CALL NO. 107

CONTRACT ID. 214215

VARIOUS COUNTIES

FED/STATE PROJECT NUMBER HSIP 5177 (005)

DESCRIPTION KY HIGHWAY 55 (KY 55)

WORK TYPE ASPHALT PAVEMENT & ROADWAY REHAB

PRIMARY COMPLETION DATE 6/30/2023

LETTING DATE: November 19,2021

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 am EASTERN STANDARD TIME November 19,2021. Bids will be publicly announced at 10:00 am EASTERN STANDARD TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DBE CERTIFICATION REQUIRED - 9%

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

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SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 05

CONTRACT ID - 214215

HSIP 5177 (005)

COUNTY - VARIOUS

PCN - 0512100552101
HSIP 5177 (005)

KY HIGHWAY 55 (KY 55) FROM KY 155 IN SPENCER COUNTY EXTENDING NORTHEAST TO KY 148 IN SHELBY COUNTY, A DISTANCE OF 04.48 MILES.ASPHALT PAVEMENT & ROADWAY REHAB SYP NO. 05-09017.00.

GEOGRAPHIC COORDINATES LATITUDE 38:07:16.00 LONGITUDE 85:20:19.00

COMPLETION DATE(S):

COMPLETED BY 06/30/2023 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) 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. 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). 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.

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 are acceptable per Section 108.01 of the Standard Specifications for Road and Bridge Construction. There are special rules to DBE subcontractors satisfying DBE goals on federal-aid projects. 1st-Tier DBE Subcontractors may only enter into a 2nd-Tier subcontract with another DBE contractor.

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 certainly 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:

- Suspension of Prequalification;
- 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 and Non-DBE Subcontractors 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
6th 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 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.

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

In accordance with the FY 2019 National Defense Authorization Act (NDAA), 2 CFR 200.216, and 2 CFR 200.471, Federal agencies are prohibited, after August 13, 2020, from obligating or expending financial assistance to obtain certain telecommunications and video surveillance services and equipment from specific producers. As a result of these regulations, contractors and subcontractors are prohibited, on projects with federal funding participation, from providing telecommunication or video surveillance equipment, services, or systems produced by:

- Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities)
- Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities)

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.

ASPHALT MIXTURE

Unless otherwise noted, the Department estimates the rate of application for all asphalt mixtures to be 110 lbs/sy per inch of depth.

OPTION B

Be advised that the Department will control and accept compaction of asphalt mixtures furnished on this project under OPTION B in accordance with Sections 402 and 403.

Special Notes Applicable to Project – General Notes & Description of Work

CAUTION

The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

STATIONING

The contractor is advised that the planned locations of work were established using station numbers and mile points for reference. The project station numbers begin near the intersection of KY 155 (MP 11.270) in Spencer County and continue to the Shelby County line (MP 13.566). The station numbers restart at the Shelby County line (MP 0.000) and continue to KY 148 in Shelby County (MP 2.184) for a total of 4.48 miles. The existing mile marker signs may not correspond to the proposed work locations.

STAKING

All survey information should be field verified as appropriate during construction and prior to incorporating the various project work items. Refer to the Special Note for Staking concerning staking operations required to control and construct the work.

ON-SITE INSPECTION

Before submitting a bid for the work, make a thorough inspection of the site and determine existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid to be evidence of this inspection having been made. The Department will not honor any claims for money or time extension resulting from site conditions.

RIGHT OF WAY LIMITS

The Department has not established the exact limits of the Right-of-Way. Unless a consent and release form is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured by the Contractor at no additional cost to the Department. The majority of potentially impacted property owners have been contacted and a signed consent and release is on file at the District Office. In the event that private improvements (i.e. fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.

CONTROL

Perform all work under the absolute control of the Department of Highways. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective

rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and his/her decision shall be final and binding upon the Contractor.

DESCRIPTION OF WORK

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

Superelevation Improvements. Superelevation Improvements are being proposed at various locations as indicated on the Typical Sections. The intent of this work is to bring a consistent pavement cross slope through the identified curve. Refer to the cross sections for locations and approximate quantities. The Contractor will utilize Leveling & Wedging and/or Asphalt Base in order to achieve the desired superelevation improvements at the identified location(s). In areas where the superelevation improvement will only require adding less than 3 inches of additional pavement depth, Leveling & Wedging PG64-22 will be used. In areas where the superelevation improvement will require 3 or more inches of additional pavement depth, Asphalt Base 1.00D PG 64-22 will be used. The cross sections list the beginning and ending locations of Leveling & Wedging for each curve; however, the Engineer will make the final determination as to which bid items will be required at each superelevation improvement area, as well as the appropriate lift thicknesses and number of lifts based on the existing conditions encountered at the time of construction. As a result of the superelevation improvements, the roadside shoulders, fill slopes, and/or ditches will have to be modified to match the final pavement elevations and tie in with the existing ground lines. The bid item 'Embankment in Place' or 'Granular Embankment' has been included for these roadside modifications.

NOTE: Some field adjustments of the proposed shoulder width, fill slope, ditch, and/or superelevation improvement may be required. The proposed shoulder and fill slope grading is intended to occur within Right-of-Way and NOT disturb any sensitive obstructions (i.e. fences, buildings, utility poles, etc.). Superelevation improvements with sensitive obstructions along the roadside shall still require the roadside shoulder and fill slope to be modified, but the slope may have to be constructed steeper than what is shown on the Superelevation Typical Section. The desire of the Department is to construct the new fill slopes at 3:1 or flatter. When a fill slope needs to be constructed steeper than 3:1 to remain within Right-of-Way or not impact a sensitive obstruction, and the existing fill slope is steeper than 3:1, then the new fill slope can be constructed steeper than 3:1, but the new fill slope shall not be constructed steeper than the existing fill slope. If a desired superelevation improvement will result in the new fill slope having to be graded steeper than the existing fill slope in order to remain within Right-of-Way or not impact a sensitive obstruction, then the superelevation rate should be modified (reduced) in order to reduce the final change in pavement edge elevation, thereby reducing the height of the new fill slope grading, and allowing for a flatter fill slope. Consent forms have been acquired in some areas where fill slopes are likely to extend past the Right of Way.

Curve Widening. Curve Widening is being proposed at one of the Superelevation Improvement locations. Refer to the Typical Section and cross sections for the location. Work will include roadway excavation and/or embankment-in-place, widening both driving lanes to 11 ft, adding an additional 3 ft on the northern side of the roadway using full depth pavement and resurfacing the driving lanes and the 3 ft widening.

Shoulder Widening. Areas have been identified along the route for shoulder improvements. Work will include constructing a 2' wide earth shoulder on each side of KY 55 with a desired 3:1 side slopes. In the areas proposed for the Passing Blister and Superelevation Improvements, the shoulder will include areas of crushed stone base measuring 2 ft wide and 6 inches deep. Other items required for this work could include tree and brush removal (incidental to the project), pipe extensions, and/or fence replacement. The width of the shoulder varies as shown on the typical sections and cross sections.

The quantities to bring the fill slopes up to the desired grades according to the cross sections for each area are included in the 'Embankment in Place' or 'Granular Embankment' bid item. An estimate of these anticipated quantities is included in the Proposal. The Engineer will make the final determination as to the quantities required to complete the work based on the existing conditions encountered during construction.

As shown on the Cross Sections, some of the side slopes to be constructed will extend beyond the existing right of way line. Consent & Release forms have been obtained from the adjoining property owners to allow the proposed work to be completed. A Consent & Release Summary has been provided to document the improvements and other provisions agreed upon with the affected property owners.

Passing Blister. A Passing Blister is being proposed from Station 227+44.7 to Station 235+94.7. The work will include asphalt paving, shoulder construction (2 ft wide, 6 inch deep crushed stone base), and installation of guardrail.

Reinforced Concrete Box Culvert Extensions. There are several locations along the project where existing reinforced concrete box culverts are being extended. Locations and estimated quantities are noted on the Pipe, Culvert & Headwall Summary. Refer to the Structure Plans, Special Note for Box Culvert Extensions, and Traffic Control Plan for more details and information on this item of work.

Entrance Pipe Replacement & Driveway Surfacing. Due to areas of existing ditch line being re-shaped and relocated further from the edge of pavement, there are areas throughout the project where the existing entrance pipe will have to be removed and relocated to line up with the new ditch line. See the Entrance Pipe Summary for the locations and bid items/quantities associated with the entrance pipe replacements. The existing driveway surface is noted on the summary sheet and is to be replaced with like-kind surfacing. The Engineer will make the final determination as to the locations and quantities required to complete the work based on the existing conditions encountered during construction. Refer to the Special Note for Pipe Replacements / Extensions for more information on this item of work.

Pipe Replacements & Extensions. There are locations throughout the project were culvert pipes are being replaced and/or extended. Locations are noted on the Pipe, Culvert & Headwall Summary. Other items that may be associated with the pipe replacements and/or extensions include: Sloped & Mitered Concrete Headwalls, Channel Lining, Erosion Control Blanket, etc. Refer to the Special Note for Pipe Replacements / Extensions for more information on this item of work. Flowable fill needed to backfill the culvert replacement at Station 206+47 is incidental to the Culvert Pipe bid item. Quantities of asphalt surface and traffic bound base for the culvert replacement at Station 206+47 can be found on the Earthwork & Paving Summary.

Sloped & Mitered Concrete Headwalls. Sloped & Mitered Concrete Headwalls shall be constructed as shown on the detail sheets titled: SLOPED & MITERED CONCRETE HEADWALL DETAILS. This headwall is

intended to combine the benefits of a pipe headwall with the advantages of safety and adaptability by allowing the headwall to be custom fit with the surrounding embankment. The Culvert Pipe Replacement & Extension Summary identifies which pipe ends are to receive the Sloped & Mitered Concrete Headwalls. The identified pipe ends shall have the headwall installed at an angle that matches the final embankment slopes at each location. If the pipe is on a skew, install the headwall and miter the pipe so that the concrete slope paving of the new headwall is perpendicular to the roadway. In other words, the headwall should be installed and the pipe should be mitered to match the final embankment slope, so that the roadside fill slope is fairly consistent prior to the pipe, at the pipe, and beyond the pipe. When completed the edges of the Sloped & Mitered Concrete Headwall should be flush with the surrounding ground line. Payment at the Contract unit price Each shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary to install the headwall and miter the pipe.
NOTE: For pipes that receive the Sloped & Mitered Concrete Headwall, the pipe length will be measured to the furthest point along the mitered end of the pipe.

Guardrail Replacement. Existing guardrail within the project will be replaced. Refer to the Guardrail Summary for the approximate locations for guardrail replacement. The work will include removal of the existing guardrail, regrading the side slopes to a desired 2:1 slope to accommodate installation of the new guardrail and end treatments, and roadway excavation and/or embankment-in-place. See the Special Note for Guardrail for more information on this work.

Bridge Rail Modification using Case I-A Bridge Guardrail and Precast Concrete Bridge Rail Block. There are quantities of Bridge Guardrail Case 1-A, as well as Precast Concrete Bridge Rail Block included in the contract for modifying the barrier system at the structure identified on the Guardrail Summary. For more information on this item of work, refer to the Special Note for Guardrail and the detail sheets titled: "Precast Concrete Bridge Rail Block" and "Guardrail on Bridge, Case I-A."
NOTE: The existing concrete curb along the bridge may need some minor repair prior to attaching the proposed Bridge Guardrail Case I-A. The Engineer will determine if any concrete curb repairs are required at the time of construction. 10 LF of "Repair Concrete Curb" and 14 LBS of "Steel Reinforcement" have been included in the contract in case the Engineer determines some of the existing concrete curb requires repair to facilitate attachment of the proposed Bridge Guardrail Case I-A. If concrete repair of portions of the bridge curb are deemed necessary, refer to the Special Note for Bridge Concrete Curb Repair for more information on this item of work.

Remove and Replace Fence. There are locations within the project area that require removing the fence so that the roadside can be regraded to the slopes shown on the cross sections. Replace all fence upon completion of work with like kind materials at the same post spacing. A quantity of temporary fence has been included and is to be used in areas where livestock is present. Consent & Release forms have been acquired for all areas requiring fence removal and replacement.

Channel Lining. A quantity of Channel Lining Class II has been included in the Earthwork and Paving Summary and the Pipe, Culvert & Headwall Summary for use at the locations indicated. It was assumed that an average of 4 tons would be used on each end of the pipe extensions and an average of 40 tons would be used on each end of the culvert extensions. The Contractor and Engineer should work together to determine the location and best use of Channel Lining throughout this project. The Engineer will make the final determination as to the needed quantities and placement of Channel Lining.

Erosion Control Blanket. A quantity of Erosion Control Blanket has been included in the contract for potential use along areas of regraded shoulders, ditch lines, fills slopes and/or back slopes, inlets and outlets of pipes, and any other areas as directed by the Engineer. The Contractor and Engineer should work together to determine the location and best use of Erosion Control Blanket throughout this project. The Engineer will make the final determination as to the quantities and placement of Erosion Control Blanket.

Seeding and Protection. A quantity of Seeding and Protection has been included in the contract for potential use along areas of regraded shoulders, ditch lines, fills slopes and/or back slopes and any other areas as directed by the Engineer. The Contractor and Engineer should work together to determine the location and best use of Seeding and Protection throughout this project. The Engineer will make the final determination as to the quantities and placement of Seeding and Protection.

Temporary Striping. A quantity of 32,798 linear feet of Pave Striping – Temp Paint – 4 in has been included in the contract for potential use in these areas: the turning lane at Washburn Ln (Sta 123+00 to Sta 140+22.2), the curve widening (Sta 175+30.5 to Sta 189+49), the passing blister at Van Dyke Mill Rd. (Sta 227+44.7 to Sta 235+94.7), the superelevation improvement areas, and any other areas as directed by the Engineer. The Contractor and Engineer should work together to determine any locations throughout the project requiring temporary pavement striping. The Engineer will make the final determination as to the quantities and placement of temporary pavement striping.

Permanent Signing and Striping. Prior to installation of any permanent signing and striping, the Contractor shall coordinate with Allison Murphy, within the District 5 Traffic Section (phone: 502-210-5436). Refer to the Special Note for Staking for more information on laying out the proposed signing and striping and obtaining final layout approval.

SPECIAL NOTES FOR PIPE REPLACEMENTS / EXTENSIONS

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's Standard Specifications, interim Supplemental Specifications, Standard and Sepia Drawings, and Special Notes and Special Provisions, current editions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

(1) Maintaining and Controlling Traffic; (2) Constructing pipe replacements and/or pipe extensions; (3) Embankment and/or Excavation; (4) Erosion Control; and (6) Any other work as specified by this contract.

II. MATERIALS

Provide for sampling and testing of all materials in accordance with the Department's Sampling Manual. Make 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. Culvert Pipe. Furnish pipe meeting the requirements of Section 810. Select pipe for pH range Medium and minimum fill cover height according to the applicable Standard or Sepia Drawings, current editions. Verify maximum and minimum fill cover height required for new pipe prior to construction and obtain the Engineer’s approval of the class or gauge of pipe and type of coating prior to delivering pipe to project. Furnish approved connecting bands or pipe anchors and toe walls.

C. Flowable Fill. Furnish Flowable Fill for Pipe Backfill per Section 601.03.03(B).

D. Erosion Control. See Special Note for Erosion Control.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Erosion Control. See Special Note for Erosion Control.

C. Site Preparation. Be responsible for all site preparation including, but not limited to, saw cutting and removing pavement; clearing and grubbing; staking; incidental excavation and backfilling; common and solid rock excavation; embankment in place; removal of obstructions, or any other items; restoration of pavements, slopes, and all disturbed areas; final dressing and cleanup; and disposal of materials. Limit clearing and grubbing to the absolute minimum required to construct the drainage features. Perform all site preparation only as approved or directed by the Engineer.

D. Removing Headwalls, Pipe, and Excavation. Remove existing headwalls and lengths of culvert and/or entrance pipes at the approximate locations noted on the summary. The Engineer will determine the exact locations and lengths of pipe to be removed at the time of construction. When removing pipe, or any portion of pipe under the roadway, saw cut the existing asphalt pavement and base to a neat edge prior to excavation and removal of the existing pipe. NOTE: Saw cutting the pavement shall be incidental. Obtain the Engineer's approval of trench width and/or saw cutting limits prior to saw cutting the pavement. Excavate the trench and remove the pipe as directed, or approved, by the Engineer without disturbing existing underground utilities.

E. Constructing Pipe, Headwalls, and Drainage Boxes. Construct culvert and/or entrance pipes, pipe extensions, headwalls, drainage boxes, and other drainage structures at the locations shown in the proposal or as designated by the Engineer. The contractor will establish, with the approval of the Engineer, the final centerlines, flow lines, and skews to obtain the best fit with the existing and/or proposed ditches and other proposed improvements. (See the Special Note for Staking.) Construct pipe bedding according to Section 701 and the applicable Standard or Sepia Drawings, current editions. Use approved connecting bands or concrete anchors as required. Prior to backfilling pipe, obtain the Engineer's approval of the pipe installation. Provide Positive drainage upon completion of pipe installation.

F. Pipe Backfill. Backfill entrance pipes according to Section 701.03.06. Contrary to Section 701.03.06, backfill culvert pipes with flowable fill for the width of the roadway and as shown on the Pipe Replacement Detail. Steel plates will likely be required to maintain traffic while the flowable fill cures. Once the flowable fill has sufficiently cured, place the Asphalt Base in lifts with thicknesses of 3-4 inches, up to the surface of the existing pavement. Seal with Leveling & Wedging. Allow the asphalt base and leveling & wedging to be exposed to traffic for a minimum of 14 days to allow for settlement. During the waiting period, level & wedge any settlement as directed by the Engineer. After the waiting period has been met for the last pipe replacement constructed, the final milling and/or surfacing operations can begin, unless directed otherwise by the Engineer.

G. Embankments. Backfill pipe and culvert extensions, and construct shoulder embankments as directed by the Engineer. The contractor shall bench into the existing slope and apply proper compaction according to Section 206. For more information and details on benching, refer to Note 2 on the detail sheet titled: DITCHING & SHOULDERING AND EMBANKMENT BENCHING DETAILS, found elsewhere in the Proposal. Provide positive drainage of ditches, shoulders, and slopes at all times during, and upon completion of construction.

H. Property Damage. Be responsible for all damage to public and/or private property resulting from the work. Repair or replace damaged roadway features in like kind materials and design, as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.

I. Coordination with Utility Companies. Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that 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. Be responsible for repairing all utility damage that occurs as a result of pipe replacement and pipe extension operations at no additional cost to the Department. NOTIFY THE ENGINEER AND THE UTILITY OWNER(S) IMMEDIATELY WHEN IT IS DISCOVERED OR ANTICIPATED THAT ANY UTILITY CONFLICT COULD DELAY THE CONTRACTOR'S OPERATIONS. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however, no extension will be granted for any delay caused by the Contractor's failure to notify the Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified.

J. Right-of-Way Limits. The Department has not established exact limits of the Right-of-Way. Unless a consent and release form is obtained from the adjoining property owner, limit work activities to the obvious Right-of-Way and staging areas secured by the Contractor at no additional cost to the Department. In the event that private improvements (i.e. fences, buildings, etc.) encroach upon the Right-of-Way, the contractor shall notify the Engineer and limit work activities in order to NOT disturb the improvements. If they become necessary, the Department will secure consent and releases from property owners through the Engineer. Be responsible for all encroachments onto private lands.

K. Clean Up, Disposal of Waste. Clean up the project area as work progresses. Dispose of all removed concrete, pipe, pavement, debris, excess and unsuitable excavation, and all other waste at approved sites off the Right of Way obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

L. Final Dressing, Seeding and Protection. Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

M. Erosion Control. See the Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See the Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, site preparation will NOT be measured for payment, but shall be incidental to culvert and/or entrance pipe bid items, as applicable.

C. Remove Headwall. The Department will measure the removal of existing headwalls as Each. Any excavation, including rock excavation, necessary to remove existing headwalls will NOT be measured for payment, but shall be incidental to the bid item "Remove Headwall".

D. Remove Pipe. Removal of existing culvert and entrance pipe shall be measured according to Section 701.04.14. Any excavation, including rock excavation, necessary to remove existing pipe will NOT be measured for payment, but shall be incidental to the bid item "Remove Pipe".

E. Culvert and Entrance Pipe. The Department will measure the quantities according to Section 701.04. Any excavation, including rock excavation, necessary to install culvert or entrance pipe shall be incidental to the corresponding pipe bid items.

F. Headwalls, Drainage Boxes. The Department will measure according to Section 710. Any excavation, including rock excavation, necessary to construct headwalls and/or drainage boxes will NOT be measured for payment, but shall be incidental to the applicable bid item.

G. Excavation, Pipe Backfill, Embankments. The Department will NOT measure for payment the following items: any excavation, including rock excavation, necessary to remove the existing pipe and/or install the proposed culvert or entrance pipe, pipe backfill material, flowable fill, and re-constructing shoulder embankments, but shall considered these items incidental to the bid items for culvert and entrance pipe.

H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection. The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental to the project bid items. Seeding and Protection shall be measured according to Section 212.

I. Erosion Control. See the Special Note for Erosion Control.

V. BASIS OF PAYMENT

A. Maintain and Control Traffic. See the Traffic Control Plan.

B. Remove Headwall. The Department will make payment for the completed and accepted quantities of Each headwall removed. Payment at the Contract unit price per Each shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing headwall.

C. Remove Pipe. The Department will make payment according to Section 701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals for removing the existing pipe.

D. Culvert and Entrance Pipe. The Department will make payment according to Section

701.05. Payment at the Contract unit price per linear foot shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary for installing and backfilling new culvert and entrance pipe.

E. Headwalls, Drainage Boxes. The Department will make payment according to Section 710.

F. Erosion Control. See the Special Note for Erosion Control.

SPECIAL NOTE FOR BOX CULVERT EXTENSIONS

I. DESCRIPTION.

Except as provided herein, perform all work in accordance with the Department's Standard Specifications, interim Supplemental Specifications, Standard and Sepia Drawings, and Special Notes and Special Provisions, current editions. Section references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

(1) Contractor staking; (2) Site preparation; (3) Removing existing concrete masonry, as necessary; (4) Foundation preparation and construction of reinforced concrete box culvert extensions and headwalls; (4) Maintain and Control Traffic; and (5) all other work specified as part of this contract.

II. MATERIALS.

Provide for sampling and testing of all materials in accordance with the Department's Sampling Manual. Make 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. Erosion Control. See Special Note for Erosion Control.

C. Foundation Preparation. Furnish materials according to Section 603, the drawings, and as directed by the Engineer.

D. Reinforced Concrete Box Culvert Extensions. Furnish Class A Concrete and deformed Steel Reinforcement according to Sections 601 and 602. Contrary to Section 602.03.03, field bending bars will be allowed; however, obtain the Engineers approval of proposed field bending methods prior to bending. Furnish additional reinforcement to provide adequate splice lengths with existing box culvert steel as determined by the Engineer.

E. Steel Reinforcement. See Section 811.

III. CONSTRUCTION.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Erosion Control. See Special Note for Erosion Control.

C. Site Preparation. Be responsible for all Site Preparation, including but not limited to Clearing and Grubbing; Removing pavement; Tree and Stump removal; Temporary Fencing; Roadway Excavation and Structure Excavation; Embankment and Embankment in Place; removal of obstructions or any other items; Grading, Reshaping, and Compacting; Ditching and Shouldering, obtaining borrow and waste sites, and disposal of materials, waste, and debris; cleaning inlet and outlet ditches; and restoration, cleanup and final dressing.

Clear and Grub only the minimum area required for construction and/or as directed by the Engineer. Limit clearing and grubbing to the absolute minimum required to construct the box culvert extensions. Obtain the Engineer's approval before removing trees and stumps from the cleared areas. Phase construction such that the potential for erosion is as minimal as possible.

Excavate as needed to remove any portion of the existing structure necessary for construction of the box culvert extension. Perform any ditching or grading as directed by the Engineer. Stockpile suitable materials for incorporation into the work as approved by the Engineer.

Be responsible for all excavation (common, roadway, structure, solid rock, and unclassified) required for foundation preparation, toe walls, and all other excavation required for the box culvert extensions. Excavate rock in channel as required to allow for construction of foundation and construction of box culvert extensions.

Be responsible for all embankment, embankment in place, and borrow required for backfilling the box culvert extension, constructing widened roadway and shoulder transitions, and all other embankment required to complete the work.

Provide positive drainage of slopes and ditches at all times during and upon completion of construction. Waste all removed materials not incorporated into the work at sites off the right of way obtained by the Contractor at no additional cost to the Department (see the Special Provision for Waste and Borrow Sites). Perform all excavation and removal of obstructions only as approved or directed by the Engineer.

Sheeting, shoring, cofferdams, and/or dewatering methods may be necessary for construction of the culvert. Include all costs in the unit price bid for Foundation Preparation.

D. Remove Headwall. Remove the existing headwall(s) and wingwalls at the existing box culvert end(s) to sound concrete masonry, or as directed by the Engineer. Before removing any concrete masonry saw around the perimeter of the removal area on the interior and exterior to a depth of 1 inch. When sawing, take care not to cut into the existing steel reinforcement. Do not kink or unnecessarily bend exposed existing steel reinforcement. Remove structure excavation to solid rock or as directed by the Engineer, and prepare foundation. Existing steel reinforcement shall be thoroughly cleaned of concrete and straightened for use to bond the new

concrete and reinforcement with a minimum overlap of 1'-9", unless otherwise shown in the drawings. Coat exposed ends of cut reinforcement with a bituminous produce to prevent corrosion of the ends of the exposed reinforcement. As an alternative, if the existing headwall is sound, the Engineer may approve leaving the existing headwall in place, in which case the existing parapet should be removed to 6" below proposed roadway elevation. If the Engineer approves leaving the existing headwall in place, center 3'-0" long, #6 dowel bars at 12" spacing into the existing slabs and walls, embedded 1'-6" deep into the existing box culvert concrete, and set with an adhesive anchorage system to provide a pullout strength of equal or greater capacity than the corresponding reinforcing steel.

E. Box Culvert Extensions. Construct the box culvert extension(s) according to the notes and details in the drawings, and Sections 601, 602, 603, 610, and/or any other applicable Standard Specifications. Class A Concrete shall be used throughout. Bond the proposed plastic concrete to the existing hardened concrete in all locations using a Type V Epoxy Resin or other approved structural adhesive, as prescribed in Section 826. Follow the manufacturer's application instructions. All exposed concrete edges shall be beveled ¾", unless otherwise noted. Reinforcement shall have a 2" clear distance to the proposed face of concrete, unless otherwise noted. Obtain the Engineer's approval of the final centerline, flow line, length, skew, and revised dimensions and/or steel pattern, if any, of each box culvert extension prior to placing concrete.

The Contractor is required to complete the box culvert extension(s) in accordance with the plans and all applicable specifications. The cost of any and all labor, materials, equipment, and/or any other items necessary to construct the box culvert extension(s) shall be incidental to the most appropriate bid items. Incidental items may include, but are not limited to, cofferdams, shoring, excavation, backfilling, and phased construction.

F. Remove Concrete Masonry. If the Engineer approves leaving the existing headwall(s) in place, a portion of the existing parapet(s) may need to be removed in order to construct a shoulder of suitable depth from the edge of pavement to the proposed headwall. Any necessary removal of a portion of the existing parapet shall be considered Site Preparation and shall be incidental to the box culvert bid items. Also, if the existing headwall(s) are left in place, one or both of the existing wingwalls, or a portion of either wingwall may need to be removed in order to construct the proposed box culvert extension(s) and/or headwall(s). In this situation, any necessary removal of the existing wingwall(s), or any portion thereof, shall be considered Site Preparation and shall be incidental to the box culvert bid items.

G. Embankments. Backfill box culvert extensions and construct embankments, slopes, roadway shoulders, and ditches as shown on the drawings, or as directed by the Engineer. Warp and tie the embankment slopes into the adjacent existing roadway to match the existing slopes and ditches. Provide positive drainage of slopes and ditches at all times during and upon completion of construction.

H. Ditching, Shouldering. Construct ditches and shoulders to provide positive drainage. Transition the ditches and shoulders between the existing typical section and the reconstructed roadway at the box culvert extension site(s). Clean all new and existing cross drainage and entrance structures within the limits of the ditching areas according to Section 209.03.B.

I. Clean Culvert. Remove all deleterious material and objects not native to the box culvert barrel, such as, but not limited to debris and silt. The Contractor may choose to clean the box culvert prior to, or after, the proposed box culvert extension work. If the Contractor chooses to clean the box culvert prior to the proposed box culvert extension work, and additional debris, silt, etc. builds up during the box culvert extension operations, the Contractor shall remove the additional debris, silt, etc. at no additional cost to the Department, after the box culvert extension operations are complete.

NOTE: The proposal lists the existing box culverts that are to receive the Clean Culvert bid item. These identified box culverts are those that had existing debris, silt, etc. at the time the proposal was developed. The Engineer and the Contractor are encouraged to review the proposed box culvert extension site(s) prior to the Contractor beginning the box culvert extension work and determine if the Clean Culvert bid item applies. The Engineer shall determine the final approved quantities. If an existing box culvert location has a buildup of debris, silt, etc., but the Clean Culvert bid item is NOT listed in the proposal for that box culvert, the Contractor shall notify the Engineer prior to beginning box culvert extension operations, so that the Engineer can confirm that the existing box culvert has a buildup of debris, silt, etc. If the contactor does not notify the Engineer of this situation prior to beginning the box culvert extension operations, the Engineer will assume the buildup was a result of the Contractor's operations, and the cost of cleaning the box culvert shall be at no additional cost to the Department.

J. Property Damage. Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.

K. On-Site Inspection. Before submitting a bid for the work, make a thorough inspection of the site and determine existing conditions so that the work can be expeditiously performed after a contract is awarded. The Department will consider submission of a bid to be evidence of this inspection having been made. The Department does not warrant or give any guarantee as to the accuracy of the data and information shown and no claims for money or time extensions will be considered if the conditions encountered, items used or omitted, and final quantities required are not in accordance with the information shown.

L. Coordination with Utility Companies. Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is

discovered that the work does require utilities to be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of the Contractor's operations at no additional cost to the Department.

M. Right of Way Limits. The Department has not established the exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

N. Control. Perform all work under the absolute control of the Department. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and his decision shall be final and binding upon the Contractor.

O. Clean Up, Disposal of Waste. Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

P. Final Dressing, Seeding and Protection. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

IV. MEASUREMENT.

Quantities shown on the summaries and drawings are approximate only. The Department will measure for payment only the bid items listed and the actual quantities incorporated in the work. All other items required to complete the construction shall be incidental to the listed bid items.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Erosion Control. See the Special Note for Erosion Control.

C. Site Preparation. Other than the bid items listed, the Department will not measure Site Preparation for separate payment, but shall be incidental to the applicable project bid items.

D. Remove Headwall. The Department will measure the removal of existing headwalls as Each. If the Engineer allows a proposed box culvert extension to be constructed without removing the existing headwall, the Remove Headwall bid item shall not be measured for payment.

E. Foundation Preparation. The Department will measure Foundation Preparation of box culvert extensions as Lump Sum. The Lump Sum unit price shall include all extensions at each identified box culvert, and shall not be measured as individual units per inlet or outlet. Except for the Foundation Preparation bid items listed, the Department will NOT measure Foundation Preparation for any other items of work and shall consider it incidental to the other items of work, as applicable.

F. Concrete-Class A. See Section 601.04.

G. Steel Reinforcement. See Section 602.04.

H. Clean Culvert. The Department will measure each box culvert cleaned as Lump Sum. The bid item Clean Culvert will not be measured when a box culvert must be cleaned due to buildup of debris, silt, etc. that occurs during the Contractor's construction operations.

V. PAYMENT.

The Department will make payment only for the bid items listed. All other items required to complete the construction shall be incidental to the listed bid items.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Erosion Control. See the Special Note for Erosion Control.

C. Foundation Preparation. Payment at the Lump Sum unit price shall be full compensation for furnishing all labor, materials, and equipment necessary for Foundation Preparation of all extensions at each identified box culvert.

D. Concrete-Class A. See Section 601.05.

E. Steel Reinforcement. See Section 602.05.

F. Clean Culvert. The Department will make payment for the completed and accepted quantities of each box culvert cleaned, as approved by the Engineer. Payment at the Lump Sum unit price shall be full compensation for furnishing all labor, materials, and equipment necessary to clean each box culvert measured for payment. Any box culverts that require

cleaning, but are not approved by the Engineer for measurement of payment, shall be incidental to the box culvert bid items.

SPECIAL NOTE FOR EROSION CONTROL

I. DESCRIPTION

Perform all erosion and water pollution control work in accordance with any other notes in the Proposal, the Department's Standard and Interim Supplemental Specifications, the Special Provisions and Special Notes, and the Standard and Sepia Drawings, current editions, or as directed by the Engineer. Section references are to the Standard Specifications. This work shall consist of:

(1) Developing and preparing a Best Management Practices Plan (BMP) tailored to suit the specific construction phasing for each site within the project; (2) Preparing the project site for construction, including locating, furnishing, installing, and maintaining temporary and/or permanent erosion and water pollution control measures as required by the BMP prior to beginning any earth disturbing activity on the project site; (3) Clearing and grubbing and removal of all obstructions as required for construction; (4) Removing all erosion control devices when no longer needed; (5) Restoring all disturbed areas as nearly as possible to their original condition; (6) Preparing seedbeds and permanently seeding all disturbed areas; (7) Providing a Kentucky Erosion Prevention and Sediment Control Program (KEPSC) qualified inspector; and (8) Performing any other work to prevent erosion and/or water pollution as specified by this contract, required by the BMP, or as directed by the Engineer.

II. MATERIALS

Furnish materials in accordance with these notes, the Standard Specifications and Interim Supplemental Specifications, applicable Special Provisions and Special Notes, and the Standard and Sepia Drawings, current editions. Provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual. Unless directed otherwise by the Engineer, 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.

III. CONSTRUCTION

Be advised, these Erosion Control Notes do not constitute a BMP plan for the project. Jointly with the Engineer, prepare a site specific BMP plan for each drainage area within the project in accordance with Section 213. Provide a unique BMP at each project site using good engineering practices taking into account existing site conditions, the type of work to be performed, the construction phasing, methods, and the techniques to be utilized to complete the work. Be responsible for all erosion prevention, sediment control, and water pollution prevention measures required by the BMP for each site. Represent and warrant compliance with the Clean Water Act (33 USC Section 1251 et seq.), the 404 Permit, the 401 Water Quality Certification, and applicable state and local government agency laws, regulations, rules, specifications, and permits. Contrary to Section 105.05, in case of discrepancy between these notes, the Standard Specifications, Interim Supplemental Specifications, Special Provisions and Special Notes, Standard and Sepia Drawings, and such state and local government agency requirements, adhere to the most restrictive requirement.

Conduct operations in such a manner as to minimize the amount of disturbed ground during each phase of the construction and limit the haul roads to the minimum required to perform the work. Preserve existing vegetation not required to be removed by the work or the contract. Seed and/or mulch disturbed areas at the earliest opportunity. Use silt fence, silt traps, temporary ditches, brush barriers, erosion control blankets, sodding, channel lining, and other erosion control measures in a timely manner as required by the BMP and as directed or approved by the Engineer. Prevent sediment laden water from leaving the project, entering an existing drainage structure, or entering a steam.

Provide for erosion control measures to be in place and functioning prior to any earth disturbance within a drainage area. Compute the volume and size of silt control devices necessary to control sediment during each phase of construction. All silt control devices shall be sized to retain a volume of 3,600 cubic feet per disturbed contributing acre. Remove sediment from silt traps before they become a maximum of ½ full. Maintain silt fence by removing accumulated trappings and/or replacing the geotextile fabric when it becomes clogged, damaged, or deteriorated, or when directed by the Engineer. Properly dispose of all materials trapped by erosion control devices at approved sites off the right of way obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

As work progresses, add or remove erosion control measures as required by the BMP, applicable to the Contractor's project phasing, construction methods, and techniques. Update the volume calculations and modify the BMP as necessary throughout the duration of the project. Ensure that an updated BMP is kept on site and available for public inspection throughout the life of the project.

The required volume at each Silt Trap shall be computed based on the Up Gradient Contributing Areas that are disturbed and/or stabilized to the satisfaction of the Engineer. The required volume calculation for each Silt Trap shall be determined by the Contractor and verified by the Engineer. The required volume at each Silt Trap may be reduced by the following amounts:

- Up Gradient Areas not disturbed (acres)
- Up Gradient Areas that have been reclaimed and protected by Erosion Control Blanket or other ground protection material such as Temporary Mulch (acres)
- Up Gradient Areas that have been protected by Silt Fence (acres) – Areas protected by Silt Fence shall be computed at a maximum rate of 100 square feet per linear foot of Silt Fence
- Up Gradient Areas that have been protected by Silt Traps (acres)

The use of Temporary Mulch is encouraged.

Silt Trap Type B shall always be placed at the collection point prior to discharging into a Blue Line Stream or onto an adjacent Property Owner. Where overland flow exists, a Silt Fence or other filter devices may be used.

After all construction is complete, restore all disturbed areas in accordance with Section 212. Completely remove all temporary erosion control devices not required as part of the permanent erosion control from the construction site. Prior to removal, obtain the Engineer's concurrence of items to be removed. Grade the remaining exposed earth (both on and off the Right of-Way) as nearly

as possible to its original condition, or as directed by the Engineer. Prepare the seed bed areas and sow all exposed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

IV. MEASUREMENT

The Department will measure the various erosion control items according to Section 212.04 and Section 213.04, as applicable.

V. BASIS OF PAYMENT

The Department will make payment for the various erosion control items according to Section 212.04 and Section 213.04, as applicable.

SPECIAL NOTE FOR BRIDGE CONCRETE CURB REPAIR

I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's Standard and Supplemental Specifications and Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Furnish all equipment, labor, materials, and incidentals for the following work items:

> (1) Maintain and control traffic; (2) Remove existing concrete curb in the areas identified in the Proposal or as directed by the Engineer; (3) Clean and straighten exposed existing steel reinforcement; (4) Form and place new concrete curb as specified by this note; (5) Finish and cure the new curb; and (6) all other work specified as part of this contract.

II. MATERIALS

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and 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.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Concrete-Class M. See Sections 601.

C. Epoxy Bond Coat. See Section 511.

D. Steel Reinforcement. Use Grade 60. See Section 602.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Prior to removal of existing unsound concrete, determine the exact limits of unsound concrete along the surface of the bridge curb to be repaired. (Approximate limits have been identified elsewhere in this Proposal; other areas of unsound concrete curb may be identified by the Engineer.) Mark the curb areas to be removed; mark lines should be straight and as square as possible. In order to keep the removal mark lines straight and as square as possible, this may require marking and removal of some sound concrete. Prior to removing the unsound concrete, saw cut the marked areas to a depth of 1 inch so as to create a neat edge for the curb repairs. Obtain the Engineer’s approval of all marked removal areas prior to saw cutting. Saw cutting of the concrete shall be incidental to the contract unit price for ‘Repair Concrete Curb’.

C. **Removal of Existing Concrete.** After saw cutting, remove all unsound concrete using hammers weighing 40 pounds or less. Remove concrete to a depth of 1 inch below any reinforcing bar which is more than 25% exposed or that appears to not be bonded to the existing concrete. Ensure that the periphery of routed areas is as nearly vertical as possible. If the removal of unsound concrete extends through two thirds or more of the depth of the curb, remove and replace the entire depth of the curb. Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way. Protect the plinths from damage throughout the life of the project.

D. **Clean, Straighten, Repair, and/or Re-tie Existing Steel Reinforcement.** After removing the existing deteriorated concrete, blast clean all exposed steel reinforcement according to Section 606.03.04 to remove scale, rust, grease, oil, and other material that would prevent the adhesion of the concrete to the steel reinforcement. Before placing concrete, straighten and/or retie existing steel reinforcement as directed by the Engineer. Ensure that all exposed steel reinforcement is tied according to Section 602.03.04 prior to placing new Class M Concrete. Straightening and retying of steel reinforcement shall be incidental to the contract unit price for 'Repair Concrete Curb'. Any steel reinforcement that is damaged by the Contractor shall be repaired or replaced as directed by the Engineer at no additional cost to the Department.

E. **Additional Steel Reinforcement.** After removal of the unsound concrete, the Engineer may determine that portions of the existing steel reinforcement needs to be replaced. Furnish for replacement 20 linear feet of steel reinforcing bar (1/2" diameter by 20' length – approximately 14 lbs). Place new steel reinforcement in areas deemed by the Engineer to require additional reinforcement. The Contractor shall retain possession of any unused steel reinforcement. Ensure that any new steel reinforcement is tied according to Section 602.03.04 prior to placing new Class M Concrete.

F. **Placing Class M Concrete.** Immediately prior to the placement of the Class M Concrete, the surface areas of existing concrete to come in contact with the new Class M Concrete shall be blast cleaned until free of all laitance and deleterious substances, and then coated with an epoxy bond coat in accordance with Section 511. Form the curb to original dimensions and place and consolidate the Class M Concrete according to Section 601.

G. **Concrete Finish and Cure.** Immediately after placing the Class M Concrete, provide a transverse broom finish to the surface. Ensure that the new concrete is flush and of similar texture with the surrounding existing concrete. Cure the Class M Concrete according to Section 601.03.17. Prior to drilling and attaching the Steel Post Anchorages to any areas of the bridge curb that are repaired, the Contractor shall wait until the Class M Concrete has reached a minimum compressive strength of 3,500 psi.

H. **Clean Up and Disposal of Waste.** Clean up and dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See Special Provision for Waste and Borrow Sites.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation; Removal of Existing Concrete; Clean, Straighten, Repair, and/or Re-tie Existing Steel Reinforcement. Other than the bid items listed, the Department will not measure the operations of: Site Preparation; Removal of Existing Concrete; Clean, Straighten, Repair, and/or Re-tie Existing Steel Reinforcement for separate payment but shall be incidental to the contract unit price for 'Repair Concrete Curb'.

C. Bridge Concrete Curb Repair. The Department will measure the quantity in linear feet of curb repaired.

D. Steel Reinforcement. See Section 602.

E. Clean Up and Disposal of Waste. The Department will NOT measure for payment the operations of Clean Up and Disposal of Waste. These activities shall be incidental to the contract unit price for 'Repair Concrete Curb'.

V. BASIS OF PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Bridge Concrete Curb Repair. The Department will make payment for the completed and accepted quantities under the bid item 'Repair Concrete Curb'. Payment at the contract unit price per linear foot shall be full compensation for furnishing all materials, equipment, tools, hardware, labor, and incidentals necessary to remove the specified existing concrete; blast clean; straighten, repair, and/or re-tie steel reinforcement; apply the epoxy bond coat; place, consolidate, finish, and cure the Class M Concrete; clean up and dispose of waste; any other items necessary to complete the work as specified by this note.

C. Steel Reinforcement. See Section 602.

SPECIAL NOTE FOR SIGNAGE

The final advisory speeds and some sign types will have to be determined after the curve superelevation improvements and final surfacing operations have been completed. The Contractor shall notify the Engineer and District Traffic Engineer when all of the superelevation improvements and surfacing operations have been completed. Once notified, the District Traffic Engineer will ball-bank the newly surfaced route to determine the appropriate advisory speeds and work with the Contractor to determine the final Signing Plan. The Engineer and/or District Traffic Engineer will provide the Contractor with the final advisory speeds, any changes to proposed sign types, and the final quantities within three (3) weeks of being notified by the Contractor that final surfacing operations are complete. After the Contractor has received this information from the Engineer and/or the District Traffic Engineer, the Contractor shall then proceed to layout and stake the signing according to the Special Note for Staking, included elsewhere in this proposal.

All sign sheeting shall be from the Cabinet's List of Approved Materials.

All permanent signs and sign components shall be fabricated using Type XI sheeting.

The following signs and sign components shall be fabricated using Type XI fluorescent yellow sheeting:

- Horizontal Alignment Signs and Plaques, including signs shown in Figure 2C-1 of the MUTCD
- All Advisory Speed (W13-1P) plaques

The following signs shall be fabricated using Type XI fluorescent yellow-green sheeting:

- School and school bus warning signs, including the fluorescent yellow-green signs shown in Figures 7B-1 and 7B-6 of the MUTCD and other school-related warning signs that are not included in the MUTCD.
- Bicycle Warning (W11-1) signs and SHARE THE ROAD (W16-1P) plaques or diagonal downward pointing arrow (W16-7P) plaques that supplement Bicycle Warning signs.
- Pedestrian Warning signs and diagonal downward pointing arrow plaques that supplement Pedestrian Warning signs.
- In-Street Pedestrian Crossing (R1-6) signs and Overhead pedestrian Crossing (R1-9) signs
- Supplemental plaques to any of the previously listed signs

SPECIAL NOTE FOR SIGNING

I. DESCRIPTION

Except as provided herein, this work shall be performed in accordance with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD), the Department's current Standard Specifications and Interim Supplemental Specifications, applicable Standard and Sepia Drawings, and applicable Special Provisions. Article references are to the Standard Specifications. This project shall consist of furnishing all labor, equipment, materials, and incidentals for the following:

(1) Maintaining and Controlling Traffic; (2) Furnish, Fabricate, and Erect Signs; and
(3) All other work specified in the Contract.

II. MATERIALS

All materials shall be sampled and tested in accordance with the Department's Sampling Manual and the materials shall be 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. Erosion Control. See Special Note for Erosion Control.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation including, but not limited to: clearing and grubbing, staking, excavation, backfill, and removal of obstructions or any other material not covered by other items. Perform all site preparation only as approved, or directed, by the Engineer.

C. Staking. See Special Note for Staking.

D. Signs and Posts. Before beginning installation, the Contractor shall furnish to the Engineer drawings, descriptions, manufacturer’s cuts, etc. covering all material to be used. Mill test reports for beams, steel panels, and each different gauge of aluminum or steel sheeting used must be submitted to the Division of Construction and approved prior to erection.

Fabricate sheet signs from .080 or .125 gauge aluminum alloy 5052-H38 or 6061-T6, in accordance with ASTM B-209, and to the size and shape specified. Prepare the side of the sheet to be used as the sign face to receive the retroreflective background material

according to the recommendations of the sheeting and retroreflective material manufacturer(s). Sheeting used as background material for sign faces is to be the color specified and visually in accordance with the standard requirements of ASTM D-4956, and meet the requirements of Section 830 of the Standard Specifications. Contrary to Section 830.02.06, only the types and colors of sheeting as specified in the proposal will be accepted. All retroreflective material shall be fabricated and assembled in accordance with the specifications and/or recommendations of the manufacturer(s).

All hardware for the erection of sheeting signs shall be rust resistant: stainless steel, zinc coated, aluminum, or an Engineer approved material. All beams and posts shall be of sufficient lengths to extend from the top of the sign to the required embedment in the anchor. Splicing of the sign post shall NOT be allowed. For installations in soil, Type I steel posts shall be mounted on either a standard anchor, with soil stabilizer plate, or on a Type D breakaway sign support. Refer to Sheeting Sign Detail Sheet 1 of 2 for installation details for a standard anchor with soil stabilizer plate. When installing a standard anchor with soil stabilizer plate, if solid rock is encountered, the Contractor shall drill a hole to the required depth into the rock, install the anchor into the hole, and backfill the anchor post with concrete, or other method approved by the Engineer. The cost shall be incidental to Type I steel post, and a soil stabilizer plate will not be required. Refer to Standard Drawing RGX-065, current edition, for installation details of Type D breakaway sign supports. Approved manufacturers for Type D breakaway sign supports have been placed on the list of approved materials. For installations on existing concrete, such as a sidewalk, concrete median, etc., or installations on existing asphalt, such as flush medians, Type I steel posts shall be mounted on a Type D Surface Mount. For Type D Surface Mounts use only Kleen Break Model 425 by Xcessories Squared of Auburn, IL. If the Surface Mount is to be installed on sufficiently cured concrete, use part number XKBSM42520-G. If the Surface Mount is to be installed on asphalt surface, use part numbers XKB42520-G and AXT225 -36-G. Prior to installation, the Contractor shall submit to the Engineer shop drawings of the Type D Surface Mount(s). Install the Type D Surface Mount(s) according to all the applicable requirements of the manufacturer (see shop drawings). All steel post shall meet the requirements of Section 832. All hardware including, but not limited to, sign post anchors, soil stabilizer plates, nuts, bolts, washers, fasteners, fittings, and bracing, or any other incidentals necessary to erect the signs shall be furnished by the Contractor and will be incidental to the work.

New concrete bases, posts, support anchors, signs, etc. are to be installed prior to dismantling any existing sign(s). The removal of existing signs, posts, and support anchors is to be performed concurrently with the installation of new signs, posts, and support anchors, under the same lane closure during the same work shift. Completely remove existing sign support anchors or remove them to a minimum depth of six (6) inches below existing ground line and backfill the disturbed area to the existing ground line.

When listed in the summaries, Reflective Sign Post Panels shall be 2” wide x 60” tall (or 84” tall for urban installations) and shall have three 3/8” holes (one hole in the top 3”, one

hole near the center, and one hole in the bottom 3") that align with the holes on the Type I steel post. Sheeting for the Reflective Sign Post Panels shall be the same Type and color as the sign installed on the post. Examples include:

- Red, fluorescent yellow, and fluorescent yellow-green (Type XI Sheeting)
- White and yellow (Type XI Sheeting).

All manufactured sheeting signs shall be free of visual defects including, but not limited to: cracks, tears, ridges, humps, discoloration, etc., and defective signs shall be replaced at no additional cost to the Department.

All sign blanks shall be hole punched by the manufacturer for either horizontal or vertical installation. Attach all aluminum sheeting signs to square post with 3/8" all steel rivets and nylon washers.

Post will be attached to the anchor with 5/16" corner bolts and 5/16" flanged nuts, and all post and anchor cuts shall be treated with a Cold Galvanizing Compound spray.

Sign posts shall be erected vertically by using a bubble level. The tolerance shall be a two (2) degree angle in any direction. For locations where there are more than one sign is mounted beside each other, the posts shall be spaced to provide approximately six inches (6") of spacing between sings.

E. Property Damage. The Contractor shall be responsible for all damage to public and/or private property resulting from the Contractor's activities. Repair or replace damaged roadway features in like kind materials and design as directed by the Engineer at no additional cost to the Department. Repair or replace damaged private property in like kind materials and design to the satisfaction of the owner and the Engineer at no additional cost to the Department.

F. Coordination with Utility Companies. Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that 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. Be responsible for repairing all utility damage that occurs due to the Contractor's operations at no additional cost to the Department. NOTIFY THE ENGINEER AND THE UTILITY OWNER(S) IMMEDIATELY WHEN IT IS DISCOVERED OR ANTICIPATED THAT ANY UTILITY CONFLICT COULD DELAY THE CONTRACTOR'S OPERATIONS. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however, no extension will be granted for any delay caused by the Contractor's failure to notify the

Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified.

G. Caution. The information in this proposal and the type of work listed herein are approximate only and are not to be taken as an exact evaluation of the materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions when developing the Unit Bid Prices for each bid item. As such, if the conditions encountered are not in accordance with the information shown, the Department does not guarantee any changes to the Unit Bid Prices nor extension of the contract will be considered. The Department will pay for bid item quantity overruns, but only if pre-approved by the Engineer.

H. Control. Perform all work under the absolute control of the Department. Obtain the Engineer's approval of all designs required to be furnished by the Contractor prior to incorporation into the work. The Department reserves the right to have other work performed by other contractors and its own forces, and to permit public utility companies and others to do work during the construction within the limits of, or adjacent to, the project. Conduct operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Department will not honor any claims for money or time extension created by the operations of such other parties.

Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of, or adjacent to, the project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the Department's work in general harmony and in a satisfactory manner, and the Engineer's decision shall be final and binding upon the Contractor.

I. Clean Up, Disposal of Waste. Clean up the project area as work progresses. Dispose of all removed concrete, debris, and other waste as per Section 204.03.08. The Department will incur no cost to obtain the disposal sites. The Department will NOT make direct payment for disposal of waste and debris from the project. Existing anchors, signs, posts, and any other hardware or material removed from the site are to become the property of the Contractor. See Special Provision for Waste and Borrow Sites.

J. Final Dressing, Seeding and Protection. Grade all disturbed areas to blend with the adjacent roadways features and to provide a suitable seed bed. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

K. Erosion Control. See Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, the Department will NOT measure Site Preparation for payment, but shall be incidental to the project bid items.

C. Signs. The Department will measure the finished in-place area of signs in Square Feet.

D. Sign Posts. The Department will measure the finished in-place length of sign posts in Linear Feet, from the top of the anchor, or top of the sign support, to the top of the sign post. Laps, cutoffs, excess, and waste will NOT be measured for payment.

E. Type D Breakaway Sign Supports. The Department will measure Type D sign supports as Each support installed.

F. Type D Surface Mounts. The Department will measure Type D Surface Mounts as Each surface mount installed.

G. Class A Concrete for Signs. The Department will measure the Class A Concrete used in conjunction with Type D breakaway sign support installations in Cubic Yards. Any concrete that is required as backfill due to hitting rock during a standard installation shall be incidental to the bid item STEEL POST TYPE I, and soil stabilizers will not be required.

H. Clean Up, Disposal of Waste, Final Dressing, Seeding and Protection. The Department will NOT measure for payment the following activities: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection shall be measured according to Section 212.

I. Erosion Control. See Special Note for Erosion Control.

J. Remove Sign. The Department will consider all signs attached to one or more connected posts as a single sign. The Department will measure as Each sign assembly removed and NOT each individual sign removed.

K. Items Provided by KYTC. The Department will NOT measure for payment the installation of signs and/or surface mounts provided by KYTC. These activities shall be incidental to the bid item STEEL POST TYPE I.

V. BASIS OF PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Signs. The Department will make payment for the completed and accepted quantities under the bid item SBM ALUM SHEET SIGNS .125 IN or .080 IN. The Department will consider payment full compensation for all work and incidentals necessary to install the signs, as required by these notes and the details found elsewhere in the proposal, at the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

C. Sign Posts. The Department will make payment for the completed and accepted quantities under the bid item STEEL POST TYPE I. The Department will consider payment full compensation for all work and incidentals necessary to install the sign posts as required by these notes and the details found elsewhere in the proposal.

D. Type D Breakaway Sign Supports. The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D breakaway sign supports as required by Standard Drawing RGX-065, current edition.

E. Type D Surface Mounts. The Department will make payment for the completed and accepted quantities under the bid item GMSS TYPE D Surface Mount. The Department will consider payment full compensation for all work and incidentals necessary to install the Type D surface mounts according to all applicable manufacturer requirements.
NOTE: There are two permissible Type D Surface Mount alternatives: Kleen Break Model 425 for Surface Mount Concrete Installations by Xcessories Squared of Auburn, IL

F. Class A Concrete for Signs. The Department will make payment for the completed and accepted quantities, used in conjunction with Type D breakaway sign support installations, under the bid item CLASS A CONCRETE FOR SIGNS. The Department will consider payment full compensation for all work and incidentals necessary to install the concrete as required by Standard Drawing RGX-065, current edition.

G. Remove Sign. The Department will make payment for the completed and accepted quantities under the bid item REMOVE SIGN. The Department will consider payment full compensation for all work and incidentals necessary to remove the existing signs, posts, anchors, and any other sign material or hardware, from the locations indicated on the summary sheets, plans, and/or as directed by the Engineer.

H. Erosion Control. See Special Note for Erosion Control.

SPECIAL NOTE FOR STAKING

Perform Contractor Staking according to Section 201; except, in addition to the requirements of Section 201, perform the following:

1. Contrary to Section 201, perform items 1-3 usually performed by the Engineer.
2. Using the proposed pavement superelevation rates, shown on the cross sections, determine the necessary changes in pavement edge elevation along the curves and the transitions leading into and out of the curve to achieve the proposed superelevation improvements. The intent to provide a consistent superelevation throughout the curves and smooth transitions into and out of the curves. Once the proposed changes in pavement edge elevations are determined and prior to starting paving operations, verify the proposed roadside re-grading along the curve can be constructed so that the new roadside is flush with the new pavement edge elevation and the new toe of slope, or top of cut, will remain within the approximate disturb limits shown on the plans and/or not impact a sensitive obstruction. If necessary, and with the approval of the Engineer, reduce the proposed superelevation rate of a curve if the new edge of pavement elevation will cause the new roadside grading to extend beyond the approximate disturb limits shown on the plans and/or impact a sensitive obstruction. Alternatively, with the approval of the Engineer and to the extent allowable by the "Roadside Regrading and Benching Details", the Contractor may be allowed to make adjustments to the roadside grading so the proposed roadside re-grading will remain within the approximate disturb limits shown on the plans and/or not impact a sensitive obstruction. Such adjustments must be approved by the Engineer. After the final proposed changes in pavement edge elevations are determined and before paving operations begin, submit to the Engineer and obtain approval for the number of asphalt lifts, each asphalt lift's thickness, and the mix design of each lift of Leveling & Wedging the contractor plans to use to achieve the superelevation improvement. Ensure positive drainage upon completion of the work.
3. Verify the dimensions, type, and quantities of the culvert pipes, entrance pipes, and/or box culverts as listed and detailed in the proposal, and determine flow line elevations and slopes necessary to provide positive drainage. Revise as necessary to accommodate the existing site conditions; to provide proper alignment of the drainage structures with existing and/or proposed ditches, stream channels, swales, and the roadway lines and grades; and to ensure positive drainage upon completion of the work.
4. Using stakes, paint marks on the pavement, mag nails, and/or any other means approved by the Engineer, the Contractor shall mark and/or stake the proposed sign locations in the field. NOTE: The proposed signs are listed in the proposal by approximate location and are NOT to be taken as the exact location for the signs. During staking operations the Contractor shall review the signing layout and existing field conditions and look for potential conflicts, including but not limited to utilities, driveways, visual obstructions, etc. When conflicts are found, adjust the staked location of signs to mitigate conflicts. Because the sign locations in the proposal are approximate and the location of some signs may need to be adjusted due to conflicts, during staking operations the Contractor shall

refer to and utilize the information in the Manual on Uniform on Traffic Control Devices (MUTCD), current edition. The MUTCD cover items such as: appropriate sign location, advance placement distances, and spacing requirements for signing. The intent is for the proposed signs to be consistent with, and meet the requirements of, the MUTCD. Once the proposed sign locations have been staked, notify and coordinate with the District Traffic Engineer, and perform a review of the staked locations. Adjust the staked locations, as directed by the District Traffic Engineer and obtain approval of the final staked locations. This review will also be used to determine if there are any existing signs that require removal and/or relocation. Provide the District Traffic Engineer with 2 weeks of notice when a route will be ready for a review of the staked locations. NOTE: The District Traffic Engineer may determine that the proposed signing, including sign types and messages, needs to be adjusted and/or modified from what is shown in the proposal. Therefore, the Contractor shall not order any sign material for a route until the route has been staked and final sign location approval has been given by the District Traffic Engineer.

5. Using paint marks on the pavement, and/or any other means approved by the Engineer, the Contractor shall layout and pre-mark the proposed striping, pavement markings, etc. Adjust as necessary to accommodate the existing site conditions and to provide proper alignment of the proposed thru and turning lanes. Obtain approval of the pre-marked layout from the District Traffic Engineer prior to installing the striping and/or pavement markings.
6. Produce and furnish to the Engineer "As Built" information for the superelevation improvements and the drainage improvements. For superelevation improvements, as built information will consist of a record of the final pavement cross slopes every 50 feet, for each lane of travel along the curves and the transitions into and out of the curves. Elevation data of the curve improvements is not necessary; simply the cross slope percentage every 50 feet. For the drainage improvements, as built information will consist of a final record of the actual types, sizes, and locations of the drainage structures (i.e. box inlets, headwalls, junction boxes, etc.), culvert pipes, and/or box culverts constructed. Final elevation data of the drainage improvements is not necessary.
7. Prior to incorporating into the work, obtain the Engineer’s approval of all revisions determined by the Contractor.
8. Perform any and all other staking operations required to control and construct the work.

SPECIAL NOTE

For Tree Removal

Spencer County
Perform Low Cost Safety Improvements on KY 55 from KY 155 in Spencer County to KY 148 in Shelby County
Item No. 5-9017.00

NO CLEARING OF TREES 5 INCHES OR GREATER (DIAMETER BREAST HEIGHT) FROM JUNE 1- JULY 31

If there are any questions regarding this note, please contact Danny Peake, Director, Division of Environmental Analysis, 200 Mero Street, Frankfort, KY 40601, Phone: (502) 564-7250.

SPECIAL NOTES FOR COMPLETION DATES & LIQUIDATED DAMAGES

The ultimate fixed completion date for this project will be June 30th, 2023. Liquidated Damages for failure to complete the project on time will be assessed following Section 108.09.

Contrary to Section 108.09, Liquidated Damages will be assessed for the months of December through March.

Contrary to Section 108.09, Liquidated Damages will be assessed regardless of whether seasonal limitations prohibit the Contractor from performing work on the controlling operation.

All liquidated damages will be applied accumulatively.

All other applicable portions of Section 108 apply.

SPECIAL PROVISION FOR WASTE AND BORROW SITES

Obtain U.S. Army Corps of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". The Corps of Engineers defines "Waters of the United States" as perennial or intermittent streams, ponds or wetlands. The Corps of Engineers also considers ephemeral streams, typically dry except during rainfall but having a defined drainage channel, to be jurisdictional waters. Direct questions concerning any potential impacts to "Waters of the United States" to the attention of the appropriate District Office for the Corps of Engineers for a determination prior to disturbance. Be responsible for any fees associated with obtaining approval for waste and borrow sites from the U.S. Army Corps of Engineer or other appropriate regulatory agencies.

1-296 Waste & Borrow Sites
01/02/2012

October 2021

SPECIAL NOTE FOR NON-TRACKING TACK COAT

1. DESCRIPTION AND USEAGE. This specification covers the requirements and practices for applying a non-tracking tack asphalt coating. Place this material on the existing pavement course, prior to placement of a new asphalt pavement layer. Use when expedited paving is necessary or when asphalt tracking would negatively impact the surrounding area. This material is not suitable for other uses. Ensure material can "break" within 15 minutes under conditions listed in 3.2.

2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Non-Tracking Tack. Provide material conforming to Subsection 2.1.1.

2.1.1 Provide a tack conforming to the following material requirements:

Property	Specification	Test Procedure
Viscosity, SFS, 77 ˚ F	20 – 100	AASHTO T 72
Sieve, %	0.3 max.	AASHTO T 59
Asphalt Residue[1], %	50 min.	AASHTO T 59
Oil Distillate, %	1.0 max.	AASHTO T 59
Residue Penetration, 77 ˚ F	20 max.	AASHTO T 49
Original Dynamic Shear (G*/sin δ), 82 ˚ C	1.0 min.	AASHTO T 315
Softening Point, ˚ F	149 min.	AASHTO T 53
Solubility, %	97.5 min.	AASHTO T 44

[1] Bring sample to 212 ˚F over a 10-15 minute period. Maintain 212 ˚F for 15-20 minutes or until 30-40 mL of water has distilled. Continue distillation as specified in T59.

2.2. Equipment. Provide a distributor truck capable of heating, circulating, and spraying the tack between 170 ˚F and 180 ˚F. Do not exceed 180 ˚F. Circulate the material while heating. Provide the correct nozzles that is recommend by the producer to ensure proper coverage of tack is obtained. Ensure the bar can be raised to between 14" and 18" from the roadway.

2.3. Personnel. Ensure the tack supplier has provided training to the contractor on the installation procedures for this product. Make a technical representative from the supplier available at the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the non-tracking tack, ensure the pavement surface is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the surface by scraping, sweeping, and the use of compressed air. Ensure this preparation process occurs shortly before application to prevent the return of debris on to the pavement. If rain is expected within one hour after application, do not apply material. Apply material only when the surface is dry, and no precipitation is expected.

3.2 Non-tracking Tack Application. Placement of non-tracking tack is not permitted from October 1st to May 15th. When applying material, ensure the roadway temperature is a minimum of 40˚F and rising. Prior to application, demonstrate competence in applying the tack according to this note to the satisfaction of the Engineer. Heat the tack in the distributor to between 170 – 180 ˚F. After the initial heating, between 170 – 180 ˚F, the material may be sprayed between 165 ˚F and 180 ˚F. Do not apply outside this temperature range. Apply material at a minimum rate of 0.70 pounds (0.08 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. Increase material application rate if needed to achieve full coverage. Schedule the work so that, at the end of the day's production, all non-tracking tack is covered with the asphalt mixture. If for some reason the non-tracking tack cannot be covered by an asphalt mixture, ensure the non-tracking tack material is clean and reapply the non-tracking tack prior to placing the asphalt mixture. Do not heat material more than twice in one day.

3.3 Non-tracking Tack Certification. Furnish the tack certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a sample of non-tracking tack be taken from the distributor at a rate of one sample per 15,000 tons of mix. Take two 1 gallon samples of the heated material and forward the sample to the Division of Materials for testing within 7 days. Ensure the product temperature is between 170 and 180 °F at the time of sampling.

4. MEASUREMENT. The Department will measure the quantity of non-tracking tack in tons. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of non-tracking tack, the cleaning of the pavement surface, or furnishing and placing the non-tracking tack. The Department will consider all such items incidental to the non-tracking tack.

5. PAYMENT. The Department will pay for the non-tracking tack at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. Non-tracking tack will not be permitted for use from October 1st to May 15th. From September 1st to June 1st, the department will allow the use of an approved asphalt emulsion in lieu of a non-tracking tack product but will not adjust the unit bid price of the material. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

October 2021

Non-Tracking Tack Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	50% Pay	0% Pay
Viscosity, SFS, 77 ˚ F	20 – 100	19 - 102	17 - 18 103 - 105	15 - 16 106 - 107	14 108 - 109	≤13 ≥ 110
Sieve, %	0.30 max.	≤ 0.40	0.41 - 0.50	0.51 - 0.60	0.61 - 0.70	≥ 0.71
Asphalt Residue, %	50 min.	≥49.0	48.5 – 48.9	48.0 – 48.4	47.5-47.9	≤ 47.4
Oil Distillate, %	1.0 max.	≤1.0	1.1-1.5	1.6 - 1.7	1.8-1.9	>2.0
Residue Penetration, 77 ° F	20 max.	≤ 21	22 - 23	24 - 25	26 - 27	≥ 28
Original Dynamic Shear (G*/sin δ), 82 ˚ C	1.0 min.	≥0.95	0.92 – 0.94	0.90 – 0.91	0.85 - 0.89	≤ 0.84
Softening Point, º F	149 min.	≥145	142 - 144	140 - 141	138 - 139	≤ 137
Solubility, %	97.5 min.	≥ 97.0	96.8 – 96.9	96.6 – 96.7	96.4 – 96.5	≤ 96.3

Code	Pay Item	Pay Unit
24970EC	Asphalt Material for Tack Non-Tracking	Ton

COORDINATION OF WORK WITH OTHER CONTRACTS

Be advised, there may be an active project(s) adjacent to or within this project. The Engineer will coordinate the work of the Contractors. See Section 105.06.

1-3193 Coordination Contracts
01/02/2012

SPECIAL NOTES FOR GUARDRAIL

I. DESCRIPTION

Except as specified herein, perform all work in accordance with the Department's Standard and Supplemental Specifications, Special Notes and Special Provisions, and the Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Furnish all equipment, labor, materials, and incidentals for the following work items:

(1) Site preparation; (2) Remove existing guardrail systems; (3) Construct Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable; (4) Delineators for guardrail; (5) Maintain and Control Traffic; and (6) all other work specified as part of this contract.

II. MATERIALS

Except as specified herein, provide for all materials to be sampled and tested in accordance with the Department's Sampling Manual and 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.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Guardrail. Furnish guardrail system components according to Section 814 and the Standard and Sepia Drawings; except use steel posts only, no alternates.

C. Delineators for Guardrail. Furnish white and/or yellow Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.

D. Erosion Control. See the Special Note for Erosion Control.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Remove existing guardrail system, including the guardrail end treatments, Bridge End connectors and all other elements of the existing guardrail system as per Section 719, except that the Contractor will take possession of all concrete posts and all concrete associated with the existing bridge and/or guardrail end treatments. Locate all disposal areas off the Right of Way. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; regrading, reshaping, adding and compacting of suitable materials on the existing shoulders to provide proper template or foundation for the guardrail;

filling voids left as the result of removing existing guardrail and guard posts with dry sand; temporary pollution and erosion control; disposal of excess, waste materials, and debris; and final dressing, cleanup, and seeding and protection. Perform all site preparation as approved or directed by the engineer.

C. Guardrail. Except as specified herein, construct guardrail system according to Section 719 and the Standard and Sepia Drawings, current editions. Locations listed on the summary and/or shown on the drawings are approximate only. The Engineer will determine the exact termini for individual guardrail installations at the time of construction. Unless directed otherwise by the Engineer, provide a minimum two (2) foot shoulder width. Construct radii at entrances and road intersections as directed by the Engineer.

Erect guardrail to the lines and grades shown on the current Standard and Sepia Drawings, or as directed by the Engineer by any method approved by the Engineer which allows construction of the guardrail to the true grade without apparent sags.

When removing existing guardrail and installing new guardrail, do not leave the blunt end exposed where it would be hazardous to the public. When it is not practical to complete the construction of the guardrail and the permanent end treatments and terminal sections first, provide a temporary end by connecting at least 25 feet of rail to the last post, and by slightly flaring, and burying the end of the rail completely into the existing shoulder. If left overnight, place a drum with bridge panel in advance of the guardrail end and maintain during use.

D. Delineators for Guardrail. Construct Delineators for Guardrail according to Standard Drawing RBR-055 – Delineators for Guardrail, current edition.

E. Property Damage. Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.

F. Coordination with Utility Companies. Locate all underground, above ground, and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. Do not disturb existing overhead or underground utilities. It is not anticipated that any utility facilities will need to be relocated and/or adjusted; however, in the event that it is discovered that the work does require utilities to be relocated and/or adjusted, the utility companies will work concurrently with the Contractor while relocating their facilities. Be responsible for repairing all utility damage that occurs as a result of guardrail operations at no additional cost to the Department.

G. Right of Way Limits. The Department has not established the exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

H. Clean Up, Disposal of Waste. Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See the Special Provision for Waste and Borrow Sites.

I. Final Dressing, Seeding and Protection. Apply Class A Final Dressing to all disturbed areas, both on and off the Right-of-Way. Sow all disturbed earthen areas with the applicable seed mixture(s) according to Section 212.03.03.

J. Erosion Control. See the Special Note for Erosion Control.

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site preparation. Other than the bid items listed, the Department will not measure Site Preparation for separate payment but shall be incidental to the Guardrail, End Treatments, Bridge End Connectors, and Terminal Sections, as applicable.

C. Guardrail, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail. The Department will measure according to Section 719.04.

D. Delineators for Guardrail. See Standard Drawing RBR-055 – Delineators for Guardrail.

E. Clean Up, Disposal of Waste, Final Dressing, and Seeding and Protection. The Department will NOT measure for payment the operations of: Clean Up, Disposal of Waste, and Final Dressing. These activities shall be incidental. Seeding and Protection will be measured according to Section 212.

F. Erosion Control. See the Special Note for Erosion Control.

V. BASIS OF PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Guardrail, End Treatments, Bridge End Connectors, Terminal Sections, and Remove Guardrail. The Department will make payment according to Section 719.05.

C. Delineators for Guardrail. See Standard Drawing RBR-055 – Delineators for Guardrail.

D. Erosion Control. See the Special Note for Erosion Control.

SPECIAL NOTE FOR
ASPHALT MILLING AND TEXTURING

Begin paving operations within **48 hours** of commencement of the milling operation. Continue paving operations continuously until completed. If paving operations are not begun within this time period, the Department will assess liquidated damages at the rate prescribed by Section 108.09 until such time as paving operations are begun.

Take possession of the millings and recycle the millings or dispose of the millings off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department.

1-3520 48 hours Contractor keeps millings
01/2/2012

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

Consider the dimensions shown on the typical sections for pavement and shoulder widths and thickness' to be nominal or typical dimensions. The Engineer may direct or approve varying the actual dimensions to be constructed to fit existing conditions. Do not widen existing pavement or shoulders unless specified elsewhere in this proposal or directed by the engineer.

1-3725 Typical Section Dimensions
01/02/2012

TRAFFIC CONTROL PLAN

TRAFFIC CONTROL GENERAL

Except as provided herein, traffic shall be maintained in accordance with the current editions of the Manual on Uniform Traffic Control Devices (MUTCD), Standard Specifications, and the Standard and Sepia Drawings. Except for the roadway and traffic control bid items listed such as Temporary Signs and Temporary Traffic Signal, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic".

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. Any temporary traffic control items, devices, materials, and incidentals shall remain the property of the contractor unless otherwise addressed, when no longer needed.

PROJECT PHASING & CONSTRUCTION PROCEDURES

The Engineer may specify days and hours when lane closures will not be allowed.

At locations with two lanes, maintain alternating one-way traffic during construction. Provide a minimum clear lane width of 9 feet; however, provide for passage of vehicles of up to 16 feet in width. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, make provisions for the passage of the bus as quickly as possible.

LANE CLOSURES

Do not leave lane closures in place during non-working hours.

SIGNS

Sign posts and splices shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. Signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, only long-term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment. Short-term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

TEMPORARY TRAFFIC SIGNAL

A Temporary Signal 2 Phase has been included in the project for possible use at Station 206+47. At

this location a box culvert is being removed and replaced with an equivalent sized pipe. This device may be useful for other areas along the project. The Contractor and the Engineer should work together to determine the best use of this device throughout the life of the project. If used, the Department will measure the Temporary Signal 2 Phase only once for payment, regardless of how many times it is set, reset, removed, and relocated during the duration of the project. The Department will not measure for payment any replacements of the Temporary Signal 2 Phase if it becomes damaged or non-functioning, nor if the Engineer directs that it be replaced due to poor condition or readability. **The Contractor shall retain possession of the Temporary Signal 2 Phase upon completion of construction**.

CHANGEABLE MESSAGE SIGNS

If deemed necessary by the Engineer, the Department will furnish, operate, and maintain Changeable Message Signs.

PAVEMENT EDGE DROP-OFFS

Do not allow a pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation with an elevation difference greater than 1½". Place Warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and un-resurfaced areas which traffic may cross with asphalt mixture for leveling and wedging. Remove the wedges prior to placement of the final surface course.

Protect pavement edges that traffic is not expected to cross, except accidentally, as follows:

Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. During daylight working hours only, the Engineer will allow the Contractor to use cones in lieu of plastic drums, panels, and barricades. Wedge the drop-off with DGA or asphalt mixture for leveling and wedging with a 1:1 or flatter slope in daylight hours, or 3:1 or flatter slope during nighttime hours, when work is not active in the drop-off area.

Greater than 4" - Protect drop-offs greater than 4 inches within 10 feet of traffic by placing drums, vertical panels, or barricades every 25 feet. The Engineer will not allow the use of cones in lieu of drums, vertical panels, or barricades for drop-offs greater than 4". Place Type III Barricades directly in front of the drop-off facing oncoming traffic in both directions of travel. Provide warning signs as shown on the Standard Drawings or as directed by the Engineer

Pedestrians & Bicycles - Protect pedestrian and bicycle traffic as directed by the engineer.

BARRICADES

The Department will not measure barricades used in lieu of barrels and cones for channelization or delineation, but shall be incidental to Maintain and Control Traffic according to Section 112.04.01.
The Department will measure barricades used to protect pavement removal areas in individual units Each. The Department will measure for payment the maximum number of barricades in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual barricades only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged barricades the Engineer directs to be replaced due to poor condition or reflectivity. Retain possession of the Barricades upon completion of construction.

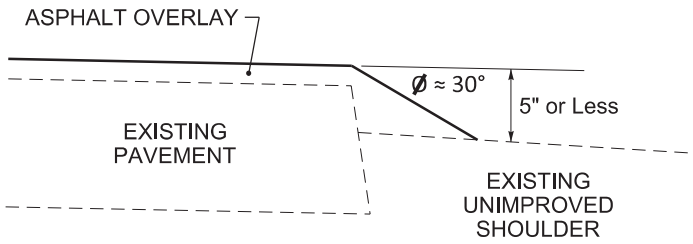
PAVEMENT MARKINGS

If there is to be a deviation from the existing striping plan, the Engineer will furnish the Contractor a striping plan prior to placement of the final surface course.
Install Temporary Striping according to Section 112 with the following exception:

> If the Contractor's operations or phasing requires temporary markings that must subsequently be removed from the final surface course, use an approved removable lane tape; however, the Department will not measure removable lane tape for separate payment, but will measure and pay for removable lane tape as temporary striping.

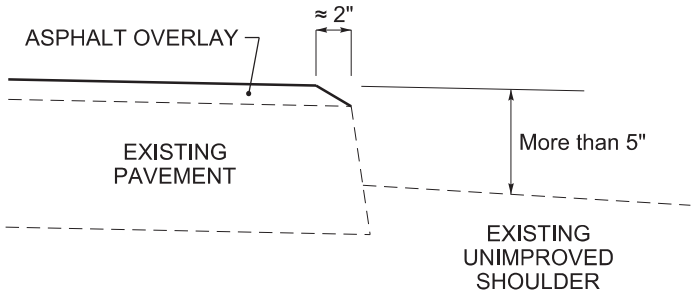
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to low shoulder with dropoff of 5 inches or less)



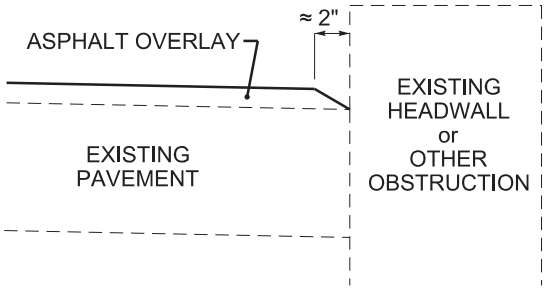
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to low shoulder with dropoff of more than 5 inches)



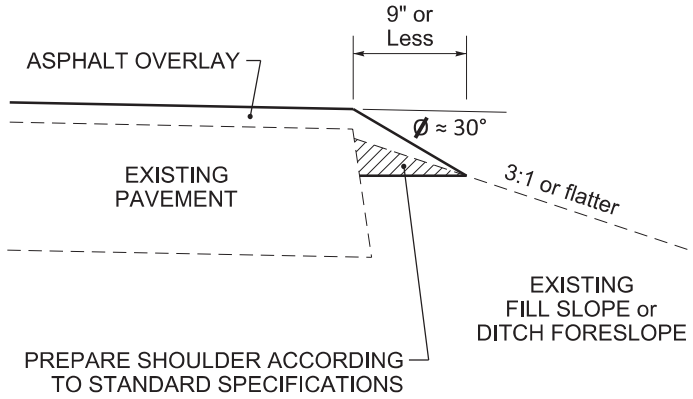
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to an obstruction, such as an existing headwall)



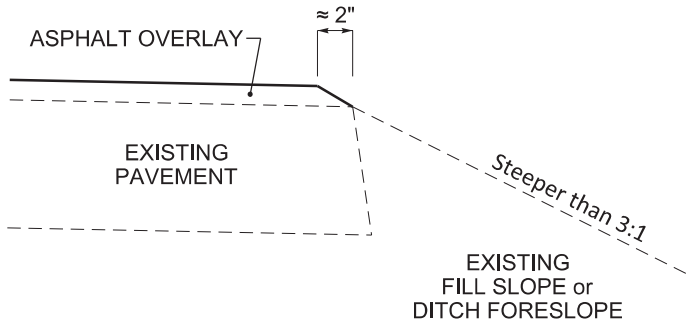
DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to fill slope or ditch foreslope that is 3:1 or less)



DURABLE PAVEMENT EDGE DETAIL

(Resurfacing adjacent to fill slope or ditch foreslope that is steeper than 3:1)



NOTES

1. DETAILS DO NOT APPLY TO OVERLAYS LESS THAN 1 INCH THICK.
2. THE DURABLE PAVEMENT EDGE DEVICE MAY BE DISENGAGED AT DRIVEWAYS, SIDE STREETS, HIGH SHOULDERS, AND OTHER LOCATIONS NOT FEASIBLE TO CONSTRUCT, AS APROVED BY THE ENGINEER.

DRAWING NOT TO SCALE

DURABLE PAVEMENT EDGE DETAILS

KENTUCKY TRANSPORTATION CABINET
Department of Highways
DIVISION OF RIGHT OF WAY & UTILITIES

TC 62-226
Rev. 01/2016
Page 1 of 1

RIGHT OF WAY CERTIFICATION

☐ Original ☐ Re-Certification — **RIGHT OF WAY CERTIFICATION**

ITEM #	COUNTY	PROJECT # (STATE)	PROJECT # (FEDERAL)
5-9017	Shelby/Spencer	12F0 FD52 108 9514501R	HSIP 5177 (005)

PROJECT DESCRIPTION

PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 55 FROM KY 155 IN SPENCER COUNTY TO KY 148 IN SHELBY COUNTY

☐ **No Additional Right of Way Required**

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.

☒ **Condition # 1 (Additional Right of Way Required and Cleared)**

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.

☐ **Condition # 2 (Additional Right of Way Required with Exception)**

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

☐ **Condition # 3 (Additional Right of Way Required with Exception)**

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.

		EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Total Number of Parcels on Project	17		
Number of Parcels That Have Been Acquired			
Signed Deed	17		
Condemnation	0		
Signed ROE	0		

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Michael H. Price
Signature		Signature	Digitally signed by Michael H. Price
Date		Date	Date: 2021.02.04 17:41:50 -05'00'

Right of Way Director		FHWA	
Printed Name		Printed Name	
Signature	2021.02.05	Signature	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Date	06:46:56 -06'00'	Date	

UTILITIES AND RAIL CERTIFICATION NOTE

SPENCER & SHELBY COUNTY, HSIP 5177005
FD52 (108/106) 95145 01U
SHELBYVILLE / TAYLORSVILLE RD (KY 55) HSIP
KYTC Item No.: 5-9017

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.

AT&T KY has existing telecommunication lines underground and overhead along the east side of KY 55 for the entire length of the project. The Company will place new aerial cable on existing poles on east side of KY 55 from STA. 227+00 to Van Dike Mill Rd. This utility relocation work is expected to be complete by 2/28/2021. These facilities are not to be disturbed.

City of Taylorsville Water & Sewer has existing water distribution facilities located in a private easement along the east side of KY 55 from the beginning of the project at KY 155 to approximately STA. 151+00, at which point the water main crosses KY 55 and continues along the north/west side of KY 55 for approximately 2100' before crossing back to the east/south side of KY 55 at STA.172+00 and continuing along that side until STA. 211+00 at which point the water main terminates. The Company will relocate approximately 300' of water main at the proposed culvert extension located at STA. 123+40. This utility relocation work is expected to be complete by 2/28/2021. These facilities are not to be disturbed.

Shelbyville Water & Sewer Commission has existing water distribution facilities located in a private easement along the west side of KY 55 from STA. 229+00 Chesapeake Meadows Ct to the end of the project. These facilities are not to be disturbed.

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

UTILITIES AND RAIL CERTIFICATION NOTE

SPENCER & SHELBY COUNTY, HSIP 5177005
FD52 (108/106) 95145 01U
SHELBYVILLE / TAYLORSVILLE RD (KY 55) HSIP
KYTC Item No.: 5-9017

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.

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

Utility Company/Agency	Contact Name	Contact Information
1. All Points Broadband 148 Citizens Blvd Simpsonville, KY 40067		DJ Anderson, (502) 390-6806 DAnderson@allpointsbroadband.com
2. AT&T KY 1340 E. John Rowan Blvd Bardstown, KY 40004		Scott Roche Office (502) 348-4528 Cell (502) 827-4703 SR8832@att.com

UTILITIES AND RAIL CERTIFICATION NOTE

SPENCER & SHELBY COUNTY, HSIP 5177005
FD52 (108/106) 95145 01U
SHELBYVILLE / TAYLORSVILLE RD (KY 55) HSIP
KYTC Item No.: 5-9017

3. Charter Communications
   10168 Linn Station Road, Suite 120
   Louisville, KY 40223

   Nathen L Howerton
   Office (502) 357-4318
   Cell (502) 639-6838
   Nathen.Howerton@charter.com
   Kevin Mercer
   Office (502) 357-4724
   Cell (502) 817-5055
   Kevin.Mercer@charter.com

4. City of Taylorsville Sewer & Water
   70 Taylorsville Road, PO Box 279
   Taylorsville, KY 40071

   Harold Compton
   (502) 477-3235
   Fax (502) 477-1310
   HCompton@TaylorsvilleWater.org

   Sisler & Maggard
   220 Reynolds Rd
   Lexington, KY 40517

   Kevin Sisler, Consultant
   (859) 271-2978 (859) 509-3799
   Kevin.@SislerMaggard.com

5. Kentucky Wired, KCNA
   500 Mero Street – Suite 1-1 NC #59
   Frankfort, KY 40601

   Mike Hayden,
   Chief Operating Officer
   Office (502) 782-2535
   Mike.Hayden@ky.gov

6. LG&E KU (Electric)
   820 West Broadway
   Louisville, KY 40202
   LG&E Emergency Number (502) 589-1444
   LG&E and KU Emergency Number 1-800-331-7370

   Caroline Justice
   Office (502) 627-3708
   Caroline.Justice@LGE-KU.com

7. Marathon Pipeline, LLC
   539 South Main Street, Room X-05-018
   Findlay, OH 45840

   Dennis Durnal
   Office (502) 448-8311
   Cell (419) 581-0038
   DDurnal@marathonpetroleum.com

8. Mid - Valley Pipeline Company
   4910 Limaburg Road
   Burlington, KY 41005

   Richard (Todd) Calfee
   Office (859) 371-4469 x14
   Cell (859) 630-8271
   Fax (866) 699-1185
   Todd.Calfee@energytransfer.com

UTILITIES AND RAIL CERTIFICATION NOTE

SPENCER & SHELBY COUNTY, HSIP 5177005
FD52 (108/106) 95145 01U
SHELBYVILLE / TAYLORSVILLE RD (KY 55) HSIP
KYTC Item No.: 5-9017

9. North Shelby Water District
   P.O. Box 97
   4596 Bagdad Road
   Bagdad, KY 40003

   Pete Hedges
   Office (502) 747-8942
   Cell (502) 220-0169
   PeteHedges@BellSouth.net

10. Salt River Rural Electric Coop. Corp.
    111 W. Brashear Ave.
    Bardstown, KY 40004
    (Telephone in Bullitt County)

    Daniel Carrico
    DCarrico@srelectric.com
    (502) 350-1606

11. Shelby Energy Cooperative
    PO Box 311
    620 Old Finchville Road
    Shelbyville, KY 40065

    Jason Ginn
    Cell (502) 643-2778
    Jason@ShelbyEnergy.com
    Zach Mischler
    (502) 633-4420
    Zach@shelbyenergy.com

12. Shelbyville Water & Sewer Commission
    1059 Washington Street
    Shelbyville, KY 40065

    Tom Doyle
    (502) 633-2840
    TGDoyle@BellSouth.net

13. US 60 Water District
    P.O. Box 97
    Bagdad, KY 40003

    Pete Hedges
    Office (502) 747-8942
    Cell (502) 220-0169
    PeteHedges@BellSouth.net

14. West Shelby Water District
    PO Box 39
    Simpsonville, KY 40067

    LisaD@westshelbywater.org
    Eddie Brown, Engineer, Kenvirons
    (502) 695-4357
    EBrown@Kenvirons.com
    Melvin Phenix
    (502) 379-2703
    MPhenix@westshelbywater.org

15. Windstream
    111 S. Main Street
    Elizabethtown, KY 42701

    James Galvin
    Office (270) 765-1818
    Cell (270) 748-9249
    James.Galvin@windstream.com

N O T I C E

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
NATIONWIDE PERMIT AUTHORIZATION
KENTUCKY DIVISION OF WATER 401 WQC

PROJECT: Shelby & Spencer County, Item No. 5-9017
KY 55 – Low Cost Safety Improvements

The Section 404 & 401 activities for this project have been previously permitted under the authority of the Department of the Army Nationwide Permit No. 14 "Linear Transportation Projects" & Division of Water General Water Quality Certification. In order for these authorizations to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Permit & General WQC in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

Station 103+43	Extend a 5'X4" reinforced concrete box culvert on an U.T. of Elk Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **15 linear feet** and **0.001** acres.
Station 123+37	Extend a 4'X3" reinforced concrete box culvert on an U.T. of Elk Creek. The **ephemeral** stream will have impacts below the normal high water mark. The estimated area of impact is **13 linear feet** and **0.0006** acres.
Station 132+78	Extend a 4'X3" reinforced concrete box culvert on an U.T. of Elk Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **22 linear feet** and **0.002** acres.
Station 178+21	Extend a 2.5'X2.6" reinforced concrete box culvert on an U.T. of Elk Creek. The **ephemeral** stream will have impacts below the normal high water mark. The estimated area of impact is **20 linear feet** and **0.0009** acres.
Station 183+26	Extend a 5'X4" reinforced concrete box culvert on an U.T. of Elk Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **13 linear feet** and **0.0009** acres.
Station 206+47	Extend a 3'X3" reinforced concrete box culvert on an U.T. of Buck Creek. The **ephemeral** stream will have impacts below the normal high water mark. The estimated area of impact is **40 linear feet** and **0.002** acres.

Station 225+60	Extend a 5'X4" reinforced concrete box culvert on an U.T. of Buck Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **15 linear feet** and **0.001** acres.
Station 229+98	Extend a 8'X4" reinforced concrete box culvert on an U.T. of Buck Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **10 linear feet** and **0.001** acres.
Station 247+47	Extend a 6'X4" reinforced concrete box culvert on an U.T. of Buck Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **8 linear feet** and **0.0006** acres.
Station 271+17	Extend a 8'X4" reinforced concrete box culvert on an U.T. of Buck Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **16 linear feet** and **0.001** acres.
Station 296+04	Extend a 5'X3" reinforced concrete box culvert on an U.T. of Buck Creek. The **intermittent** stream will have impacts below the normal high water mark. The estimated area of impact is **13 linear feet** and **0.001** acres.
Station 309+64	Extend a 2'X3" reinforced concrete box culvert on an U.T. of Buck Creek. The **ephemeral** stream will have impacts below the normal high water mark. The estimated area of impact is **23 linear feet** and **0.001** acres.
Station 320+63	Extend a 3'X3" reinforced concrete box culvert on an U.T. of Buck Creek. The **ephemeral** stream will have impacts below the normal high water mark. The estimated area of impact is **20 linear feet** and **0.001** acres.

This project involves work near and/or within Jurisdictional Waters of the United States as defined by the United States Army Corps of Engineers and therefore requires a Nationwide 14 General 404 Permit. The Division of Water certified this General Permit with several conditions (See attached). One that should be brought to your attention is regarding the use of heavy equipment in the stream channel. If there is need to cross the stream channel with heavy equipment or conduct work from within the stream channel a working platform or temporary crossing is authorized. This should be constructed with clean rock and sufficient pipe to allow stream flow to continue unimpeded (see attached typical drawing).

In order for this authorization to be valid, the attached conditions must be followed. The contractor shall post a copy of this Nationwide Approval in a conspicuous location at the project site for the duration of construction and comply with the general conditions as required.

To more readily expedite construction, the contractor may elect to alter the design or perform the work in a manner different from what was originally proposed and specified. Prior to commencing such alternative work, the contractor shall obtain **written** permission from the Division of Construction and the Division of Environmental Analysis. If such changes necessitate further permitting then the contractor will be responsible for applying to the Army Corps of Engineers and the Kentucky Division of Water (KDOW). A copy of any request to the Corps of Engineers or the KDOW to alter this proposal and subsequent responses shall be forwarded to the Division of Environmental Analysis, DA Permit Coordinator, for office records and for informational purposes.

MATTHEW G. BEVIN
GOVERNOR

CHARLES G. SNAVELY
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

R. BRUCE SCOTT
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

General Certification--Nationwide Permit # 14
Linear Transportation Projects

This General Certification is issued March 19, 2017, in conformity with the requirements of Section 401 of the Clean Water Act of 1977, as amended (33 U.S.C. §1341), as well as Kentucky Statute KRS 224.16-050.

For this and all nationwide permits, the definition of surface water is as per 401 KAR 10:001 Chapter 10, Section 1(80): Surface Waters means those waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered to be surface waters of the commonwealth.

Agricultural operations, as defined by KRS 224.71-100(1) conducting activities pursuant to KRS 224.71-100 (3), (4), (5), (6), or 10 are deemed to have certification if they are implementing an Agriculture Water Quality Plan pursuant to KRS 224.71-145.

For all other operations, the Commonwealth of Kentucky hereby certifies under Section 401 of the Clean Water Act (CWA) that it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 10, established pursuant to Sections 301, 302, 304, 306 and 307 of the CWA, will not be violated for the activity covered under NATIONWIDE PERMIT 14, namely Linear Transportation Projects, provided that the following conditions are met:

1. The activity will not occur within surface waters of the Commonwealth identified by the Kentucky Division of Water as Outstanding State or National Resource Water, Cold Water Aquatic Habitat, or Exceptional Waters.

2. The activity will not occur within surface waters of the Commonwealth identified as perpetually-protected (e.g. deed restriction, conservation easement) mitigation sites.

3. The activity will impact less than 1/2 acre of wetland/marsh.

General Certification--Nationwide Permit # 14
Linear Transportation Projects
Page 2

4. The activity will impact less than 300 linear feet of surface waters of the Commonwealth. Stream realignment greater than 100 feet and in-stream stormwater detention/retention basins are not covered under this general water quality certification.

5. For complete linear transportation projects, all impacts shall not exceed a cumulative length of 500 linear feet within each Hydrologic Unit Code (HUC) 14.

6. Any crossings must be constructed in a manner that does not impede natural water flow.

7. Stream impacts covered under this General Water Quality Certification and undertaken by those persons defined as an agricultural operation under the Agricultural Water Quality Act must be completed in compliance with the Kentucky Agricultural Water Quality Plan (KWQP).

8. The Kentucky Division of Water may require submission of a formal application for an individual certification for any project if the project has been determined to likely have a significant adverse effect upon water quality or degrade the waters of the Commonwealth so that existing uses of the water body or downstream waters are precluded.

9. Activities that do not meet the conditions of this General Water Quality Certification require an Individual Section 401 Water Quality Certification.

10. Activities qualifying for coverage under this General Water Quality Certification are subject to the following conditions:

    - Projects requiring in-stream stormwater detention/retention basins shall require individual water quality certifications.
    - Erosion and sedimentation pollution control plans and Best Management Practices must be designed, installed, and maintained in effective operating condition at all times during construction activities so that violations of state water quality standards do not occur (401 KAR 10:031 Section 2 and KRS 224.70-100).
    - Sediment and erosion control measures, such as check-dams constructed of any material, silt fencing, hay bales, etc., shall not be placed within surface waters of the Commonwealth, either temporarily or permanently, without prior approval by the Kentucky Division of Water's Water Quality Certification Section. If placement of sediment and erosion control measures in surface waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in such a manner that may result in instability of streams that are adjacent to,

upstream, or downstream of the structures. All sediment and erosion control devices shall be removed and the natural grade restored within the completion timeline of the activities.

- Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
- Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access.
- To the maximum extent practicable, all in-stream work under this certification shall be performed under low-flow conditions.
- Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances in which such in-stream work is unavoidable, then it shall be performed in such a manner and duration as to minimize turbidity and disturbance to substrates and bank or riparian vegetation.
- Any fill shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If rip-rap is utilized, it should be of such weight and size that bank stress or slump conditions will not be created because of its placement.
- If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when such work will be done.
- Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the KDOW shall be notified immediately by calling (800) 928-2380.

Non-compliance with the conditions of this general certification or violation of Kentucky state water quality standards may result in civil penalties.

2017 Nationwide Permits Regional and Permit-Specific Conditions
COMMONWEALTH OF KENTUCKY

These regional conditions are in addition to, but do not supersede, the requirements in the Federal Register (Volume 82, No. 4 of January 6, 2017, pp 1860).

Notifications for all Nationwide Permits (NWPs) shall be in accordance with General Condition No. 32.

1. For activities that would impact Outstanding State or National Resource Waters (OSNRWs), Exceptional Waters (EWs), Coldwater Aquatic Habitat Waters (CAHs) under the Endangered Species Act for the NWPs listed below, a Pre-Construction Notification (PCN) will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs (Section 404 activities), for impacts to these waters.

   NWP 3 (Maintenance)
   NWP 4 (Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities)
   NWP 5 (Scientific Measurement Devices)
   NWP 6 (Survey Activities)
   NWP 7 (Outfall Structures and Associated Intake Structures)
   NWP 12 (Utility Line Activities)
   NWP 13 (Bank Stabilization)
   NWP 14 (Linear Transportation Projects)
   NWP 15 (U.S. Coast Guard Approved Bridges)
   NWP 16 (Return Water from Upland Contained Disposal Areas)
   NWP 17 (Hydropower Projects)
   NWP 18 (Minor Discharges)
   NWP 19 (Minor Dredging)
   NWP 20 (Response Operations for Oil or Hazardous Substances)
   NWP 21 (Surface Coal Mining Activities)
   NWP 22 (Removal of Vessels)
   NWP 23 (Approved Categorical Exclusions)
   NWP 25 (Structural Discharges)
   NWP 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities)
   NWP 29 (Residential Developments)
   NWP 30 (Moist Soil Management for Wildlife)
   NWP 31 (Maintenance of Existing Flood Control Facilities)
   NWP 32 (Completed Enforcement Actions)
   NWP 33 (Temporary Construction, Access, and Dewatering)
   NWP 34 (Cranberry Production Activities)
   NWP 36 (Boat Ramps)
   NWP 37 (Emergency Watershed Protection and Rehabilitation)
   NWP 38 (Cleanup of Hazardous and Toxic Waste)
   NWP 39 (Commercial and Institutional Developments)
   NWP 40 (Agricultural Activities)

NWP 41 (Reshaping Existing Drainage Ditches)
NWP 42 (Recreational Facilities)
NWP 43 (Stormwater Management Facilities)
NWP 44 (Mining Activities)
NWP 45 (Repair of Uplands Damaged by Discrete Events)
NWP 46 (Discharges in Ditches)
NWP 48 (Commercial Shellfish Aquaculture Activities)
NWP 49 (Coal Remining Activities)
NWP 50 (Underground Coal Mining Activities)
NWP 51 (Land-Based Renewable Energy Generation Facilities)
NWP 52 (Water-Based Renewable Energy Generation Pilot Projects)
NWP 53 (Removal of Low-Head Dams)
NWP 54 (Living Shorelines)

2. In addition to the notification and agency coordination requirements in the NWPs, for impacts greater than 0.25 acres in all "waters of the U.S." for the NWPs listed below, a PCN will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs:

NWP 3 (Maintenance)
NWP 7 (Outfall Structures and Associated Intake Structures)
NWP 12 (Utility Line Activities)
NWP 14 (Linear Transportation Projects)
NWP 29 (Residential Developments)
NWP 39 (Commercial and Institutional Developments)
NWP 40 (Agricultural Activities)
NWP 41 (Reshaping Existing Drainage Ditches)
NWP 42 (Recreational Facilities)
NWP 43 (Stormwater Management Facilities)
NWP 44 (Mining Activities)
NWP 51 (Land-Based Renewable Energy Generation Facilities)
NWP 52 (Water-Based Renewable Energy Generation Pilot Projects)
NWP 53 (Removal of Low-Head Dams)

3. For activities in all "waters of the U.S." for the NWPs listed below, a PCN will be required to the Corps. The Corps will coordinate with the appropriate resource agencies (see attached list) on these NWPs:

NWP 21 (Surface Coal Mining Activities)
NWP 27 (Aquatic Habitat Restoration, Establishment & Enhancement Activities)
NWP 49 (Coal Remining Activities)
NWP 50 (Underground Coal Mining Activities)

4. Nationwide Permit No. 14 – Linear Transportation Projects.

   (a) New road alignments or realignments are limited to a permanent loss of 500 linear feet of intermittent or perennial stream length at each crossing. Road crossings with permanent losses greater than 500 linear feet of intermittent or perennial stream associated with new

alignments or realignments will be evaluated as an individual permit (i.e., a Letter of Permission or as a Standard Individual Permit).

(b) In addition to the notification requirements contained in NWP 14, the permittee must submit a PCN to the district engineer prior to commencing the activity for the permanent loss of greater than 300 feet of ephemeral, intermittent and perennial stream of all "waters of the U.S." (See General Condition 32 and the definition of "loss of waters of the United States" in the Nationwide Permits for further information.)

5. Notification in accordance with General Condition 32 is required to the Corps for all activities which are subject to jurisdiction under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

6. All applications are required as both a paper copy and in an electronic media format, including electronic mail or compact disc.

7. For all activities, the applicant shall review the U.S. Fish and Wildlife Service's IPaC website: http://ecos.fws.gov/ipac to determine if the activity might affect threatened and/or endangered species or designated critical habitat. If federally-listed species or designated critical habitat are identified, a PCN in accordance with General Condition 18 and 32 would be triggered and the official species list generated from the IPaC website must be submitted with the PCN.

Further information:

Outstanding State or National Resource Water (OSNRWs), Exceptional Waters (EWs), and Coldwater Aquatic Habitat Waters (CAHs) are waters designated by the Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet. The list can be found at the following link: http://eppcapp.ky.gov/spwaters/

Information on Pre-Construction Notification (PCN) can be found at NWP General Condition No. 32 in the Federal Register (Volume 81, No. 105 of June 1, 2017, pp 35211).

COORDINATING RESOURCE AGENCIES

Chief, Wetlands Regulatory Section
U.S. Environmental Protection Agency
Region IV
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303

Supervisor
U.S. Fish & Wildlife Service
JC Watts Federal Building, Room 265
330 West Broadway
Frankfort, Kentucky 40601

Supervisor
401 Water Quality Certification
Kentucky Division of Water
300 Sower Boulevard, 3rd Floor
Frankfort, KY 40601

Commissioner
Department of Fish and Wildlife Resources
#1 Game Farm Road
Frankfort, Kentucky 40601

Executive Director and State Historic Preservation Officer
Kentucky Heritage Council
300 Washington Street
Frankfort, Kentucky 40601

ADDITIONAL COORDINATING RESOURCE AGENCY FOR NWPS 21, 49, AND 50

Kentucky Department for Natural Resources
Division of Mine Permits
300 Sower Boulevard
Frankfort, KY 40601

Terms for Nationwide Permit No. 14
Linear Transportation Projects

Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

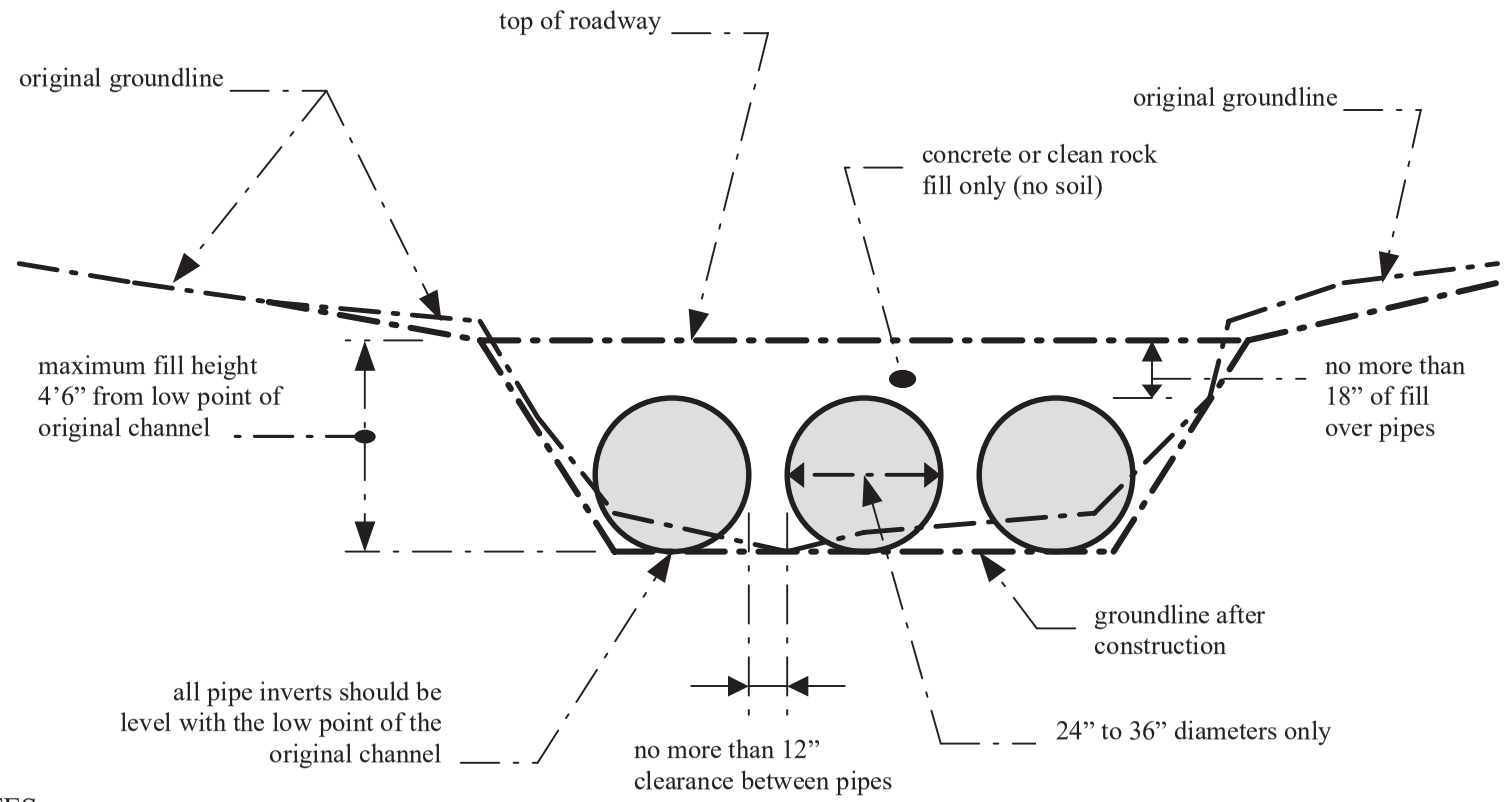
Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must comply with 33 CFR 330.6(d).

Note 2: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4).

Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, “District Engineer’s Decision.” The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

ATTACHMENT 1



NOTES:

1. This is a conceptual drawing. The number and size of pipes and other details will vary depending on specific site conditions.
2. The pipes and backfill must be contained within the stream channel as shown above. During the construction of the approaches and access roadway across the floodplain, unstable and unconsolidated materials unsuitable for roadways may be excavated and replaced with riprap, crushed stone, or other stable road construction materials. This may only be done, however, with the following provisions: (1) the disposal of excess, unconsolidated materials thus excavated must be outside of the floodplain and (2) the finished surface of the completed road may be no more than three inches (3") above the pre-construction surface of the floodplain at any point beyond the top of banks.

LOW-WATER CROSSING

STANDARD DRAWING
Not to Scale

Kentucky Transportation Cabinet

Highway District 5

And

_____(2), Construction

Kentucky Pollutant Discharge Elimination System Permit KYR10 Best Management Practices (BMP) plan

Groundwater protection plan

For Highway Construction Activities

For

Highway Safety Improvement Project on KY 55 in Spencer & Shelby Counties

Project: CID 21-4215

Revised 3/4/2016

KYTC BMP Plan for Project CID **21-4215**

Project information

Note – (1) = Design (2) = Construction (3) = Contractor

1. Owner – Kentucky Transportation Cabinet, District 5
2. Resident Engineer: (2)
3. Contractor name: (2)
   Address: (2)

   Phone number: (2)
   Contact: (2)
   Contractors agent responsible for compliance with the KPDES permit requirements (3):
4. Project Control Number: (2)
5. Route (Address): KY 55
6. Latitude/Longitude (project mid-point): 38.125 / -85.33861
7. County (project mid-point): Spencer & Shelby Counties
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KYTC BMP Plan for Project CID **21-4215**

A. Site description:

1. Nature of Construction Activity (from letting project description): Asphalt Pavement & Roadway Rehab

2. Order of major soil disturbing activities: (2) and (3)

3. Projected volume of material to be moved: 2612 CY (Cut) & 2267 CY (Fill)

4. Estimate of total project area (acres): 7.4 Acres

5. Estimate of area to be disturbed (acres): 7.4 Acres

6. Post construction runoff coefficient will be included in the project drainage folder. Persons needing information pertaining to the runoff coefficient will contact the resident engineer to request this information.

7. Data describing existing soil condition: The existing soil is roadway embankment. (1) & (2)

8. Data describing existing discharge water quality (if any): No data exists. (1) & (2)

9. Receiving water name: Elk Creek

10. TMDLs and Pollutants of Concern in Receiving Waters: No TDML's were involved on this project.

11. Site map – Project layout sheet plus the erosion control sheets in the project plans that depict Disturbed Drainage Areas (DDAs) and related information. These sheets depict the existing project conditions with areas delineated by DDA (drainage area bounded by watershed breaks and right of way limits), the storm water discharge locations (either as a point discharge or as overland flow) and the areas that drain to each discharge point. These plans define the limits of areas to be disturbed and the location of control measures. Controls will be either site specific as designated by the designer or will be annotated by the contractor and resident engineer before disturbance commences. The project layout sheet shows the surface waters and wetlands.

12. Potential sources of pollutants:
The primary source of pollutants is solids that are mobilized during storm events. Other sources of pollutants include oil/fuel/grease from servicing and operating construction equipment, concrete washout water, sanitary wastes and trash/debris. (3)

B. Sediment and Erosion Control Measures:

1. Plans for highway construction projects will include erosion control sheets that depict Disturbed Drainage Areas (DDAs) and related information. These plan sheets will show the existing project conditions with areas delineated by DDA within the right of way limits, the discharge points and the areas that drain to each discharge point. Project managers and designers will analyze the DDAs and identify Best Management Practices (BMPs) that are site specific. The balance of the BMPs for the project will be listed in the bid documents for selection and use by the contractor on the project with approval by the resident engineer.

   Projects that do not have DDAs annotated on the erosion control sheets will employ the same concepts for development and managing BMP plans.

2. Following award of the contract, the contractor and resident engineer will annotate the erosion control sheets showing location and type of BMPs for each of the DDAs that will be disturbed at the outset of the project. This annotation will be accompanied by an order of work that reflects the order or sequence of major soil moving activities. The remaining DDAs are to be designated as “Do Not Disturb” until the contractor and resident engineer prepare the plan for BMPs to be employed. The initial BMP’s shall be for the first phase (generally Clearing and Grubbing) and shall be modified as needed as the project changes phases. The BMP Plan will be modified to reflect disturbance in additional DDA’s as the work progresses. <u>All DDA’s will have adequate BMP’s in place before being disturbed.</u>

3. As DDAs are prepared for construction, the following will be addressed for the project as a whole or for each DDA as appropriate:

   - Construction Access – This is the first land-disturbing activity. As soon as construction begins, bare areas will be stabilized with gravel and temporary mulch and/or vegetation.
   - At the beginning of the project, all DDAs for the project will be inspected for areas that are a source of storm water pollutants. Areas that are a source of pollutants will receive appropriate cover or BMPs to arrest the introduction of pollutants into storm water. Areas that have not been opened by the contractor will be inspected periodically (once per month) to determine if there is a need to employ BMPs to keep pollutants from entering storm water.
   - Clearing and Grubbing – The following BMP’s will be considered and used where appropriate.

- Leaving areas undisturbed when possible.
- Silt basins to provide silt volume for large areas.
- Silt Traps Type A for small areas.
- Silt Traps Type C in front of existing pipes and drop inlets which are to be saved
- Diversion ditches to catch sheet runoff and carry it to basins or traps or to divert it around areas to be disturbed.
- Brush and/or other barriers to slow and/or divert runoff.
- Silt fences to catch sheet runoff on short slopes. For longer slopes, multiple rows of silt fence may be considered.
- Temporary Mulch for areas which are not feasible for the fore mentioned types of protections.
- Non-standard or innovative methods.

➢ Cut & Fill and placement of drainage structures - The BMP Plan will be modified to show additional BMP's such as:
- Silt Traps Type B in ditches and/or drainways as they are completed
- Silt Traps Type C in front of pipes and drop inlets after they are placed
- Channel Lining
- Erosion Control Blanket
- Temporary mulch and/or seeding for areas where construction activities will be ceased for 21 days or more.
- Non-standard or innovative methods

➢ Profile and X-Section in place – The BMP Plan will be modified to show elimination of BMP's which had to be removed and the addition of new BMP's as the roadway was shaped. Probably changes include:
- Silt Trap Type A, Brush and/or other barriers, Temporary Mulch, and any other BMP which had to be removed for final grading to take place.
- Additional Silt Traps Type B and Type C to be placed as final drainage patterns are put in place.
- Additional Channel Lining and/or Erosion Control Blanket.
- Temporary Mulch for areas where Permanent Seeding and Protection cannot be done within 21 days.
- Special BMP's such as Karst Policy

➢ Finish Work (Paving, Seeding, Protect, etc.) – A final BMP Plan will result from modifications during this phase of construction. Probable changes include:
- Removal of Silt Traps Type B from ditches and drainways if they are protected with other BMP's which are sufficient to control erosion, i.e. Erosion Control Blanket or Permanent Seeding and Protection on moderate grades.
- Permanent Seeding and Protection

- Placing Sod
- Planting trees and/or shrubs where they are included in the project

➢ BMP's including Storm Water Management Devices such as velocity dissipation devices and Karst policy BMP's to be installed during construction to control the pollutants in storm water discharges that will occur after construction has been completed are: No permanent BMPs are being proposed.

C. Other Control Measures

1. No solid materials, including building materials, shall be discharged to waters of the commonwealth, except as authorized by a Section 404 permit.

2. Waste Materials

All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in appropriate covered waste containers. Waste containers shall be removed from the project site on a sufficiently frequent basis as to not allow wastes to become a source of pollution. All personnel will be instructed regarding the correct procedure for waste disposal. Wastes will be disposed in accordance with appropriate regulations. Notices stating these practices will be posted in the office.

3. Hazardous Waste

All hazardous waste materials will be managed and disposed of in the manner specified by local or state regulation. The contractor shall notify the Section Engineer if there any hazardous wastes being generated at the project site and how these wastes are being managed. Site personnel will be instructed with regard to proper storage and handling of hazardous wastes when required. The Transportation Cabinet will file for generator, registration when appropriate, with the Division of Waste Management and advise the contractor regarding waste management requirements.

4. Spill Prevention

The following material management practices will be used to reduce the risk of spills or other exposure of materials and substances to the weather and/or runoff.

➢ **Good Housekeeping:**

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure
- Products will be kept in their original containers with the original manufacturer's label
- Substances will not be mixed with one another unless recommended by the manufacturer
- Whenever possible, all of the product will be used up before disposing of the container
- Manufacturers' recommendations for proper use and disposal will be followed
- The site contractor will inspect daily to ensure proper use and disposal of materials onsite

➢ **Hazardous Products:**

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable
- Original labels and material safety data sheets (MSDS) will be reviewed and retained
- Contractor will follow procedures recommended by the manufacturer when handling hazardous materials
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed

The following product-specific practices will be followed onsite:

➢ **Petroleum Products:**

Vehicles and equipment that are fueled and maintained on site will be monitored for leaks, and receive regular preventative maintenance to reduce the chance of leakage. Petroleum products onsite will be stored in tightly sealed containers, which are clearly labeled and will be protected from exposure to weather.

The contractor shall prepare an Oil Pollution Spill Prevention Control and Countermeasure plan when the project that involves the storage of petroleum products in 55 gallon or larger containers with a total combined storage capacity of 1,320 gallons. This is a requirement of 40 CFR 112.

This project (will / will not) (3) have over 1,320 gallons of petroleum products with a total capacity, sum of all containers 55 gallon capacity and larger.

- **Fertilizers:**

Fertilizers will be applied at rates prescribed by the contract, standard specifications or as directed by the resident engineer. Once applied, fertilizer will be covered with mulch or blankets or worked into the soil to limit exposure to storm water. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

- **Paints:**

All containers will be tightly sealed and stored indoors or under roof when not being used. Excess paint or paint wash water will not be discharged to the drainage or storm sewer system but will be properly disposed of according to manufacturers' instructions or state and local regulations.

- **Concrete Truck Washout:**

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a shallow earthen wash basin will be excavated away from ditches to receive the wash water

- **Spill Control Practices**

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup**:**

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area. Equipment and materials will include as appropriate, brooms, dust pans, mops, rags, gloves, oil absorbents, sand, sawdust, and plastic and metal trash containers.
- All spills will be cleaned up immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contract with a hazardous substance.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as required by KRS 224 and applicable federal law.

- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of products will be cleaned up promptly. Wastes from spill cleanup will be disposed in accordance with appropriate regulations.

D. Other State and Local Plans

This BMP plan shall include any requirements specified in sediment and erosion control plans, storm water management plans or permits that have been approved by other state or local officials. Upon submittal of the NOI, other requirements for surface water protection are incorporated by reference into and are enforceable under this permit (even if they are not specifically included in this BMP plan). This provision does not apply to master or comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit issued for the construction site by state or local officials. There are no other local (MS4) requirements that are expected to be necessary for this project.

E. Maintenance

1. The BMP plan shall include a clear description of the maintenance procedures necessary to keep the control measures in good and effective operating condition.

- Maintenance of BMPs during construction shall be a result of weekly and post rain event inspections with action being taken by the contractor to correct deficiencies.

- Post Construction maintenance will be a function of normal highway maintenance operations. Following final project acceptance by the cabinet, district highway crews will be responsible for identification and correction of deficiencies regarding ground cover and cleaning of storm water BMPs. The project manager shall identify any BMPs that will be for the purpose of post construction storm water management with specific guidance for any non-routine maintenance. There are no such BMP’s for this project.

F. Inspections

Inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- All erosion prevention and sediment control measures will be inspected at least once each week and following any rain of one-half inch or more.

- Inspections will be conducted by individuals that have successfully completed the KEPSC-RI course as required by Section 213.02.02 of the Standard Specifications for Road and Bridge Construction, current edition.
- Inspection reports will be written, signed, dated, and kept on file.
- Areas at final grade will be seeded and mulched within 14 days.
- Areas that are not at final grade where construction has ceased for a period of 21 days or longer and soil stock piles shall receive temporary mulch no later than 14 days from the last construction activity in that area.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported.
- Built-up sediment will be removed from behind the silt fence before it has reached halfway up the height of the fence.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts.
- Sediment basins will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 50 percent of the design capacity and at the end of the job.
- Diversion dikes and berms will be inspected and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.
- All material storage and equipment servicing areas that involve the management of bulk liquids, fuels, and bulk solids will be inspected weekly for conditions that represent a release or possible release of pollutants to the environment.

G. Non – Storm Water discharges

It is expected that non-storm water discharges may occur from the site during the construction period. Examples of non-storm water discharges include:

- Water from water line flushings.
- Water form cleaning concrete trucks and equipment.
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred).
- Uncontaminated groundwater and rain water (from dewatering during excavation).

All non-storm water discharges will be directed to the sediment basin or to a filter fence enclosure in a flat vegetated infiltration area or be filtered via another approved commercial product.

H. Groundwater Protection Plan (3)

This plan serves as the groundwater protection plan as required by 401 KAR 5:037.

- Contractors statement: (3)

The following activities, as enumerated by 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan, will or may be may be conducted as part of this construction project:

_____ 2. (e) land treatment or land disposal of a pollutant;

_____ 2. (f) Storing, …, or related handling of hazardous waste, solid waste or special waste, …, in tanks, drums, or other containers, or in piles, (This does not include wastes managed in a container placed for collection and removal of municipal solid waste for disposal off site);

_____ 2. (g) …. Handling of materials in bulk quantities (equal or greater than 55 gallons or 100 pounds net dry weight transported held in an individual container) that, if released to the environment, would be a pollutant;

_____ 2. (j) Storing or related handling of road oils, dust suppressants, …., at a central location;

_____ 2. (k) Application or related handling of road oils, dust suppressants or deicing materials, (does not include use of chloride-based deicing materials applied to roads or parking lots);

_____ 2. (m) Installation, construction, operation, or abandonment of wells, bore holes, or core holes, (this does not include bore holes for the purpose of explosive demolition);

Or, check the following only if there are no qualifying activities

_____ There are no activities for this project as listed in 401 KAR 5:037 Section 2 that require the preparation and implementation of a groundwater protection plan.

The contractor is responsible for the preparation of a plan that addresses the 401 KAR 5:037 Section 3. (3) Elements of site specific groundwater protection plan:

(a) General information about this project is covered in the Project information;

(b) Activities that require a groundwater protection plan have been identified above;
(c) Practices that will protect groundwater from pollution are addressed in section C. Other control measures.
(d) Implementation schedule – all practices required to prevent pollution of groundwater are to be in place prior to conducting the activity;
(e) Training is required as a part of the ground water protection plan. All employees of the contractor, sub-contractor and resident engineer personnel will be trained to understand the nature and requirements of this plan as they pertain to their job function(s). Training will be accomplished within one week of employment and annually thereafter. A record of training will be maintained by the contractor with a copy provide to the resident engineer.
(f) Areas of the project and groundwater plan activities will be inspected as part of the weekly sediment and erosion control inspections
(g) Certification (see signature page.)

KYTC BMP Plan for Project CID **21-4215**

Contractor and Resident Engineer Plan certification

The contractor that is responsible for implementing this BMP plan is identified in the Project Information section of this plan.

The following certification applies to all parties that are signatory to this BMP plan:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Further, this plan complies with the requirements of 401 KAR 5:037. By this certification, the undersigned state that the individuals signing the plan have reviewed the terms of the plan and will implement its provisions as they pertain to ground water protection.

Resident Engineer and Contractor Certification:

(2) Resident Engineer signature

Signed _____title_____, _____
Typed or printed name[2] signature

(3) Signed _____title_____, _____
Typed or printed name[1] signature

1. Contractors Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

2. KyTC note: to be signed by the Chief District Engineer or a person designated to have the authority to sign reports by such a person (usually the resident engineer) in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601 Reference the Project Control Number (PCN) and KPDES number when one has been issued.

Sub-Contractor Certification

The following sub-contractor shall be made aware of the BMP plan and responsible for implementation of BMPs identified in this plan as follows:

Subcontractor

Name:
Address:
Address:

Phone:

The part of BMP plan this subcontractor is responsible to implement is:

I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollutant Discharge Elimination System permit that authorizes the storm water discharges, the BMP plan that has been developed to manage the quality of water to be discharged as a result of storm events associated with the construction site activity and management of non-storm water pollutant sources identified as part of this certification.

Signed _____title_____, _____
Typed or printed name[1] signature

1. Sub Contractor Note: to be signed by a person who is the owner, a responsible corporate officer, a general partner or the proprietor or a person designated to have the authority to sign reports by such a person in accordance with 401 KAR 5:060 Section 9. This delegation shall be in writing to: Manager, KPDES Branch, Division of Water, 14 Reilly Road, Frankfort Kentucky 40601. Reference the Project Control Number (PCN) and KPDES number when one has been issued.

SPECIAL NOTE

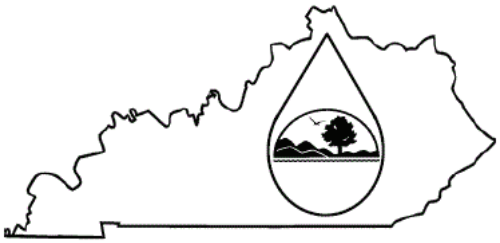
Filing of eNOI for KPDES Construction Stormwater Permit

County: Shelby/Spencer **Route: KY 55**
Item No.: 5-9017 **KDOW Submittal ID:** 210921 fd1d7c3b-78d3-4e01-8413-169d8dfe054d

Project Description: PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 55 FROM KY 155 IN SPENCER COUNTY TO KY 148 IN SHELBY COUNTY

A Notice of Intent for obtaining coverage under the Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) has been drafted, copy of which is attached. Upon award, the Contractor will be identified in Section III of the form as the "Building Contractor" and it will be submitted for approval to the Kentucky Division of Water. The Contractor shall be responsible for advancing the work in a manner that is compliant with all applicable and appropriate KYTC specifications for sediment and erosion control as well as meeting the requirements of the KYR10 permit and the KDOW.

If there are any questions regarding this note, please contact David Waldner, Director, Division of Environmental Analysis, TCOB, 200 Mero Street, Frankfort, KY 40622, Phone: (502) 564-7250.



KENTUCKY POLLUTION DISCHARGE ELIMINATION SYSTEM (KPDES)

Notice of Intent (NOI) for coverage of Storm Water Discharge Associated with Construction Activities Under the KPDES Storm Water General Permit KYR100000

Click here for Instructions (Controls/KPDES_FormKYR10_Instructions.htm)

Click here to obtain information and a copy of the KPDES General Permit. (http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf)

(*) indicates a required field; (✓) indicates a field may be required based on user input or is an optionally required field

Reason for Submittal:(*)	Agency Interest ID:	Permit Number:(✓)
Application for New Permit Coverage	Agency Interest ID	KPDES Permit Number

If change to existing permit coverage is requested, describe the changes for which modification of coverage is being sought:(✓)

ELIGIBILITY:
Stormwater discharges associated with construction activities disturbing individually one (1) acre or more, including, in the case of a common plan of development, contiguous construction activities that cumulatively equal one (1) acre or more of disturbance.

EXCLUSIONS:
The following are excluded from coverage under this general permit:
1) Are conducted at or on properties that have obtained an individual KPDES permit for the discharge of other wastewaters which requires the development and implementation of a Best Management Practices (BMP) plan;
2) Any operation that the DOW determines an individual permit would better address the discharges from that operation;
3) Any project that discharges to an Impaired Water listed in the most recent Integrated Report, §305(b) as impaired for sediment and for which an approved TMDL has been developed.

SECTION I -- FACILITY OPERATOR INFORMATION (PERMITTEE)

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
KYTC District 5	Matthew	MI	Bullock

Mailing Address:(*)	City:(*)	State:(*)	Zip:(*)
8310 Westport Rd	Louisville	Kentucky	42701

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
eMail Address	Phone	Phone

SECTION II -- GENERAL SITE LOCATION INFORMATION

Project Name:(*)	Status of Owner/Operator(*)	SIC Code(*)
CID 21-	State Government	1611 Highway and Street Const

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
KYTC District 5	Matthew	MI	Bullock

Site Physical Address:(*)
7000 KY 55

City:(*)	State:(*)	Zip:(*)
Finchville	Kentucky	40022

County:(*)	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal)	Longitude(decimal degrees)(*)
Shelby	38.125	-85.33861

SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION

Project Description:(*)
PERFORM LOW COST SAFETY IMPROVEMENTS ON KY 55 FROM KY 155 IN SPENCER COUNTY TO KY 148 IN SHELBY COUNTY

a. For single projects provide the following information

Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)
7.4	7.4
Anticipated Start Date:(✓)	Anticipated Completion Date:(✓)

b. For common plans of development provide the following information

Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)
# Acre(s)	# Acre(s)
Number of individual lots in development, if applicable:(✓)	Number of lots in development:(✓)
# lot(s)	# lot(s)
Total acreage of lots intended to be developed:(✓)	Number of acres intended to be disturbed at any one time:(✓)
Project Acres	Disturbed Acres
Anticipated Start Date:(✓)	Anticipated Completion Date:(✓)

List Building Contractor(s) at the time of Application:(*)

	Company Name	
+		

SECTION IV -- IF THE PERMITTED SITE DISCHARGES TO A WATER BODY THE FOLLOWING INFORMATION IS REQUIRED

Discharge Point(s):

	Unnamed Tributary?	Latitude	Longitude	Receiving Water Name	
1	No	38.105387	-85.36858	Elk Cr	Delete
2	No	38.106692	-85.367144	Elk Cr	Delete
3	No	38.107071	-85.366582	Elk Cr	Delete
4	No	38.108189	-85.365582	Elk Cr	Delete
5	No	38.109248	-85.365025	Elk Cr	Delete
6	No	38.109785	-85.364595	Elk Cr	Delete
7	No	38.111156	-85.363616	Elk Cr	Delete
8	No	38.11188	-85.362972	Elk Cr	Delete
9	No	38.111935	-85.362918	Elk Cr	Delete
10	No	38.111836	-85.362561	Elk Cr	Delete

SECTION V -- IF THE PERMITTED SITE DISCHARGES TO A MS4 THE FOLLOWING INFORMATION IS REQUIRED

Name of MS4:

Date of application/notification to the MS4 for construction site permit coverage:	Discharge Point(s):(*)
Date	

	Latitude	Longitude	
+			

SECTION VI -- WILL THE PROJECT REQUIRE CONSTRUCTION ACTIVITIES IN A WATER BODY OR THE RIPARIAN ZONE?

Will the project require construction activities in a water body or the riparian zone?: (*)	Yes
If Yes, describe scope of activity: (✓)	reconstruct culvert headwalls and lengthen existing culverts
Is a Clean Water Act 404 permit required?:(*)	Yes

Is a Clean Water Act 401 Water Quality Certification required?:(*)	No

SECTION VII -- NOI PREPARER INFORMATION

First Name:(*)	M.I.:	Last Name:(*)	Company Name:(*)
First Name	MI	Last Name	Company Name

Mailing Address:(*)	City:(*)	State:(*)	Zip:(*)
Mailing Address	City		Zip

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
eMail Address	Phone	Phone

SECTION VIII -- ATTACHMENTS

Facility Location Map:(*)	Upload file
Supplemental Information:	Upload file

SECTION IX -- CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:(*)	Title:(*)
Signature	Title

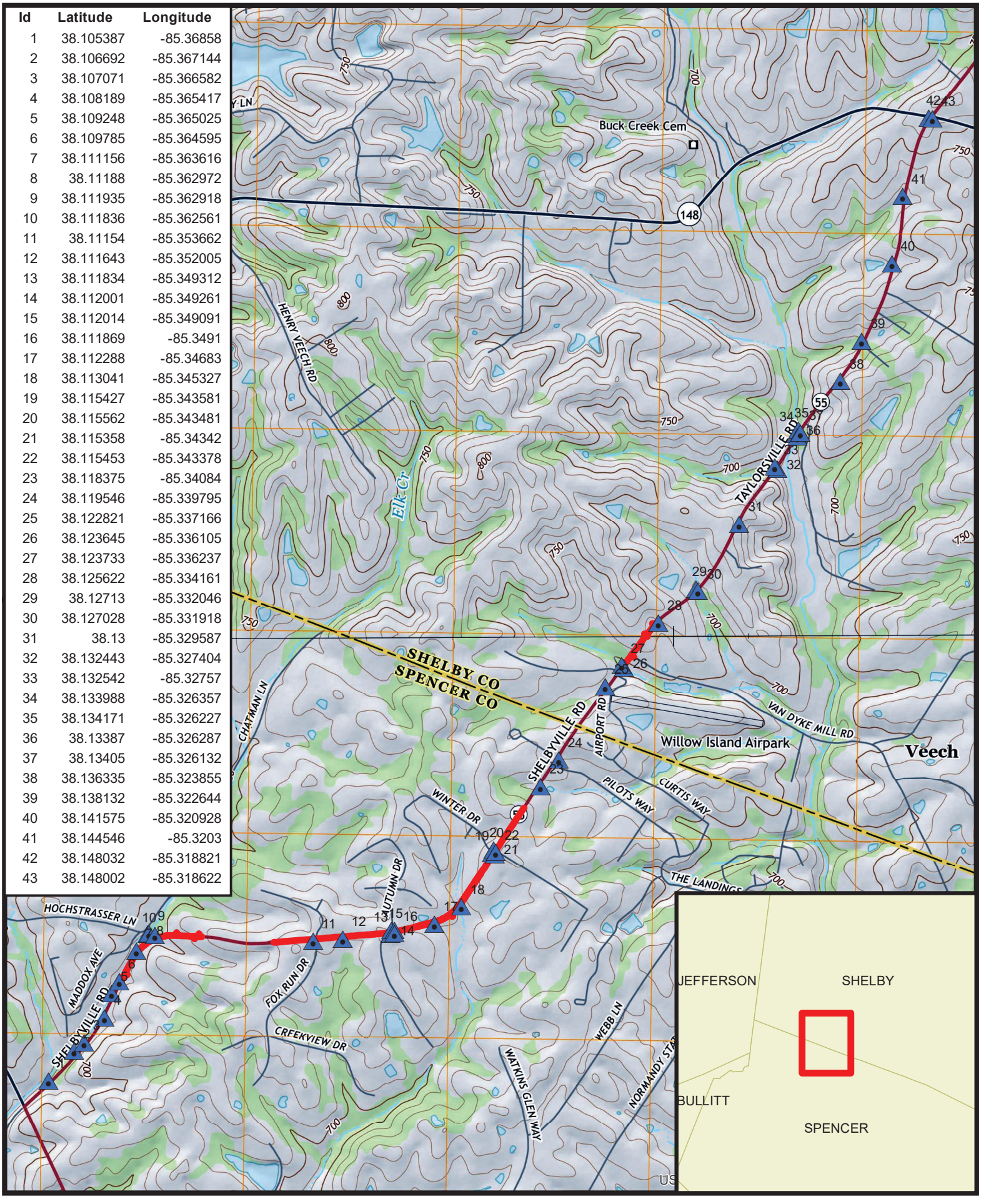
First Name:(*)	M.I.:	Last Name:(*)
First Name	MI	Last Name

eMail Address:(*)	Business Phone:(*)	Alternate Phone:	Signature Date:(*)
eMail Address	Phone	Phone	Date

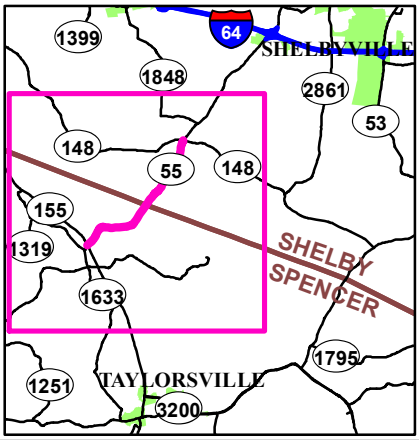
Click to Save Values for Future Retrieval | Click to Submit to EEC

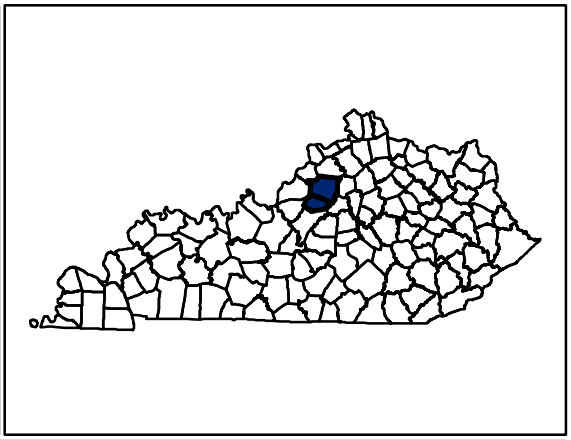
5-9017 - KY 55 HSIP Improvements

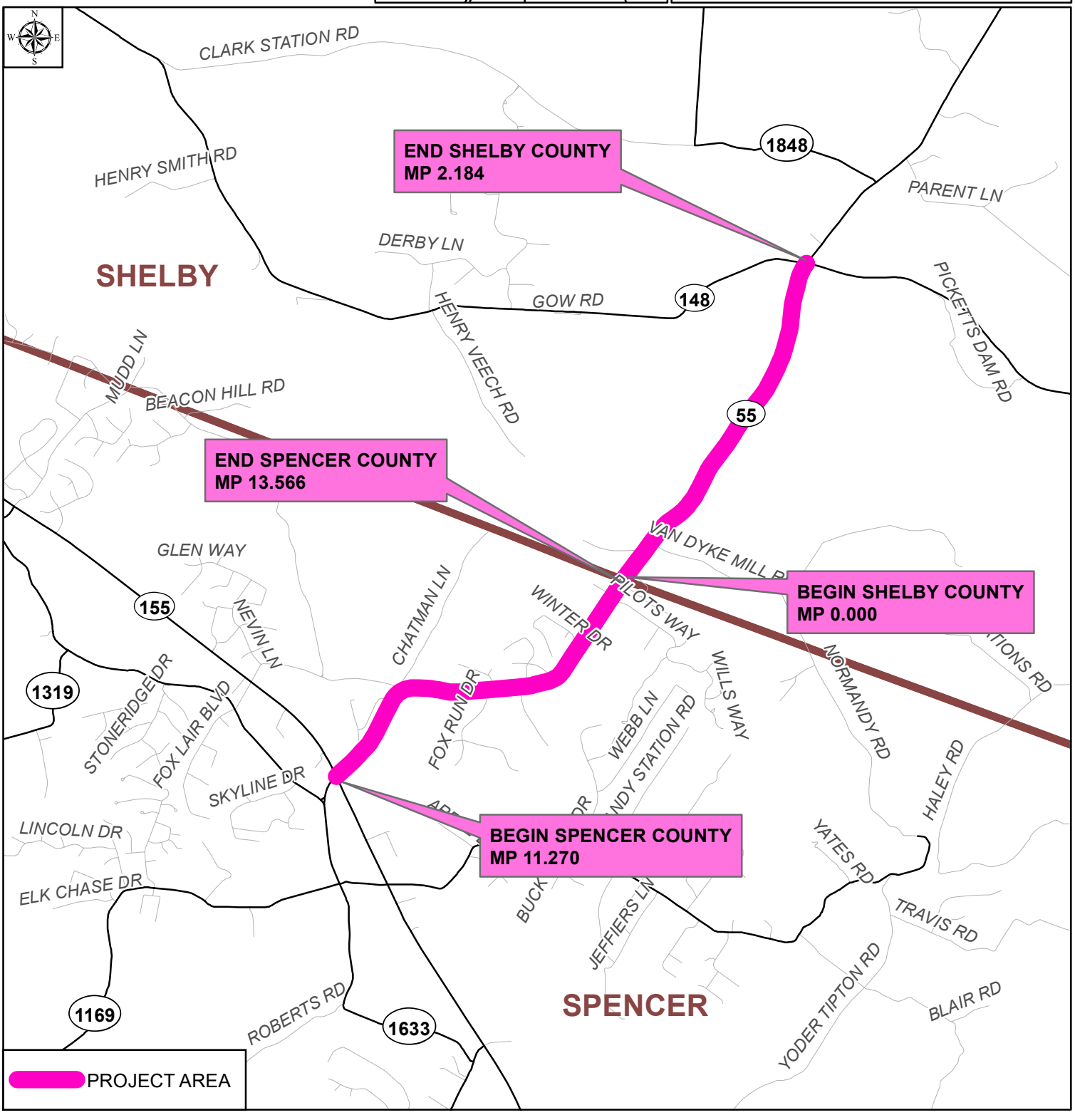
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40	38.141575	-85.320928
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PROJECT MAP
SPENCER COUNTY AND SHELBY COUNTY
ITEM NO. 5-9017.00
KY 55 HSIP







GENERAL SUMMARY SHEET

GENERAL SUMMARY

ITEM	DESCRIPTION		UNIT	
02230	Embankment in Place		CU YD	6517
02223	Granular Embankment	(15)(16)	CU YD	4045
02650	Maintain & Control Traffic	(1)	LP SUM	1
02726	Staking		LP SUM	1
02585	Edge Key		LF	243
05989	Special Seeding & Crown Vetch		SQ YD	11,985
02545	Clearing and Grubbing	(3)	LP SUM	1
05950	Erosion Control Blanket		SQ YD	13,272
05952	Temporary Mulch		SQ YD	26,967
02701	Temporary Silt Fence		LF	4020
05953	Temporary Seeding and Protection		SQ YD	10,787
05985	Seeding and Protection		SQ YD	17,978
02159	Temporary Ditch	(17)	LF	11,486
02160	Clean Temporary Ditch		LF	5743
02259	Fence-Temp	(14)	LF	778
02703	Silt Trap Type A		EACH	7
02704	Silt Trap Type B		EACH	7
02705	Silt Trap Type C		EACH	7
02706	Clean Silt Trap Type A		EACH	7
02707	Clean Silt Trap Type B		EACH	7
02708	Clean Silt Trap Type C		EACH	7
05963	Initial Fertilizer	(2)	TON	2
05964	Maintenance Fertilizer	(2)	TON	.56
05992	Agricultural Limestone	(2)	TON	22.3
02602	Fabric Geotextile Class I	(4)	SQ YD	16544
02381	Remove Guardrail		LF	937.5
21802EN	G/R Steel W Beam-S Face (7 ft Post)		LF	1507.5
08806	G/R Bridge Case 1-A		LF	130
02355	Guardrail-Steel W Beam (Single Face A)		LF	100
02360	Guardrail Terminal Section No 1		EACH	5
02367	Guardrail End Treatment Ty 1		EACH	5
20191ED	Object Marker Ty 3		EACH	5
01987	Delineator for Guardrail Bi-Directional White		EACH	38
02562	Temporary Signs		SQ FT	750
06406	SBM Aluminum Sheet Signs .080		SQ FT	57
06410	Steel Post Type 1		LF	81
24631EC	Barcode Sign Inventory		EACH	17
02429	ROW Monument Type 1		EACH	64
02432	Witness Post		EACH	64
06510	Pave Striping-Temp Paint 4 IN		LF	32,798
06514	Pave Striping-Perm Paint 4 IN		LF	21,513
02569	Demobilization		LP SUM	1
08810	Precast Concrete Bridge Rail Block		EACH	4
06573	Pave Marking-Thermo Straight Arrow		EACH	7
06574	Pave Marking-Thermo Curve Arrow		EACH	2
06578	Pave Marking-Thermo Merge Arrow		EACH	1
06575	Pave Marking-Thermo Combined Arrow		EACH	1
04935	Temp Signal	(5)	EACH	1
02268	Remove and Replace Fence	(6)	LF	645
02268	Remove and Replace Fence	(7)	LF	720
02268	Remove and Replace Fence	(8)	LF	190
03302	Repair Concrete Bridge		LF	10

PAVING SUMMARY

ITEM	DESCRIPTION		UNIT	
00307	CL2 Asph Surf 0.38B PG64-22		TON	1473
00212	CL2 Asph Base 1.00D PG64-22		TON	484
00020	Traffic Bound Base	(9)	TON	23
00190	Asphalt Leveling & Wedging		TON	149
00003	Crushed Stone Base	(10)	TON	1306
00100	Asphalt Seal Aggregate	(11)	TON	58
00103	Asphalt Seal Coat	(14)	TON	8.1
02677	Asphalt Pavement Milling & Texturing		TON	1467
02676	Mobilization for Asph Pave Milling & Text		LS	1
24970EC	Asph Material for Tack Non-Tracking	(13)	TON	7.3

Earthwork Quantities (As Derived from Cross Sections)	
Embankment in Place	6517 CY
Excavation	2602 CY

NOTES:

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 110 LBS PER SQ. YD. PER INCH OF DEPTH, UNLESS NOTED OTHERWISE.

NOTES:

(1) Water shall be incidental to Maintain and Control Traffic

(2) Estimated at:
Initial Fertilizer @ 0.25 Tons/Acre of Clearing and Grubbing
Maintenance Fertilizer @ 0.15 Tons/Acre of Seeding
Agricultural Limestone @ 3.0 Tons/Acre of Clearing and Grubbing

(3) Includes 7.4 acres. Clearing of trees and brush will be incidental.

(4) To be used between the interface of the granular embankment and the soil.

(5) For culvert replacement. To be used for duration of the project if necessary. Relocation of item incidental to bid item. Coordinate with engineer for location to minimize red time. Contractor shall retain possession of Temporary Signal upon completion of construction.

(6) Woven Wire Type 1

(7) Wood Plank Fence

(8) Wood plank with woven wire

(9) For Traffic Control

(10) Estimated at 115 lbs per sy per inch of depth

(11) Estimated at 20 Lbs per Sq Yd; 2 applications

(12) Estimated at 2.40 Lbs per Sq Yd; 2 applications

(13) To be used between all asphalt course layers at a rate of 0.7 Lb/SY

(14) To be used at the discretion of the Engineer.

(15) Area between EOP & Disturb limit was measured on plan view. One foot of depth was assumed.

(16) Locations for Granular Embankment:
Rt Sta 114+00 to Sta 128+00
Lt 138+00 to Sta 175+00
Rt Sta 139+00 to Sta 177+00
Rt/Lt Sta 190+00 to Sta 198+00
Lt Sta 209+00 to Sta 221+00
Lt Sta 236+00 to Sta 242+00
Rt Sta 236+00 to Sta 268+00
Lt Sta 281+00 to 295+00
Rt 305+50 to Sta 319+80

(17) Contrary to Section 213.03.05. Subsection D, the contractor shall only be expected to construct earthen ditches to maintain drainage patterns during construction of the project. All necessary pipe, silt fence and erosion control measures have appropriate bid items elsewhere.

NTS

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	

KY 55

GENERAL SUMMARY

SHELBY/SPENCER COUNTY - KY 55 ROADWAY
ITEM NO. 5-9017
PIPE, CULVERT & HEADWALL SUMMARY

STATION	PIPES & CULVERTS										HEADWALLS											BOX CULVERTS					Extension Length		EXISTING NOTES	COMMENTS
	15 IN Entrance pipe	15 IN Culvert Pipe	18 IN	24 IN	36 IN CMP	42 IN	Culvert Pipe-36 in Equiv	Remove Pipe	[6]Remove Structure	Clean Pipe Structure	[3]Remove Hdwl	Remove Drop Box Inlet	Drop Box Inlet Type 11	Drop Box Inlet Type 6E	Headwall (Sloped and Mitered Hdwl for 15 inch Pipe)	Headwall (Sloped and Mitered Hdwl for 18 inch Pipe)	Headwall (Sloped and Mitered Hdwl-for 24 inch Pipe)	Headwall (Sloped and Mitered Hdwl w/Grate-for 36 inch Pipe)	Safety Box Inlet-15 in SDB-1	Safety Box Inlet-18 in SDB-1	Safety Box Inlet-24 in SDB-1	Concrete-class A	Steel Reinforce-ment	Foundation Preparation	Structure Excav Solid Rock	[1]Channel Lining CL II				
Item Code	00440	00461	00462	00464	00468	00469	00496	01310	02731	03262	02625	01585	01544	22767ES710	24575ES610				24395EC	01726	01727	08100	08150	08003	08002	02483	LT	RT		
Unit to Bid	LF									EACH	EACH											CY	LB	LS	CY	TONS	FT	FT		
102+15										1																			24" RCP	
103+43 (BC)											2											24.3	2079	1	13	80	7	5	5'W x 4'H RCBC	
106+27			12							1	2																6	6	Pipe completely covered	no survey info; pipe diameter & extension quantities assumed
109+32			24								2					1				1						8	16	8		
111+83		21								1	2				1				1							8	16	5		
117+14				10							1										1					14		10		
121+06			22							1	2		1			1						8	17	5						
Rt 121+19	2									1																				Extending pipe to tie into DBI Ty 11
123+37 (BC)											2											19.2	1654	1	13	80	4	7	3'W x 4'H RCBC	
129+06			31								2					2										8	16	15		
132+78 (BC)											2											25.2	2427	1	13	80	14	9	3'H x 4'W RCBC	
LT 136+11			34					28																						Removing 15" pipe and installing 18" pipe
RT 142+41 (15" Ent pipe)										1																				
LT 144+34 (15" Ent pipe)										1																				
RT 147+03 (15" Ent Pipe)										1																				
158+28			20								2									1						8	12	8		
RT 158+93 (15" Ent Pipe)										1																				
163+13			16								1	1		1		1										8		16	Last section broke off	Lt: remove ex timber box
RT 178+21 (BC)					14						1							1								40		14	2.5'W x 2.6'H RCBC	[4]RT side extension will be 36" CMP
LT 178+21+12" Overflow pipe											**1**											7.5	732	1		60	7			LT side extension will be culvert w/CIP Hdwl
*LT 181+18	36							27																						*This will be at engineer's discretion--should field conditions warrant it.
183+26 (BC)											2											32.4	2861	1	13	80	9	10	4'H x 5'W RCBC	
RT 195+46			5								1															4		5	18" RCP-**LEAVE LT AS IS**	
206+47 (BC)						60			1		2															60			3' X 3' RCBC	[5]Removing 3' x 3' RCBC
211+71				10							1						1									8	10			
LT 217+15 (15" Ent Pipe)										1																			Pipe Covered	
RT 220+32 (18" Ent Pipe)										1																				
225+60 (BC)											2											31.8	2807	1	13	80	8	7	5'W x 4'H RCBC	
229+98 (BC)											2											52.7	5442	1	13	80	21	8	8'W x 4'H RCBC	Angled culvert
LT 232+28 (15" Ent Pipe)								31																					Pipe covered	
LT 238+58			73					71																						Give existing pipe to owner

SHELBY/SPENCER COUNTY - KY 55 ROADWAY
ITEM NO. 5-9017
PIPE, CULVERT & HEADWALL SUMMARY

STATION	PIPES & CULVERTS										HEADWALLS											BOX CULVERTS					Extension Length		EXISTING NOTES	COMMENTS
	15 IN Entrance pipe	15 IN Culvert Pipe	18 IN	24 IN	36 IN CMP	42 IN	Culvert Pipe-36 in Equiv	Remove Pipe	[6]Remove Structure	Clean Pipe Structure	[3]Remove Hdwl	Remove Drop Box Inlet	Drop Box Inlet Type 11	Drop Box Inlet Type 6E	Headwall (Sloped and Mitered Hdwl for 15 inch Pipe)	Headwall (Sloped and Mitered Hdwl for 18 inch Pipe)	Headwall (Sloped and Mitered Hdwl-for 24 inch Pipe)	Headwall (Sloped and Mitered Hdwl w/Grate-for 36 inch Pipe)	Safety Box Inlet-15 in SDB-1	Safety Box Inlet-18 in SDB-1	Safety Box Inlet-24 in SDB-1	Concrete-class A	Steel Reinforce-ment	Foundation Preparation	Structure Excav Solid Rock	[1]Channel Lining CL II				
Item Code	00440	00461	00462	00464	00468	00469	00496	01310	02731	03262	02625	01585	01544	22767ES710	24575ES610				24395EC	01726	01727	08100	08150	08003	08002	02483	LT	RT		
Unit to Bid	LF									EACH	EACH											CY	LB	LS	CY	TONS	FT	FT		
238+95			14								1		1														14			
247+47 (BC)											2											38.1	3311	1	13	80	5	9	6'W x 4'H RCBC	
RT 253+37 (15" CMP)										1																			Outlet buried; invert silted	
RT 258+58 (15" Ent Pipe)	25							25																					Invert crushed; oulet silted	
LT 259+39 (15" CMP)										1																				
260+17			19								2					1				1						8	6	13		LT install 18" side safety inlet; RT: install sloped and mitered hwl (0.85 CY concrete for 18", 3:1)
LT 268+89 (15" Ent Pipe)	26							26																					Both sides crushed	
271+17 (BC)											2											31.4	3115	1	13	80	6	4	8'W x 4'H RCBC	
LT 282+49 (15" Ent Pipe)	33							33																					One side crushed	
296+04 (BC)											2											20.6	1679	1	13	80	5.5	4	3'H x 5'W RCBC	
LT 309+64 (BC & 24" CMP)							11				1							1								4	11		24" H x 36" W RCBC	
RT 309+64 (24" CMP)							12				1							1								4		12		
312+07 (15" Ent Pipe)	36							36																					One Side crushed; partially covered	
LT 317+06 (15" Ent Pipe)										1																			Pipe silted	
RT 319+94 (15" Ent Pipe)										1																			Outlet buried	
320+63 (BC)											2											19.3	1776	1	13	60	11	8	3' x 3' RCBC	
TOTALS:	158	21	270	20	14	60	23	277	1	15	45	1	2	1	1	6	1	3	1	3	1	303	27883	11	130	1030				
	LF								EACH		EACH											CY	LB	LS	CY	TON				

NOTE 1: To be used around culverts and at the discretion of the Engineer
NOTE 2: Extensions include 3 ft or 6 ft of additional footage to account for removal of pipe segment to nearest joint.
NOTE 3: For concrete pipes: removal of pipe to nearest joint is incidental to removal of the headwall
NOTE 4: Collar for connection of pipe to box culvert is incidental to pipe. The contractor shall submit a shop drawing to the Engineer for approval prior to construction of the collar.
NOTE 5: 168 Sq Yd Fabric Geotextile Class 2 & 4 Cu Yd Flowable Fill incidental to pipe.
NOTE 6: Includes removal of structure and headwalls
The Contractor shall field verify types and dimensions prior to ordering.
Use ditching and channel lining as needed for proper drainage as directed by the engineer.

SHELBY/SPENCER - KY 55 SOUTHERN ROADWAY
ITEM NO. 5-9017
EARTHWORK & PAVING SUMMARY

	STATION	Edge Key	Embankment in Place	[1] Excavation	Trenching (will be part of excavation)	Asph Surf (1.5" ML Surf)	3" Asph Base (SH)	Traffic Bound Base	Asph Seal Agg	Asph Seal Coat	Asph Material for Tack non-tracking	[2] CSB WIDENING+SH	CSB (entrance)	CSB (mainline)	Asph Leveling and Wedging	Asph Pave Milling & Texturing
	Item Code	02585	02230	21554EN		00301	00212	00020	00100	00103	24970EC	00003			00190	02677
	Unit to Bid	LF				TONS						TONS				TONS
	103+00 to 123+00		367	8												
Super Improvement CURVE 1	Sta 123+00 to 140+22.22	44	1414	759		406	170		31	4	5.0	604			41	406
Washburn	Sta 20+16.9 to 20+70.1	23				15			1	0.1	0.1				1.5	15
	140+22 to 175+30.5			8												
Super Improvement CURVE 2	Sta 175+30.5 to 189+49	45	334			310	82		26	4	2.2	303			31	310
Entrance	*Rt Sta 181+18.5 (to be used at the Engineer's discretion)												59			
	189+49 to 227+44.7		1624	1115												
	Sta 206+47					6		23						32	1	
Passing Blister	Sta 227+44.7 to 235+94.7		660	389	63	217	232					308			22	217
	235+94.t to 242+94.7			200												
Super Alteration	Sta 242+70 to 268+50	43	331			519									52	519
	268+50 to Sta 333+86		1787	60												
	TOTALS:	112	6517	2602	63	1473	484	23	58	8.1	7.3	1215	59	32	149	1467
		LF	CY	CY	CY	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON	TON

Note: All items carried over and included in the general summary
The contractor shall field verify types and dimensions prior to ordering.
Use ditching and channel lining as needed for proper drainage as directed by the engineer.

[1] Excavation quantity includes 63 cy of trenching for the Passing Blister; Trenching dimensions: 1 ft deep by 2 ft wide by 850 ft long
[2] CSB shoulders is the 2 ft wide by 6" deep strip in paving areas

SHELBY/SPENCER - KY 55 SOUTHERN ROADWAY
ITEM NO. 5-9017
STRIPING AND SIGNING SUMMARY

			(Yellow + White paint)		includes double whites for edgelines							
	SEGMENT	PAVE STRIPING-TEMP PAINT 4 IN	PAVE STRIPING-PERM PAINT 4 IN	YELLOW PAINT	WHITE PAINT	Pave Marking Thermo Straight Arrow (each)	Pave Marking-Thermo Curve Arrow (each)	Pave Marking-Thermo Merge Arrow (each)	Pave Marking-Thermo Comb Arrow (each)	SMB Aluminum Sheet Signs .080	Steel Post Type 1	Barcode Sign Inventory
		06510	06514			06573	06574	06578	06575	06406	06410	24631EC
STATION	LF											
Sta 123+00-140+22.22 Superelevation Correction CURVE 1	1723	6892	4493	2788	1705	5	2		1	57	81	17
Sta 175+30.5-189+49 Superelevation Correction CURVE 2	1419	5676	5676	2838	2838							
Sta 227+44.7-235+94.7 Passing Blister	850	3400	1024		1024	2		1				
Sta 242+70 - 268+50 Superelevation Alteration	2580	10320	10320	5160	5160							
TOTAL	**6572**	**32798**	**21513**	**10786**	**10727**	**7**	**2**	**1**	**1**	**57**	**81**	**17**
	Segment Lengths (LF)	Temp Paint	Perm Paint			Thru Arrow	Curve Arrow	Merge Arrow	Combined Arrow			

CURVE 1 AT WASHBURN		SMB Aluminum Sheet Signs .080		Steel Post Ty 1
		SIZE	SF	LF
Chevron-18 signs, 8 locations	W1-8	18" x 24"	48	72
Stop-1 sign	R1-1	36" x 36"	9	9
			57	81

Totals in bold boxes have been transferred over to the General Summary

SHELBY/SPENCER COUNTY KY 55

ITEM NO. 5-9017

FENCING

	Approx. Beg. Sta.	Approx. End Sta.	Length (ft)	Type	Parcel #/Prop. Owner
RIGHT	103+40.00	104+20.00	80.00	WW	P5/P10 Thomas Morsey
	109+30.00	109+50.00	20.00	WW	P10 Thomas Morsey
	111+30.00	111+85.00	55.00	WW	P10 Thomas Morsey
	123+00.00	123+50.00	50.00	WW	P21 Thomas Morsey
	132+70.00	133+00.00	30.00	Wood plank	P35 Paul/Krista Mann
	133+00.00	134+00.00	100.00	Wood plank with WW	P35 Paul/Krista Mann
	135+60.00	136+50.00	90.00	Wood plank with WW	P35 Paul/Krista Mann
	179+75.00	180+25.00	50.00	Wood plank	P45 Clifton/Mary Owens
	181+80.00	183+60.00	180.00	Wood plank	P60 Jonathan Odell
	201+00.00	202+30.00	130.00	Wood plank	P65 Edward Glascoe
	206+50.00	207+75.00	125.00	WW	P65 Edward Glascoe
	238+60.00	239+50.00	90.00	Wood plank	Barrie B/Michael J Tunstall
	246+85.00	247+15.00	30.00	WW	P105 Emile/Alicia Yost
	247+75.00	248+50.00	75.00	WW	P105 Emile/Alicia Yost
LEFT	320+00.00	320+75.00	75.00	Wood plank	P145 Kevin/Jennifer Brown
	309+50.00	309+75.00	25.00	WW	P140 Ray/Tammy Shouse
	308+50.00	309+00.00	50.00	WW	P140 Ray/Tammy Shouse
	295+65.00	296+10.00	45.00	WW	P130 Ray/Tammy Shouse
	294+25.00	294+75.00	50.00	WW	P130 Ray/Tammy Shouse
	270+75.00	271+40.00	65.00	Wood plank	P115 John/Sharon Jones
	205+00.00	205+40.00	40.00	WW	P70 Thomas Morsey
	133+00.00	134+00.00	100.00	Wood plank	P30 David Robert Graham

BID CODE	Fence Type	Qty. (ft)
2268	Woven wire	645
	Wood plank	720
	Wood plank with woven wire	190
	TOTAL	1555
2259	Fence-Temp	778

Guardrail Summary — Spencer & Shelby Counties — KY 55

Notes: Begin/End Milepoints are estimated to include the entire length of the Rail AND the End Treatments. The Engineer may adjust the proposed guardrail termini to ensure proper installation of the guardrail system.

Proposed Guardrail to be Constructed								Existing Guardrail to be Removed			
Side of Road	Proposed BEGINNING Treatment	Approx. BEGIN Station	Approx. END Station	Proposed ENDING Treatment	Proposed Length (LF)	Number of Radius Rail	Remarks	Side of Road	Approx. BEGIN Station	Approx. END Station	Existing Length (LF)
LT	Terminal Section 1	228+80.0	231+92.4	Type 1	273.75	3					0.00
LT	Terminal Section 1	247+15.0	249+69.0	Type 1	220.00	2		LT	247+15.0	248+27.0	112.50
RT	Type 1	245+07.3	249+18.6	Terminal Section 1	370.00	2		RT	245+86.8	249+18.6	337.50
LT	Type 1	275+55.0	277+27.0	See Remarks	125.00		Connect to Single Face A	LT	276+52.0	279+28.0	287.50
LT	Single Face A	277+27.0	277+52.0	See Remarks	0.00		Connect to Guardrail-Bridge Case I-A				0.00
LT		**277+52.0**	**278+16.5**		65.00		Guardrail Bridge Case I-A				0.00
LT	Single Face A	278+16.5	278+41.5	See Remarks	0.00		Connect to Guardrail-Bridge Case I-A				0.00
LT		278+41.5	279+90.0	Terminal Section 1	157.50	2	Connect to Single Face A				0.00
RT	Type 1	273+21.1	277+09.0	See Remarks	350.00		Connect to Single Face A	RT	276+09.0	278+02.0	200.00
RT	Single Face A	277+09.0	277+34.0	See Remarks	0.00		Connect to Guardrail-Bridge Case I-A				0.00
RT		**277+34.0**	**277+98.5**		65.00		Guardrail Bridge Case I-A				0.00
RT	Single Face A	277+98.5	278+00.9	Terminal Section 1	11.25	3	Connect to Guardrail-Bridge Case I-A				0.00
					0.00						0.00
					0.00						0.00

Summary of Items						
G/R Steel W Beam-S Face (7 FT Post)	1,507.50	LF		GR Connector to Bridge End Type A	0	EACH
Remove Guardrail	937.50	LF		GR Connector to Bridge End Type A-1	0	EACH
End Treatment Type 1	5	EACH		GR Connector to Bridge End Type C	0	EACH
End Treatment Type 2A	0	EACH		GR Connector to Bridge End Type D	0	EACH
End Treatment Type 3	0	EACH		Thrie-Beam Guardrail Transition (TL-2)	0	EACH
End Treatment Type 4A	0	EACH		Thrie-Beam Guardrail Transition (TL-3)	0	EACH
End Treatment Type 7	0	EACH		DGA	0	TONS
Terminal Section No. 1	5	EACH		Asphalt Seal Coat	0.00	TONS
Guardrail-Steel W Beam-S Face A	100	LF		Asphalt Seal Aggregate	0.00	TONS
Delineator for Guardrail B/W	38	EACH		Guardrail-Bridge Case I-A	130	LF

Spencer/Shelby Co. KY 55
Consent & Release Summary

Begin Sta.	End Sta.	Side	Owner(s)	Consent & Release Description	Status	Additional Notes
103+00	104+00	RT	Thomas A. Morsey and Joseph L. Morsey (deceased)	HSIP project work including box culvert extension and headwall replacement. Structure should stay within R/W. Channel lining will be installed at culvert inlet as necessary. Work will include ditching, shouldering, and laying back slopes. Woven wire fence will be removed and replaced in like kind. Temporary fence to contain livestock will be installed until fence is replaced. Some tree/brush removal may be necessary for proper ditching and shouldering.	Signed	
104+00	104+50	RT	Thomas Morsey	HSIP project work including ditching, shouldering, and laying back slope. Gradework necessary to achieve proper drainage into nearby box culvert. Some tree and brush removal may be necessary. Existing woven wire fence is to be removed and replaced with like kind. Temporary fence to contain livestock will be installed until fence is replaced.	Signed	
109+00	109+50	RT	Thomas Morsey	HSIP project work including RCP extension and headwall removal, as well as ditching and shouldering. Headwall will be replaced with an 18" side safety inlet. Channel lining will be installed around pipe inlet as necessary. Some tree and brush removal may be necessary. If needed, woven wire fence will be removed and replaced with like kind. If fence is disturbed, temporary fence to contain livestock shall be installed until fence is replaced.	Signed	
111+00	112+00	RT	Thomas Morsey	HSIP project work including RCP extension, headwall removal, and laying back the slope. Headwall will be replaced with an 18" side safety inlet. Channel lining will be installed around pipe inlet as necessary. Some tree and brush removal may be necessary to flatten the slope. Woven wire fence will be removed and replaced with like kind. Temporary fence to contain livestock shall be installed until fence is replaced.	Signed	
120+50	121+30	RT	Nathan and Christine Sharp	HSIP project work including pipe extension, headwall removal, and flattening the slope. Headwall will be replaced with a drop box inlet. Keep entire structure within R/W. Channel lining will be used at the pipe inlet as necessary. The drop box's concrete apron shall be tied into the existing concrete driveway.	Signed	Septic system is located in front yard, so care should be taken here with heavy equipment. The contractor can drive/park in the gravel driveway, but stay off the front lawn between the house and driveway.
176+25	178+75	RT	Clifton E. and Mary H. Owens	HSIP project work including curve widening (within R/W), pipe extension and headwall removal, as well as ditching and shouldering. Channel lining will be installed at pipe inlet. Some gradework will be necessary to achieve proper drainage. Wood plank fence will be removed/replaced if necessary.	Signed	
182+00	183+75	RT	Jonathan R. Odell	A permanent drainage easement was obtained to extend the box culvert and replace the headwall. Channel lining will be installed at culvert inlet. Consent obtained for additional gradework, ditching, and shouldering around the box culvert outside of the permanent easement. Wood plank fence will be removed and replaced with like kind as necessary. Temporary fence to contain livestock shall be installed during culvert construction. This section is also located within the curve widening stations (pavement within R/W).	Signed	
200+50	202+50	RT	Edward F. Glascoe	HSIP project work including ditching, shouldering, and grading to flatten the slope. Remove as many trees as possible.	Signed	Contractor may borrow fill material from property owner upon request.
204+50	208+00	RT	Edward F. Glascoe	HSIP project work including ditching, shouldering, and grading to flatten the slope. Box culvert and wing walls at Sta 206+47 to be removed and replaced with 60 LF of 42" pipe. Entire concrete structure should stay within R/W. Channel lining will be installed at pipe inlet as necessary. Remove as many trees as possible.	Signed	
211+50	213+25	RT	Nathan Lyons	HSIP project work including pipe extension and headwall removal. Channel lining will be installed at pipe inlet as necessary. Work will also include ditching, shouldering, and gradework to flatten the slope and achieve proper drainage.	Signed	

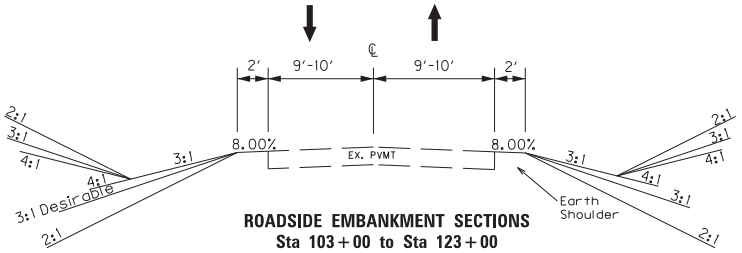
Spencer/Shelby Co. KY 55
Consent & Release Summary

Begin Sta.	End Sta.	Side	Owner(s)	Consent & Release Description	Status	Additional Notes
225+00	227+00	RT	Phillip Richard Everhart	A permanent drainage easement was obtained to extend the box culvert and replace the headwall. Channel lining will be installed at culvert inlet as necessary. Consent obtained for additional gradework, ditching, and shouldering around the box culvert outside of the permanent easement for drainage and to flatten the slope.	SIgned	
258+25	261+00	RT	Jack R. and Sarah Nightengale	Work includes pipe extension and headwall removal, as well as flattening the slope. Headwall to be replaced with sloped and mitered headwall. Channel lining installed at pipe inlet as necessary.	Signed	Do not disturb wood plank fence.
270+80	272+30	RT	Jack R. and Sarah Nightengale	Work includes box culvert extension and headwall replacement, as well as gradework to flatten the slope. Entire structure should remain on R/W. Channel lining may be installed at culvert inlet as necessary. There is a communication line near the headwall. Contractor is responsible for locating and ensuring the line is undisturbed.	Signed	Do not disturb wood plank fence.
295+60	297+00	RT	Paul Douglas and Robin Green Langley	Work includes box culvert extension and headwall replacement, as well as gradework to flatten the slope. Channel lining may be installed at culvert inlet as necessary. Keep structure within R/W.	Signed	
109+00	109+75	LT	Amanda K (Cook) Peyton	Work outside of R/W necessary to rework ditch around pipe extension/headwall removal and install channel lining at pipe outlet.	Signed	
111+50	112+00	LT	Amanda K (Cook) Peyton	Work outside of R/W necessary to rework ditch around pipe extension/headwall removal and install channel lining at pipe outlet.	Signed	
128+60	129+40	LT	Amanda K (Cook) Peyton	Work outside of R/W necessary to extend pipe and install channel lining at pipe outlet. This is also in a section of road widening (within R/W).	Signed	
132+50	134+25	LT	David Robert Graham	A permanent drainage easement was obtained to extend the box culvert, reconstruct the headwall, and install channel lining. Consent obtained for gradework around culvert to achieve proper drainage. Wood plank fence should be removed and replaced.	Signed	Notify Mr. Graham before beginning work so that he can remove his dogs. Do not disturb large oak tree located near Sta 133+25.
178+56	183+53	LT	Michael Trent and Cynthia J. Whitaker	A permanent drainage eastment was obtained for two locations on this parcel to extend the pipe at Sta 178+21 and the box culvert at Sta 183+26. Consent was obtained to perform additional work including curve widening, ditching, and shouldering, and flattening the slope between Stations 178+56 and 183+53. Granular embankment and fabric should be used for the slopes	Signed	
205+30	206+30	LT	Thomas A. Morsey	Work includes grading to flatten the slope and direct flow into the pipe located at Sta 206+47. Some tree and brush removal will be necessary to complete the gradework. Remove and replace the woven wire fence.	Signed	
206+30	207+00	LT	Nathan Robert and Caitlin Haley	Work includes removal of the box culvert at Sta 206+47. The box culvert will be replaced with 42" pipe (all located within R/W). Channel lining will be installed at the pipe inlet. Consent obtained to perform additional gradework around the pipe and to flatten the slope, as well as ditching and shouldering. Some tree and brush removal may be necessary.	Signed	
211+15	212+00	LT	James and Jennifer Seaton	Work includes pipe extension and headwall replacement at Sta 211+71 (located within R/W), as well as grading around the pipe (private property).	Signed	
229+10	231+10	LT	Coleen Mills	A permanent drainage easement was obtained to extend the box culvert at Sta 229+98 and reconstruct the headwall. Consent was obtained outside of this easement to grade around the culvert.	Signed	If possible, do not disturb recently planted evergreens.
232+50	234+25	LT	Marvin C. and Tami G. Grasmick	This section is located in the taper just past the passing blister to be constructed before Van Dyke Mill Rd. All pavement is located within R/W, however consent was obtained for ditching and shouldering outside of R/W. Some tree and brush removal may be necessary.	Signed	
238+00	239+50	LT	Marvin C. and Tami G. Grasmick	Entrance pipe at Sta 238+58 is to be replaced and tied into cross drain at Sta 238+95. Work also includes ditching and shouldering. Grading necessary to flatten the slope and achieve proper drainage. Return old entrance pipe to property owner.	Signed	Return old entrance pipe at Sta 238+58 to property owner.

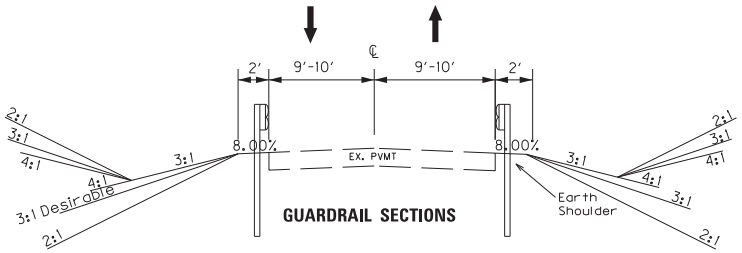
Spencer/Shelby Co. KY 55
Consent & Release Summary

Begin Sta.	End Sta.	Side	Owner(s)	Consent & Release Description	Status	Additional Notes
247+00	248+00	LT	Marvin C. and Tami G. Grasmick	Work includes box culvert extension and headwall replacement at Sta 247+47. Entire structure should remain within R/W. Consent obtained to install channel lining around culvert inlet and grade to drain.	Signed	
270+65	271+50	LT	John D. and Sharon A. Jones	Work includes box culvert extension and headwall replacement at Sta 271+17. Channel lining will be placed at culvert inlet. Entire structure should remain within R/W, however consent was given to perform gradework around culvert. Some tree and brush removal may be necessary to perform culvert construction. Remove and replace wood plank fence.	Signed	
294+75	296+50	LT	Ray Edward and Tammy G. Shouse	Work includes box culvert extension and headwall replacement at Sta 296+04. Entire structure should remain within R/W. Channel lining will be installed at culvert inlet. Remove and replace existing woven wire fence.	Signed	
308+40	309+75	LT	Ray Edward and Tammy G. Shouse	Work includes pipe extension and headwall replacement using 36" RCHEP and a sloped and mitered headwall with grate. Channel lining will be installed at pipe outlet. Entire structure should remain within R/W. Existing woven wire fence will be removed and replaced in like kind.	Signed	

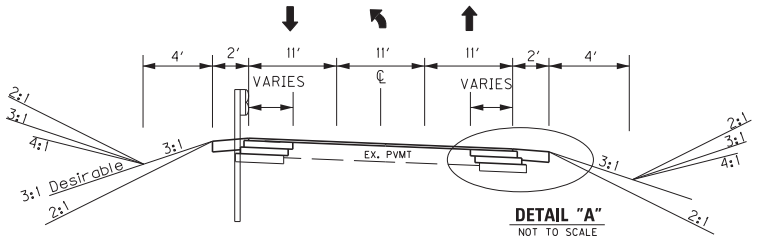
TYPICAL SECTIONS
KY 55



ROADSIDE EMBANKMENT SECTIONS
Sta 103+00 to Sta 123+00
Sta 140+22.2 to Sta 175+30.5
LT Sta 189+49 to Sta 227+44.7; LT Sta 235+94.7 to Sta 333+40
RT Sta 189+49 to Sta 333+40



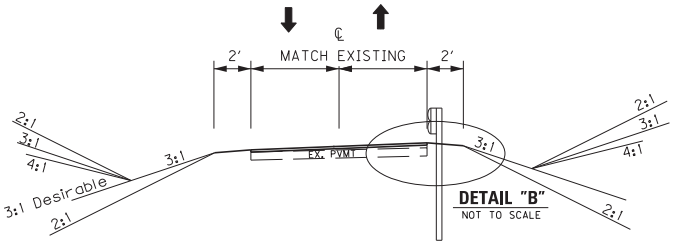
GUARDRAIL SECTIONS



DETAIL "A"
NOT TO SCALE

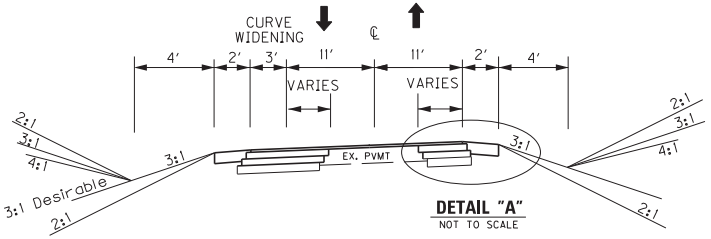
3–LANE SUPERELEVATED SECTION
Maximum Superelevation Rate = 4.2%

Sta 123+00 to Sta 140+22.2



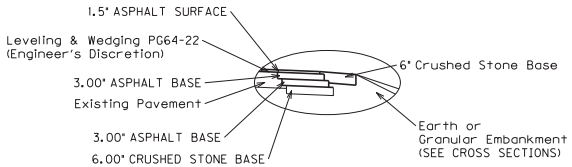
DETAIL "B"
NOT TO SCALE

2–LANE SUPERELEVATION IMPROVEMENT
Maximum Superelevation Rate = 4%
Sta 242+70 to Sta 268+50

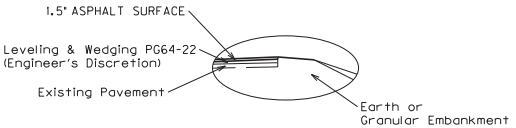


DETAIL "A"
NOT TO SCALE

2–LANE SUPERELEVATED SECTION
Maximum Superelevation Rate = 7.8%
Sta 175+30.5 to Sta 189+49



DETAIL "A"
NOT TO SCALE



DETAIL "B"
NOT TO SCALE

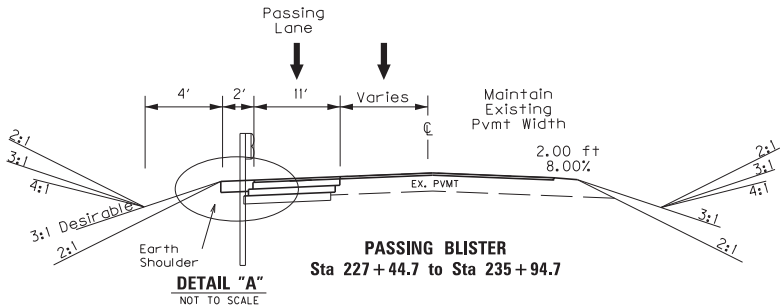
MAINLINE (in areas to be widenend or paved)
1.5" CL2 Asph Surf 0.38B PG64–22

WIDENING
1.5" CL2 Asph Surf 0.38B PG64–22
3.0" CL2 Asph Base 1.00D PG64–22 (2 Layers)
6.0" Crushed Stone Base

SHOULDERS
6" Crushed Stone Base (In areas to be widened or paved)
Earth

In areas with CSB shoulders, place 2 applications of
Asph Seal Aggregate (20 lbs per sq yd)
and Asph Seal Coat (2.4 lbs per sq yd)

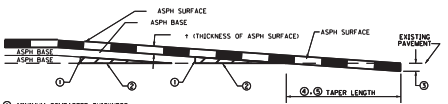
ROADSIDE EMBANKMENT
Earth
Granular Embankent



PASSING BLISTER
Sta 227+44.7 to Sta 235+94.7

DETAIL "A"
NOT TO SCALE

TAPERING OF OVERLAYS ON MEDIUM SPEED FACILITIES (45mph to 65mph)
RECOMMENDED TAPER RATE 1:600 (1" : 50')



① MINIMUM COMPACTED THICKNESS
② BIT. MIXTURE FOR LEVELING & WEDGING OR NEXT COURSE OF BIT. MIX.
③ BIT. SURFACE THICKNESS (FULL DEPTH)
④ MILL EXISTING PAVEMENT TO RECEIVE BIT. SURFACE FULL DEPTH (EDGE KEY).
⑤ TAPER LENGTH (ft) = $\frac{t\ (in) \times \text{TAPER RATE}}{12}$

FOR A TAPER RATE OF 1:600 (1":50')
TAPER LENGTH = 62.5 FEET WHEN t = 1.25 inches
TAPER LENGTH = 75 FEET WHEN t = 1.50 inches

NTS

COUNTY OF	ITEM NO.	SHEET NO.
SPEN/SHEL	5-9017	

KY 55

TYPICAL SECTION

FIGURE 1

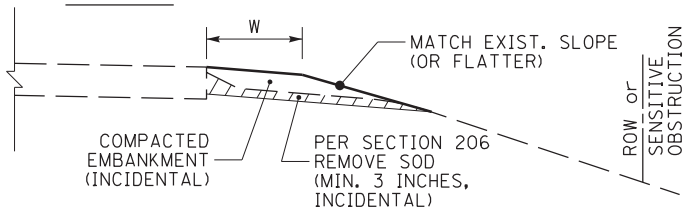


FIGURE 2

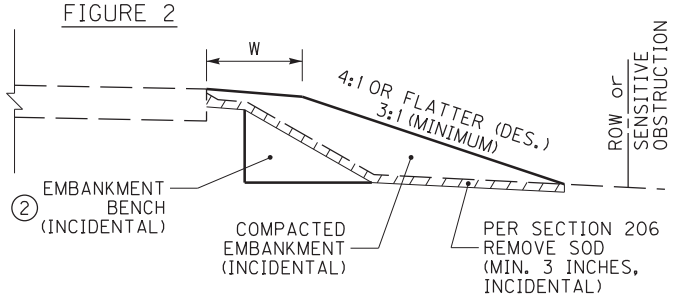


FIGURE 3

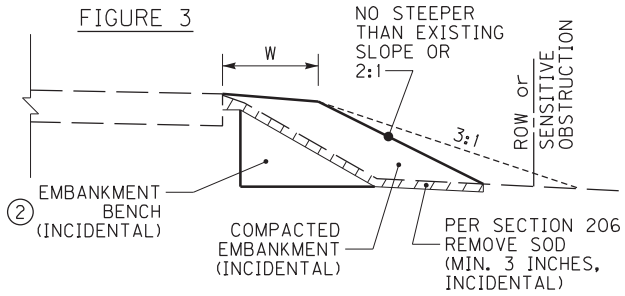


FIGURE 4

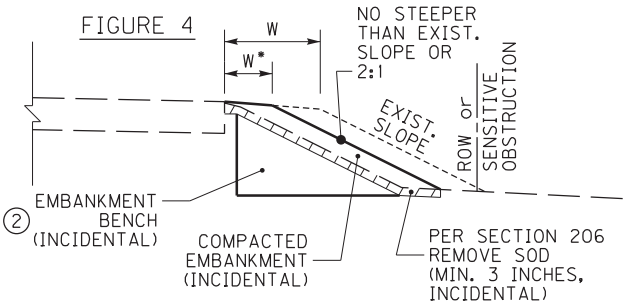


FIGURE 5

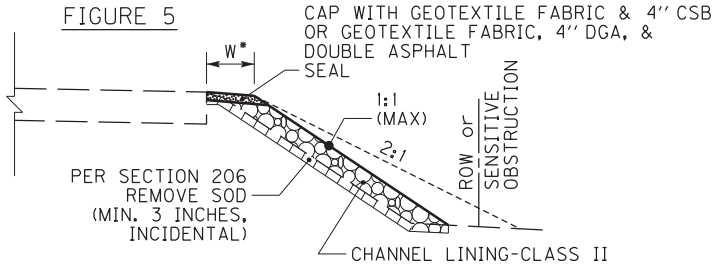
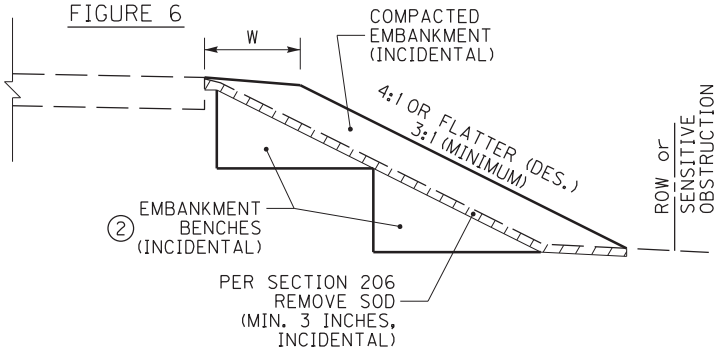


FIGURE 6



~ NOTES ~

BID ITEMS AND UNITS TO BID:
2200 - ROADWAY EXCVATION - CU YD

1. THE BID ITEM 'ROADWAY EXCAVATION' SHALL CONSIST OF ANY AND ALL NECESSARY EARTHWORK REQUIRED TO GRADE AND/OR RESHAPE THE EXISTING SHOULDER, DITCH, AND/OR ROADSIDE TO ACHIEVE THE PROPOSED SHOULDER, DITCH, AND/OR ROADSIDE DIMENSIONS, AS DETAILED ON THE TYPICAL SECTIONS. MEASUREMENT AND FINAL PAYMENT SHALL BE BASED ON SECTIONS 204 AND/OR 206, AS APPLICABLE.

② EMBANKMENT BENCHING WILL BE REQUIRED WHEN THE EXISTING GROUNDLINE HAS AN INCLINE GREATER THAN 15% (APPROX. 6:1). ANY AND ALL REQUIRED EMBANKMENT BENCHING SHALL BE INCIDENTAL TO THE BID ITEM 'DITCHING AND SHOULDERING'. THE FOLLOWING ARE GUIDELINES FOR EMBANKMENT BENCHING USED IN CONJUNCTION WITH THE BID ITEM 'DITCHING AND SHOULDERING':
- THE TYPICAL HEIGHT (OR RISE) IS 1' TO 6'
- THE TYPICAL WIDTH (OR RUN) WILL VARY BASED ON THE HEIGHT OF THE BENCH
- MULTIPLE SMALL BENCHES MAY BE USED, AND MAY BE MORE ADVANTAGEOUS AS THIS WILL REQUIRE PROCESSING LESS EARTHWORK.

3. AS SHOWN IN FIGURE 1, IN SOME SITUATIONS, MINOR SHOULDERING, WITH MINIMAL ADDITIONAL EARTH MATERIAL, MAY BE ALL THAT IS REQUIRED TO RESHAPE THE EARTH SHOULDER TO THE PROPOSED WIDTH AND BRING IT FLUSH WITH THE EDGE OF PAVEMENT.
4. AS SHOWN IN FIGURE 2, MOST SITUATIONS WILL REQUIRE ADDITIONAL EARTH MATERIAL TO ACHIEVE THE PROPOSED EARTH SHOULDER WIDTH. IT IS DESIRED THAT THE RESULTING FILL SLOPE BE INSTALLED AS FLAT AS POSSIBLE AND REMAIN WITHIN THE RIGHT-OF-WAY AND/OR AVOID SENSITIVE OBSTRUCTIONS.
5. AS SHOWN IN FIGURE 3, IF A 3:1 FILL SLOPE WILL RESULT IN THE TOE OF SLOPE EXTENDING BEYOND THE RIGHT-OF-WAY OR IMPACT A SENSITIVE OBSTRUCTION, THEN THE FILL SLOPE MAY BE INSTALLED STEEPER THAN 3:1, BUT NO STEEPER THAN THE EXISTING FILL SLOPE, OR A 2:1, WHICHEVER IS FLATTER.
6. AS SHOWN IN FIGURE 4, IF MATCHING THE EXISTING FILL SLOPE OR INSTALLING A 2:1 FILL SLOPE (WHICHEVER IS FLATTER) STILL RESULTS IN THE TOE OF SLOPE EXTENDING BEYOND THE RIGHT-OF-WAY OR STILL IMPACTS A SENSITIVE OBSTRUCTION, THEN THE PROPOSED EARTH SHOULDER WIDTH MAY BE REDUCED SO THAT THE RESULTING TOE OF SLOPE WILL REMAIN WITHIN THE RIGHT-OF-WAY AND/OR NOT IMPACT THE SENSITIVE OBSTRUCTION.
7. AS SHOWN IN FIGURE 5, IF THE EXISTING FILL SLOPE IS STEEPER THAN 2:1 AND THERE IS NOT ENOUGH SPACE TO INSTALL A 2:1 FILL SLOPE WITHOUT EXTENDING BEYOND THE RIGHT-OF-WAY AND/OR IMPACTING A SENSITIVE OBSTRUCTION, THEN CLASS II CHANNEL LINING MAY BE INSTALLED ALONG THE STEEP EXISTING SLOPE IN ORDER TO ESTABLISH A WIDTH OF AGGREGATE SHOULDER. THESE LOCATIONS WILL BE NOTED ELSEWHERE IN THE PROPOSAL AS SLOPE PROTECTION. THE CHANNEL LINING IS TO BE CAPPED WITH GEOTEXTILE FABRIC TYPE IV AND 4" OF CRUSHED STONE BASE, OR 4" OF DGA WITH DOUBLE ASPHALT SEAL COAT.
8. AS SHOWN IN FIGURE 6, AS THE HEIGHT OF THE FILL INCREASES, MULTIPLE EMBANKMENT BENCHES MAY BE REQUIRED.

SEE SHEET 2 FOR
NOTES 9 THRU 13

NOT TO SCALE

KENTUCKY
DEPARTMENT OF HIGHWAYS

Roadside Regrading and Benching Details

(SHEET 1 OF 2)

FIGURE 7

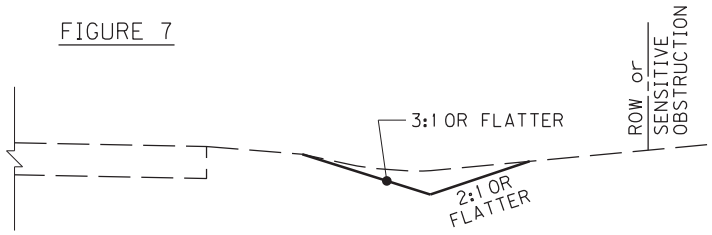


FIGURE 8

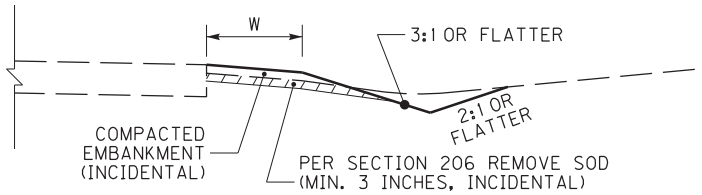


FIGURE 9

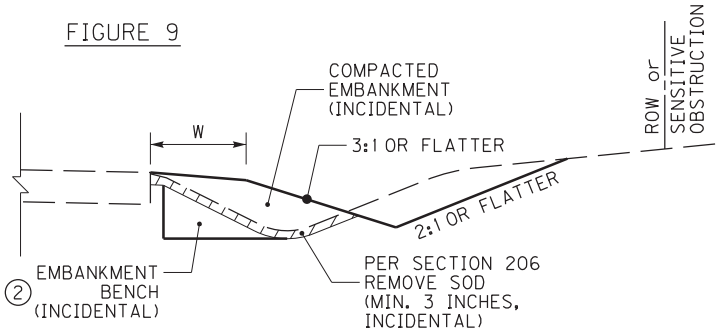


FIGURE 10

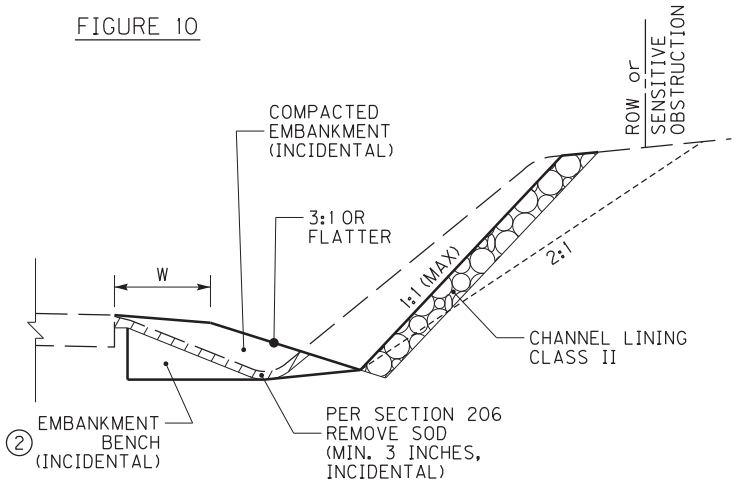
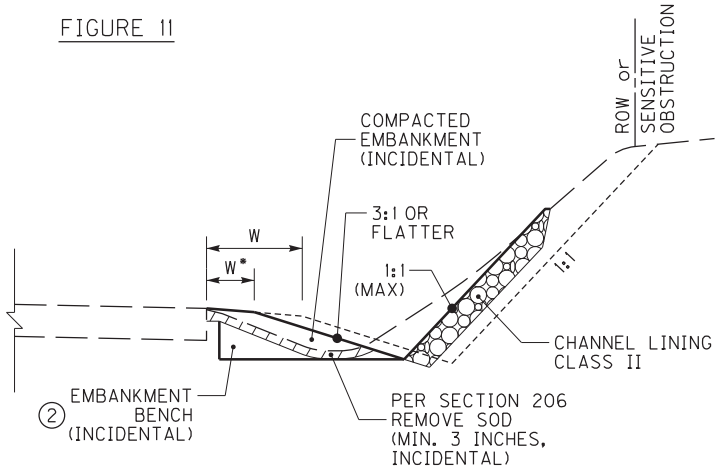


FIGURE 11



~ NOTES ~

BID ITEMS AND UNITS TO BID:
2200 - ROADWAY EXCVATION - CU YD

1. THE BID ITEM 'ROADWAY EXCAVATION' SHALL CONSIST OF ANY AND ALL NECESSARY EARTHWORK REQUIRED TO GRADE AND/OR RESHAPE THE EXISTING SHOULDER, DITCH, AND/OR ROADSIDE TO ACHIEVE THE PROPOSED SHOULDER, DITCH, AND/OR ROADSIDE DIMENSIONS, AS DETAILED ON THE TYPICAL SECTIONS. MEASUREMENT AND FINAL PAYMENT SHALL BE BASED ON SECTIONS 204 AND/OR 206, AS APPLICABLE.

② EMBANKMENT BENCHING WILL BE REQUIRED WHEN THE EXISTING GROUNDLINE HAS AN INCLINE GREATER THAN 15% (APPROX. 6:1). ANY AND ALL REQUIRED EMBANKMENT BENCHING SHALL BE INCIDENTAL TO THE BID ITEM 'DITCHING AND SHOULDERING'. THE FOLLOWING ARE GUIDELINES FOR EMBANKMENT BENCHING USED IN CONJUNCTION WITH THE BID ITEM 'DITCHING AND SHOULDERING':

- THE TYPICAL HEIGHT (OR RISE) IS 1' TO 6'
- THE TYPICAL WIDTH (OR RUN) WILL VARY BASED ON THE HEIGHT OF THE BENCH
- MULTIPLE SMALL BENCHES MAY BE USED, AND MAY BE MORE ADVANTAGEOUS AS THIS WILL REQUIRE PROCESSING LESS EARTHWORK.

SEE SHEET 1 FOR NOTES 3. THRU 8.

9. AS SHOWN IN FIGURE 7, IN SOME SITUATIONS, ALL THAT MAY BE REQUIRED IS TO CLEAN OUT THE EXISTING DITCH AND RESHAPE IT TO THE PROPOSED DIMENIONS. THE MATERIAL EXCAVATED FROM THE DITCH MAY BE RE-USED ELSEWHERE ON THE PROJECT, PROVIDED THE ENGINEER DETERMINES THE MATERIAL REMOVED FROM THE DITCH IS SUITABLE FOR THE INTENDED RE-USE.
10. AS SHOWN IN FIGURE 8, IN SOME SITUATIONS, THE DITCH AND SHOULDER MAY ONLY NEED MINOR REGRADING AND/OR RESHAPING. THE MATERIAL EXCAVATED FROM THE DITCH MAY BE USED TO RESHAPE THE EARTH SHOULDER, PROVIDED THE ENGINEER DETERMINES THE MATERIAL REMOVED FROM THE DITCH IS SUITABLE FOR SHOULDERING. IF THE MATERIAL IS NOT SUITABLE, ADDITIONAL EARTH MATERIAL MAY BE REQUIRED.
11. AS SHOWN IN FIGURE 9, IN MOST SITUATIONS, REGRADING AND RESHAPING THE ROADSIDE TO ACHIEVE THE PROPOSED SHOULDER, DITCH, AND/OR ROADSIDE DIMENSIONS WILL RESULT IN MOVING THE DITCH FURTHER AWAY FROM THE ROADWAY. IT IS DESIRED THAT DITCH FORESLOPES BE 3:1 OR FLATTER AND DITCH BACKSLOPES BE 2:1 OR FLATTER.
12. AS SHOWN IN FIGURE 10, IF INSTALLING A 2:1 DITCH BACKSLOPE WILL RESULT IN THE TOP OF CUT EXTENDING BEYOND THE RIGHT-OF-WAY OR IMPACTING A SENSITIVE OBSTRUCTION, THEN THE DITCH BACK SLOPE MAY BE INSTALLED STEEPER THAN 2:1, UP TO 1:1 MAXIMUM. IN THIS SITUATION, THE DITCH BACKSLOPE SHALL HAVE CLASS II CHANNEL LINING INSTALLED FOR SLOPE PROTECTION.
13. AS SHOWN IN FIGURE 11, IF USING A 1:1 DITCH BACKSLOPE STILL RESULTS IN THE TOP OF CUT EXTENDING BEYOND THE RIGHT-OF-WAY OR STILL IMPACTS A SENSITIVE OBSTRUCTION, THEN THE PROPOSED EARTH SHOULDER WIDTH MAY BE REDUCED SO THAT THE STEEP DITCH BACKSLOPE CAN BE INSTALLED WITHIN THE RIGHT-OF-WAY AND/OR TO AVOID A SENSITIVE OBSTRUCTION.

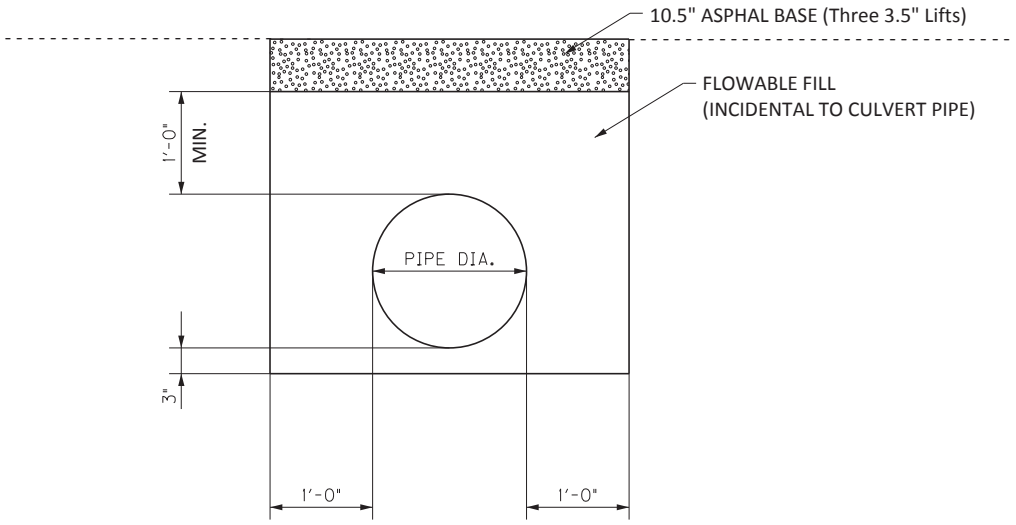
NOT TO SCALE

KENTUCKY
DEPARTMENT OF HIGHWAYS

Roadside Regrading and Benching Details

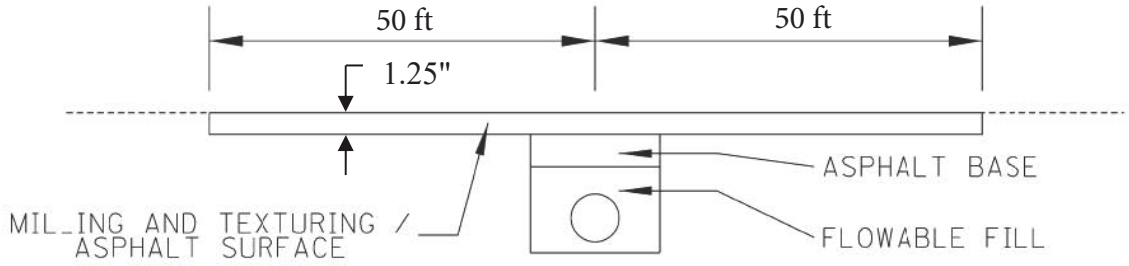
(SHEET 2 OF 2)

CULVERT PIPE REPLACEMENT DETAIL

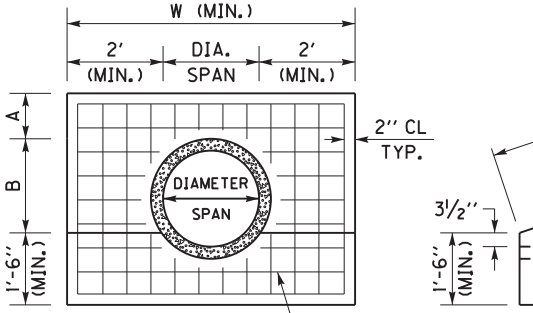


CULVERT PIPE REPLACEMENTS - INITAL BACKFILL

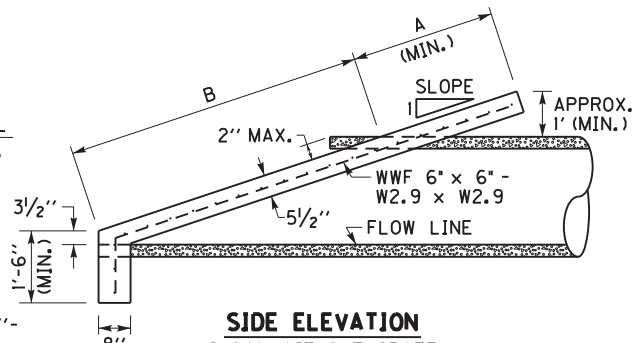
Culvert Pipe Replacements shall be constructed according to the Inital Backfill Detail shown above, or as directed by the Engineer. Allow the asphalt base to be exposed to traffic a minimum of 14 days to allow for settlement. After the 14 day waiting period, mill and inlay 1.25 inches of asphalt surface according to the detail below.



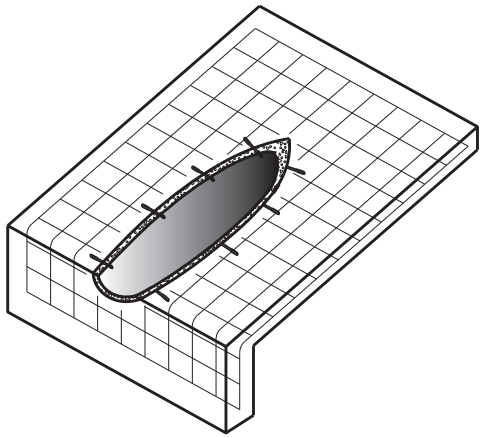
COUNTY OF	ITEM NO.	SHEET NO.



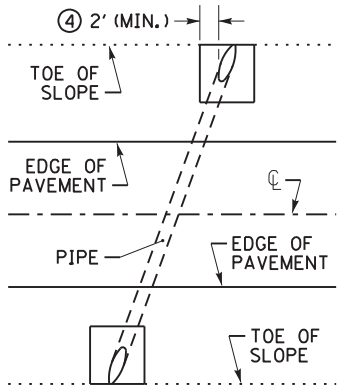
END ELEVATION
SHOWN WITH WOVEN WIRE REINFORCEMENT



SIDE ELEVATION
SHOWN WITHOUT GRATE



ISOMETRIC VIEW
SHOWN WITH WOVEN WIRE REINFORCEMENT AND WEDGE ANCHORS



PLAN VIEW
SHOWN WHEN THE PIPE IS ON A SKEW ④

~ NOTES ~

1. FOR PIPES THAT RECEIVE THE SLOPED & MITERED CONCRETE HEADWALL, THE PIPE LENGTH SHALL BE MEASURED TO THE FURTHEST POINT ALONG THE MITERED END OF THE PIPE.
2. THE EMBANKMENT FILL MATERIAL IS TO BE PLACED, COMPACTED, AND GRADED AROUND THE PIPE BEFORE THE CONCRETE SLOPE PAVING IS PLACED. THE INTENT IS FOR THE SLOPED & MITERED HEADWALL TO MATCH THE FINAL EMBANKMENT SLOPE.
3. THE PIPE SHALL BE MITERED AFTER THE CONCRETE SLOPE PAVING HAS BEEN PLACED AND SUFFICIENTLY CURED. THE PIPE SHOULD BE MITERED AS CLOSE TO FLUSH WITH THE SLOPE PAVING AS POSSIBLE, AND NO HIGHER THAN 2" ABOVE THE SLOPE PAVING. HAND FINISHING AND/OR CUTTING MAY BE NECESSARY.
④ WHEN THE PIPE IS ON A SKEW, INSTALL THE HEADWALL AND MITER THE PIPE SO THAT THE CONCRETE SLOPE PAVING IS PERPENDICULAR TO THE ROADWAY. FOR HEADWALLS ON SKEWED PIPES, THE HEADWALL WIDTH, W, SHALL BE WIDENED, AS NEEDED, SO THAT THE OUTSIDE EDGE OF THE CONCRETE SLOPE PAVING IS A MINIMUM OF 2' FROM THE OUTER MOST EDGE OF THE PIPE.
5. THE DIMENSION 'A' IS BASED ON THE FINAL GRADED SLOPE. THE DIMENSION 'B' IS BASED ON CIRCULAR REINFORCED CONCRETE PIPE AT 0° SKEW FOR THE LISTED SLOPE. THE DIMENSION 'W' IS BASED ON THE DIAMETER, OR SPAN, OF THE PIPE. THE FINAL HEADWALL DIMENSIONS AND CONCRETE QUANTITIES MAY VARY BASED ON THE FINAL GRADED SLOPE, PIPE SKEW, AND/OR TYPE OF PIPE.
6. WOVEN WIRE REINFORCEMENT (WWF 6"x6" - W2.9xW2.9) IS REQUIRED FOR THE SLOPE PAVING AND TOE WALL. UTILIZE 2" CLEARANCE FROM ALL EDGES.
7. DIMENSIONS AND CONCRETE QUANTITIES SHOWN ARE FOR ONE (1) HEADWALL, INSTALLED ON A PIPE WITH SKEW = 0°.
8. AFTER THE PIPE HAS BEEN MITERED, ANCHOR THE PIPE TO THE CONCRETE SLOPE PAVING BY CORE DRILLING AND INSTALLING 1/2" DIAMETER x 7" LENGTH STEEL WEDGE ANCHORS (3" MINIMUM EMBEDMENT) ON 18" CENTERS ALONG THE SIDES OF THE PIPE. HOLE SIZE & DEPTH, TORQUE, & INSTALLATION PROCEDURES PER RECOMMENDATION OF ANCHOR MANUFACTURE. NOTE: STEEL WEDGE ANCHORS ARE NOT REQUIRED FOR REINFORCED CONCRETE PIPE.
⑨ THE FOLLOWING SITUATIONS REQUIRE A HEADWALL WITH A GRATE:
-24" DIAMETER PIPE ON GREATER THAN 30° SKEW
-30" DIAMETER PIPE ON GREATER THAN 15° SKEW
-PIPE WITH GREATER THAN 30" DIAMETER.
-ELLIPTICAL PIPE GREATER THAN 24" EQUIVALENT DIAMETER
SEE SHEET 2 FOR GRATE DETAILS
10. ALL BOLTS AND HARDWARE SHALL BE RUST RESISTANT: ZINC PLATED, STAINLESS STEEL, OR STEEL THAT HAS BEEN GALVANIZED IN ACCORDANCE WITH AASHTO M 232.

DIMENSIONS AND CONCRETE QUANTITIES (FOR PIPE WITH SKEW = 0°) ④

PIPE SIZE	3:1 SLOPE				4:1 SLOPE				6:1 SLOPE				GRATE REQUIRED
	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	
15"	3'	3'-7½"	5'-3"	0.74	4'	4'-8¾"	5'-3"	0.93	6'	6'-11¾"	5'-3"	1.29	NO
18"	3'	4'-5¾"	5'-6"	0.85	4'	5'-10"	5'-6"	1.05	6'	8'-7¼"	5'-6"	1.48	NO
24"	3'	6'-2½"	6'-0"	1.05	4'	8'-1"	6'-0"	1.32	6'	11'-11"	6'-0"	1.87	SEE ⑨
30"	3'	7'-10¾"	6'-6"	1.43	4'	10'-3¾"	6'-6"	1.80	6'	15'-2½"	6'-6"	2.28	SEE ⑨

DIMENSIONS AND CONCRETE QUANTITIES ARE APPROXIMATE AND LISTED FOR INFORMATIONAL PURPOSES ONLY

BID ITEM AND UNIT TO BID: 24575ES610 HEADWALL (SLOPED & MITERED CONCRETE-FOR _ INCH PIPE) - EACH

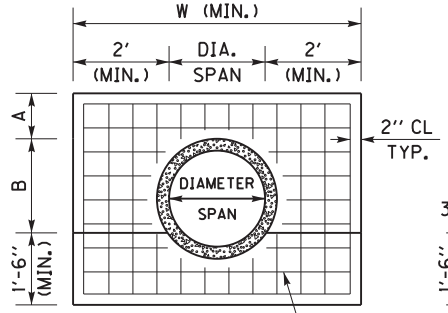
SEE SHEET 2 FOR DIMENSIONS OF HEADWALLS FOR PIPE OVER 30" DIAMETER

NOT TO SCALE

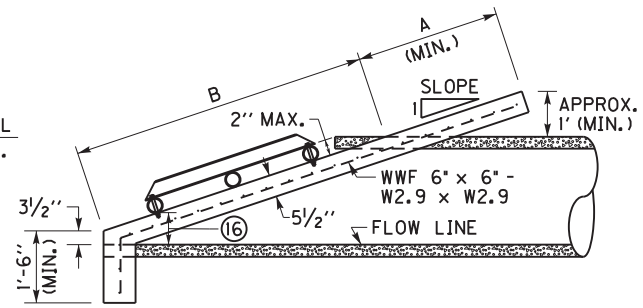
KENTUCKY DEPARTMENT OF HIGHWAYS

SLOPED & MITERED CONCRETE HEADWALL (SHEET 1 OF 2)

COUNTY OF	ITEM NO.	SHEET NO.



END ELEVATION
SHOWN WITH WOVEN WIRE REINFORCEMENT

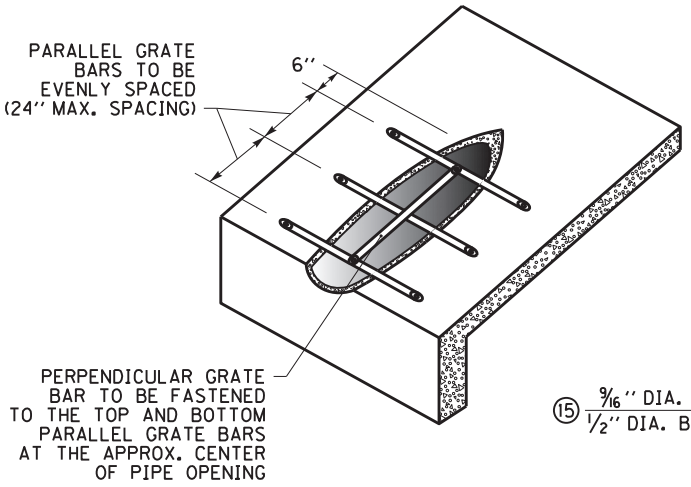


SIDE ELEVATION
SHOWN WITH GRATE

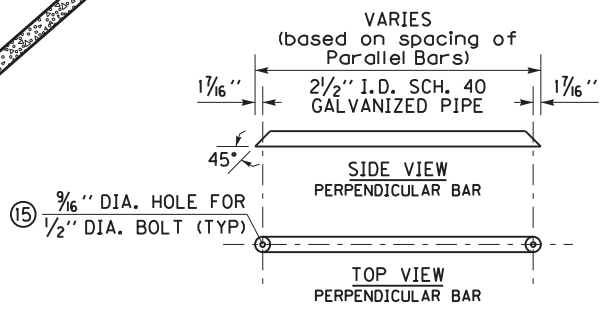
~ NOTES ~

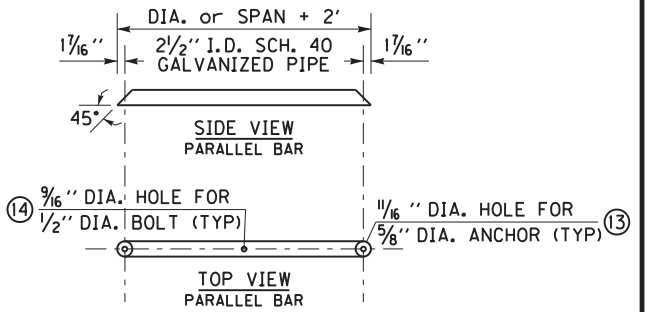
SEE SHEET 1 FOR NOTES 1 THRU 8

9. THE FOLLOWING SITUATIONS REQUIRE A HEADWALL WITH A GRATE:
-24" DIAMETER PIPE ON GREATER THAN 30° SKEW
-30" DIAMETER PIPE ON GREATER THAN 15° SKEW
-PIPE WITH GREATER THAN 30" DIAMETER.
-ELLIPTICAL PIPE GREATER THAN 24" EQUIVALENT DIAMETER
10. ALL BOLTS AND HARDWARE SHALL BE RUST RESISTANT: ZINC PLATED, STAINLESS STEEL, OR STEEL THAT HAS BEEN GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
11. THE PIPE USED TO CONSTRUCT THE GRATE SHALL BE STEEL, SCHEDULE 40, CONFORMING TO ASTM A53, AND GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION.
12. ANY RAW METAL EXPOSED BY FIELD CUTTING AND/OR DRILLING SHALL BE TREATED WITH A COLD GALVANIZING COMPOUND.
13. FASTEN PARALLEL BARS TO HEADWALL WITH 5/8" DIA. x 4½" LENGTH STEEL WEDGE ANCHORS, MINIMUM EMBEDMENT = 2¾" HOLE SIZE AND DEPTH, TORQUE, & INSTALLATION PROCEDURES PER RECOMMENDATION OF ANCHOR MANUFACTURE.
14. CENTER BOLT HOLE SHALL ONLY BE DRILLED IN THE TOP AND BOTTOM PARALLEL BARS.
15. FASTEN THE PERPENDICULAR BAR TO THE TOP AND BOTTOM PARALLEL BARS WITH ½" DIA. x 4" LENGTH HEX HEAD BOLTS, HEX HEAD NUTS, & FLAT WASHERS.
16. THE BOTTOM PARALLEL BAR IS TO BE PLACED SO THAT IT IS APPROX. 6" ABOVE THE FLOWLINE OF THE PIPE.



ISOMETRIC VIEW
SHOWING HEADWALL WITH GRATE





PIPE FOR GRATE DETAILS
SEE NOTE 9 TO DETERMINE IF GRATE IS REQUIRED

DIMENSIONS AND CONCRETE QUANTITIES (FOR PIPE WITH SKEW = 0°) ④													
PIPE SIZE	3:1 SLOPE				4:1 SLOPE				6:1 SLOPE				GRATE REQUIRED
	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	A	B	W	CU. YDS. CONCRETE	
36"	3'	9'-7½"	7'-0"	1.51	4'	12'-6½"	7'-0"	1.91	6'	18'-6"	7'-0"	2.42	YES
42"	3'	11'-4"	7'-6"	1.76	4'	14'-9¼"	7'-6"	2.23	6'	21'-9½"	7'-6"	3.19	YES

DIMENSIONS AND CONCRETE QUANTITIES ARE APPROXIMATE AND LISTED FOR INFORMATIONAL PURPOSES ONLY

BID ITEM AND UNIT TO BID: 24575ES610 HEADWALL (SLOPED & MITERED CONCRETE-FOR _ INCH PIPE) - EACH

SEE SHEET 1 FOR DIMENSIONS OF HEADWALLS FOR PIPE 30" DIAMETER & LESS

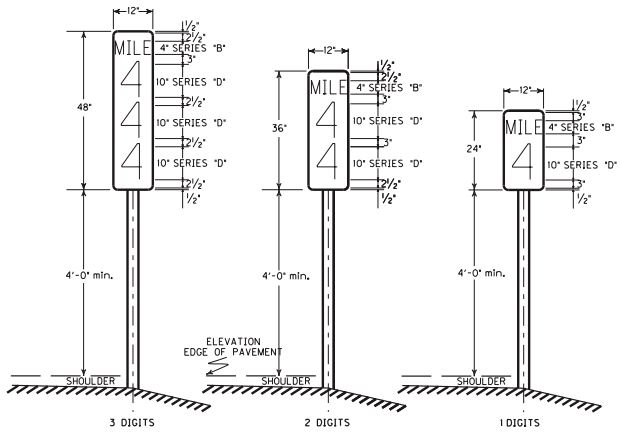
NOT TO SCALE

KENTUCKY DEPARTMENT OF HIGHWAYS

SLOPED & MITERED CONCRETE HEADWALL (SHEET 2 OF 2)

COUNTY OF	ITEM NO.	SHEET NO.

MILEPOST MARKERS



TYPICAL SIGN PANEL DIMENSIONS AND MILEPOST LOCATIONS

MILE POST NUMBER	STATION NUMBER ✳ ____ BOUND LANE (S)

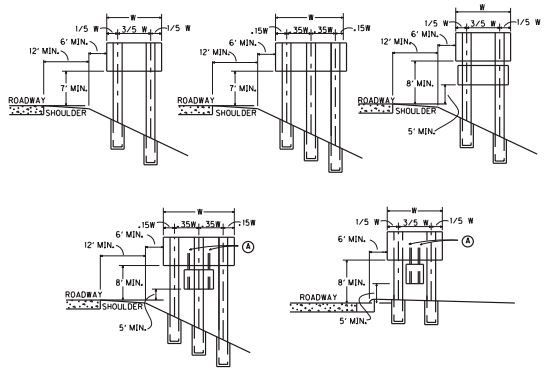
MILE POST NUMBER	STATION NUMBER ✳ ____ BOUND LANE (S)

NOTE: STATION NUMBERS ARE GIVEN FOR NOTED DIRECTION OF TRAVEL ONLY. CORRESPONDING MILEPOST MARKERS FOR OTHER DIRECTION SHOULD BE PLACED DIRECTLY OPPOSITE THOSE FOR WHICH STATION NUMBERS ARE GIVEN.

IN JEFFERSON COUNTY, FINAL LOCATION OF MILEPOST MARKERS SHALL BE VERIFIED BY TRIMARC. NOTIFY TRIMARC AT LEAST TWO WEEKS PRIOR TO BEGINNING WORK ON THIS ITEM:

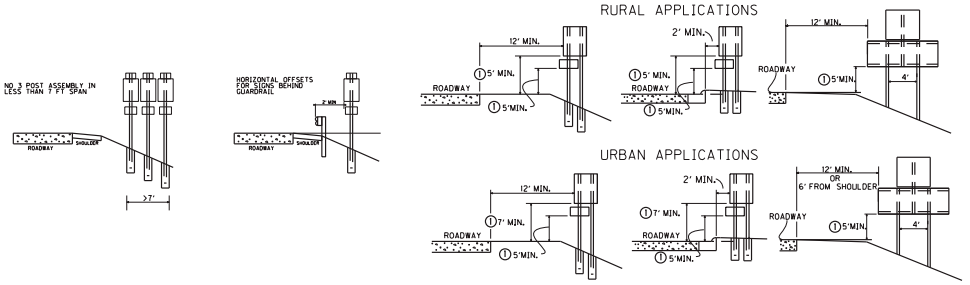
901 WEST MAIN STREET
LOUISVILLE, KY 40202
502-587-6624
270-307-7456

PANEL SIGNS



Ⓐ ATTACHMENT OF SECONDARY SIGN TO MAJOR SIGN IS TO BE MADE WITH TWO (2) 3" X 3" X ¾" ANGLES OF SUFFICIENT LENGTH TO EXTEND FROM THE LOWER EDGE OF THE SECONDARY SIGN TO AT LEAST THREE FEET UP THE BACK OF THE MAJOR SIGN. A MINIMUM OF ONE POST CLIP PER FOOT SHALL BE USED IN ATTACHING EXTRUSIONS TO EACH ANGLE.

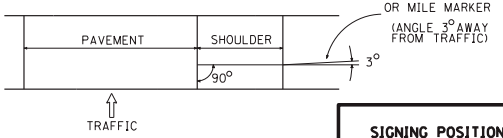
SHEETING SIGNS



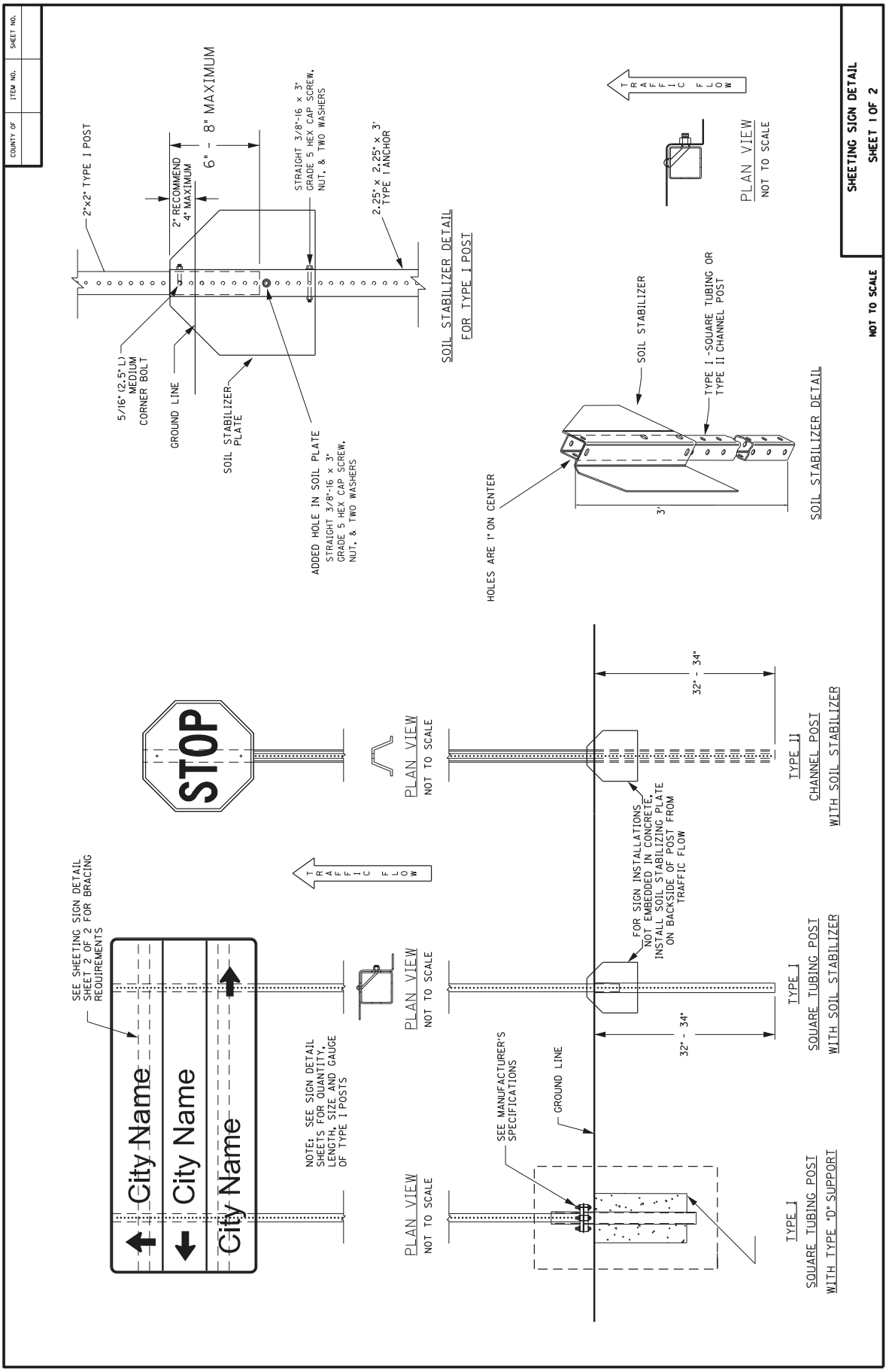
NOTE: SHOULD A SIGN BE LOCATED AT A POINT WHERE GUARDRAIL IS CALLED FOR OR EXISTING, ALL SIGN SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL AND LATERAL OFFSET SHALL BE MEASURED FROM THE GUARDRAIL.

① NOT TO EXCEED 8' IN URBAN AREAS AND 6' IN RURAL AREAS UNLESS SPECIFIED BY THE ENGINEER

ORIENTATION ANGLE

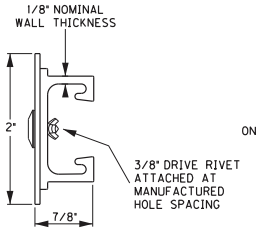


SIGNING POSITIONING DETAIL SHEET

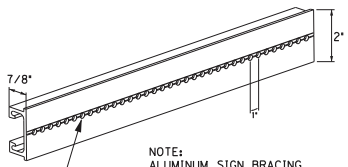

COUNTY OF
ITEM NO.
SHEET NO.
SHEETING SIGN DETAIL
SHEET 1 OF 2
NOT TO SCALE
2"x2" TYPE I POST
2" RECOMMEND 4" MAXIMUM
6" - 8" MAXIMUM
STRAIGHT 3/8"-16 x 3" GRADE 5 HEX CAP SCREW, NUT, & TWO WASHERS
2.25"x 2.25"x 3' TYPE I ANCHOR
5/16" (2.5" L) MEDIUM CORNER BOLT
GROUND LINE
SOIL STABILIZER PLATE
ADDED HOLE IN SOIL PLATE STRAIGHT 3/8"-16 x 3" GRADE 5 HEX CAP SCREW, NUT, & TWO WASHERS
SOIL STABILIZER DETAIL
FOR TYPE I POST
TRAFFIC FLOW
PLAN VIEW
NOT TO SCALE
SOIL STABILIZER
TYPE I -SQUARE TUBING OR TYPE II CHANNEL POST
HOLES ARE 1" ON CENTER
3'
SOIL STABILIZER DETAIL
SEE SHEETING SIGN DETAIL SHEET 2 OF 2 FOR BRACING REQUIREMENTS
City Name
City Name
City Name
NOTE: SEE SIGN DETAIL SHEETS FOR QUANTITY, LENGTH, SIZE AND GAUGE OF TYPE I POSTS
STOP
32" - 34"
FOR SIGN INSTALLATIONS NOT EMBEDDED IN CONCRETE, INSTALL SOIL STABILIZING PLATE ON BACKSIDE OF POST FROM TRAFFIC FLOW
TYPE II
CHANNEL POST
WITH SOIL STABILIZER
TYPE I
SQUARE TUBING POST
WITH SOIL STABILIZER
SEE MANUFACTURER'S SPECIFICATIONS
GROUND LINE
TYPE I
SQUARE TUBING POST
WITH TYPE "D" SUPPORT

COUNTY OF	ITEM NO.	SHEET NO.

FOR ATTACHMENT OF SIGNS LESS THAN 72" IN WIDTH USING MANUFACTURED 3/8" HOLES ACCORDING TO 2004 STANDARD HIGHWAY SIGNS BLANK STANDARDS PGS 7-1 THRU 7-6

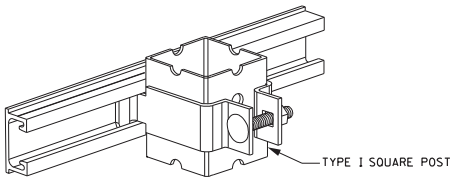


SIGN BRACE



NOTE:
ALUMINUM SIGN BRACING
2" MOUNTING SURFACE x 7/8" DEPTH x 1/8" NOMINAL WALL THICKNESS

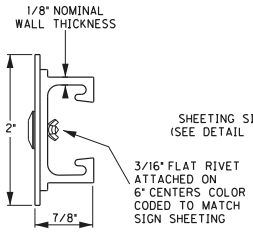
6061-T6 ALUMINUM ALLOY, PUNCHED WITH 3/8" DIAMETER HOLES ON 1" CENTERS FOR ATTACHMENT OF SIGN SUBSTRATE USING 3/8" DRIVE RIVETS



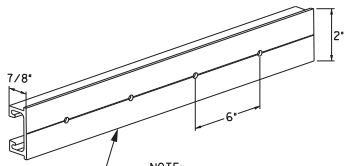
SQUARE POST CLAMP & BRACE

FOR ATTACHMENT OF SIGNS GREATER THAN, OR EQUAL TO, 72" IN WIDTH.

RIVETS SHALL BE COLOR CODED TO MATCH SHEETING IN ORDER TO MINIMIZE GLARE FROM RIVETS

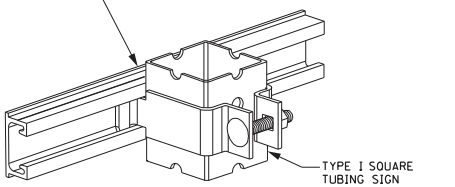


SIGN BRACE

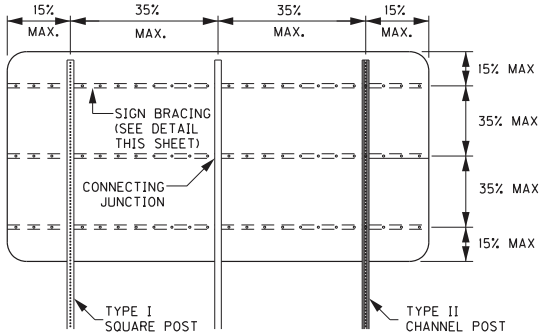


NOTE:
ALUMINUM SIGN BRACING
2" MOUNTING SURFACE x 7/8" DEPTH x 1/8" NOMINAL WALL THICKNESS

6061-T6 ALUMINUM ALLOY, PUNCHED WITH 3/16" DIAMETER HOLES ON 6" CENTERS FOR ATTACHMENT OF SIGN SUBSTRATE USING RIVETS



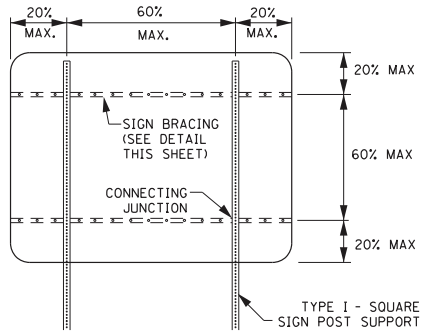
SQUARE POST CLAMP & BRACE



3 POST - BRACING DIAGRAM

NOTE:
1. MAXIMUM AREA PER CONNECTING JUNCTION = 16 SQ. FT.

2. BRACING SHOULD NOT BE SPLICED WITHIN 6" OF A BRACE TO POST JUNCTION.



2 POST - BRACING DIAGRAM

NOTE:
USE OF SIGN BRACING NOT SHOWN ON THIS SHEET MAY BE PERMITTED BY PROJECT ENGINEER AND/OR DISTRICT TRAFFIC ENGINEER.

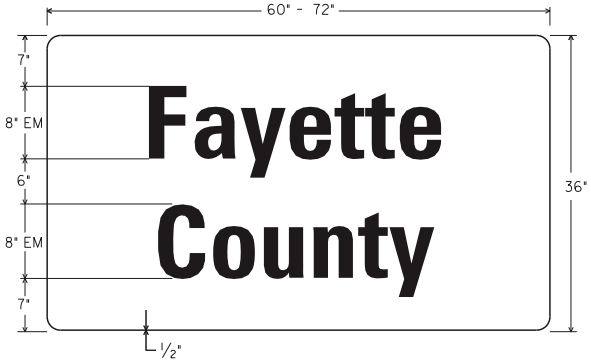
NOT TO SCALE

SHEETING SIGN DETAIL

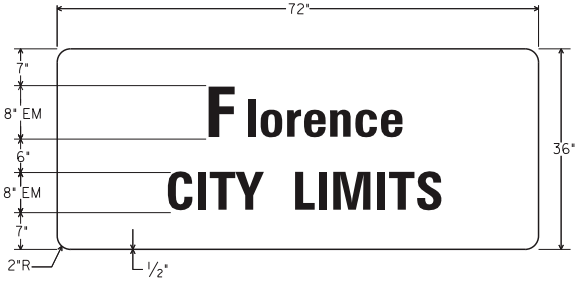
SHEET 2 OF 2

COUNTY OF	ITEM NO.	SHEET NO.

T-1

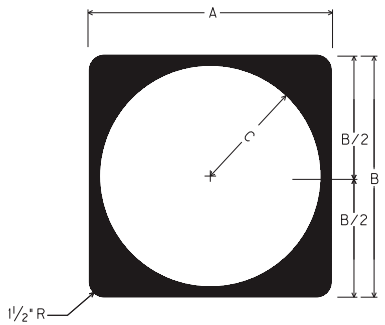


T-2

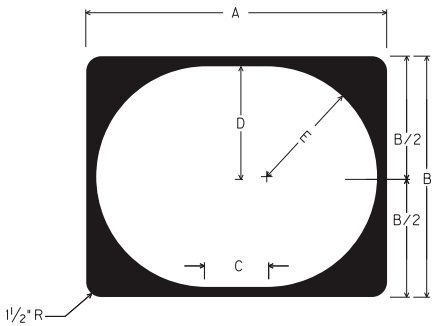


S-1





M1-5 (1 OR 2 DIGIT)



M1-5 (3 OR 4 DIGIT)

	A	B	C	FONT
CONVENTIONAL	24"	24"	11"	12D
EXPRESSWAY/ FREEWAY	36"	36"	17"	18D

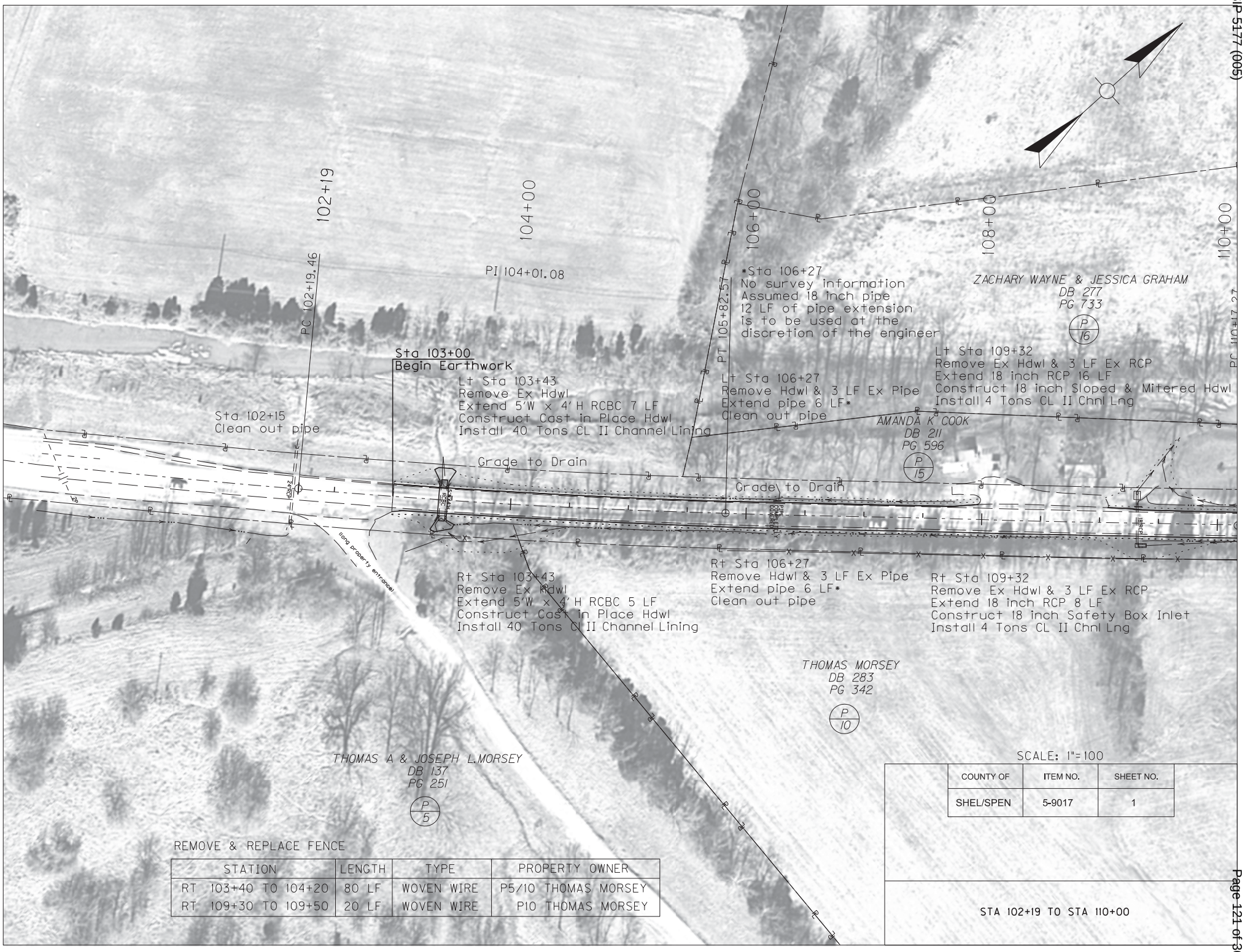
	A	B	C	D	E	FONT	
						3 DIGIT	4 DIGIT
CONVENTIONAL	30"	24"	6"	11"	11"	12D	12B
EXPRESSWAY/ FREEWAY	45"	36"	9"	16.5"	16.5"	18D	18B

NOTE: FOR ROUTE MARKERS, IF NECESSARY, ADJUSTMENTS TO THE DIGIT LAYOUT AND/OR FONT TYPE MAY BE MADE TO ENSURE VISUAL ACUITY

NOTE: EXPRESSWAY/FREEWAY DEFINED AS A DIVIDED HIGHWAY WITH PARTIAL OR FULL CONTROL OF ACCESS

NOT TO SCALE

TYPICAL SIGNS



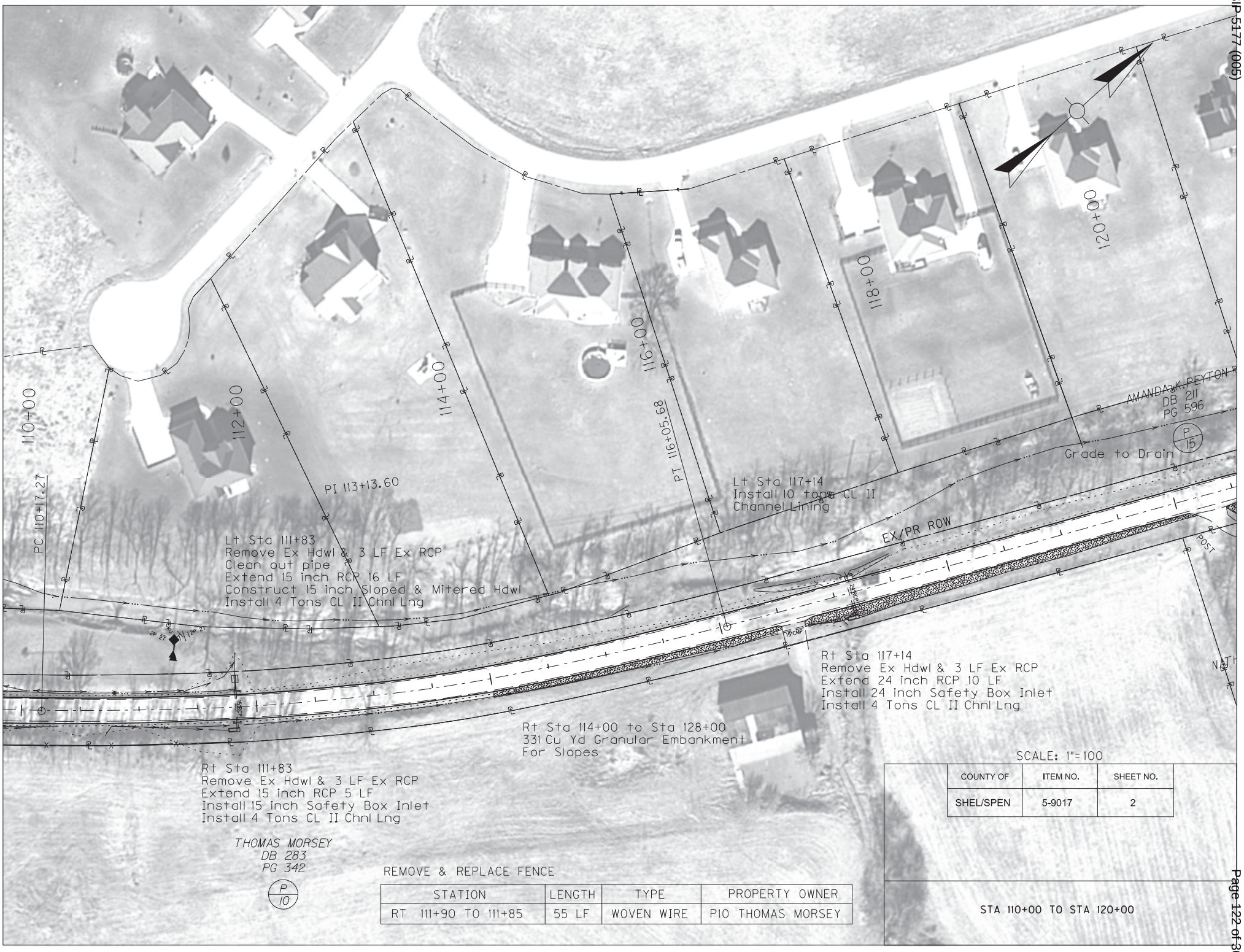
SCALE: 1"=100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	1

STA 102+19 TO STA 110+00

REMOVE & REPLACE FENCE

STATION	LENGTH	TYPE	PROPERTY OWNER
RT 103+40 TO 104+20	80 LF	WOVEN WIRE	P5/10 THOMAS MORSEY
RT 109+30 TO 109+50	20 LF	WOVEN WIRE	P10 THOMAS MORSEY

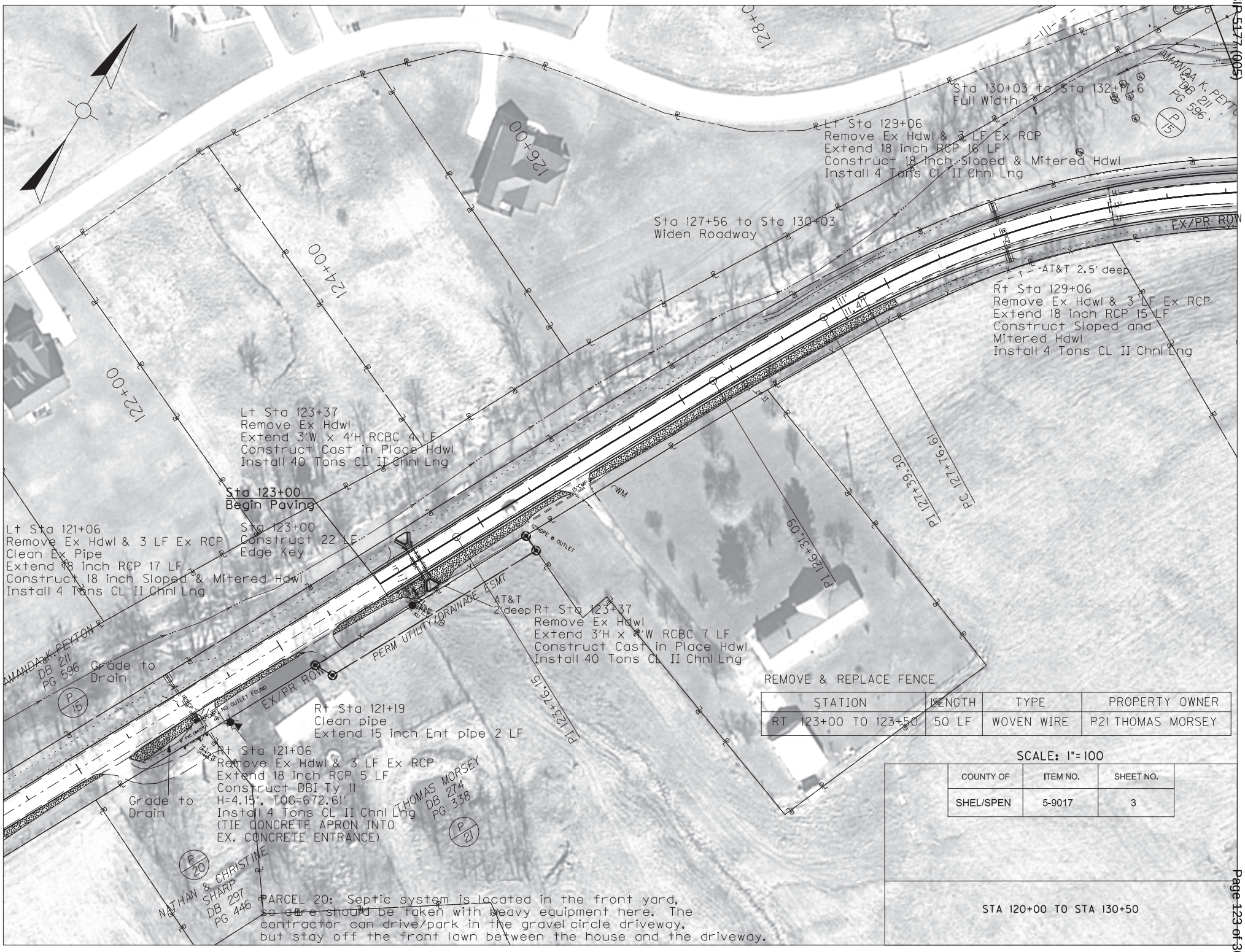


REMOVE & REPLACE FENCE

STATION	LENGTH	TYPE	PROPERTY OWNER
RT 111+90 TO 111+85	55 LF	WOVEN WIRE	P10 THOMAS MORSEY

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	2

STA 110+00 TO STA 120+00



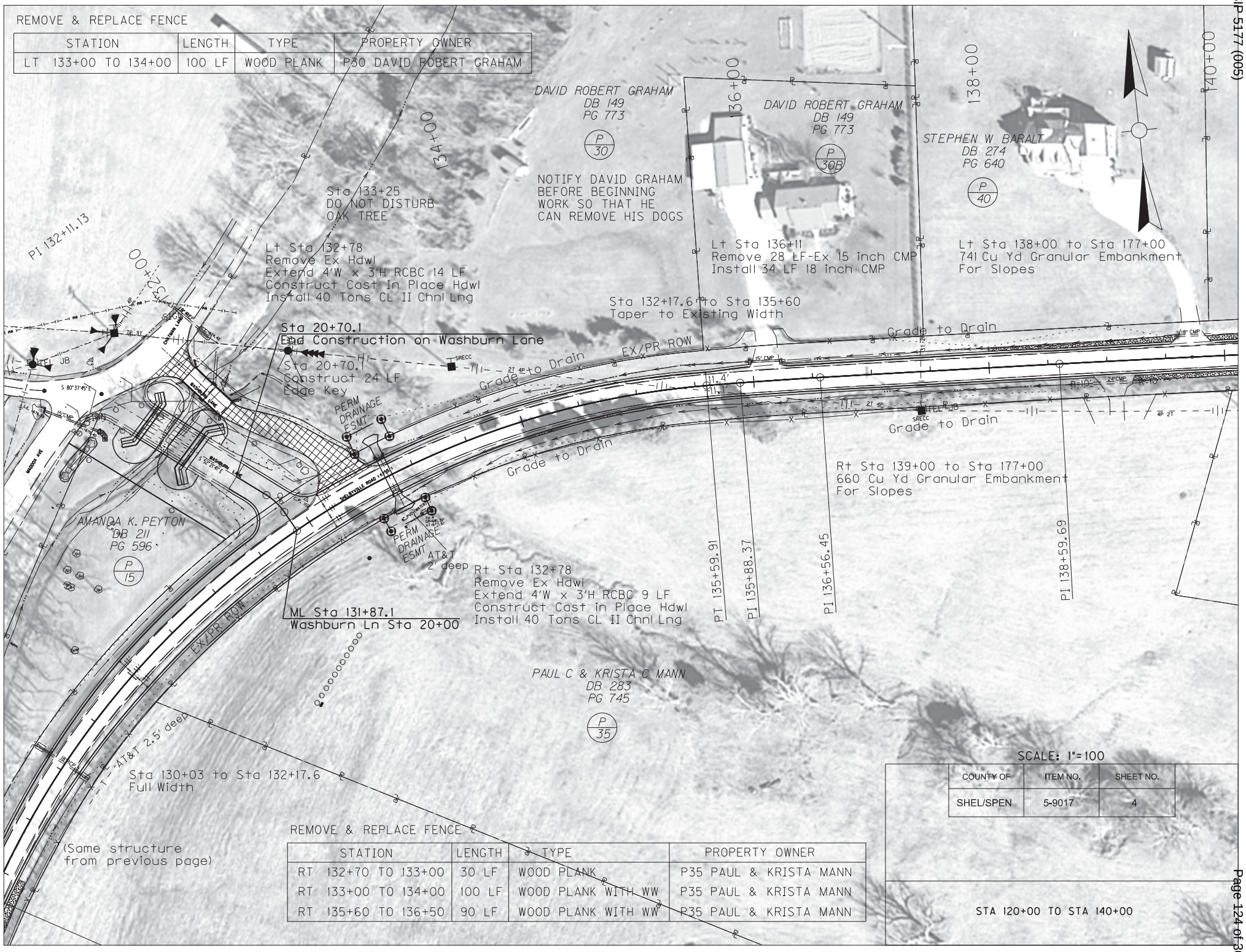
REMOVE & REPLACE FENCE

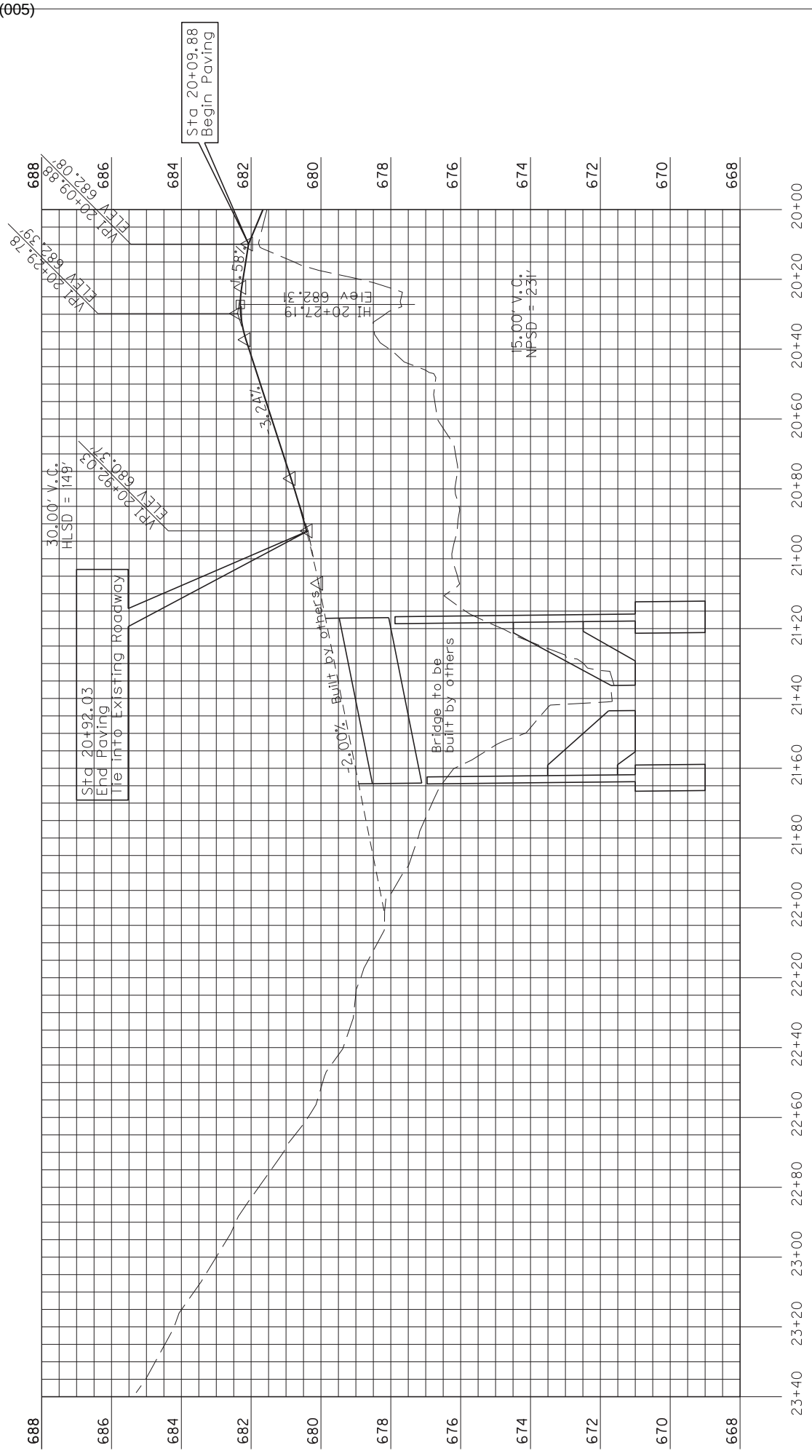
STATION	LENGTH	TYPE	PROPERTY OWNER
RT 123+00 TO 123+50	50 LF	WOVEN WIRE	P21 THOMAS MORSEY

SCALE: 1"= 100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	3

STA 120+00 TO STA 130+50


REMOVE & REPLACE FENCE
STATION | LENGTH | TYPE | PROPERTY OWNER
LT 133+00 TO 134+00 | 100 LF | WOOD PLANK | P30 DAVID ROBERT GRAHAM
DAVID ROBERT GRAHAM
DB 149
PG 773
P 30
NOTIFY DAVID GRAHAM
BEFORE BEGINNING
WORK SO THAT HE
CAN REMOVE HIS DOGS
Sta 133+25
DO NOT DISTURB
OAK TREE
PI 132+11.13
Lt Sta 132+78
Remove Ex Hdwl
Extend 4'W x 3'H RCBC 14 LF
Construct Cast In Place Hdwl
Install 40 Tons CL II Chnl Lng
Sta 20+70.1
End Construction on Washburn Lane
Sta 20+70.1
Construct 24 LF
Edge Key
PERM DRAINAGE ESMT
Grade to Drain
EX/PR ROW
Sta 132+17.6 to Sta 135+60
Taper to Existing Width
DAVID ROBERT GRAHAM
DB 149
PG 773
P 30B
Lt Sta 136+11
Remove 28 LF-Ex 15 inch CMP
Install 34 LF 18 inch CMP
STEPHEN W BARALT
DB 274
PG 640
P 40
Lt Sta 138+00 to Sta 177+00
741 Cu Yd Granular Embankment
For Slopes
Rt Sta 139+00 to Sta 177+00
660 Cu Yd Granular Embankment
For Slopes
PT 135+59.91
PI 135+88.37
PI 136+56.45
PI 138+59.69
AMANDA K. PEYTON
DB 211
PG 596
P 15
AT&T 2' deep
Rt Sta 132+78
Remove Ex Hdwl
Extend 4'W x 3'H RCBC 9 LF
Construct Cast in Place Hdwl
Install 40 Tons CL II Chnl Lng
ML Sta 131+87.1
Washburn Ln Sta 20+00
PAUL C & KRISTA C MANN
DB 283
PG 745
P 35
AT&T 2.5' deep
Sta 130+03 to Sta 132+17.6
Full Width
(Same structure
from previous page)
REMOVE & REPLACE FENCE
STATION | LENGTH | TYPE | PROPERTY OWNER
RT 132+70 TO 133+00 | 30 LF | WOOD PLANK | P35 PAUL & KRISTA MANN
RT 133+00 TO 134+00 | 100 LF | WOOD PLANK WITH WW | P35 PAUL & KRISTA MANN
RT 135+60 TO 136+50 | 90 LF | WOOD PLANK WITH WW | P35 PAUL & KRISTA MANN
SCALE: 1"=100
COUNTY OF | ITEM NO. | SHEET NO.
SHEL/SPEN | 5-9017 | 4
STA 120+00 TO STA 140+00



SCALE: 1" = 40

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	4A

Washburn Road Profile

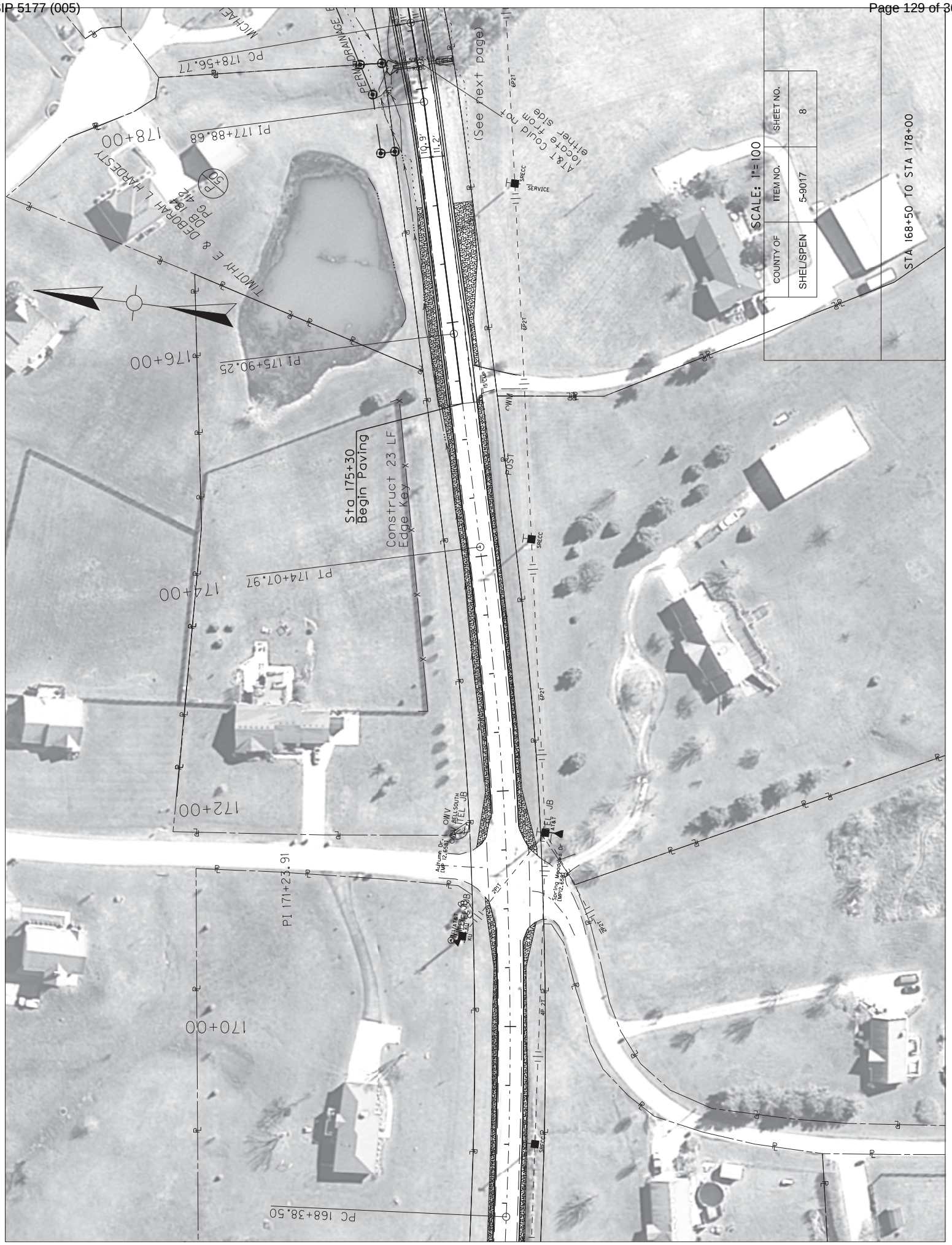

SCALE: 1"=100
COUNTY OF
SHEL/SPEN
ITEM NO.
5-9017
SHEET NO.
5
STA 140+00 TO STA 150+00
150+00
PT 149+91.88
148+00
PI 147+93.22
146+00
PC 145+91.79
144+00
142+00
PI 142+19.14
140+00
Lt Sta 144+34
Clean 15 inch Ent Pipe
Rt Sta 147+03
Clean 15 inch Ent Pipe
Rt Sta 142+41
Clean 15 inch Ent Pipe
PT 143+77.42
PC 140+60.31
Sta 140+22.21
End Paving
Continue Earthwork
Construct 22 LF Edge Key
EX PR ROW

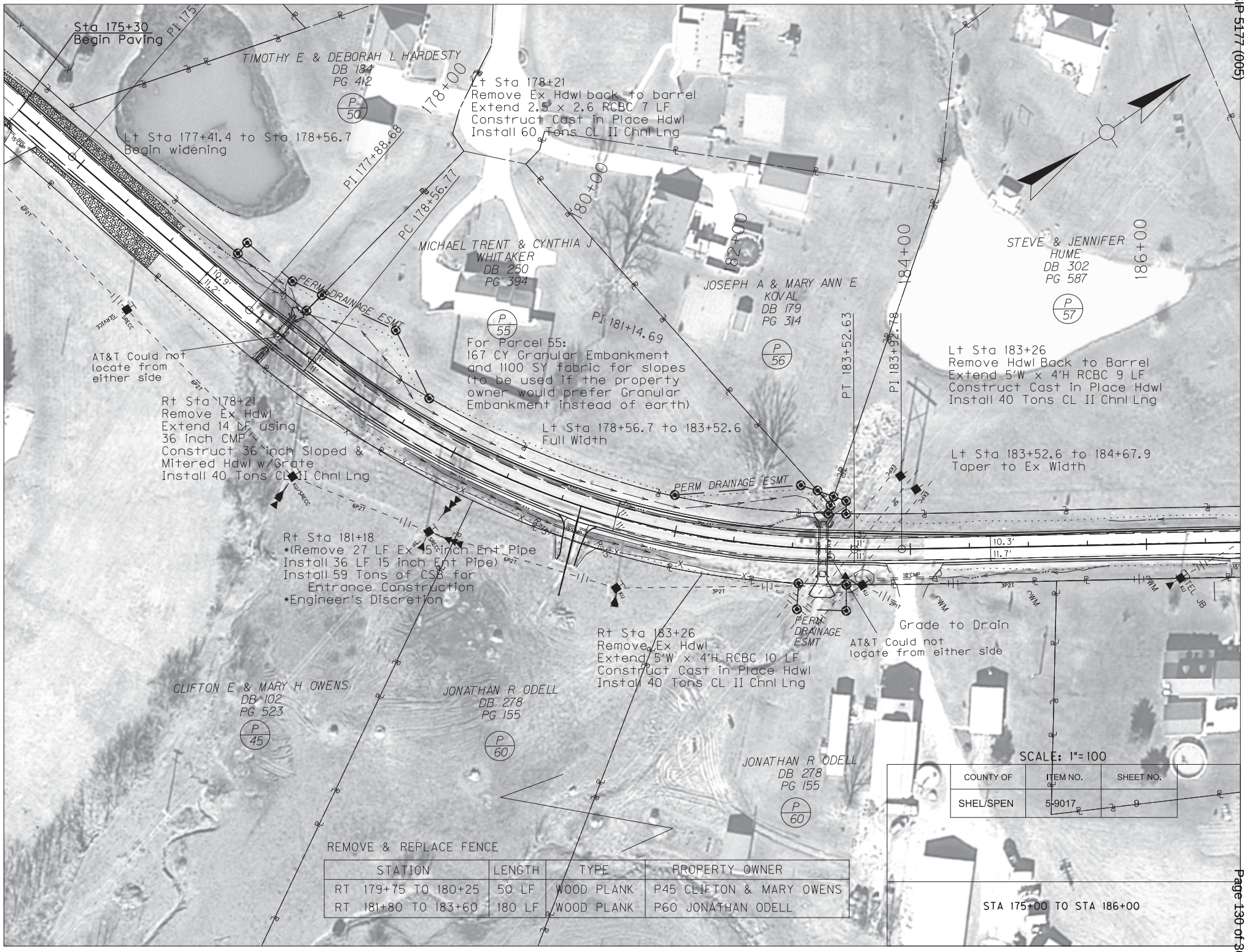

Lt Sta 158+28
Remove Ex Hdwl & 3 LF Ex RCP
Extend 18 inch 12 LF
Install 4 Tons CL II Chnl Lng
AT&T 33' o/s and 2' deep
AND 14' o/s and 2.4' deep
Rt Sta 158+28
Remove Ex Hdwl & 3 LF Ex RCP 8 LF
Extend 18 inch RCP 8 LF
Install 18 inch
Safety Box Inlet
Install 4 Tons CL II Chnl Lng
Rt Sta 158+93
Clean 15 inch
Entrance pipe
SCALE: 1"=100
STA 150+00 TO STA 160+00
COUNTY OF
SHEL/SPEN
ITEM NO.
5-9017
SHEET NO.
6
PI 158+61.71
PI 154+89.57
PT 149+91.88
158+00
156+00
154+00
152+00
150+00
TEL JB
OHW
Summer
EMP 12.4221
15"CMP
18"RCP
8"x 3"
4P 21



COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	7

STA 159+00 TO STA 168+50


SCALE: 1"= 100
COUNTY OF
SHEL/SPEN
ITEM NO.
5-9017
SHEET NO.
8
STA 168+50 TO STA 178+00
(See next page)
AT&T Could not locate from either side
PERM DRAINAGE EASEMENT
PC 178+56.77
PI 177+88.68
178+00
TIMOTHY E & DEBORAH L HARDESTY
DB 184
PG 442
176+00
PI 175+90.25
Sta 175+30
Begin Paving
Construct 23 LF
Edge Key
PT 174+07.97
174+00
172+00
PI 171+23.91
170+00
PC 168+38.50
POST
SERVICE
SRECC
OWW
AT&T
Auburn Dr
Spring Meadows Dr



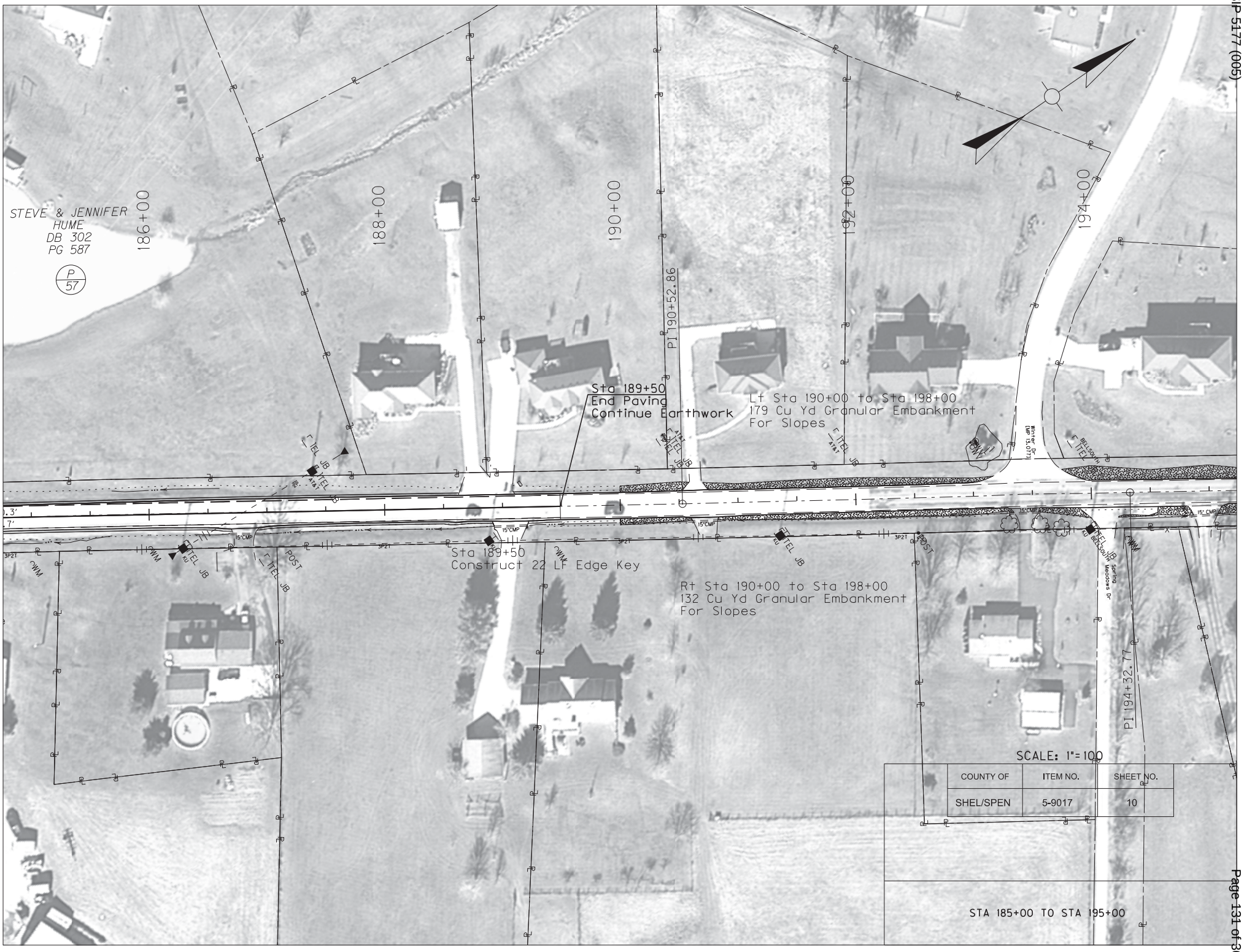
REMOVE & REPLACE FENCE

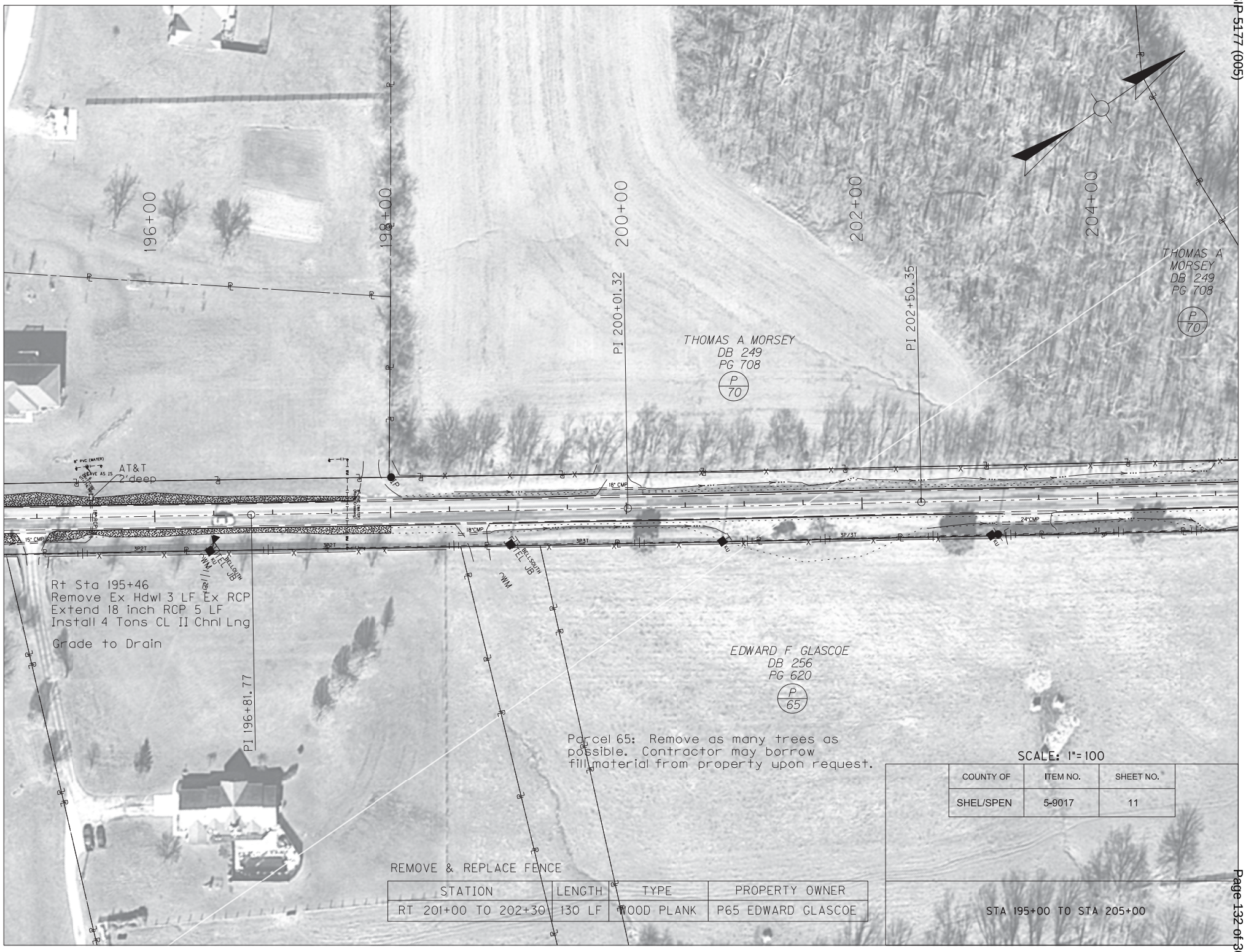
STATION	LENGTH	TYPE	PROPERTY OWNER
RT 179+75 TO 180+25	50 LF	WOOD PLANK	P45 CLIFTON & MARY OWENS
RT 181+80 TO 183+60	180 LF	WOOD PLANK	P60 JONATHAN ODELL

SCALE: 1"= 100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	9

STA 175+00 TO STA 186+00


STEVE & JENNIFER
HUME
DB 302
PG 587
P
57
186+00
188+00
190+00
192+00
194+00
PI 190+52.86
PI 194+32.77
Sta 189+50
End Paving
Continue Earthwork
Lt Sta 190+00 to Sta 198+00
179 Cu Yd Granular Embankment
For Slopes
Sta 189+50
Construct 22 LF Edge Key
Rt Sta 190+00 to Sta 198+00
132 Cu Yd Granular Embankment
For Slopes
Winston Dr
Sparrows Meadows Dr
15" CMP
POST
SCALE: 1"= 100
COUNTY OF
ITEM NO.
SHEET NO.
SHEL/SPEN
5-9017
10
STA 185+00 TO STA 195+00



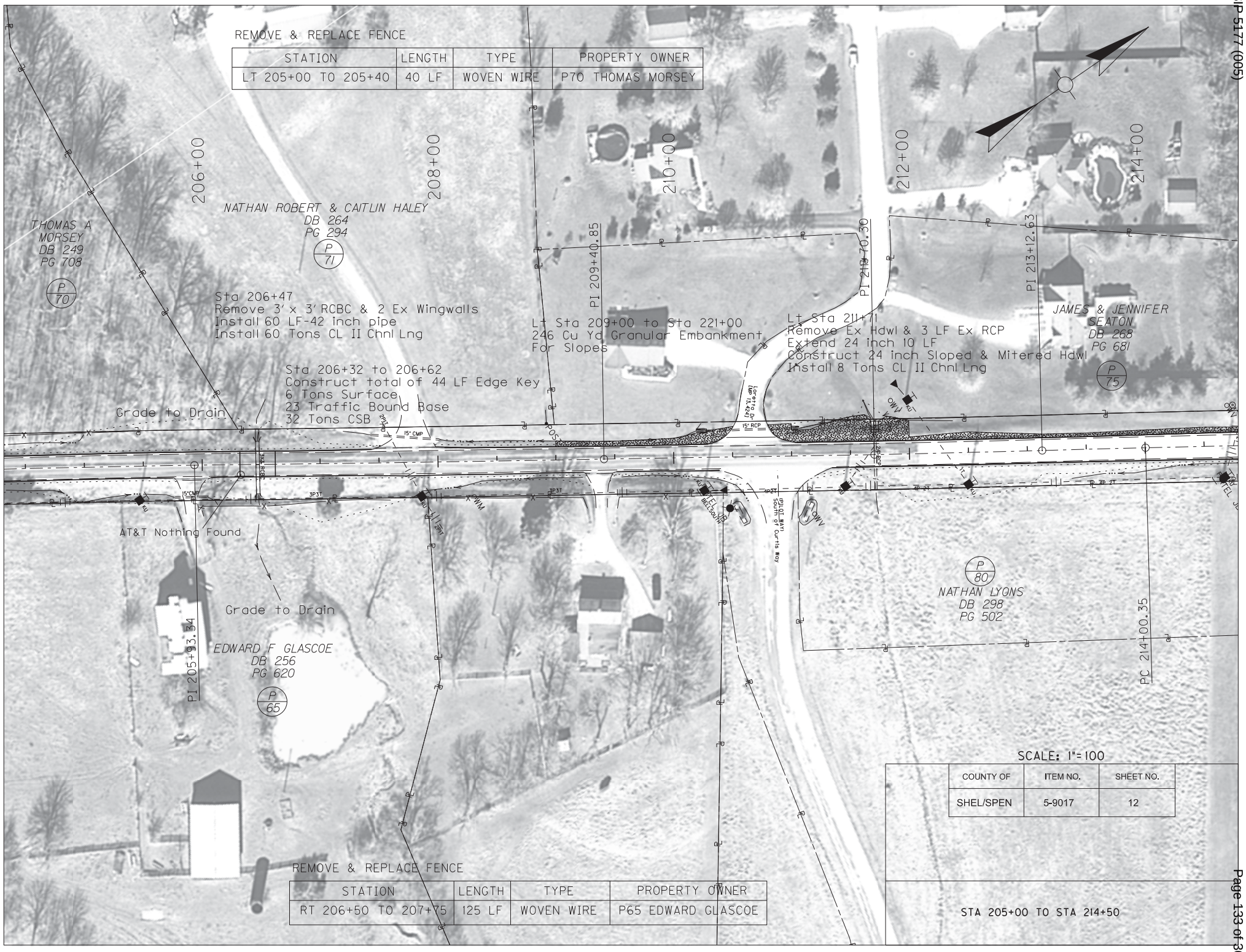
SCALE: 1"=100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	11

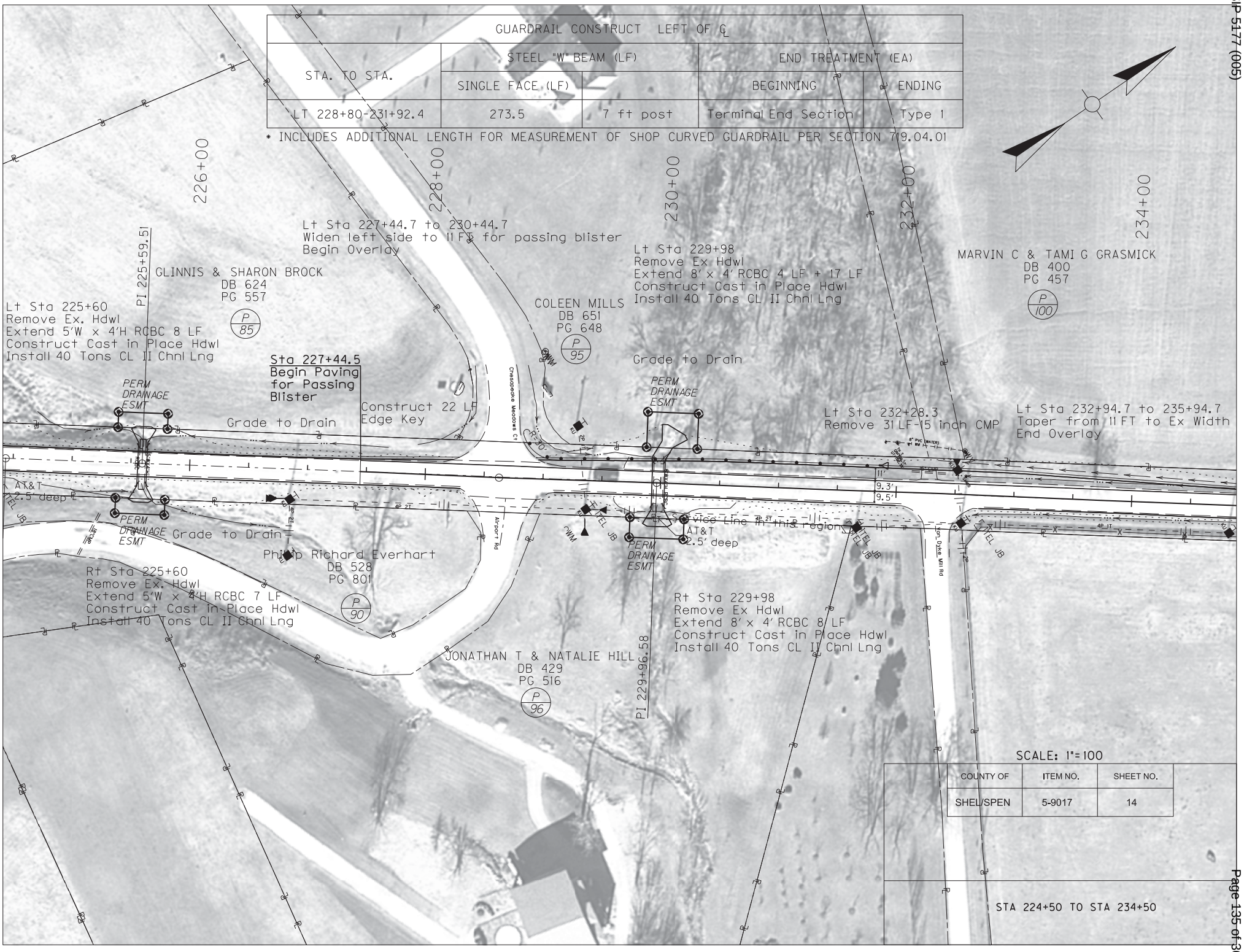
REMOVE & REPLACE FENCE

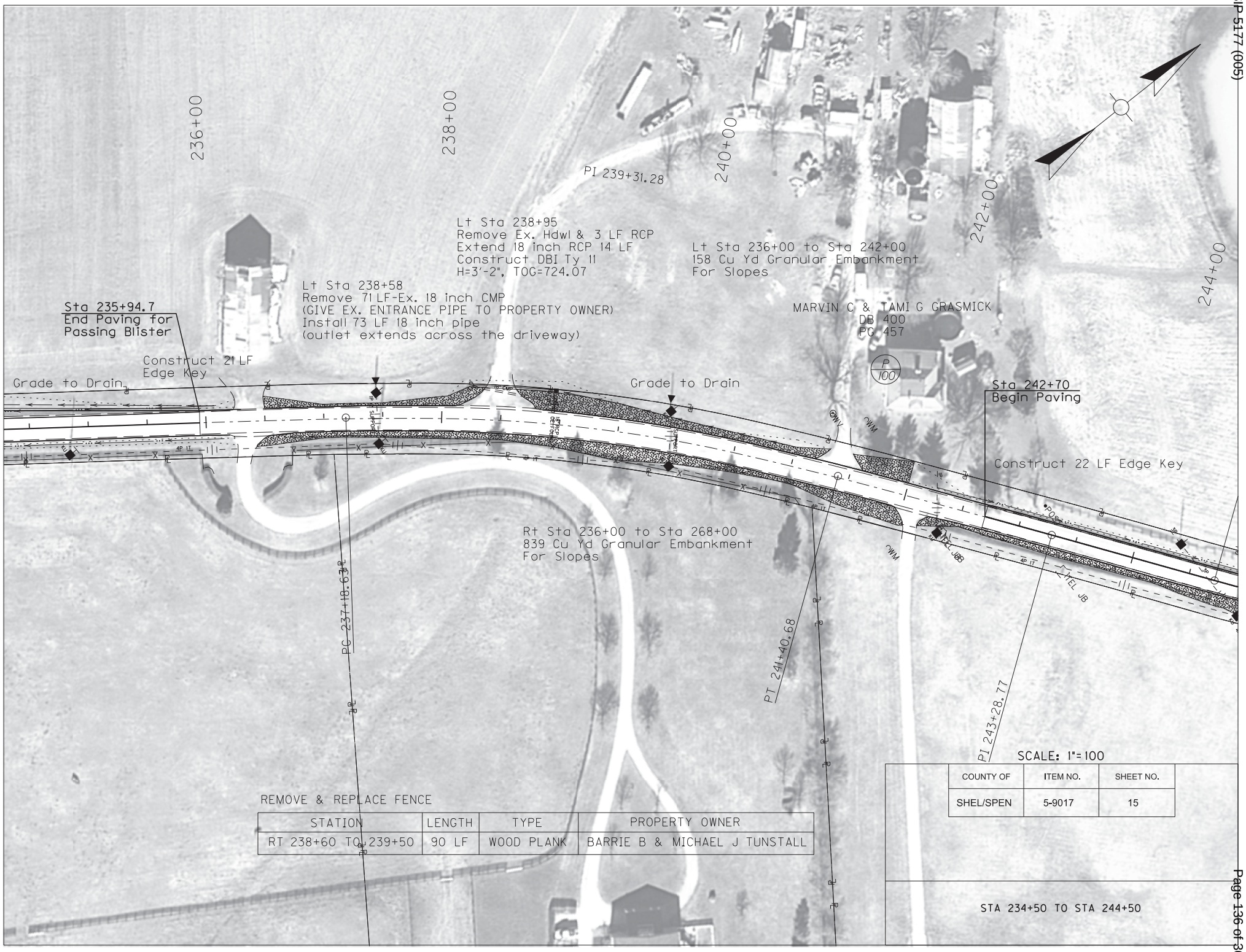
STATION	LENGTH	TYPE	PROPERTY OWNER
RT 201+00 TO 202+30	130 LF	WOOD PLANK	P65 EDWARD GLASCOE

STA 195+00 TO STA 205+00


REMOVE & REPLACE FENCE
STATION | LENGTH | TYPE | PROPERTY OWNER
LT 205+00 TO 205+40 | 40 LF | WOVEN WIRE | P70 THOMAS MORSEY
206+00
208+00
210+00
212+00
214+00
NATHAN ROBERT & CAITLIN HALEY
DB 264
PG 294
P 71
THOMAS A MORSEY
DB 249
PG 708
P 70
Sta 206+47
Remove 3' x 3' RCBC & 2 Ex Wingwalls
Install 60 LF-42 inch pipe
Install 60 Tons CL II Chnl Lng
PI 209+40.85
Lt Sta 209+00 to Sta 221+00
246 Cu Yd Granular Embankment
For Slopes
PI 211+70.30
Lt Sta 211+71
Remove Ex Hdwl & 3 LF Ex RCP
Extend 24 inch 10 LF
Construct 24 inch Sloped & Mitered Hdwl
Install 8 Tons CL II Chnl Lng
PI 213+12.63
JAMES & JENNIFER SEATON
DB 268
PG 681
P 75
Sta 206+32 to 206+62
Construct total of 44 LF Edge Key
6 Tons Surface
23 Traffic Bound Base
32 Tons CSB
Grade to Drain
15" CMP
15" RCP
24" RCP
AT&T Nothing Found
Grade to Drain
EDWARD F GLASCOE
DB 256
PG 620
P 65
PI 205+93.54
P 80
NATHAN LYONS
DB 298
PG 502
PC 214+00.35
SCALE: 1"=100
REMOVE & REPLACE FENCE
STATION | LENGTH | TYPE | PROPERTY OWNER
RT 206+50 TO 207+75 | 125 LF | WOVEN WIRE | P65 EDWARD GLASCOE
COUNTY OF | ITEM NO. | SHEET NO.
SHEL/SPEN | 5-9017 | 12
STA 205+00 TO STA 214+50

SCALE: 1"=100
COUNTY OF
SHEL/SPEN
ITEM NO.
5-9017
SHEET NO.
13
STA 214+50 TO STA 224+50
224+00
222+00
220+00
218+00
216+00
PI 224+43.62
PI 221+44.47
PI 216+99.28
Rt Sta 220+32
Clean 18 inch CMP
PT 219+98.01
Lt Sta 217+15
Clean 15 inch CMP
TEL JB
15" CMP


GUARDRAIL CONSTRUCT LEFT OF ℄
STA. TO STA.
STEEL "W" BEAM (LF)
SINGLE FACE (LF)
END TREATMENT (EA)
BEGINNING
ENDING
LT 228+80-231+92.4
273.5
7 ft post
Terminal End Section
Type 1
* INCLUDES ADDITIONAL LENGTH FOR MEASUREMENT OF SHOP CURVED GUARDRAIL PER SECTION 719.04.01
226+00
228+00
230+00
232+00
234+00
PI 225+59.51
PI 229+96.58
Lt Sta 227+44.7 to 230+44.7
Widen left side to 11FT for passing blister
Begin Overlay
GLINNIS & SHARON BROCK
DB 624
PG 557
P 85
Lt Sta 225+60
Remove Ex. Hdwl
Extend 5'W x 4'H RCBC 8 LF
Construct Cast in Place Hdwl
Install 40 Tons CL II Chnl Lng
COLEEN MILLS
DB 651
PG 648
P 95
Lt Sta 229+98
Remove Ex Hdwl
Extend 8' x 4' RCBC 4 LF + 17 LF
Construct Cast in Place Hdwl
Install 40 Tons CL II Chnl Lng
MARVIN C & TAMI G GRASMICK
DB 400
PG 457
P 100
Sta 227+44.5
Begin Paving
for Passing
Blister
Construct 22 LF
Edge Key
Grade to Drain
PERM
DRAINAGE
ESMT
Chesapeake Meadows Ct
R=30'
Lt Sta 232+28.3
Remove 31 LF-15 inch CMP
Lt Sta 232+94.7 to 235+94.7
Taper from 11FT to Ex Width
End Overlay
AT&T
2.5' deep
Service Line in this Region
Airport Rd
Tom Dykes Mill Rd
Rt Sta 225+60
Remove Ex. Hdwl
Extend 5'W x 4'H RCBC 7 LF
Construct Cast in Place Hdwl
Install 40 Tons CL II Chnl Lng
Phillip Richard Everhart
DB 528
PG 801
P 90
Rt Sta 229+98
Remove Ex Hdwl
Extend 8' x 4' RCBC 8 LF
Construct Cast in Place Hdwl
Install 40 Tons CL II Chnl Lng
JONATHAN T & NATALIE HILL
DB 429
PG 516
P 96
SCALE: 1"= 100
COUNTY OF
ITEM NO.
SHEET NO.
SHEL/SPEN
5-9017
14
STA 224+50 TO STA 234+50



REMOVE & REPLACE FENCE

STATION	LENGTH	TYPE	PROPERTY OWNER
RT 238+60 TO 239+50	90 LF	WOOD PLANK	BARRIE B & MICHAEL J TUNSTALL

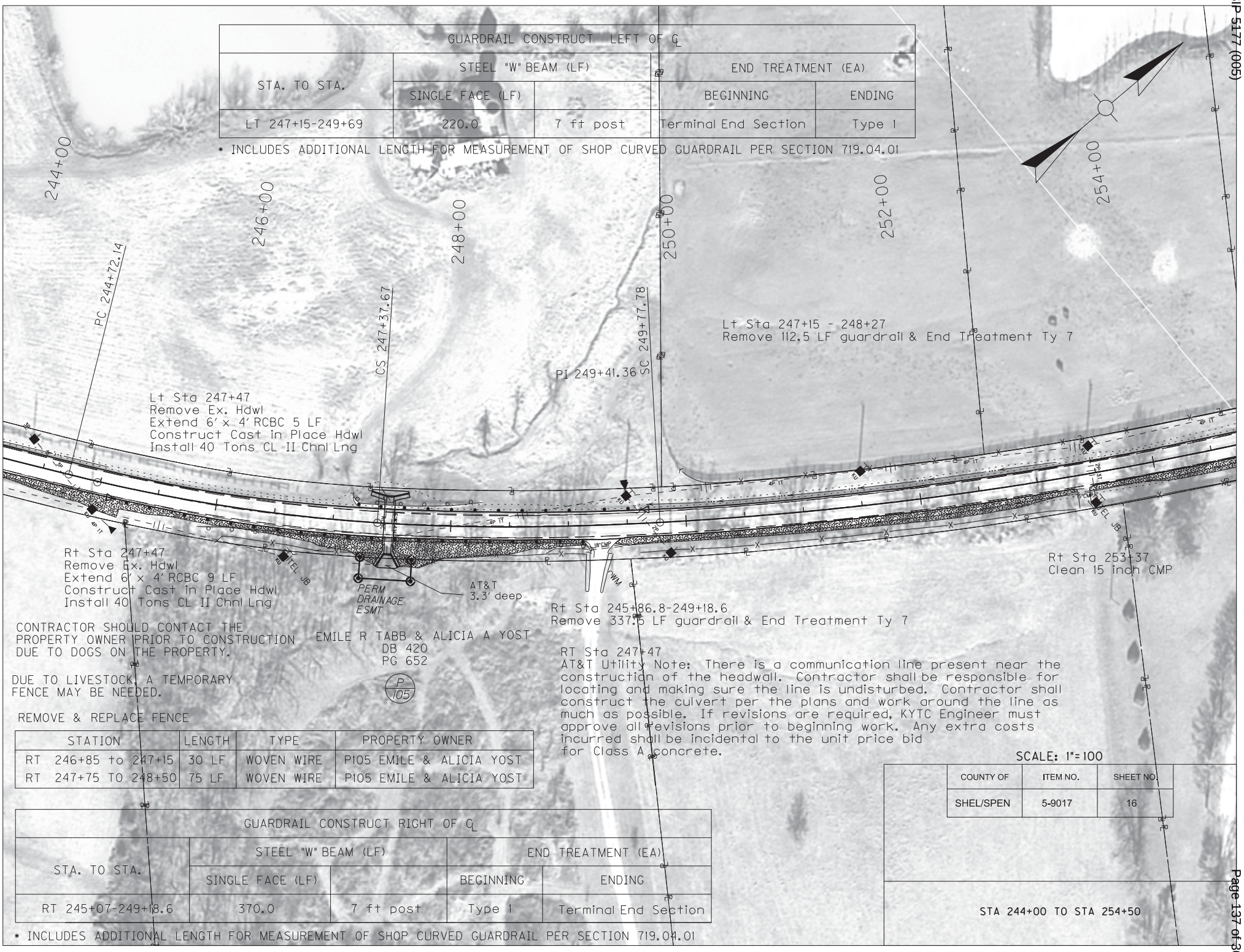
SCALE: 1"=100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	15

STA 234+50 TO STA 244+50

GUARDRAIL CONSTRUCT LEFT OF $\mathcal{L}$				
STA. TO STA.	STEEL "W" BEAM (LF)		END TREATMENT (EA)	
	SINGLE FACE (LF)		BEGINNING	ENDING
LT 247+15-249+69	220.0	7 ft post	Terminal End Section	Type 1

* INCLUDES ADDITIONAL LENGTH FOR MEASUREMENT OF SHOP CURVED GUARDRAIL PER SECTION 719.04.01



CONTRACTOR SHOULD CONTACT THE PROPERTY OWNER PRIOR TO CONSTRUCTION DUE TO DOGS ON THE PROPERTY.

DUE TO LIVESTOCK, A TEMPORARY FENCE MAY BE NEEDED.

EMILE R TABB & ALICIA A YOST
DB 420
PG 652
P 105

RT Sta 247+47
AT&T Utility Note: There is a communication line present near the construction of the headwall. Contractor shall be responsible for locating and making sure the line is undisturbed. Contractor shall construct the culvert per the plans and work around the line as much as possible. If revisions are required, KYTC Engineer must approve all revisions prior to beginning work. Any extra costs incurred shall be incidental to the unit price bid for Class A concrete.

REMOVE & REPLACE FENCE

STATION	LENGTH	TYPE	PROPERTY OWNER
RT 246+85 to 247+15	30 LF	WOVEN WIRE	P105 EMILE & ALICIA YOST
RT 247+75 TO 248+50	75 LF	WOVEN WIRE	P105 EMILE & ALICIA YOST

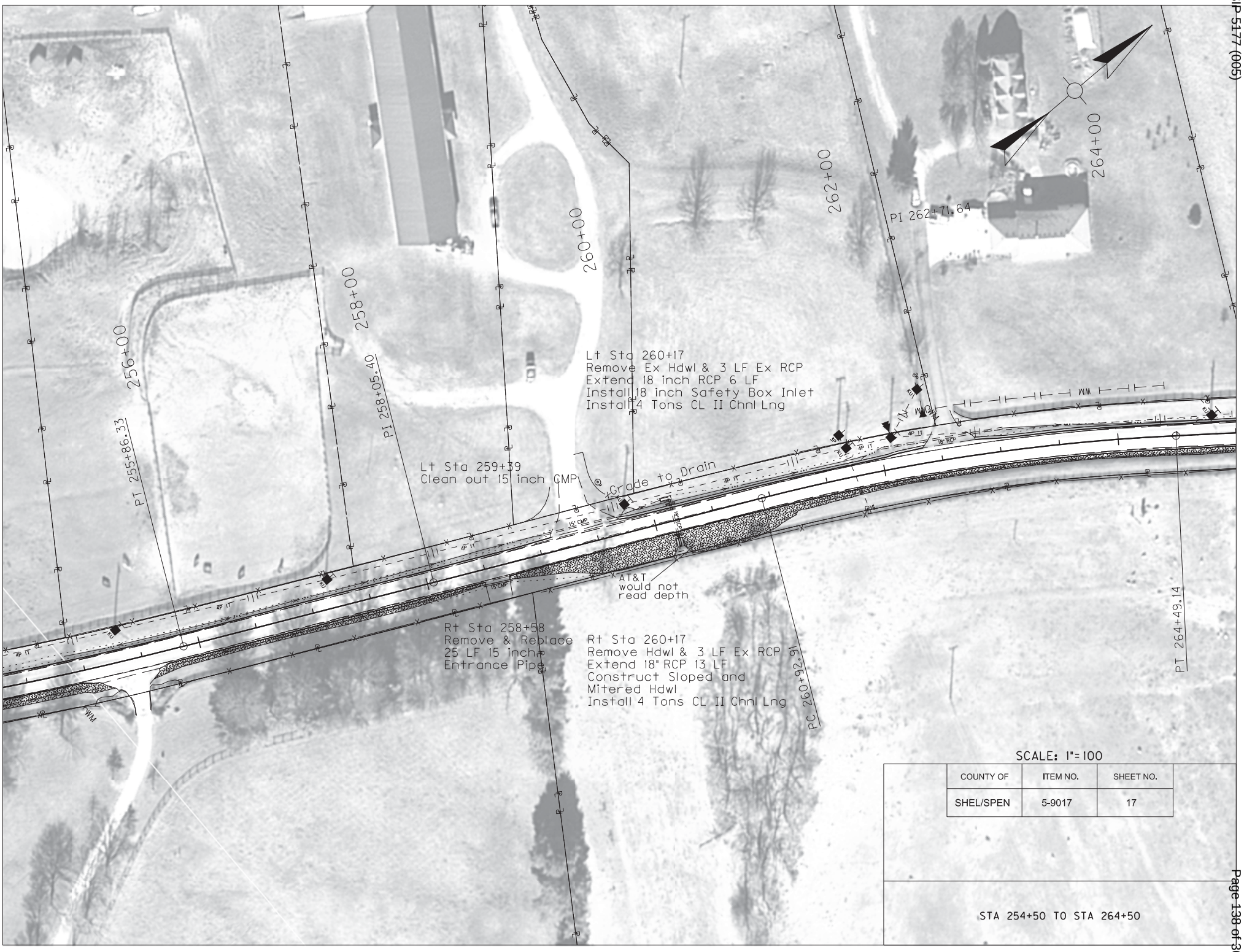
GUARDRAIL CONSTRUCT RIGHT OF $\mathcal{L}$				
STA. TO STA.	STEEL "W" BEAM (LF)		END TREATMENT (EA)	
	SINGLE FACE (LF)		BEGINNING	ENDING
RT 245+07-249+18.6	370.0	7 ft post	Type 1	Terminal End Section

* INCLUDES ADDITIONAL LENGTH FOR MEASUREMENT OF SHOP CURVED GUARDRAIL PER SECTION 719.04.01

SCALE: 1"= 100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	16

STA 244+00 TO STA 254+50

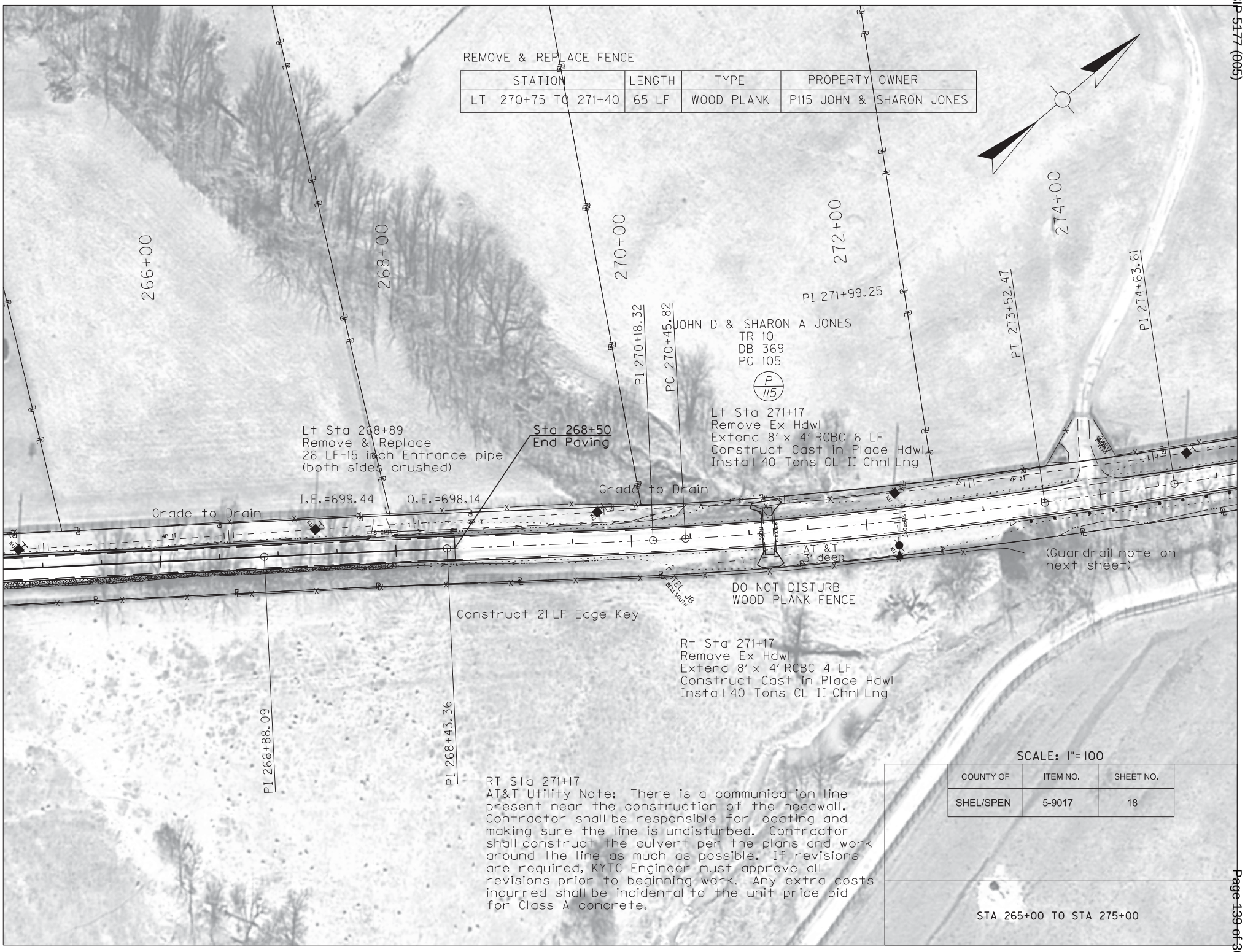


COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	17

STA 254+50 TO STA 264+50

REMOVE & REPLACE FENCE

STATION	LENGTH	TYPE	PROPERTY OWNER
LT 270+75 TO 271+40	65 LF	WOOD PLANK	P115 JOHN & SHARON JONES

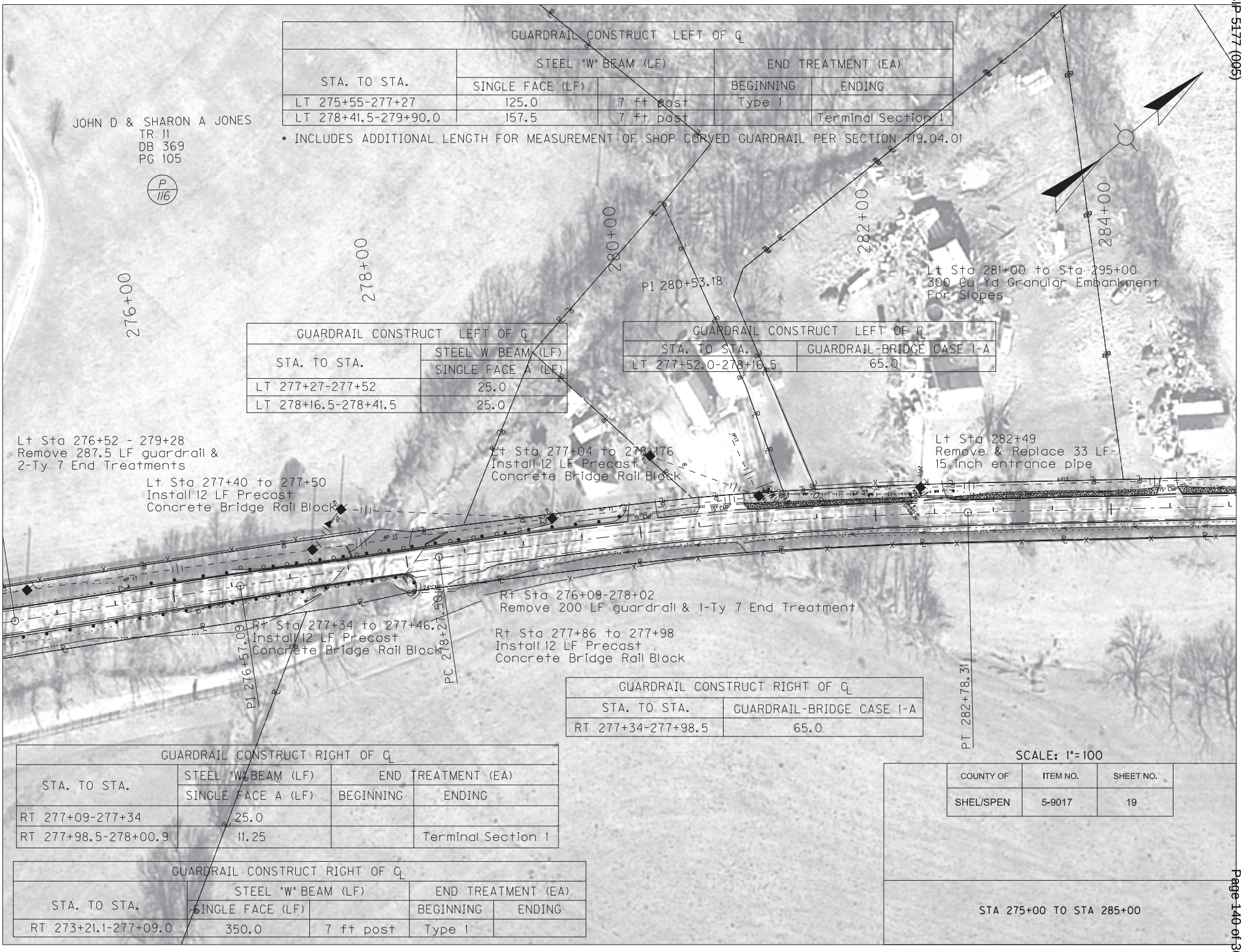


RT Sta 271+17
AT&T Utility Note: There is a communication line present near the construction of the headwall. Contractor shall be responsible for locating and making sure the line is undisturbed. Contractor shall construct the culvert per the plans and work around the line as much as possible. If revisions are required, KYTC Engineer must approve all revisions prior to beginning work. Any extra costs incurred shall be incidental to the unit price bid for Class A concrete.

SCALE: 1"= 100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	18

STA 265+00 TO STA 275+00



GUARDRAIL CONSTRUCT LEFT OF $\mathcal{L}$				
STA. TO STA.	STEEL "W" BEAM (LF)		END TREATMENT (EA)	
	SINGLE FACE (LF)		BEGINNING	ENDING
LT 275+55-277+27	125.0	7 ft post	Type 1	
LT 278+41.5-279+90.0	157.5	7 ft post		Terminal Section 1

* INCLUDES ADDITIONAL LENGTH FOR MEASUREMENT OF SHOP CURVED GUARDRAIL PER SECTION 719.04.01

GUARDRAIL CONSTRUCT LEFT OF $\mathcal{L}$	
STA. TO STA.	STEEL W BEAM (LF) SINGLE FACE A (LF)
LT 277+27-277+52	25.0
LT 278+16.5-278+41.5	25.0

GUARDRAIL CONSTRUCT LEFT OF $\mathcal{L}$	
STA. TO STA.	GUARDRAIL-BRIDGE CASE 1-A
LT 277+52.0-278+16.5	65.0

GUARDRAIL CONSTRUCT RIGHT OF $\mathcal{L}$			
STA. TO STA.	GUARDRAIL-BRIDGE CASE 1-A		
RT 277+34-277+98.5	65.0		

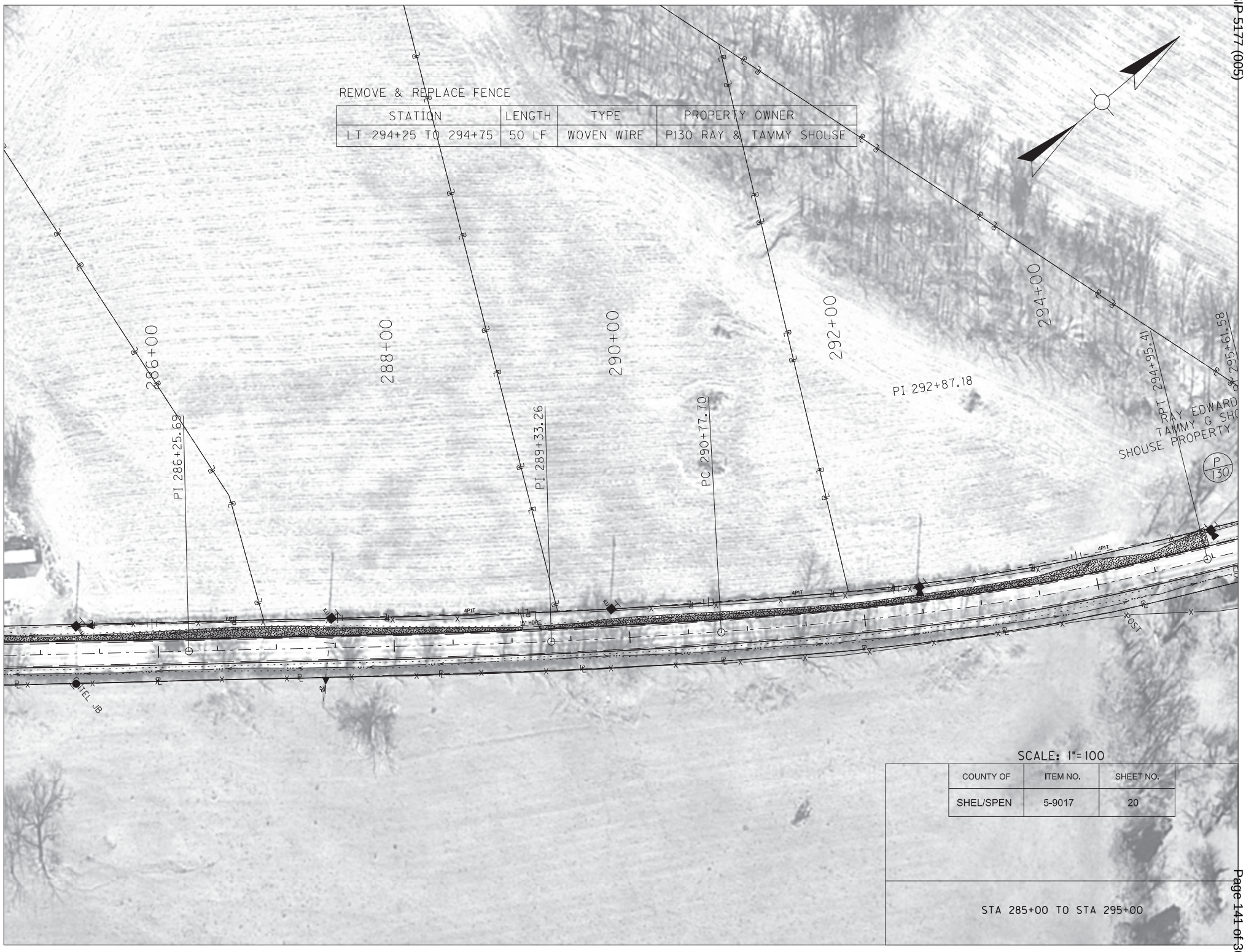
GUARDRAIL CONSTRUCT RIGHT OF $\mathcal{L}$			
STA. TO STA.	STEEL "W" BEAM (LF) SINGLE FACE A (LF)	END TREATMENT (EA) BEGINNING	ENDING
RT 277+09-277+34	25.0		
RT 277+98.5-278+00.9	11.25		Terminal Section 1

GUARDRAIL CONSTRUCT RIGHT OF $\mathcal{L}$				
STA. TO STA.	STEEL "W" BEAM (LF)		END TREATMENT (EA)	
	SINGLE FACE (LF)		BEGINNING	ENDING
RT 273+21.1-277+09.0	350.0	7 ft post	Type 1	

SCALE: 1"= 100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	19

STA 275+00 TO STA 285+00



REMOVE & REPLACE FENCE

STATION	LENGTH	TYPE	PROPERTY OWNER
LT 294+25 TO 294+75	50 LF	WOVEN WIRE	P130 RAY & TAMMY SHOUSE

SCALE: 1"=100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	20

STA 285+00 TO STA 295+00

REMOVE & REPLACE FENCE

STATION	LENGTH	TYPE	PROPERTY OWNER
LT 295+65 TO 296+10	45 LF	WOVEN WIRE	P130 RAY & TOMMY SHOUSE



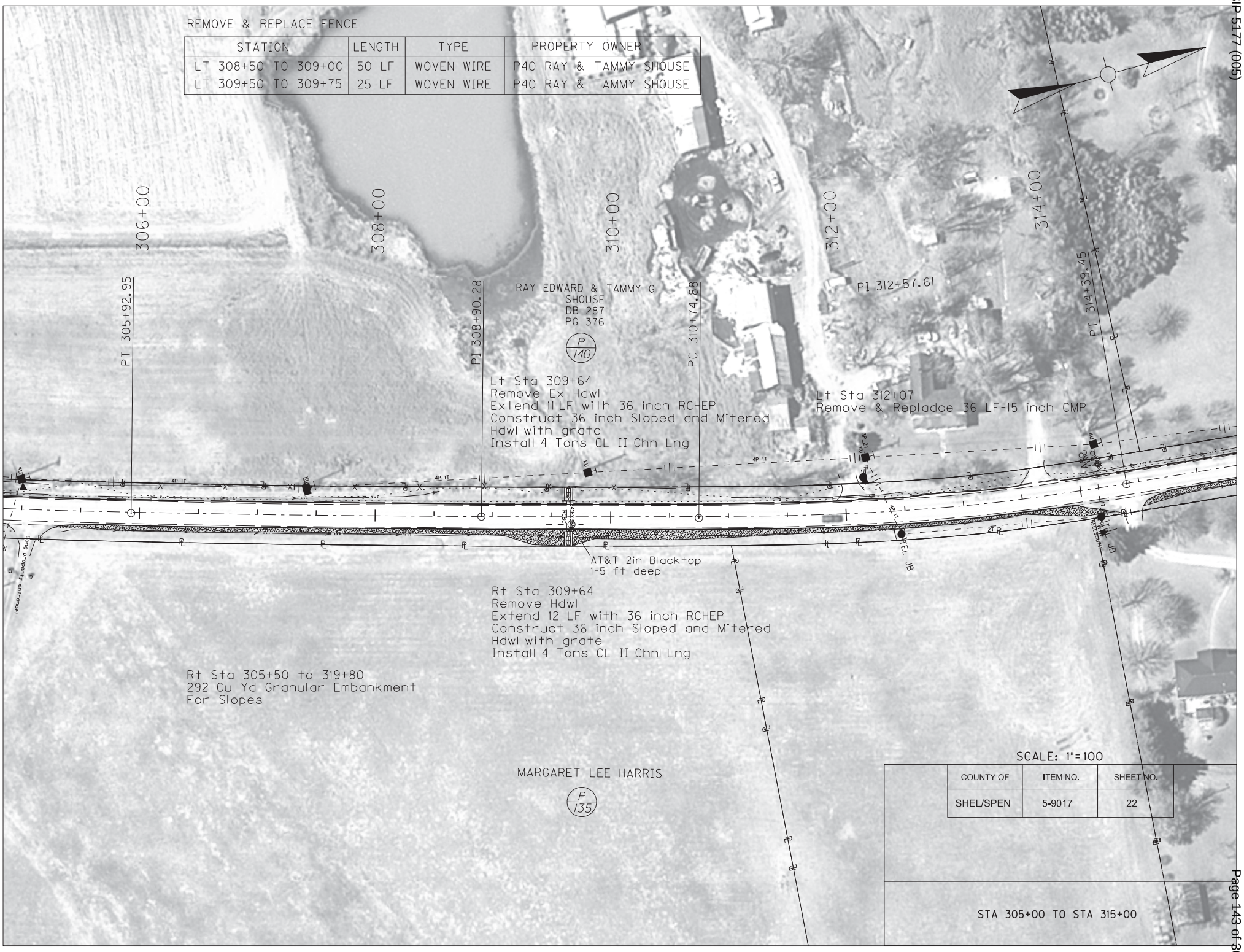
SCALE: 1"=100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	21

STA 294+50 TO STA 304+50

REMOVE & REPLACE FENCE

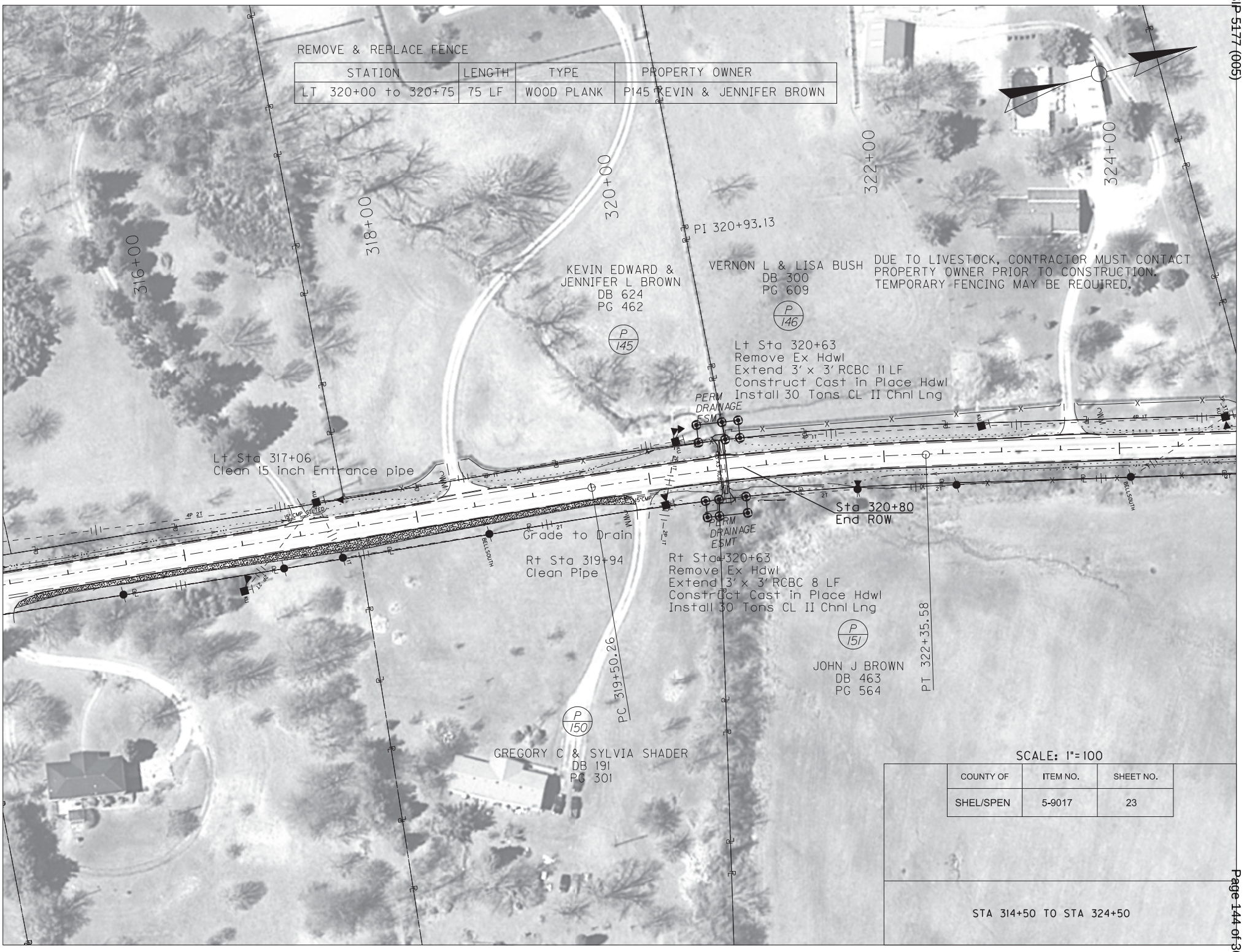
STATION	LENGTH	TYPE	PROPERTY OWNER
LT 308+50 TO 309+00	50 LF	WOVEN WIRE	P40 RAY & TAMMY SHOUSE
LT 309+50 TO 309+75	25 LF	WOVEN WIRE	P40 RAY & TAMMY SHOUSE



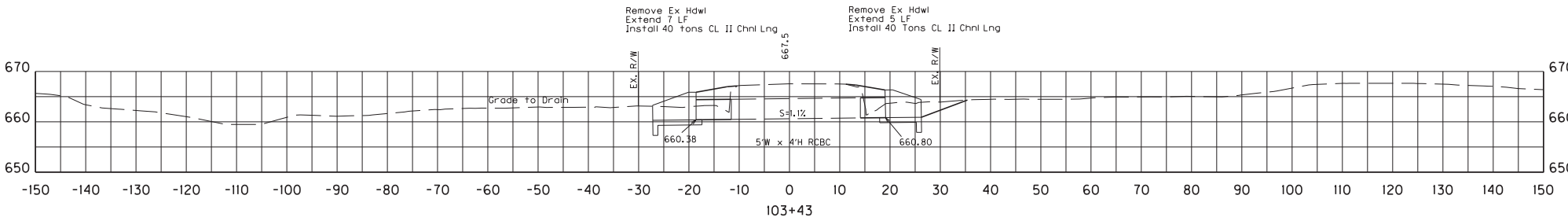
SCALE: 1"= 100

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	22

STA 305+00 TO STA 315+00


REMOVE & REPLACE FENCE
STATION | LENGTH | TYPE | PROPERTY OWNER
LT 320+00 to 320+75 | 75 LF | WOOD PLANK | P145 KEVIN & JENNIFER BROWN
316+00
318+00
320+00
322+00
324+00
PI 320+93.13
KEVIN EDWARD & JENNIFER L BROWN DB 624 PG 462
P 145
VERNON L & LISA BUSH DB 300 PG 609
P 146
DUE TO LIVESTOCK, CONTRACTOR MUST CONTACT PROPERTY OWNER PRIOR TO CONSTRUCTION. TEMPORARY FENCING MAY BE REQUIRED.
Lt Sta 320+63
Remove Ex Hdwl
Extend 3' x 3' RCBC 11 LF
Construct Cast in Place Hdwl
Install 30 Tons CL II Chnl Lng
PERM DRAINAGE ESMT
Lt Sta 317+06
Clean 15 inch Entrance pipe
Sta 320+80
End ROW
Grade to Drain
Rt Sta 319+94
Clean Pipe
Rt Sta 320+63
Remove Ex Hdwl
Extend 3' x 3' RCBC 8 LF
Construct Cast in Place Hdwl
Install 30 Tons CL II Chnl Lng
P 151
JOHN J BROWN DB 463 PG 564
PT 322+35.58
PC 319+50.26
P 150
GREGORY C & SYLVIA SHADER DB 191 PG 301
SCALE: 1"=100
COUNTY OF | ITEM NO. | SHEET NO.
SHEL/SPEN | 5-9017 | 23
STA 314+50 TO STA 324+50

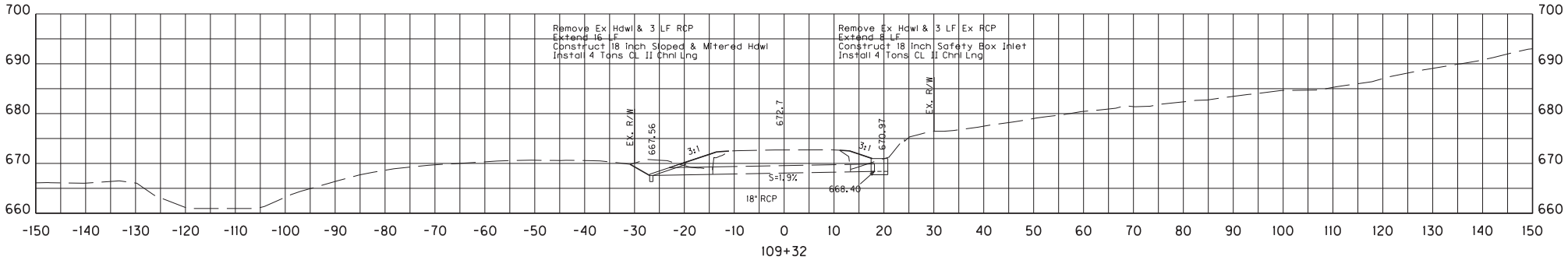

POE 333+85.66
333+86
Fisherville Rd (KY 148) [MP 2.184]
Fincrville Rd
PT 333+80.03
Sta 333+50
End Earthwork
End Project
332+00
PI 330+96.57
330+00
BELL SOUTH
328+00
PC 328+06.81
326+00
SCALE: 1"=100
COUNTY OF SHEL/SPEN
ITEM NO. 5-9017
SHEET NO. 24
STA 324+50 TO STA 333+86



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	25

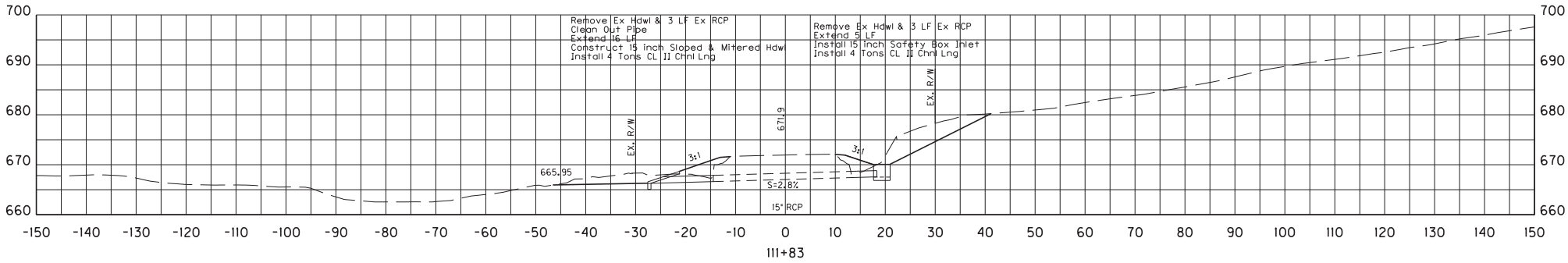
5' X 4' RCBC
STA 103+43



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	26

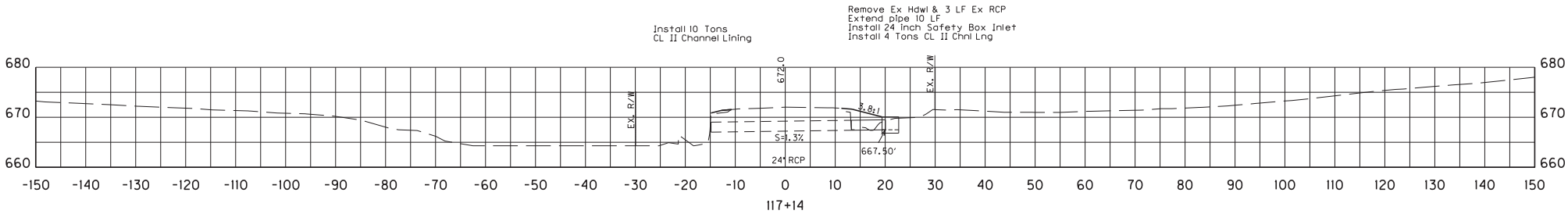
18" RCP
STA 109+32



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	27

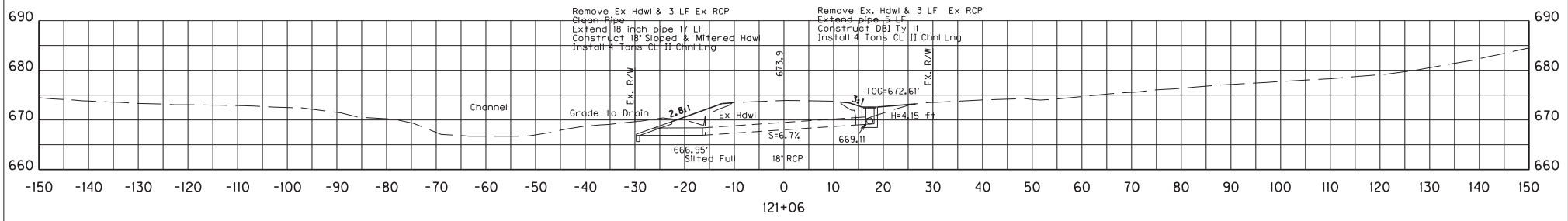
15" RCP
STA 111+83



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	28

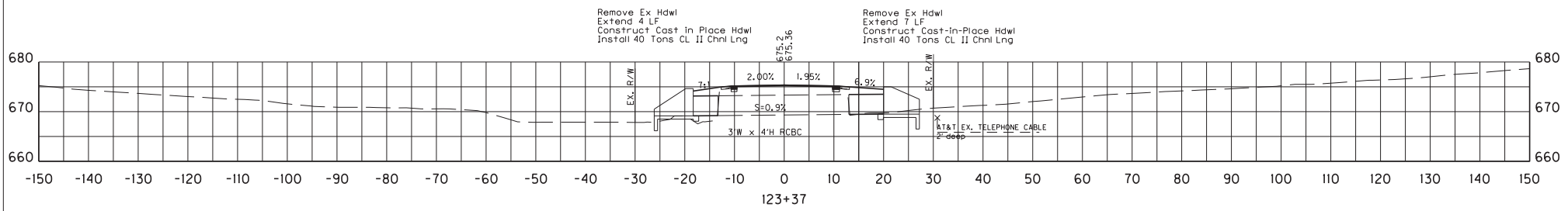
24" RCP
STA 117+14



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	29

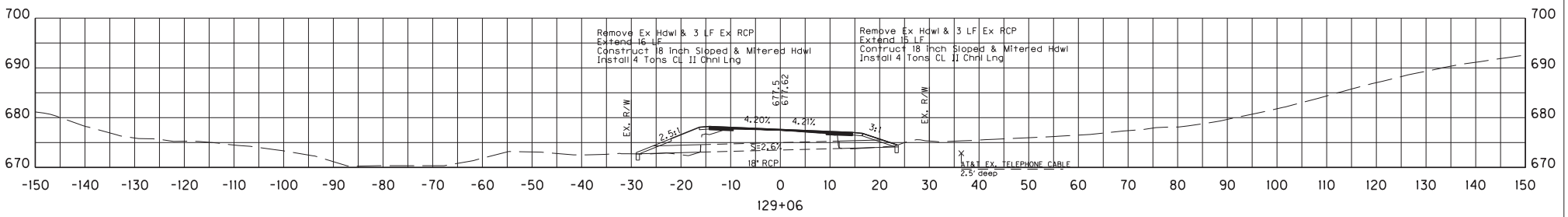
18" RCP
STA 121+06



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	30

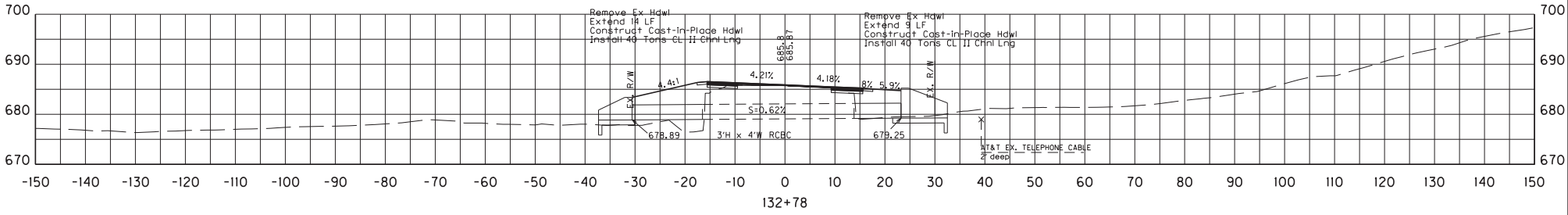
3' X 4' RCBC
STA 123+37



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	31

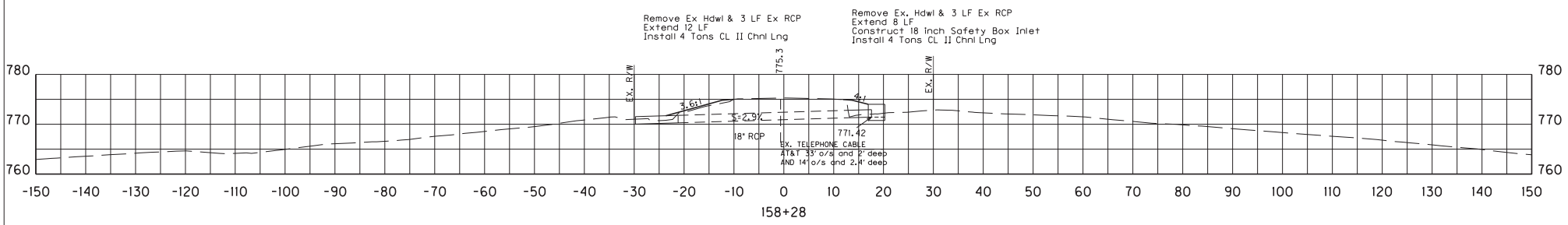
18" RCP
STA 129+06



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	32

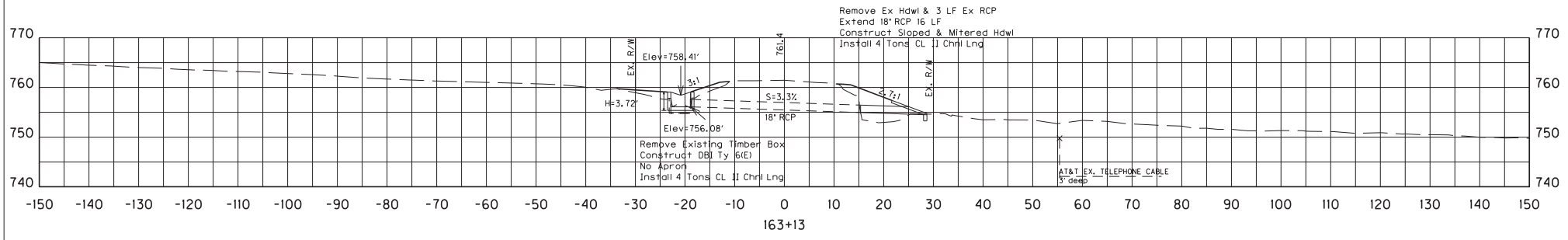
4' X 3' RCBC
STA 132+78



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	33

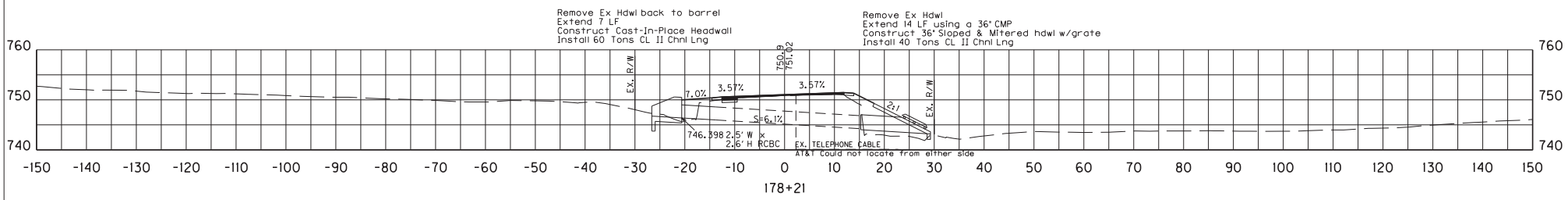
18" RCP
STA 158+27



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	34

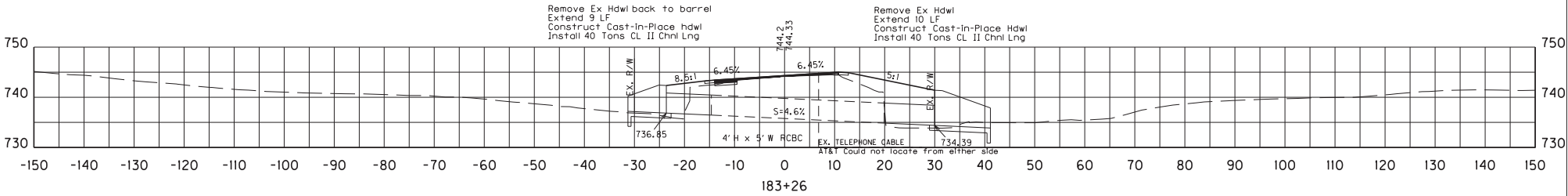
18" RCP
STA 163+13



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	35

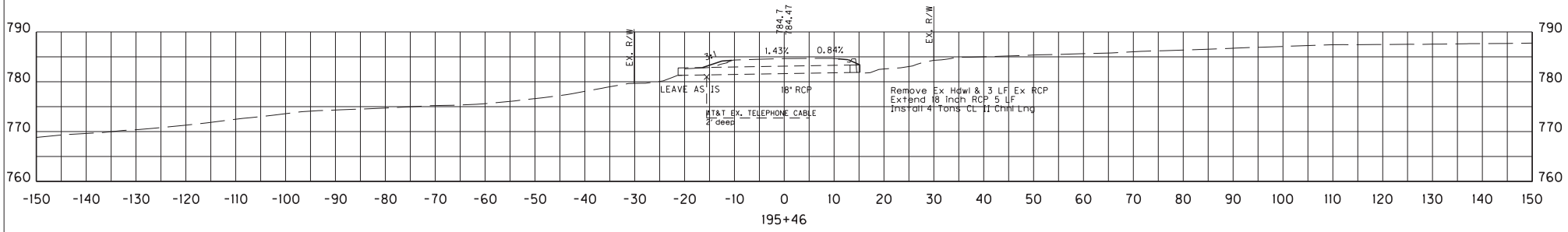
2.5' X 2.6' RCBC
STA 178+21



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	36

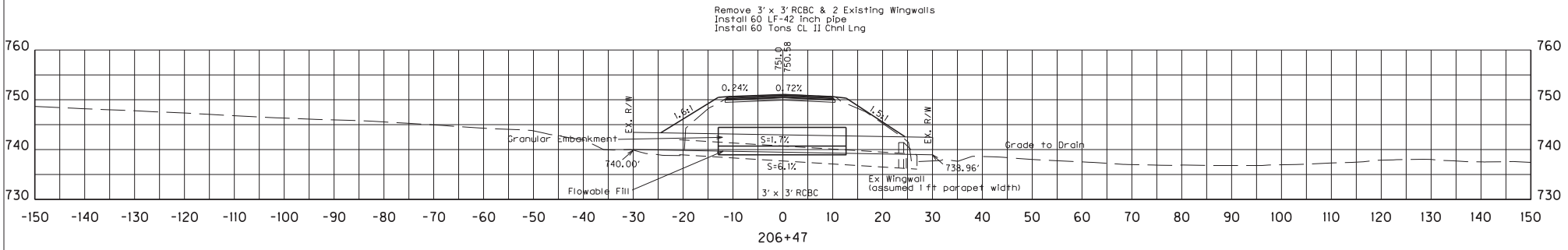
5' X 4' RCBC
STA 183+26



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	37

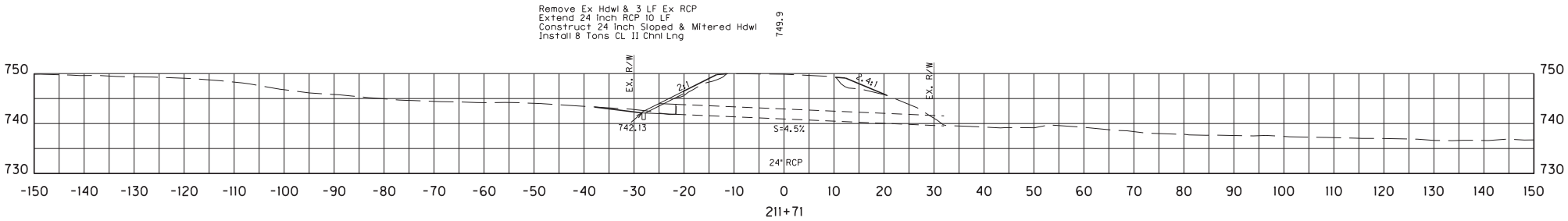
18" RCP
STA 195+46



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	38

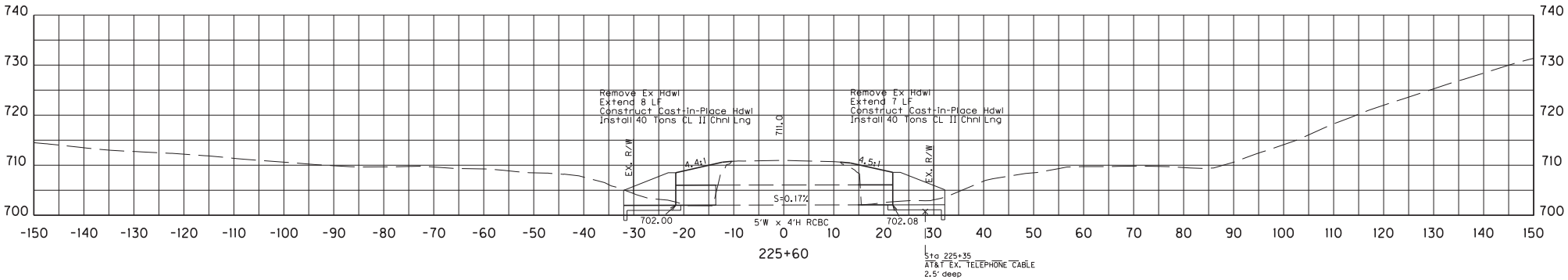
3' X 3' RCBC
STA 206+47



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	39

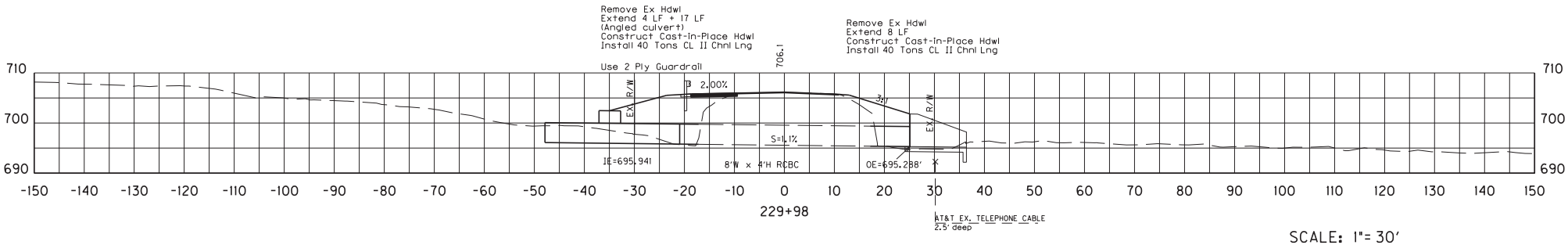
24" RCP
STA 211+71



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	40

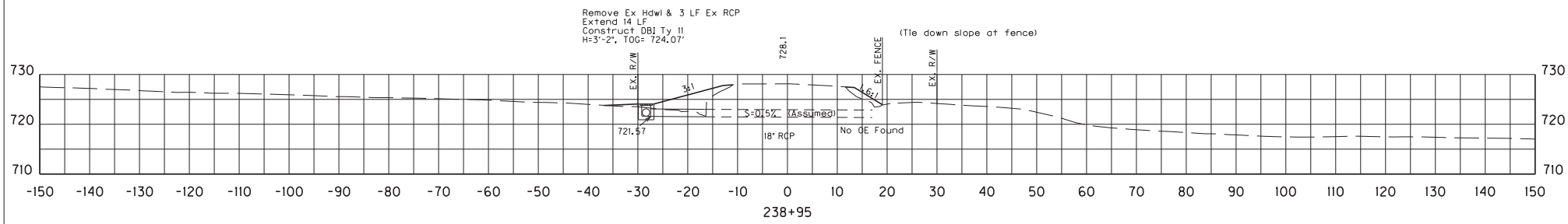
5' X 4' RCBC
STA 225+60



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	41

8' X 4' RCBC
STA 229+98

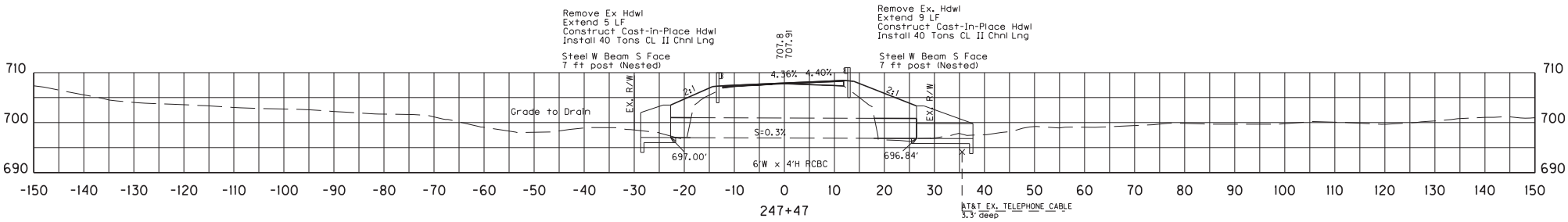


SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	42

18" RCP
STA 238+95

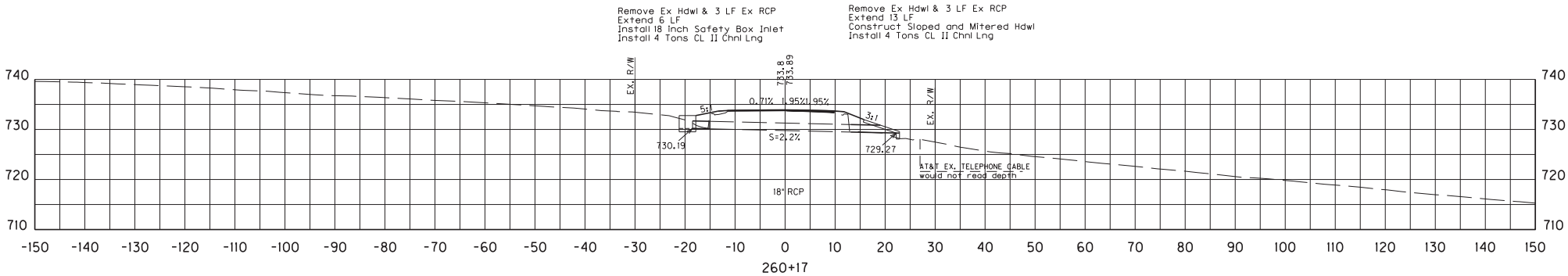
AT&T Utility Note: There is a communication line present near the construction of the headwall. Contractor shall be responsible for locating and making sure the line is undisturbed. Contractor shall construct the culvert per the plans and work around the line as much as possible. If revisions are required, KYTC Engineer must approve all revisions prior to beginning work. Any extra costs incurred shall be incidental to the unit price bid for Class A concrete.



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	43

6' x 4' RCBC
STA 247+47

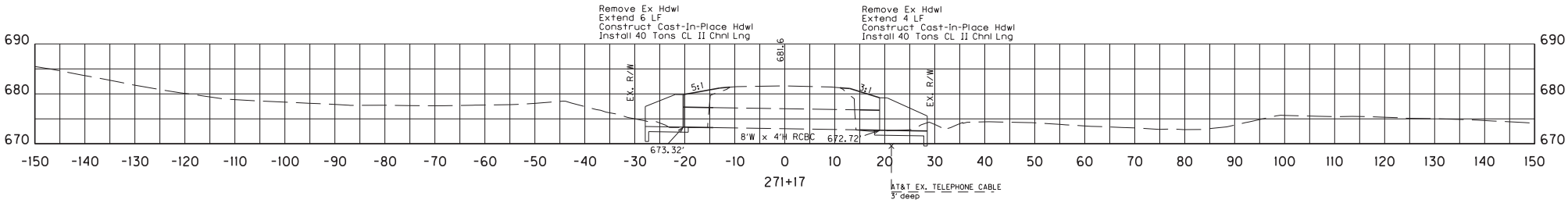


SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	44

18" RCP
STA 260+17

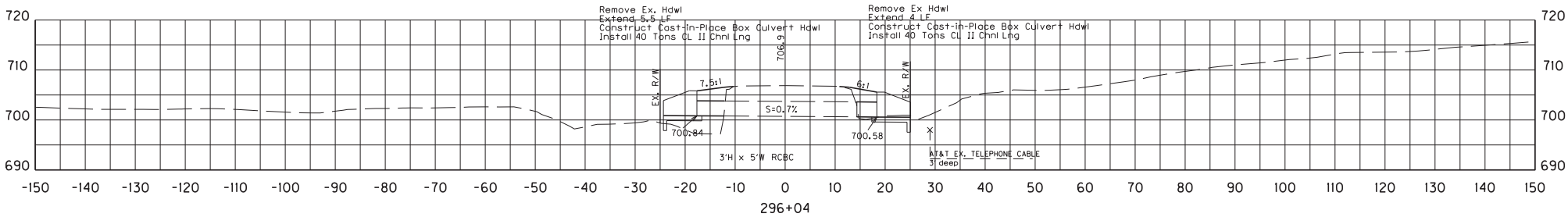
AT&T Utility Note: There is a communication line present near the construction of the headwall. Contractor shall be responsible for locating andmaking sure the line is undisturbed. Contractor shall construct the culvert per the plans and work around the line as much as possible. If revisions are required, KYTC Engineer must approve all revisions prior to beginning work. ANy extra costs incurred shall be incidental to the unit price bid for Class A concrete.



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	45

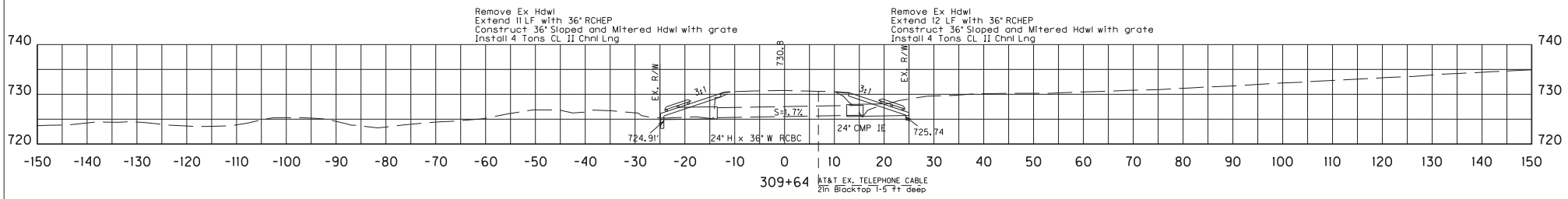
8' X 4' RCBC
STA 271+17



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	46

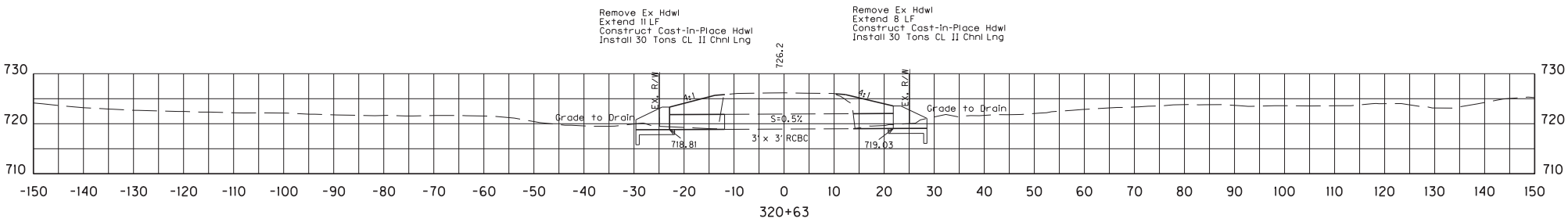
5' X 3' RCBC
STA 296+04



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	47

36" X 24" RCBC
STA 309+64



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL\SPEN	5-9017	48

3' X 3' RCBC
STA 320+63

SIGNING SPECIFICATION NOTES

THE FOLLOWING PUBLICATIONS ARE APPLICABLE TO THE WORK DESCRIBED HEREIN:

KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION)
STANDARD HIGHWAY SIGNS AND MARKINGS (CURRENT EDITION) -- FEDERAL HIGHWAY ADMINISTRATION
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION) -- FEDERAL HIGHWAY ADMINISTRATION

SCOPE OF WORK

TO FURNISH, FABRICATE AND ERECT IN PLACE ALL MATERIALS NECESSARY TO FORM COMPLETED SIGNS AS INDICATED AT LOCATIONS DESCRIBED ELSEWHERE IN THESE PLANS. NEW SIGNS ARE TO BE INSTALLED AT EXISTING LOCATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

SIGN SUBSTRATES

SIGN SUBSTRATES SHALL CONFORM TO SECTION 833 OF KENTUCKY'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION) AND THESE PLANS. PANEL SIGNS SHALL BE LABELED AS P-*. SHEETING SIGNS SHALL BE LABELED AS S-*.

SIGN MATERIALS

SIGN SHEETING:

SIGN SHEETING SHALL CONFORM TO SECTION 830 OF KENTUCKY'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION) AND THESE PLANS. ONLY SHEETING ON THE DEPARTMENT'S LIST OF APPROVED MATERIALS SHALL BE USED.

ALL RETROREFLECTIVE MATERIALS SHALL BE FABRICATED AND ASSEMBLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND/OR RECOMMENDATIONS.

PERMANENT SIGNS AND SIGN COMPONENTS SHALL BE FABRICATED USING TYPE XI SHEETING:

THE FOLLOWING SIGNS SHALL BE FABRICATED USING TYPE XI FLUORESCENT YELLOW SHEETING:
- HORIZONTAL ALIGNMENT SIGNS AND PLAQUES
- ALL ADVISORY SPEED PLAQUES
- WARNING MESSAGES ON PANEL SIGNS

THE FOLLOWING SIGNS SHALL BE FABRICATED USING TYPE XI FLUORESCENT YELLOW-GREEN SHEETING:
- ALL SCHOOL AND SCHOOL BUS WARNING SIGNS.
- BICYCLE WARNING SIGNS AND 'SHARE THE ROAD' PLAQUES OR DIAGONAL DOWNWARD POINTING ARROW PLAQUES THAT SUPPLEMENT BICYCLE WARNING SIGNS.
- PEDESTRIAN WARNING SIGNS AND DIAGONAL DOWNWARD POINTING ARROW PLAQUES THAT SUPPLEMENT PEDESTRIAN WARNING SIGNS
- IN-STREET PEDESTRIAN CROSSING (R1-6) SIGNS AND OVERHEAD PEDESTRIAN CROSSING (R1-9) SIGNS
- SUPPLEMENTAL PLAQUES TO ANY OF THE PREVIOUSLY LISTED FLUORESCENT YELLOW-GREEN SIGNS LISTED ABOVE

ALL OTHER PERMANENT SIGNS (INCLUDING THE BACKGROUNDS OF PANEL SIGNS) SHALL BE FABRICATED USING TYPE XI SHEETING.

LETTERS, SYMBOLS, AND BORDERS:

PANEL OVERLAY SECTIONS SHALL BE AFFIXED WITH A "POP" RIVET WITH A MINIMUM DIAMETER OF 3/16 INCH, AND THE LENGTH SHALL BE AS NECESSARY TO PROPERLY APPLY COPY IN A WORKMANLIKE MANNER.

HARDWARE:

ALL HARDWARE FOR THE ASSEMBLY OF PANEL SIGNS AND THE ATTACHMENT OF THESE SIGNS TO THEIR SUPPORTS SHALL BE AS RECOMMENDED BY THE PANEL MANUFACTURER. PLACEMENT OF POST CLIP SHALL BE AS SHOWN ON THE SIGNING MISCELLANEOUS DETAIL SHEET.

ALL HARDWARE FOR THE ERECTION OF SHEETING SIGNS SHALL BE CADMIUM PLATED STEEL IN ACCORDANCE WITH ASTM B-776 AND ASTM A-307.

FONTS:

STANDARD ALPHABETS SHALL BE USED FOR ALL LEGENDS ON PANEL GUIDE SIGNS.

GROUND-MOUNTED SIGN SUPPORTS

GENERAL:

ALL SIGNS SHALL BE POSITIONED AS SHOWN ON THE POSITIONING DETAIL SHEET. ALL BEAMS AND POSTS SHALL BE OF SUFFICIENT LENGTHS TO EXTEND FROM THE TOP OF THE SIGN TO THE REQUIRED BASE EMBEDMENT. EXISTING I-BEAMS ON WHICH SHEETING SIGNS ARE ATTACHED SHALL BE REMOVED AND REPLACED WITH TYPE I OR TYPE II POSTS, UNLESS THEY ARE LOCATED BEHIND GUARDRAIL.

BEAMS:

ALL BEAMS SHALL BE EITHER TYPE "A" (STANDARD BEAM INSTALLATION) OR TYPE "C" (BREAKAWAY SIGN POST SUPPORT SYSTEM INSTALLATION). TYPE "A" BEAMS ARE SHOWN ON THE PANEL SIGN DETAIL SHEET, AND THE TYPE "C" BEAMS ARE SHOWN ON THE BREAKAWAY SIGN SUPPORT SYSTEM FOR "C" BEAM SHEET. ONLY BREAKAWY (TYPE "C") BEAM SUPPORT SYSTEMS ON THE DEPARTMENT'S LIST OF APPROVED MATERIALS SHALL BE USED. THE TYPE AND SIZE OF BEAM TO BE USED SHALL BE INDICATED FOR EACH PANEL SIGN ON THE SIGN DETAIL SHEETS. BEAM LENGTHS INCLUDED IN THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AT EACH SIGN LOCATION AND CROSS SECTIONS SHALL BE DEVELOPED TO VERIFY BEAM LENGTHS, WITH ANY DISCREPANCIES BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.

STEEL POSTS:

TYPE I STEEL POSTS SHALL BE EITHER STANDARD INSTALLATION IN SOIL, WITH SOIL STABILIZER, OR TYPE "D" (BREAKAWAY SIGN POST SUPPORT SYSTEM INSTALLATION). ONLY BREAKAWAY TYPE "D" POST SYSTEMS ON THE DEPARTMENT'S LIST OF APPROVED MATERIALS SHALL BE USED. BRACING, IF REQUIRED, SHALL BE INCIDENTAL TO TYPE I POST.

TYPE II POST SHALL BE STANDARD INSTALLATION IN SOIL WITH A SOIL STABILIZER. INSTALLATION PROCEDURES AND BRACING REQUIREMENTS ARE DETAILED ON THE SHEETING SIGN DETAIL SHEET.

ALL STEEL POSTS SHALL MEET THE REQUIREMENTS OF SECTION 832 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

MILEPOST MARKERS AND ENHANCED REFERENCE MARKERS

MILEPOST MARKERS AND ENHANCED REFERENCE LOCATION SIGNS SHALL CONFORM TO THE GENERAL REQUIREMENTS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CURRENT EDITION). ADDTIONAL REQUIREMENTS ARE GIVEN ON THE SIGNING POSITIONING DETAIL SHEET AND ENHANCED REFERENCE LOCATION SIGNS DETAIL SHEET.

FOR THE LOUISVILLE AREA, FINAL LOCATION OF ENHANCED REFERENCE LOCATION SIGNS SHALL BE VERIFIED BY TRIMARC. NOTIFY A REPRESENTATIVE OF TRIMARC AT LEAST TWO WEEKS IN ADVANCE OF BEGINNING WORK ON THIS ITEM:

901 WEST MAIN STREET
LOUISVILLE, KY 40202
502-587-6624
270-307-7456

MEDIAN CROSSOVER SIGNS

THE CONTRACTOR SHALL INSTALL 48" X 48", "NO U TURN" SIGNS (R3-4) AT EACH MEDIAN CROSSOVER. THIS IS TO BE DONE WHETHER ALL NEEDED INSTALLATIONS ARE MENTIONED IN THE FOLLOWING SHEETS OR NOT. AT CROSSOVERS ON MEDIANS SIXTY FEET (60') WIDE OR LESS, THE SIGNS SHALL BE MOUNTED PERPENDICULAR TO THE ROADWAY ON THE SAME POSTS IN THE CENTER OF THE MEDIAN, ONE FACING TRAFFIC IN EACH DIRECTION. AT CROSSOVERS ON MEDIANS OVER SIXTY FEET (60') WIDE, THE SIGNS SHALL BE MOUNTED PERPENDICULAR TO THE ROADWAY ON SEPARATE POSTS AT THE MEDIAN SHOULDER ON THE FAR SIDE OF THE CROSSOVER, ONE FACING TRAFFIC IN EACH DIRECTION. FOR ADDITIONAL GUIDANCE, SEE SEPIA DRAWING FOR FLEXIBLE DELINEATOR POST ARRANGEMENT FOR INTERCHANGE RAMPS AND CROSSOVERS.

CONCRETE BASES

ALL CONCRETE BASES SHALL BE OF CLASS "A" CONCRETE FOR SIGNS AND SHALL BE AS SHOWN ELSEWHERE IN THESE PLANS.
EXCAVATION NECESSARY TO CONSTRUCT BASES AND FOOTINGS IS INCIDENTAL TO THE COST OF CLASS "A" CONCRETE FOR SIGNS.

CONCRETE BASES (CONTINUED)

WHERE THE REMOVAL OF OVERHEAD STRUCTURE CONCRETE BASE IS CALLED FOR, THE BASE IS TO BE REMOVED TO A MINIMUM OF ONE FOOT (1') BELOW THE GROUND LINE, BACKFILLED TO EXISTING GROUND LINE, AND THE DISTURBED AREAS RESEEDED.

WHERE THE REMOVAL OF BEAM SIGN SUPPORTS IS CALLED FOR, THE BEAM AND ANY CONCRETE PROJECTING ABOVE THE GROUND LINE ARE TO BE CUT OFF A MINIMUM OF ONE FOOT (1') BELOW EXISTING GROUND LINE OR THE ENTIRE BEAM AND CONCRETE BASE ARE TO BE REMOVED COMPLETELY AND BACKFILLED TO EXISTING GROUND LINE.

SAMPLES, TESTING, ETC.

BEFORE BEGINNING INSTALLATION, THE CONTRACTOR SHALL FURNISH TO THE PROJECT ENGINEER DRAWINGS, DESCRIPTIONS, MANUFACTURER'S CUTS ETC. FOR WRITTEN APPROVAL OF ALL MATERIALS TO BE USED. MILL TEST REPORTS FOR BEAMS, STEEL PANELS, AND EACH DIFFERENT GAUGE OF ALUMINUM OR STEEL SHEETING USED MUST BE SUBMITTED TO THE DIVISION OF CONSTRUCTION AND APPROVED PRIOR TO ERECTION.

MISCELLANEOUS

THE COST FOR REMOVING EXISTING PANEL SIGNS SHALL BE INCIDENTAL TO THE COST OF THE PROJECT.

ON SHEETING SIGNS WHERE THERE ARE MORE THAN ONE SIGN ASSEMBLY MOUNTED BESIDE EACH OTHER, THE POSTS SHALL BE SPACED TO PROVIDE APPROXIMATELY SIX INCHES (6") OF SPACING BETWEEN SIGNS.

CLEARING AND GRUBBING, AND TREE TRIMMING, WHEN REQUIRED FOR CONSTRUCTION OR VISIBILITY OF SIGNS, SHALL BE INCIDENTAL TO THE CONTRACT.

SIGN COVERING IS NOT RECOMMENDED. HOWEVER, IF IT IS ABSOLUTELY NECESSARY TO COVER THE SIGN FACE TEMPORARILY FOLLOWING ERECTION, USE CAUTION SINCE SOME COVERINGS MAY CAUSE PERMANENT DAMAGE TO THE SIGN FACE FOLLOWING EXPOSURE TO MOISTURE, SUNLIGHT, ETC. POROUS CLOTH OR GEOTEXTILE FABRIC COVERS WHICH ARE FOLDED OVER THE SIGN EDGES AND SECURED AT THE BACK OF THE SIGN HAVE BEEN USED SUCCESSFULLY FOR LIMITED PERIODS. DO NOT USE TAPE, PAPER, PLASTIC, OR SHEET METAL COVERS. ANY SIGNS THAT ARE DAMAGED AS A RESULT OF COVERING SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE DEPARTMENT.

TYPE I AND II STEEL POSTS IN SOIL SHALL BE DRIVEN 32" TO 34" BELOW THE GROUND LINE AS SHOWN. HOWEVER, IF SOLID ROCK IS ENCOUNTERED, THE CONTRACTOR SHALL DRILL HOLES OF THE REQUIRED DEPTH INTO THE ROCK AND BACKFILL WITH CONCRETE. THE COST SHALL BE INCIDENTAL TO STEEL POST, AND SOIL STABILIZERS WILL NOT BE REQUIRED.

ANY AREA DISTURBED SHALL BE SIDE GRADED TO THE EXISTING SLOPES AND RESEEDED AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE DEPARTMENT.

REMOVE AND DO NOT REPLACE THE WHITE ON BLUE GENERAL SERVICES SIGNS AT THE EXIT RAMP TERMINALS, "EMERGENCY STOPPING ONLY" SIGNS, AND THE ROUTE MARKER THAT IS LOCATED INSIDE THE INTERCHANGE PAST THE EXIT GORE AREA.

INSTALLATION OF ADVISORY EXIT AND RAMP SPEED SIGNS (W13-2 AND W13-3) SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

ALL EXISTING SHEETING SIGNS WITHIN THE LIMITS OF THIS PROJECT ARE TO BE REMOVED AND REPLACED WITH NEW SIGNS AND POSTS. SIGNS AND POSTS SHALL CONFORM TO CURRENT STANDARDS/SPECIFICATIONS. THE COST FOR REMOVING EXISTING SHEETING SIGNS AND POSTS, RELOCATING EXISTING SIGNS AND POSTS TO CONFORM TO THE SIGNING PLANS AND SPECIFICATIONS, AND ALL HARDWARE REQUIRED, SHALL BE INCIDENTAL TO THE PROJECT. IN ADDITION TO REPLACING ALL EXISTING SIGNS, ALL SIGNS SHOWN ON THE SIGNING PLANS MUST BE INSTALLED. FOR SIGN SIZES AND SPECIFICATIONS, SEE THE CURRENT PROJECT SIGNING PLAN DETAIL SHEETS.

THE COST FOR SIGN BRACKETS AND ANY OTHER HARDWARE REQUIRED TO ATTACH NEW SIGNS ON EXISTING TRUSSES AND CANTILEVERS SHALL BE INCLUDED IN THE UNIT PRICE OF SIGN BASE MATERIAL FOR PANEL SIGNS.

DUPLICATE SIGNS SHALL NOT BE DISPLAYED DURING THE CONSTRUCTION OF THIS PROJECT.

SHEETING SIGNS (D1-1, D1-2, D1-3) EQUAL TO OR LESS THAN 72" X 42" REQUIRE TWO TYPE I OR TYPE II POSTS.

THE HORIZONTAL CLEARANCE "X" ON ALL THE SHEETING SIGNS SHOULD BE A MINIMUM OF 6' FROM THE EDGE OF THE SHOULDER TO THE EDGE OF THE SIGN OR A MINIMUM OF 12' FROM THE EDGE OF THE SIGN TO THE EDGE OF THE TRAVELLED WAY AS SHOWN IN THE SIGNING POSITIONING DETAIL SHEET.

IF ANY SIGN IS LOCATED NEAR A LUMINAIRE OR ANOTHER POLE, IT SHALL BE INSTALLED IN ADVANCE OF THE POLE SO THAT THE MOTORISTS VIEW OF THE SIGN WILL NOT BE OBSTRUCTED.

SIGNS THAT DO NOT COMPLY WITH THE MUTCD SHALL BE REMOVED BY THE CONTRACTOR AS APPROVED AND DIRECTED BY THE ENGINEER.

NTS

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	

SIGNING SPECIFICATION SHEET

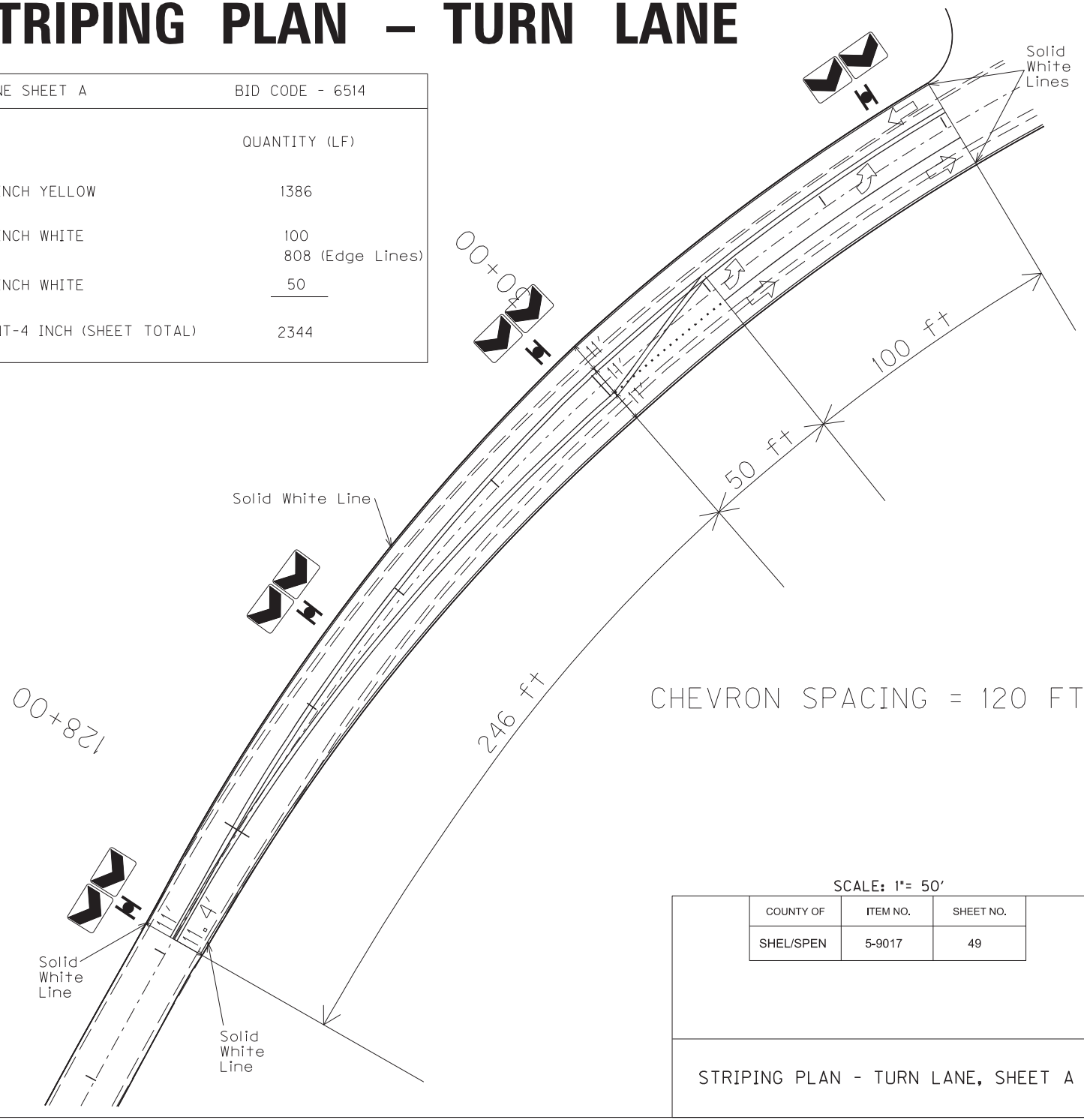
6-24-2020

STRIPING PLAN – TURN LANE

ESTIMATED STRIPING QUANTITIES-TURN LANE SHEET A	BID CODE - 6514
DESCRIPTION	QUANTITY (LF)
PAVE STRIPING - PERM PAINT-4 INCH YELLOW	1386
PAVE STRIPING - PERM PAINT-4 INCH WHITE	100 808 (Edge Lines)
PAVE STRIPING - PERM PAINT-4 INCH WHITE	50
PAVE STRIPING-PERM PAINT-4 INCH (SHEET TOTAL)	2344

QUANTITIES CARRIED OVER AND INCLUDED
ON THE GENERAL SUMMARY AND SPREADSHEET

BEFORE STRIPING OPERATIONS AND THE INSTALLATION OF PERMANENT SIGNAGE, CONTACT ALLISON MURPHY OF DISTRICT 5 AT 502-210-5436.



SCALE: 1"= 50'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	49

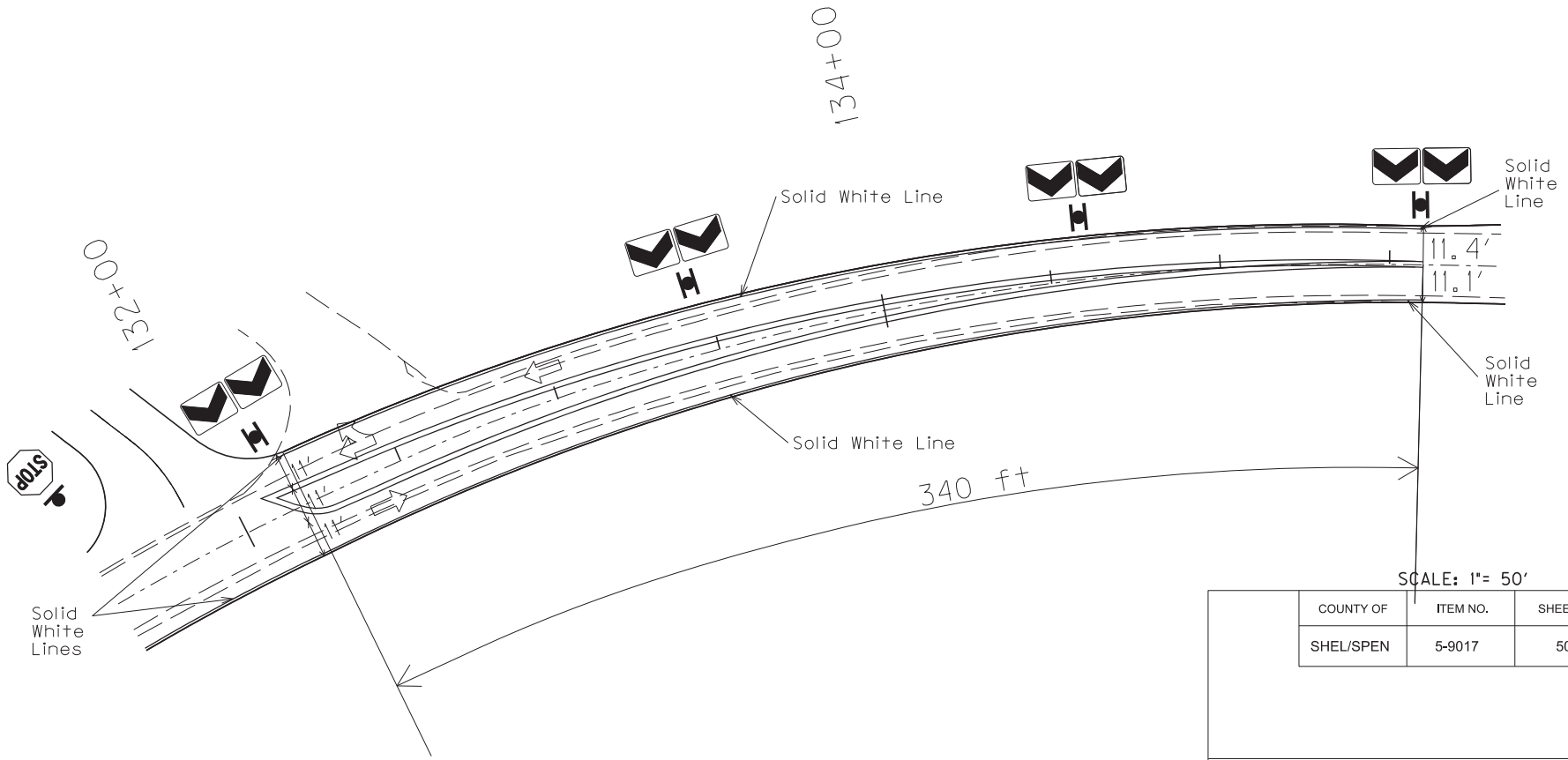
STRIPING PLAN - TURN LANE, SHEET A

STRIPING PLAN – TURN LANE

ESTIMATED STRIPING QUANTITIES-TURN LANE SHEET B	BID CODE - 6514
DESCRIPTION	QUANTITY (LF)
PAVEMENT STRIPING - PERMANENT - PAINT 4 INCH YELLOW	1402
PAVEMENT STRIPING - PERMANENT - PAINT 4 INCH WHITE	747 (Edge Lines)
PAVE STRIPING-PERM PAINT 4 INCH (SHEET TOTAL)	2149

BEFORE STRIPING OPERATIONS AND THE INSTALLATION OF PERMANENT SIGNAGE, CONTACT ALLISON MURPHY OF DISTRICT 5 AT 502-210-5436.

QUANTITIES CARRIED OVER AND INCLUDED ON THE GENERAL SUMMARY AND SPREADSHEET

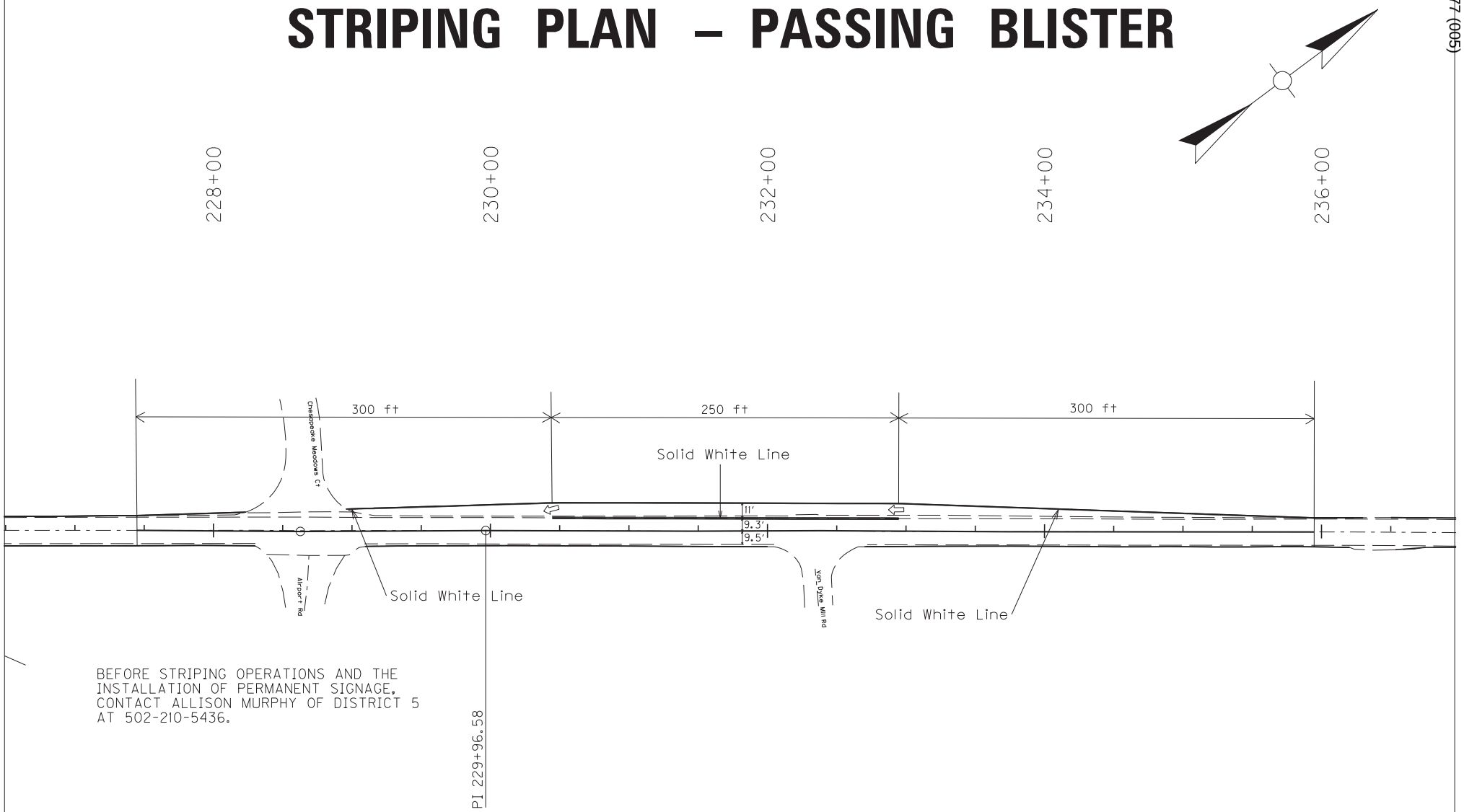


SCALE: 1"= 50'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	50

STRIPING PLAN - TURN LANE, SHEET B

STRIPING PLAN – PASSING BLISTER



BEFORE STRIPING OPERATIONS AND THE INSTALLATION OF PERMANENT SIGNAGE, CONTACT ALLISON MURPHY OF DISTRICT 5 AT 502-210-5436.

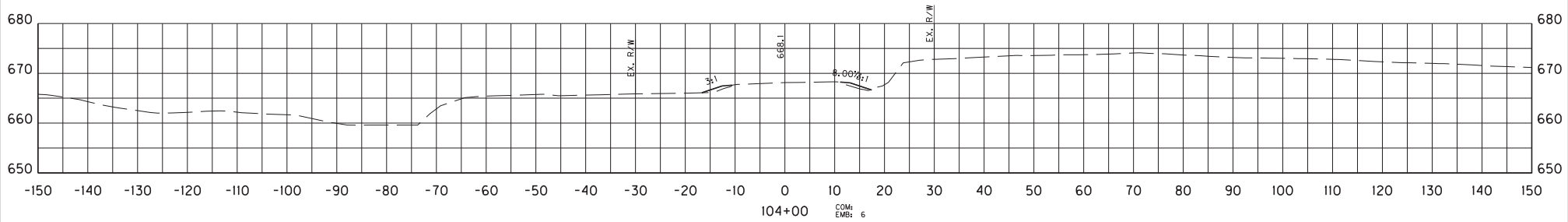
ESTIMATED STRIPING QUANTITIES-PASSING BLISTER	BID CODE - 6514
DESCRIPTION	QUANTITY (LF)
PAVE STRIPING-PERM PAINT-4 INCH WHITE	250
	774 (Edge Lines)
PAVE STRIPING-PERM PAINT-4 INCH (SHEET TOTAL)	1024

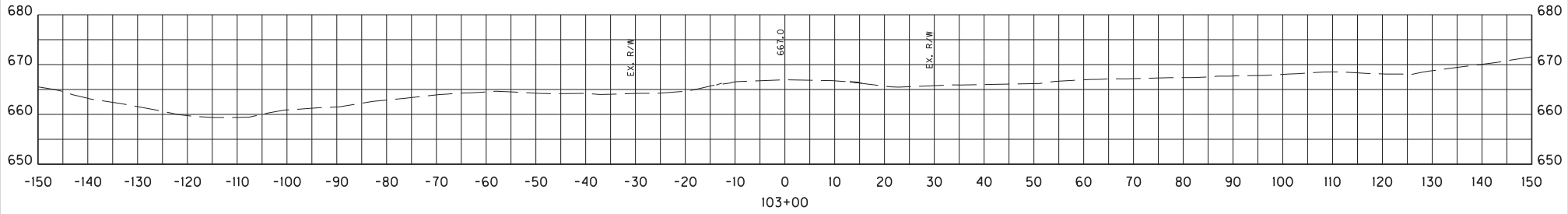
QUANTITIES CARRIED OVER AND INCLUDED ON THE GENERAL SUMMARY AND SPREADSHEET

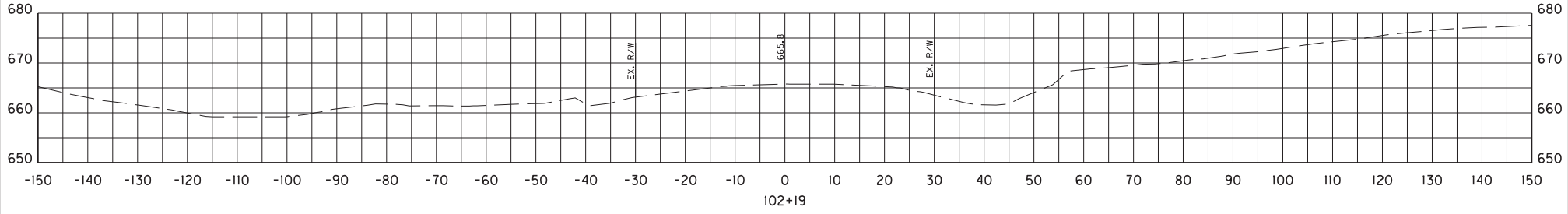
SCALE: 1"=100'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	51

STRIPING PLAN - PASSING BLISTER



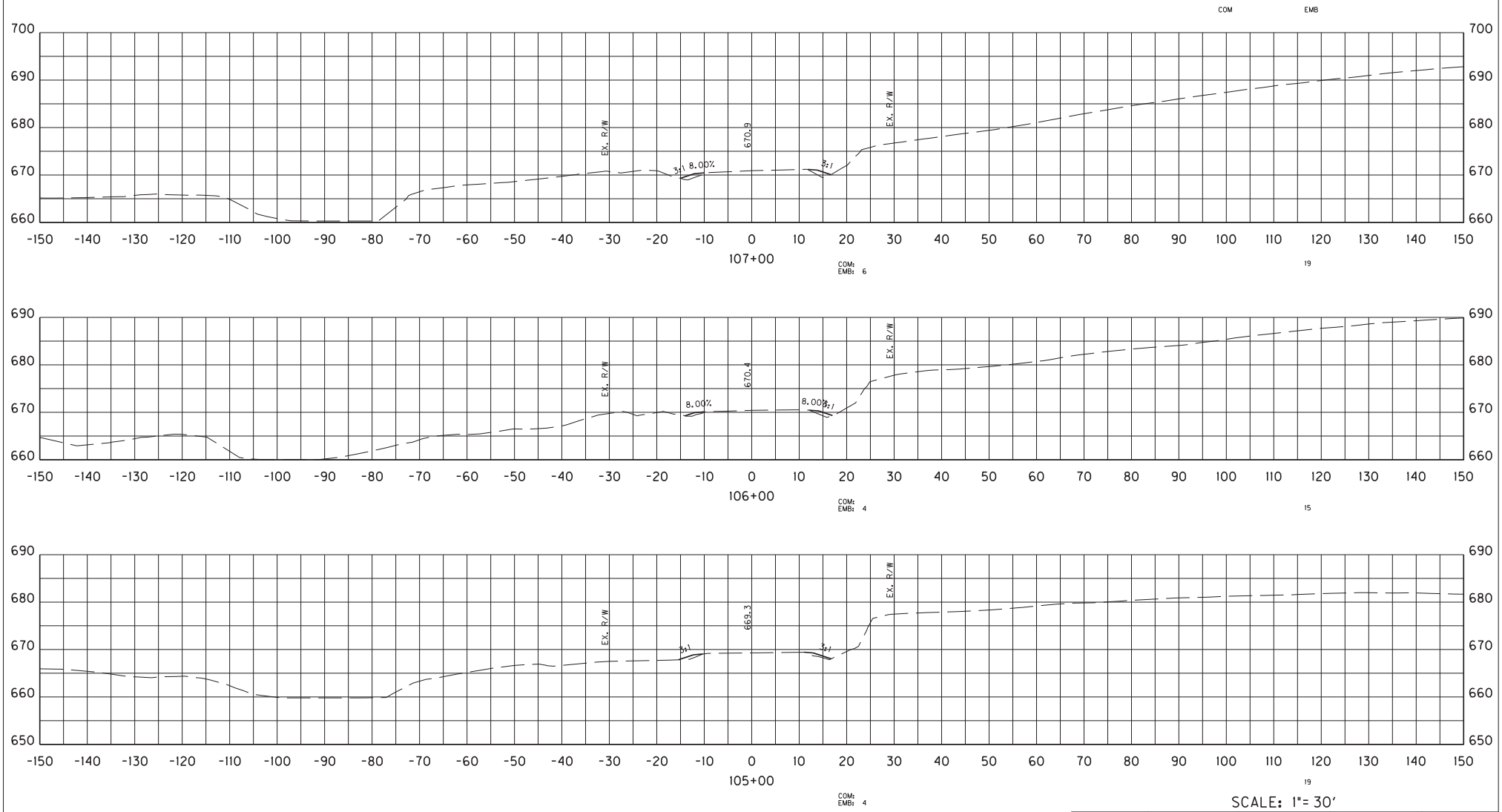




SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X1

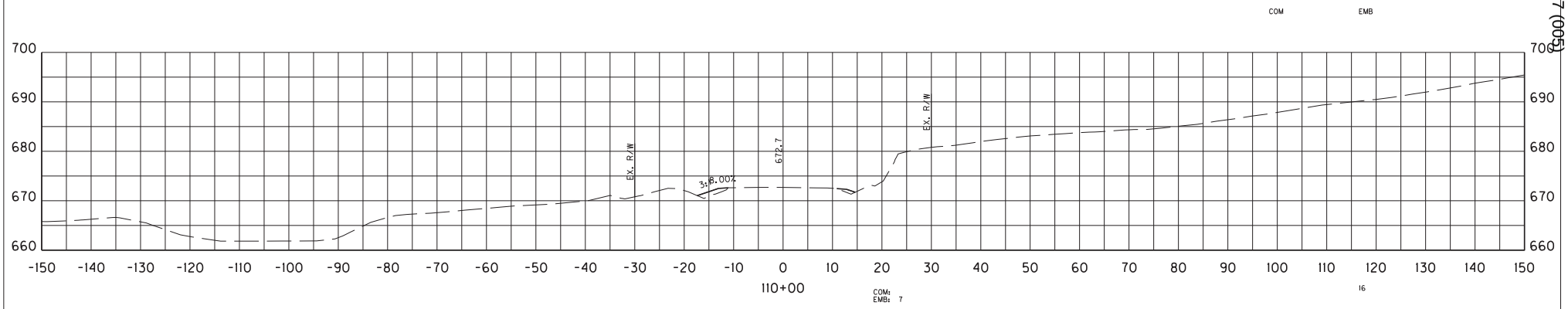
CROSS SECTIONS
STA 102+19 TO 104+00

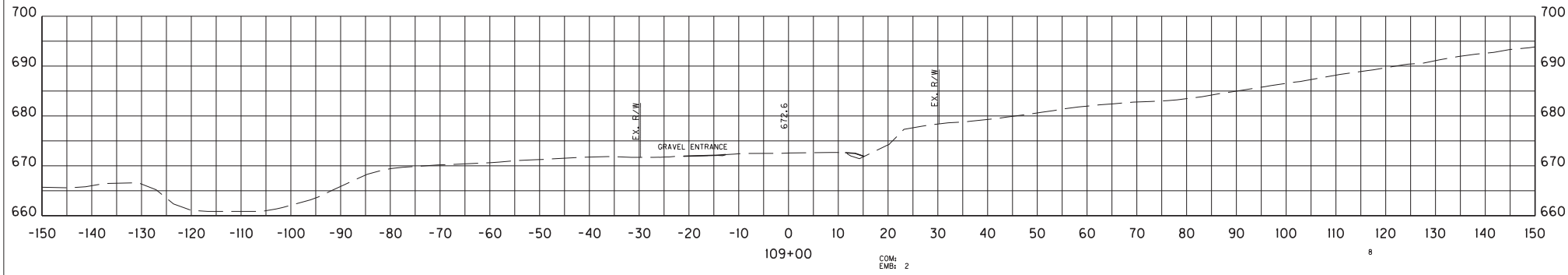


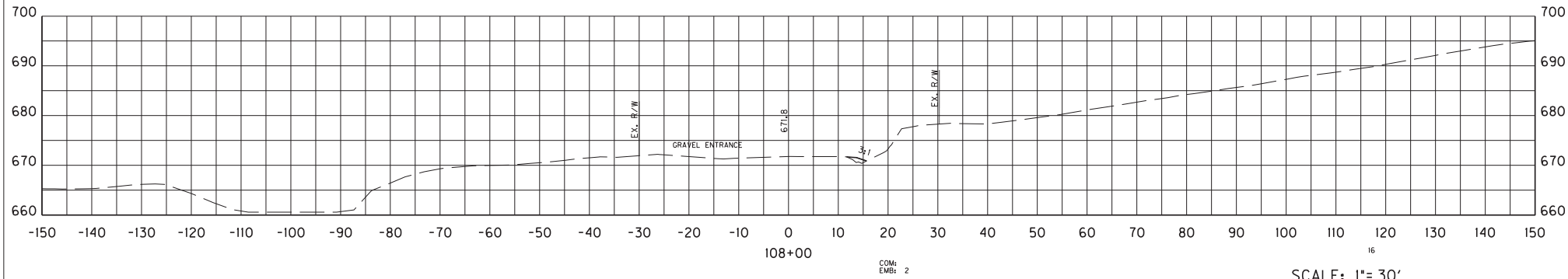
SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X2

CROSS SECTIONS
STA 105+00 TO 107+00



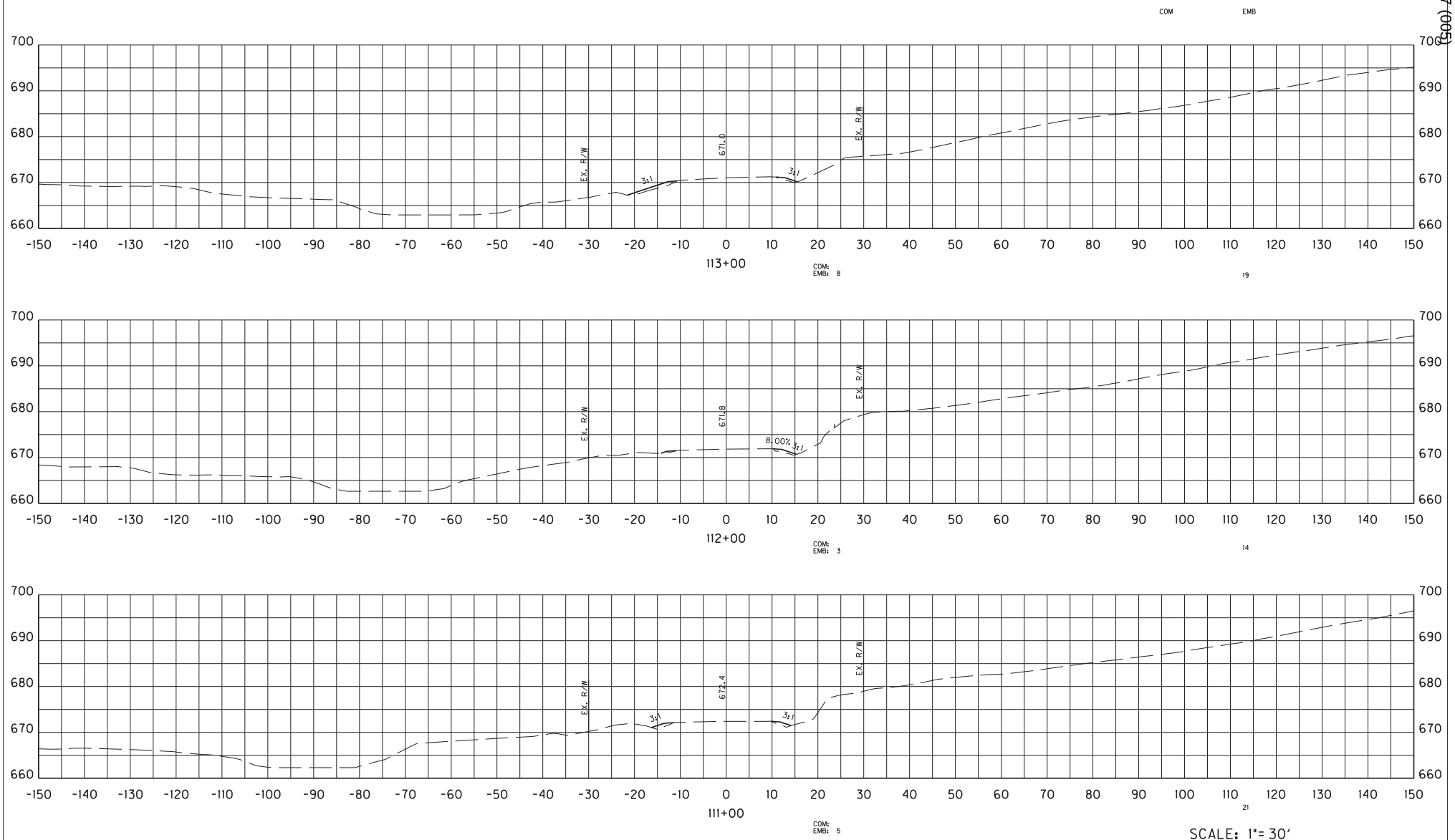




SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X3

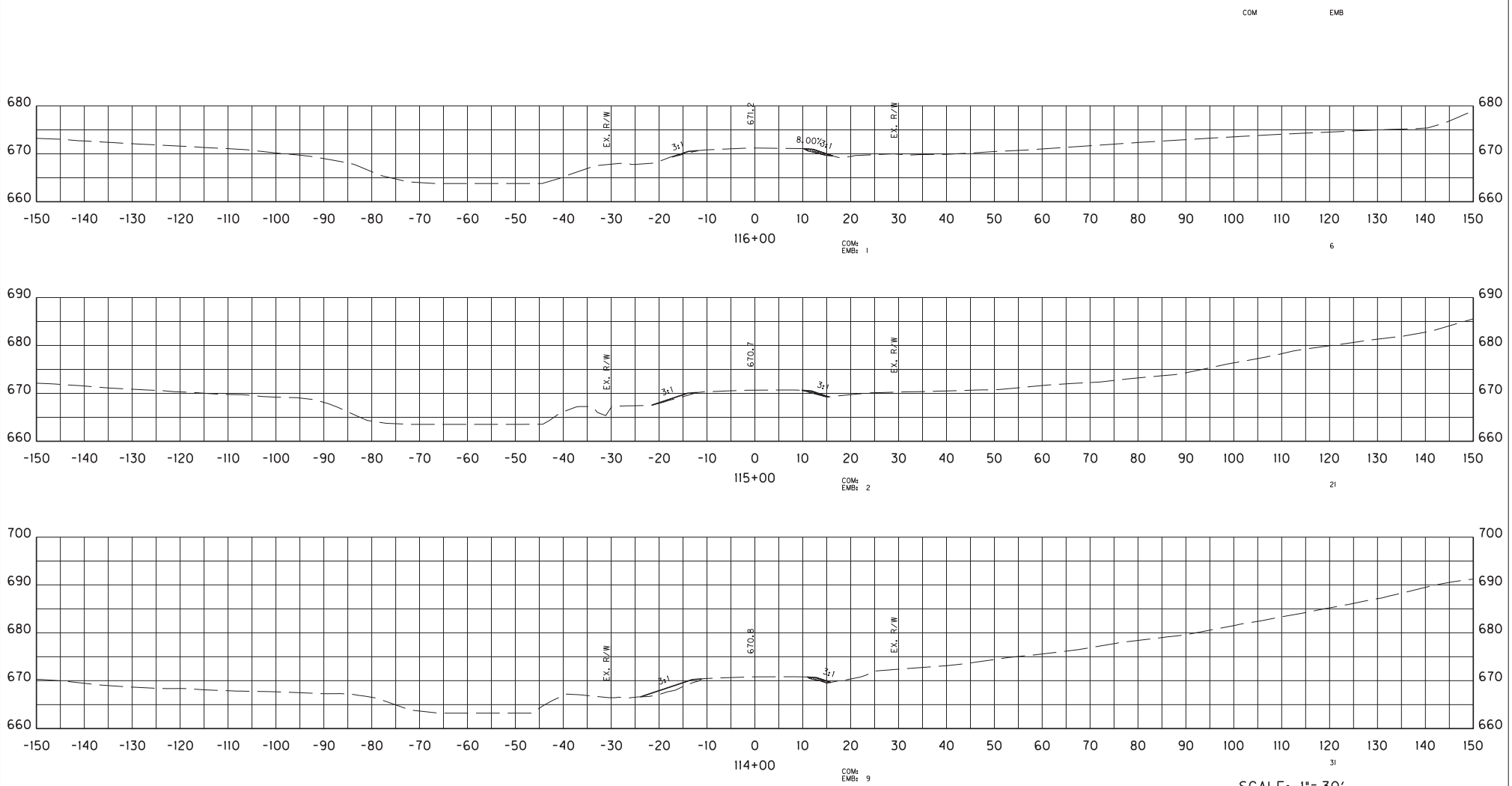
CROSS SECTIONS
STA 108+00 TO 110+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X4

CROSS SECTIONS
STA 111+00 TO 113+00



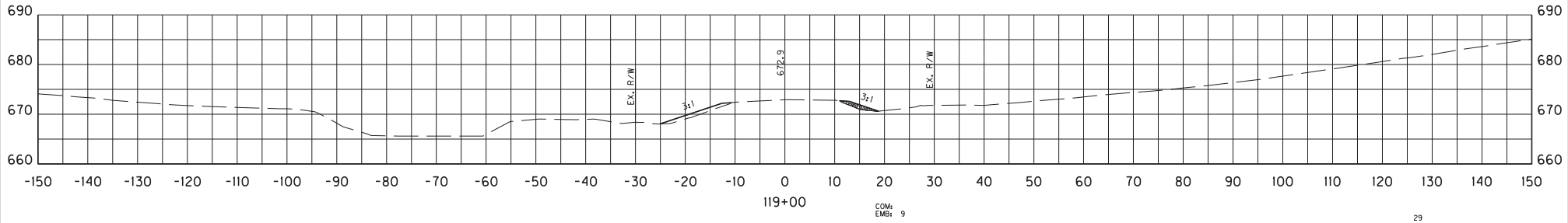
RT STA 114+00 BEGIN GRANULAR EMBANKMENT

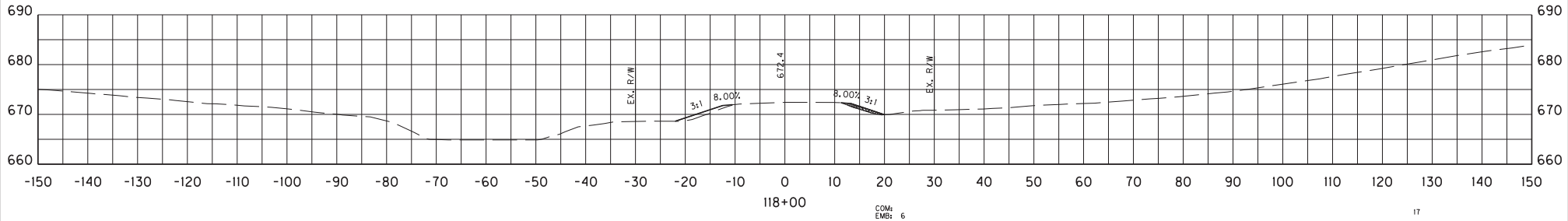
SCALE: 1"= 30'

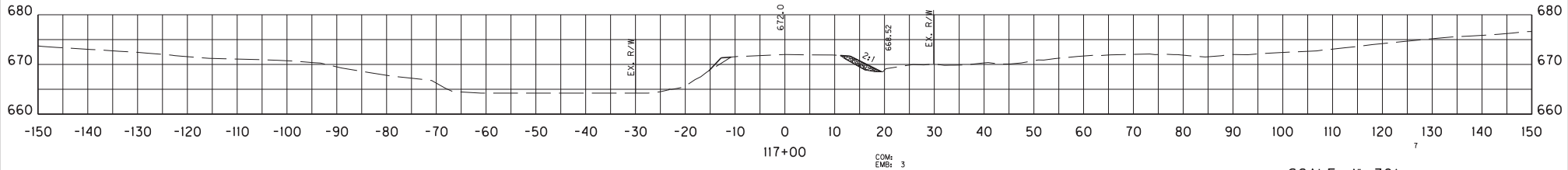
COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017.00	X5

CROSS SECTIONS
STA 114+00 TO 116+00

COM EMB



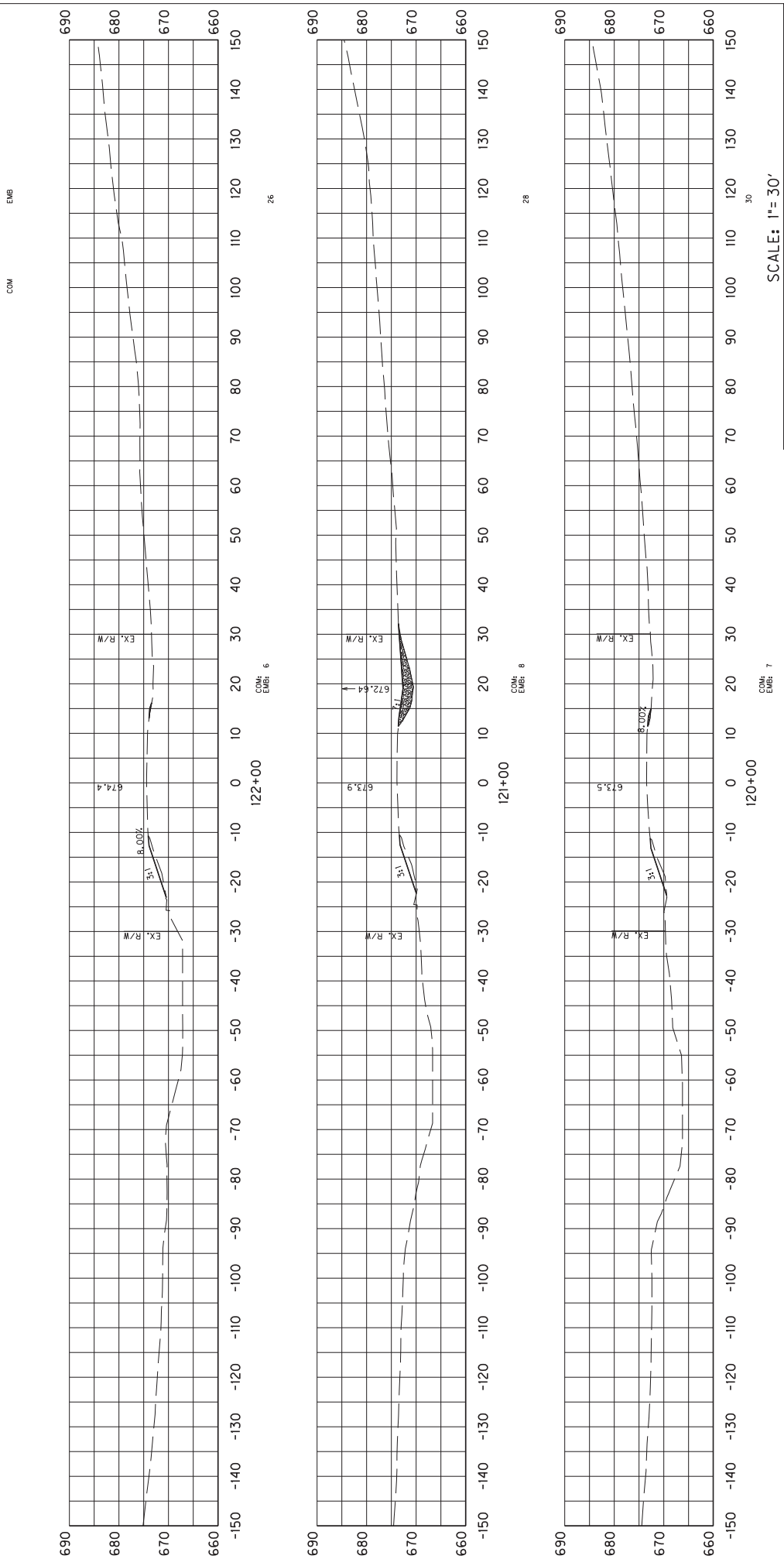




SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X6

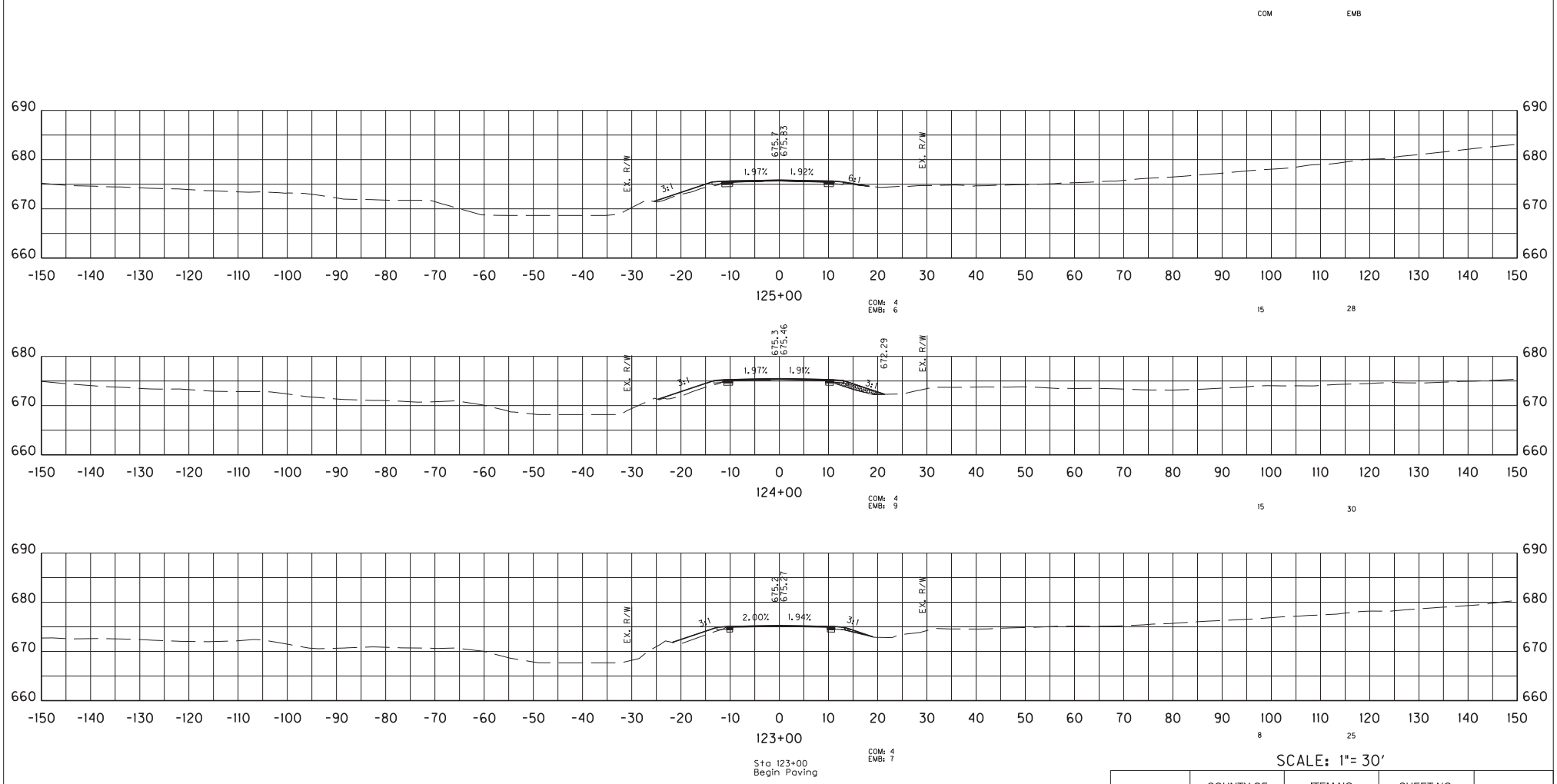
CROSS SECTIONS
STA 117+00 TO 119+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017.00	X7

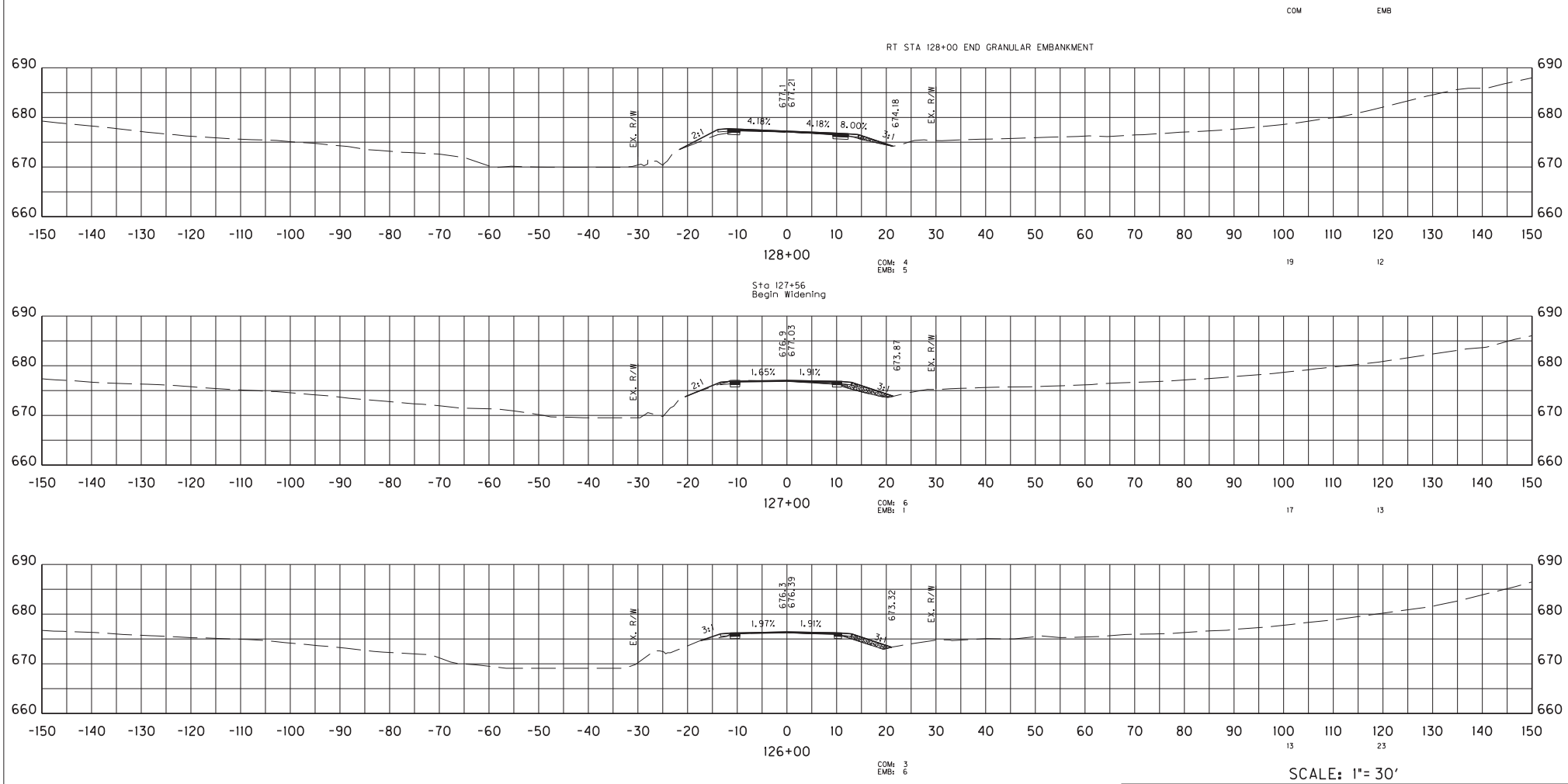
CROSS SECTIONS
STA 120+00 TO 122+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017.00	X8

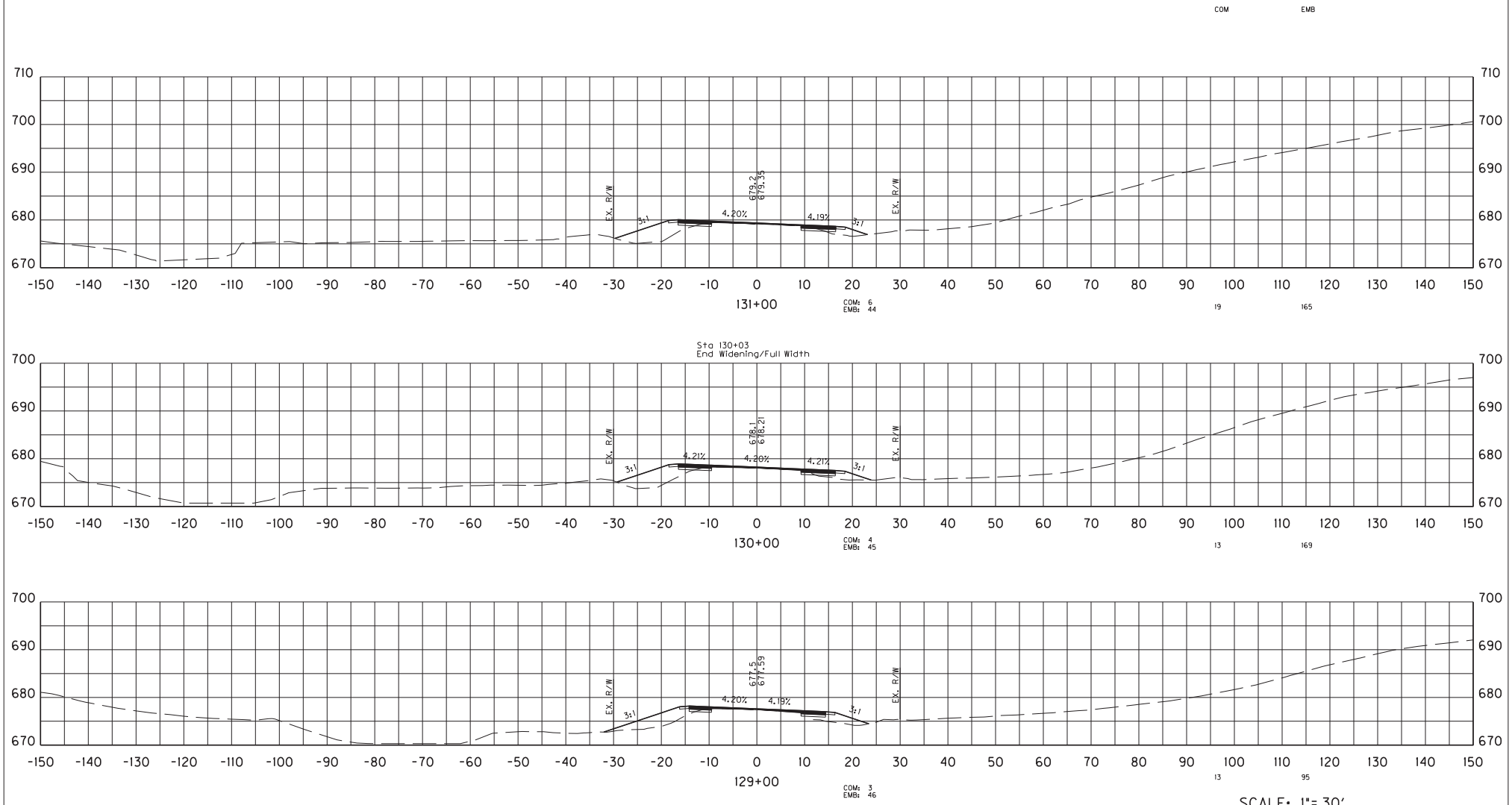
CROSS SECTIONS
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SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017.00	X9

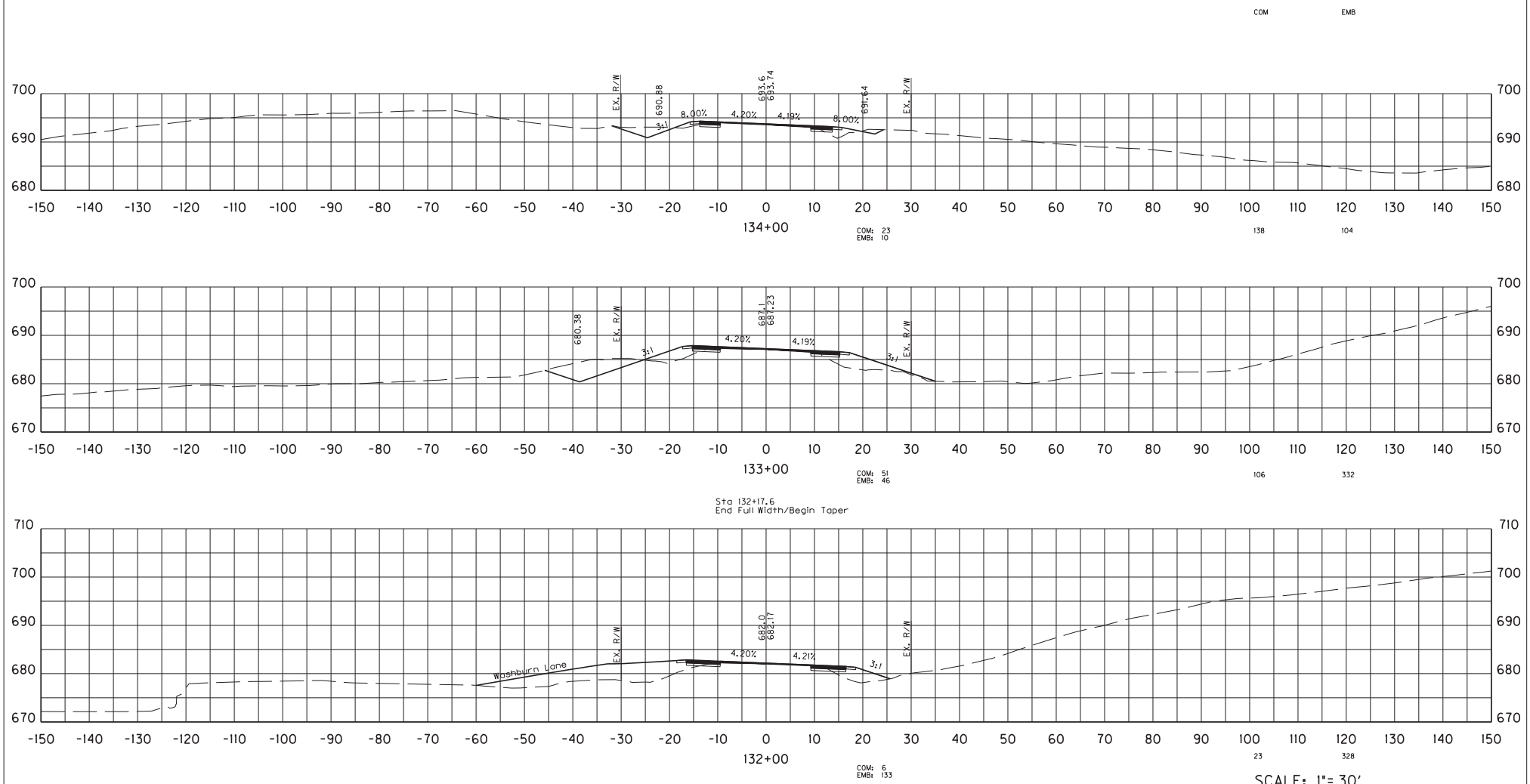
CROSS SECTIONS
STA 126+00 TO 128+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X10

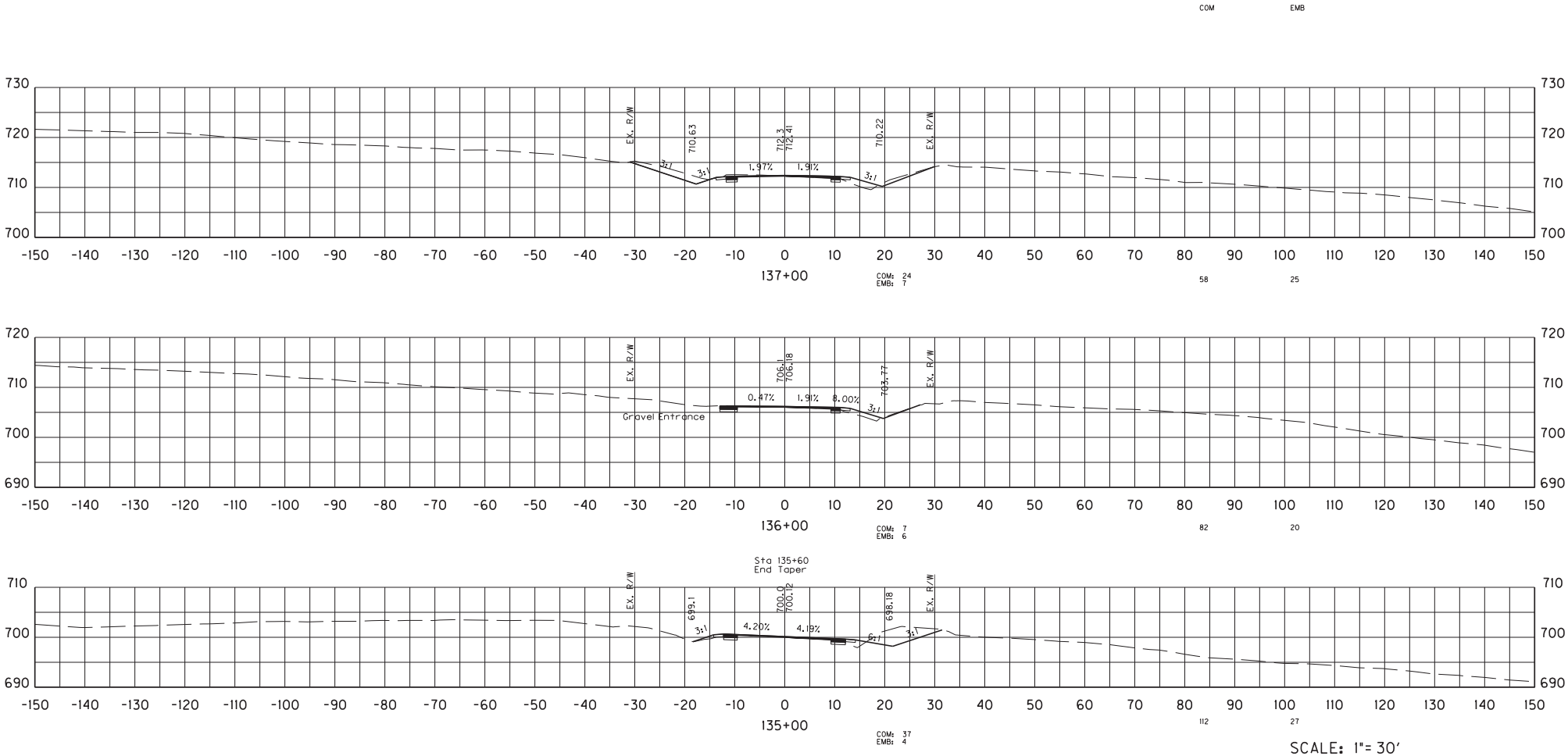
CROSS SECTIONS
STA 129+00 TO 131+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X11

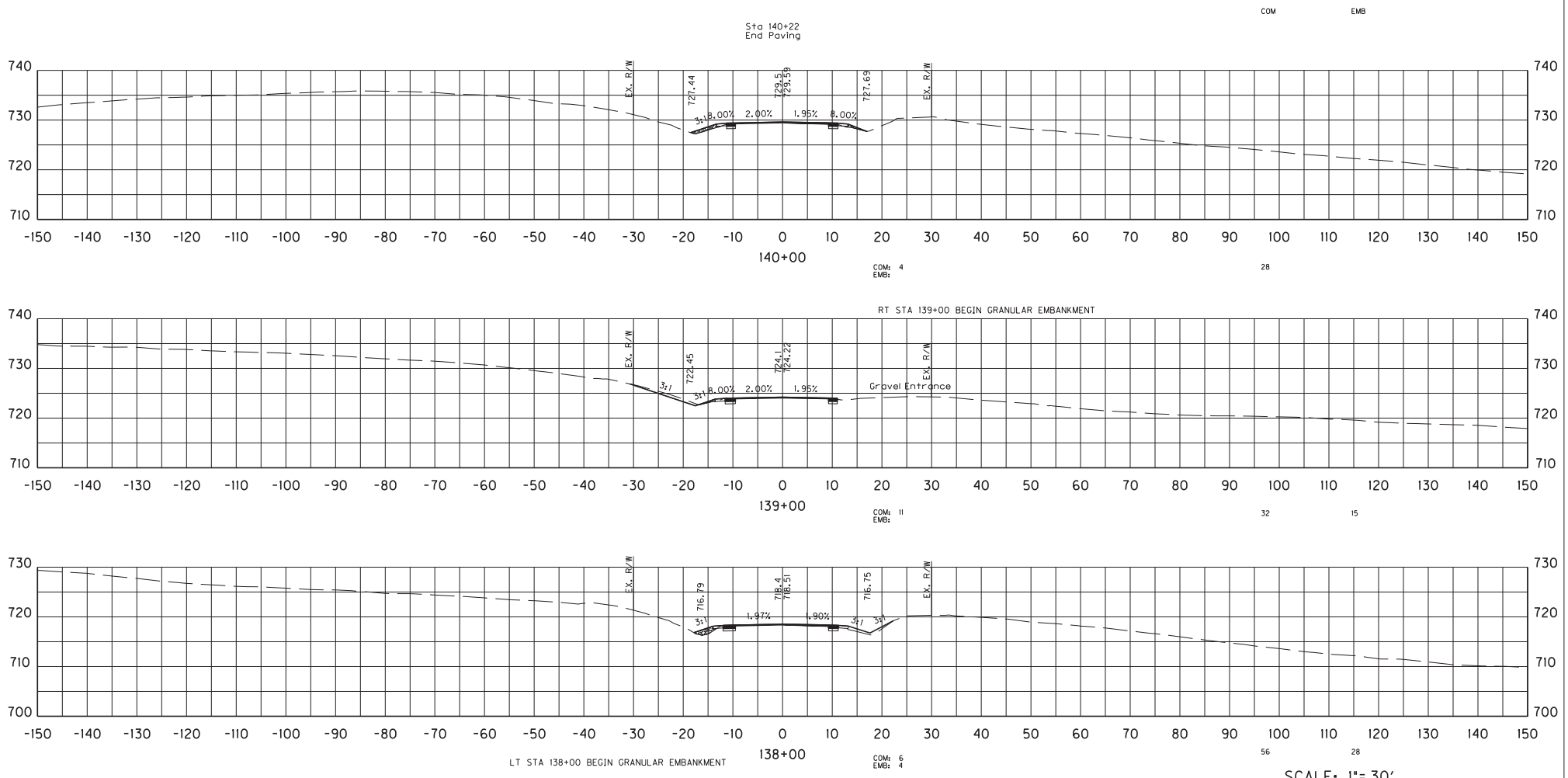
CROSS SECTIONS
STA 132+00 TO 134+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X12

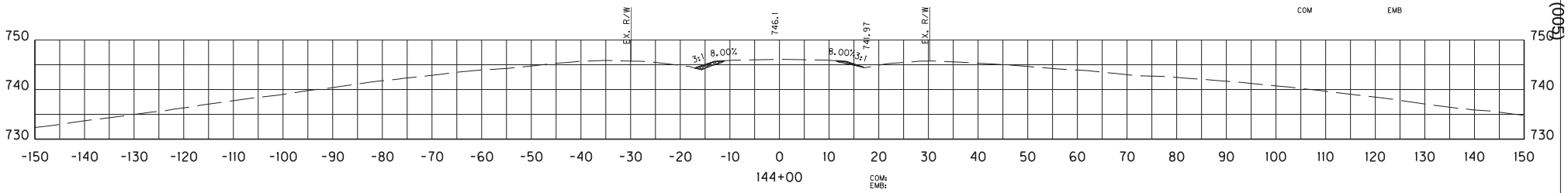
CROSS SECTIONS
STA 135+00 TO 137+00

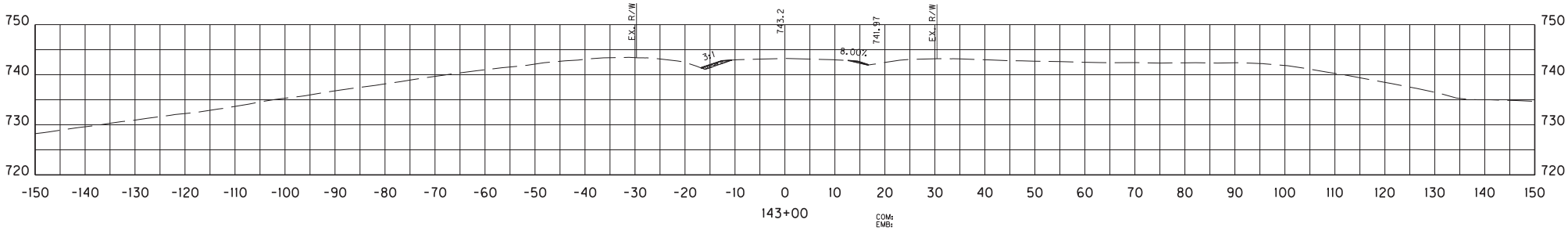


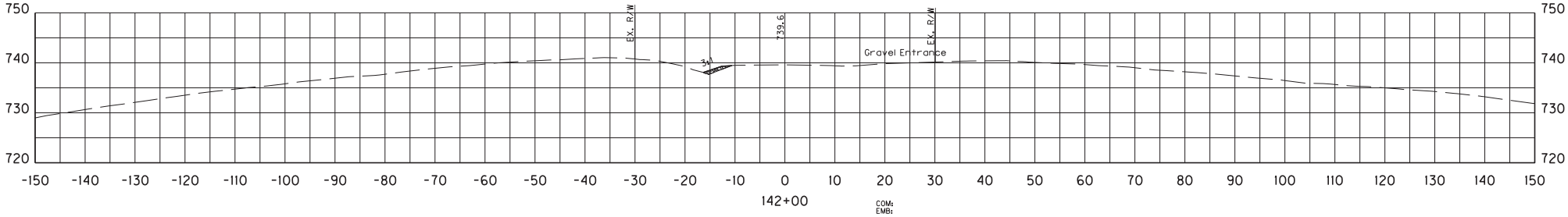
SCALE: 1"= 30'

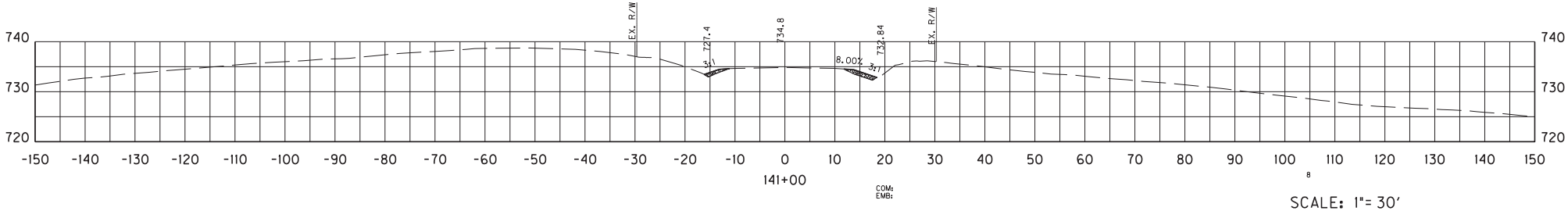
COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X13

CROSS SECTIONS
STA 132+00 TO 140+00





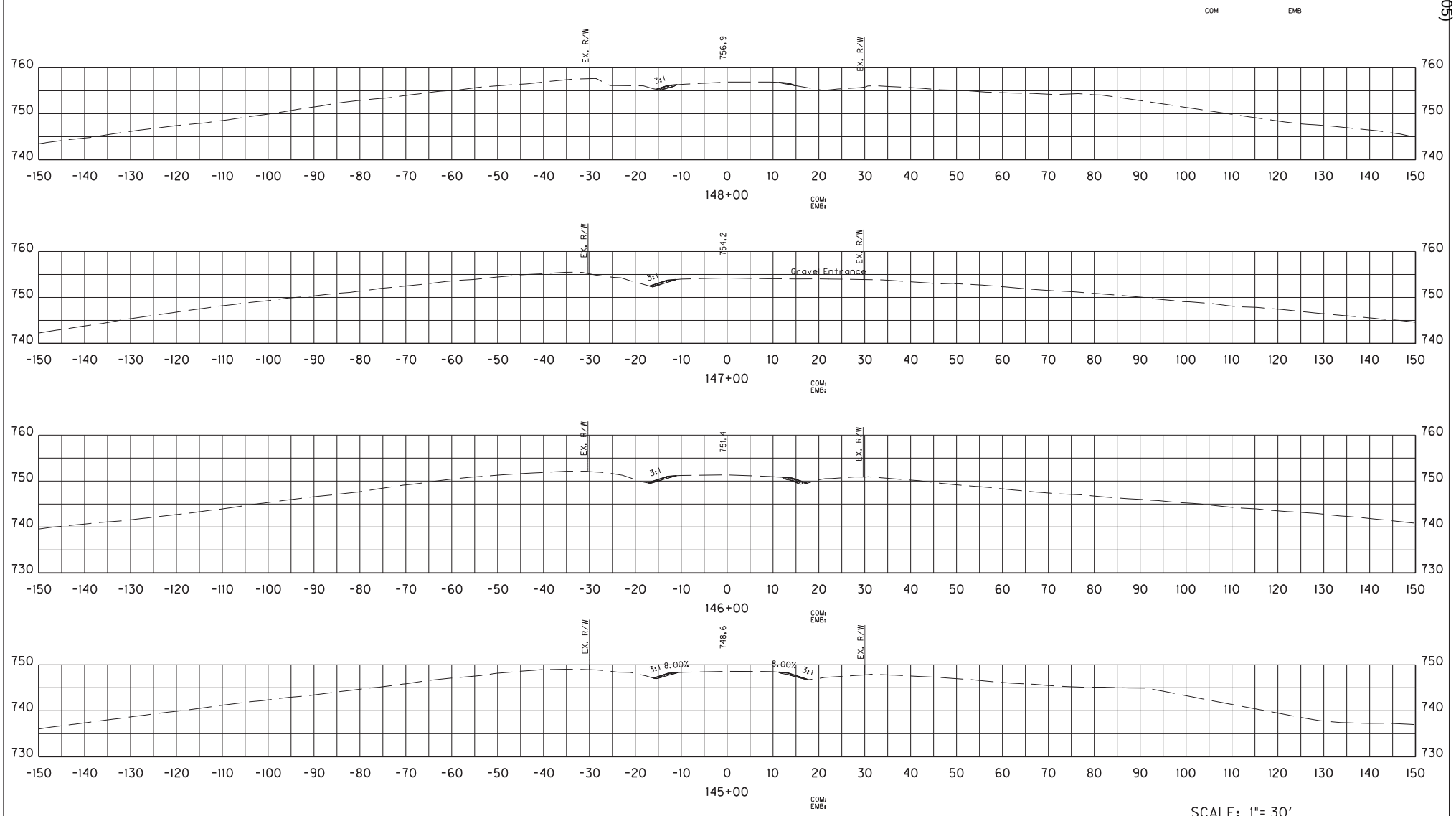




SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X14

CROSS SECTIONS
STA 141+00 TO 144+00

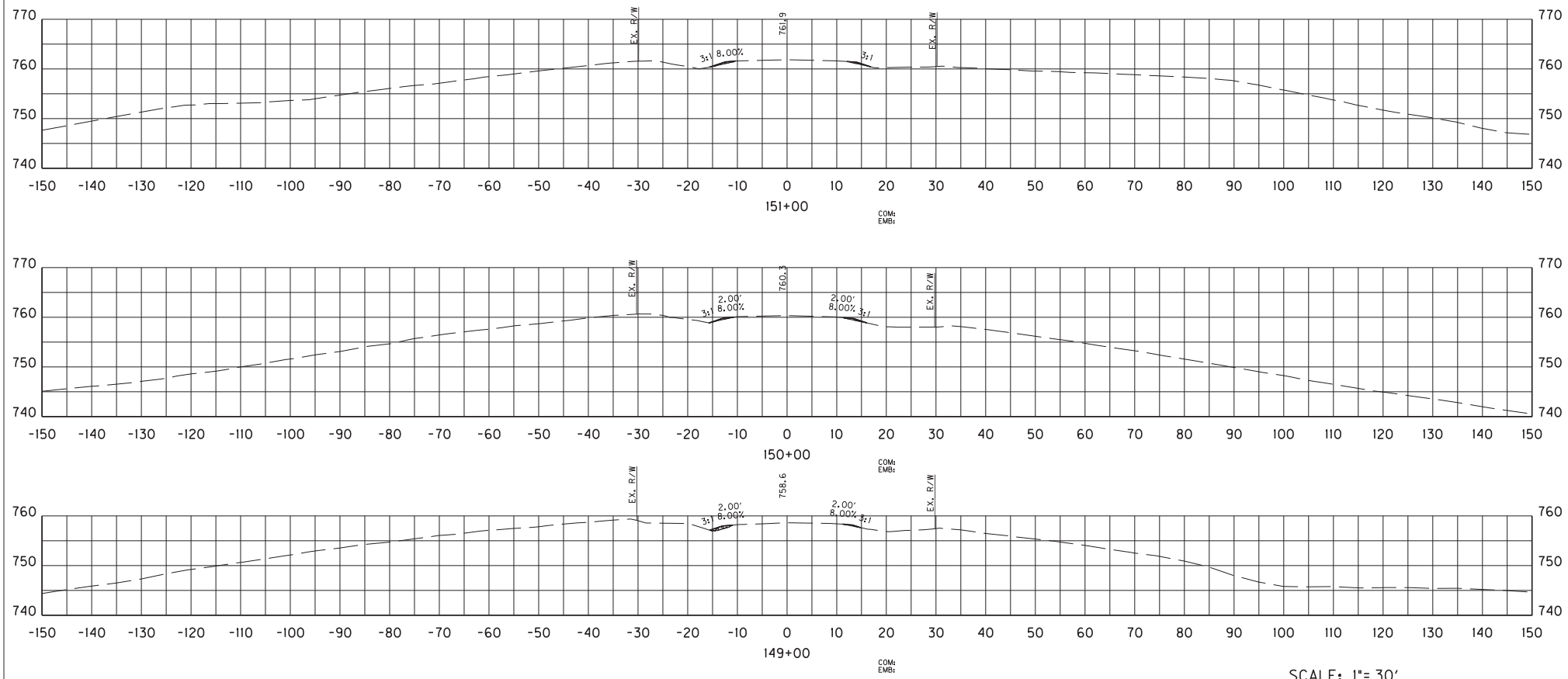


SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X15

CROSS SECTIONS
STA 145+00 TO 148+00

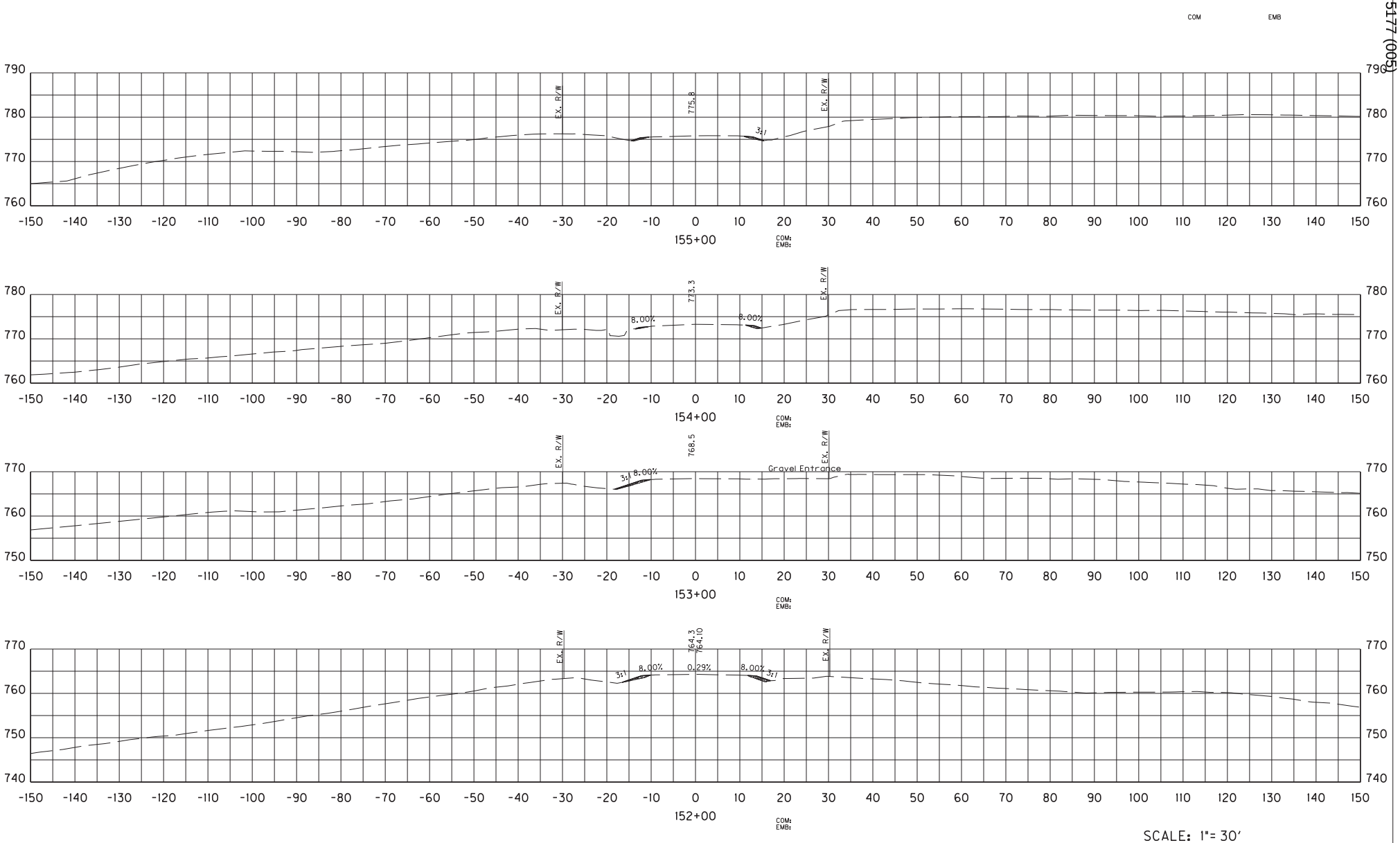
COM EMB



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X16

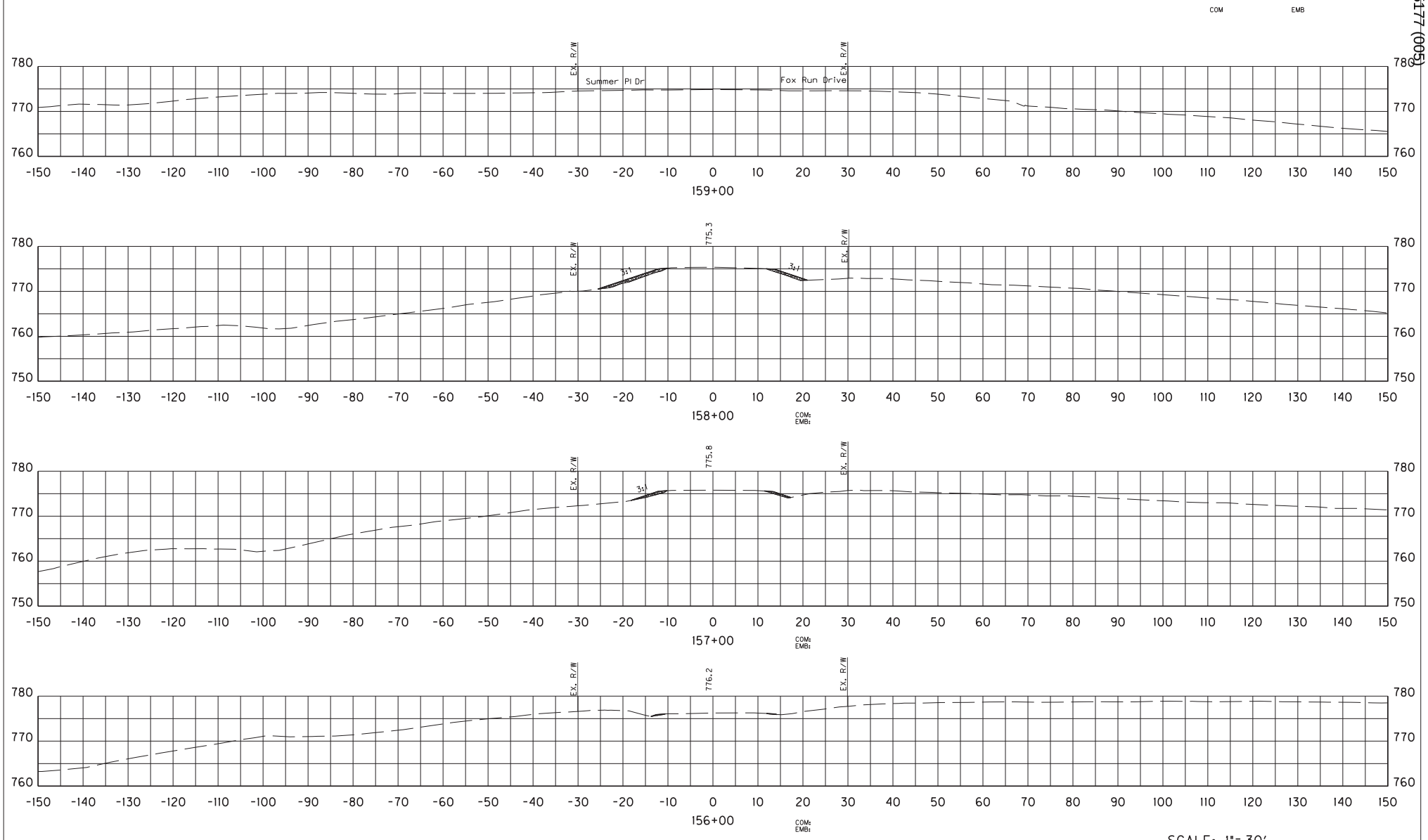
CROSS SECTIONS
STA 149+00 TO 151+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X17

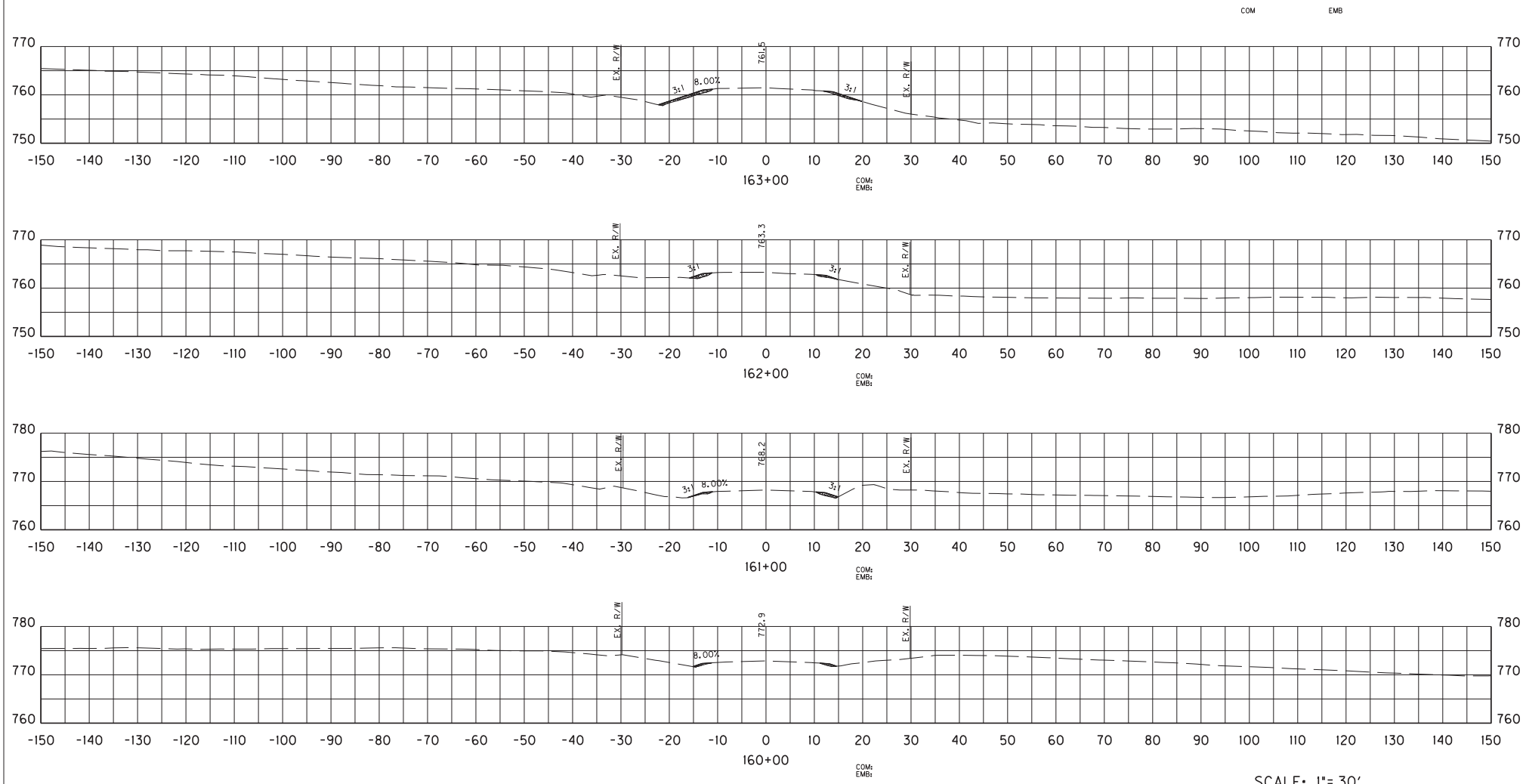
CROSS SECTIONS
STA 152+00 TO 155+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X18

CROSS SECTIONS
STA 156+00 TO 159+00

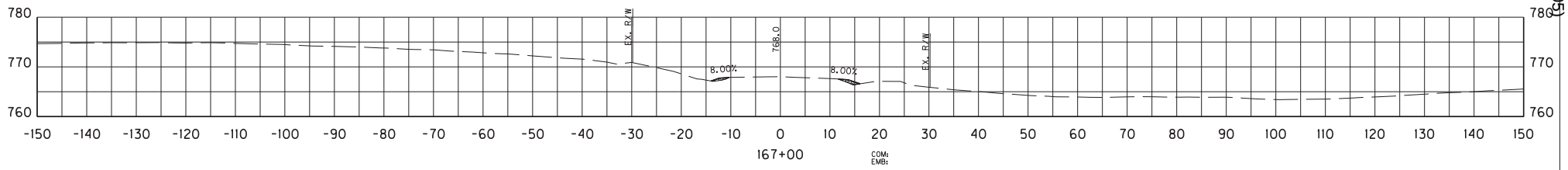


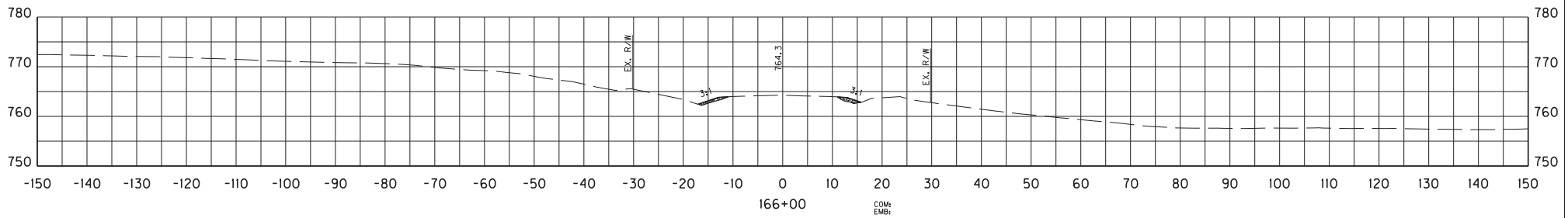
SCALE: 1"= 30'

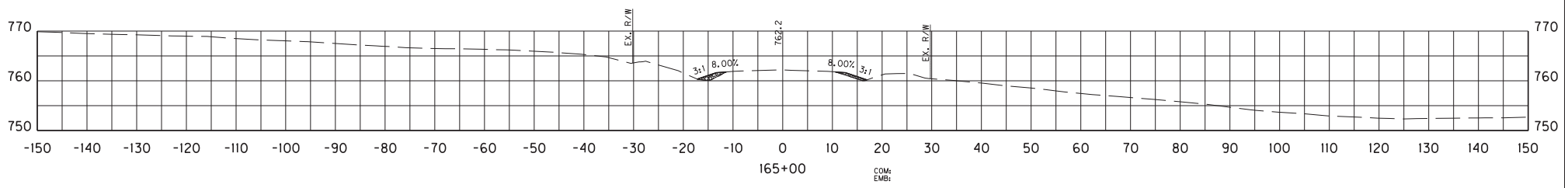
COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X19

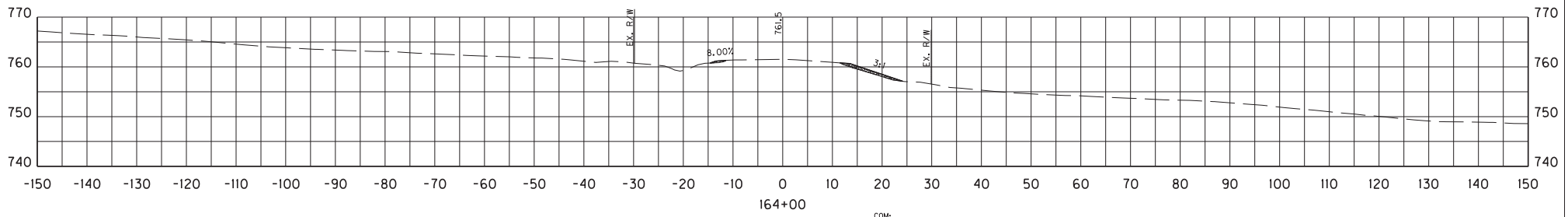
CROSS SECTIONS
STA 160+00 TO 163+00

COM EMB





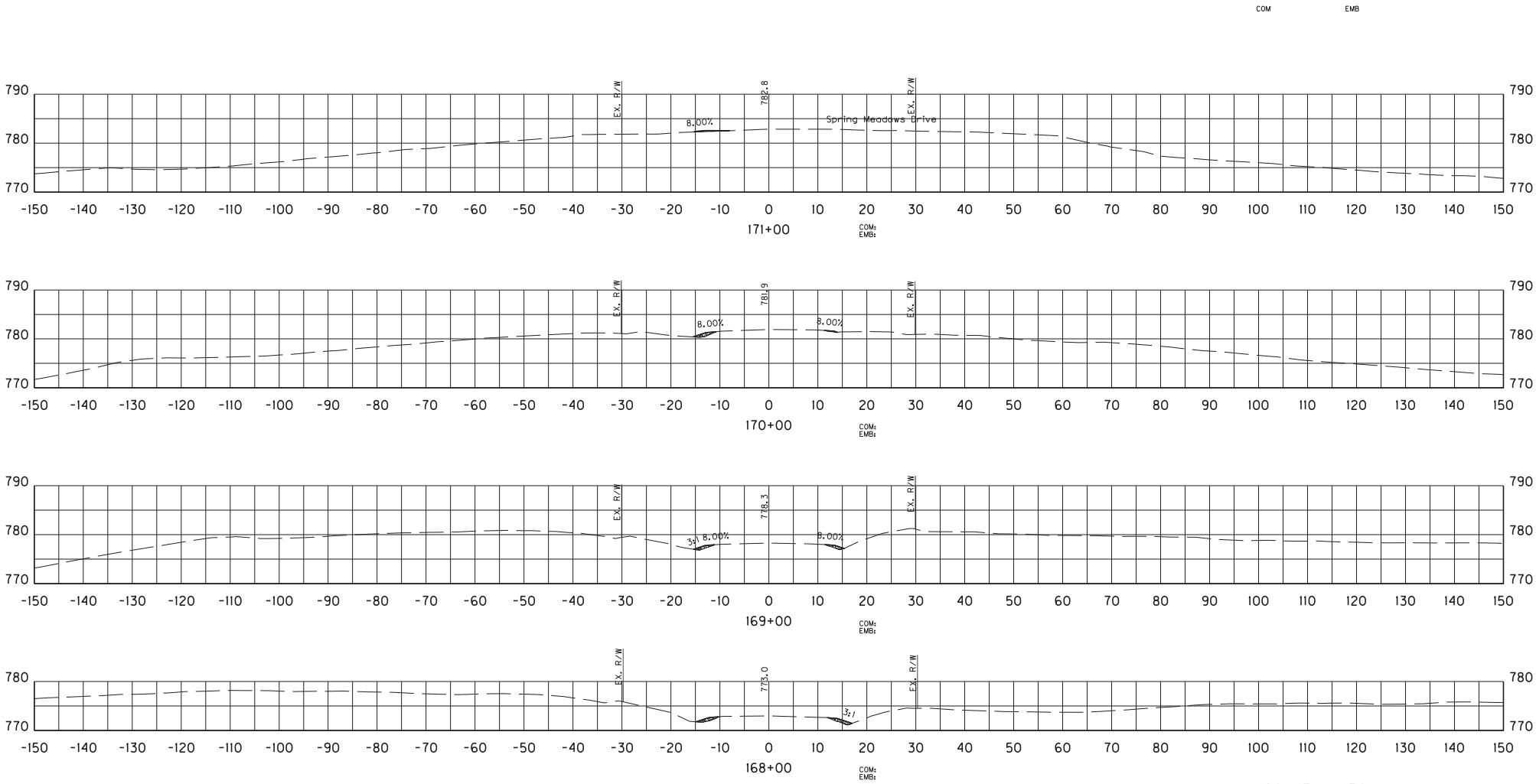




SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X20

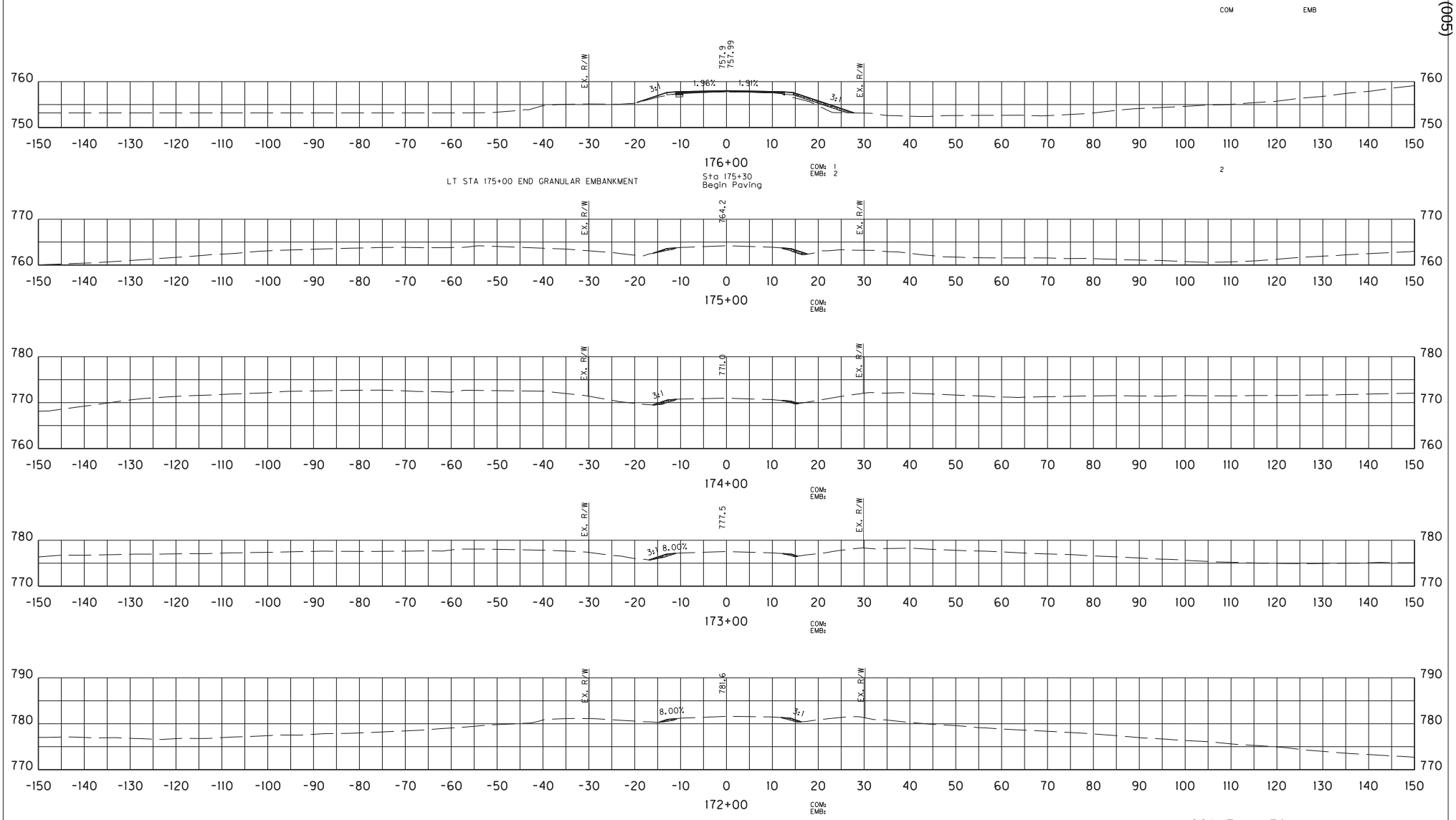
CROSS SECTIONS
STA 164+00 TO 167+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X21

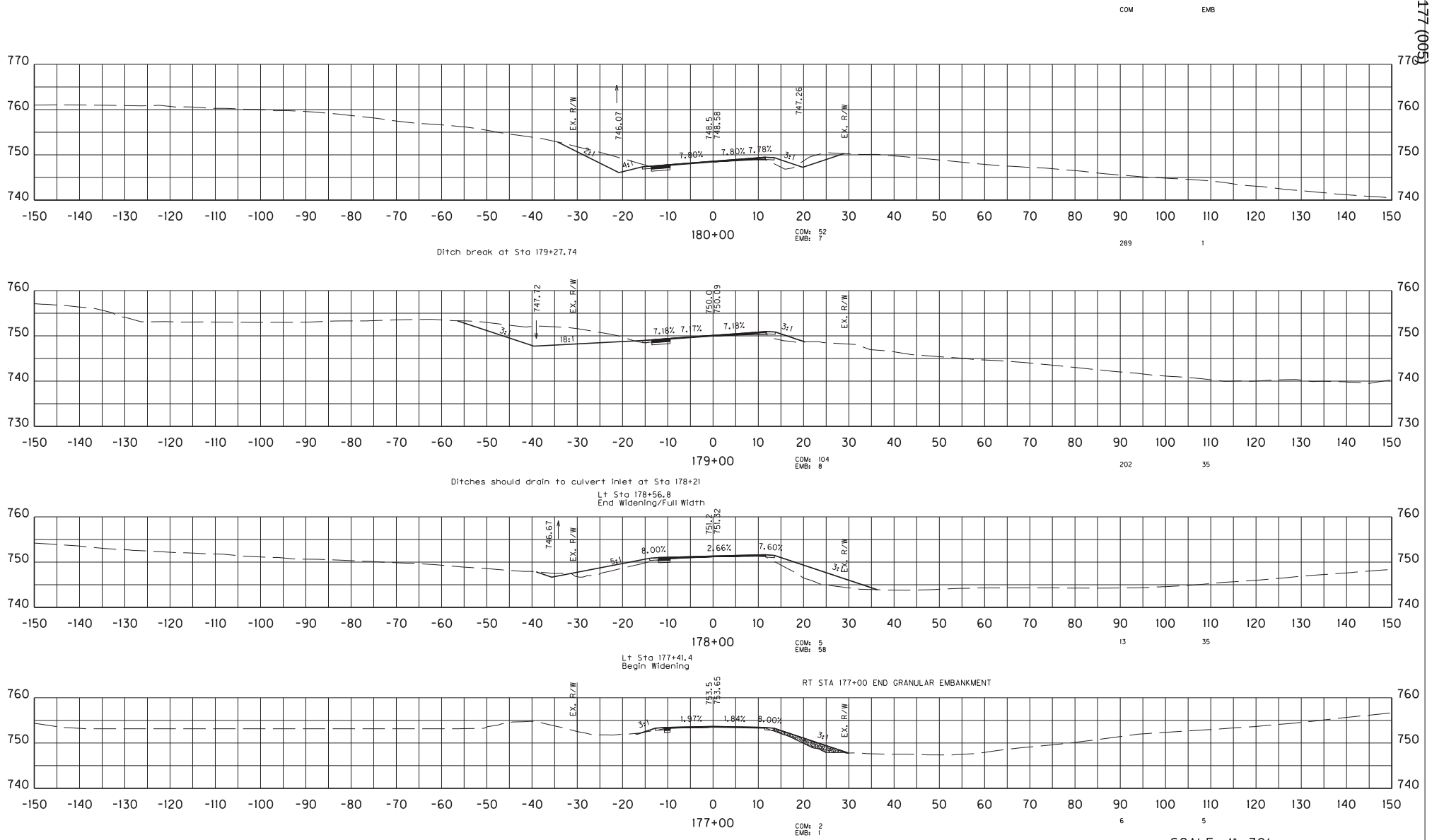
CROSS SECTIONS
STA 168+00 TO 171+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X22

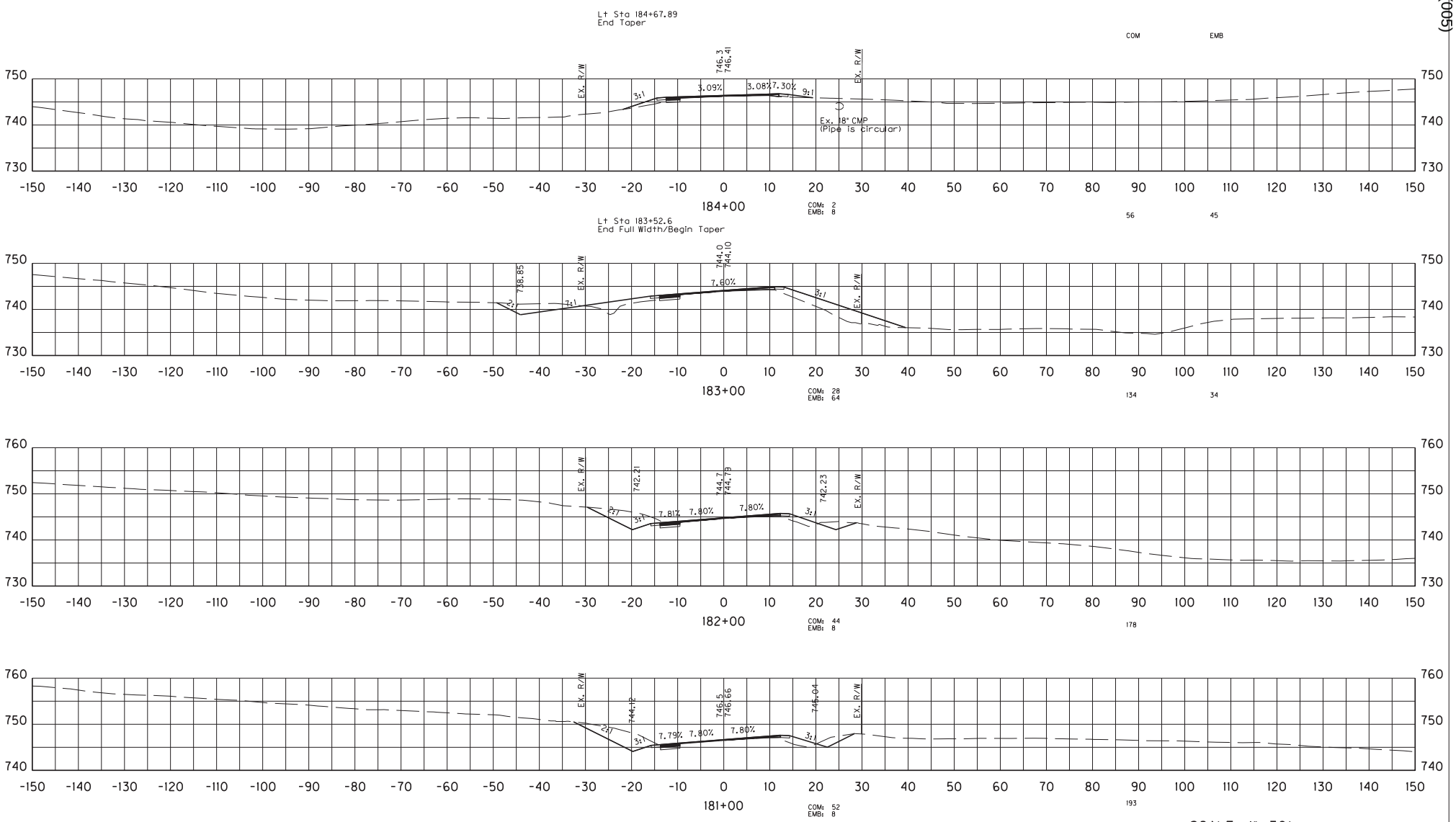
CROSS SECTIONS
STA 172+00 TO 176+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X23

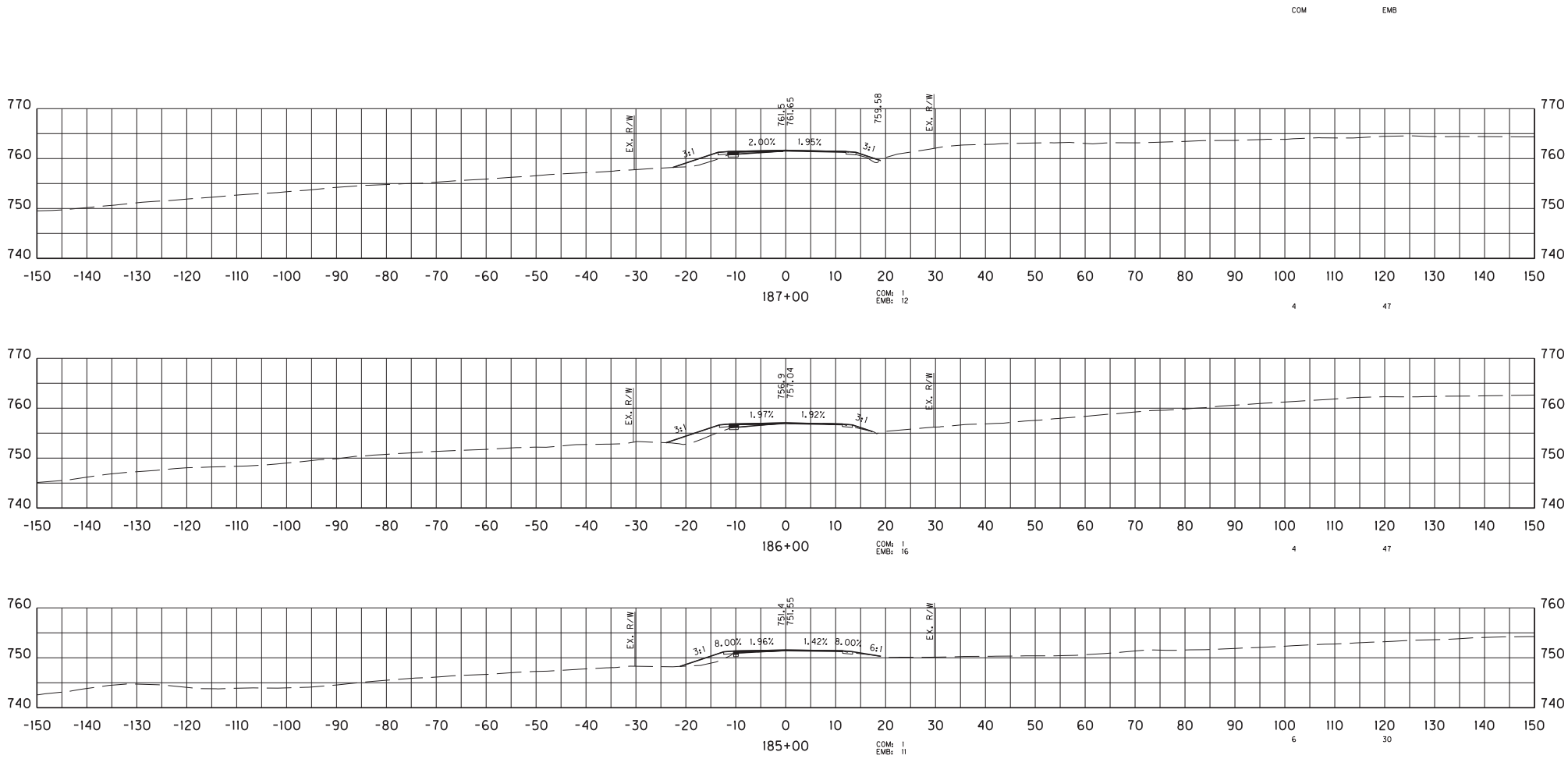
CROSS SECTIONS
STA 177+00 TO 180+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X24

CROSS SECTIONS
STA 181+00 TO 184+00

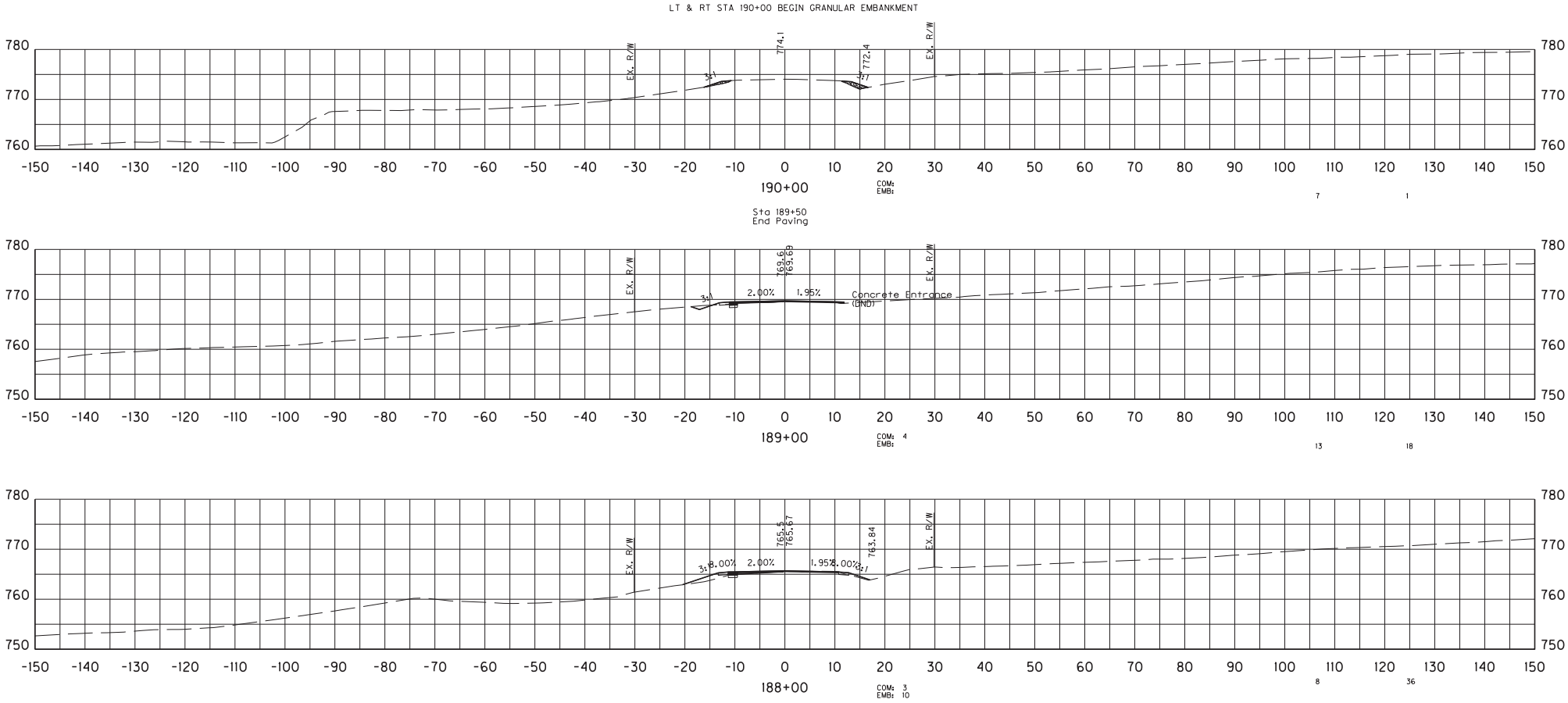


SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X25

CROSS SECTIONS
STA 185+00 TO 187+00

COM EMB

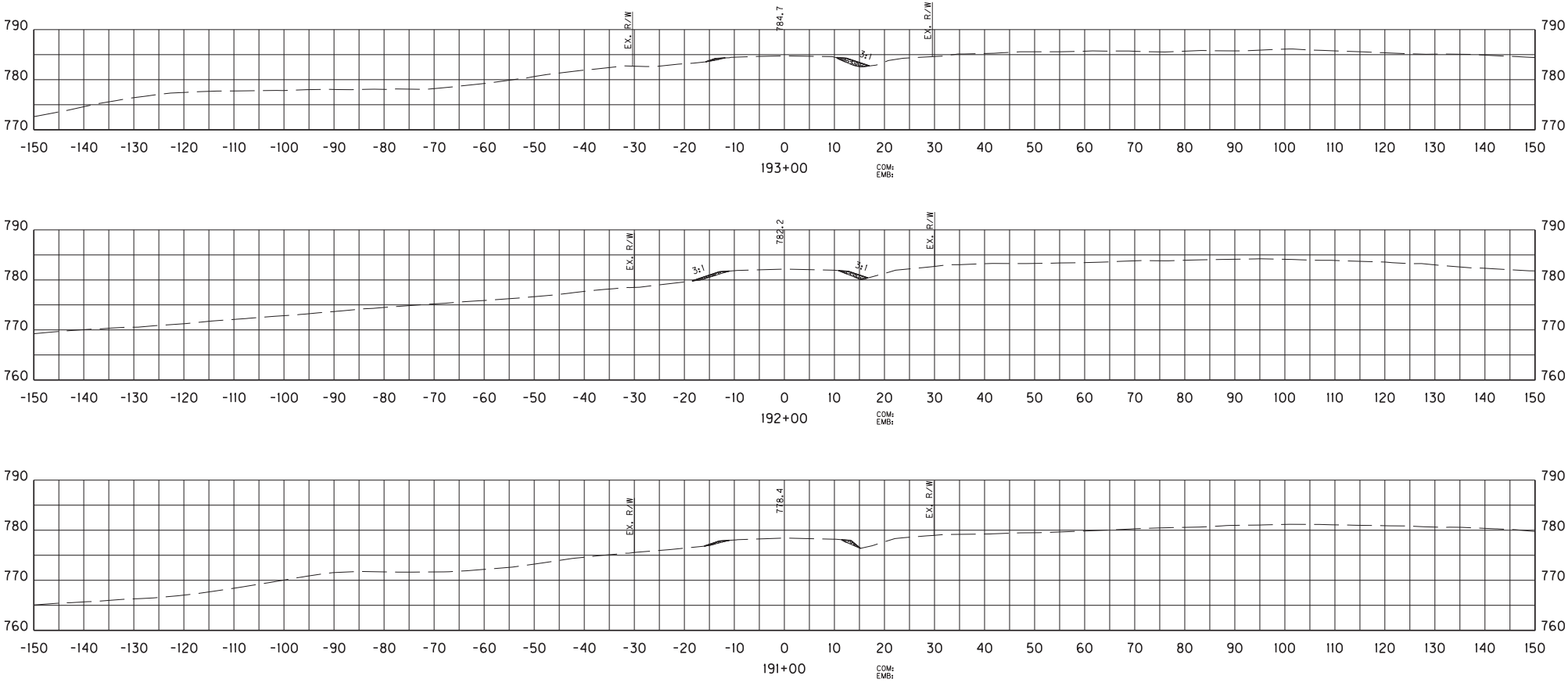


SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X26

CROSS SECTIONS
STA 188+00 TO 190+00

COM EMB

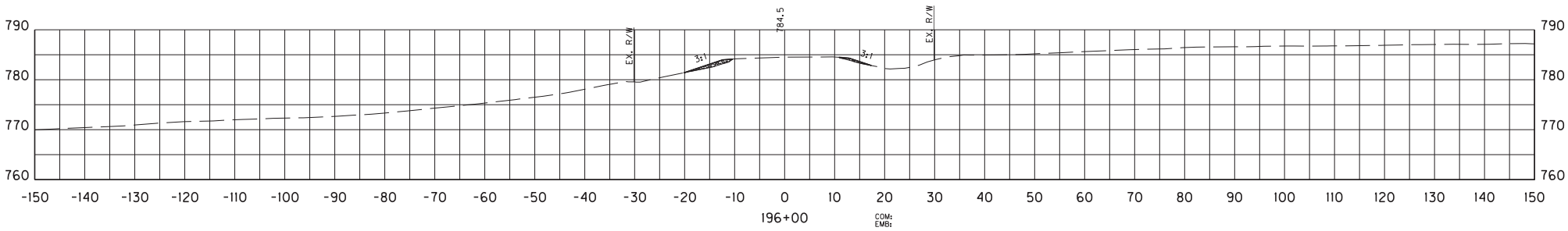


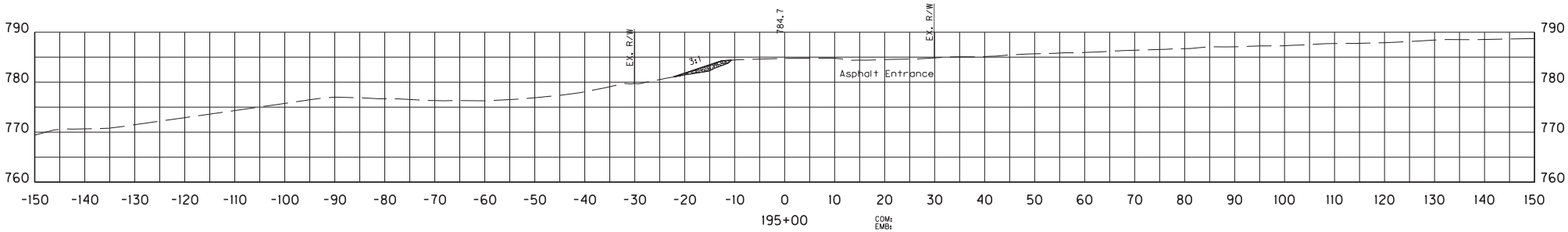
SCALE: 1"= 30'

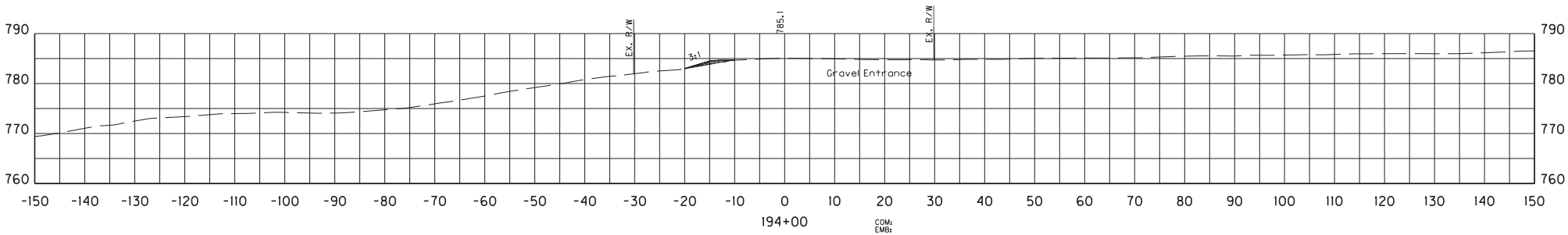
COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X27

CROSS SECTIONS
STA 191+00 TO 193+00

COM EMB



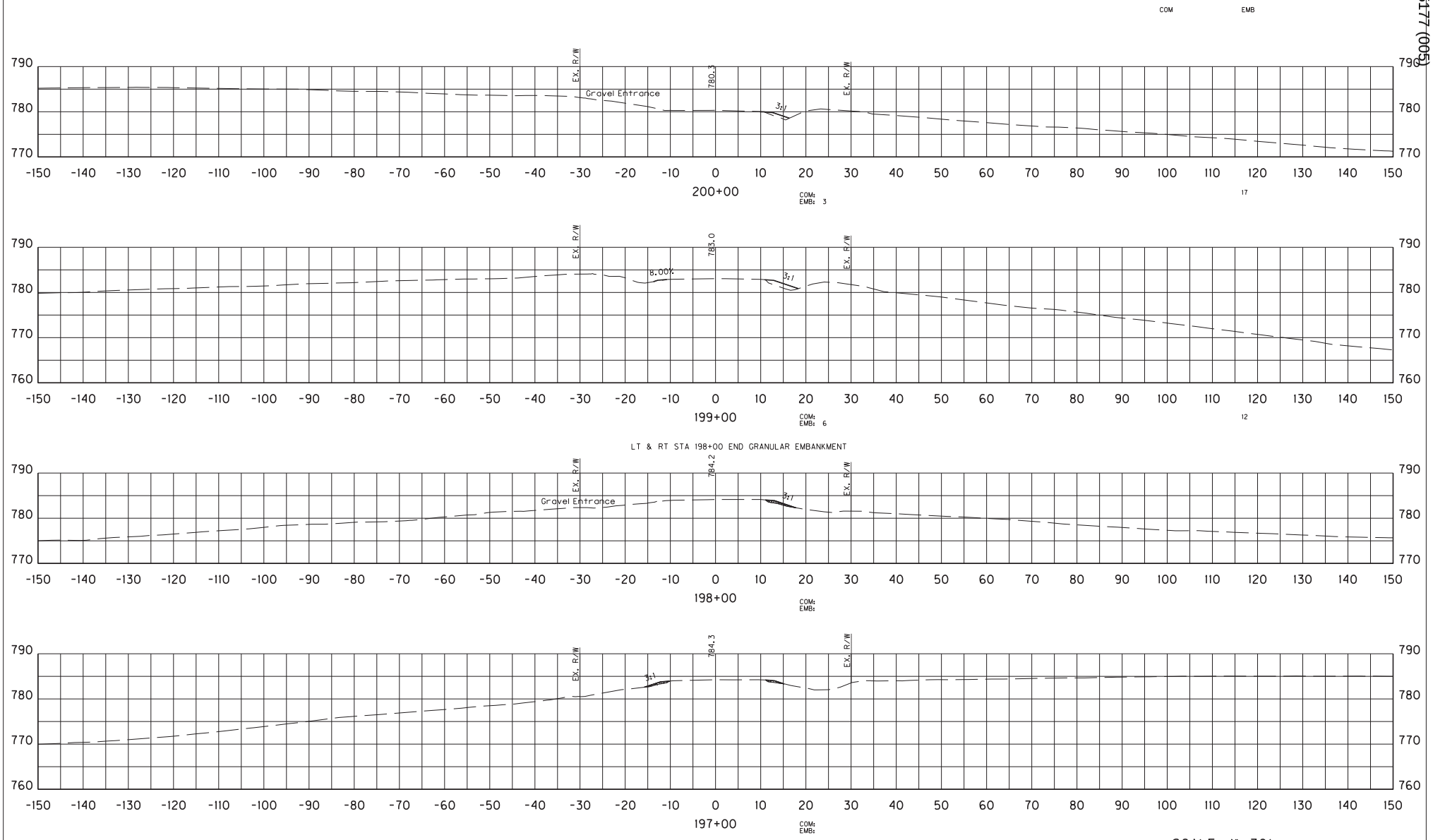




SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X28

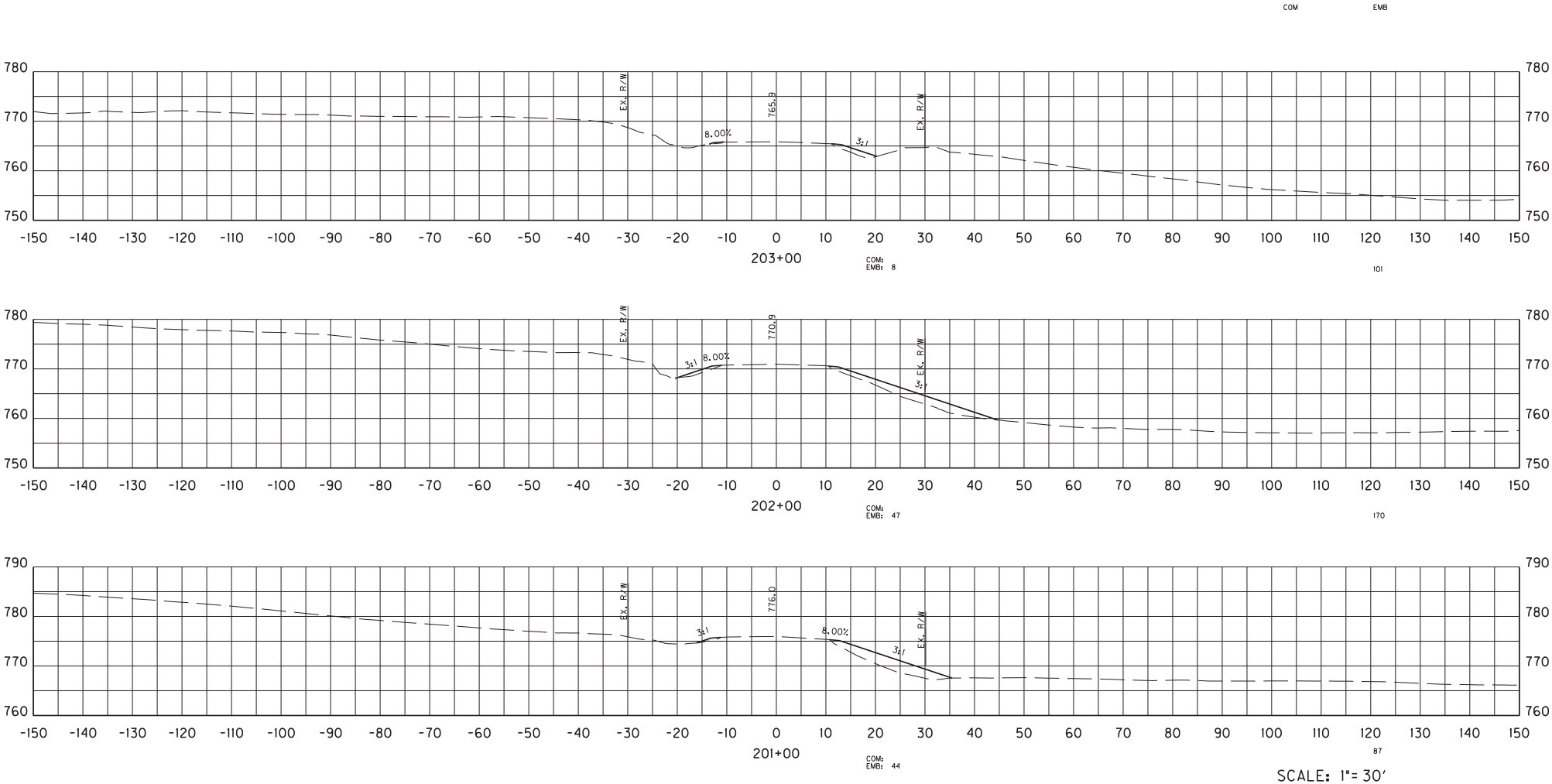
CROSS SECTIONS
STA 194+00 TO STA 196+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X29

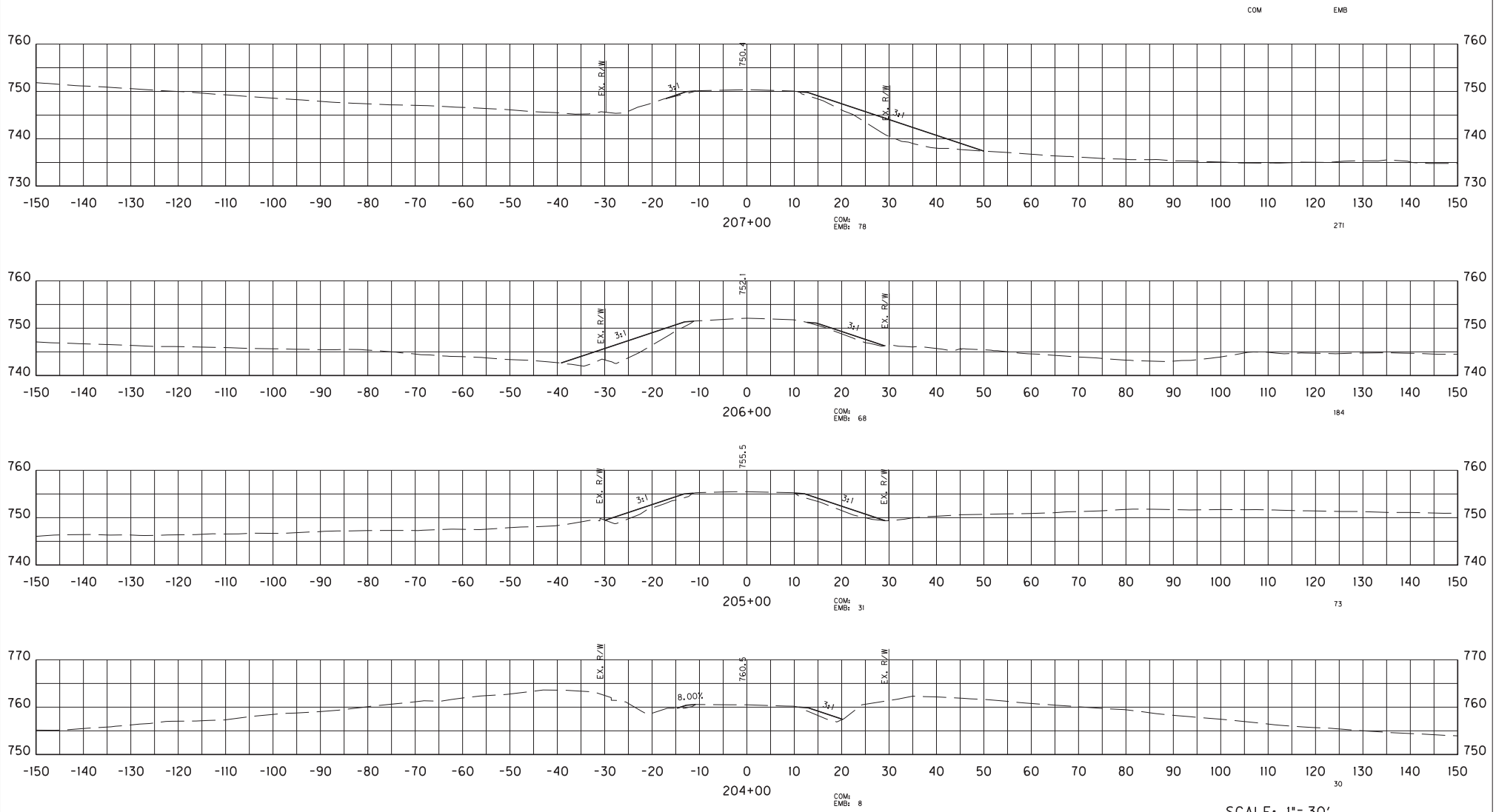
CROSS SECTIONS
STA 197+00 TO 200+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X30

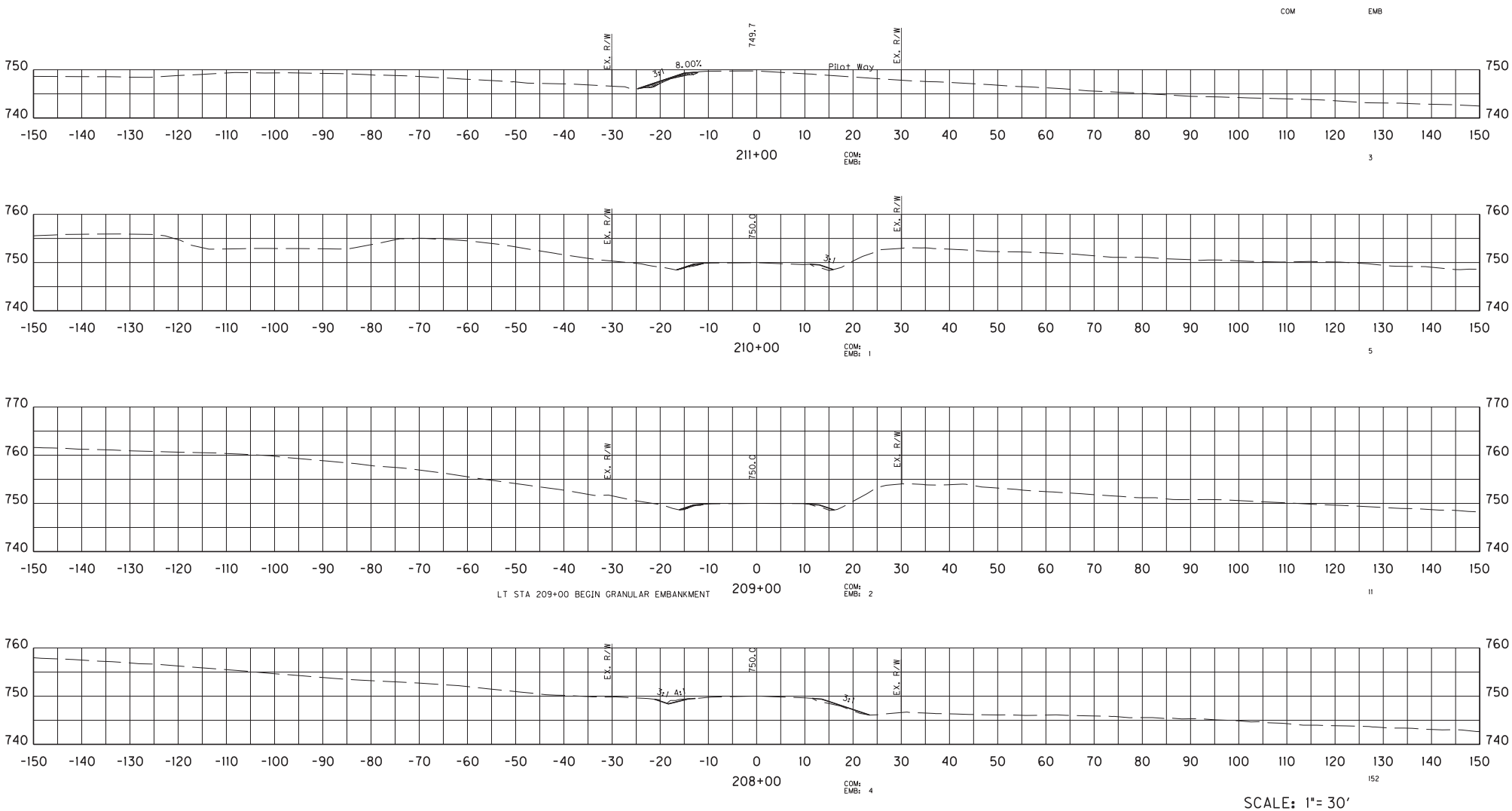
CROSS SECTIONS
STA 201+00 TO 203+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X31

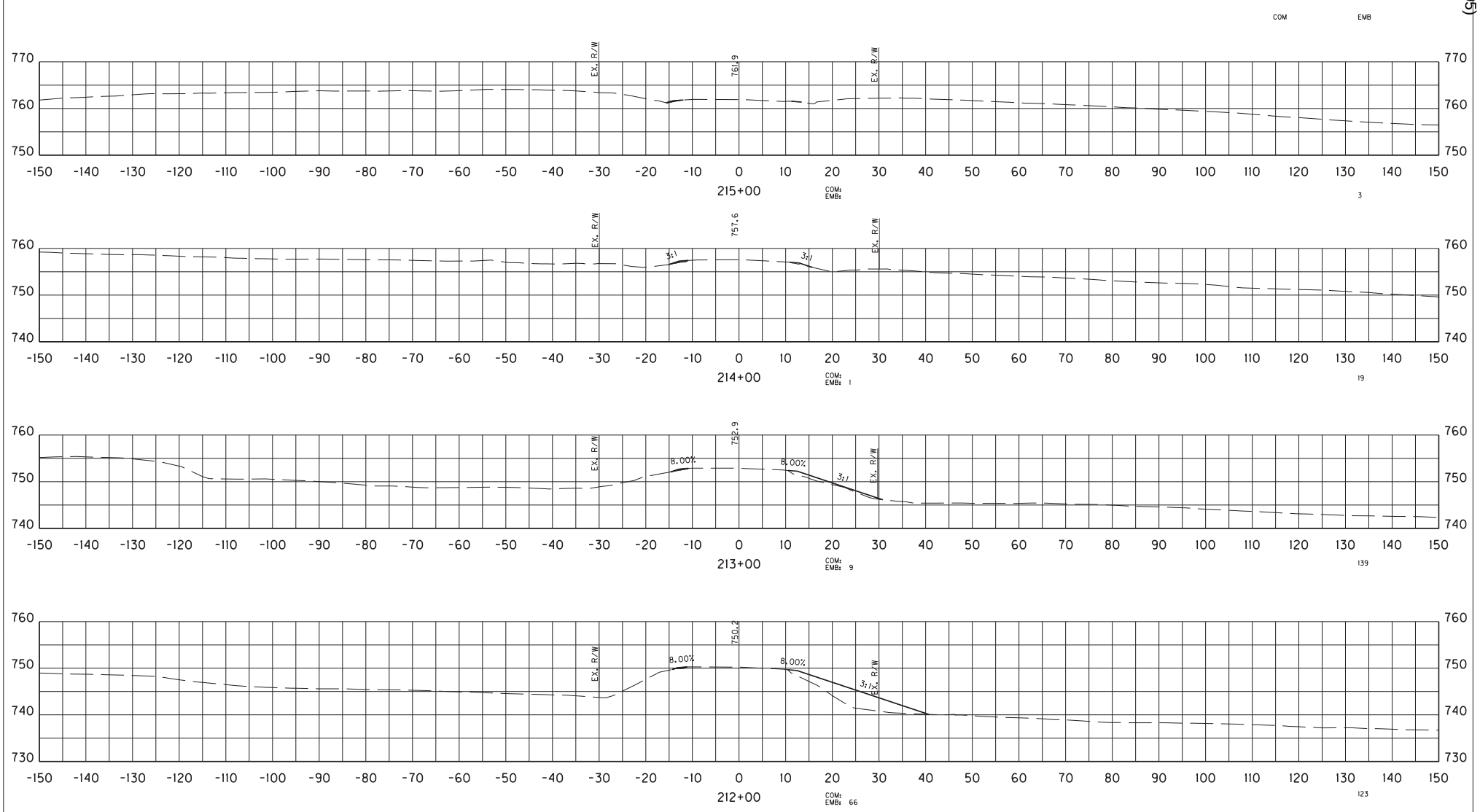
CROSS SECTIONS
STA 204+00 TO 207+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X32

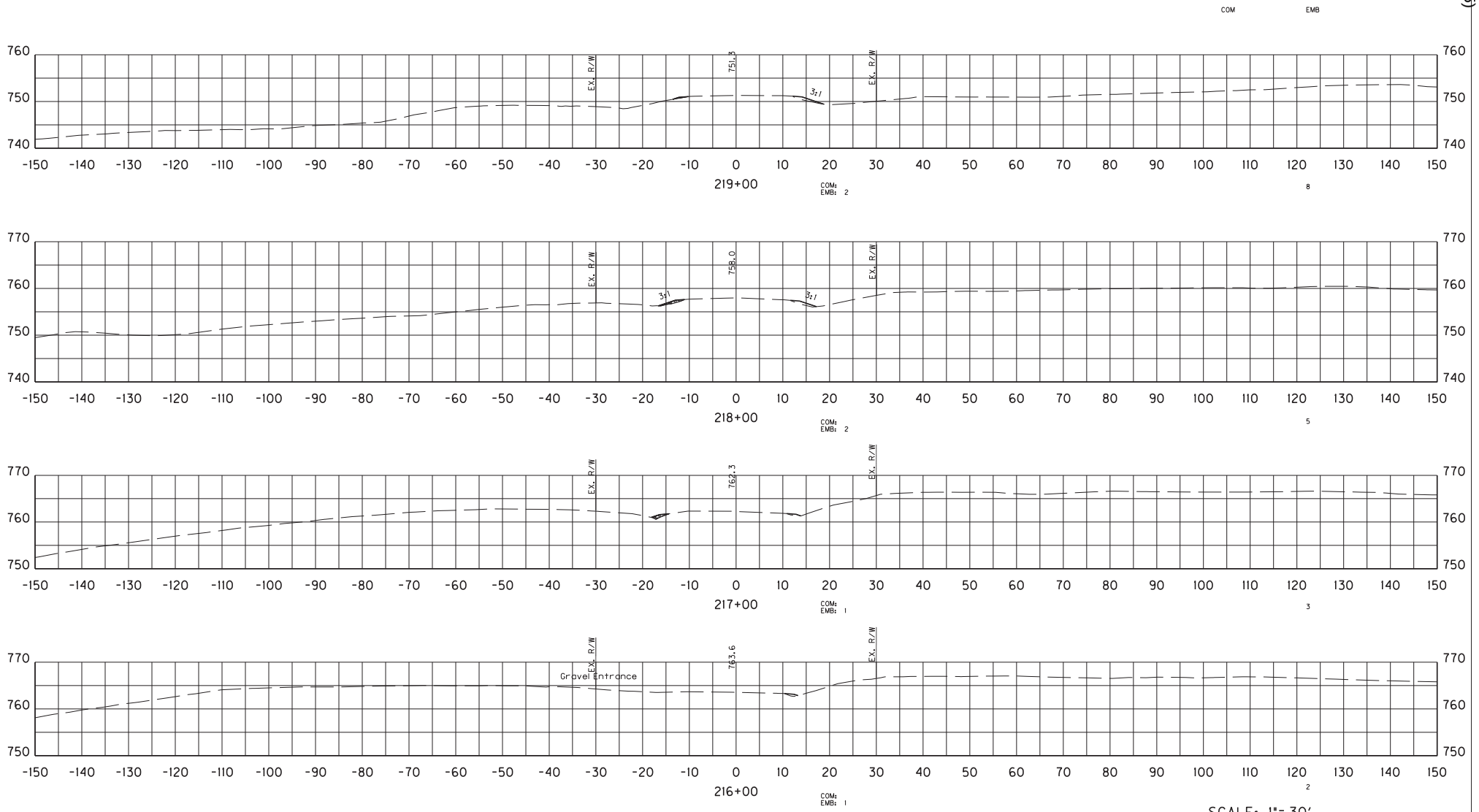
CROSS SECTIONS
STA 208+00 TO 211+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X33

CROSS SECTIONS
STA 212+00 TO 215+00

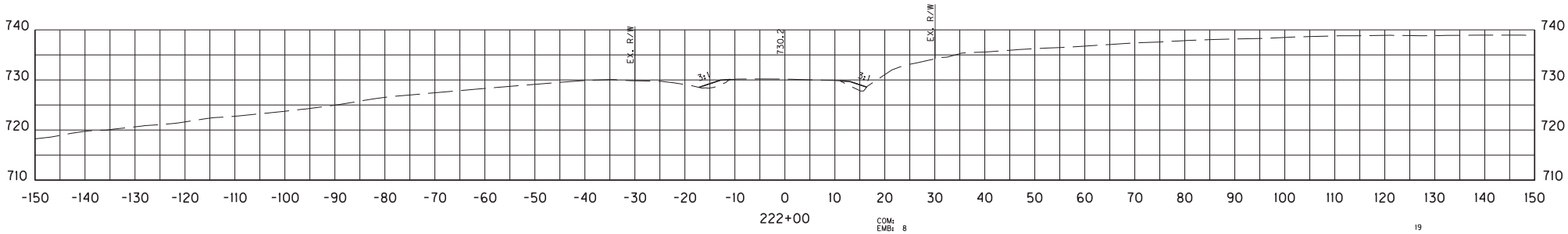


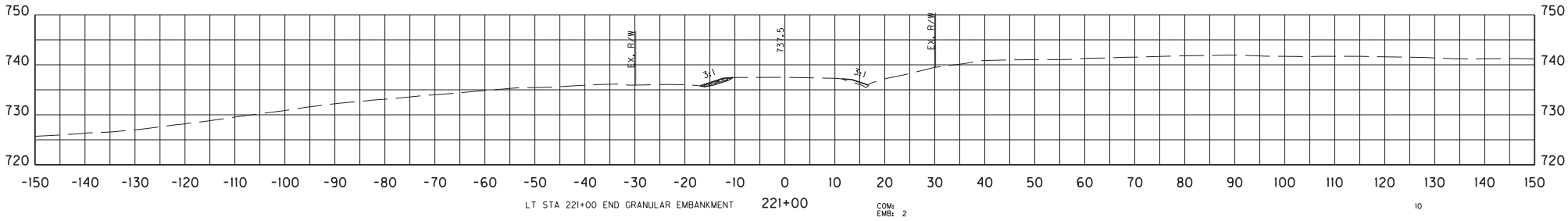
SCALE: 1"= 30'

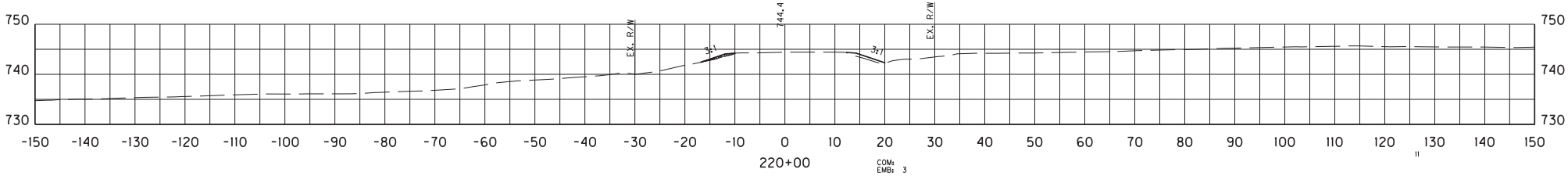
COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X34

CROSS SECTIONS
STA 216+00 TO 219+00

COM EMB



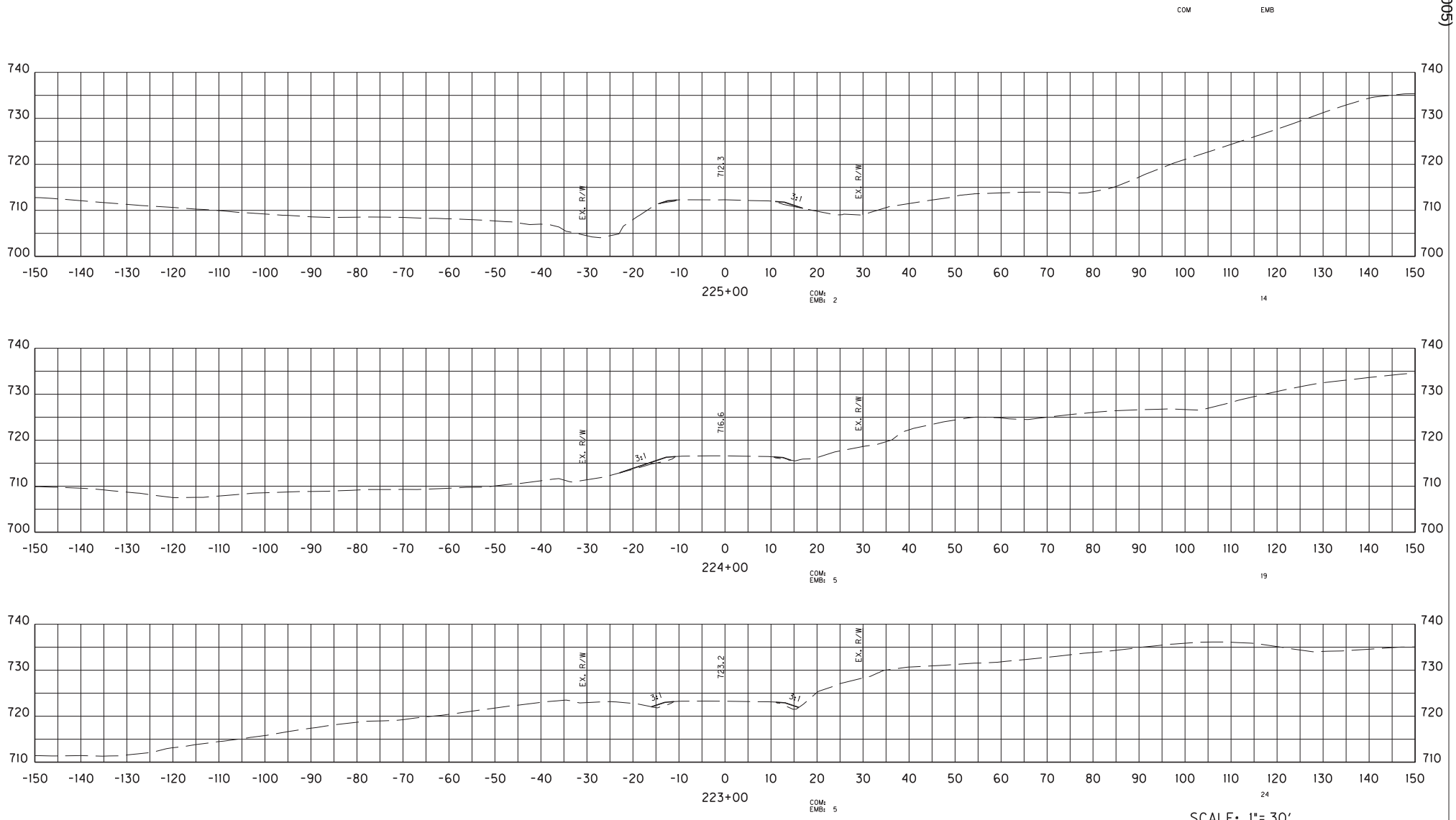




SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X35

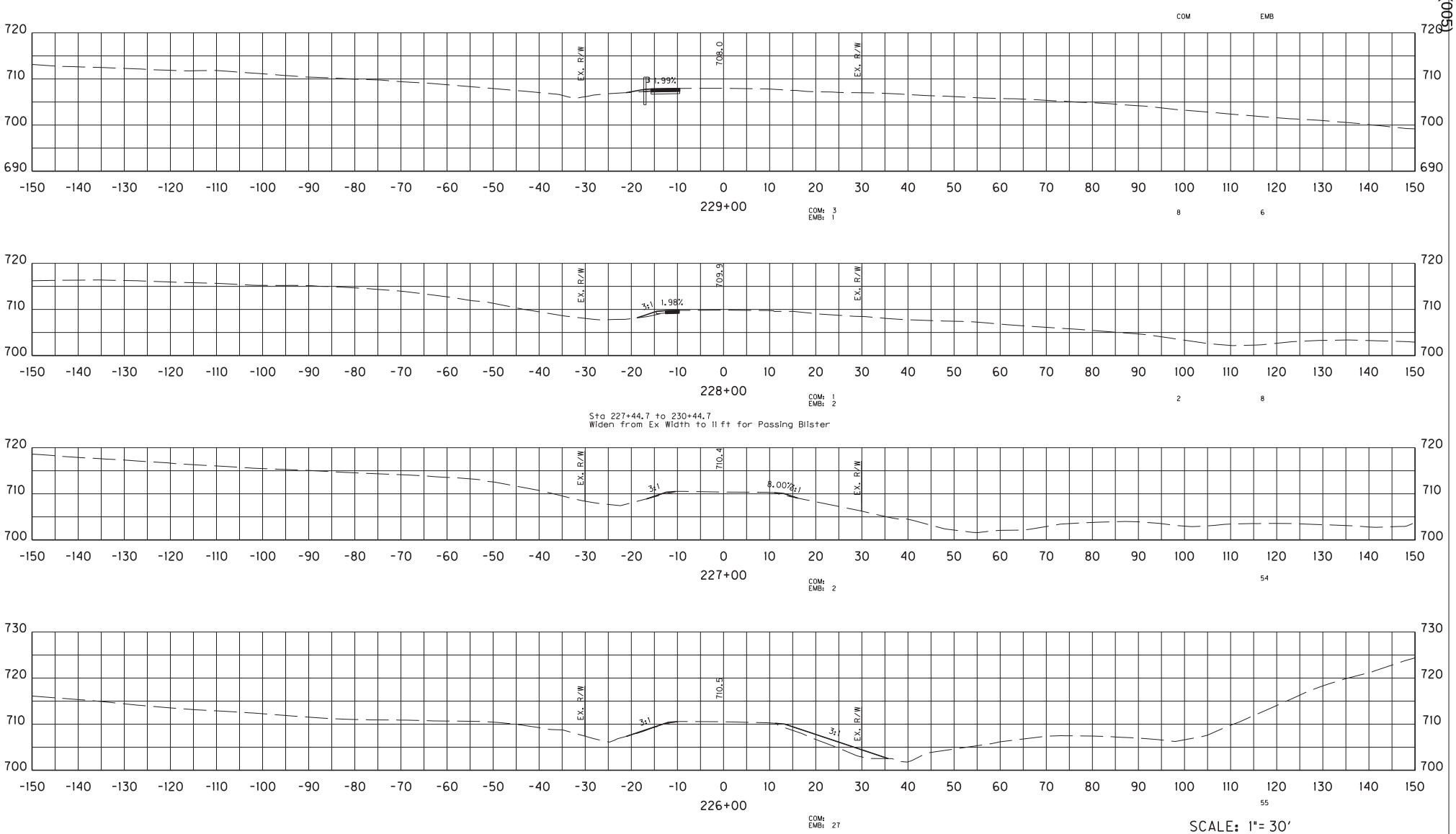
CROSS SECTIONS
STA 220+00 TO 222+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X36

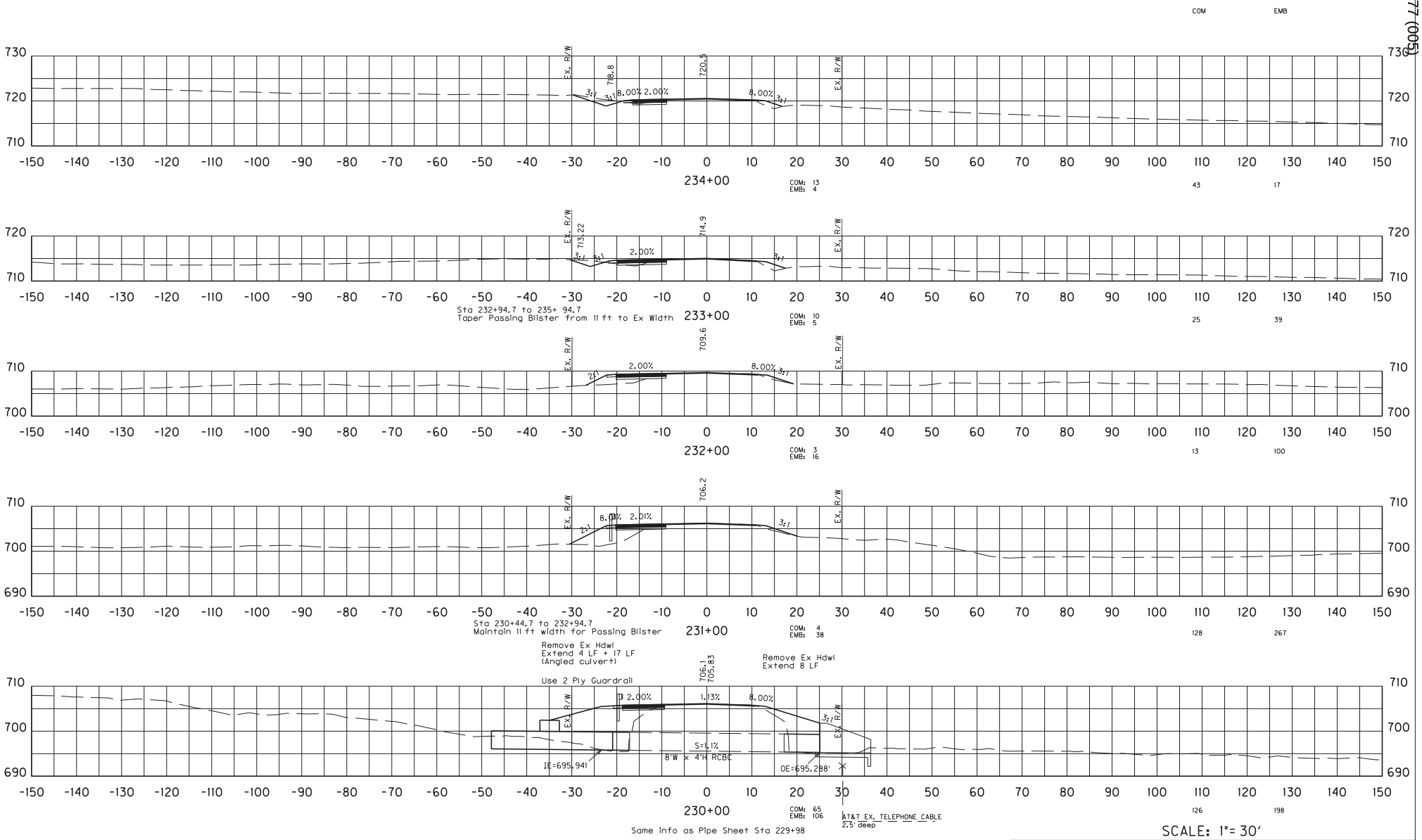
CROSS SECTIONS
STA 223+00 TO 225+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X37

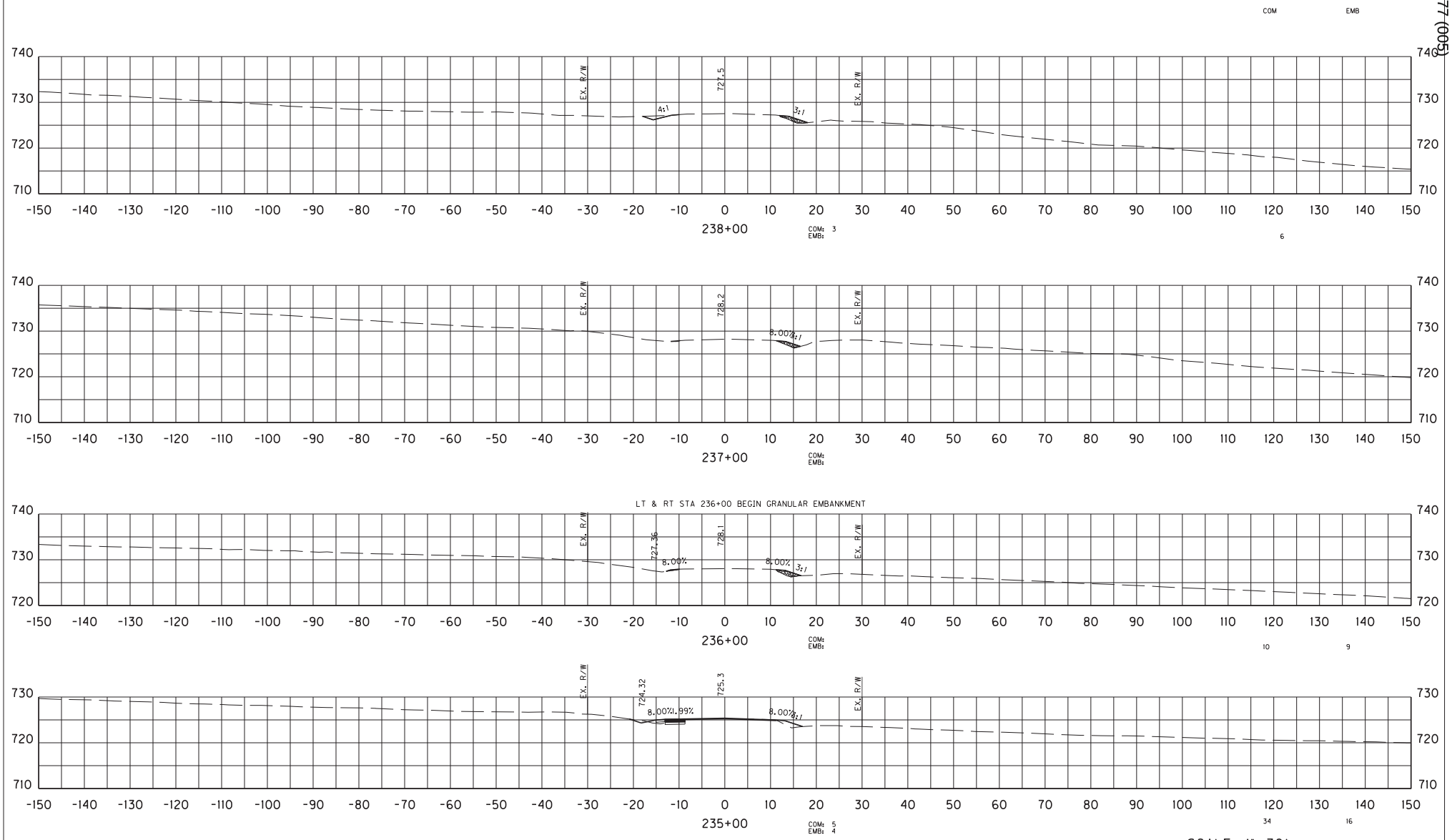
CROSS SECTIONS
STA 226+00 TO 229+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X38

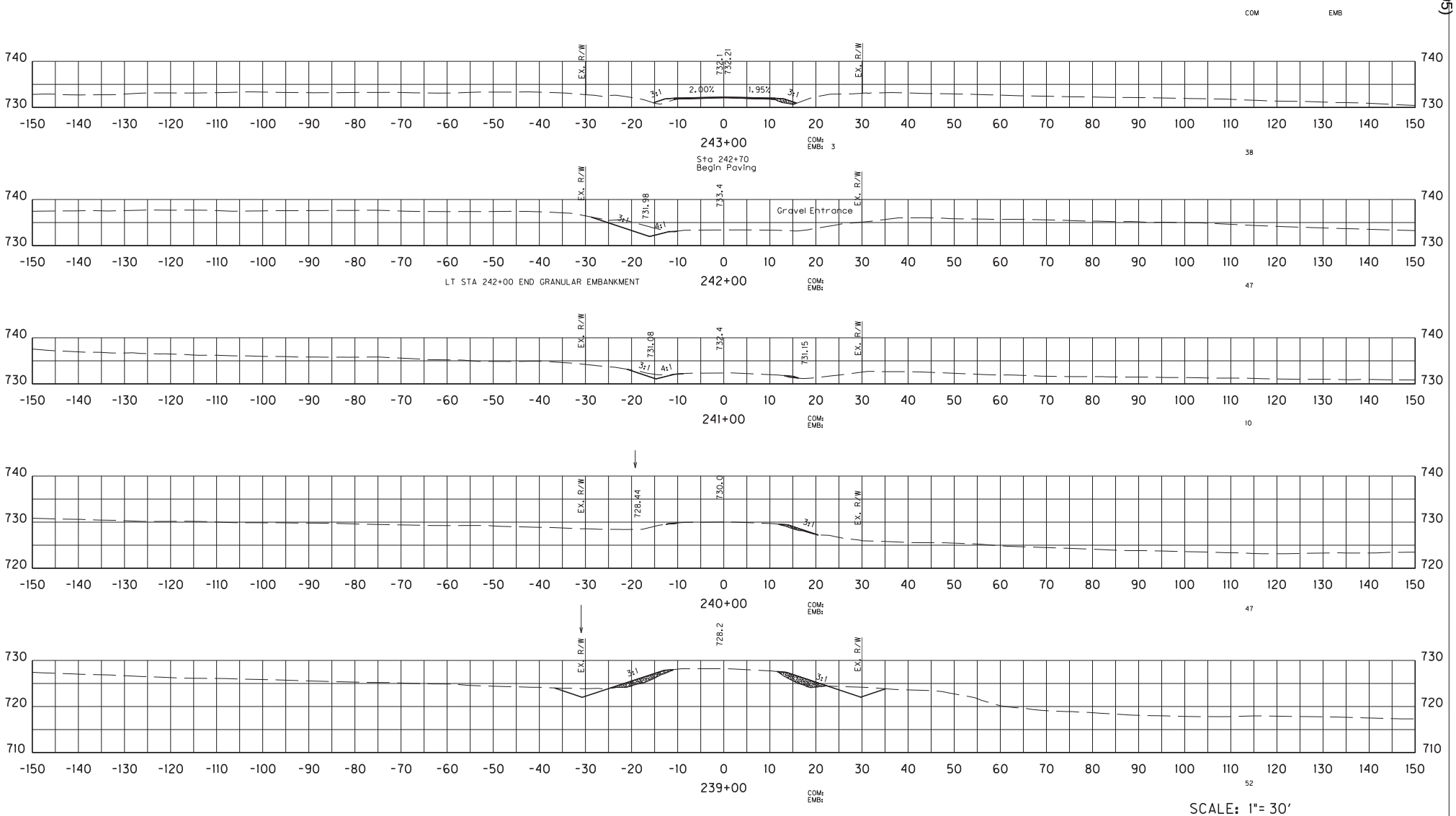
CROSS SECTIONS
STA 230+00 TO 234+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X39

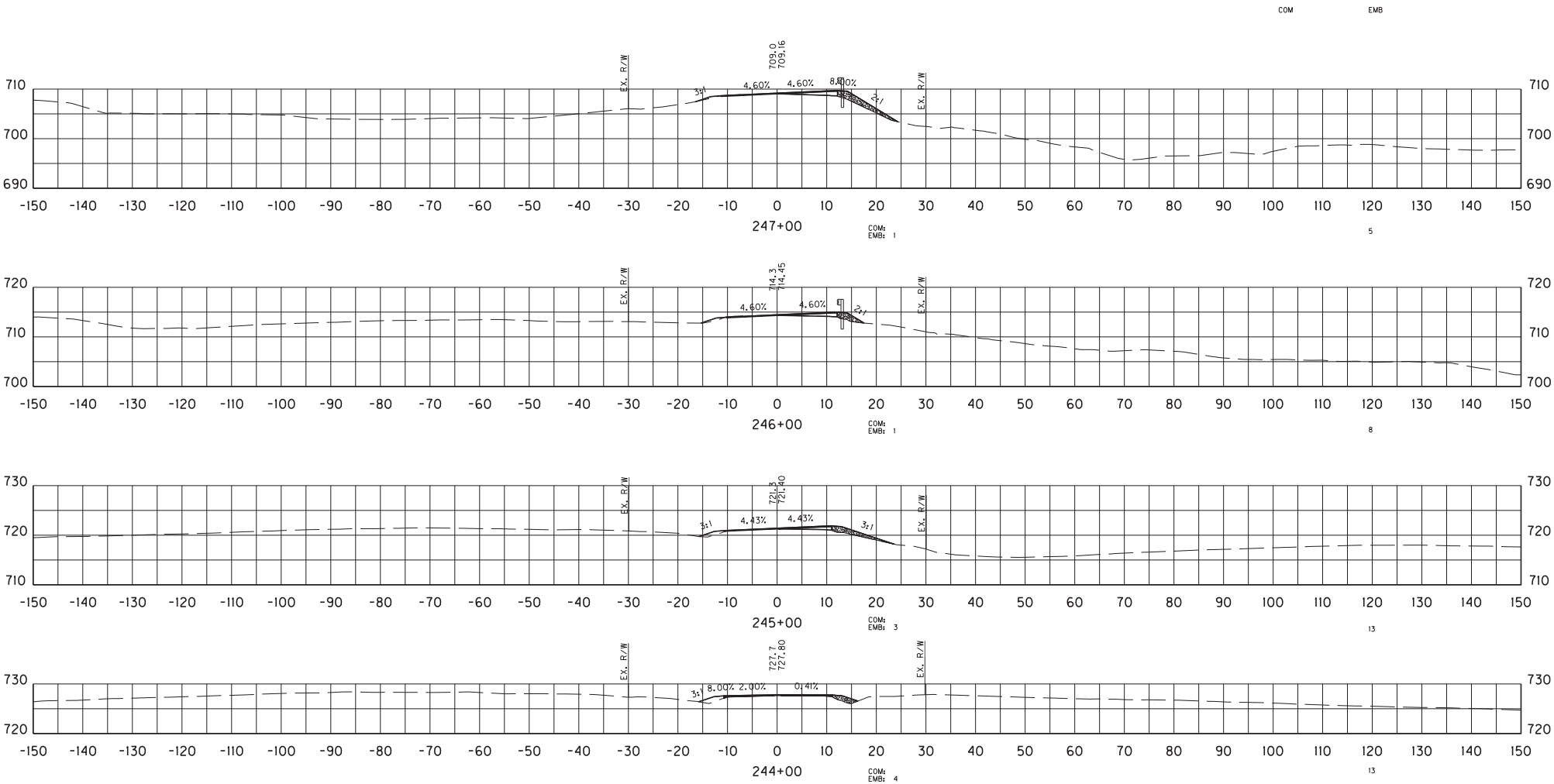
CROSS SECTIONS
STA 235+00 TO 238+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X40

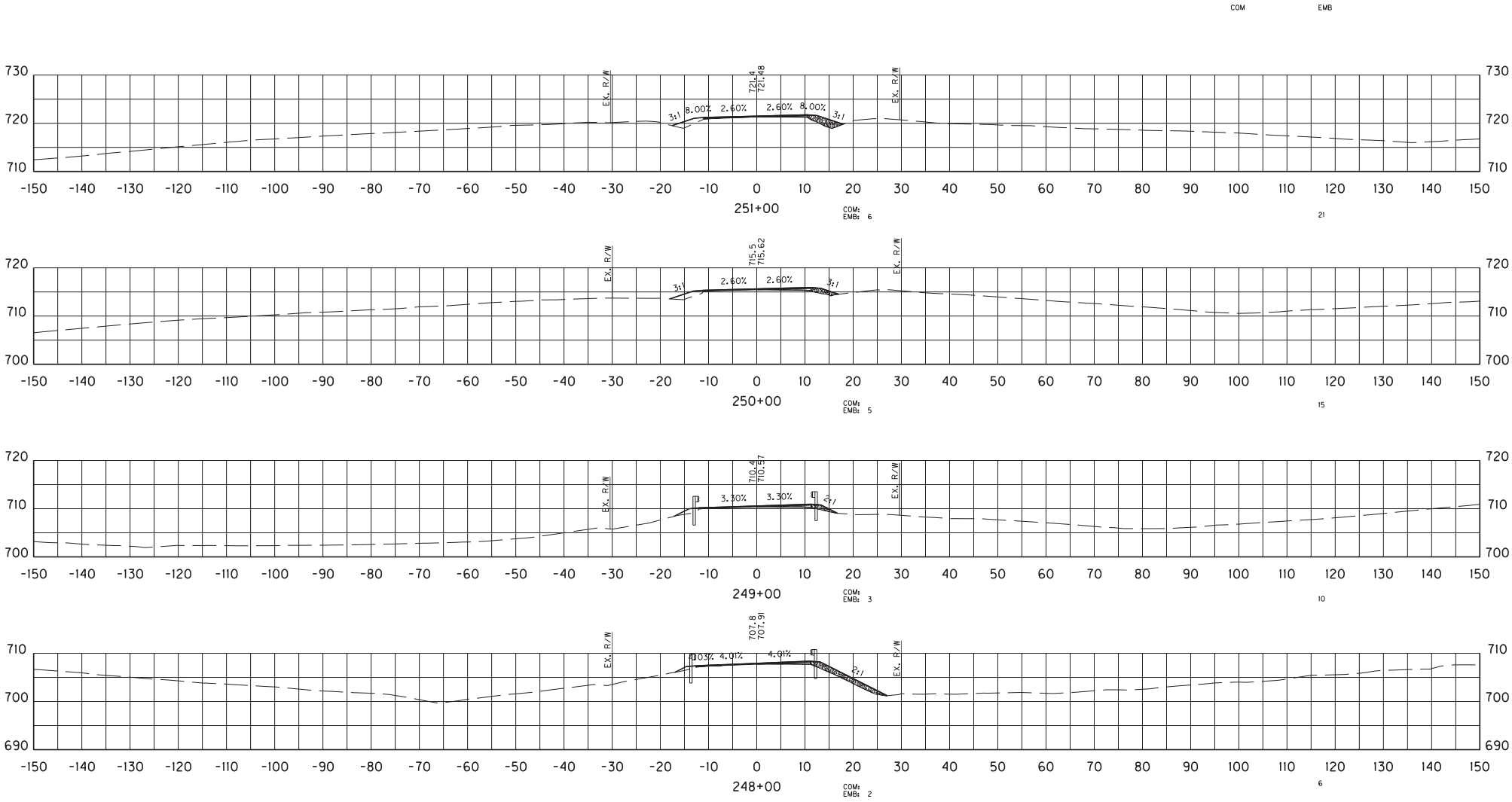
CROSS SECTIONS
STA 239+00 TO 243+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X41

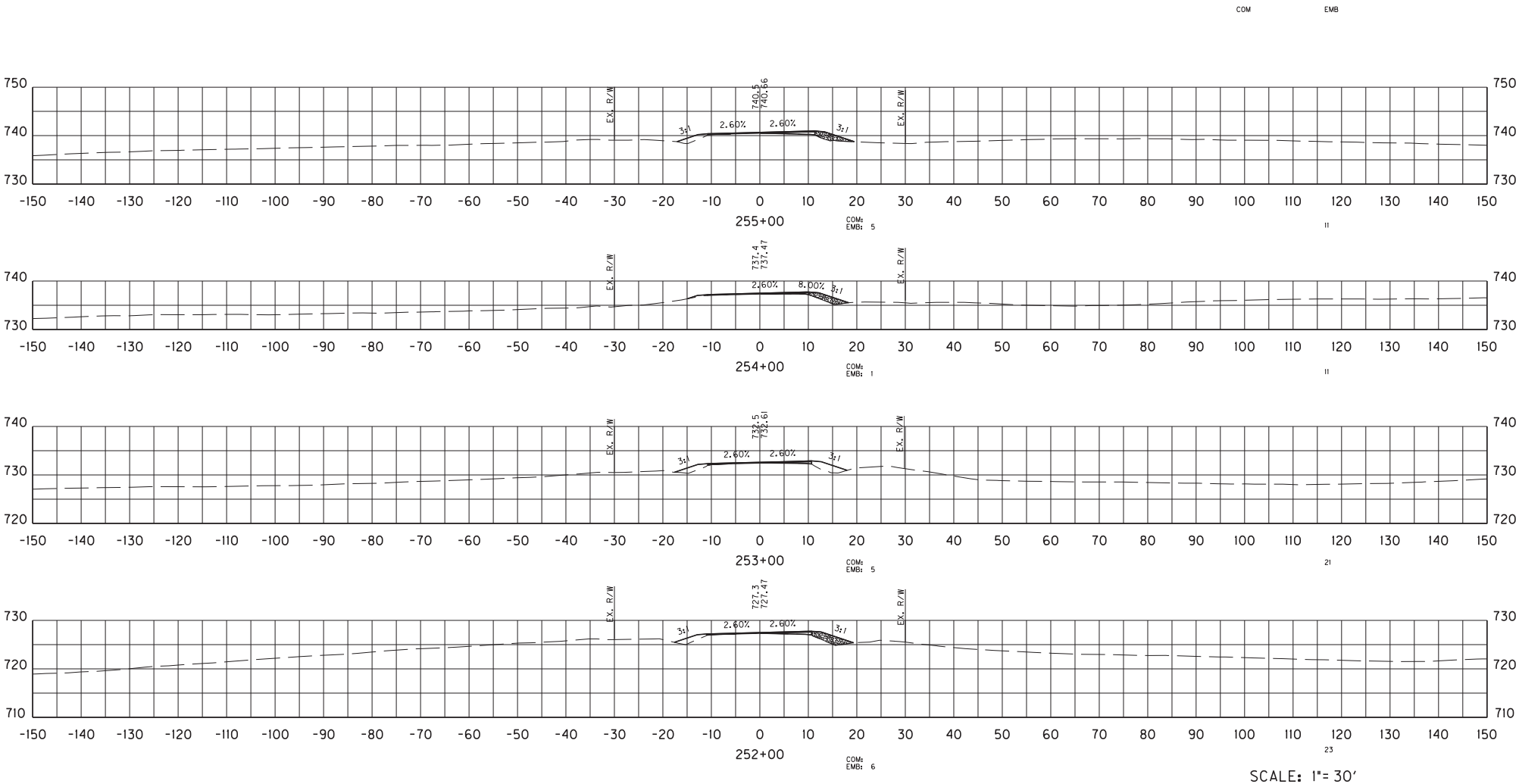
CROSS SECTIONS
STA 244+00 TO 247+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X42

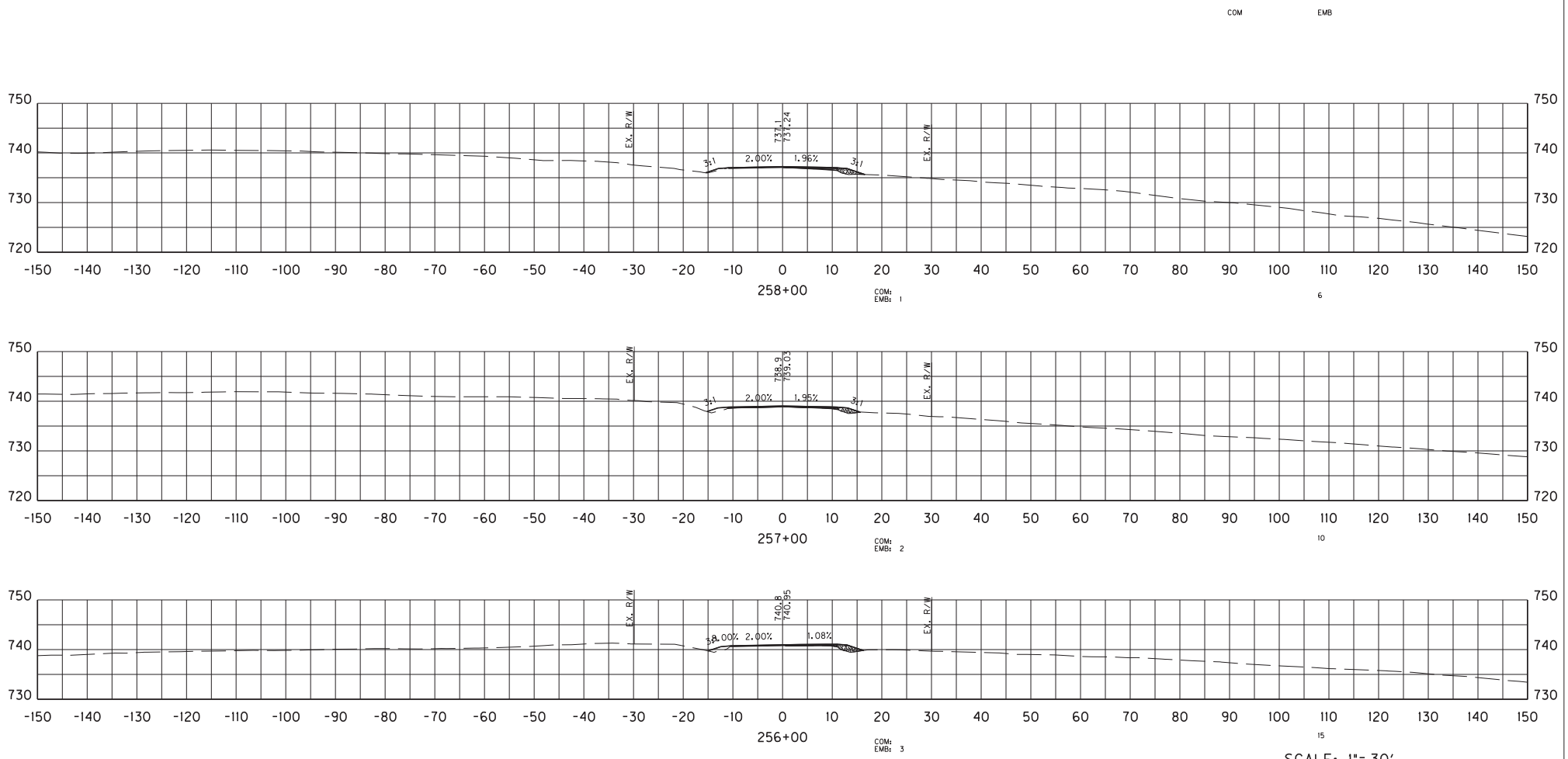
CROSS SECTIONS
STA 248+00 TO 251+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X43

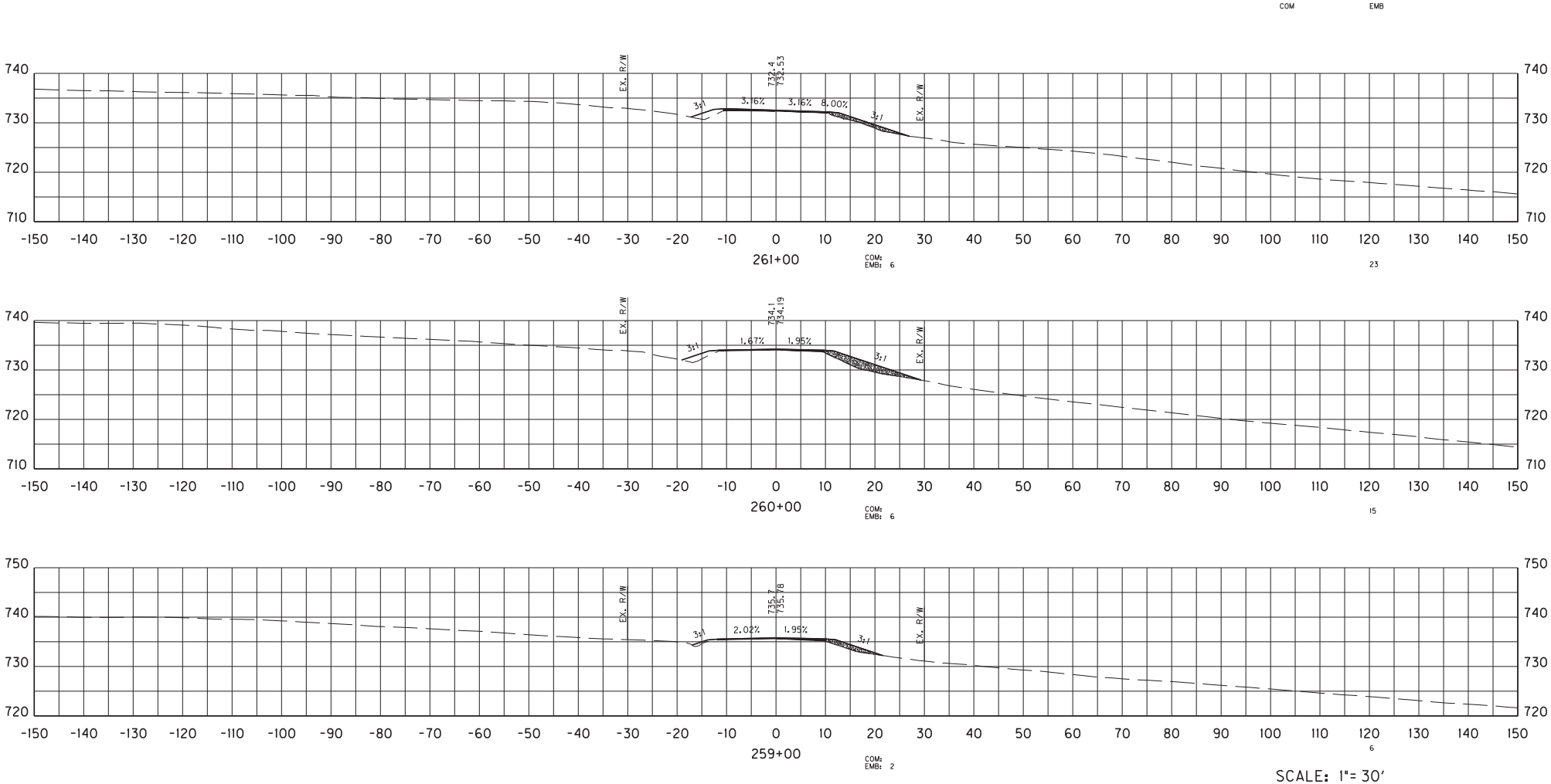
CROSS SECTIONS
STA 252+00 TO 255+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017.00	X44

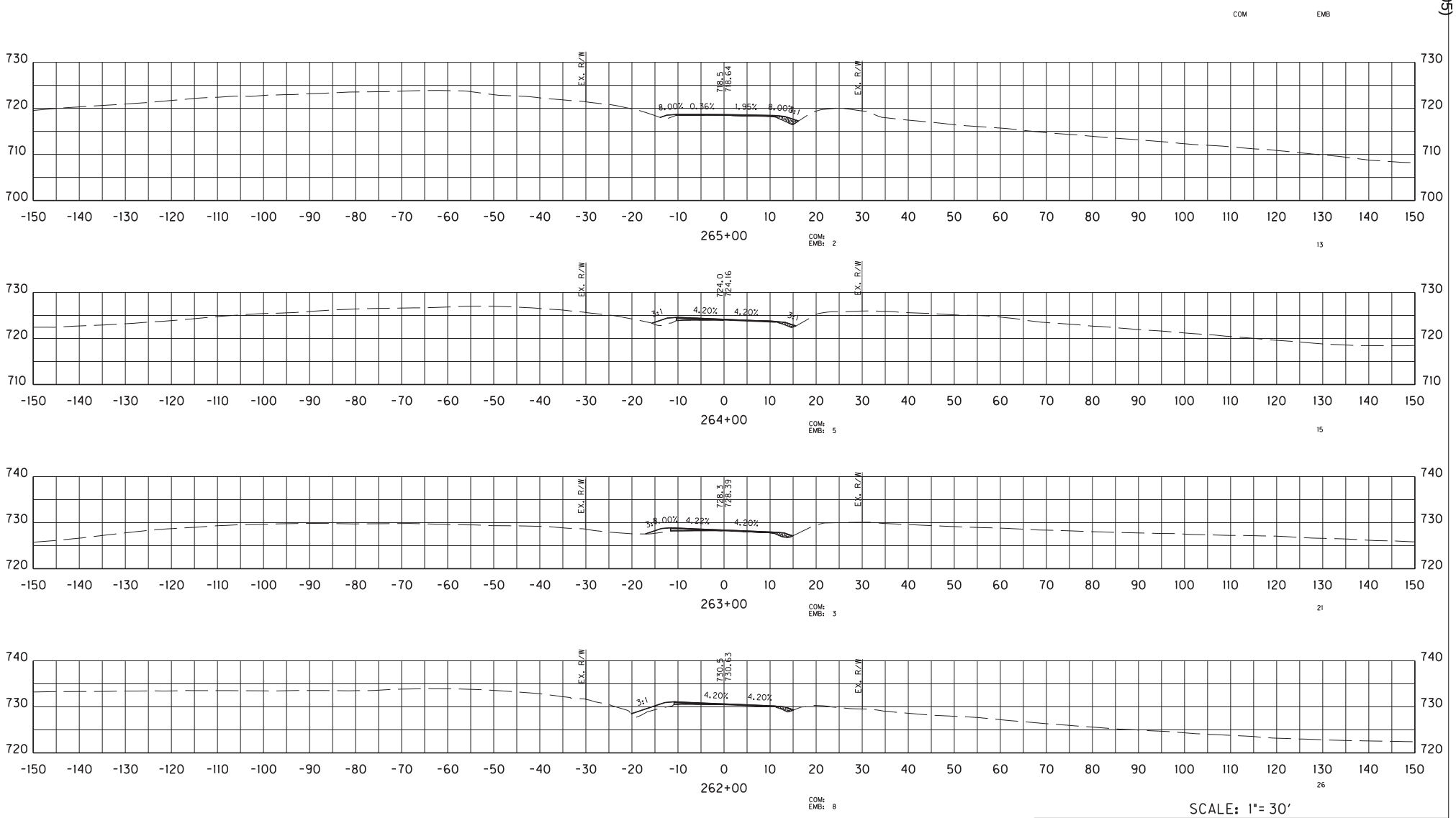
CROSS SECTIONS
STA 256+00 TO 258+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X45

CROSS SECTIONS
STA 259+00 TO 261+00

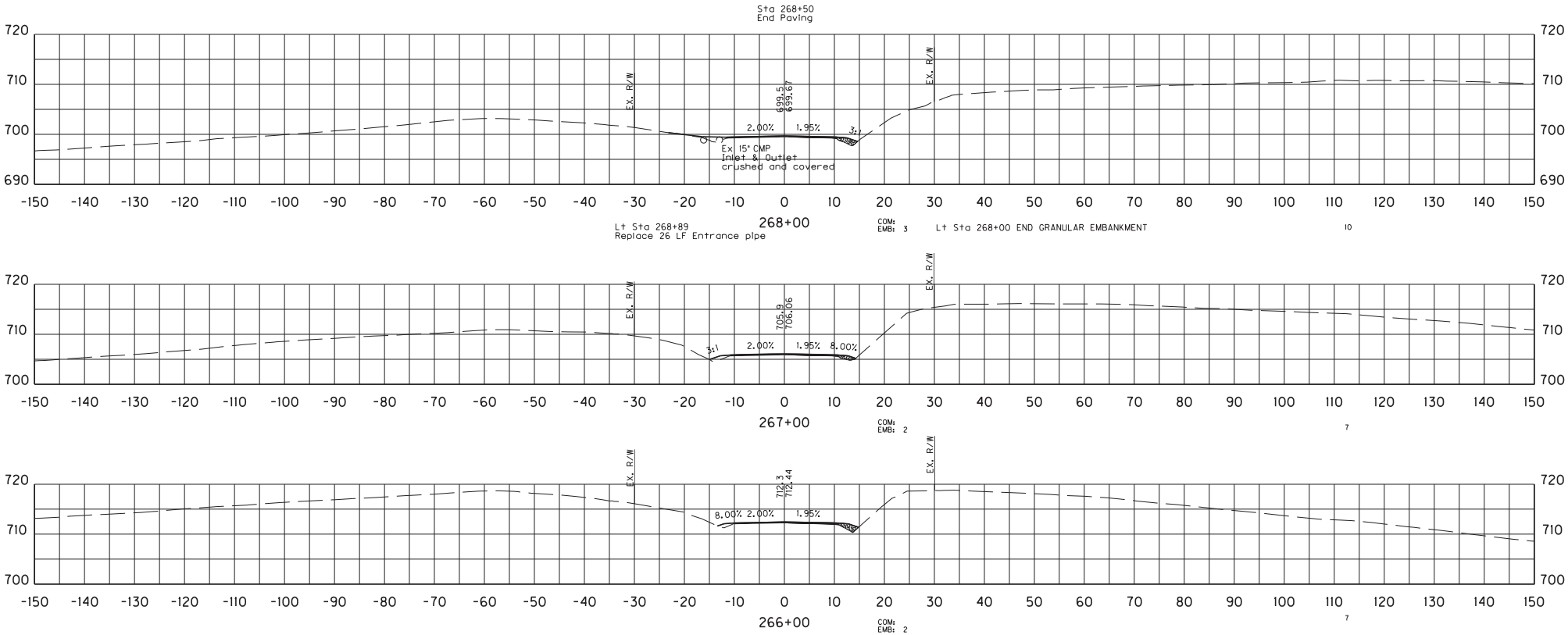


SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X46

CROSS SECTIONS
STA 262+00 TO 265+00

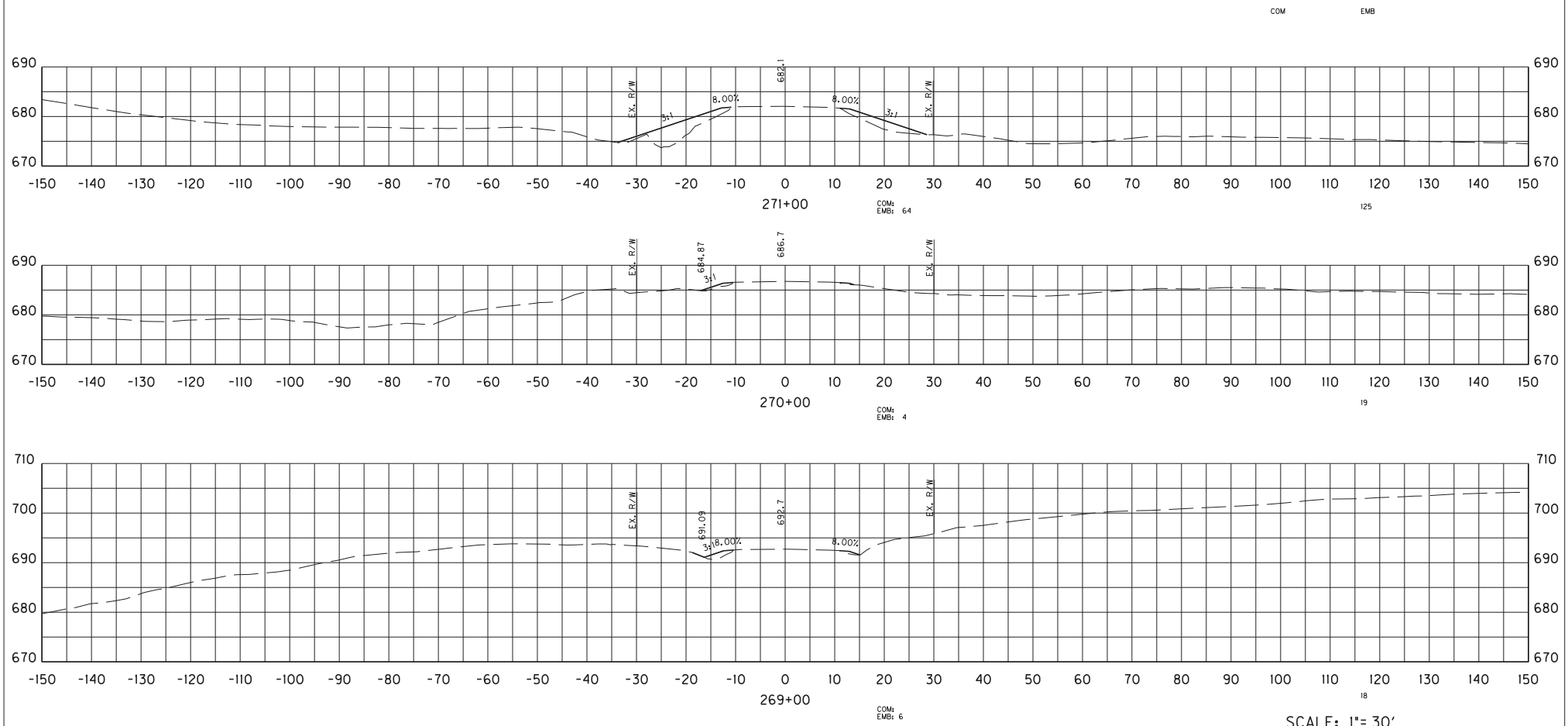
COM EMB



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X47

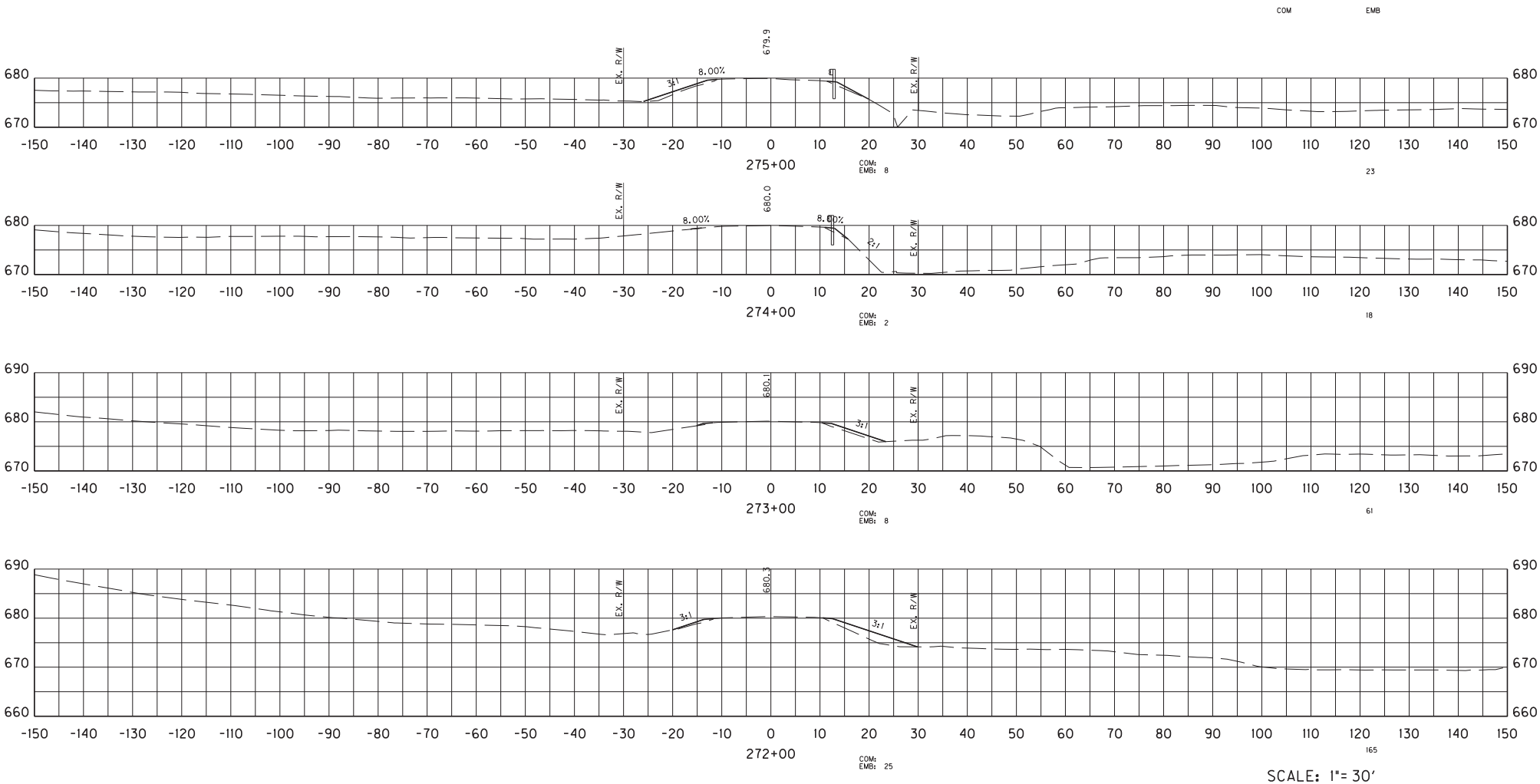
CROSS SECTIONS
STA 266+00 TO 268+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X48

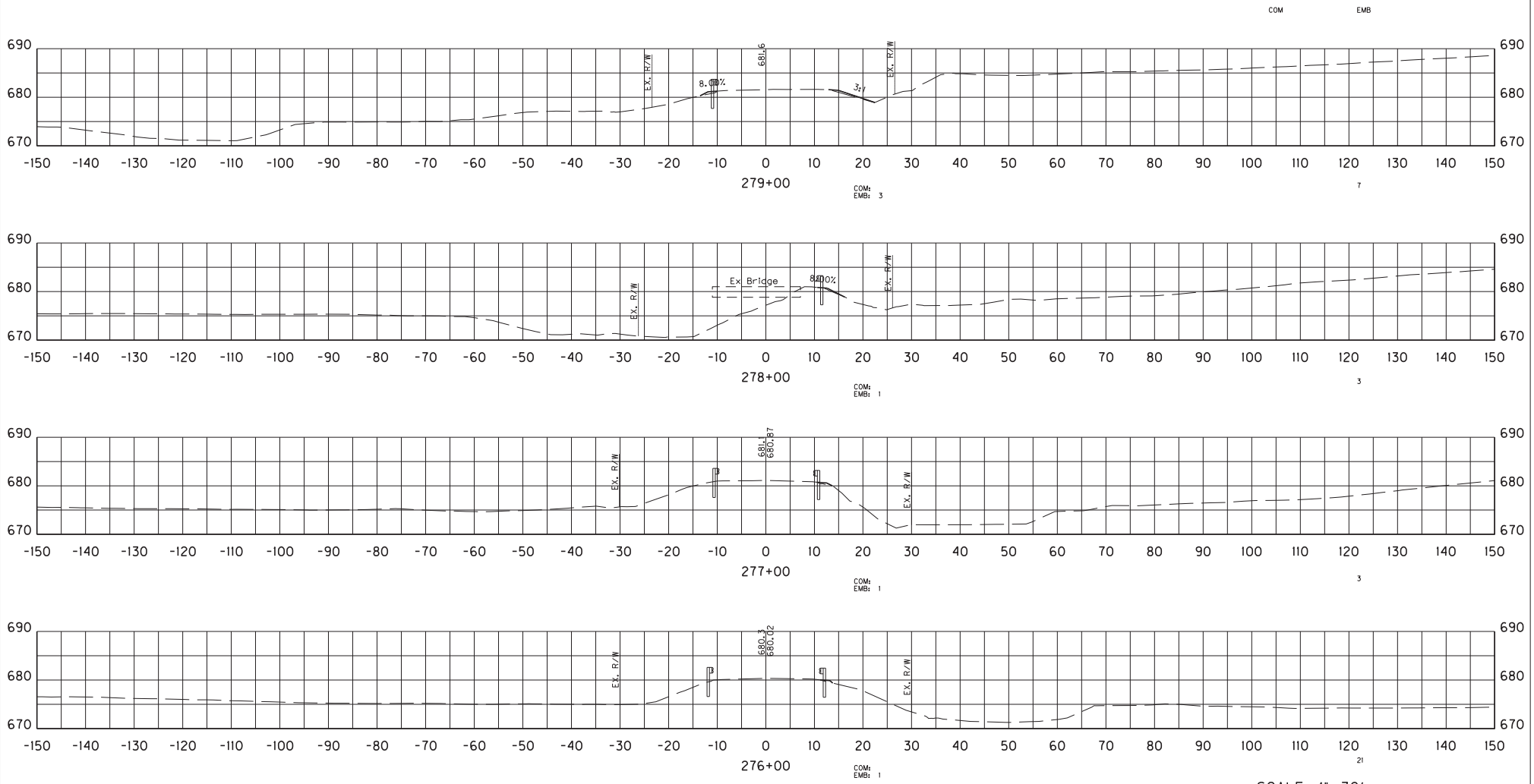
CROSS SECTIONS
STA 269+00 TO 271+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X49

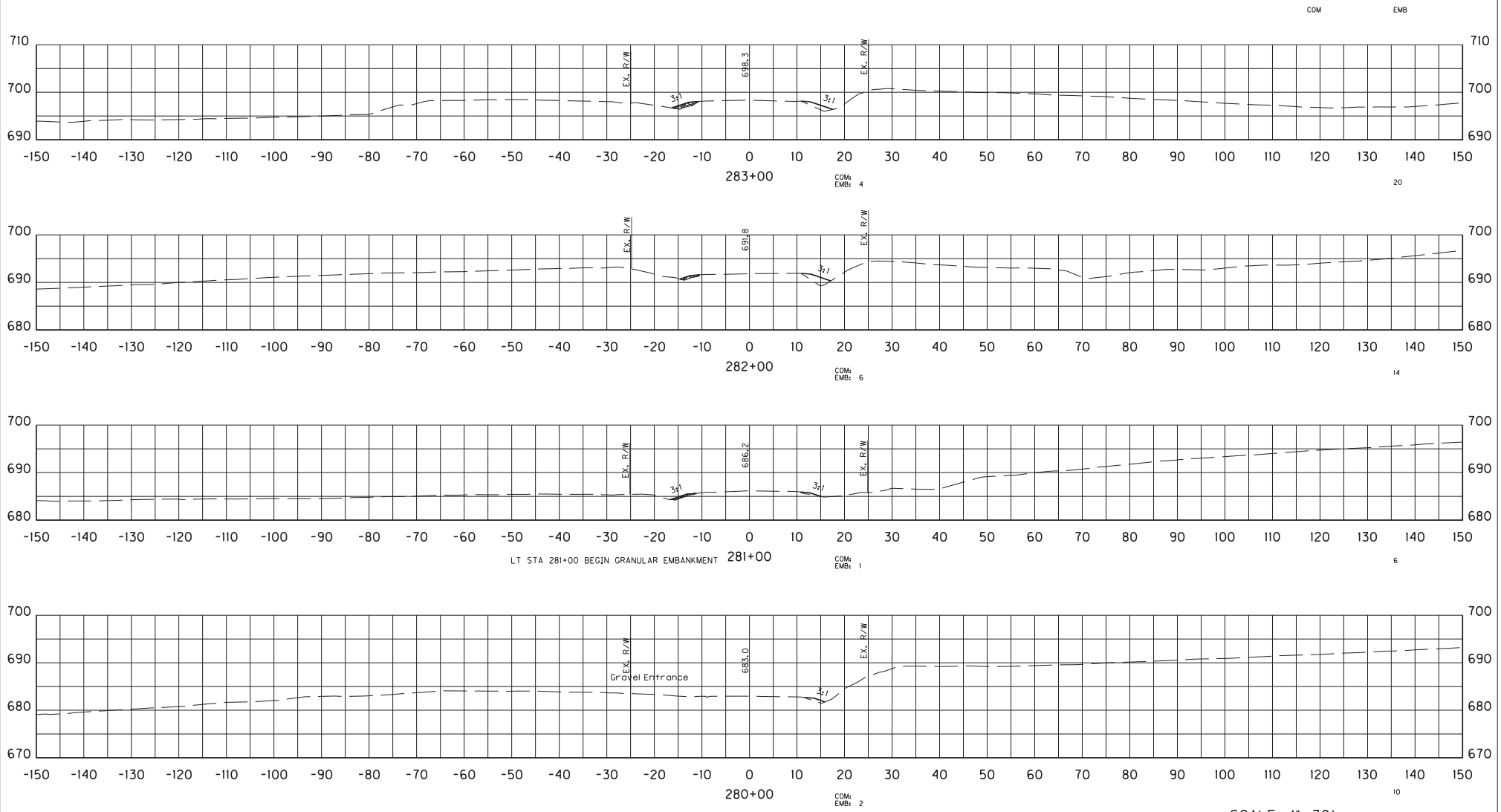
CROSS SECTIONS
STA 272+00 TO 275+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X50

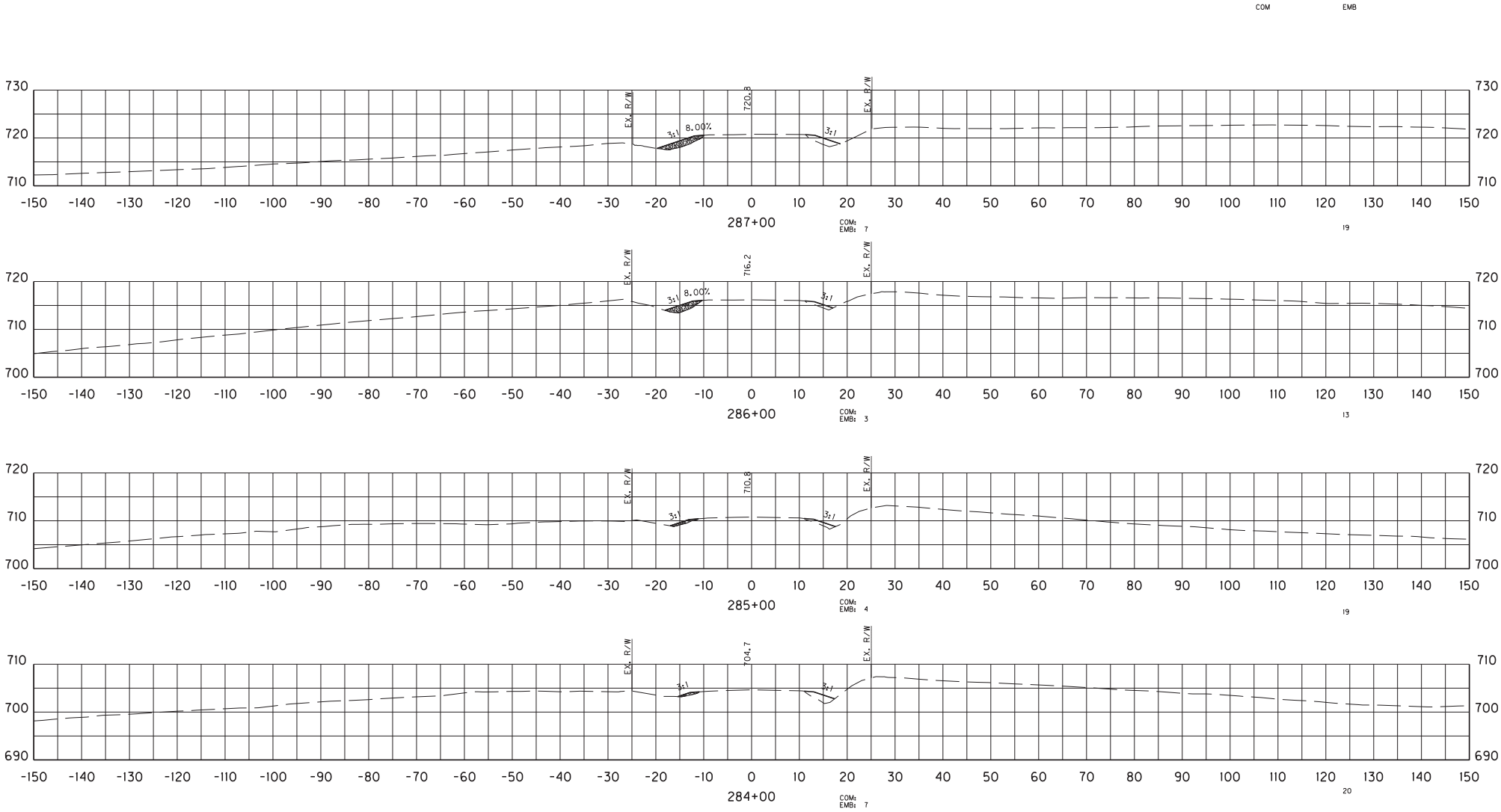
CROSS SECTIONS
STA 276+00 TO 279+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X51

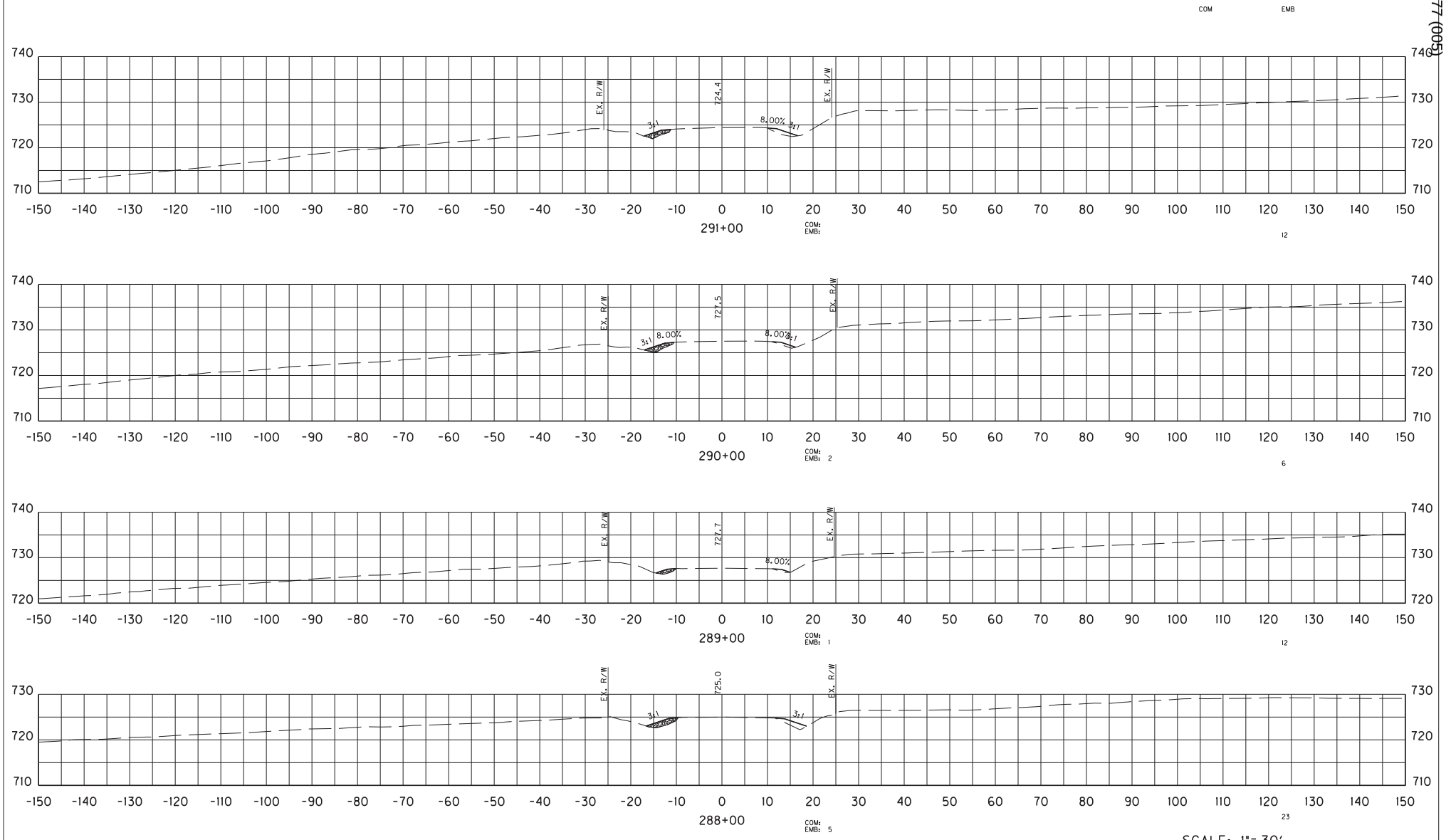
CROSS SECTIONS
STA 280+00 TO 283+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X52

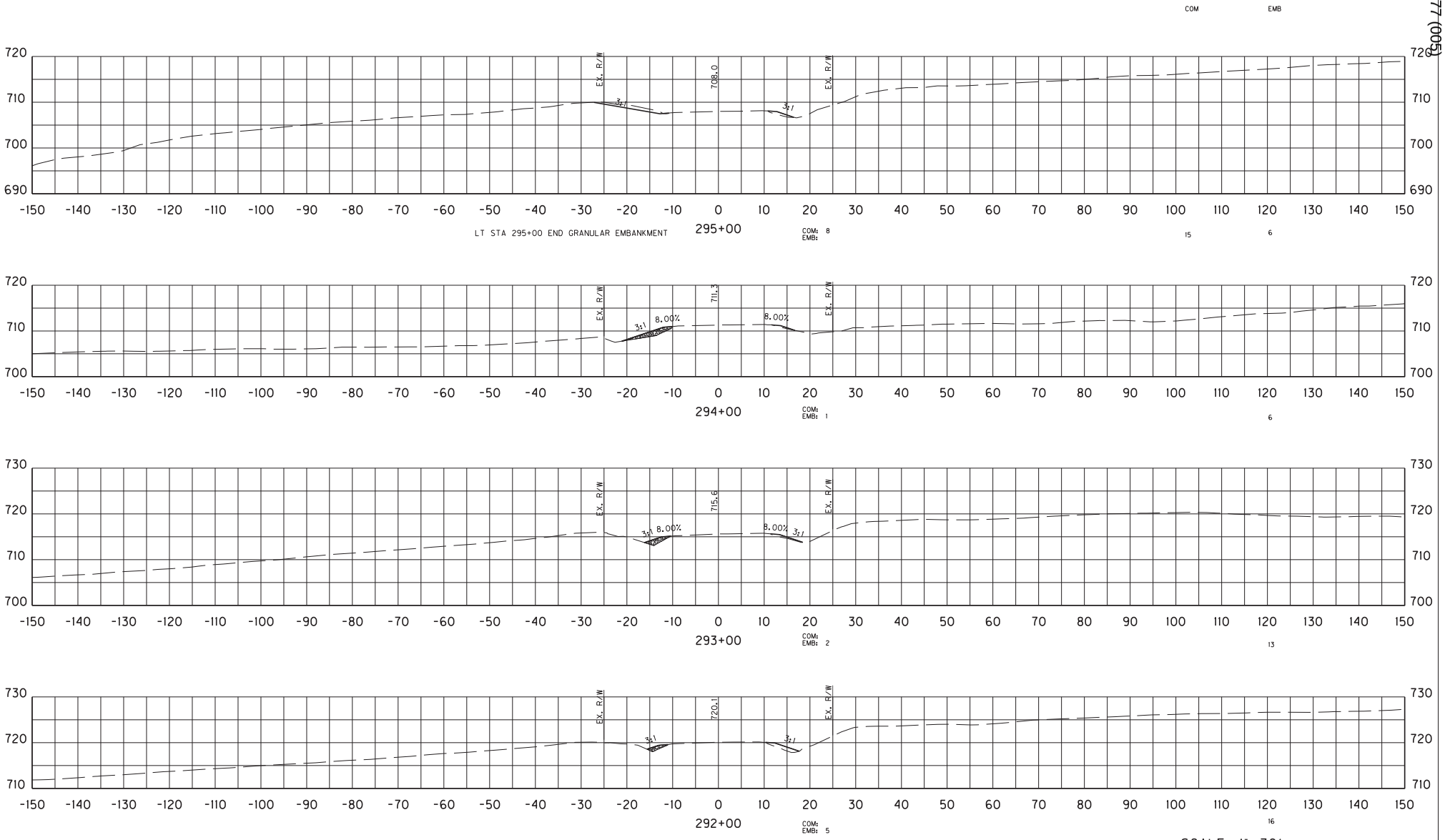
CROSS SECTIONS
STA 284+00 TO 287+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X53

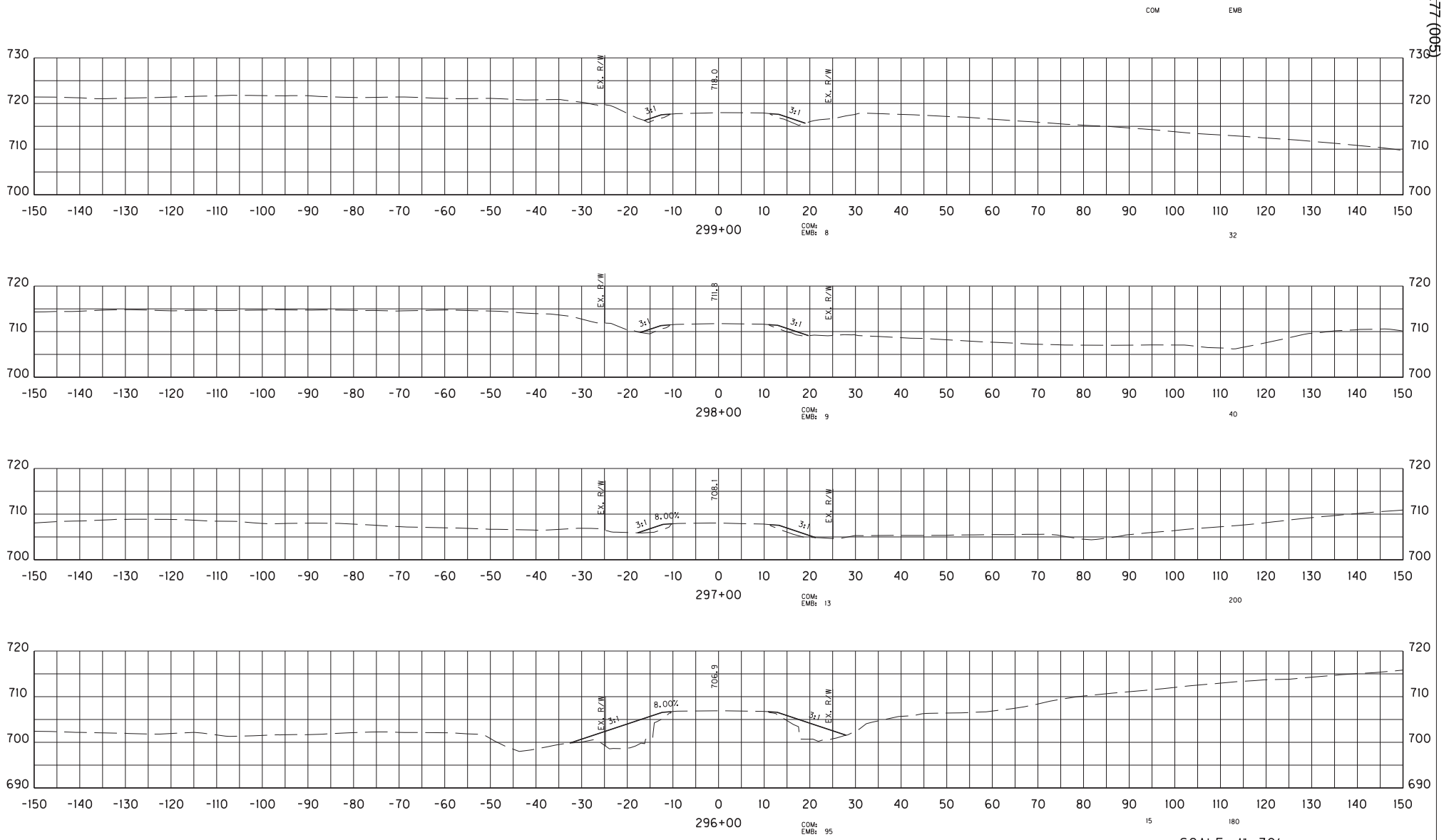
CROSS SECTIONS
STA 288+00 TO 291+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X54

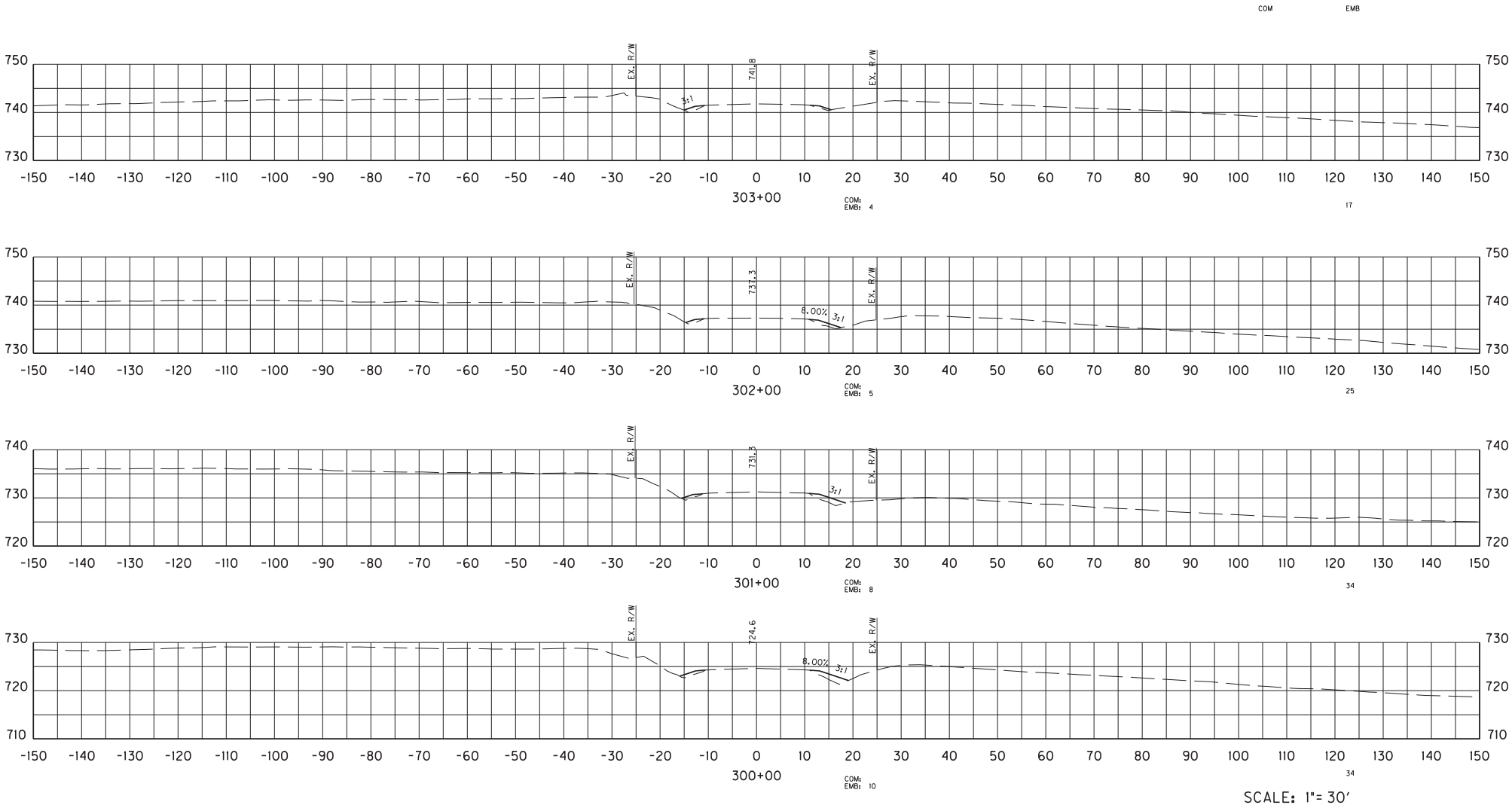
CROSS SECTIONS
STA 292+00 TO 295+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X55

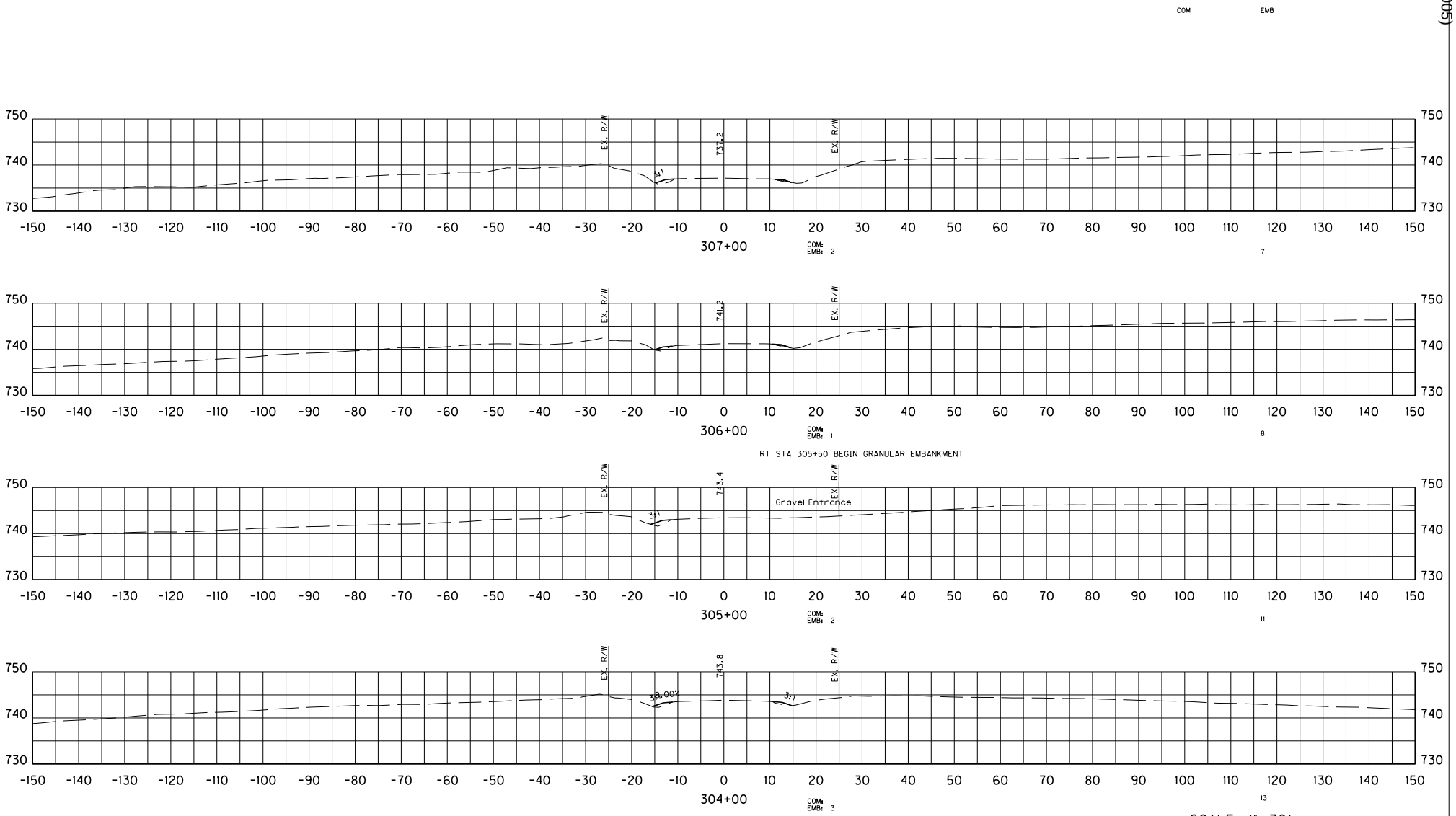
CROSS SECTIONS
STA 296+00 TO 299+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X56

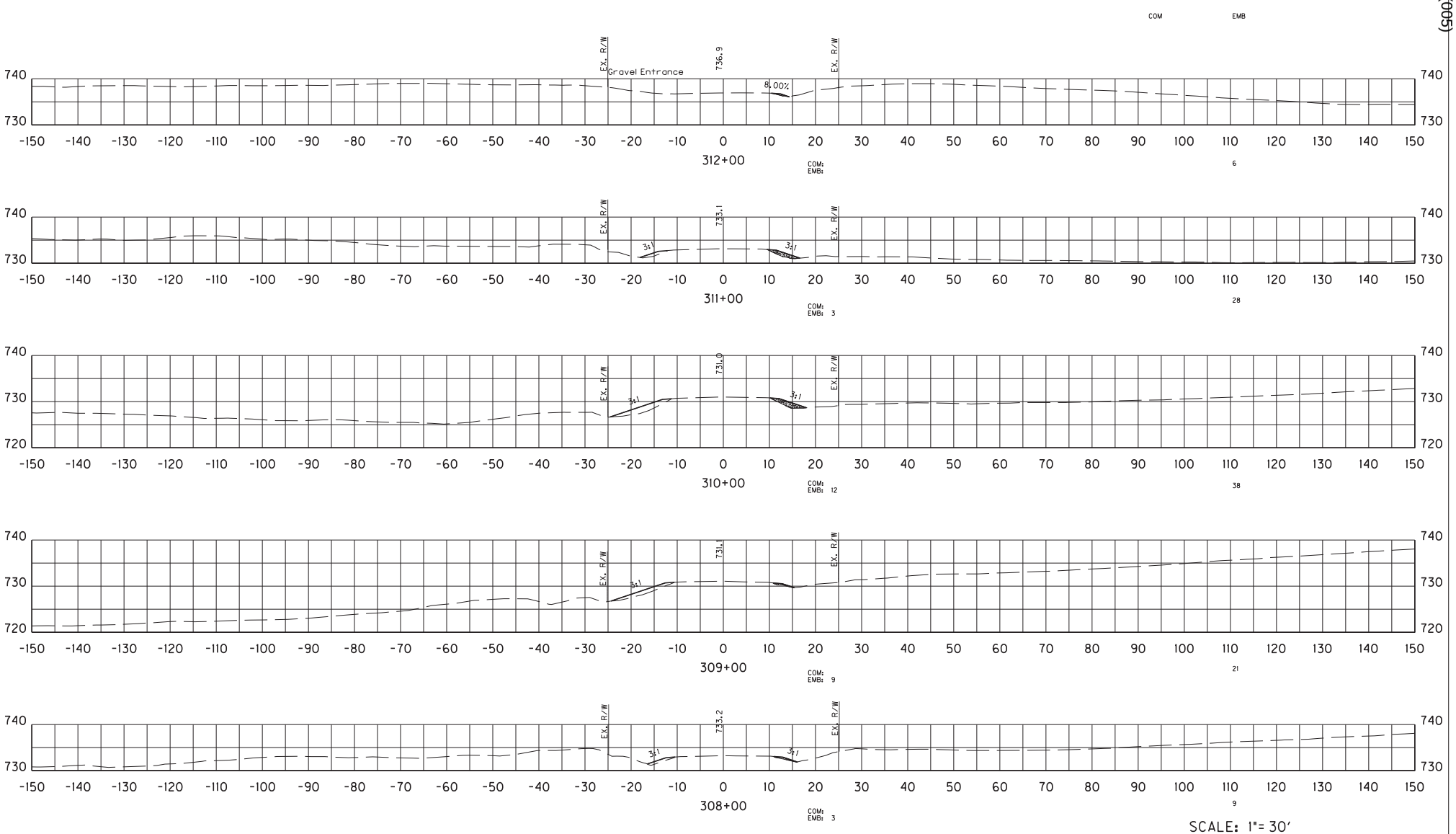
CROSS SECTIONS
STA 300+00 TO 303+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X57

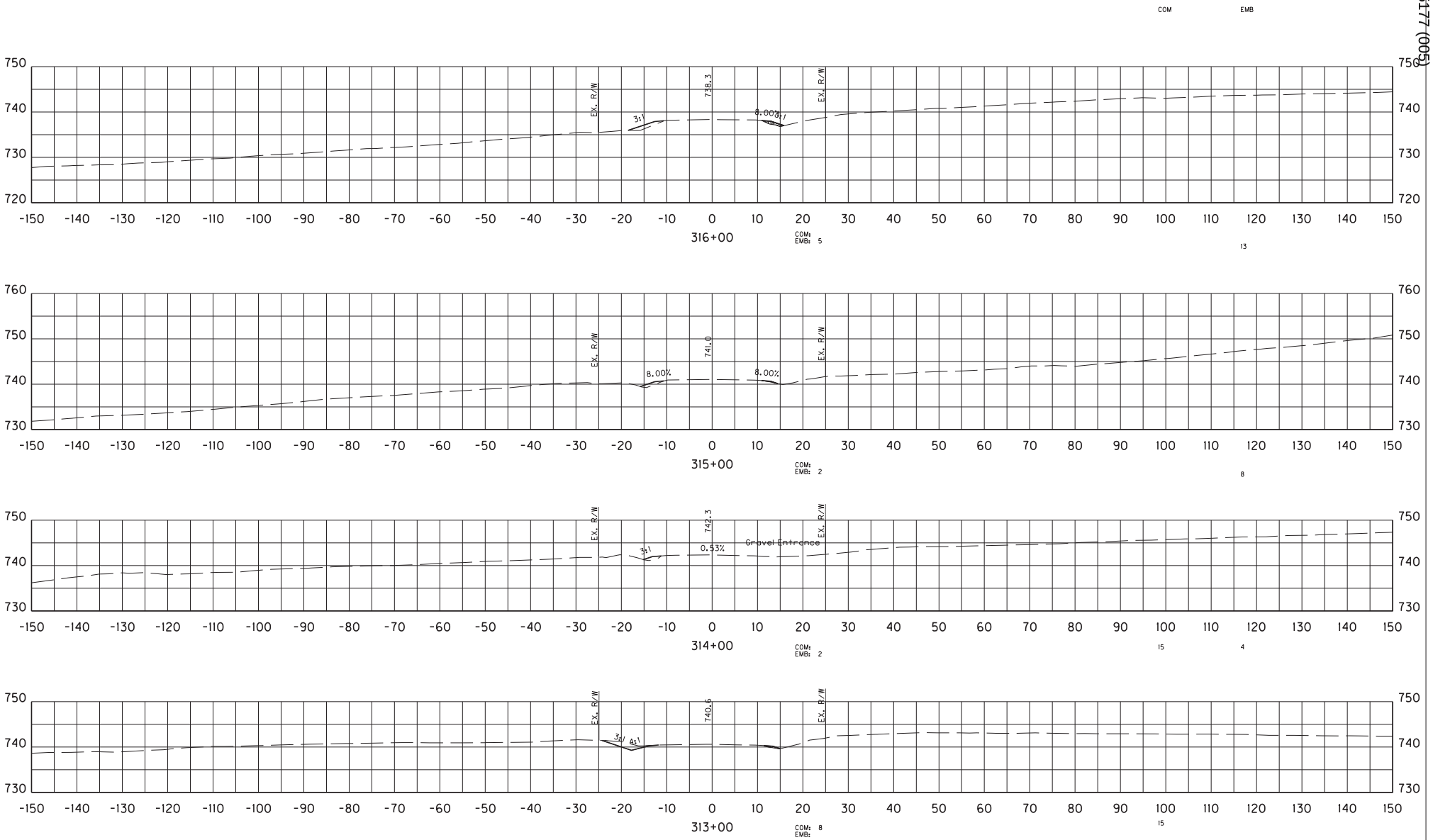
CROSS SECTIONS
STA 304+00 TO 307+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X58

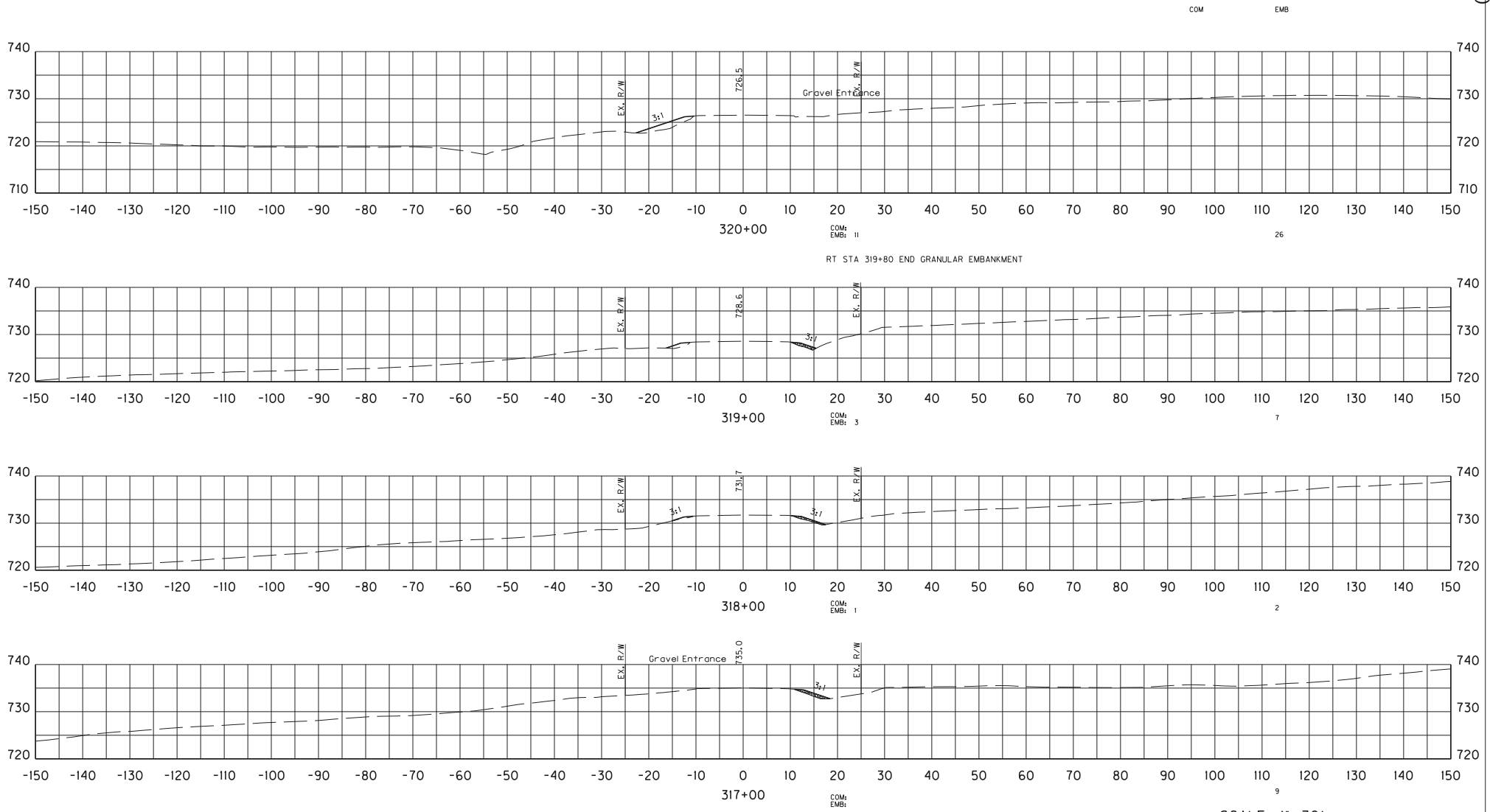
CROSS SECTIONS
STA 308+00 TO 312+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X59

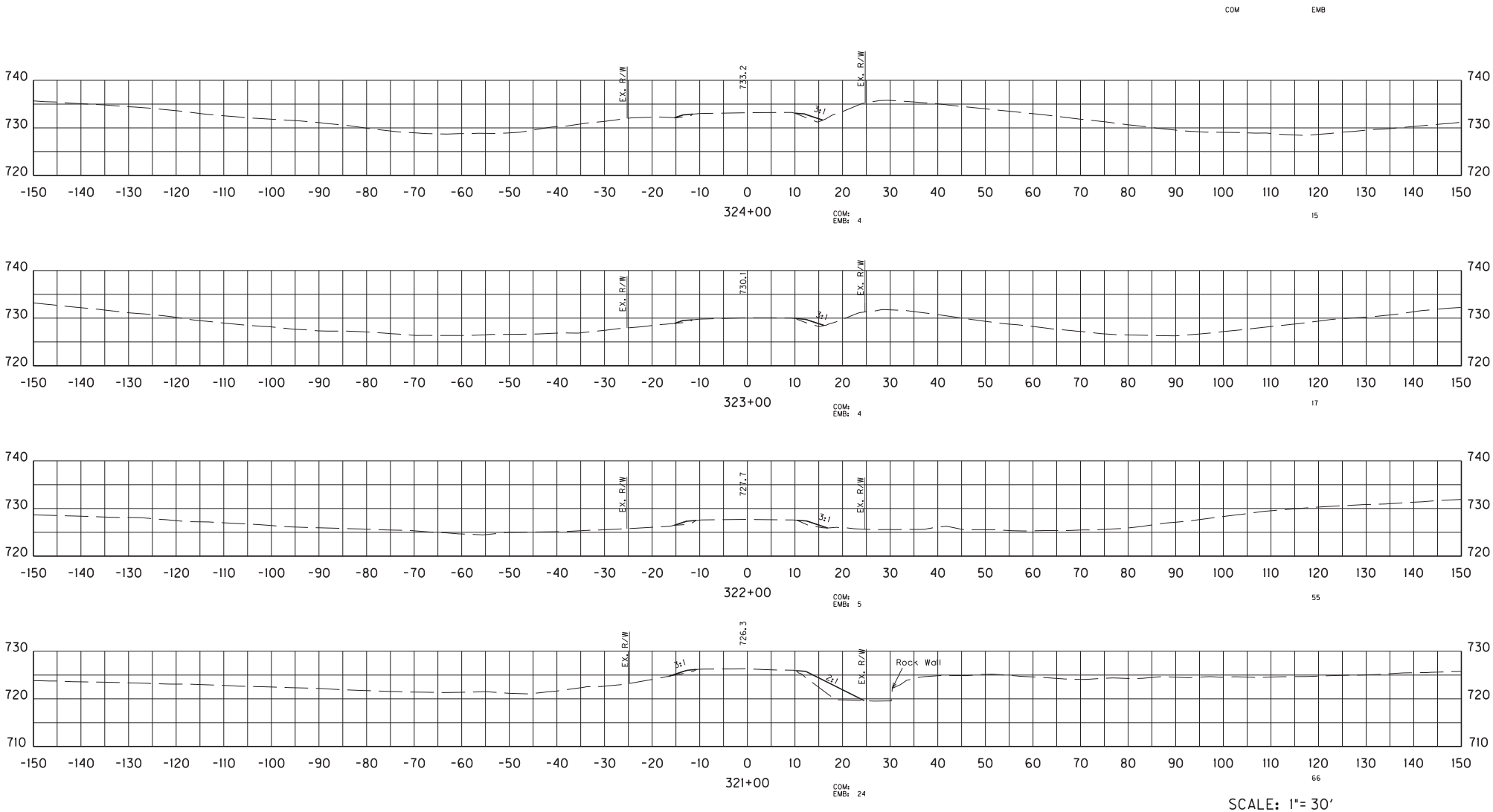
CROSS SECTIONS
STA 313+00 TO 316+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X60

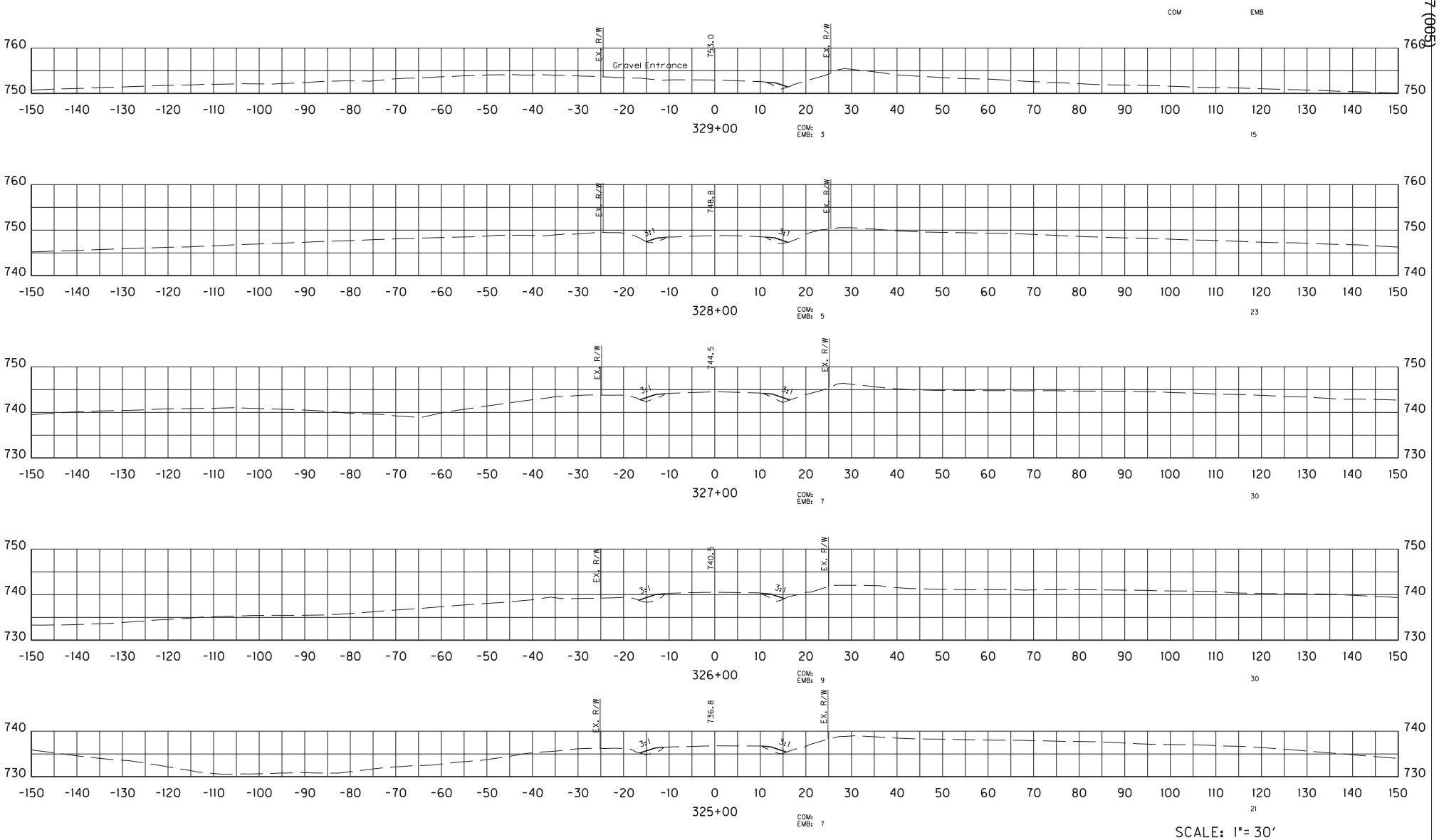
CROSS SECTIONS
STA 317+00 TO 320+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017 5-	X61

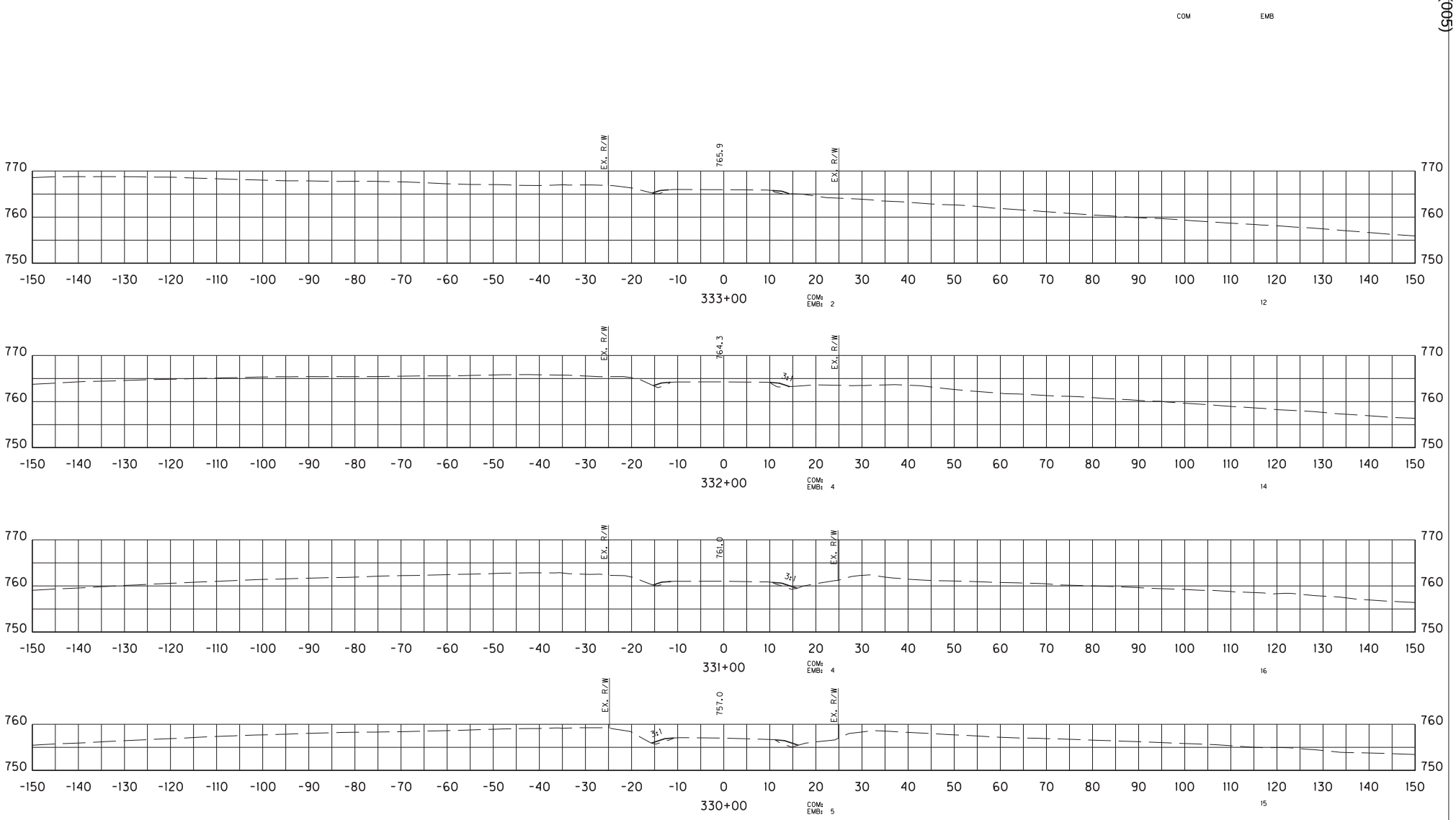
CROSS SECTIONS
STA 321+00 TO 324+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X62

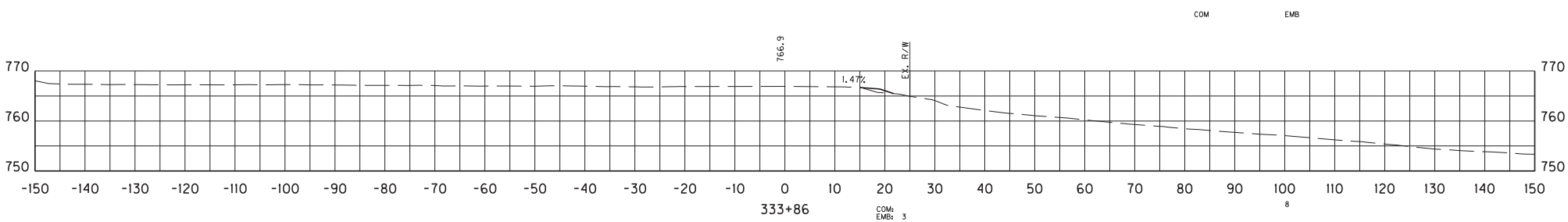
CROSS SECTIONS
STA 325+00 TO 329+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X63

CROSS SECTIONS
STA 330+00 TO 333+00



SCALE: 1"= 30'

COUNTY OF	ITEM NO.	SHEET NO.
SHEL/SPEN	5-9017	X64

LETTING DATE

CONSTRUCTION PROJECT NO.

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS
SPENCER COUNTY
SHELBYVILLE ROAD
KY 55 OVER A DITCH
Station 103+43

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavations, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1284 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	24.3	C.Y.
8150	Reinforcement	2079	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

ITEM NUMBER
05-9017.00

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1, 2 & 3
6	Wing 4
7	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY
DESIGNED BY: J. VAN ZEE | L. LIKINS
DETAILED BY: M. BAWITHAWNG | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

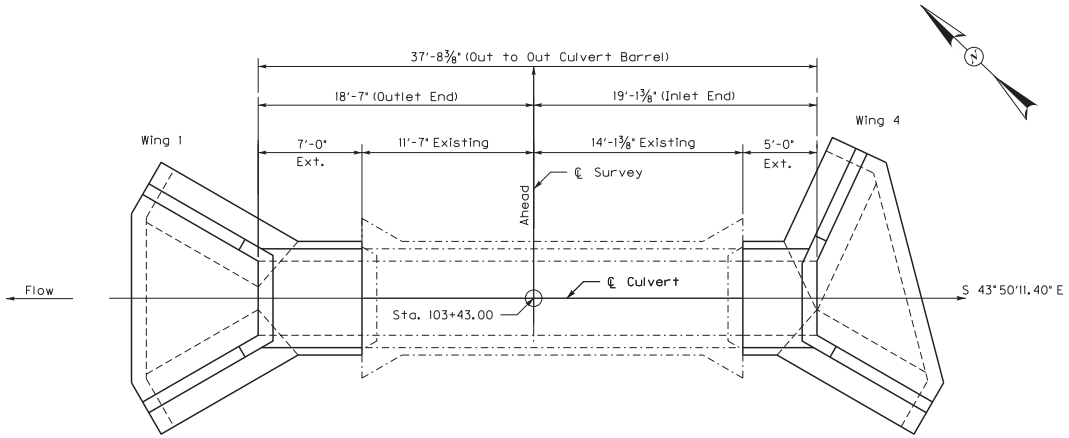
SINGLE 5.0 x 4.0 CULVERT

PREPARED BY
Division of Structural Design

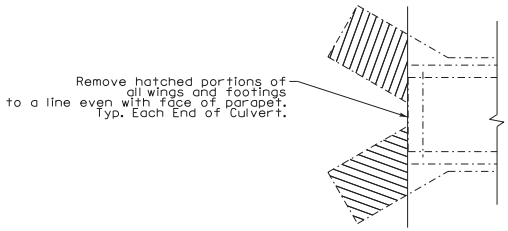
SHEET NO. S1
DRAWING NO. 28320

E-SHEET NAME:
DATE: 20-NOV-2020
USERNAME: Earl.Downey
FILE NAME: J:\District05\5-9017 HSIP\Culverts\ 28320 5x4 RCBC Station 103+43 spencer ck\28320\28320.dgn

E-SHEET NAME:
DATE: 20-NOV-2020
USERNAME: Earl.W.Downey
FILE NAME: J:\District05\5-9017 HSIP\Culverts\ 28320 5x4 RCBC Station 103+43 spencer ck\28320\28320.dgn

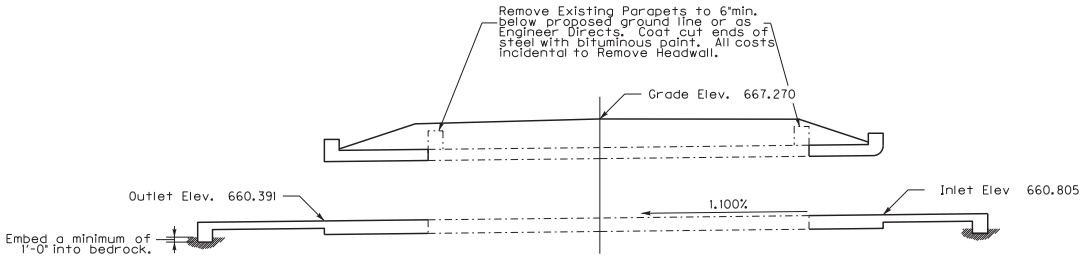


PLAN
SCALE = 1:48



Removal Details
SCALE = 1:48

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.



SECTION ON ℄
Single 5'-0" x 4'-0" x 37'-8¾" R.C.B.C.
19'-1⅜" Inlet End and 18'-7" Outlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

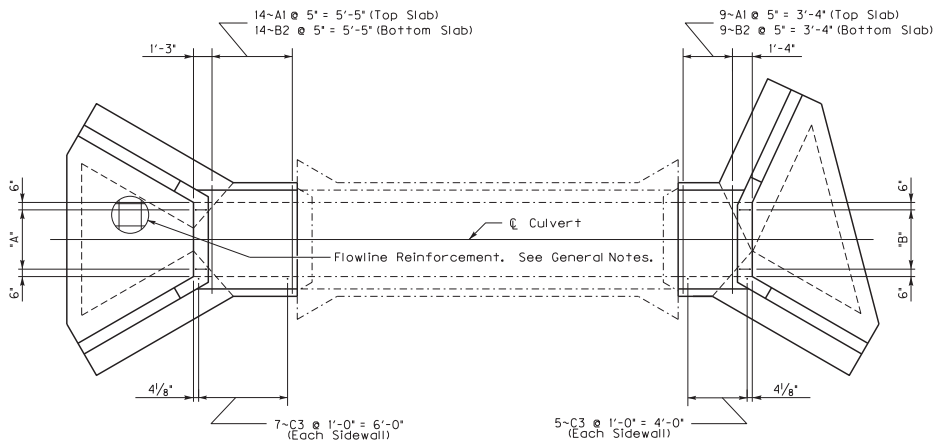
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

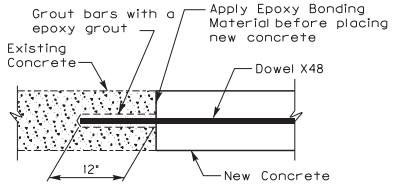
LAYOUT

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S2
		DRAWING NO. 28320

5-SHEET NAME: DATE: 20-NOV-2020 USERNAME: Earl.W.Downey FILE NAME: J:\District05\5-9017 HSIP\Culverts\28320 5x4 RCBC Station 103+43 spencer ck\28320\28320.dgn



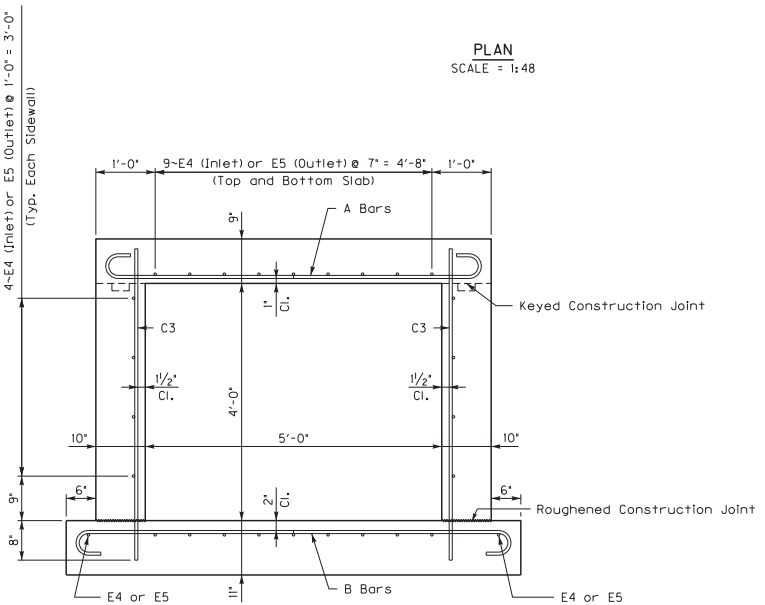
PLAN
SCALE = 1:48



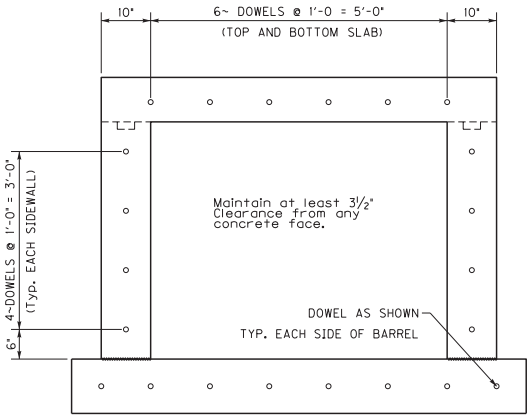
DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

"A" 5~R46 @ 1'-0" = 4'-0"
"B" 5~R47 @ 1'-0" = 4'-0"
Minimum Lap Distance for E 4 Bars 21 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

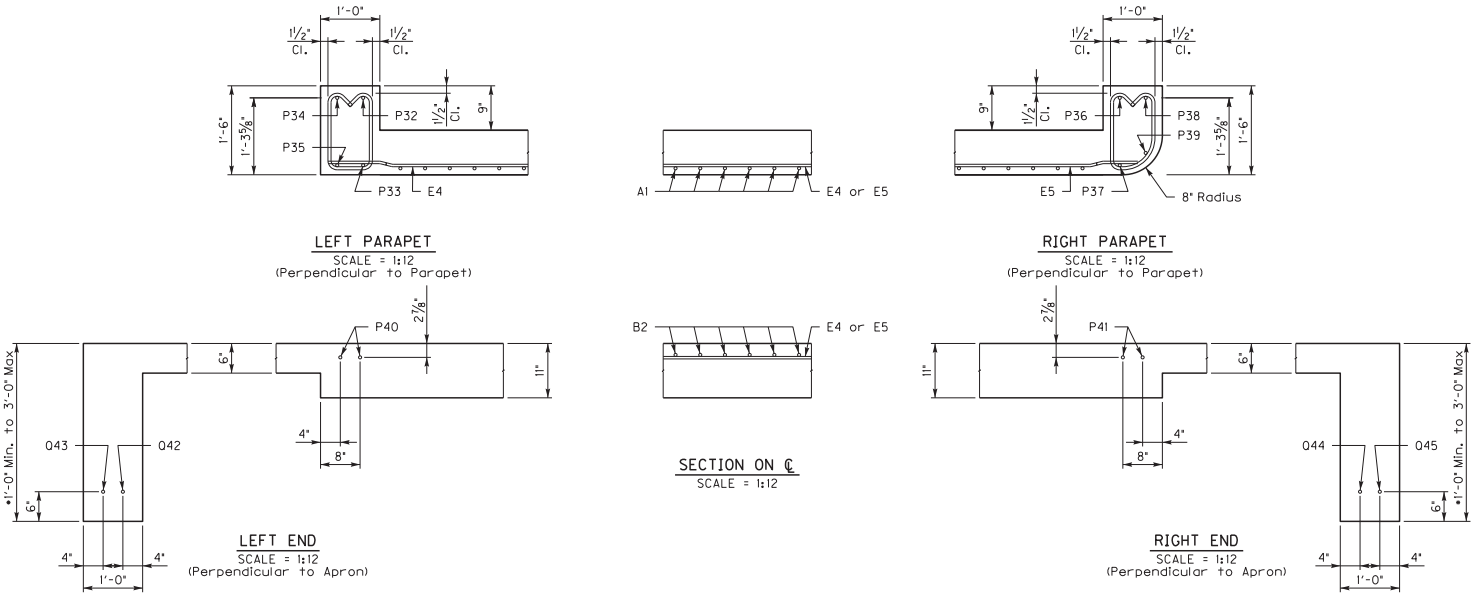
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S3
		DRAWING NO. 28320

E-SHEET NAME:
DATE: 20-NOV-2020
USERNAME: Earl.W.Downey
FILE NAME: J:\District05\5-9017 HSIP\Culverts\ 28320 5x4 RCBC Station 103+43 spencer ck\28320\28320.dgn



•Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

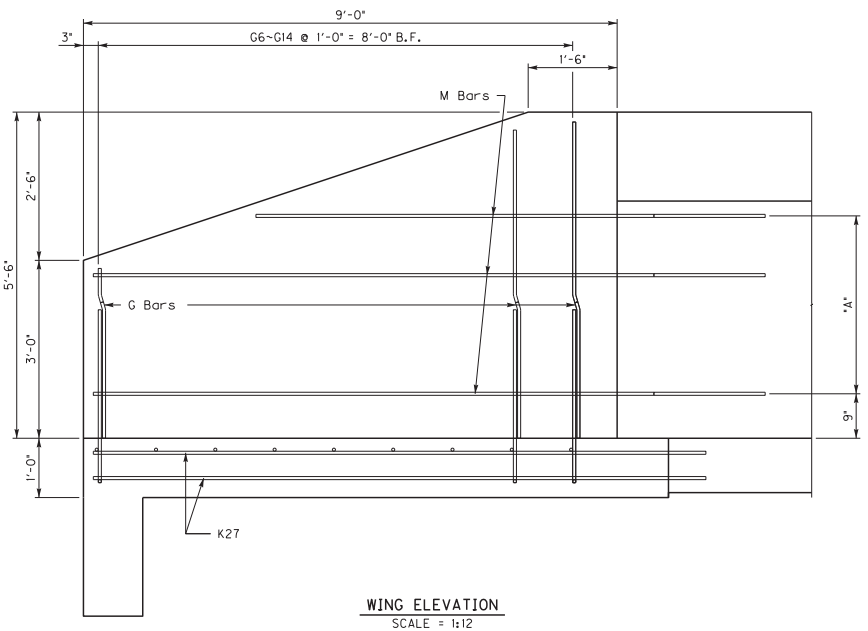
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
SPENCER

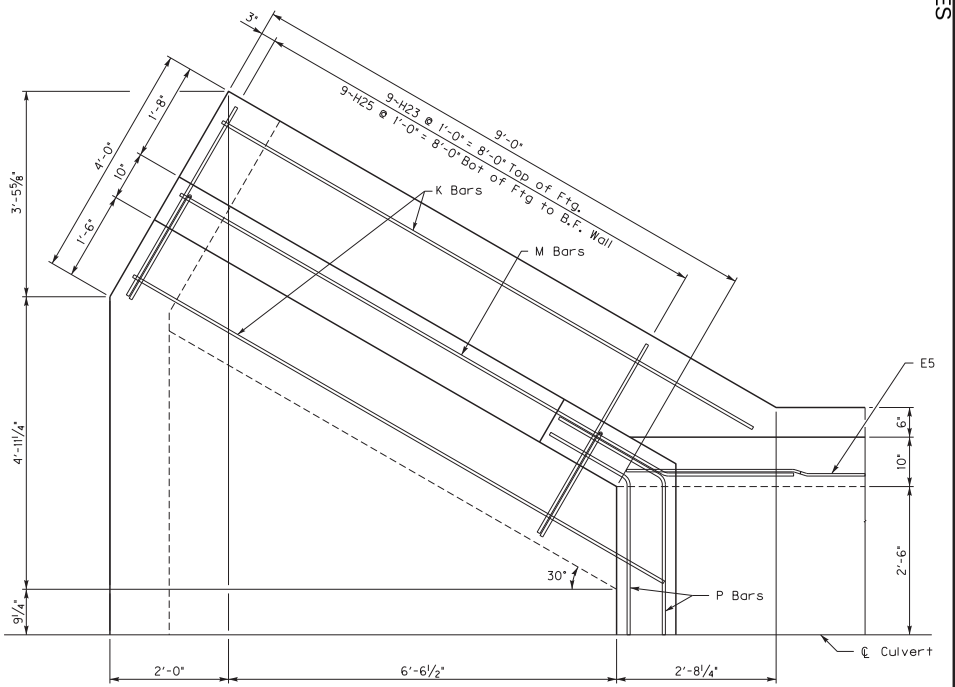
ROUTE	CROSSING
KY 55	A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S4
		DRAWING NO. 28320

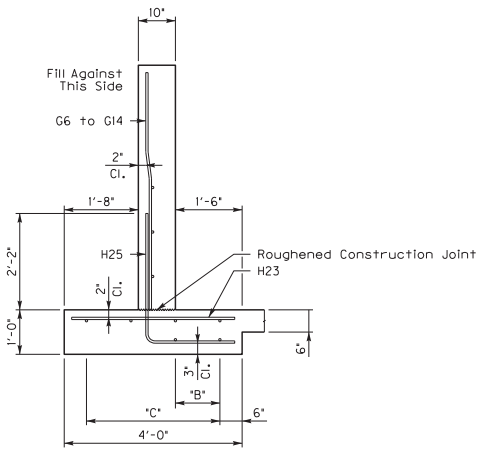


WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:12

"A" 3~M29, 1~M30 @ 1'-0" = 3'-0" B.F.
"B" 2~K27 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 4~K27 @ 1'-0" = 3'-0"



WING SECTION
SCALE = 1:16

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

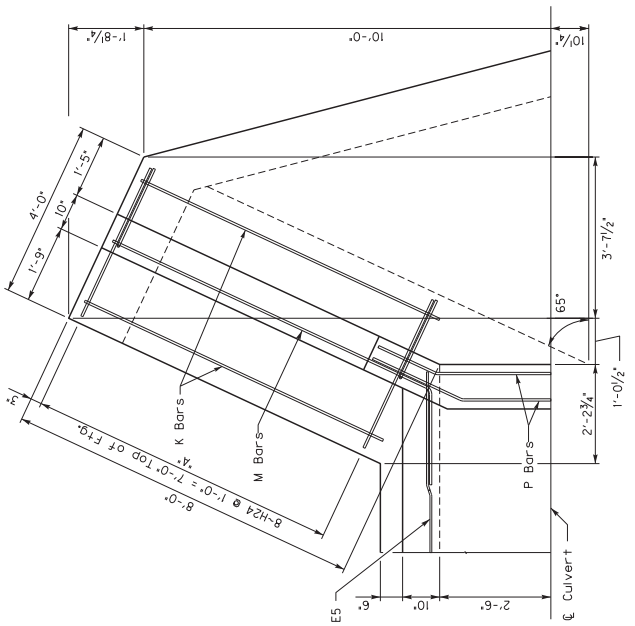
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

Wings 1, 2 & 3

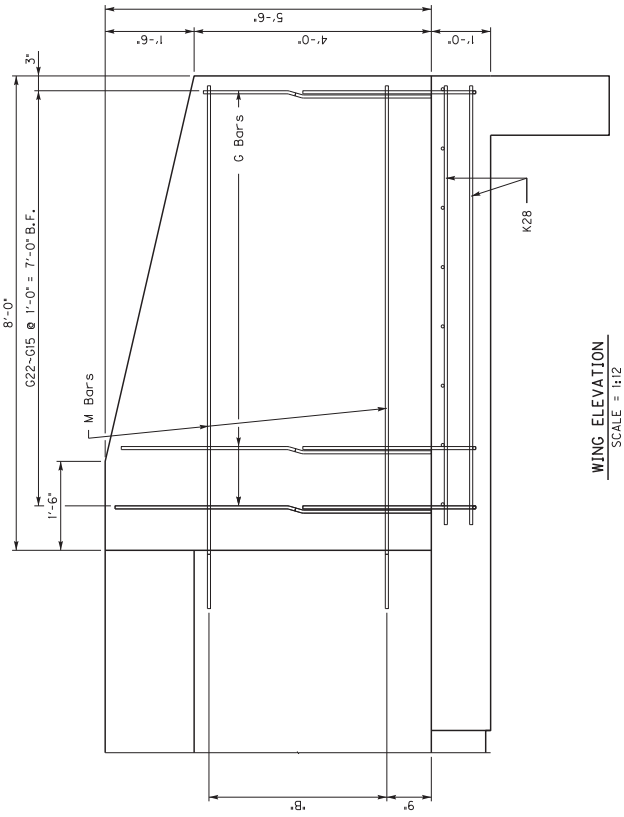
ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S5
		DRAWING NO. 28320

5-SHEET NAME:
DATE: 20-NOV-2020
USERNAME: Earl.W.Downey
FILE NAME: J:\District05\5-9017 HSIP\Culverts\ 28320 5x4 RCBC Station 103+43 spencer ck\28320\28320.dgn

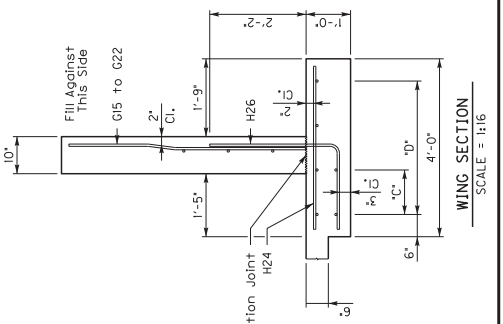


PLAN
SCALE = 1:16

'A' 8-H26 @ 1'-0" = 7'-0" Bot of Ftg to B.F. Wall
'B' 4-M31 @ 1'-0" = 3'-0" B.F.
'C' 2-K28 @ 1'-0" = 1'-0" Bot of Ftg.
'D' 4-K28 @ 1'-0" = 3'-0"



WING ELEVATION
SCALE = 1:12

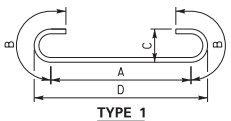


WING SECTION
SCALE = 1:16

ITEM NUMBER	SHEET NO.
05-9017.00	S6

| | | |

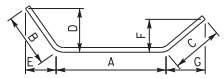
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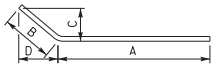
TYPE 1



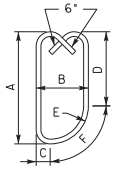
TYPE 5



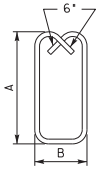
TYPE 7



TYPE 8



TYPE 11



TYPE 12

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	23	5	7- 7	Top Slab	5-11	0-10	0- 5	6- 4
B2	1	23	5	8- 7	Bottom Slab	6-11	0-10	0- 5	7- 4
C3	Str.	24	5	5- 3	Sidewalls				
E4	Str.	28	4	4- 8	Slabs & Sidewalls (Inlet)				
E5	Str.	28	4	6- 8	Slabs & Sidewalls (Outlet)				
G6	Str.	3	5	2-10	B.F Wings 1, 2 & 3				
G7	Str.	3	5	3- 2	B.F Wings 1, 2 & 3				
G8	Str.	3	5	3- 6	B.F Wings 1, 2 & 3				
G9	Str.	3	5	3-10	B.F Wings 1, 2 & 3				
G10	Str.	3	5	4- 2	B.F Wings 1, 2 & 3				
G11	Str.	3	5	4- 6	B.F Wings 1, 2 & 3				
G12	Str.	3	5	4-10	B.F Wings 1, 2 & 3				
G13	Str.	3	5	5- 2	B.F Wings 1, 2 & 3				
G14	Str.	3	5	5- 4	B.F Wings 1, 2 & 3				
G15	Str.	1	5	3-10	B.F Wing 4				
G16	Str.	1	5	4- 1	B.F Wing 4				
G17	Str.	1	5	4- 4	B.F Wing 4				
G18	Str.	1	5	4- 6	B.F Wing 4				
G19	Str.	1	5	4- 9	B.F Wing 4				
G20	Str.	1	5	5- 0	B.F Wing 4				
G21	Str.	1	5	5- 3	B.F Wing 4				
G22	Str.	1	5	5- 4	B.F Wing 4				
H23	Str.	27	5	3- 8	Top Ftg Wings 1, 2 & 3				
H24	Str.	8	5	3- 8	Top Ftg Wing 4				
H25	5	27	5	4- 9	Bot Ftg Wings 1, 2 & 3	2-11	2- 0		
H26	5	8	5	4- 8	Bot Ftg Wing 4	2-11	1-11		
K27	Str.	18	5	10- 4	Ftg Wings 1, 2 & 3				
K28	Str.	6	5	7- 5	Ftg Wing 4				
M29	8	9	5	11- 7	B.F. Wings 1, 2 & 3	9- 5½	2- 2	1- 1	1-10½
M30	8	3	5	8-10	B.F. Wings 1, 2 & 3	6- 8½	2- 2	1- 1	1-10½
M31	8	4	5	10- 0	B.F. Wing 4	7-10¾	2- 2	1-11⅝	0-11
P32	7	1	5	9- 5	B.F. Parapet Lt. End	5- 6¾	1-11¾	1-11¾	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P33	7	1	5	9- 5	B.F. Parapet Lt. End	5- 6¾	1-11¾	1-11¾	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P34	7	1	5	8- 5	F.F. Parapet Lt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P35	7	1	5	8- 5	F.F. Parapet Lt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P36	7	1	5	9- 0	B.F. Parapet Rt. End	5- 1⅞	1-11¾	1-11⅞	1- 8½
						0-11⅞	0- 9¾	1- 8⅞	
P37	7	1	5	9- 0	B.F. Parapet Rt. End	5- 1⅞	1-11¾	1-11⅞	1- 8½
						0-11⅞	0- 9¾	1- 8⅞	
P38	7	1	5	8- 4	F.F. Parapet Rt. End	4-11¼	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	0- 8⅞	1- 6⅞	
P39	7	1	5	8- 4	F.F. Parapet Rt. End	4-11¼	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	0- 8⅞	1- 6⅞	
P40	Str.	2	5	7- 4	Bottom Slab Lt. End				
P41	Str.	2	5	7- 4	Bottom Slab Rt. End				
Q42	7	1	5	18- 2	Appron Lt. End	11- 0¾	3- 7	3- 7	1- 9½
						3- 1⅛	1- 9½	3- 1⅛	
Q43	7	1	5	18- 6	Appron Lt. End	11- 2⅛	3- 8	3- 8	1-10
						3- 2⅛	1-10	3- 2⅛	
Q44	7	1	5	21- 8	Appron Rt. End	14- 9½	3- 5⅞	3- 5⅜	2- 5⅜
						2- 5¾	2- 7⅛	2- 2⅜	
Q45	7	1	5	22- 3	Appron Rt. End	15- 1	3- 7½	3- 7¼	2- 6½
						2- 7	2- 9⅜	2- 3⅜	
R46	12s	5	5	4- 1	Parapet Wall (Left End)	1- 3½	0- 9		
R47	11s	5	5	3-11	Parapet Wall (Right End)	1- 3½	0- 9	0- 2½	0- 9
						0- 6½	0- 9¾		
X48	Str.	44	8	2- 0	Dowels				

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S7
		DRAWING NO. 28320

CONSTRUCTION PROJECT NO.

LETTING DATE

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SPENCER COUNTY
SHELBYVILLE ROAD
KY 55 OVER A DITCH
Station 123+37

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavatuions, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1073 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

ESTIMATE OF QUANTITIES			
BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	19.2	C.Y.
8150	Reinforcement	1654	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwalls	2	Each

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with 'Granular Embankment', non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ITEM NUMBER
05-9017.00

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1, 2, 3 & 4
6	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stenclis for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 — CHECKED BY

DESIGNED BY: J. VAN ZEE — N.O. BODY

DETAILED BY: M. BAWITHAWNG — J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SPENCER**

ROUTE: KY 55 — CROSSING: A DITCH

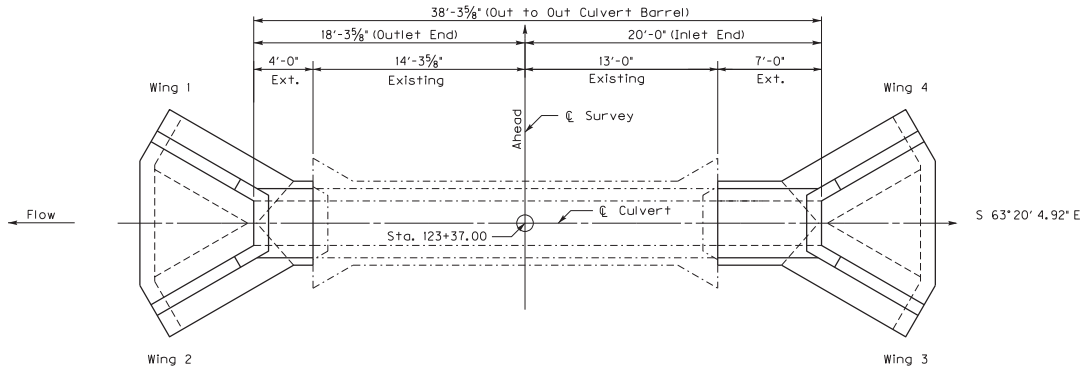
SINGLE 3.0 x 4.0 CULVERT

PREPARED BY: **Division of Structural Design**

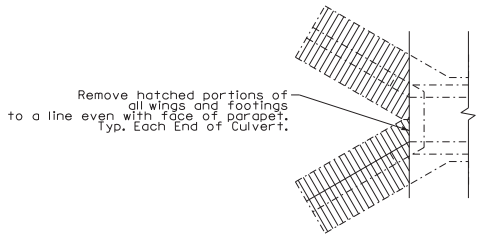
SHEET NO. S1

DRAWING NO. 2832

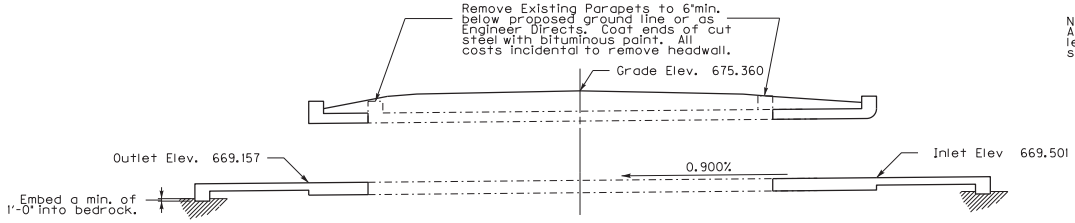
DATE: 21-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\2 28321 3x4 RCBC Station 123+37\28321.dgn
5-SHEET NAME:



PLAN
SCALE = 1:48



Removal Details
SCALE = 1:48



SECTION ON ℄

Single 3'-0" x 4'-0" x 38'-3⅝" R.C.B.C.
20'-0" Inlet End and 18'-3⅝" Outlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

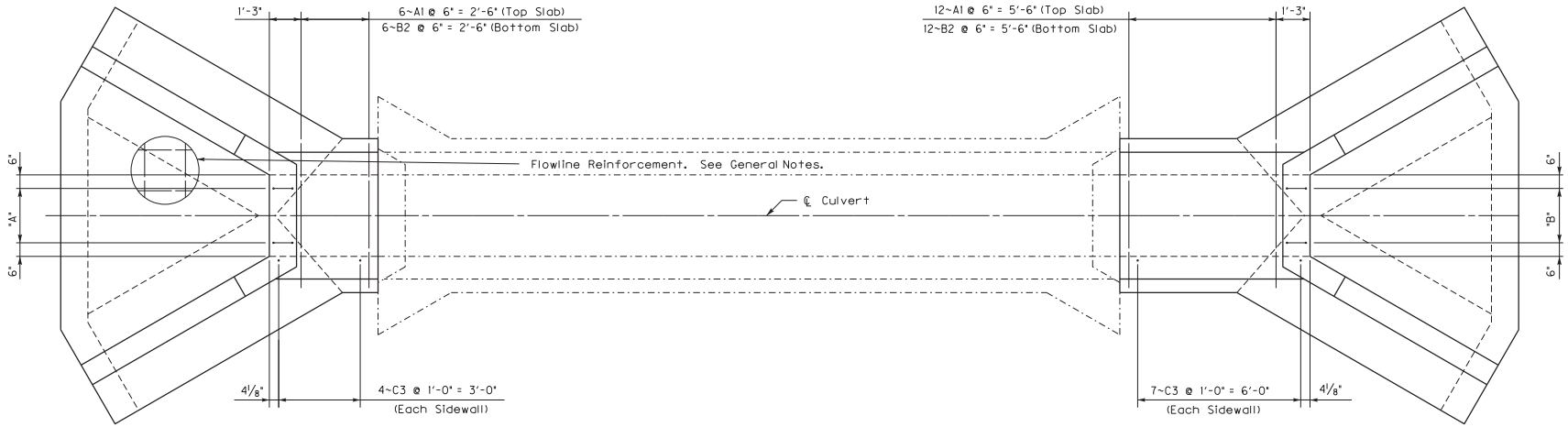
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

LAYOUT

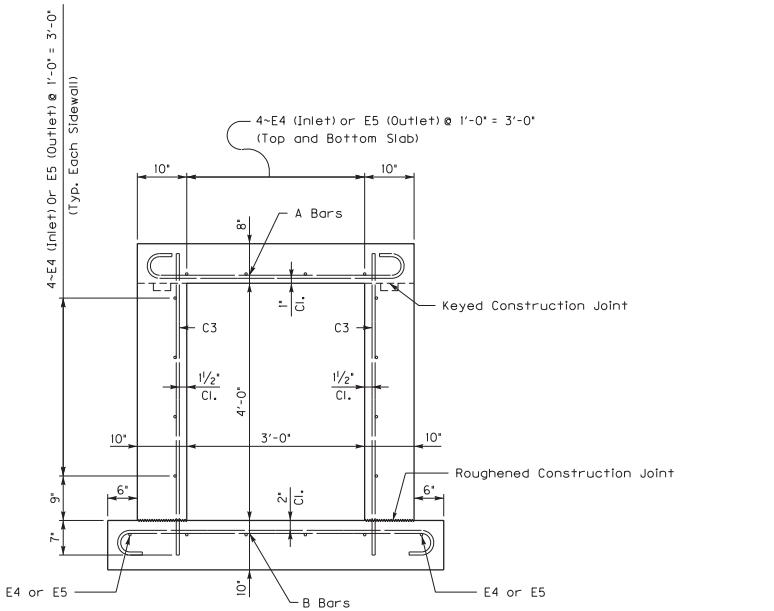
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05-9017.00	Division of Structural Design	S2
		DRAWING NO. 28321

5-SHEET NAME:
DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\2 28321 3x4 RCBC Station 123+37\28321\28321.dgn

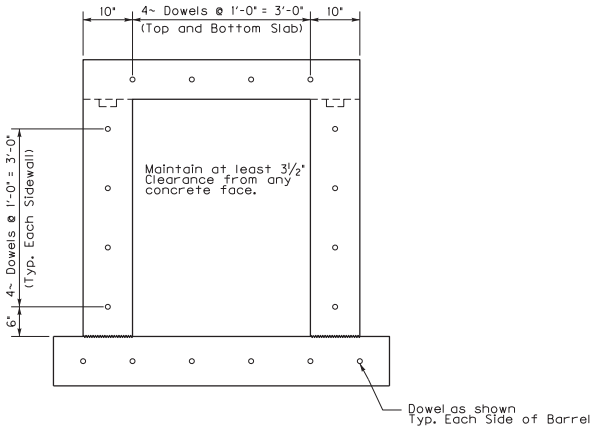


PLAN
SCALE = 1:24

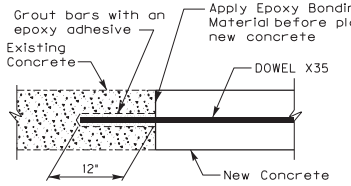
"A" 3~R33 @ 1'-0" = 2'-0"
"B" 3~R34 @ 1'-0" = 2'-0"
Minimum Lap Distance for E 4 Bars 21 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12



DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

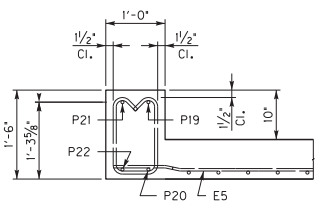
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

BARREL

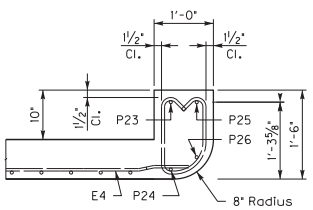
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05-9017.00	Division of Structural Design	S3
		DRAWING NO. 28321

5-SHEET NAME:
DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\2 28321 3x4 RCBC Station 123+37\28321\28321.dgn

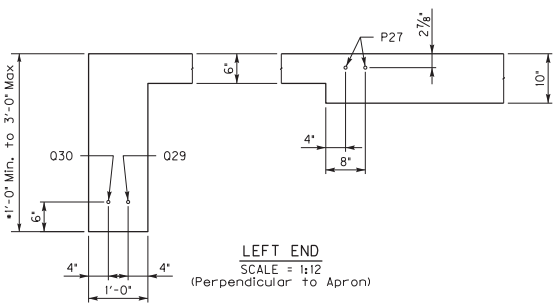


LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

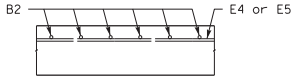




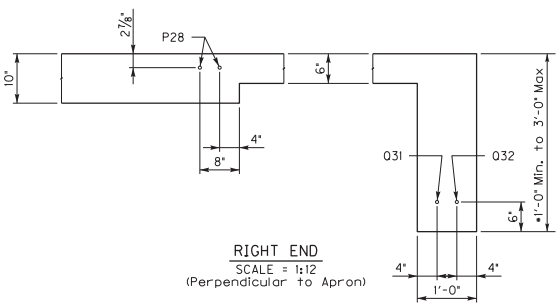
RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)



LEFT END
SCALE = 1:12
(Perpendicular to Apron)



SECTION ON ℄
SCALE = 1:12



RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

*Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

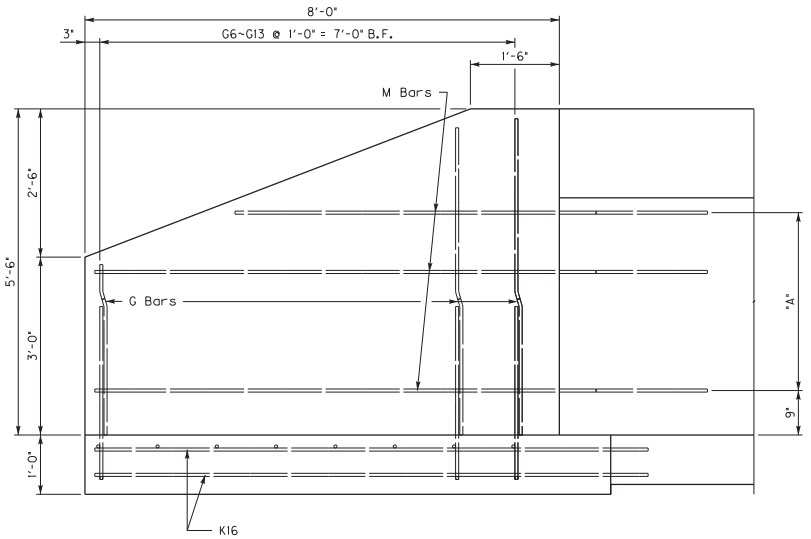
COUNTY: SPENCER

ROUTE	CROSSING
KY 55	A DITCH

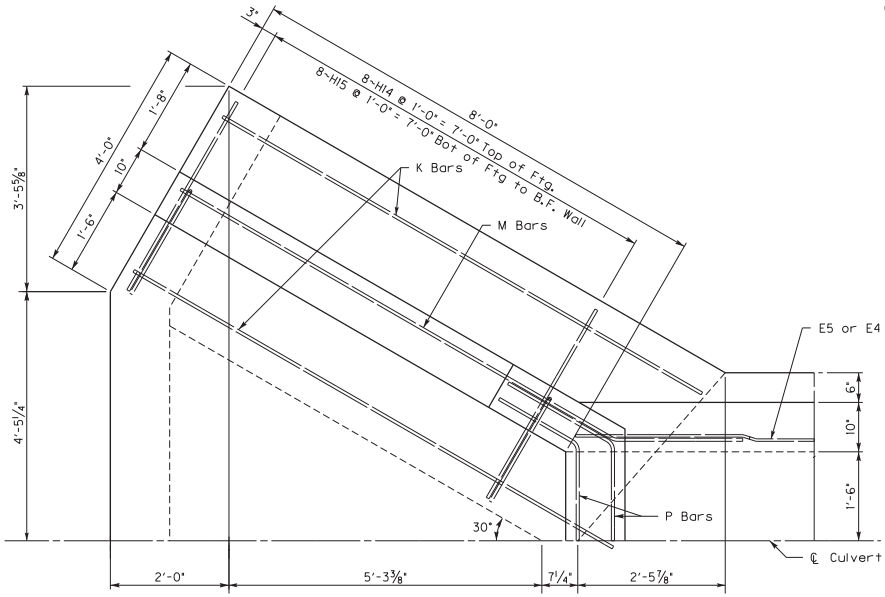
BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S4
		DRAWING NO. 28321

5-SHEET NAME:
DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\2 28321 3x4 RCBC Station 123+37\28321\28321.dgn

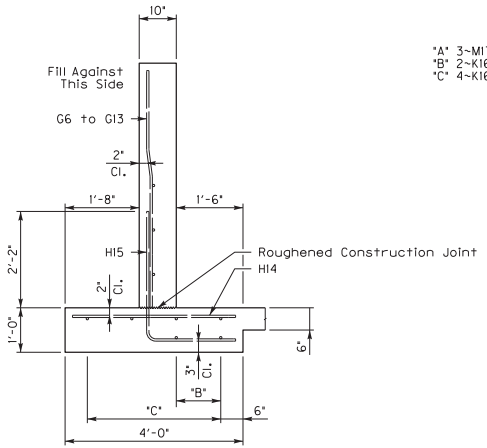


WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:12

"A" 3~M17,1~M18 @ 1'-0" = 3'-0" B.F.
"B" 2~K16 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 4~K16 @ 1'-0" = 3'-0"



WING SECTION
SCALE = 1:16

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

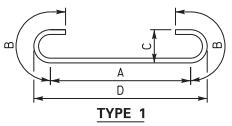
Wings 1, 2, 3 & 4

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S5
		DRAWING NO. 28321

5-SHEET NAME: DATE: 21-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\2 28321 3x4 RCBC Station 123+37\28321\28321.dgn

BILL OF REINFORCEMENT

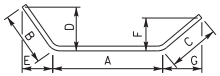
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	18	5	5- 7	Top Slab	3-11	0-10	0- 5	4- 4
B2	1	18	5	6- 7	Bottom Slab	4-11	0-10	0- 5	5- 4
C3	Str.	22	5	5- 1	Sidewalls				
E4	Str.	18	4	6- 8	Slabs and sidewalls (Inlet)				
E5	Str.	18	4	3- 8	Slabs and sidewalls (Outlet)				
G6	Str.	4	5	2-10	B.F Wings 1, 2, 3 & 4				
G7	Str.	4	5	3- 3	B.F Wings 1, 2, 3 & 4				
G8	Str.	4	5	3- 8	B.F Wings 1, 2, 3 & 4				
G9	Str.	4	5	4- 0	B.F Wings 1, 2, 3 & 4				
G10	Str.	4	5	4- 5	B.F Wings 1, 2, 3 & 4				
G11	Str.	4	5	4-10	B.F Wings 1, 2, 3 & 4				
G12	Str.	4	5	5- 2	B.F Wings 1, 2, 3 & 4				
G13	Str.	4	5	5- 4	B.F Wings 1, 2, 3 & 4				
H14	Str.	32	5	3- 8	Top Ftg Wings 1, 2, 3 & 4				
H15	5	32	5	4- 9	Bot Ftg Wings 1, 2, 3 & 4	2-11	2- 0		
K16	Str.	24	5	9- 4	Ftg Wings 1, 2, 3 & 4				
M17	8	12	5	10- 7	B.F. Wings 1, 2, 3 & 4	8- 5½	2- 2	1- 1	1-10½
M18	8	4	5	8- 3	B.F. Wings 1, 2, 3 & 4	6- 1⅛	2- 2	1- 1	1-10½
P19	7	1	5	7- 5	B.F. Parapet Lt. End	3- 6¾	1-11⅜	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P20	7	1	5	7- 5	B.F. Parapet Lt. End	3- 6¾	1-11⅜	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P21	7	1	5	6- 5	F.F. Parapet Lt. End	3- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅜	0-10¼	
P22	7	1	5	6- 5	F.F. Parapet Lt. End	3- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅜	0-10¼	
P23	7	1	5	7- 5	B.F. Parapet Rt. End	3- 6¾	1-11⅜	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P24	7	1	5	7- 5	B.F. Parapet Rt. End	3- 6¾	1-11⅜	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P25	7	1	5	6- 5	F.F. Parapet Rt. End	3- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅜	0-10¼	
P26	7	1	5	6- 5	F.F. Parapet Rt. End	3- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10⅛	1- 5⅜	0-10⅛	
P27	Str.	2	5	5- 4	Bottom Slab Lt. End				
P28	Str.	2	5	5- 4	Bottom Slab Rt. End				
Q29	7	1	5	15- 2	Appron Lt. End	8- 0¾	3- 7	3- 7	1- 9½
						3- 1⅛	1- 9½	3- 1⅛	
Q30	7	1	5	15- 6	Appron Lt. End	8- 2⅞	3- 8	3- 8	1-10
						3- 2⅛	1-10	3- 2⅛	
Q31	7	1	5	15- 2	Appron Rt. End	8- 0¾	3- 7	3- 7	1- 9½
						3- 1⅛	1- 9½	3- 1⅛	
Q32	7	1	5	15- 6	Appron Rt. End	8- 2⅞	3- 8	3- 8	1-10
						3- 2⅛	1-10	3- 2⅛	
R33	12s	3	5	4- 1	Parapet Wall (Left End)	1- 3½	0- 9		
R34	11s	3	5	3-11	Parapet Wall (Right End)	1- 3½	0- 9	0- 2½	0- 9
						0- 6½	0- 9¼		
X35	Str.	36	8	2- 0	Dowels				



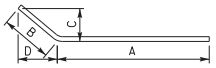
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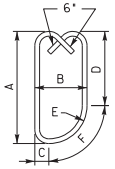
TYPE 5



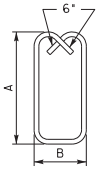
TYPE 7



TYPE 8



TYPE 11



TYPE 12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
SPENCER

ROUTE	CROSSING
KY 55	A DITCH

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S6
		DRAWING NO. 28321

5-SHEET NAME: DATE: 21-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\2 28321 3x4 RCBC Station 123+37\28321\28321.dgn

CONSTRUCTION PROJECT NO.

LETTING DATE

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SPENCER COUNTY
SHELBYVILLE ROAD
KY 55 OVER A DITCH
Station 132+78

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavations, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1388 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	25.2	C.Y.
8150	Reinforcement	2427	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

ITEM NUMBER

05-9017.00

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1 & 2
6	Wings 3 & 4
7	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 CHECKED BY

DESIGNED BY: J. VAN ZEE N.O. BODY

DETAILED BY: M. BAWITHAWNG J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

ROUTE: KY 55 CROSSING: A DITCH

SINGLE 4.0 x 3.0 CULVERT

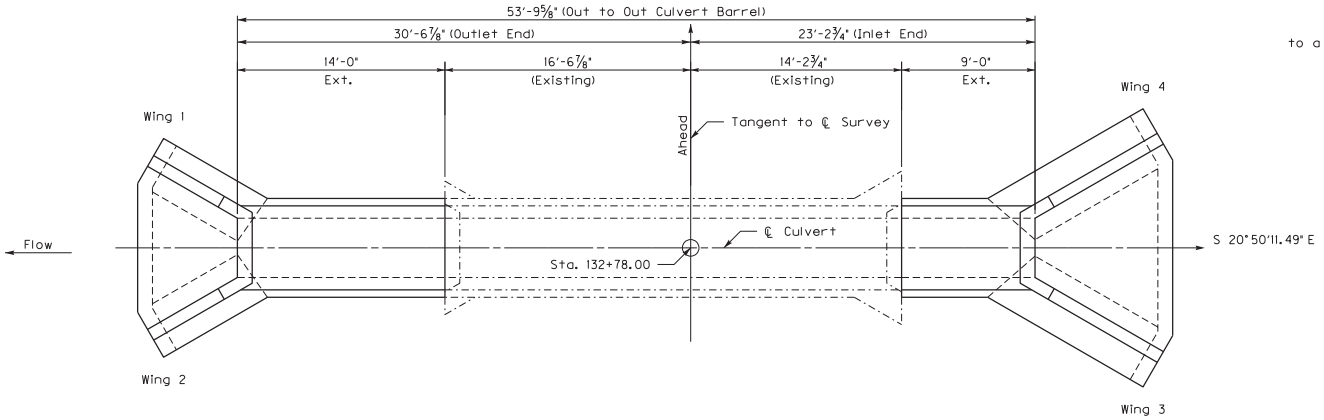
PREPARED BY
Division of Structural Design

SHEET NO. S1

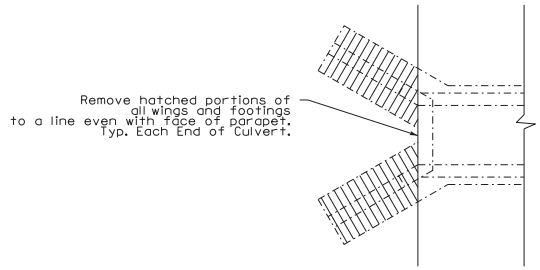
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DATE: 21-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\3 28322 4x3 RCBC Station 132+78\28322\28322.dgn

5-SHEET NAME:

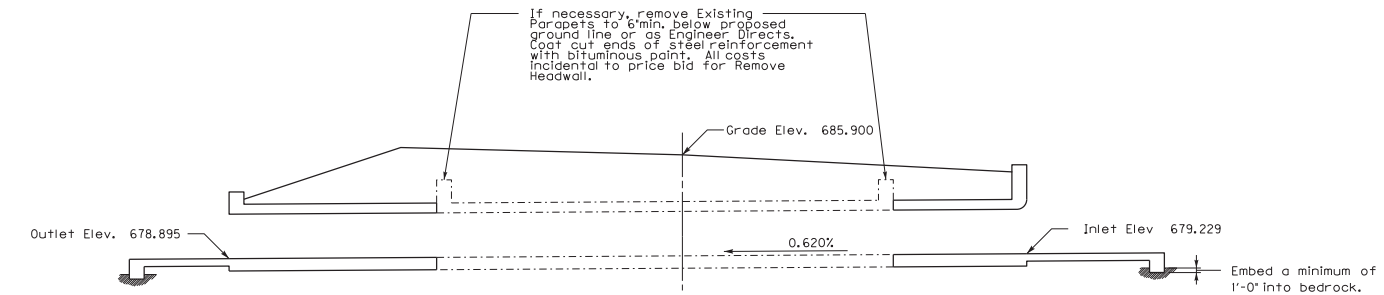


PLAN
SCALE = 1:48



Removal Details
SCALE = 1:48

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.



SECTION ON ℄

Single 4'-0" x 3'-0" x 53'-9⅝" R.C.B.C.
23'-2¾" Inlet End and 30'-6⅞" Outlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

REVISION	DATE
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DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

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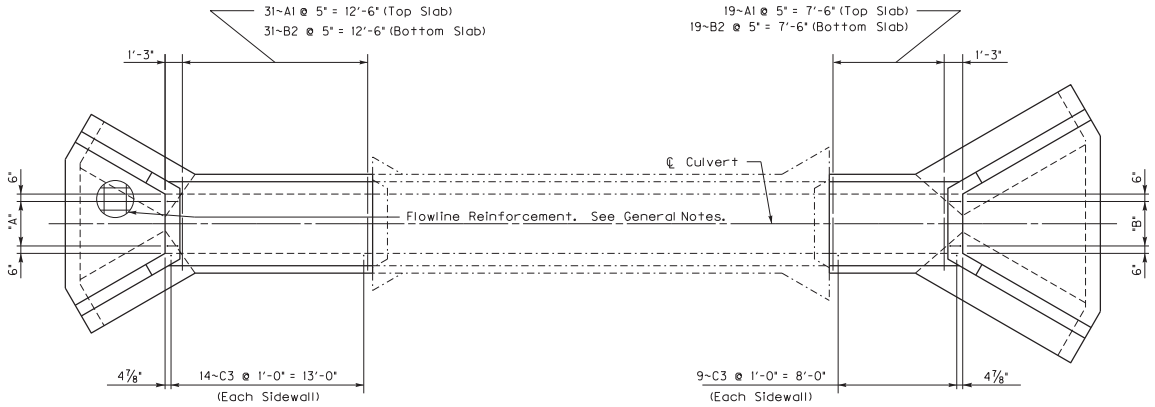
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

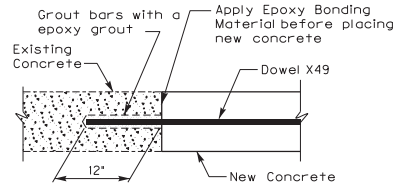
LAYOUT

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S2
		DRAWING NO. 28322

USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\3 28322 4x3 RCBC Station 132+78\28322\28322.dgn
DATE: 21-APR-2020
5-SHEET NAME:



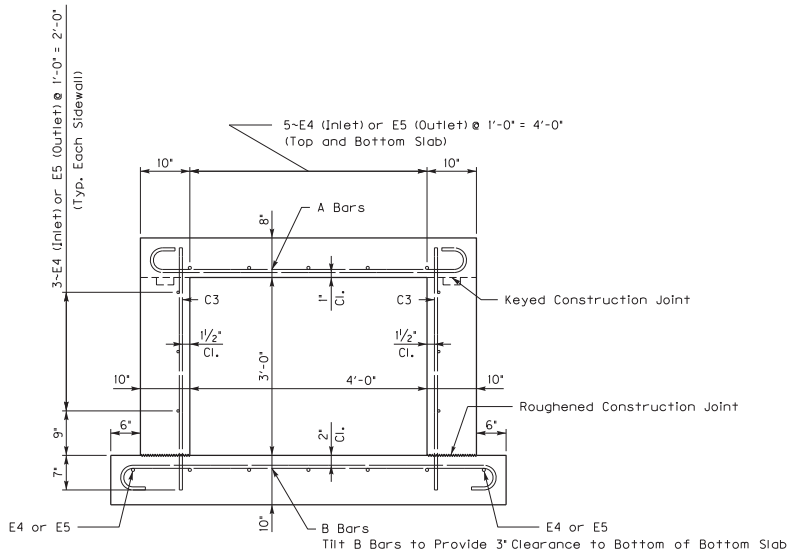
PLAN
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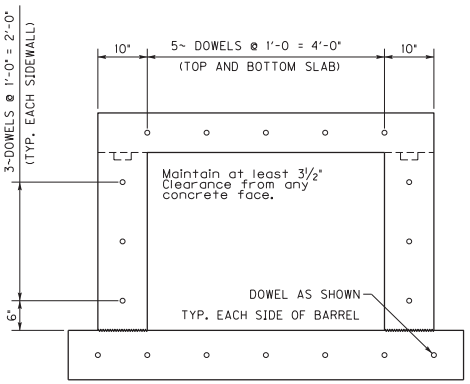
DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

"A" 4~R46 @ 1'-0" = 3'-0"
"B" 4~R47 @ 1'-0" = 3'-0"
Minimum Lap Distance for E 4 Bars 26 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

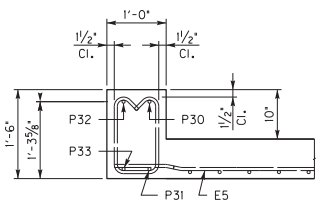
ROUTE: KY 55 | CROSSING: A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
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		DRAWING NO. 28322

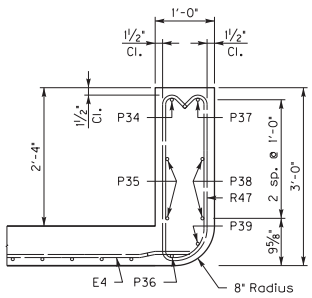
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5-SHEET NAME:

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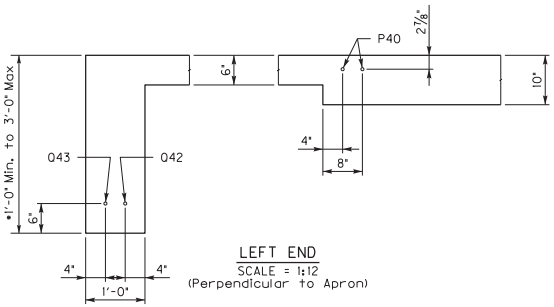


LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)





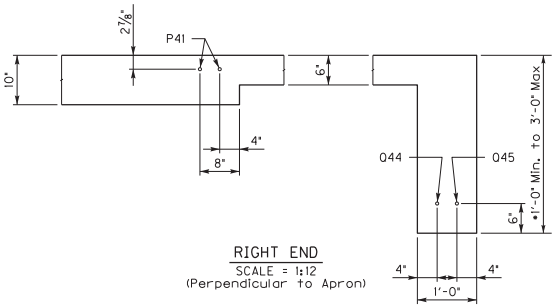
RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)



LEFT END
SCALE = 1:12
(Perpendicular to Apron)



SECTION ON ℄
SCALE = 1:12



RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

•Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

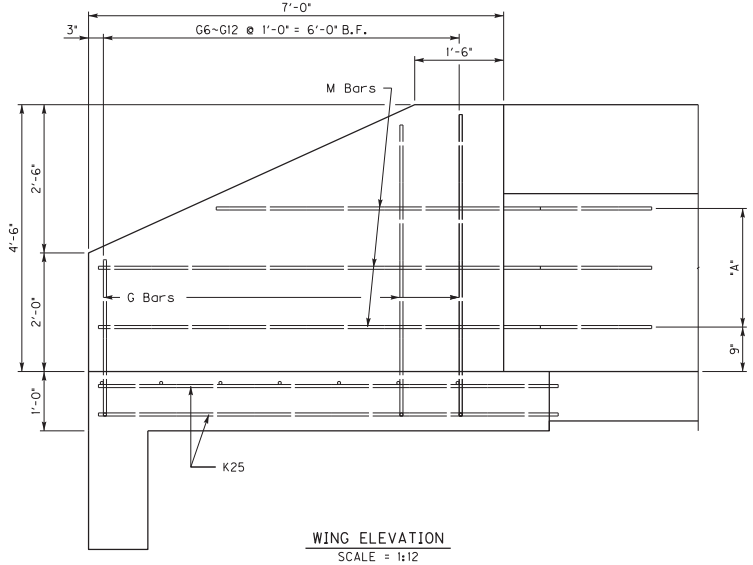
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

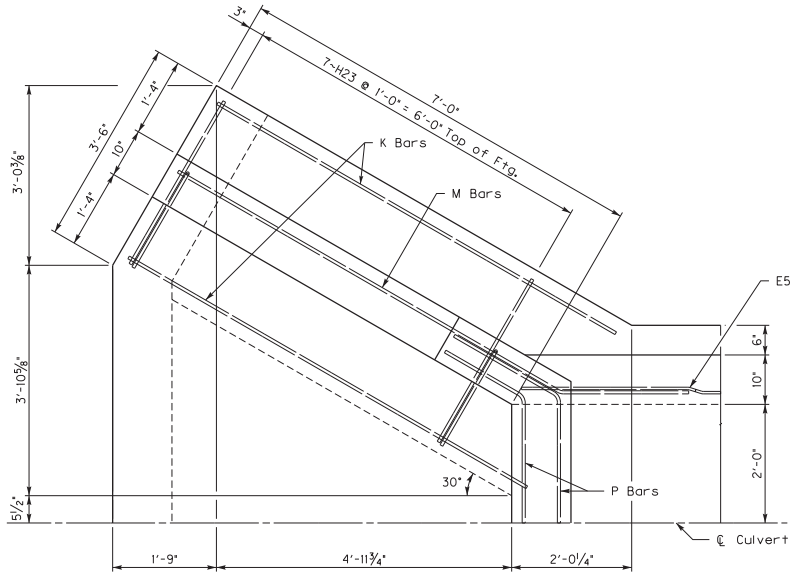
ROUTE: KY 55 | CROSSING: A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S4
		DRAWING NO. 28322

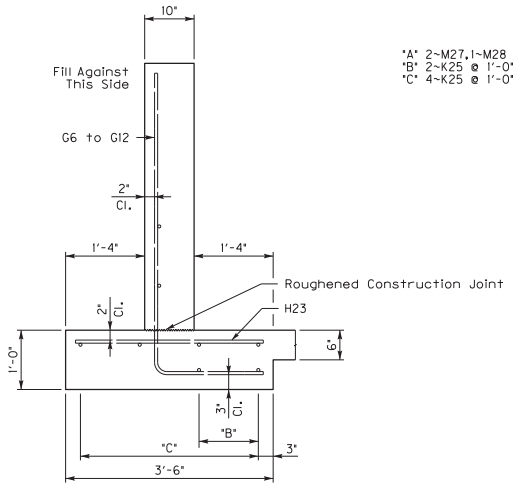


WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:12

"A" 2~M27.1~M28 @ 1'-0" = 2'-0" B.F.
"B" 2~K25 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 4~K25 @ 1'-0" = 3'-0"



WING SECTION
SCALE = 1:12

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
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DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

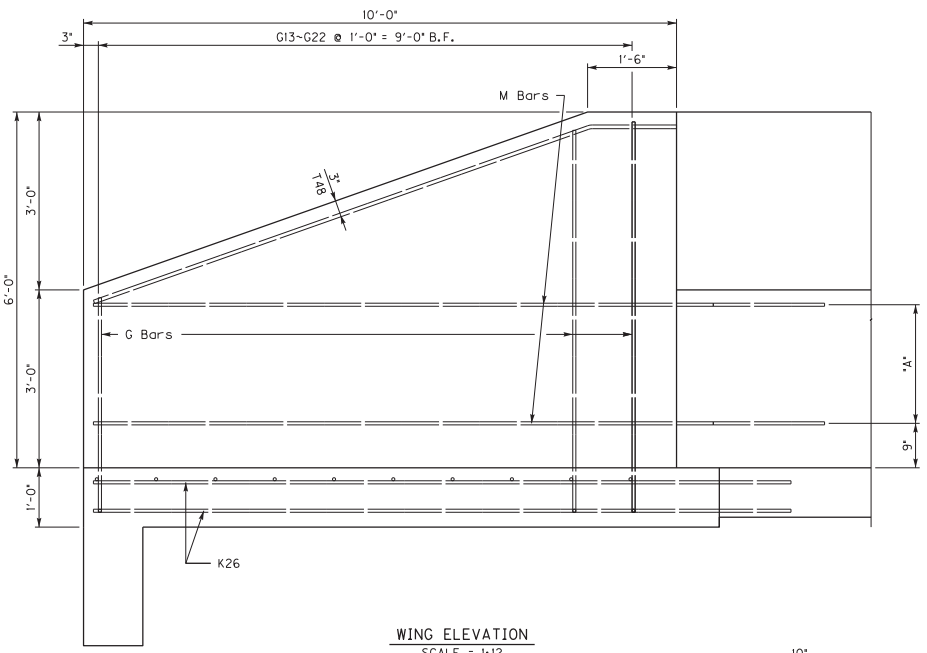
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

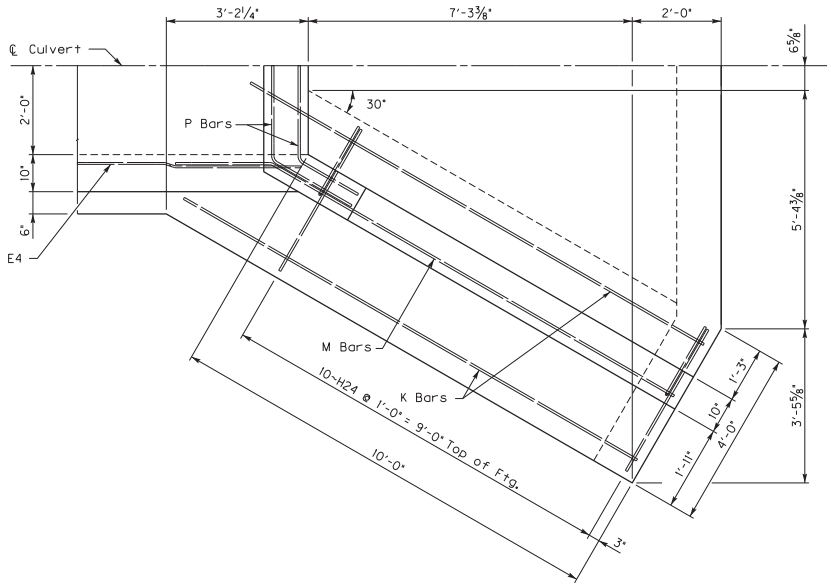
Wings 1 & 2

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S5
		DRAWING NO. 28322

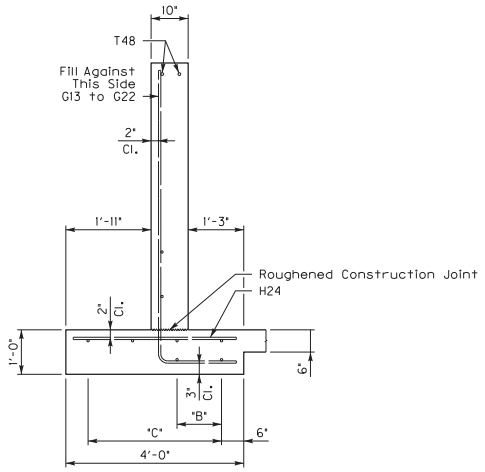
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DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\3 28322 4x3 RCBC Station 132+78\28322\28322.dgn



WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:16



WING SECTION
SCALE = 1:16

"A" 3~M29 @ 1'-0" = 2'-0" B.F.
"B" 2~K26 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 4~K26 @ 1'-0" = 3'-0"

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

ROUTE	CROSSING
KY 55	A DITCH

Wings 3 & 4

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S6
		DRAWING NO. 28322

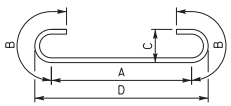
5-SHEET NAME:
DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\3 28322 4x3 RCBC Station 132+78\28322\28322.dgn

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	50	5	6- 7	Top Slab	4-11	0-10	0- 5	5- 4
B2	1	50	5	7- 7	Bottom Slab	5-11	0-10	0- 5	6- 4
C3	Str.	46	5	4- 1	Sidewalls				

BILL OF REINFORCEMENT

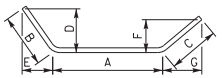
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
E4	Str.	18	4	8- 8	Slabs & Sidewalls (Inlet)				
E5	Str.	18	4	13- 8	Slabs & Sidewalls (Outlet)				
G6	5	2	5	4- 4	B.F Wings 1 & 2	2- 7 5/8	1-10		
G7	5	2	5	4-10	B.F Wings 1 & 2	3- 1 1/8	1-10		
G8	5	2	5	5- 3	B.F Wings 1 & 2	3- 6 1/2	1-10		
G9	5	2	5	5- 8	B.F Wings 1 & 2	4- 0	1-10		
G10	5	2	5	6- 2	B.F Wings 1 & 2	4- 5 3/8	1-10		
G11	5	2	5	6- 7	B.F Wings 1 & 2	4-10 1/8	1-10		
G12	5	2	5	6- 9	B.F Wings 1 & 2	5- 1	1-10		
G13	5	2	5	5- 3	B.F Wings 3 & 4	3- 7 3/8	1- 9		
G14	5	2	5	5- 7	B.F Wings 3 & 4	3-11 5/8	1- 9		
G15	5	2	5	5-11	B.F Wings 3 & 4	4- 3 1/8	1- 9		
G16	5	2	5	6- 4	B.F Wings 3 & 4	4- 8 1/8	1- 9		
G17	5	2	5	6- 8	B.F Wings 3 & 4	5- 0 3/8	1- 9		
G18	5	2	5	7- 0	B.F Wings 3 & 4	5- 4 5/8	1- 9		
G19	5	2	5	7- 4	B.F Wings 3 & 4	5- 8 1/8	1- 9		
G20	5	2	5	7- 8	B.F Wings 3 & 4	6- 1	1- 9		
G21	5	2	5	8- 1	B.F Wings 3 & 4	6- 5 1/4	1- 9		
G22	5	2	5	8- 2	B.F Wings 3 & 4	6- 7	1- 9		
H23	Str.	14	5	3- 2	Top Ftg Wings 1 & 2				
H24	Str.	20	5	3- 8	Top Ftg Wings 3 & 4				
K25	Str.	12	5	7- 9	Ftg Wings 1 & 2				
K26	Str.	12	5	11- 9	Ftg Wings 3 & 4				
M27	8	4	5	9- 7	B.F. Wings 1 & 2	7- 5 1/2	2- 2	1- 1	1-10 1/2
M28	8	2	5	7- 7	B.F. Wings 1 & 2	5- 5 5/8	2- 2	1- 1	1-10 1/2
M29	8	6	5	12- 7	B.F. Wings 3 & 4	10- 5 1/2	2- 2	1- 1	1-10 1/2
P30	7	1	5	8- 5	B.F. Parapet Lt. End	4- 6 3/4	1-11 5/8	1-11 5/8	1- 8 1/2
						0-11 3/4	1- 8 1/2	0-11 3/4	
P31	7	1	5	8- 5	B.F. Parapet Lt. End	4- 6 3/4	1-11 5/8	1-11 5/8	1- 8 1/2
						0-11 3/4	1- 8 1/2	0-11 3/4	
P32	7	1	5	7- 5	F.F. Parapet Lt. End	4- 1 3/4	1- 8 1/4	1- 8 1/4	1- 5 5/8
						0-10 1/8	1- 5 5/8	0-10 1/8	
P33	7	1	5	7- 5	F.F. Parapet Lt. End	4- 1 3/4	1- 8 1/4	1- 8 1/4	1- 5 5/8
						0-10 1/8	1- 5 5/8	0-10 1/8	
P34	7	1	5	8- 5	B.F. Parapet Rt. End	4- 6 3/4	1-11 3/4	1-11 3/4	1- 8 1/2
						0-11 7/8	1- 8 1/2	0-11 7/8	
P35	7	2	5	8- 6	B.F. Parapet Rt. End	4- 5 5/8	2- 0 3/4	2- 0 3/4	1- 9 1/2
						1- 0 3/8	1- 9 1/2	1- 0 3/8	
P36	7	1	5	8- 5	B.F. Parapet Rt. End	4- 6 3/4	1-11 3/4	1-11 3/4	1- 8 1/2
						0-11 7/8	1- 8 1/2	0-11 7/8	
P37	7	1	5	7- 5	F.F. Parapet Rt. End	4- 1 3/4	1- 8 3/8	1- 8 3/8	1- 5 5/8
						0-10 1/4	1- 5 5/8	0-10 1/4	
P38	7	2	5	7- 4	F.F. Parapet Rt. End	4- 2 1/8	1- 7 1/4	1- 7 1/4	1- 4 3/4
						0- 9 5/8	1- 4 3/4	0- 9 5/8	
P39	7	1	5	7- 5	F.F. Parapet Rt. End	4- 1 3/4	1- 8 3/8	1- 8 3/8	1- 5 5/8
						0-10 1/4	1- 5 5/8	0-10 1/4	
P40	Str.	2	5	6- 4	Bottom Slab Lt. End				
P41	Str.	2	5	6- 4	Bottom Slab Rt. End				
Q42	7	1	5	14- 6	Appron Lt. End	8- 4 1/8	3- 1	3- 1	1- 6 1/2
						2- 8	1- 6 1/2	2- 8	
Q43	7	1	5	14-10	Appron Lt. End	8- 6 1/4	3- 2	3- 2	1- 7
						2- 8 1/8	1- 7	2- 8 1/8	
Q44	7	1	5	18- 7	Appron Rt. End	11- 5 1/8	3- 7	3- 7	1- 9 1/2
						3- 1 1/8	1- 9 1/2	3- 1 1/8	
Q45	7	1	5	19- 0	Appron Rt. End	11- 8	3- 8	3- 8	1-10
						3- 2 1/8	1-10	3- 2 1/8	
R46	12s	4	5	4- 1	Parapet Wall (Left End)	1- 3 1/2	0- 9		
R47	11s	4	5	6-11	Parapet Wall (Right End)	2- 9 1/2	0- 9	0- 2 1/2	2- 3
						0- 6 1/2	0- 9 3/4		
T48	8	4	6	10- 4	Top of Wings 3 & 4	8-10 1/2	1- 5 1/2	0- 5 7/8	1- 4 1/2
X49	Str.	36	8	2- 0	Dowels				



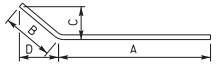
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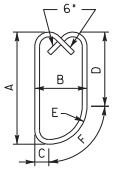
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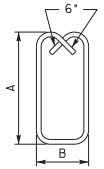
TYPE 7



TYPE 8



TYPE 11



TYPE 12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SPENCER**

ROUTE: **KY 55** | CROSSING: **A DITCH**

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	**Division of Structural Design**	S7
		DRAWING NO. **28322**

5-SHEET NAME: DATE: 21-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\3 28322 4x3 RCBC Station 132+78\28322\28322.dgn

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SPENCER COUNTY
SHELBYVILLE RD
KY 55 OVER A DITCH
Station 178+21

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavatuions, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for wing footings required to resist a maximum bearing pressure of 703 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH YIELDING FOUNDATIONS: Any bedrock or boulders within 2 feet of the bottom of the bottom slab shall be excavated and backfilled with properly compacted soil. All costs incidental to Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	7.5	C.Y.
8150	Reinforcement	732	Lb
8003	Foundation Preparation	1	L.S.
2625	Remove Headwall	2	EACH

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1 & 2
6	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY

DESIGNED BY: J. VAN ZEE | L. LIKINS

DETAILED BY: M. BAWITHAWNG | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

SINGLE 2.5 x 2.6 CULVERT

ITEM NUMBER: 05-9017.00

PREPARED BY: Division of Structural Design

SHEET NO.: S1

DRAWING NO.: 28323

CONSTRUCTION PROJECT NO. | LETTING DATE

Station 178+21\28323\28323.dgn

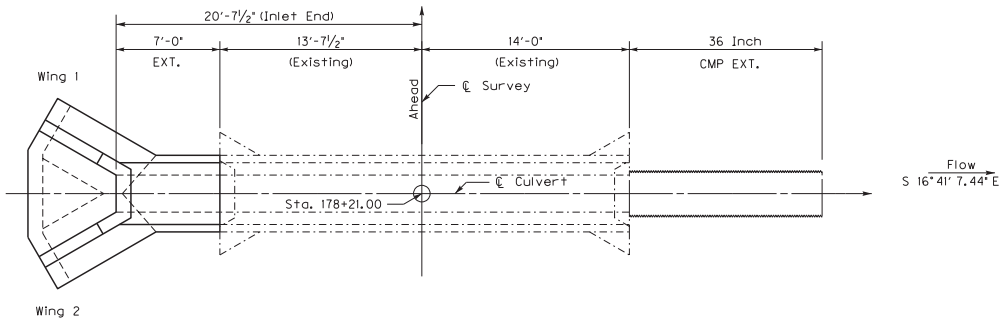
28323 2.5x2.6 RCB

J:\District05\5-9017 HSIP\Culverts\4

USERNAME: Joseph.vanzee FILE NAME:

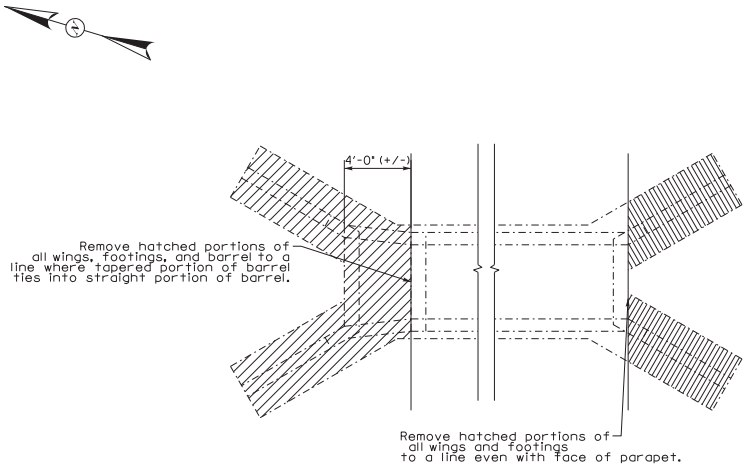
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5-SHEET NAME:



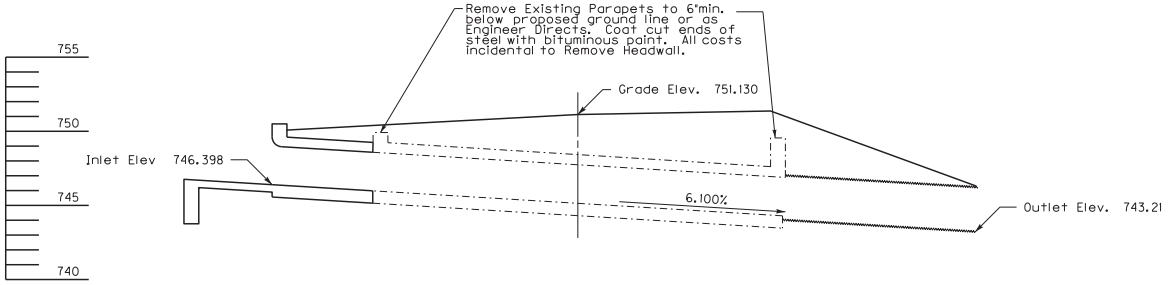
PLAN
SCALE = 1:48

NOTE: Right Extension to be extended with 36 in Corrugated Metal Pipe, see Roadway Plans.



Removal Details

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.



SECTION ON ℄
Single 2'-6" x 2'-7¼" x 47'-7½" R.C.B.C.
20'-7½" Inlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Yielding Foundation

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

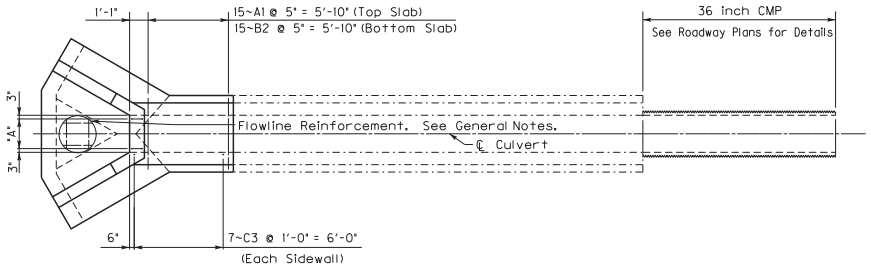
ROUTE	CROSSING
KY 55	A DITCH

LAYOUT

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S2
		DRAWING NO. 28323

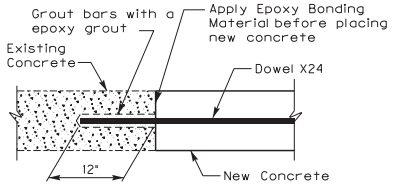
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DATE: 05-AUG-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\4 28323 2.5x2.6 RCBC Station 178+21\28323\28323.dgn

5-SHEET NAME: DATE: 05-AUG-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\4 28323 2.5x2.6 RCBC Station 178+21\28323\28323.dgn



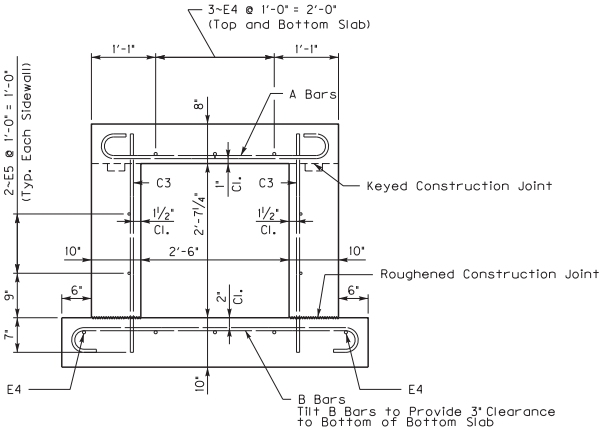
PLAN
SCALE = 1:48

"A" 3~R23 @ 1'-0" = 2'-0"
Minimum Lap Distance for E 4 Bars 26 in
Minimum Lap Distance for E 5 Bars 21 in

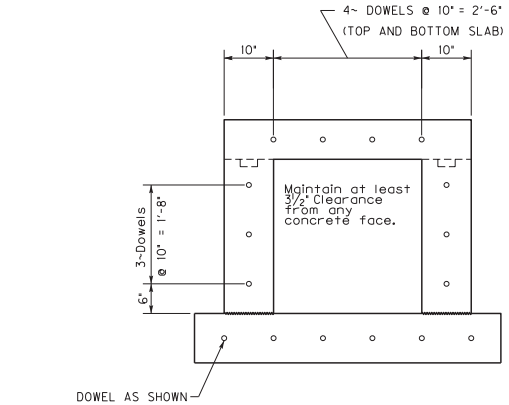


DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

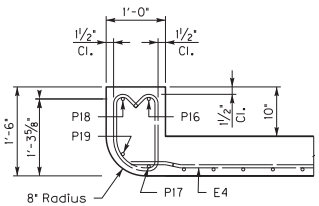
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

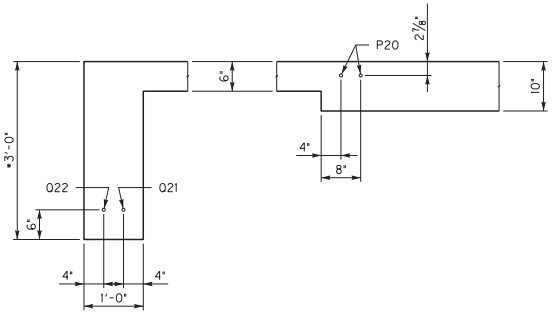
ROUTE: KY 55 | CROSSING: A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
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		DRAWING NO. 28323

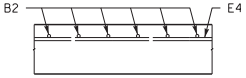


LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

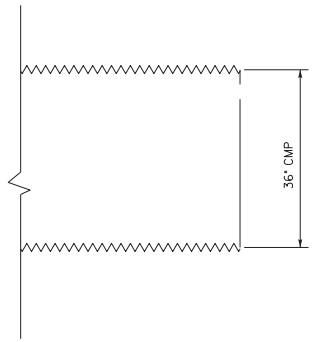


LEFT END
SCALE = 1:12
(Perpendicular to Apron)





SECTION ON ℄
SCALE = 1:12



RIGHT END
SCALE = 1:12

•Note: If rock is close, embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are included for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

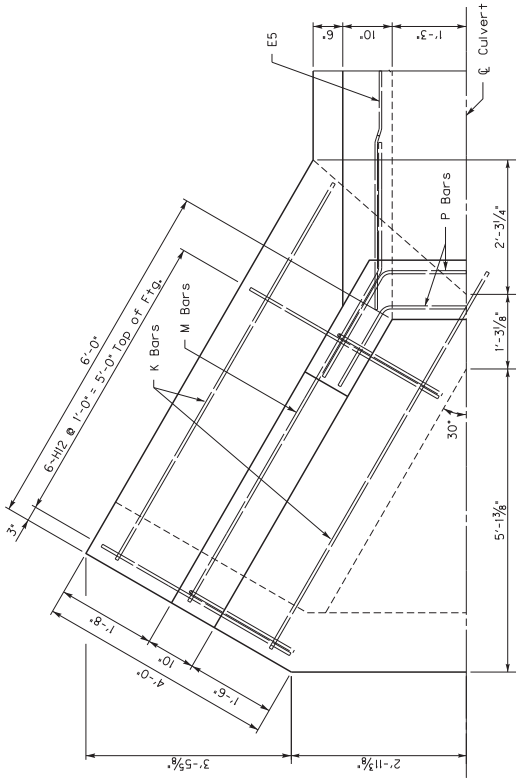
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

BARREL

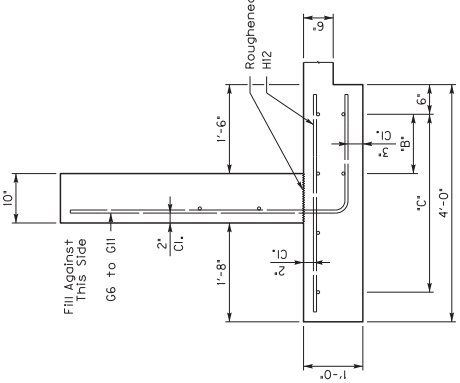
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05-9017.00	Division of Structural Design	S4
		DRAWING NO. 28323

5-SHEET NAME: DATE: 05-AUG-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\S4 28323 2.5x2.6 RCBC Station 178+21\28323\28323.dgn

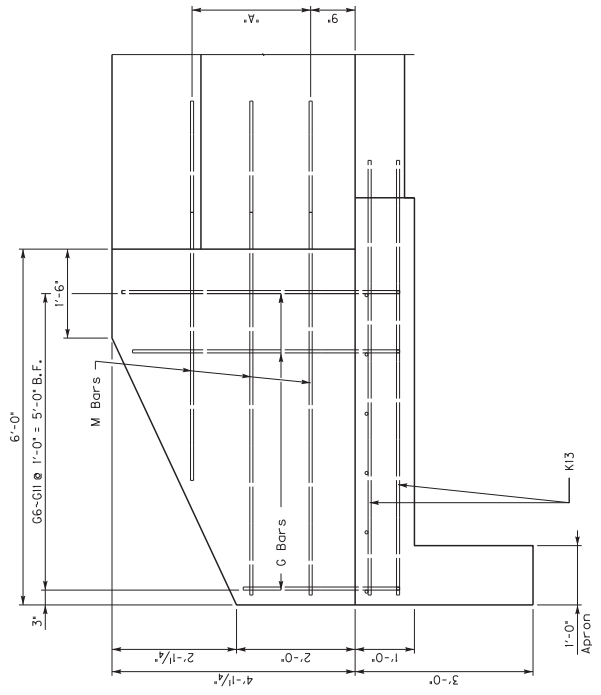


PLAN
SCALE = 1:12

"A" 2-MI4, 1-MI5 @ 1'-0" = 2'-0" B.F.
"B" 2-KI3 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 4-KI3 @ 1'-0" = 3'-0"



WING SECTION
SCALE = 1:12



WING ELEVATION
SCALE = 1:12

		DATE	
REVISION		CHECKED BY	
DATE:	MARCH 2020	L. LIKINS	
DESIGNED BY:	J. VAN ZEE	J. VAN ZEE	
DETAILED BY:	M. BAWITHAWNG		

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
Division of Structural Design
PREPARED BY

COUNTY: SPENCER
CROSSING: A DITCH
ROUTE: KY 55
Wings 1 & 2

ITEM NUMBER
05-9017.00

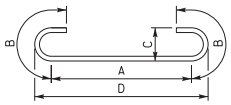
SHEET NO. S5
DRAWING NO. 28323

E-SHEET NAME:
DATE: 05-AUG-2020
USERNAME: Joseph.Vonzee FILE NAME: J:\Dist\rig+05\5-9017 HSIP\Civil\ert\s\4 28323 2.5x2.6 RCBC Station 178+21\28323\28323.dgn

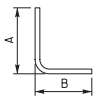
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BILL OF REINFORCEMENT

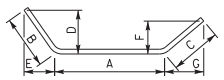
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	15	5	5- 1	Top Slab	3- 5	0-10	0- 5	3-10
B2	1	15	5	6- 1	Bottom Slab	4- 5	0-10	0- 5	4-10
C3	Str.	14	5	3- 8	Sidewalls				
E4	Str.	8	5	6- 8	Top & Bottom Slabs				
E5	Str.	4	5	6- 8	Sidewalls				
G6	5	2	5	4- 6	B.F Wings 1 & 2	2- 7 5/8	2- 0		
G7	5	2	5	5- 0	B.F Wings 1 & 2	3- 1 1/4	2- 0		
G8	5	2	5	5- 5	B.F Wings 1 & 2	3- 6 7/8	2- 0		
G9	5	2	5	5-11	B.F Wings 1 & 2	4- 0 1/2	2- 0		
G10	5	2	5	6- 4	B.F Wings 1 & 2	4- 6	2- 0		
G11	5	2	5	6- 7	B.F Wings 1 & 2	4- 8 1/4	2- 0		
H12	Str.	12	5	3- 8	Top Ftg Wings 1 & 2				
K13	Str.	12	5	7- 4	Ftg Wings 1 & 2				
M14	8	4	5	8- 7	B.F. Wings 1 & 2	6- 5 1/2	2- 2	1- 1	1-10 1/2
M15	8	2	5	6- 8	B.F. Wings 1 & 2	4- 6 1/4	2- 2	1- 1	1-10 1/2
P16	7	1	5	6-11	B.F. Parapet Lt. End	3- 0 3/4	1-11 5/8	1-11 5/8	1- 8 3/8
						0-11 3/4	1- 8 3/8	0-11 3/4	
P17	7	1	5	6-11	B.F. Parapet Lt. End	3- 0 3/4	1-11 5/8	1-11 5/8	1- 8 3/8
						0-11 3/4	1- 8 3/8	0-11 3/4	
P18	7	1	5	5-11	F.F. Parapet Lt. End	2- 7 3/4	1- 8 1/4	1- 8 1/4	1- 5 1/2
						0-10 1/8	1- 5 1/2	0-10 1/8	
P19	7	1	5	5-11	F.F. Parapet Lt. End	2- 7 3/4	1- 8 1/4	1- 8 1/4	1- 5 1/2
						0-10 1/8	1- 5 1/2	0-10 1/8	
P20	Str.	2	5	4-10	Bottom Slab Lt. End				
Q21	7	1	5	12- 8	Appron Lt. End	5- 6 3/4	3- 7	3- 7	1- 9 1/2
						3- 1 1/8	1- 9 1/2	3- 1 1/8	
Q22	7	1	5	13- 0	Appron Lt. End	5- 8 1/8	3- 8	3- 8	1-10
						3- 2 1/8	1-10	3- 2 1/8	
R23	11s	3	5	3-11	Parapet Wall (Left End)	1- 3 1/2	0- 9	0- 2 1/2	0- 9
						0- 6 1/2	0- 9 3/4		
X24	Str.	16	8	2- 0	Dowels				



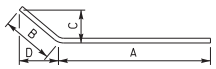
TYPE 1



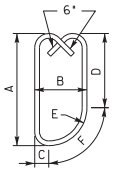
TYPE 5



TYPE 7



TYPE 8



TYPE 11

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
SPENCER

ROUTE	CROSSING
KY 55	A DITCH

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S6
		DRAWING NO. 28323

CONSTRUCTION PROJECT NO. | LETTING DATE

5-SHEET NAME: | DATE: 21-APR-2020 | USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\5 28324 5x4 RCBC Station 183+26 spencer\28324\28324.dgn

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SPENCER COUNTY
SHELBYVILLE ROAD
KY 55 OVER A DITCH
Station 183+26

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavations, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1543 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings, portions of barrel, and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for any extra concrete required is incidental to the unit price bid for Class A Concrete.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	32.4	C.Y.
8150	Reinforcement	2861	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1 & 2
6	Wings 3 & 4
7	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY

DESIGNED BY: J. VAN ZEE | S.T. ANDARD

DETAILED BY: M. BAWITHAWNG | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SPENCER**

ROUTE: KY 55 | CROSSING: A DITCH

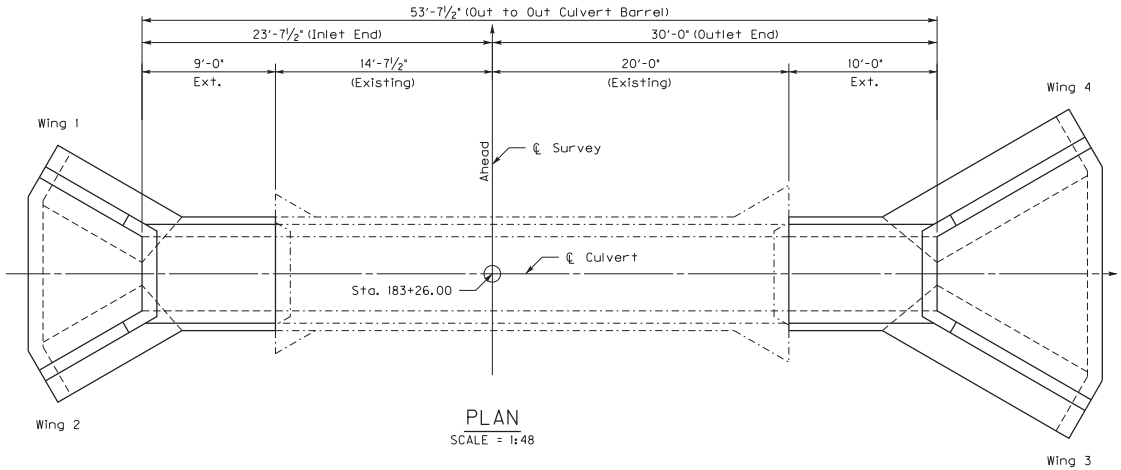
SINGLE 5.0 x 4.0 CULVERT

ITEM NUMBER: **05-9017.00**

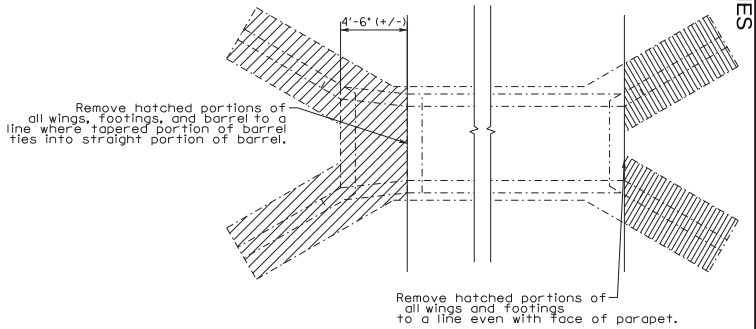
PREPARED BY: **Division of Structural Design**

SHEET NO.: S1

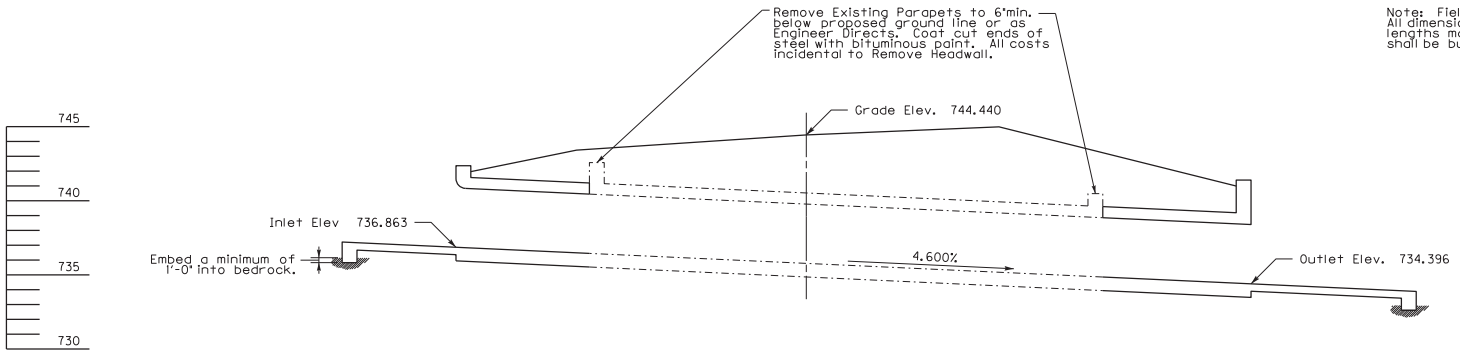
DRAWING NO.: 28324



PLAN
SCALE = 1:48



Removal Details
SCALE = 1:48



SECTION ON ℄
Single 5'-0" x 4'-0" x 53'-7½" R.C.B.C.
23'-7½" Inlet End and 30'-0" Outlet End
0.0000° Skew ~KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	S.T. ANDARD
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
SPENCER

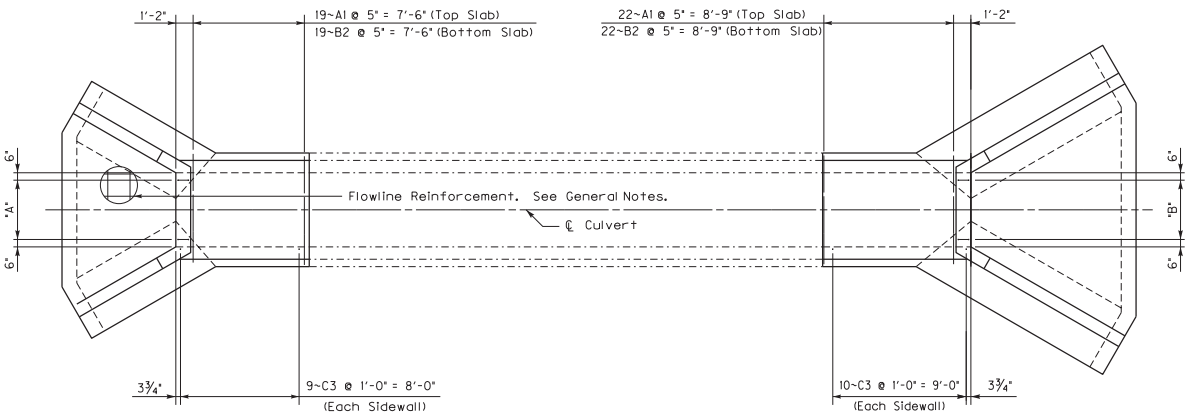
ROUTE	CROSSING
KY 55	A DITCH

LAYOUT

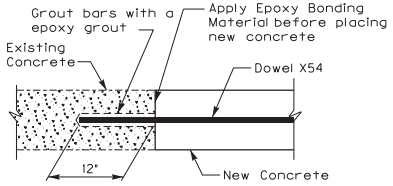
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05-9017.00	Division of Structural Design	S2
		DRAWING NO. 28324

5-SHEET NAME:
DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\5 28324 5x4 RCBC Station 183+26 spencer\28324\28324.dgn

5-SHEET NAME:
DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\5 28324 5x4 RCBC Station 183+26 spencer\28324\28324.dgn

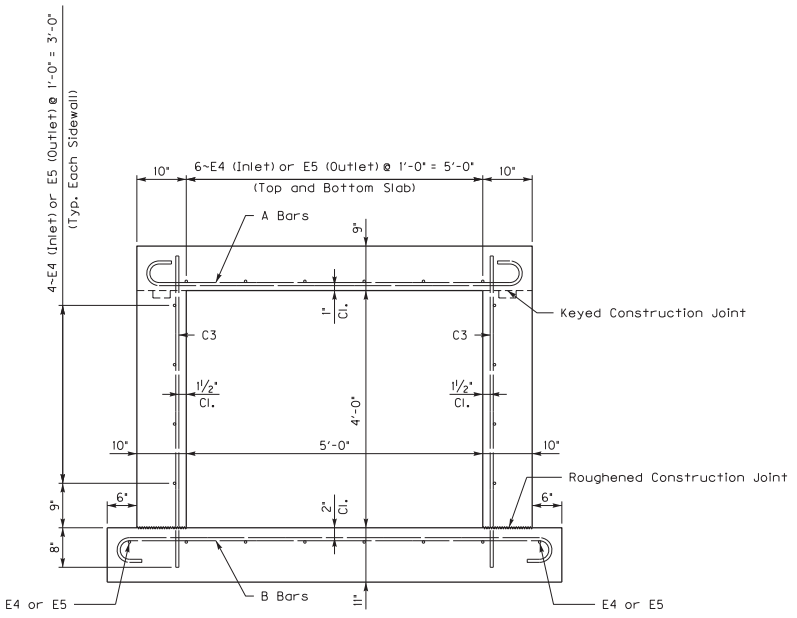


PLAN
SCALE = 1:48

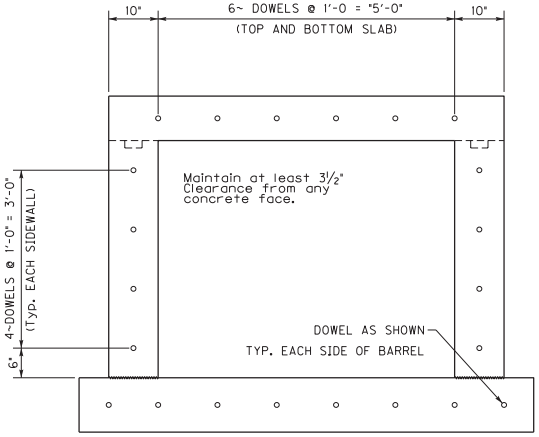


DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

"A" 5~R51 @ 1'-0" = 4'-0"
"B" 5~R52 @ 1'-0" = 4'-0"
Minimum Lap Distance for E 4 Bars 21 in
Minimum Lap Distance for E 5 Bars 21 in

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	S.T. ANDARD
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

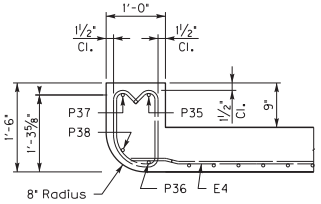
COUNTY: **SPENCER**

ROUTE: **KY 55** | CROSSING: **A DITCH**

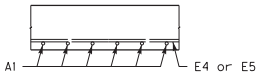
BARREL

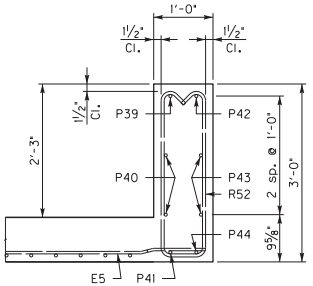
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05-9017.00	Division of Structural Design	S3
		DRAWING NO. 28324

E-SHEET NAME:
DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\5 28324 5x4 RCBC Station 183+26 spencer\28324\28324.dgn

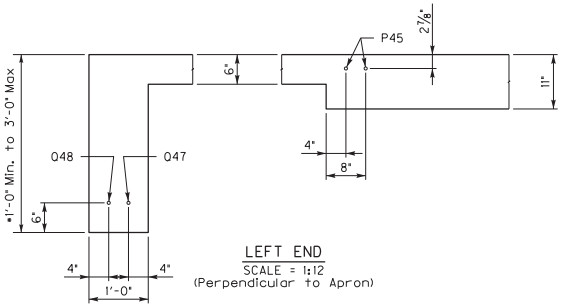


LEFT PARAPET
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(Perpendicular to Parapet)

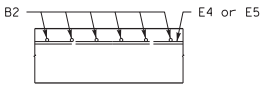




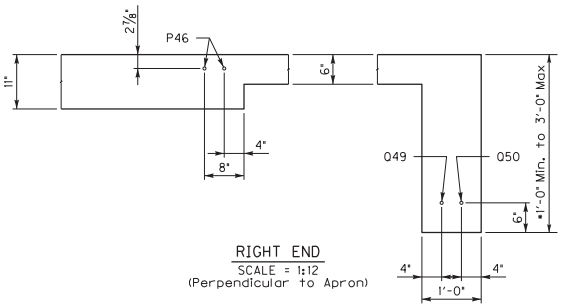
RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)



LEFT END
SCALE = 1:12
(Perpendicular to Apron)



SECTION ON ℄
SCALE = 1:12



RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

*Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE

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DESIGNED BY: J. VAN ZEE	S.T. ANDARD
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

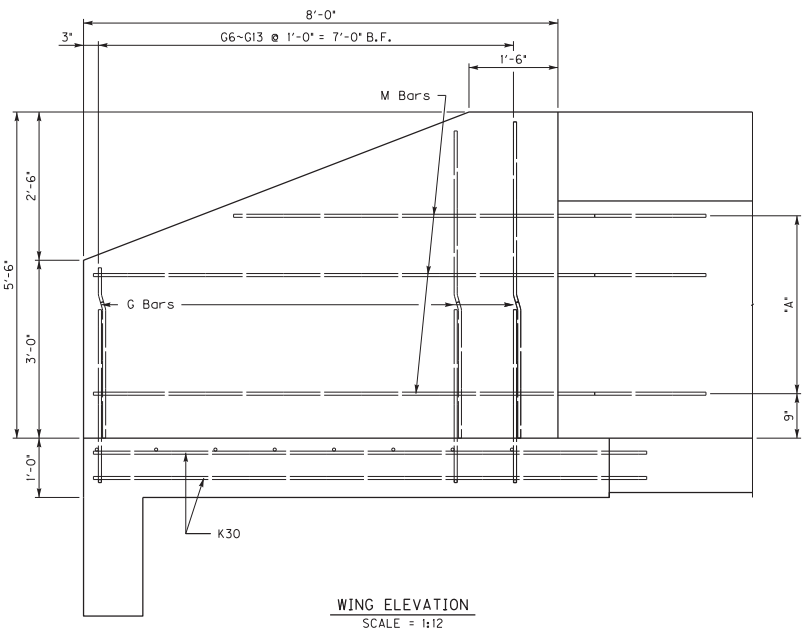
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SPENCER**

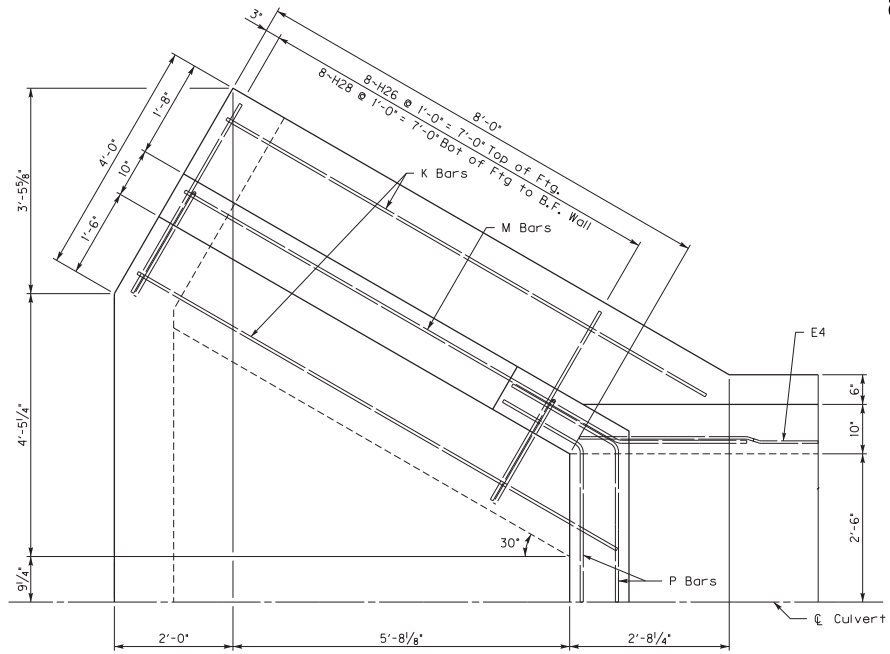
ROUTE	CROSSING
KY 55	A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S4
		DRAWING NO. 28324

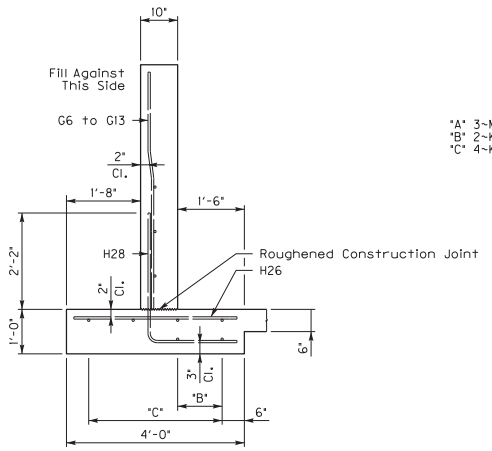


WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:12

"A" 3~M32,1~M33 @ 1'-0" = 3'-0" B.F.
"B" 2~K30 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 4~K30 @ 1'-0" = 3'-0"



WING SECTION
SCALE = 1:16

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	S.T. ANDARD
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

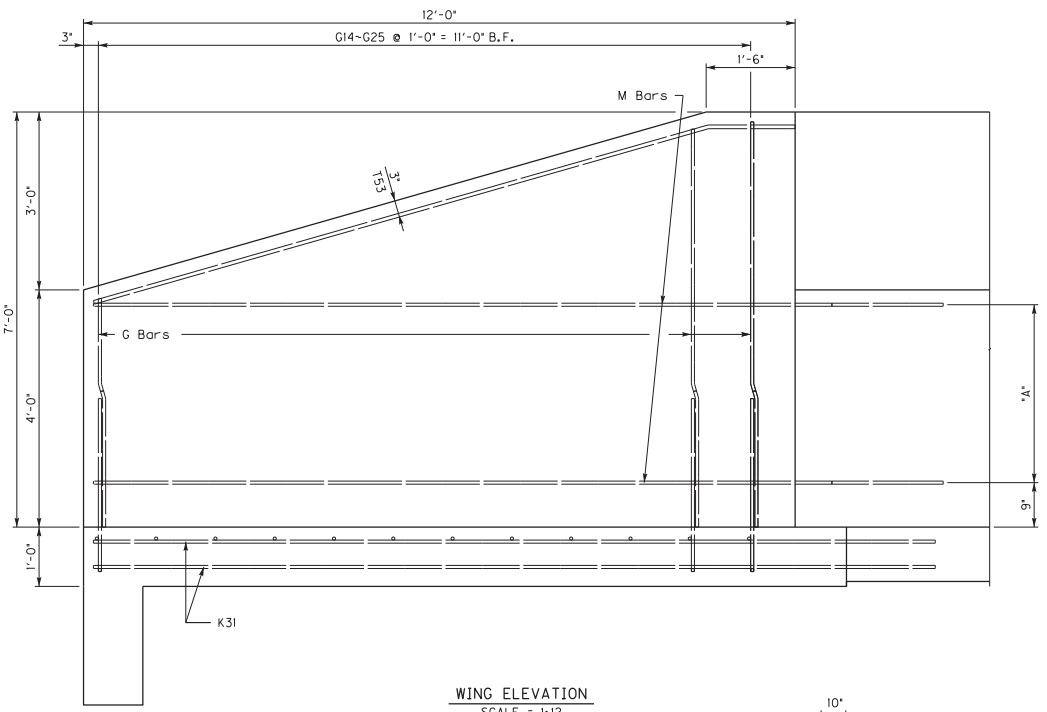
COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

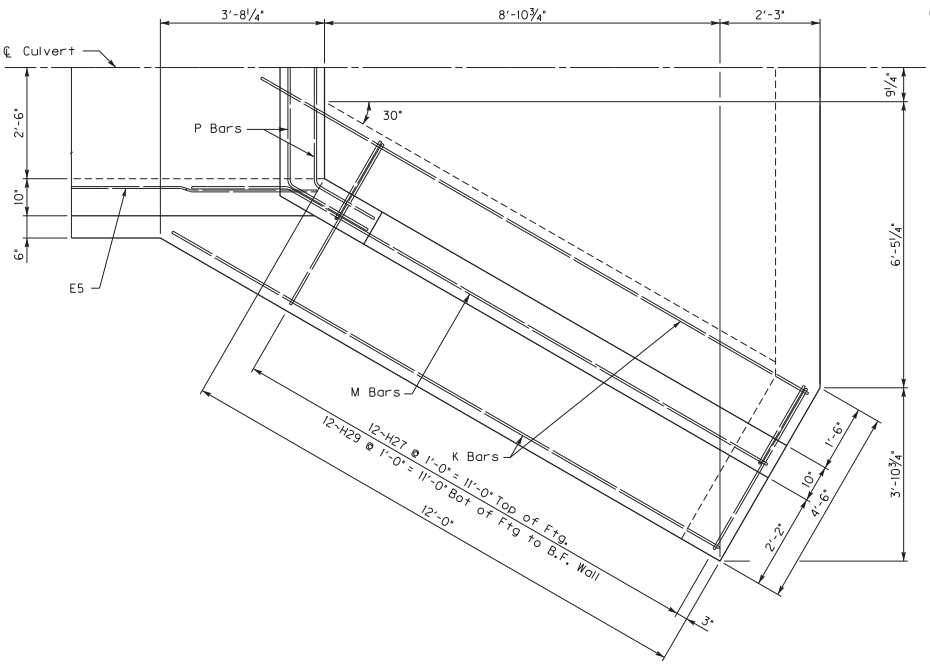
Wings 1 & 2

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S5
		DRAWING NO. 28324

5-SHEET NAME: DATE: 21-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\5 28324 5x4 RCBC Station 183+26 spencer\28324\28324.dgn

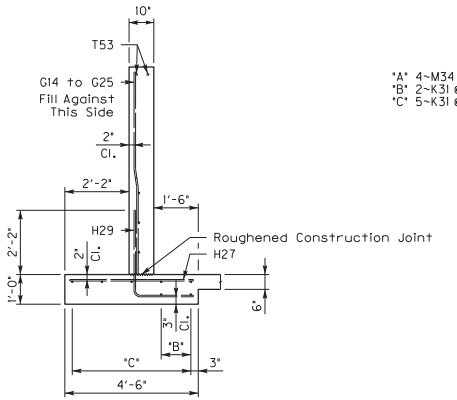


WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:16

"A" 4~M34 @ 1'-0" = 3'-0" B.F.
"B" 2~K31 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 5~K31 @ 1'-0" = 4'-0"



WING SECTION
SCALE = 1:24

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	S.T. ANDARD
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SPENCER

ROUTE: KY 55 | CROSSING: A DITCH

Wings 3 & 4

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S6
		DRAWING NO. 28324

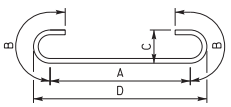
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DATE: 21-APR-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\5 28324 5x4 RCBC Station 183+26 spencer\28324\28324.dgn

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	41	5	7- 7	Top Slab	5-11	0-10	0- 5	6- 4
B2	1	41	5	8- 7	Bottom Slab	6-11	0-10	0- 5	7- 4
C3	Str.	38	5	5- 3	Sidewalls				
E4	Str.	22	4	8- 8	Slabs & Sidewalls (Inlet)				
E5	Str.	22	4	9- 8	Slabs & Sidewalls (Outlet)				
G6	Str.	2	5	2-10	B.F Wings 1 & 2				
G7	Str.	2	5	3- 3	B.F Wings 1 & 2				
G8	Str.	2	5	3- 8	B.F Wings 1 & 2				

BILL OF REINFORCEMENT

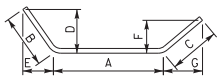
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
G9	Str.	2	5	4- 0	B.F Wings 1 & 2				
G10	Str.	2	5	4- 5	B.F Wings 1 & 2				
G11	Str.	2	5	4-10	B.F Wings 1 & 2				
G12	Str.	2	5	5- 2	B.F Wings 1 & 2				
G13	Str.	2	5	5- 4	B.F Wings 1 & 2				
G14	Str.	2	5	3-10	B.F Wings 3 & 4				
G15	Str.	2	5	4- 2	B.F Wings 3 & 4				
G16	Str.	2	5	4- 5	B.F Wings 3 & 4				
G17	Str.	2	5	4- 9	B.F Wings 3 & 4				
G18	Str.	2	5	5- 0	B.F Wings 3 & 4				
G19	Str.	2	5	5- 3	B.F Wings 3 & 4				
G20	Str.	2	5	5- 7	B.F Wings 3 & 4				
G21	Str.	2	5	5-10	B.F Wings 3 & 4				
G22	Str.	2	5	6- 2	B.F Wings 3 & 4				
G23	Str.	2	5	6- 5	B.F Wings 3 & 4				
G24	Str.	2	5	6- 9	B.F Wings 3 & 4				
G25	Str.	2	5	6-10	B.F Wings 3 & 4				
H26	Str.	16	5	3- 8	Top Ftg Wings 1 & 2				
H27	Str.	24	5	4- 2	Top Ftg Wings 3 & 4				
H28	5	16	5	4- 9	Bot Ftg Wings 1 & 2	2-11	2- 0		
H29	5	24	5	4- 9	Bot Ftg Wings 3 & 4	2-11	2- 0		
K30	Str.	12	5	9- 4	Ftg Wings 1 & 2				
K31	Str.	14	5	14- 2	Ftg Wings 3 & 4				
M32	8	6	5	10- 7	B.F. Wings 1 & 2	8- 5½	2- 2	1- 1	1-10½
M33	8	2	5	8- 3	B.F. Wings 1 & 2	6- 1⅛	2- 2	1- 1	1-10½
M34	8	8	5	14- 7	B.F. Wings 3 & 4	12- 5½	2- 2	1- 1	1-10½
P35	7	1	5	9- 5	B.F. Parapet Lt. End	5- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P36	7	1	5	9- 5	B.F. Parapet Lt. End	5- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P37	7	1	5	8- 5	F.F. Parapet Lt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P38	7	1	5	8- 5	F.F. Parapet Lt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P39	7	1	5	9- 5	B.F. Parapet Rt. End	5- 6¾	1-11¾	1-11¾	1- 8⅝
						0-11⅞	1- 8⅝	0-11⅞	
P40	7	2	5	9- 6	B.F. Parapet Rt. End	5- 5⅝	2- 0⅞	2- 0⅞	1- 9½
						1- 0⅜	1- 9½	1- 0⅜	
P41	7	1	5	9- 5	B.F. Parapet Rt. End	5- 6¾	1-11¾	1-11¾	1- 8⅝
						0-11⅞	1- 8⅝	0-11⅞	
P42	7	1	5	8- 6	F.F. Parapet Rt. End	5- 1¾	1- 8½	1- 8½	1- 5¾
						0-10¼	1- 5¾	0-10¼	
P43	7	2	5	8- 4	F.F. Parapet Rt. End	5- 2⅛	1- 7⅞	1- 7⅞	1- 4¾
						0- 9⅜	1- 4¾	0- 9⅜	
P44	7	1	5	8- 6	F.F. Parapet Rt. End	5- 1¾	1- 8½	1- 8½	1- 5¾
						0-10¼	1- 5¾	0-10¼	
P45	Str.	2	5	7- 4	Bottom Slab Lt. End				
P46	Str.	2	5	7- 4	Bottom Slab Rt. End				
Q47	7	1	5	17- 2	Appron Lt. End	10- 0¾	3- 7	3- 7	1- 9½
						3- 1⅛	1- 9½	3- 1⅛	
Q48	7	1	5	17- 6	Appron Lt. End	10- 2⅞	3- 8	3- 8	1-10
						3- 2⅛	1-10	3- 2⅛	
Q49	7	1	5	22- 2	Appron Rt. End	14- 0¾	4- 1	4- 1	2- 0½
						3- 6⅜	2- 0½	3- 6⅜	
Q50	7	1	5	22- 6	Appron Rt. End	14- 2⅞	4- 2	4- 2	2- 1
						3- 7¼	2- 1	3- 7¼	
R51	11s	5	5	3-11	Parapet Wall (Left End)	1- 3½	0- 9	0- 2½	0- 9
						0- 6½	0- 9¾		
R52	12s	5	5	7- 1	Parapet Wall (Right End)	2- 9½	0- 9		
T53	8	4	6	12- 3	Top of Wings 3 & 4	10- 9⅜	1- 5⅝	0- 4⅞	1- 5
X54	Str.	44	8	2- 0	Dowels				



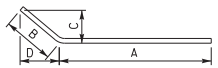
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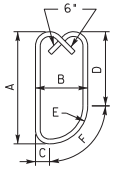
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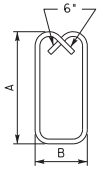
TYPE 7



TYPE 8



TYPE 11



TYPE 12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	S.T. ANDARD
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SPENCER**

ROUTE: **KY 55** | CROSSING: **A DITCH**

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	**Division of Structural Design**	S7
		DRAWING NO. 28324

CONSTRUCTION PROJECT NO. | LETTING DATE

5-SHEET NAME: | DATE: 27-APR-2020 | USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\6 28325 5x4 RCBC Station 225+60 shelby county\28325\28325.dgn

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SHELBY COUNTY
SHELBYVILLE ROAD
KY 55 OVER A DITCH
Station 225+60

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavatuions, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1142 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	31.8	C.Y.
8150	Reinforcement	2807	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for any extra concrete required is incidental to the unit price bid for Class A Concrete.

ITEM NUMBER
05-9017.00

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1, 2, 3 & 4
6	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY

DESIGNED BY: J. VAN ZEE | L. LIKINS

DETAILED BY: M. BAWITHAWNG | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

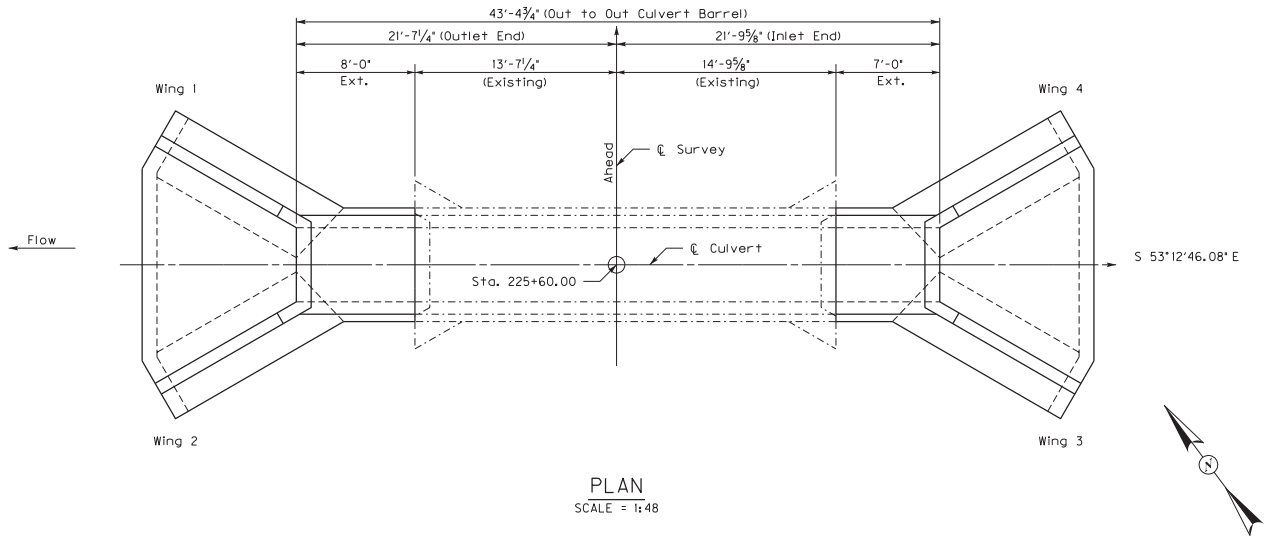
ROUTE: KY 55 | CROSSING: A DITCH

SINGLE 5.0 x 4.0 CULVERT

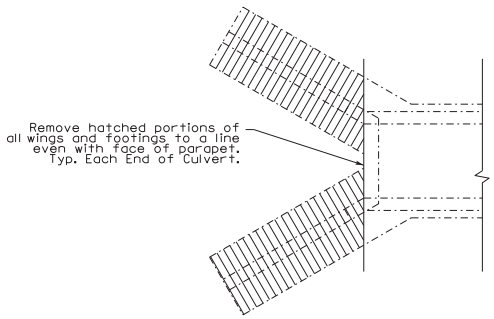
PREPARED BY
Division of Structural Design

SHEET NO. S1

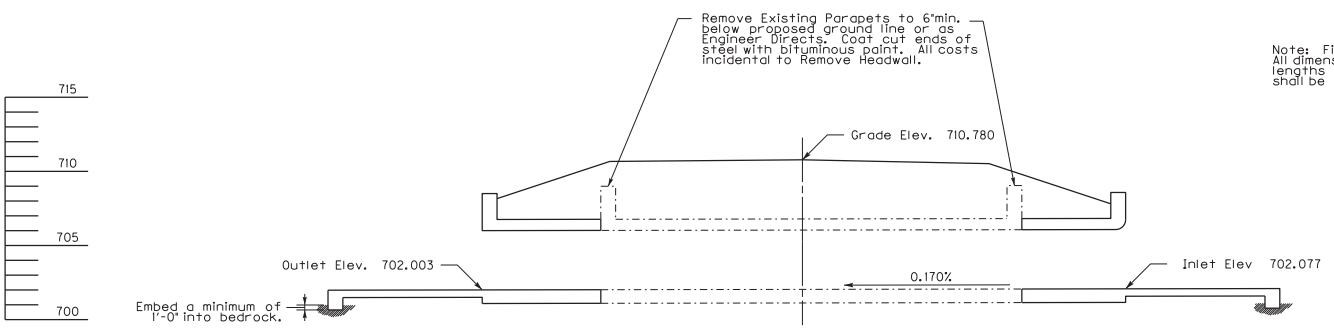
DRAWING NO. 28325



PLAN
SCALE = 1:48



Removal Details
SCALE = 1:48



SECTION ON ℄
Single 5'-0" x 4'-0" x 43'-4¾" R.C.B.C.
21'-9⅝" Inlet End and 21'-7¼" Outlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

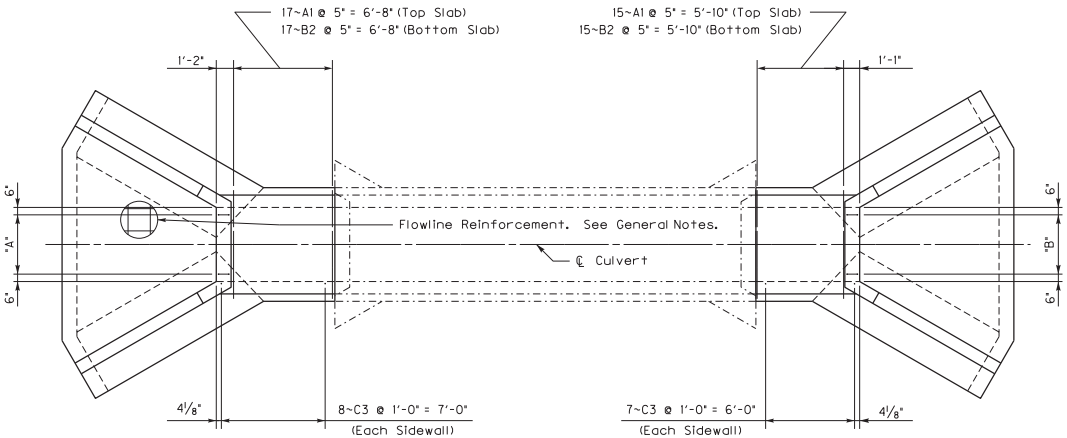
ROUTE: KY 55 | CROSSING: A DITCH

LAYOUT

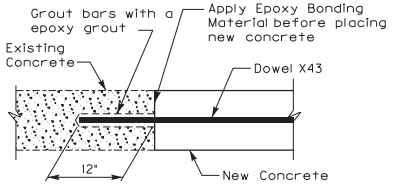
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05-9017.00	Division of Structural Design	S2
		DRAWING NO. 28325

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5-SHEET NAME: DATE: 27-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\6 28325 5x4 RCBC Station 225+60 shelby county\28325\28325.dgn



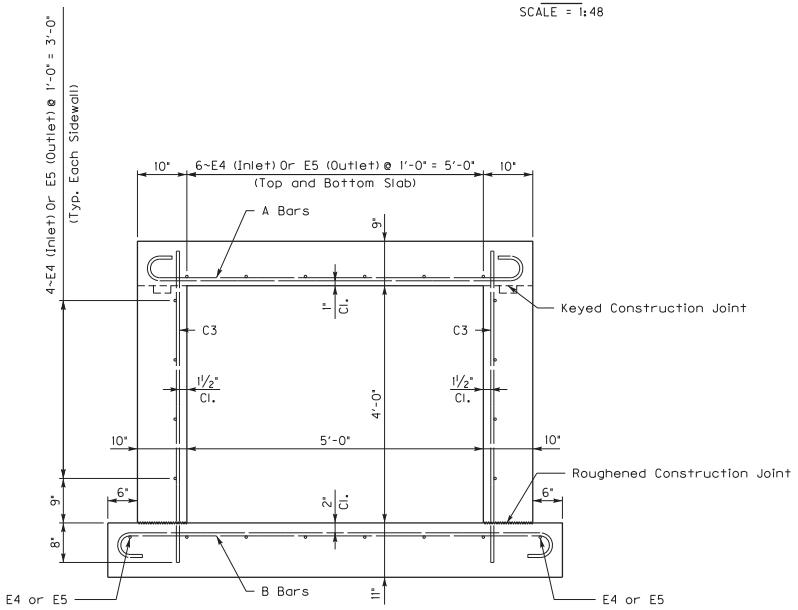
PLAN
SCALE = 1:48



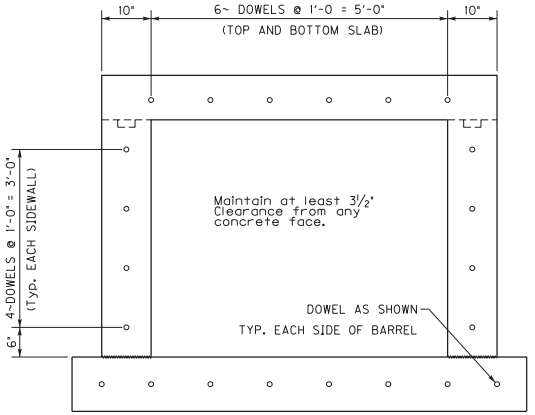
DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

"A" 5~R40 @ 1'-0" = 4'-0"
"B" 5~R41 @ 1'-0" = 4'-0"
Minimum Lap Distance for E 4 Bars 21 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

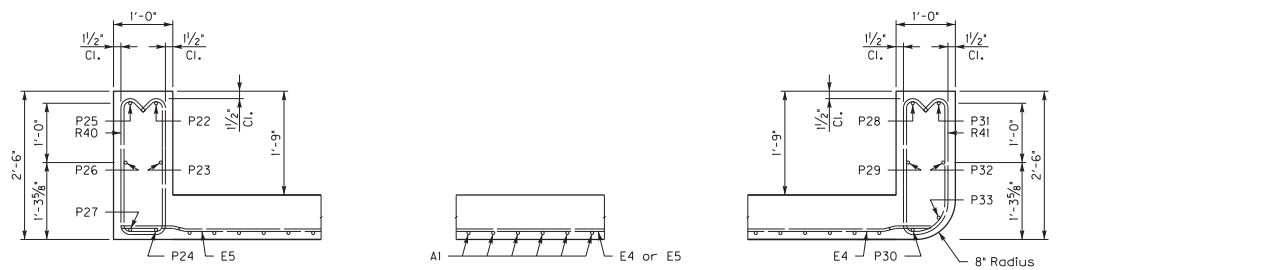
COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

BARREL

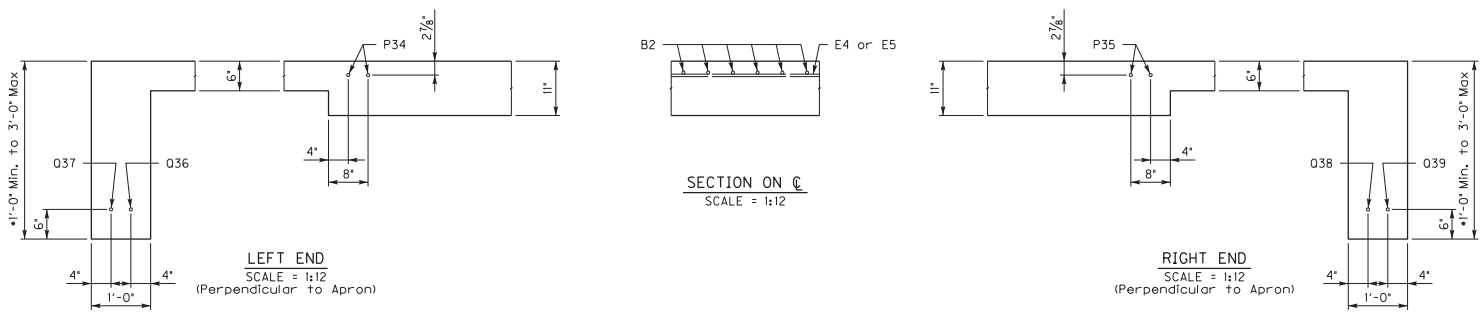
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05-9017.00	Division of Structural Design	S3
		DRAWING NO. 28325

5-SHEET NAME: DATE: 27-APR-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\6 28325 5x4 RCBC Station 225+60 shelby county\28325\28325.dgn



LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)



LEFT END
SCALE = 1:12
(Perpendicular to Apron)

SECTION ON ℄
SCALE = 1:12

RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

•Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

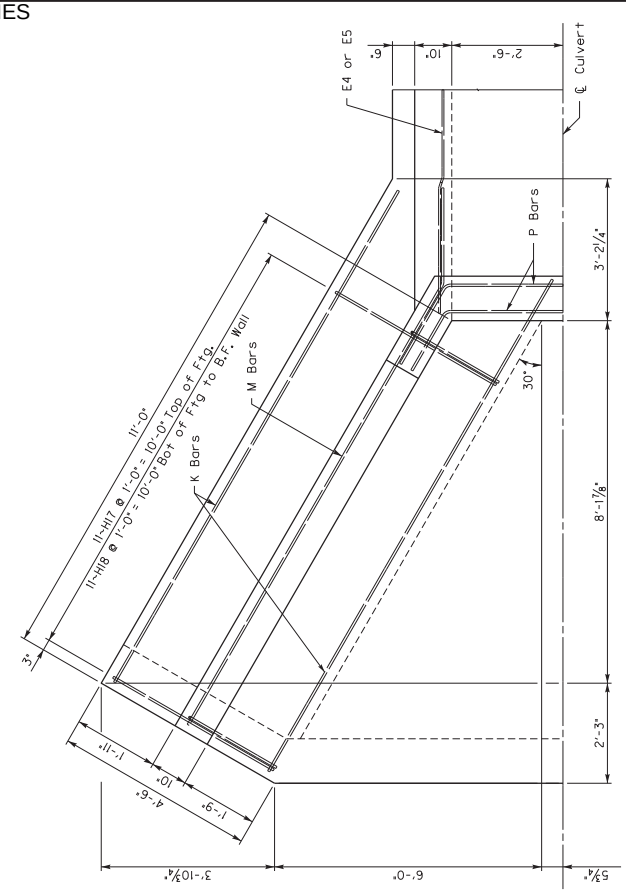
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

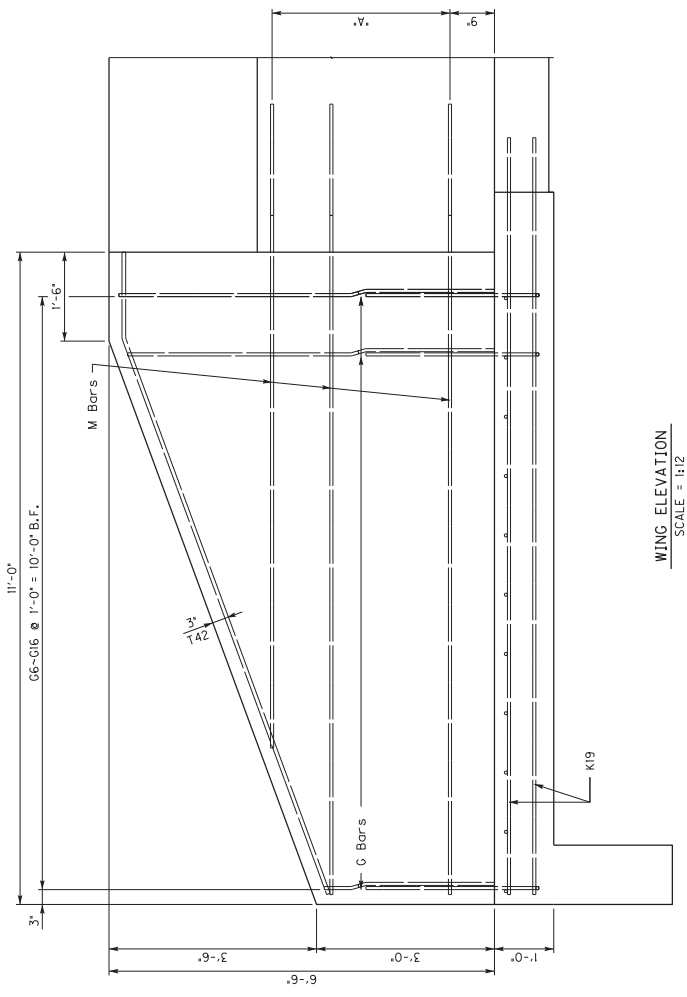
BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	Division of Structural Design	S4
		DRAWING NO. 28325

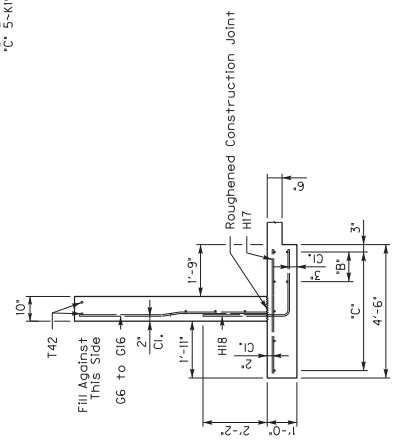


PLAN
SCALE = 1:16

"A" 3~M20,1~M21 @ 1'-0" = 3'-0" B.F.
"B" 2~K19 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 5~K19 @ 1'-0" = 4'-0"



WING ELEVATION
SCALE = 1:12



WING SECTION
SCALE = 1:24

DATE	REVISION	CHECKED BY
DATE:	MARCH 2020	
DESIGNED BY:	J. VAN ZEE	L. LIKINS
DETAILED BY:	M. BAWITHANNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
SHELBY

ROUTE
KY 55

CROSSING
A DITCH

Wings 1, 2, 3 & 4

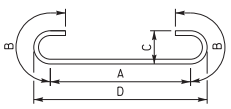
PREPARED BY
Division of Structural Design

SHEET NO. 55
DRAWING NO. 28325

ITEM NUMBER
05-9017.00

E-SHEET NAME:
DATE: 27-APR-2020
USERNAME: Joseph.Vonzee FILE NAME: J:\DistrICt05\5-9017 HSIP\Civil\Sheets\6 28325 5x4 RCBC Station 225+60 Shelby County\28325\28325.dgn

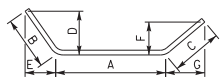
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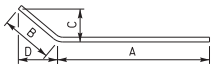
TYPE 1



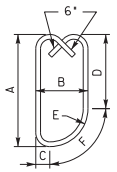
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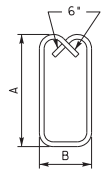
TYPE 7



TYPE 8



TYPE 11



TYPE 12

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	32	5	7- 7	Top Slab	5-11	0-10	0- 5	6- 4
B2	1	32	5	8- 7	Bottom Slab	6-11	0-10	0- 5	7- 4
C3	Str.	30	5	5- 3	Sidewalls				
E4	Str.	22	4	6- 8	Slabs & Sidewalls (Inlet)				
E5	Str.	22	4	7- 8	Slabs & Sidewalls (Outlet)				
G6	Str.	4	5	2-10	B.F Wings 1, 2, 3 & 4				
G7	Str.	4	5	3- 3	B.F Wings 1, 2, 3 & 4				
G8	Str.	4	5	3- 7	B.F Wings 1, 2, 3 & 4				
G9	Str.	4	5	4- 0	B.F Wings 1, 2, 3 & 4				
G10	Str.	4	5	4- 4	B.F Wings 1, 2, 3 & 4				
G11	Str.	4	5	4- 9	B.F Wings 1, 2, 3 & 4				
G12	Str.	4	5	5- 1	B.F Wings 1, 2, 3 & 4				
G13	Str.	4	5	5- 5	B.F Wings 1, 2, 3 & 4				
G14	Str.	4	5	5-10	B.F Wings 1, 2, 3 & 4				
G15	Str.	4	5	6- 2	B.F Wings 1, 2, 3 & 4				
G16	Str.	4	5	6- 4	B.F Wings 1, 2, 3 & 4				
H17	Str.	44	5	4- 2	Top Ftg Wings 1, 2, 3 & 4				
H18	5	44	5	5- 0	Bot Ftg Wings 1, 2, 3 & 4	2-11	2- 3		
K19	Str.	28	5	12- 9	Ftg Wings 1, 2, 3 & 4				
M20	8	12	5	13- 7	B.F. Wings 1, 2, 3 & 4	11- 5½	2- 2	1- 1	1-10½
M21	8	4	5	11- 2	B.F. Wings 1, 2, 3 & 4	8-11¾	2- 2	1- 1	1-10½
P22	7	1	5	9- 5	B.F. Parapet Lt. End	5- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P23	7	1	5	9- 6	B.F. Parapet Lt. End	5- 5⅝	2- 0¾	2- 0¾	1- 9½
						1- 0⅜	1- 9½	1- 0⅜	
P24	7	1	5	9- 5	B.F. Parapet Lt. End	5- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P25	7	1	5	8- 5	F.F. Parapet Lt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P26	7	1	5	8- 4	F.F. Parapet Lt. End	5- 2⅛	1- 7¼	1- 7¼	1- 4¾
						0- 9⅝	1- 4¾	0- 9⅝	
P27	7	1	5	8- 5	F.F. Parapet Lt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P28	7	1	5	9- 5	B.F. Parapet Rt. End	5- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P29	7	1	5	9- 6	B.F. Parapet Rt. End	5- 5⅝	2- 0¾	2- 0¾	1- 9½
						1- 0⅜	1- 9½	1- 0⅜	
P30	7	1	5	9- 5	B.F. Parapet Rt. End	5- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P31	7	1	5	8- 5	F.F. Parapet Rt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P32	7	1	5	8- 4	F.F. Parapet Rt. End	5- 2⅛	1- 7¼	1- 7¼	1- 4¾
						0- 9⅝	1- 4¾	0- 9⅝	
P33	7	1	5	8- 5	F.F. Parapet Rt. End	5- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P34	Str.	2	5	7- 4	Bottom Slab Lt. End				
P35	Str.	2	5	7- 4	Bottom Slab Rt. End				
Q36	7	1	5	20- 9	Appron Lt. End	12- 7½	4- 1	4- 1	2- 0½
						3- 6⅜	2- 0½	3- 6⅜	
Q37	7	1	5	21- 1	Appron Lt. End	12- 9⅝	4- 2	4- 2	2- 1
						3- 7¼	2- 1	3- 7¼	
Q38	7	1	5	20- 9	Appron Rt. End	12- 7½	4- 1	4- 1	2- 0½
						3- 6⅜	2- 0½	3- 6⅜	
Q39	7	1	5	21- 1	Appron Rt. End	12- 9⅝	4- 2	4- 2	2- 1
						3- 7¼	2- 1	3- 7¼	
R40	12s	5	5	6- 1	Parapet Wall (Left End)	2- 3½	0- 9		
R41	11s	5	5	5-11	Parapet Wall (Right End)	2- 3½	0- 9	0- 2½	1- 9
						0- 6½	0- 9¾		
T42	8	8	6	11- 5	Top of Wings 1, 2, 3 & 4	9-11⅞	1- 5½	0- 6	1- 4½
X43	Str.	44	8	2- 0	Dowels				

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SHELBY**

ROUTE: **KY 55** | CROSSING: **A DITCH**

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
05-9017.00	**Division of Structural Design**	S6
		DRAWING NO. 28325

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SHELBY COUNTY
SHELBYVILLE ROAD
KY 55 OVER A DITCH
Station 229+98

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load and resistance factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavations, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1184 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	52.7	C.Y.
8150	Reinforcement	5442	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1, 2, 3 & 4
6	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 CHECKED BY

DESIGNED BY: J. VAN ZEE L. LIKINS

DETAILED BY: M. BAWITHAWNG J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SHELBY**

ROUTE: KY 55 CROSSING: A DITCH

SINGLE 8.0 x 4.0 CULVERT

ITEM NUMBER: **5-9017.00**

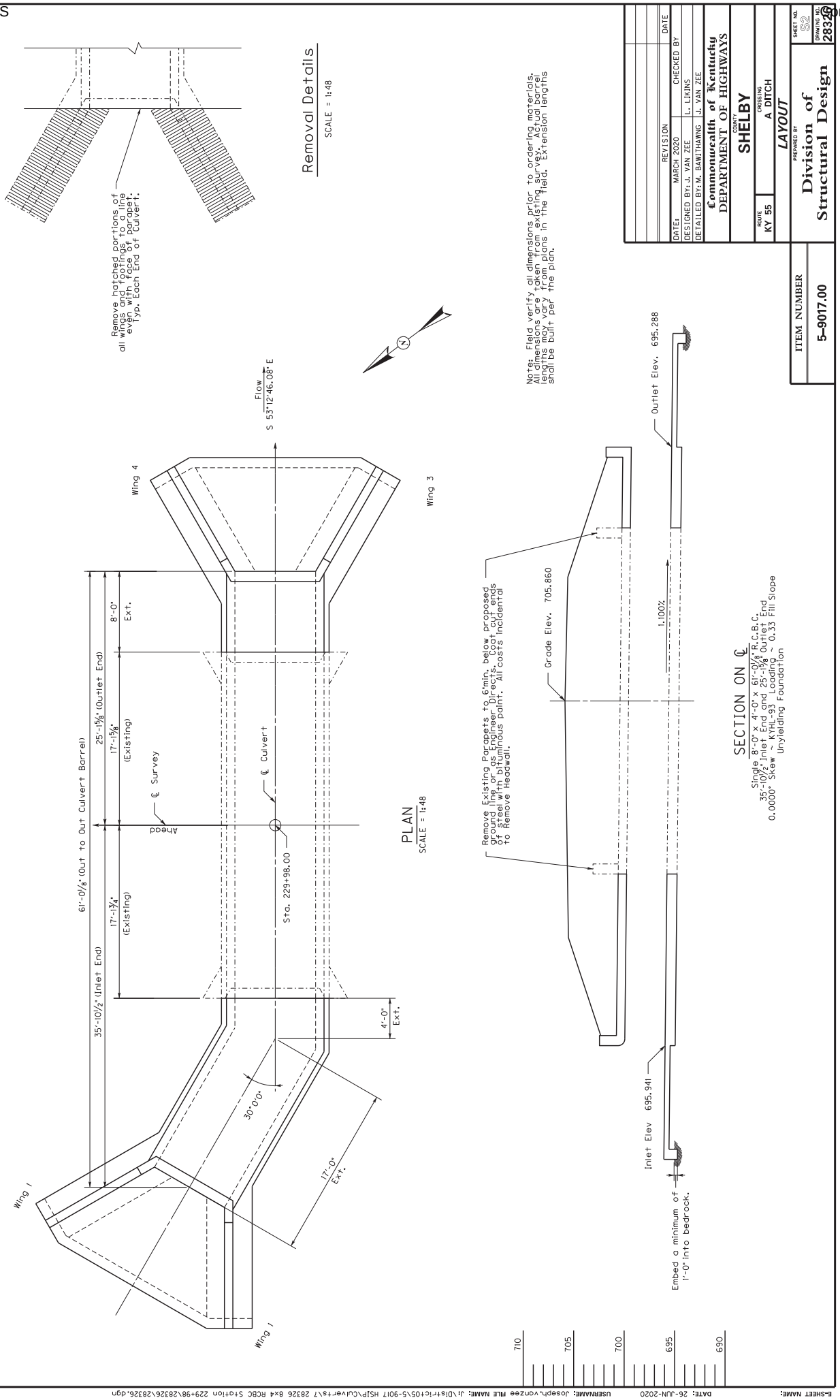
PREPARED BY: **Division of Structural Design**

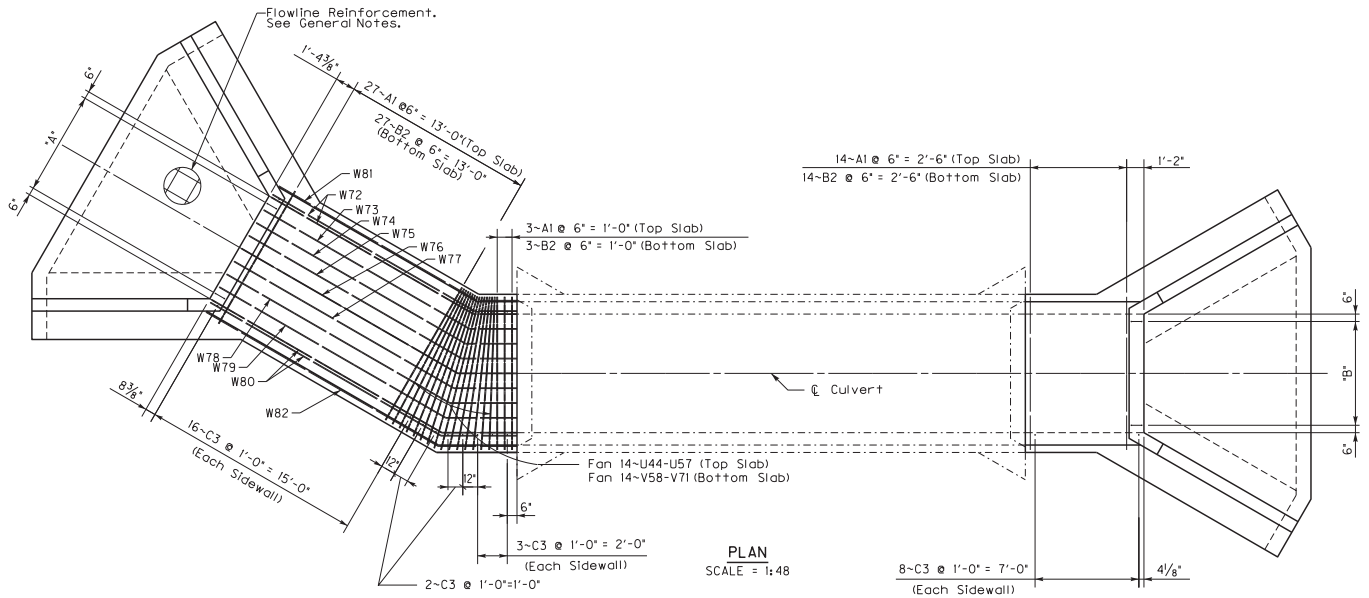
SHEET NO.: S1

DRAWING NO.: 28326

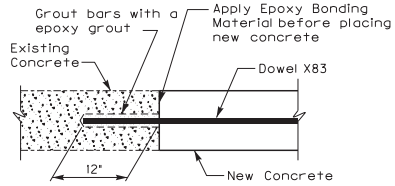
CONSTRUCTION PROJECT NO. | LETTING DATE

5-SHEET NAME: DATE: 26-JUN-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\7 28326 8x4 RCBC Station 229+98\28326\28326.dgn


Removal Details
SCALE = 1:48
Remove hatched portions of wings and portions of pipe even with face of parapet, typ. Each End of Culvert.
Flow
S 53°12'46.08" E
Wing 4
Wing 3
Wing 1
Wing 1
61'-0 1/8" (Out to Out Culvert Barrel)
35'-10 1/2" (Inlet End)
25'-1 5/8" (Outlet End)
17'-1 3/4" (Existing)
17'-1 5/8" (Existing)
8'-0" Ext.
4'-0" Ext.
17'-0" Ext.
℄ Survey
℄ Culvert
Ahead
Sta. 229+98.00
30°0'0"
PLAN
SCALE = 1:48
Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.
Remove Existing Parapets to 6"min. below proposed ground line or as per Engineer. Dispose of debris. Cost of torch cutting of steel with bituminous paint. All costs incidental to Remove Headwall.
Grade Elev. 705.860
1.100%
Outlet Elev. 695.288
Inlet Elev 695.941
Embed a minimum of 1'-0" into bedrock.
SECTION ON ℄
Single 8'-0" x 4'-0" x 61'-0 1/8" R.C.B.C.
35'-10 1/2" Inlet End and 25'-1 5/8" Outlet End
0.0000° Skew - KYHL-93 Loading - 0.33 Fill Slope
Unyielding Foundation
710
705
700
695
690
DATE: 26-JUN-2020
USERNAME: Joseph.Vonzee
FILE NAME: J:\Distrtic+05\5-9017 HSIP\Civil\ert5\7 28326 8x4 RCBC Station 229+98\28326\28326.dgn
E-SHEET NAME:
REVISION
DATE
DATE: MARCH 2020
CHECKED BY
DESIGNED BY: J. VAN ZEE
L. LIKINS
DETAILED BY: M. BAWITHAWNG
J. VAN ZEE
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY
SHELBY
ROUTE
KY 55
CROSSING
A DITCH
LAYOUT
PREPARED BY
Division of Structural Design
ITEM NUMBER
5-9017.00
SHEET NO.
S2
DRAWING NO.
28326



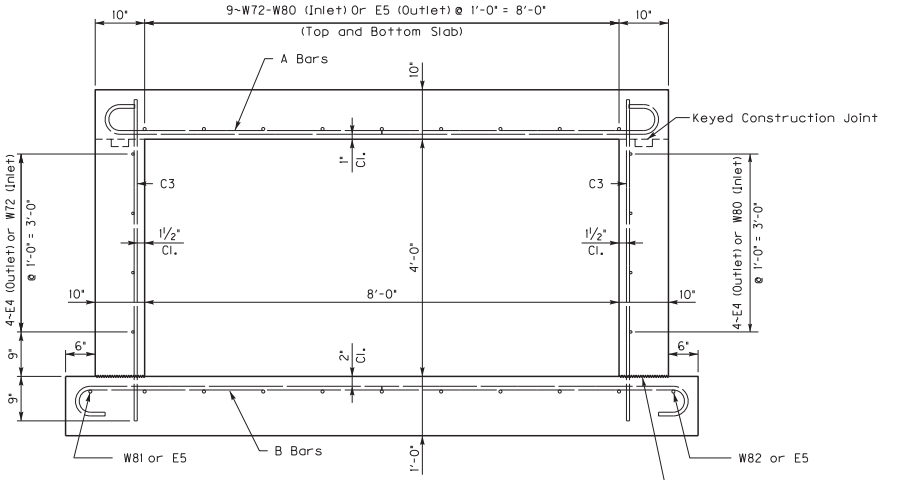
PLAN
SCALE = 1:48



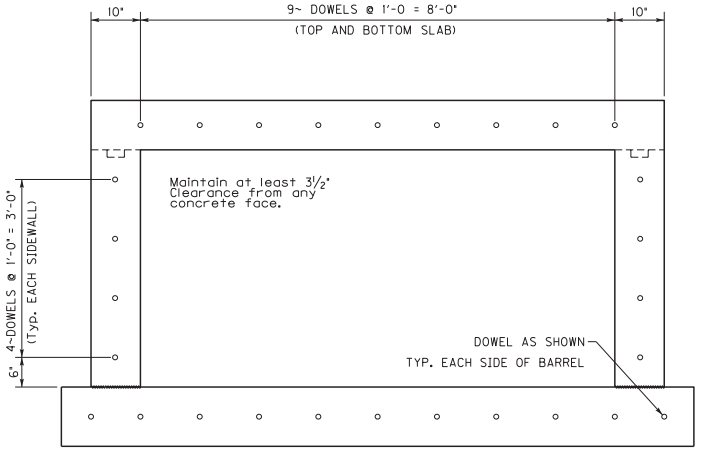
DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

"A" 8-R41 @ 1'-0" = 7'-0"
"B" 8-R42 @ 1'-0" = 7'-0"
Minimum Lap Distance for E 4 Bars 26 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

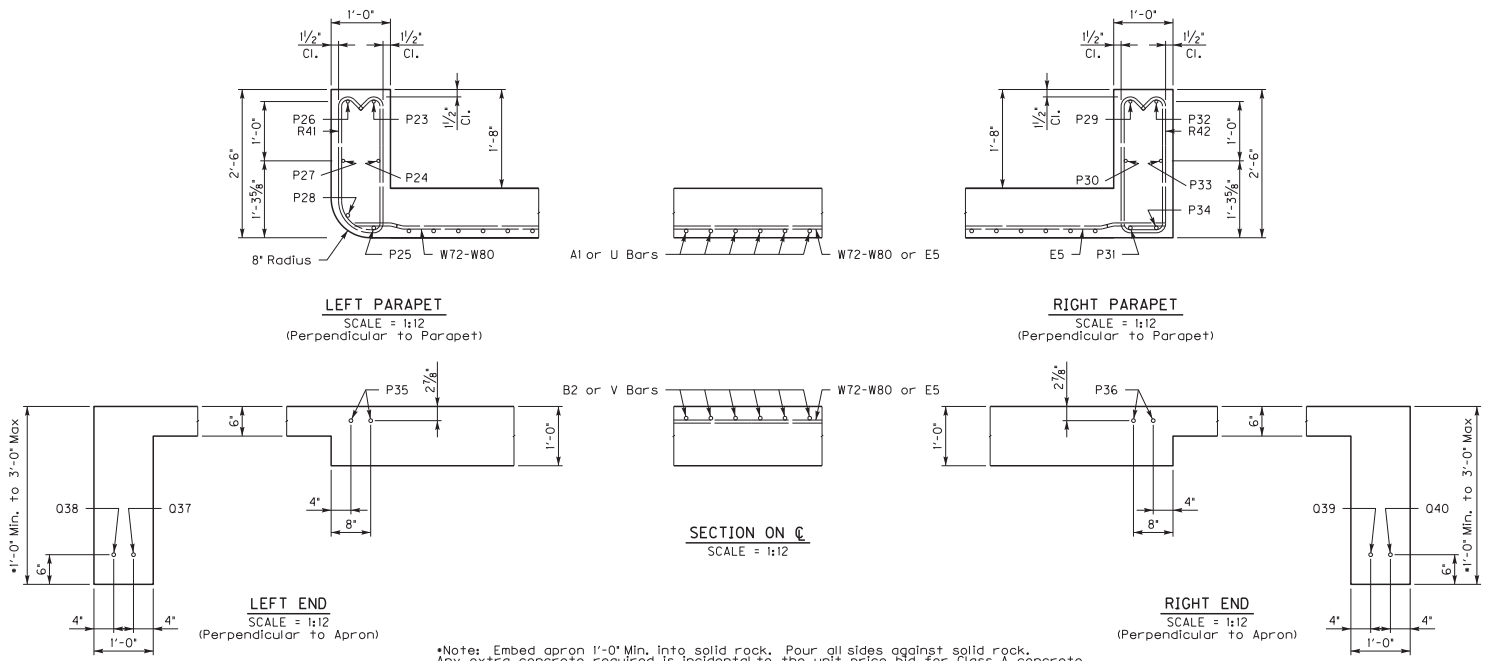
ROUTE: KY 55 | CROSSING: A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S3
		DRAWING NO. 28326

5-SHEET NAME:
DATE: 26-JUN-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\7 28326 8x4 RCBC Station 229+98\28326\28326.dgn

5-SHEET NAME: DATE: 26-JUN-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\7 28326 8x4 RCBC Station 229+98\28326\28326.dgn



LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

SECTION ON ℄
SCALE = 1:12

LEFT END
SCALE = 1:12
(Perpendicular to Apron)

RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

•Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

5-9017.00

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

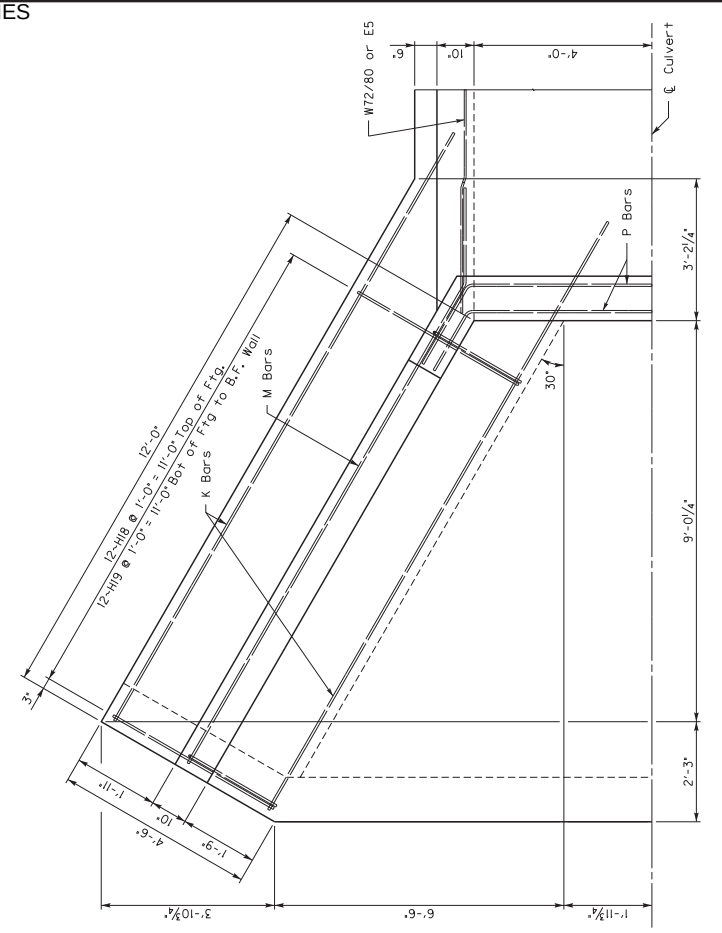
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

ROUTE	CROSSING
KY 55	A DITCH

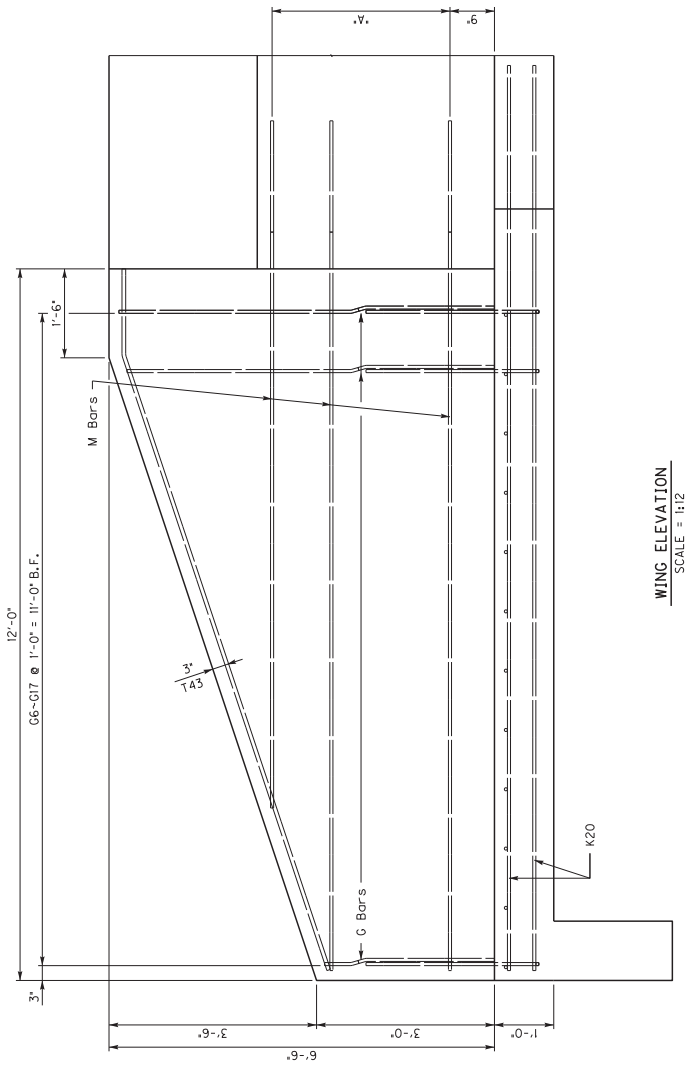
BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
	Division of Structural Design	S4
		DRAWING NO. 28326

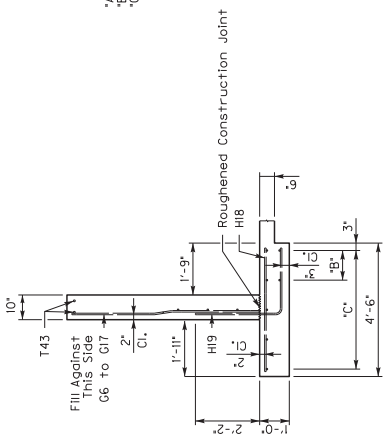


PLAN
SCALE = 1:16

"A" 3-M21, 1-M22 @ 1'-0" = 3'-0" B.F.
"B" 2-K20 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 5-K20 @ 1'-0" = 4'-0"



WING ELEVATION
SCALE = 1:12



WING SECTION
SCALE = 1:24

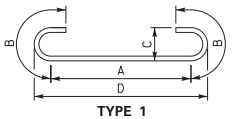
| ITEM NUMBER | | |

BILL OF REINFORCEMENT

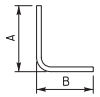
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	44	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
B2	1	44	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
C3	Str.	58	5	5- 5	Sidewalls				
E4	Str.	8	5	7- 8	Sidewalls (Outlet)				
E5	Str.	20	5	7- 8	Top & Bottom Slabs (Outlet)				
G6	Str.	4	5	2-10	B.F Wings 1, 2, 3 & 4				
G7	Str.	4	5	3- 2	B.F Wings 1, 2, 3 & 4				
G8	Str.	4	5	3- 6	B.F Wings 1, 2, 3 & 4				
G9	Str.	4	5	3-10	B.F Wings 1, 2, 3 & 4				
G10	Str.	4	5	4- 2	B.F Wings 1, 2, 3 & 4				
G11	Str.	4	5	4- 6	B.F Wings 1, 2, 3 & 4				
G12	Str.	4	5	4-10	B.F Wings 1, 2, 3 & 4				
G13	Str.	4	5	5- 2	B.F Wings 1, 2, 3 & 4				
G14	Str.	4	5	5- 6	B.F Wings 1, 2, 3 & 4				
G15	Str.	4	5	5-10	B.F Wings 1, 2, 3 & 4				
G16	Str.	4	5	6- 2	B.F Wings 1, 2, 3 & 4				
G17	Str.	4	5	6- 4	B.F Wings 1, 2, 3 & 4				
H18	Str.	48	5	4- 2	Top Ftg Wings 1, 2, 3 & 4				
H19	5	48	5	5- 0	Bot Ftg Wings 1, 2, 3 & 4	2-11	2- 3		
K20	Str.	28	5	15- 3	Ftg Wings 1, 2, 3 & 4				
M21	8	12	5	14- 7	B.F. Wings 1, 2, 3 & 4	12- 5½	2- 2	1- 1	1-10½
M22	8	4	5	11-10	B.F. Wings 1, 2, 3 & 4	9- 8½	2- 2	1- 1	1-10½
P23	7	1	5	12- 5	B.F. Parapet Lt. End	8- 6¾	1-11¾	1-11¾	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P24	7	1	5	12- 6	B.F. Parapet Lt. End	8- 5⅝	2- 0¾	2- 0¾	1- 9½
						1- 0⅞	1- 9½	1- 0⅞	
P25	7	1	6	12- 5	B.F. Parapet Lt. End	8- 6⅝	1-11¾	1-11¾	1- 8⅝
						0-11⅞	1- 8⅝	0-11⅞	
P26	7	1	5	11- 5	F.F. Parapet Lt. End	8- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P27	7	1	5	11- 4	F.F. Parapet Lt. End	8- 2⅛	1- 7⅜	1- 7⅜	1- 4¾
						0- 9⅝	1- 4¾	0- 9⅝	
P28	7	1	6	11- 5	F.F. Parapet Lt. End	8- 2	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P29	7	1	5	12- 5	B.F. Parapet Rt. End	8- 6¾	1-11¾	1-11¾	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P30	7	1	5	12- 6	B.F. Parapet Rt. End	8- 5⅝	2- 0¾	2- 0¾	1- 9½
						1- 0⅞	1- 9½	1- 0⅞	
P31	7	1	6	12- 5	B.F. Parapet Rt. End	8- 6⅝	1-11¾	1-11¾	1- 8⅝
						0-11⅞	1- 8⅝	0-11⅞	

BILL OF REINFORCEMENT

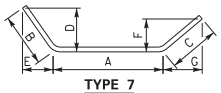
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
P32	7	1	5	11- 5	F.F. Parapet Rt. End	8- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P33	7	1	5	11- 4	F.F. Parapet Rt. End	8- 2⅛	1- 7⅜	1- 7⅜	1- 4¾
						0- 9⅝	1- 4¾	0- 9⅝	
P34	7	1	6	11- 5	F.F. Parapet Rt. End	8- 2	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P35	Str.	2	6	10- 4	Bottom Slab Lt. End				
P36	Str.	2	6	10- 4	Bottom Slab Rt. End				
037	7	1	6	24- 9	Appron Lt. End	16- 7½	4- 1	4- 1	2- 0½
						3- 6⅜	2- 0½	3- 6⅜	
038	7	1	6	25- 1	Appron Lt. End	16- 9⅝	4- 2	4- 2	2- 1
						3- 7⅞	2- 1	3- 7⅞	
039	7	1	6	24- 9	Appron Rt. End	16- 7½	4- 1	4- 1	2- 0½
						3- 6⅜	2- 0½	3- 6⅜	
040	7	1	6	25- 1	Appron Rt. End	16- 9⅝	4- 2	4- 2	2- 1
						3- 7⅞	2- 1	3- 7⅞	
R41	11s	8	5	5-11	Parapet Wall (Left End)	2- 3½	0- 9	0- 2½	1- 9
						0- 6½	0- 9¾		
R42	12s	8	5	6- 1	Parapet Wall (Right End)	2- 3½	0- 9		
T43	8	8	6	12- 5	Top of Wings 1, 2, 3 & 4	10-11⅛	1- 5⅝	0- 5½	1- 4⅝
U44	1	1	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
U45	1	1	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
U46	1	1	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
U47	1	1	6	10-11	Top Slab	8-11	1- 0	0- 6	9- 5
U48	1	1	6	10-11	Top Slab	8-11	1- 0	0- 6	9- 5
U49	1	1	6	11- 0	Top Slab	9- 0	1- 0	0- 6	9- 6
U50	1	1	6	11- 1	Top Slab	9- 1	1- 0	0- 6	9- 7
U51	1	1	6	11- 1	Top Slab	9- 1	1- 0	0- 6	9- 7
U52	1	1	6	11- 0	Top Slab	9- 0	1- 0	0- 6	9- 6
U53	1	1	6	10-11	Top Slab	8-11	1- 0	0- 6	9- 5
U54	1	1	6	10-11	Top Slab	8-11	1- 0	0- 6	9- 5
U55	1	1	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
U56	1	1	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
U57	1	1	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
V58	1	1	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
V59	1	1	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
V60	1	1	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
V61	1	1	6	11-11	Bottom Slab	9-11	1- 0	0- 6	10- 5
V62	1	1	6	12- 0	Bottom Slab	10- 0	1- 0	0- 6	10- 6
V63	1	1	6	12- 0	Bottom Slab	10- 0	1- 0	0- 6	10- 6
V64	1	1	6	12- 1	Bottom Slab	10- 1	1- 0	0- 6	10- 7
V65	1	1	6	12- 1	Bottom Slab	10- 1	1- 0	0- 6	10- 7
V66	1	1	6	12- 0	Bottom Slab	10- 0	1- 0	0- 6	10- 6
V67	1	1	6	12- 0	Bottom Slab	10- 0	1- 0	0- 6	10- 6
V68	1	1	6	11-11	Bottom Slab	9-11	1- 0	0- 6	10- 5
V69	1	1	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
V70	1	1	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
V71	1	1	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
W72	8	6	5	18- 6	Lt. Sidewall & Slabs (Inlet)	15- 8	2-10	1- 5	2- 5½
W73	8	2	5	19- 2	Top and Bottom Slabs (Inlet)	16- 0	3- 2	1- 7	2- 8⅞
W74	8	2	5	19- 8	Top and Bottom Slabs (Inlet)	16- 3	3- 5	1- 8½	2-11½
W75	8	2	5	20- 3	Top and Bottom Slabs (Inlet)	16- 6	3- 9	1-10½	3- 3
W76	8	2	5	20-10	Top and Bottom Slabs (Inlet)	16-10	4- 0	2- 0	3- 5⅝
W77	8	2	5	21- 4	Top and Bottom Slabs (Inlet)	17- 1	4- 3	2- 1½	3- 8⅞
W78	8	2	5	21-10	Top and Bottom Slabs (Inlet)	17- 4	4- 6	2- 3	3-10¾
W79	8	2	5	22- 4	Top and Bottom Slabs (Inlet)	17- 7	4- 9	2- 4½	4- 1⅞
W80	8	6	5	23- 0	Rt. Sidewall & Slabs (Inlet)	17-11	5- 1	2- 6½	4- 4⅞
W81	8	1	5	18- 1	Bottom Slab (Inlet)	15- 5	2- 8	1- 4	2- 3¾
W82	8	1	5	23- 4	Bottom Slab (Inlet)	18- 1	5- 3	2- 7½	4- 6½
X83	Str.	56	8	2- 0	Dowels				



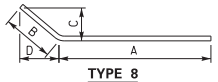
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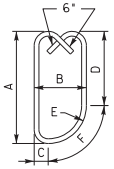
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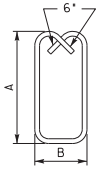
TYPE 7



TYPE 8



TYPE 11



TYPE 12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SHELBY**

ROUTE: KY 55 | CROSSING: A DITCH

BILL OF REINFORCEMENT

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S6
		DRAWING NO. 28326

5-SHEET NAME: DATE: 26-JUN-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\7 28326 8x4 RCBC Station 229+98\28326\28326.dgn

VARIOUS COUNTIES
HSIP 5177 (005)

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SHELBY COUNTY
TAYLORSVILLE RD
KY 55 OVER A DITCH
Station 247+47

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavatiuons, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1995 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	38.1	C.Y.
8150	Reinforcement	3311	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1 & 2
6	Wings 3 & 4
7	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY

DESIGNED BY: J. VAN ZEE | L. LIKINS

DETAILED BY: M. BAWITHAWNG | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SHELBY**

ROUTE: KY 55 | CROSSING: A DITCH

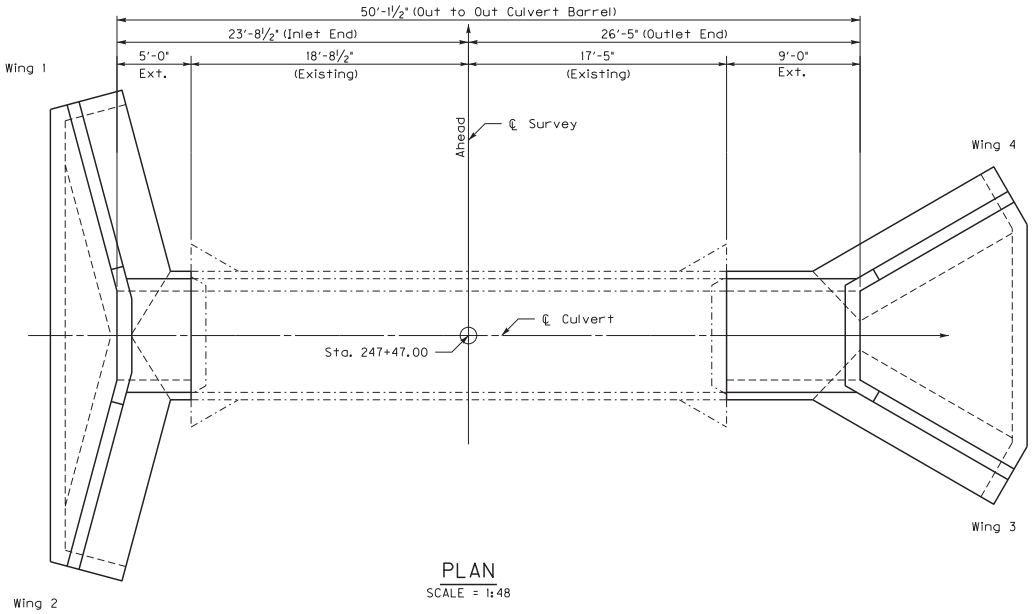
SINGLE 6.0 x 4.0 CULVERT

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S1
		DRAWING NO. 28327

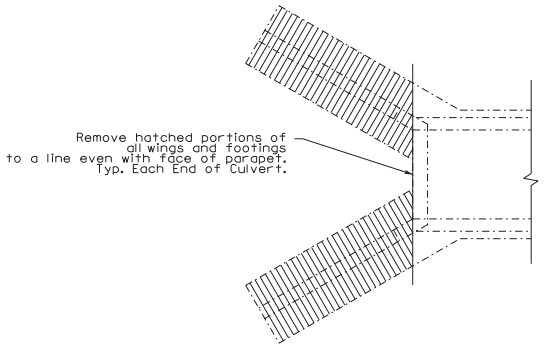
CONSTRUCTION PROJECT NO. | LETTING DATE

5-SHEET NAME: | DATE: 7-DEC-2020 | USERNAME: Earl.Downey | FILE NAME: J:\District05\5-9017 HSIP\Culverts\8 28327 6x4 RCBC Station 247+47 CK\28327\28327.dgn

Contract ID: 214215
Page 283 of 365

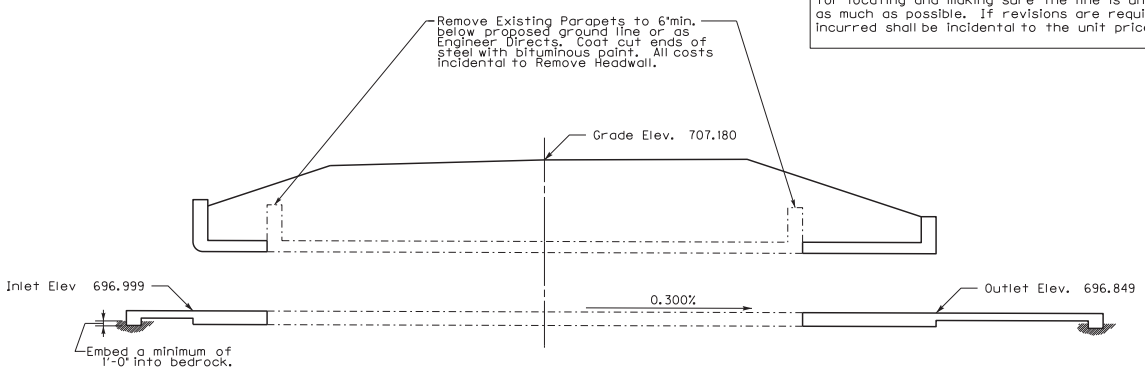


PLAN
SCALE = 1:48



Removal Details
SCALE = 1:48

AT&T Utility Note: There is a communication line present near the construction of the headwall. Contractor shall be responsible for locating and making sure the line is undisturbed. Contractor shall construct the culvert per the plans and work around the line as much as possible. If revisions are required, KYTC Engineer must approve all revisions prior to beginning work. Any extra costs incurred shall be incidental to the unit price bid for Class A concrete.



SECTION ON ℄
Single 6'-0" x 4'-0" x 50'-1½" R.C.B.C.
23'-8½" Inlet End and 26'-5" Outlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

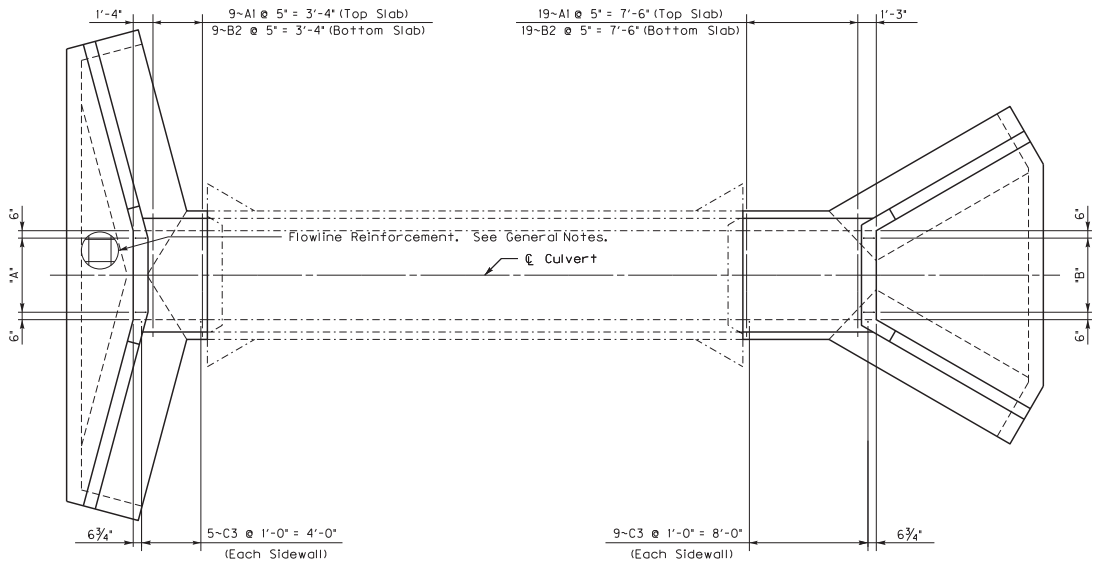
COUNTY: SHELBY

ROUTE	CROSSING
KY 55	A DITCH

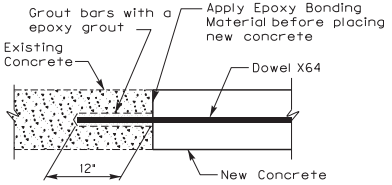
LAYOUT

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S2
		DRAWING NO. 28327

5-SHEET NAME:
DATE: 7-DEC-2020
USERNAME: Earl.W.Downey
FILE NAME: J:\District05\5-9017 HSIP\Culverts\S 28327 6x4 RCBC Station 247+47 CK\28321\28327.dgn



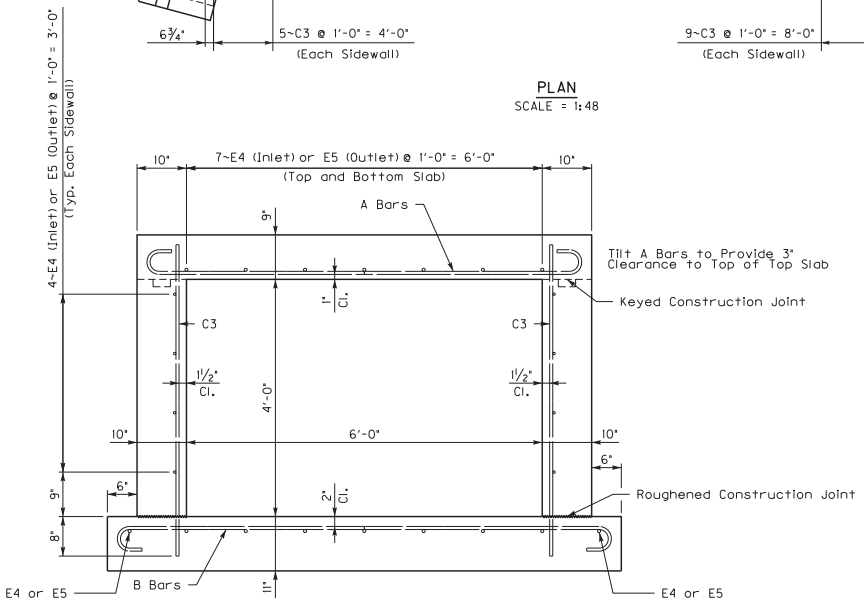
PLAN
SCALE = 1:48



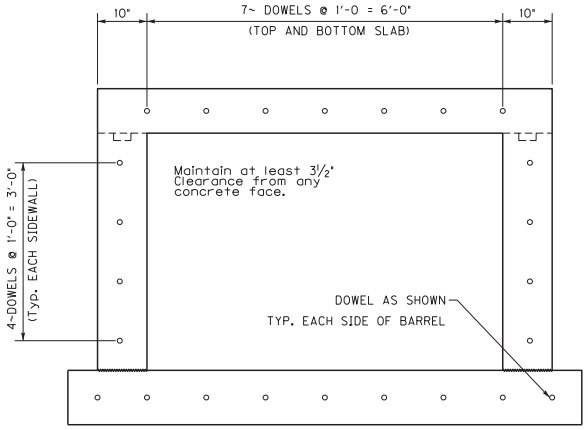
DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

"A" 6~R60 @ 1'-0" = 5'-0"
"B" 6~R61 @ 1'-0" = 5'-0"



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

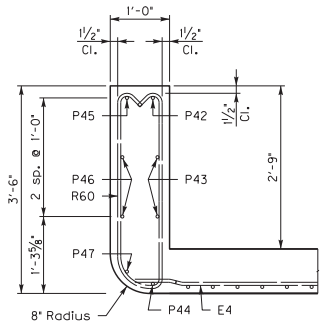
COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

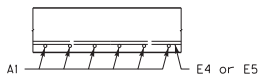
BARREL

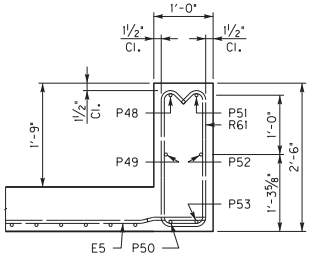
ITEM NUMBER	PREPARED BY	SHEET NO.
5–9017.00	Division of Structural Design	S3
		DRAWING NO. 28327

5-SHEET NAME: DATE: 7-DEC-2020 USERNAME: Earl.W.Downey FILE NAME: J:\District05\5-9017 HSIP\Culverts\8 28327 6x4 RCBC Station 247+47 CK\28321\28327.dgn

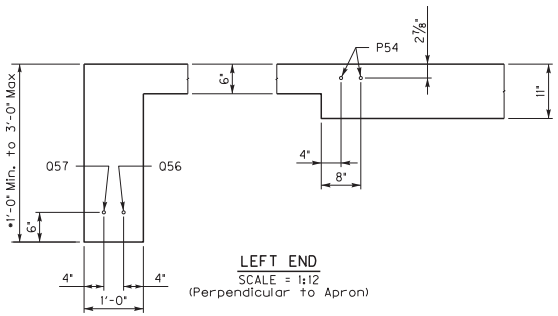


LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

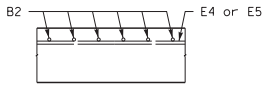




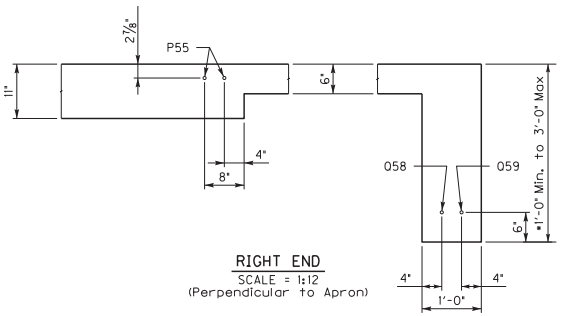
RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)



LEFT END
SCALE = 1:12
(Perpendicular to Apron)



SECTION ON ℄
SCALE = 1:12



RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

*Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

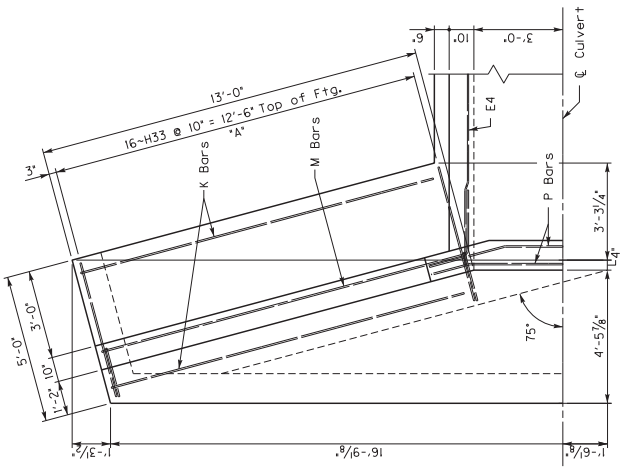
COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

BARREL

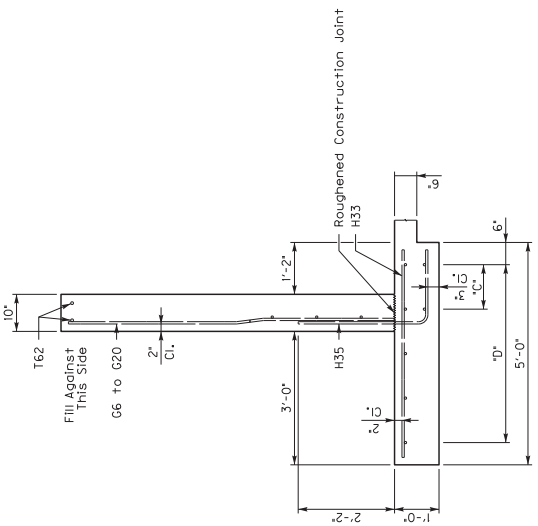
ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S4
		DRAWING NO. 28327

5-SHEET NAME: DATE: 7-DEC-2020 USERNAME: Earl.W.Downey FILE NAME: J:\District05\5-9017 HSIP\Culverts\8 28327 6x4 RCBC Station 247+47 CK\28321\28327.dgn

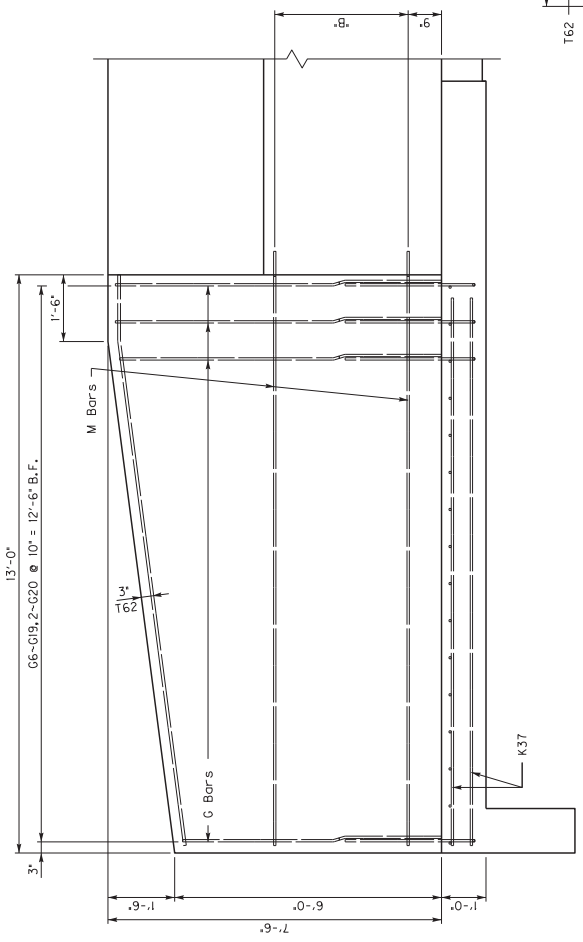


PLAN
SCALE = 1:24

"A" 16-H35 @ 10" = 12'-6" Bot of Ftg to B.F. Wall
"B" 4-M39 @ 1'-0" = 3'-0" B.F.
"C" 2-K37 @ 1'-0" = 1'-0" Bot of Ftg.
"D" 5-K37 @ 1'-0" = 4'-0"



WING SECTION
SCALE = 1:16



WING ELEVATION
SCALE = 1:16

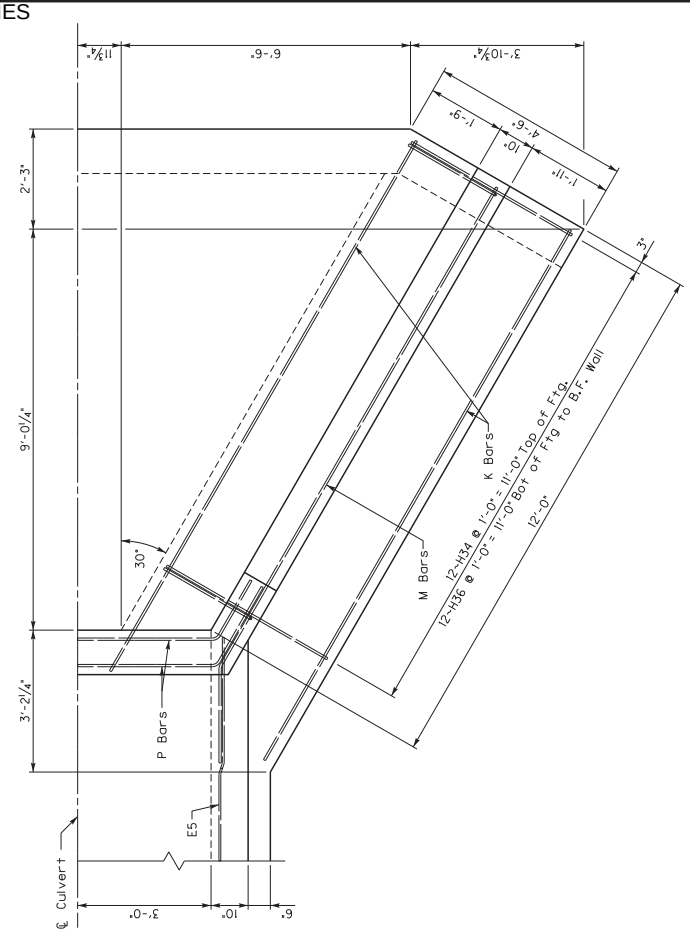
ITEM NUMBER	ROUTE	COUNTY	CROSSING	SHEET NO.	DRAWING NO.
5-9017.00	KY 55	SHELBY	A DITCH	S5	28327

Wings 1 & 2

PREPARED BY
Division of Structural Design

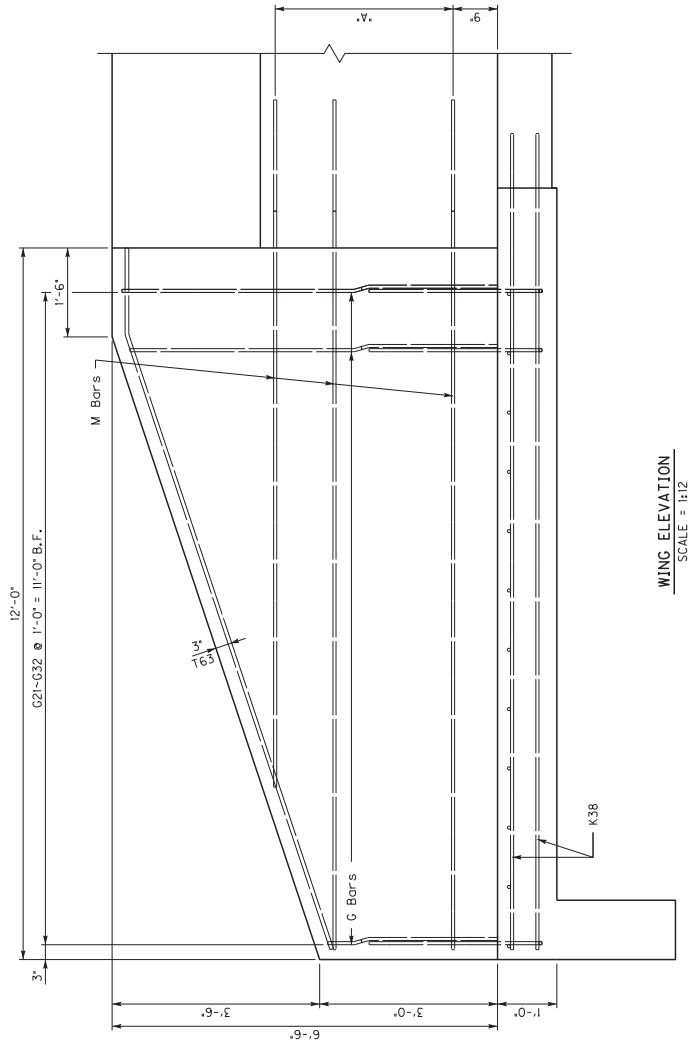
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

REVISION	DATE

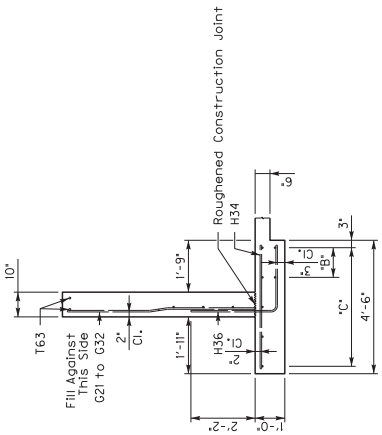


PLAN
SCALE = 1:16

"A" 3-M40, 1-M41 @ 1'-0" = 3'-0" B.F.
"B" 2-K38 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 5-K38 @ 1'-0" = 4'-0"



WING ELEVATION
SCALE = 1:12



WING SECTION
SCALE = 1:24

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
Division of Structural Design
PREPARED BY

COUNTY: SHELBY
CROSSING: A DITCH
ROUTE: KY 55
Wings 3 & 4

ITEM NUMBER: 5-9017.00

SHEET NO. S6
DRAWING NO. 28327

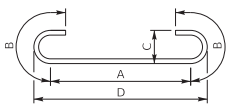
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DATE: 7-DEC-2020
USERNAME: Eric.W.Downey
FILE NAME: J:\Dist\ric+05\5-9017 HSIP\Civil\er+s\8 28327 6x4 RCBC Station 247+47 CK\28327\28327.dgn

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	28	5	8- 7	Top Slab	6-11	0-10	0- 5	7- 4
B2	1	28	5	9- 7	Bottom Slab	7-11	0-10	0- 5	8- 4
C3	Str.	28	5	5- 3	Sidewalls				
E4	Str.	24	5	4- 8	Slabs & Sidewalls (Inlet)				
E5	Str.	24	5	8- 8	Slabs & Sidewalls (Outlet)				
G6	Str.	2	5	5-10	B.F Wings 1 & 2				
G7	Str.	2	5	5-11	B.F Wings 1 & 2				
G8	Str.	2	5	6- 0	B.F Wings 1 & 2				
G9	Str.	2	5	6- 2	B.F Wings 1 & 2				
G10	Str.	2	5	6- 3	B.F Wings 1 & 2				
G11	Str.	2	5	6- 4	B.F Wings 1 & 2				
G12	Str.	2	5	6- 6	B.F Wings 1 & 2				
G13	Str.	2	5	6- 7	B.F Wings 1 & 2				
G14	Str.	2	5	6- 8	B.F Wings 1 & 2				
G15	Str.	2	5	6-10	B.F Wings 1 & 2				
G16	Str.	2	5	6-11	B.F Wings 1 & 2				
G17	Str.	2	5	7- 0	B.F Wings 1 & 2				
G18	Str.	2	5	7- 2	B.F Wings 1 & 2				
G19	Str.	2	5	7- 3	B.F Wings 1 & 2				
G20	Str.	4	5	7- 4	B.F Wings 1 & 2				

BILL OF REINFORCEMENT

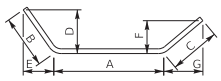
MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
G21	Str.	2	5	2-10	B.F Wings 3 & 4				
G22	Str.	2	5	3- 2	B.F Wings 3 & 4				
G23	Str.	2	5	3- 6	B.F Wings 3 & 4				
G24	Str.	2	5	3-10	B.F Wings 3 & 4				
G25	Str.	2	5	4- 2	B.F Wings 3 & 4				
G26	Str.	2	5	4- 6	B.F Wings 3 & 4				
G27	Str.	2	5	4-10	B.F Wings 3 & 4				
G28	Str.	2	5	5- 2	B.F Wings 3 & 4				
G29	Str.	2	5	5- 6	B.F Wings 3 & 4				
G30	Str.	2	5	5-10	B.F Wings 3 & 4				
G31	Str.	2	5	6- 2	B.F Wings 3 & 4				
G32	Str.	2	5	6- 4	B.F Wings 3 & 4				
H33	Str.	32	5	4- 8	Top Ftg Wings 1 & 2				
H34	Str.	24	5	4- 2	Top Ftg Wings 3 & 4				
H35	5	32	5	4- 5	Bot Ftg Wings 1 & 2	2-11	1- 8		
H36	5	24	5	5- 0	Bot Ftg Wings 3 & 4	2-11	2- 3		
K37	Str.	14	5	12- 4	Ftg Wings 1 & 2				
K38	Str.	14	5	13- 9	Ftg Wings 3 & 4				
M39	8	8	5	14-11	B.F. Wings 1 & 2	12- 9⅝	2- 2	2- 1⅛	0- 6¾
M40	8	6	5	14- 7	B.F. Wings 3 & 4	12- 5½	2- 2	1- 1	1-10½
M41	8	2	5	11-10	B.F. Wings 3 & 4	9- 8½	2- 2	1- 1	1-10½
P42	7	1	5	9- 4	B.F. Parapet Lt. End	5- 2¼	2- 0⅞	2- 0⅞	0- 6⅜
						2- 0	0- 6⅜	2- 0	
P43	7	2	5	9- 4	B.F. Parapet Lt. End	4- 7¼	2- 4½	2- 4½	0- 7⅜
						2- 3½	0- 7⅜	2- 3½	
P44	7	1	5	9- 4	B.F. Parapet Lt. End	5- 2¼	2- 0⅞	2- 0⅞	0- 6⅜
						2- 0	0- 6⅜	2- 0	
P45	7	1	5	9- 1	F.F. Parapet Lt. End	5- 4¾	1-10⅜	1-10⅜	0- 5¾
						1- 9½	0- 5¾	1- 9½	
P46	7	2	5	9- 1	F.F. Parapet Lt. End	5-11¼	1- 6¾	1- 6¾	0- 4⅞
						1- 6	0- 4⅞	1- 6	
P47	7	1	5	9- 1	F.F. Parapet Lt. End	5- 4¾	1-10⅜	1-10⅜	0- 5¾
						1- 9½	0- 5¾	1- 9½	
P48	7	1	5	10- 5	B.F. Parapet Rt. End	6- 6¾	1-11¾	1-11¾	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P49	7	1	5	10- 6	B.F. Parapet Rt. End	6- 5⅞	2- 0¾	2- 0¾	1- 9½
						1- 0⅜	1- 9½	1- 0⅜	
P50	7	1	5	10- 5	B.F. Parapet Rt. End	6- 6¾	1-11¾	1-11¾	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P51	7	1	5	9- 5	F.F. Parapet Rt. End	6- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P52	7	1	5	9- 4	F.F. Parapet Rt. End	6- 2⅛	1- 7⅞	1- 7⅞	1- 4¾
						0- 9⅜	1- 4¾	0- 9⅜	
P53	7	1	5	9- 5	F.F. Parapet Rt. End	6- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10¼	1- 5⅝	0-10¼	
P54	Str.	2	5	8- 4	Bottom Slab Lt. End				
P55	Str.	2	5	8- 4	Bottom Slab Rt. End				
Q56	7	1	5	37-11	Appron Lt. End	29- 6⅜	4- 3⅛	4- 3⅛	4- 1⅜
						1- 1¼	4- 1⅜	1- 1¼	
Q57	7	1	5	38-11	Appron Lt. End	30- 0½	4- 6⅛	4- 6⅛	4- 4⅜
						1- 2	4- 4⅜	1- 2	
Q58	7	1	5	22- 9	Appron Rt. End	14- 7½	4- 1	4- 1	2- 0½
						3- 6⅜	2- 0½	3- 6⅜	
Q59	7	1	5	23- 1	Appron Rt. End	14- 9⅝	4- 2	4- 2	2- 1
						3- 7¼	2- 1	3- 7¼	
R60	11s	6	5	7-11	Parapet Wall (Left End)	3- 3½	0- 9	0- 2½	2- 9
						0- 6½	0- 9¾		
R61	12s	6	5	6- 1	Parapet Wall (Right End)	2- 3½	0- 9		
T62	8	4	6	12-11	Top of Wings 1 & 2	11- 5⅜	1- 5⅞	0- 2¼	1- 5⅜
T63	8	4	6	12- 5	Top of Wings 3 & 4	10-11⅛	1- 5⅝	0- 5½	1- 4⅝
X64	Str.	48	8	2- 0	Dowels				



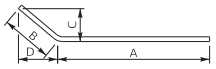
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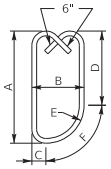
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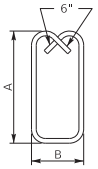
TYPE 7



TYPE 8



TYPE 11



TYPE 12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: Computer	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SHELBY**

ROUTE: KY 55 | CROSSING: A DITCH

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	**Division of Structural Design**	S7
		DRAWING NO. 28327

5-SHEET NAME: NJ2 DATE: 7-DEC-2020 USERNAME: Earl.W.Downey FILE NAME: J:\District05\5-9017 HSIP\Culverts\8 28327 6x4 RCBC Station 247+47 CK\28321\28327.dgn

VARIOUS COUNTIES
HSIP 5177 (005)

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SHELBY COUNTY
TAYLORSVILLE RD
KY 55 OVER A DITCH
Station 271+17

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavatiuons, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1525 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	31.4	C.Y.
8150	Reinforcement	3115	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wing 1
6	Wing 2
7	Wings 3 & 4
8	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY

DESIGNED BY: J. VAN ZEE | L. LIKINS

DETAILED BY: M. BAWITHAWNG | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SHELBY**

ROUTE: KY 55 | CROSSING: A DITCH

SINGLE 8.0 x 4.0 CULVERT

ITEM NUMBER: **5-9017.00**

PREPARED BY: **Division of Structural Design**

SHEET NO.: S1

DRAWING NO.: 28328

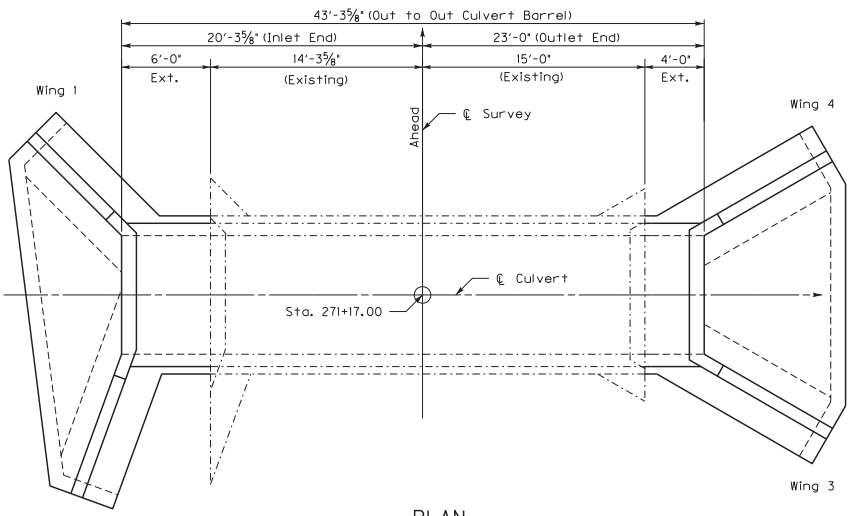
CONSTRUCTION PROJECT NO. | LETTING DATE

USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\9 28328 8x4 RCBC Station 271+17 ck\28328 FINAL\28328.dgn

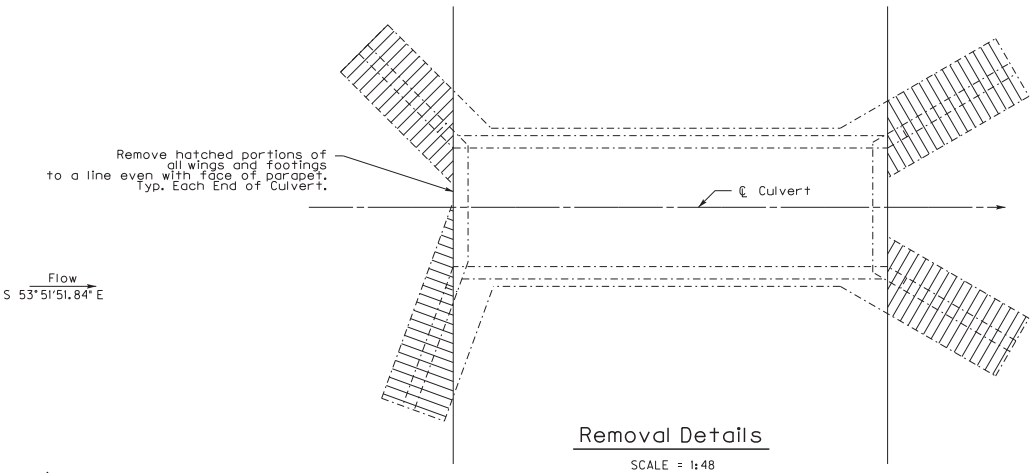
DATE: 20-NOV-2020

5-SHEET NAME:

Contract ID: 214215
Page 290 of 365



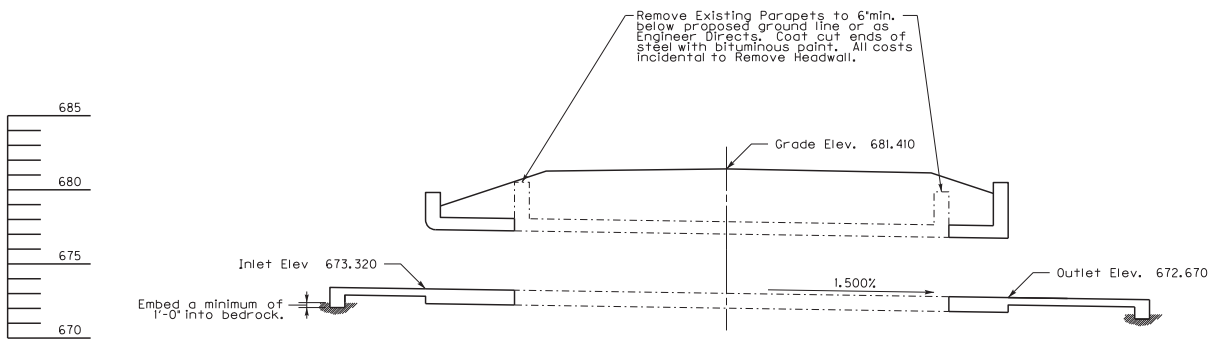
PLAN
SCALE = 1:48



Removal Details
SCALE = 1:48

AT&T Utility Note: There is a communication line present near the construction of the headwall. Contractor shall be responsible for locating and making sure the line is undisturbed. Contractor shall construct the culvert per the plans and work around the line as much as possible. If revisions are required, KYTC Engineer must approve all revisions prior to beginning work. Any extra costs incurred shall be incidental to the unit price bid for Class A concrete.

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.



SECTION ON ℄
Single 8'-0" x 4'-0" x 43'-3⅝" R.C.B.C.
20'-3⅝" Inlet End and 23'-0" Outlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

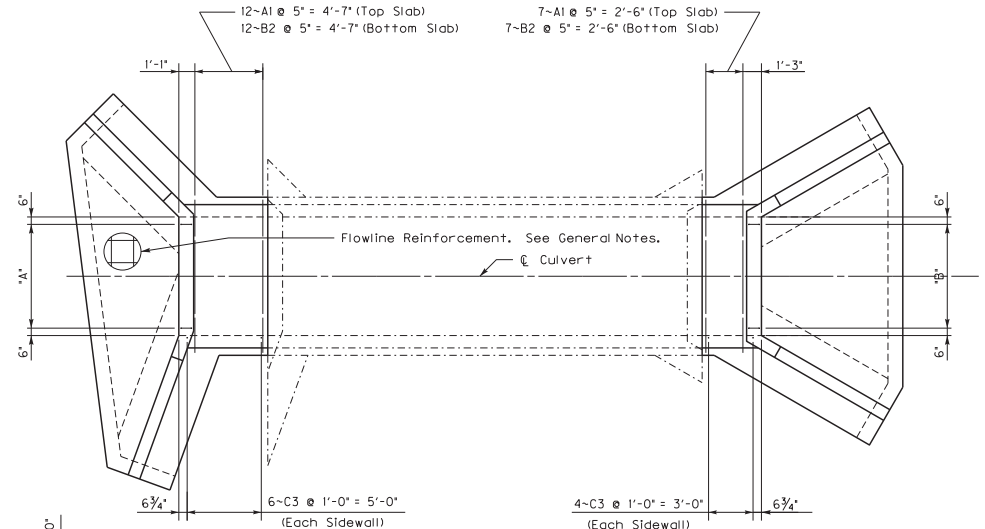
COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

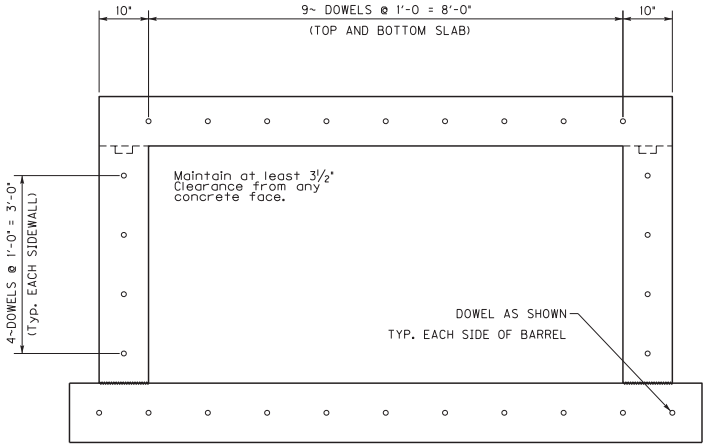
LAYOUT

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S2
		DRAWING NO. 28328

5-SHEET NAME: DATE: 20-NOV-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\9 28328 8x4 RCBC Station 271+17 ck\28328 FINAL\28328.dgn

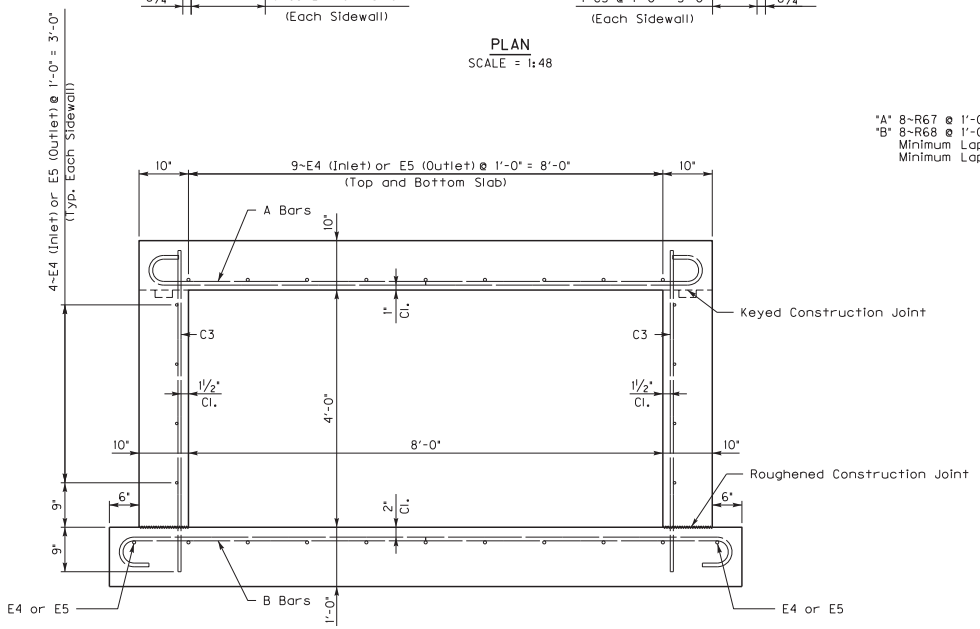


PLAN
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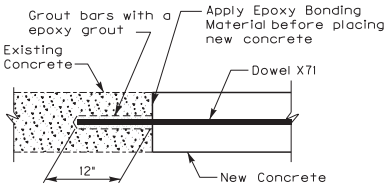


DOWEL LOCATIONS
SCALE = 1:12

"A" 8~R67 @ 1'-0" = 7'-0"
"B" 8~R68 @ 1'-0" = 7'-0"
Minimum Lap Distance for E 4 Bars 26 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

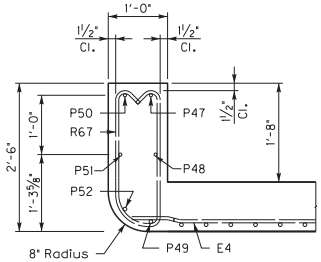
ROUTE	CROSSING
KY 55	A DITCH

BARREL

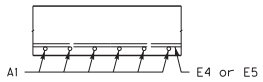
ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S3
		DRAWING NO. 28328

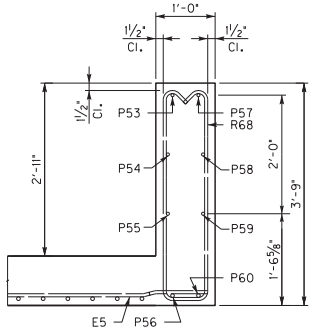
5-SHEET NAME:
DATE: 20-NOV-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\9 28328 8x4 RCBC Station 271+17 ck\28328 FINAL\28328.dgn

5-SHEET NAME: DATE: 20-NOV-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\9 28328 8x4 RCBC Station 271+17 ck\28328 FINAL\28328.dgn

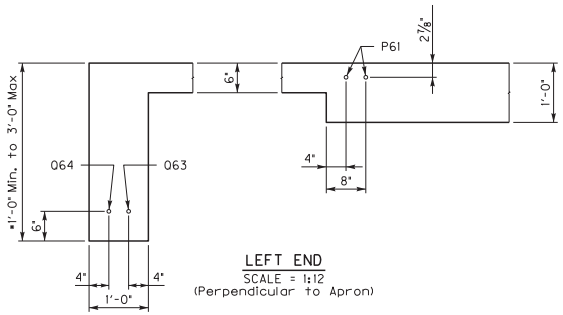


LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

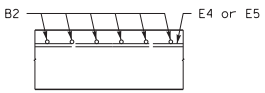




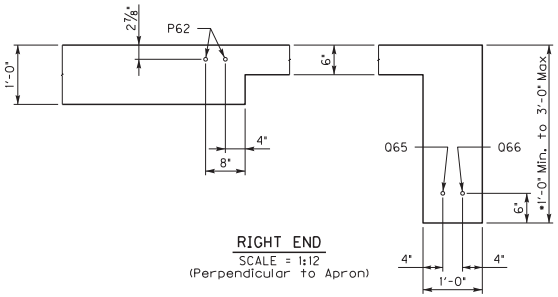
RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)



LEFT END
SCALE = 1:12
(Perpendicular to Apron)



SECTION ON ℄
SCALE = 1:12



RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

•Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

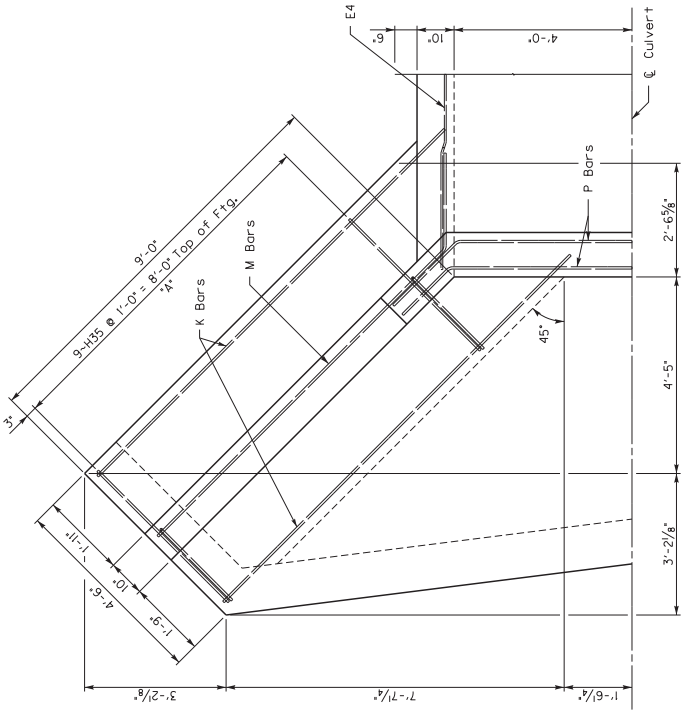
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S4
		DRAWING NO. 28328



PLAN
SCALE = 1:16

"A" 9-H38 @ 1'-0" = 8'-0" Bot of Ftg to B.F. Wall
"B" 4-M44 @ 1'-0" = 3'-0" B.F.
"C" 2-K41 @ 1'-0" = 1'-0" Bot of Ftg.
"D" 5-K41 @ 1'-0" = 4'-0"

REVISION	DATE

DATE: MARCH 2020 CHECKED BY
DESIGNED BY: J. VAN ZEE L. LIKINS
DETAILED BY: M. BAWITHAWNG J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
SHELBY

ROUTE
KY 55

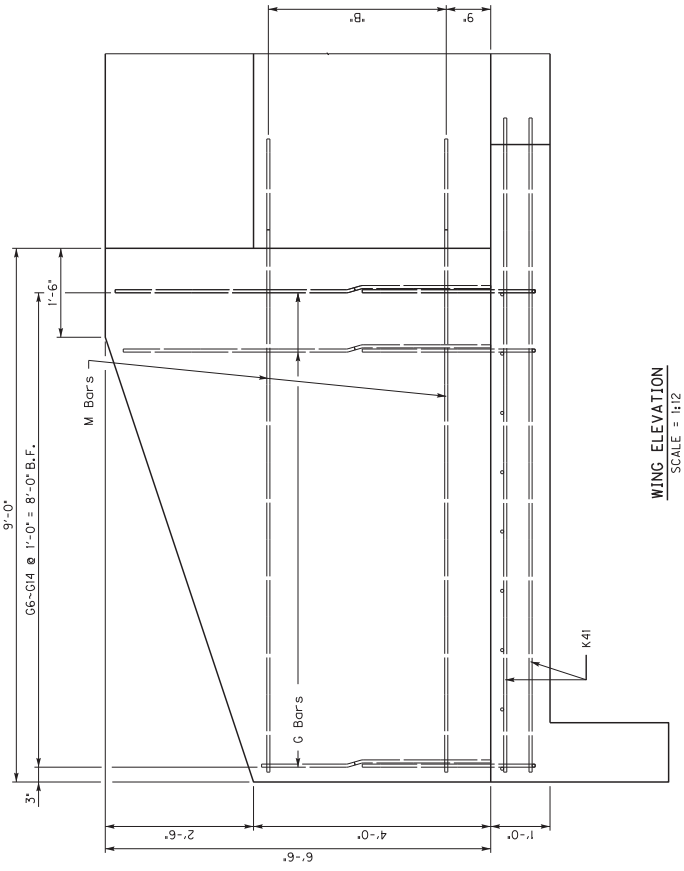
CROSSING
A DITCH

Wing 1

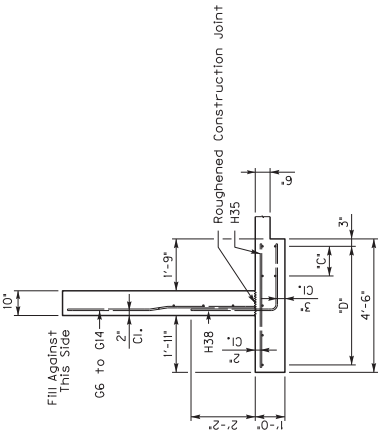
PREPARED BY
Division of
Structural Design

SHEET NO. S5
DRAWING NO. 28328

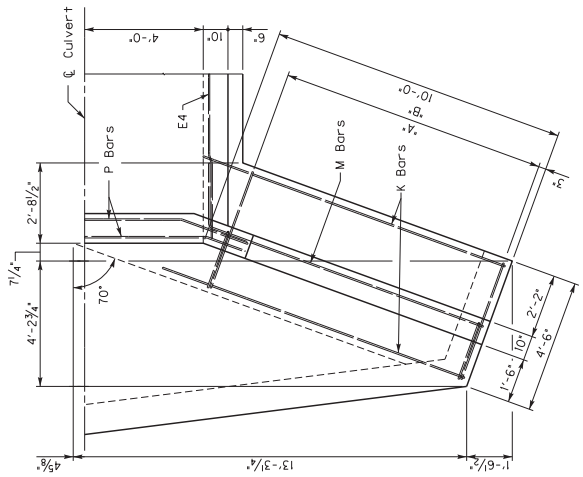
ITEM NUMBER
5-9017.00



WING ELEVATION
SCALE = 1:12

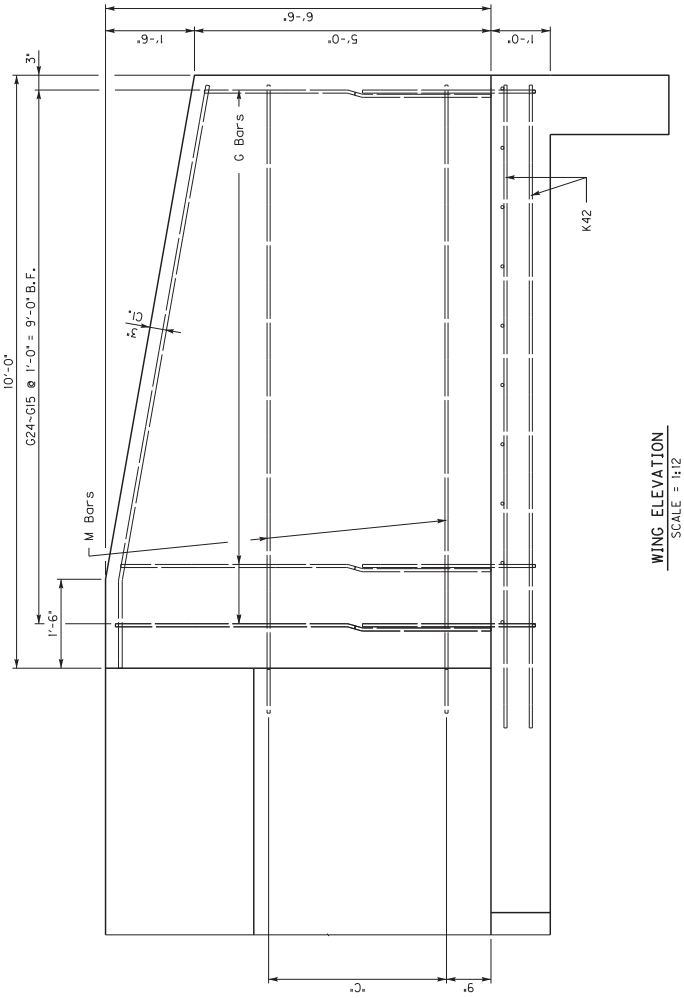


WING SECTION
SCALE = 1:24

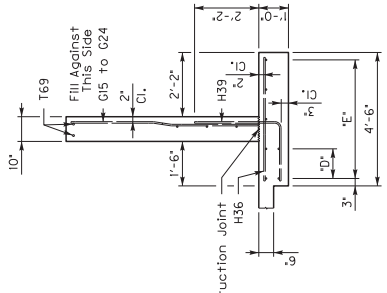


PLAN
SCALE = 1:24

"A" 10-H36 @ 1'-0" = 9'-0" Top of Ftg.
"B" 10-H39 @ 1'-0" = 9'-0" Bot of Ftg to B.F. Wall
"C" 4-M45 @ 1'-0" = 3'-0" B.F.
"D" 2-K42 @ 1'-0" = 1'-0" Bot of Ftg.
"E" 5-K42 @ 1'-0" = 4'-0"



WING ELEVATION
SCALE = 1:12



WING SECTION
SCALE = 1:24

		DATE	
	REVISION	CHECKED BY	
DATE:	MARCH 2020	L. LIKINS	
DESIGNED BY:	J. VAN ZEE	J. VAN ZEE	
DETAILED BY:	M. BAWITHAWNG		

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY
SHELBY

CROSSING
A DITCH

ROUTE
KY 55

Wing 2

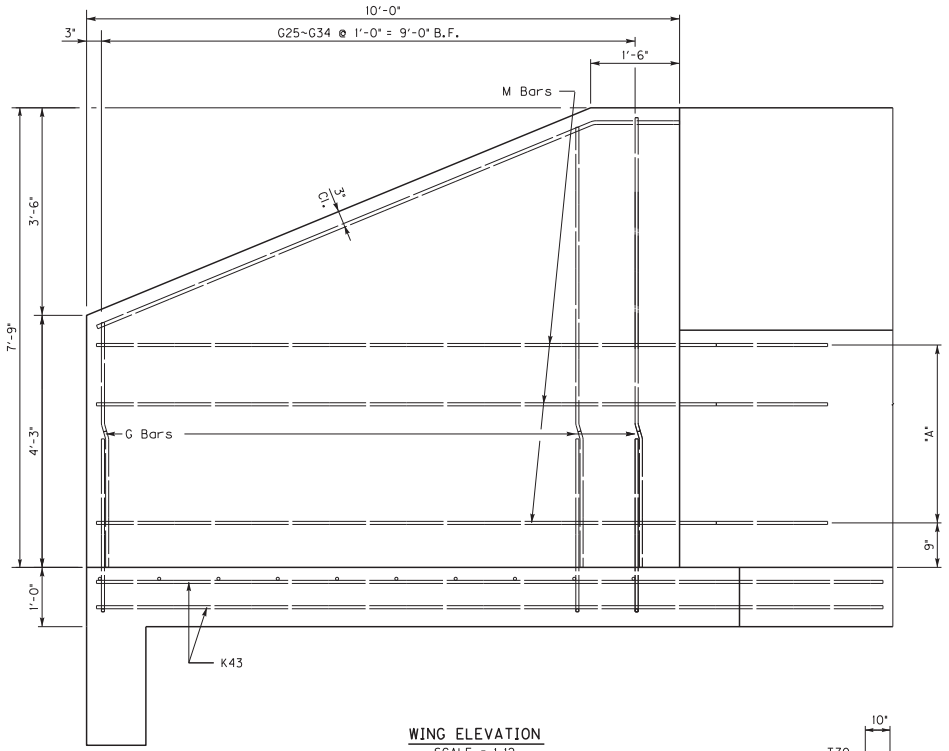
PREPARED BY
Division of
Structural Design

SHEET NO. S6
DRAWING NO. 28328

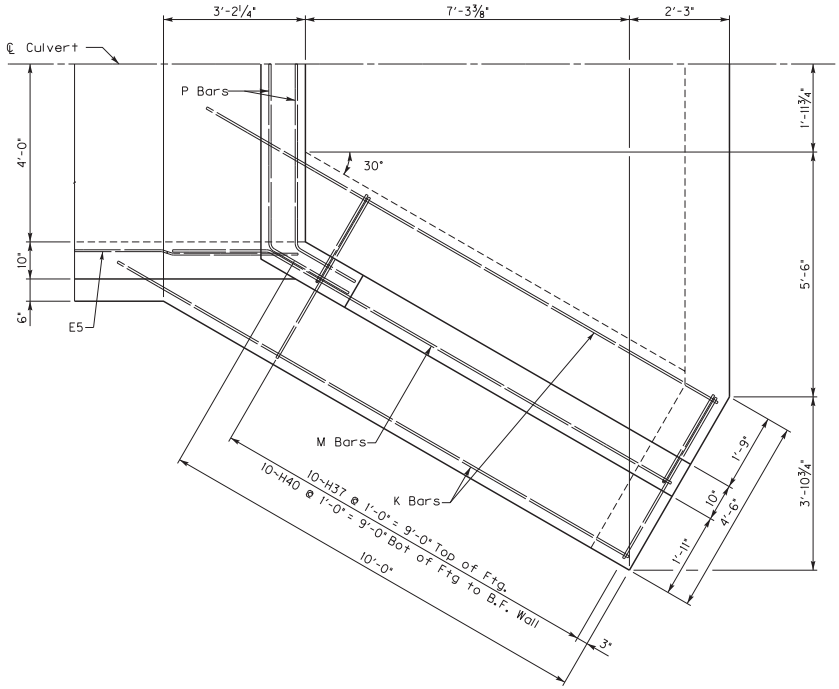
ITEM NUMBER
5-9017.00

E-SHEET NAME:
DATE: 20-NOV-2020
USERNAME: Joseph.Vonzee FILE NAME: J:\Dist-Fig+05\5-9017 HSIP\Culverts\9 28328 8x4 RCBC Station 271+17 GK\28328 FINAL\28328.dgn

5-SHEET NAME: DATE: 20-NOV-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\9 28328 8x4 RCBC Station 271+17 ck\28328 FINAL\28328.dgn

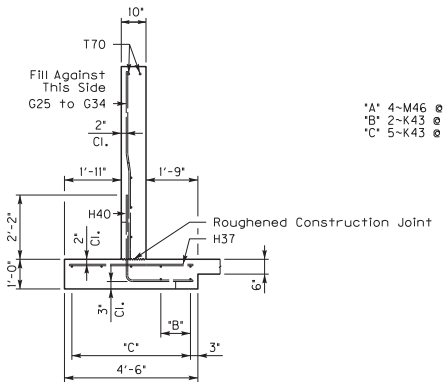


WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:16

"A" 4~M46 @ 1'-0" = 3'-0" B.F.
"B" 2~K43 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 5~K43 @ 1'-0" = 4'-0"



WING SECTION
SCALE = 1:24

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

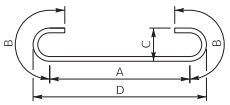
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

Wings 3 & 4

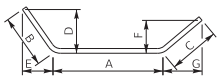
ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S7
		DRAWING NO. 28328



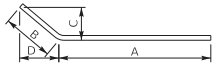
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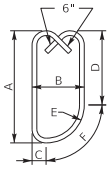
TYPE 5



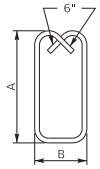
TYPE 7



TYPE 8



TYPE 11



TYPE 12

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	19	6	10-10	Top Slab	8-10	1- 0	0- 6	9- 4
B2	1	19	6	11-10	Bottom Slab	9-10	1- 0	0- 6	10- 4
C3	Str.	20	5	5- 5	Sidewalls				
E4	Str.	28	5	5- 8	Slabs & Sidewalls (Inlet)				
E5	Str.	28	5	3- 8	Slabs & Sidewalls (Outlet)				
G6	Str.	1	5	3-10	B.F Wing 1				
G7	Str.	1	5	4- 2	B.F Wing 1				
G8	Str.	1	5	4- 6	B.F Wing 1				
G9	Str.	1	5	4-10	B.F Wing 1				
G10	Str.	1	5	5- 2	B.F Wing 1				
G11	Str.	1	5	5- 6	B.F Wing 1				
G12	Str.	1	5	5-10	B.F Wing 1				
G13	Str.	1	5	6- 2	B.F Wing 1				
G14	Str.	1	5	6- 4	B.F Wing 1				
G15	Str.	1	5	4-10	B.F Wing 2				
G16	Str.	1	5	5- 0	B.F Wing 2				
G17	Str.	1	5	5- 2	B.F Wing 2				
G18	Str.	1	5	5- 4	B.F Wing 2				
G19	Str.	1	5	5- 6	B.F Wing 2				
G20	Str.	1	5	5- 9	B.F Wing 2				
G21	Str.	1	5	5-11	B.F Wing 2				
G22	Str.	1	5	6- 1	B.F Wing 2				
G23	Str.	1	5	6- 3	B.F Wing 2				
G24	Str.	1	5	6- 4	B.F Wing 2				
G25	Str.	2	5	4- 2	B.F Wings 3 & 4				
G26	Str.	2	5	4- 5	B.F Wings 3 & 4				
G27	Str.	2	5	4-10	B.F Wings 3 & 4				
G28	Str.	2	5	5- 3	B.F Wings 3 & 4				
G29	Str.	2	5	5- 8	B.F Wings 3 & 4				

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
G30	Str.	2	5	6- 1	B.F Wings 3 & 4				
G31	Str.	2	5	6- 6	B.F Wings 3 & 4				
G32	Str.	2	5	6-11	B.F Wings 3 & 4				
G33	Str.	2	5	7- 4	B.F Wings 3 & 4				
G34	Str.	2	5	7- 6	B.F Wings 3 & 4				
H35	Str.	9	5	4- 2	Top Ftg Wing 1				
H36	Str.	10	5	4- 2	Top Ftg Wing 2				
H37	Str.	20	5	4- 2	Top Ftg Wings 3 & 4				
H38	5	9	5	5- 0	Bot Ftg Wing 1	2-11	2- 3		
H39	5	10	5	4- 9	Bot Ftg Wing 2	2-11	2- 0		
H40	5	20	5	5- 0	Bot Ftg Wings 3 & 4	2-11	2- 3		
K41	Str.	7	5	11- 0	Ftg Wing 1				
K42	Str.	7	5	10-10	Ftg Wing 2				
K43	Str.	14	5	13- 3	Ftg Wings 3 & 4				
M44	8	4	5	11- 3	B.F. Wing 1	9- 1¾	2- 2	1- 6⅜	1- 6¾
M45	8	4	5	11-11	B.F. Wing 2	9-10¼	2- 2	2- 0⅜	0- 8⅞
M46	8	8	5	12- 7	B.F. Wings 3 & 4	10- 5½	2- 2	1- 1	1-10½
P47	7	1	5	11- 9	B.F. Parapet Lt. End	7-10½	1-10⅞	1-11⅝	1- 4¼
						1- 4¼	0- 8⅛	1-10¼	
P48	7	1	5	11- 9	B.F. Parapet Lt. End	7- 7	2- 0¼	2- 2⅜	1- 5⅛
						1- 5⅛	0- 9	2- 0⅞	
P49	7	1	6	11- 9	B.F. Parapet Lt. End	7-10¼	1-11	1-11⅞	1- 4¼
						1- 4¼	0- 8⅛	1-10⅜	
P50	7	1	5	11- 3	F.F. Parapet Lt. End	7- 9⅝	1- 8¼	1- 9⅜	1- 2⅜
						1- 2⅜	0- 7⅝	1- 8⅛	
P51	7	1	5	11- 2	F.F. Parapet Lt. End	8- 1⅛	1- 6⅞	1- 6⅝	1- 1⅜
						1- 1⅜	0- 6⅞	1- 5½	
P52	7	1	6	11- 3	F.F. Parapet Lt. End	7- 9⅞	1- 8¼	1- 9¼	1- 2¼
						1- 2¼	0- 7¼	1- 8	
P53	7	1	5	12- 5	B.F. Parapet Rt. End	8- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P54	7	1	5	12- 6	B.F. Parapet Rt. End	8- 5⅝	2- 0¾	2- 0¾	1- 9⅜
						1- 0⅜	1- 9⅜	1- 0⅜	
P55	7	1	5	12- 6	B.F. Parapet Rt. End	8- 5⅝	2- 0¾	2- 0¾	1- 9⅜
						1- 0⅜	1- 9⅜	1- 0⅜	
P56	7	1	6	12- 5	B.F. Parapet Rt. End	8- 6⅞	1-11¾	1-11¾	1- 8½
						0-11⅞	1- 8½	0-11⅞	
P57	7	1	5	11- 5	F.F. Parapet Rt. End	8- 1¾	1- 8⅜	1- 8⅜	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P58	7	1	5	11- 4	F.F. Parapet Rt. End	8- 2⅛	1- 7¼	1- 7¼	1- 4⅝
						0- 9⅝	1- 4⅝	0- 9⅞	
P59	7	1	5	11- 4	F.F. Parapet Rt. End	8- 2⅛	1- 7¼	1- 7¼	1- 4⅝
						0- 9⅝	1- 4⅝	0- 9⅞	
P60	7	1	6	11- 5	F.F. Parapet Rt. End	8- 2	1- 8⅝	1- 8⅜	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P61	Str.	2	6	10- 4	Bottom Slab Lt. End				
P62	Str.	2	6	10- 4	Bottom Slab Rt. End				
Q63	7	1	6	29- 2	Appron Lt. End	21- 5⅞	3-11¼	3-10⅜	3- 1⅜
						2- 5	3- 5¼	1- 9⅛	
Q64	7	1	6	29-11	Appron Lt. End	21-10¼	4- 1¼	4- 0¾	3- 2⅞
						2- 6⅛	3- 7⅜	1-10¼	
Q65	7	1	6	22- 9	Appron Rt. End	14- 7½	4- 1	4- 1	2- 0½
						3- 6⅜	2- 0½	3- 6⅜	
Q66	7	1	6	23- 1	Appron Rt. End	14- 9⅜	4- 2	4- 2	2- 1
						3- 7⅜	2- 1	3- 7⅜	
R67	11s	8	5	5-11	Parapet Wall (Left End)	2- 3½	0- 9	0- 2½	1- 9
						0- 6½	0- 9¾		
R68	12s	8	5	8- 7	Parapet Wall (Right End)	3- 6½	0- 9		
T69	8	2	6	9-11	Top of Wing 2	8- 5¾	1- 5¾	0- 3⅛	1- 5½
T70	8	4	6	10- 6	Top of Wings 3 & 4	9- 0¾	1- 5½	0- 6⅜	1- 4⅞
X71	Str.	56	8	2- 0	Dowels				

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S8
		DRAWING NO. 28328

5-SHEET NAME:
DATE: 20-NOV-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\9 28328 8x4 RCBC Station 271+17 ck\28328 FINAL\28328.dgn

CONSTRUCTION PROJECT NO. | LETTING DATE

5-SHEET NAME: | DATE: 05-AUG-2020 | USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\10 28329 5x3 RCBC Station 296-04 CK\28329\28329.dgn

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SHELBY COUNTY
TAYLORSVILLE RD
KY 55 OVER A DITCH
Station 296+04

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavatiions, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 983 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	20.6	C.Y.
8150	Reinforcement	1679	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

CULVERTS WITH YIELDING FOUNDATIONS: Any bedrock or boulders encountered within 2' of the bottom of slab must be excavated and backfilled with properly compacted soil to the base of footing elevation. All costs incidental to Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ITEM NUMBER
5-9017.00

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1, 2, 3 & 4
6	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10 Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY
DESIGNED BY: J. VAN ZEE | L. LIKINS
DETAILED BY: M. BAWITHAWNG | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

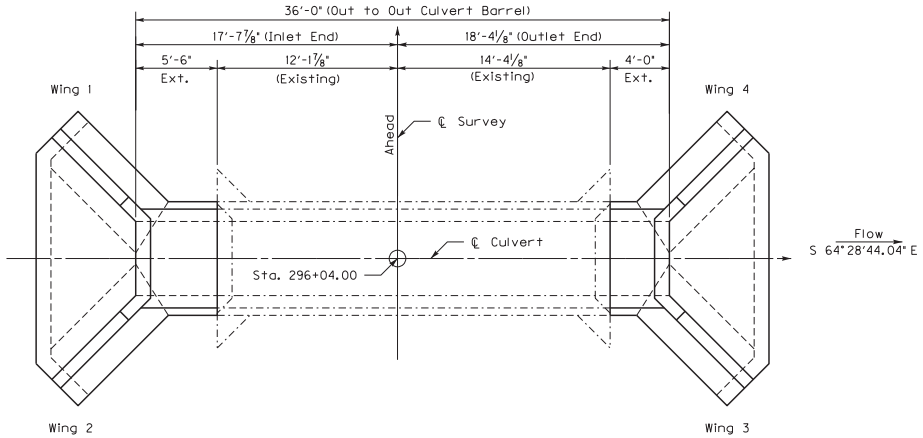
COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

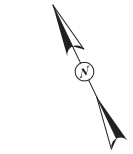
SINGLE 5.0 x 3.0 CULVERT

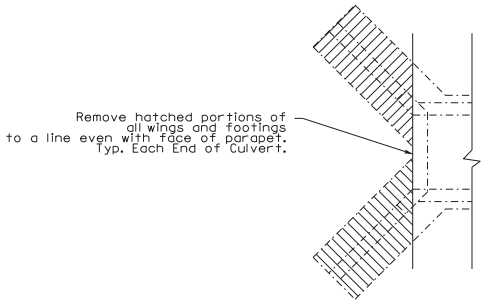
PREPARED BY
Division of Structural Design

SHEET NO. S1
DRAWING NO. 28329

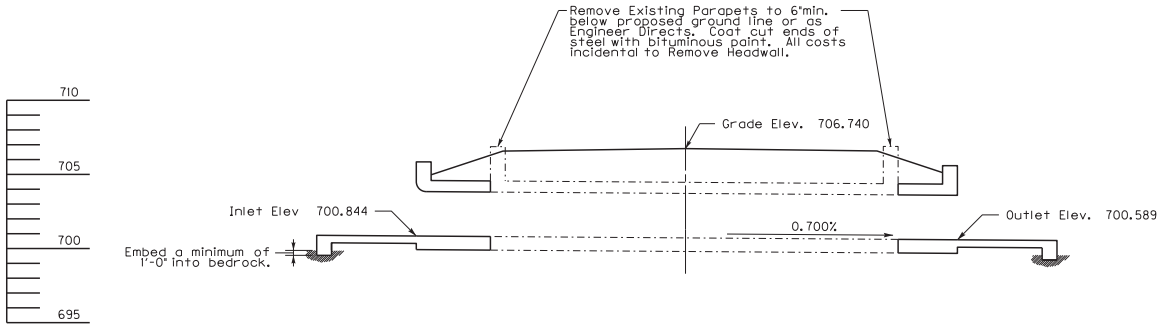


PLAN
SCALE = 1:48





Removal Details
SCALE = 1:48



SECTION ON ℄
Single 5'-0" x 3'-0" x 36'-6" R.C.B.C.
18'-1⅞" Inlet End and 18'-4⅛" Outlet End
0.0000° Skew ~ KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

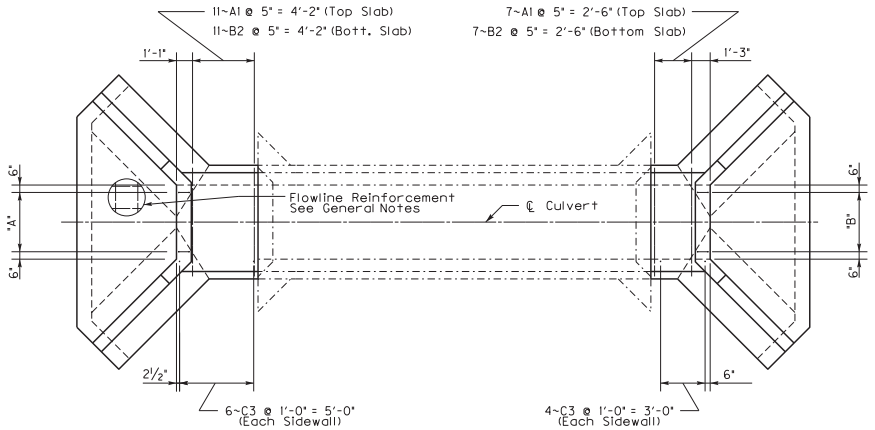
COUNTY: SHELBY

ROUTE	CROSSING
KY 55	A DITCH

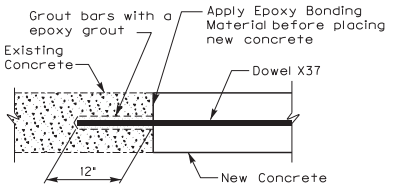
LAYOUT

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S2
		DRAWING NO. 28329

5-SHEET NAME: DATE: 05-AUG-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\10 28329 5x3 RCBC Station 296+04 CK\28329\28329.dgn



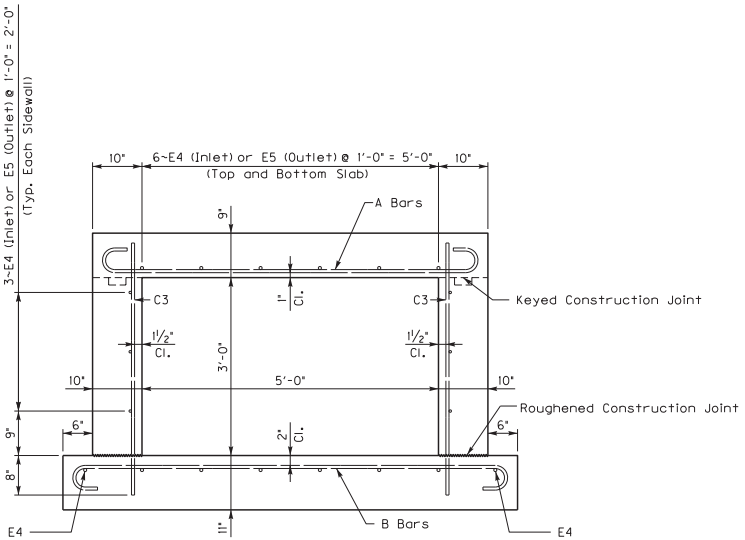
PLAN
SCALE = 1:48



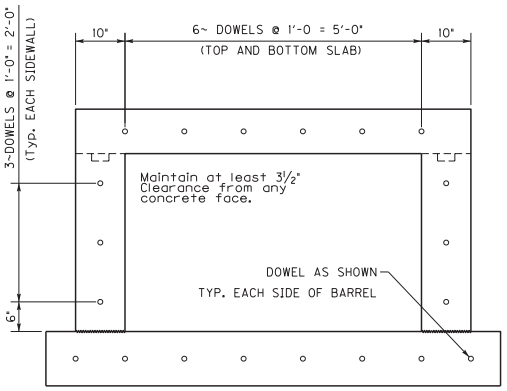
DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

"A" 5~R35 @ 1'-0" = 4'-0"
"B" 5~R36 @ 1'-0" = 4'-0"
Minimum Lap Distance for E 4 Bars 26 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

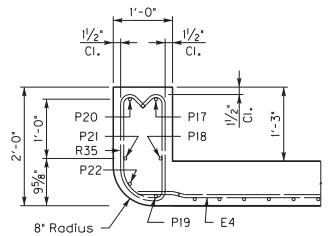
COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

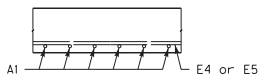
BARREL

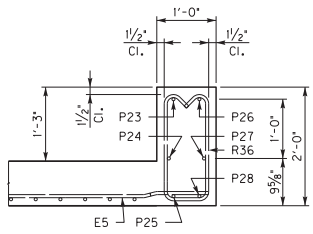
ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S3
		DRAWING NO. 28329

5-SHEET NAME:
DATE: 05-AUG-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\10 28329 5x3 RCBC Station 296+04 CK\28329\28329.dgn

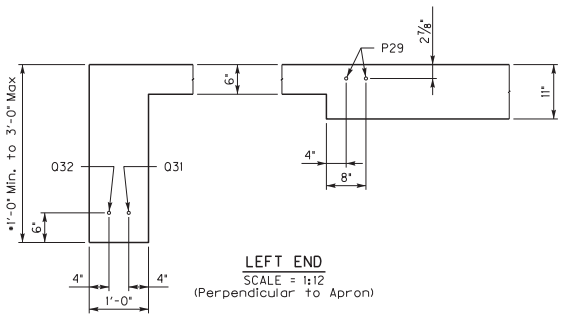


LEFT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)

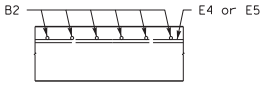




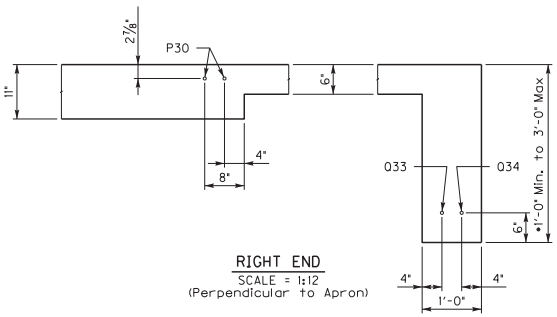
RIGHT PARAPET
SCALE = 1:12
(Perpendicular to Parapet)



LEFT END
SCALE = 1:12
(Perpendicular to Apron)



SECTION ON ℄
SCALE = 1:12



RIGHT END
SCALE = 1:12
(Perpendicular to Apron)

•Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

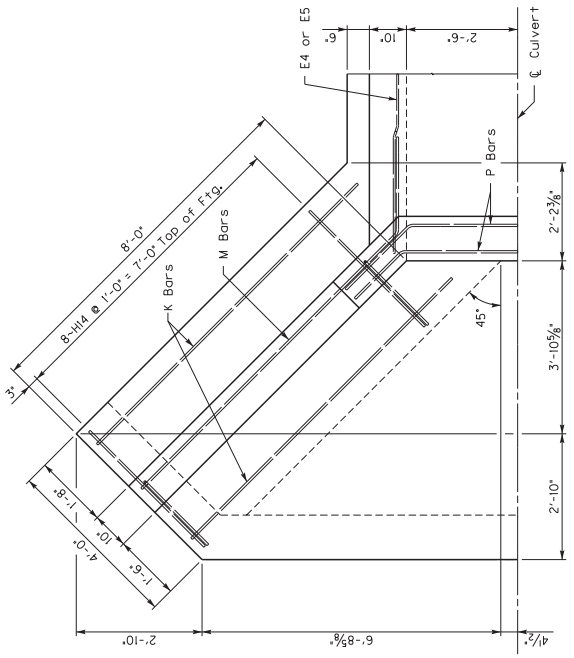
Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

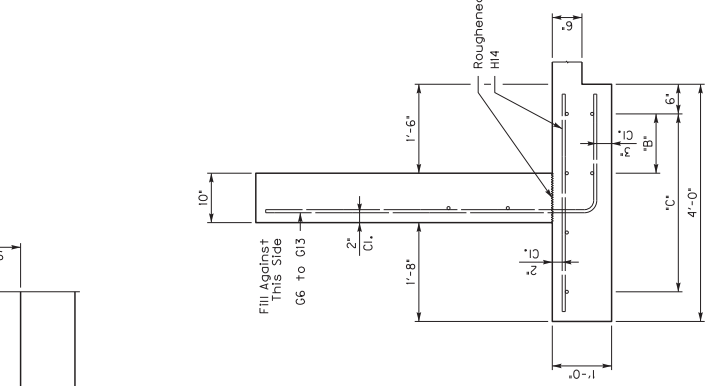
BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S4
		DRAWING NO. 28329

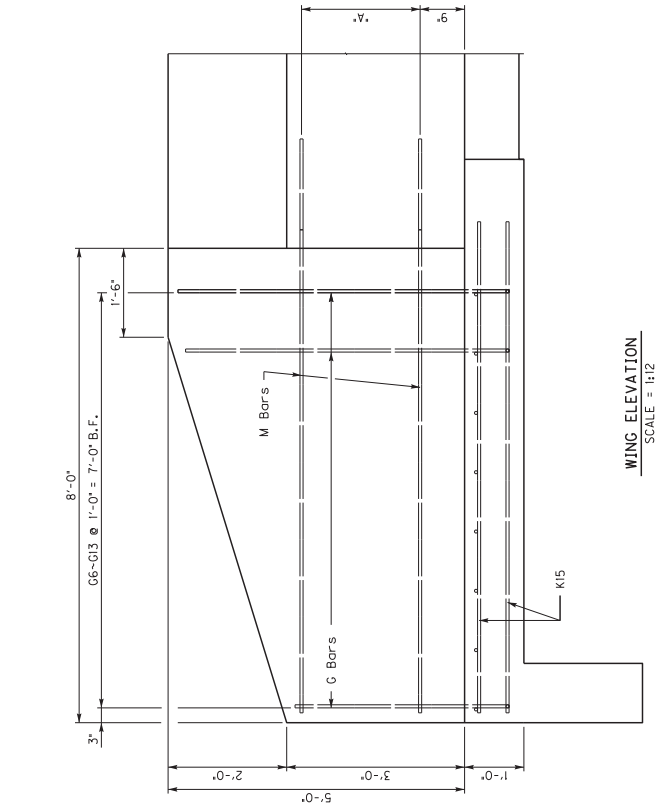


PLAN
SCALE = 1:16

"A" 3-M16 @ 1'-0" = 2'-0" B.F.
"B" 2-K15 @ 1'-0" = 1'-0" Bot. of Ftg.
"C" 4-K15 @ 1'-0" = 3'-0"



WING SECTION
SCALE = 1:12



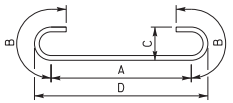
WING ELEVATION
SCALE = 1:12

		DATE	
	REVISION	CHECKED BY	
DATE:	MARCH 2020	L. LIKINS	
DESIGNED BY:	J. VAN ZEE	J. VAN ZEE	
DETAILED BY:	M. BAWITHAWNG		

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY
SHELBY
ROUTE
KY 55
CROSSING
A DITCH
Wings 1, 2, 3 & 4
PREPARED BY
Division of Structural Design
SHEET NO. S5
DRAWING NO. 28329
ITEM NUMBER
5-9017.00

E-SHEET NAME:
DATE: 05-AUG-2020
USERNAME: Joseph.Vonzee FILE NAME: j:\Dist\rig+05\5-9017 HSIP\Civil\ert\10 28329 5x3 RCBC Station 296+04 CK\28329\28329.dgn

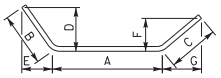
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DATE: 05-AUG-2020
USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\10 28329 5x3 RCBC Station 296+04 CK\28329\28329.dgn



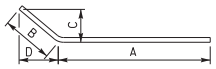
TYPE 1



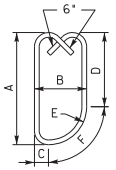
TYPE 5



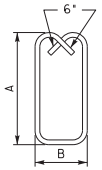
TYPE 7



TYPE 8



TYPE 11



TYPE 12

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	18	5	7- 7	Top Slab	5-11	0-10	0- 5	6- 4
B2	1	18	5	8- 7	Bottom Slab	6-11	0-10	0- 5	7- 4
C3	Str.	20	5	4- 3	Sidewalls				
E4	Str.	20	4	5- 2	Slabs & Sidewalls (Inlet)				
E5	Str.	20	4	3- 8	Slabs & Sidewalls (Outlet)				
G6	5	4	5	5- 6	B.F Wings 1, 2, 3 & 4	3- 7¼	2- 0		
G7	5	4	5	5- 9	B.F Wings 1, 2, 3 & 4	3-11	2- 0		
G8	5	4	5	6- 1	B.F Wings 1, 2, 3 & 4	4- 2¾	2- 0		
G9	5	4	5	6- 5	B.F Wings 1, 2, 3 & 4	4- 6⅜	2- 0		
G10	5	4	5	6- 9	B.F Wings 1, 2, 3 & 4	4-10⅛	2- 0		
G11	5	4	5	7- 0	B.F Wings 1, 2, 3 & 4	5- 1¾	2- 0		
G12	5	4	5	7- 4	B.F Wings 1, 2, 3 & 4	5- 5½	2- 0		
G13	5	4	5	7- 5	B.F Wings 1, 2, 3 & 4	5- 7	2- 0		
H14	Str.	32	5	3- 8	Top Ftg Wings 1, 2, 3 & 4				
K15	Str.	24	5	8- 3	Ftg Wings 1, 2, 3 & 4				
M16	8	12	5	10- 3	B.F. Wings 1, 2, 3 & 4	8- 1¾	2- 2	1- 6⅜	1- 6⅜
P17	7	1	5	9- 0	B.F. Parapet Lt. End	5- 3	1-11	1-11	1- 4¼
						1- 4¼	1- 4¼	1- 4¼	
P18	7	1	5	9- 1	B.F. Parapet Lt. End	5- 1⅛	2- 0¼	2- 0¼	1- 5⅛
						1- 5⅛	1- 5⅛	1- 5⅛	
P19	7	1	5	9- 0	B.F. Parapet Lt. End	5- 3	1-11	1-11	1- 4¼
						1- 4¼	1- 4¼	1- 4¼	
P20	7	1	5	8- 4	F.F. Parapet Lt. End	5- 0	1- 8¼	1- 8¼	1- 2⅜
						1- 2⅜	1- 2⅜	1- 2⅜	
P21	7	1	5	8- 3	F.F. Parapet Lt. End	5- 1⅞	1- 7	1- 7	1- 1⅜
						1- 1⅜	1- 1⅜	1- 1⅜	
P22	7	1	5	8- 4	F.F. Parapet Lt. End	5- 0	1- 8¼	1- 8¼	1- 2⅜
						1- 2⅜	1- 2⅜	1- 2⅜	
P23	7	1	5	9- 0	B.F. Parapet Rt. End	5- 3	1-11	1-11	1- 4¼
						1- 4¼	1- 4¼	1- 4¼	
P24	7	1	5	9- 1	B.F. Parapet Rt. End	5- 1⅛	2- 0¼	2- 0¼	1- 5⅛
						1- 5⅛	1- 5⅛	1- 5⅛	
P25	7	1	5	9- 0	B.F. Parapet Rt. End	5- 3	1-11	1-11	1- 4¼
						1- 4¼	1- 4¼	1- 4¼	
P26	7	1	5	8- 4	F.F. Parapet Rt. End	5- 0	1- 8¼	1- 8¼	1- 2⅜
						1- 2⅜	1- 2⅜	1- 2⅜	
P27	7	1	5	8- 3	F.F. Parapet Rt. End	5- 1⅞	1- 7	1- 7	1- 1⅜
						1- 1⅜	1- 1⅜	1- 1⅜	
P28	7	1	5	8- 4	F.F. Parapet Rt. End	5- 0	1- 8¼	1- 8¼	1- 2⅜
						1- 2⅜	1- 2⅜	1- 2⅜	
P29	Str.	2	5	7- 4	Bottom Slab Lt. End				
P30	Str.	2	5	7- 4	Bottom Slab Rt. End				
Q31	7	1	5	20- 7	Appron Lt. End	13- 8	3- 5⅞	3- 5⅞	2- 5⅞
						2- 5⅞	2- 5⅞	2- 5⅞	
Q32	7	1	5	21- 1	Appron Lt. End	13-11¼	3- 7½	3- 7½	2- 6¾
						2- 6¾	2- 6¾	2- 6¾	
Q33	7	1	5	20- 7	Appron Rt. End	13- 8	3- 5⅞	3- 5⅞	2- 5⅞
						2- 5⅞	2- 5⅞	2- 5⅞	
Q34	7	1	5	21- 1	Appron Rt. End	13-11¼	3- 7½	3- 7½	2- 6¾
						2- 6¾	2- 6¾	2- 6¾	
R35	11s	5	5	4-11	Parapet Wall (Left End)	1- 9½	0- 9	0- 2½	1- 3
						0- 6½	0- 9¾		
R36	12s	5	5	5- 1	Parapet Wall (Right End)	1- 9½	0- 9		
X37	Str.	40	8	2- 0	Dowels				

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	L. LIKINS
DETAILED BY: M. BAWITHAWNG	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: SHELBY

ROUTE: KY 55

CROSSING: A DITCH

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
5–9017.00	Division of Structural Design	S6
		DRAWING NO. 28329

CONSTRUCTION PROJECT NO. | LETTING DATE

5-SHEET NAME: | DATE: 22-MAY-2020 | USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\11 28330 3x3 RCBC Station 320+63 shelby county\28330\28330.dgn

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

SHELBY COUNTY
TAYLORSVILLE RD
KY 55 OVER A DITCH
Station 320+63

GENERAL NOTES

SPECIFICATIONS: All references to the standard Specifications are to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction with current Supplemental Specifications. All references to the AASHTO are to the current edition of the AASHTO LRFD Bridge Design Specifications, with interims.

DESIGN LOAD: This structure is designed for HL-93 live load increased by 25%. The 25% increase is arrived by increasing the design truck or tandem and the design lane load by 25%.

DESIGN METHOD: All reinforced concrete members are designed by the load factor method as specified in the current AASHTO Specifications.

MASONRY COATING: Masonry coating will not be required for this structure.

COMPLETION OF THE STRUCTURE: The Contractor is required to complete the structure in accordance with the plans and specifications. Material, labor or construction operations, not otherwise specified, are to be included in the bid item most appropiate to the work involved. This may include cofferdams, shoring, excavations, backfilling, removal of all or parts of existing structures, phase construction, incidental materials, labor, or anything else required to complete the structure.

REINFORCEMENT: Dimensions shown from the face of concrete to bars are to center of bars unless otherwise shown. Spacing of bars is from center to center of bars. Clear distance to face of concrete is 2" unless otherwise noted. Any reinforcing bars designated by suffix (e) in the Plans shall be epoxy coated in accordance with section 811.10 of the Standard Specifications. Any reinforcing bars designated by suffix (s) in a Bill of Reinforcement shall be considered a stirrup for purposes of bend diameters.

BEVELED EDGES: All exposed edges shall be beveled ¾" unless otherwise shown.

DIMENSIONS: Dimensions are for a normal temperature of 60 degrees Fahrenheit. Layout dimensions are horizontal measurements.

WEIGHT OF FILL MATERIAL: The assumed weight of fill material is 120 lbs per cubic foot.

CONCRETE: Class "A" concrete shall be used throughout.

CONSTRUCTION JOINTS: Vertical construction joints shall be located in the field, except that no construction joint shall be located in the barrel within six feet of the ends of the culvert.

FOOTING PRESSURE: Foundation materials for barrel and wing footings shall resist a maximum bearing pressure of 1284 PSF.

FLOWLINE REINFORCEMENT: Reinforcement in the 6 in thick slab shall be Size 4 bars at 18 in centers in each direction or an equivalent area of welded deformed steel fabric. The bars shall extend a minimum of 12 in into wing footings and/or the bottom slab. The cost of this reinforcement shall be incidental to the unit price bid for Concrete, Class "A".

CULVERTS WITH UNYIELDING FOUNDATIONS: If solid rock is not encountered at the design footing elevation, soil must be excavated and backfilled with "Granular Embankment", non-erodible only, meeting the material requirements of Section 805 in the current edition of the Kentucky Standard Specifications with the exception that the maximum size is 4 inches. Payment for this work shall be included in the lump sum bid for Foundation Preparation.

STRUCTURAL ADHESIVES: Bond proposed plastic concrete to existing hardened concrete in all locations using a Type V epoxy resin or other approved Structural Adhesive as detailed in section 826 of the Specifications. Epoxy grout reinforcing steel in detailed locations using a Type IV epoxy meeting the requirements of Section 826. Follow all manufacturers recommendations for application and all work and materials are incidental to the unit price bid for concrete.

SAWCUTTING EXISTING CONCRETE: Prior to the removal of the existing concrete masonry, cut the surface with a concrete saw to a depth of one inch to facilitate a neat line. The cost of cutting concrete shall be included in the lump sum bid for remove headwall.

REMOVE HEADWALL: Remove existing wings and portions of existing parapets (if necessary to maintain top of parapet 6 inches below roadway surface) as detailed herein to limits shown. Include all costs to sawcut and remove concrete masonry in the bid price for each.

CONSTRUCTION NOTES: Temporary sheeting, shoring, cofferdams, and/ or dewatering methods may be necessary for construction of the culvert. Include all costs in the price bid for Foundation Preparation.

Solid rock excavation may be required for construction of this culvert.

All aprons and footings excavations in bedrock shall be cut neatly so that no forming or backfilling is necessary in the construction of the portions of the aprons and footings located in rock. Concrete shall be placed directly against the cut rock faces. Mass concrete shall be placed in the excavation from the top of the footing to the bedrock surface where the footing does not extend to the bedrock surface. If the bedrock becomes softened at bearing elevation, the softened material shall be undercut to unweathered material prior to placing the concrete. Seasonal groundwater fluctuations may cause groundwater infiltration into the excavations and a dewatering method may be necessary. All costs for extra concrete to be incidental to price bid for Class A concrete.

ESTIMATE OF QUANTITIES

BID CODE	ITEM	QUANTITY	UNIT
8100	Class "A" Concrete	19.3	C.Y.
8150	Reinforcement	1776	Lb
8003	Foundation Preparation	1	L.S.
8002	Structure Excavation Rock	13	C.Y.
2625	Remove Headwall	2	Each

INDEX OF SHEETS

Sheet No.	Description
1	Title
2	Layout
3 & 4	Barrel Details
5	Wings 1, 2, 3 & 4
6	Bill of Reinforcement

SPECIAL NOTES

SPECIAL PROVISIONS

STANDARD DRAWINGS

BGX-006-10	Stencils for Structures

SPECIFICATIONS

2019 Standard Specifications for Road and Bridge Construction

2017 AASHTO LRFD Bridge Design Specifications

REVISION	DATE

DATE: MARCH 2020 | CHECKED BY

DESIGNED BY: J. VAN ZEE | N.O. BODY

DETAILED BY: B. Miller | J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

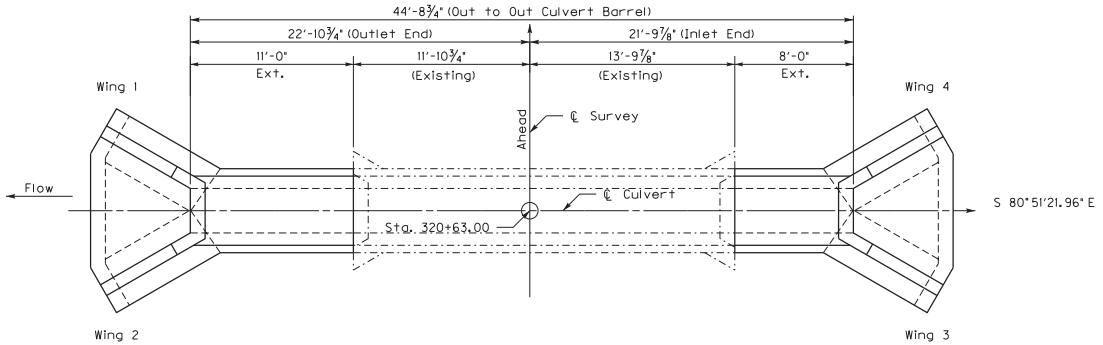
COUNTY: **SHELBY**

ROUTE: KY 55 | CROSSING: A DITCH

SINGLE 3.0 x 3.0 CULVERT

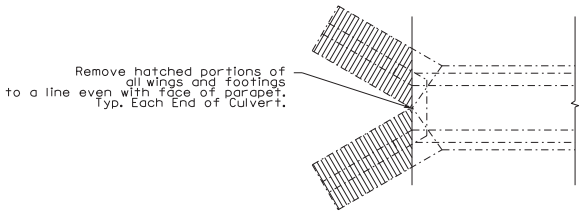
ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S1
		DRAWING NO. 28330

5-SHEET NAME: DATE: 22-MAY-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\II 28330 3x3 RCBC Station 320+63 shelby county\28330\28330.dgn

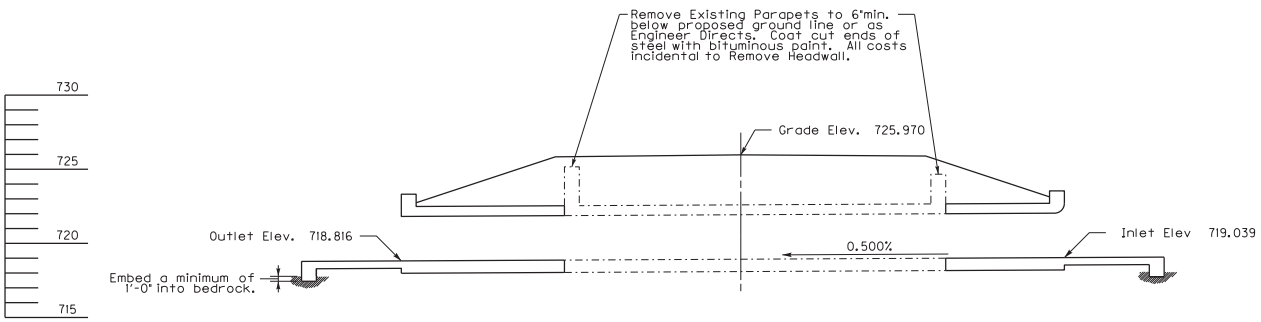


PLAN
SCALE = 1:48





Removal Details
SCALE = 1:48



SECTION ON ℄
Single 3'-0" x 3'-0" x 44'-8¾" R.C.B.C.
21'-9⅞" Inlet End and 22'-10¾" Outlet End
0.0000° Skew ~KYHL-93 Loading ~ 0.33 Fill Slope
Unyielding Foundation

Note: Field verify all dimensions prior to ordering materials. All dimensions are taken from existing survey. Actual barrel lengths may vary from plans in the field. Extension lengths shall be built per the plan.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
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DETAILED BY: B. Miller	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

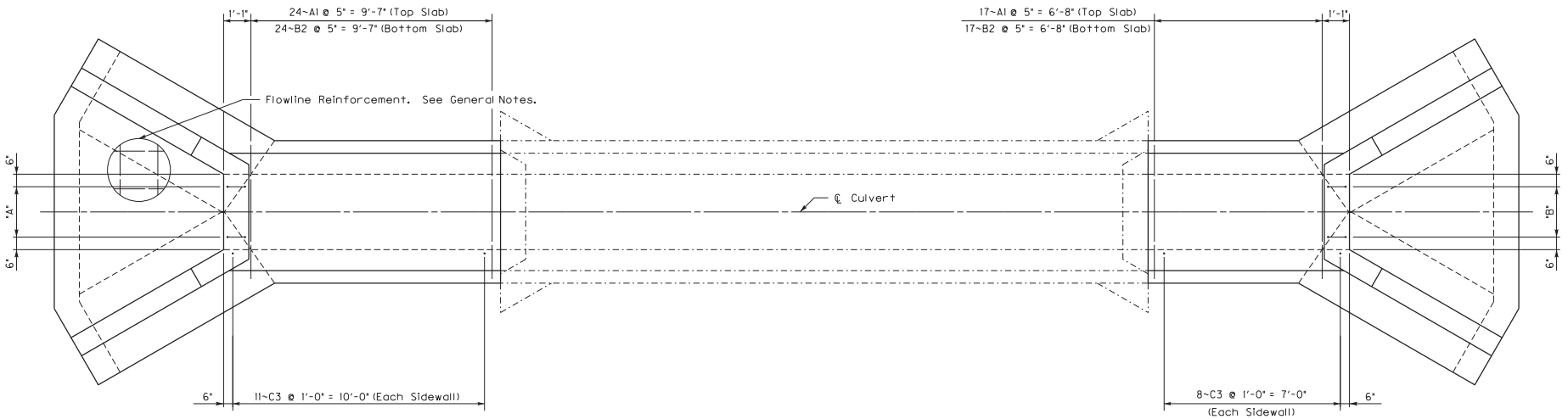
COUNTY: **SHELBY**

ROUTE	CROSSING
KY 55	A DITCH

LAYOUT

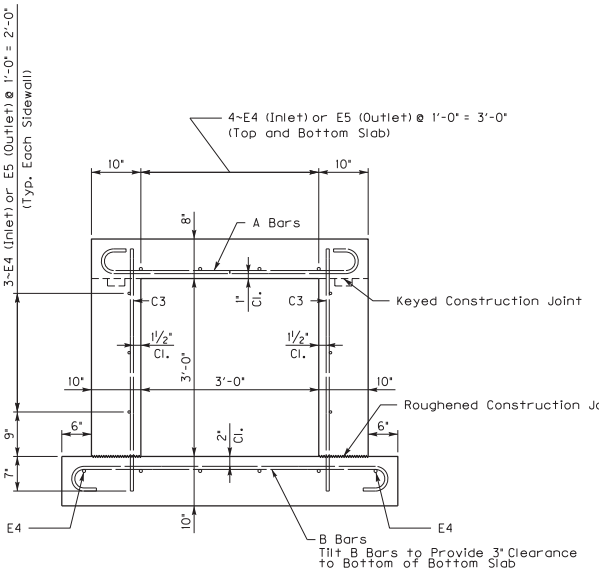
ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	**Division of Structural Design**	S2
		DRAWING NO. 28330

5-SHEET NAME: DATE: 22-MAY-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\II 28330 3x3 RCBC Station 320+63 shelby county\28330\28330.dgn

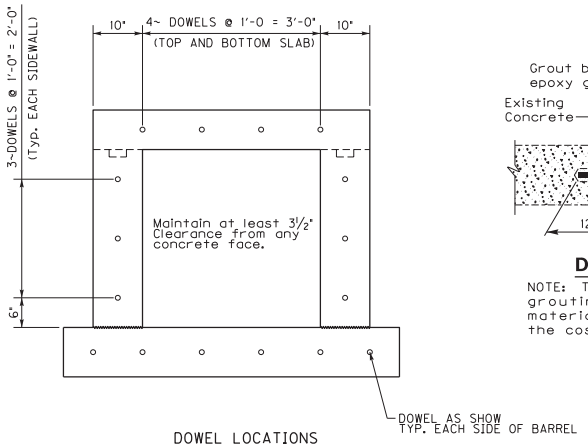


PLAN
SCALE = 1:24

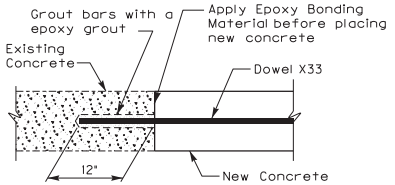
"A" 3~R31 @ 1'-0" = 2'-0"
"B" 3~R32 @ 1'-0" = 2'-0"
Minimum Lap Distance for E 4 Bars 26 in
Minimum Lap Distance for E 5 Bars 21 in



TYPICAL BARREL SECTION
SCALE = 1:12



DOWEL LOCATIONS
SCALE = 1:12



DOWEL DETAILS

NOTE: The cost of drilling holes, grouting, and epoxy bonding material shall be incidental to the cost of Class "A" Concrete.

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: B. Miller	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

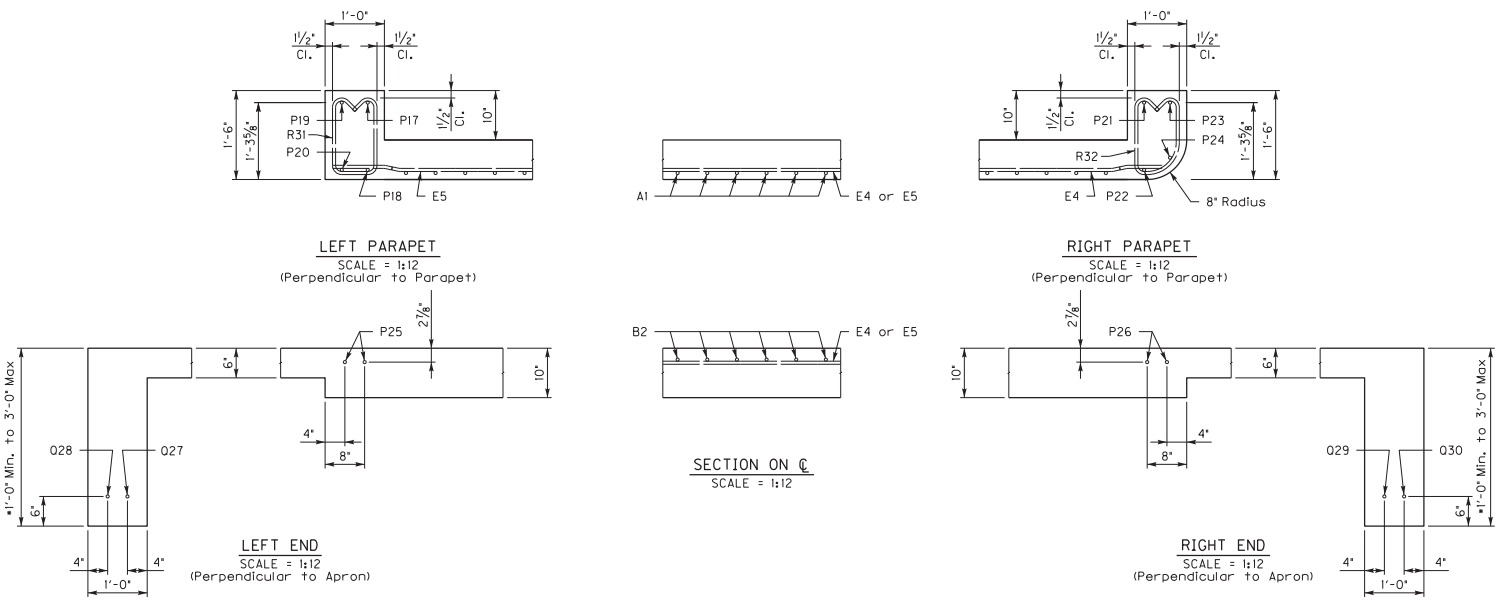
COUNTY: SHELBY

ROUTE: KY 55 | CROSSING: A DITCH

BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S3
		DRAWING NO. 28330

5-SHEET NAME: DATE: 22-MAY-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\11 28330 3x3 RCBC Station 320+63 shelby county\28330\28330.dgn



*Note: Embed apron 1'-0" Min. into solid rock. Pour all sides against solid rock. Any extra concrete required is incidental to the unit price bid for Class A concrete. Apron to be a maximum of 3'-0" long if solid rock is deep. Quantities are include for the full 3'-0" depth. Adjust concrete paid as necessary for actual depth used.

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: B.Miller	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

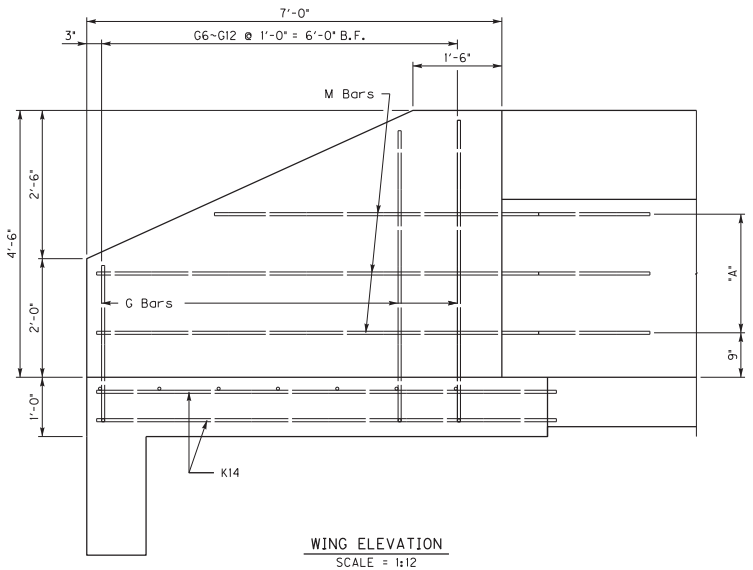
COUNTY: **SHELBY**

ROUTE	CROSSING
KY 55	A DITCH

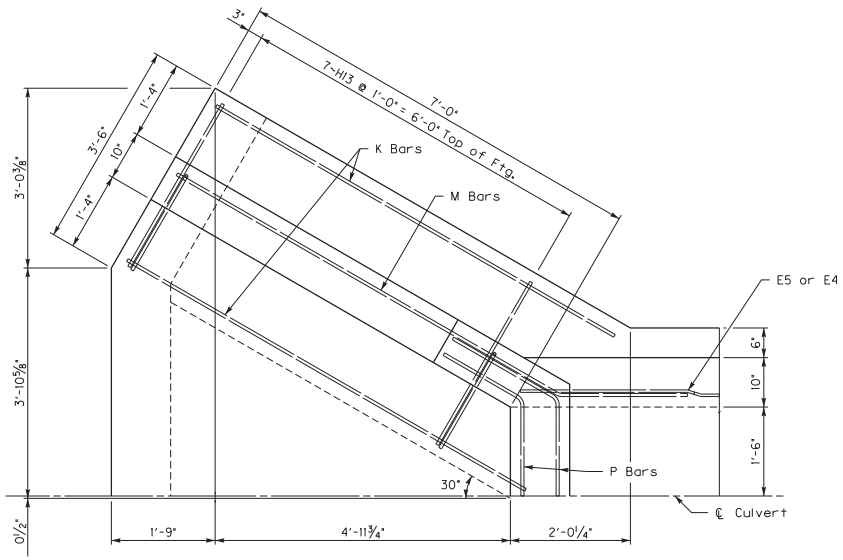
BARREL

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	**Division of Structural Design**	S4
		DRAWING NO. 28330

5-SHEET NAME: DATE: 22-MAY-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\11 28330 3x3 RCBC Station 320+63 shelby county\28330\28330.dgn

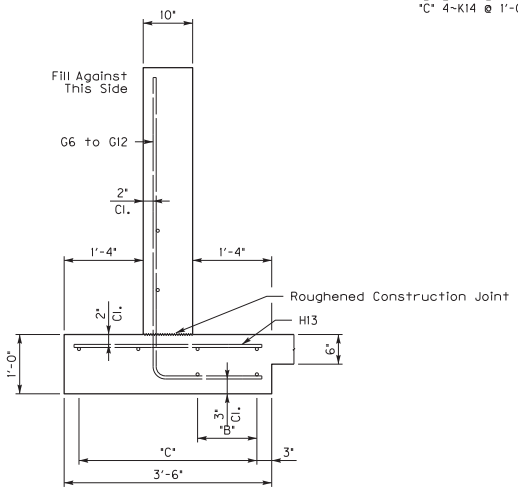


WING ELEVATION
SCALE = 1:12



PLAN
SCALE = 1:12

"A" 2~M15, 1~M16 @ 1'-0" = 2'-0" B.F.
"B" 2~K14 @ 1'-0" = 1'-0" Bot of Ftg.
"C" 4~K14 @ 1'-0" = 3'-0"



WING SECTION
SCALE = 1:12

REVISION	DATE
DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: B.Miller	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

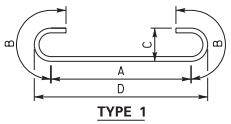
COUNTY: SHELBY

ROUTE	CROSSING
KY 55	A DITCH

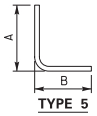
Wings 1, 2, 3 & 4

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	Division of Structural Design	S5
		DRAWING NO. 28330

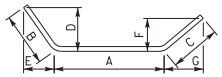
5-SHEET NAME: DATE: 22-MAY-2020 USERNAME: Joseph.vanzee FILE NAME: J:\District05\5-9017 HSIP\Culverts\11 28330 3x3 RCBC Station 320+63 shelby county\28330\28330.dgn



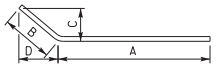
TYPE 1



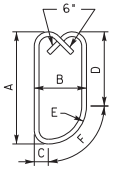
TYPE 5



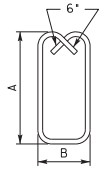
TYPE 7



TYPE 8



TYPE 11



TYPE 12

BILL OF REINFORCEMENT

MARK	TYPE	NO.	SIZE	LENGTH	LOCATION	A/E	B/F	C/G	D/H
A1	1	41	5	5- 7	Top Slab	3-11	0-10	0- 5	4- 4
B2	1	41	5	6- 7	Bottom Slab	4-11	0-10	0- 5	5- 4
C3	Str.	38	5	4- 1	Sidewalls				
E4	Str.	16	4	7- 8	Slabs & Sidewalls (Inlet)				
E5	Str.	16	4	10- 8	Slabs & Sidewalls (Outlet)				
G6	5	4	5	4- 4	B.F Wings 1, 2, 3 & 4	2- 7⅝	1-10		
G7	5	4	5	4-10	B.F Wings 1, 2, 3 & 4	3- 1⅛	1-10		
G8	5	4	5	5- 3	B.F Wings 1, 2, 3 & 4	3- 6½	1-10		
G9	5	4	5	5- 8	B.F Wings 1, 2, 3 & 4	4- 0	1-10		
G10	5	4	5	6- 2	B.F Wings 1, 2, 3 & 4	4- 5⅜	1-10		
G11	5	4	5	6- 7	B.F Wings 1, 2, 3 & 4	4-10⅞	1-10		
G12	5	4	5	6- 9	B.F Wings 1, 2, 3 & 4	5- 1	1-10		
H13	Str.	28	5	3- 2	Top Ftg Wings 1, 2, 3 & 4				
K14	Str.	24	5	7- 9	Ftg Wings 1, 2, 3 & 4				
M15	8	8	5	9- 7	B.F. Wings 1, 2, 3 & 4	7- 5½	2- 2	1- 1	1-10½
M16	8	4	5	7- 7	B.F. Wings 1, 2, 3 & 4	5- 5⅝	2- 2	1- 1	1-10½
P17	7	1	5	7- 5	B.F. Parapet Lt. End	3- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11¾	1- 8½	0-11¾	
P18	7	1	5	7- 5	B.F. Parapet Lt. End	3- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11¾	1- 8½	0-11¾	
P19	7	1	5	6- 5	F.F. Parapet Lt. End	3- 1¾	1- 8¼	1- 8¼	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P20	7	1	5	6- 5	F.F. Parapet Lt. End	3- 1¾	1- 8¼	1- 8¼	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P21	7	1	5	7- 5	B.F. Parapet Rt. End	3- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11¾	1- 8½	0-11¾	
P22	7	1	5	7- 5	B.F. Parapet Rt. End	3- 6¾	1-11⅝	1-11⅝	1- 8½
						0-11¾	1- 8½	0-11¾	
P23	7	1	5	6- 5	F.F. Parapet Rt. End	3- 1¾	1- 8¼	1- 8¼	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P24	7	1	5	6- 5	F.F. Parapet Rt. End	3- 1¾	1- 8¼	1- 8¼	1- 5⅝
						0-10⅛	1- 5⅝	0-10⅛	
P25	Str.	2	5	5- 4	Bottom Slab Lt. End				
P26	Str.	2	5	5- 4	Bottom Slab Rt. End				
Q27	7	1	5	13- 6	Appron Lt. End	7- 4⅛	3- 1	3- 1	1- 6½
						2- 8	1- 6½	2- 8	
Q28	7	1	5	13-10	Appron Lt. End	7- 6¼	3- 2	3- 2	1- 7
						2- 8⅞	1- 7	2- 8⅞	
Q29	7	1	5	13- 6	Appron Rt. End	7- 4⅛	3- 1	3- 1	1- 6½
						2- 8	1- 6½	2- 8	
Q30	7	1	5	13-10	Appron Rt. End	7- 6¼	3- 2	3- 2	1- 7
						2- 8⅞	1- 7	2- 8⅞	
R31	12s	3	5	4- 1	Parapet Wall (Left End)	1- 3½	0- 9		
R32	11s	3	5	3-11	Parapet Wall (Right End)	1- 3½	0- 9	0- 2½	0- 9
						0- 6½	0- 9¾		
X33	Str.	32	8	2- 0	Dowels				

REVISION	DATE

DATE: MARCH 2020	CHECKED BY
DESIGNED BY: J. VAN ZEE	N.O. BODY
DETAILED BY: B. Miller	J. VAN ZEE

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

COUNTY: **SHELBY**

ROUTE: **KY 55** | CROSSING: **A DITCH**

Bill of Reinforcement

ITEM NUMBER	PREPARED BY	SHEET NO.
5-9017.00	**Division of Structural Design**	S6
		DRAWING NO. 28330

GUARDRAIL DELIVERY VERIFICATION SHEET

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_____

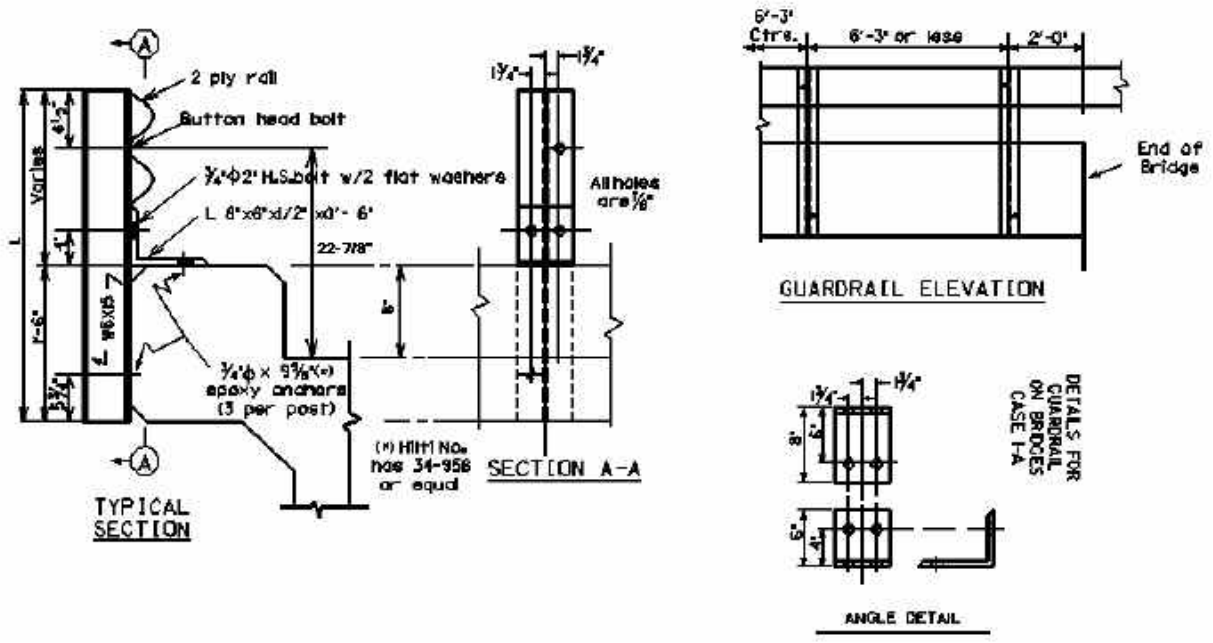
Printed Contractor's Representative_____& Date_____

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.

Completed Form Submitted to Section Engineer Date: _____ By: _____

GUARDRAIL ON BRIDGE, CASE I-A
CURB HEIGHT GREATER THAN 2 INCHES



				On the Bridge
Bridge MP	L=	D=	No. Posts	LF of 2 PLY Rail
1.11 (in Shelby Co.)	41	9	24	65

L = Length of Guardrail Post D = Curb Height W = Width of Bridge Curb

WARRANTS: When the dimension from the top of the existing riding surface to the top of the curb is greater than 2 inches and where the clear distance between the faces of the guardrail is less than 20 feet or the curb width is less than 18 inches, remove existing concrete and/or guardrail bridge rail and use Case I-A Bridge Guardrail.

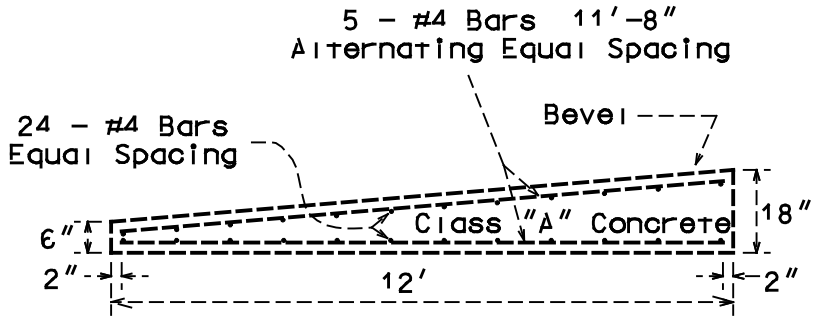
NOTES:

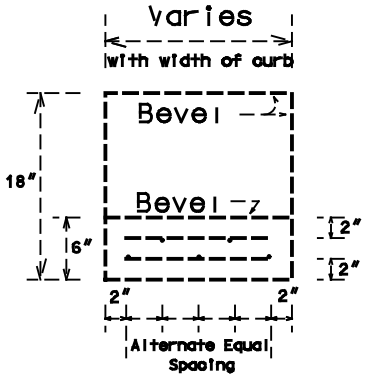
1. When using Case I-A Bridge Guardrail, do not pave the bridge surface flush to the top of the curb.

2. When Case I-A Bridge Guardrail is used, use a Precast Concrete Bridge Block at the ends of the bridge which face opposing traffic. See detail drawing for Precast Concrete Bridge Block.

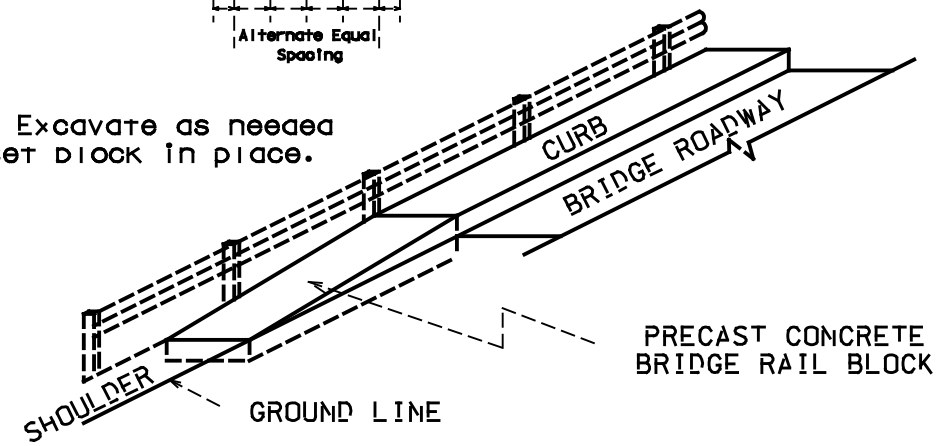
3. Field cutting/punching may be required to provide proper alignment and placement of posts to facilitate appropriate barrier heights, transitions, and alignments.

PRECAST CONCRETE BRIDGE RAIL BLOCK



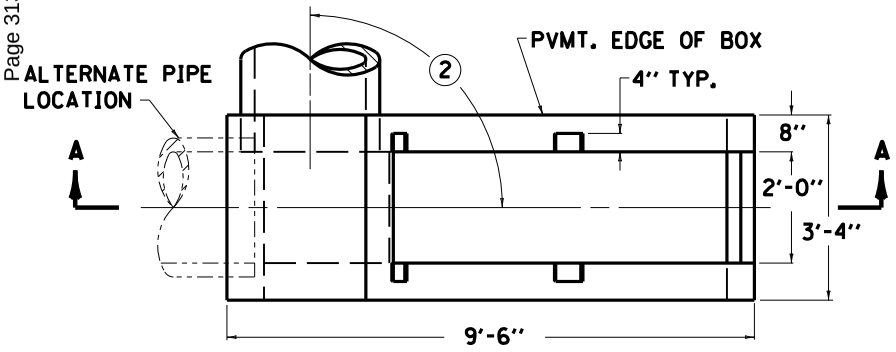


Note: Excavate as needed to set block in place.

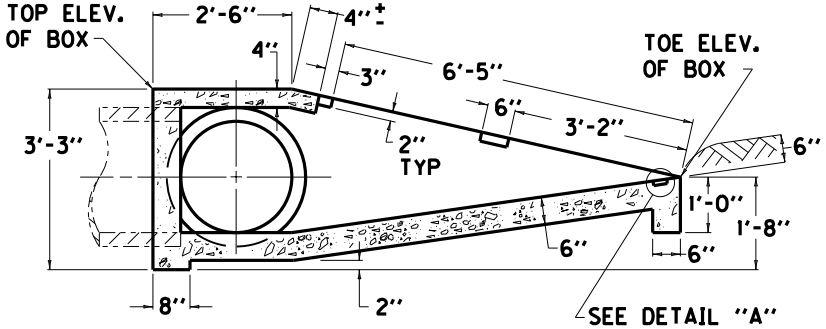


NOTE: ALL EXPOSED EDGES SHALL BE BEVELED 3/4"

COUNTY OF	ITEM NO.	SHEET NO.



PLAN VIEW



SECTION A-A

NOTES

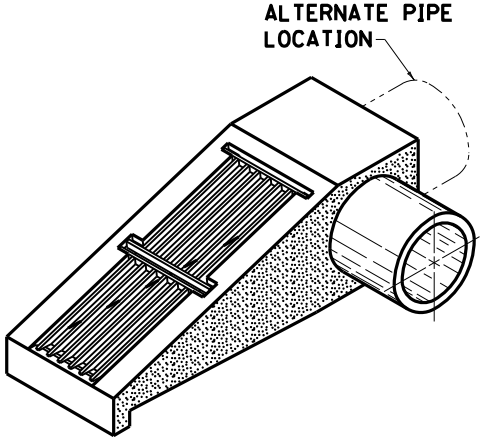
ITEM CODE	BID ITEM	UNIT
1726	SAFETY BOX INLET-18 INCH SDB-1	EACH
1727	SAFETY BOX INLET-24 INCH SDB-1	EACH

THE UNIT BID FOR EACH STRUCTURE SHALL INCLUDE ALL CONCRETE, STRUCTURAL STEEL GRATING, EXCAVATION, LABOR AND INCIDENTALS NECESSARY FOR ITS CONSTRUCTION AS DETAILED ON THIS SHEET.

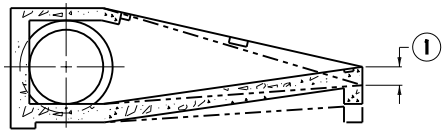
(1) TOE OF BOX SHALL BE RAISED OR LOWERED TO FIT EXISTING FIELD CONDITIONS.

(2) SKEW OF BOX SHALL VARY TO FIT EXISTING FIELD CONDITIONS.

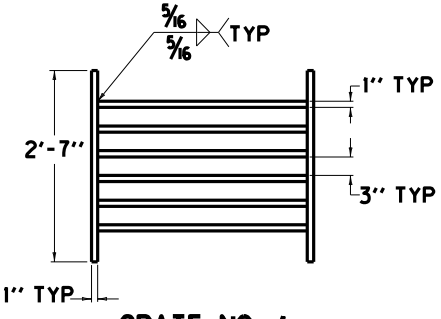
APPROXIMATE QUANTITIES			
CLASS "A" CONC.	GRATE	LBS. STRUCTURAL STEEL	
CUBIC YARDS	NUMBER	EACH GRATE	TOTAL POUNDS
1.44	1	145	298
	2	153	



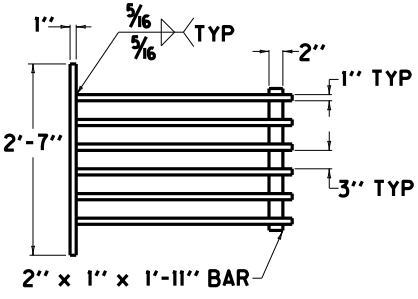
ISOMETRIC VIEW



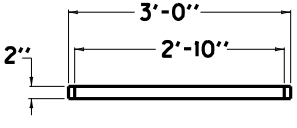
SECTIONAL VIEW



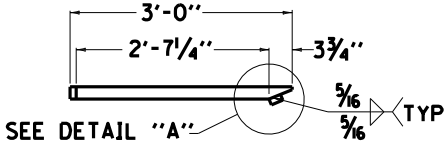
GRATE NO. 1
PLAN VIEW



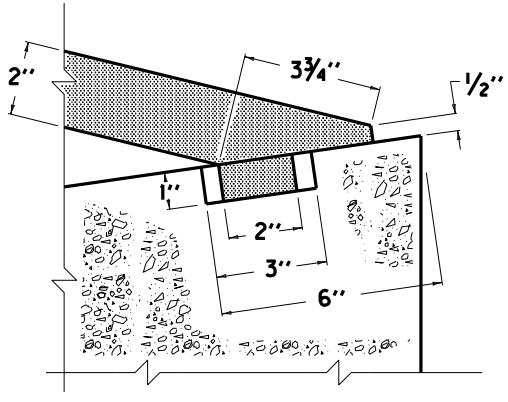
GRATE NO. 2
PLAN VIEW



GRATE NO. 1
SIDE ELEVATION



GRATE NO. 2
SIDE ELEVATION



DETAIL "A"

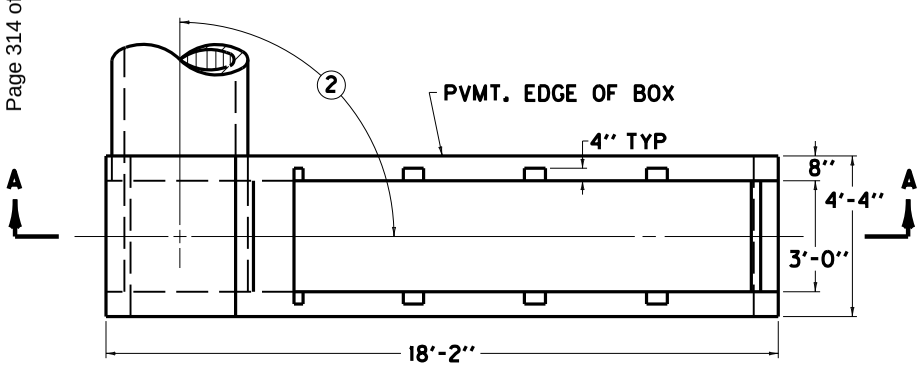
KENTUCKY
DEPARTMENT OF HIGHWAYS

SAFETY TYPE BOX INLET (18" OR 24")

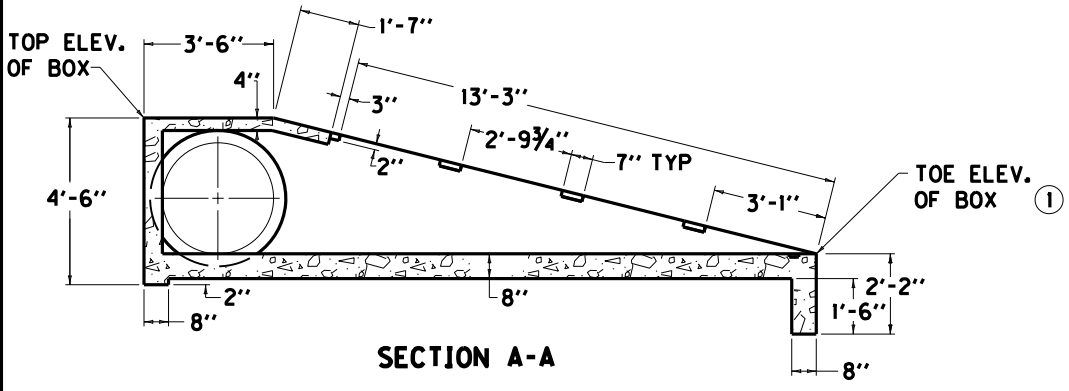
APPROVED _____ PROJECT ENGINEER 06-04-2008 DATE

Contract ID: 214200
Page 314 of 316

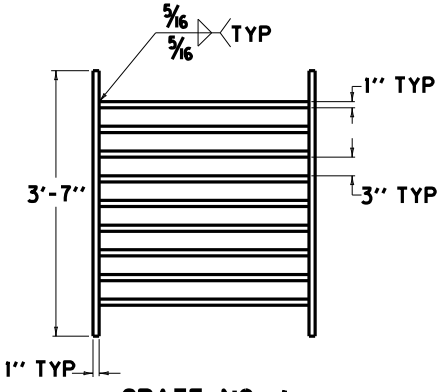
COUNTY OF	ITEM NO.	SHEET NO.



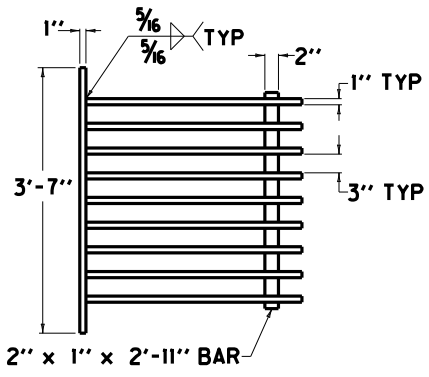
PLAN VIEW



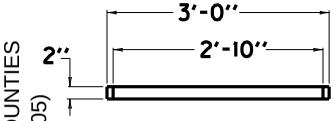
SECTION A-A



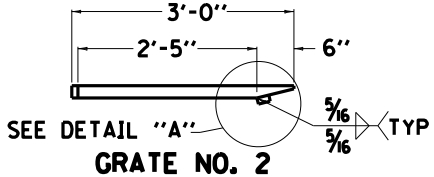
GRATE NO. 1
PLAN VIEW



GRATE NO. 2
PLAN VIEW



GRATE NO. 1
SIDE ELEVATION



GRATE NO. 2
SIDE ELEVATION

NOTES

ITEM CODE	BID ITEM	UNIT
23044NS710	SAFETY BOX INLET-36 INCH SDB-1	EACH

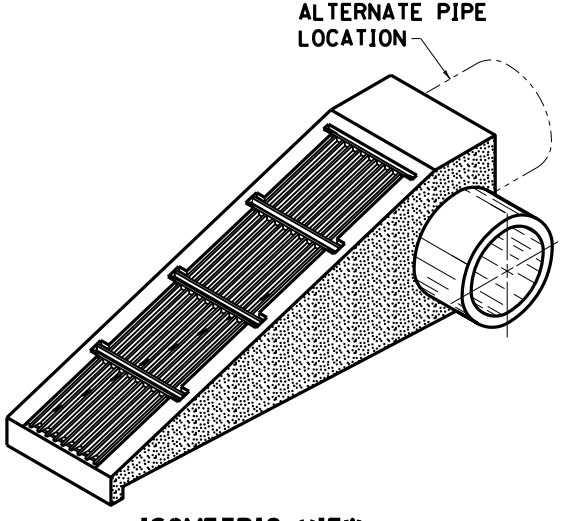
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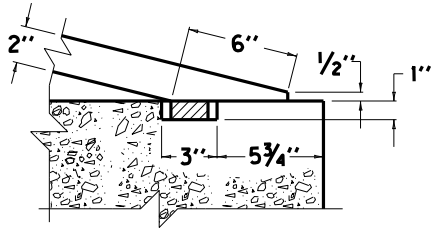
(2) SKEW OF BOX SHALL VARY TO FIT EXISTING FIELD CONDITIONS.

3. ALL QUANTITIES ARE FOR ONE HEADWALL.

APPROXIMATE QUANTITIES					
CLASS "A" CONC.	GRATE	NO. OF GRATES REQ'D.	LBS.		
			STRUCTURAL STEEL		REINF. STEEL
CUBIC YARDS	NUMBER		EACH GRATE		
4.51	1	3	222	896	261
	2	1	230		



ISOMETRIC VIEW



DETAIL "A"

SHEET 1 OF 2

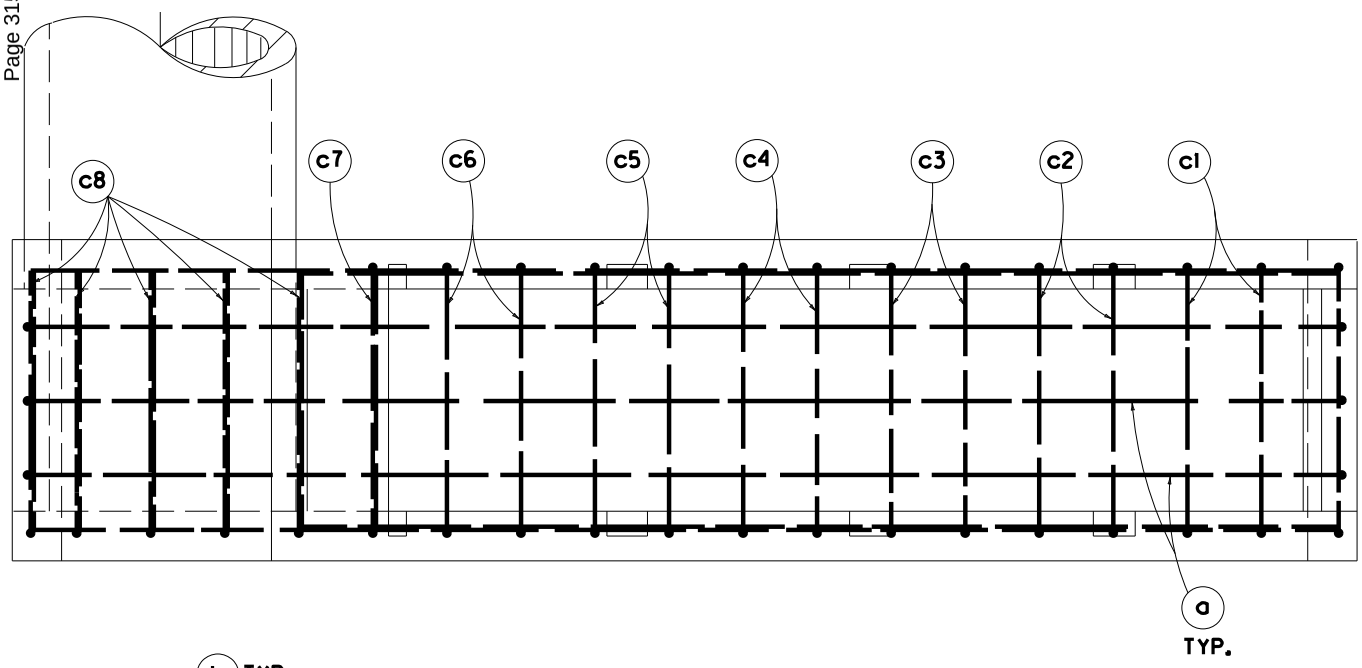
KENTUCKY
DEPARTMENT OF HIGHWAYS

SAFETY TYPE BOX INLET (36")

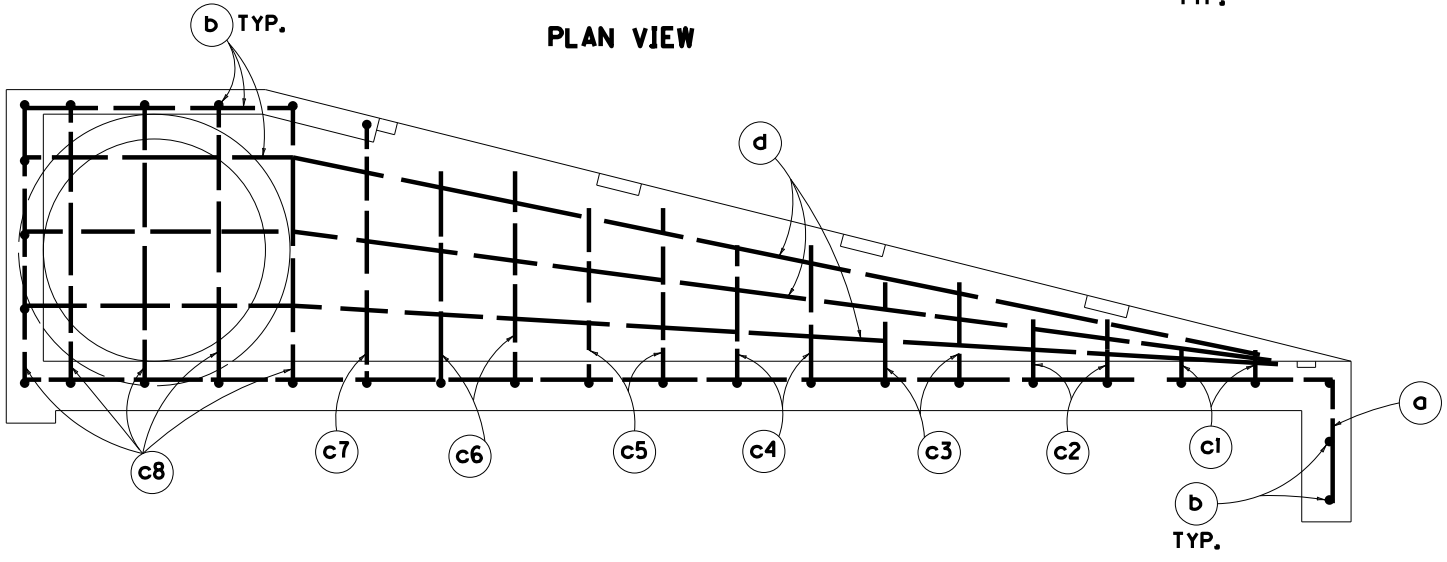
APPROVED _____ PROJECT ENGINEER 06-04-2008 DATE

VARIOUS COUNTIES
HSIP 5177 (005)

COUNTY OF	ITEM NO.	SHEET NO.



PLAN VIEW



ELEVATION VIEW

NOTES

1. NUMBER OF BARS IN ONE HEADWALL.
2. DIMENSIONS ARE O. TO O. OF BARS.
3. ALL BARS ARE STRAIGHT EXCEPT THOSE SHOWN BELOW.

BENT BAR SHAPES



K=3'-6"
BARS (c)



K=1'-8"
BARS (a)

MARK	SIZE	NO (1)	LGTH FT	LGTH IN	K FT	K IN
36"						
a	4	5	19	6	1	8
b	4	16	3	6		
c1	4	2	5	0	3	6
c2	4	2	5	10	3	6
c3	4	2	6	10	3	6
c4	4	2	7	10	3	6
c5	4	2	8	10	3	6
c6	4	2	9	10	3	6
c7	4	1	11	0	3	6
c8	4	5	11	6	3	6
d	4	6	13	4		

SHEET 2 OF 2

KENTUCKY
DEPARTMENT OF HIGHWAYS

BILL OF REINFORCEMENT SAFETY TYPE BOX INLET (36")

APPROVED _____ PROJECT ENGINEER 06-04-2008 DATE

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 2020.*

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 BARCODE LABEL ON PERMANENT SIGNS

1.0 DESCRIPTION. Install barcode label on sheeting signs. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

2.0 MATERIALS. The Department will provide the Contractor with a 2 inch x 1 inch foil barcode label for each permanent sheeting sign. A unique number will be assigned to each barcode label.

The Contractor shall contact the Operations and Pavement Management Branch in the Division of Maintenance at (502) 564-4556 to obtain the barcode labels.

3.0 CONSTRUCTION. Apply foil barcode label in the lower right quadrant of the sign back. Signs where the bottom edge is not parallel to the ground, the lowest corner of the sign shall serve as the location to place the barcode label. The barcode label shall be placed no less than one-inch and no more than three inches from any edge of the sign. The barcode must be placed so that the sign post does not cover the barcode label.

Barcodes shall be applied in an indoor setting with a minimum air temperature of 50°F or higher. Prior to application of the barcode label, the back of the sign must be clean and free of dust, oil, etc. If the sign is not clean, an alcohol swab shall be used to clean the area. The area must be allowed to dry prior to placement of the barcode label.

Data for each sign shall include the barcode number, MUTCD reference number, sheeting manufacturer, sheeting type, manufacture date, color of primary reflective surface, installation date, latitude and longitude using the North American Datum of 1983 (NAD83) or the State Plane Coordinates using an x and y ordinate of the installed location.

Data should be provided electronically on the TC 71-229 Sign Details Information and TC 71-230 Sign Assembly Information forms. The Contractor may choose to present the data in a different format provided that the information submitted to the Department is equivalent to the information required on the Department TC forms. The forms must be submitted in electronic format regardless of which type of form is used. The Department will not accept PDF or handwritten forms. These completed forms must be submitted to the Department prior to final inspection of the signs. The Department will not issue formal acceptance for the project until the TC 71-229 and TC-230 electronic forms are completed for all signs and sign assemblies on the project.

4.0 MEASUREMENT. The Department will measure all work required for the installation of the barcode label and all work associated with completion and submission of the sign inventory data (TC 71-229 and TC 71-230).

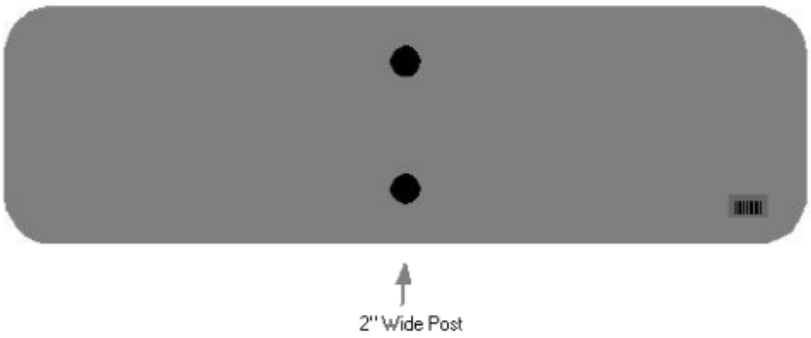
The installation of the permanent sign will be measured in accordance to Section 715.

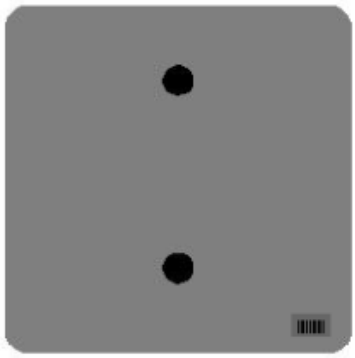
5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
24631EC	Barcode Sign Inventory	Each

The Department will not make payment for this item until all barcodes are installed and sign inventory is complete on every permanent sign installed on the project. The Department will make payment for installation of the permanent sign in accordance to Section 715. The Department will consider payment as full compensation for all work required under this special note.

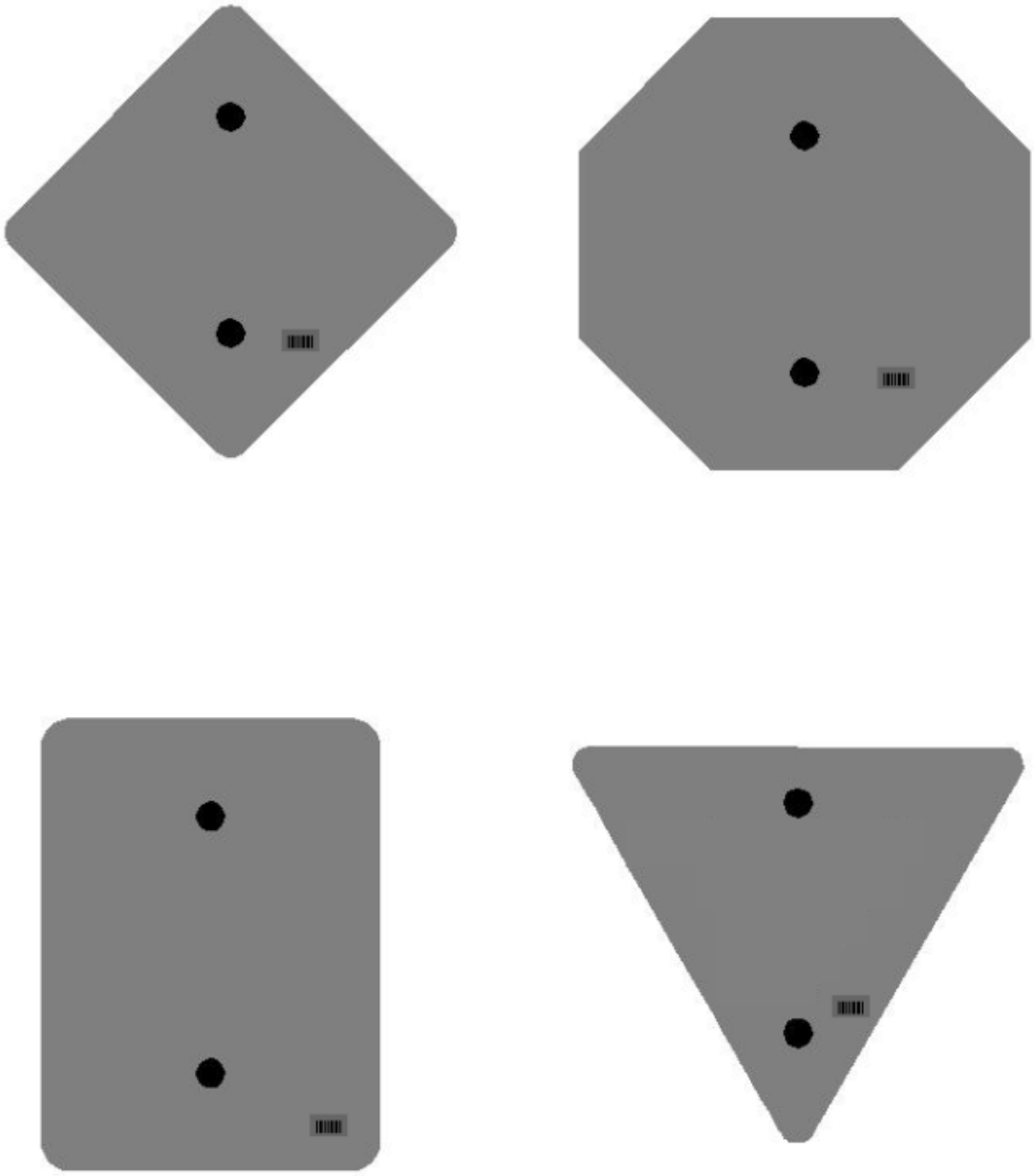
One Sign Post



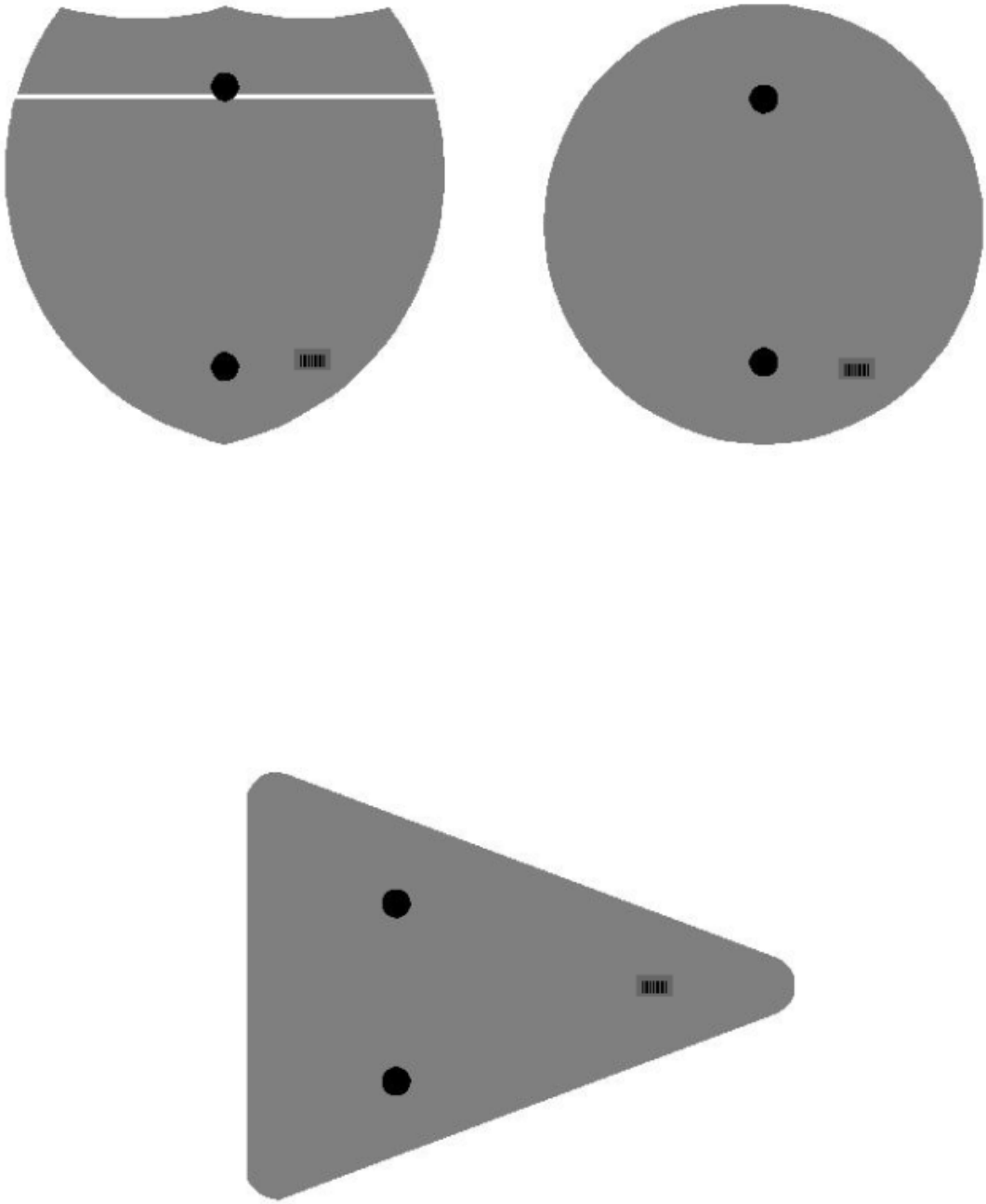




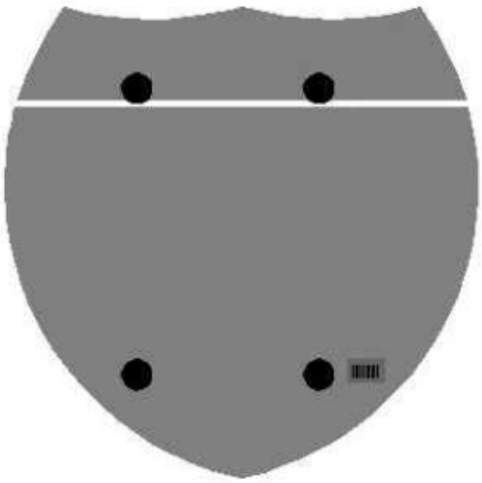
One Sign Post



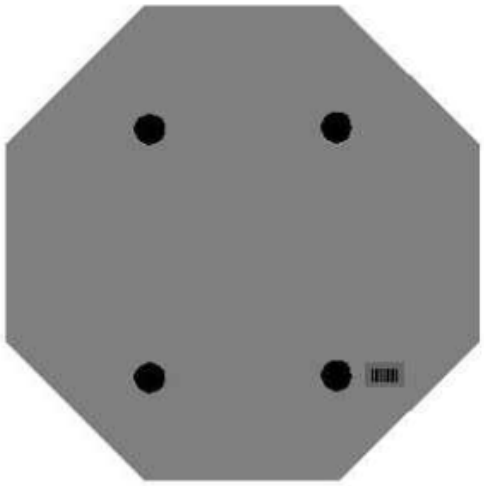
One Sign Post



Double Sign Post



Interstate
Shield

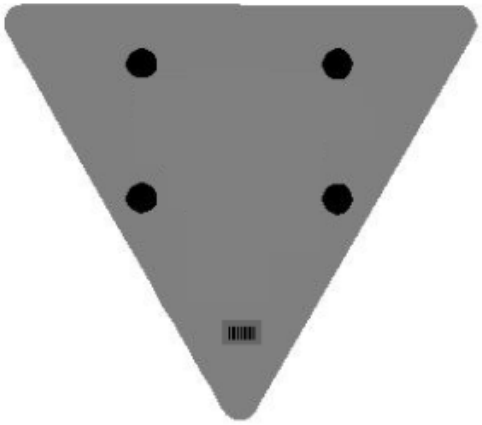


48" Stop

2 Post Signs







2020 STANDARD DRAWINGS THAT APPLY

ROADWAY

~ *BARRIERS* ~

TYPICAL BARRIER INSTALLATIONS

TYPICAL GUARDRAIL INSTALLATIONS RBI-001-12
TYPICAL GUARDRAIL INSTALLATIONS RBI-002-07
INSTALLATION OF GUARDRAIL END TREATMENT TYPE 1 ..... RBI-004-06

GUARDRAIL HARDWARE

STEEL BEAM GUARDRAIL (W-BEAM) RBR-001-13
GUARDRAIL COMPONENTS RBR-005-11
GUARDRAIL TERMINAL SECTIONS RBR-010-06
STEEL GUARDRAIL POSTS RBR-015-06
TIMBER GUARDRAIL POSTS RBR-016-05
GUARDRAIL SYSTEM TRANSITION RBR-018
GUARDRAIL END TREATMENT TYPE 1 ..... RBR-020-07
GUARDRAIL END TREATMENT TYPE 7 ..... RBR-050-08
DELINEATORS FOR GUARDRAIL RBR-055-01

~ *DRAINAGE* ~

BOX INLETS AND OUTLETS

DROP BOXES

DROP BOX INLET TYPE 1 ..... RDB-001-12
DROP BOX INLET TYPE 6A-6B-6C-6D-6E & 6F RDB-006-08
DROP BOX INLET TYPE 11 ..... RDB-011-08

PAVED DITCHES, FLUME INLETS AND CHANNEL LININGS

CHANNEL LINING CLASS II AND III RDD-040-05

TYPICAL DRAINAGE INSTALLATIONS

CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (12” – 24” PIPE) RDI-001-10
CULVERT, ENTRANCE & STORM SEWER PIPE TYPES & COVER HEIGHTS (27” – 42” PIPE) RDI-002-05
NON-CIRCULAR PIPE ALTERNATES RDI-016-03
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER PIPE RDI-020-10
PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER, REINFORCED CONC. PIPE RDI-021-01
PIPE BEDDING, TRENCH CONDITION RDI-025-06
PIPE BEDDING, TRENCH CONDITION, REINFORCED CONC. PIPE RDI-026-01
EROSION CONTROL BLANKET SLOPE INSTALLATION RDI-040-01
EROSION CONTROL BLANKET CHANNEL INSTALLATION RDI-041-01
BEDDING FOR PRECAST BOX CULVERTS, SEWERS, STORM DRAINS, AND THEIR COMBINATIONS RDI-120-04

MISCELLANEOUS DRAINAGE

INTERMEDIATE AND END ANCHORS FOR CIRCULAR PIPE RDX-060-04
TEMPORARY SILT FENCE RDX-210-03
SILT TRAP - TYPE A RDX-220-05
SILT TRAP - TYPE B RDX-225-01
SILT TRAP - TYPE C RDX-230-01

Standard Drawings That Apply
Page 2 of 3

PRECAST BOX CULVERT EXTENSION RDX-300-04

~ *FENCES AND GATES* ~

CHAIN LINK FENCE

CHAIN LINK FENCE 4' TO 6' HIGH RFC-001-08
CHAIN LINK FENCE 8' TO 12' HIGH RFC-002-05

GATES

WOVEN WIRE GATES RFG-001-07
4' TO 12' HIGH CHAIN LINK GATE RFG-005-06
WATER GATE TYPE 1 AND TYPE 2 ..... RFG-010-05
WATER GATE TYPE 3 ..... RFG-011-06

WOVEN WIRE FENCE

FENCING DETAILS RFW-001-06
WOVEN WIRE FENCE TYPE 1 ..... RFW-005-08
WOVEN WIRE FENCE TYPE 2 ..... RFW-006-07

~ *GENERAL* ~

CURVE WIDENING AND SUPERELEVATION

CURVE WIDENING AND SUPERELEVATION TRANSITIONS RGS-001-07

MISCELLANEOUS STANDARDS

MISCELLANEOUS STANDARDS RGX-001-06
RIGHT OF WAY MONUMENTS RGX-005-06
TYPE D BREAKAWAY SIGN SUPPORT RGX-065-02
ONE POINT PROCTER FAMILY OF CURVES RGX-200-01

~ *PAVEMENT* ~

PAVEMENT MARKER ARRANGEMENTS TWO-LANE TWO-WAY ROADWAYS TPM-115-03
PAVEMENT MARKER ARRANGEMENTS FOR PARALLEL DECELERATION LANE TPM-126
PAVEMENT MARKER ARRANGEMENT ON-RAMP WITH PARALLEL ACCELERATION LANE TPM-135-03
PAVEMENT STRIPING DETAILS FOR TWO LANE TWO WAY ROADWAYS TPM-175
TYPICAL MARKINGS FOR ISLANDS AND MEDIANS TPM-205
TYPICAL MARKINGS FOR TURN LANES PAGE 1 ..... TPM-206
TYPICAL MARKINGS FOR TURN LANES PAGE 2 ..... TPM-207

RUMBLE STRIPS

CENTERLINE RUMBLE STRIPS TPR-100
CENTERLINE RUMBLE STRIPS 4 INCH STRIPING TPR-105

~ *TEMPORARY* ~

TRAFFIC CONTROL

LANE CLOSURE TWO-LANE HIGHWAY TTC-100-05
SHOULDER CLOSURE TTC-135-03

Standard Drawings That Apply
Page 3 of 3

DEVICES

DOUBLE FINES ZONE SIGNS TTD-120-03
PAVEMENT CONDITION WARNING SIGNS TTD-125-03
SPEED ZONE SIGNING FOR WORK ZONES TTD-130

STRIPING OPERATIONS

MOBILE OPERATION FOR PAINT STRIPING CASE I TTS-100-02
MOBILE OPERATION FOR PAINT STRIPING CASE II TTS-105-02

CULVERTS

STANDARD CULVERT 6'-0" WIDTH BSC-002
STANDARD CULVERT 8'-0" WIDTH BSC-003

BRIDGES

RAILING SYSTEM TYPE II GUARDRAIL TREATMENT BHS-007-07

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 contacting 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 administrating 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: KY20210038 10/29/2021

Superseded General Decision Number: KY20200038

State: Kentucky

Construction Type: Highway

Counties: Anderson, Bath, Bourbon, Boyd, Boyle, Bracken, Breckinridge, Bullitt, Carroll, Carter, Clark, Elliott, Fayette, Fleming, Franklin, Gallatin, Grant, Grayson, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Larue, Lewis, Madison, Marion, Mason, Meade, Mercer, Montgomery, Nelson, Nicholas, Oldham, Owen, Robertson, Rowan, Scott, Shelby, Spencer, Trimble, Washington and Woodford 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 $10.95 for calendar year 2021 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 $10.95 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 2021. 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 contractor must pay workers in that classification at least 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.

Modification Number	Publication Date
0	01/01/2021
1	03/05/2021
2	10/29/2021

* BRIN0004-003 06/01/2021

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER	$ 29.57	15.10

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* BRKY0001-005 06/01/2021

BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, & TRIMBLE COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 29.57	15.10

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* BRKY0002-006 06/01/2021

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 30.87	15.87

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* BRKY0007-004 06/01/2021

BOYD, CARTER, ELLIOT, FLEMING, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 32.03	20.05

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* BRKY0017-004 06/01/2021

ANDERSON, BATH, BOURBON, BOYLE, CLARK, FAYETTE, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, OWEN, SCOTT, WASHINGTON & WOODFORD COUNTIES:

	Rates	Fringes
BRICKLAYER	$ 30.87	15.87

CARP0064-001 04/01/2020

	Rates	Fringes
CARPENTER	$ 29.81	19.96
Diver	$ 45.09	19.96
PILEDRIVERMAN	$ 30.06	19.96

ELEC0212-008 06/01/2020

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN	$ 31.30	19.72

ELEC0212-014 11/25/2019

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician	$ 24.35	12.09

ELEC0317-012 06/01/2020

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
ELECTRICIAN (Wiremen)	$ 35.10	26.22

ELEC0369-007 05/26/2020

ANDERSON, BATH, BOURBON, BOYLE, BRECKINRIDGE, BULLITT, CARROLL, CLARK, FAYETTE, FRAONKLIN, GRAYSON, HARDIN, HARRISON, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, MONTGOMERY, NELSON, NICHOLAS, OLDHAM, OWEN, ROBERTSON, SCOTT, SHELBY, SPENCER, TRIMBLE, WASHINGTON, & WOODFORD COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 33.21	17.85

ELEC0575-002 11/30/2020

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN	$ 33.75	19.22

* ENGI0181-018 07/01/2021

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1	$ 34.80	17.85
GROUP 2	$ 31.94	17.85
GROUP 3	$ 32.39	17.85
GROUP 4	$ 31.62	17.85

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 (One Drum); Flexplane; Forklift (Regardless of Lift Height); Form Grader; Joint Sealing Machine; Outboard Motor Boat; Power Sweeper (Riding Type); Roller (Rock); Ross Carrier; Skid Mounted or Trailer Mounted Conrete 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 leads equals or exceeds 150 ft. - $1.00 over 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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* IRON0044-009 06/01/2021

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,
BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);
CARROLL (Eastern third, including the Township of Ghent);
FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);
MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);
NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);
OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);
SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

	Rates	Fringes
IRONWORKER		
Fence Erector	$ 29.75	21.60
Structural	$ 31.32	21.60

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* IRON0070-006 06/01/2021

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN,
GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON,
MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER,
TRIMBLE, WASHINGTON & WOODFORD
BOURBON (Southern two-thirds, including Townships of Austerlity,
Centerville, Clintonville, Elizabeth, Hutchison, Littlerock,
North Middletown & Paris);
CARROLL (Western two-thirds, including Townships of Carrollton,
Easterday, English, Locust, Louis, Prestonville & Worthville);
CLARK (Western two-thirds, including Townships of Becknerville,
Flanagan, Ford, Pine Grove, Winchester & Wyandotte);
OWEN (Eastern eighth, including Townships of Glenmary, Gratz,
Monterey, Perry Park & Tacketts Mill);
SCOTT (Southern third, including Townships of Georgetown, Great
Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER	$ 31.09	23.75

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* IRON0769-007 06/01/2021

BATH, BOYD, CARTER, ELLIOTT, GREENUP, LEWIS, MONTGOMERY & ROWAN
CLARK (Eastern third, including townships of Bloomingdale,
Hunt, Indian Fields, Kiddville, Loglick, Rightangele & Thomson);
FLEMING (Townships of Beechburg, Colfax, Elizaville,
Flemingsburg, Flemingsburg Junction, Foxport, Grange City,
Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton,
Pecksridge, Plummers Landing, Plummers Mill, Poplar Plains,
Ringos Mills, Tilton & Wallingford);
MASON (Eastern third, including Townships of Helena, Marshall,
Orangeburg, Plumville & Springdale);
NICHOLAS (Eastern eighth, including the Township of Moorefield
Sprout)

	Rates	Fringes
IRONWORKER		
ZONE 1	$ 33.00	27.29
ZONE 2	$ 33.40	27.29
ZONE 3	$ 35.00	27.29

ZONE 1 - (no base rate increase) Up to 10 mile radius of
Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 2 - (add $0.40 per hour to base rate) 10 to 50 mile
radius of Union Hall, 1643 Greenup Ave, Ashland, KY.

ZONE 3 - (add $2.00 per hour to base rate) 50 mile radius &
over of Union Hall, 1643 Greenup Ave, Ashland, KY.

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* LABO0189-003 07/01/2021

BATH, BOURBON, BOYD, BOYLE, BRACKEN, CARTER, CLARK, ELLIOTT,
FAYETTE, FLEMING, FRANKLIN, GALLATIN, GRANT, GREENUP, HARRISON,
JESSAMINE, LEWIS, MADISON, MASON, MERCER, MONTGOMERY, NICHOLAS,
OWEN, ROBERTSON, ROWAN, SCOTT, & WOOLFORD COUNTIES

	Rates	Fringes

Laborers:

GROUP 1	$ 23.51	16.22
GROUP 2	$ 23.76	16.22
GROUP 3	$ 23.81	16.22
GROUP 4	$ 24.41	16.22

LABORERS 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; Bushammer; 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; 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

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* LABO0189-008 07/01/2021

ANDERSON, BULLITT, CARROLL, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.51	16.22
GROUP 2	$ 23.76	16.22
GROUP 3	$ 23.81	16.22
GROUP 4	$ 24.41	16.22

LABORERS 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; Bushammer; 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; 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

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* LABO0189-009 07/01/2021

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1	$ 23.51	16.22
GROUP 2	$ 23.76	16.22
GROUP 3	$ 23.81	16.22
GROUP 4	$ 24.41	16.22

LABORERS 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; Bushammer; 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; 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

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PAIN0012-005 06/11/2005

BATH, BOURBON, BOYLE, CLARK, FAYETTE, FLEMING, FRANKLIN, HARRISON, JESSAMINE, MADISON, MERCER, MONTGOMERY, NICHOLAS, ROBERTSON, SCOTT & WOODFORD COUNTIES:

	Rates	Fringes
PAINTER		
Bridge/Equipment Tender and/or Containment Builder	$ 18.90	5.90
Brush & Roller	$ 21.30	5.90
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement	$ 22.30	5.90
Sandblasting & Waterblasting	$ 22.05	5.90
Spray	$ 21.80	5.90

PAIN0012-017 05/01/2015

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

	Rates	Fringes
PAINTER (Heavy & Highway Bridges - Guardrails - Lightpoles - Striping)		
Bridge Equipment Tender and Containment Builder	$ 20.73	9.06
Brush & Roller	$ 23.39	9.06
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement	$ 24.39	9.06
Sandblasting & Water Blasting	$ 24.14	9.06
Spray	$ 23.89	9.06

PAIN0118-004 06/01/2018

ANDERSON, BRECKINRIDGE, BULLITT, CARROLL, GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES:

	Rates	Fringes
PAINTER		
Brush & Roller	$ 22.00	12.52
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning	$ 23.00	12.52

PAIN1072-003 12/01/2018

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS and ROWAN COUNTIES

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations	$ 33.33	18.50
Power Generating Facilities	$ 30.09	18.50

PLUM0248-003 06/01/2020

BOYD, CARTER, ELLIOTT, GREENUP, LEWIS & ROWAN COUNTIES:

	Rates	Fringes
Plumber and Steamfitter	$ 37.05	21.48

PLUM0392-007 06/01/2018

BRACKEN, CARROLL (Eastern Half), GALLATIN, GRANT, MASON, OWEN & ROBERTSON COUNTIES:

	Rates	Fringes
Plumbers and Pipefitters	$ 32.01	19.67

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* PLUM0502-003 08/01/2021

BRECKINRIDGE, BULLITT, CARROLL (Western Half), FRANKLIN (Western three-fourths), GRAYSON, HARDIN, HENRY, JEFFERSON, LARUE, MARION, MEADE, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE & WASHINGTON COUNTIES

	Rates	Fringes
PLUMBER	$ 38.07	20.78

SUKY2010-160 10/08/2001

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 16.57	7.34
GROUP 2	$ 16.68	7.34

GROUP 3.....$ 16.86 7.34
GROUP 4.....$ 16.96 7.34

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

GROUP 3 - Single Axle Dump; Flatbed; Semi-trailer or Pole Trailer when used to pull building materials and equipment; Tandem Axle Dump; Distributor; Mixer; & Truck Mechanic

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment & Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame when used in transporting materials; Ross Carrier; Forklift when used to transport building materials; & Pavement Breaker

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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.

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)).

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 classification. As this weighted average rate includes all 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.

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:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
9.6%	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 Shelby 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:

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE	GOALS FOR FEMALE PARTICIPATION IN EACH TRADE
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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 Spencer County.

PART IV

INSURANCE

Refer to
Kentucky Standard Specifications for Road and Bridge Construction,
current edition

PART V

BID ITEMS

214215

PROPOSAL BID ITEMS

Report Date 10/27/21

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	1,306.00	TON		$	
0020	00020		TRAFFIC BOUND BASE	23.00	TON		$	
0030	00100		ASPHALT SEAL AGGREGATE	58.00	TON		$	
0040	00103		ASPHALT SEAL COAT	8.10	TON		$	
0050	00190		LEVELING & WEDGING PG64-22	149.00	TON		$	
0060	00212		CL2 ASPH BASE 1.00D PG64-22	484.00	TON		$	
0070	00301		CL2 ASPH SURF 0.38D PG64-22	1,473.00	TON		$	
0080	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		$	
0090	02677		ASPHALT PAVE MILLING & TEXTURING	1,467.00	TON		$	
0100	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	7.30	TON		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0110	02159		TEMP DITCH	11,486.00	LF		$	
0120	02160		CLEAN TEMP DITCH	5,743.00	LF		$	
0130	02223		GRANULAR EMBANKMENT	4,045.00	CUYD		$	
0140	02230		EMBANKMENT IN PLACE	6,517.00	CUYD		$	
0150	02259		FENCE-TEMP	778.00	LF		$	
0160	02268		REMOVE & REPLACE FENCE (WOOD PLANK FENCE)	720.00	LF		$	
0170	02268		REMOVE & REPLACE FENCE (WOOD PLANK WITH WOVEN WIRE)	190.00	LF		$	
0180	02268		REMOVE & REPLACE FENCE (WOVEN WIRE TYPE 1)	645.00	LF		$	
0190	02429		RIGHT-OF-WAY MONUMENT TYPE 1	64.00	EACH		$	
0200	02432		WITNESS POST	64.00	EACH		$	
0210	02545		CLEARING AND GRUBBING (APPROX 7.4 ACRES)	1.00	LS		$	
0220	02585		EDGE KEY	243.00	LF		$	
0230	02602		FABRIC-GEOTEXTILE CLASS 1	16,544.00	SQYD		$	
0240	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0250	02701		TEMP SILT FENCE	4,020.00	LF		$	
0260	02703		SILT TRAP TYPE A	7.00	EACH		$	
0270	02704		SILT TRAP TYPE B	7.00	EACH		$	
0280	02705		SILT TRAP TYPE C	7.00	EACH		$	
0290	02706		CLEAN SILT TRAP TYPE A	7.00	EACH		$	
0300	02707		CLEAN SILT TRAP TYPE B	7.00	EACH		$	
0310	02708		CLEAN SILT TRAP TYPE C	7.00	EACH		$	
0320	02726		STAKING	1.00	LS		$	
0330	03302		REPAIR CONCRETE CURB	10.00	LF		$	
0340	04935		TEMP SIGNAL	1.00	LS		$	
0350	05950		EROSION CONTROL BLANKET	13,272.00	SQYD		$	
0360	05952		TEMP MULCH	26,967.00	SQYD		$	
0370	05953		TEMP SEEDING AND PROTECTION	10,787.00	SQYD		$	
0380	05963		INITIAL FERTILIZER	2.00	TON		$	

PROPOSAL BID ITEMS

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Report Date 10/27/21

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0390	05964		MAINTENANCE FERTILIZER	.56	TON		$	
0400	05985		SEEDING AND PROTECTION	17,978.00	SQYD		$	
0410	05989		SPECIAL SEEDING CROWN VETCH	11,985.00	SQYD		$	
0420	05992		AGRICULTURAL LIMESTONE	22.30	TON		$	
0430	06510		PAVE STRIPING-TEMP PAINT-4 IN	32,798.00	LF		$	
0440	06514		PAVE STRIPING-PERM PAINT-4 IN	21,513.00	LF		$	
0450	06573		PAVE MARKING-THERMO STR ARROW	7.00	EACH		$	
0460	06574		PAVE MARKING-THERMO CURV ARROW	2.00	EACH		$	
0470	06575		PAVE MARKING-THERMO COMB ARROW	1.00	EACH		$	
0480	06578		PAVE MARKING-THERMO MERGE ARROW	1.00	EACH		$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0490	00440		ENTRANCE PIPE-15 IN	158.00	LF		$	
0500	00461		CULVERT PIPE-15 IN	21.00	LF		$	
0510	00462		CULVERT PIPE-18 IN	270.00	LF		$	
0520	00464		CULVERT PIPE-24 IN	20.00	LF		$	
0530	00468		CULVERT PIPE-36 IN	14.00	LF		$	
0540	00469		CULVERT PIPE-42 IN	60.00	LF		$	
0550	00496		CULVERT PIPE-36 IN EQUIV	23.00	LF		$	
0560	01310		REMOVE PIPE	277.00	LF		$	
0570	01544		DROP BOX INLET TYPE 11	2.00	EACH		$	
0580	01585		REMOVE DROP BOX INLET	1.00	EACH		$	
0590	01726		SAFETY BOX INLET-18 IN SDB-1	3.00	EACH		$	
0600	01727		SAFETY BOX INLET-24 IN SDB-1	1.00	EACH		$	
0610	02483		CHANNEL LINING CLASS II	1,030.00	TON		$	
0620	02625		REMOVE HEADWALL (EXIST BOX CULVERTS)	22.00	EACH		$	
0630	02625		REMOVE HEADWALL (EXIST CULVERT PIPE)	23.00	EACH		$	
0640	02731		REMOVE STRUCTURE (STRUCTURE & HEADWALLS AT STA 206+47)	1.00	LS		$	
0650	03262		CLEAN PIPE STRUCTURE	15.00	EACH		$	
0660	08002		STRUCTURE EXCAV-SOLID ROCK	130.00	CUYD		$	
0670	08003		FOUNDATION PREPARATION (RCBC AT STA 103+43)	1.00	LS		$	
0680	08003		FOUNDATION PREPARATION (RCBC AT STA 123+37)	1.00	LS		$	
0690	08003		FOUNDATION PREPARATION (RCBC AT STA 132+78)	1.00	LS		$	
0700	08003		FOUNDATION PREPARATION (RCBC AT STA 178+21)	1.00	LS		$	
0710	08003		FOUNDATION PREPARATION (RCBC AT STA 183+26)	1.00	LS		$	
0720	08003		FOUNDATION PREPARATION (RCBC AT STA 225+60)	1.00	LS		$	
0730	08003		FOUNDATION PREPARATION (RCBC AT STA 229+98)	1.00	LS		$	

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PROPOSAL BID ITEMS

Report Date 10/27/21

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0740	08003		FOUNDATION PREPARATION (RCBC AT STA 247+47)	1.00	LS		$	
0750	08003		FOUNDATION PREPARATION (RCBC AT STA 271+17)	1.00	LS		$	
0760	08003		FOUNDATION PREPARATION (RCBC AT STA 296+04)	1.00	LS		$	
0770	08003		FOUNDATION PREPARATION (RCBC AT STA 320+63)	1.00	LS		$	
0780	08100		CONCRETE-CLASS A	303.00	CUYD		$	
0790	08150		STEEL REINFORCEMENT	27,883.00	LB		$	
0800	22767ES710		DROP BOX INLET TY 6E	1.00	EACH		$	
0810	24395EC		SAFETY BOX INLET-15 IN SDB-1	1.00	EACH		$	
0820	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE-FOR 15 INCH PIPE)	1.00	EACH		$	
0830	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE-FOR 18 INCH PIPE)	6.00	EACH		$	
0840	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE-FOR 24 INCH PIPE)	1.00	EACH		$	
0850	24575ES610		HEADWALL (SLOPED & MITERED CONCRETE-FOR 36 INCH PIPE)	3.00	EACH		$	

Section: 0004 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0860	02562		TEMPORARY SIGNS	750.00	SQFT		$	
0870	06406		SBM ALUM SHEET SIGNS .080 IN	57.00	SQFT		$	
0880	06410		STEEL POST TYPE 1	81.00	LF		$	
0890	24631EC		BARCODE SIGN INVENTORY	17.00	EACH		$	

Section: 0005 - GUARDRAIL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0900	01987		DELINEATOR FOR GUARDRAIL BI DIRECTIONAL WHITE	38.00	EACH		$	
0910	02355		GUARDRAIL-STEEL W BEAM-S FACE A	100.00	LF		$	
0920	02360		GUARDRAIL TERMINAL SECTION NO 1	5.00	EACH		$	
0930	02367		GUARDRAIL END TREATMENT TYPE 1	5.00	EACH		$	
0940	02381		REMOVE GUARDRAIL	937.50	LF		$	
0950	08806		GUARDRAIL-BRIDGE CASE I-A	130.00	LF		$	
0960	08810		PRECAST CONC BRIDGE RAIL BLOCK	4.00	EACH		$	
0970	20191ED		OBJECT MARKER TY 3	5.00	EACH		$	
0980	21802EN		G/R STEEL W BEAM-S FACE (7 FT POST)	1,507.50	LF		$	

Section: 0006 - MOBILIZATION AND DEMOBILIZATION

PROPOSAL BID ITEMS

214215

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Report Date 10/27/21

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0990	**02568**		**MOBILIZATION**	**1.00**	**LS**		**$**	
1000	**02569**		**DEMOBILIZATION**	**1.00**	**LS**		**$**	