 13.16 miles

PATCHING REPAIRS / SOME SLAB REPLACEMENTS / GRIND PCC: 10.50 WB miles + 0.50 EB miles = 11.00 miles

BIFURCATED AREA

N



NOTES:

1. ALL MILEPOINTS AND DISTANCES SHOWN ARE APPROXIMATE.
2. EB PAVEMENT MP 51.00 TO 51.886 IS ASPHALT AND IS NOT PART OF THIS PROJECT.
3. BARRIER WALL RETROFITS FOR I-24 TWIN BRIDGES OVER US 68 AND ABANDONED RAILROAD.
4. ALL GUARDRAIL AND END TREATMENTS TO BE REMOVED AND REPLACED.
5. PAVED DITCHES IN TRIGG CO. TO BE REMOVED.
6. MISSING GRATES ON DBI'S TO BE REPLACED.
7. INTERCHANGE RAMP SHOULDERS THAT ARE ASPHALT TO BE REHABILITATED.

PROJECT ROADWAYS AND BRIDGES:

- 3.31 MILES BIFURCATED FREEWAY
- 15.42 MILES DEPRESSED MEDIAN FREEWAY
- OVERPASSES = 8
- MAINLINE TWIN BRIDGES = 4
- DIAMOND INTERCHANGES = 2

EXISTING INSIDE AND OUTSIDE PAVED SHOULDERS:

- CONCRETE - MP 51.000 TO MP 55.668
  - ASPHALT - MP 55.668 TO MP 69.829
- SHOULDERS IN FULL DEPTH REPLACEMENT AREA:  
EXISTING CONCRETE OUTSIDE SHOULDER PAVEMENT TO BE REMOVED AND REPLACED WITH ASPHALT.  
EXISTING ASPHALT OUTSIDE SHOULDER TO HAVE OVERLAY.  
EXISTING INSIDE SHOULDER (ASPHALT AND CONCRETE) TO BE REMOVED AND REPLACED WITH CONCRETE.

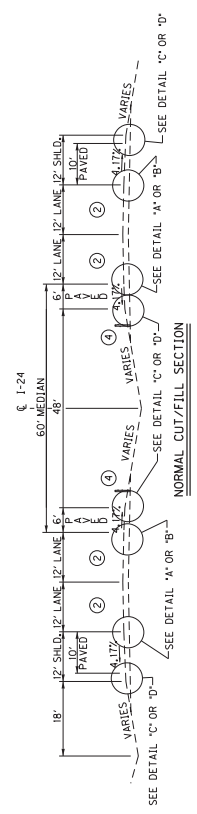
TOTAL PROJECT: EB = 17,944 miles + WB = 18,830 miles = 36,774 miles

4PP	IM
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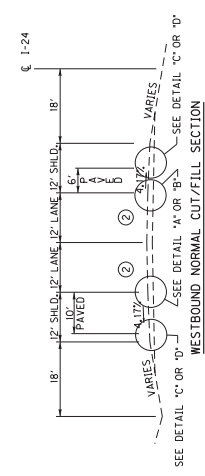
COUNTY OF	ITEM NO.	SHEET NO.
CALDWELL, LYON, TRIGG	01-20011.00	R2

① FROM MP 51,000 TO MP 55,668 THE EXISTING SHOULDERS ARE PCCP. FROM MP 55,668 TO MP 69,830 THE EXISTING SHOULDERS ARE ASPHALT.

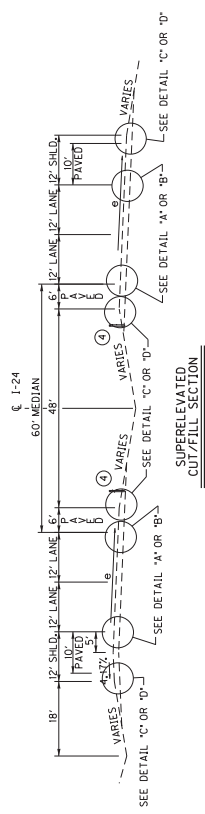
1. **NOTES:**  
 (1) MP 55,000 TO MP 55,668 THE EXISTING SHOULDER ARE PCPP. FROM MP 55,668 TO MP 60,830 THE EXISTING SHOULDER ARE ASPHALT.  
 (2) RECORD PLANS INDICATE NORMAL CROSS SLOPES VARY FROM 1.56% TO 2.08%.  
 (3) SHOULDER CROSS SLOPES SHOWN BASED ON RECORD PLANS.  
 (4) LOCATION OF EXISTING CABLE BARRIER VARIES ON EASTBOUND OR WESTBOUND TRAVEL. SEE SHEET 100-100-001 FOR CABLE BARRIER LOCATION.  
 (5) EASTBOUND PAVEMENT WEST OF MP 51,086 IS ASPHALT AND IS NOT PART OF THIS PROJECT.



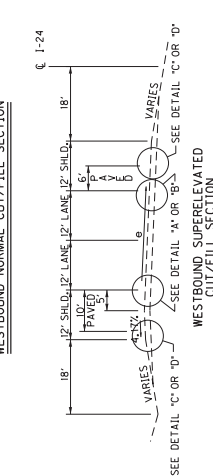
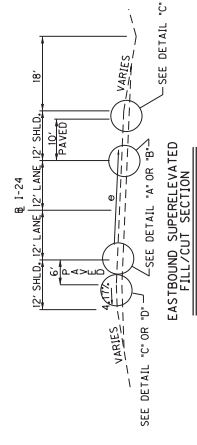
**NORMAL CUT/FILL SECTION**



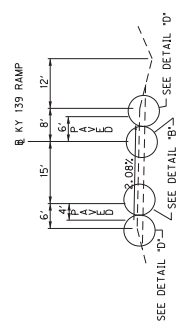
0'-0"  $\swarrow$  SEE DETAIL "A" OR "B"  $\searrow$  SEE DETAIL "C"  
WESTBOUND NORMAL CUT/FILL SECTION



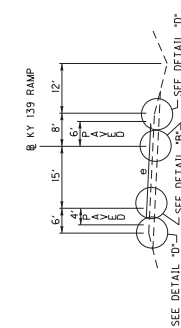
SUPERELEVATED  
CUT/FILL SECTION

WESTBOUND SUPERELEVATED  
CUT/FILL SECTIONEASTBOUND SUPERELEVATED  
FILL/CUT SECTION

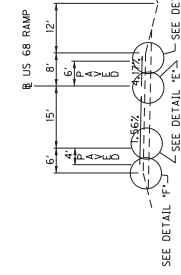
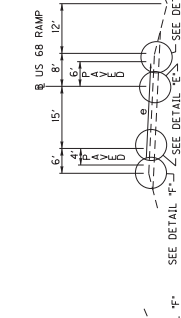
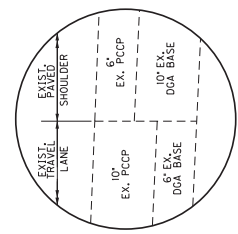
MP 51.000 TO MP 51.461, MP 56.419 TO MP 59.442	FILL/CUT SEC
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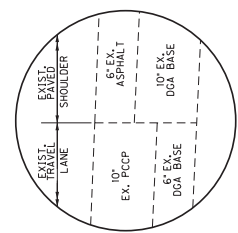
KY 139 RAMP  
 NORMAL CUT/FILL SECT



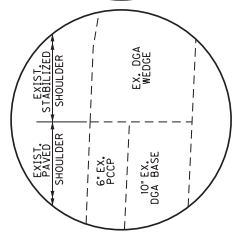
KY 139 RAMP  
SUPERELEVATED CUT/FILL SECTION

US 68 RAMP  
NORMAL CUT/FILL SECTIONUS 68 RAMP  
SUPERELEVATED CUT/FILL

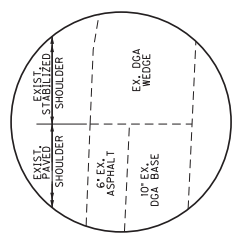
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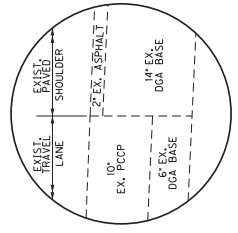
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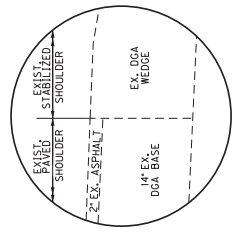
**DETAIL "C"**  
NOT TO SCALE



**DETAIL "D"**  
NOT TO SCALE



**DETAIL "E"**  
**NOT TO SCALE**



**DETAIL "F"**  
**NOT TO SCALE**

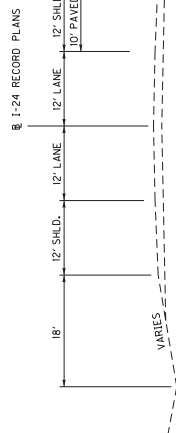
## EXISTING TYPICAL SECTIONS

COUNTY OF	ITEM NO.	SHEET NO.
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- ① LOCATION OF EXISTING CABLE BARRIER VARIES ON EASTBOUND OR WESTBOUND SIDE OF MEDIAN. SEE PLAN SHEETS FOR LOCATIONS.
- ② SEE SUMMARY SHEETS FOR ESTIMATE OF SLAB REPLACEMENTS AND PATCHING.
- ③ EASTBOUND PAVEMENT WEST OF MP 51+886 IS ASPHALT AND IS NOT PART OF THIS PROJECT.
- ④ GRIND SHOULDERS AS DIRECTED BY ENGINEER WHEN NECESSARY FOR PROPER PAVEMENT DRAINAGE.

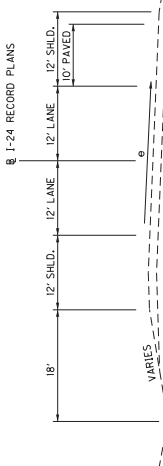
## MP 51.000 TO MP 51.886

C I-24 RECORD PLANS



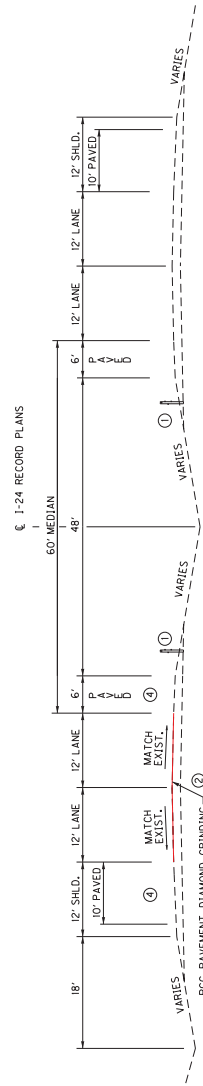
## EASTBOUND NORMAL CUT/FILL SECTION ③

I-24 RECORD PLANS



EASTBOUND SUPERELEVATED CUT/FILL SECTION ③

MP 51.000 TO MP 51.461



## NORMAL CUT/FILL SECTION ③

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MP 51.461 TO MP 51.886

TYPICAL SECTIONS  
BIFURCATED & DEPRESSED MEDIAN  
MP 51.000 TO MP 51.886

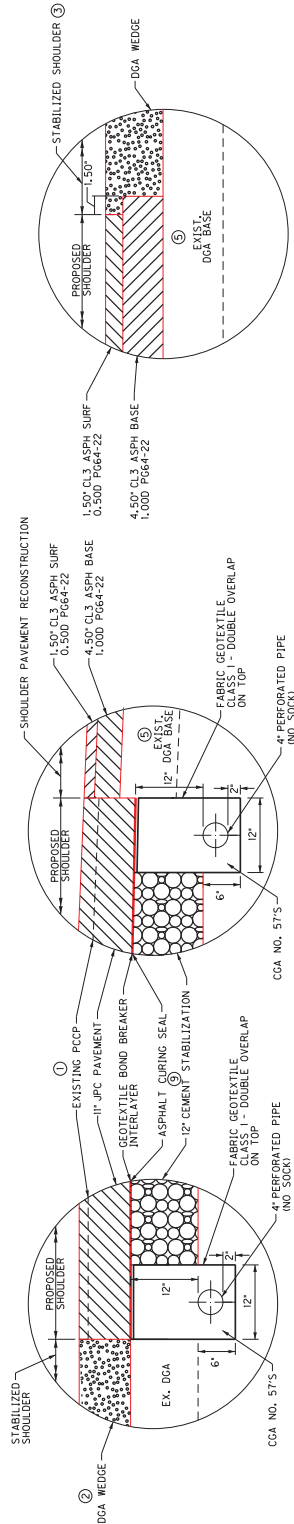
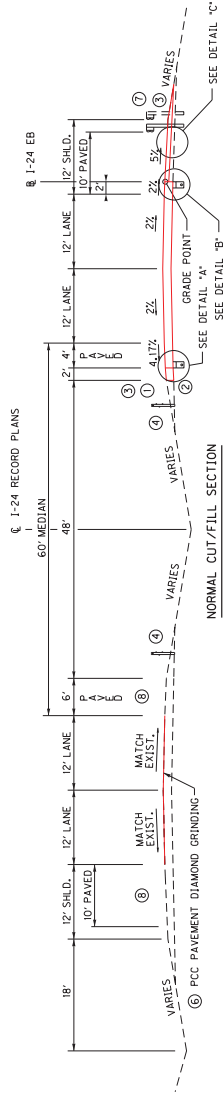
COUNTY OF	ITEM NO.	SHEET
CALDWELL, LYON, TRIGG	01-20011.00	R28

# PROPOSED TYPICAL SECTIONS

MP 51.886 TO MP 55.668

NOTES:

- 1 ALL CONCRETE PAVEMENT OF EASTBOUND TRAVEL LANES AND SHOULDERS TO BE REMOVED, INCLUDES ANY REMOVAL OF BASE MATERIAL. BASE MATERIAL NEED OF PROPOSED PAVEMENT. REMOVAL OF MATERIAL INCLUDING BASE MATERIAL SHALL BE INCIDENTAL TO REMOVE PCC PAVEMENT.
- 2 SEE DETAIL "D" FOR INSIDE SHOULDER DETAIL.
- 3 ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO OUTSIDE EDGE OF EXISTING PAVED SHOULDER. FILL SLOPE TWO APPLICATIONS OF THE FOLLOWING: ASPHALT SEAL COAT @ 2.40 LBS./SQ. YD. ASPHALT SEAL AGGREGATE @ 20 LBS./SQ. YD.
- 4 LOCATION OF EXISTING CABLE BARRIER VARIES ON EASTBOUND SIDE OF MEDIAN. SEE PLAN SHEETS FOR LOCATIONS.
- 5 MORE DCA WILL NEED TO BE ADDED TO SOME AREAS BEFORE PLACING ASPHALT SHOULDERS.
- 6 SEE SUMMARY SHEETS FOR ESTIMATE OF SLAB REPLACEMENTS AND PATCHING.
- 7 EXISTING CHAIRBRUSH IS TO BE REMOVED. FACE OF NEW SUBGRADE TO BE AT EDGE OF PAVED SHOULDER.
- 8 GRIND SHOULDERS AS DIRECTED BY ENGINEER WHEN NECESSARY FOR PROPER PAVEMENT DRAINAGE.
- 9 ASPHALT CURING SEAL REQUIRED OVER CEMENT STABILIZATION, TWO APPLICATIONS OF ASPHALT CURING SEAL @ 2 LBS./SQ. YD.



DETAIL "A"  
NOT TO SCALE

DETAIL "B"  
NOT TO SCALE

DETAIL "C"  
NOT TO SCALE

DETAIL "D"  
NOT TO SCALE

NOT TO SCALE

TYPICAL SECTIONS  
DEPRESSED MEDIAN  
MP 51.886 TO MP 55.668

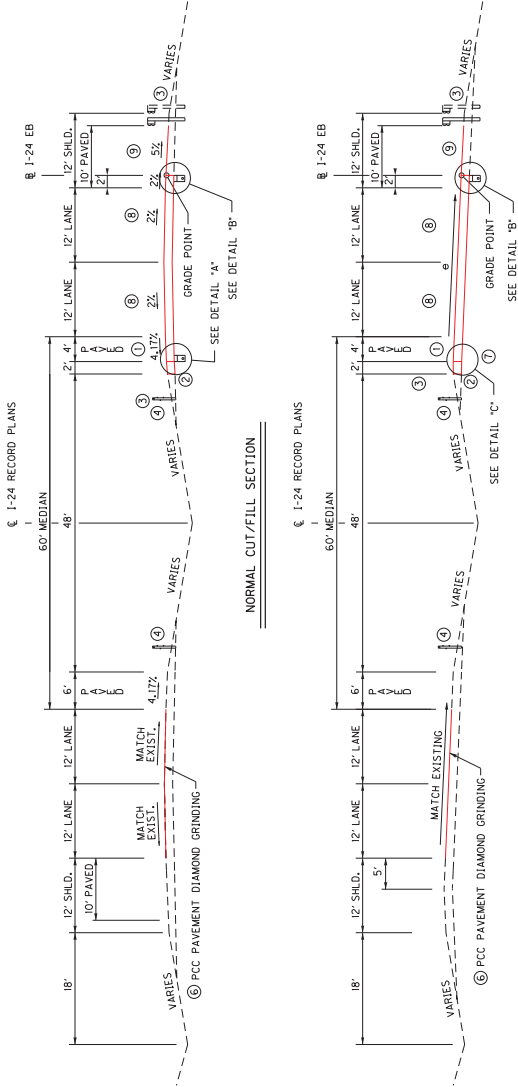
COUNTY OF	ITEM NO.	SHEET
CALDWELL, LYON, TRIGG	01-20011.00	R2C

PROPOSED  
TYPICAL SECTIONS

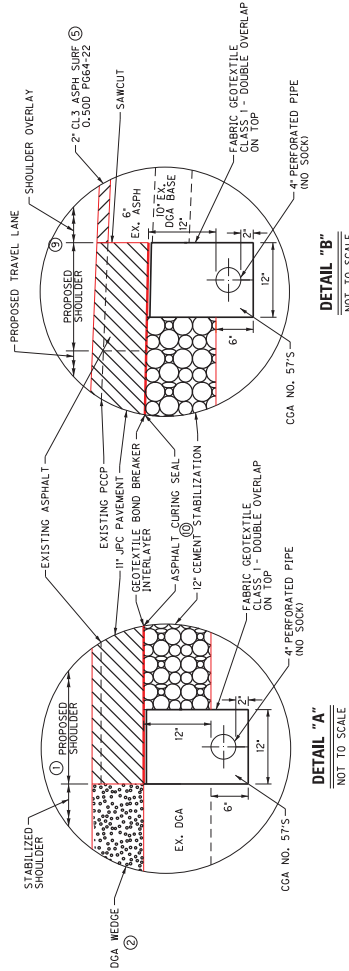
MP 55.668 TO MP 56.419, MP 59.442 TO MP 64.500

NOTES:

- THE ENTIRE EASTBOUND 6' ASPHALT INSIDE SHOULDER IS TO BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT. INCLUDES ANY REMOVAL OF UNDERLYING BASE MATERIAL, AND REPAIRS TO UNDERLYING BASE MATERIAL TO REMOVE PCC PAVEMENT AND REMOVE ASPHALT SHOULDER.
- SEE DETAIL "D" FOR INSIDE SHOULDER DETAIL.
- ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FEET DOWN THE DITCH OR FILL AS SHOWN IN THE PLAN. SEE DETAIL "C" FOR ASPHALT SEAL COAT @ 2" 40 LBS./SQ. YD. ASPHALT SEAL AGGREGATE @ 20 LBS./SQ. YD.
- LOCATION OF EXISTING CABLE BARRIER VARIES ON EASTBOUND OR WESTBOUND SIDE OF MEDIAN. SEE PLAN SHEETS FOR LOCATIONS.
- REMOVE ALL EXISTING ASPHALT IN SOME AREAS TO PROVIDE MINIMUM OF 2" ASPHALT OVERLAY. LEVELING AND WEDGING TO BE PROVIDED IN AREAS WHERE ASPHALT OVERLAY IS GREATER THAN 2.5".
- SEE SUMMARY SHEETS FOR ESTIMATE OF SLAB REPLACEMENTS AND/OR PATCHING.
- EXISTING PAVEMENT TO BE REQUIRED ON HIGH SIDE OF SUPERELEVATION.
- EXISTING CONCRETE PAVEMENT OF EASTBOUND TRAVEL LANES IS TO BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT.
- 2" OF EXISTING OUTSIDE ASPHALT SHOULDER SHALL BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT. 2" OF EXISTING ASPHALT INSIDE SHOULDER SHALL BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT. BASE MATERIAL SHALL BE INCIDENTAL TO REMOVE ASPHALT INSIDE SHOULDER. 2" OF EXISTING ASPHALT INSIDE SHOULDER SHALL BE OVERLAYED WITH A MINIMUM OF 2" OF ASPHALT.
- ASPHALT CURING SEAL REQUIRED OVER CEMENT STABILIZATION. TWO APPLICATIONS OF ASPHALT CURING SEAL @ 2 LBS./SQ. YD.



SUPERELEVATED  
CUT/FILL SECTION



DETAIL "C"  
NOT TO SCALE

DETAIL "B"  
NOT TO SCALE

DETAIL "A"  
NOT TO SCALE

DETAIL "D"  
NOT TO SCALE

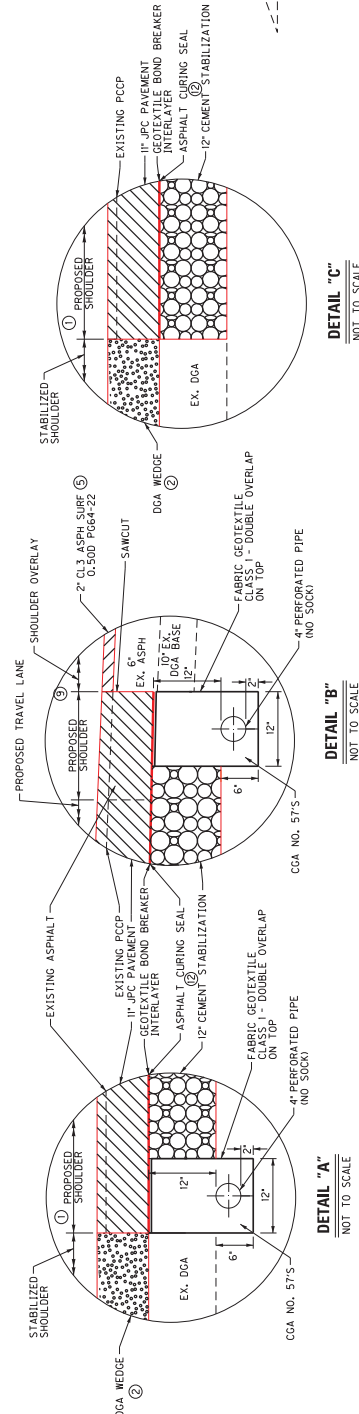
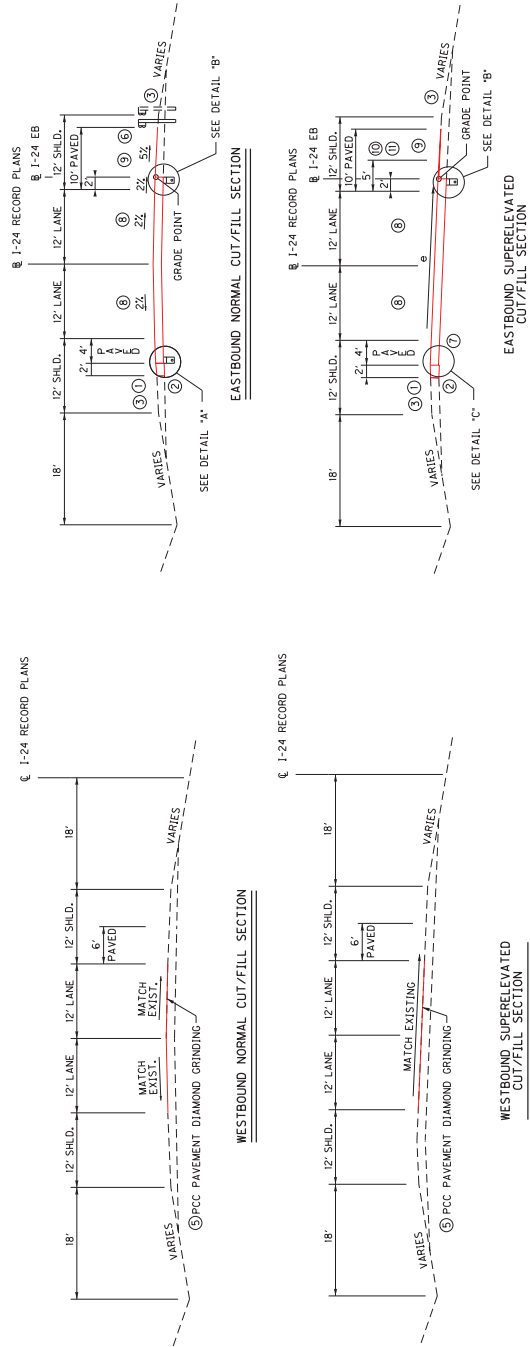
TYPICAL SECTIONS DEPRESSED MEDIAN  
MP 55.668 TO MP 56.419 &  
MP 59.442 TO MP 64.500

NOT TO SCALE

COUNTY OF	ITEM NO.	SHEET NO.
CALDWELL, LYON, TRIGG	01-20011.00	R2D

## MP 56.419 TO MP 59.442

- NOTES:
- 1 THE ENTIRE EASTBOUND 6' ASPHALT INSIDE SHOULDER IS TO BE REMOVED AND REPLACED WITH 4" OF CONCRETE PAVEMENT. INCLUDES REMOVAL OF UNDERLYING BASE MATERIAL.
- 2 BASE MATERIAL SHALL BE INCIDENTAL TO REMOVE PCC PAVEMENT AND REMOVE ASPHALT SHOULDER.
- 3 SEE DETAIL D\*FOR INSIDE SHOULDER DETAIL.
- 4 ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED AREAS TO 2' FROM INSIDE EDGE OF PAVEMENT. TWO APPLICATIONS OF THE FOLLOWING:
  - ASPHALT SEAL AGGREGATE @ 20 LBS./SQ. YD.
  - ASPHALT SEAL COAT @ 2.0 LBS./SQ. YD.
- 5 MILLING WILL BE REQUIRED IN SOME AREAS TO UNDOING AND REWORKING TO BE PROVIDED IN AREAS WHERE ASPHALT OVERLAY IS GREATER THAN 2.5".
- 6 SEE SUMMARY SHEETS FOR ESTIMATE OF SLAB REPLACEMENTS AND/OR PATCHING.
- 7 EXISTING GUARDRAIL IS TO BE REMOVED, FACE OF NEW GUARDRAIL TO BE AT EDGE OF PAVED SHOULDER.
- 8 UNDERDRAIN WILL NOT BE REQUIRED ON HIGH SIDE OF SUPERELEVATION.
- 9 EXISTING CONCRETE PAVEMENT OF EASTBOUND TRAVEL LANES IS TO BE REMOVED AND REPLACED WITH NEW CONCRETE PAVEMENT.
  - 2" OF EXISTING OUTSIDE ASPHALT SHOULDER SHALL BE REMOVED AND REPLACED WITH 4" OF NEW ASPHALT. INCLUDES REMOVAL OF UNDERLYING BASE MATERIAL.
  - NEEDS FOR PROPOSED PAVEMENT REMOVAL OF UNDERLYING BASE MATERIAL SHALL BE INCIDENTAL TO REMOVE EXISTING ASPHALT. NEW PAVEMENT SHALL BE OVERLAPPED WITH A MINIMUM OF 2" OF ASPHALT.
- 10 SUPERELEVATED SHOULDER, CONSTRUCT TO STANDARD SUPERELEVATION, EXCEPT NOT FLATTER THAN SLOPES INDICATED FOR NORMAL SLOPES.
- 11 WHEN THE SHOULDER IS ON THE HIGH SIDE OF SUPERELEVATION THE SHOULDER BREAK SHALL BE 5' FROM THE EDGE OF TRAVEL LANE.
- 12 ASPHALT CURING SEAL REQUIRED OVER CEMENT ASPHALT. CURING SEAL @ 2 LBS./SQ. YD.



TYPICAL SECTIONS  
BIFURCATED MEDIAN  
MP 56.419 TO MP 59.442

NOT TO SCALE

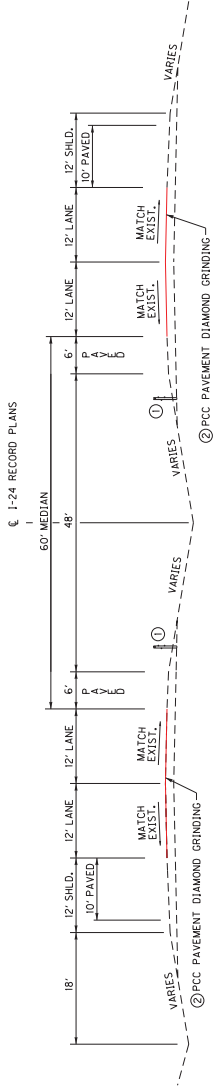
COUNTY OF	ITEM NO.	SHEET
CALDWELL, LYON, TRIGG	01-20011.00	R22

PROPOSED  
TYPICAL SECTIONS

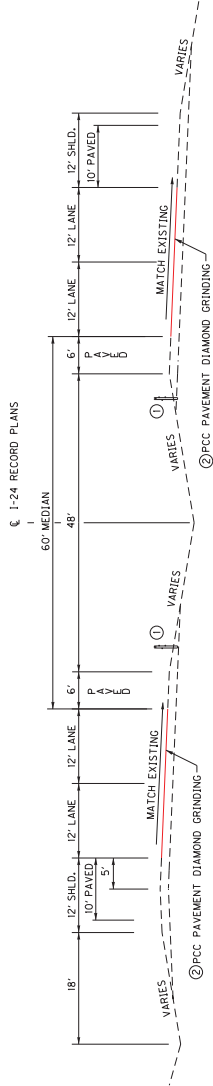
MP 64.500 TO MP 69.830

NOTES:

- ① LOCATION OF EXISTING CABLE BARRIER VARIES ON EAST SIDE OF ROAD. SEE PLAN SHEET OF MEDIAN. SEE PLAN SHEET OF LOCATIONS.
- ② SEE SUMMARY SHEETS FOR ESTIMATE OF SLAB REPLACEMENTS AND/OR PATCHING.



NORMAL CUT/FILL SECTION



SUPERELEVATED  
CUT/FILL SECTION

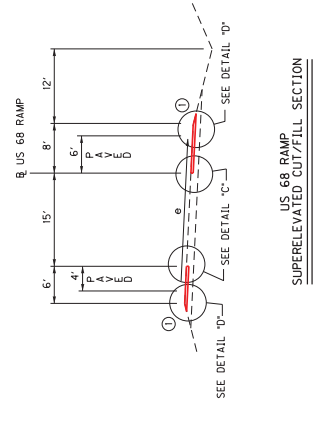
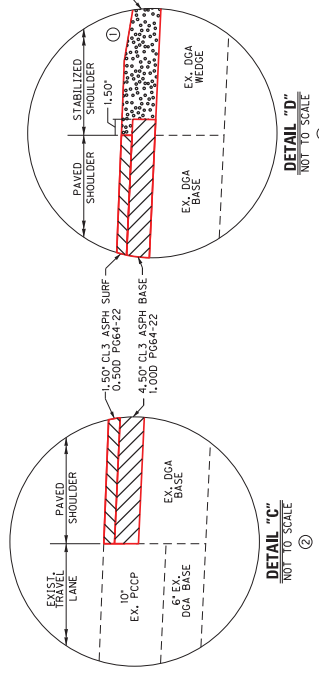
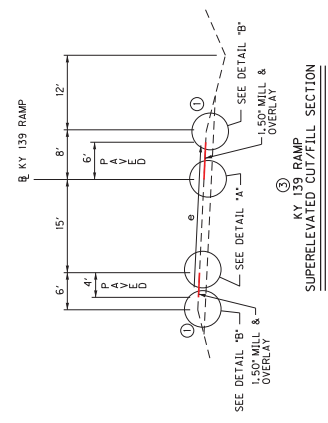
NOT TO SCALE

TYPICAL SECTIONS  
DEPRESSED MEDIAN  
MP 64.500 TO MP 69.830

COUNTY OF	ITEM NO.	SHEET NO.
CALDWELL, LYON, TRIGG	01-20011.00	R2F

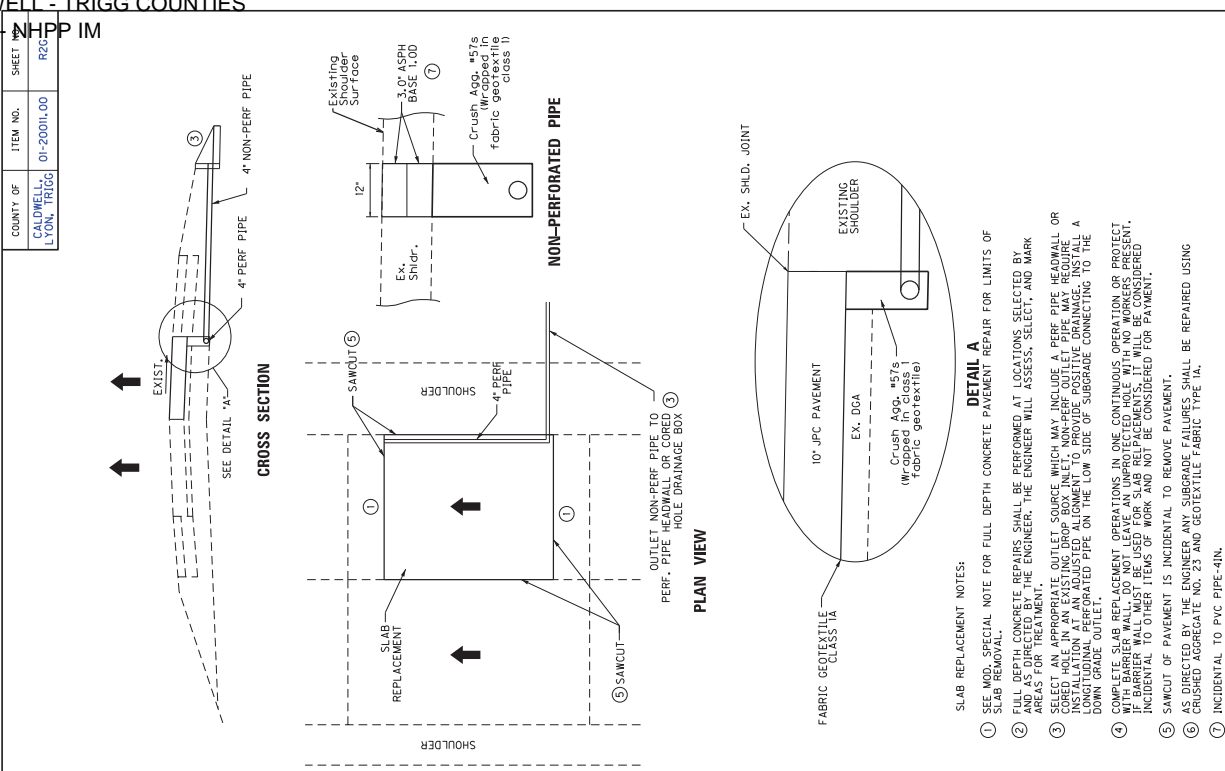
COUNTY OF	ITEM NO.	SHEET NO.
CALDWELL, LYON, TRIGG	01-20011.00	R2F

- NOTES:**
- ① ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO INSIDE FACE OF THE FIRST ROW OF FULL STOPS AND OPERATIONS OF THE FOLLOWING ASPHALT SEAL COAT @ 2.40 LBS./SQ. YD. ASPHALT SEAL AGGREGATE @ 20 LBS./SQ. YD.
  - ② ASPHALT SHOULDERS AT US 68 INTERCHANGE RAMP SHALL INCLUDE ANY REMOVAL OF UNDERLYING BASE MATERIAL NEEDED FOR PROPOSED PAVEMENT. REMOVAL OF UNDERLYING BASE MATERIAL SHALL BE INCIDENTAL TO REMOVE ASPHALT SHOULDER.
  - ③ ONLY ONE RAMP SHALL BE CONSTRUCTED. THE SHOULDER ON RAMP A & D SHALL REMAIN UNDISTURBED.



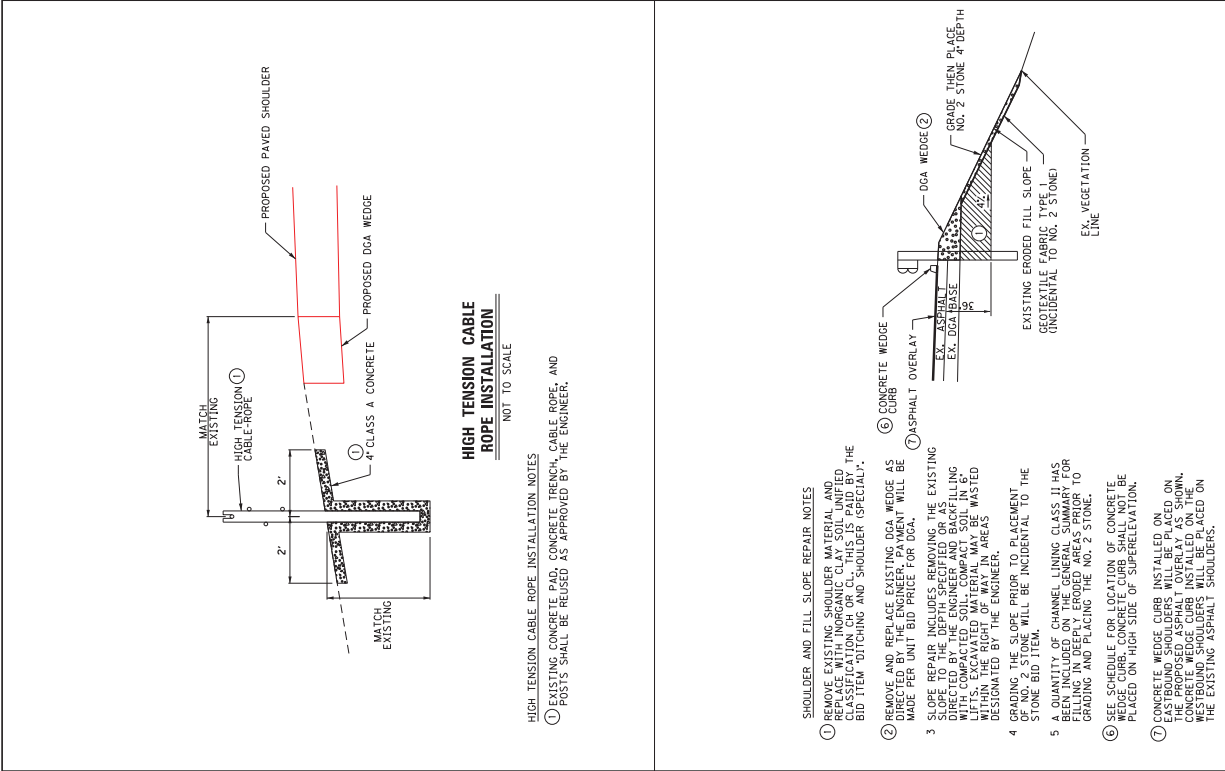
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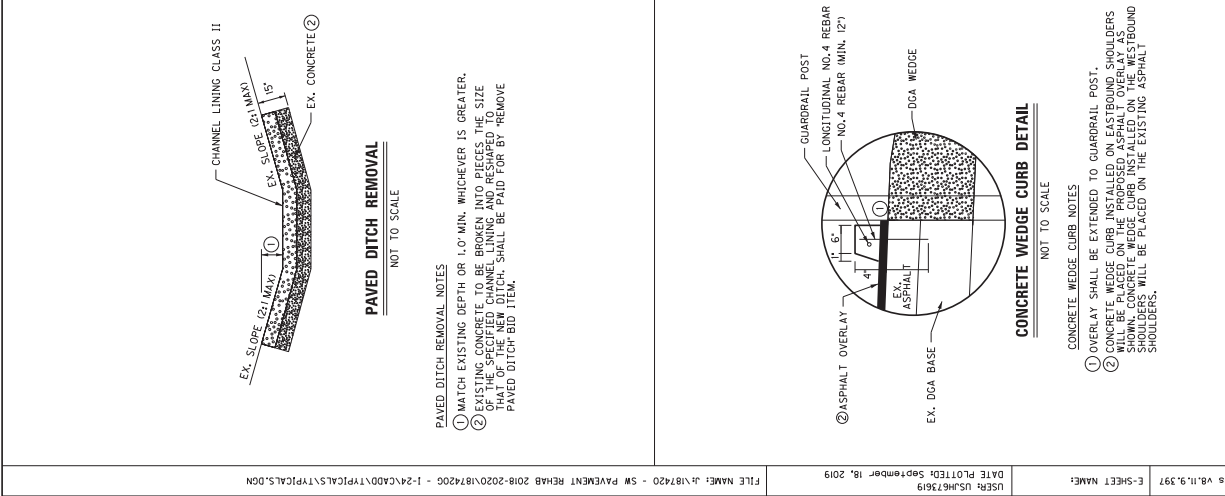
MISCELLANEOUS DETAILS

NOT TO SCALE



SHOULDER AND FILL SLOPE REPAIR

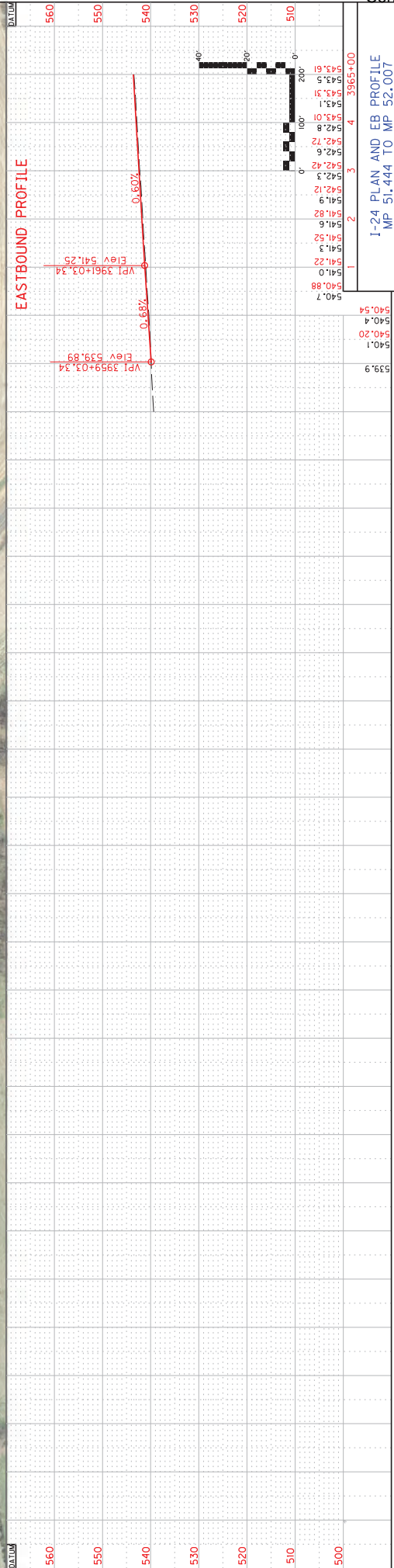
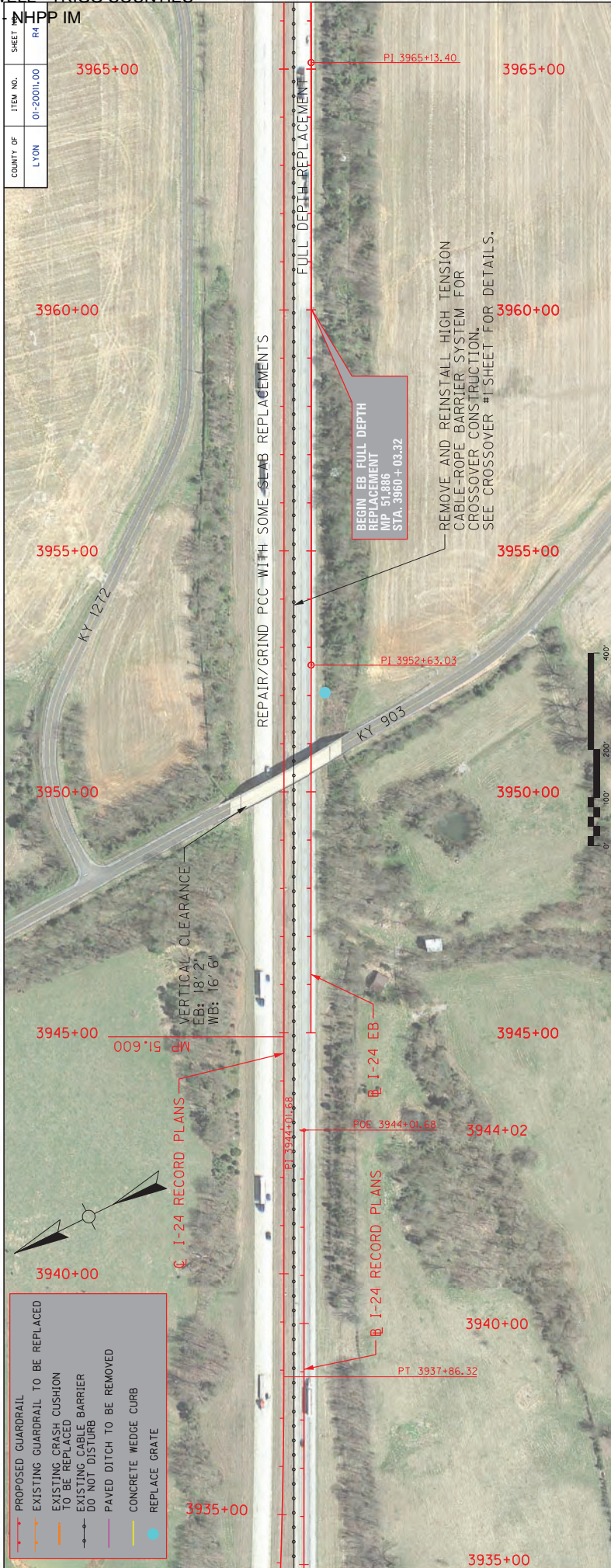
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COUNTY OF	ITEM NO.	SHEET NO.
LYON	01-20011.00	R4



I-24 PLAN AND EB PROFILE  
MP 51.444 TO MP 52.007

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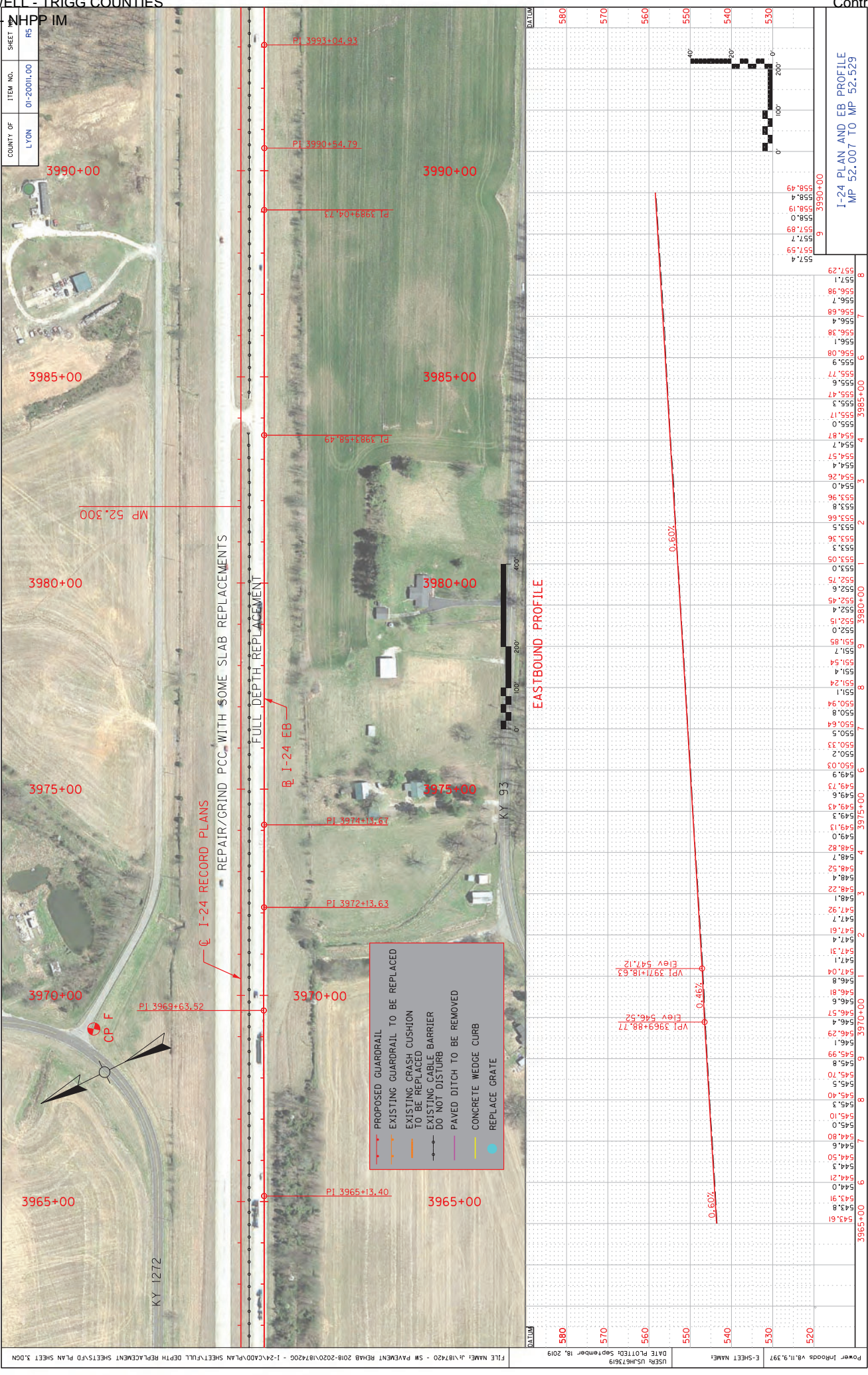
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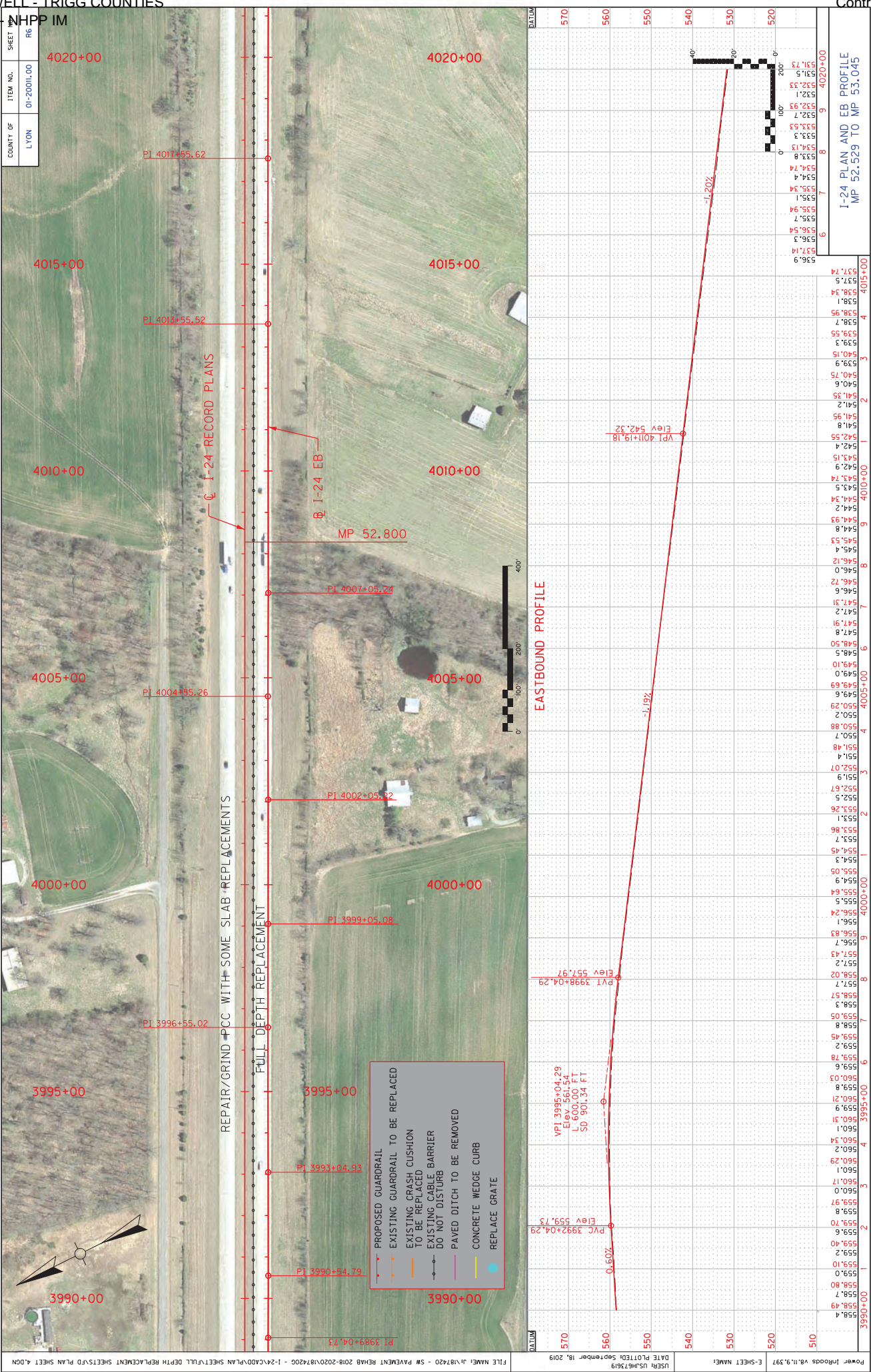
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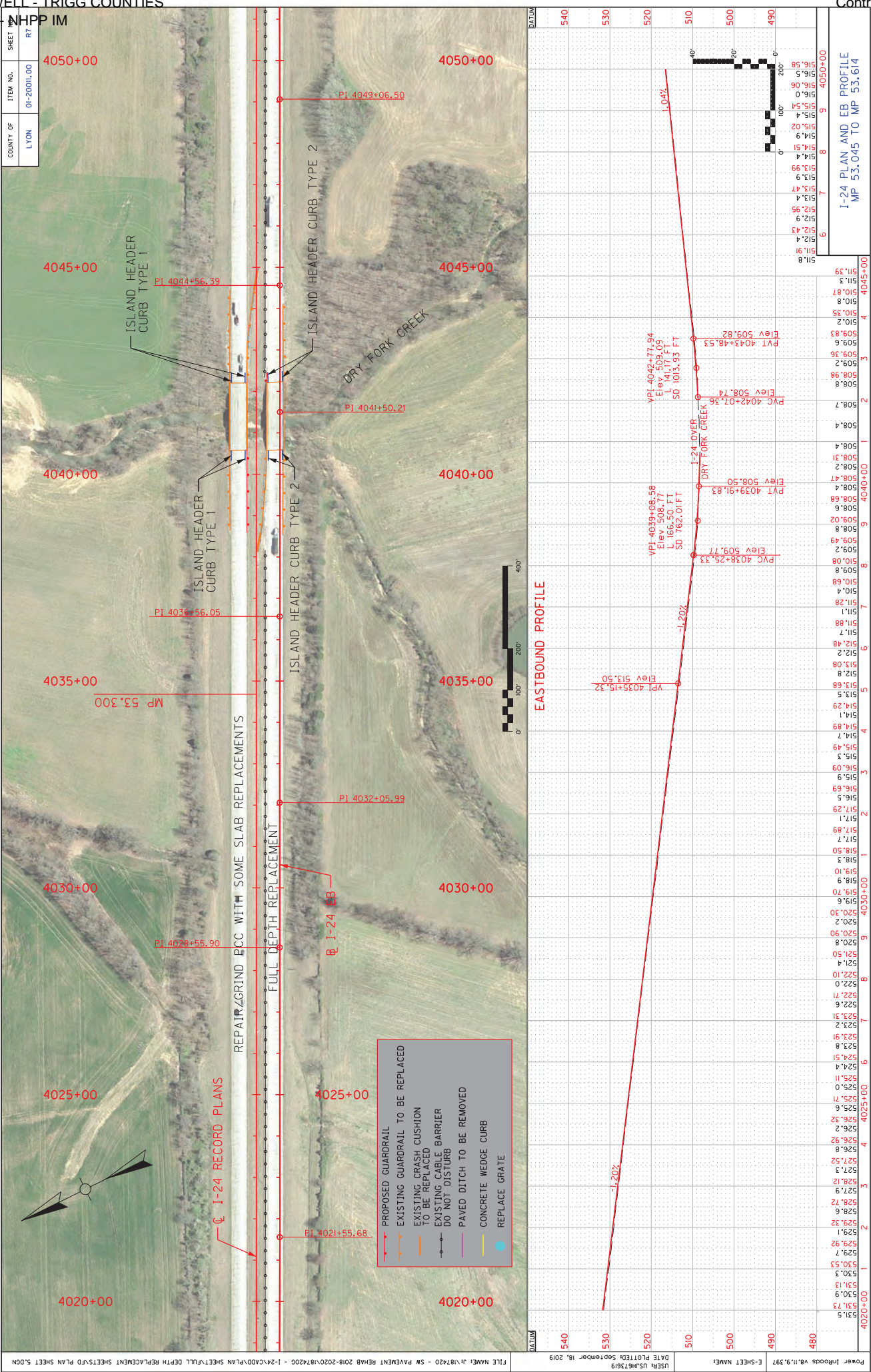




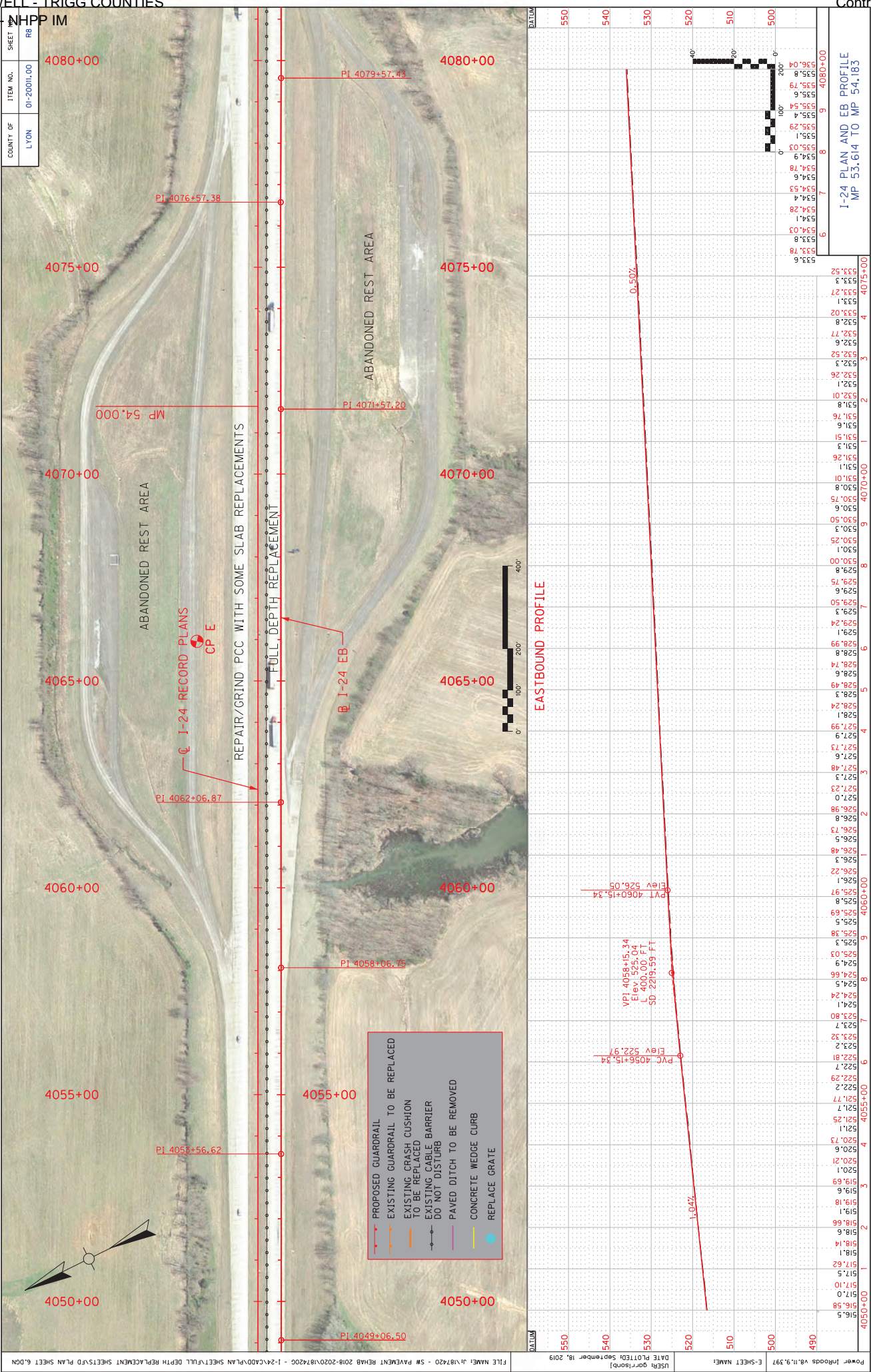


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DATE PLOTTED: September 18, 2019  
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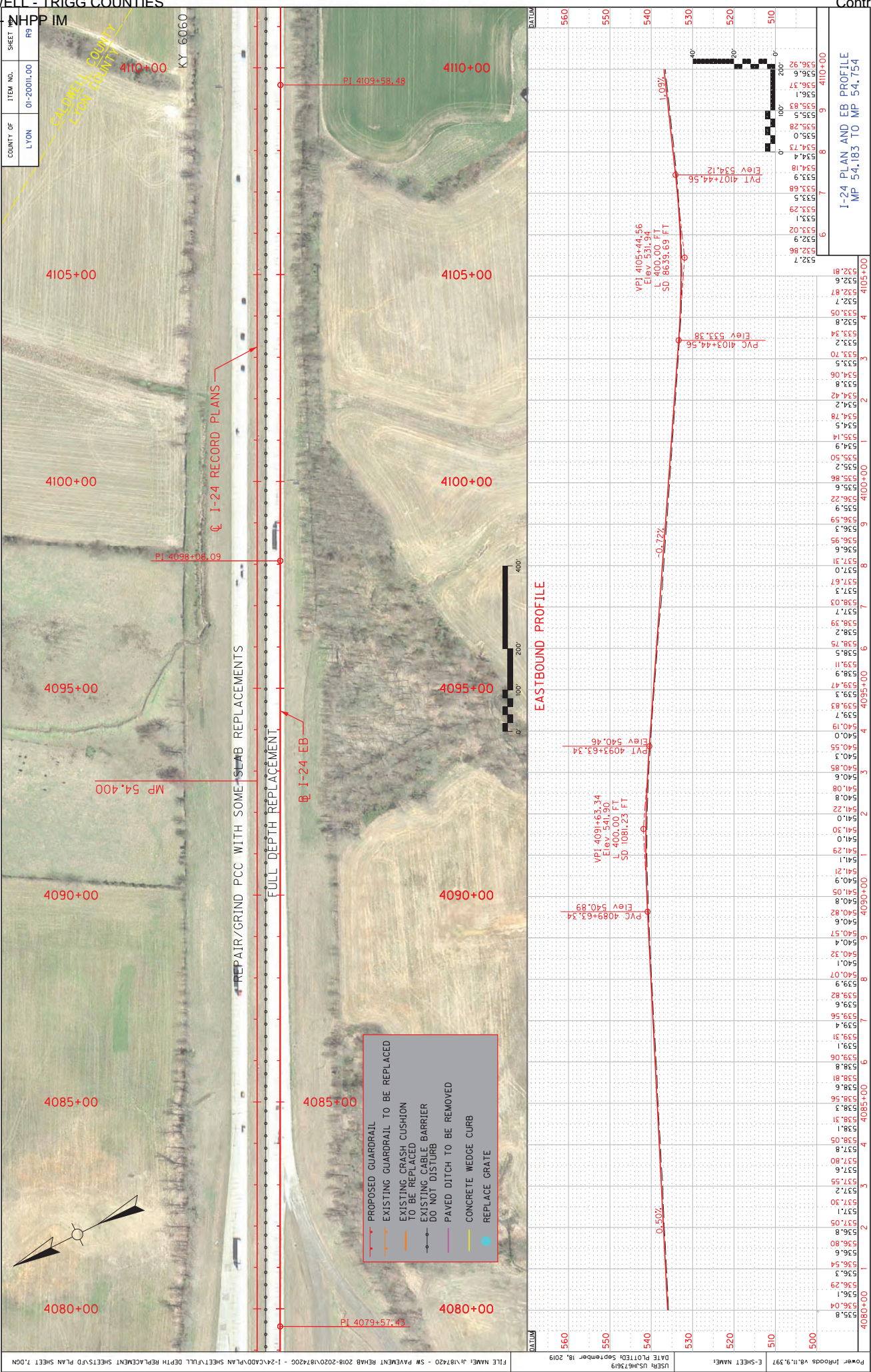




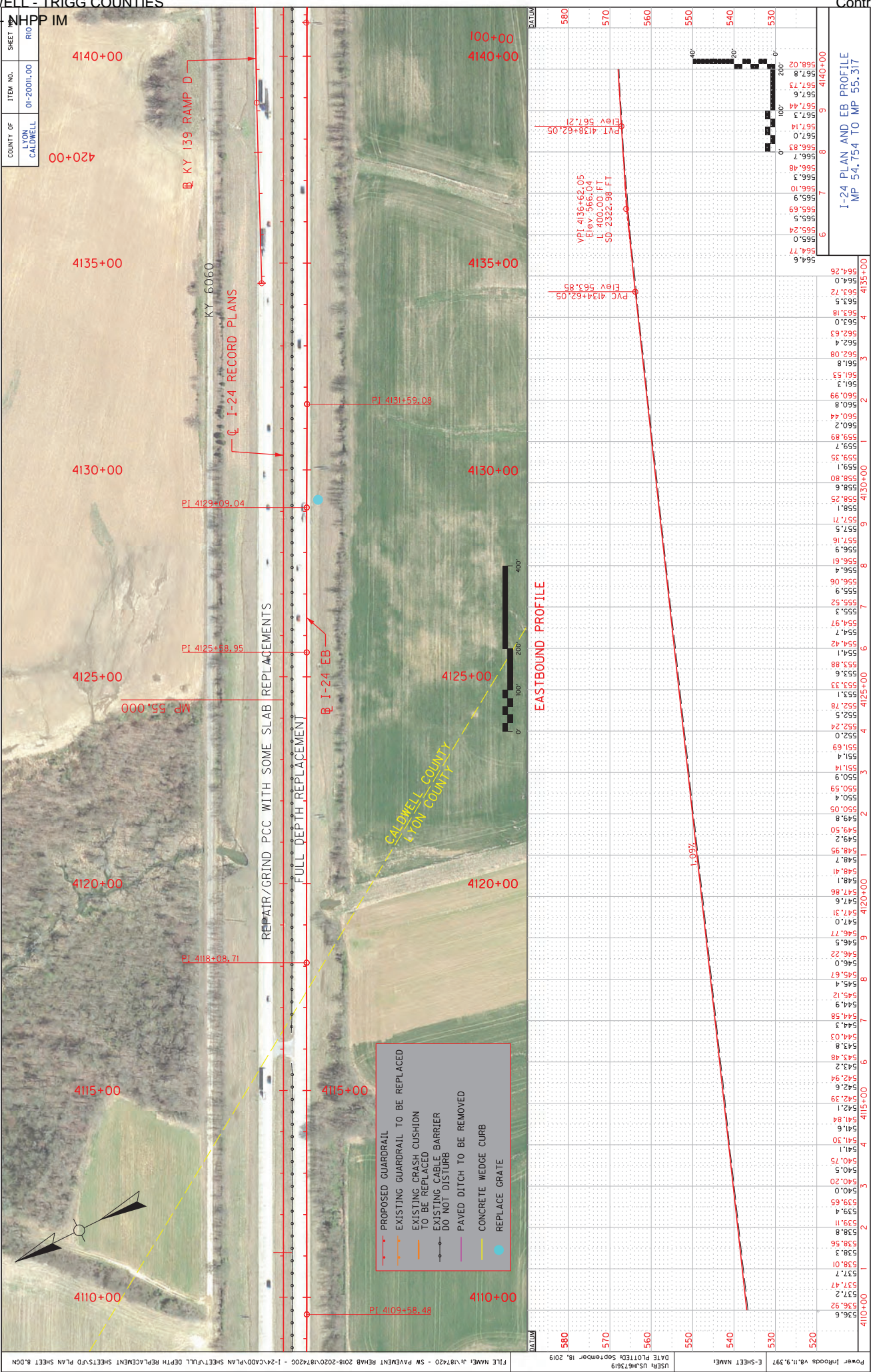








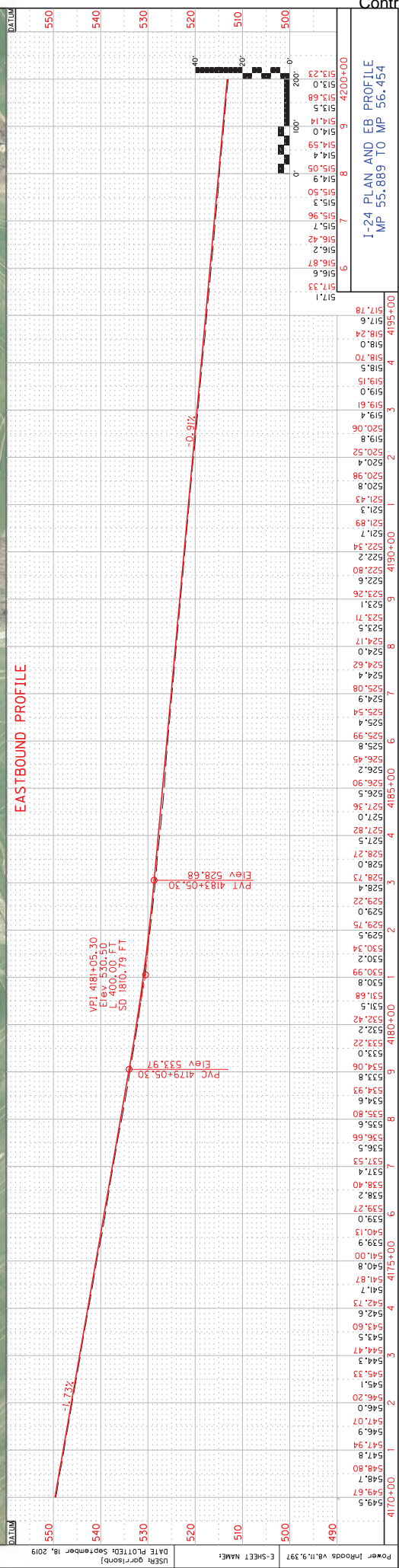
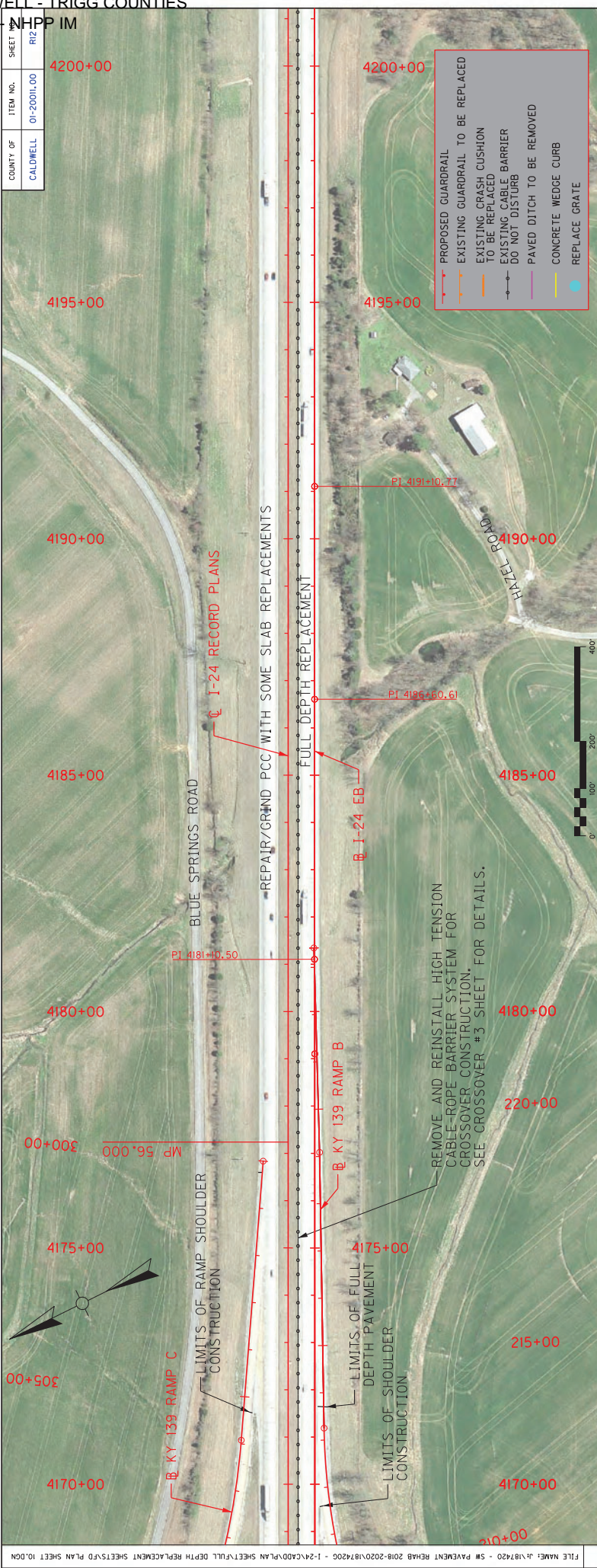




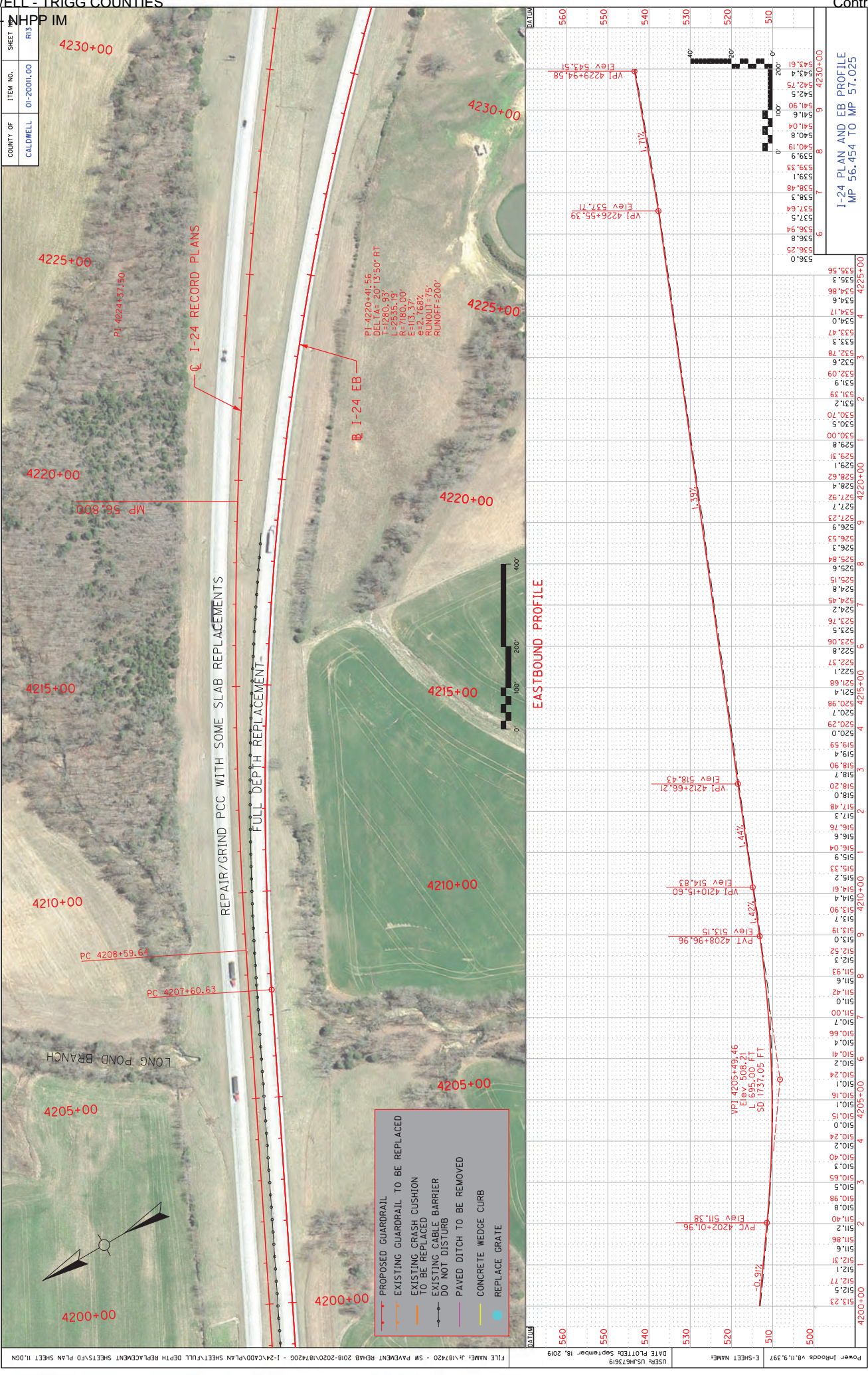




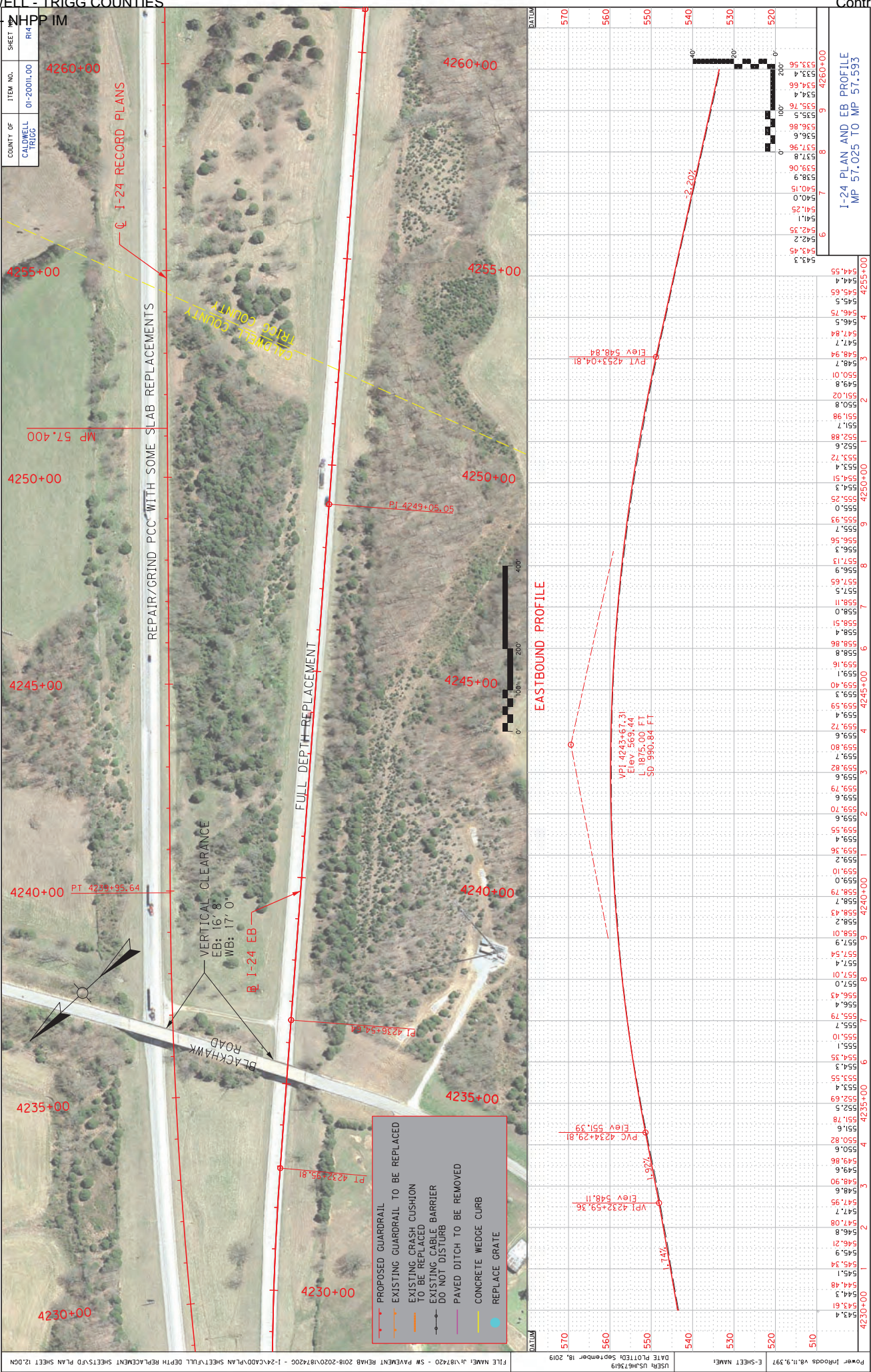




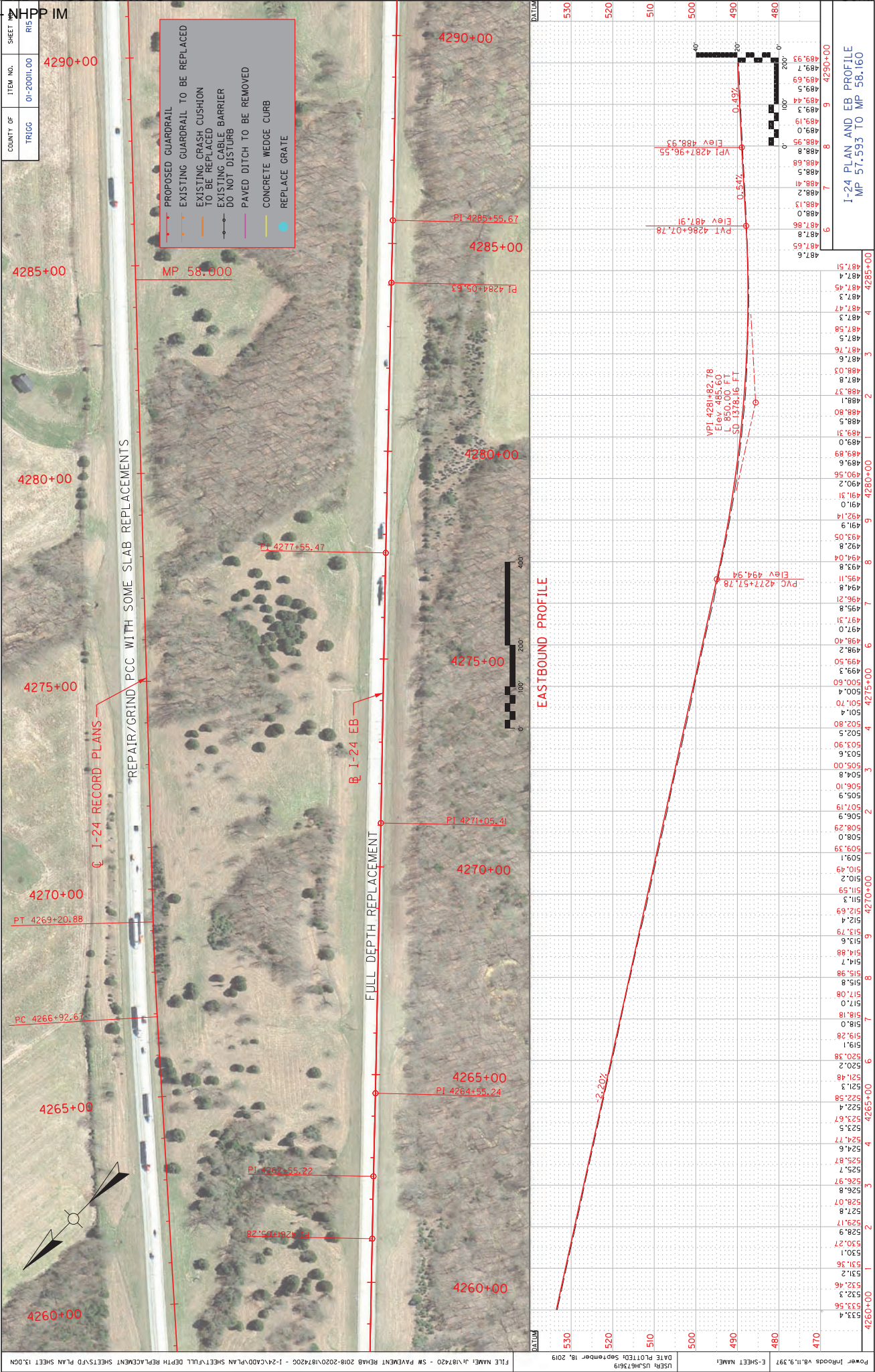




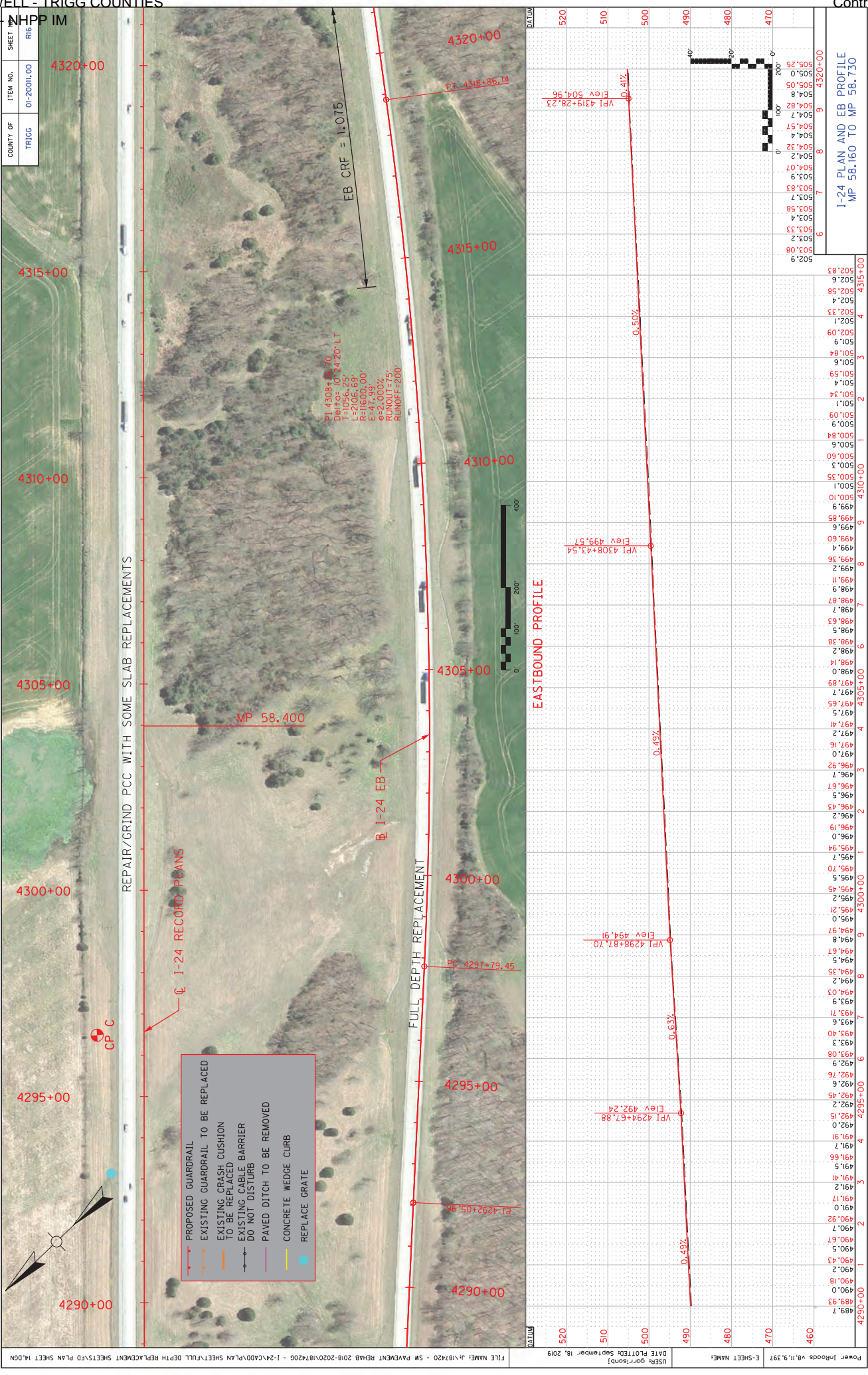




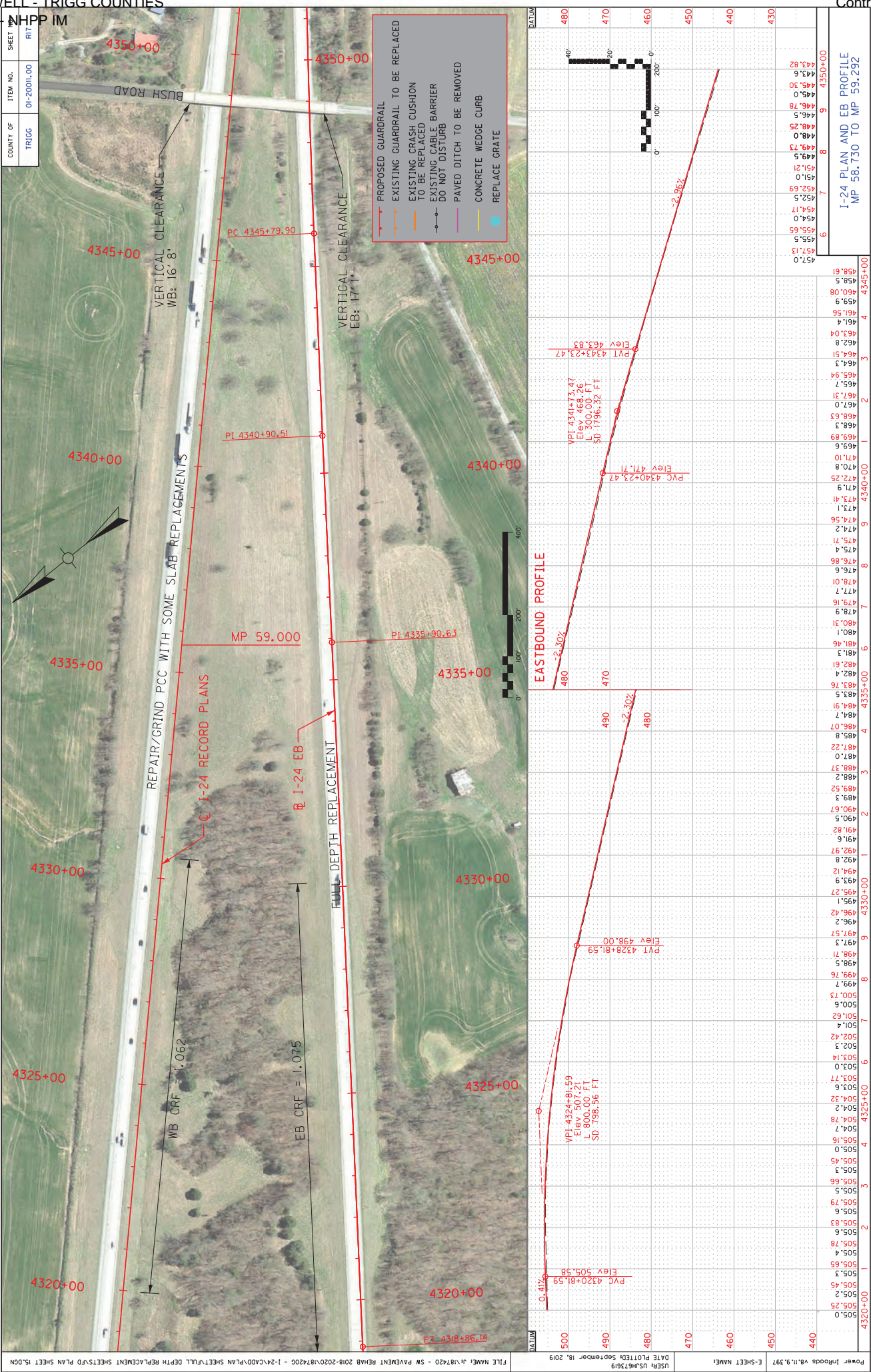




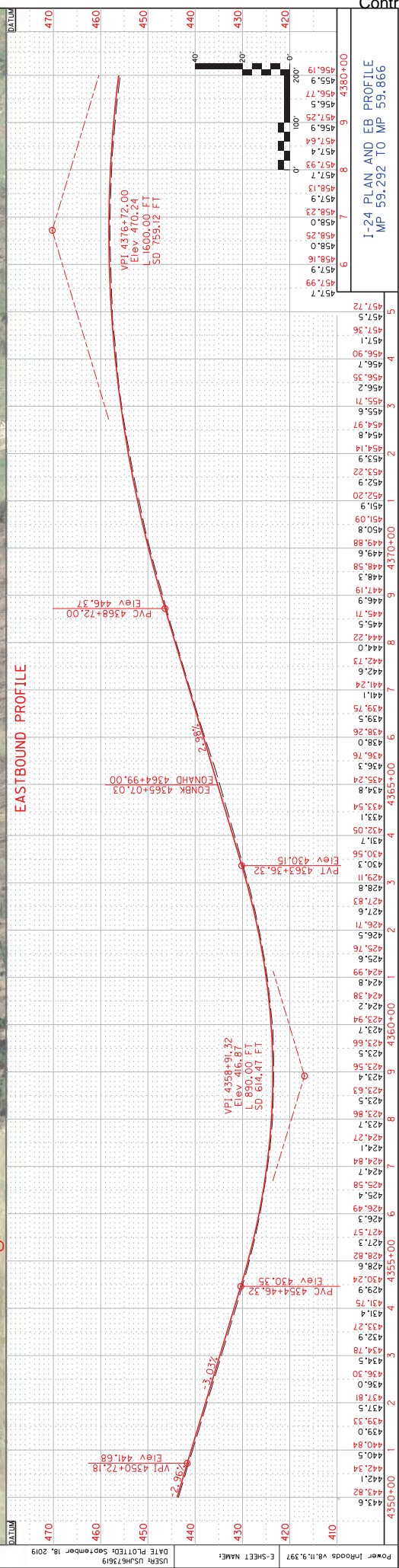
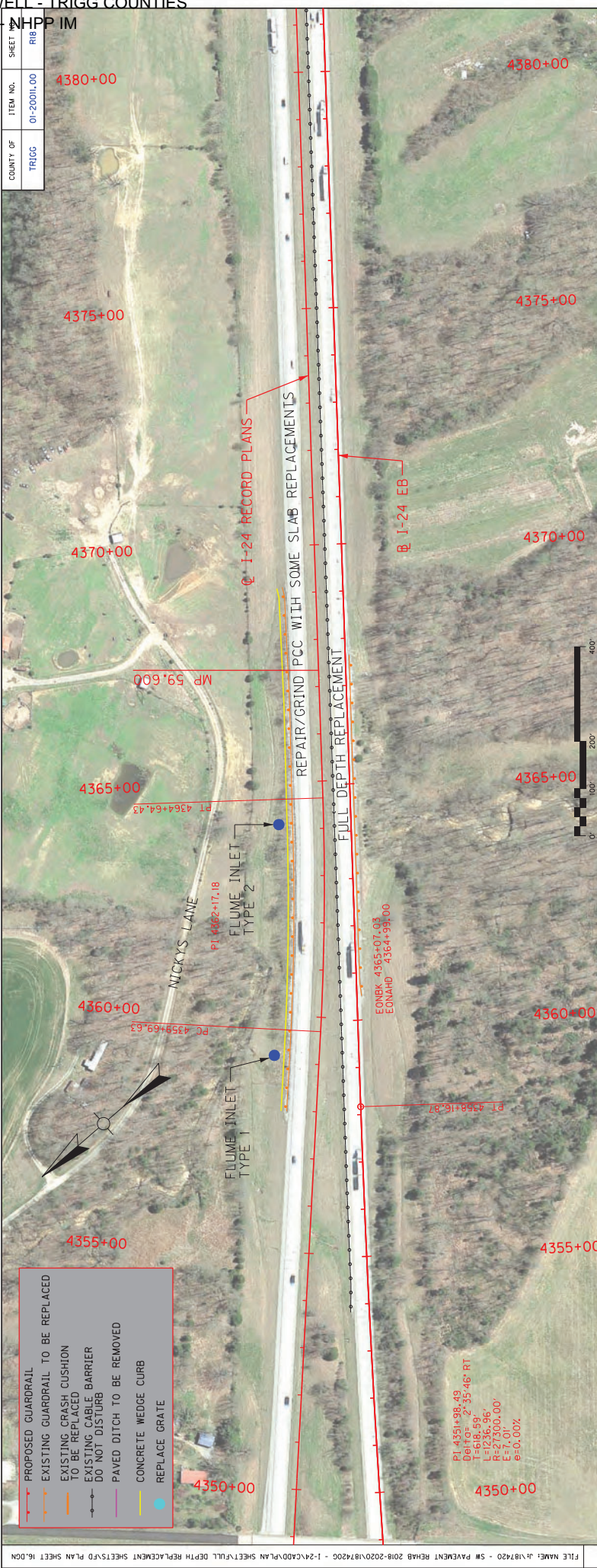




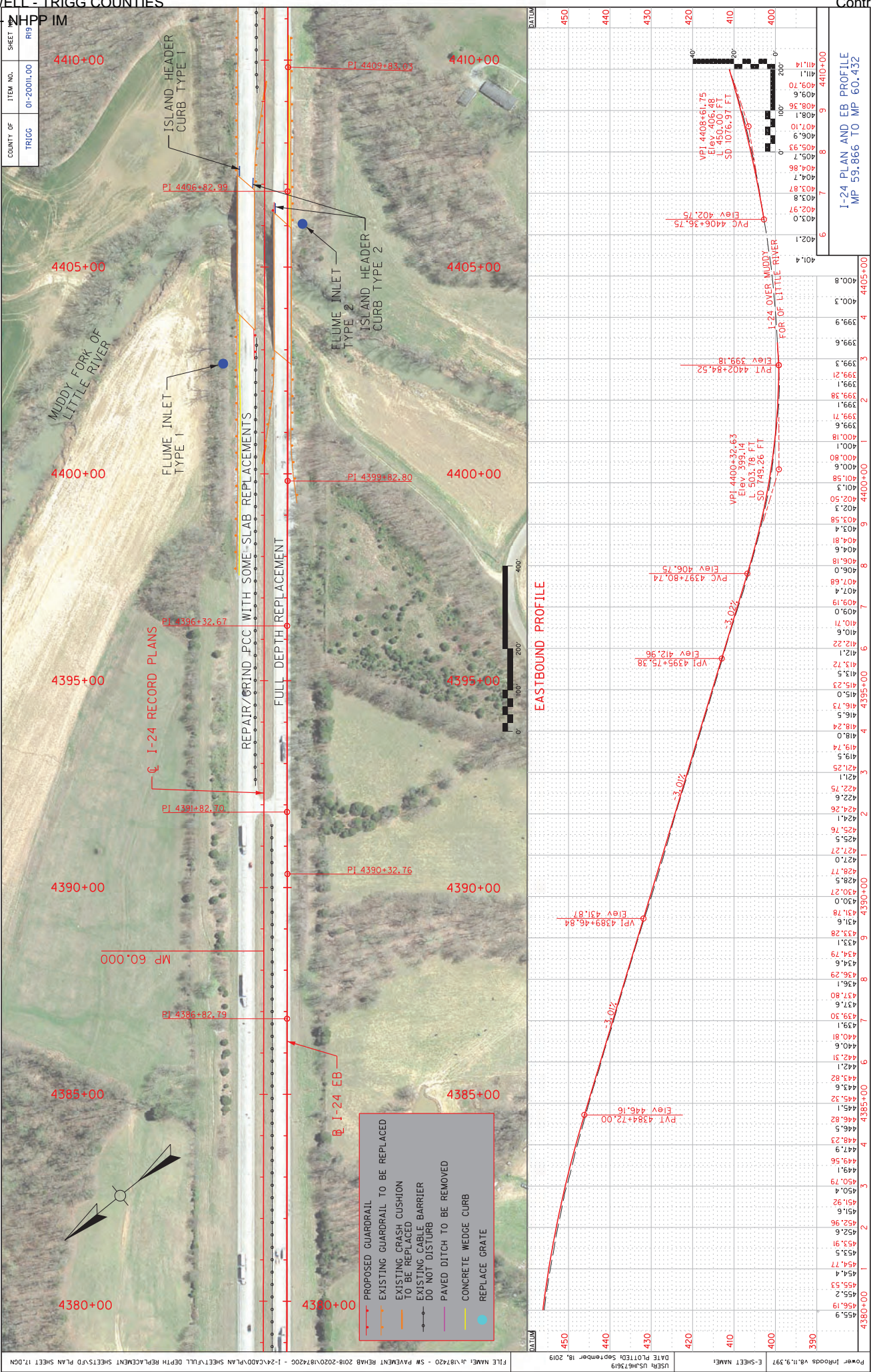




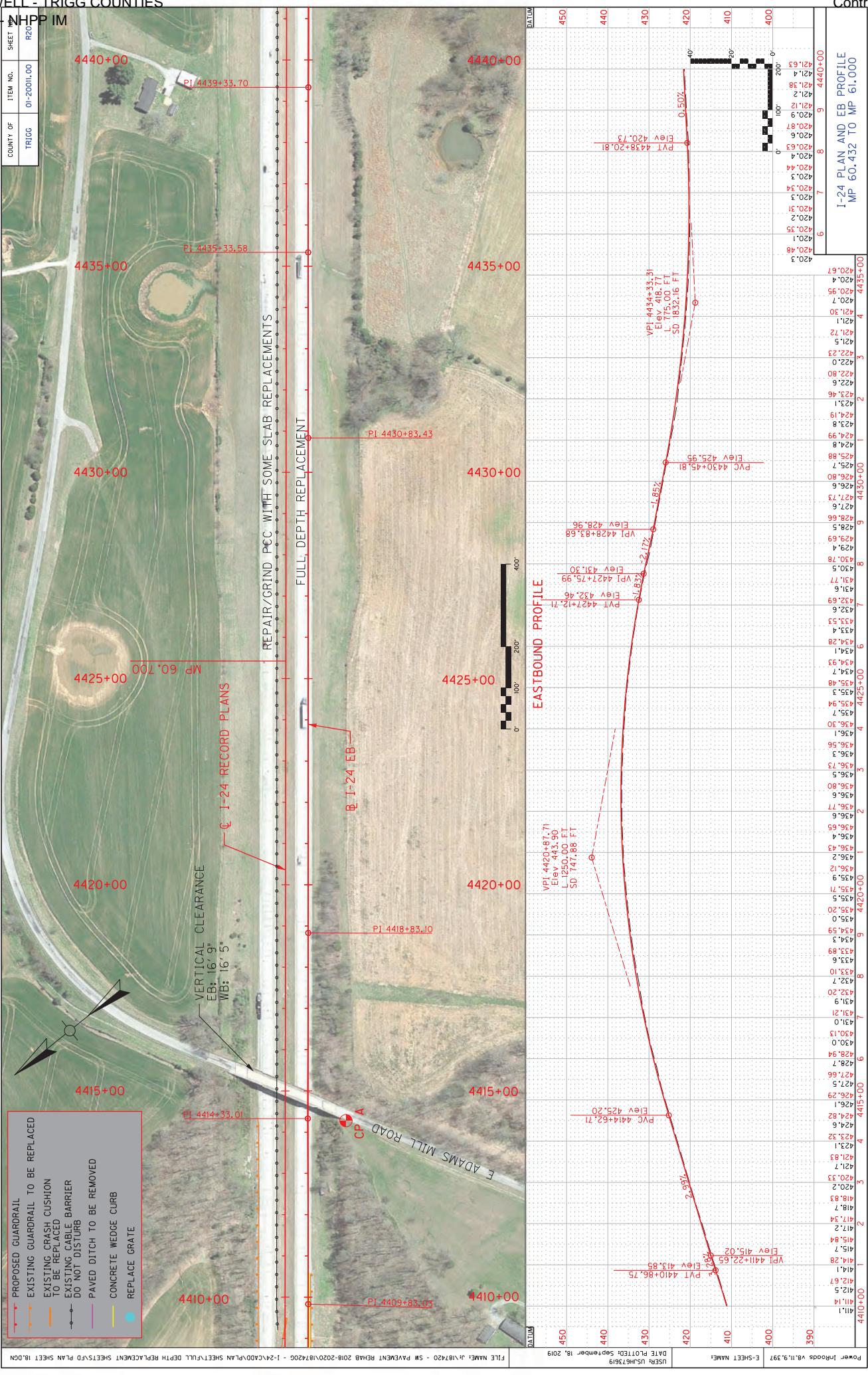




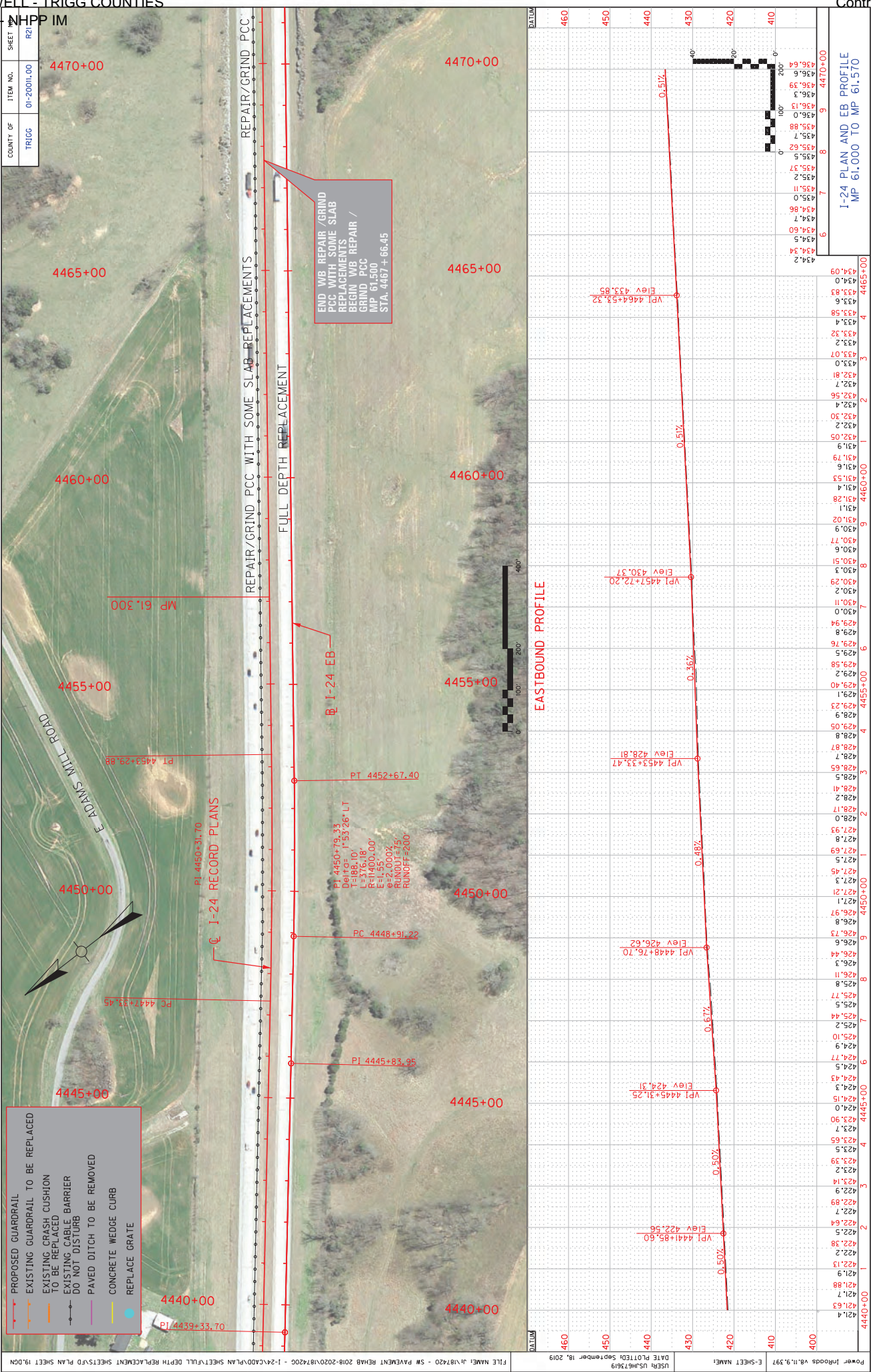




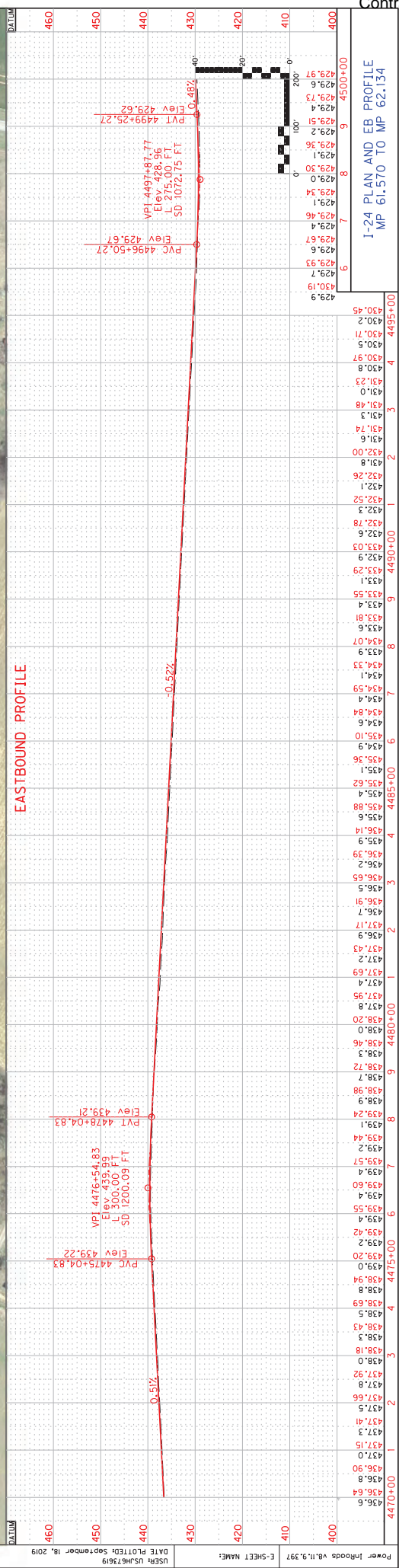
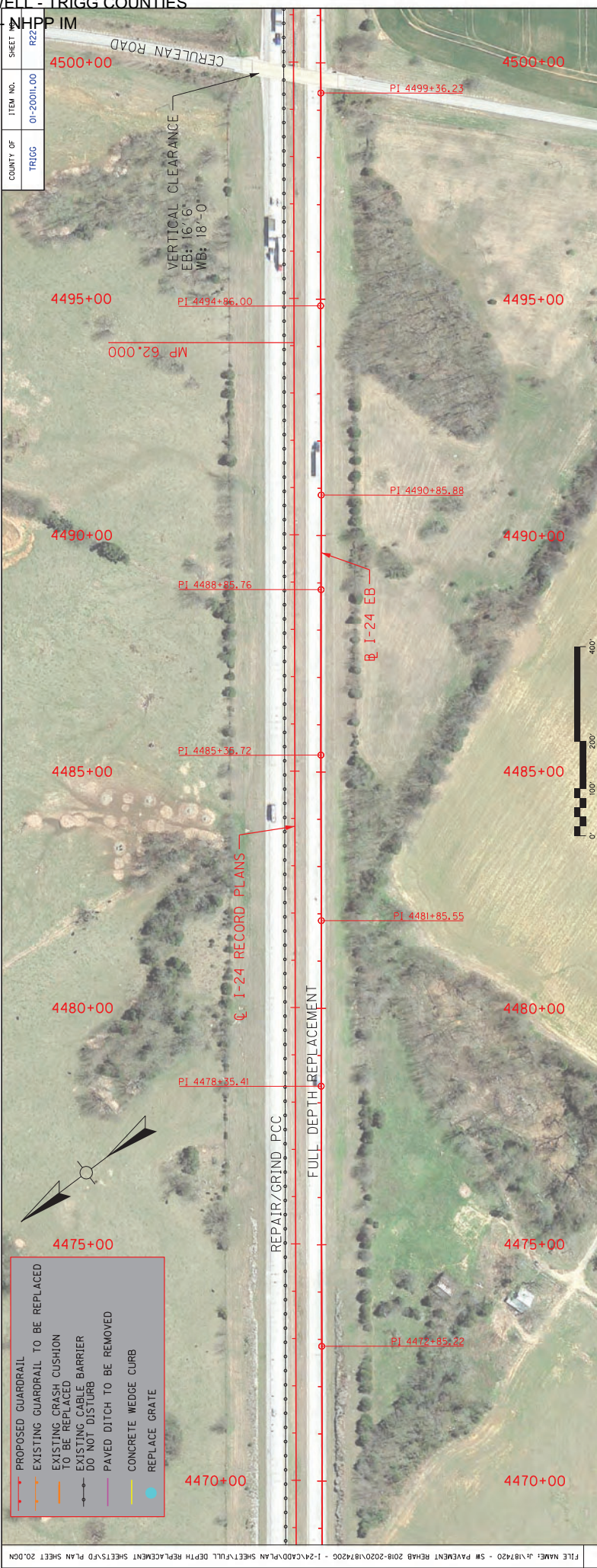








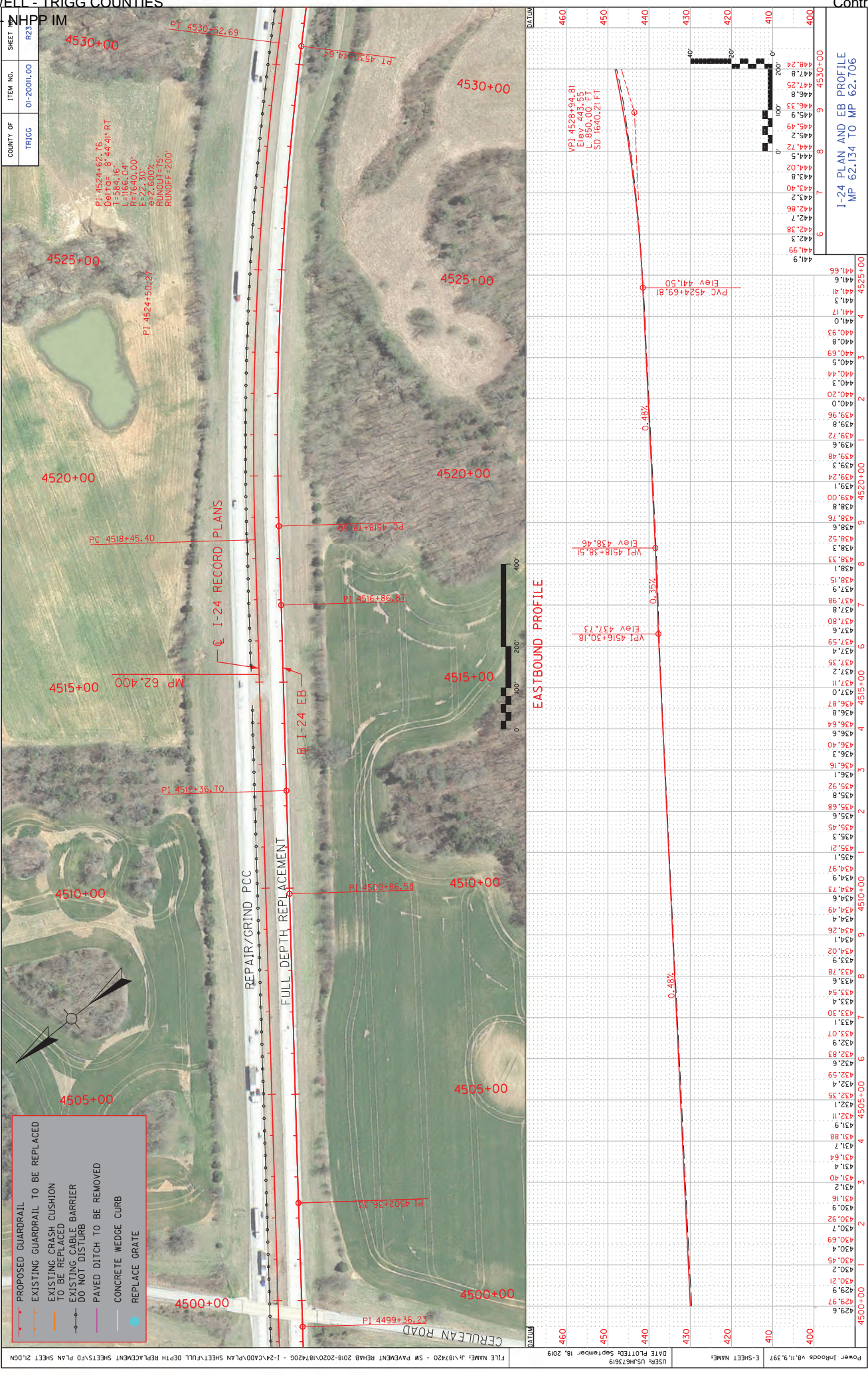




- PROPOSED GUARDRAIL
- EXISTING GUARDRAIL TO BE REPLACED
- EXISTING CRASH CUSHION TO BE REPLACED
- EXISTING CABLE BARRIER DO NOT DISTURB
- PAVED DITCH TO BE REMOVED
- CONCRETE WEDGE CURB REPLACE GRATE

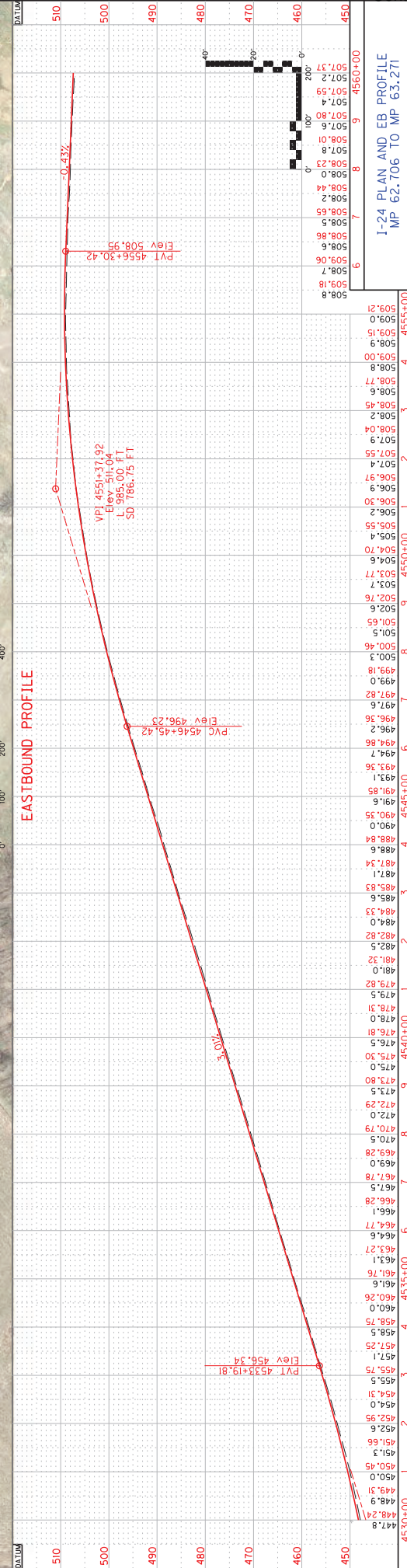
I-24 PLAN AND EB PROFILE  
MP 61.570 TO MP 62.134



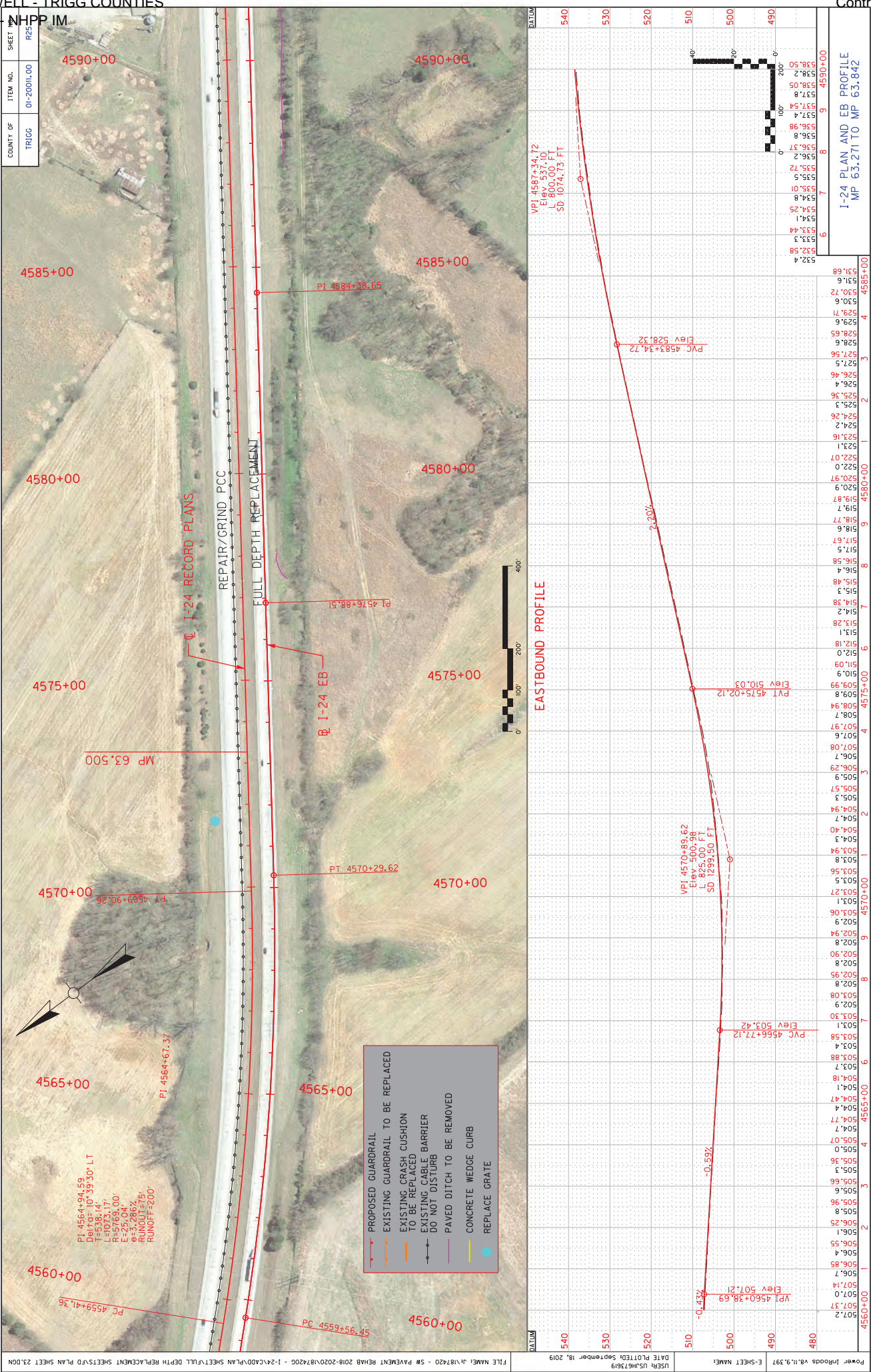




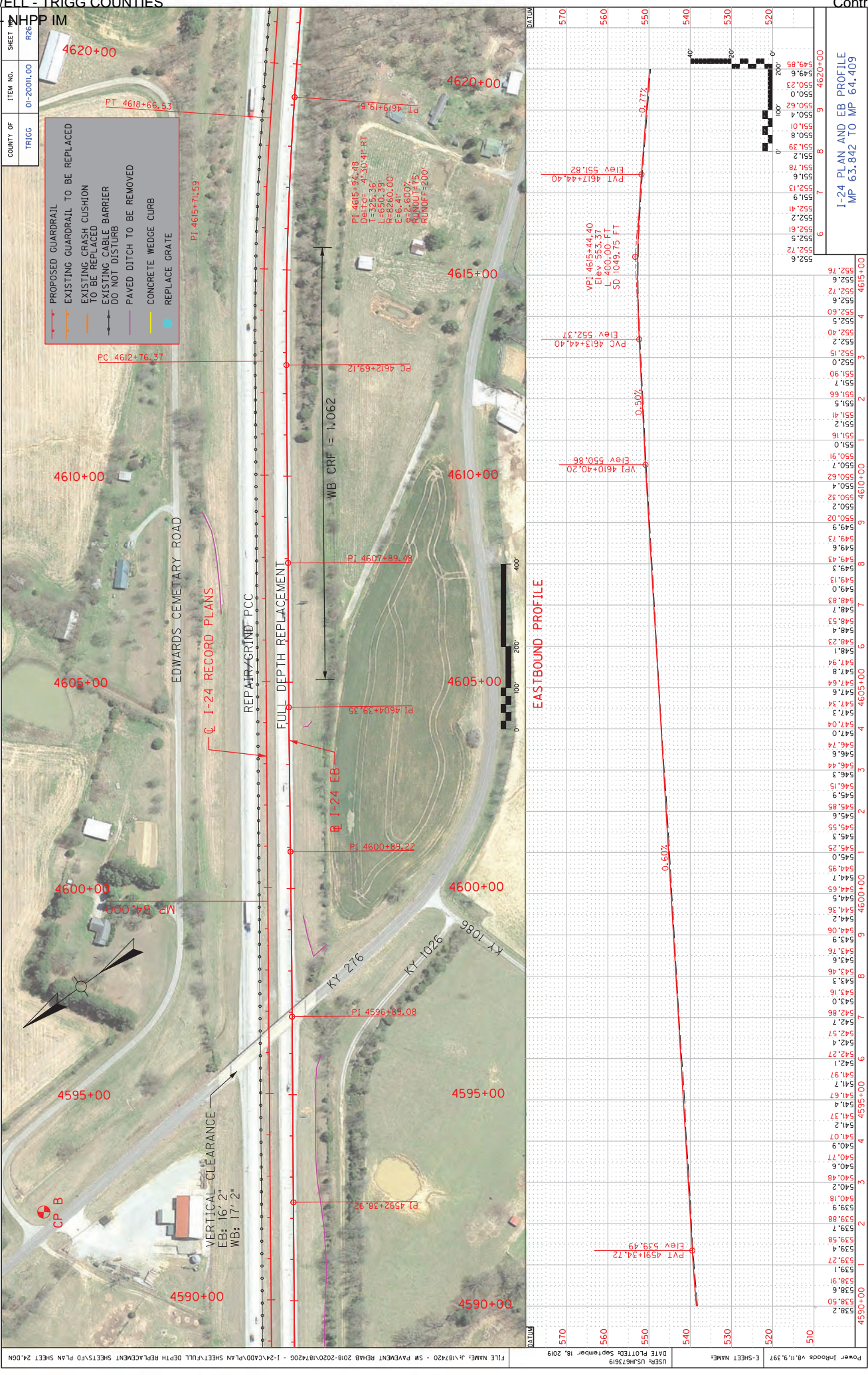
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I-24 PLAN AND EB PROFILE  
MP 62.706 TO MP 63.271

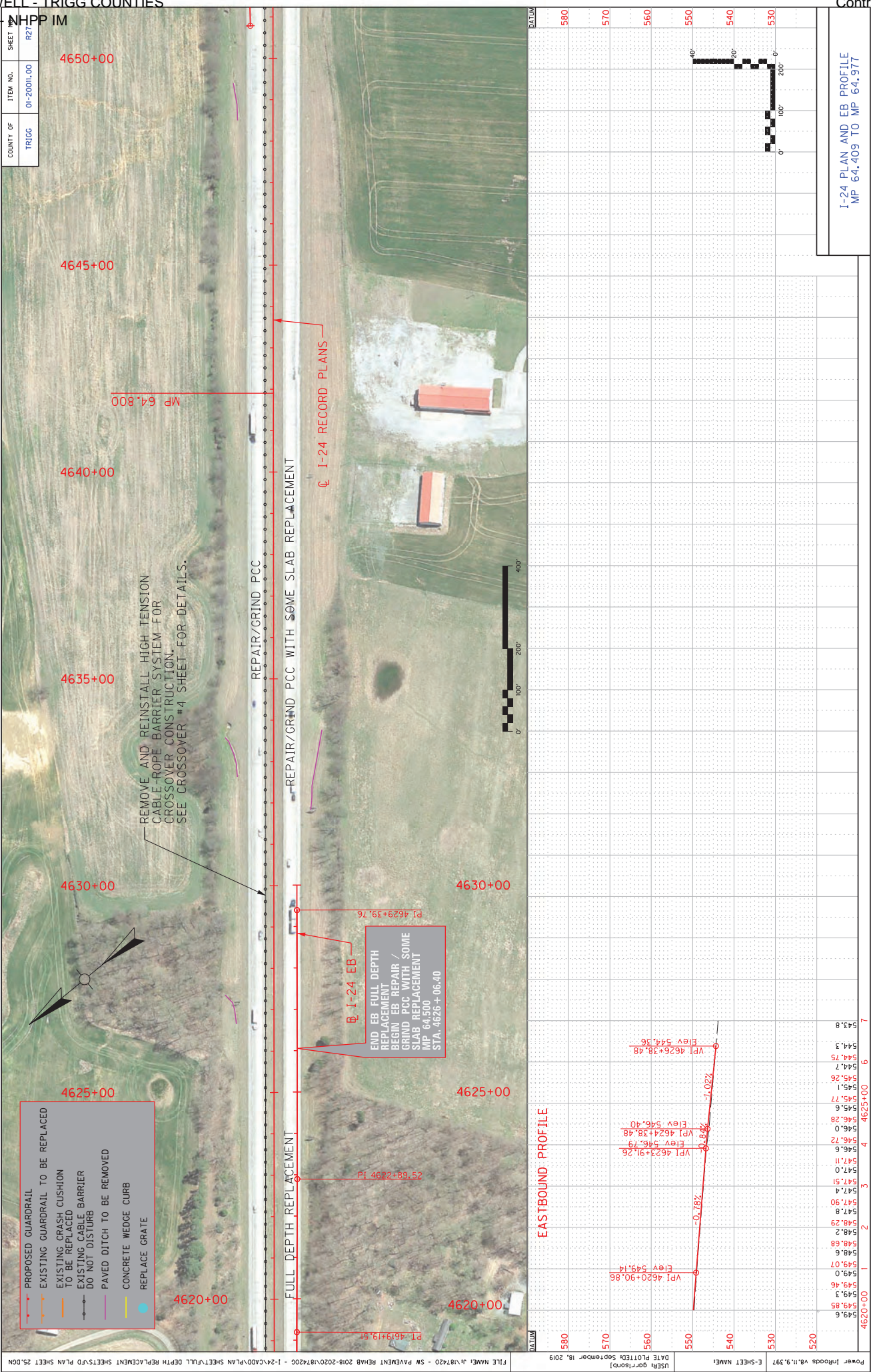






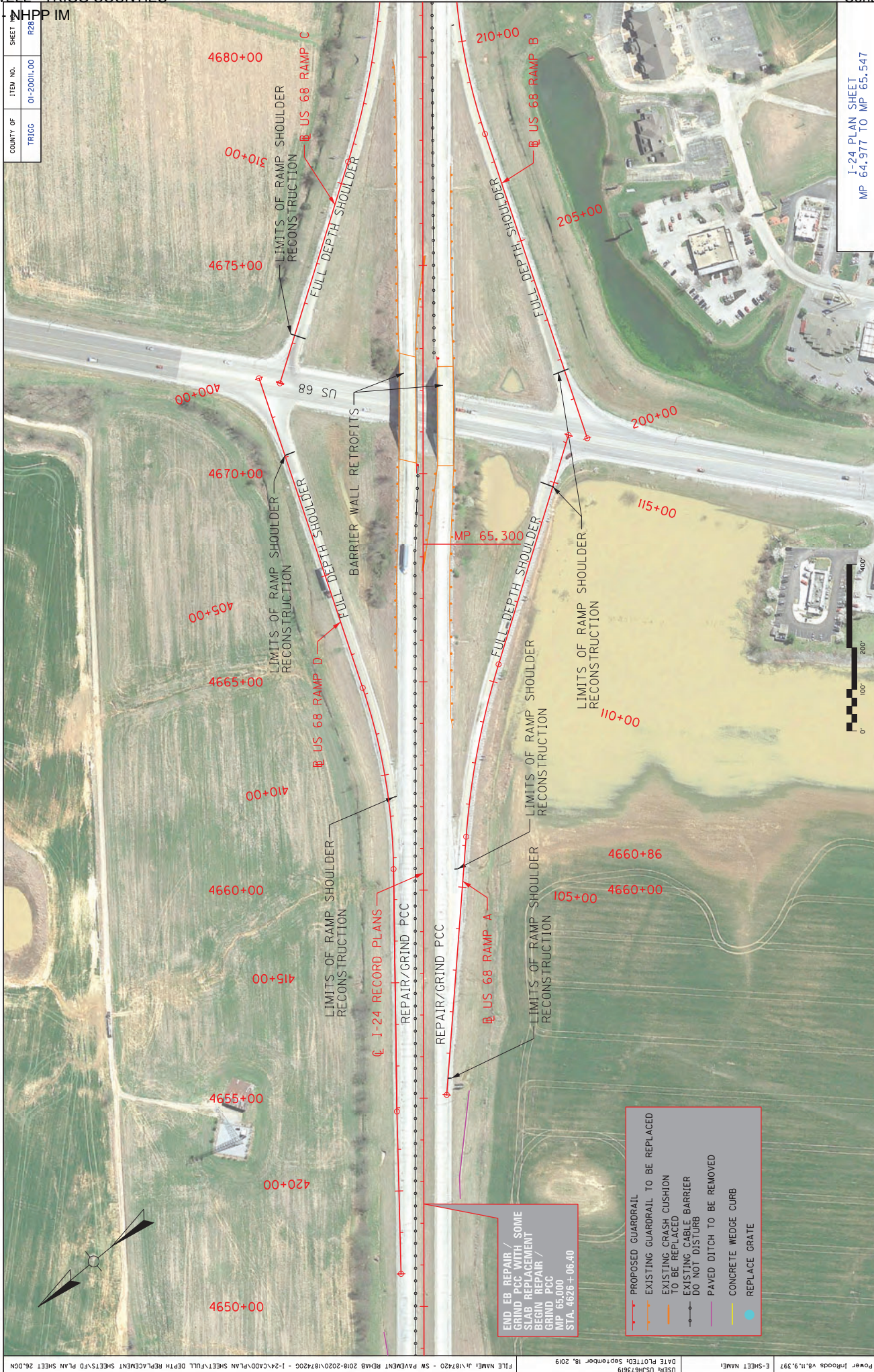















COUNTY OF	ITEM NO.	SHEET NO.
TRIGG	01-20011.00	R28



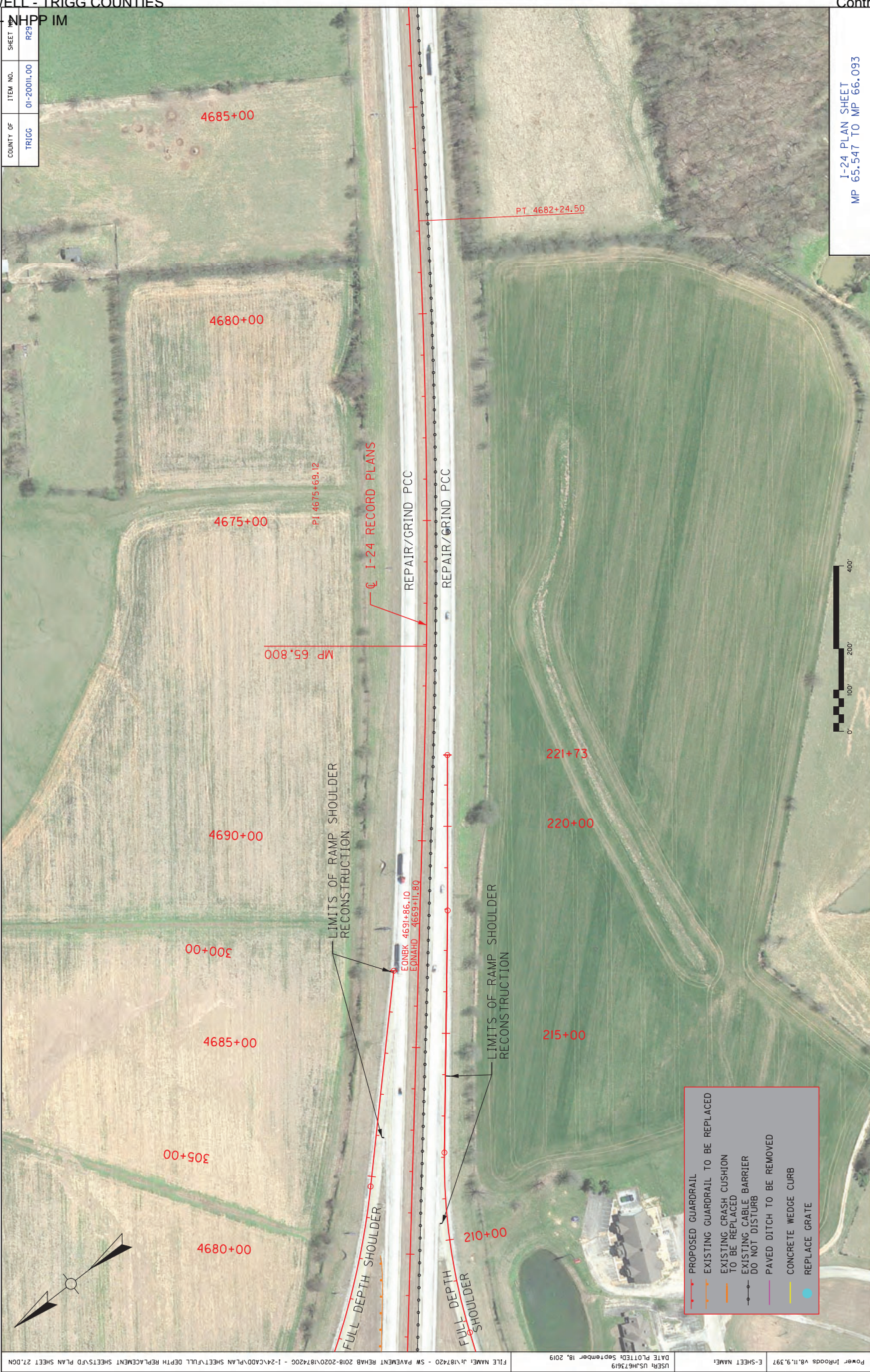
I-24 PLAN SHEET  
MP 64.977 TO MP 65.547

END EB REPAIR /  
GRIND PCC WITH SOME  
SLAB REPLACEMENT  
BEGIN REPAIR /  
GRIND PCC  
MP 65.000  
STA 4626 + 06 40

-  PROPOSED GUARDRAIL
-  EXISTING GUARDRAIL TO BE REPLACED
-  EXISTING CRASH CUSHION TO BE REPLACED
-  EXISTING CABLE BARRIER DO NOT DISTURB
-  PAVED DITCH TO BE REMOVED
-  CONCRETE WEDGE CURB
-  REPLACE GRATE

Power InRoads v8.11.9.397	E-SHEET NAME:	USERS: USJHG613619 DATE PLOTTED: September 18, 2019	FILE NAME: J:\187420 - SW PAVEMENT REHAB 2018-2020\187420G - I-24\CAADD\PLAN SHEET\FULL DEPTH REPLACEMENT SHEETS\FD PLAN SHEET 26.DGN
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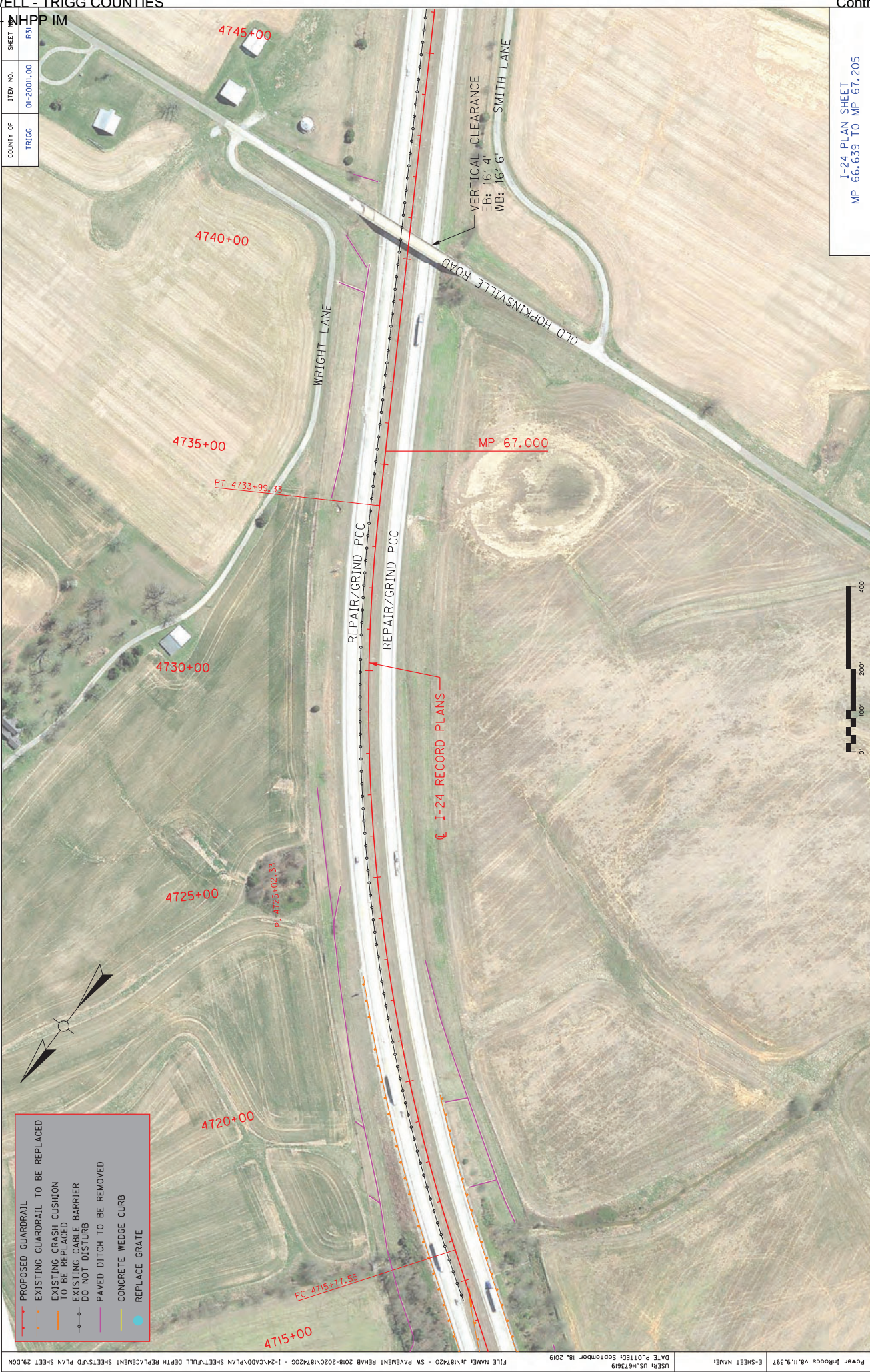


COUNTY OF	ITEM NO.	SHEET
TRIGG	01-20011.00	R23

















COUNTY OF	ITEM NO.	SHEET
TRIGG	01-20011.00	R33

I-24 PLAN SHEET  
MP 67.775 TO MP 68.340





COUNT OF	ITEM NO.	SHEET
TRIGG	01-20011.00	R34

I-24 PLAN SHEET  
MP 68.340 TO MP 68.910









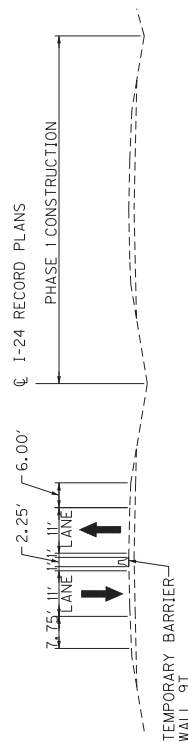
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TRIGG	01-20011.00	R36

I-24 PLAN SHEET  
MP 69.447 TO MP 69.830

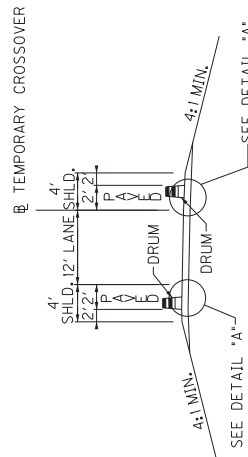


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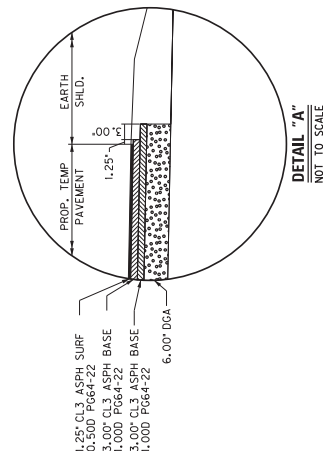
**PHASE 1**  
**NOT TO SCALE**



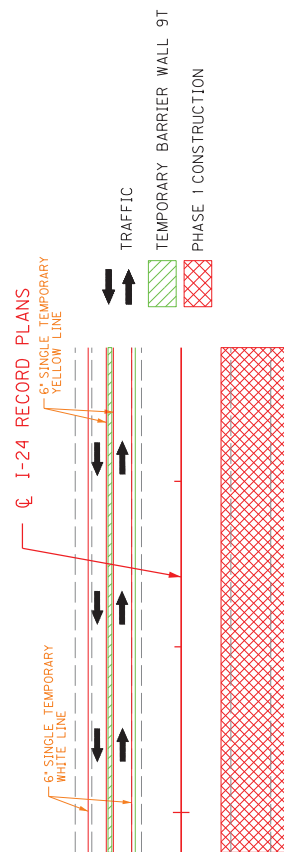
I-24 NORMAL CUT/FILL SECTION



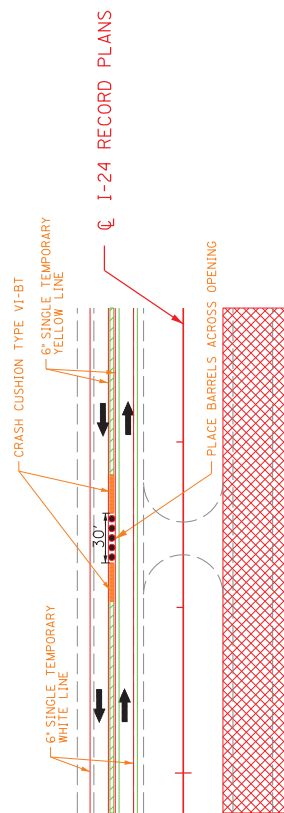
**SINGLE LANE CROSSOVER**



**DETAIL "A"**  
**NOT TO SCALE**



**PHASE 1**  
**NOT TO SCALE**



## TURNAROUND DETAIL

NOT TO SCALE

MP 52.341, MP 54.842, MP 60.066, MP 62.394

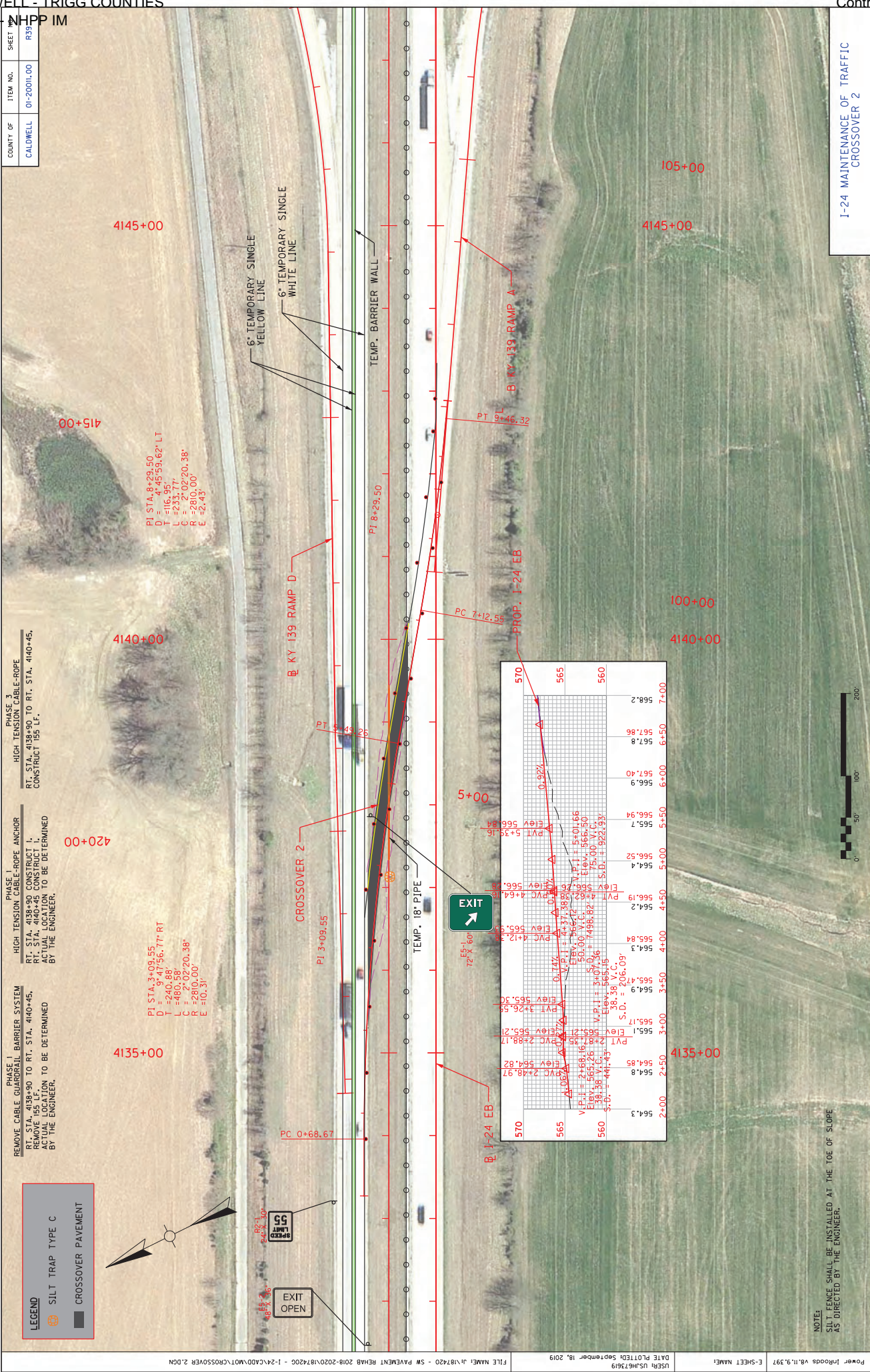
### MAINTENANCE OF TRAFFIC MISCELLANEOUS DETAILS

NOT TO SCALE















PHASE 1	PHASE 1
REMOVE CABLE GUARDRAIL BARRIER SYSTEM	HIGH TENSION CABLE-ROPE ANCHOR
L.T. STA. 4626+50 TO L.T. STA. 4630+45, REMOVE 395 LF. ACTUAL LOCATION TO BE DETERMINED BY THE ENGINEER.	L.T. STA. 4626+50 CONSTRUCT 1; L.T. STA. 4630+45 CONSTRUCT 1; ACTUAL LOCATION TO BE DETERMINED BY THE ENGINEER.



I-24 MAINTENANCE OF TRAFFIC CROSSOVER 4



**TRAFFIC CONTROL PLAN  
I-24 – CALDWELL, LYON, AND TRIGG COUNTIES  
PAGE 1 OF 6**

**TRAFFIC CONTROL GENERAL**

Except as provided herein, maintain and control traffic in accordance with the Standard Specifications and the Standard Drawings, current editions. Except for the roadway and traffic control bid items listed, all other items of work, described herein, necessary to maintain and control traffic, will be paid for with the lump sum bid price to "Maintain and Control Traffic". All lane closures used on the project shall be in compliance with the plans and/or appropriate Standard Drawings. Do NOT use cones for lane closures or shoulder closures.

Contrary to Section 106.01, traffic control devices used on this project may be new or used in like-new condition at the beginning of the work and maintained in like-new condition until completion of the work. Traffic Control Devices will conform to current MUTCD.

Reduce the speed limit in work areas of I-24 to 55 miles per hour and establish double fines for work zone speeding violations. The extent of these areas within the project limits will be restricted to the proximity of actual work areas as determined by the Engineer. Notify the Engineer a minimum of 12 hours prior to using the double fine signs. At the beginning of the work zone, the "WARNING FINE DOUBLED IN WORK ZONE" signs will be dual mounted. At the end of the work zone, the "END DOUBLE FINE" signs will be dual mounted as well. Remove or cover the signs when the highway work zone does not have workers present for more than a two-hour period of time. Payment for the signs will be at the unit bid price for signs erected. Any relocation or covering of signs will be incidental to "Maintain and Control Traffic."

Night work will be allowed on this project. Obtain approval from the Engineer for the method of lighting prior to its use.

**PROJECT PHASING AND CONSTRUCTION PROCEDURES**

The Contractor shall maintain a minimum of one 11-foot lane in each direction.

Use a lane closure at all times when work is performed in the adjacent lane or adjacent shoulder. Traffic shall not be allowed to travel on milled surface. Shoulders are NOT to be used as temporary travel lanes unless otherwise shown in the plans or directed and approved by the Engineer. When shoulders are utilized, perform any maintenance of the shoulder as deemed necessary and as directed by the Engineer to maintain traffic. Repair or reconstruction of shoulder pavement due to maintenance of traffic will be paid for with the pavement construction bid items in the contract. All removal of existing striping shall be by water blasting, unless otherwise directed by the Engineer, and this work shall be considered incidental to "Maintain and Control Traffic." Remove edge lines as necessary and approved by the Engineer throughout the project. Paint temporary edge lines for the lane closures.

If needed, and as directed by the Engineer, the rumble strips shall be re-constructed after traffic is removed from the shoulders. This shall be paid for with bid items "Rumble Strips Type 3" for concrete and "Shoulder Rumble Strips" for asphalt.

Access to ramps at the US 68 interchange shall be maintained. Access to ramps at the KY 139 interchange shall be maintained, except in Phase 1 as noted below.

All pavement edge transitions must be smooth and level before opening lanes up to traffic. A lane closure must be in place during all times that pavement edge drop-offs are present (see Pavement Edge Drop-off note).

The Engineer will determine exact locations of pavement repairs and slab replacement, at the time of construction. Place Type III Barricades immediately in front of pavement repair and slab replacement areas. Type III Barricades shall be considered incidental to "Maintain and Control Traffic."

**TRAFFIC CONTROL PLAN  
I-24 – CALDWELL, LYON, AND TRIGG COUNTIES  
PAGE 2 OF 6**

Note that lane shifts are required throughout the project. Stripe according to the Standard Drawings and MUTCD.

The Contractor must notify the Engineer at least fourteen (14) days prior to beginning each phase of construction.

**PHASE 1**

Construct Crossover #1 and Crossover #4. Traffic shall be reduced to one lane each direction and eastbound traffic shifted to the westbound lanes. The temporary barrier wall shall be in place prior to shifting of traffic. The proposed guardrail at the west end of the westbound bridges at MP 53.4 and MP 60.3 shall also be in place prior to shifting of traffic. The eastbound traffic shall use Crossover #1 and Crossover #4 to cross the median. Construct full depth pavement from MP 55.200 to 56.200. Construct Crossover #2 and Crossover #3.

The KY 139 interchange eastbound on and off ramps shall be closed. Detours for the ramp traffic are to be as follows:

Detour for Eastbound KY 139 Off Ramp Traffic:

Traffic shall be routed east along I-24 to the US 68 interchange and then back west along I-24 to the KY 139 westbound off ramp.

Detour for Eastbound KY 139 On Ramp Traffic:

Traffic shall be routed to I-24 west, then west along I-24 to the KY 293 interchange, then to I-24 east.

Place Type III Barricades across the terminal of the KY 139 eastbound on ramp as directed by the Engineer.

Detours and ramp closures shall be signed and striped according to the MUTCD and current KYTC Standard Drawings. The signing plan for the detours developed by the Contractor shall be subject to approval by the Engineer.

The closure of the KY 139 interchange eastbound on and off ramp traffic shall be for a period no longer than sixty (60) calendar days. The Contractor shall be assessed damages of \$5,000 for each day past sixty (60) calendar days that access for these ramps is not back open to traffic.

**PHASE 2**

Mainline traffic shall be maintained the same as Phase 1. The KY 139 Interchange Eastbound on and off ramp traffic shall be maintained using Crossover #2 and Crossover #3. Construct full depth pavement from MP 51.886 to 55.200 and from MP 56.200 to MP 64.500.

**PHASE 3**

Traffic shall be maintained in the existing eastbound and westbound lanes. Lane and shoulder closures will be allowed in this phase. Remove the crossovers and restore the median grades and slopes to original condition, which is incidental to each crossover. Construct slab replacements, and complete pavement repairs as directed by the Engineer, and diamond grind existing pavement at locations shown in the plans.

**PHASE 4**

Place permanent striping and markers using temporary lane closures as directed by the Engineer. Construct guardrail, guardrail end treatments, bridge end connectors and barrier wall retrofits. Final striping, guardrail, barrier wall retrofits, and any other bridge



**TRAFFIC CONTROL PLAN  
I-24 – CALDWELL, LYON, AND TRIGG COUNTIES  
PAGE 3 OF 6**

work shown in the proposal may be done concurrent with other phases, as approved by the Engineer.

**RAMP PAVEMENT CONSTRUCTION**

Traffic on the KY 139 Eastbound On Ramp and the KY 139 Westbound Off Ramp shall be maintained while shoulder construction is being completed. Mill and overlay existing shoulder. Once the pavement has been removed, the Contractor must work continuously until the pavement has been replaced back to existing grade. This construction can be done concurrent with Phases 1, 2, or 3, as approved by the Engineer.

Traffic on the US 68 ramps shall be maintained while shoulder work is being completed. Once the asphalt pavement and part of the DGA has been removed, the Contractor must work continuously until the pavement has been replaced back to existing grade. This construction can be done concurrent with Phases 1, 2, or 3, as approved by the Engineer.

**LANE CLOSURES**

Limit the lengths of lane closures to only that needed for actual operations in accordance with the phasing specified herein, or as directed by the Engineer. Limit lane closures to allow a minimum of one lane open per direction at any given time

Other than the holidays listed in the current Standard Specifications, the Engineer may specify additional days and hours when lane closures are not allowed. Do not leave lane closures in place during prohibited periods.

Contrary to Section 112, lane closures will NOT be measured for payment, but are considered incidental to "Maintain and Control Traffic."

**SIGNS**

Additional traffic control signs in addition to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Including the signing needed for the detours, additional signs needed for lane closures may include, but are not limited to, dual mounted LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILES, LEFT/RIGHT LANE CLOSED 3 MILES, SLOWED/STOPPED TRAFFIC AHEAD. Signage for reduced speed limits and double fine work zones will be furnished, relocated, and maintained by the Contractor.

Contrary to Section 112, individual signs will be measured only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged signs or signs directed to be replaced by the Engineer due to poor legibility or reflectivity will not be measured for payment.

A quantity of signs has been included for lane shifts, "Roadwork Ahead" signs on entrance ramps, and extra Double Fine signs and Speed Limit signs between interchanges to be paid for only once no matter how many times they are moved or relocated.

Traffic control signs in addition to normal lane closure signing detailed in the Standard Drawings may be required by the Engineer.

**FLASHING ARROWS**

Flashing arrows will be paid for once, no matter how many times they are moved or relocated. The Department WILL NOT take possession of the flashing arrows upon completion of the work.

**TRAFFIC CONTROL PLAN  
I-24 – CALDWELL, LYON, AND TRIGG COUNTIES  
PAGE 4 OF 6**

## **PORTABLE CHANGEABLE MESSAGE SIGNS**

Provide portable changeable message signs in advance of and within the project at locations to be determined by the Engineer. If work is in progress concurrently in both directions provide additional portable changeable message signs. Place portable changeable message signs one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens relocate or provide additional portable changeable message signs so that traffic has warning of slowed or stopped traffic at least one mile but not more than two miles before reaching the end of the actual queue. The locations designated may vary as the work progresses. The messages required to be provided will be designated by the Engineer. The portable changeable message signs will be in operation always. In the event of damage or mechanical/electrical failure, the Contractor will repair or replace the Portable Changeable Message Sign immediately. Portable Changeable Message Signs will be paid for once, no matter how many times they are moved or relocated. The Department WILL NOT take possession of the signs upon completion of the work.

## **BARRELS**

Barrels are to be used for channelization or delineation and will be incidental to “Maintain and Control Traffic” according to Section 112.04.01. Replacement of damaged barrels due to poor condition or reflectivity, as directed by the Engineer, will not be measured for payment.

## **HIGH TENSION CABLE-ROPE MEDIAN BARRIER**

The existing cable-rope barrier system along this section of I-24 is a Brifen Wire Rope Safety Fence (WRSF). It shall not be disturbed except for construction of the temporary median crossovers. In those areas, the high tension cable-rope median barrier (cable, posts, hardware, etc.) shall be removed and preserved for re-installation after removal of the crossover. The concrete pad shall also be preserved as much as possible. Anchors shall be installed immediately after removal for construction of the crossovers.

Concurrent with removal of the temporary median crossovers, the anchors shall be removed and the high tension cable-rope median barrier shall be re-installed in the same location, as approved by the Engineer. As needed, and as directed by the Engineer, any of concrete pad and trench that is damaged shall be reconstructed. This removal of the anchors and any reconstruction of the concrete pad and trench shall be incidental to each crossover.

See “Special Note for High Tension Cable-Rope Median Barrier” for applicable information.

## **TRUCK MOUNTED ATTENUATORS**

Furnish and install MUTCD approved Truck Mounted Attenuators (TMAs) in advance of work areas when workers are present less than 12 feet from traffic. If there is less than 500 feet between work sites, only a single TMA will be required at a location directed by the Engineer. Locate the TMAs at the individual work sites and move them as the work zone moves within the project limits. All details of the TMA installations shall be approved by the Engineer. TMAs will not be measured for payment but are incidental to Maintain and Control Traffic. The Department WILL NOT take possession of the TMAs upon completion of the work.

## **PAVEMENT MARKINGS**

If lane closures are in place during nighttime hours, remove or cover the lenses of raised pavement markers that do not conform to the traffic control scheme in use, or as directed by the Engineer. Replace or uncover lenses before a closed lane is reopened to traffic. No direct



**TRAFFIC CONTROL PLAN  
I-24 – CALDWELL, LYON, AND TRIGG COUNTIES  
PAGE 5 OF 6**

payment will be made for removing and replacing or covering and uncovering the lenses but will be incidental to "Maintain and Control Traffic".

Place temporary and permanent striping in accordance with Section 112 and Section 714, except that:

1. Temporary and permanent striping will be 6-inch width (12-inch for the interchange gore areas);
2. If the Contractor's operations or phasing requires temporary markings which must be subsequently removed from the ultimate pavement, an approved removable lane tape will be used; however removable tape will be measured and paid as Pavement Striping-Temporary Paint 6-inch;
3. Edge lines will be required for temporary striping;
4. Existing, temporary, or permanent striping will be in place before a lane is opened to traffic; and
5. Permanent striping will be Durable Tape.

Should the Contractor change the existing striping pattern, the Contractor is to restripe the roadway back to its original configuration within the time allotted for a lane closure.

Removal of existing and temporary striping shall be incidental to "Maintain and Control Traffic."

## **BARRICADES**

Barricades used for channelization or delineation shall be incidental to "Maintain and Control Traffic". As directed by the Engineer replacements for damaged barrels to be replaced due to poor condition or reflectivity will not be measured for payment.

## **TEMPORARY BARRIER WALL**

Concrete Barrier Wall Type 9T shall be installed between lanes of opposing traffic. There shall be a minimum of one (1) delineator per section of wall. The delineators shall be bi-directional and placed on top of the wall.

## **TURNAROUNDS**

Gaps shall be left in the temporary barrier wall for emergency vehicle turnarounds. The layout and locations are noted in the plans. Barrels shall be placed across the gaps as shown in the plans. The turnarounds are for emergency vehicles only. They shall NOT be used by the Contractor.

## **PAVEMENT EDGE DROP-OFFS**

Pavement edge drop-offs will be protected by a lane or shoulder closure. Lane closures will be protected with barrels, vertical panels, or barricades as shown on the Standard Drawings.

A pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation shall not have an elevation difference greater than 1 ½". Place warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual posting on both sides of the traveled way shall be required. Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

- Less than 2" – Protect with a lane closure.

**TRAFFIC CONTROL PLAN  
I-24 – CALDWELL, LYON, AND TRIGG COUNTIES  
PAGE 6 OF 6**

- 2" to 4" – Protect with a lane closure. Place barrels, vertical panels, or barricades every 50 feet. Traffic cones may not be used in place of barrels, panels, and barricades at any time. Construct a wedge with compacted cuttings from milling, trenching, or asphalt mixtures with a 3:1 or flatter slope, when work is not active in the drop-off area. Place Type III Barricades at the beginning of the lane closures, and place additional Type III Barricades spaced at 2,500 feet during the time the lane closure is in place.
- Guardrail Installation – All areas from which guardrail is removed shall be protected by a shoulder closure or other method approved by the Engineer until the new guardrail is installed.

## **TRAFFIC COORDINATOR**

Designate an employee to be Traffic Coordinator. The designated Traffic Coordinator must be certified by an agency qualified for training in this area. The Traffic Coordinator will inspect the project maintenance of traffic once every two hours during the Contractor's operations and at any time a lane closure is in place. The Traffic Coordinator will report all incidents throughout the work zone to the Engineer on the project. The Contractor will furnish the name and telephone number where the Traffic Coordinator can be contacted always.

During any period when a lane closure is in place, the Traffic Coordinator will arrange for personnel to be present on the project always to inspect the traffic control, maintain the signing and devices, and relocate portable changeable message boards as queue lengths change. The personnel will have access on the project to a radio or telephone to be used in case of emergencies or accidents.

This project is designated as a Significant Project in accordance with Section 112.03.03 of the Kentucky Standard Specifications.

## **COORDINATION OF WORK**

The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other Contractors. In case of conflict, the Engineer will determine the relative priority to give to work phasing on the various projects.

## **CONTRACTOR'S AND CONTRACTOR'S EMPLOYEES' VEHICLES**

Do not use or allow employees to use median crossovers at any time except when inside lanes are closed for construction. In all other phases of construction, change vehicular direction of travel only at interchanges.



GEOMETRIC D T S EET  
I-2 - C D E ON ND TRIGG COUNT

I-24 EASTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	3906+51.14	3529667.686	4277998.386
PI	3952+63.03	3527617.178	4282129.362
PI	3965+13.40	3527061.853	4283249.643
PI	3969+63.52	3526862.813	4283653.370
PI	3972+13.63	3526751.080	4283877.131
PI	3974+13.67	3526662.065	4284056.280
PI	3983+58.49	3526242.442	4284902.799
PI	3989+04.73	3525999.778	4285392.176
PI	3990+54.79	3525932.799	4285526.456
PI	3993+04.93	3525821.961	4285750.700
PI	3996+55.02	3525666.969	4286064.620
PI	3999+05.08	3525555.562	4286288.483
PI	4002+05.22	3525422.207	4286557.371
PI	4004+55.26	3525311.772	4286781.705
PI	4007+05.24	3525199.898	4287005.258
PI	4013+55.52	3524911.731	4287588.199
PI	4017+55.62	3524734.108	4287946.704
PI	4021+55.68	3524555.819	4288304.842
PI	4028+55.90	3524245.072	4288932.340
PI	4032+05.99	3524089.511	4289245.963
PI	4036+56.05	3523889.595	4289649.189
PI	4041+50.21	3523669.698	4290091.726
PI	4044+56.39	3523534.081	4290366.231
PI	4049+06.50	3523334.272	4290769.564
PI	4053+56.62	3523134.877	4291173.103
PI	4058+06.75	3522934.983	4291576.418
PI	4062+06.87	3522757.632	4291935.090
PI	4071+57.20	3522335.721	4292786.628
PI	4076+57.38	3522113.850	4293234.899
PI	4079+57.43	3521979.957	4293503.421
PI	4098+08.09	3521157.895	4295161.479
PI	4109+58.48	3520646.541	4296191.969

GEOMETRIC D T S EET  
I-2 - C D E ON ND TRIGG COUNT

I-24 EASTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4118+08.71	3520269.263	4296953.912
PI	4125+58.95	3519935.959	4297626.051
PI	4129+09.04	3519780.425	4297939.690
PI	4131+59.08	3519668.664	4298163.372
PI	4179+10.45	3517559.166	4302420.780
PI	4181+10.50	3517470.845	4302600.270
PI	4186+60.61	3517226.297	4303093.036
PI	4191+10.77	3517026.335	4303496.354
PC	4207+60.63	3516293.781	4304974.656
PI	4220+41.56	3515725.034	4306122.395
PT	4232+95.81	3514794.486	4307002.657
PI	4236+54.64	3514533.810	4307249.247
PI	4249+05.05	3513625.055	4308108.133
PI	4261+05.28	3512753.282	4308933.089
PI	4262+55.22	3512644.475	4309036.259
PI	4264+55.24	3512498.504	4309173.008
PI	4271+05.41	3512026.276	4309619.914
PI	4277+55.47	3511554.956	4310067.612
PI	4284+05.63	3511082.241	4310513.983
PI	4285+55.67	3510972.936	4310616.762
PI	4292+05.96	3510501.050	4311064.201
PC	4297+79.45	3510084.415	4311458.295
PI	4308+35.70	3509317.067	4312184.130
PT	4318+86.14	3508693.434	4313036.621
PI	4335+90.63	3507687.060	4314412.311
PI	4340+90.51	3507392.831	4314816.416
PC	4345+79.90	3507103.126	4315210.853
PI	4351+98.49	3506736.946	4315709.413
PT	4358+16.87	3506348.559	4316190.876
PI	4386+82.79	3504544.118	4318427.745
PI	4390+32.76	3504323.903	4318699.749
PI	4391+82.70	3504230.491	4318817.030



GEOMETRIC D T S EET  
I-2 - C D E ON ND TRIGG COUNT

I-24 EASTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4396+32.67	3503948.094	4319167.363
PI	4399+82.80	3503727.486	4319439.242
PI	4406+82.99	3503288.200	4319984.494
PI	4409+83.03	3503099.120	4320217.455
PI	4414+33.01	3502817.656	4320568.543
PI	4418+83.10	3502534.368	4320918.292
PI	4430+83.43	3501781.263	4321852.974
PI	4435+33.58	3501499.023	4322203.650
PI	4439+33.70	3501247.634	4322514.942
PI	4445+83.95	3500838.716	4323020.521
PC	4448+91.22	3500646.006	4323259.852
PI	4450+79.33	3500528.034	4323406.364
PT	4452+67.40	3500414.960	4323556.689
PI	4472+85.22	3499201.997	4325169.244
PI	4478+35.41	3498871.548	4325609.139
PI	4481+85.55	3498660.358	4325888.424
PI	4485+35.72	3498450.157	4326168.482
PI	4488+85.76	3498238.988	4326447.660
PI	4490+85.88	3498118.169	4326607.192
PI	4494+86.00	3497878.199	4326927.354
PI	4499+36.23	3497606.575	4327286.421
PI	4502+36.33	3497426.988	4327526.862
PI	4509+86.58	3496975.483	4328126.043
PI	4512+36.70	3496825.158	4328325.941
PI	4516+86.87	3496553.938	4328685.237
PC	4518+78.60	3496438.611	4328838.411
PI	4524+62.76	3496087.249	4329305.082
PT	4530+44.64	3495669.022	4329712.911
PI	4533+36.13	3495460.333	4329916.411
PI	4539+36.09	3495030.502	4330334.975
PI	4542+86.05	3494780.304	4330579.667
PI	4546+36.06	3494528.965	4330823.252

GEOMETRIC DATA SHEET  
I-2 - C D E ON ND TRIGG COUNT

I-24 EASTBOUND BASELINE GEOMETRIC COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
PI	4548+36.08	3494385.497	4330962.627
PI	4549+86.09	3494278.113	4331067.372
PI	4551+36.12	3494170.968	4331172.396
PI	4553+86.19	3493991.818	4331346.866
PI	4557+86.32	3493704.497	4331625.347
PC	4559+56.45	3493582.671	4331744.102
PI	4564+94.59	3493197.324	4332119.735
PT	4570+29.62	3492888.099	4332560.159
PI	4576+88.51	3492509.488	4333099.409
PI	4584+38.65	3492077.920	4333712.968
PI	4592+38.92	3491617.997	4334367.868
PI	4596+89.08	3491359.070	4334736.110
PI	4600+89.22	3491129.786	4335064.050
PI	4604+39.35	3490929.681	4335351.358
PI	4607+89.48	3490727.733	4335637.387
PC	4612+69.12	3490452.443	4336030.155
PI	4615+94.48	3490265.700	4336296.591
PT	4619+19.51	3490058.578	4336547.512
PI	4622+89.52	3489823.033	4336832.865
PI	4629+39.76	3489411.163	4337336.026
POE	4639+90.21	3488745.156	4338148.353



GEOMETRIC D T S EET  
I-2 - C D E ON ND TRIGG COUNT

CROSSOVER 1 COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	0+00.00	3527906.781	4281575.858
PC	1+34.37	3527847.511	4281696.449
PI	5+29.74	3527673.112	4282051.282
PT	9+24.65	3527529.092	4282419.493
PC	9+27.90	3527527.909	4282422.517
PI	12+78.97	3527400.030	4282749.465
PT	16+29.71	3527248.144	4283065.975
PI	17+56.52	3527193.282	4283180.300
POE	18+38.45	3527157.025	4283253.777

CROSSOVER 2 COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	0+00.00	3519671.752	4298352.583
PC	0+68.67	3519641.253	4298414.110
PI	3+09.55	3519534.273	4298629.931
PT	5+49.26	3519392.123	4298824.395
PC	7+12.55	3519295.761	4298956.221
PI	8+29.50	3519226.743	4299050.638
PT	9+46.32	3519165.811	4299150.463
POE	9+67.91	3519154.562	4299168.892

GEOMETRIC D T S EET  
I-2 - C D E ON ND TRIGG COUNT

CROSSOVER 3 COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	0+00.00	3517903.113	4301683.438
PC	1+99.34	3517818.197	4301863.783
PI	4+25.28	3517721.946	4302068.203
PT	6+50.26	3517659.594	4302285.376
PC	7+07.57	3517643.779	4302340.462
PI	9+61.44	3517573.722	4302584.474
PT	12+13.93	3517461.066	4302811.978
POE	12+21.46	3517457.725	4302818.725

CROSSOVER 4 COORDINATE DATA			
STATION		STATE PLANE COORDINATES	
		NORTHING	EASTING
POB	0+00.00	3489708.159	4337109.833
PC	1+24.35	3489624.714	4337202.022
PI	2+76.62	3489522.525	4337314.918
PT	4+28.87	3489416.737	4337424.449
PC	7+41.87	3489199.297	4337649.582
PI	9+92.25	3489025.355	4337829.679
PT	12+42.34	3488867.022	4338023.641
POE	12+71.30	3488848.710	4338046.074

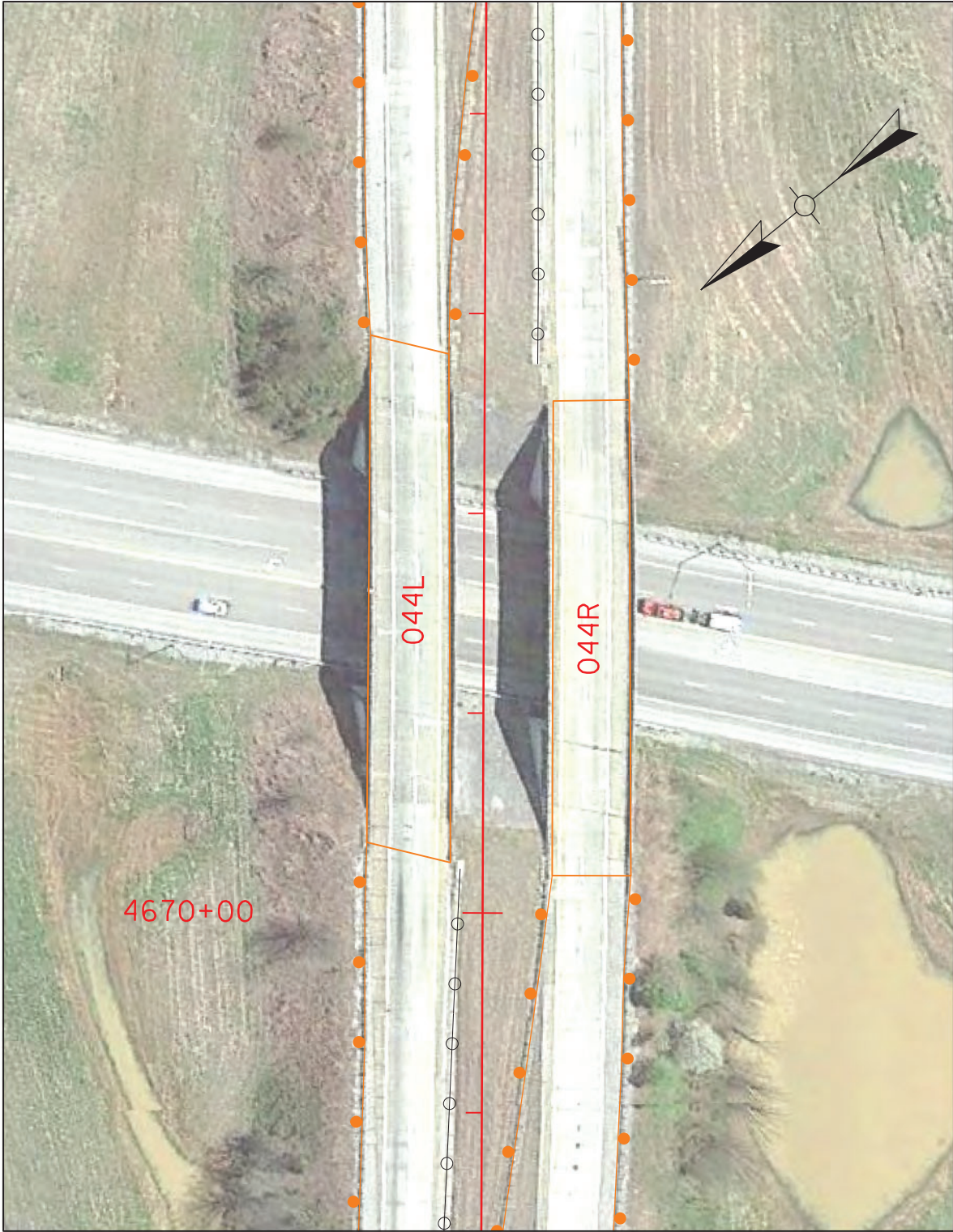


ERTIC ND ORI ONT CONTRO POINTS S EET  
I-2 - C D E ON ND TRIGG COUNT

VERTICAL AND HORIZONTAL CONTROL POINTS						
POINT	DESCRIPTION	STATION AND OFFSET		STATE PLANE COORDINATES		ELEVATION
				NORTHING	EASTING	
A	#4 REBAR w/ CAP	I-24 CL STA. 4414+27.99	147.09' RT.	3502748.791	4320506.444	445.958
B	#4 REBAR w/ CAP	I-24 CL STA. 4592+17.19	549.49' LT.	3492124.503	4334700.352	543.506
C	#4 REBAR w/ CAP	I-24 CL STA. 4296+48.61	113.82' LT.	3510771.899	4311888.567	506.664
D	#4 REBAR w/ CAP	I-24 CL STA. 4157+69.22	136.34' RT.	3518438.330	4300466.719	593.093
E	#4 REBAR w/ CAP	I-24 CL STA. 4065+95.72	147.61' LT.	3522766.911	4292373.690	528.200
F	#4 REBAR w/ CAP	I-24 CL STA. 3969+18.60	356.72' RT.	3527252.112	4283796.202	548.704
G	#4 REBAR w/ CAP	---	---	3531001.087	4277220.604	530.905

COUNTY OF	ITEM NO.
TRIGG	01-20011.00

I-24 OVER US 68 (111B00044L/R)  
(MP 65.35)



PROPOSED WORK: BARRIER WALL RETROFIT

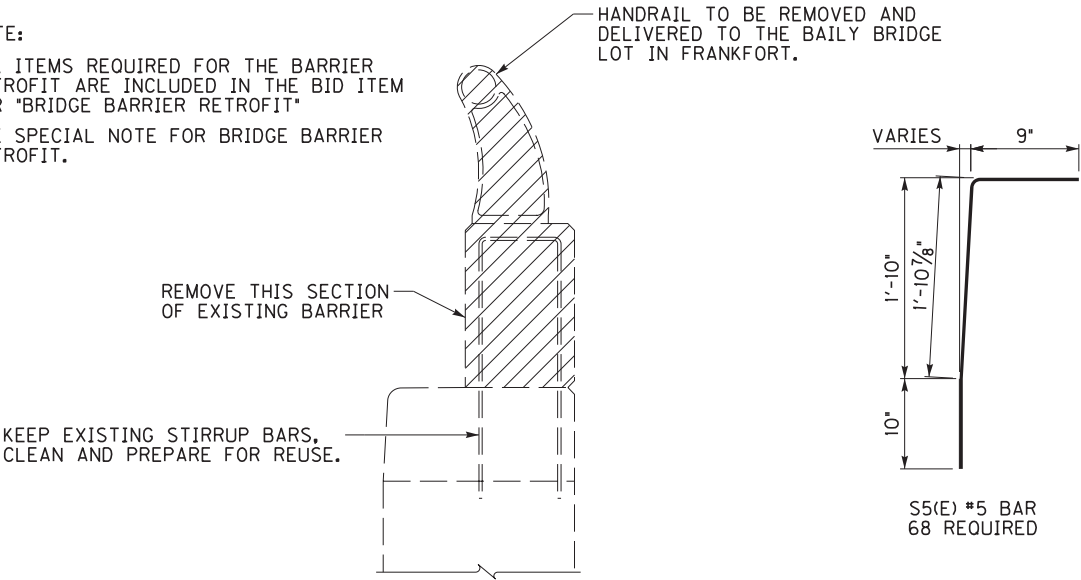


**TOTAL WEIGHT 3,601 LBS  
(PER BRIDGE L/R)**

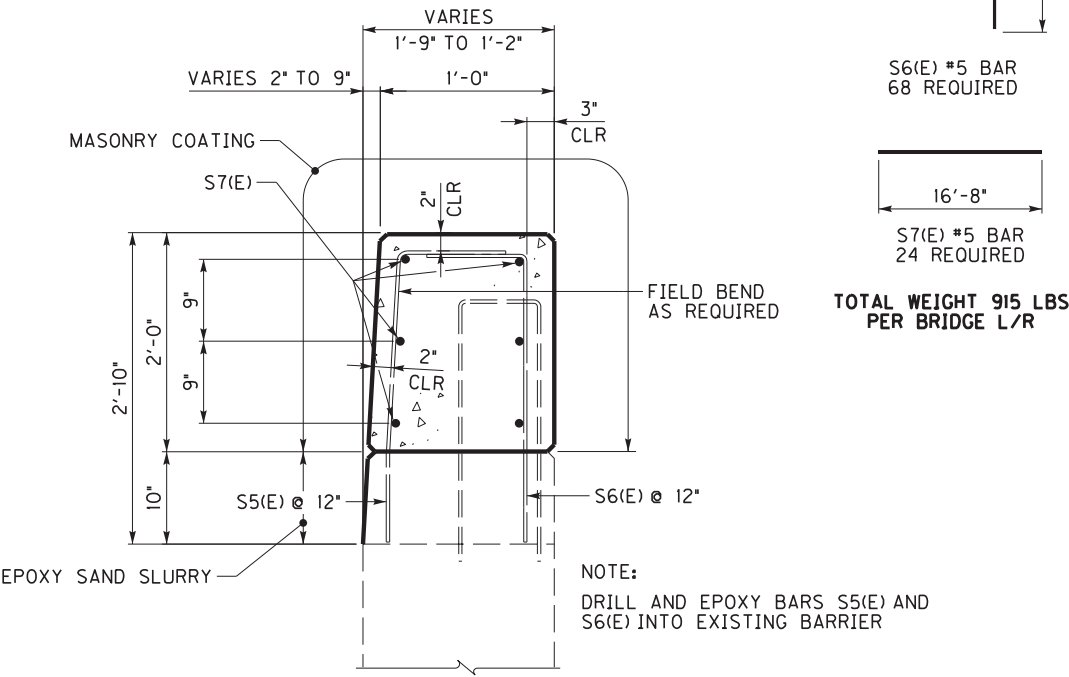
I-24 OVER US 68  
BARRIER RETROFIT DETAIL AT WING

NOTE:

- 1. ALL ITEMS REQUIRED FOR THE BARRIER RETROFIT ARE INCLUDED IN THE BID ITEM FOR "BRIDGE BARRIER RETROFIT"
- 2. SEE SPECIAL NOTE FOR BRIDGE BARRIER RETROFIT.



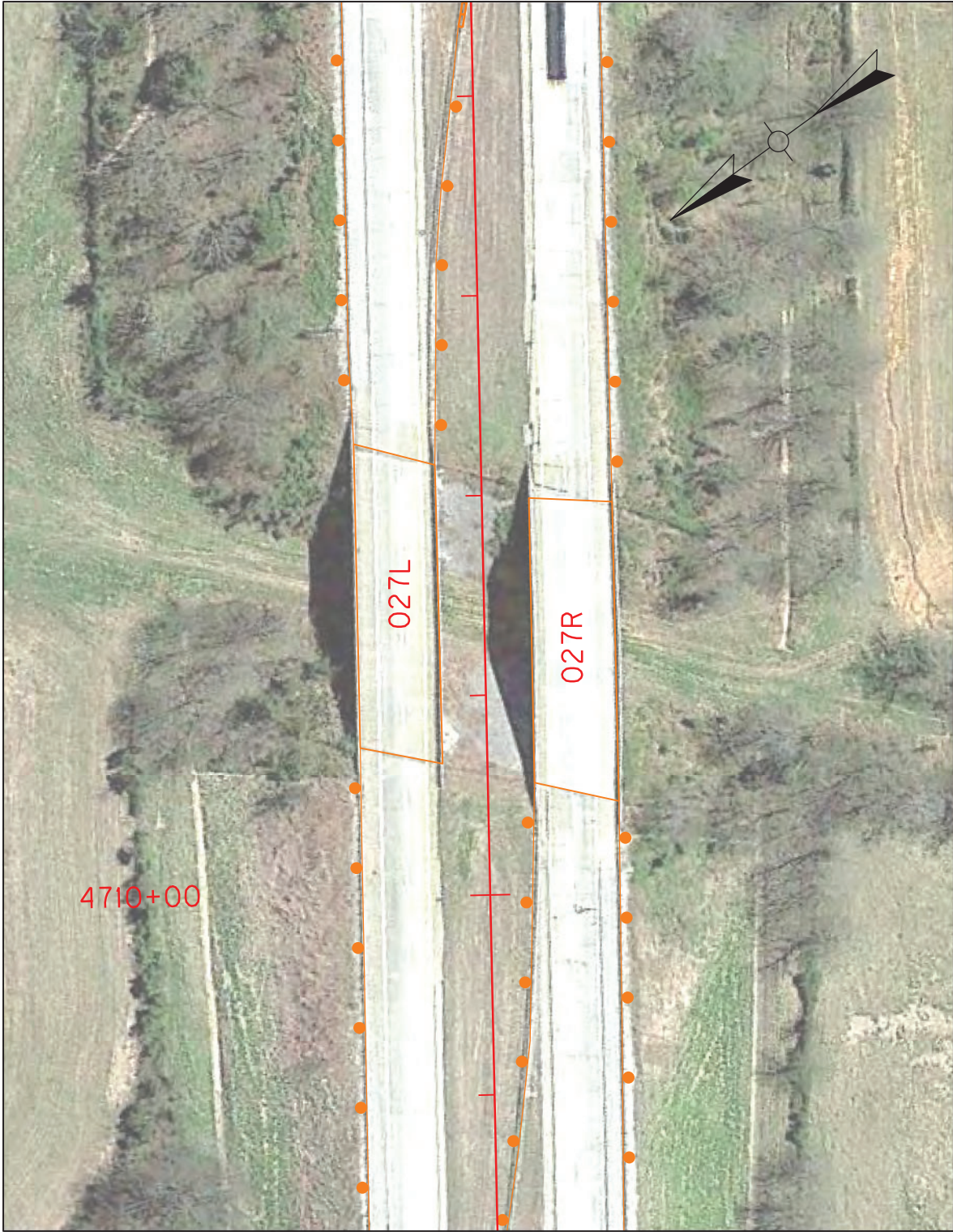
EXISTING BARRIER SECTION



BARRIER RETROFIT SECTION



I-24 OVER ABANDONED RAILROAD (111B00027L/R)  
(MP 66.53)

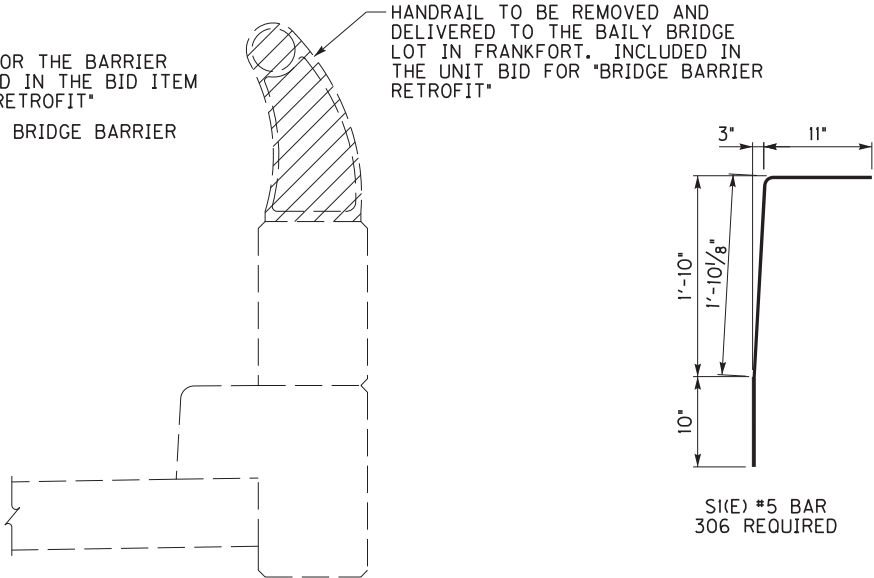


PROPOSED WORK: BARRIER WALL RETROFIT

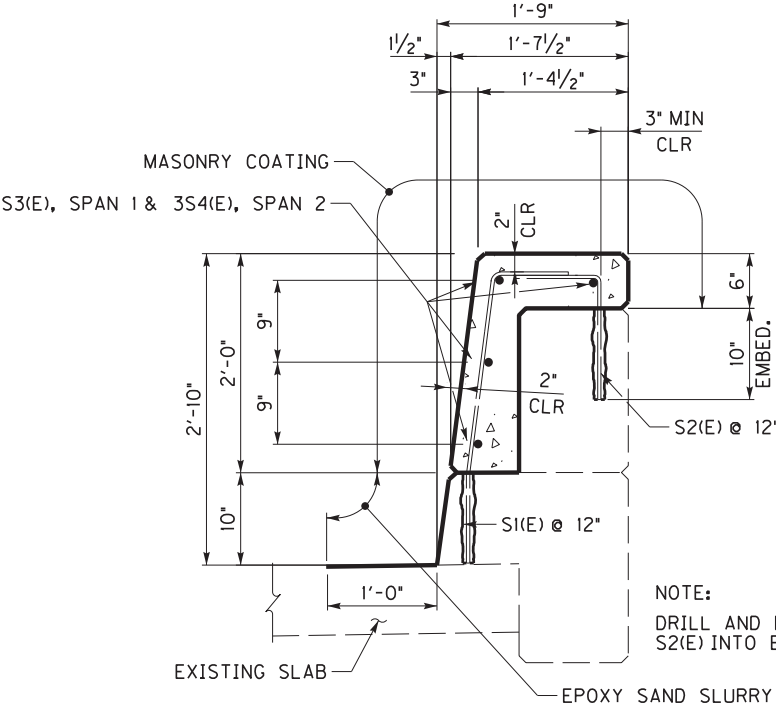
I-24 OVER ABANDONED RAILROAD  
BARRIER RETROFIT DETAIL

NOTE:

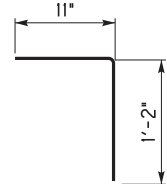
- 1. ALL ITEMS REQUIRED FOR THE BARRIER RETROFIT ARE INCLUDED IN THE BID ITEM FOR "BRIDGE BARRIER RETROFIT"
- 2. SEE SPECIAL NOTE FOR BRIDGE BARRIER RETROFIT.



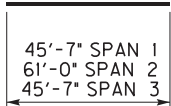
EXISTING BARRIER SECTION



BARRIER RETROFIT SECTION



S2(E) #5 BAR  
306 REQUIRED



S3(E) #5 BAR, SPAN 1 & 3  
16 REQUIRED  
S4(E) #5 BAR, SPAN 2  
8 REQUIRED

TOTAL WEIGHT 3,082 LBS  
(PER BRIDGE L/R)

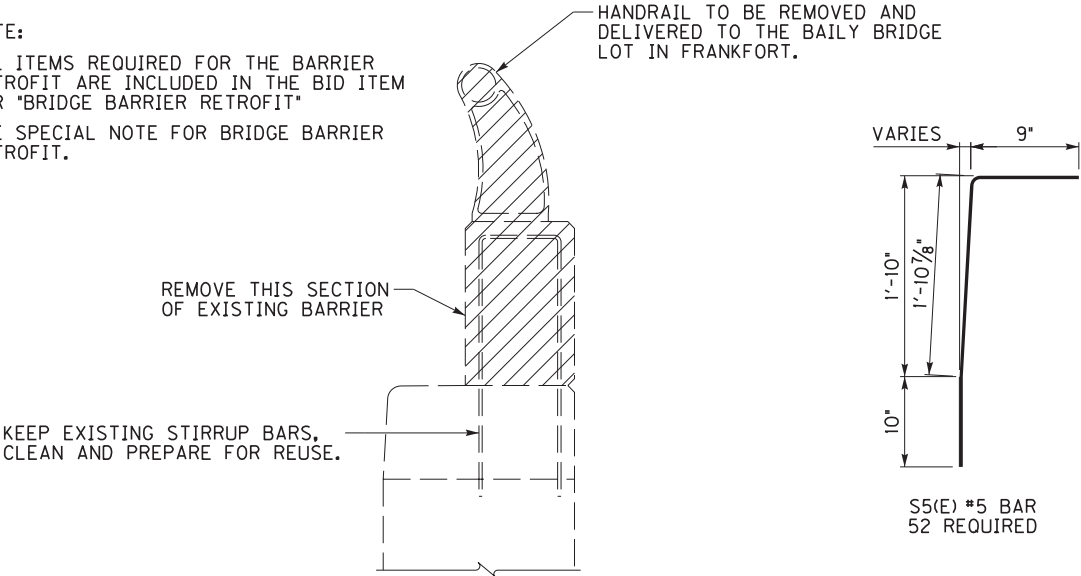
NOTE:  
DRILL AND EPOXY BARS S1(E) AND  
S2(E) INTO EXISTING BARRIER



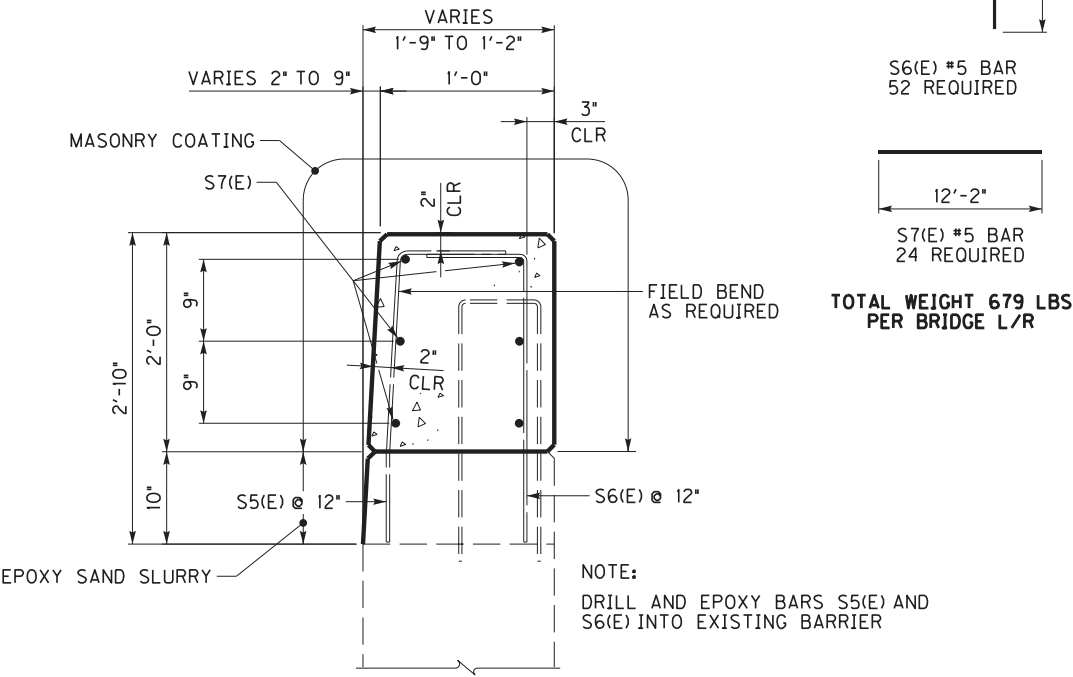
I-24 OVER ABANDONED RAILROAD  
BARRIER RETROFIT DETAIL AT WING

NOTE:

- 1. ALL ITEMS REQUIRED FOR THE BARRIER RETROFIT ARE INCLUDED IN THE BID ITEM FOR "BRIDGE BARRIER RETROFIT"
- 2. SEE SPECIAL NOTE FOR BRIDGE BARRIER RETROFIT.

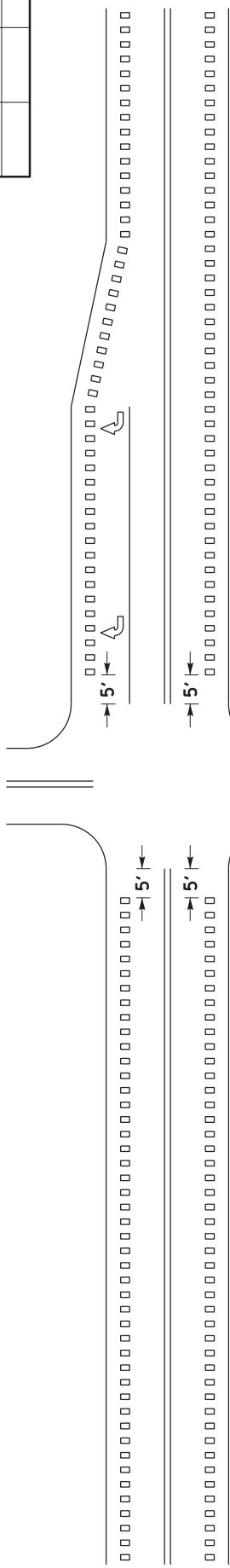


EXISTING BARRIER SECTION

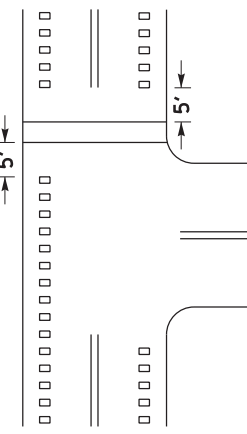


BARRIER RETROFIT SECTION

COUNTY OF	ITEM NO.	SHEET NO.

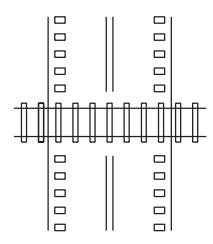


INTERSECTIONS WITH OR WITHOUT  
RIGHT TURN LANES ①

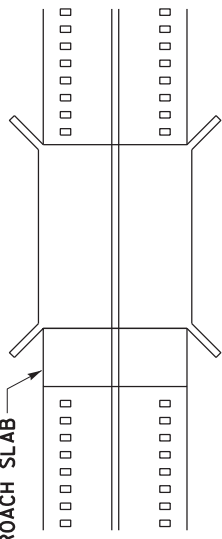


MARKED CROSSWALK ②

HIGHWAY-RAIL GRADE CROSSINGS ③

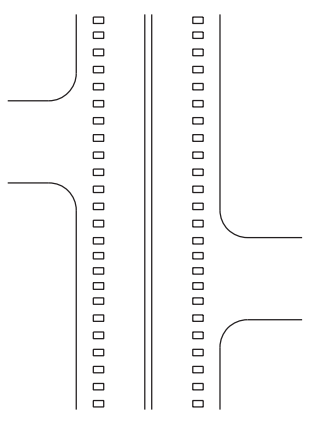


APPROACH SLAB

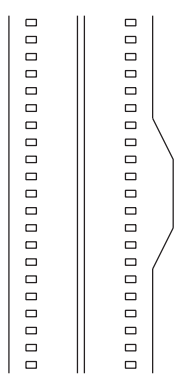


BRIDGE DECK/APPROACH SLAB ④

DRIVEWAYS/MINOR  
COMMERCIAL ENTRANCES ⑤



MAILBOX TURNOUTS ⑥



~ NOTES ~

- ① RUMBLE STRIPS SHALL BE OMITTED THROUGH MAJOR INTERSECTIONS WITH, OR WITHOUT, RIGHT-TURN LANES. OMIT RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF THE AREA WHERE EDGE LINE PAVEMENT MARKINGS HAVE BEEN OMITTED (NORMALLY WHERE SIDE STREET RADIUS INTERSECTS MAINLINE).
- ② RUMBLE STRIPS SHALL NOT BE INSTALLED THROUGH MARKED CROSSWALKS. OMIT RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF MARKED CROSSWALKS.
- ③ RUMBLE STRIPS SHALL NOT BE INSTALLED ACROSS HIGHWAY-RAIL GRADE CROSSINGS.
- ④ RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS OR APPROACH SLABS.
- ⑤ RUMBLE STRIPS SHALL BE INSTALLED THROUGH DRIVEWAYS & MINOR COMMERCIAL ENTRANCES.
- ⑥ RUMBLE STRIPS SHALL BE INSTALLED THROUGH MAILBOX TURNOUTS.
- 7. RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.

DRAWING NOT TO SCALE

USE WITH SEPIA 006, 007,  
AND 008

KENTUCKY DEPARTMENT OF HIGHWAYS
SHOULDER & EDGE LINE RUMBLE STRIP DETAILS
SUBMITTED <i>R. Offenberg</i> 11-23-16 DATE
005

BID ITEMS AND UNIT TO BID  
EDGE LINE RUMBLE STRIPS  
SHOULDER RUMBLE STRIPS

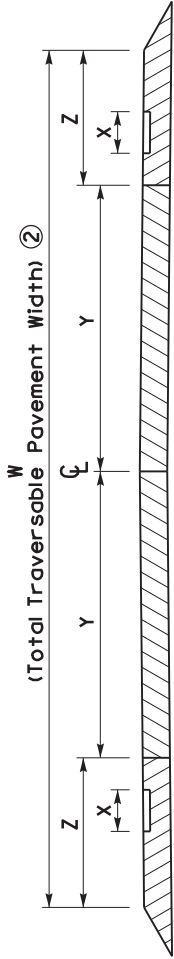
LF  
LF

I-24 - CALDWELL, LYON, AND TRIGG CO.  
KYTC STANDARD DRAWING SEPIA SHEETS

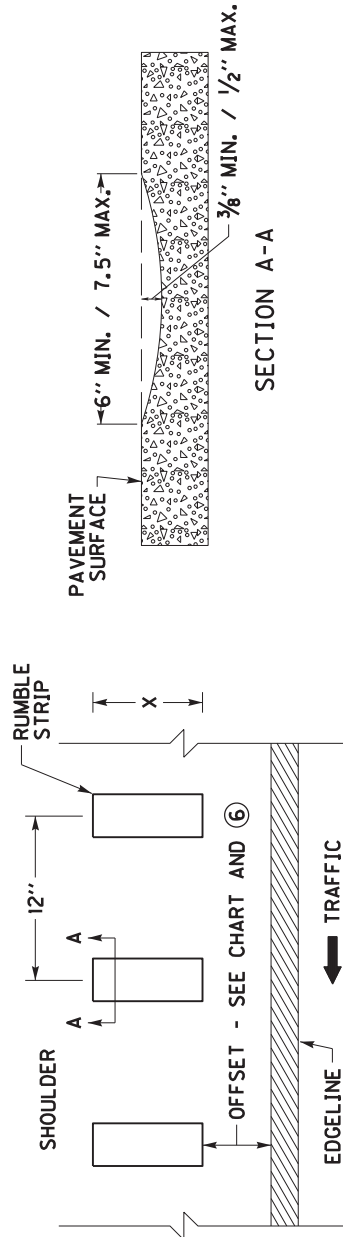


COUNTY OF	ITEM NO.	SHEET NO.

PAVEMENT WIDTH (W) ②	RUMBLE LENGTH (X) ⑥	OFFSET ⑥	CLRS & SRS	
			LANE WIDTH (Y) ③	SHOULDER WIDTH (Z) ④
34'	8"	6"	12'	5'
35'	8"	6"	12'	5.5'
36'	8"	6"	12'	6'
37'	12"	12"	12'	6.5'
38'	12"	12"	12'	7'
39'	12"	12"	12'	7.5'
>=40'	16"	12"	12'	>=8'



PAVEMENT CROSS-SECTION

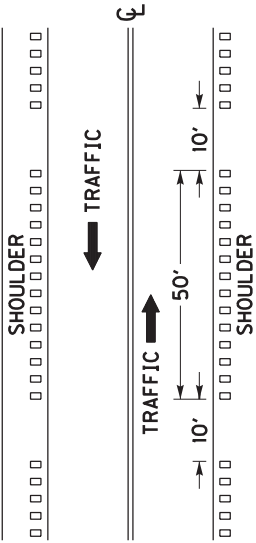


~ NOTES ~

1. SHOULDER RUMBLE STRIPS SHOULD BE INSTALLED ACCORDING TO THE DIMENSIONS PROPOSED ABOVE UNLESS THERE IS AN ENGINEERING BASIS THAT SUPPORTS A CHANGE IN DIMENSION. FOR EXAMPLE, IF THE EXISTING LANE WIDTH IS NARROWER THAN THE LANE WIDTH PROPOSED IN THIS DRAWING AND THE EXISTING SHOULDER PAVEMENT DEPTH IS NOT SUITABLE TO BE CONVERTED INTO A PORTION OF THE PROPOSED LANE WIDTH, THEN THE EXISTING LANE WIDTH SHOULD BE USED INSTEAD OF THE WIDTH PROPOSED IN THIS DRAWING.
- ② PAVEMENT WIDTH (W) IS THE TOTAL WIDTH OF TRAVERSABLE PAVEMENT. DO NOT INCLUDE THE WIDTH OF ANY NON-TRAVERSABLE PAVEMENT, SUCH AS PAVEMENT WEDGES, WHEN MEASURING THE PAVEMENT WIDTH (W).
- ③ LANE WIDTH (Y) TO BE MEASURED FROM CENTER OF ROAD TO CENTER OF EDGELINE STRIPE.
- ④ PAVED SHOULDER WIDTH (Z) TO BE MEASURED FROM CENTER OF EDGELINE STRIPE TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT.
5. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE. IF THE TYPICAL SECTION SHOWS A LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) THAT DIFFERS FROM THE WIDTHS LISTED IN THIS DRAWING, THE ENGINEER SHALL DETERMINE THE LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) AT THE TIME OF CONSTRUCTION.  
NOTE: CENTERLINE RUMBLE STRIPS SHOULD BE OMITTED WHEN THE LANE WIDTH (Y) IS LESS THAN 11 FT.
- ⑥ RUMBLE LENGTH (X) AND/OR OFFSET DISTANCE MAY BE MODIFIED AS THE ENGINEER DIRECTS, IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE COMBINED WIDTH OF THE PROPOSED RUMBLE LENGTH (X) AND OFFSET DISTANCE.
- ⑦ ALL SHOULDER RUMBLE STRIPS ALONG SHOULDER STRIPS THAT ARE 5' OR WIDER SHOULD INCLUDE BICYCLE GAPS AS DETAILED.
8. SHOULDER RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.

BID ITEM AND UNIT TO BID  
SHOULDER RUMBLE STRIPS

LF



BICYCLE GAPS ⑦

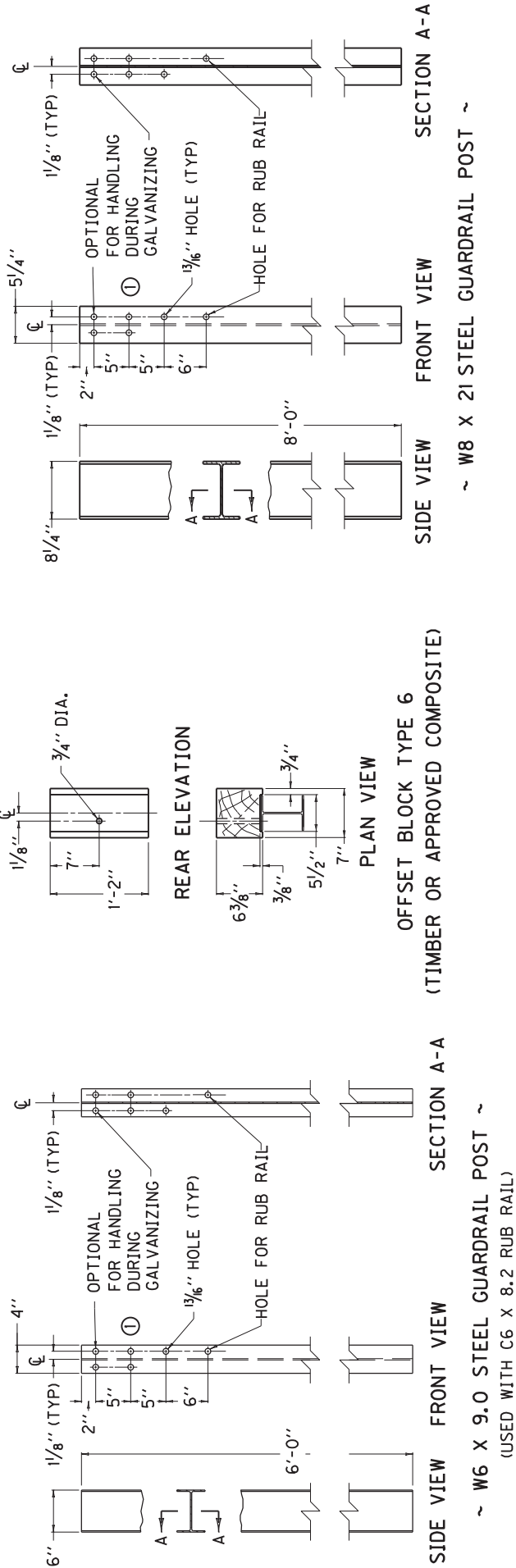
DRAWING NOT TO SCALE

USE WITH SEPIA 005

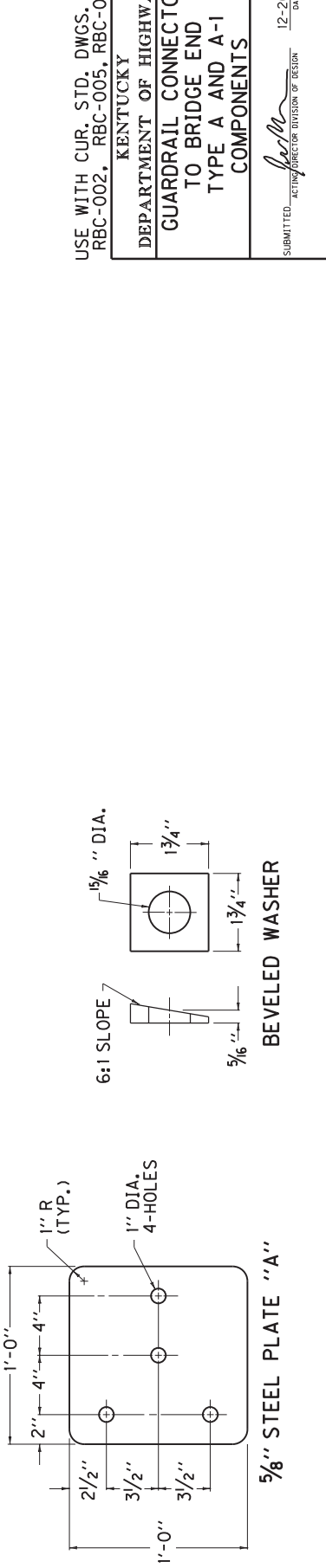
KENTUCKY DEPARTMENT OF HIGHWAYS
SHOULDER RUMBLE STRIP DETAILS
TWO LANE ROADWAYS

SUBMITTED	DATE
R. Offroy	11-23-16
	007

COUNTY OF	ITEM NO.	SHEET NO.



~ NOTES ~  
① THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.



USE WITH CUR. STD. DWGS.  
RBC-002, RBC-005, RBC-006

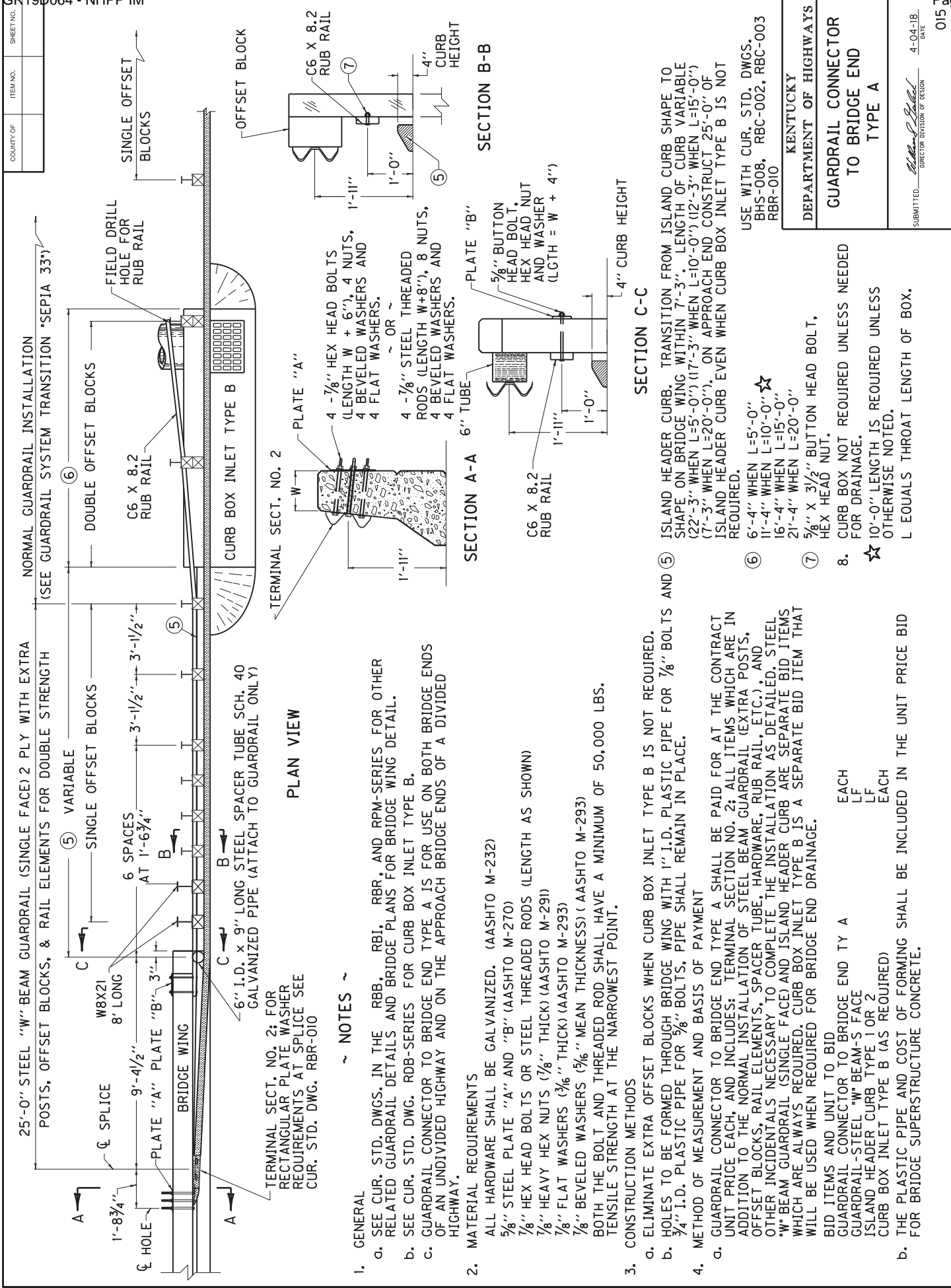
KENTUCKY  
DEPARTMENT OF HIGHWAYS

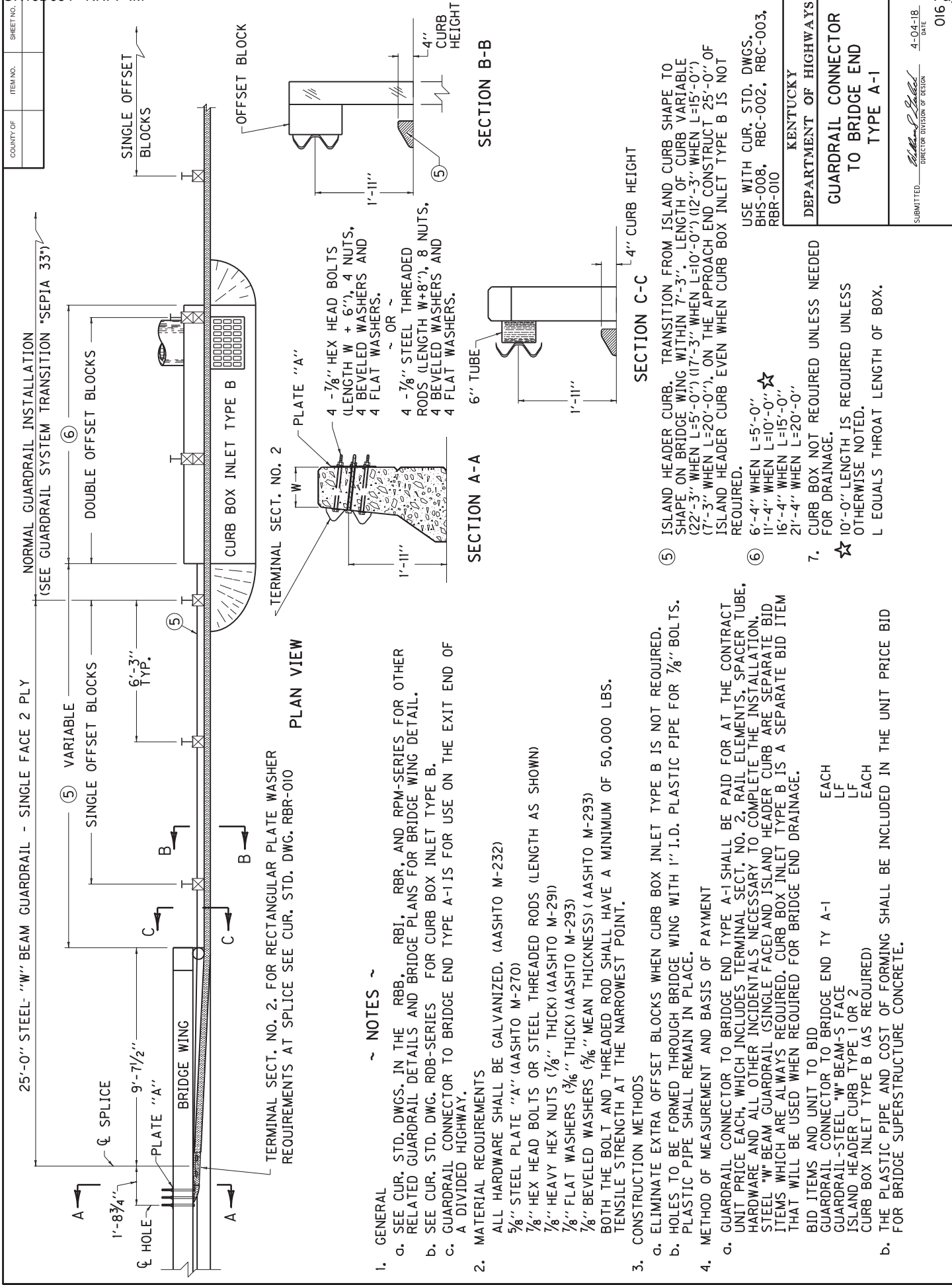
GUARDRAIL CONNECTOR  
TO BRIDGE END  
TYPE A AND A-1  
COMPONENTS

SUBMITTED: *[Signature]*  
DATE: 12-20-18  
ACTING DIRECTOR OF DESIGN

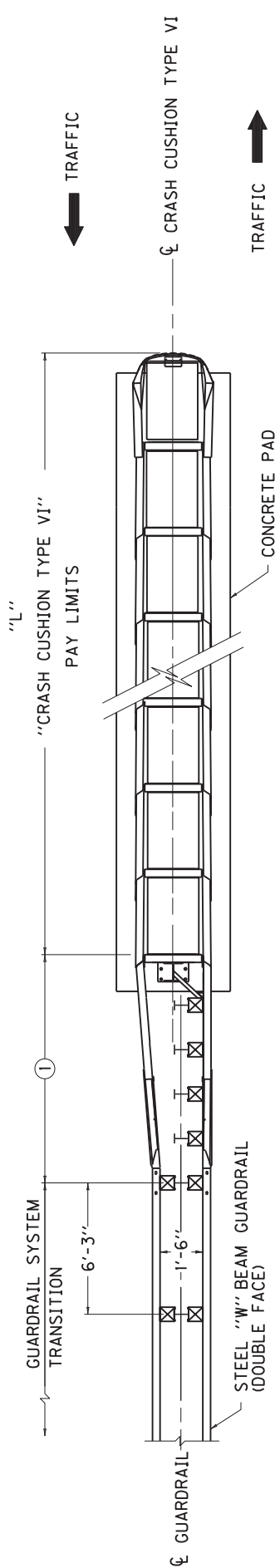
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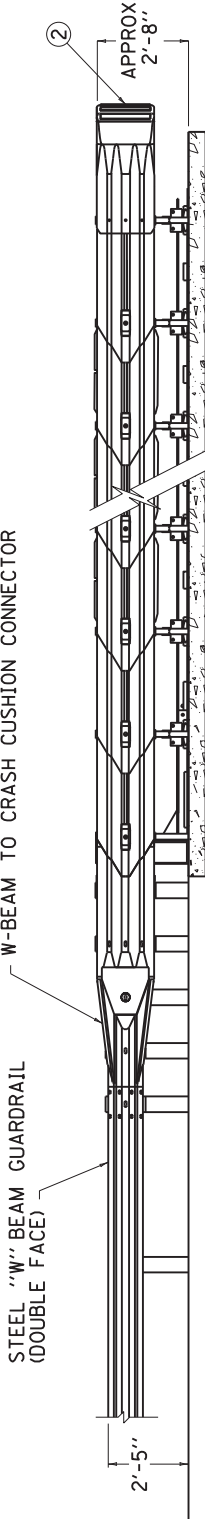


COUNTY OF	ITEM NO.	SHEET NO.



~ PLAN ~

W-BEAM TO CRASH CUSHION CONNECTOR



~ ELEVATION ~

ADDITIONAL CONCRETE PAD CONSTRUCTION MAY BE REQUIRED PER MANUFACTURER SPECIFICATIONS.

~ NOTES ~


- 1 ALL HARDWARE, POSTS, OFFSET BLOCKS, ADDITIONAL GUARDRAIL, W-BEAM TO CRASH CUSHION CONNECTOR, LABOR AND INCIDENTALS WITHIN THE TRANSITION LENGTH, AS REQUIRED BY THE CRASH CUSHION MANUFACTURER SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR "CRASH CUSHION TYPE VI". ADD SUFFIX OF 1 TO BID ITEM WHICH DENOTES A BACK-UP SYSTEM OTHER THAN CONCRETE, AS DETAILED ON PLANS AND APPROVED SHOP DRAWINGS.
- 2 OBJECT MARKER TYPE 1, (SEE CURRENT MUTCD MANUAL FOR DETAILS) CENTER HORIZ. AND VERT. BID ITEM AND UNIT TO BID EACH OBJECT MARKER TYPE 1
- 3 CRASH CUSHIONS ARE TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS, INCLUDING THE CONCRETE PAD. MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP PLANS TO THE CONTRACTOR WITH EACH INSTALLATION.
- 4 NCHRP-350-COMPLIANT CRASH CUSHIONS WILL BE ACCEPTED IN INSTANCES WHERE MASH-COMPLIANT DEVICES ARE NOT YET AVAILABLE.

USE WITH CUR. SEPIA 020

KENTUCKY
DEPARTMENT OF HIGHWAYS
CONNECTION DETAILS OF
CRASH CUSHION TYPE VI
TO DOUBLE FACE
GUARDRAIL

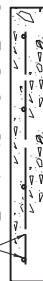
SUBMITTED	1-02-19	DATE
ACTING DIRECTOR		DESIGN
018		



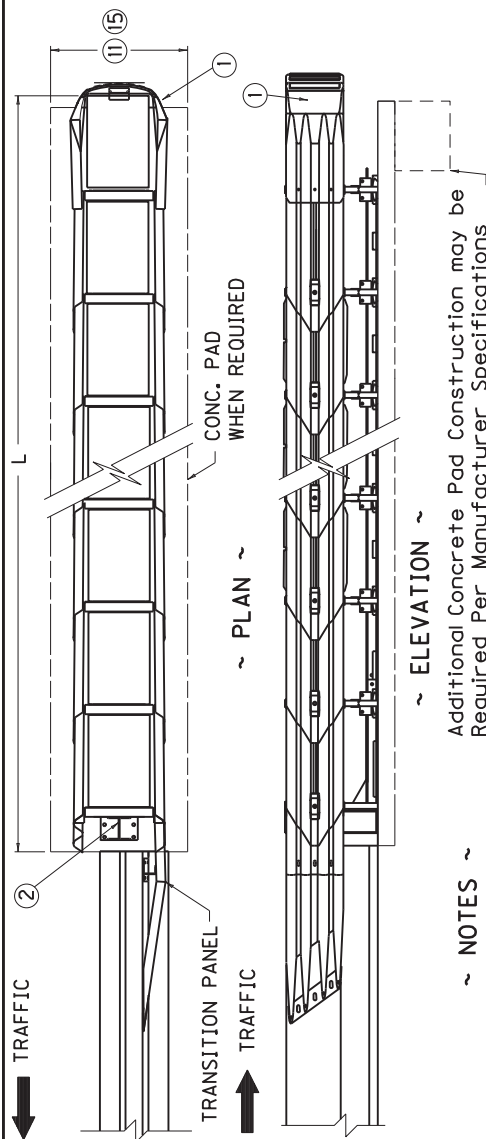


~ PICTORIAL VIEW ~

## PER MANUFACTURER SPECIFICATIONS



~ CONCRETE PAD SECTION ~  
(PER MANUFACTURER SPECIFICATIONS  
REFER TO NOTES 11) (15)



Additional Concrete Pad Construction may be Required Per Manufacturer Specifications

NOTES

① NOSE ASSEMBLY (OBJECT MARKER TYPE 1 AS NECESSARY)

② CONSTRUCTION ZONE BACKUP

3. CRASH CUSHION TYPE VI, CLASS B, ☆, ☆, △, ☆ EITHER TEST LEVEL 2 (TL2) OR TEST LEVEL 3 (TL3), AS REQUIRED.

☆ EITHER TEST LEVEL 2 (TL2) OR TEST LEVEL 3 (TL3), AS REQUIRED.  
 ▲ SEE "CONNECTION DETAILS OF CRASH CUSHION TYPE VI TO DOUBLE FACE GUARDRAIL".

4. CRASH CUSHION TYPE VI-BT IS DEPICTED ATTACHED TO A CONCRETE BARRIER (TEMPORARY).

5. WHEN CRASH CUSHION TYPE VI-BT IS ATTACHED TO STEEL "W" BEAM GUARDRAIL (DOUBLE FACE), ALL APPLICABLE DETAILS SHOWN ON CUR. SEPIA 018. "CONNECTION DETAIL OF CRASH CUSHION TYPE VI TO DOUBLE FACE GUARDRAIL" SHALL BE REQUIRED.

6. WHEN CRASH CUSHION TYPE VI-BT IS ATTACHED TO STEEL "W" BEAM GUARDRAIL (DOUBLE FACE), THE TRANSITION PANEL SHALL BE ELIMINATED. THE VI TO DOUBLE FACE GUARDRAIL SHALL BE REQUIRED. SHOWN ON CONC. SETBACK, CONNECTION DETAIL OF CRASH CUSHION.
7. IN A TWO-WAY TRAFFIC SITUATION FOR A 6" OR 9" TOP WIDTH WALL THE UNIT SHALL BE OFFSET FROM THE CENTERLINE OF THE WALL AS SHOWN IN THE PLAN VIEW. FOR A 12" TOP WIDTH WALL, THE UNIT SHALL BE CENTERED ON THE END OF THE BARRIER.

8. FOR ONE-WAY APPROACH TRAFFIC THE UNIT SHALL BE CENTERED ON THE END OF THE BARRIER.

9. THE COMPLETE INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF ENERGY ABSORPTIONS INC. OR TRINITY INDUSTRIES INC. FOR ONE HAT RATCH NUTTING. THE HAT SHALL BE CENTERED ON THE END OF THE DRAINING.

10. ANCHORAGE DEVICES TO SECURE THE CRASH CUSHION TO THE EXISTING SURFACE SHALL BE SHOWN ON APPROVED SHOP DRAWINGS.

11. THE CONCRETE PAD, PAD EXCAVATION AND STEEL REINFORCEMENT, INSTALLED IN PLACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CRASH CUSHION TYPE VI. DIMENSION AND REINFORCEMENT SPECIFICATIONS FOR CONCRETE PADS ARE TO BE PROVIDED BY THE MANUFACTURER. THE PAD WILL NOT BE REQUIRED WHEN UNITS ARE CONSTRUCTED ON RIGID PAVEMENT.

12. THE PAD WILL NOT BE REQUIRED WHEN THE UNIT IS CONSTRUCTED ON EXISTING PAVEMENT OR BRIDGES AND THE COST OF ANCHORING SHALL BE INCLUDED IN THE UNIT PRICE OF THE CRASH CUSHION.

13. USE WITH CUR. SEPIA 018 WHEN CONNECTING TO DOUBLE FACE GUARDRAIL. SEE DETAIL IN THE UNIT PRICE OF THE CATCH BASIN.

14. PERMISSIBLE ALTERNATES FOR CRASH CUSHION TYPE VI-BT ARE PATENTED ITEMS: ENERGY ABSORPTION SYSTEMS, INC. OF CHICAGO, IL., TRINITY INDUSTRIES, INC. OF DALLAS, TX.

15. CRASH CUSHIONS ARE TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS. INCLUDING THE CONCRETE PAD.

THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP DRAWINGS TO THE CONTRACTOR WITH EACH INSTALLATION. EACH COUSINGS ARE TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS, INCLUDING THE CONCRETE PAD.

16. NCHRP-350-COMPLIANT CRASH CUSHIONS WILL BE ACCEPTED IN INSTANCES WHERE MASH-COMPLIANT DEVICES ARE NOT YET AVAILABLE.

USE WITH CUR. SEPIA 018  
& SEPIA 020

**KENTUCKY**

DEPARTMENT OF HIGHWAYS

CRASH CUSHION  
TYPE VI-BT

SUBMITTED \_\_\_\_\_  
ACTING DIRECTOR, DIVISION OF HUMANITY DESIGN

*[Signature]*

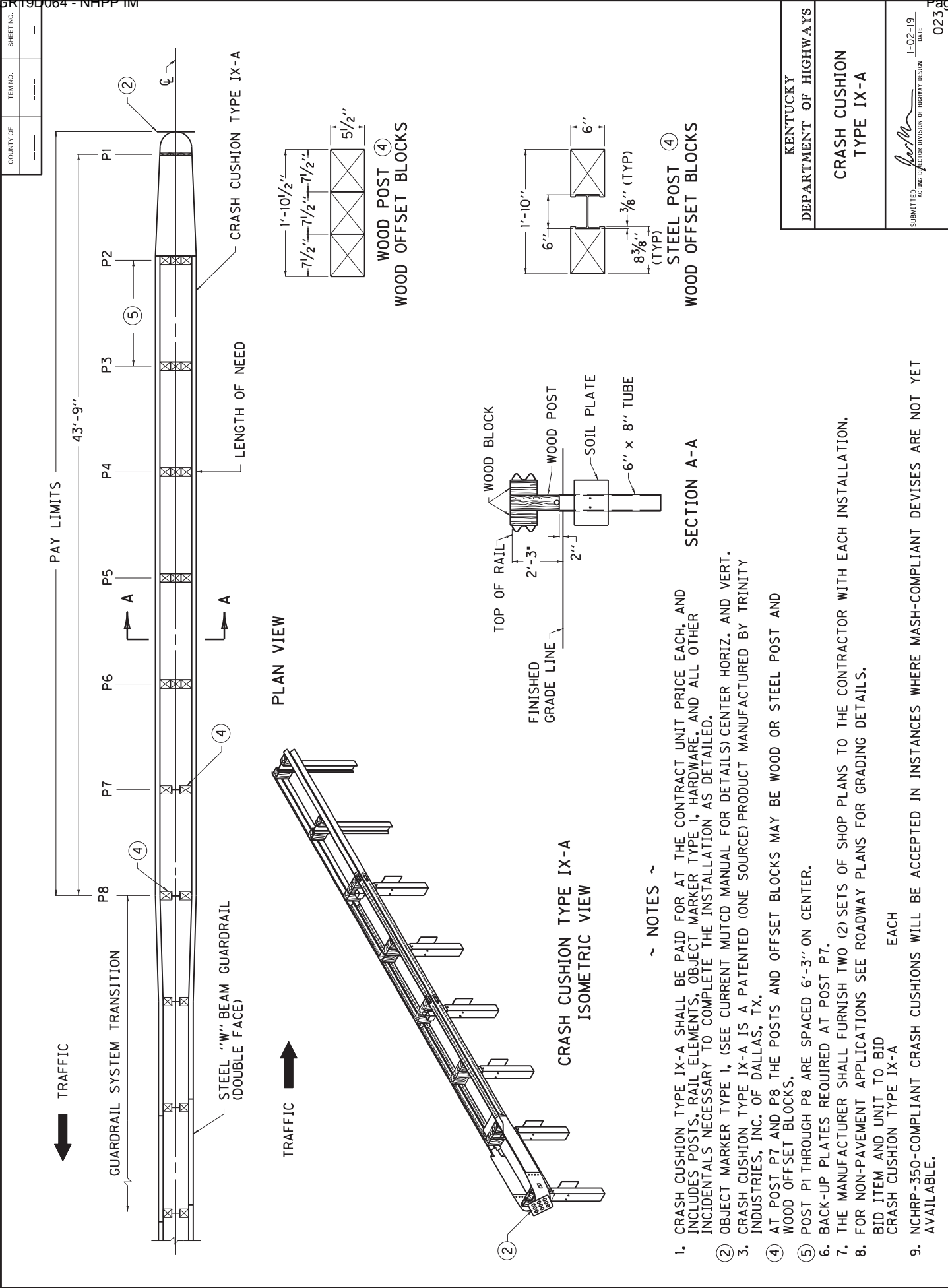
DATE  
1-02-19

021a

A TYPE VI-CLASS C CAN BE USED AT THE CONTRACTOR'S DISCRETION.

CLASS	SPEED ( MPH )	ATTENUATOR	
		MODEL	PRODUCT NAME LENGTH
B	45 & LESS	TL2	SHORTRACC 14'-0"
	OVER 45		3-BAY QUADGUARD M10 12'-0"
		TL3	TRACC 21'-0"
			5-BAY QUADGUARD M10 18'-0"

I-24 - CALDWELL, LYON, AND TRIGG CO.  
KYTC STANDARD DRAWING SEPIA SHEETS

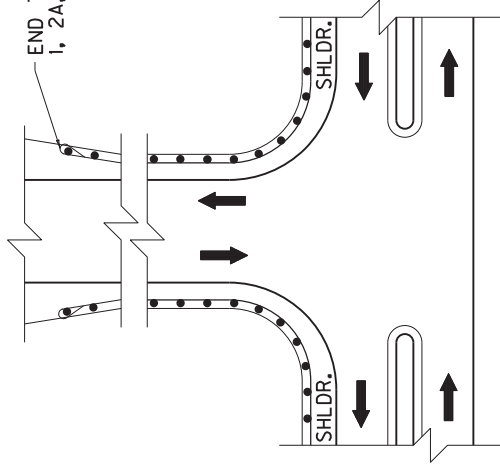


COUNTY OF	ITEM NO.	SHEET NO.

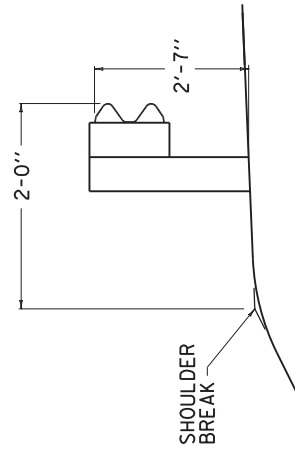
~ NOTES ~

1. FOR END TREATMENT TYPE 4A USE CUR. STD. DWG. RBR-035 FOR OFFSETS.
2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET: (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).

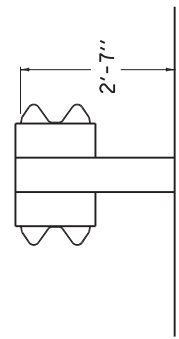
END TREATMENT (TYPES 1, 2A, 3, 4A, OR 7 AS REQUIRED )



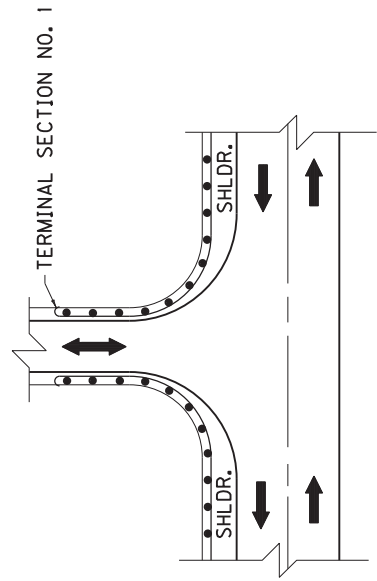
APPROACH ROADS



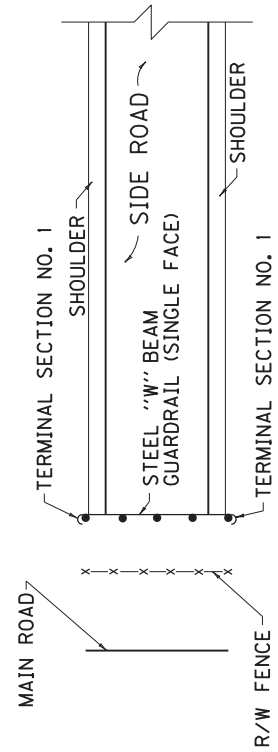
NORMAL GUARDRAIL INSTALLATION



TYPICAL DOUBLE FACE GUARDRAIL INSTALLATION



ENTRANCES



GUARDRAIL USED AS A BARRICADE

USE WITH CUR. STD. DWG.  
RBI-002, RBR-035

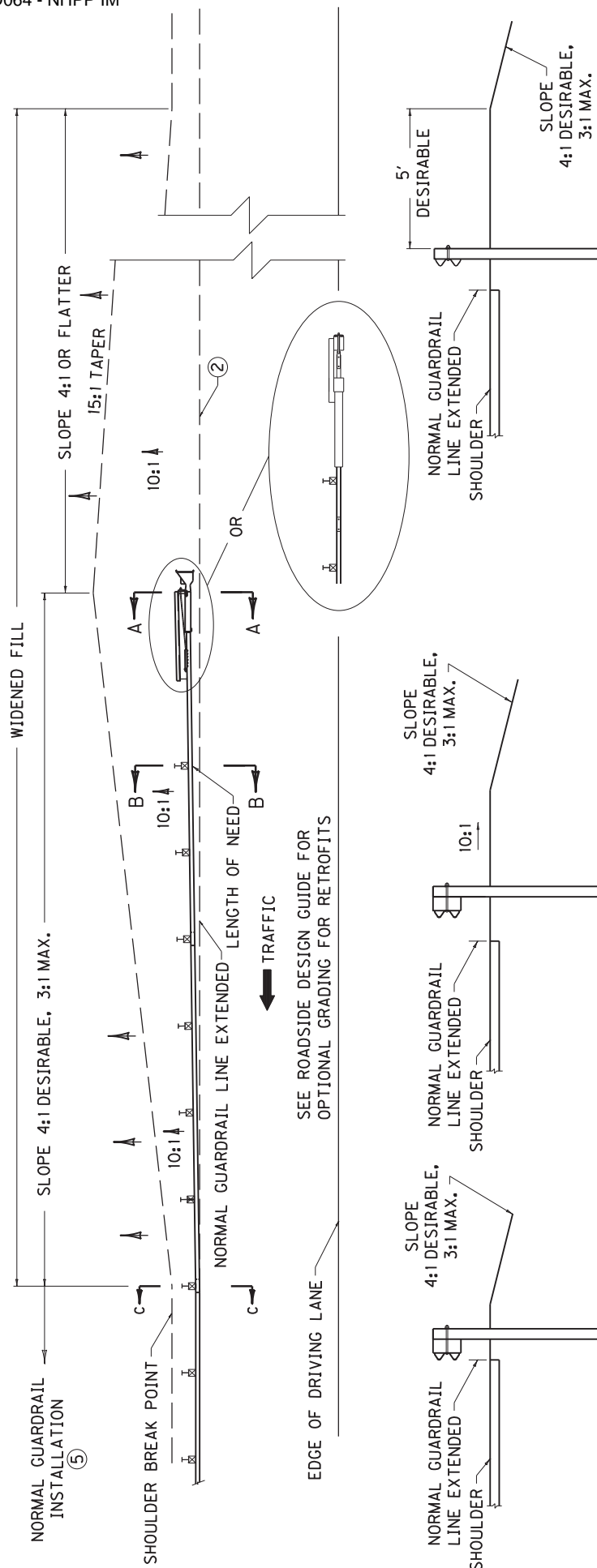
KENTUCKY  
DEPARTMENT OF HIGHWAYS

TYPICAL GUARDRAIL  
INSTALLATIONS

SUBMITTED *William J. Stedley* 11-17-17  
DIRECTOR DIVISION OF DESIGN DATE



COUNTY OF	ITEM NO.	SHEET NO.
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## SECTION A-A

NOTES

BID ITEMS AND UNIT TO BID:  
GUARDRAIL END TREATMENT TYPE I  
ROADWAY OR BORROW EXCAVATION,  
OR EMBANKMENT IN PLACE

1. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).
- ② GUARDRAIL EXTRUDER EDGE CLOSEST TO TRAFFIC SHALL BE ON NORMAL GUARDRAIL LINE EXTENDED.
- ③ END TREATMENT TYPE 1 MAY BE ATTACHED TO CURVED GUARDRAIL IS A 550' RADIUS OR MORE. END TREATMENT TYPE 1 SHALL TAPER WITHIN THE PAY LIMITS.
4. INTENDED USE: FILLS WITH ADEQUATE VEHICLE RECOVERY ZONE.
- ⑤ FOR MAINTENANCE AND REPAIR PROJECTS, USE "GUARDRAIL S" TO TRANSITION BACK TO 27" OR 29" GUARDRAIL HEIGHT, IF CLOSURE TO BE REPLACED.

USE WITH CUR. STD. DWG.  
RBR-020

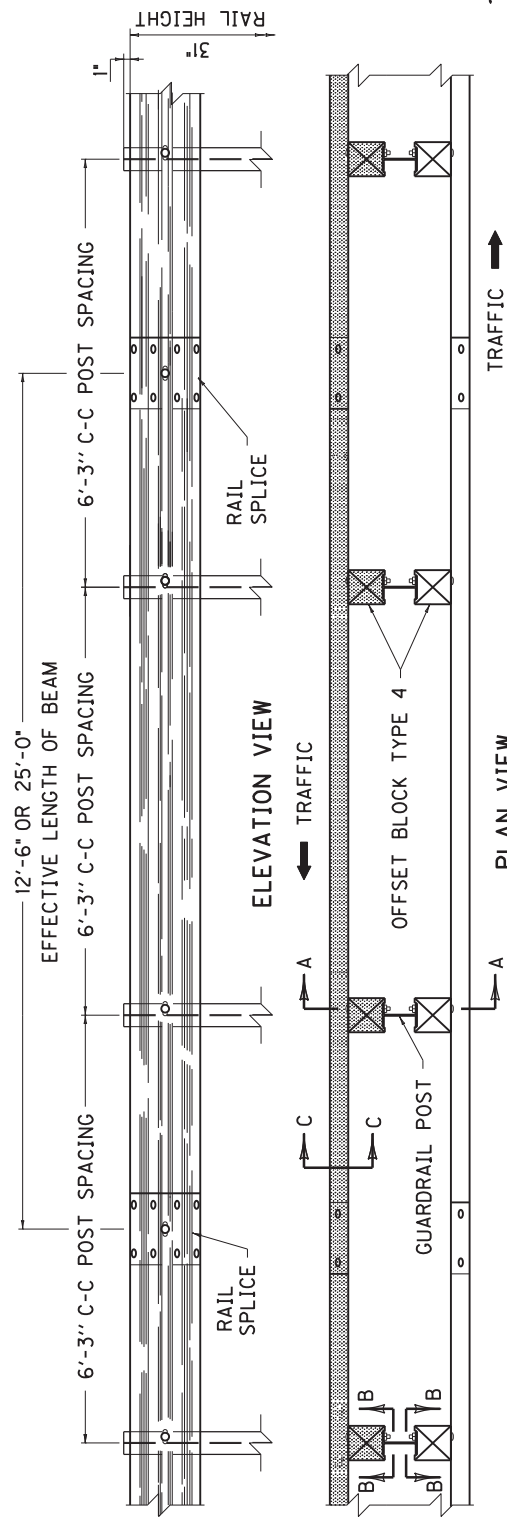
KENTUCKY  
DEPARTMENT OF HIGHWAYS  
INSTALLATION OF  
GUARDRAIL  
END TREATMENT  
TYPE 1

SUBMITTED William S. Leland 11-17-17  
 DIRECTOR DIVISION OF DESIGN DATE

025a

I-24 - CALDWELL, LYON, AND TRIGG CO.  
KYTC STANDARD DRAWING SEPIA SHEETS

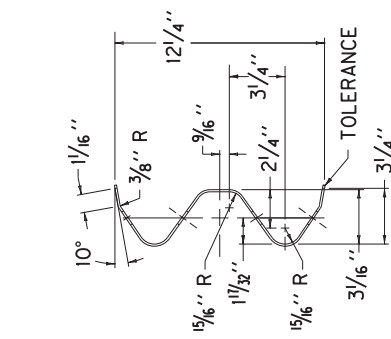
COUNTY OF	ITEM NO.	SHEET NO.



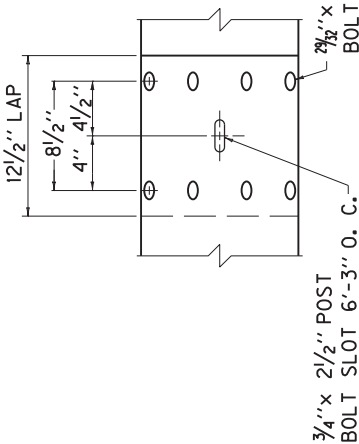
## NOTES

BID ITEM AND UNIT TO BID  
GUARDRAIL-STEEL W BEAM-S FACE  
OR  
GUARDRAIL-STEEL W BEAM-D FACE

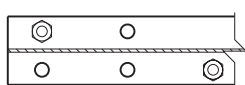
1. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
2. THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
3. ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.
- ④ TOLERANCE + 1/4", -1/4"
- ⑤ 8-5/8"x 1/4" LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
- ⑥ LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2 1/4" FOR THREADED ROD.
- ⑦ GALVANIZED STEEL 10d COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
- ⑧ 5/8"x ⑥ STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR 5/8"x ⑥ BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
- ⑨ 5/8"x8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE 5/8" ROUND WASHER (TYP.), BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".
- ⑩ REQUIRED FOR DOUBLE RAIL
10. BOTH 12'-6" AND 25' LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



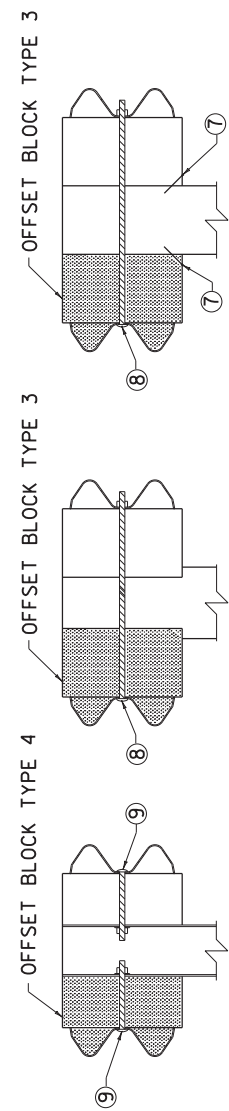
SECTION C-C  
(RAIL CORRUGATED  
SHEET STEEL BEAM)



RAIL SPLICE ⑤



**SECTION B-B**



SECTION A-A  
DOUBLE FACE RAIL WITH  
TIMBER POST

SECTION A-A  
DOUBLE FACE RAIL WITH  
ROUND TIMBER POST

SECTION A-A

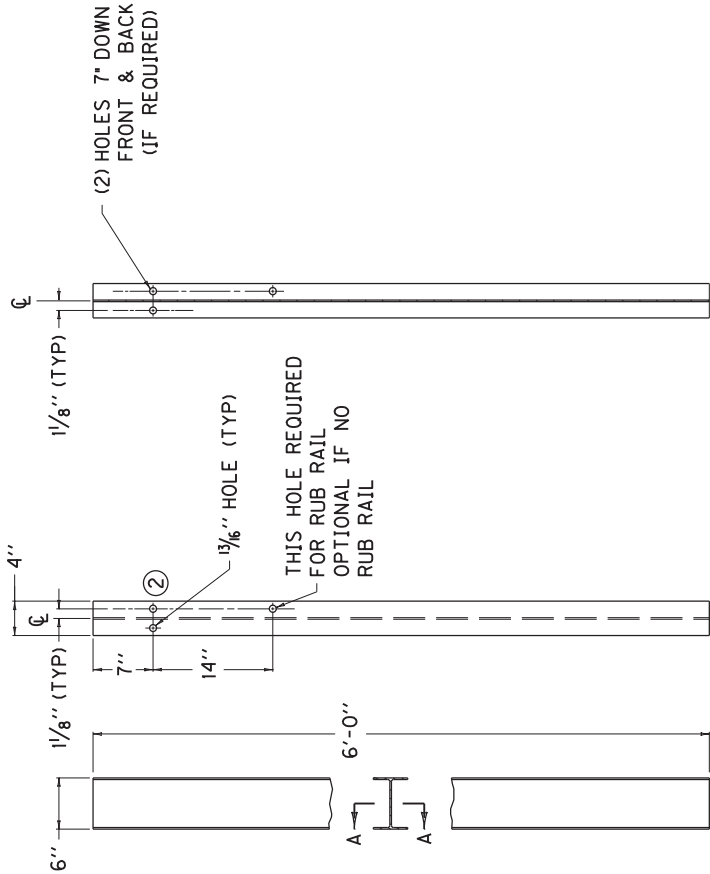
KENTUCKY  
DEPARTMENT OF HIGHWAYS

STEEL BEAM  
GUARDRAIL  
( "W" BEAM )

SUBMITTED *William S. Lakeland* DATE 11-17-17

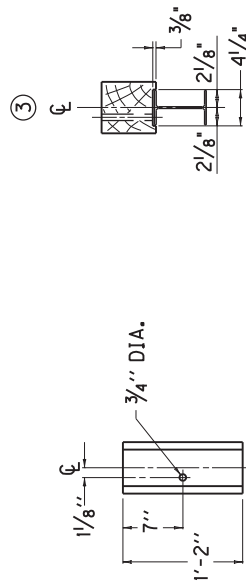
COUNTY OF	ITEM NO.	SHEET NO.

- ~ NOTES ~
- ① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.
  - ② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.
  - ③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.

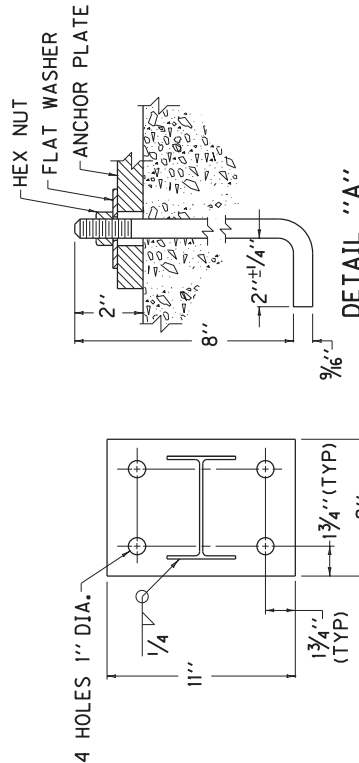


SIDE VIEW FRONT VIEW SECTION A-A

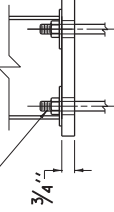
~ W6 X 9.0 STEEL POST ① ~



OFFSET BLOCK TYPE 4  
6" X 8" (Nominal Size)  
(TIMBER OR APPROVED COMPOSITE)  
(FOR USE WITH STEEL POST ONLY)

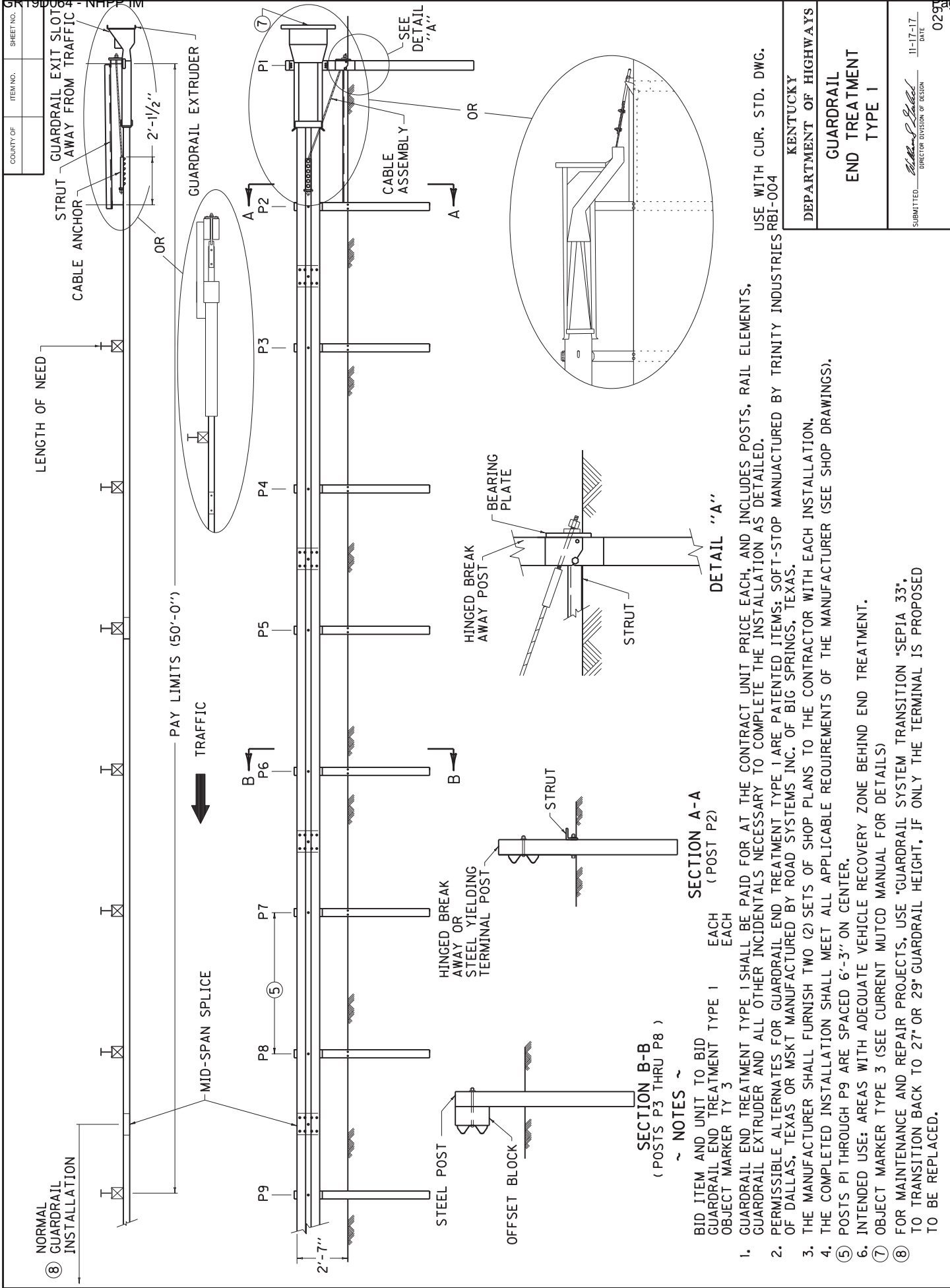


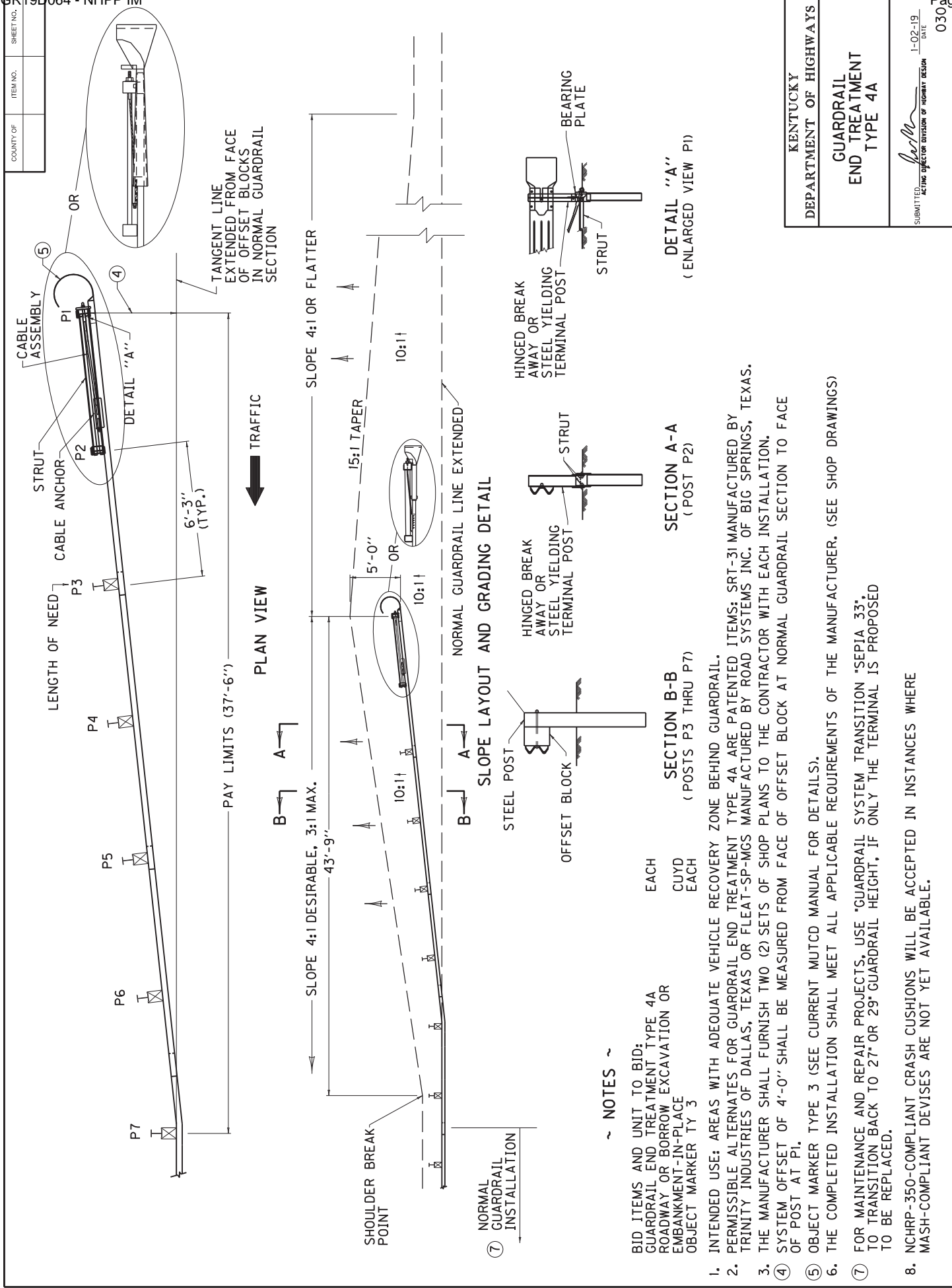
SEE DETAIL "A"



KENTUCKY DEPARTMENT OF HIGHWAYS
STEEL GUARDRAIL POSTS
SUBMITTED: <i>William J. Riddell</i> DIRECTOR DIVISION OF DESIGN DATE: 3-06-18 028







COUNTY OF	ITEM NO.	SHEET NO.

~ NOTES ~

- BID ITEMS AND UNIT TO BID  
DELINEATOR FOR GUARDRAIL B/W  
DELINEATOR FOR GUARDRAIL M/W  
DELINEATOR FOR GUARDRAIL M/Y
- EACH  
EACH  
EACH
1. DELINEATORS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR ONE COMPLETE INSTALLATION.

2. DELINEATOR SHAPE AND DIMENSIONS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY.

3. TYPES OF DELINEATORS PERMITTED SHALL BE FROM THE LIST OF APPROVED MATERIALS.

4. GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL GUARDRAIL.

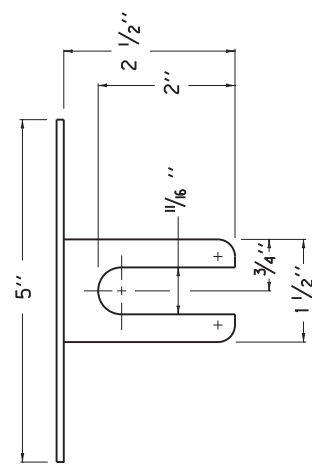
5. DELINEATORS SHALL NOT BE INSTALLED WITHIN THE PAY LIMITS OF THE END TREATMENT.

6. DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.

7. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MANUFACTURER'S TOLERANCES.

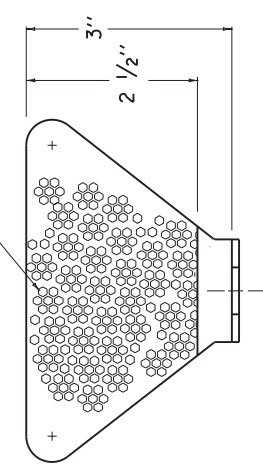
8. WHEN CONCRETE BARRIERS EXTEND ACROSS BRIDGE STRUCTURES IN LIEU OF STEEL BEAM GUARDRAIL, DELINEATORS SHALL BE INSTALLED AT SAME VERTICAL ALIGNMENT AS ON THE GUARDRAIL, AND DELINEATORS SHALL COMPLY WITH CURRENT STANDARD DRAWING RBM-020.

9. DELINEATORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



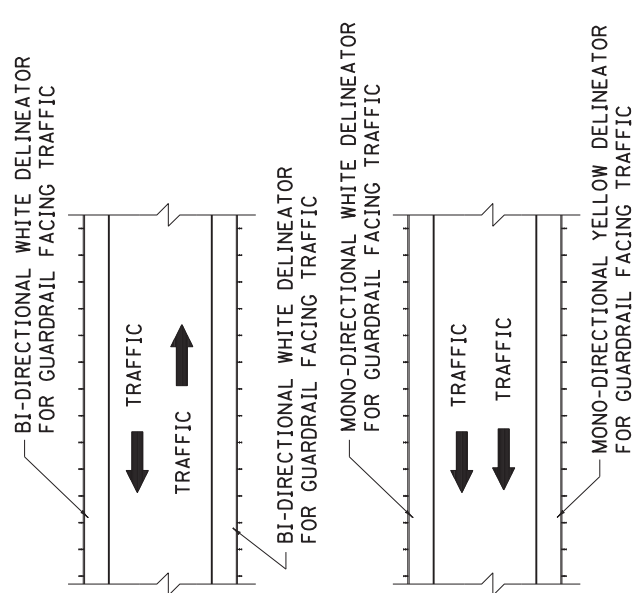
PLAN VIEW

TYPE IX SHEETING,  
YELLOW OR WHITE

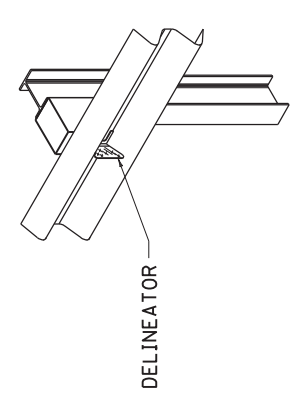


FRONT VIEW

DIMENSIONS SHOWN ARE FOR ONE VERSION OF A WEB-MOUNTED GUARDRAIL DELINEATOR. DELINEATORS WITH ALTERNATE DIMENSIONS MAY BE CONSIDERED FOR INCLUSION ON THE APPROVED PRODUCTS LIST.



PLACEMENT OF DELINEATORS  
FOR GUARDRAIL



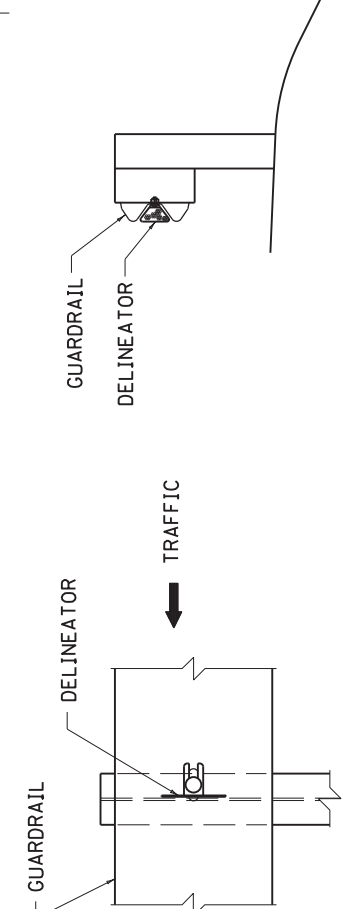
ISOMETRIC VIEW

USE WITH CUR. STD. DWGS.  
RBM-020. RBR-060

KENTUCKY  
DEPARTMENT OF HIGHWAYS

DELINEATORS  
FOR GUARDRAIL

SUBMITTED: *William J. Hall*  
DIRECTOR DIVISION OF DESIGN  
DATE: 11-17-17  
032



FRONT VIEW

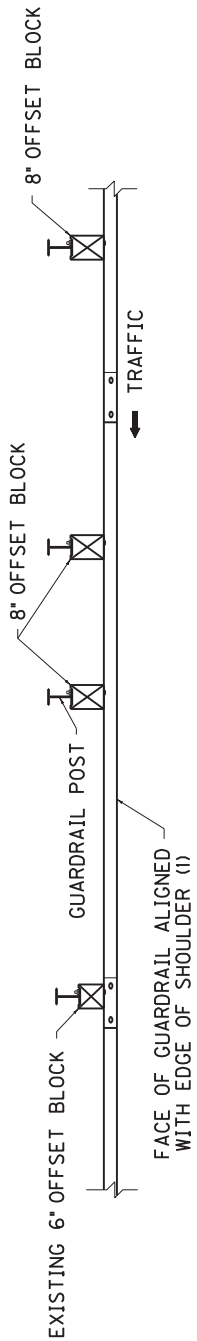
SIDE VIEW

APPROXIMATE DELINEATOR SPACING	
TANGENT	100'
CURVE	50'

SPACING SHOULD BE ADJUSTED IN CURVES SO THAT SEVERAL DELINEATORS ARE ALWAYS SIMULTANEOUSLY VISIBLE TO THE ROAD USER.



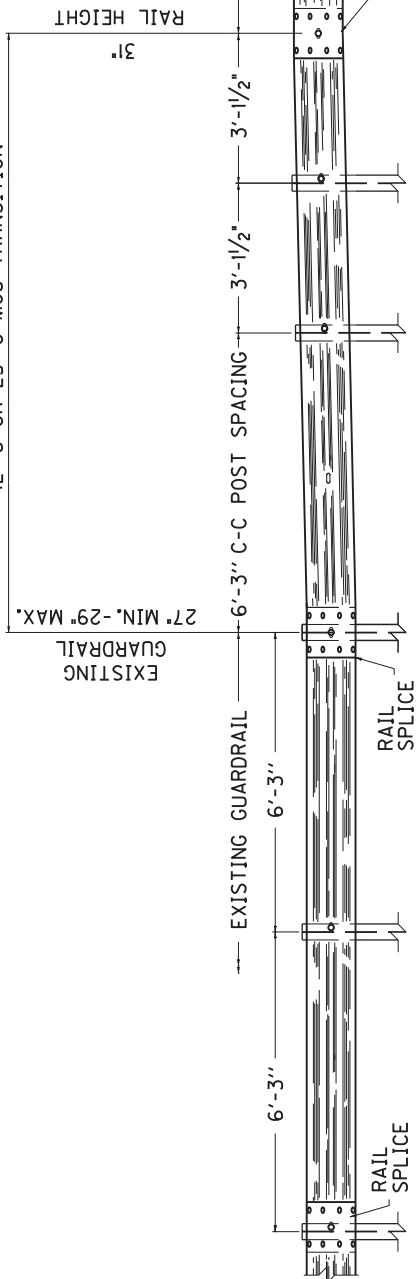
COUNTY OF	ITEM NO.	SHEET NO.



PLAN VIEW

- 12'-6" TRANSITION FROM 29" TO 31" SHOWN, 25'-0" REQUIRED FOR 27" TO 31" TRANSITION.

• 12'-6" OR 25'-0" MGS TRANSITION



ELEVATION VIEW

~ NOTES ~

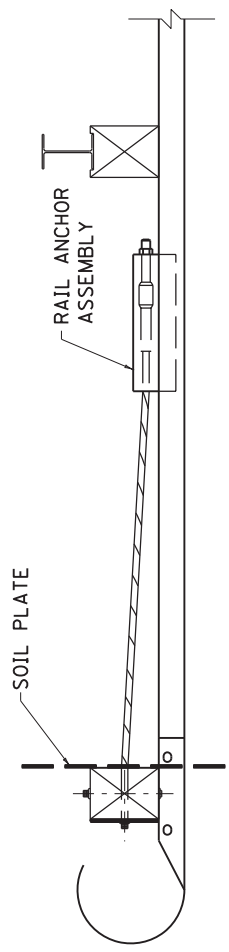
- 1) WHERE POST OFFSET IS CONSTRAINED, AND WHEN THE EXISTING SHOULDER IS WIDER THAN 4 FEET, THE EXISTING SHOULDER MAY BE REDUCED UP TO 2 INCHES TO ACCOMMODATE THE 8 INCH BLOCKS OF THE MGS GUARDRAIL. WHERE SITE CONSTRAINTS PROHIBIT THE POST FROM BEING PLACED AT LEAST 6 INCHES IN FRONT OF THE SLOPE BREAK POINT, USE 7 FOOT POSTS.
- 2) MGS TRANSITION FROM EXISTING GUARDRAIL SHALL BE COMPLETED OUTSIDE THE 50 FEET MGS END TERMINAL LIMITS.

KENTUCKY DEPARTMENT OF HIGHWAYS
GUARDRAIL SYSTEM TRANSITION
SUBMITTED: <i>William S. Gabel</i> DATE: 4-04-18 DIRECTOR, DIVISION OF DESIGN
033

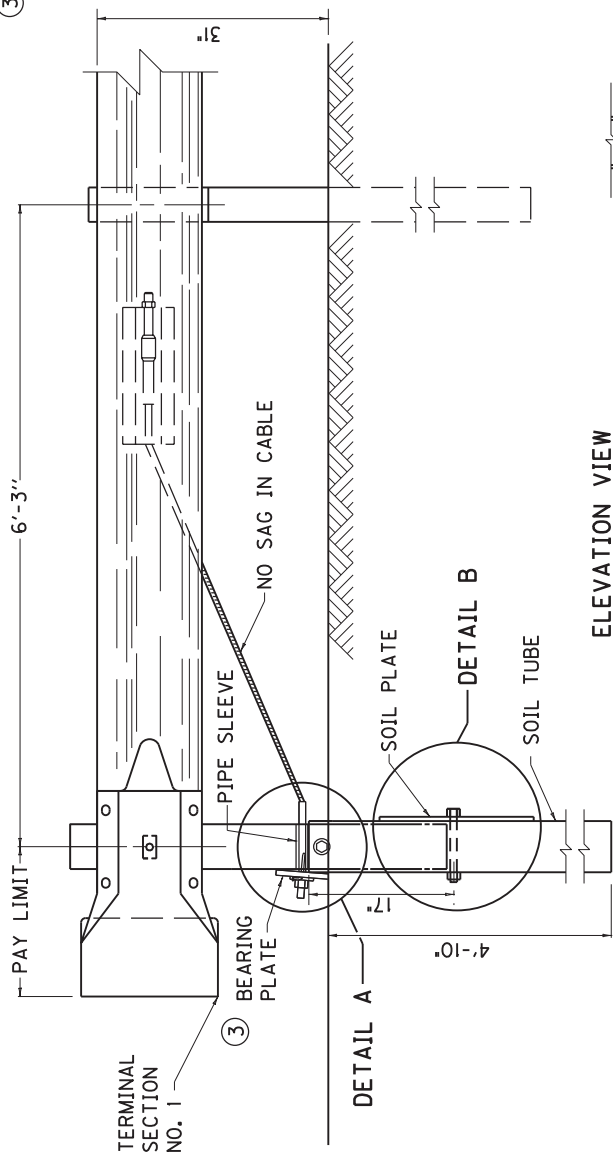
COUNTY OF	ITEM NO.	SHEET NO.

~ NOTES ~

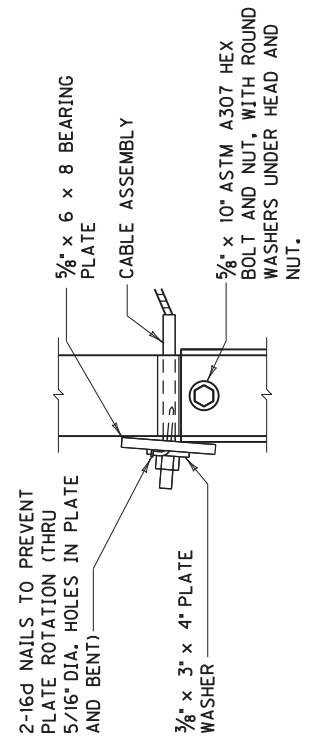
- BID ITEM AND UNIT TO BID  
GUARDRAIL END TREATMENT TYPE 2A EACH
1. GUARDRAIL END TREATMENT TYPE 2A SHALL BE TO THE PAY LIMITS AS DETAILED. THE CONTRACT UNIT BID IS EACH AND SHALL INCLUDE A TERMINAL SECTION NO. 1, RAIL ANCHOR ASSEMBLY, CABLE ANCHOR ASSEMBLY, SOIL TUBE, SOIL PLATE AND ALL OTHER INCIDENTALS NECESSARY FOR A COMPLETE INSTALLATION AS DETAILED.
2. IN THE EVENT SOLID ROCK IS ENCOUNTERED, THE SOIL TUBE MAY BE SHORTENED, PROVIDED IT EXTENDS INTO THE SOLID GROUND A MINIMUM OF 3 FEET.
- ③ INSTALL BEARING PLATE SO THAT THE "V" OPENING IS AT THE TOP.



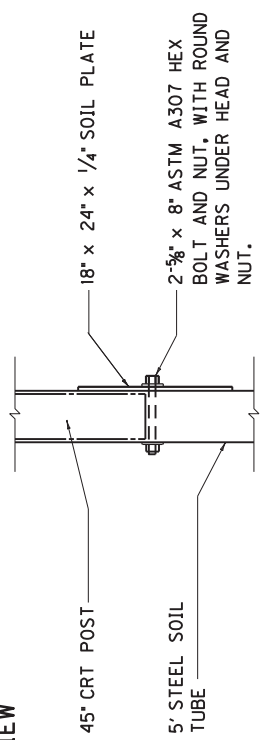
PLAN VIEW



ELEVATION VIEW



DETAIL A



DETAIL B

USE WITH CUR. STD. DWGS.  
RBI-001 , RBI-002, RBI-003  
RBR-010

KENTUCKY  
DEPARTMENT OF HIGHWAYS

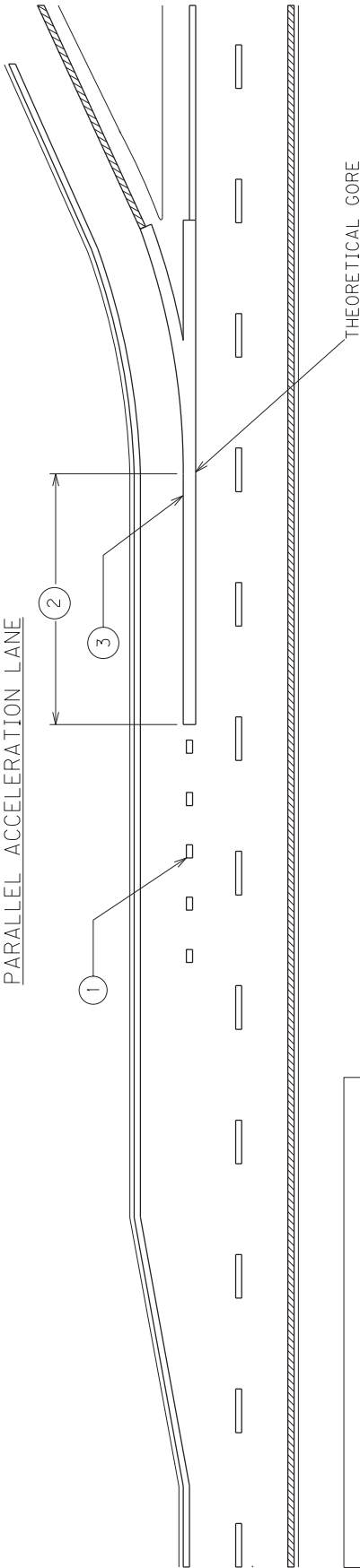
GUARDRAIL  
END TREATMENT  
TYPE 2A

SUBMITTED: *William J. Bledsoe*  
DATE: 3-06-18  
DIRECTOR, DIVISION OF DESIGN

038

COUNTY OF	ITEM NO.	SHEET NO.

PARALLEL ACCELERATION LANE



TAPERED ACCELERATION LANE

DOTTED LANE LINE DIMENSIONS:

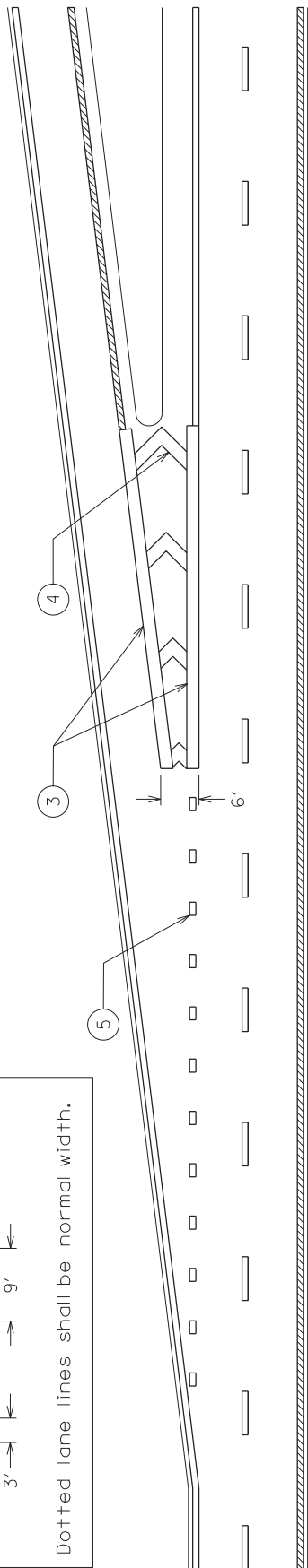
3' →

→

←

9'

Dotted lane lines shall be normal width.



- 1 IN A PARALLEL ACCELERATION LANE, DOTTED LANE LINES SHALL BE INSTALLED FOR AT LEAST HALF THE LENGTH OF THE FULL-WIDTH ACCELERATION LANE PLUS TAPER MEASURED FROM THE THEORETICAL GORE. DOTTED EXTENSIONS MAY BE INSTALLED THROUGH THE TAPER IF DESIRED.
- 2 WIDE SOLID LINE SHALL EXTEND DOWNSTREAM FROM THE THEORETICAL GORE FOR AT LEAST 1/4 THE LENGTH OF THE FULL-WIDTH ACCELERATION LANE PLUS TAPER.
- 3 12" WIDE SOLID WHITE CHANNELIZATION LINES.
- 4 GORE AREA CHEVRON MARKINGS ARE OPTIONAL ON ENTRANCE RAMPS. SEE SEPTA 008 FOR DETAILS ON CHEVRON MARKINGS.
- 5 IN A TAPERED ACCELERATION LANE, DOTTED EXTENSIONS MAY BE INSTALLED AS SHOWN.

LEGEND

MARKINGS

WHITE

YELLOW

KENTUCKY

DEPARTMENT OF HIGHWAYS

TYPICAL ENTRANCE

RAMP MARKINGS

FOR INTERSTATES

AND PARKWAYS

SUBMITTED

8-23-18

DATE

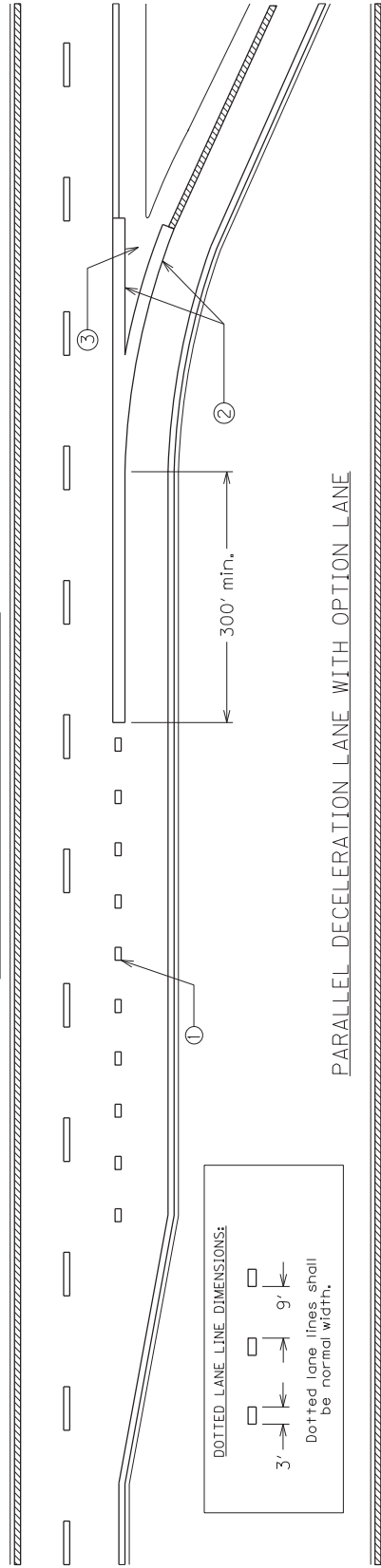
039

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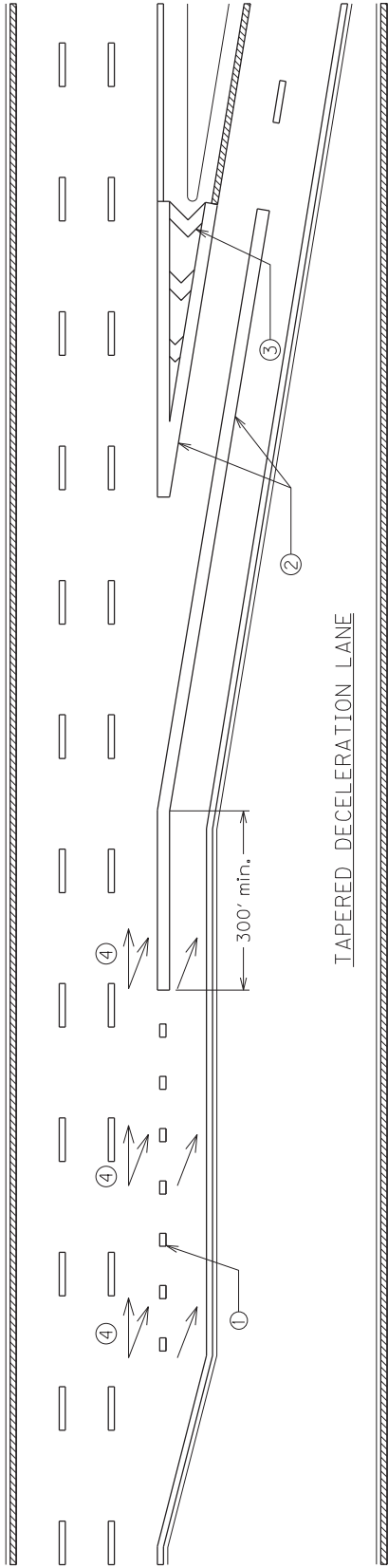


COUNTY OF	ITEM NO.	SHEET NO.

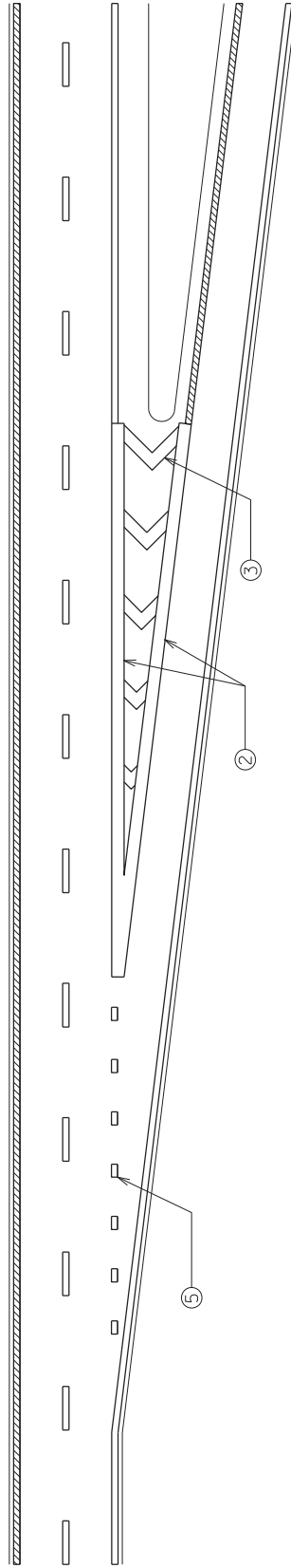
PARALLEL DECELERATION LANE



PARALLEL DECELERATION LANE WITH OPTION LANE



TAPERED DECELERATION LANE



1 NORMAL WIDTH DOTTED LANE LINES SHALL BE USED ALONG THE FULL-WIDTH SECTION OF A PARALLEL DECELERATION LANE. IF DESIRED, EXTENSION LINES MAY BE USED ALONG THE TAPER.

2 12" WIDE SOLID CHANNELIZATION LINE.

3 GORE AREA CHEVRON MARKINGS SHOULD BE USED IN ACCORDANCE WITH SEPIA 045.

4 LANE USE ARROWS MAY BE USED WHEN THERE IS AN OPTION LANE. IF USED, A MINIMUM OF THREE ARROWS PER LANE SHOULD BE PLACED AS SHOWN AND SPACED AT APPROXIMATELY 1/4 MILE.

5 FOR TAPERED DECELERATION LANES, DOTTED EXTENSIONS MAY BE INSTALLED AS SHOWN.

KENTUCKY  
DEPARTMENT OF HIGHWAYS

TYPICAL EXIT  
RAMP MARKINGS  
FOR INTERSTATES  
AND PARKWAYS

SUBMITTED *R. G. [Signature]* 11-30-18  
DATE

Page 1 of 2 040

DRAWING NOT TO SCALE

LEGEND

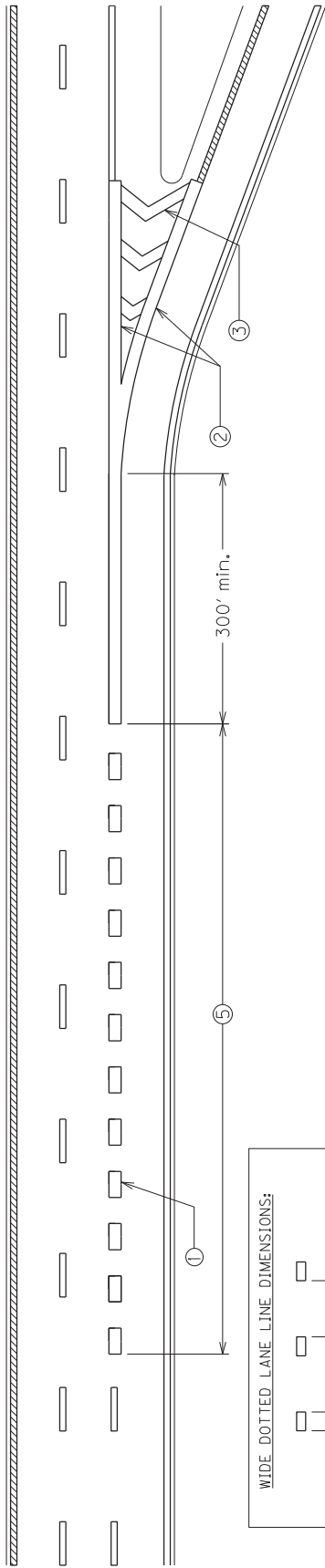
MARKINGS

WHITE

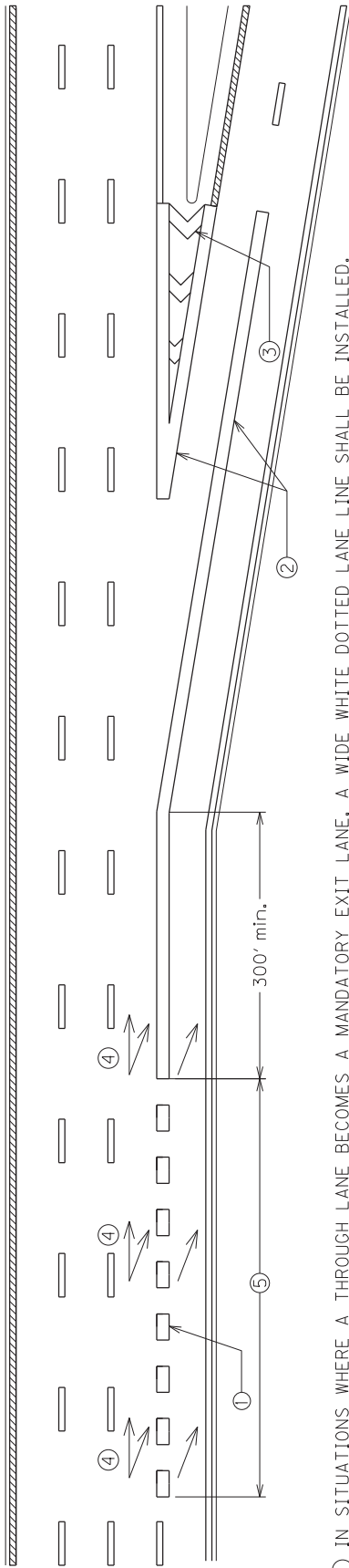
YELLOW

COUNTY OF	ITEM NO.	SHEET NO.

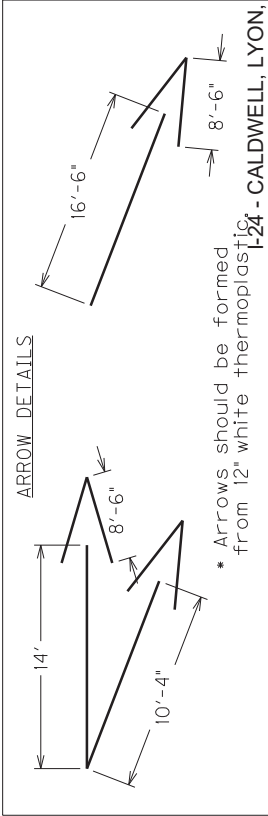
SINGLE-LANE LANE DROP



LANE DROP WITH AN OPTION LANE



- 1 IN SITUATIONS WHERE A THROUGH LANE BECOMES A MANDATORY EXIT LANE, A WIDE WHITE DOTTED LANE LINE SHALL BE INSTALLED.
- 2 12" WIDE SOLID CHANNELIZATION LINE.
- 3 GORE AREA CHEVRON MARKINGS SHALL BE USED IN LANE DROP SCENARIOS AND WHERE AN INTERSTATE OR PARKWAY SPLITS. SEE 'SEPIA 045' FOR DETAILS ON GORE AREA CHEVRON MARKINGS.
- 4 LANE USE ARROWS MAY BE USED WHEN THERE IS AN OPTION LANE. A MINIMUM OF THREE ARROWS PER LANE SHOULD BE PLACED AS SHOWN AND SPACED AT APPROXIMATELY 1/4 MILE.
- 5 DOTTED LANE LINES SHOULD EXTEND BACK AN APPROXIMATE DISTANCE OF 1/2 MILE FROM THE THEORETICAL GORE.



DRAWING NOT TO SCALE

LEGEND	
MARKINGS	
	WHITE
	YELLOW

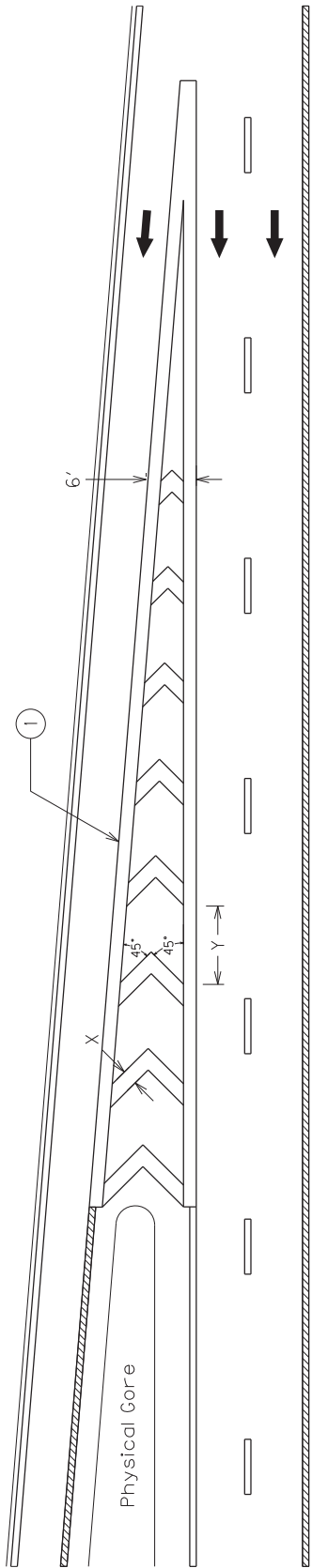
KENTUCKY  
DEPARTMENT OF HIGHWAYS

TYPICAL EXIT  
RAMP MARKINGS  
FOR INTERSTATES  
AND PARKWAYS

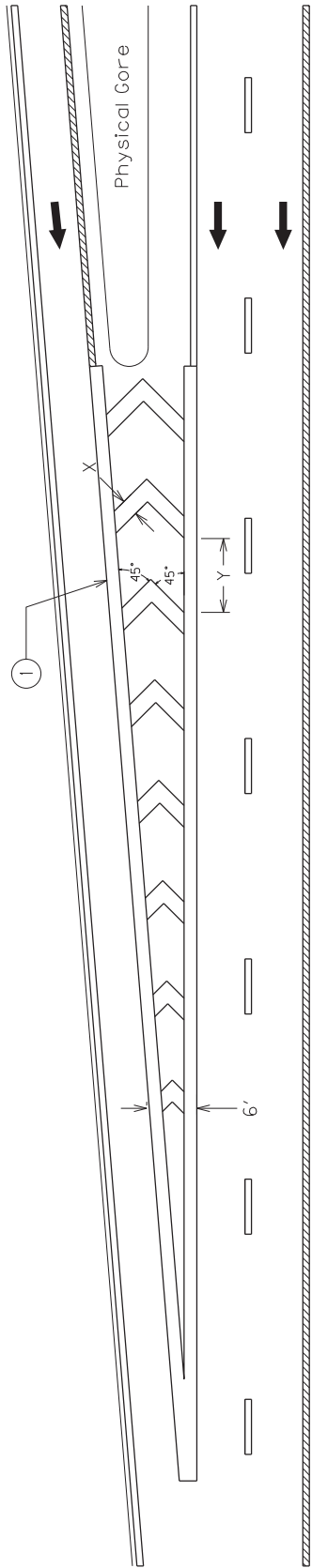
SUBMITTED *R. Allen Wolfe* 11-30-18 DATE  
Page 2 of 2 0417

COUNTY OF	ITEM NO.	SHEET NO.

TYPICAL EXIT RAMP CORE MARKINGS



TYPICAL ENTRANCE RAMP CORE MARKINGS



DRAWING NOT TO SCALE

LEGEND

MARKINGS

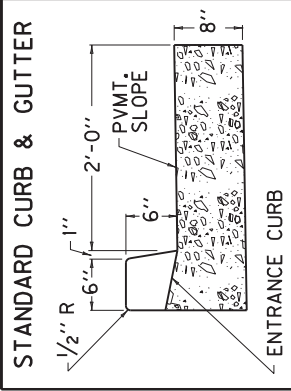
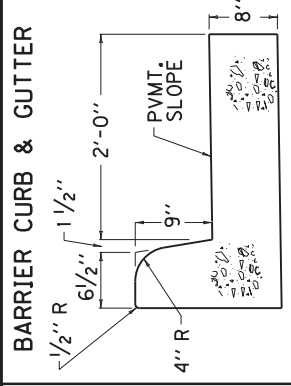
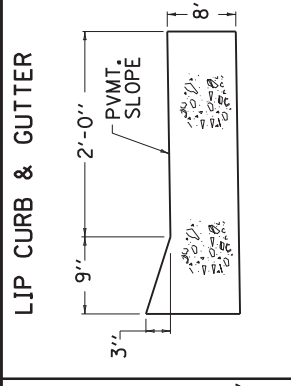
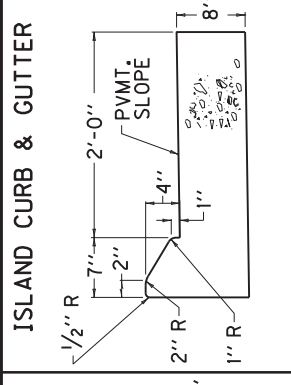
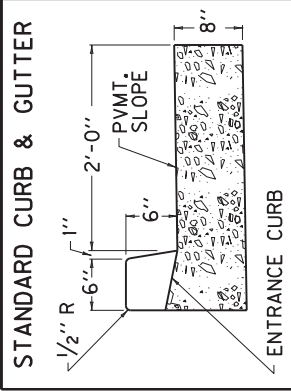
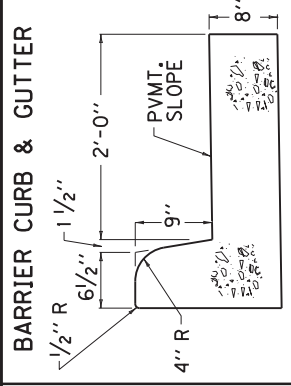
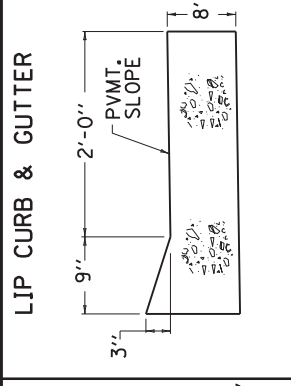
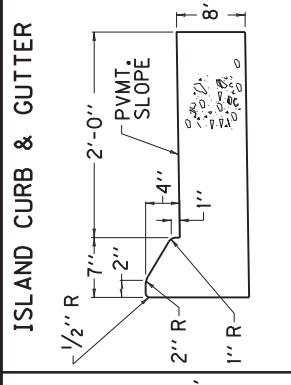
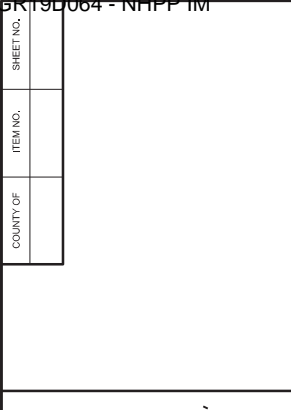
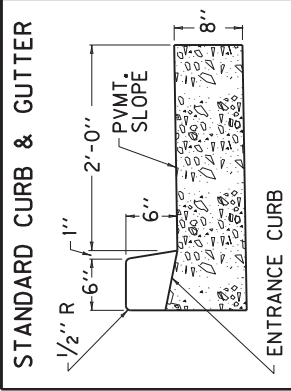
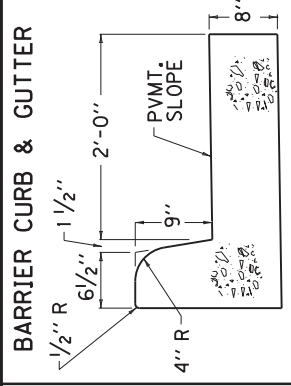
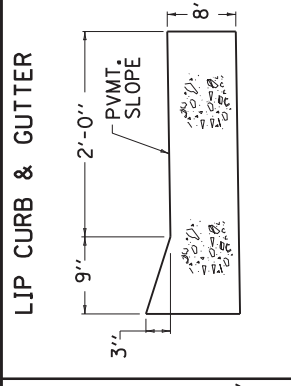
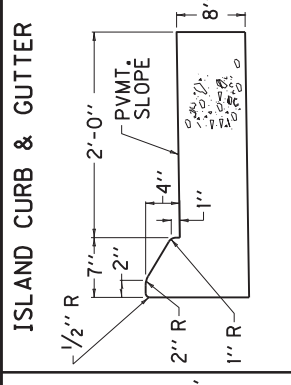
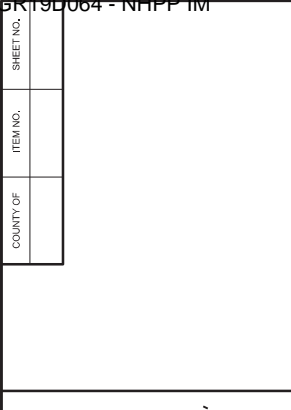
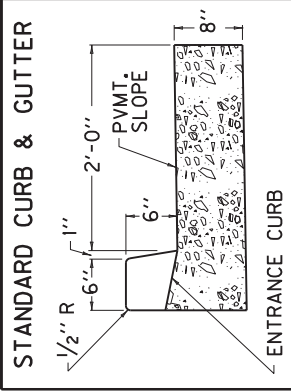
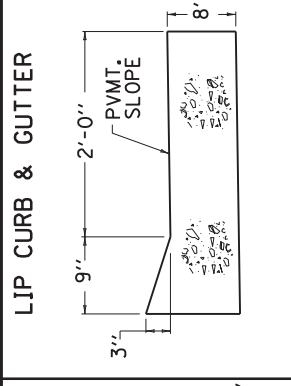
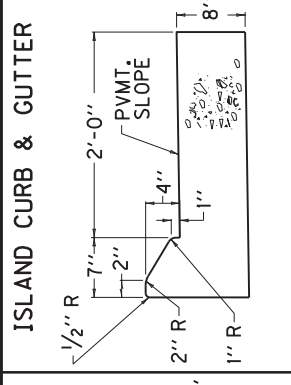
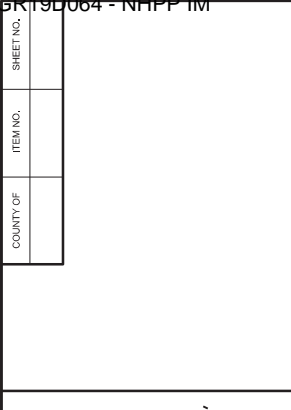
WHITE


YELLOW

- 12" SOLID WHITE LINE TO BE INSTALLED AS SHOWN. THIS LINE SHOULD TERMINATE AT THE PHYSICAL GORE.
- CHEVRON MARKINGS SHOULD BEGIN WHEN THE 12" WHITE CHANNELIZING LINES ARE APPROXIMATELY 6' APART.
- A MINIMUM OF THREE CHEVRON MARKINGS SHOULD BE USED. IF AT LEAST THREE MARKINGS WILL NOT FIT INTO THE GORE AREA, NO CHEVRON MARKINGS SHOULD BE PLACED.
- THE MINIMUM CHEVRON MARKING WIDTH (X) SHOULD BE 2'. THE MINIMUM SPACING BETWEEN CHEVRON MARKINGS (Y) SHOULD BE 20". THESE DIMENSIONS MAY BE INCREASED. FOR EACH ADDITIONAL 1' OF WIDTH (X), INCREASE THE SPACING (Y) BY 10'.
- GORE AREA CHEVRON MARKINGS SHALL BE THERMOPLASTIC.

KENTUCKY
DEPARTMENT OF HIGHWAYS
TYPICAL MARKINGS FOR GORE AREAS
SUBMITTED <i>B. Offg. W. Offg.</i> 11-30-18 DATE
045



<div>STANDARD CURB &amp; GUTTER</div> <div></div> <div>ENTRANCE CURB</div>	<div>BARRIER CURB &amp; GUTTER</div> <div></div>	<div>LIP CURB &amp; GUTTER</div> <div></div>	<div>ISLAND CURB &amp; GUTTER</div> <div></div>	<div>COUNTY OF</div> <div>ITEM NO.</div> <div>SHEET NO.</div>
<div>① STANDARD INTEGRAL CURB</div> <div></div> <div>ENT. CURB CONST. JOINT RECD. NO. 4 BAR 2'-3" LONG AT 2'-6" O.C.</div>	<div>BARRIER INTEGRAL CURB</div> <div></div> <div>CONST. JOINT RECD. NO. 4 BAR 2'-9" LONG AT 2'-6" O.C. 1" MIN.</div>	<div>LIP INTEGRAL CURB</div> <div></div> <div>CONST. JOINT NOT PERMITTED</div>	<div>ISLAND INTEGRAL CURB</div> <div></div> <div>CONST. JOINT NOT PERMITTED</div>	<div>STANDARD HEADER CURB &amp; GUTTER</div> <div></div>
<div>STANDARD HEADER CURB TYPE 1 EXISTING PAVEMENT</div> <div></div> <div>DEPTH OF PVMT. 1'-0" MIN.</div>	<div>BARRIER HEADER CURB</div> <div></div> <div>DEPTH OF PVMT. 1'-0" MIN.</div>	<div>LIP HEADER CURB</div> <div></div> <div>DEPTH OF PVMT. 1'-0" MIN.</div>	<div>ISLAND HEADER CURB TYPE 1 EXISTING PAVEMENT</div> <div></div> <div>DEPTH OF PVMT. 1'-0" MIN.</div>	<div>ISLAND HEADER CURB TYPE 2 NEW CONSTRUCTION</div> <div></div> <div>ASPH. SURFACE VAR. ASPH. BASE D.G.A. BASE</div>
<div>② STANDARD INTEGRAL CURB</div> <div></div> <div>ENT. CURB CONST. JOINT TIE BAR</div>	<div>BID ITEM AND UNIT TO BID (CURB TYPE)</div> <div>LF</div>	<div>STANDARD HEADER CURB TYPE 2 NEW CONSTRUCTION</div> <div></div> <div>ASPH. SURFACE VAR. ASPH. BASE D.G.A. BASE</div>	<div>VALLEY GUTTER</div> <div></div>	<div>ASPHALT WEDGE CURB</div> <div></div> <div>PAVED SHOULDER GUARDRAIL POST</div>

<div>1. ALL INTEGRAL CURBS SHOWING REINFORCING STEEL SHALL BE CAST SEPARATELY FROM THE PAVEMENT AND THE REINFORCEMENT SHALL CONSIST SOLELY OF NO. 4 BARS AS DETAILED ON THIS DRAWING. ON CONSTRUCTION CARE SHOULD BE TAKEN SO THAT NO REINFORCEMENT BARS ARE CLOSER THAN 3" TO THE CENTER OF THE SAWED TRANSVERSE JOINT.</div>	<div>KENTUCKY</div> <div>DEPARTMENT OF HIGHWAYS</div> <div>CURB AND GUTTER, CURBS AND VALLEY GUTTER</div>
<div>2. THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING THE STANDARD INTEGRAL CURB AS DETAILED IN EITHER ① OR ②. IF ② IS CHOSEN A LONGITUDINAL CONSTRUCTION JOINT SHALL BE REQUIRED AND THE REMAINING PAVEMENT AND CURB SHALL BE CONSTRUCTED MONOLITHIC WITHOUT A HORIZONTAL CONSTRUCTION JOINT AND ACCOMPANYING REINFORCING STEEL.</div>	<div>SUBMITTED  DIRECTOR DIVISION OF DESIGN</div> <div>DATE 4-30-19</div> <div>0600</div>

I-24 - CALDWELL, LYON, AND TRIGG CO.  
SPECIAL NOTES

**SPECIAL NOTE FOR  
ASPHALT MILLING AND TEXTURING**

Begin paving operations immediately after the commencement of the asphalt milling operation. Continue paving operations continuously until completed. Do not allow public traffic to drive on the milled surface. If paving operations are not begun within this time period, liquidated damages will be assessed at the rate prescribed by Section 108.09 of the current Standard Specifications until such time as paving operations are begun.

**Removal of the existing pavement markers prior to the milling operation is considered incidental to the bid item “Asphalt Pavement Milling and Texturing”.**

I-24 - CALDWELL, LYON, AND TRIGG CO.  
SPECIAL NOTES

**SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS**

The dimensions shown on the typical sections for pavement and shoulder widths are nominal or typical dimensions. The actual dimensions to be constructed or diamond ground may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless specified elsewhere in the Proposal.



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SPECIAL NOTES

**SPECIAL NOTE FOR BEFORE YOU DIG**

The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor should be aware that owners of underground facilities are not required to be members of the KY 811 one-call Before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.

I-24 - CALDWELL, LYON, AND TRIGG CO.  
SPECIAL NOTES

**Special Note for Fixed Completion Date  
And Liquidated Damages**

This project will have a fixed completion date of **November 30, 2020** for completion of all work associated with this project.

Liquidated damages per the Standard Specifications will be charged for each calendar day for any work completed after November 30, 2020.

Contrary to Section 108.09 of the Standard Specifications, Liquidated Damages per the Standard Specifications will be charge during the months of December through March for all work that is not completed.

### **GEOTEXTILE BOND BREAKER INTERLAYER FOR CONCRETE OVERLAY**

1. DESCRIPTION. Install a geotextile fabric bond breaker interlayer on an existing concrete pavement in accordance with the standard specifications, the plans, and as described below:
2. MATERIAL REQUIREMENTS. The geotextile interlayer material shall comply with the requirements of Table 1 shown below:

**Table 1.**  
**Specifications for Geotextile Interlayer Material for Concrete Overlay**

<b>Property</b>	<b>Requirements</b>	<b>Test Procedure</b>
Geotextile type	Nonwoven, needle-punched geotextile, no thermal treatment (calendaring or IR)	EN 13249 Annex F
Color	Uniform/nominally same-color (black or white)	Visual Inspection
Mass per unit area	$\geq 14.7 \text{ oz/yd}^2$ $\leq 16.2 \text{ oz/yd}^2$	ASTM D 5261
Thickness under load (pressure)	a. At 0.29 psi [2 kPa]: $\geq 120 \text{ mil}$ b. At 2.9 psi [20 kPa]: $\geq 100 \text{ mil}$ c. At 29 psi [200 kPa]: $\geq 40 \text{ mil}$	ASTM D 5199
Wide-width tensile strength	$\geq 685 \text{ lb/ft}$	ASTM D 4595
Wide-width maximum elongation	$\leq 130\%$	ASTM D 4595
Water permeability in normal direction under load (pressure)	At 2.9 psi [20 kPa]: $\geq 3.3 \times 10^{-4} \text{ ft/s}$	ASTM D 5493
In-plane water permeability (transmissivity) under load (pressure)	a. At 2.9 psi [20 kPa]: $\geq 1.6 \times 10^{-3} \text{ ft/s}$ b. At 29 psi [200 kPa]: $\geq 6.6 \times 10^{-4} \text{ ft/s}$	ASTM D 6574
Weather resistance	Retained strength $\geq 70\%$	ASTM D 4355 @ 500 hrs. exposure
Alkali resistance	$\geq 97\%$ polyolefin	EN 13249 Annex B
Peel Strength Geotextile to Concrete	$\geq 4.2 \text{ lbs/linear inch}$	ASTM D 903
Peel Strength Geotextile to Geotextile	$\geq 4.2 \text{ lbs/linear inch}$	ASTM D 903

### 3. Quality Control

- 3.1. Manufacturing Quality Control (MQC): Testing shall be performed at a laboratory accredited by GAI-LAP for tests required for the geotextile, at frequency in accordance with ASTM D 8102.
- 3.2. All supplied geotextiles shall include certificates of analysis for all specified properties.

### 4. SUBMITTALS

#### 4.1. Product Certification

- 4.1.1. The Contractor shall provide the Engineer a certificate stating the name of the geotextile manufacturer, product name, style, chemical compositions of filaments or yarns and other pertinent information to fully describe the geotextile.



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- 4.1.2. The Manufacturer shall demonstrate transparency of their manufacturing process by showing traceability of the product from origin of raw material through finished good.
- 4.1.3. The Manufacturer is responsible for establishing and maintaining a quality control program to assure compliance with the requirements of the specification. Documentation describing the quality control program shall be made available upon request.
- 4.1.4. The Manufacturer's certificate shall be supplied before product shipment. The certificate shall state that the furnished geotextile meets all requirements of specification as evaluated under the manufacturer's quality control program. A person having legal authority to bind the Manufacturer shall attest to the certificate.

## 5. DELIVERY, STORAGE, AND HANDLING

- 5.1. Ensure geotextile labeling, shipment and storage follows ASTM D 4873.
- 5.2. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.
- 5.3. Each shipping document shall include a notation certifying that the material is in accordance with the manufacturer's certificate.
- 5.4. Wrap each geotextile roll with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.
- 5.5. Maintain the protective wrapping during periods of shipment and storage. If the wrapping is damaged prior to installation, discard the outer wrap of geotextile material before installation.
- 5.6. Store geotextile rolls elevated off the ground and with adequately cover to protect them from the following: site construction damage, extended exposure to ultraviolet (UV) radiation, precipitation, surface water, chemicals that are strong acids or strong bases, flames, sparks, temperatures in excess of 160 deg F (71 deg C) and any other environmental condition that might damage the geotextile.

## 6. INSTALLATION

- 6.1. Installation of the geotextile fabric can be performed by using an adhesive, or nails with washers to ensure the geotextile remains in place and does not come loose, fold, or bulge.
- 6.2. Site Preparation
  - 6.2.1. For new pavements on stabilized substructures and unbonded overlays, sweep the surface clean before placing geotextile interlayer and/or adhesive. Excessive debris may damage geotextile during installation and service.
  - 6.2.2. For unbonded overlays:
    - 6.2.2.1. Replace isolated areas of pavement where subgrade/subbase show evidence of active movement in the existing pavement. Repair the subgrade/subbase as

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necessary.

6.2.2.2. Fill any substantial voids greater than 2 in (5 cm) deep on the pavement surface with an approved material.

6.2.2.3. Joint deterioration with little or no faulting can be bridged with the overlay.

6.2.2.4. Use full-depth repairs at isolated spots where structural integrity needs restoring.

### 6.3. Installation Using Adhesive

#### 6.3.1. Geotextile Interlayer Adhesive Application

6.3.1.1. Apply the adhesive to the existing pavement surface or milled surface before the placement of the geotextile.

6.3.1.2. Apply the adhesive continuously to the pavement around the perimeter of each geotextile roll/panel with a desired spray width of approximately 6 in (15 cm), or as specified.

6.3.1.3. Apply the adhesive to the edge of previously laid geotextile for all roll end and panel overlaps with a desired spray width of 6-8 in, or as specified.

6.3.1.4. Spray a test pattern to determine the best distance from the surface required to achieve the desired spray width. Adjust/open the applicator spray flare fitting until the spray pattern is wide enough to achieve the desired width.

6.3.1.5. Apply a single, continuous coat of the adhesive in front of the installation of geotextile at a pace necessary to achieve the desired spray width.

6.3.1.6. When ambient temperatures are above 68 degrees Fahrenheit, allow adhesive to dry properly before bonding to geotextile. Dry time can vary depending on temperature, humidity and coat weight. Typical dry time is 1 to 5 minutes. To check for dryness, use the back of your fingernail to press into the adhesive and lift up. Any adhesive transfer or viscous stretching of the adhesive indicates that the adhesive requires more time to dry. If the adhesive feels tacky, but there is no transfer or stretching, the adhesive is ready for bonding geotextile. The adhesive should be covered and rolled with geotextile within one hour of application. Position geotextile carefully as a strong bond is made instantly upon contact.

6.3.1.7. When ambient temperatures are below 68 degrees Fahrenheit, geotextile can generally be immediately placed onto adhesive. Adhesive can be used under the same temperature conditions as allowed for pouring of concrete, typically above 40 degrees Fahrenheit. When placing geotextile in this condition, geotextile needs to properly bond to adhesive before construction or vehicle trafficking begins. Position geotextile carefully and let it set until a strong bond is formed.

#### 6.3.2. Geotextile Interlayer Placement

6.3.2.1. Begin placement at the starting end of the project making sure to apply adhesive as described above.

6.3.2.2. Install the geotextile taught over the adhesive without wrinkles. Placement of

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geotextile can be achieved by unrolling down the length of roadway by hand or machine. Carefully position geotextile as a strong bond is made instantly upon contact with adhesive.

- 6.3.2.3. Roll geotextile within one hour of adhesive application, with uniform pressure over the entire bonded area. The minimum recommended pressure is 25 psi. On large projects, a small drum roller is a preferred method for applying uniform pressure.
- 6.3.2.4. Additional geotextile panels may be required to cover the width of the pavement. For overlapping, spray adhesive onto the previously installed geotextile panel edge, install new panel and roll the overlap as specified above. Overlapping should not exceed three layers thick; therefore offset every other initial geotextile panel by 6-8 ft. (until entire width of pavement is covered. This will ensure proper shingling of the geotextile panels while preventing excessive layers at the corners. When overlaps are needed, the adjacent roll edge/end overlap shall be 6 inch minimum. End-of-roll overlaps shall be shingled in the direction of paving progression.
- 6.3.2.5. Extend geotextile beyond both edges of the new concrete pavement at least 6 inches. Geotextile is designed to flow water laterally through the geotextile. The six-inch tail on the outside of the pavement allows for overlap bonding and may be connected to a drainage system to flow water away from the pavement.
- 6.3.2.6. If vehicle traffic is present on the road or slow paving is expected, place geotextile no more than 650 ft. before the paving process.
- 6.3.2.7. If construction traffic is expected to travel on geotextile, avoid tight turns, sudden braking and acceleration, as this could damage or disturb the placed geotextile. Any public traffic should be controlled by flaggers or pilot cars and kept to a minimum.
- 6.3.2.8. If geotextile is being placed through an intersection or other area of higher traffic volume, place geotextile immediately before the paving process. This eliminates damage due to the heavy traffic directly on geotextile. Repair any traffic damage to the geotextile using a new piece of geotextile.
- 6.3.2.9. Once geotextile has bonded to the adhesive, it can be covered immediately with the concrete pavement/overlay.
- 6.3.2.10. Ensure geotextile surface temperature is below 90 degrees Fahrenheit at time of concrete placement to avoid heat stress and differential curing. Water misting can be used to reduce temperature.
- 6.3.2.11. Place concrete pavement/overlay directly on top of the placed geotextile. If geotextile becomes wet, it may be paved over provided there is no ponded water. Care should be taken not to displace geotextile while trucks drive on it, dump concrete into the paving apparatus, or onto the geotextile. Trucks should release the emergency parking break when dumping into an advancing paver to prevent damage to geotextile. Trucks should avoid sharp turns, hard braking, and quick acceleration at all times. The concrete overlay should be placed according to the project plans.
- 6.3.2.12. Place geotextile no more than five days before the paving process. Prolonged exposure to the elements may cause damage to geotextile. Do not allow construction equipment to track soil onto the geotextile. Clean off any excess



sediment as it can affect drainage. Ensure water does not pond or deposit sediment on geotextile before concrete placement. Geotextile may be damp, but not soaked, during concrete placement.

#### 6.4. Installation Using Nails with Washers

##### 6.4.1. Geotextile Placement

- 6.4.1.1. Proceed with placement only after the surface is properly prepared and cleaned.
- 6.4.1.2. Roll the geotextile material onto the base or existing pavement surface, keeping the roll tight and minimizing wrinkles, kinks, and folds.
- 6.4.1.3. Overlap the edges of the geotextile by 8 inches +/- 2 inches. No more than three layers should overlap at any point.
- 6.4.1.4. Extend geotextile past both edges of the pavement a minimum of 6 inches, and may be tied into a longitudinal underdrain system to provide positive drainage.
- 6.4.1.5. Roll the geotextile out in a sequence that facilitates good overlapping, prevents folding or tearing by construction traffic, and minimizes the potential that the material will be disturbed by the paver.
- 6.4.1.6. Utilize temporary gaps in geotextile where trucks are crossing and making sharp turns.

##### 6.4.2. Geotextile Fastening

- 6.4.2.1. Secure the geotextile to the underlying layer with nails placed through 2 to 2.75 inch galvanized washers or disks.
- 6.4.2.2. Secure initial geotextile roll end with nails with washers at 3 foot spacing.
- 6.4.2.3. Secure geotextile at 6-foot centers or less in both transverse and longitudinal directions. Longitudinal edges may require 3 foot spacing for extra security, especially in windy conditions.
- 6.4.2.4. Secure geotextile roll end overlaps with nails with washers at 3-foot spacings.
- 6.4.2.5. Verify all nail lengths for the type of existing pavement before installation begins. Normally, 0.75 inch nails for existing concrete pavements and 1.5 inch nails for asphalt or Cement Treated Base (CTB) substructures.
- 6.4.2.6. Test fastening guns and nails on the existing pavement prior to fabric installation to ensure the nails can be driven to their full depth.
- 6.4.2.7. After evaluation, choose the fastener device that provides enough power to drive the selected nail into the existing pavement on a consistent basis.
- 6.4.2.8. If a nail does not fully penetrate the existing pavement, drive another nail

- and washer next to it. Remove loose nails to avoid truck tire punctures.
- 6.4.2.9. Use additional nails with washers as needed to ensure that the geotextile does not shift or fold before or during paving.
  - 6.4.2.10. If vehicle traffic is present on the road or slow paving is expected, place geotextile no more than 650 ft. (200 m) before the paving process.
  - 6.4.2.11. If construction traffic is expected to travel on geotextile, avoid tight turns, sudden braking and acceleration, as this could damage or disturb the placed geotextile. Any public traffic should be controlled by flaggers or pilot cars and kept to a minimum.
  - 6.4.2.12. If geotextile is being placed through an intersection or other area of higher traffic volume, place geotextile immediately before the paving process. This eliminates damage due to the heavy traffic directly on geotextile. Repair any traffic damage to the geotextile using a new piece of geotextile.
  - 6.4.2.13. If damage due to wind uplift or haul trucks occurs, cut out and replace the geotextile with adequate nails with washers.
  - 6.4.2.14. Ensure the geotextile surface temperature is below 90 degrees Fahrenheit (32 degrees Celsius) at time of concrete placement to avoid heat stress and differential curing. Water misting can be used to reduce temperature.
  - 6.4.2.15. Place concrete pavement/overlay directly on top of the placed geotextile. If geotextile becomes wet, it may be paved over provided there is no ponded water. Care should be taken not to displace geotextile while trucks drive on it, dump concrete into the paving apparatus, or onto the geotextile. Trucks should release the emergency parking brake when dumping into an advancing paver to prevent damage to geotextile. Trucks should avoid sharp turns, hard braking, and quick acceleration at all times. The concrete overlay should be placed according to the project plans.
  - 6.4.2.16. Place geotextile no more than five days before the paving process. Prolonged exposure to the elements may cause damage to geotextile. Do not allow construction equipment to track soil onto the geotextile. Clean off any excess sediment as it can affect drainage. Ensure water does not pond or deposit sediment on geotextile before concrete placement. Geotextile may be damp, but not soaked, during concrete placement.

7. Measurement and Payment

- 7.1. Method of Measurement: The amount of pavement, shoulder, and/or base/subbase surface area covered in accordance with the specifications in square yards.
- 7.2. Basis of Payment: By square yard covered, including all overlaps. Adhesive or nails with washers for fastening to the existing pavement, wastage, and all furnishing labor and equipment shall be considered incidental to the bid price for:

<u>ITEM NUMBER</u>	<u>ITEM DESCRIPTION</u>	<u>UNITS</u>
25050ED	GEOTEXTILE BOND BREAKER INTERLAYER	SQ YD

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SPECIAL NOTES

**Special Note for**  
**Longitudinal Texturing of Concrete Pavement**

Provide concrete pavement with longitudinal texturing. Depth, spacing, and any other details in regards to texturing will be completed as per Specification 501.03.13 H) with the exception of the direction of texturing, and the spacing of longitudinal grooves. Spacing for the longitudinal grooves will be 3/4 inch. Obtain the Resident Engineer's approval as per the method of construction. A test area will not be necessary, but the Engineer does retain the authority to stop work if a problem occurs.

Diamond grinding will not be considered an acceptable alternative. Ride Quality will also not be waived.

No direct payment will be made for texturing of the pavement and it will be considered incidental to JPC Pavement.



SPECIAL NOTE FOR POLYMER MODIFIED PARTIAL DEPTH PATCHING

DESCRIPTION

This work consists of patching transverse and longitudinal random cracks, centerline joints, contraction joints, longitudinal and transverse expansion joints, holes from pavement markers, or spalled areas in Portland cement concrete pavement.

APPLICATIONS

The installed product shall be a hot applied, flexible mastic sealant made from highly polymer-modified synthetic resins and high quality aggregate. The installed product shall provide a load-transferring repair that has superior tensile strength and flexibility to accommodate joint and crack movement associated with thermal expansion and contraction, and vibratory movements. The patch must have exceptional resistance to water intrusion and to a broad range of salts, bases, and organic materials.

MATERIAL SPECIFICATIONS

<u>PROPERTY</u>	<u>METHOD</u>	<u>REQUIREMENT</u>
Color		Gray
Tensile Strain		29%
Cone Penetration Flow	ASTM D5329	7% Maximum
Aggregate Settlement		3 mm Maximum
Flexibility, lab std. condition	ASTM D3111	No cracking or loss of aggregate adhesion
Impact Testing	ASTM D3111	No cracking, chipping, or separation @ 6ft-lb
Resilience		50% Minimum
Min. Application Temp.		300°F
Max. Heating Temp.		400°F
Specific Gravity	ASTM D5329	1.8 -2.1

SITE PREPARATION

The area to be replaced shall be removed by saw cutting, jackhammering, or milling to the specified width and depth. The repair surfaces will be cleaned and dried with a hot air lance. The recessed area and vertical walls will be treated with a primer agent to promote adhesion and prevent moisture intrusion (for concrete applications only).

INSTALLATION

Installation of the material shall be by factory trained and certified installation professionals and done according to the manufacturer’s recommendations. Installers are to certify that material has not exceeded manufacturer’s assigned expiration date or shelf life.

Heat the material in a thermostatically controlled purpose built mixer, having a horizontal agitator that ensures complete mixing. Once the material has reached the manufacturer’s

recommended temperature, the molten material will be introduced into the prepared repair area, sealing the bottom of the repair from water intrusion.

If the depth of the repair exceeds 1 inch, the remainder of the repair process will consist of layering coarse hot angular aggregate (cleaned and dried) at a rate of 25%-35% by volume with the molten material until within  $\frac{3}{4}$ " of the top of the repair. The bulking aggregate must be worked into the patch completely.

**NO DRY LAYERS OF BULKING AGGREGATE WILL BE ALLOWED.**

The final  $\frac{3}{4}$ " of the repair will be material for optimum flexibility of the repair. Once this top layer has been screeded to a level grade, apply a high polish stone value (PSV) aggregate to the top of the repair to ensure proper skid resistance.

All removed materials and residual repair materials will be recovered and disposed of away from the site at the Contractor's expense.

### **DIAMOND GRINDING**

If diamond grinding will be required after placing the polymer modified partial depth patch:

1. Repair spalls a minimum of 24 hours before diamond grinding.
2. Assess the size and frequency of repairs to be made. For large spalls where it is possible for more than 1 grinder wheel to be simultaneously on the patched area, fortify the final layer of material. To fortify the top layer add 20-30% structural aggregate to the mastic compound. It is acceptable to leave the top slightly rough since the Diamond Grinding will smooth the surface.
  - a. If the structural aggregate has evidence of moisture, heat and dry the aggregate to 300°F (149°C) in a vented barrel mixer before application. The structural aggregate can be applied after the aggregate has been heated or when the aggregate is at ambient temperature. If Contractor chooses to increase the structural aggregate volume, heating the aggregate prior to application may be necessary to adequately coat the aggregate, eliminate trapped air, and ensure adhesion. Use manufactured suggested aggregate or other aggregate approved by the Engineer.
3. Make sure the final layer of partial depth patching material is covered with surfacing aggregate as specified by the manufacturer.
4. Reduce weight and time grinding.
  - a. Assure that all or most of the wheels on the grinder are on solid pavement when grinding to minimize the load on the patch when grinding.
  - b. When grinding large repairs, float the grinding head to remove the downward load. Have the head or wheels skim the surface of the material to level and smooth the surface without sinking into the material and creating excessive fins.

- 5. Grind over partial depth repairs during the coolest temperatures possible.  
Minimize high-ambient temperatures.
- 6. Keep the grinding head as cool as possible.

**MEASUREMENT**

The Department will measure the quantity of PARTIAL DEPTH PATCHING-POLYMER MOD in cubic feet, from field measurements or from the metered quantity from the mixer, as determined by the Engineer.

**PAYMENT**

The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
24997EC	Partial Depth Patching-Polymer Mod	Cubic Foot

The Department will consider payment as full compensation for all work required in this special note.

Acceptable products to meet this specification are Fibrecrete G and Crafcro Techcrete (R or TBR). Other products that fully meet this specification will also be accepted if approved by the Engineer.



September 16, 2019

## MODIFIED SPECIAL NOTE FOR FULL DEPTH CONCRETE PAVEMENT REPAIR

This Special Note applies to full depth repairs of concrete pavement. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

**1.0 DESCRIPTION.** Remove and replace concrete pavement. Comply with the applicable Standard Drawings and the Standard Specifications except as specifically superseded herein.

### 2.0 MATERIALS AND EQUIPMENT.

**2.1 JPC Pavement.** Test concrete materials according to section 601.03.03. Conform to 501, 502, and 601 except that the concrete must achieve 3000 psi in accordance with Section 4.4 of this note. The Engineer may allow pavement to be opened to traffic at less than 3,000 psi subject to the deductions described in Section 4.4 of this note.

**2.2 Dowel Bars and Sleeves.** Conform to 811. Contrary to the Standard drawings, 1.5-inch diameter dowel bars will be accepted for 13-inch JPC Pavement and 1.5-inch diameter dowel bars will be required for 10-inch JPC Pavement.

**2.3 Tie Bars.** Conform to Section 811. Use epoxy coated tie bars in longitudinal and transverse joints.

**2.4 Joint Sealants.** Conform to Subsection 807.03.01 or 807.03.05.

**2.5 Grout Adhesives and Epoxy Resin Systems.** Conform to Section 826.

**2.6 Dense Graded Aggregate (DGA) and Crushed Stone Base (CSB).** Conform to Section 805.

**2.7 Geotextile Fabric.** Conform to Section 843 and Special Note for Class 1A Geotextile Fabrics.

**2.8 Drills.** Drill holes using a gang drill, capable of drilling a minimum of four simultaneously. Misalignment of holes shall not exceed 1/4 inch in the vertical or oblique plane.

**2.9 Hammers.** Only use chisel point hammers weighing less than 40 pounds to remove deteriorated concrete.

### 3.0 CONSTRUCTION.

**3.1 Removal of Existing Pavement.** Remove existing pavement to the extent the Contract specifies or as the Engineer directs. The minimum length of patches measured along centerline is 3 feet on each side of an existing joint.

When working with pavements with non-skewed transverse joints, if it is necessary to remove existing pavement closer than 6 feet to a transverse joint, remove the pavement 3 feet beyond that joint.

When working with pavements with skewed transverse joints, if it is necessary to remove existing pavement closer than 3 feet to a transverse joint, remove the pavement 3 feet beyond that joint.

Details of configurations of pavement and joints for various situations are

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depicted in the drawings herein.

When small areas of removal and replacement are performed at bridge ends, maintain or reconstruct existing expansion joints at their existing location. When the Engineer determines extensive full width removal and replacement is required, construct new expansion joints at the locations shown on Standard Drawing No. RPN-010.

In the removal operation, make a full depth saw cut longitudinally along the centerline joint and shoulder joint and transversely along the area marked for removal. To prevent damage to the subbase, do not allow the saw to penetrate more than  $\frac{1}{2}$ " into the subbase. The Engineer may direct or approve additional cuts within the removal area in order to prevent damage to adjacent pavement remaining in place. Do not overcut beyond the limits of the removal area. Prevent saw slurry from entering existing joints and cracks. To avoid pumping and erosion beneath the slab, do not allow traffic on sawed pavement, unless directed by the Engineer.

Lift out the deteriorated concrete vertically with lift pins. If approved by the Engineer, use other methods that do not damage the base, shoulder, or sides of pavement that is to be left in place. If any damage does occur, saw cut and remove damaged section and if necessary use an acceptable alternative method for the removal process. Any additional costs associated with repair shall be the contractor's responsibility. Do not damage the pavement base during these operations.

Dispose of all removed pavement, cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor at no additional cost to the Department. The Contractor will be responsible for obtaining any necessary permits for this work.

**3.2 Pavement Replacement.** Do not damage the pavement base during these operations.

**3.2.1 Preparation of Base.** Compact the new and existing aggregate base to the Engineer's satisfaction. The Engineer will accept compaction by either visual inspection or by nuclear gauge. When the Engineer deems it necessary to stabilize the existing base or replace unsuitable materials, excluding bridge ends, use additional DGA to the depth deemed necessary by the Engineer. Underlay the DGA with FABRIC-GEOTEXTILE CLASS 1A. Flowable fill and cement stabilization may be used as an alternative to stabilize the existing base or to replace unsuitable materials when a plan for such is presented to and approved by the Engineer. At bridge ends, treat existing base and subgrade as the Contract specifies. During compaction, wet the base as the Engineer directs. Compact areas not accessible to compaction equipment by hand tamping.

**3.2.2 Underdrains.** Construct, or repair damage to, pavement edge drains according to Section 704. If underdrains are placed omitting areas to be patched, construct additional lateral drains as necessary to provide outlets for the installed underdrain until performing the pavement replacement and completing the underdrain system. Provide drainage for any undercut or base repair areas.

**3.2.3 Pavement Replacement.** Using load transfer assemblies for dowel joints drill into the existing slab according to the details shown herein and on the Standard Drawings.

Use plain epoxy coated dowels of the size specified on the standard drawings based on the pavement thickness for contraction and expansion joints.

Drill holes for dowel bars and tie bars into the face of the existing slab, at a

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diameter as specified in the following. Drill the dowel bar holes and tie bar holes to a depth equal to 1/2 the length of the bars. Anchor tie bars into the existing pavement using an epoxy resin. Anchor dowel bars into the existing pavement using either an epoxy resin or an adhesive grout. For tie bars and dowel bars where an epoxy resin is to be used drill the holes 1/8 inch larger than the bar diameter. For dowel bars where an adhesive grout product is to be used, drill holes 1/4 inch larger than the bar diameter. Use a clear or opaque grout retention disk in both grout and epoxy applications. Operate the equipment to prevent damage to the pavement being drilled. Obtain the Engineer's approval of the drilling procedure. Install load transfer assemblies according to the Standard Drawings and Standard Specifications.

When indicated herein or in the Standard Drawings, use 1 inch deformed tie bars that are 18 inches long placed 30 inches on center starting and ending 20 inches inside the edges of the repair area in the longitudinal joint. Use 1 inch deformed tie bars, or plain epoxy coated dowel bars sized in accordance with the Standard Drawings that are 18 inches long beginning 12 inches inside of each edge and on 12-inch centers in transverse construction joints.

Install the dowels and tie bars according to Section 511 unless contradicted here. Ensure the holes are dry and free of dust and debris. Use a nozzle to insert the grout or epoxy starting at the back of the drilled hole to allow for full coating of the dowel or tie bar. After placement, use a bond breaker on the section of the dowel bar that is protruding from the hole.

Mix, place, finish, and cure concrete according to Section 501 with the exception that the Department will allow truck mixing, 2-bag mixers, and hand finishing.

When required, use a form on the side of the slab at longitudinal joints. When the adjacent traffic lane is not closed to traffic or the drop-off is not protected, temporarily fill the space between the form and the adjacent pavement with DGA. After placing the slab, remove the DGA and form. Fill the hole with concrete and thoroughly consolidate by rodding, spading, and sufficient vibration to form a dense homogeneous mass. Use a form on the side of the slab adjacent to shoulders. Excavate and backfill as shown on Section F'-F'.

For patches less than 25 feet in length, use a bond breaker and do not install tie bars at the longitudinal joint. Bond breakers should not exceed 1/8 inch in thickness, e.g. tarpaper.

When resurfacing is required, a float finish is satisfactory. Otherwise, broom finish or, when the adjacent surface has a grooved finish, texture the surface according to Subsection 501.03.13 H). Finish the surface, including joints, to meet a surface tolerance of 1/8 inch in 10 feet that will be verified by straightedge. Cure the pavement and apply curing membranes according to 501.03.15.

Keep all pavement surfaces adjacent to this operation reasonably clean of excess grout and other materials at all times. Maintain all original longitudinal joints. Place transverse joints according to the details shown herein and on the Standard Drawings.

**3.3 Joint Sealing.** Seal all new or partially new joints with hot-poured elastic joint sealant according to Subsection 501.03.18.

#### **4.0 MEASUREMENT.**

**4.1 Remove Pavement.** The Department will measure the quantity in square yards of surface area. The Department will not measure removal of underlying



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base material for payment and will consider it incidental to Remove Pavement.  
No separate payment will be made for the disposal of waste from the project or obtaining the necessary permits but will be incidental to the other items of the work.

**4.2 DGA or CSB.** The Department will measure the quantity used to stabilize the existing base or to replace unsuitable material in tons. The Department will not measure removal of existing base material or underlying material for payment and will consider incidental to DGA or CSB. The quantity of DGA used for the drop-off protection shall be incidental to this work and will not be measured for payment.

**4.3 JPC Pavement Non-Reinforced.** The Department will measure according to 501.04.01. The Department will not measure dowels, tie bars, or joint sealing for payment and will consider it incidental to Non-Reinforced JPC Pavement.

JPC Pavement will be paid according to section 5.0 below and according to the following payment schedule based on the compressive strength. The cylinders for payment will be tested two hours prior the scheduled opening of traffic.

3000 psi and up	100% payment
2750 to 3000 psi	75% payment and approval from the Engineer to open to traffic*
2500 to 2750 psi	50% payment and approval from the Engineer to open to traffic*
2250 to 2500 psi	25% payment and approval from the Engineer to open to traffic*
Below 2250 psi	10% payment and no potential to open to traffic. Maintain traffic closure until concrete reaches a minimum of 2250 psi.

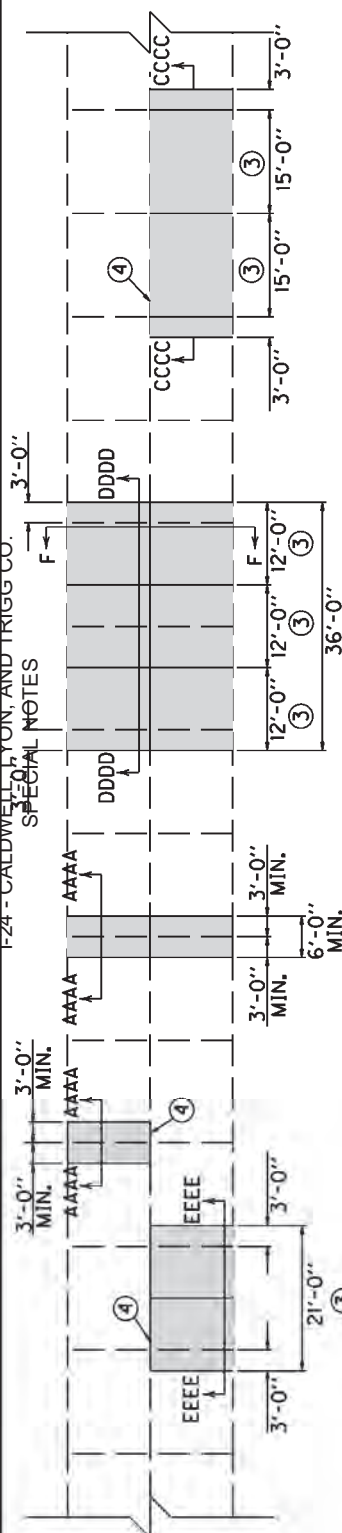
\*If the Engineer approves opening to traffic, the Engineer will evaluate the concrete at 28 days (or sooner) to determine if the removal and replacement of the concrete is necessary due to pavement distress induced by the early opening (i.e. noticeable cracking). If required by the Engineer, remove and replace those slabs showing distress at no cost to the Department.

**4.4 Underdrains.** The Department will measure the quantity according to Subsection 704.04. The Department will not measure lateral drains for payment and will consider them incidental to the Underdrains.

**5.0 PAYMENT.** The Department will consider payment as full compensation for all work required in this provision. The Department will make payment for the completed and accepted quantities under the following:

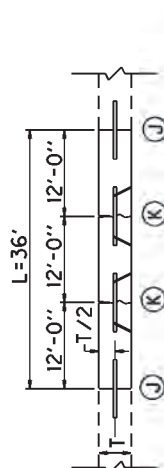
<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02091	Remove Pavement	Square Yard
00001	DGA Base	Ton
02069-02088	JPC Pavement	Square Yard
02604	Fabric-Geotextile Class 1A	Square Yard

### SPECIAL NOTES



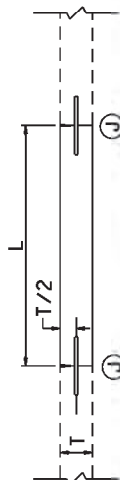
**PLAN VIEW**

JPC PAVEMENT  
TO BE REMOVED

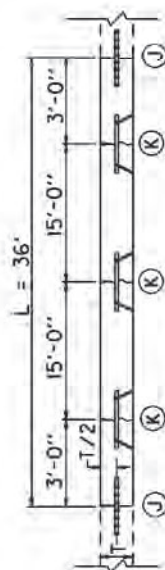


SECTION DDDD

FULL WIDTH REPLACEMENT  
(INCLUDING JPC SHOULDERS)

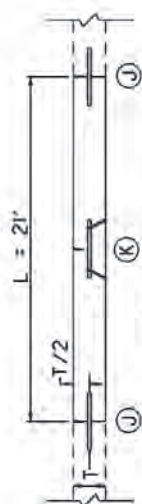


SECTION AAAA  
JOINT REPLACEMENT



SECTION CCCC

LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



SECTION EEEE

LANE REPLACEMENT LK25\*

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L-6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CCCC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS OR TIE BARS FOR SECTION CCCC IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS OR TIE BARS FOR SECTION CCCC ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L<25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE. USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION CCCC) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

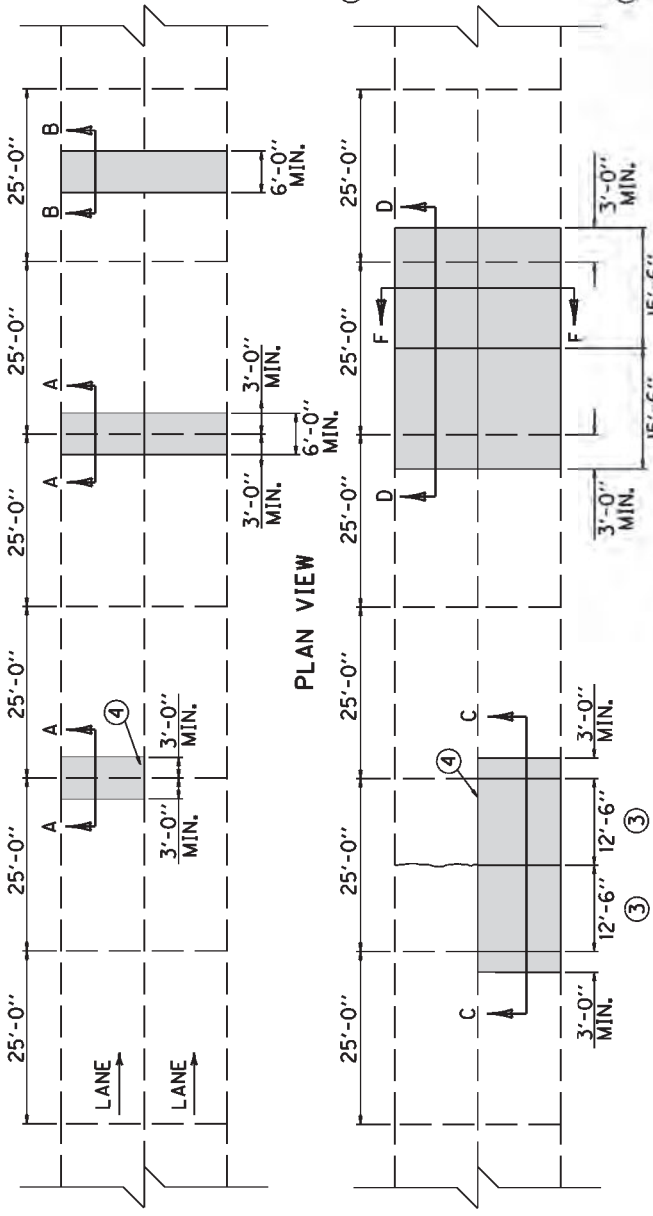
**KENTUCKY  
DEPARTMENT OF HIGHWAYS**

### 15' JOINT SPACING

APPROVED \_\_\_\_\_ TEAM DIVISION OF DESEM \_\_\_\_\_ DATE \_\_\_\_\_

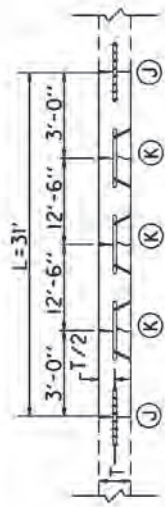
I-24 - CALDWELL, LYON, AND TRIGG CO.  
SPECIAL NOTES

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION C), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION C) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION C) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
3. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L<25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
4. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION C) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

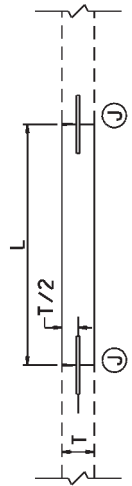


JPC PAVEMENT  
TO BE REMOVED

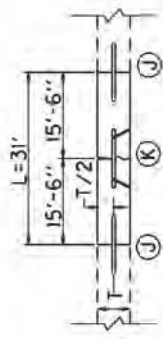
PLAN VIEW



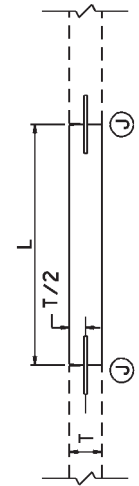
SECTION C  
LANE REPLACEMENT WHERE ADJACENT  
LANES OR JPC SHOULDERS WILL REMAIN



SECTION A  
JOINT REPLACEMENT



SECTION D  
FULL WIDTH REPLACEMENT  
(INCLUDING JPC SHOULDERS)

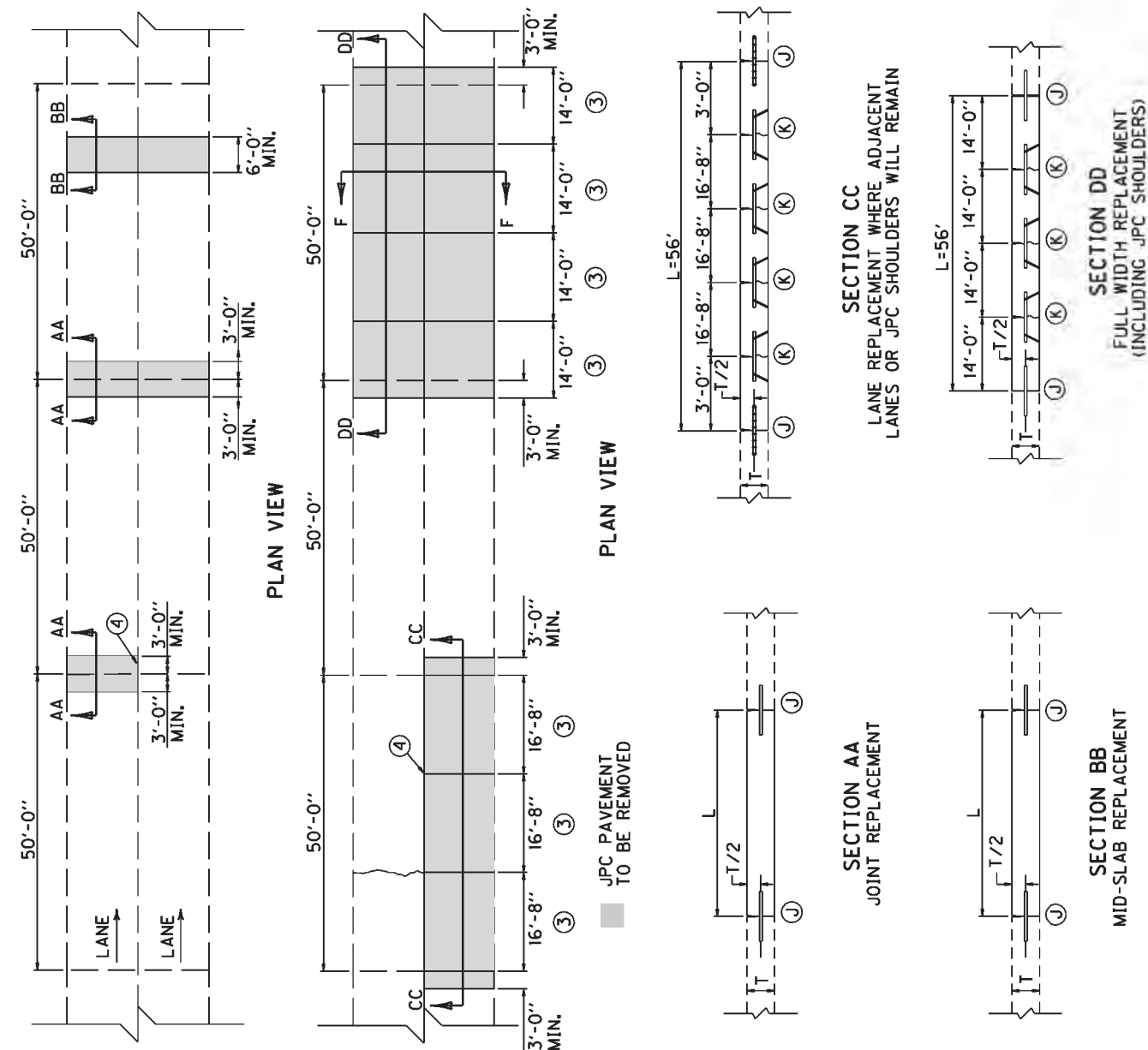


SECTION B  
MID-SLAB REPLACEMENT

KENTUCKY DEPARTMENT OF HIGHWAYS
25' JOINT SPACING
APPROVED _____ DATE _____ TERM DIVISION OF DESIGN



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SPECIAL NOTES

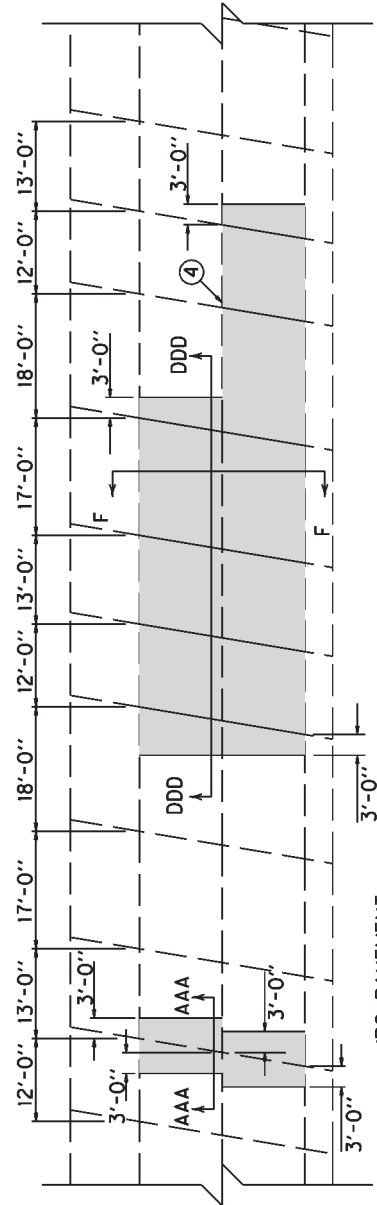


1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION CC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION CC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L<25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS FOR A CONSTRUCTION JOINT FOR LOCATION CC AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

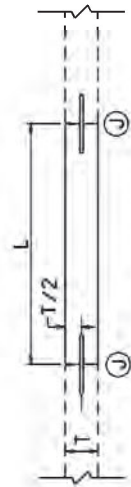
KENTUCKY DEPARTMENT OF HIGHWAYS
50' JOINT SPACING
SUBMITTED: _____ DATE: _____ TEAM DIVISION OF DESIGN

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SPECIAL NOTES

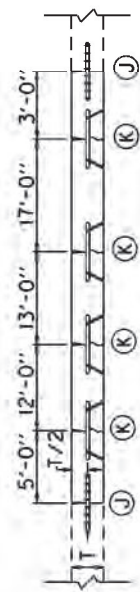
1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION DDD), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND MATCH EXISTING JOINTS. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH EXISTING JOINTS IN ADJACENT SLABS.
3. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L>25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
4. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION DDD) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.



PLAN VIEW



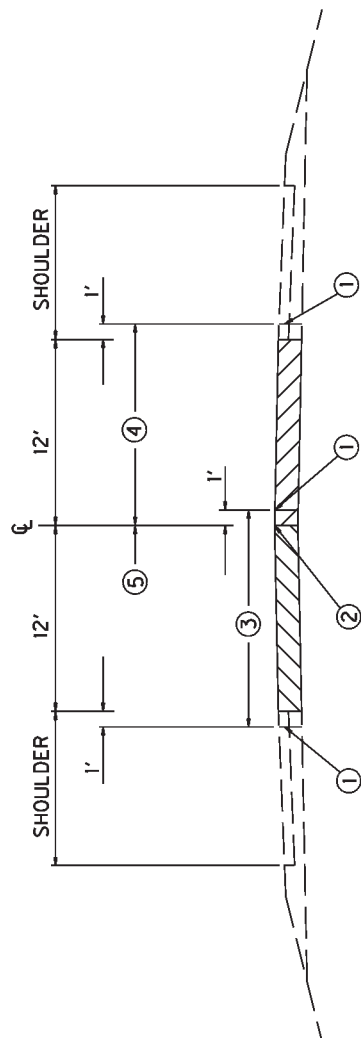
SECTION AAA  
JOINT REPLACEMENT



SECTION DDD  
LANE REPLACEMENT  
(ALWAYS MATCH EXISTING JOINTS)

KENTUCKY DEPARTMENT OF HIGHWAYS
RANDOM SKEWED
APPROVED _____ DATE _____ TECHNICAL DIVISION OF DESIGN

## SPECIAL NOTES



## SECTION F

- ① SAW-CUT LINE. THIS ONE FOOT IS TO ALLOW FOR A FORM AND THE REMOVAL AND REPLACEMENT SHALL BE INCIDENTAL TO THE WORK. EXCEPT NEW ASPHALT MIXTURE SHALL BE PAID DIRECT ON A TONNAGE BASIS, AND NEW JPC PAVEMENT WILL BE PAID BY THE SQUARE YARD. COMPACT THE DGA BASE BY MECHANICAL TAMPERS TO THE ENGINEER'S SATISFACTION.
- ② EXISTING LONGITUDINAL JOINT.
- ③ FIRST SLAB REMOVAL LIMITS AND REPLACE 12'-FOOT LANE.
- ④ SECOND SLAB REMOVAL LIMITS AND REPLACE 12'-FOOT LANE.
- ⑤ THIS ONE FOOT IS TO ALLOW FOR A FORM ON THE FIRST POUR, AND A TEMPORARY PAVEMENT IS REQUIRED. THE DEPARTMENT WILL NOT REQUIRE REMOVAL OF THIS ONE FOOT IF THE GRADE OF THE EXISTING PAVEMENT IS ADEQUATE TO ENSURE THE NEW CONCRETE CAN BE PLACED AND FINISHED TO THE SATISFACTION OF THE ENGINEER. ANY TEMPORARY PAVEMENT IS INCIDENTAL TO JPC PAVEMENT.
6. THE ABOVE DRAWING DEPICTS THE ORDER OF SLAB REMOVAL WHEN BOTH ARE TO BE REMOVED AT THE SAME LOCATION. WHEN ONLY ONE SLAB OR LANE IS TO BE REMOVED, REMOVE AND REPLACE ACCORDING TO SECTION C, CC, OR CCCC. TRAFFIC CONTROL WILL SPECIFY WHICH LANE TO REMOVE FIRST.

**KENTUCKY  
DEPARTMENT OF HIGHWAYS**

**CROSS SECTION**

APPROVED \_\_\_\_\_  
 \_\_\_\_\_  
 TERM DIVISION OF DESOM \_\_\_\_\_  
 DATE \_\_\_\_\_



SPECIAL NOTE FOR  
HIGH TENSION CABLE-ROPE MEDIAN BARRIER  
Sheet 1 of 3

**DESCRIPTION** This work shall consist of removing and re-installing a high tension cable-rope HTC median barrier. The existing cable-rope barrier system along this section of I-24 is a Brifen Wire Rope Safety Fence (WRSF).

**GENERAL REQUIREMENTS** The HTC median barrier system shall match the existing and shall be a four cable-rope system that meets the National Cooperative Highway Research Program (NCHRP) Report 350, Test Level 4 testing for 6H:1V slopes and be accepted by FHWA as such. HTC installed on front slope grades steeper than 6H:1V but 4H:1V or flatter shall be Test Level 3 tested and accepted as such. Each of the four cable-ropes shall be independently anchored to a concrete end-anchor. The terminals/end anchorages shall be tested and accepted under NCHRP Report 350 Test Level 3. The maximum post spacing for the HTC System shall be 10.5 feet, center to center.

**MATERIALS** Samples for testing shall be provided as directed by the Physical Section of the Division of Materials. Contractors shall contact the Physical Section of the Division of Materials at 502-564-3160 for department specific sampling and testing procedures prior to bid. Section references are from the *Kentucky Standard Specifications for Road and Bridge Construction (current edition)*.

Concrete, Class A	Section 601
Steel Reinforcement (Minimum Grade 40 steel)	Section 811
Anchor Bolts and Nuts	Section 813
Galvanizing (Bolts, Nuts & Washers)	AASHTO M 232
Fittings (Steel) Hardware	AASHTO M 30
Reflective Sheeting	Section 830

**Cable-rope** The cable-rope shall be a galvanized ¾ inch diameter, 3x7 wire rope construction meeting AASHTO M30 Type I Class A coating. The wire rope shall be pre-stretched during manufacturing to exhibit a minimum modulus of elasticity of 11,805,090 pounds/inch<sup>2</sup> after pre-stretching. If cable rope or fittings of higher strength were used at the time of NCHRP 350 evaluation, use the higher strength materials.

**Posts** Posts shall be the socketed versions with caps, placed in metal or plastic sleeves installed in a concrete foundation. All posts shall be fabricated from materials meeting ASTM A-36 or greater steel and galvanized after fabrication to A-123. The required welding shall be performed by a certified welder in accordance with AWS D1.1. Posts shall be domestic hot-rolled mild steel, or cold-formed from hot-rolled mild steel. A fitting gasket, profiled to fit tightly around each post, shall be provided to prevent debris from entering the socket.

## **SPECIAL NOTE FOR** **HIGH TENSION CABLE-ROPE MEDIAN BARRIER**

Sheet 2 of 3

**Fittings** Only swaged fittings shall be provided. Field-installed, galvanized-steel fittings (i.e., turnbuckles and splices) shall be one-inch diameter. Smaller fittings may be allowed with written permission from the Division of Design, Division of Construction, and the Division of Materials. Factory applied or stainless steel fittings shall meet AASHTO M30 Type I Class A. Threaded terminals shall be right hand or left hand threaded M24 X 3 pitch to ANSI B 1.13M. The body of the threaded terminal shall provide a minimum of 6 inches wire rope engagement depth. Threaded terminals shall be either stainless steel or galvanized, after processing, to ASTM A-153.

**Turnbuckles** Turnbuckles (i.e. Rigging Screws) shall be threaded to accept the fitting described above. Turnbuckles may be either the open or closed body type (with two inspection holes to determine threaded rope terminal penetration). The turnbuckles shall allow for a minimum of 6 inches of penetration from each end. Turnbuckles shall meet AASHTO M30 Type I Class A and shall be either stainless steel or galvanized, after processing, to ASTM A-153.

**Mechanical Anchor Fittings** Fittings shall be provided at the anchor termination of each cable-rope and shall be of the same type as used in the connection to the turnbuckles. The fittings shall meet AASHTO M30 Type I Class A yielding, shall be capable of release and reuse, and shall be either stainless steel or galvanized, after processing, to ASTM A-153.

**End Terminals** End Terminals placed within the clear zone, as defined by AASHTO Roadside Design Guide, shall be NCHRP Report 350 compliant, meeting Test Level 3 (TL-3) requirements, and having an FHWA letter of acceptance. Other terminals may be used in locations where impacts are unlikely or if properly shielded by impact attenuator, if approved by the Engineer. Each of the four cable-ropes of the system shall have separate anchor connections to the terminal end section. End anchors shall be fabricated from materials meeting ASTM A-36 and galvanized after fabrication to A-123. All welding shall be performed by a certified welder in accordance with AWS D1.1.

**CONSTRUCTION** The Contractor shall install high tension cable-rope barrier system according to Brifen's design and recommendation. Prior to construction, the proposed layout and location of the HTC System will be approved by the Department.

The posts shall be installed plumb and in accordance with the proposed layout, spacing, and location shown in the HTC System layout plans as approved by the Department.

Turnbuckles shall be included to allow for tensioning of the cable-ropes. For installations greater than 1,000 feet in length, at least one Turnbuckle per 1,000 feet shall be included per length of cable-rope. For installations less than 1,000 feet in length, one Turnbuckle per length of cable-rope shall be included near the center of the installation.

Extreme care shall be taken in ensuring proper cable-rope height. The area shall be relatively smooth, without edge drop-offs, holes, other depressions or abrupt slope changes between the edge of the traveled way and the cable-rope barrier system.

**SPECIAL NOTE FOR**  
**HIGH TENSION CABLE-ROPE MEDIAN BARRIER**  
Sheet 3 of 3

The HTC System shall be placed and tensioned immediately after initial installation per the manufacturer's recommendations. Tension shall be rechecked approximately two (2) to three (3) weeks after initial tensioning and adjusted, if necessary. A tension log form shall be completed showing the time, date, location, ambient temperature, and final tension reading, signed by the person performing the tension reading. This log shall be furnished to the Engineer upon completion of work. This form shall also include the manufacturer's recommended tension chart.

Line post shall be socketed with sleeves set in concrete. The minimum diameter for the line post foundations shall be 12 inches. Minimum installation depth for the concrete line posts footings shall be 36-inches for non-rock installation. Greater depths may be required for non-rock installation due to manufacturer's recommendations based on soil information as shown in this proposal. Depths and requirements for installations in rock shall be based on manufacturer's recommendations.

The HTC System shall be delineated with retro-reflective sheeting. The delineation shall be applied to the last five posts at each end of an installation and throughout the remainder of the installation at a maximum spacing of 50 feet. The delineation shall provide a minimum of seven square inches of area when viewed on a line parallel to the roadway centerline. For median installations, the sheeting shall be applied to both sides of the post. The delineation shall be attached near the top of the posts as recommended by the manufacturer. The sheeting shall be yellow or white and shall be the same color as the adjacent edge line.

Contractor shall not allow traffic to be exposed to trenching and/or excavated post anchor holes for longer than one working shift, as directed by the Engineer.

**MEASUREMENT**

**High Tension Cable-Rope Barrier** will be measured by the linear foot. Any costs associated with the cable-rope, intermediate line posts, line post foundations, cable-rope tensioning, reflective sheeting, and all necessary incidentals shall be included in the price bid for this item.

**End Anchors** will be measured by each unit. The Contractor's proposed layout and location plans will specify the type and number of end terminals required. Any costs associated with the excavation, reinforcing steel, concrete, and other incidentals shall be included in the price bid for this item. End anchor pay limits vary by manufacturer. See manufacturers shop drawings for details.

**PAYMENT**

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
23147EN	HIGH TENSION CABLE-ROPE BARRIER	LINEAR FOOT
23148EN	END ANCHORS	EACH

Such payment shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.



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SPECIAL NOTES

**SPECIAL NOTE FOR BRIDGE BARRIER RETROFIT**

**I. DESCRIPTION.**

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2019 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing aluminum handrail and deliver to the Baily Bridge Lot in Frankfort, KY; (3) Remove a portion of the existing concrete wing barrier as shown in the attached detail drawings and clean reinforcement to be reused in the proposed final wing barrier; (4) Remove any existing spalled/delaminated concrete from portion of the barrier to remain in place; (5) Repair and replace damaged and corroded reinforcing bars; (6) Drill and epoxy grout reinforcement into the existing barrier; (7) Prepare surface for concrete placement by blast cleaning; (8) Pour new concrete barrier using Class "M" Concrete according to the Standard Specifications; (9) Apply masonry coating to areas of new concrete as shown on the attached detail drawings; and (10) Any other work specified as part of this contract according to the attached detail drawings.

**II. MATERIALS.**

- A. Class "M" Concrete.** Use either "M1" or "M2". See Section 601.
- B. Steel Reinforcement.** Use Grade 60. See Section 602.
- C. Masonry Coating.** See Section 601.03.18 B.

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SPECIAL NOTES

III. **CONSTRUCTION.**

- A. Concrete Removal and Preparation.** The Contractor, as directed by the Engineer, shall locate and remove all loose, spalled, deteriorated and delaminated concrete. Sounding shall be used to locate delaminated areas. Care shall be exercised not to damage areas of sound concrete or reinforcing steel during concrete removal operations. Concrete removal shall be in accordance with a sequence approved by the Engineer.

Concrete removal shall be accomplished by chipping with hand picks, chisels or light duty pneumatic or electric chipping hammers (not to exceed 15 lbs.). If sound concrete is encountered before existing reinforcing steel is exposed, the surface shall be prepared and repaired without further removal of the concrete. When corroded reinforcing steel is exposed, concrete removal shall continue until there is a minimum  $\frac{3}{4}$  inch clearance around the exposed, corroded reinforcing bar. Care shall be taken to not damage bond to adjacent non-exposed reinforcing steel during concrete removal processes.

The perimeter of all areas where concrete is removed shall be tapered at an approximately 45° angle, except that the outer edges of all chipped areas shall be saw cut to minimum depth of  $\frac{3}{4}$  inch to prevent featheredging unless otherwise approved by the Engineer.

After all deteriorated concrete has been removed, the repair surface to receive concrete patching shall be prepared by abrasive blast cleaning. Abrasive blast cleaning shall remove all fractured surface concrete and all traces of any unsound material or contaminants such as oil, grease, dirt, slurry, or any materials which could interfere with the bond of freshly placed concrete.

The Contractor shall dispose of all removed material off State Right Of Way in an approved site. The Department will not measure concrete removal, Concrete Class "M", and steel reinforcement and will consider all work necessary as incidental to the bid item "BRIDGE BARRIER RETROFIT".

- B. Prepare existing surface.** Prepare the existing surface by blast cleaning in accordance with 606.03.04.
- C. Construct new barrier wall.** Drill and epoxy grout reinforcement into existing concrete according to Section 511. Form and pour new barrier wall in accordance with the detailed drawings.
- D. Apply finish.** Apply masonry coating to new concrete surfaces according to attached detail drawings and Sections 601.03.18 B.

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SPECIAL NOTES

IV. **MEASUREMENT. See Section 606 and the following:**

- A. **Bridge Barrier Retrofit.** The Department will measure the quantity in linear feet from bridge end to bridge end. The wing lengths will be included in the measurement.

V. **PAYMENT.**

- A. **Bridge Barrier Retrofit.** The Department will make payment at the contract unit price per linear foot under the bid item #23032EN "BRIDGE BARRIER RETROFIT" for full compensation for removal and delivery of aluminum railing, repair of spalled concrete, preparation of concrete surfaces, furnishing and installing the concrete and reinforcement, and all incidental items necessary to complete the work within the specified pay limits as specified by this note and as shown on the attached detail drawings.

The Department will consider payment as full compensation for all work required by these notes and the attached detail drawings.



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SPECIAL NOTES

August 13, 2019

**SPECIAL NOTE FOR CONCRETE PAVEMENT  
JOINT AND RANDOM CRACK SEALING**

**I. DESCRIPTION**

Except as specified herein, perform all work in accordance with the Department's 2019 Standard and Supplemental Specifications, Special Notes and Special Provisions, and Standard and Sepia Drawings, current editions, as applicable. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

Saw, Clean, and Reseal Longitudinal Joints, Transverse Joints, and Random Cracks.

**II. MATERIALS**

The Department will sample and test all materials according to the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

**A. Joint Sealant.** Contrary to Section 501.03.18 (B), use hot poured elastic, no alternates.

**III. CONSTRUCTION METHODS**

**A. Site Preparation.** Be responsible for all site preparation, including, but not limited to, removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; and any other incidentals. All site preparation shall be only as approved or directed by the Engineer.

**B. Sealing Joints and Random Cracks.** Saw cut, clean, and reseal longitudinal, transverse, and random cracks within the project limits as directed by the Engineer. Contrary to Standard Drawing RPX- 015-04, saw cut the joint or crack a minimum of 1/8 inch wider than the existing joint or crack or to the width necessary to provide a clean, new face for a reservoir for the new seal. Except as provided herein, perform all joint and crack sealing according to section 501.03.18(F) except random cracks only need to be routed to a depth of approximately one inch.

**IV. METHOD OF MEASUREMENT**

Except as provided herein, the Department will measure all work in accordance with the 2019 Standard and Supplemental Specifications, Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions. The Department will measure only the bid items listed. Consider all other items required to complete the work as incidental to the listed items.

**A. Site Preparation.** Other than the bid items listed, the Department will not measure Site Preparation for payment, but shall be incidental to the other items of the work, as applicable.

**B. Saw-Clean-Reseal Joints and Random Cracks.** The Department will measure sawed and resealed joints and random cracks in linear feet along the joint or crack. The Department will not measure removing existing joint material or cleaning joints but shall be incidental to Saw-Clean-Reseal Joints and Random Cracks.

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SPECIAL NOTES

August 13, 2019

**V. BASIS OF PAYMENT**

The Department will make direct payment only for the bid items listed. Consider all other items required to complete the construction to be incidental to the bid items listed.

**A. Saw-Clean-Reseal Joints and Random Cracks.** Accept payment at the contract unit price per linear foot of each type as full compensation for all materials, equipment, labor and incidentals necessary to complete the work as specified.

<u>CODE</u>	<u>PAY ITEM</u>	<u>PAY UNIT</u>
02115	Saw-Clean-Reseal Transverse Joint	Linear Foot
02116	Saw-Clean-Reseal Longitudinal Joint	Linear Foot
021173EC	Saw-Clean-Reseal Random Cracks	Linear Foot

September 18, 2019

## **SPECIAL NOTE FOR CLASS 1A GEOTEXTILE FABRICS USED IN STRUCTURAL PAVEMENT DESIGNS**

1. **DESCRIPTION.** This special note covers requirements for Class 1A geotextile fabrics to be used for subgrade stabilization that is a part of a structural pavement design.
2. **GEOTEXTILE FABRIC.** Use woven fabric consisting only of long chain polymeric filaments or yarns such as polypropylene formed into a stable network such that the filaments or yarns retain their relative position to each other. Use fabric that is inert to commonly encountered chemicals and free of defects or flaws significantly affecting its physical or filtering properties.

Ensure that the fabric is formed in widths of at least 6 feet. When necessary, sew sheets of fabric together to form required fabric widths. Sew the sheets of fabric together at the point of manufacture or other approved locations.

The geotextile manufacturer is responsible for establishing and maintaining a quality control program to ensure compliance with this section. The manufacturer must participate in the National Transportation Product Evaluation Program (NTPEP) for Geotextiles and Geosynthetics and the product data must be posted in NTPEP DataMine.

2.1 **PACKING.** During all periods of shipment and storage, wrap the fabric in a heavy duty protective covering to protect the fabric from direct sunlight, ultraviolet rays, temperatures greater than 140 °F, mud, dirt, dust, and debris.

2.2 **PHYSICAL REQUIREMENTS.** Class 1A fabrics are to meet the current requirements of AASHTO M288.

2.3 **ACCEPTANCE.** Obtain the Department's approval for all material before incorporating it into the project.

3. **CONSTRUCTION.** The Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage. Prepare the surface to receive the fabric to a smooth condition, free of obstructions, debris, or sharp objects that may puncture the fabric. Place the fabric smooth and free of folds, wrinkles, or creases. Do not operate equipment directly on the fabric. Protect the fabric at all times from contamination. Remove and replace any contaminated fabric with uncontaminated fabric.

Repair or replace any fabric damage. Repair individual isolated cuts, tears, or punctures by placing a patch of geotextile fabric that extends at least 3 feet beyond the damage in all directions or by field splicing the patch. Cover the fabric with a layer of the specified material within 14 calendar days. Remove and replace fabric not covered within 14 days.



September 18, 2019

4. ACCEPTANCE PROCEDURES FOR NON-SPECIFICATION FABRIC. Ensure that all geotextile fabric conforms to the requirements of this section. However, when non-specification geotextile fabric is inadvertently incorporated into the work before completion of testing, the Department may accept the material with a reduction in pay, provided the failure is marginal and will not cause poor performance. When the failure is excessive, then remove the geotextile fabric, and replace it unless the Engineer determines that the geotextile fabric can remain in place. The Department will apply the largest payment reduction when the material fails to meet more than one specification requirement. The Department will calculate the payment reduction on the invoice cost of the material delivered at the project site. The Department will reject geotextile fabric that fails and has not been incorporated into the work.

5. FASTENER PINS. The Engineer will accept fastener pins based on visual inspection on the project. Conform to the following:

5.1 SUBGRADE STABILIZATION AND WRAPPED AGGREGATE DRAINAGE BLANKET. Provide fastener pins that are formed of 3/16 inch diameter or heavier steel, pointed at one end, with a head on the opposite end to retain a washer with a minimum diameter of 1 ½ inches.

6. MEASUREMENT. The Department will measure the quantity in square yards. The Department will not measure fabric when the Contract indicates the fabric is incidental to the work or when the specification for another item requires incidental installation of geotextile fabric.

The Department will not measure material in laps or seams.

When fabric is used in conjunction with an aggregate layer, the Department will measure the quantity of (1) the area of the lower surface of the aggregate layer, (2) the area of the upper surface of the aggregate layer, and (3) the area of the sides and ends of the aggregate layer; using the dimensions specified in the Plans for each fabric type that applies to its corresponding location(s).

The Department will not measure for payment the repair or replacement of damaged fabric or replacement of fabric not covered within 14 days.

7. PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02604	FABRIC-GEOTEXTILE CLASS 1A	Square Yard

I-24 - CALDWELL, LYON, AND TRIGG CO.  
SPECIAL NOTES

## SPECIAL NOTE FOR EXPERIMENTAL KYCT AND HAMBURG TESTING

### 1.0 General

**1.1 Description.** The KYCT (Kentucky Method for Cracking Test) and the Hamburg test results will help determine if the mixture is susceptible to cracking and rutting. During the experimental phase, data will be gathered and analyzed by the Department to determine the durability of the bituminous mixes. Additionally, the data will help the Department to create future performance based specifications which will include the KYCT and Hamburg test methods.

### 2.0 Equipment

**2.1 KYCT Testing Equipment.** The Department will require a Marshall Test Press with digital recordation capabilities. Other CT testing equipment may be used for testing with prior approval by the Department.

**2.2 Water Baths.** One or more water baths will be required that can maintain a temperature of 77° +/- 1.8° F with a digital thermometer showing the water bath temperature. Also, one water bath shall have the ability to suspend gyratory specimen fully submerged in water in accordance with AASHTO T-166, current edition.

**2.3 Hamburg Wheel Track Testing.** The department encourages the use of the PTI APA/Hamburg Jr. test equipment to perform the loaded wheel testing. The Department will allow different equipment for the Hamburg testing, but the testing device must be approved by the Department prior to testing.

**2.4 Gyratory Molds.** Gyratory molds will be required to assist in the production of gyratory specimens in accordance with AASHTO T-312, current edition.

**2.5 Ovens.** Adequate (minimum of two ovens) will be required to accommodate the additional molds and asphalt mixture necessary to perform the acceptance testing as outlined in Section 402 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

**2.6 Department Equipment.** The Department will provide gyratory molds, PINE 850 Test Press with digital recordation, and CT testing equipment to assist during this experimental phase so data can be gathered. Hamburg test specimens will be submitted to the Division of Materials for testing on the PTI APA/Hamburg Jr if the asphalt contractor or district materials office does not have an approved Hamburg testing device.

### 3.0 Testing Requirements

**3.1 Acceptance Testing.** Perform all acceptance testing and aggregate gradation as according with Section 402 and Section 403 of the Kentucky Standard Specifications for Road and Bridge Construction, current edition.

**3.2 KYCT Testing.** Perform crack resistance analysis (KYCT) in accordance with the current Kentucky Method for KYCT Index Testing during the mix design phase and during the plant production of all surface mixtures. For mix design approvals, submit KYCT results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

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SPECIAL NOTES

**3.2.1 KYCT Frequency.** Obtain an adequate sample of hot mix asphalt to insure the acceptance testing, gradation, and KYCT gyratory samples can be fabricated and is representative of the bituminous mixture. Acceptance specimens shall be fabricated first, then immediately after, fabricate the KYCT samples with the gyratory compactor in accordance with Section 2.4 of this Special Note. Analysis of the KYCT specimens and gradation will be required one per subplot produced from the same asphalt material and at the same time as the acceptance specimen is sampled and tested.

**3.2.2 Number of Specimens and Conditioning.** Fabricate specimens in accordance with the Kentucky Method for KYCT Index Testing. Contrary to the method, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance to KM 64-411. KYCT mix design specimens shall be short-term aged conditioned for four hours at compaction temperature in accordance to KM 64-411. Plant produced bituminous material will not be required for age conditioning and shall be fabricated immediately after the gyratory acceptance specimens have been fabricated. An acceptable transport container will be required to prevent the asphalt mixture from losing heat and to maintain the compaction temperature of the asphalt mixture until the KYCT gyratory samples can be fabricated. This will eliminate reheating of the asphalt mixture. To insure confidence and reliability of the test results provided by KYCT testing and Hamburg testing, reheating of the asphalt mixture is strongly discouraged. If reheating does occur, provide documentation on the Asphalt Mixtures Acceptance Workbook (AMAW).

**3.2.3 Record Times.** For each subplot, record the time required between drying aggregates in the plant to KYCT specimen fabrication. The production time may vary due to the time that the bituminous material is held in the silo. Record the preconditioning time when the time exceeds the one hour specimen cool down time as required in accordance to The Kentucky Method for KYCT Index Testing. The preconditioning time may exceed an hour if the technician is unable to complete the test on the same day or within the specified times as outlined in The Kentucky Method for KYCT Index Testing. The production time and the preconditioning time shall be recorded on the AMAW.

**3.2.4 File Name.** As according to section 7.12 of The Kentucky Method for KYCT Index Testing, save the filename with the following format; "CID\_Approved Mix Number\_Lot Number\_Sublot Number\_Date"

**3.3 Hamburg Testing.** Perform the rut resistance analysis (Hamburg) in accordance to AASTHO T-324, not to exceed 20,000 passes for all bituminous mixtures during the mix design phase and production. For mix design approvals, submit Hamburg results on the Department MixPack. For Class 4 mixtures, submit ingredient materials to the Division of Materials for informational verification.

**3.3.1 Hamburg Testing Frequency.** Perform testing and analysis per lot of material. The plant produced bituminous material sampled for the Hamburg test does not have to be obtained at the same time as the acceptance and KYCT sample. If the Hamburg test sample is not obtained at the same time as the KYCT sample, determine the Maximum Specific Gravity of the KYCT sample in accordance with AASHTO T-209 coinciding with the Hamburg specimens.

**3.3.2 Record Times.** Record the production time as according to section 3.2.3 in this special note. Also record the time that the specimens were fabricated and the time the Hamburg testing was started. All times shall be recorded on the AMAW.



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SPECIAL NOTES

**3.3.3 File Name.** Save the Excel spreadsheet with the following file name; “Hamburg\_CID\_Approved Mix Number\_Lot Number\_Sublot Number\_Date” and upload the file into the AMAW.

#### **4.0 Data**

Submit the AMAW and all test data that was obtained for acceptance, gradation, KYCT, and Hamburg testing within five working days once all testing has been completed for a lot to Central Materials Lab and the District Materials Engineer. Also, any data and or comments that the asphalt contractor or district personnel deem informational during this experimental phase, shall also be submitted to the Central Materials Lab and the District Materials Engineer. Any questions or comments regarding any item in this Special Note can be directed to the Central Office, Division of Materials, Asphalt Branch.

#### **5.0 KYCT Video Demonstration**

<https://youtu.be/84j0bM45-hg>

#### **6.0 Payment**

Any additional labor and testing equipment that is required to fabricate and test the KYCT and Hamburg specimens shall be considered to be incidental to the asphalt surface line item. The Department will perform the testing for the KYCT and Hamburg specimens if a producer does not possess the proper equipment.

June 3, 2019

## Special Note for Subgrade Stabilization

### DESCRIPTION

The subgrade of this project is to be cement stabilized. Contrary to Section 208 of the Standard Specifications, the curing time and testing of the subgrade may be constructed with an expedited schedule. The subgrade is to be prepared and mixed per the Standard Specifications. The curing time is allowed to be lowered to 48 hours per the following items in this note.

- A. The Subgrade is to be tested with a nuclear density meter to ensure that the required maximum dry density and optimum moisture content have been achieved.
- B. The subgrade is to be coated with an asphalt curing seal within 12 hours of final mixing. This is to ensure that the proper moisture content is maintained during the shortened curing period.
- C. After the 48 hour curing period the contractor can begin constructing the aggregate base layer. If any rutting of the treated subgrade layer is detected, it must be repaired immediately. Rutting is to be checked by driving a grader over the subgrade 5 times. If the depth of the ruts is three eighths (3/8) of an inch or greater, construction of the aggregate layer is to be halted for an additional 24 hour curing period. Repair of the subgrade is defined as refilling any ruts and cutting any bulges to ensure the depth of stabilized material is 12 inches and the subgrade is at proper grade. The asphalt curing seal must be replied over disturbed areas so that it completely covers the stabilized area.
- D. If after 4 days of curing the subgrade is continuing to rut in excess of 1/2 inch it can be tested using a Dynamic Cone Penetrometer (DCP) by an approved tester. If the DCP tests result show that the subgrade has achieved 80 psi of bearing strength, or have increased in strength by at least 15 psi the contractor will be allowed to continue aggregate layer construction. The Geotechnical branch will conduct DCP readings at the start of construction to determine a baseline bearing strength to compare DCP readings to.
- E. If DCP results do not show the required strength the contractor can attempt checking the rutting depth or wait the full 7 day curing period.
- F. The Geotechnical Branch will coordinate with the district construction personnel to ensure that core samples of the subgrade are taken. The rate of the core sampling will be determined during subgrade construction to ensure enough are taken to be representative of the entire subgrade. These cores will be tested for verification of the subgrade strength.

December 2, 2011

# Commonwealth of Kentucky

## DEPARTMENT OF HIGHWAYS

# I-2

ON C D E ND TRIGG COUNTIES

CONCRETE P EMENT ND RO D RE BI IT TION

## CROSS SECTIONS

### INDE O S EETS

X1 - X465 --- EASTBOUND FULL DEPTH REPLACEMENT

X466 - X471 --- CROSSOVER 1

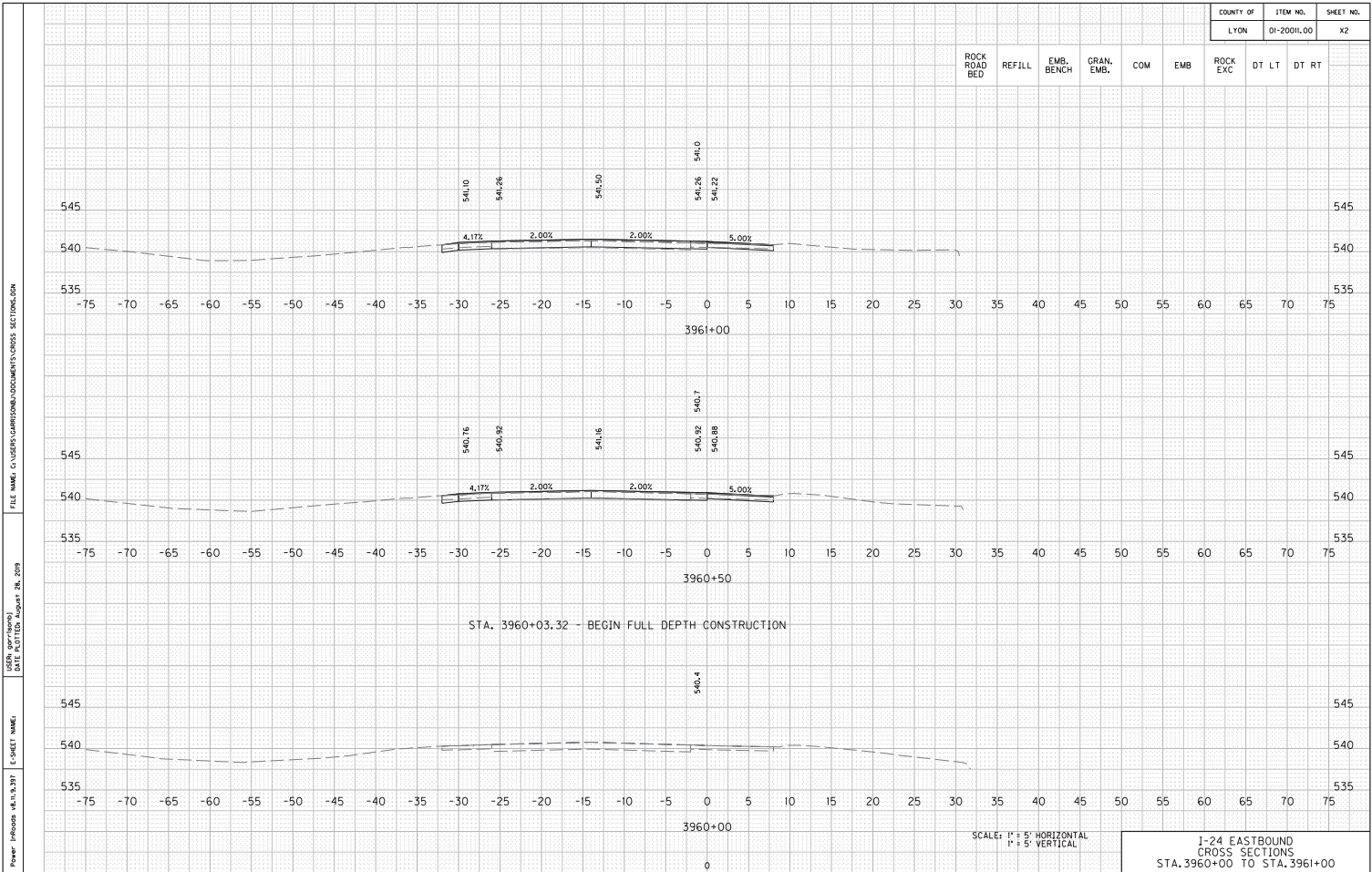
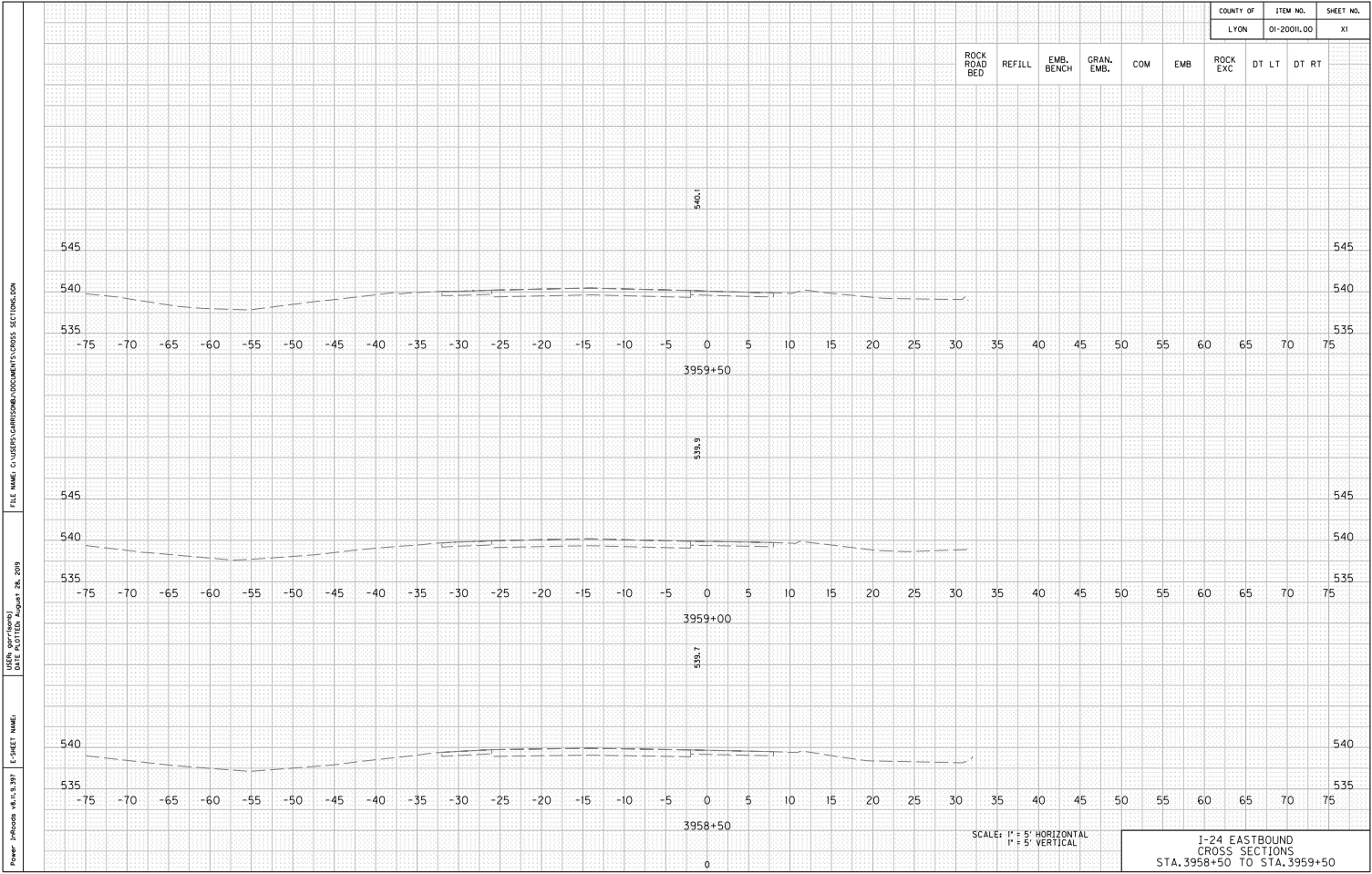
X472 - X474 --- CROSSOVER 2

X475 - X479 --- CROSSOVER 3

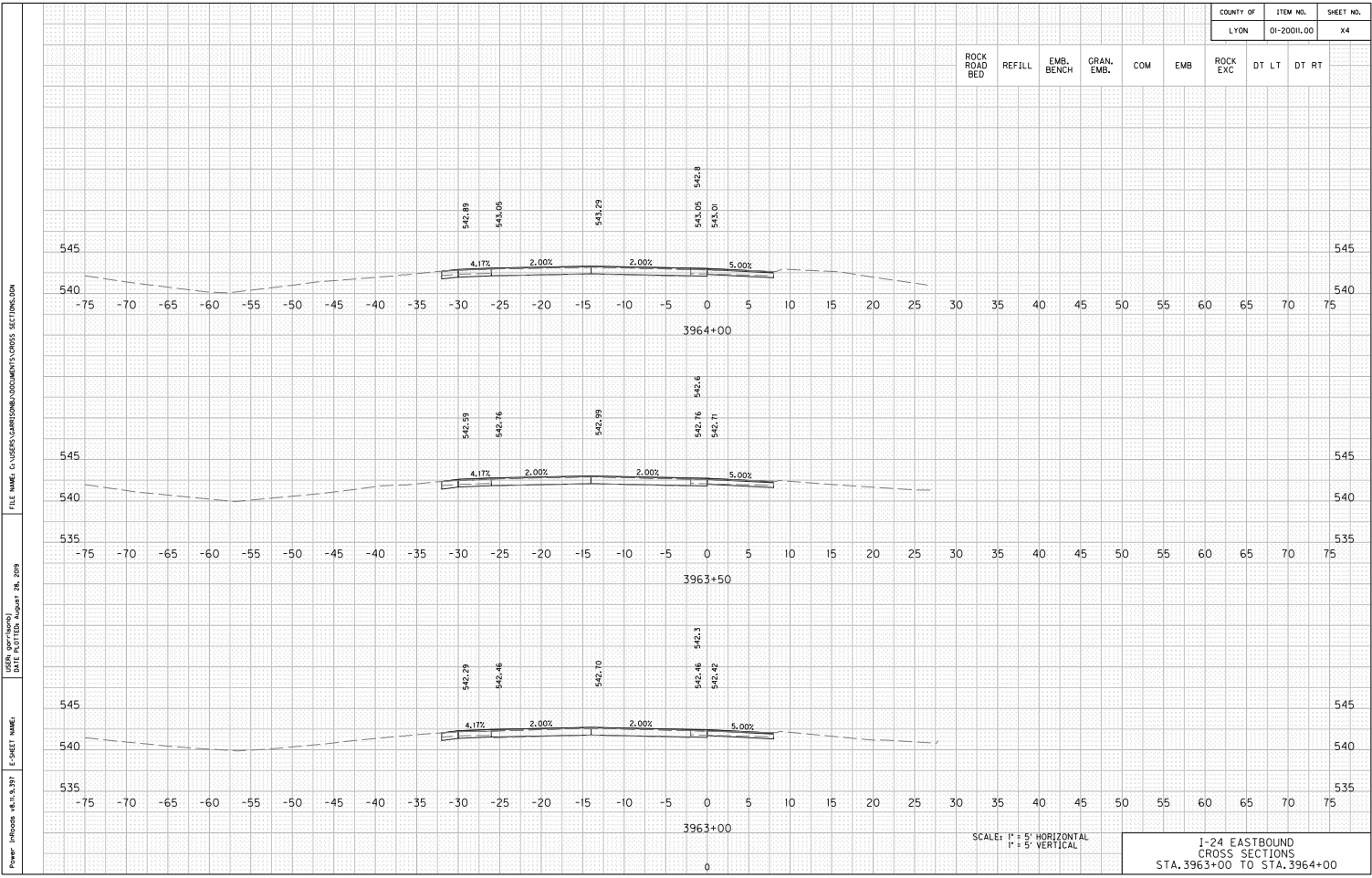
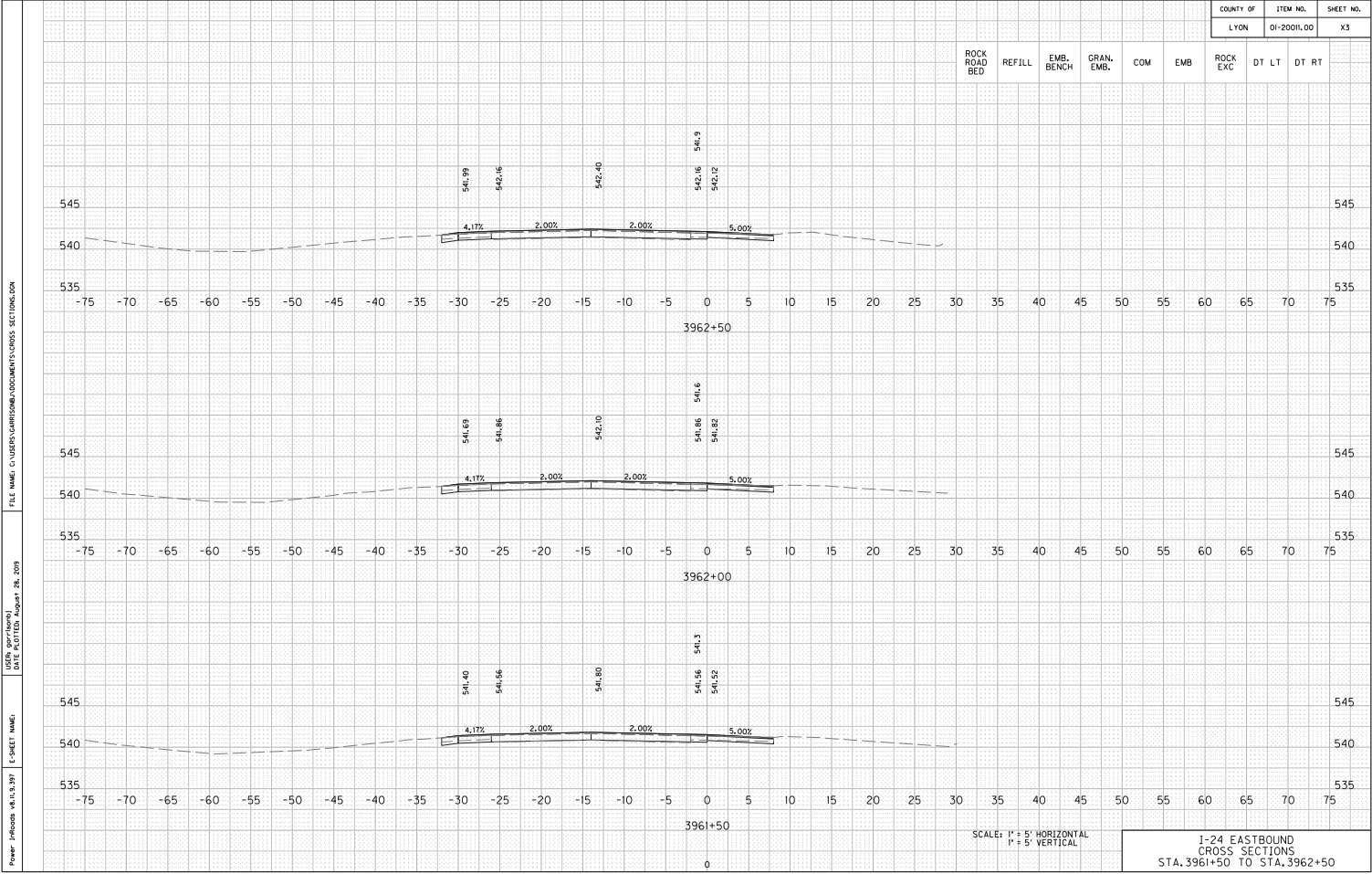
X480 - X483 --- CROSSOVER 4

P B :  
WSP USA INC  
1792 ALYSHEBA WAY  
LEXINGTON, KY 40509  
859-272-5400  
S 18, 2019

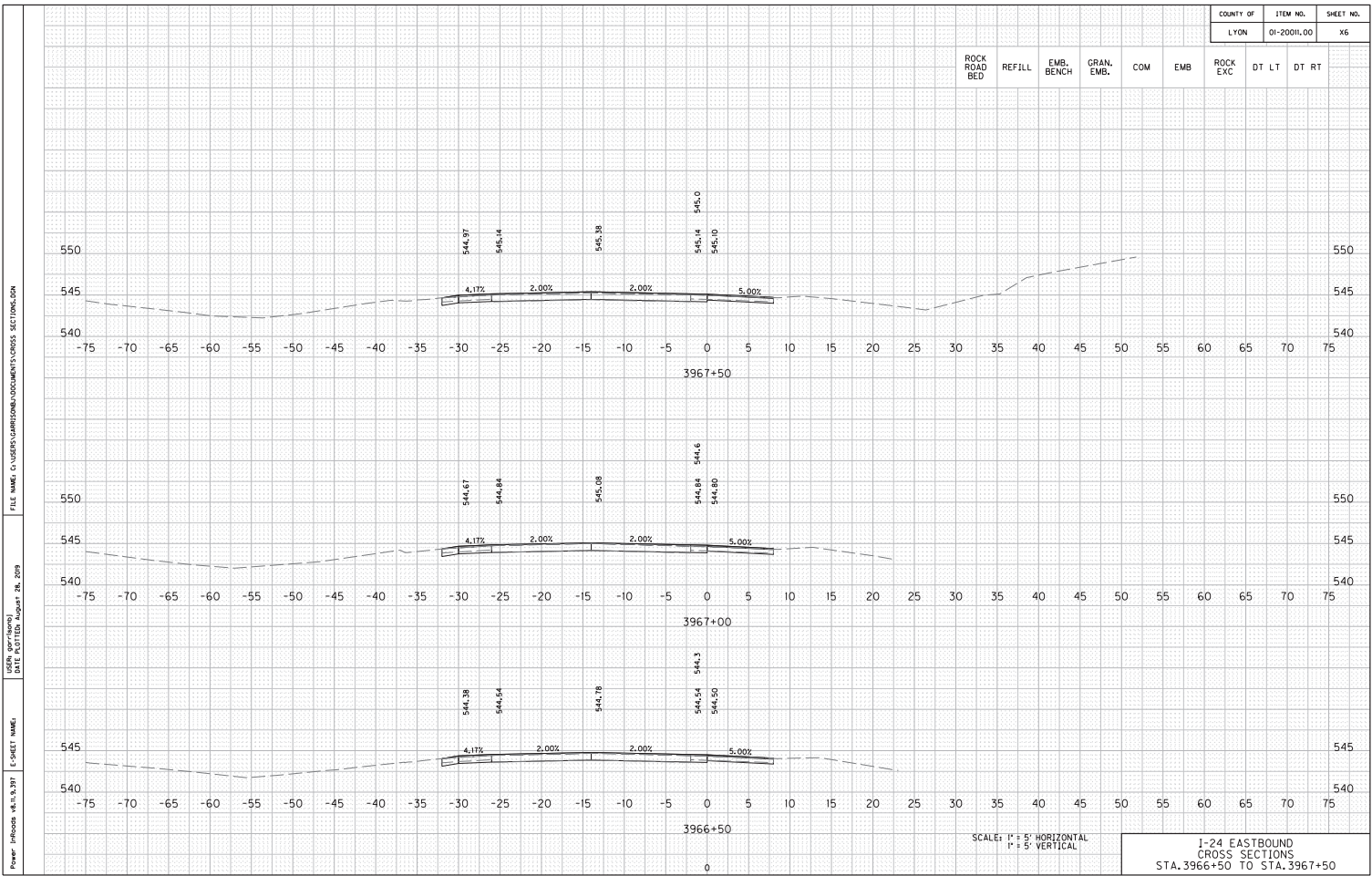
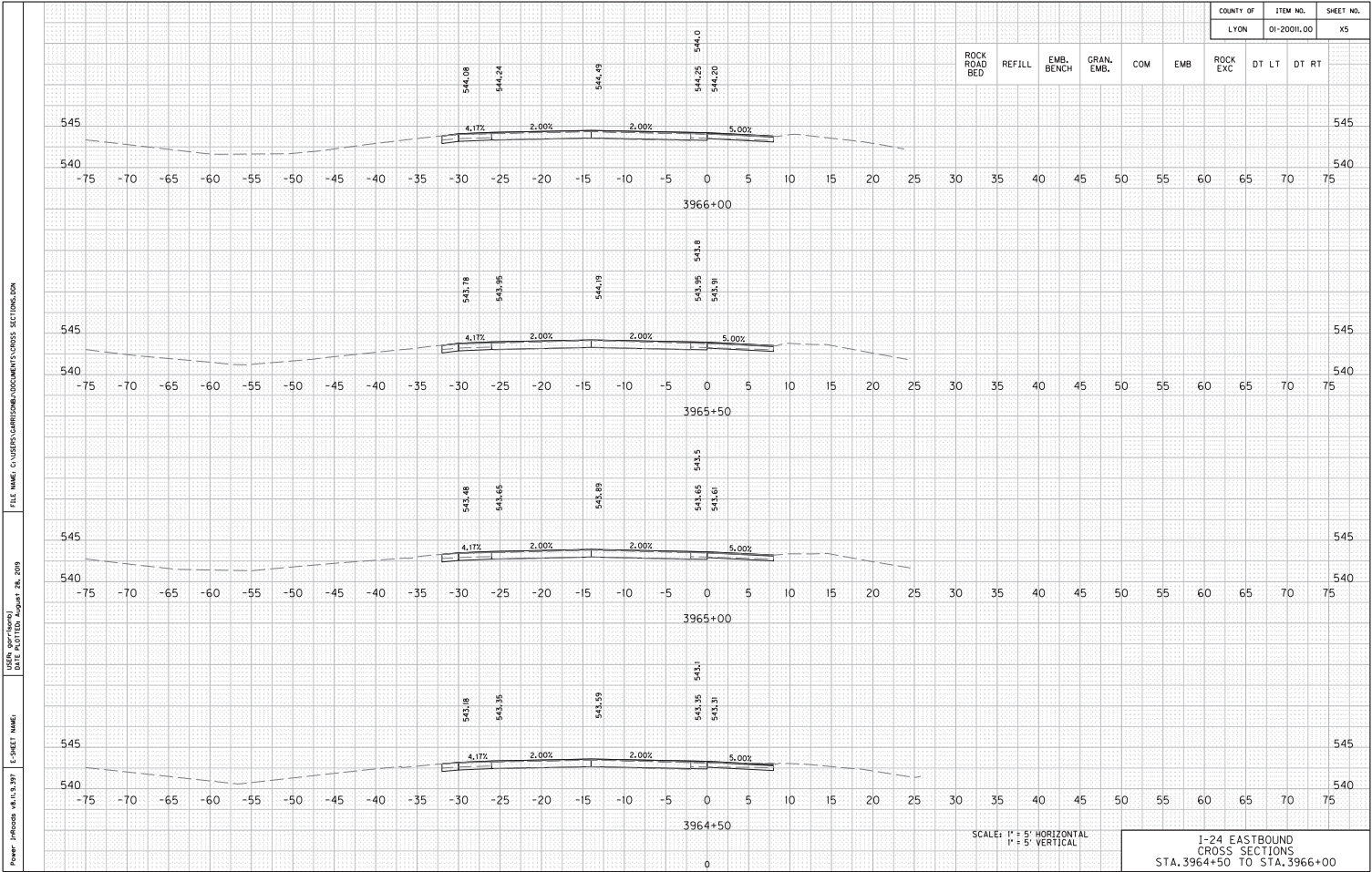




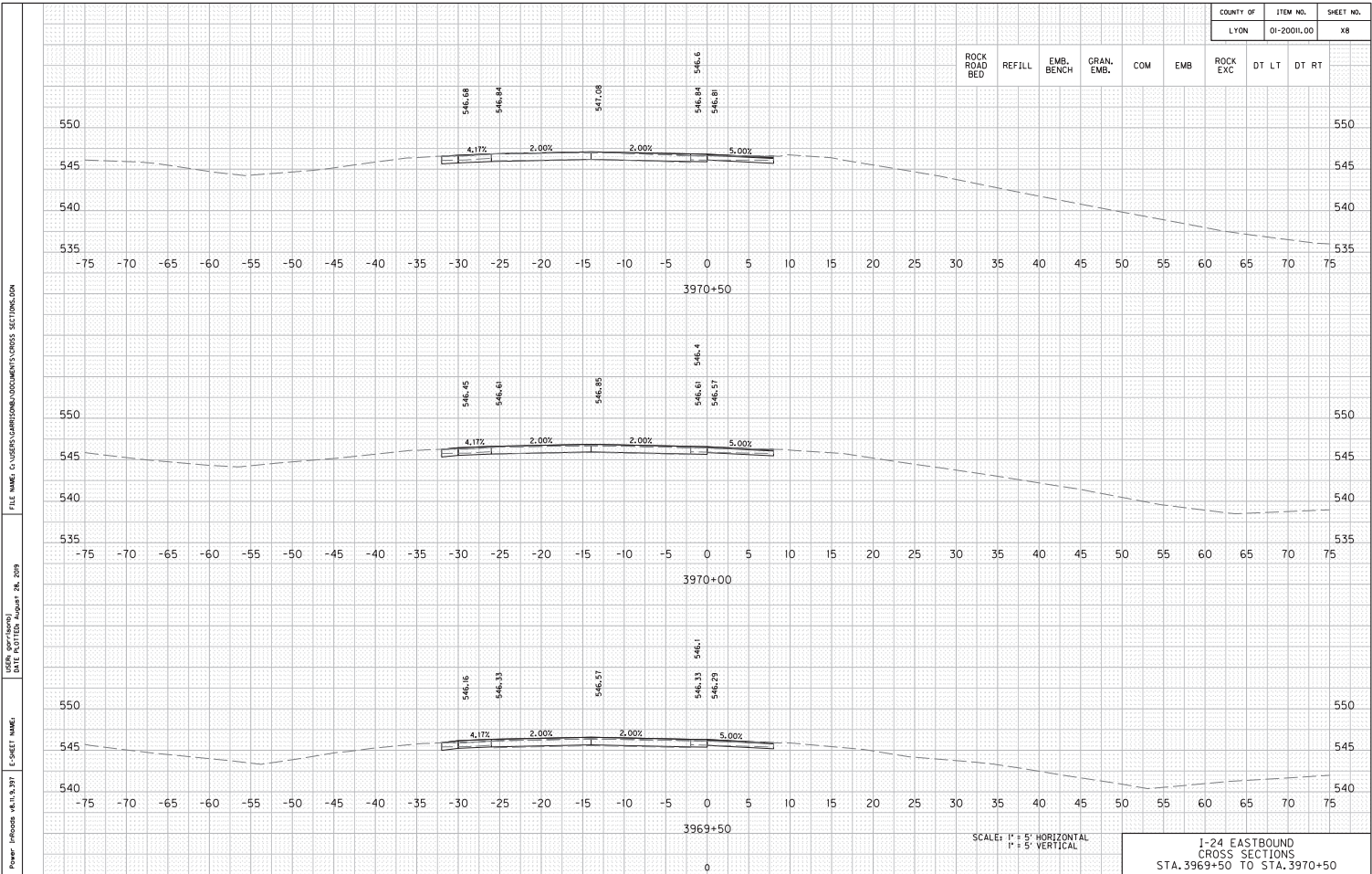
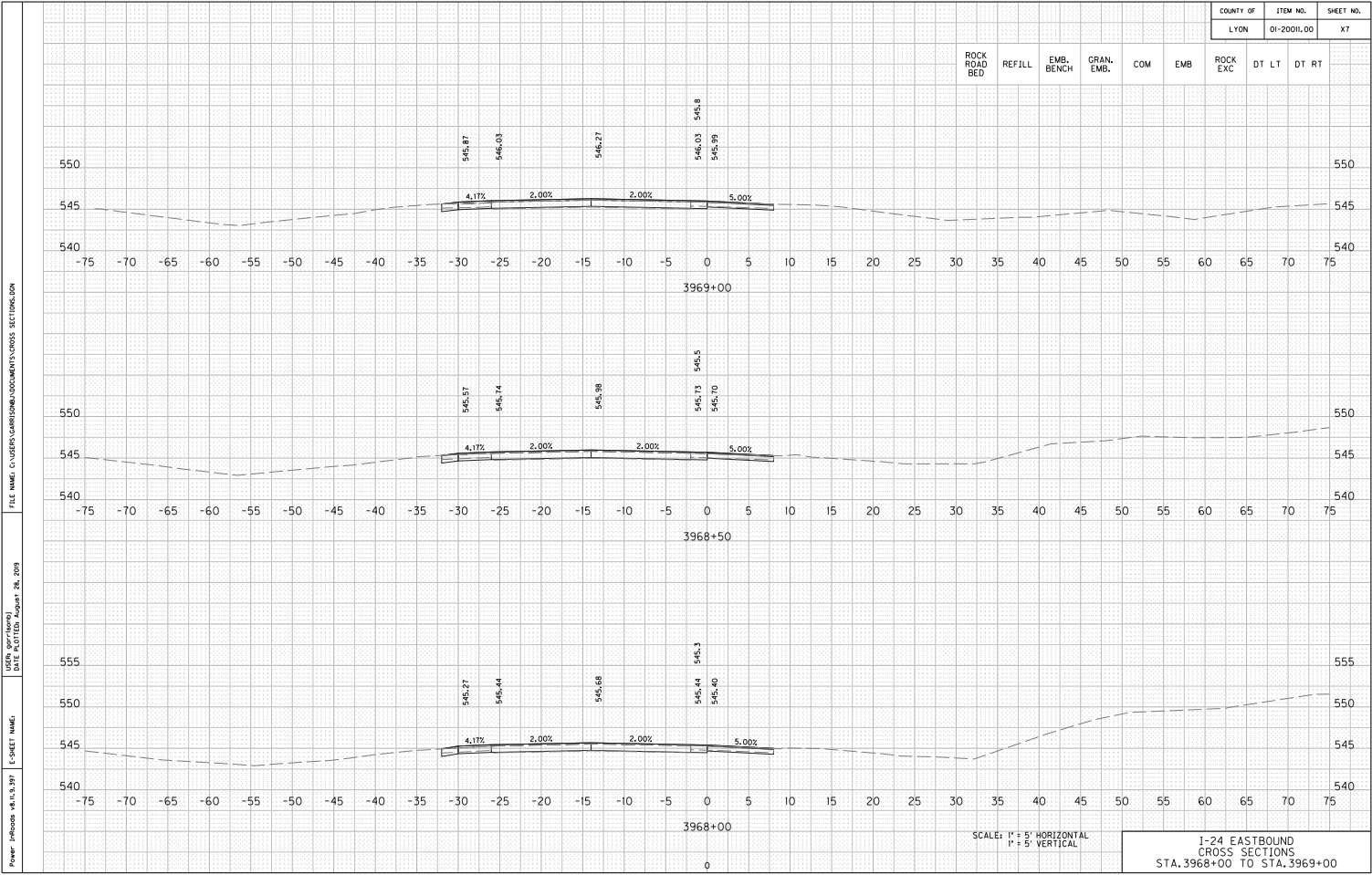




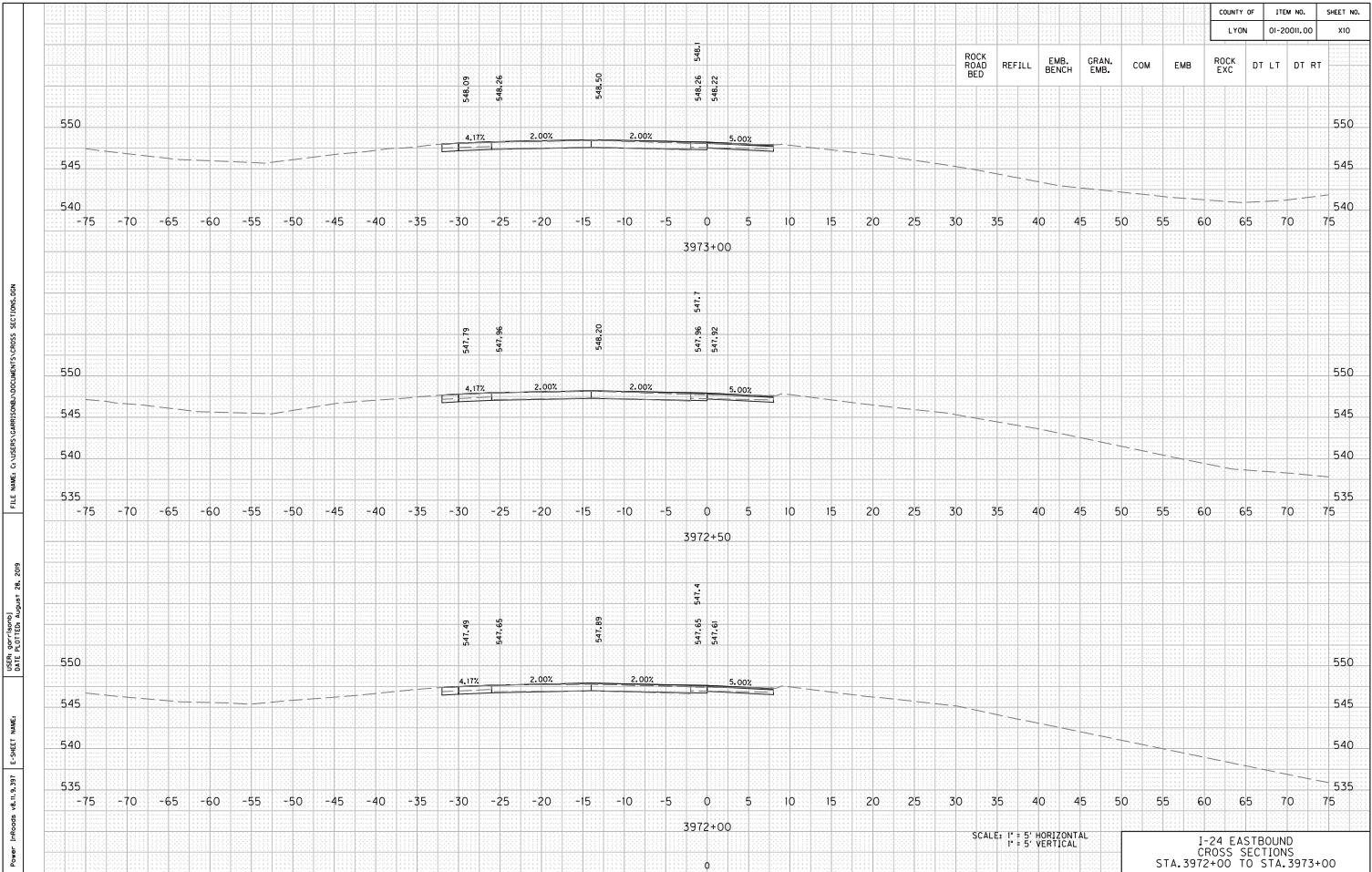
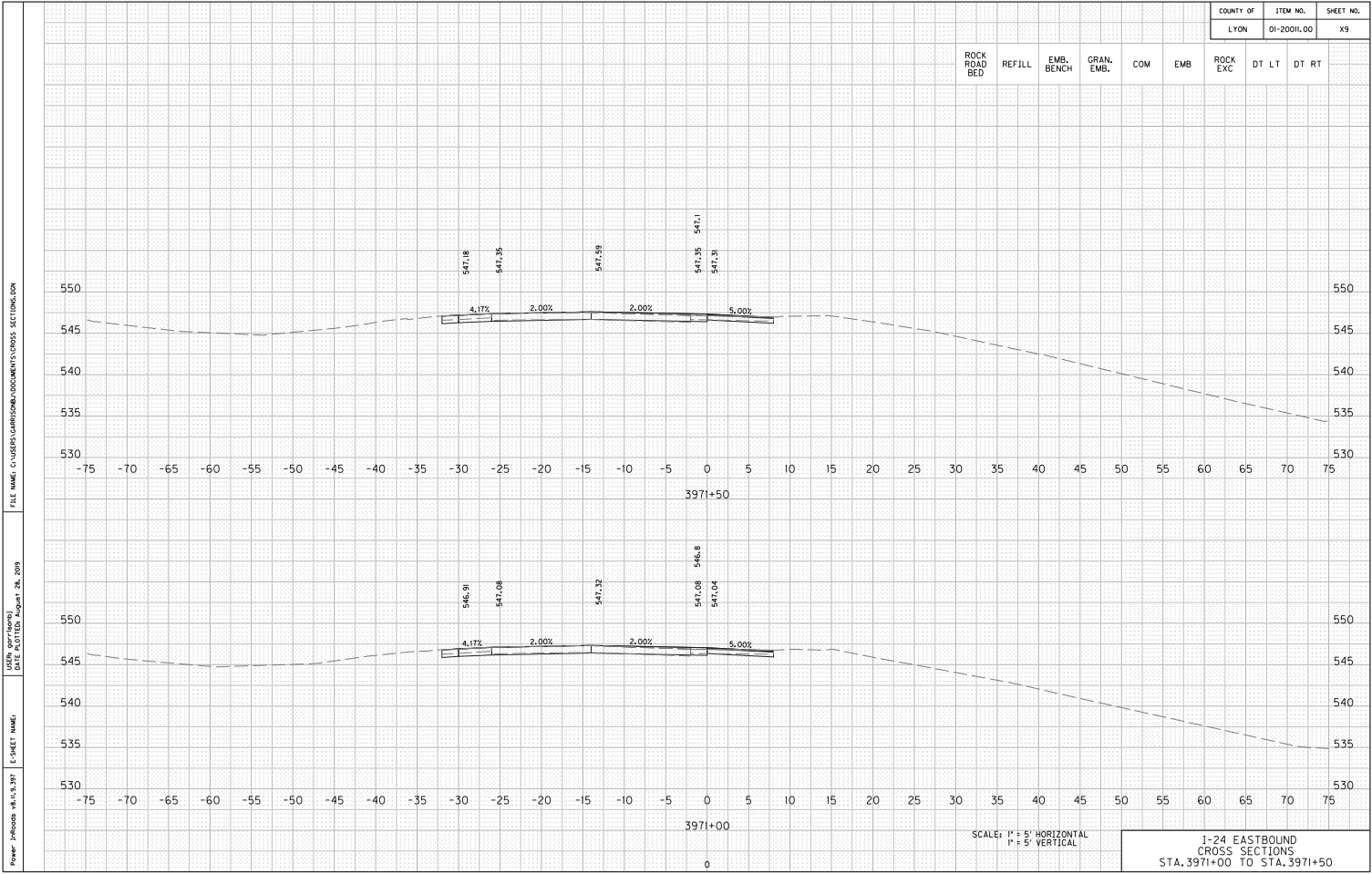




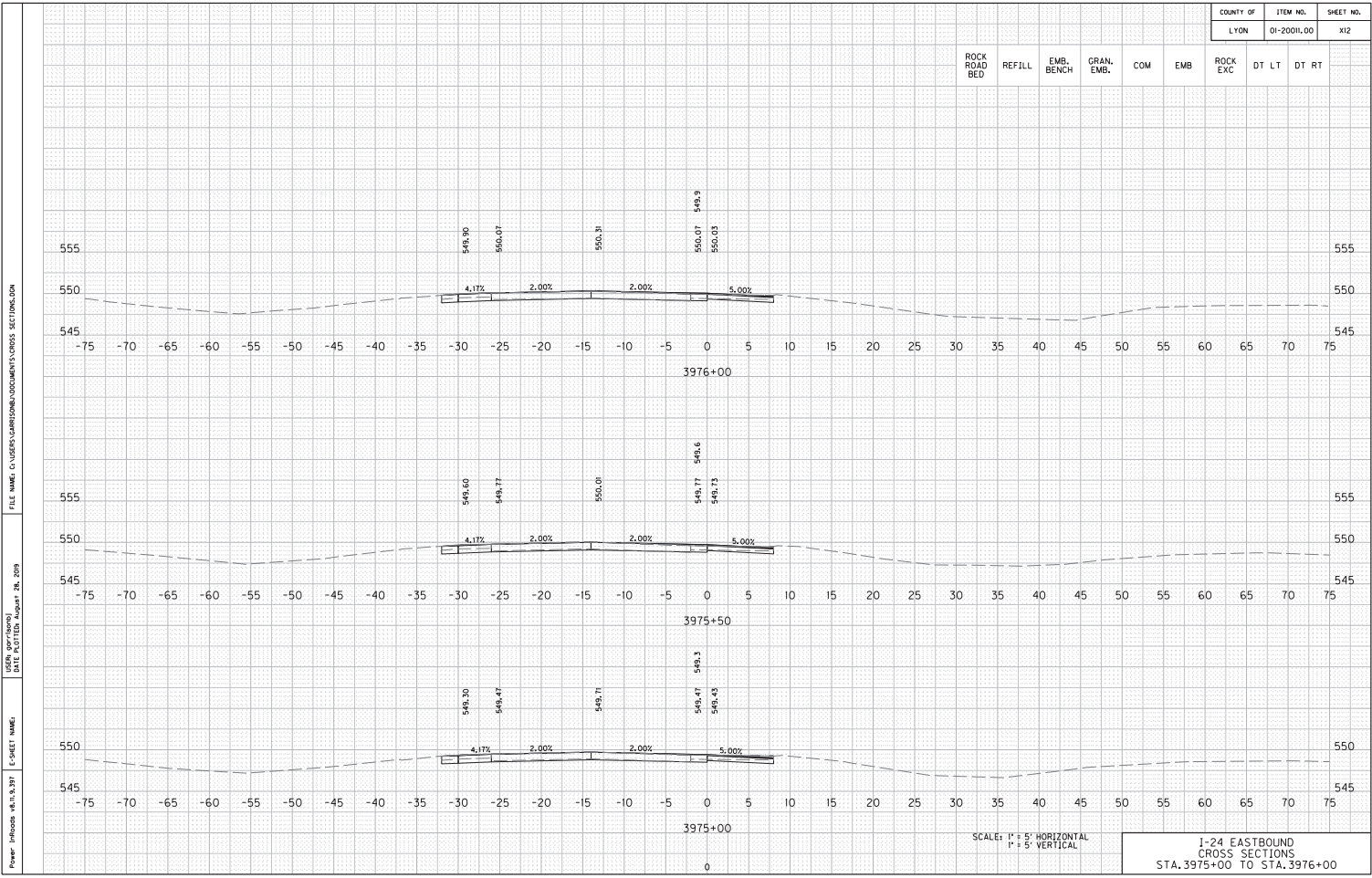
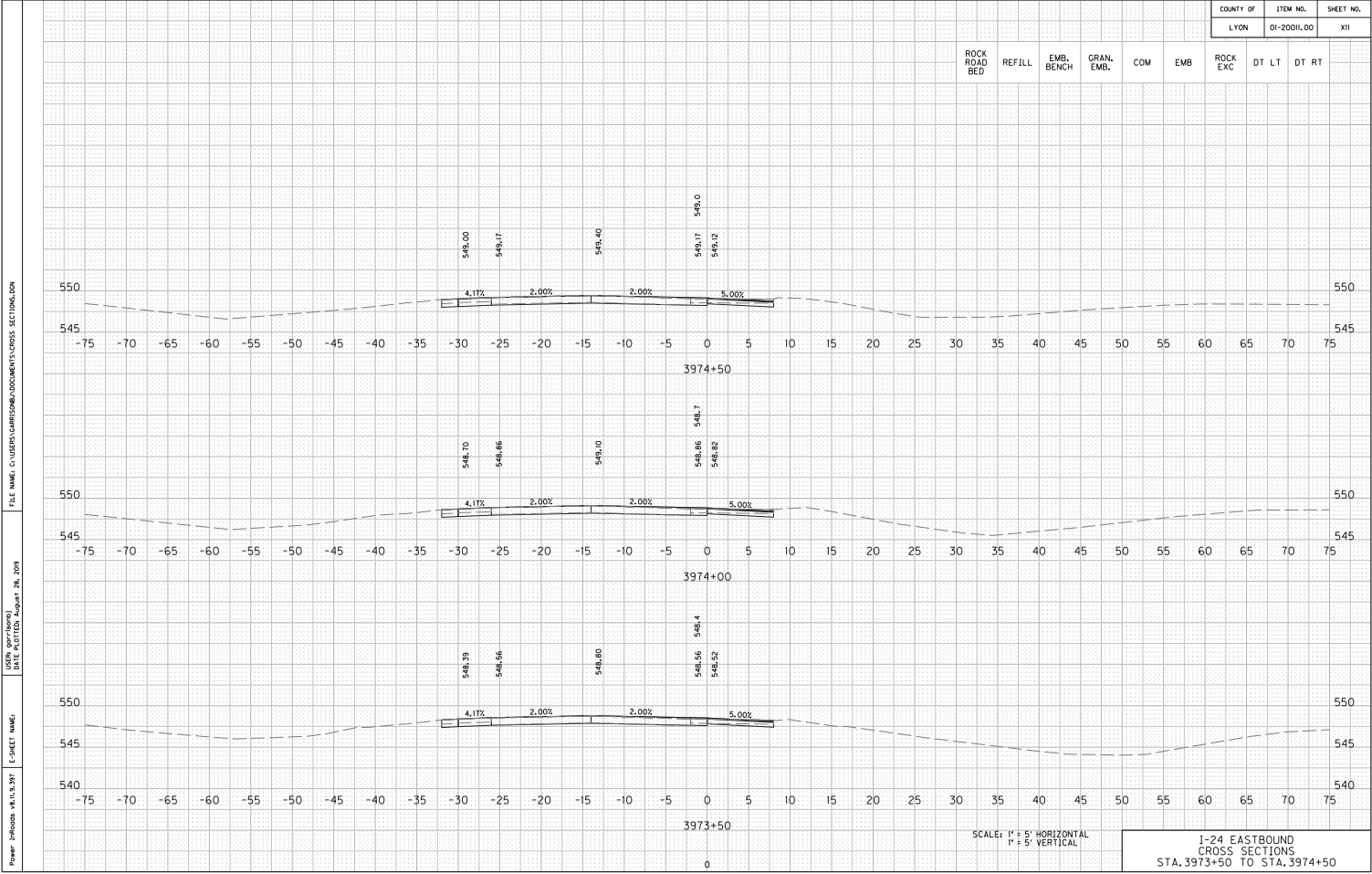




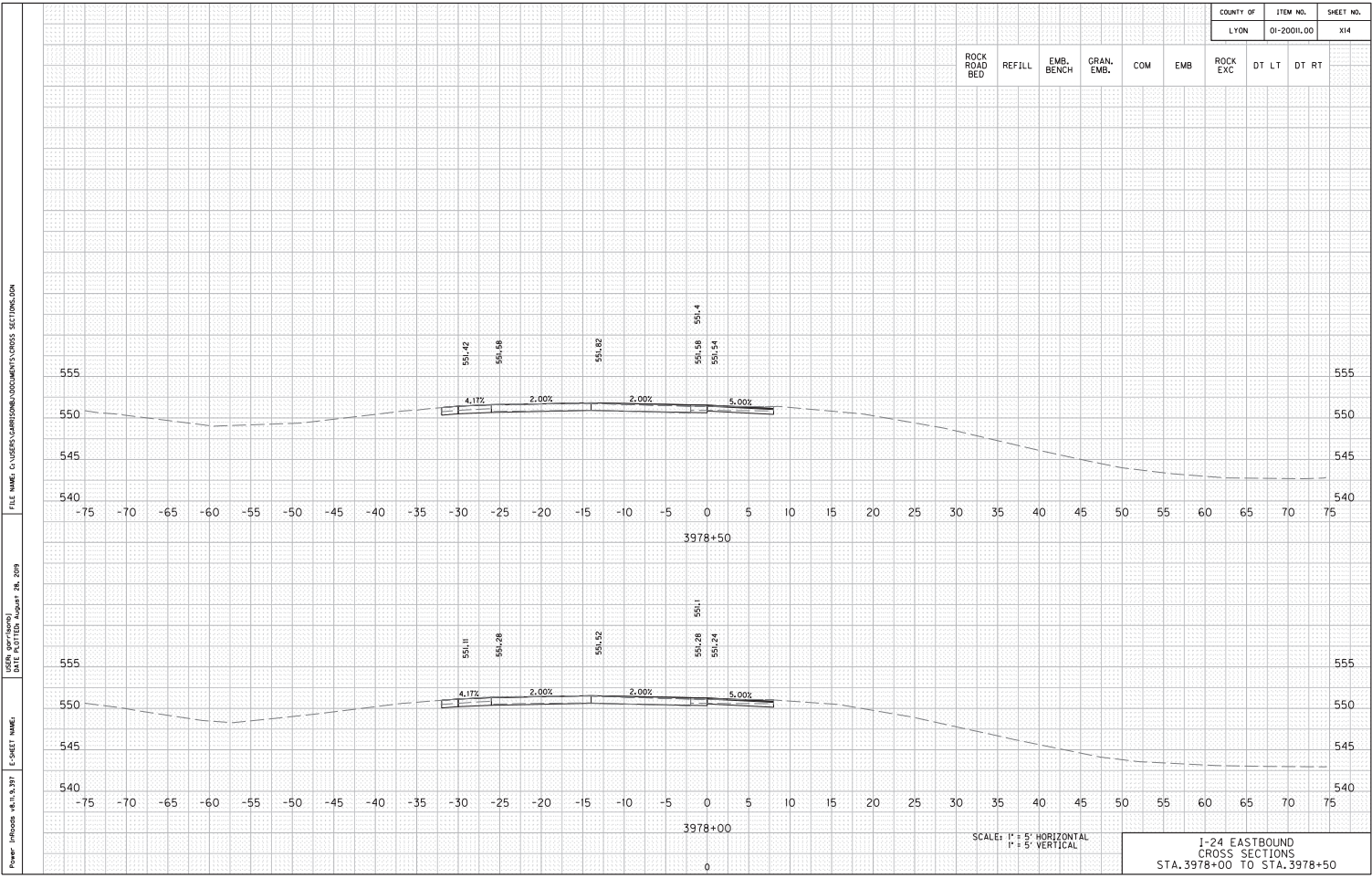
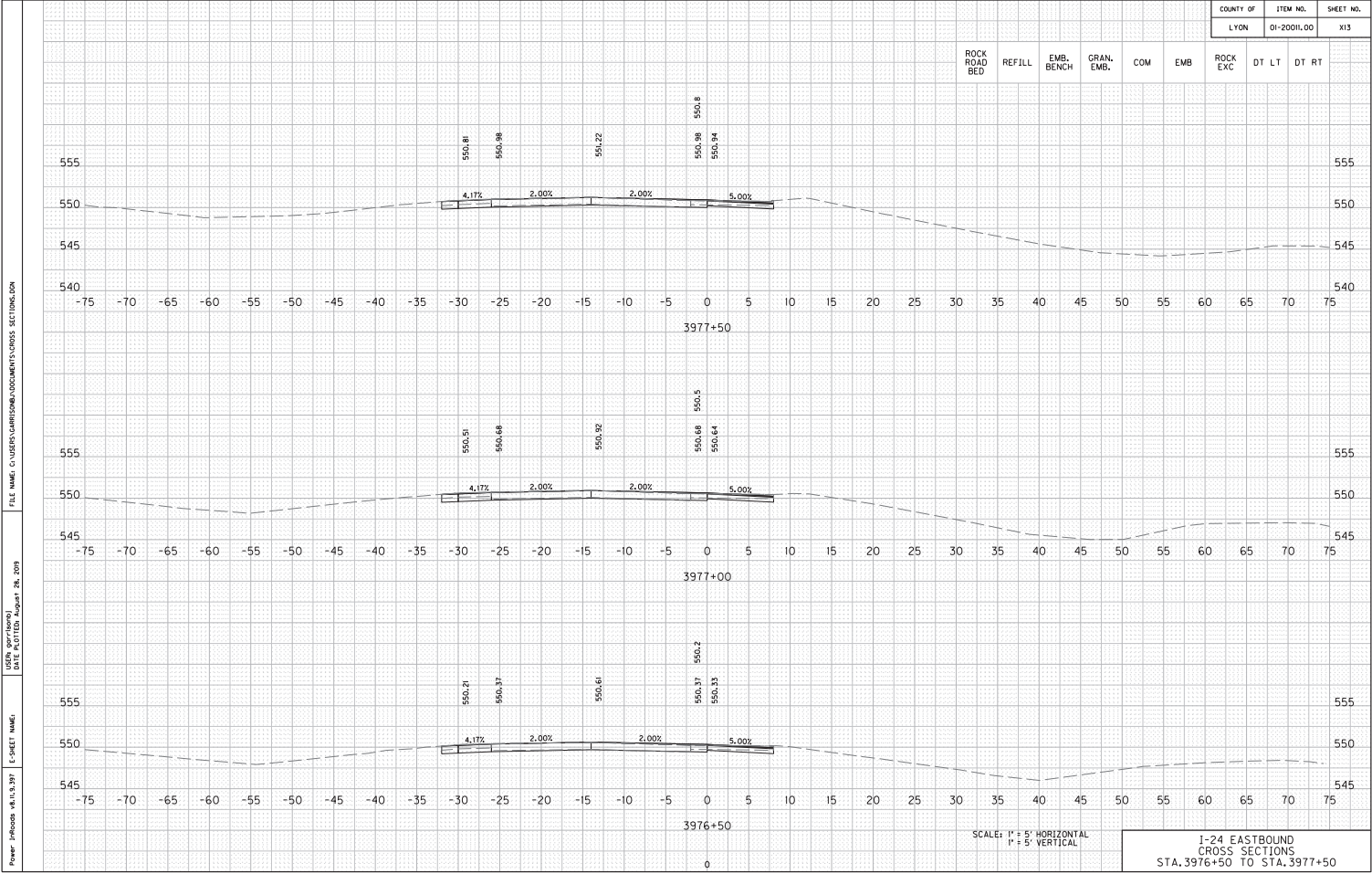




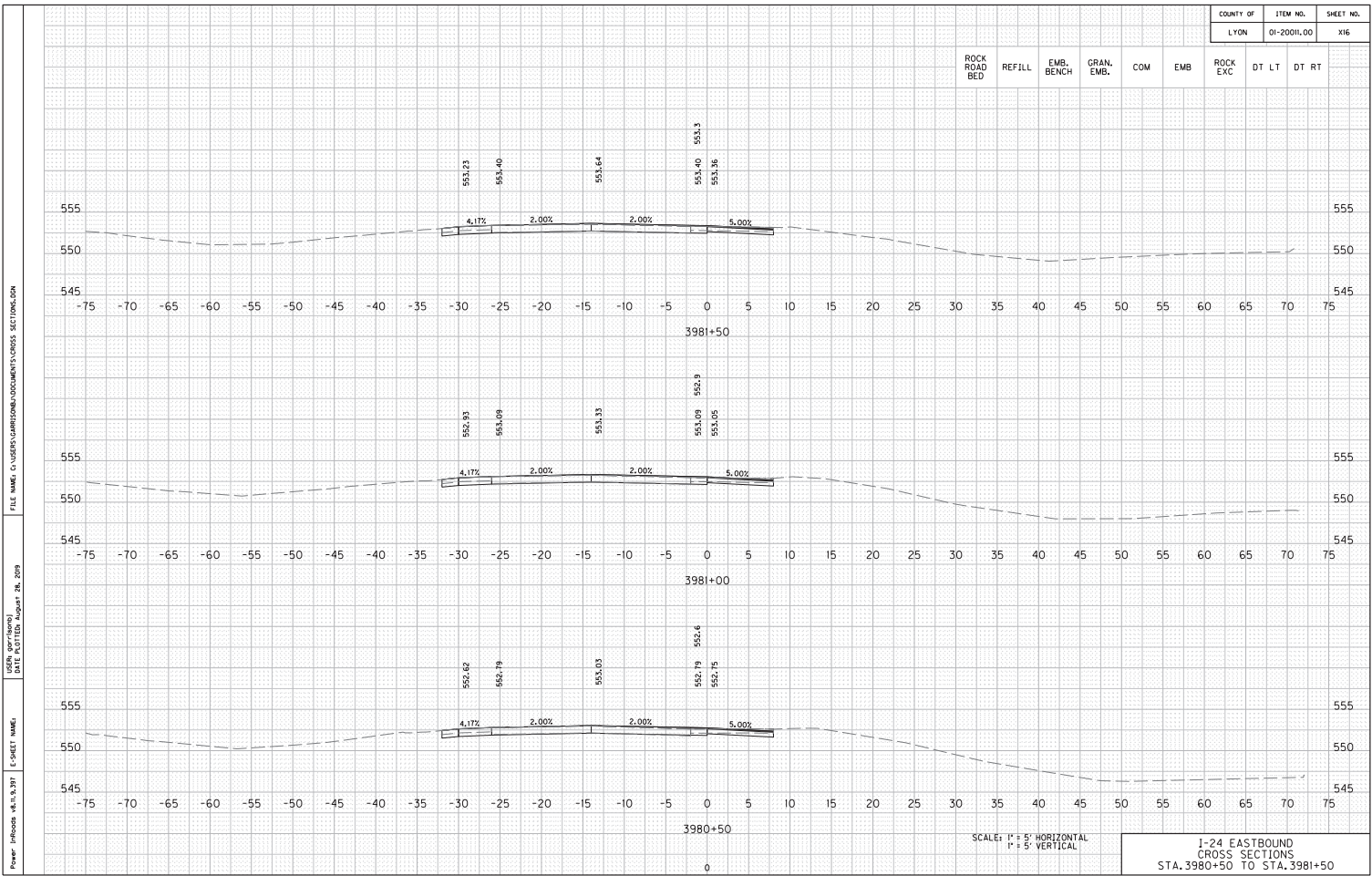
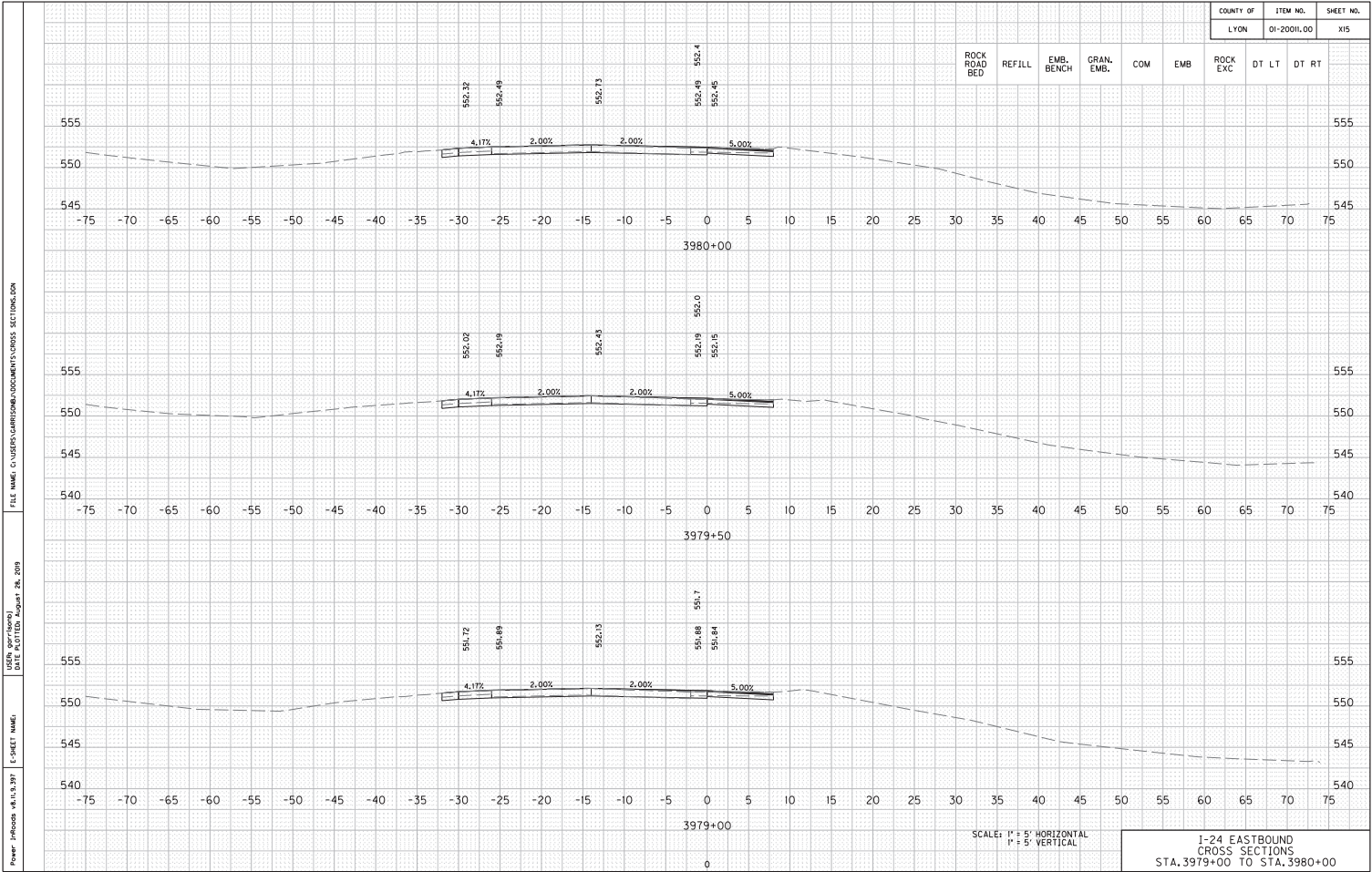




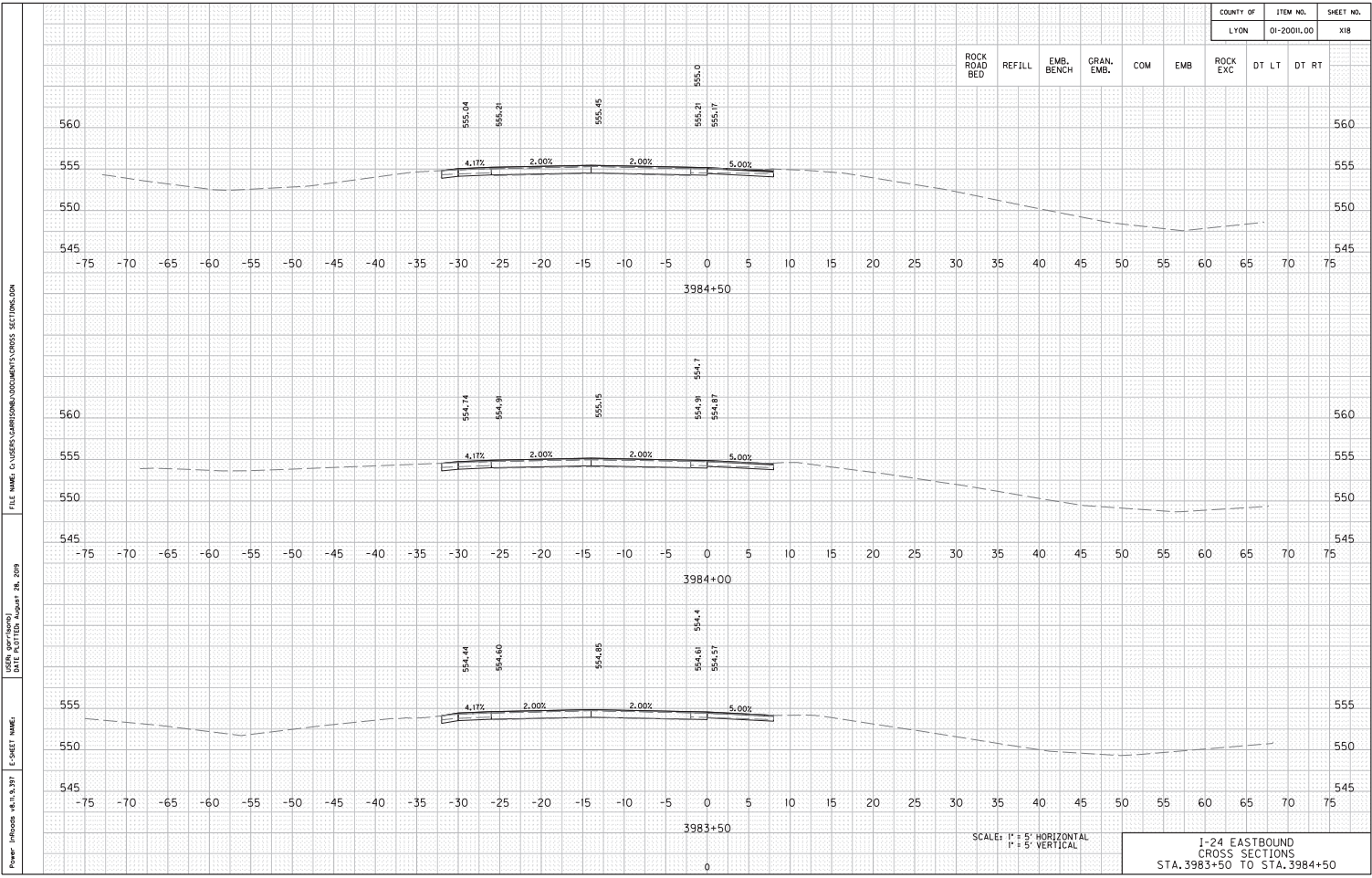
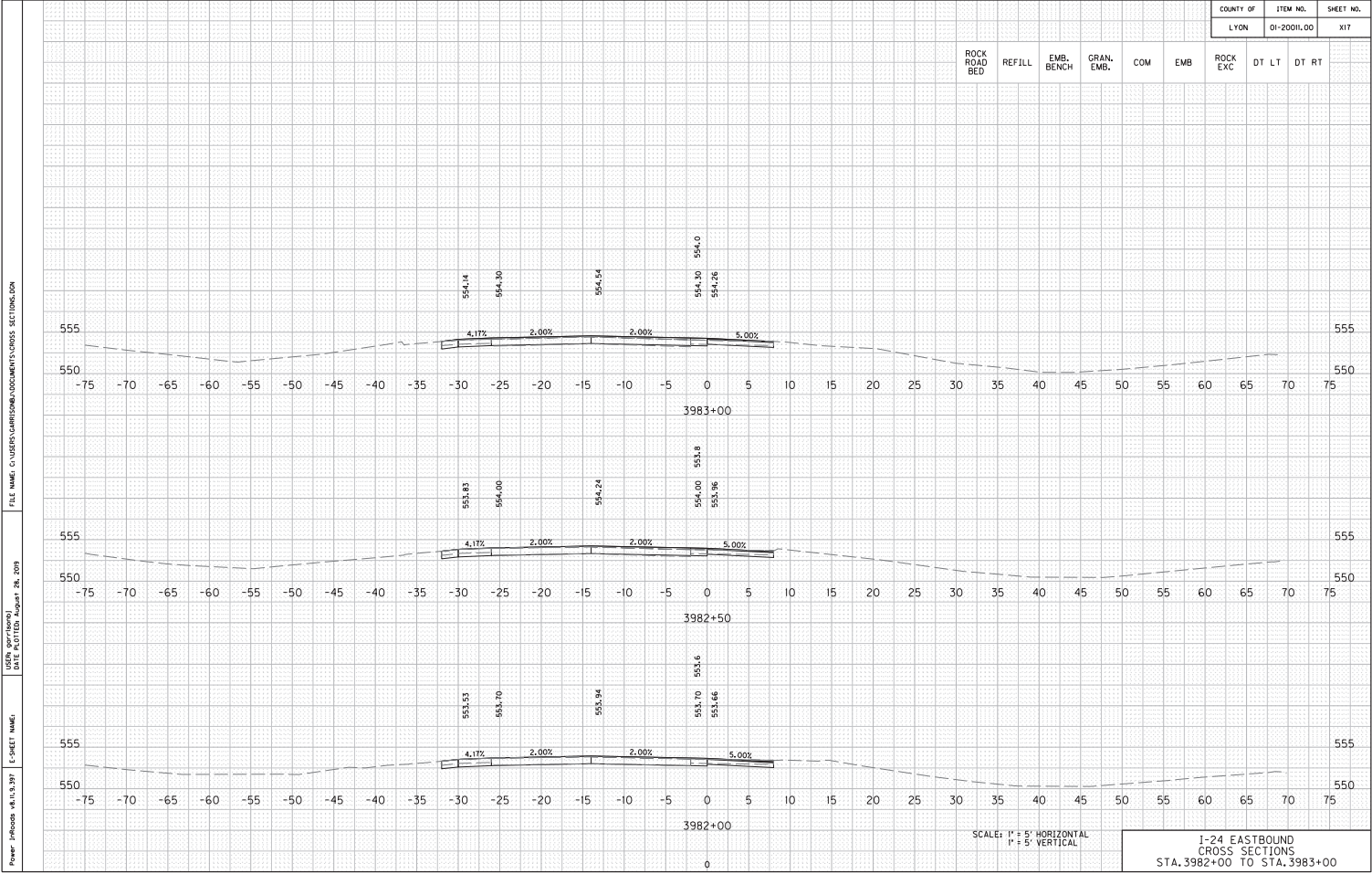




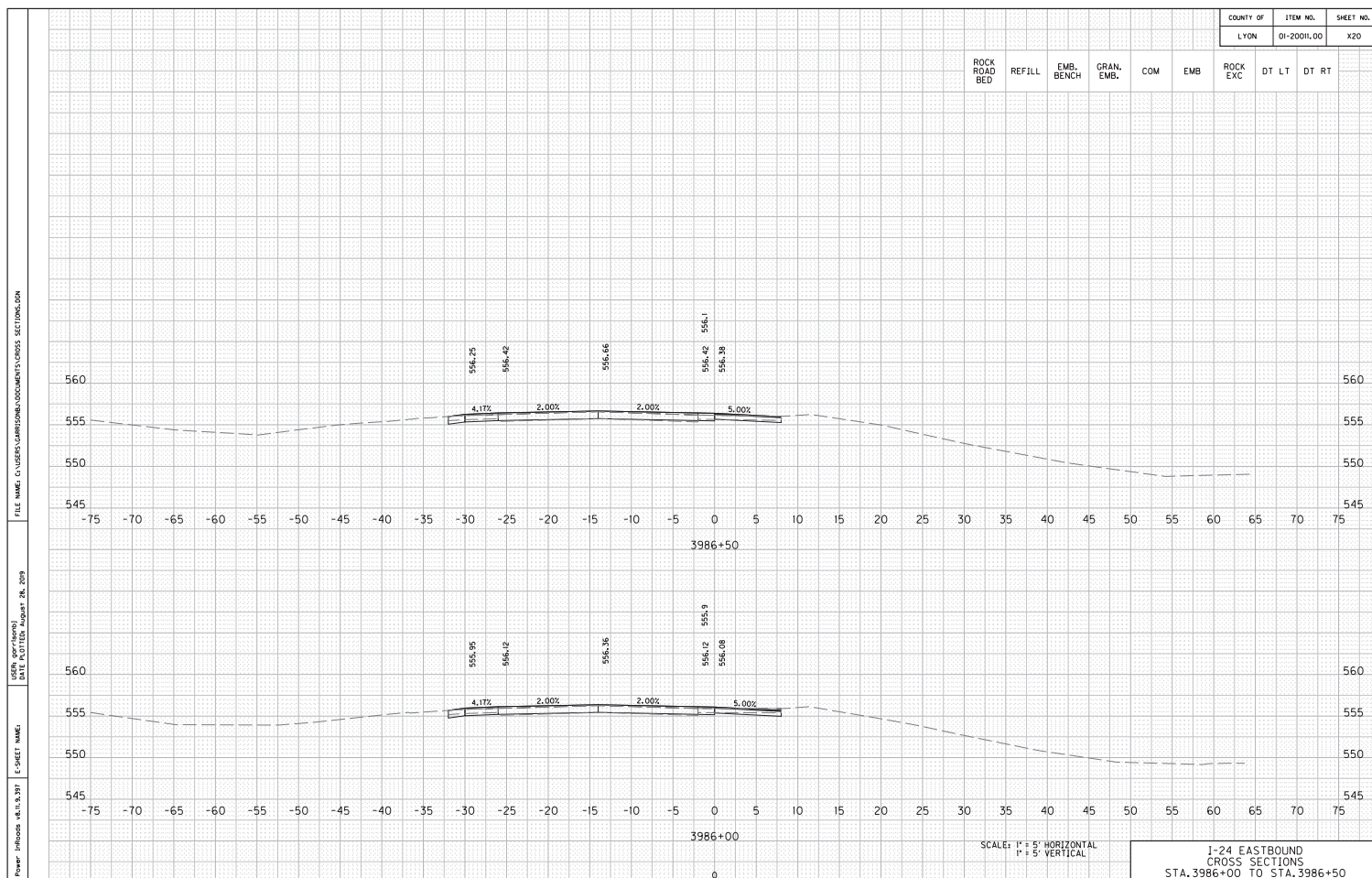
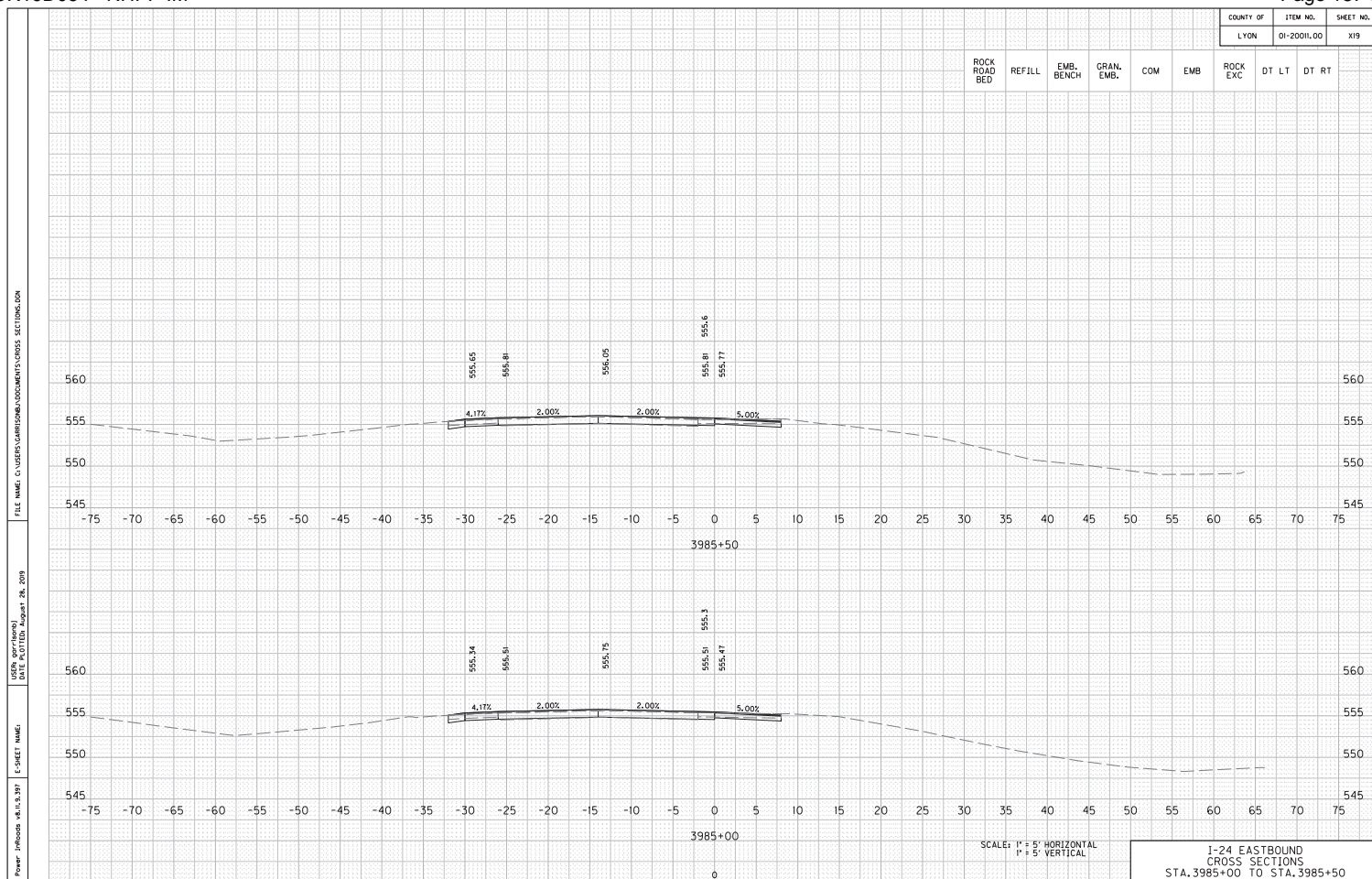




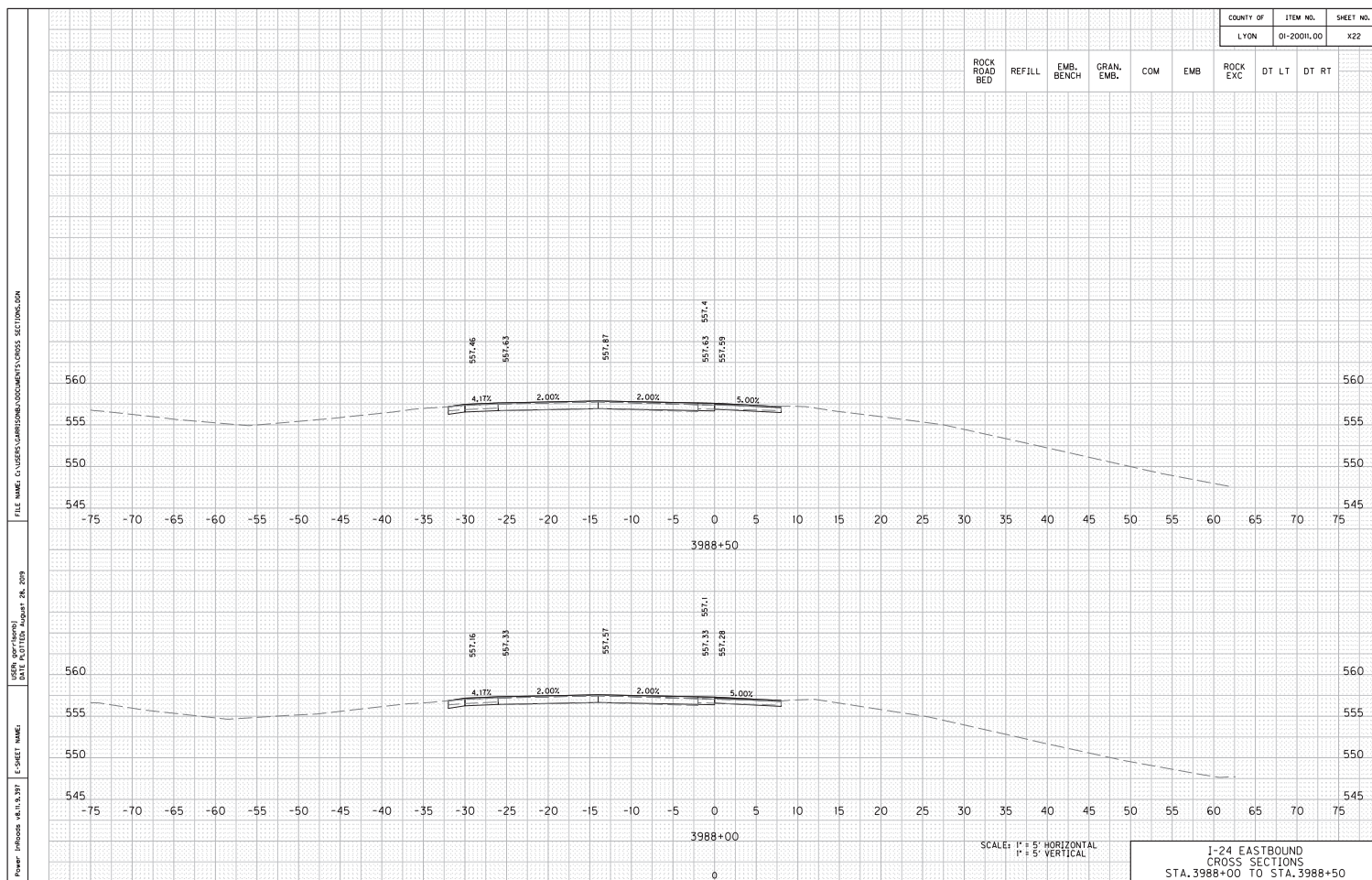
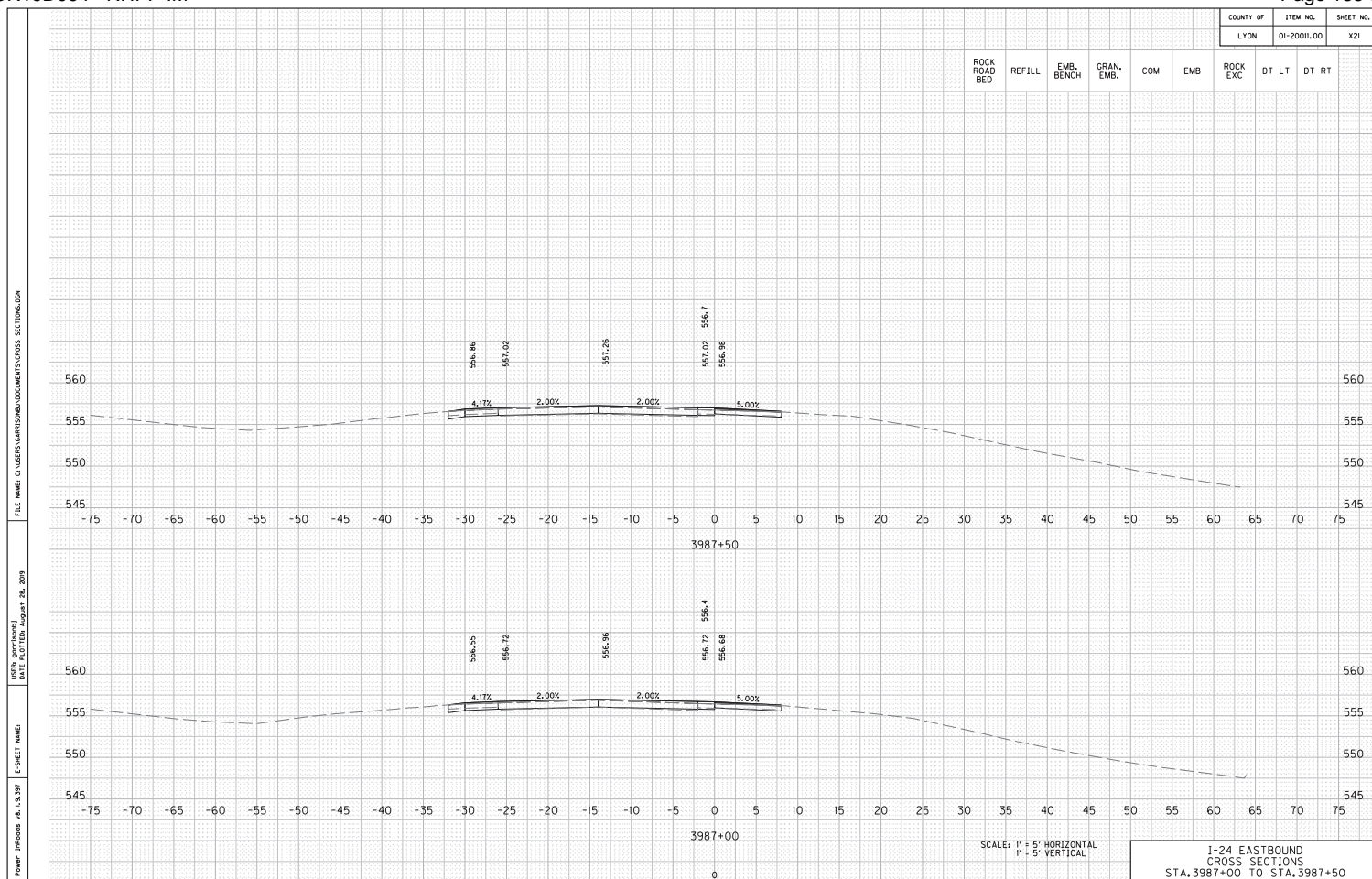




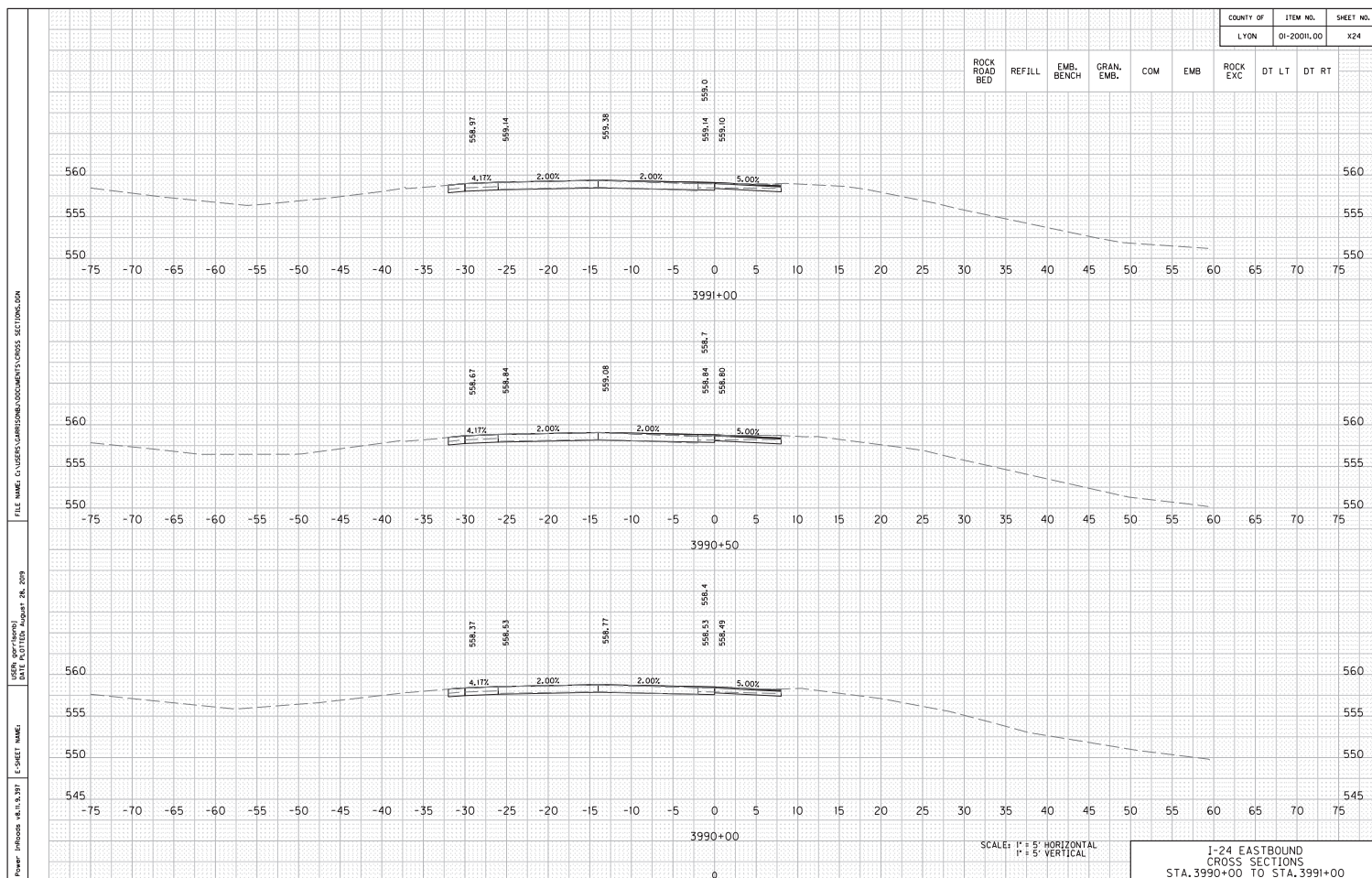
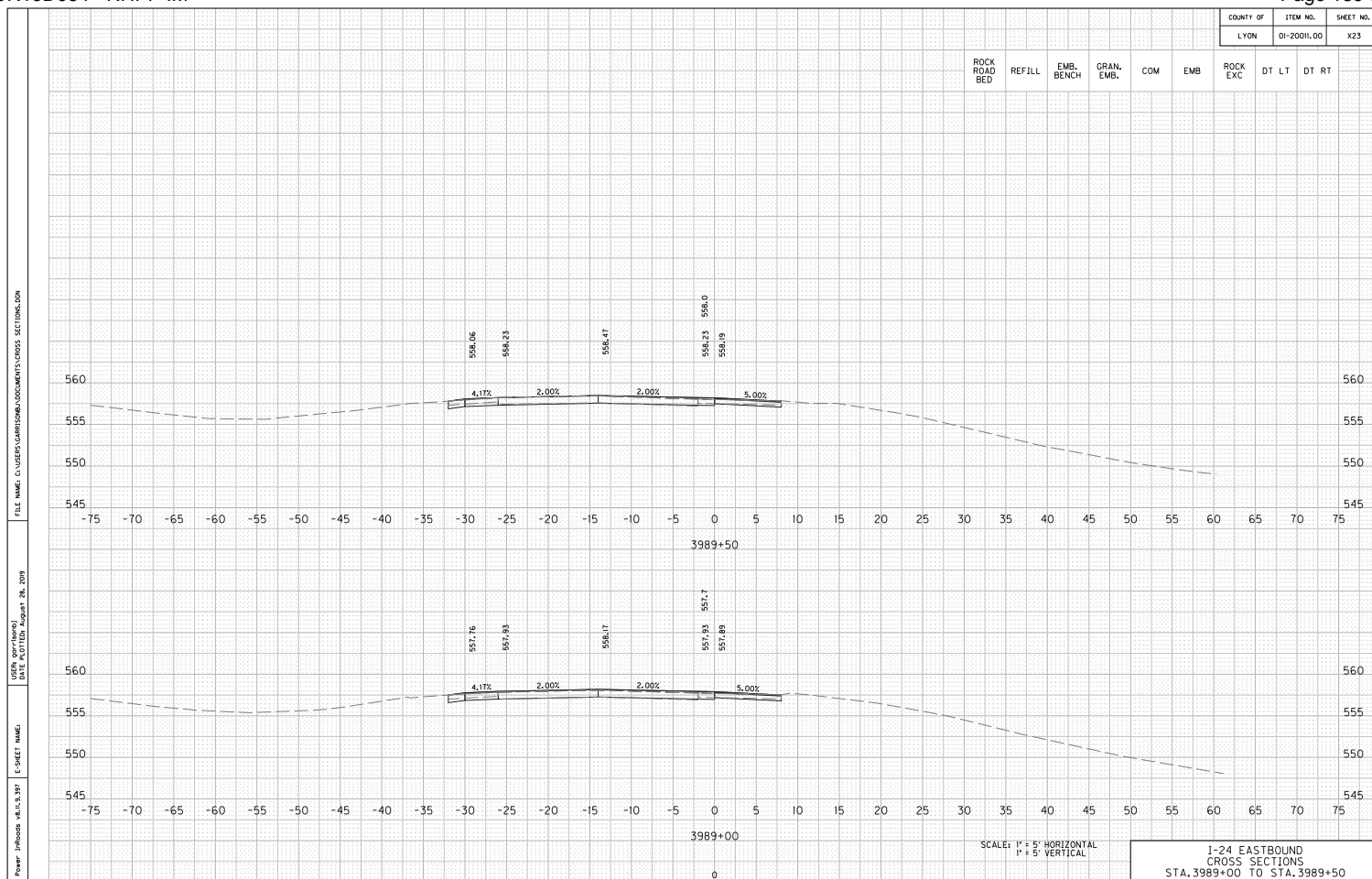




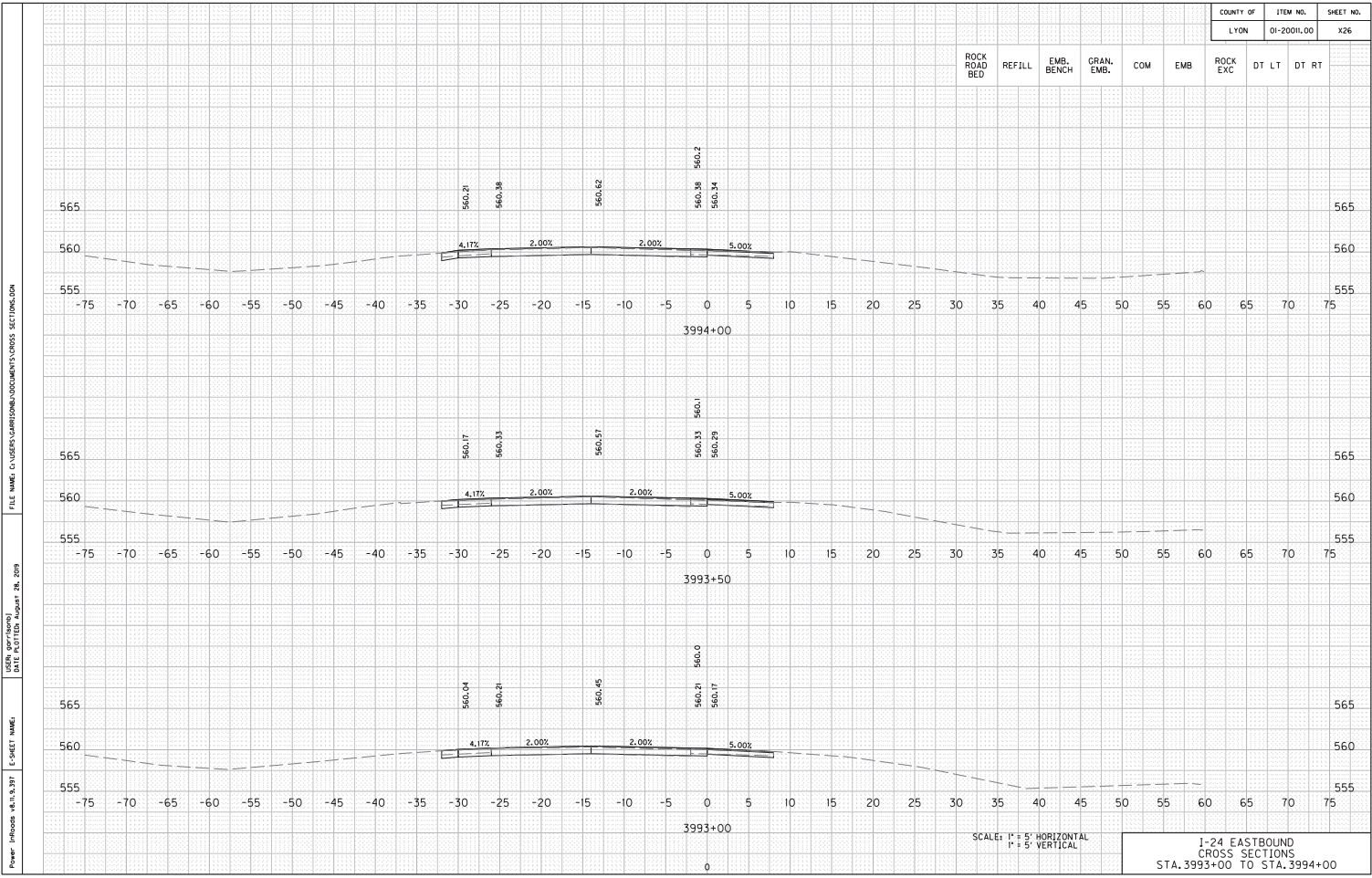
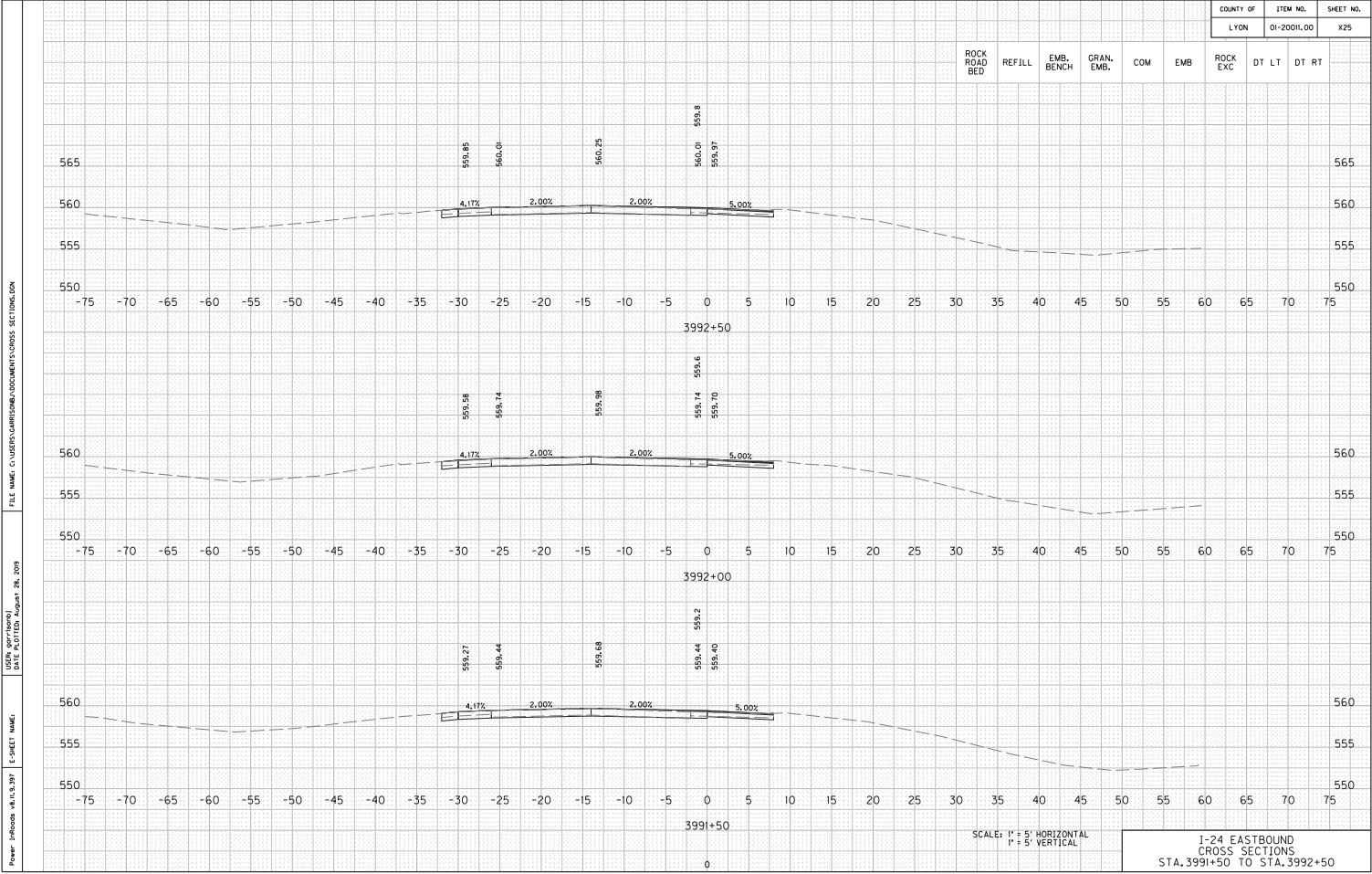




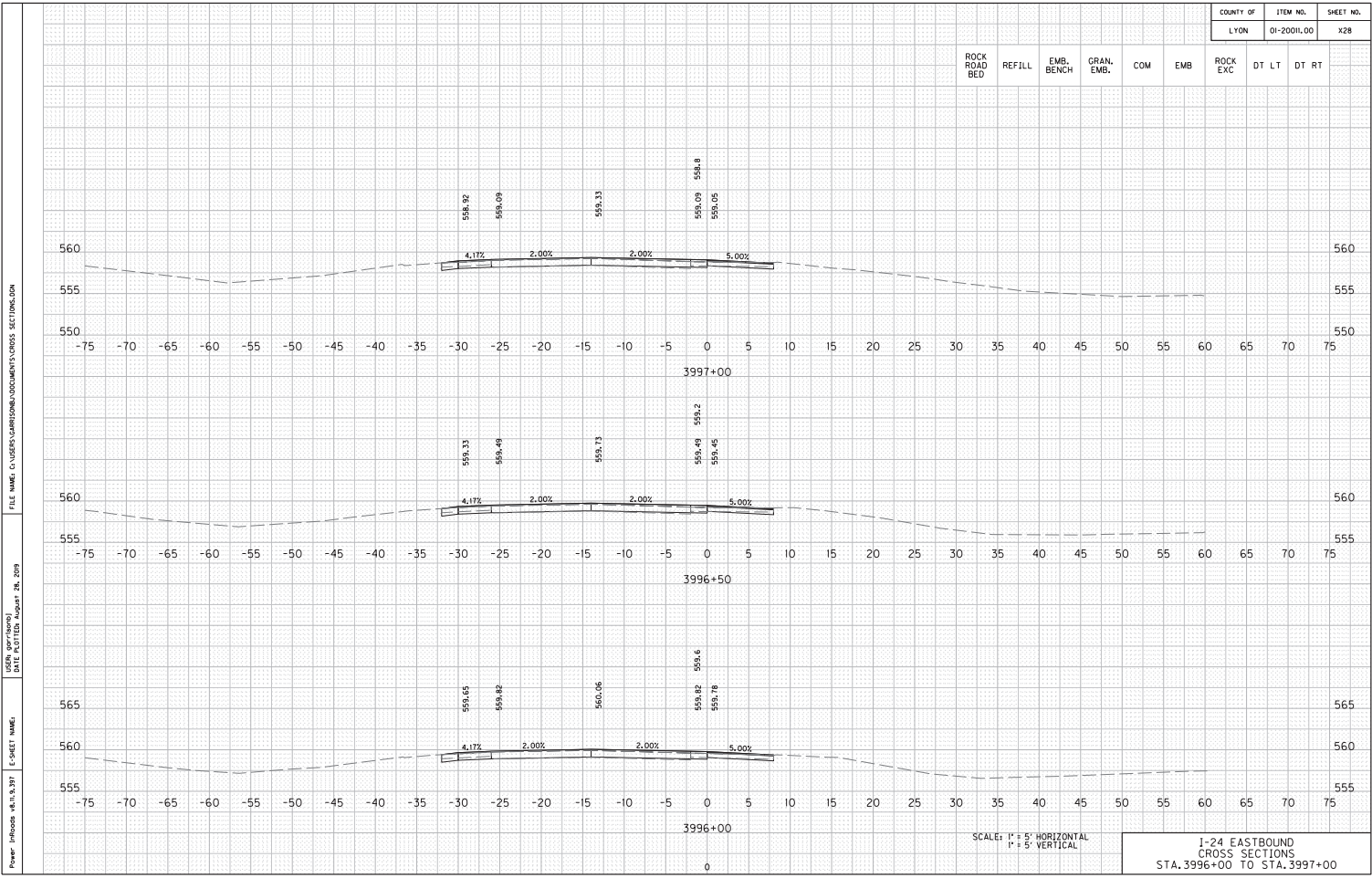
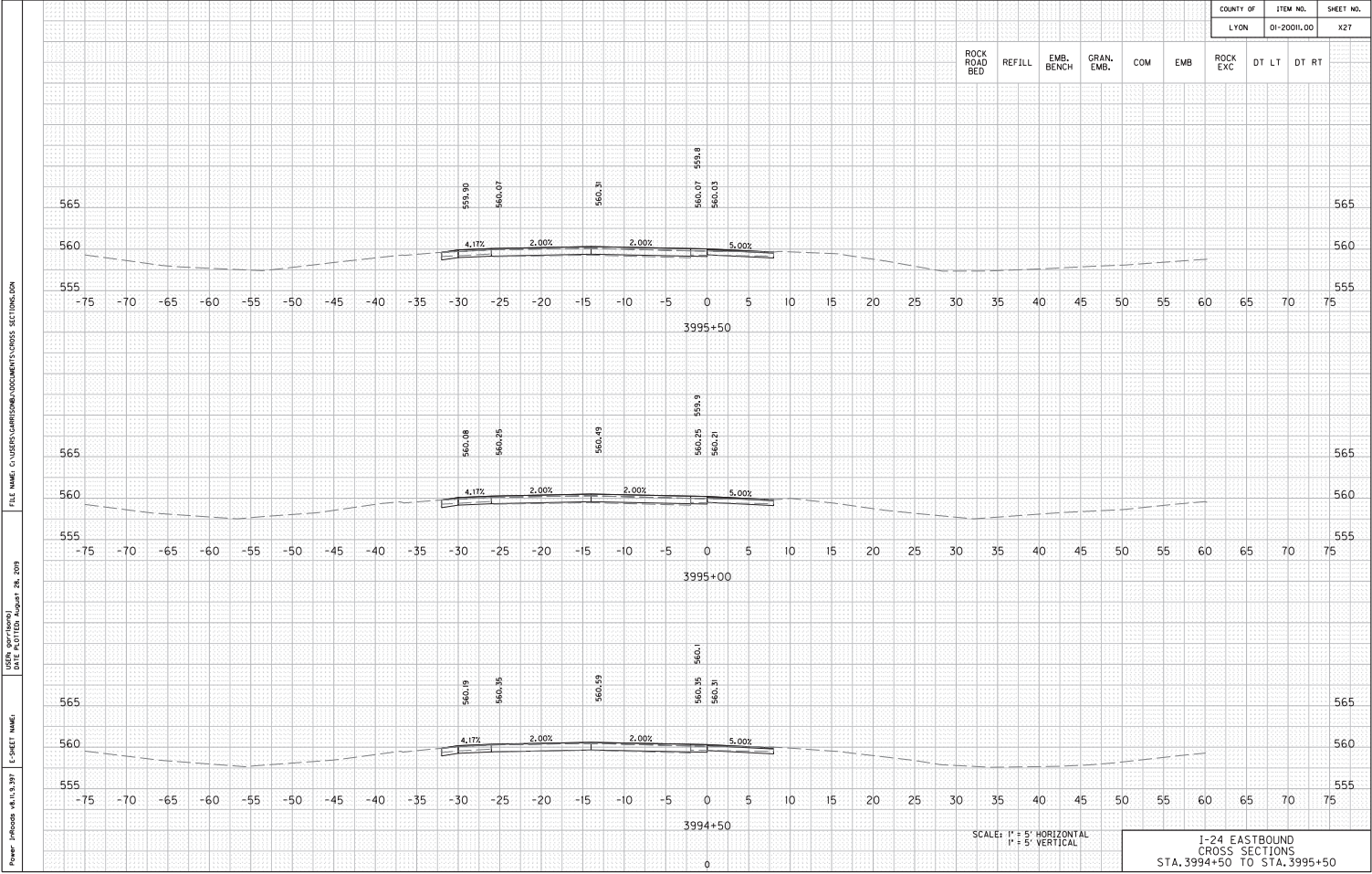




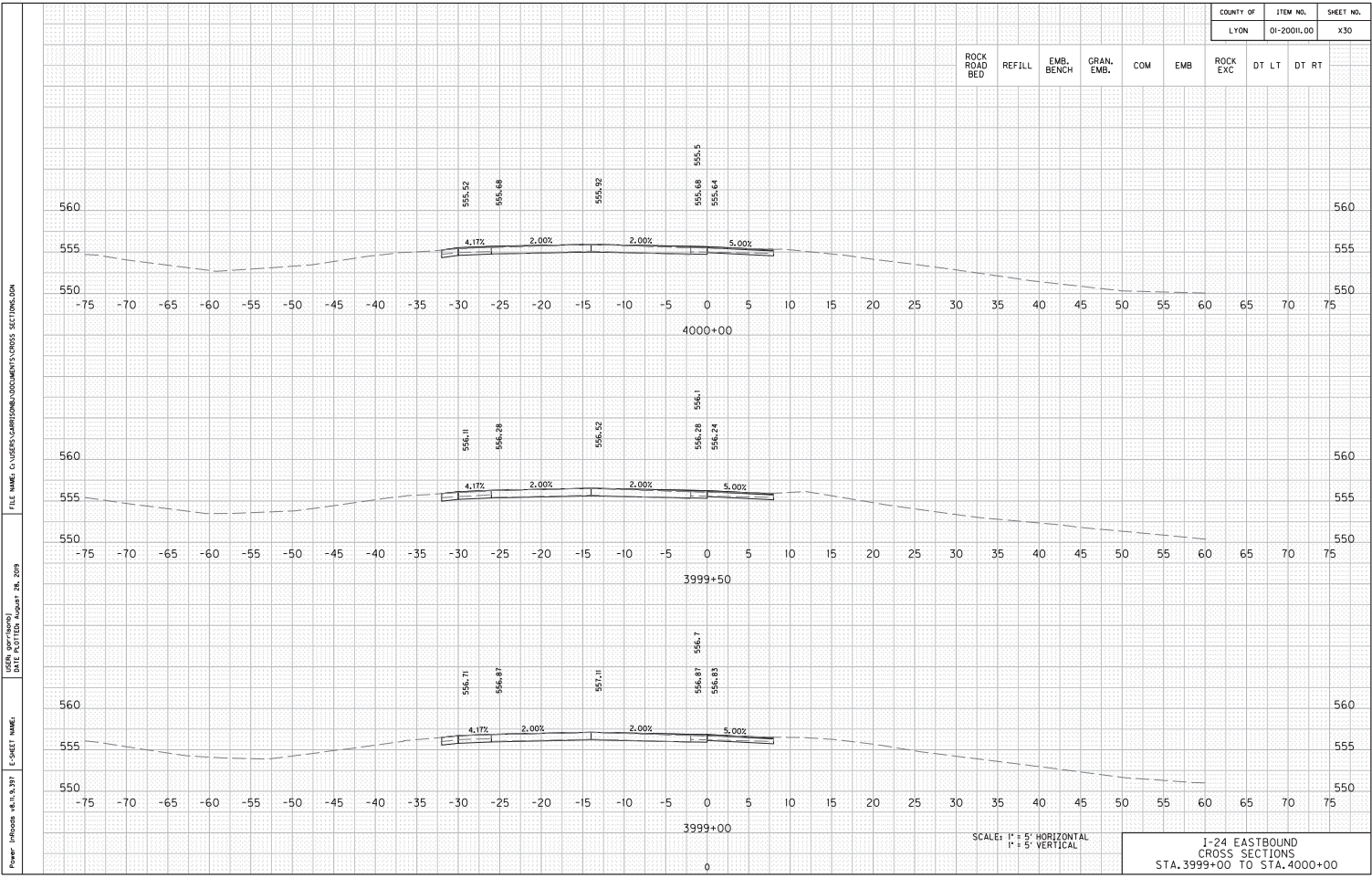
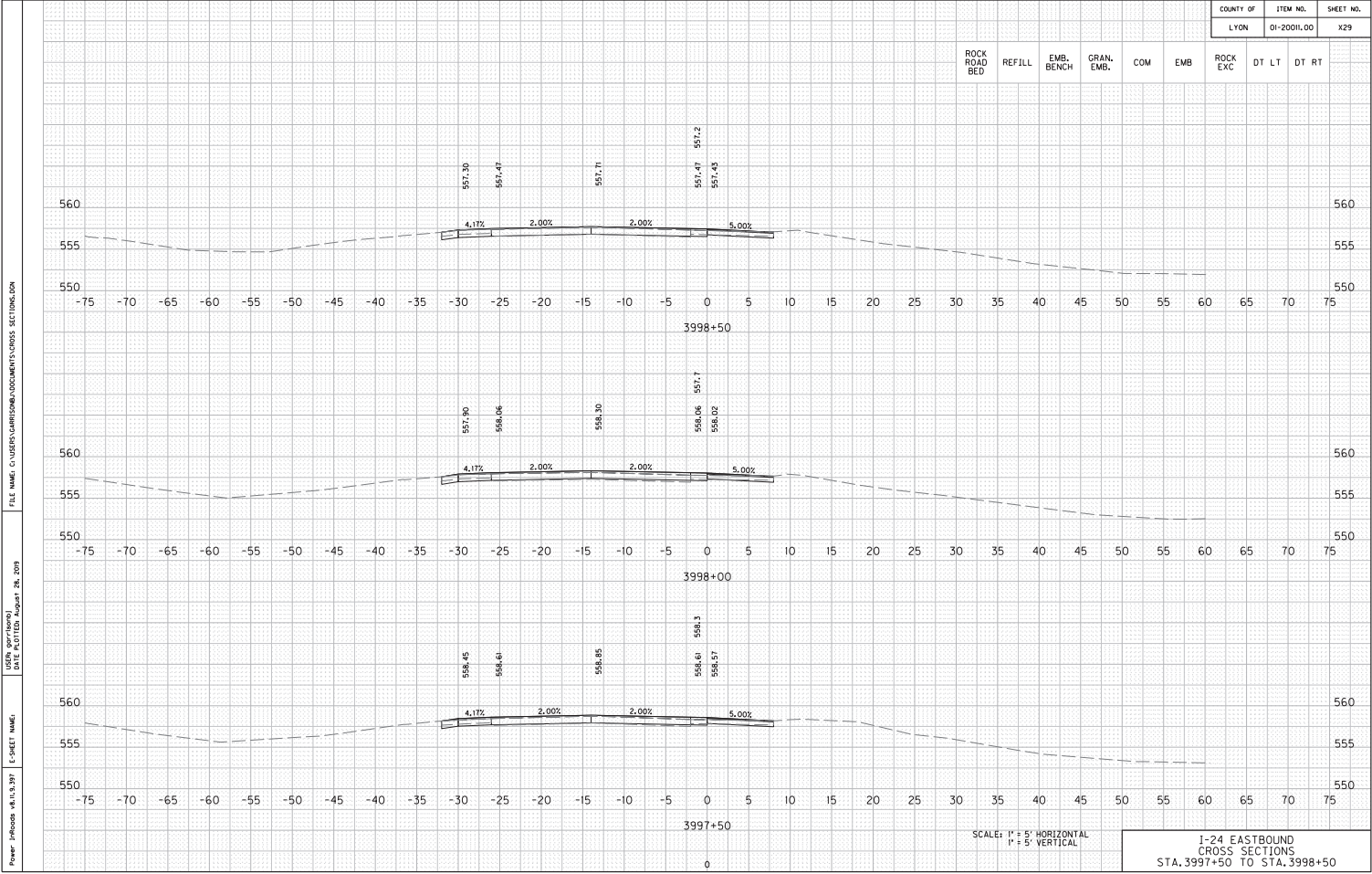




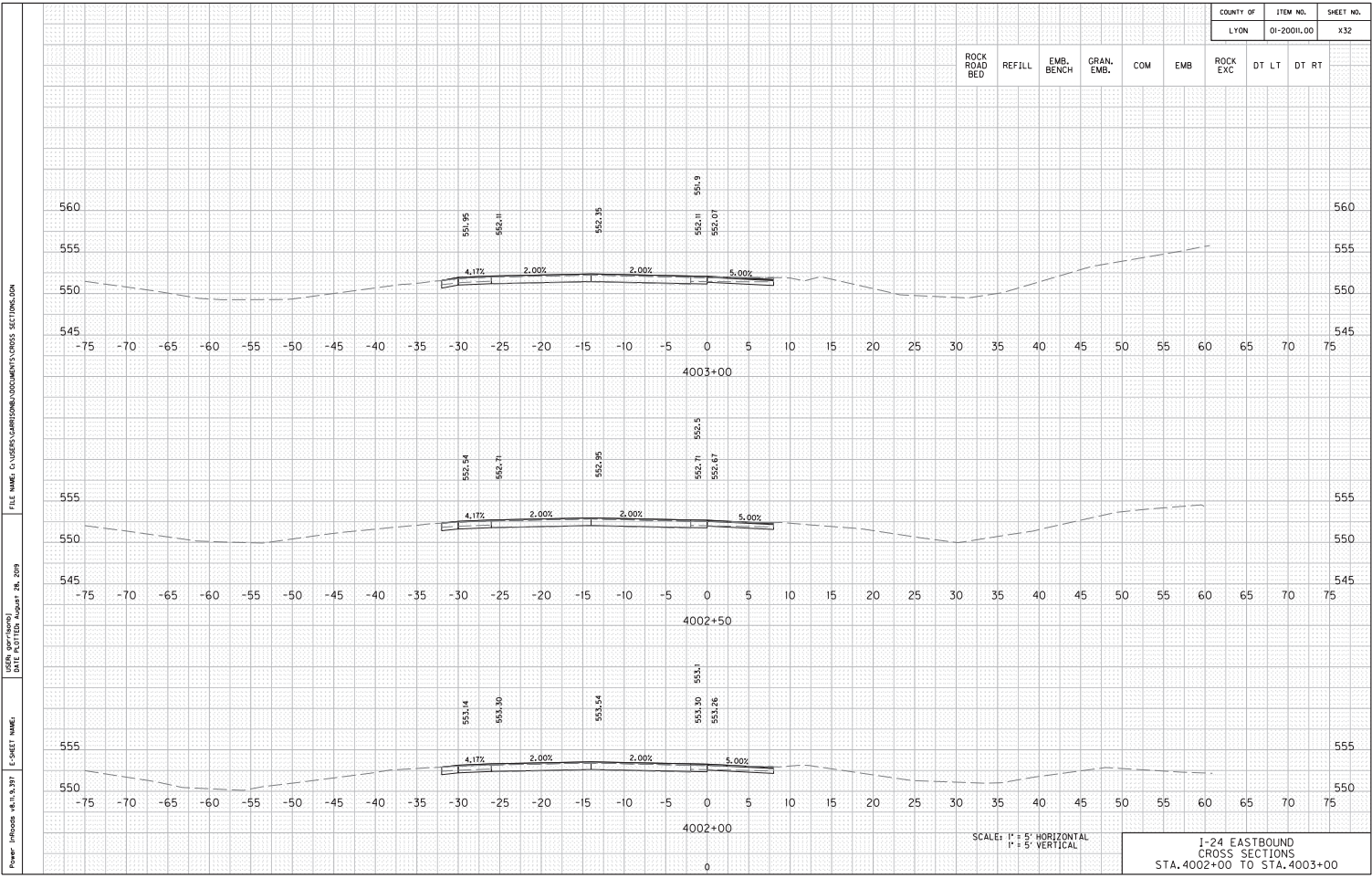
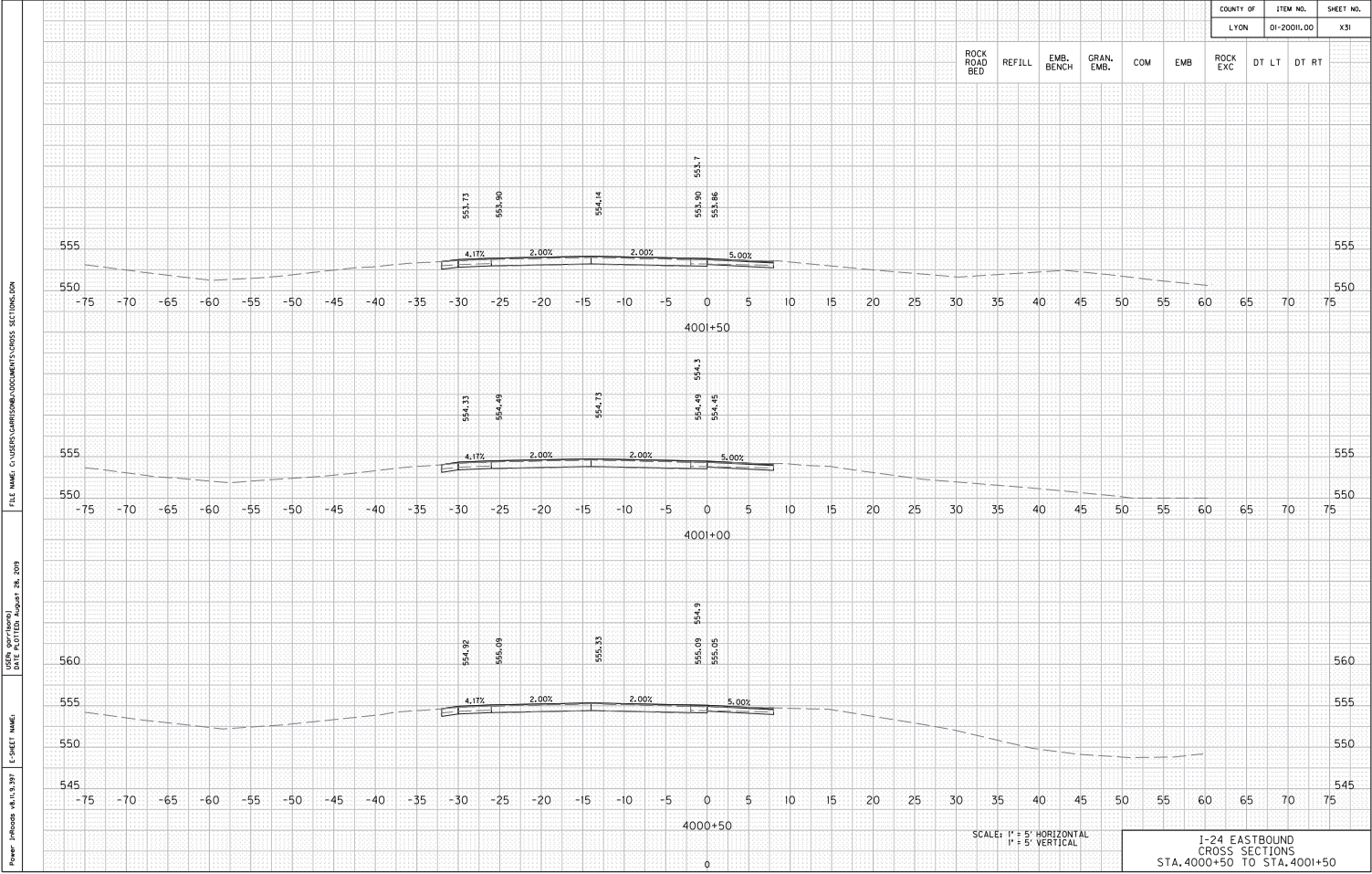








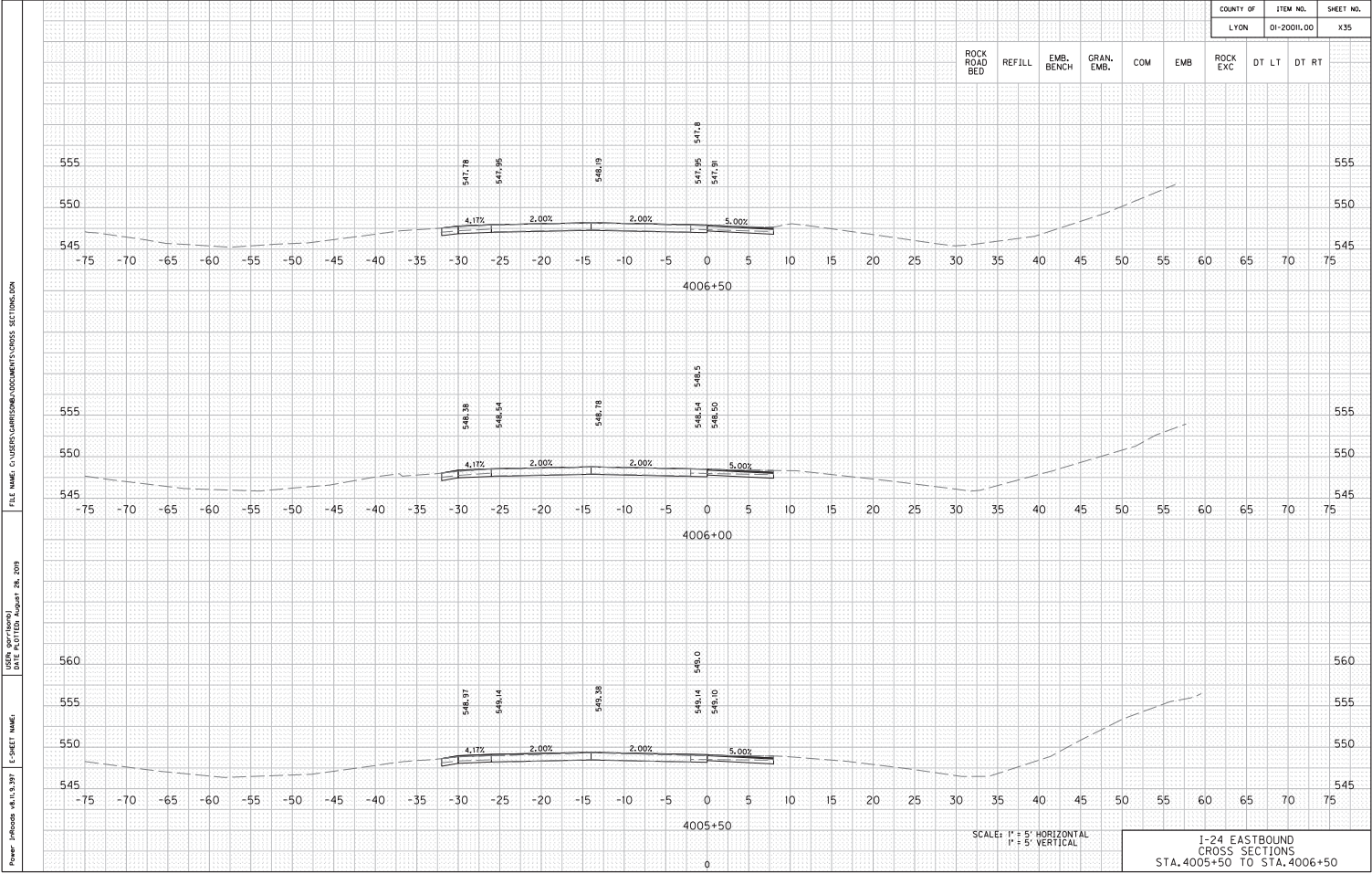






[illegible]

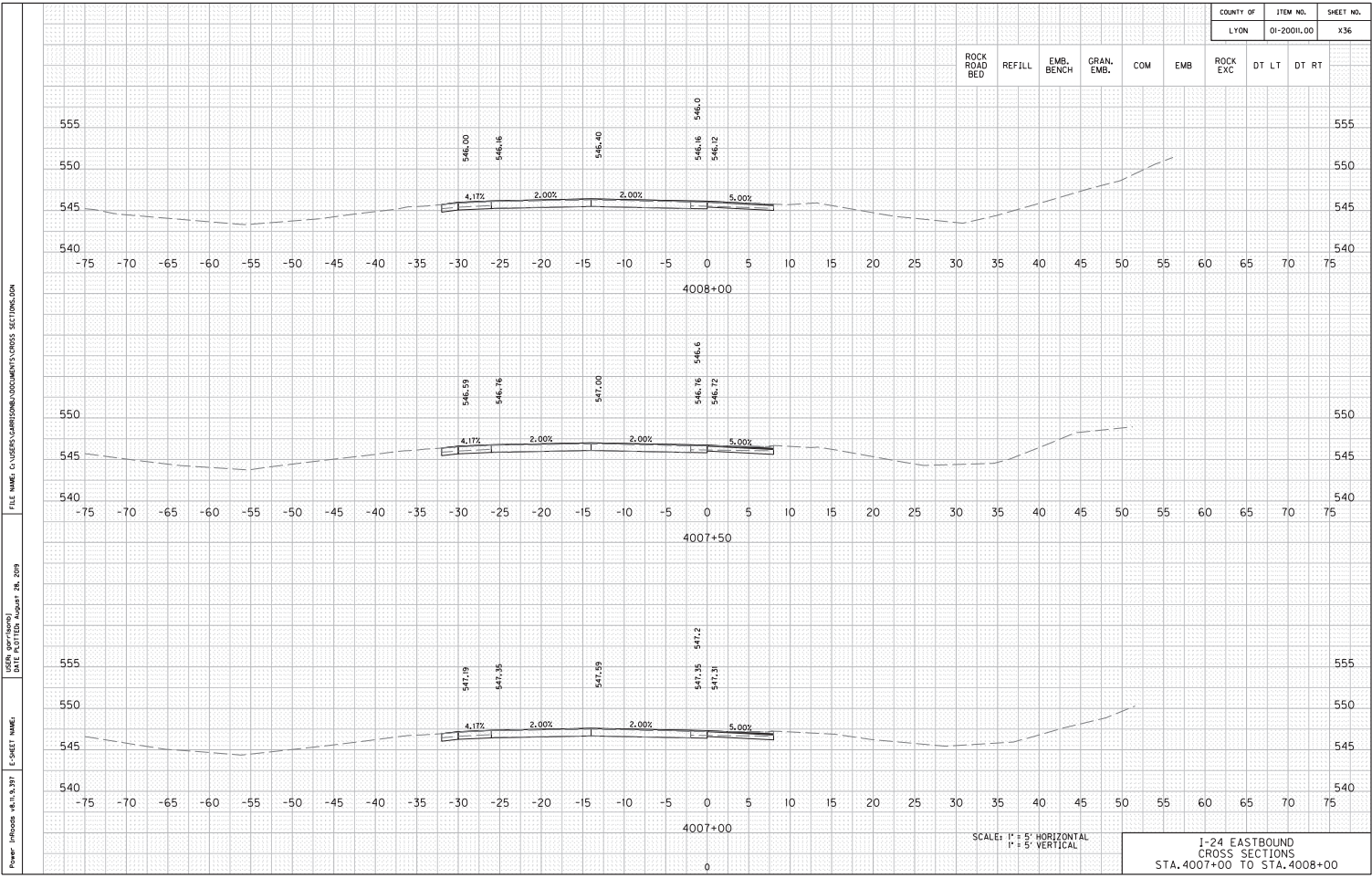




FILE NAME: G:\USERS\GARRISON\DOCUMENTS\CROSS SECTIONS.DGN

USER: garrisonj  
DATE PLOTTED: August 28, 2019

E-SHEET NAME:  
Power: Johnson, W.L.S.397

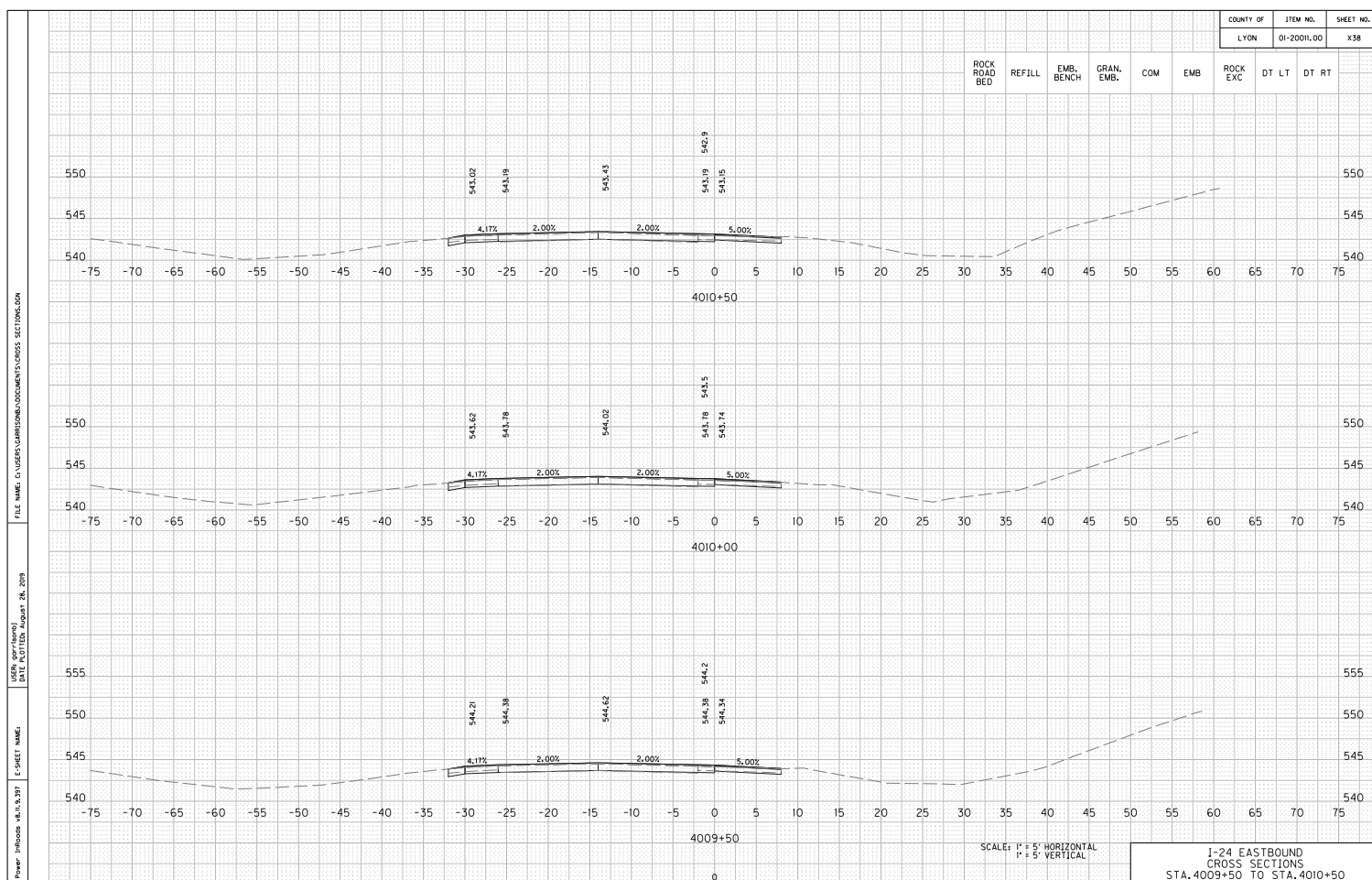
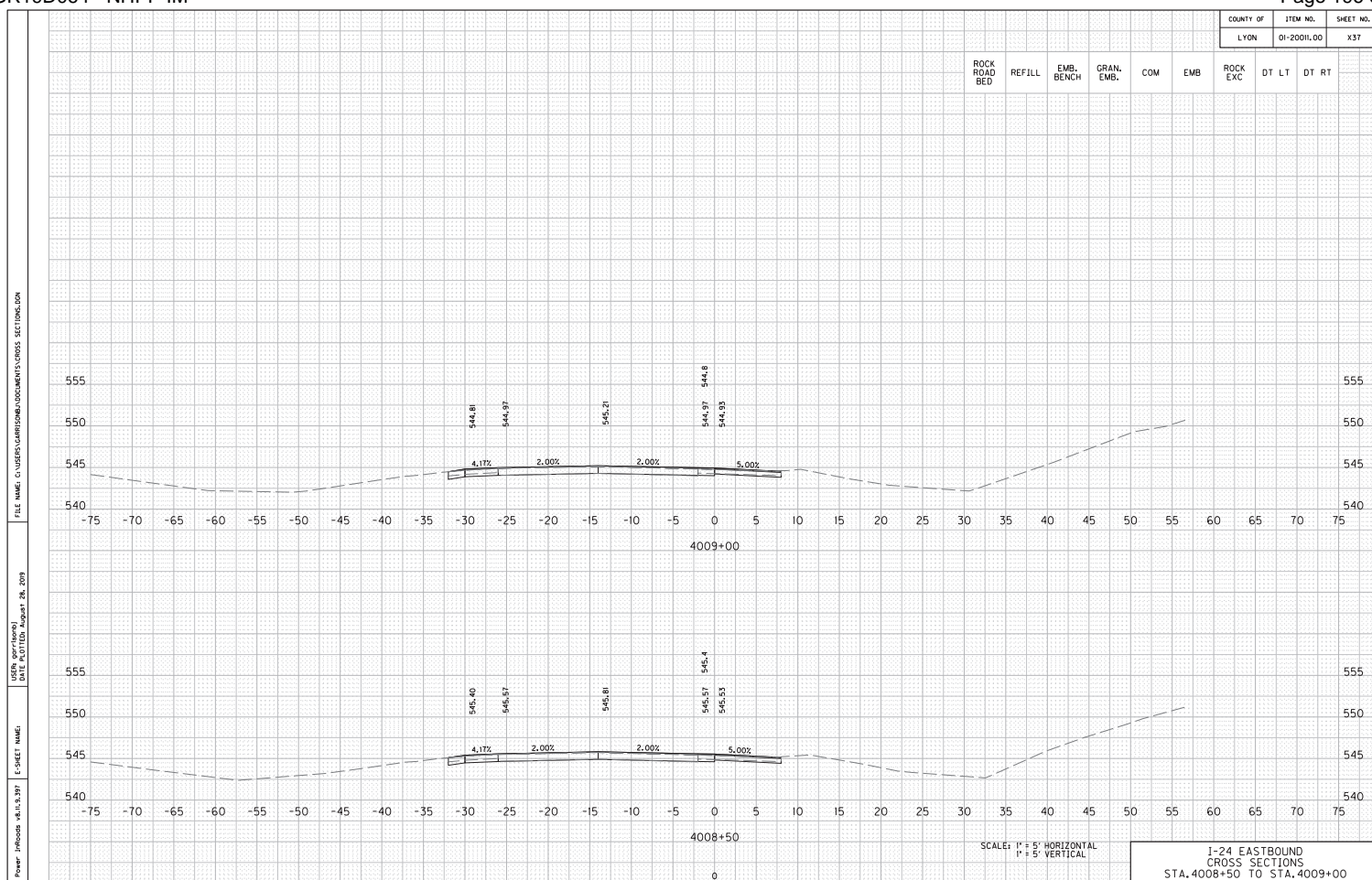


FILE NAME: G:\USERS\GARRISON\DOCUMENTS\CROSS SECTIONS.DGN

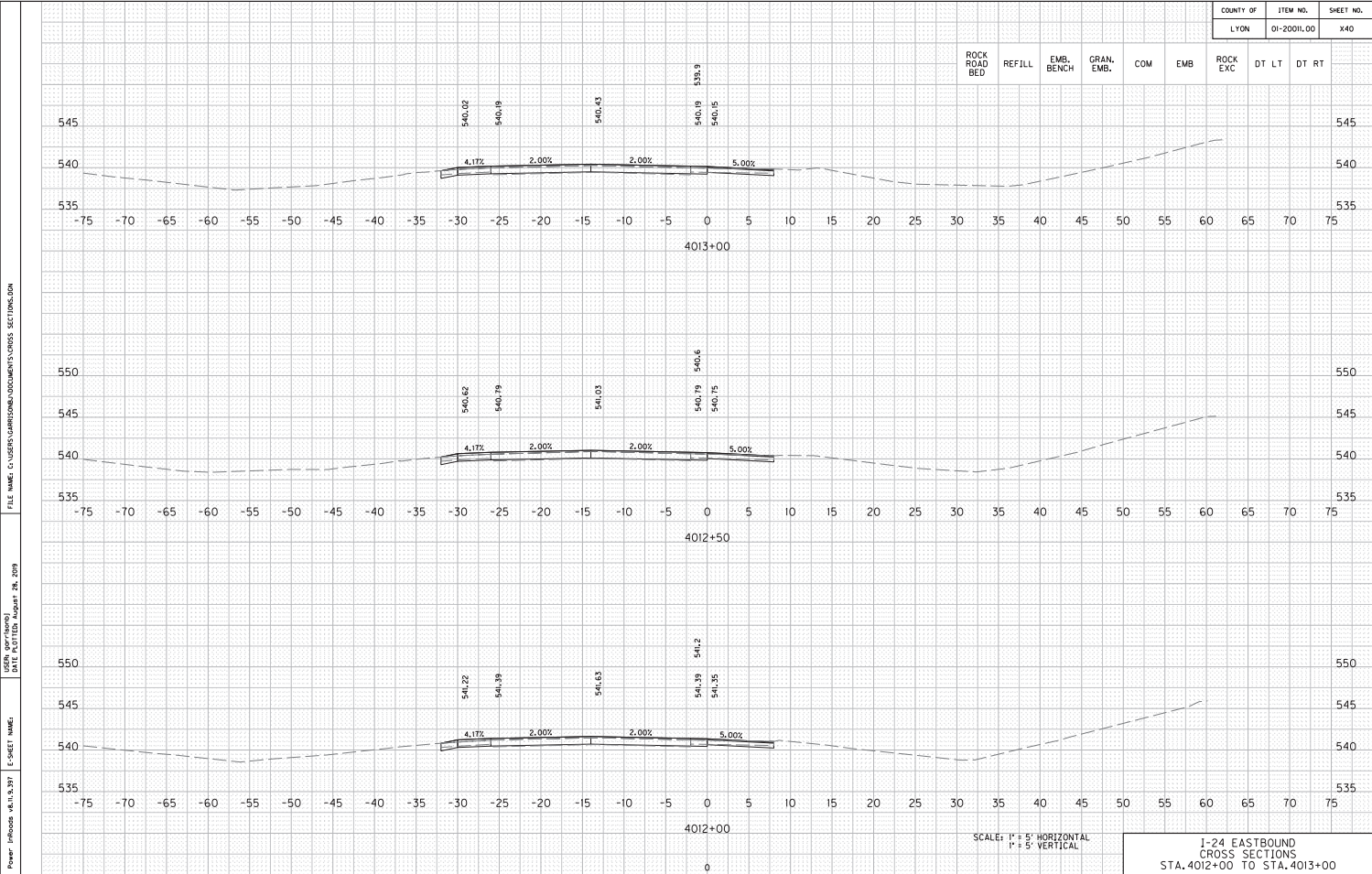
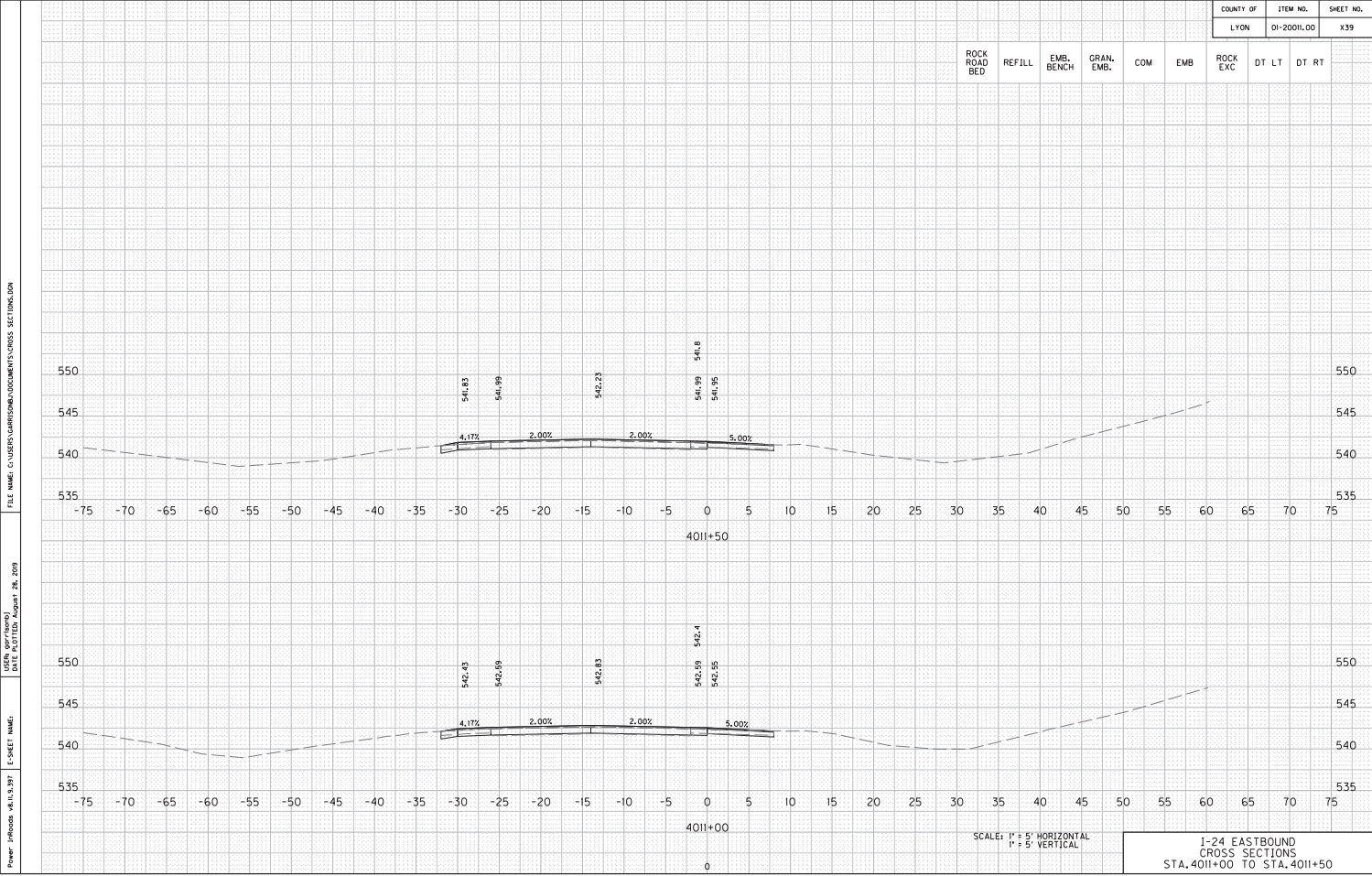
USER: garrisonj  
DATE PLOTTED: August 28, 2019

E-SHEET NAME:  
Power: Johnson, W.L.S.397

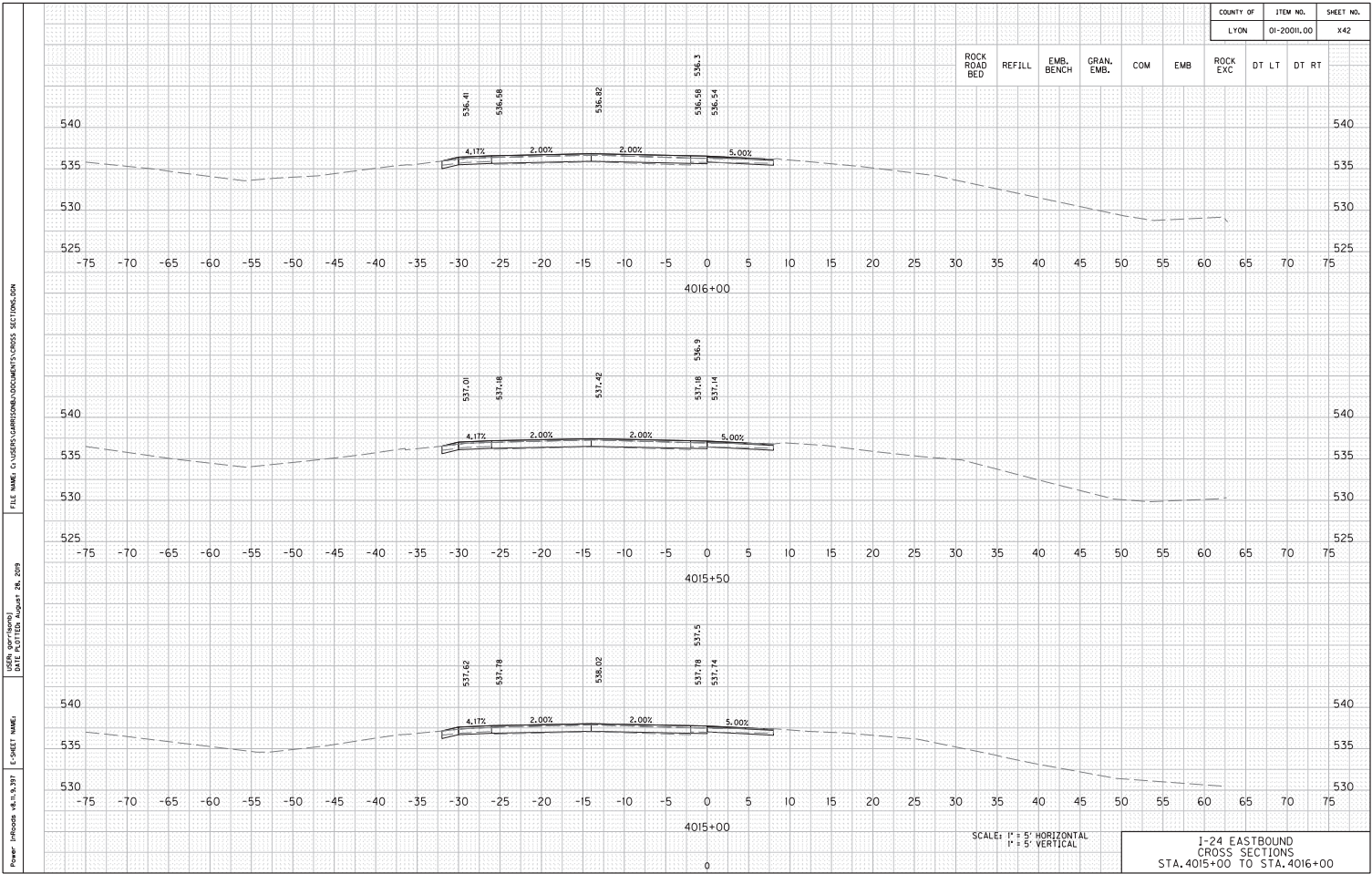
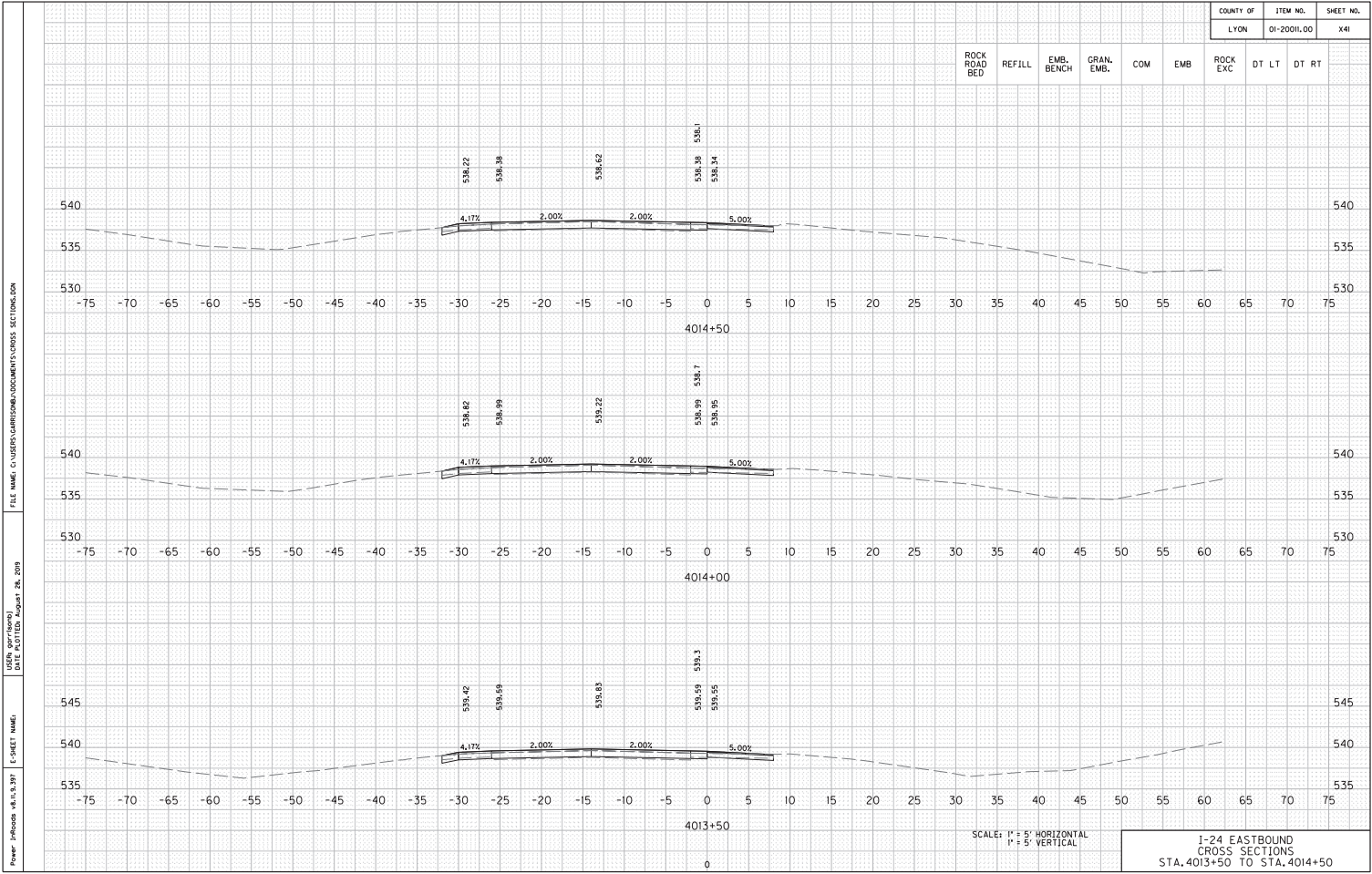




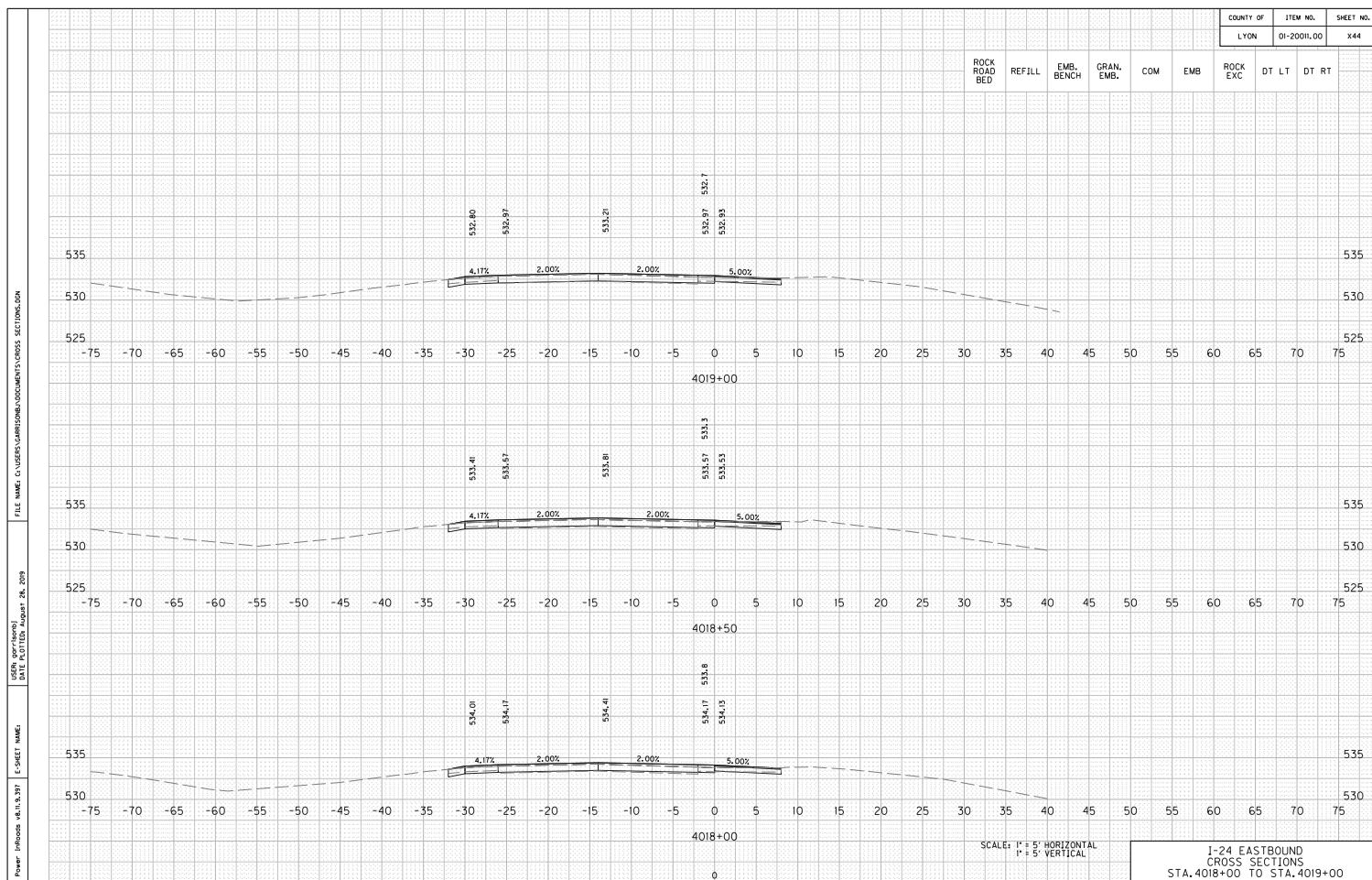
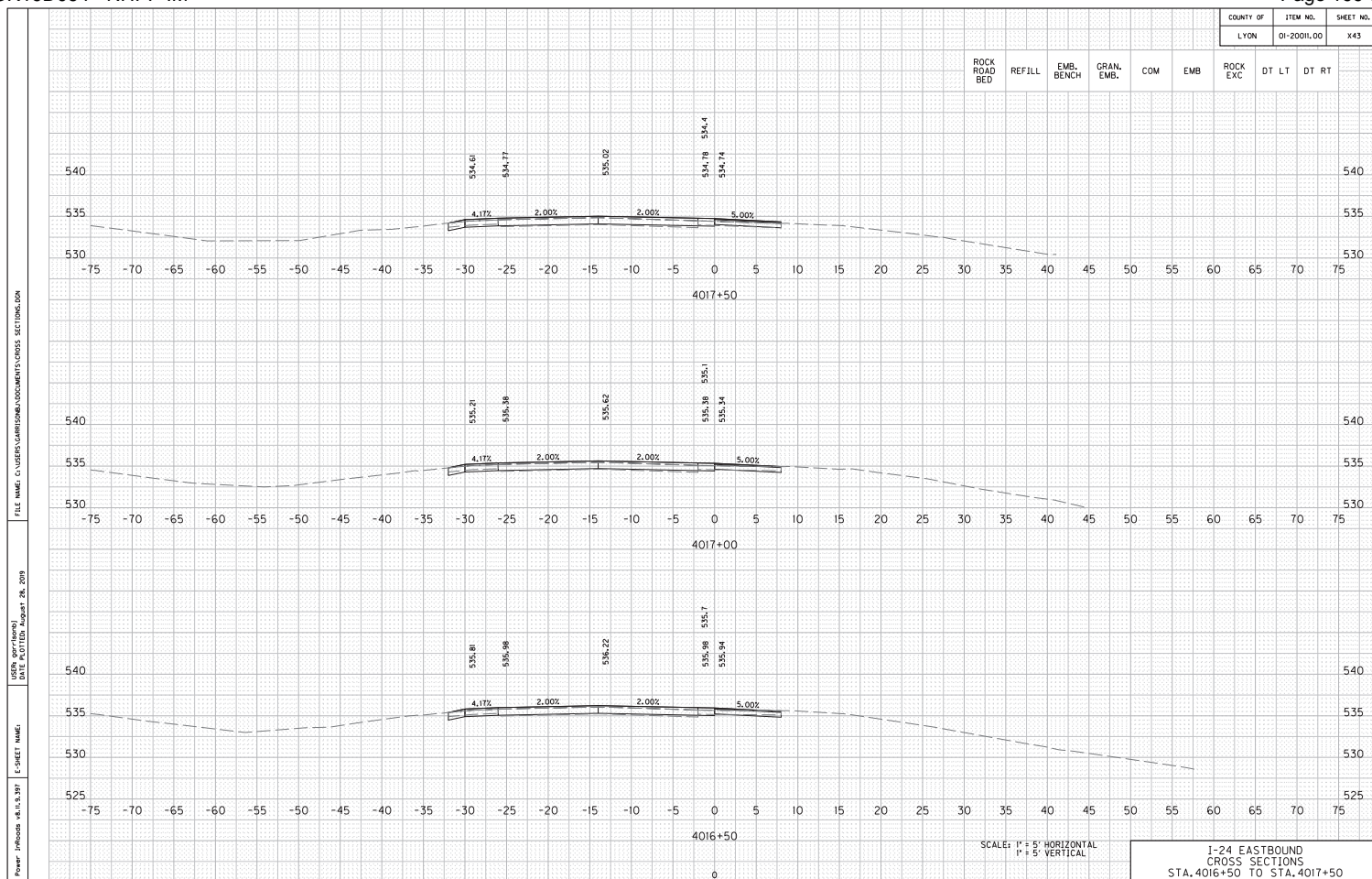




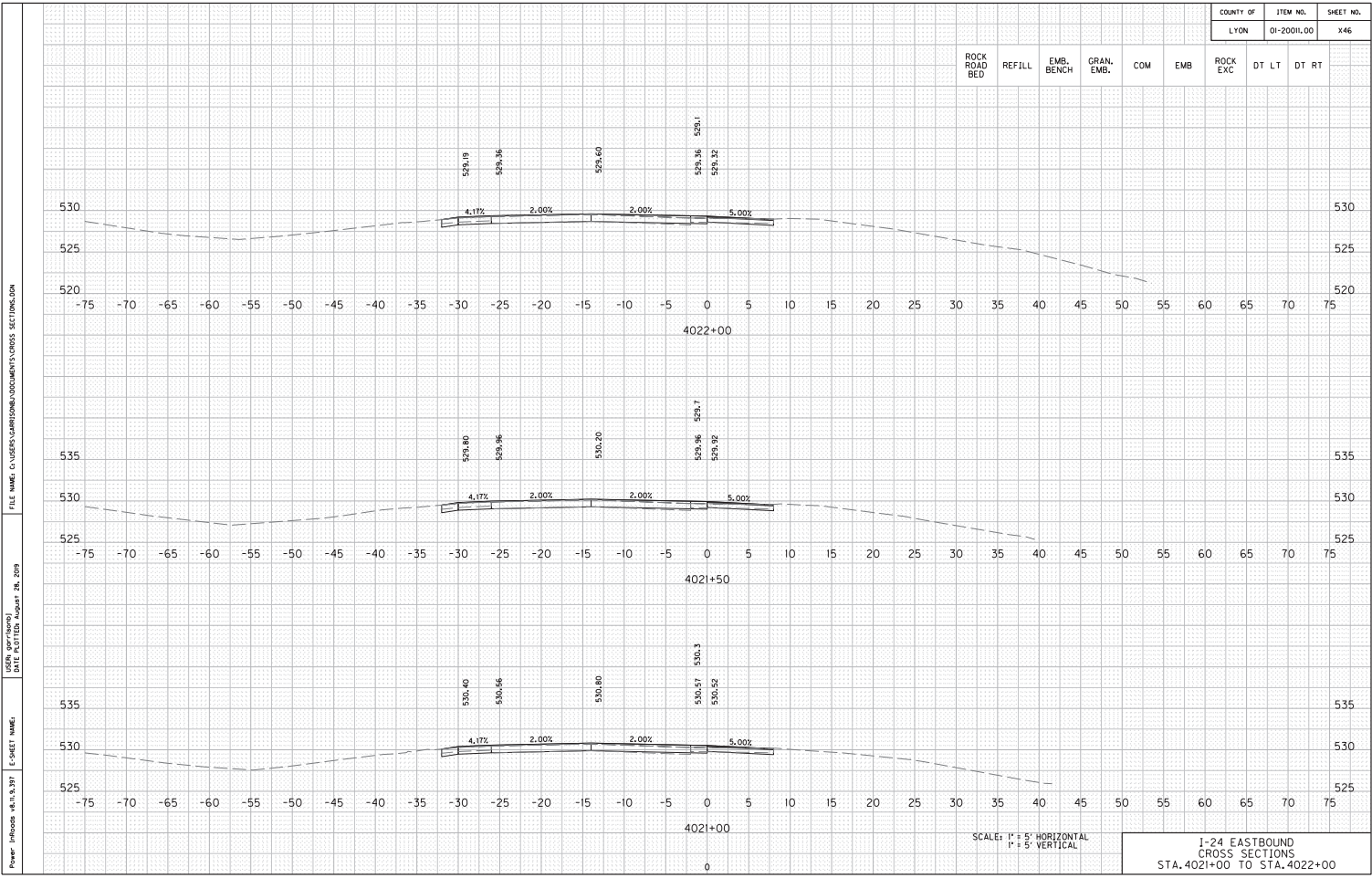
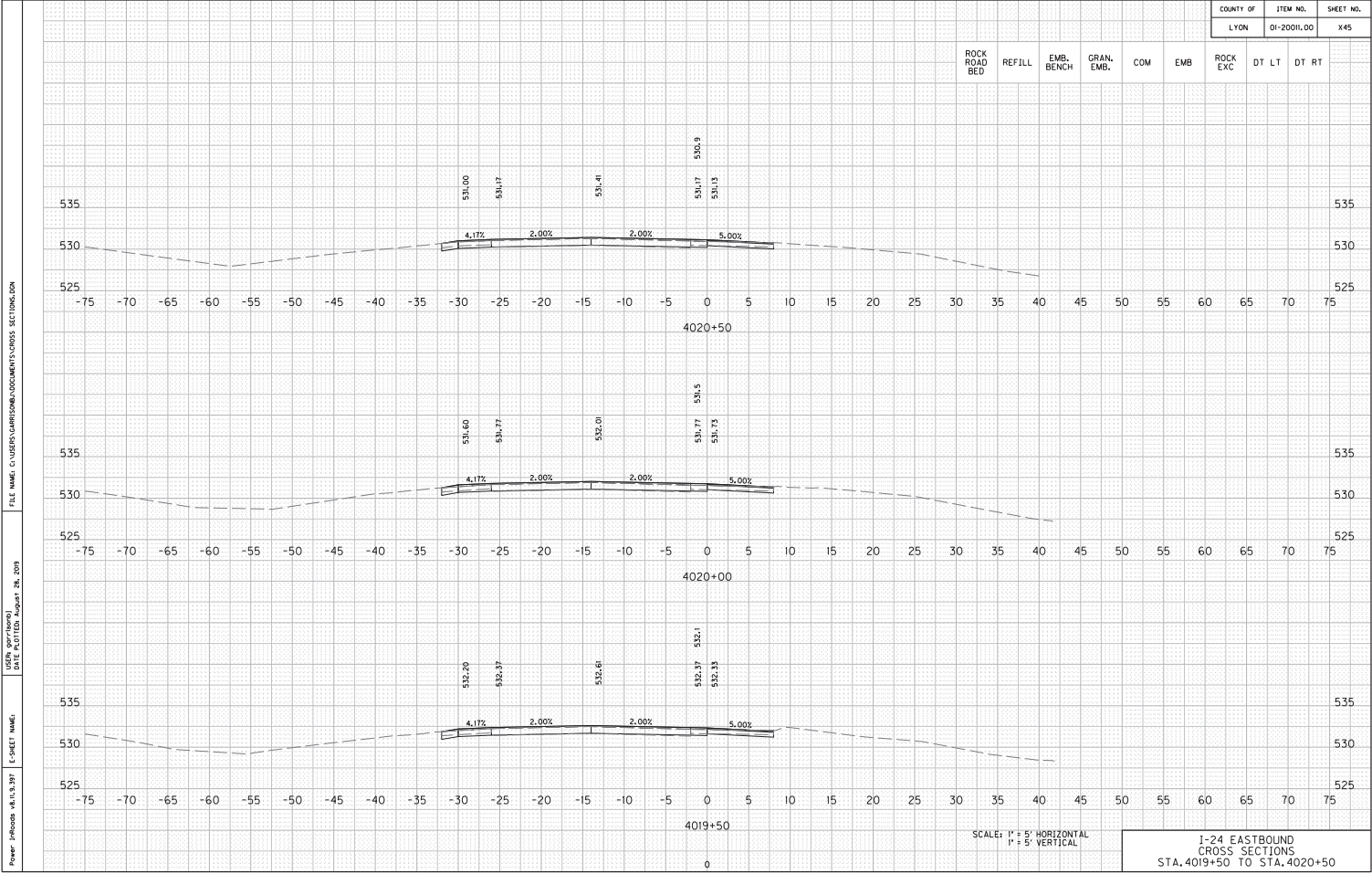




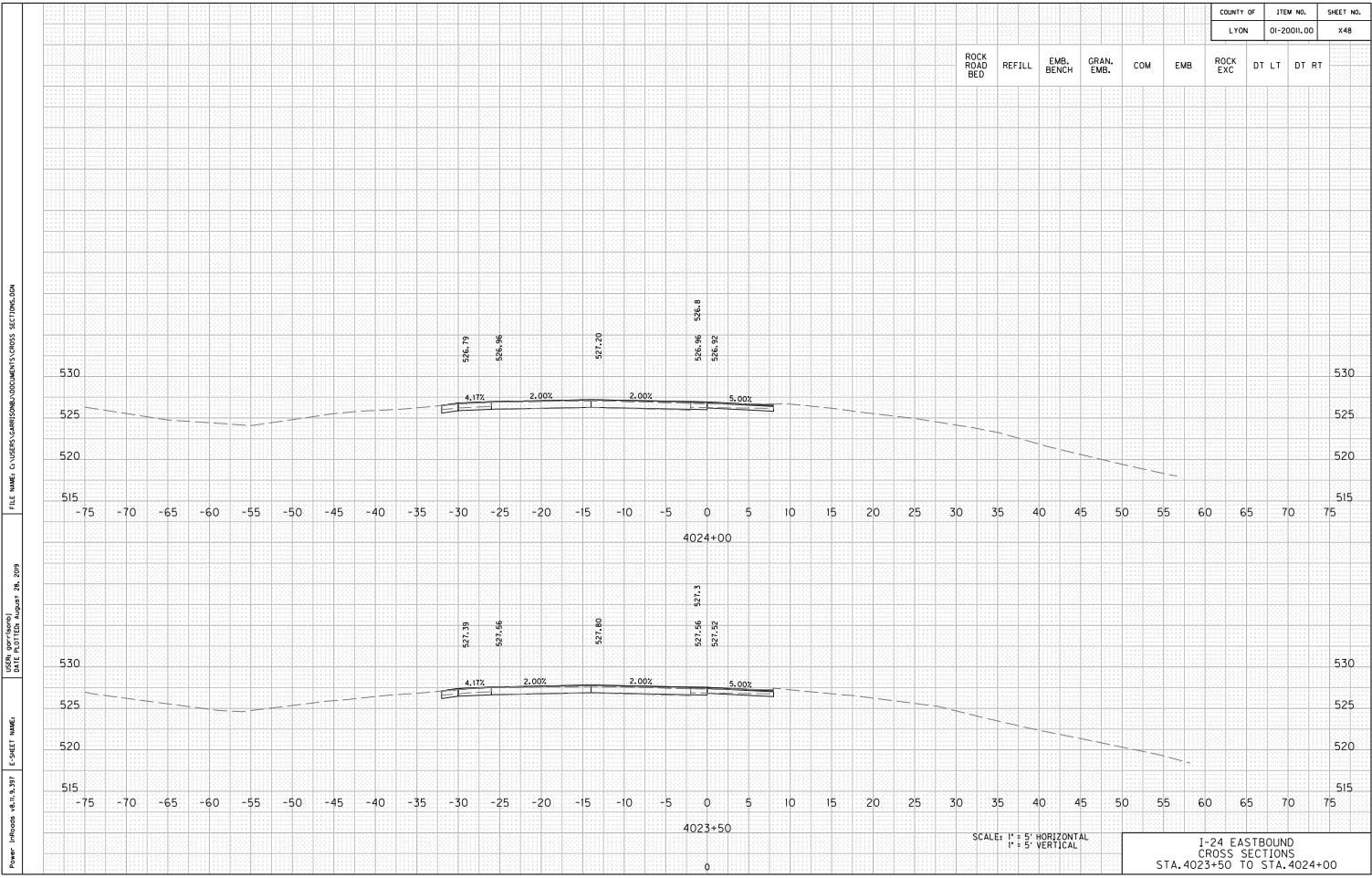
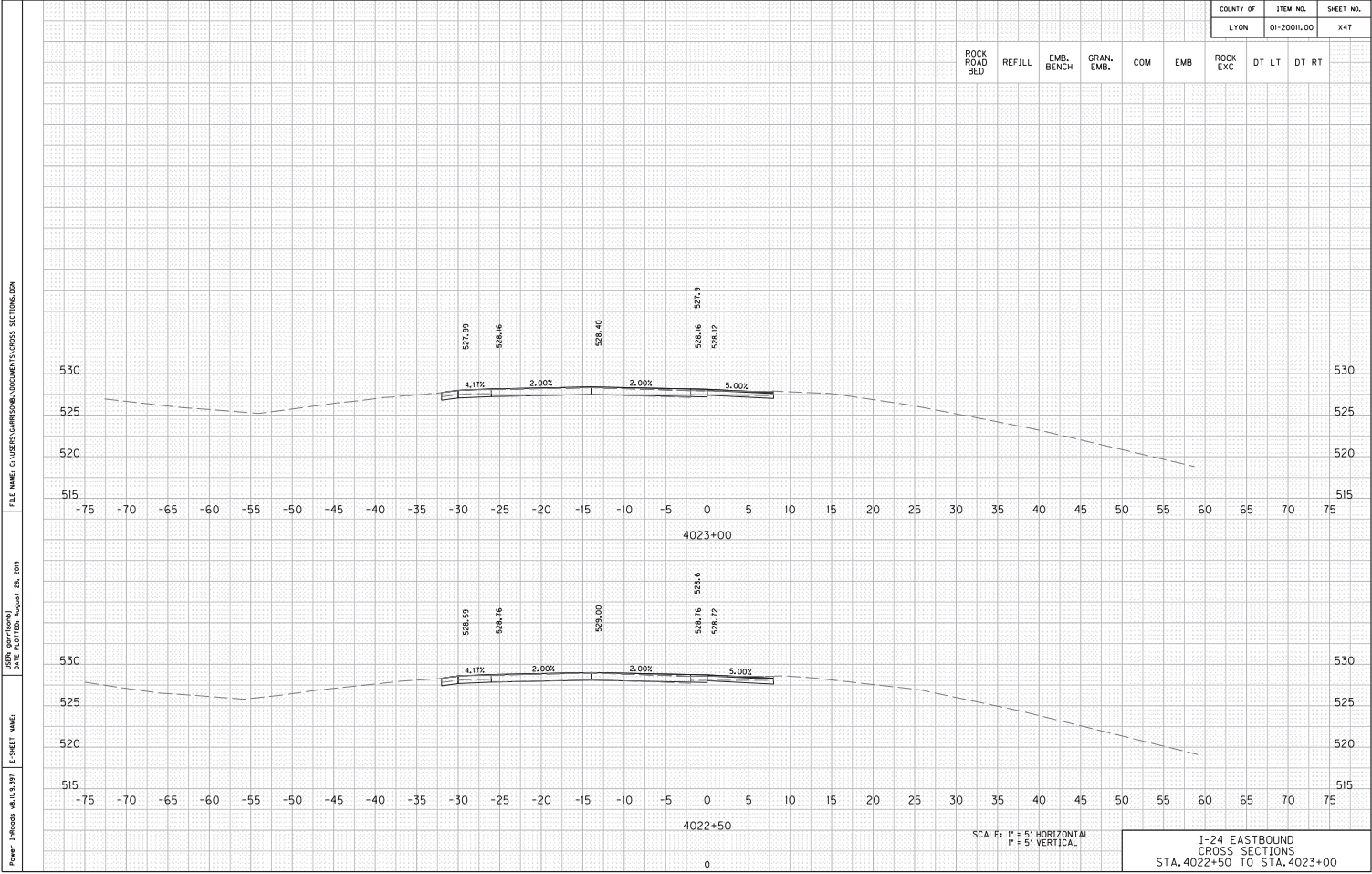




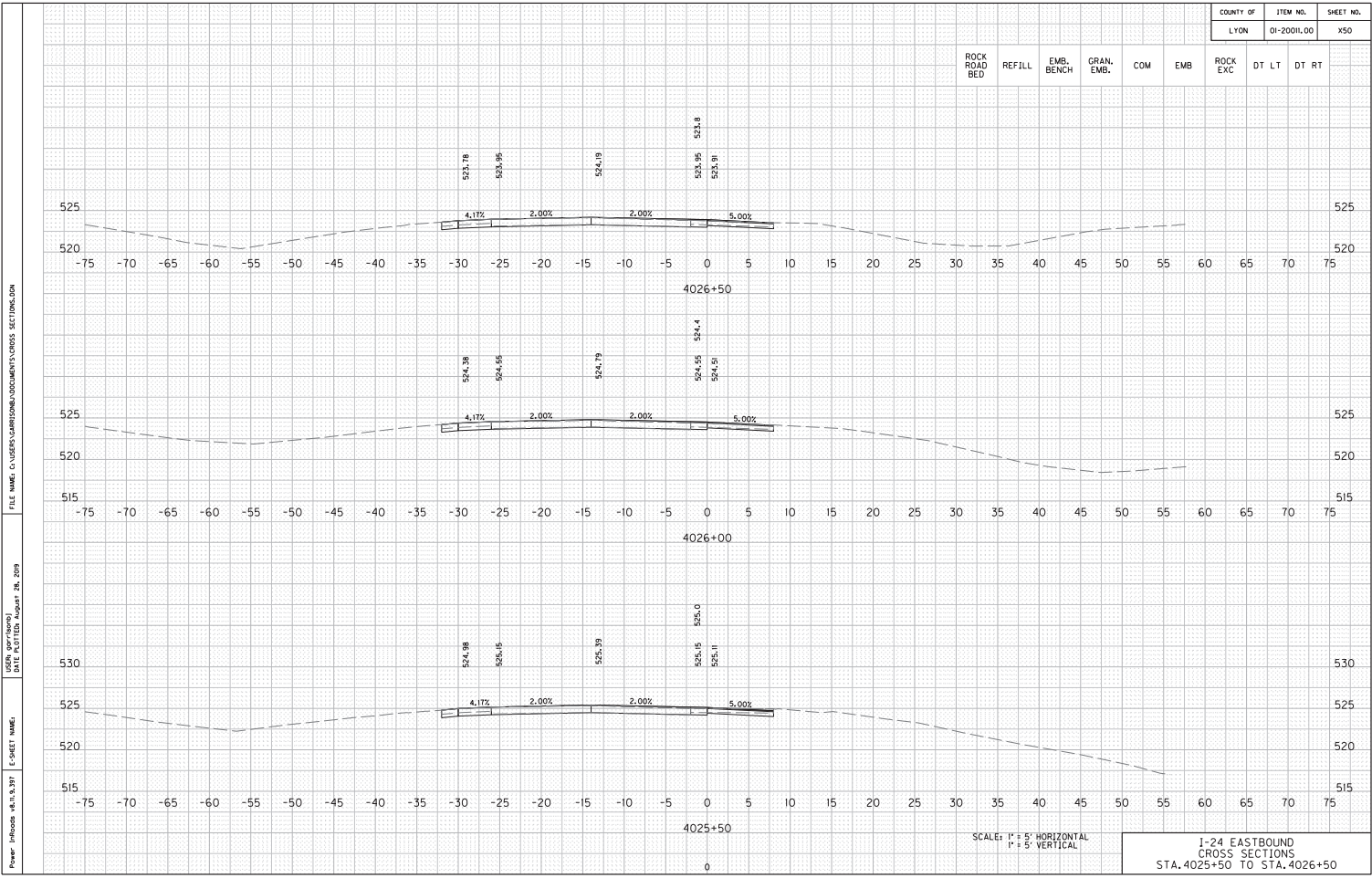
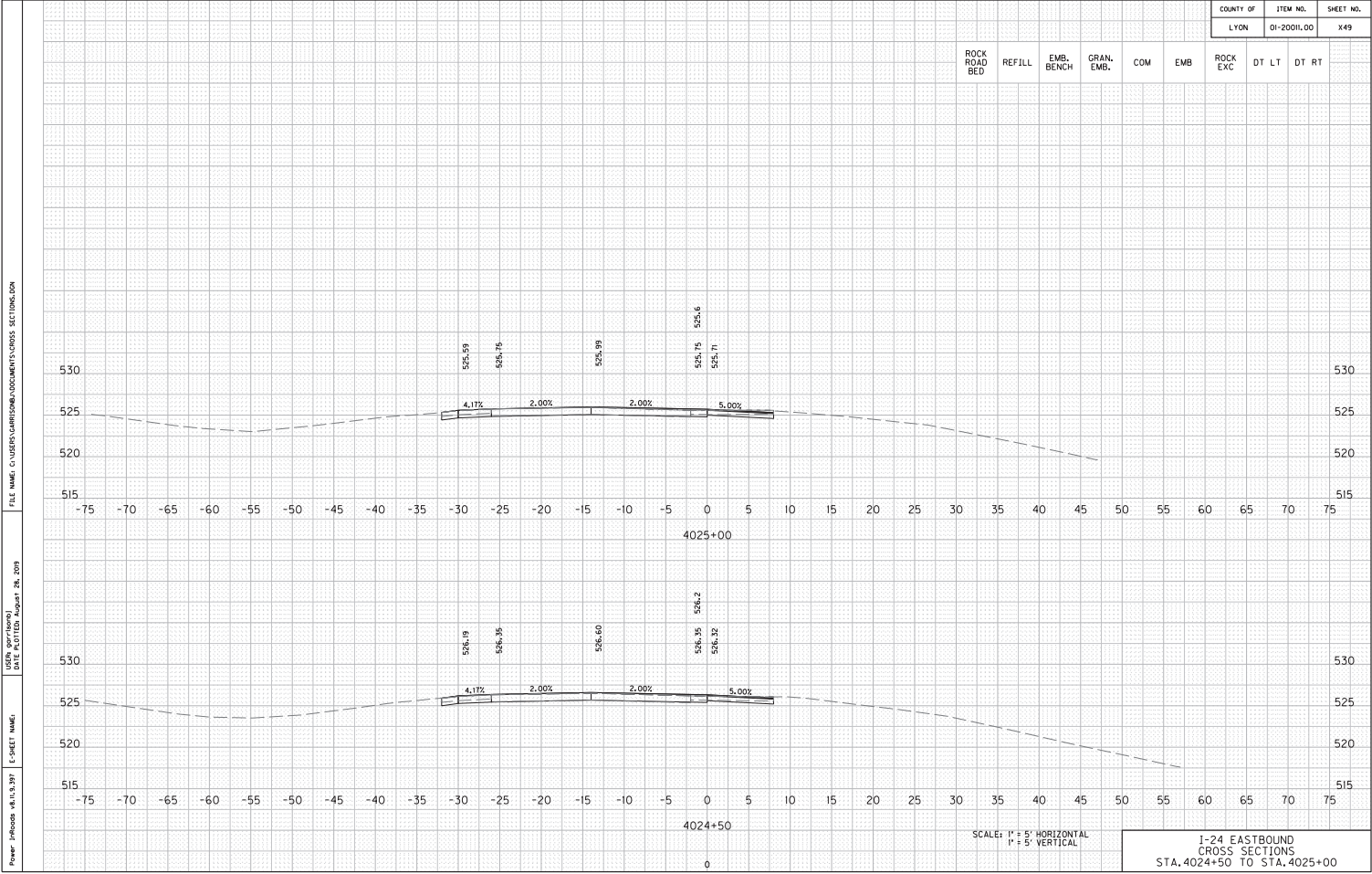




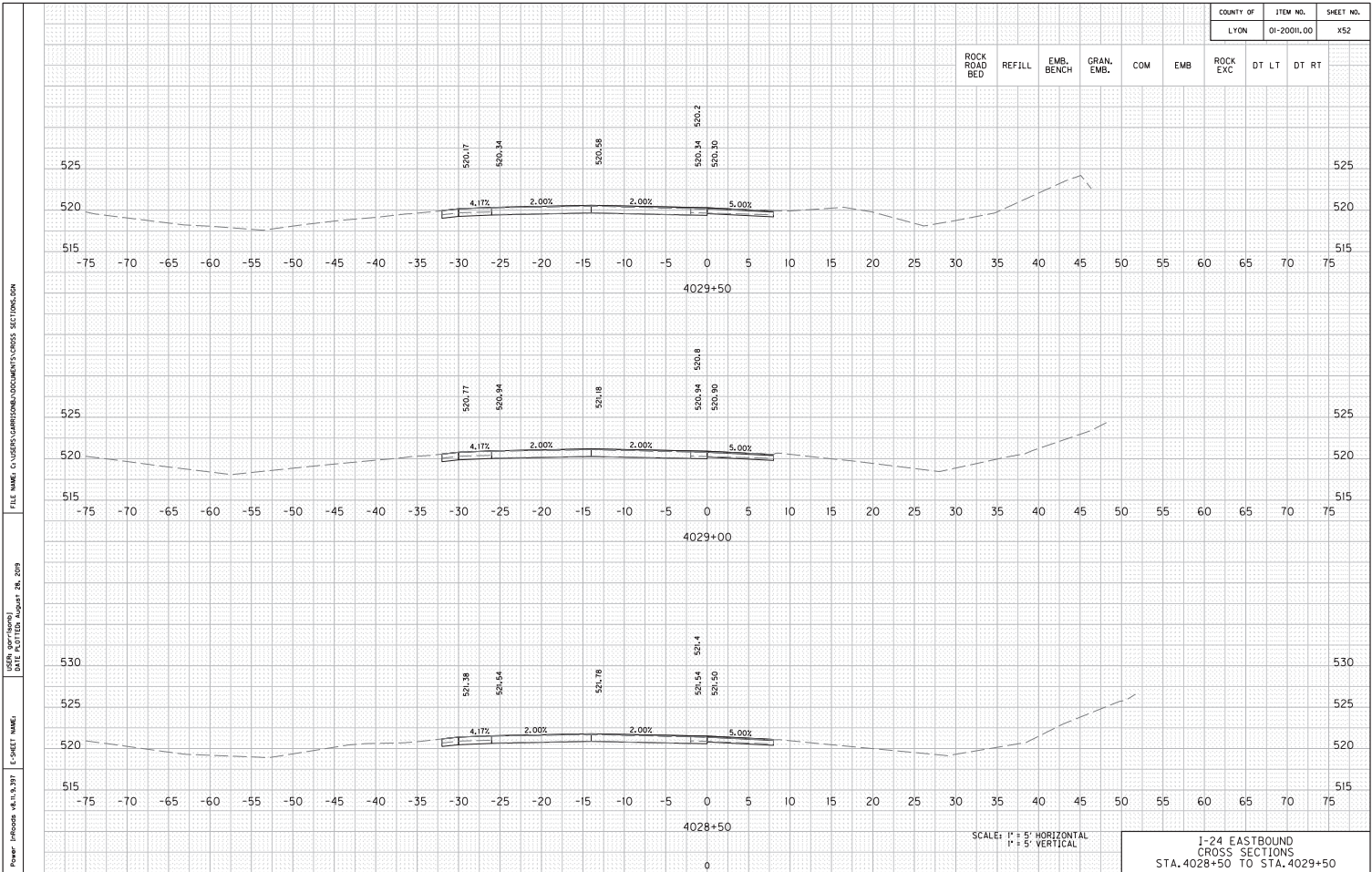
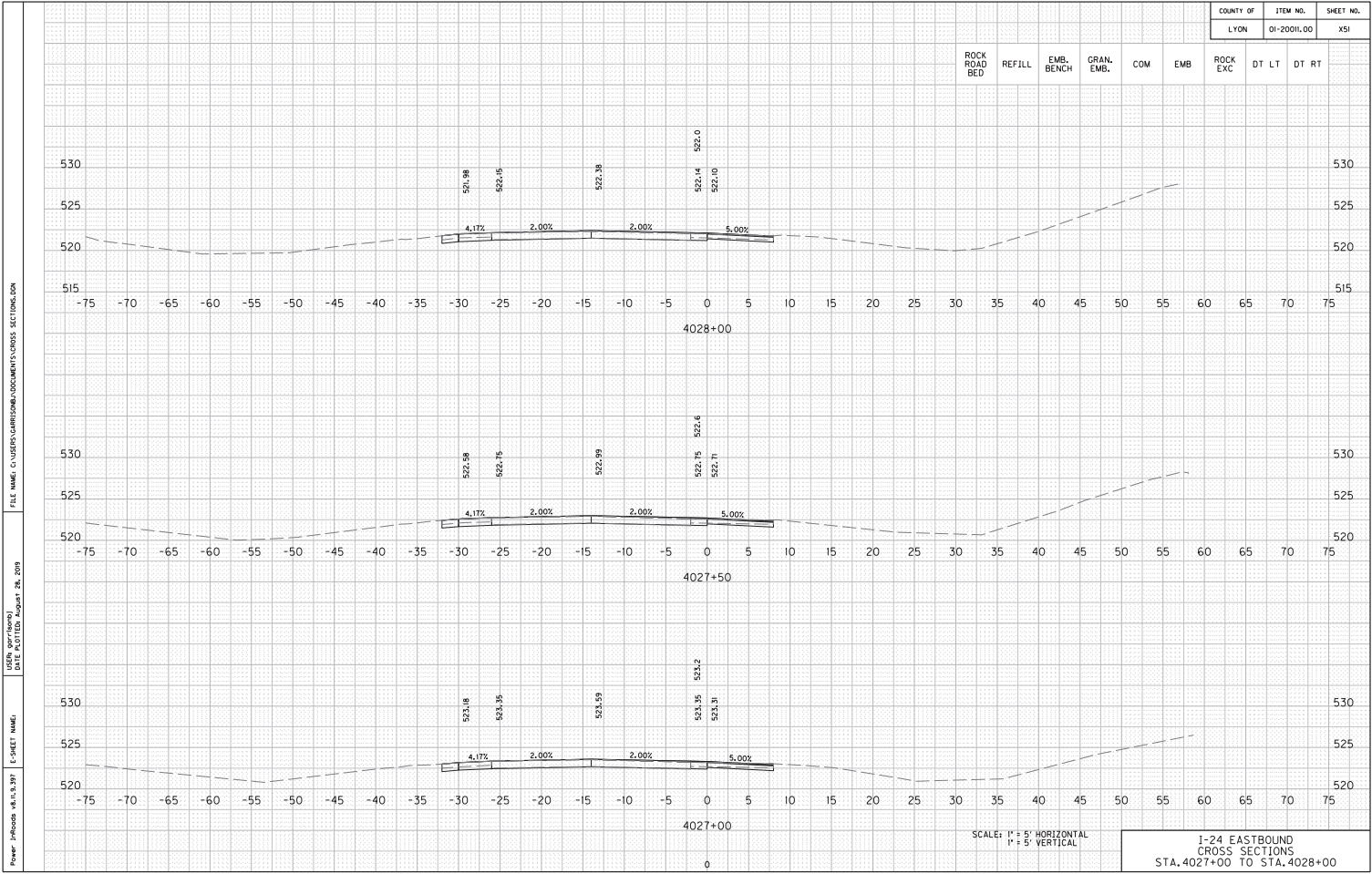




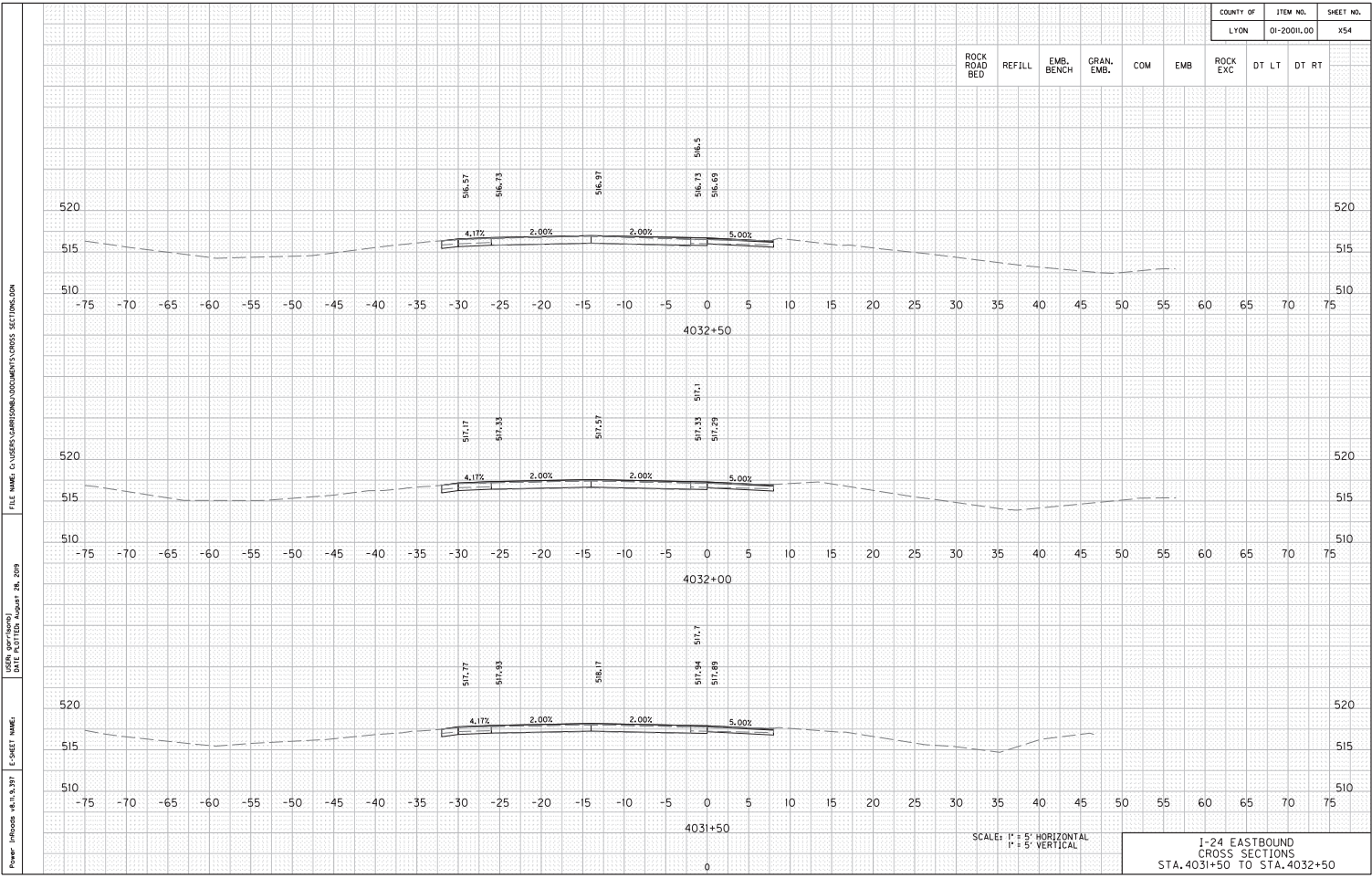
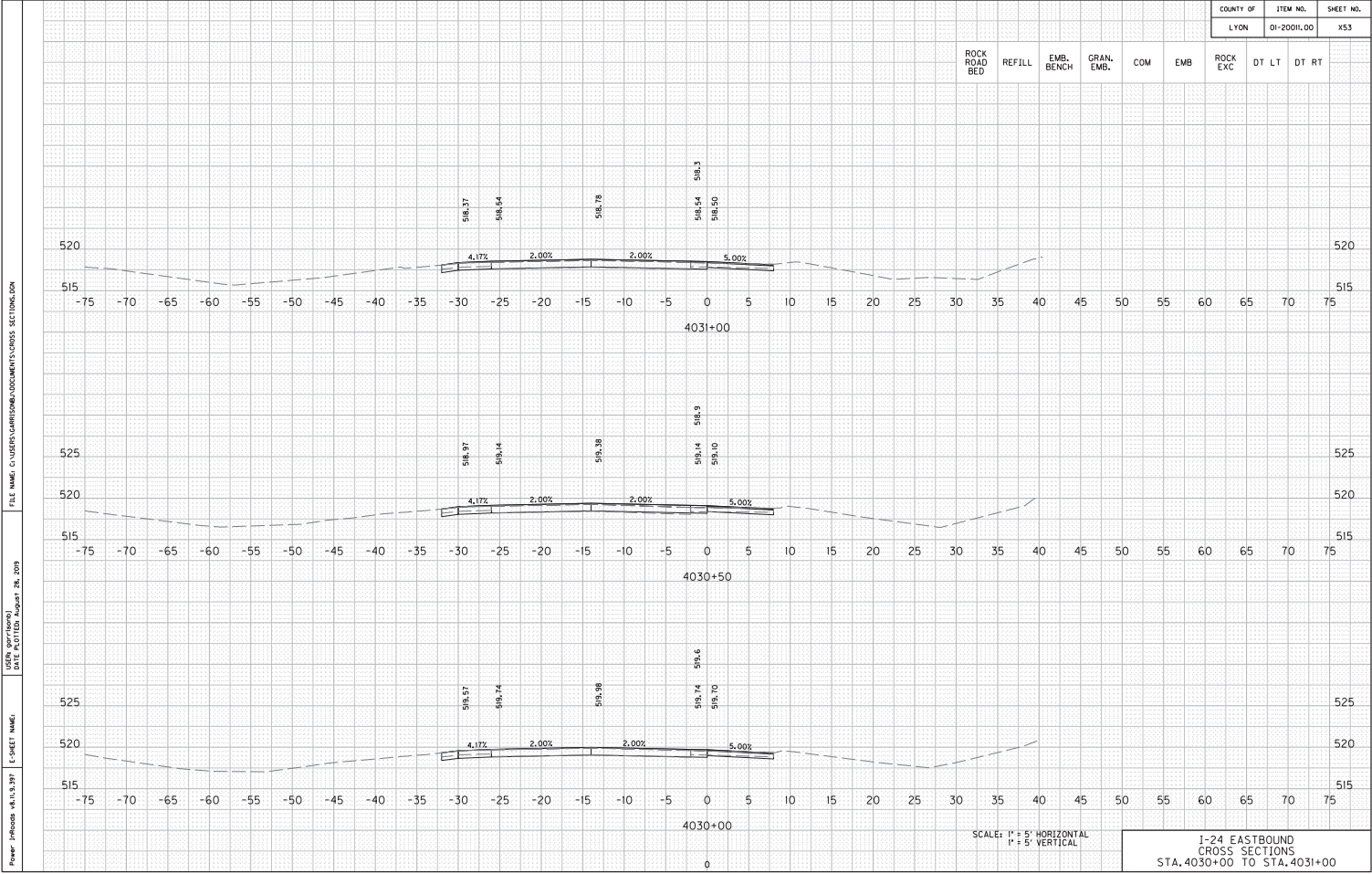




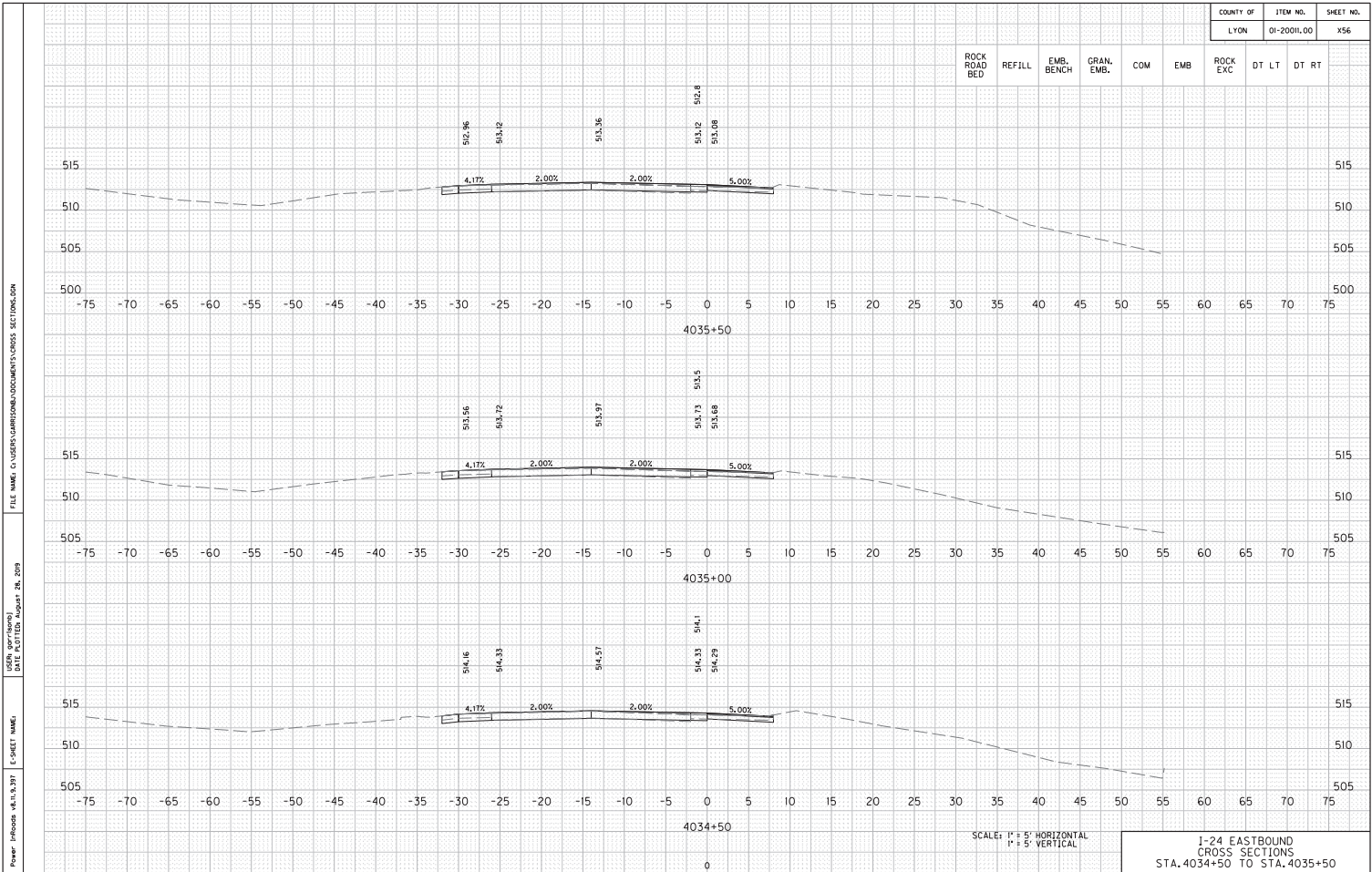
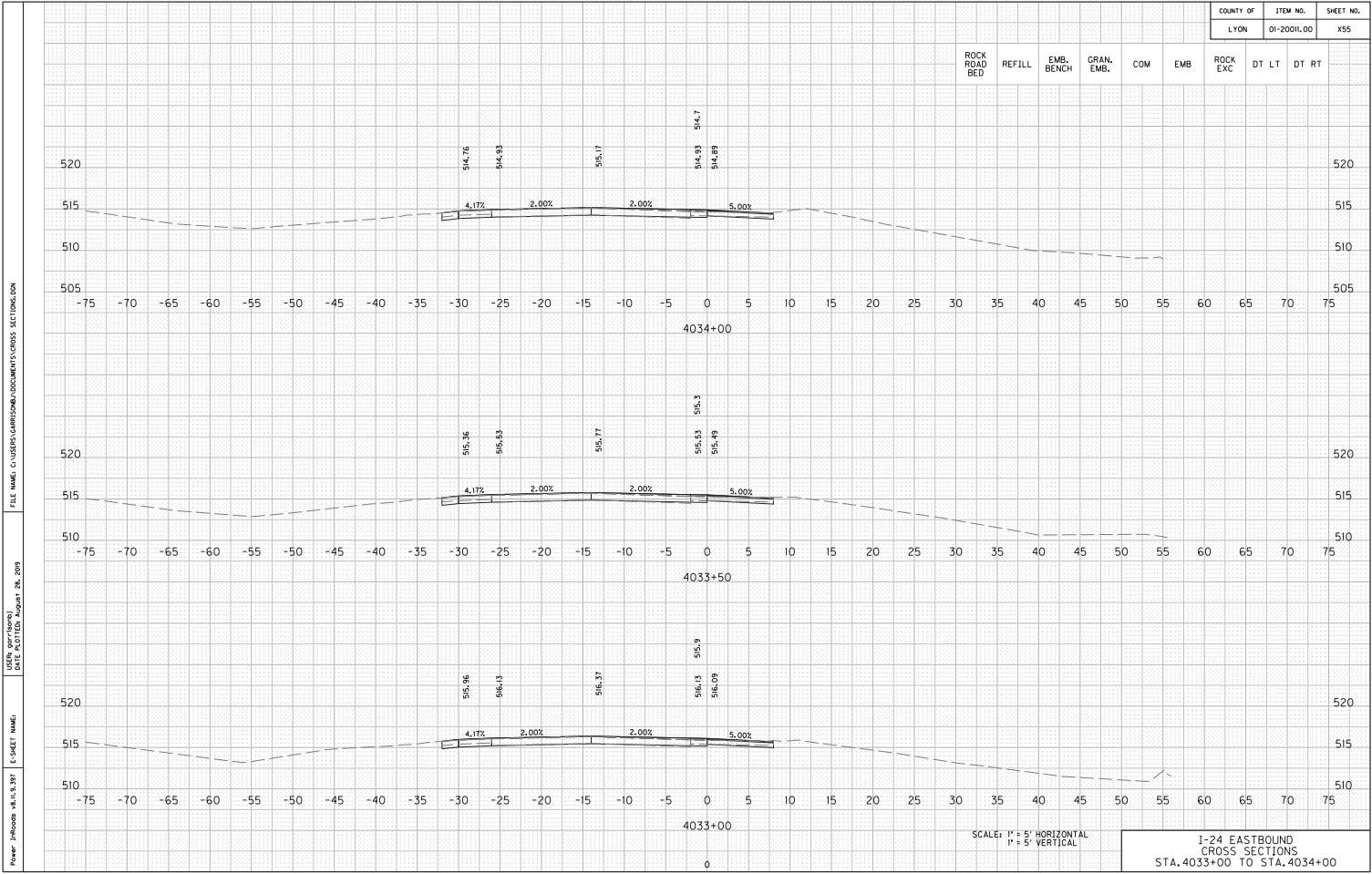




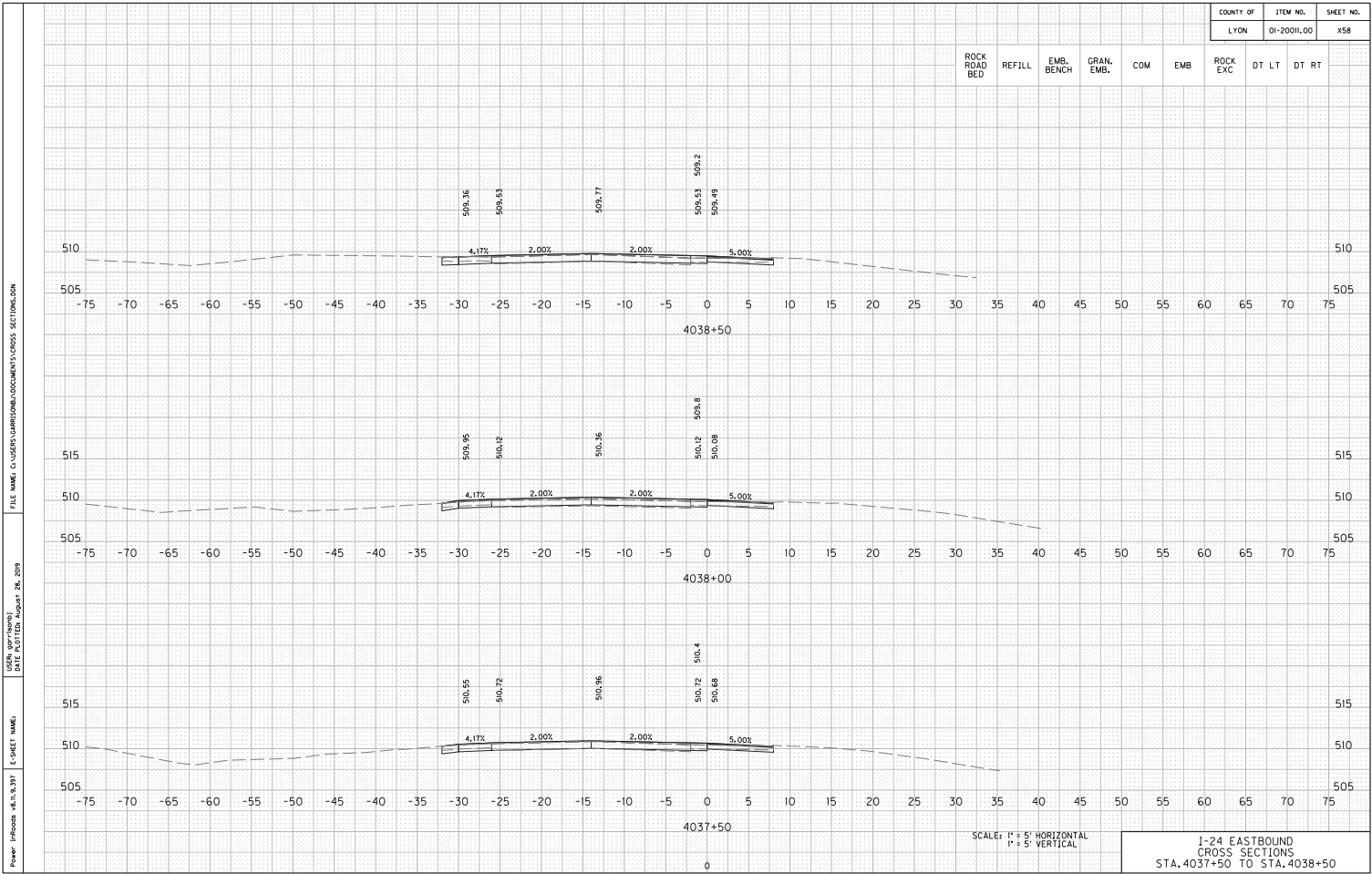
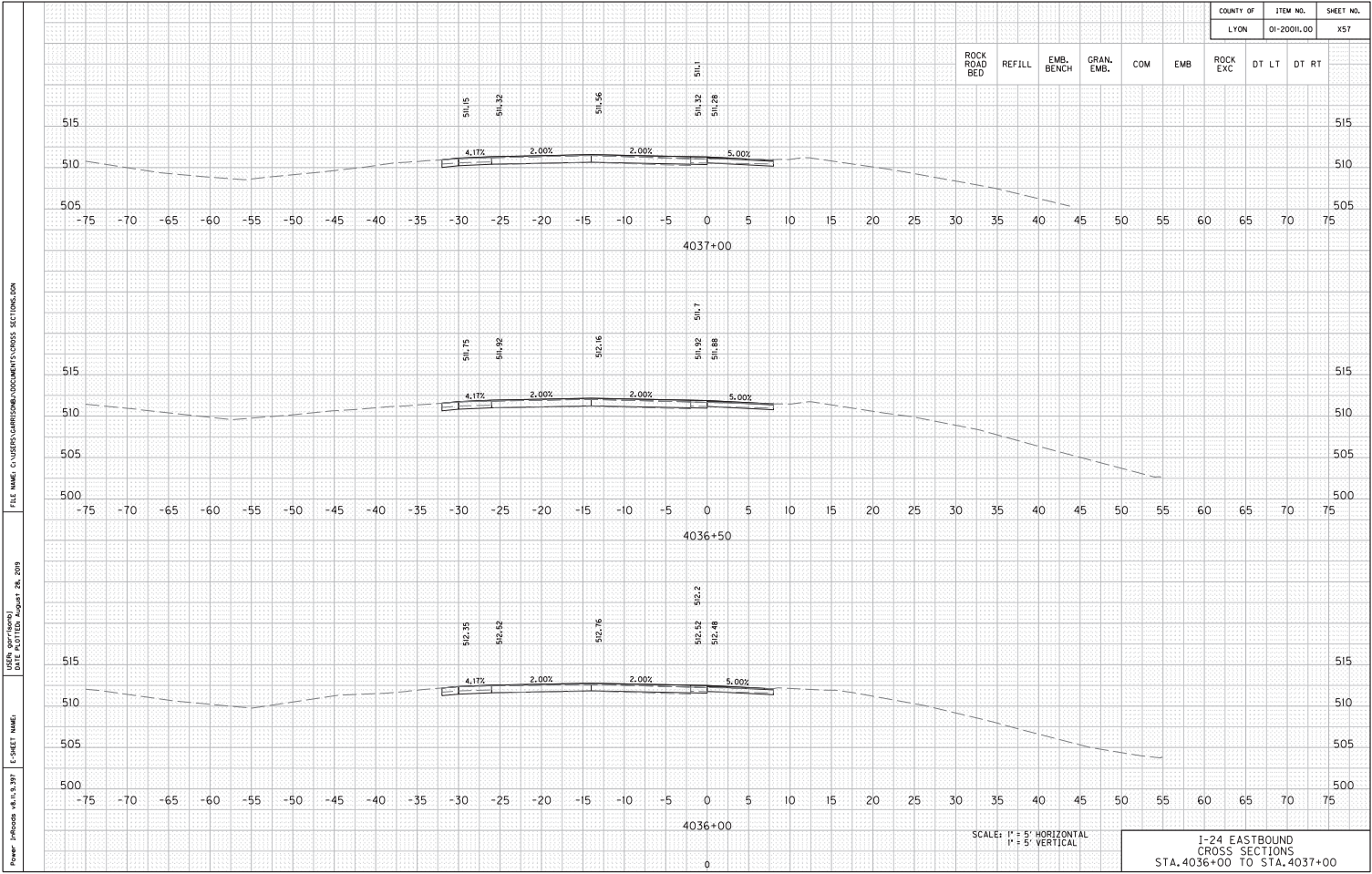




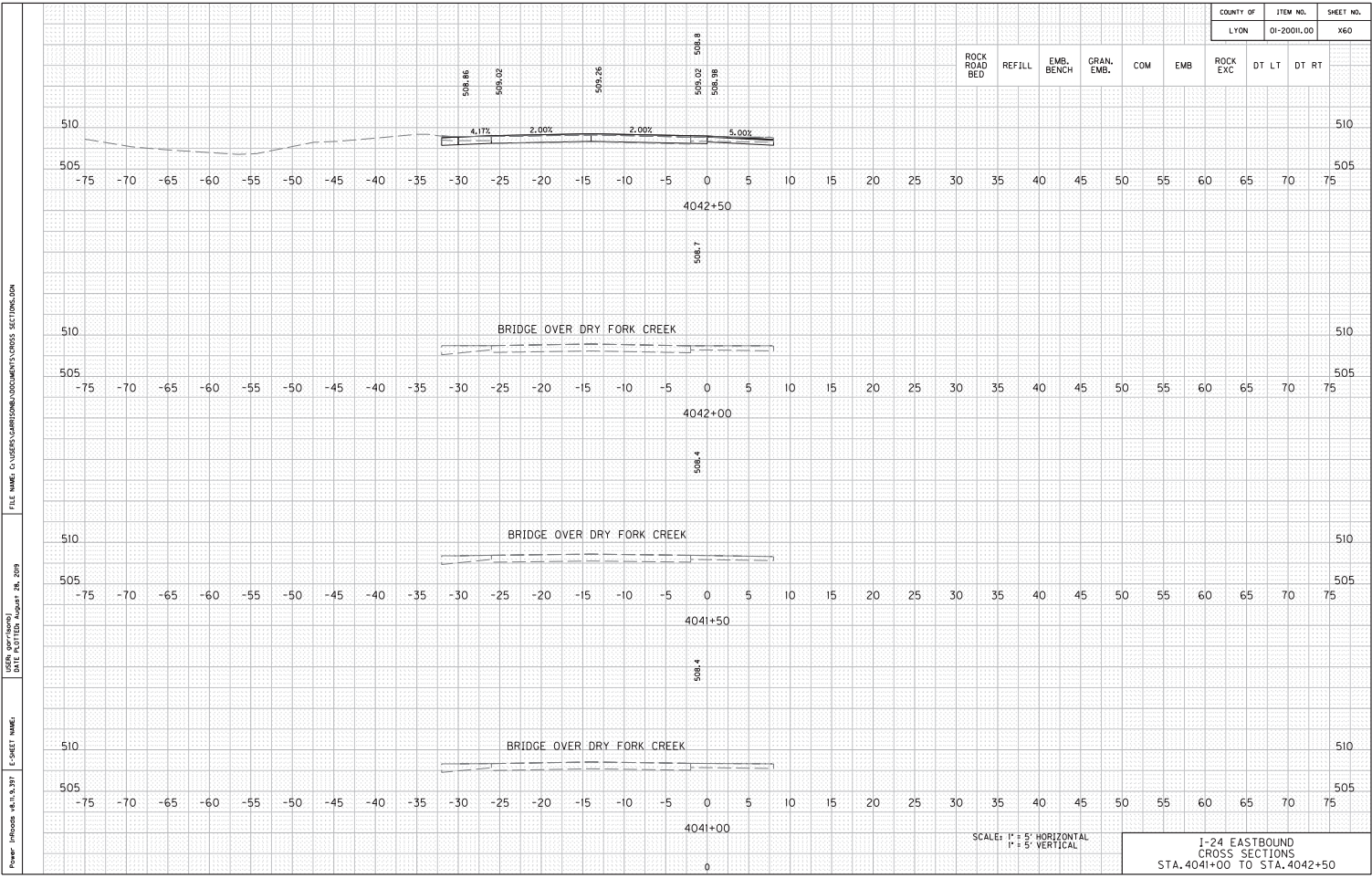
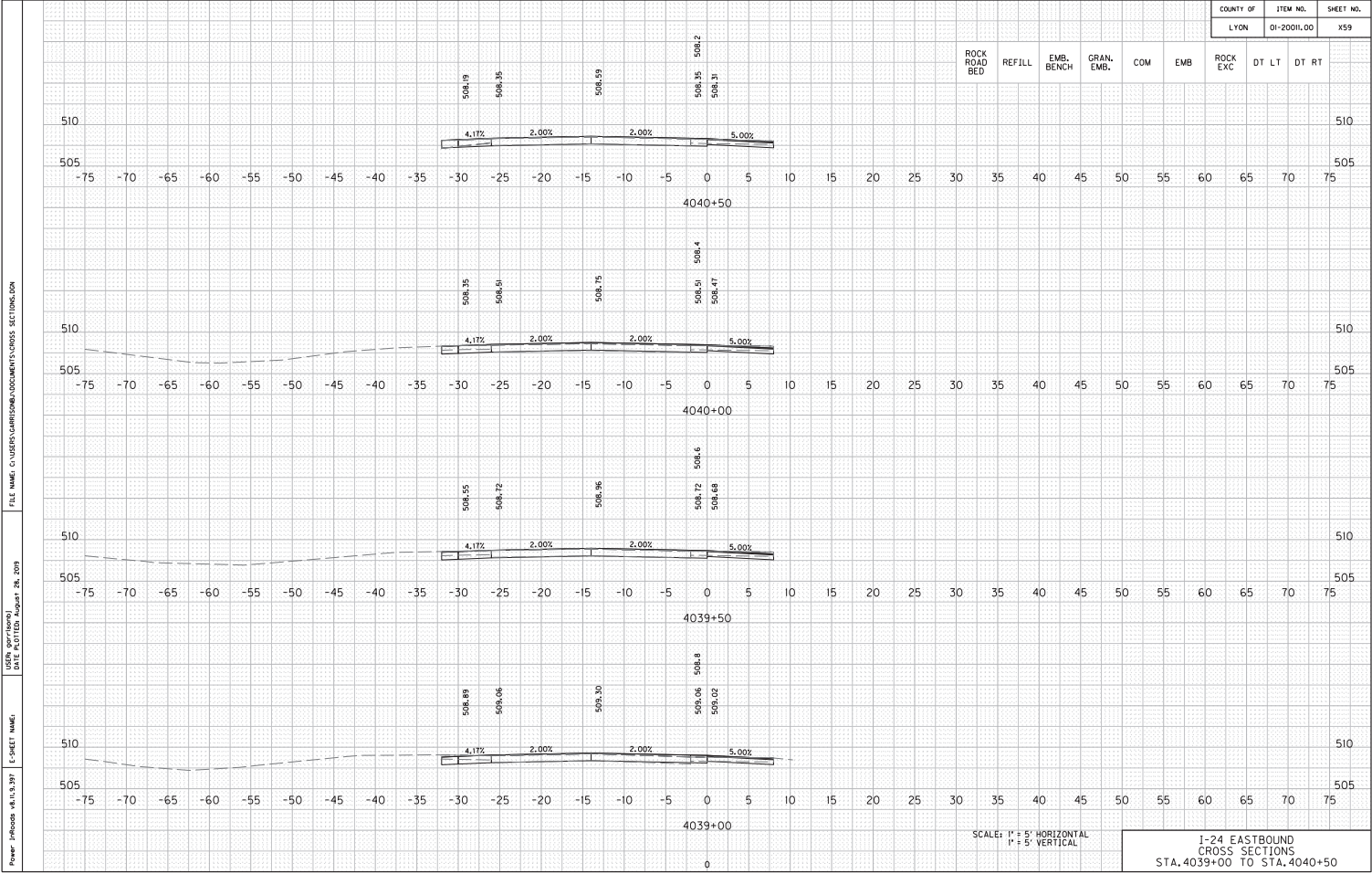




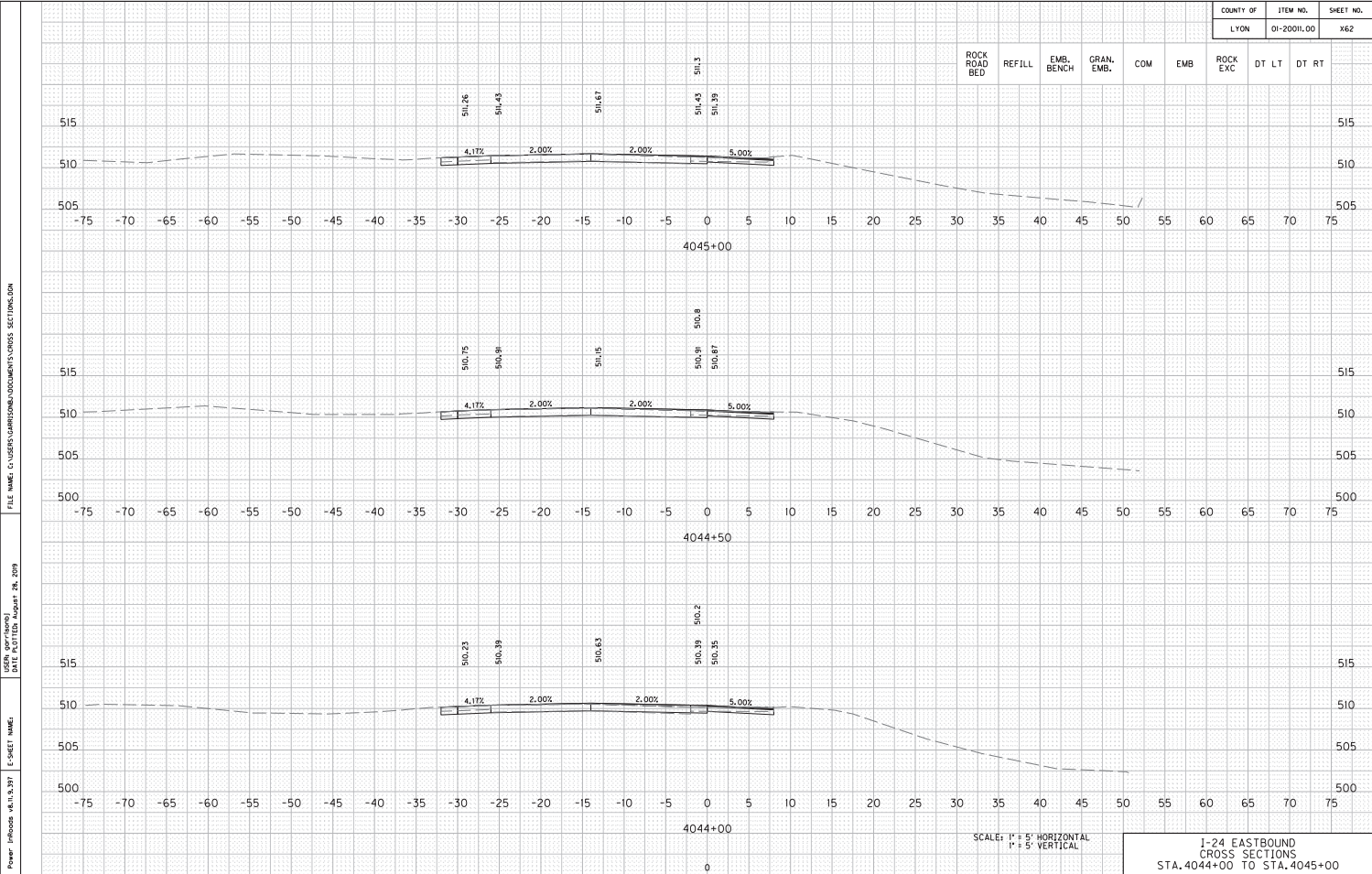
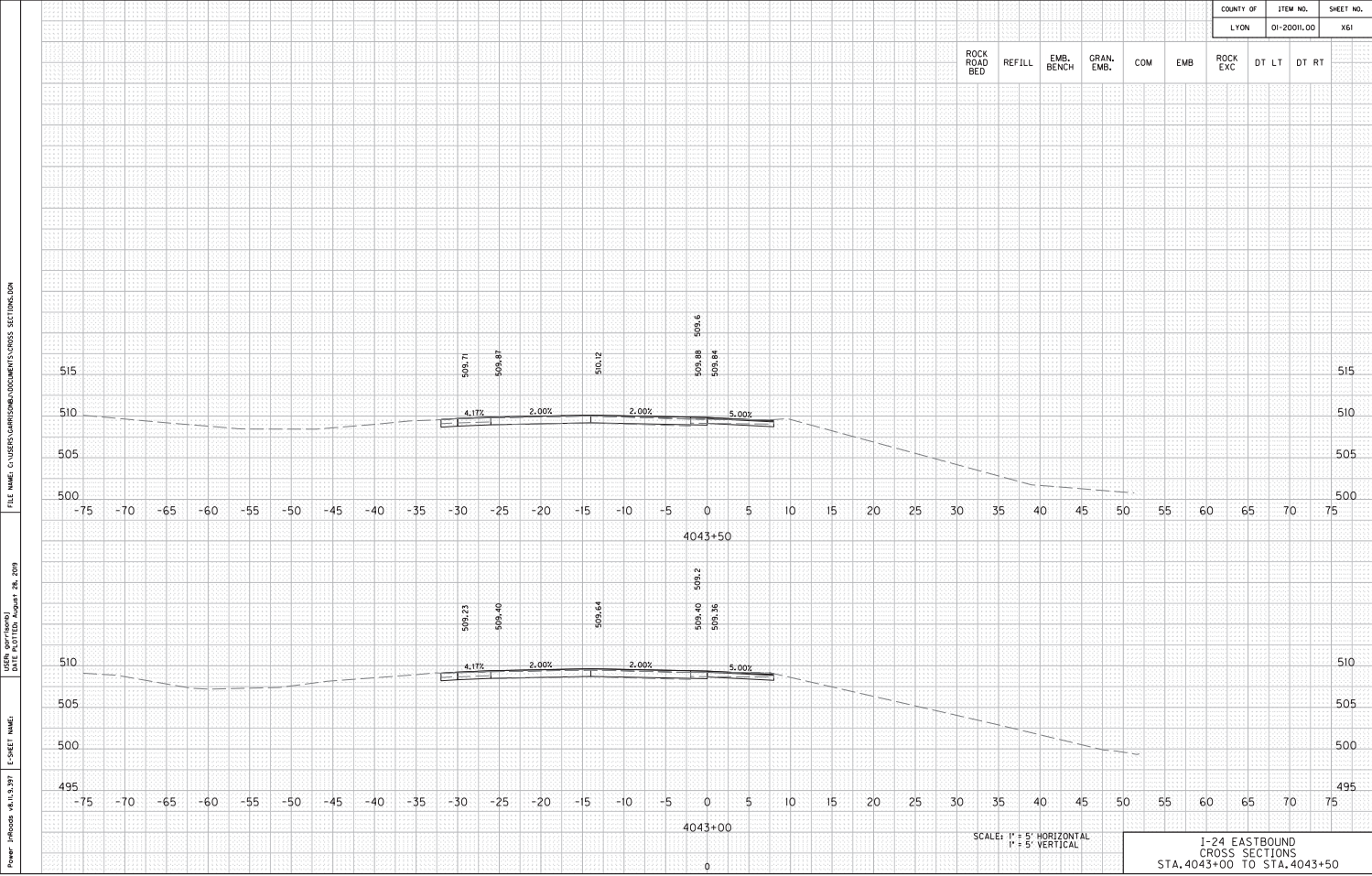




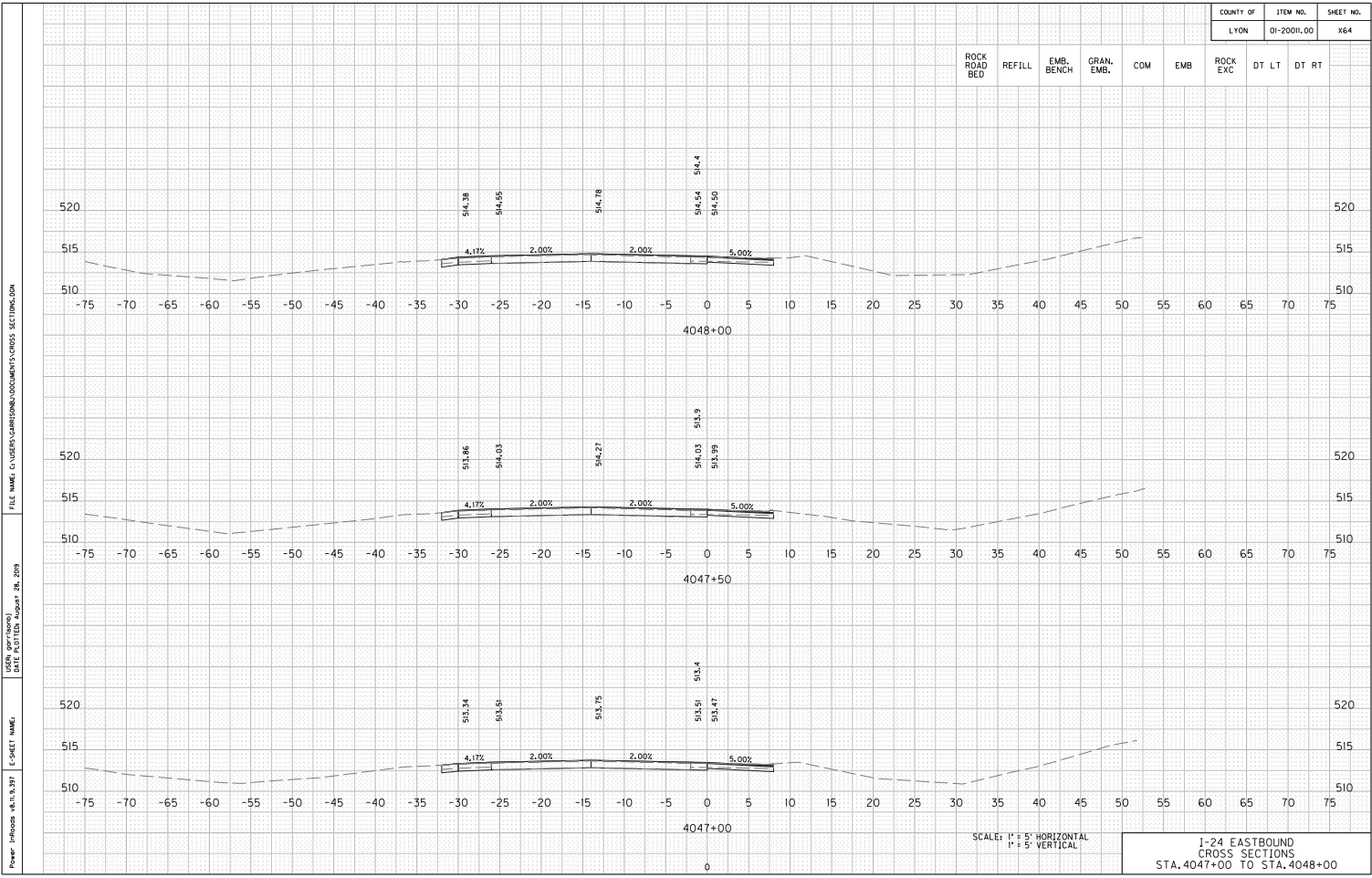
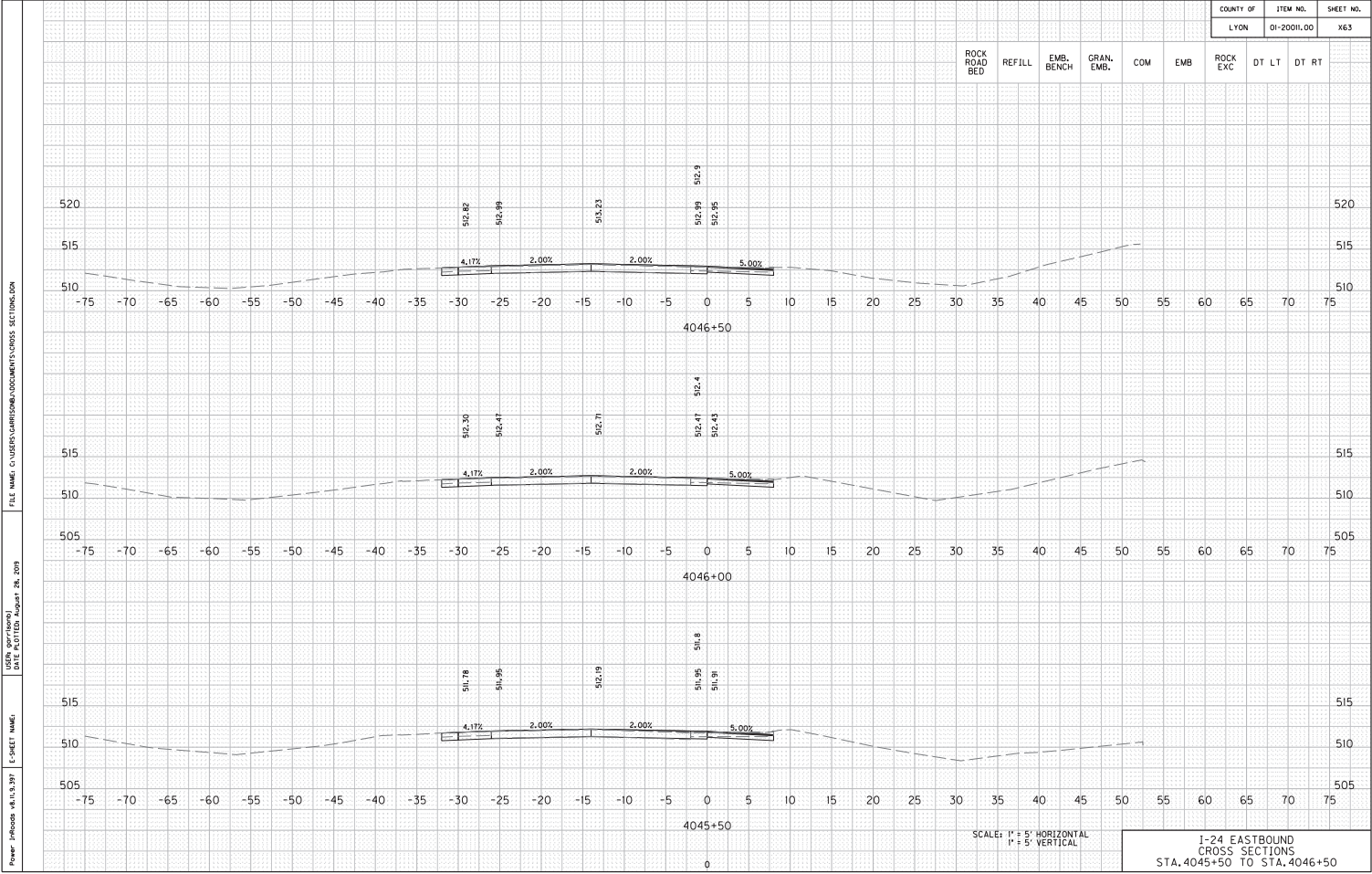




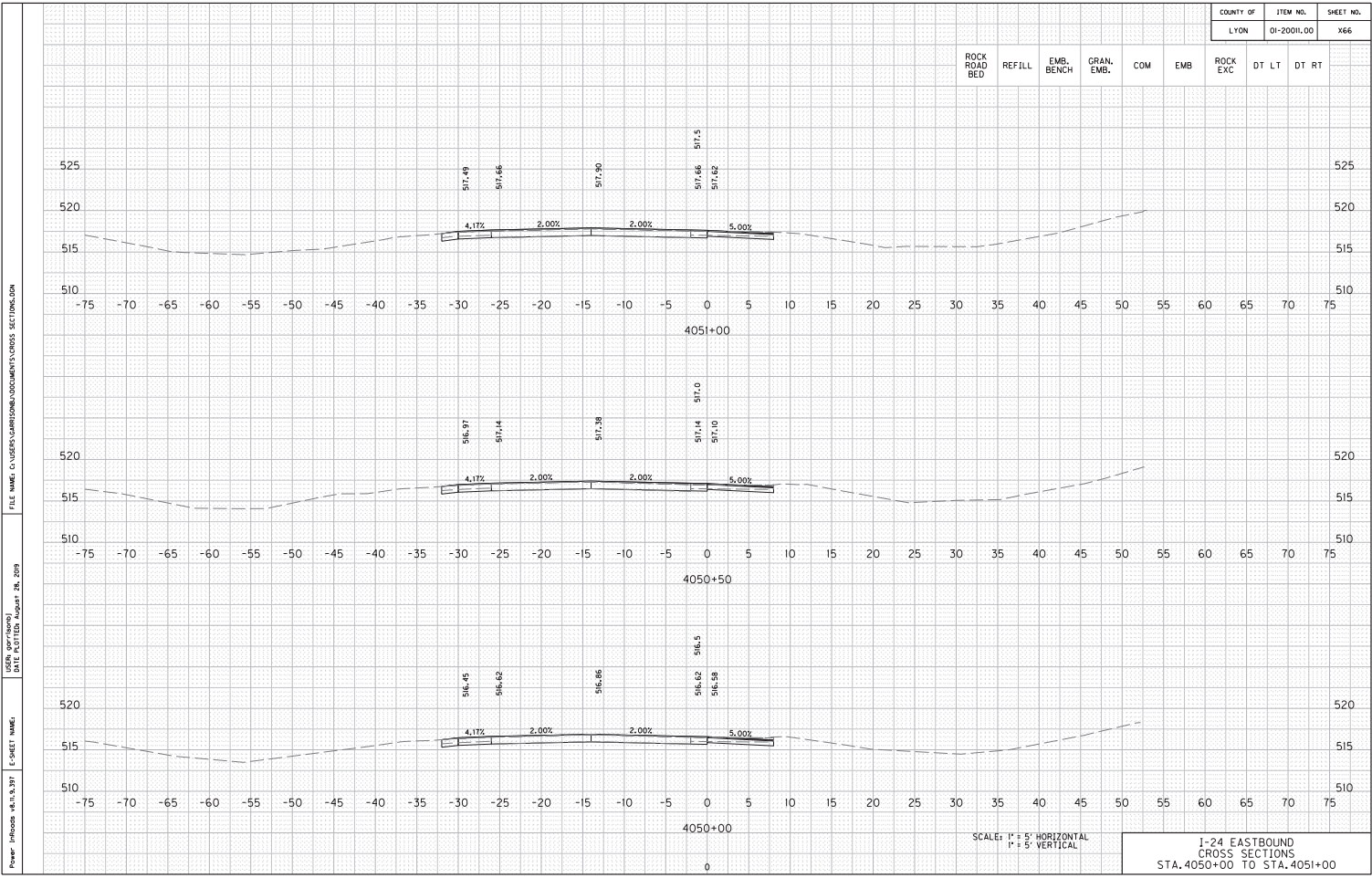
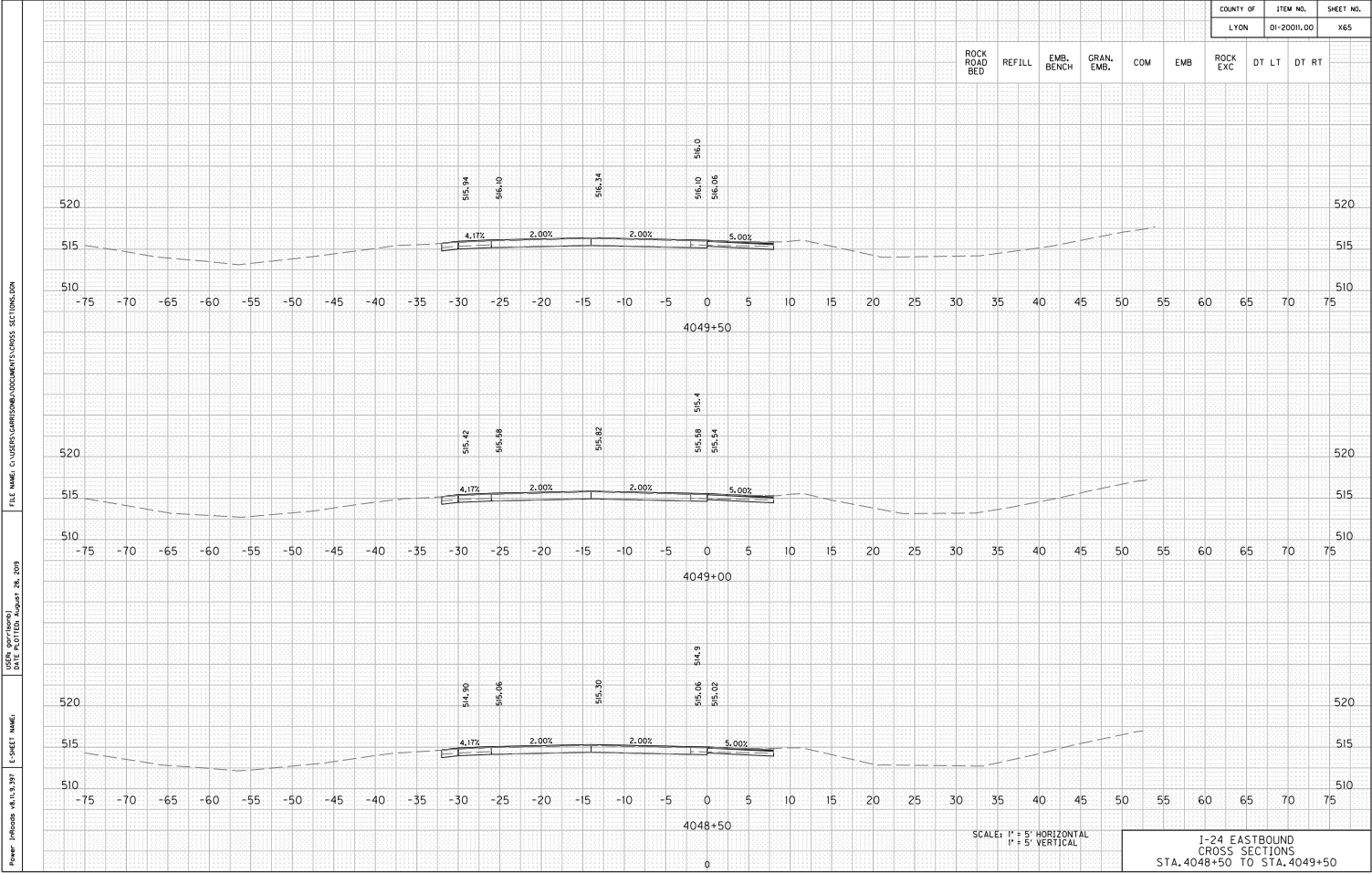




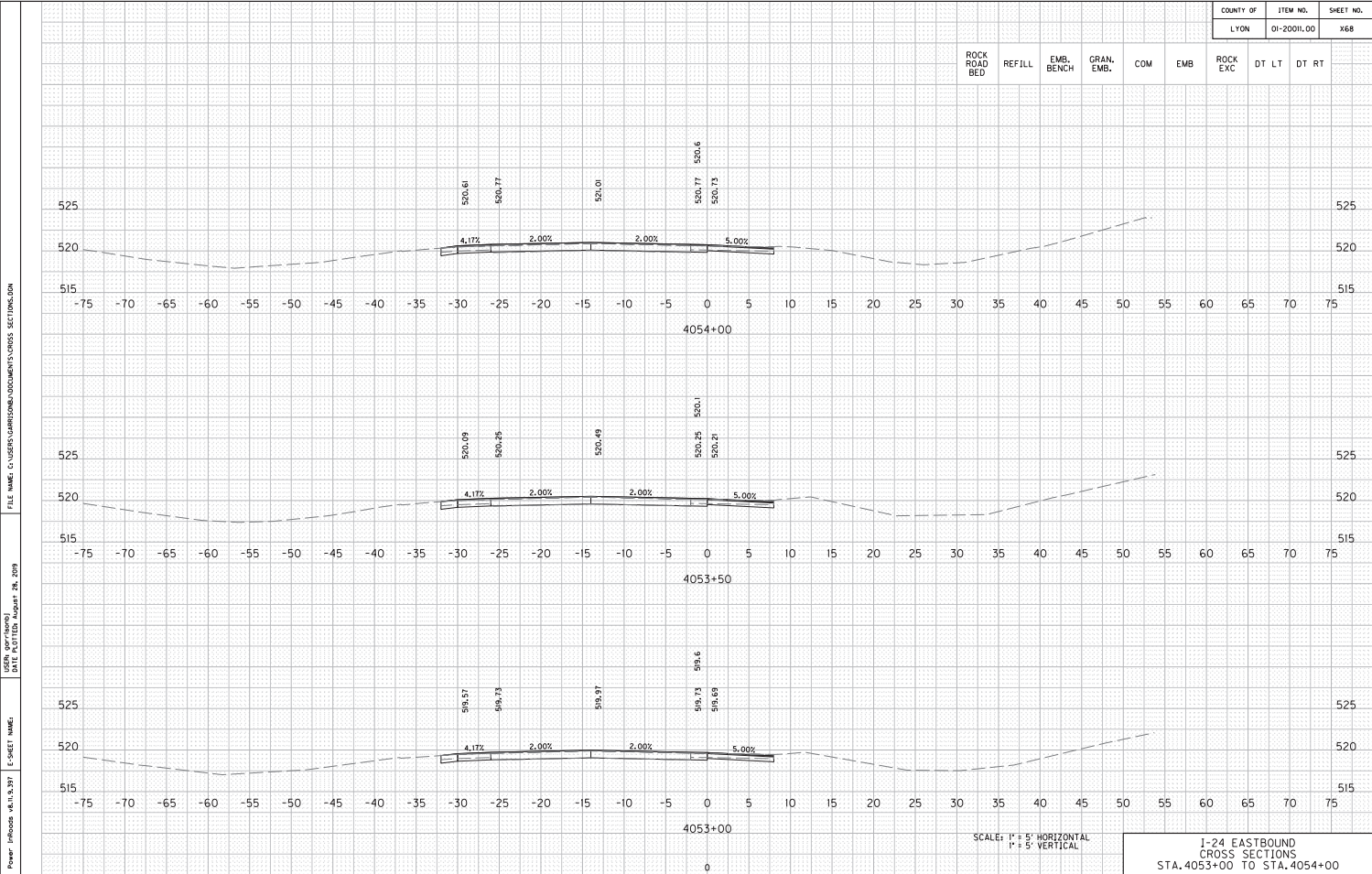
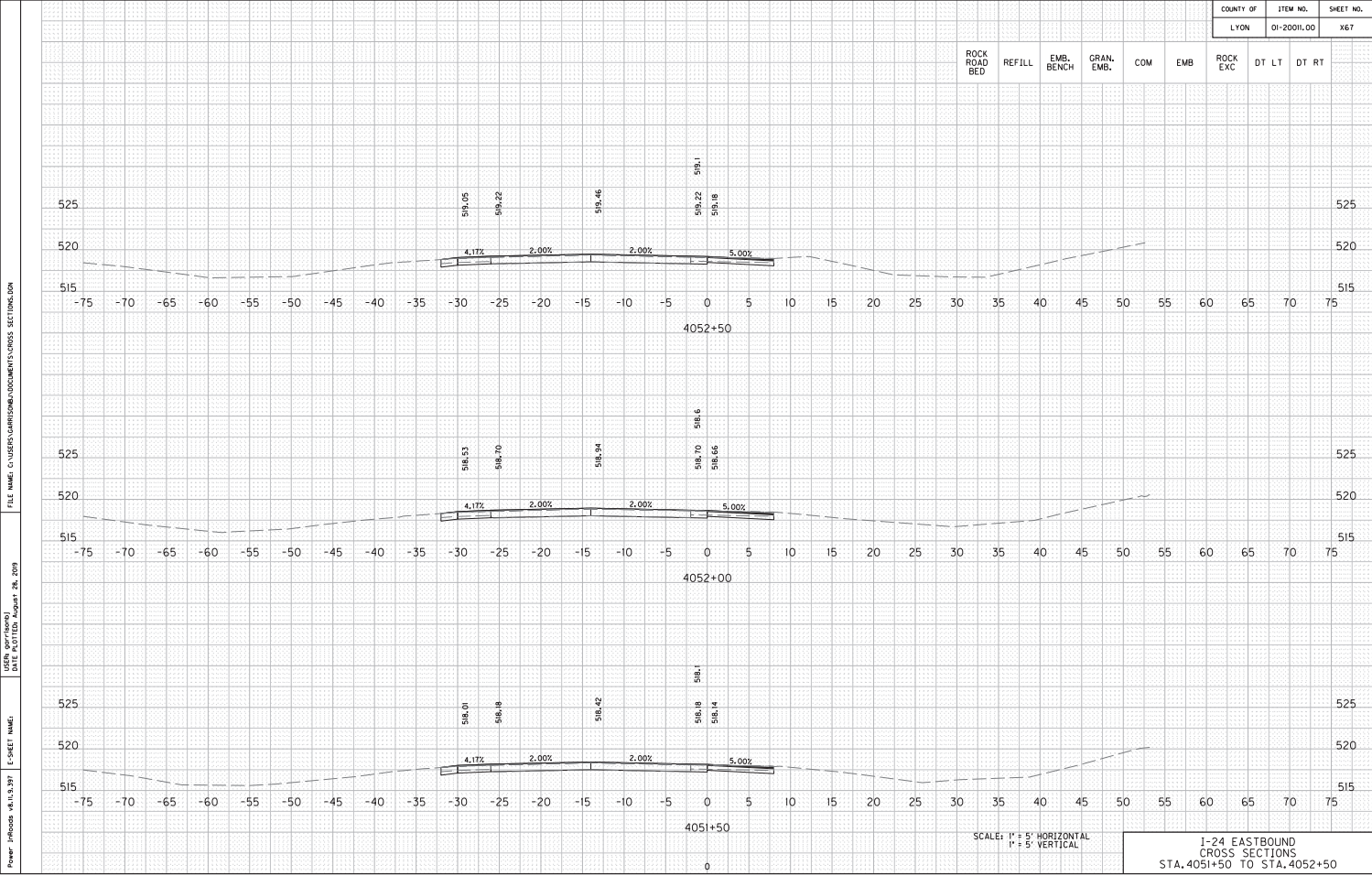




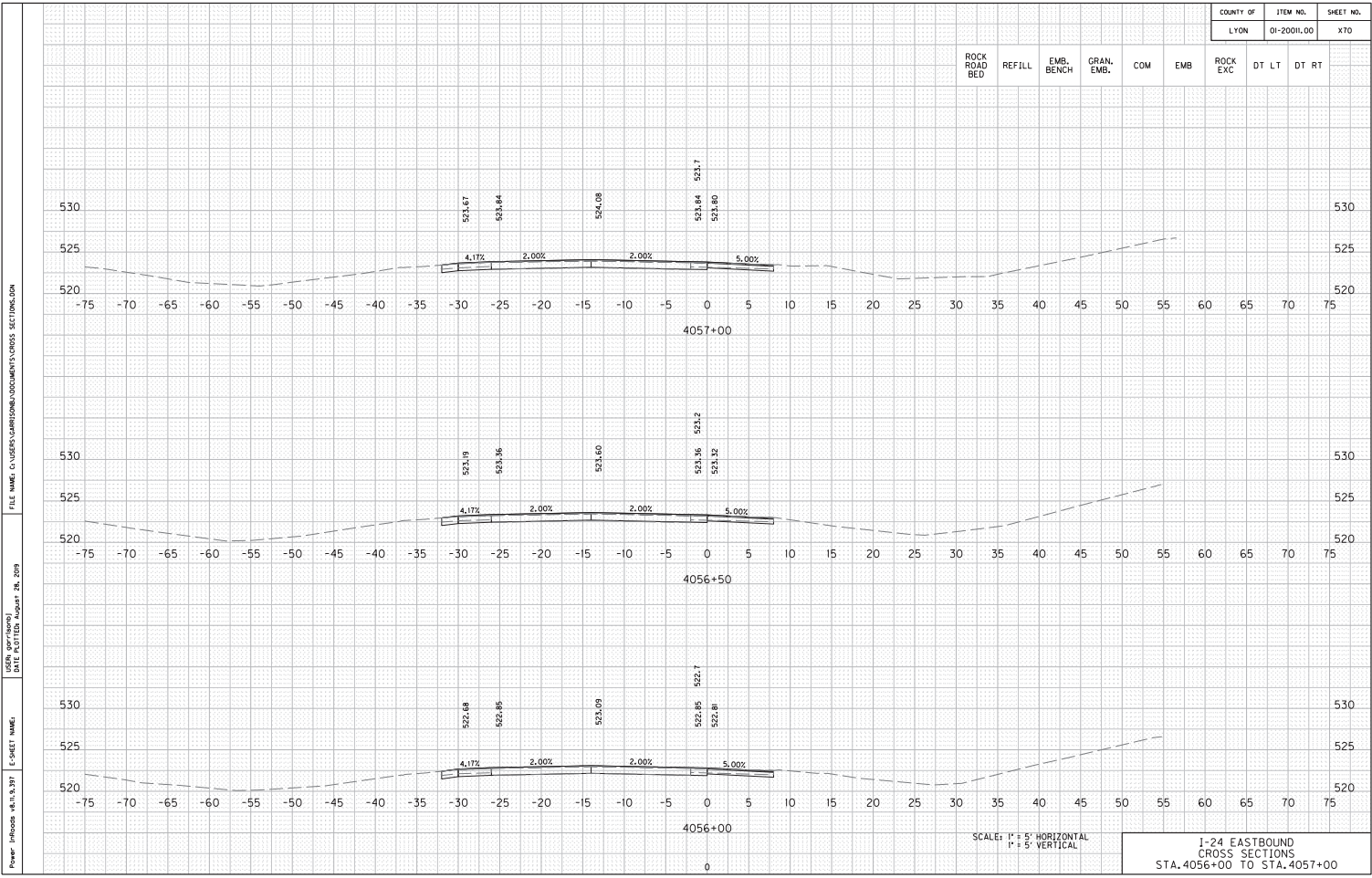
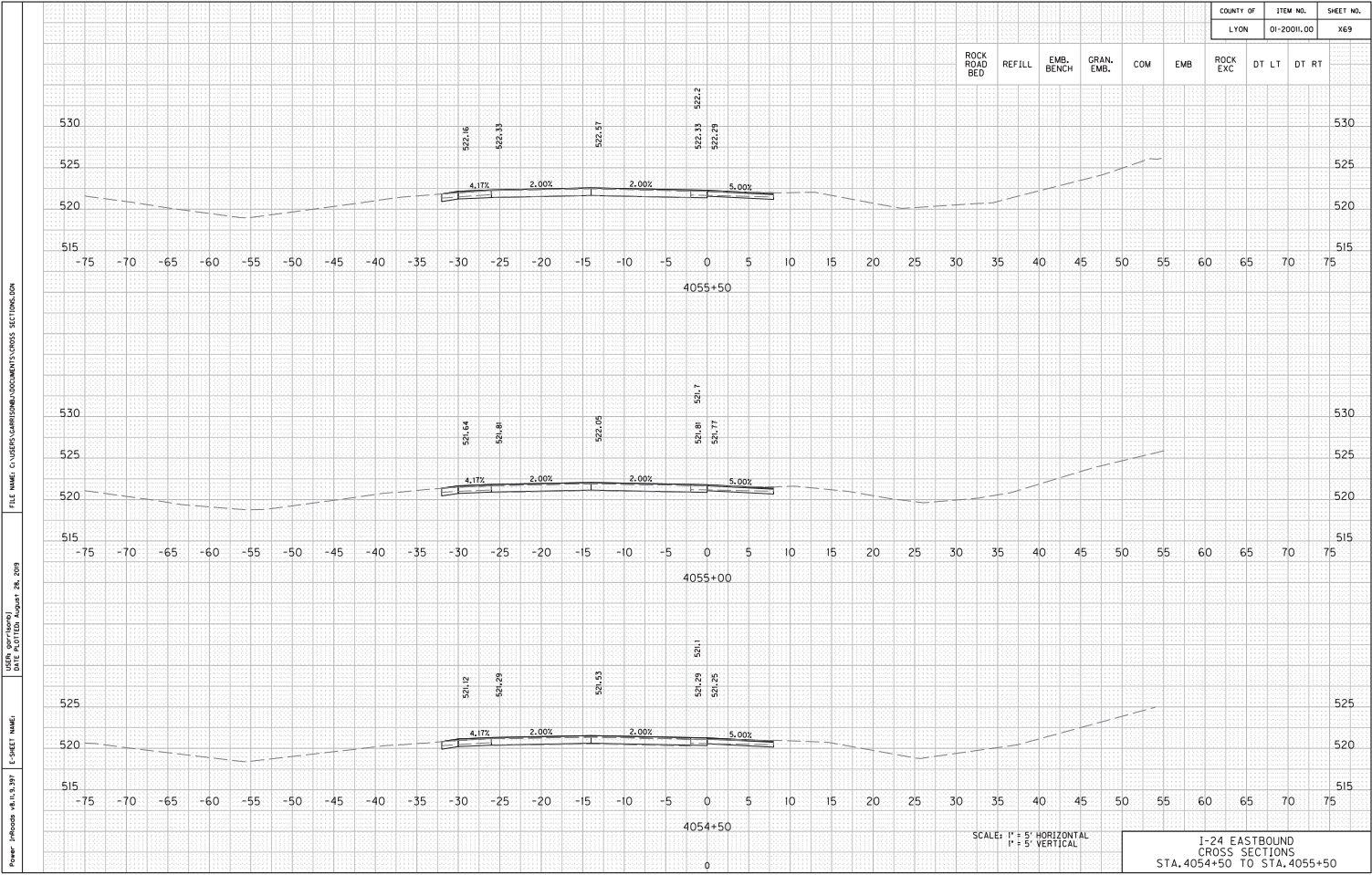




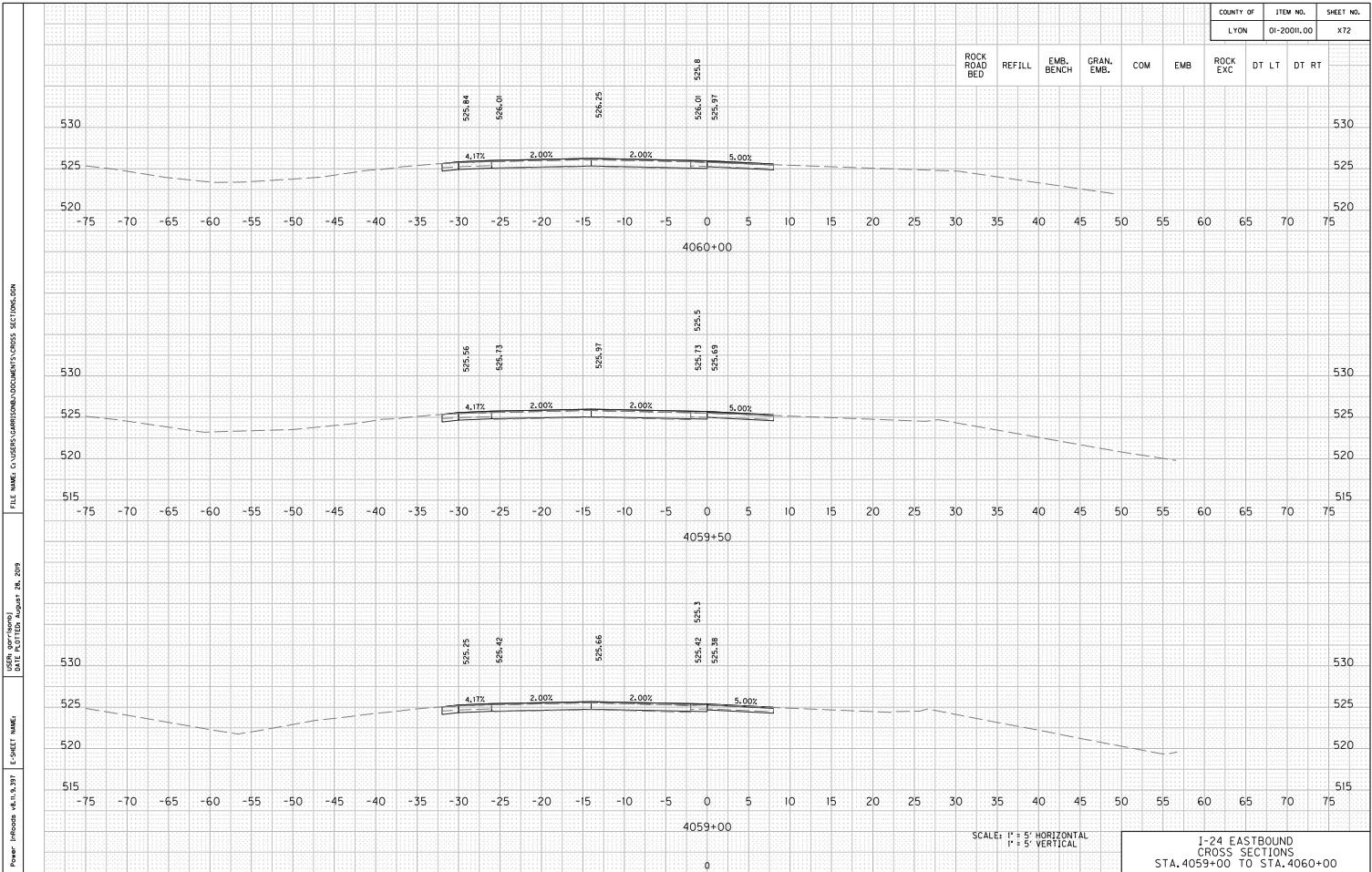
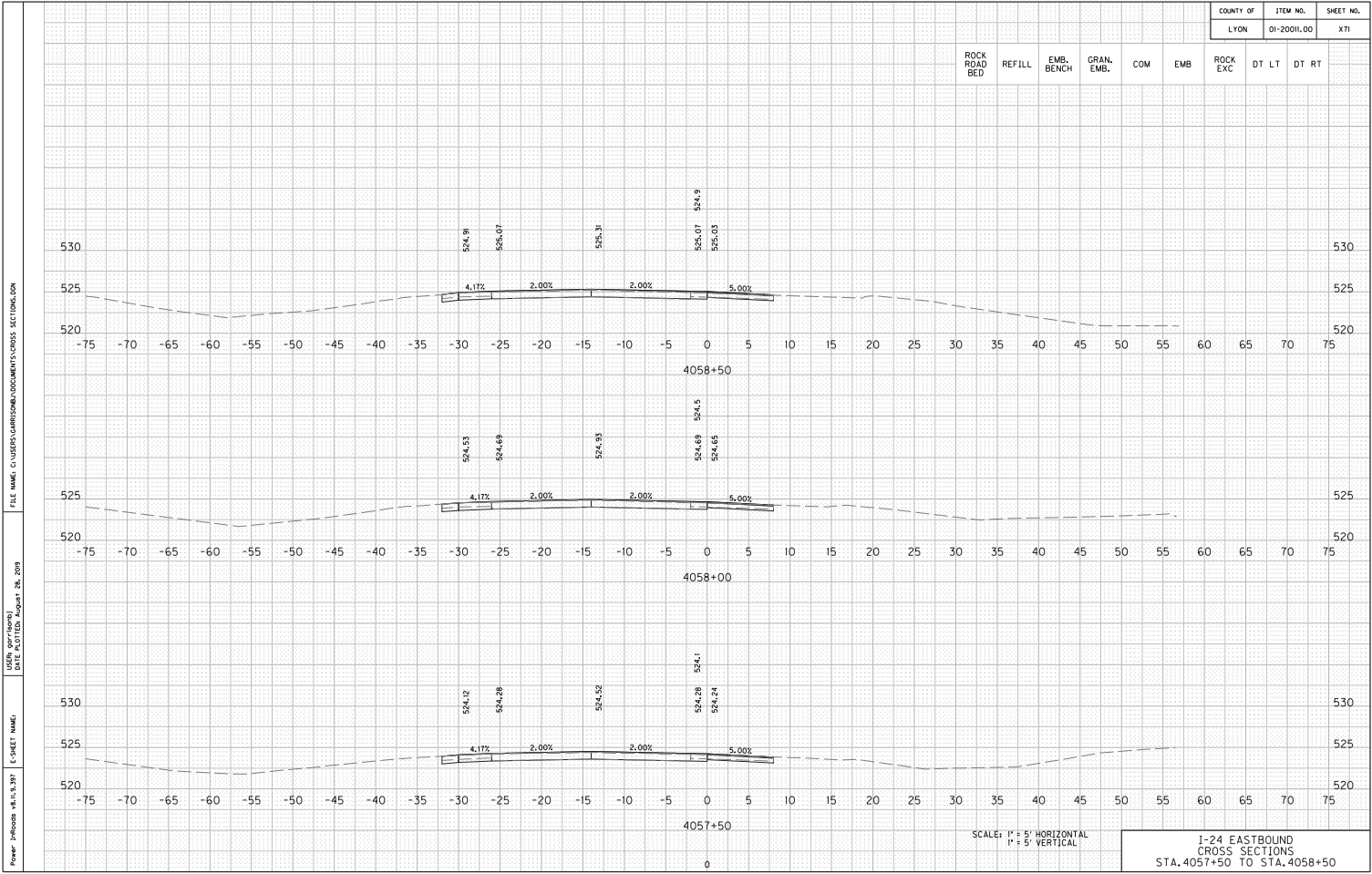




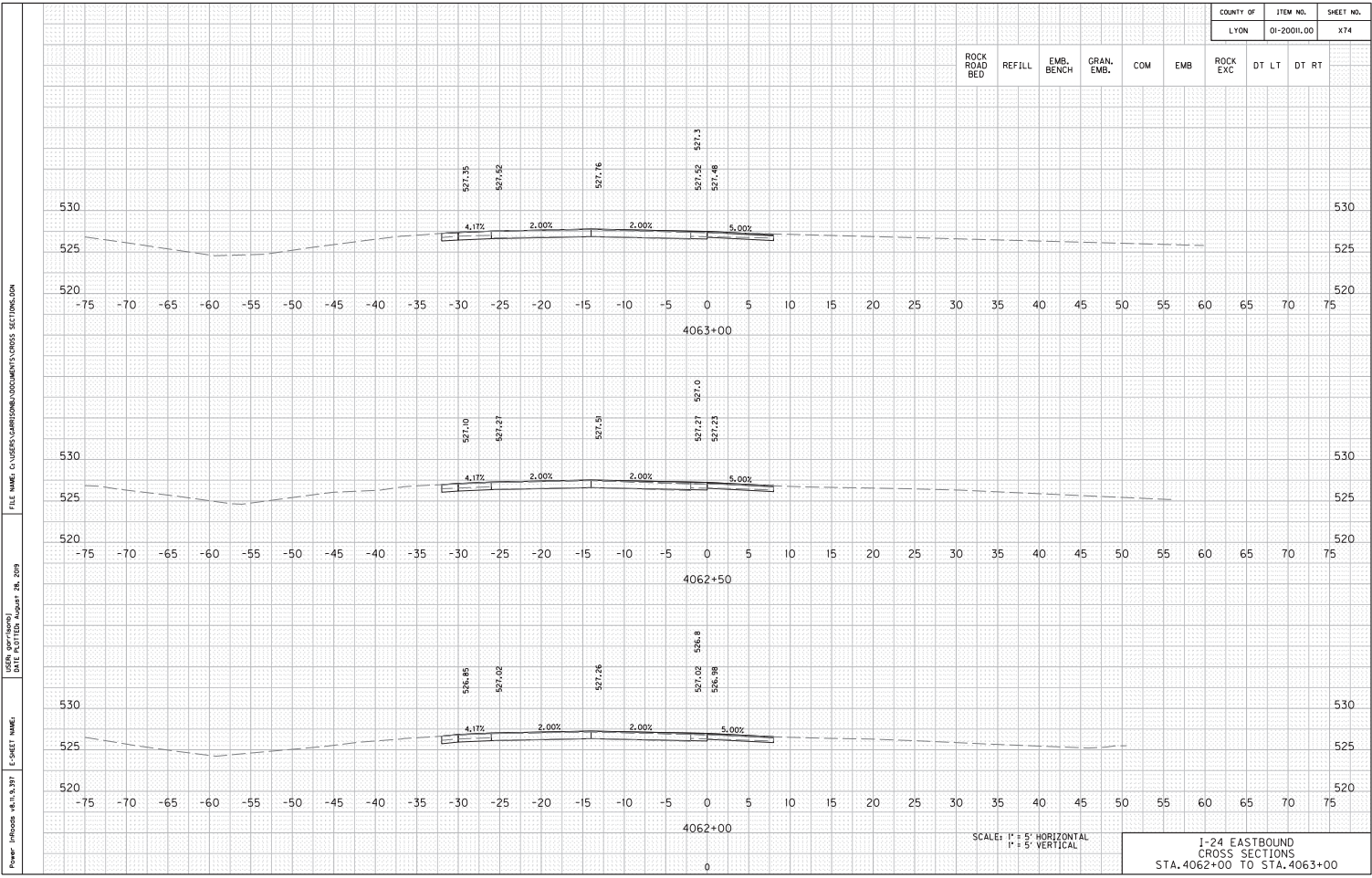
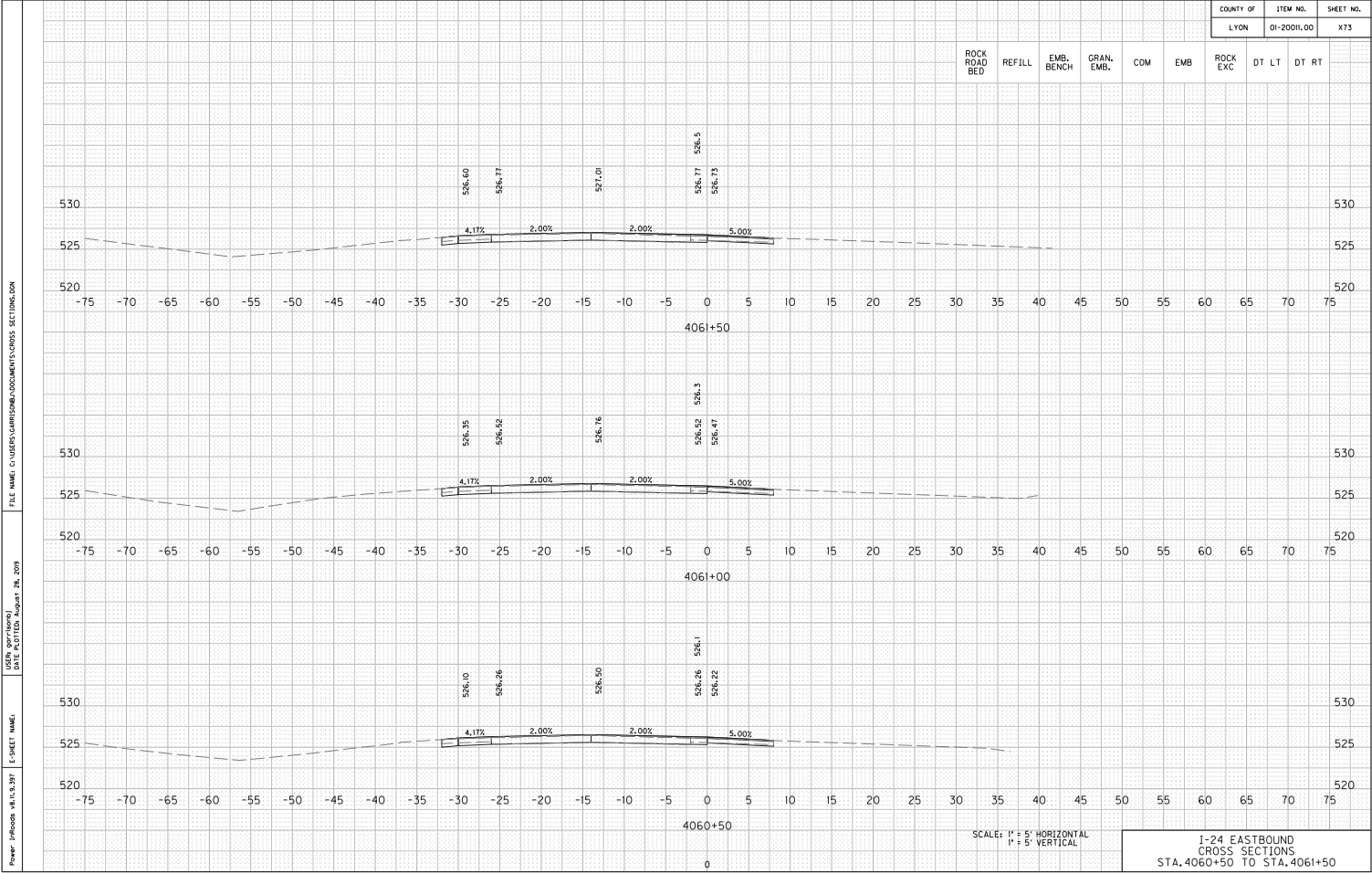




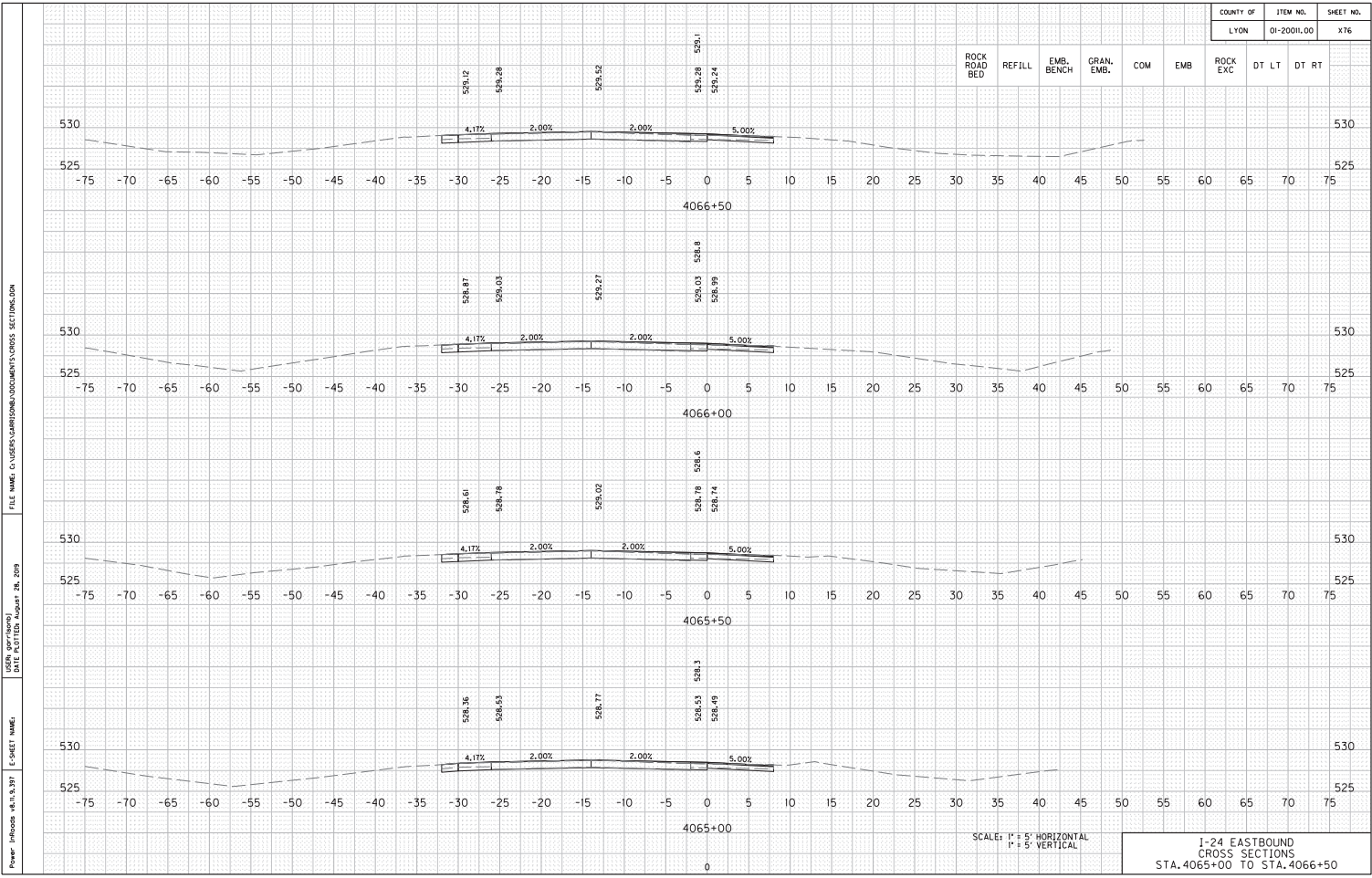
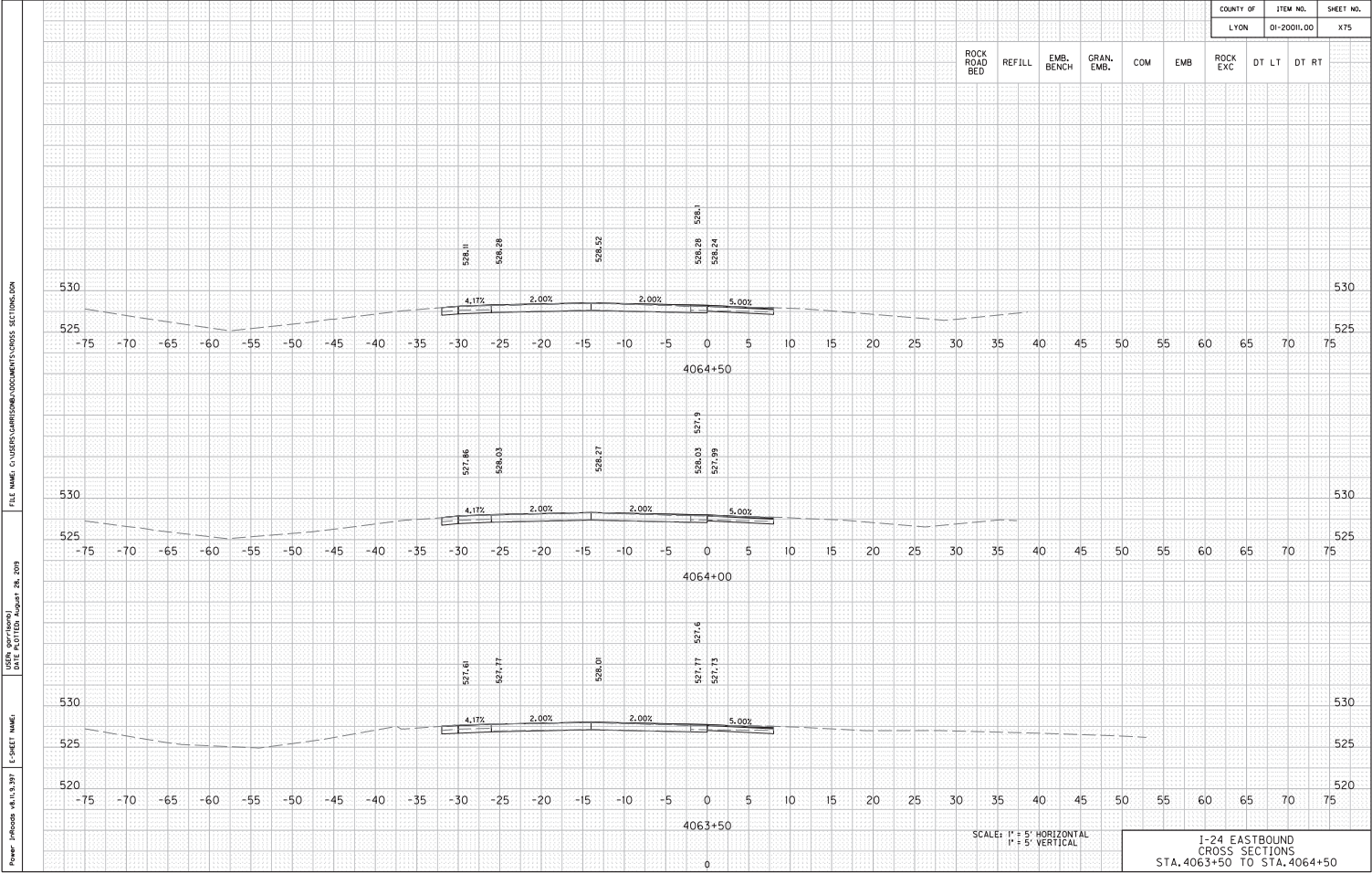




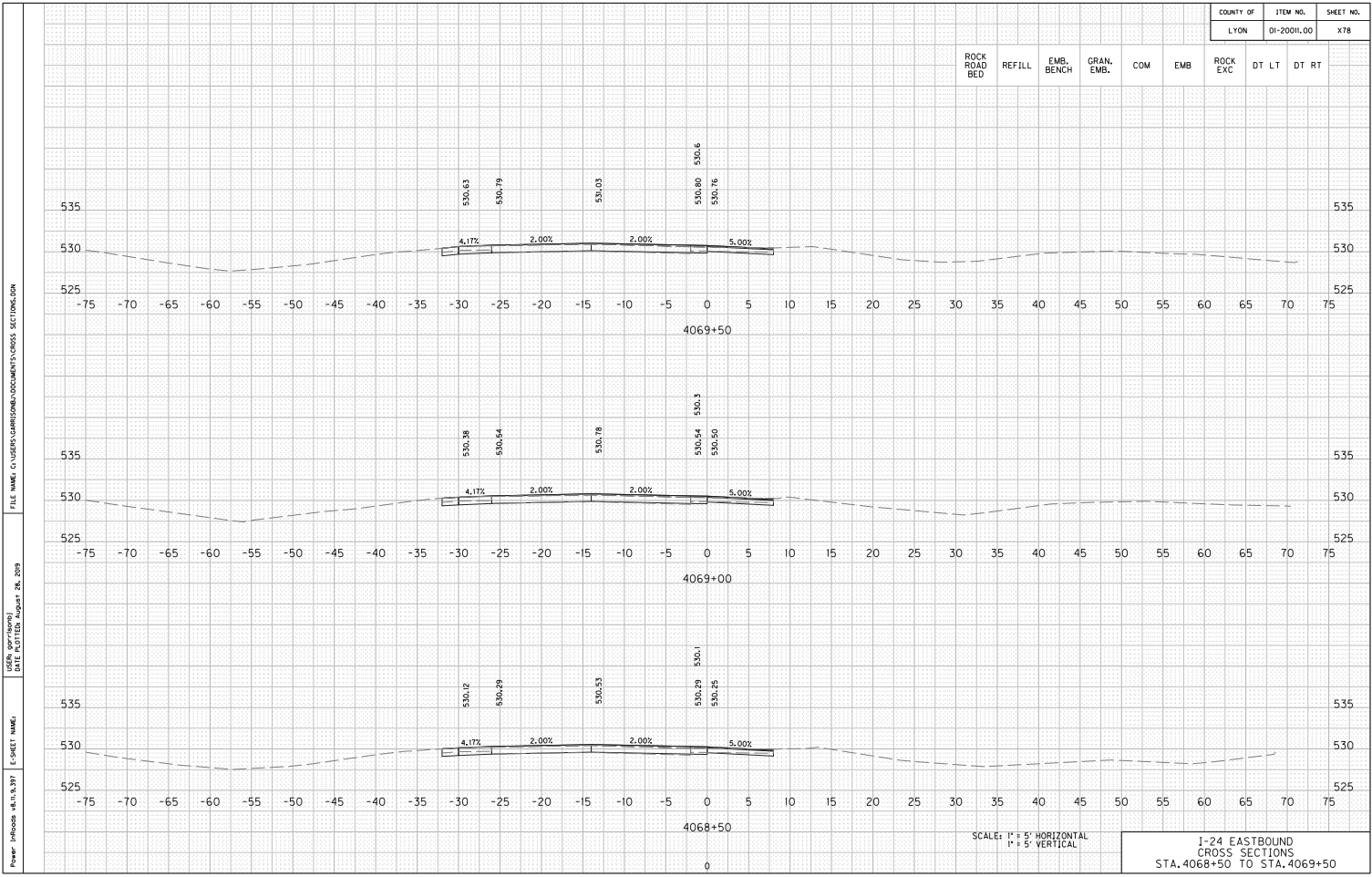
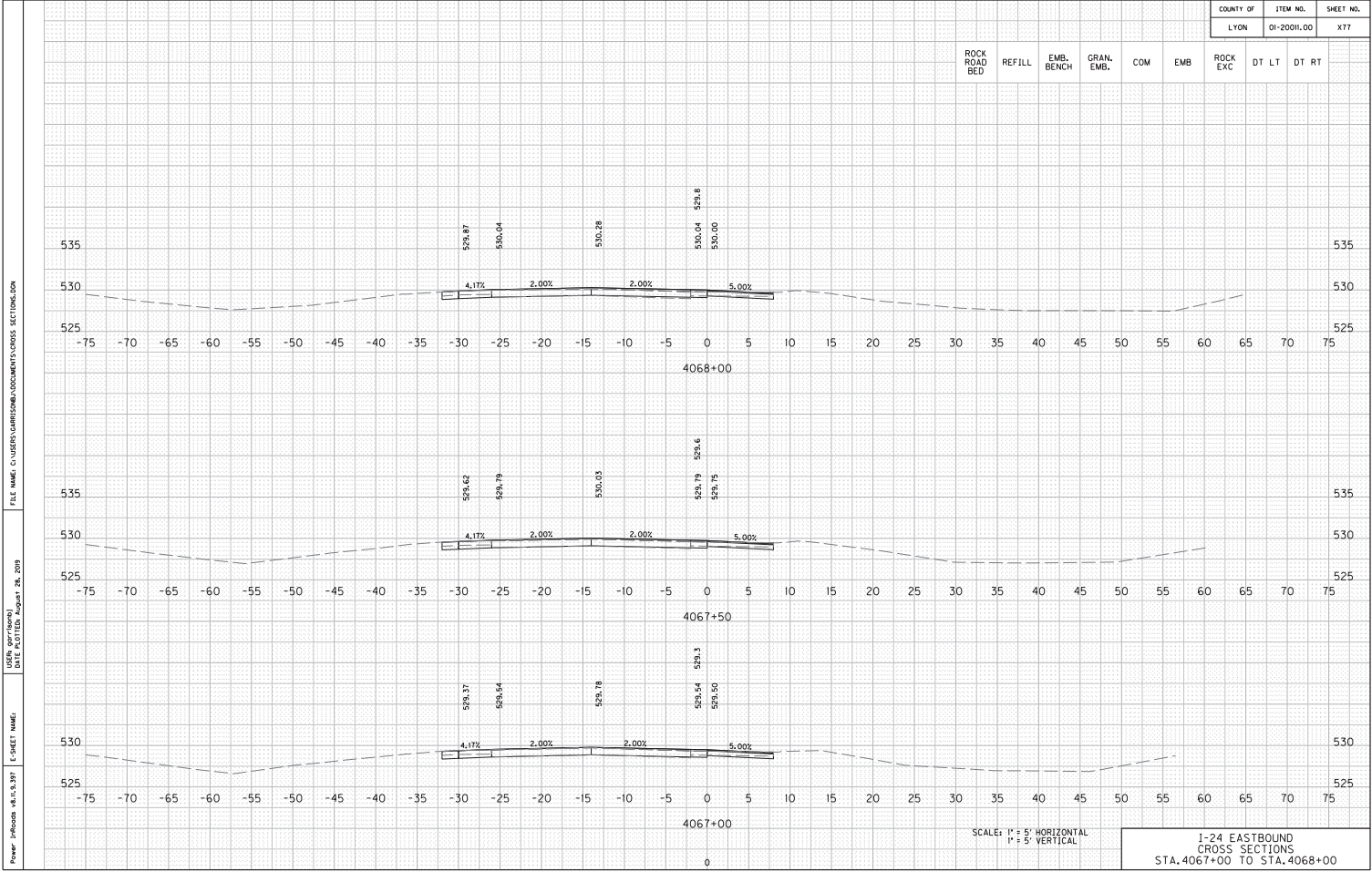




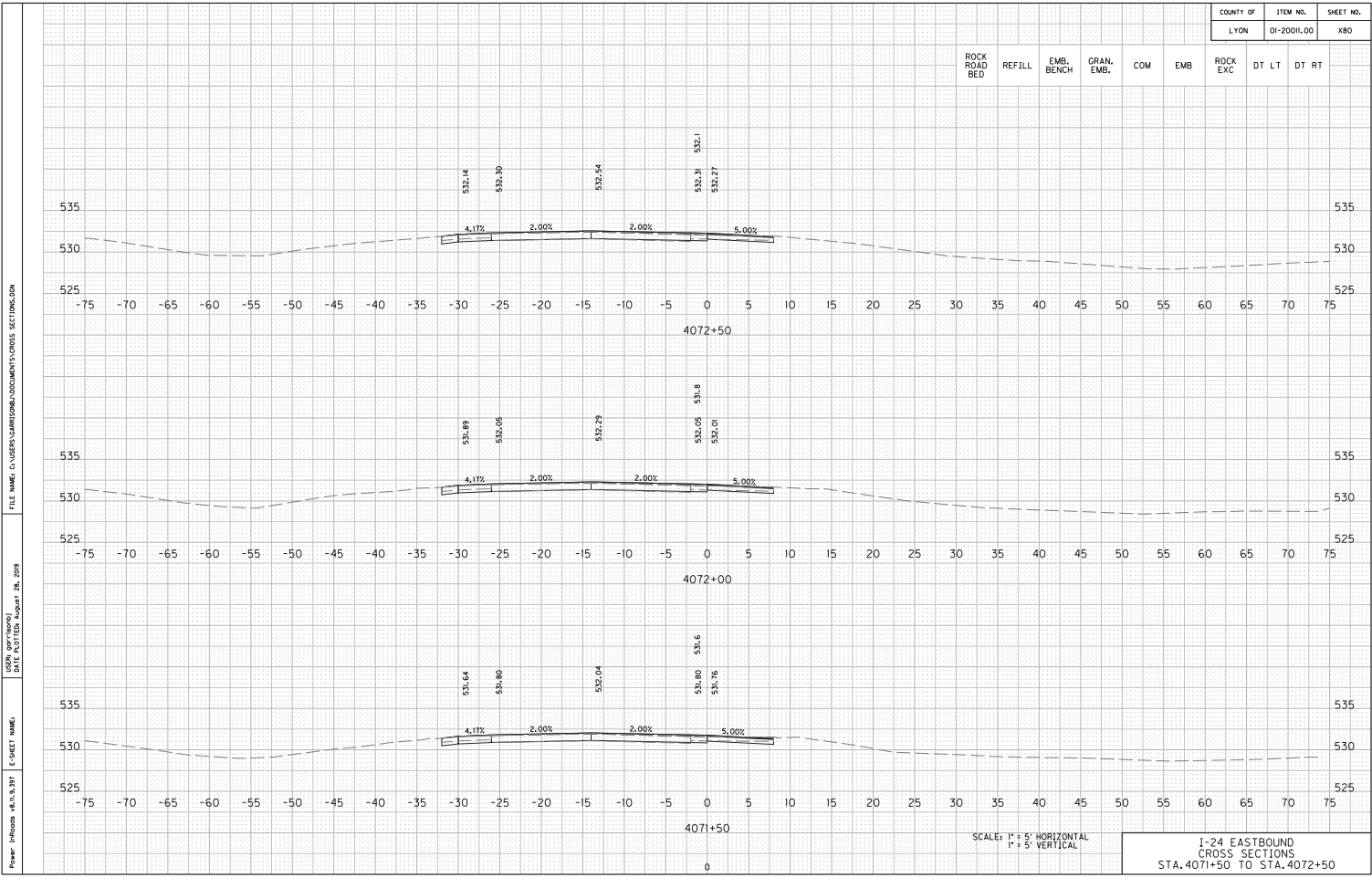
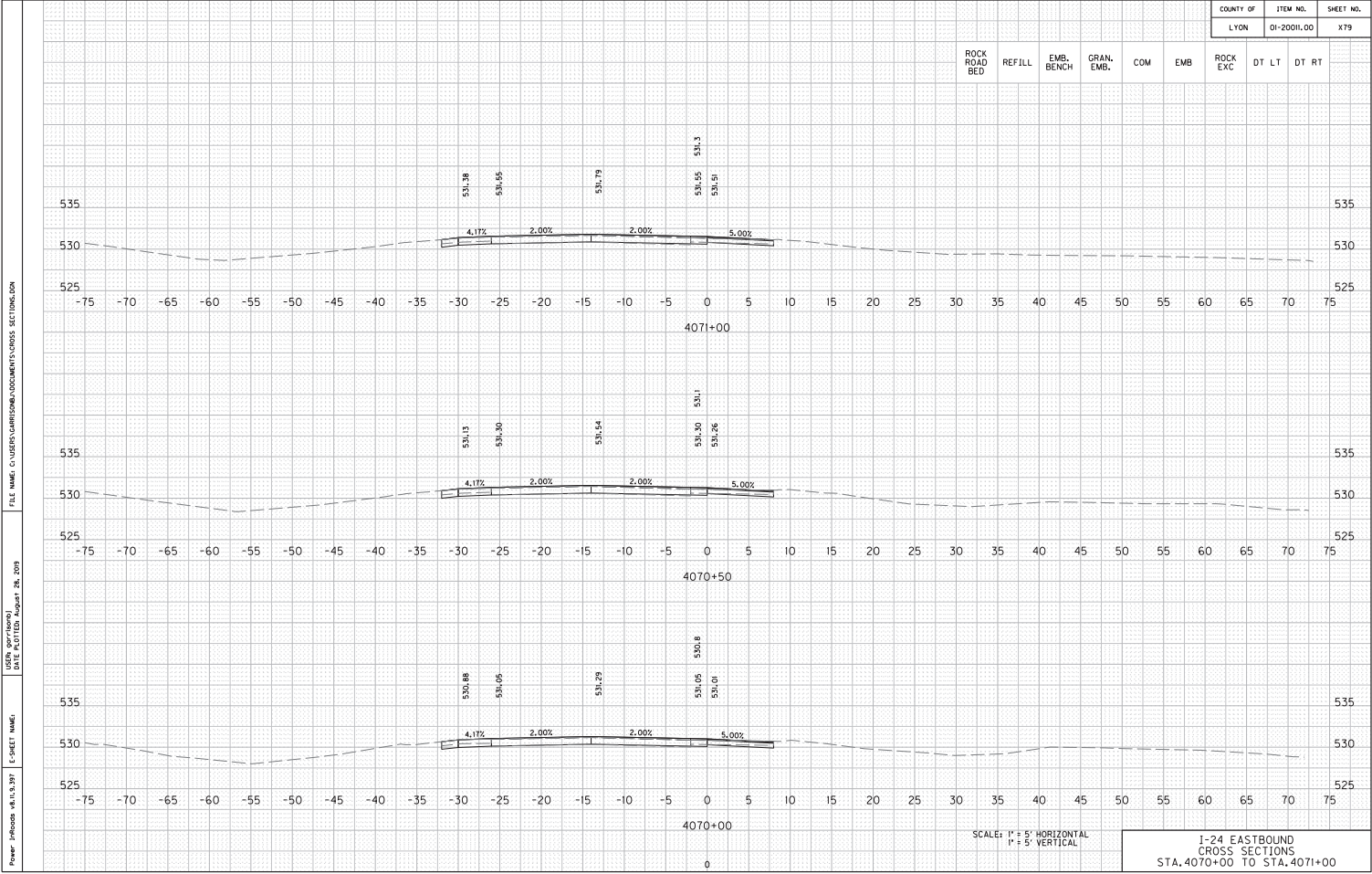




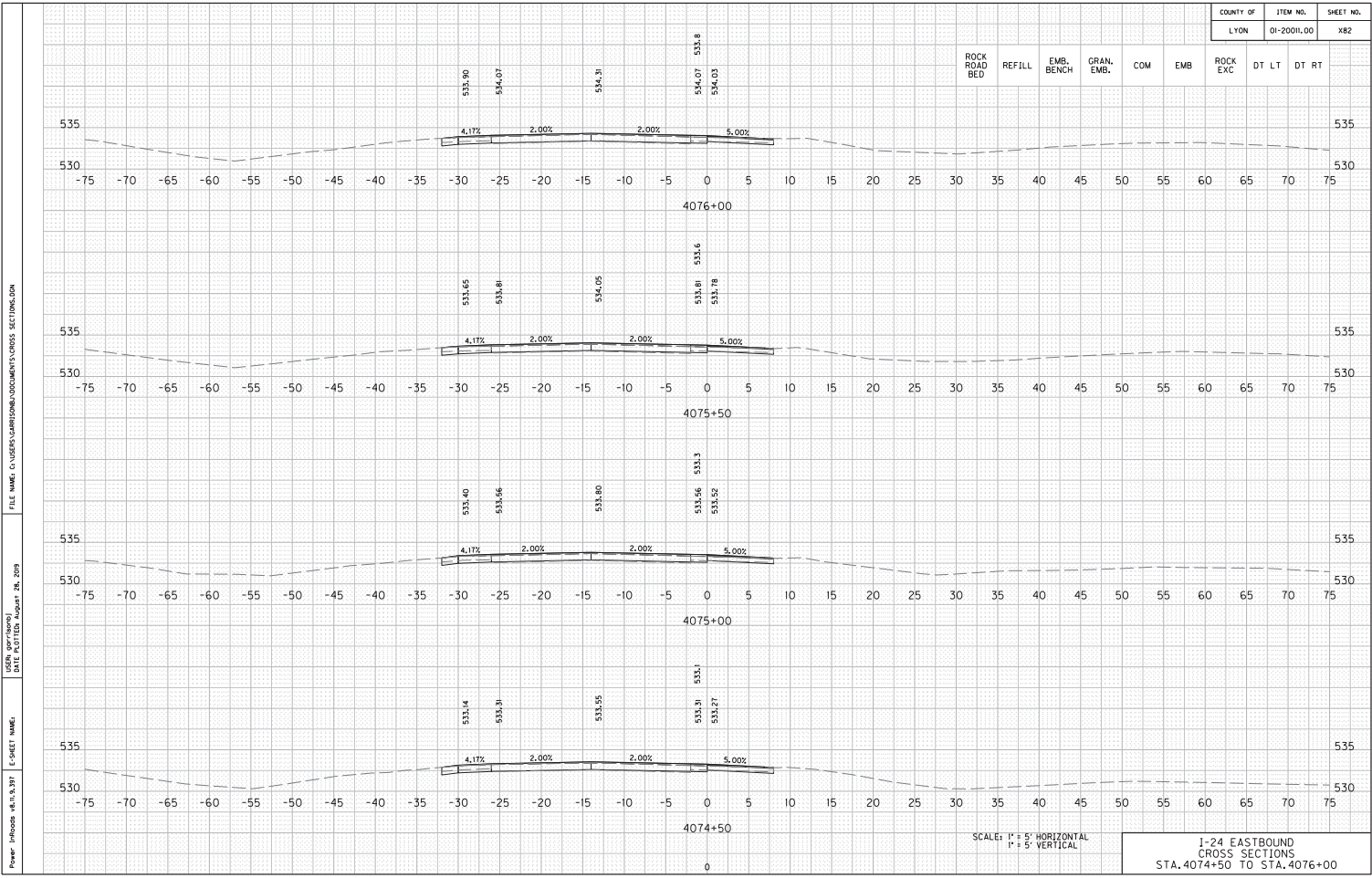
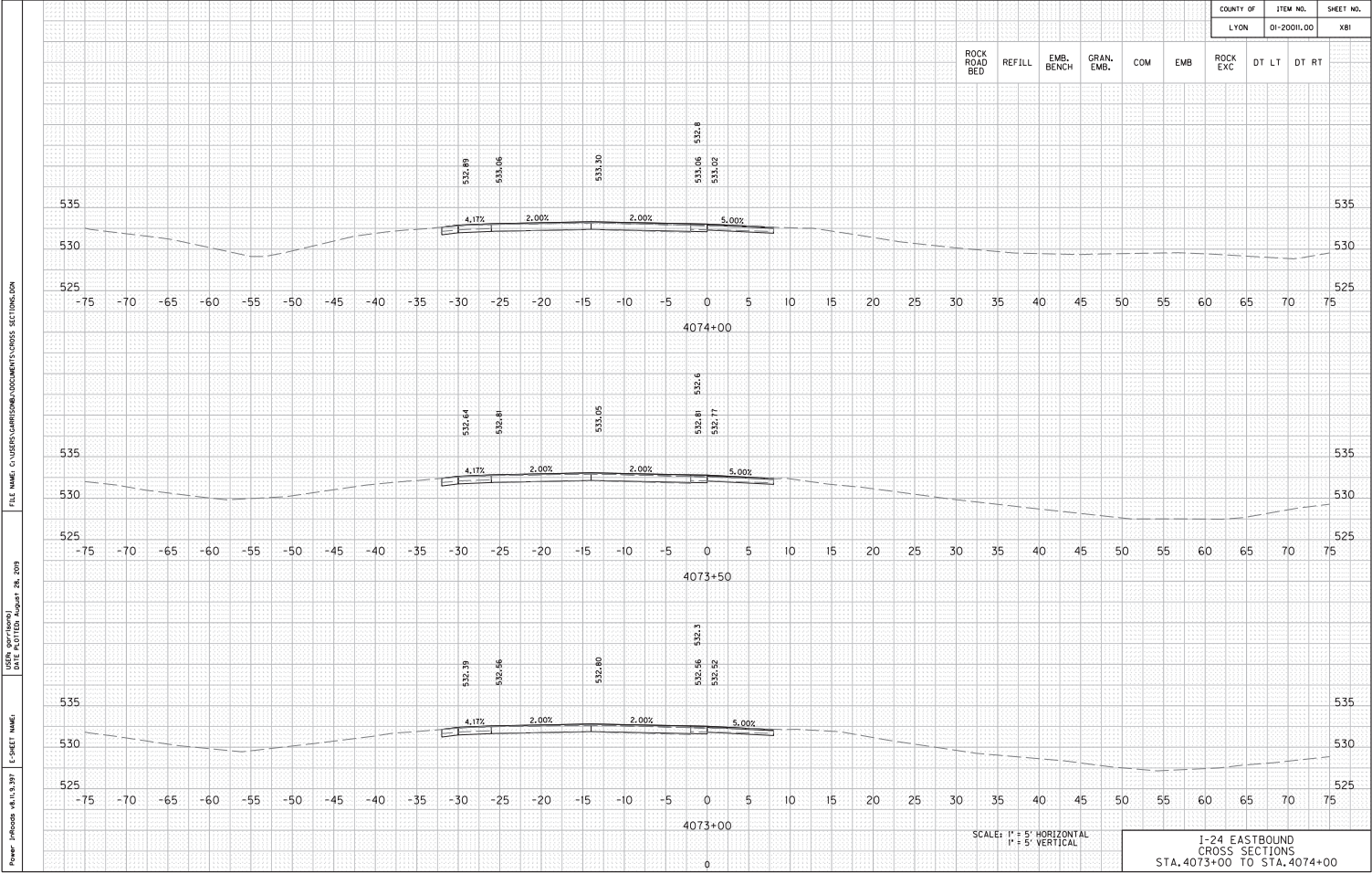




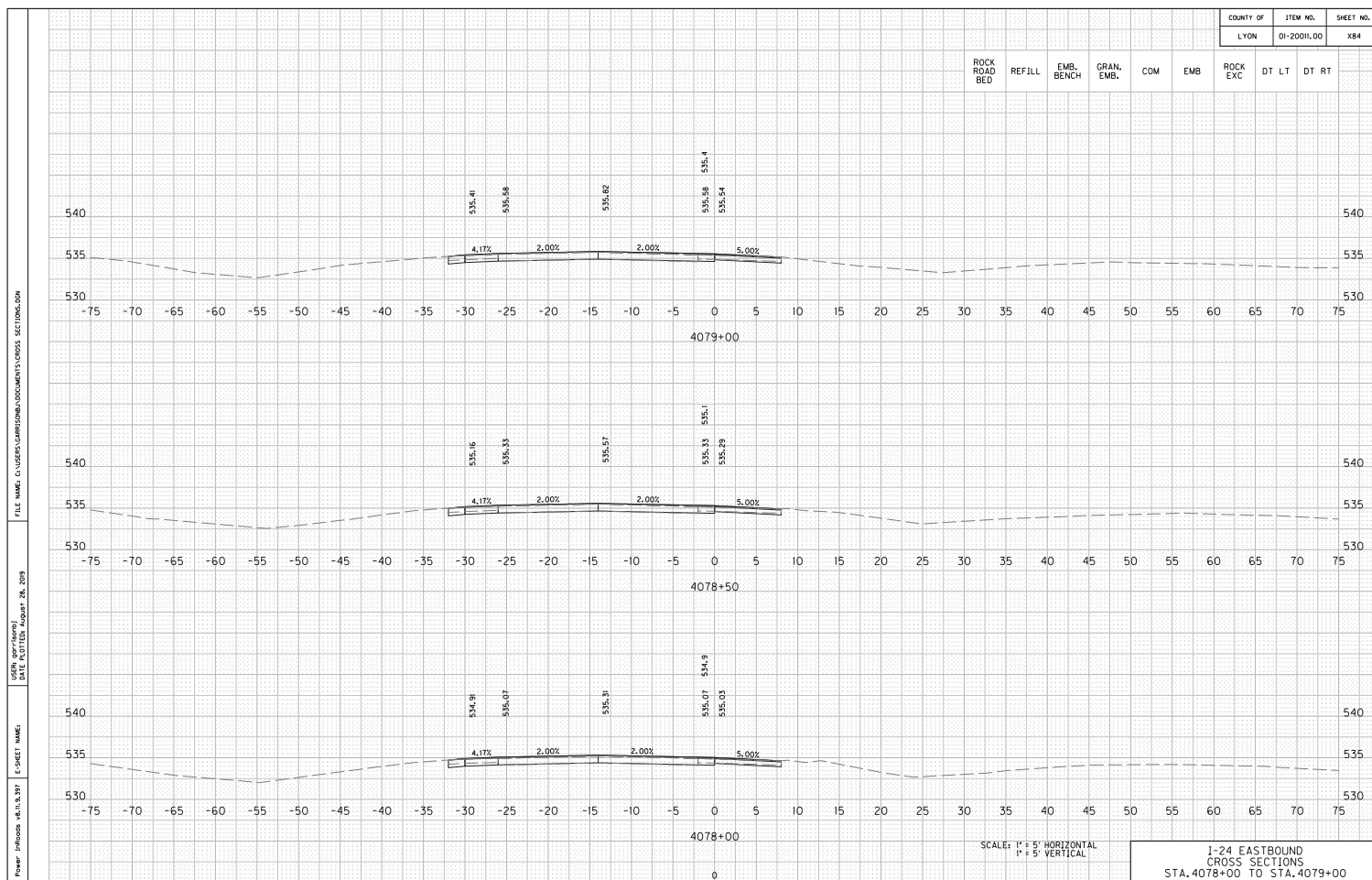
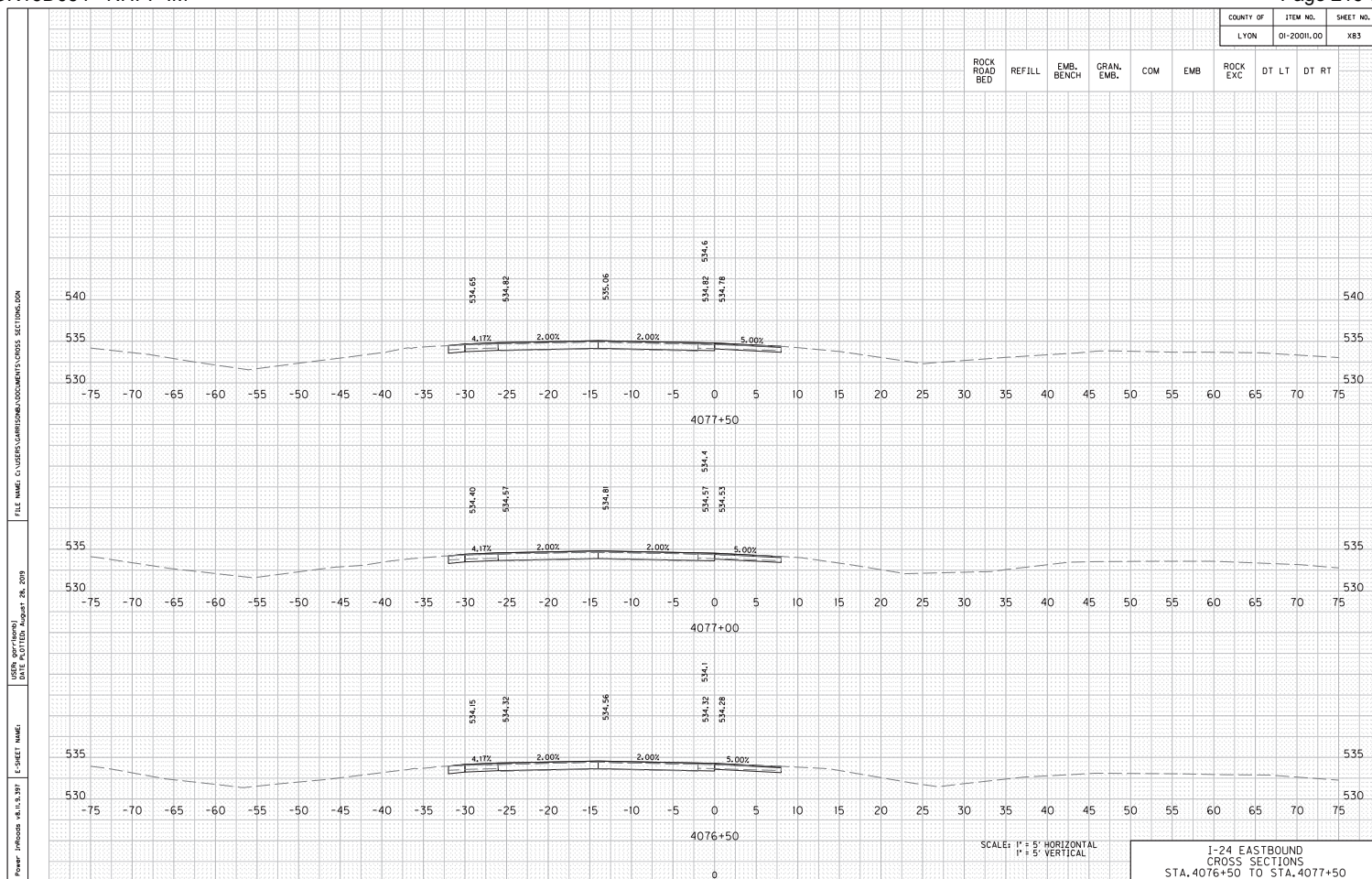




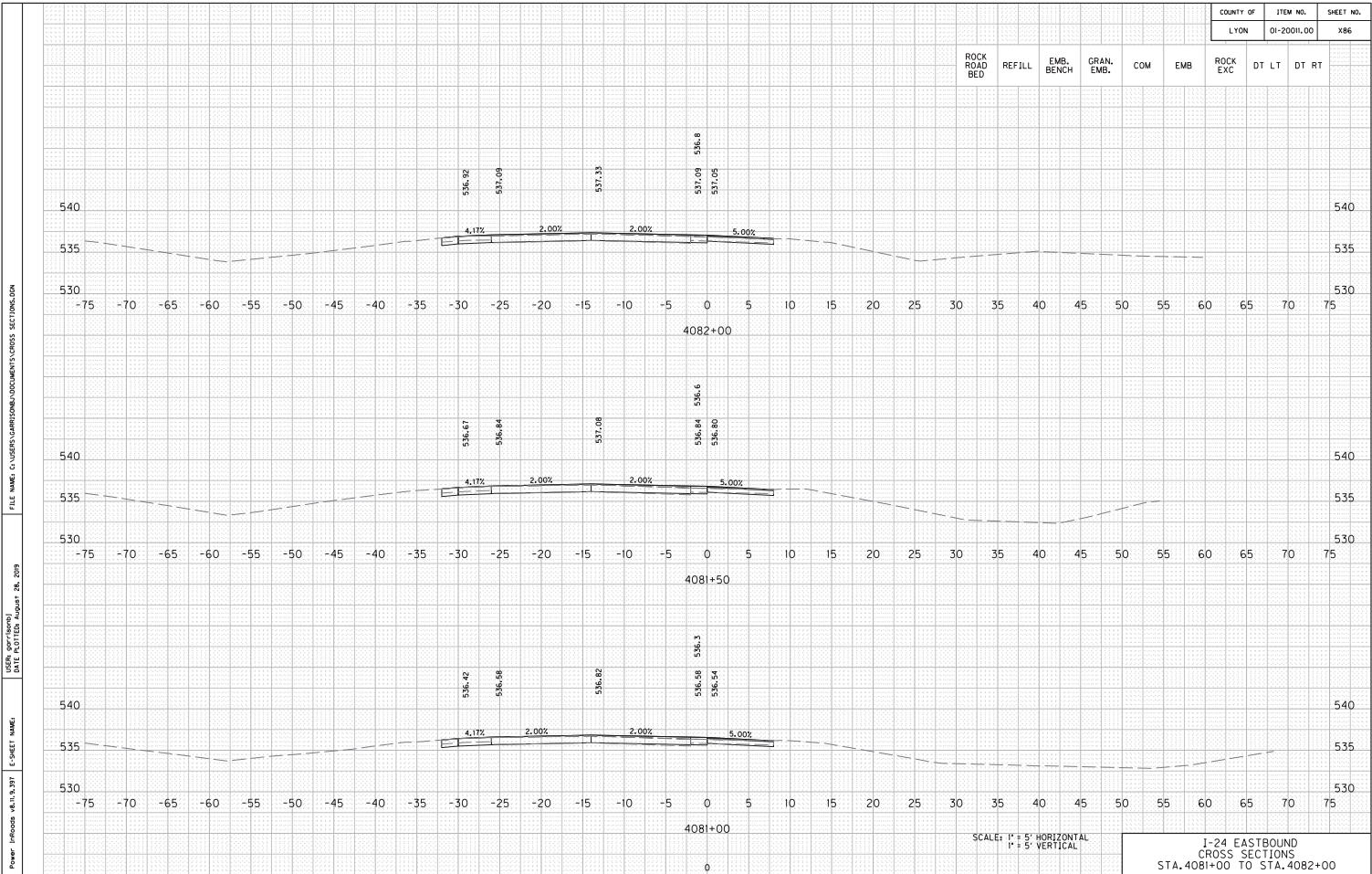
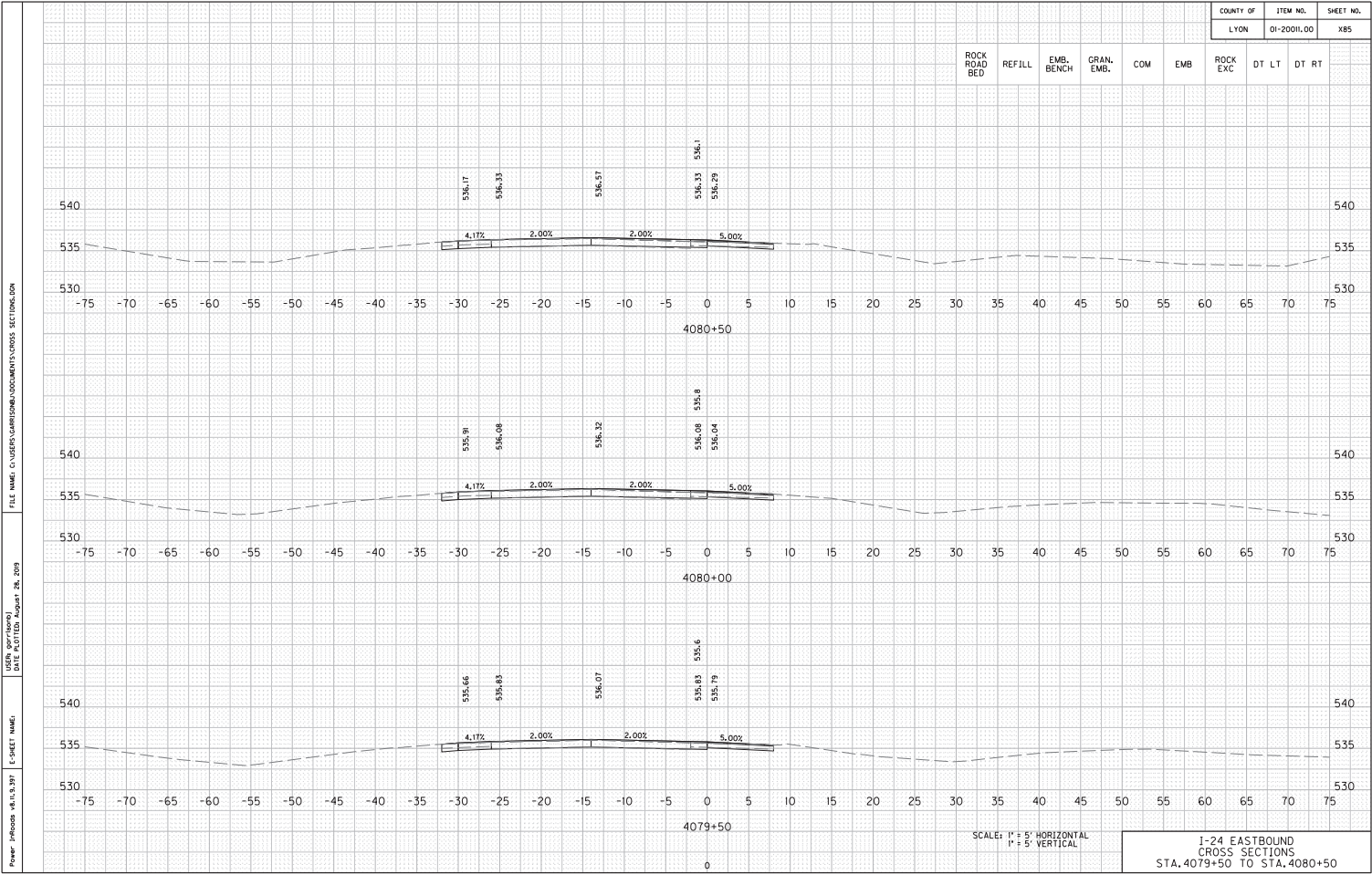




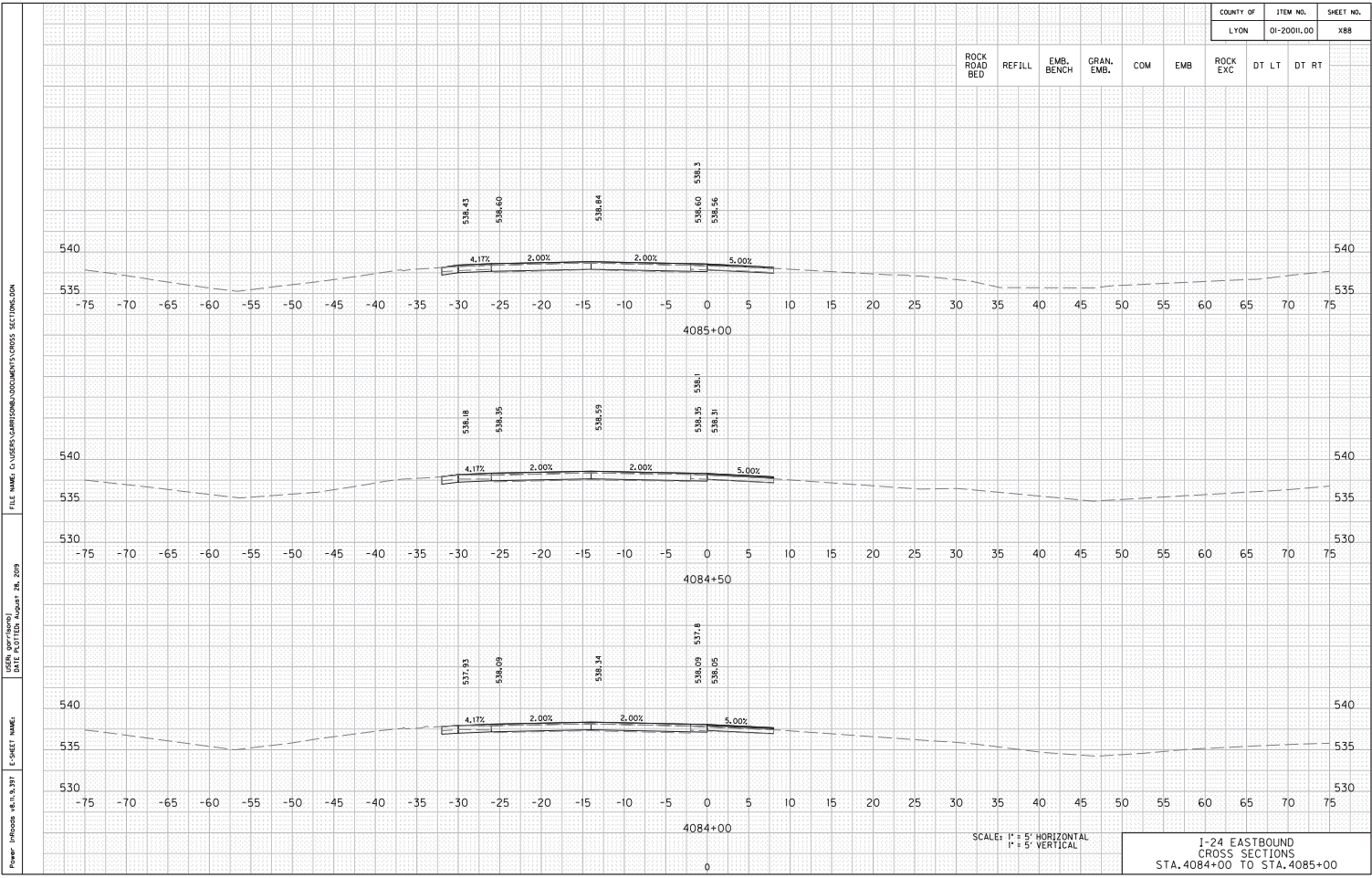
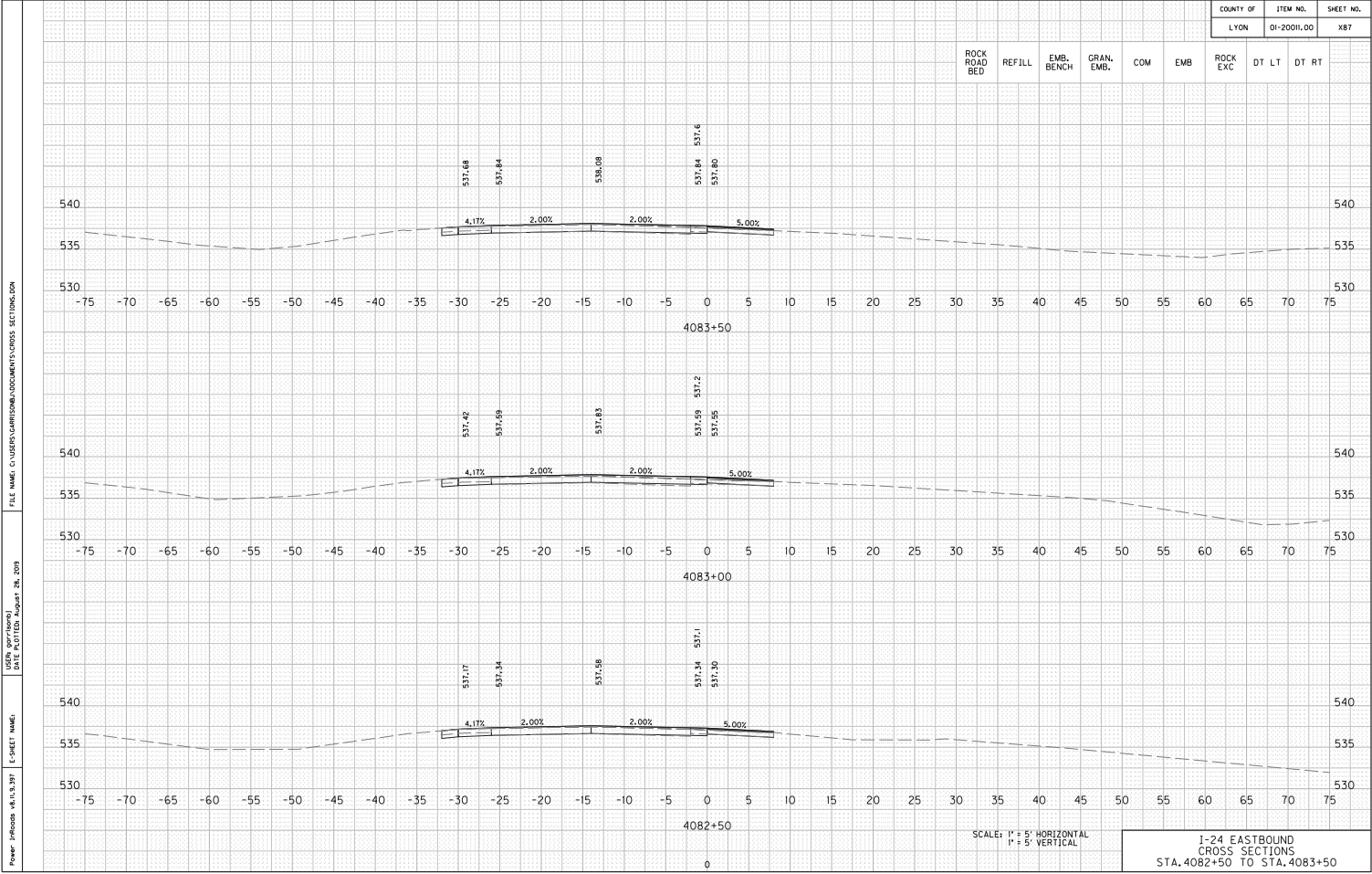




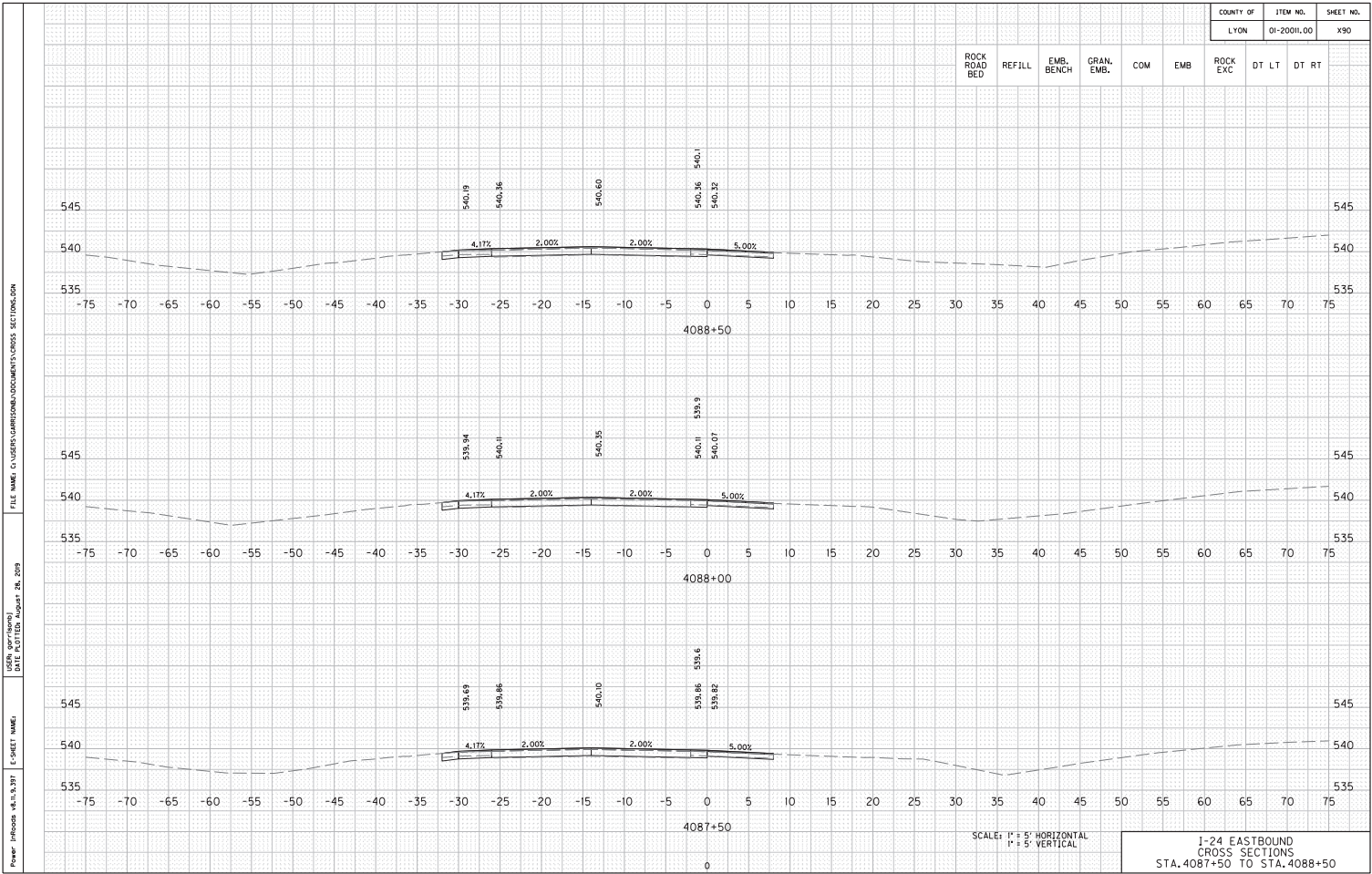
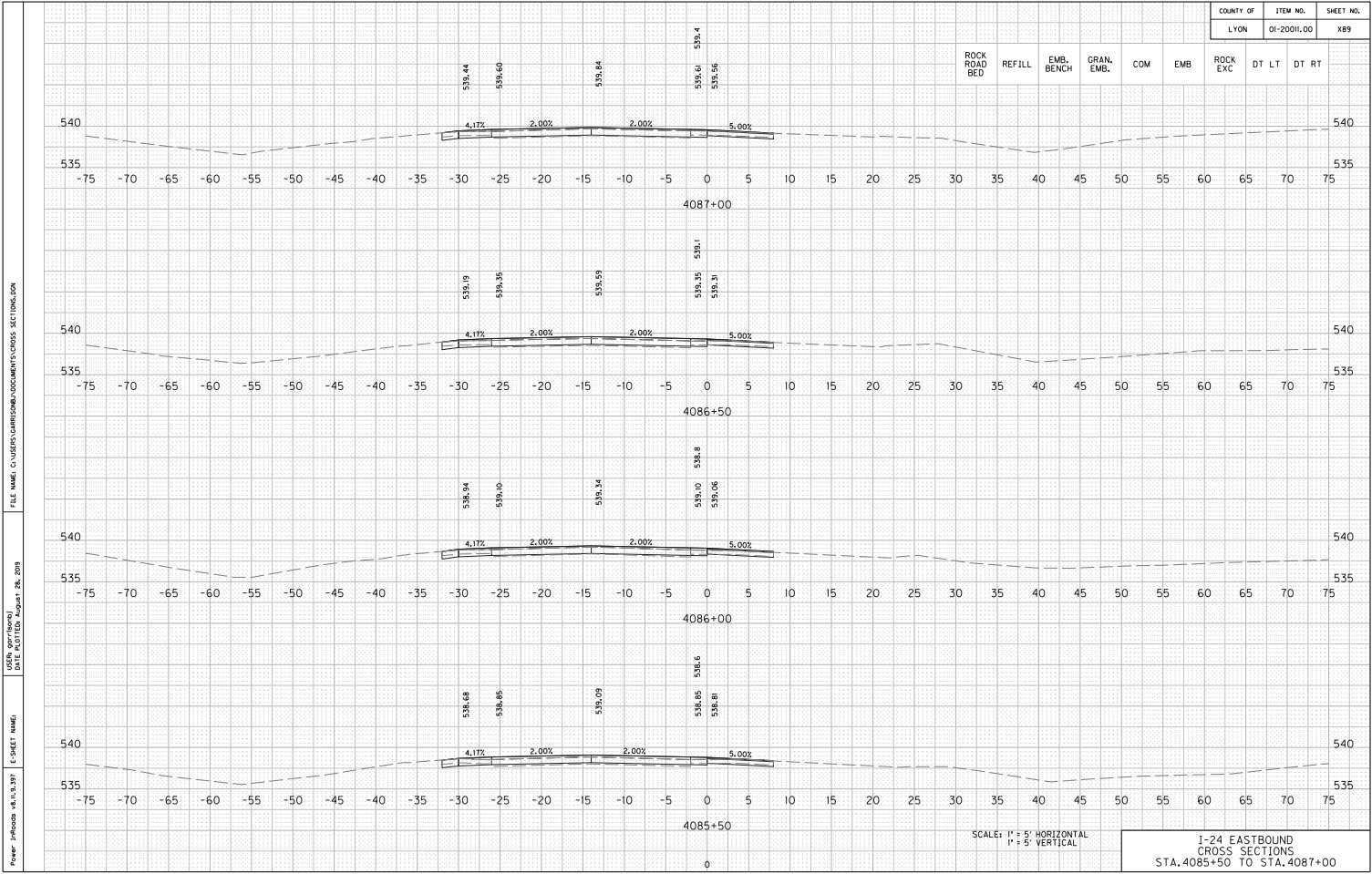




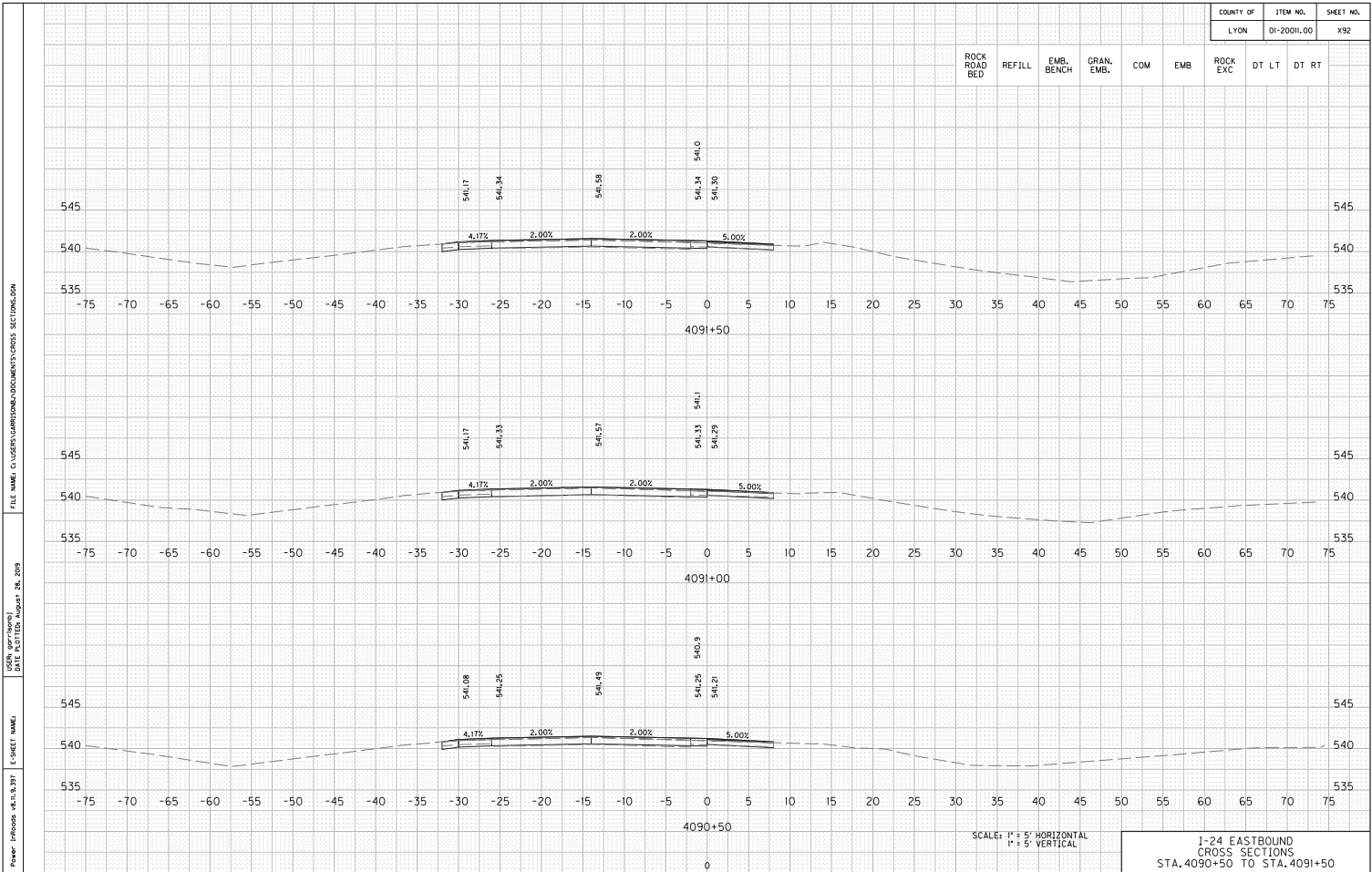
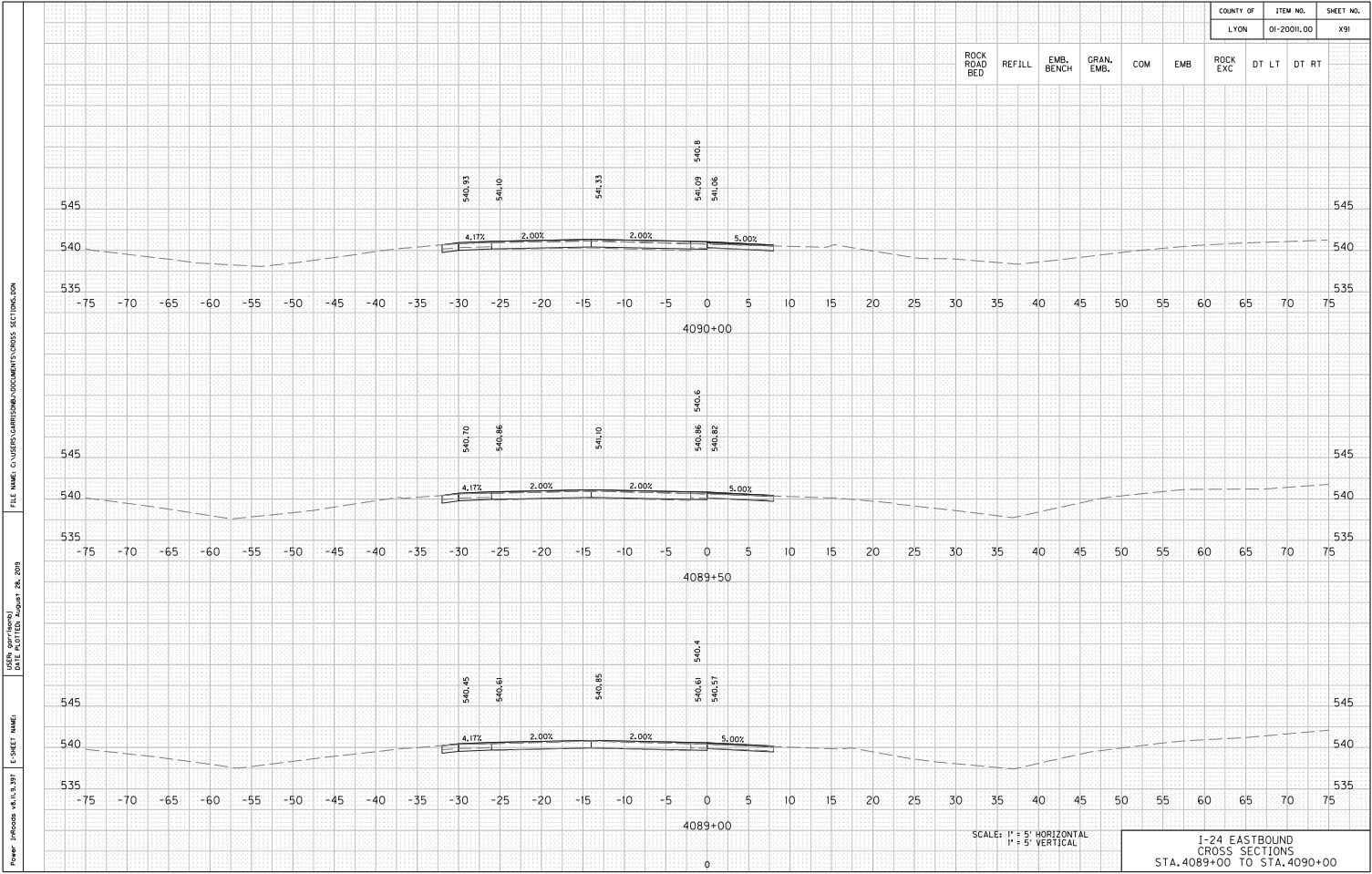




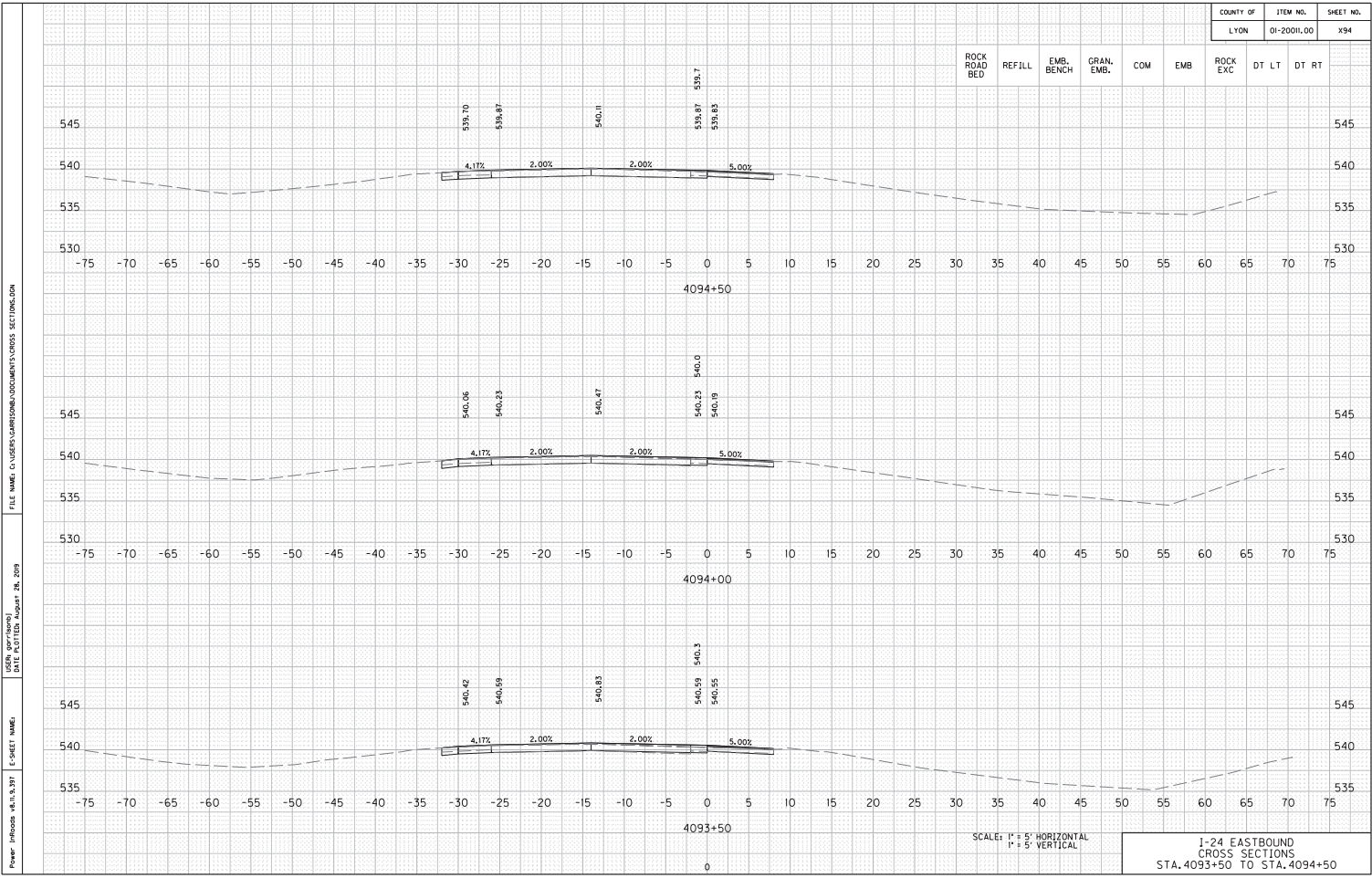
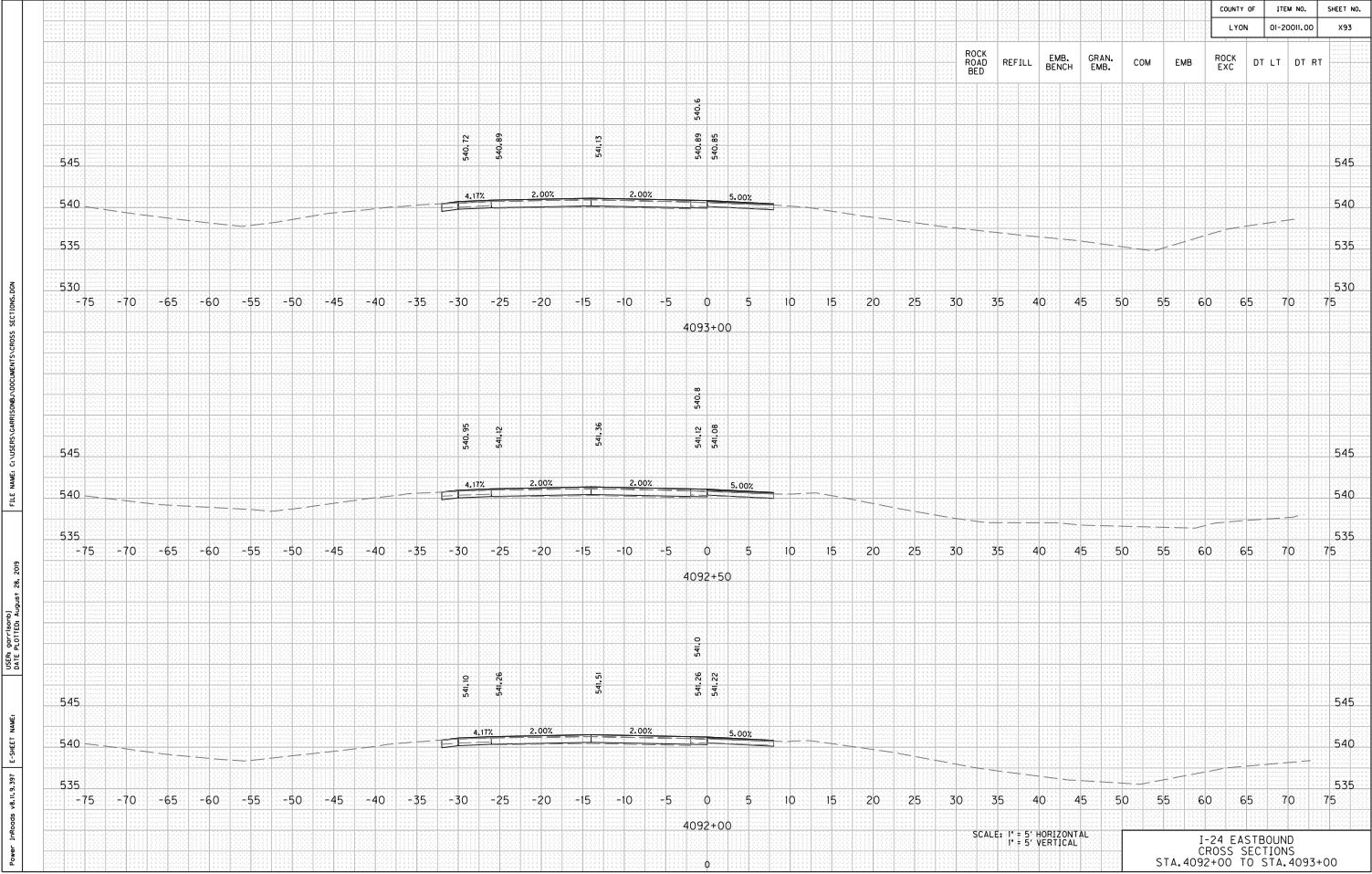




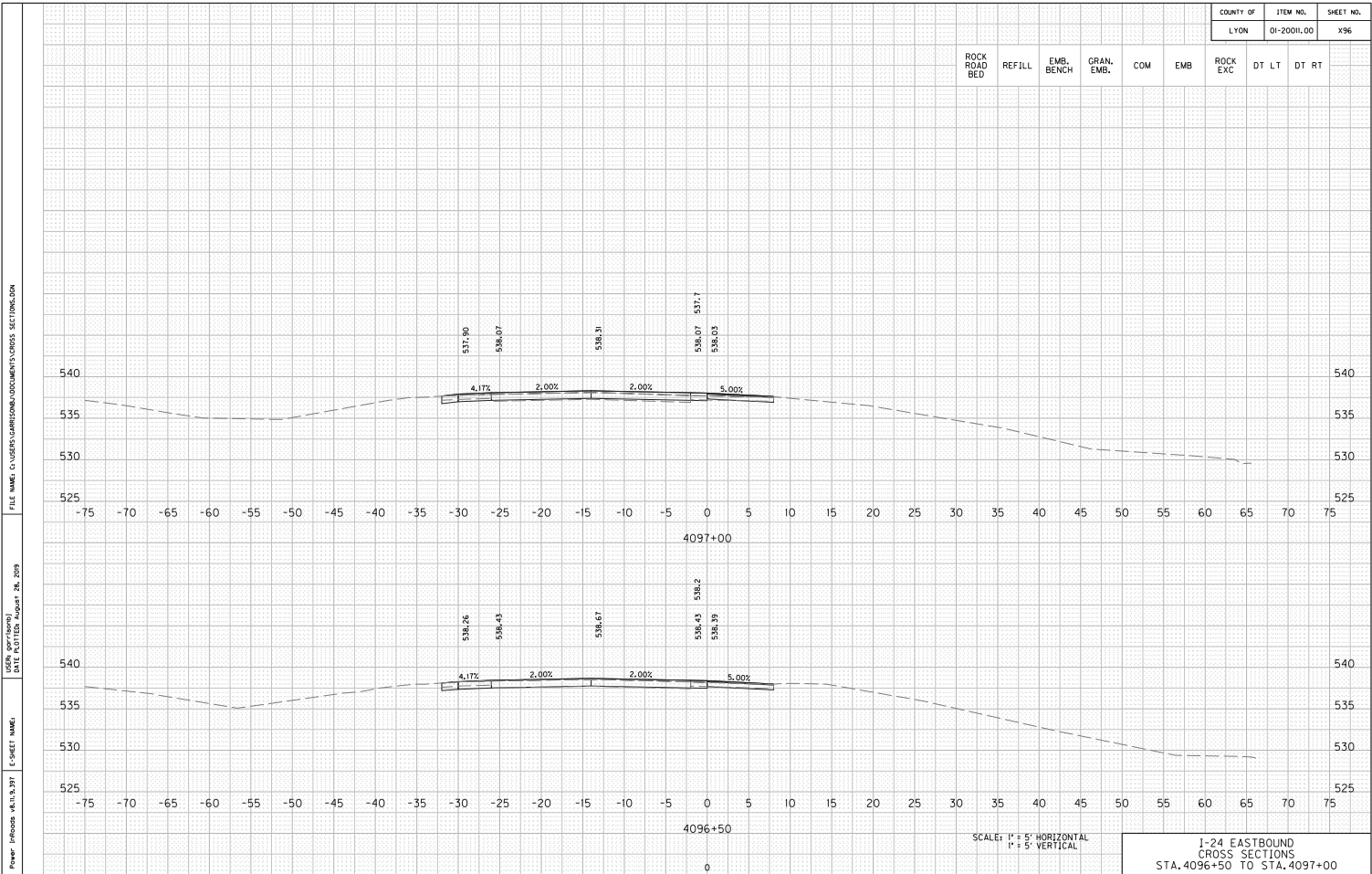
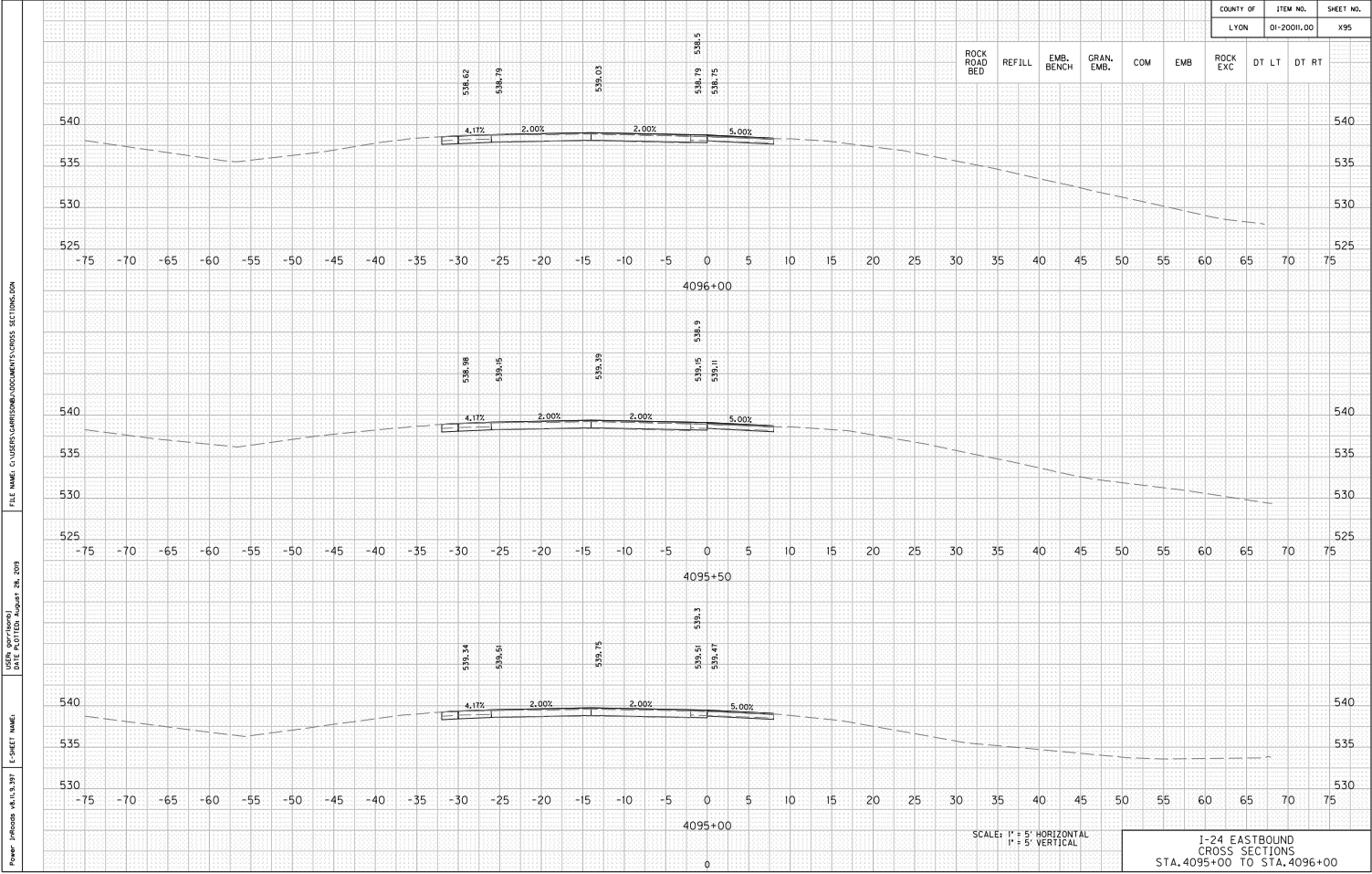




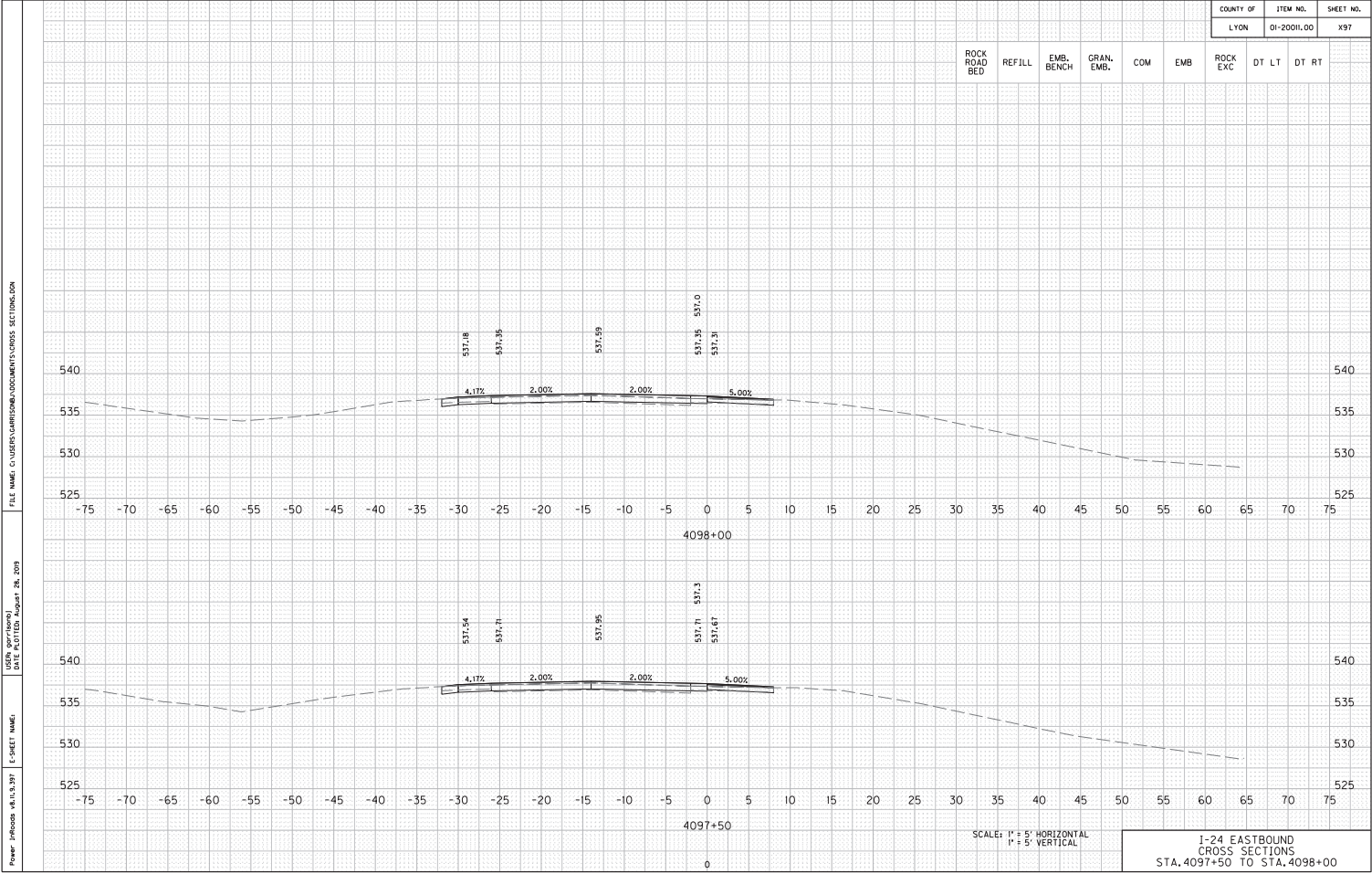










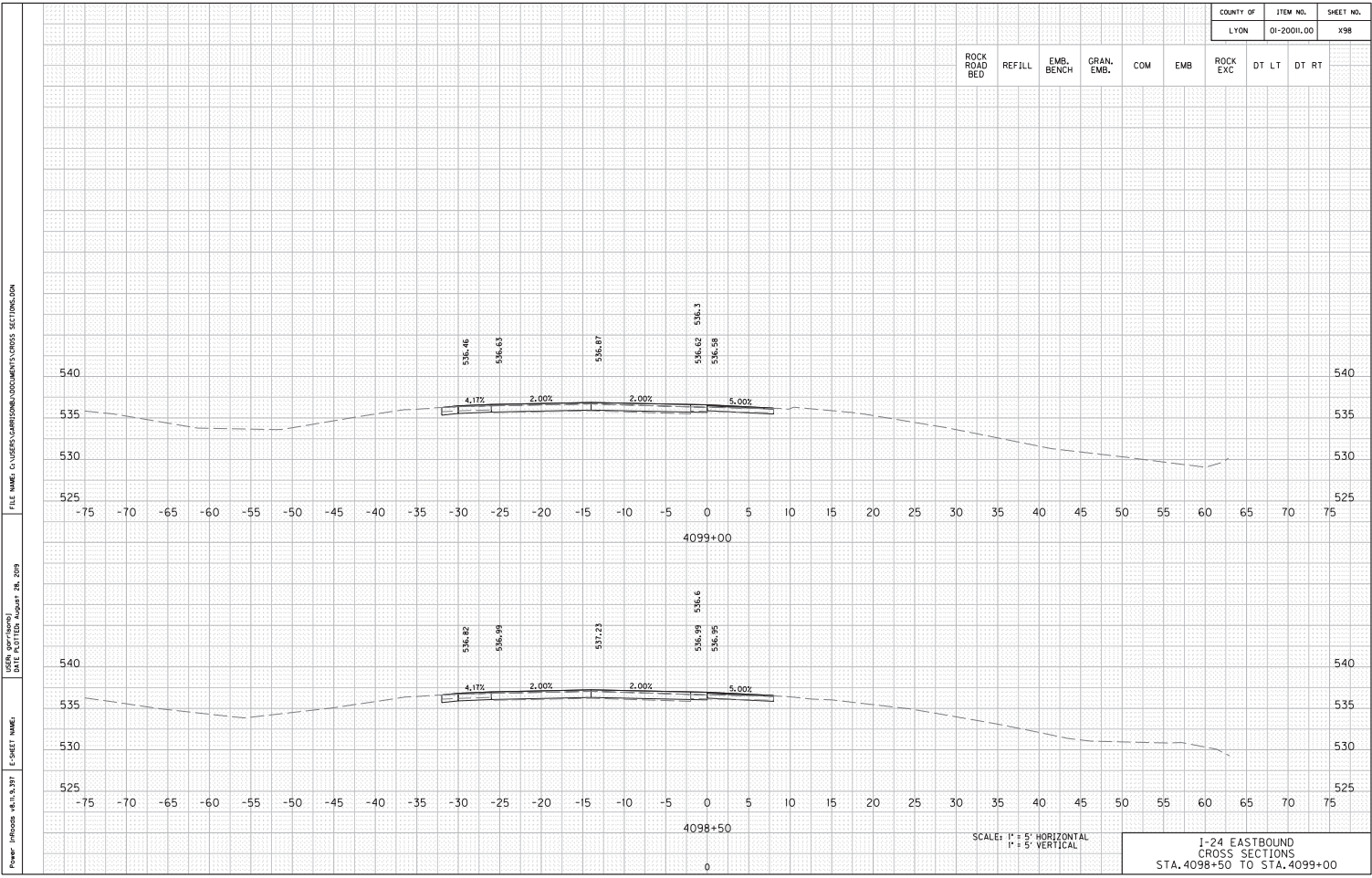


FILE NAME: G:\USERS\GARISSON\DOCUMENTS\CROSS SECTIONS.DGN

USER: garrisonj  
DATE PLOTTED: August 28, 2019

E-SHEET NAME:

Power: Johnson v.l.s.137



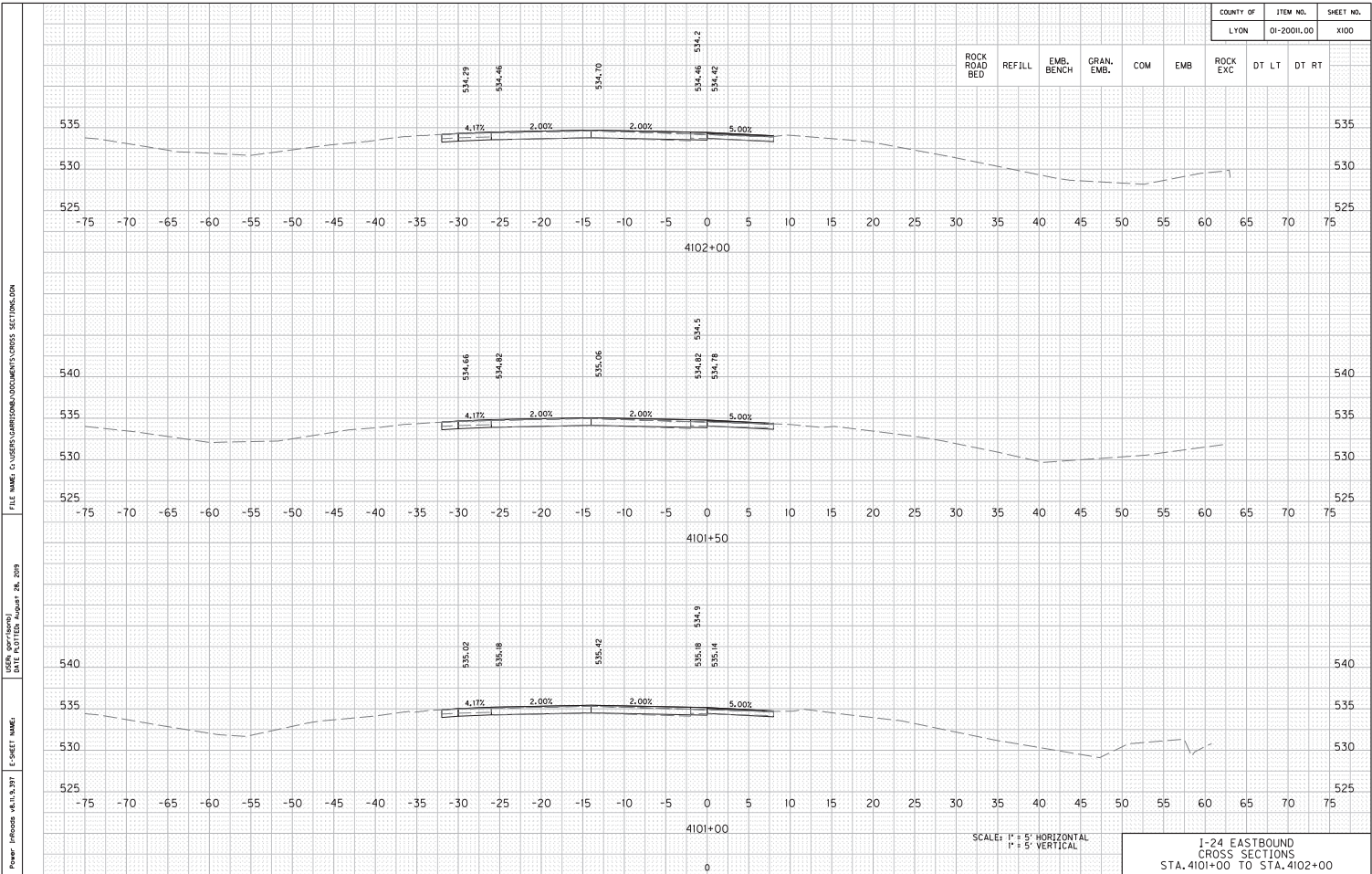
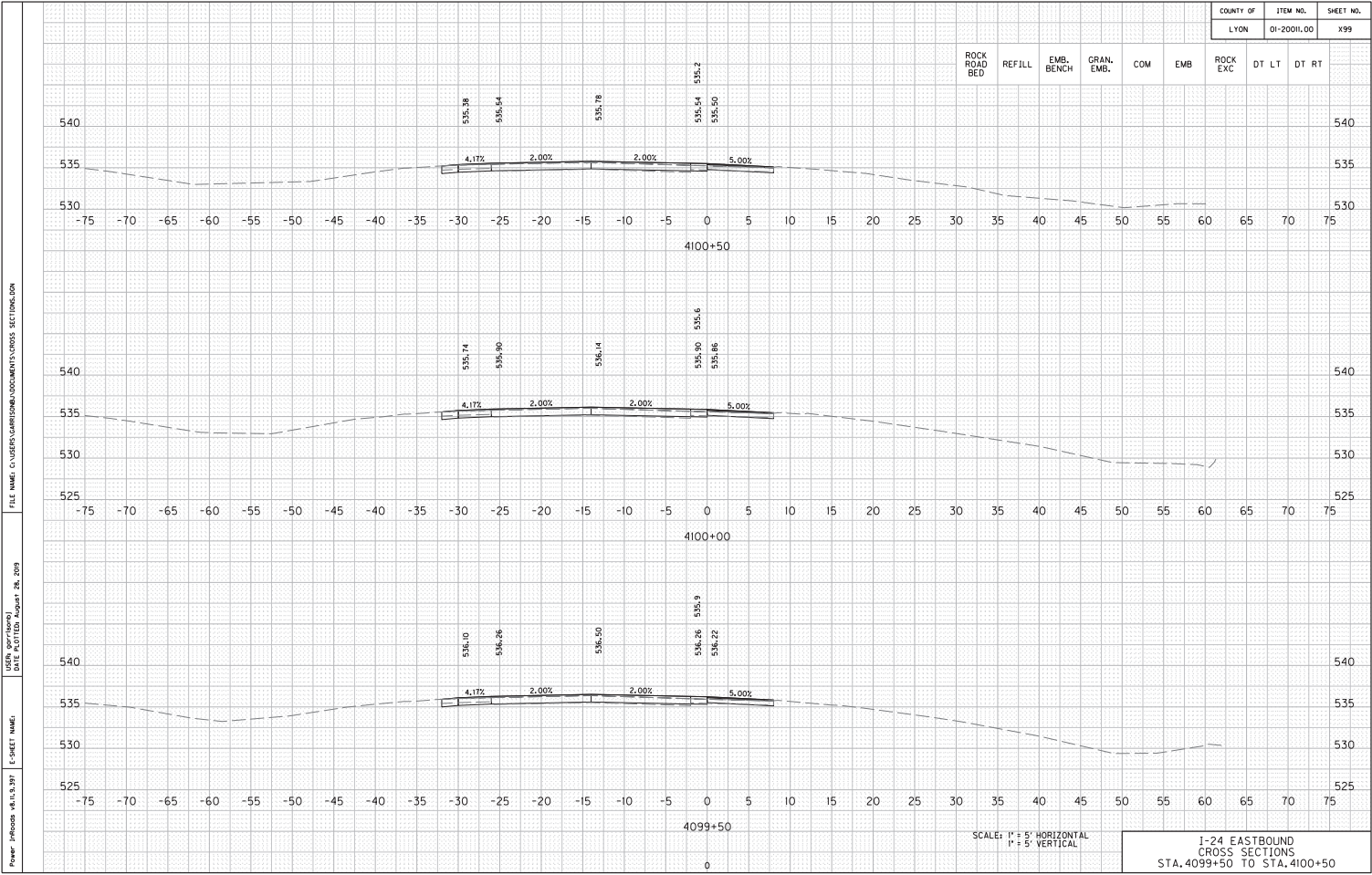
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USER: garrisonj  
DATE PLOTTED: August 28, 2019

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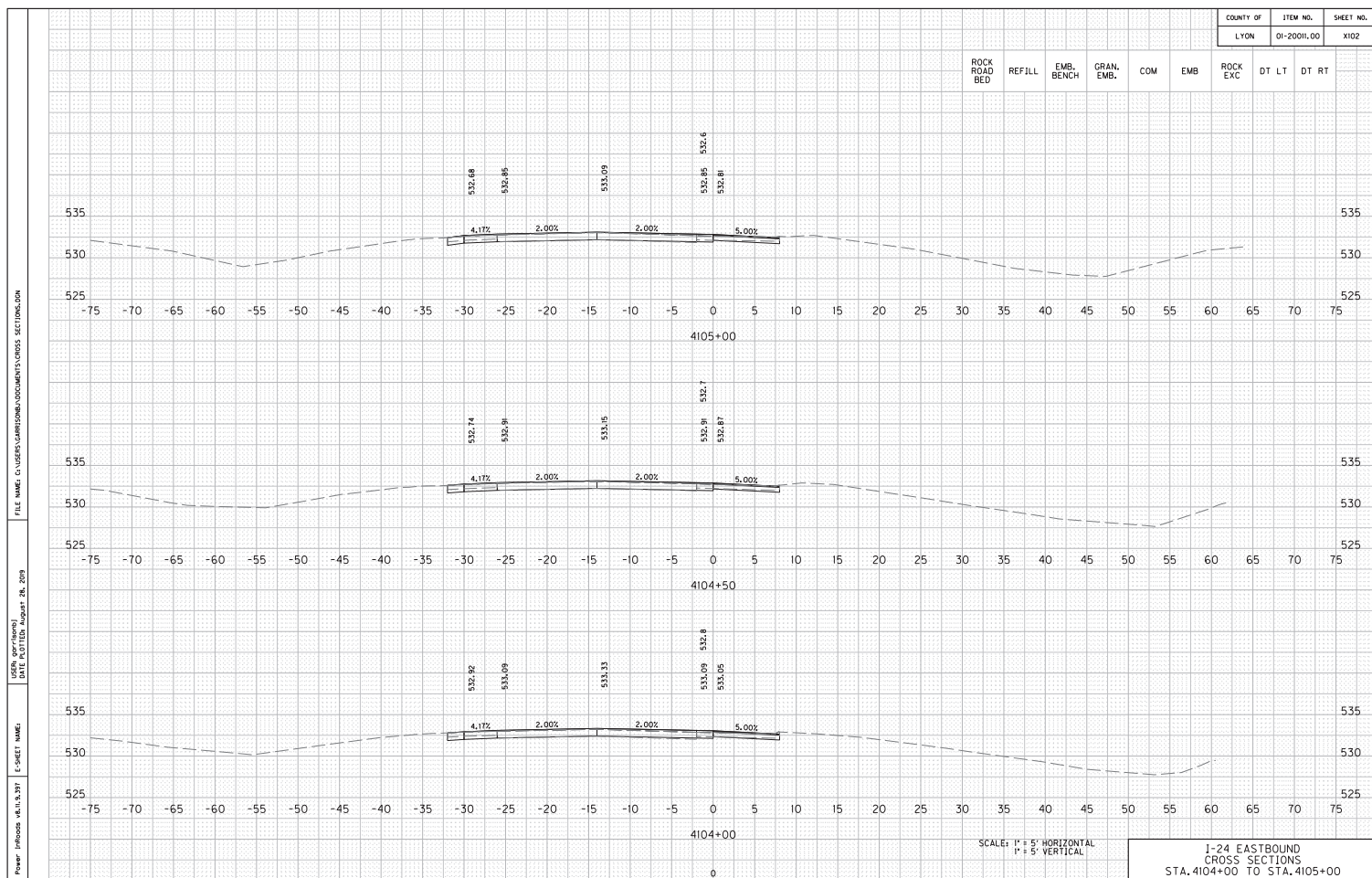
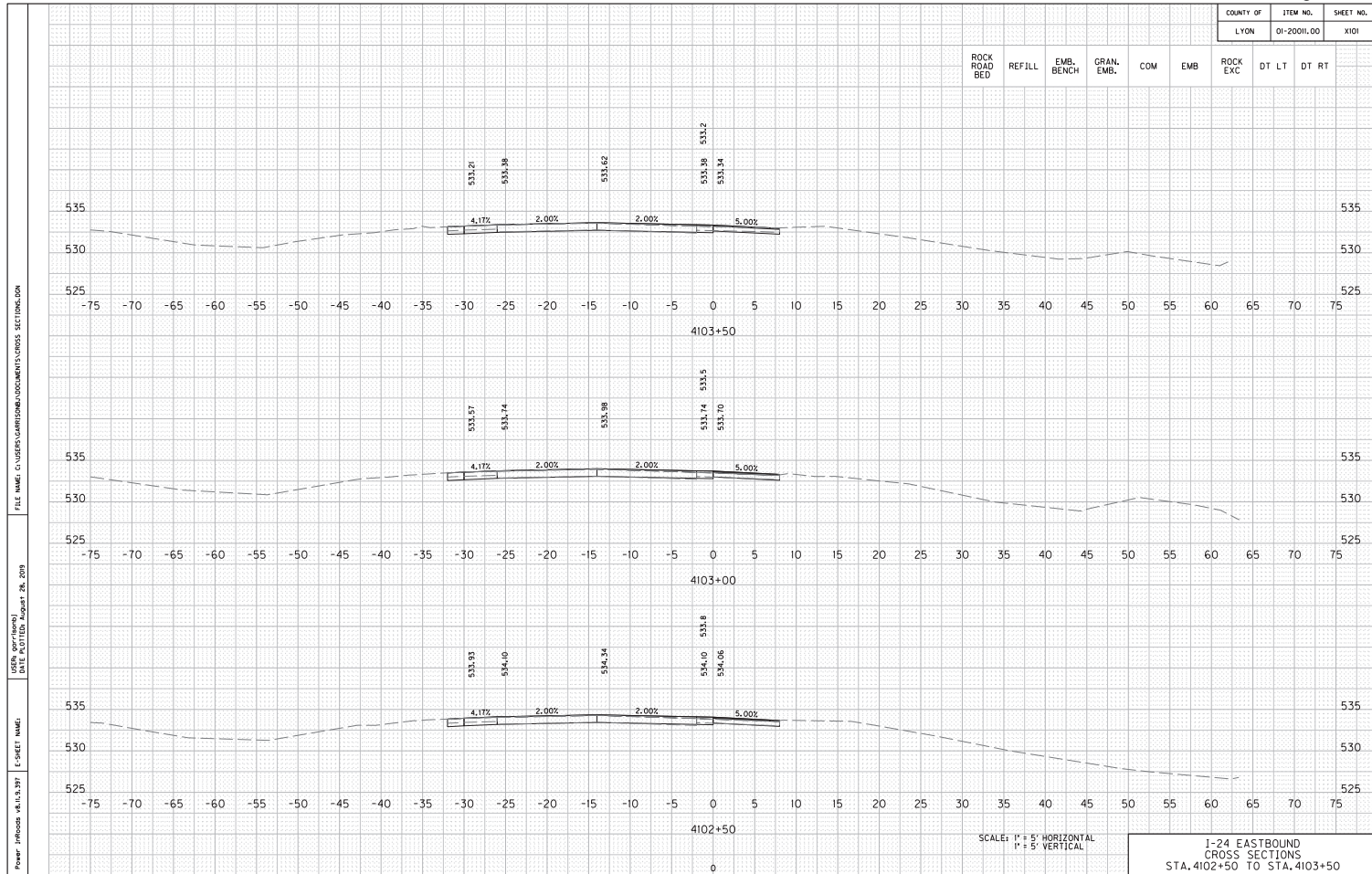
Power: Johnson v.l.s.137



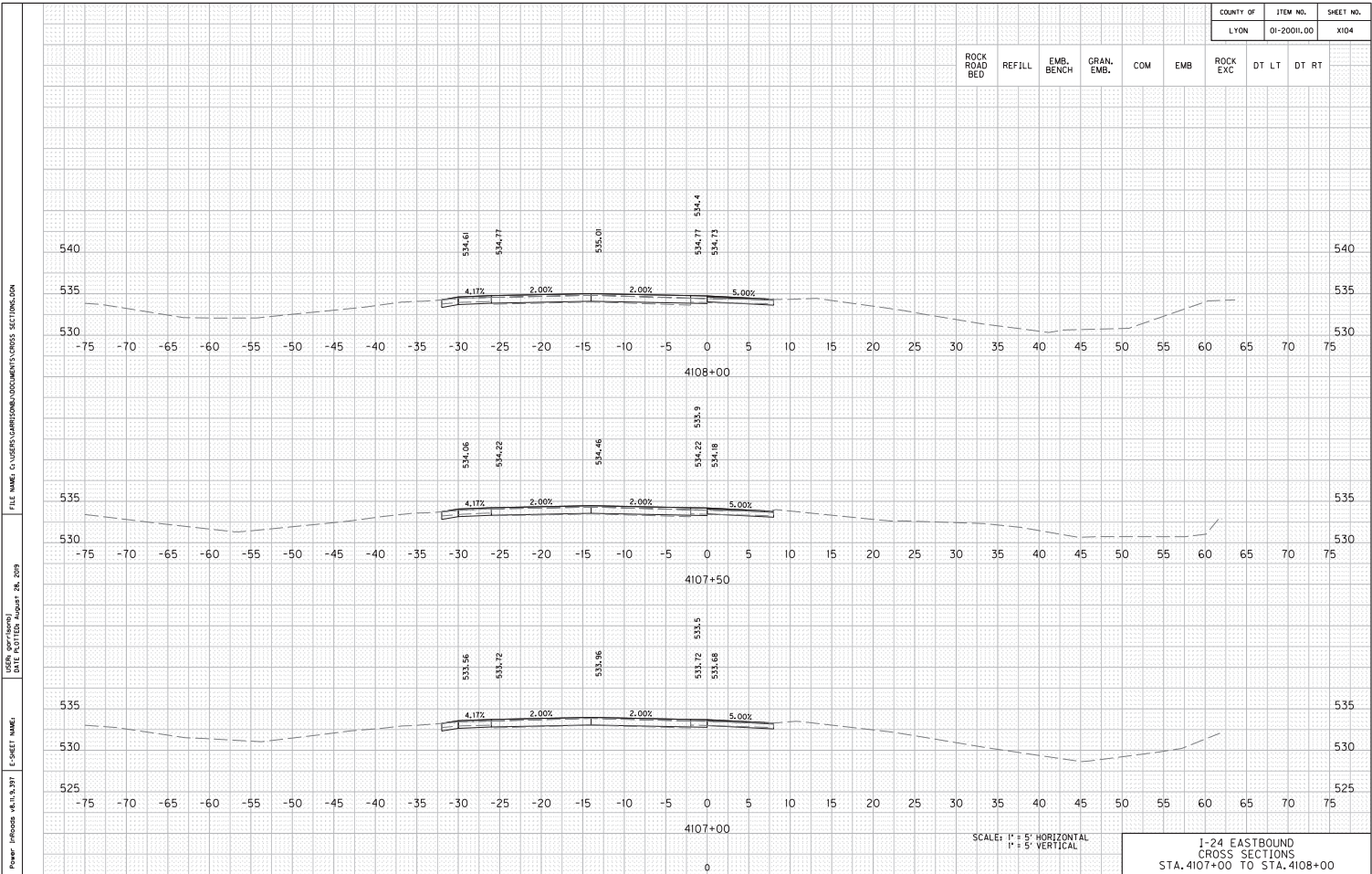
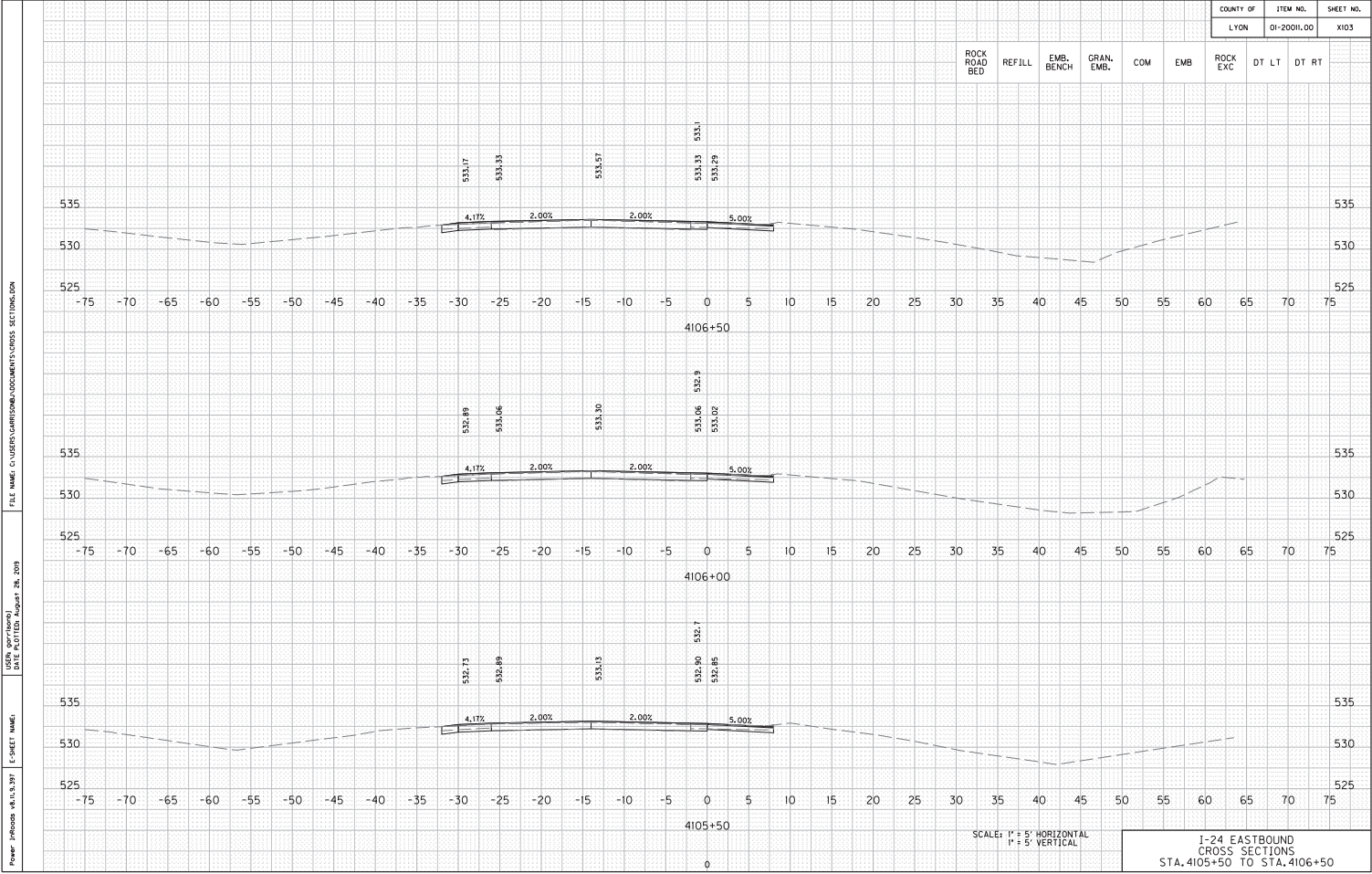




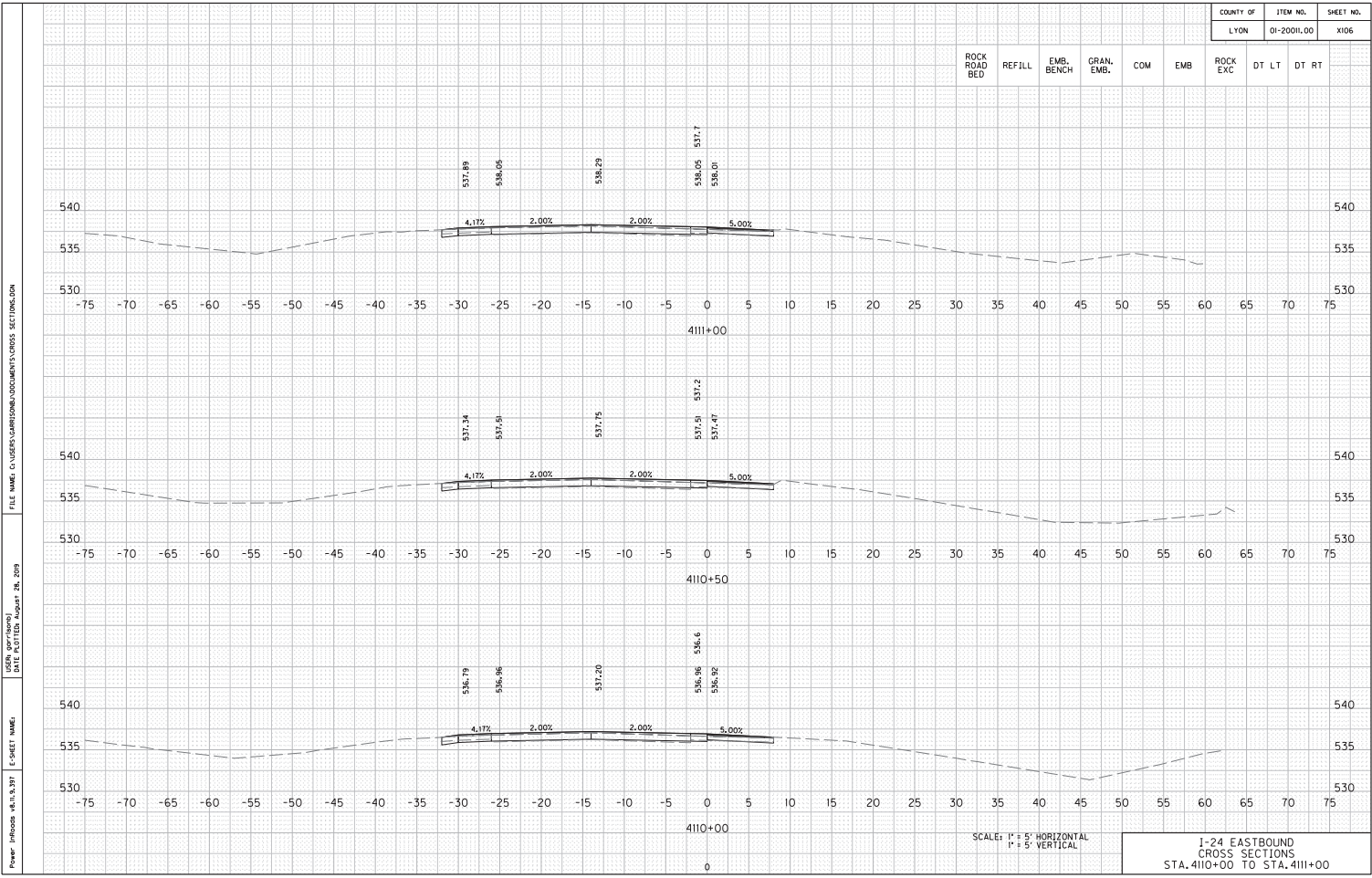
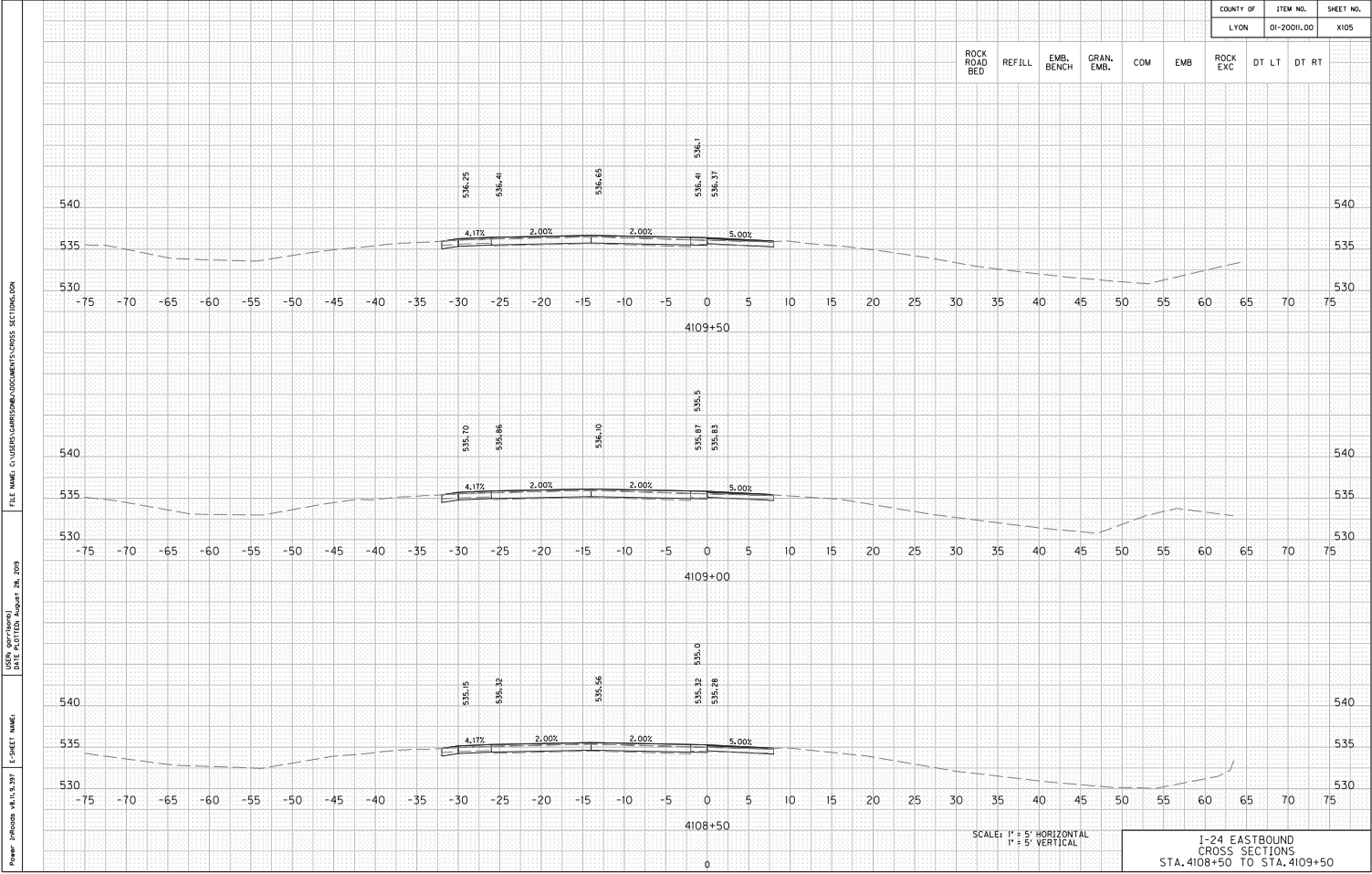
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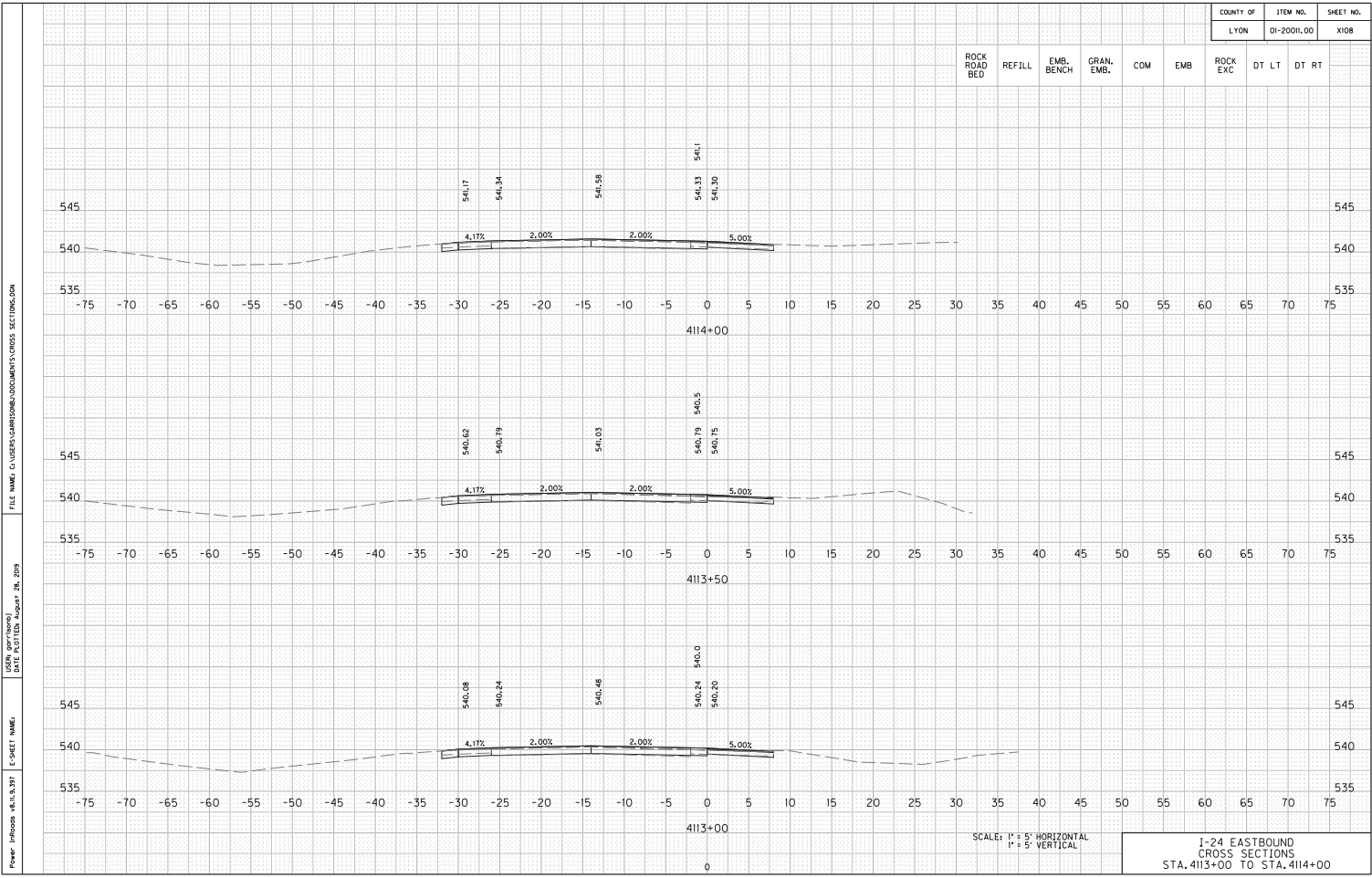
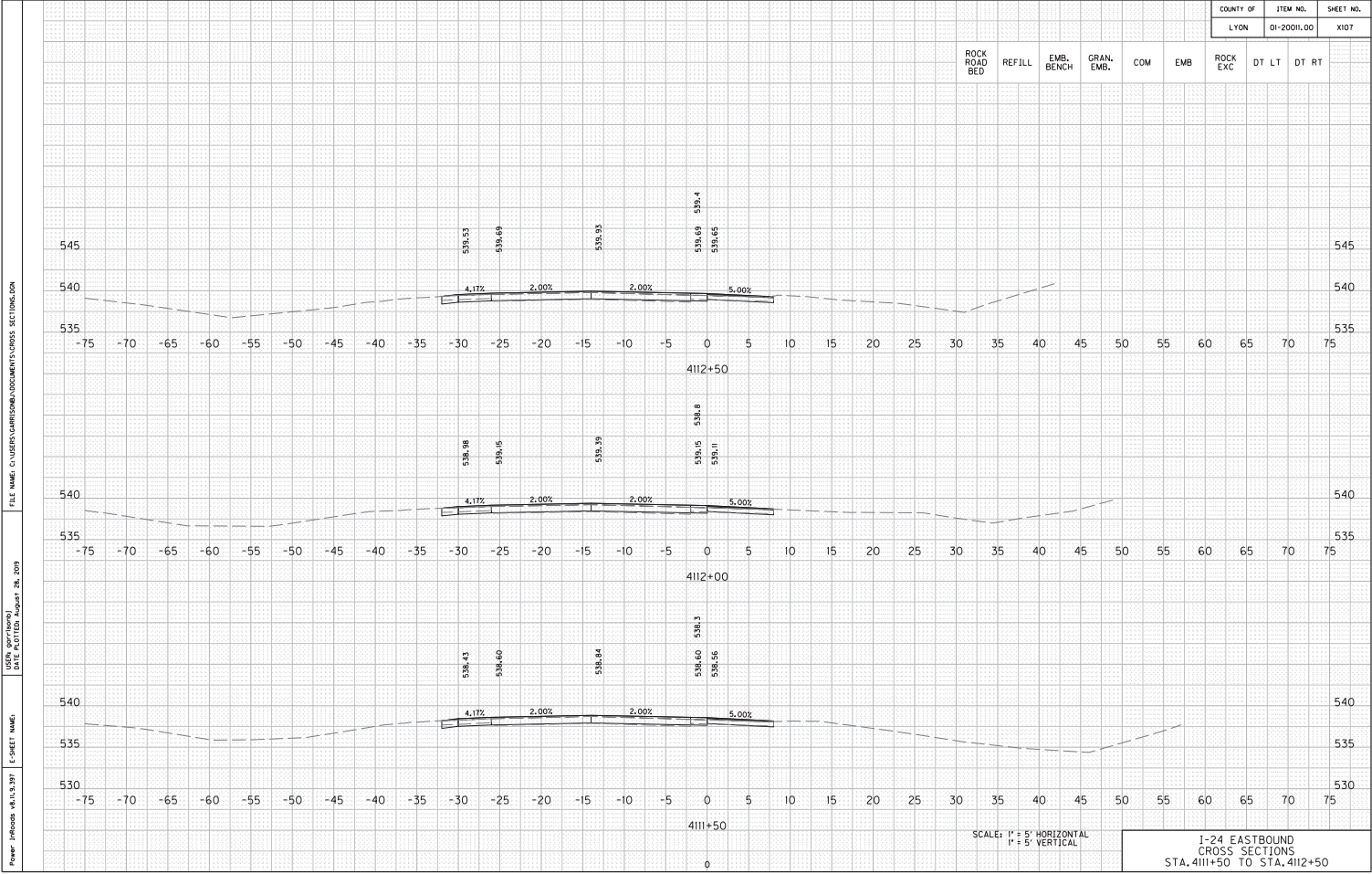




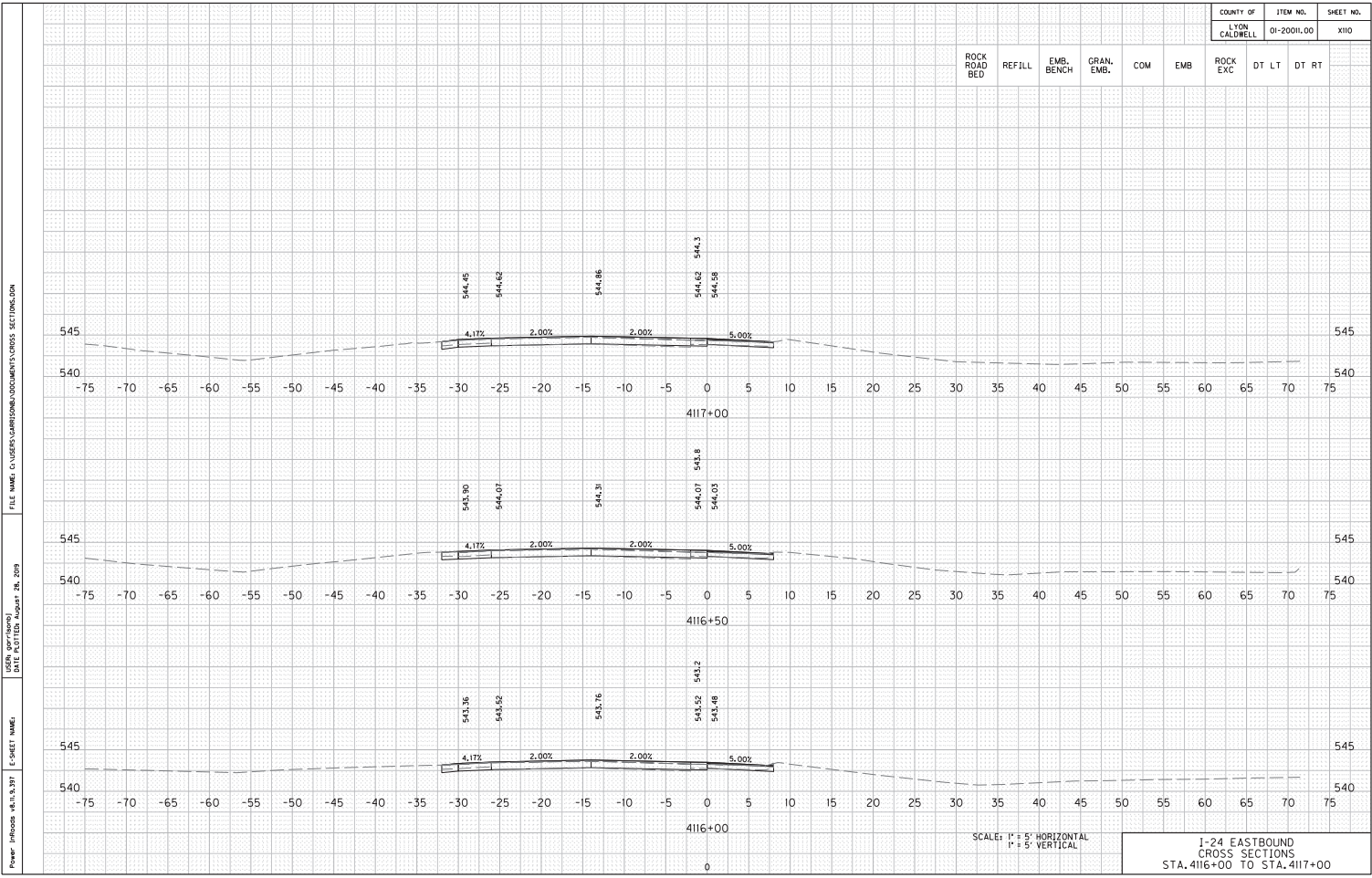
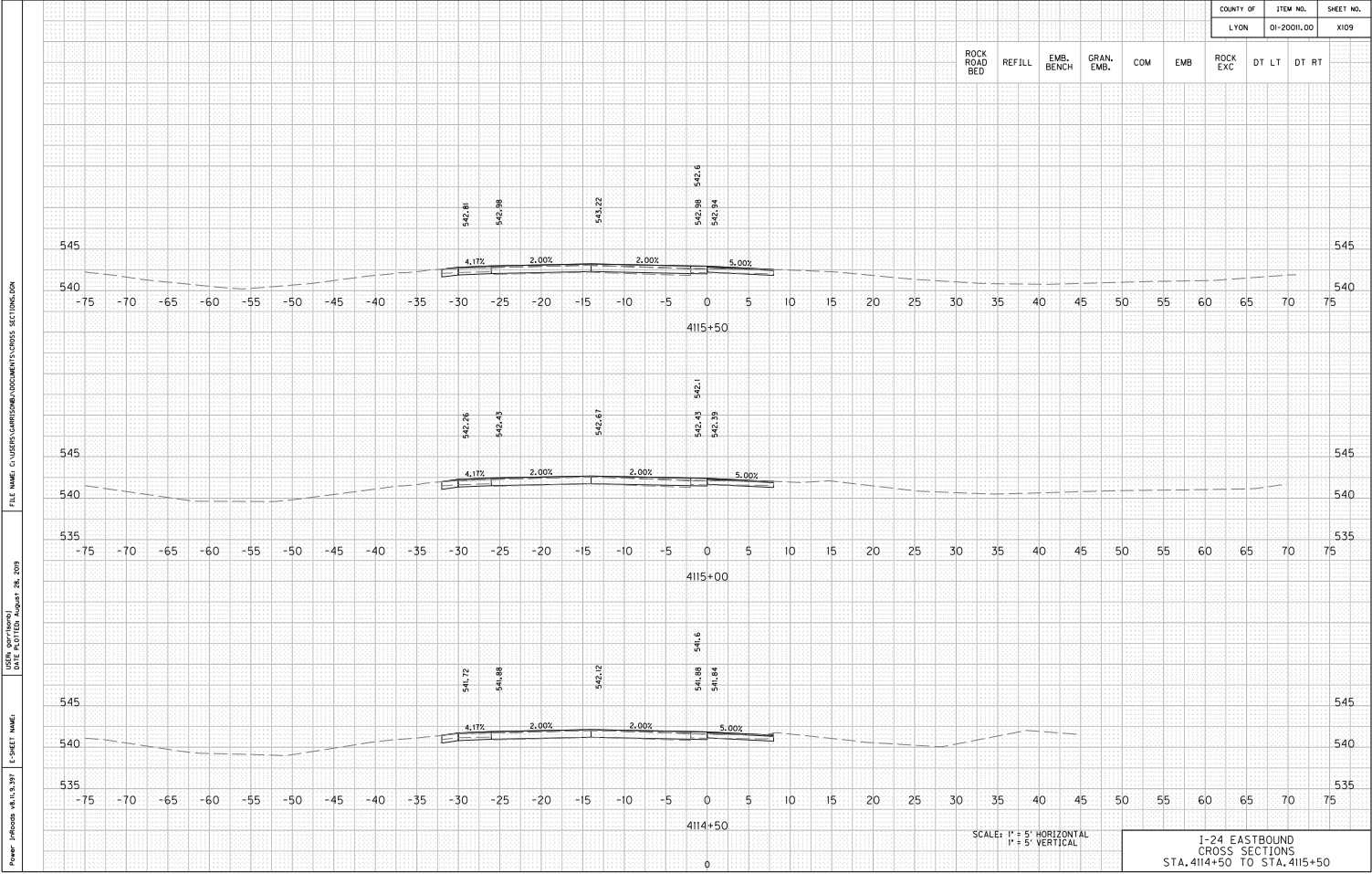




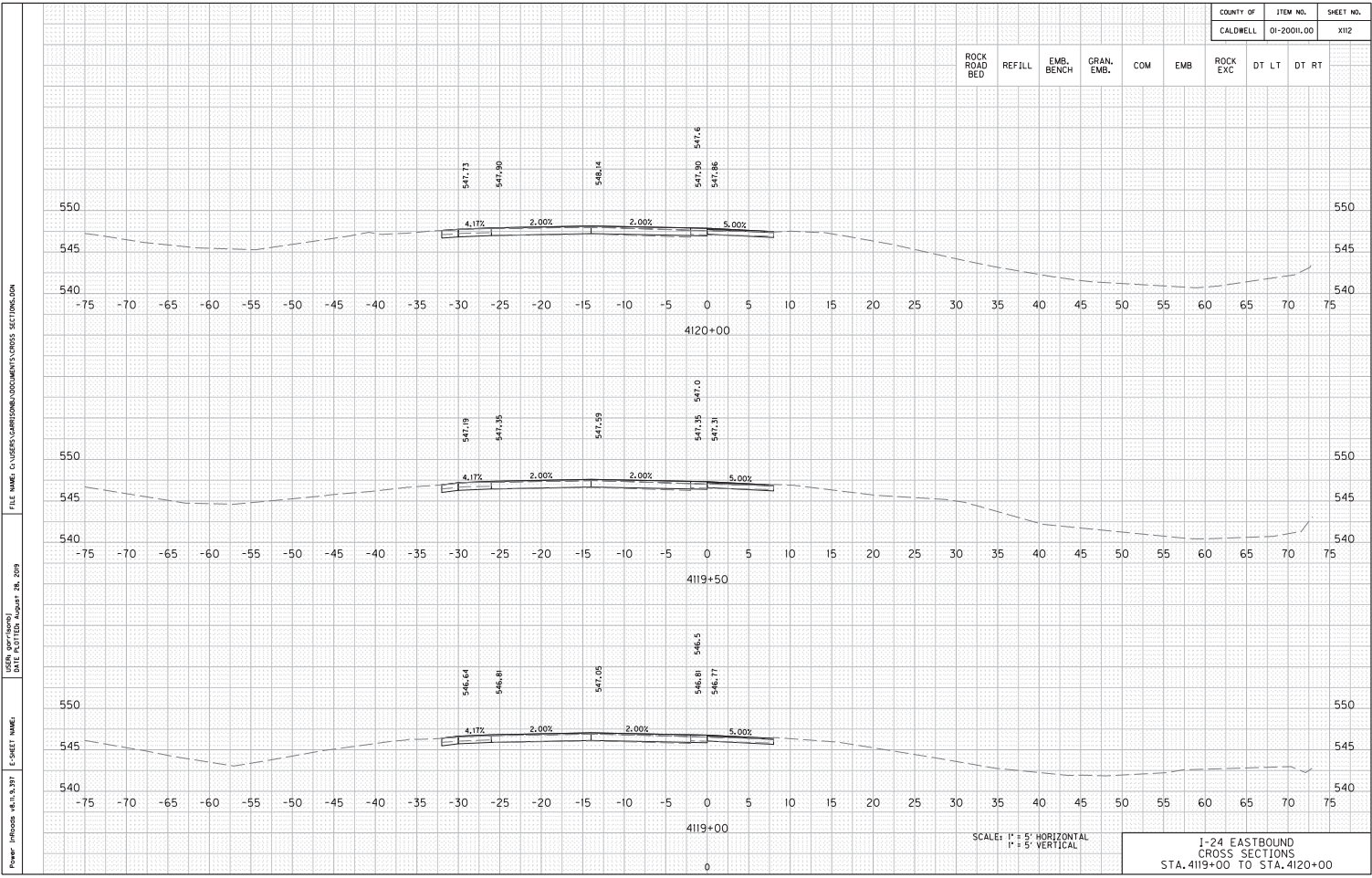
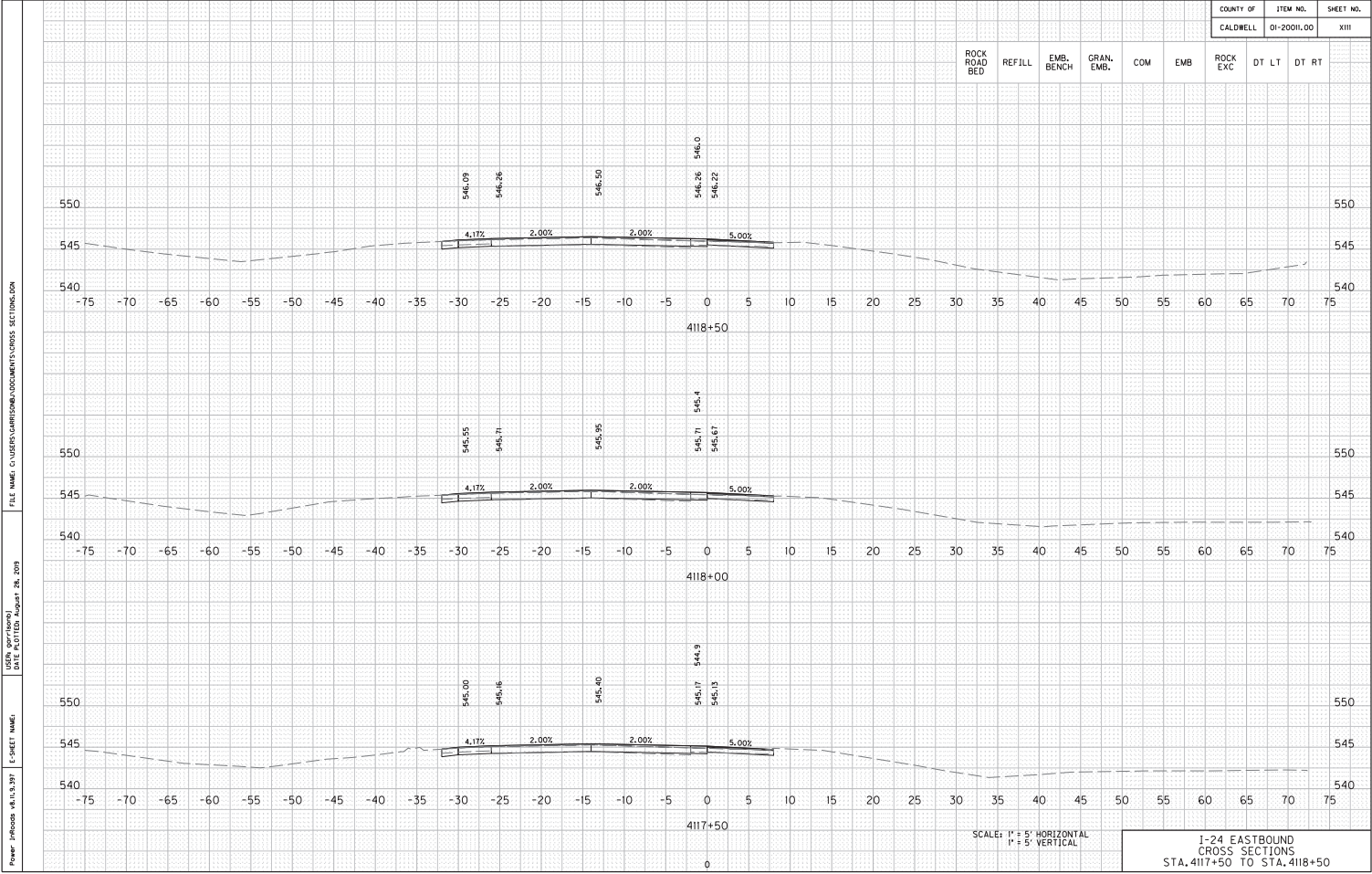




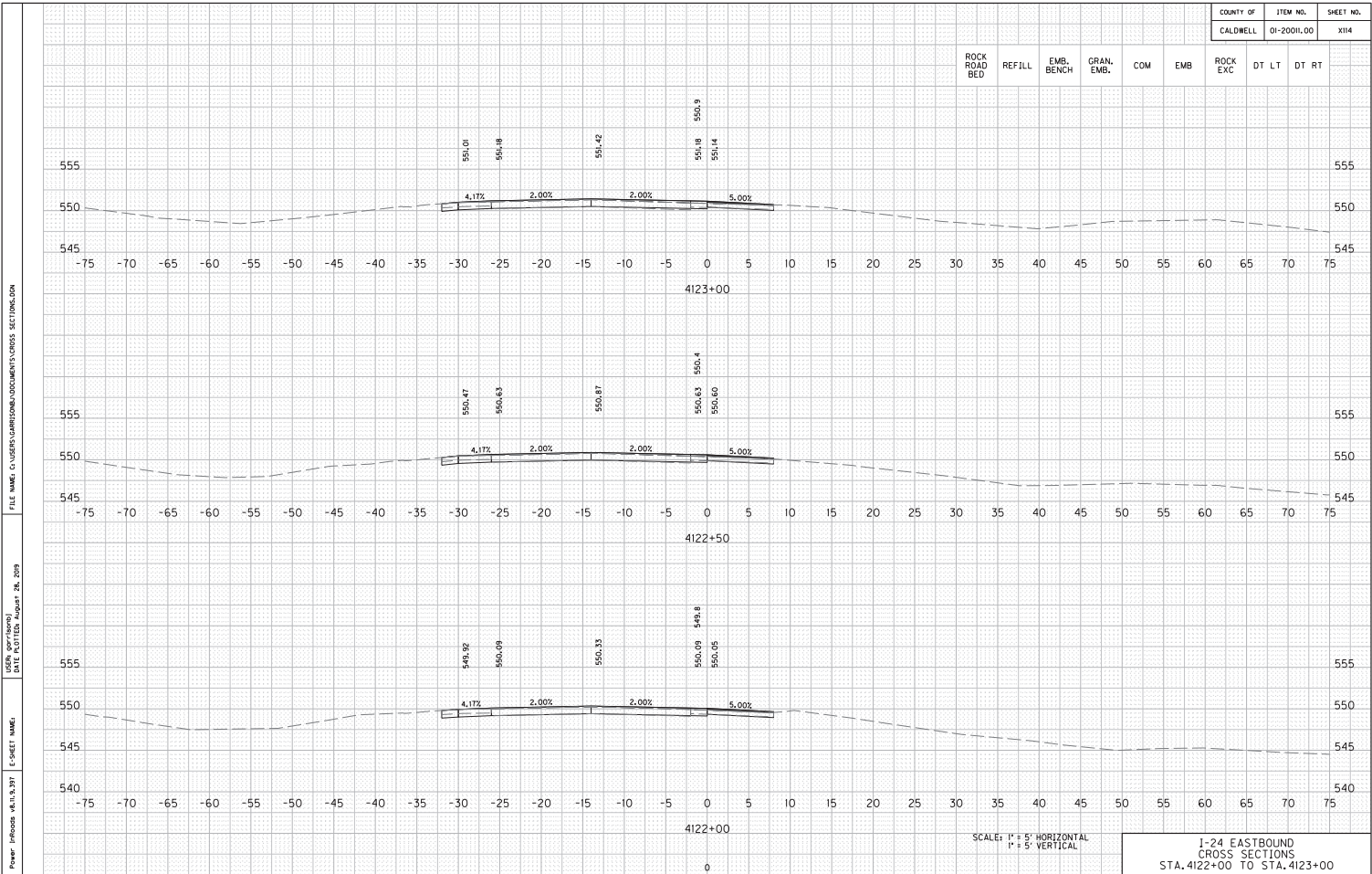
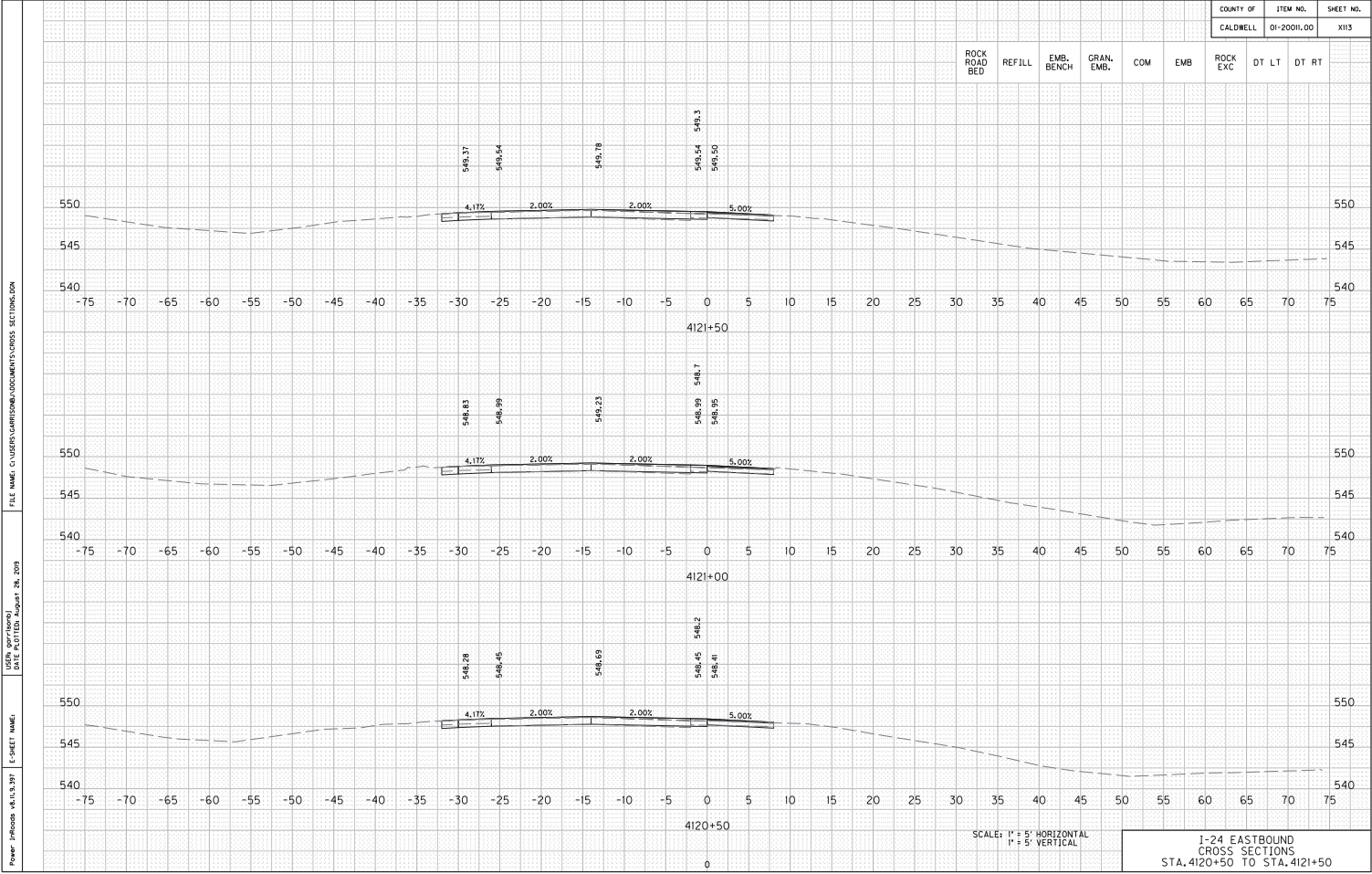




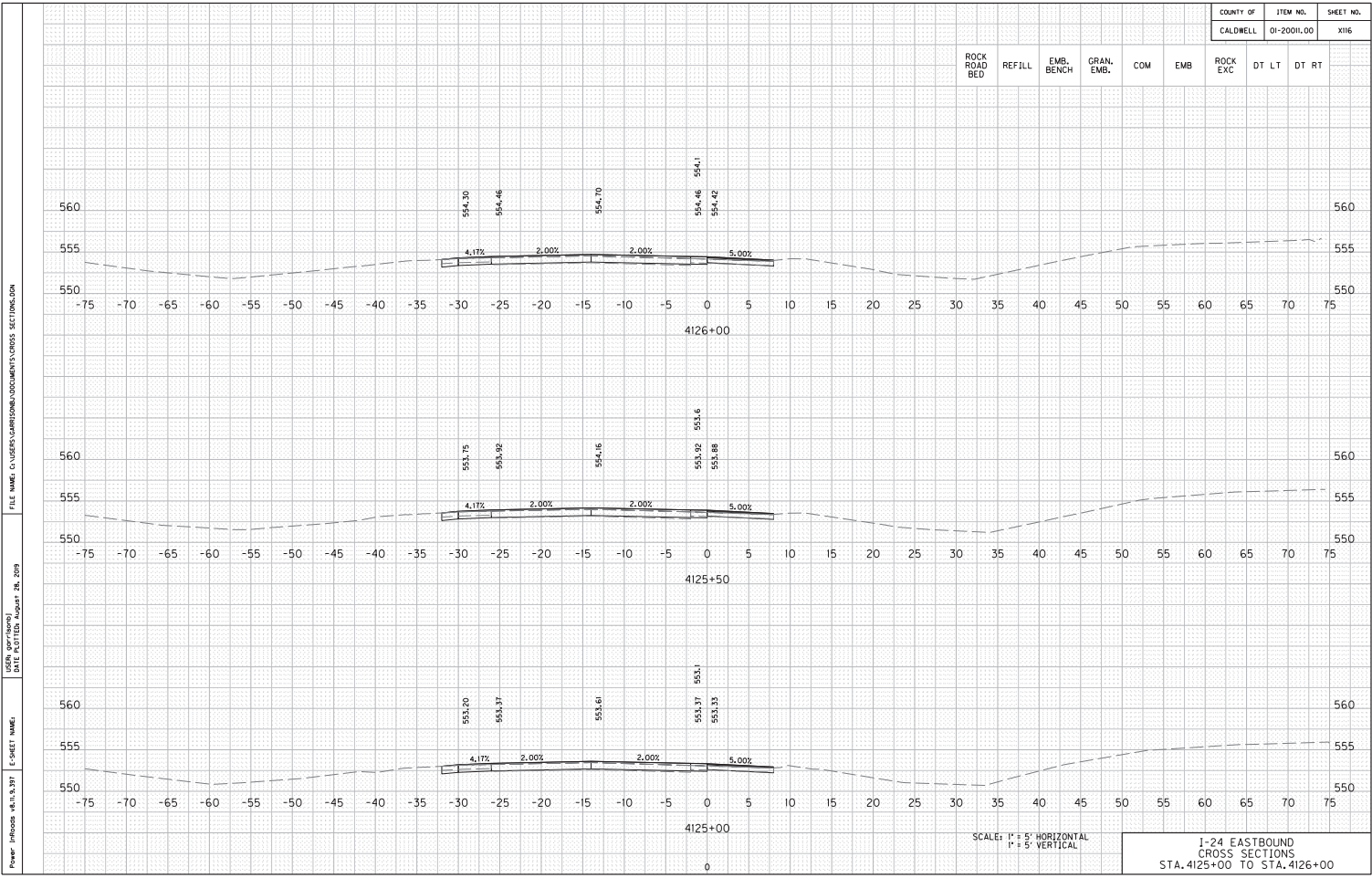
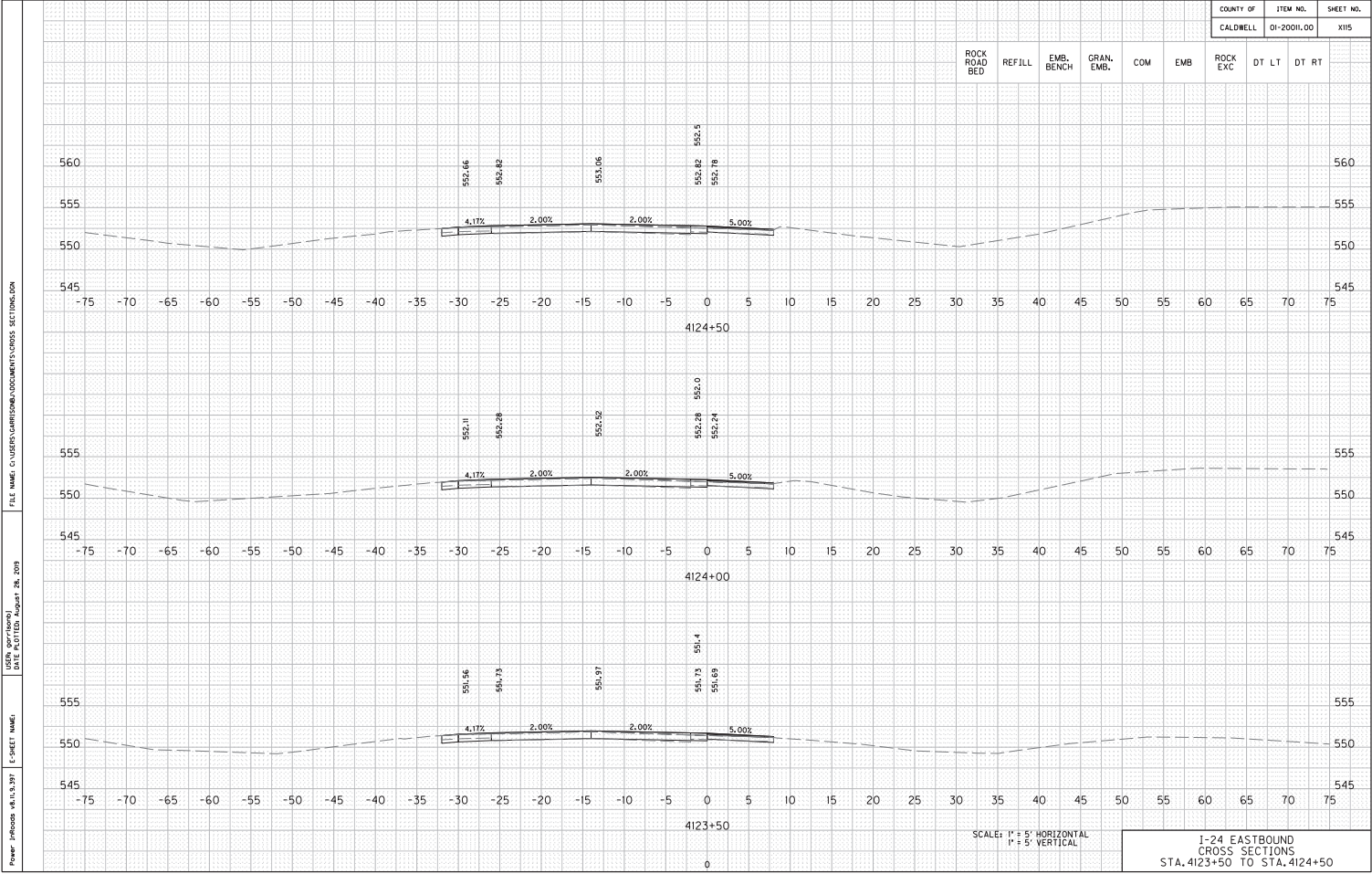




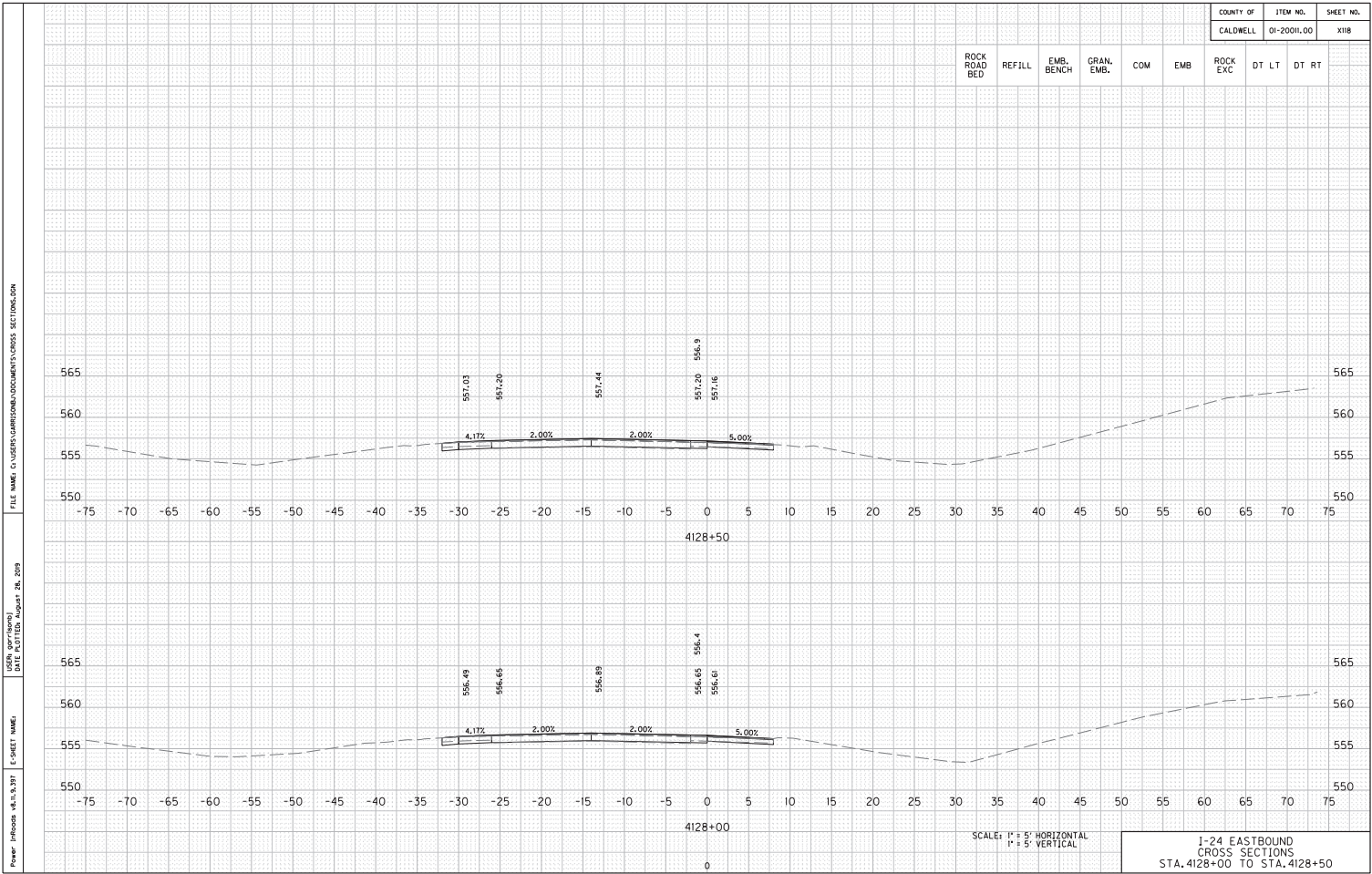
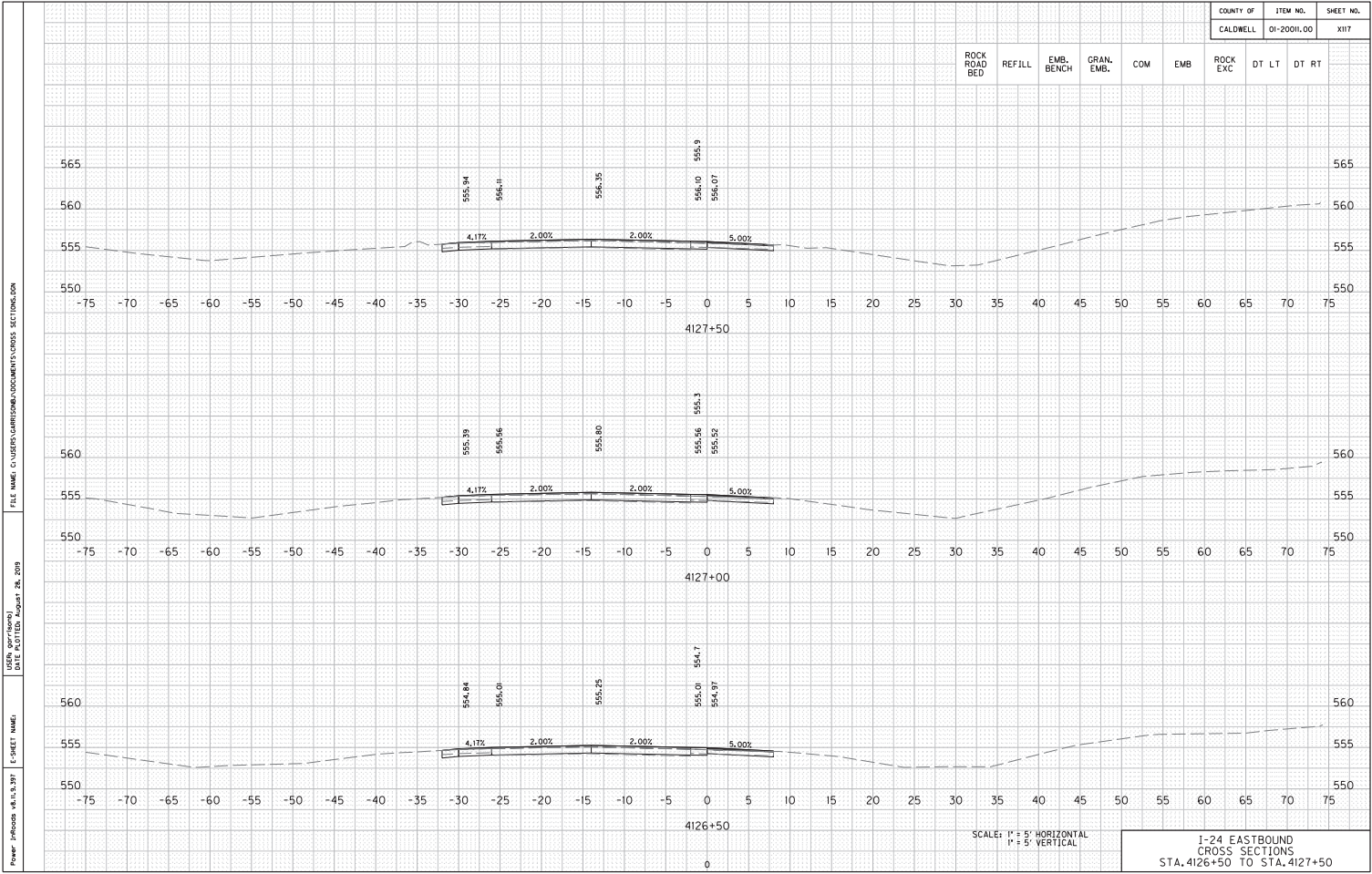




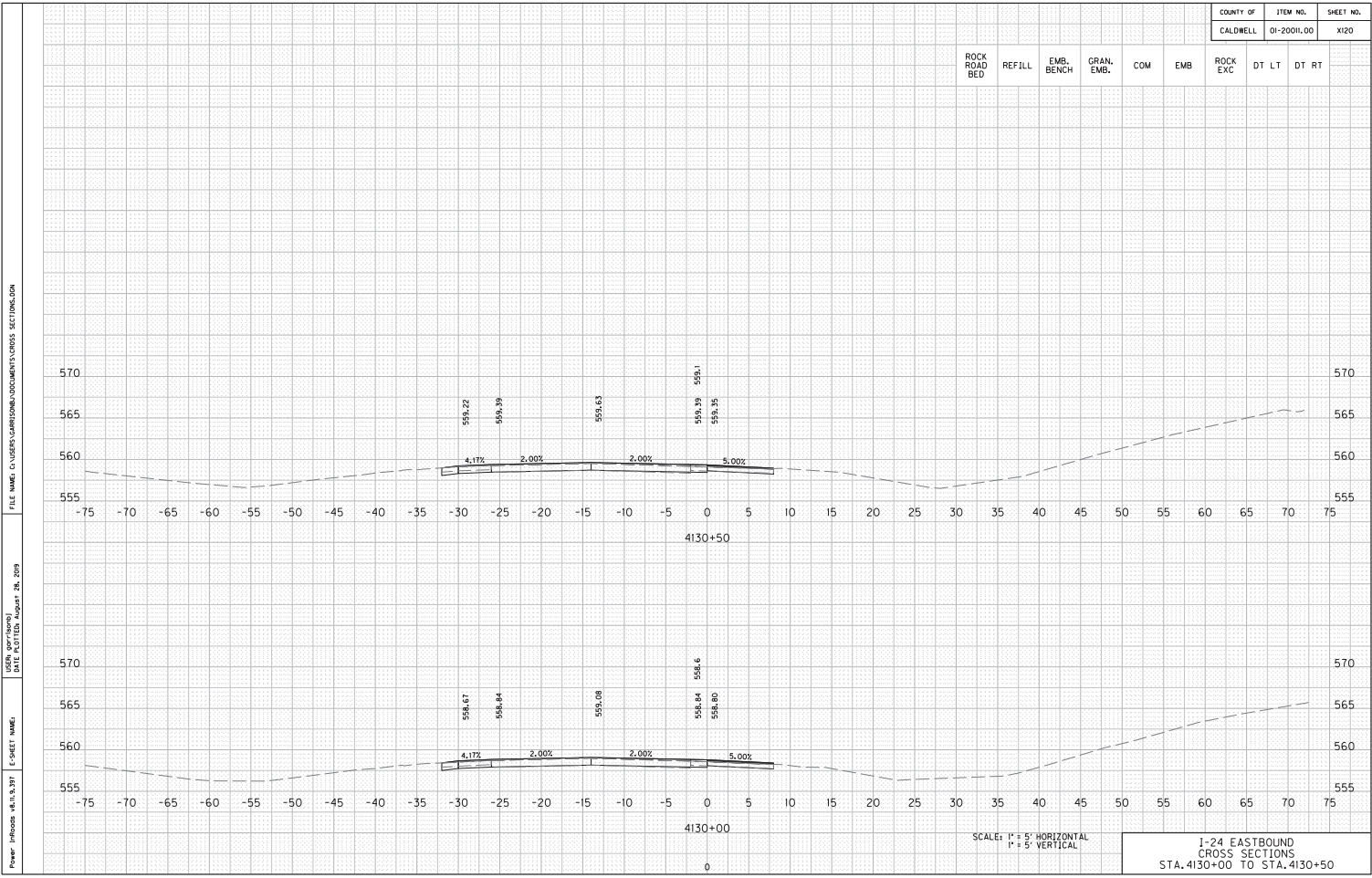
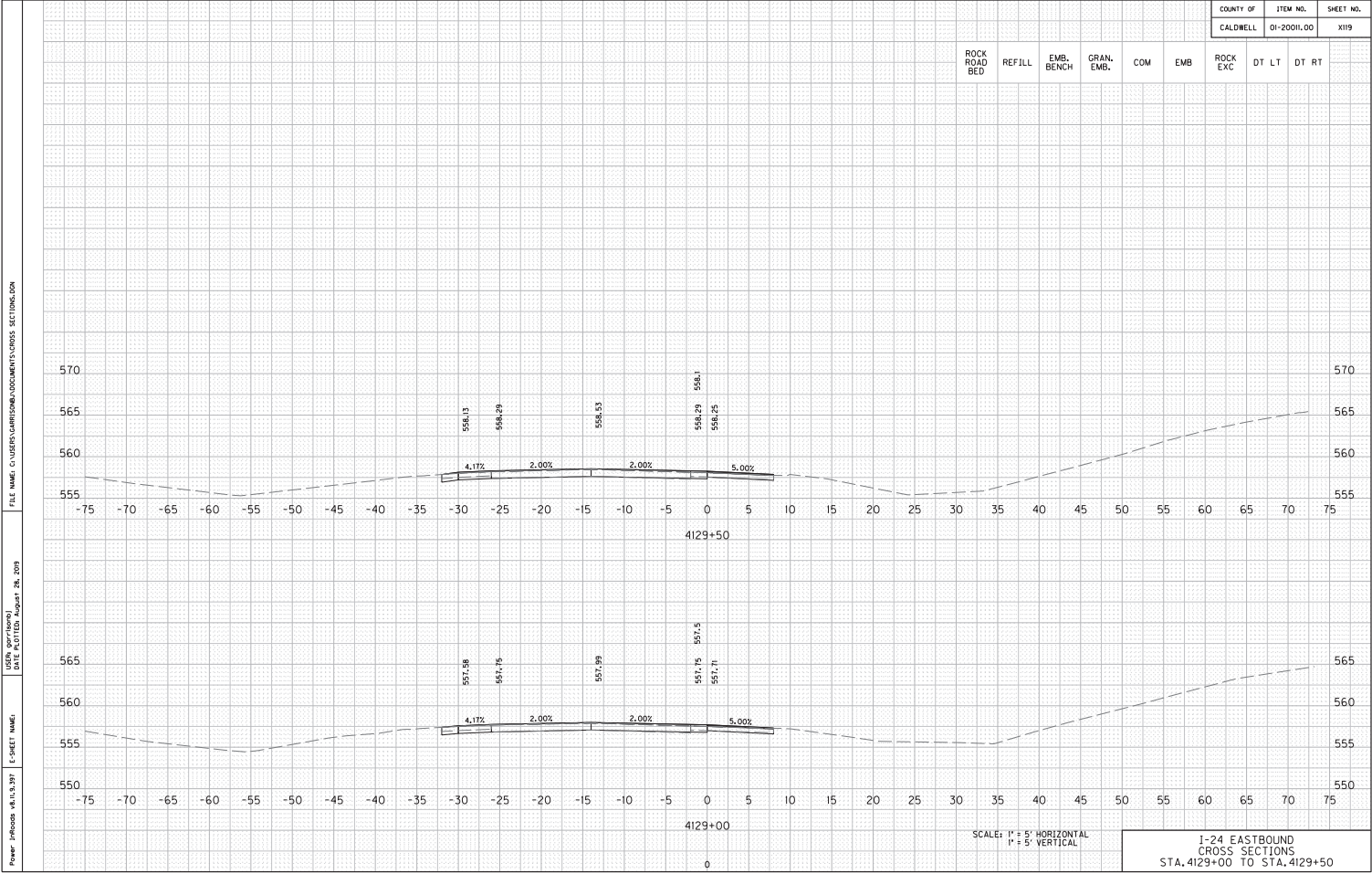




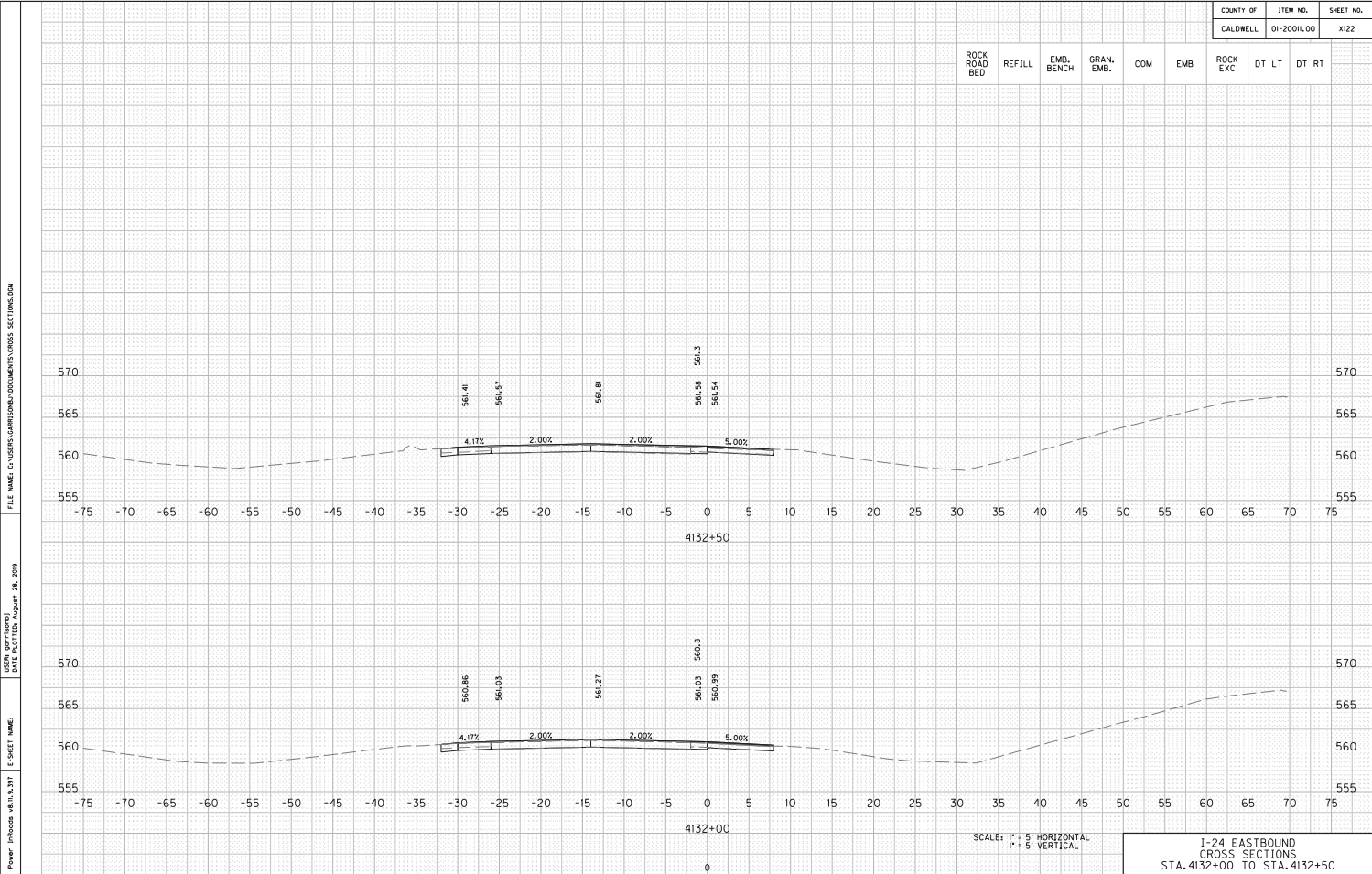
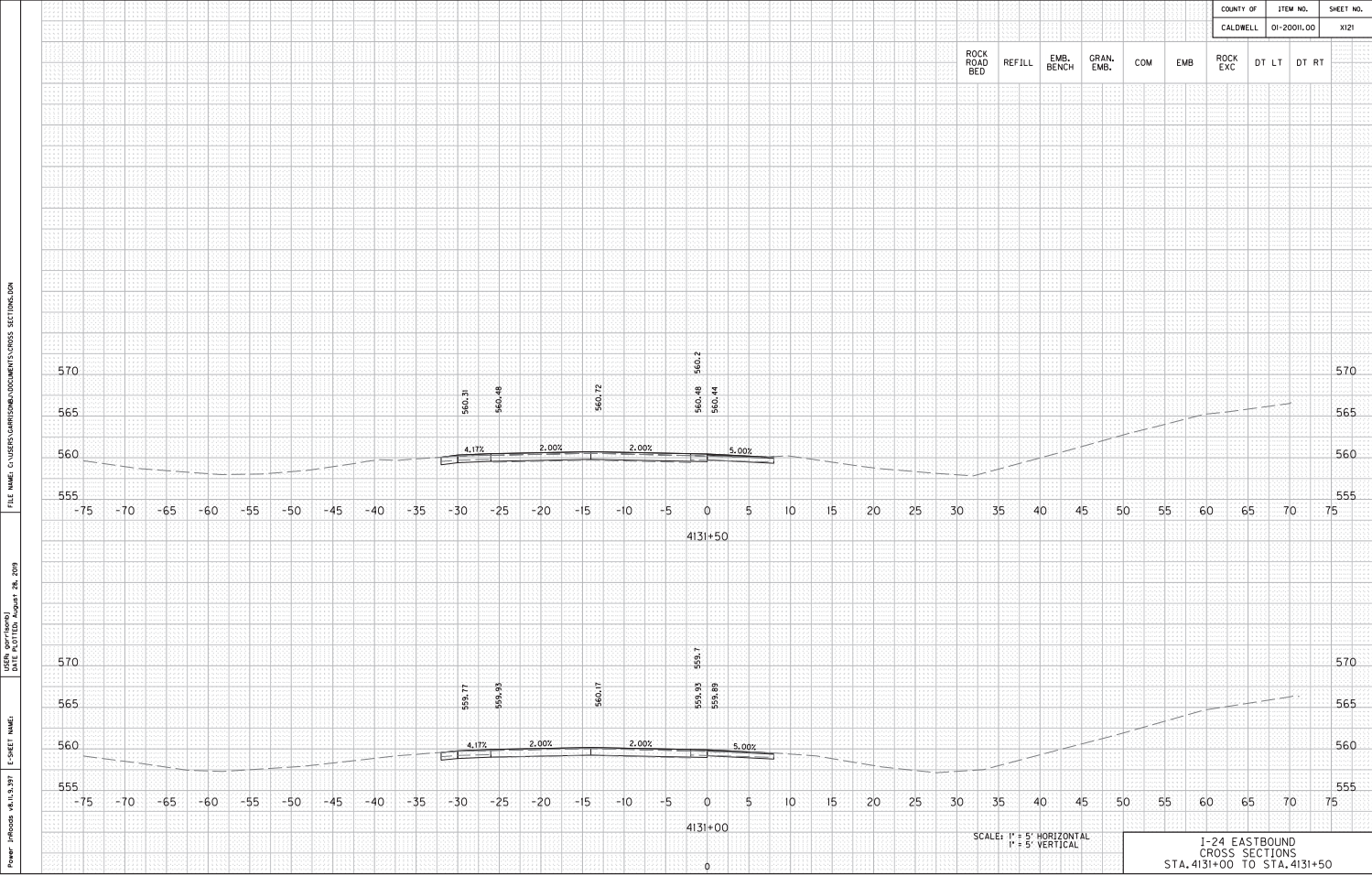




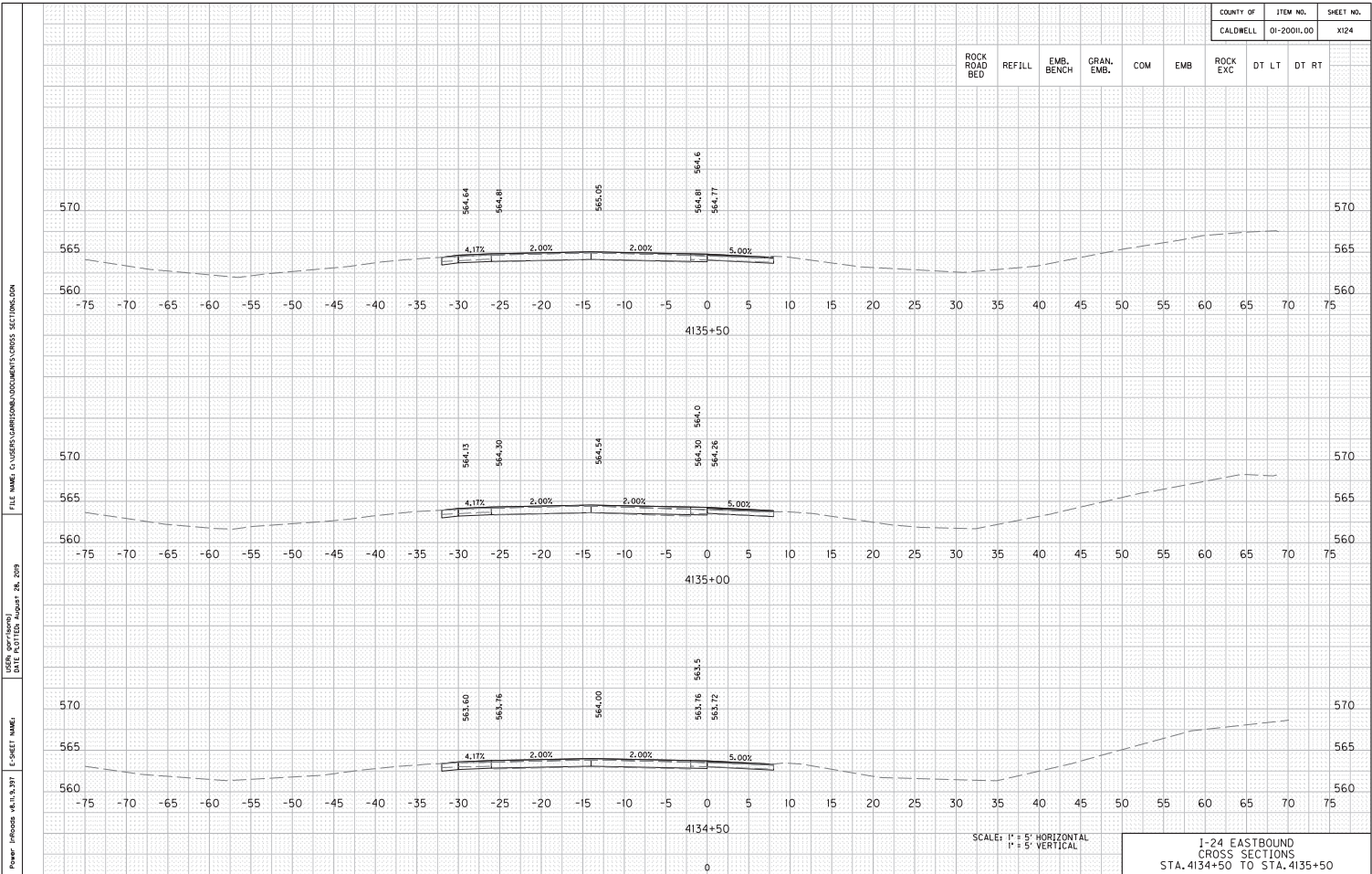
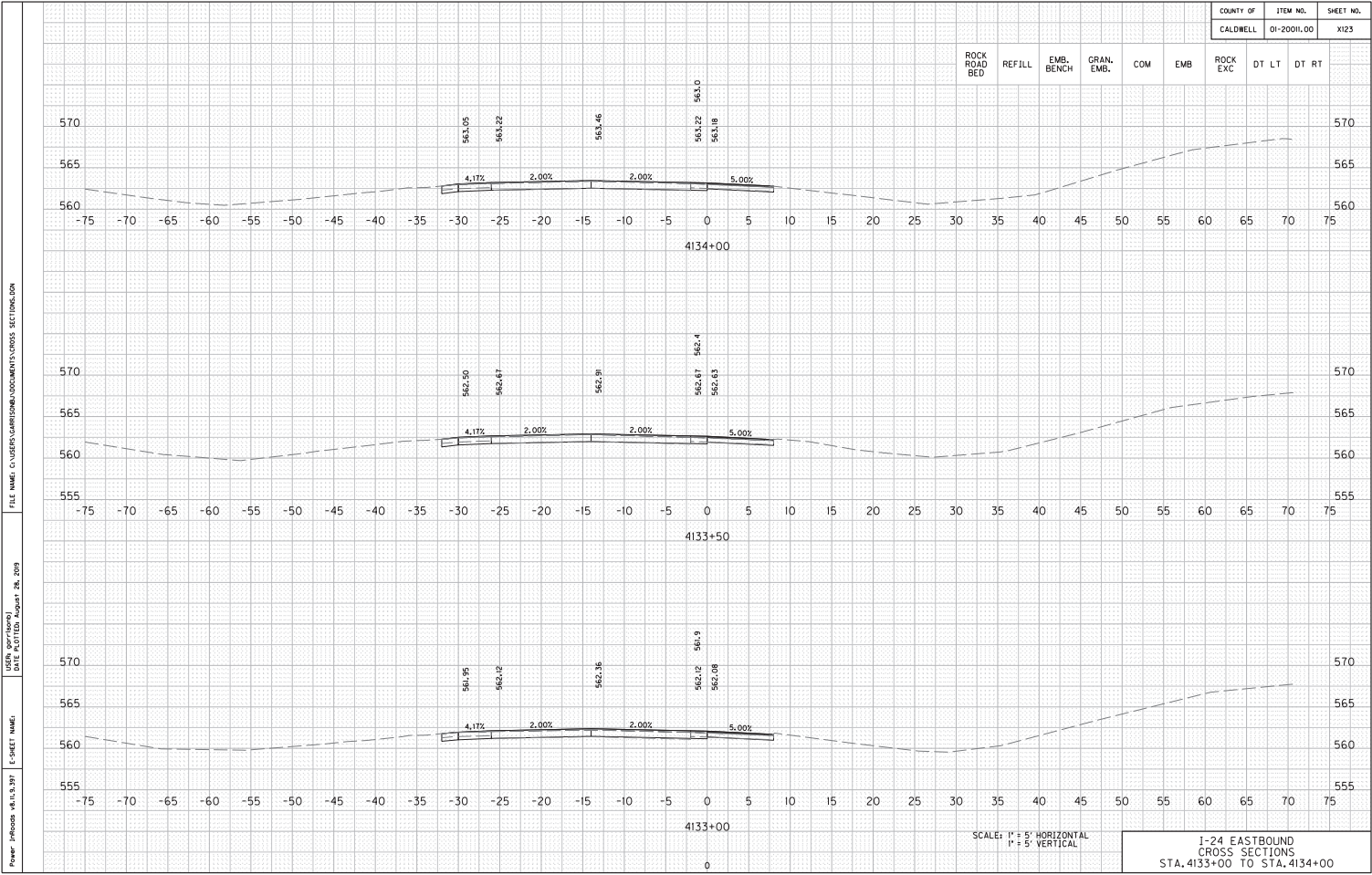




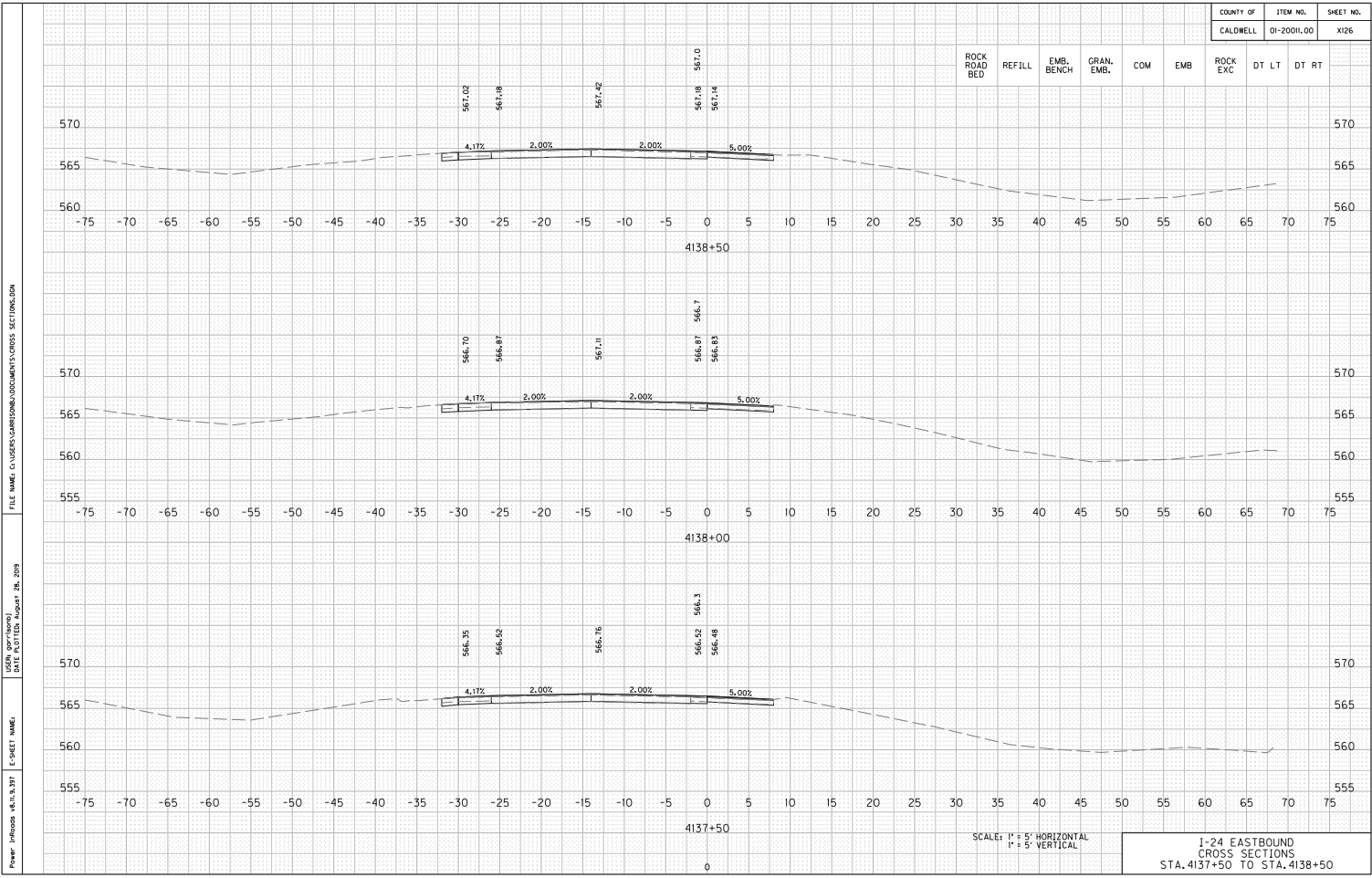
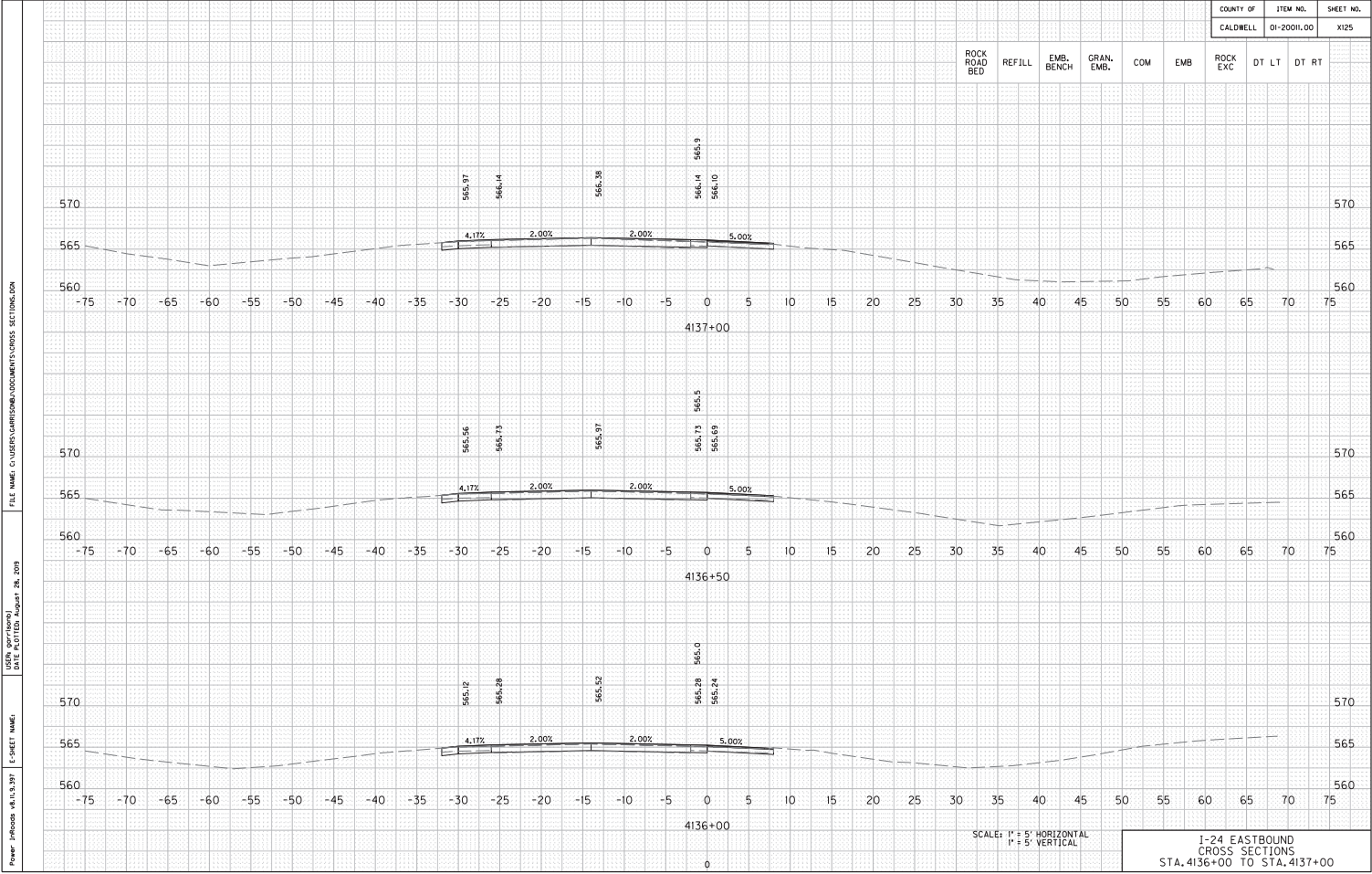




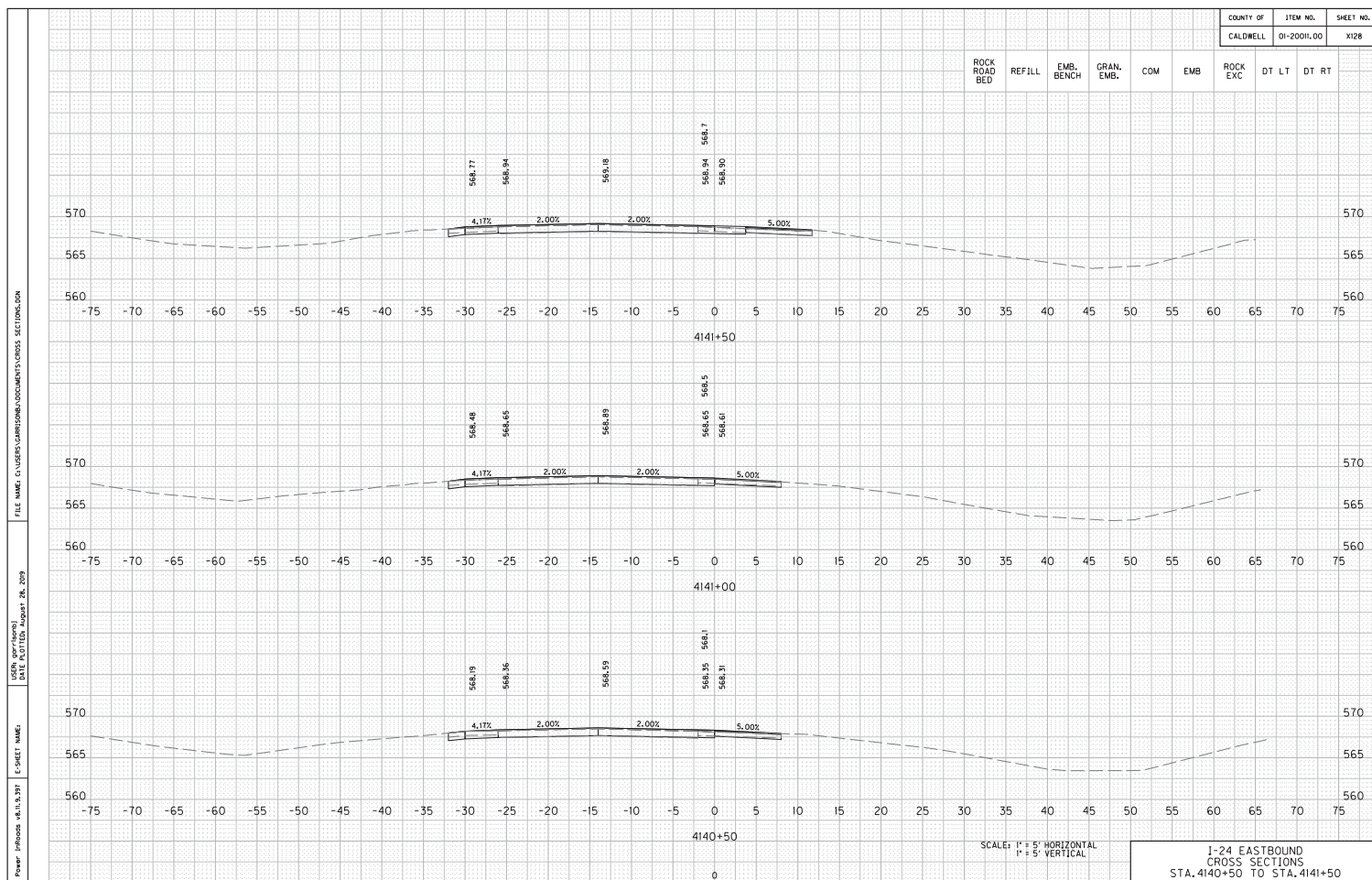
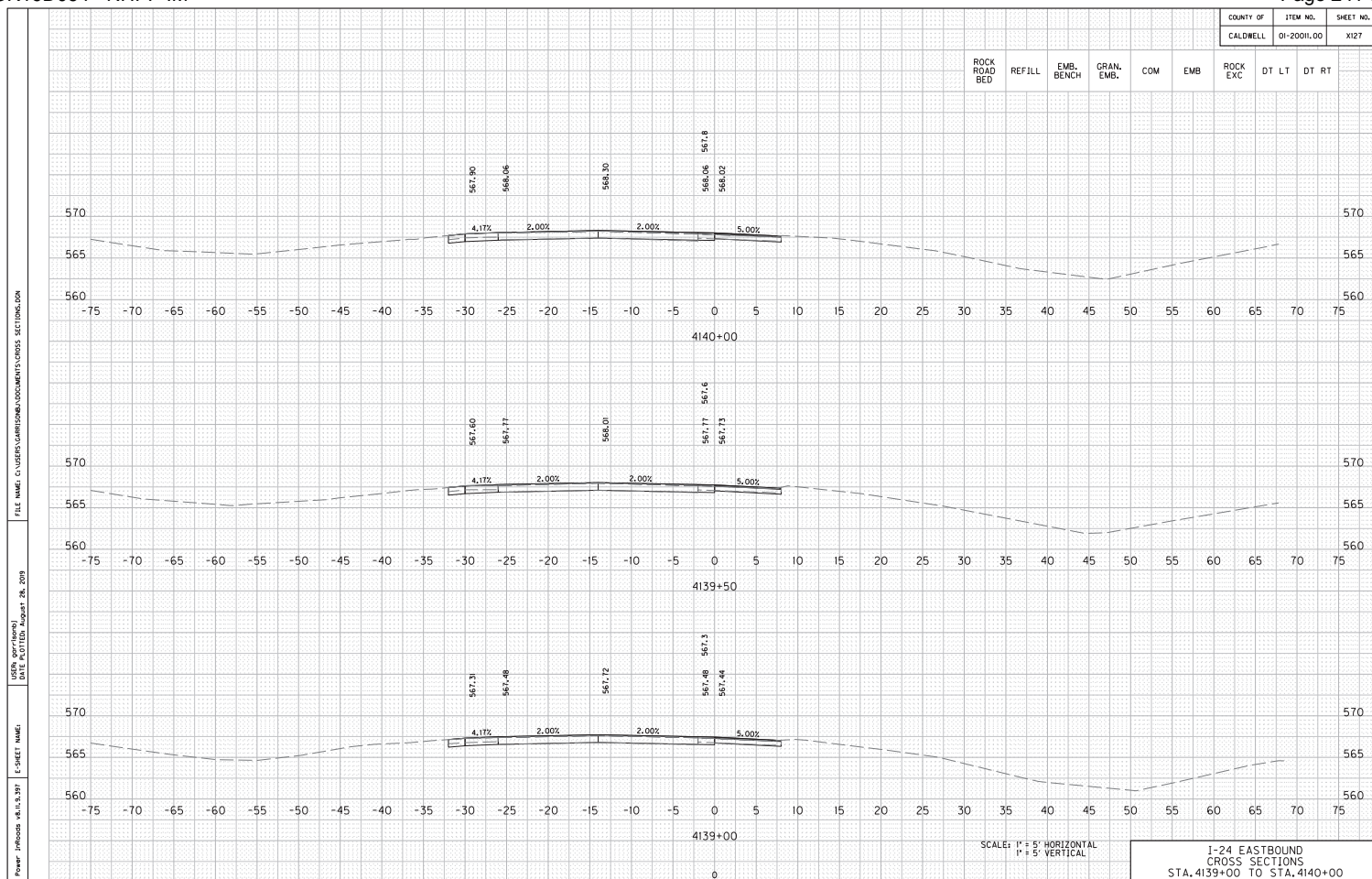




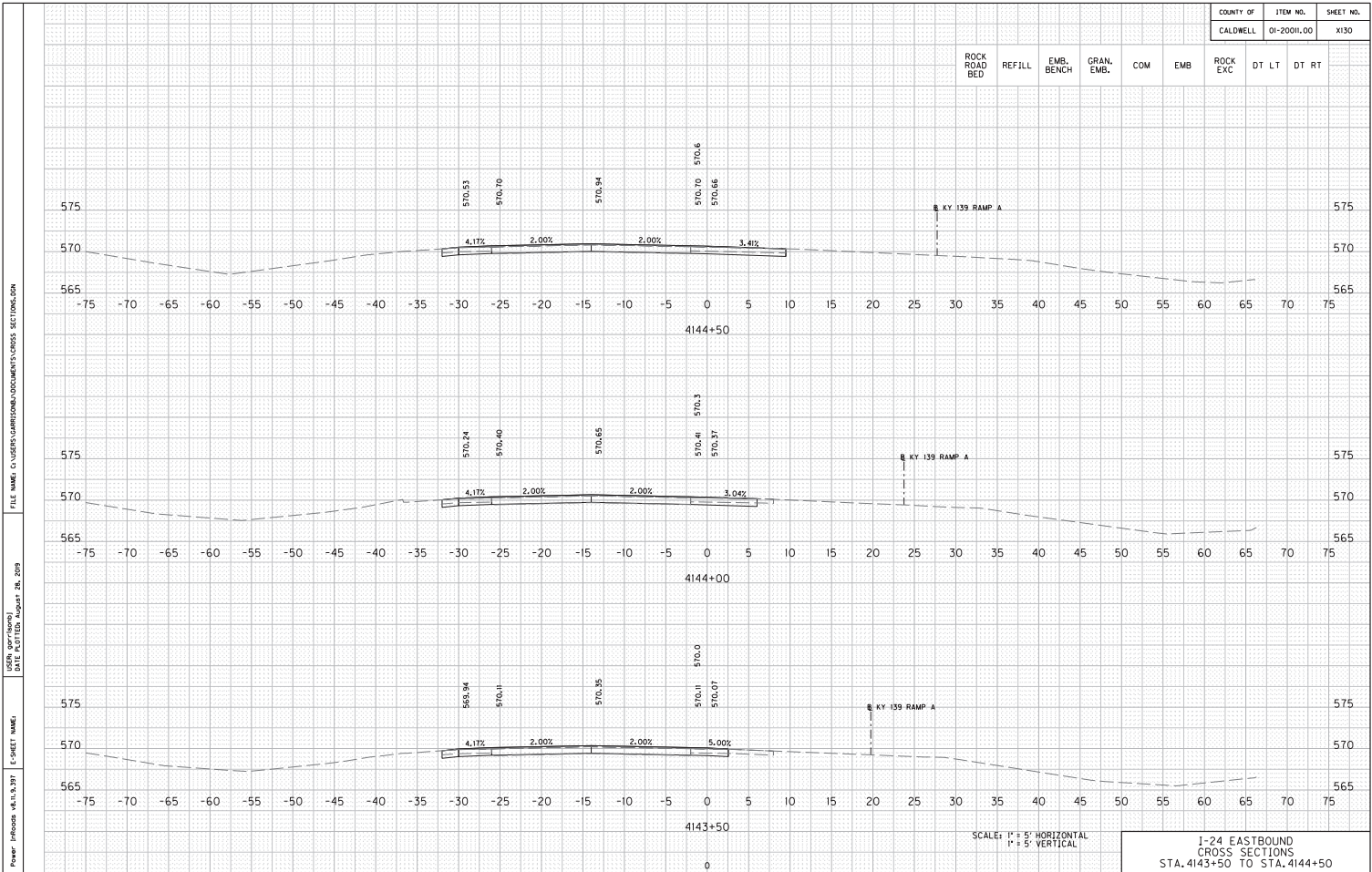
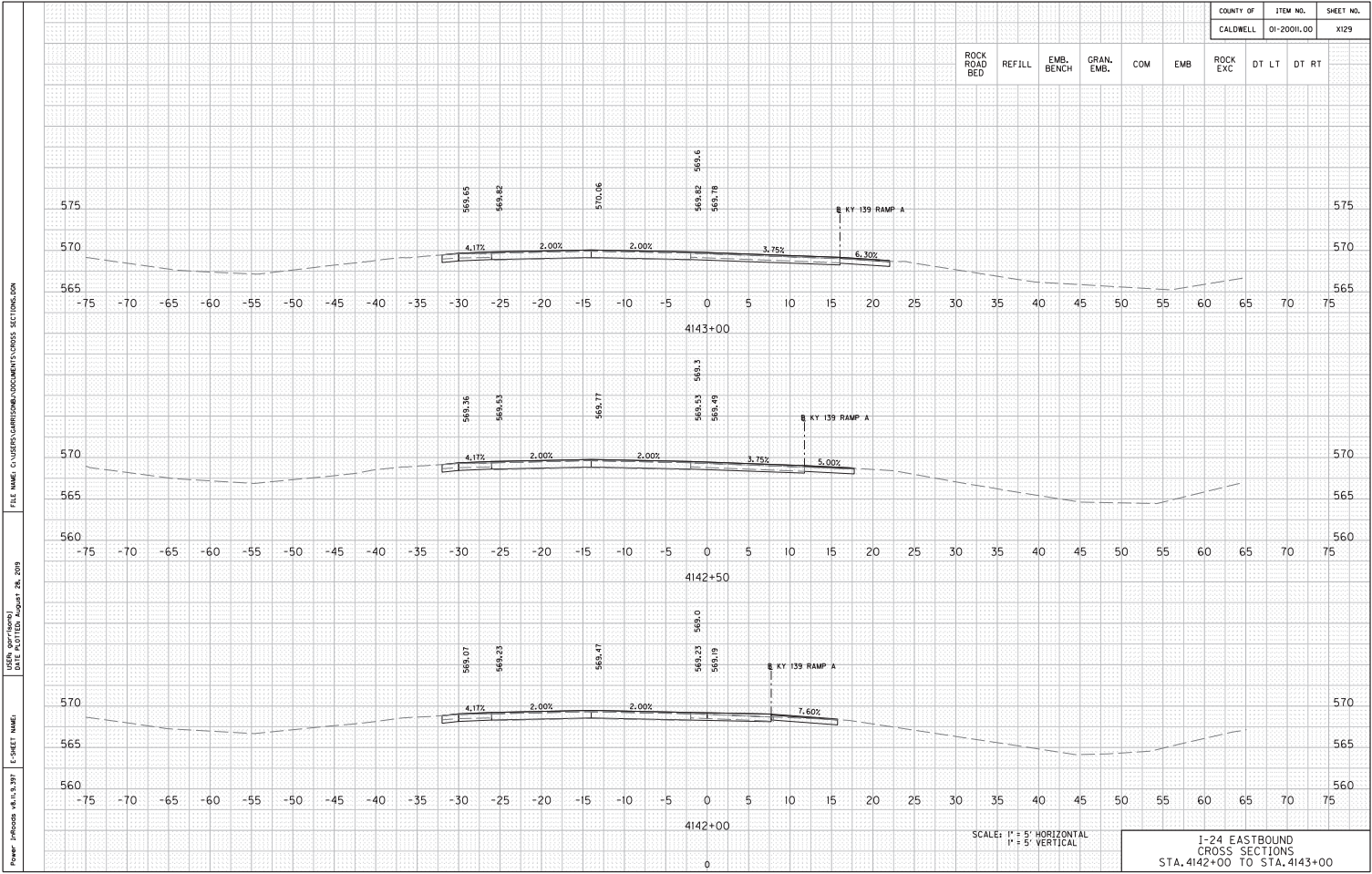




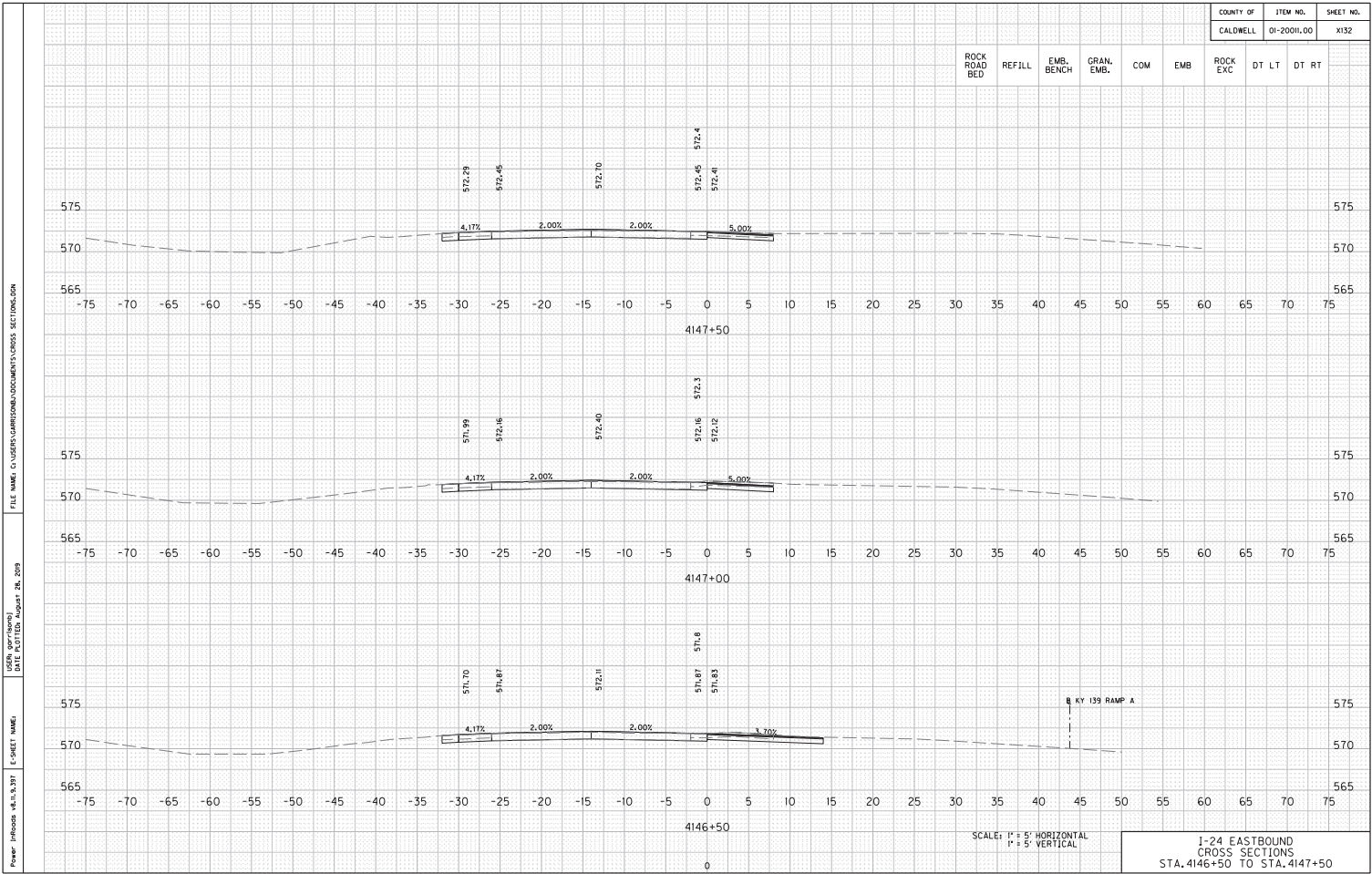
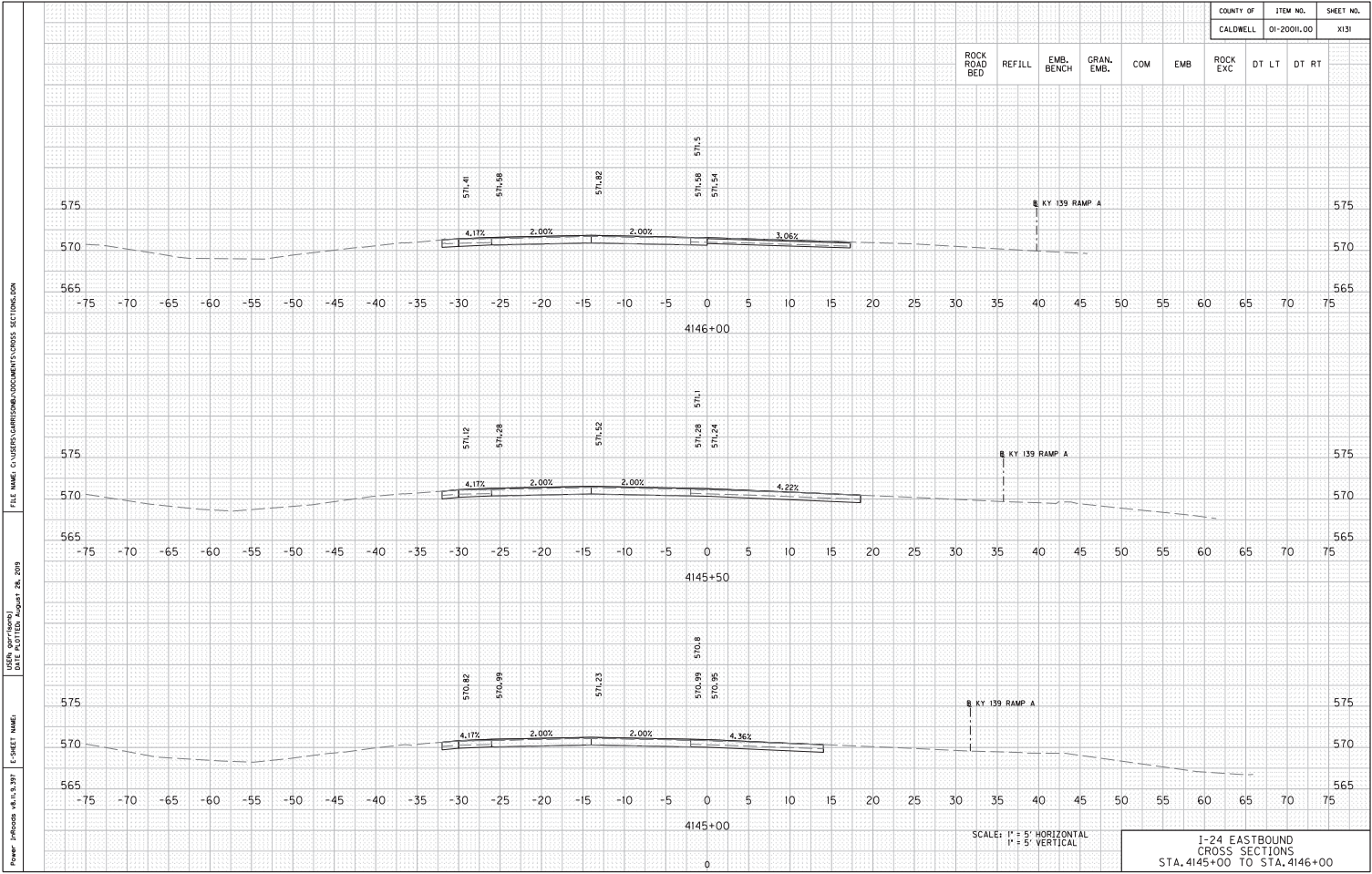




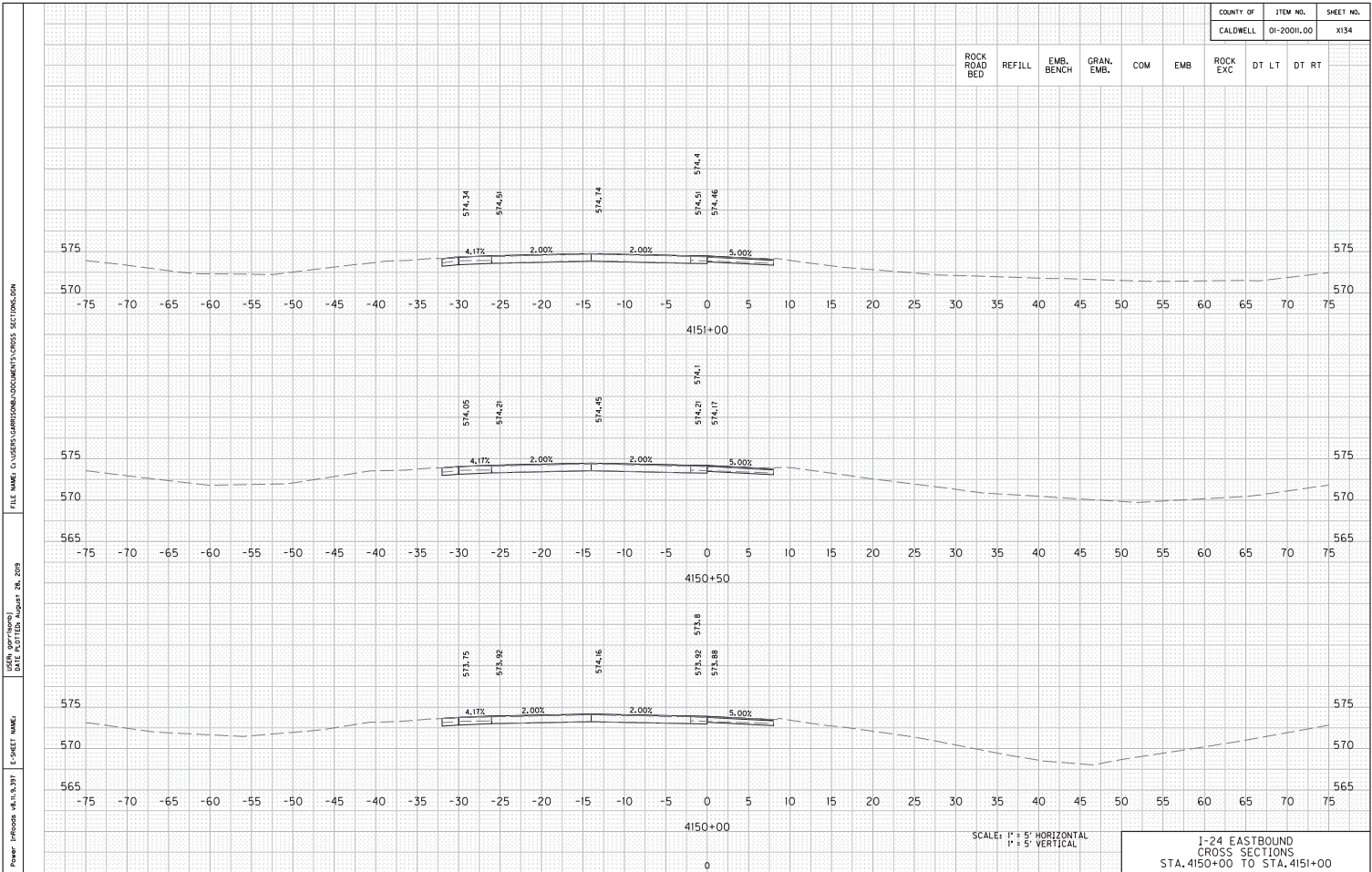
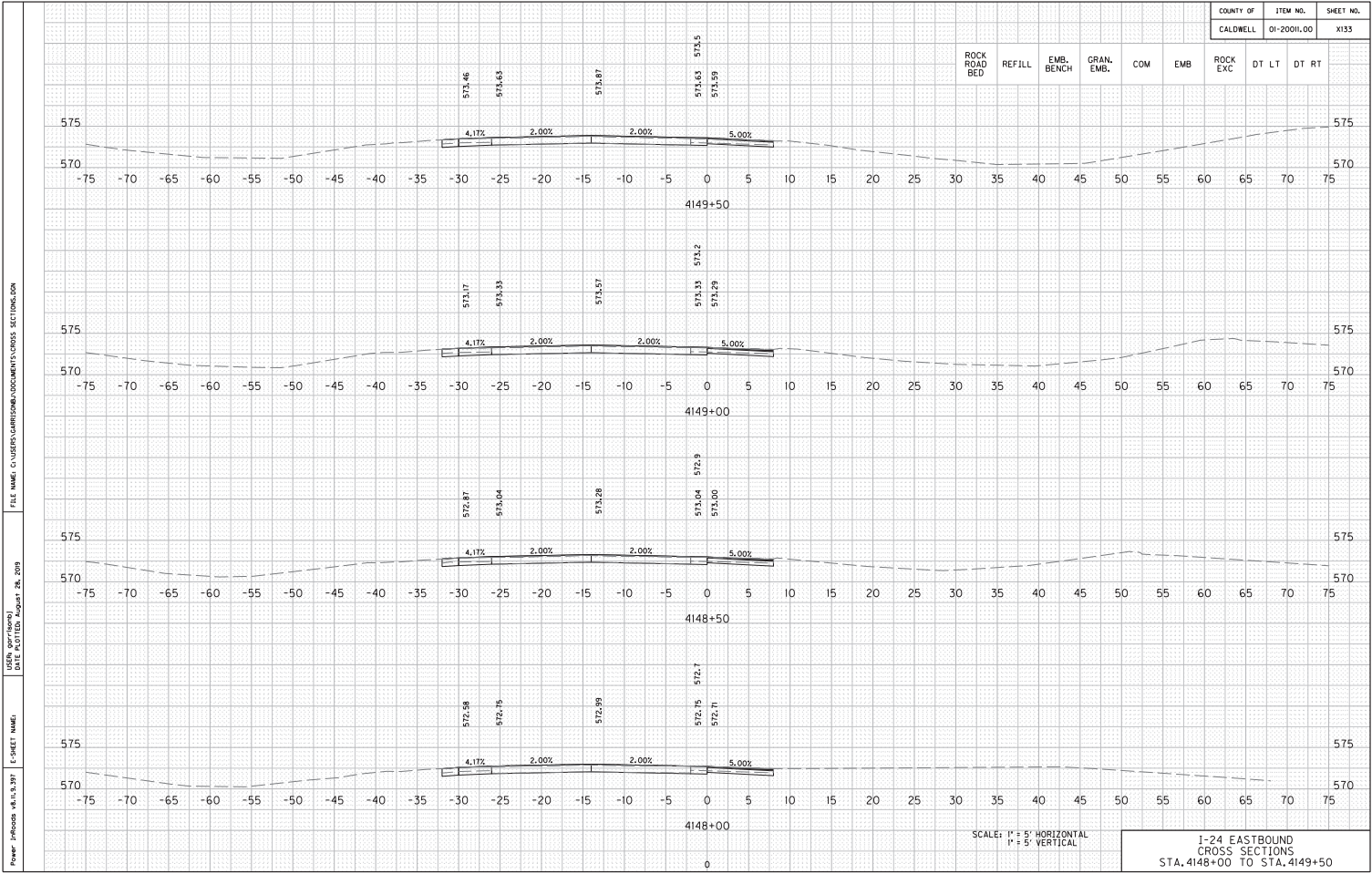




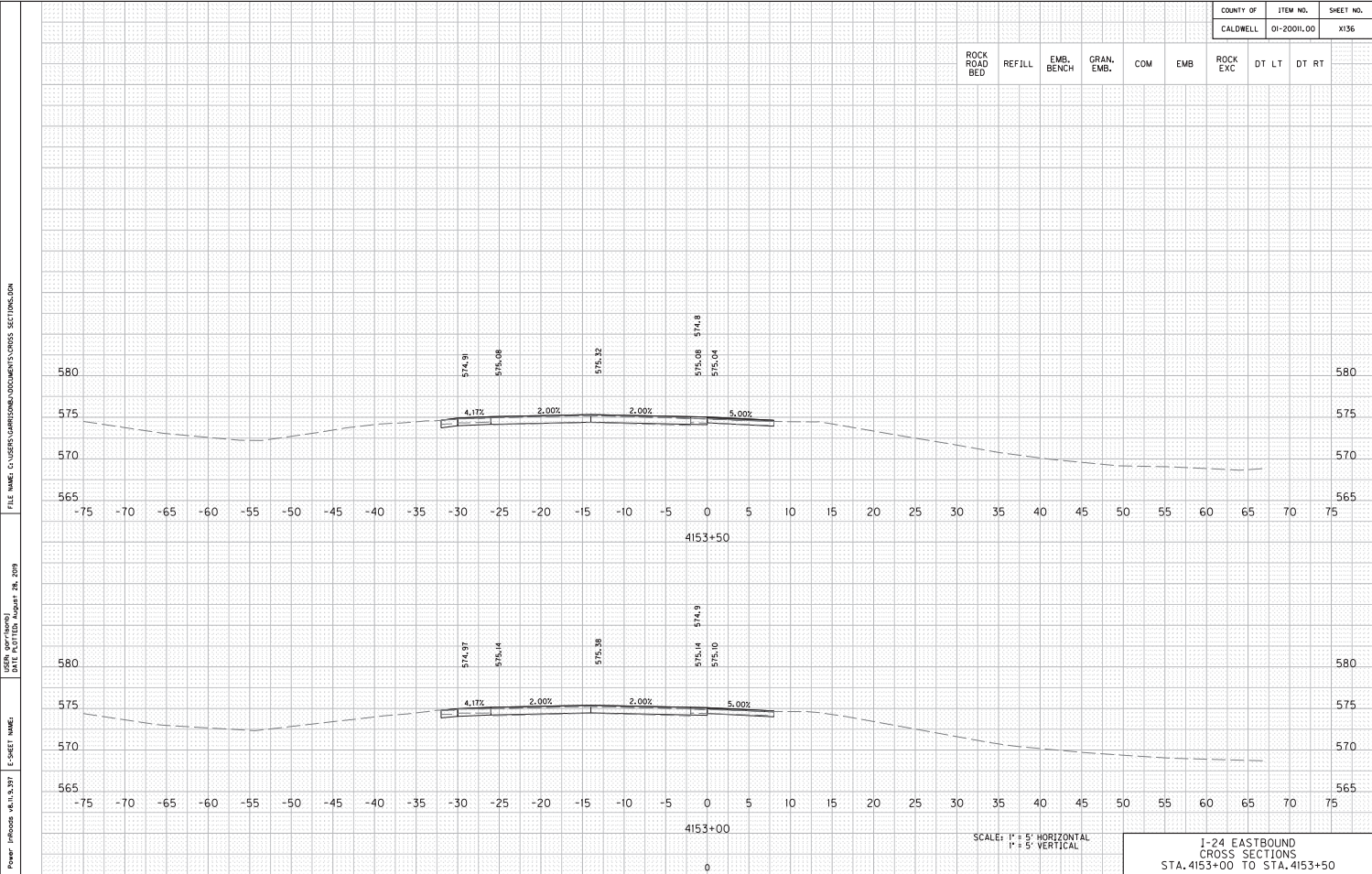
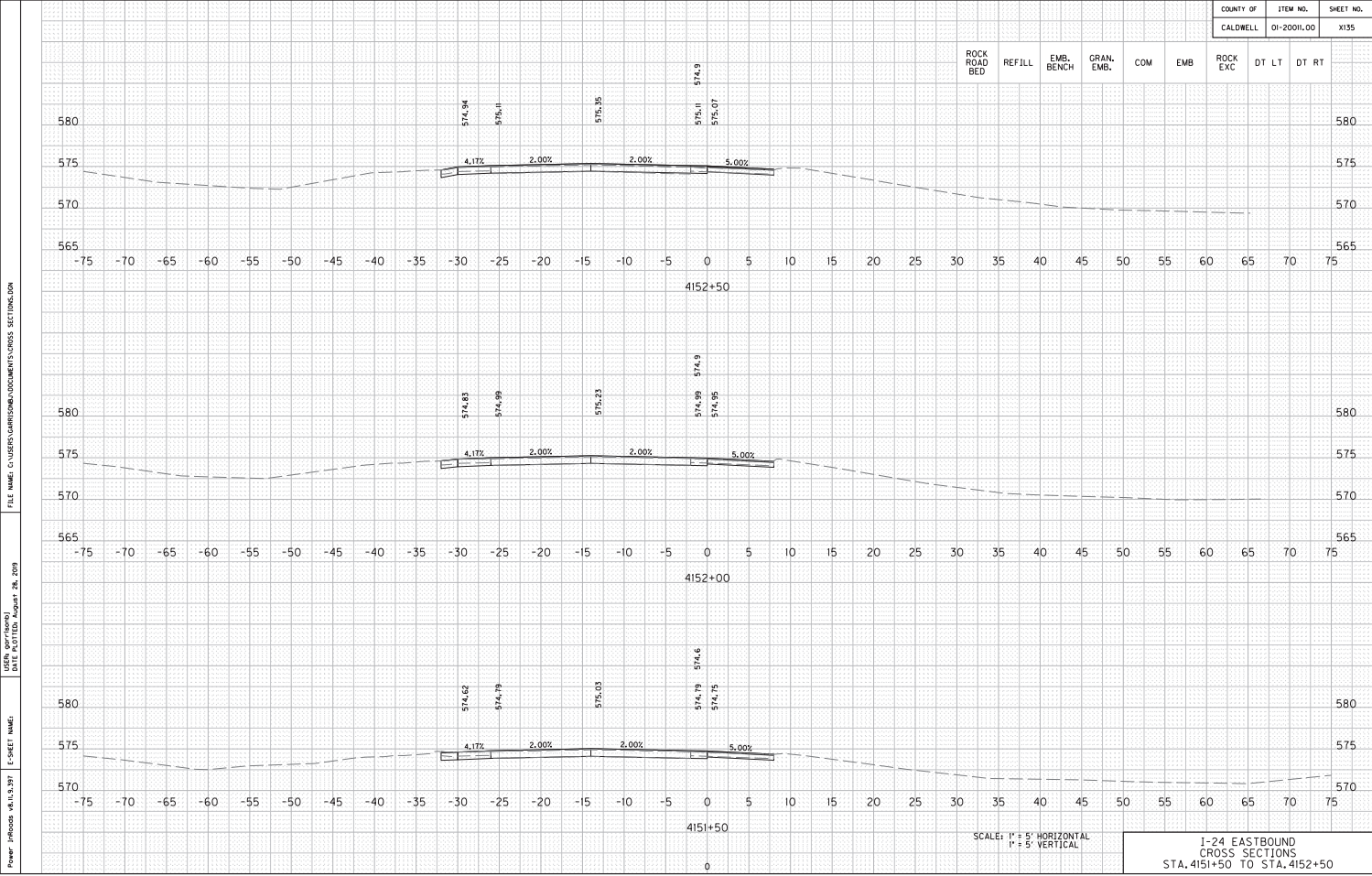




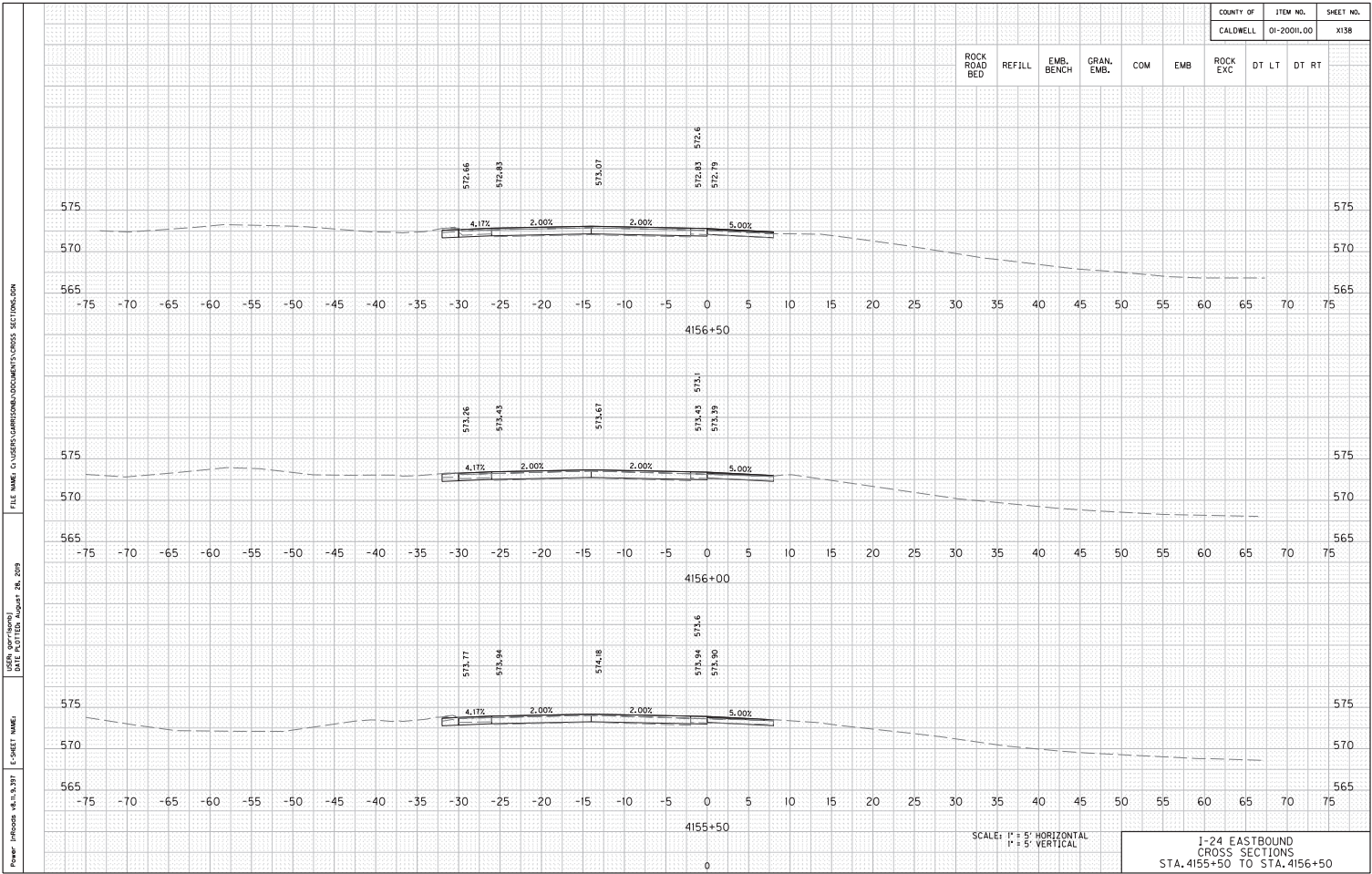
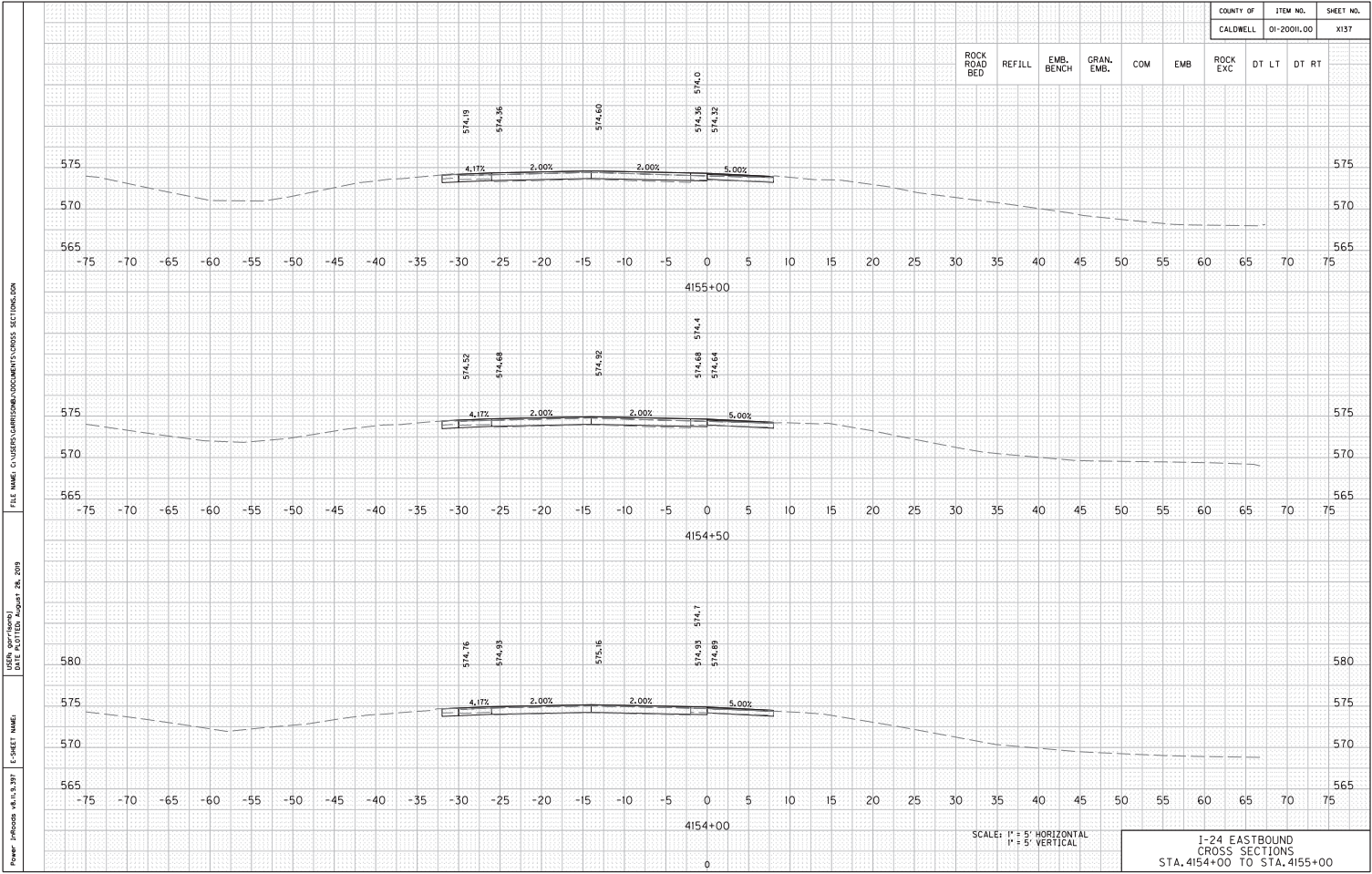




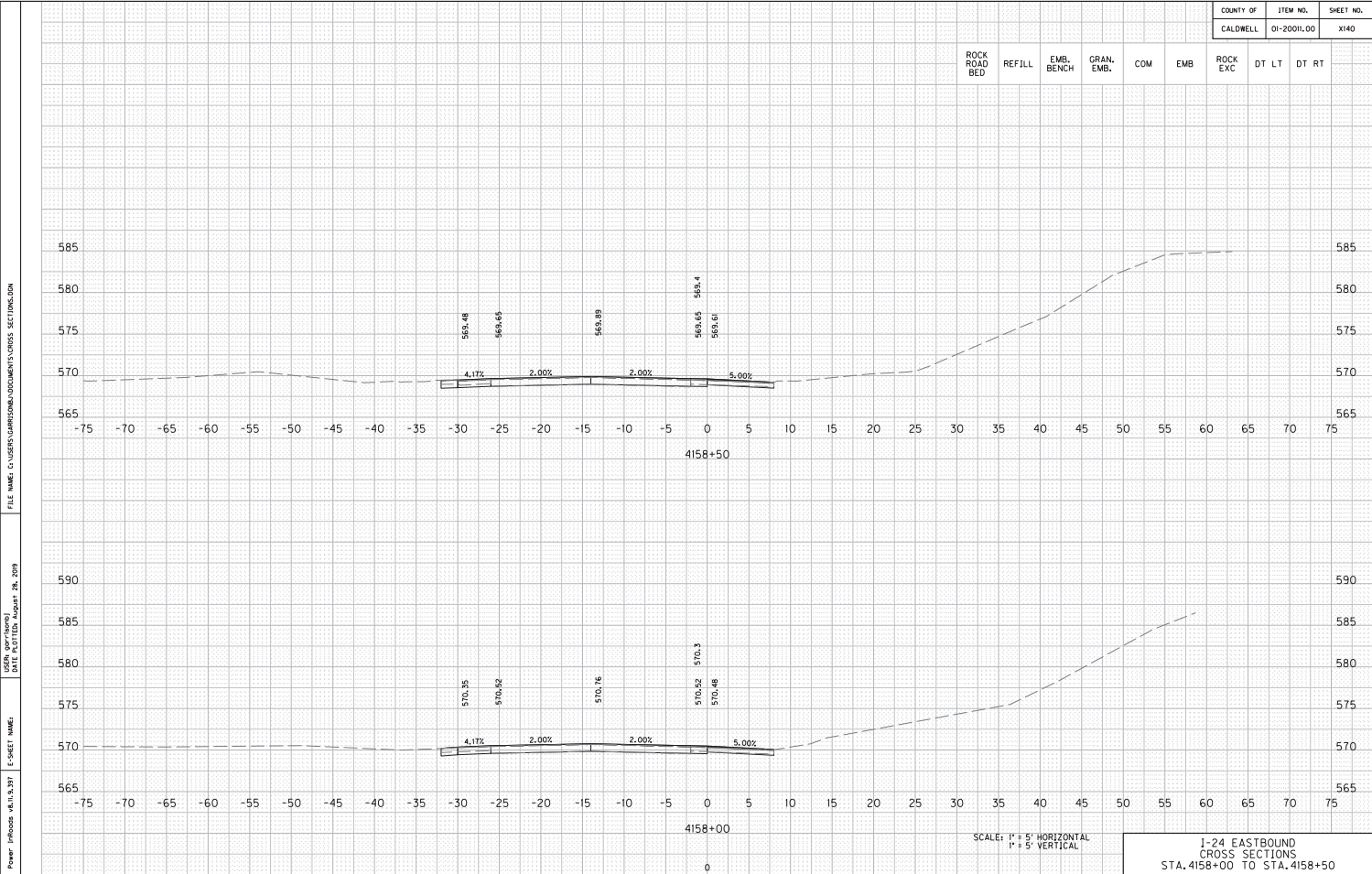
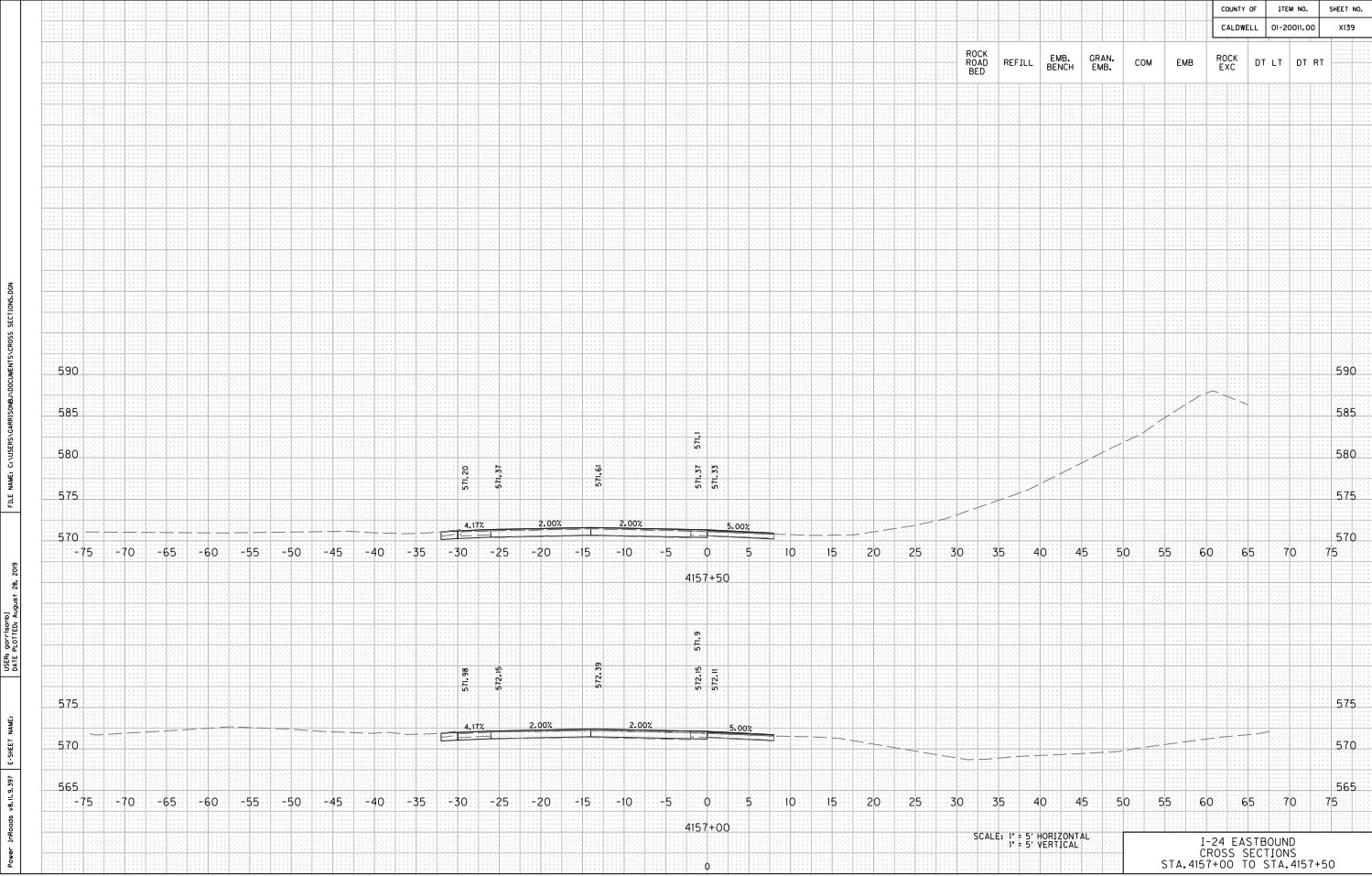




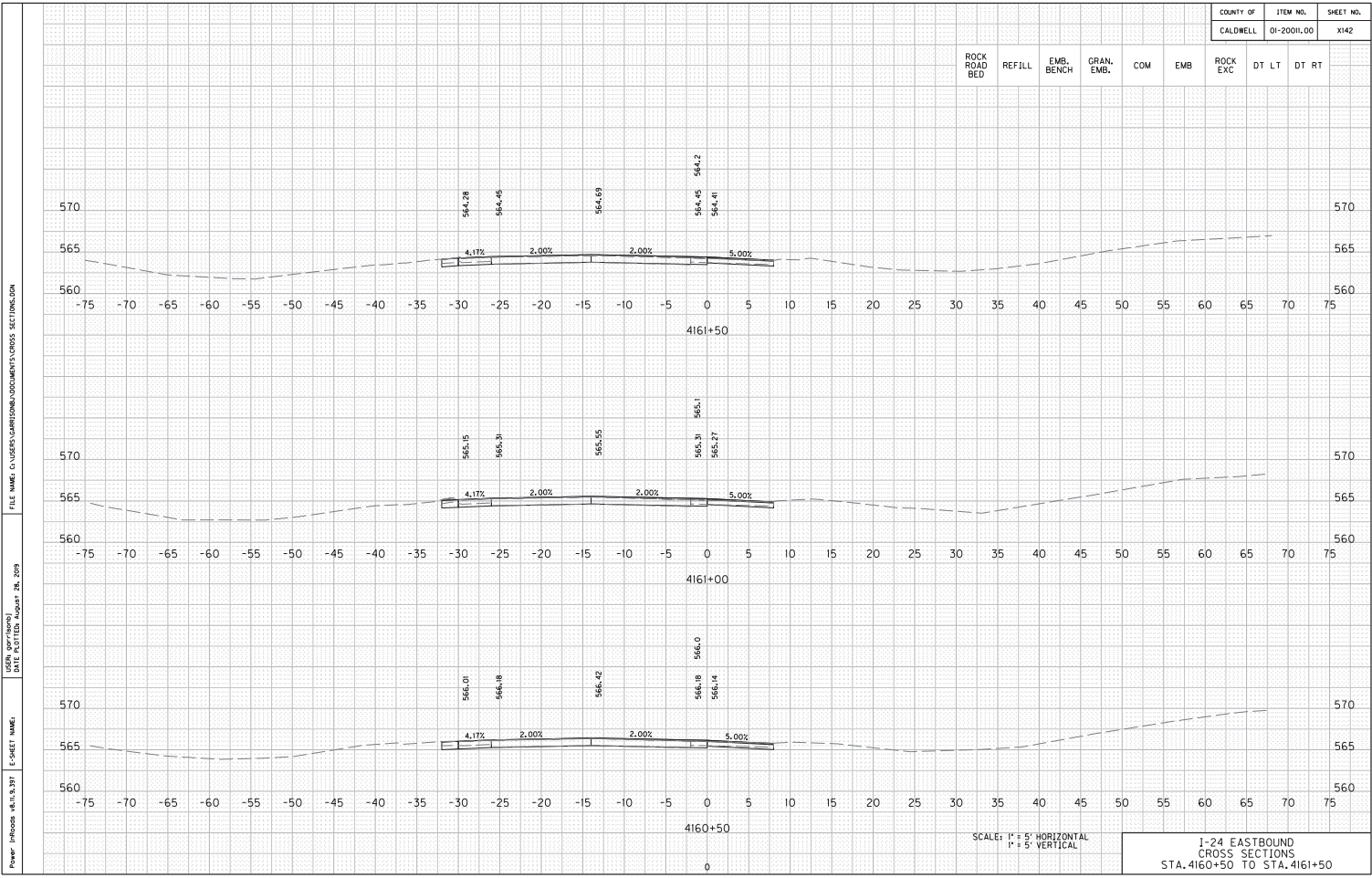
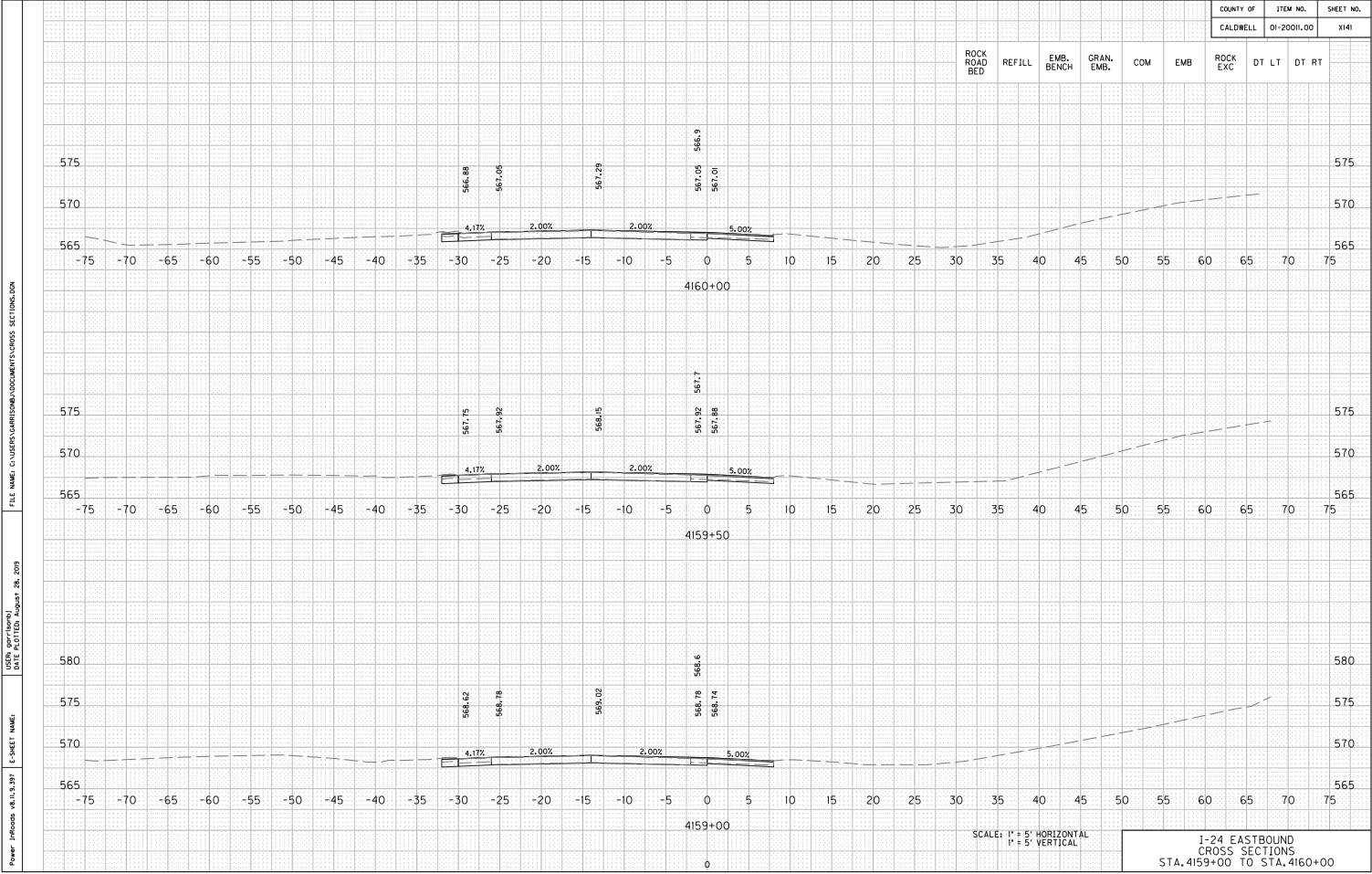




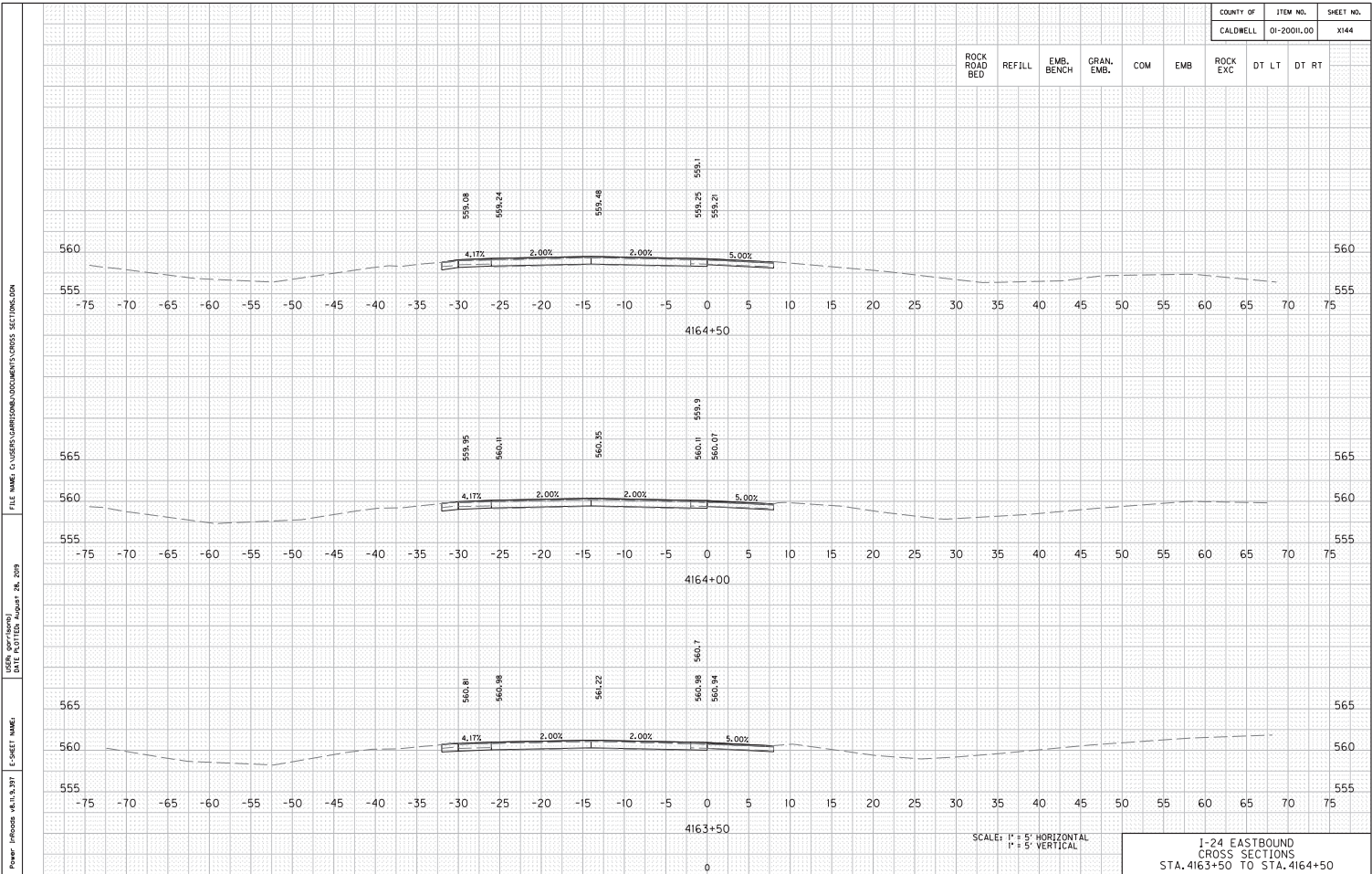
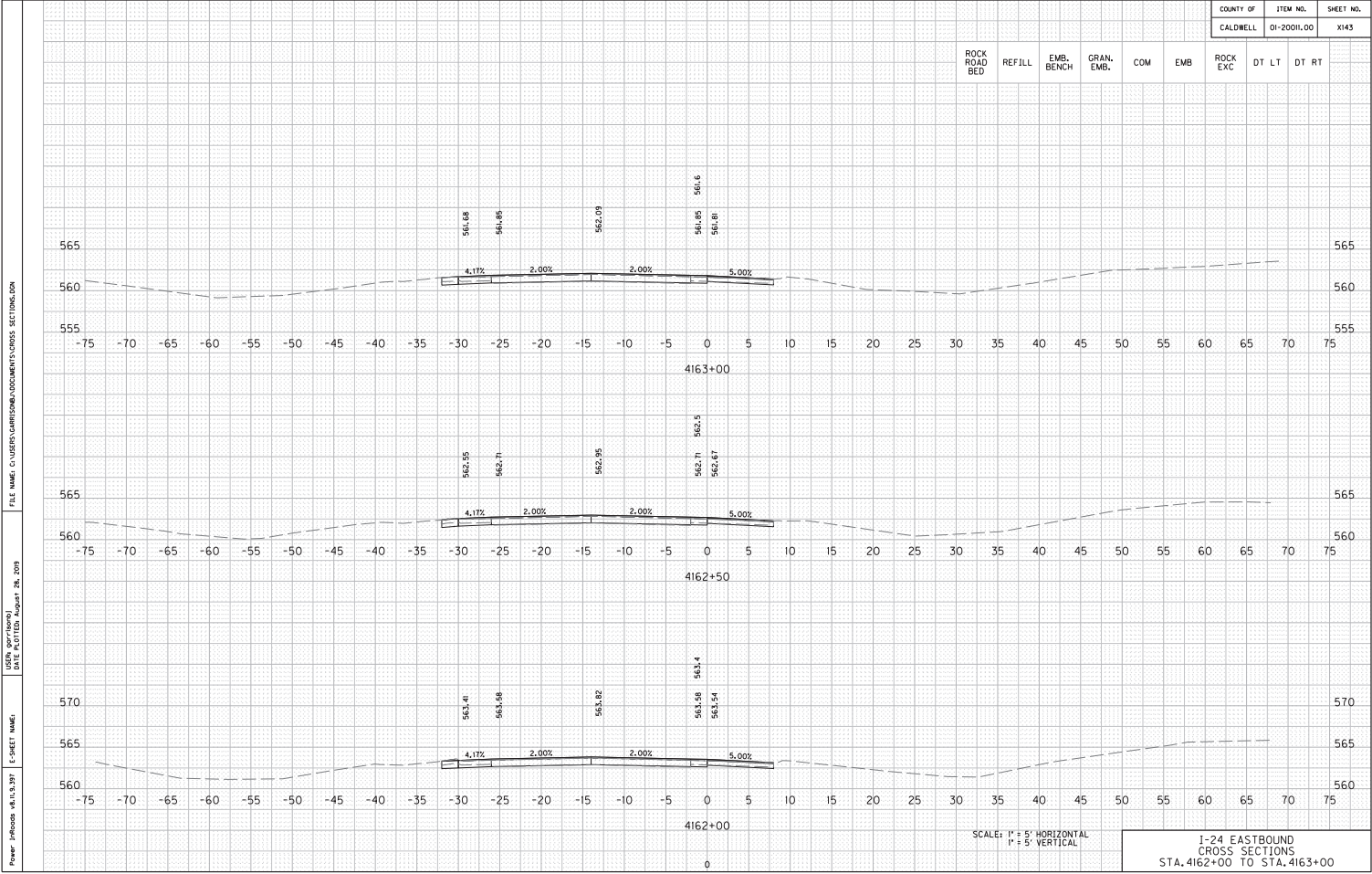




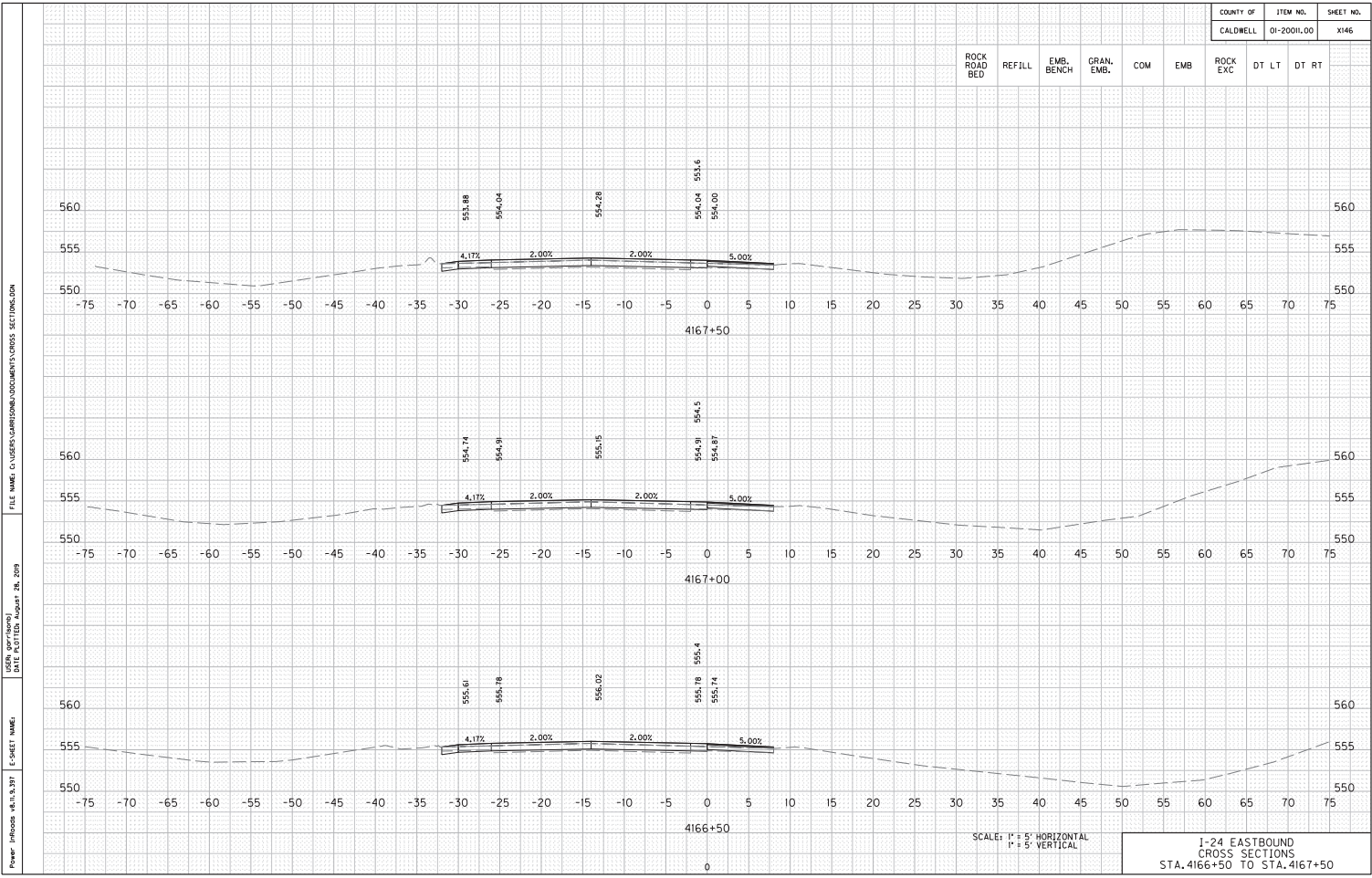
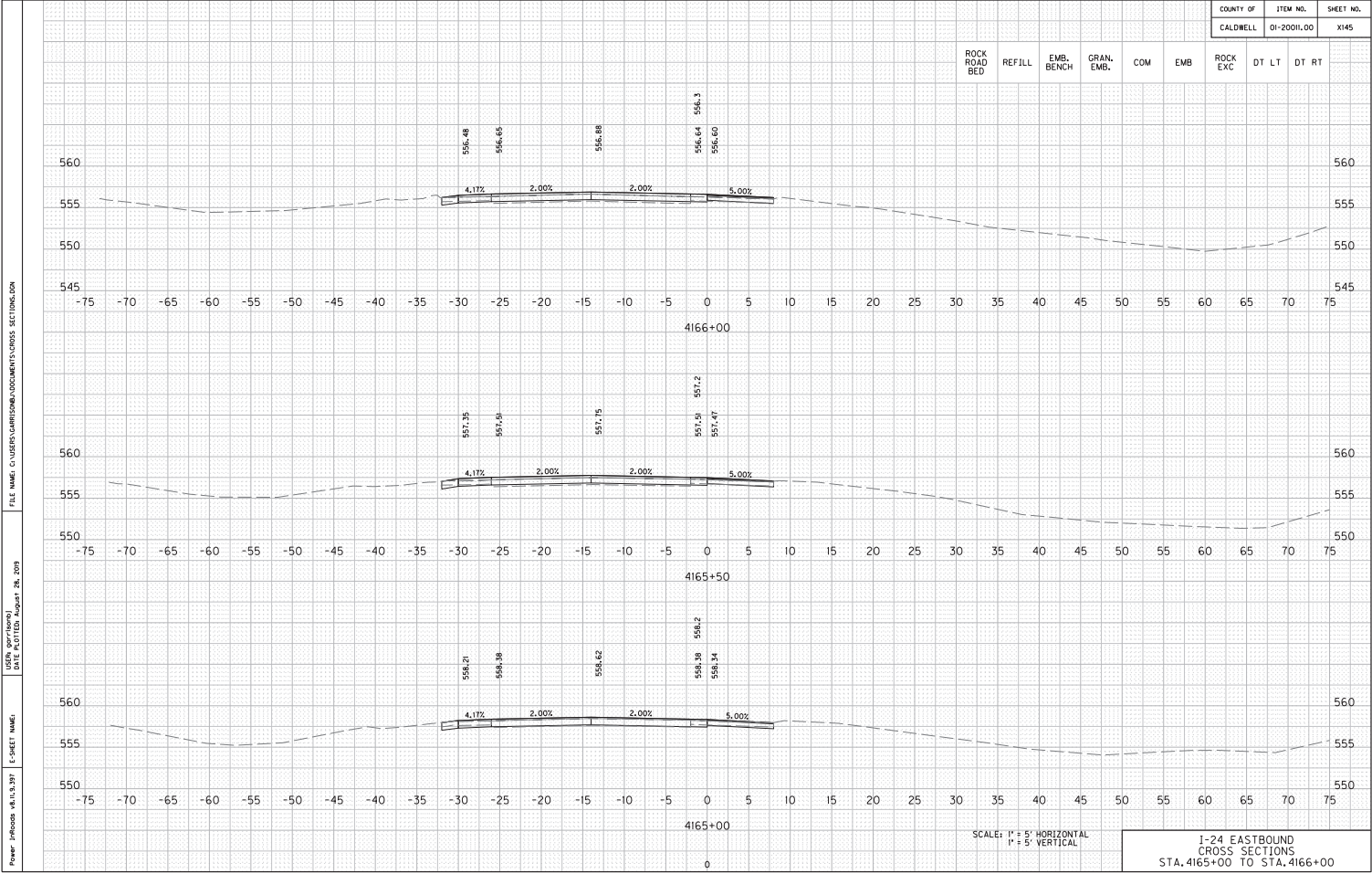




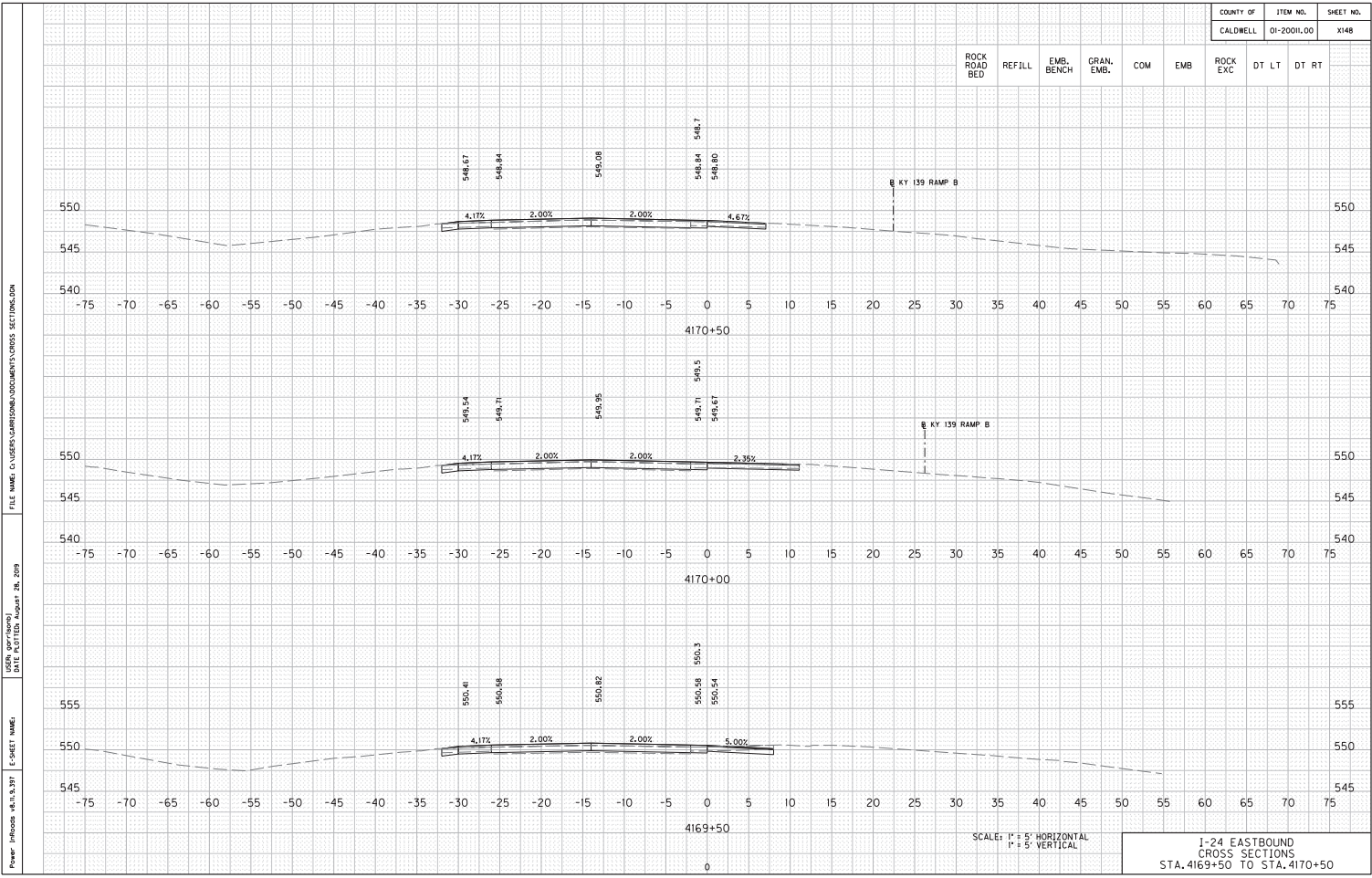
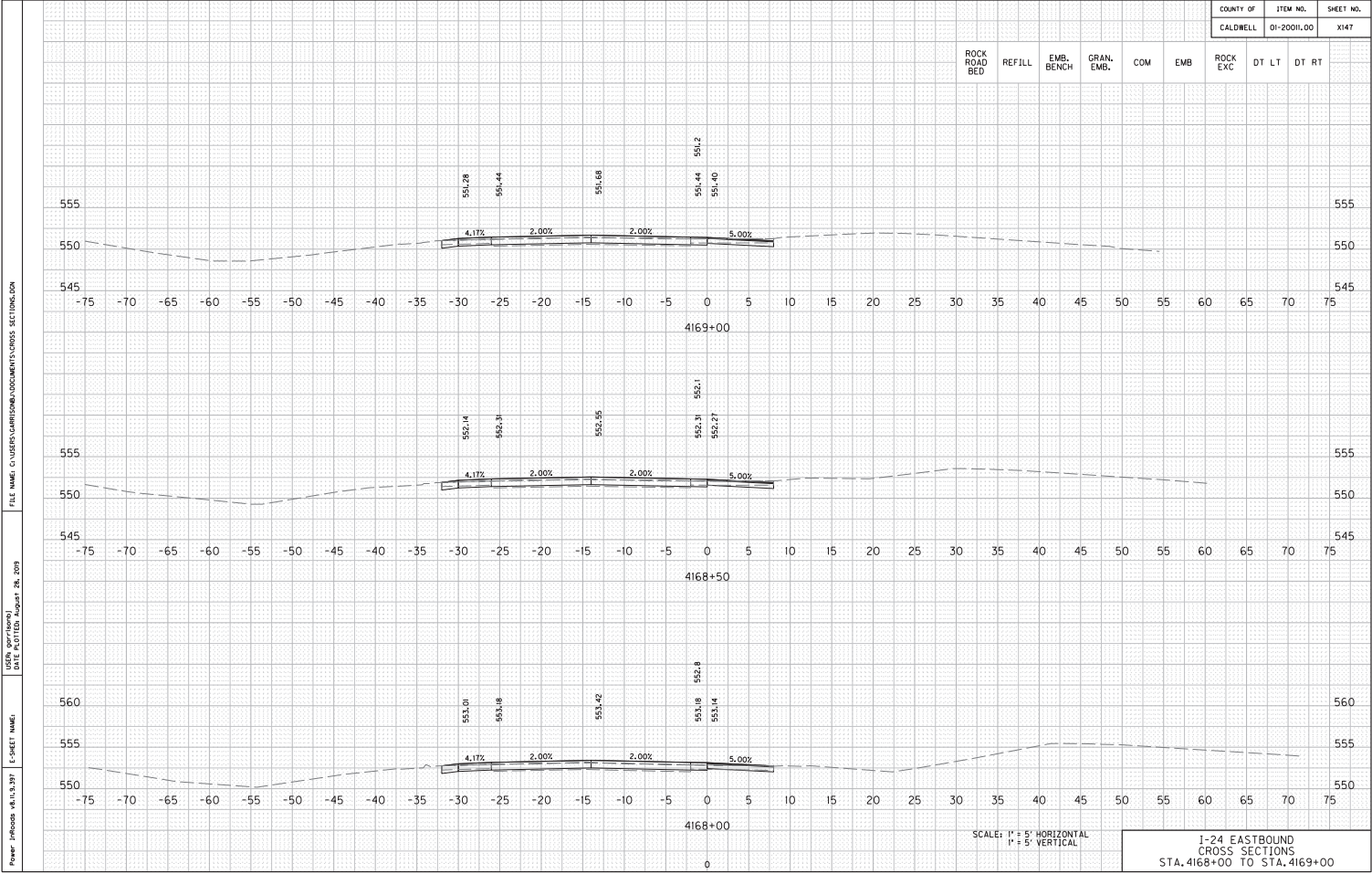




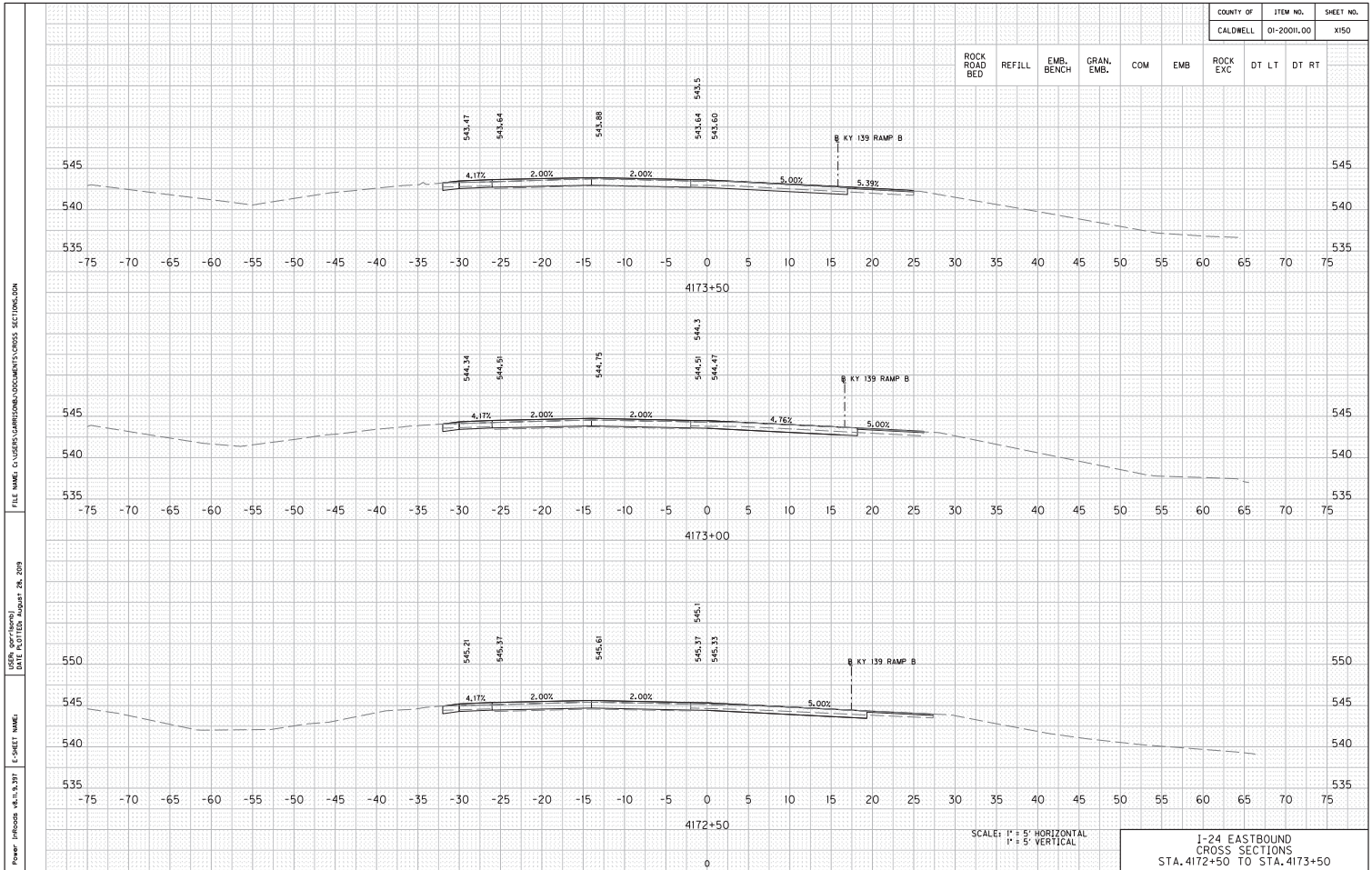
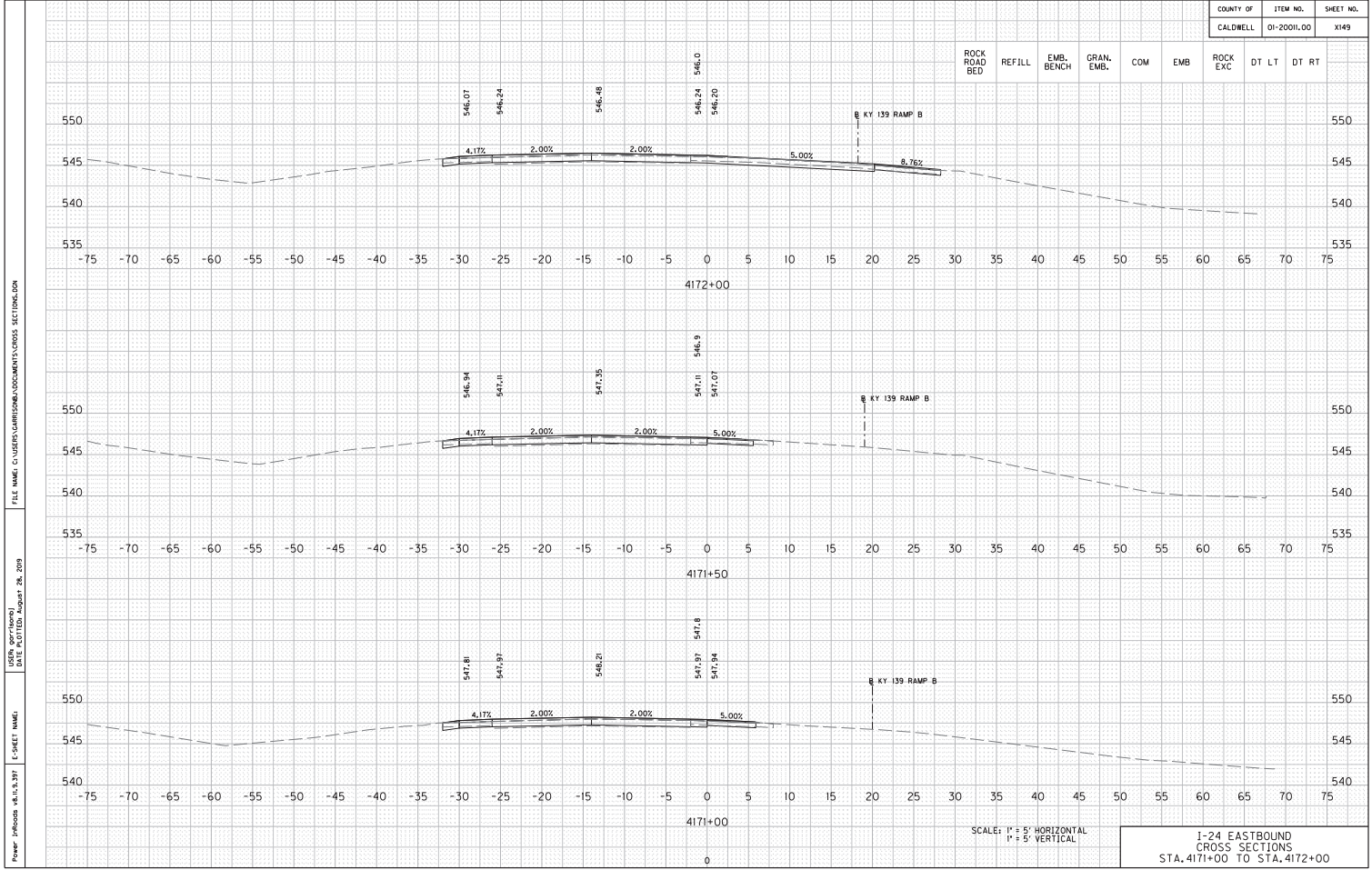




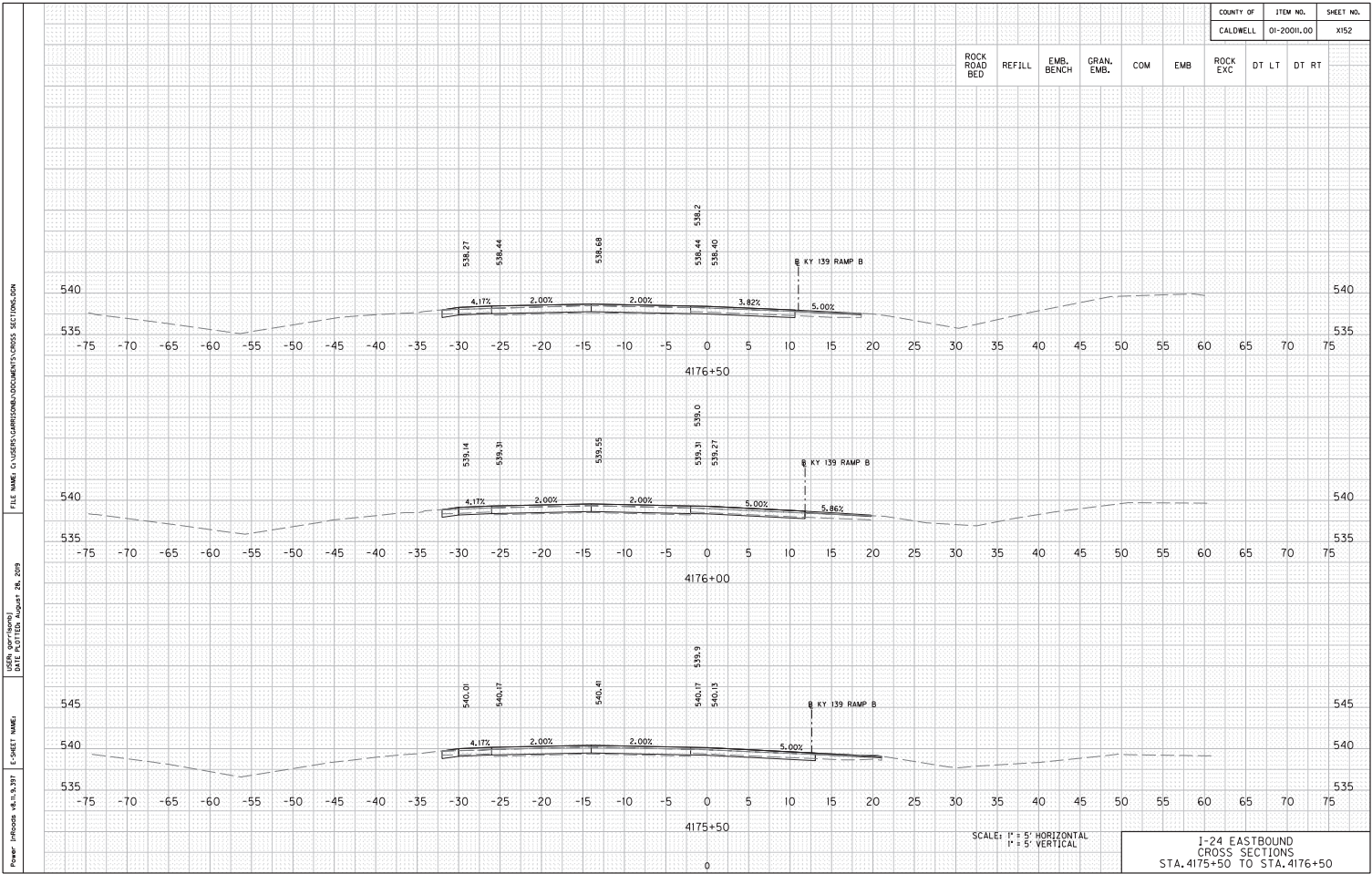
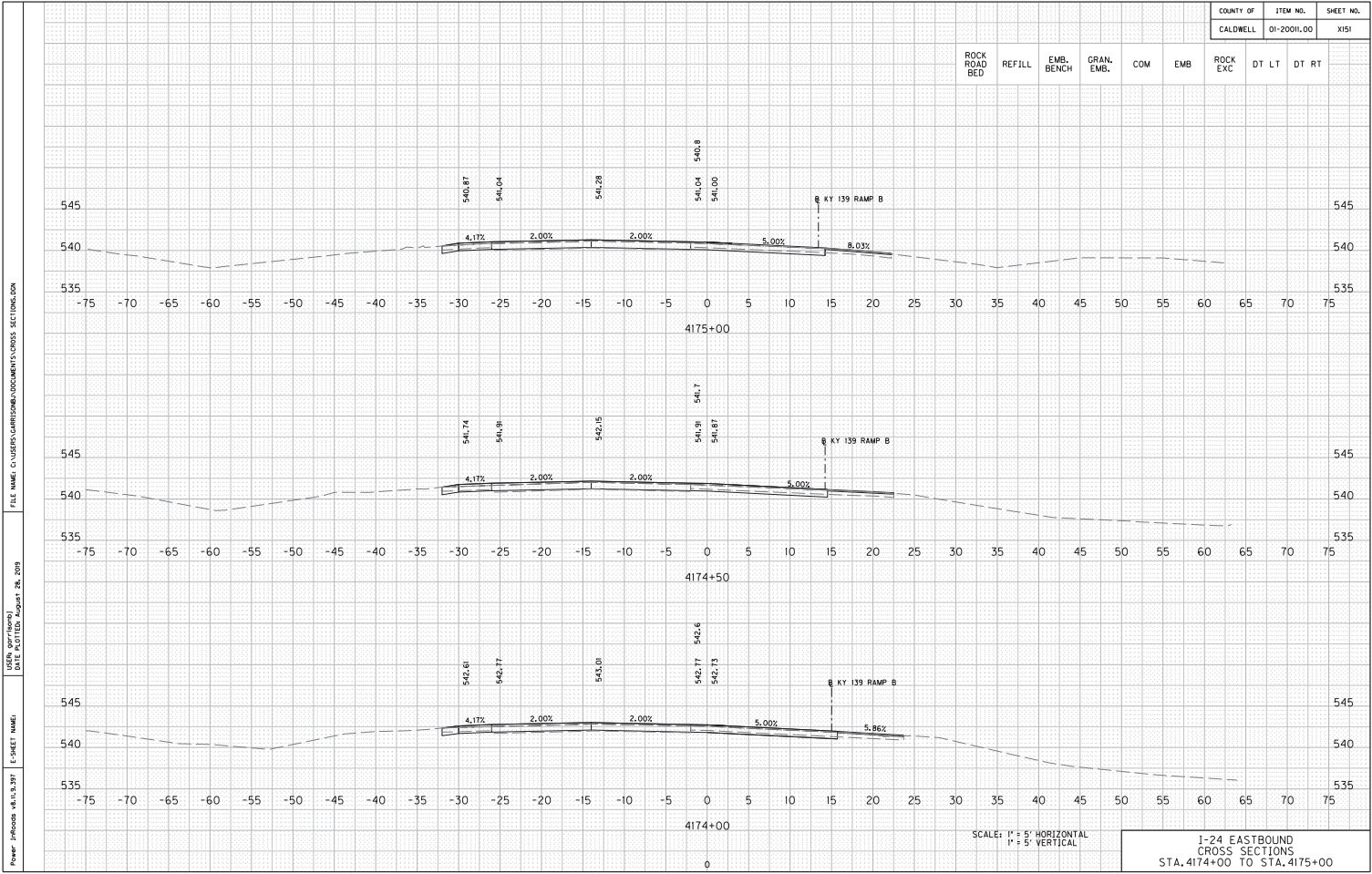




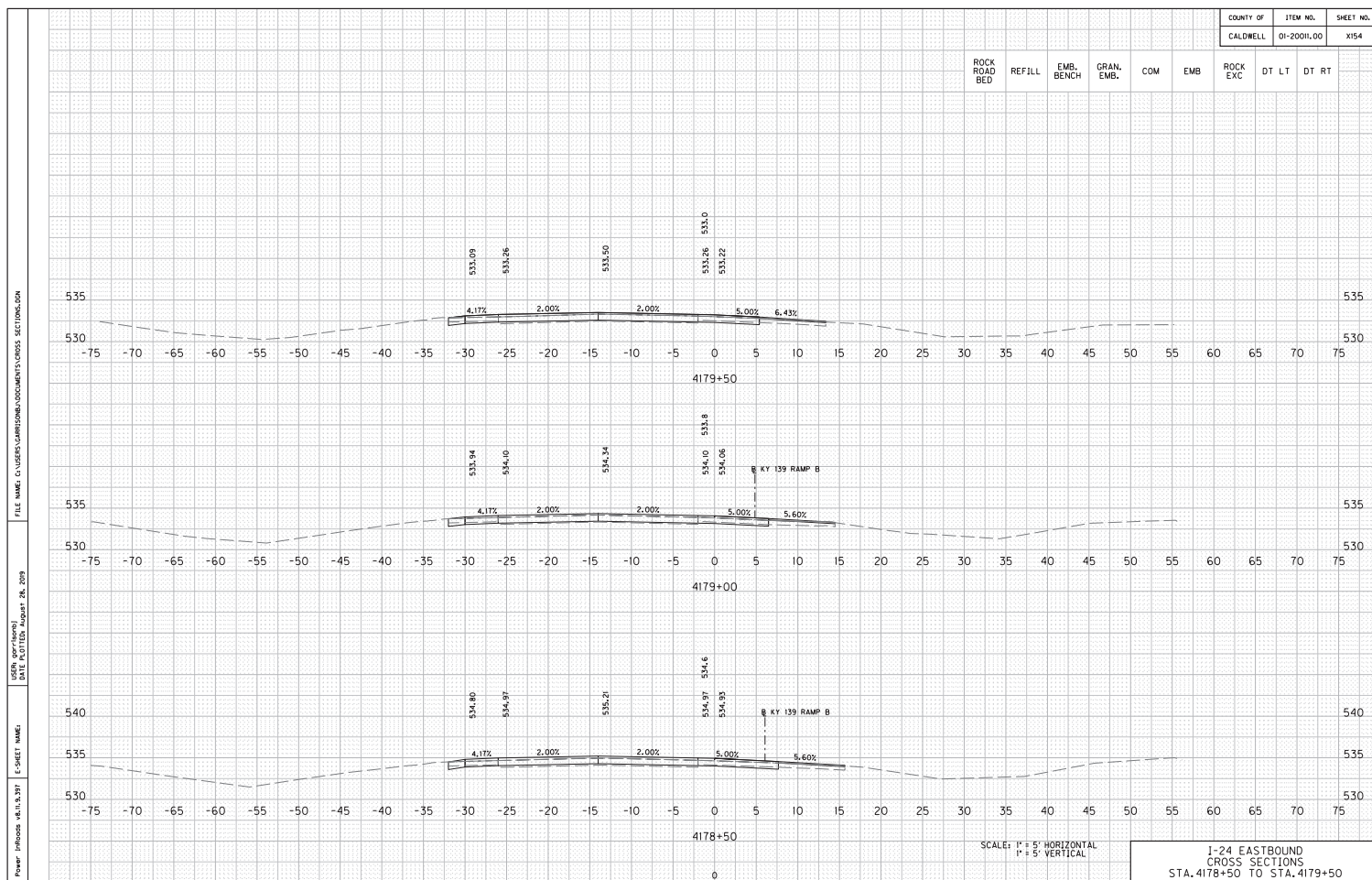
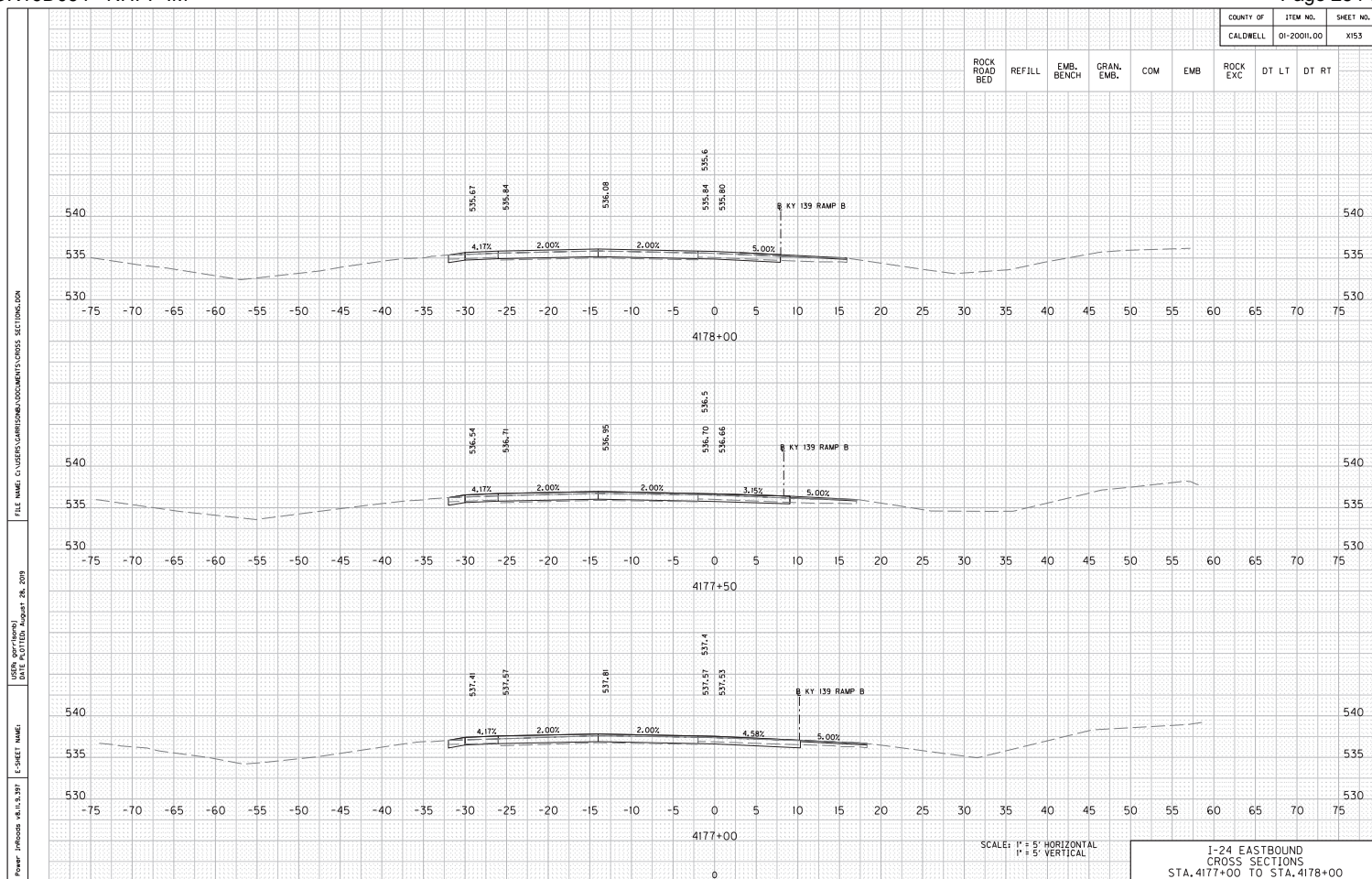




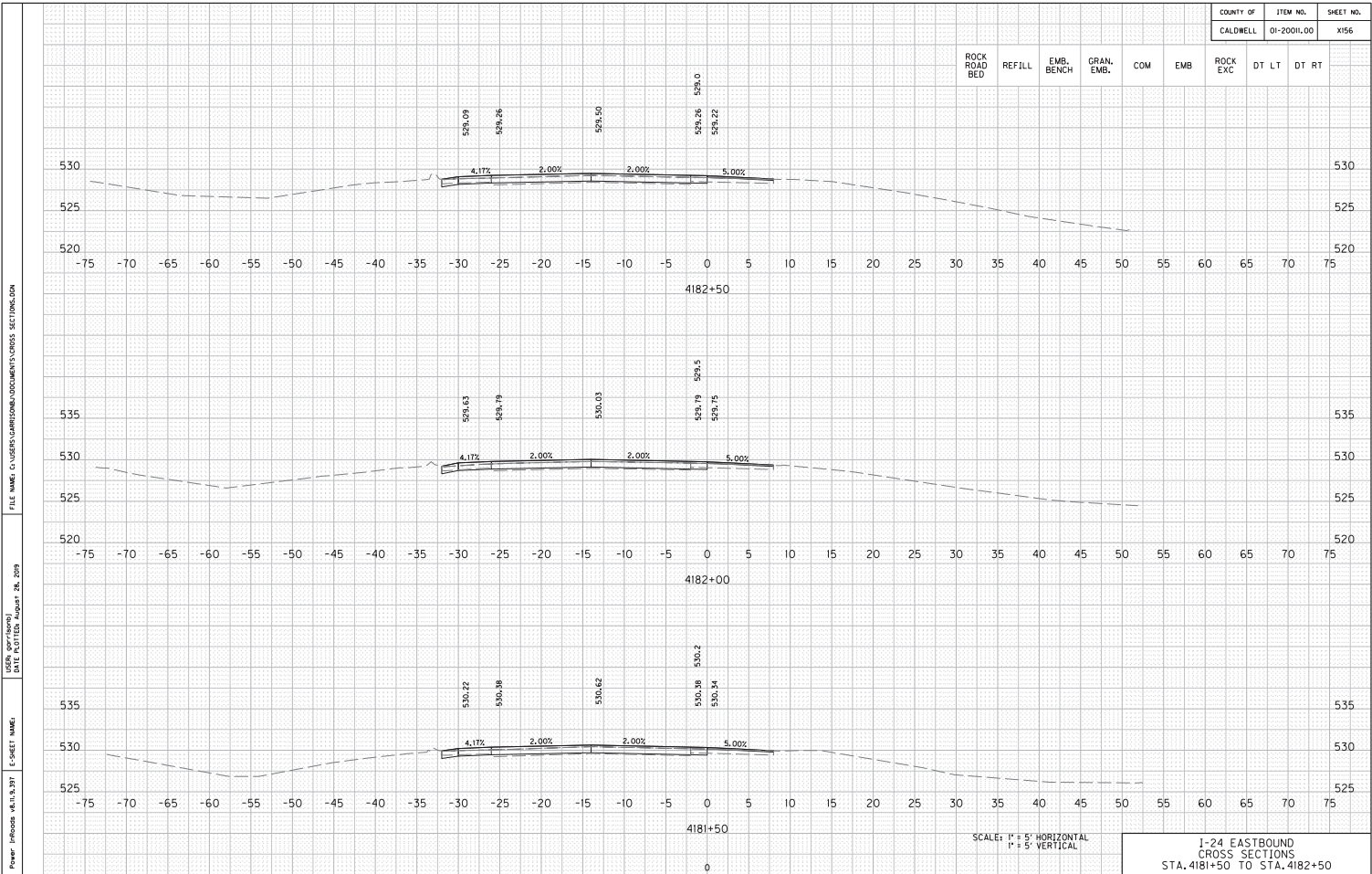
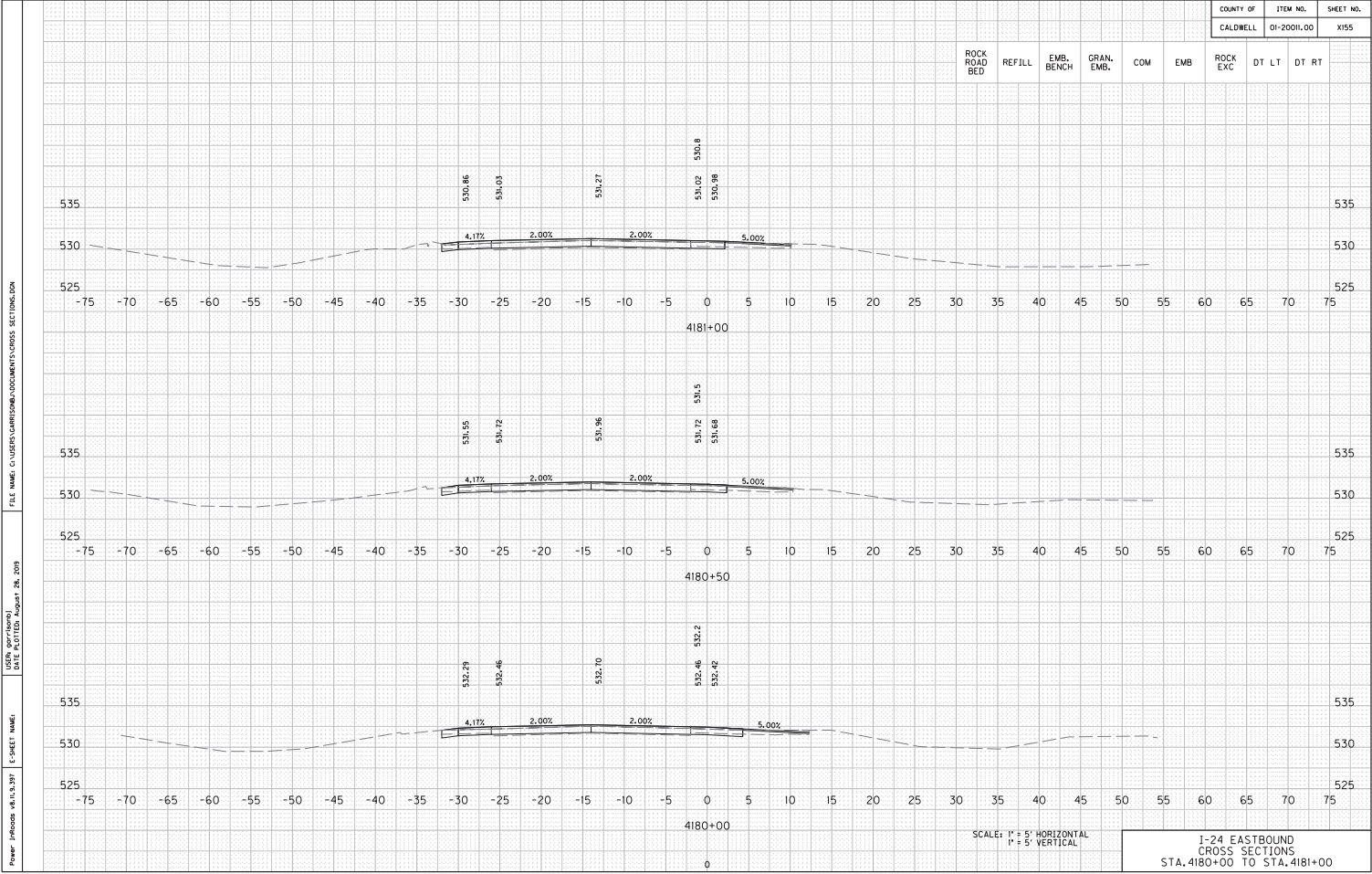




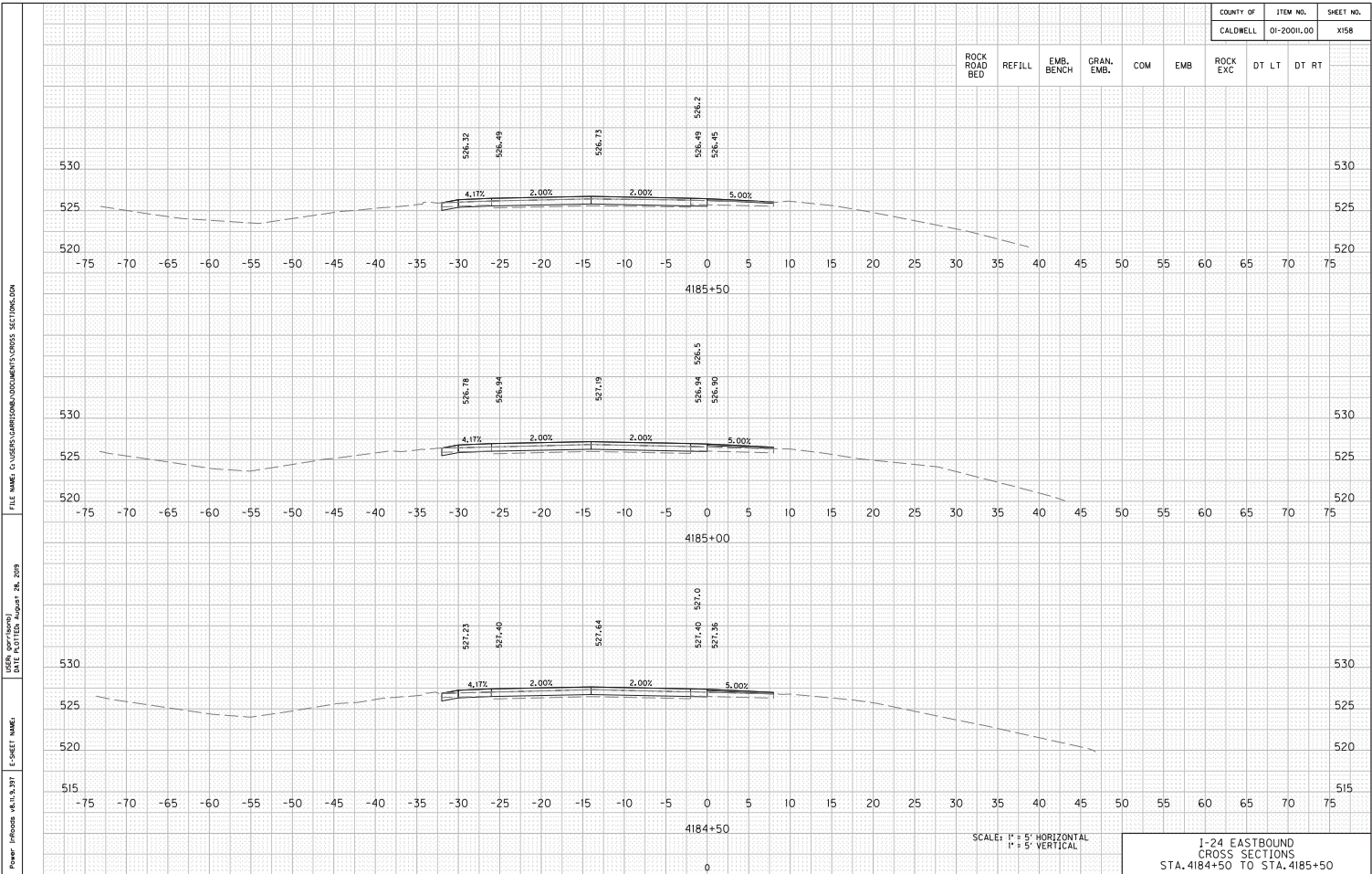
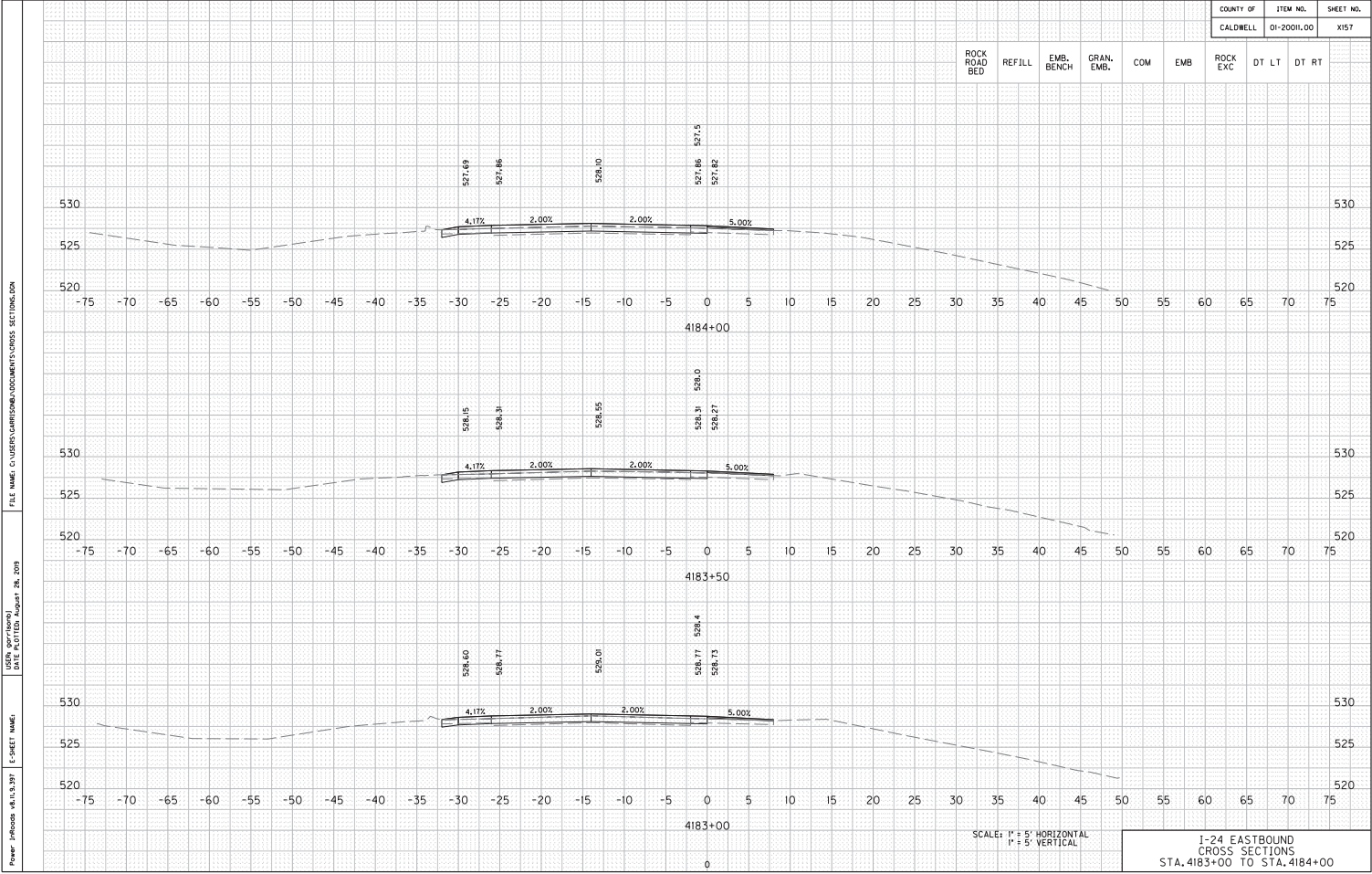




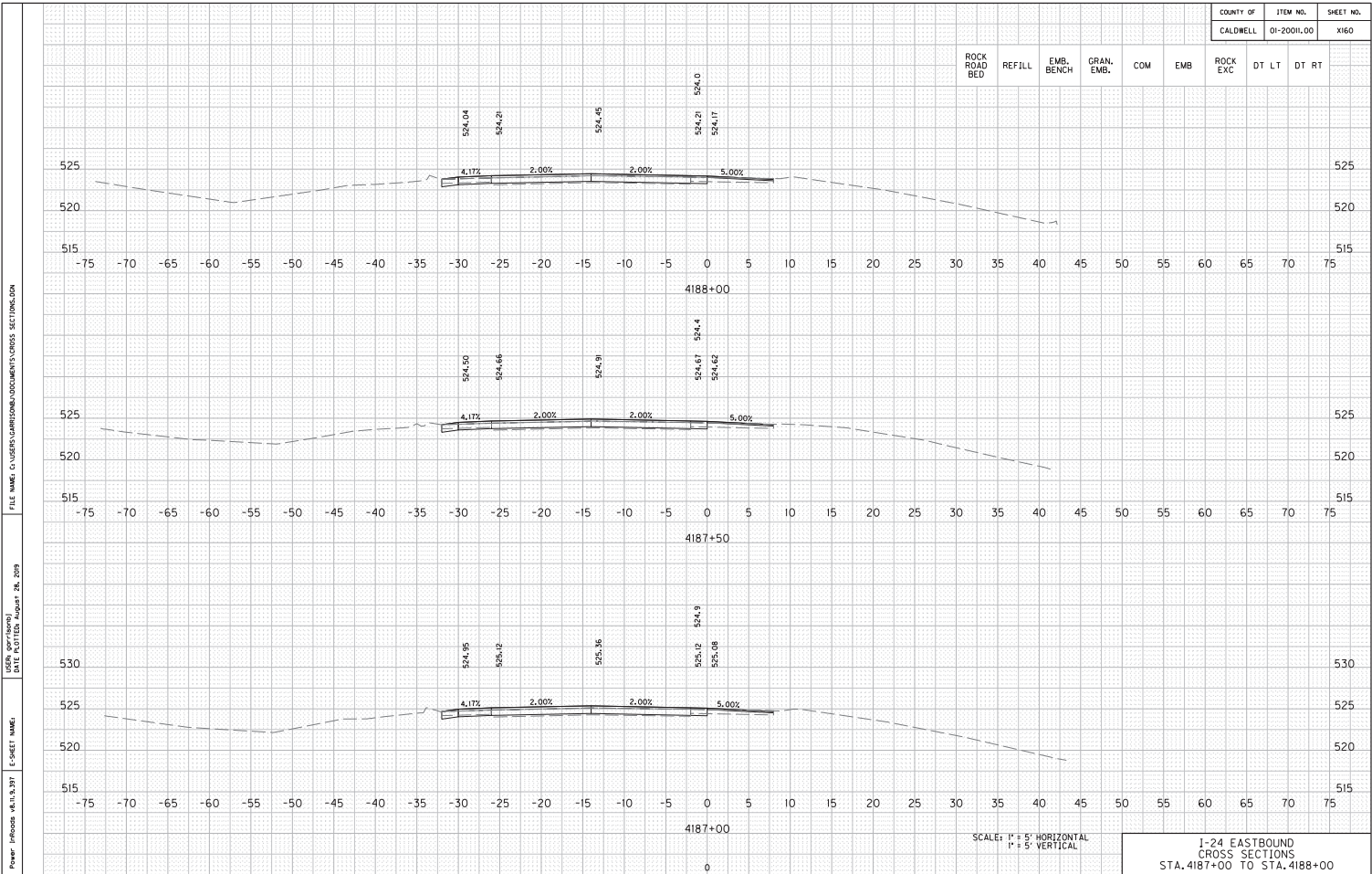
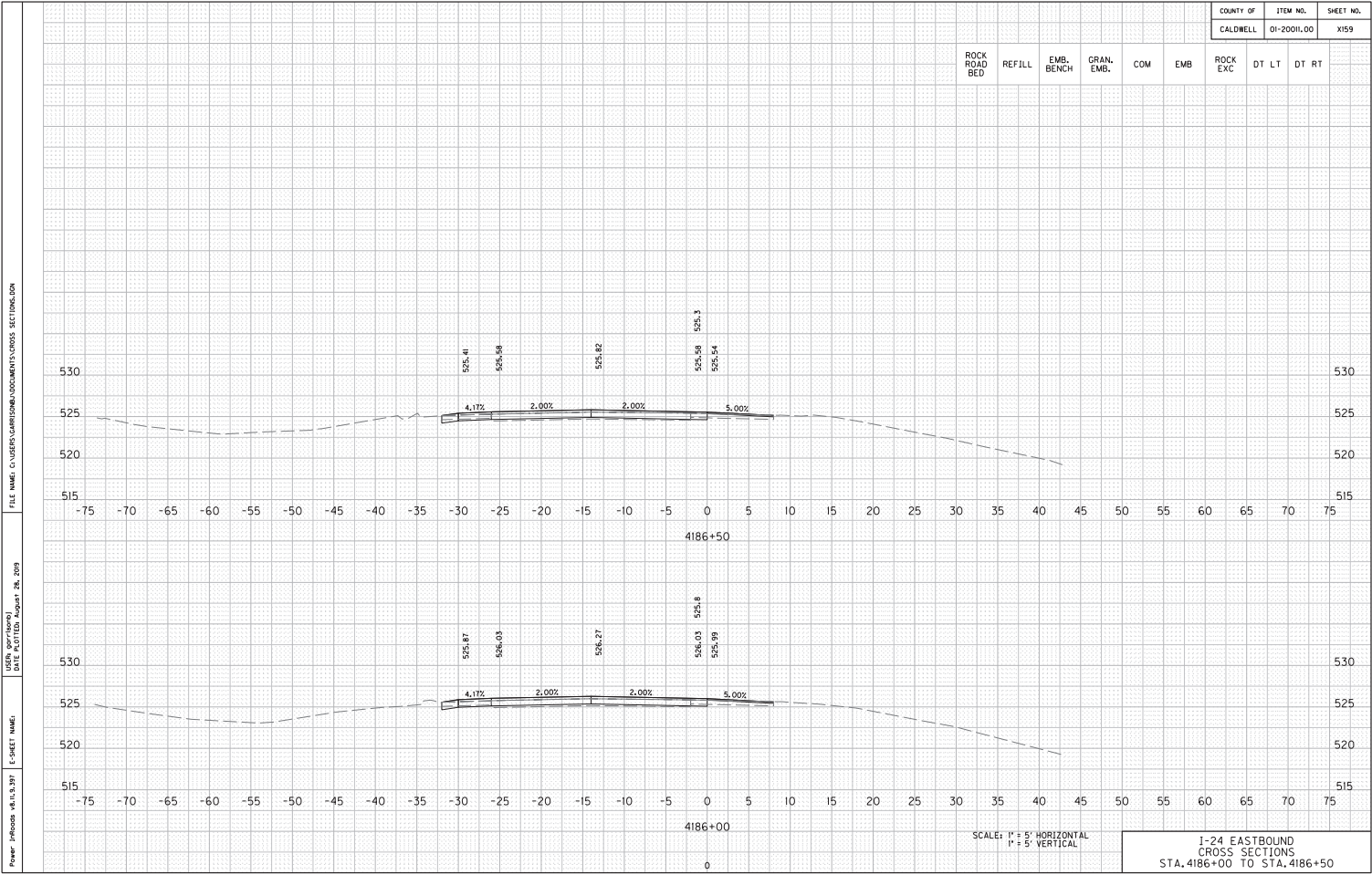




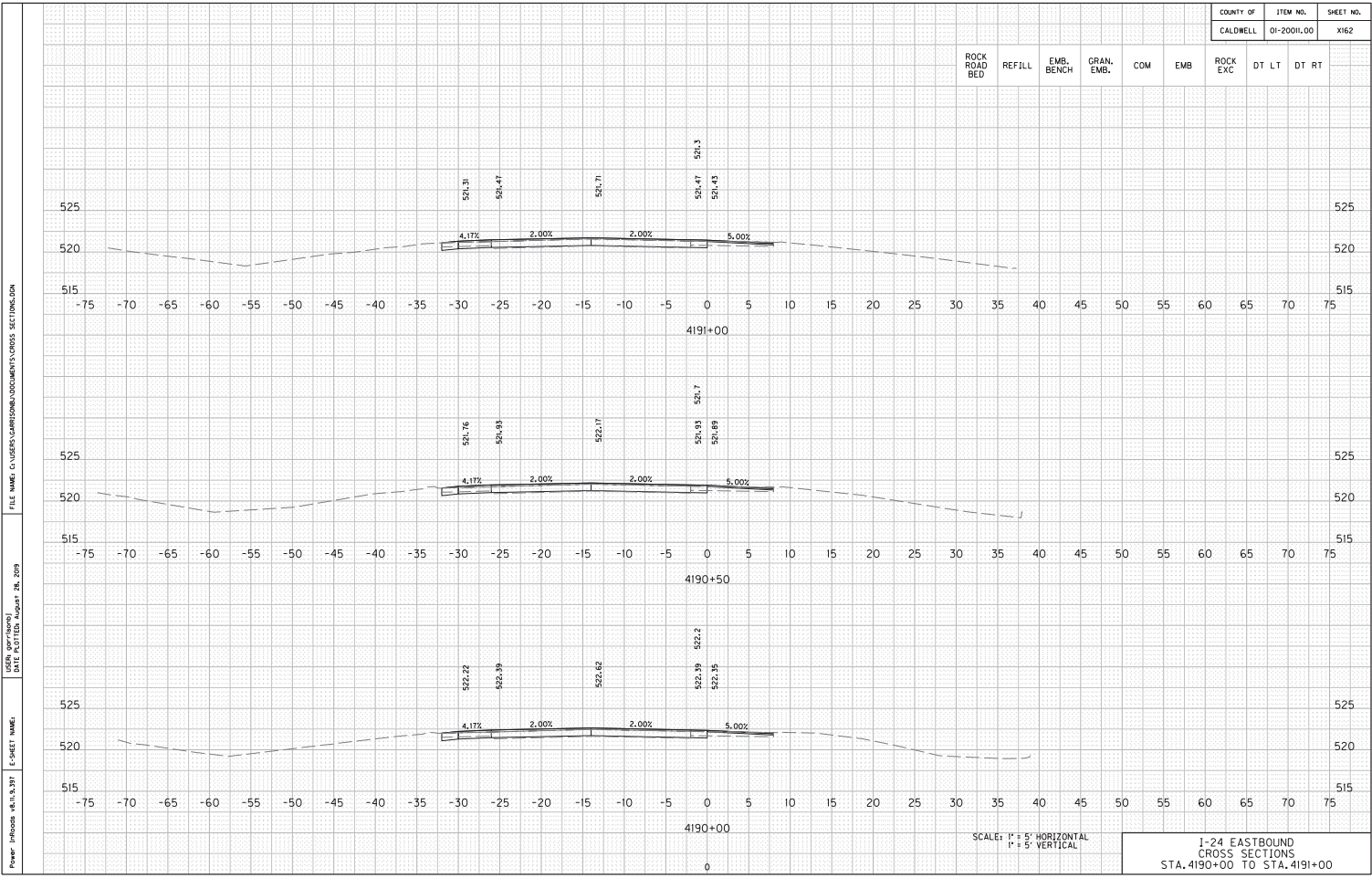
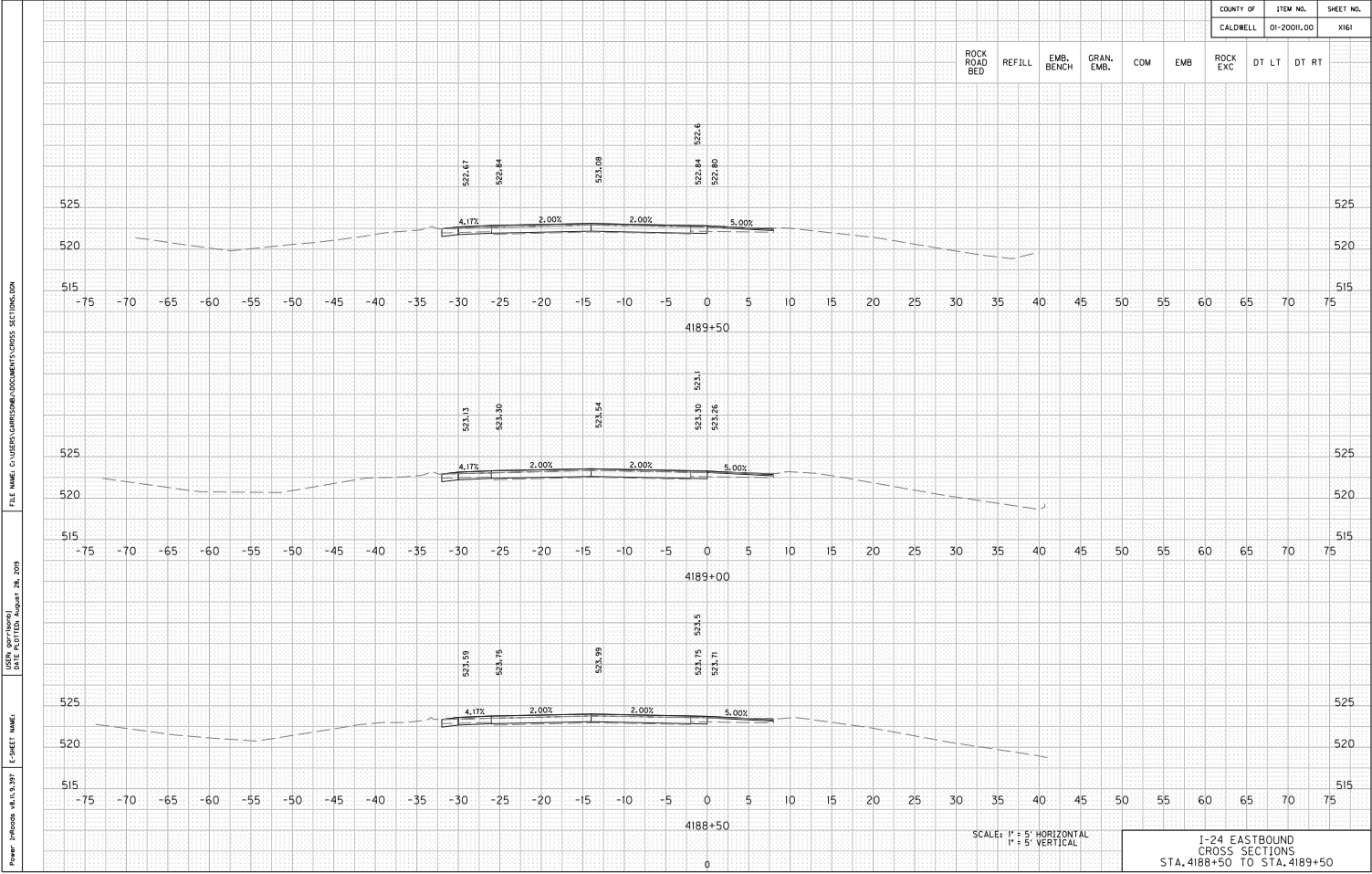




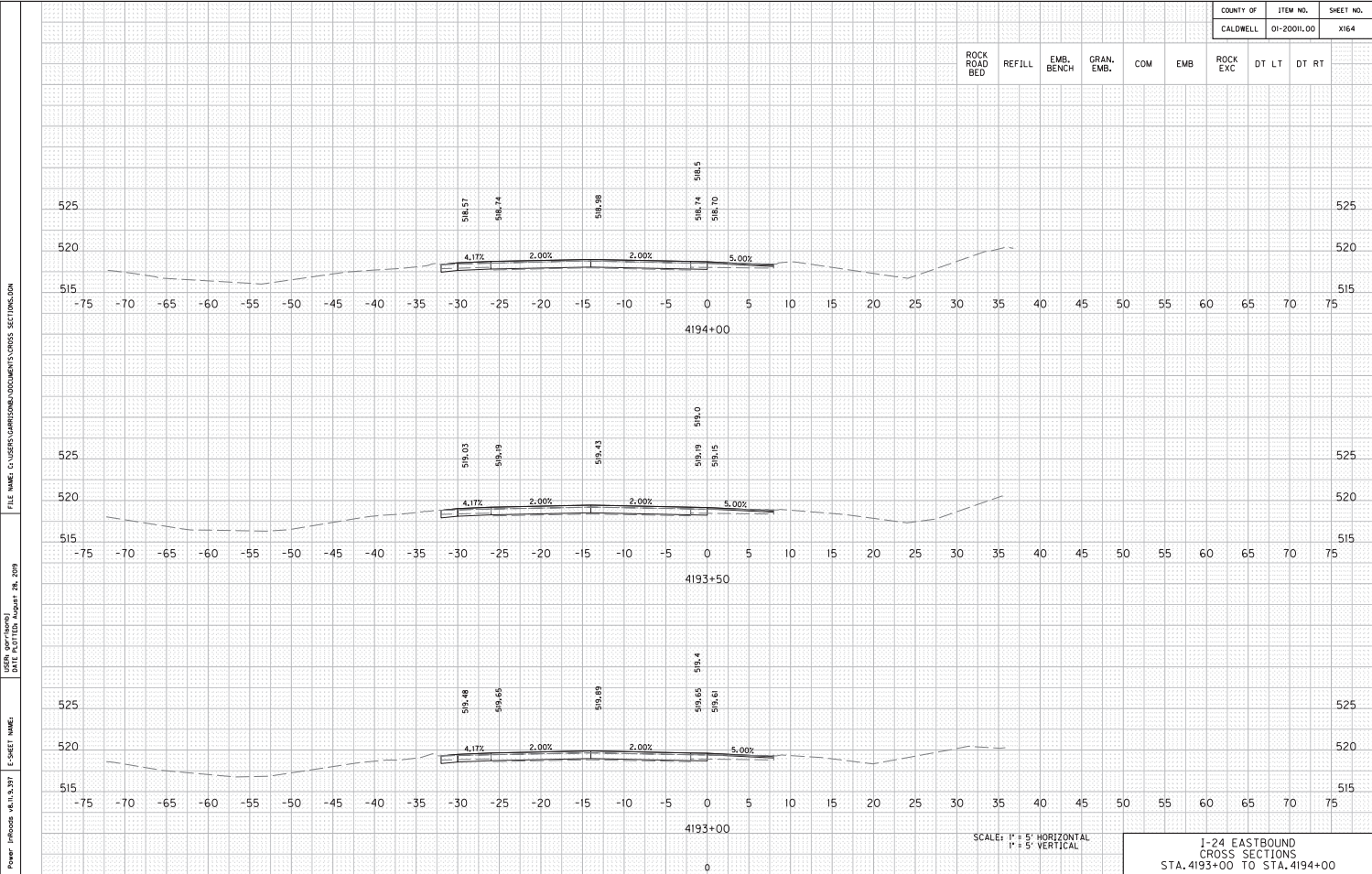
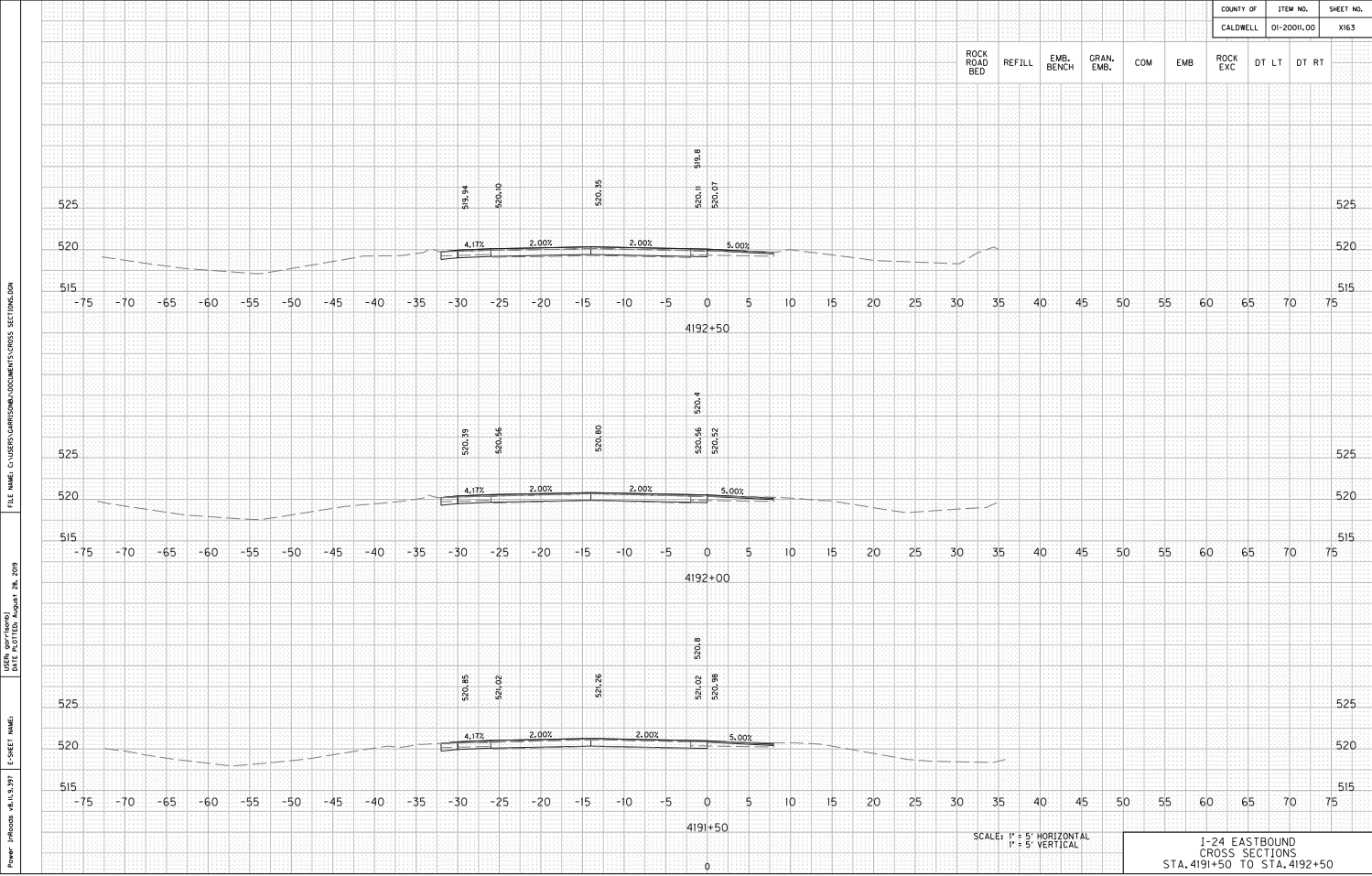




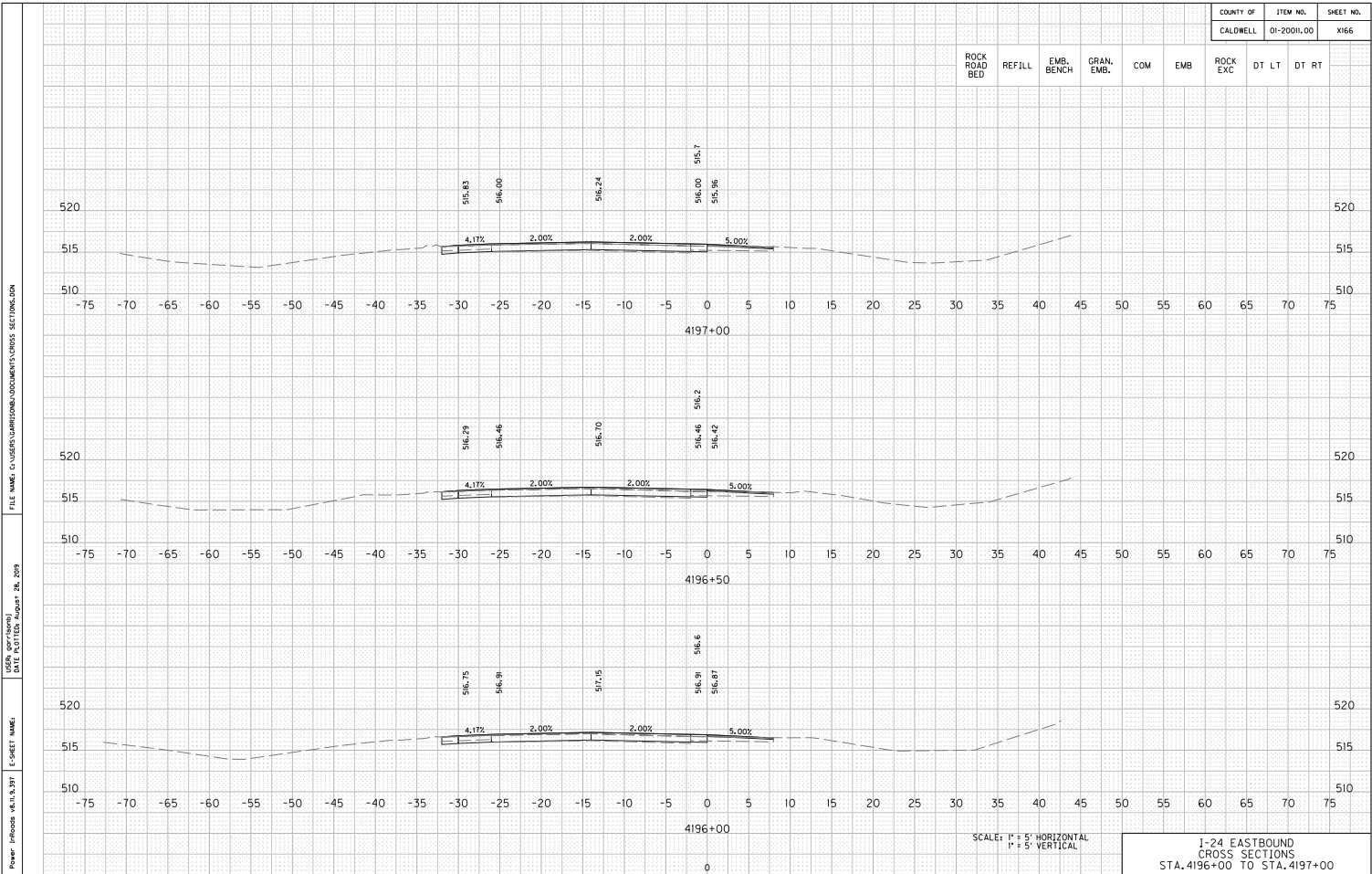
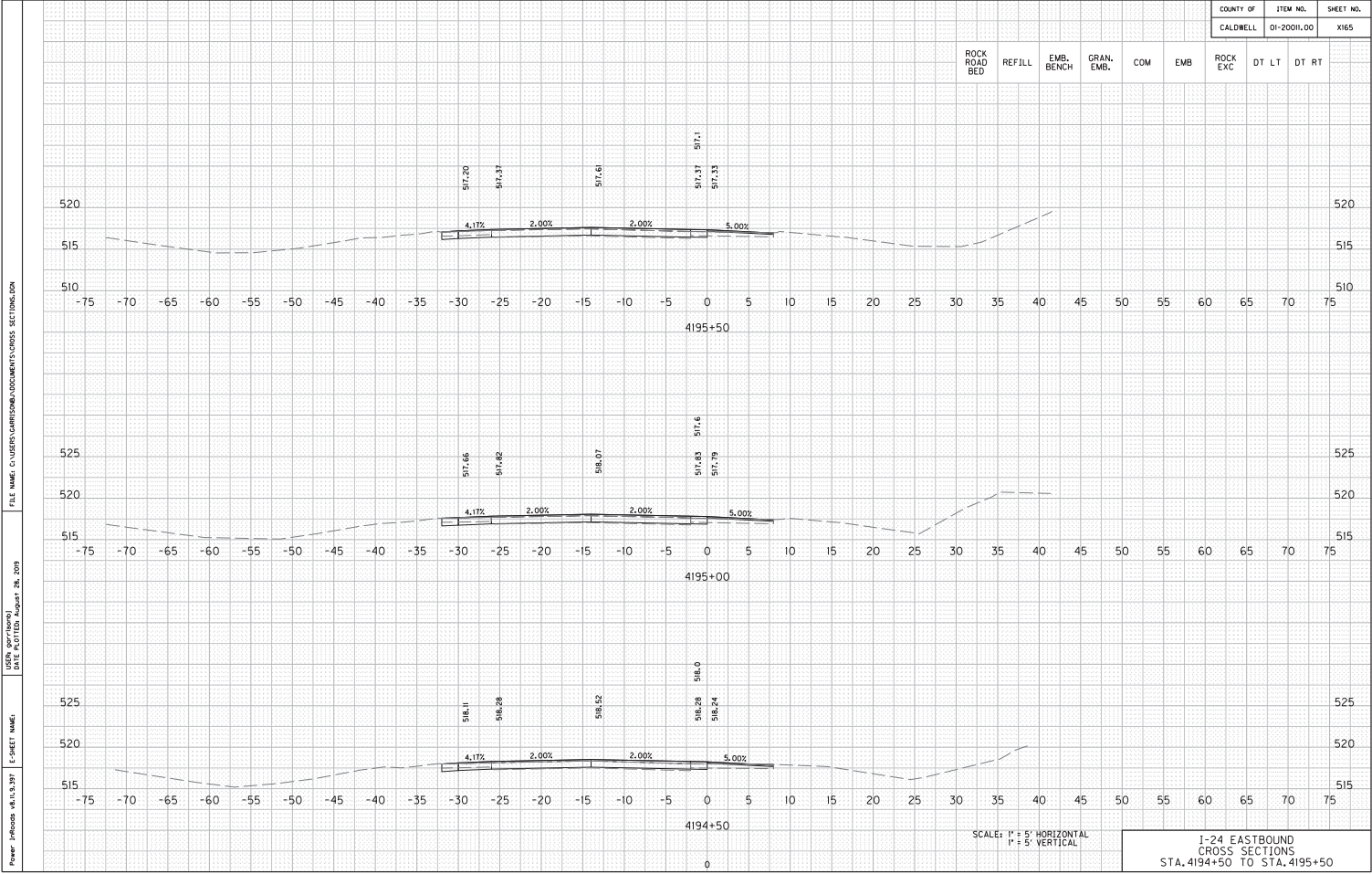




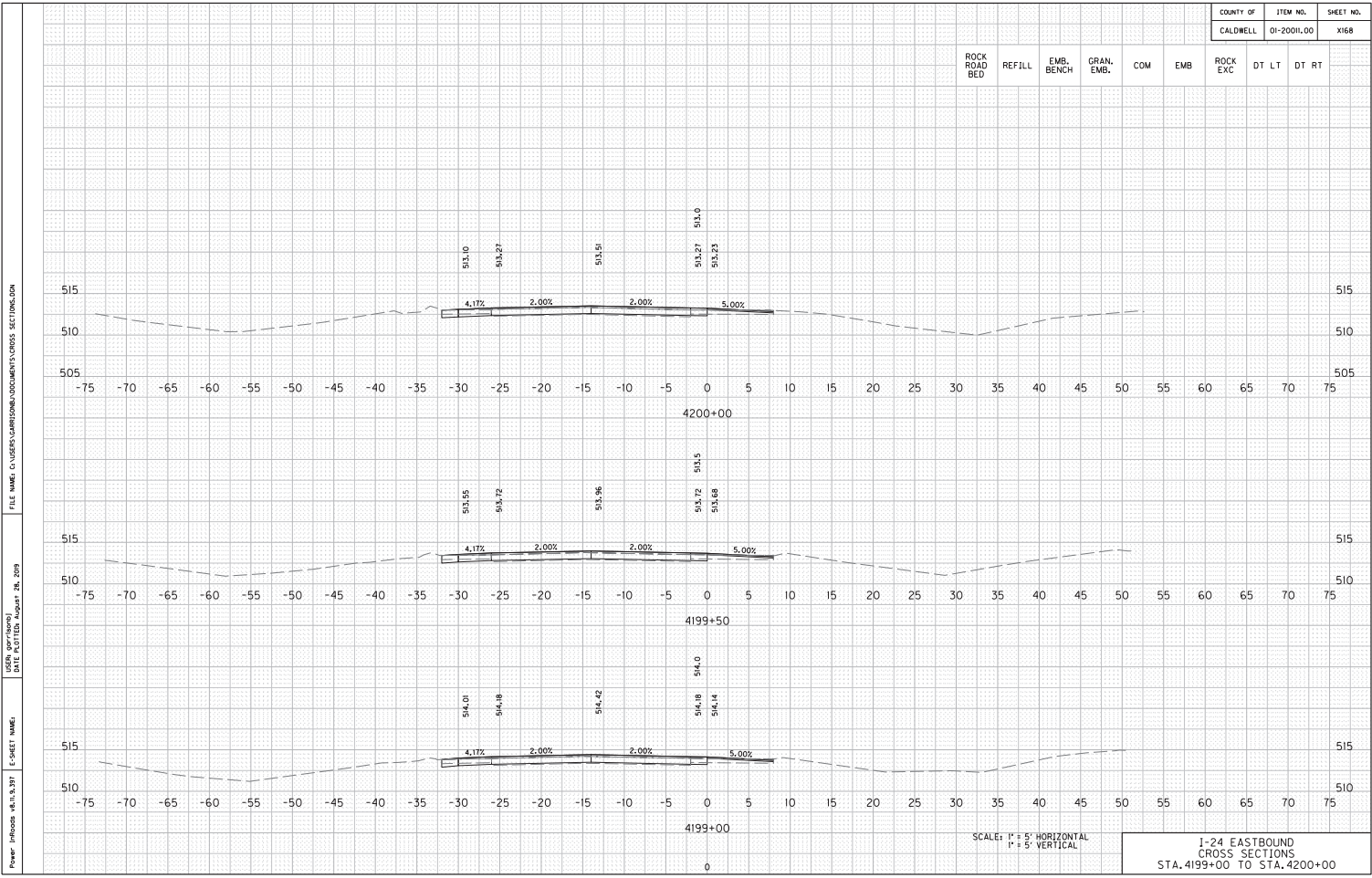
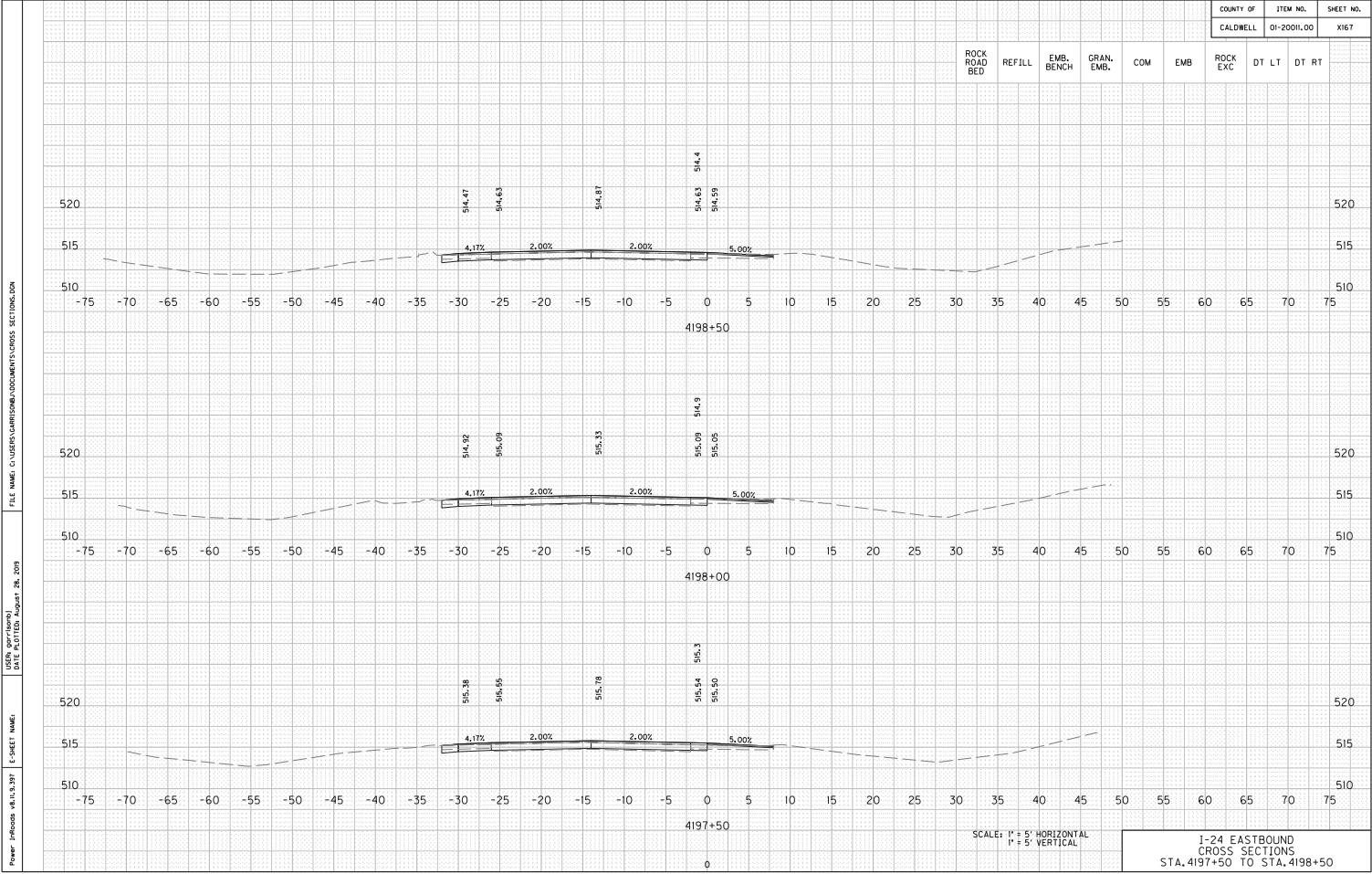




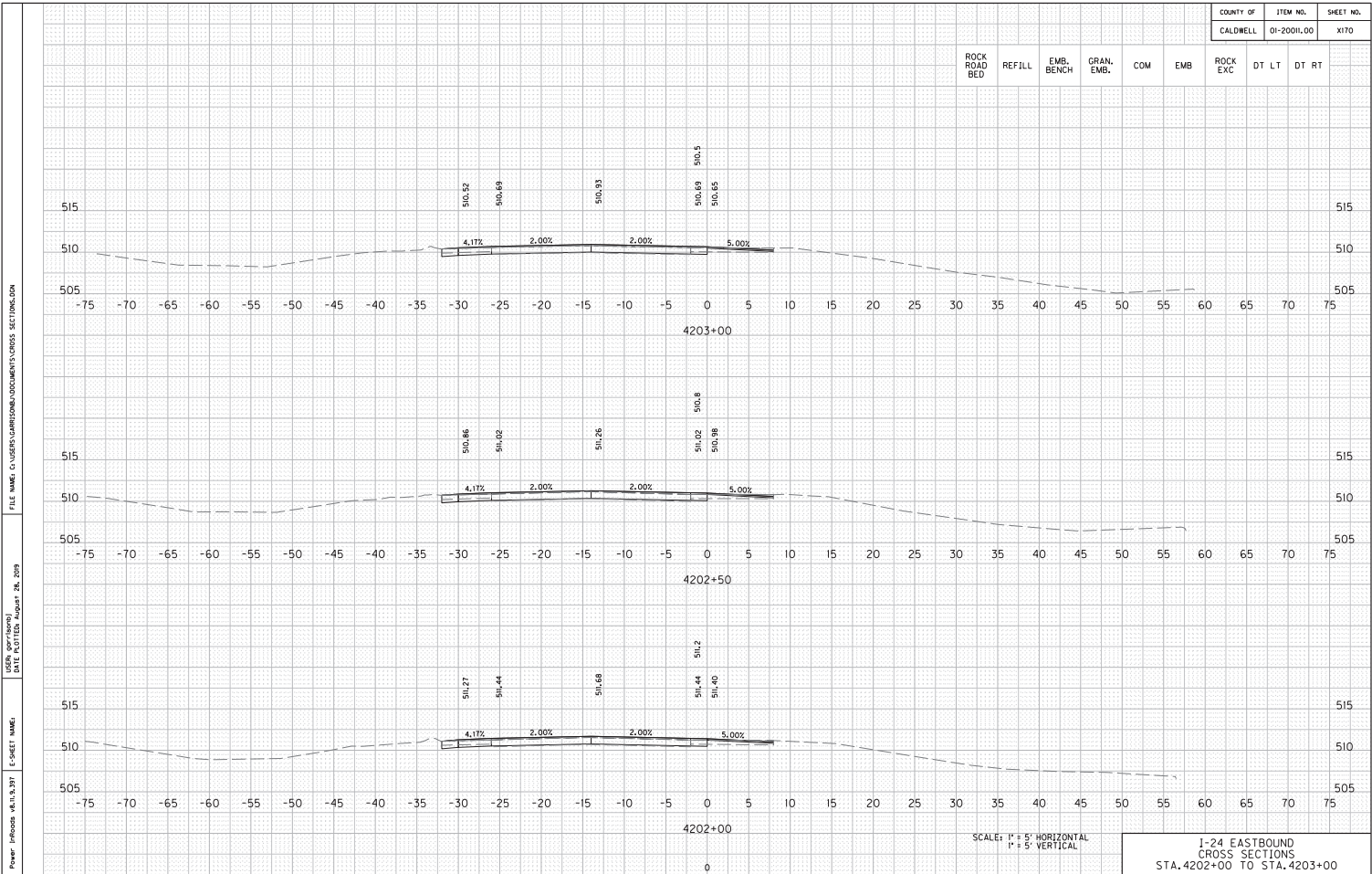
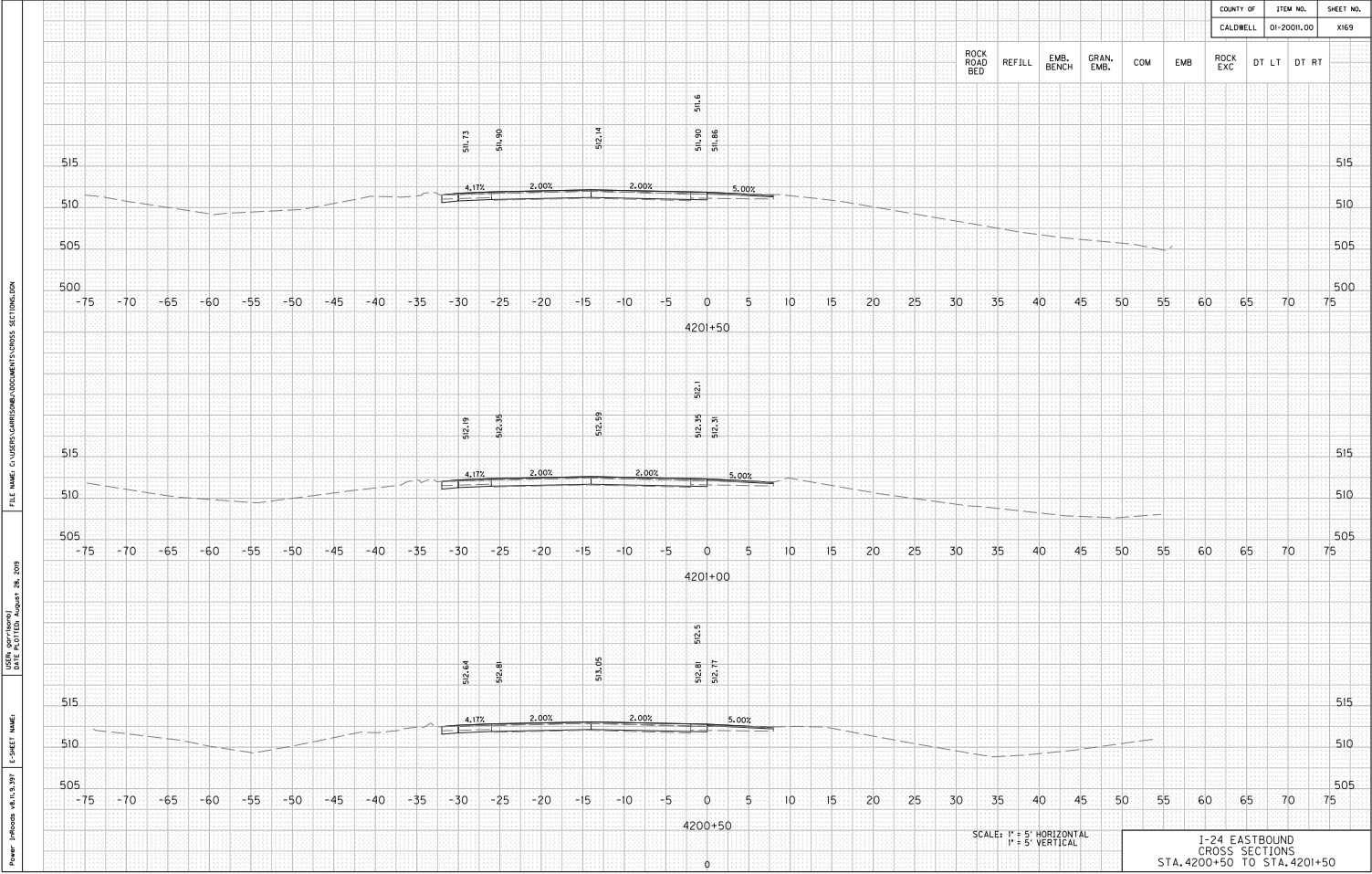




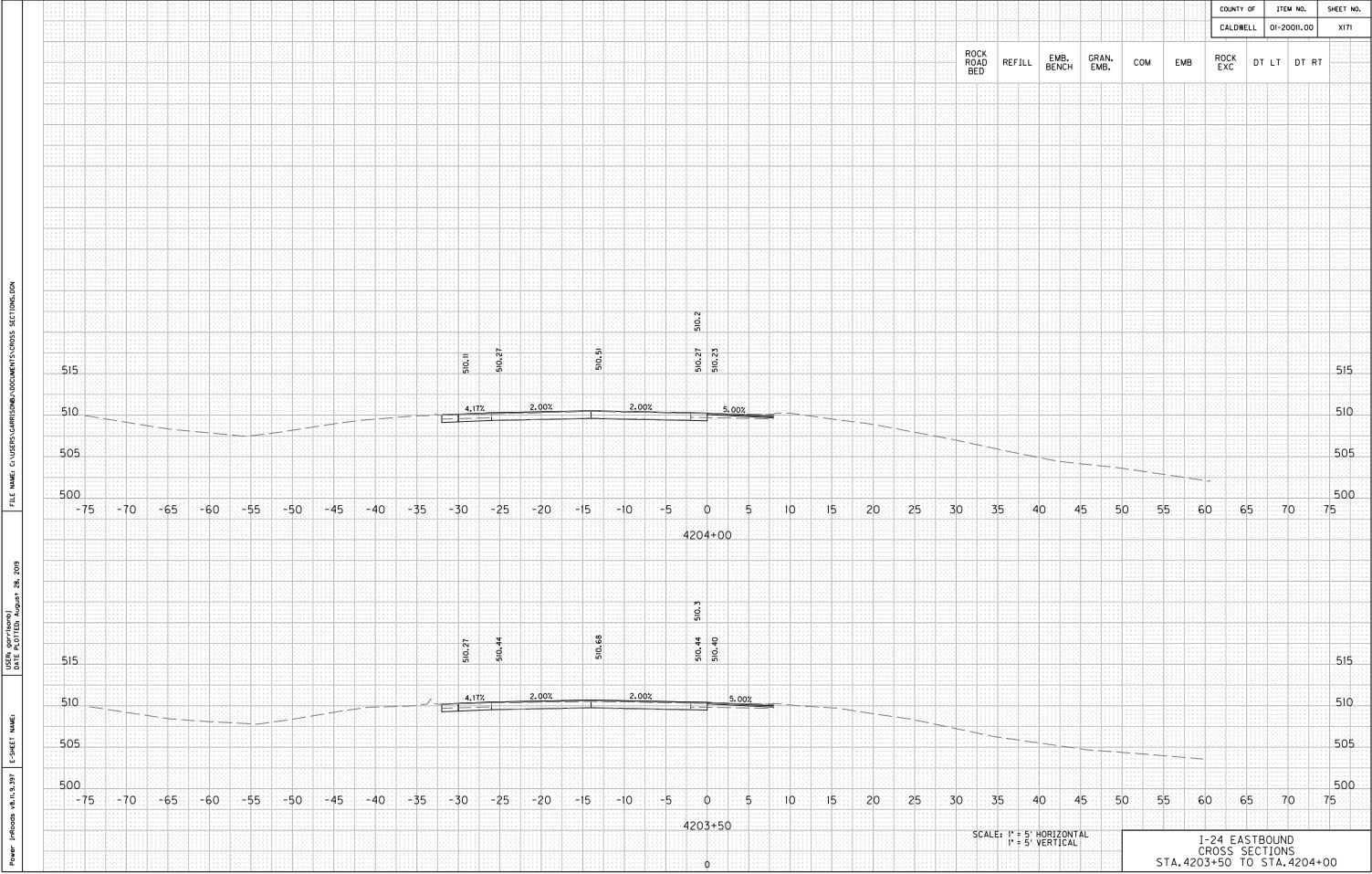










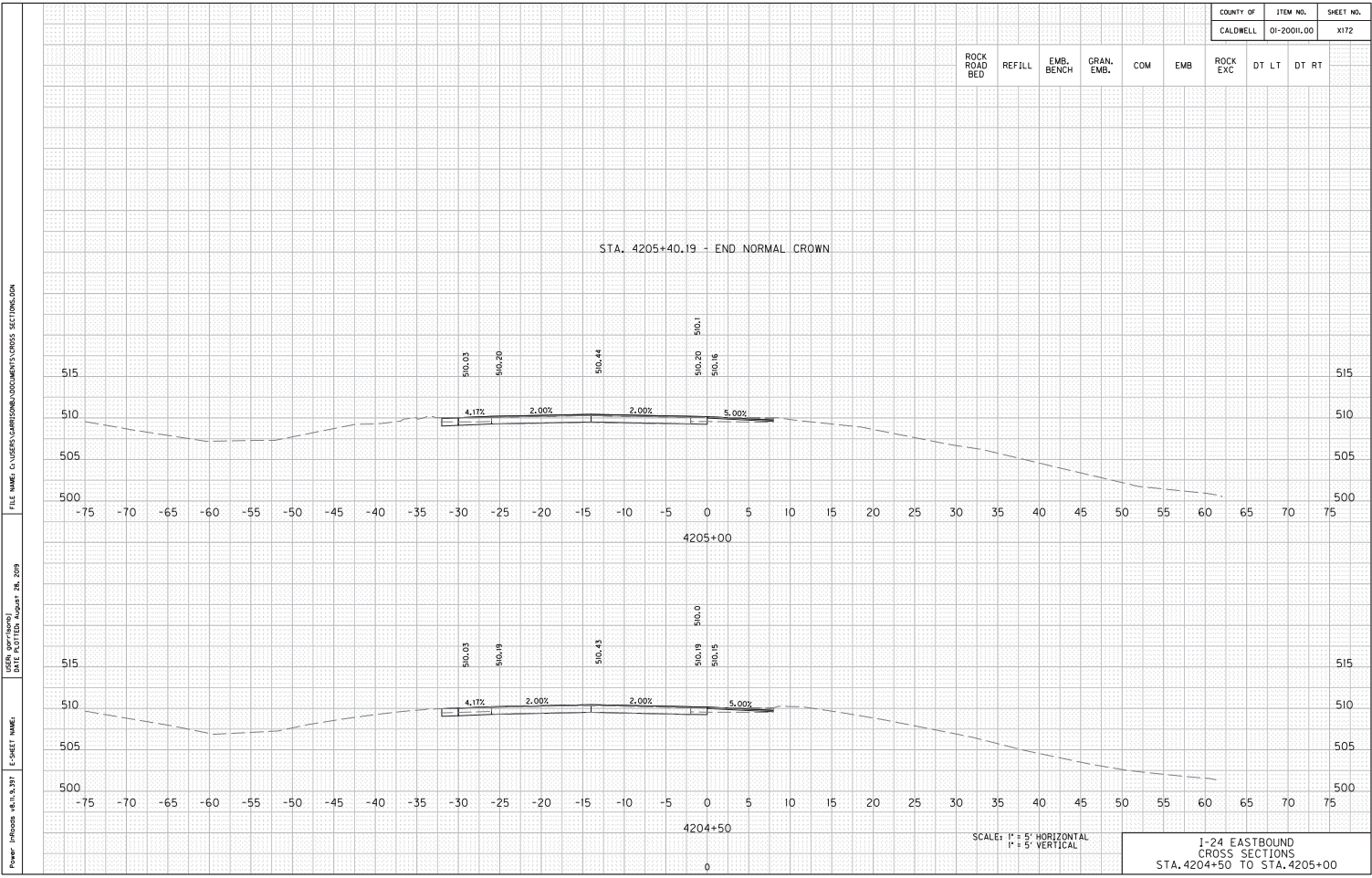


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DATE PLOTTED: August 26, 2019

E-SHEET NAME:

Power: Johnson v.l.s.137



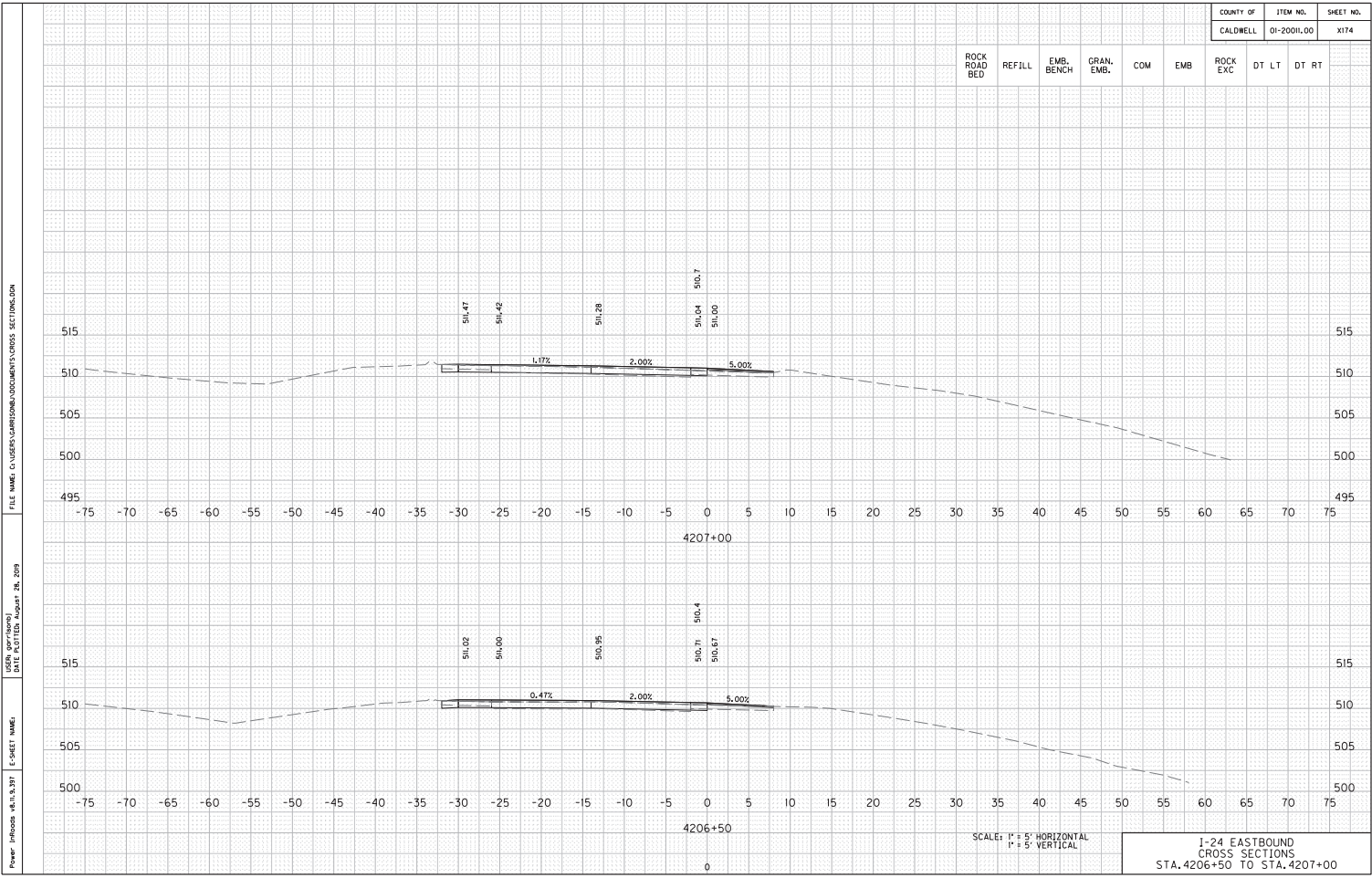
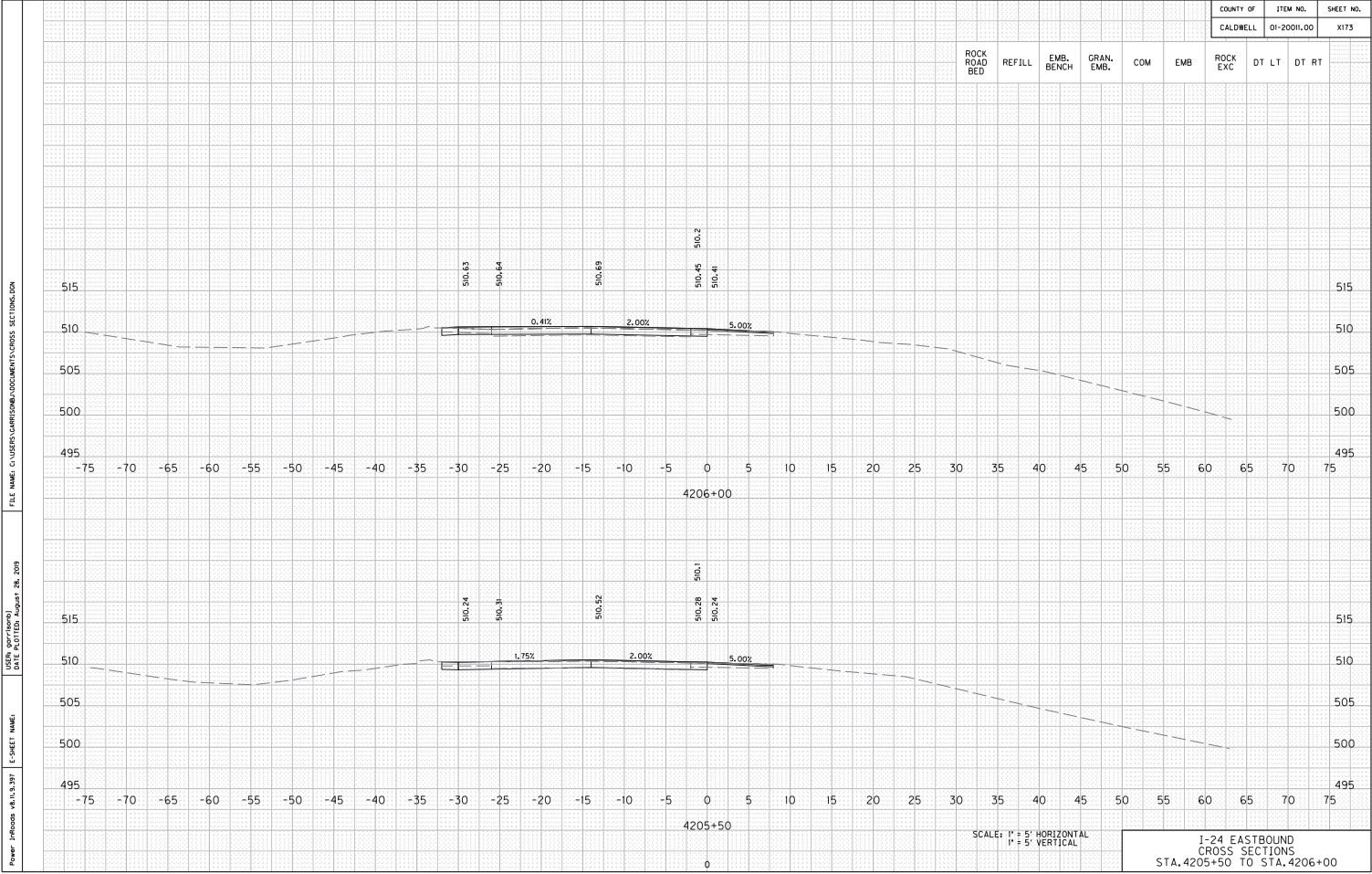
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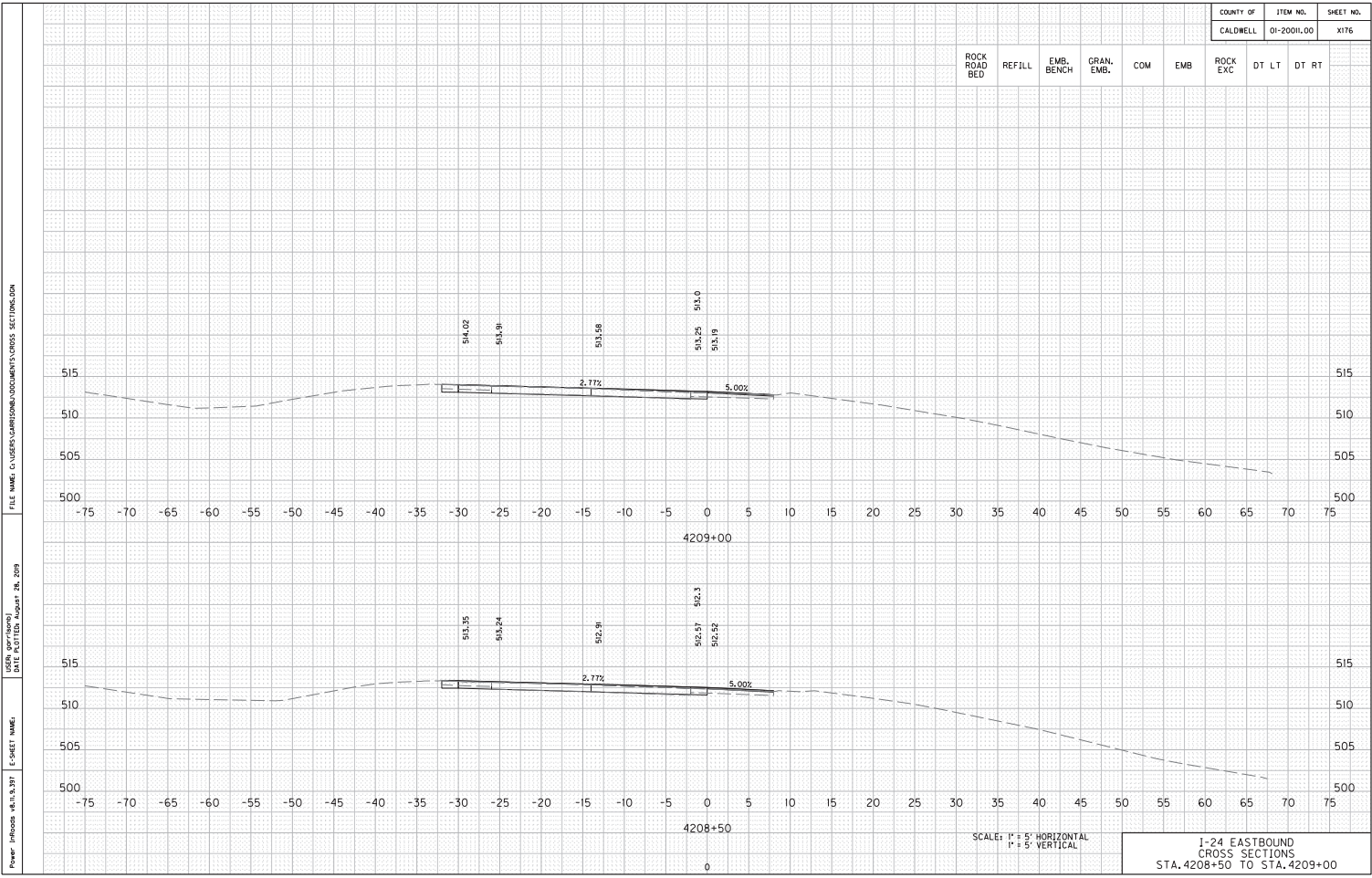
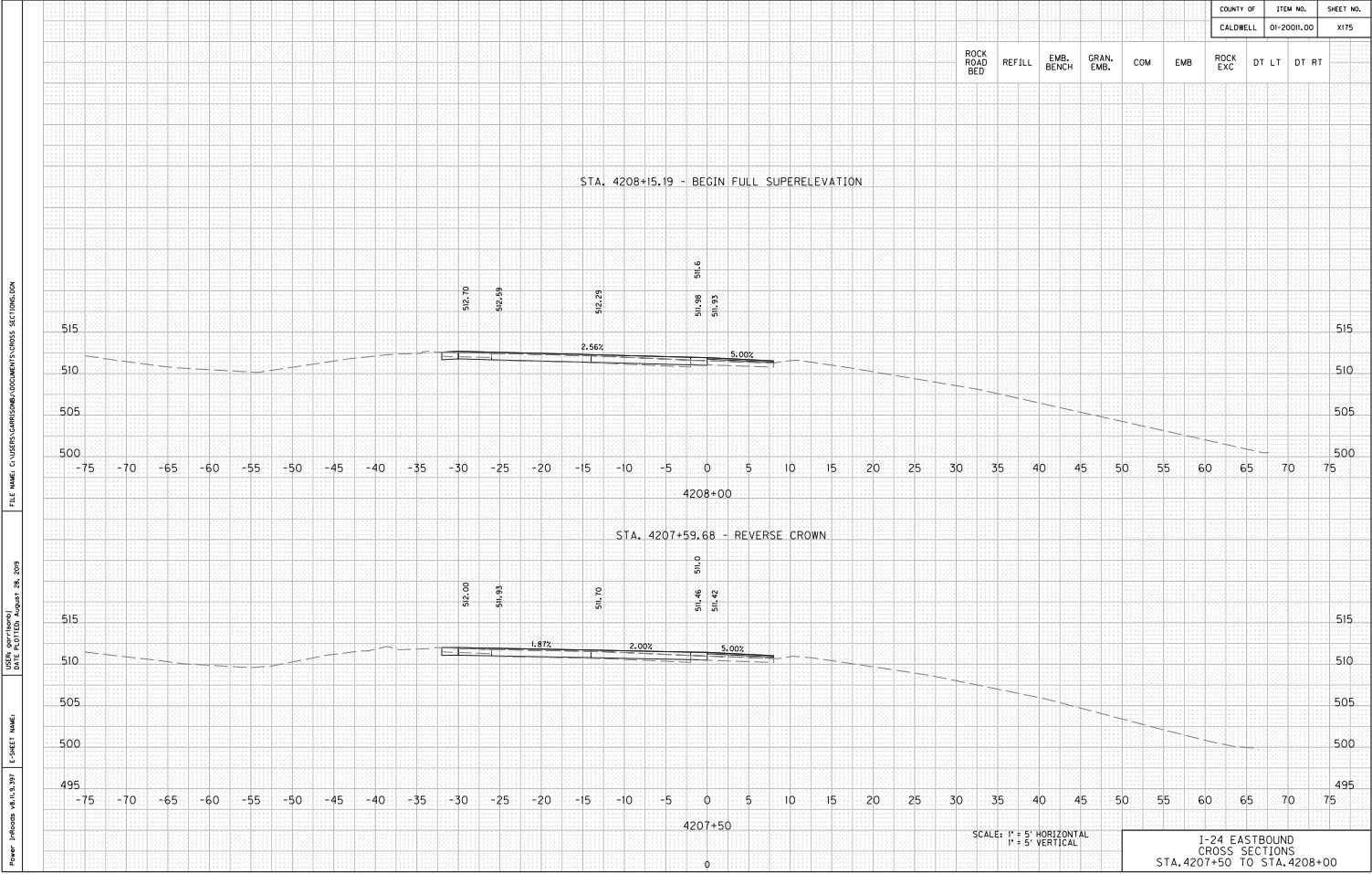
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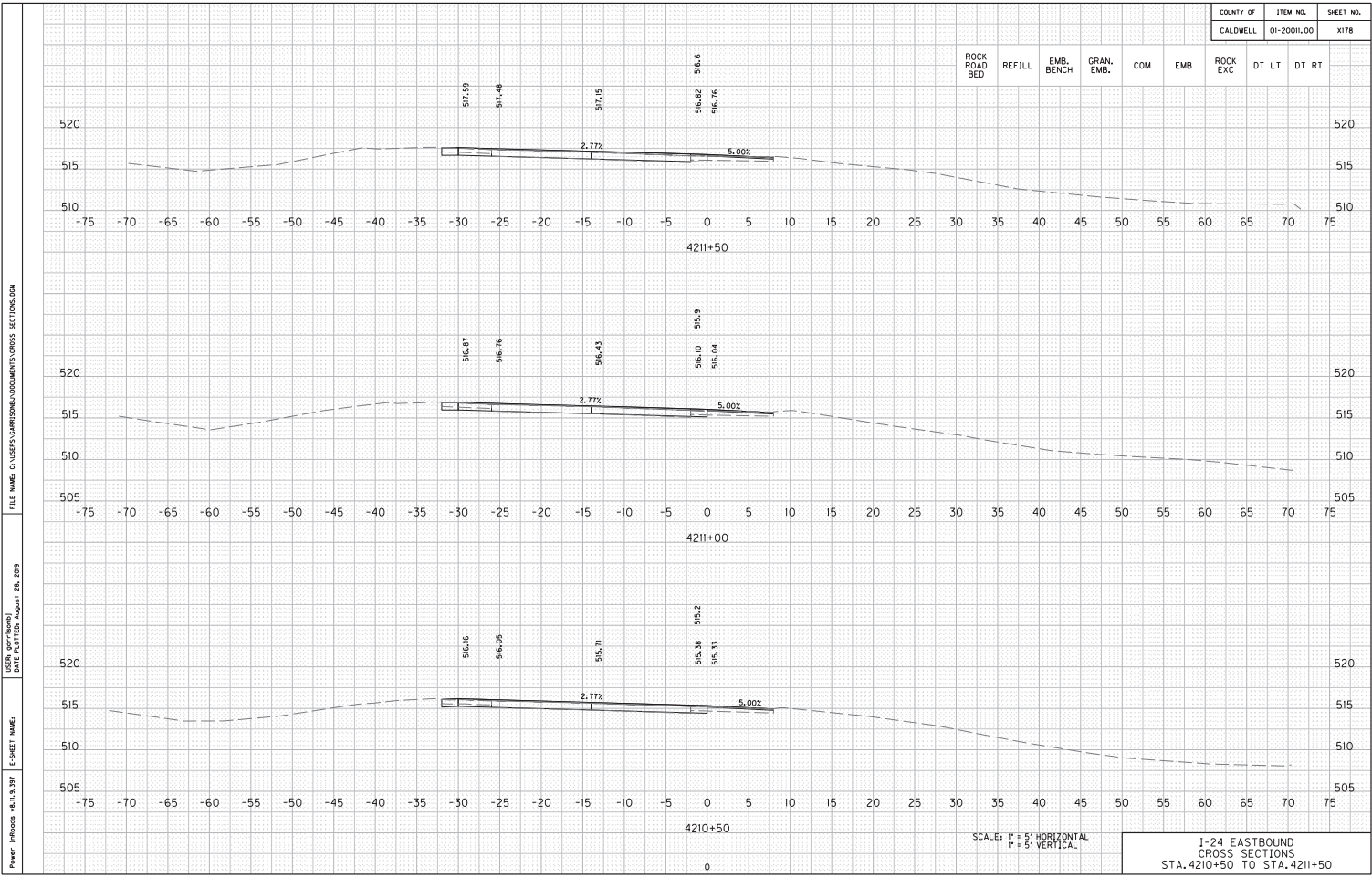
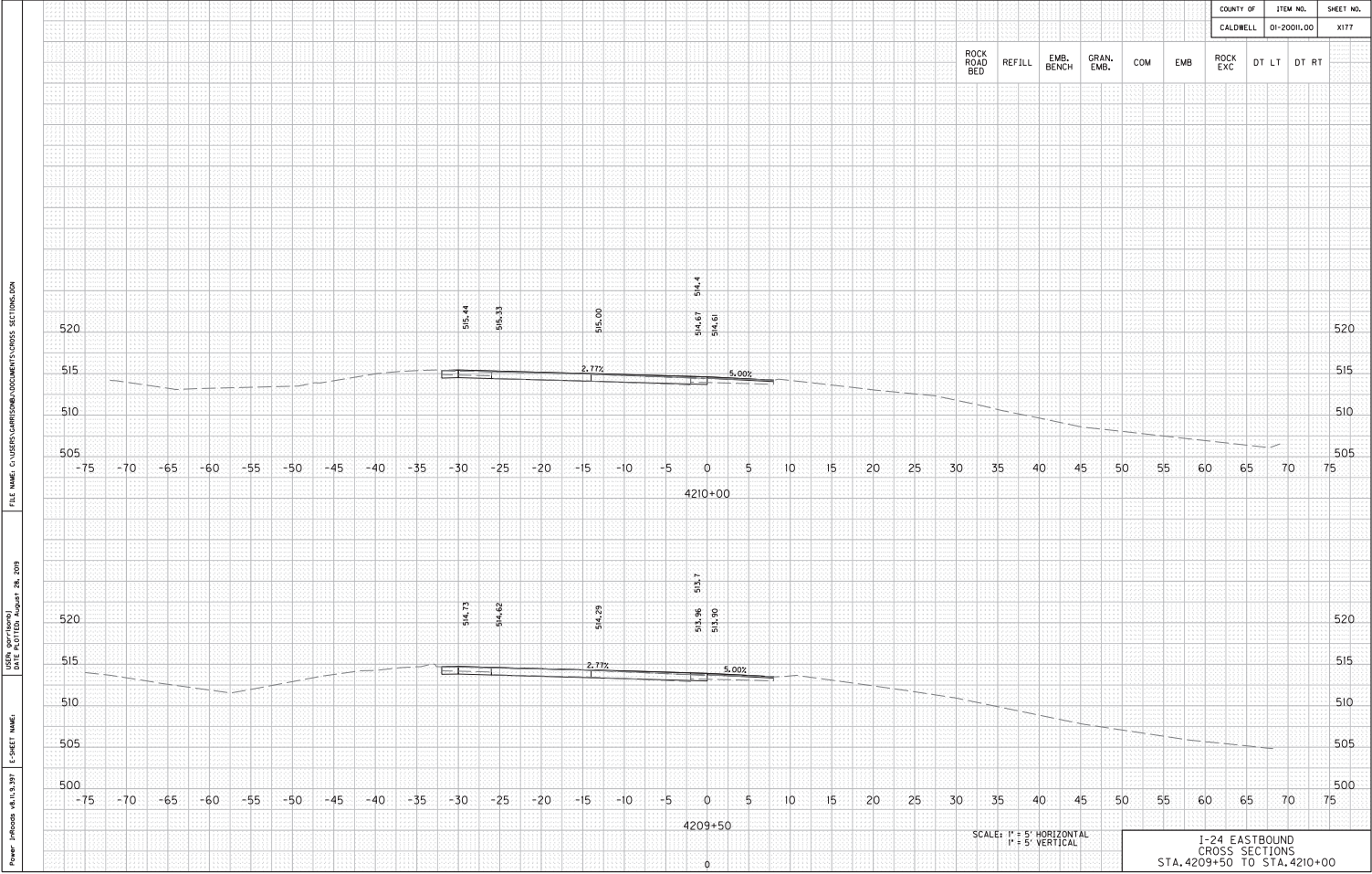




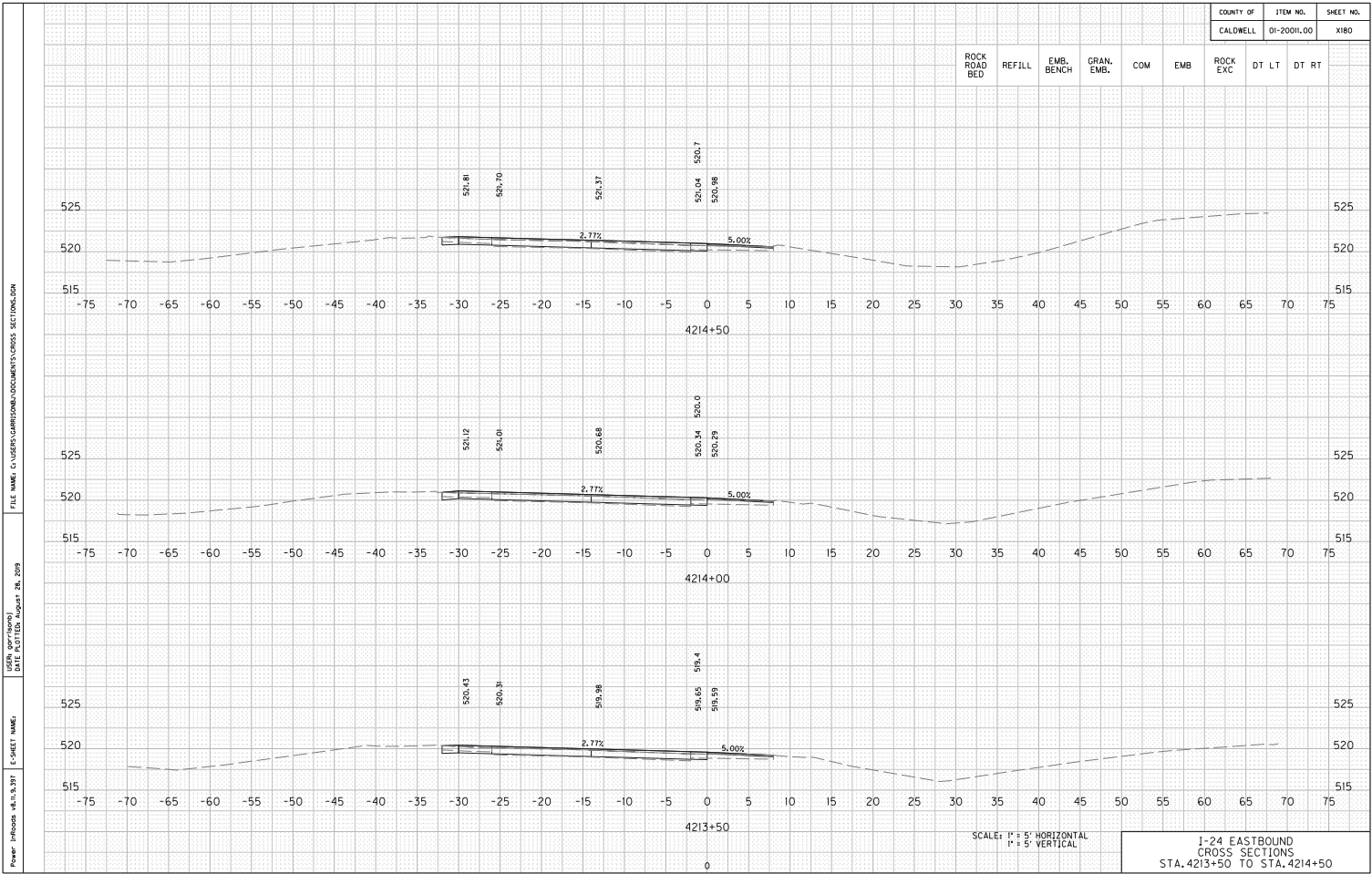
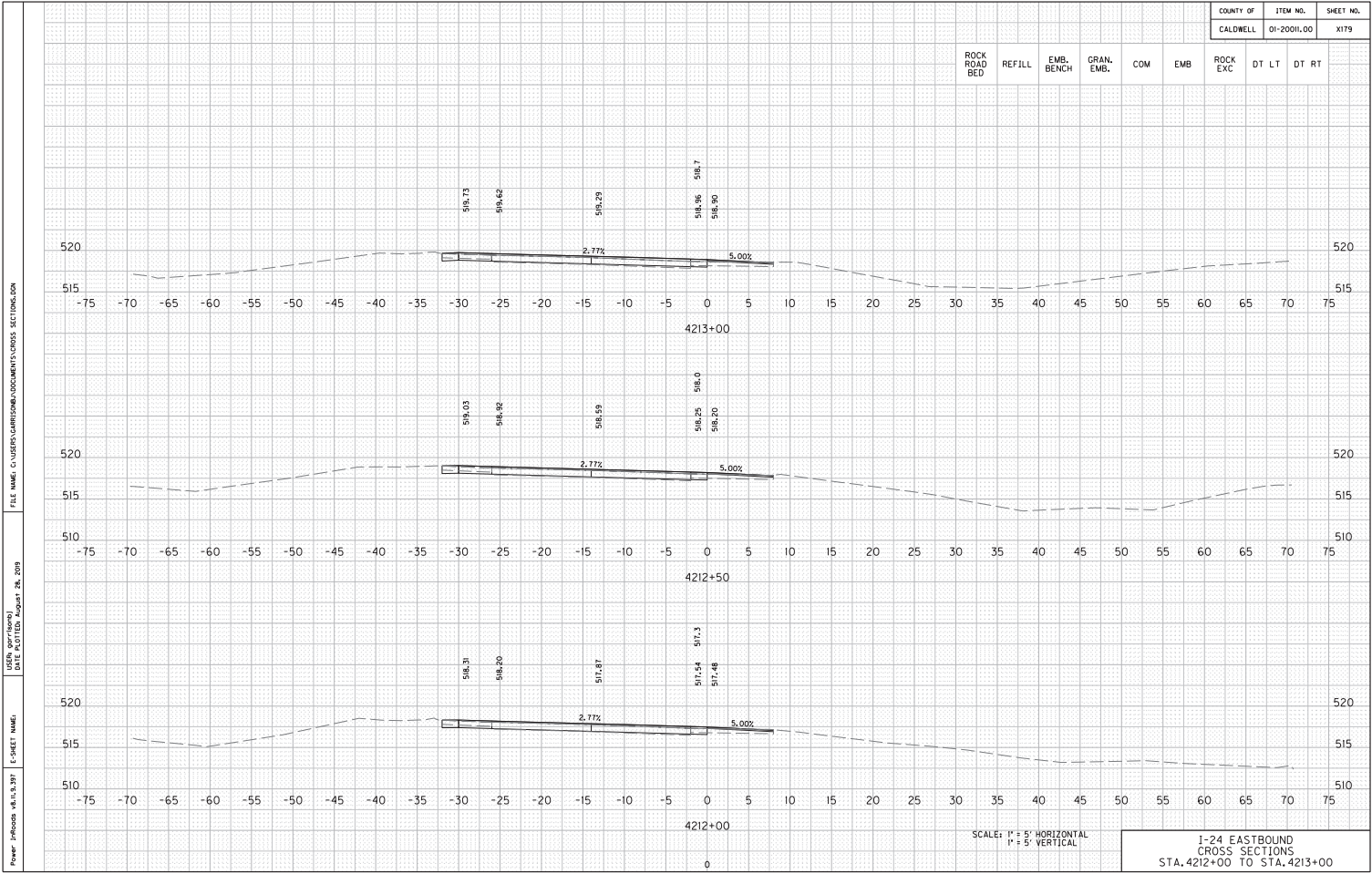




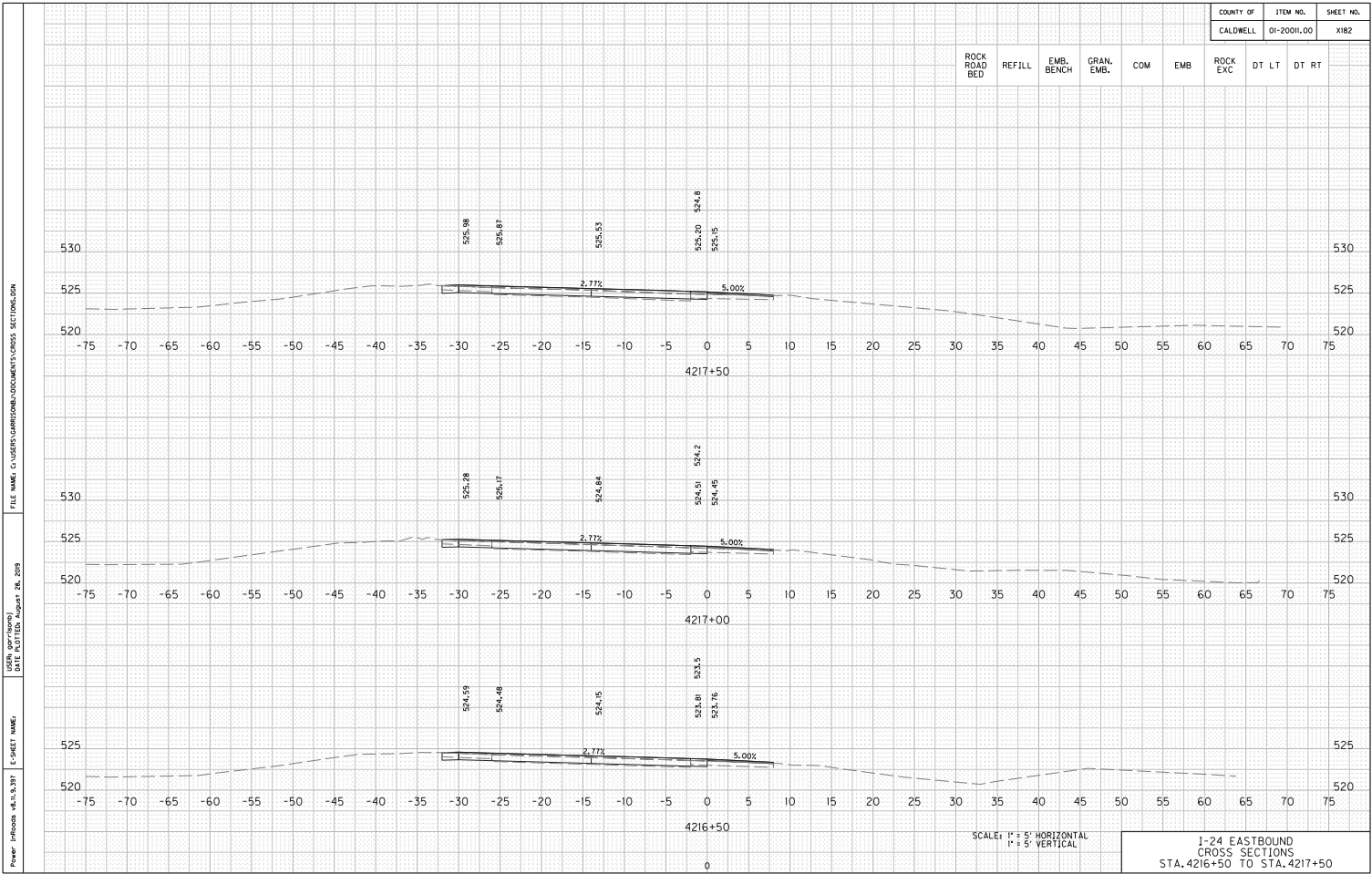
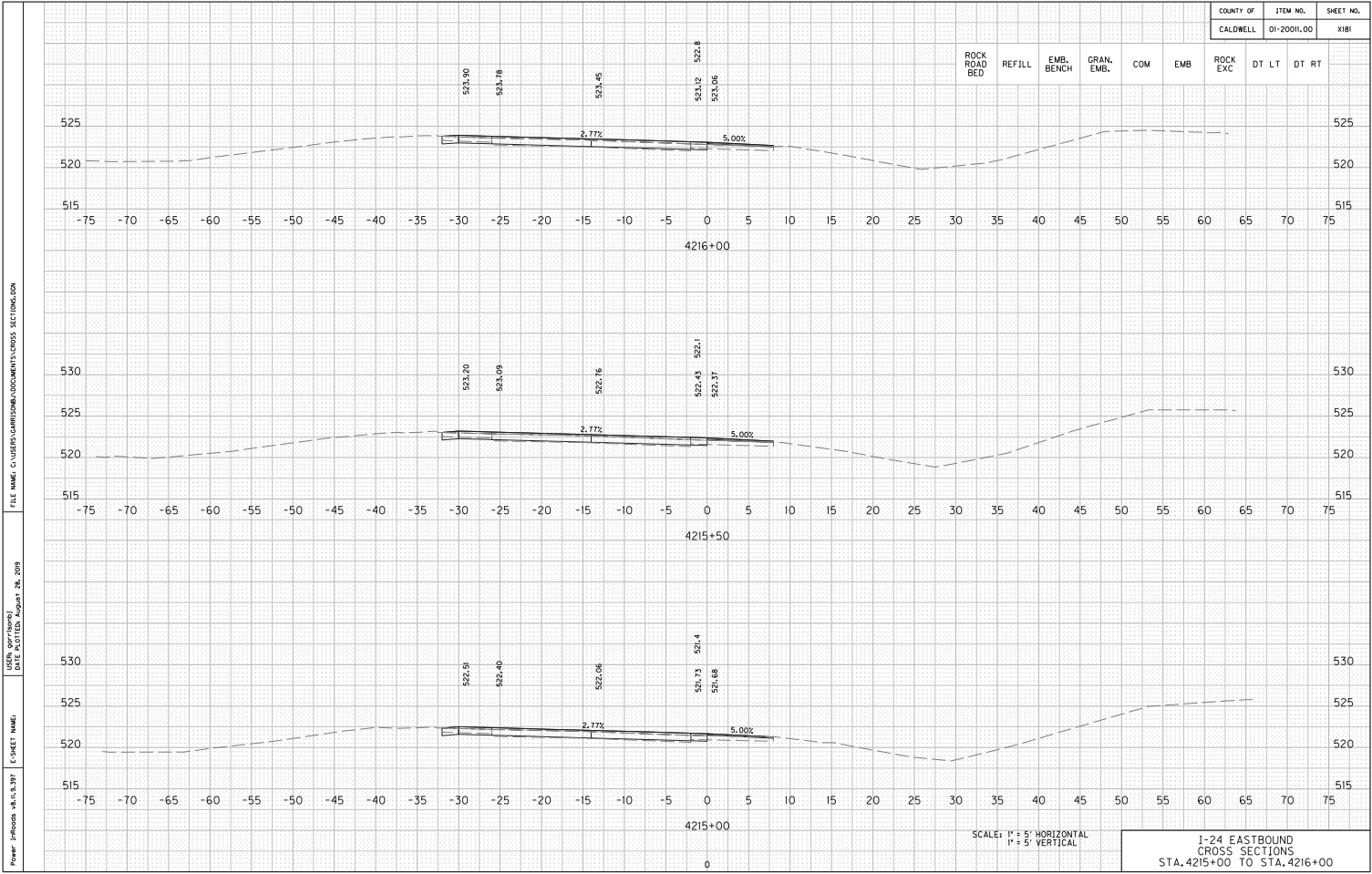




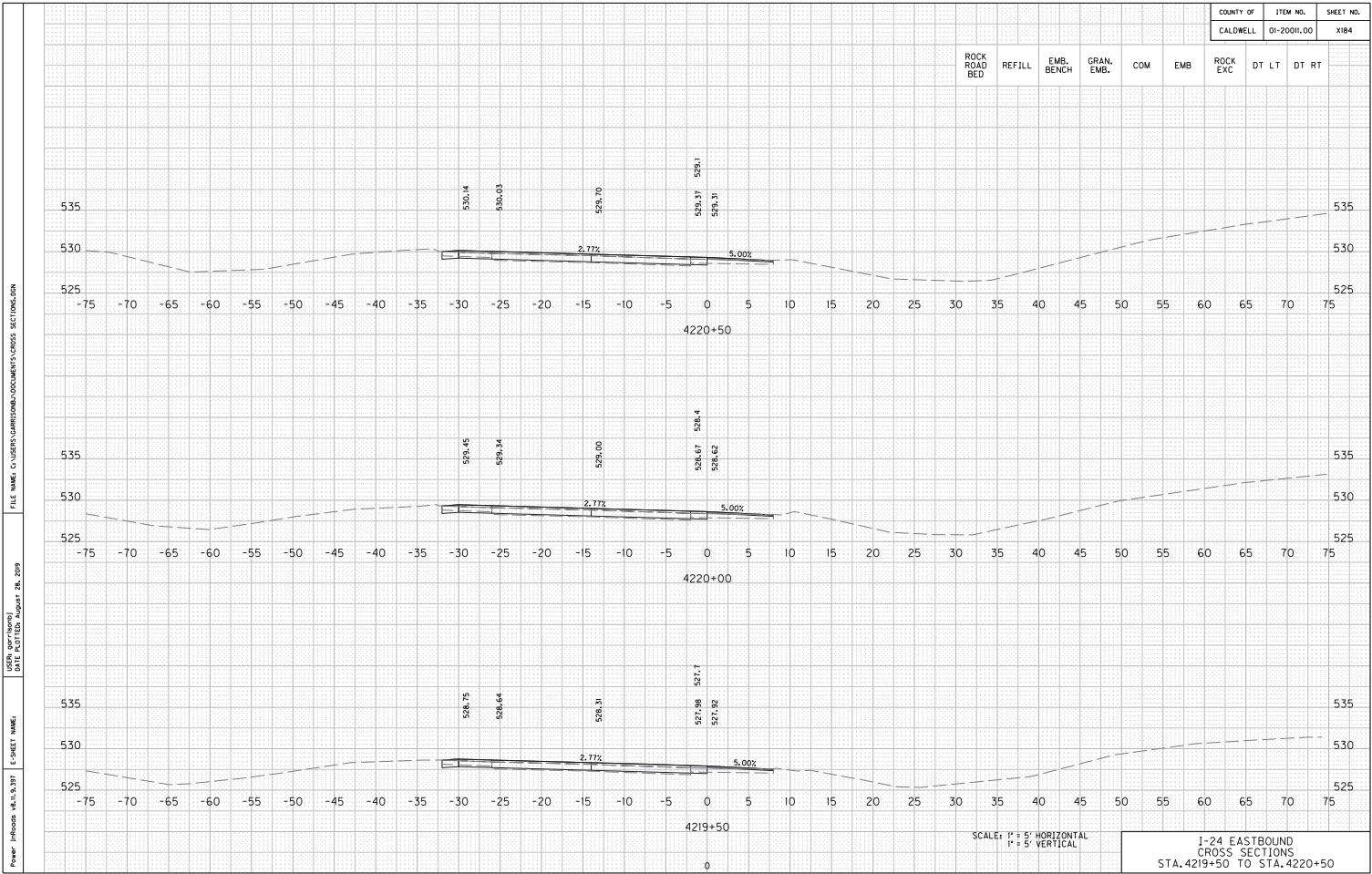
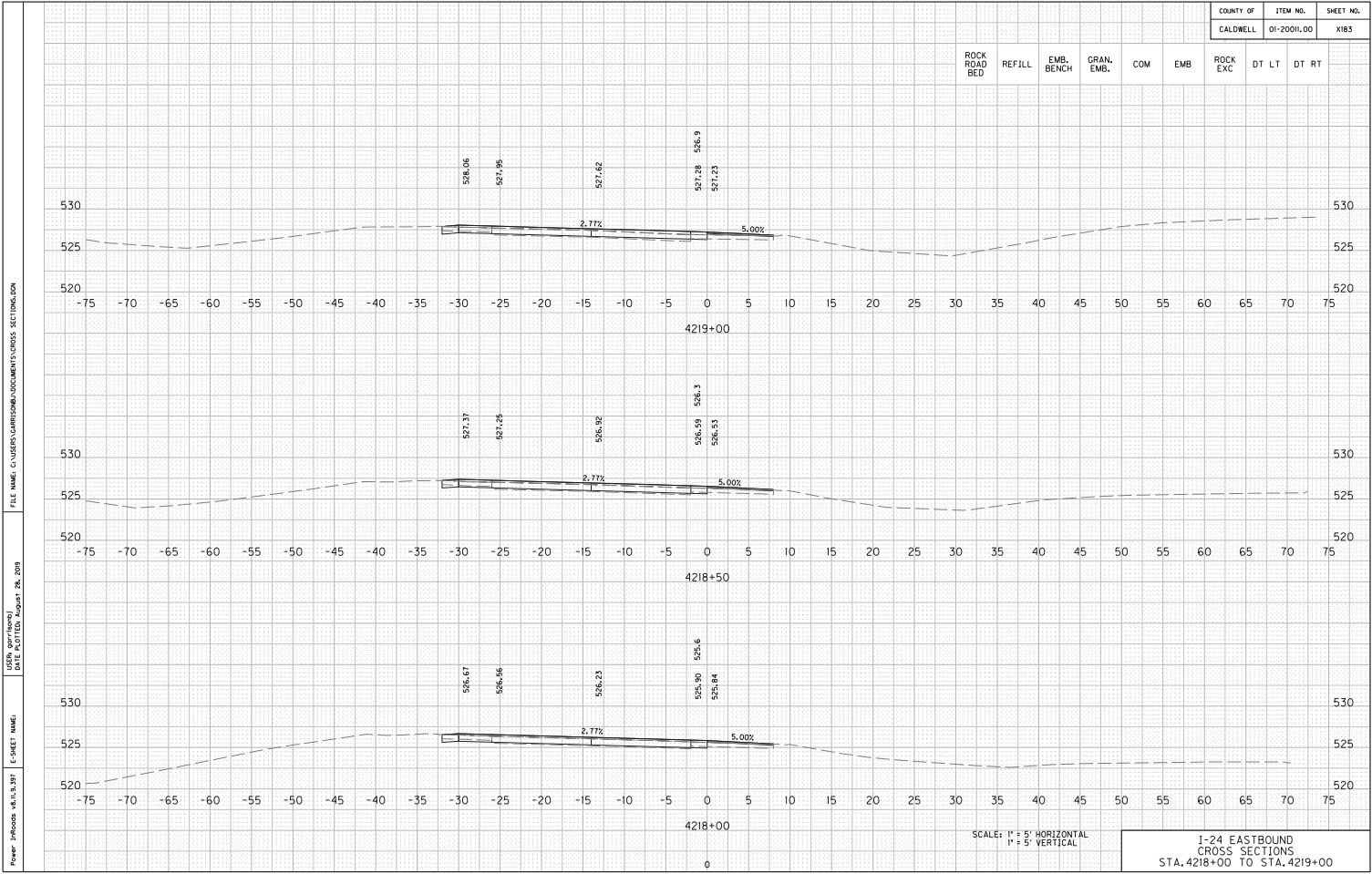




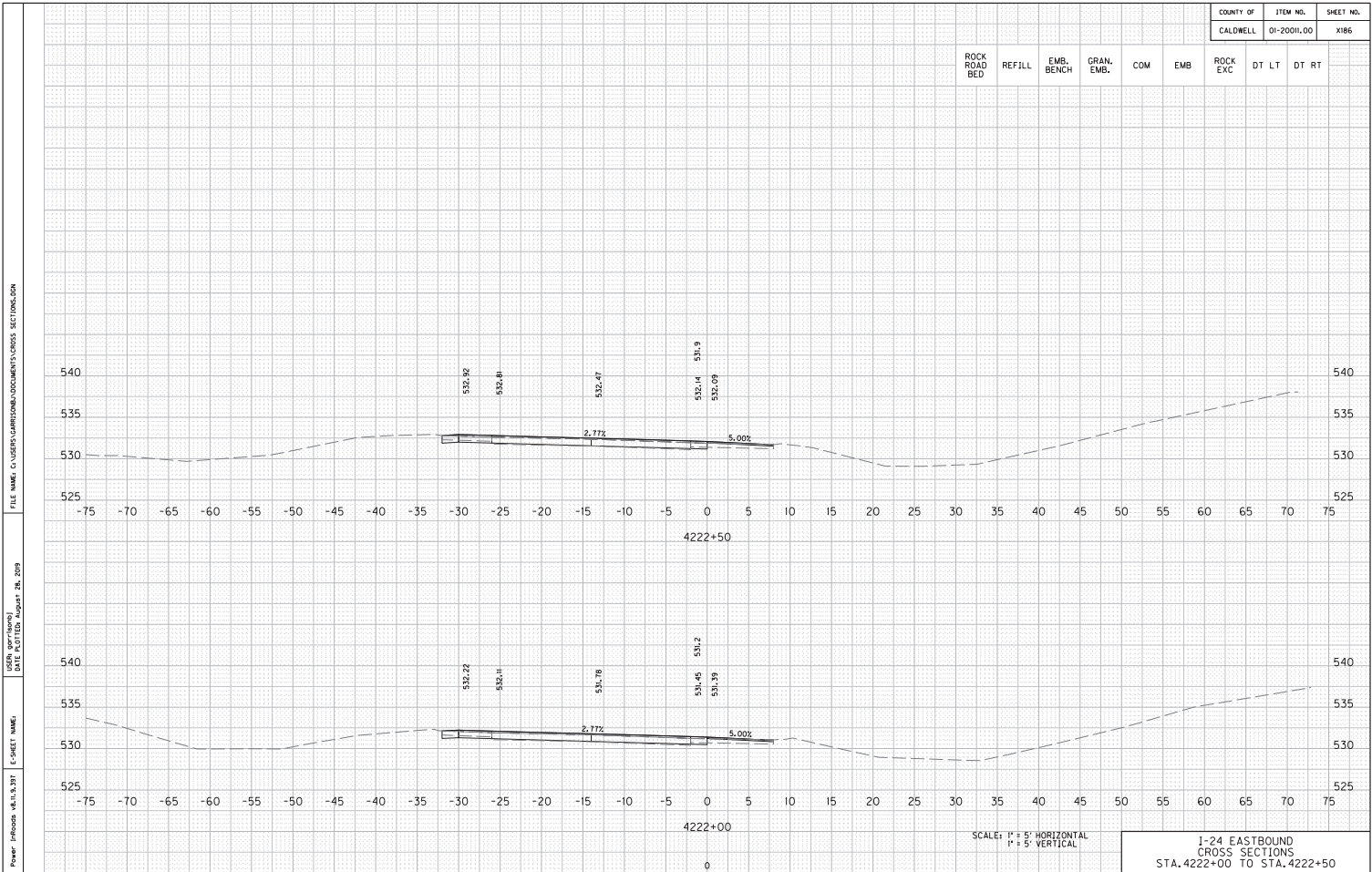
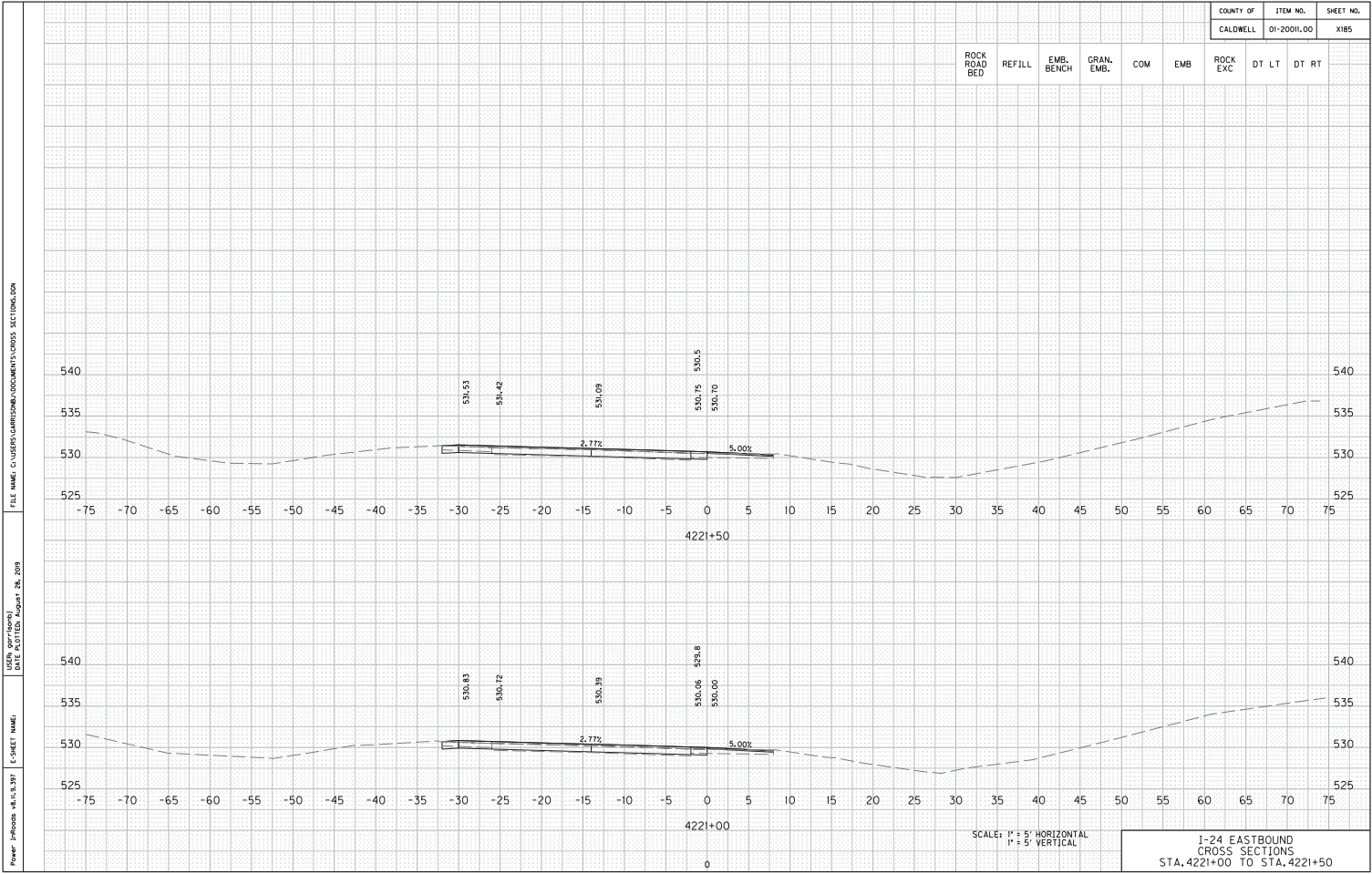




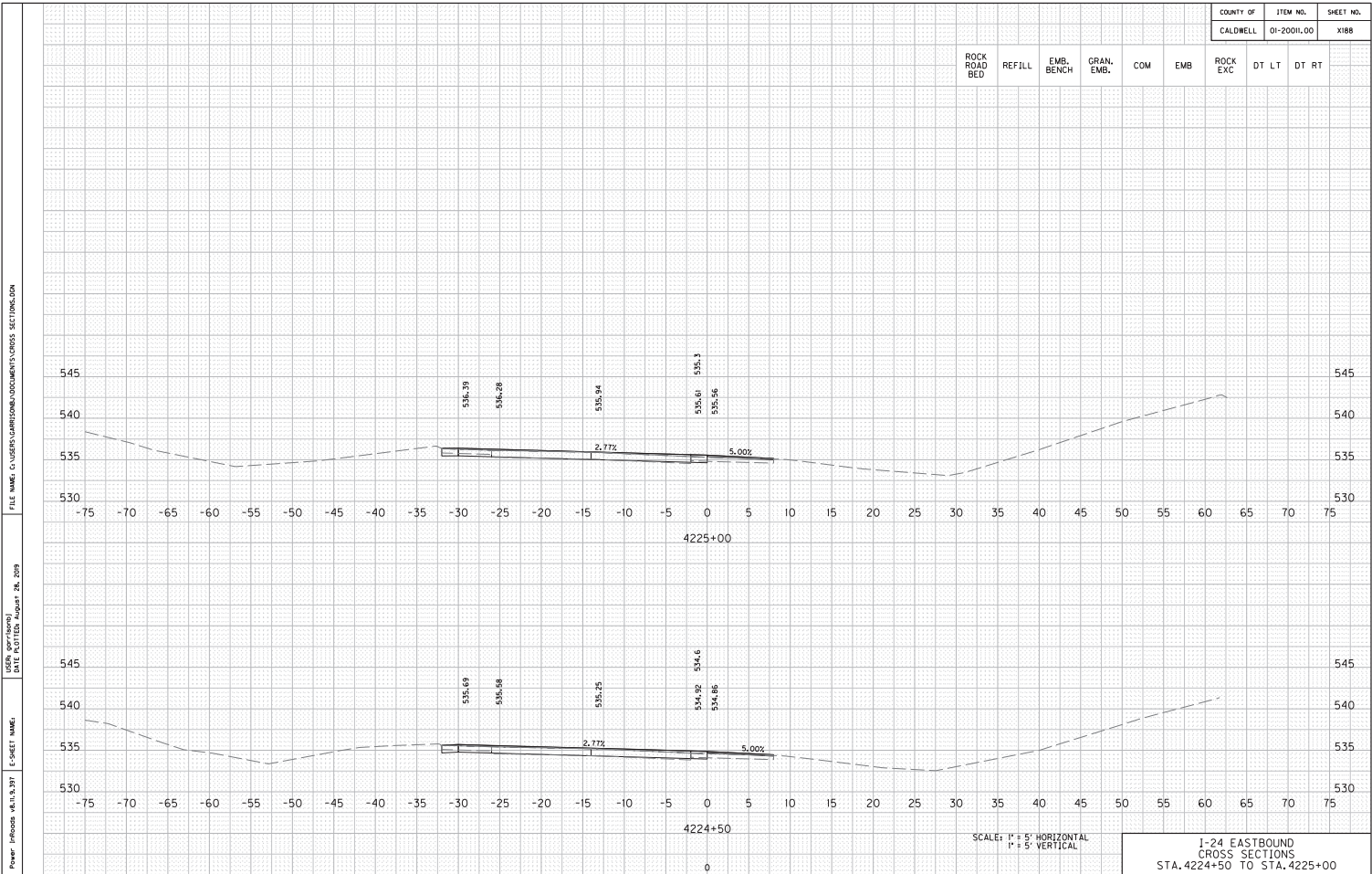
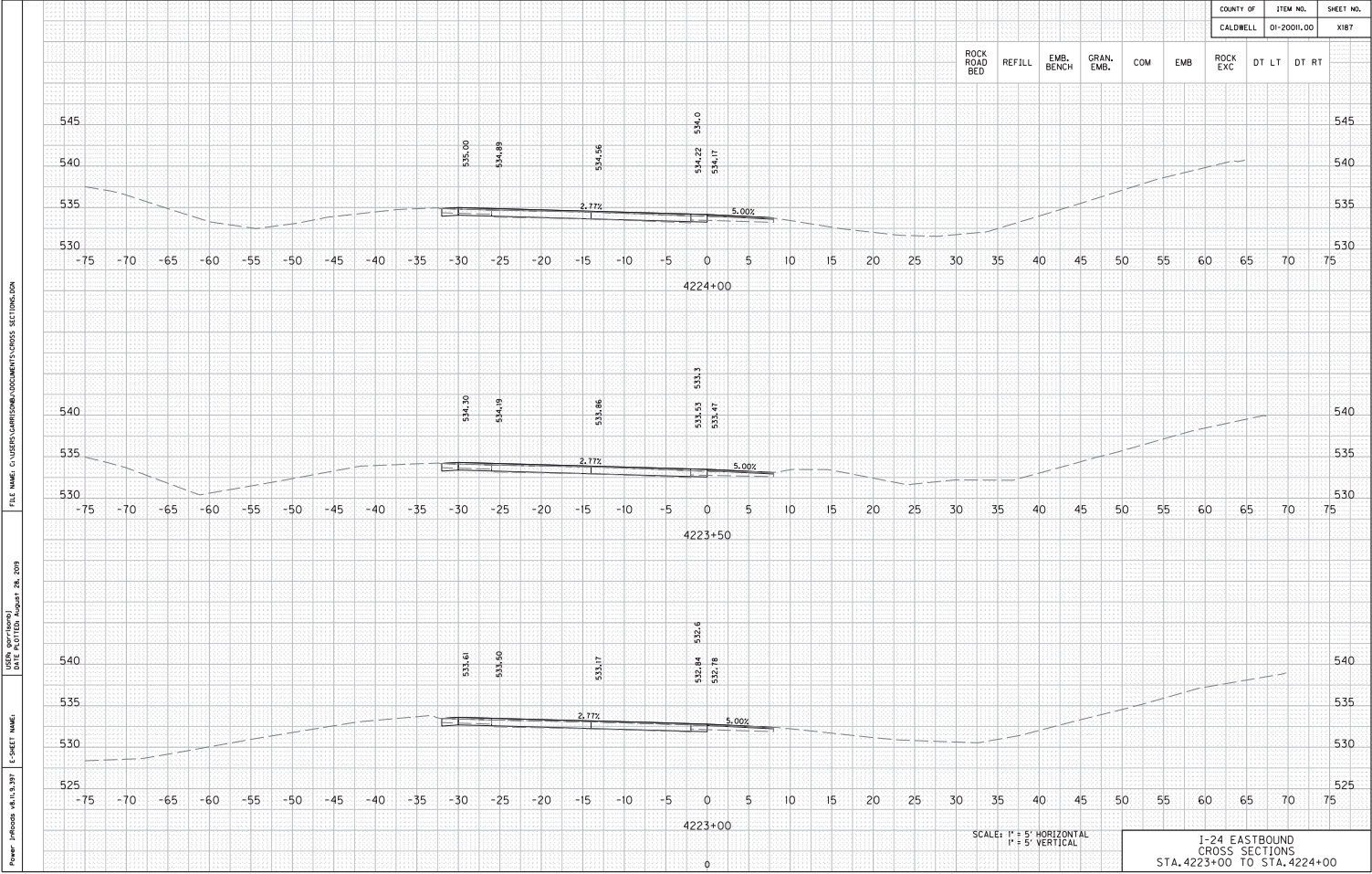




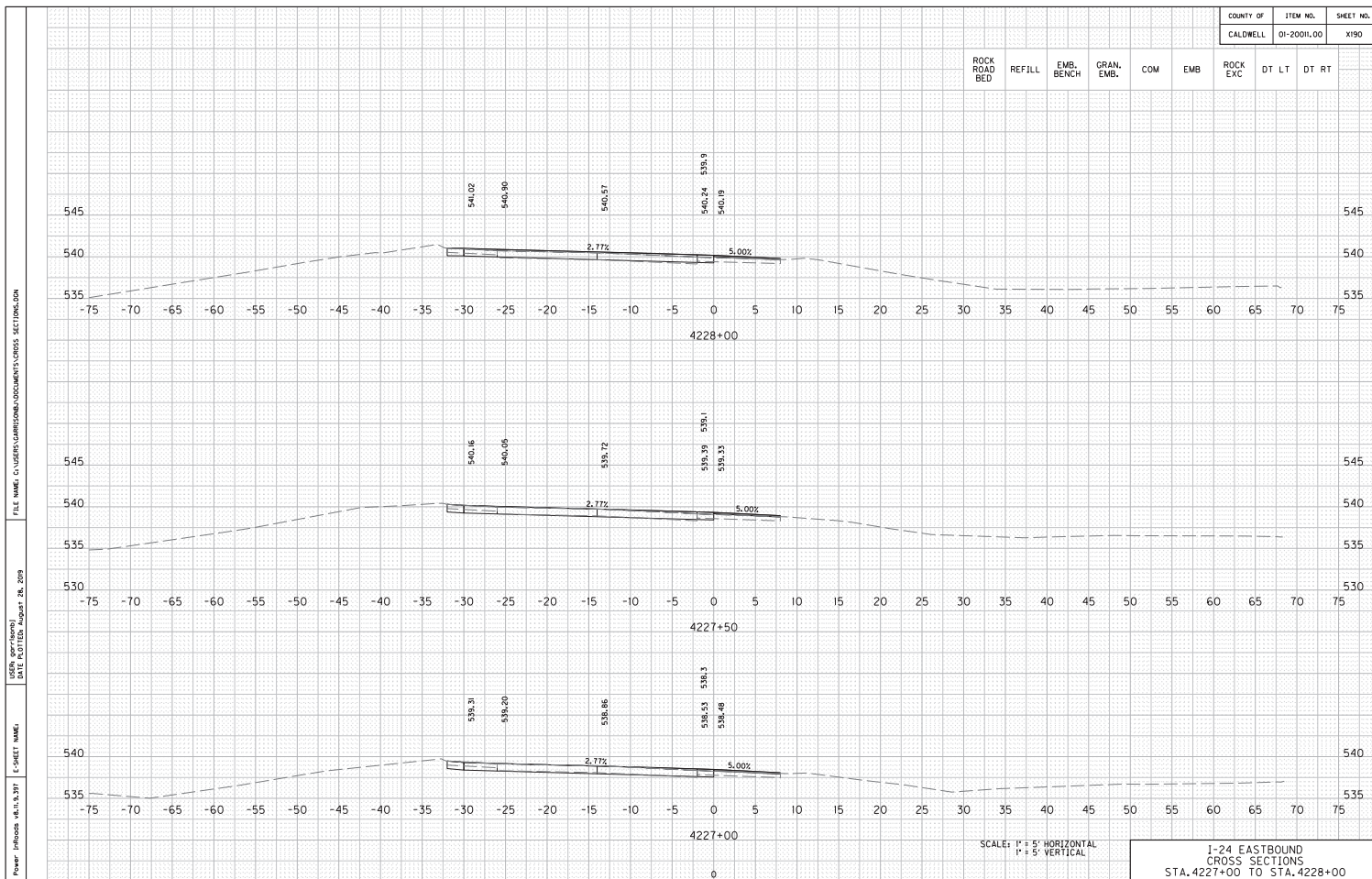




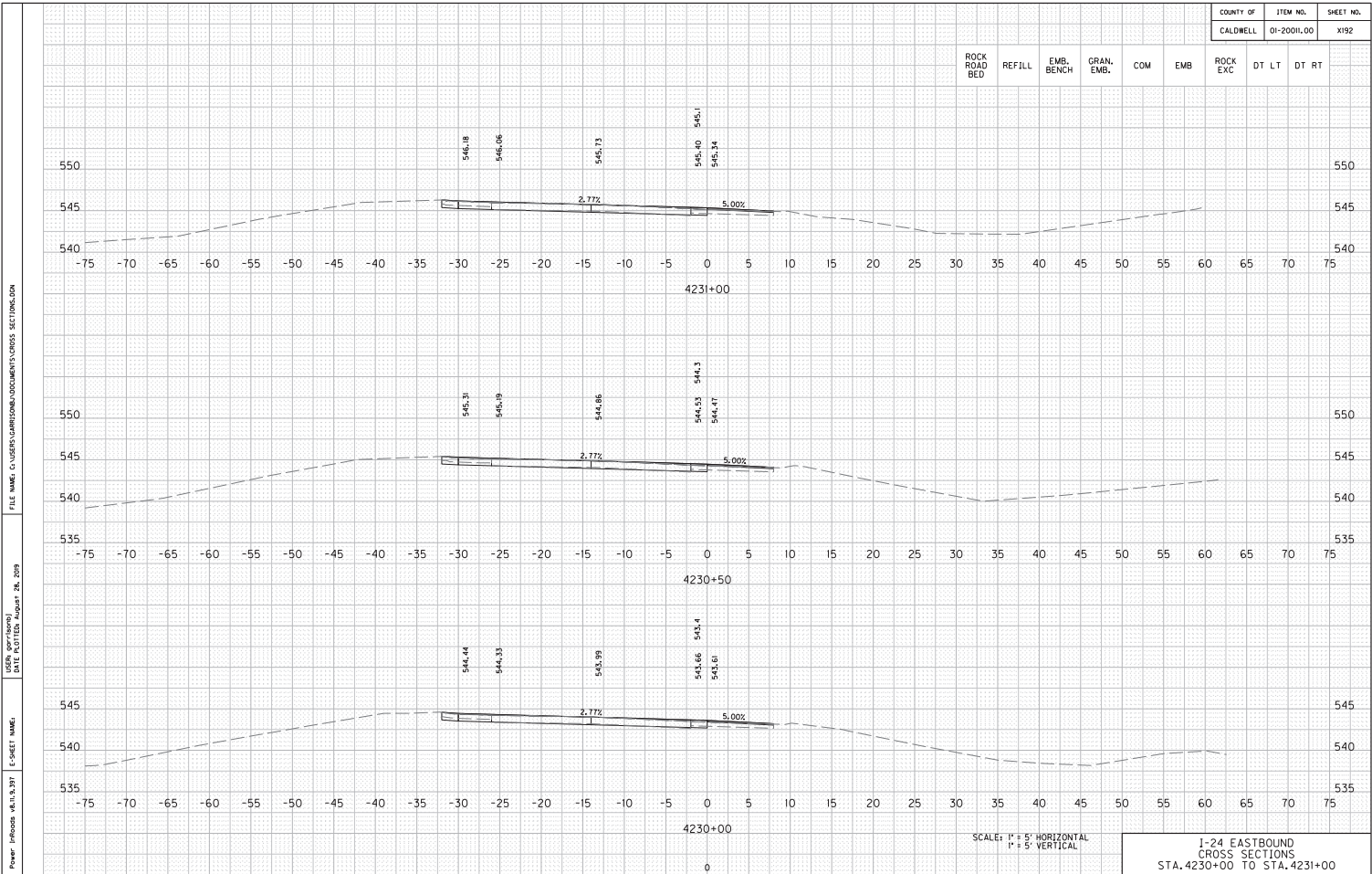
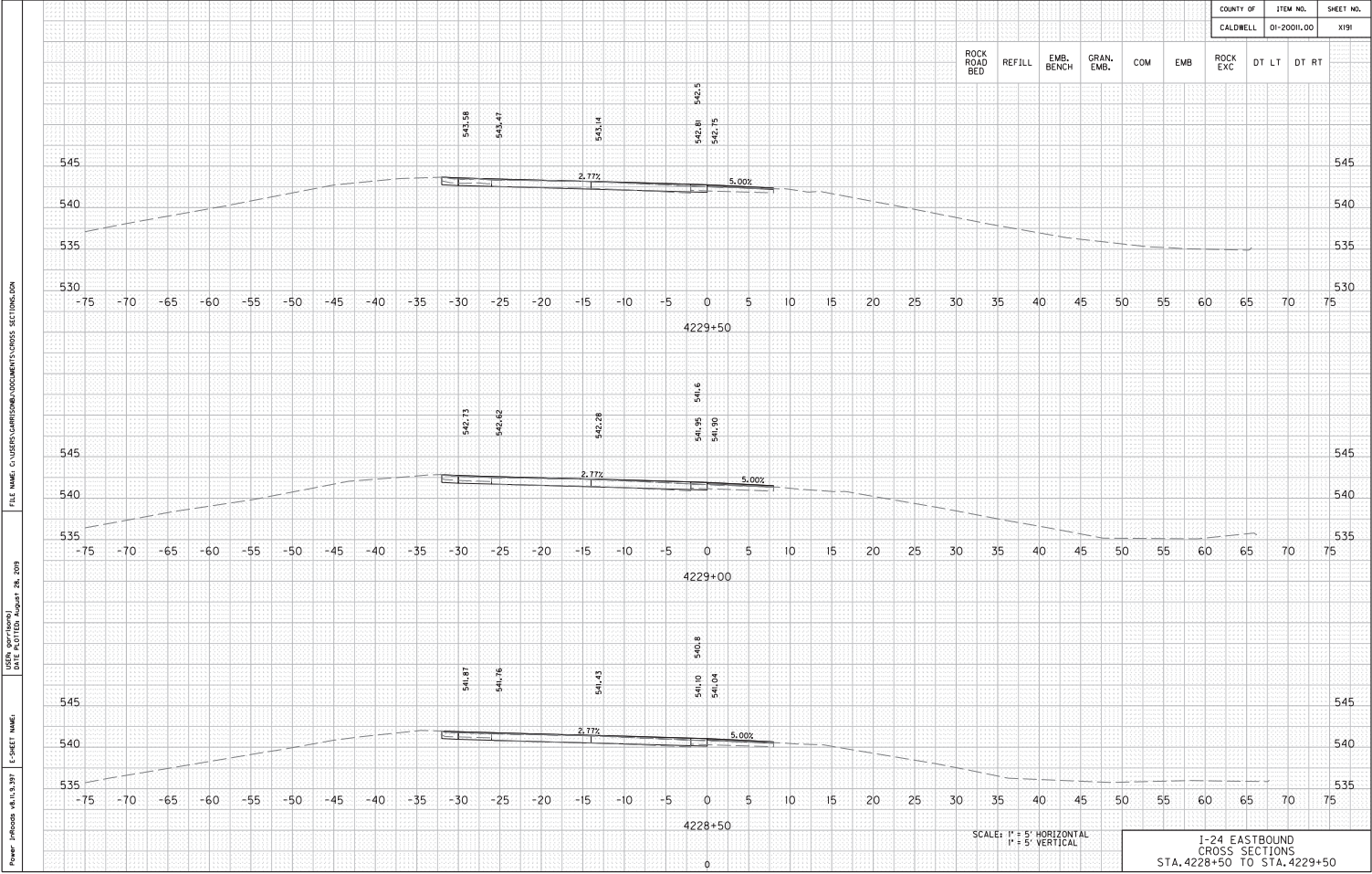




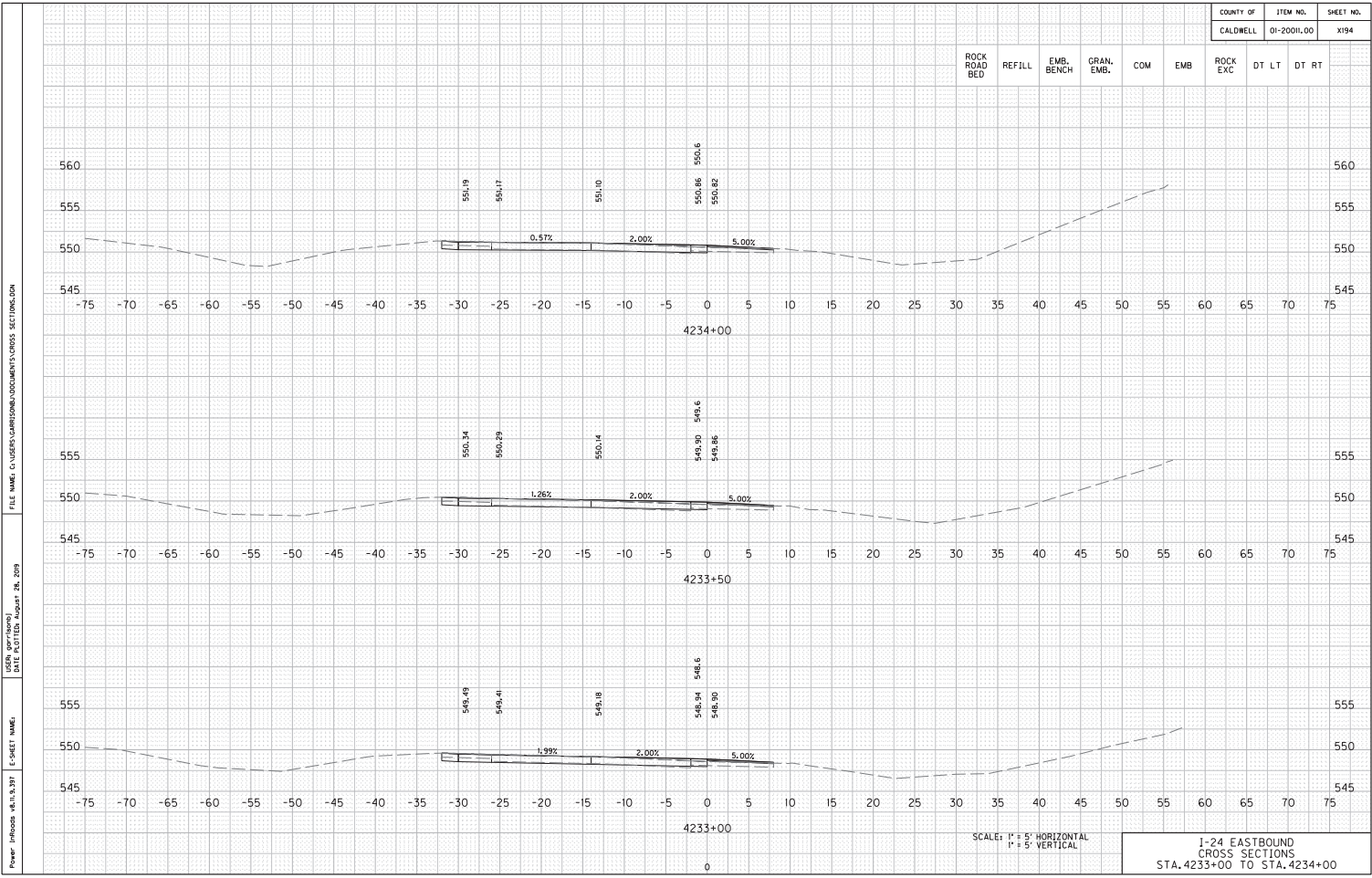
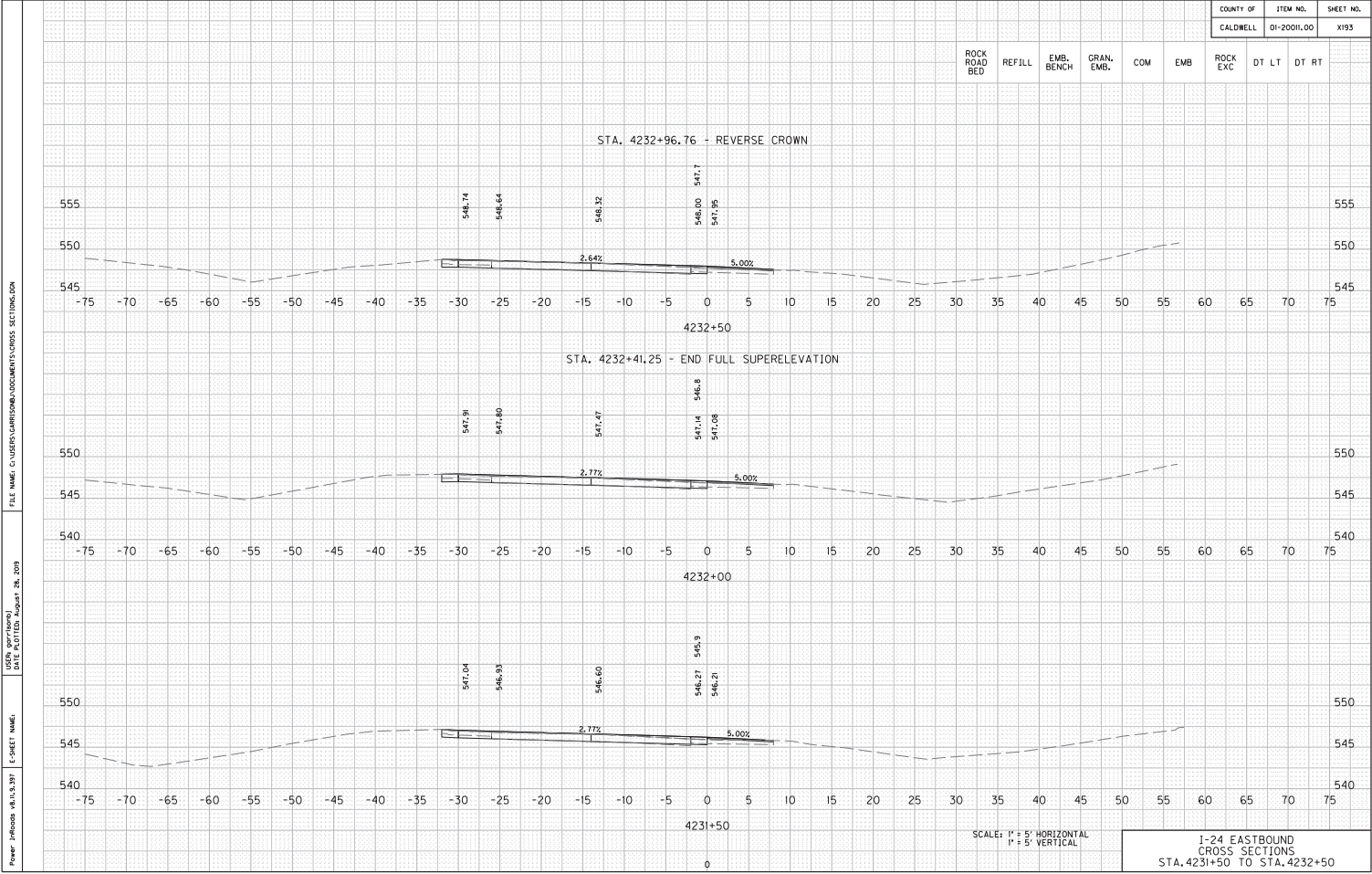




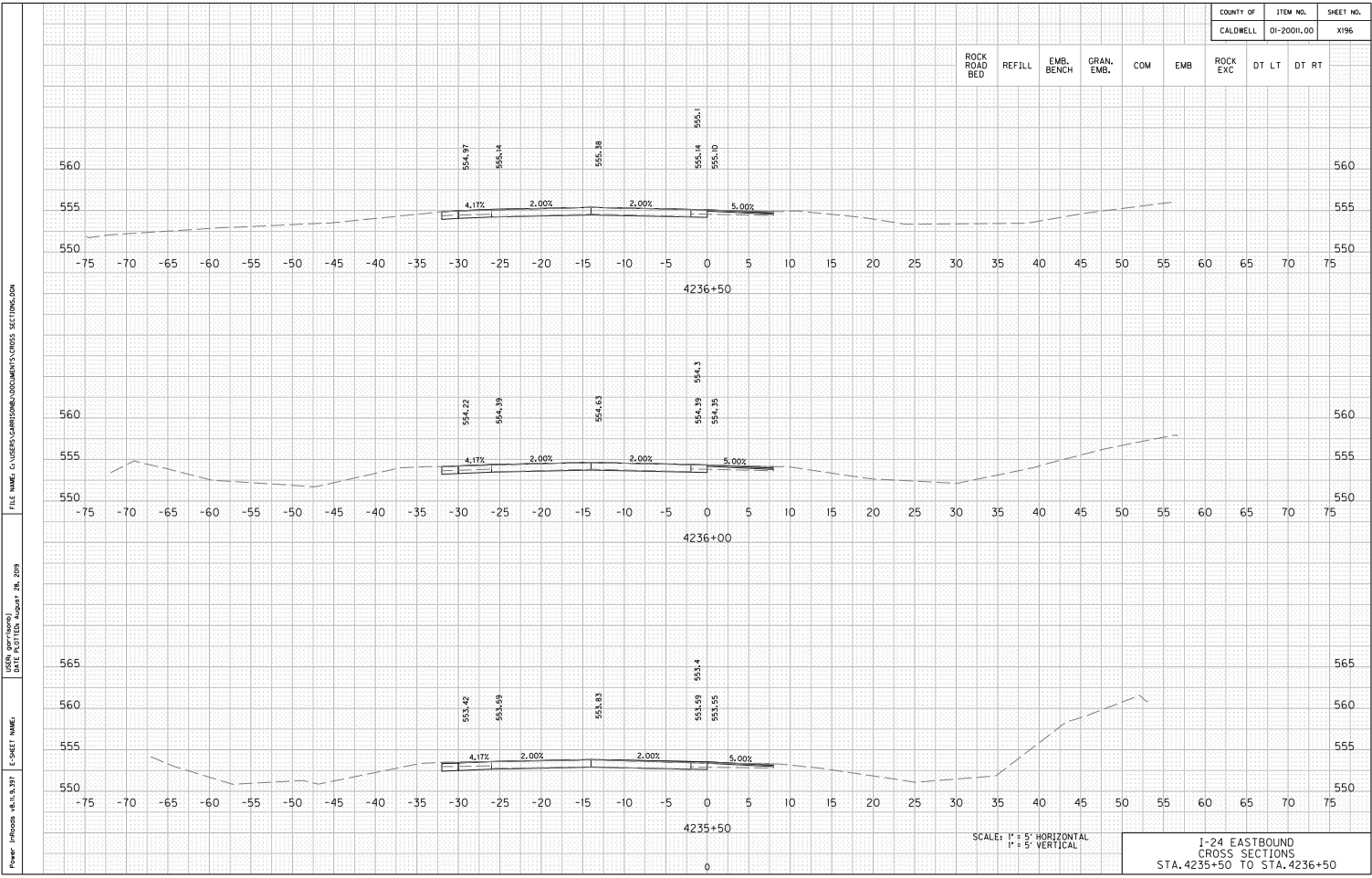
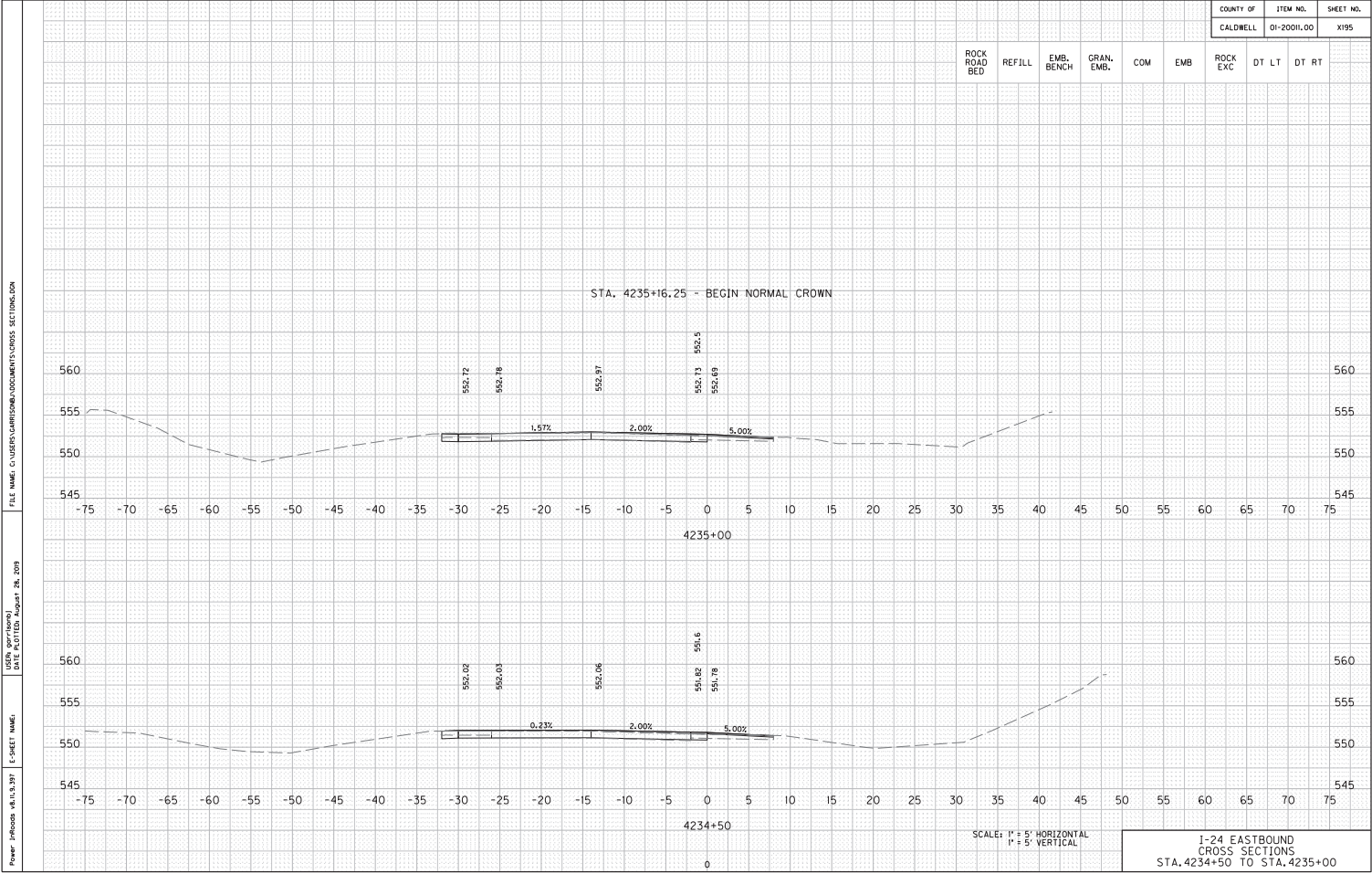




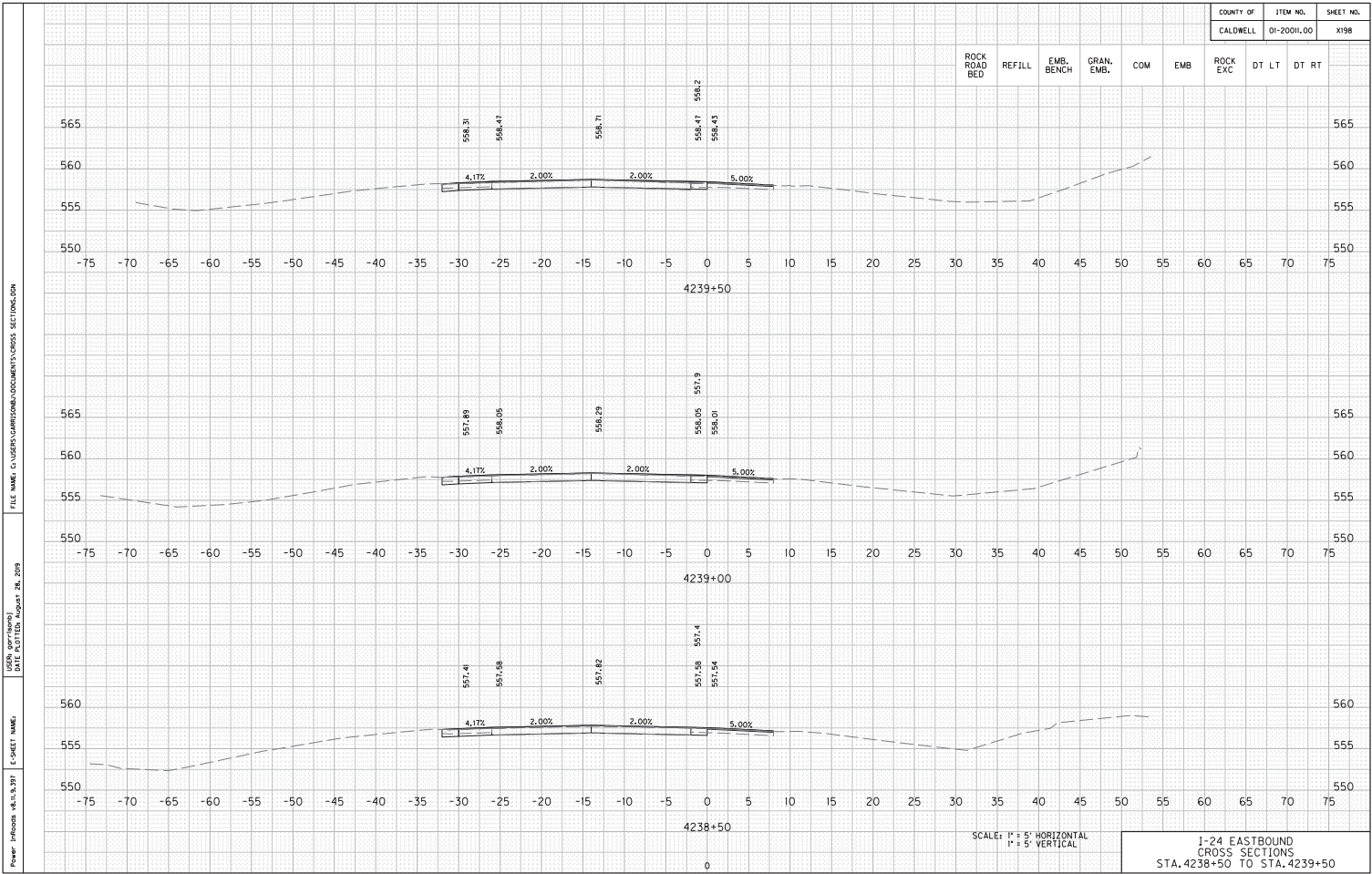
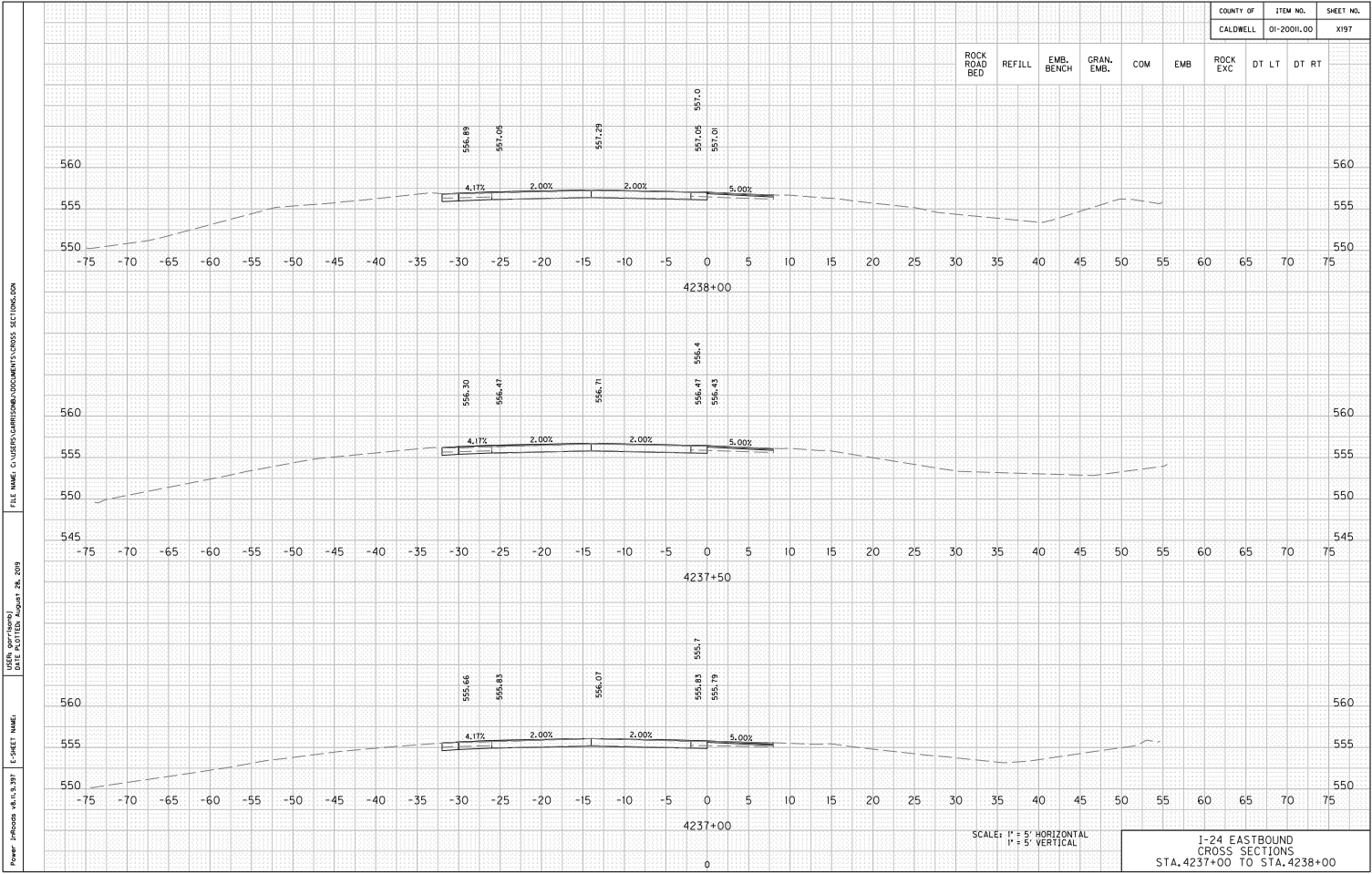




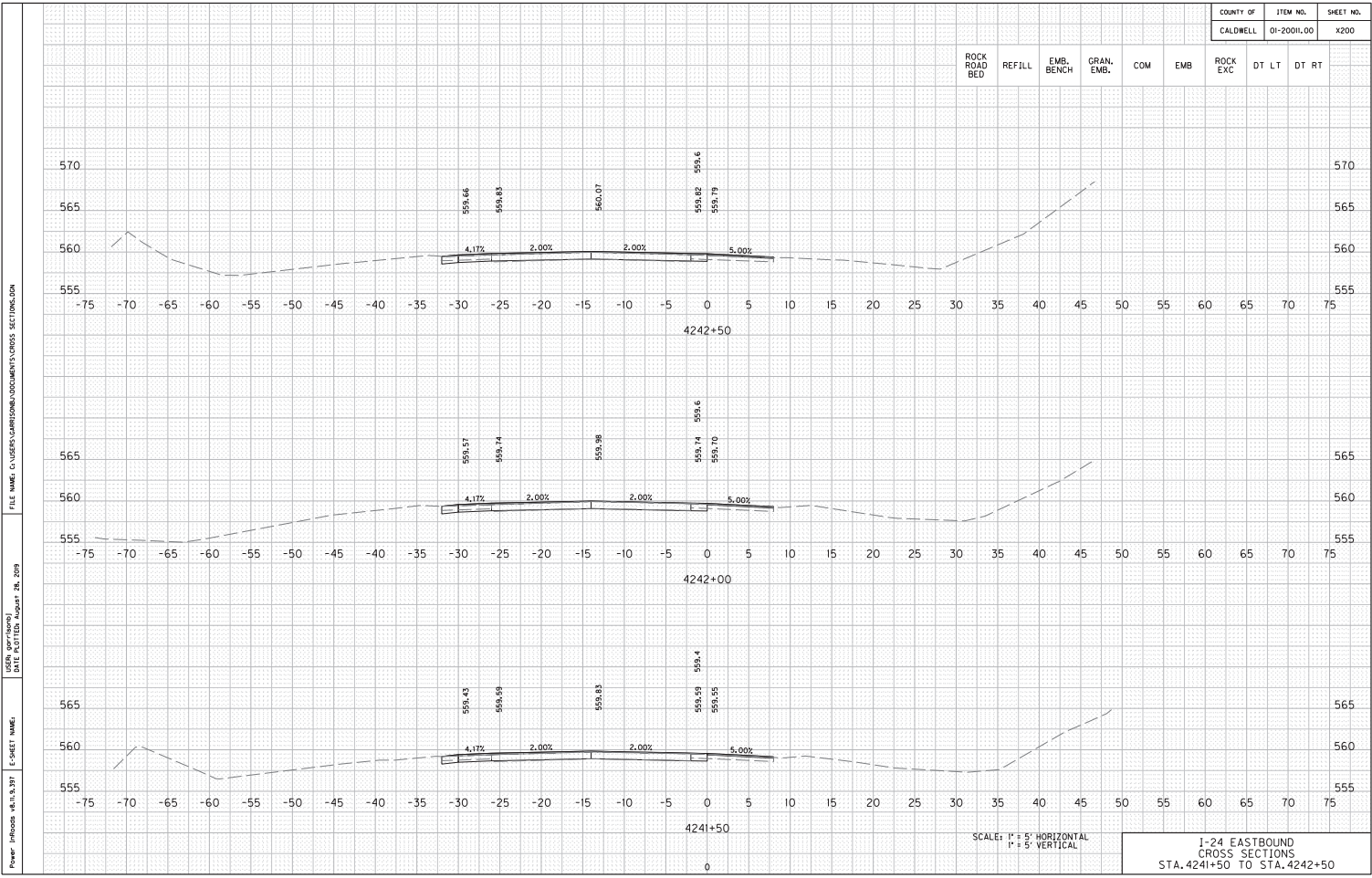
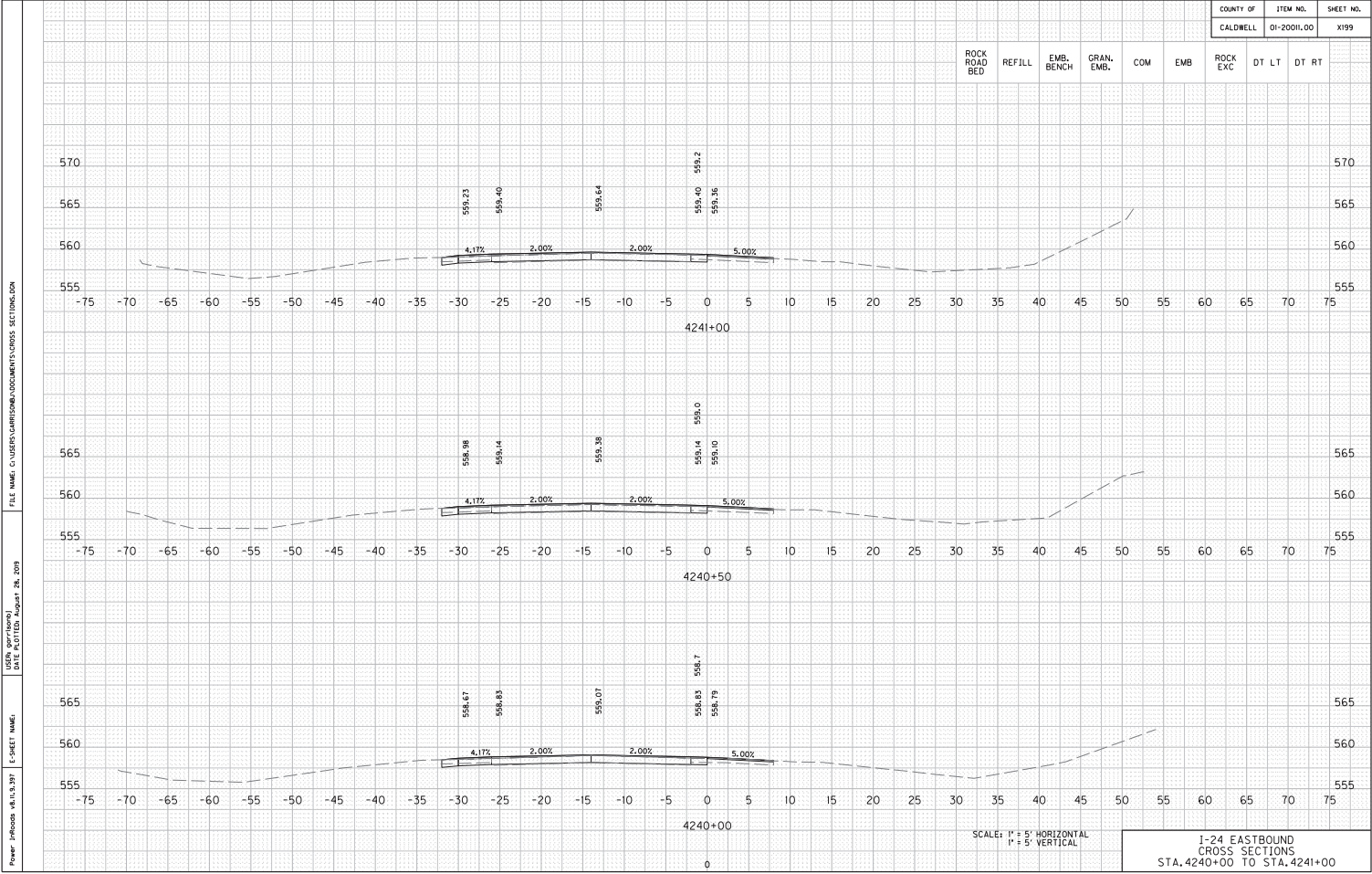




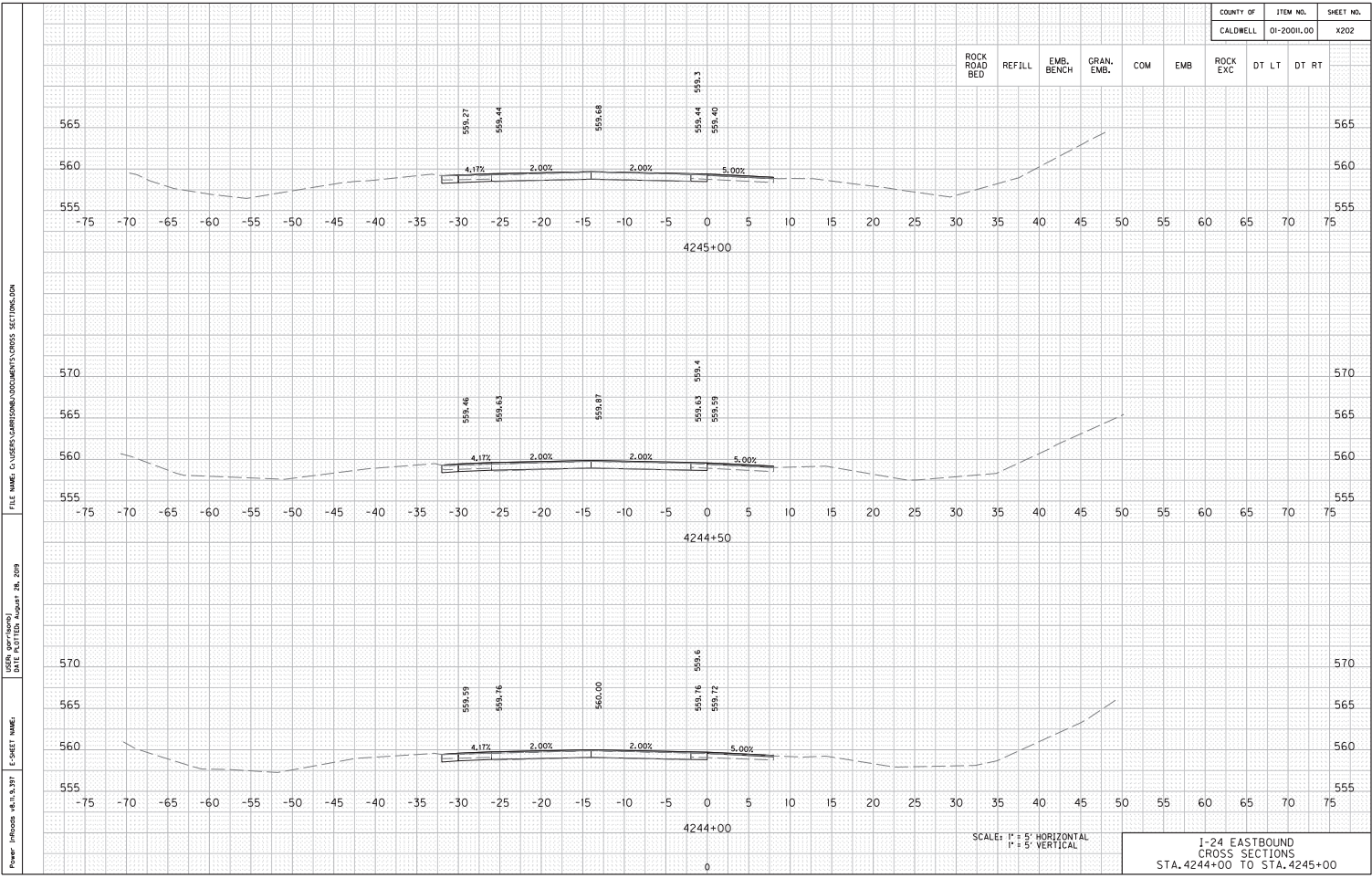
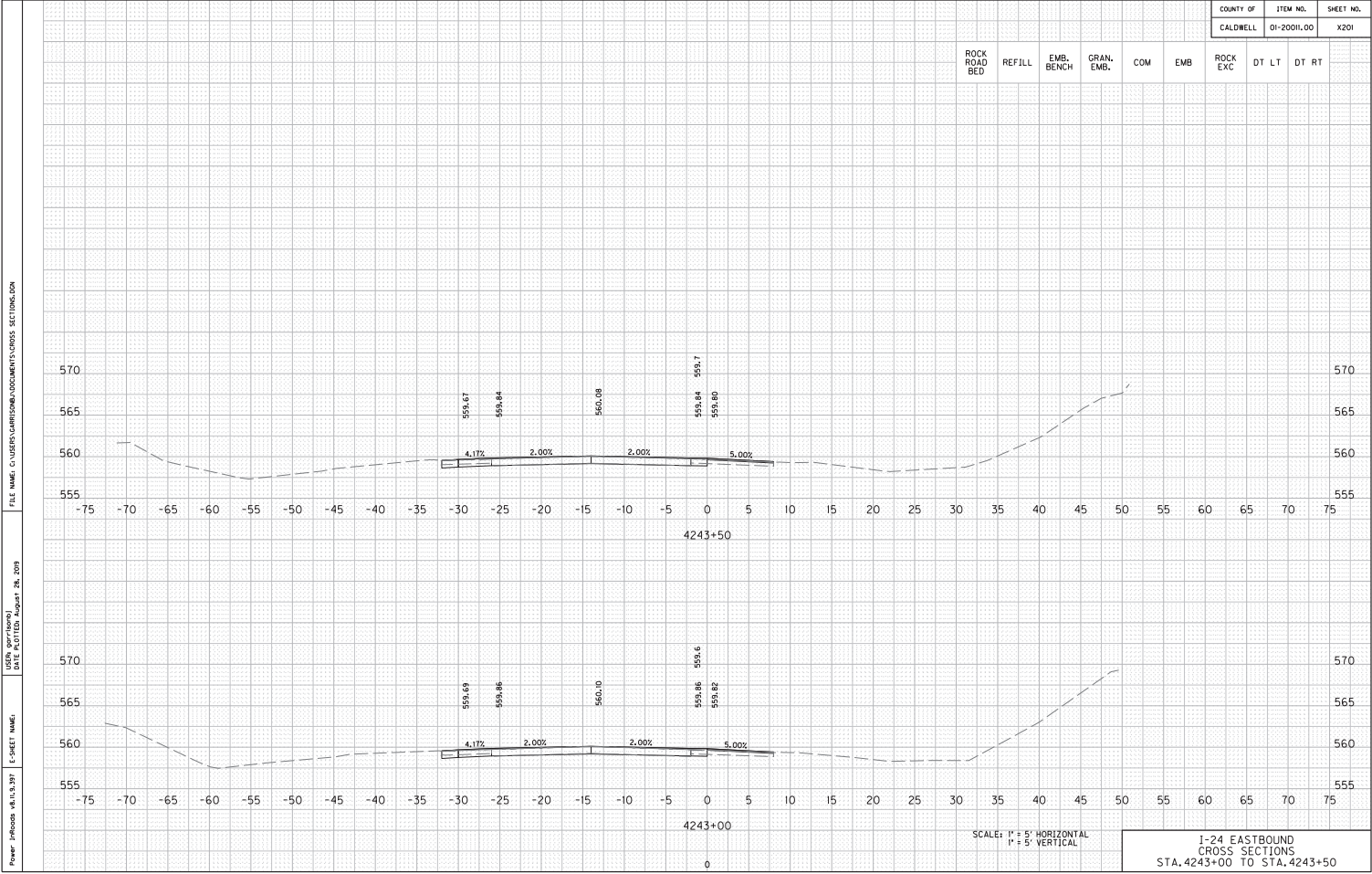




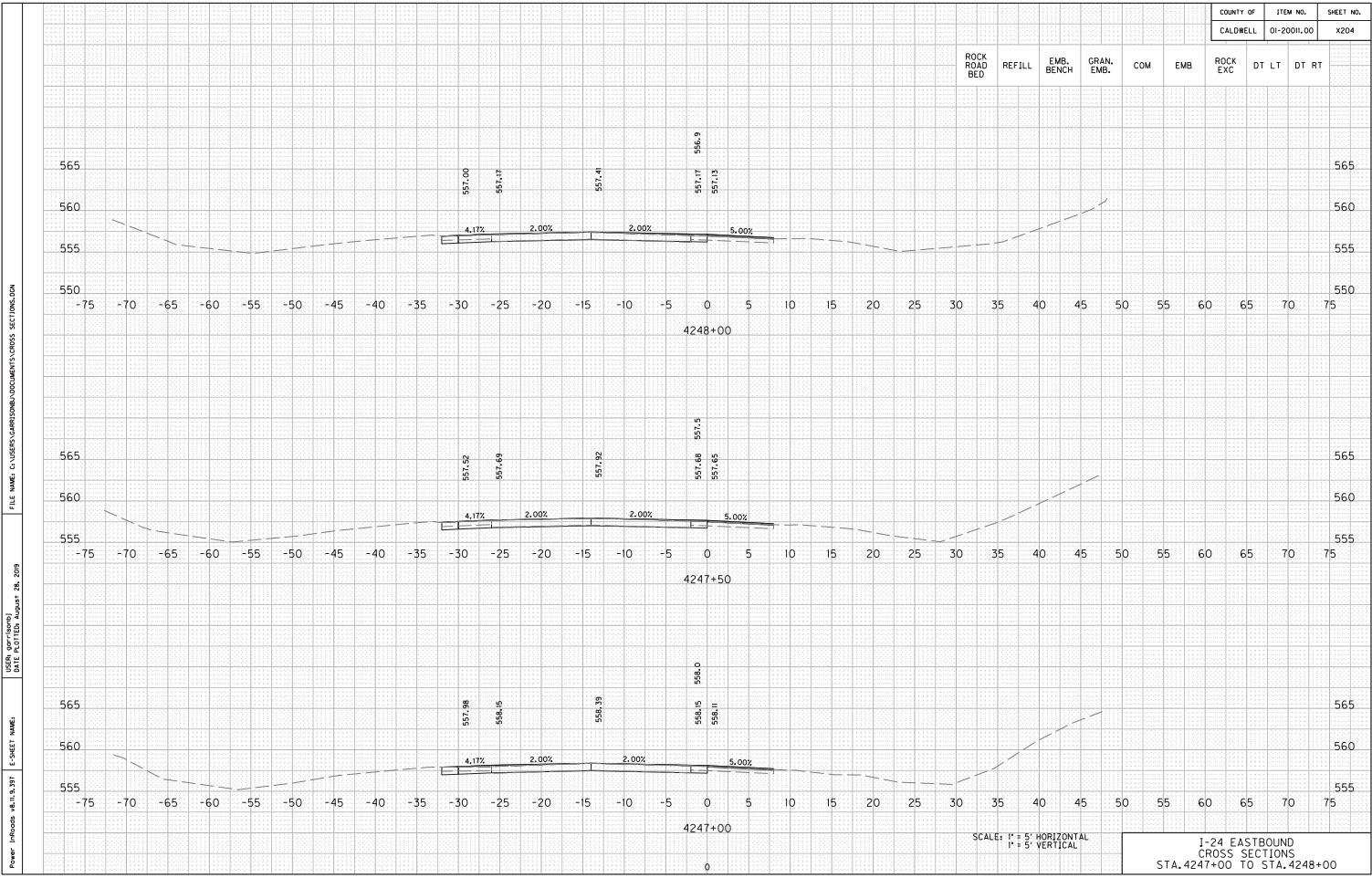
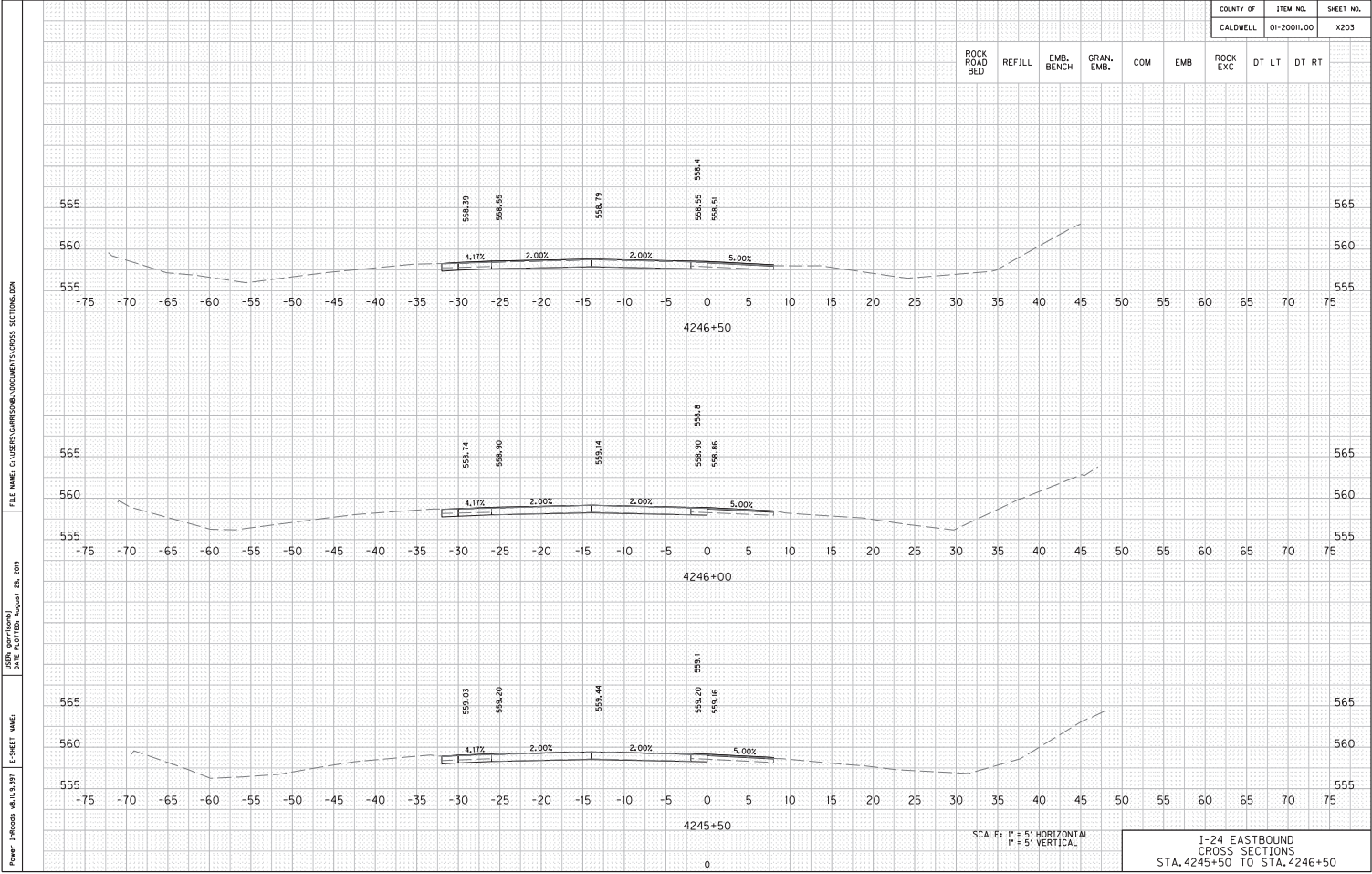




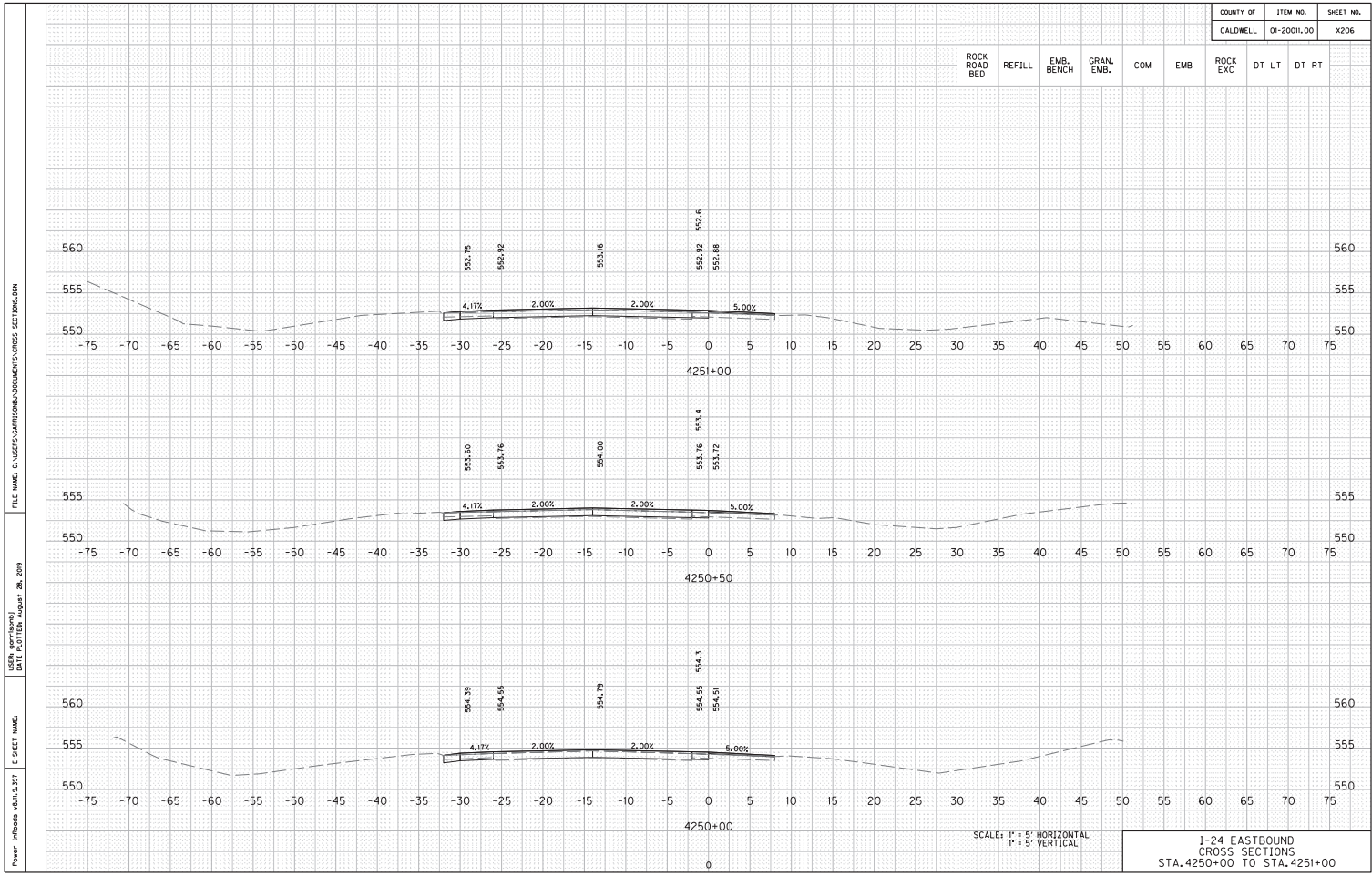
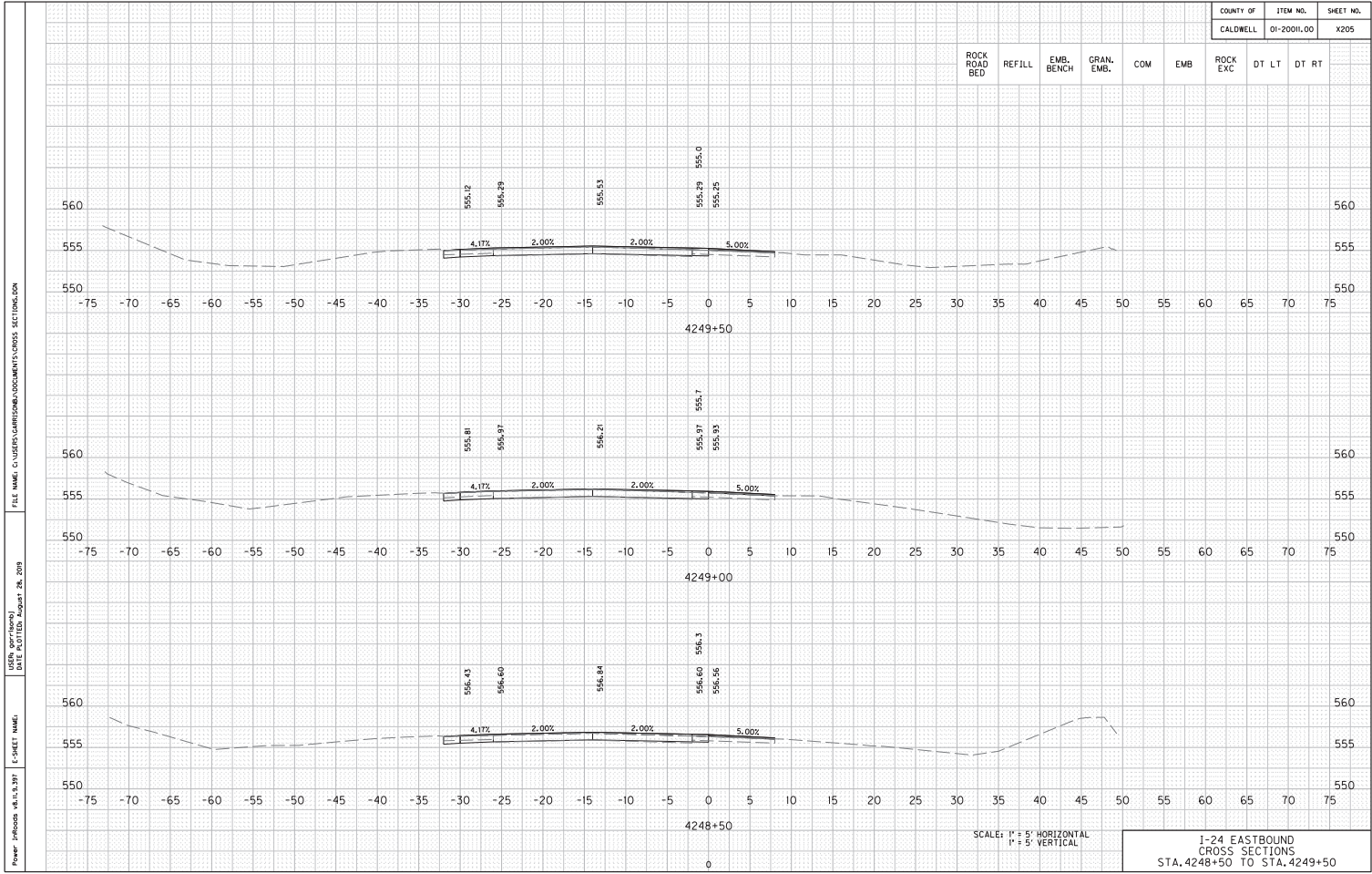




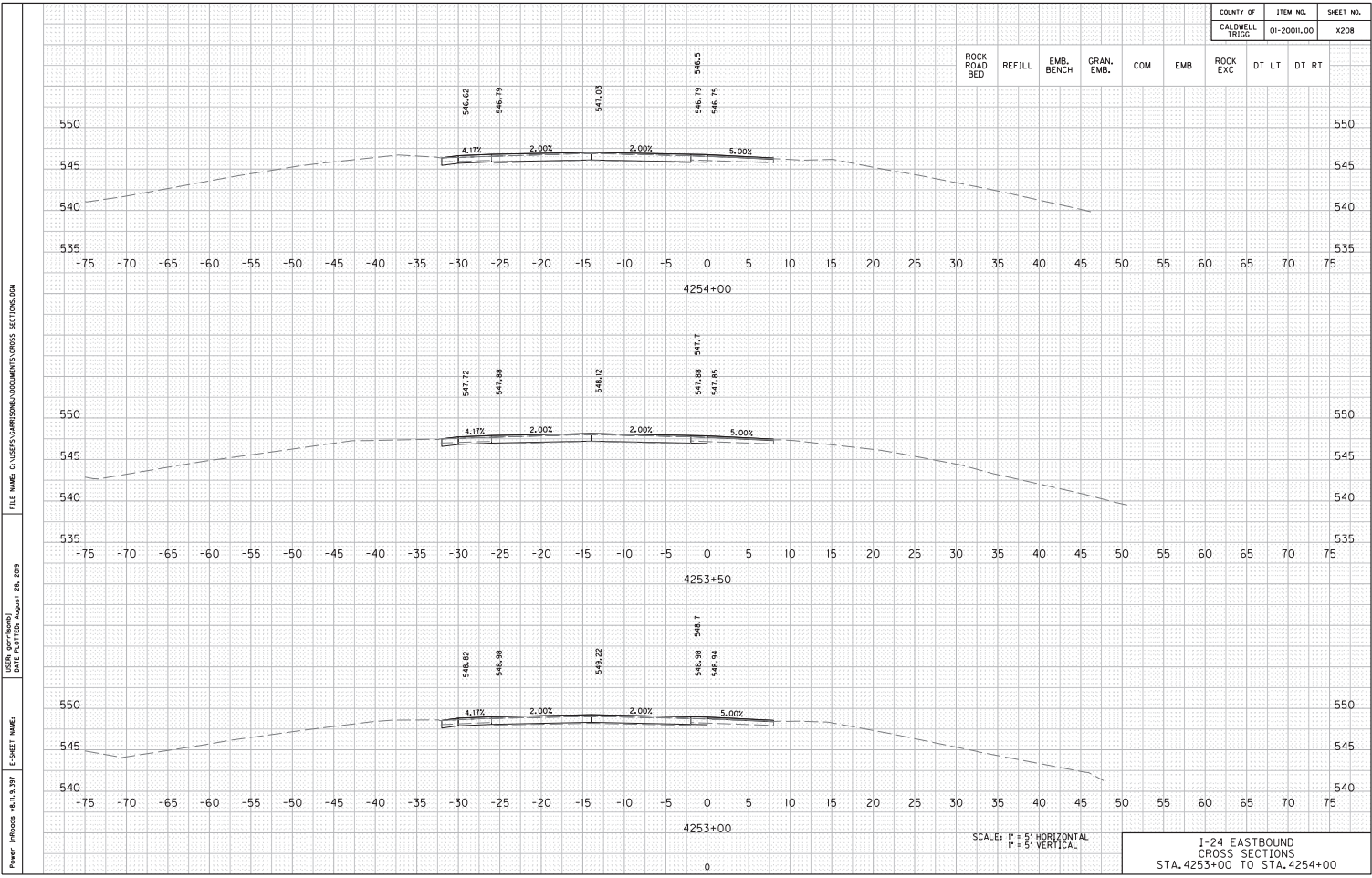
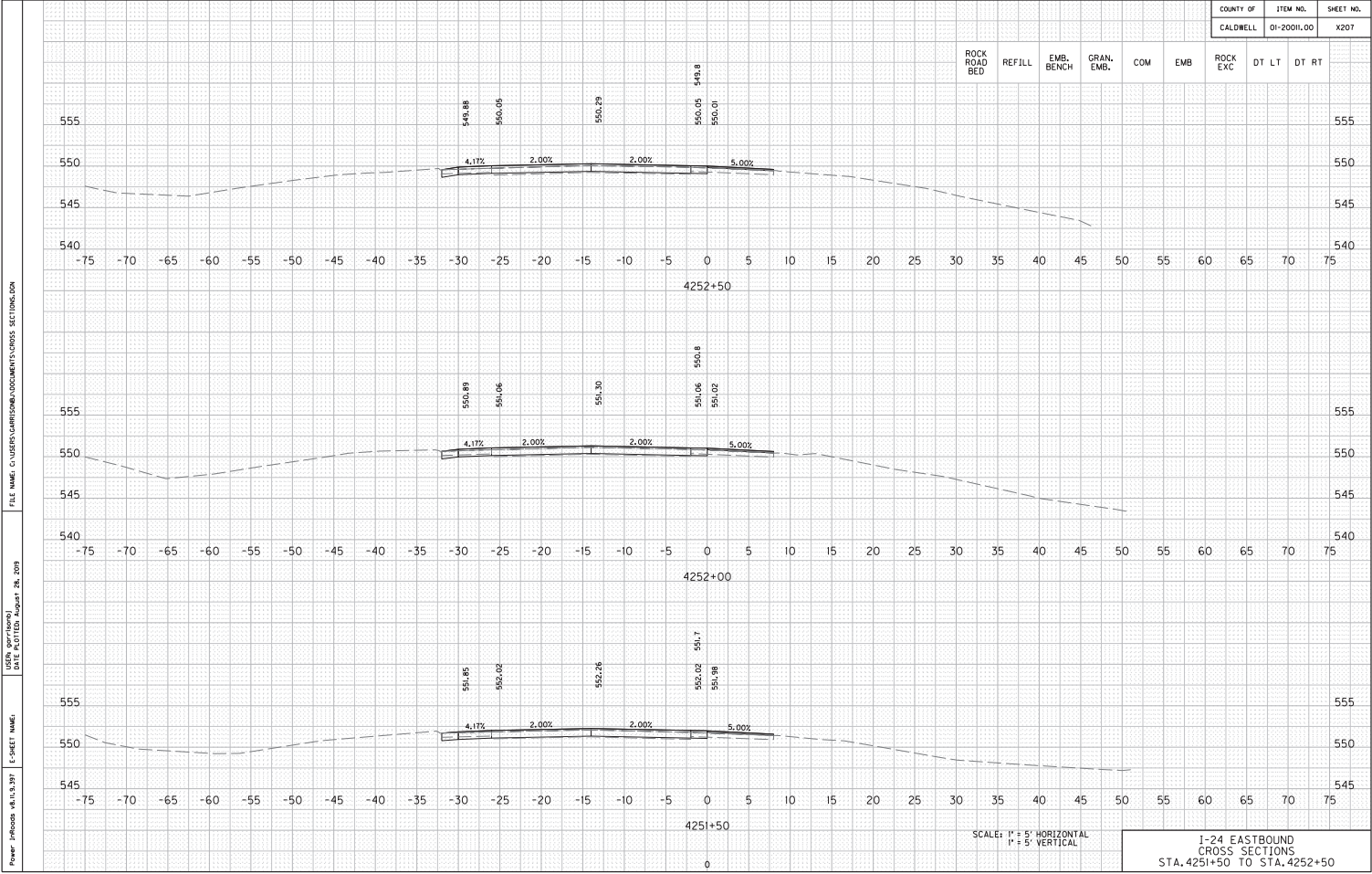




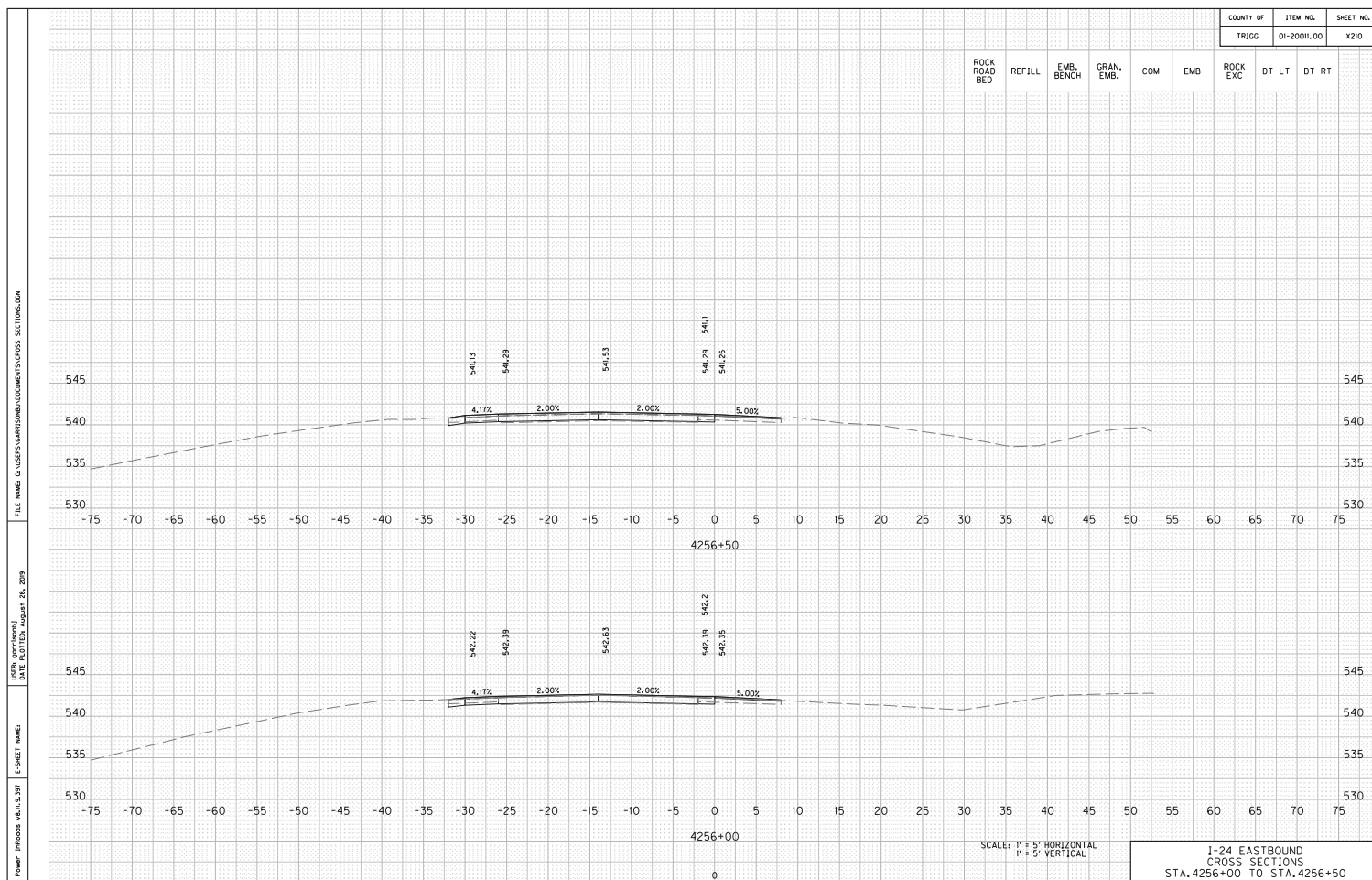
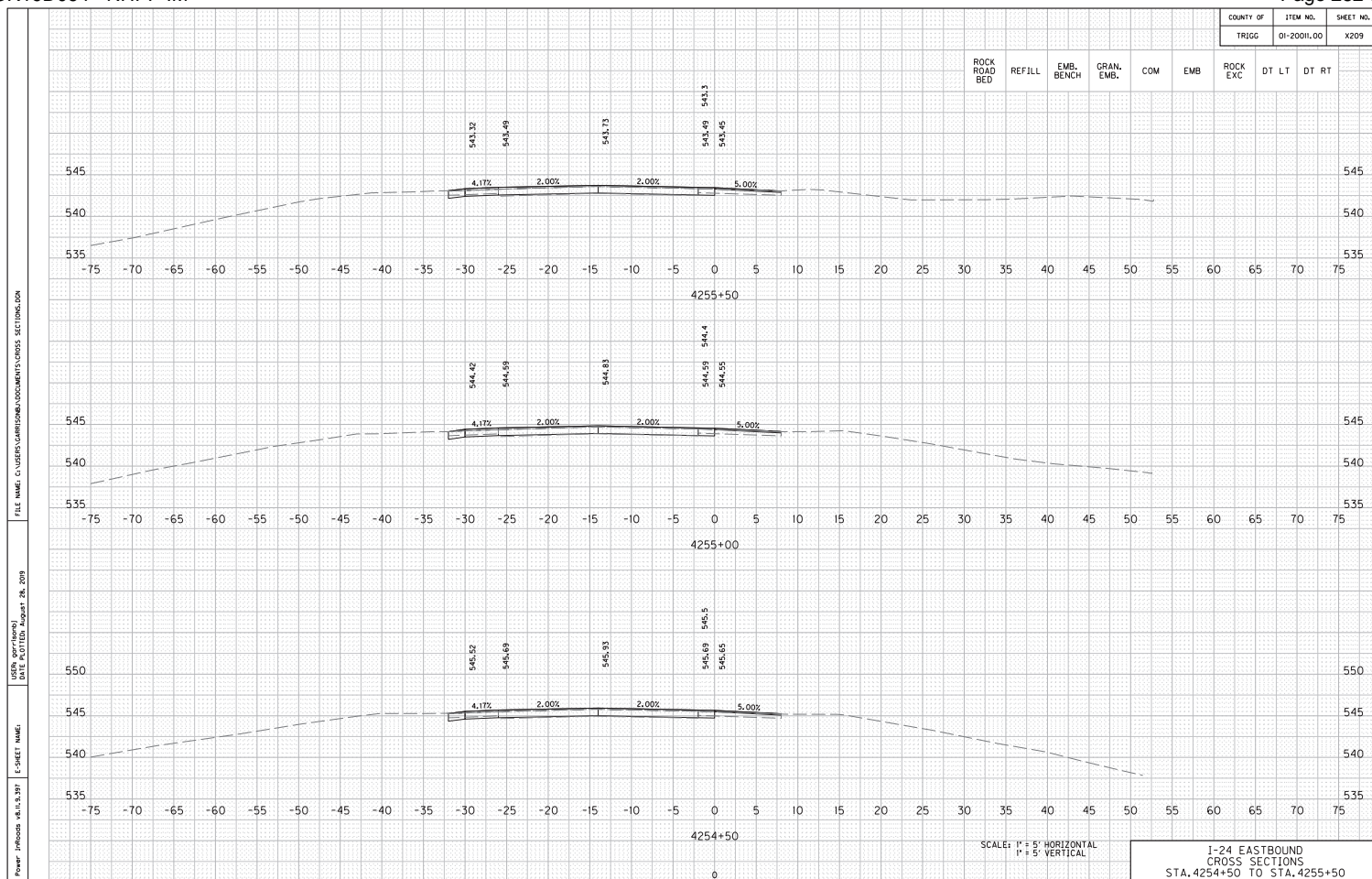




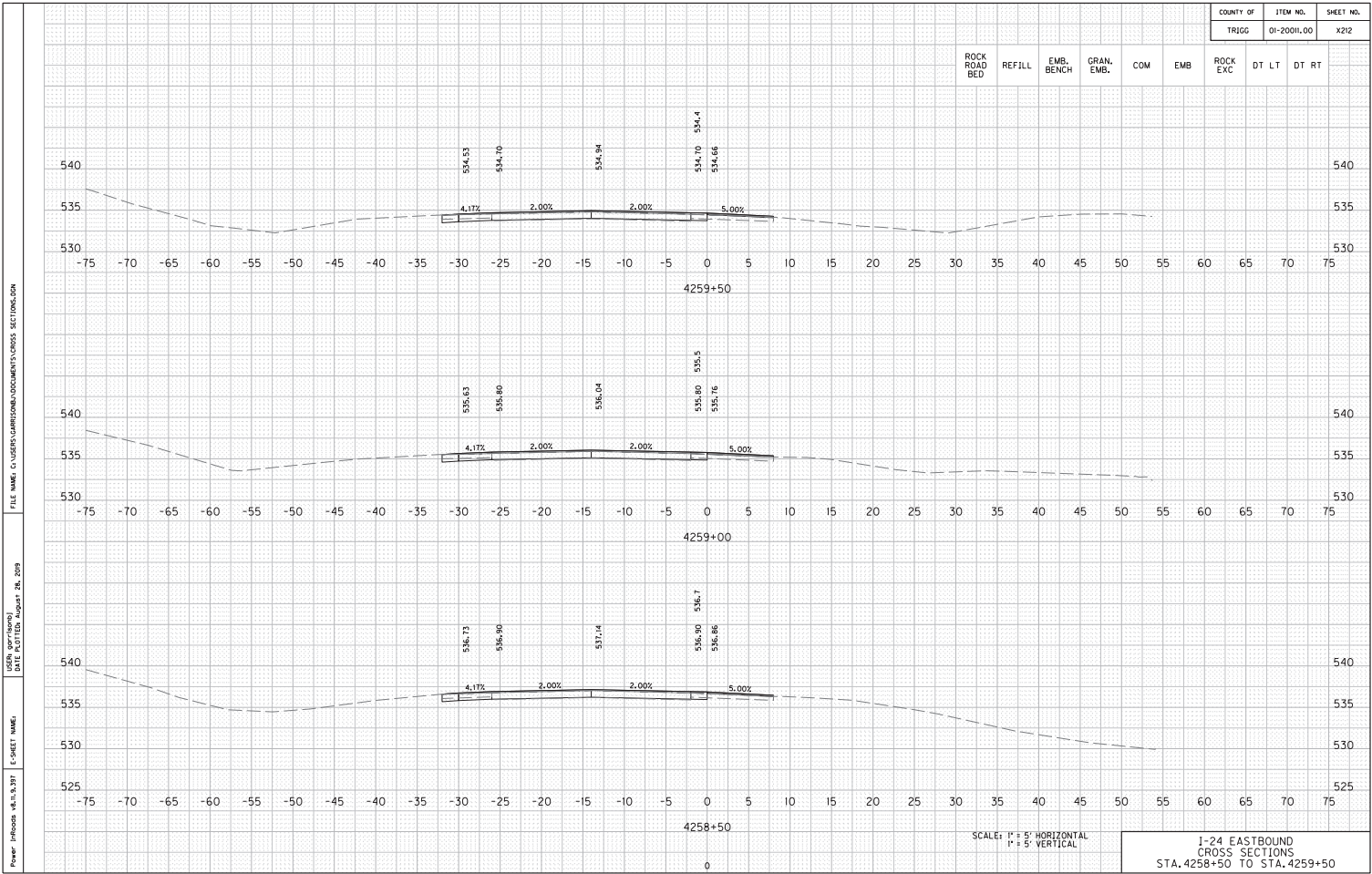
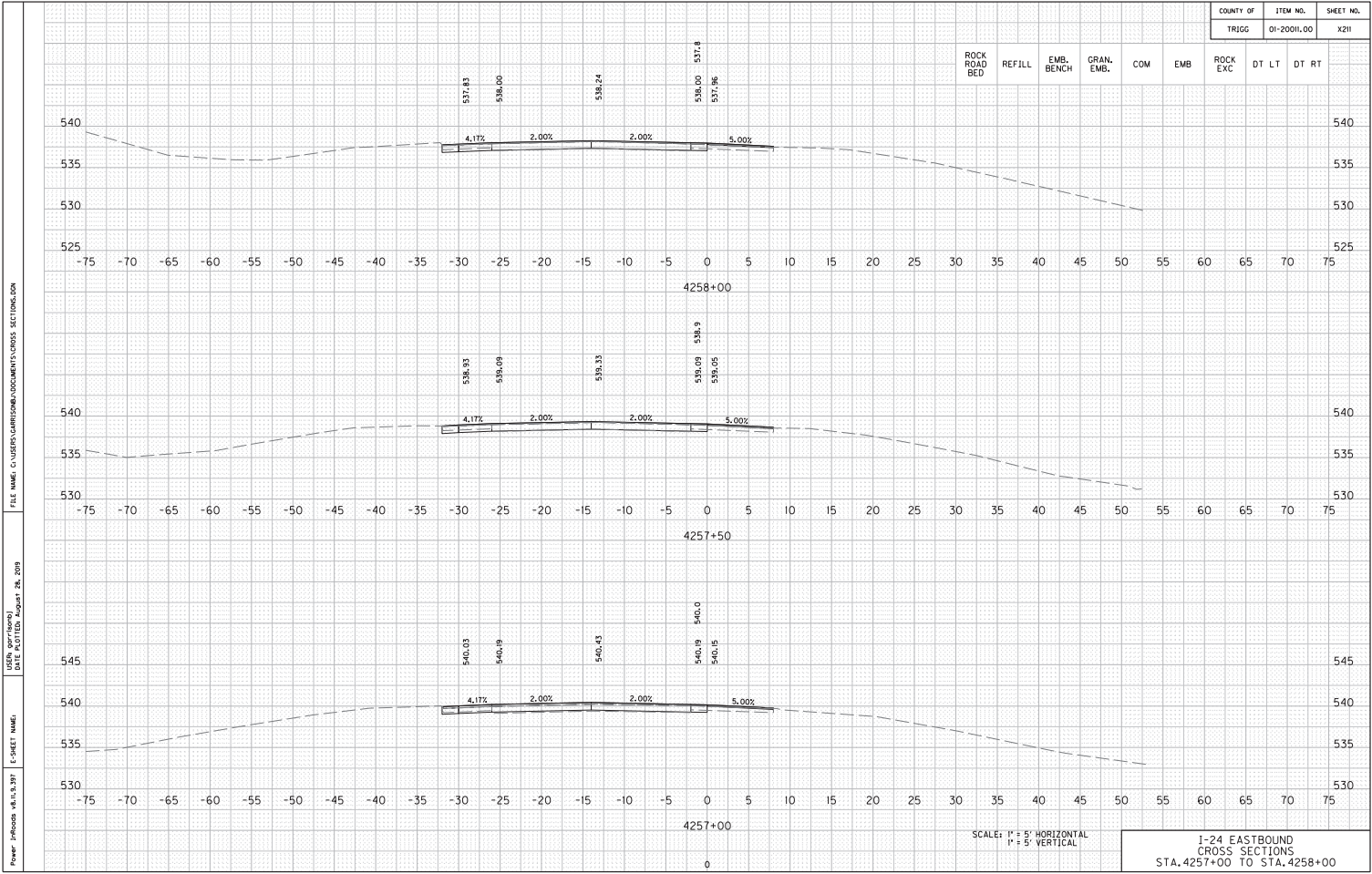




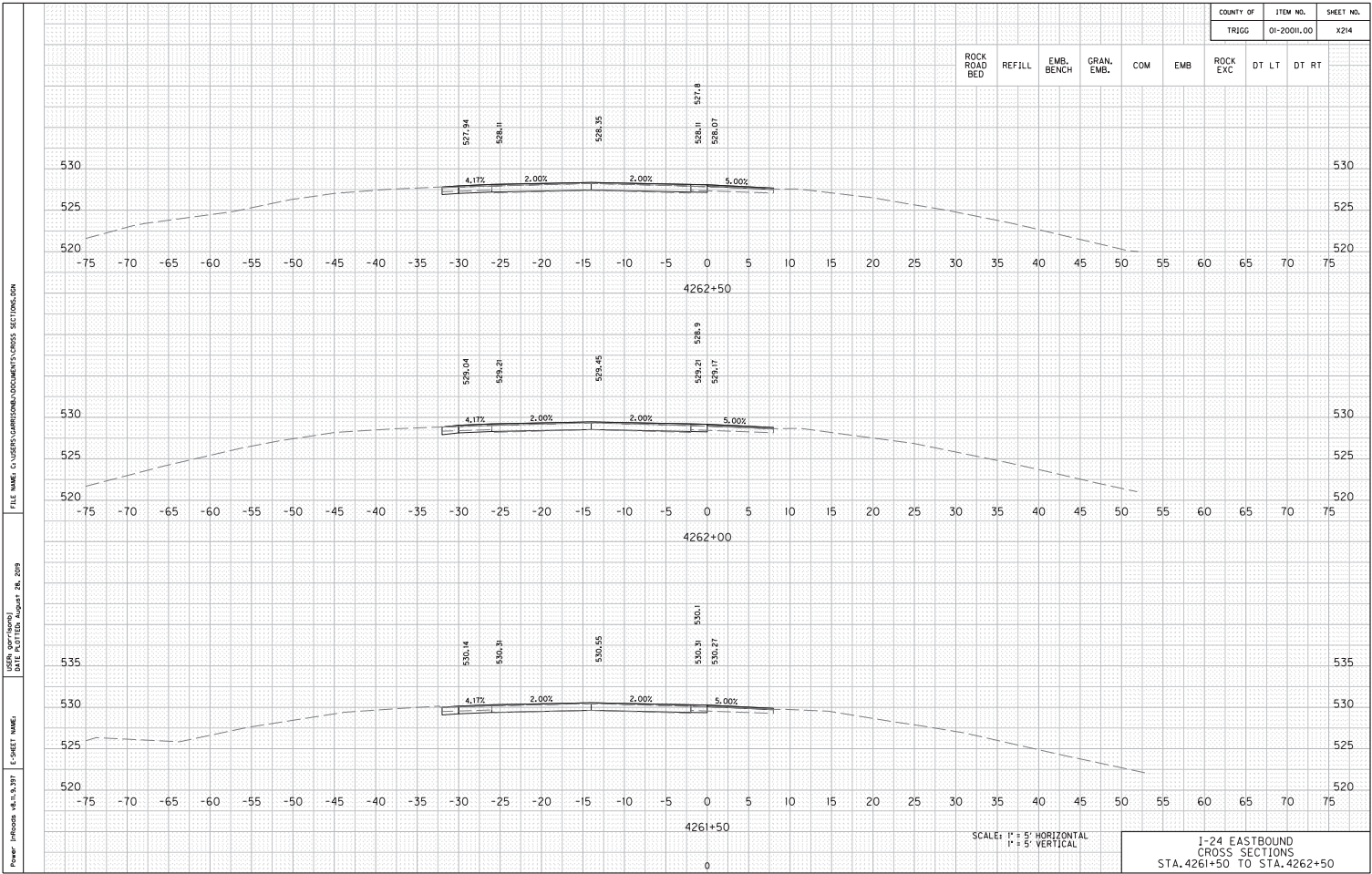
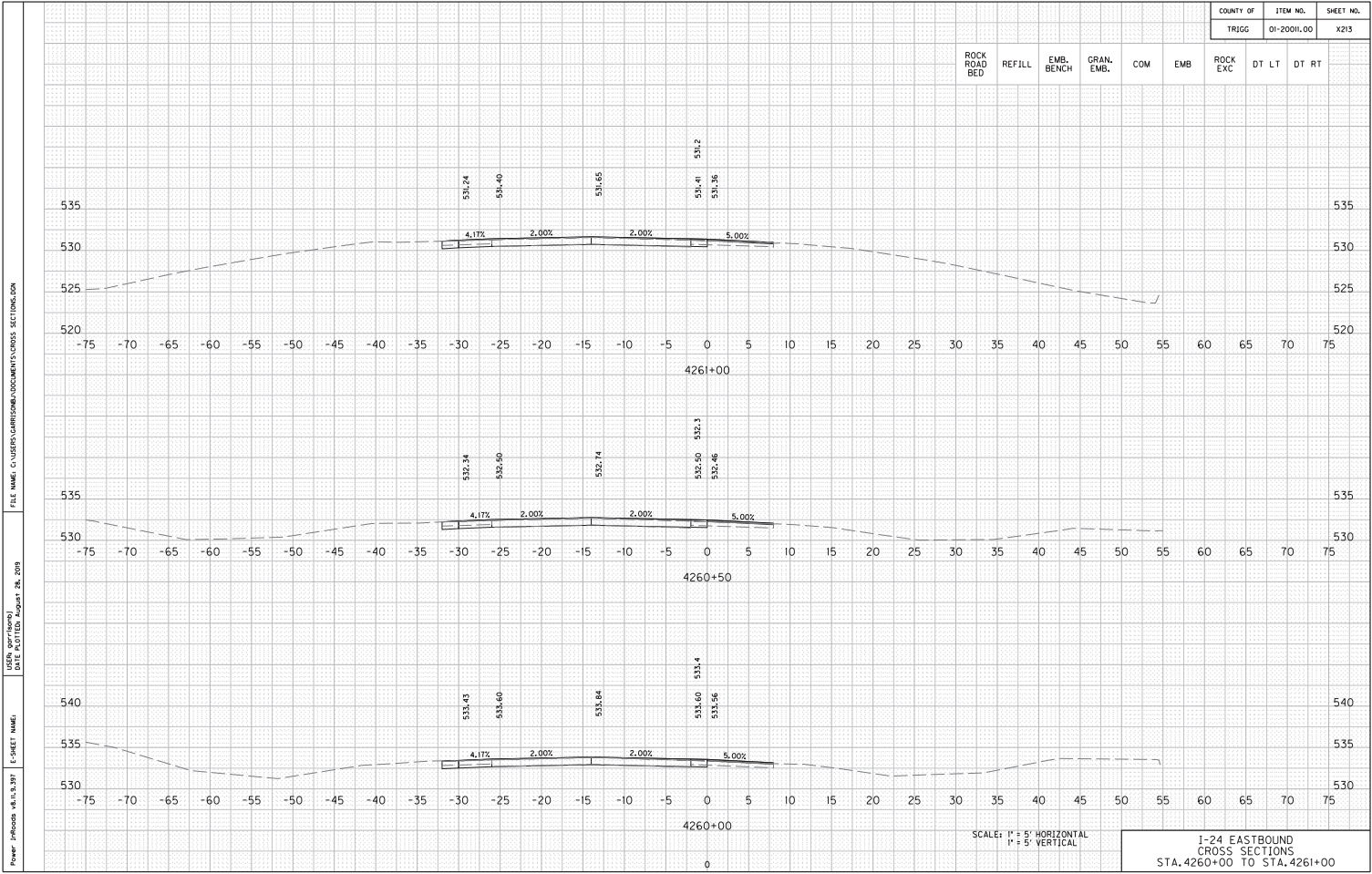




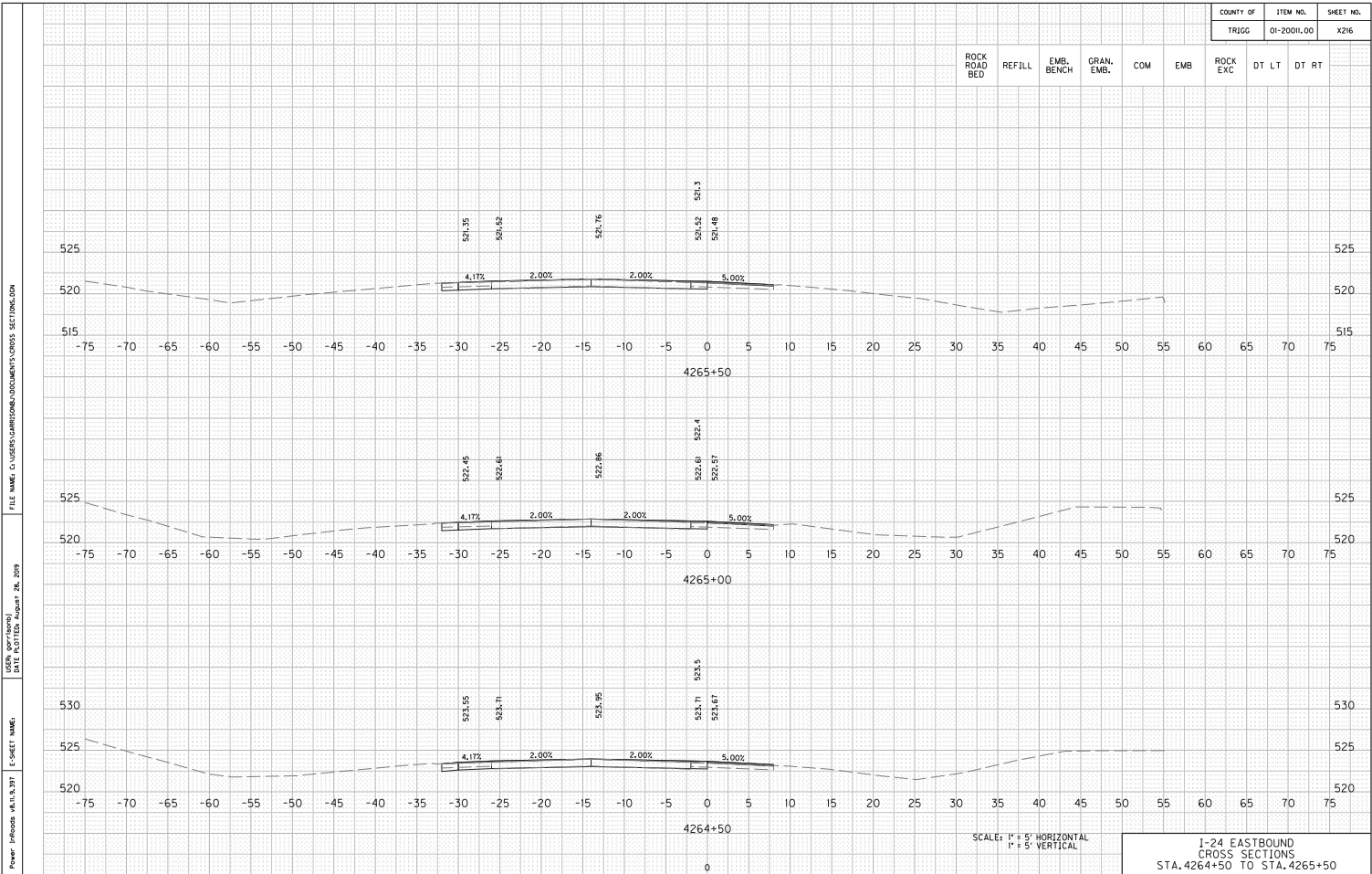
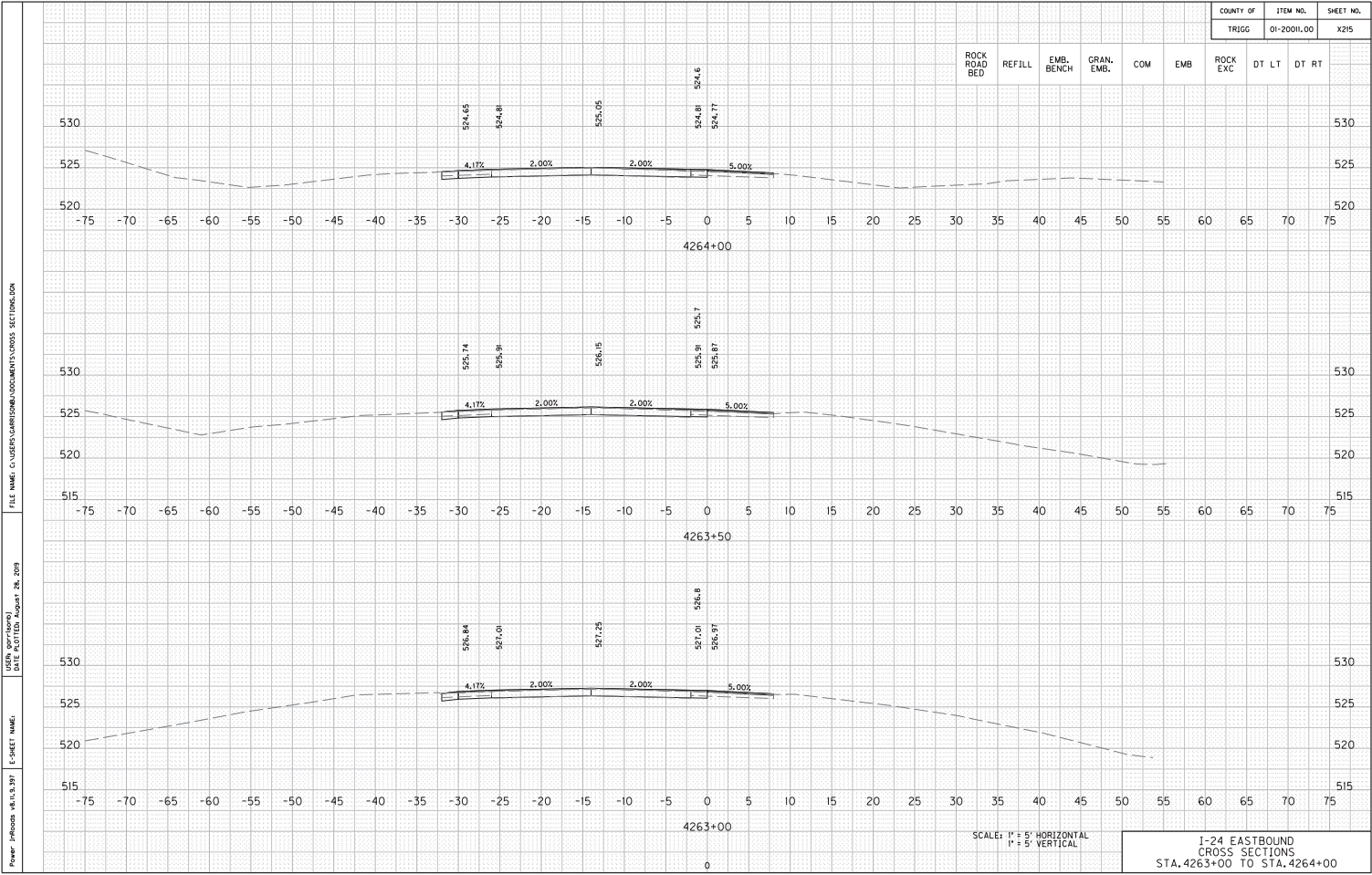




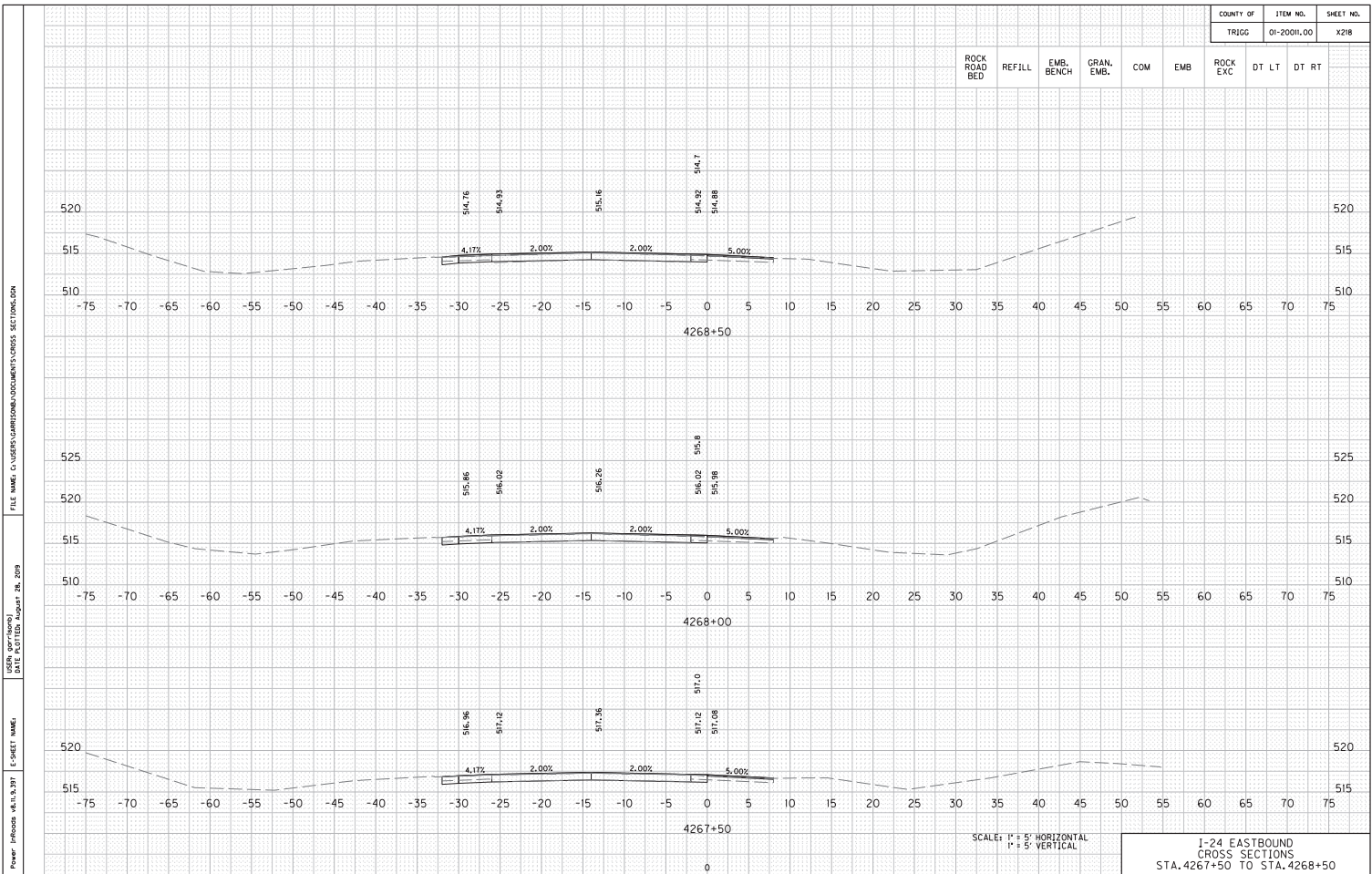
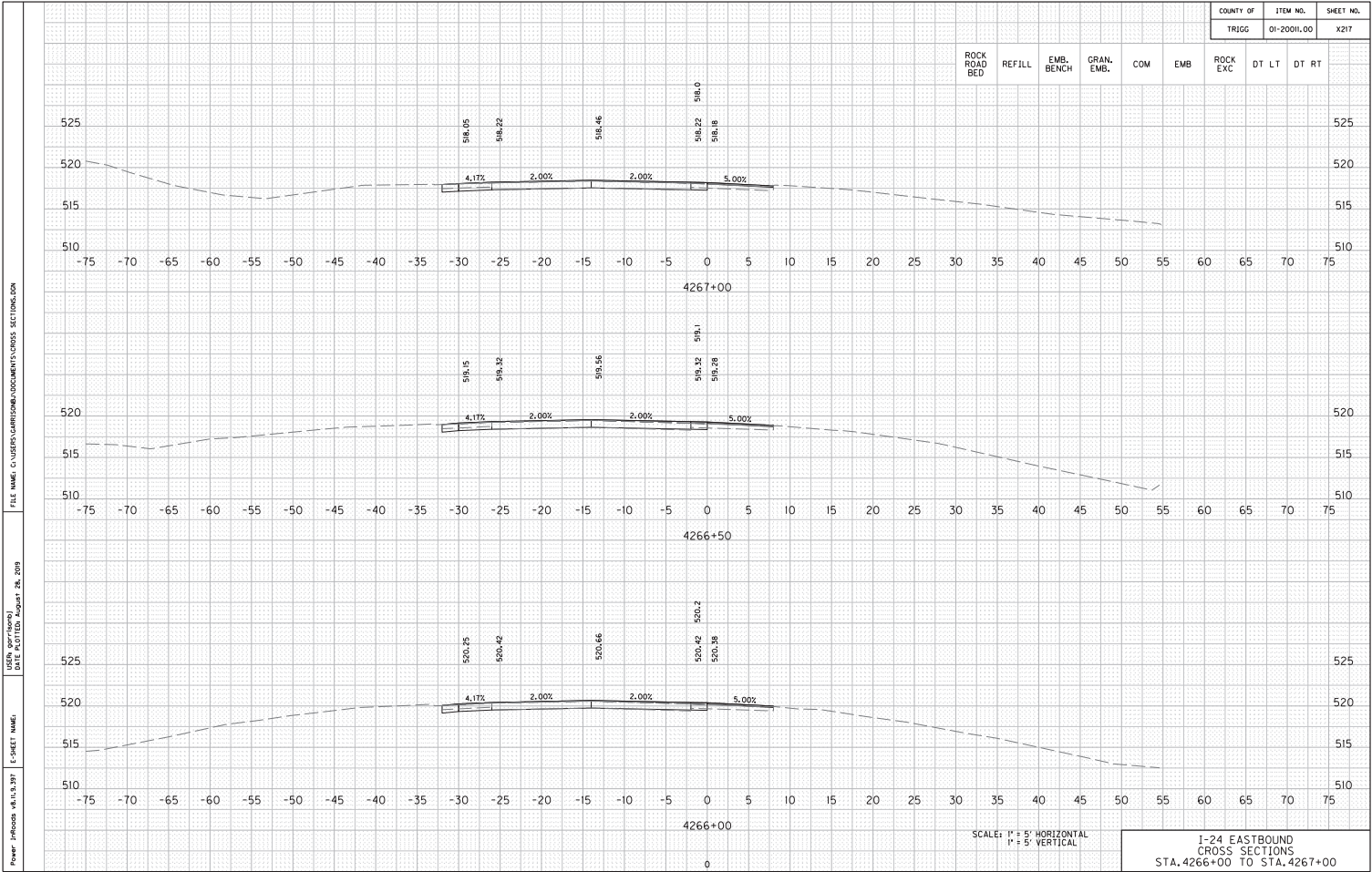




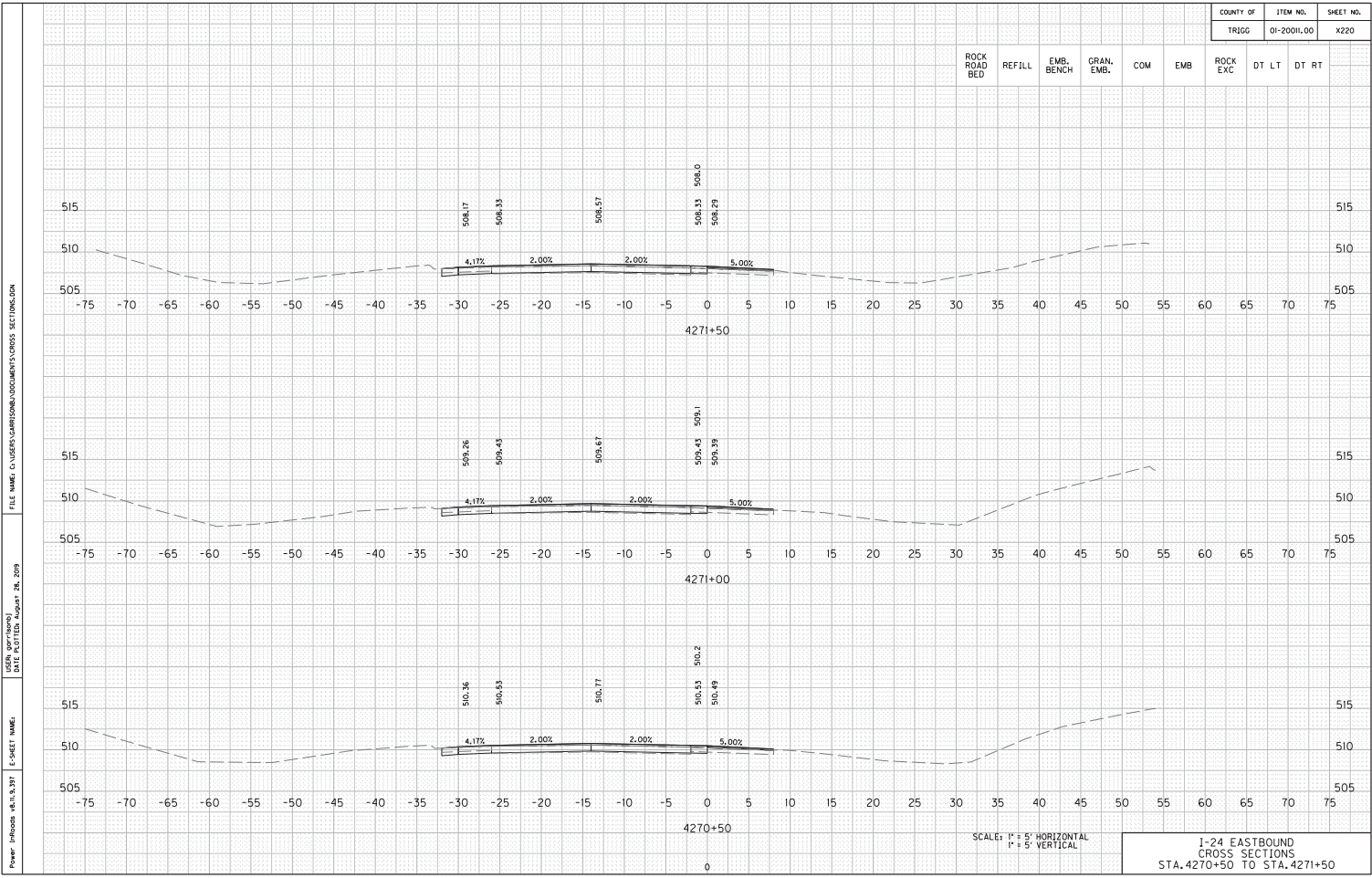
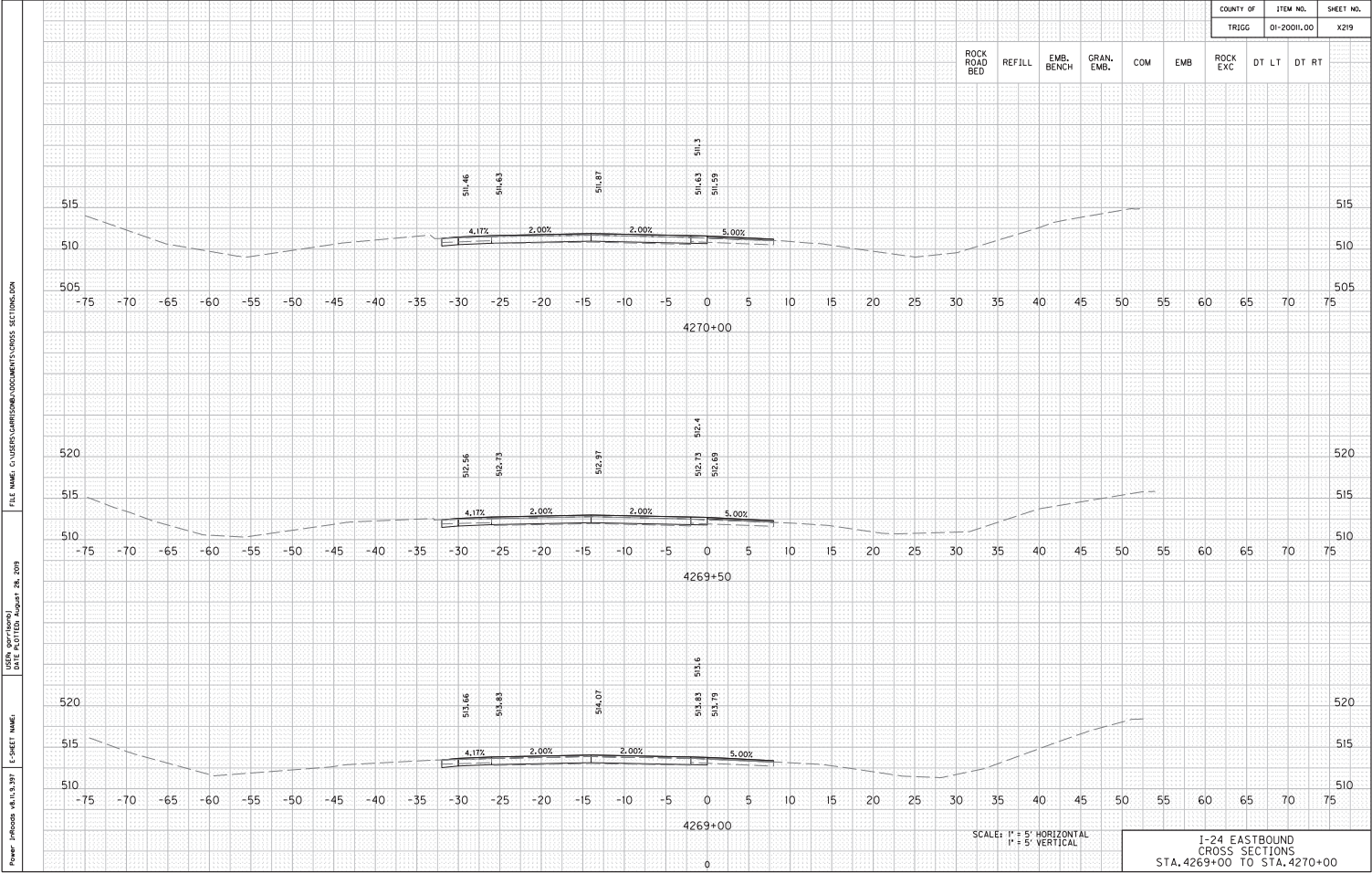




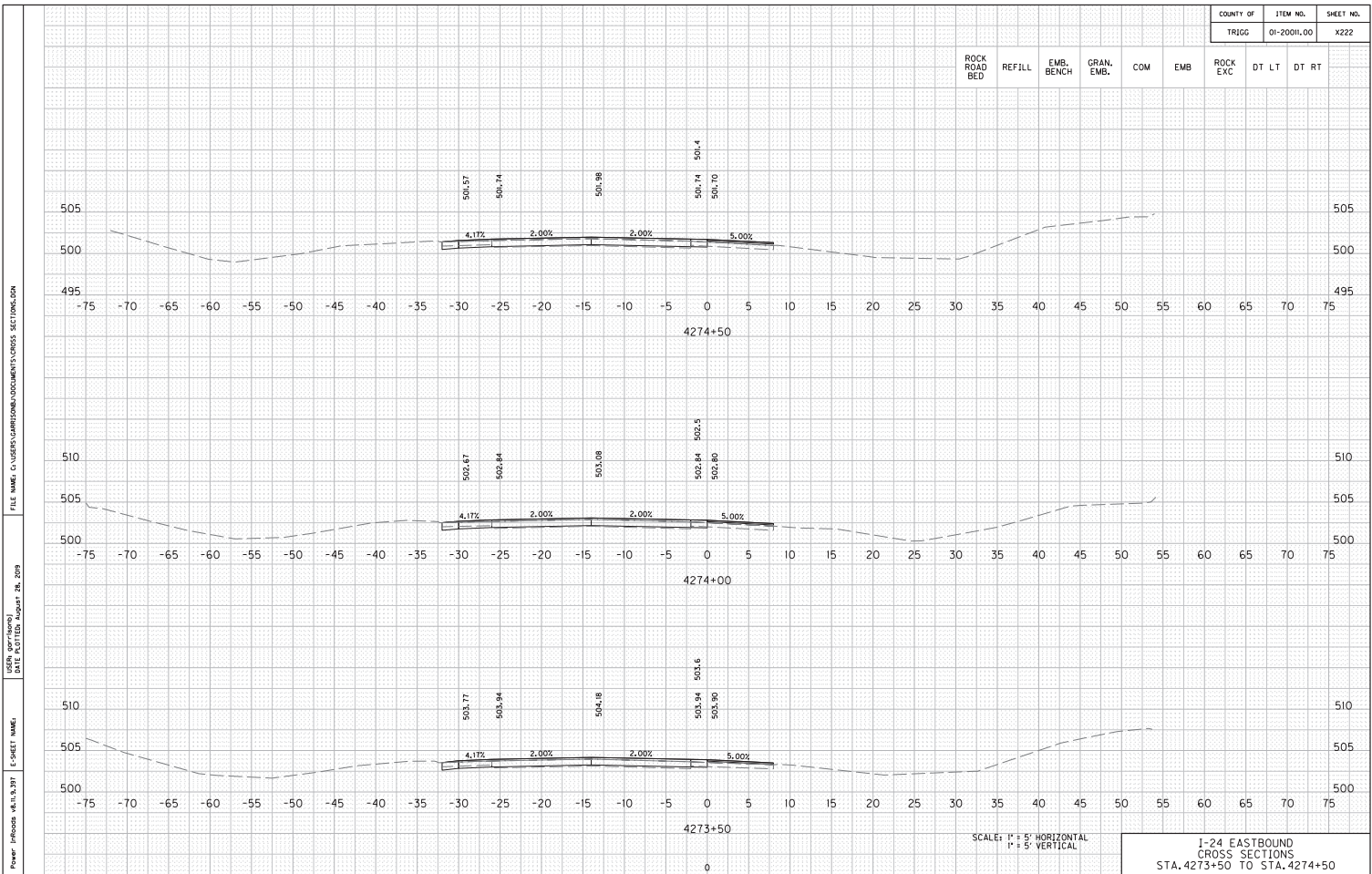
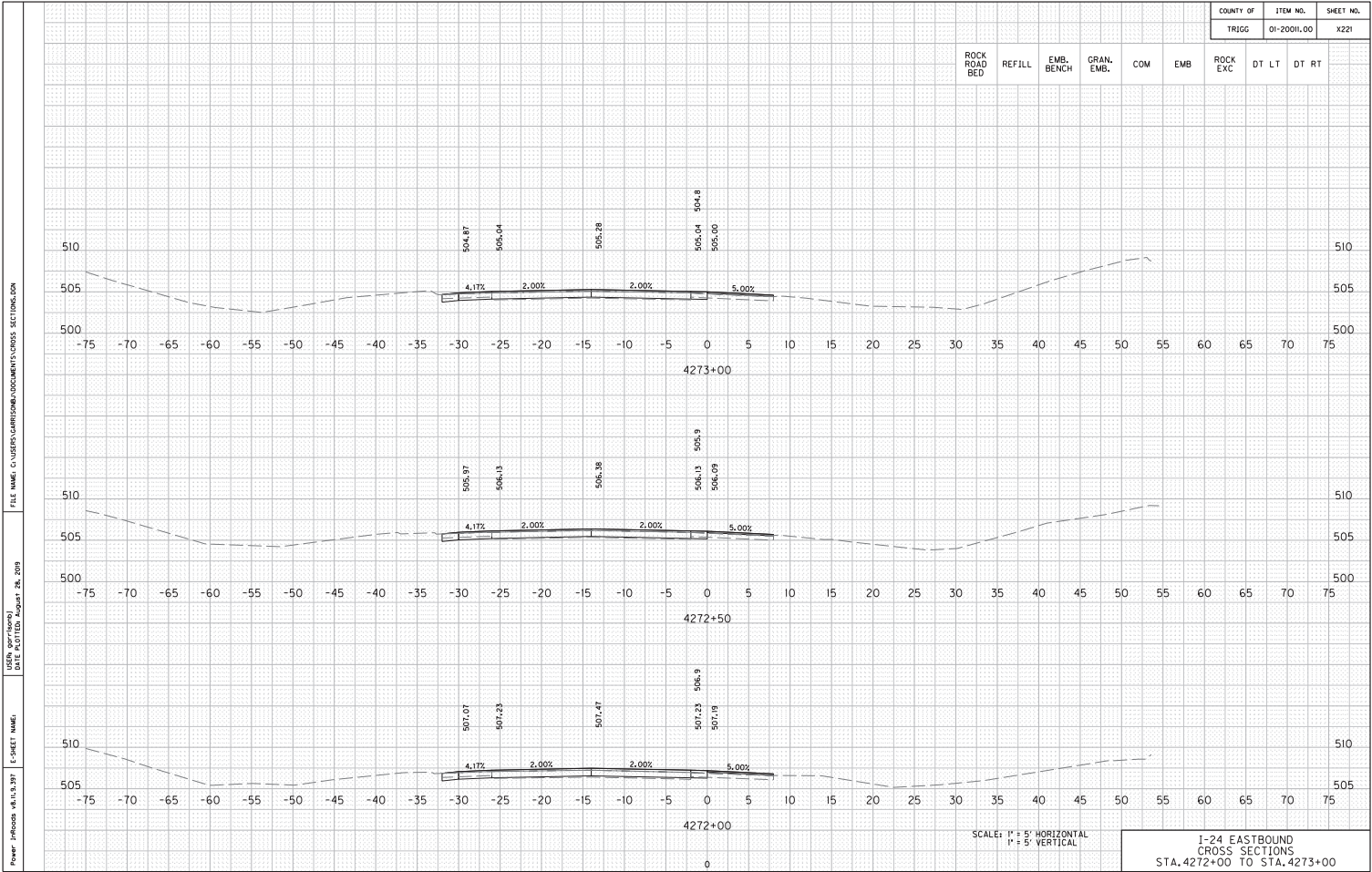




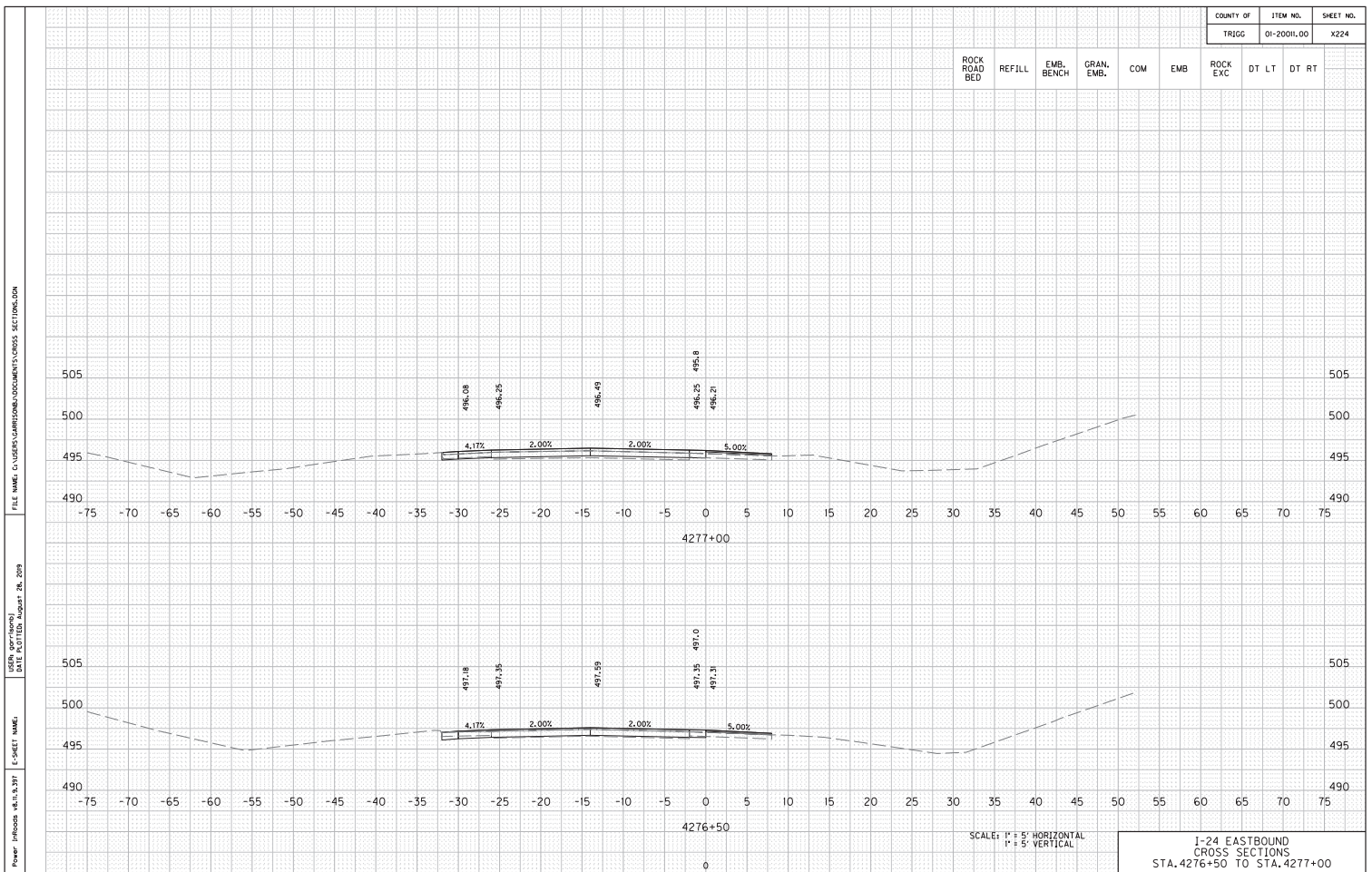
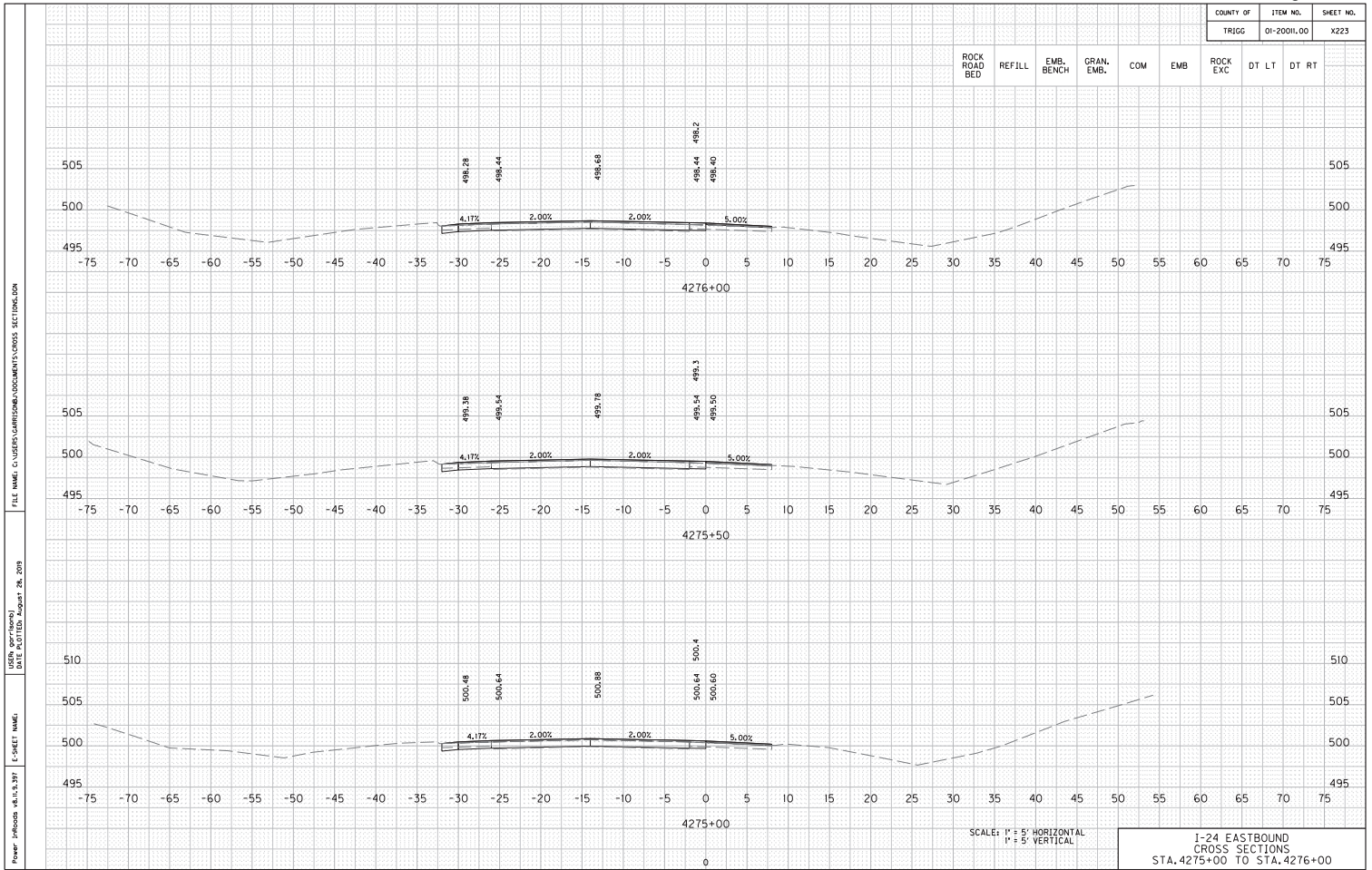








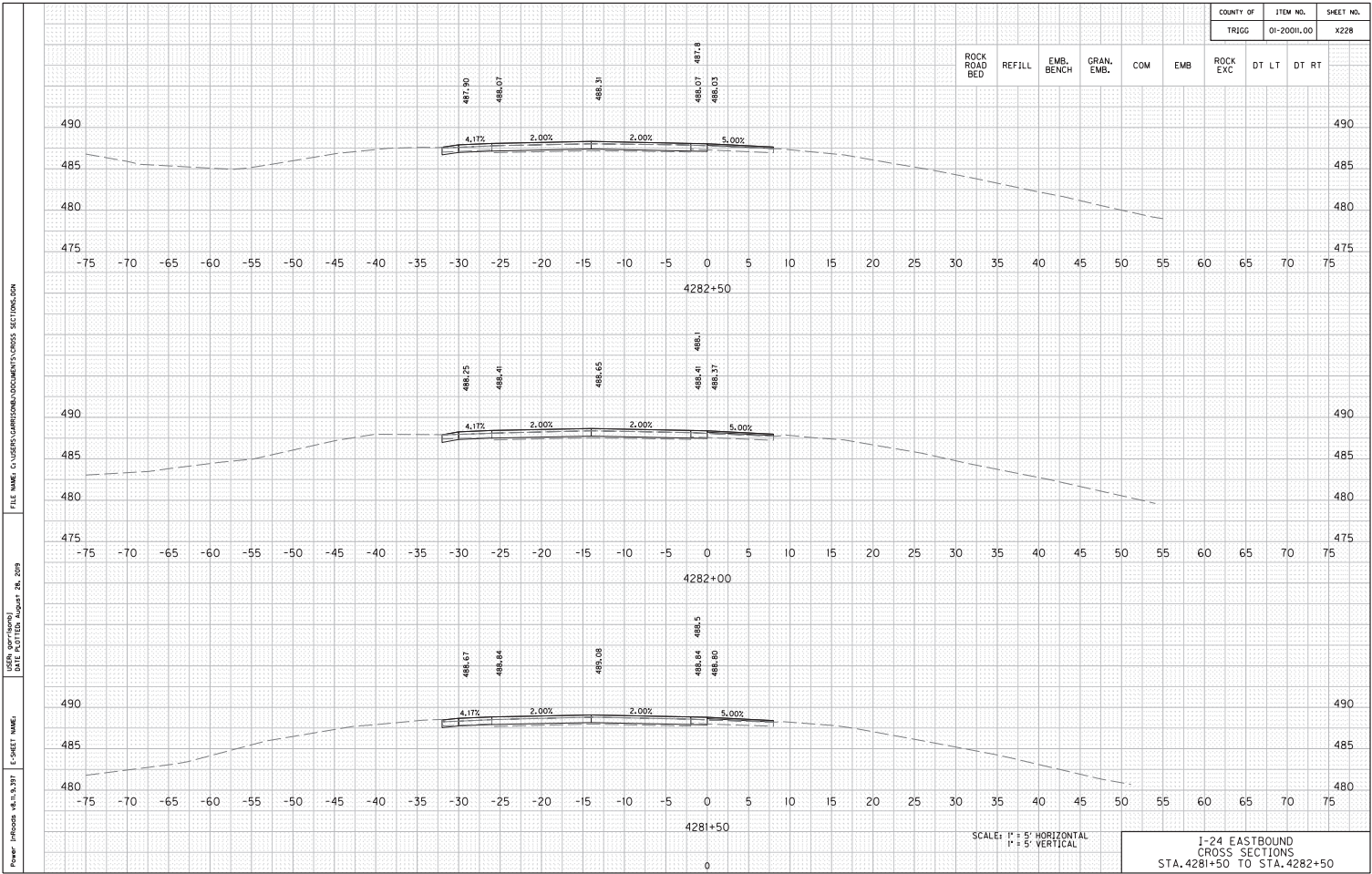
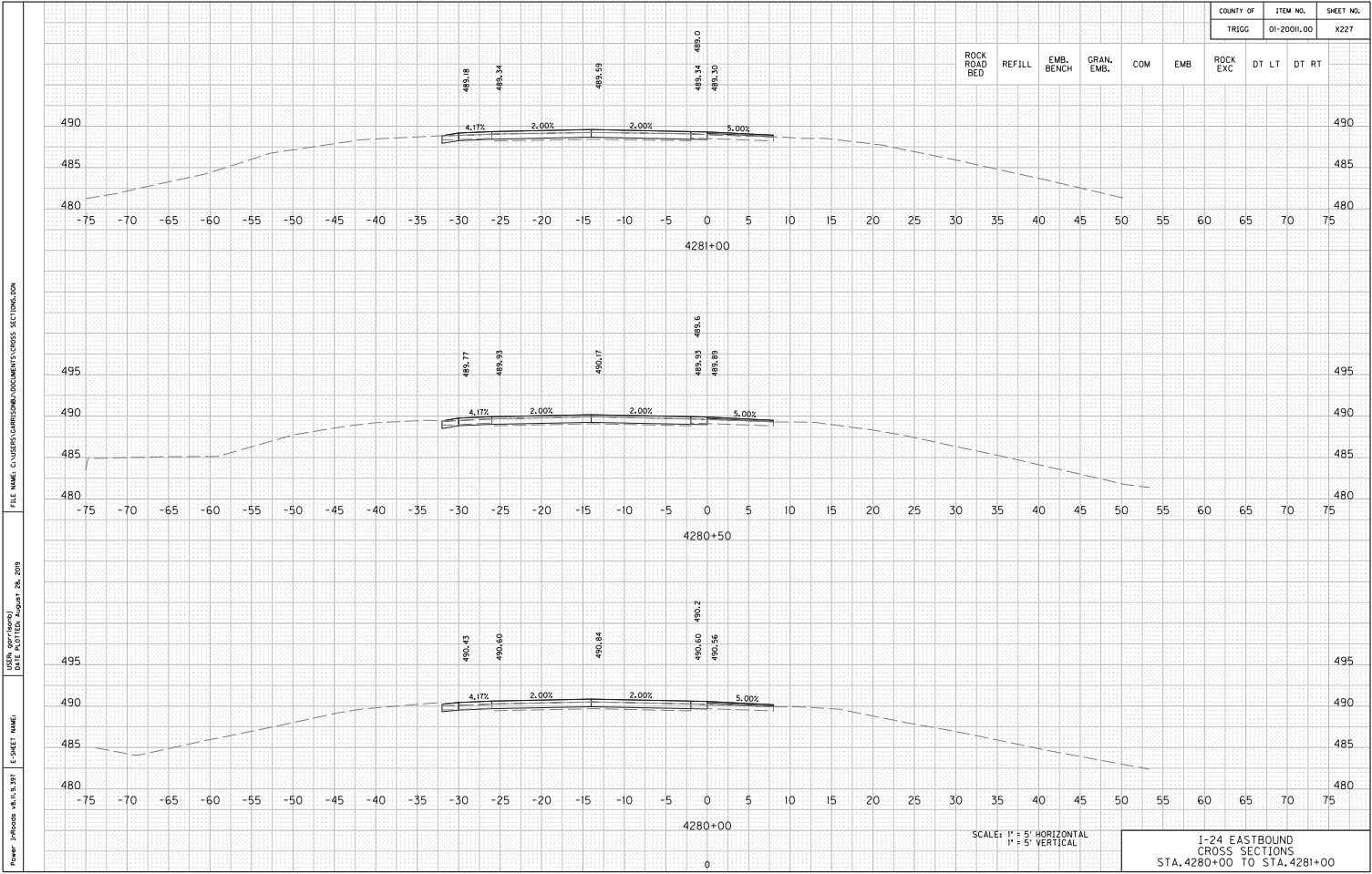




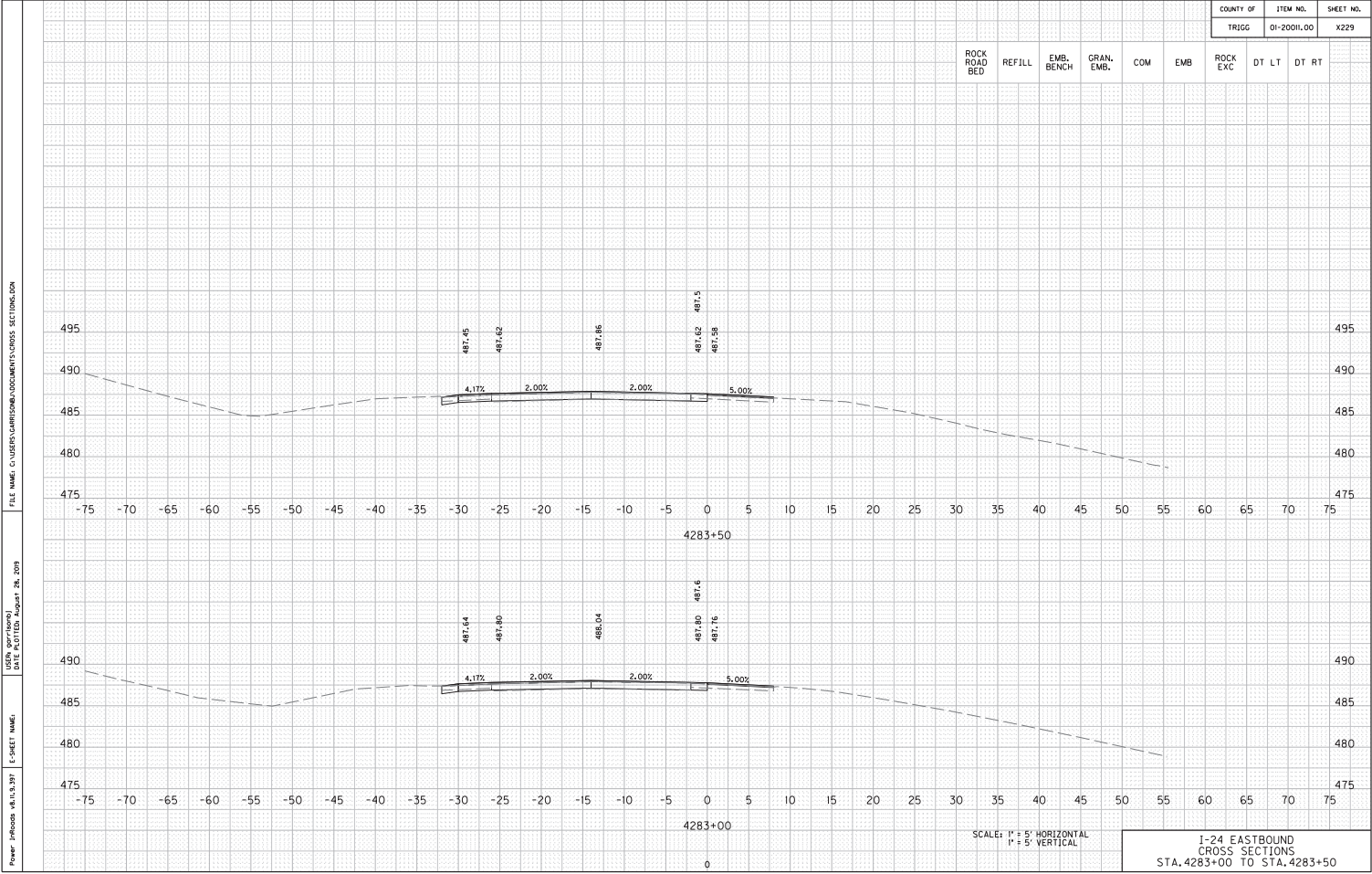








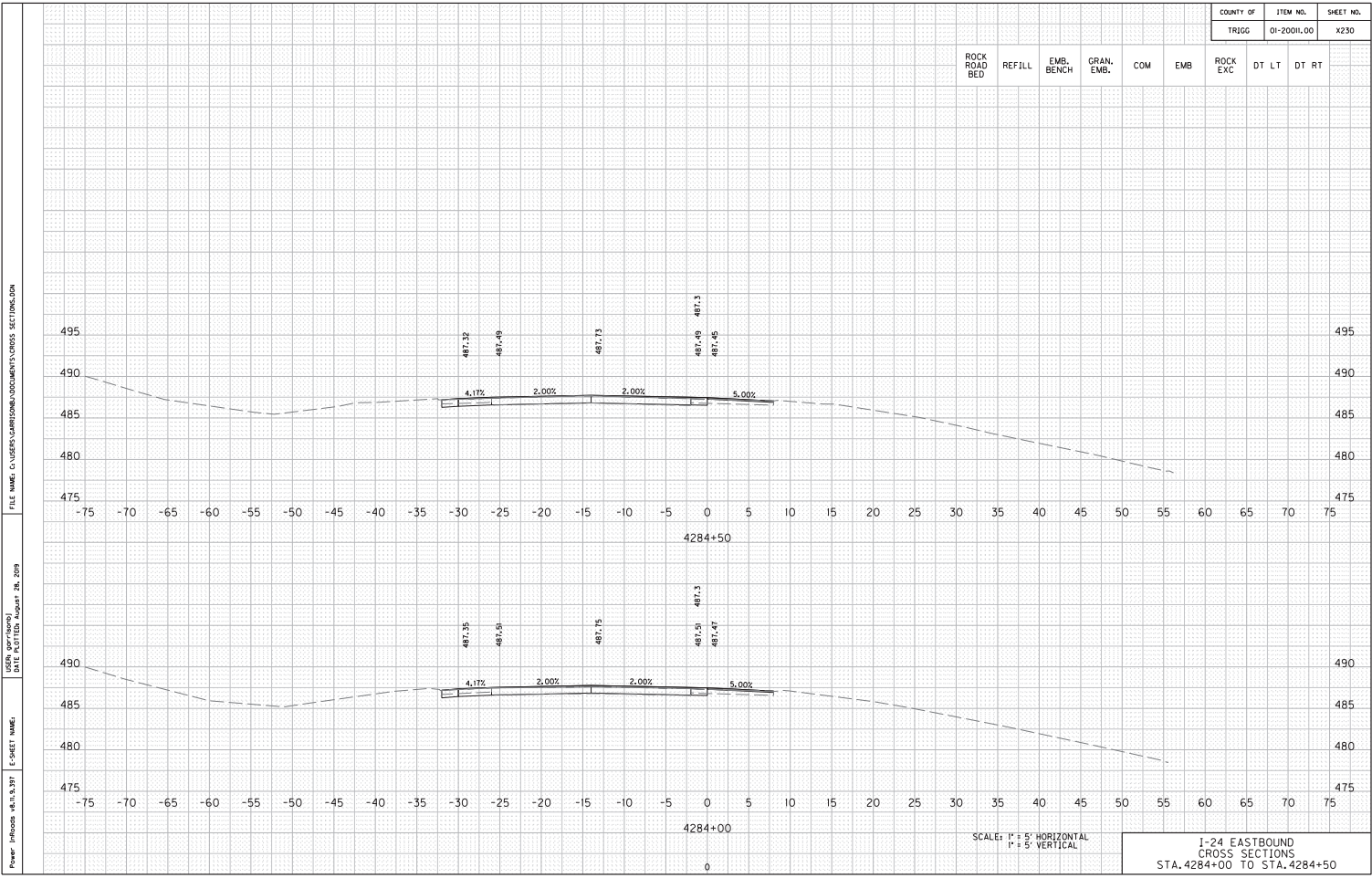




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DATE PLOTTED: August 26, 2019

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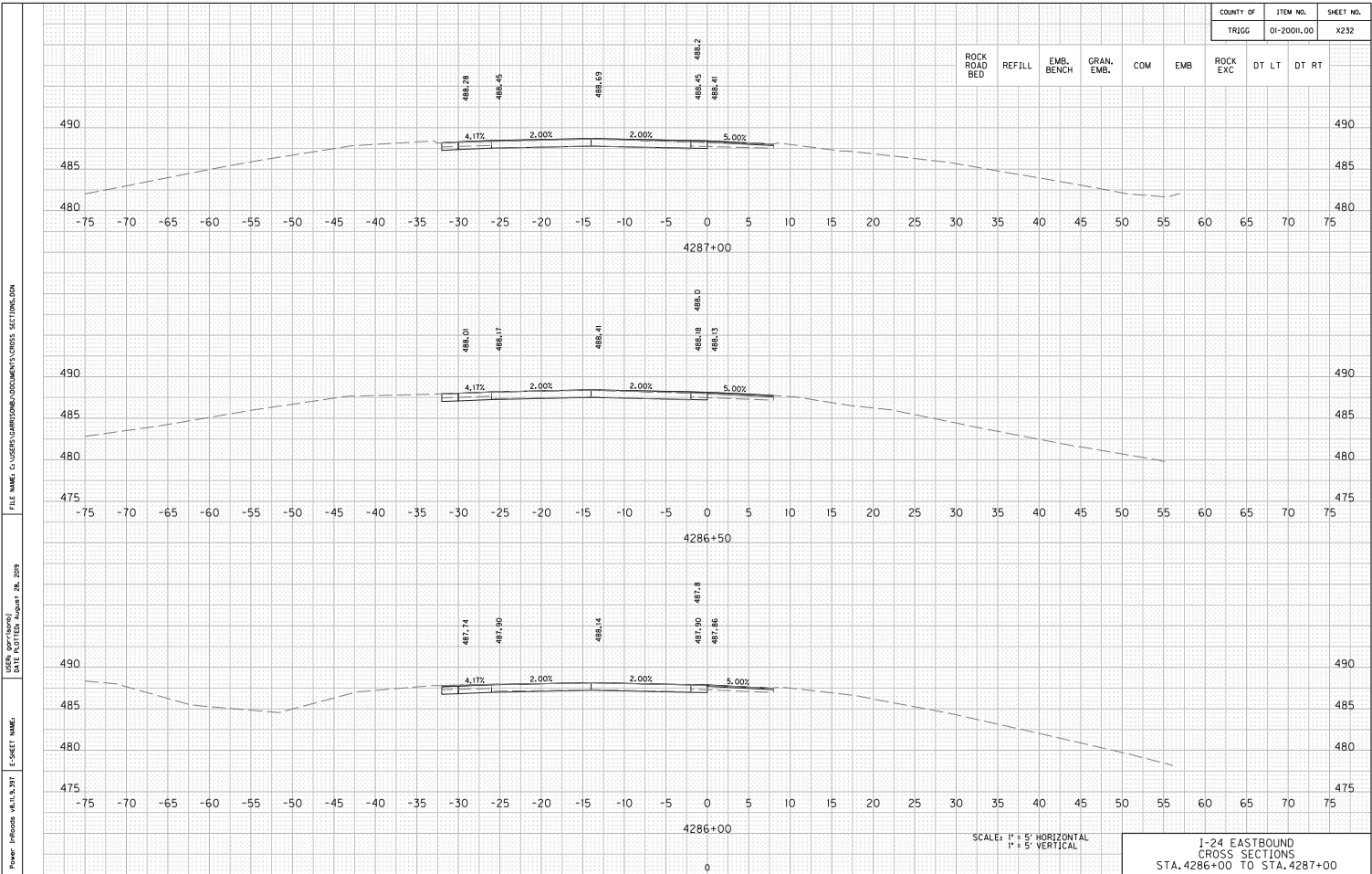
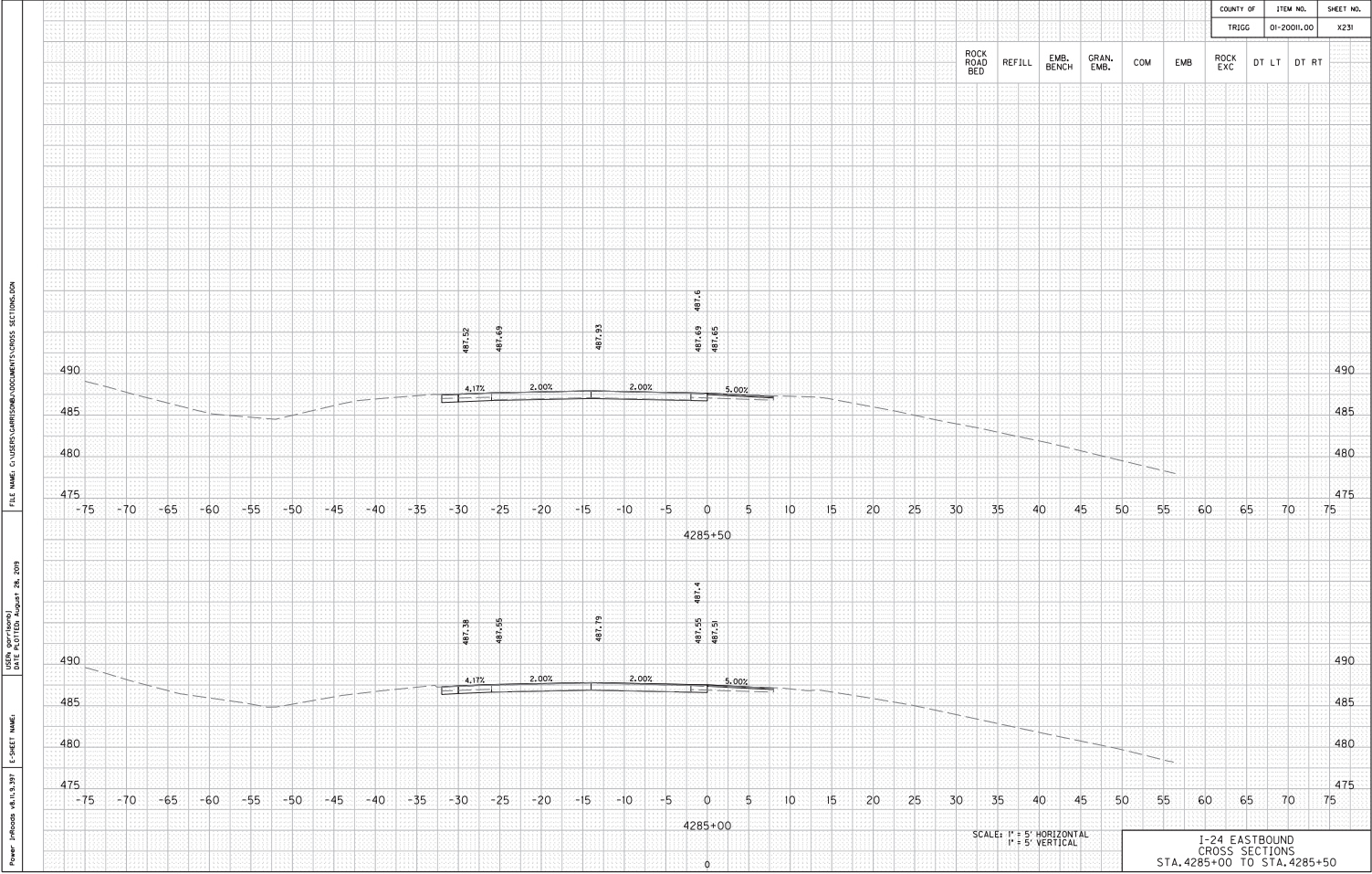


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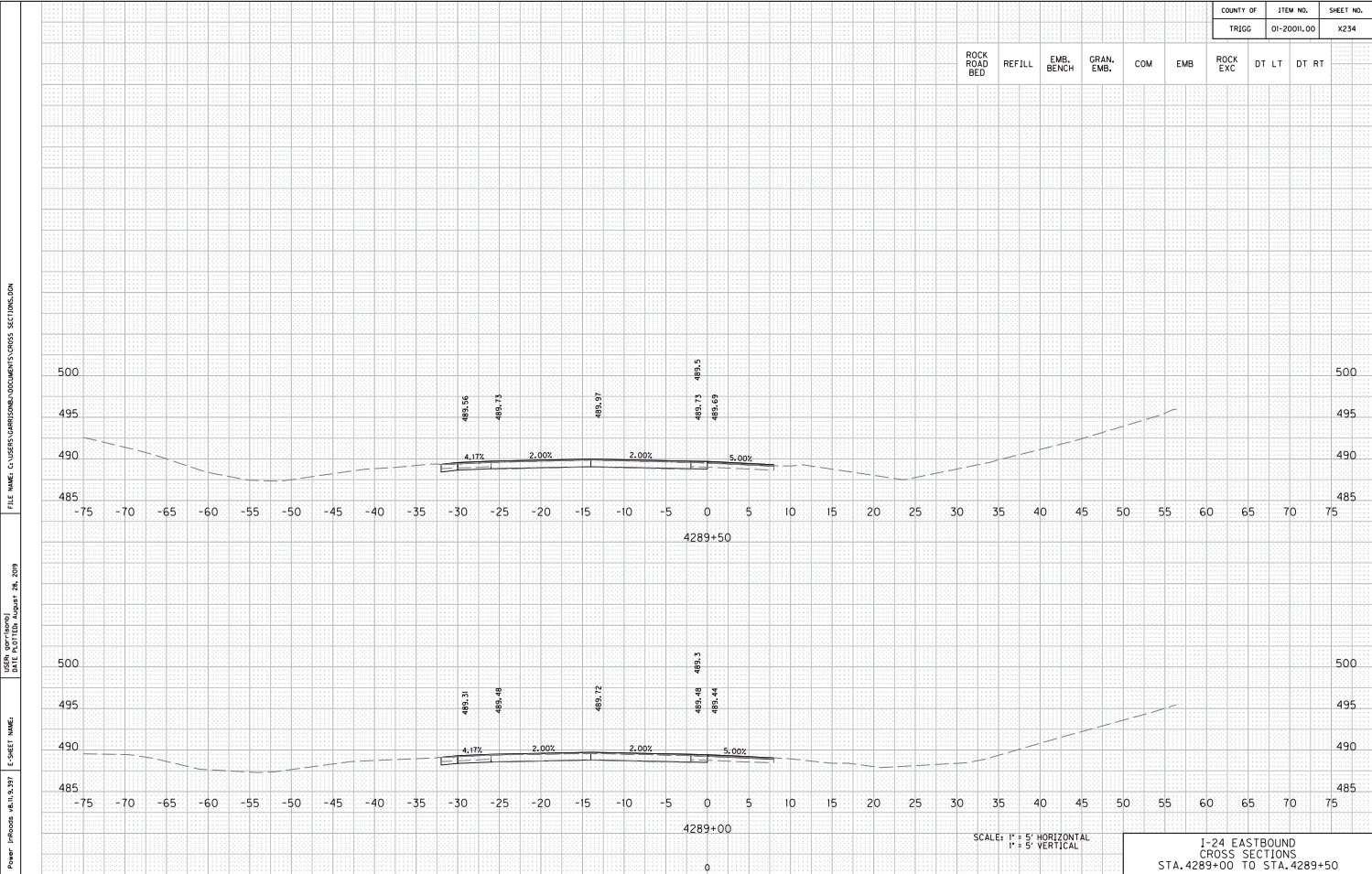
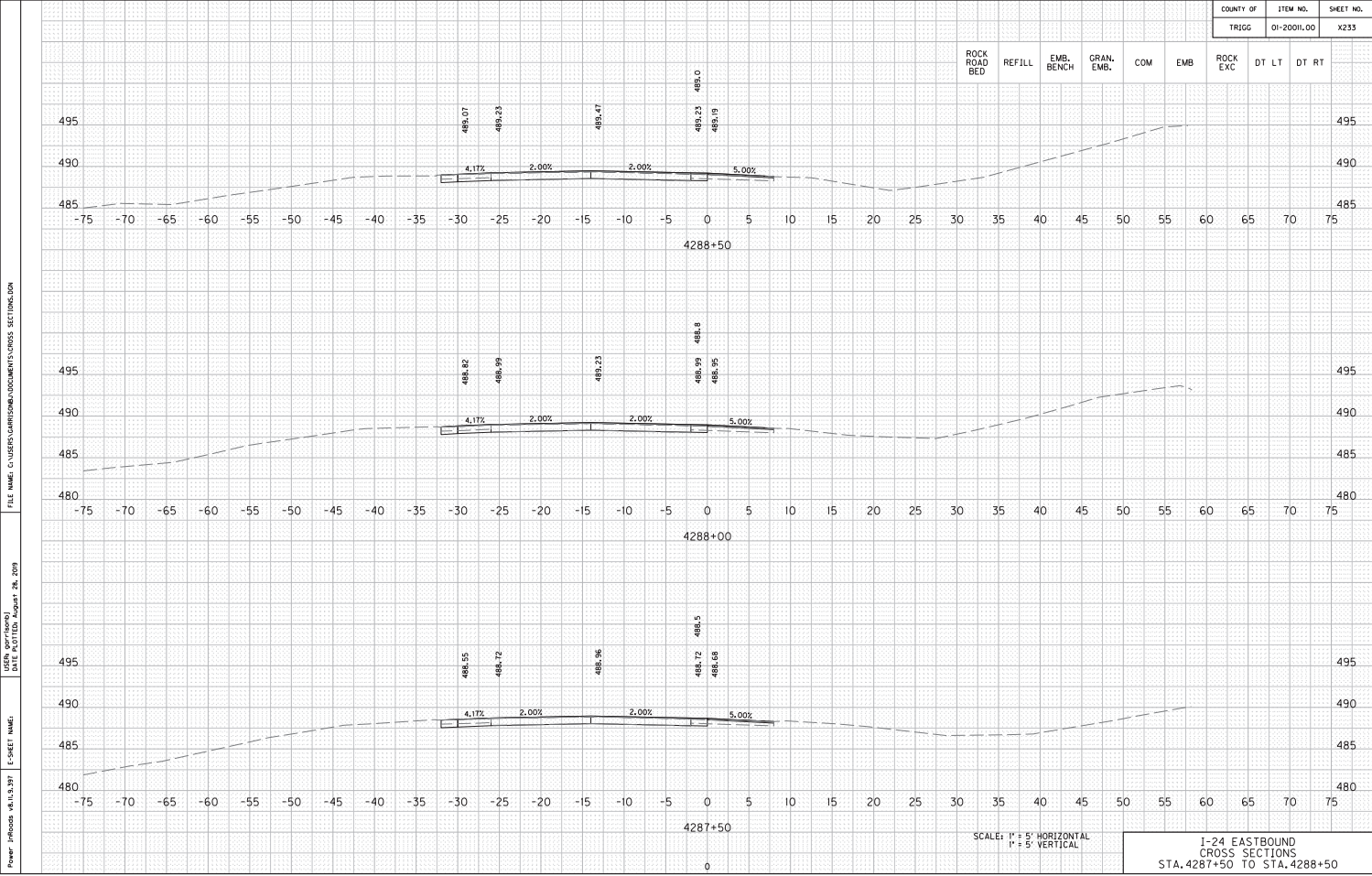
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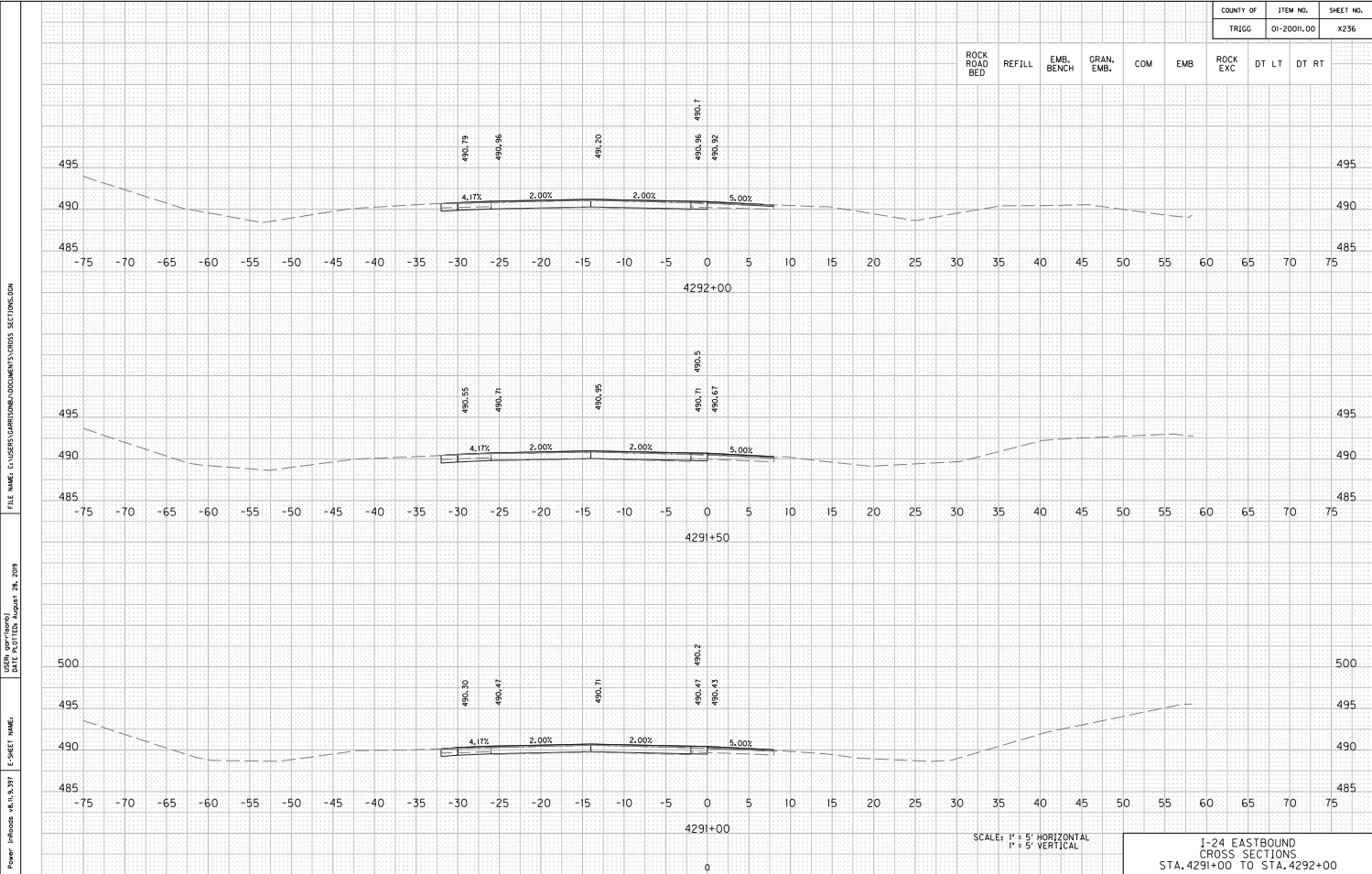
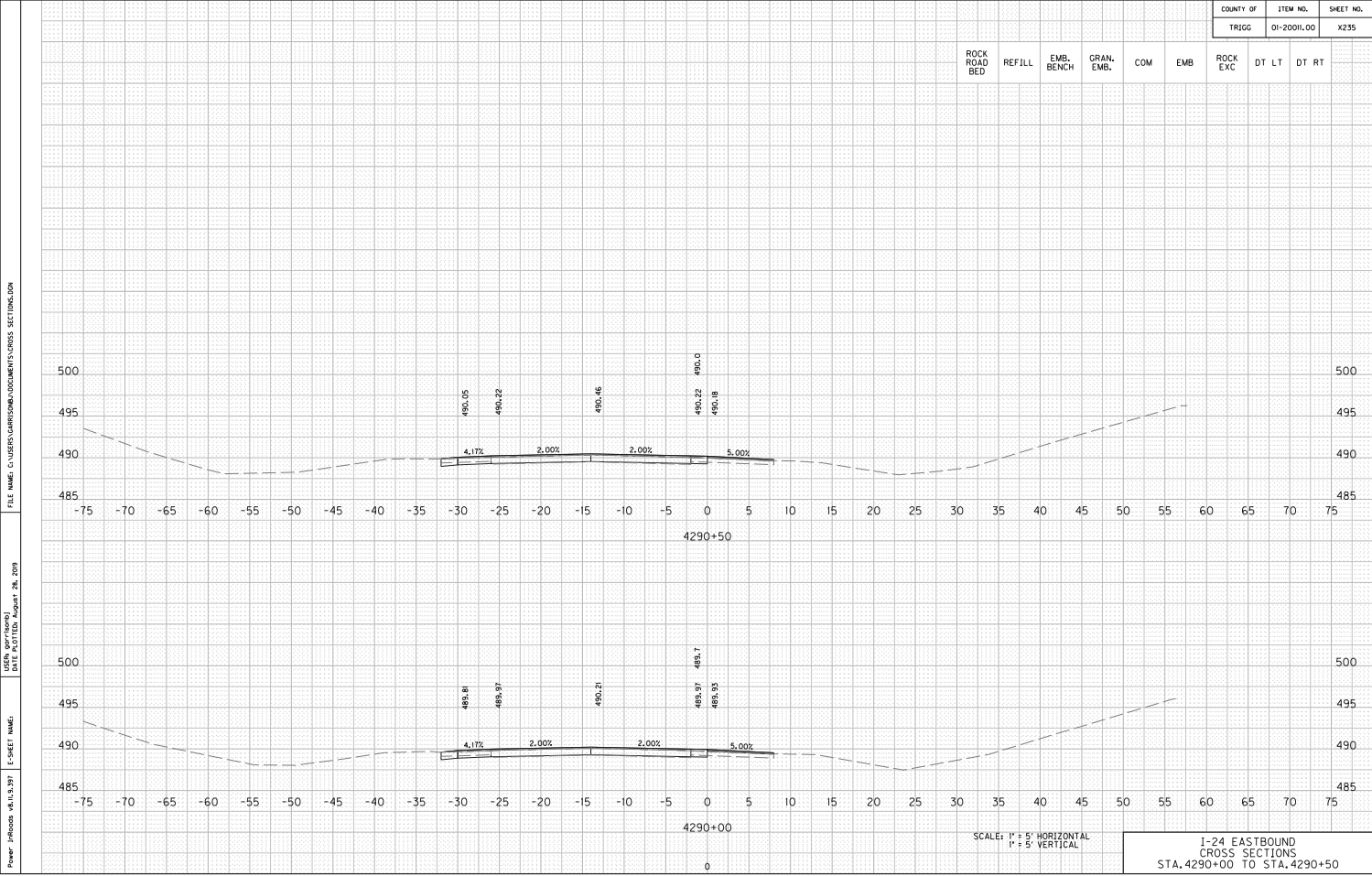




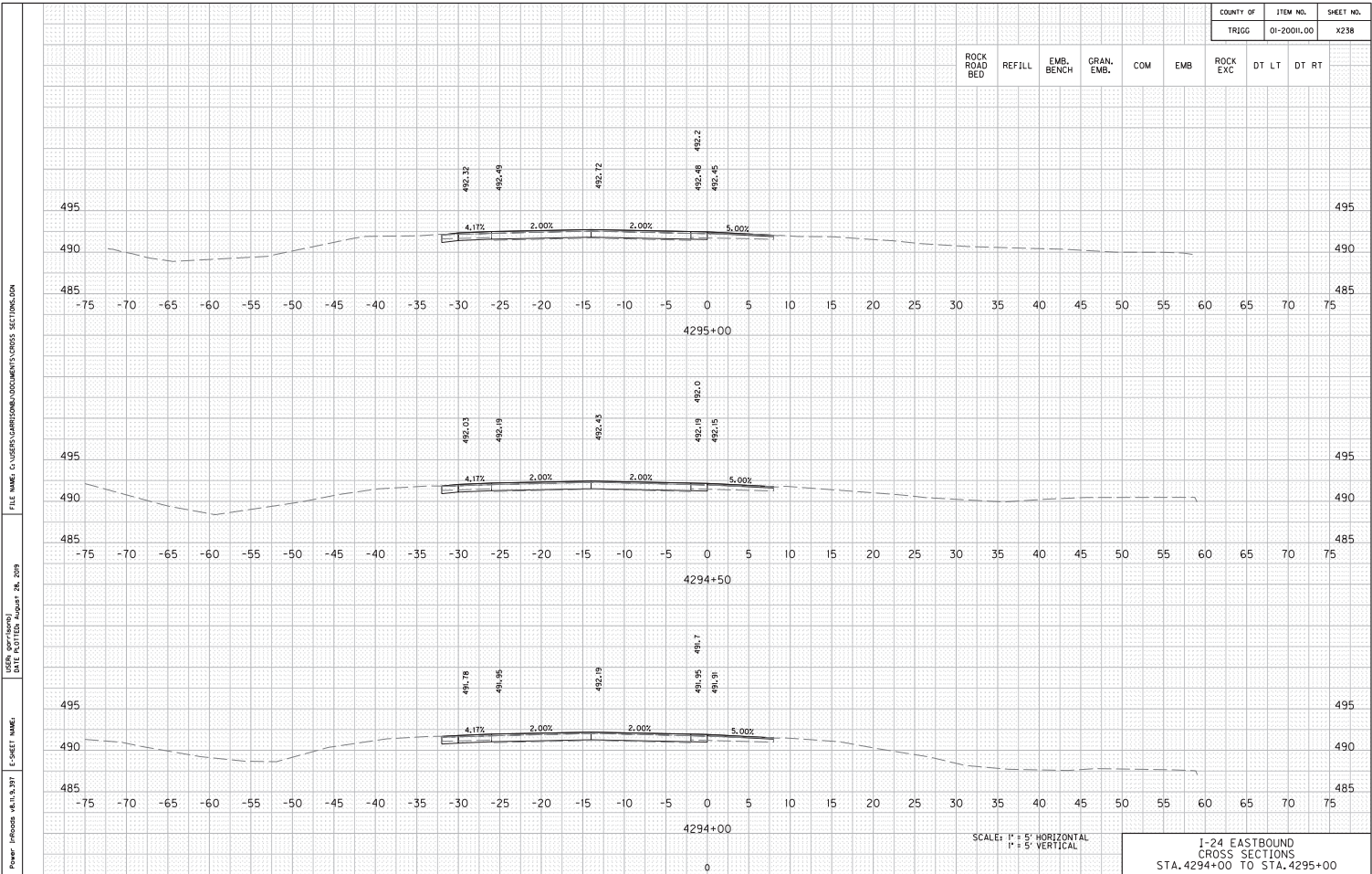
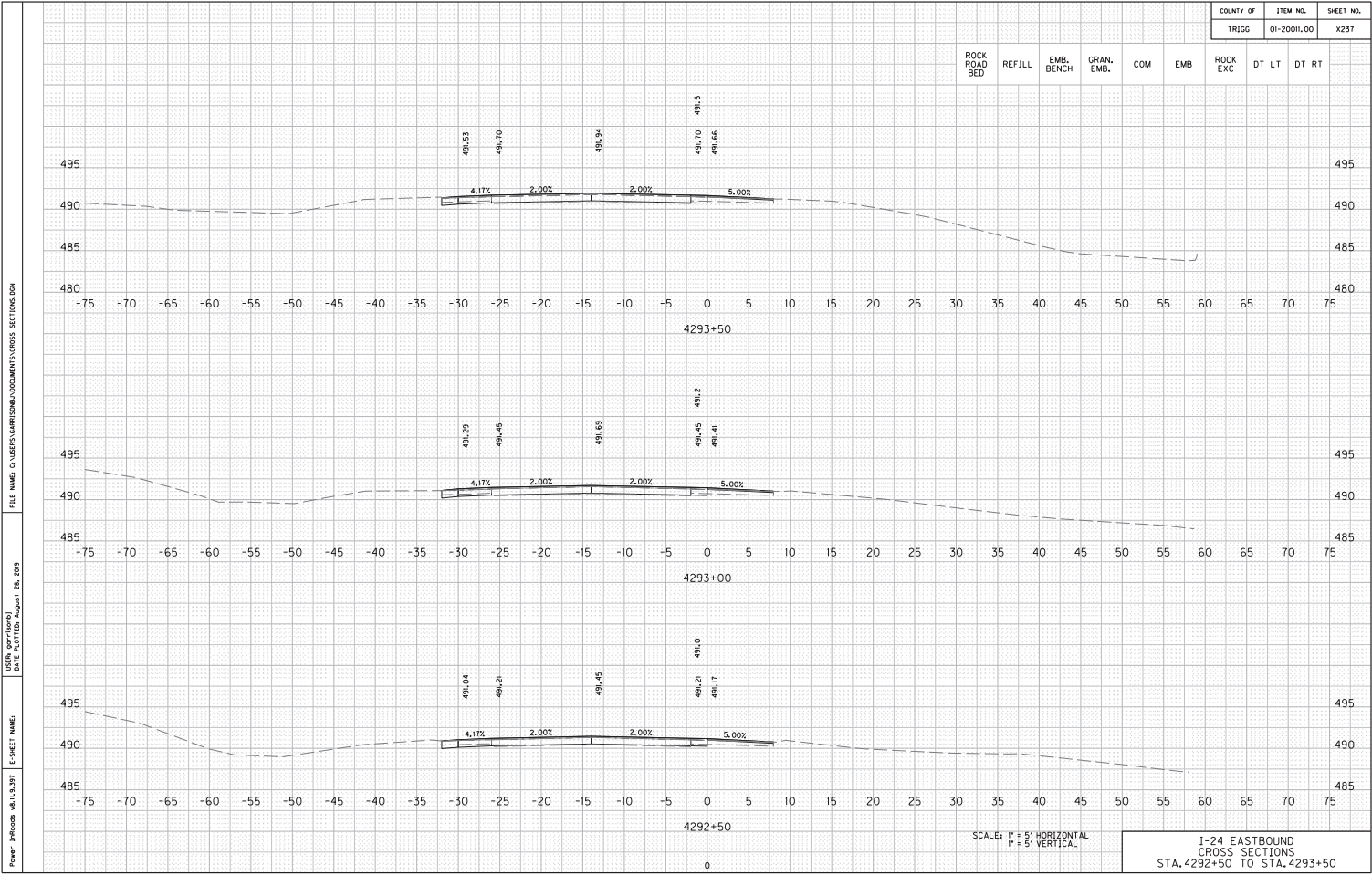




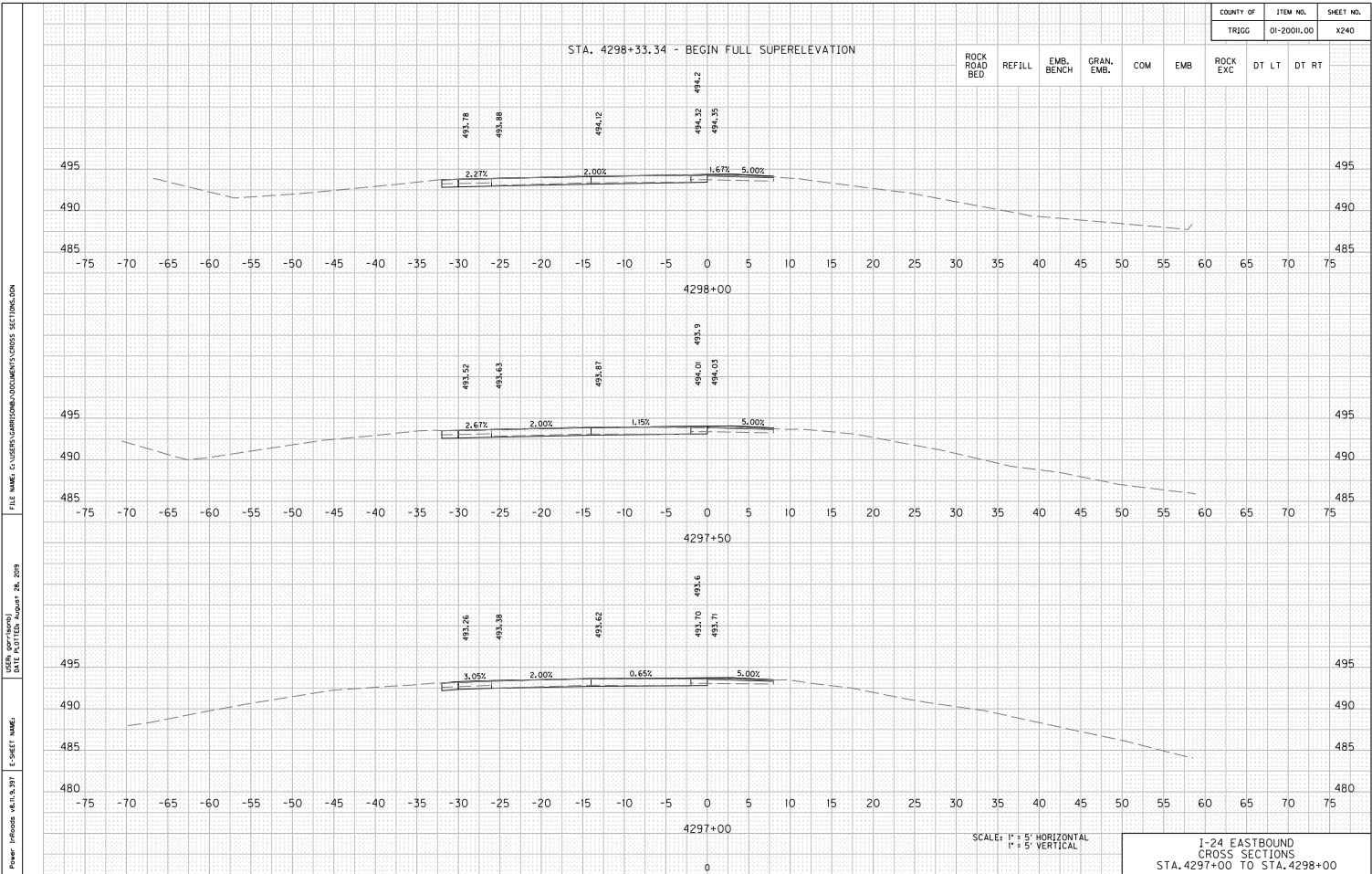
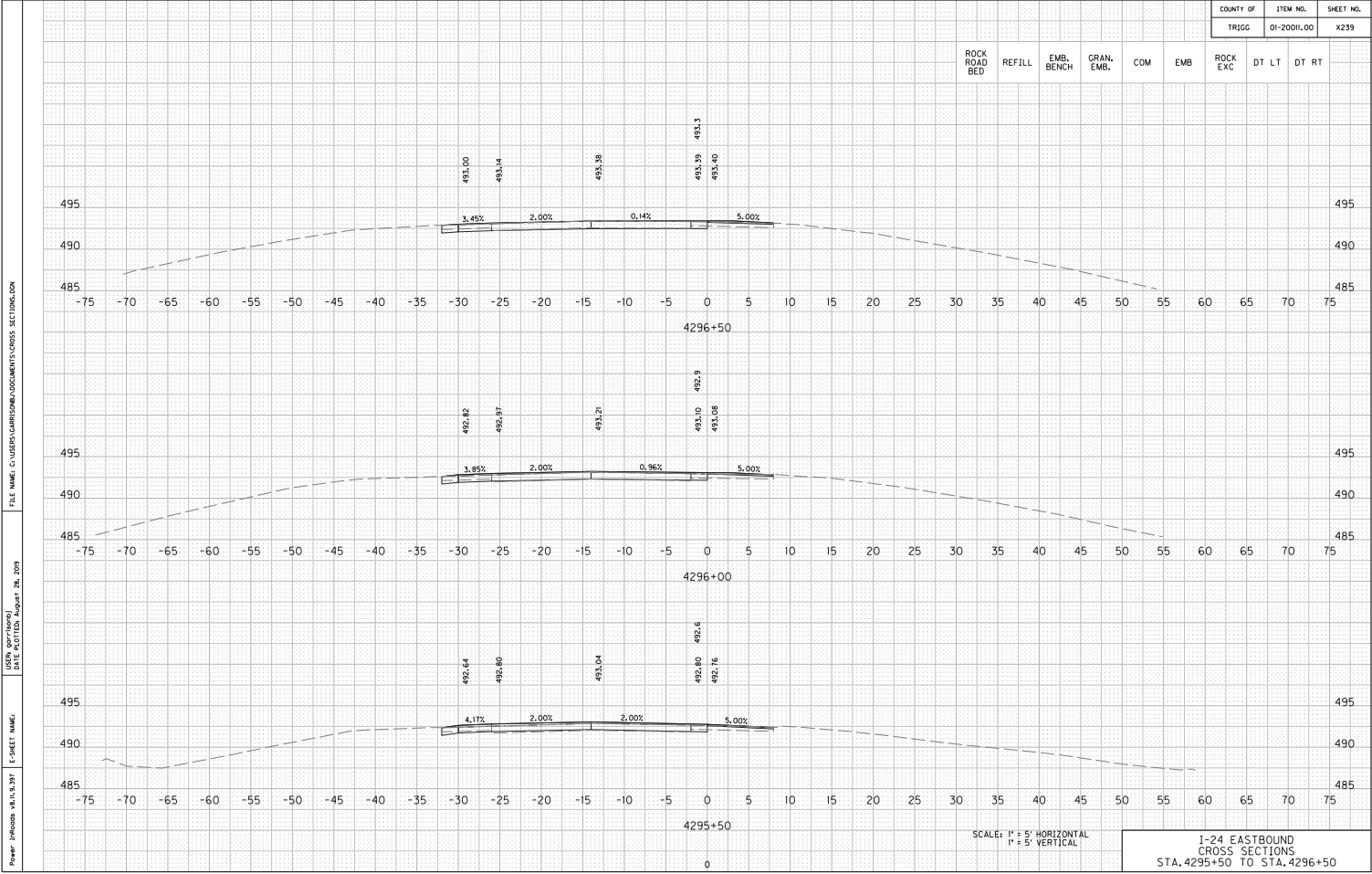




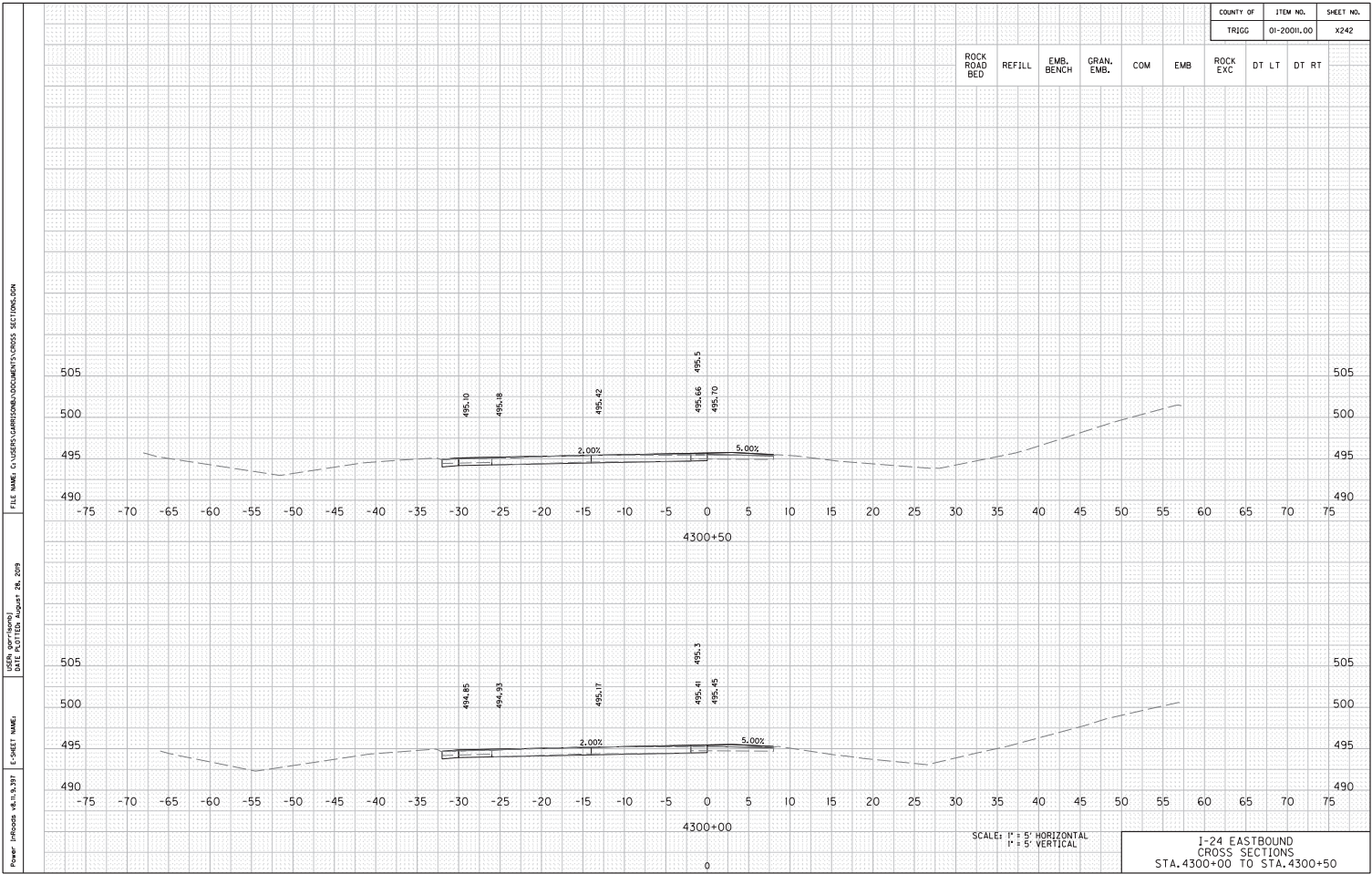
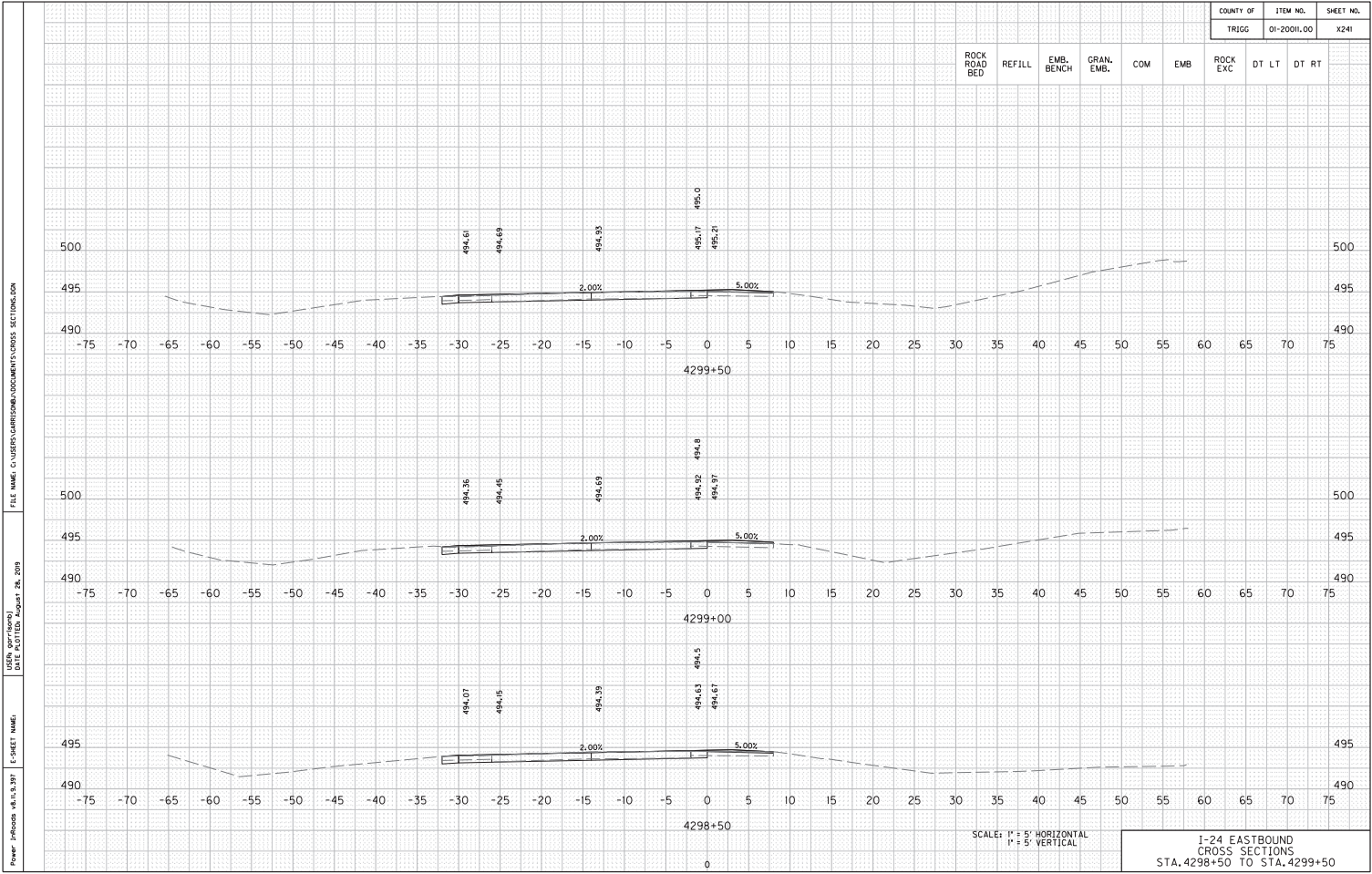




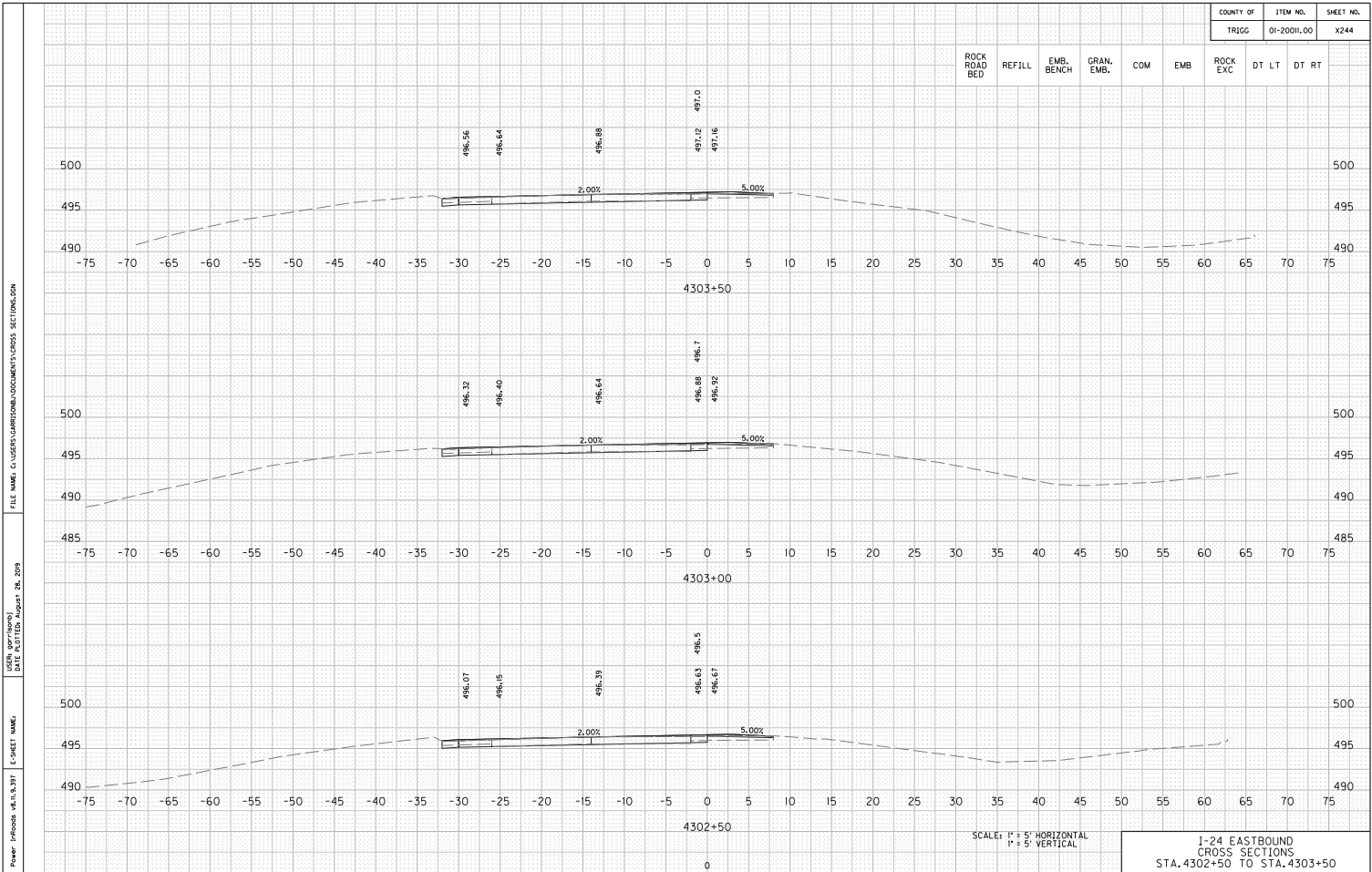
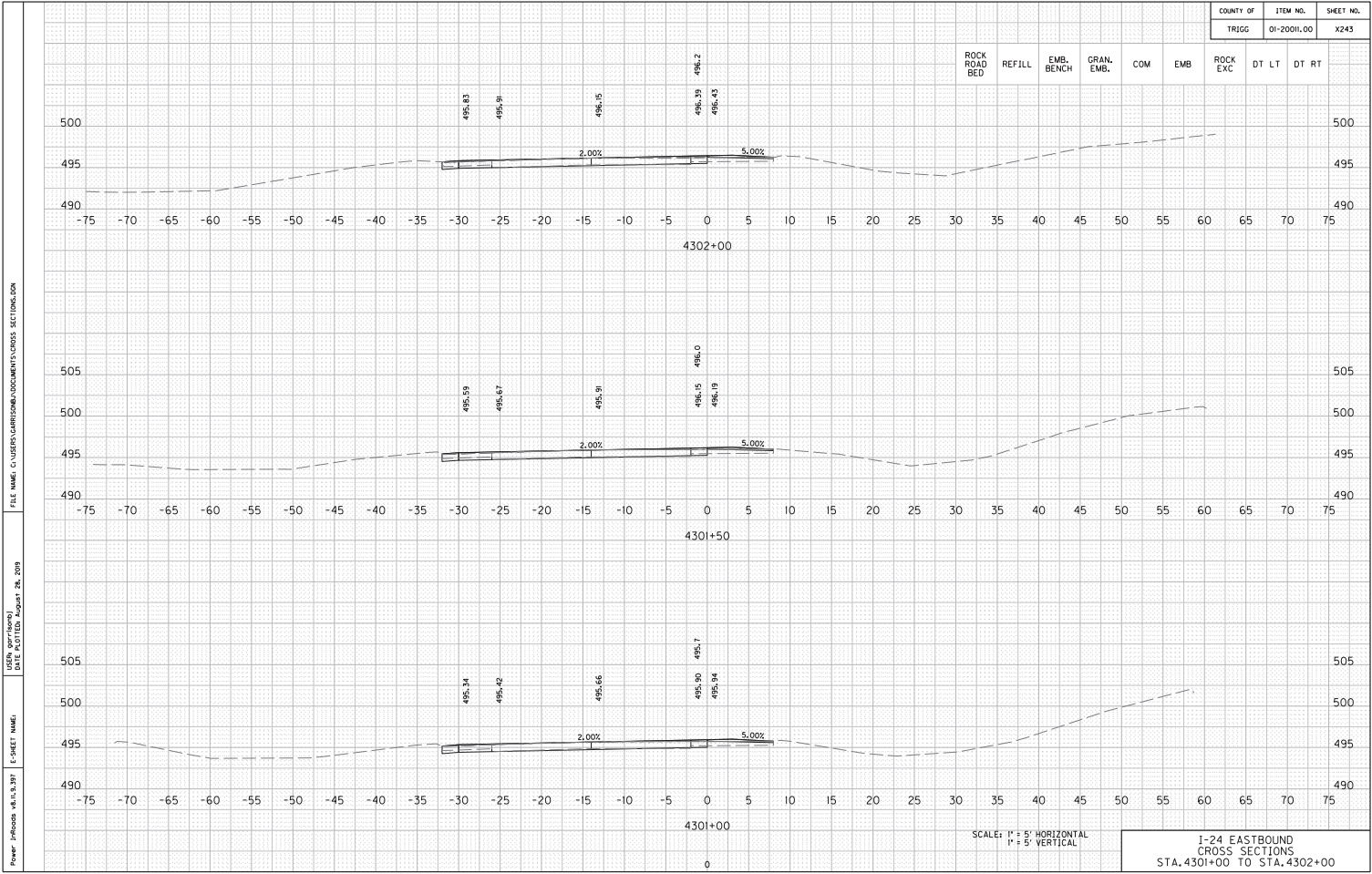




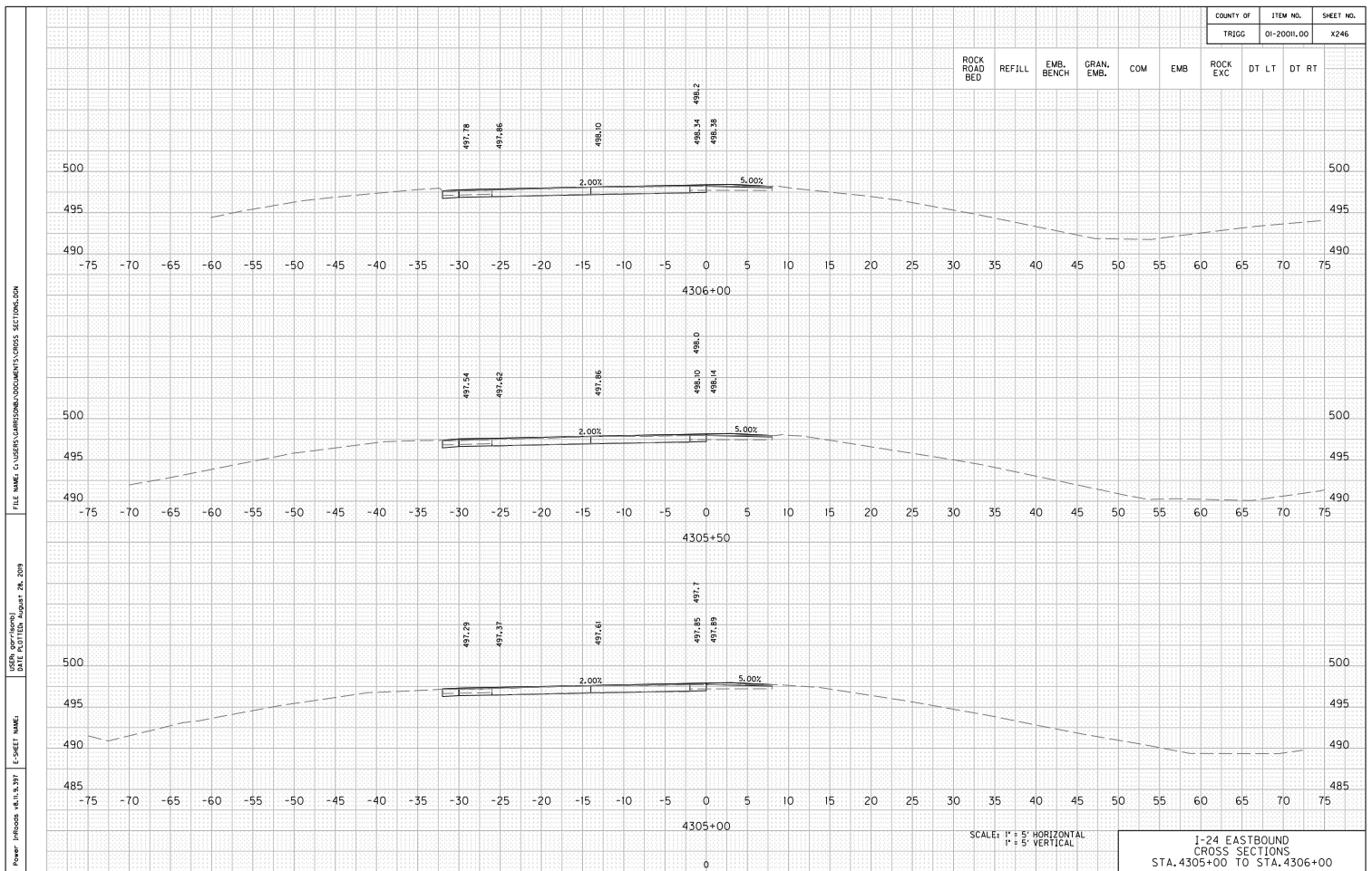
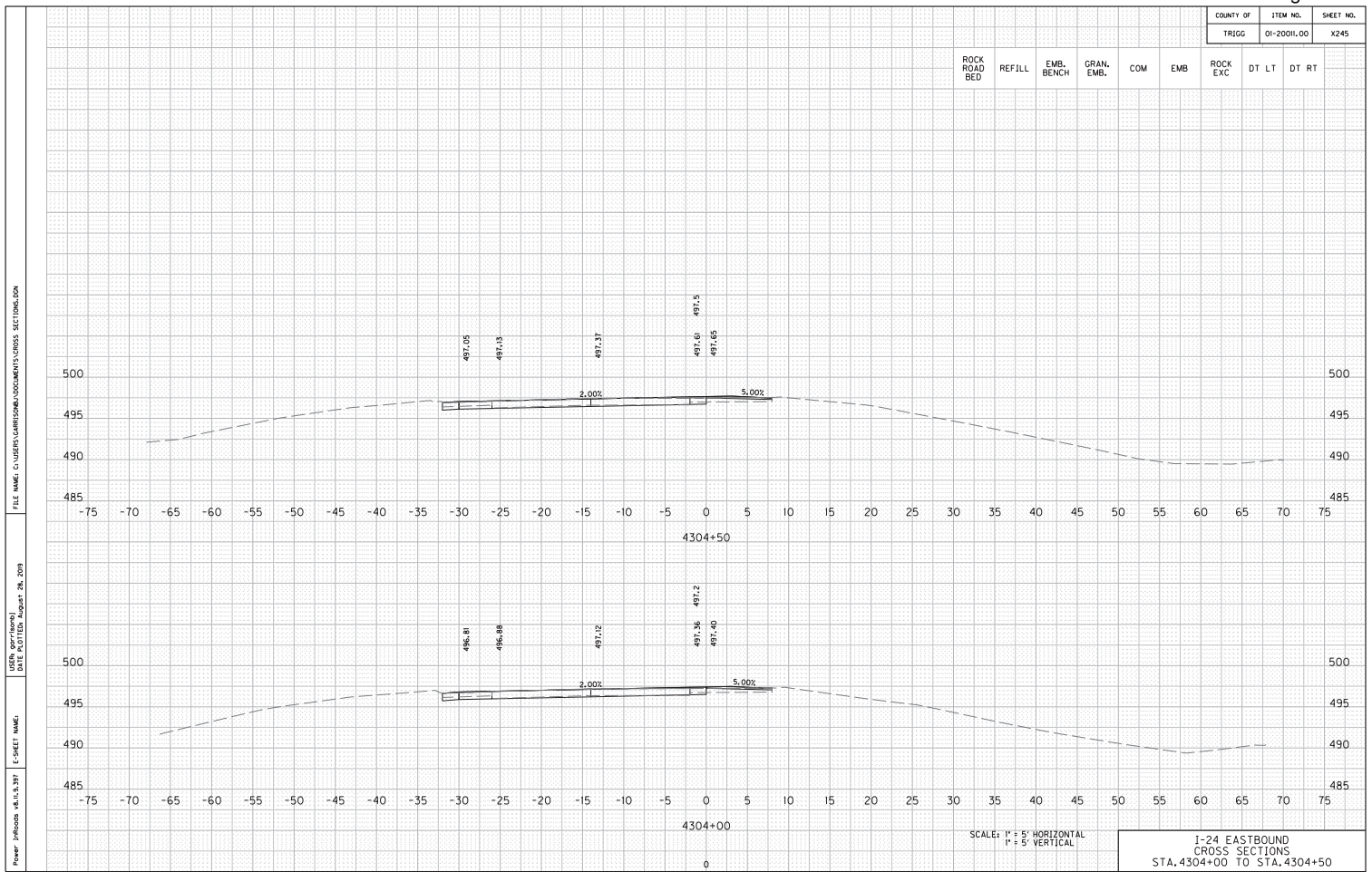




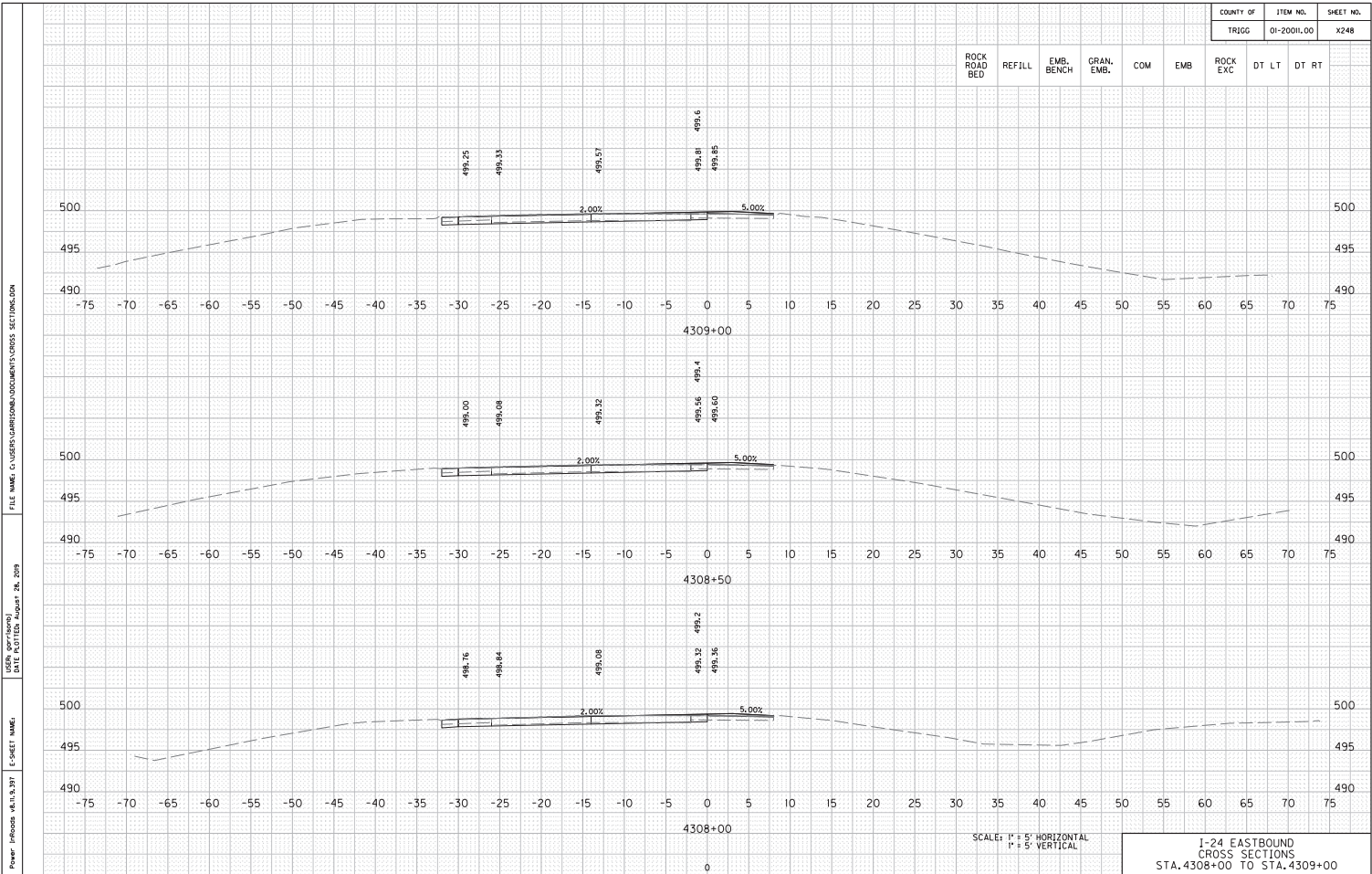
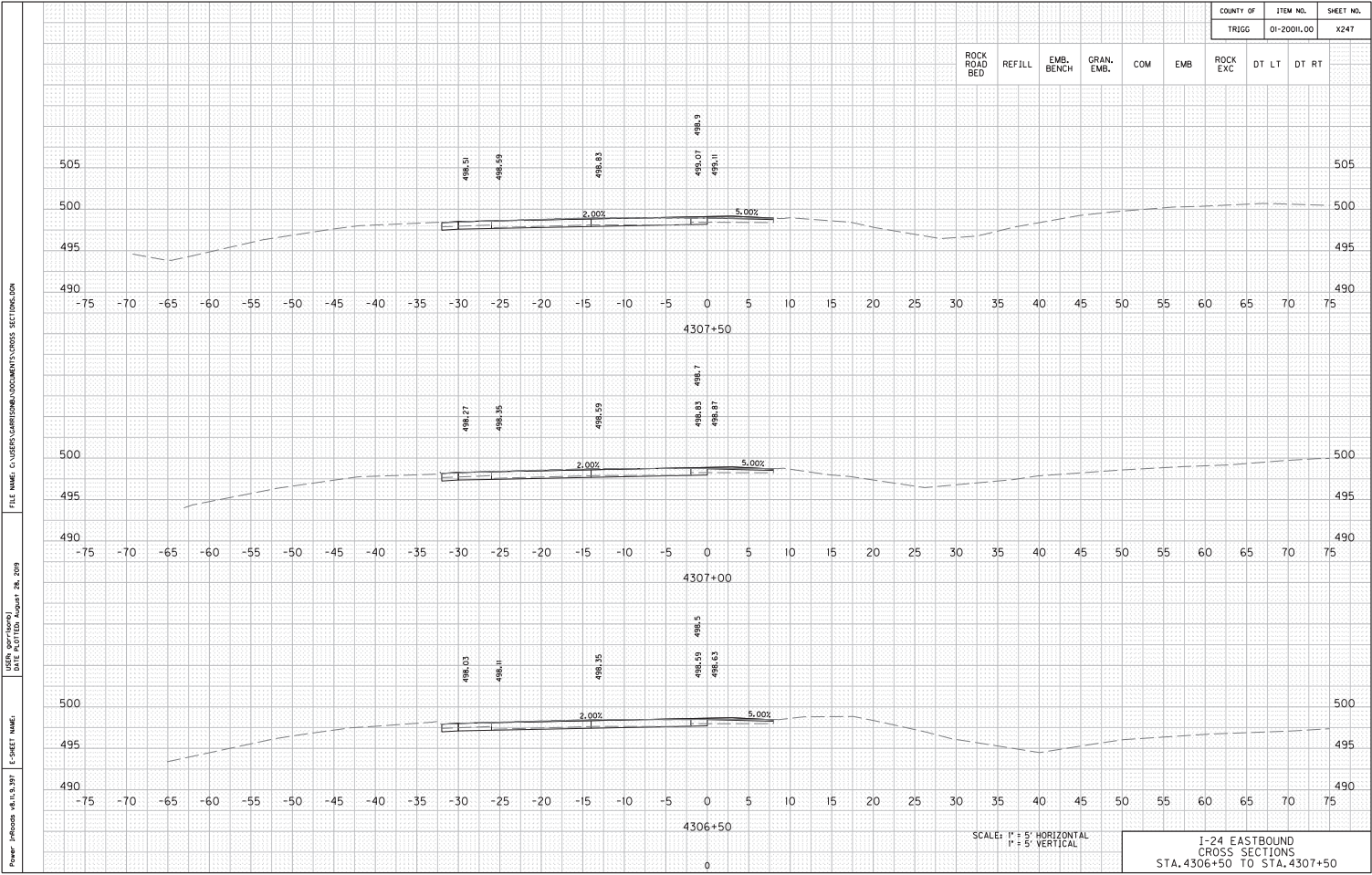




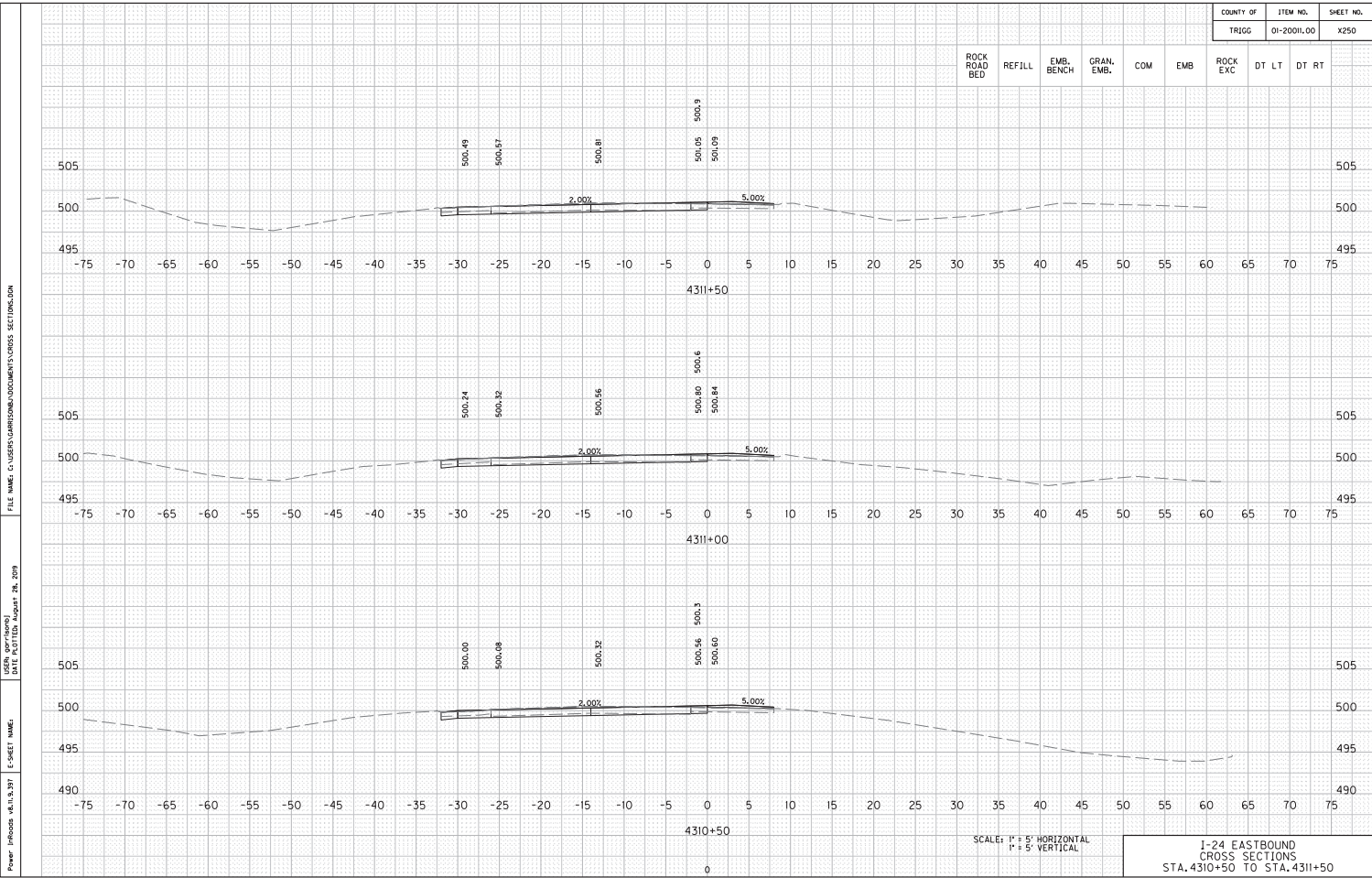
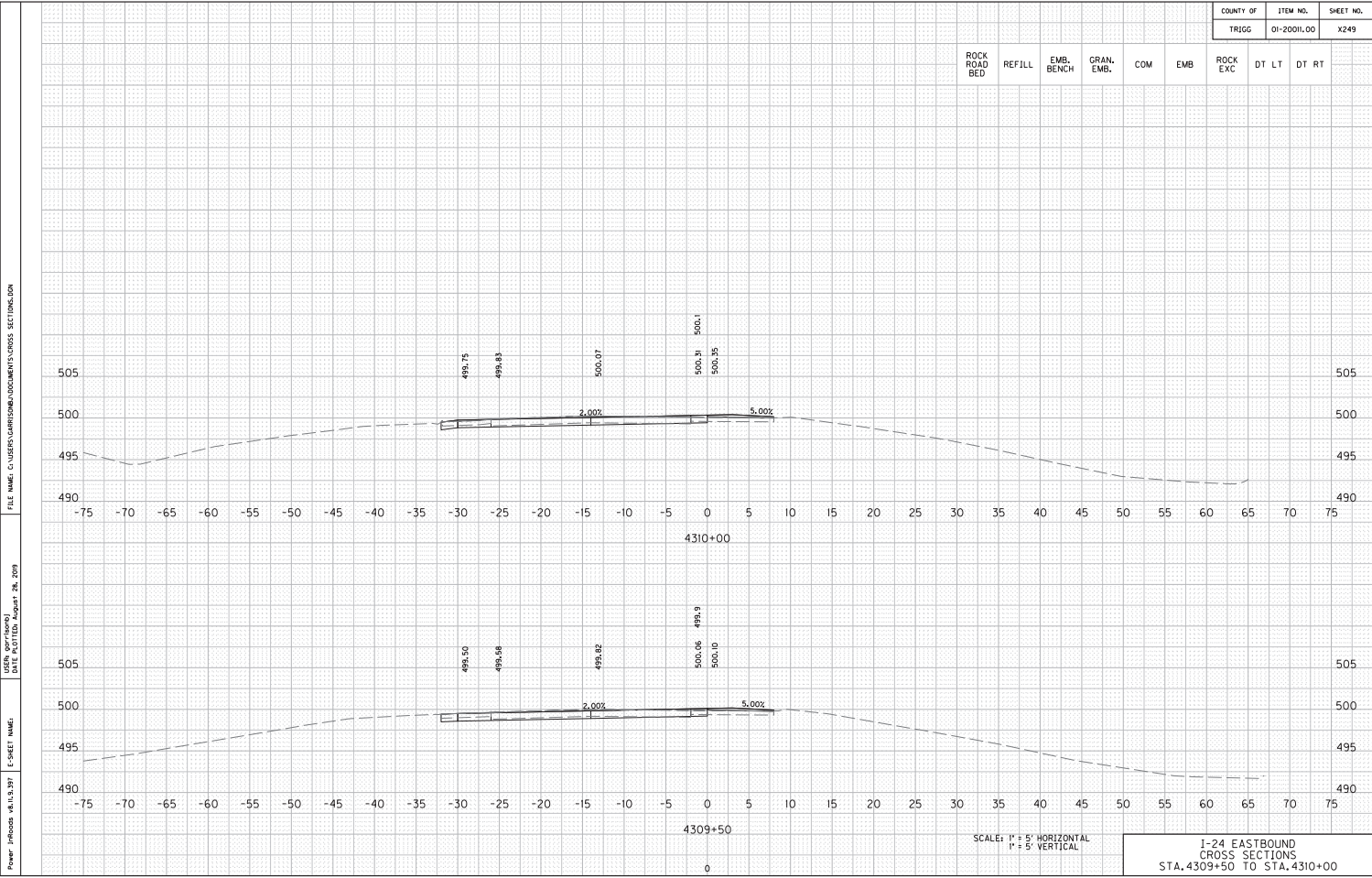




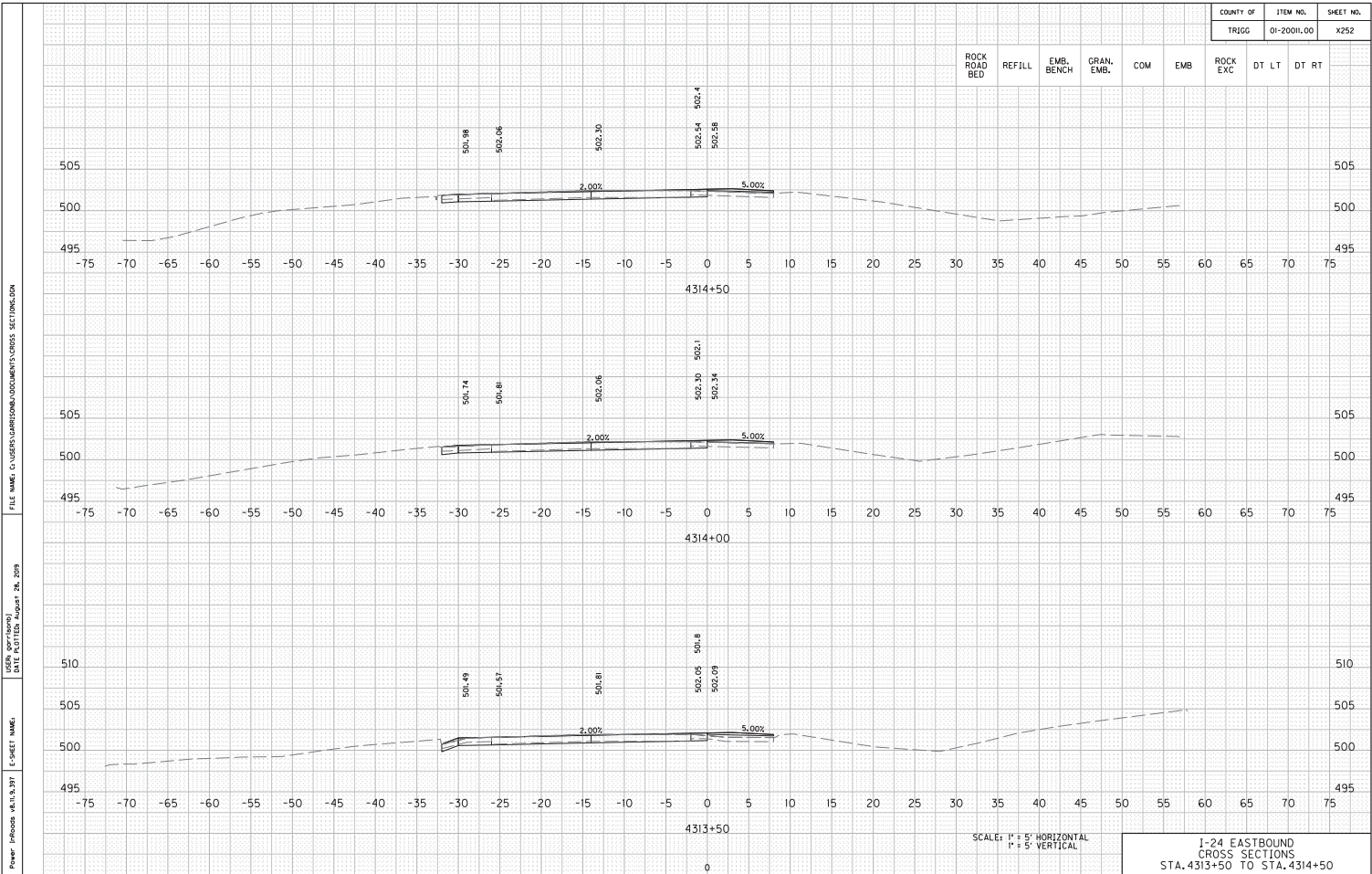
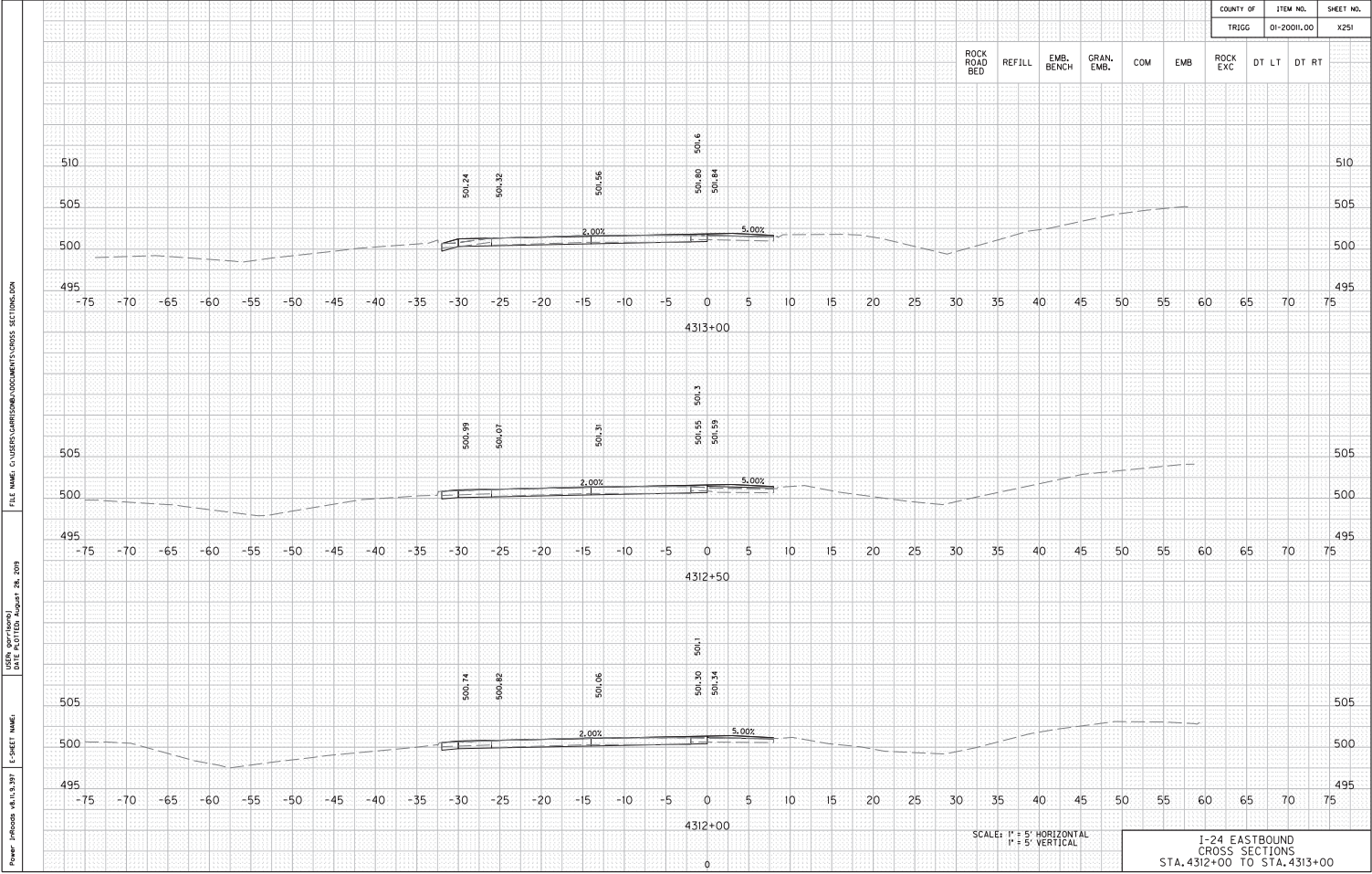




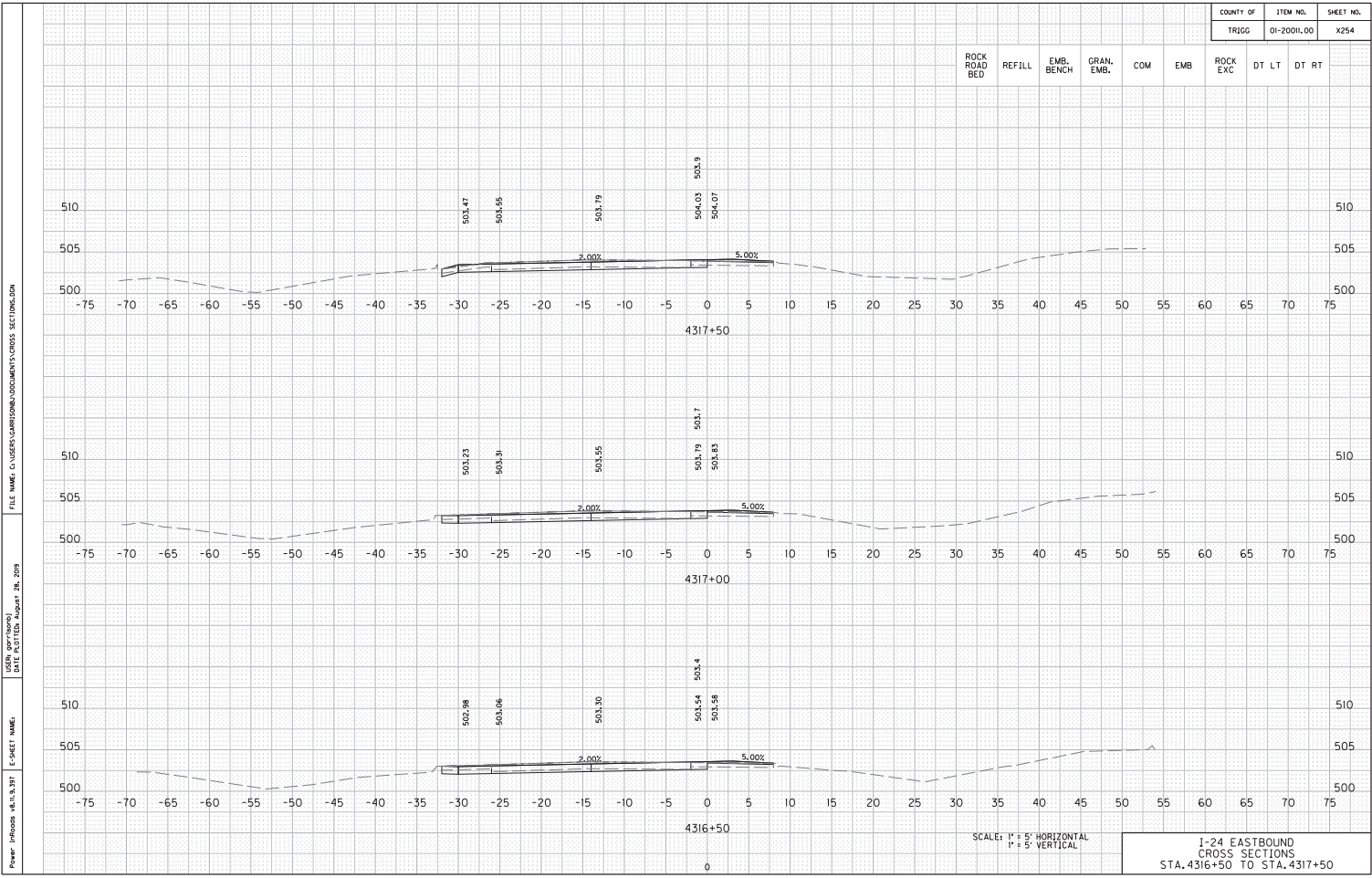
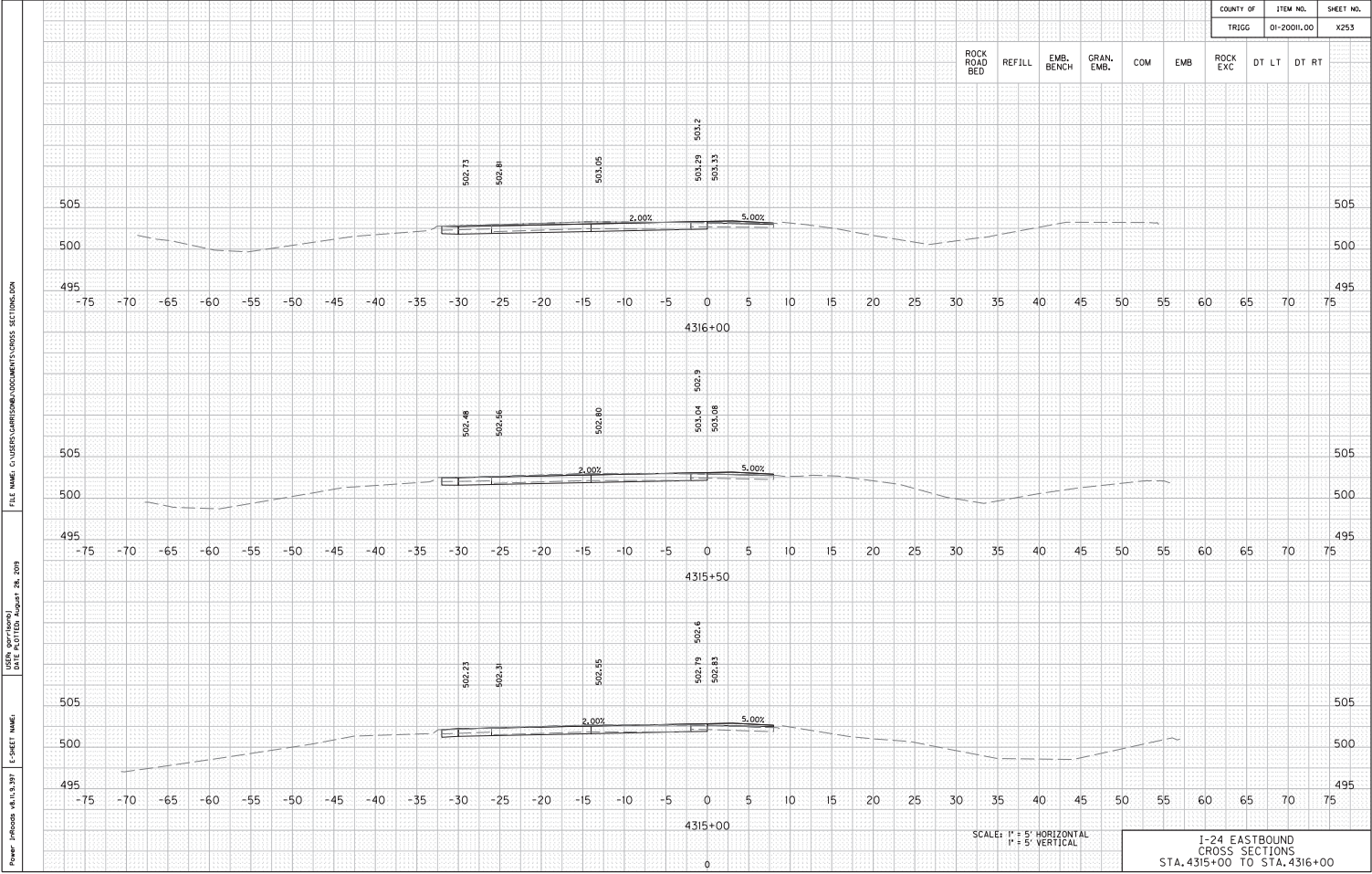




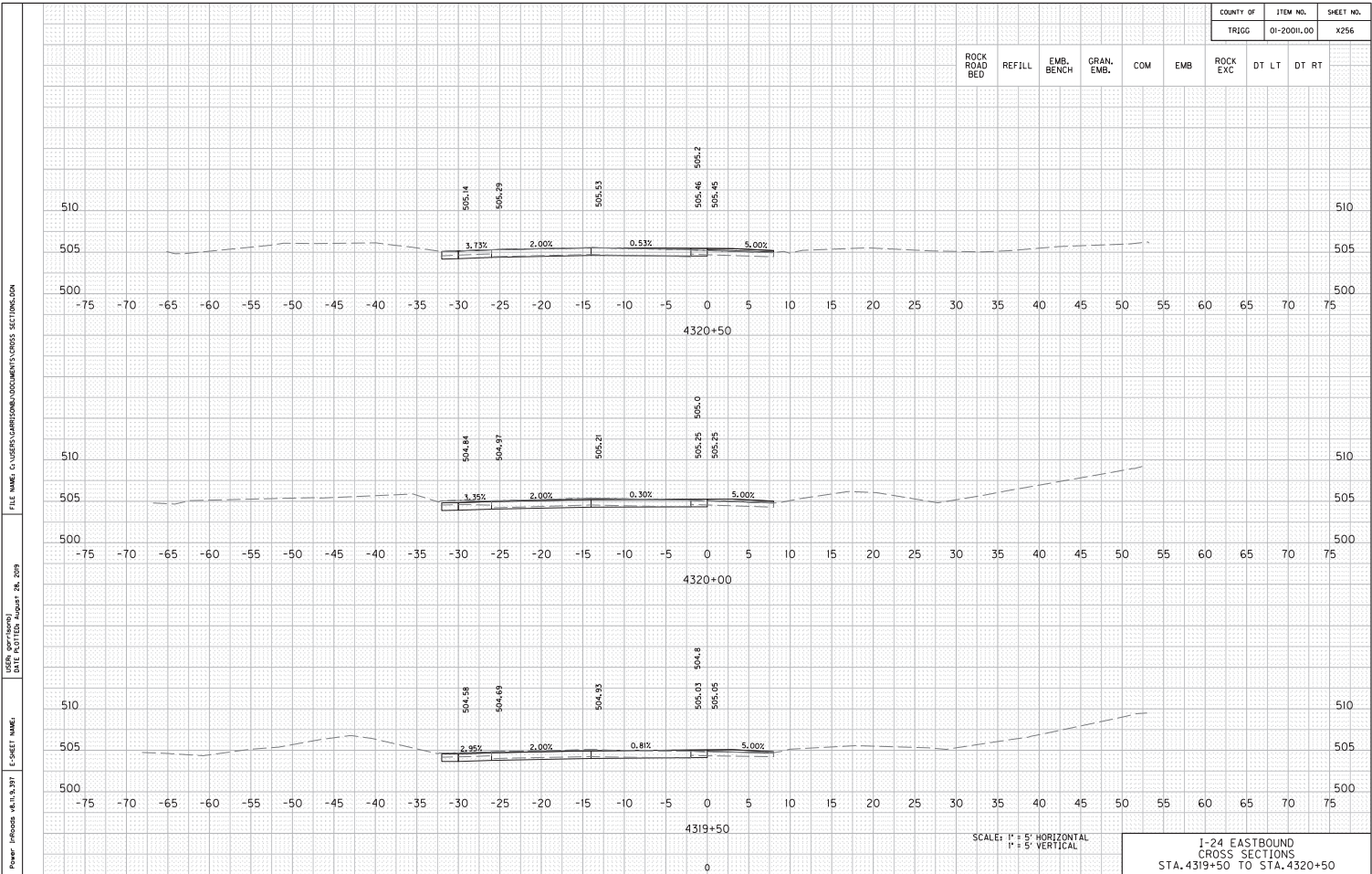
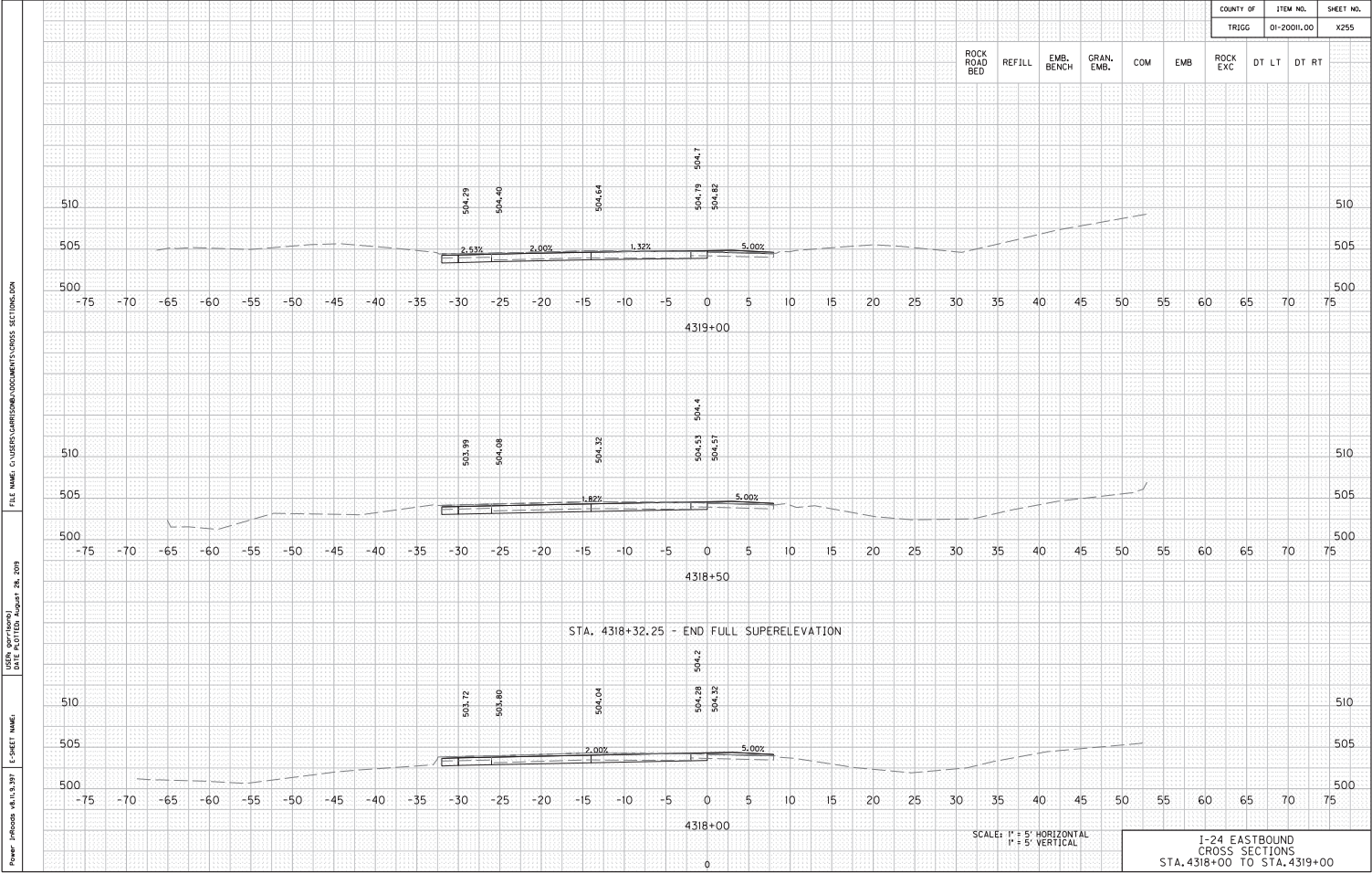




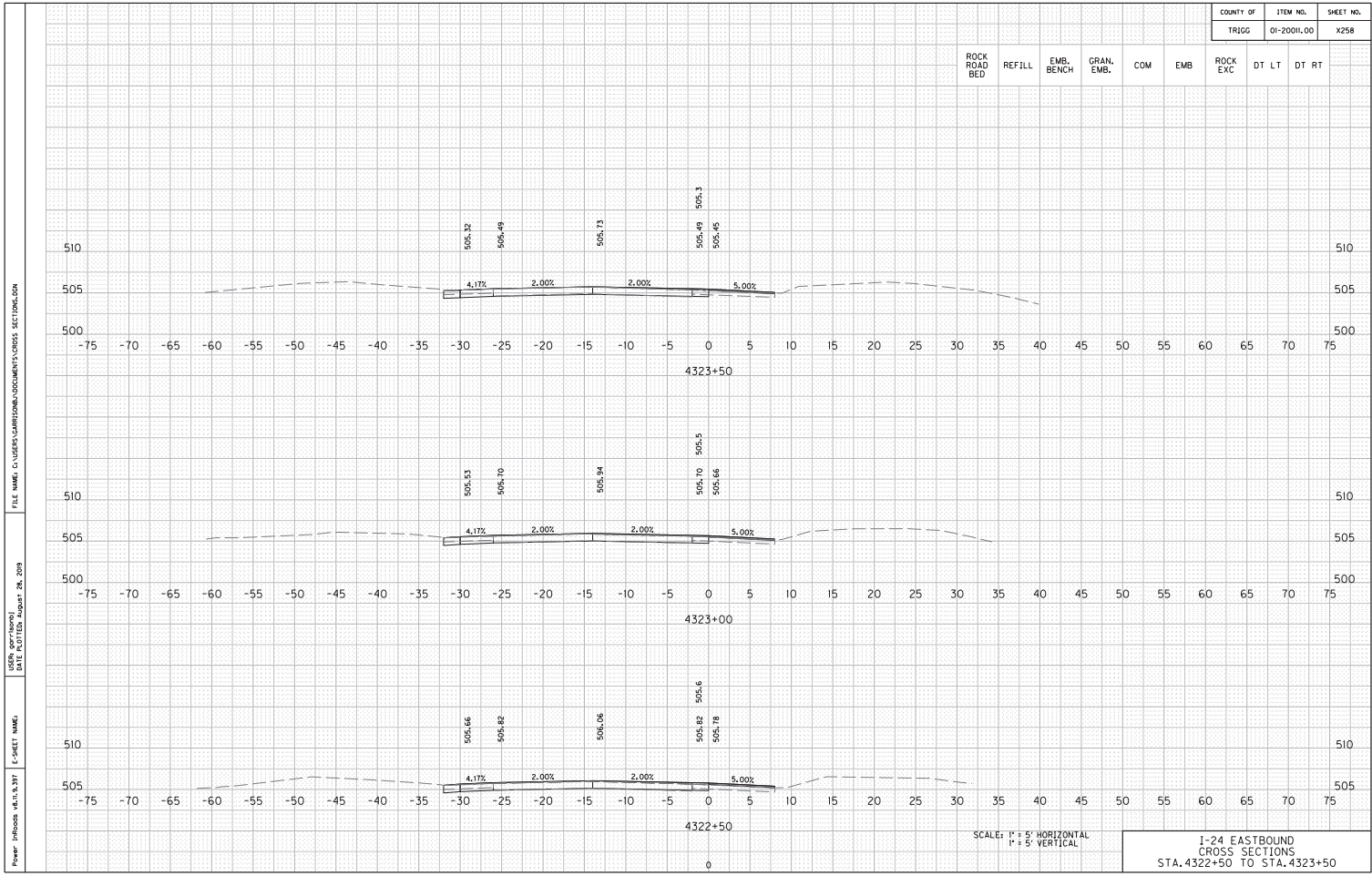
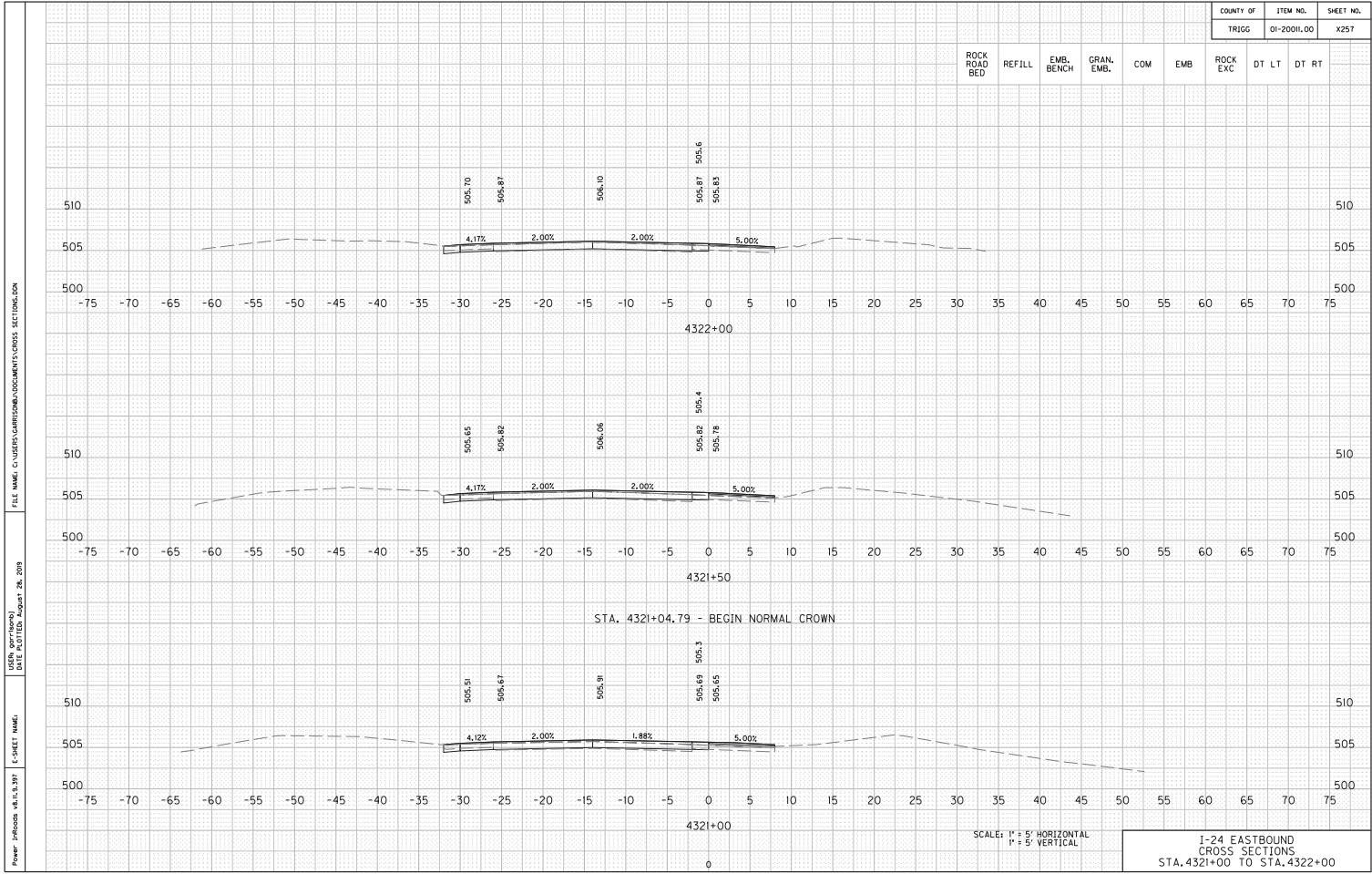




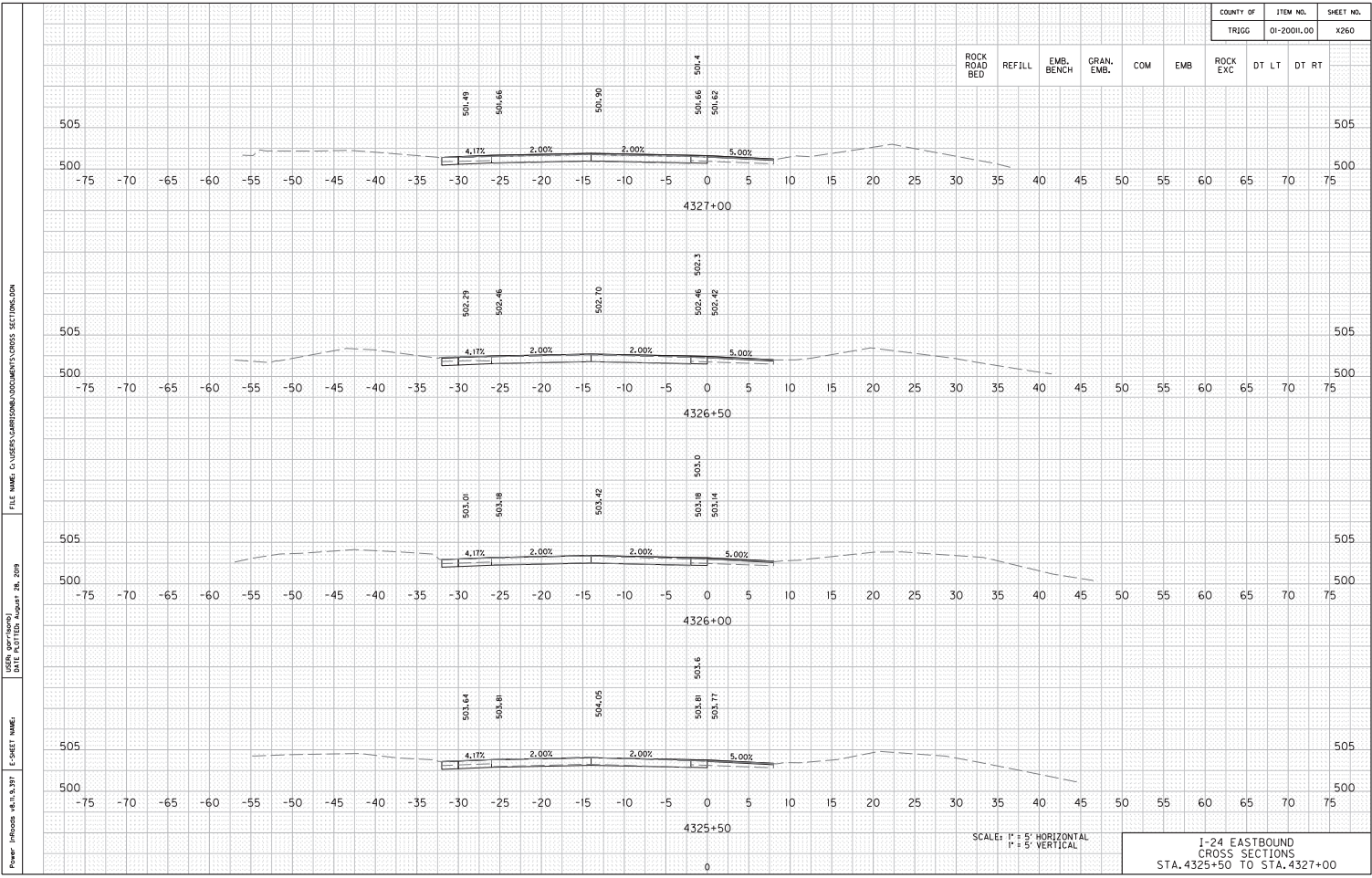
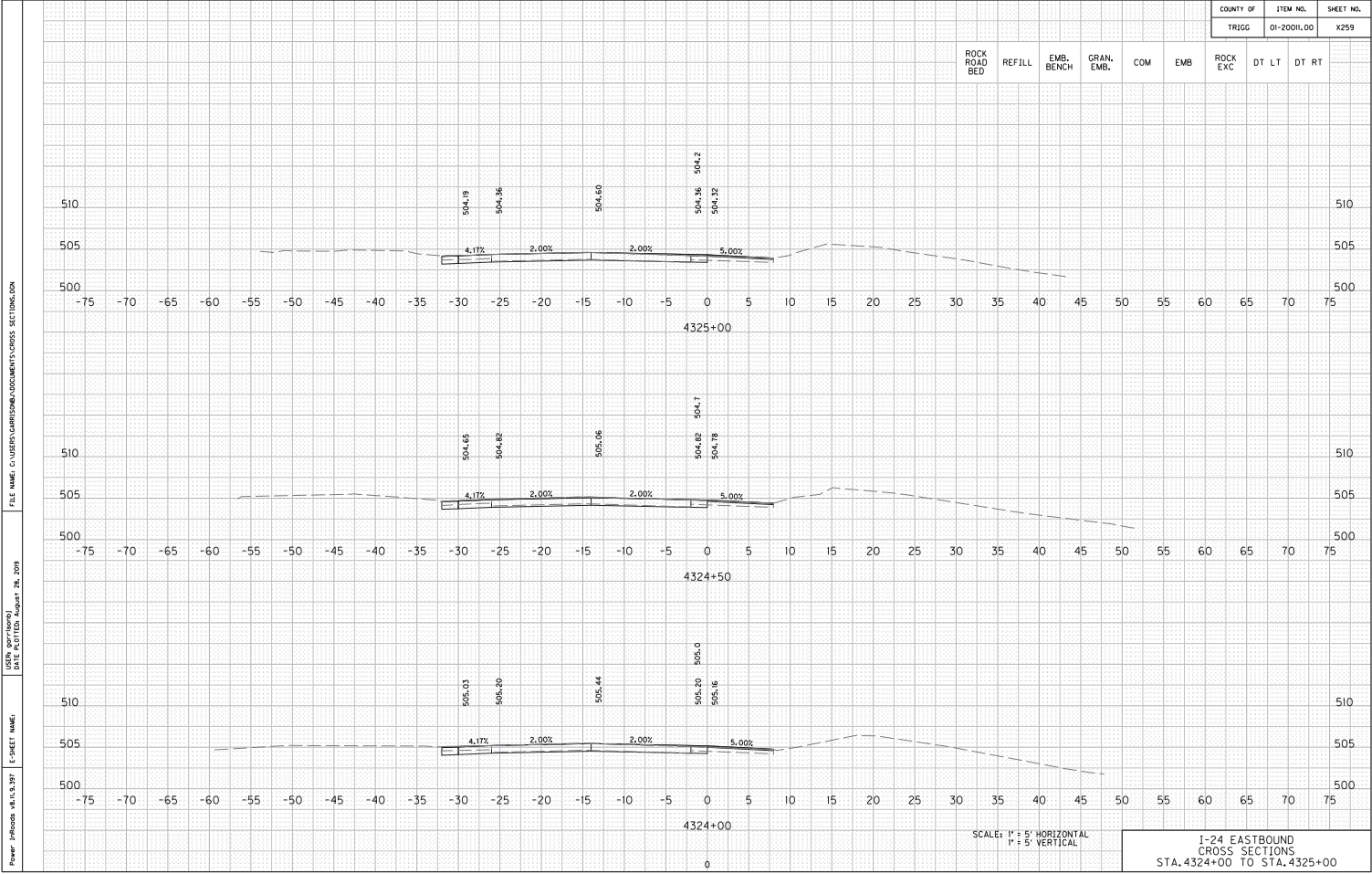




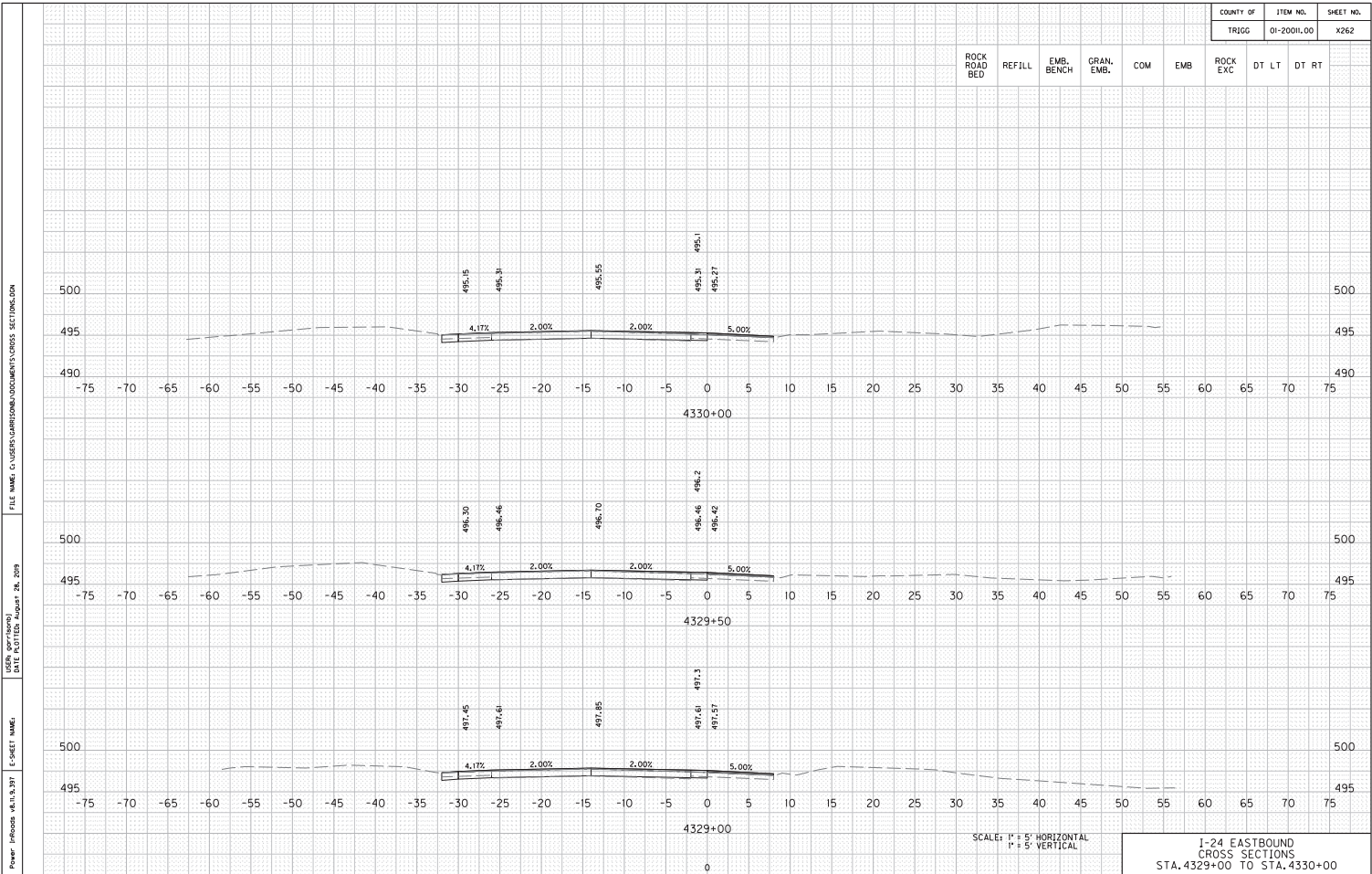
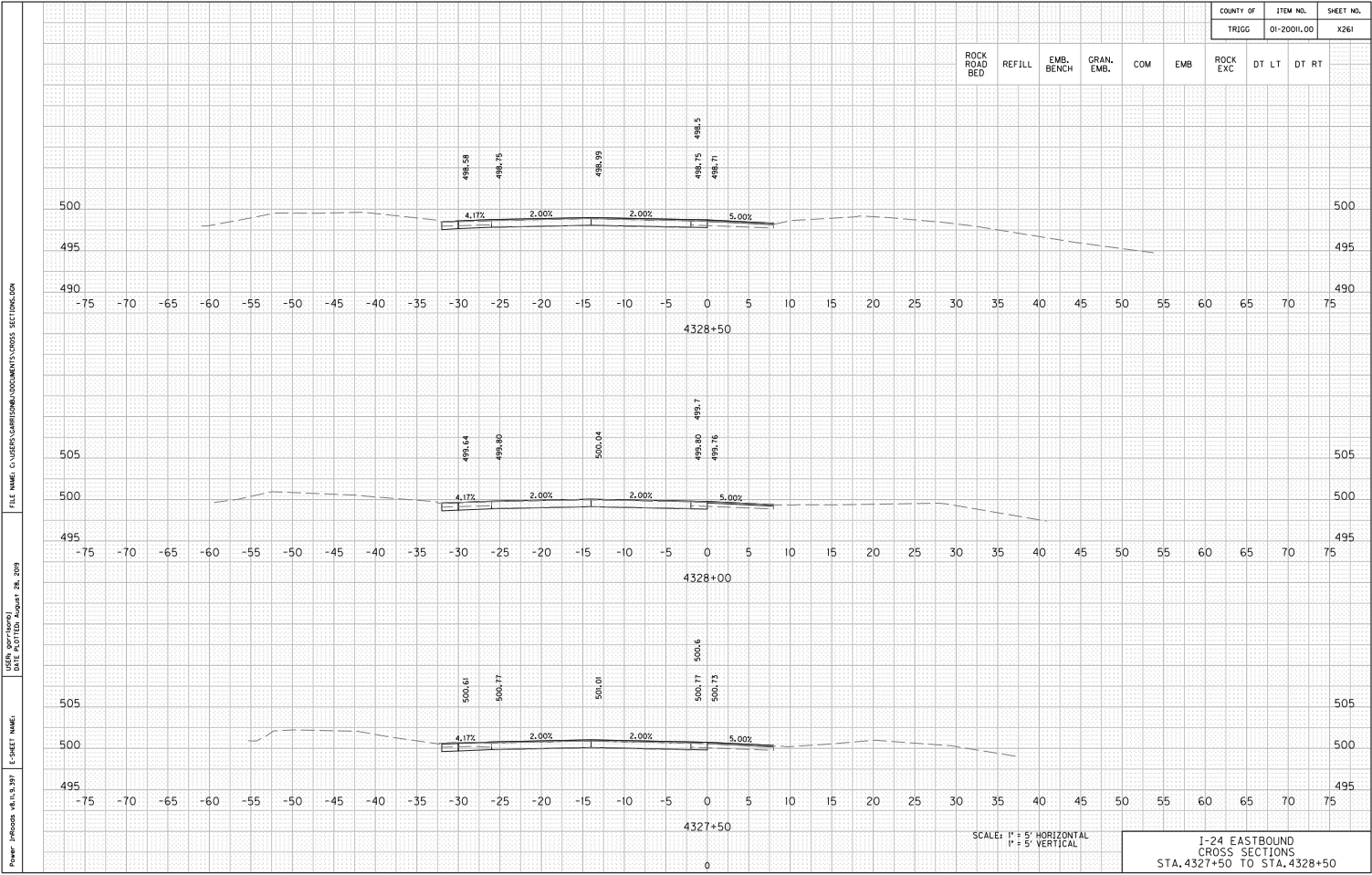




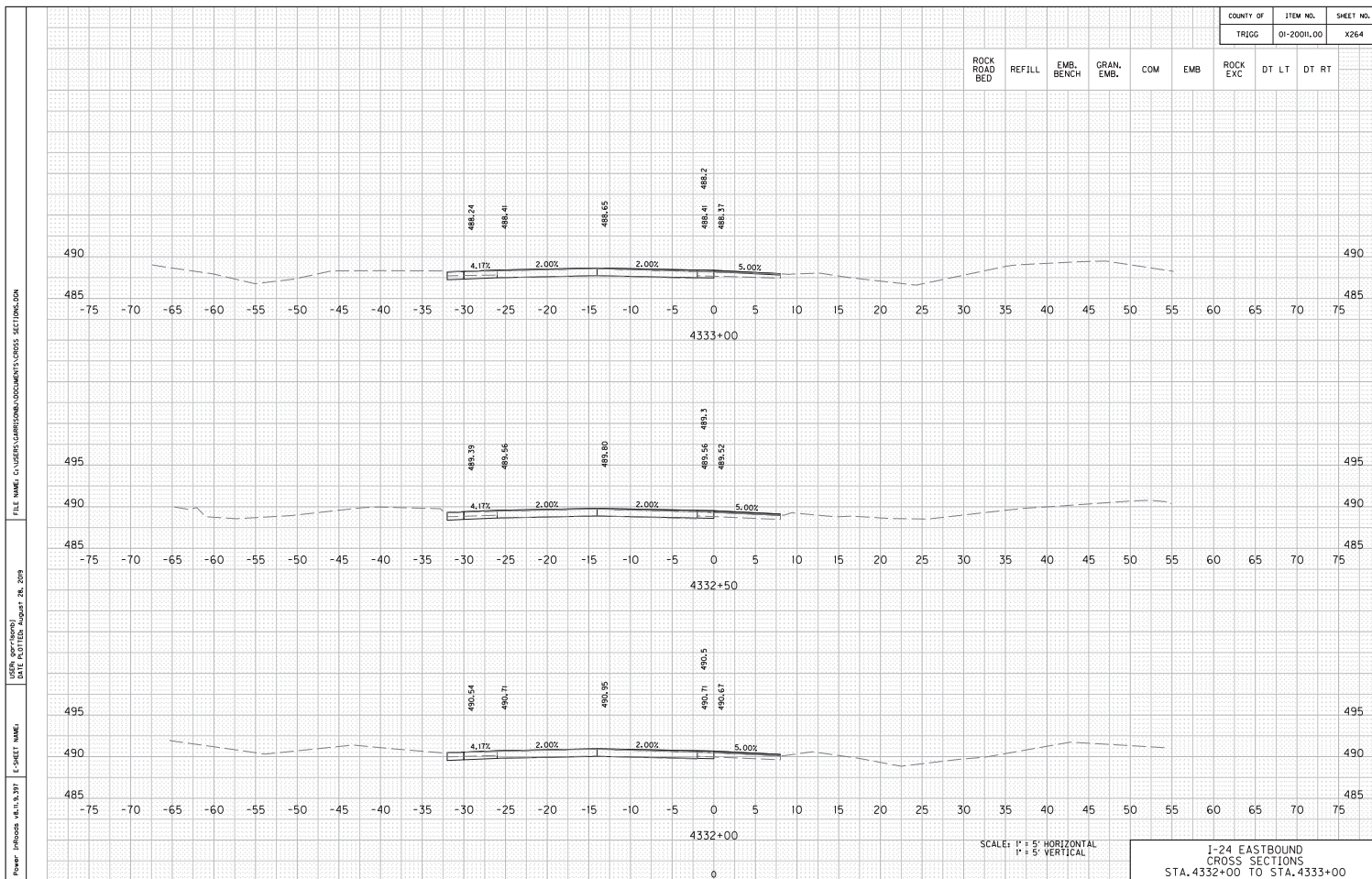




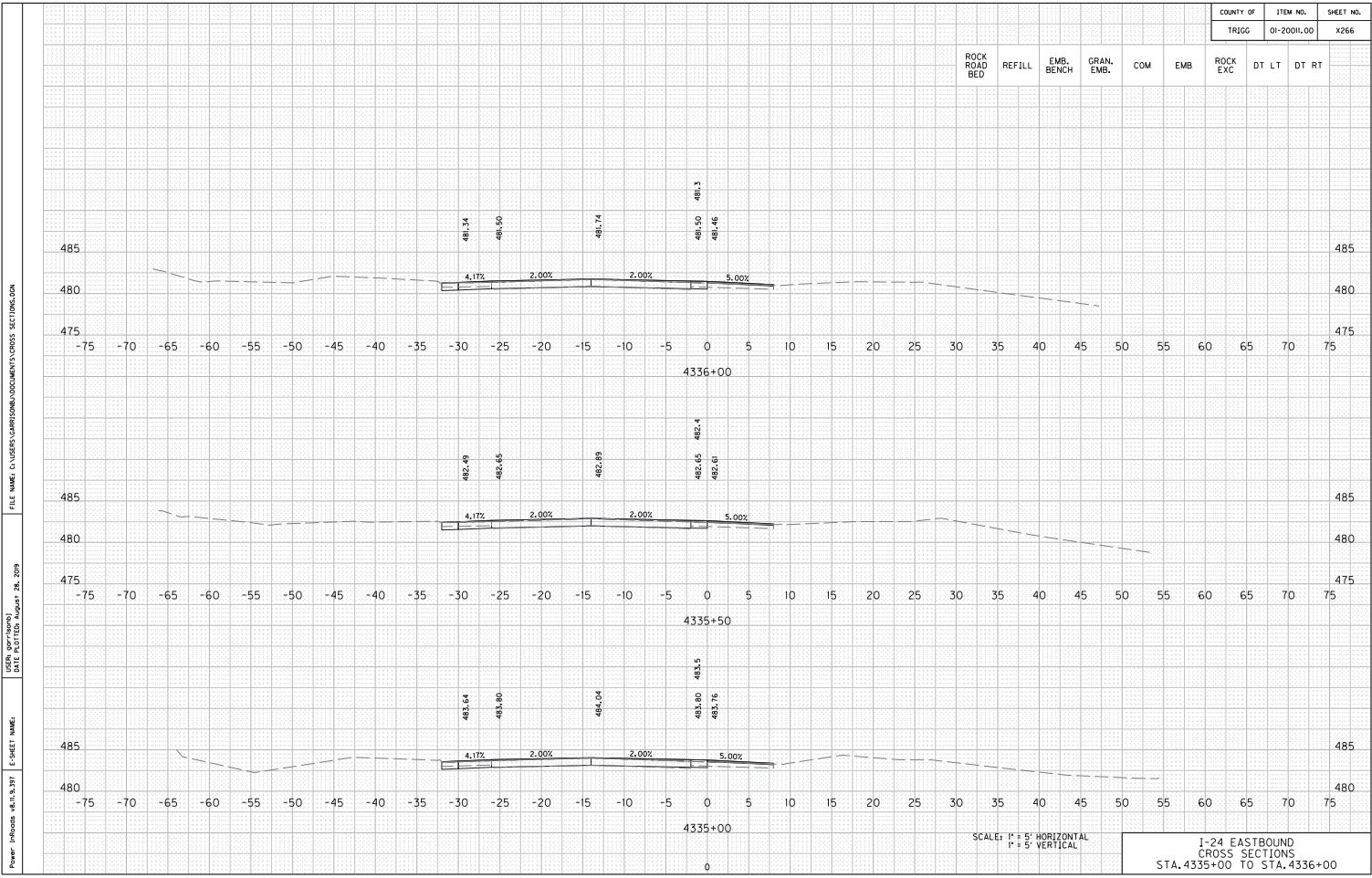
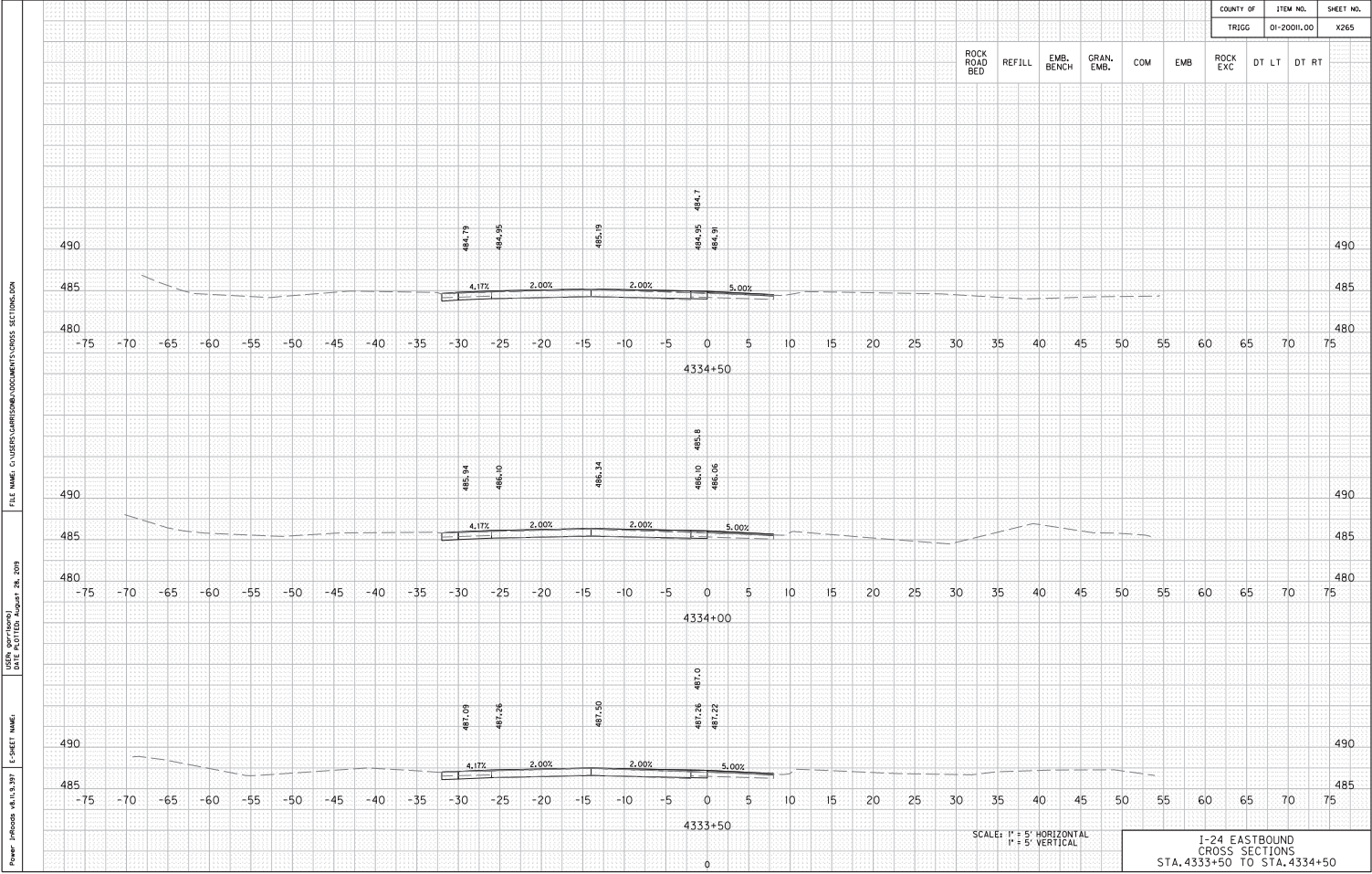




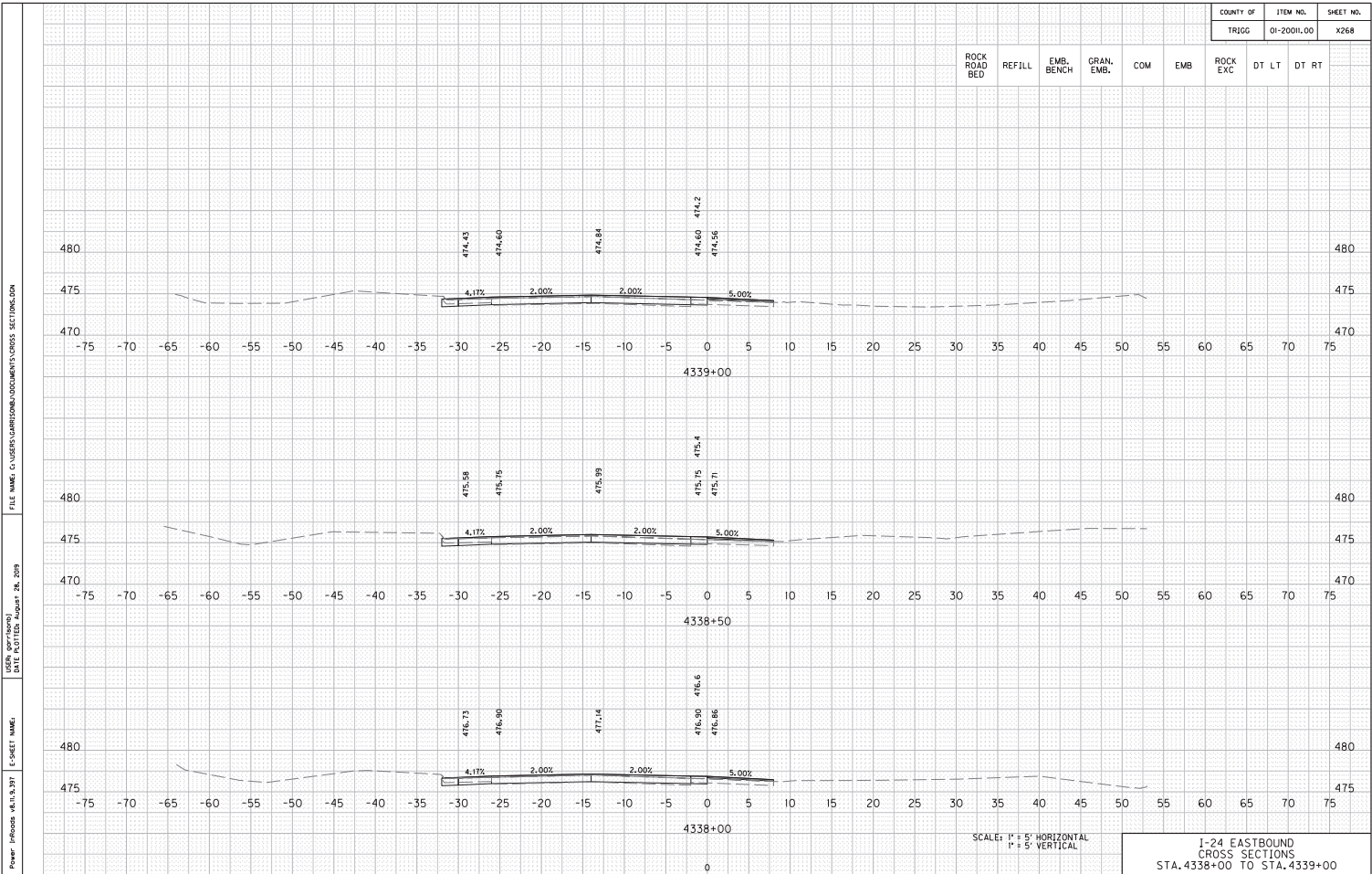
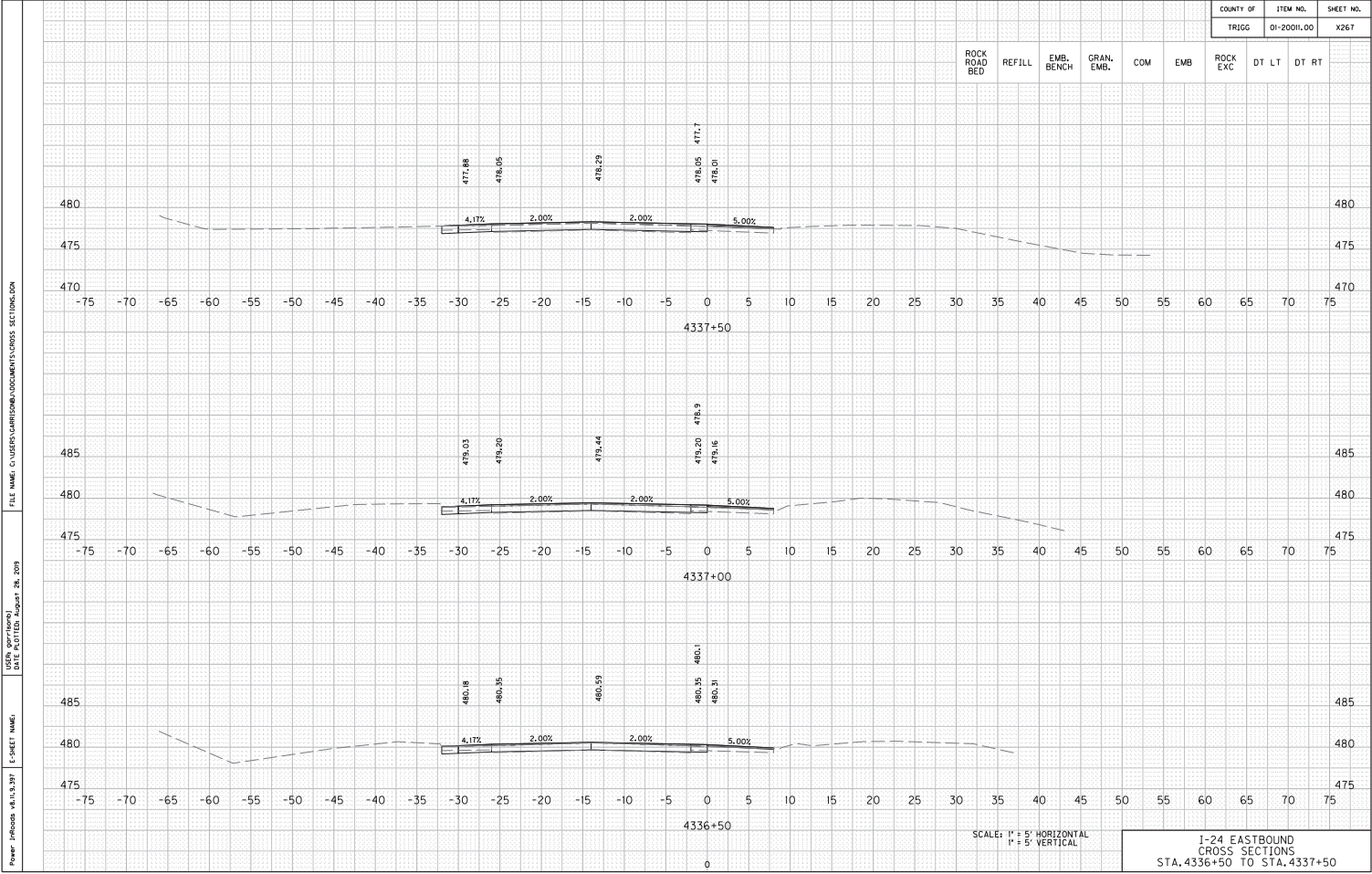




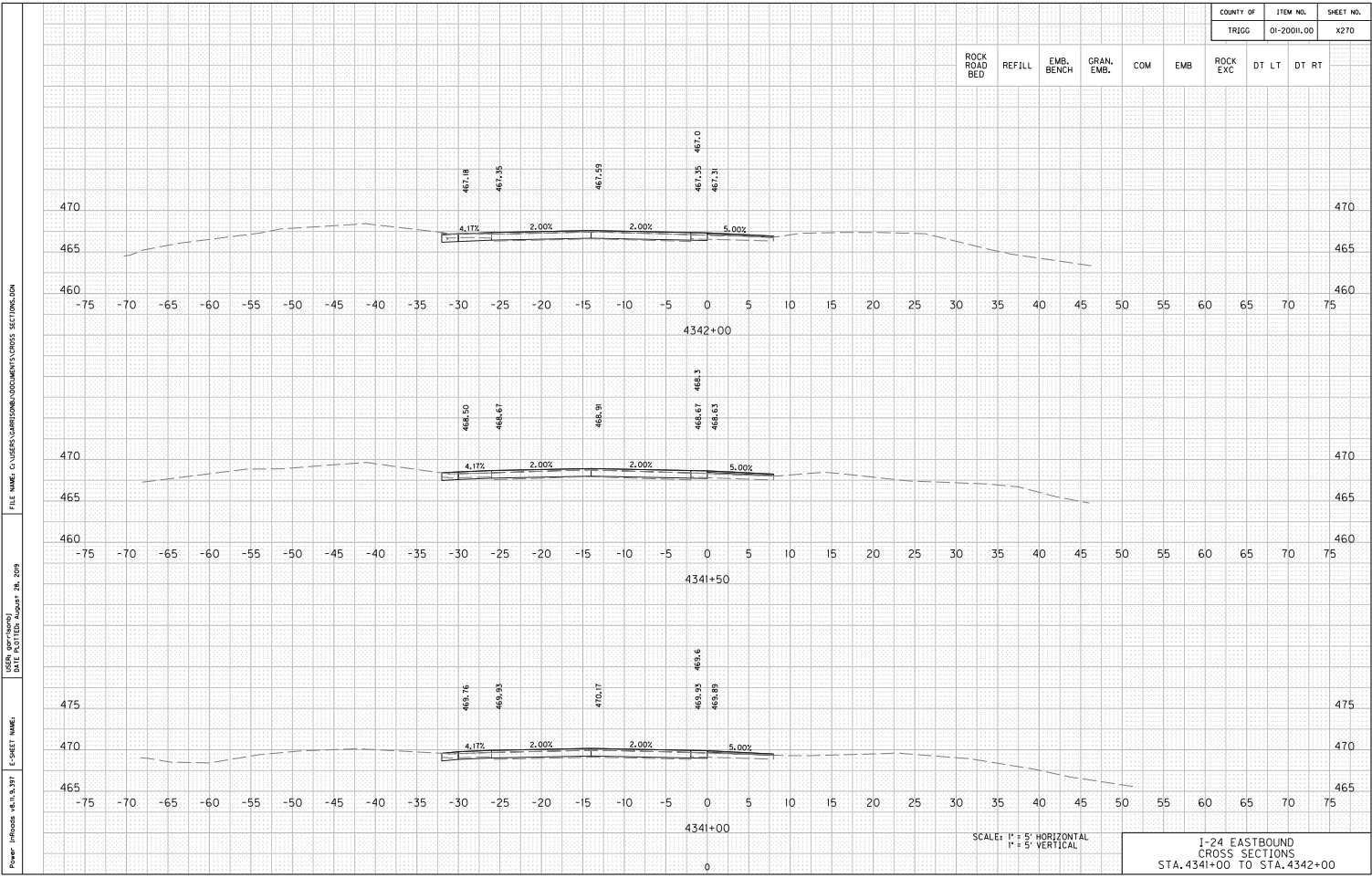
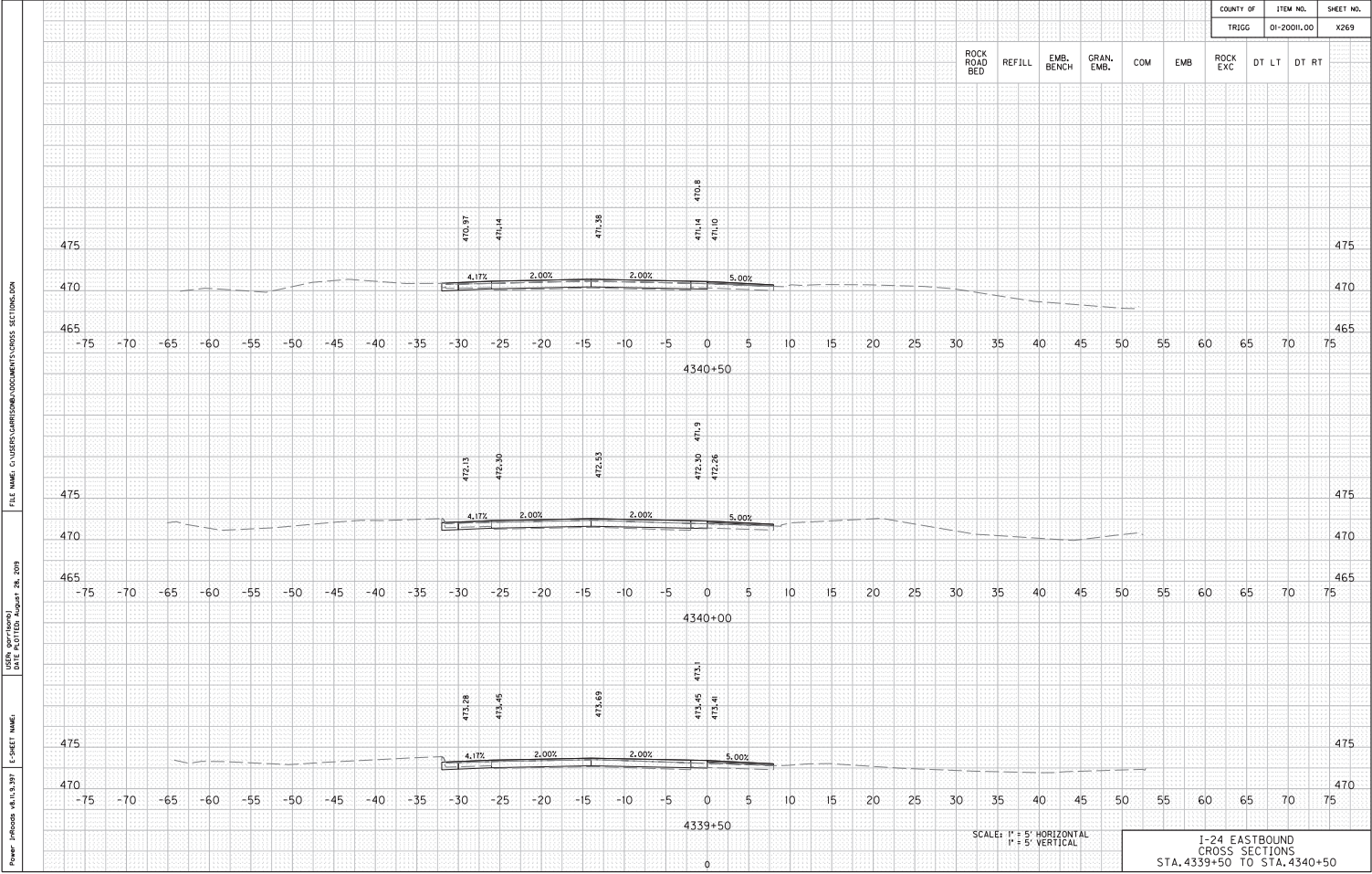




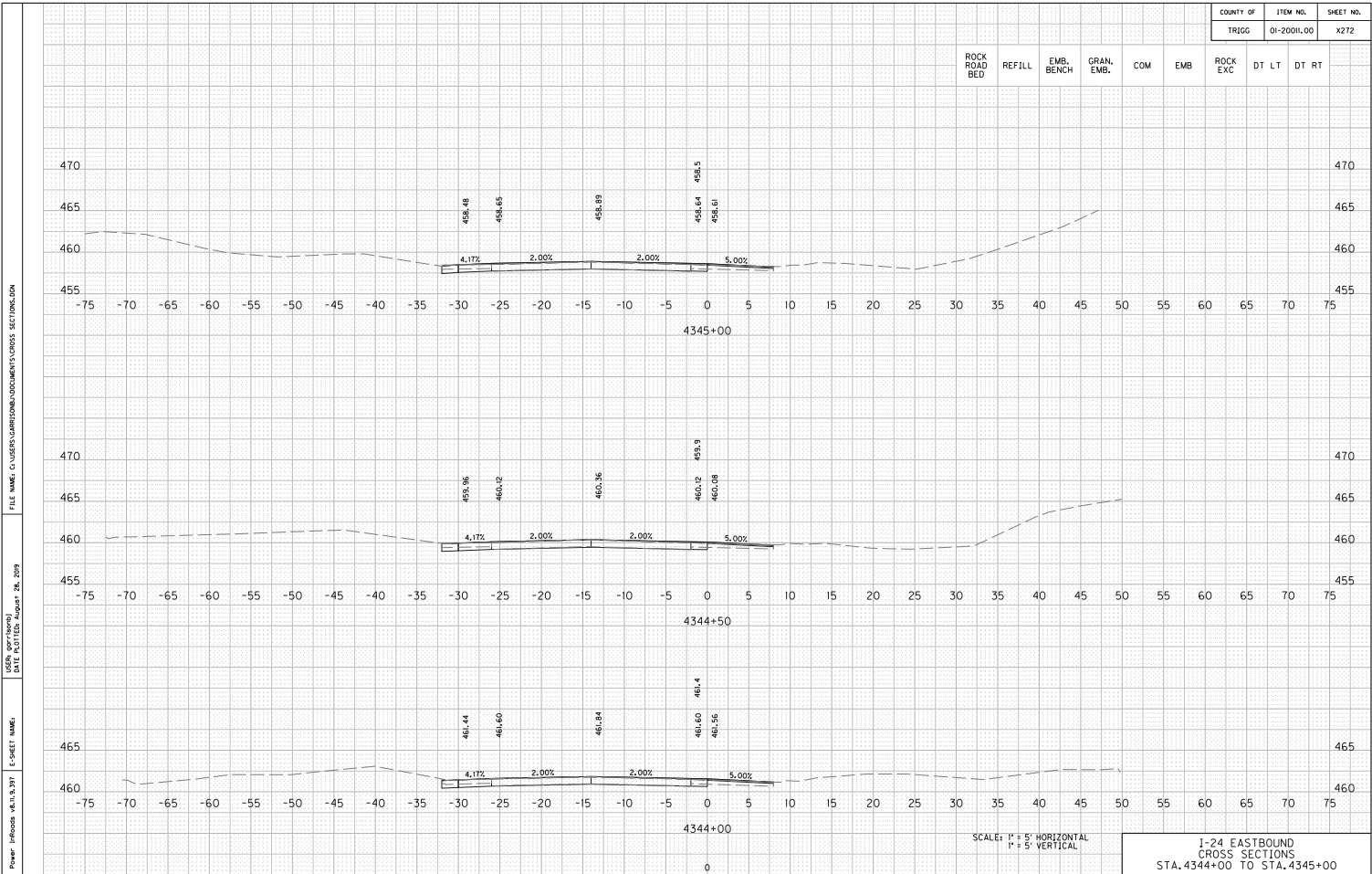
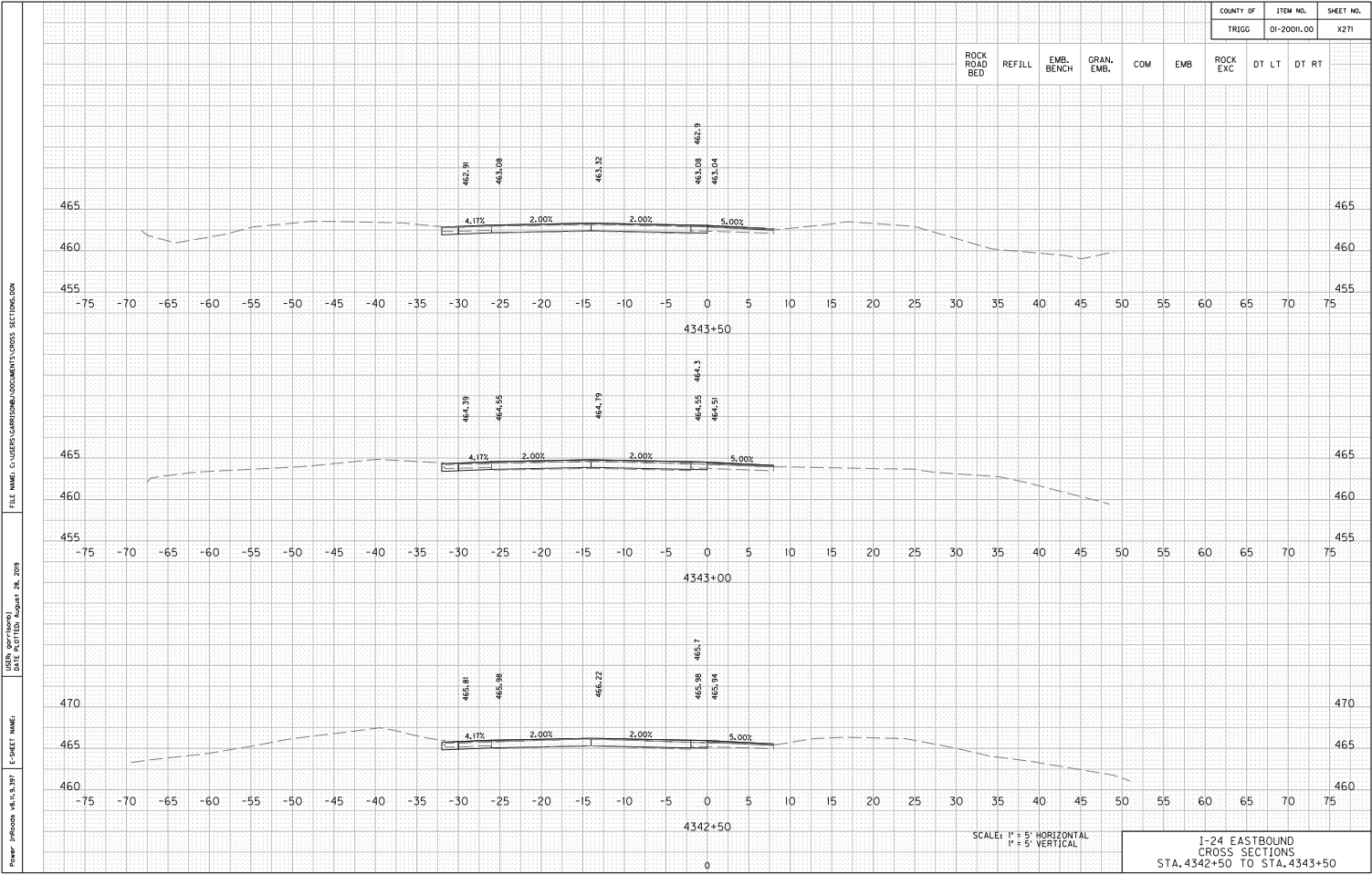




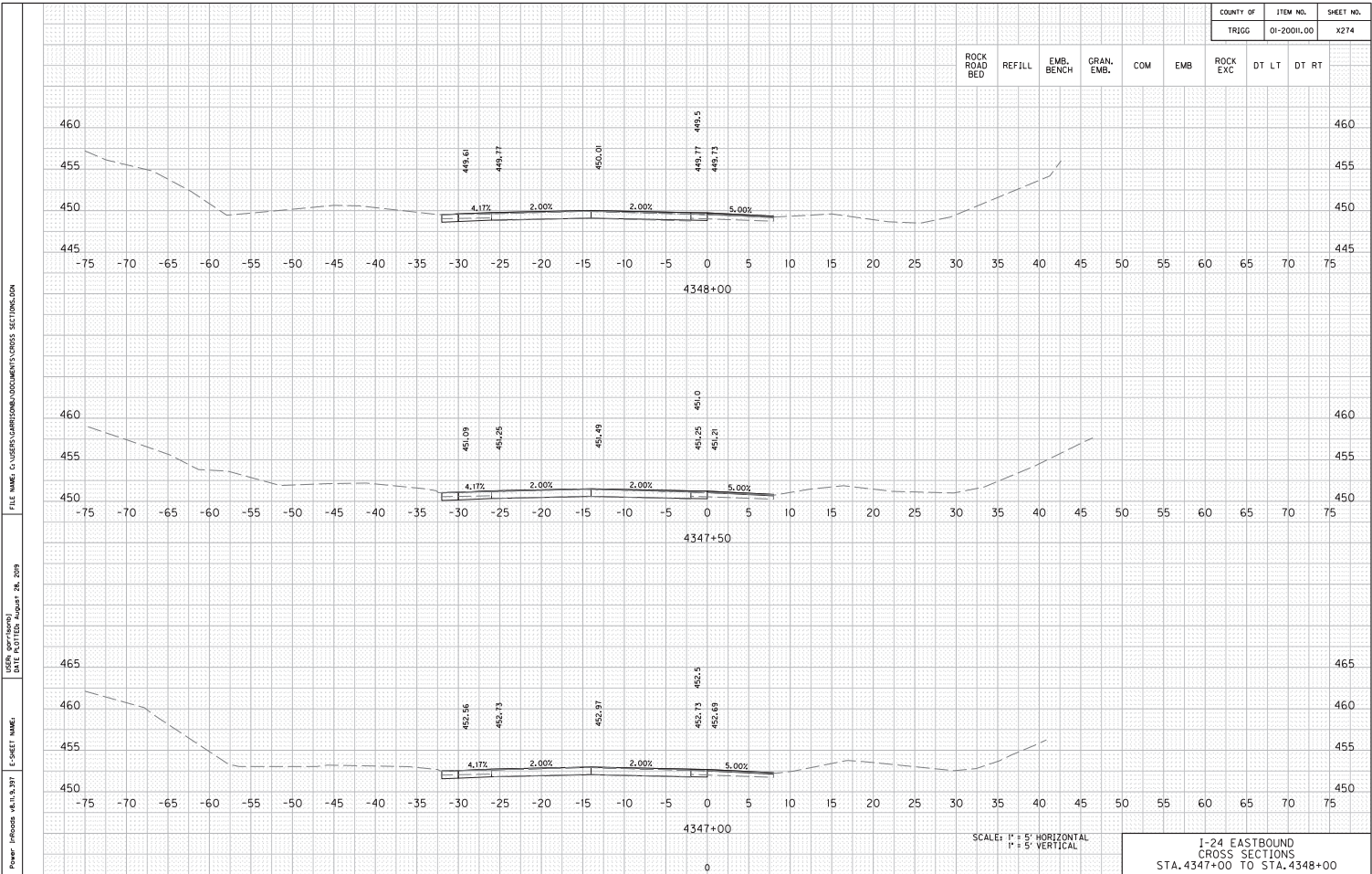
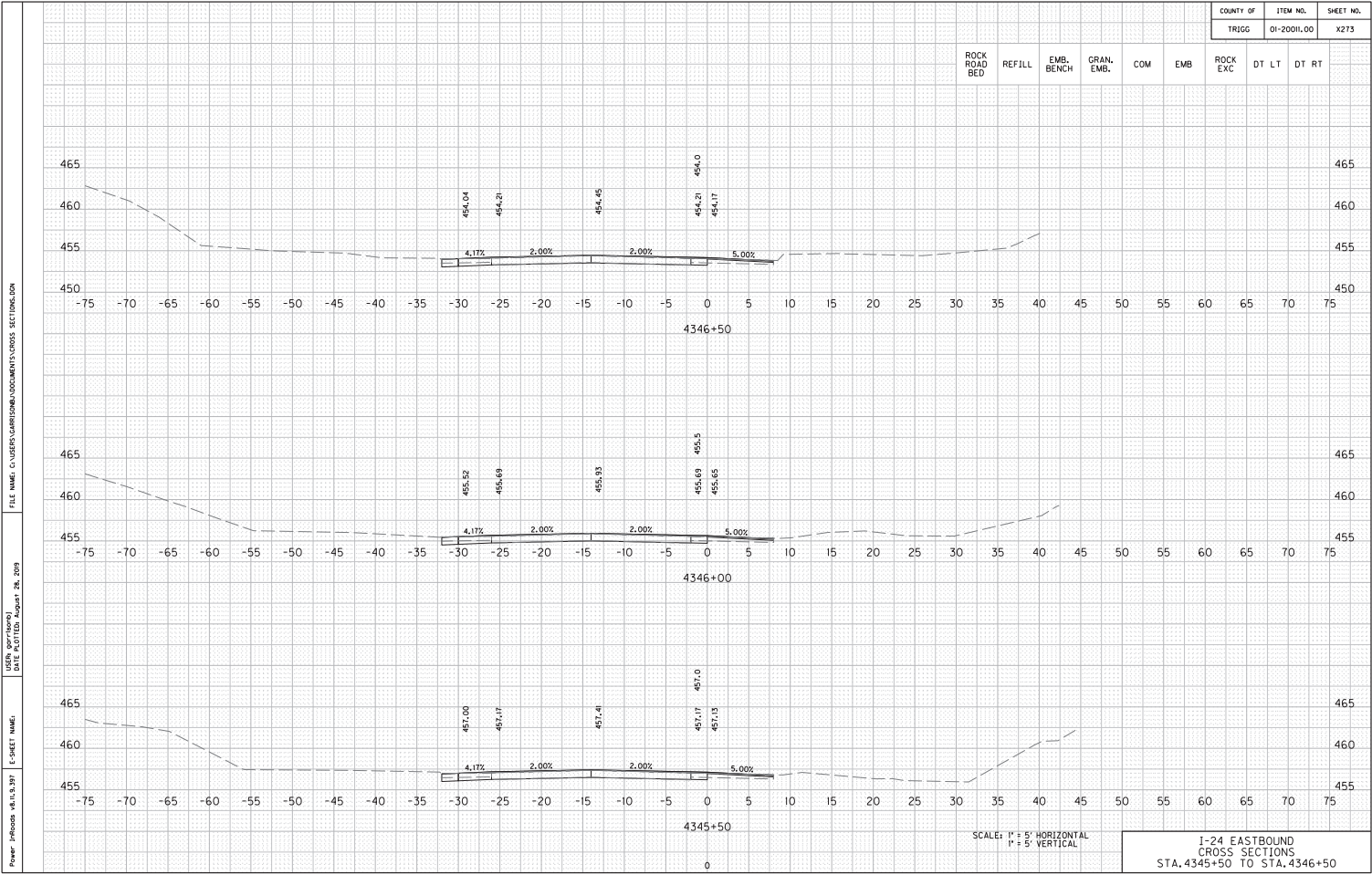




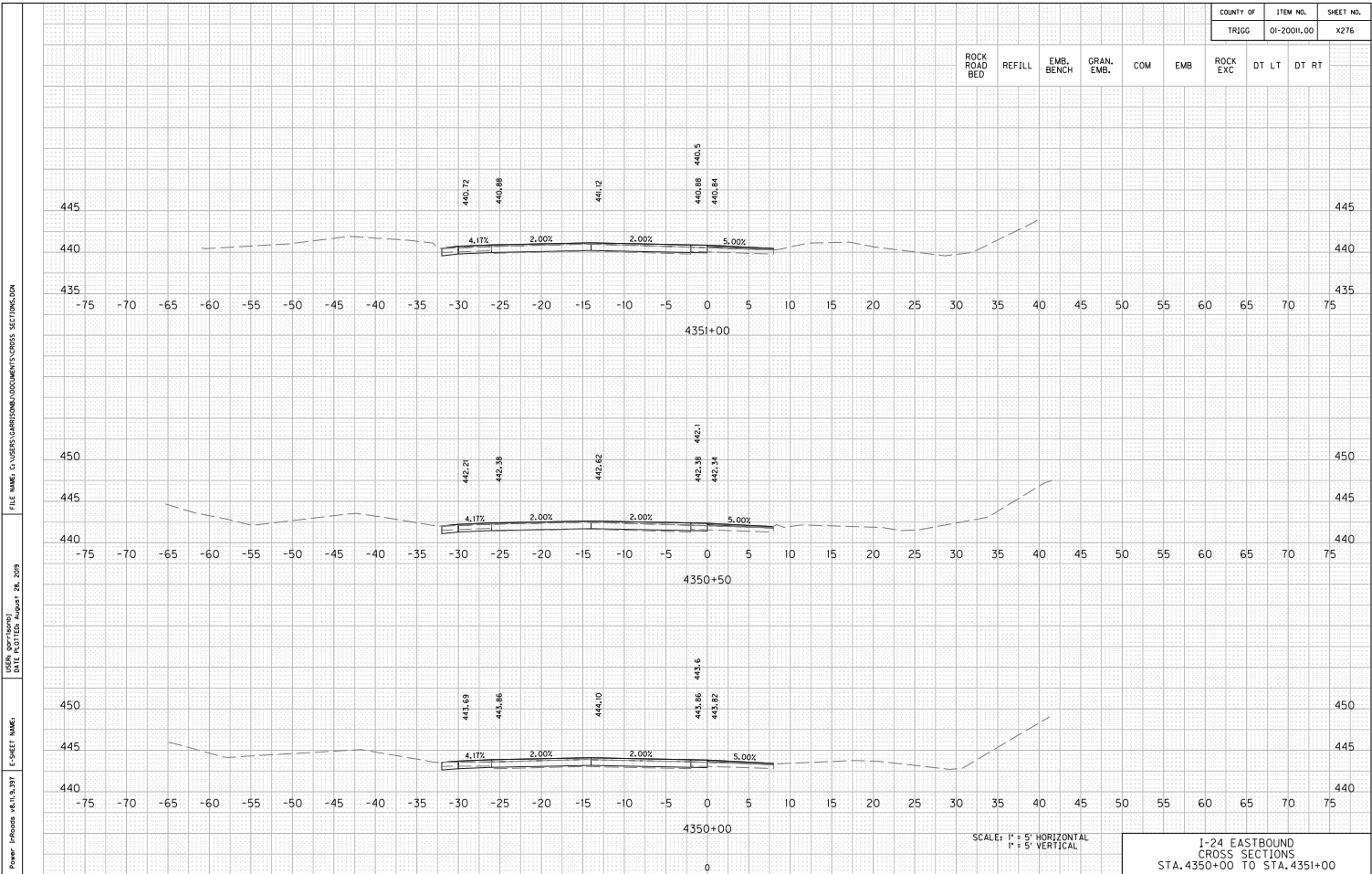
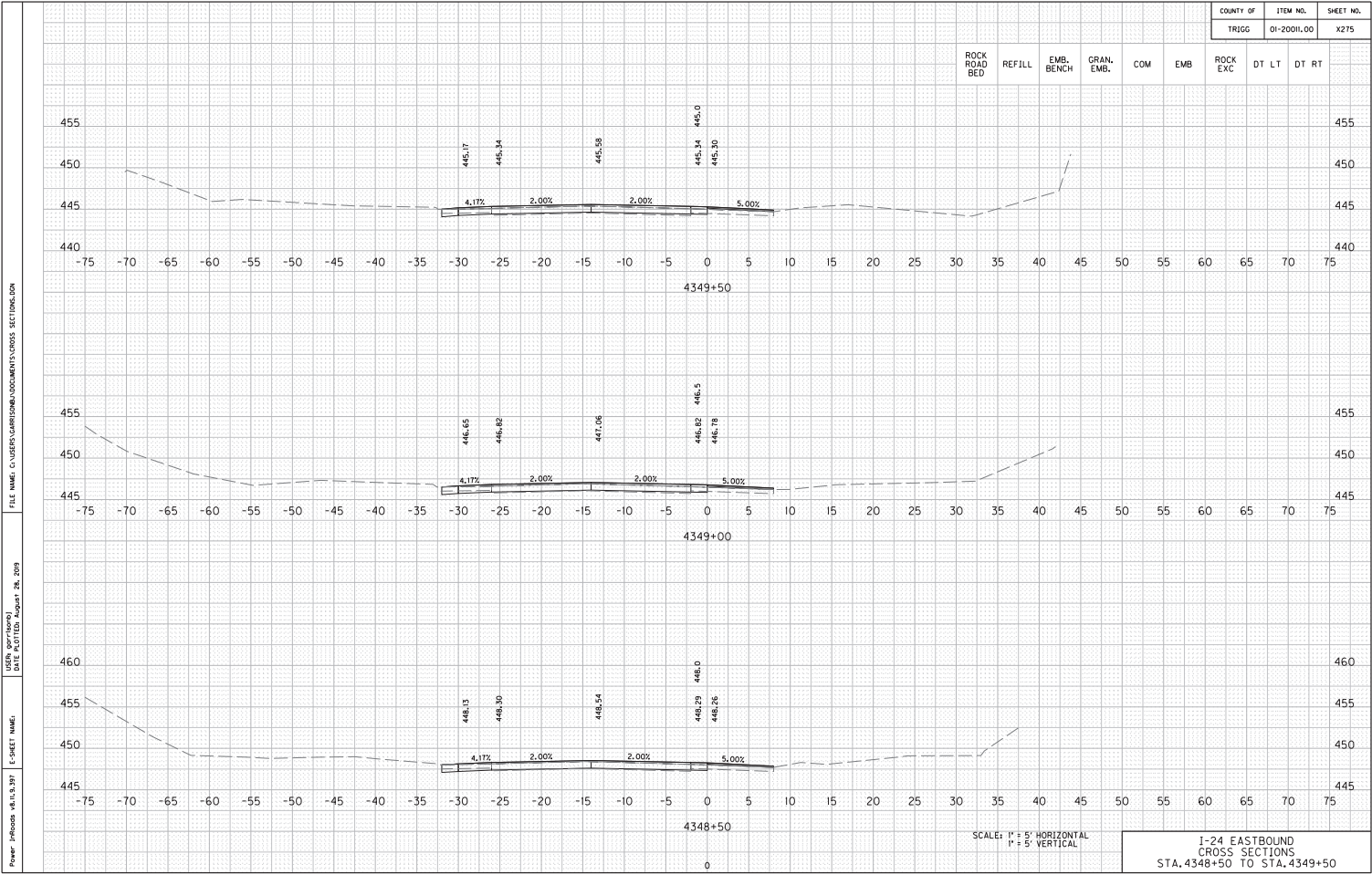




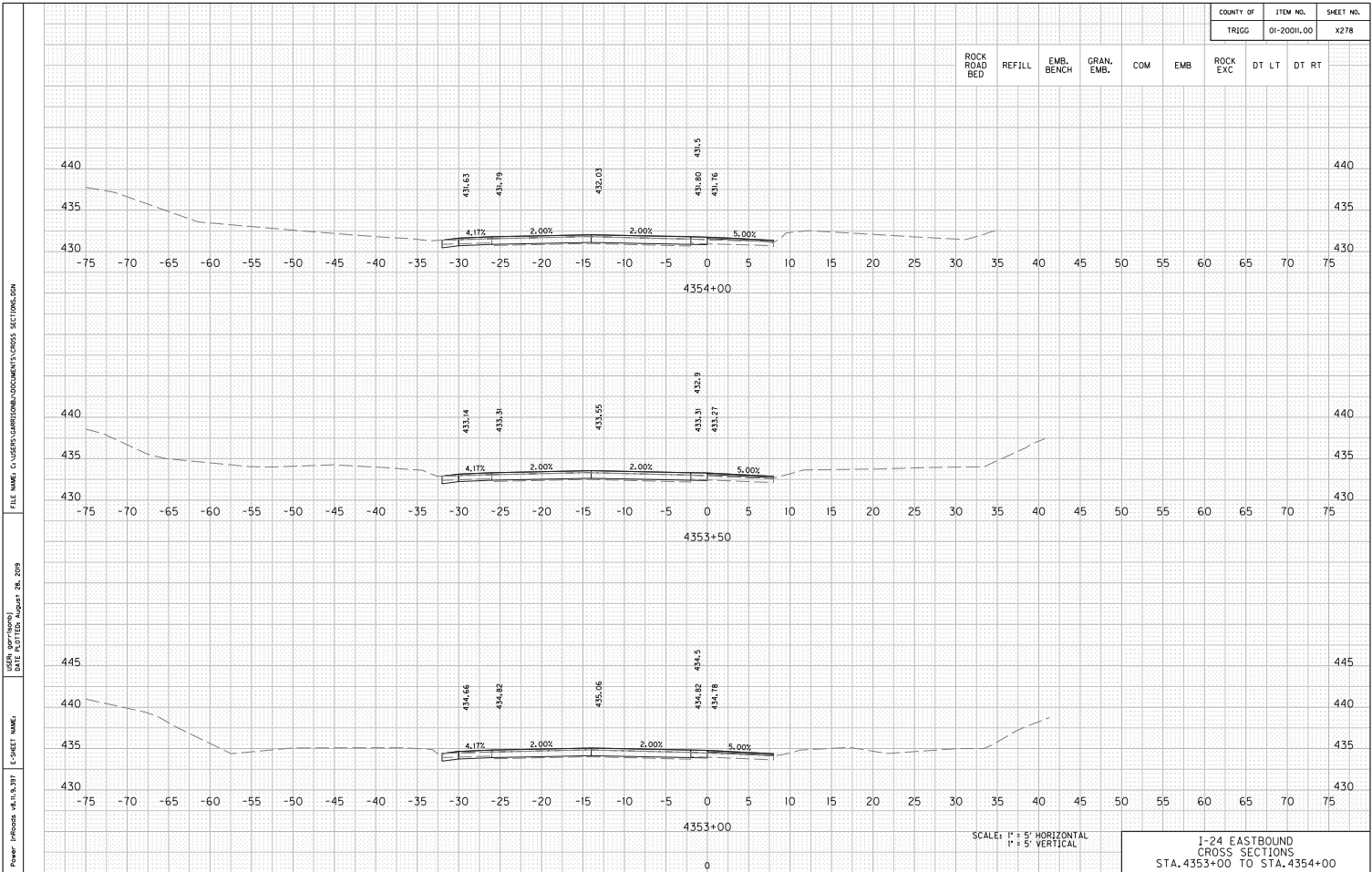
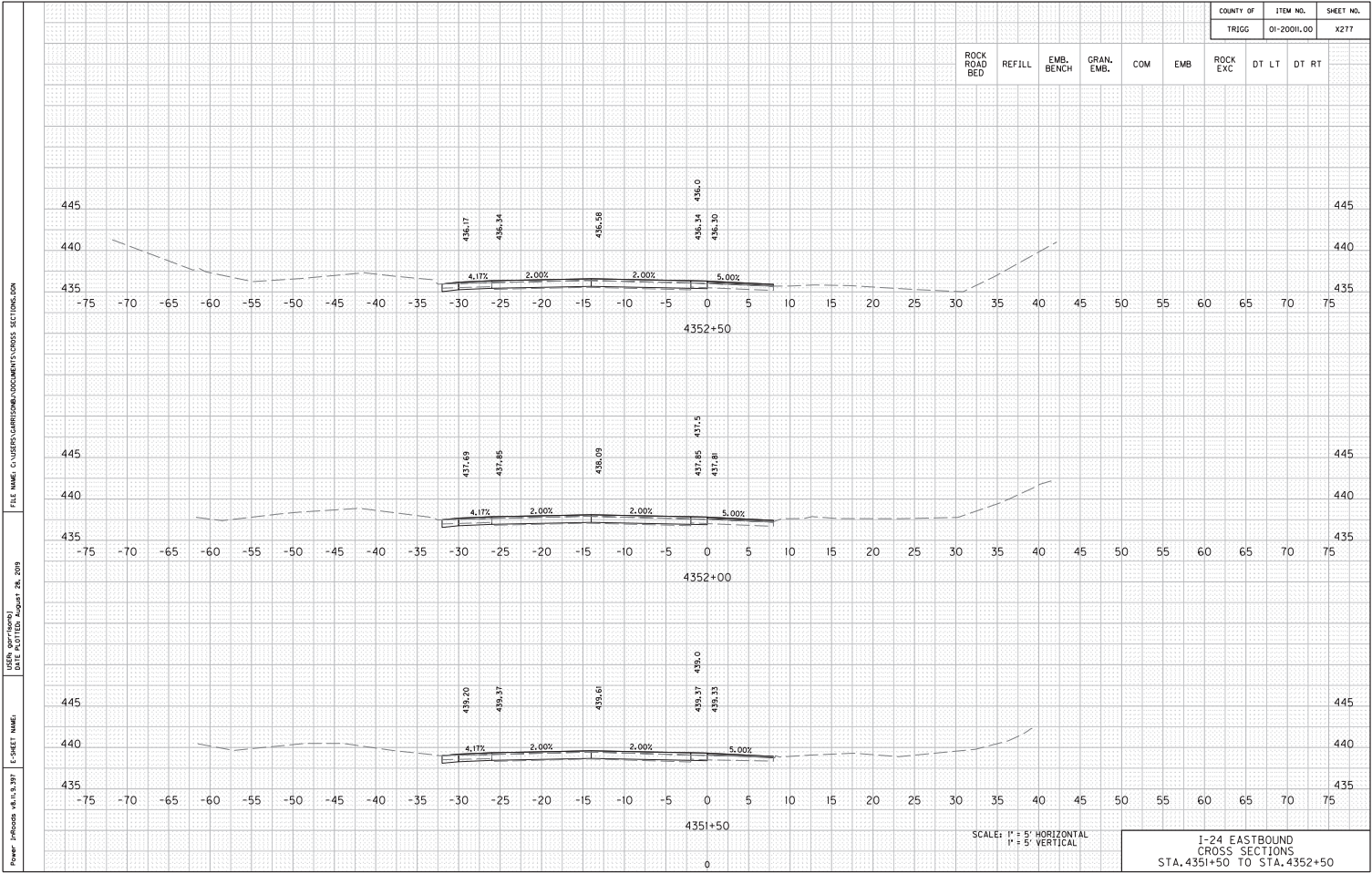




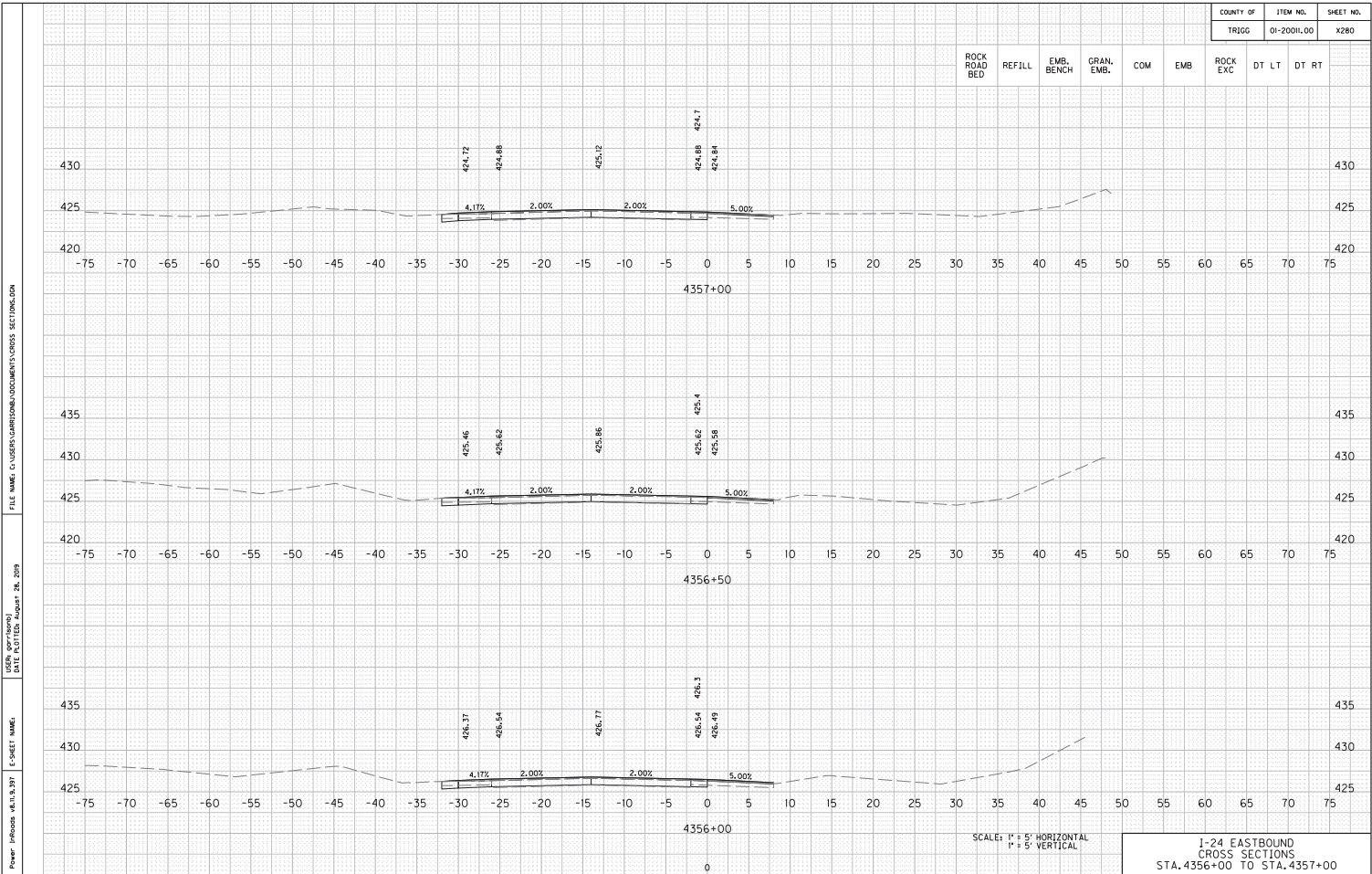
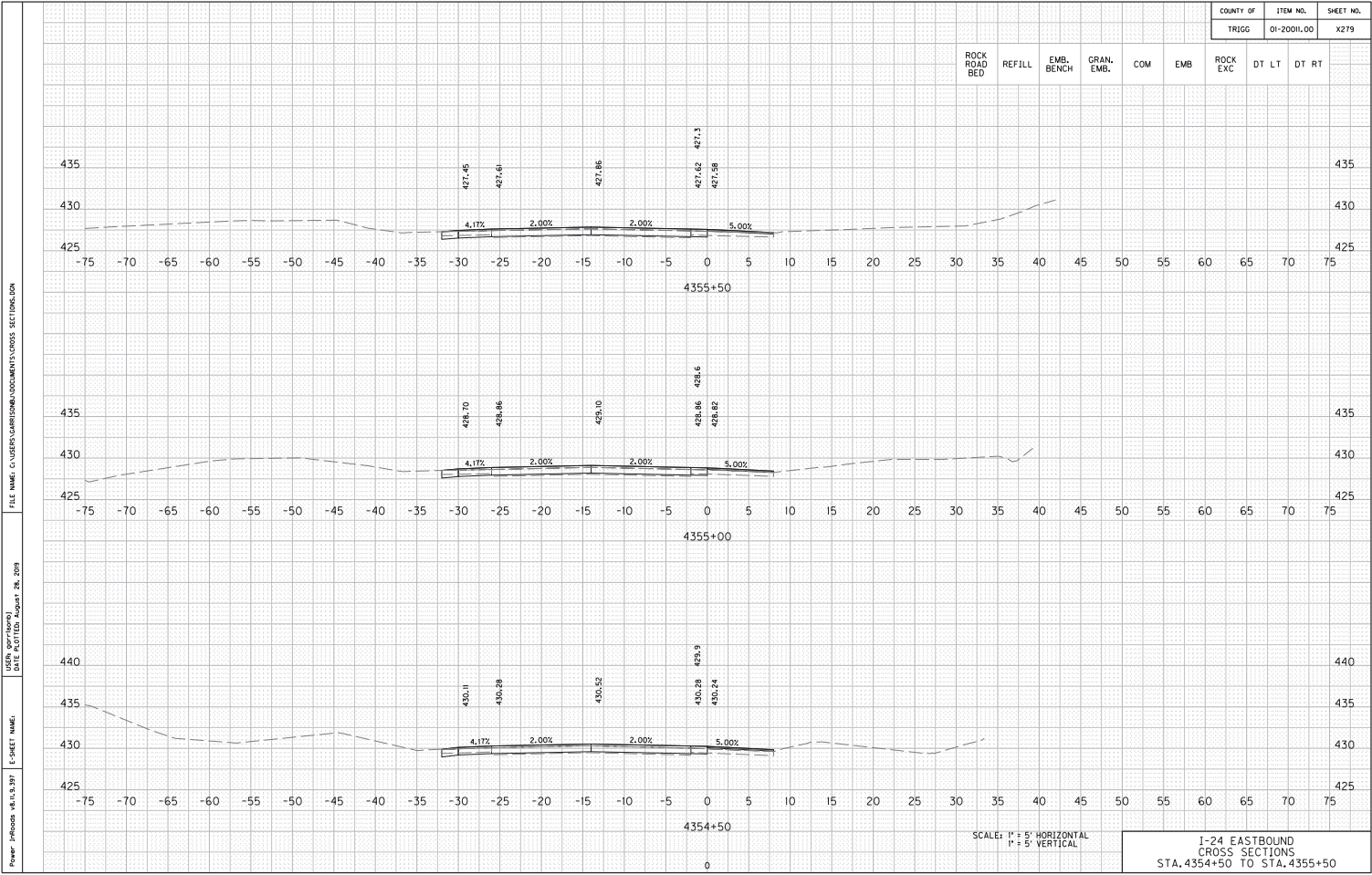




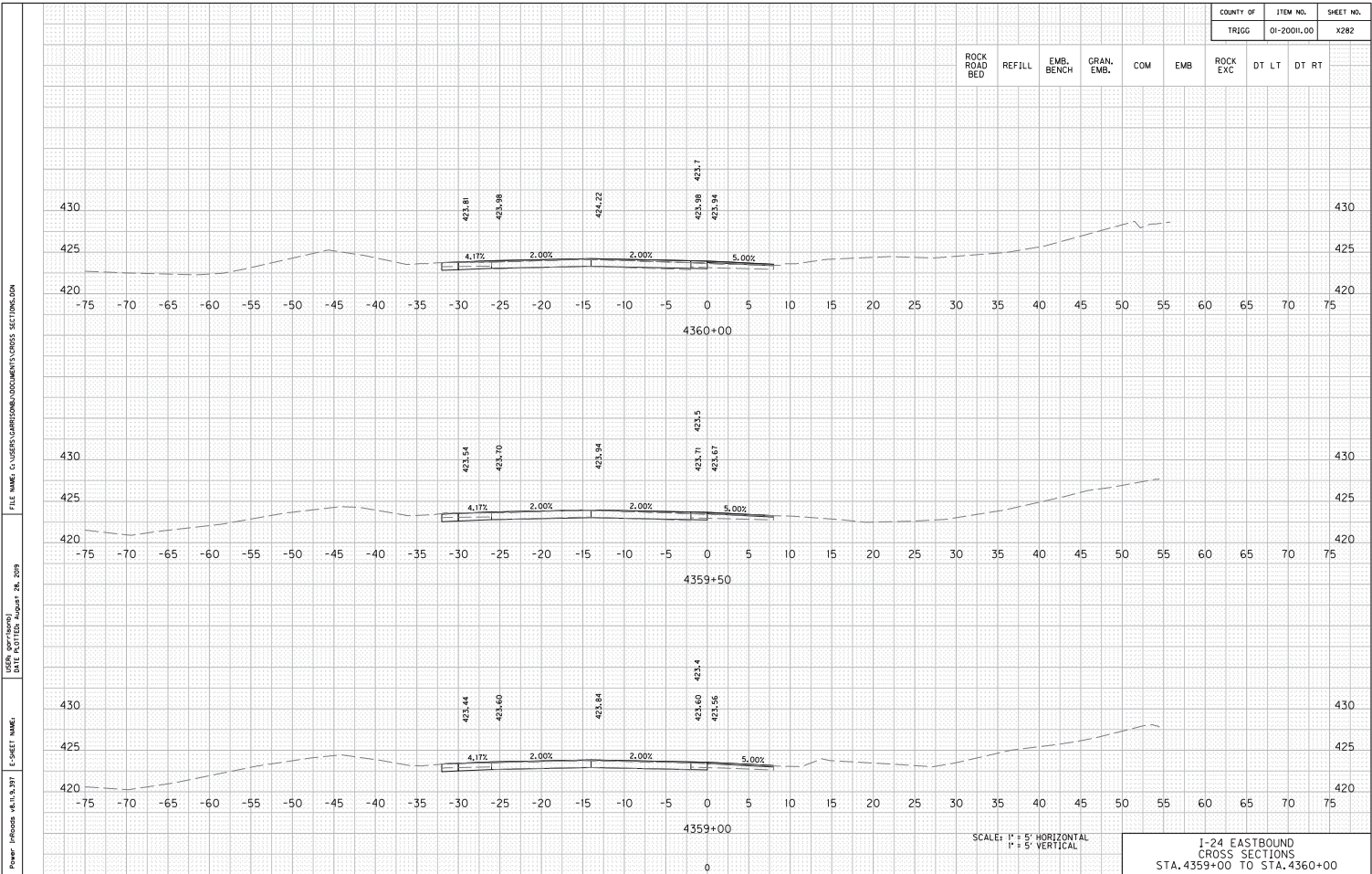
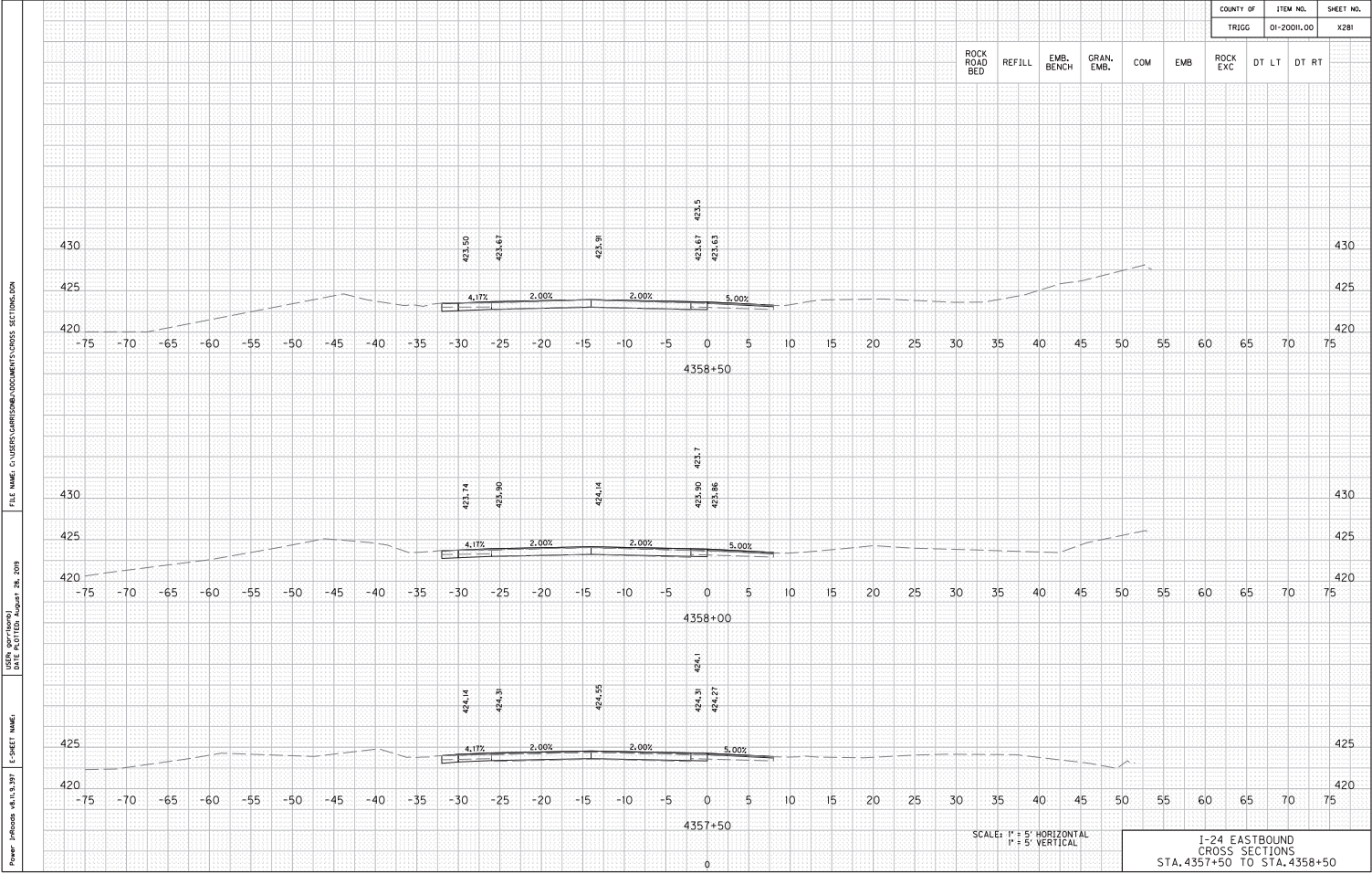




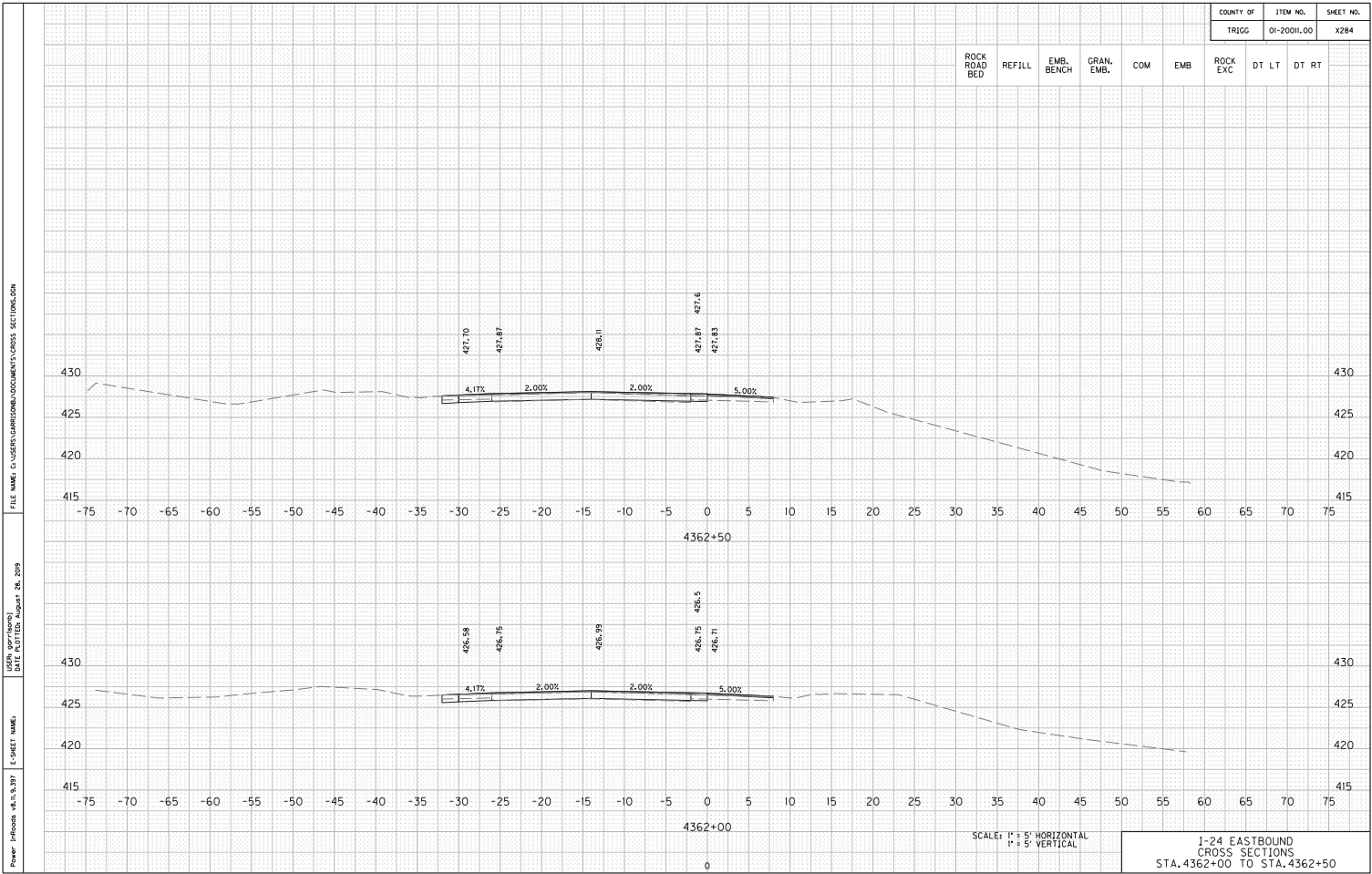
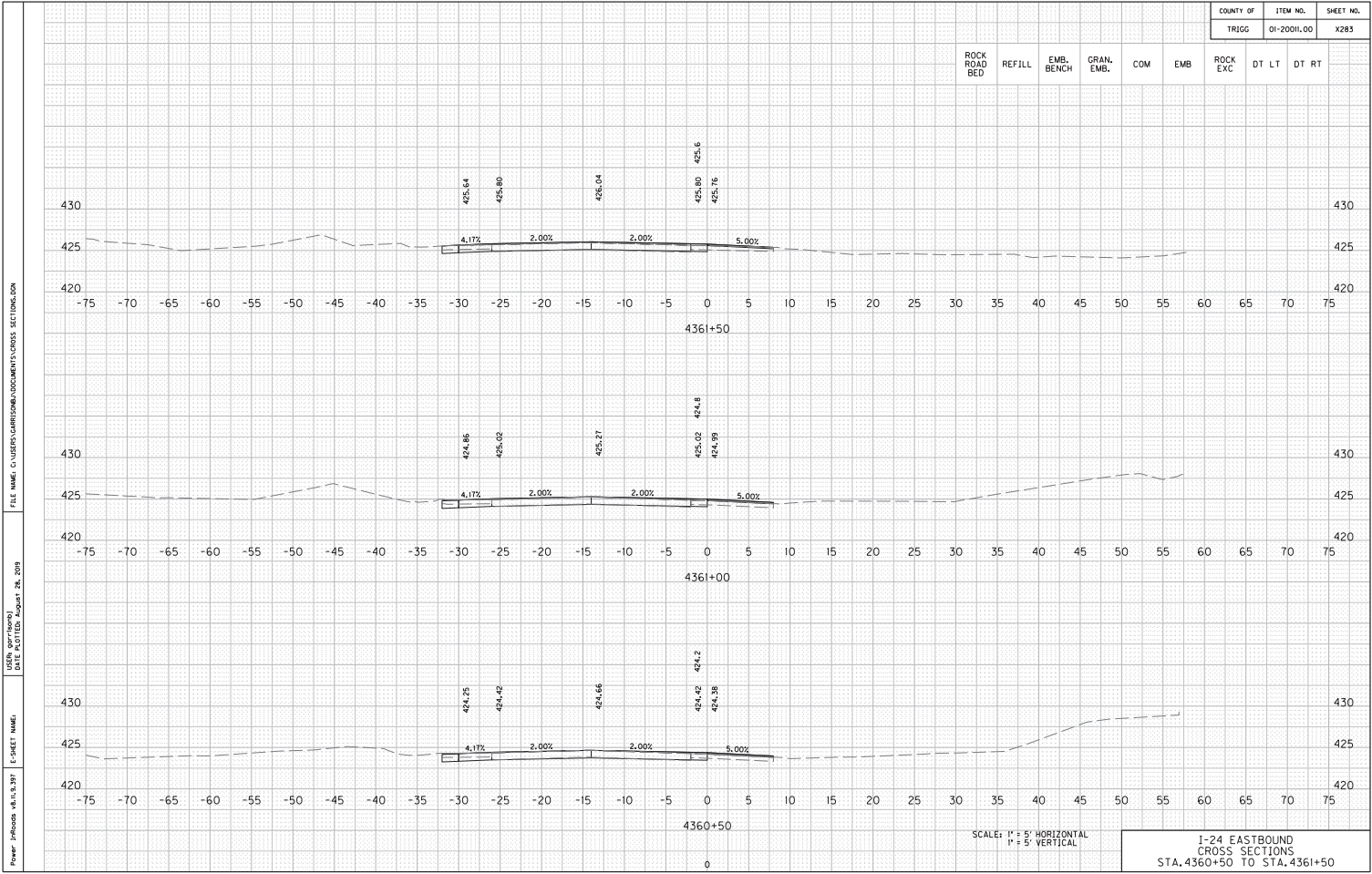




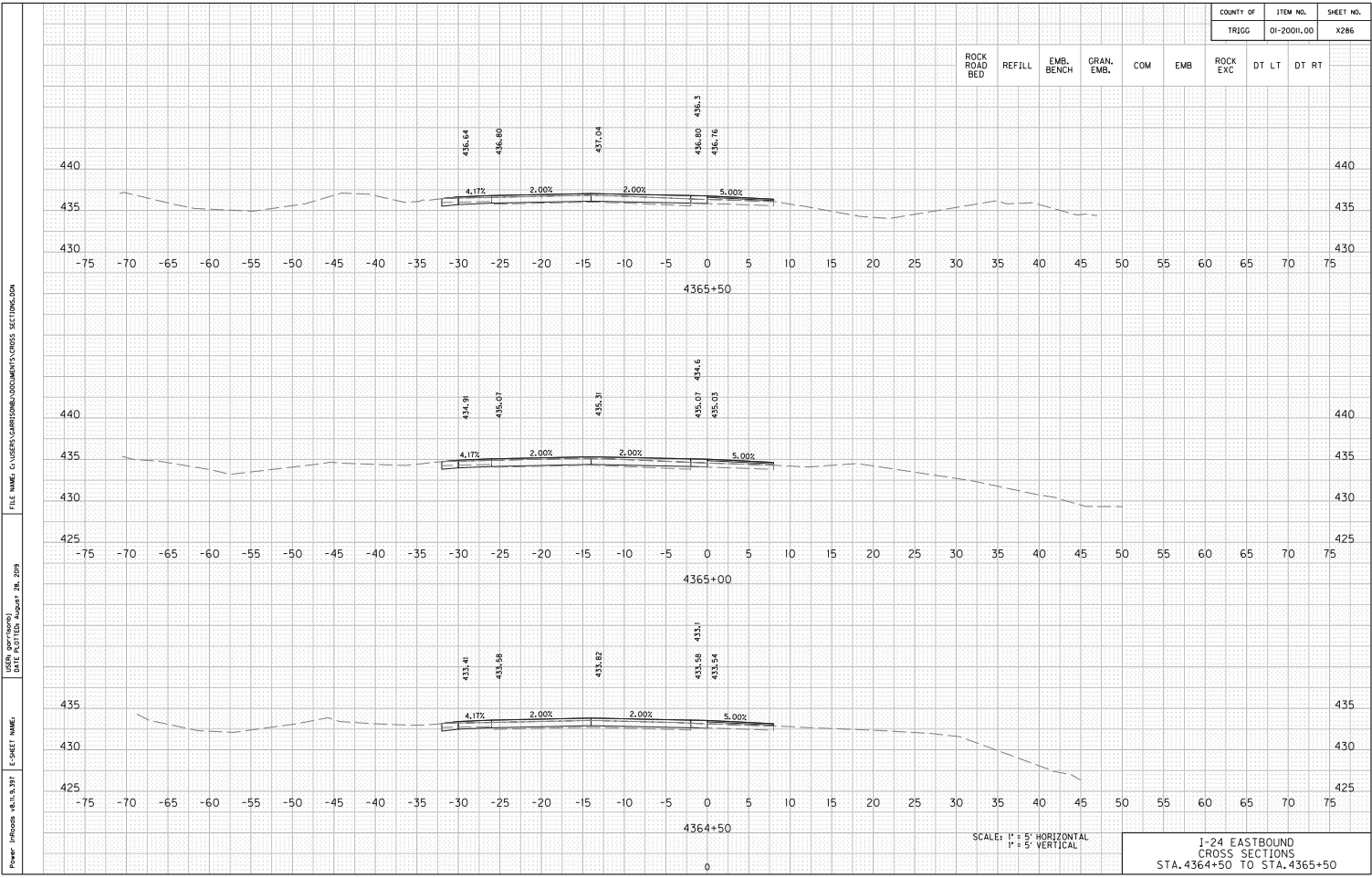
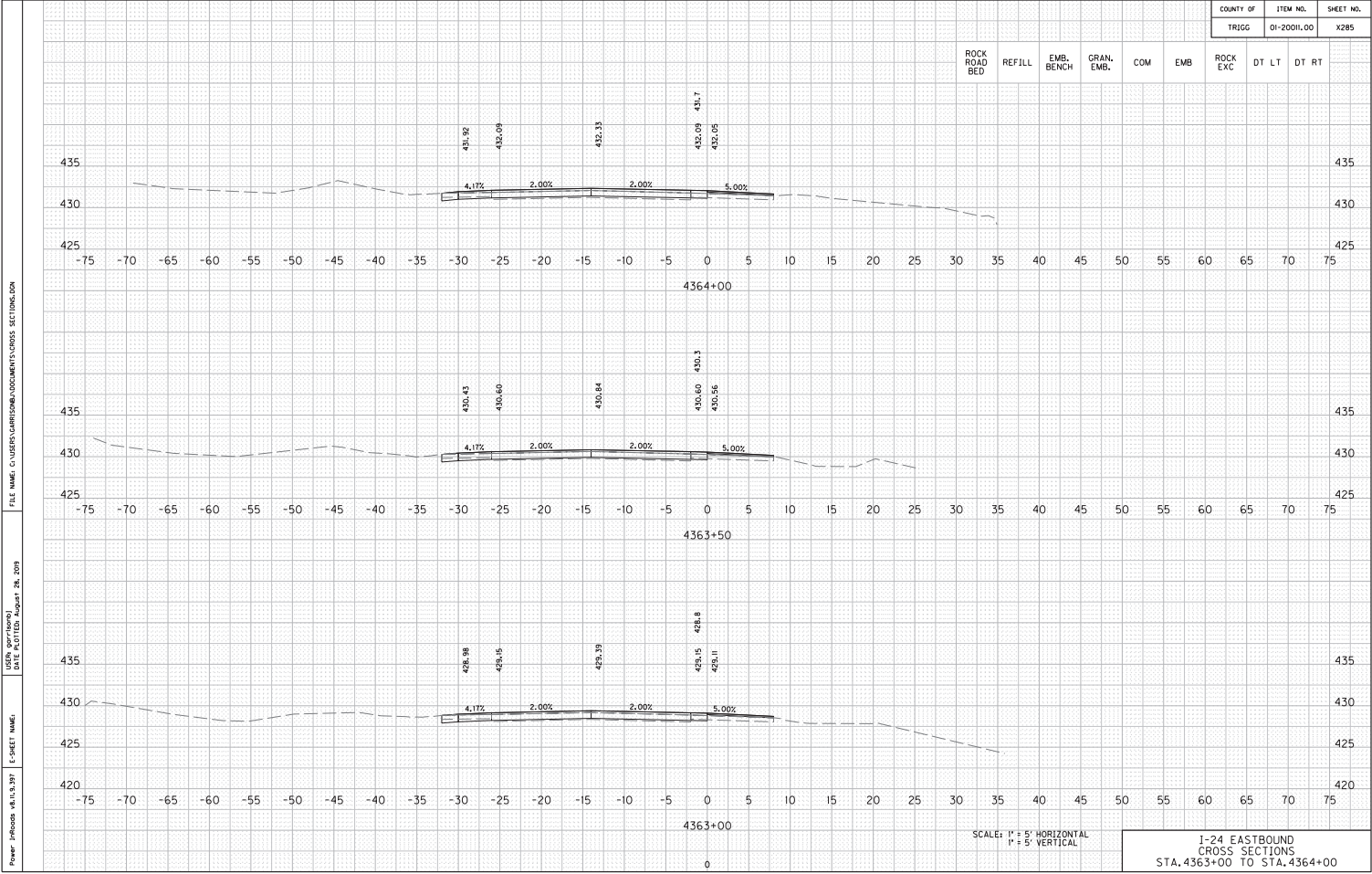




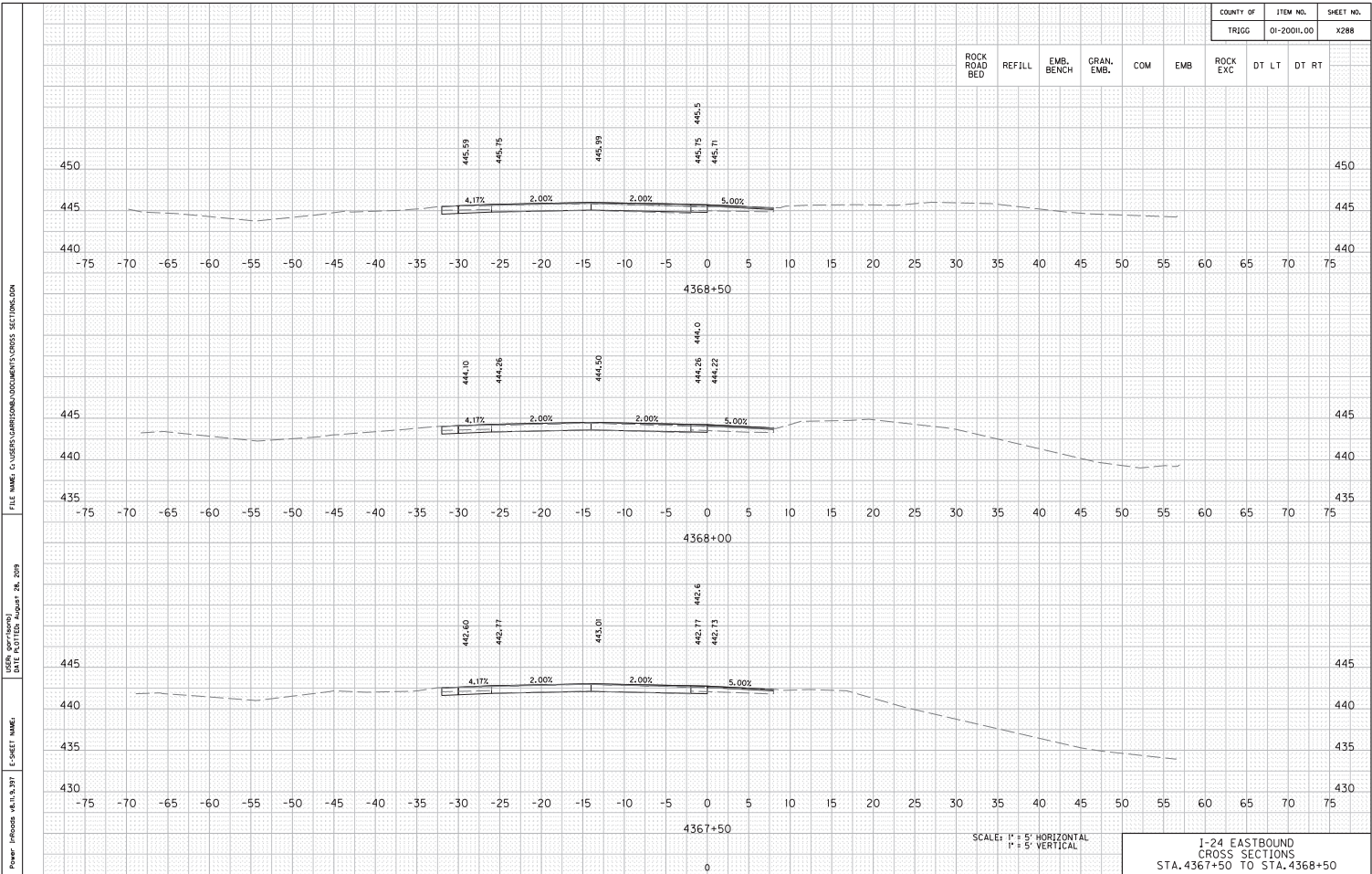
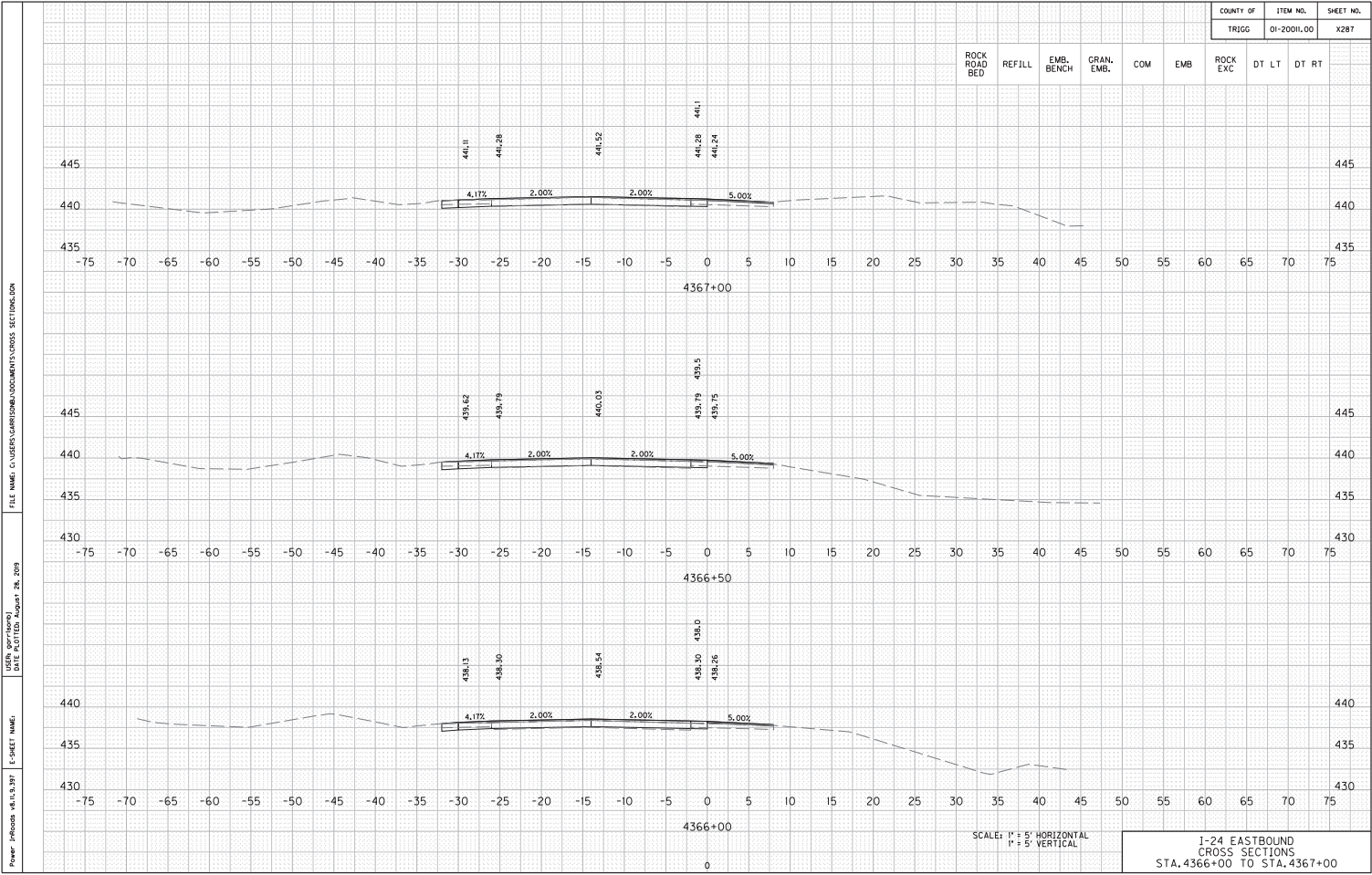




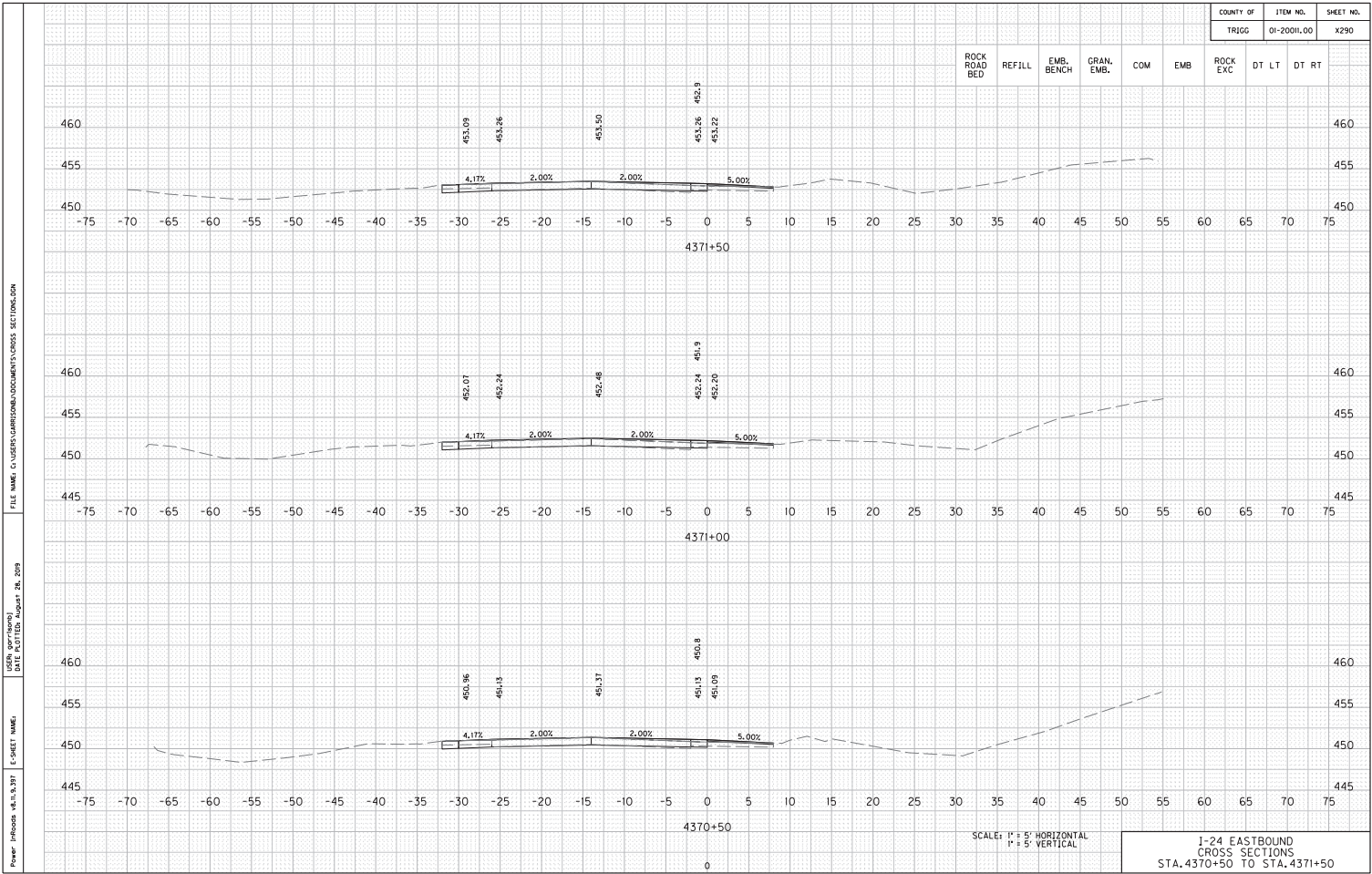
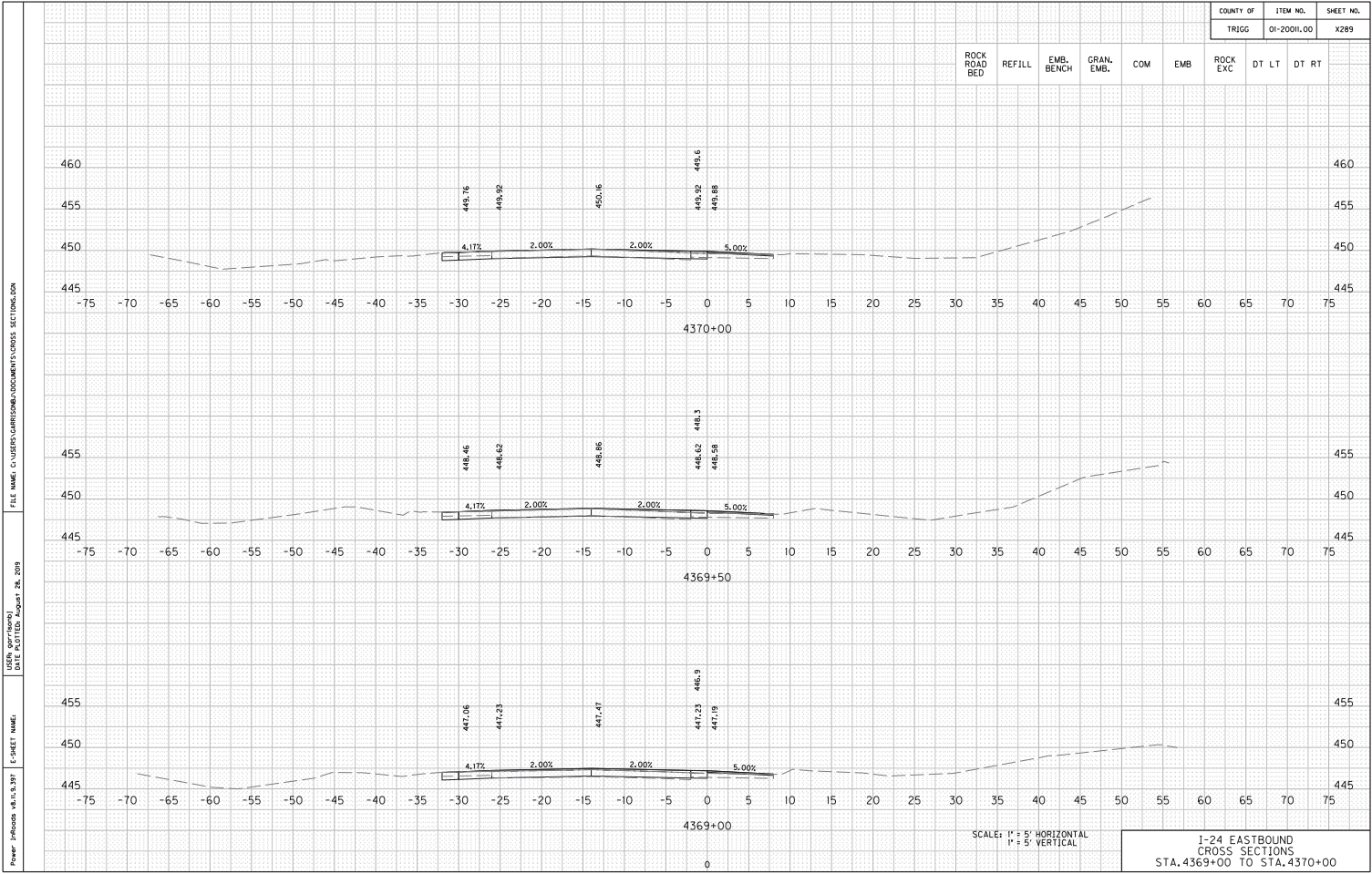




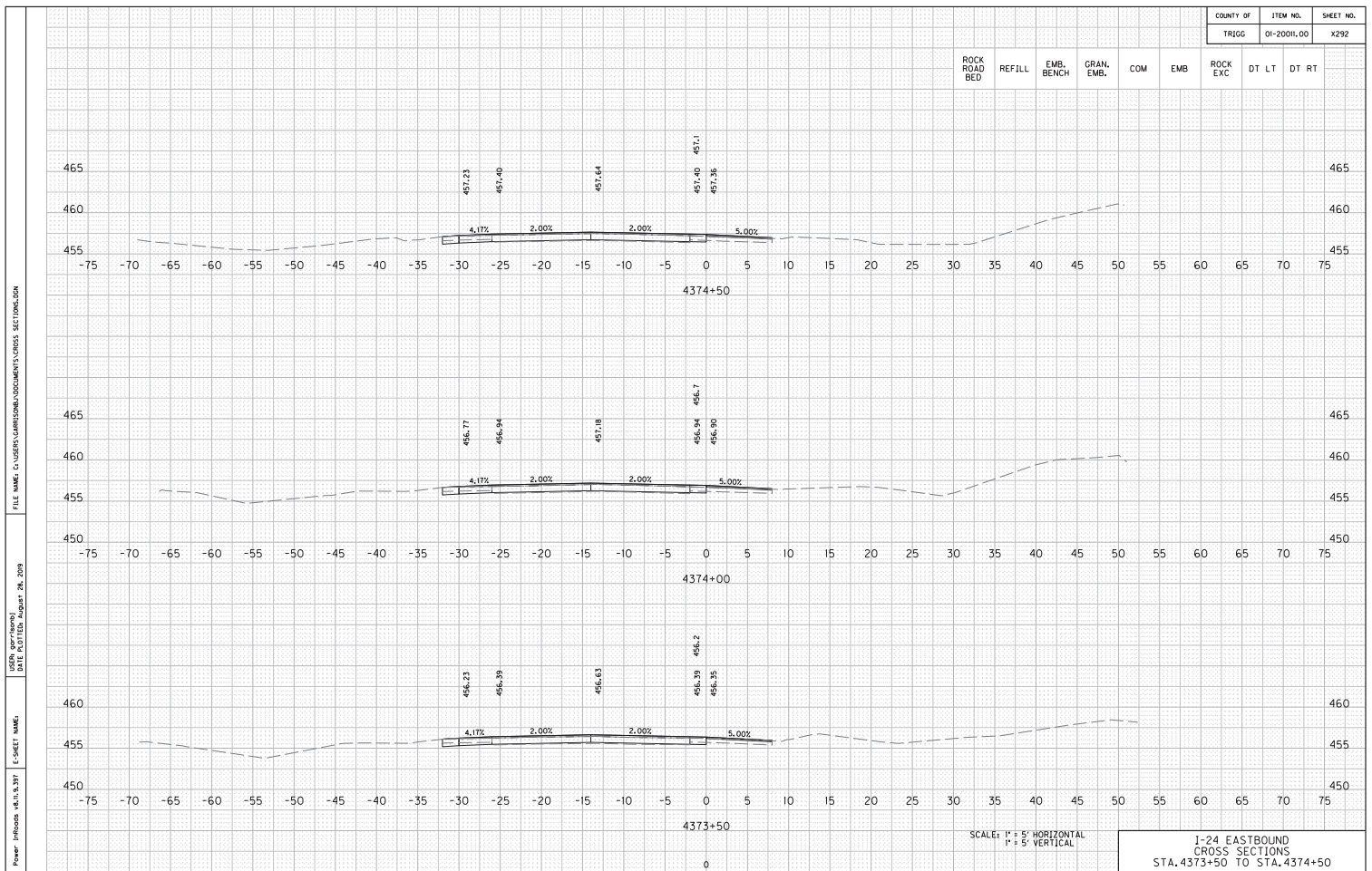
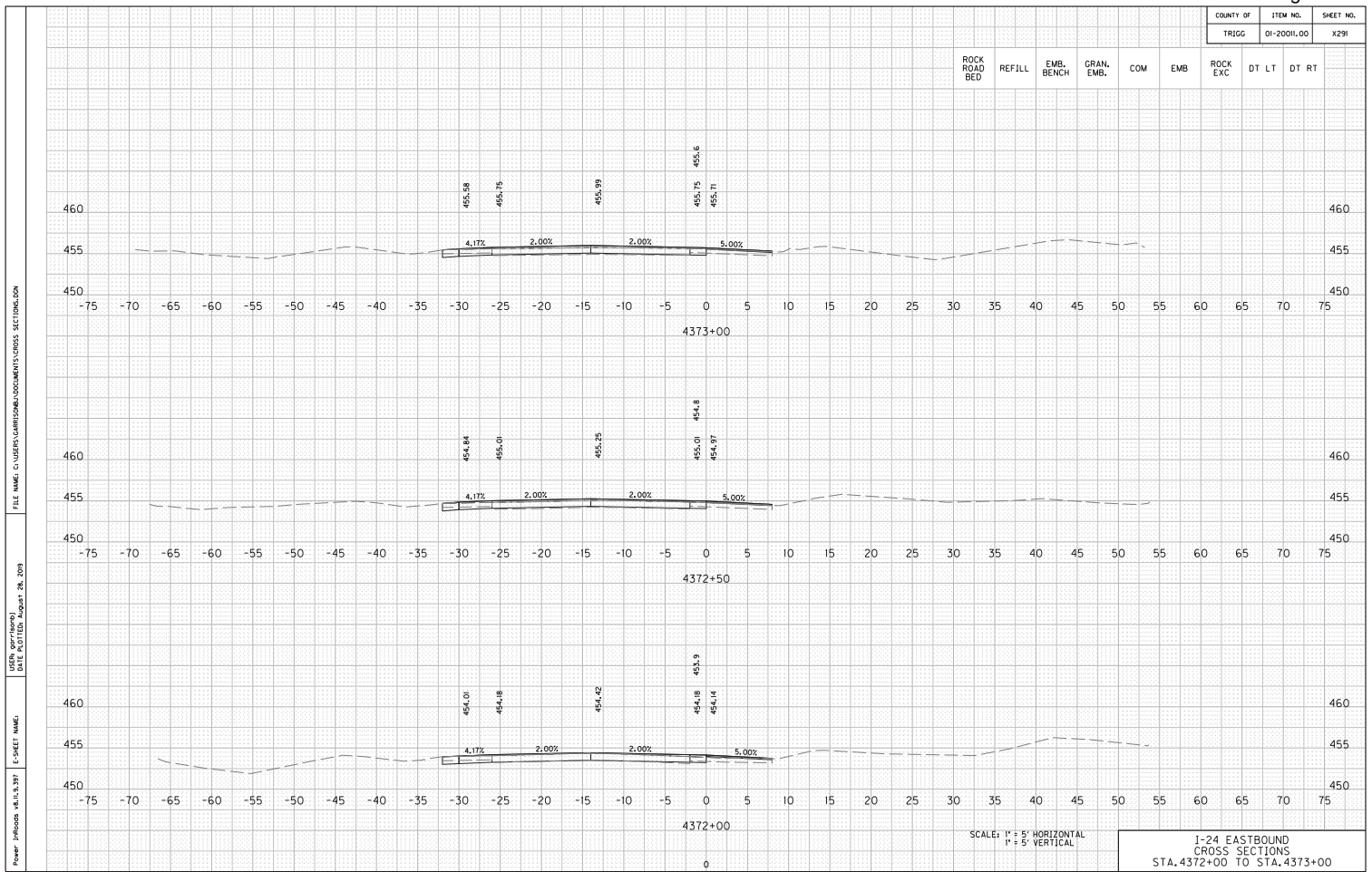




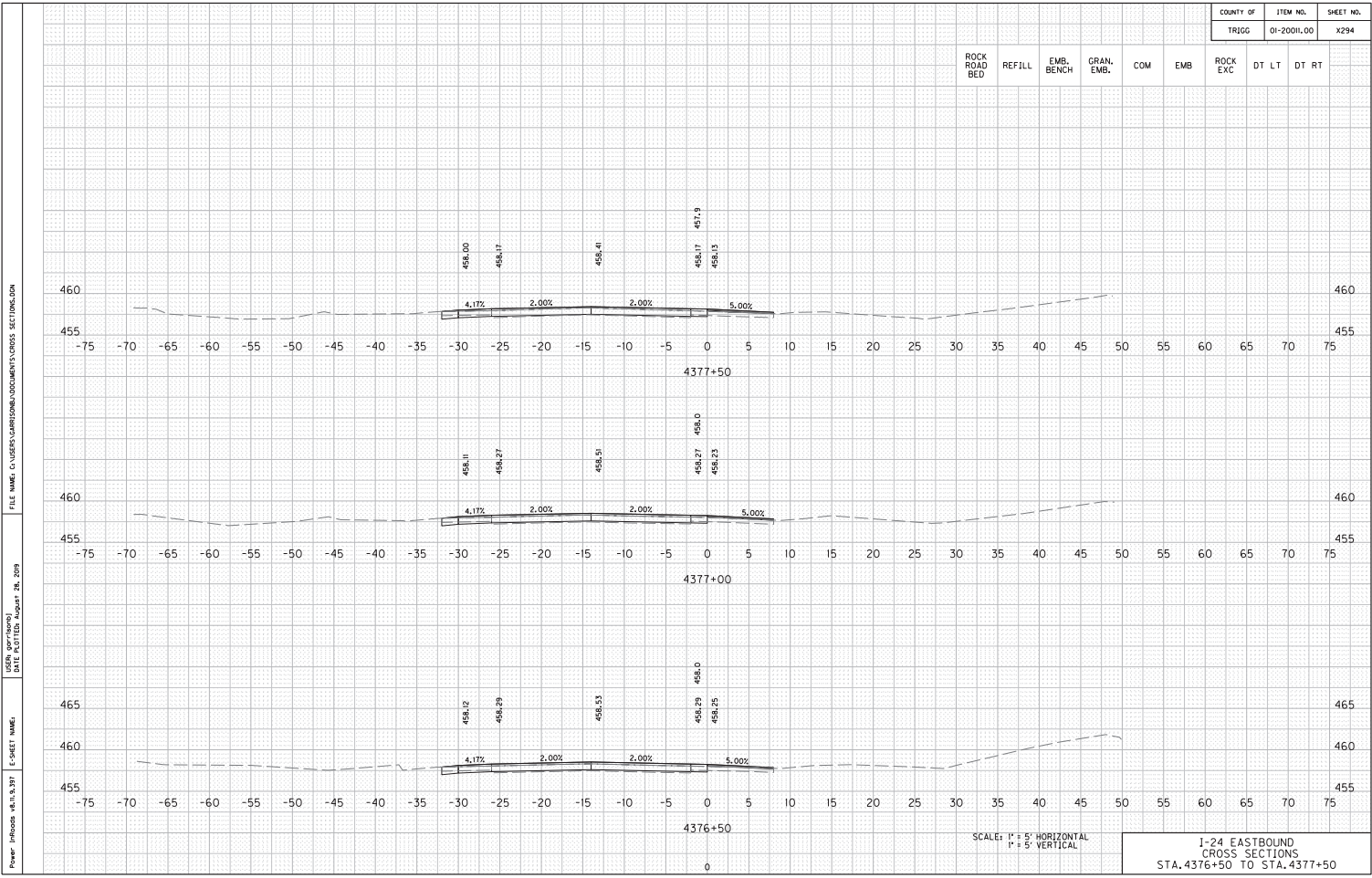
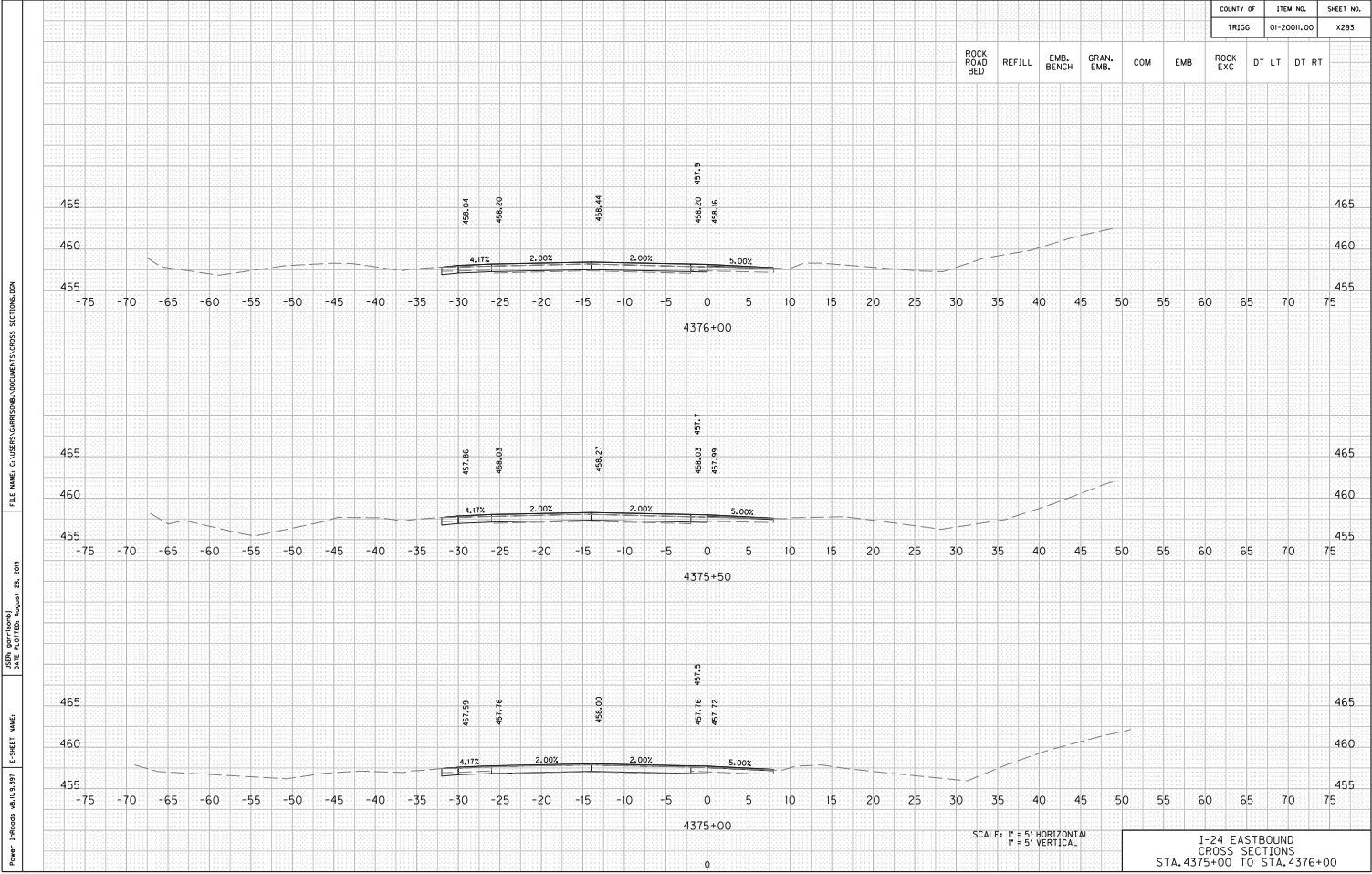




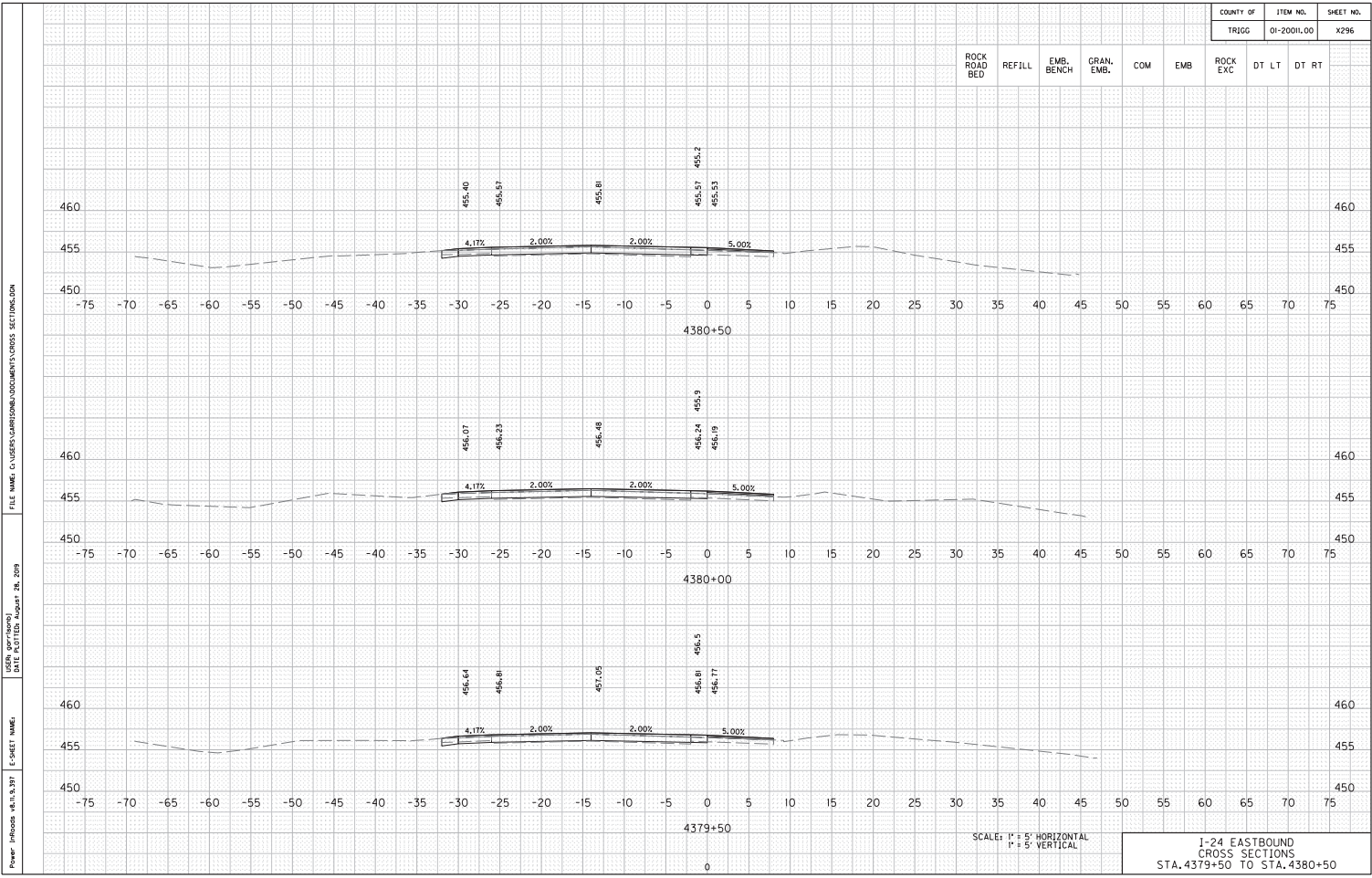
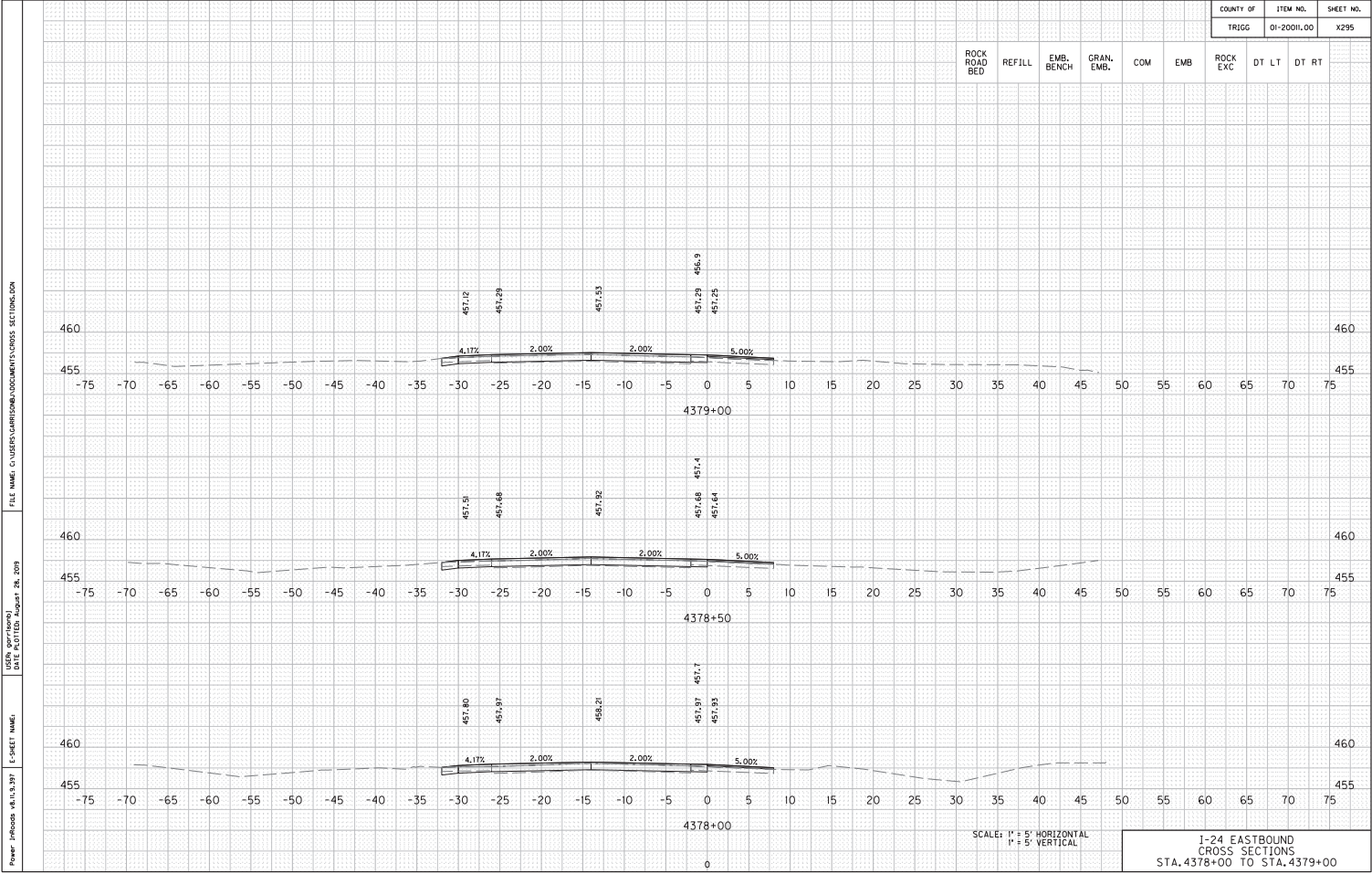




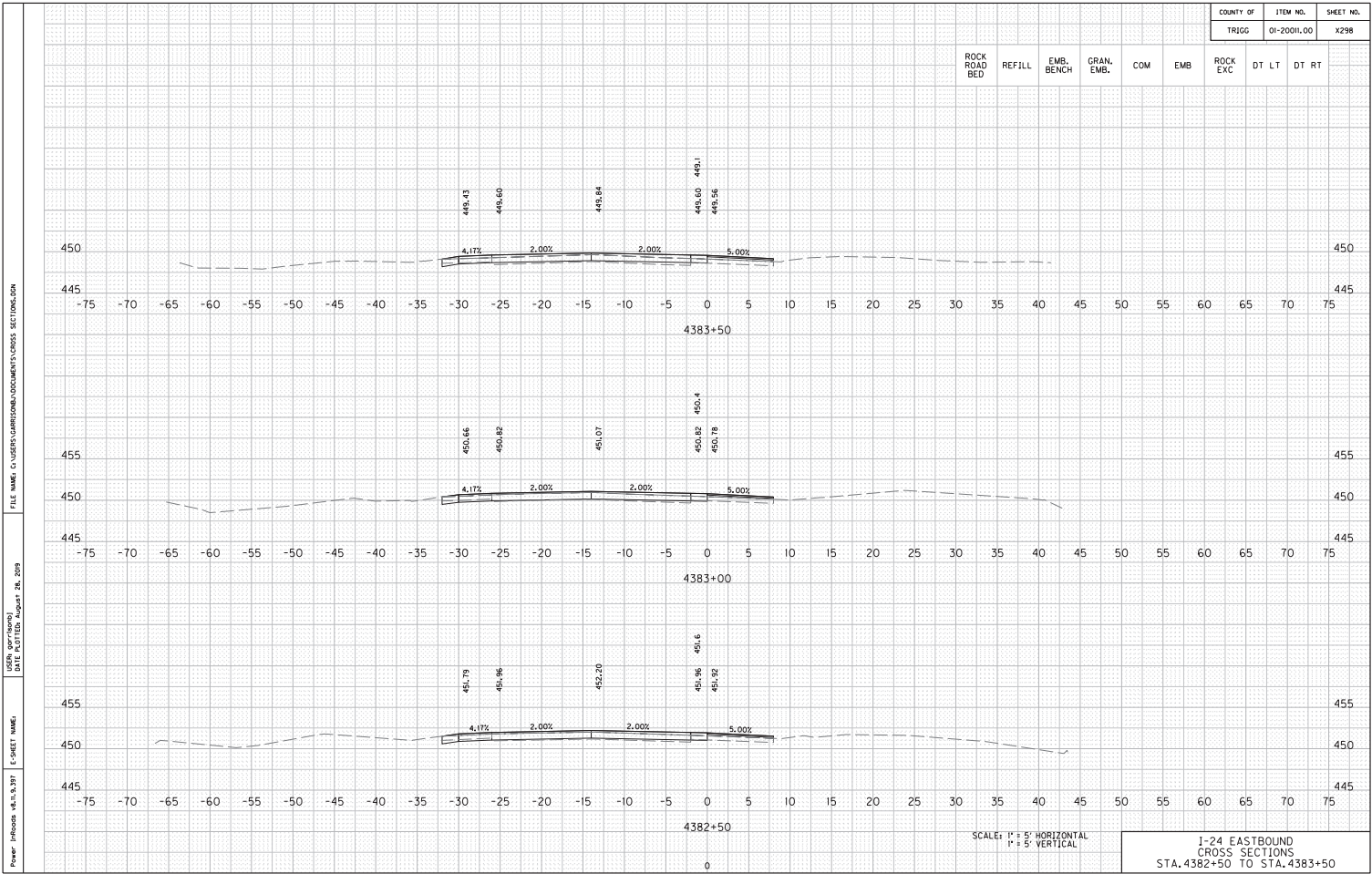
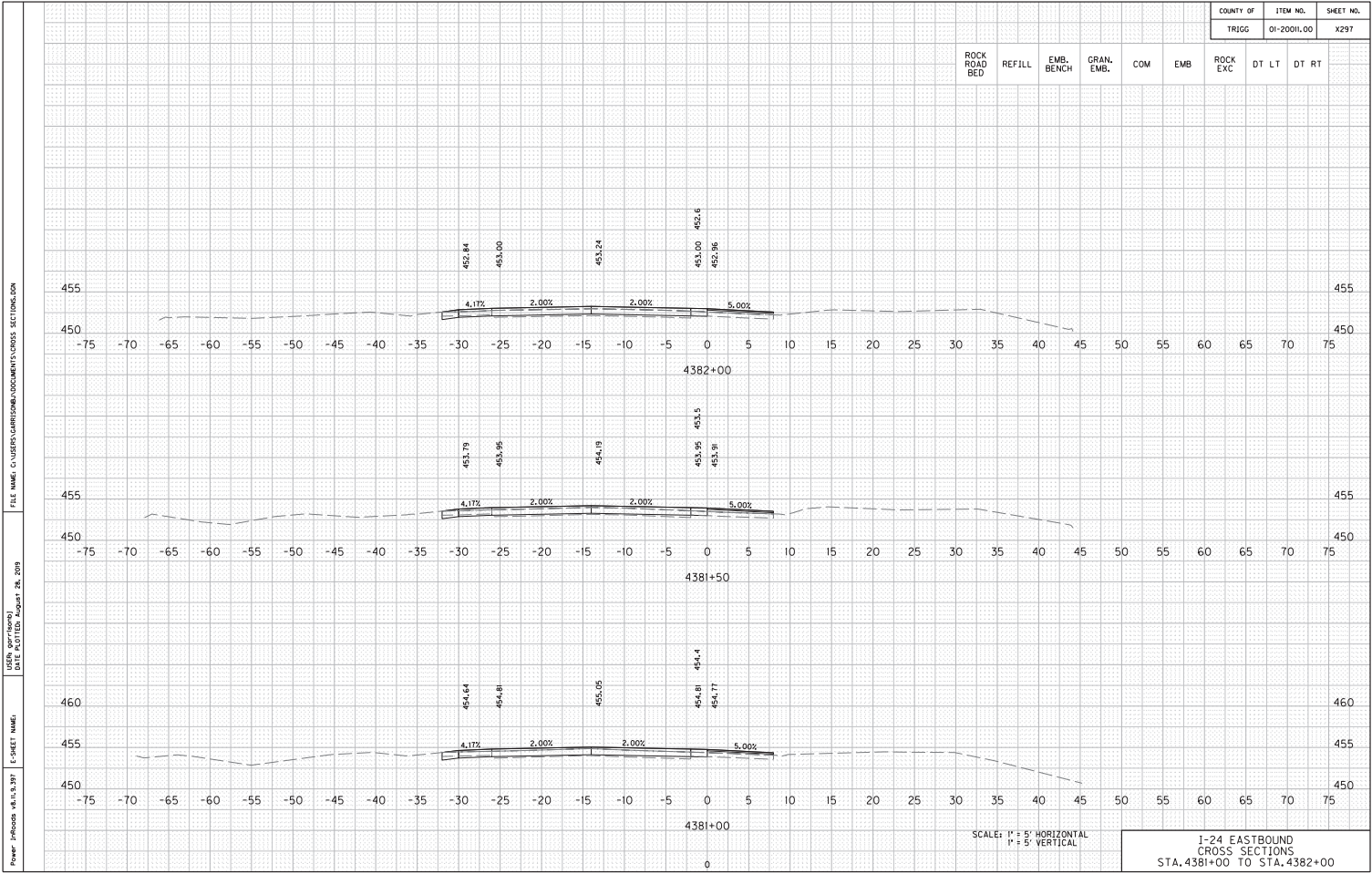




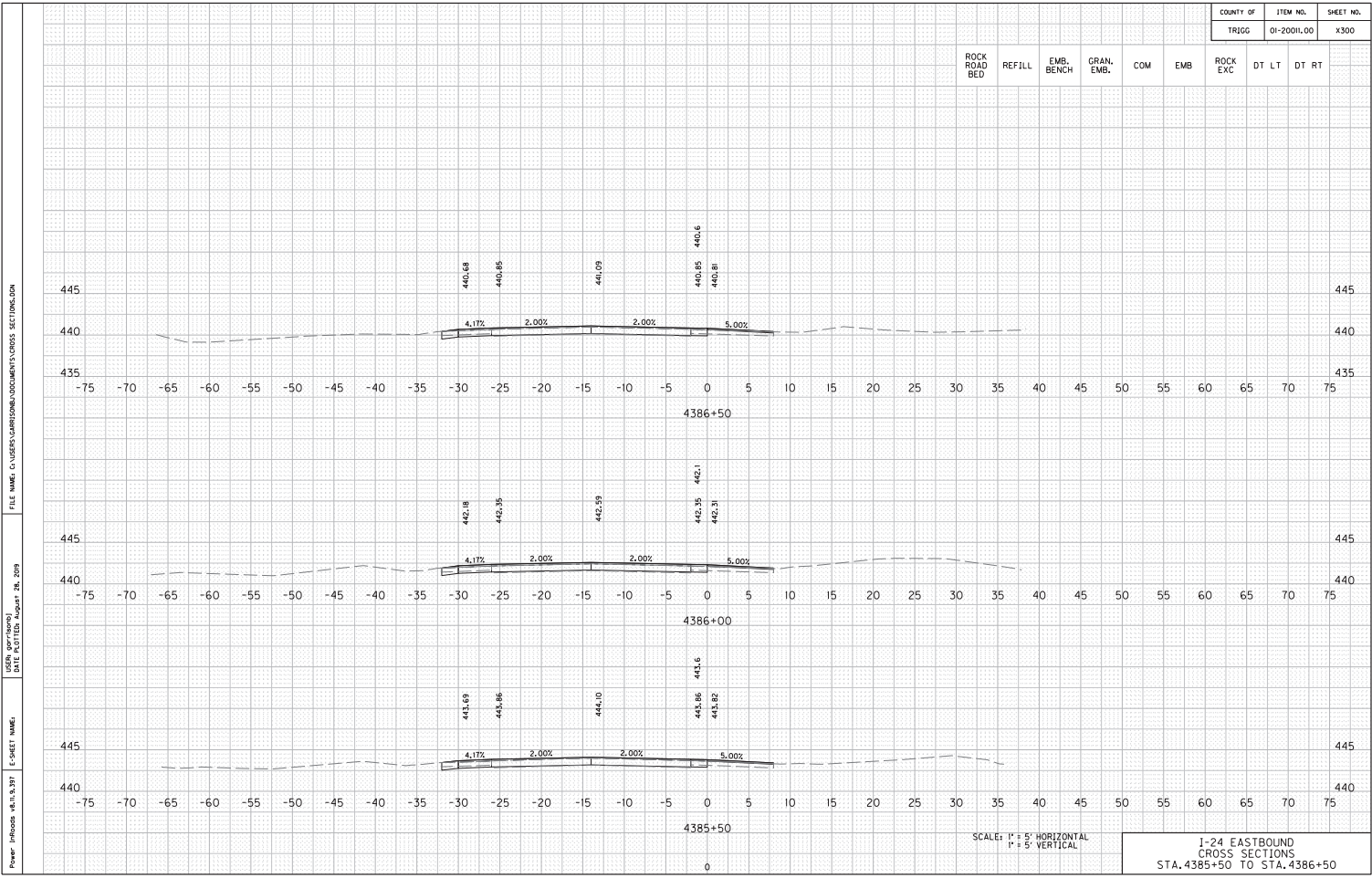
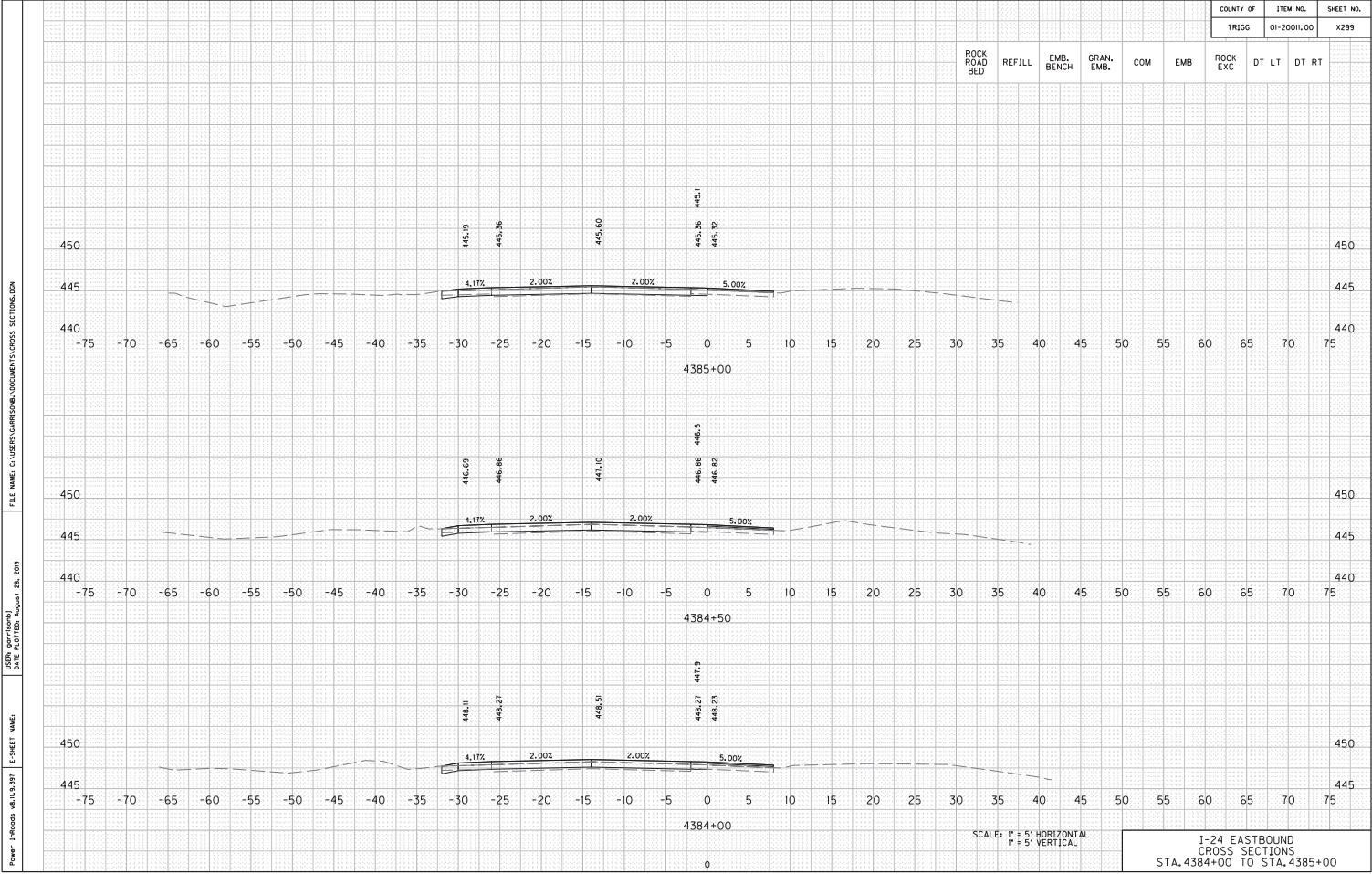




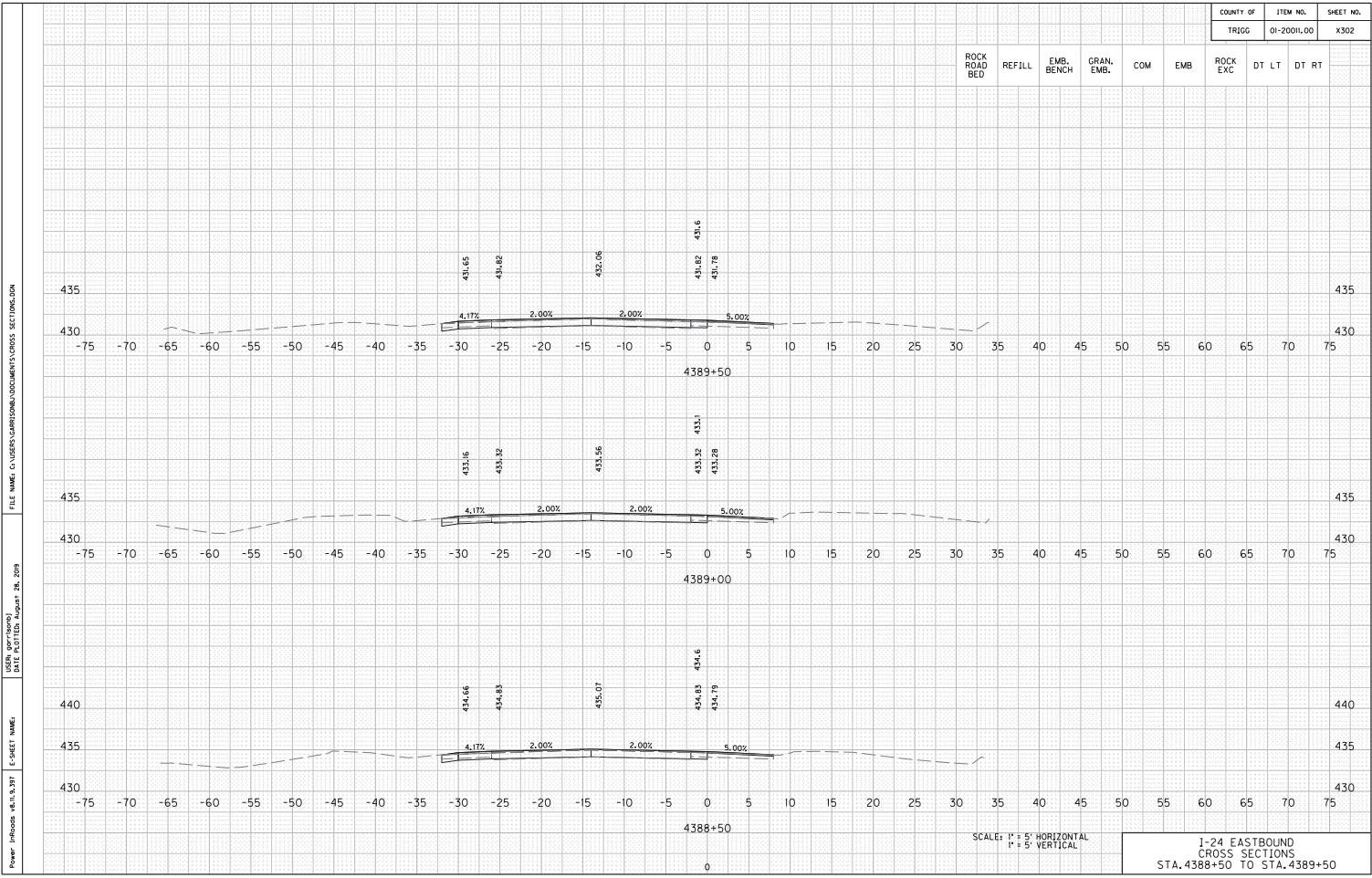
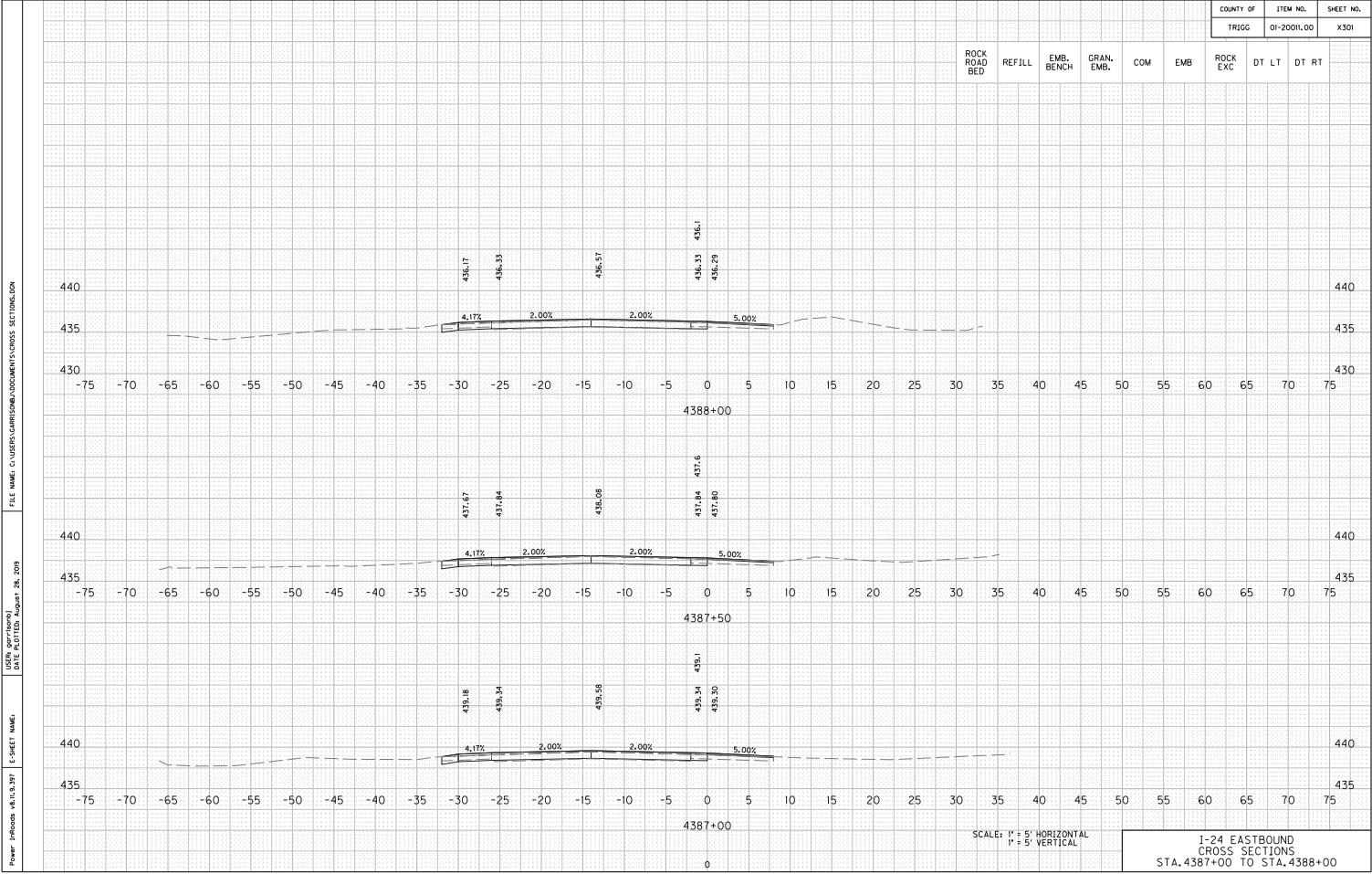




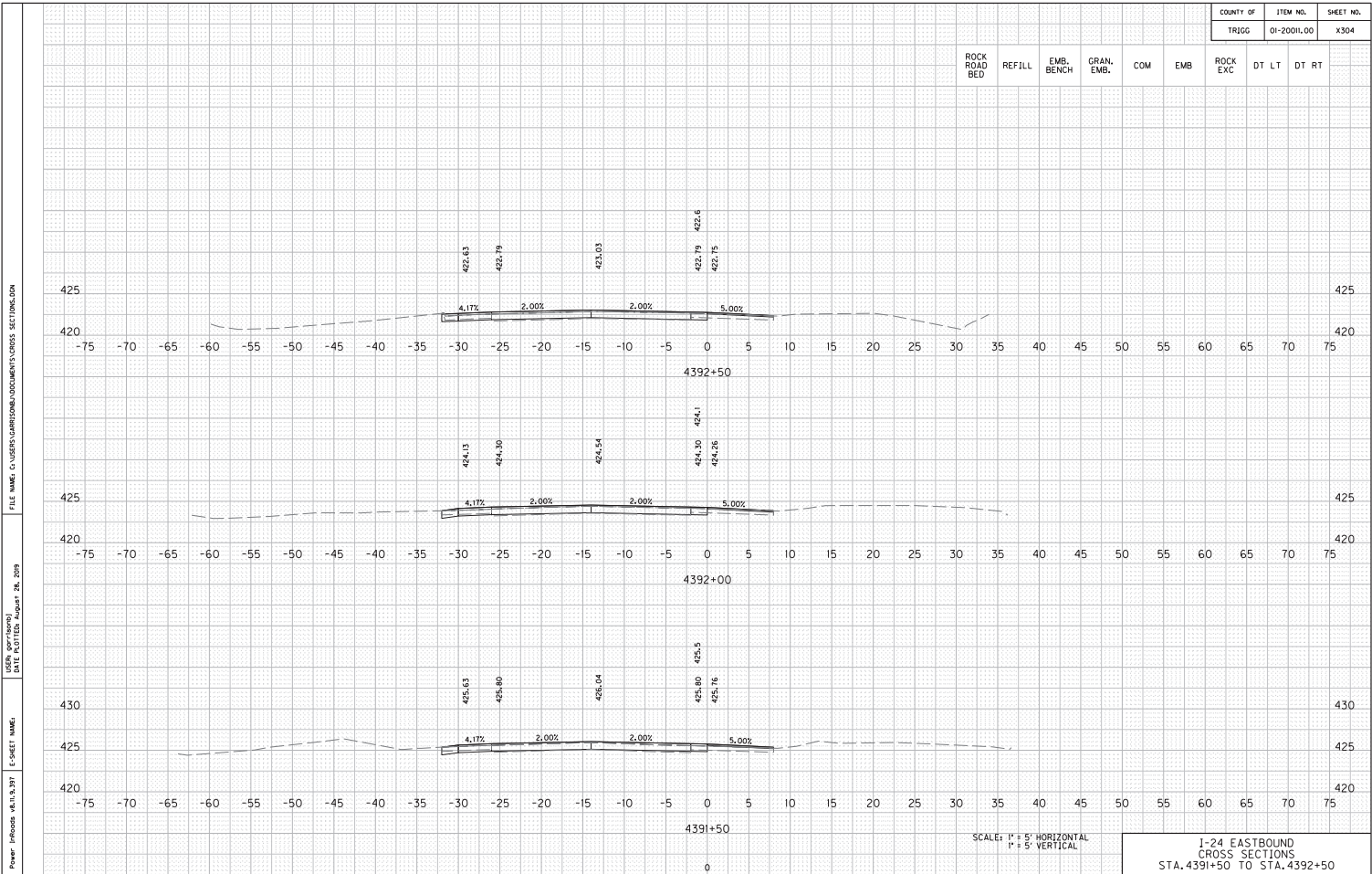
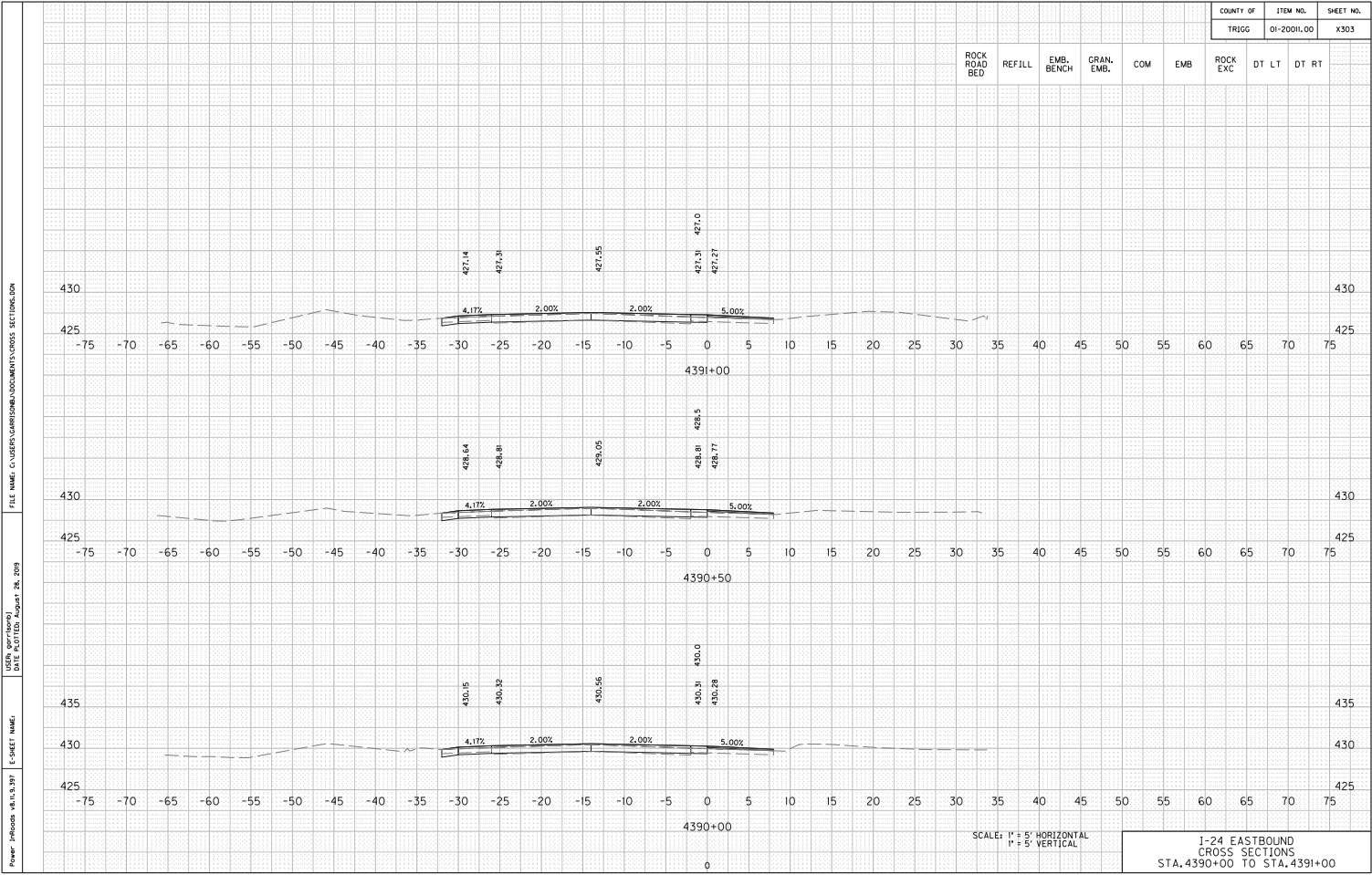




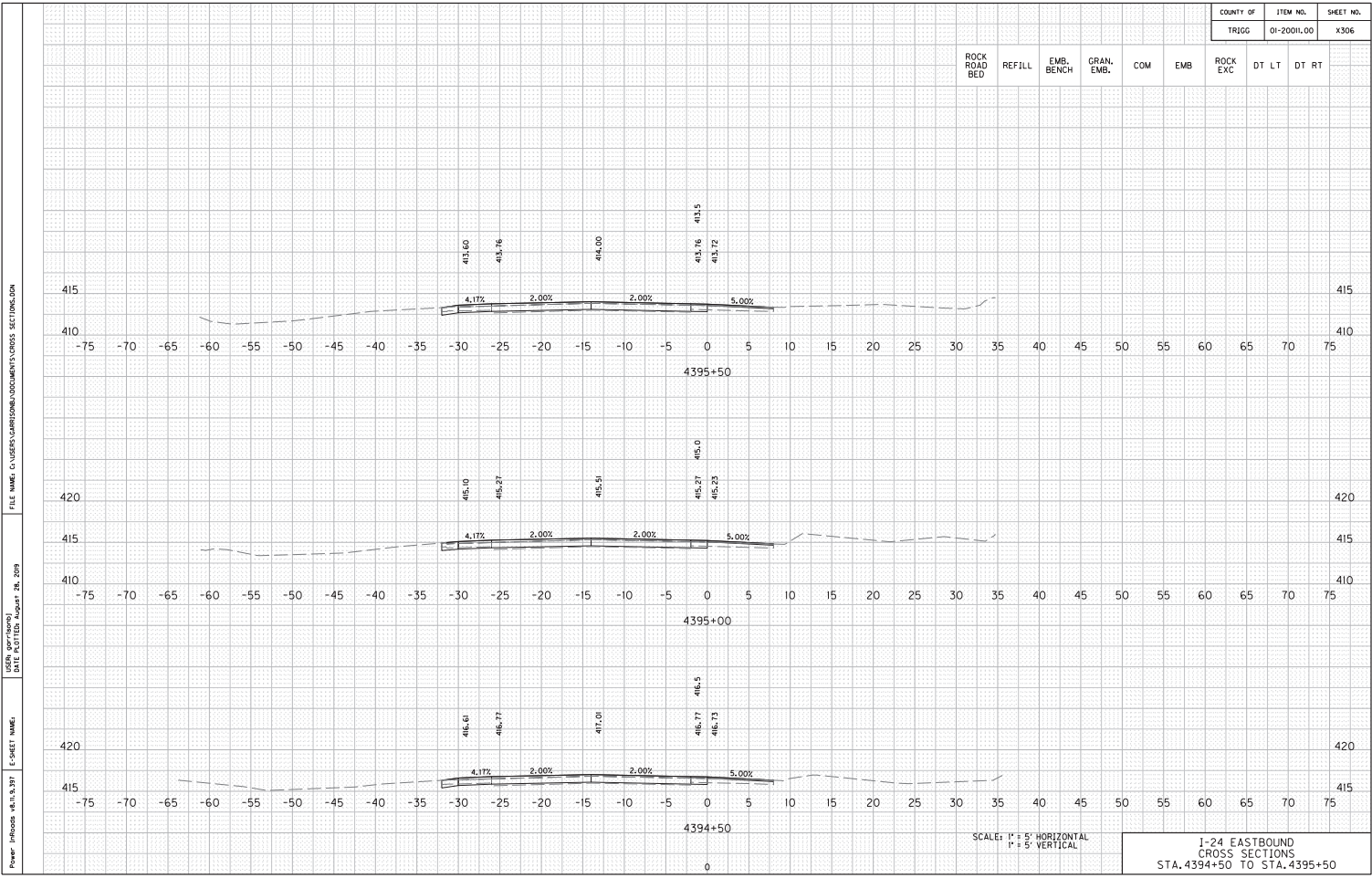
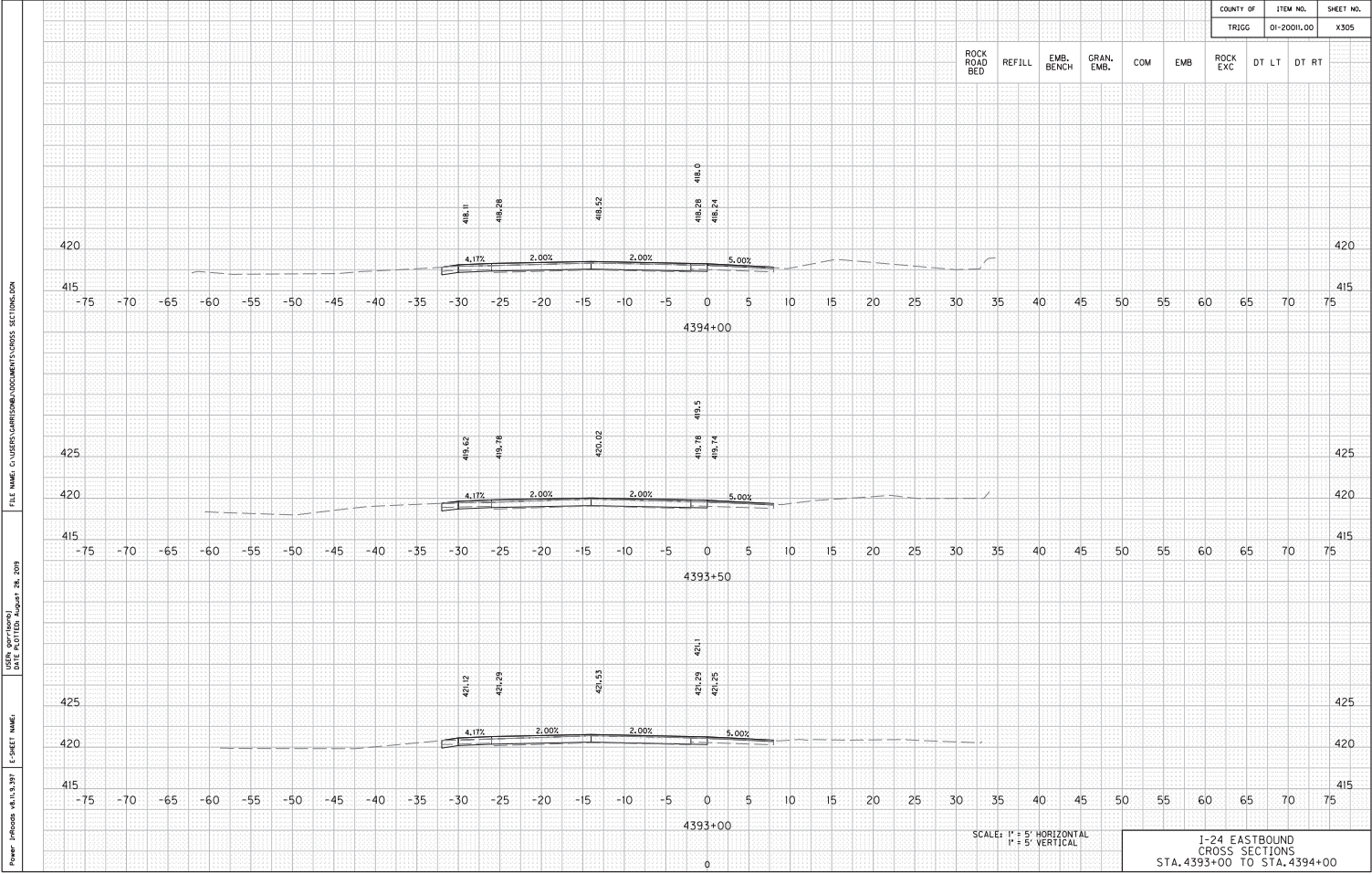




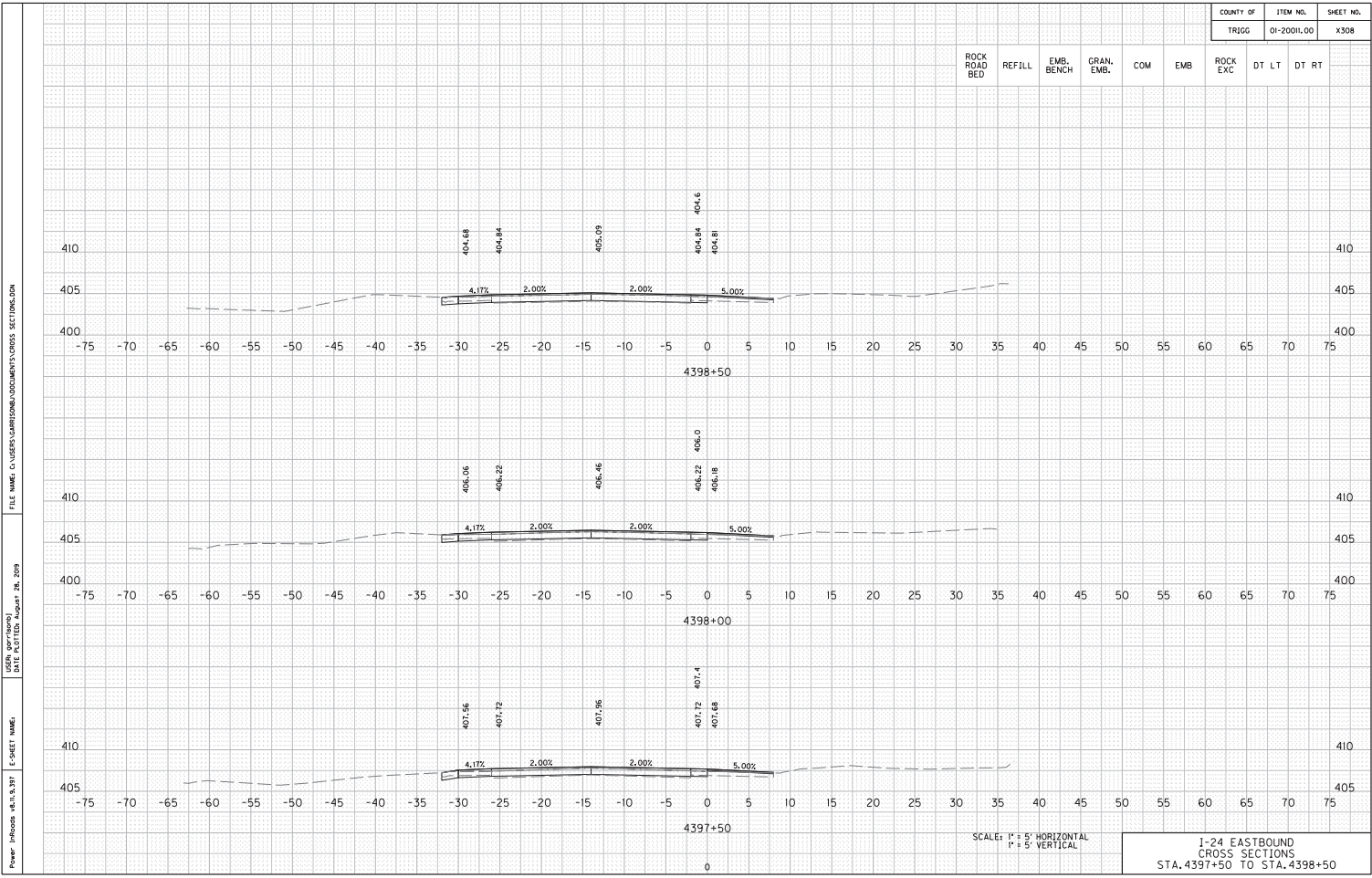
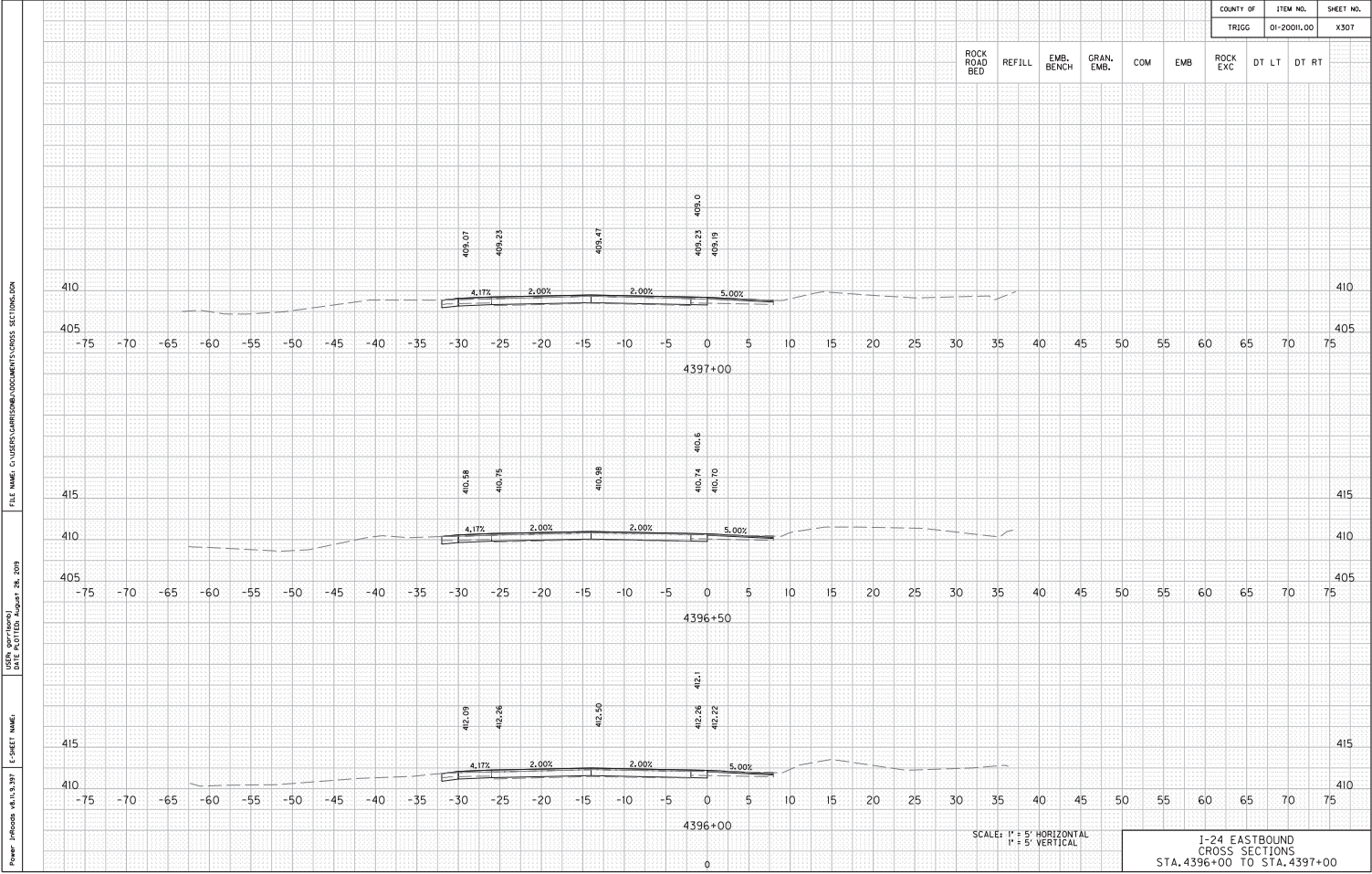




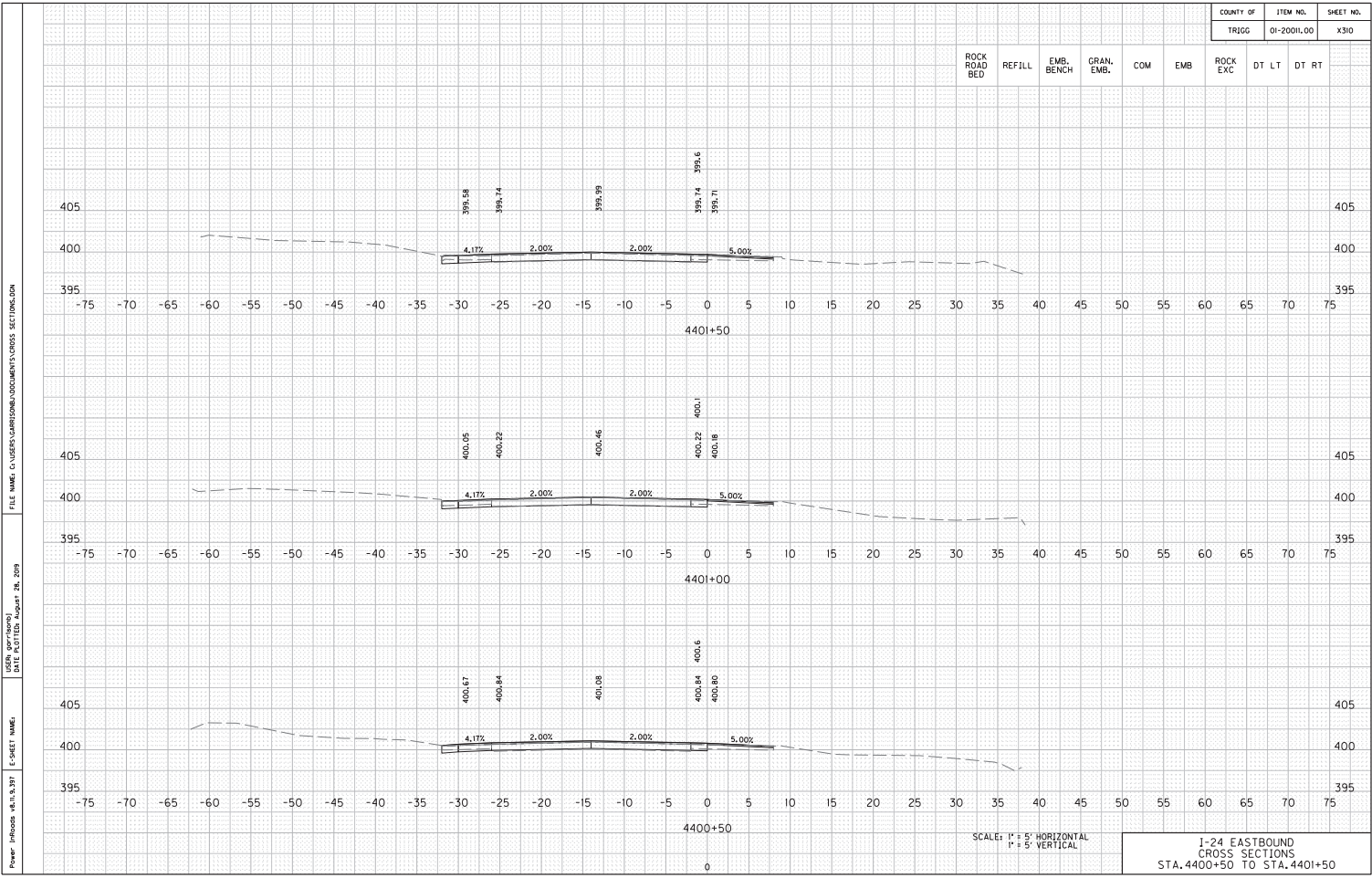
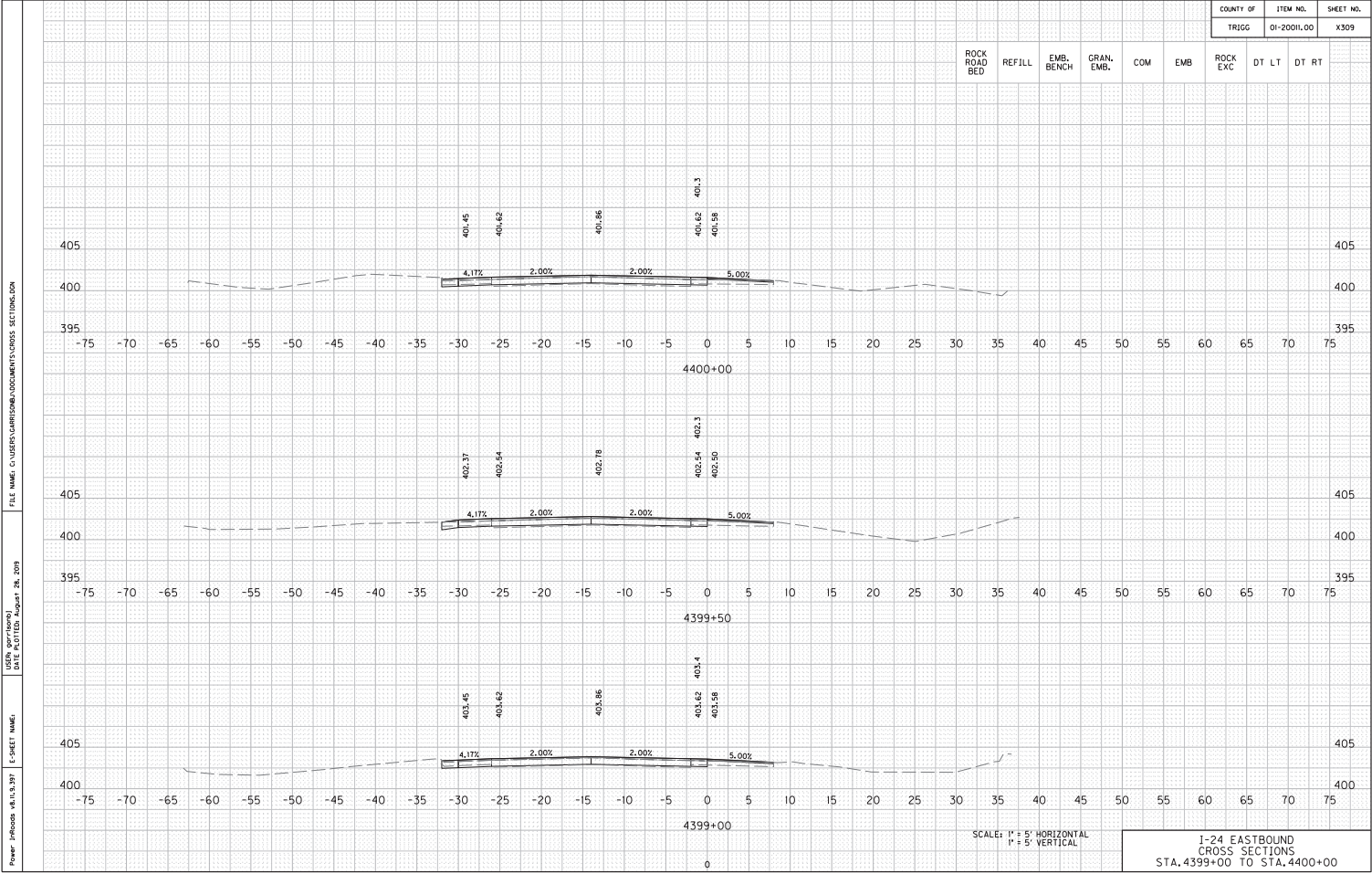




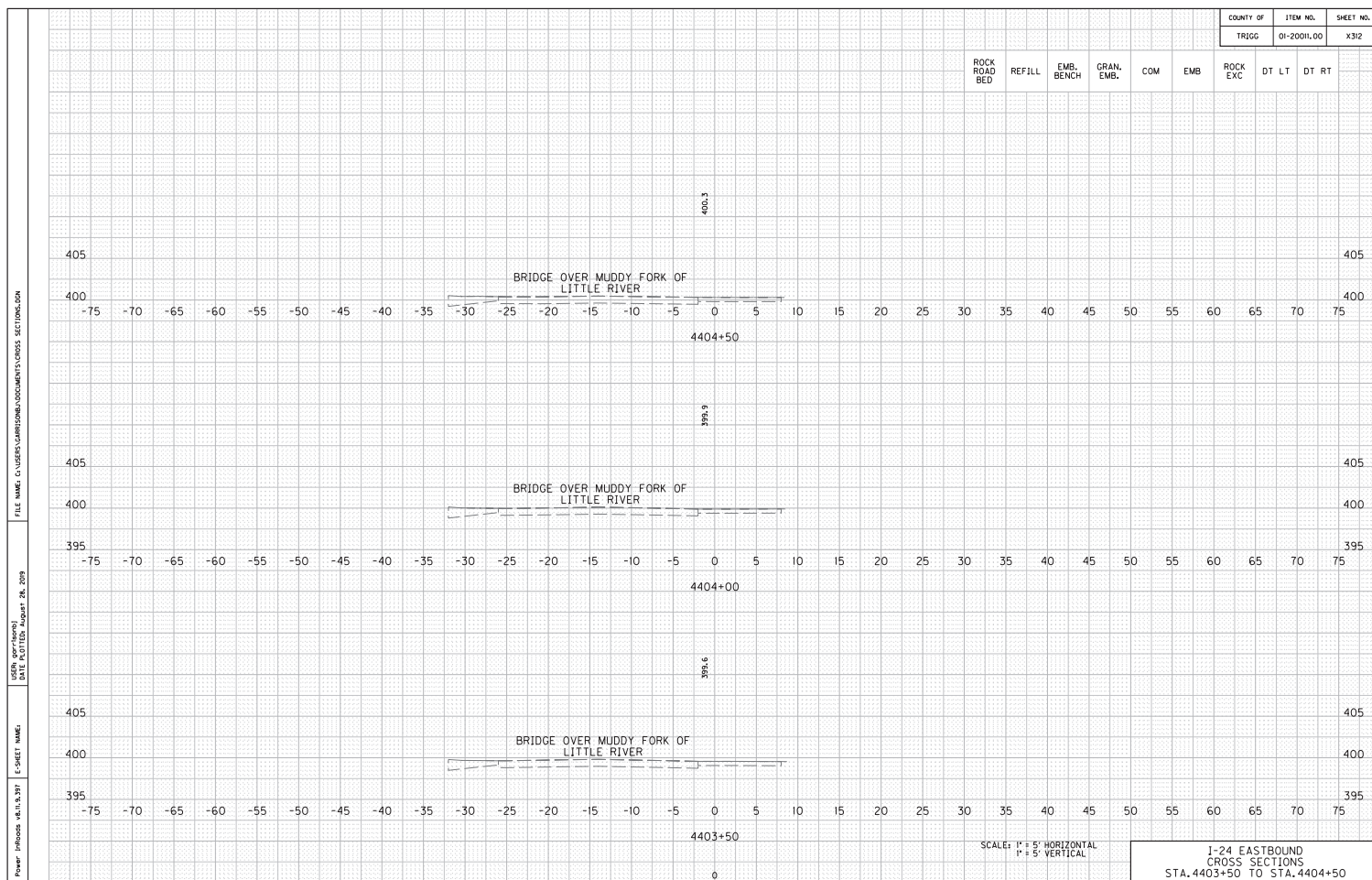
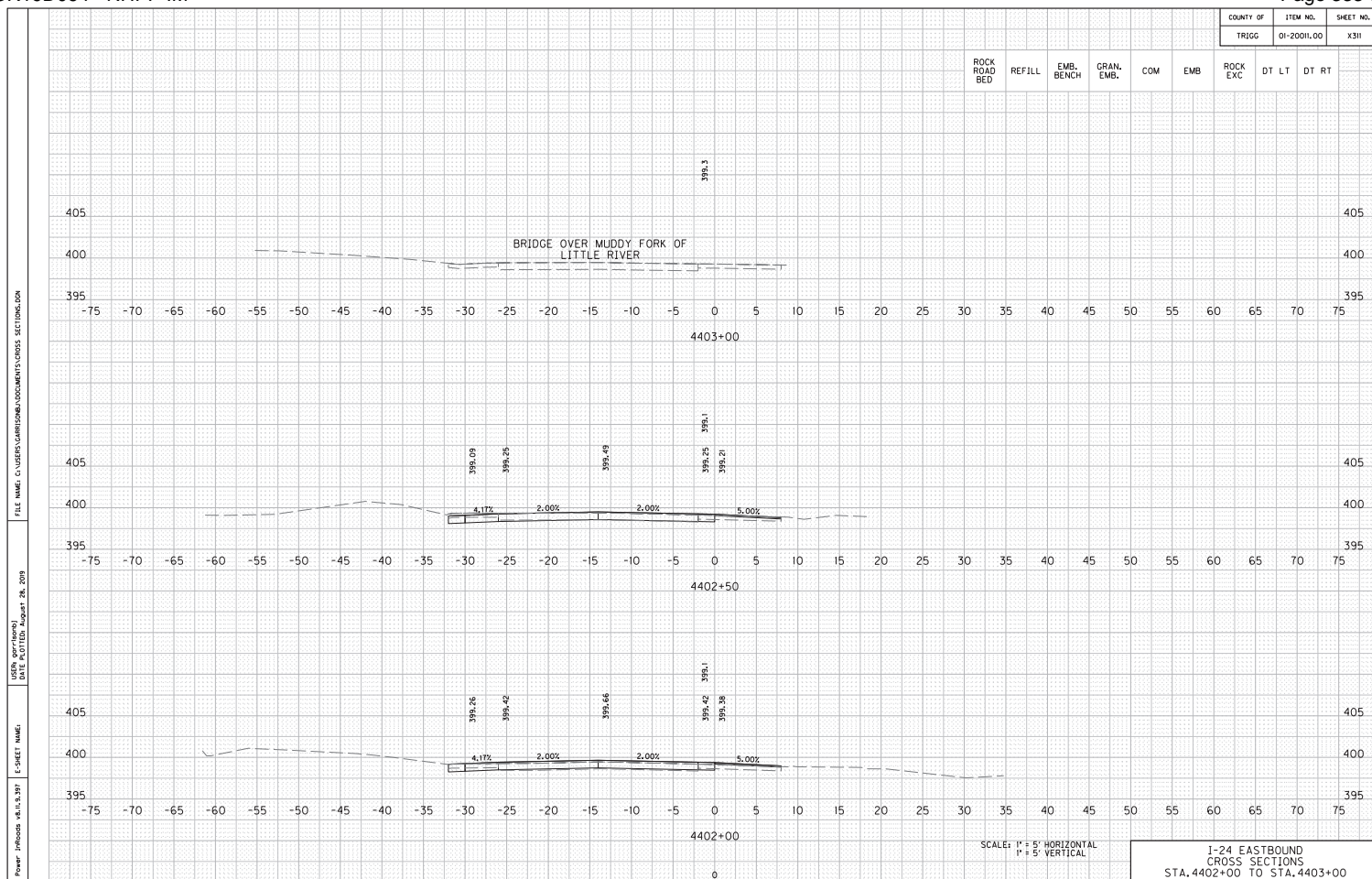




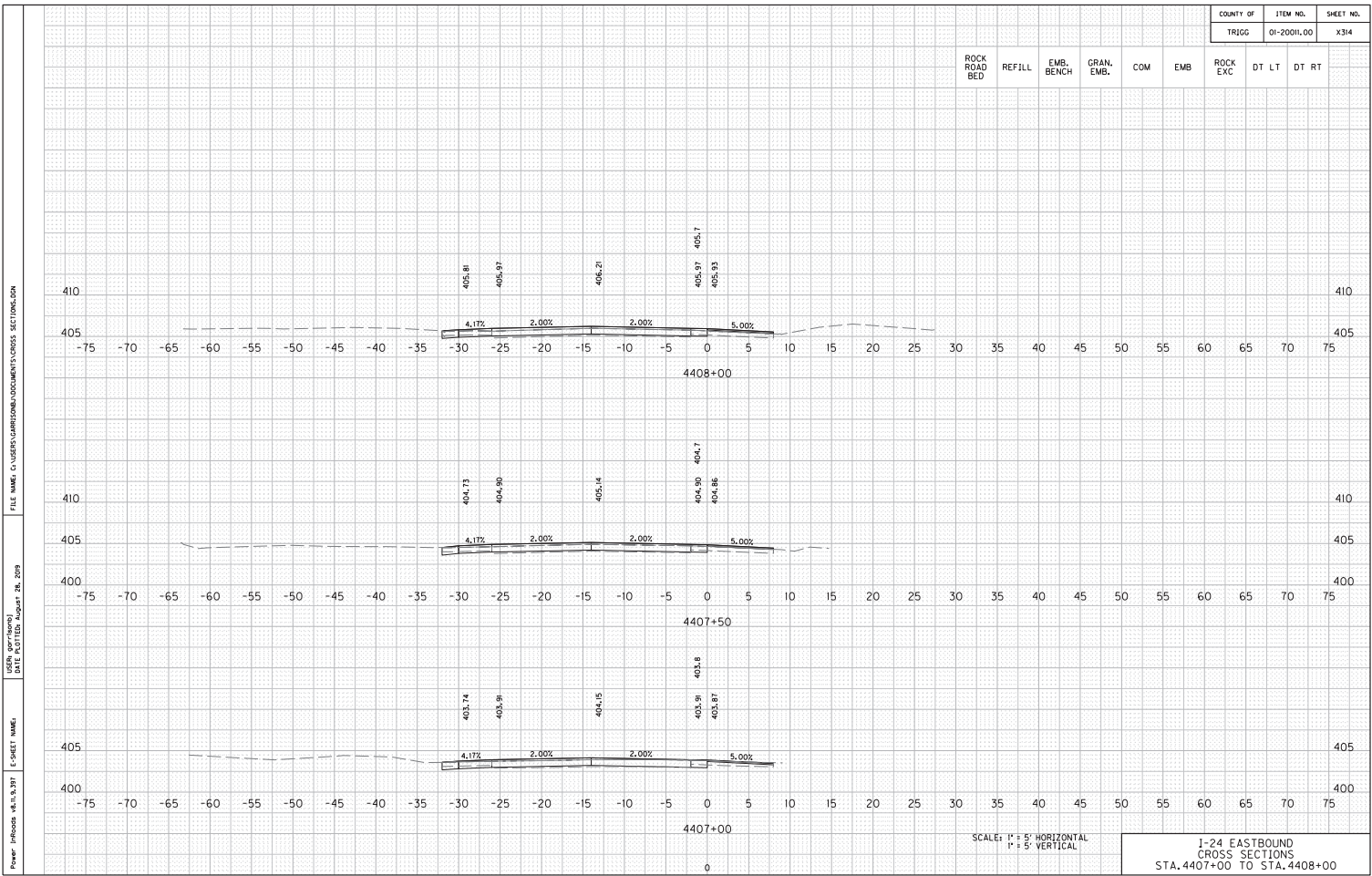
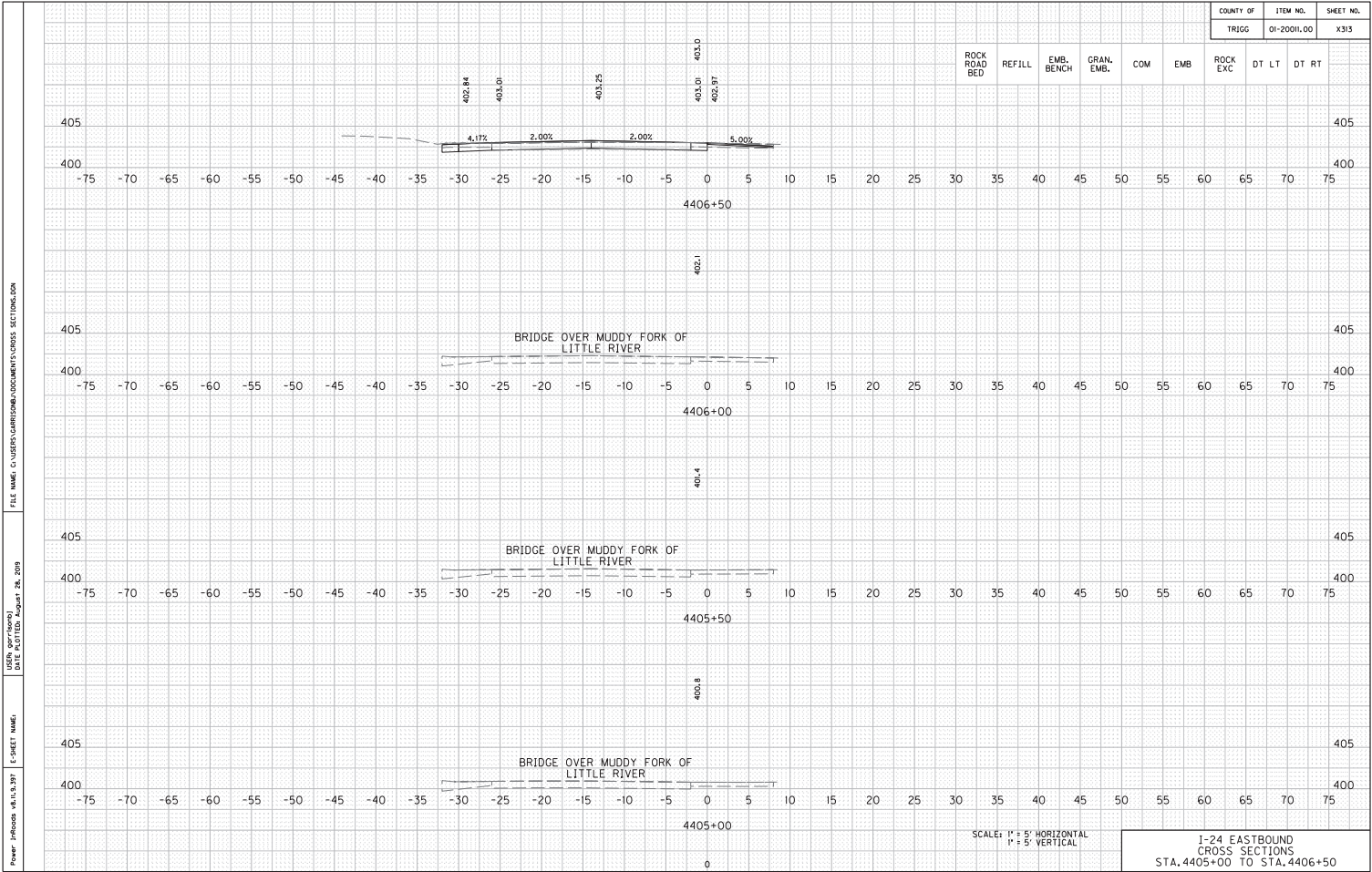




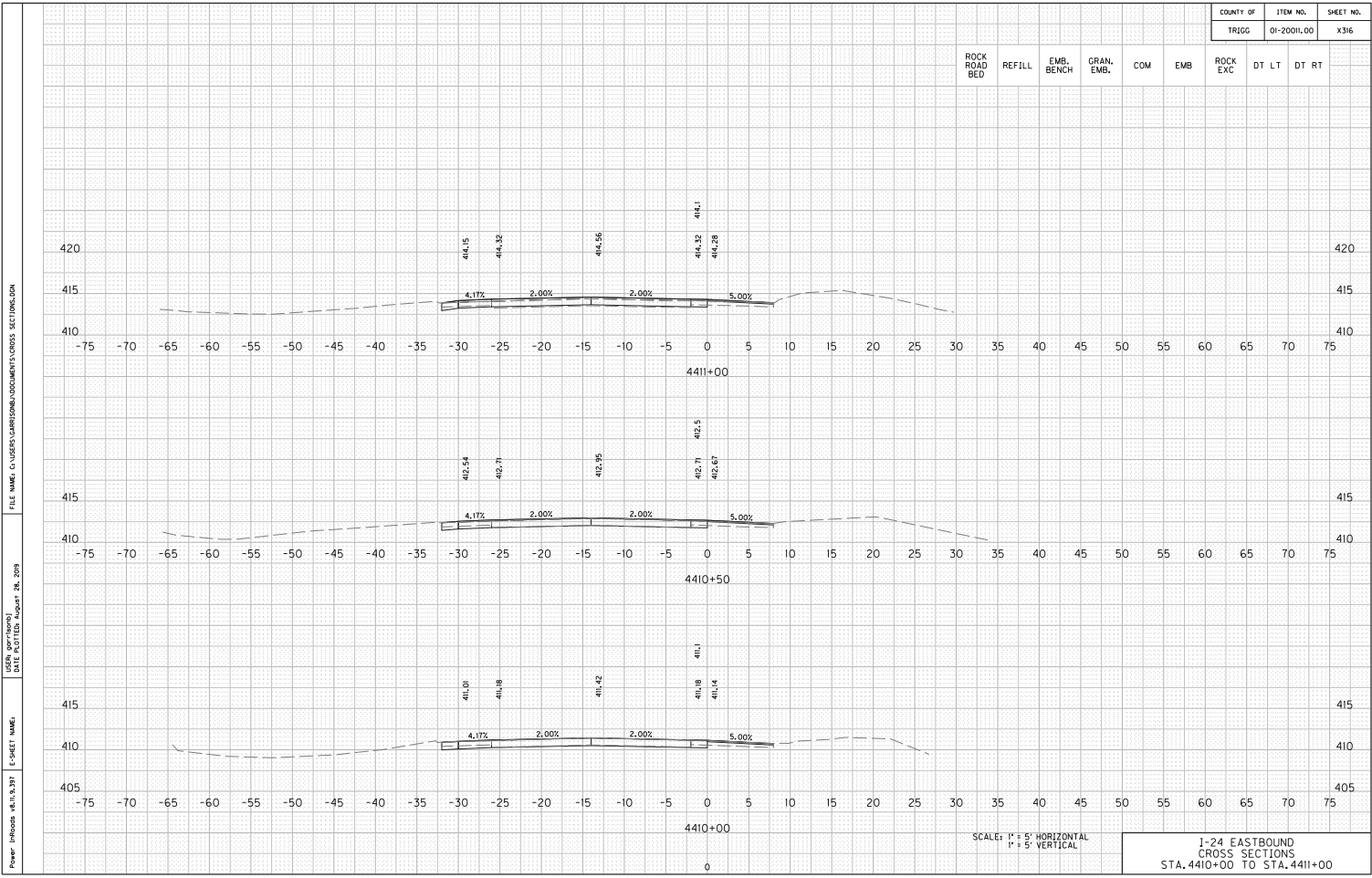
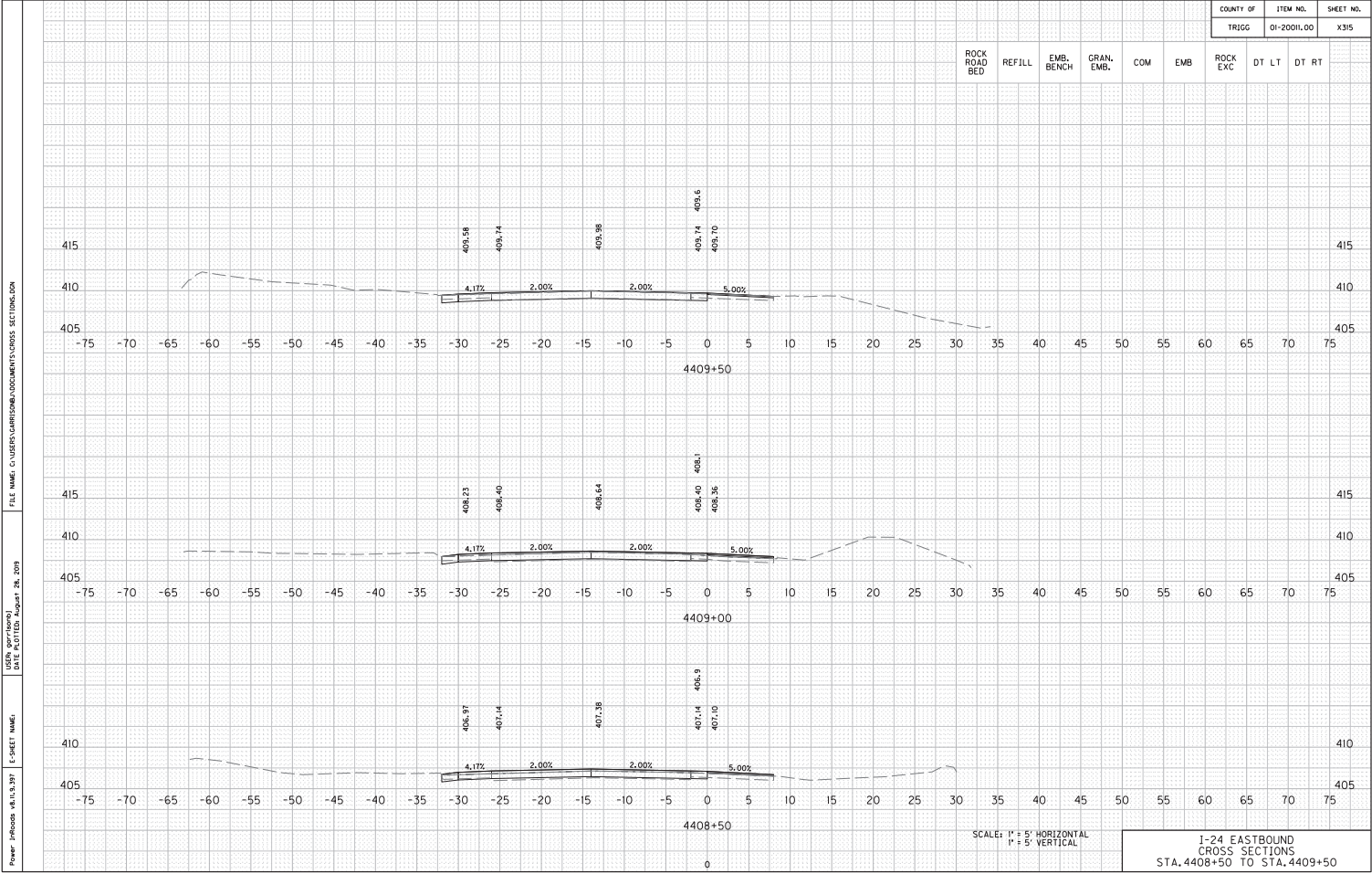




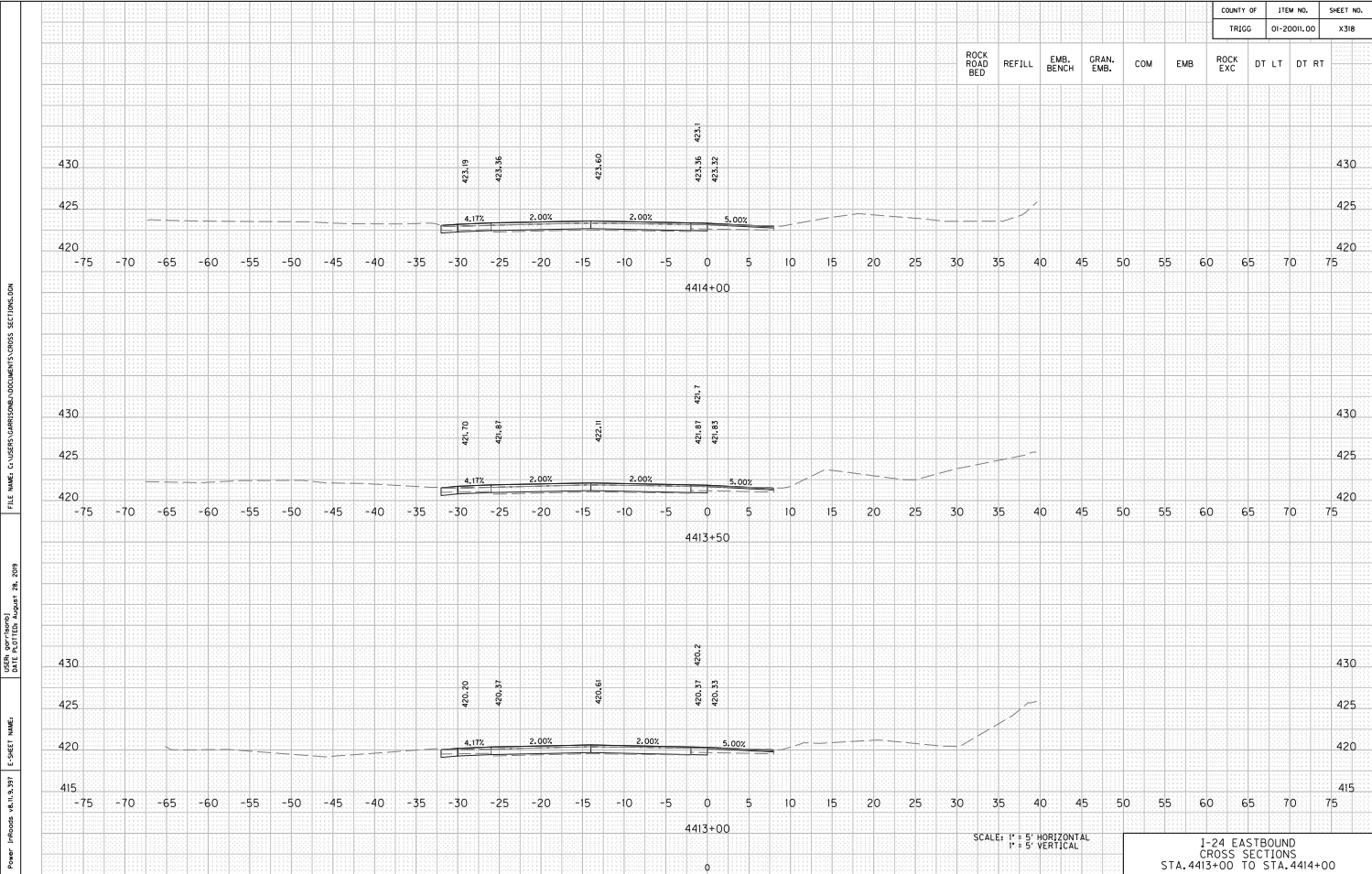
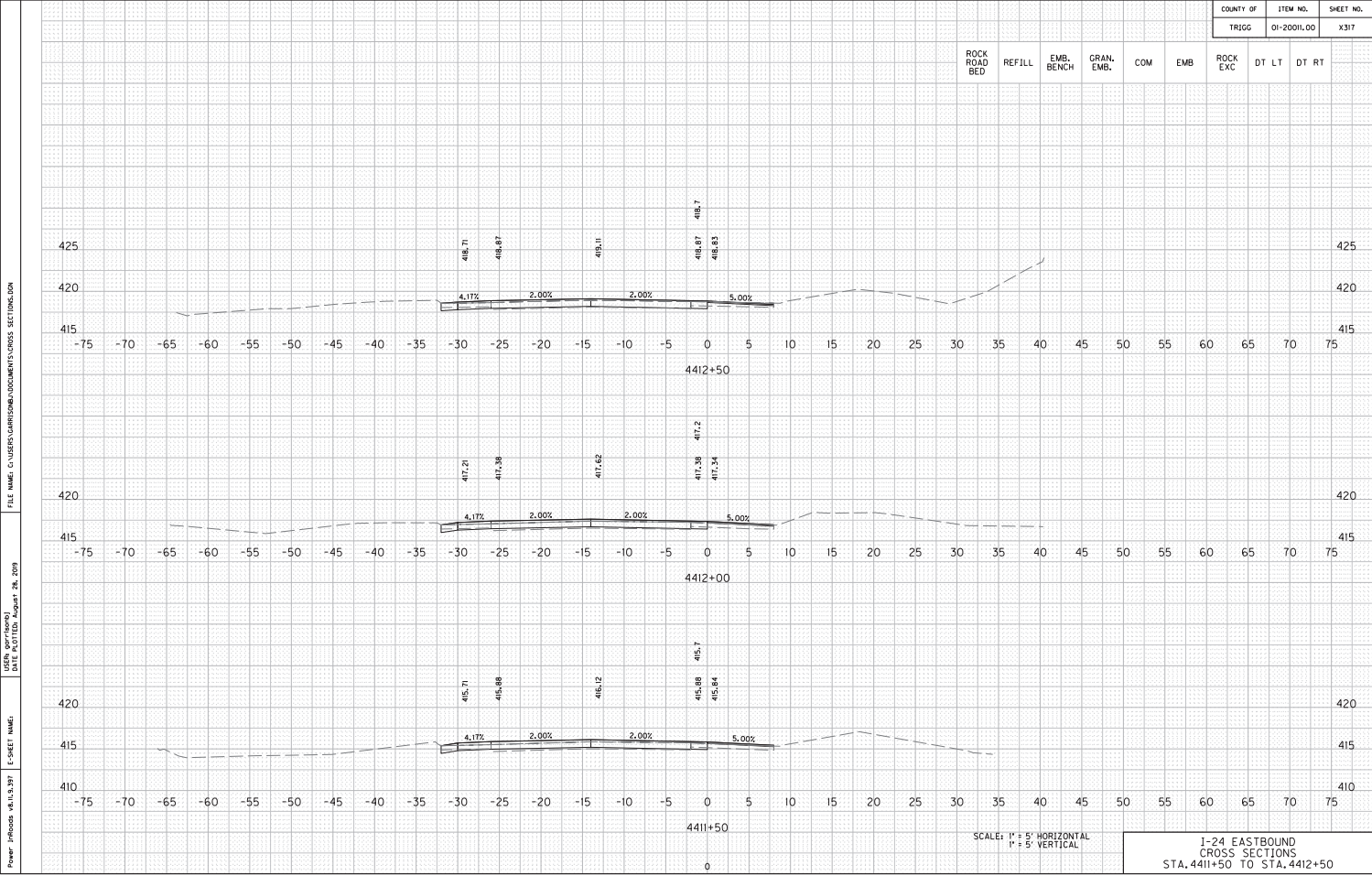




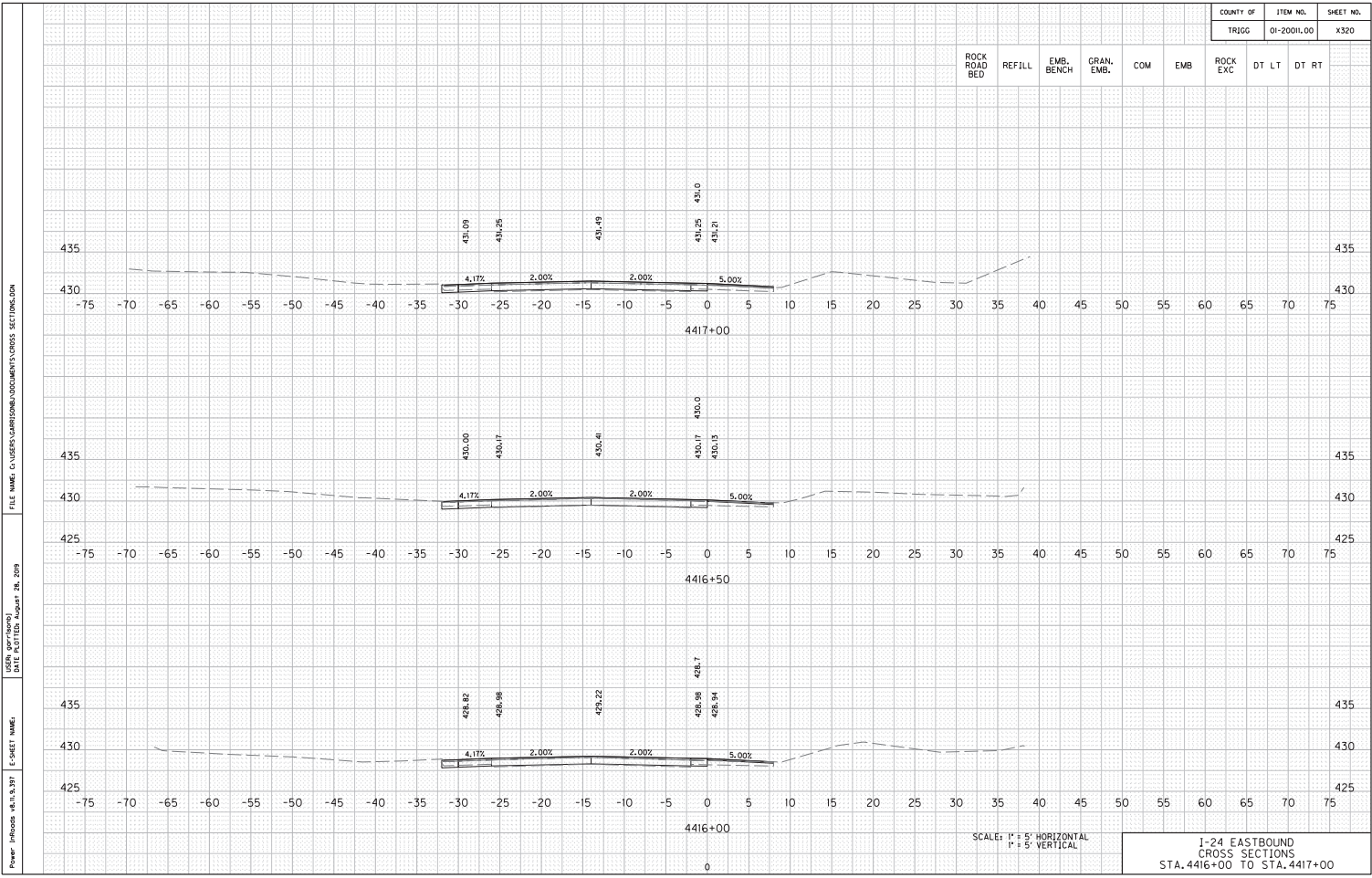
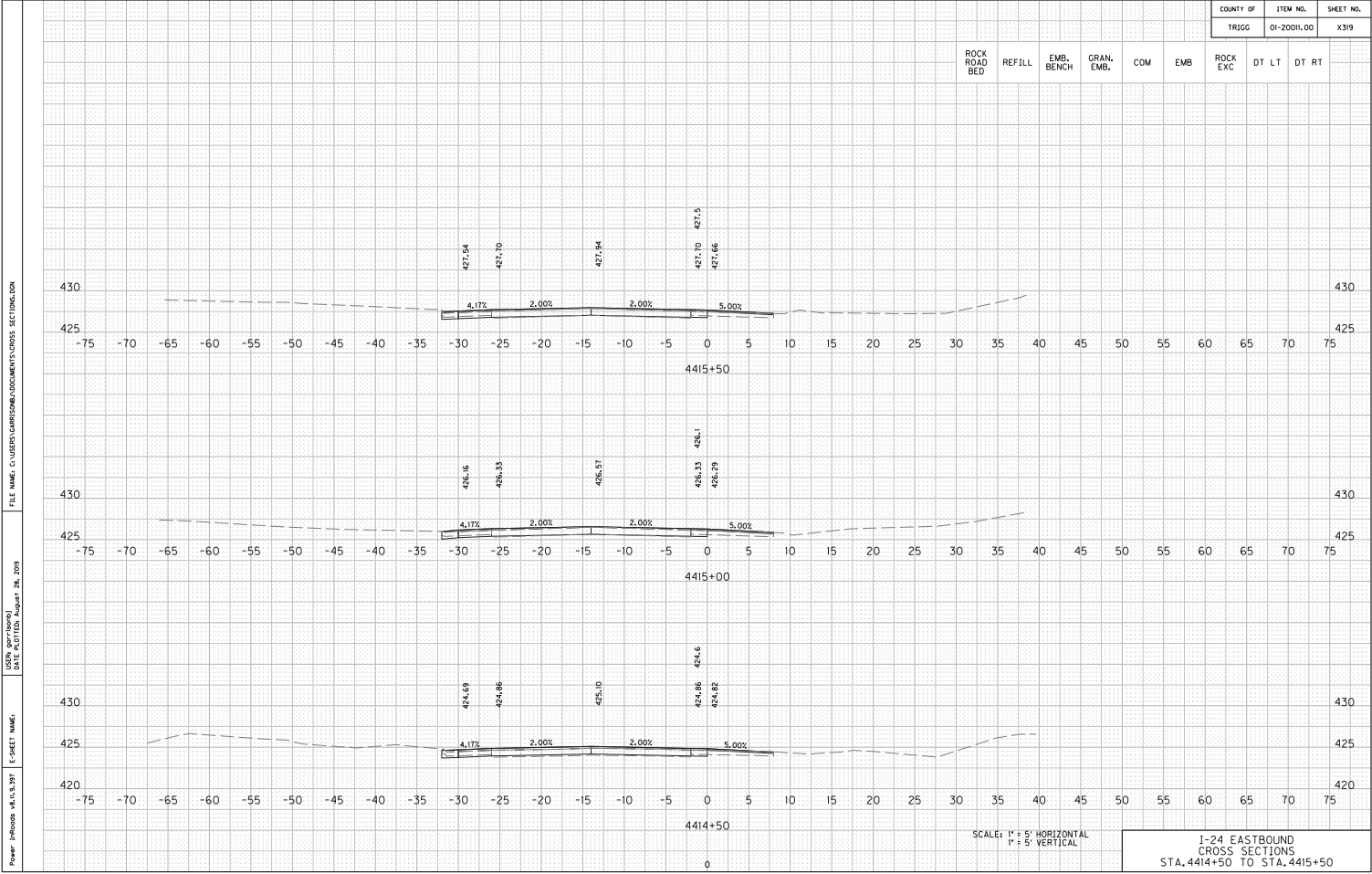




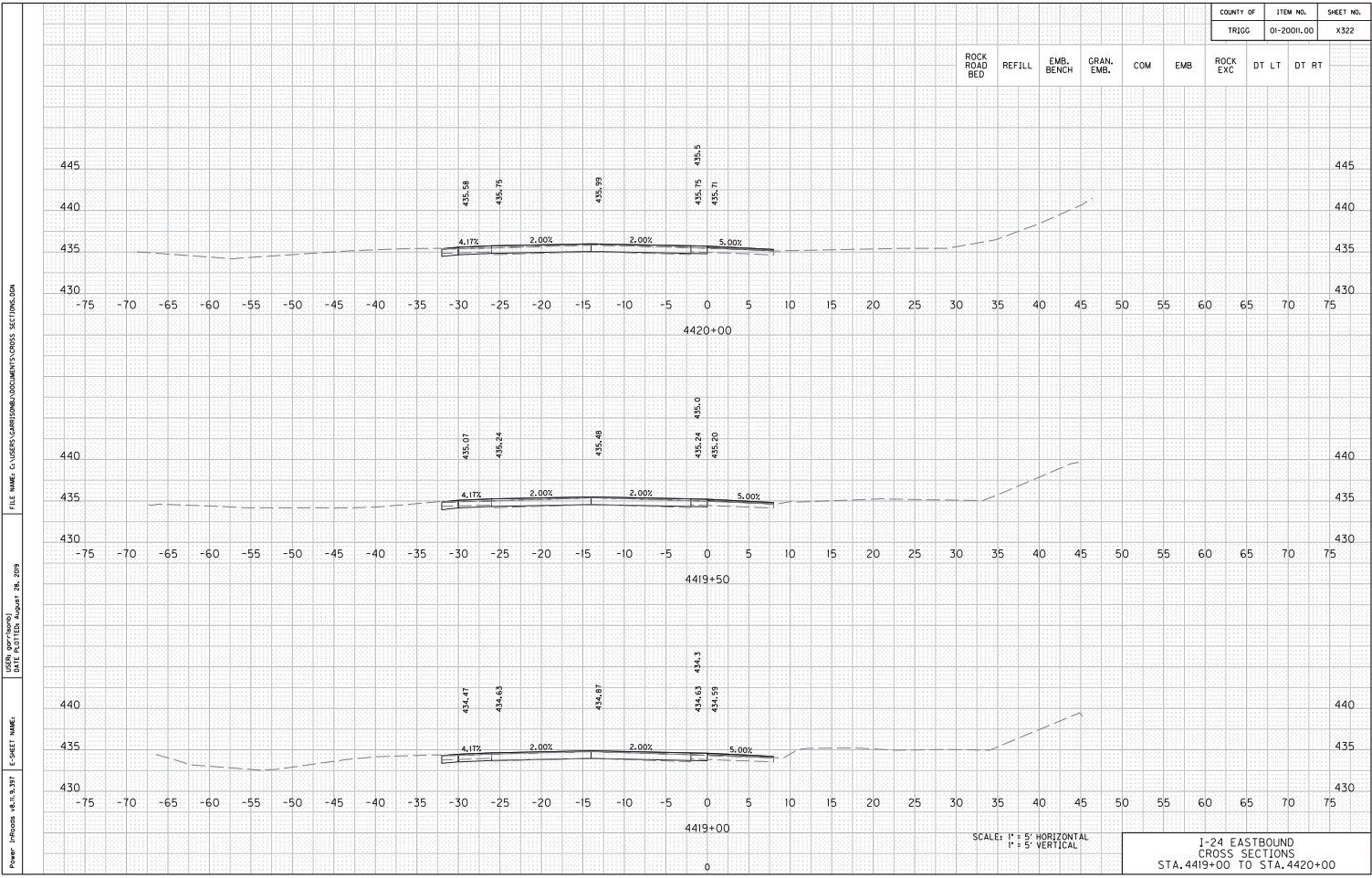
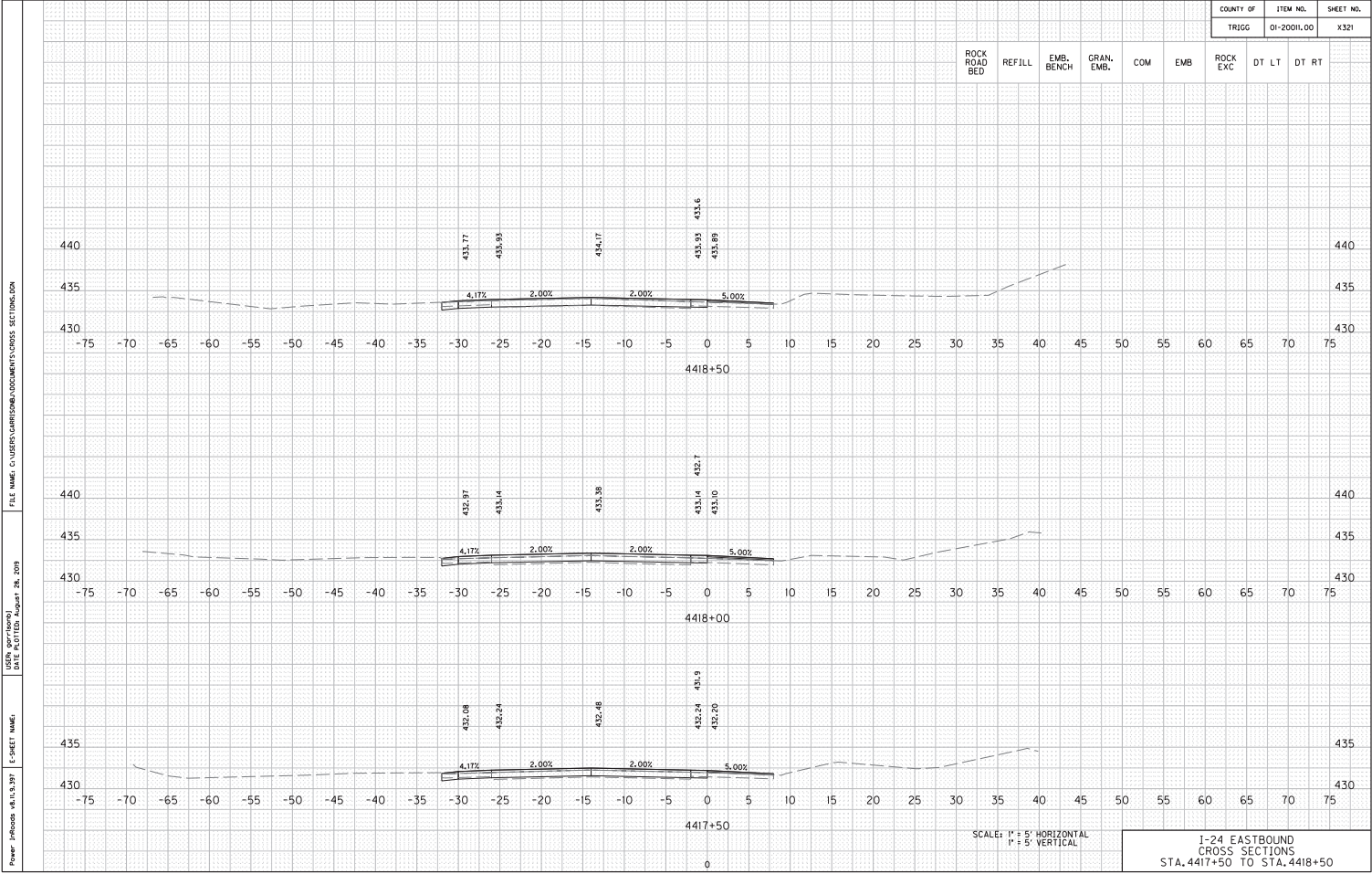




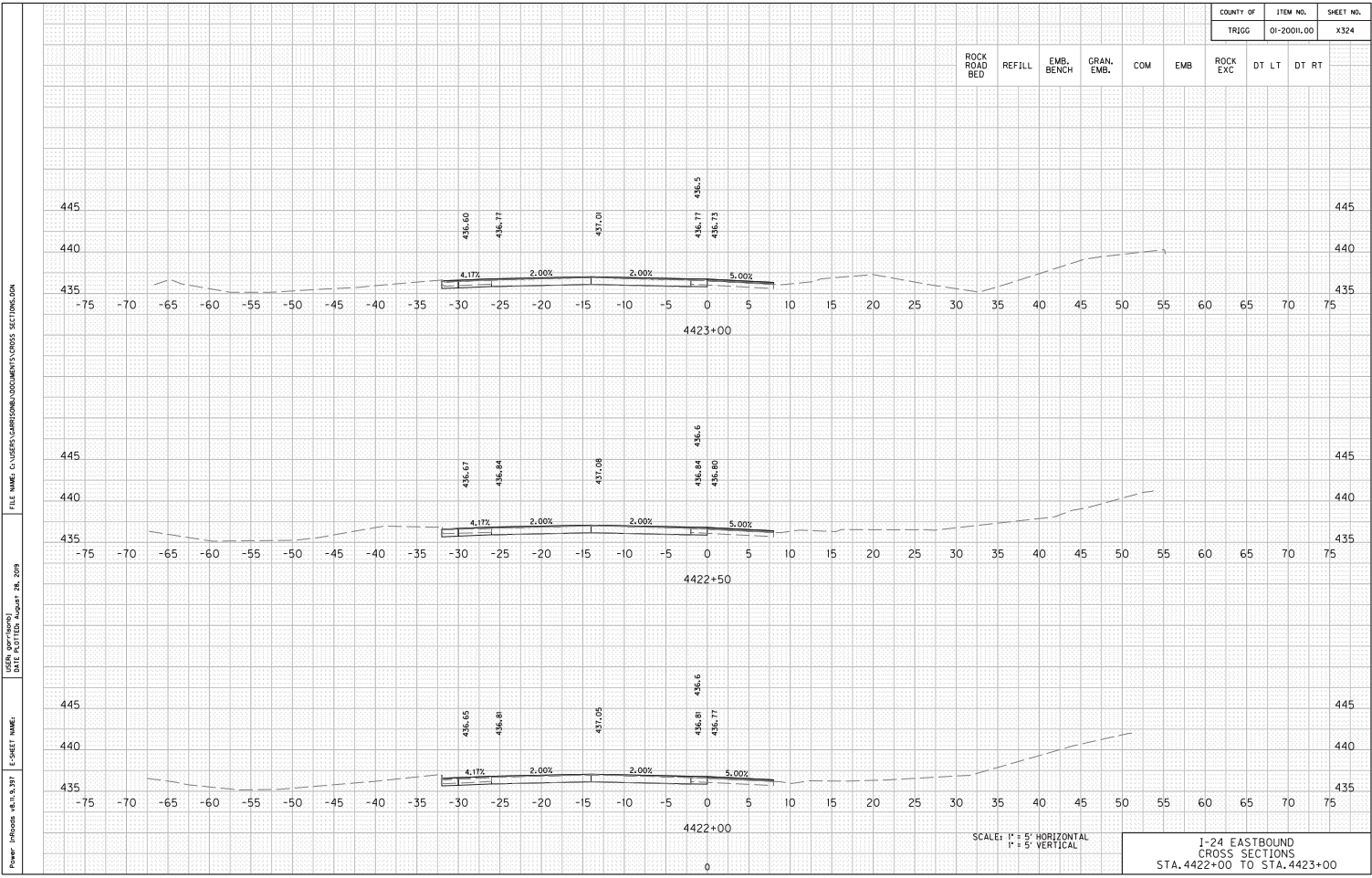
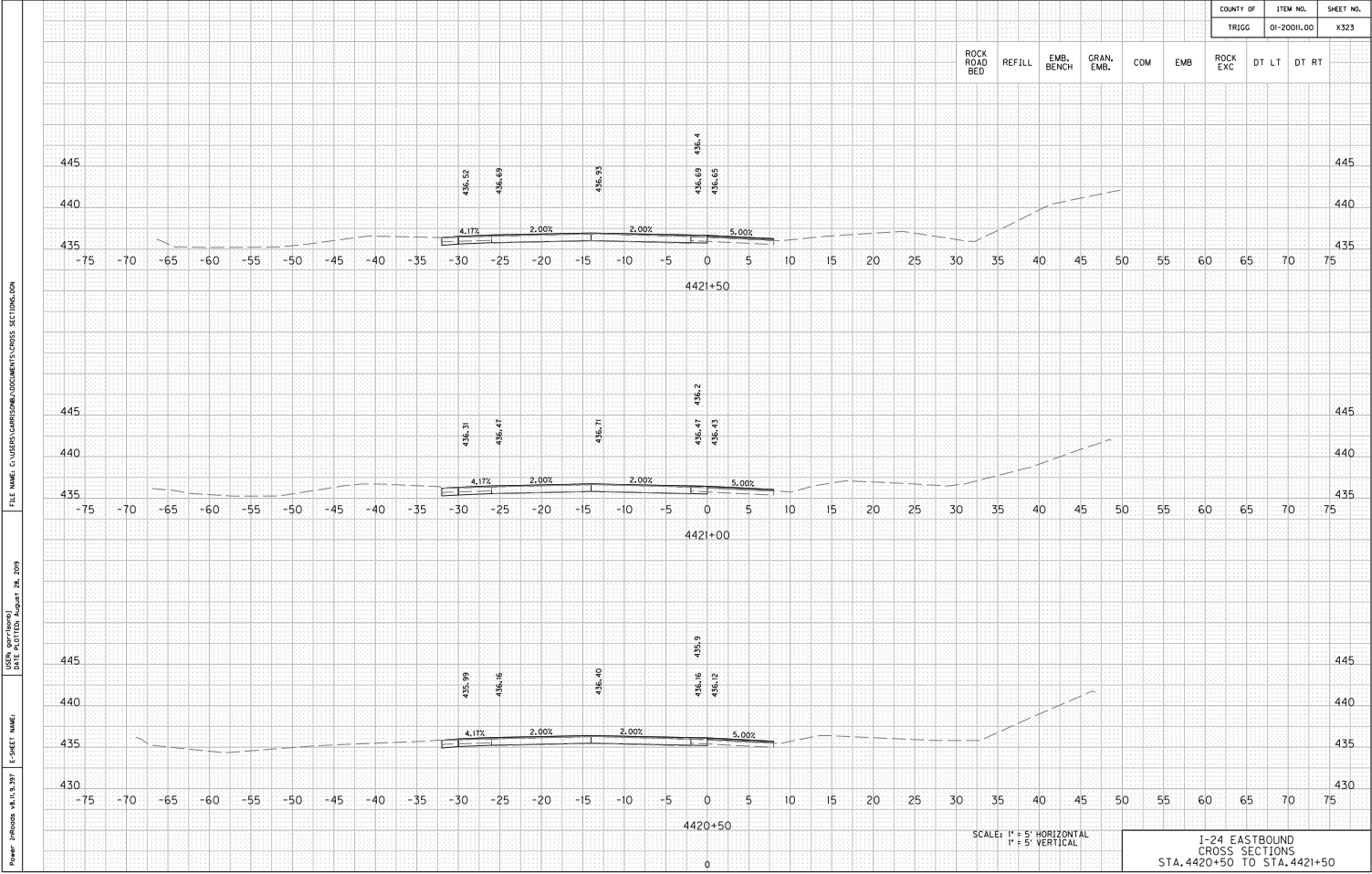




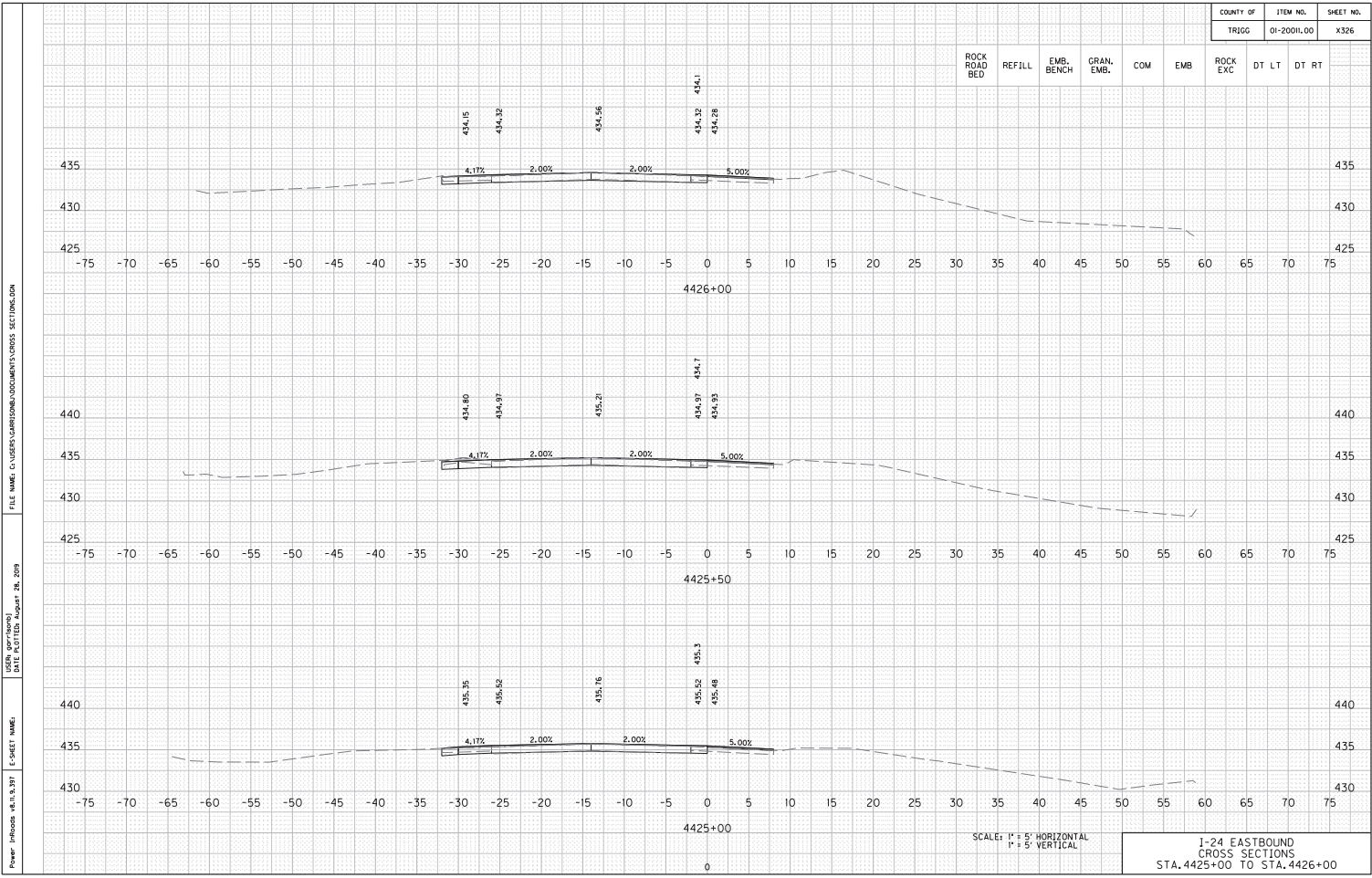
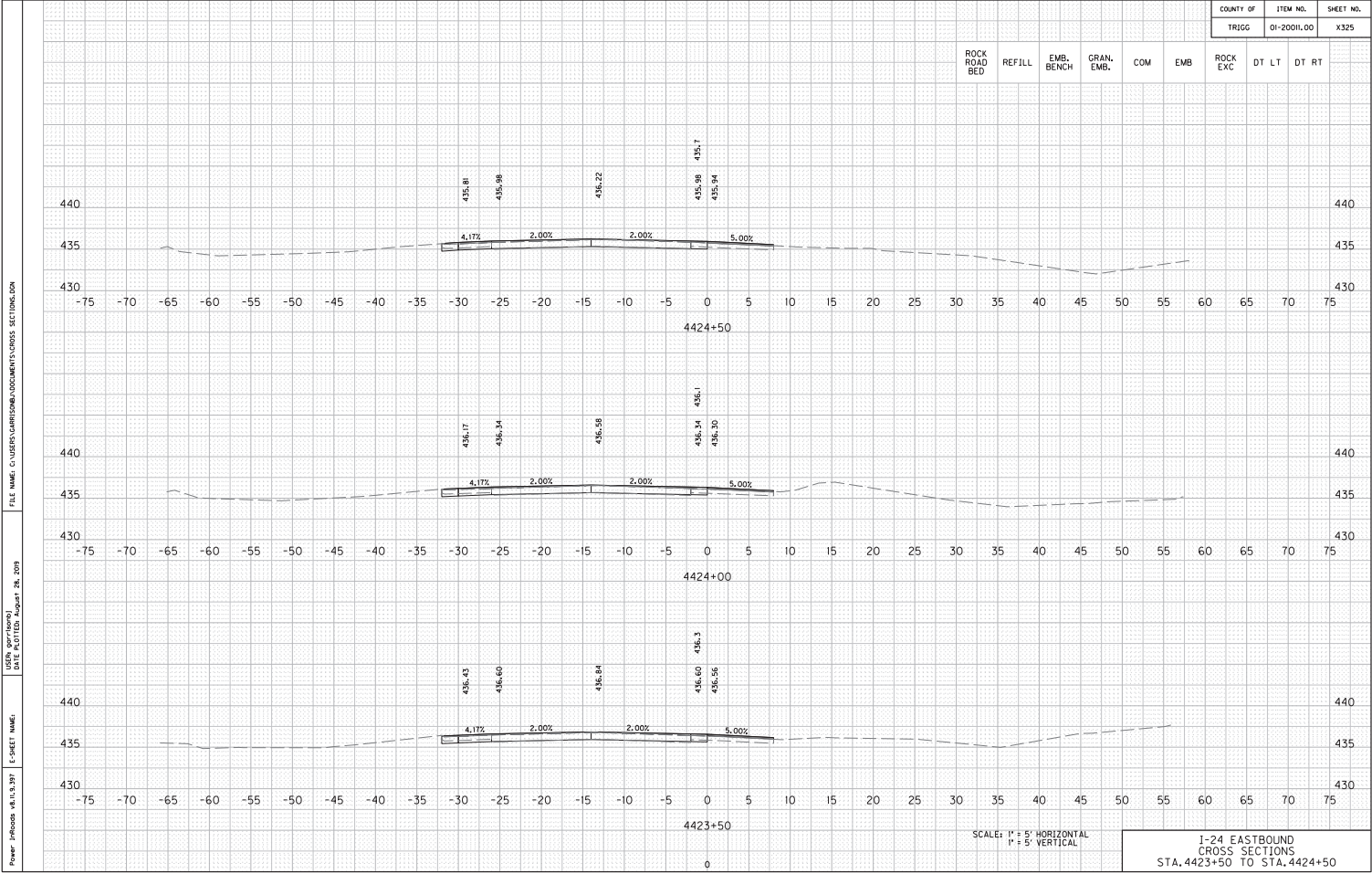




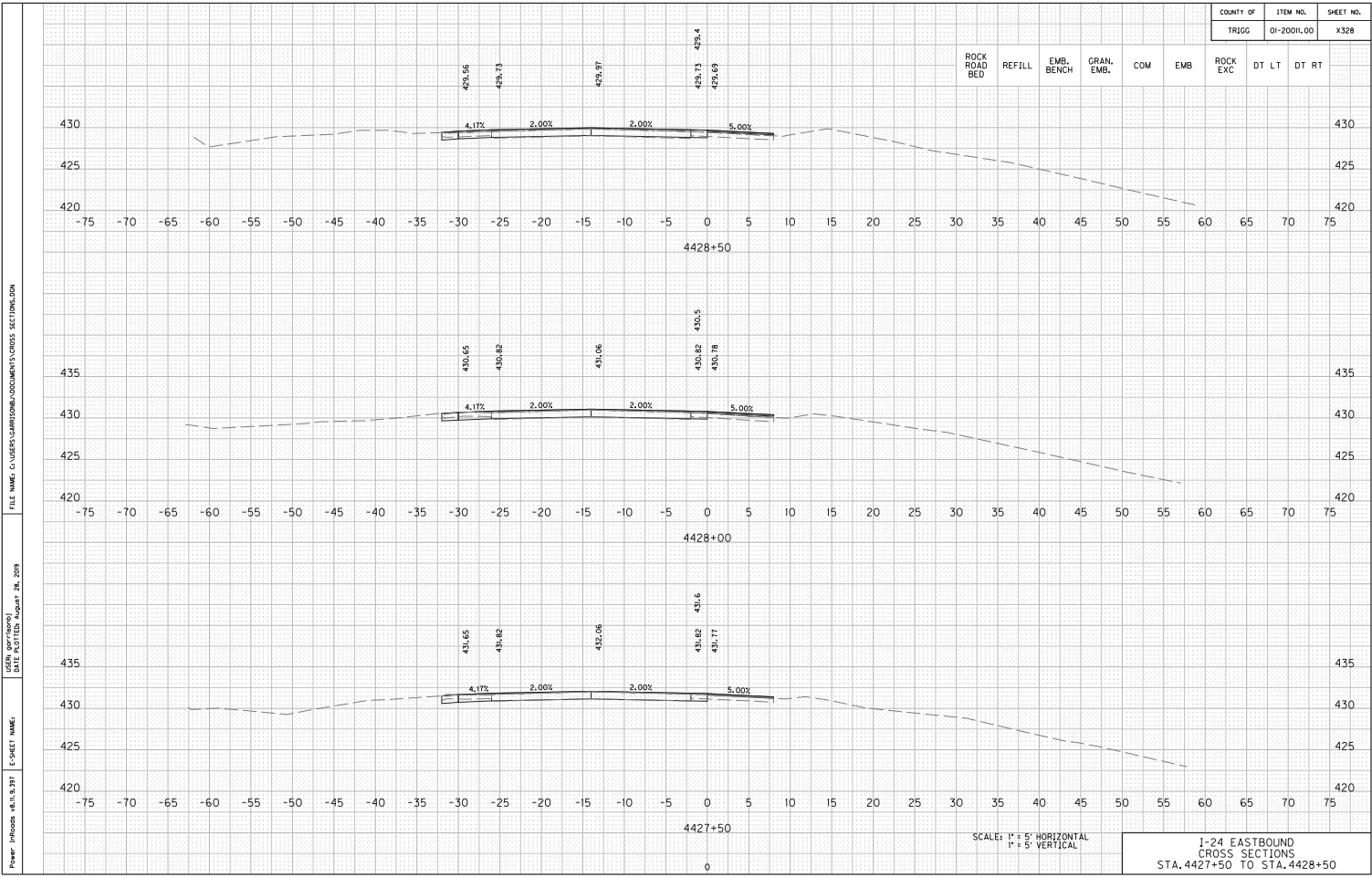
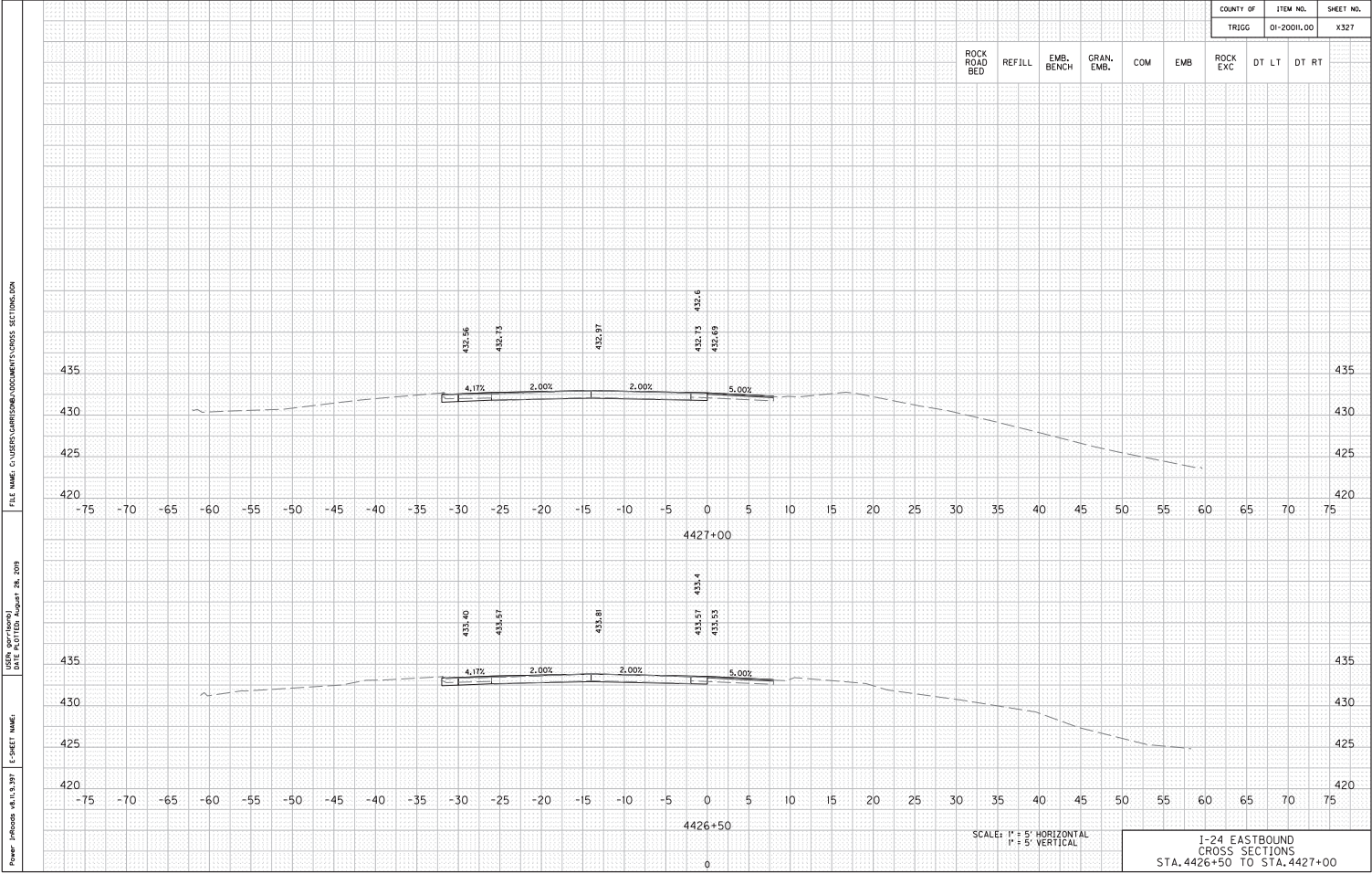




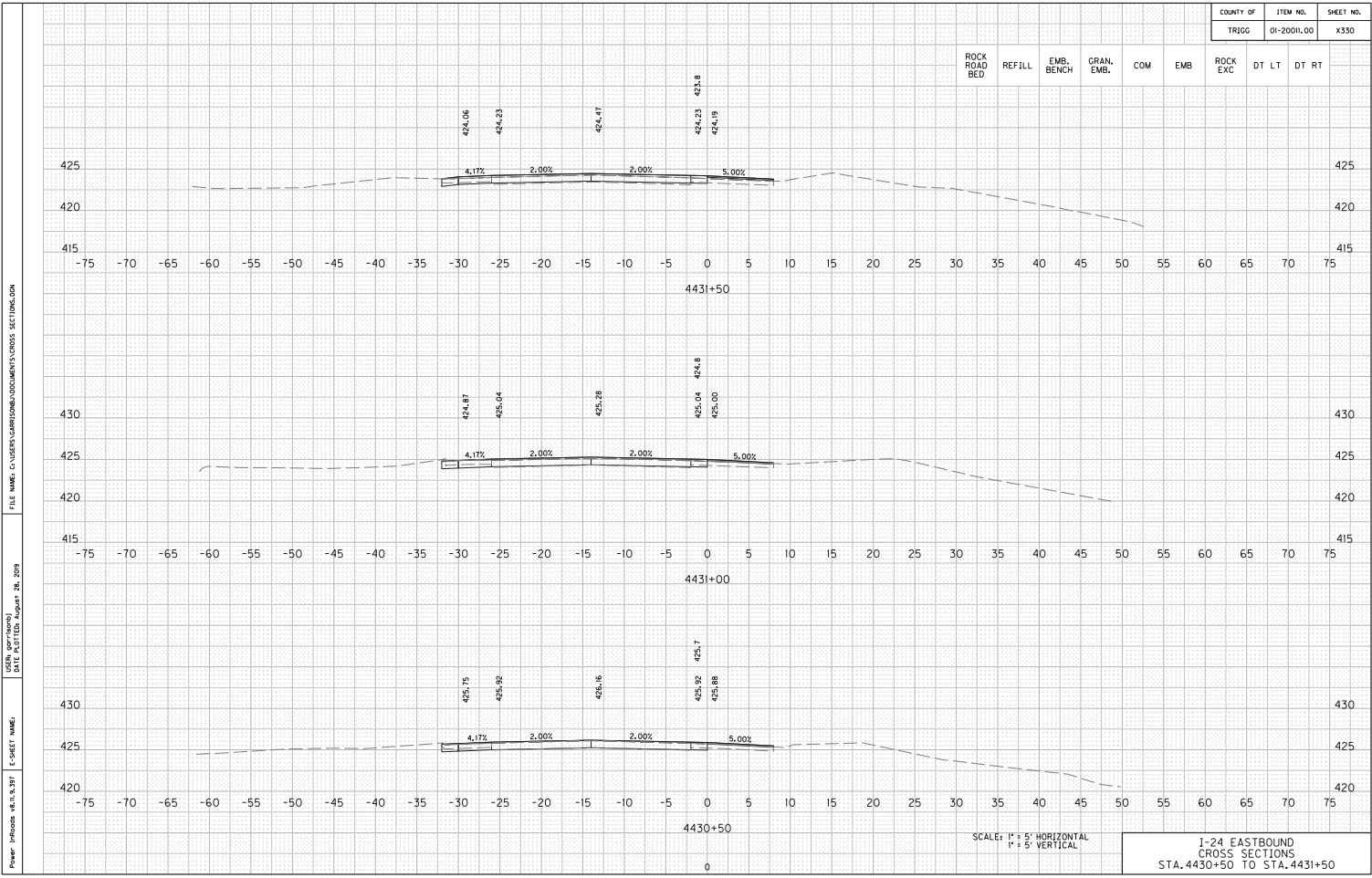
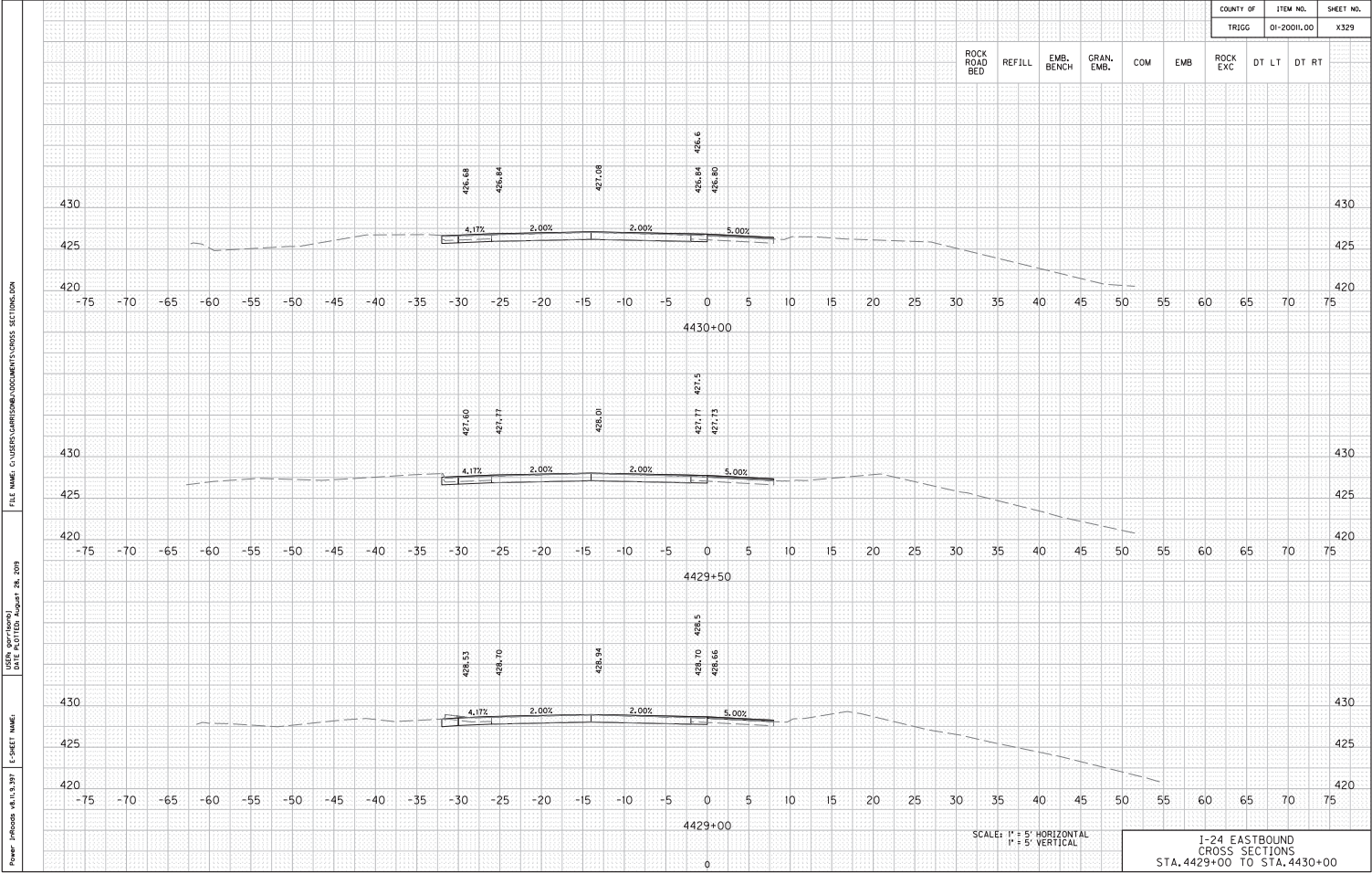




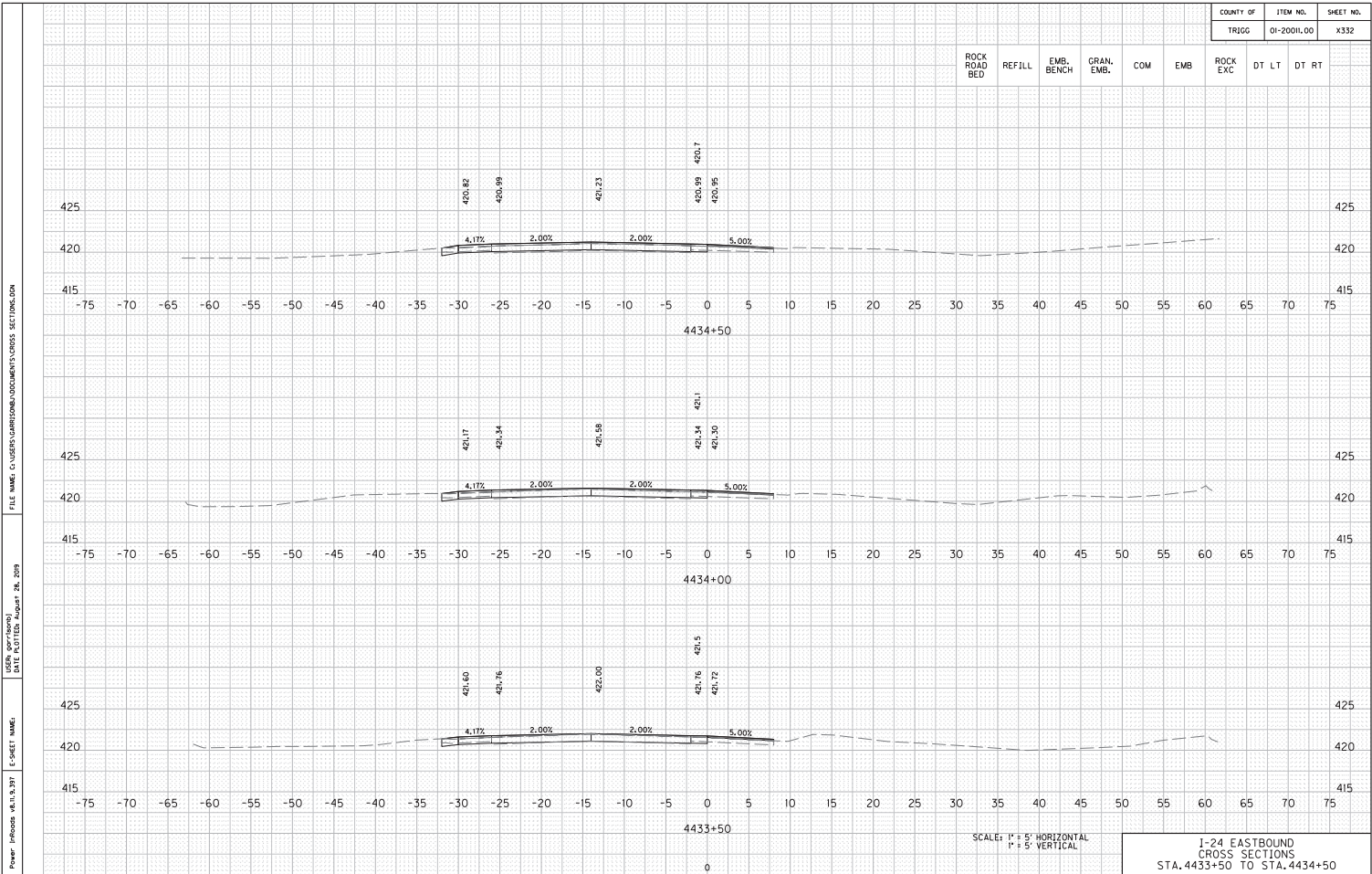
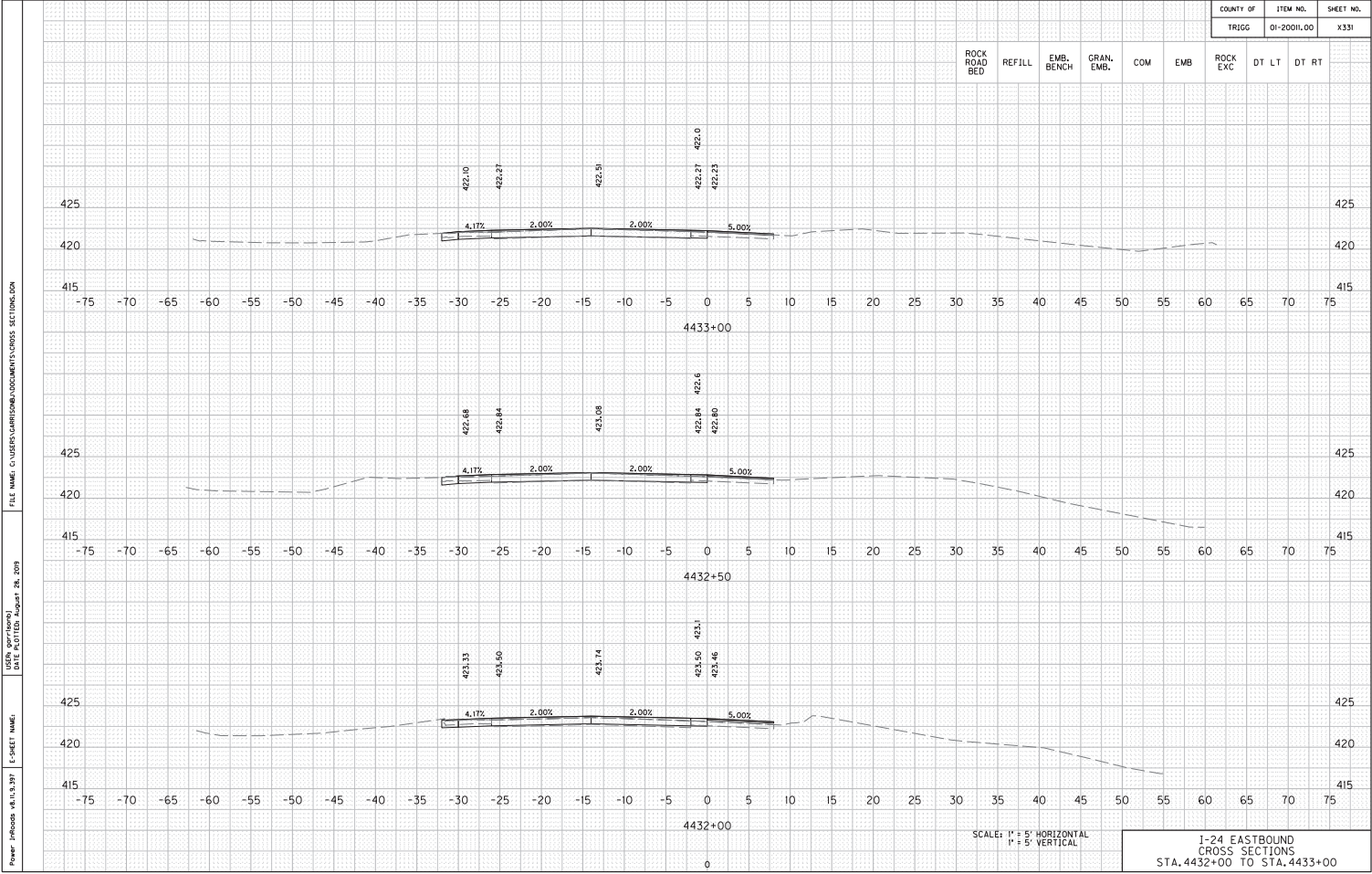




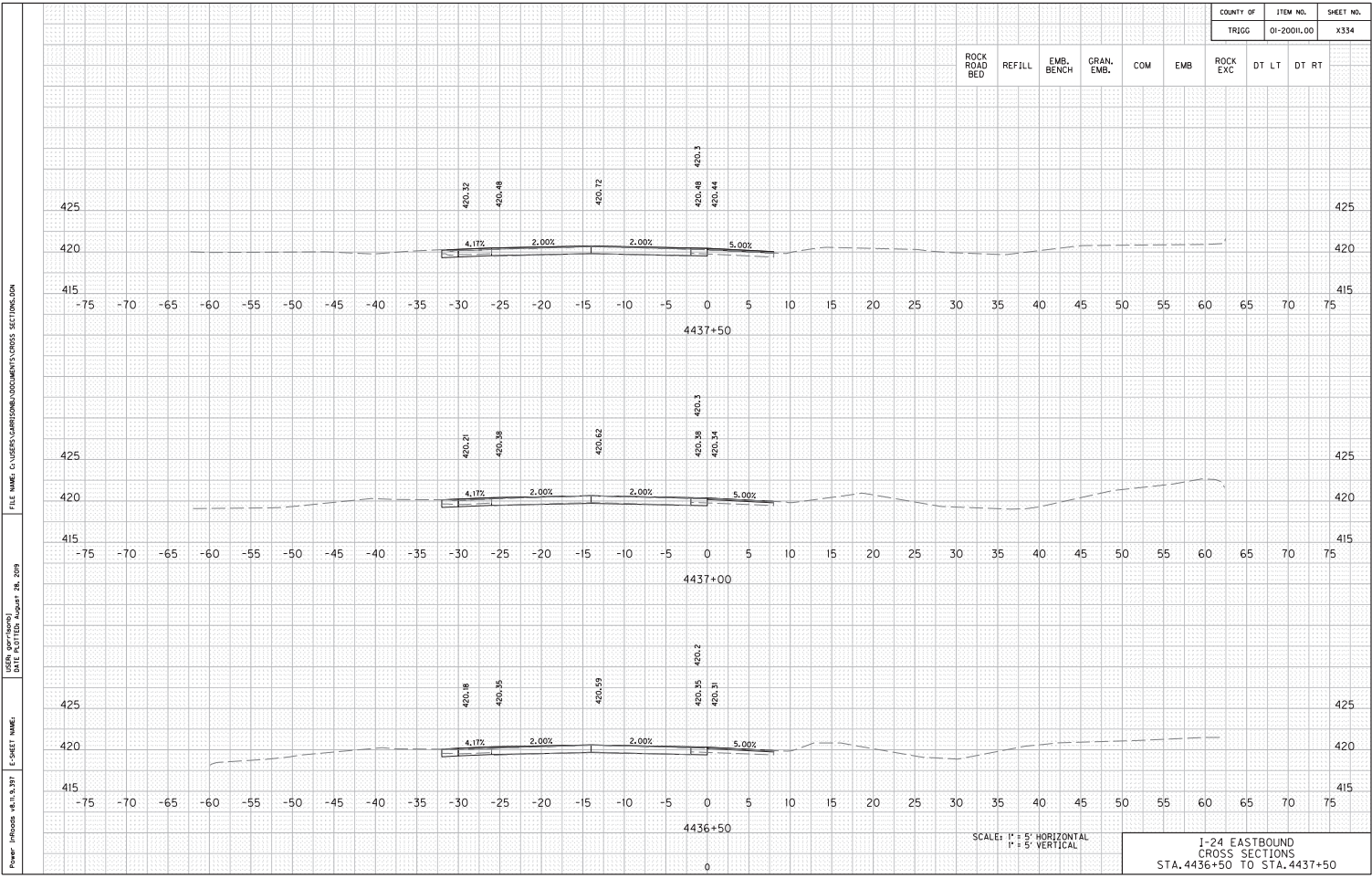
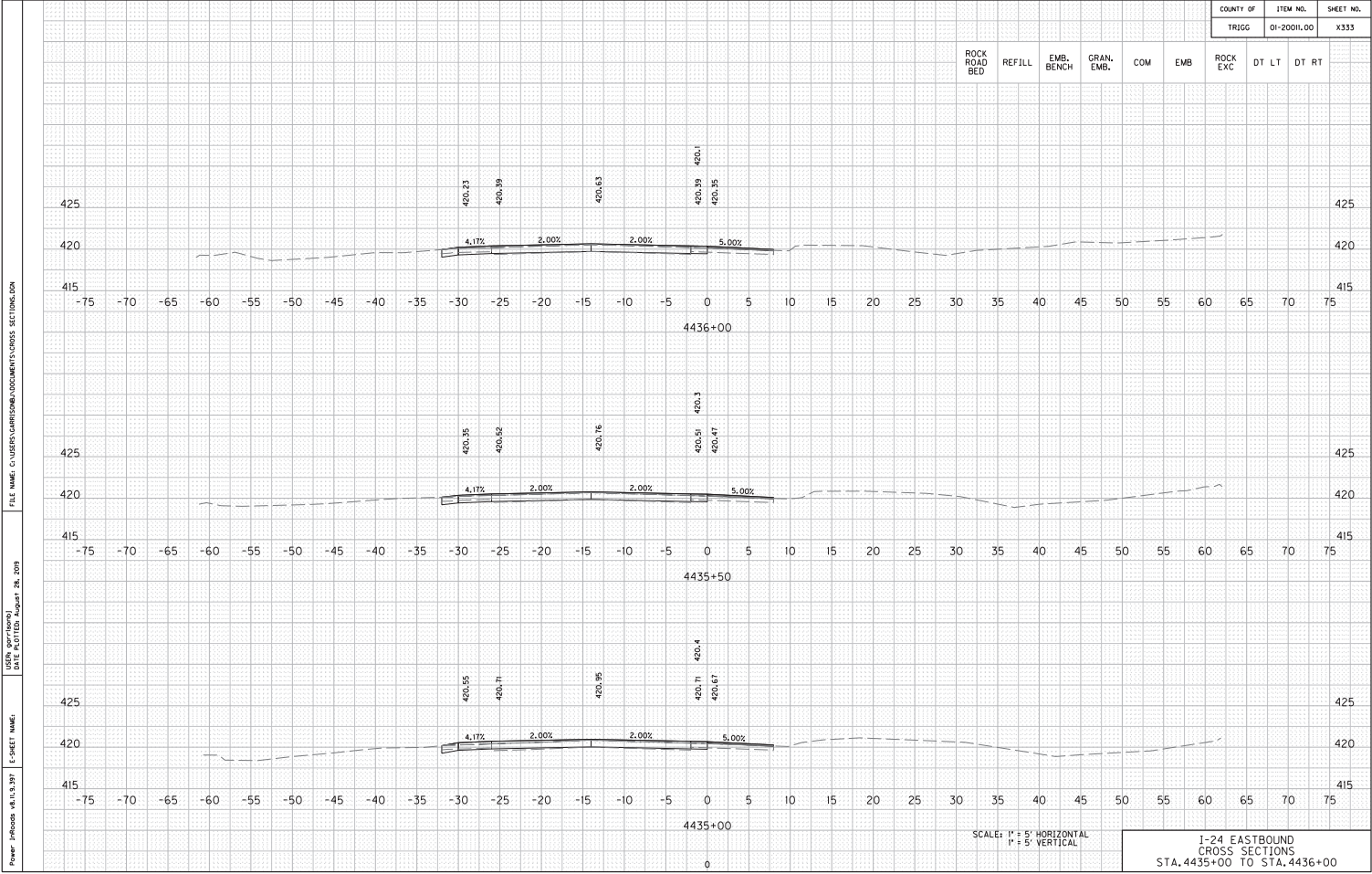




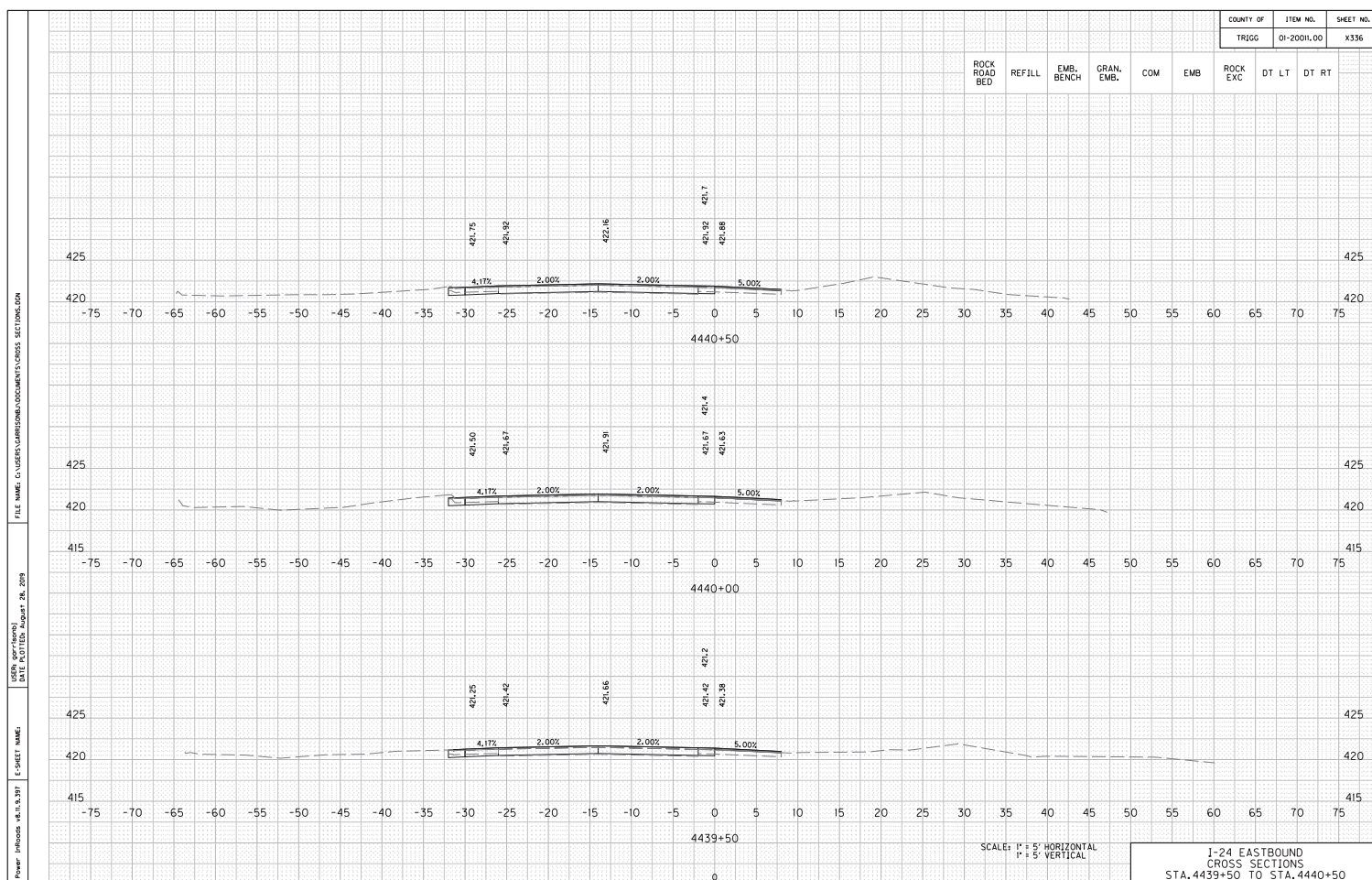
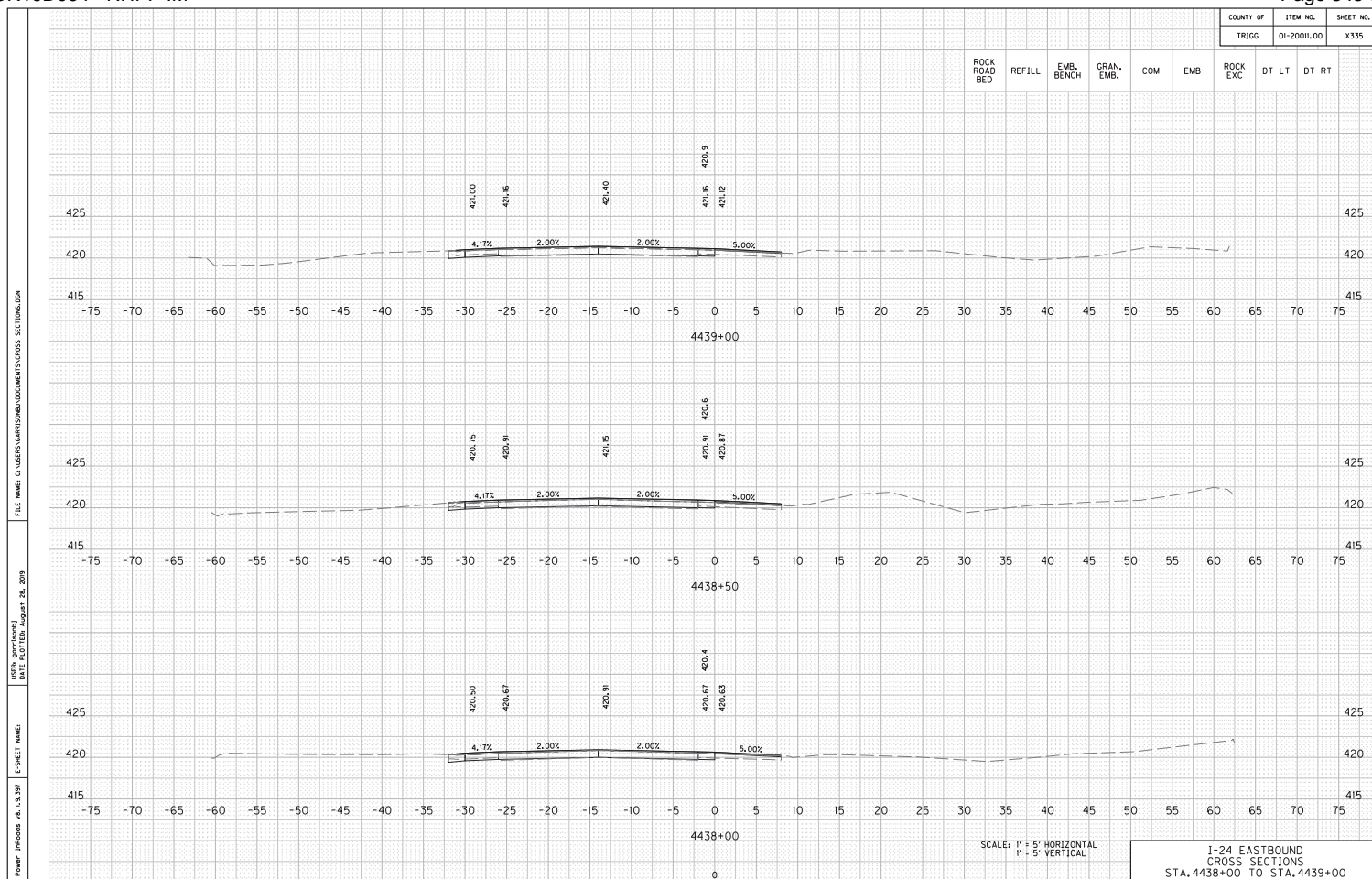




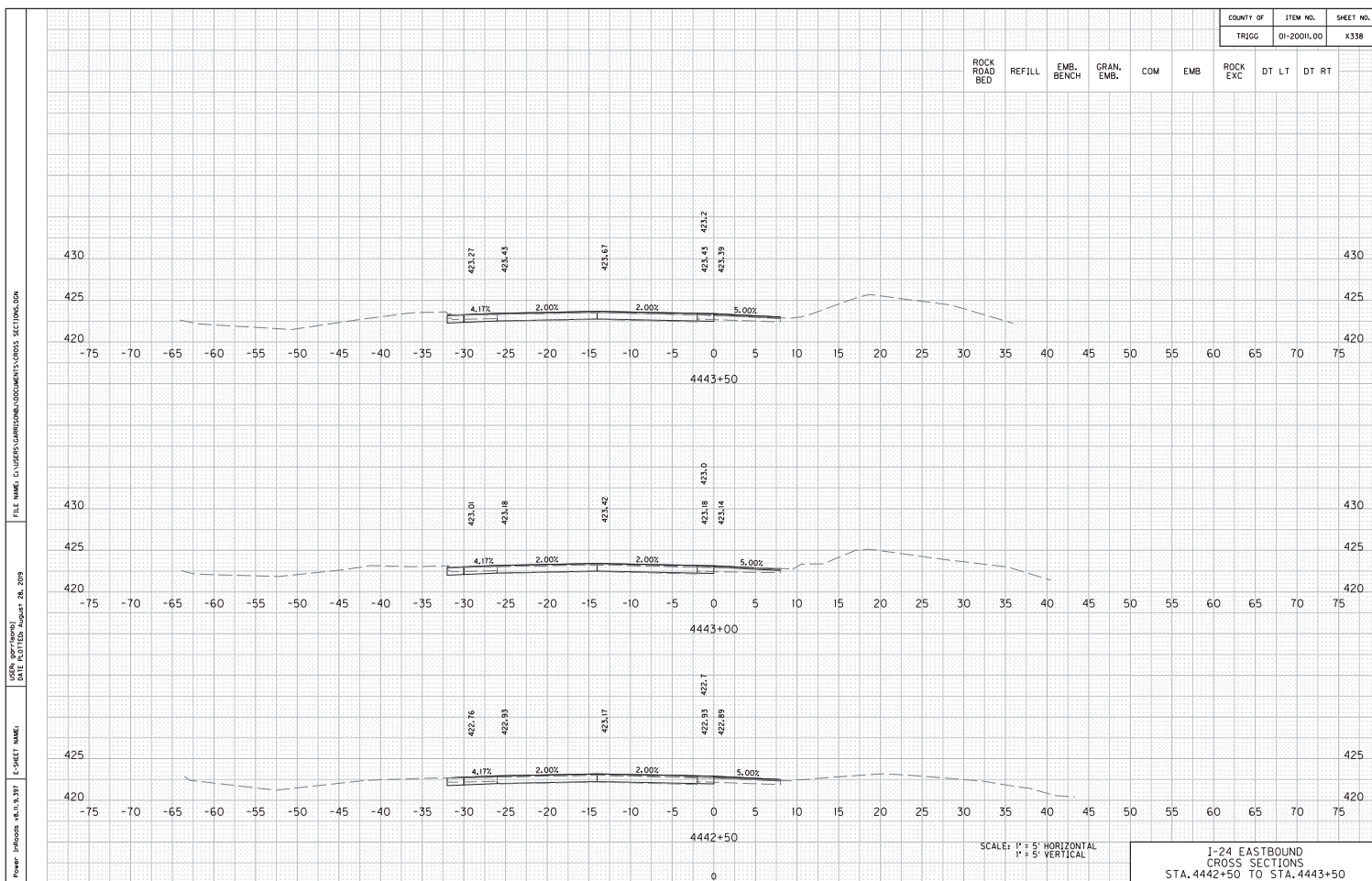
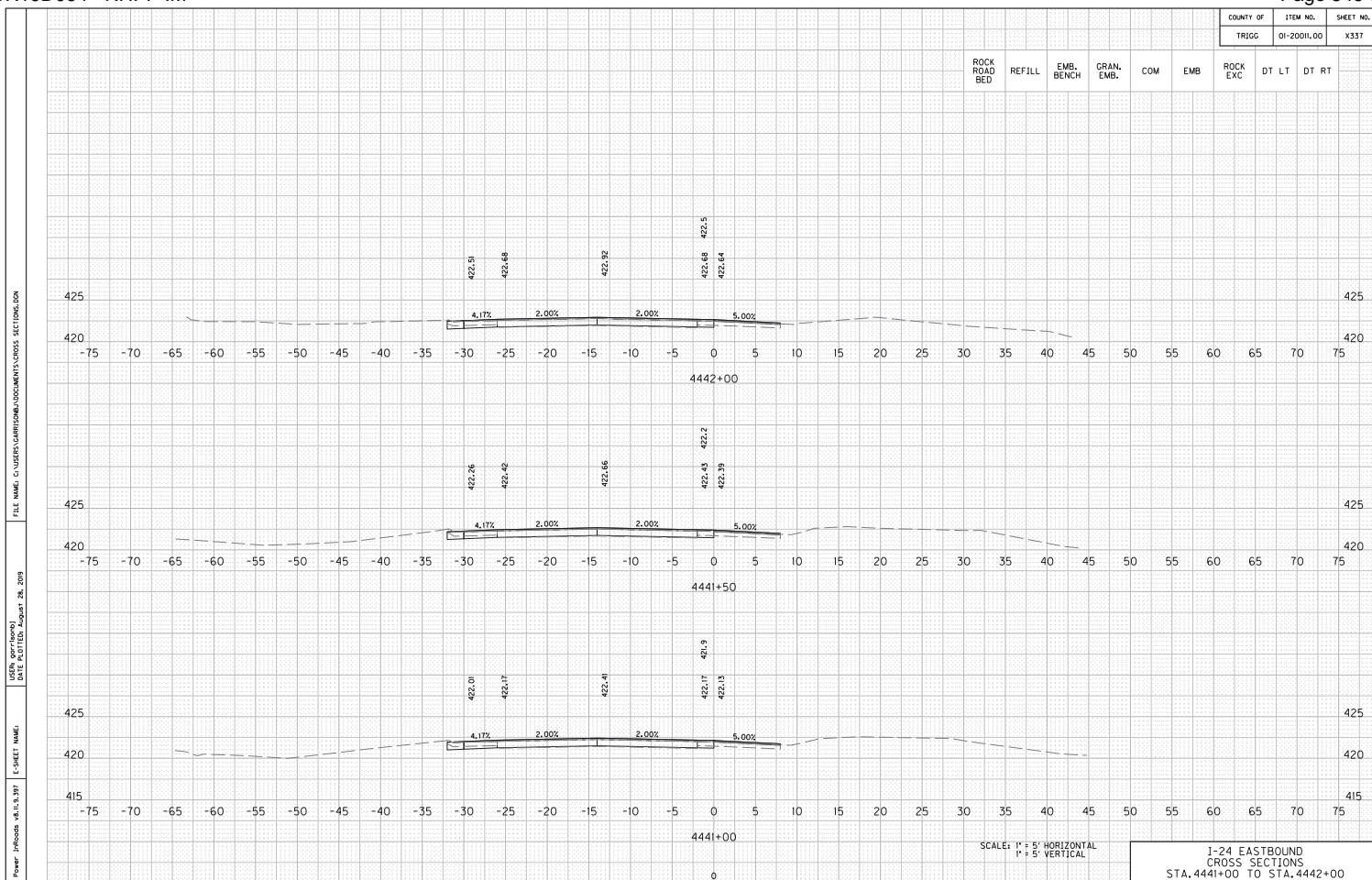




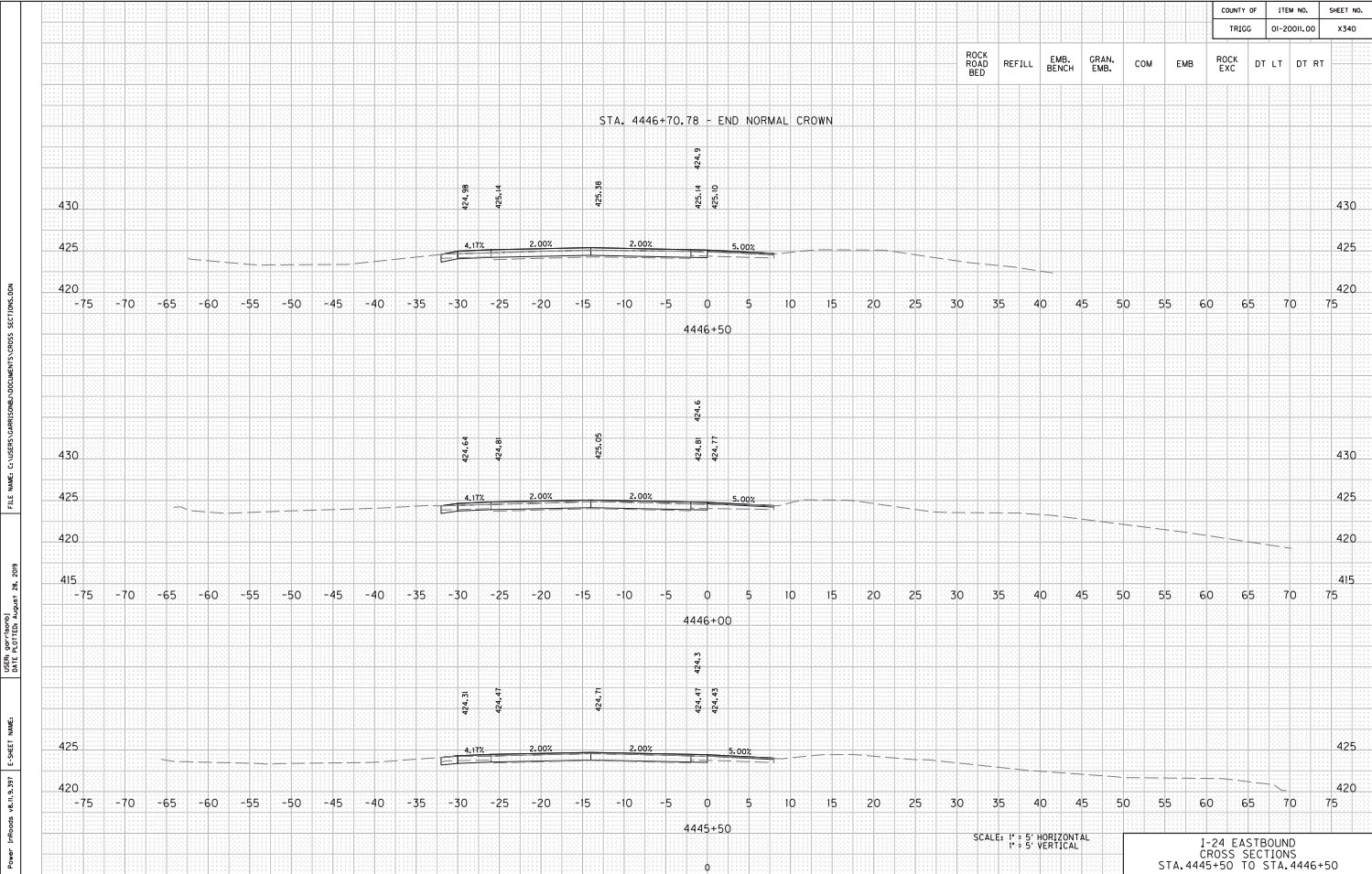
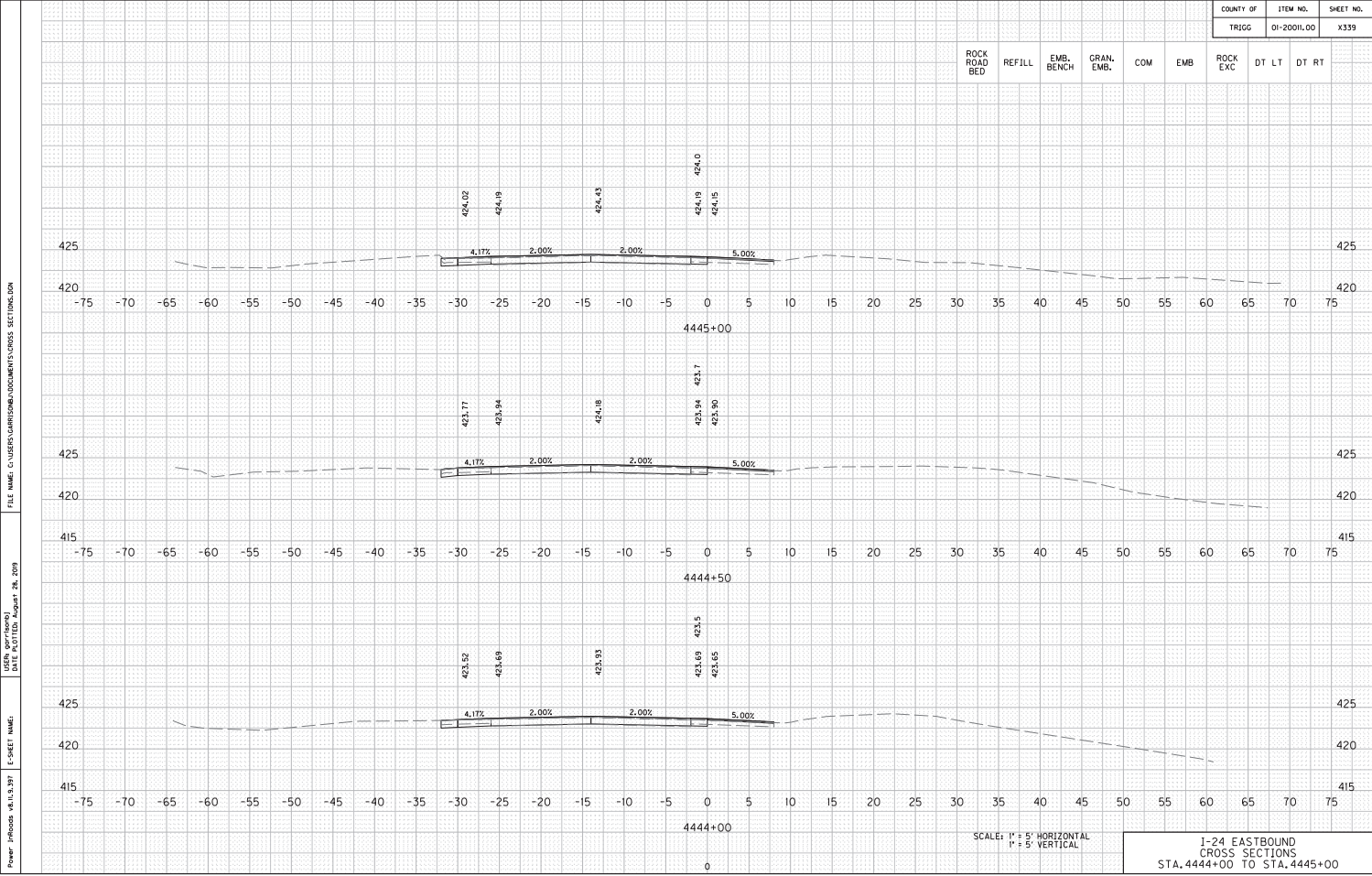




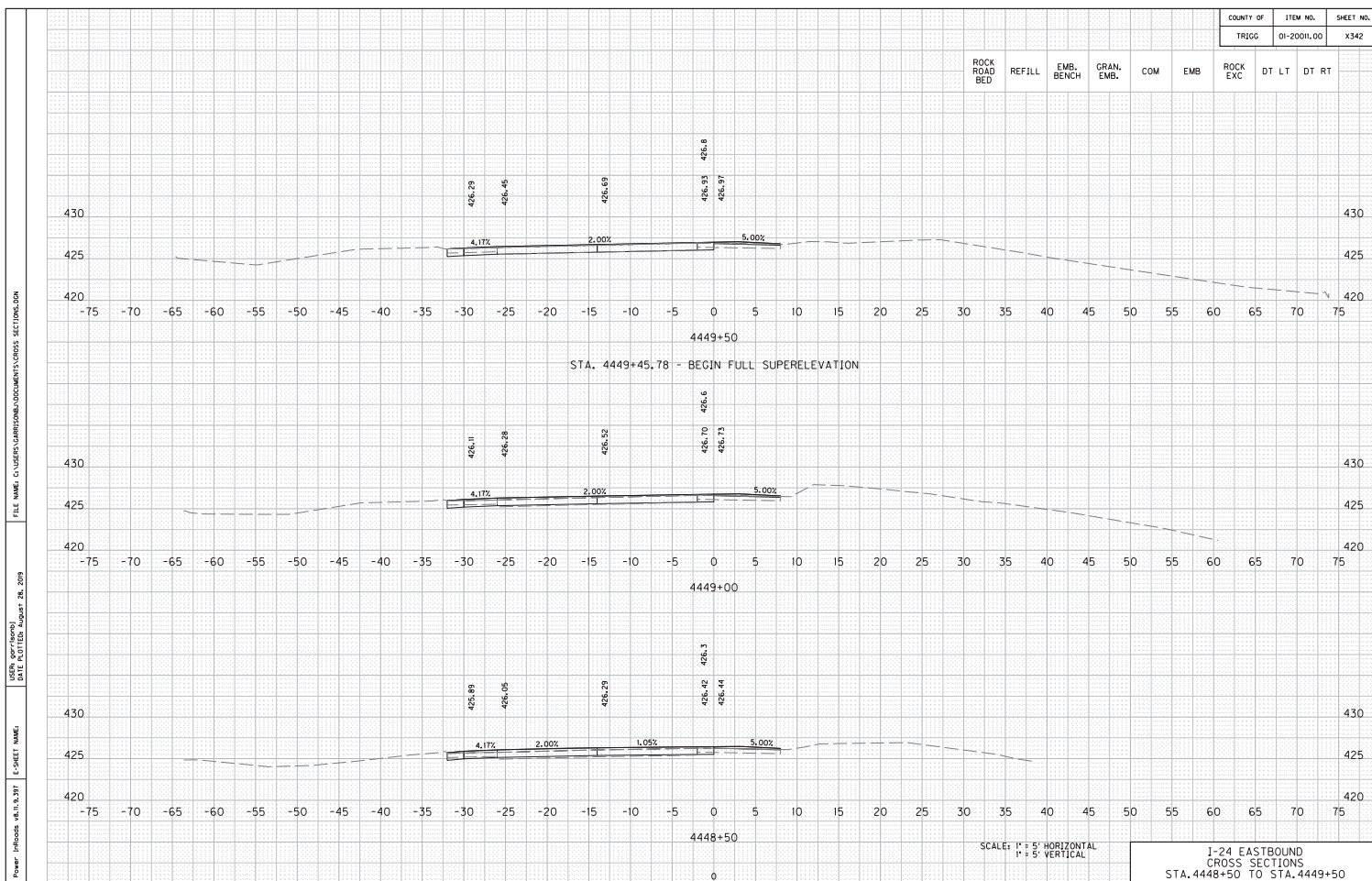




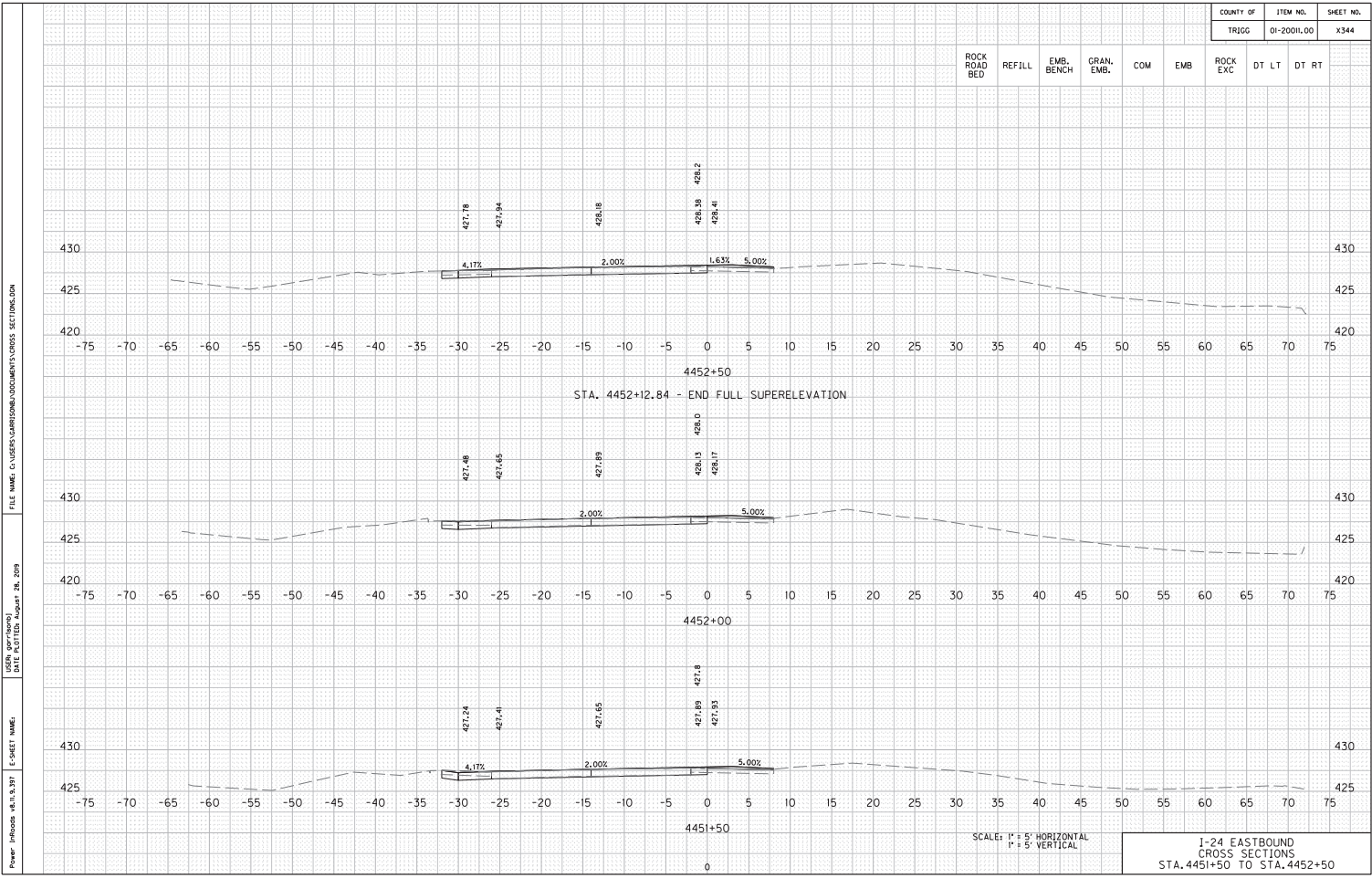
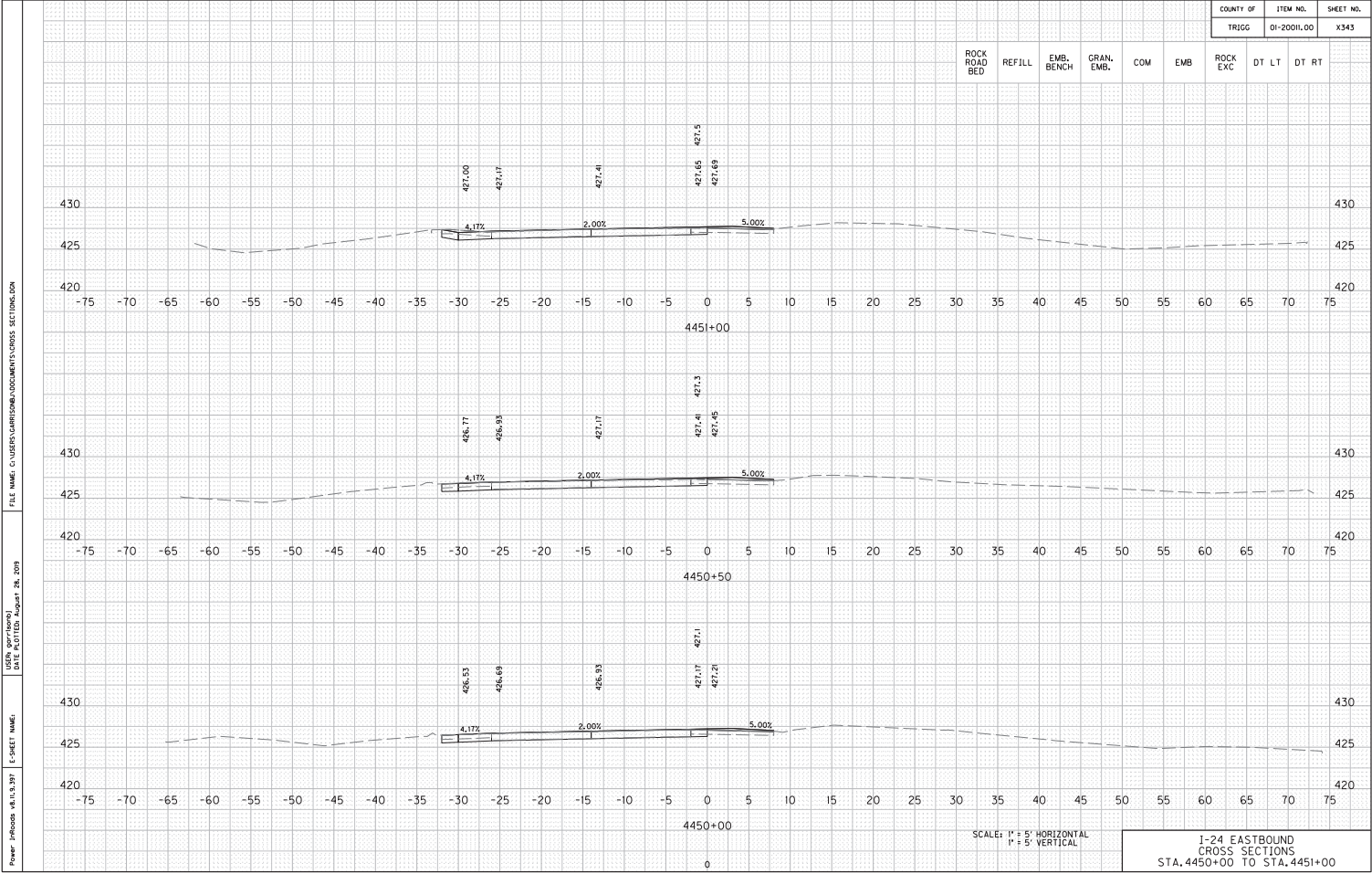




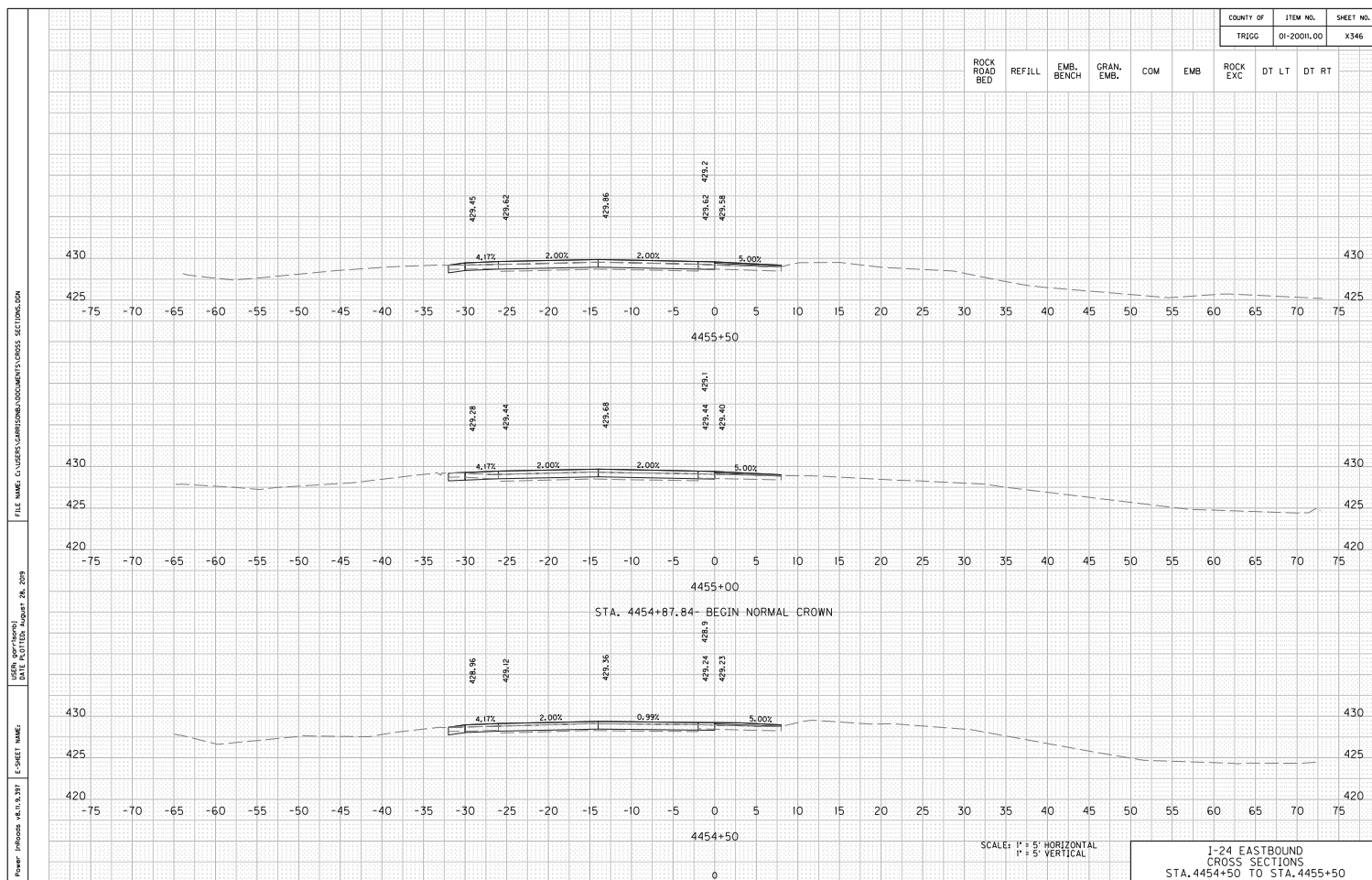
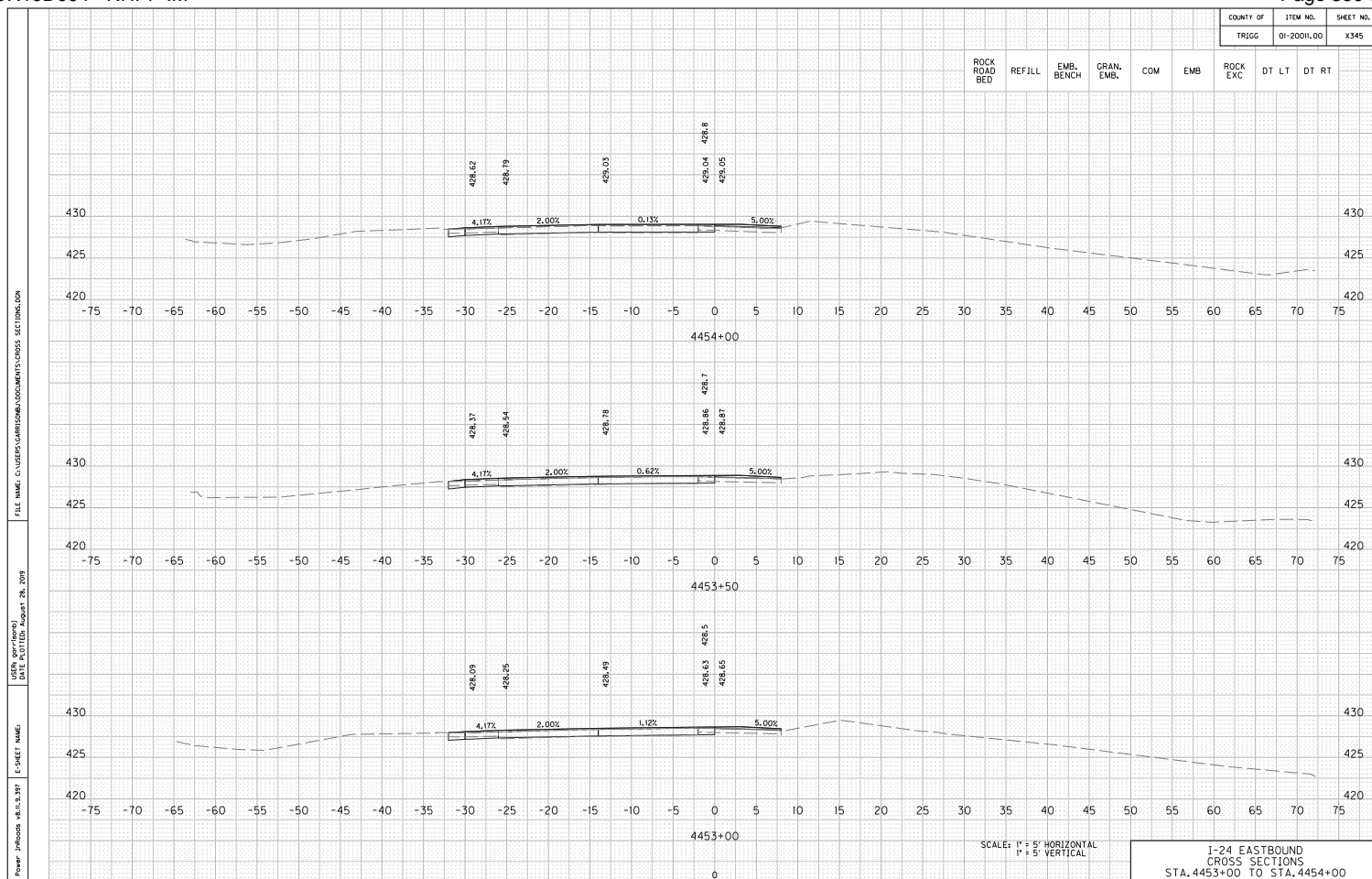




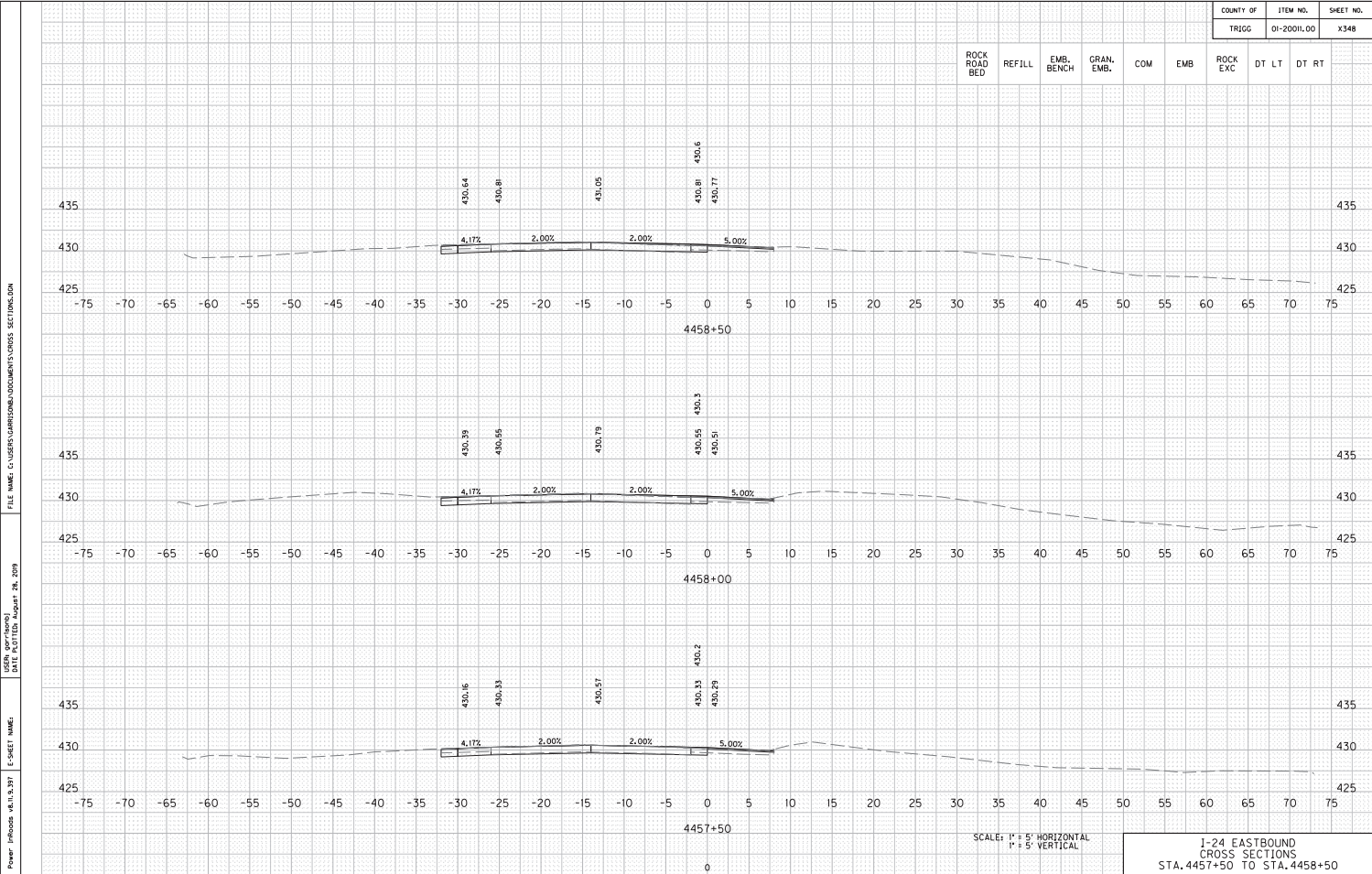
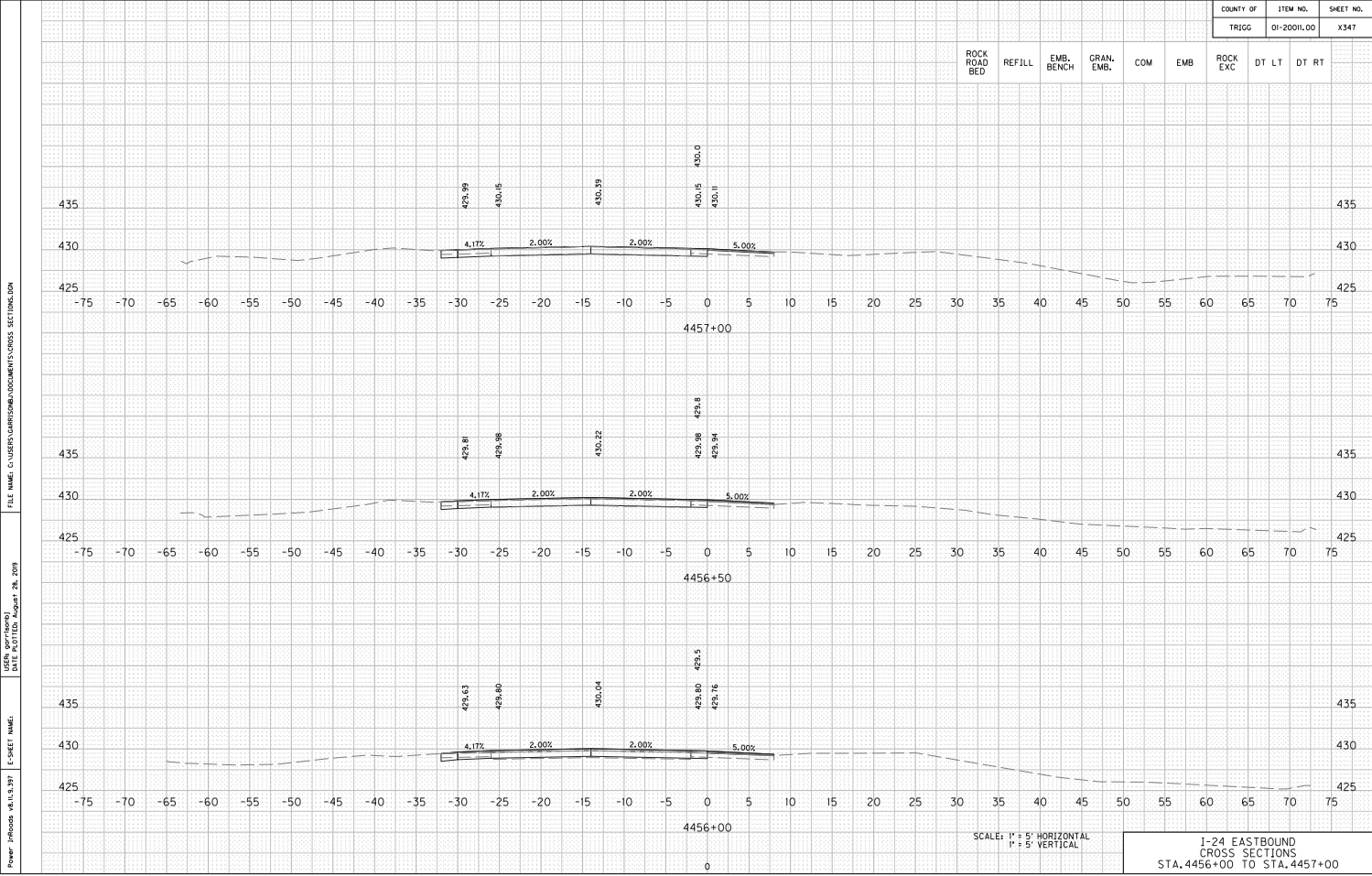




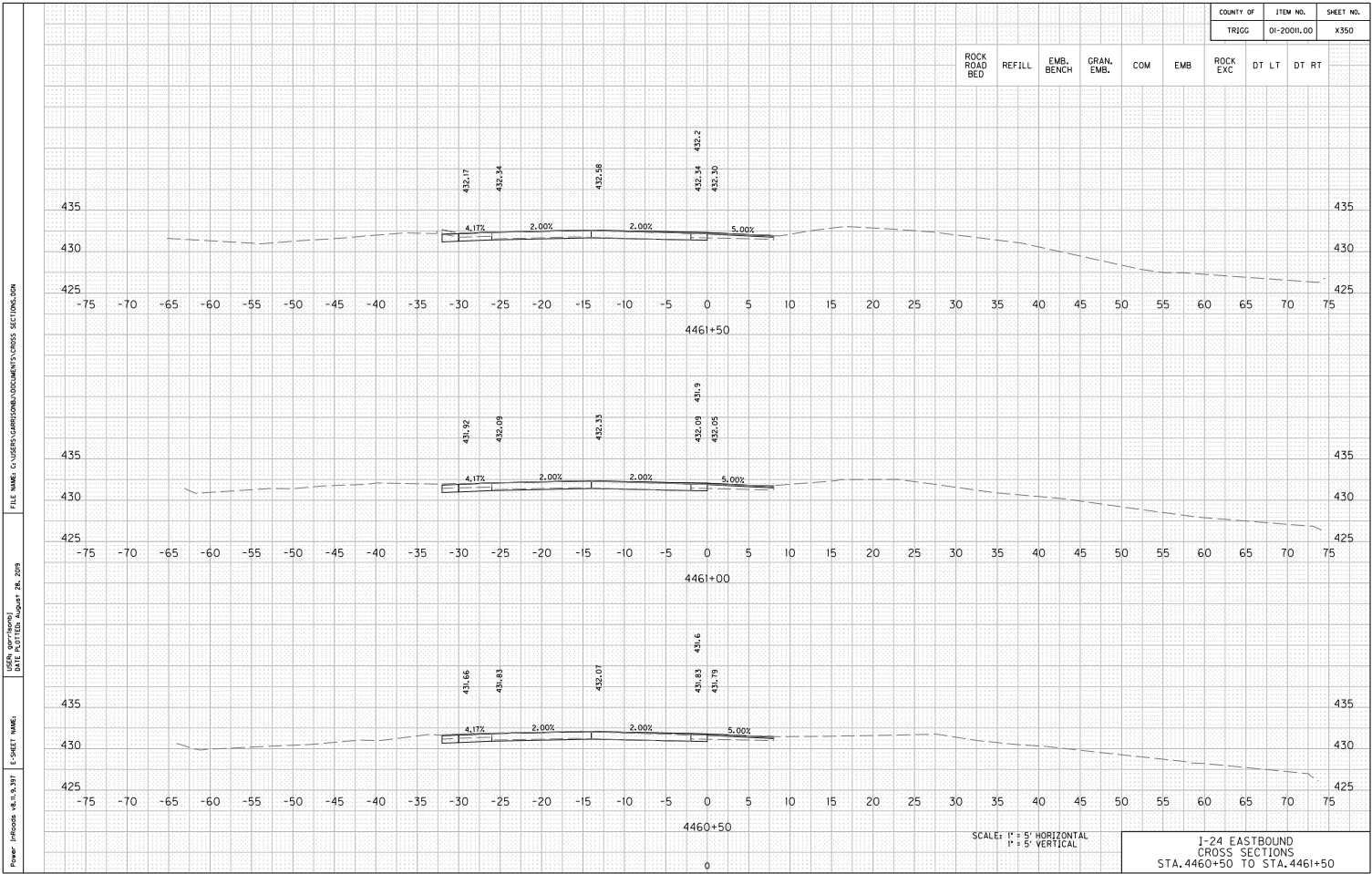
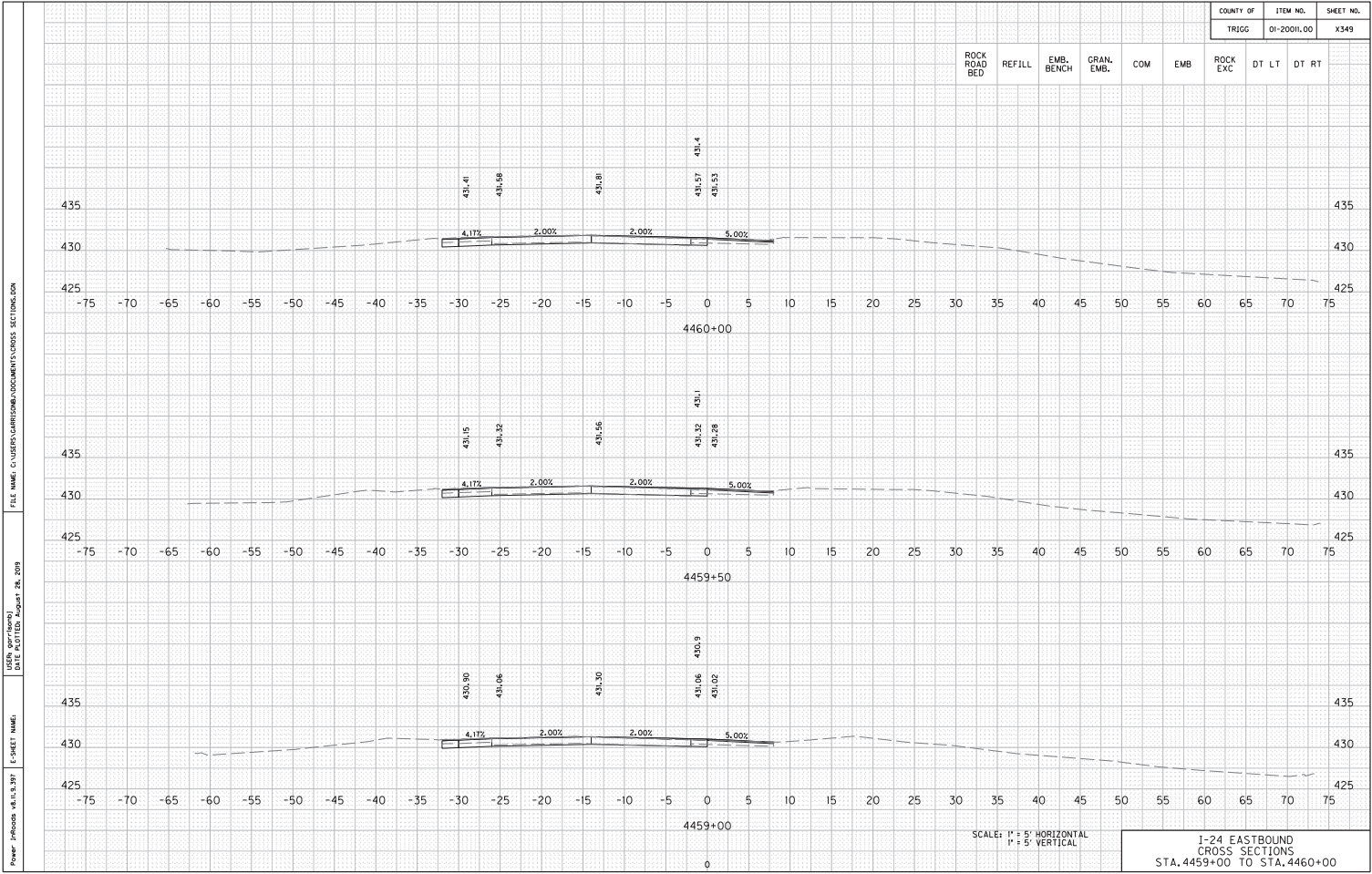




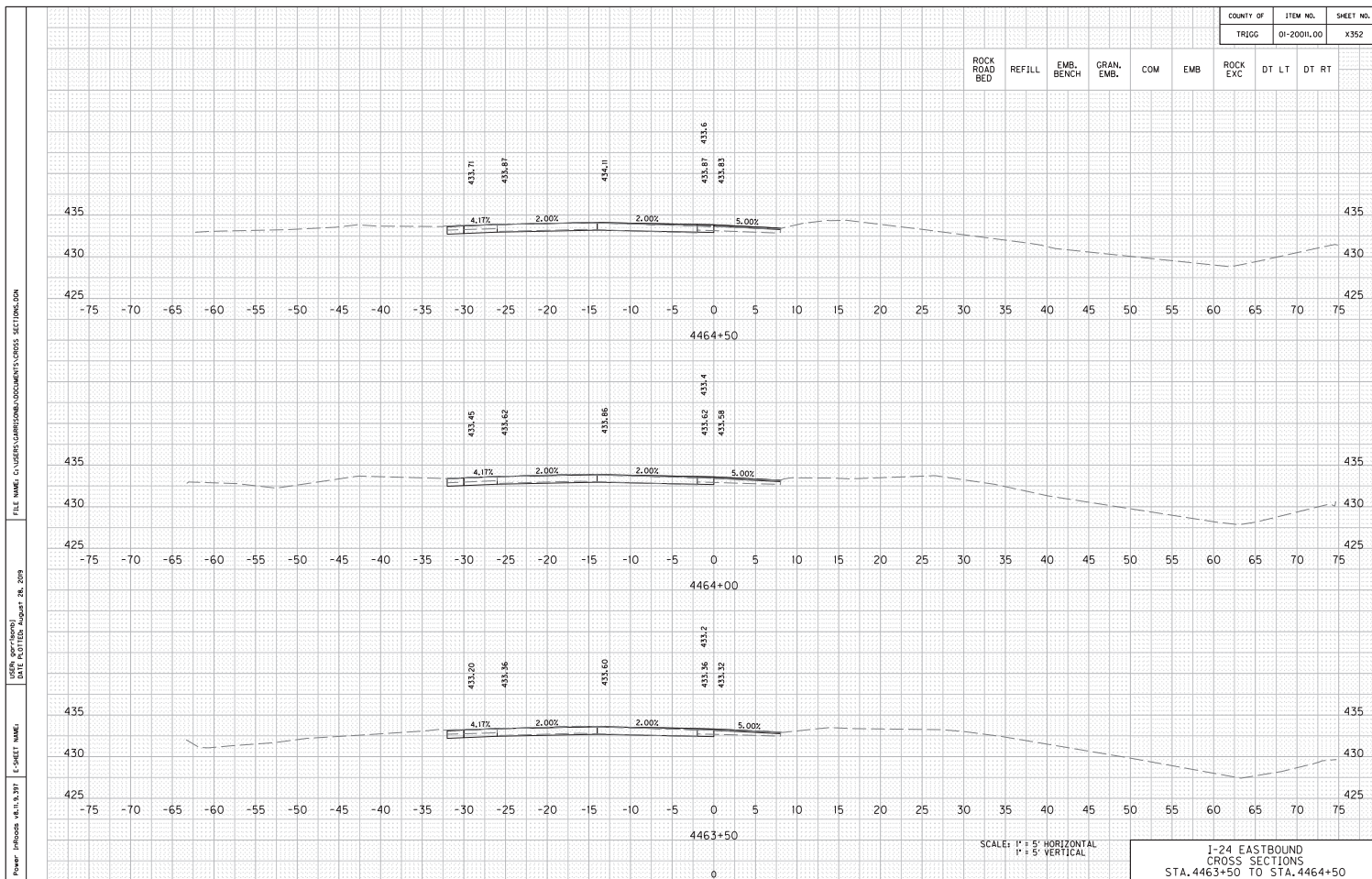
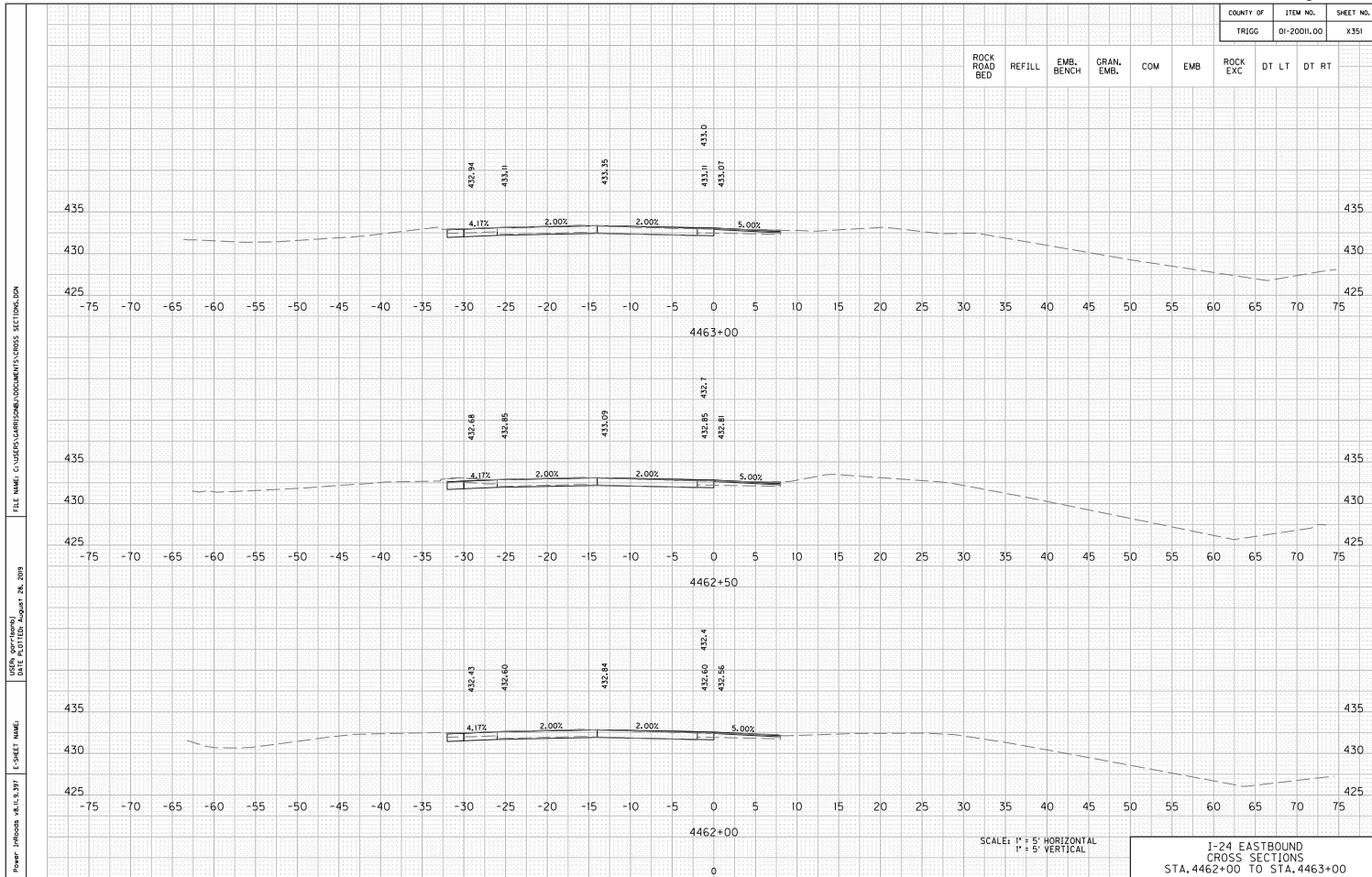




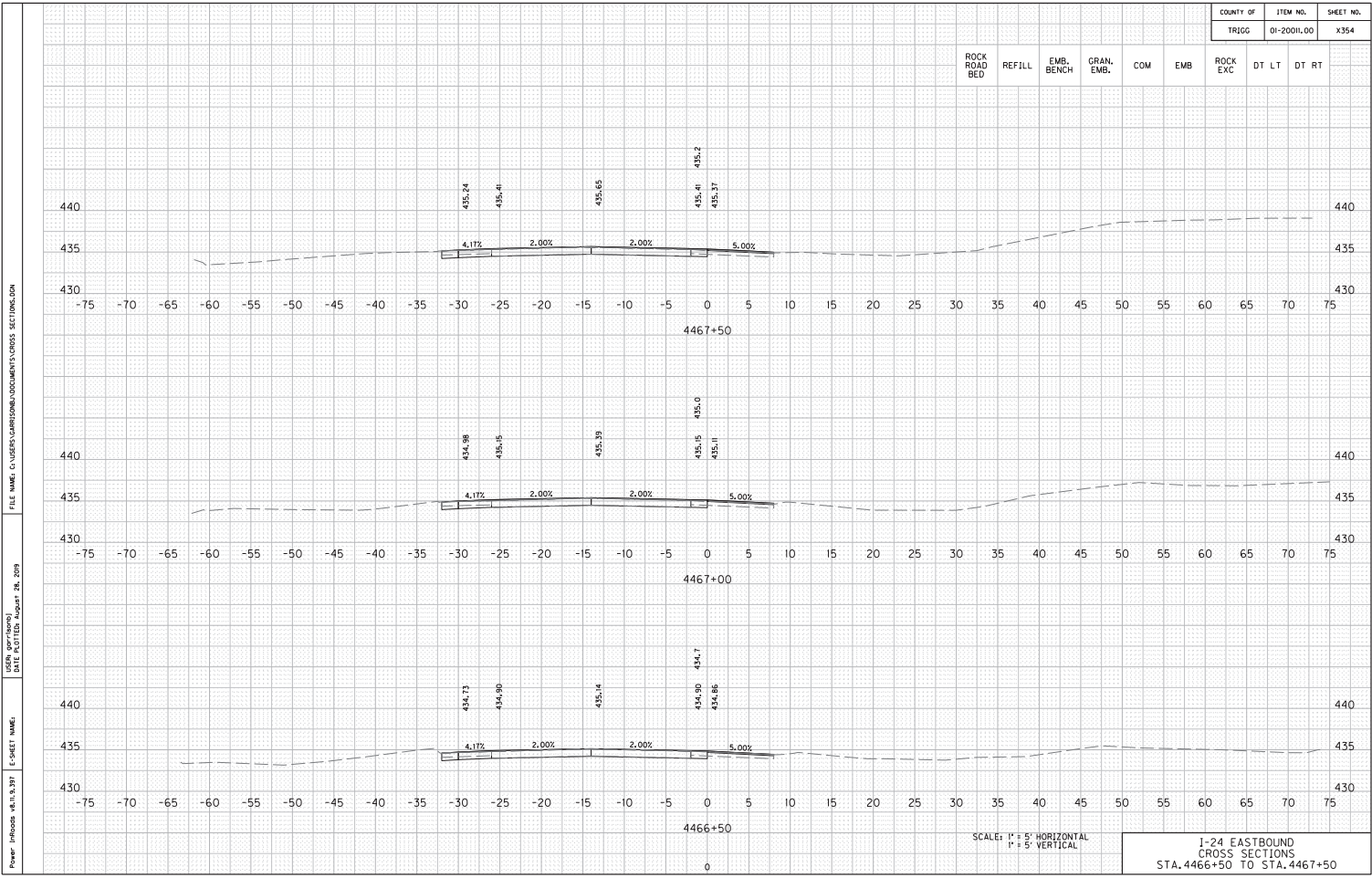
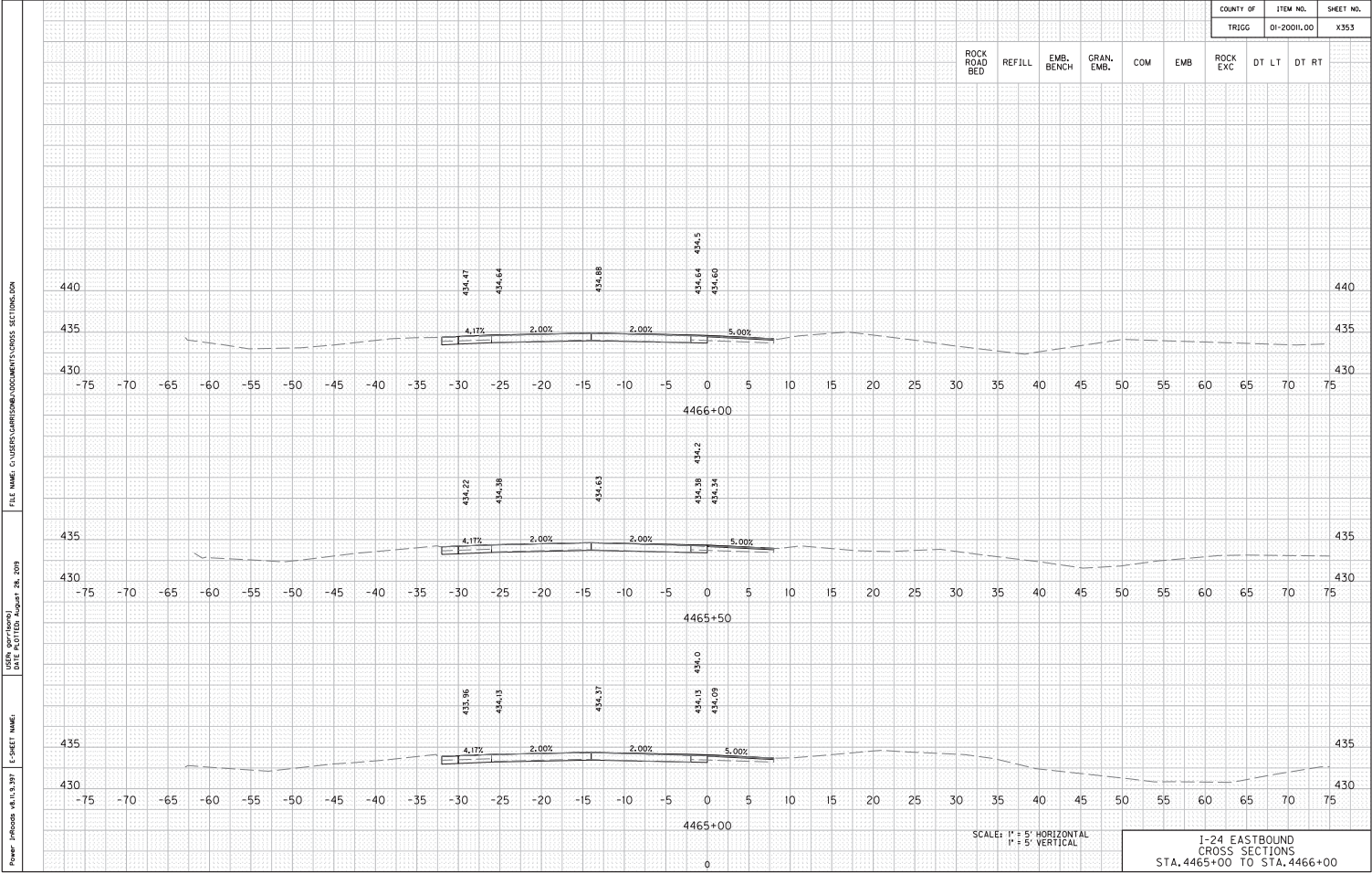




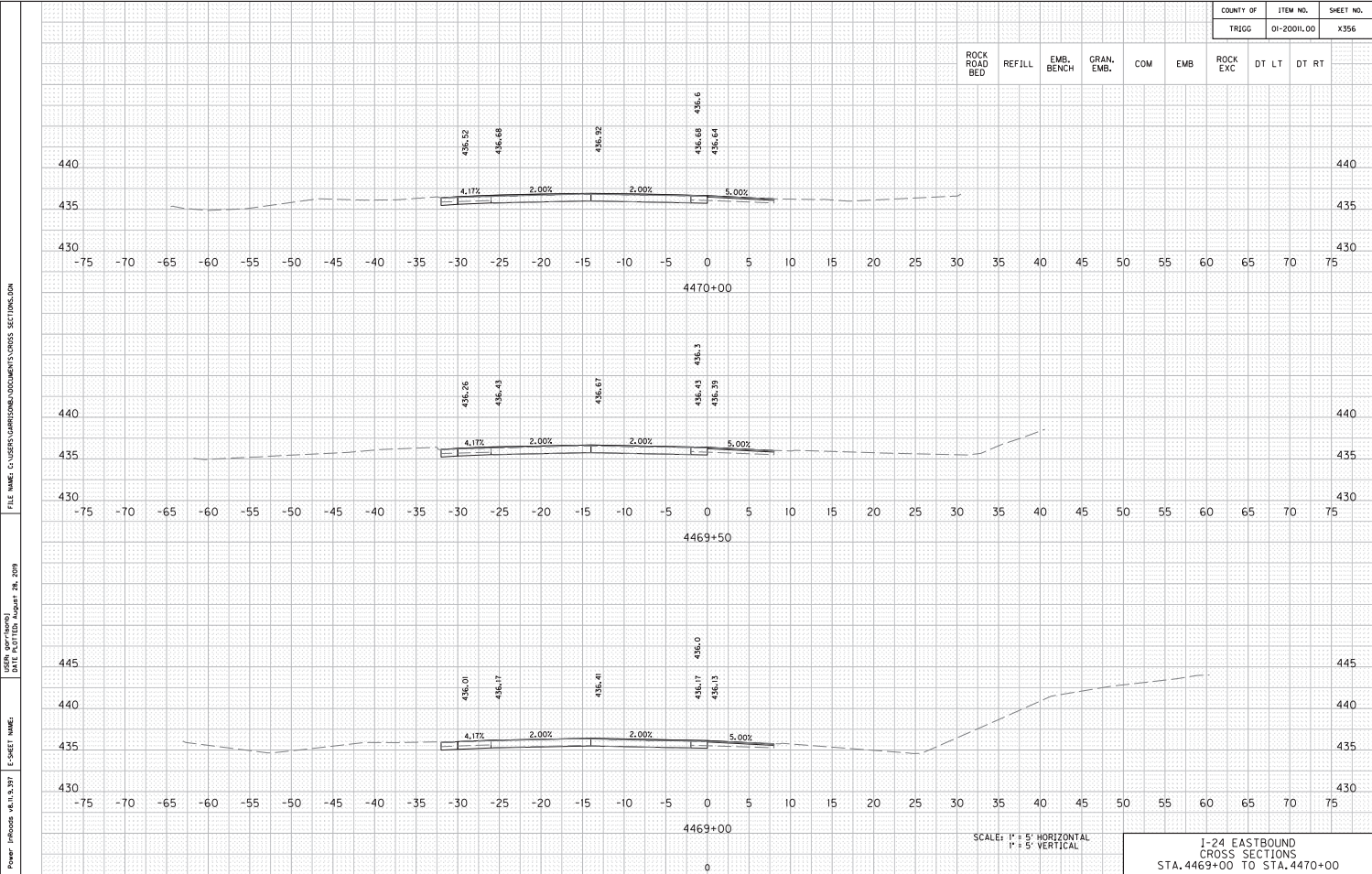
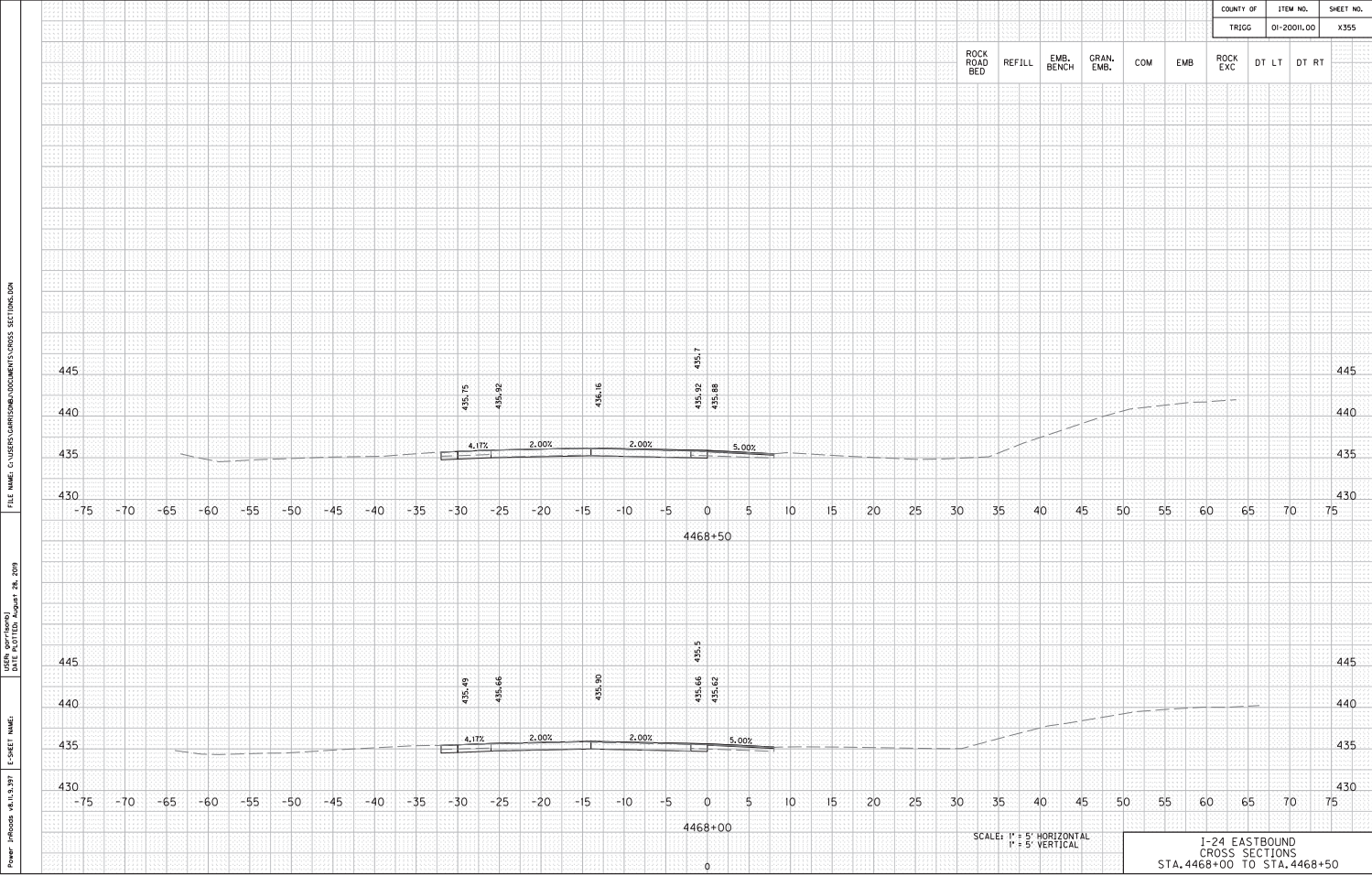




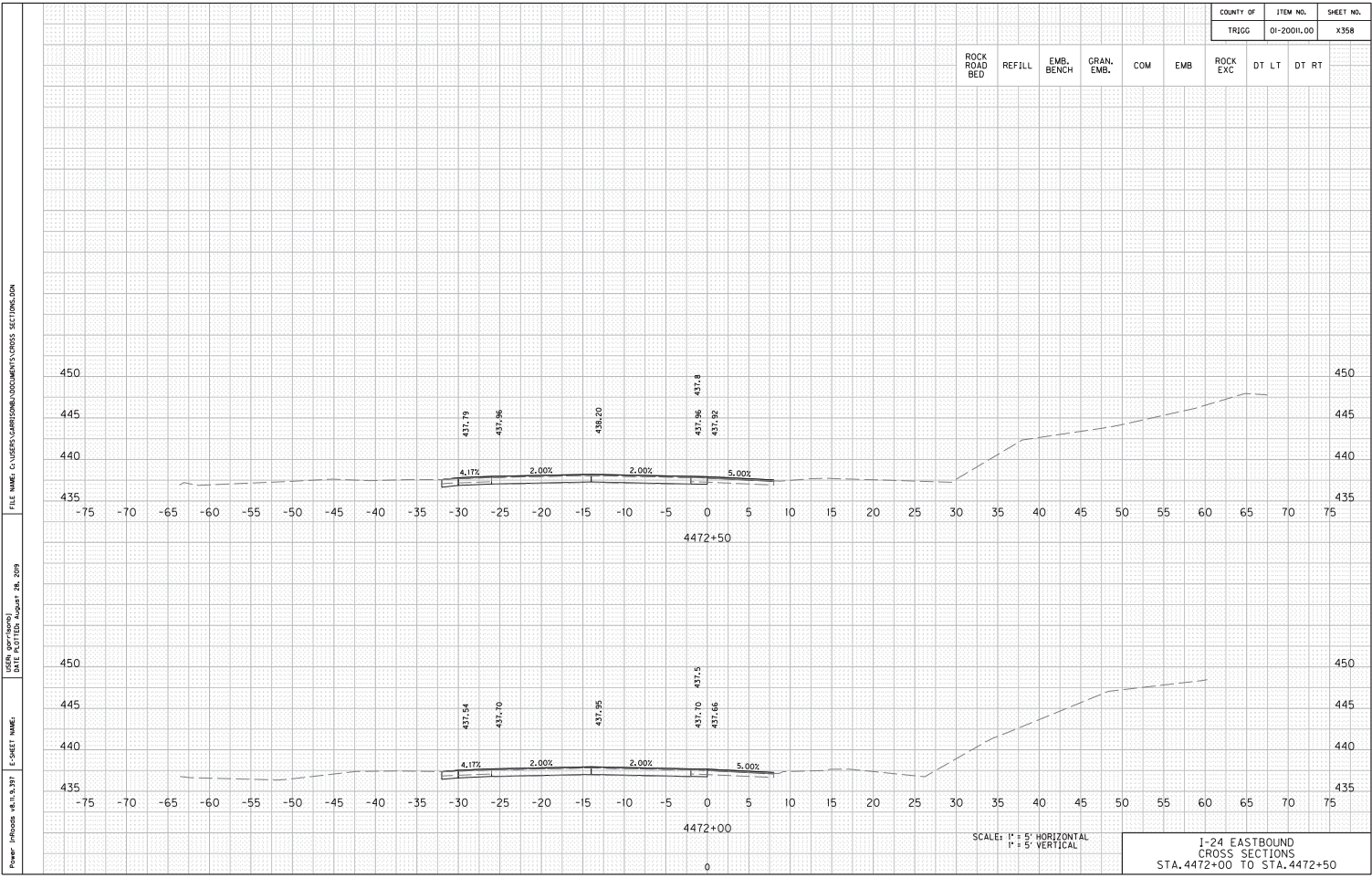
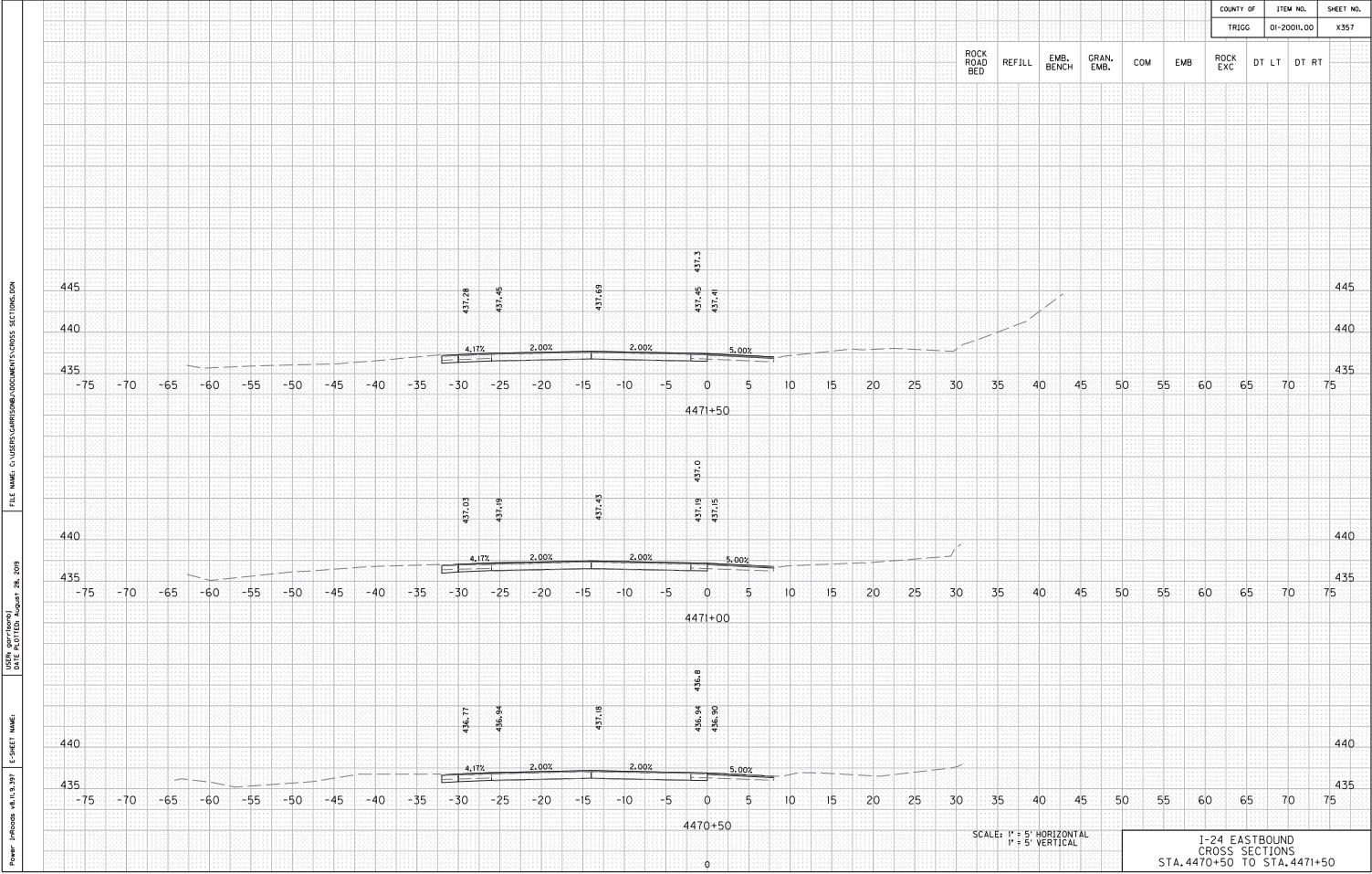




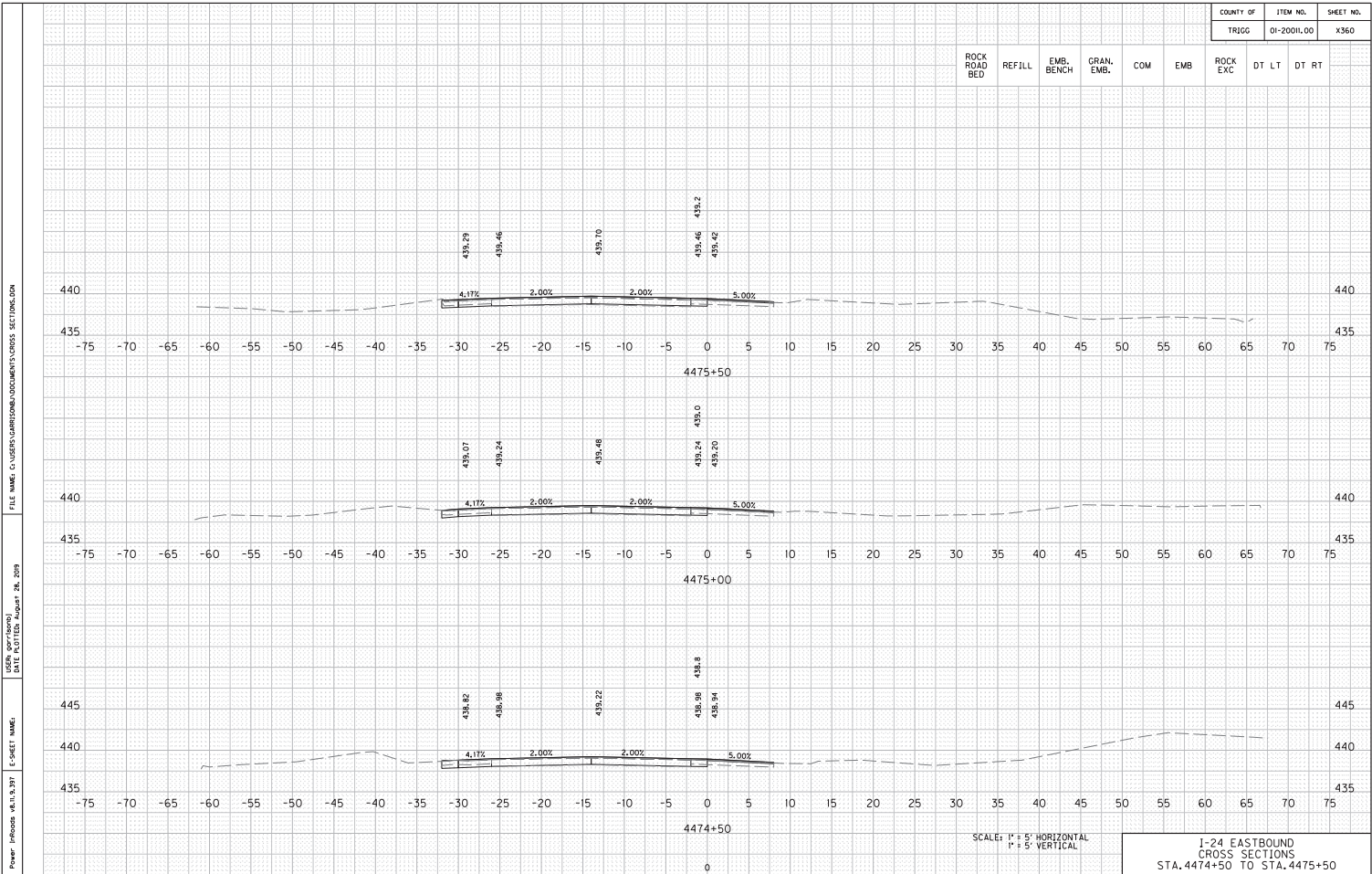
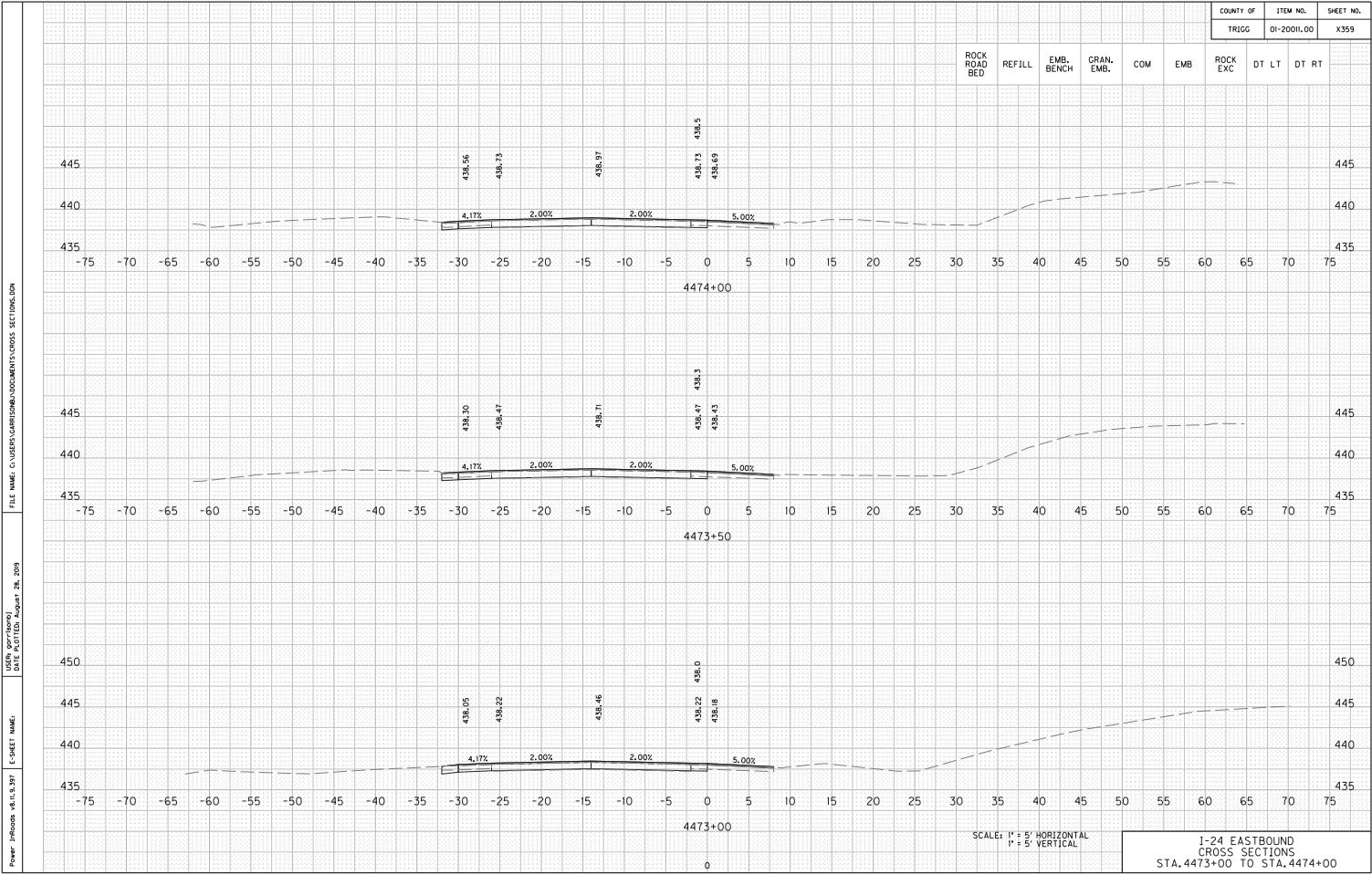




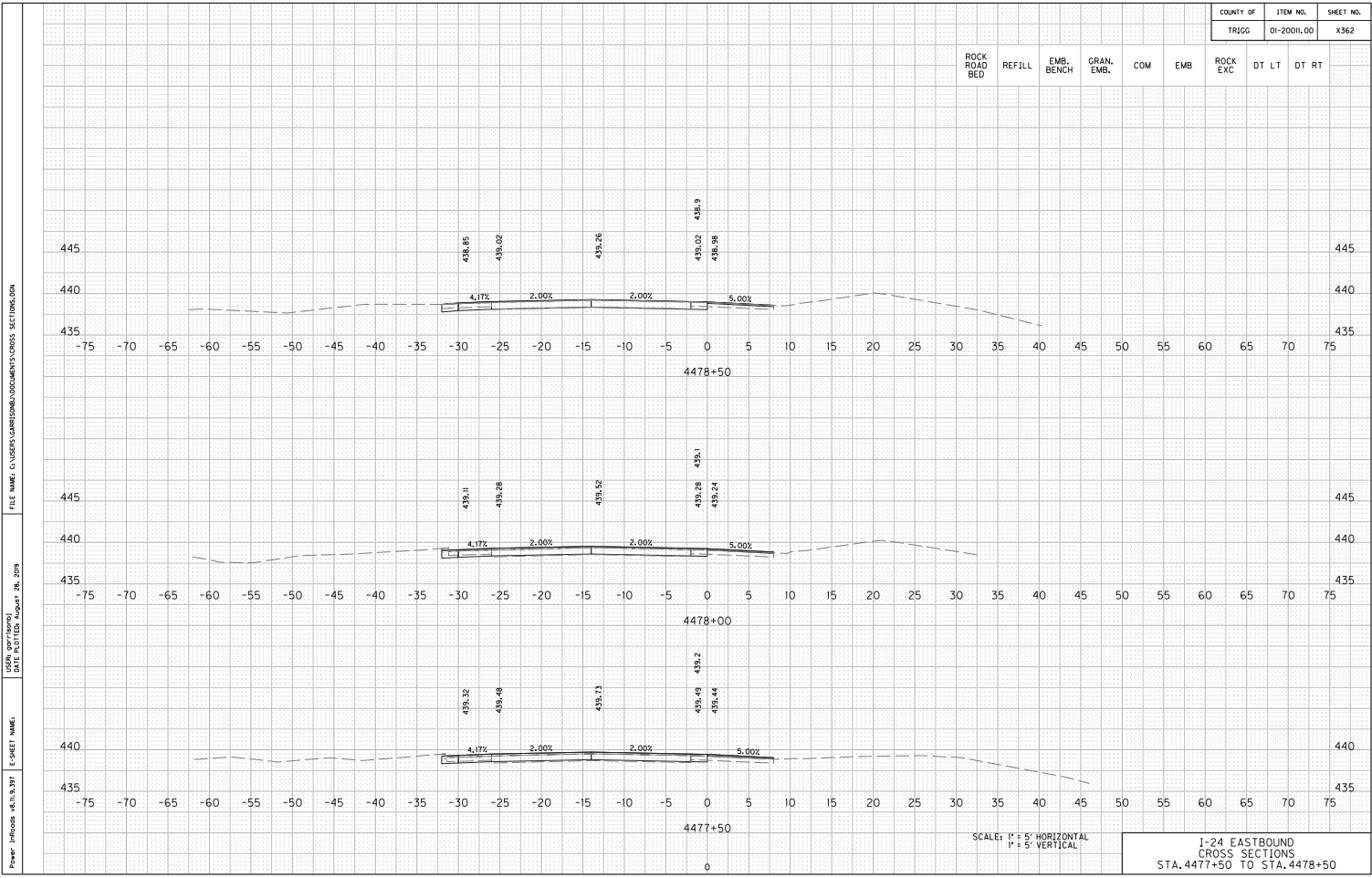
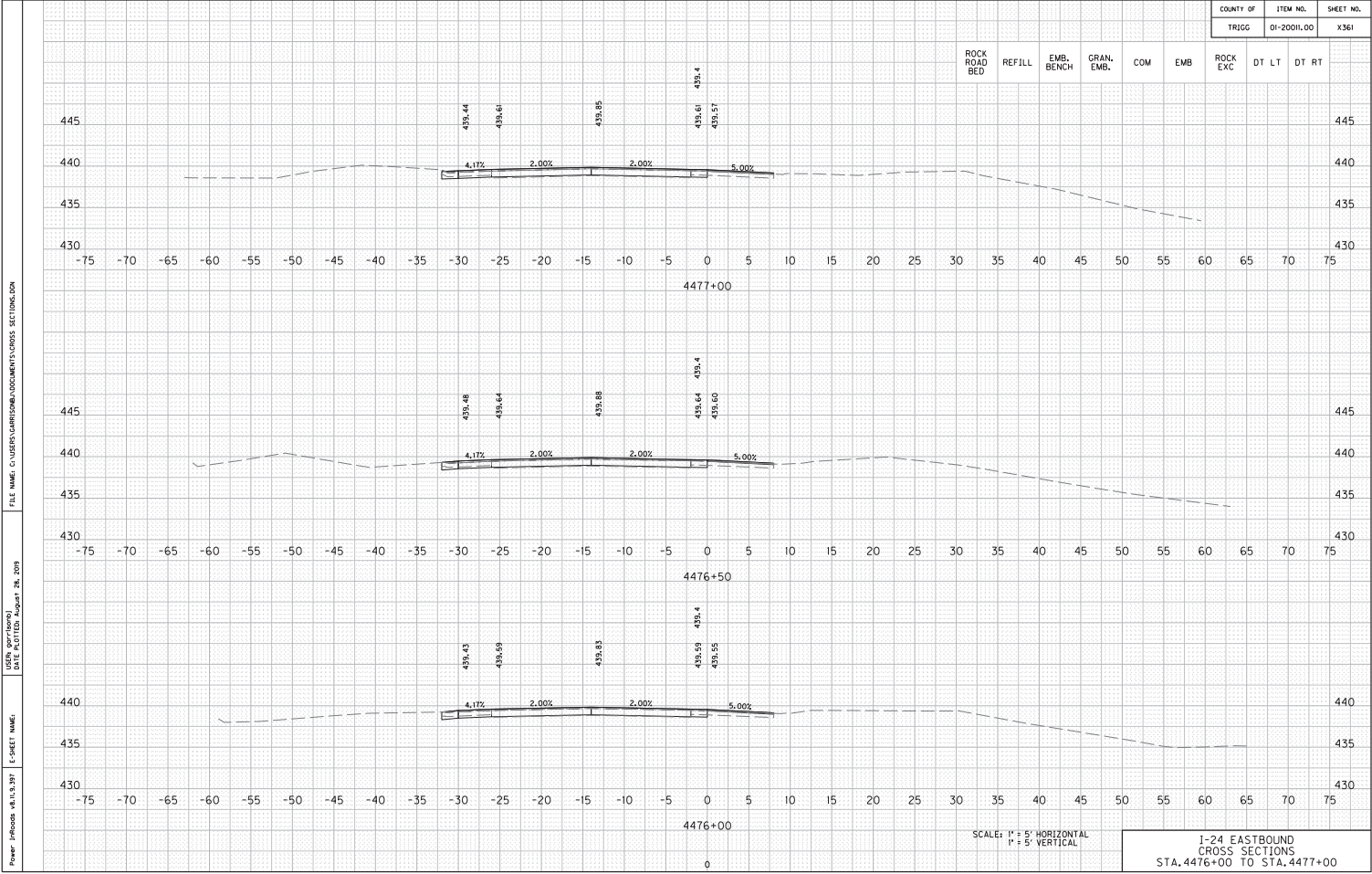




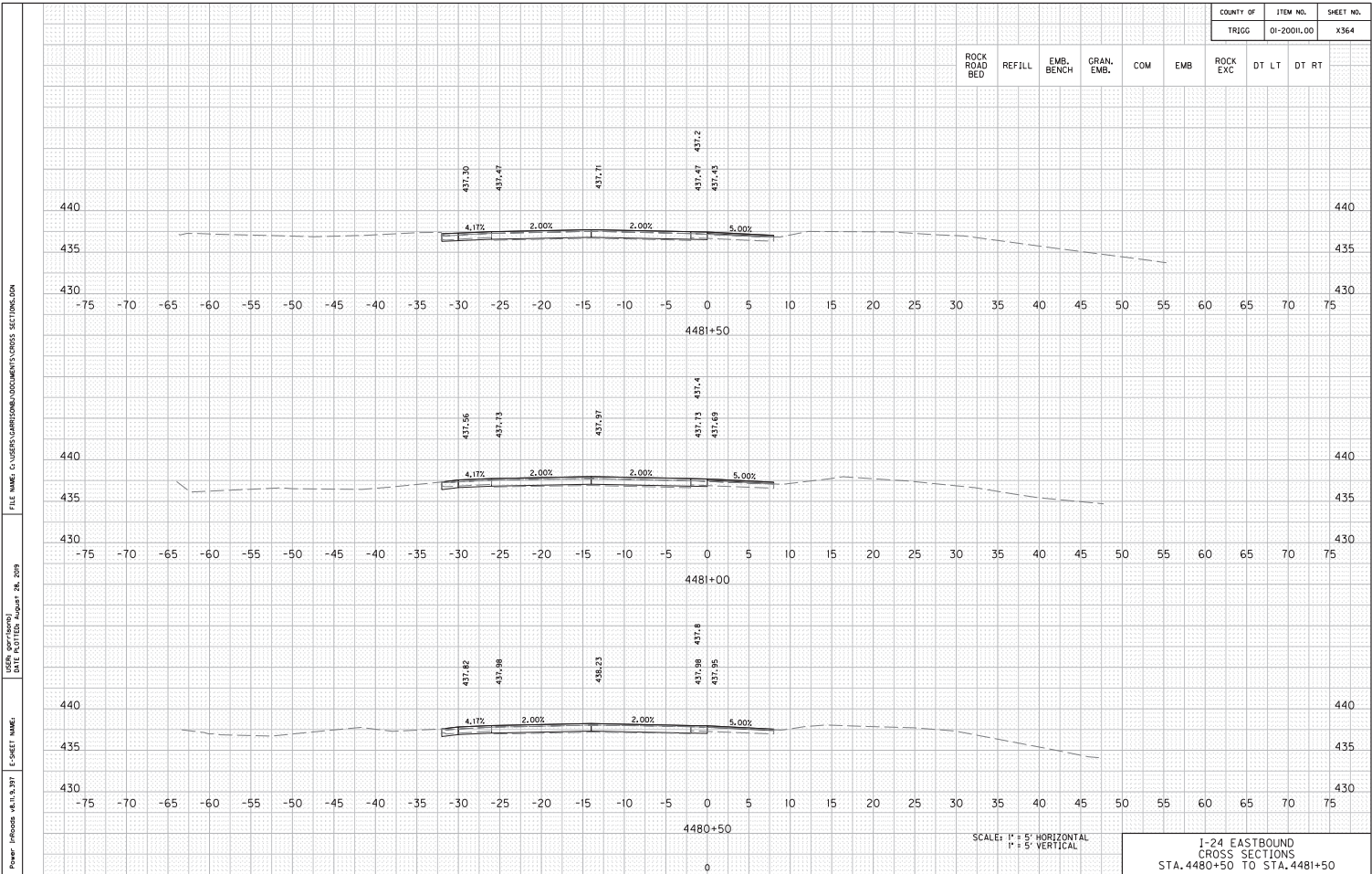
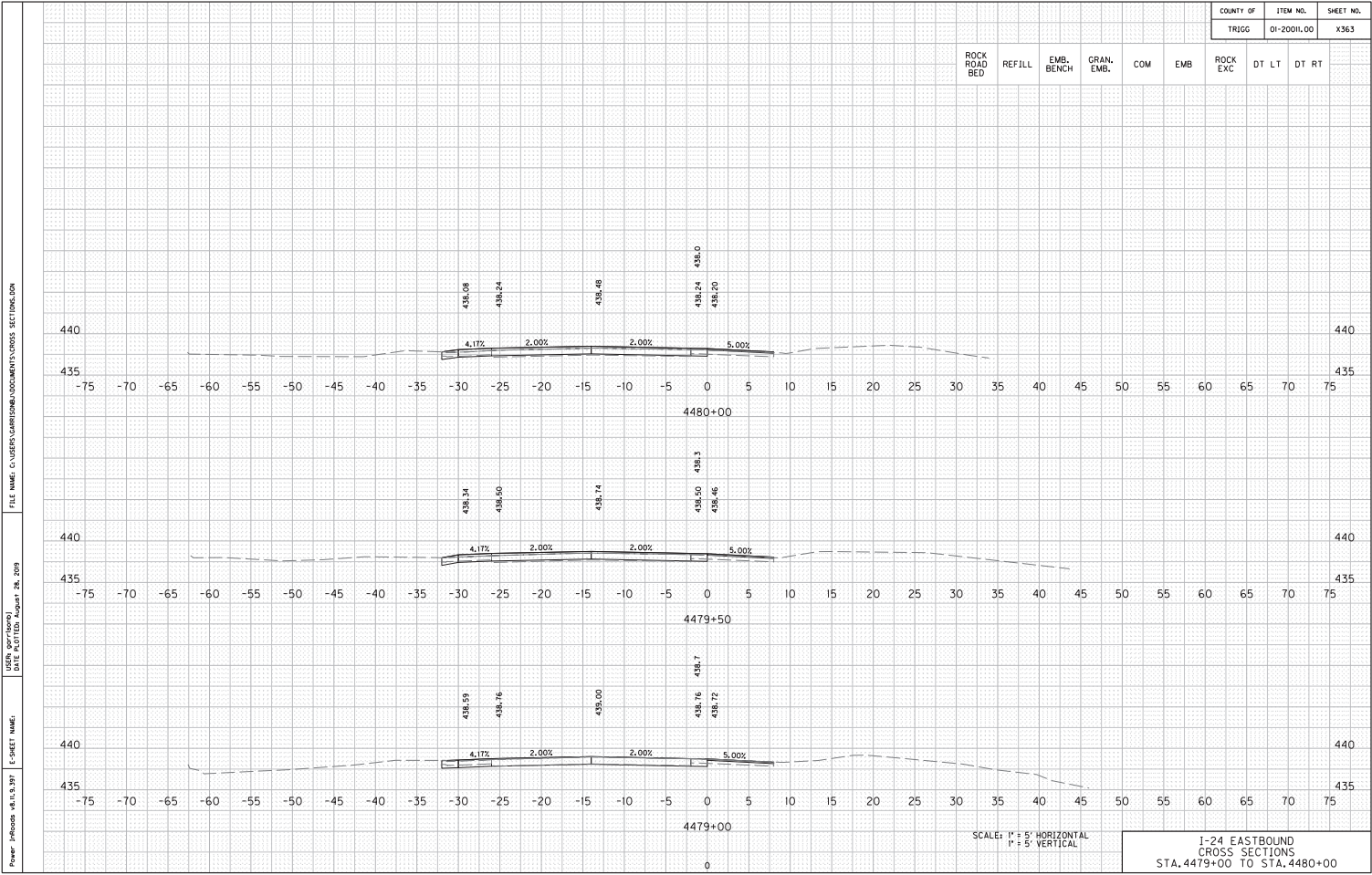




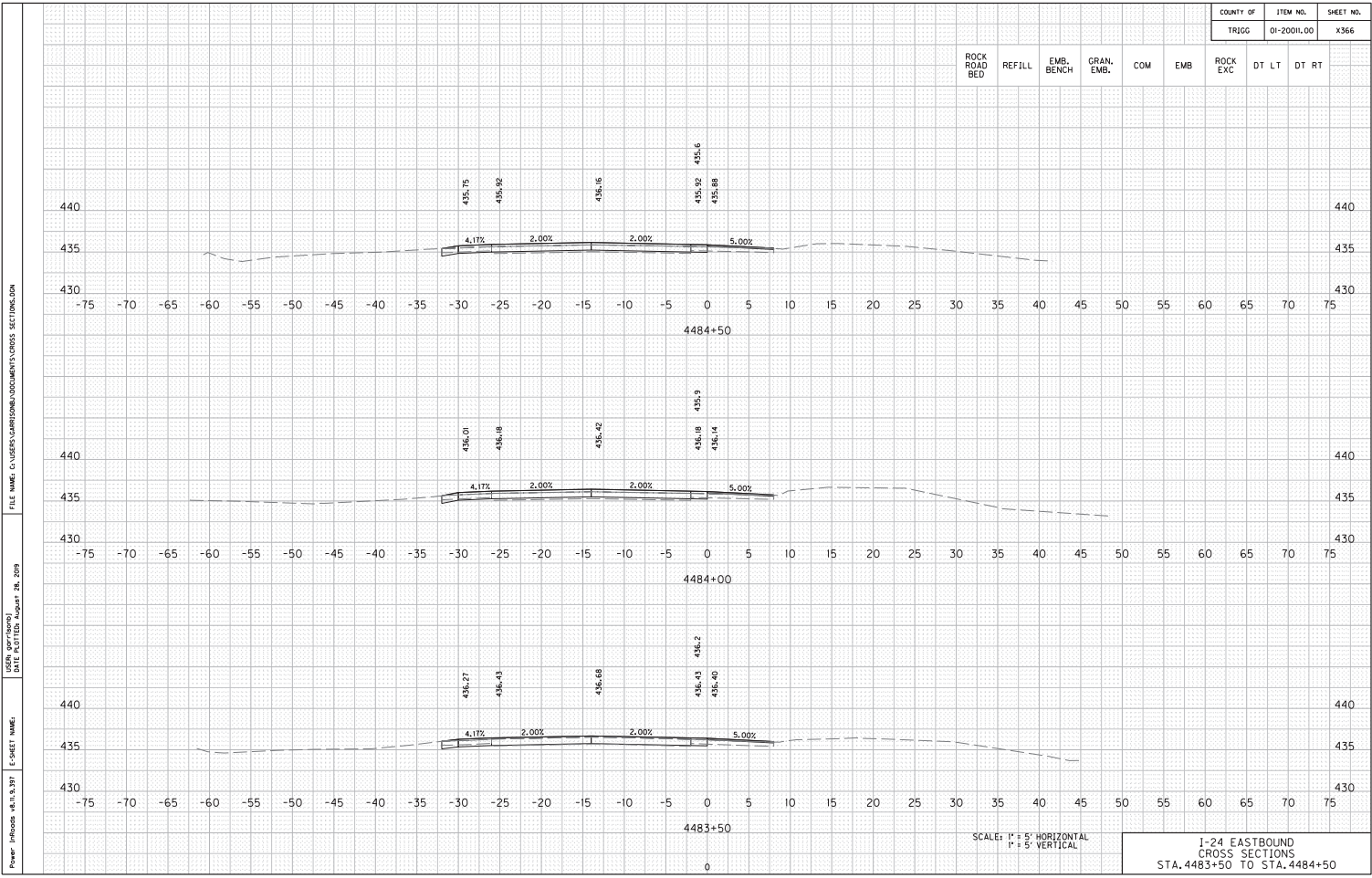
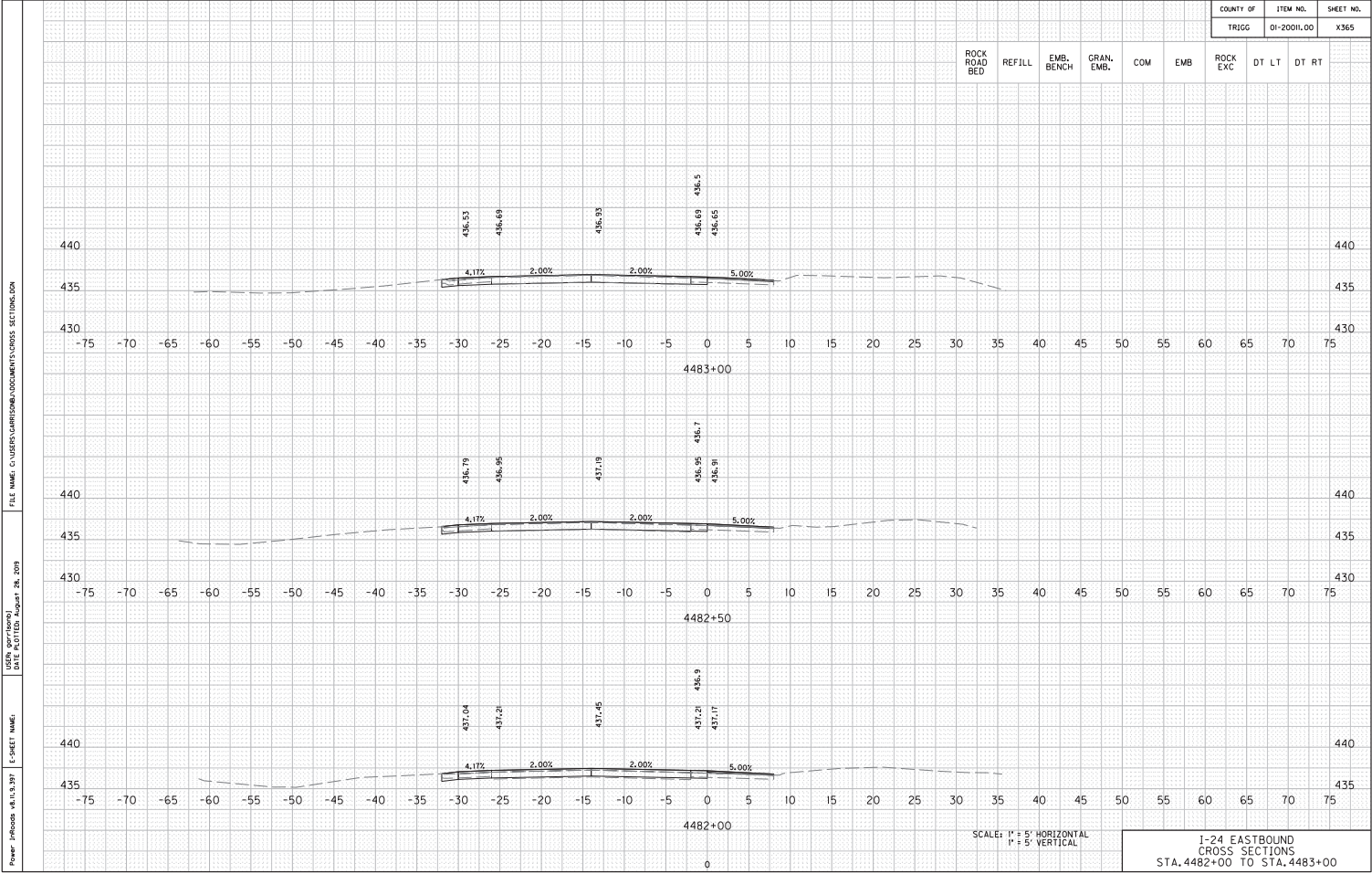




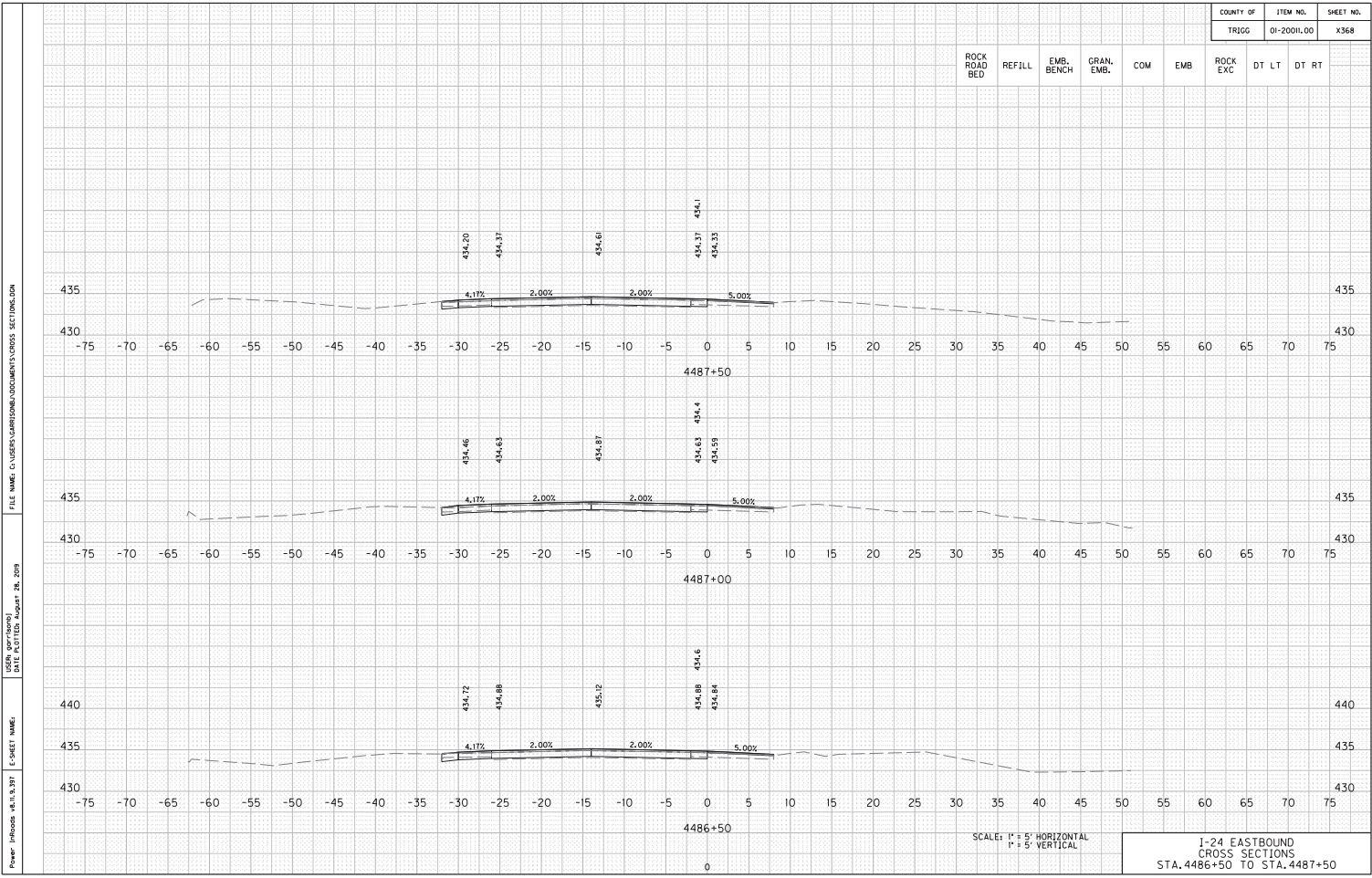
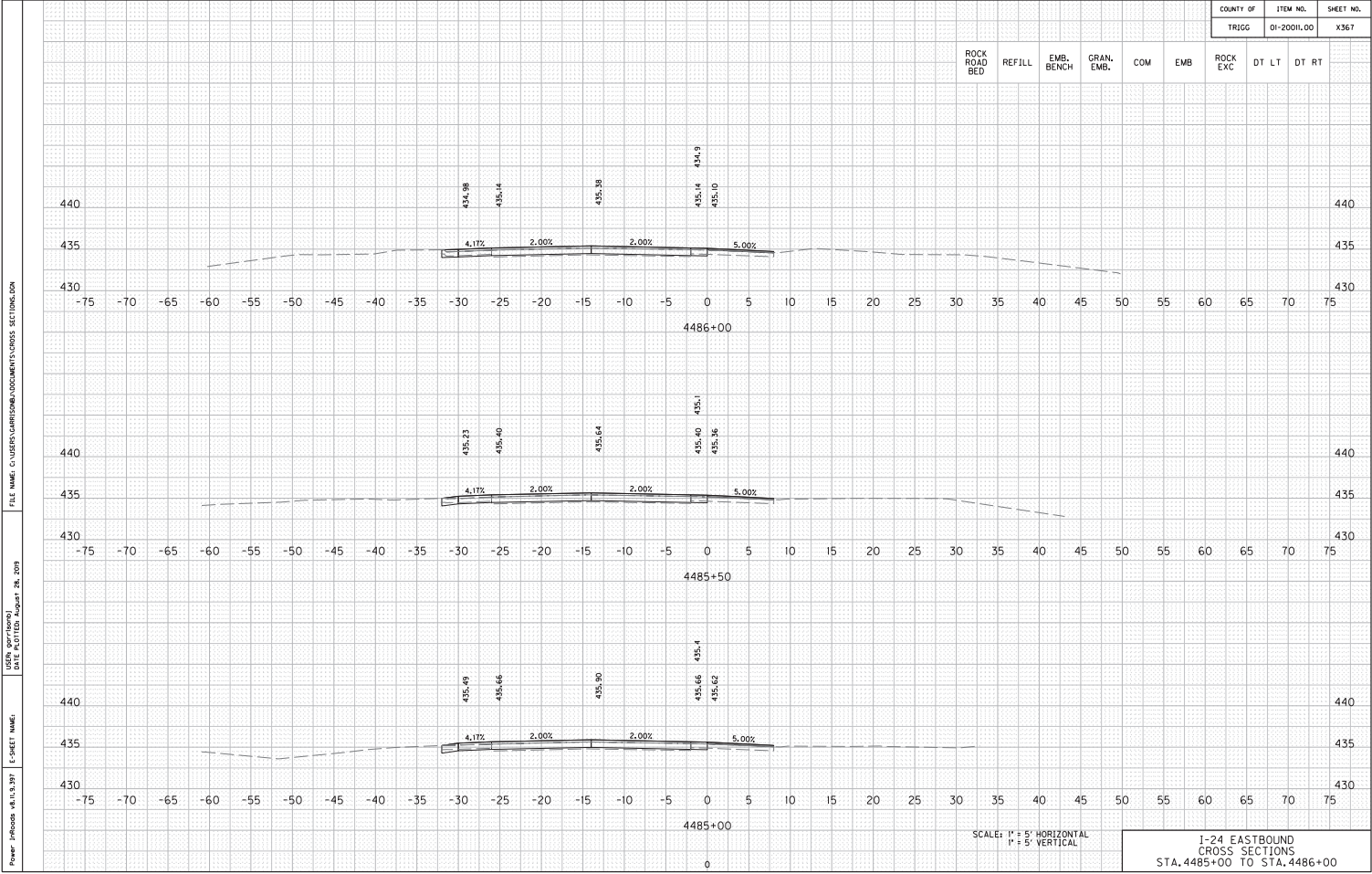




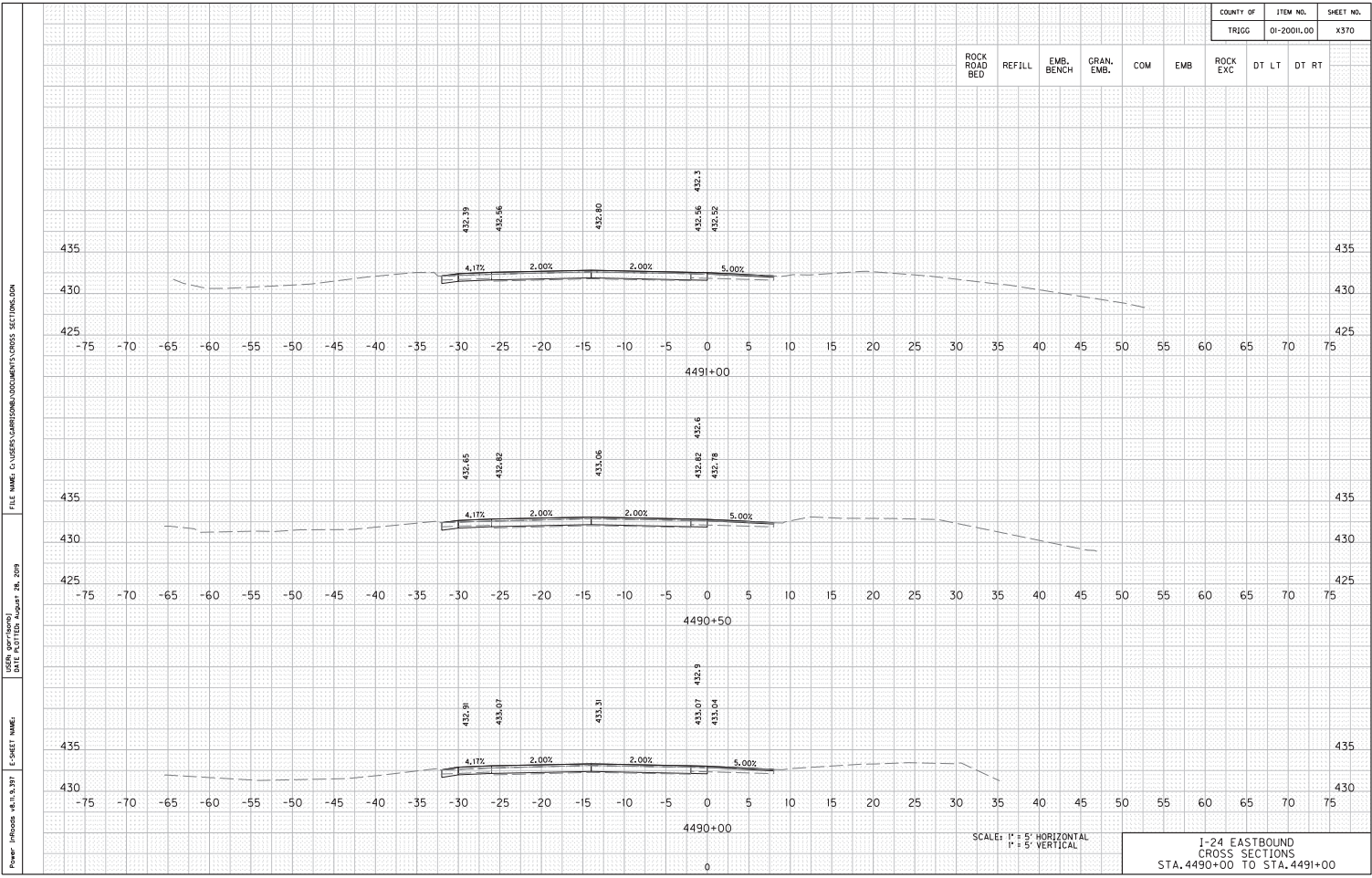
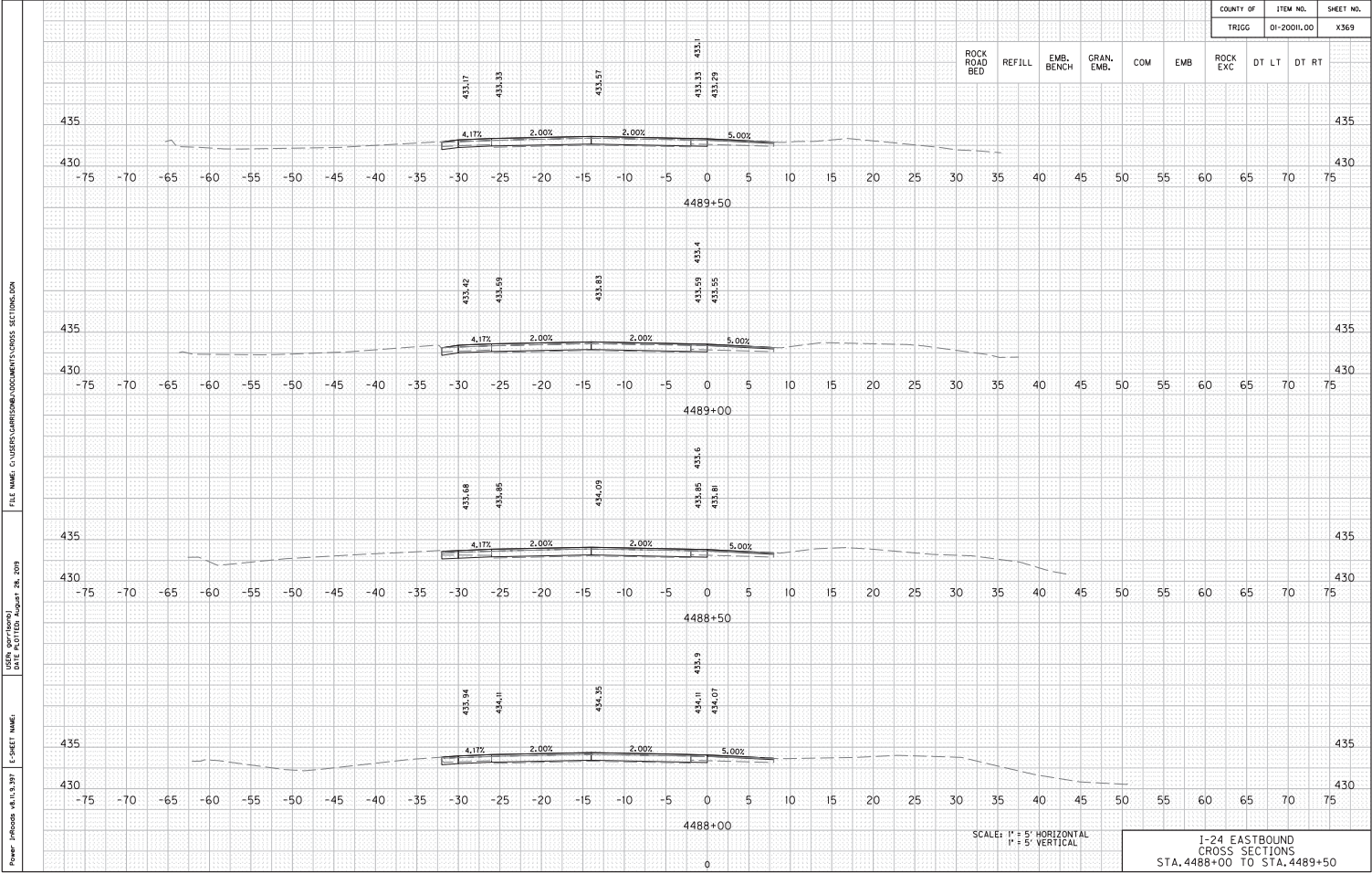




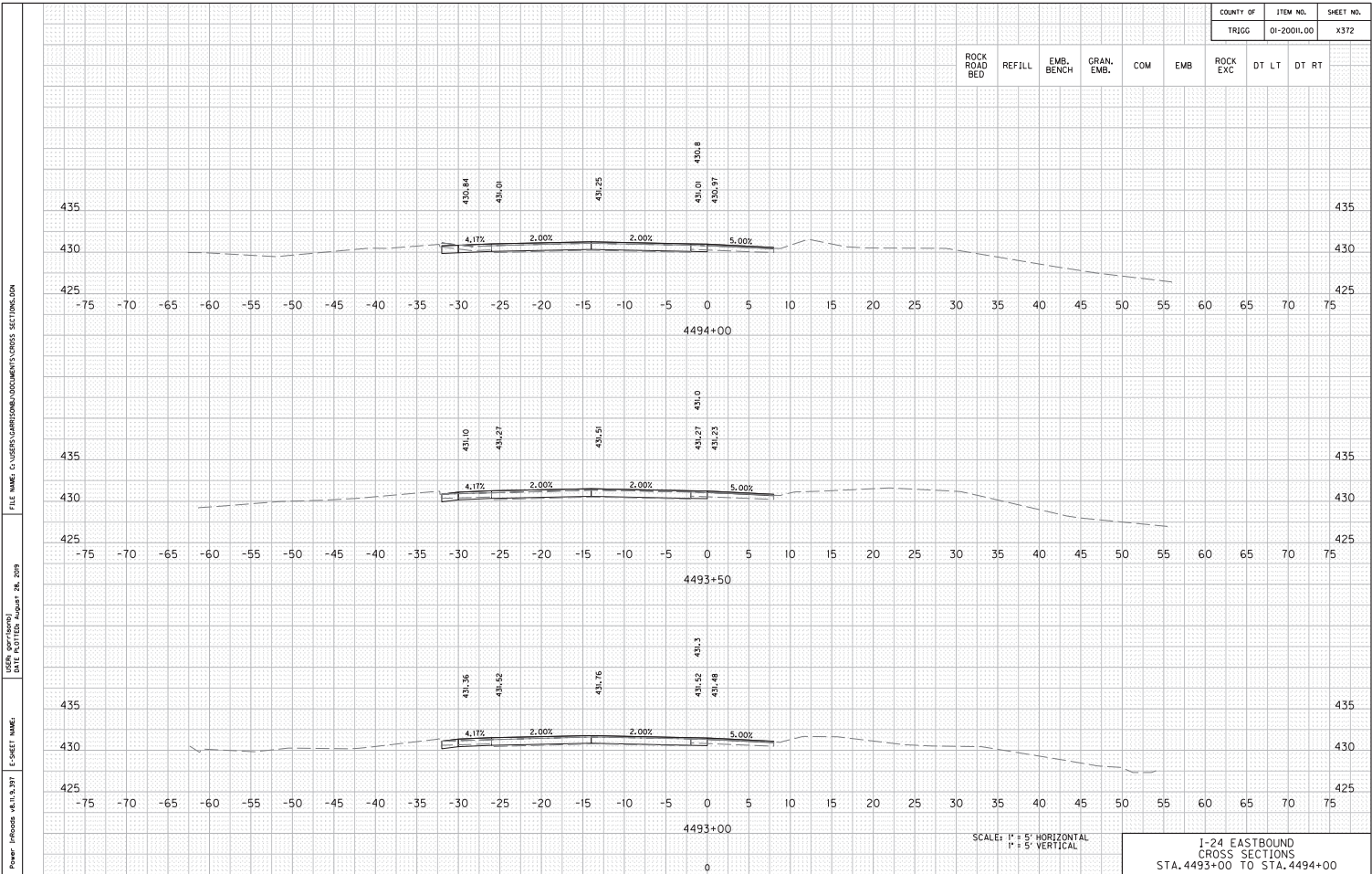
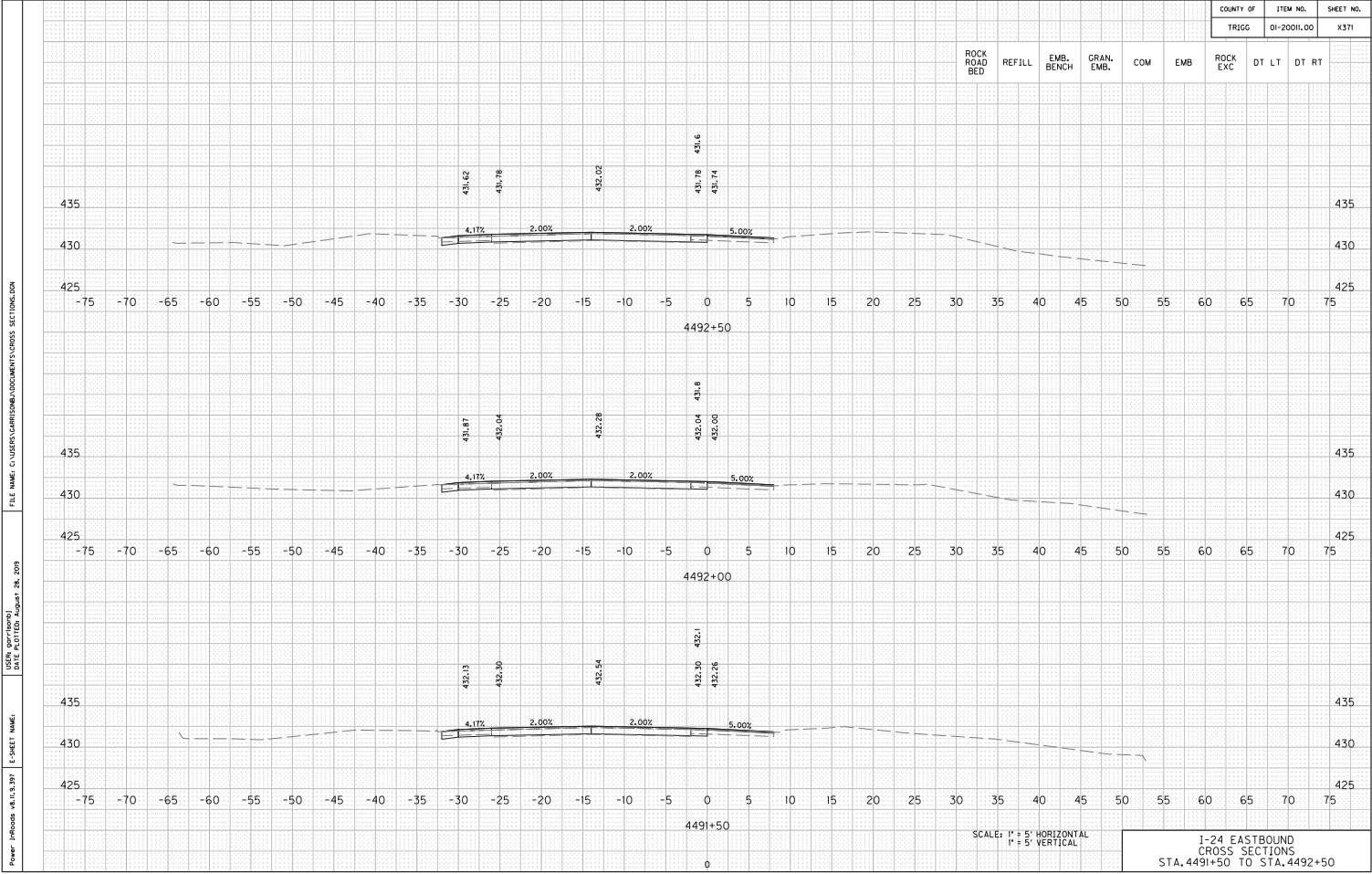




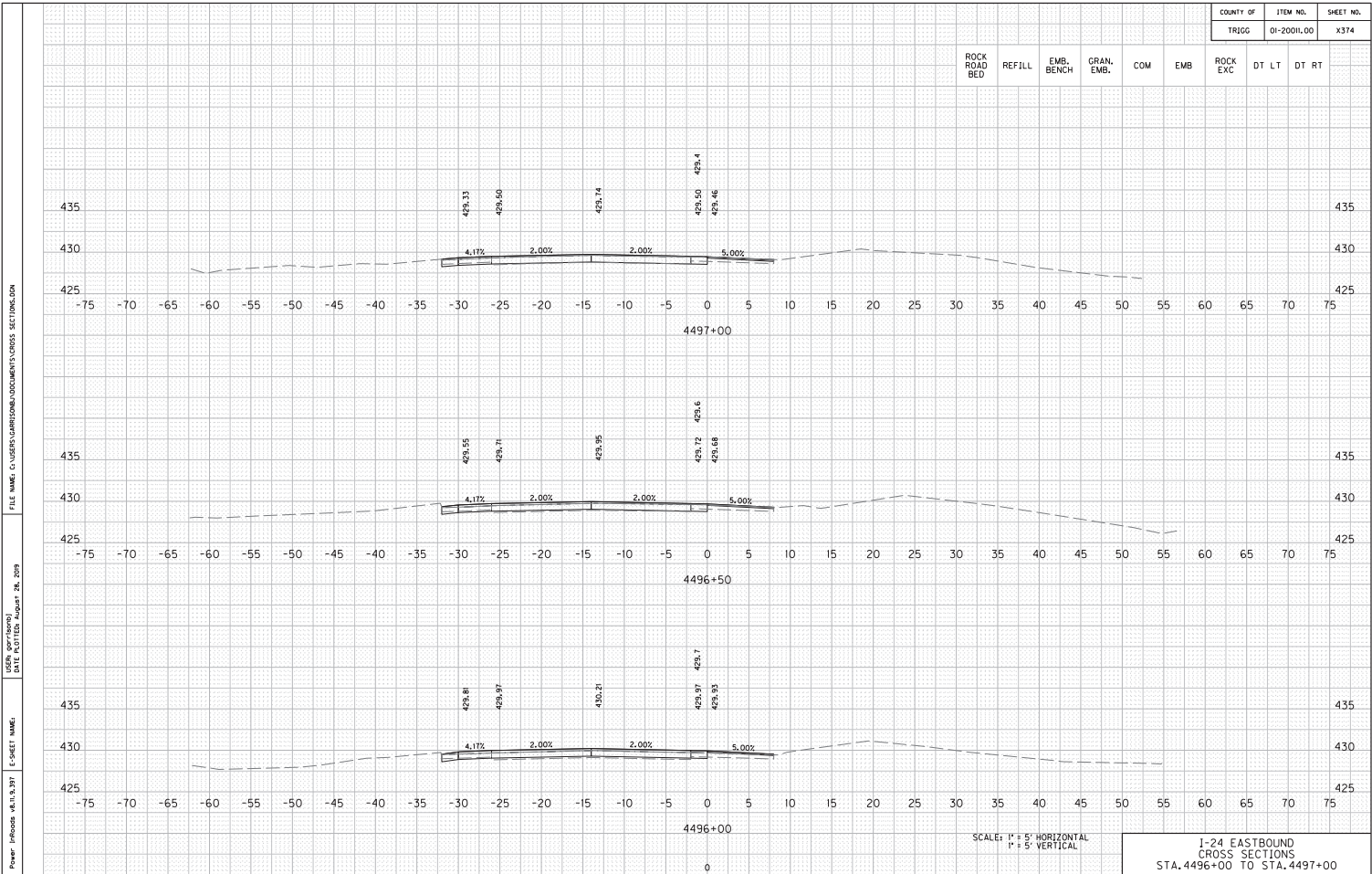
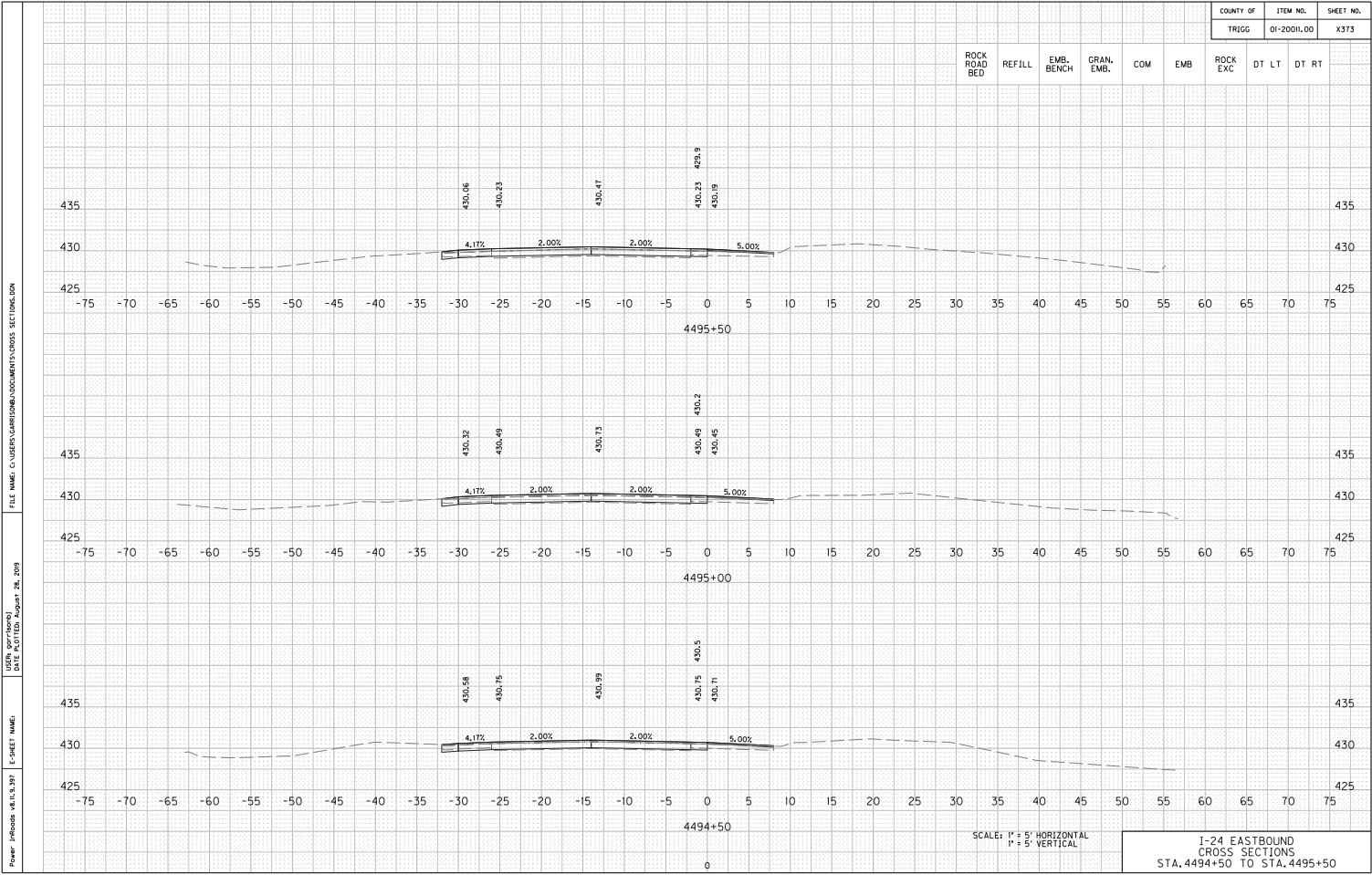




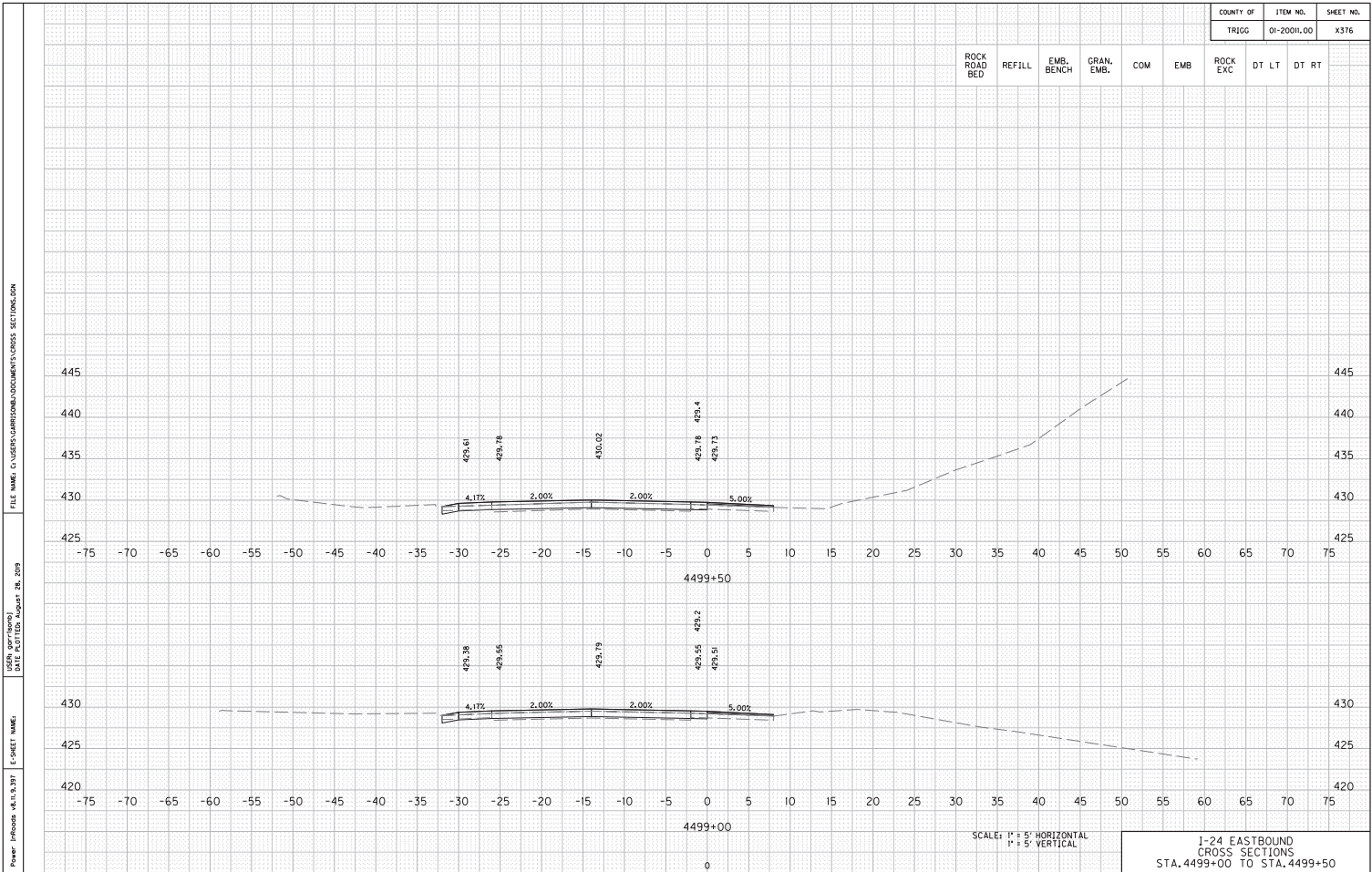
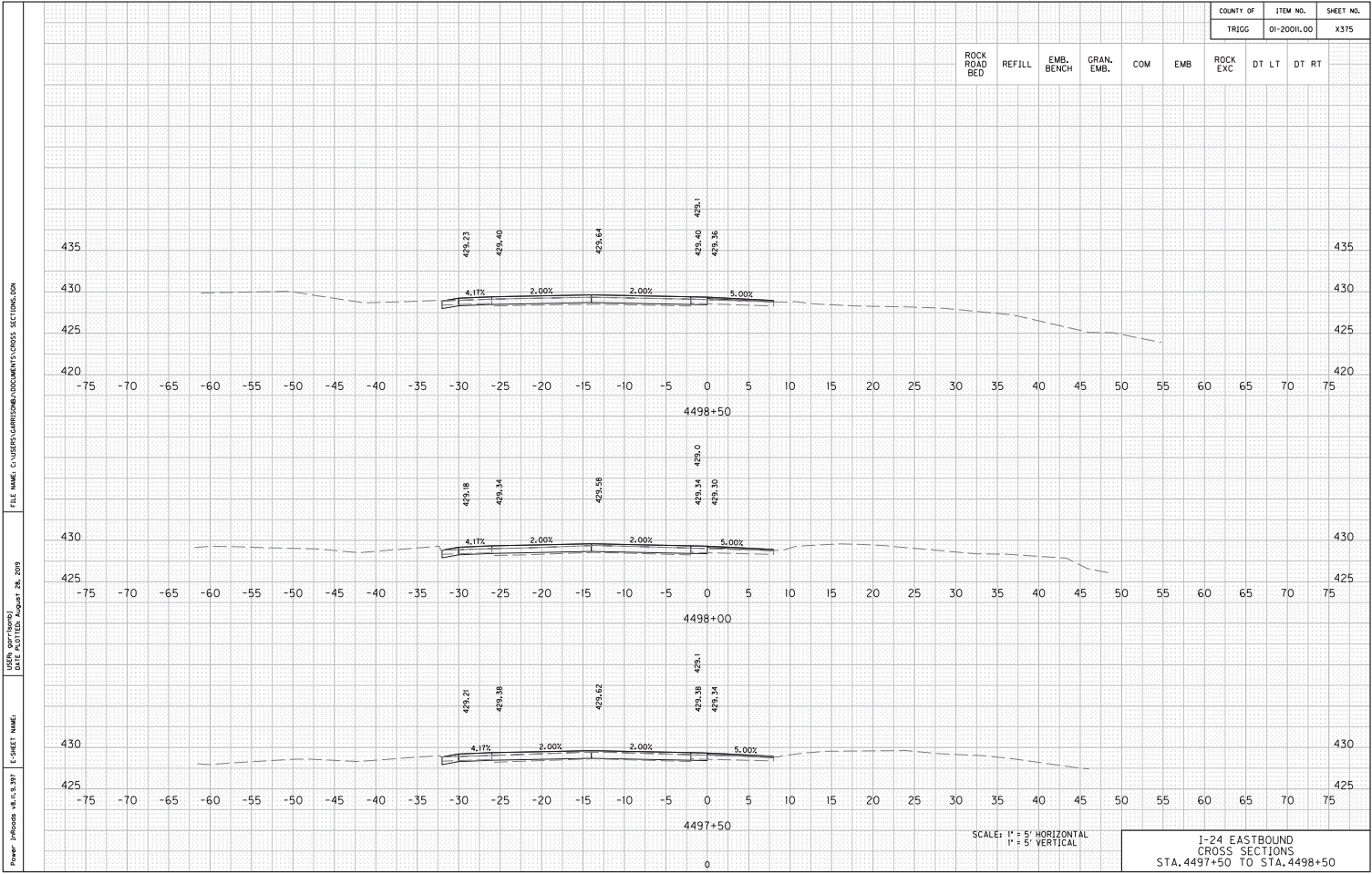




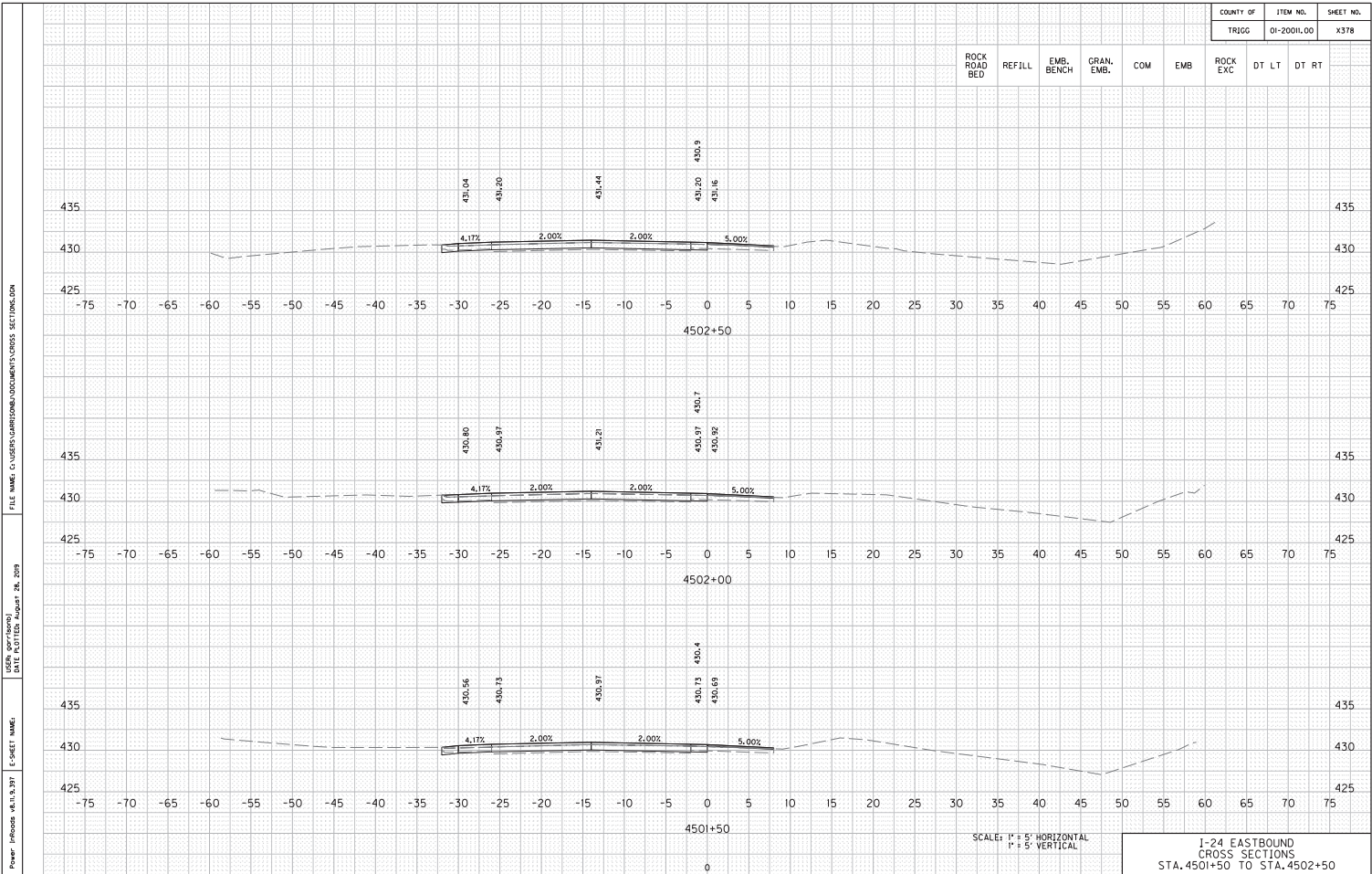
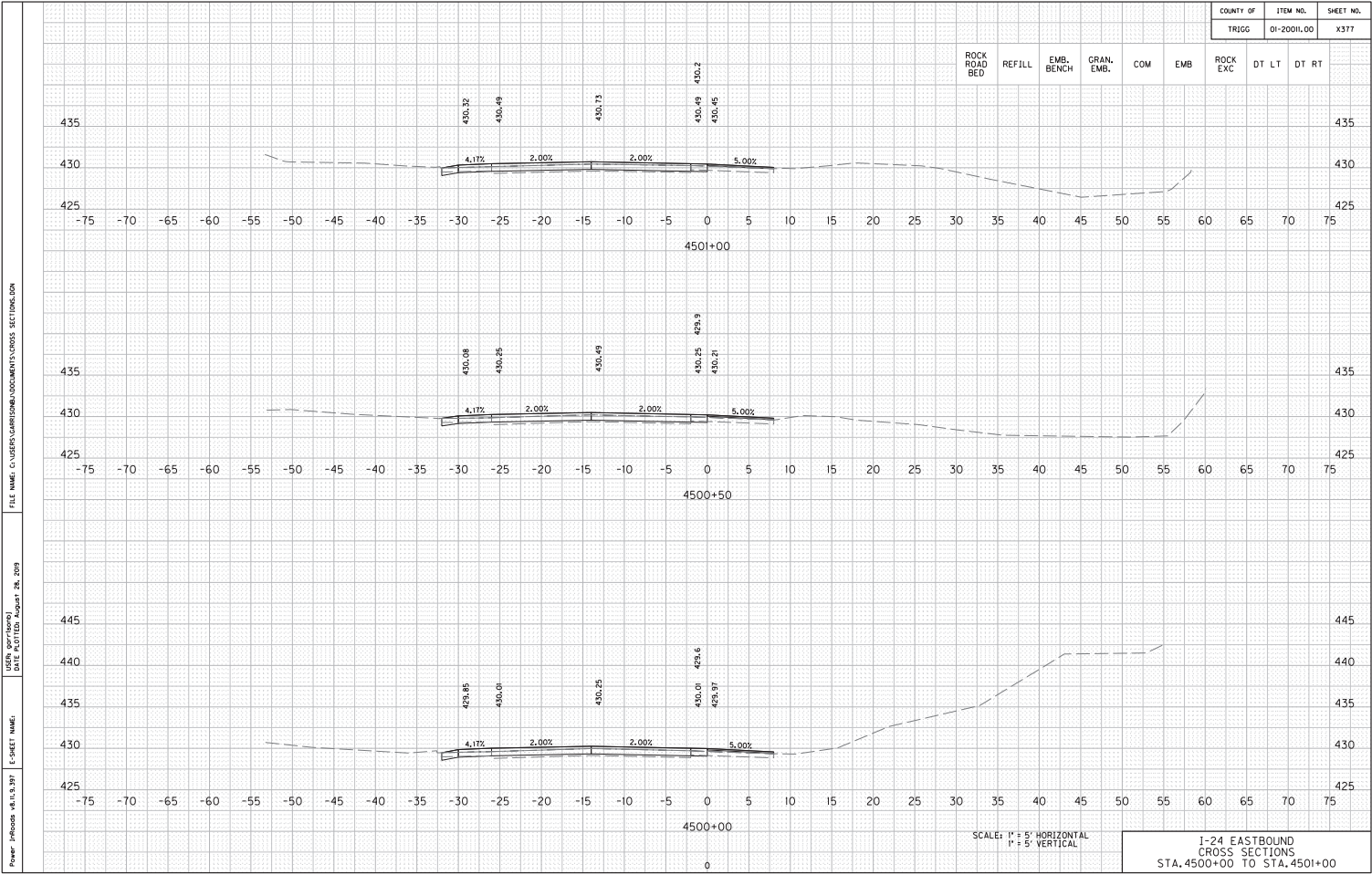




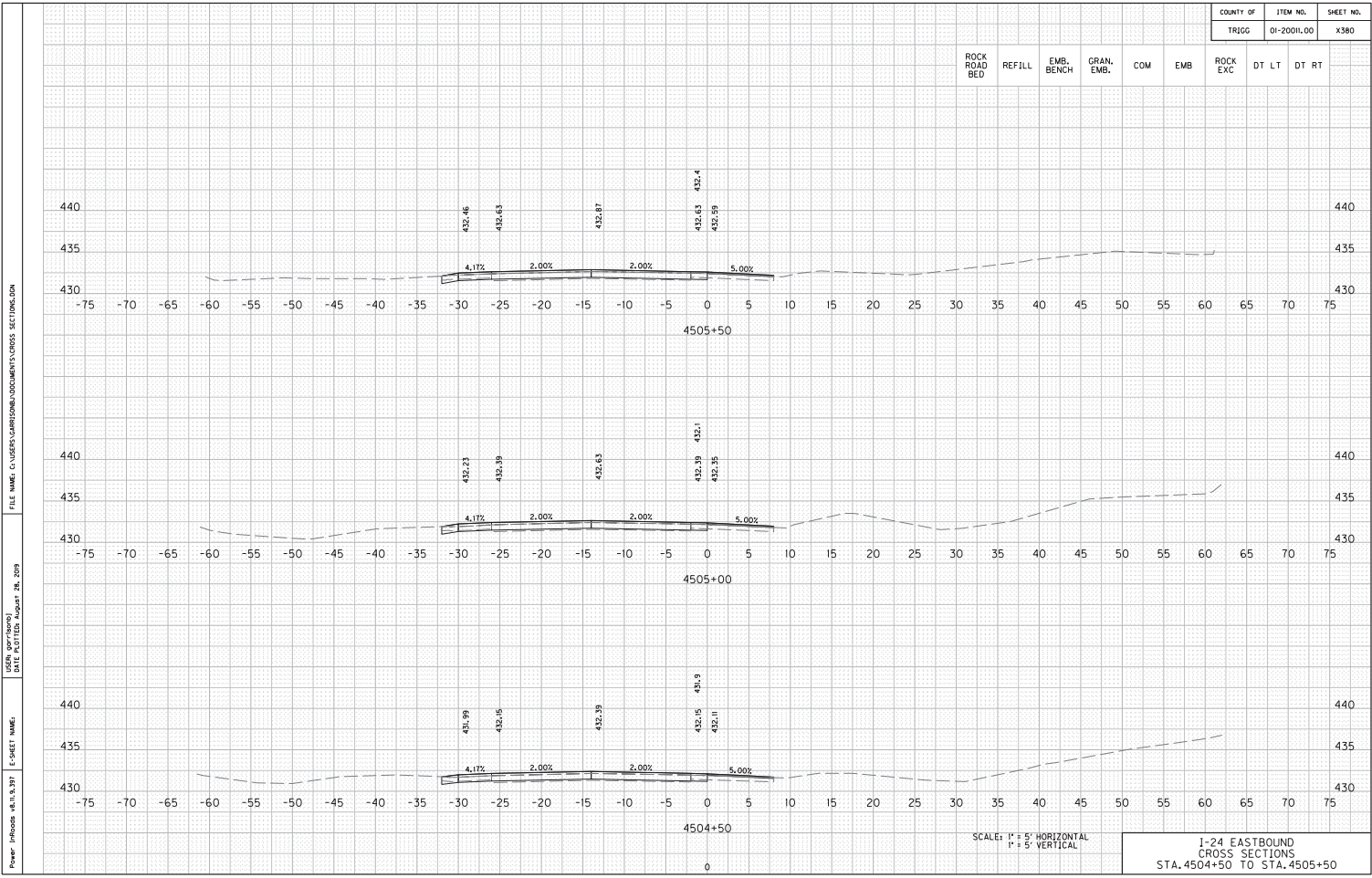
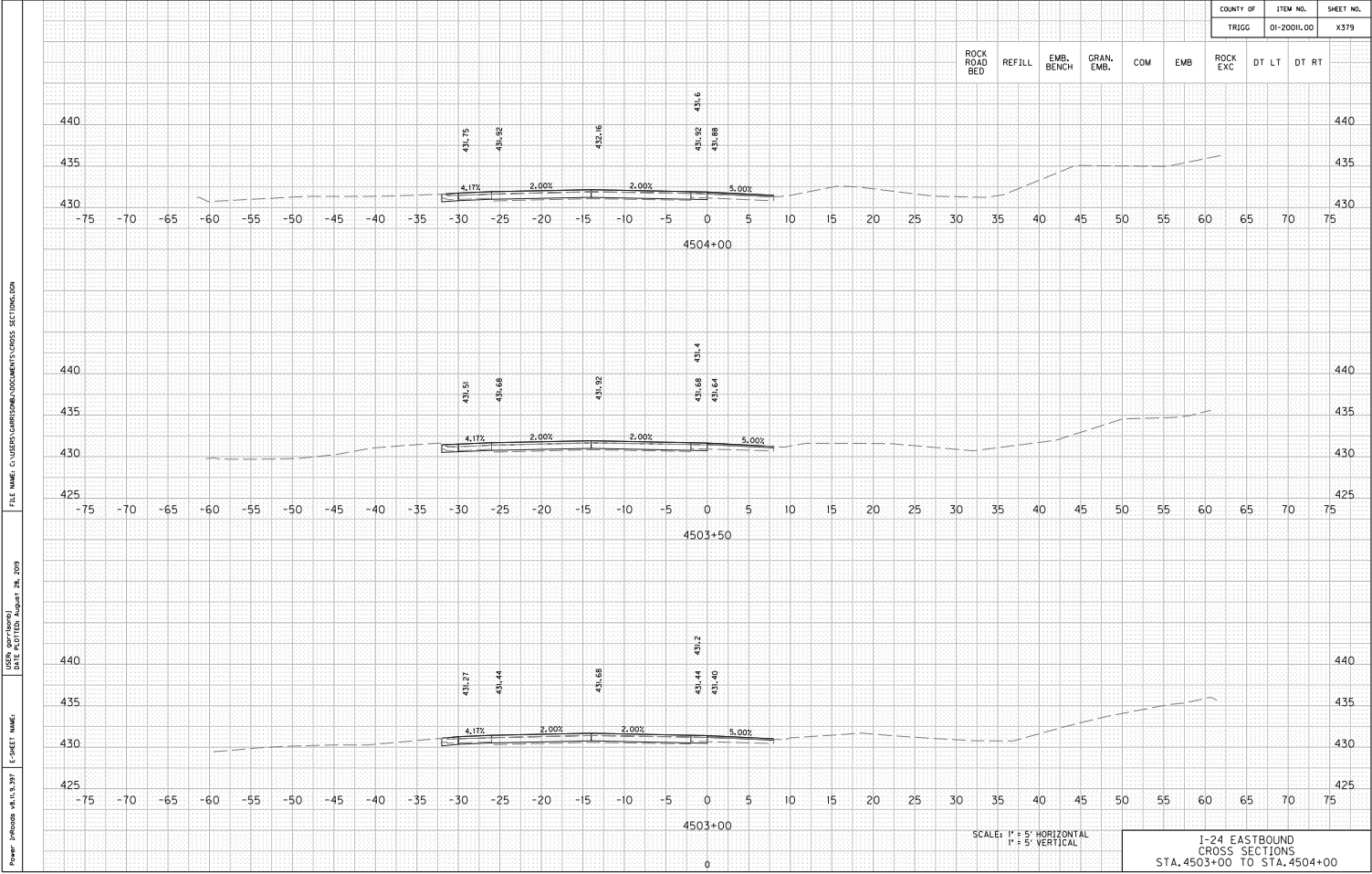




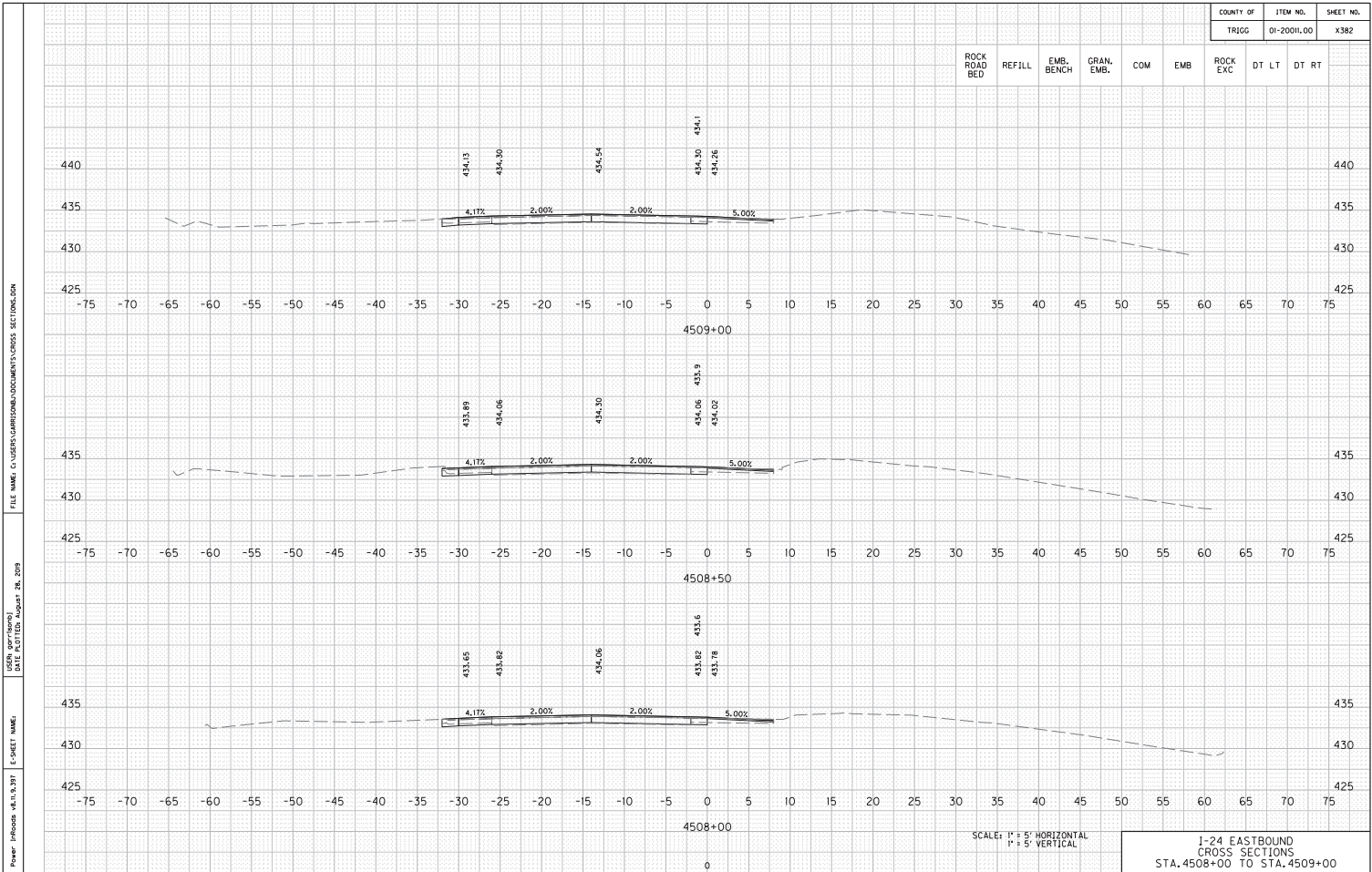
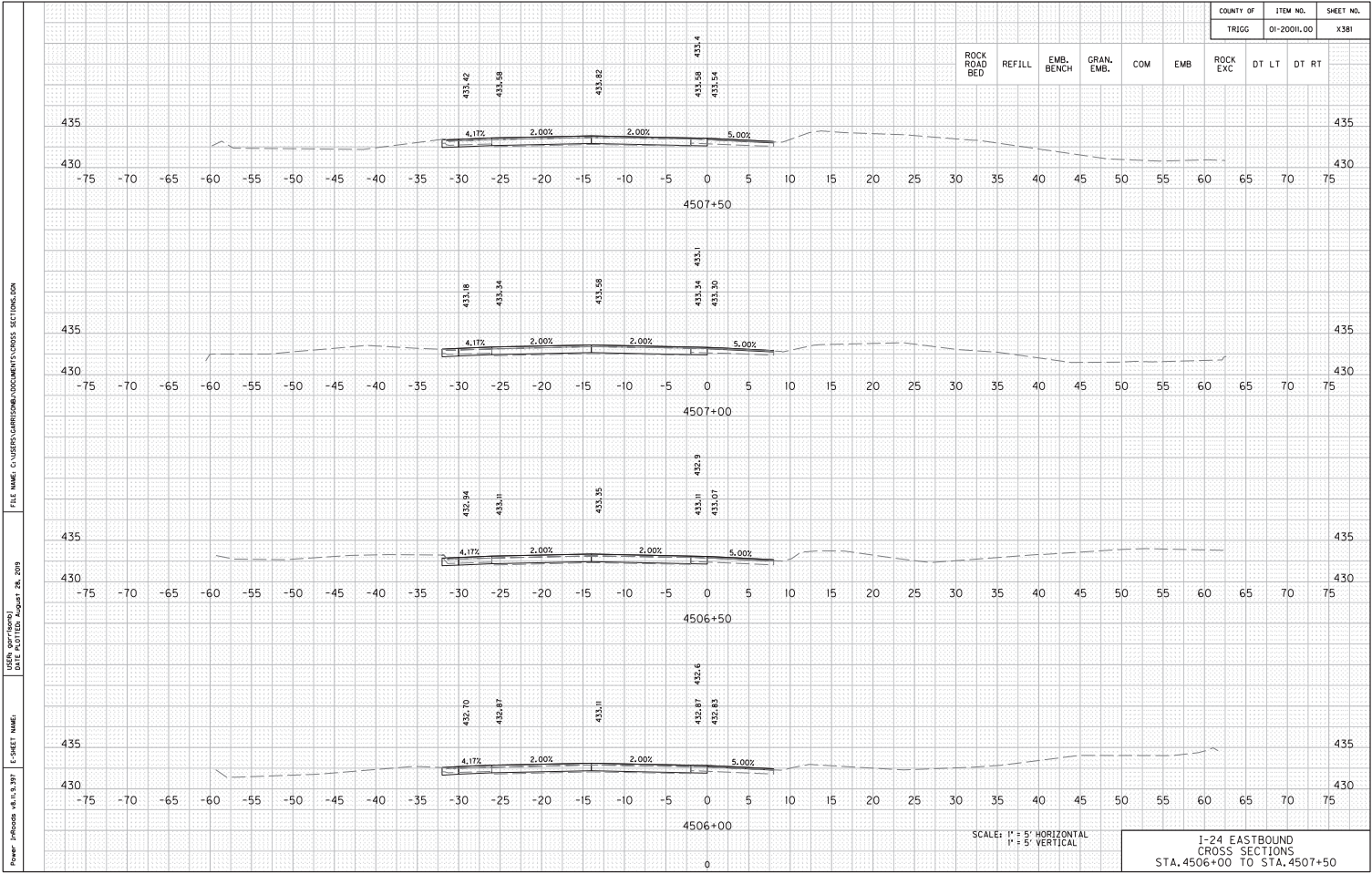




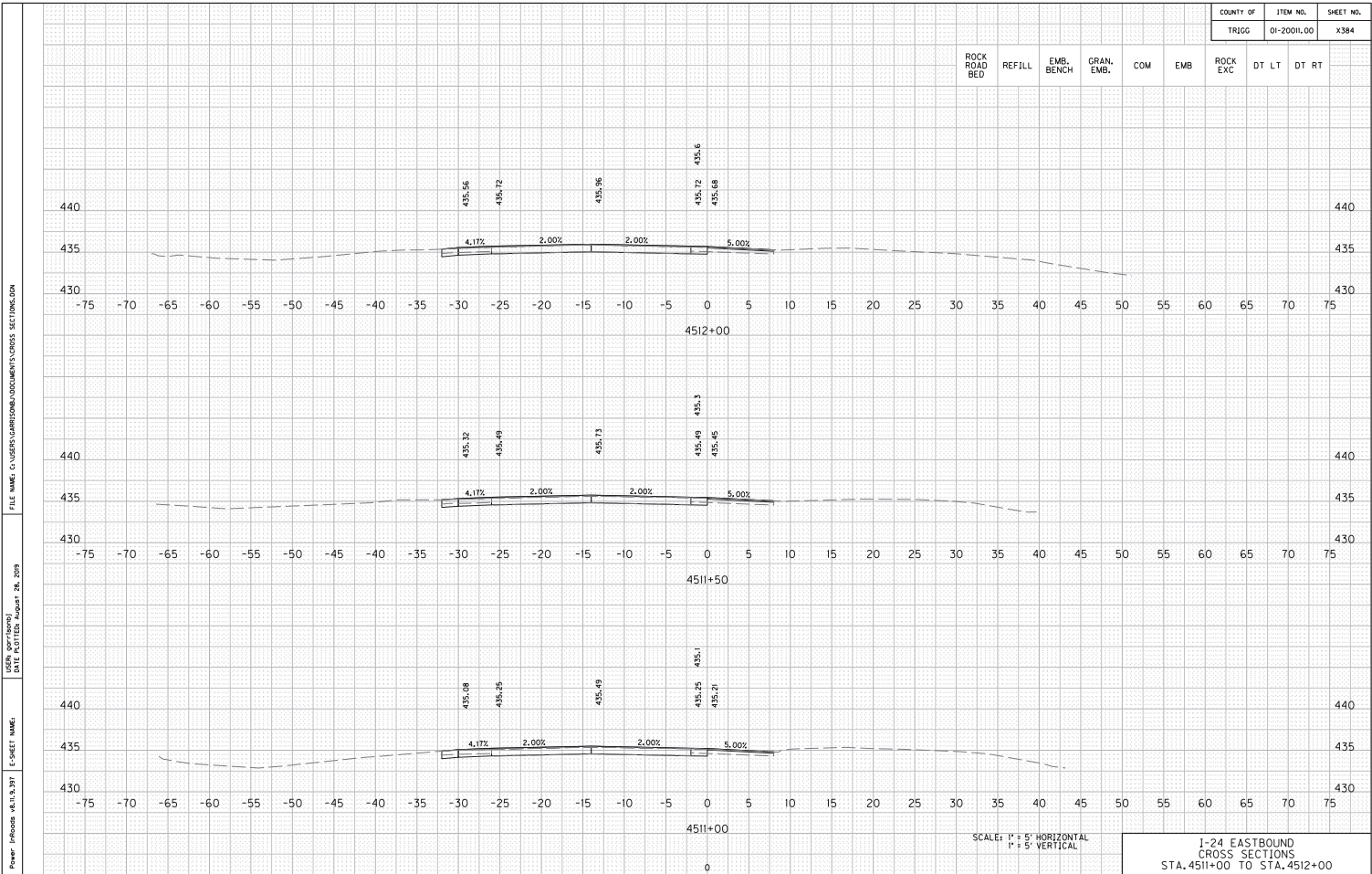
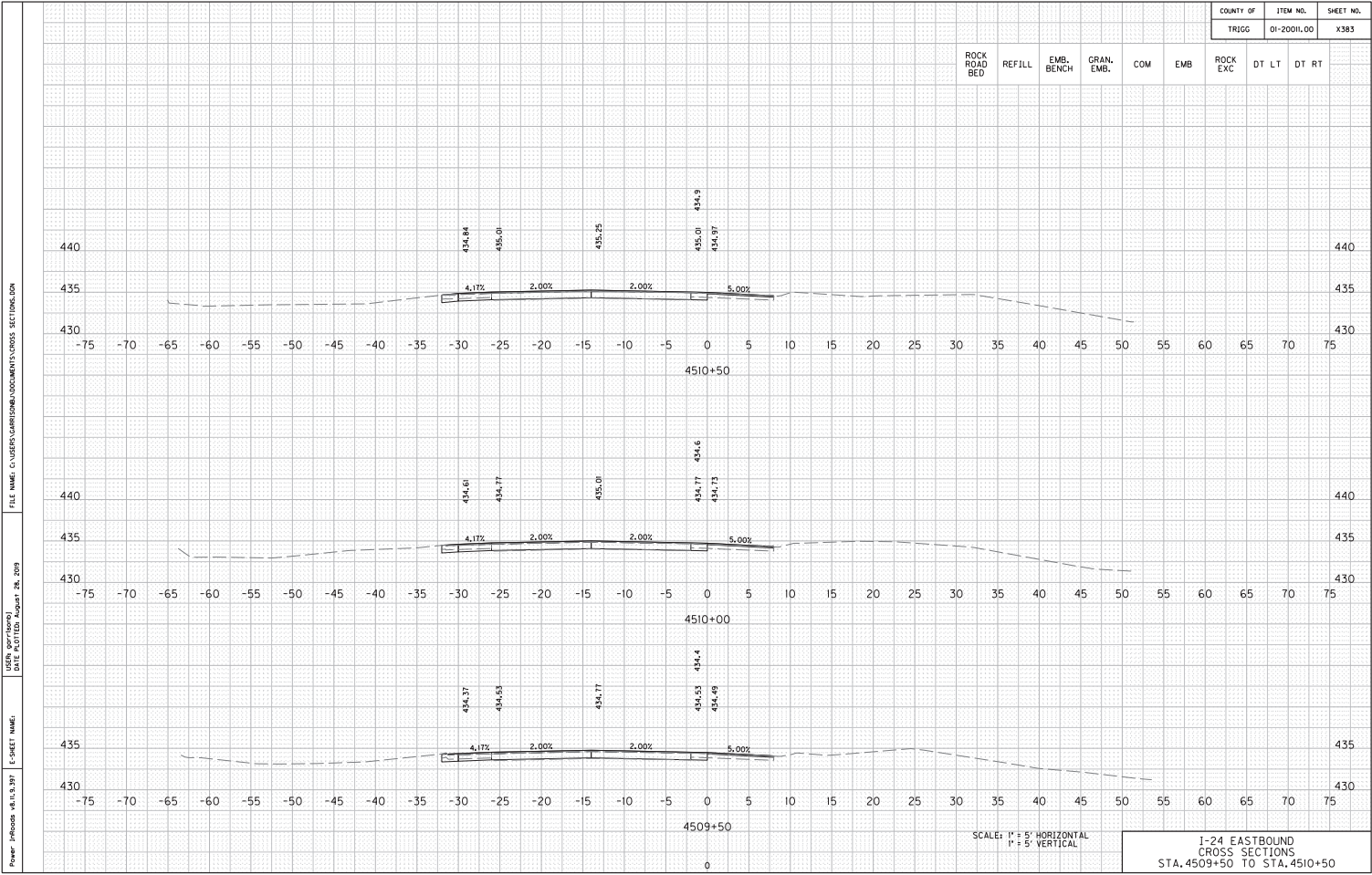




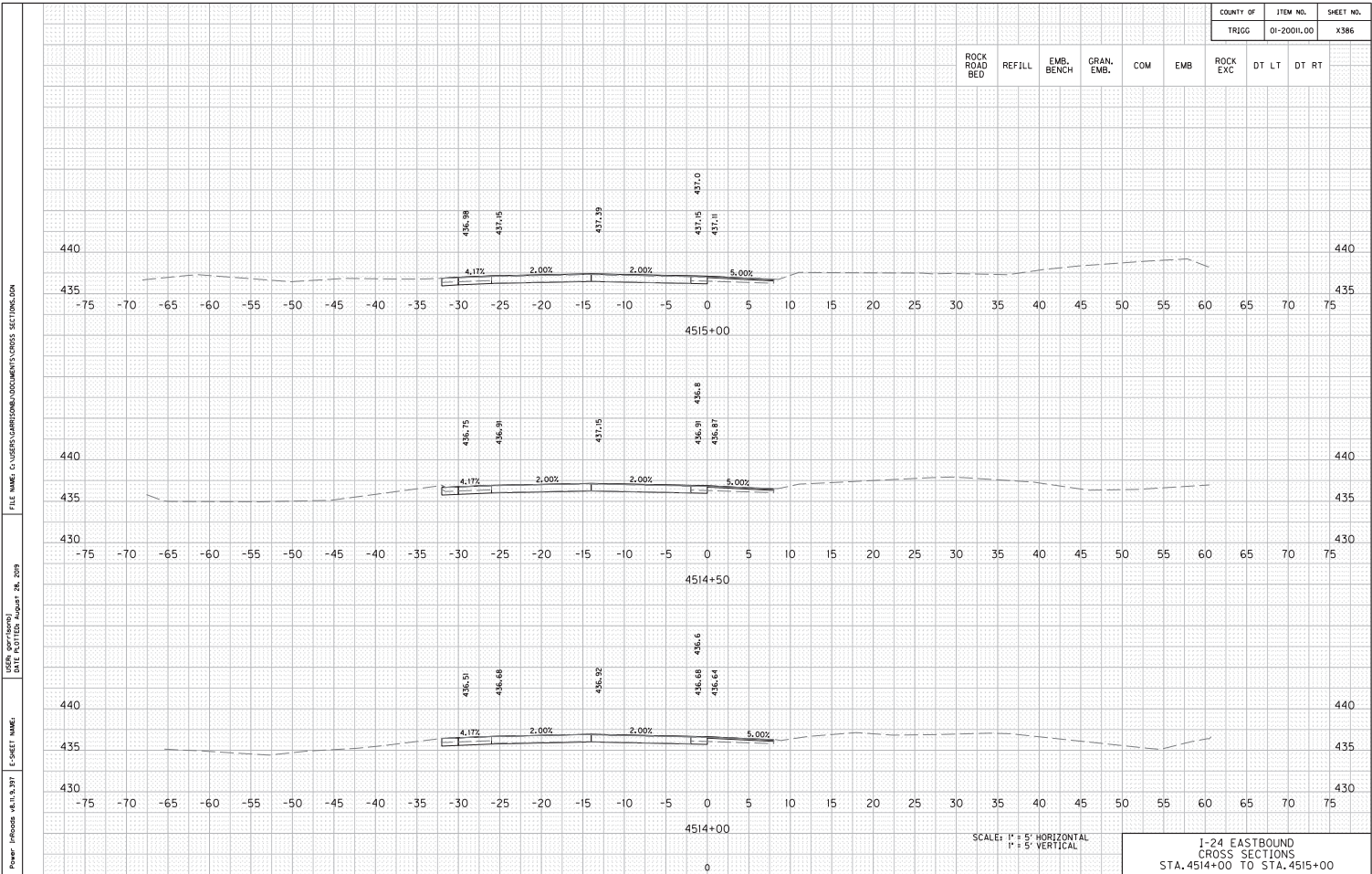
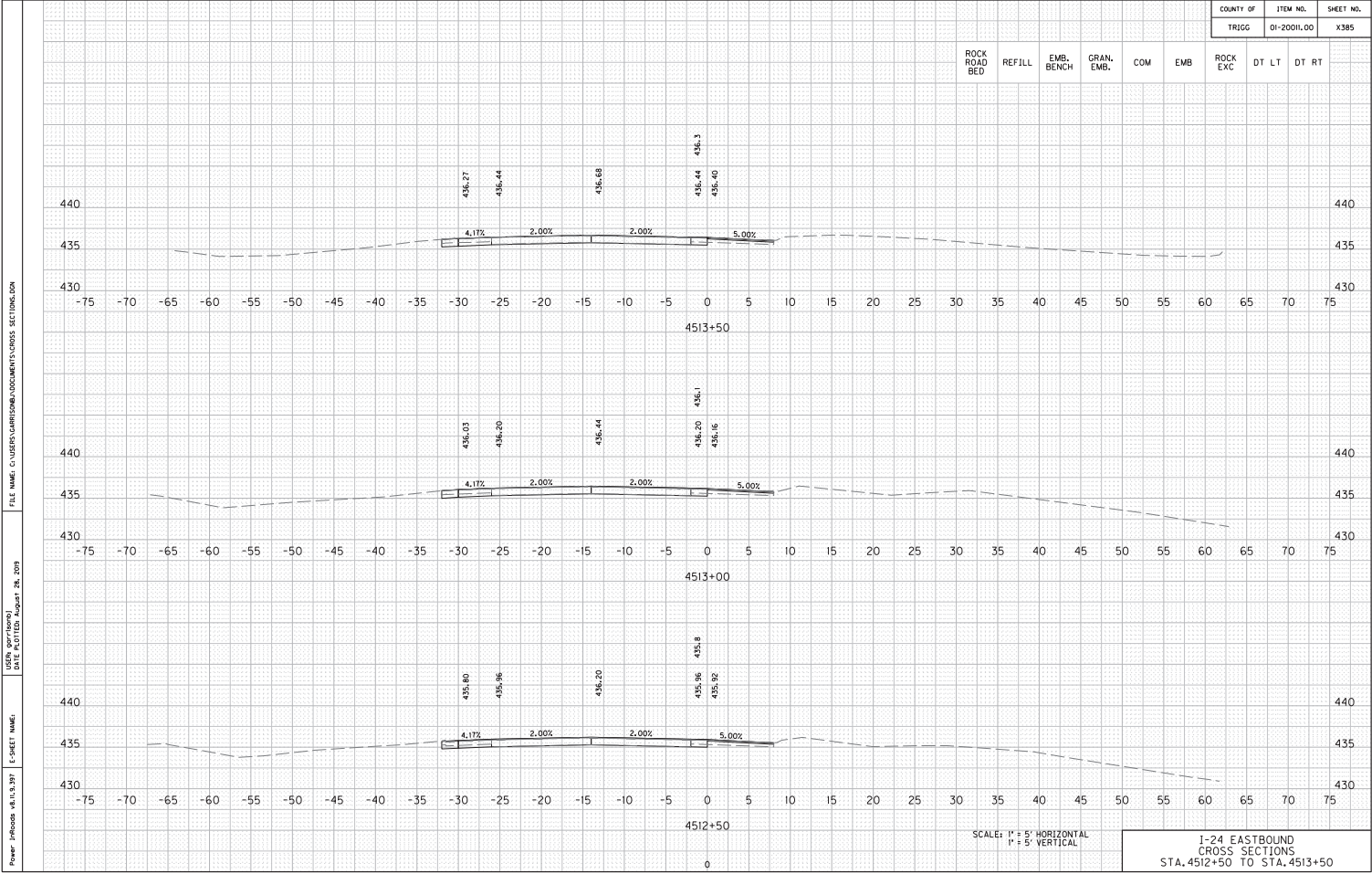




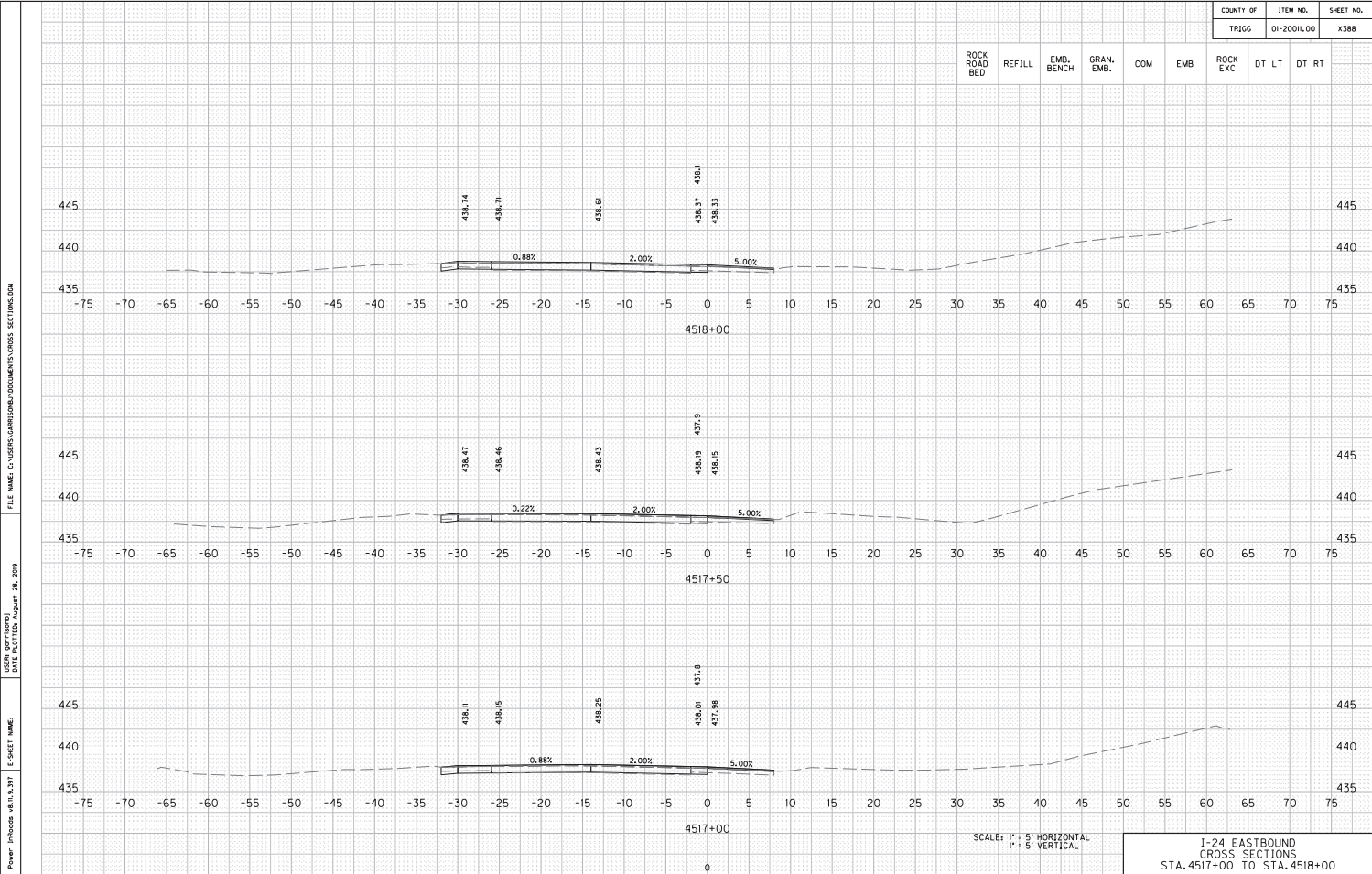
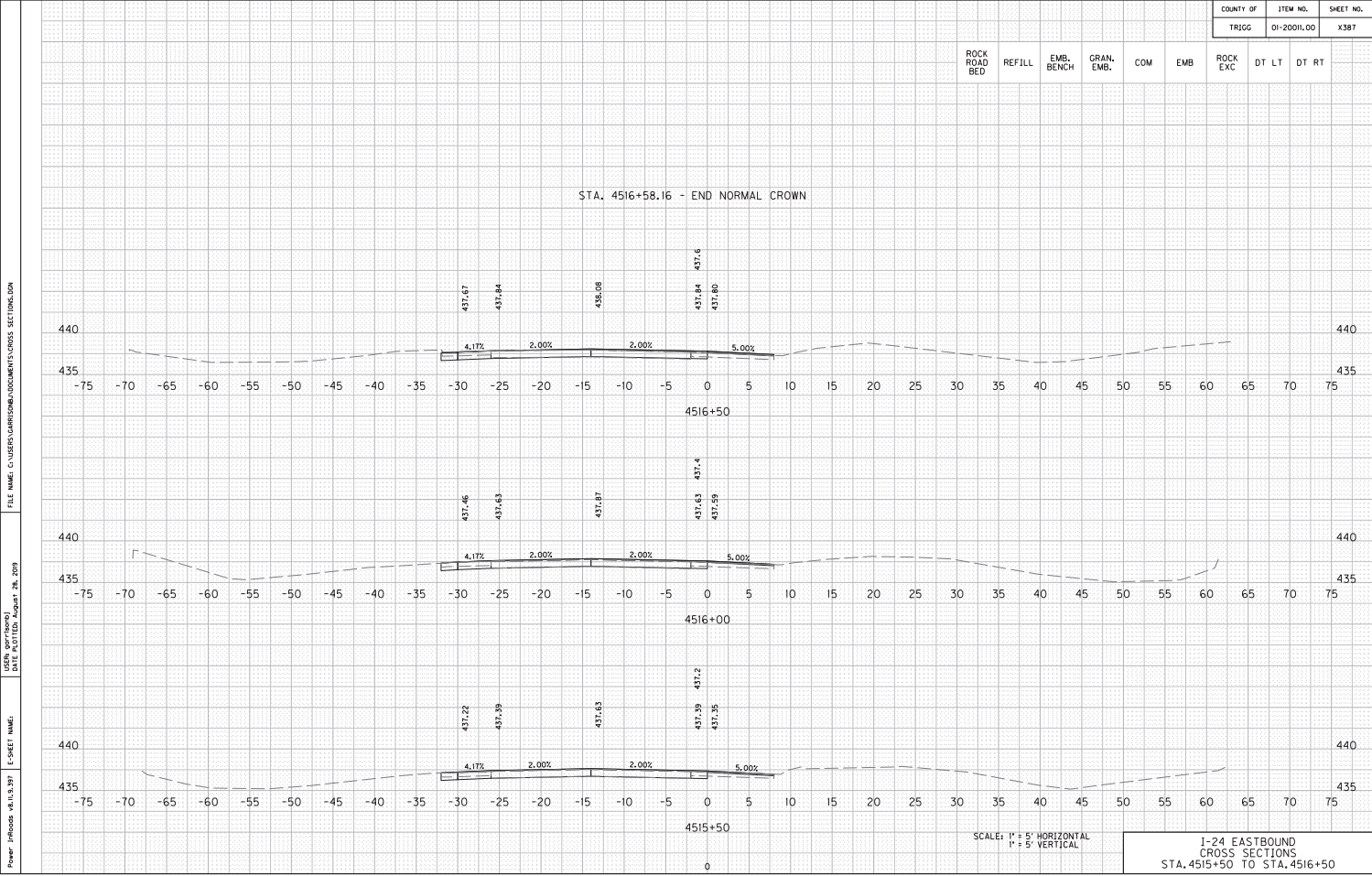




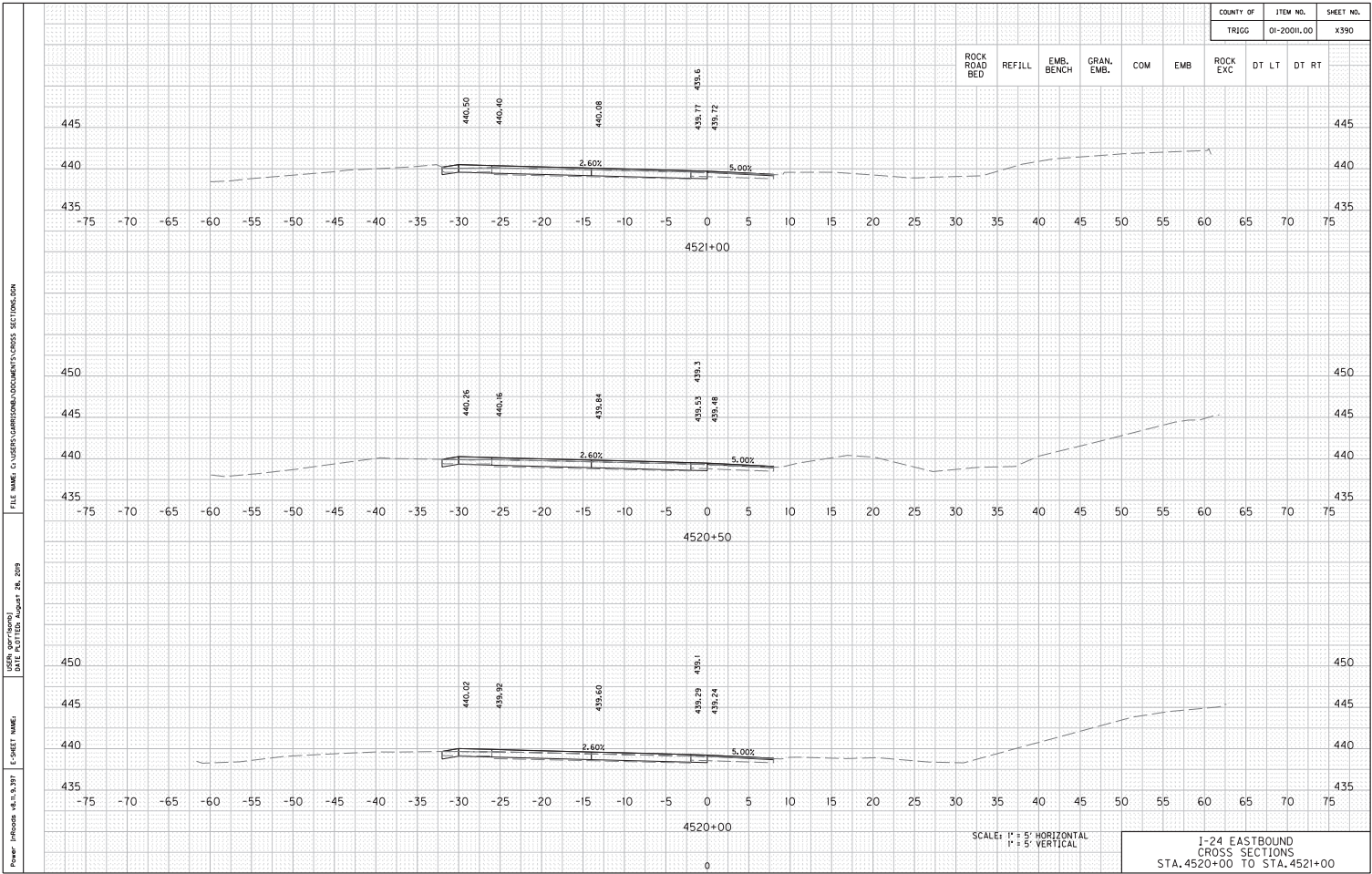
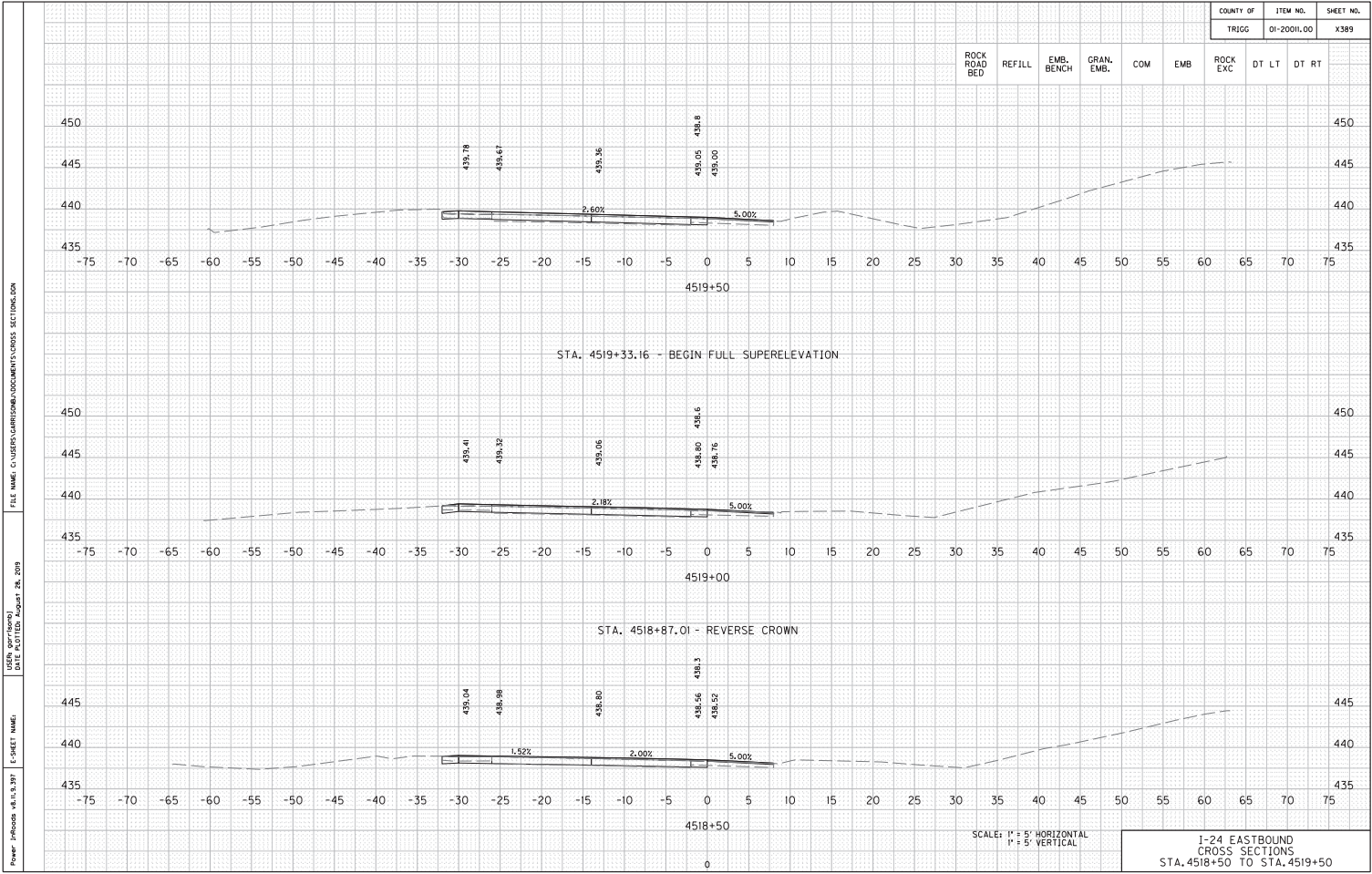




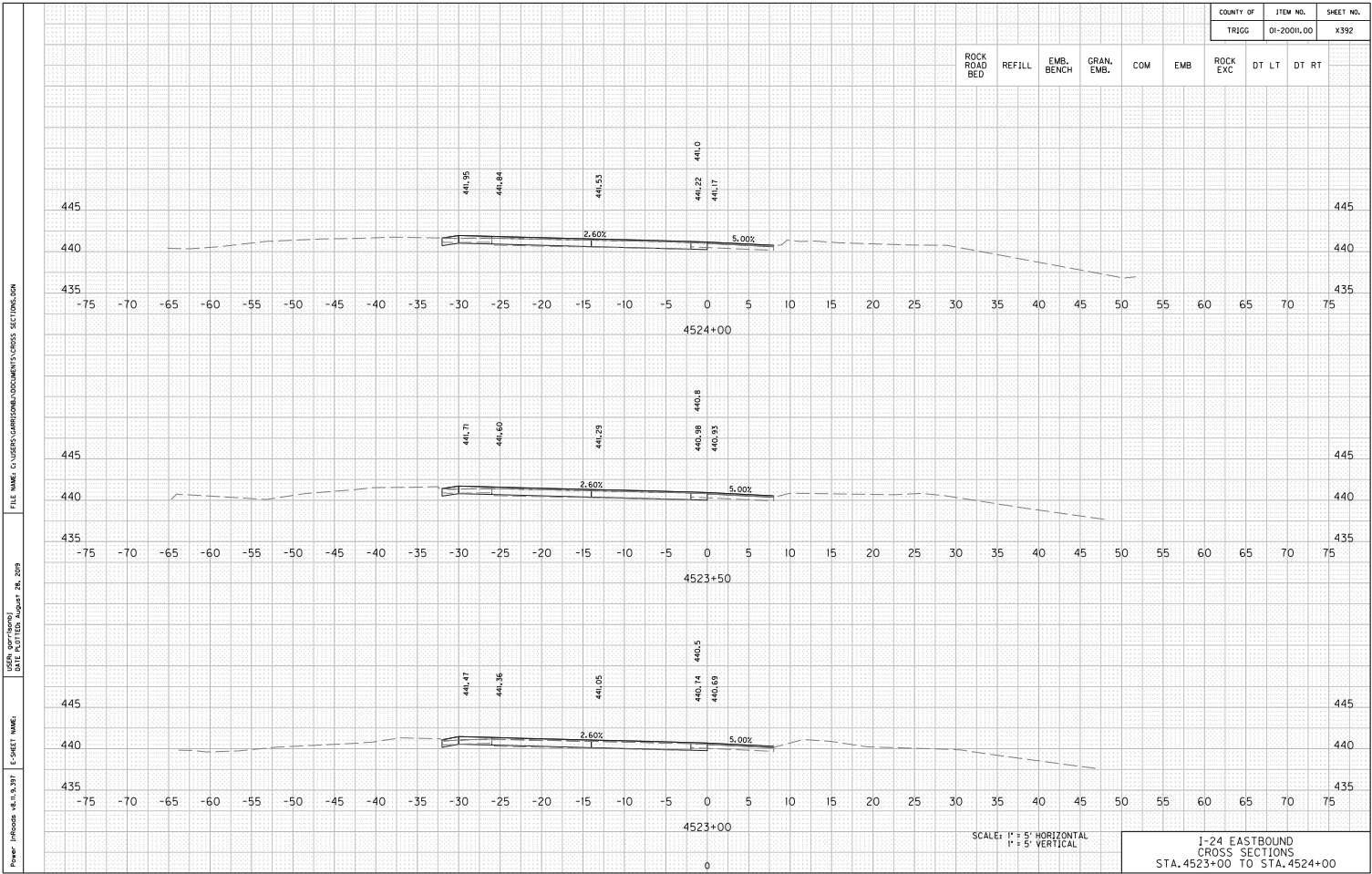
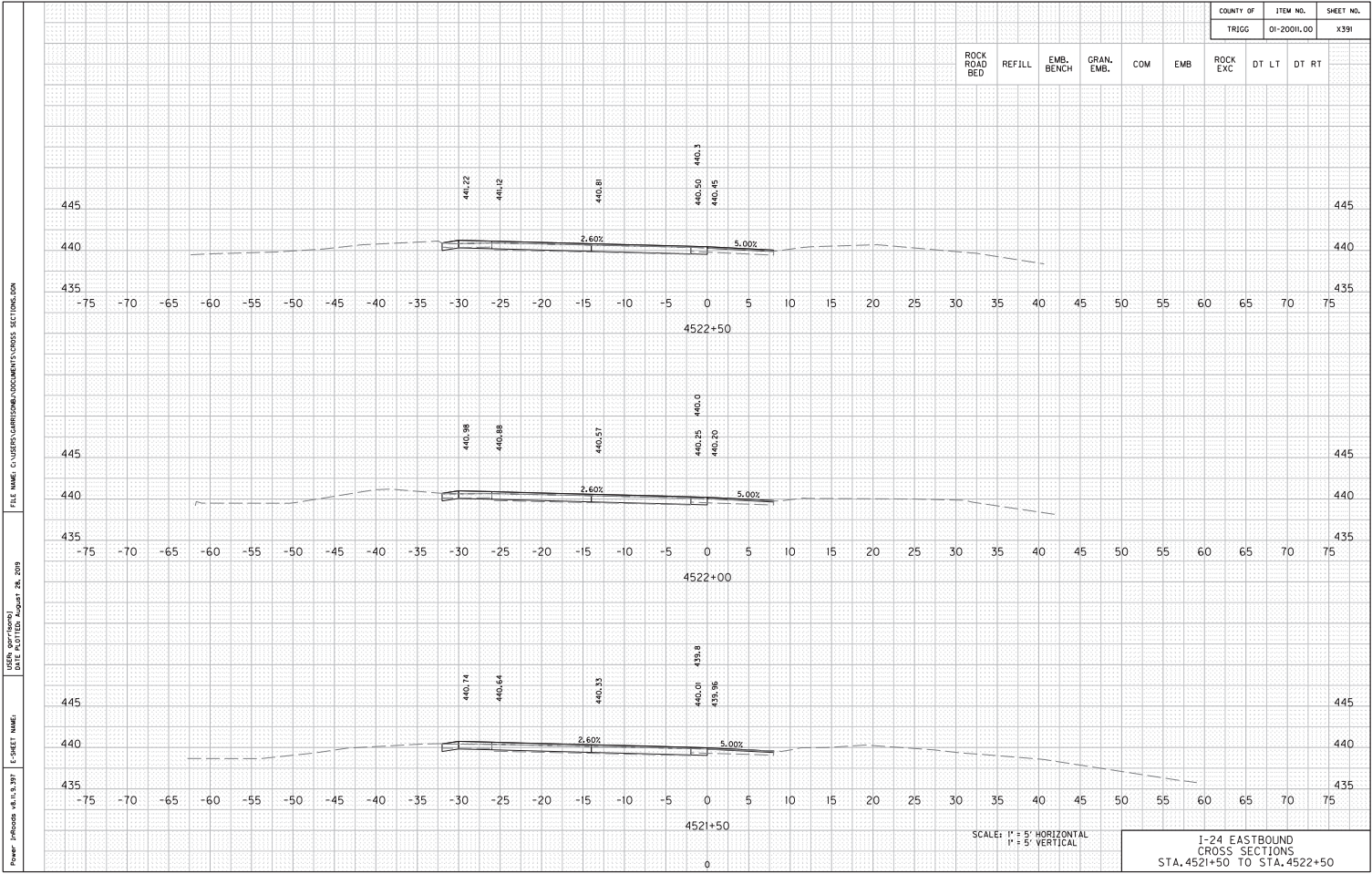




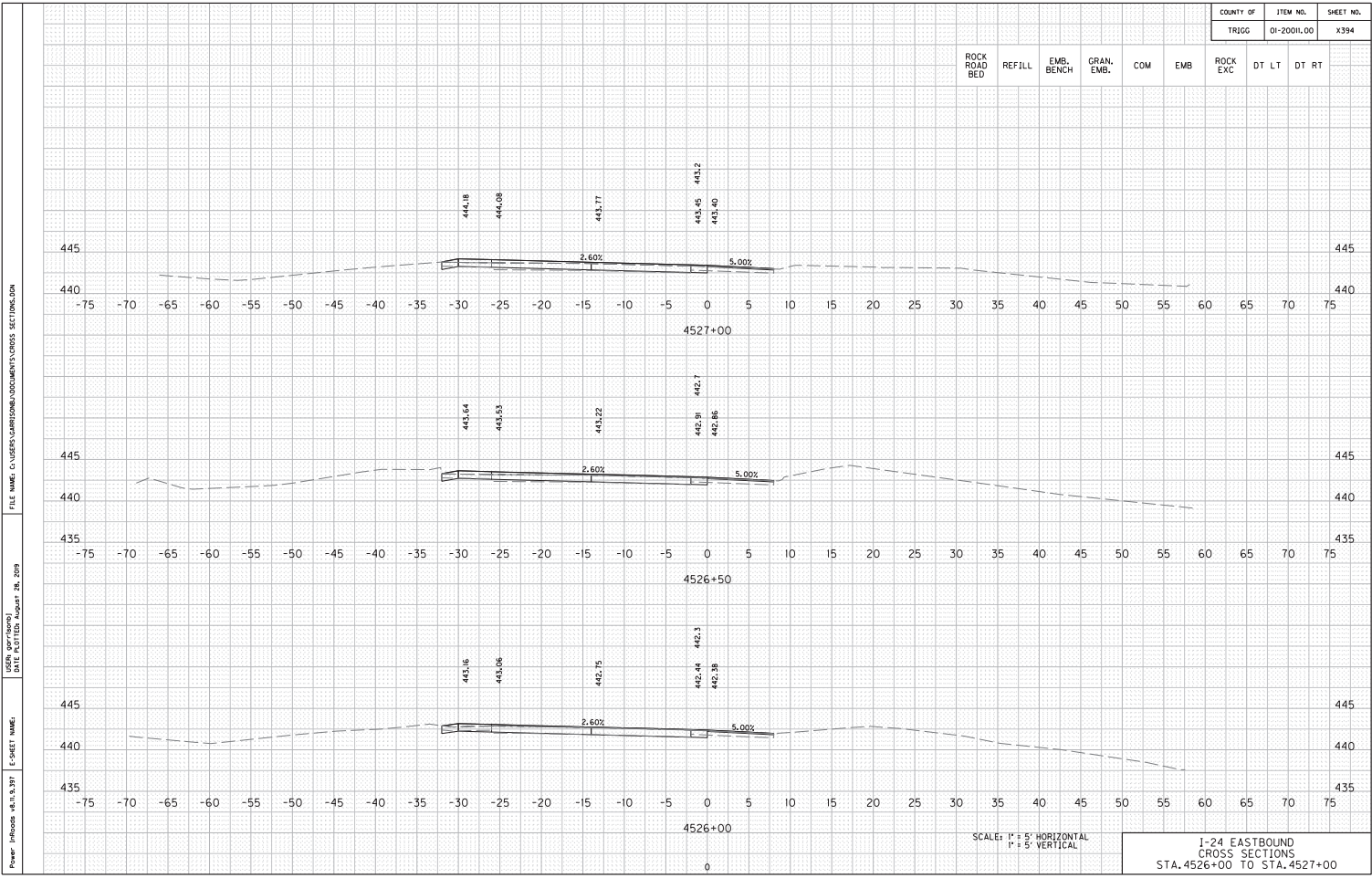
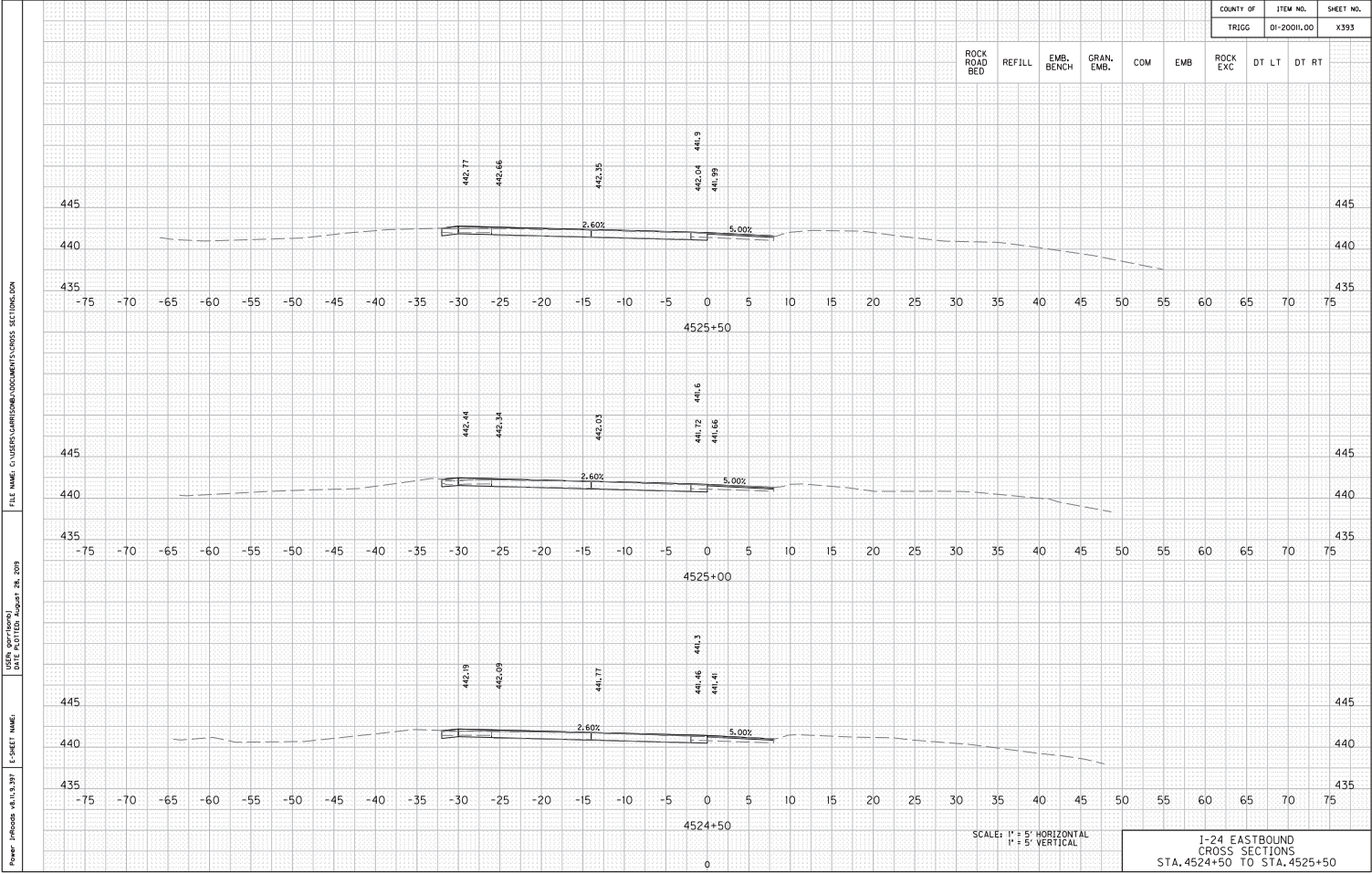




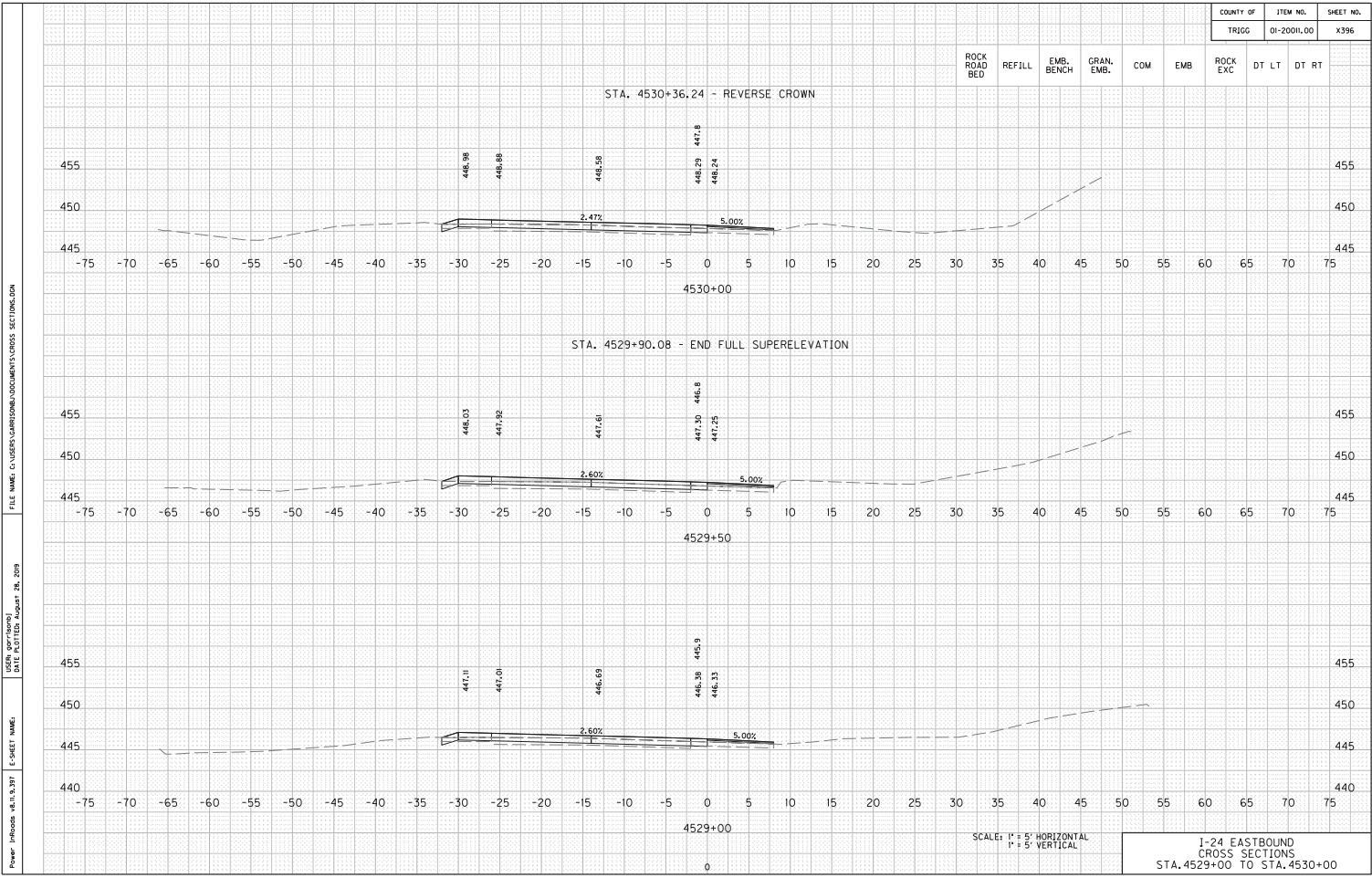
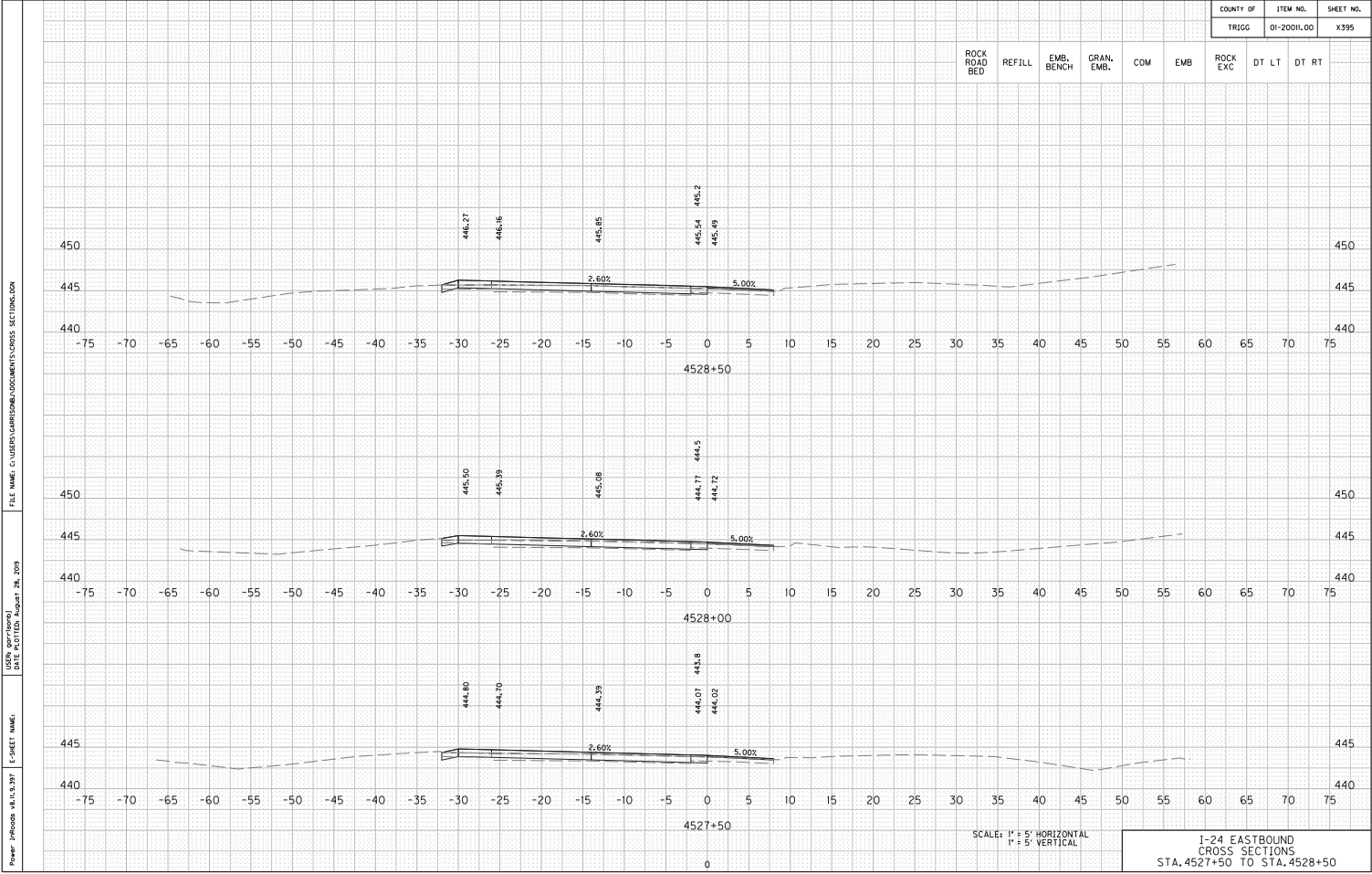




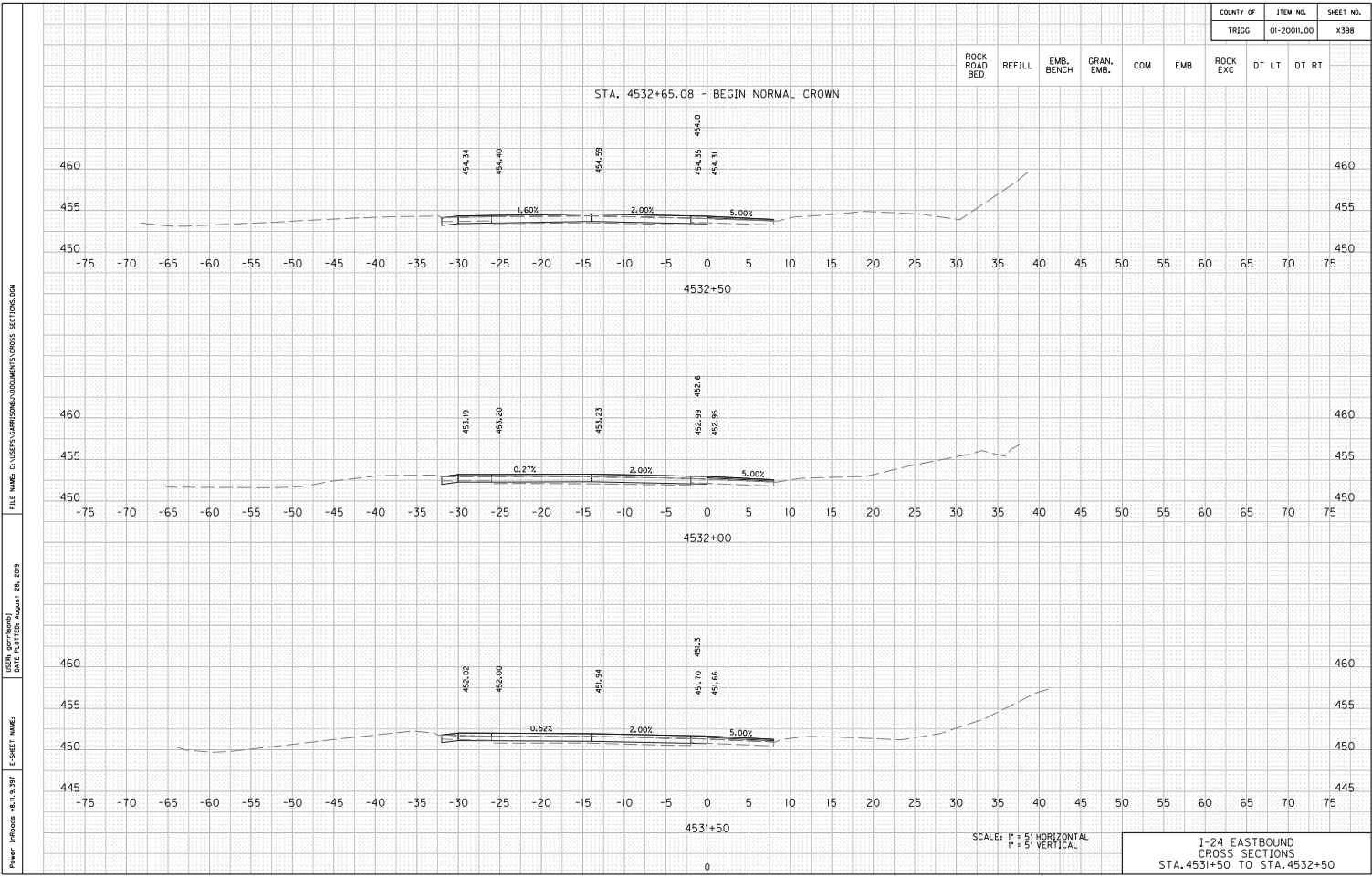
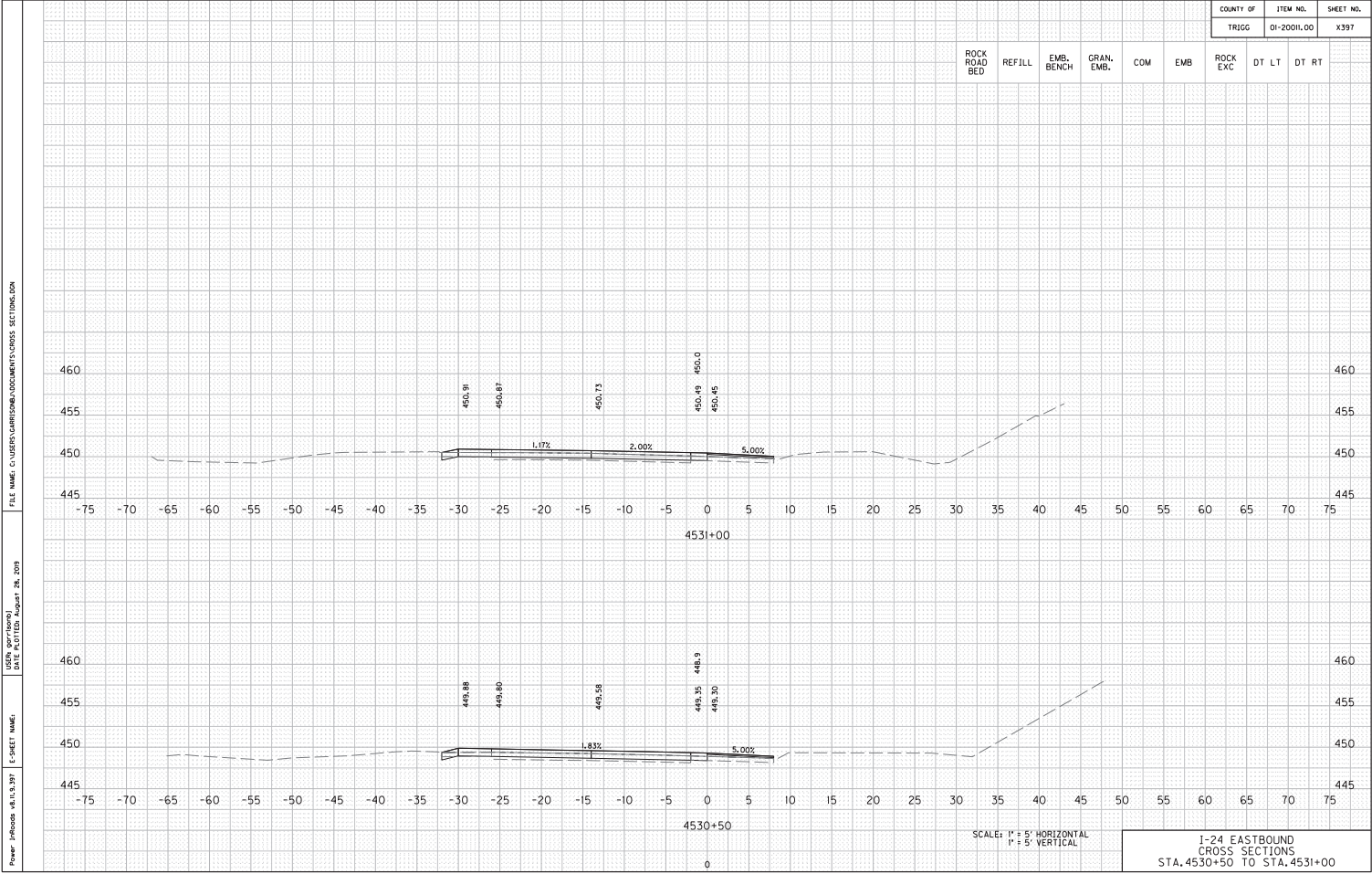




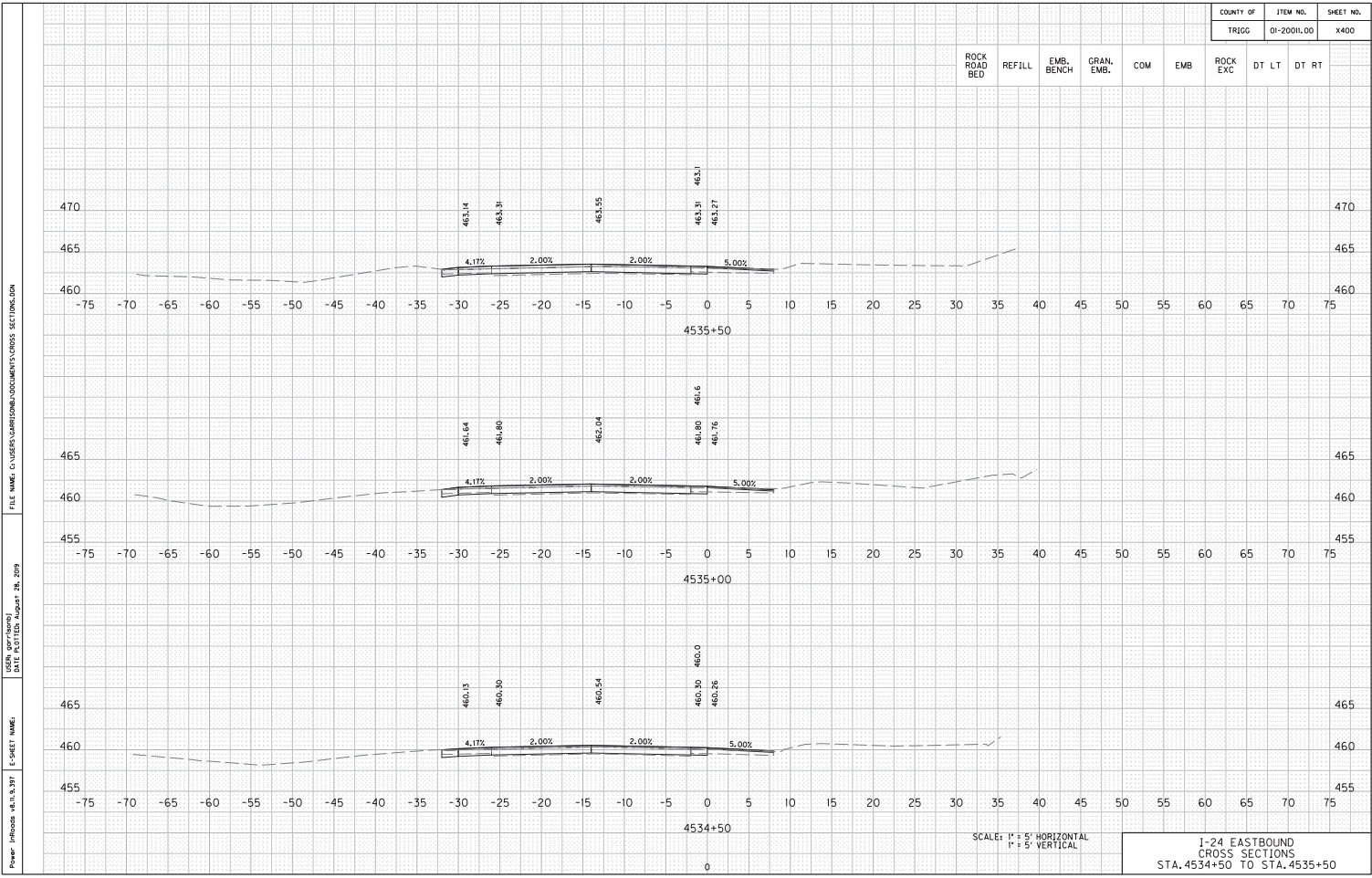
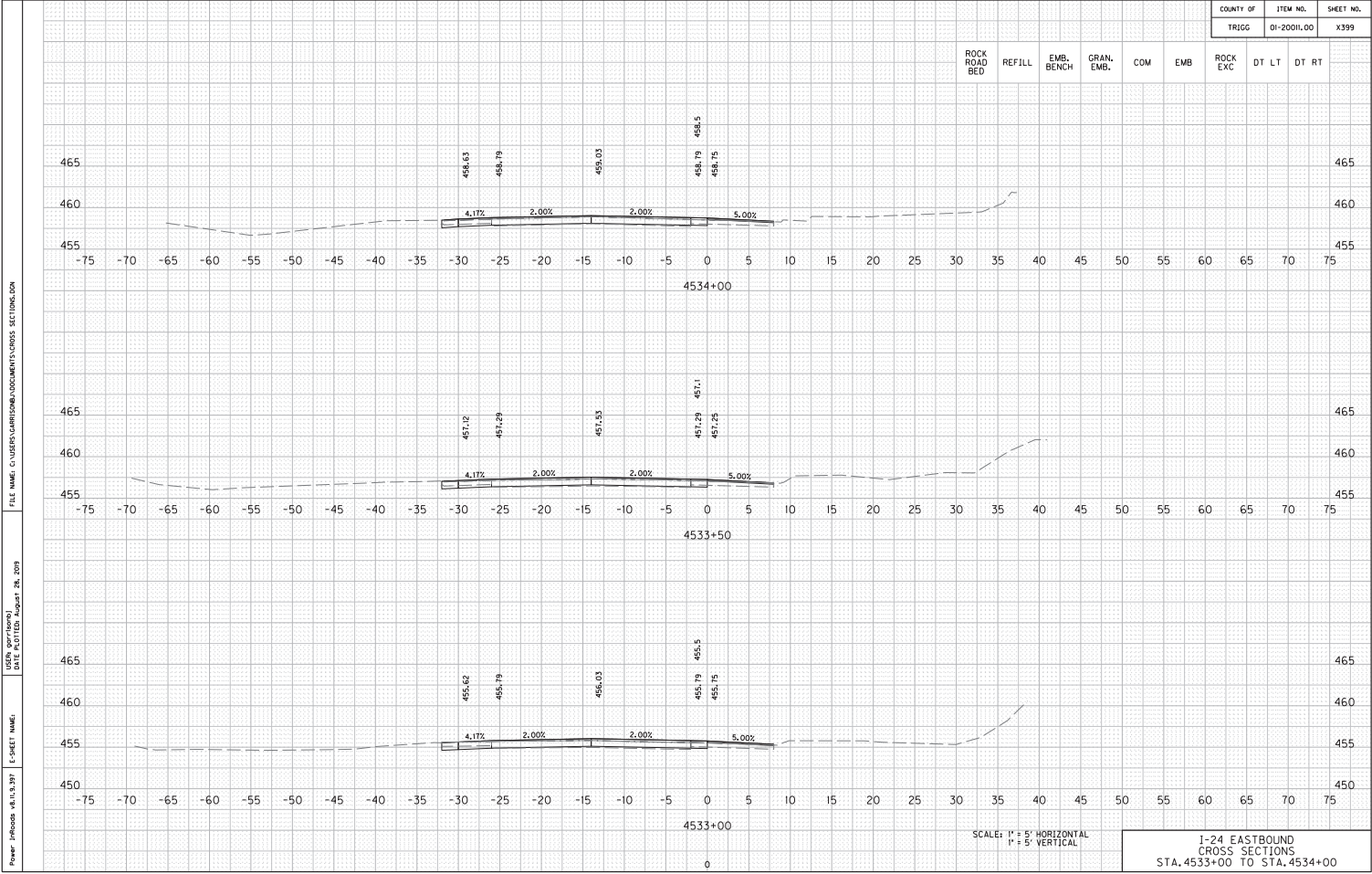




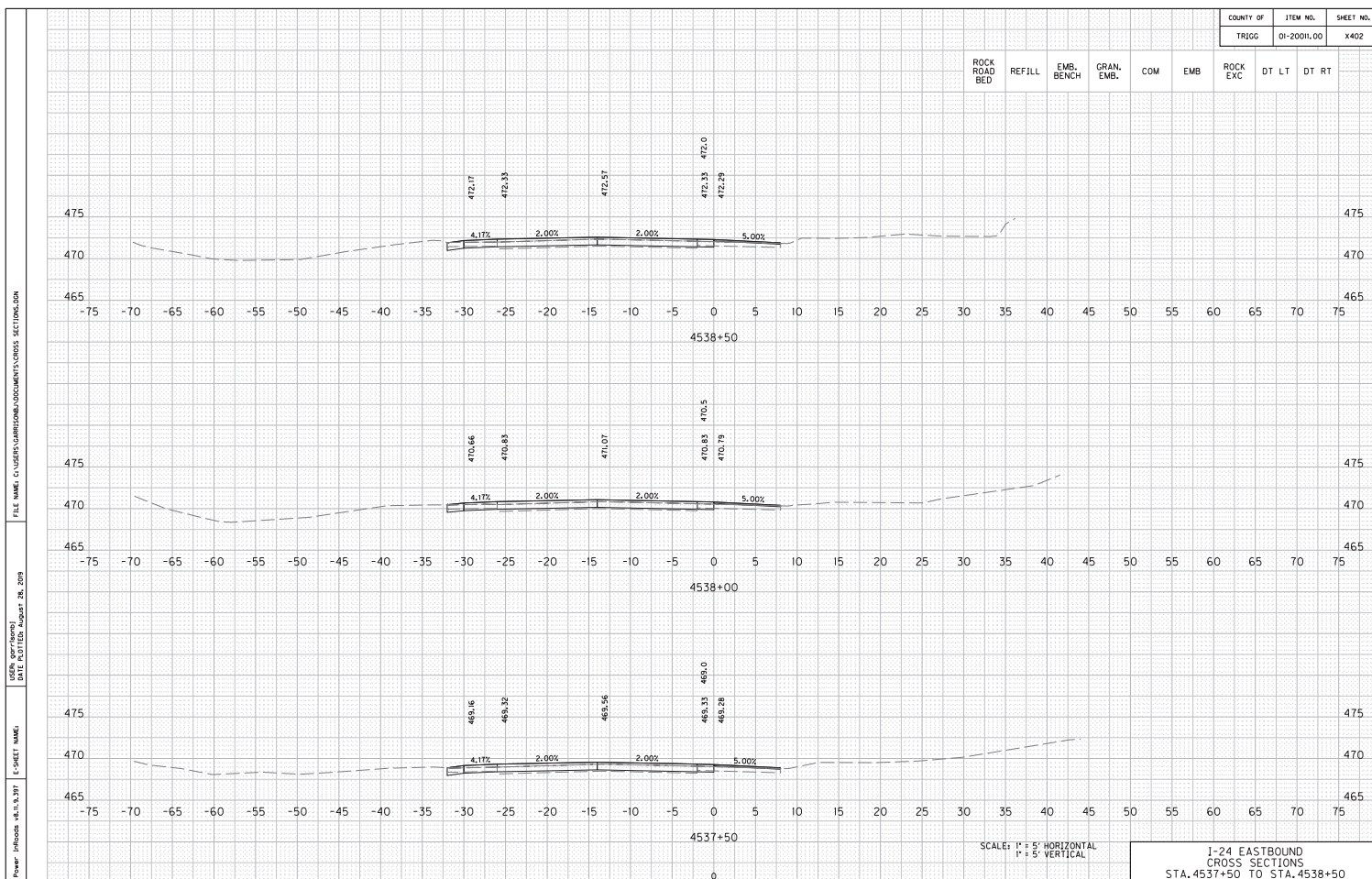
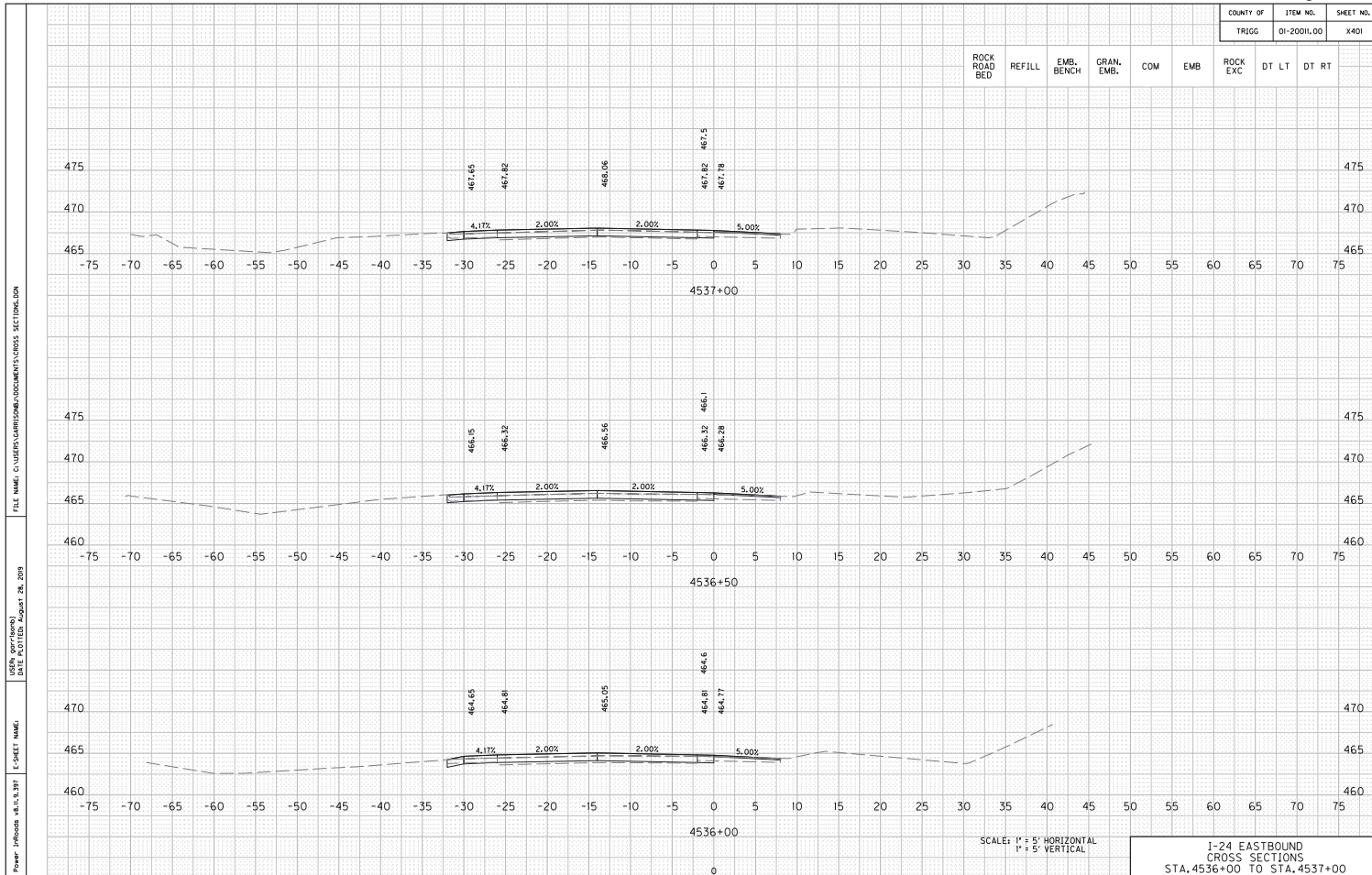




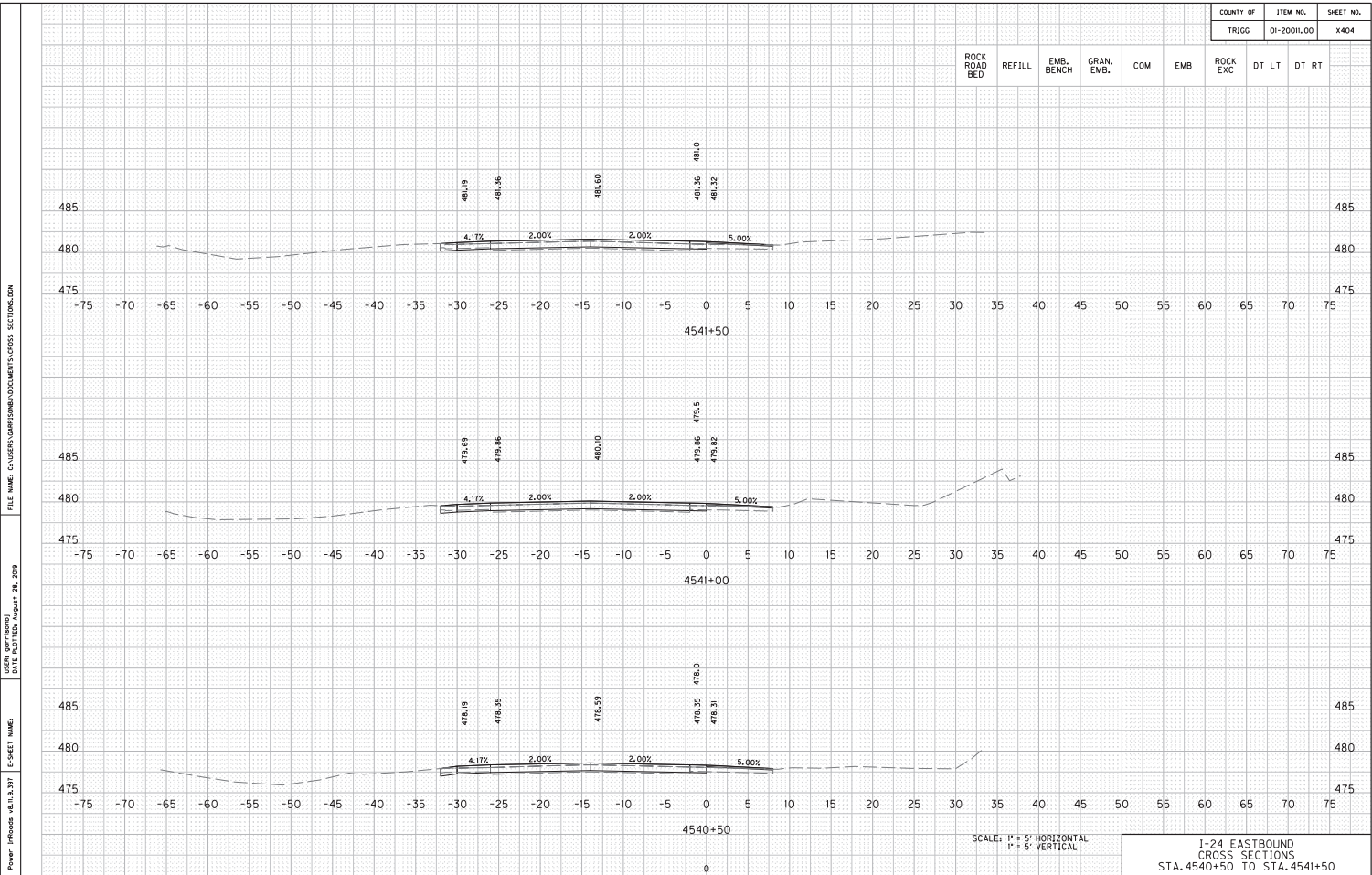
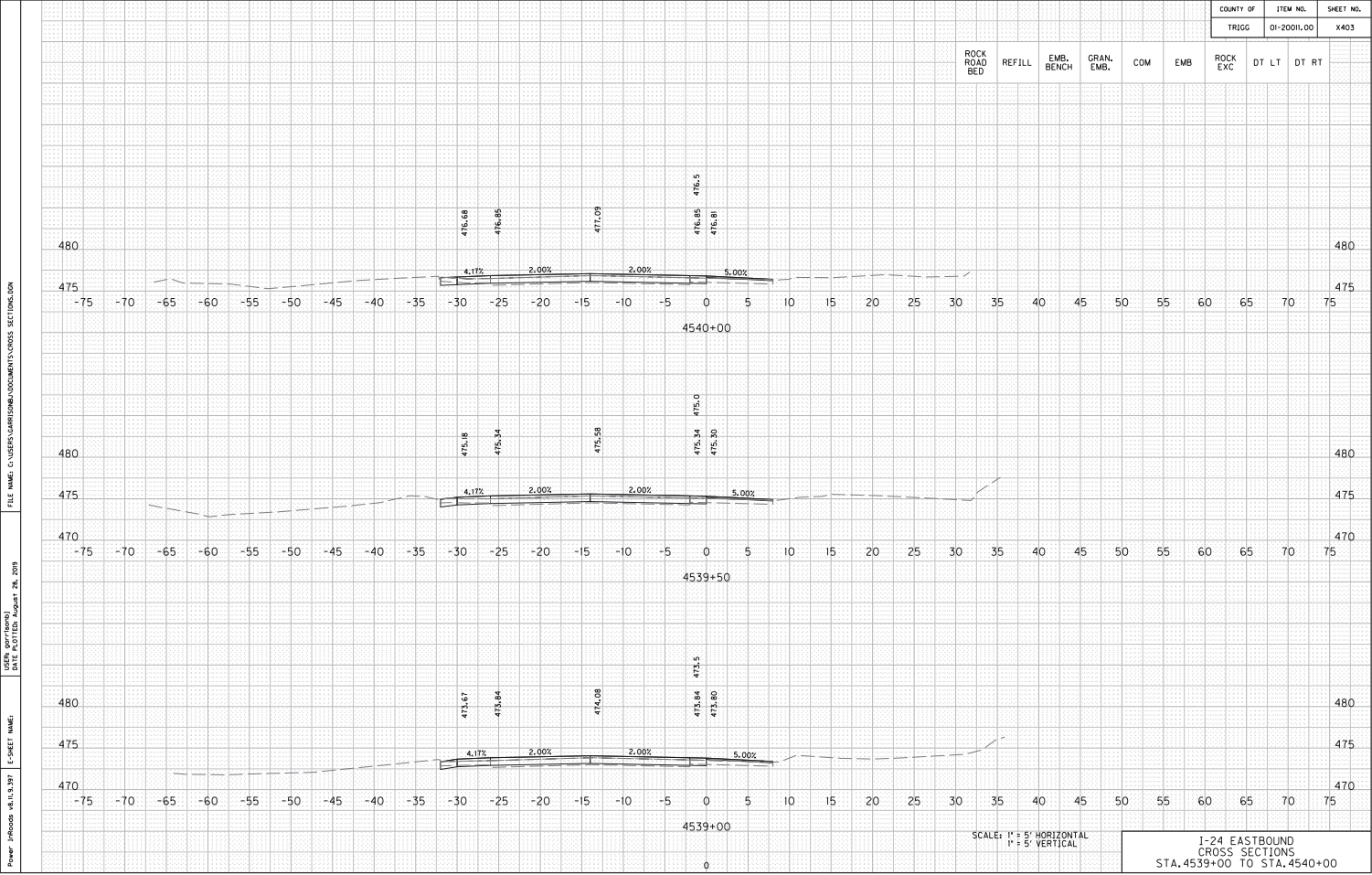




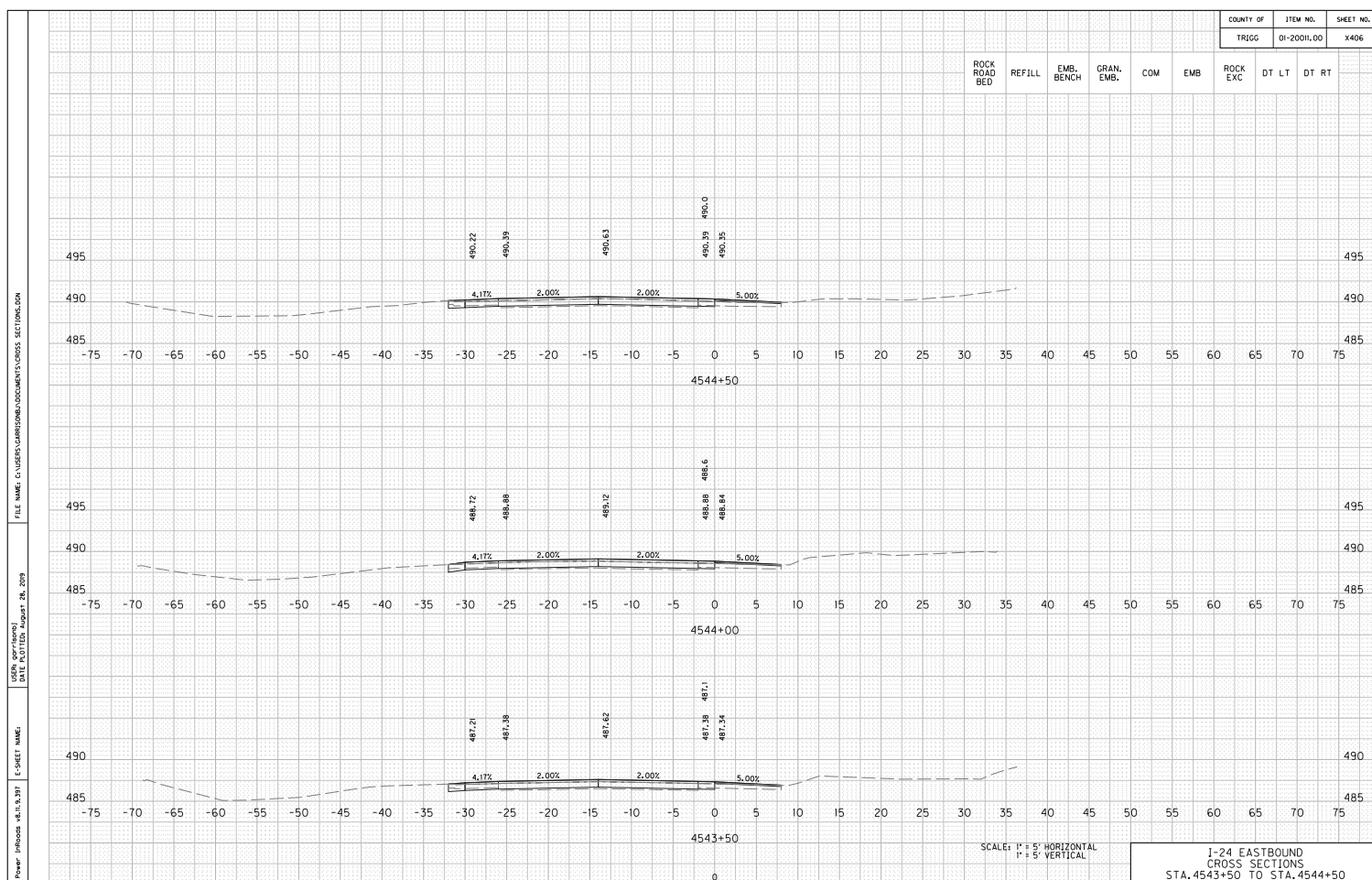
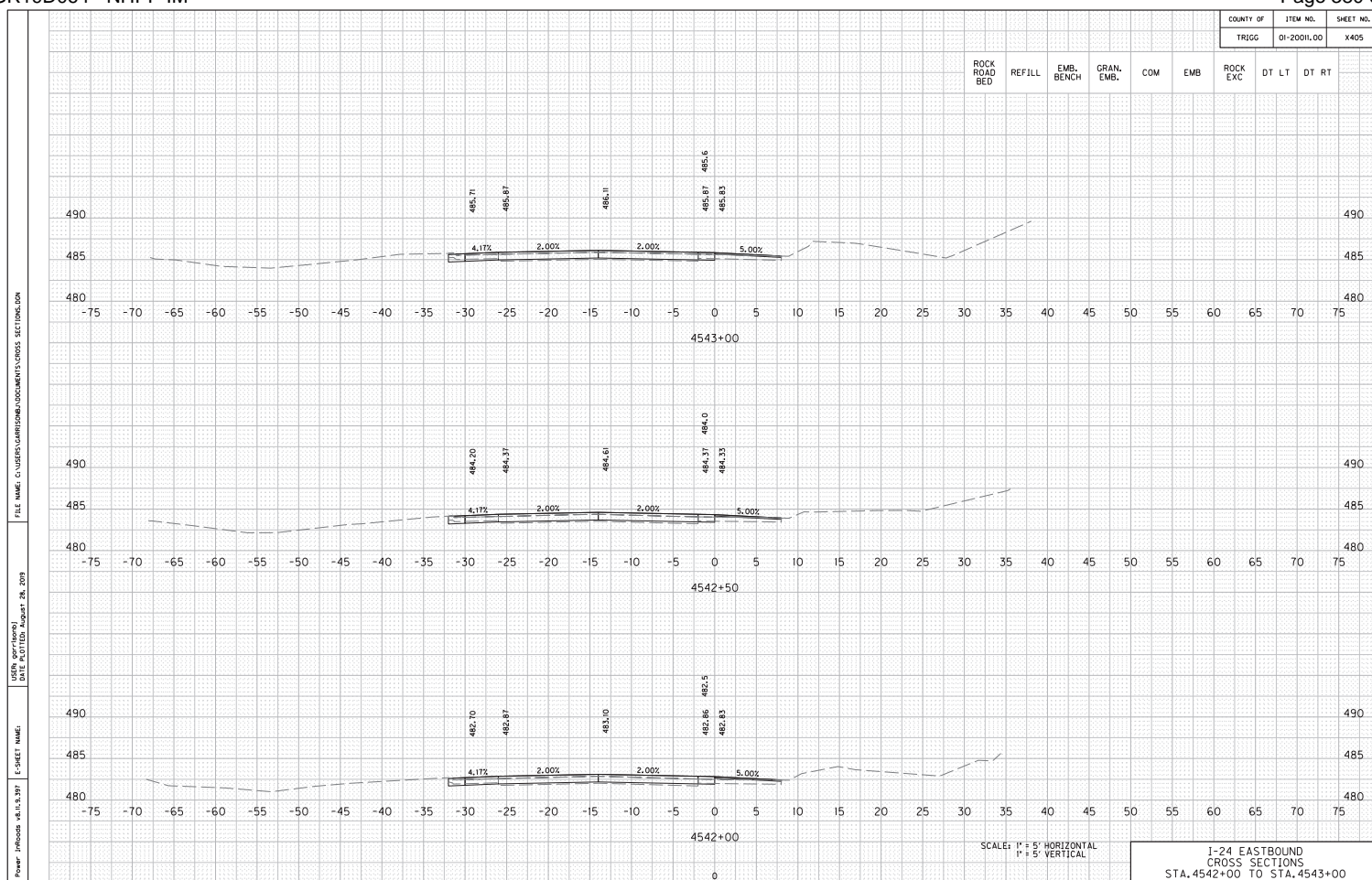




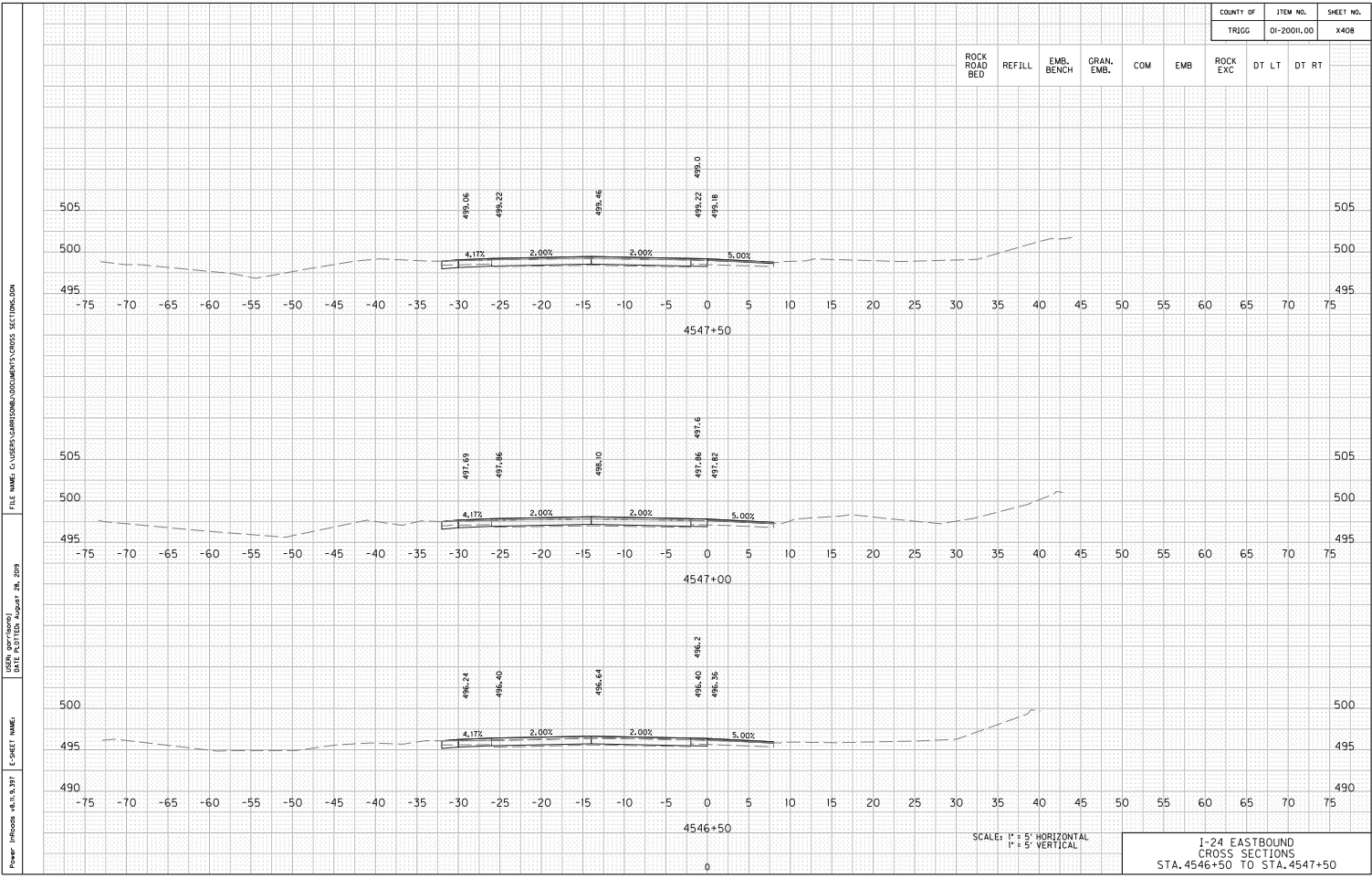
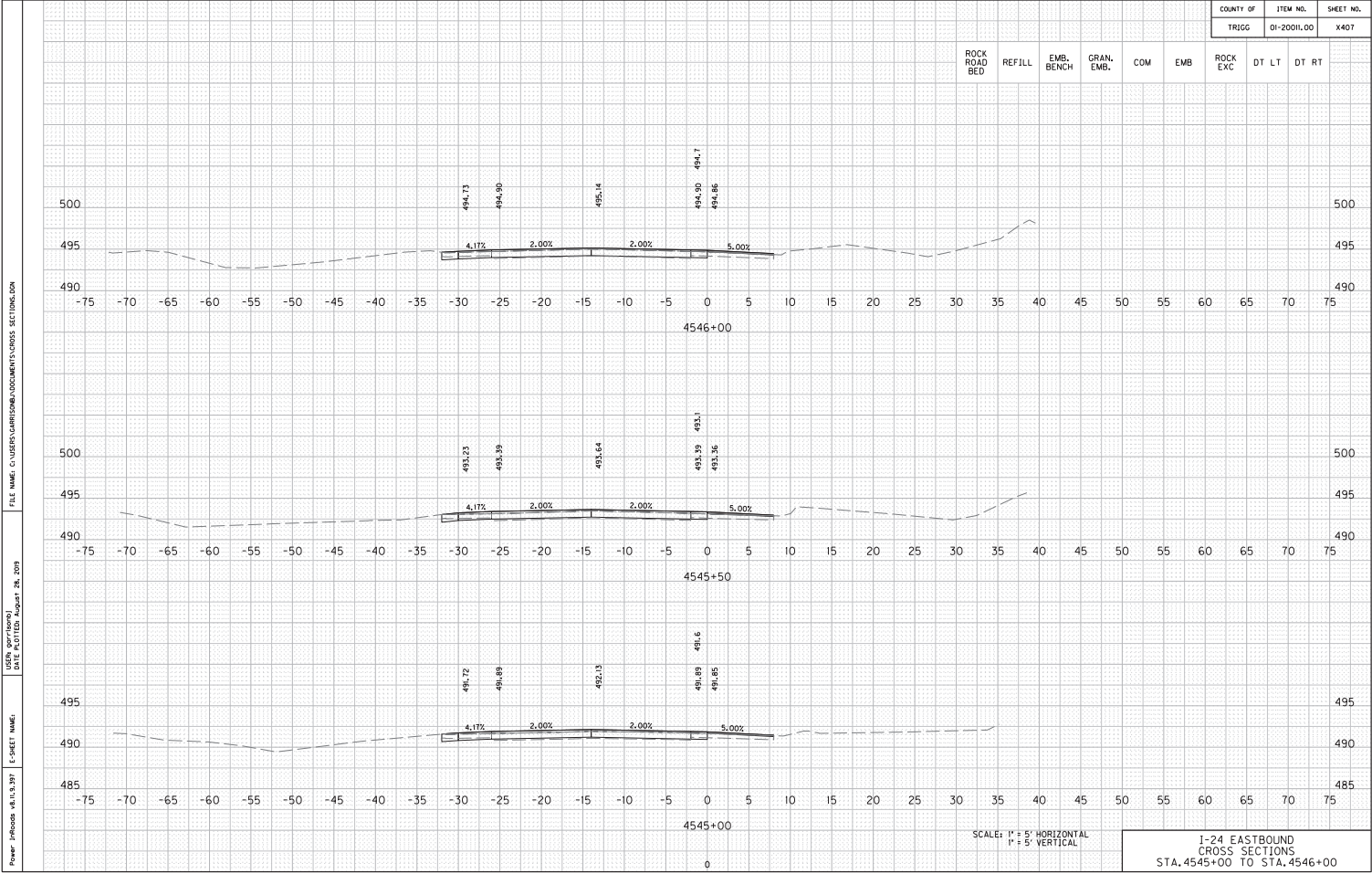




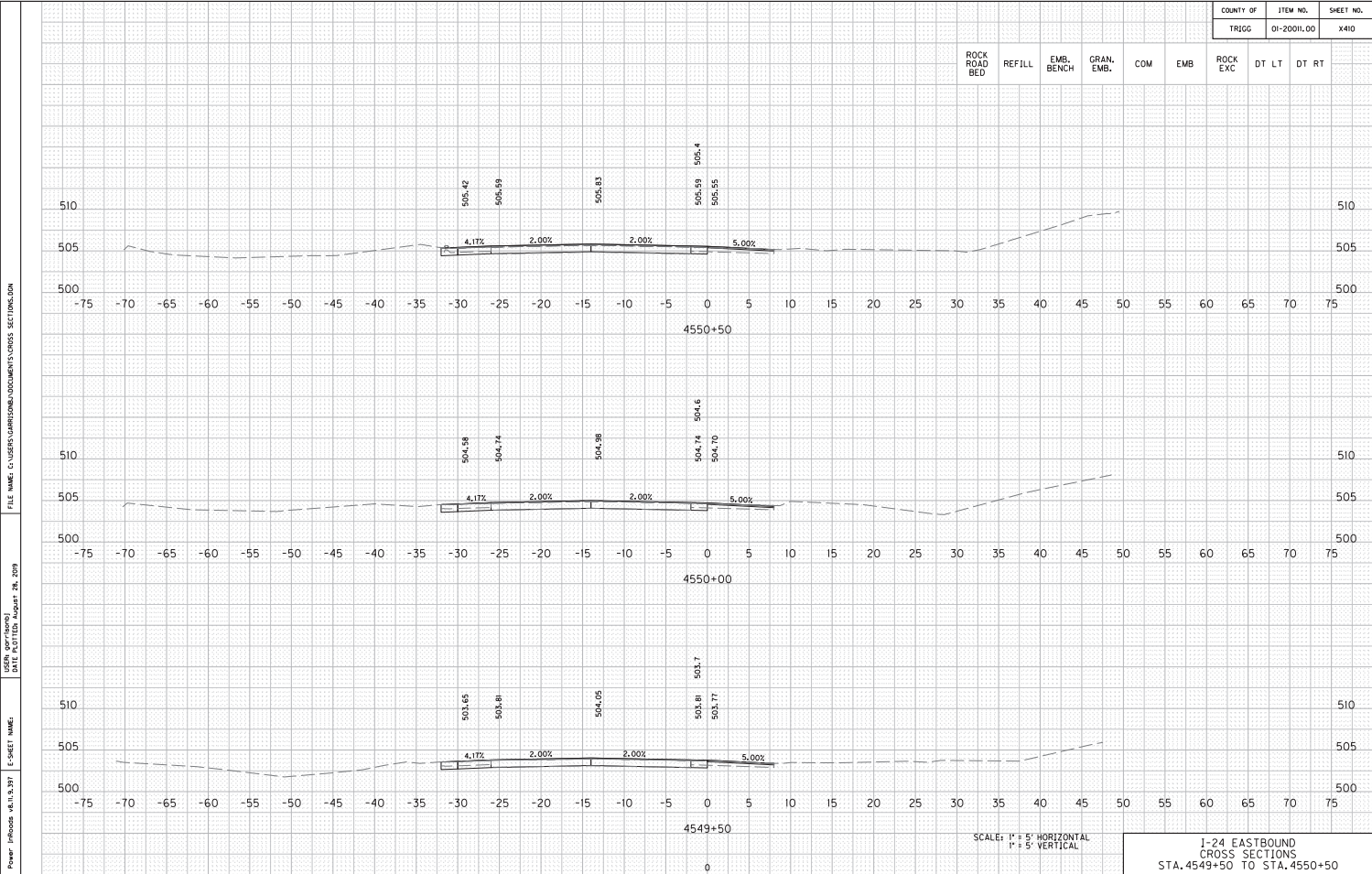
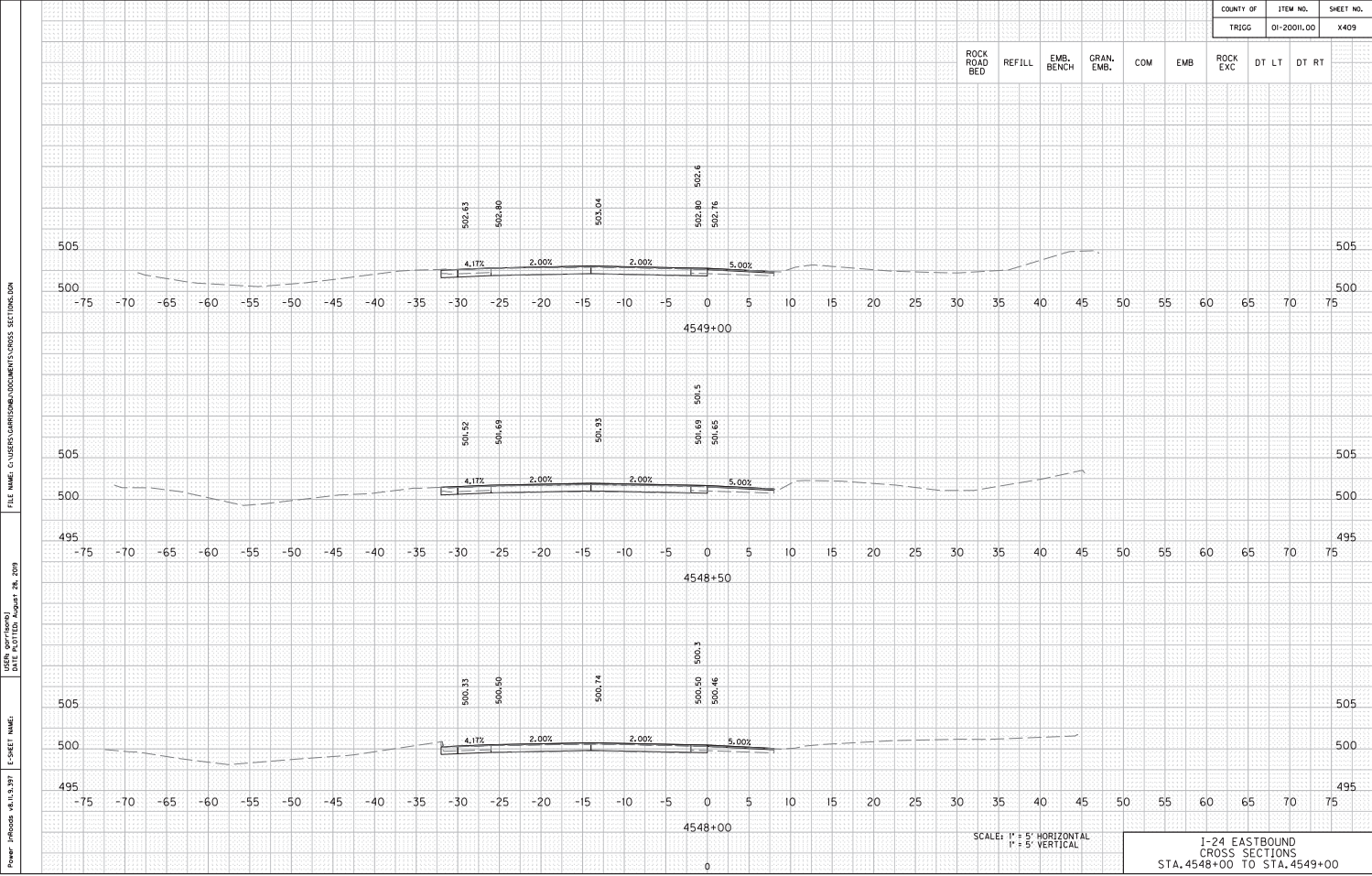




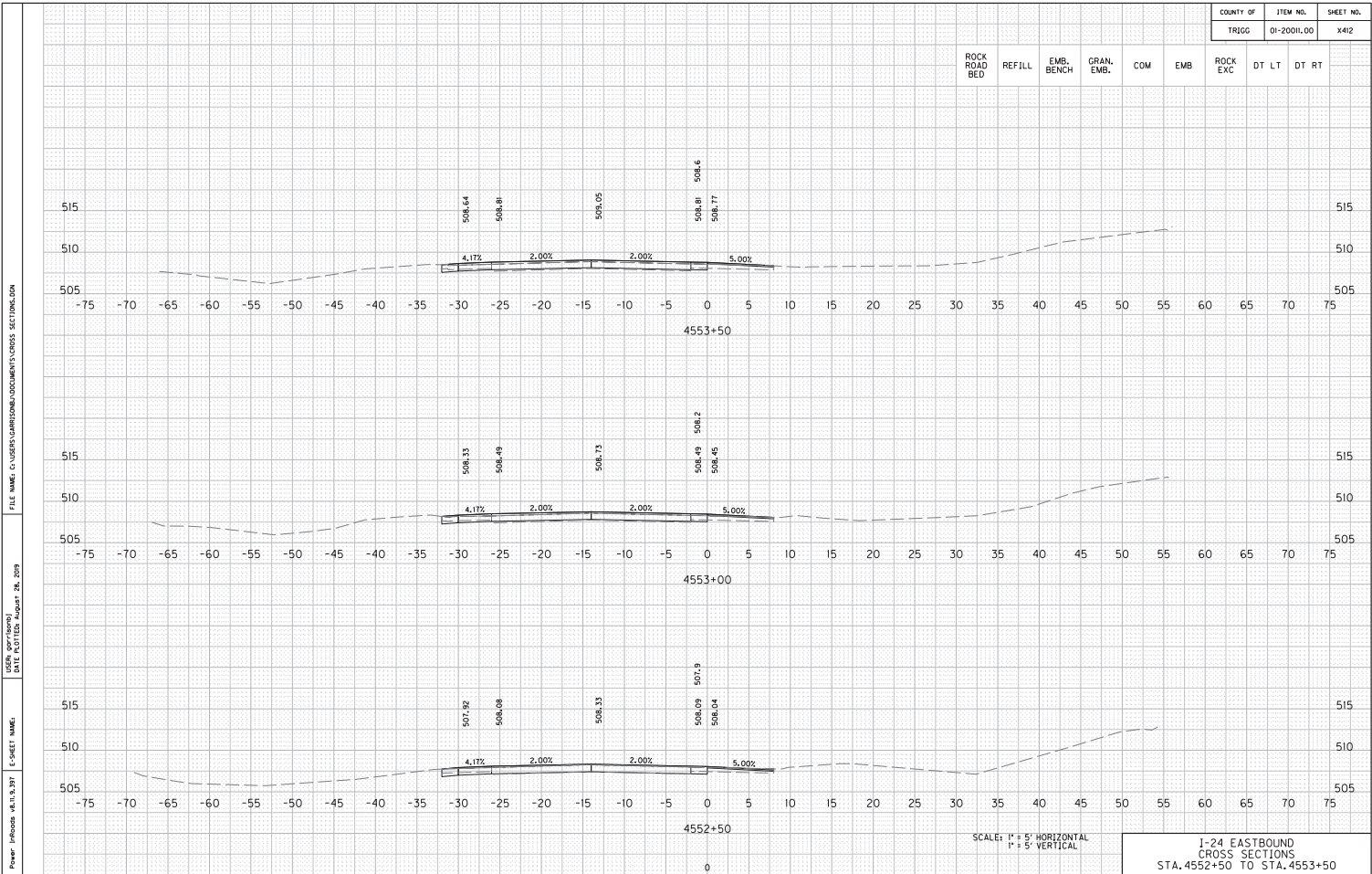
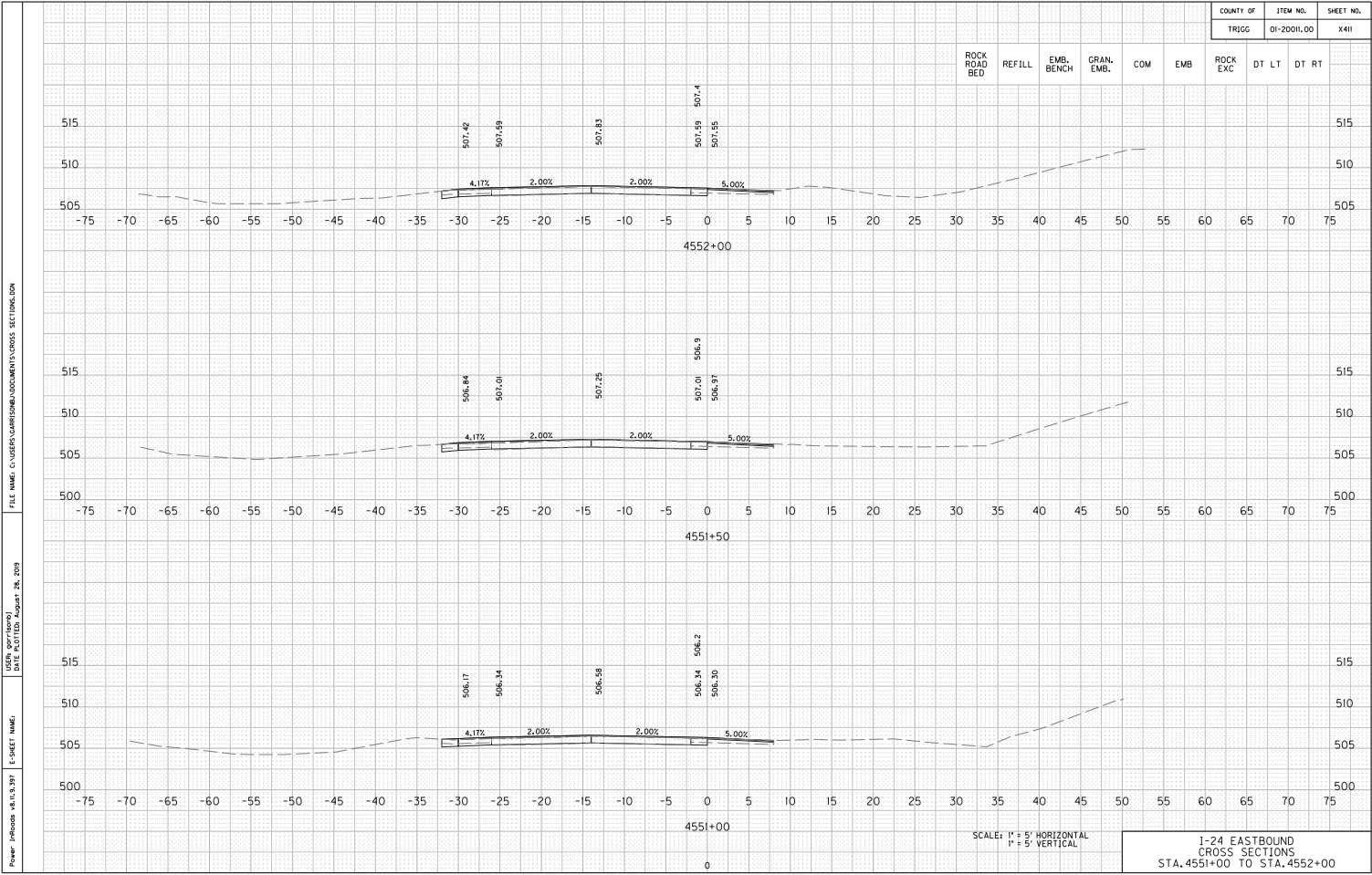




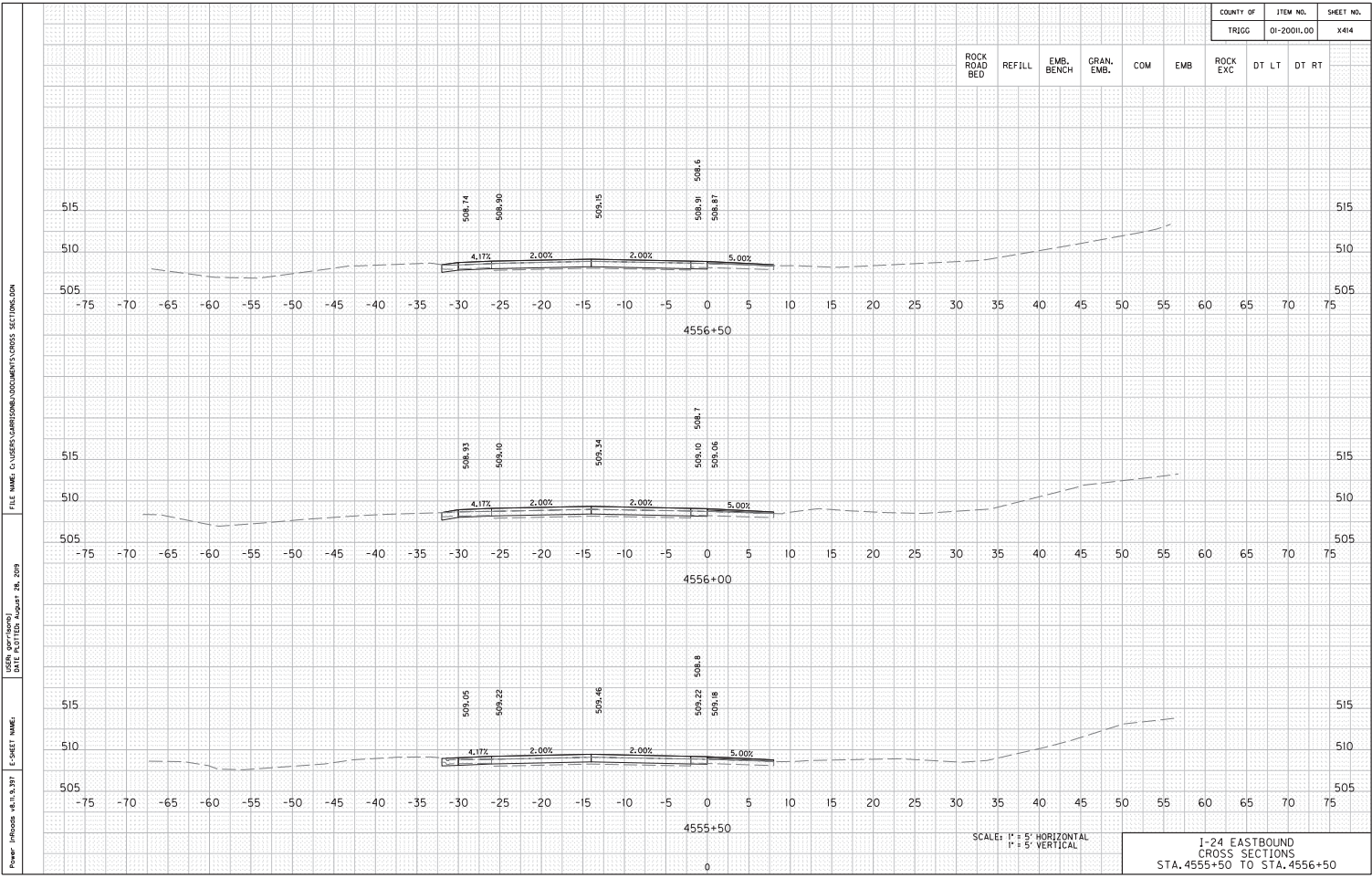
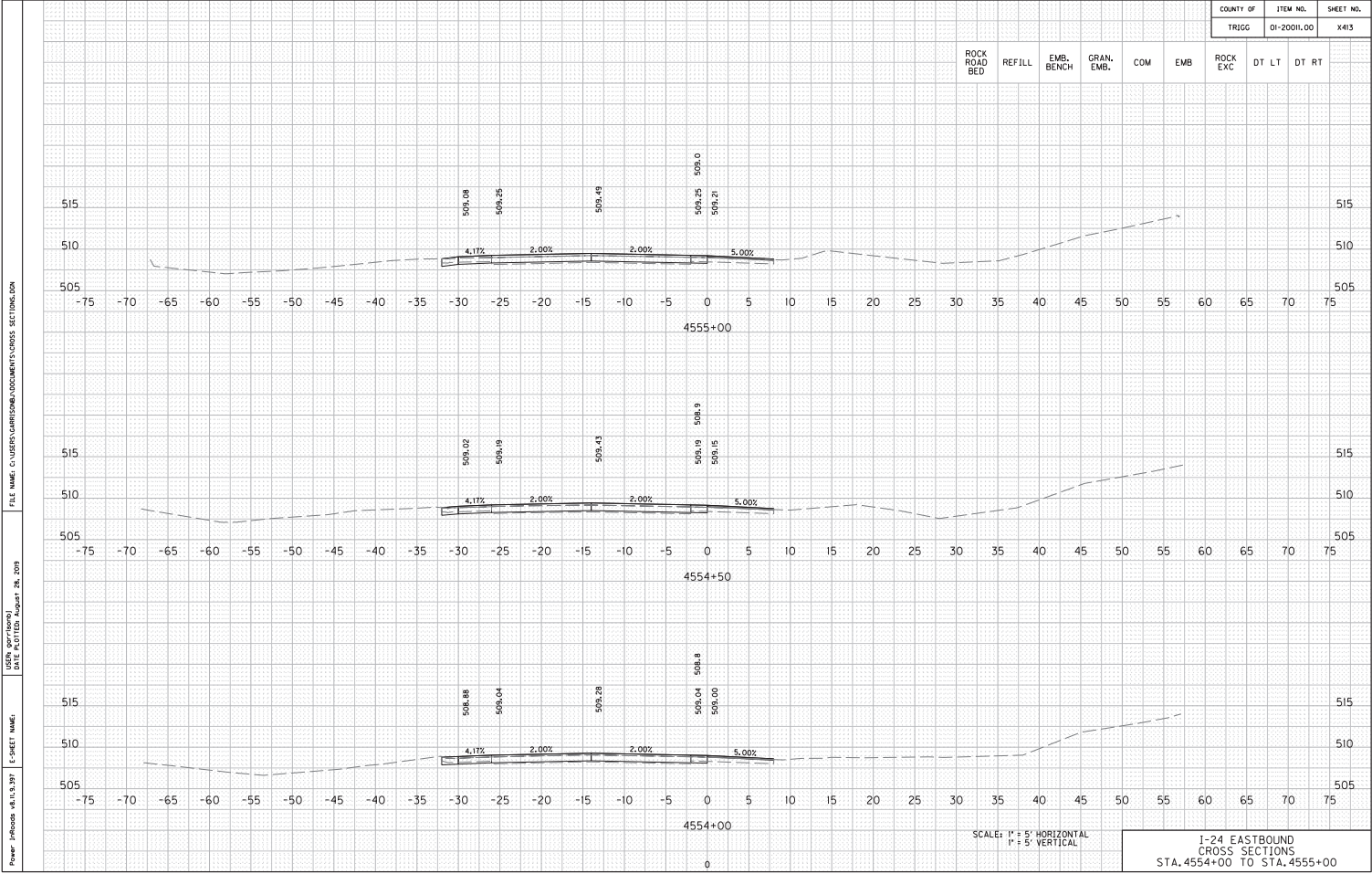




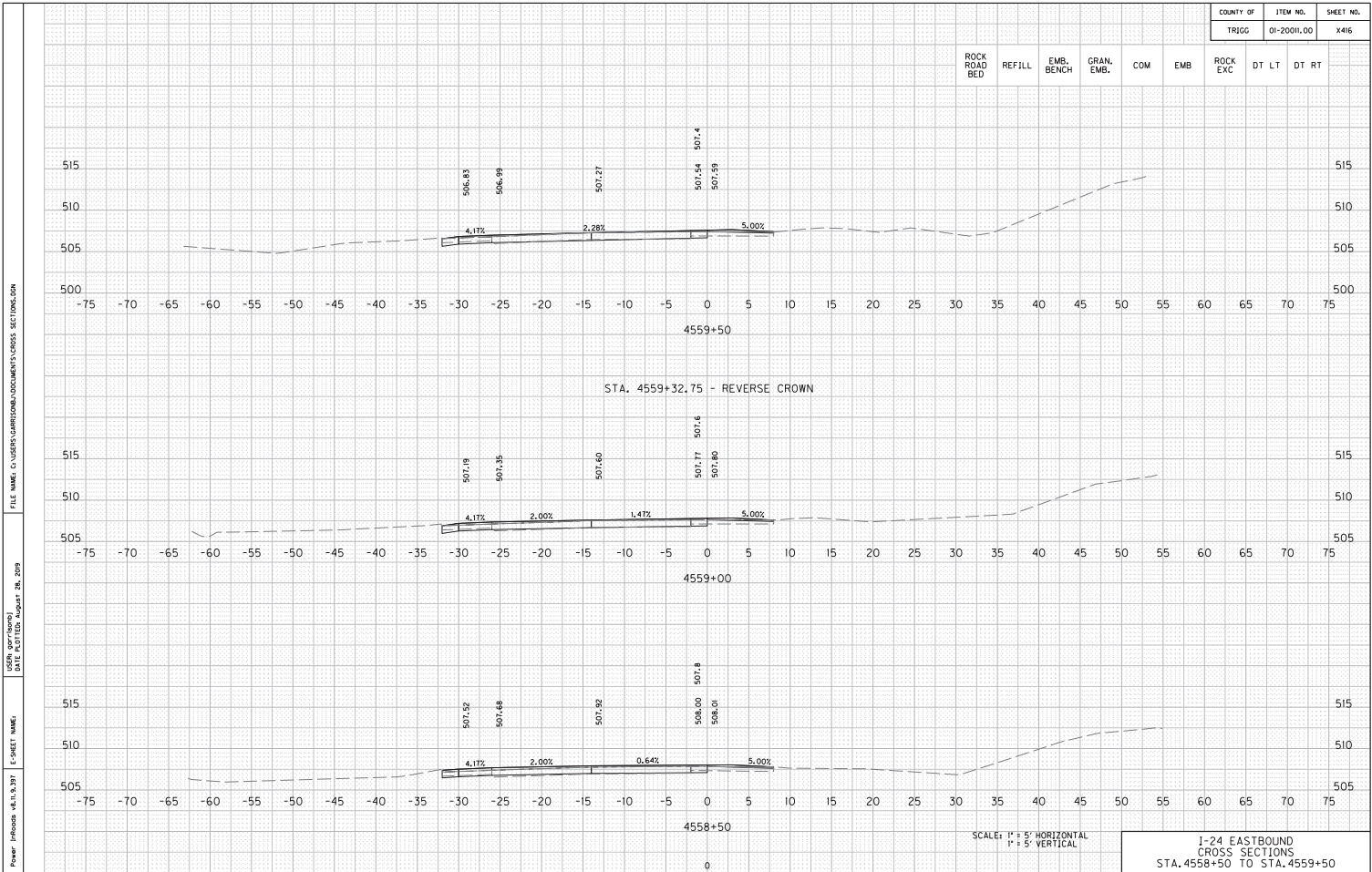
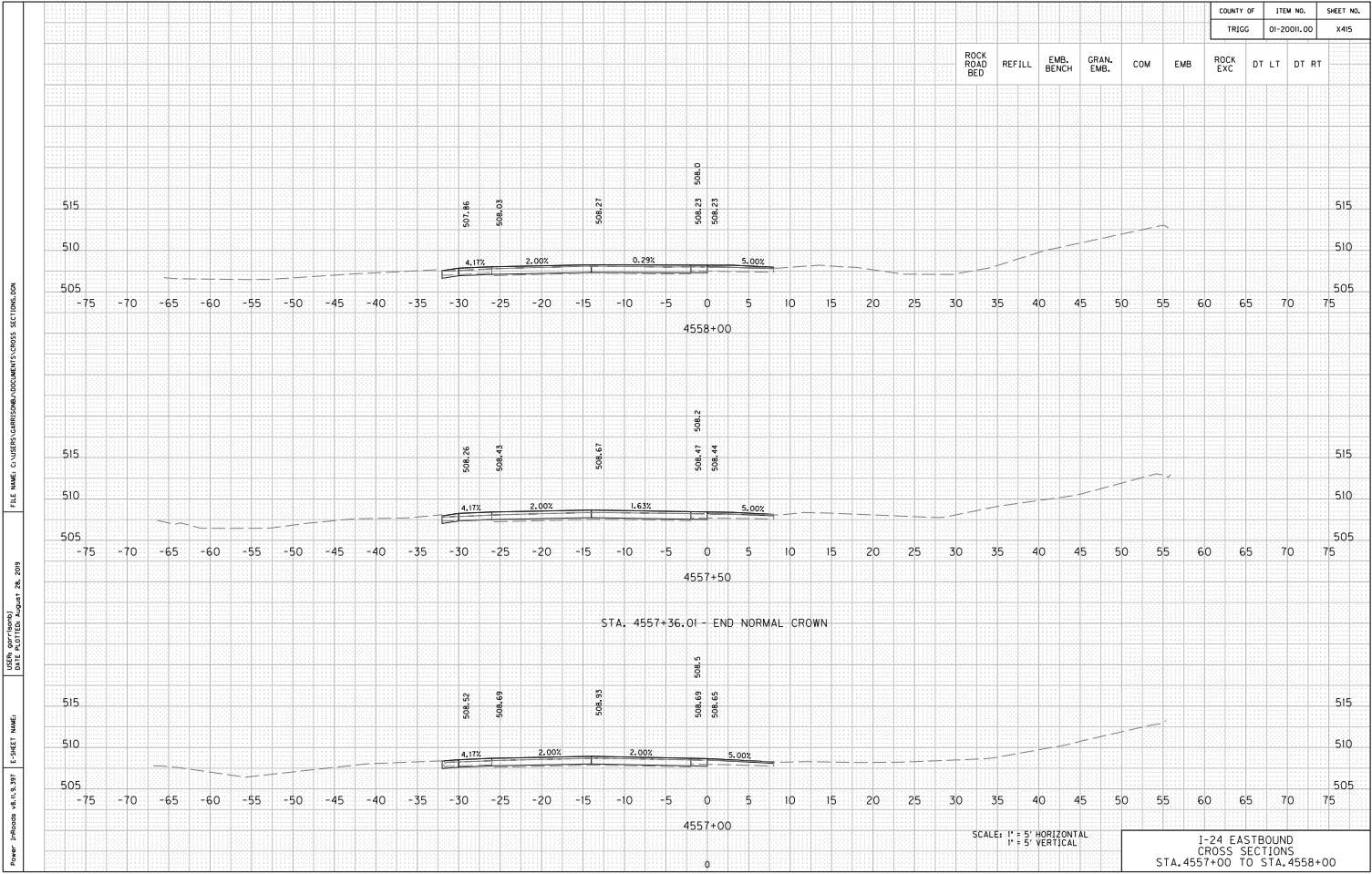




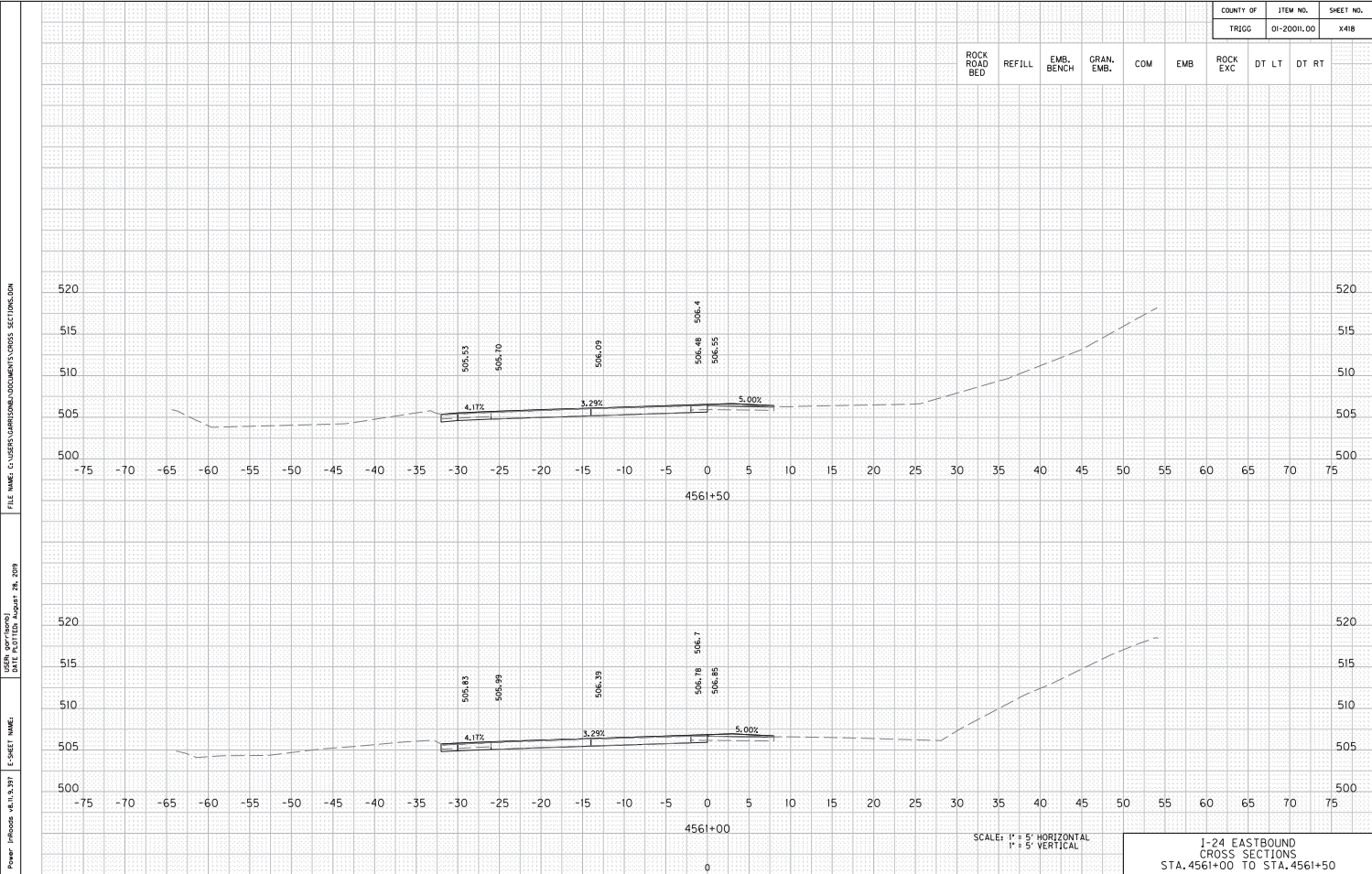
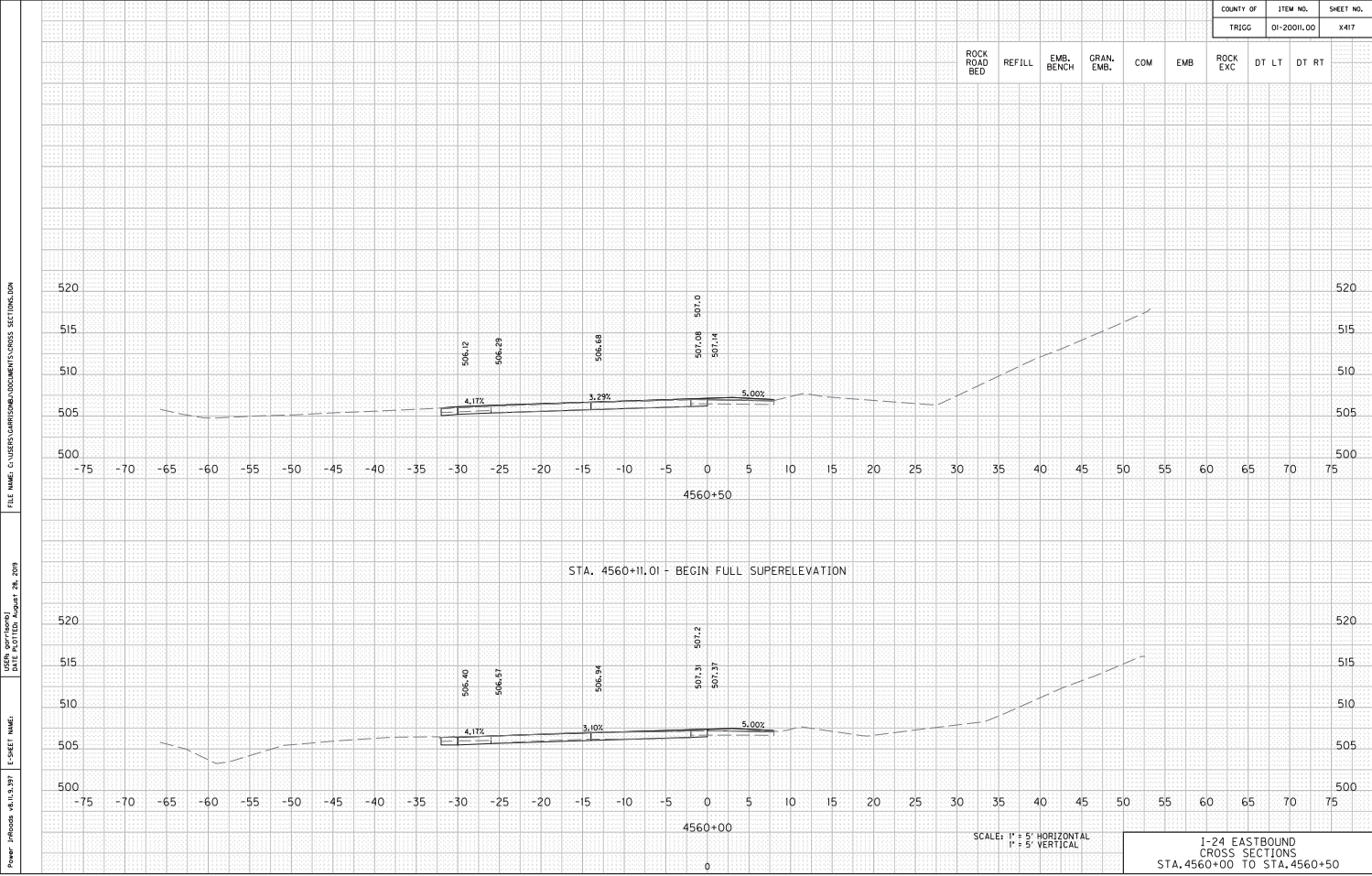




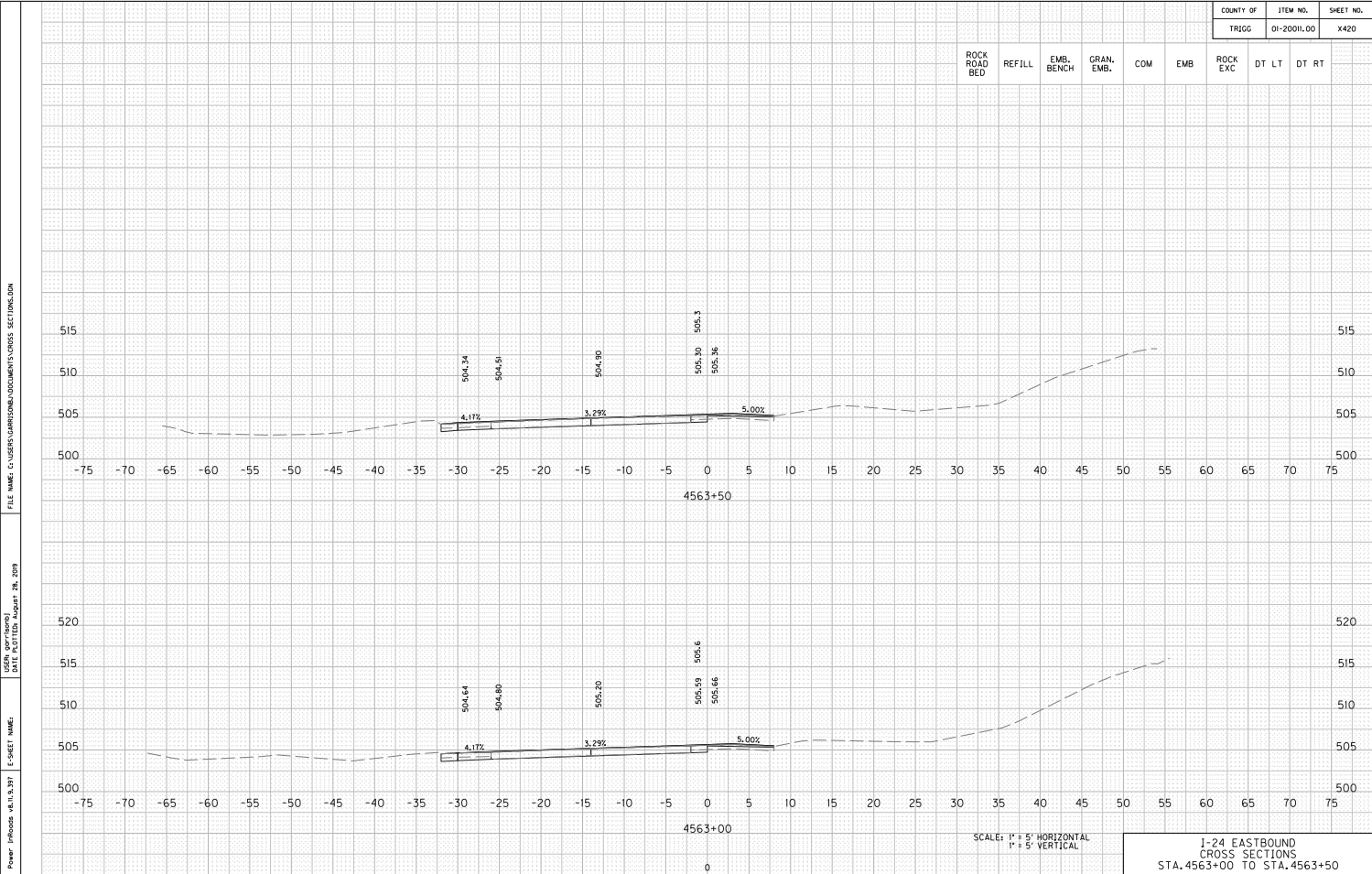
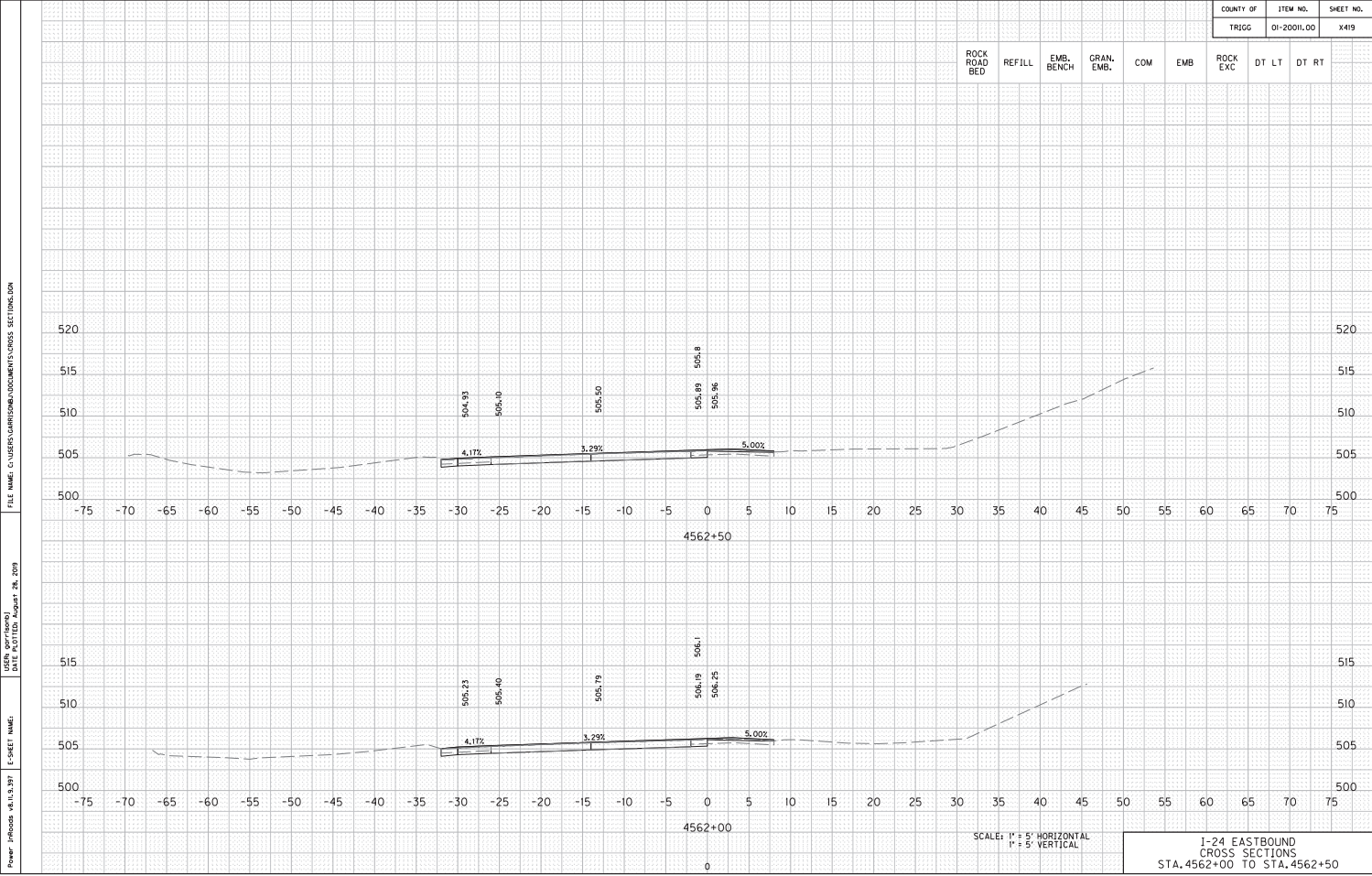




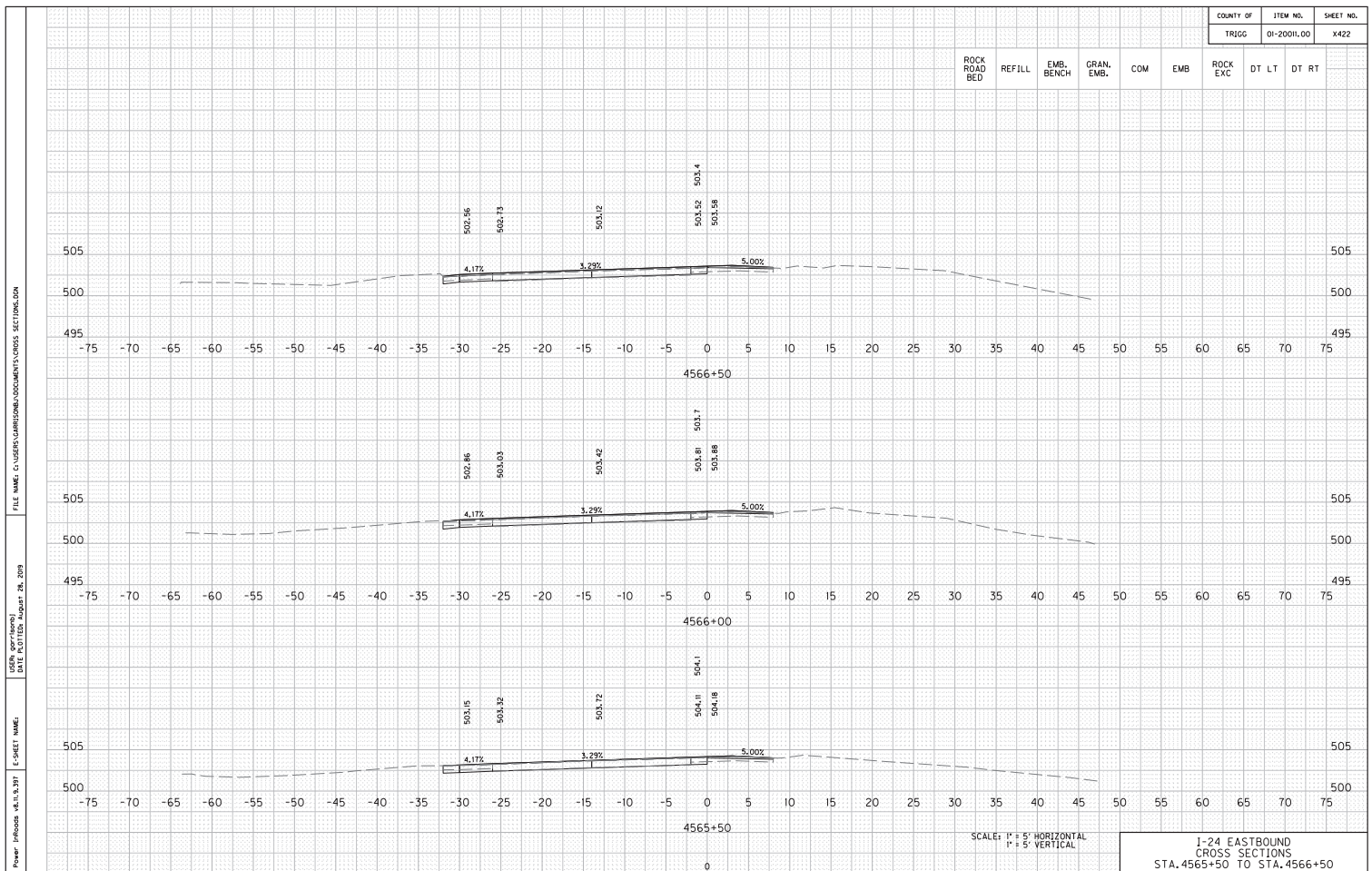
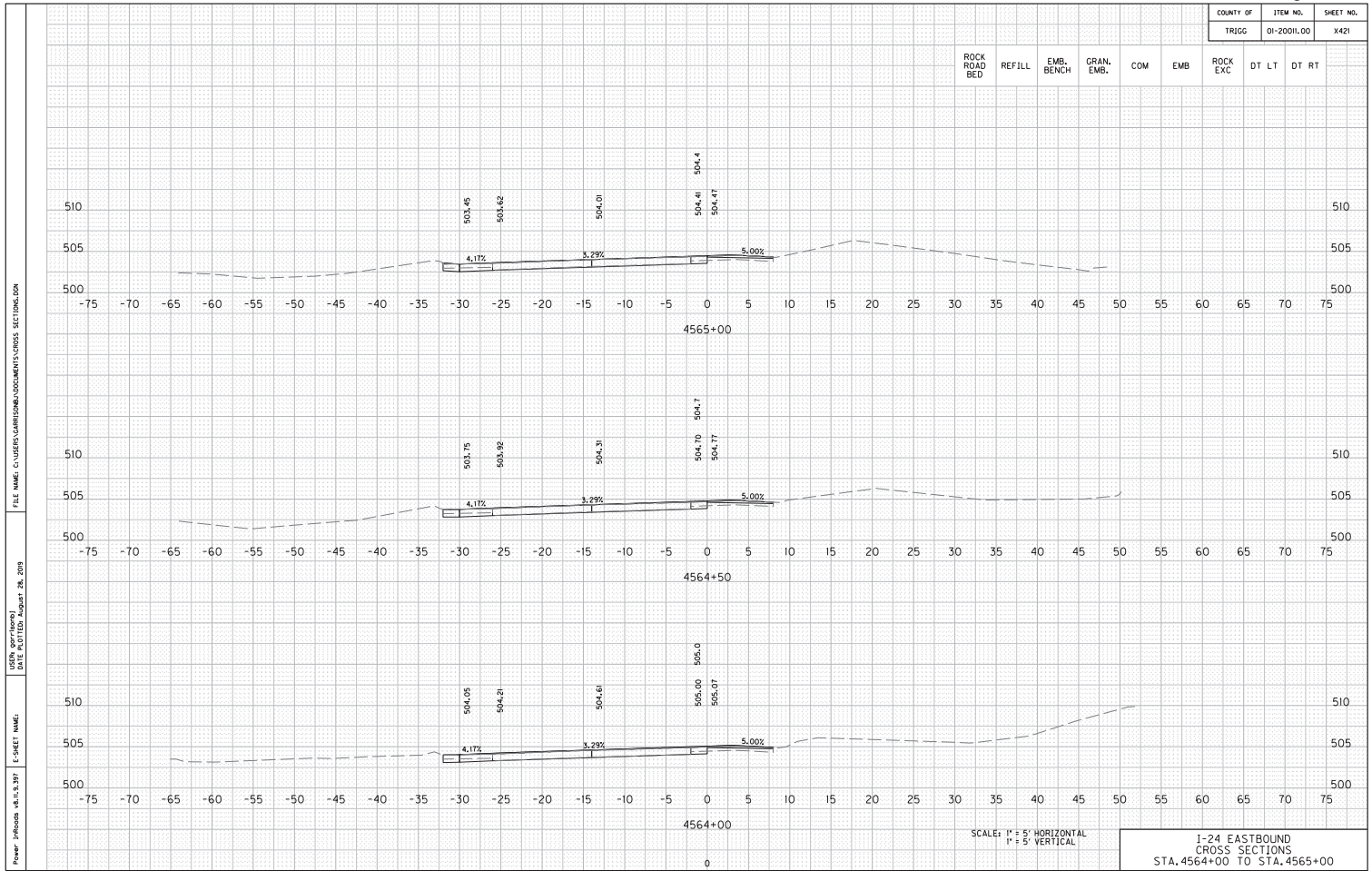




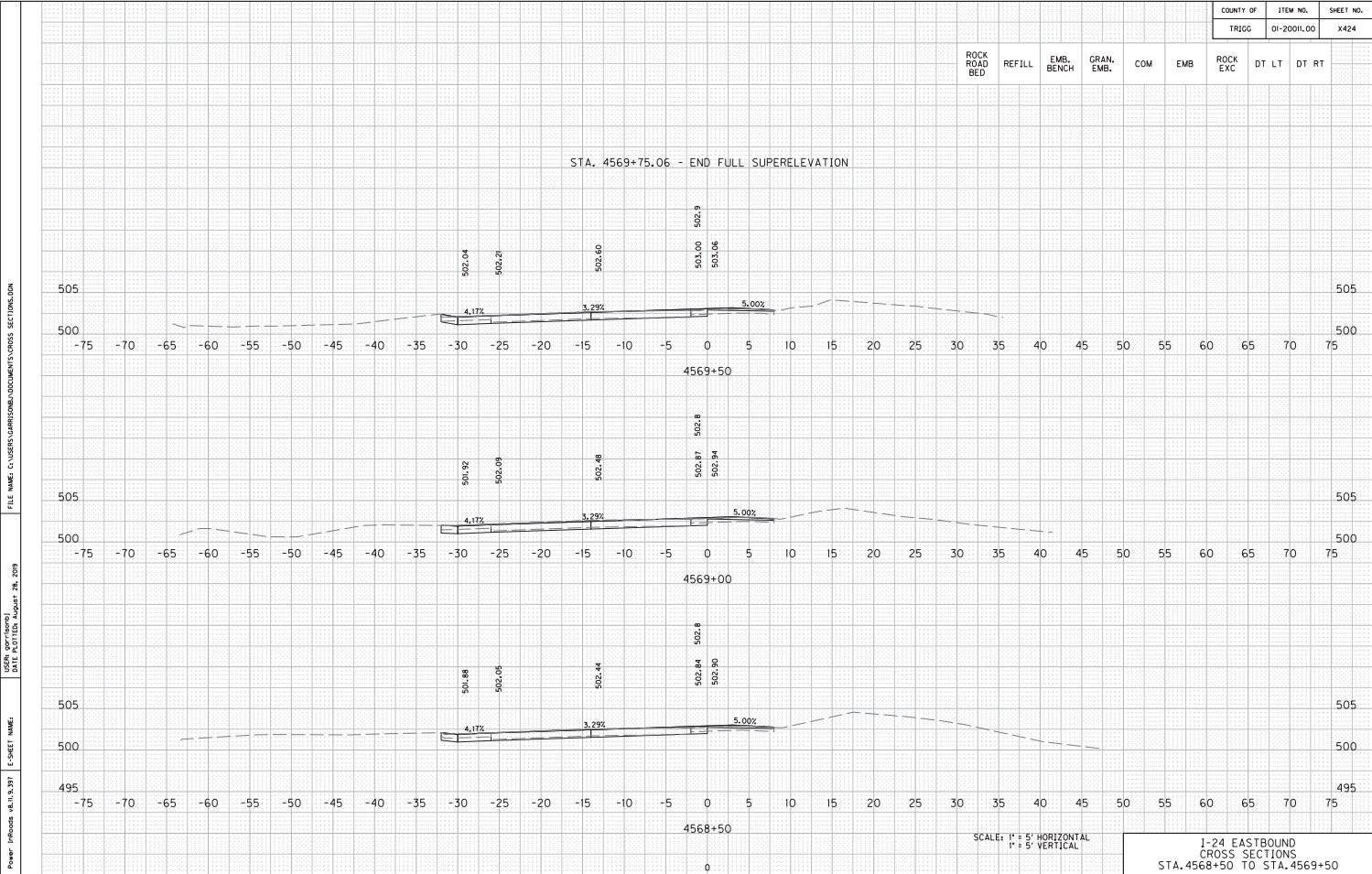
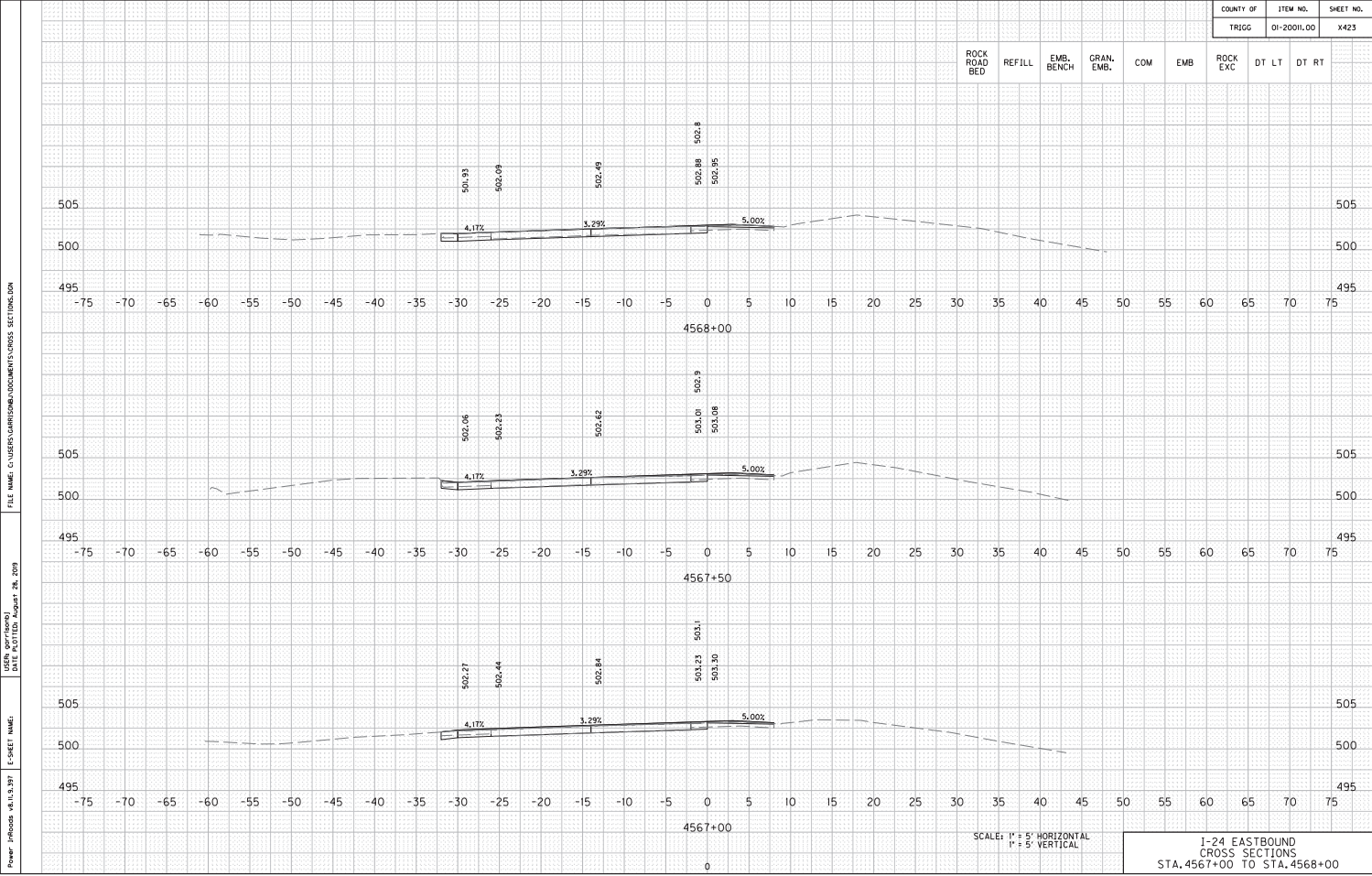




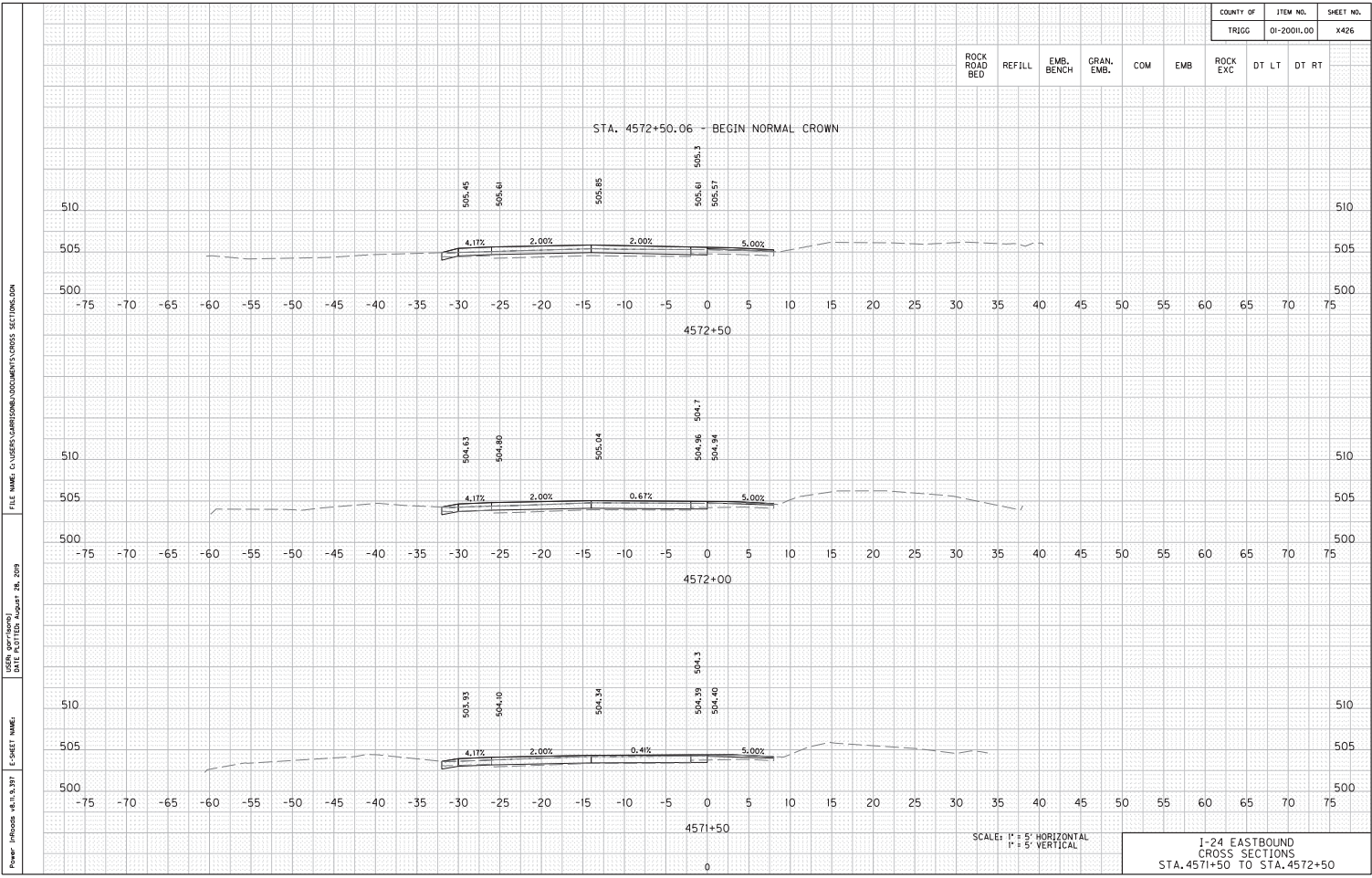
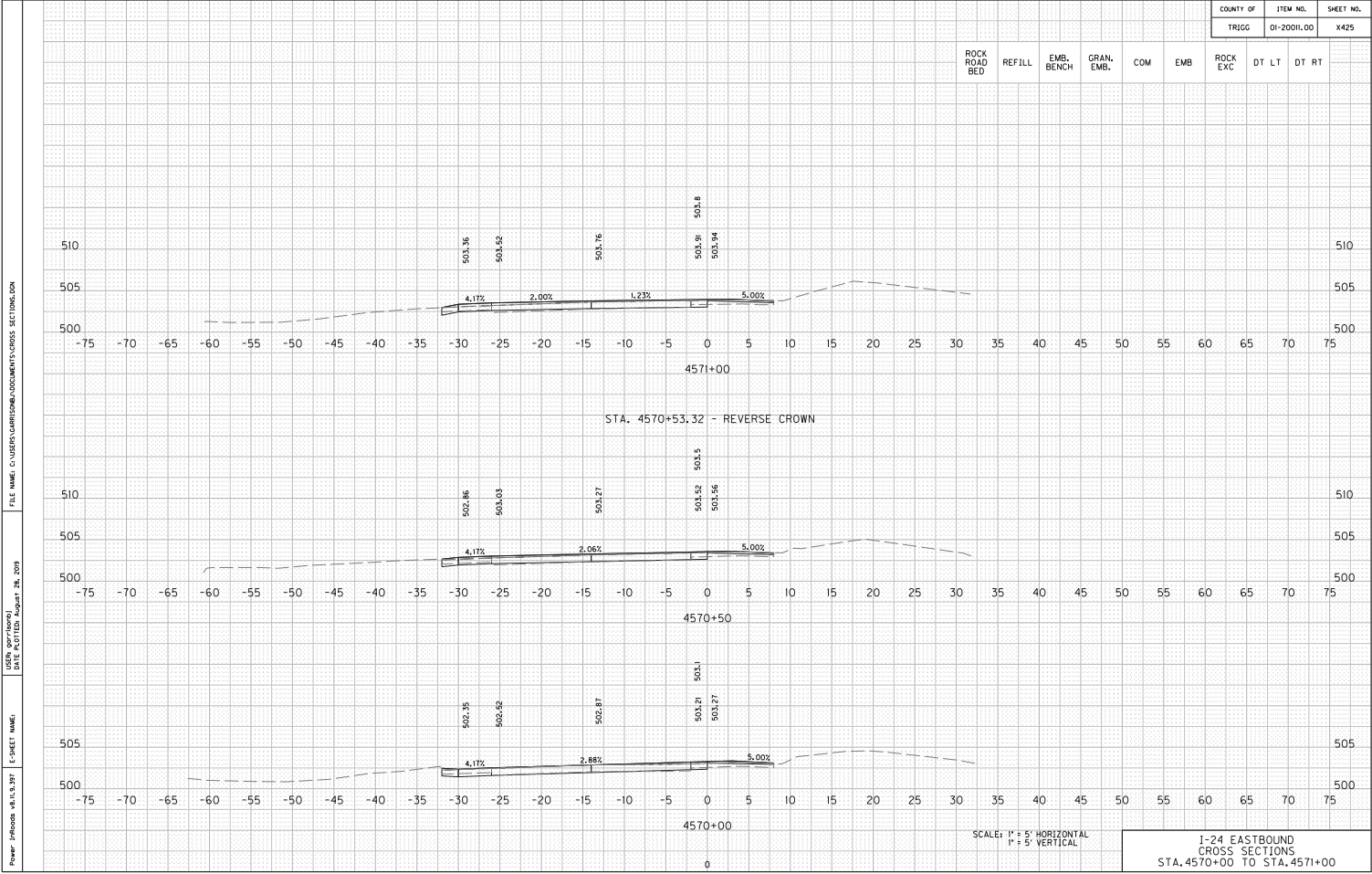




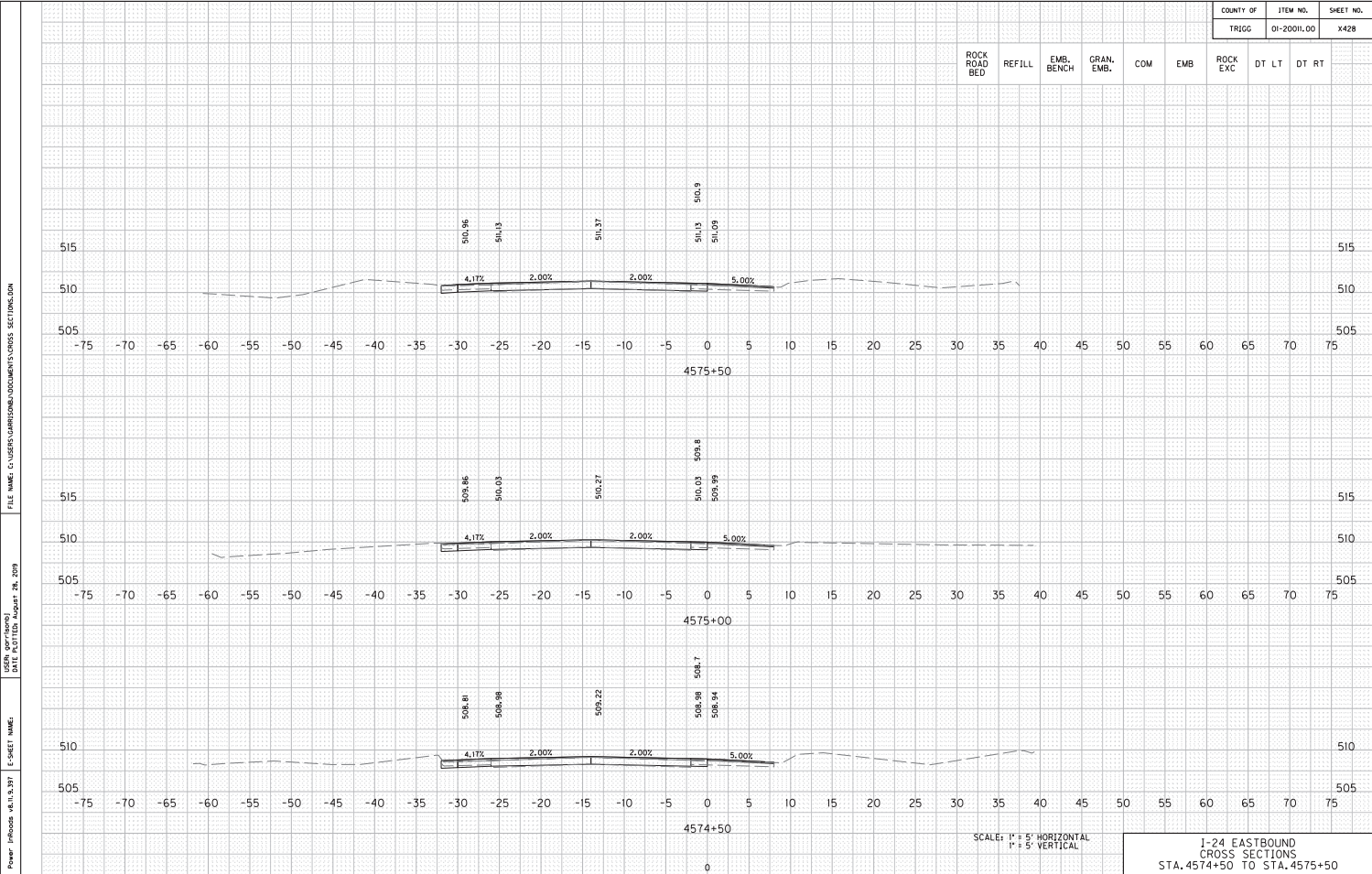
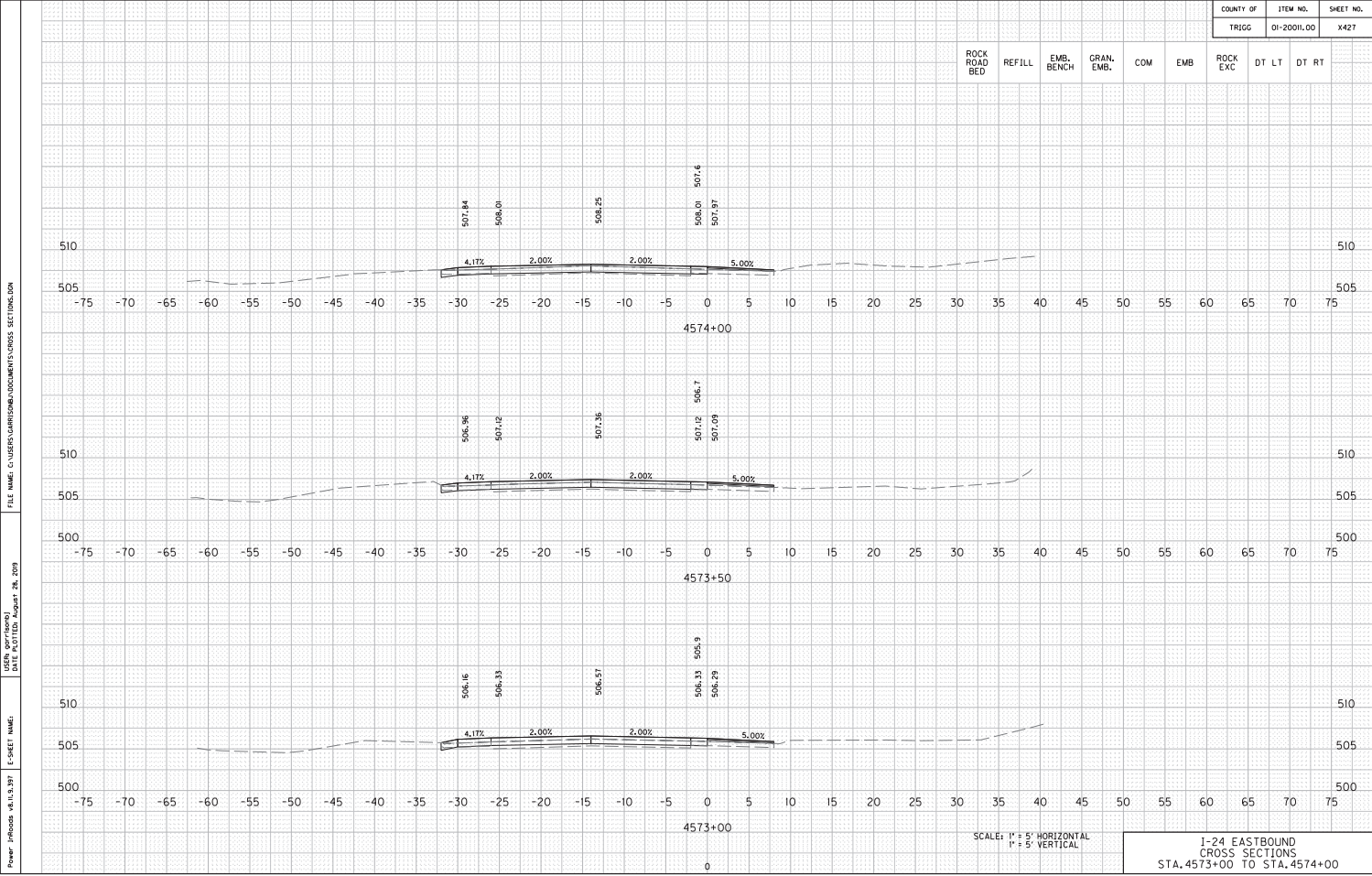




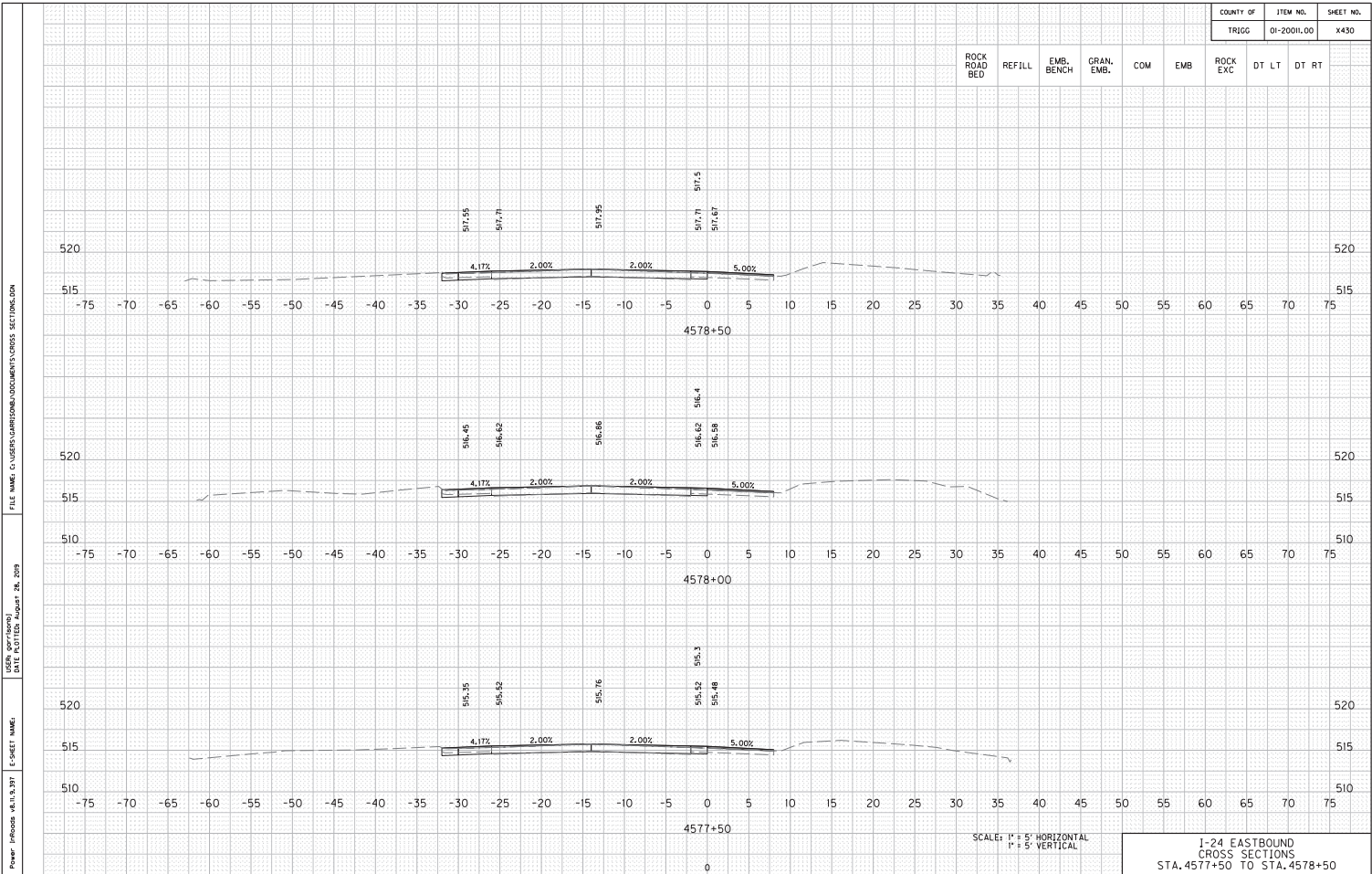
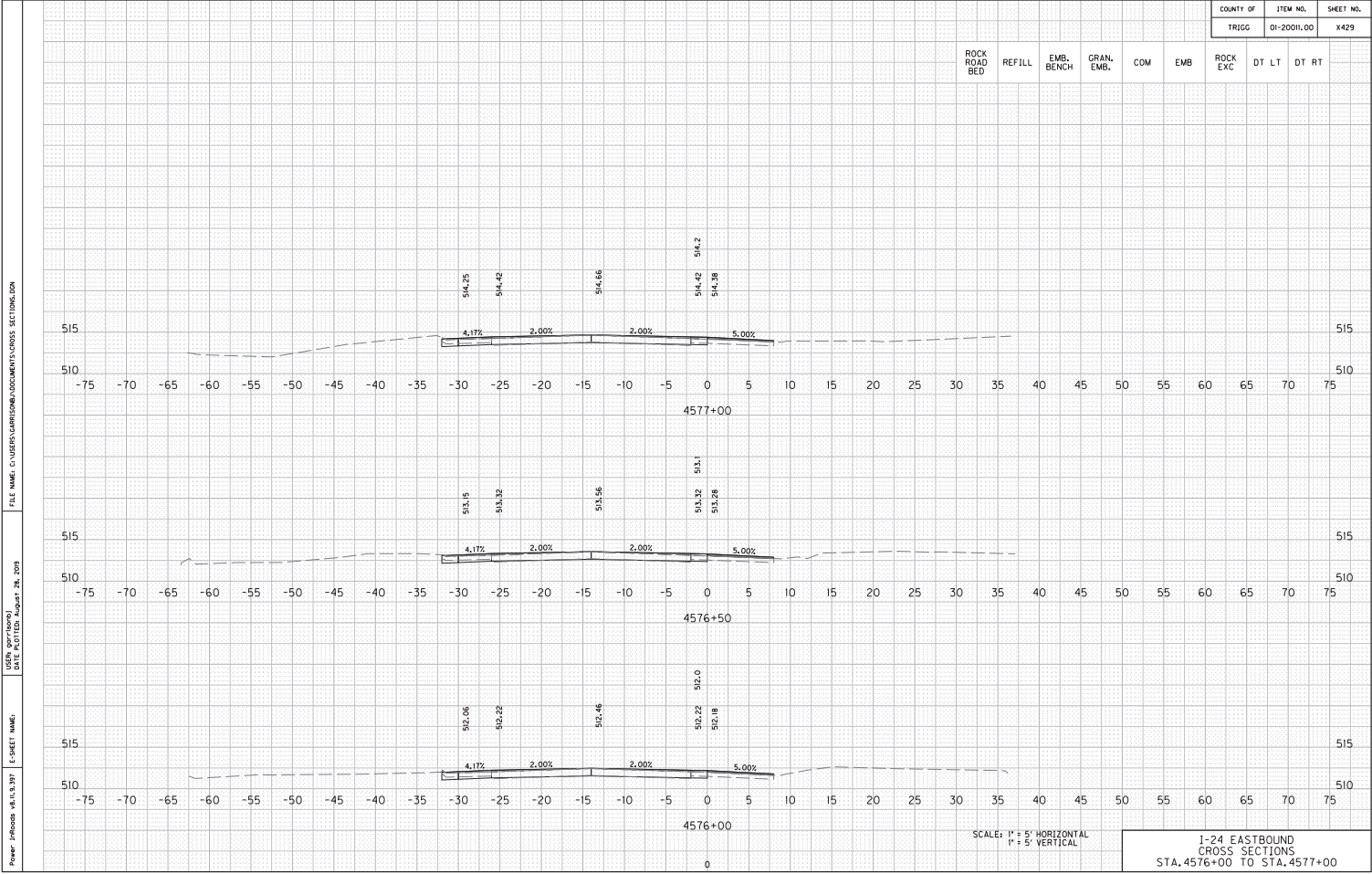




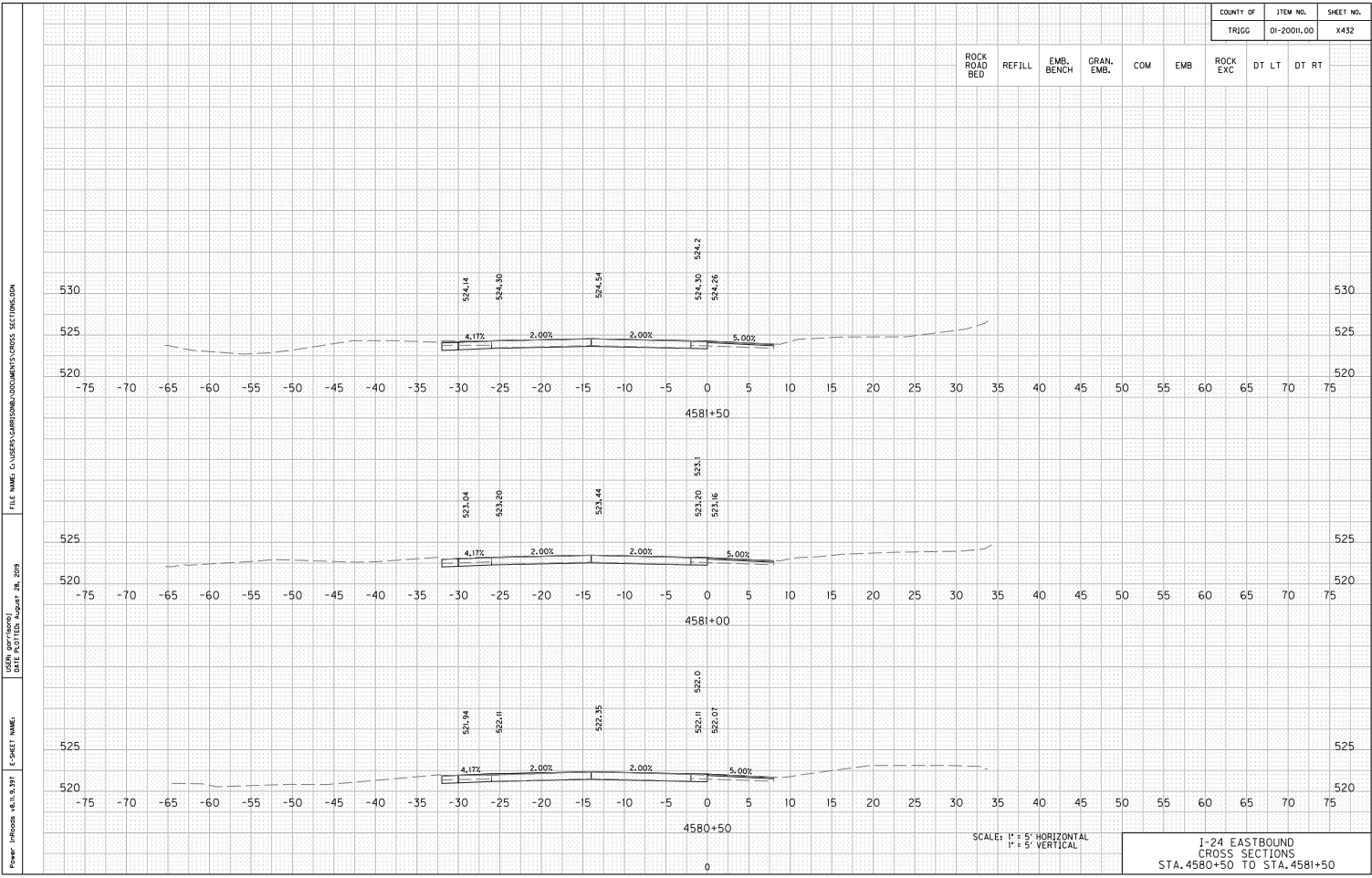
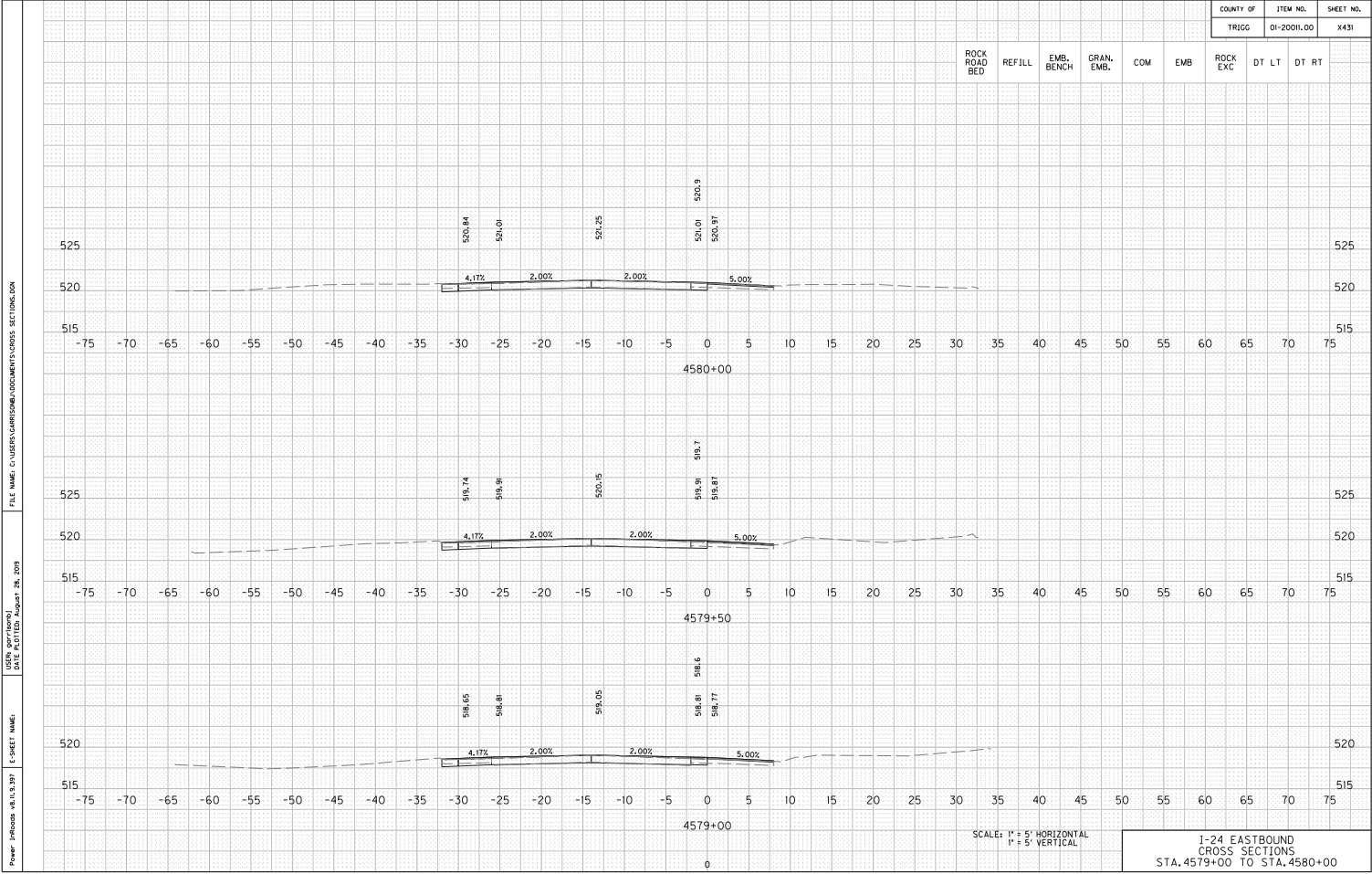




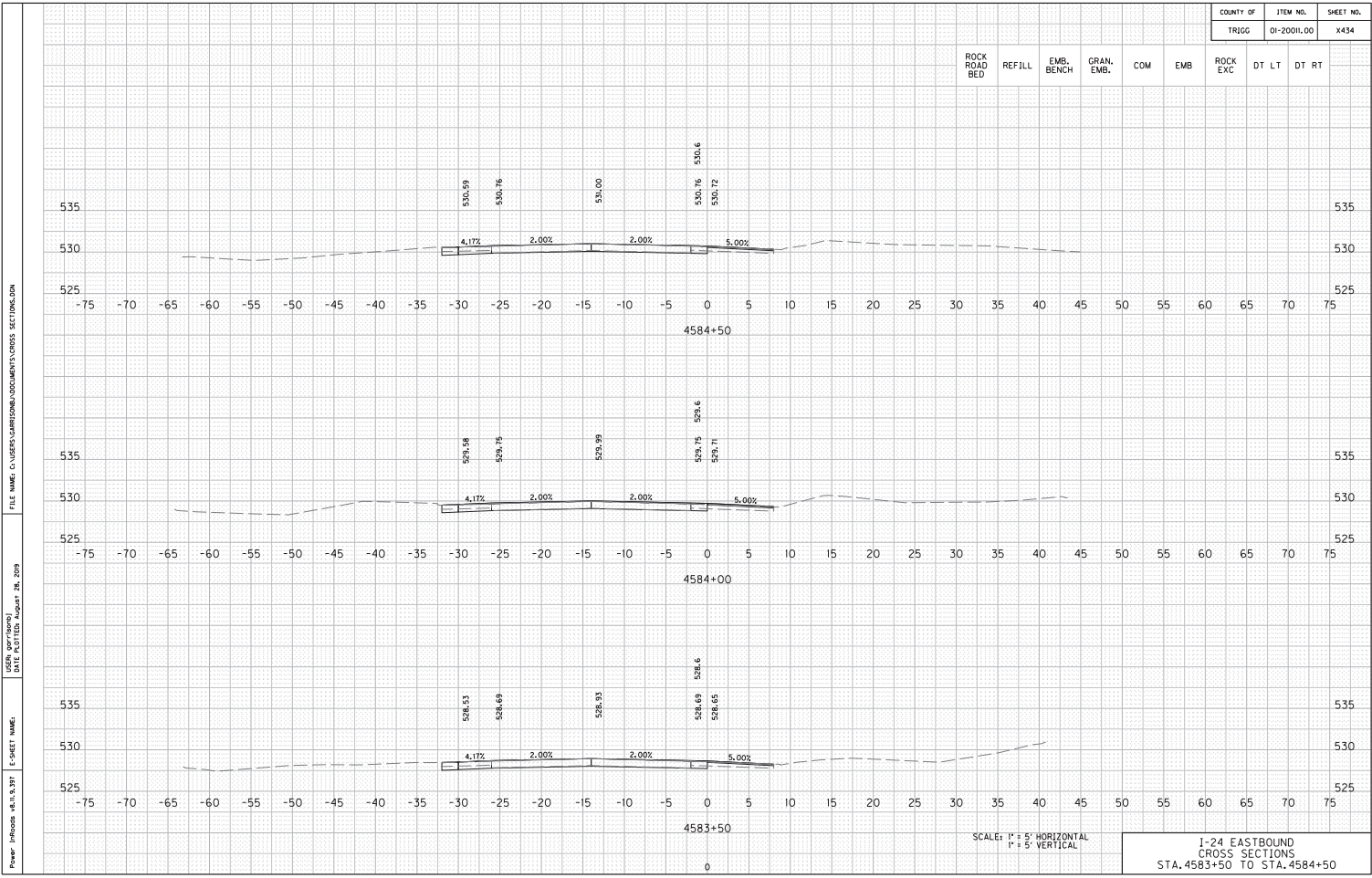
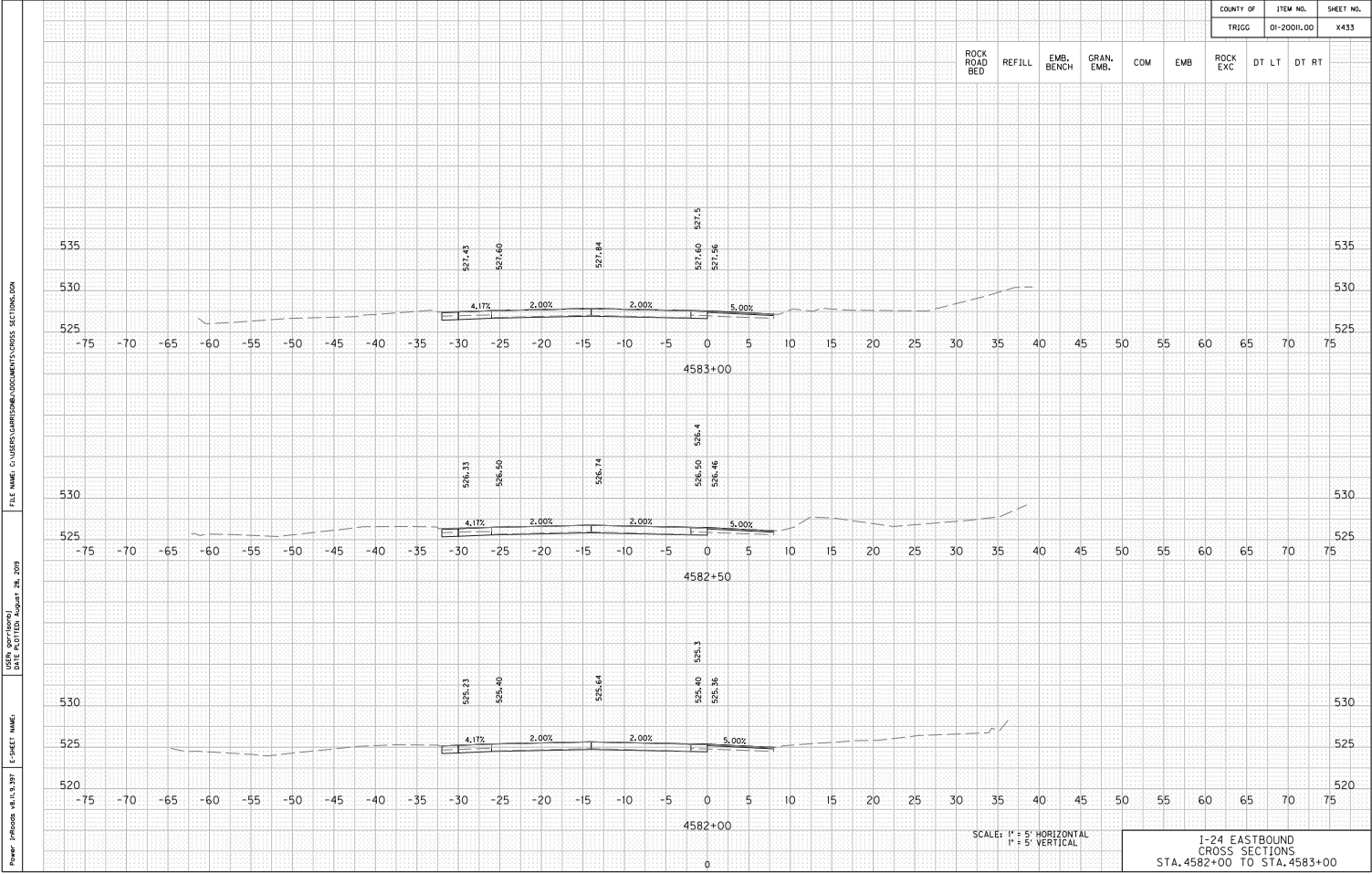




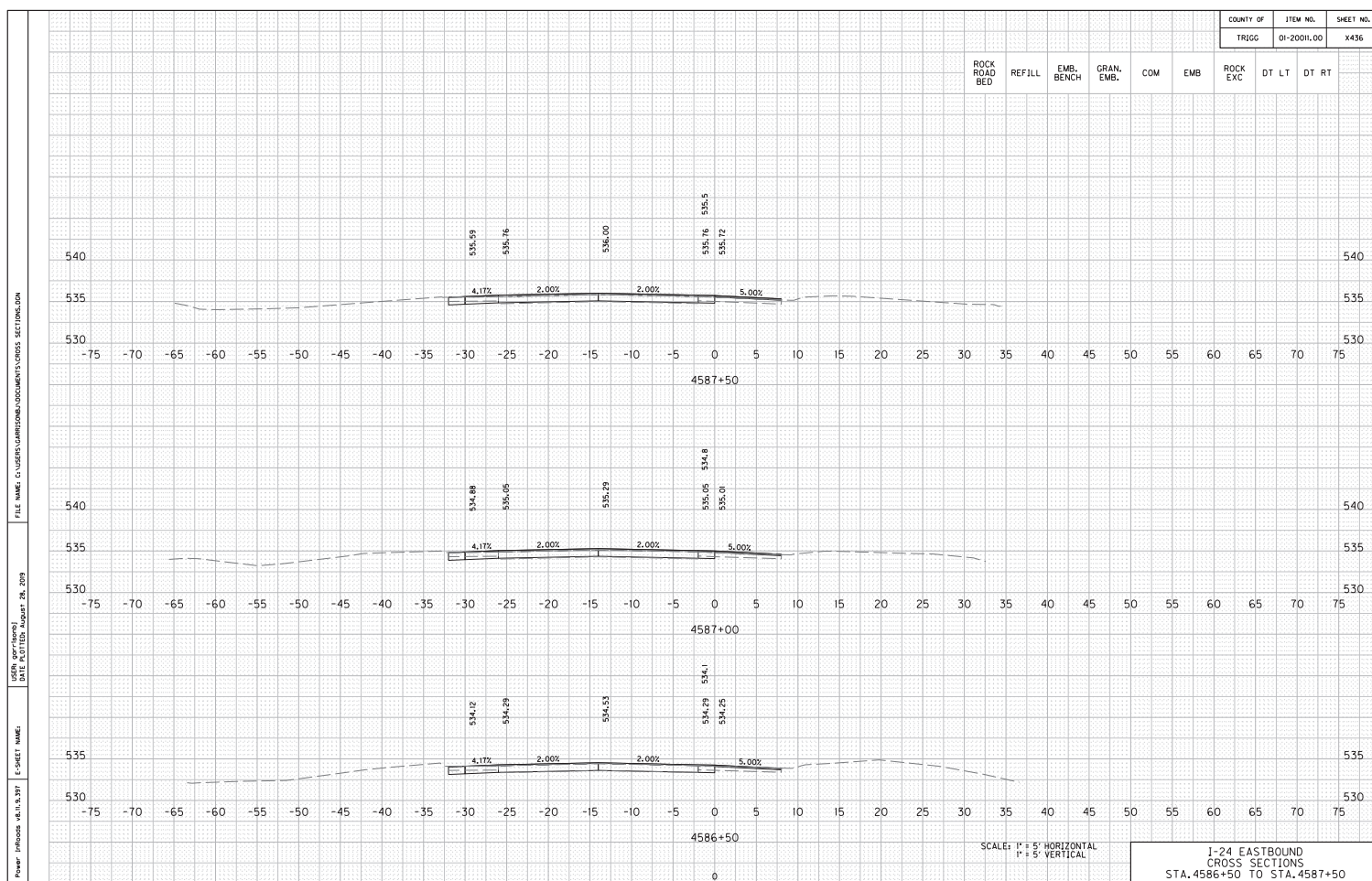
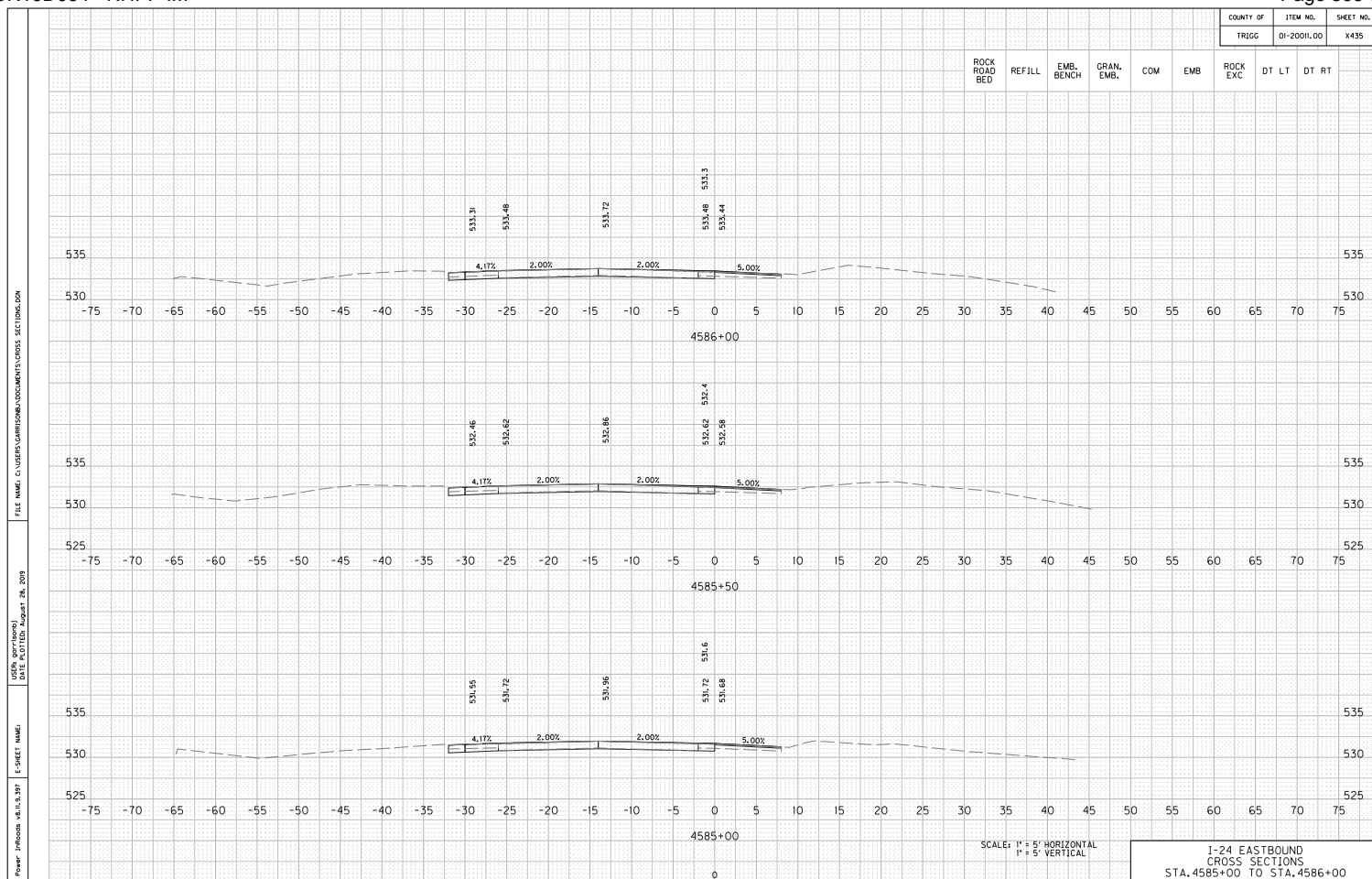




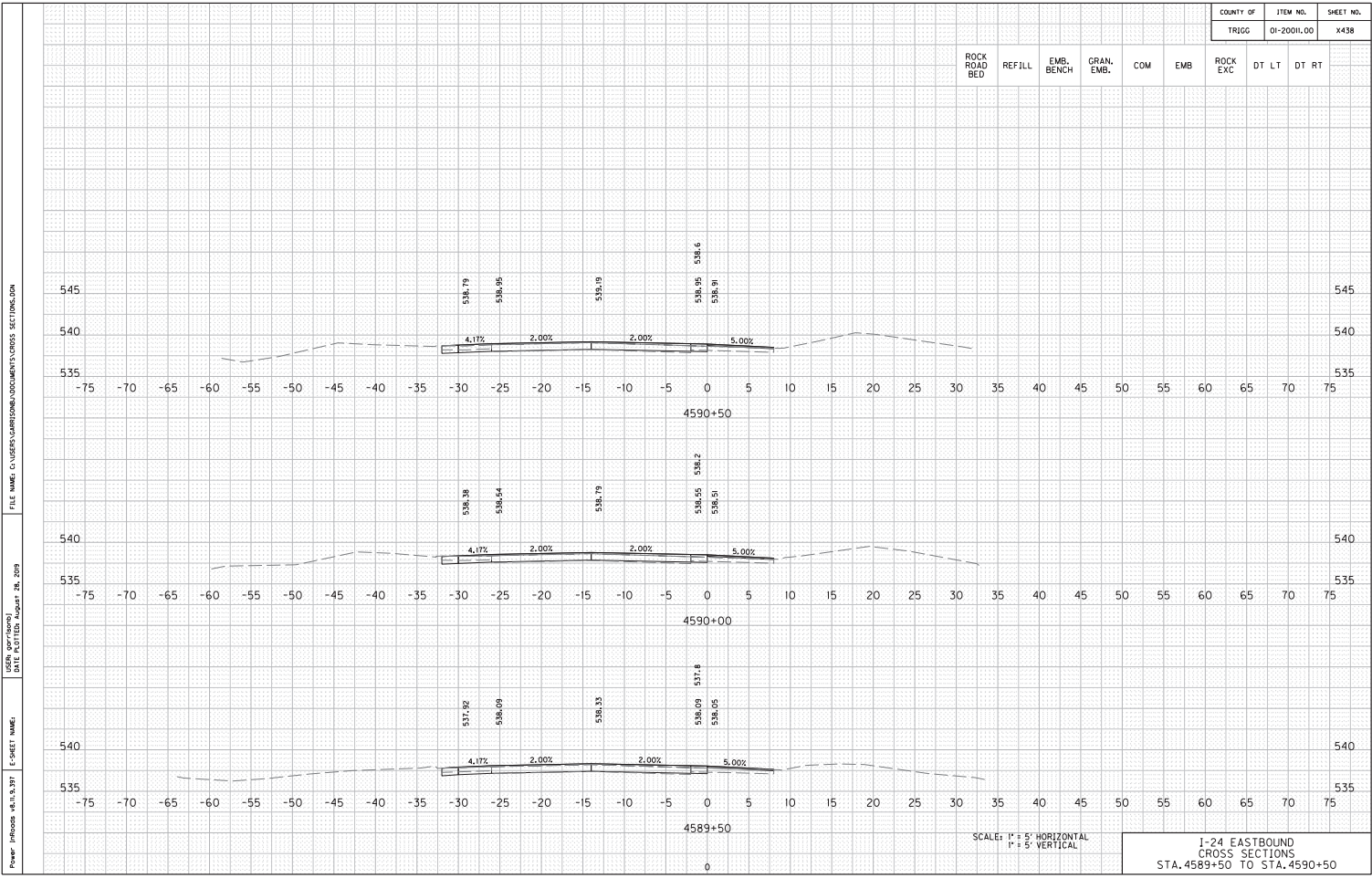
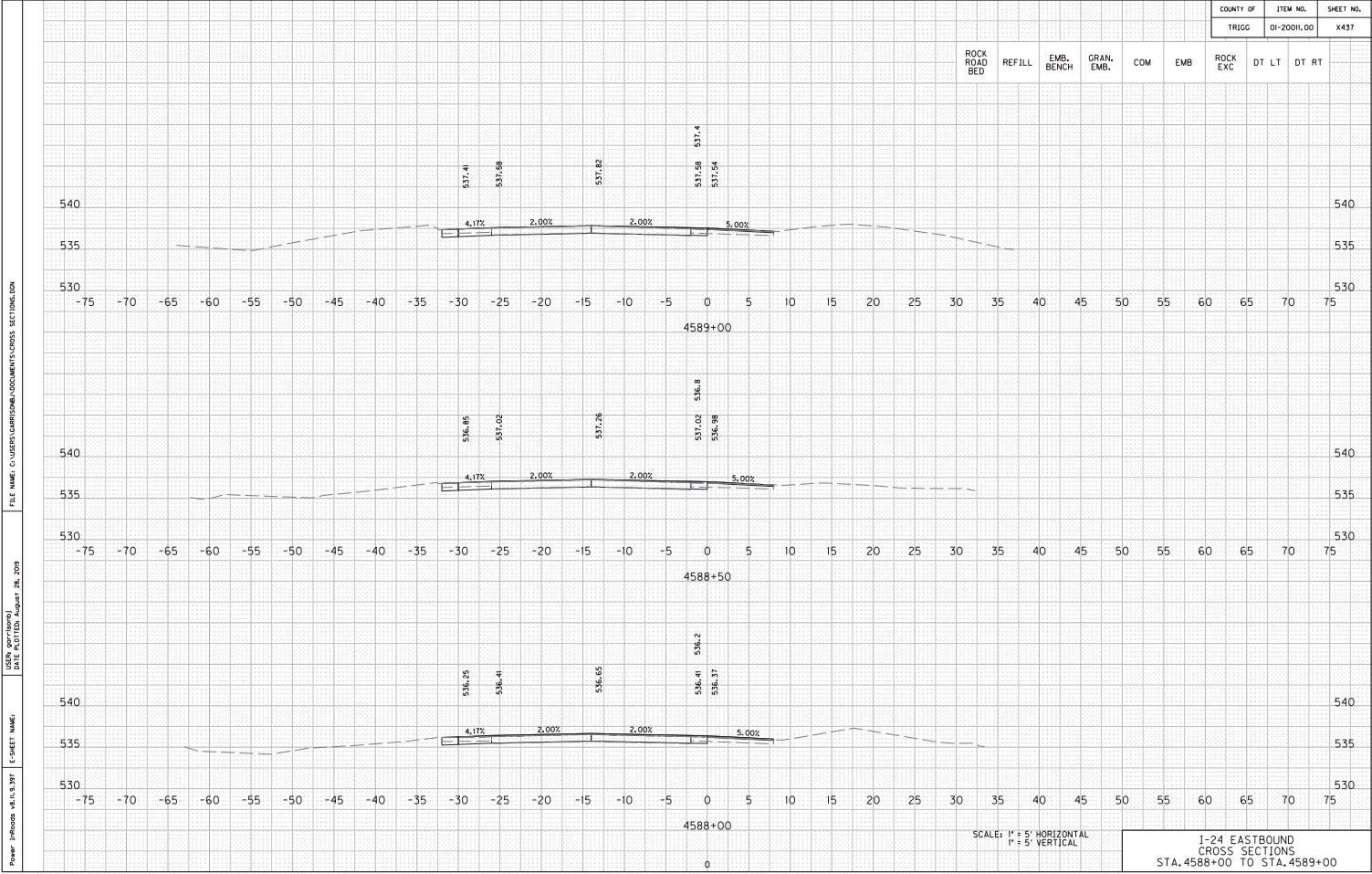




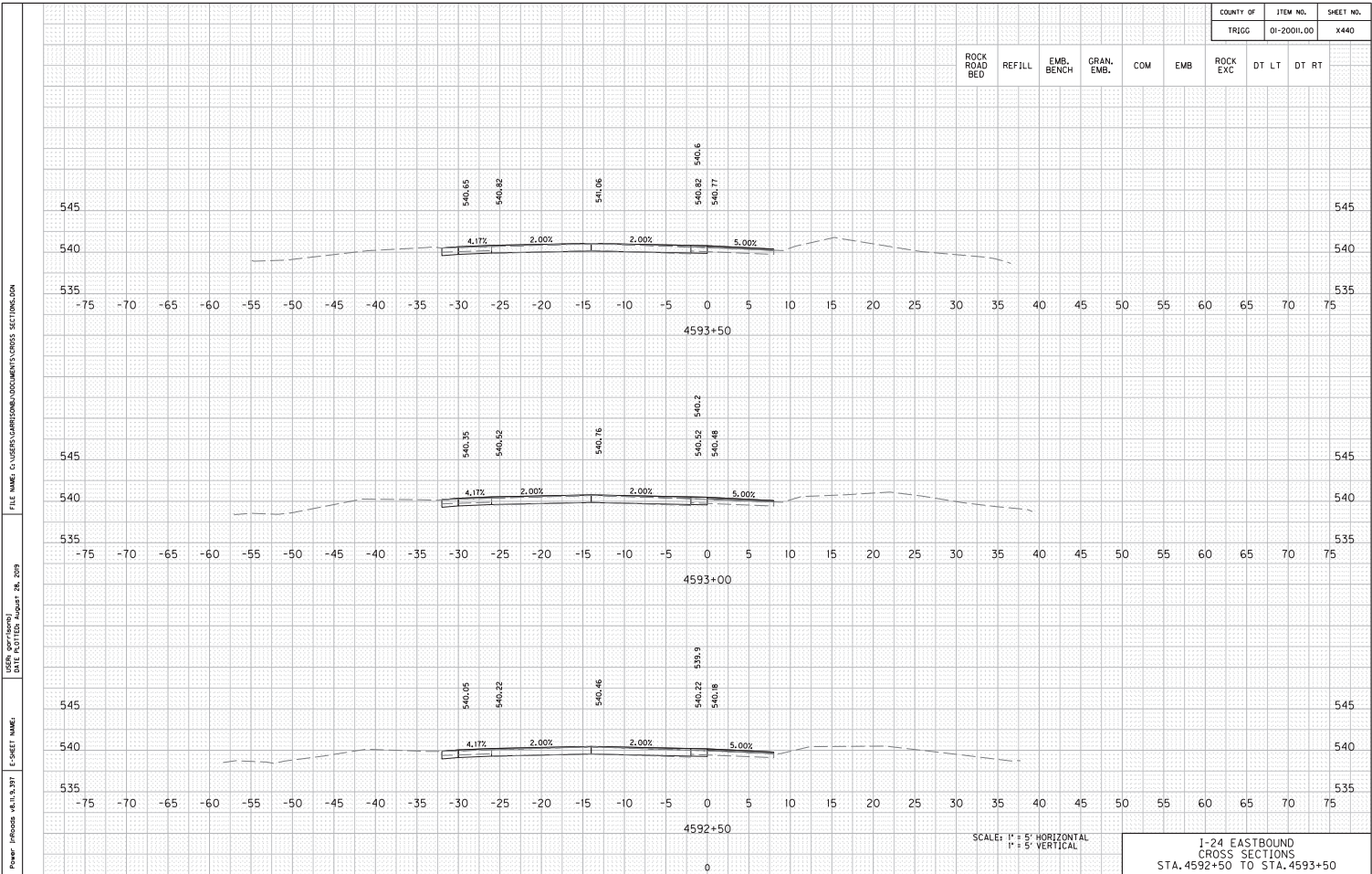
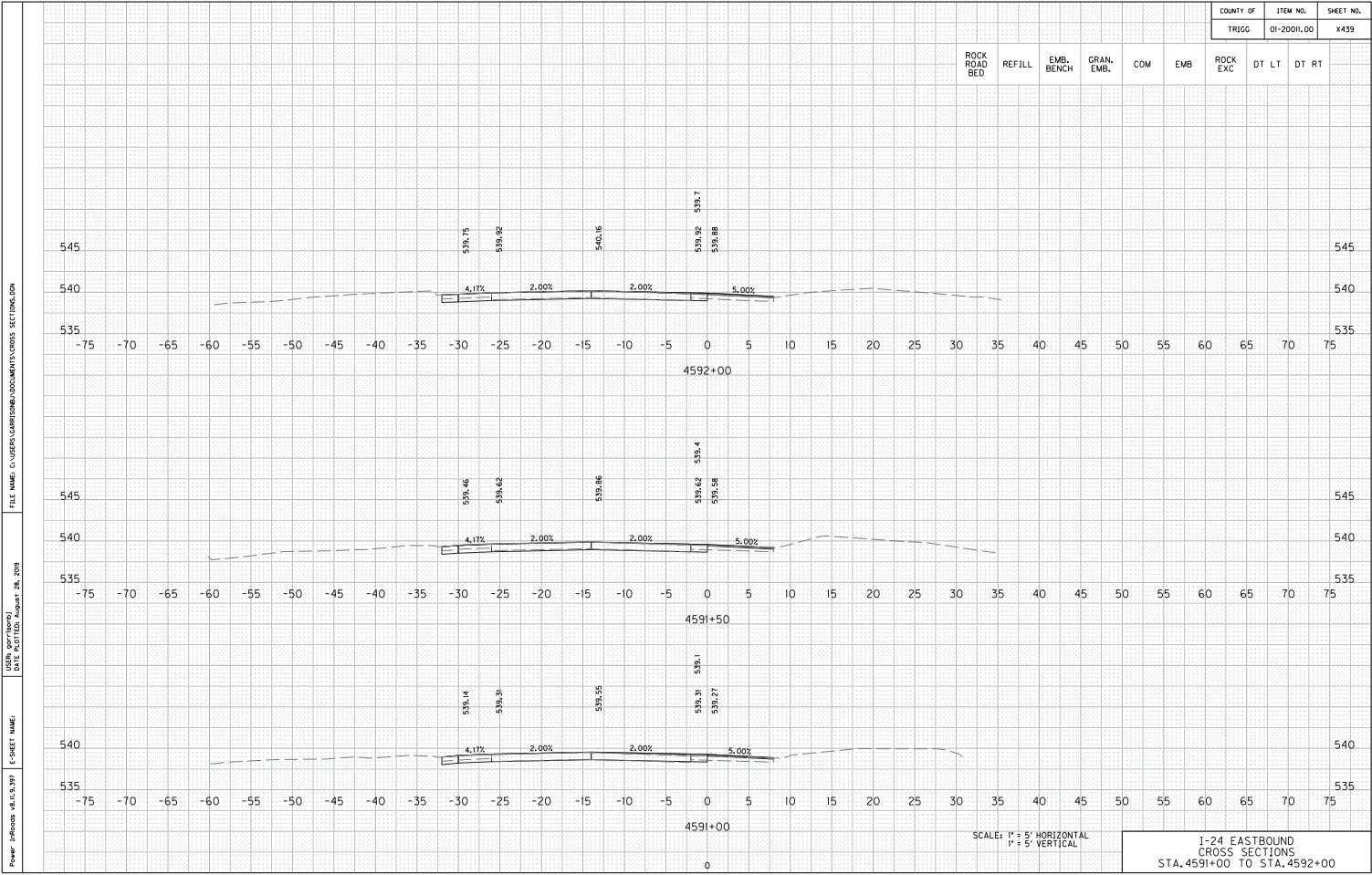




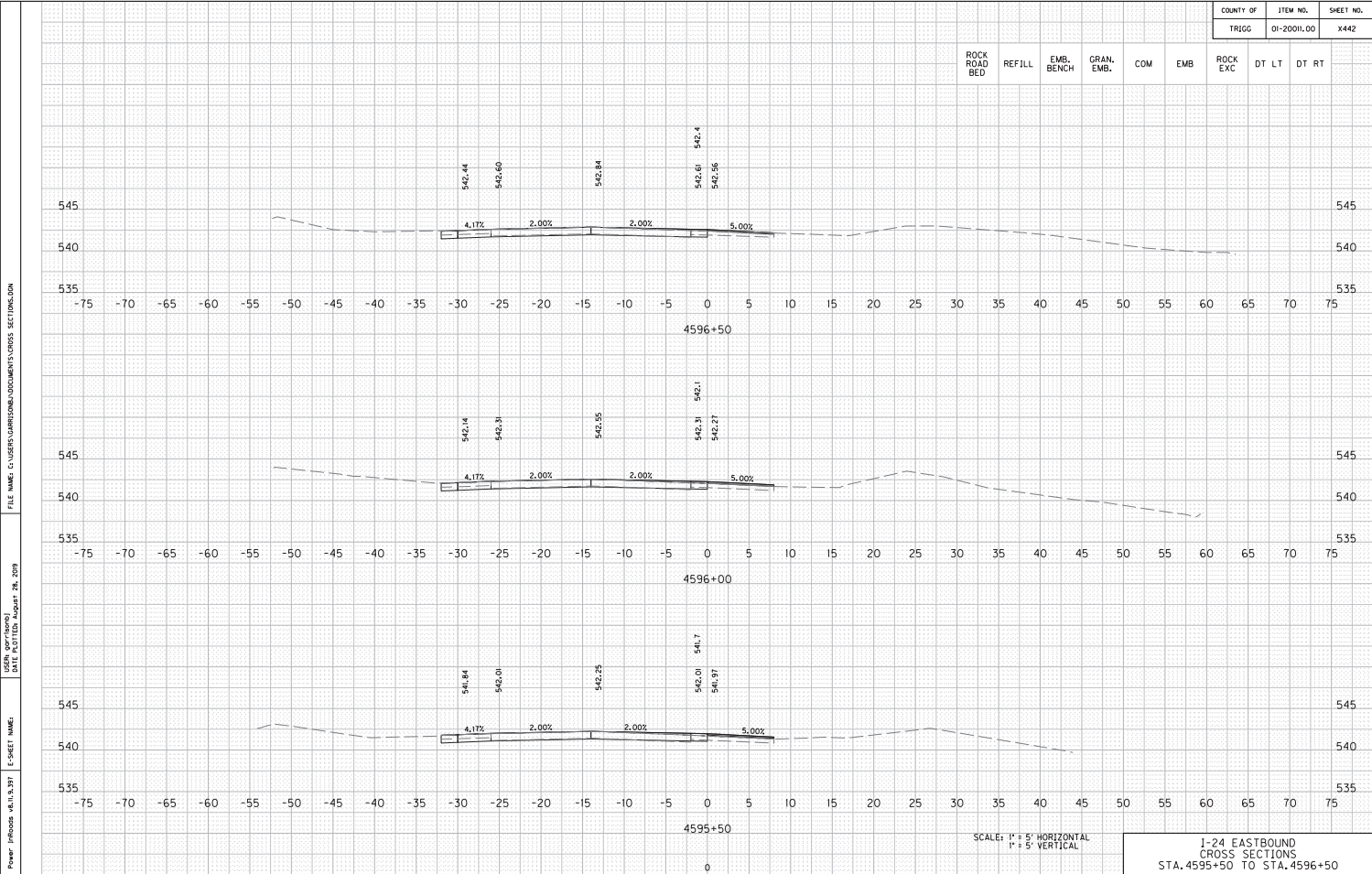
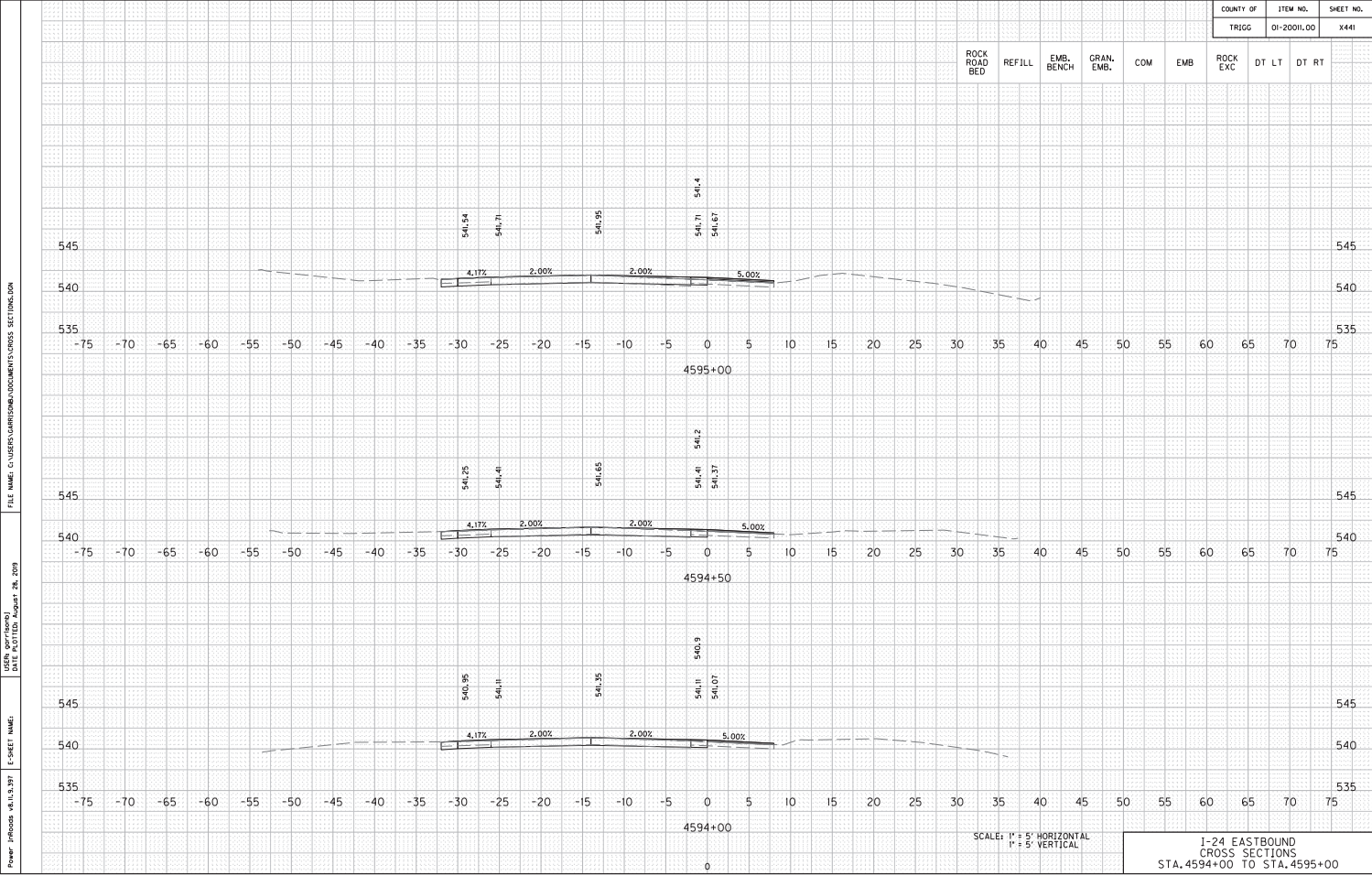




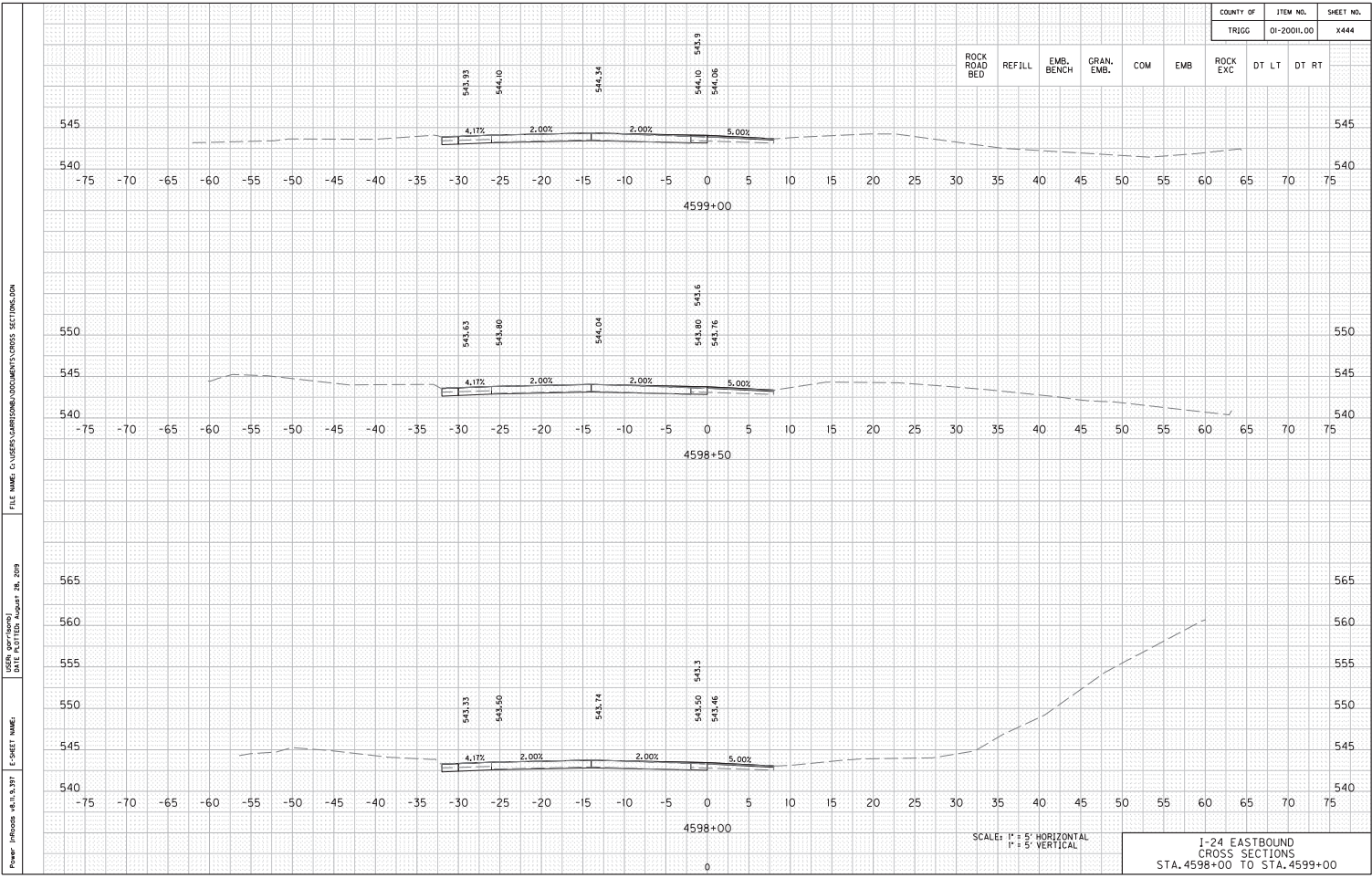
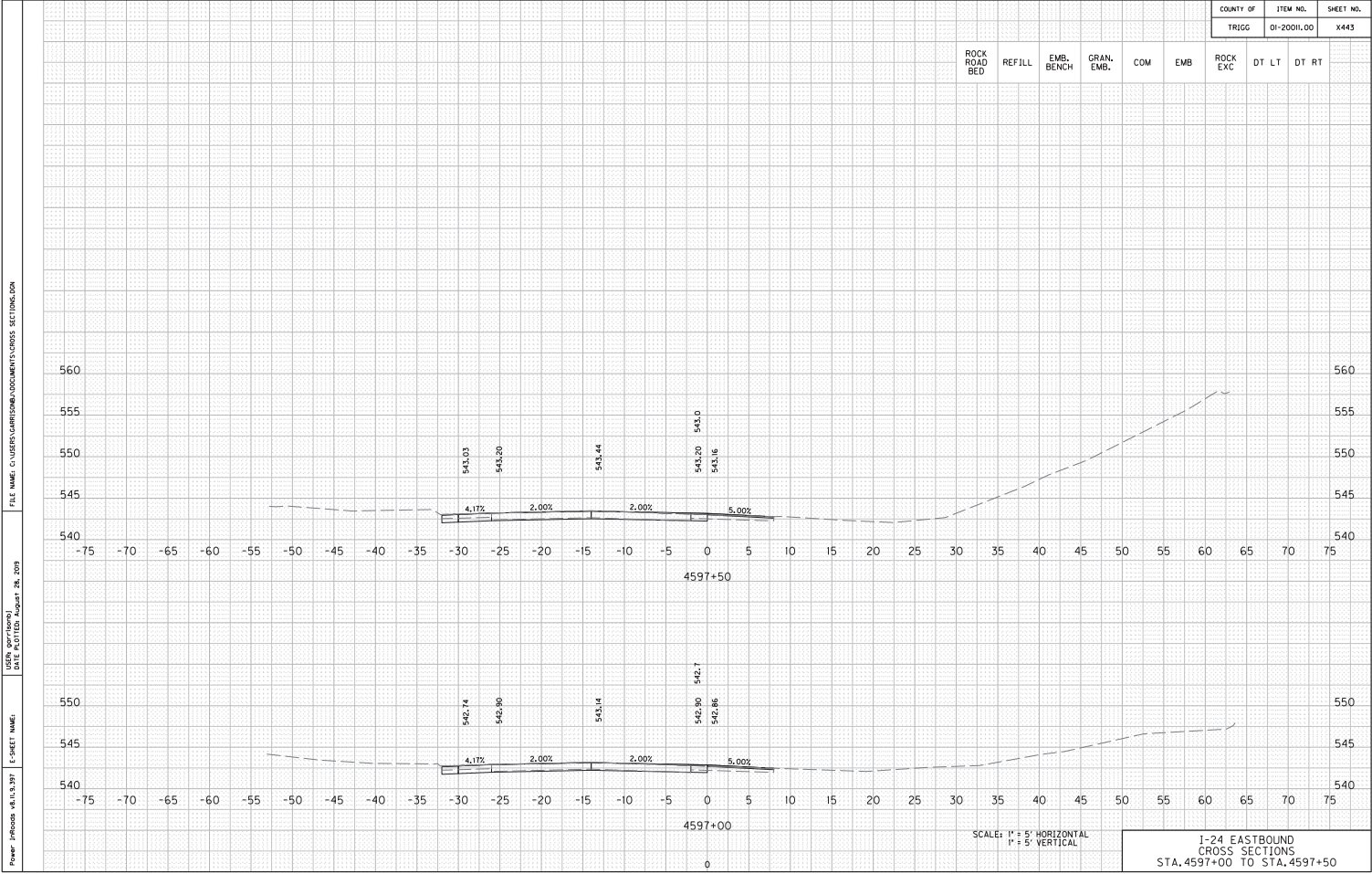




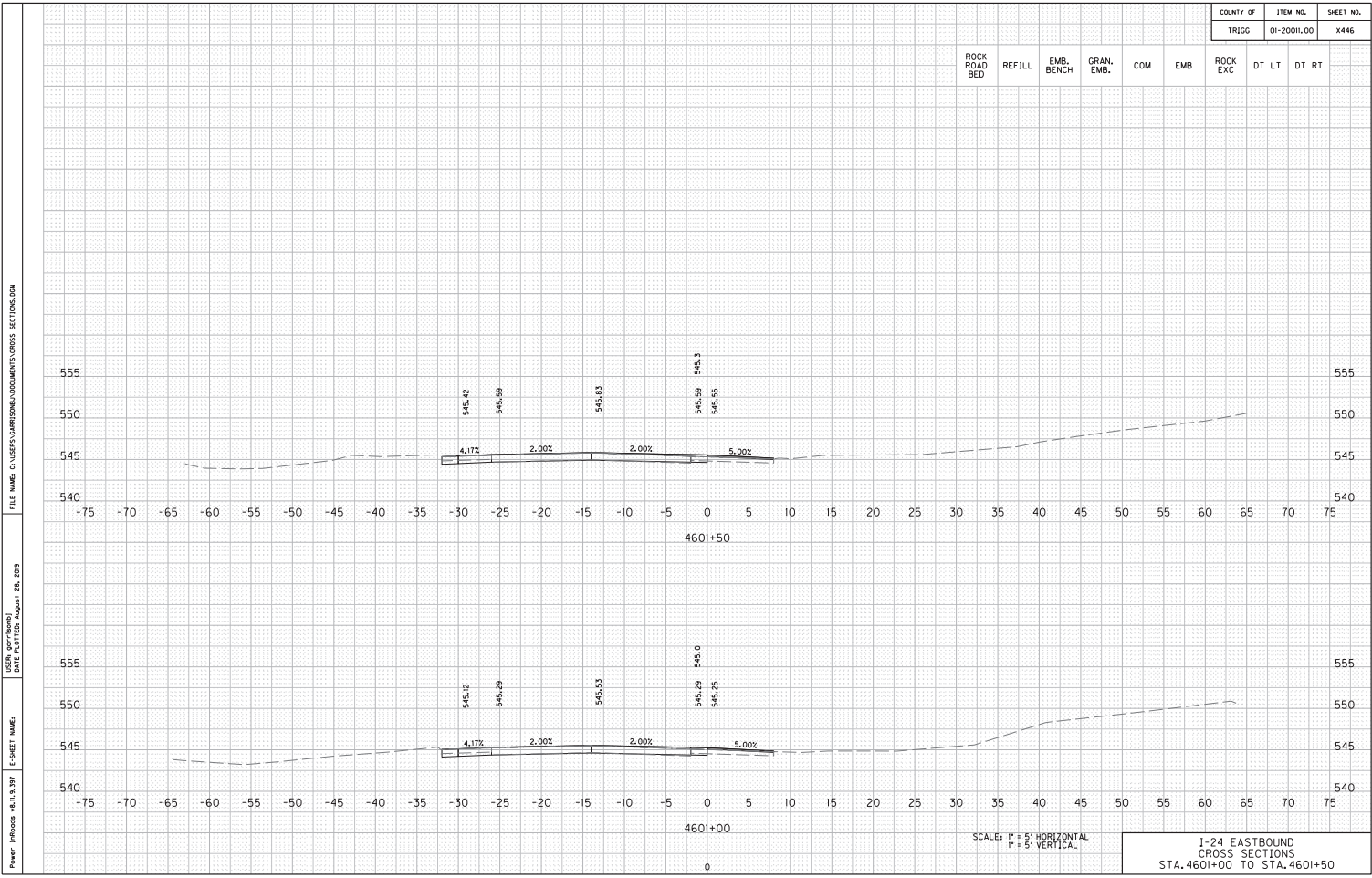
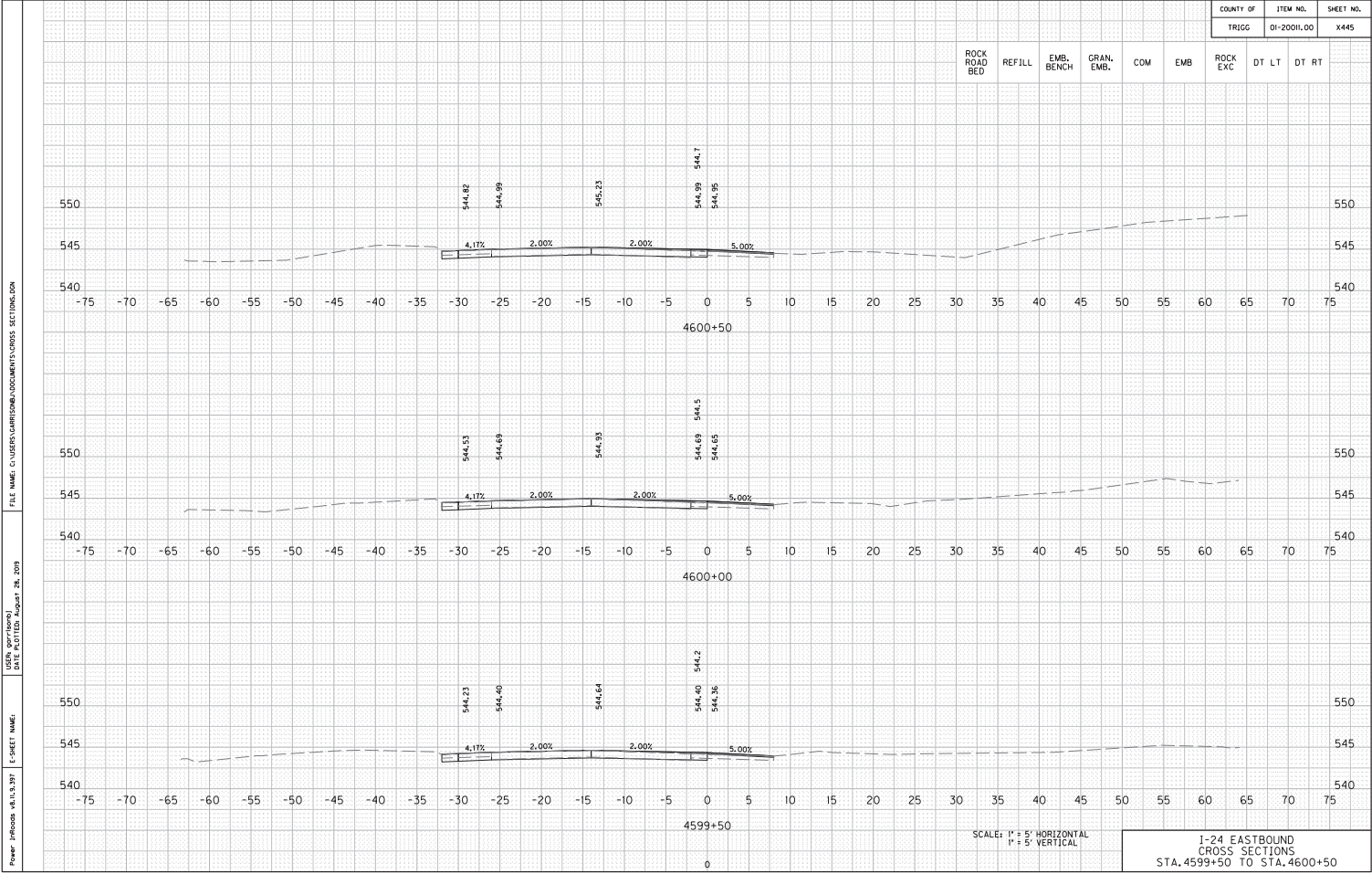




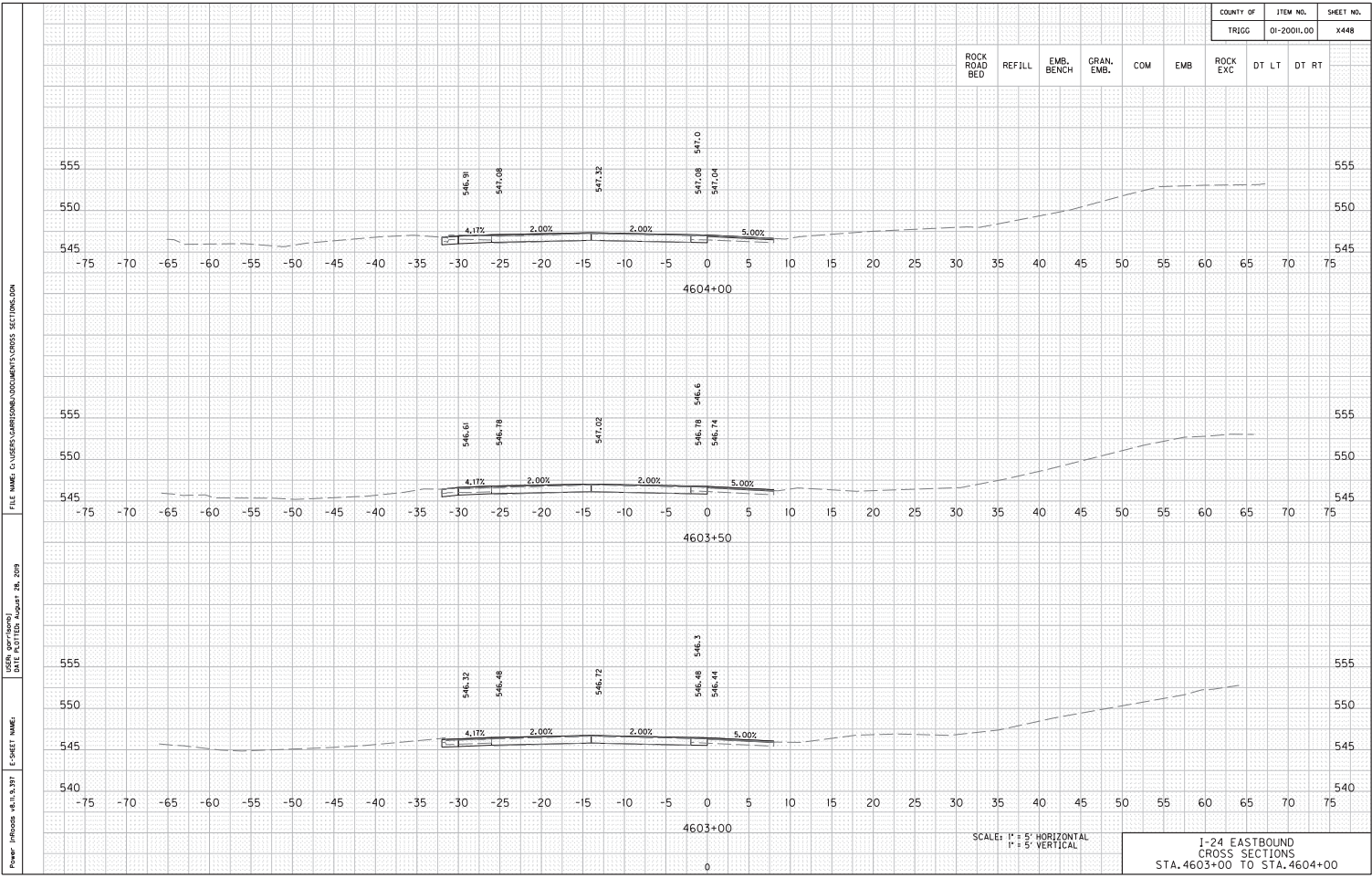
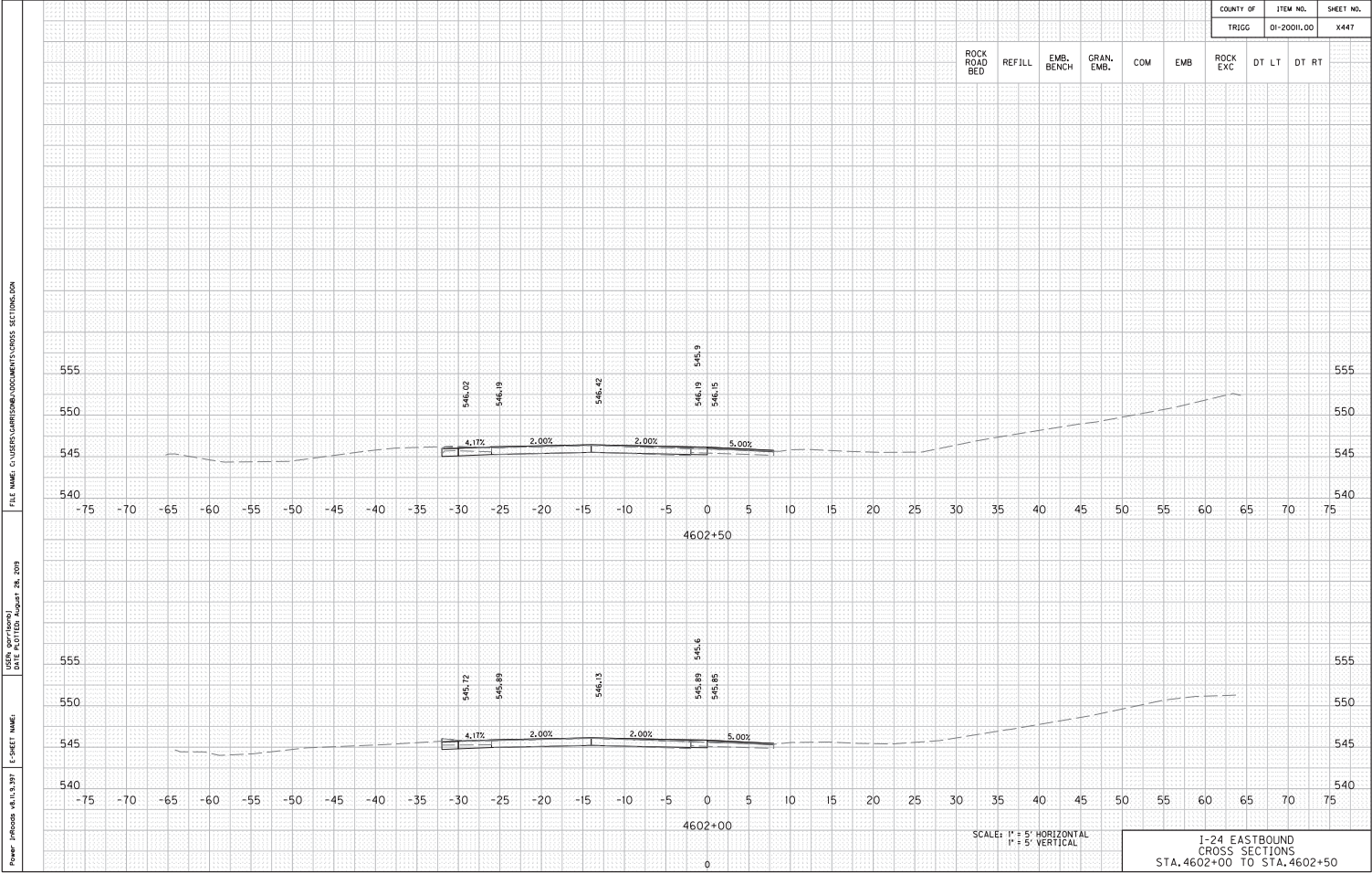




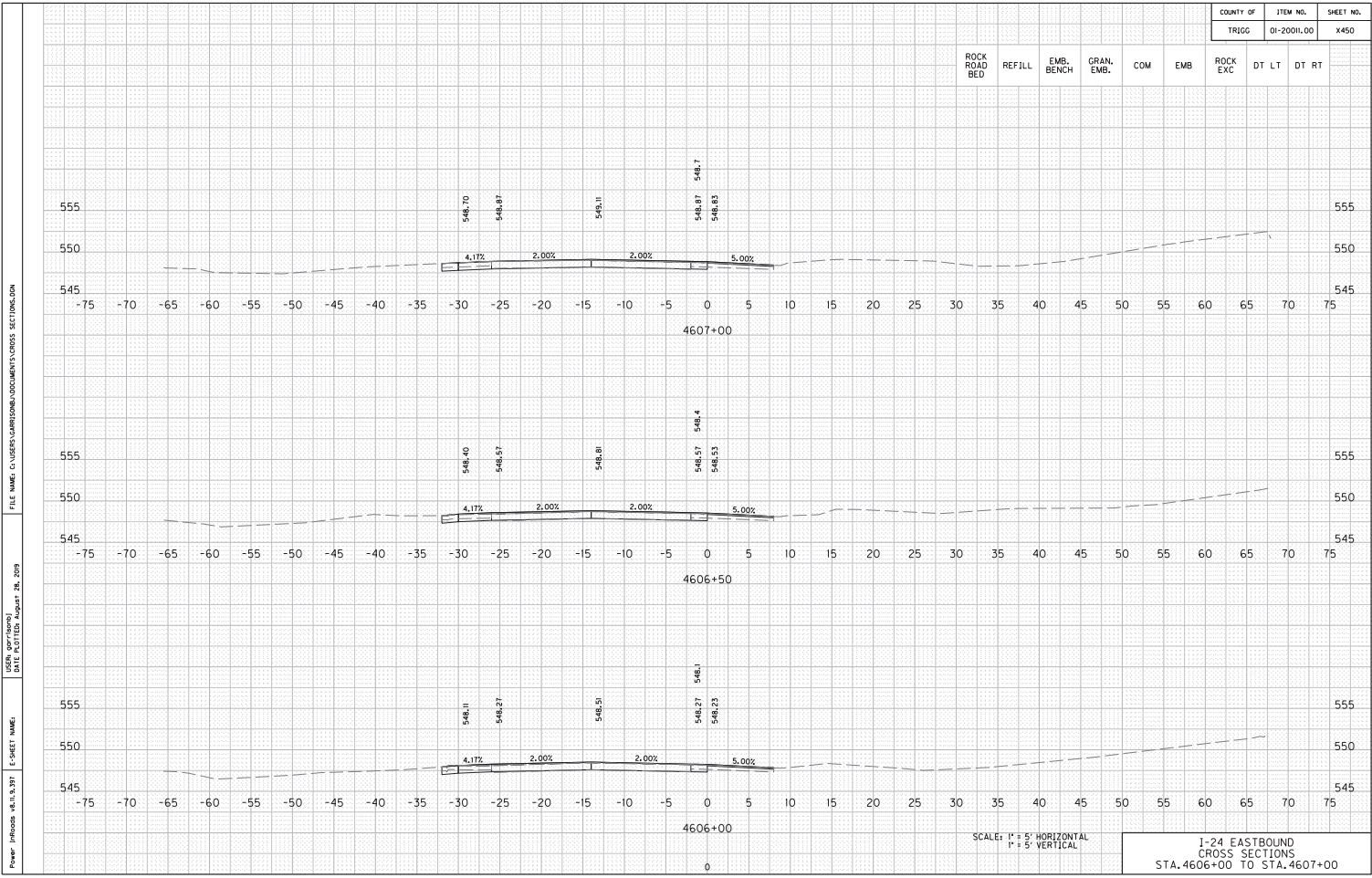
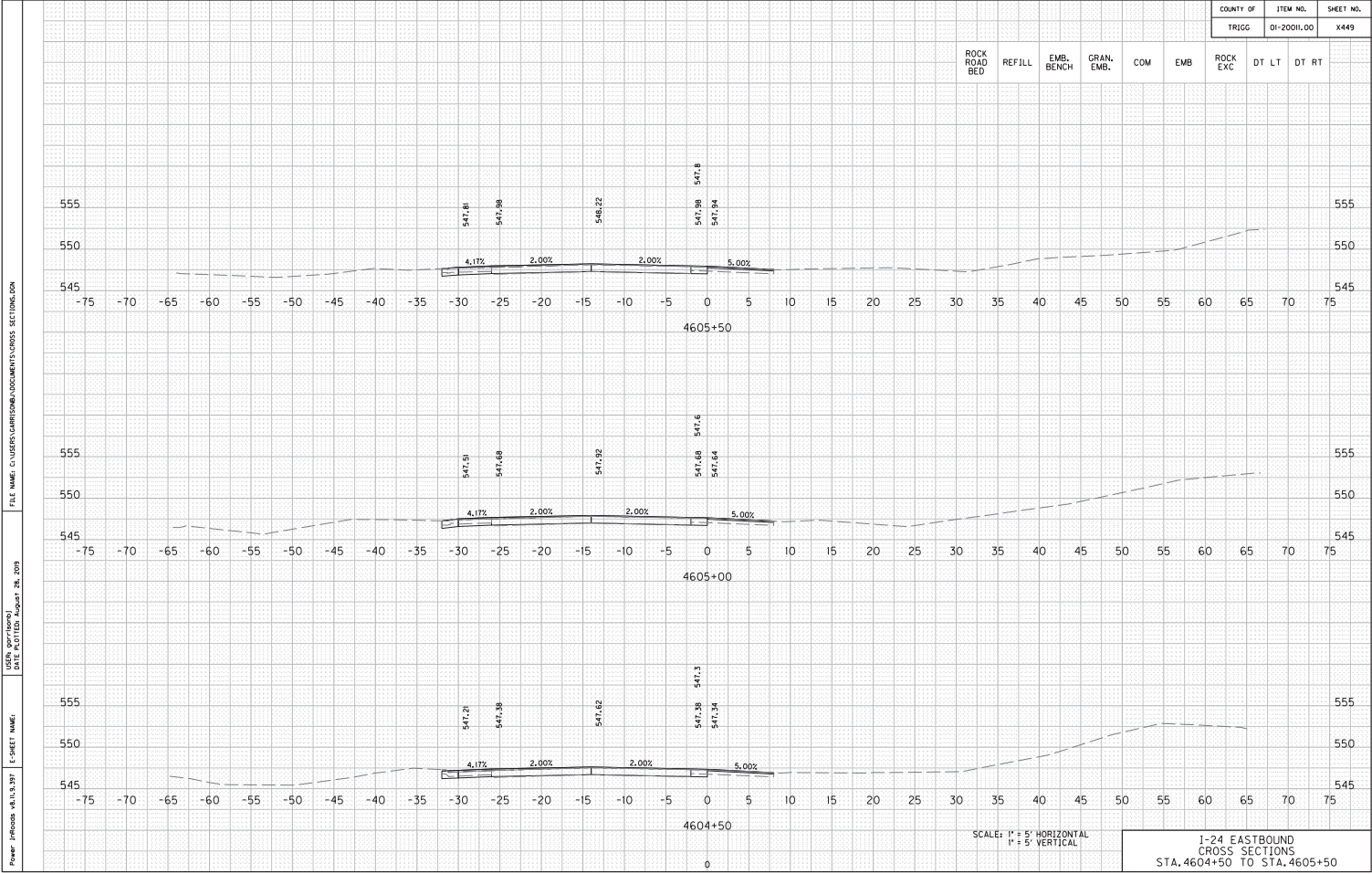




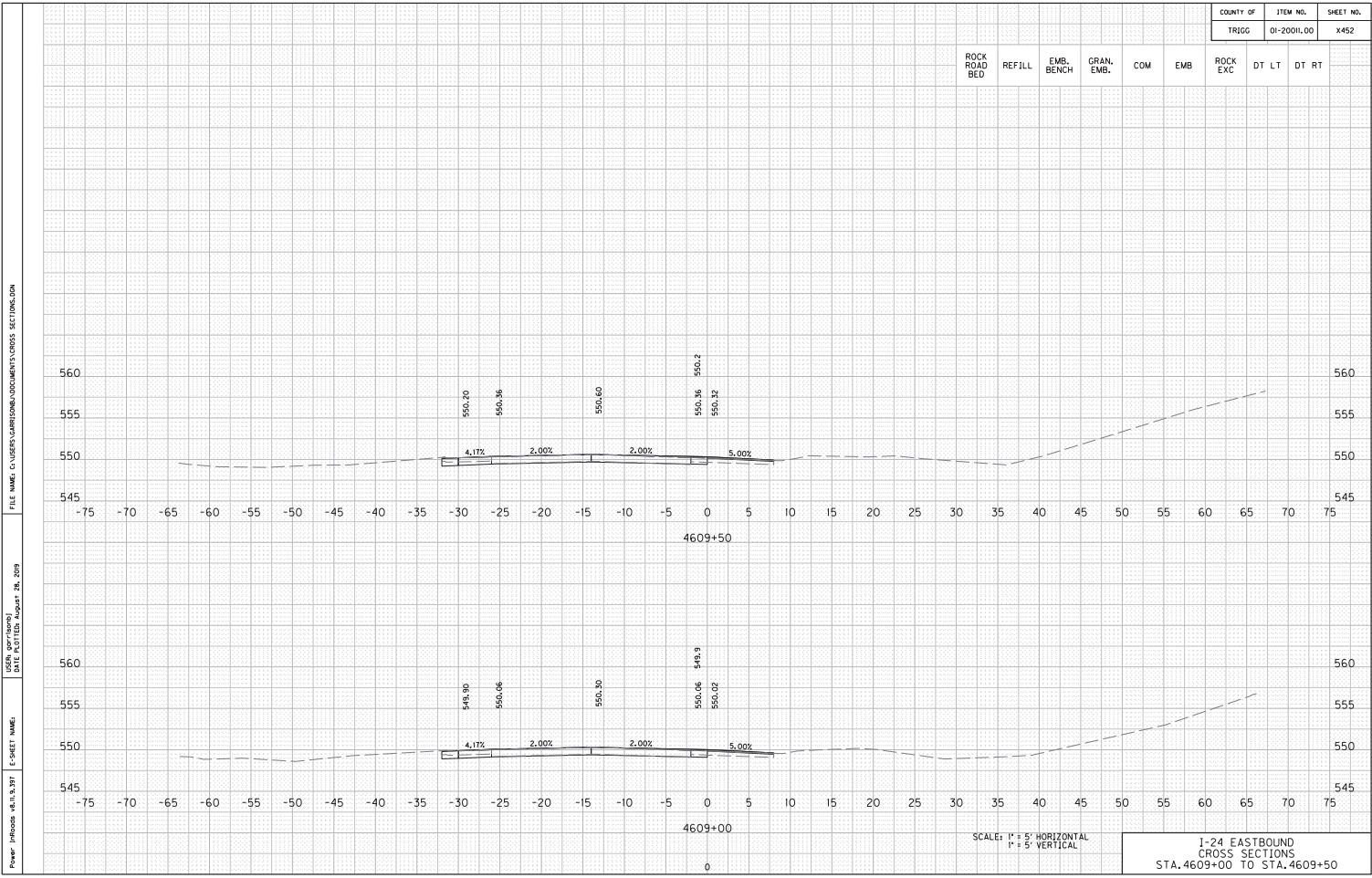
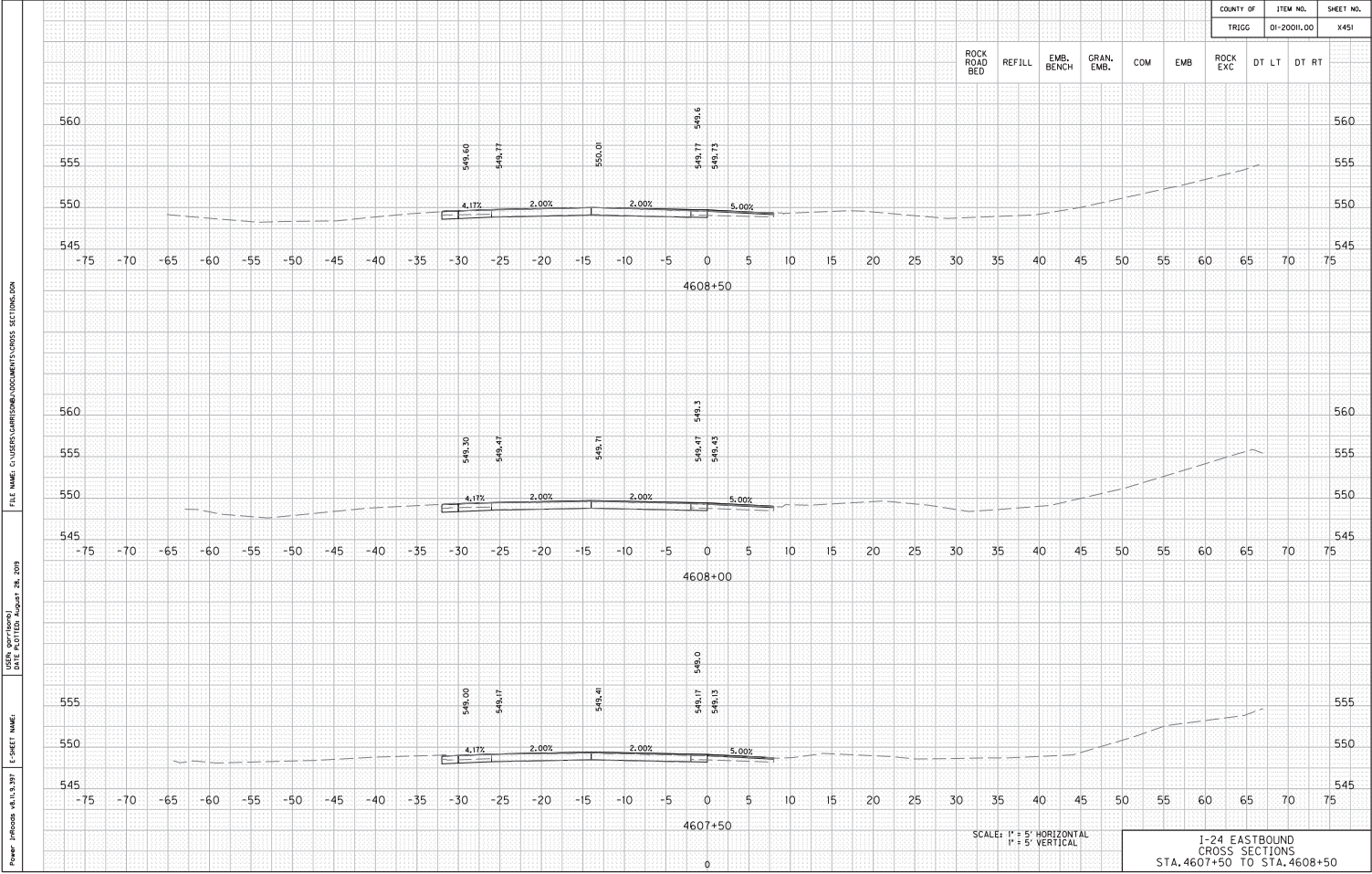




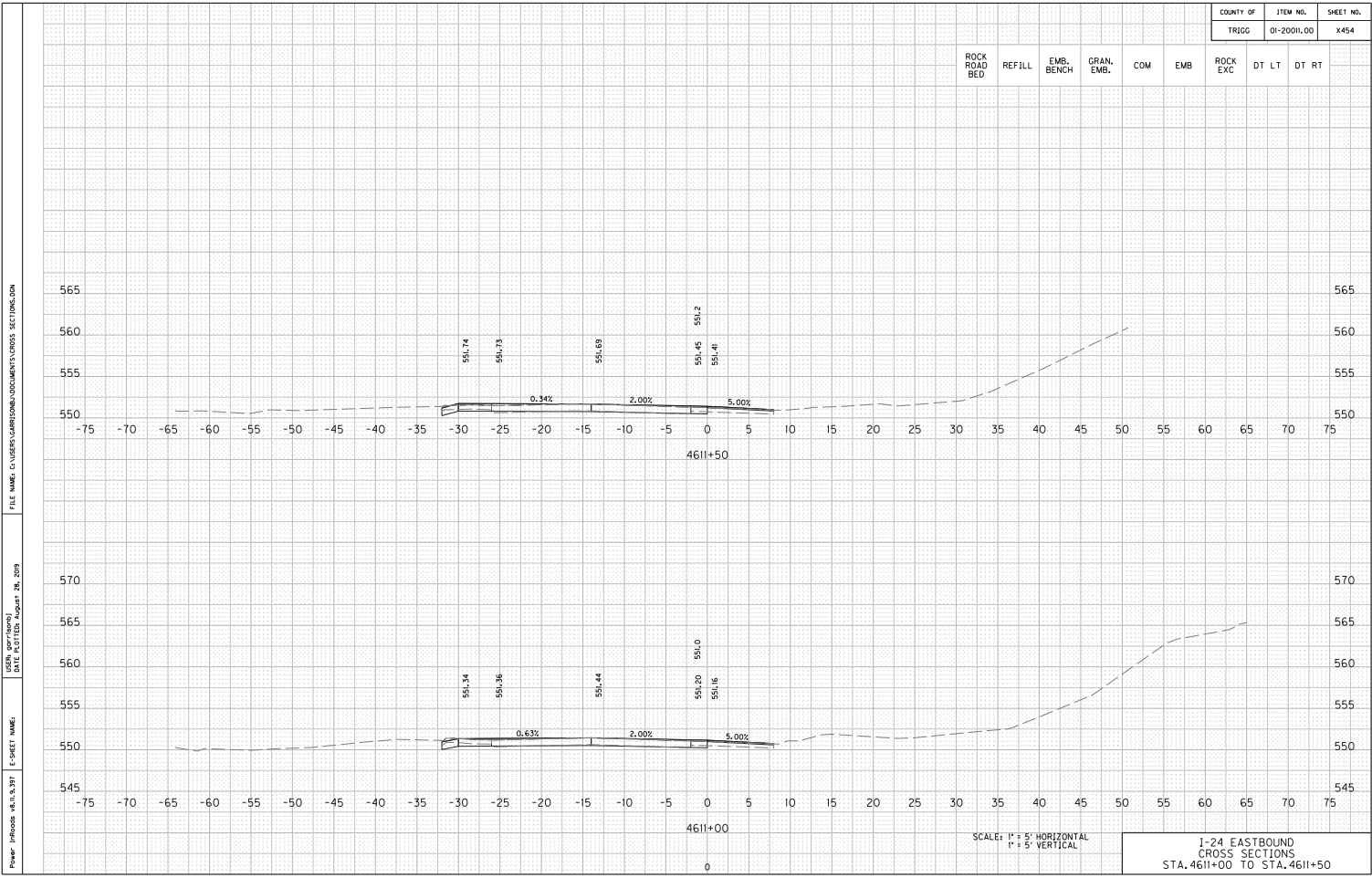
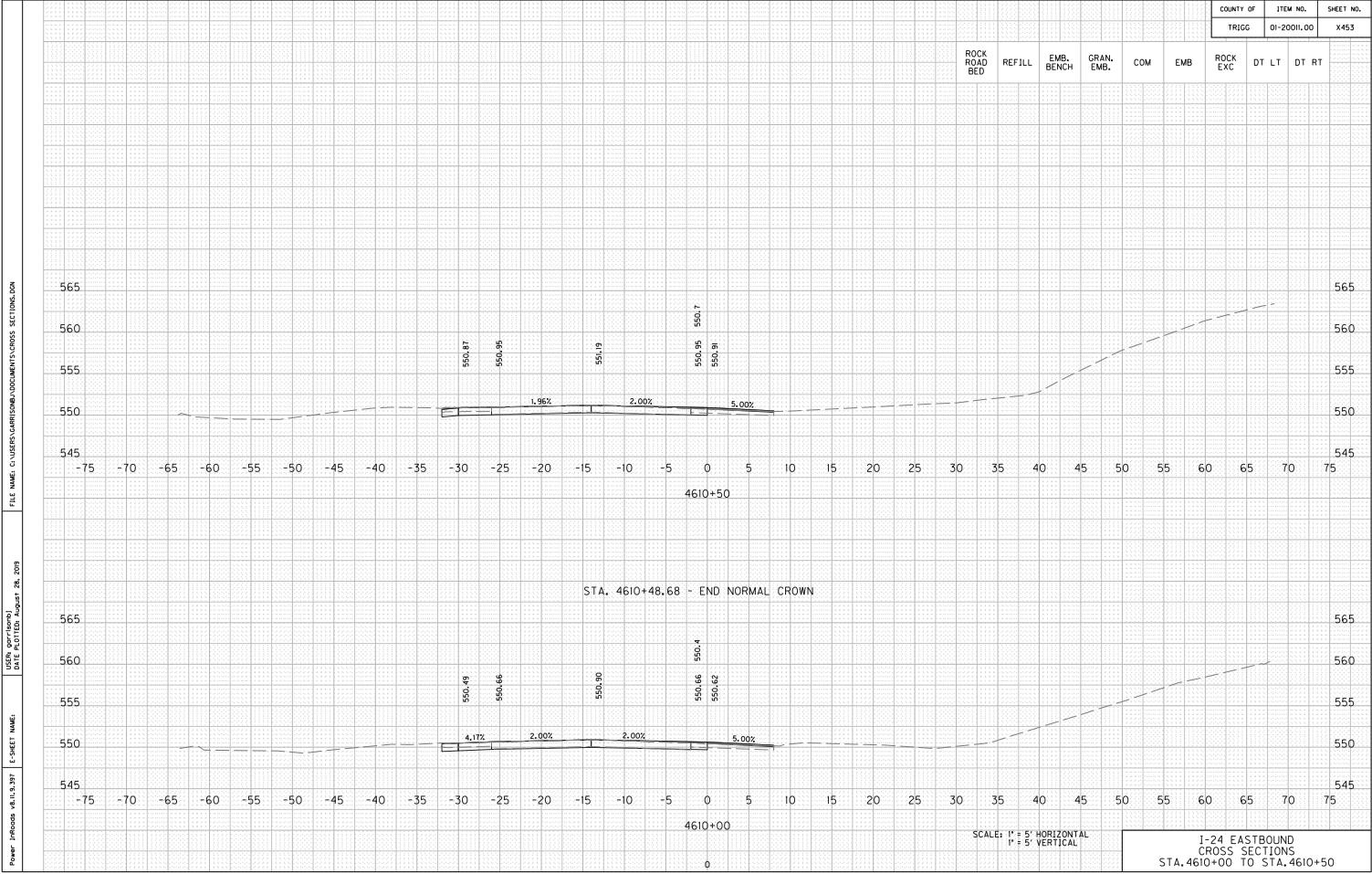




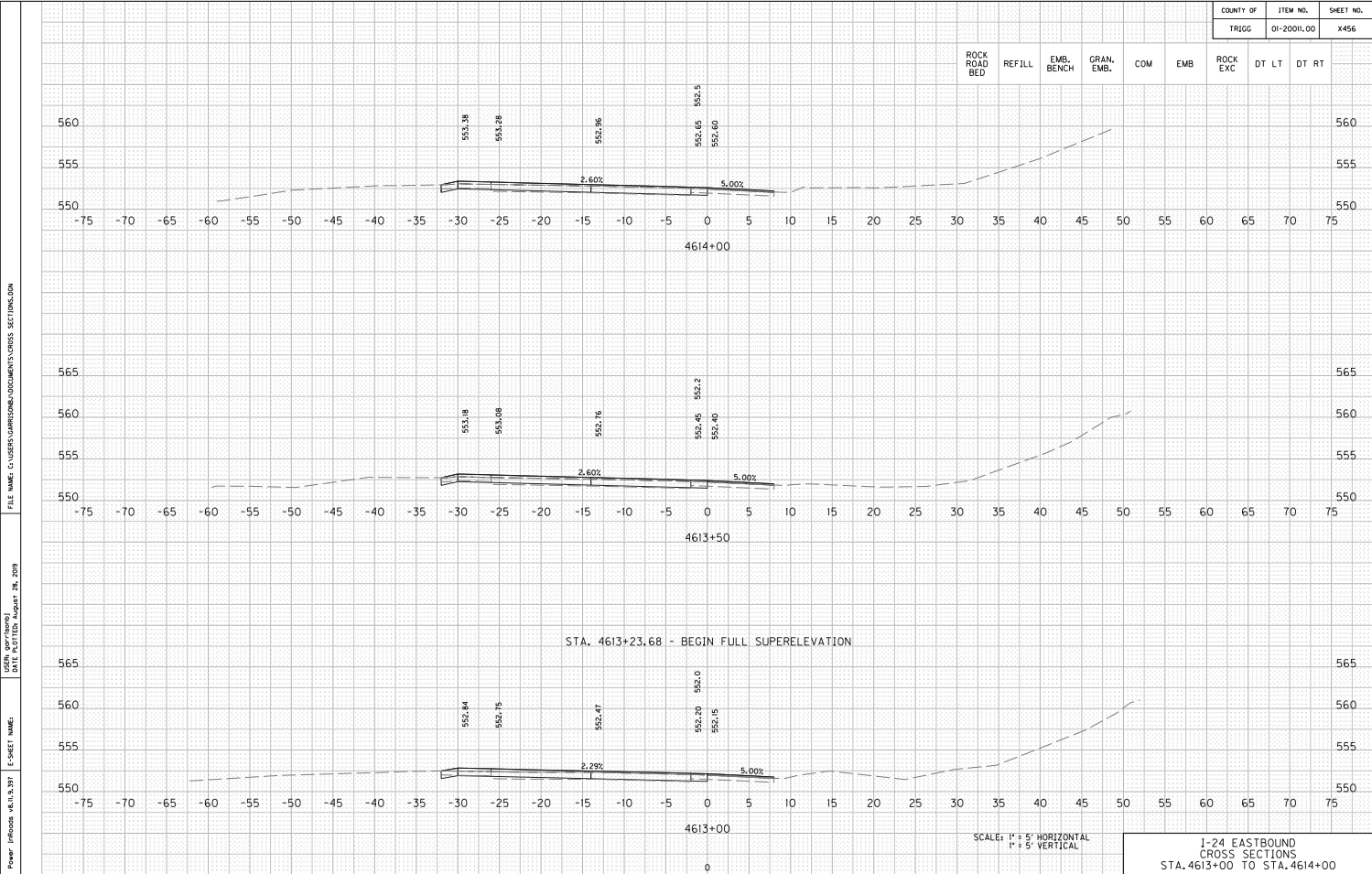
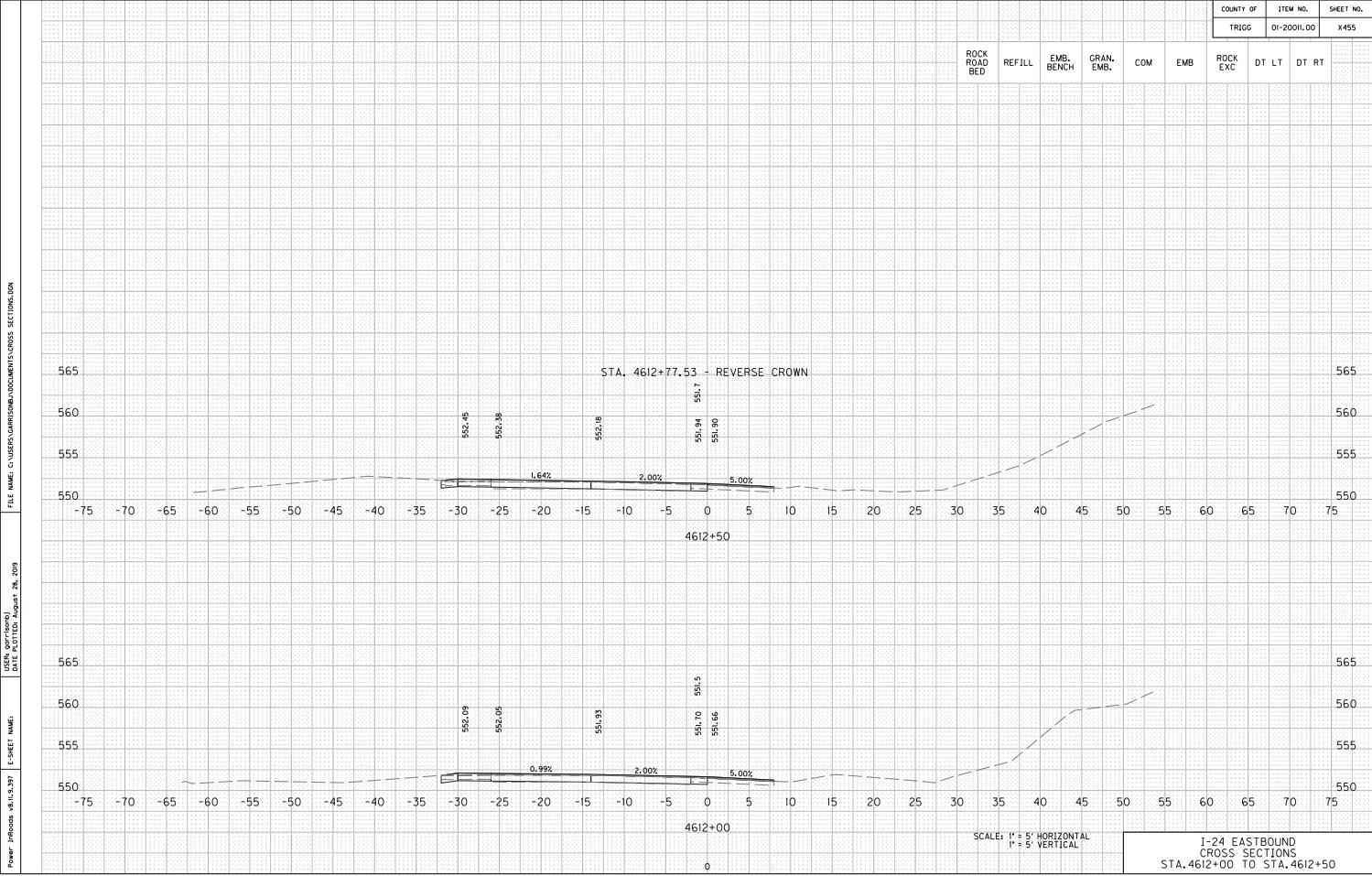




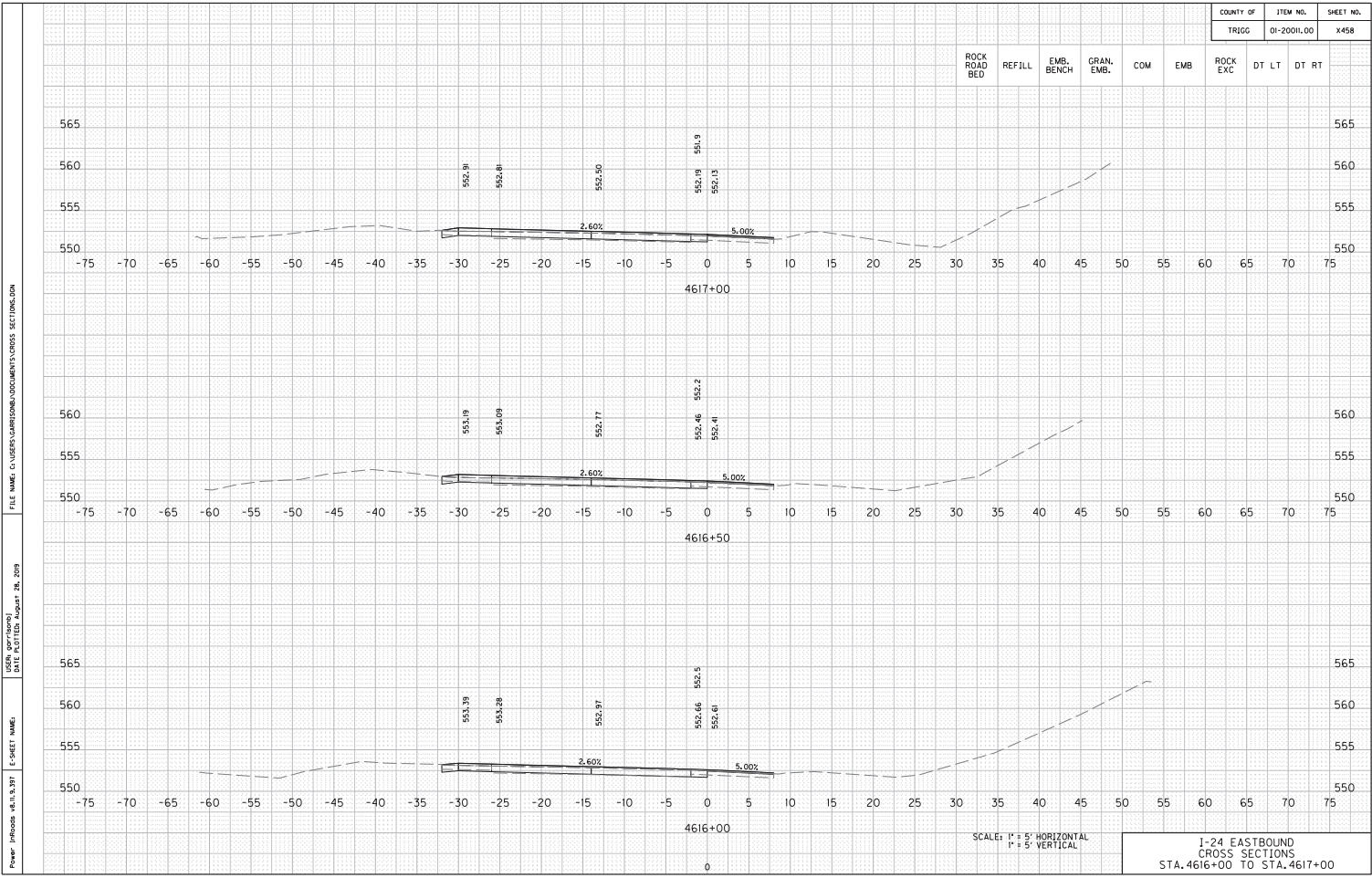
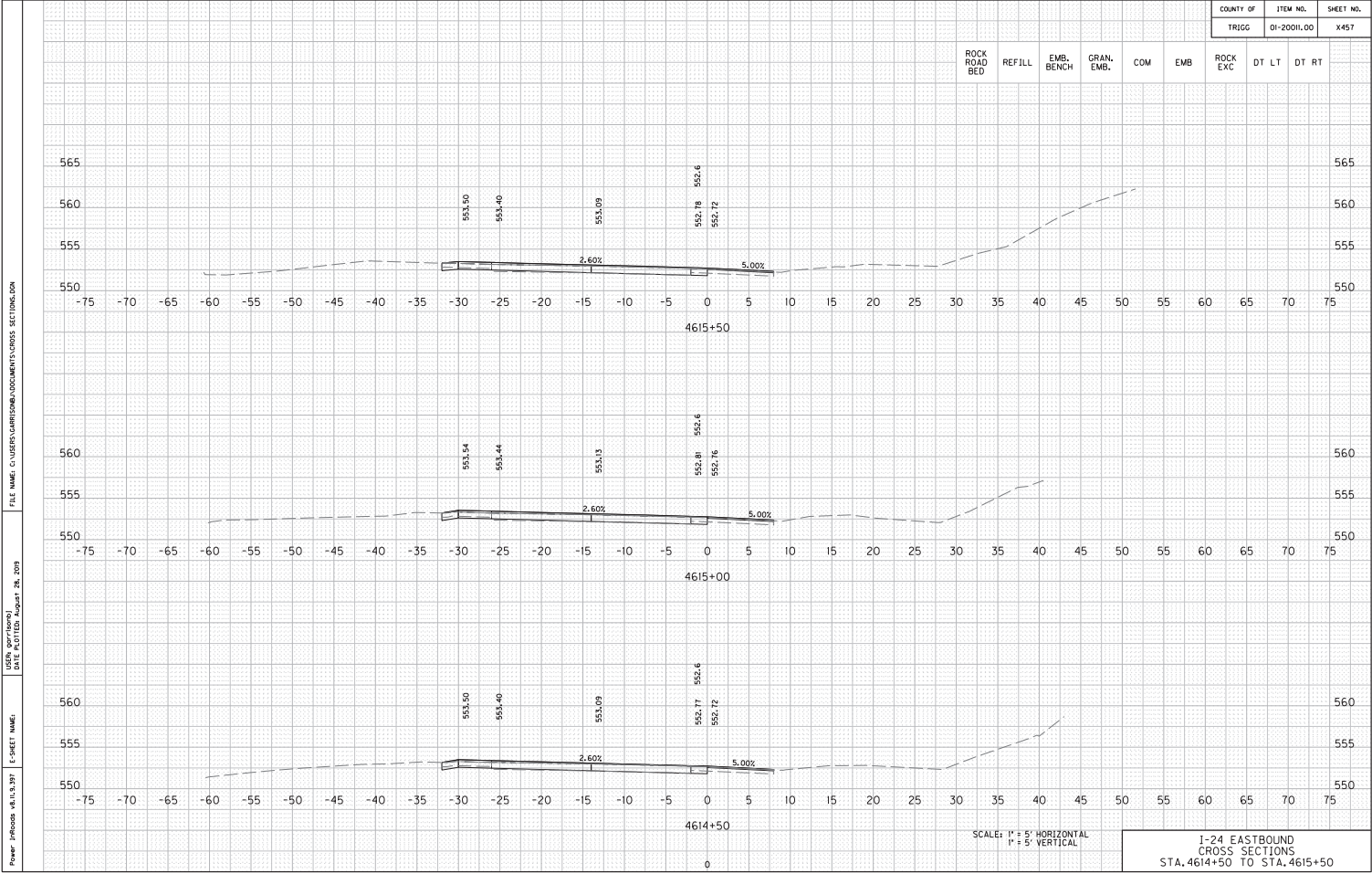




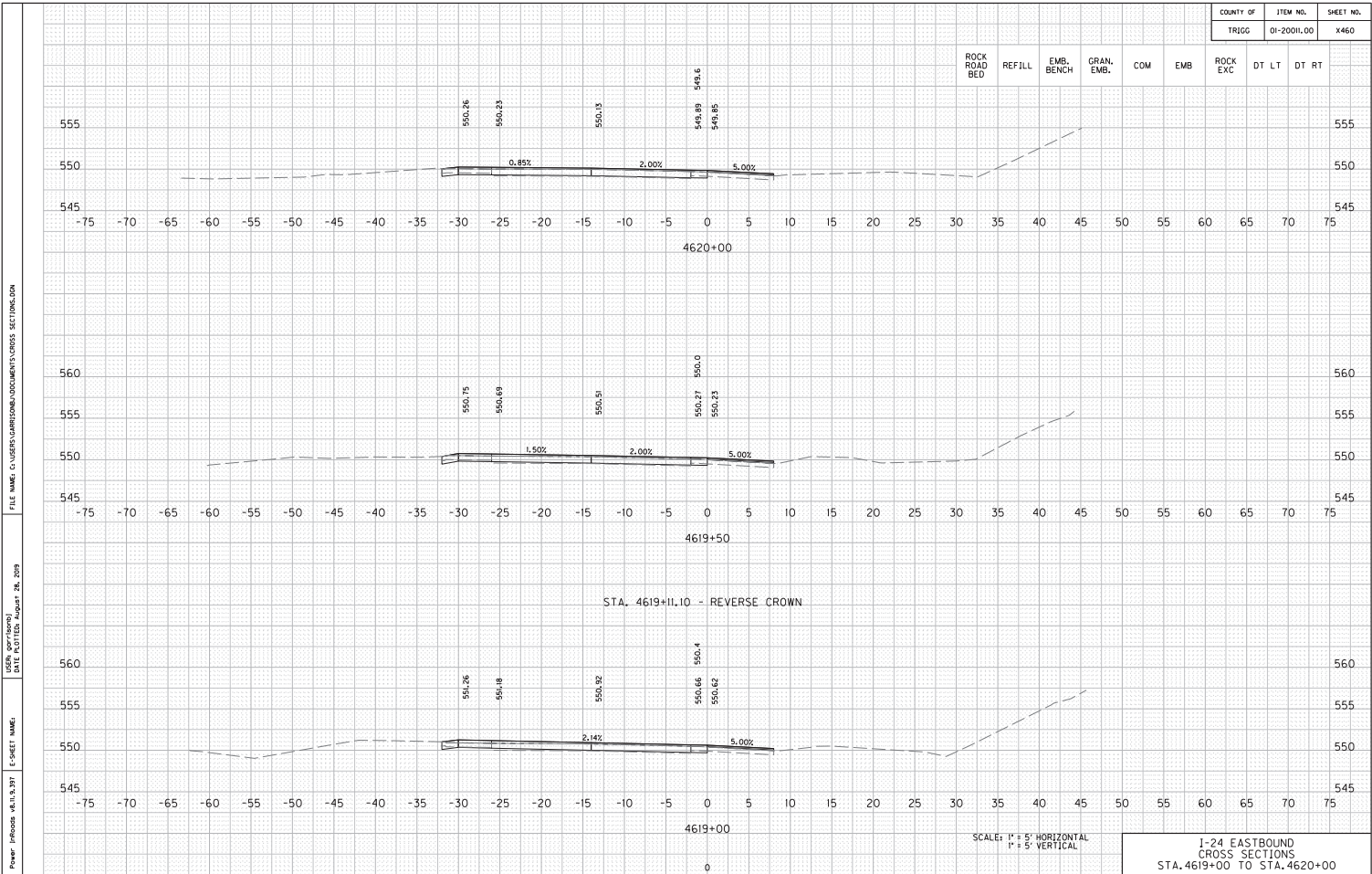
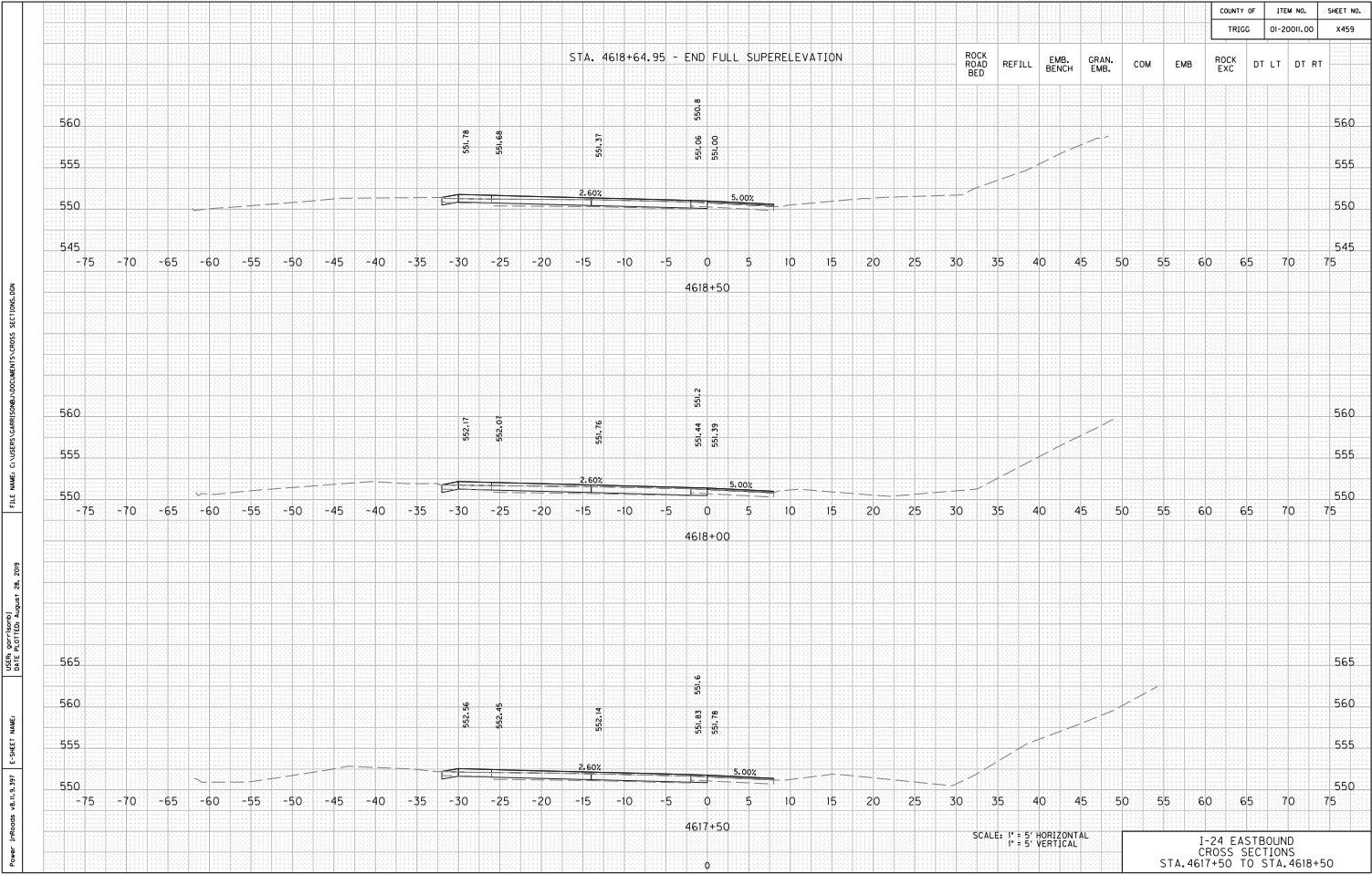




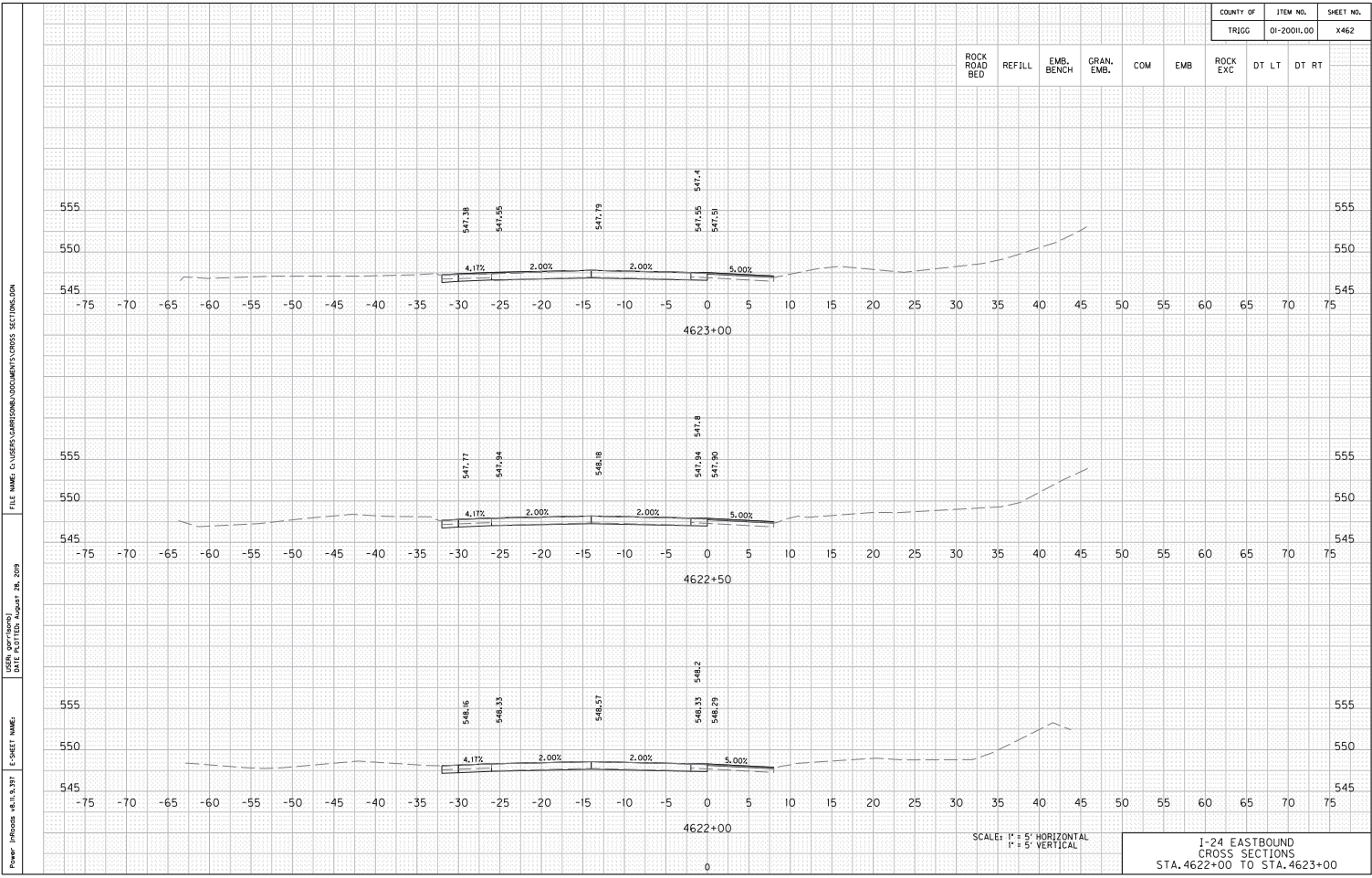
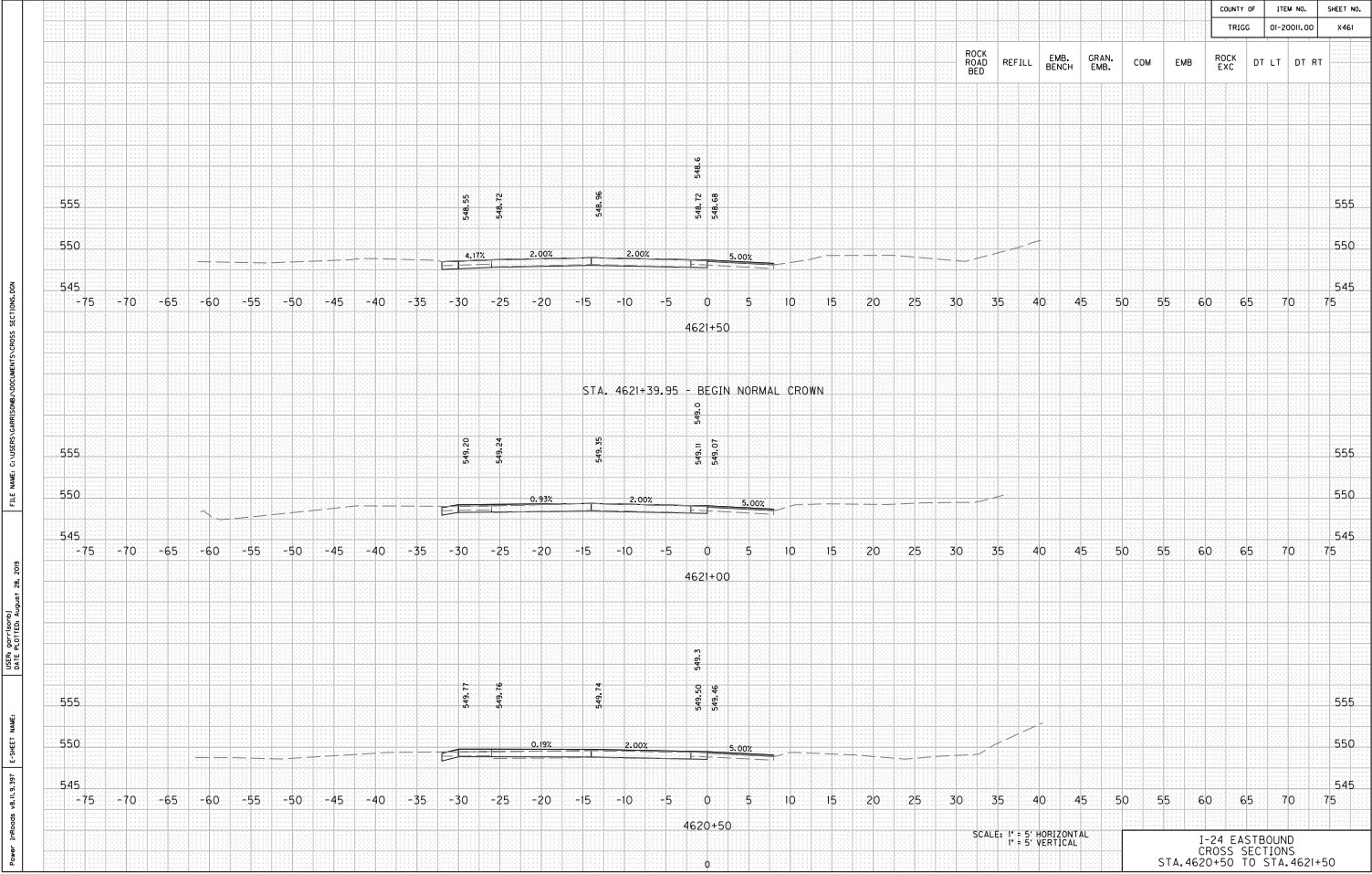




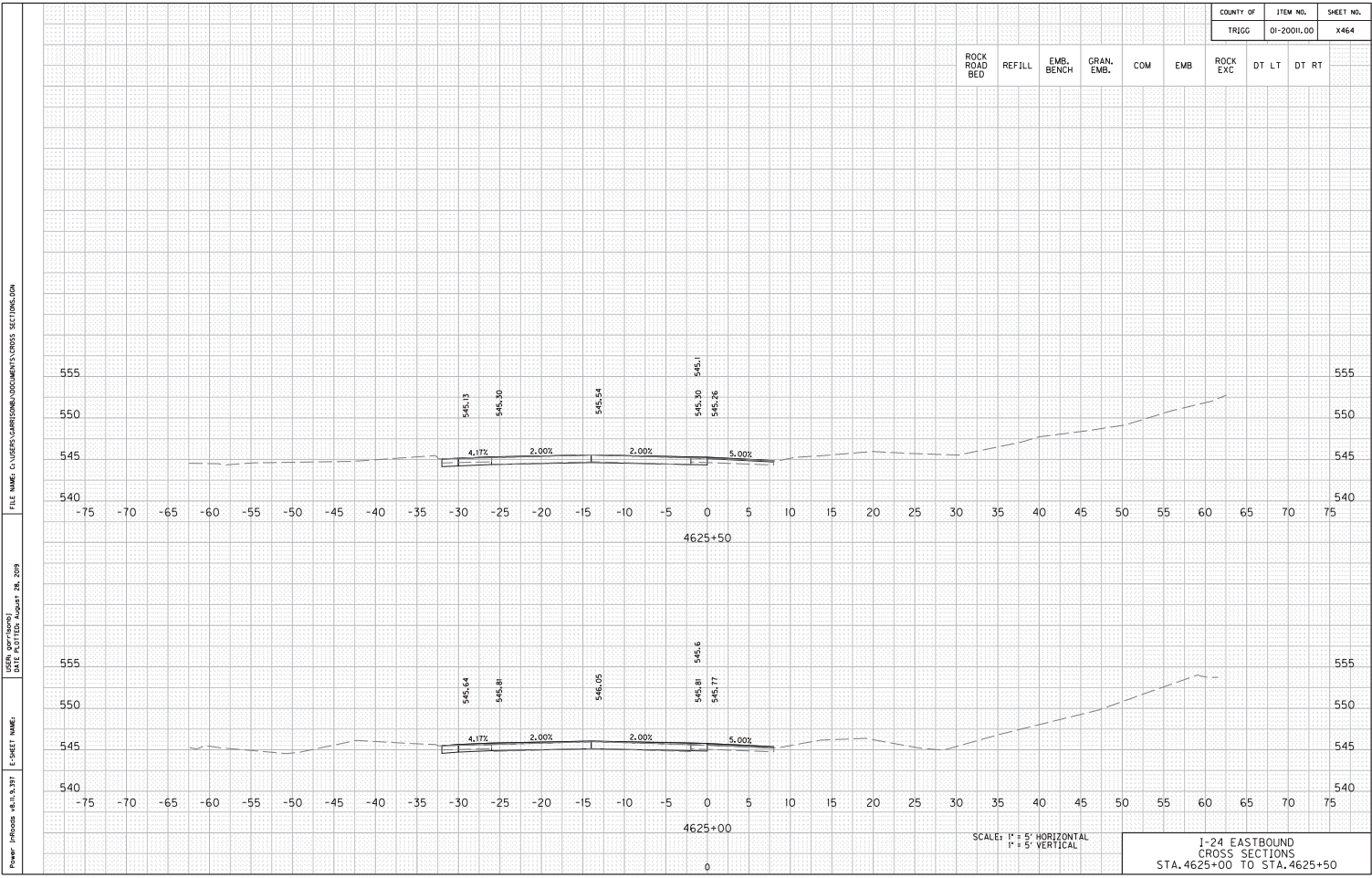
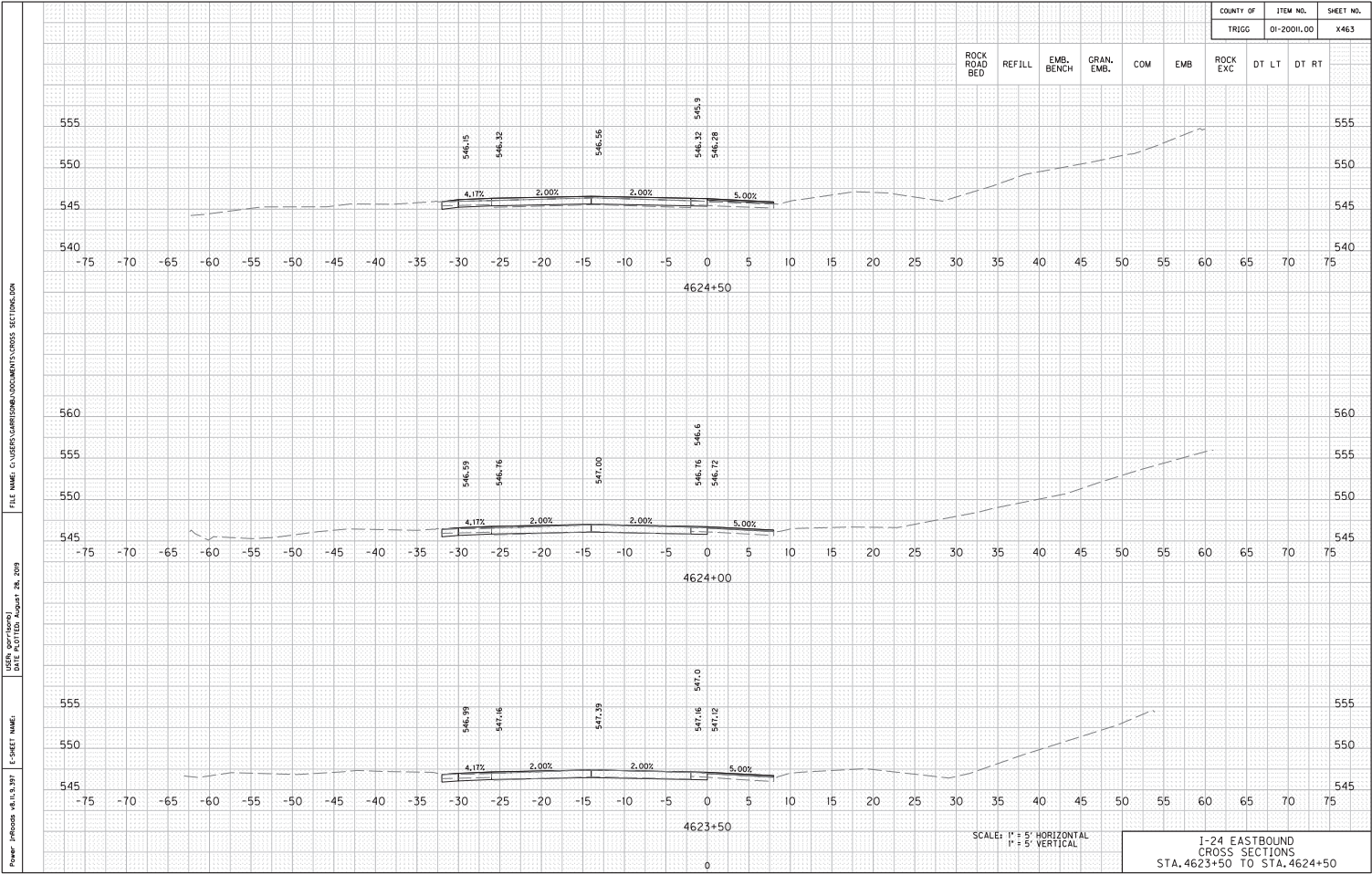




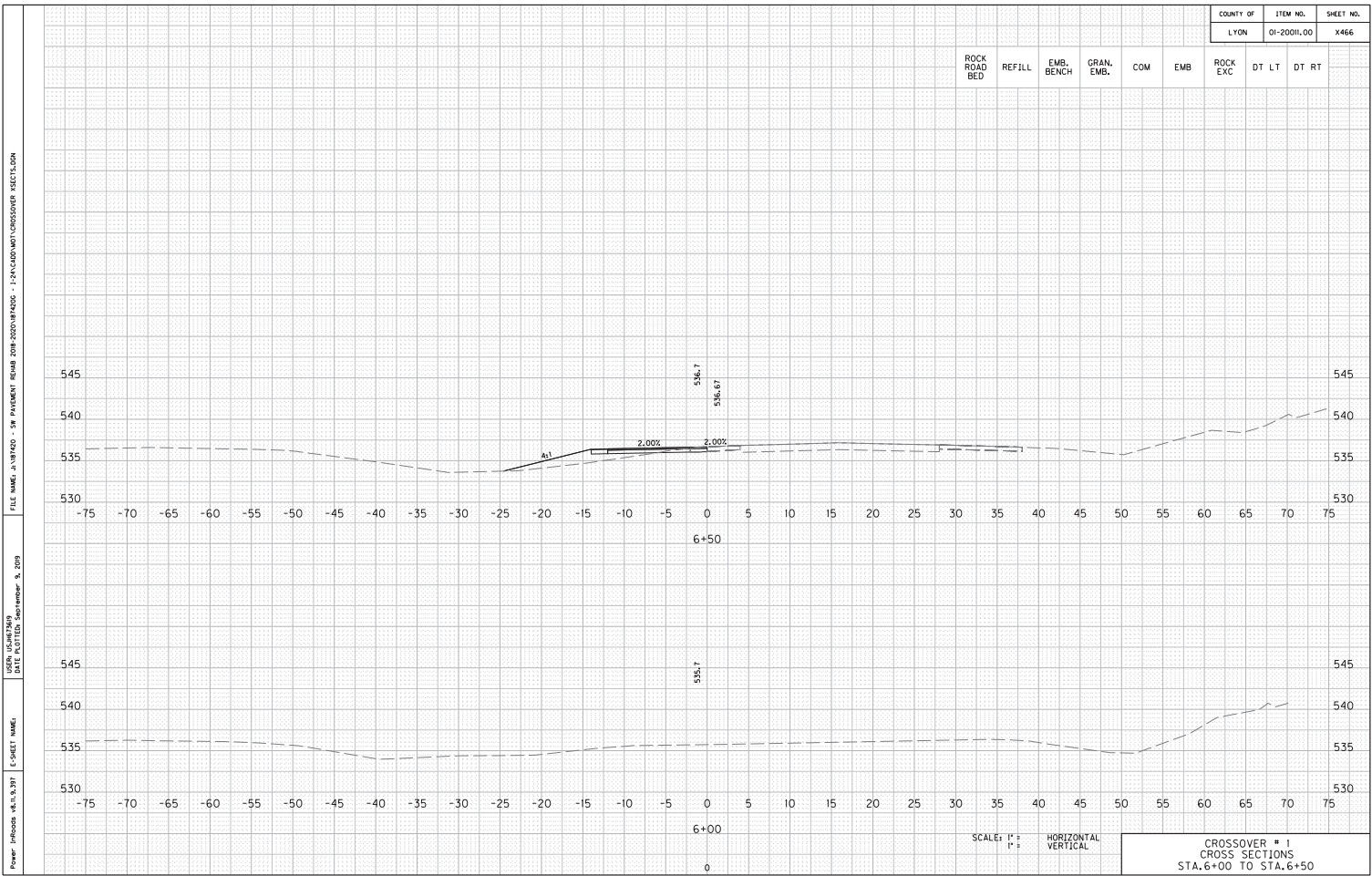
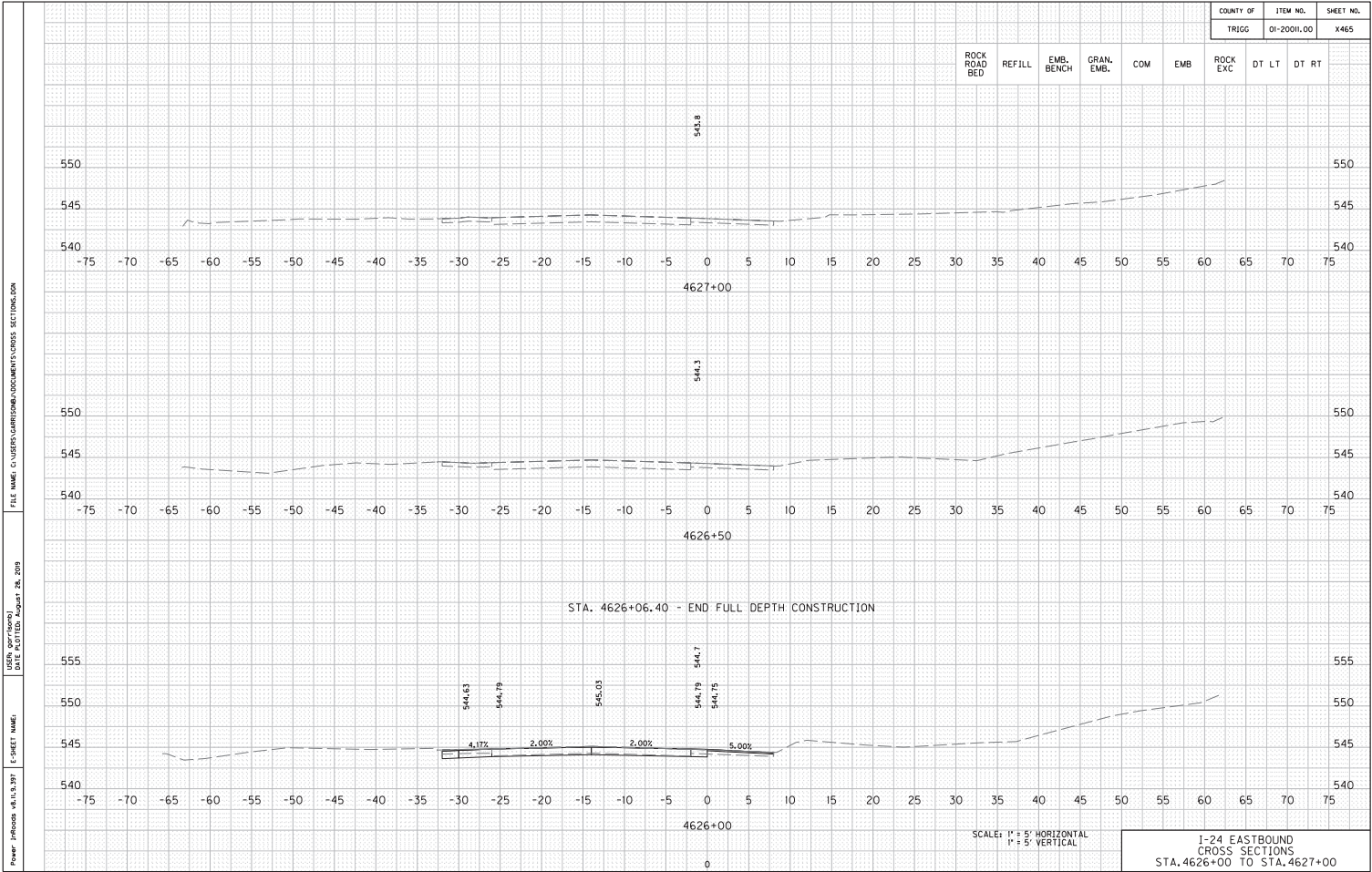




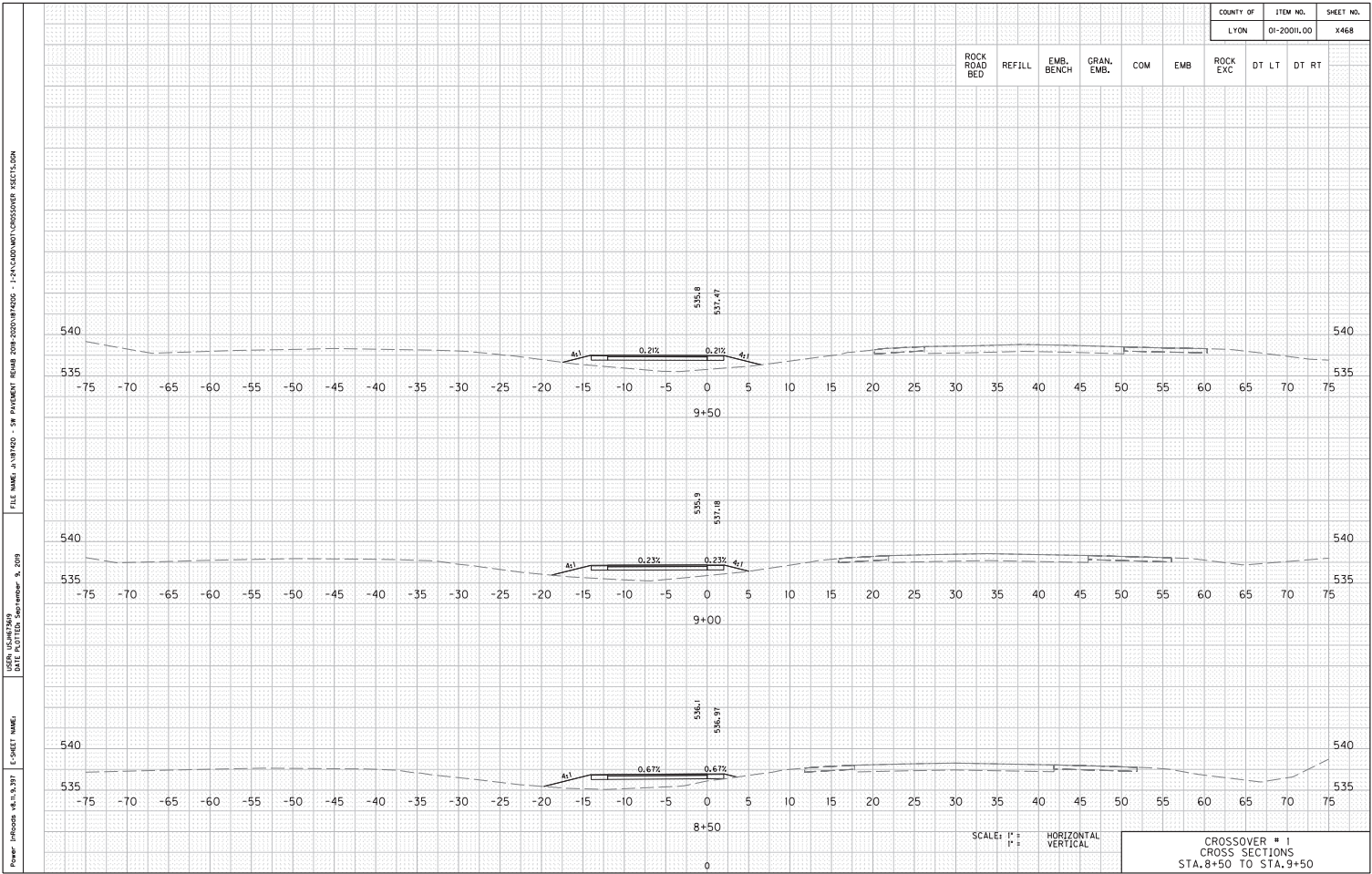
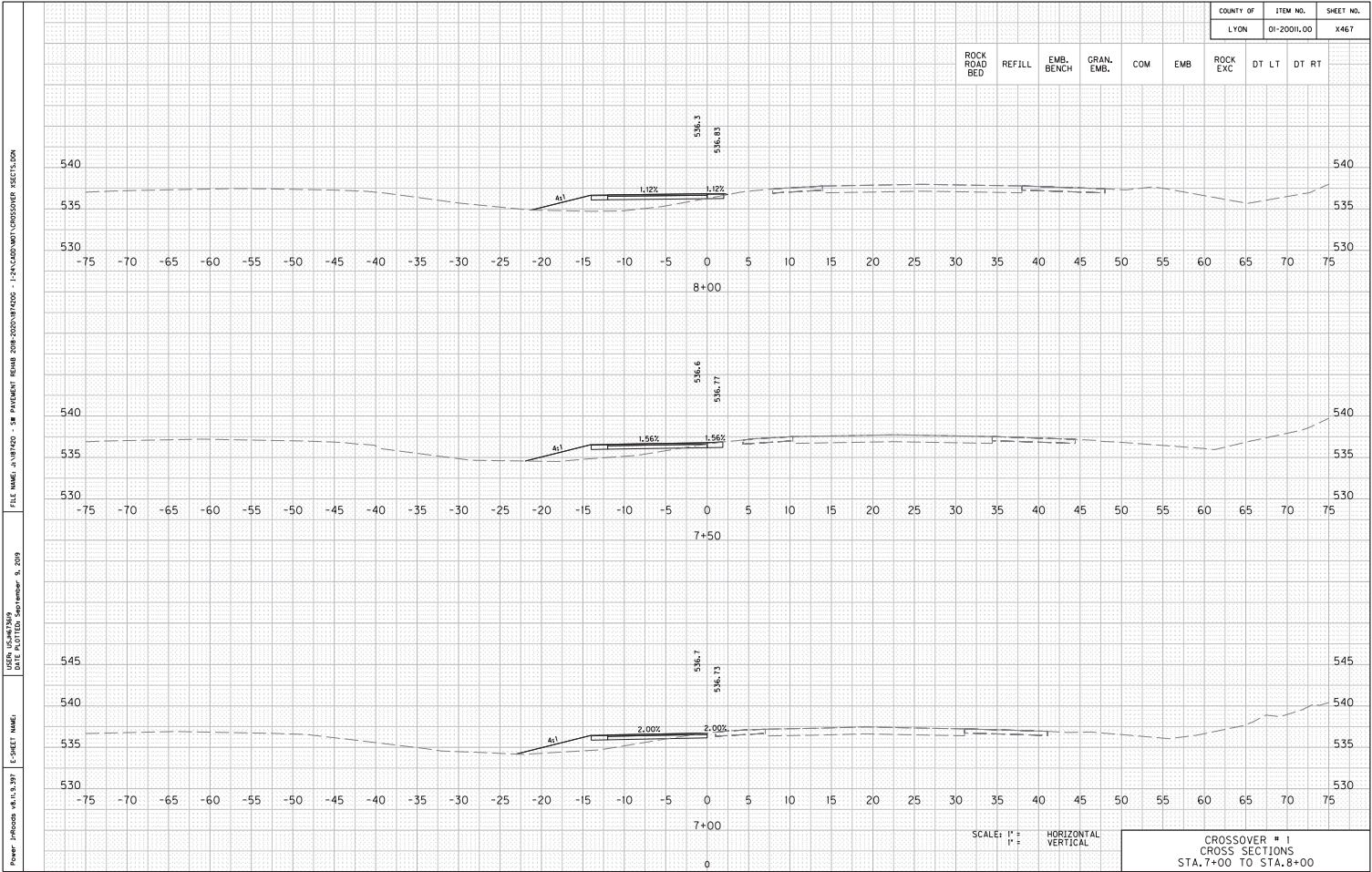




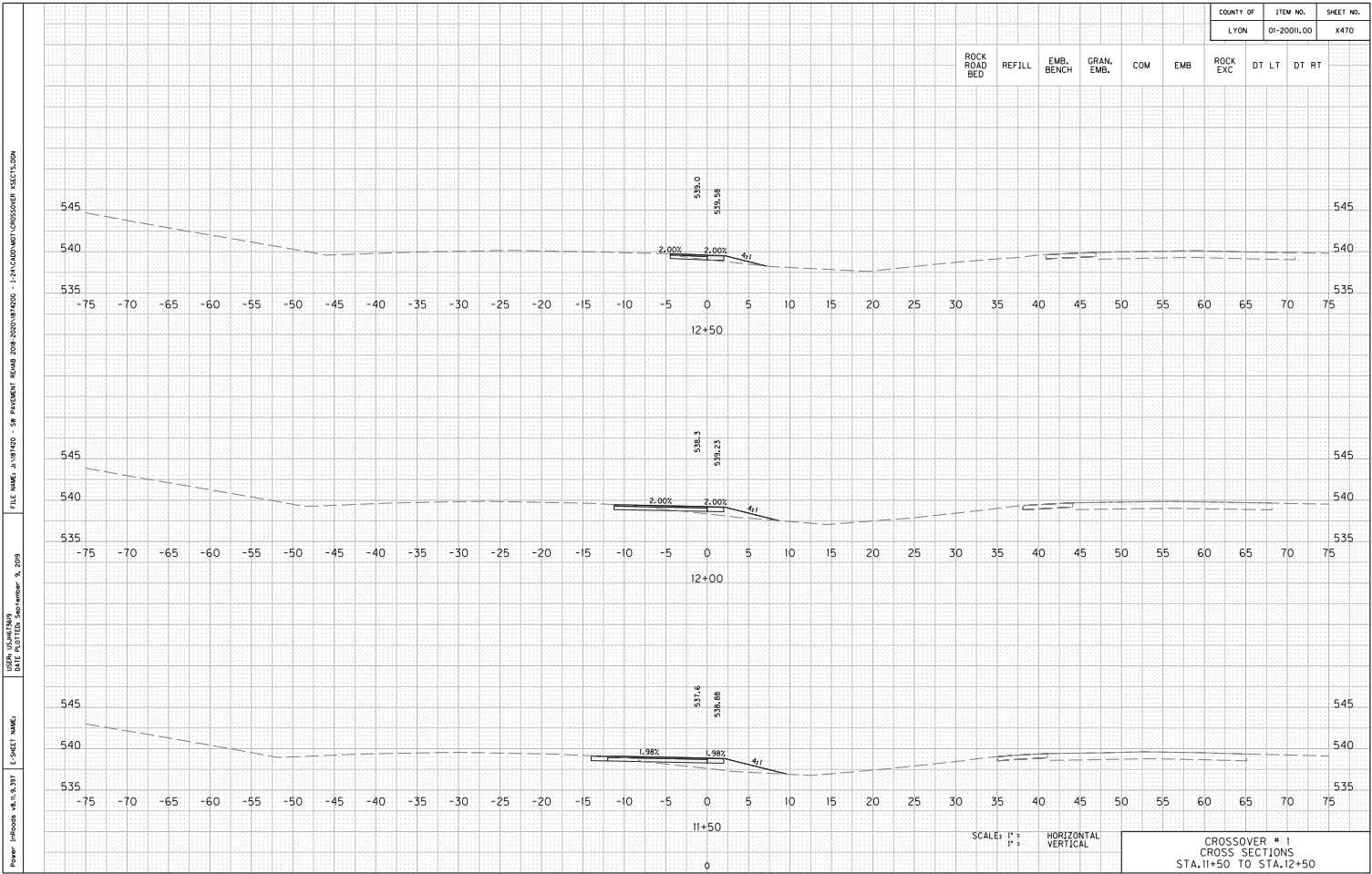
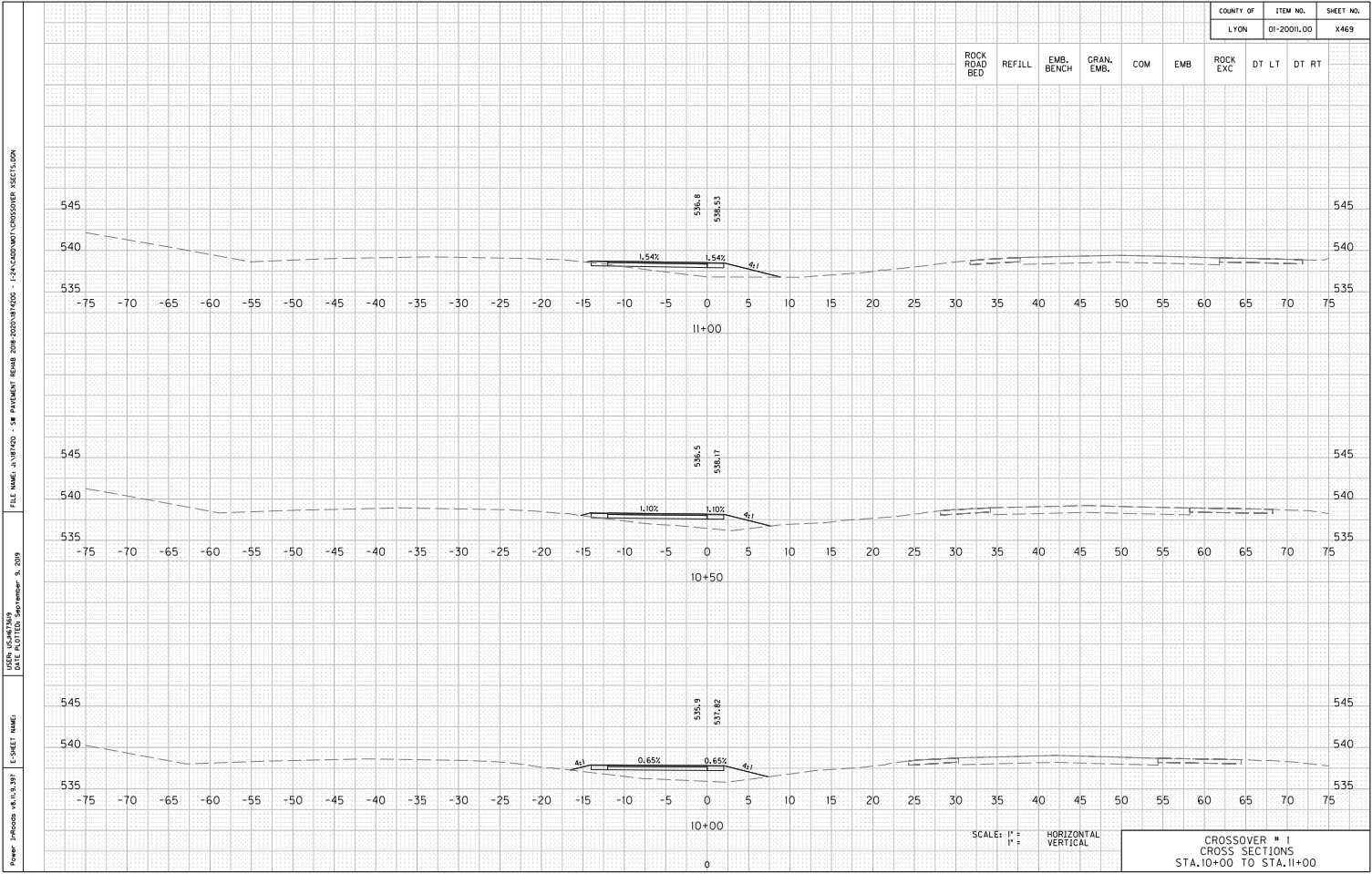




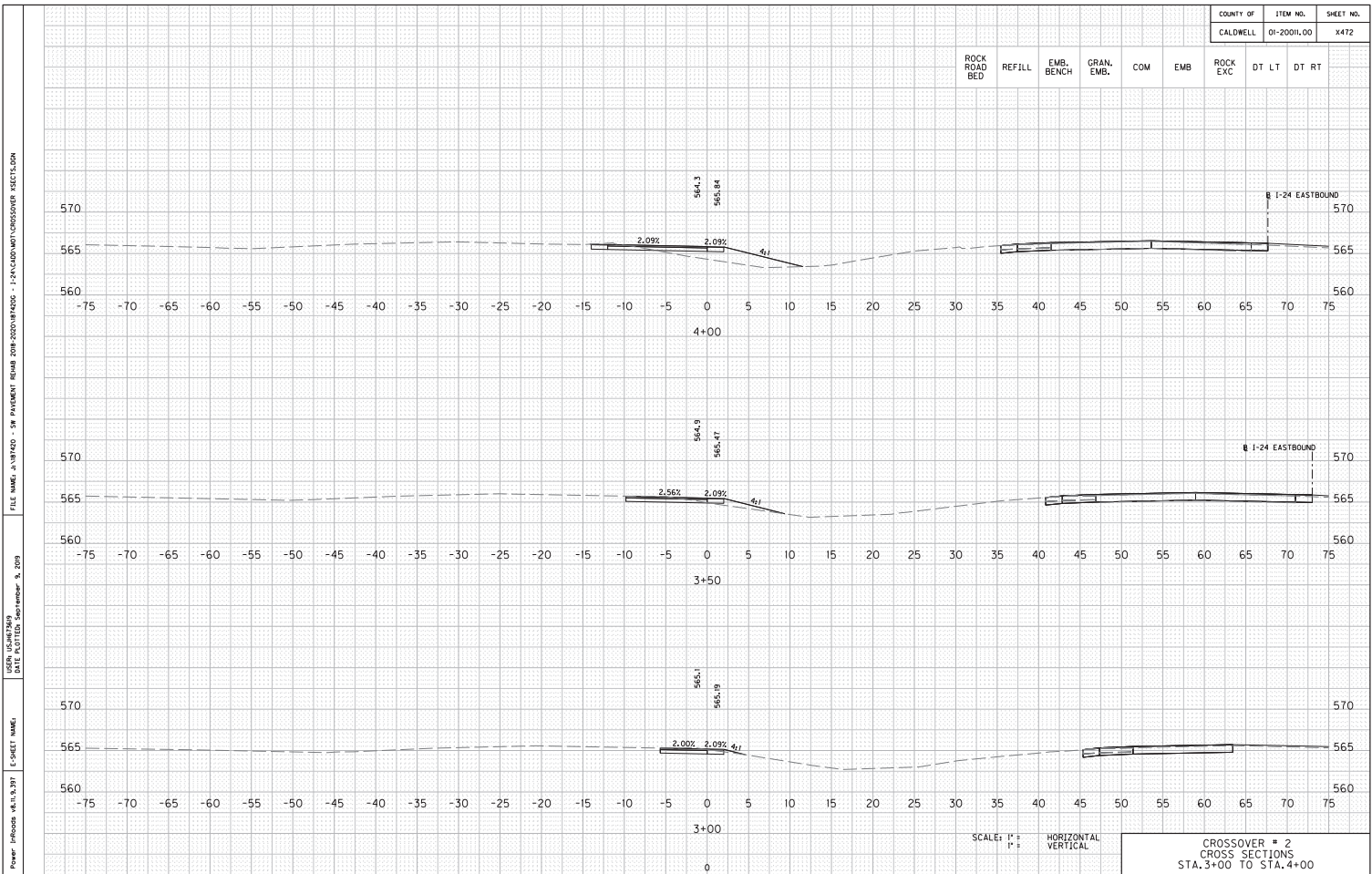
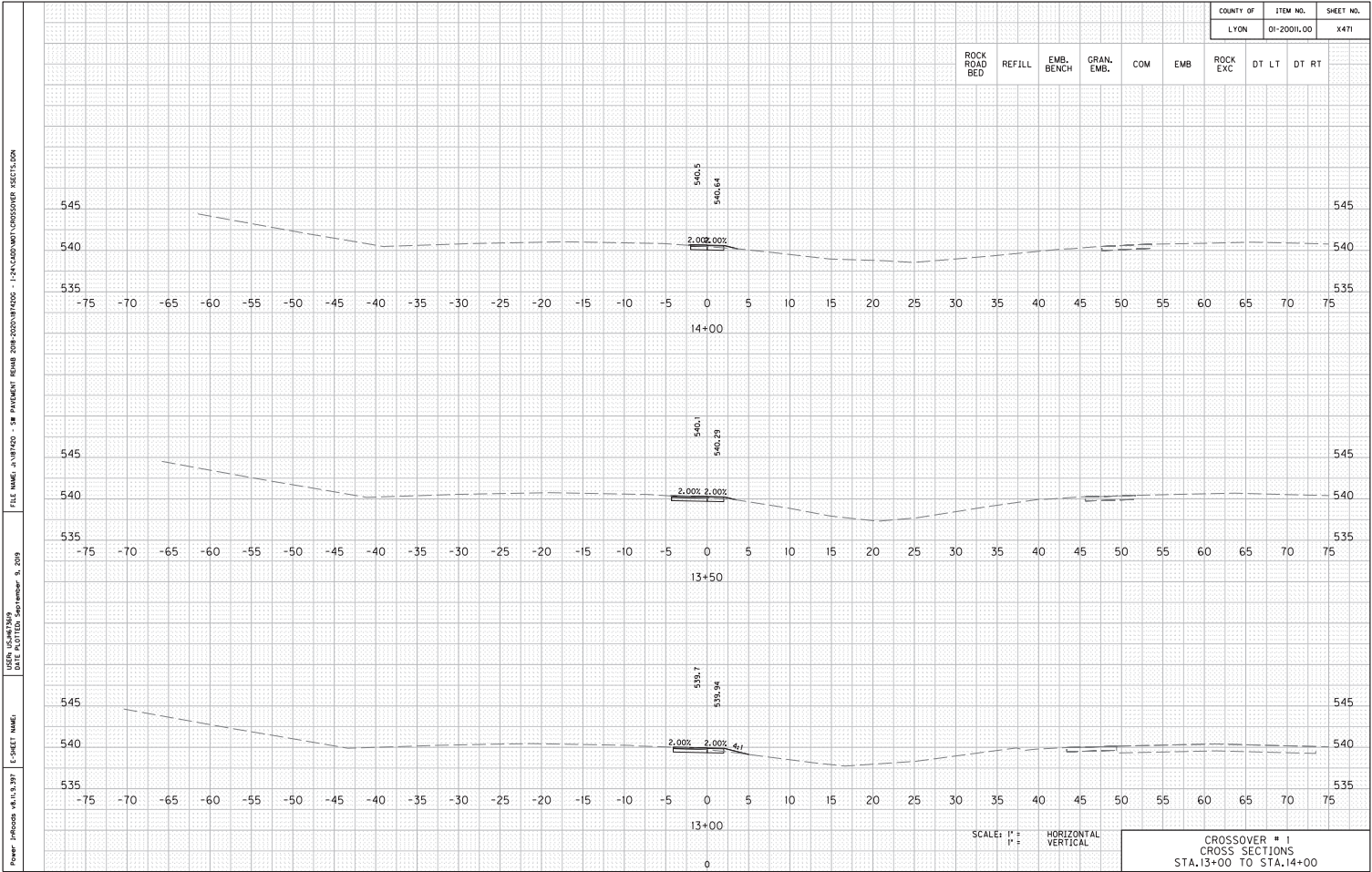




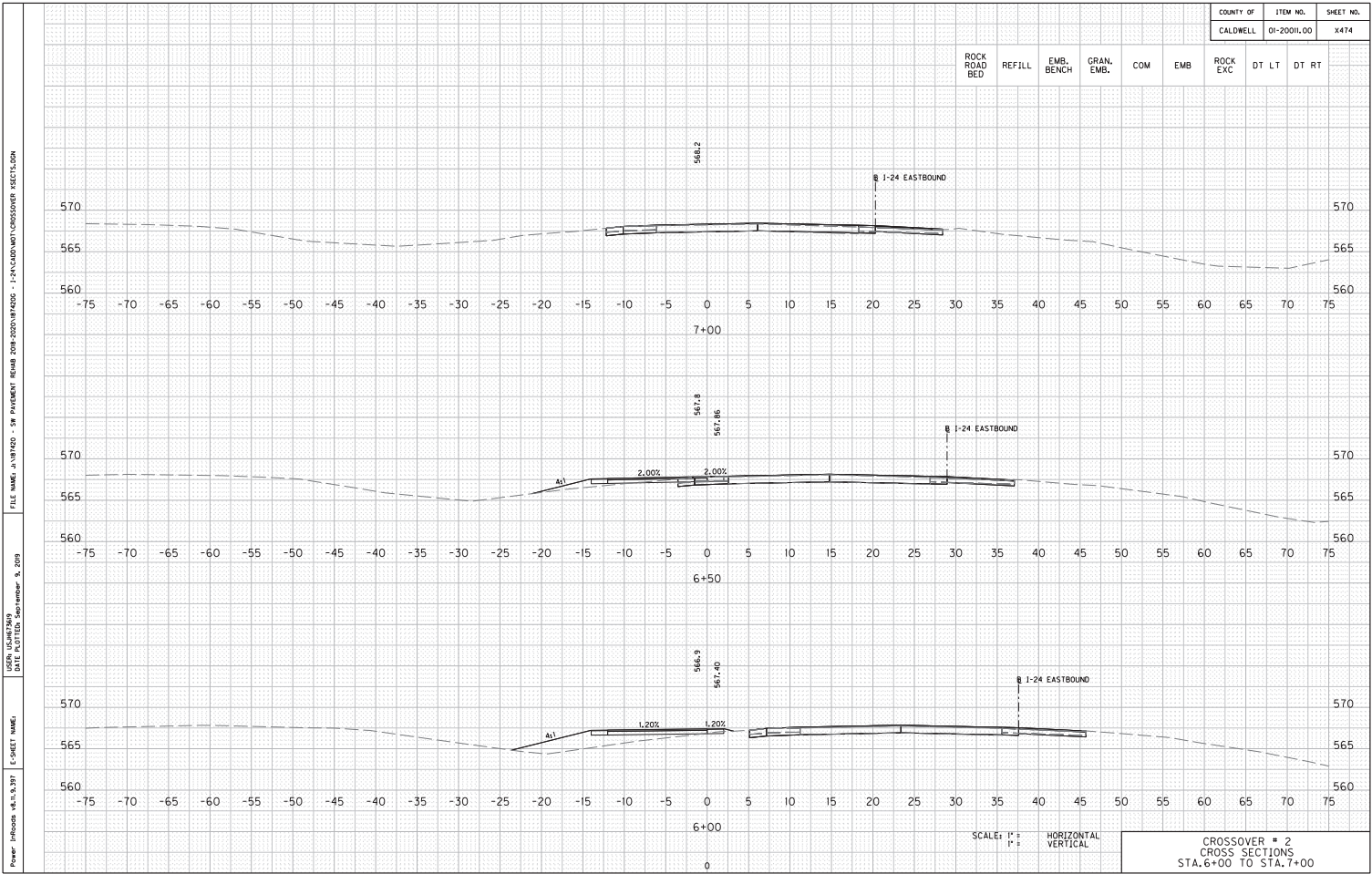
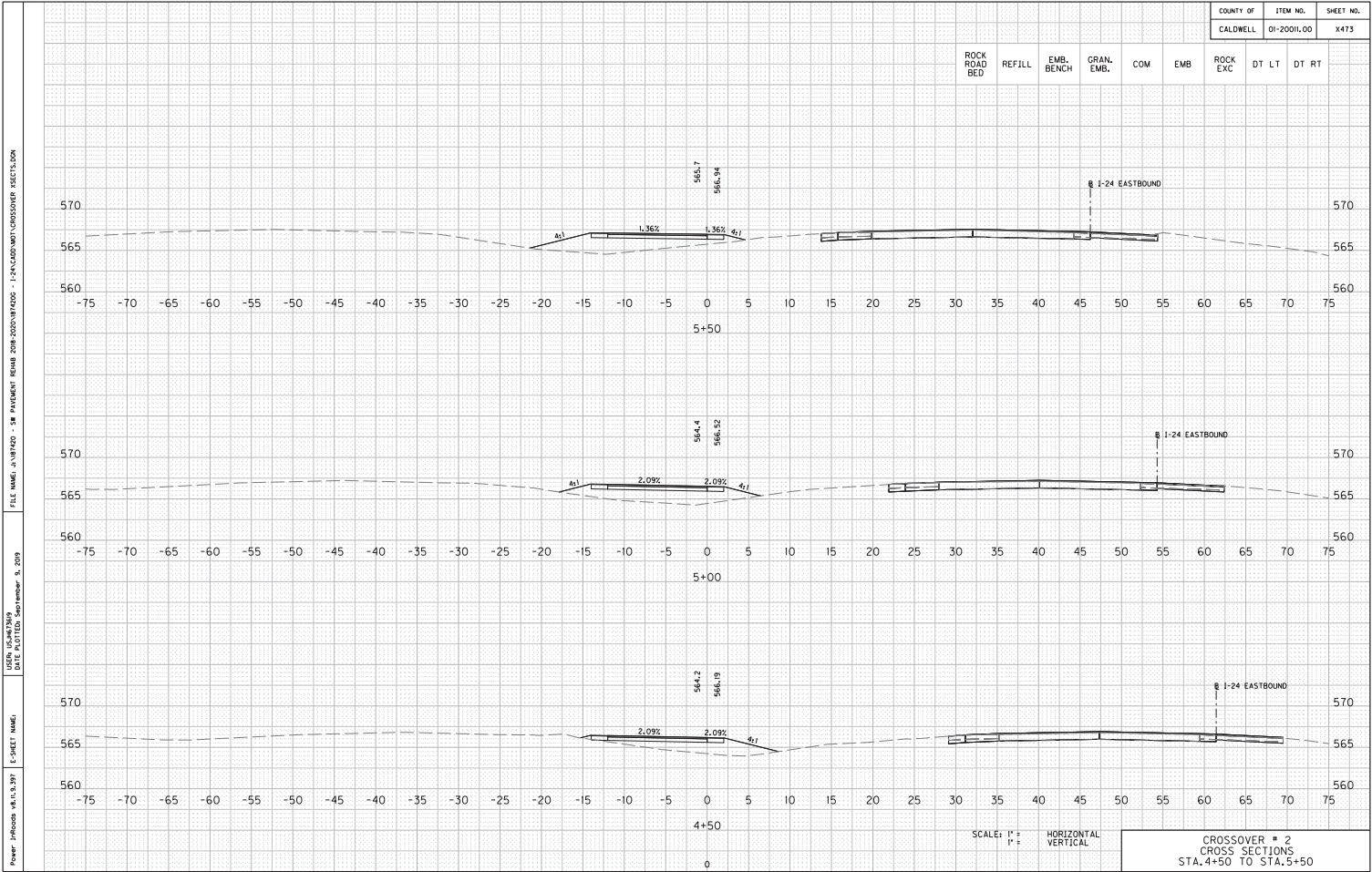




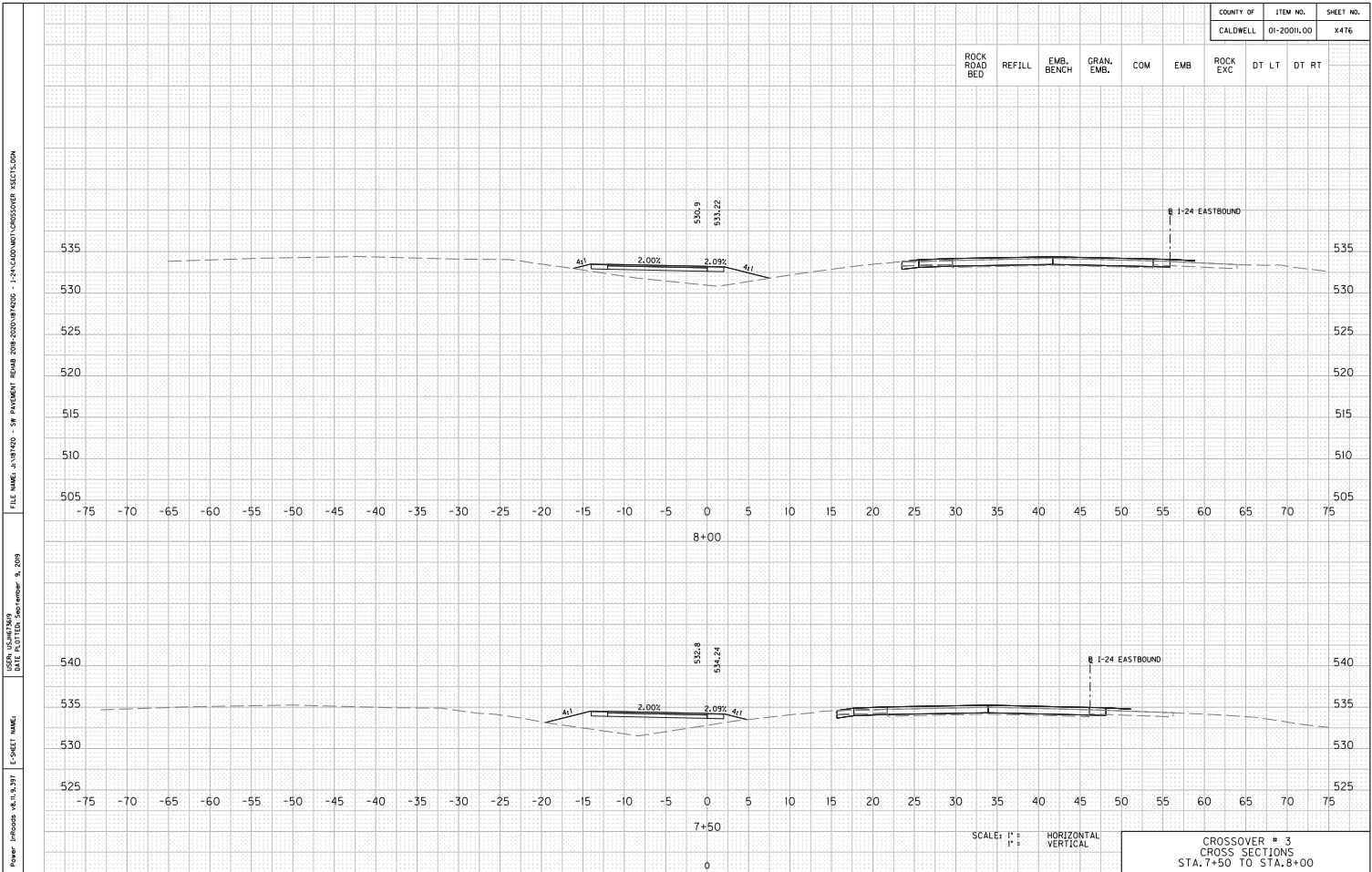
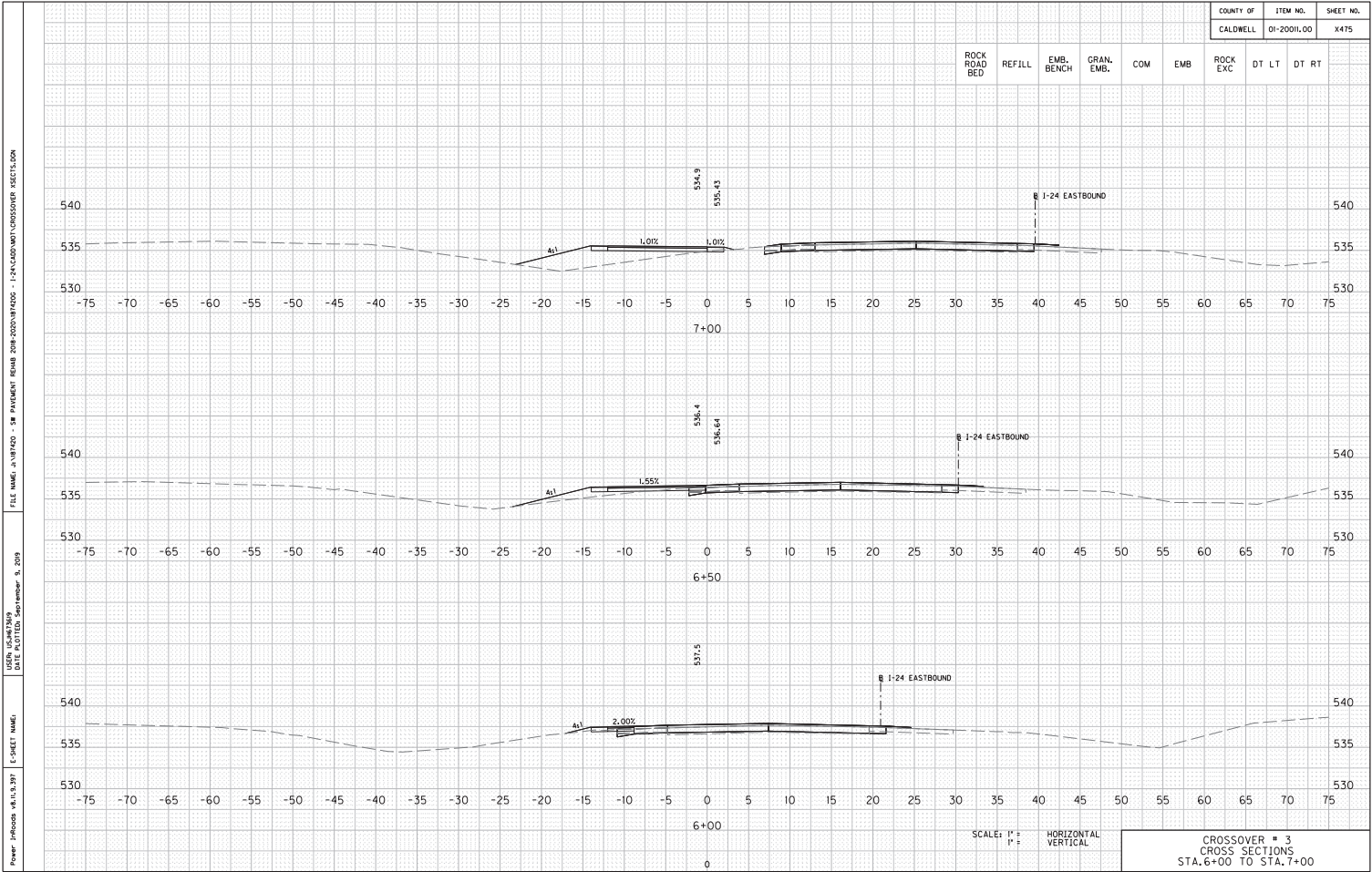




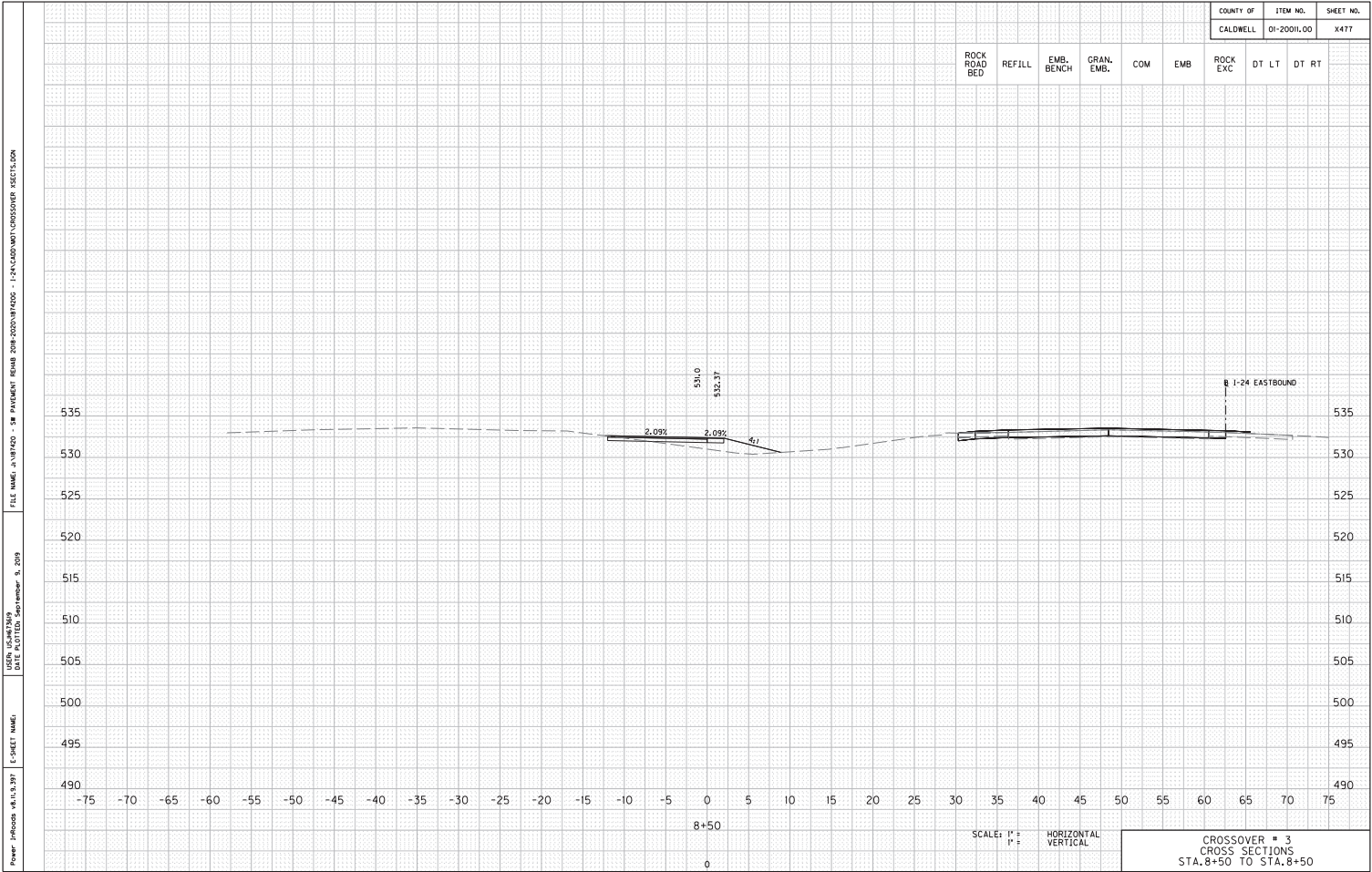








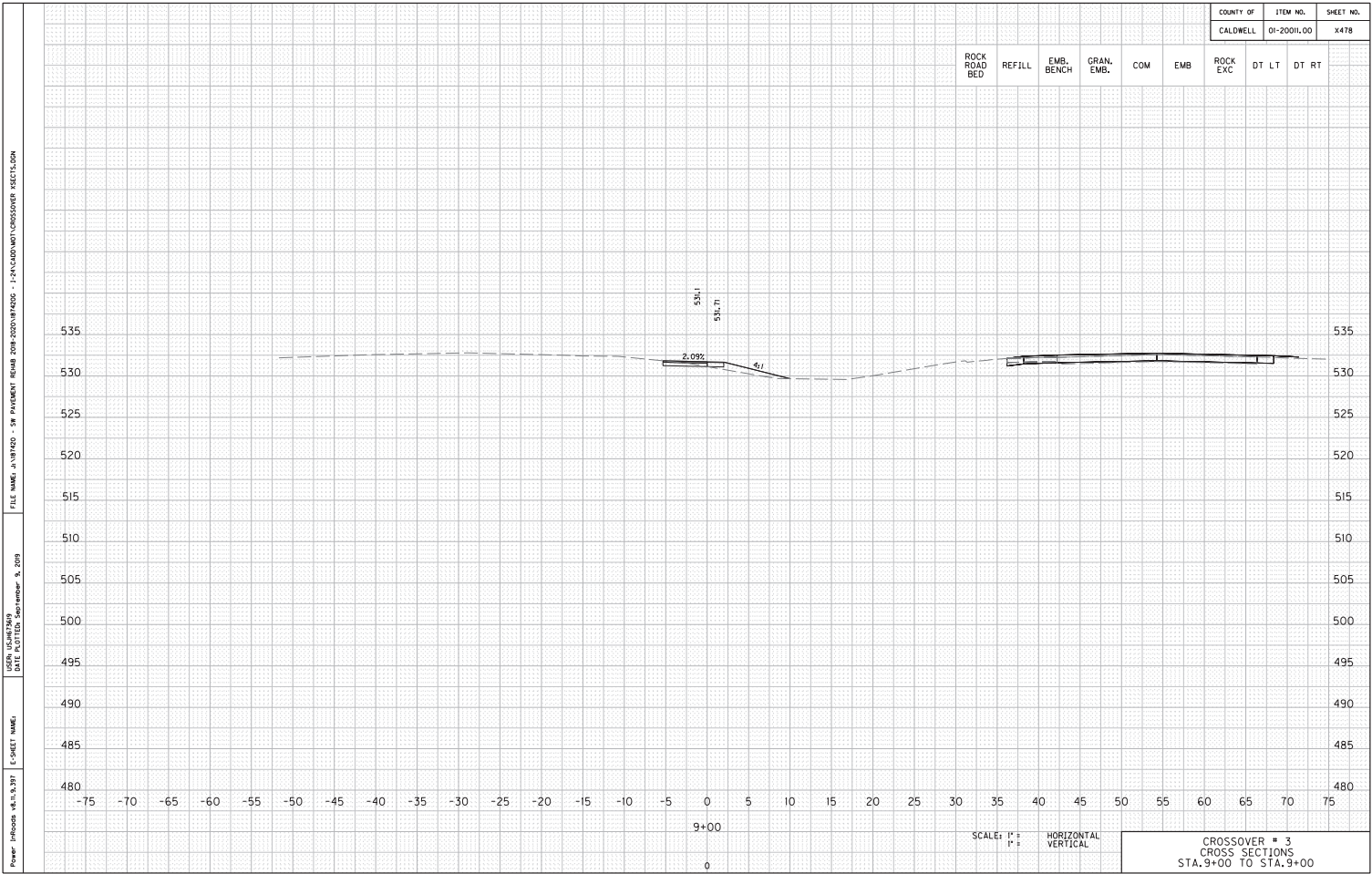




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DATE PLOTTED: September 9, 2019

E-SHEET NAME:  
Power: Johnson v8.11.5.371

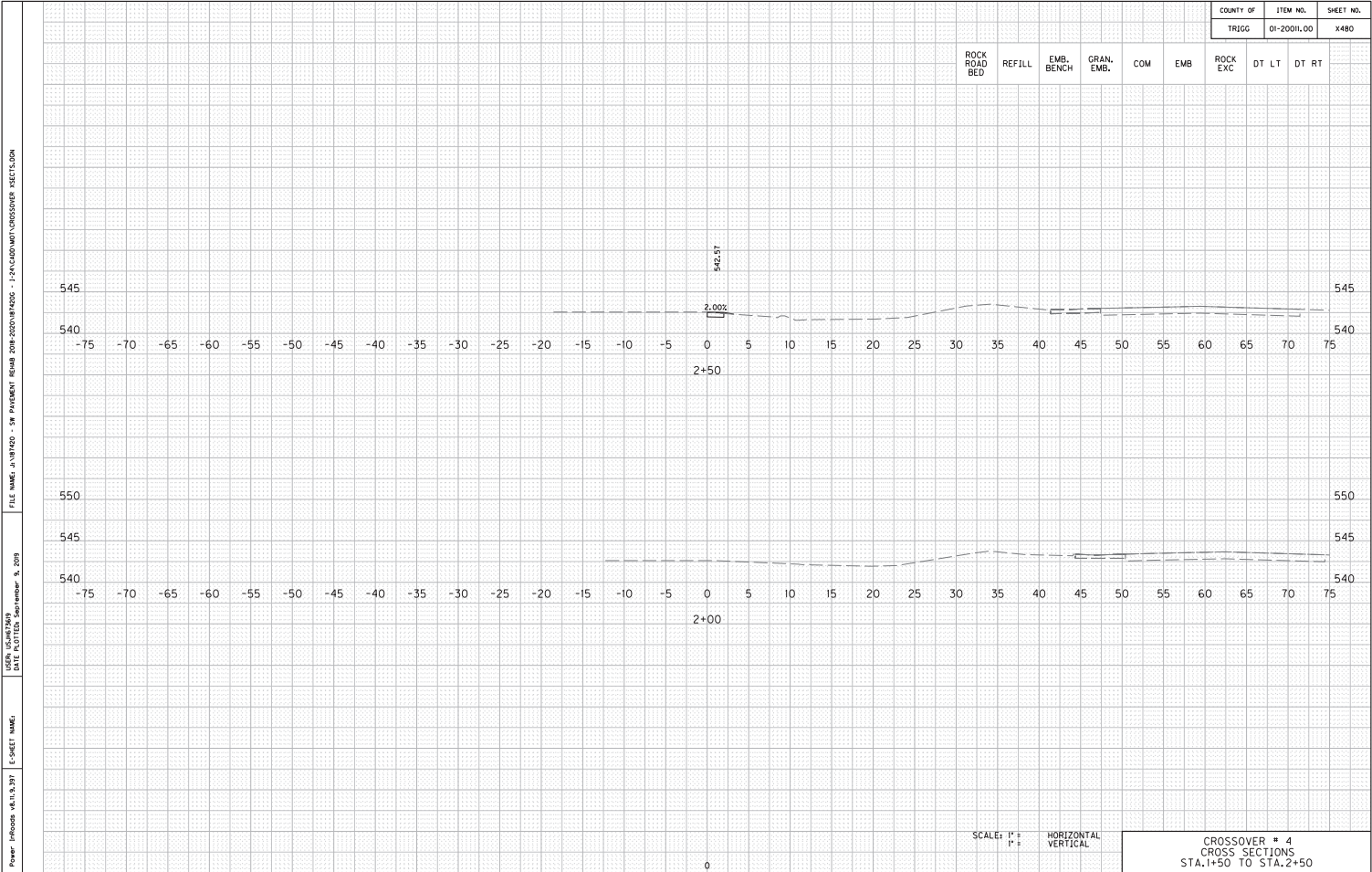
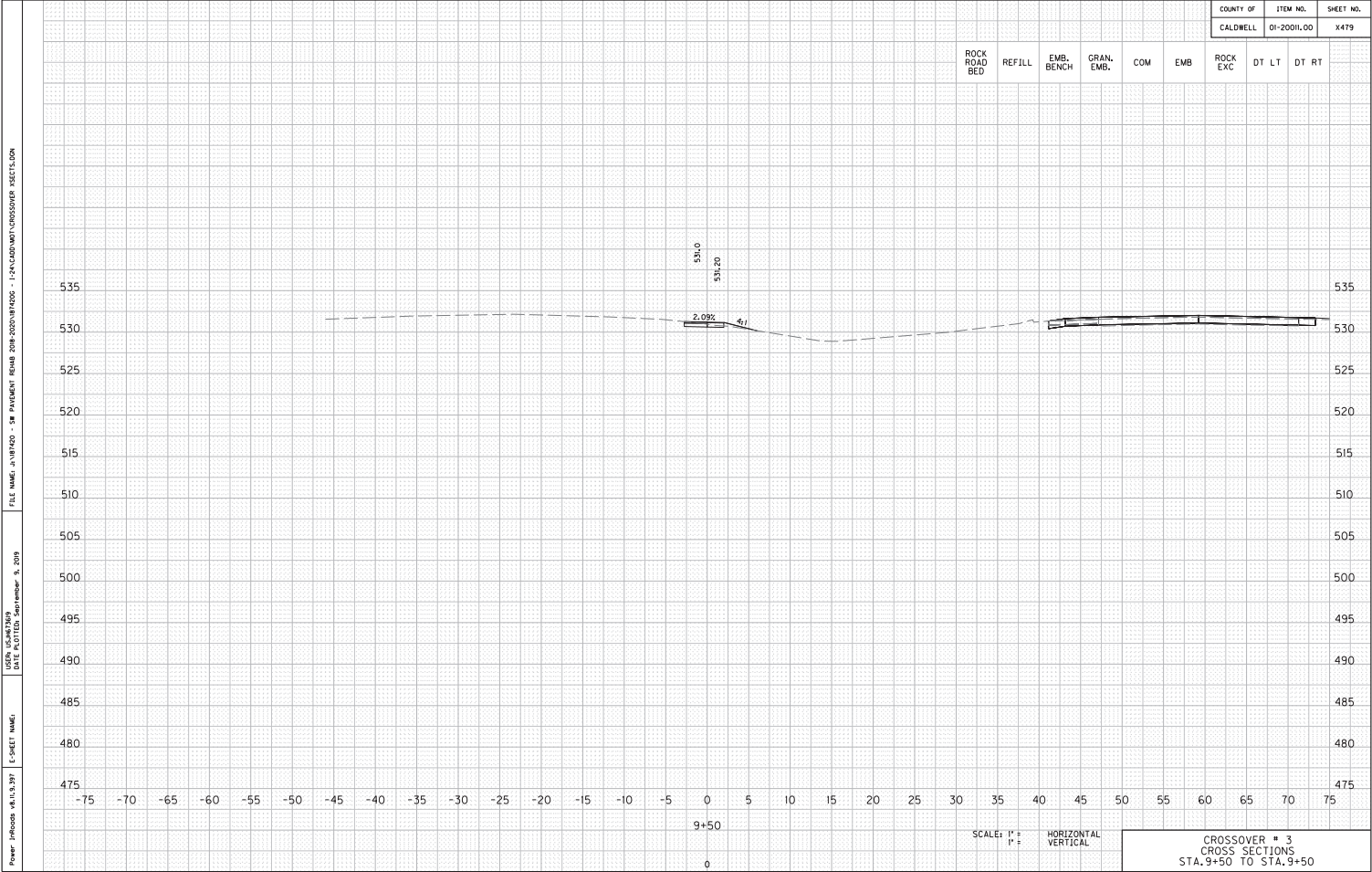


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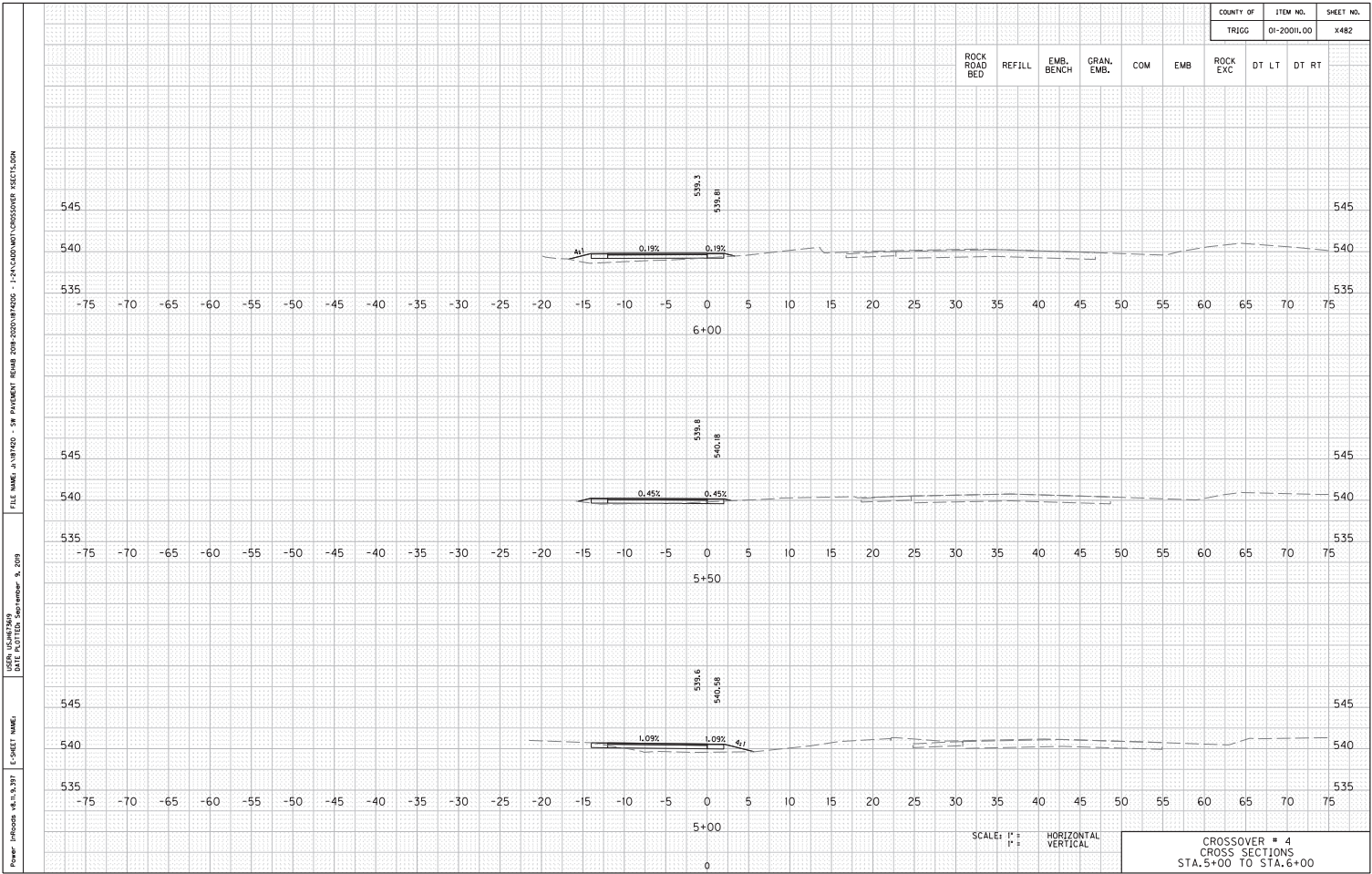
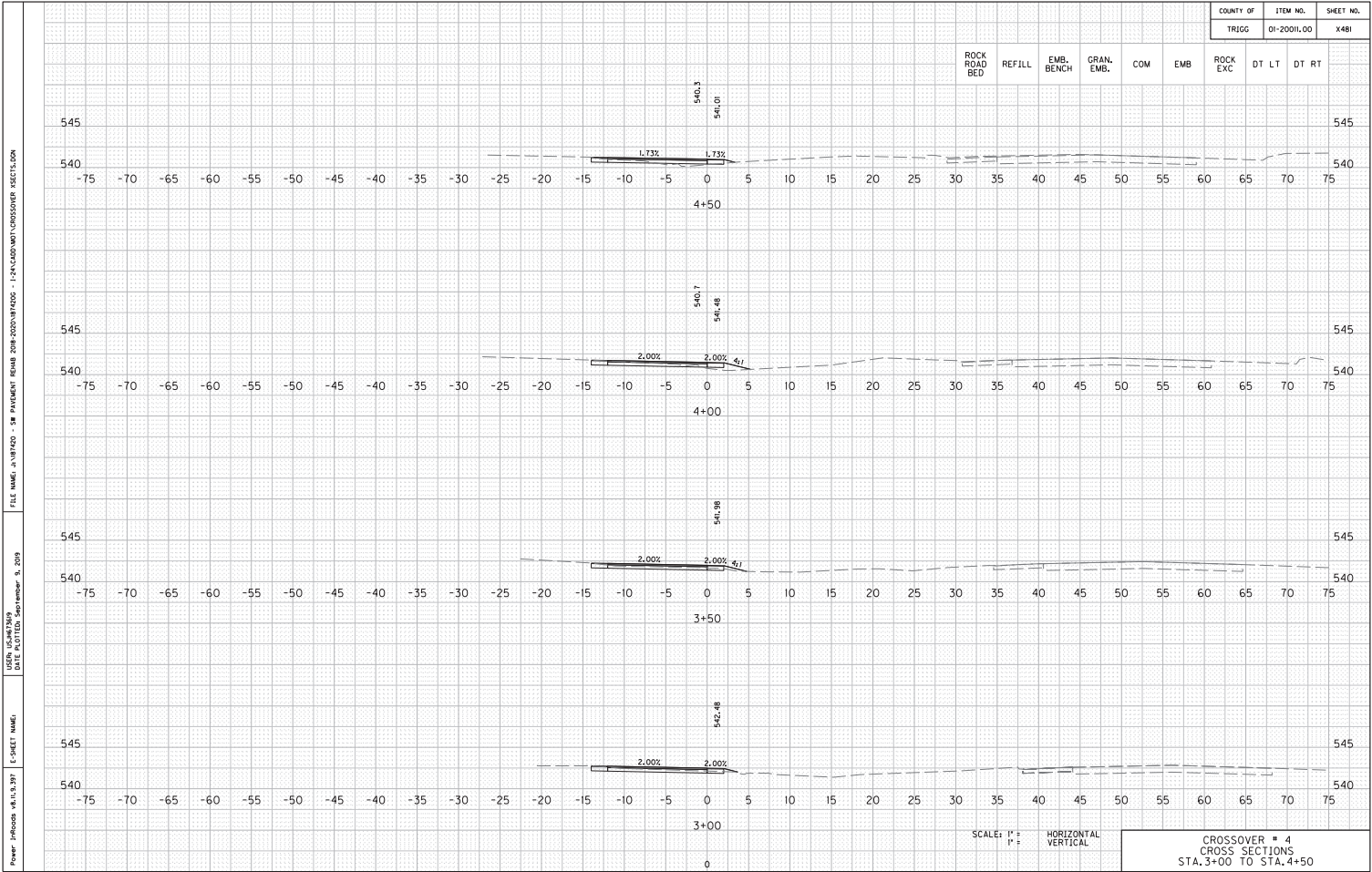
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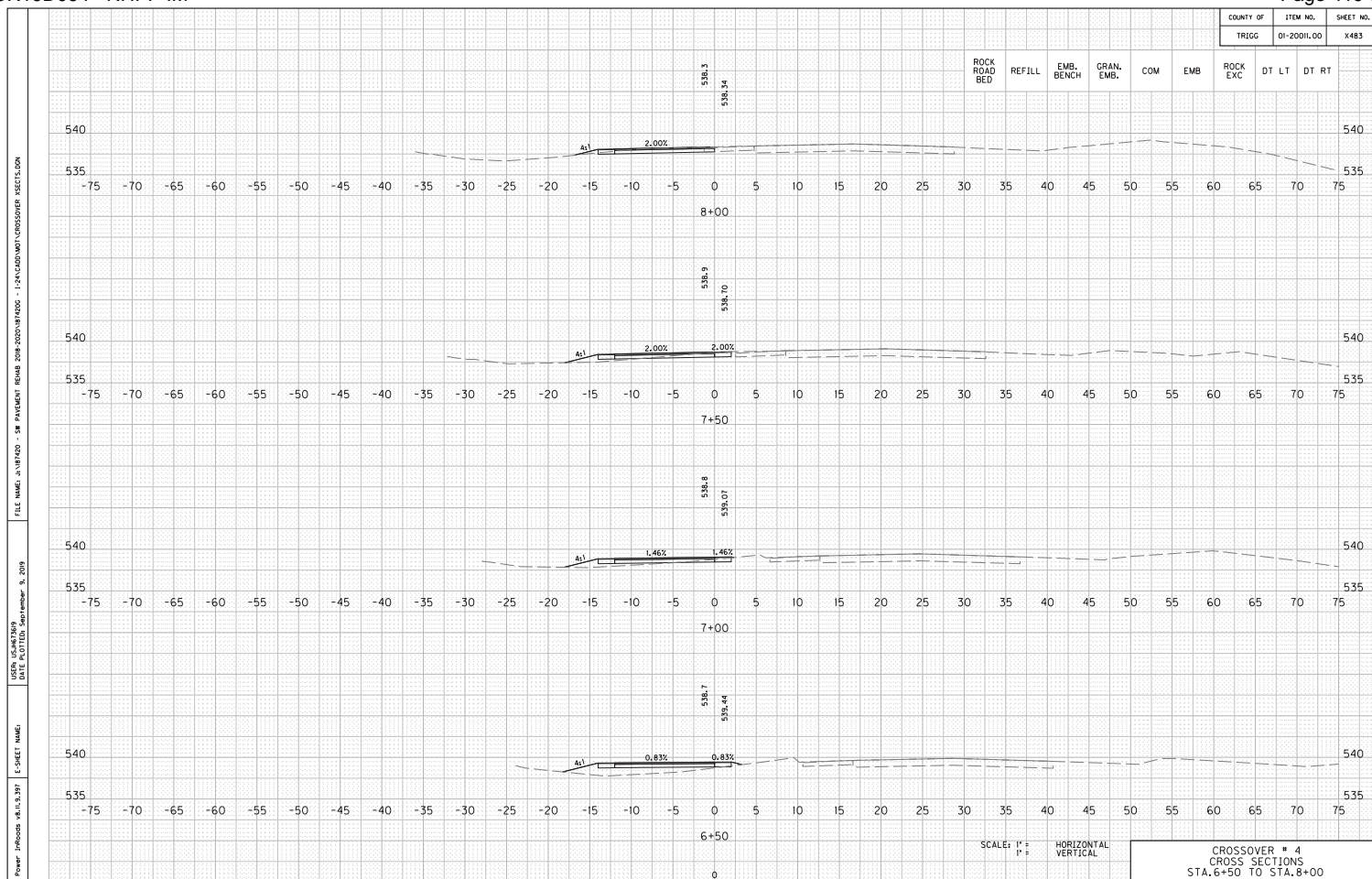
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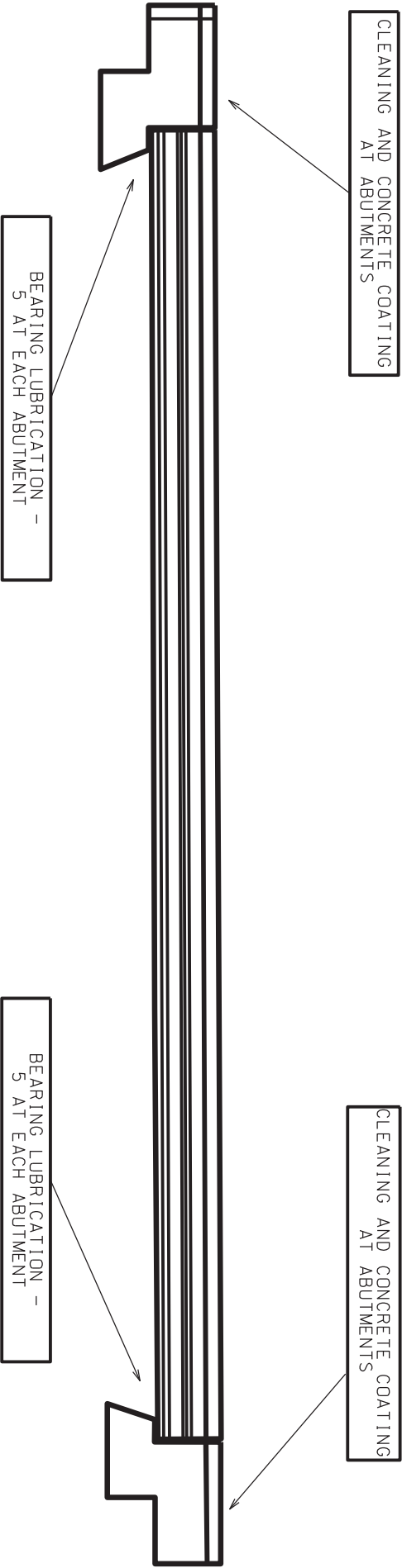


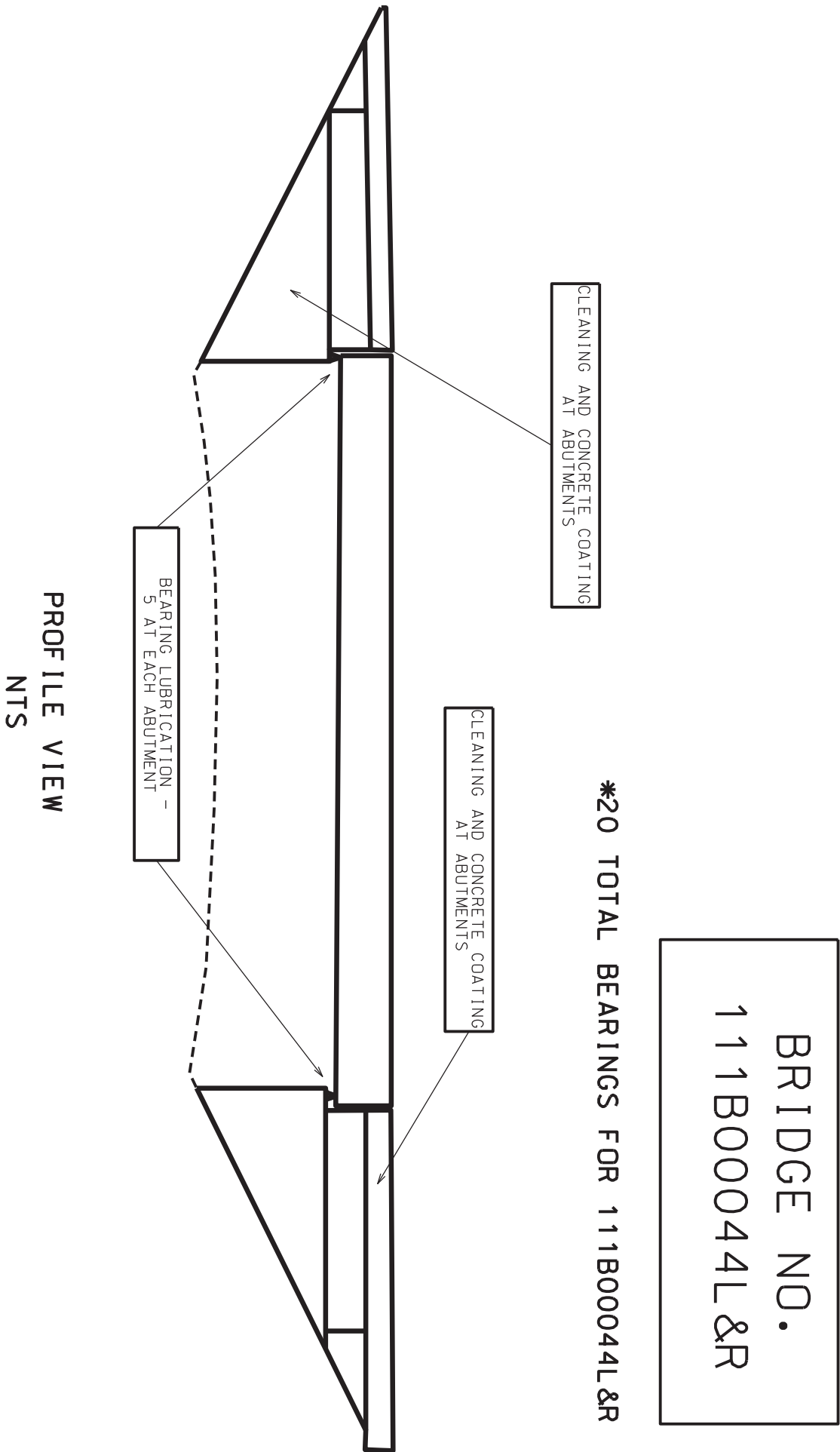


BRIDGE NO.  
072B00048L&R

\*20 TOTAL BEARINGS FOR 072B00048L&R

PROFILE VIEW  
NTS







**SPECIAL NOTE FOR BRIDGE CLEANING AND PREVENTIVE MAINTENACE**

**1. DESCRIPTION.** Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway’s 2012 Standard Specification for Road and Bridge Construction applicable Supplemental Specifications, Standard Drawings, this Note and Attached Detailed Drawings. Section references are to the Standard Specifications. This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Debris removal; (3) Stratified and pack rust removal; (4) Pressure washing; (5) Apply concrete coating; (6) Lubricate bearing devices. (7) Maintain and control traffic; (8) All other work required for this contract.

**2. SUBMITTALS**  
The Contractor shall comply with the submittal requirements detailed in Section 108 of the Standard Specifications for Road and Bridge Construction (Current Edition) and submit the following **written** items to the Project Engineer **14 days** prior to the Pre-Construction Conference:

- A. A detailed Progress of Work Schedule.
- B. Manufacturers’ recommended Film Thickness and application conditions for the concrete coating system to be used.

**All submittals must be received, accepted and/or approved by the KYTC Engineer prior to beginning any work.**

**3. MATERIALS.**

**A. Wash Water**

Use clean potable water for all pressure washing.

**B. Concrete Coatings**

Use one of the coatings from the following manufactures:

Manufacture	Prime Coat	Finish Coat
Sherwin Williams	Macropoxy 646	Acrolon 218 HS
PPG	Amberlock 2	Devoe Devflex
Carboline	Carboguard 890	Carbothane 133 HB
Tnemec	Elastogrip 151	EnviroCrete 15

**C. Bearing Lubricant**

Use one of the lubricants from the following manufactures:

Manufacture	Lubricant
Bostik Inc.,	‘Never Seez - Mariner’s Choice’
Mobil Oil	‘Mobil Centaur Moly NLGI Grades 1 or 2
Certified Labs	‘Premalube #1 WG’

**3. CONSTRUCTION.**

**A. Debris Removal.**

All debris shall be removed from the bridge components. See attached detailed drawings for each bridge addressing components having debris removal. Equipment for removing debris from the bridge components shall be determined by the Contractor, subject to the approval of the Engineer. The Contractor shall prevent any debris from entering any body of water, bridge drainage system, or traffic lanes. All debris removed shall be disposed of in a suitable off-site disposal facility. Prior to all cleaning work, the Contractor shall conform that any bridge drainage system is not blocked by un-removable debris by rodding with a sewer rod or similar tool. A blocked drainage system is considered to be one from which debris cannot be removed using the means specified in this note. If the Engineer has been notified, and concurs that the drainage system is blocked prior to performing other cleaning work, then proceed at the direction of the engineer. If the Contractor does not inspect the bridge drainage system and notify the engineer prior to beginning work any blocked drains will be considered to be the result of the Contractor's operations, and all clearing and cleaning of the drainage system shall be done as part of the work of the specification. All vegetation present at areas of the bridge that are to be addressed in this proposal shall be removed as determined by the Engineer.

**B. Stratified and Pack Rust Removal.**

Stratified and pack rust shall be removed from all bearing devices. See attached detailed drawings for each bridge showing location and quantity of the bearing devices. In addition it is the contractor's responsibility to perform a site visit to each bridge to verify the location and quantity of bearing devices prior to submitting their bid. Hand tools including wire brushes, scrapers or impact devices (hand hammers or power chisels) are to be used for removing stratified and pack rust. All surfaces to have stratified and pack rust removed shall be cleaned to an SSPC SP-2 level. All debris collected shall be disposed of in a suitable off-site disposal facility.

**C. Pressure Washing.**

Specified bridge components shall be pressure washed. See attached detailed drawings for each bridge addressing components to be pressure washed. All equipment for pressure washing shall be operated at a minimum pressure of up to 4,000 psi with 0 degree spinner tip and/or fan tips as determined by the engineer at the working location with a minimum flow rate of 3.5 gal/minute provided that these pressures do not damage any components of the structure. Pressure and flow rates shall be reduced to a level satisfactory to the Engineer should any damage occur due to power washing procedures. Pressure washing shall be operated at distance of approximately six inches from and perpendicular to the surface. Wand extensions greater than 36 inches will be subject for approval by the Engineer. All pressure washing wands shall be equipped with a gauge to accurately determine the amount pressure used. Pressure washing of any bridge element will proceed from top of wash area to bottom of wash area. Wash water will not be released to a bridge element previously washed. Perform all pressure washing at temperatures above 40 degrees Fahrenheit.



**D. Concrete Coatings Application.**

For bridges 072B00048L&R, all abutments, pedestals, end bent back walls and parapet walls including the abutment and end bent wing walls shall have concrete coating applied to as specified after debris removal and power washing. Use compressed air to remove any loose debris from the surfaces that are to be coated after power washing. All coatings shall be applied within manufacturers recommended dry film thickness range. Comply with KYTC “Standard Specifications for Road and Bridge Construction” Section 614.03.02 and coatings supplier recommended conditions for application. Allow the surfaces to be coated to dry before any coating is applied. The coating must be applied to a clean and dry surface. All coating application shall be executed using brushes, rollers, etc. No spray application will be permitted. The Department requires acceptance testing of samples obtained on a per-lot basis per-shipment. The Division of Materials shall perform acceptance testing. Test samples shall be taken at the Contractor’s paint storage site. Department personnel shall perform sampling. Allow (10) working days for testing and approval of the sampled paint. It is the Contractor’s responsibility to maintain an adequate inventory of approved paint. The Department shall assume no responsibility for lost work due to rejection of paint or approved paint subsequently found to be defective during the application process. Perform all concrete coating application at temperatures above 40 degrees Fahrenheit or in accordance with manufactures specifications.

**The finish coat shall be gray and will meet the following values.**

	<b>L*</b>	<b>a*</b>	<b>b*</b>
<b>Grey</b>	<b>74.94</b>	<b>- 1.54</b>	<b>3.92</b>

**E. Bearing Lubrication Application.**

Bearing devices shall be lubricated as specified after all stratified rust and pack rust is removed and power washing is complete, bearing devices shall have lubricant applied to all surfaces of the bearing including bearing plates and points of movement. See attached detailed drawings for each bridge showing location and quantity of the bearing devices. Allow bearing devices to dry before lubricant is applied. Perform all bearing lubrication application at temperatures above 40 degrees Fahrenheit or in accordance with manufactures specifications.

**F. Sequence of Work.**

Complete work in the sequence listed below:

- 1. Debris Removal
- 2. Stratified and Pact Rust Removal
- 3. Pressure Washing
- 4. Concrete Coating
- 5. Bearing Lubrication

**G. Access.**

The Contractor shall provide OSHA compliant safe access for all bridge cleaning and preventive maintenance operations and inspection.

#### **H. Inspection.**

The Cabinet will provide inspection for all items required in this contract. Visual inspection will be required upon completion of each work item for each structure component or at the discretion of the Engineer at any time. All visual inspection shall be performed within arm's length distance.

**1. Debris Removal:** Visual Inspection

**2. Stratified Rust or Pack Rust Removal:** Visual Inspection and Scraper  
Test any surface cleaned to SSPC SP2 will be inspected by a dull scraper test to ascertain adherence of existing coating and a hammer test for tightness of pack rust.

**3. Power Washing:** Visual Inspection

**4. Concrete Coating:**

Prime Coat Application Check for dry film thickness\*, and defects in paint  
Finish Coat Application Check for dry film thickness\*, paint appearance, color and quality of application.

\*Destructive DFTs shall be used. Contractor shall repair all test locations, cost will be considered incidental to the contract.

**5. Bearing Greasing:** Visual Inspection.

#### **I. Verifying Field Conditions.**

The Contractor shall be familiar with all conditions at each bridge site. The Cabinet will not consider any claims due to the Contractor having not familiarized themselves with requirements of this work. Residual lead paint may present on each bridge. The Contractor is advised to take all necessary protective measures including worker safety and environmental regulations when performing surface preparation. The Department will not consider any claims based on residual lead paint.

#### **J. Damage to the structure.**

The Contractor shall bear all responsibility and expense for any and all damage to the structure during the repair work, even to the removal and replacement of a fallen span, should the fallen span result from the Contractors actions.

#### **4. MEASUREMENT.**

**Bridge Cleaning and Preventative Maintenance:** The Cabinet will measure this item as "Lump Sum"

#### **5. PAYMENT.**

**Bridge Cleaning and Preventative Maintenance (23949EC):** The contract price for this item will be paid as a lump sum. The payment for this bid item at the contract unit price of Lump Sum shall be considered full compensation for complete and accepted work for all work items described in this note and attached detailed drawings which includes all labor, materials, equipment needed to complete all specified items in this contract for '**BRIDGE CLEANING AND PREVENTIVE MAINTENANCE**'.



## **SPECIAL NOTE FOR ENVIRONMENTAL AND WORKER SAFETY REGULATIONS**

### **(A) Governing regulations**

The coatings on the structures in this contract may contain lead, which is classified as a hazardous (toxic) material. Be knowledgeable of and comply with, all lead-related environmental and health regulations governing the Contractor's operations. Comply with regulations current at the time the work is performed and all requirements herein. Collect, transport to waste storage sites, and store hazardous wastes in accordance with applicable environmental and health regulations. The contractor is solely responsible for collection, transport, storage and disposal of all hazardous wastes.

### **B) Liabilities and Obligations**

The contractor shall be solely responsible for compliance with all applicable environmental and health and safety regulations to the satisfaction of the applicable government regulatory agencies and the Department. The Department assumes no obligations or liabilities for work stoppages or fines due to enforcement actions by government regulatory agencies or to related delays that the Department deems necessary.

### **(C) State and Local Regulatory Agencies**

State and local regulatory agencies charged with enforcing most regulations affecting the generation of hazardous wastes and worker safety issues are:

- Kentucky Occupational Safety and Health Program, Labor Cabinet, Commonwealth of Kentucky, Frankfort, Kentucky
- Environmental and Public Protection Cabinet, Commonwealth of Kentucky, Frankfort, Kentucky

### **(D) Groundwater and Surface water Protection**

The contractor shall prepare and implement a groundwater and surface water protection plan in accordance with 401 KAR 5:037 (Ground Water), KRS 224.70-110 and 401 KAR 10:031 (Surface water) with the exception that hazardous waste or hazardous materials container volume is not limited to greater than 55 gallons or weight to 100 pounds.

### **SPECIAL NOTE FOR WASTE MANAGEMENT**

The Contractor will arrange for an independent agency to obtain representative samples of wastes created at each structure. Samples will be submitted to a KYTC approved independent agency for Toxicity Characteristic Leaching Procedure (TCLP) waste determination. Any debris determined to be hazardous by TCLP will be handled, transported, and disposed of as hazardous waste. Additional payment will be made for the cost only to transport and dispose of any debris that is determined hazardous.

The Department will provide a site on its property for the Contractor to store any debris that is determined hazardous.

The Contractor shall be solely responsible for the management and the disposal of all hazardous waste generated during the cleaning and painting operations in accordance with the Kentucky Revised Statutes, Chapter 224, Subchapter 46, and the Kentucky Administrative Regulations promulgated pursuant thereto.

The Kentucky Transportation Cabinet will file a Notification of Hazardous Waste Activity with the Kentucky Division of Waste Management to obtain an EPA Identification Number in accordance with 401 KAR 32:010, Section 3. The Cabinet will provide the Contractor with this EPA ID number to be used in hazardous waste management in compliance with 401 KAR 32:010, Section 3 (1).

The Contractor shall be responsible for furnishing appropriate U.S. DOT containers that are made or lined with materials which are compatible with the hazardous waste to be stored in accordance with 401 KAR 35:180, Section 3. All hazardous wastes collected at the job site shall be placed in those containers for transport to the storage site. The containers shall be used and managed at the job site and at the storage site in accordance with 401 KAR 35:180. Prior to the transfer of the containers of hazardous waste from the job site to the storage area, the containers shall be correctly sealed, labeled, marked and placarded as defined in the pre-transport requirements of 401 KAR 32:030.

Each container shall be labeled "Hazardous Waste" and the date clearly marked when the hazardous waste is first added to the container in compliance with 401KAR 35:180, Section 4(3). That date marked is the start date of the seventy-five (75) day storage period.

The generator for the waste under this contract is the Kentucky Transportation Cabinet. All records including the labels on the waste containers and the manifests shall be completed using the Transportation Cabinet as the generator. The Department requires that all hazardous waste shall be removed within seventy-five (75) days of the accumulation start date. The Contractor shall select a registered hazardous waste transporter to transport the containers of hazardous waste generated during the painting operations to a permitted hazardous waste treatment, storage or disposal facility. The hazardous waste must be manifested with a Uniform Hazardous Waste Manifest that is to be completed, in entirety, as per the regulations of 401 KAR 32:020 and 401 KAR 32:100. Copies of all manifests with the Land Disposal Restriction Notice must be provided to the Project Manager and the Central Office, Division of Construction.



### **SPECIAL NOTE FOR CONCRETE SLURRY**


If diamond grinding, grooving or any other process which produces slurry is required on roadways or bridges, the contractor shall ensure that all concrete slurry associated with these processes is collected, managed, and disposed of appropriately. The waste material shall be disposed of at a permitted disposal facility, in accordance with the Kentucky Standard Specifications for Road and Bridge Construction and the Environmental Performance Standards outlined in 401 KAR 47:030, or managed as a material for beneficial reuse. Any fines or remediation related to improper disposal shall be the sole responsibility of the contractor.

Disposal of concrete slurry will not be paid separately and shall be considered incidental to other bid items.

8/20/2019

KENTUCKY TRANSPORTATION CABINET  
Department of Highways  
DIVISION OF RIGHT OF WAY & UTILITIESTC 62-226  
Rev. 01/2016  
Page 1 of 1

## RIGHT OF WAY CERTIFICATION

<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Re-Certification	<b>RIGHT OF WAY CERTIFICATION</b>	
<b>ITEM #</b>	<b>COUNTY</b>	<b>PROJECT # (STATE)</b>	<b>PROJECT # (FEDERAL)</b>
01-20011.00	LYON	FD52 072 0024 051-054	NHPP IM 0242 (075)
<b>PROJECT DESCRIPTION</b>			
ADDRESS PAVEMENT CONDITION OF PCC PAVEMENT ON I-24 BOTH DIRECTIONS FROM MP 51 TO MP 54.			
<input checked="" type="checkbox"/> <b>No Additional Right of Way Required</b>			
Construction will be within the limits of the existing right of way. The right of way was acquired in accordance to FHWA regulations under the Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970, as amended. No additional right of way or relocation assistance were required for this project.			
<input type="checkbox"/> <b>Condition # 1 (Additional Right of Way Required and Cleared)</b>			
All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may be some improvements remaining on the right-of-way, but all occupants have vacated the lands and improvements, and KYTC has physical possession and the rights to remove, salvage, or demolish all improvements and enter on all land. Just Compensation has been paid or deposited with the court. All relocations have been relocated to decent, safe, and sanitary housing or that KYTC has made available to displaced persons adequate replacement housing in accordance with the provisions of the current FHWA directive.			
<input type="checkbox"/> <b>Condition # 2 (Additional Right of Way Required with Exception)</b>			
The right of way has not been fully acquired, the right to occupy and to use all rights-of-way required for the proper execution of the project has been acquired. Some parcels may be pending in court and on other parcels full legal possession has not been obtained, but right of entry has been obtained, the occupants of all lands and improvements have vacated, and KYTC has physical possession and right to remove, salvage, or demolish all improvements. Just Compensation has been paid or deposited with the court for most parcels. Just Compensation for all pending parcels will be paid or deposited with the court prior to AWARD of construction contract			
<input type="checkbox"/> <b>Condition # 3 (Additional Right of Way Required with Exception)</b>			
The acquisition or right of occupancy and use of a few remaining parcels are not complete and/or some parcels still have occupants. All remaining occupants have had replacement housing made available to them in accordance with 49 CFR 24.204. KYTC is hereby requesting authorization to advertise this project for bids and to proceed with bid letting even though the necessary right of way will not be fully acquired, and/or some occupants will not be relocated, and/or the just compensation will not be paid or deposited with the court for some parcels until after bid letting. KYTC will fully meet all the requirements outlined in 23 CFR 635.309(c)(3) and 49 CFR 24.102(j) and will expedite completion of all acquisitions, relocations, and full payments after bid letting and prior to AWARD of the construction contract or force account construction.			
Total Number of Parcels on Project	0	<b>EXCEPTION (S) Parcel #</b>	<b>ANTICIPATED DATE OF POSSESSION WITH EXPLANATION</b>
<b>Number of Parcels That Have Been Acquired</b>			
Signed Deed			
Condemnation			
Signed ROE			
<b>Notes/ Comments (Use Additional Sheet if necessary)</b>			
<b>LPA RW Project Manager</b>		<b>Right of Way Supervisor</b>	
Printed Name		Printed Name	Greg L. Morgan
Signature		Signature	Digitally signed by Greg L. Morgan Date: 2019.09.10 09:10:25
Date		Date	-05'00'
<b>Right of Way Director</b>		<b>FHWA</b>	
Printed Name		Printed Name	No Signature Required
Signature		Signature	as per FHWA-KYTC
Date	2019.09.10 15:09:03	Date	Current Stewardship Agreement
	-05'00'		



## UTILITIES AND RAIL CERTIFICATION NOTE

**LYON COUNTY, NHPP IM 0242 (075)  
FD52 072 0024 051-054  
I-24/CONCRETE PAVEMENT REHAB.  
ITEM NUMBER 1-20011.00**

*Utility coordination efforts conducted by the project sponsor have determined that no significant utility relocation work is required to complete the project. Any work pertaining to these utility facilities is defined in the bid package and is to be carried out as instructed by the Kentucky Transportation Cabinet. The contractor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.*

### THE FOLLOWING RAIL COMPANIES HAVE FACILITIES IN CONJUNCTION WITH THIS PROJECT AS NOTED

☒ No Rail Involved    ☐ Minimal Rail Involved (See Below)    ☐ Rail Involved (See Below)

### UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

The contractor shall make every effort to protect underground facilities from damage as prescribed in the Underground Facility Damage Protection Act of 1994, Kentucky Revised Statute KRS 367.4901 to 367.4917. It is the contractor's responsibility to determine and take steps necessary to be in compliance with federal and state damage prevention directives. The contractor is instructed to contact KY 811 for the location of existing underground utilities. Contact shall be made a minimum of two (2) and no more than ten (10) business days prior to excavation.

The contractor shall submit Excavation Locate Requests to the Kentucky Contact Center (KY 811) via web ticket entry. The submission of this request does not relieve the contractor from the responsibility of contacting non-member facility owners, whom are to be contacted through their individual Protection Notification Center. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area. Non-compliance with these directives can result in the enforcement of penalties.

### SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The

Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

UTILITIES AND RAIL CERTIFICATION NOTE

LYON COUNTY, NHPP IM 0242 (075)  
FD52 072 0024 051-054  
I-24/CONCRETE PAVEMENT REHAB.  
ITEM NUMBER 1-20011.00

The utility facilities as noted in the previous section(s) have been determined using data garnered by varied means and with varying degrees of accuracy: from the facility owners, a result of S.U.E., field inspections, and/or reviews of record drawings. The facilities defined may not be inclusive of all utilities in the project scope and are not Level A quality, unless specified as such. It is the contractor’s responsibility to verify all utilities and their respective locations before excavating.

*Please Note: The information presented in this Utility Note is informational in nature and the information contained herein is not guaranteed.*

AREA UTILITIES CONTACT LIST AS PROVIDED BY KY 811

<u>Utility Company/Agency</u>	<u>Contact Name</u>	<u>Contact Information</u>
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# MATERIAL SUMMARY

**CONTRACT ID: 191064**

**121GR19D064 - NHPP IM**

**DE01700241964**

I-24 ADDRESS PCC PAVEMENT CONDITIONS ON I-24 FROM MP 55.6 TO MP 57.1 IN CALDWELL COUNTY JPC PAVEMENT REPAIRS, A DISTANCE OF 1.5 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0935	00001	DGA BASE	3,655.00	TON
0940	00008	CEMENT STABILIZED ROADBED	45,373.00	SQYD
0945	00078	CRUSHED AGGREGATE SIZE NO 2	58.00	TON
0950	00080	CRUSHED AGGREGATE SIZE NO 23	60.00	TON
0955	00100	ASPHALT SEAL AGGREGATE	286.00	TON
0960	00103	ASPHALT SEAL COAT	34.00	TON
0965	00190	LEVELING & WEDGING PG64-22	182.00	TON
0970	00214	CL3 ASPH BASE 1.00D PG64-22	1,587.00	TON
0975	00312	CL3 ASPH SURF 0.50D PG64-22	1,609.00	TON
0980	00356	ASPHALT MATERIAL FOR TACK	6.00	TON
0985	00358	ASPHALT CURING SEAL	91.00	TON
0990	01005	PERFORATED PIPE EDGE DRAIN-4 IN	22,820.00	LF
0995	01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM - CALDWELL	1.00	LS
1000	01028	PERF PIPE HEADWALL TY 3-4 IN	9.00	EACH
1005	01032	PERF PIPE HEADWALL TY 4-4 IN	49.00	EACH
1010	01740	CORED HOLE DRAINAGE BOX CON-4 IN	1.00	EACH
1015	01986	DELINEATOR FOR BARRIER WALL-B/Y	681.00	EACH
1020	02058	REMOVE PCC PAVEMENT	45,802.00	SQYD
1025	02060	PCC PAVEMENT DIAMOND GRINDING	40,470.00	SQYD
1030	02069	JPC PAVEMENT-10 IN	650.00	SQYD
1035	02071	JPC PAVEMENT-11 IN	45,373.00	SQYD
1040	02091	REMOVE PAVEMENT	650.00	SQYD
1045	02115	SAW-CLEAN-RESEAL TVERSE JOINT	16,556.00	LF
1050	02116	SAW-CLEAN-RESEAL LONGIT JOINT	13,797.00	LF
1055	02542	CEMENT - (REVISED: 10-8-19)	1,470.00	TON
1060	02562	TEMPORARY SIGNS	600.00	SQFT
1065	02575	DITCHING AND SHOULDERING	13,797.00	LF
1070	02604	FABRIC-GEOTEXTILE CLASS 1A	650.00	SQYD
1075	02650	MAINTAIN & CONTROL TRAFFIC - CALDWELL	1.00	LS
1080	02655	CROSSOVER - #2- CALDWELL	1.00	LS
1085	02655	CROSSOVER - #3- CALDWELL	1.00	LS
1090	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH
1095	02676	MOBILIZATION FOR MILL & TEXT - CALDWELL	1.00	LS
1100	02677	ASPHALT PAVE MILLING & TEXTURING	498.00	TON
1105	02701	TEMP SILT FENCE	1,350.00	LF
1110	02702	SAND FOR BLOTTER	113.00	TON
1115	02705	SILT TRAP TYPE C	2.00	EACH
1120	02726	STAKING - CALDWELL	1.00	LS
1125	03171	CONCRETE BARRIER WALL TYPE 9T	13,612.00	LF
1130	03383	PVC PIPE-4 IN	2,625.00	LF
1135	05950	EROSION CONTROL BLANKET	10,000.00	SQYD
1140	05953	TEMP SEEDING AND PROTECTION	717.00	SQYD

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1145	05963	INITIAL FERTILIZER	.20	TON
1150	05964	MAINTENANCE FERTILIZER	.20	TON
1155	05985	SEEDING AND PROTECTION	2,323.00	SQYD
1160	05992	AGRICULTURAL LIMESTONE	1.44	TON
1165	06401	FLEXIBLE DELINEATOR POST-M/W	231.00	EACH
1170	06404	FLEXIBLE DELINEATOR POST-M/Y	64.00	EACH
1175	06511	PAVE STRIPING-TEMP PAINT-6 IN	54,447.00	LF
1180	06513	PAVE STRIPING-TEMP PAINT-12 IN	978.00	LF
1185	06556	PAVE STRIPING-DUR TY 1-6 IN W	34,261.00	LF
1190	06557	PAVE STRIPING-DUR TY 1-6 IN Y	27,408.00	LF
1195	06560	PAVE STRIPING-DUR TY 1-12 IN W	2,297.00	LF
1200	06600	REMOVE PAVEMENT MARKER TYPE V	173.00	EACH
1205	10020NS	FUEL ADJUSTMENT	24,821.00	DOLL
1210	10030NS	ASPHALT ADJUSTMENT	13,203.00	DOLL
1215	20366NN	REPLACE GRATE	2.00	EACH
1220	20412ED	REMOVE ASPHALT SHOULDER	9,169.00	SQYD
1225	21173EC	SAW-CLEAN-RESEAL RANDOM CRACKS	2,000.00	LF
1230	23147EN	HIGH TENSION CABLE-ROPE BARRIER	301.00	LF
1235	23148EN	END ANCHORS	4.00	EACH
1240	24255EC	REMOVE CABLE GUARDRAIL BARRIER SYSTEM	301.00	LF
1245	24489EC	INLAID PAVEMENT MARKER	447.00	EACH
1250	24969ED	LONGITUDINAL SAW CUT	9,282.00	LF
1255	24997EC	PARTIAL DEPTH PATCHING-POLYMER MOD	216.00	CUFT
1260	25050ED	GEOTEXTILE BOND BREAKER INTERLAYER	45,373.00	SQYD
1265	02568	MOBILIZATION	1.00	LS
1270	02569	DEMOBILIZATION	1.00	LS
1275	20362ES403	SHOULDER RUMBLE STRIPS-SAWED - (ADDED: 10-22-19)	26,639.00	LF

**CONTRACT ID: 191064**

**121GR19D064 - NHPP IM**

**DE07200241964**

I-24 ADDRESS PCC PAVEMENT CONDITIONS ON I-24 IN BOTH DIRECTIONS FROM MP 51.7 TO MP 53.9 IN LYON COUNTY JPC PAVEMENT REPAIRS, A DISTANCE OF 2.2 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00001	DGA BASE	6,921.00	TON
0010	00008	CEMENT STABILIZED ROADBED	52,130.00	SQYD
0015	00078	CRUSHED AGGREGATE SIZE NO 2	72.00	TON
0020	00080	CRUSHED AGGREGATE SIZE NO 23	100.00	TON
0025	00100	ASPHALT SEAL AGGREGATE	278.00	TON
0030	00103	ASPHALT SEAL COAT	33.00	TON
0035	00214	CL3 ASPH BASE 1.00D PG64-22	3,932.00	TON
0040	00312	CL3 ASPH SURF 0.50D PG64-22	1,464.00	TON
0045	00356	ASPHALT MATERIAL FOR TACK	7.00	TON
0050	00358	ASPHALT CURING SEAL	104.00	TON
0055	01005	PERFORATED PIPE EDGE DRAIN-4 IN	32,548.00	LF
0060	01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM - LYON	1.00	LS



## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0065	01020	PERF PIPE HEADWALL TY 1-4 IN	2.00	EACH
0070	01024	PERF PIPE HEADWALL TY 2-4 IN	1.00	EACH
0075	01028	PERF PIPE HEADWALL TY 3-4 IN	26.00	EACH
0080	01032	PERF PIPE HEADWALL TY 4-4 IN	43.00	EACH
0085	01740	CORED HOLE DRAINAGE BOX CON-4 IN	1.00	EACH
0090	01890	ISLAND HEADER CURB TYPE 1	100.00	LF
0095	01891	ISLAND HEADER CURB TYPE 2	100.00	LF
0100	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	8.00	EACH
0105	01983	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	7.00	EACH
0110	01986	DELINEATOR FOR BARRIER WALL-B/Y	782.00	EACH
0115	02058	REMOVE PCC PAVEMENT	69,507.00	SQYD
0120	02060	PCC PAVEMENT DIAMOND GRINDING	59,598.00	SQYD
0125	02069	JPC PAVEMENT-10 IN	950.00	SQYD
0130	02071	JPC PAVEMENT-11 IN	52,130.00	SQYD
0135	02091	REMOVE PAVEMENT	950.00	SQYD
0140	02115	SAW-CLEAN-RESEAL TVERSE JOINT	30,717.00	LF
0145	02116	SAW-CLEAN-RESEAL LONGIT JOINT	25,597.00	LF
0150	02351	GUARDRAIL-STEEL W BEAM-S FACE	796.00	LF
0155	02352	GUARDRAIL-STEEL W BEAM-D FACE	245.00	LF
0160	02360	GUARDRAIL TERMINAL SECTION NO 1	2.00	EACH
0165	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	5.00	EACH
0170	02365	CRASH CUSHION TYPE IX-A	2.00	EACH
0175	02367	GUARDRAIL END TREATMENT TYPE 1	4.00	EACH
0180	02369	GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH
0185	02381	REMOVE GUARDRAIL	1,241.00	LF
0190	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	4.00	EACH
0195	02542	CEMENT - (REVISED: 10-8-19)	1,689.00	TON
0200	02562	TEMPORARY SIGNS	700.00	SQFT
0205	02565	OBJECT MARKER TYPE 2	2.00	EACH
0210	02575	DITCHING AND SHOULDERING	20,317.00	LF
0215	02604	FABRIC-GEOTEXTILE CLASS 1A	950.00	SQYD
0220	02650	MAINTAIN & CONTROL TRAFFIC - LYON	1.00	LS
0225	02655	CROSSOVER - #1 LYON	1.00	LS
0230	02671	PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH
0235	02701	TEMP SILT FENCE	1,390.00	LF
0240	02702	SAND FOR BLOTTER	130.00	TON
0245	02705	SILT TRAP TYPE C	2.00	EACH
0250	02726	STAKING - LYON	1.00	LS
0255	02775	ARROW PANEL	1.00	EACH
0260	03171	CONCRETE BARRIER WALL TYPE 9T	15,639.00	LF
0265	03383	PVC PIPE-4 IN	3,602.00	LF
0270	05950	EROSION CONTROL BLANKET	13,000.00	SQYD
0275	05953	TEMP SEEDING AND PROTECTION	613.00	SQYD
0280	05963	INITIAL FERTILIZER	.10	TON
0285	05964	MAINTENANCE FERTILIZER	.10	TON
0290	05985	SEEDING AND PROTECTION	1,162.00	SQYD
0295	05992	AGRICULTURAL LIMESTONE	.72	TON
0300	06401	FLEXIBLE DELINEATOR POST-M/W	38.00	EACH
0305	06511	PAVE STRIPING-TEMP PAINT-6 IN	65,541.00	LF

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0310	06556	PAVE STRIPING-DUR TY 1-6 IN W	44,946.00	LF
0315	06557	PAVE STRIPING-DUR TY 1-6 IN Y	35,957.00	LF
0320	06600	REMOVE PAVEMENT MARKER TYPE V	320.00	EACH
0325	08903	CRASH CUSHION TY VI CLASS BT TL3	4.00	EACH
0330	10020NS	FUEL ADJUSTMENT	31,361.00	DOLL
0335	10030NS	ASPHALT ADJUSTMENT	21,096.00	DOLL
0340	20366NN	REPLACE GRATE	1.00	EACH
0345	20432ES112	REMOVE CRASH CUSHION	2.00	EACH
0350	21173EC	SAW-CLEAN-RESEAL RANDOM CRACKS	2,000.00	LF
0355	23147EN	HIGH TENSION CABLE-ROPE BARRIER	416.00	LF
0360	23148EN	END ANCHORS	2.00	EACH
0365	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - BRIDGES 072B00048L&R-LYON	1.00	LS
0370	24255EC	REMOVE CABLE GUARDRAIL BARRIER SYSTEM	416.00	LF
0375	24489EC	INLAID PAVEMENT MARKER	449.00	EACH
0380	24640ED	OBJECT MARKER TYPE 1	6.00	EACH
0385	24997EC	PARTIAL DEPTH PATCHING-POLYMER MOD	49.00	CUFT
0390	25050ED	GEOTEXTILE BOND BREAKER INTERLAYER	52,130.00	SQYD
0395	02568	MOBILIZATION	1.00	LS
0400	02569	DEMOBILIZATION	1.00	LS
0405	20362ES403	SHOULDER RUMBLE STRIPS-SAWED - (ADDED: 10-22-19)	31,279.00	LF

**CONTRACT ID: 191064**

**121GR19D064 - NHPP IM**

**DE11100241964**

I-24 ADDRESS PCC PAVEMENT CONDITION ON I-24 FROM MP 59.2 TO MP 67.1 IN TRIGG COUNTY JPC PAVEMENT REPAIRS, A DISTANCE OF 7.9 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0410	00001	DGA BASE	7,593.00	TON
0415	00008	CEMENT STABILIZED ROADBED	124,503.00	SQYD
0420	00078	CRUSHED AGGREGATE SIZE NO 2	714.00	TON
0425	00080	CRUSHED AGGREGATE SIZE NO 23	240.00	TON
0430	00100	ASPHALT SEAL AGGREGATE	744.00	TON
0435	00103	ASPHALT SEAL COAT	89.00	TON
0440	00190	LEVELING & WEDGING PG64-22	730.00	TON
0445	00214	CL3 ASPH BASE 1.00D PG64-22	2,495.00	TON
0450	00312	CL3 ASPH SURF 0.50D PG64-22	4,428.00	TON
0455	00356	ASPHALT MATERIAL FOR TACK	17.00	TON
0460	00358	ASPHALT CURING SEAL	249.00	TON
0465	01005	PERFORATED PIPE EDGE DRAIN-4 IN	60,372.00	LF
0470	01015	INSPECT & CERTIFY EDGE DRAIN SYSTEM - TRIGG	1.00	LS
0475	01020	PERF PIPE HEADWALL TY 1-4 IN	3.00	EACH
0480	01024	PERF PIPE HEADWALL TY 2-4 IN	1.00	EACH
0485	01028	PERF PIPE HEADWALL TY 3-4 IN	4.00	EACH
0490	01032	PERF PIPE HEADWALL TY 4-4 IN	155.00	EACH
0495	01690	FLUME INLET TYPE 1	2.00	EACH



## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0500	01691	FLUME INLET TYPE 2	2.00	EACH
0505	01740	CORED HOLE DRAINAGE BOX CON-4 IN	3.00	EACH
0510	01890	ISLAND HEADER CURB TYPE 1	75.00	LF
0515	01891	ISLAND HEADER CURB TYPE 2	50.00	LF
0520	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	157.00	EACH
0525	01983	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	20.00	EACH
0530	01986	DELINEATOR FOR BARRIER WALL-B/Y	1,868.00	EACH
0535	02058	REMOVE PCC PAVEMENT	99,603.00	SQYD
0540	02060	PCC PAVEMENT DIAMOND GRINDING	274,122.00	SQYD
0545	02069	JPC PAVEMENT-10 IN	2,500.00	SQYD
0550	02071	JPC PAVEMENT-11 IN	124,503.00	SQYD
0555	02091	REMOVE PAVEMENT	2,500.00	SQYD
0560	02115	SAW-CLEAN-RESEAL TVERSE JOINT	112,141.00	LF
0565	02116	SAW-CLEAN-RESEAL LONGIT JOINT	93,451.00	LF
0570	02165	REMOVE PAVED DITCH	8,097.00	SQYD
0575	02351	GUARDRAIL-STEEL W BEAM-S FACE	10,354.00	LF
0580	02352	GUARDRAIL-STEEL W BEAM-D FACE	685.00	LF
0585	02360	GUARDRAIL TERMINAL SECTION NO 1	6.00	EACH
0590	02363	GUARDRAIL CONNECTOR TO BRIDGE END TY A	11.00	EACH
0595	02365	CRASH CUSHION TYPE IX-A	6.00	EACH
0600	02367	GUARDRAIL END TREATMENT TYPE 1	10.00	EACH
0605	02369	GUARDRAIL END TREATMENT TYPE 2A	15.00	EACH
0610	02381	REMOVE GUARDRAIL	11,978.00	LF
0615	02387	GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	12.00	EACH
0620	02391	GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH
0625	02483	CHANNEL LINING CLASS II	1,575.00	TON
0630	02542	CEMENT - (REVISED: 10-8-19)	4,034.00	TON
0635	02562	TEMPORARY SIGNS	1,800.00	SQFT
0640	02565	OBJECT MARKER TYPE 2	6.00	EACH
0645	02575	DITCHING AND SHOULDERING	65,308.00	LF
0650	02575	DITCHING AND SHOULDERING - SPECIAL	2,198.00	LF
0655	02604	FABRIC-GEOTEXTILE CLASS 1A	2,500.00	SQYD
0660	02650	MAINTAIN & CONTROL TRAFFIC - TRIGG	1.00	LS
0665	02655	CROSSOVER - #4 TRIGG	1.00	LS
0670	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH
0675	02676	MOBILIZATION FOR MILL & TEXT - TRIGG	1.00	LS
0680	02677	ASPHALT PAVE MILLING & TEXTURING	1,096.00	TON
0685	02701	TEMP SILT FENCE	1,200.00	LF
0690	02702	SAND FOR BLOTTER	311.00	TON
0695	02705	SILT TRAP TYPE C	2.00	EACH
0700	02726	STAKING - TRIGG	1.00	LS
0705	02775	ARROW PANEL	1.00	EACH
0710	03171	CONCRETE BARRIER WALL TYPE 9T	37,351.00	LF
0715	03383	PVC PIPE-4 IN	9,782.00	LF
0720	05950	EROSION CONTROL BLANKET	42,000.00	SQYD
0725	05953	TEMP SEEDING AND PROTECTION	237.00	SQYD
0730	05963	INITIAL FERTILIZER	.10	TON
0735	05964	MAINTENANCE FERTILIZER	.10	TON
0740	05985	SEEDING AND PROTECTION	1,162.00	SQYD

## MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0745	05992	AGRICULTURAL LIMESTONE	.72	TON
0750	06401	FLEXIBLE DELINEATOR POST-M/W	465.00	EACH
0755	06404	FLEXIBLE DELINEATOR POST-M/Y	71.00	EACH
0760	06511	PAVE STRIPING-TEMP PAINT-6 IN	151,259.00	LF
0765	06556	PAVE STRIPING-DUR TY 1-6 IN W	163,502.00	LF
0770	06557	PAVE STRIPING-DUR TY 1-6 IN Y	130,801.00	LF
0775	06560	PAVE STRIPING-DUR TY 1-12 IN W	1,288.00	LF
0780	06600	REMOVE PAVEMENT MARKER TYPE V	1,169.00	EACH
0785	08903	CRASH CUSHION TY VI CLASS BT TL3	4.00	EACH
0790	10020NS	FUEL ADJUSTMENT	63,602.00	DOLL
0795	10030NS	ASPHALT ADJUSTMENT	29,920.00	DOLL
0800	20366NN	REPLACE GRATE	2.00	EACH
0805	20412ED	REMOVE ASPHALT SHOULDER	41,590.00	SQYD
0810	20432ES112	REMOVE CRASH CUSHION	6.00	EACH
0815	21173EC	SAW-CLEAN-RESEAL RANDOM CRACKS	6,000.00	LF
0820	22883EN	CONCRETE WEDGE CURB	2,198.00	LF
0825	23032EN	BRIDGE BARRIER RETROFIT	785.00	LF
0830	23147EN	HIGH TENSION CABLE-ROPE BARRIER	395.00	LF
0835	23148EN	END ANCHORS	2.00	EACH
0840	23949EC	BRIDGE CLEANING & PREVENTIVE MAINTENANCE - BRIDGES 111B00044L&R-TRIGG	1.00	LS
0845	24255EC	REMOVE CABLE GUARDRAIL BARRIER SYSTEM	395.00	LF
0850	24489EC	INLAID PAVEMENT MARKER	1,635.00	EACH
0855	24640ED	OBJECT MARKER TYPE 1	10.00	EACH
0860	24969ED	LONGITUDINAL SAW CUT	37,351.00	LF
0865	24997EC	PARTIAL DEPTH PATCHING-POLYMER MOD	1,991.00	CUFT
0870	25050ED	GEOTEXTILE BOND BREAKER INTERLAYER	124,503.00	SQYD
0875	04793	CONDUIT-1 1/4 IN	120.00	LF
0880	04795	CONDUIT-2 IN	40.00	LF
0885	04820	TRENCHING AND BACKFILLING	140.00	LF
0890	04829	PIEZOELECTRIC SENSOR	8.00	EACH
0895	04830	LOOP WIRE	3,000.00	LF
0900	04895	LOOP SAW SLOT AND FILL	760.00	LF
0905	20359NN	GALVANIZED STEEL CABINET	4.00	EACH
0910	20360ES818	WOOD POST	8.00	EACH
0915	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	4.00	EACH
0920	02568	MOBILIZATION	1.00	LS
0925	02569	DEMOBILIZATION	1.00	LS
0930	20362ES403	SHOULDER RUMBLE STRIPS-SAWED - (ADDED: 10-22-19)	74,701.00	LF



Contract Id: \_\_\_\_\_ Contractor: \_\_\_\_\_

Section Engineer: \_\_\_\_\_ District & County: \_\_\_\_\_

DESCRIPTION	UNIT	QTY LEAVING PROJECT	QTY RECEIVED@BB YARD
GUARDRAIL (Includes End treatments & crash cushions)	LF	_____	_____
STEEL POSTS	EACH	_____	_____
STEEL BLOCKS	EACH	_____	_____
WOOD OFFSET BLOCKS	EACH	_____	_____
BACK UP PLATES	EACH	_____	_____
CRASH CUSHION	EACH	_____	_____
NUTS, BOLTS, WASHERS	BAG/BCKT	_____	_____
DAMAGED RAIL TO MAINT. FACILITY	LF	_____	_____
DAMAGED POSTS TO MAINT. FACILITY	EACH	_____	_____

**\*Required Signatures before Leaving Project Site**

Printed Section Engineer’s Representative\_\_\_\_\_ & Date\_\_\_\_\_

Signature Section Engineer’s Representative\_\_\_\_\_ & Date\_\_\_\_\_

Printed Contractor’s Representative\_\_\_\_\_ & Date\_\_\_\_\_

Signature Contractor’s Representative\_\_\_\_\_ & Date\_\_\_\_\_

**\*Required Signatures after Arrival at Bailey Bridge Yard (All material on truck must be counted & the quantity received column completed before signatures)**

Printed Bailey Bridge Yard Representative\_\_\_\_\_ & Date\_\_\_\_\_

Signature Bailey Bridge Yard Representative\_\_\_\_\_ & Date\_\_\_\_\_

Printed Contractor’s Representative\_\_\_\_\_ & Date\_\_\_\_\_

Signature Contractor’s Representative\_\_\_\_\_ & Date\_\_\_\_\_

\*\*Payment for the bid item remove guardrail will be based upon the quantities shown in the Bailey Bridge Yard received column. Payment will not be made for guardrail removal until the guardrail verification sheets are electronically submitted to the Section Engineer by the Bailey Bridge Yard Representative.

## **PART II**

### **SPECIFICATIONS AND STANDARD DRAWINGS**



### **SPECIFICATIONS REFERENCE**

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2016*.

## **SUPPLEMENTAL SPECIFICATIONS**

The contractor shall use the Supplemental Specifications that are effective at the time of letting.  
The Supplemental Specifications can be found at the following link:

<http://transportation.ky.gov/Construction/Pages/Kentucky-Standard-Specifications.aspx>



## **SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS**

This Special Note will apply when indicated on the plans or in the proposal.

**1.0 DESCRIPTION.** Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

## **2.0 MATERIALS.**

**2.1 General.** Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

### **2.2 Sign and Controls.** All signs must:

- 1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
- 2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
- 3) Provide a controller consisting of:
  - a) Keyboard or keypad.
  - b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
  - c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
  - d) Logic circuitry to control the sequence of messages and flash rate.
- 4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
- 5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
- 6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
- 7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
- 8) Provide the driver board as part of a module. All modules are interchangeable, and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.
- 9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
- 10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
- 11) Provide a photocell control to provide automatic dimming.

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- 12) Allow an on-off flashing sequence at an adjustable rate.
- 13) Provide a sight to aim the message.
- 14) Provide a LED display color of approximately 590 nm amber.
- 15) Provide a controller that is password protected.
- 16) Provide a security device that prevents unauthorized individuals from accessing the controller.
- 17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/⇒⇒⇒/	/MIN/SPEED/**MPH/
/KEEP/LEFT/⇐⇐⇐/	/ICY/BRIDGE/AHEAD/ /ONE
/LOOSE/GRAVEL/AHEAD/	LANE/BRIDGE/AHEAD/
/RD WORK/NEXT/**MILES/	/ROUGH/ROAD/AHEAD/
/TWO WAY/TRAFFIC/AHEAD/	/MERGING/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/	/NEXT/***/MILES/
/REDUCE/SPEED/**MPH/	/HEAVY/TRAFFIC/AHEAD/
/BRIDGE/WORK/***( ) FT/	/SPEED/LIMIT/**MPH/
/MAX/SPEED/**MPH/	/BUMP/AHEAD/
/SURVEY/PARTY/AHEAD/	/TWO/WAY/TRAFFIC/

\*Insert numerals as directed by the Engineer.

Add other messages during the project when required by the Engineer.

### 2.3 Power.

- 1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

**3.0 CONSTRUCTION.** Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

**4.0 MEASUREMENT.** The final quantity of Variable Message Sign will be



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the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

**5.0 PAYMENT.** The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

## **PART III**

### **EMPLOYMENT, WAGE AND RECORD REQUIREMENTS**



FHWA-1273 -- Revised May 1, 2012

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

### I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

### II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

**2. EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

**3. Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

**5. Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are



applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or



will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## 2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

##### a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.



d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

**VI. SUBLETTING OR ASSIGNING THE CONTRACT**

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

**VII. SAFETY: ACCIDENT PREVENTION**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

**VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:



"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

**IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

- 1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
- 2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

**X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

- 1. Instructions for Certification – First Tier Participants:**
  - a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
  - b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\*\*\*\*\*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the



department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:
  - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
  - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- 2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
- 3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.



**KENTUCKY TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS**

**EMPLOYMENT REQUIREMENTS  
RELATING TO  
NONDISCRIMINATION OF EMPLOYEES  
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**AN ACT OF THE KENTUCKY GENERAL ASSEMBLY  
TO PREVENT DISCRIMINATION IN EMPLOYMENT**

**KRS CHAPTER 344  
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

### Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
  - a. withholding payments to the contractor under the contract until the contractor complies; and/or
  - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.



### **Standard Title VI/Non-Discrimination Statutes and Authorities**

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).

## EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017



"General Decision Number: KY20190040 10/04/2019

Superseded General Decision Number: KY20180102

State: Kentucky

Construction Type: Highway

Counties: Allen, Ballard, Butler, Caldwell, Calloway, Carlisle, Christian, Crittenden, Daviess, Edmonson, Fulton, Graves, Hancock, Henderson, Hickman, Hopkins, Livingston, Logan, Lyon, Marshall, McCracken, McLean, Muhlenberg, Ohio, Simpson, Todd, Trigg, Union, Warren and Webster Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the

wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/04/2019
1	02/01/2019
2	02/15/2019
3	05/17/2019
4	09/27/2019
5	10/04/2019

BRIN0004-002 06/01/2017

BALLARD, BUTLER, CALDWELL, CARLISLE, CRITTENDEN, DAVIESS, EDMONSON, FULTON, GRAVES, HANCOCK, HENDERSON, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCrackEN, MCLEAN, MUHLENBERG, OHIO, UNION, and WEBSTER COUNTIES

	Rates	Fringes
BRICKLAYER		
Ballard, Caldwell,		
Carlisle, Crittenden,		
Fulton, Graves, Hickman,		
Livingston, Lyon,		
Marshall, and McCracken		
Counties.....	\$ 30.50	15.16



Munienberg, and Ohio		
Counties.....	\$ 26.80	12.38
Daviess, Hancock,		
Henderson, McLean, Union,		
and Webster Counties.....	\$ 30.00	15.16

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BRTN0004-005 06/01/2017

ALLEN, CALLOWAY, CHRISTIAN, LOGAN, SIMPSON, TODD, TRIGG, and  
WARREN COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 26.80	12.38

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CARP0357-002 04/01/2019

	Rates	Fringes
CARPENTER.....	\$ 29.25	19.23
Diver.....	\$ 44.25	19.23
PILEDRIVERMAN.....	\$ 29.50	19.23

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ELEC0369-006 05/28/2019

BUTLER, EDMONSON, LOGAN, TODD & WARREN COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 32.44	17.22

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\* ELEC0429-001 06/01/2019

ALLEN & SIMPSON COUNTIES:

	Rates	Fringes
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\* ELEC0816-002 06/01/2019

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN,  
FULTON (Except a 5 mile radius of City Hall in Fulton), GRAVES,  
HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCracken & TRIGG COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 33.74	25.5%+7.05

Cable spicers receive \$.25 per hour additional.

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ELEC1701-003 06/01/2018

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO,  
UNION & WEBSTER COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 31.04	15.74

Cable spicers receive \$.25 per hour additional.

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ELEC1925-002 01/01/2019

FULTON COUNTY (Up to a 5 mile radius of City Hall in Fulton):

	Rates	Fringes
CABLE SPLICER.....	\$ 25.80	12.16
ELECTRICIAN.....	\$ 25.20	13.74

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ENGI0181-017 07/01/2019

	Rates	Fringes
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POWER EQUIPMENT OPERATOR

GROUP 1.....	\$ 33.30	16.50
GROUP 2.....	\$ 30.44	16.50
GROUP 3.....	\$ 30.89	16.50
GROUP 4.....	\$ 30.12	16.50

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Gurries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

GROUP 2 - Air Compressor (Over 900 cu. ft. per min.); Bituminous Mixer; Boom Type Tamping Machine; Bull Float; Concrete Mixer (Under 21 cu. ft.); Dredge Engineer; Electric Vibrator; Compactor/Self-Propelled Compactor; Elevator (One Drum or Buck Hoist); Elevator (When used to Hoist Building Material); Finish Machine; Firemen & Hoist

Height); Form Grader; Joint Sealing Machine; Outboard Motor  
Boat; Power Sweeper (Riding Type); Roller (Rock); Ross  
Carrier; Skid Mounted or Trailer Mounted Concrete Pump; Skid  
Steer Machine with all Attachments; Switchman or Brakeman;  
Throttle Valve Person; Tractair & Road Widening Trencher;  
Tractor (50 H.P. or Over); Truck Crane Oiler; Tugger;  
Welding Machine; Well Points;& Whirley Oiler

GROUP 3 -All Off Road Material Handling Equipment, including  
Articulating Dump Trucks; Greaser on Grease Facilities  
servicing Heavy Equipment

GROUP 4 - Bituminous Distributor; Burlap & Curing Machine;  
Cement Gun; Concrete Saw; Conveyor; Deckhand Oiler; Grout  
Pump; Hydraulic Post Driver; Hydro Seeder; Mud Jack; Oiler;  
Paving Joint Machine; Power Form Handling Equipment; Pump;  
Roller (Earth); Steerman; Tamping Machine; Tractor (Under  
50 H.P.); & Vibrator

CRANES - with booms 150 ft. & Over (Including JIB), and where  
the length of the boom in combination with the length of  
the piling equals or exceeds 150 ft. - \$1.00 above Group 1  
rate

EMPLOYEES ASSIGNED TO WORK BELOW GROUND LEVEL ARE TO BE PAID  
10% ABOVE BASIC WAGE RATE. THIS DOES NOT APPLY TO OPEN CUT  
WORK.

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IRON0070-005 06/01/2019

BUTLER COUNTY (Eastern eighth, including the Townships of  
Decker, Lee & Tilford);  
EDMONSON COUNTY (Northern three-fourths, including the  
Townships of Asphalt, Bee Spring, Brownsville, Grassland, Huff,  
Kyrock, Lindseyville, Mammoth Cave, Ollie, Prosperity, Rhoda,  
Sunfish & Sweden)



Rates

Fringes

IRONWORKER

Structural; Ornamental;	
Reinforcing; Precast	
Concrete Erectors.....	\$ 29.68 22.75

IRON0103-004 08/01/2018

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, OHIO, UNION &  
WEBSTER COUNTIES

BUTLER COUNTY (Townships of Aberdeen, Bancock, Casey,  
Dexterville, Dunbar, Elfie, Gilstrap, Huntsville, Logansport,  
Monford, Morgantown, Provo, Rochester, South Hill & Welchs  
Creek);

CALDWELL COUNTY (Northeastern third, including the Township of  
Creswell);

CHRISTIAN COUNTY (Northern third, including the Townships of  
Apex, Crofton, Kelly, Mannington & Wynns);

CRITTENDEN COUNTY (Northeastern half, including the Townships  
of Grove, Mattoon, Repton, Shady Grove & Tribune);

MUHLENBERG COUNTY (Townships of Bavier, Beech Creek Junction,  
Benton, Brennen, Browder, Central City, Cleaton, Depoy,  
Drakesboro, Eunis, Graham, Hillside, Luzerne, Lynn City,  
Martwick, McNary, Millport, Moorman, Nelson, Paradise,  
Powderly, South Carrollton, Tarina & Weir)

Rates

Fringes

Ironworkers:.....	\$ 28.66 22.435
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IRON0492-003 05/01/2018

ALLEN, LOGAN, SIMPSON, TODD & WARREN COUNTIES

BUTLER COUNTY (Southern third, including the Townships of  
Boston, Berrys Lick, Dimple, Jetson, Quality, Sharer, Sugar  
Grove & Woodbury);

or Bennettstown, Casky, Herndon, Hopkinsville, Howell,  
Masonville, Pembroke & Thompsonville);  
EDMONSON COUNTY (Southern fourth, including the Townships of  
Chalybeate & Rocky Hill);  
MUHLENBERG COUNTY (Southern eighth, including the Townships of  
Dunnior, Penrod & Rosewood)

	Rates	Fringes
Ironworkers:.....	\$ 26.11	14.02
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IRON0782-006 05/01/2018		

BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN,  
LIVINGSTON, LYON, MARSHALL, MCCRACKEN & TRIGG COUNTIES  
CALDWELL COUNTY (Southwestern two-thirds, including the  
Townships of Cedar Bluff, Cider, Claxton, Cobb, Crowtown,  
Dulaney, Farmersville, Fredonia, McGowan, Otter Pond &  
Princeton);  
CHRISTIAN COUNTY (Western third, Excluding the Townships of  
Apex, Crofton, Kelly, Mannington, Wynns, Bennettstown, Casky,  
Herndon, Hopkinsville, Howell, Masonville, Pembroke &  
Thompsonville);  
CRITTENDEN COUNTY (Southwestern half, including the Townships  
of Crayne, Dycusburg, Frances, Marion, Mexico, Midway,  
Sheridan & Told)

	Rates	Fringes
Ironworkers:		
Projects with a total contract cost of \$20,000,000.00 or above.....	\$ 28.79	24.17
All Other Work.....	\$ 27.20	22.75
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LABO0189-005 07/01/2018		



BALLARD, CALLOWAY, CARLISLE, FULTON, GRAVES, HICKMAN,  
LIVINGSTON, LYON, MARSHALL & MCCracken COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;  
Concrete; Demolition; Dredging; Environmental - Nuclear,  
Radiation, Toxic & Hazardous Waste - Level D; Flagperson;  
Grade Checker; Hand Digging & Hand Back Filling; Highway  
Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;  
Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail  
& Fence Installer; Signal Person; Sound Barrier Installer;  
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;  
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Drillers (All Types); Powdermen & Blasters; Troxler & Concrete Tester if Laborer is Utilized

LABO0189-006 07/01/2018

ALLEN, BUTLER, CALDWELL, CHRISTIAN, DAVIESS, EDMONSON, HANCOCK, HOPKINS, LOGAN, MCLEAN, MUHLENBERG, OHIO, SIMPSON, TODD, TRIGG & WARREN COUNTIES

	Rates	Fringes
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Laborers:

GROUP 1.....	\$ 23.07	14.21
GROUP 2.....	\$ 23.32	14.21
GROUP 3.....	\$ 23.37	14.21
GROUP 4.....	\$ 23.97	14.21

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler;



& Fence Installer; Signal Person; Sound Barrier Installer;  
Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper;  
Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Level C; Forklift Operator for Masonary; Form Setter;  
Green Concrete Cutting; Hand Operated Grouter & Grinder  
Machine Operator; Jackhammer; Pavement Breaker; Paving  
Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven  
Georgia Buggy & Wheel Barrow; Power Post Hole Digger;  
Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind  
Trencher; Sand Blaster; Concrete Chipper; Surface  
Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite  
Operator & Mixer; Grout Pump Operator; Blaster; Side Rail  
Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free  
Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;  
Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &  
Blasters; Troxler & Concrete Tester if Laborer is Utilized

LABO0561-001 07/01/2018

CRITTENDEN, HENDERSON, UNION & WEBSTER COUNTIES

Rates                      Fringes

Laborers:

GROUP 2.....	\$ 22.96	15.00
GROUP 3.....	\$ 23.01	15.00
GROUP 4.....	\$ 23.61	15.00

LABORER CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushhammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Blaster; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher;



- Levels A & B; Miner & Driller (Free Air); Tunnel Blaster;  
& Tunnel Mucker (Free Air); Directional & Horizontal  
Boring; Air Track Drillers (All Types); Powdermen &  
Blasters; Troxler & Concrete Tester if Laborer is Utilized

PAIN0032-002 09/01/2018

BALLARD COUNTY

	Rates	Fringes
Painters:		
Bridges.....	\$ 33.56	16.13
All Other Work.....	\$ 31.86	16.13

Spray, Blast, Steam, High & Hazardous (Including Lead  
Abatement) and All Epoxy - \$1.00 Premium

PAIN0118-003 06/01/2014

EDMONSON COUNTY:

	Rates	Fringes
Painters:		
Brush & Roller.....	\$ 18.50	11.97
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....	\$ 19.50	11.97

PAIN0156-006 04/01/2015

DAVIESS, HANCOCK, HENDERSON, MCLEAN, OHIO, UNION & WEBSTER  
COUNTIES

Painters:

BRIDGES		
GROUP 1.....	\$ 27.60	12.85
GROUP 2.....	\$ 27.85	12.85
GROUP 3.....	\$ 28.60	12.85
GROUP 4.....	\$ 29.60	12.85
ALL OTHER WORK:		
GROUP 1.....	\$ 26.45	12.85
GROUP 2.....	\$ 26.70	12.85
GROUP 3.....	\$ 27.45	12.85
GROUP 4.....	\$ 28.45	12.85

PAINTER CLASSIFICATIONS

GROUP 1 - Brush & Roller

GROUP 2 - Plasterers

GROUP 3 - Spray; Sandblast; Power Tools; Waterblast;  
Steamcleaning; Brush & Roller of Mastics, Creosotes, Kwinch  
Koate & Coal Tar Epoxy

GROUP 4 - Spray of Mastics, Creosotes, Kwinch Koate & Coal  
Tar Epoxy

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PAIN0500-002 06/01/2018

CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN, FULTON,  
GRAVES, HICKMAN, HOPKINS, LIVINGSTON, LYON, MARSHALL, MCCracken  
& TRIGG COUNTIES:

Rates	Fringes
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Painters:

Bridges.....	\$ 27.75	13.60
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Waterblasting units with 3500 PSI and above - \$.50 premium  
Spraypainting and all abrasive blasting - \$1.00 premium  
Work 40 ft. and above ground level - \$1.00 premium

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PLUM0184-002 07/01/2018

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN,  
FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL, MCCracken  
and TRIGG COUNTIES

	Rates	Fringes
Plumber; Steamfitter.....	\$ 35.06	18.18

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PLUM0502-004 08/01/2019

ALLEN, BUTLER, EDMONSON, SIMPSON & WARREN

	Rates	Fringes
Plumber; Steamfitter.....	\$ 35.77	20.78

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PLUM0633-002 07/01/2017

DAVIESS, HANCOCK, HENDERSON, HOPKINS, LOGAN, MCLEAN,  
MUHLENBERG, OHIO, TODD, UNION & WEBSTER COUNTIES:

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 31.47	16.80

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TEAM0089-003 04/01/2019

ALLEN, BUTLER, EDMONSON, LOGAN, SIMPSON & WARREN COUNTIES

Rates

Fringes

Truck drivers:

Zone 1:

Group 1.....	\$ 20.82	21.96
Group 2.....	\$ 21.00	21.96
Group 3.....	\$ 21.08	21.96
Group 4.....	\$ 21.10	21.96

GROUP 1 - Greaser; Tire Changer

GROUP 2 - Truck Mechanic; Single Axle Dump; Flat Bed; All Terrain Vehicles when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors

GROUP 3 - Mixer All Types

GROUP 4 - Winch and A-Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker; Euclid and Other Heavy Earth Moving Equipment; Low Boy; Articulator Cat; Five Axle Vehicle

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TEAM0215-003 04/01/2019

DAVIESS, HANCOCK, HENDERSON, HOPKINS, MCLEAN, MUHLENBERG, OHIO  
& WEBSTER COUNTIES

Rates

Fringes

TRUCK DRIVER

Group 1.....	\$ 22.45	21.96
Group 2.....	\$ 22.68	21.96
Group 3.....	\$ 22.75	21.96
Group 4.....	\$ 22.76	21.96



GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Driver of Distributors; Mixer All Types

GROUP 4: Euclid and other heavy earth moving equipment; Low Boy; Articulator Cat; 5 Axle Vehicle; Winch and A- Frame when used in transporting materials; Ross Carrier; Fork Lift when used to transport building materials; Driver on Pavement Breaker

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TEAM0236-001 04/01/2019

BALLARD, CALDWELL, CALLOWAY, CARLISLE, CHRISTIAN, CRITTENDEN,  
FULTON, GRAVES, HICKMAN, LIVINGSTON, LYON, MARSHALL,  
MCCRACKEN,TODD & TRIGG COUNTIES

	Rates	Fringes
TRUCK DRIVER		
Group 1.....	\$ 20.82	21.96
Group 2.....	\$ 21.00	21.96
Group 3.....	\$ 21.00	21.96
Group 4.....	\$ 20.10	21.96
Group 5.....	\$ 21.08	21.96

GROUP 1: Greaser, Tire Changer

GROUP 2: Truck Mechanic

GROUP 3: Single Axle Dump; Flat Bed; All Terrain Vehicle when used to haul materials; Semi Trailer or Pole Trailer when

Dump; Drivers or Distributors

GROUP 4: Euclid and other heavy earth moving equipment; Low  
Boy; Articulator Cat; Five Axle Vehicle; Winch and A-Frame  
when used in transporting materials; Ross Carrier

GROUP 5: Mixer All Types

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WELDERS - Receive rate prescribed for craft performing  
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave  
for Federal Contractors applies to all contracts subject to the  
Davis-Bacon Act for which the contract is awarded (and any  
solicitation was issued) on or after January 1, 2017. If this  
contract is covered by the EO, the contractor must provide  
employees with 1 hour of paid sick leave for every 30 hours  
they work, up to 56 hours of paid sick leave each year.  
Employees must be permitted to use paid sick leave for their  
own illness, injury or other health-related needs, including  
preventive care; to assist a family member (or person who is  
like family to the employee) who is ill, injured, or has other  
health-related needs, including preventive care; or for reasons  
resulting from, or to assist a family member (or person who is  
like family to the employee) who is a victim of, domestic  
violence, sexual assault, or stalking. Additional information  
on contractor requirements and worker protections under the EO  
is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Unlisted classifications needed for work not included within  
the scope of the classifications listed may be added after  
award only as provided in the labor standards contract clauses  
(29CFR 5.5 (a) (1) (ii)).



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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that

rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:



- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"



Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

**TO: EMPLOYERS/EMPLOYEES**

**PREVAILING WAGE SCHEDULE:**

**The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.**

**OVERTIME:**

**Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.**

Director  
Division of Construction Procurement  
Frankfort, Kentucky 40622  
502-564-3500

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION  
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY  
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<b>GOALS FOR MINORITY PARTICIPATION IN EACH TRADE</b>	<b>GOALS FOR FEMALE PARTICIPATION IN EACH TRADE</b>
5.2%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director  
Office of Federal Contract Compliance Programs  
61 Forsyth Street, SW, Suite 7B75  
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Caldwell County.



**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION  
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY  
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<b>GOALS FOR MINORITY PARTICIPATION IN EACH TRADE</b>	<b>GOALS FOR FEMALE PARTICIPATION IN EACH TRADE</b>
5.2%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

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**Evelyn Teague, Regional Director  
Office of Federal Contract Compliance Programs  
61 Forsyth Street, SW, Suite 7B75  
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Lyon County.

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION  
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY  
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<b>GOALS FOR MINORITY PARTICIPATION IN EACH TRADE</b>	<b>GOALS FOR FEMALE PARTICIPATION IN EACH TRADE</b>
12.0%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4, 3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. The notification shall be mailed to:

**Evelyn Teague, Regional Director  
Office of Federal Contract Compliance Programs  
61 Forsyth Street, SW, Suite 7B75  
Atlanta, Georgia 30303-8609**

4. As used in this Notice, and in the contract resulting from this solicitation, the "**covered area**" is Trigg County.



## **PART IV**

## **INSURANCE**

Refer to  
*Kentucky Standard Specifications for Road and Bridge Construction,*  
current edition

## **PART V**

### **BID ITEMS**



LYON - CALDWELL - TRIGG COUNTIES  
121GR19D064 - NHPP IM  
191064

## PROPOSAL BID ITEMS

Report Date 10/22/19

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### Section: 0001 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	18,169.00	TON		\$	
0020	00008		CEMENT STABILIZED ROADBED	222,006.00	SQYD		\$	
0030	00078		CRUSHED AGGREGATE SIZE NO 2	844.00	TON		\$	
0040	00080		CRUSHED AGGREGATE SIZE NO 23	400.00	TON		\$	
0050	00100		ASPHALT SEAL AGGREGATE	1,308.00	TON		\$	
0060	00103		ASPHALT SEAL COAT	156.00	TON		\$	
0070	00190		LEVELING & WEDGING PG64-22	912.00	TON		\$	
0080	00214		CL3 ASPH BASE 1.00D PG64-22	8,014.00	TON		\$	
0090	00312		CL3 ASPH SURF 0.50D PG64-22	7,501.00	TON		\$	
0100	00356		ASPHALT MATERIAL FOR TACK	30.00	TON		\$	
0110	00358		ASPHALT CURING SEAL	444.00	TON		\$	
0120	01005		PERFORATED PIPE EDGE DRAIN-4 IN	115,740.00	LF		\$	
0130	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM CALDWELL	1.00	LS		\$	
0140	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM LYON	1.00	LS		\$	
0150	01015		INSPECT & CERTIFY EDGE DRAIN SYSTEM TRIGG	1.00	LS		\$	
0160	01020		PERF PIPE HEADWALL TY 1-4 IN	5.00	EACH		\$	
0170	01024		PERF PIPE HEADWALL TY 2-4 IN	2.00	EACH		\$	
0180	01028		PERF PIPE HEADWALL TY 3-4 IN	39.00	EACH		\$	
0190	01032		PERF PIPE HEADWALL TY 4-4 IN	247.00	EACH		\$	
0200	01690		FLUME INLET TYPE 1	2.00	EACH		\$	
0210	01691		FLUME INLET TYPE 2	2.00	EACH		\$	
0220	01740		CORED HOLE DRAINAGE BOX CON-4 IN	5.00	EACH		\$	
0230	01890		ISLAND HEADER CURB TYPE 1	175.00	LF		\$	
0240	01891		ISLAND HEADER CURB TYPE 2	150.00	LF		\$	
0250	01982		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	165.00	EACH		\$	
0260	01983		DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW	27.00	EACH		\$	
0270	01986		DELINEATOR FOR BARRIER WALL-B/Y	3,331.00	EACH		\$	
0280	02058		REMOVE PCC PAVEMENT	214,912.00	SQYD		\$	
0290	02060		PCC PAVEMENT DIAMOND GRINDING	374,190.00	SQYD		\$	
0300	02069		JPC PAVEMENT-10 IN	4,100.00	SQYD		\$	
0310	02071		JPC PAVEMENT-11 IN	222,006.00	SQYD		\$	
0320	02091		REMOVE PAVEMENT	4,100.00	SQYD		\$	
0330	02115		SAW-CLEAN-RESEAL TVERSE JOINT	159,414.00	LF		\$	
0340	02116		SAW-CLEAN-RESEAL LONGIT JOINT	132,845.00	LF		\$	
0350	02165		REMOVE PAVED DITCH	8,097.00	SQYD		\$	
0360	02351		GUARDRAIL-STEEL W BEAM-S FACE	11,150.00	LF		\$	
0370	02352		GUARDRAIL-STEEL W BEAM-D FACE	930.00	LF		\$	
0380	02360		GUARDRAIL TERMINAL SECTION NO 1	8.00	EACH		\$	
0390	02363		GUARDRAIL CONNECTOR TO BRIDGE END TY A	16.00	EACH		\$	
0400	02365		CRASH CUSHION TYPE IX-A	8.00	EACH		\$	
0410	02367		GUARDRAIL END TREATMENT TYPE 1	14.00	EACH		\$	
0420	02369		GUARDRAIL END TREATMENT TYPE 2A	17.00	EACH		\$	
0430	02381		REMOVE GUARDRAIL	13,219.00	LF		\$	

LYON - CALDWELL - TRIGG COUNTIES  
121GR19D064 - NHPP IM  
191064

## PROPOSAL BID ITEMS

Page 2 of 4

Report Date 10/22/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0440	02387		GUARDRAIL CONNECTOR TO BRIDGE END TY A-1	16.00	EACH		\$	
0450	02391		GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH		\$	
0460	02483		CHANNEL LINING CLASS II	1,575.00	TON		\$	
0470	02542		CEMENT (REVISED: 10-8-19)	7,193.00	TON		\$	
0480	02562		TEMPORARY SIGNS	3,100.00	SQFT		\$	
0490	02565		OBJECT MARKER TYPE 2	8.00	EACH		\$	
0500	02575		DITCHING AND SHOULDERING	99,422.00	LF		\$	
0510	02575		DITCHING AND SHOULDERING SPECIAL	2,198.00	LF		\$	
0520	02604		FABRIC-GEOTEXTILE CLASS 1A	4,100.00	SQYD		\$	
0530	02650		MAINTAIN & CONTROL TRAFFIC CALDWELL	1.00	LS		\$	
0540	02650		MAINTAIN & CONTROL TRAFFIC LYON	1.00	LS		\$	
0550	02650		MAINTAIN & CONTROL TRAFFIC TRIGG	1.00	LS		\$	
0560	02655		CROSSOVER #1 LYON	1.00	LS		\$	
0570	02655		CROSSOVER #2- CALDWELL	1.00	LS		\$	
0580	02655		CROSSOVER #3- CALDWELL	1.00	LS		\$	
0590	02655		CROSSOVER #4 TRIGG	1.00	LS		\$	
0600	02671		PORTABLE CHANGEABLE MESSAGE SIGN	10.00	EACH		\$	
0610	02676		MOBILIZATION FOR MILL & TEXT CALDWELL	1.00	LS		\$	
0620	02676		MOBILIZATION FOR MILL & TEXT TRIGG	1.00	LS		\$	
0630	02677		ASPHALT PAVE MILLING & TEXTURING	1,594.00	TON		\$	
0660	02701		TEMP SILT FENCE	3,940.00	LF		\$	
0670	02702		SAND FOR BLOTTER	554.00	TON		\$	
0680	02705		SILT TRAP TYPE C	6.00	EACH		\$	
0690	02726		STAKING CALDWELL	1.00	LS		\$	
0700	02726		STAKING LYON	1.00	LS		\$	
0710	02726		STAKING TRIGG	1.00	LS		\$	
0720	02775		ARROW PANEL	2.00	EACH		\$	
0730	03171		CONCRETE BARRIER WALL TYPE 9T	66,602.00	LF		\$	
0740	03383		PVC PIPE-4 IN	16,009.00	LF		\$	
0750	05950		EROSION CONTROL BLANKET	65,000.00	SQYD		\$	
0760	05953		TEMP SEEDING AND PROTECTION	1,567.00	SQYD		\$	
0770	05963		INITIAL FERTILIZER	.40	TON		\$	
0780	05964		MAINTENANCE FERTILIZER	.40	TON		\$	
0790	05985		SEEDING AND PROTECTION	4,647.00	SQYD		\$	
0800	05992		AGRICULTURAL LIMESTONE	2.88	TON		\$	
0810	06401		FLEXIBLE DELINEATOR POST-M/W	734.00	EACH		\$	
0820	06404		FLEXIBLE DELINEATOR POST-M/Y	135.00	EACH		\$	
0830	06511		PAVE STRIPING-TEMP PAINT-6 IN	271,247.00	LF		\$	



LYON - CALDWELL - TRIGG COUNTIES  
121GR19D064 - NHPP IM  
191064

## PROPOSAL BID ITEMS

Page 3 of 4

Report Date 10/22/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0840	06513		PAVE STRIPING-TEMP PAINT-12 IN	978.00	LF		\$	
0850	06556		PAVE STRIPING-DUR TY 1-6 IN W	242,709.00	LF		\$	
0860	06557		PAVE STRIPING-DUR TY 1-6 IN Y	194,166.00	LF		\$	
0870	06560		PAVE STRIPING-DUR TY 1-12 IN W	3,585.00	LF		\$	
0880	06600		REMOVE PAVEMENT MARKER TYPE V	1,662.00	EACH		\$	
0890	08903		CRASH CUSHION TY VI CLASS BT TL3	8.00	EACH		\$	
0900	10020NS		FUEL ADJUSTMENT	119,784.00	DOLL	\$1.00	\$	\$119,784.00
0910	10030NS		ASPHALT ADJUSTMENT	64,219.00	DOLL	\$1.00	\$	\$64,219.00
0915	20362ES403		SHOULDER RUMBLE STRIPS-SAWED (ADDED: 10-22-19)	132,619.00	LF		\$	
0920	20366NN		REPLACE GRATE	5.00	EACH		\$	
0930	20412ED		REMOVE ASPHALT SHOULDER	50,759.00	SQYD		\$	
0940	20432ES112		REMOVE CRASH CUSHION	8.00	EACH		\$	
0950	21173EC		SAW-CLEAN-RESEAL RANDOM CRACKS	10,000.00	LF		\$	
0960	22883EN		CONCRETE WEDGE CURB	2,198.00	LF		\$	
0970	23032EN		BRIDGE BARRIER RETROFIT	785.00	LF		\$	
0980	23147EN		HIGH TENSION CABLE-ROPE BARRIER	1,112.00	LF		\$	
0990	23148EN		END ANCHORS	8.00	EACH		\$	
1000	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE BRIDGES 072B00048L&R-LYON	1.00	LS		\$	
1010	23949EC		BRIDGE CLEANING & PREVENTIVE MAINTENANCE BRIDGES 111B00044L&R-TRIGG	1.00	LS		\$	
1020	24255EC		REMOVE CABLE GUARDRAIL BARRIER SYSTEM	1,112.00	LF		\$	
1030	24489EC		INLAID PAVEMENT MARKER	2,531.00	EACH		\$	
1040	24640ED		OBJECT MARKER TYPE 1	16.00	EACH		\$	
1050	24969ED		LONGITUDINAL SAW CUT	46,633.00	LF		\$	
1060	24997EC		PARTIAL DEPTH PATCHING-POLYMER MOD	2,256.00	CUFT		\$	
1070	25050ED		GEOTEXTILE BOND BREAKER INTERLAYER	222,006.00	SQYD		\$	

### Section: 0002 - TRAFFIC LOOPS

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1080	04793		CONDUIT-1 1/4 IN	120.00	LF		\$	
1090	04795		CONDUIT-2 IN	40.00	LF		\$	
1100	04820		TRENCHING AND BACKFILLING	140.00	LF		\$	
1110	04829		PIEZOELECTRIC SENSOR	8.00	EACH		\$	
1120	04830		LOOP WIRE	3,000.00	LF		\$	
1130	04895		LOOP SAW SLOT AND FILL	760.00	LF		\$	
1140	20359NN		GALVANIZED STEEL CABINET	4.00	EACH		\$	
1150	20360ES818		WOOD POST	8.00	EACH		\$	
1160	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	4.00	EACH		\$	

### Section: 0003 - DEMOBILIZATION &/OR MOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1170	02568		MOBILIZATION	1.00	LS		\$	

PROPOSAL BID ITEMS

Report Date 10/22/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1180	02569		DEMOBILIZATION	1.00	LS		\$	



**SPECIAL NOTE FOR DOWEL BAR AND TIE BAR PLACEMENT IN JPC PAVEMENT**

This Special Note will apply where indicated on the plans or in the proposal. Section references herein are to the Department’s current Standard Specifications for Road and Bridge Construction.

**1.0 DESCRIPTION.** This Special Note applies when new JPC pavement is placed on a project. Allowable tolerances are outlined for both dowel bar and tie bar placement in driving lanes and shoulders. Concrete patches will not be tested under this special note unless they are required as corrective work under subsection 3.1. Testing applies to all joints except that transverse joints in the shoulders will not be tested. *Working with concrete requires at least seven days or more of curing time. The concrete should be dry for at least 24 hrs prior to testing.*

This Special Note specifies the allowable tolerances for placement of dowel bars and tie bars in JPC pavement.

**2.0 MATERIALS.** Conform to Subsection 501 or 502 of the current Standard Specifications. Consistent with Standard Drawing RPS-020-13, dowel baskets will be manufactured with the mid-point of the dowel bar at T/2.

**3.0 CONSTRUCTION.**

**3.1 Dowel Bars.** Transverse dowel bars, which are generally in baskets, should be located in the center of the slab vertically. They should not be skewed or rotated. Contrary to Section 501 of the Standard Specification and Standard Drawing RPS-020-13, place dowel bars to the tolerances shown in the table below.

Dimension	Tolerance
Horizontal offset	± 1 inch
Longitudinal translation	± 3 inches
Horizontal skew	½ inch, max
Vertical skew	½ inch, max
Vertical depth	<p>The minimum distance below the concrete pavement surface must be: <math>DB = T/3 + \frac{1}{2} \text{ inch}</math></p> <p>Where: DB = vertical distance in inches, measured from the concrete pavement surface to any point along the top of dowel bar; and T = actual concrete pavement thickness at joint location, in inches.</p> <p>The maximum distance below the surface to any point along the dowel bar should be <math>2T/3</math>.</p>

Dowel bars determined to be out of tolerance are to be marked in the field with marking paint. Corrective work will be required for the following circumstances:

- if 3 or more bars are higher than  $T/3 + \frac{1}{2}$  inch from the top of the slab or lower than  $2T/3$  (as measured from the top) for the bottom of the slab
- if 3 or more bars are translated longitudinally 3 inches or more
- if more than two consecutive joints have any bars that are skewed vertically or horizontally

Any corrective work shall be completed in accordance with the current special note 11J – Special Note for Full Depth Concrete Pavement Repair. Contrary to Special Note 11J, all joint repairs completed due to corrective work shall be sealed with silicone rubber unless approved by the Engineer.

**3.2 Tie Bars.** Install tie bars at a depth equal to  $\frac{1}{2}$  of the slab thickness. Tie bars shall be perpendicular to the longitudinal joint and parallel with the concrete pavement surface. Installation shall be to the tolerances outlined below.

- Not less than  $\frac{1}{2}$  inch below the saw cut depth of the joints
- 2" clearance from the tie bar and bottom of pavement

Corrective action will be required for the following circumstances:

- 2 consecutive tie bars are missing or outside of the tolerance listed above
- 4 or more bars in a slab are missing or outside of the tolerances listed (does not have to be consecutive)

The correction shall be made by cross stitching to place the new tie bars accordingly.

#### 4.0 MEASUREMENT

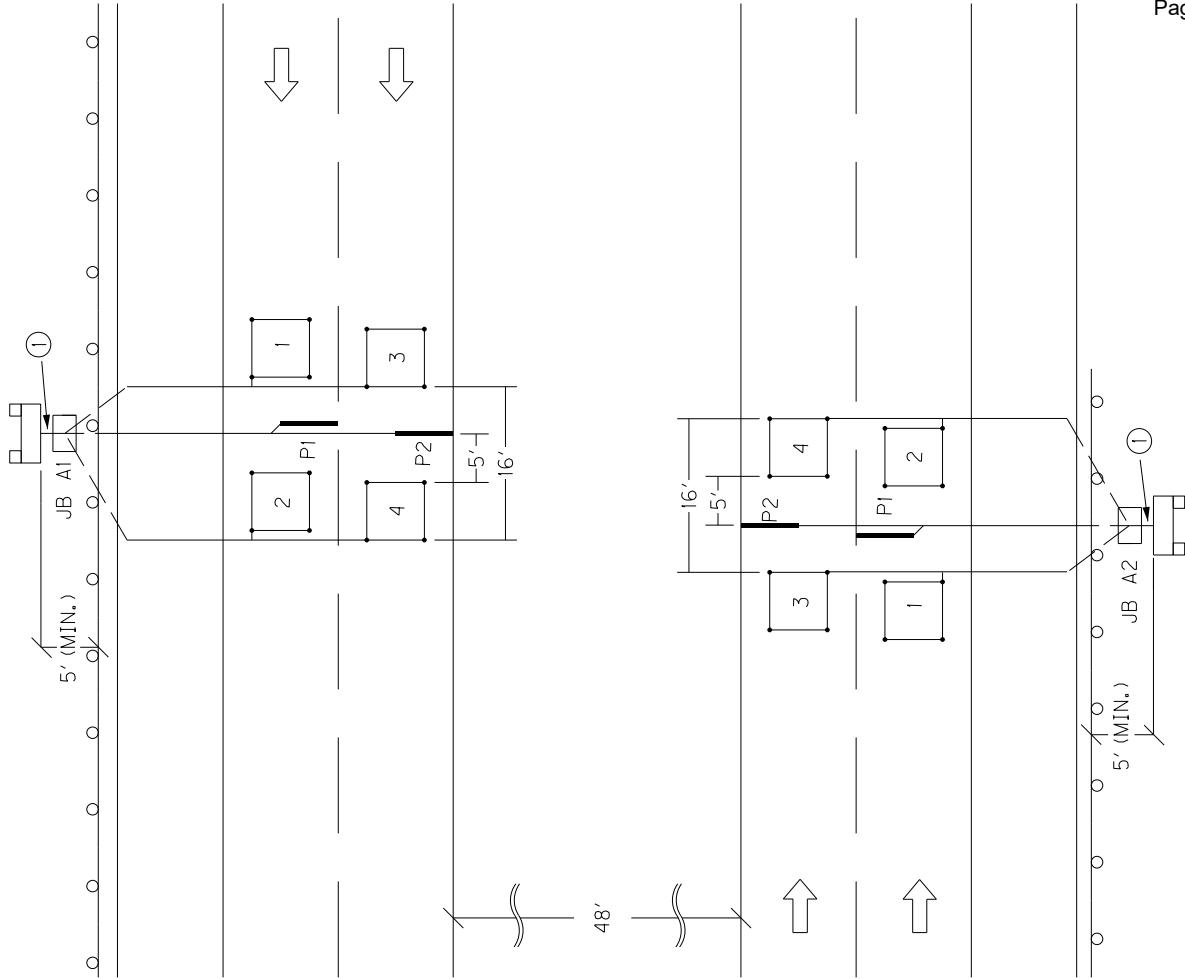
**4.1 Testing Limits.** All driving lanes requiring load transfer assemblies will be tested with Ground Penetrating Radar (GPR) equipment. All longitudinal joints will be tested. The Kentucky Transportation Center (KTC) will perform all testing.

**4.2 Validation.** A minimum of one location per lane mile will be cored to verify GPR testing. Two 4 inch cores shall be obtained at each location. One core will be taken on each dowel bar end to expose both ends and allow physical measurements. KTC will conduct coring while the contractor shall patch all core holes.

November 5, 2014



TRIGG CO. I-24 m.p. ~59.5  
~LAT/LONG N 36.93304, W 86.81697  
STATION 046



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINETS. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINETS.

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1, JB A2).

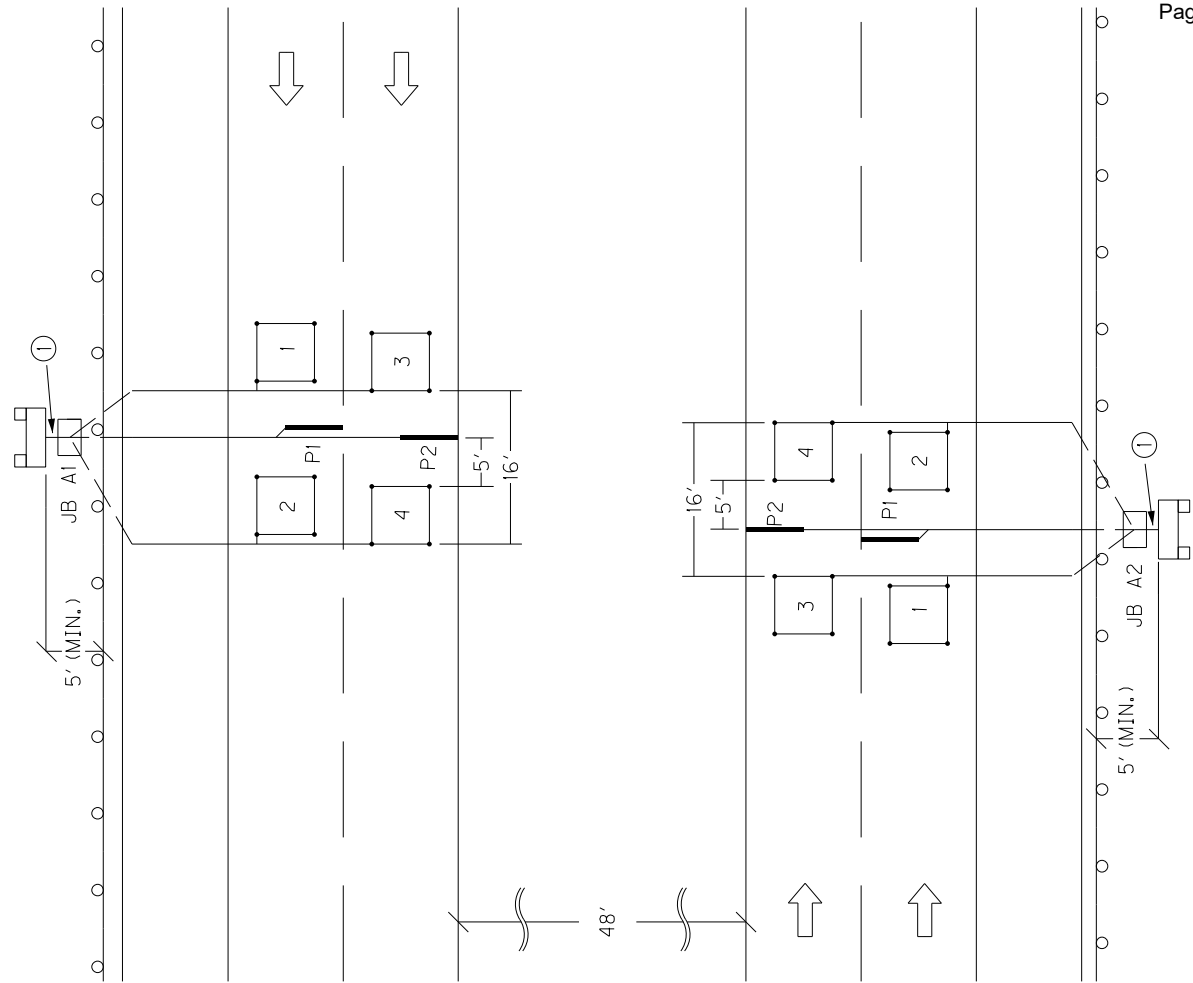
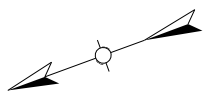
INSTALL TWO (2) 20"X20"X8" CABINETS MOUNTED TO TWO (2) WOOD POSTS EACH.

REMOVE EXISTING CABINETS, POSTS, WIRE, CONDUIT AND JUNCTION BOXES AND DISPOSE OF OFF THE PROJECT.

CODED NOTE:

① INSTALL ONE (1) 2" CONDUIT.

TRIGG CO. I-24 m.p. ~66.58  
~LAT/LONG N 36.87151, W 87.71689  
STATION 043



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINETS. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINETS.

INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

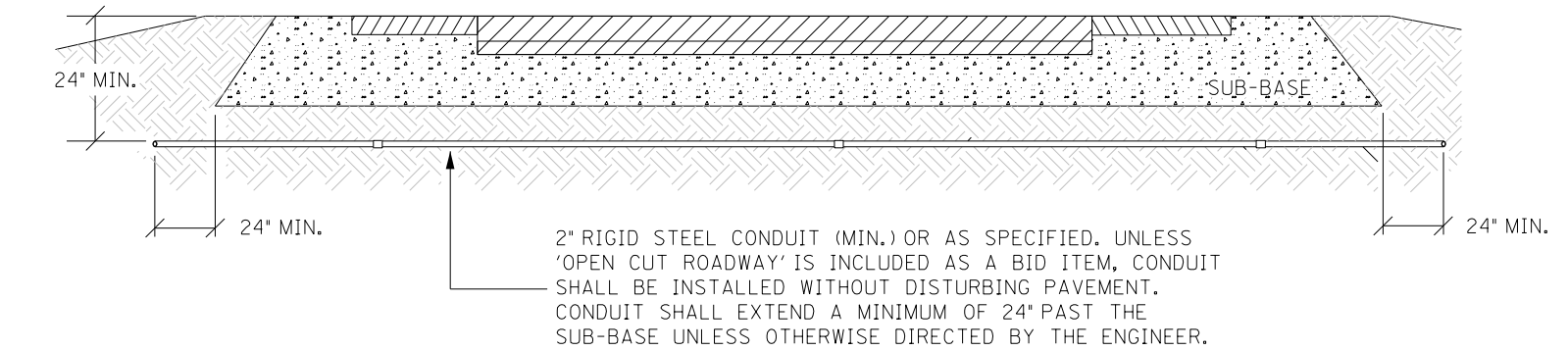
INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1, JB A2).

INSTALL TWO (2) 20"X20"X8" CABINETS MOUNTED TO TWO (2) WOOD POSTS EACH.

CODED NOTE:

- ① INSTALL ONE (1) 2" CONDUIT.



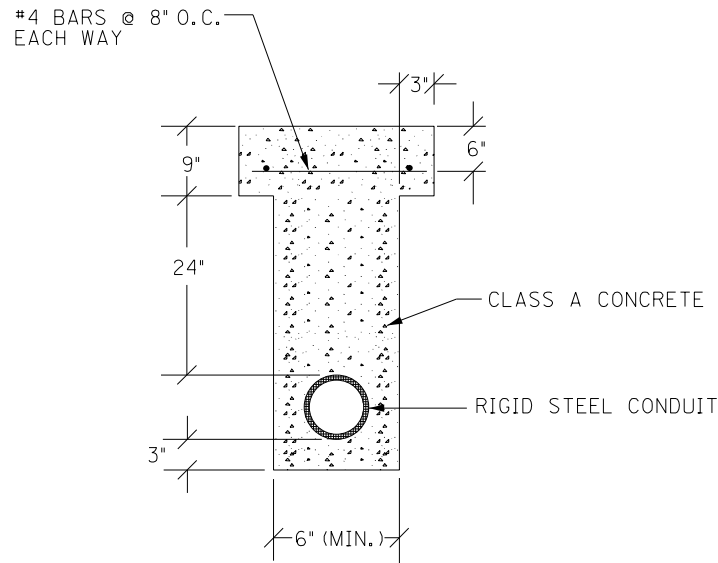
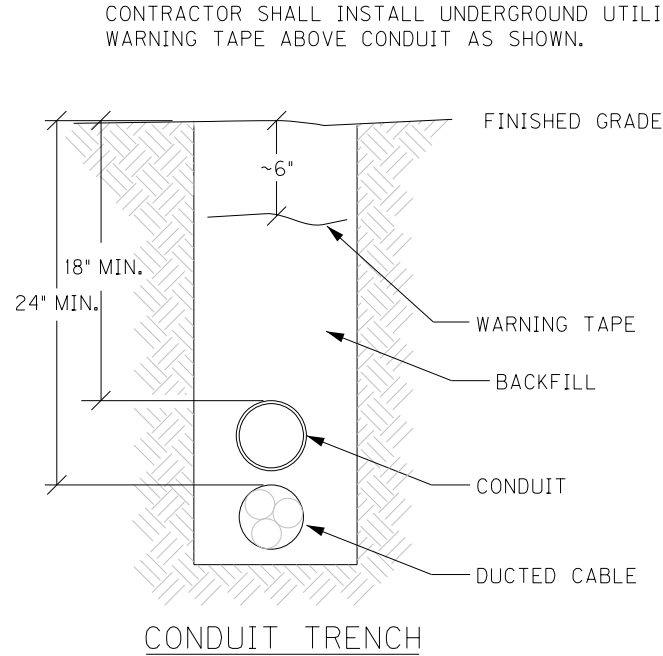


CONDUIT UNDER PAVEMENT

TOTAL TRENCH WIDTH SHALL BE 3" (NOM.) WIDER THAN THE SUM OF THE OUTSIDE DIAMETER(S) OF THE CONDUIT(S) INSTALLED. CONDUIT(S) SHALL BE CENTERED IN TRENCH.

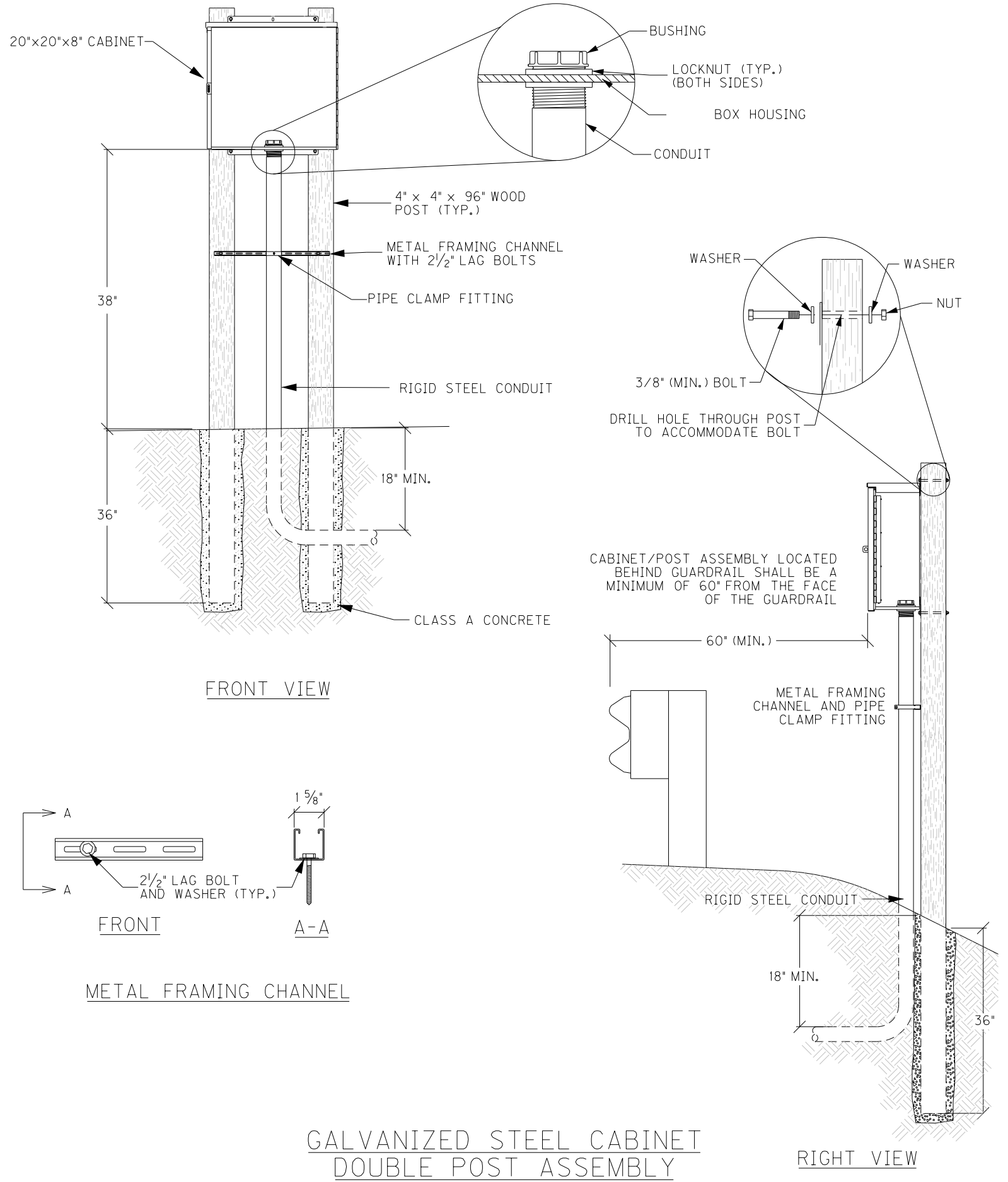
CONTRACTOR SHALL PLACE BACKFILL IN LIFTS (9" MAX.) COMPACT BACKFILL, AND RESTORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER

CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE ABOVE CONDUIT AS SHOWN.

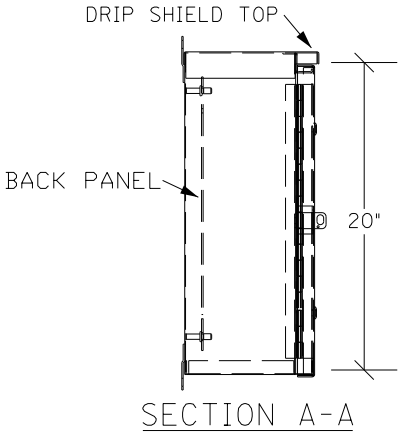
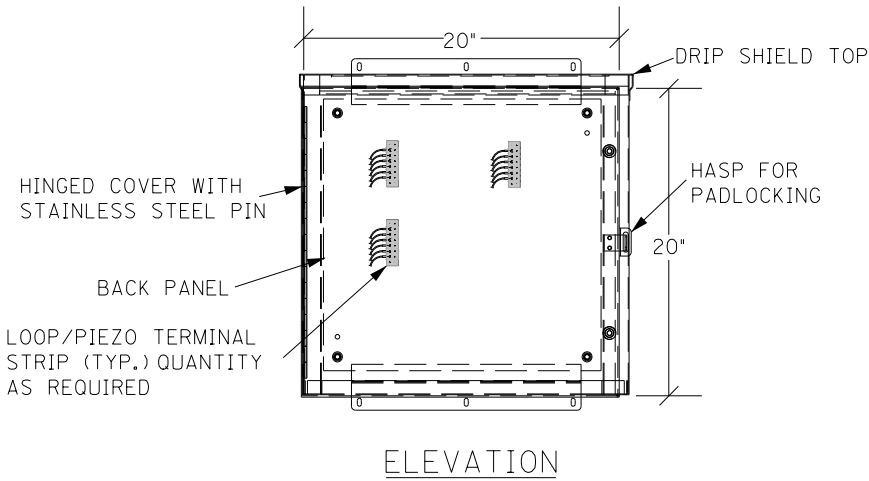
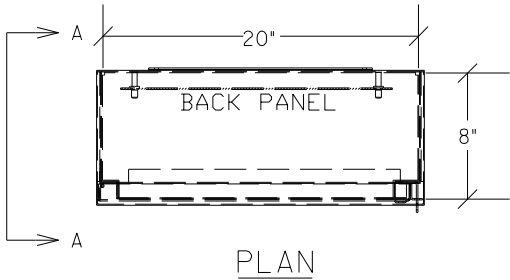


OPEN CUT PAVEMENT DETAIL

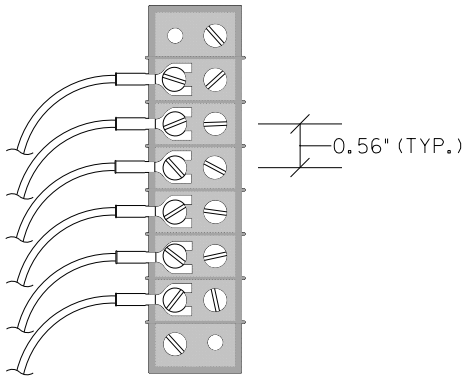
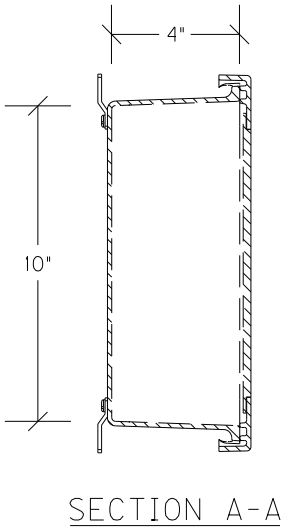
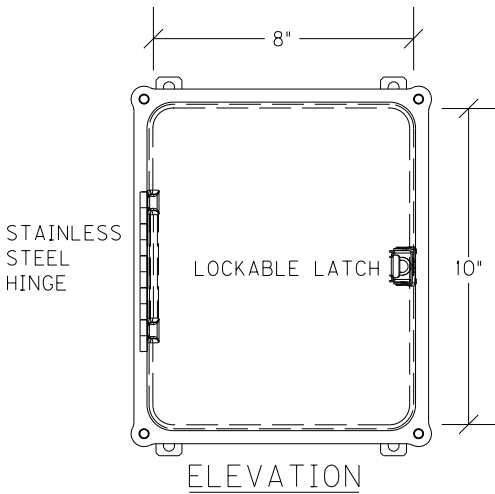
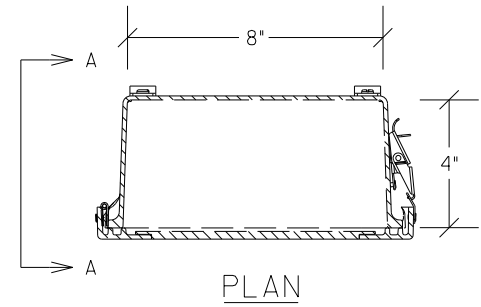
CONDUIT INSTALLATION





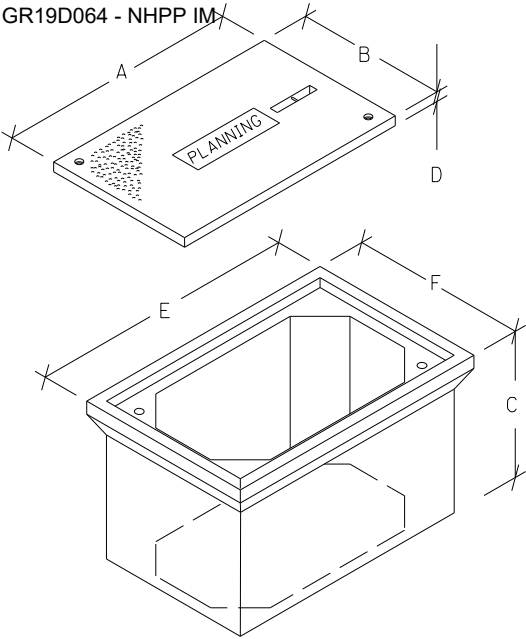


GALVANIZED STEEL CABINET



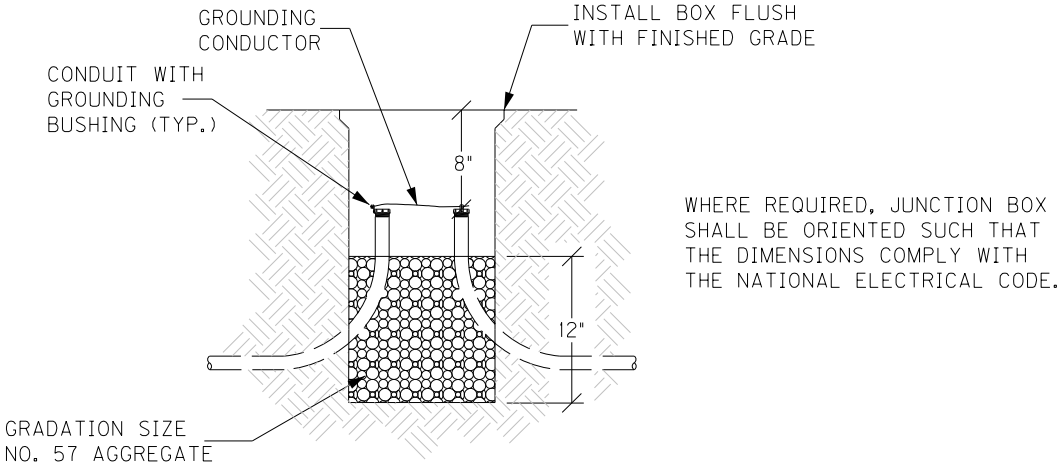
TERMINAL STRIP (TYP.)

JUNCTION BOX 10"X8"X4"

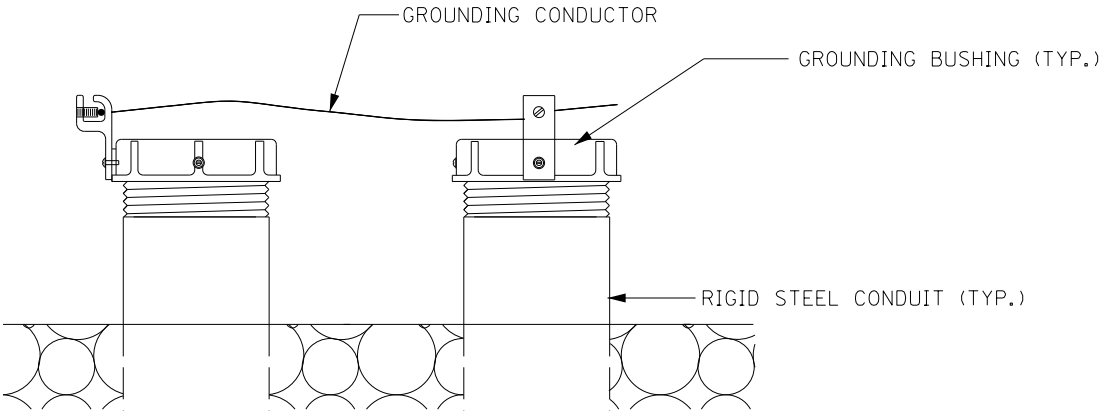


JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D*	E	F
TYPE A	23"	14"	18"	2"	25"	16"
TYPE B	18"	11"	12"	1¾"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

\* MINIMUM  
STACKABLE BOXES ARE PERMITTED



ELEVATION



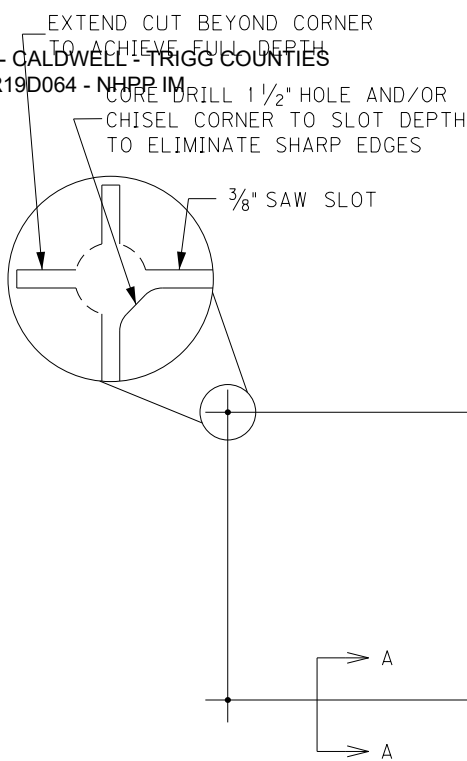
GROUNDING DETAIL

JUNCTION BOX - TYPE A, TYPE B, TYPE C



LYON - CALDWELL - TRIGG COUNTIES

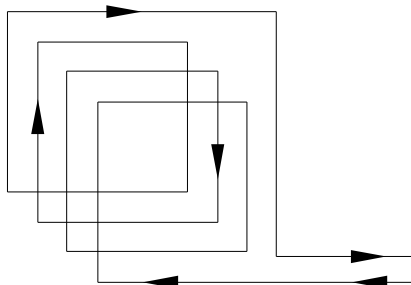
121GR19D064 - NHPP IM



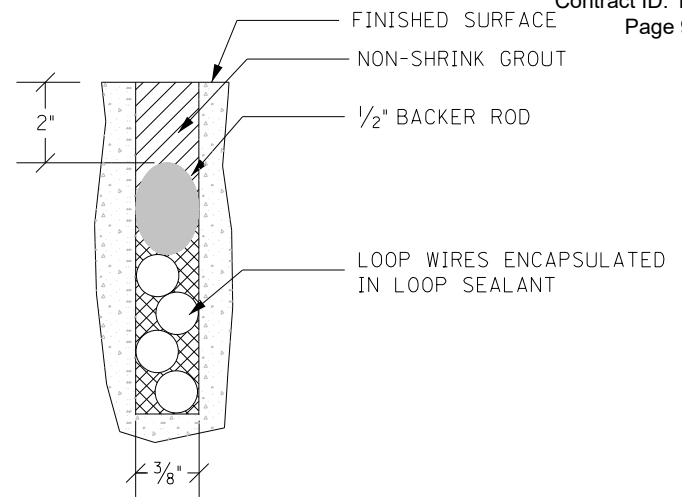
SAW CUT PLAN

UNLESS SPECIFIED OTHERWISE, ALL LOOPS SHALL BE 6' x 6' SQUARE, CENTERED IN EACH LANE, WITH FOUR TURNS OF 14 AWG LOOP WIRE.

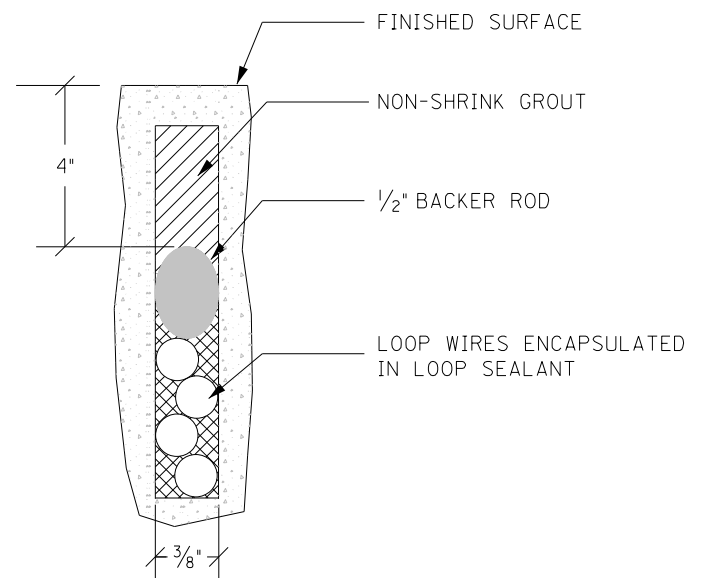
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



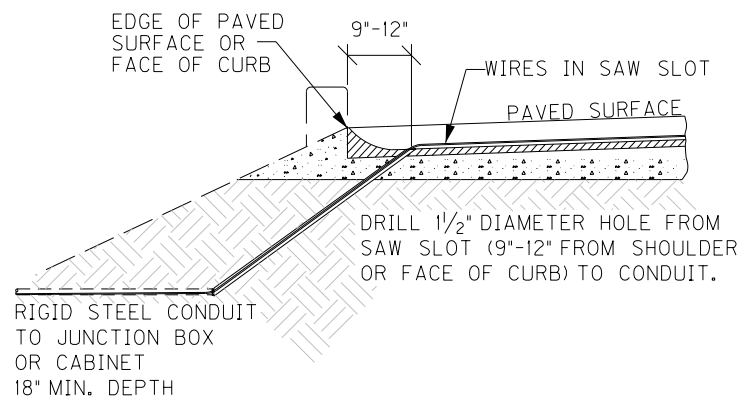
WIRING PLAN



SECTION A-A (CONCRETE)



SECTION A-A (ASPHALT)

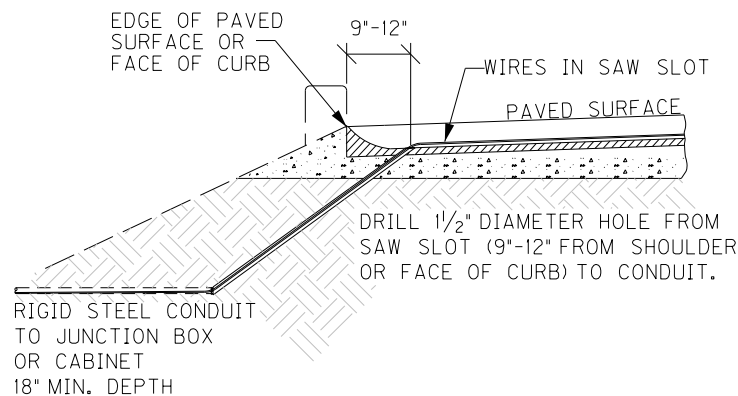
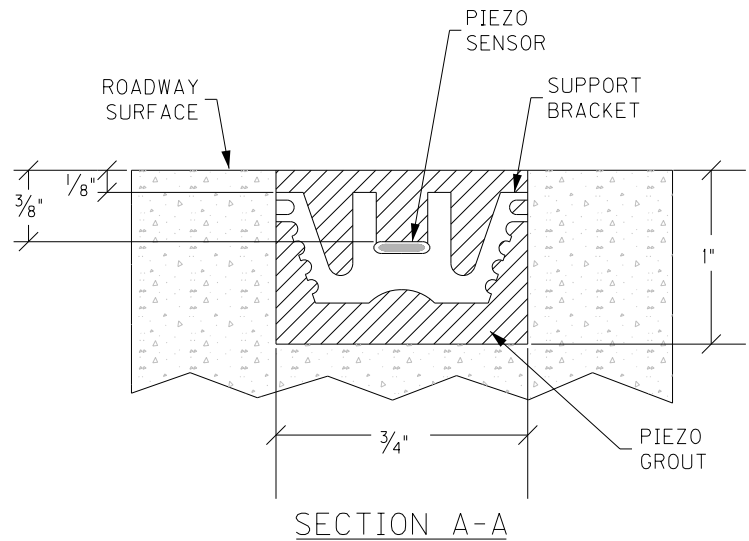
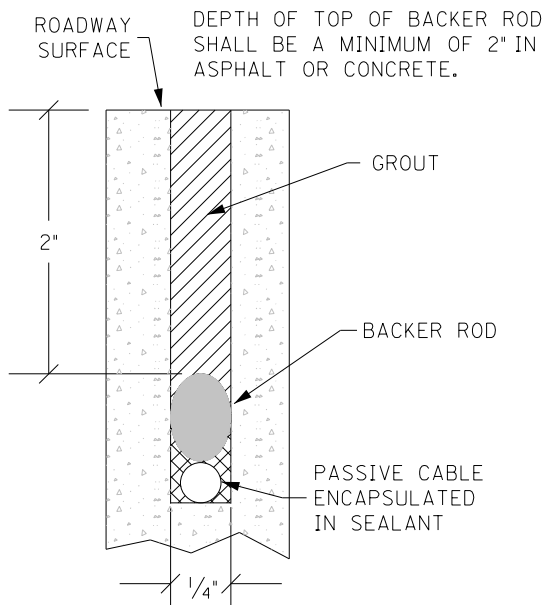
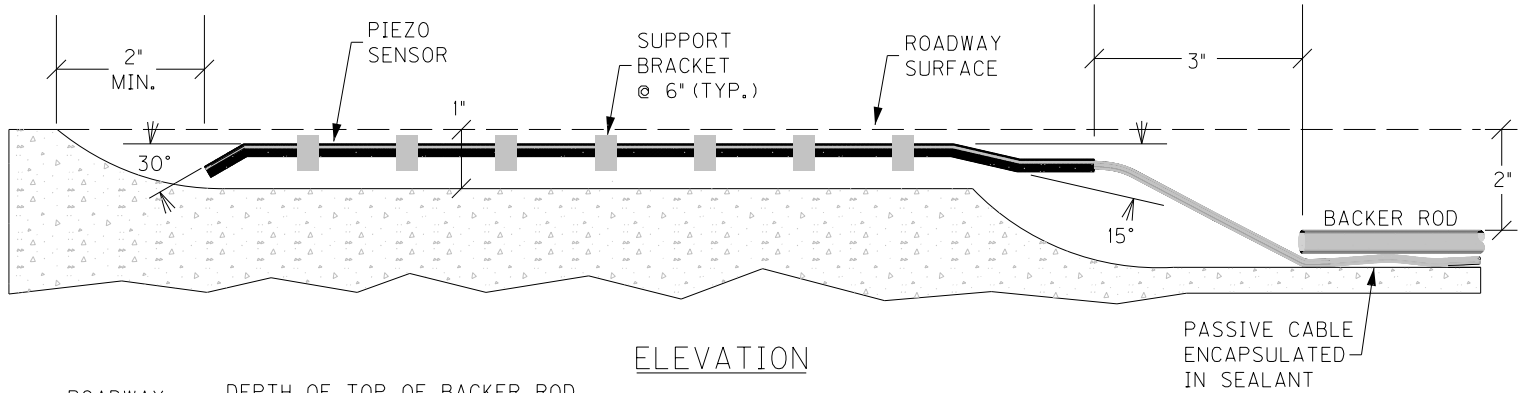
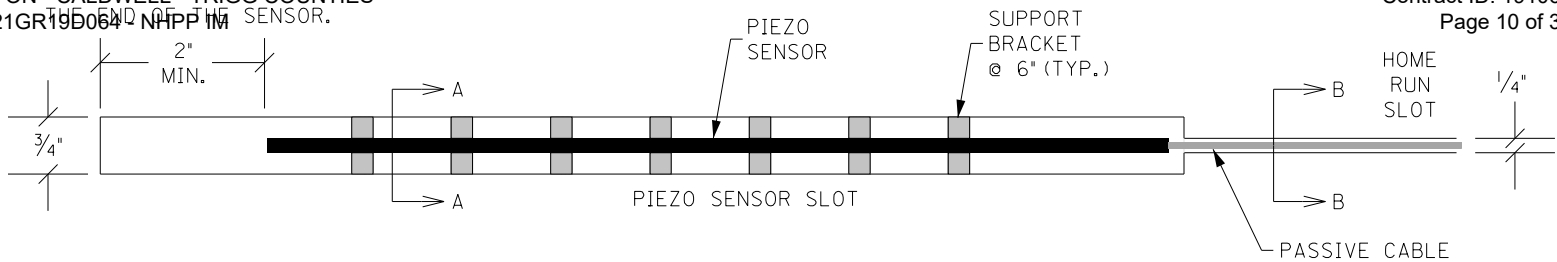


SAW SLOT EDGE OF PAVEMENT TRANSITION

## INDUCTIVE LOOP DETECTOR

NOT TO SCALE

EXTEND SAW SLOT A MINIMUM OF 2 FEET BEYOND THE END OF THE SENSOR.  
 LYON CALDWELL - TRIS COUNTIES  
 121GR19D064 - NHP



# PIEZOELECTRIC SENSOR INSTALLATION



**PERMANENT TRAFFIC DATA ACQUISITION STATIONS  
ESTIMATE OF QUANTITIES**

Bid Item Code	Description	Unit	Quantity
4793	CONDUIT 1 ¼ INCH	LIN FT	120
4795	CONDUIT 2 INCH	LIN FT	40
4811	ELECTRICAL JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	140
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	8
4830	LOOP WIRE	LIN FT	3000
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35' WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	760
4899	ELECTRICAL SERVICE	EACH	
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359NN	GALVANIZED STEEL CABINET	EACH	4
20360ES818	WOOD POST	EACH	8
20391NS835	ELECTRICAL JUNCTION BOX TYPE A	EACH	4
20392NS835	ELECTRICAL JUNCTION BOX TYPE C	EACH	
20468EC	ELECTRICAL JUNCTION BOX 10x8x4	EACH	
21543EN	BORE AND JACK CONDUIT	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	

## **MATERIAL, INSTALLATION, AND BID ITEM NOTES FOR PERMANENT TRAFFIC DATA ACQUISITION STATIONS**

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### **1. DESCRIPTION**

Except as specified in these notes, all work shall consist of furnishing and installing all materials necessary for permanent data acquisition station equipment installation(s) and shall be performed in accordance with the current editions of:

- The Contract
- Division of Planning Standard Detail Sheets
- Kentucky Transportation Cabinet, Department of Highways, *Standard Specifications for Road and Bridge Construction*
- Kentucky Transportation Cabinet, Department of Highways, *Standard Drawings*
- National Fire Protection Association (NFPA) 70: *National Electrical Code*
- Institute of Electrical and Electronic Engineers (IEEE), *National Electrical Safety Code*
- Federal Highway Administration, *Manual on Uniform Traffic Control Devices*
- American Association of State Highway and Transportation Officials (AASHTO), *Roadside Design Guide*.
- Standards of the utility company serving the installation, if applicable

The permanent traffic data acquisition station layout(s) indicate the extent and general arrangement of the proposed installation and are for general guidance. Any omission or commission shown or implied shall not be cause for deviation from the intent of the plans and specifications. Information shown on the plans and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department of Highways (Department) does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown. If any modifications of the plans or specifications are considered necessary by the Contractor, details of such modifications and the reasons, therefore, shall be submitted in writing to the Engineer for written approval prior to beginning such modified work.

The Contractor shall contact all utility companies and the district utility agent prior to beginning construction to insure proper clearance and shielding from existing and proposed utilities. The Contractor shall use all possible care in excavating on this project so as not to disturb any existing utilities whether shown on the plans or not shown on the plans. Any utilities disturbed or damaged by the Contractor during construction shall be replaced or repaired to original condition by the Contractor at no cost to the department. If necessary, to avoid existing utilities, the Contractor shall hand dig areas where poles or conduit cross utilities.



The Contractor shall be responsible for all damage to public and/or private property resulting from his work.

The Contractor shall inspect the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions. Submission of a bid will be considered an affirmation of this inspection having been completed. The Department will not honor any claims resulting from site conditions.

## **2. MATERIALS**

All proposed materials shall be approved prior to being utilized. The Contractor shall submit for material approval an electronic file of descriptive literature, drawings and any requested design data for the proposed materials. After approval, no substitutions of any approved materials may be made without the written approval of the Engineer.

Materials requiring sampling shall be made available a sufficient time in advance of their use to allow for necessary testing.

### **2.1. Anchoring**

#### **2.1.1. Anchor and Anchor Rod**

Anchor, except rock anchor, shall be expanding type, with a minimum area of 135 square inches.

Anchor rod shall be galvanized steel, double-eye, have a minimum diameter of 5/8 inches, and a minimum length of 84 inches. Minimum holding capacity shall be 15,400 lbs.

Rock anchor shall be galvanized steel, triple-eye, expanding type, with a minimum diameter of 3/4 inch, a minimum 53 inches long, and a minimum tensile strength of 23,000 lb.

#### **2.1.2. Guy Wire and Guy Guard**

Guy wire shall be Class A, Zinc-coated, 3/8 inch diameter, high strength grade steel (minimum 10,800 lb.) and galvanized per ASTM A475. Guy guard shall be 8' long, fully-rounded, yellow, and able to be securely attached to the guy wire.

#### **2.1.3. Strandwise for Guy Wire**

Strandwise for guy wire shall be 3/8 inch and rated to hold a minimum of 90% of the rated breaking strength (RBS) of the strand used.

### **2.2. Asphalt**

Asphalt shall be a minimum CL2 Asph Surf 0.38C PG64-22 and conform to the *Standard Specifications for Road and Bridge Construction*.

### **2.3. Backer Rod**

Backer rod shall be 1/2 inch diameter, closed cell polyethylene foam and shall meet or exceed the following physical properties:

- Density (average): 2.0 lbs/cu.ft. (minimum): ASTM D 1622 test method
- Tensile Strength: 50 PSI (minimum): ASTM D 1623 test method
- Compression Recovery: 90% (minimum): ASTM D 5249 test method
- Water Absorption: 0.03 gm/cc (maximum): ASTM C 1016 test method



2.4. Cabinets

2.4.1. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall be constructed of 16 or 14 gauge galvanized steel and shall meet or exceed the industry standards set forth by UL 50 and NEMA 3R. The finish shall be an ANSI 61 gray polyester powder finish inside and out over the galvanized steel. Cabinet shall have minimum inside dimensions of 20 inches high by 20 inches wide by 8 inches deep.

The cabinet shall be equipped with the following:

- Drip shield top
- Seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow
- Hinged cover with 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened with captive plated steel screws, knob or latch
- Hasp and staple for padlocking
- No gaskets or knockouts
- Back panel for terminal block installation
- Post mounting hardware
- Terminal Blocks

2.4.2. Anchor Bolt for Pad Mounted Cabinet

Anchor bolt for pad mounted cabinet shall be galvanized steel with minimum dimensions of 3/8 inch by 6 inches.

2.5. Concrete

Concrete shall be Class A and conform to the *Standard Specifications for Road and Bridge Construction*.

2.6. Conduit and Conduit Fittings

Conduit and conduit fittings shall be rigid steel unless otherwise specified.

Conduit shall be zinc galvanized inside and out and conform to the NEC, UL Standard 6, and ANSI C-80.1.

Rigid Steel Conduit Fittings shall be galvanized inside and out and conform to the NEC, UL Standard 514B, and ANSI C-80.4. Intermediate Metal Conduit (IMC) will not be approved as an acceptable alternative to rigid steel conduit.

2.7. Conduit sealant

Conduit sealant shall be weather-, mold-, and mildew-resistant and chemically resistant to gasoline, oil, dilute acids and bases. Conduit sealant shall be closed cell type and shall meet or exceed the following properties:

- |                                    |                          |
|------------------------------------|--------------------------|
| • Cure Time                        | 20 minutes max.          |
| • Density                          | 64.4 kg/m3; 6 lbs/ft3    |
| • Compressive Strength (ASTM 1691) | 13.8 MPa; 330 or 300 psi |

- Tensile Strength (ASTM 1623) 15.9 MPa; 270 or 250 psi
- Flexural Strength (ASTM D790) 14.5 MPa; 460 or 450 psi
- Service Temperature -20 to 200 F

## **2.8. Electrical Service Meter Base**

Electrical service meter base shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

## **2.9. Electrical Service Disconnect**

Electrical service disconnect shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

## **2.10. Flashing Arrow**

Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle**

Ground Fault Circuit Interrupter Receptacle shall be 2-pole, 3-wire, 20 Amp, 125 Volt, 60 Hz, NEMA 5-20R configuration and meet or exceed the following standards and certifications:

- NEMA WD-1 and WD-6
- UL 498 and 943
- NOM 057
- ANSI C-73

This item shall include a UL listed, 4 inch x4 inch x 2<sup>1</sup>/<sub>8</sub> inch box with <sup>3</sup>/<sub>4</sub> inch side and end knockouts and a 1<sup>1</sup>/<sub>2</sub> inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

## **2.12. Grounding**

### **2.12.1. Ground Rod**

Ground Rod shall be composite shaft consisting of a pure copper exterior (5 mil minimum) that has been inseparably molten welded to a steel core. Ground Rod shall have a minimum diameter of 5/8 inch, a minimum length of 8 feet and shall be manufactured for the sole purpose of providing electrical grounding.

### **2.12.2. Ground Rod Clamp**

Ground rod shall be equipped with a one piece cast copper or bronze body with a non-ferrous hexagonal head set screw and designed to accommodate a 10 AWG solid through 2 AWG stranded grounding conductor.

## **2.13. Grout**

### **2.13.1. Grout for Inductive Loop Installation**

Grout for inductive loop installation shall be non-shrink, shall meet the requirements of the *Standard Specifications for Road and Bridge Construction*,



and shall be included on the KYTC Division of Materials, *List of Approved Materials*.

#### **2.13.2. Grout for Piezoelectric Sensor Installation**

Grout for piezoelectric sensor installation shall be per the piezoelectric sensor manufacturer's recommendation. Grout shall be suitable for installation in both asphalt and Portland cement pavements. Grout shall have a short curing time (tack free in ten minutes; open to traffic in forty minutes; and fully cured within sixty minutes) to prevent unnecessary lane closure time and should be of sufficient consistency to prevent running when applied on road surfaces with a drainage cross slope. Particulate matter within the grout shall not separate or settle and the grout shall not shrink during the curing process.

#### **2.14. Hardware**

Except where specified otherwise, all hardware such as nuts, bolts, washers, threaded ends of fastening devices, etc. with a diameter less than 5/8 inch shall be passivated stainless steel, alloy type 316 or type 304. Stainless steel hardware shall meet ASTM F593 and F594 for corrosion resistance. All other nuts and bolts shall meet ASTM A307 and shall be galvanized.

##### **2.14.1. Conduit Strap**

Conduit strap shall be double-hole, stainless steel, and sized to support specified conduit. Conduit strap shall attach to wood pole or post with two 2 1/4 inch wood screws.

##### **2.14.2. Mounting Strap for Pole Mount Cabinet**

Mounting strap for pole mount cabinet shall be 3/4 inch x 0.03 inch stainless steel; equipped with clips or buckles to securely hold strap.

##### **2.14.3. Metal Framing Channel and Fittings**

Metal framing channel shall be 1 5/8 inches wide galvanized steel that conforms to ASTM A1011 and ASTM A653. One side of the channel shall have a continuous slot with in-turned edges to accommodate toothed fittings.

Fittings shall be punch pressed from steel plates and conform to ASTM A575 and the physical requirements of ASTM A1011.

#### **2.15. Junction Box**

##### **2.15.1. Junction Box Type A, B, or C**

Junction Box Type A, B, or C shall meet or exceed ANSI/SCTE 77-2007, Tier 15. Box shall have an open bottom. A removable, non-slip cover marked "PLANNING" shall be equipped with a lifting slot and attached with a minimum of two 3/8 inch stainless steel hex bolts and washers. Type A Box shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep. Type B Box shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12

inches deep. Type C Box shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep.

**2.15.2. Aggregate for Junction Box Type A, B, or C**

Aggregate for junction box type A, B, or C shall be gradation size no. 57 and conform to the *Standard Specifications for Road and Bridge Construction*.

**2.15.3. Junction Box 10x8x4**

Junction Box Type 10x8x4 shall be constructed of a UV-stabilized, nonmetallic material or non-rusting metal and be weatherproof in accordance with NEMA 4X. Box shall be equipped with an overhanging door with a continuous durable weatherproof gasket between the body and door. Door shall be hinged with screws, hinge(s) and pin(s) and shall be equipped with a padlockable latch on the side opposite the hinge(s). Junction Box 10x8x4 shall have minimum inside dimensions of 10 inches high by 8 inches wide by 4 inches deep.

**2.16. Maintain and Control Traffic**

Materials for the bid item Maintain and Control Traffic shall conform to the *Standard Specifications for Road and Bridge Construction*, and the KYTC Department of Highways *Standard Drawings*.

**2.17. Piezoelectric Sensor**

Piezoelectric sensor (piezo) shall provide a consistent level voltage output signal when a vehicle axle passes over it, shall have a shielded transmission cable attached, and shall meet the following requirements:

- Dimensions: such that sensor will fit in a ¾ inch wide by 1 inch deep saw cut. Total length shall be 6 feet unless specified otherwise.
- Output uniformity: ± 7% (maximum)
- Typical output level range: 250mV (minimum) from a wheel load of 400 lbs.
- Working temperature range: -40° to 160° F.
- Sensor life: 30 million Equivalent Single Axle Loadings (minimum)

Shielded transmission cable shall be coaxial and shall meet the following requirements:

- RG 58C/U with a high density polyethylene outer jacket rated for direct burial
- Length shall be a minimum of 100 feet. Installations may exceed 100 feet so the piezo shall be supplied with a lead-in of appropriate length so that the cable can be installed splice-free from the piezo to the cabinet.
- Soldered, water resistant connection to the sensor.

One installation bracket for every 6 inches of sensor length shall also be supplied. Piezo shall be a RoadTrax BL Class I or approved equal.

**2.18. Saw Slot Sealant**

Saw Slot Sealant shall be non-shrink, non-stringing, moisture cure, polyurethane



encapsulant suitable for use in both asphalt and concrete pavements. It shall provide a void-free encapsulation for detector loop cables and adequate compressive yield strength and flexibility to withstand heavy vehicular traffic and normal pavement movement.

The cured encapsulant shall meet or exceed the following:

- Hardness (Indentation): 35-65 Shore A, ASTM D2240
- Tensile Strength: 150 psi minimum, ASTM D412
- Elongation: 125% minimum 2 inch/minute pull, ASTM D412
- Tack-free Drying Time: 24 hours maximum, ASTM C679
- Complete Drying Time: 30 hours maximum, KM 64-447
- Chemical Interactions (seven day cure at room temperature, 24-hour immersion, KM 64-446):
  - Motor Oil: No effect
  - Deicing Chemicals: No effect
  - Gasoline: Slight swell
  - Hydraulic Brake Fluid: No effect
  - Calcium Chloride (5%): No effect

## **2.19. Seeding and Protection**

Material for Seeding and Protection shall be Seed Mixture Type I and conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.20. Signs**

Materials for signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.21. Splicing Materials**

### **2.21.1. Electrical Tape**

Electrical tape shall be a premium grade, UL-listed, all-weather, vinyl-insulating tape with a minimum thickness of 7 mil. Tape shall be flame retardant and resistant to abrasion, moisture, alkalis, acids, corrosion, and weather (including ultraviolet exposure).

### **2.21.2. Splice Kit**

Splice kit shall be inline resin-type and rated for a minimum of 600V. Resin shall be electrical insulating-type and shall provide complete moisture and insulation resistance.

## **2.22. Steel Reinforcing Bar**

Steel reinforcing bar shall be #5 and shall conform to the *Standard Specifications for Road and Bridge Construction*.

## **2.23. Terminal Block**

Terminal block shall be rated for a minimum of 300 V and have a minimum of six

terminal pairs with 9/16-inch nominal spacing (center to center) for connecting loop and piezoelectric sensor wires to cable assemblies. Terminal block shall have screw type terminal strips to accommodate wire with spade-tongue ends.

#### **2.24. Warning Tape**

Warning tape shall be acid and alkali resistant formulated for direct burial. Tape shall be a minimum of 3 inches wide by 4.0 mils (nominal) thick, and shall be permanently imprinted with a minimum 1 inch black legend on a red background warning of an electric line. Tape shall meet or exceed the following industry specifications:

- American Gas Association (AGA) 72-D-56
- American Petroleum Institute (API) RP 1109
- American Public Works Association (APWA) Uniform Color Code
- Department of Transportation (DOT) Office of Pipeline Safety USAS B31.8
- Federal Gas Safety Regulations S 192-321 (e)
- General Services Administration (GSA) Public Buildings Service Guide: PBS 4-1501, Amendment 2
- National Transportation Safety Board (NTSB) PSS 73-1
- Occupational Safety and Health Administration (OSHA) 1926.956 (c) (1)

#### **2.25. Wire and Cable**

All cable and wire shall be plainly marked in accordance with the National Electrical Code (NEC).

##### **2.25.1. Loop Wire**

Loop wire shall be 14 AWG, stranded, copper, single conductor, and shall conform to the International Municipal Signal Association (IMSA) Specification No. 51-7.

##### **2.25.2. Cable No. 14/1 Pair**

Cable No. 14/1 pair loop lead-in cable shall be 14 AWG, stranded, copper paired, electrically shielded conductors, and shall conform to IMSA 19-2.

##### **2.25.3. Grounding conductor**

Grounding conductor and bonding jumper shall be solid or stranded, 4 AWG bare copper.

##### **2.25.4. Service Entrance Conductor**

Service entrance conductor shall be stranded, copper, Type USE-2, sized as required to comply with the NEC.

##### **2.25.5. Terminal for electrical wire or cable**

Terminal for electrical wires or cables shall be insulated, solderless, spade tongue terminals of correct wire and stud size. Terminal for electrical wires or cables shall be incidental to the wire or cable (including piezoelectric sensor transmission cable) to be connected to terminal strips.



**2.26. Wood Post**

Wood post shall be Southern Pine pretreated to conform to the American Wood Preservers' Association (AWPA) C-14 or UC4B and shall have minimum dimensions of 4 inches by 4 inches by 8 feet long (for Galvanized Steel Cabinet) or 4 feet long (for Junction Box 10x8x4), sawed on all four sides with both ends square.

**2.27. Wooden Pole**

Wooden pole shall be a Class IV wood pole of the length specified and shall conform to the *Standard Specifications for Road and Bridge Construction* except the pole shall be treated in accordance with AWPA P9 Type A.

### 3. CONSTRUCTION METHODS

The plans indicate the extent and general arrangement of the installation and are for guidance. When the Contractor deems any modifications to the plans or specifications necessary, details of such changes and the reasons shall be submitted in writing to the engineer for written approval prior to beginning the modified work.

After the project has been let and awarded, the Division of Construction shall notify the Division of Planning of the scheduled date for a Pre-Construction meeting so that prior arrangements can be made to attend. This will allow the Division of Planning an opportunity to address any concerns and answer any questions that the Contractor may have before beginning the work.

The Division of Planning Equipment Management Team (502-564-7183) shall be notified a minimum of seven days before any work pertaining to these specifications begins to allow their personnel the option to be present during installation.

Unless otherwise specified, installed materials shall be new.

Construction involving the installation of loops or piezoelectric sensors shall not be performed when the temperature of the pavement is less than 38°F.

A final inspection will be performed by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the installation is in compliance with the plans and specifications.

Any required corrective work shall be performed per the *Standard Specifications for Road and Bridge Construction*.

#### 3.1. Anchoring

Furnish: Anchor, anchor rod, guy wire, strand vise, guy guard.

Anchor shall be installed in relatively dry and solid soil. Rock anchor shall be installed in solid rock. Excavate the hole at a 45° to 60° angle in line with the guy (hole size shall be slightly larger than the expanded anchor – see manufacturer's recommendation). Attach rod to anchor, install assembly into hole, and expand anchor. Backfill and tamp entire disturbed area. The effectiveness of the anchor is dependent upon the thoroughness of backfill tamping. Attach guy to strand vise on pole and anchor rod and tighten to required tension. Install guy guard on guy.

#### 3.2. Bore and Jack Pipe – 2”

Furnish: Steel Encasement Pipe, 2”

Bore and jack pipe – 2” shall conform to the Section 706 of the *Standard Specifications for Road and Bridge Construction*.



### **3.3. Cleanup and Restoration**

Furnish: Seed Mix Type 1 (as required); fertilizer (as required); agricultural limestone (as required); mulch or hydromulch (as required); tackifier (as required).

The Contractor shall be responsible for repairing any damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. This shall include filling any ruts and leveling ground appropriately. Contractor shall dispose of all waste and debris off the project. Sow all disturbed earthen areas with Seed Mix Type 1 per Section 212 of the *Standard Specifications for Road and Bridge Construction*. All materials and labor necessary for cleanup and restoration shall be considered incidental to other bid items.

### **3.4. Conduit**

Furnish: Conduit; conduit fittings; bushings (grounding where required); LB condulets (as required); weatherheads (as required); conduit straps; hardware; conduit sealant.

Conduit that may be subject to regular pressure from traffic shall be laid to a minimum depth of 24 inches below grade. Conduit that will not be subject to regular pressure from traffic shall be laid to a minimum depth of 18 inches below grade.

Conduit ends shall be reamed to remove burrs and sharp edges. Cuts shall be square and true so that the ends will butt together for the full circumference of the conduit. Tighten couplings until the ends of the conduit are brought together. Do not leave exposed threads. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with an Engineer-approved, rust inhibitive paint. Conduit bends shall have a radius of no less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans.

Contractor shall install a bushing (grounding bushing where required) on both ends of all conduits. Cap spare conduits on both ends with caps or conduit sealant.

Conduit openings in junction boxes and cabinets shall be waterproofed with a flexible, removable conduit sealant, working it around the wires, and extending it a minimum 1 inch into the end of the conduit.

After the conduit has been installed and prior to backfilling, the conduit installation shall be inspected and approved by the Engineer.

### **3.5. Electrical Service**

Furnish: Meter base, service disconnect, wire, GFCI AC duplex receptacle with box and cover; conduit, conduit fittings, bushings (grounding where required); LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant; ground rod with clamp; grounding conductor.

Prior to any construction, the Contractor shall initiate a work order with the local power

company for the installation of electrical service to the site. A representative from the Division of Planning and the local power company shall be consulted prior to choosing an exact location for the pole. The Contractor shall clear the right-of-way for the electrical service drop.

Contractor shall obtain electrical inspections, memberships, meter base, service disconnect and any other requirements by the utility serving the installation and pay all fees as required.

Install meter-base and disconnect panel with a 30-ampere, fused, circuit breaker inside. Install a manufactured weatherproof hub connectors to connect the conduit to the top of the meter base and service disconnect.

Install a rigid  $\frac{3}{4}$  inch conduit with three 8 AWG service conductors from the cabinet, through the service disconnect to the meter base and a  $1\frac{1}{4}$ " conduit with three 8 AWG service conductors from the meter base to a weatherhead two feet from the top of the electrical service pole. Install conduit straps 30 inches on center and provide a drip loop where the wire enters the weatherhead. Splice electric drop with service entrance conductors at the top of the pole.

The limit of conduit incidental to "Install Electrical Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

Install a 120-volt, 20-amp GFCI AC duplex receptacle with box and cover in the automatic data recorder (ADR) cabinet.

Install a ground rod with clamp. Install a grounding conductor wire from the meter base, through the disconnect panel, to the ground rod clamp. Install grounding conductor in  $1\frac{3}{4}$ " conduit from service disconnect to ground rod.

After completing the installation and before the electrical service is connected, obtain a certificate of compliance from the Kentucky Department of Housing, Buildings and Construction, Electrical Inspection Division.

### **3.6. Flashing Arrow**

Furnish: Arrow Panel

Construction of Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

### **3.7. Galvanized Steel Cabinet**

Furnish: Cabinet; wood posts; concrete; conduit fittings; metal framing channel; pipe clamp; terminal block(s); spade tongue wire terminals; wire labels; hardware.

Where right-of-way allows, locate the cabinet such that it is outside the clear zone in accordance with the *Roadside Design Guide*. Install Cabinet such that the door of the



cabinet faces the roadway.

Excavate as required and install wood posts to a depth of 36 inches and place concrete around posts as shown on the standard detail sheets. Install metal framing channel with pipe clamp between posts.

Install Cabinet on wood posts 38 inches above the finished grade as shown on the standard detail sheets. Install a unistrut between posts when two posts are specified.

Install the required number of terminal blocks on the cabinet back plate. Install a spade tongue terminal on each loop and piezo sensor wire entering the cabinet and connect wires to terminal block(s). Wiring shall be neat and orderly. Label all wires and cables inside cabinet.

Install conduit from ground to cabinet and attach to pipe clamp. Install locknuts to attach conduit to cabinet and install a conduit bushing as shown on the standard detail sheets.

### **3.8. Grounding**

Furnish: Ground rod with clamp; grounding conductor.

At sites with electrical or solar service, all conduits, poles, and cabinets shall be bonded to ground rods and the electrical system ground to form a complete grounded system.

Install such that top of ground rod is a minimum of 3 inches below finished grade.

Grounding systems shall have a maximum 25 ohms resistance to ground. If the resistance to ground is greater than 25 ohms, two or more ground rods connected in parallel shall be installed. Adjacent ground rods shall be separated by a minimum of 6 feet.

### **3.9. Install Pad Mount Enclosure**

Furnish: Concrete; anchor bolts with washers and nuts; conduit; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the enclosure from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site.

Where right-of-way allows, locate the enclosure such that it is outside the clear zone in accordance with the *Roadside Design Guide*.

Excavate as required, and place concrete to construct the enclosure foundation as specified on the standard detail sheets. Install enclosure on the concrete base such that the door(s) of the enclosure opens away from traffic (hinges away from traffic). Install anchor bolts, washers, and nuts to secure the enclosure to the foundation.

Install ground rod with clamp and install one  $\frac{3}{4}$  inch rigid conduit from enclosure base to

ground rod. Install a grounding conductor from ground rod to enclosure base and bond to each conduit bushing in the base.

Install one ¾ inch rigid steel conduit for electrical service from the base of the enclosure to 24 inches beyond the concrete base. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with a cap, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit.”

Install specified rigid steel conduit(s) into the base of the enclosure for sensor wire entry. Install one spare 2 inch conduit from the enclosure base to 2 feet beyond the concrete base. Plug spare conduit on both ends with a cap, conduit sealant or electrical tape.

The limit of all conduits incidental to “Install Pad Mount Enclosure” is 24 inches beyond the edge of the concrete base.

Wiring in enclosure shall be neat and orderly. Label all wires and cables inside enclosure. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

### **3.10. Install Controller Cabinet**

Furnish: Mounting brackets; mounting straps; conduit; LB condulets; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; cable staples; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the cabinet from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site. Any existing holes in the cabinet not to be reused shall be covered or plugged to meet NEC requirements.

Install mounting brackets and secure cabinet to pole with mounting straps.

Install a ground rod with clamp. Install grounding conductor in 1-¾” conduit from cabinet to ground rod.

Install one ¾ inch rigid steel conduit with two lb condulets from cabinet to electrical service disconnect box. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with cap, plumbers putty, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit”.

Install specified rigid steel conduit(s) and type LB conduit(s) into the bottom of the



cabinet for sensor wire entry. The limit of conduits incidental to “Install Controller Cabinet” is 24 inches beyond the face of the pole.

Wiring in cabinet shall be neat and orderly. Label all wires and cables inside cabinet. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

### **3.11. Junction Box Type 10x8x4**

Furnish: Junction box; wood post; conduit fittings; wire labels; hardware.

Where right-of-way allows, locate the junction box such that it is outside the clear zone in accordance with the Roadside Design Guide.

Excavate as required and install wood post(s) to a depth of 18 inches. Install junction box on wood post such that the bottom of the box is 18 inches above the finished grade as shown on the standard detail sheets. Box shall be installed with four (4) 2½ inch wood screws and washers.

Install locknuts to attach conduit to junction box and install a conduit bushing as shown on the standard detail sheets.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

### **3.12. Junction Box Type A, B, or C**

Furnish: Junction box, No. 57 aggregate; grounding conductor

Excavate as required and place approximately 12 inches of No. 57 aggregate beneath the proposed junction box to allow for drainage. Install specified junction box type A, B, or C near the edge of pavement, flush with finished grade per the detail sheets. Where required, orient the box so that the dimensions comply with the National Electrical Code. Stub conduits with grounding bushings into junction box at its base to accommodate wires and connect grounding conductor to all grounding bushings. Backfill to existing grade, and restore disturbed area to the satisfaction of the Engineer.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

### **3.13. Loops - Proposed**

Furnish: Wire; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for loop installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the precise layout locations on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist.

Upon completion of this meeting, the Contractor shall measure out and mark the proposed loop locations with spray paint or chalk such that the saw slots will be parallel

and perpendicular to the direction of traffic. Marked lines shall be straight and exact to the locations determined and sized as shown on the plans. Unless indicated otherwise, loops shall be 6 feet by 6 feet square and loops in the same lane shall be spaced 16 feet from leading edge to leading edge.

On resurfacing, rehabilitation, and new construction projects that include new asphalt pavement, the Contractor shall install loops prior to laying the final surface course. On projects with milling and texturing, the Contractor may install the loops prior to or after the milling operation; however, if installed prior to milling, the Contractor shall be responsible for ensuring that the loops are installed at a depth such that the milling operation will not disturb the newly installed loops. The Contractor shall correct damage caused by the milling operations to newly installed loops prior to placement of the final surface course at no additional cost to the Cabinet.

For projects that include the installation of new asphalt and piezoelectric sensors, the Contractor shall mark or otherwise reference all loops installed prior to the final surface course such that the loops can be accurately located when the piezoelectric sensors are installed after placement of the final surface course.

For projects that do not have asphalt surfacing, the Contractor shall install the loops in the surface of the pavement.

The Prime Contractor shall coordinate the installation of loops with the electrical sub-Contractor and the Engineer to ensure correct operation of the completed installation.

The following is a typical step by step procedure for the installation of a loop.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and centered in the lane.
- Make each saw-cut 3/8-inch wide and at a depth such that the top of the backer rod is a minimum of 2 inches below the surface of rigid (PCC/Concrete) pavement or 4 inches below the surface of asphalt pavement.
- Drill a 1½ inch core hole at each corner and use a chisel to smooth corners to prevent sharp bends in the wire.
- Clean ALL foreign and loose matter out of the slots and drilled cores and within 1 foot on all sides of the slots using a high pressure washer.
- Completely dry the slots and drilled cores and within 1 foot on all sides of the slots using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45° angle to the conduit adjacent to the roadway.
- Closely inspect all cuts, cores, and slots for jagged edges or protrusions prior to the placement of the wire. All jagged edges and protrusions shall be ground or re-cut and cleaned again.



- Place the loop wire splice-free from the termination point (cabinet or junction box) to the loop, continue around the loop for four turns, and return to the termination point.
- Push the wire into the saw slot with a blunt object such as a wooden stick. Make sure that the loop wire is pushed fully to the bottom of the saw slot.
- Install conduit sealant to a minimum of 1" deep into the cored 1½ inch hole.
- Apply loop sealant from the bottom up and fully encapsulate the loop wires in the saw slot. The wire should not be able to move when the sealant has set.
- Cover the encapsulated loop wire with a continuous layer of backer rod along the entire loop and home run saw slots such that no voids are present between the loop sealant and backer rod.
- Finish filling the saw cut with non-shrinkable grout per manufacturer's instructions. Alleviate all air pockets and refill low spaces. There shall be no concave portion to the grout in the saw slot. Any excess grout shall be cleaned from the roadway to alleviate tracking.
- Clean up the site and dispose of all waste off the project.
- Ensure that the grout has completely cured prior to subjecting the loop to traffic. Curing time varies with temperature and humidity.

Exceptions to installing loop wire splice-free to the junction box or cabinet may be considered on a case-by-case basis and must be pre-approved by the Engineer. If splices are allowed, they shall be located in a junction box and shall conform to the construction note for Splicing.

If loop lead-in cable (Cable No. 14/1 Pair) is specified, cable shall be installed splice free to the cabinet ensuring that extra cable is left in each junction box or cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Loop inductance readings shall be between 100 and 300 microhenries. The difference of the loop inductance between two loops in the same lane shall be  $\pm 20$  microhenries. Inductance loop conductors shall test free of shorts and grounds. Upon completion of the project, all loops must pass an insulation resistance test of a minimum of 100 million ohms to ground when tested with a 500 Volt direct current potential in a reasonably dry atmosphere between conductors and ground.

### **3.14. Loops – Existing**

When noted on a data collection station layout sheet that there are existing inductive loops within the limits of the project, notify the Engineer in writing, a minimum of 14 calendar days prior to beginning milling operations. After milling and prior to placing asphalt inlay, conduct an operating test on the existing inductance loops at the control cabinet in the presence of the Engineer to determine if the inductance loop conductors have an insulating resistance of a minimum of 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground. The Department may also conduct its own tests with its own equipment.

If the tests indicate the loop resistances are above the specified limit and the Engineer determines the system is operable, proceed with the asphalt inlay. If the test indicates the loop resistance is not within the specified limits or if the Engineer determines the system is otherwise not operable, prior to placing the asphalt inlay install and test new loop detectors according to the station layout, notes, and Detail Drawings.

The Engineer will contact and maintain liaison with the District Planning Engineer and the Division of Planning in order to coordinate any necessary work.

### **3.15. Maintain and Control Traffic**

Furnish (all as required): Drums, traffic cones, barricades used for channelization purposes, delineators, and object markers.

Maintain and Control Traffic shall conform to the plans, the Standard Specifications for Road and Bridge Construction, and the KYTC Department of Highways Standard Drawings.

### **3.16. Open Cut Roadway**

Furnish: Concrete, reinforcing bars.

Excavate trench by sawing and chipping away roadway to dimensions as indicated on the detail sheets. After placing conduit, install concrete and steel reinforcing bars per the *Standard Specifications for Road and Bridge Construction*. Restore any disturbed sidewalk to its original condition.

### **3.17. Piezoelectric Sensor**

Furnish: Piezoelectric sensor and cable; sensor support brackets; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for piezoelectric sensor (piezo) installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the final layout on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist. Roadway ruts at the proposed piezo location shall not be in excess of ½ inch under a 4-foot straight edge.

Install the piezo perpendicular to traffic in the final surface course of the pavement. Locate the sensor in the lane as shown on the site layout drawing. Eleven-foot length sensors shall be centered in the lane.

The following is a typical step by step procedure for the installation of a piezo. Refer specifically to the manufacturer's instructions provided with the sensor prior to installation.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and properly positioned in the lane.



- It is strongly recommended that a  $\frac{3}{4}$  inch wide diamond blade be used for cutting the slot, or that blades be ganged together to provide a single  $\frac{3}{4}$  inch wide cut. The slot shall be wet cut to minimize damage to the pavement.
- Cut a slot  $\frac{3}{4}$  inch wide ( $\pm 1/16$  inch) by 1 inch minimum deep. The slot should be a minimum of 2 inches longer than the sensor (including the lead attachment). Drop the saw blade an extra  $\frac{1}{2}$  inch down on both ends of the sensor. The lead out of the passive cable should be centered on the slot.
- Cut the slot for the passive cable  $\frac{1}{4}$  inch wide and at a depth so that the top of the backer rod is a minimum of 2 inches below the road surface.
- Clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot using a high pressure washer.
- Completely dry the slot and within 1 foot on all sides of the slot using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a  $1\frac{1}{2}$  inch hole on a  $45^\circ$  angle to the conduit adjacent to the roadway.
- Place strips of 2-4 inch wide tape strips on the pavement along the lengths of both sides of the sensor slot,  $1/8$  inch away from the slot.
- Wear clean, protective latex (or equivalent) gloves at all times when handling sensors. Visually inspect sensor to ensure it is straight. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify that the correct sensor type and length is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet. Piezo lead-in cable shall not be spliced.
- Test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within  $\pm 20\%$  of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results and label "pre-installation." This information should be stored in the counter cabinet and/or returned to Department Planning personnel.
- Lay the sensor next to the slot and ensure that it is straight and flat.
- Clean the sensor with steel wool or an emery pad and wipe with alcohol and a clean, lint-free cloth.
- Place the installation bracket clips every 6 inches along the length of the sensor.
- Bend the tip of the sensor downward at a  $30^\circ$  angle. Bend the lead attachment end down at a  $15^\circ$  angle and then  $15^\circ$  back up until level (forming a lazy Z).
- Place the sensor in the slot, with the brass element  $3/8$  inch below the road surface along the entire length. The tip of the sensor should be a minimum of 2 inches from the end of the slot and should not touch the bottom of the slot. The top of the plastic installation bracket clips should be  $1/8$  inch below the surface of the road. The lead attachment should not touch the bottom or sides of the slot. Ensure the sensor ends are pushed down per the manufacturer's instructions.
- Visually inspect the length of the sensor to ensure it is at uniform depth along its length and it is level (not twisted, canted or bent).

- On the passive cable end, block the end of the slot approximately 3-5 inches beyond the end of the lead attachment area creating an adequate “dam” so that the sensor grout does not flow out.
- Use one bucket of sensor grout per piezo installation. Overfill the slot with sensor grout and allow to cure for a minimum of 10 minutes before continuing with the installation. Ensure that sensor grout fills around and beneath the sensor completely and that there is not a trough on top.
- Remove the tape along the sides of the saw slot when the adhesive starts to cure.
- Carefully remove the dam from the end of the sensor.
- Route the lead-in cable through the saw slot
- Install conduit sealant to a minimum of 1” deep into the cored 1½ inch hole.
- Cover the lead-in cable with encapsulant, backer rod, and grout.
- If necessary, after the grout has hardened, grind with an angle grinder until the profile is a 1/16 inch mound. There shall be no concave portion to the mound.
- Clean up the site and dispose of all waste off the project.
- Ensure that the sensor grout has completely cured prior to subjecting the sensor to traffic. Curing time will vary with temperature and humidity.

Upon installation, test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within  $\pm 20\%$  of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Perform a functional test of the piezo with an oscilloscope to ensure that the sensor is generating a proper response to the passage of vehicles.

Record the sensor serial number and the test results and label “post-installation.” This information should be stored in the counter cabinet and/or returned to Department Planning personnel.

### **3.18. Pole – Wooden**

Furnish: Pole; anchoring equipment (as required); hardware (as required).

Excavate and install wood pole to a minimum depth of one-sixth the total pole height. Place backfill material in hole and compact until flush with existing grade. Install guy wire, guy guard, anchor, anchor rod, and strand vise, if necessary. Anchor shall be a minimum of one-third the pole height from the face of the pole. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

### **3.19. Removal of Existing Equipment**

The Contractor shall remove existing materials (including but not limited to: poles, anchors, cabinets, junction boxes, conduit and wire) not to be reused. Contractor shall dispose of all removed materials off the project. All materials and labor necessary for the removal of existing equipment shall be considered incidental to other bid items.



### **3.20. Signs**

Furnish: Signs; sign standards; hardware.

Construction of signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

### **3.21. Splicing**

Furnish: Splice kit; solder.

These notes describe the splicing process (if permitted) and are not intended to grant permission to splice. Permission to splice shall be determined by the Division of Planning and the locations shall be shown on the layout sheet. If splicing is needed but not shown on the layout sheet, the Contractor shall receive prior written approval from the Division of Planning.

All splices shall conform to the provisions of the NEC.

Splices for loop and loop lead-in wire shall be twisted and soldered. Abrade the outer jacket of both wires to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground.

For piezos, the same type coax cable, supplied by the manufacturer, shall be used to splice to the sensor's lead-in cable. Cables shall be soldered. Abrade the outer jacket of both cables to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced piezo cables shall be tested and have a minimum resistance of 20 megohms, a maximum dissipation factor of 0.03, a capacitance within the manufacturer's recommended range based upon the length of additional cable. A functional test of the piezo shall be performed to ensure that the sensor is generating a proper response to the passage of vehicles.

### **3.22. Trenching and Backfilling**

Furnish: Warning tape; seed mix type I; cereal rye or German foxtail-millet; mulch; concrete (as required); asphalt (as required).

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required).

### **3.23. Wiring**

Furnish: Wire; wire labels; spade tongue wire terminals (as required).

Installation of all wiring shall conform to the NEC. Permanent identification numbers shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

Additional lengths of each loop and piezo sensor wire shall be neatly coiled in all cabinets and junction boxes as follows:

Enclosure Type	Additional length of each wire
Galvanized Steel Cabinet	2' – 3'
Pad Mount Cabinet (332)	6' - 8'
Pole Mount Cabinet (336)	3' - 4'
Junction Box Type 10x8x4	2' – 3'
Junction Box Type A, B, or C	2' – 3'

**3.24. Wood Post**

Furnish: Wood post; concrete (as required); seed mix type I; cereal rye or German foxtail-millet; mulch.

Excavate hole to specified depth and place concrete, if required. Install post, backfill to existing grade, and tamp backfill. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.



#### **4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT**

Only the bid items listed will be measured for payment. All other items required to complete the vehicle detection installation shall be incidental to other items of work. Payment at the contract unit price shall be full compensation for all materials, labor, equipment and incidentals to furnish and install these items.

##### **4.1. Bore and Jack Pipe – 2”**

Bore and jack pipe – 2” shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

##### **4.2. Conduit**

Conduit shall include furnishing and installing specified conduit in accordance with the specifications. This item shall include conduit fittings, bodies, boxes, weatherheads, expansion joints, couplings, caps, conduit sealant, electrical tape, clamps, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

##### **4.3. Electrical Service**

Electrical Service shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of an electrical service which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Meter-base per utility company’s specifications
- Service disconnect panel per utility company’s specifications
- Meter base and service disconnect entrance hubs, waterproof
- Service entrance conductors
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead
- Duplex GFCI receptacle, 120-volt, 20-amp
- Ground rod with clamp
- Grounding conductor

Also incidental to this item shall be any necessary clearing of right of way for the electrical service drop.

Electrical service will be measured in individual units each.

##### **4.4. Flashing Arrow**

Flashing Arrow shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

##### **4.5. Galvanized Steel Cabinet**

Galvanized Steel Cabinet shall include furnishing and installing galvanized steel cabinet on post as specified. Incidental to this item shall be furnishing and installing grounding hardware, and any necessary post/pole mounting hardware. Also incidental to this item shall be furnishing and installing the required number of terminal blocks and connection of all

sensors to the terminal blocks. Galvanized Steel Cabinet will be measured in individual units each.

#### **4.6. Install Pad Mount Enclosure**

Install Pad Mount Enclosure shall include installing a Department-furnished enclosure as specified on the detail sheets.

This item shall include obtaining the enclosure from KYTC and transporting it to the installation site and furnishing and installing the following:

- Concrete foundation (including any excavation necessary)
- Anchor bolts, lock washers, and nuts
- Conduit
- Conduit fittings (including grounding bushings)
- Weatherhead
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Pad Mount Enclosure will be measured in individual units each.

#### **4.7. Install Controller Cabinet**

Install Controller Cabinet shall include installing a Department-furnished cabinet as specified on the detail sheets.

This item shall include obtaining the cabinet from KYTC and transporting it to the installation site and furnishing and installing the following:

- Conduit
- Conduit Fittings
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Controller Cabinet will be measured in individual units each.

#### **4.8. Junction Box Type 10" x 8" x 4"**

Junction Box Type 10"x8"x4" shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete the installation. Incidental to this item shall be furnishing and installing specified post (wood, channel, metal, etc.) as required for the installation. Junction Box Type 10"x8"x4" will be measured in individual units each.

#### **4.9. Junction Box Type A, B, or C**

Junction Box Type A, B, or C shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include excavation, furnishing and installing #57 aggregate, backfilling around the box, and restoration of disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing a



grounding conductor bonding all conduit grounding bushings in the box. Junction Box Type A, B, or C will be measured in individual units each.

**4.10. Loop Saw Slot and Fill**

Loop Saw Slot and Fill shall include sawing and cleaning saw slots and furnishing and installing conduit sealant, loop sealant, backer rod, grout, or other specified material. Loop Saw Slot and Fill will be measured in linear feet of sawed slot.

**4.11. Maintain and Control Traffic**

Maintain and Control Traffic shall be measured for payment per the *Standard Specifications for Road and Bridge Construction*.

**4.12. Open Cut Roadway**

Open Cut Roadway shall include excavating trench (sawing and chipping roadway) to dimensions as indicated on the detail sheets and furnishing and placing concrete, steel reinforcing bars, and asphalt. This item also includes restoring any disturbed sidewalk to its original condition. Open Cut Roadway will be measured in linear feet.

**4.13. Piezoelectric Sensor**

Piezoelectric sensor (piezo) shall include sawing and cleaning saw slots and furnishing and installing piezo in accordance with the specifications. This item shall include furnishing and installing lead-in wire, conduit sealant, encapsulation material, backer rod, grout, testing, and accessories. Piezo will be measured in individual units each.

**4.14. Pole – 35' Wooden**

Pole – 35' Wooden shall include excavation, furnishing and installing specified wood pole, backfilling and restoring disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing guy wire, anchor and anchor rod, strand vise, and guy guard, if specified.

Pole – 35' Wooden will be measured in individual units each.

**4.15. Signs**

Signs shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

**4.16. Trenching and Backfilling**

Trenching and Backfilling shall include excavation, warning tape, backfilling, temporary erosion control, seeding, protection and restoration of disturbed areas to original condition. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required). Trenching and backfilling will be measured in linear feet.

**4.17. Wire or Cable**

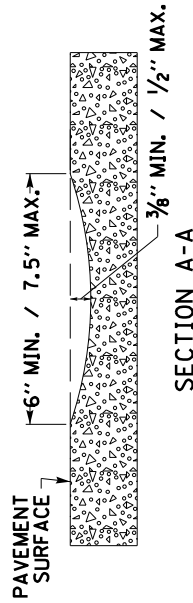
Wire or cable shall include furnishing and installing specified wire or cable within saw slot, conduit, junction box, cabinet, or overhead as indicated on the detail sheets. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice

box, and furnishing and installing other hardware required for installing cable. Wire or Cable will be measured in linear feet.

**4.18. Wood Post**

Wood Post shall include furnishing and installing wood post as specified. This item shall include excavation, furnishing and placing concrete (if required), backfilling around the post, and restoration of disturbed areas to the satisfaction of the engineer. Wood Post will be measured in individual units each.





① FOR MULTI-LANE ROADWAYS, THE RUMBLE TYPE TO BE INSTALLED IS BASED ON SHOULDER WIDTH (Z). FOR SHOULDER WIDTHS OF 2', 3', AND 4' THE RUMBLE TYPE MAY BE SPECIFIED AS EITHER EDGLINE RUMBLE STRIPS (ELRS) OR SHOULDER RUMBLE STRIPS (SRS). IN THESE SITUATIONS, THE RUMBLE TYPE TO BE INSTALLED WILL BE SPECIFIED IN THE PLANS, PROPOSAL, AND/OR BID ITEMS, OR AS DIRECTED BY THE ENGINEER.

② WHEN ELRS ARE SPECIFIED, SHOULDER WIDTH (Z) IS FROM LANE SIDE EDGE OF RUMBLE STRIP TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT. WHEN SRS ARE SPECIFIED, SHOULDER WIDTH (Z) IS FROM CENTER OF EDGE/INF STRIPE TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT.

③ RUMBLE LENGTH (X) AND/OR OFFSET DISTANCE MAY BE MODIFIED AS THE ENGINEER DIRECTS, IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE COMBINED WIDTH OF THE PROPOSED RUMBLE LENGTH (X) AND OFFSET DISTANCE.

4. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE.

⑤ WHEN ELRS ARE SPECIFIED, THE EDGELINE MARKING SHALL BE PLACED IN THE CENTER OF THE RUMBLE STRIP.

⑥ SHOULDER RUMBLE STRIPS (SRS) ALONG OUTSIDE (RIGHT) SHOULDERS THAT ARE 5' OR WIDER SHOULD INCLUDE BICYCLE GAPS AS DETAILED. BICYCLE GAPS ARE NOT REQUIRED ON INSIDE (LEFT) SHOULDERS. BICYCLE GAPS SHALL NOT BE USED ON INTERSTATES AND PARKWAYS.

7. RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS, OR WHEN THE SHOULDER WIDTH IS LESS THAN 1 FT.

**BID ITEMS AND UNIT TO BID**  
**SHOULDER RUMBLE STRIPS**  
**EDGE LINE RUMBLE STRIPS**

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