CALL NO. 116

CONTRACT ID. 194222

HARDIN COUNTY

FED/STATE PROJECT NUMBER HSIP 0311 (042)

DESCRIPTION N DIXIE HIGHWAY (US 31W)

WORK TYPE GRADE & DRAIN WITH ASPHALT SURFACE

PRIMARY COMPLETION DATE 7/1/2020

LETTING DATE: September 20,2019

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 AM EASTERN DAYLIGHT TIME September 20,2019. Bids will be publicly announced at 10:00 AM EASTERN DAYLIGHT TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DBE CERTIFICATION REQUIRED - 4.50%

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

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PART V BID ITEMS

PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 04

CONTRACT ID - 194222

HSIP 0311 (042)

COUNTY - HARDIN

PCN - 04047031W1901
HSIP 0311 (042)

N DIXIE HIGHWAY (US 31W) (MP 22.099) INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY AND CAPACITY ALONG US 31W FROM FIRST STREET TO KY 1500 (MP 26.251), A DISTANCE OF 04.15 MILES.GRADE & DRAIN WITH ASPHALT SURFACE SYP NO. 04-09008.40.

GEOGRAPHIC COORDINATES LATITUDE 37:47:32.79 LONGITUDE -85:54:49.76

COMPLETION DATE(S):

COMPLETED BY 07/01/2020 APPLIES TO ENTIRE PROJECT

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.

April 30, 2018

FEDERAL CONTRACT NOTES

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

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

CIVIL RIGHTS ACT OF 1964

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

NOTICE TO ALL BIDDERS

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

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

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

SECOND TIER SUBCONTRACTS

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

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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

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

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

DBE GOAL

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

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

OBLIGATION OF CONTRACTORS

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

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

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

CERTIFICATION OF CONTRACT GOAL

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

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

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

DBE PARTICIPATION PLAN

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

The DBE Participation Plan shall include the following:

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

b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc.;
c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;

4. Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
5. Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

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

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

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

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

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

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

1. Whether the bidder attended any pre-bid meetings that were scheduled by the Cabinet to inform DBEs of subcontracting opportunities;
2. Whether the bidder provided solicitations through all reasonable and available means;
3. Whether the bidder provided written notice to all DBEs listed in the DBE directory at the time of the letting who are prequalified in the areas of work that the bidder will be subcontracting;
4. Whether the bidder followed up initial solicitations of interest by contacting DBEs to determine with 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:

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

PROMPT PAYMENT

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

CONTRACTOR REPORTING

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

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

******* IMPORTANT *******

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

Office of Civil Rights and Small Business Development
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.

7/19/2019

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

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

SECTION 7 is expanded by the following new Article:

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

Pursuant to Title 46CFR Part 381, the Contractor agrees

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

NATIONAL HIGHWAY

Be advised this project is on the NATIONAL HIGHWAY SYSTEM.

PROJECT TRAFFIC COORDINATOR (PTC)

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

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.

FUEL AND ASPHALT PAY ADJUSTMENT

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

OPTION A

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

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 materials and conditions to be encountered during construction; the bidder must draw his/her own conclusions. The Department does not give any guarantee as to the accuracy of the data and no claim for money or time extension will be considered if the conditions encountered are not in accordance with the information shown.

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 the 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.

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 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, ad 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:

Construction of a J-Turn Intersection. The intent of this project is to construct 3 J-Turn Intersections at the intersections of US 31W @ KY 220, KY 434, and Blackjack Road. This will be accomplished by constructing a Standard Barrier Median in the middle of the US 31W @ KY 220, KY 434, and Blackjack Road intersections. Turn lanes and U-Turn crossovers will be located a short distance upstream and downstream from the main US 31W @ KY 220, KY 434, and Blackjack Road intersections. Loons will be located along the slow lanes shoulders of US 31W at the southern U-Turn Crossover @ KY 220 and the southern and northern U-turn Crossovers @ KY 434.

General Notes & Description of Work
Page 2 of 2

Standard Barrier Median. Standard Barrier Median has been designed to prevent the thru and left turning movements from KY 220, KY 434, and Blackjack Road onto US 31W, but still allow left turning movements from US 31W onto KY 220, KY 434, and Blackjack Road. Details within the Proposal show the design and layout for the Standard Barrier Median.

Turn Lanes and U-Turn Crossovers. Since the thru and left turning movements from KY 220, KY 434 and Blackjack Road onto US 31W are being prohibited in this design, Left Turn Lanes and U-Turns are being provided a short distance from the main intersections of US 31W @ KY 220, KY 434 and Blackjack Road. Details within the Proposal show the design and layout for the Turn Lanes and U-Turn Crossovers.

Loons. To accommodate vehicles that require a large turning radius at the U-Turns, Loons are to be constructed along US 31W at the southern U-Turn Crossover @ KY 220 and the southern and northern U-turn Crossovers @ KY 434. Details within the Proposal show the design and layout for the Loons.

Remove Signals. This work will include removal of poles, equipment, and concrete bases. Concrete bases to be removed to 12 inches below existing ground line; stop signals at KY 434 intersection and northbound warning flashers. Deliver removed signal heads, cabinets, and warning flashers to:

310 Valley Road
Elizabethtown, KY 42701

Before Delivering, contact Jake Riggs:
(270) 401-8132

Remove Guardrail. Removed guardrail to be delivered to Bailey Bridge Yard.

Drainage. To accommodate the new turn lanes and U-Turns, the existing drainage along US 31W must be modified. Refer to the plans and cross sections within the Proposal for the pipe construction, pipe extension, proposed drainage structures, and ditch construction details.

Striping & Pavement Markings. Install the proposed Striping and Pavement Markings, as detailed on the Striping Plan. See Special Note for Spray Applied Thermo.

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. 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.
3. Using paint marks on the pavement, and/or any other means approved by the Engineer, the Contractor shall layout and pre-mark the proposed barrier median. 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 Engineer and/or District Traffic Engineer prior to installing the barrier median.
4. 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 Engineer and/or District Traffic Engineer prior to installing the striping and/or pavement markings.
5. Produce and furnish to the Engineer "As Built" information for the drainage improvements. The 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.
6. Prior to incorporating into the work, obtain the Engineers approval of all revisions determined by the Contractor.
7. Perform any and all other staking operations required to control and construct the work.

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 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 in the Proposal. 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 under the roadway with flowable fill for the width of the roadway. Steel plates may 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. 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. 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.

K. 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.

L. 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 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. As required by the manufacturer, ensure the spray bar is equipped with #1 or #2 ¼" V-slot Etnyre nozzles. Other nozzles are not acceptable. Arrange the nozzles in the following patterns from left to right:

Nozzle number(s)	Activity	Orientation
1	On	Vertical
2	Off	-
3	On	Horizontal
4 & 5	Off	-
6	On	Horizontal
Continue 2 off and 1 on pattern through rest of spray bar system.		

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 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. Ensure the roadway temperature is a minimum of 40 ˚F and rising during the application of the tack. This material is not suitable for use in colder temperatures. Prior to applying the tack, 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 initial heating to 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 rate of 0.50 pounds (0.06 gallons) per square yard. Ensure full coverage of the material on the pavement surface. Full coverage of this material is critical. If full coverage is not achieved, material application rate may be increased to ensure full coverage. Do not heat material more than twice in one day.

3.3 Non-tracking Tack Certification. Furnish the tacks 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 adhesive. 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. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100 percent.

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

April 30, 2018

SPECIAL NOTE FOR SPRAY APPLIED THERMOPLASTIC PAVEMENT MARKING MATERIALS

I. DESCRIPTION

Except as provided herein, all work shall be performed in accordance with the Department's Standard Specifications, Interim Supplemental Specifications, applicable Standard and Sepia Drawings, applicable Special Provisions and Special Notes, 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) Spray applied thermoplastic pavement marking materials with reflectorized glass beads for permanent applications

II. MATERIALS

A. DROP ON BEADS. Use beads that will ensure the pavement marking material will meet retroreflectivity requirements. The Department will evaluate the beads as part of the marking system through retroreflectivity readings.

B. APPROVAL. Select materials that conform to the composition and physical characteristic requirements below when evaluated in accordance with AASHTO T-250 or other test methods as cited. The Department will sample and evaluate for approval each lot of thermoplastic material delivered for use per contract prior to installation of the thermoplastic material. Do not allow the installation of thermoplastic material until it has been approved by the Division of Materials. Allow the Department a minimum of 10 working days to evaluate and approve thermoplastic material from the date sampled.

C. Composition. Use a maleic-modified glycerol ester resin (alkyd binder) to formulate the thermoplastic material. Ensure the pigment, pre-mix beads, and filler are uniformly dispersed in the resin. Use material that is free from all dirt and foreign material. Provide independent analysis data and certification for each formulation stating the total concentration of each heavy metal present, the test method used for each determination, and compliance to 40 CFR 261 for leachable heavy metals content.

COMPOSITION
(Percentage by Weight)

Component	White	Yellow
Binder, [(1)]	26.0 min.	26.0 min.
Glass Beads (Premixed)	30 - 40	30 - 40
Titanium Dioxide (Rutile, Type II)	10.0 min.	—
Calcium Carbonate & Inert Fillers [(2)]	42.0 max.	50.0 max.
Heavy Metals Content	Comply with 40 CFR 261	Comply with 40 CFR 261

[(1)]Use a binder that consists of a mixture of synthetic resins, at least one being solid at room temperature, and high boiling point plasticizers. Ensure that at least one-third of the binder composition is solid maleic-modified glycerol ester resin and is not less than 8 percent by weight of the entire material formulation. Do not use alkyd binder that contains petroleum based hydrocarbon resins.

[(2)]The manufacturer may choose the amount of calcium carbonate and inert fillers, providing all other requirements of this section are met.

D. Physical Characteristics. For thermoplastic material heated for 4 hours at 425ºF under agitation, conform to the following requirements.

a) Color. As determined with a spectrophotometer using D65 illuminant with a 45 degree entrance angle and 0 degree observation angle geometry.

CIELAB Color Coordinates		
	Yellow	White
Daytime Color (CIELAB) Spectrophotometer using illuminant D65 at 45º illumination and 0º viewing with a 2º observer	L* 81.76 a* 19.79 b* 89.89 Maximum allowable variation 6.0ΔE*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 6.0ΔE*
Nighttime Color (CIELAB) Spectrophotometer using illuminant A at 45º illumination and 0º viewing with a 2º observer	L* 86.90 a* 24.80 b* 95.45 Maximum allowable variation 6.0ΔE*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 6.0ΔE*

b) Set Time. Use material that, when applied at a temperature range of 375 ± 25 ºF and thickness of 60 ± 10 mils, sets to bear traffic in not more than 2 minutes when the air and road surface temperature is approximately ≥ 50 ± 3 ºF, and not more than 10 minutes when the air and road surface temperature is approximately < 50 ± 3 ºF.

c) Softening Point. Ensure that the thermoplastic material has a softening point of 180 ± 15 ºF.

d) Bond Strength. Ensure that the bond strength of the thermoplastic material to concrete exceeds 180 psi.

e) Cracking Resistance at Low Temperature. Ensure that the thermoplastic material shows no cracks when observed from a distance exceeding one foot.

f) Impact Resistance. Ensure the impact resistance of the thermoplastic material is a minimum of 50 inch-pounds.

g) Flash Point. Use thermoplastic material that has a flash point not less than 475 °F.

E. PACKAGING. Package thermoplastic material in suitable 50 pound containers to which the material shall not adhere during shipment or storage. Include a label stating that the thermoplastic material is to be maintained with a temperature range of 350 – 400ºF during application. Provide the thermoplastic material in granular form.

F. SHELF LIFE. Ensure that the thermoplastic material conforms to this section for a period of one year. Replace any thermoplastic material not conforming to the above requirements.

G. MANUFACTURER'S TESTING. Perform testing in accordance with AASHTO T-250 on a minimum of one composite sample per 10,000 pounds, or portion thereof, per lot of thermoplastic produced.

H. CERTIFICATION. Submit manufacturer's certification stating conformance to the requirements of this section for each lot of extruded thermoplastic delivered for use on projects. Clearly state the manufacture, formulation identification, product name, color, date of manufacturer, total quantity of lot produced, actual quantity of thermoplastic material represented, sampling method utilized to obtain the samples, and required manufacturer's testing data for each composite sample tested to represent each lot produced.

III. CONSTRUCTION METHODS

A. SURFACE PREPARATION. The contractor will be required to sweep all pavement surfaces prior to striping and maintain the cleaning operation far enough in advance of the striping operation to prevent any dust from the cleaning operation from mixing with the paint. The sweeper must maintain contact with the roadway. When the Engineer determines abnormal amounts of debris or other material have accumulated beyond the capability of the required sweeping unit which will require shoveling or other means to remove, the Engineer will make arrangements, prior to painting, to have the material removed by the Department.

B. INSTALLATION. Install thermoplastic materials in accordance with Section 714, Durable Pavement Striping, and the following exceptions:

- Install the thermoplastic materials at a minimum thickness of 60 mils.
- Ensure the material temperature is maintained between 350 and 400°F.
- Do not allow the material temperature to exceed 400°F.
- Removal of existing stripe on asphalt surfaces is not required.

C. RETROREFLECTIVITY. The Department will evaluate installed markings in accordance with Section 714.03.06, Proving Period for Durable Markings.

IV. METHOD OF MEASUREMENT

A. ACCEPTANCE AND PAYMENT. The Department will accept spray applied thermoplastic materials based on compliance of the manufacturer's certification and conformance of test results obtained by the Department to the requirements of this special note.

Contrary to Section 714.03.08, Acceptance of Non-Specification Thermoplastic Markings, the Department will not accept non-specification compliant markings. Remove non-specification compliant markings by water blasting. The Department will perform random thickness tests on applied markings to determine compliance to thickness requirements

IV. BASIS OF PAYMENT

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

Code	Pay Item	Pay Unit
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF

The Department will consider payment as full compensation for furnishing all labor, materials, equipment, and incidentals required to construct spray applied thermoplastic pavement markings.

SPECIAL NOTES FOR COMPLETION DATES & LIQUIDATED DAMAGES

The ultimate fixed completion date for this project will be July 1, 2020. Liquidated Damages for failure to complete the project on time will be assessed following Section 108.09.

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

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

SPECIAL NOTE FOR SIDEWALK RAMPS & DETECTABLE WARNINGS

GENERAL

Unless otherwise stated in the contract, or as directed by or with prior approval from the Engineer, construct Sidewalk Ramps and Detectable Warnings in accordance with Sections 505 and 720; Supplemental Specifications; Standard Drawings RGX-040-03, RPM-150-08, RPM-152-08, RPM-170-09, and RPM-172-07; current editions, as applicable. In lieu of the Detectable Warnings shown on Standard Drawing RGX-040-03, the Department will also allow the use of any Detectable Warnings listed as Phase XI on the Kentucky Product Evaluation List (http://www.ktc.uky.edu/kytc/kypel/allevaluations.php). For Detectable Warnings as shown on Standard Drawing RGX-040-03, saw cut existing sidewalks, curb and gutter, and pavement, if present, as shown on the detail and reconstruct sidewalk ramps with detectable warnings as directed or approved by the Engineer. For Detectable Warnings from the Kentucky Product Evaluation List, install according to the manufacturer's recommendations. Unless specified otherwise in the Contract, construct sidewalk with 4" nominal minimum required thickness; however, if the existing sidewalk thickness is found to be greater or less than the thickness specified, transition the thickness as directed by the Engineer.

Except as required by the work, do not disturb drainage pipe, catch basins, and other roadway features, appurtenances and installations. Restore any roadway features, appurtenances, and installations damaged by the work in like kind materials and design at no additional cost to the Department. Dispose of all waste off the right of way at sites obtained by the Contractor at no additional cost to the Department (see Special Note for Waste and Borrow).

MEASUREMENT & PAYMENT

SIDEWALK RAMPS – The Department will measure Sidewalk Ramps in accordance with Section 505.04.01 and Standard Drawing RPM-170-09, current editions; however, contrary to Sections 505.04.05 and 505.04.06, the Department will not measure Roadway Excavation or Embankment in Place, but shall be incidental to the Sidewalk. Accept payment at the Contract unit price per square yard as full compensation for all labor, materials, equipment, and incidentals required for removal and disposal of existing sidewalk and curb and gutter, excavation and embankment, construction of the sidewalk ramps, reconstruction of the adjacent curb and/or sidewalk as necessary to install the sidewalk ramps, and restoration of disturbed features in accordance with these notes or as directed by the Engineer.

DETECTABLE WARNINGS – The Department will measure Detectable Warnings in accordance with Section 505.04.04 and Standard Drawings RGX-040-03 and RPM-170-09, current editions. The Department will make payment according to Section 505.05.

HANDRAIL – The Department will measure and make payment for Handrail in accordance with Section 720.05 and Standard Drawing RPM-172-07, current editions.

TRAFFIC CONTROL PLAN
HARDIN COUNTY
US 31W INTERSECTION IMPROVEMENTS
ITEM No. 4-9008.40

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, 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.

TRAFFIC MANAGEMENT PLAN

Due to the combined high volume of traffic and anticipated length of time for construction, a Transportation Management Plan (TMP) must be developed and submitted for review and approval at least one week prior to the beginning of any construction activity. This plan will include a Temporary Traffic Control Plan (TTCP). The TTCP should include but not be limited to maintenance of traffic procedures and signage, flagging and traffic control personnel and equipment, construction equipment to be used on and around the roadway, passage or restriction of wide loads, and safety of traffic and construction personnel.

PROJECT PHASING & CONSTRUCTION PROCEDURES

US31W @ Blackjack Road

Before closing the intersection to construct the median barrier and associated drainage, the north and south U-turn lane and U-turn must be constructed and open to traffic.

US31W @ KY434

Before closing the intersection to construct the median barrier and associated drainage, the north and south U-turn lane, U-turn, and "loons" must be constructed and open to traffic.

US31W @ KY220

1. Construct the south loon and associated entrance and drainage.
2. Construct the north and south U-Turn Lane and U-Turn.
3. Construct southbound right turn lane.
4. Close intersection and construct median barrier and associated drainage.
5. Complete permanent striping.

Before closing the intersection to construct the median barrier and associated drainage, the north and south U-turn lane, U-turn, and south "loon" must be constructed and open to traffic.

At least one lane of traffic must be maintained at all times.

No through lane closures will be allowed during the following days:

Holidays and Special Events	
Easter Weekend	Friday, April 10, 2020 – Sunday, April 12, 2020
Memorial Day Weekend	Friday, May 22, 2020 – Monday, May 25, 2020
Independence Day Weekend	Wednesday, July 3, 2020 – Sunday, July 5, 2020
Labor Day Weekend	Friday, August 30, 2019 – Monday, September 2, 2019
Thanksgiving	Wednesday, November 27, 2019 – Sunday, December 1, 2019
Christmas / New Year's	Friday, December 20, 2019 – Thursday, January 2, 2020

At the discretion of the Engineer, additional days and hours may be specified when lane closures will not be allowed due to unforeseen events.

LANES CLOSURES

US 31W Through-Lanes

The Contractor shall maintain one lane of travel in each direction. When maintaining one-lane of traffic in each direction provide a minimum clear lane width of 10 feet; however, provide for the passage of vehicles of up to 16 feet in width. During working hours and with approval of the Engineer, the Contractor may combine through-lane closures with left turn lane closures at intersections, provided adequate signing and flag persons are in place.

North and South U-Turn Lane and U-Turn

For the U-Turn Lanes and U-Turns north and south of the intersections, the median or left turn lane may be continuously closed.

Left Turn and Median at the Intersection

For the intersection work, the median or left turn lane may be continuously closed. Signal phasing and signal head location shall be coordinated with the Engineer and the District Traffic Engineer before those lane closures are allowed.

Approaches and Side Roads

Two-lane approaches and side roads may be reduced to one lane during working hours provided adequate signing and flaggers are in place, and with prior approval from the Engineer. Where signalized, coordination with the Engineer and District Traffic Engineer shall be done prior to any lane closures. Consideration shall also be given to mainline lane closures and pedestrian traffic when traffic patterns at approaches and side roads are altered.

Additional Lane Closure and Traffic Impact Restrictions

If traffic should be stopped due to construction operations, and a school bus or emergency vehicle on an official run arrives on the scene, make provisions for the passage of the school bus or emergency vehicle as quickly as possible.

Contrary to Section 112.04.17, lane closures, whether long term or short term, will not be measured for payment and will be incidental to the bid item "Maintain and Control Traffic".

TEMPORARY SIGNS

The Engineer and the Contractor, or their authorized representative, shall review the signing before traffic is allowed to use any lane closures, crossovers, or detours. All signing shall be approved by the Engineer before work can be started by the Contractor.

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.

In general, all traffic control devices shall be placed starting and proceeding in the direction of the flow of traffic, and removed starting and proceeding in the direction opposite the flow of traffic.

The Contractor shall completely cover any signs, existing, permanent, or temporary, which do not properly apply to the current traffic phasing, and shall maintain the covering until signs are applicable or are removed.

PORTABLE CHANGEABLE MESSAGE SIGNS

Provide changeable message signs at locations determined by the Engineer. The Engineer may vary the designated locations as the work progresses. The Engineer will determine the messages to be displayed. In the event of damage or mechanical/electrical failure, repair or replace the Changeable Message Sign within 24 hours. The Department will measure for payment the maximum number of Changeable Message Signs in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Changeable Message Signs 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 for payment any replacements for damaged Changeable Message Signs or any changeable message signs the Engineer directs to be replaced due to poor condition or readability. Retain possession of the Changeable Message Signs upon completion of the work.

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 for road closures and 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 for payment any replacements for damaged barricades, or any barricades the Engineer directs to be replaced due to poor condition or reflectivity. Retain possession of the Barricades upon completion of construction.

TEMPORARY ENTRANCES

The Engineer will not require the Contractor to provide continuous access to farms, single family, duplex, or triplex residential properties during working hours. However reasonable egress and ingress must be provided to each such property when actual operations are not in progress at that location. Limit the time during which a residential or farm entrance is blocked to the minimum length of time required for actual operations. Do not extend the time for the Contractor's convenience, and in no case will the blockage be allowed to exceed six (6) hours. Notify all residents twenty-four hours in advance of any driveway or entrance closings and make any accommodations necessary to meet the access needs of elderly or disabled residents.

Except where allowed by the Engineer, maintain direct access to all side roads and streets, schools, churches, commercial properties, and apartments or apartment complexes of four or more units at all times.

The Department will measure asphalt materials required to construct and maintain any temporary entrances which may be needed to provide access. However the Department will not measure aggregates, excavation and/or embankment; these items shall be incidental to the bid item Maintain and Control Traffic. The Engineer will determine the type of surfacing material to be used at each entrance.

PAVEMENT MARKINGS

Removal of Existing Permanent Markings

Markings shall be removed by either an abrasive or burning process to the satisfaction of the Engineer. If the abrasive method is used, the area affected is to be coated with black (or more precisely a color similar to that of the adjacent pavement surface) traffic paint. Painting of existing markings with bituminous or other materials to obliterate the markings shall not be allowed.

Temporary and Permanent Striping and Markings

If there is to be a deviation from the striping plan, the Engineer will furnish the Contractor with an updated plan. Place temporary and permanent striping in accordance with Section 112 with the following exceptions:

- Place temporary or permanent traffic striping before opening a lane to traffic.
- If the Contractor's operations or phasing requires temporary markings that must subsequently be removed, use an approved removable lane tape; however, the Department will not measure removable lane tape for separate payment, and any use should be included in the lump sum bid item for Maintain and Control Traffic.

ARROW PANELS

Use arrow panels as shown on the Standard Drawings or as directed by the Engineer. The Department will measure for payment the maximum number of arrow panels in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual arrow panels only once for payment, regardless of how many times they are set, reset, removed, and/or relocated during the duration of the project. The Department will not measure for payment any replacements for damaged arrow panels or for arrow panels the Engineer directs to be replaced due to poor condition or readability. The Contractor will retain possession of the arrow panels upon completion of the work.

PAVEMENT EDGE DROP-OFFS

Do not allow a pavement edge between opposing directions of traffic or lanes that is expected to cross in a lane change situation with an elevation difference greater than 1 ½". Place Warning signs (MUTCD W8-11 or W8-9A) in advance of and at 1500' intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge all transverse transitions between resurfaced and unsurfaced 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" – Not protection required. Warning signs should be placed in advance and throughout the drop-off area.
- 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.

COORDINATION OF WORK

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

USE AND PLACEMENT OF CHANGEABLE MESSAGE SIGNS

The following policy is based upon current Changeable Message Signs (CMS) standards and practice from many sources, including the Federal Highway Administration (FHWA), other State Departments of Transportation, and Traffic Safety Associations. It is understood that each CMS installation or use requires individual consideration due to the specific location or purpose. However, there will be elements that are constant in nearly all applications. Accordingly these recommended guidelines bring a level of uniformity, while still being open to regional experience and engineering judgment.

Application

The primary purpose of CMS is to advise the driver of unexpected traffic and routing situations. Examples of applications where CMS can be effective include:

- Closures (road, lane, bridge, ramp, shoulder, interstate)
- Changes in alignment or surface conditions
- Significant delays, congestion
- Construction/maintenance activities (delays, future activities)
- Detours/alternative routes
- Special events with traffic and safety implications
- Crash/incidents
- Vehicle restrictions (width, height, weight, flammable)
- Advance notice of new traffic control devices
- Real-time traffic conditions (must be kept up to date)
- Weather /driving conditions, environmental conditions, Roadway Weather Information Systems
- Emergency Situations
- Referral to Highway Advisory Radio (if available)
- Messages as approved by the County Engineer's Office

CMS should not be used for:

- Replacement of static signs (e.g. road work ahead), regulatory signage (e.g. speed limits), pavement markings, standard traffic control devices, conventional warning or guide signs.
- Replacement of lighted arrow board
- Advertising (Don't advertise the event unless clarifying "action" to be taken by driver – e.g. Speedway traffic next exit)
- Generic messages
- Test messages (portable signs only)
- Describe recurrent congestion (e.g. rush hour)
- Public service announcements (not traffic related)

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Messages

Basic principles that are important to providing proper messages and insuring the proper operation of a CMS are:

- Visible for at least ½ mile under ideal daytime and nighttime conditions
- Legible from all lanes a minimum of 650 feet
- Entire message readable twice while traveling at the posted speed
- No more than two message panels should be used (three panels may be used on roadways where vehicles are traveling less than 45 mph). A panel is the message that fits on the face of the sign without flipping or scrolling.
- Each panel should convey a single thought; short and concise
- Do not use two unrelated panels on a sign
- Do not use the sign for two unrelated messages
- Should not scroll text horizontally or vertically
- Should not contain both the words left and right
- Use standardized abbreviations and messages
- Should be accurate and timely
- Avoid filler/unnecessary words and periods (hazardous, a, an, the)
- Avoid use of speed limits
- Use words (not numbers) for dates

Placement

Placement of the CMS is important to insure that the sign is visible to the driver and provides ample time to take any necessary action. Some of the following principles may only be applicable to controlled access roadways. The basic principles of placement for a CMS are:

- When 2 signs are needed, place on same side of roadway and at least 1,000 feet apart
- Place behind semi-rigid/rigid protection (guardrail, barrier) or outside of the clear zone
- Place 1,000 feet in advance of work zone; at least one mile ahead of decision point
- Normally place on right side of roadway; but should be placed closest to the affected lane so that either side is acceptable
- Signs should not be dual mounted (one on each side of roadway facing same direction)
- Point trailer hitch downstream
- Secure to immovable object to prevent theft (if necessary)
- Do not place in sags or just beyond crest
- Check for reflection of sun to prevent the blinding of motorist
- Should be turned ~3 degrees outward from perpendicular to the edge of pavement
- Bottom of sign should be 7 feet above the elevation of edge of roadway
- Should be removed when not in use

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Standard Abbreviations

The following is a list of standard abbreviations to be used on CMS:

Word	Abbrev	Example
Access	ACCS	ACCIDENT AHEAD/ USE ACCS RD NEXT RIGHT
Alternate	ALT	ACCIDENT AHEAD/ USE ALT RTE NEXT RIGHT
Avenue	AVE	FIFTH AVE CLOSED/ DETOUR NEXT LEFT
Blocked	BLKD	FIFTH AVE BLKD/ MERGE LEFT
Boulevard	BLVD	MAIN BLVD CLOSED/ USE ALT RTE
Bridge	BRDG	SMITH BRDG CLOSED/ USE ALT RTE
Cardinal Directions	N, S, E, W	N I75 CLOSED/ DETOUR EXIT 30
Center	CNTR	CNTR LANE CLOSED/ MERGE LEFT
Commercial	COMM	OVRSZ COMM VEH/ USE I275
Condition	COND	ICY COND POSSIBLE
Congested	CONG	HVY CONG NEXT 3 MI
Construction	CONST	CONST WORK AHEAD/ EXPECT DELAYS
Downtown	DWNTN	DWNTN TRAF USE EX 40
Eastbound	E-BND	E-BND I64 CLOSED/ DETOUR EXIT 20
Emergency	EMER	EMER VEH AHEAD/ PREPARE TO STOP
Entrance, Enter	EX, EXT	DWNTN TRAF USE EX 40
Expressway	EXPWY	WTRSN EXPWY CLOSED/ DETOUR EXIT 10
Freeway	FRWY, FWY	GN SYNDR FWY CLOSED/ DETOUR EXIT 15
Hazardous Materials	HAZMAT	HAZMAT IN ROADWAY/ ALL TRAF EXIT 25
Highway	HWY	ACCIDENT ON AA HWY/ EXPECT DELAYS
Hour	HR	ACCIDENT ON AA HWY/ 2 HR DELAY
Information	INFO	TRAF INFO TUNE TO 1240 AM
Interstate	I	E-BND I64 CLOSED/ DETOUR EXIT 20
Lane	LN	LN CLOSED MERGE LEFT
Left	LFT	LANE CLOSED MERGE LFT
Local	LOC	LOC TRAF USE ALT RTE
Maintenance	MAINT	MAINT WRK ON BRDG/ SLOW
Major	MAJ	MAJ DELAYS I75/ USE ALT RTE
Mile	MI	ACCIDENT 3 MI AHEAD/ USE ALT RTE
Minor	MNR	ACCIDENT 3 MI MNR DELAY
Minutes	MIN	ACCIDENT 3 MI/ 30 MIN DELAY
Northbound	N-BND	N-BND I75 CLOSED/ DETOUR EXIT 50
Oversized	OVRSZ	OVRSZ COMM VEH/ USE I275 NEXT RIGHT
Parking	PKING	EVENT PKING NEXT RGT
Parkway	PKWY	CUM PKWAY TRAF/ DETOUR EXIT 60
Prepare	PREP	ACCIDENT 3 MI/ PREP TO STOP
Right	RGT	EVENT PKING NEXT RGT
Road	RD	HAZMAT IN RD/ ALL TRAF EXIT 25
Roadwork	RDWK	RDWK NEXT 4 MI/ POSSIBLE DELAYS
Route	RTE	MAJ DELAYS I75/ USE ALT RTE
Shoulder	SHLDR	SHLDR CLOSED NEXT 5 MI
Slippery	SLIP	SLIP COND POSSIBLE/ SLOW SPD
Southbound	S-BND	S-BND I75 CLOSED/ DETOUR EXIT 50
Speed	SPD	SLIP COND POSSIBLE/ SLOW SPD

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Standard Abbreviations (cont)

Word	Abbrev	Example
Street	ST	MAIN ST CLOSED/ USE ALT RTE
Traffic	TRAF	CUM PKWAY TRAF/ DETOUR EXIT 60
Vehicle	VEH	OVRSZ COMM VEH/ USE I275 NEXT RIGHT
Westbound	W-BND	W-BND I64 CLOSED/ DETOUR EXIT 50
Work	WRK	CONST WRK 2MI/ POSSIBLE DELAYS

Certain abbreviations are prone to inviting confusion because another word is abbreviated or could be abbreviated in the same way. DO NO USE THESE ABBREVIATIONS:

Abbrev	Intended Word	Word Erroneously Given
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (merge)
LOC	Local	Location
LT	Light (traffic)	Left
PARK	Parking	Park
POLL	Pollution (index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
TEMP	Temporary	Temperature
WRNG	Warning	Wrong

Typical Messages

The following is a list of typical messages used on CMS. The list consists of the reason or problem that you want the driver to be aware of and the action that you want the driver to take.

Reason/Problem	Action
ACCIDENT	ALL TRAFFIC EXIT RT
ACCIDENT/XX MILES	AVOID DELAY USE XX
XX ROAD CLOSED	CONSIDER ALT ROUTE
XX EXIT CLOSED	DETOUR
BRIDGE CLOSED	DETOUR XX MILES
BRIDGE/(SLIPPERY, ICE, ETC.)	DO NOT PASS
CENTER/LANE/CLOSED	EXPECT DELAYS
DELAY(S), MAJOR/DELAYS	FOLLOW ALT ROUTE
DEBRIS AHEAD	KEEP LEFT
DENSE FOG	KEEP RIGHT
DISABLED/VEHICLE	MERGE XX MILES
EMER/VEHICLES/ONLY	MERGE LEFT
EVENT PARKING	MERGE RIGHT
EXIT XX CLOSED	ONE-WAY TRAFFIC
FLAGGER XX MILES	PASS TO LEFT
FOG XX MILES	PASS TO RIGHT

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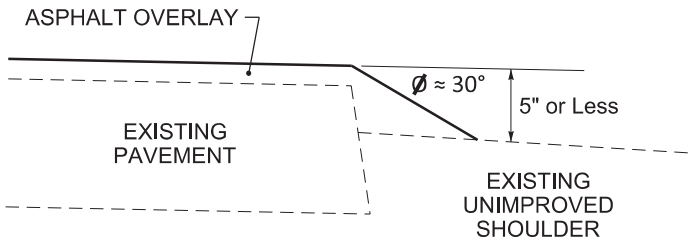
Typical Messages (cont)

Reason/Problem	Action
FREEWAY CLOSED	PREPARE TO STOP
FRESH OIL	REDUCE SPEED
HAZMAT SPILL	SLOW
ICE	SLOW DOWN
INCIDENT AHEAD	STAY IN LANE
LANES (NARROW, SHIFT, MERGE, ETC.)	STOP AHEAD
LEFT LANE CLOSED	STOP XX MILES
LEFT LANE NARROWS	TUNE RADIO 1610 AM
LEFT 2 LANES CLOSED	USE NN ROAD
LEFT SHOULDER CLOSED	USE CENTER LANE
LOOSE GRAVEL	USE DETOUR ROUTE
MEDIAN WORK XX MILES	USE LEFT TURN LANE
MOVING WORK ZONE, WORKERS IN ROADWAY	USE NEXT EXIT
NEXT EXIT CLOSED	USE RIGHT LANE
NO OVERSIZED LOADS	WATCH FOR FLAGGER
NO PASSING	
NO SHOULDER	
ONE LANE BRIDGE	
PEOPLE CROSSING	
RAMP CLOSED	
RAMP (SLIPPERY, ICE, ETC.)	
RIGHT LANE CLOSED	
RIGHT LANE NARROWS	
RIGHT SHOULDER CLOSED	
ROAD CLOSED	
ROAD CLOSED XX MILES	
ROAD (SLIPPERY, ICE, ETC.)	
ROAD WORK	
ROAD WORK (OR CONSTRUCTION) (TONIGHT, TODAY, TOMORROW, DATE)	
ROAD WORK XX MILES	
SHOULDER (SLIPPERY, ICE, SOFT, BLOCKED, ETC.)	
NEW SIGNAL XX MILES	
SLOW 1 (OR 2) - WAY TRAFFIC	
SOFT SHOULDER	
STALLED VEHICLES AHEAD	
TRAFFIC BACKUP	
TRAFFIC SLOWS	
TRUCK CROSSING	
TRUCKS ENTERING	
TOW TRUCK AHEAD	
UNEVEN LANES	
WATER ON ROAD	
WET PAINT	
WORK ZONE XX MILES	
WORKERS AHEAD	

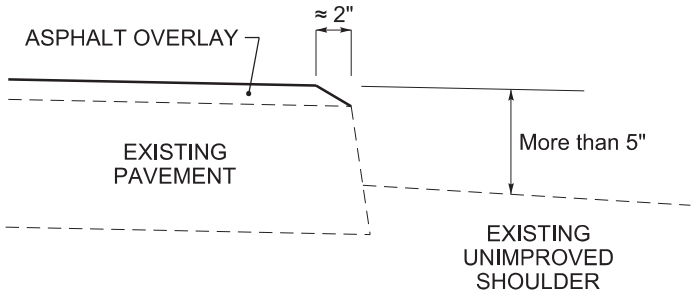
DURABLE PAVEMENT EDGE DETAIL

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



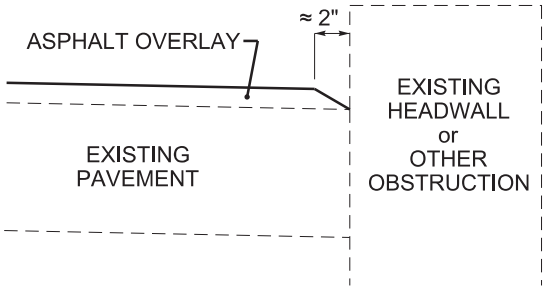
DURABLE PAVEMENT EDGE DETAIL

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



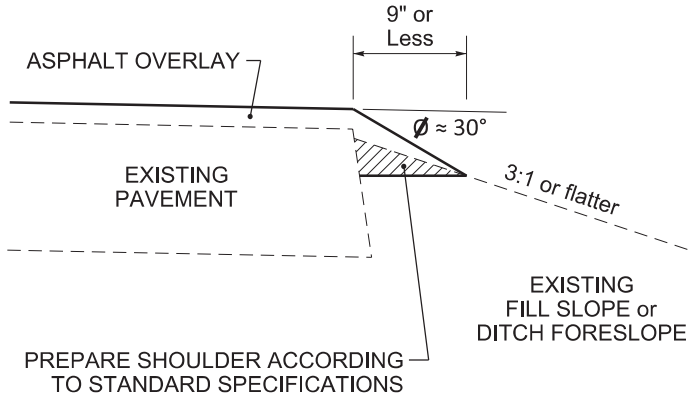
DURABLE PAVEMENT EDGE DETAIL

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



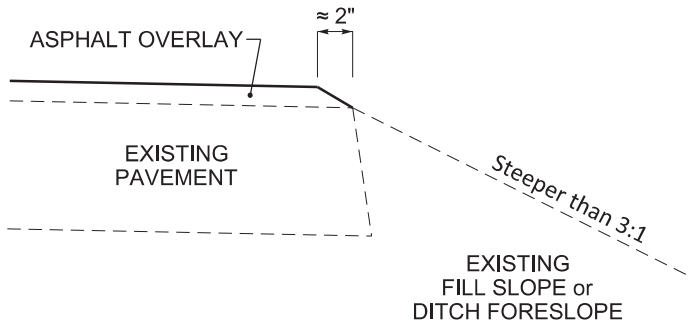
DURABLE PAVEMENT EDGE DETAIL

(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)
04-9008.4	Hardin	FD52 C047 93791 01R	HSIP 0311 040

PROJECT DESCRIPTION

INTERSECTION AND CORRIDOR IMPROVEMENTS TO REDUCE CONFLICT POINTS AND ENHANCE SAFETY & CAPACITY ALONG US 31W FROM FIRST ST TO KY 1500. (2016BOP)

☐ **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.

Total Number of Parcels on Project	1	EXCEPTION (S) Parcel #	ANTICIPATED DATE OF POSSESSION WITH EXPLANATION
Number of Parcels That Have Been Acquired			
Signed Deed	1		
Condemnation			
Signed ROE			

Notes/ Comments (Use Additional Sheet if necessary)

LPA RW Project Manager		Right of Way Supervisor	
Printed Name		Printed Name	Michael H. Price
Signature		Signature	Michael H. Price 2019.04.02 10:56:00 -04'00'
Date		Date	04/02/2019
Right of Way Director		**FHWA**	
Printed Name		Printed Name	No Signature Required as per FHWA-KYTC Current Stewardship Agreement
Signature	Kelly R. Ems 2019.04.03 09:21:45 -05'00'	Signature	
Date		Date	

UTILITIES AND RAIL CERTIFICATION NOTE

Hardin County – HSIP 0311 (042)
FD52 047 031W 018-027
Item No. 4-9008.40

GENERAL PROJECT NOTE ON UTILITY PROTECTION

Utility coordination efforts 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.

NOTE: DO NOT DISTURB THE FOLLOWING UTILITIES LOCATED WITHIN THE PROJECT DISTURB LIMITS

The following utility facilities are present and are not to be disturbed during construction activities.

- **Utility Pole**
  All Utility Poles, including those located at US 31W Sta. 1184+46 (84.34 RT), Sta. 1276+34 (88.10 LT), Sta. 1369+13 (62.96 RT), Sta. 1372+17 (75.02 RT).
- **Various Water Mains**
  Various water mains located on both left and right sides throughout the project limits.
- **Various Gas Mains**
  Various gas mains located on both left and right sides throughout the project limits.
- **Overhead Electric / Telephone**
  Overhead electric/telephone is located on both left and right sides throughout project limits.
- **Windstream Underground Telephone Line**
  Station 1183+00 RT to 1186+00 RT of the KY 220 intersection.
- **AT&T** has an underground line from Station 1273+50 RT to 1276+00 RT located at 3.5’ depth.

The Contractor is fully responsible for protection of all utilities listed above

THE FOLLOWING COMPANIES ARE RELOCATING/ADJUSTING THEIR UTILITIES WITHIN THE PROJECT LIMITS AND WILL BE COMPLETE PRIOR TO CONSTRUCTION

N/A

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE COMPANY OR THE COMPANY’S SUBCONTRACTOR AND IS TO BE COORDINATED WITH THE ROAD CONTRACT

- **Hardin County Water District #2**
  Has waterline relocation work from Station 1181+00 to 1190+00 at the KY 220 intersection.
  Has waterline relocation work from Station 1256+00 RT to 1265+00 RT at the KY 434 intersection.
  Waterline relocation work will be completed by December 1, 2019.
- **LG&E**
  Has gasline relocation work at the Blackjack intersection and will be complete by December 1, 2019.

UTILITIES AND RAIL CERTIFICATION NOTE

Hardin County – HSIP 0311 (042)
FD52 047 031W 018-027
Item No. 4-9008.40

THE FOLLOWING COMPANIES HAVE FACILITIES TO BE RELOCATED/ADJUSTED BY THE ROAD CONTRACTOR AS INCLUDED IN THIS CONTRACT

N/A

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

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

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

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

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

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

The contractor will be responsible for contacting all utility facility owners on the subject project to coordinate his activities. The contractor will coordinate his activities to minimize and, where possible, avoid conflicts with utility facilities. Due to the nature of the work proposed, it is unlikely to conflict with the existing utilities beyond minor facility adjustments. Where conflicts with utility facilities are unavoidable, the contractor will coordinate any necessary relocation work with the facility owner and Resident Engineer. The Kentucky Transportation Cabinet maintains the right to remove or alter portions of this contract if a utility conflict occurs.

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.

UTILITIES AND RAIL CERTIFICATION NOTE

Hardin County – HSIP 0311 (042)
FD52 047 031W 018-027
Item No. 4-9008.40

AREA UTILITIES CONTACT LIST

Utility Company/Agency	Contact Name	Contact Information
1. Hardin Co. Water #1	Justin Metz	1400 Rogersville Road Radcliff, KY 40160 270-351-3222 jmetz@hcwd.com
Windstream	Steve Johnson	130 W New Circle Rd. Lexington, KY 40505 859-357-6209 steve.johnson@windstream.com
Hardin Co. Water District #2	Forest Pollock	360 Ring Road Elizabethtown, KY 42701 270-373-1056 Ext 212 flpollock@hardincountywater2.org
2. Nolin Rural Electric Co-Op	Paul Baker	411 Ring Road Elizabethtown, KY 42701 270-765-6153 pbaker@nolinrecc.com
Comcast	Steve Gaddie	2919 Ring Road Elizabethtown, KY 42701 270-706-0326 stephen_gaddie@comcast.com
3. Kentucky Utilities	Brad Keown	242 W. Dixie Avenue Elizabethtown, KY 42701 502-333-6650 brad.keown@lge-ku.com
4. LG&E/KU	Caroline Justice	820 W. Broadway Louisville, KY 40202 502-627-3708 caroline.justice@lge-ku.com
5. Marathon Pipeline	Kevin Heath	klheath@marathonpetroleum.com
6. City of Elizabethtown Gas	Matt Hobbs	301 Waterworks Drive Elizabethtown, KY 42701 270-765-6121 Matthew.hobbs@elizabethtownky.gov

UTILITIES AND RAIL CERTIFICATION NOTE

Hardin County – HSIP 0311 (042)
FD52 047 031W 018-027
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7. Brandenburg Telecom	Kyle Dalton	2840 Leitchfield Road Elizabethtown, KY 42701 kyle.dalton@brandenburgtel.com
8. USIC (Locates for Windstream, AT&T, & COMCAST)	Chester Shoffner	502-528-5861 chestershoffner@usicllc.com
9. AT&T	Scott Roche	sr8832@att.com 502-348-4528
10. Contract Locator	Chris	217-994-4091

NOTE: The Utilities Contact List is provided as informational only, and may not be a complete list of all Utility Companies with facilities in the project area.

Kentucky Transportation Cabinet

Highway District 4

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 US 31W in Hardin County

Project: CID 19 - 4218

Revised 3/4/2016

KYTC BMP Plan for Project CID **19 - 4218**

Project information

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

1. Owner – Kentucky Transportation Cabinet, District 4
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): US 31W
6. Latitude/Longitude (project mid-point): 37° 47’ 23”, -85° 54’ 46”
7. County (project mid-point): Hardin
8. Project start date (date work will begin): (2)
9. Projected completion date: (2)

KYTC BMP Plan for Project CID **19 - 4218**

A. Site description:

1. Nature of Construction Activity (from letting project description): Grade & Drain with Asphalt Surface
2. Order of major soil disturbing activities: (2) and (3)
3. Projected volume of material to be moved:
   KY 220: 1250 CY (Cut) & 262 CY (Fill)
   KY 434: 2928 CY (Cut) & 1198 CY (Fill)
   Blackjack Road: 4361 CY (Cut) & 99 CY (Fill)
4. Estimate of total project area (acres): KY 220: 4.1
   KY 434: 7.7
   Blackjack: 5.2
5. Estimate of area to be disturbed (acres): KY 220: 0.9
   KY 434: 2.1
   Blackjack: 1.2
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: (1) & (2)
8. Data describing existing discharge water quality (if any): (1) & (2)
9. Receiving water name: Mill Creek Branch, Brushy Fork, & Disappearing Stream
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: This project does not include storm water BMPs or flow controls for post-construction use.

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 clean up 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.

KYTC BMP Plan for Project CID **19 - 4218**

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 **19 - 4218**

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.

KYTC BMP Plan for Project CID **19 - 4218**

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.

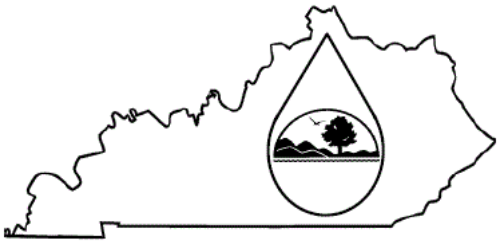
Signed _____title_____, _____
Typed or printed name[1] signature

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.

CID 19-4218
Hardin County
Highway Safety Improvement Project along US 31W
from MP 22.099 – 26.251
Item No.: 4-9008.40

An electronic Notice of Intent (eNOI) for obtaining coverage under the Kentucky Pollutant Discharge Elimination System (KPDES) General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) has been drafted, a copy of which is attached. Upon award, the Contractor will be identified in Section III of the form as the "Building Contractor" and the eNOI will be submitted for approval to the Kentucky Division of Water. The Contractor shall be responsible for advancing the work within this contract 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.

eForm Submittal ID: 159908



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 4	Paul	MI	Sanders

Mailing Address:(*)	City:(*)	State:(*)	Zip:(*)
634 East Dixie Ave	Elizabethtown	Kentucky	42701

eMail Address:(*)	Business Phone:(*)	Alternate Phone:
Paul.Sanders@ky.gov	2707665066	Phone

SECTION II -- GENERAL SITE LOCATION INFORMATION

Project Name:(*)	Status of Owner/Operator(*)	SIC Code(*)
KYTC Project: CID 19-4218	State Government	1611 Highway and Street Const

Company Name:(✓)	First Name:(✓)	M.I.:	Last Name:(✓)
KYTC Department of Highways District 4	Paul	MI	Sanders

Site Physical Address:(*)
US-31W

City:(*)	State:(*)	Zip:(*)
Elizabethtown	Kentucky	42701

County:(*)	Latitude(decimal degrees)(*)DMS to DD Converter (https://www.fcc.gov/media/radio/dms-decimal)	Longitude(decimal degrees)(*)
Hardin	37.789658	-85.912683

SECTION III -- SPECIFIC SITE ACTIVITY INFORMATION

Project Description:(*)
Construction of J-Turns on US-31W, Asphalt Paving, and Replacement/Extension of Various Pipes

a. For single projects provide the following information

Total Number of Acres in Project:(✓)	Total Number of Acres Disturbed:(✓)
17.0	4.2
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	Yes	37.787250	-85.911585	Brushy Fork	Delete
2	Yes	37.787501	-85.911683	Brushy Fork	Delete
3	Yes	37.787745	-85.911804	Brushy Fork	Delete
4	Yes	37.788502	-85.911926	Brushy Fork	Delete
5	Yes	37.788555	-85.912181	Brushy Fork	Delete
6	Yes	37.789085	-85.912400	Brushy Fork	Delete
7	Yes	37.789531	-85.913077	Brushy Fork	Delete
8	Yes	37.789674	-85.913295	Brushy Fork	Delete
9	Yes	37.789776	-85.912462	Brushy Fork	Delete
10	Yes	37.789781	-85.913010	Brushy Fork	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?: (*)	No
If Yes, describe scope of activity: (✓)	describe scope of activity
Is a Clean Water Act 404 permit required?:(*)	No

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

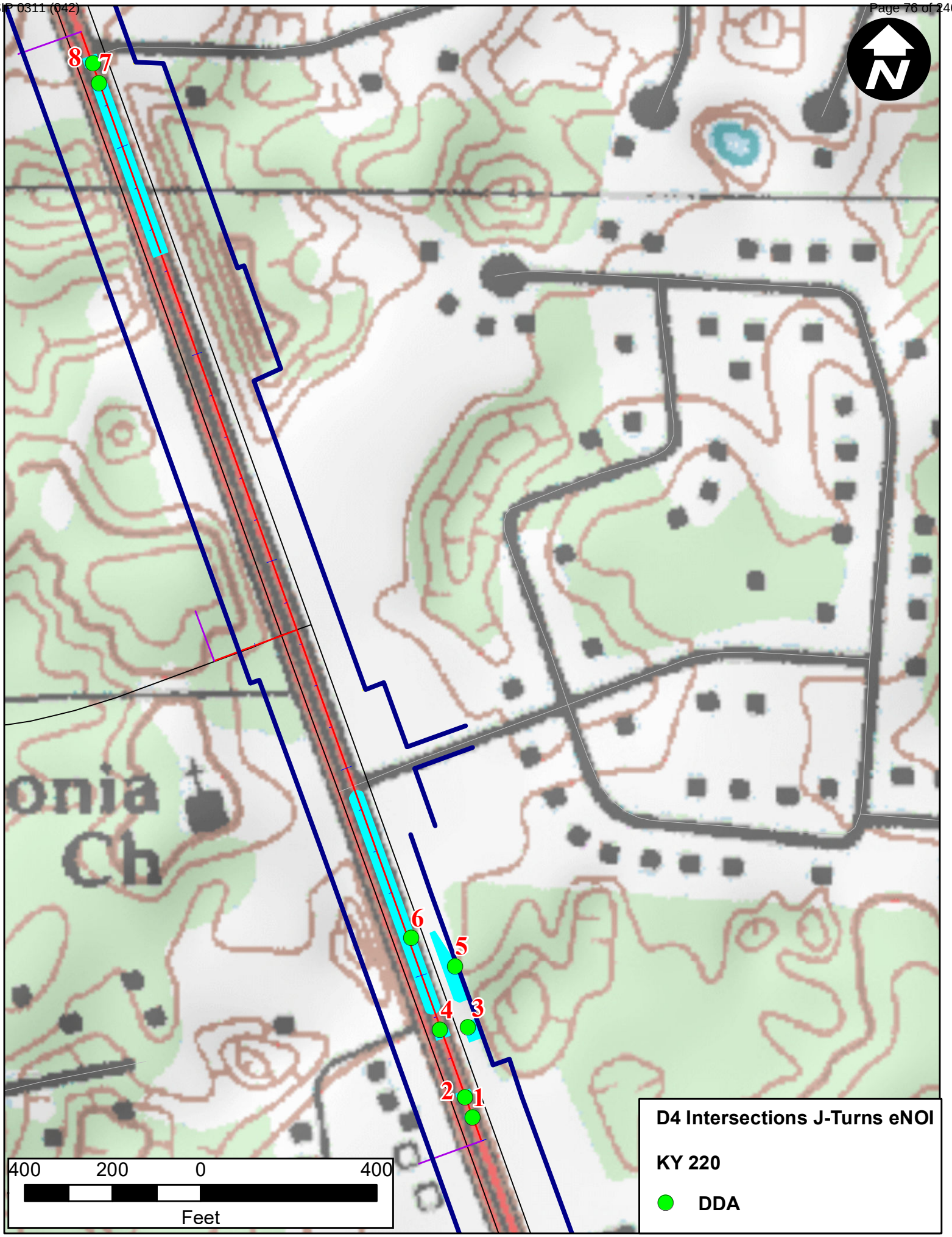
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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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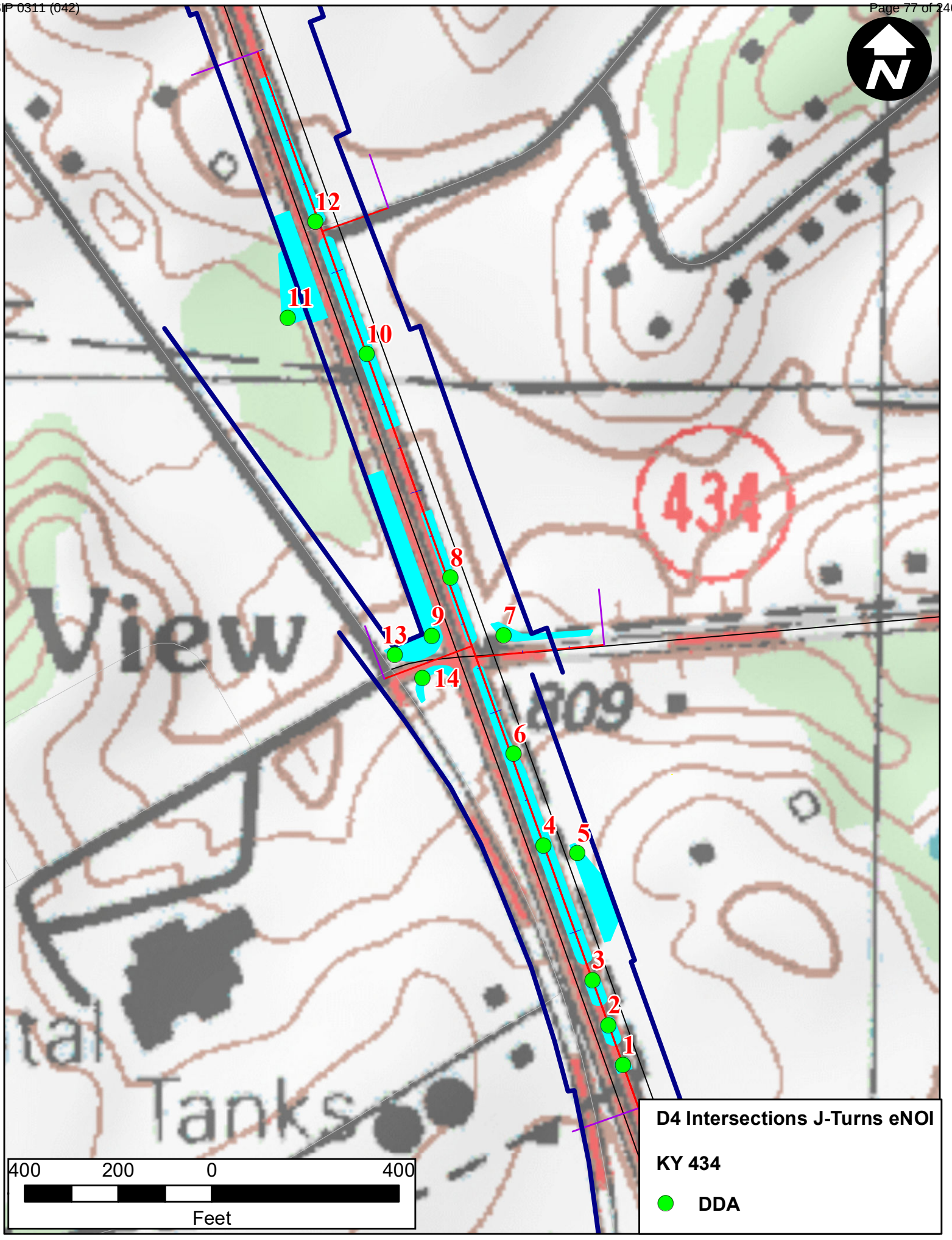
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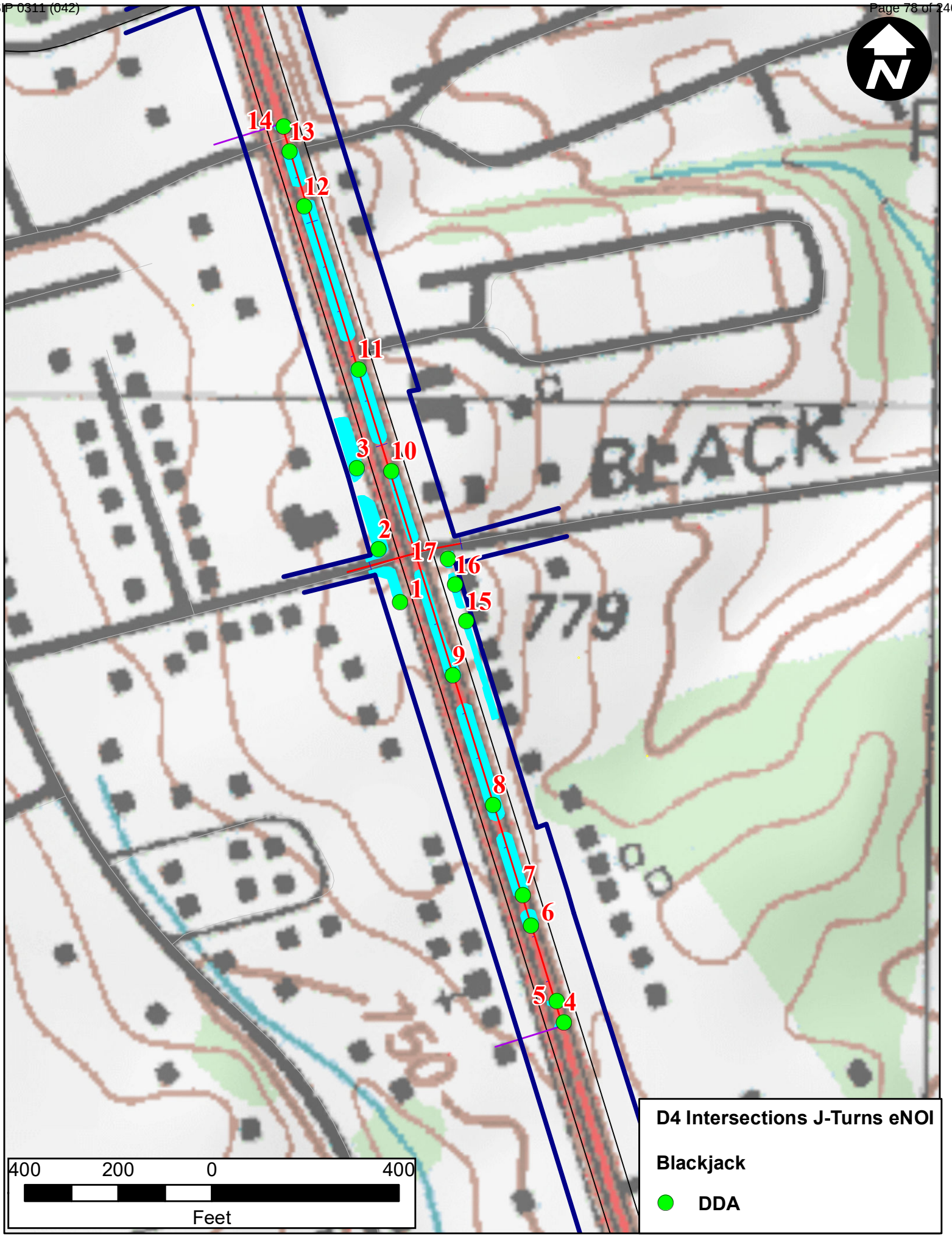
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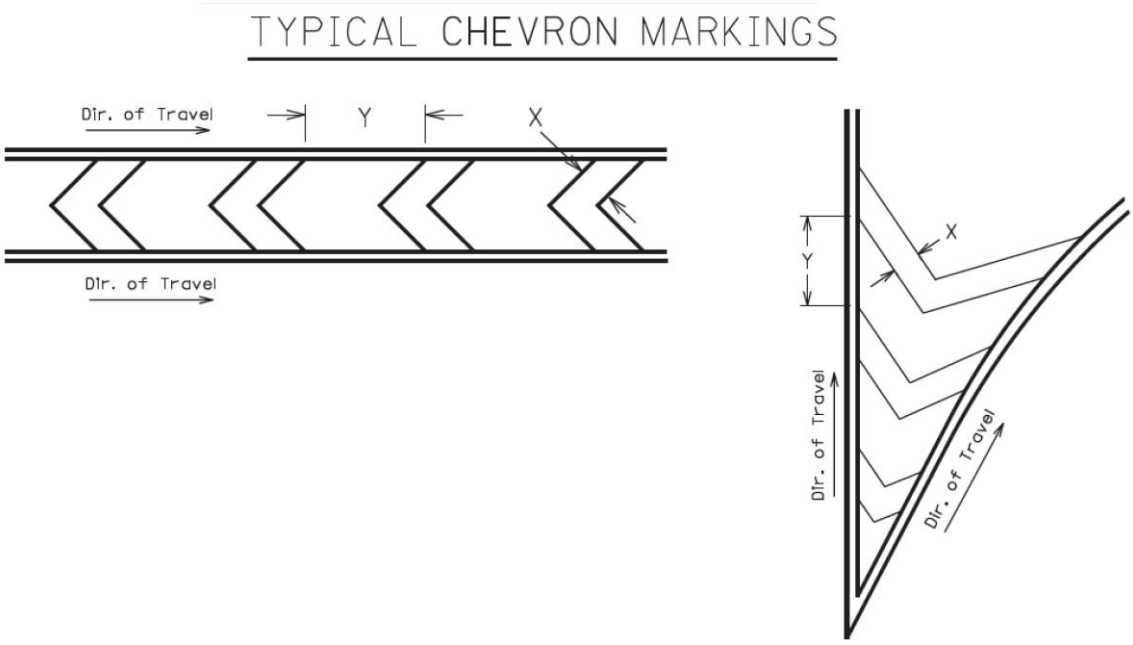
Overall Summary of Bid Items

Item	Description	Unit	US 31W @ KY 220	US 31W @ KY 434	US 31W @ Blackjack Rd	Project Total
3	CRUSHED STONE BASE	TON	1284	2051	1576	**4911**
100	ASPHALT SEAL AGGREGATE	TON	11.9	18.9	14.3	**45.1**
103	ASPHALT SEAL COAT	TON	1.4	2.3	1.7	**5.4**
190	LEVELING & WEDGING PG64-22	TON	2	2	2	**6**
214	CL3 ASPH BASE 1.00D PG64-22	TON	1335	2612	2139	**6086**
216	CL3 ASPH BASE 1.00D PG76-22	TON	442	852	708	**2002**
336	CL3 ASPH SURF 0.38A PG76-22	TON	219	424	357	**1000**
2101	CEM CONC ENT PAVEMENT-8 IN	SQ YD	140	--	--	**140**
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING	TON	2.6	5	4.2	**11.8**
440	ENTRANCE PIPE-15 IN	LF	--	--	71	**71**
461	CULVERT PIPE-15 IN	LF	146	119	125	**390**
462	CULVERT PIPE-18 IN	LF	212	74	--	**286**
521	STORM SEWER PIPE-15 IN	LF	72	538	537	**1147**
522	STORM SEWER PIPE-18 IN	LF	265	433	38	**736**
524	STORM SEWER PIPE-24 IN	LF	10	9	--	**19**
1204	PIPE CULVERT HEADWALL-18 IN	EACH	--	1	--	**1**
1310	REMOVE PIPE	LF	306	268	546	**1120**
1432	SLOPED BOX OUTLET TYPE 1-15 IN	EACH	2	1	6	**9**
1433	SLOPED BOX OUTLET TYPE 1-18 IN	EACH	1	--	1	**2**
1434	SLOPED BOX OUTLET TYPE 1-24 IN	EACH	1	--	--	**1**
1456	CURB BOX INLET TYPE A	EACH	--	1	4	**5**
1487	CURB BOX INLET TYPE F	EACH	2	10	3	**15**
1511	DROP BOX INLET TYPE 5D	EACH	3	4	1	**8**
1584	CAP DROP BOX INLET	EACH	1	--	--	**1**
1585	REMOVE DROP BOX INLET	EACH	--	--	2	**2**
1650	JUNCTION BOX	EACH	--	1	--	**1**
1718	REMOVE INLET	EACH	2	2	--	**4**
2625	REMOVE HEADWALL	EACH	3	--	1	**4**
2690	SAFELOADING	CU YD	4.3	--	--	**4.3**
23822EC	CORE HOLE DRAINAGE BOX CON-15 IN	EACH	4	--	--	**4**
23952EC	DRAINAGE JUNCTION BOX TY B	EACH	1	--	--	**1**
78	CRUSHED AGGREGATE SIZE NO 2	TON	--	19	24	**43**
1000	PERFORATED PIPE-4 IN	LF	--	410	525	**935**
1010	NON-PERFORATED PIPE-4 IN	LF	--	10	8	**18**
1314	PLUG PIPE	EACH	--	1	--	**1**
1811	STANDARD CURB AND GUTTER MOD	LF	--	--	41	**41**
1885	LIP HEADER CURB	LF	90	--	--	**90**
1904	REMOVE CURB	LF	--	946	1303	**2249**
1917	STANDARD BARRIER MEDIAN TYPE 2	SQ YD	52	745	737	**1534**
1921	STANDARD BARRIER MEDIAN TYPE 4	SQ YD	630	155	173	**958**
2159	TEMP DITCH	LF	625	1120	979	**2724**
2160	CLEAN TEMP DITCH	LF	313	560	490	**1363**
2200	ROADWAY EXCAVATION	CU YD	1250	2928	4361	**8539**
2242	WATER	MGAL	37	32	29	**98**
2351	GUARDRAIL-STEEL W BEAM-S FACE	LF	--	475	--	**475**
2360	GUARDRAIL TERMINAL SECTION NO 1	EACH	--	1	--	**1**
2369	GUARDRAIL END TREATMENT TYPE 2A	EACH	--	1	--	**1**
2381	REMOVE GUARDRAIL	LF	--	495	--	**495**
2403	REMOVE CONCRETE MASONRY (FOR REMOVAL OF CONCRETE FLUME IN MEDIAN)	CU YD	--	1.7	--	**1.7**
2429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH	--	4	--	**4**
2432	WITNESS POST	EACH	--	4	--	**4**
2483	CHANNEL LINING CLASS II	TON	--	180	--	**180**

Overall Summary of Bid Items

Item	Description	Unit	US 31W @ KY 220	US 31W @ KY 434	US 31W @ Blackjack Rd	Project Total
2545	CLEARING & GRUBBING (US 31W @ KY 220)	LS	1	--	--	**1**
2545	CLEARING & GRUBBING (US 31W @ KY 434)	LS	--	1	--	**1**
2545	CLEARING & GRUBBING (US 31W @ BLACKJACK)	LS	--	--	1	**1**
2562	TEMPORARY SIGNS	SQ FT	213	213	213	**639**
2585	EDGE KEY	LF	--	144	23	**167**
2600	FABRIC GEOTEXTILE TY IV FOR PIPE	SQ YD	911	1558	1840	**4309**
2650	MAINTAIN & CONTROL TRAFFIC (US 31W @ KY 220)	LS	1	--	--	**1**
2650	MAINTAIN & CONTROL TRAFFIC (US 31W @ KY 434)	LS	--	1	--	**1**
2650	MAINTAIN & CONTROL TRAFFIC (US 31W @ BLACKJACK)	LS	--	--	1	**1**
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	2	2	2	**6**
2676	MOBILIZATION FOR MILL & TEXT (US 31W @ KY 220)	LS	1	--	--	**1**
2676	MOBILIZATION FOR MILL & TEXT (US 31W @ KY 434)	LS	--	1	--	**1**
2676	MOBILIZATION FOR MILL & TEXT (US 31W @ BLACKJACK)	LS	--	--	1	**1**
2677	ASPHALT PAVE MILLING & TEXTURING	TON	52	12	15	**79**
2697	EDGELINE RUMBLE STRIPS	LF	--	150	--	**150**
2701	TEMP SILT FENCE	LF	625	1120	979	**2724**
2703	SILT TRAP TYPE A	EACH	1	1	1	**3**
2704	SILT TRAP TYPE B	EACH	3	5	5	**13**
2705	SILT TRAP TYPE C	EACH	10	15	10	**35**
2706	CLEAN SILT TRAP TYPE A	EACH	1	1	1	**3**
2707	CLEAN SILT TRAP TYPE B	EACH	3	5	5	**13**
2708	CLEAN SILT TRAP TYPE C	EACH	10	15	10	**35**
2720	SIDEWALK-4 IN CONCRETE	SQ YD	--	--	21	**21**
2726	STAKING (US 31W @ KY 220)	LS	1	--	--	**1**
2726	STAKING (US 31W @ KY 434)	LS	--	1	--	**1**
2726	STAKING (US 31W @ BLACKJACK)	LS	--	--	1	**1**
2775	ARROW PANEL	EACH	2	2	2	**6**
3290	SIDEWALK RAMP TYPE 4	EACH	--	--	1	**1**
5950	EROSION CONTROL BLANKET	SQ YD	1288	951	840	**3079**
5952	TEMP MULCH	SQ YD	2788	6911	3966	**13665**
5953	TEMP SEEDING AND PROTECTION	SQ YD	2091	5183	2975	**10249**
5963	INITIAL FERTILIZER	TON	0.17	0.34	0.21	**0.72**
5964	MAINTENANCE FERTILIZER	TON	0.28	0.57	0.35	**1.2**
5985	SEEDING AND PROTECTION	SQ YD	4182	10083	5949	**20214**
5989	SPECIAL SEEDING CROWN VETCH	SQ YD	--	957	--	**957**
5992	AGRICULTURAL LIMESTONE	TON	3.41	6.84	4.21	**14.46**
6530	PAVE STRIPING REMOVAL-4 IN	LF	1902	1144	2037	**5083**
6568	PAVE MARKING-THERMO STOP BAR-24 IN	LF	--	89	--	**89**
6569	PAVE MARKING-THERMO CROSS-HATCH	SQ FT	114	319	--	**433**
6574	PAVE MARKING-THERMO CURV ARROW	EACH	13	19	21	**53**
6576	PAVE MARKING-THERMO ONLY	EACH	1	--	--	**1**
6598	PAVEMENT MARKING REMOVAL	SQ FT	233	279	247	**759**
10020NS	FUEL ADJUSTMENT	DOLL	3041	6088	5017	**14146**
10030NS	ASPHALT ADJUSTMENT	DOLL	7638	15291	12601	**35530**
20550ND	SAWCUT PAVEMENT	LF	1933	1832	2187	**5952**
21289ED	LONGITUDINAL EDGE KEY	LF	1811	3491	2731	**8033**
22861EN	HIGH STRENGTH GEOTEXTILE FABRIC TY V	SQ YD	--	156	198	**354**
23158ES505	DETECTABLE WARNINGS	SQ FT	--	--	20	**20**
23274EN11F	TURF REINFORCEMENT MAT 1	SQ YD	120	--	570	**690**
24489EC	INLAID PAVEMENT MARKER	EACH	33	48	77	**158**
24679ED	PAVE MARK THERMO CHEVRON	SQ FT	63	122	362	**547**
24814EC	PIPELINE INSPECTION	LF	672	1173	736	**2581**
24955ED	REMOVE SIGNAL EQUIPMENT	EACH	1	2	1	**4**
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	1411	3219	2944	**7574**
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	1433	3555	3368	**8356**

CHEVRON PAVEMENT MARKINGS DETAIL



The chevron pavement marking width (X) and spacing (Y) will usually be specified in the plans. The width to spacing values usually have a ratio of 1:10. If the plans do not specify the width (X) and spacing (Y) the Engineer will provide the contractor with the X and Y values for each chevron installation. If necessary, the Engineer may obtain guidance from the District Traffic Engineer and/or the Division of Traffic Operations.

NOTE: Adjust the width and spacing of the chevron pavement markings as necessary so that a minimum of three (3) chevron markings are placed within the area being marked. The 1:10 ratio between width and spacing values should be maintained as much as possible.

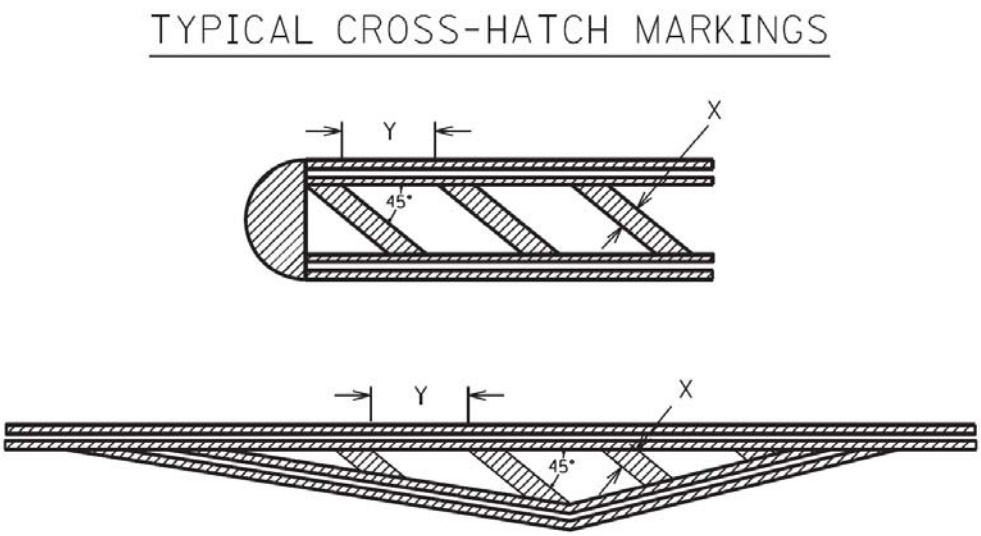
Refer to Section 717 of the Standard Specifications for Road and Bridge Construction, current edition, for more information concerning Material and Construction specifications.

The Department will measure the finished in-place area of Chevron Pavement Markings in Square Feet. The Department will NOT measure overlaps or the void space between the chevrons. See Section 717.04 for additional measurement information.

When listed as a bid item, the Department will make payment for the completed and accepted quantities of Chevron Pavement Markings under the following:

Code	Pay Item	Pay Unit
24679ED	Pave Mark Thermo Chevron	Square Foot

CROSS-HATCH PAVEMENT MARKINGS DETAIL



The cross-hatch pavement marking width (X) and spacing (Y) will usually be specified in the plans. The width to spacing values usually have a ratio of 1:10. If the plans do not specify the width (X) and spacing (Y) the Engineer will provide the contractor with the X and Y values for each cross-hatch installation. If necessary, the Engineer may obtain guidance from the District Traffic Engineer and/or the Division of Traffic Operations.

NOTE: Adjust the width and spacing of the cross-hatch pavement markings as necessary so that a minimum of three (3) cross-hatch markings are placed within the area being marked. The 1:10 ratio between width and spacing values should be maintained as much as possible.

Refer to Section 717 of the Standard Specifications for Road and Bridge Construction, current edition, for more information concerning Material and Construction specifications.

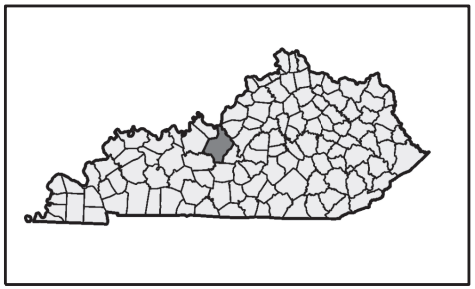
The Department will measure the finished in-place area of Cross-Hatch Pavement Markings in Square Feet. The Department will NOT measure overlaps or the void space between cross-hatching. See Section 717.04 for additional measurement information.

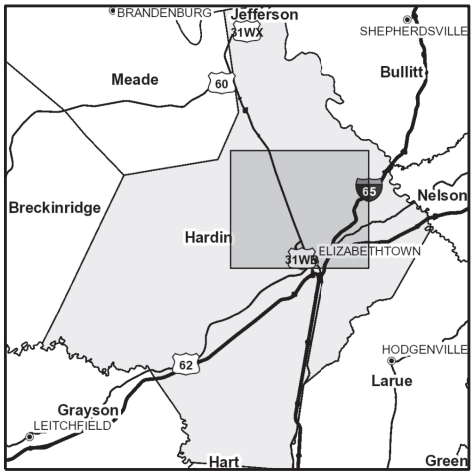
When listed in the bid items, the Department will make payment for the completed and accepted quantities of Cross-Hatch Pavement Markings under the following:

Code	Pay Item	Pay Unit
06569	Pave Marking-Thermo Cross-Hatch	Square Foot
23253ES717	Pave Mark TY 1 Tape Cross Hatch	Square Foot

Hardin County
Construction of J–Turns and Intersection Improvements
On US 31W Near KY 220
Item No. 4–9008.40

COUNTY OF	ITEM NO.
HARDIN	4-9008.40



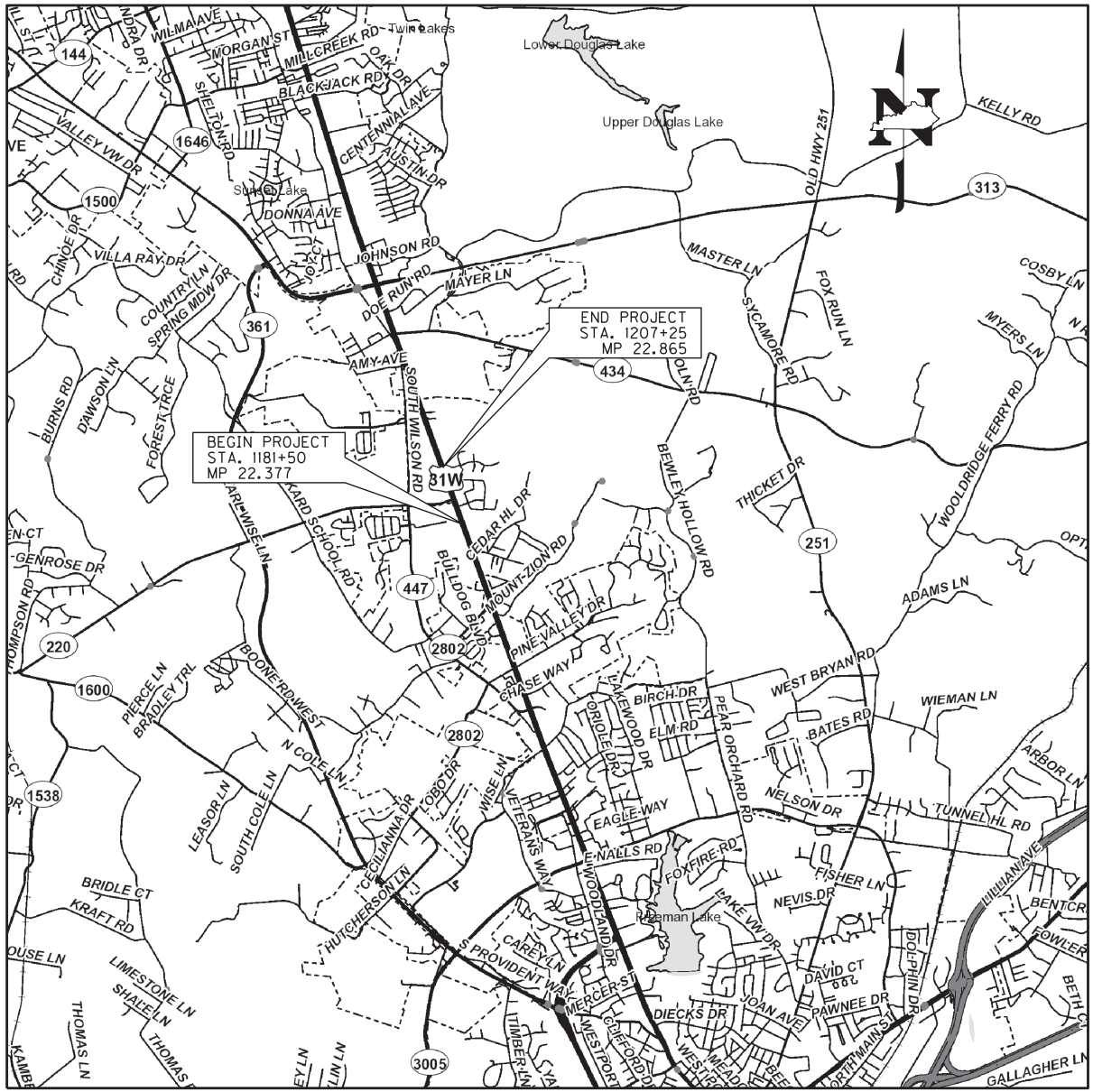


Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

PLANS OF
PROPOSED PROJECT

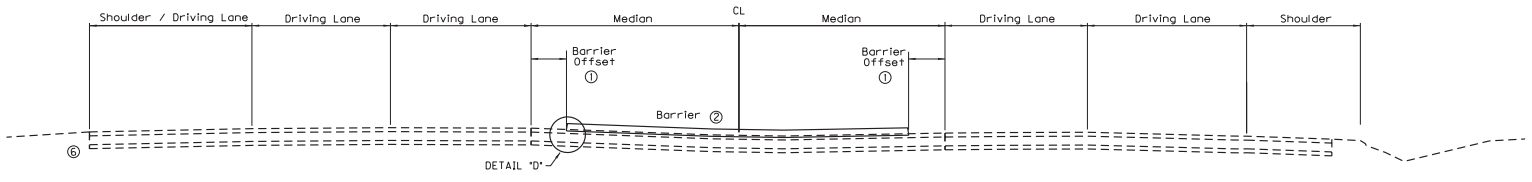
HARDIN COUNTY
US 31W

KENTUCKY TRANSPORTATION CABINET



COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

TYPICAL SECTION AND DETAILS



US 31W PAVEMENT DESIGN

1.5" SURFACE	1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22
⑥ 16.5" BASE	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 4" COMPACTED DEPTH CRUSHED STONE BASE

US 31W
BARRIER MEDIAN
ON EXISTING PAVEMENT

① 3' TYPICAL - SEE PLANS AND DETAILS WHERE IT MAY VARY

② STANDARD BARRIER MEDIAN TYPE 4

③ SEE PLANS AND CROSS SECTIONS FOR LOCATION

④ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)

⑤ ASPHALT SEAL COAT REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2' DOWN THE DITCH OR FILL SLOPE. 2.4 LB/SY ASPHALT SEAL COAT (TWO APPLICATIONS) AND 20 LB/SY ASPHALT SEAL AGGREGATE (TWO APPLICATIONS).

⑥ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENGINEER TO BEST MATCH THAT THICKNESS.

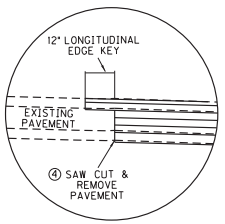
⑦ ENTRANCE RECONSTRUCTION PAVEMENT TO MATCH MAINLINE FULL DEPTH PAVEMENT

⑧ STA. 1203+50 TO STA. 1205+50

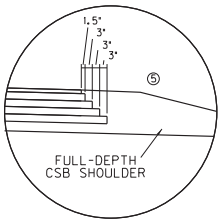
⑨ SEE CROSS SECTIONS FOR SIDE SLOPES AND DITCH ELEVATIONS

⑩ SEE PLANS AND DETAILS WHERE IT MAY VARY.

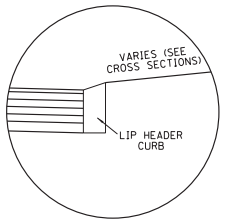
⑪ MATCH EXISTING DRIVING LANE BUT NOT LESS THAN 2.00%



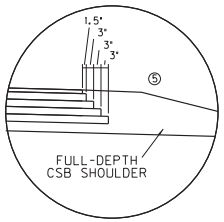
DETAIL "A"



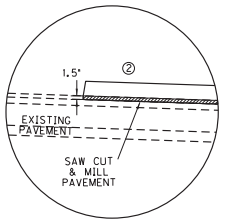
DETAIL "B"



DETAIL "C"
(AT FULL WIDTH) ③



DETAIL "C"
(IN TAPER) ③



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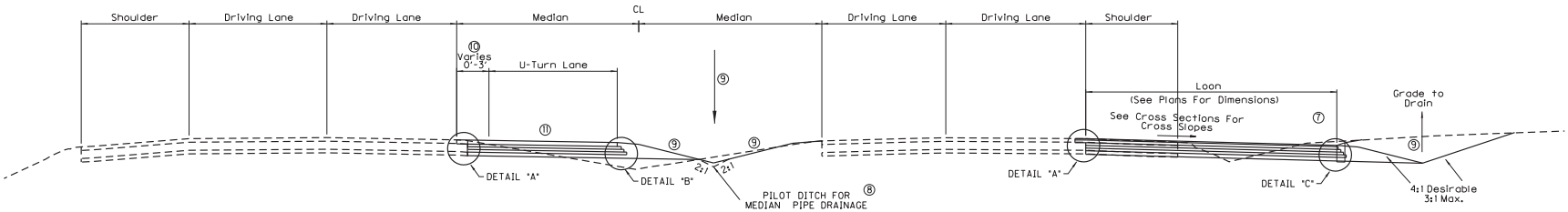


US 31W
LOON AND LEFT TURN LANE
PAVEMENT WIDENING

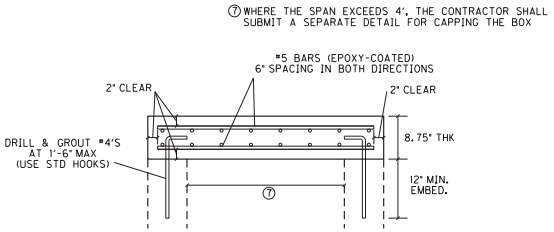
NOT TO SCALE

HIGHWAY SAFETY IMPROVEMENT PROGRAM
US 31W AT KY 220
TYPICAL SECTIONS AND DETAILS

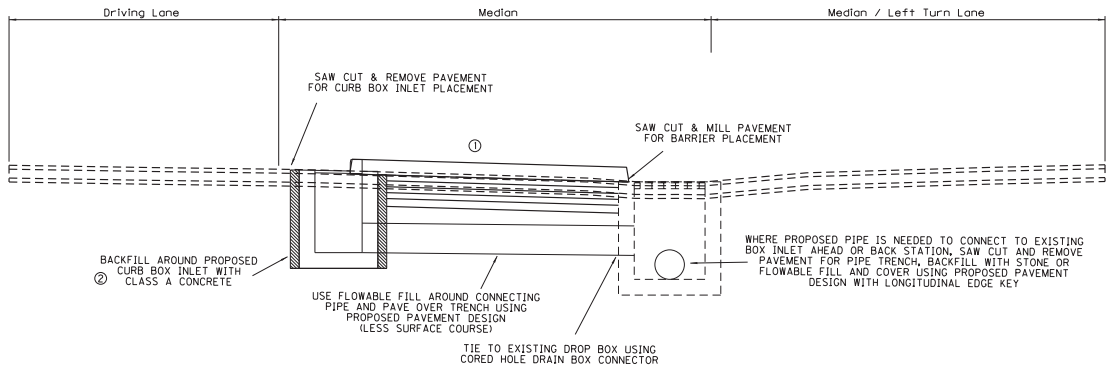
Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 13, 2019 | FILE NAME: D:\PW_WORKDIR\DM56484\TYPICAL KY220.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

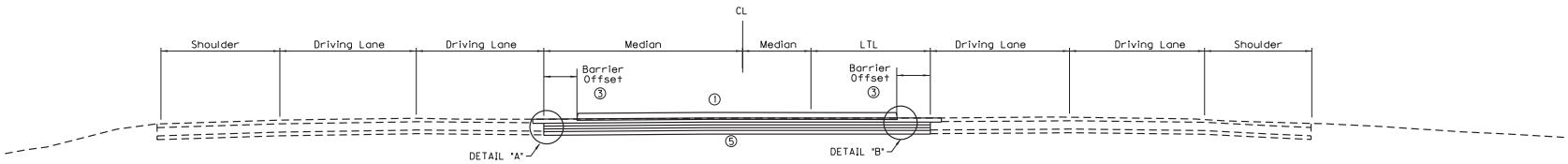
TYPICAL SECTION AND DETAILS

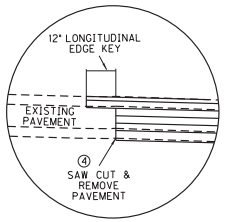


EXISTING DRAINAGE BOX CAP DETAIL



PROPOSED DRAINAGE INLETS AND BARRIER CONSTRUCTION





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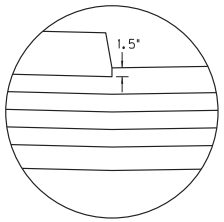


DETAIL "B"

US 31W BARRIER MEDIAN ON PROPOSED PAVEMENT

US 31W PAVEMENT DESIGN

1.5" SURFACE	1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22
⑥ 16.5" BASE	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 4" COMPACTED DEPTH CRUSHED STONE BASE

① STANDARD BARRIER MEDIAN TYPE 4 ON EXISTING PAVEMENT & TYPE 2 ON NEW PAVEMENT

② CONCRETE QUANTITIES TO BE INCIDENTAL TO BID ITEM FOR CURB BOX INLET

③ 3' TYPICAL - SEE PLANS AND DETAILS WHERE IT MAY VARY

④ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)

⑤ AT THE DISCRETION OF THE ENGINEER, PERFORATED PIPE MAY BE REQUIRED AT MEDIAN CROSSOVERS WHERE THE STONE BASE DOES NOT DAYLIGHT OR DRAIN TO THE MEDIAN DITCH. SEE OTHER TYPICAL SECTIONS FOR DETAILS.

⑥ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENIGNEER TO BEST MATCH THAT THICKNESS.

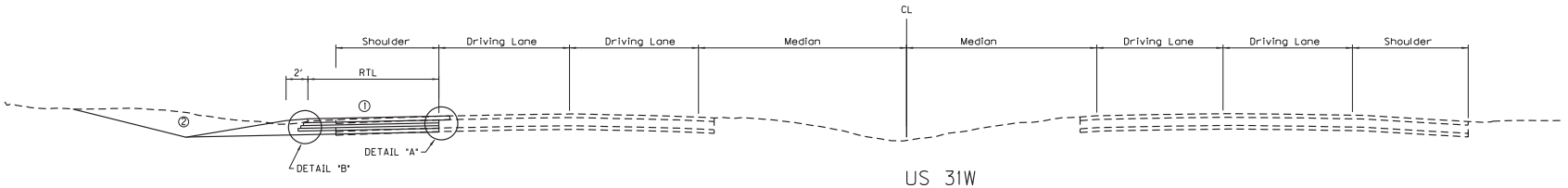
NOT TO SCALE

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 220
TYPICAL SECTIONS AND DETAILS

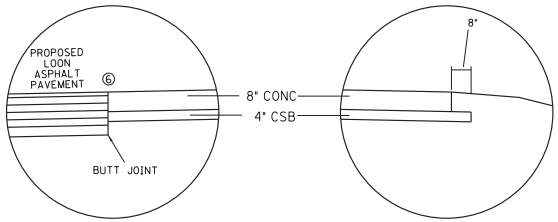
Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 13, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64847\TYPICAL KY220.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

TYPICAL SECTION AND DETAILS



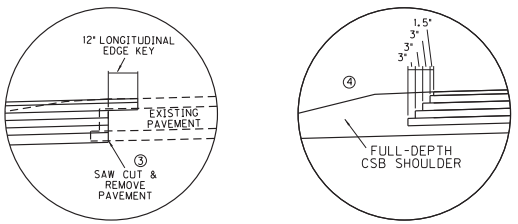
US 31W
ADDED RIGHT TURN LANE



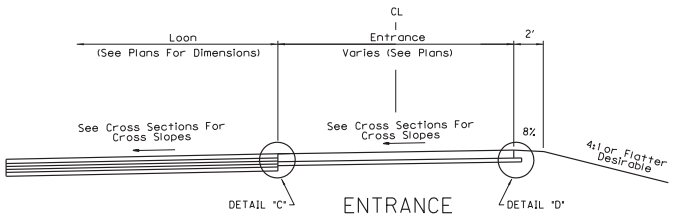
DETAIL "C" DETAIL "D"

US 31W PAVEMENT DESIGN

1.5" SURFACE	1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22
⑤ 16.5" BASE	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22
	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	4" COMPACTED DEPTH CRUSHED STONE BASE

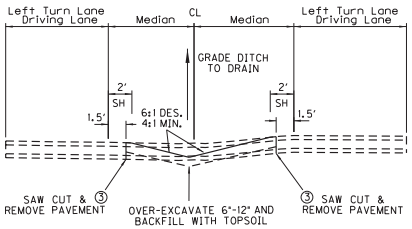


DETAIL "A" DETAIL "B"



COMMERCIAL ENTRANCE PAVEMENT CONCRETE DESIGN

8.0" SURFACE	8.0" DEPTH CEMENT CONC ENTR PAVEMENT
4.0" BASE	4" COMPACTED DEPTH CRUSHED STONE BASE



US 31W
CROSSOVER PAVEMENT REMOVAL
FOR OPEN DITCH

① MATCH EXISTING DRIVING LANE BUT NOT LESS THAN 2.00%

② SEE CROSS SECTIONS FOR SIDE SLOPES AND DITCH ELEVATIONS

③ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)

④ ASPHALT SEAL COAT REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2' DOWN THE DITCH OR FILL SLOPE. 2.4 LB/SY ASPHALT SEAL COAT (TWO APPLICATIONS) AND 20 LB/SY ASPHALT SEAL AGGREGATE (TWO APPLICATIONS).

⑤ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENIGNEER TO BEST MATCH THAT THICKNESS.

⑥ MATCH LOON PAVEMENT. AS DIRECTED BY THE ENGINEER, SEAL BUTT JOINT WITH HOT-POURED RUBBER-ASPHALT (INCIDENTAL TO ENTRANCE CONSTRUCTION).

NOT TO SCALE

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 220
TYPICAL SECTIONS AND DETAILS

Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 13, 2019 | FILE NAME: D:\PW_WORKDIR\DM56847\TYPICAL KY220.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT			TOTAL PROJECT
1885	LIP HEADER CURB	LF			90
1917	STANDARD BARRIER MEDIAN TY 2	SQ YD			52
1921	STANDARD BARRIER MEDIAN TY 4	SQ YD			630
2159	TEMPORARY DITCH	LF			625
2160	CLEAN TEMPORARY DITCH	LF			313
2200	ROADWAY EXCAVATION (7)	CU YD			1250
2242	WATER (6)	M GAL			37
2545	CLEARING AND GRUBBING (1)	LS			1
2562	TEMPORARY SIGNS	SQ FT			213
2600	FABRIC-GEOTEXTILE TYPE IV FOR PIPE	SQ YD			911
2650	MAINTAIN AND CONTROL TRAFFIC	LS			1
2671	PORTABLE CHANGEABLE MESSAGE SIGNS	EACH			2
2676	MOBILIZATION FOR MILL & TEXT	LS			1
2677	ASPHALT PAVE MILLING & TEXTURING (2)	TON			52
2701	TEMPORARY SILT FENCE	LF			625
2703	SILT TRAP TYPE A	EACH			1
2704	SILT TRAP TYPE B	EACH			3
2705	SILT TRAP TYPE C	EACH			10
2706	CLEAN SILT TRAP TYPE A	EACH			1
2707	CLEAN SILT TRAP TYPE B	EACH			3
2708	CLEAN SILT TRAP TYPE C	EACH			10
2726	STAKING	LS			1
2775	ARROW PANEL	EACH			2
5950	EROSION CONTROL BLANKET	SQ YD			1288
5952	TEMPORARY MULCH	SQ YD			2788
5953	TEMP SEEDING AND PROTECTION	SQ YD			2091
5963	INITIAL FERTILIZER	TON			0.17
5964	MAINTENANCE FERTILIZER	TON			0.28
5985	SEEDING AND PROTECTION	SQ YD			4182
5992	AGRICULTURAL LIMESTONE	TON			3.41
6530	PAVEMENT STRIPING REMOVAL - 4 INCH (3)	LF			1902
6569	PAVEMENT MARKING - THERMO CROSS-HATCH	SQ FT			114
6574	PAVEMENT MARKING - THERMO CURVE ARROW	EACH			13
6576	PAVEMENT MARKING - THERMO "ONLY"	EACH			1
6598	PAVEMENT MARKING REMOVAL (3)	SQ FT			233
10020NS	FUEL ADJUSTMENT (9)	DOLLAR			3041
10030NS	ASPHALT ADJUSTMENT (9)	DOLLAR			7638
20550ND	SAW CUT PAVEMENT (4)	LF			1933
21289ED	LONGITUDINAL EDGE KEY (5)	LF			1811
24489EC	INLAID PAVEMENT MARKERS	EACH			33
24679ED	PAVE MARK THERMO CHEVRON	SQ FT			63
24814EC	PIPELINE INSPECTION	LF			672
24955ED	REMOVE SIGNAL EQUIPMENT (8)	EACH			1
24995EC	PAVE STRIPING - SPRAY THERMO - 6 IN W	LF			1411
24996EC	PAVE STRIPING - SPRAY THERMO - 6 IN Y	LF			1433
23274EN11F	TURF REINFORCEMENT MAT 1	SQ YD			120

(1) APPROXIMATELY 0.85 ACRES

(2) FOR PREPARATION OF STANDARD BARRIER MEDIAN TYPE 4 CONSTRUCTION

(3) FOR THE REMOVAL OF ALL STRIPING AND MARKING THAT WILL CONFLICT WITH FUTURE PROPOSED TRAFFIC PATTERNS OR PROPOSED MARKINGS

(4) FOR ALL LOCATIONS OF PAVEMENT MILLING, WIDENING, OR REPLACEMENT (SEE ALSO TYPICAL SECTIONS AND DETAILS)

(5) FOR ALL LOCATIONS OF PAVEMENT WIDENING OR REPLACEMENT (SEE ALSO TYPICAL SECTIONS AND DETAILS)

(6) FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY; ESTIMATED AT 75 MGAL PER MILE

(7) EARTHWORK QUANTITIES ARE APPROXIMATE AND FOR INFORMATION ONLY

EARTHWORK QUANTITIES:

COMMON 1250 CY
EMBANKMENT 262 CY

(8) TO INCLUDE REMOVAL OF POLES, EQUIPMENT, AND CONCRETE BASES. CONCRETE BASES TO BE REMOVED TO 12 INCHES BELOW EXISTING GROUND LINE. DELIVER SIGNAL HEADS AND CABINET TO:
310 VALLEY ROAD
ELIZABETHTOWN, KY 42701

BEFORE DELIVERING, CONTACT JAKE RIGGS:
(270) 401-8132

(9) PROJECT QUANTITY PRORATED BASED ON PERCENTAGE OF ASPHALT FROM TOTAL ASPHALT OF KY 220, KY 434, AND BLACKJACK ROAD PROJECTS

PAVING AREAS

ITEM	LEFT TURN & U-TURN LANES (A)	LOONS & RIGHT TURN LANES (B)	ENTRANCES		TOTAL PROJECT
	SQUARE YARDS				
1.5" CL 3 ASPHALT SURFACE 0.38A PG 76-22	1551	1105			2656
3.0" CL 3 ASPHALT BASE 1.00D PG 76-22	1564	1112			2676
3.0" CL 3 ASPHALT BASE 1.00D PG 64-22	1457	1056			2513
3.0" CL 3 ASPHALT BASE 1.00D PG 64-22	1483	1070			2553
3.5" CL 3 ASPHALT BASE 1.00D PG 64-22	1510	1085			2595
8" CEMENT CONCRETE ENTRANCE PAVEMENT			140		140
4.0" CRUSHED STONE BASE (C)	1541	1101	141		2783
LEVELING & WEDGING PG 64-22	10	10			20
ASPHALT SEAL COAT	372	224			596
ASPHALT SEAL AGGREGATE	372	224			596
ASPHALT MATERIAL FOR TACK NON-TRACKING	6055	4343			10398

PAVING QUANTITIES

ITEM CODE	ITEM	UNIT	LEFT TURN & U-TURN LANES (A)	LOONS & RIGHT TURN LANES (B)	ENTRANCES		TOTAL PROJECT
336	CL 3 ASPHALT SURFACE 0.38A PG 76-22	TON	128	91			219
216	CL 3 ASPHALT BASE 1.00D PG 76-22	TON	258	183			442
214	CL 3 ASPHALT BASE 1.00D PG 64-22	TON	776	560			1335
2101	CEM CONC ENT PAVEMENT-8 IN	SQ YD			140		140
3	CRUSHED STONE BASE (C)	TON	777	474	32		1284
103	ASPHALT SEAL COAT (D)	TON	0.9	0.5			1.4
100	ASPHALT SEAL AGGREGATE (E)	TON	7.4	4.5			11.9
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING (F)	TON	1.5	1.1			2.6
190	LEVELING & WEDGING PG 64-22 (G)	TON	1	1			2

ALL ASPHALT MIXTURES ESTIMATED AT 110 LBS. PER SQUARE YARD PER INCH UNLESS NOTED OTHERWISE

(A) INCLUDES CROSSOVERS AND PAVEMENT REPLACEMENT FOR CONSTRUCTION OF DRAINAGE STRUCTURES

(B) INCLUDES ADJACENT ENTRANCE

(C) ESTIMATED AT 115 LBS. PER SQUARE PER INCH OF DEPTH; QUANTITIES FOR FULL-DEPTH SHOULDERS CALCULATED BY AVERAGE END AREA METHOD

(D) ESTIMATED AT 2.40 LBS. PER SQUARE YARD (2 APPLICATIONS)

(E) ESTIMATED AT 20 LBS. PER SQUARE YARD (2 APPLICATIONS)

(F) ESTIMATED AT 0.50 LBS. PER SQUARE YARD (BETWEEN ASPHALT PAVEMENT COURSES)

(G) ESTIMATED QUANTITY FOR MAKING ADJUSTMENTS TO CROSS SLOPES AND WHERE NEEDED AT TIE-DOWNS; AS DIRECTED BY THE ENGINEER

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 220
GENERAL SUMMARY

Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 20, 2019 | FILE NAME: D:\PW_WORKDIR\DMS6484\KY220 GENERAL SUMMARY.DGN

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

STRUCTURE NO.		SKEW	COVER HEIGHT (FT)	DESIGN PH LEVEL	CULVERT PIPE - 15 INCH	CULVERT PIPE - 18 INCH	STORM SEWER PIPE - 15 INCH	STORM SEWER PIPE - 18 INCH	STORM SEWER PIPE - 24 INCH	REMOVE PIPE	SLOPED BOX OUTLET TYPE 1 - 15 INCH	SLOPED BOX OUTLET TYPE 1 - 18 INCH	SLOPED BOX OUTLET TYPE 1 - 24 INCH	REMOVE INLET	CURB BOX INLET TYPE F	DROP BOX INLET TYPE 5D	(1) CAP DROP BOX INLET	REMOVE HEADWALL	SAFELOAD	CORED HOLE DRAIN BOX CON - 15"	(2) DRAINAGE JUNCTION BOX TY B		REMARKS
	ITEM CODE				461	462	521	522	524	1310	1432	1433	1434	1718	1487	1511	1584	2625	2690	23822EC	23952EC		
	UNIT TO BID				LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	CU YD	EACH	EACH		
	1181+61 to 1182+16	N/A	N/A	M						55													
	1183+65 to 1184+21	N/A	N/A	M						57													
	RT. 1183+61 to 1184+22	N/A	N/A	M						61								2					
	1183+67.05 to 1185+80.5	N/A	2.5	M		212						1											
1	1183+50	0°	4.2	M				228								1							
2-3	1185+80.5	0°	2.8	M				37		14				2		2							EXTEND IN KIND (RCP)
	1185+80.5 TO 1186+06.75	N/A	N/A	M						25													
4	1190+27.5	0°	2.7	M			60			8					1				4.3	3			
5	1191+42.2	0°	2.7	M			12								1					1			
6	1193+31.8	N/A	N/A	M													1						
7	1193+73	0°	2.2	M					10	29			1					1			1		JUNCTION BOX SIZE No 7, EXTEND IN KIND (RCP)
	1205+57.67 to 1207+02.79	N/A	2.0	M	146						2												
	1206+46 to 1207+02	N/A	N/A	M						57													
	PROJECT TOTAL				146	212	72	265	10	306	2	1	1	2	2	3	1	3	4.3	4	1		

NOTES:

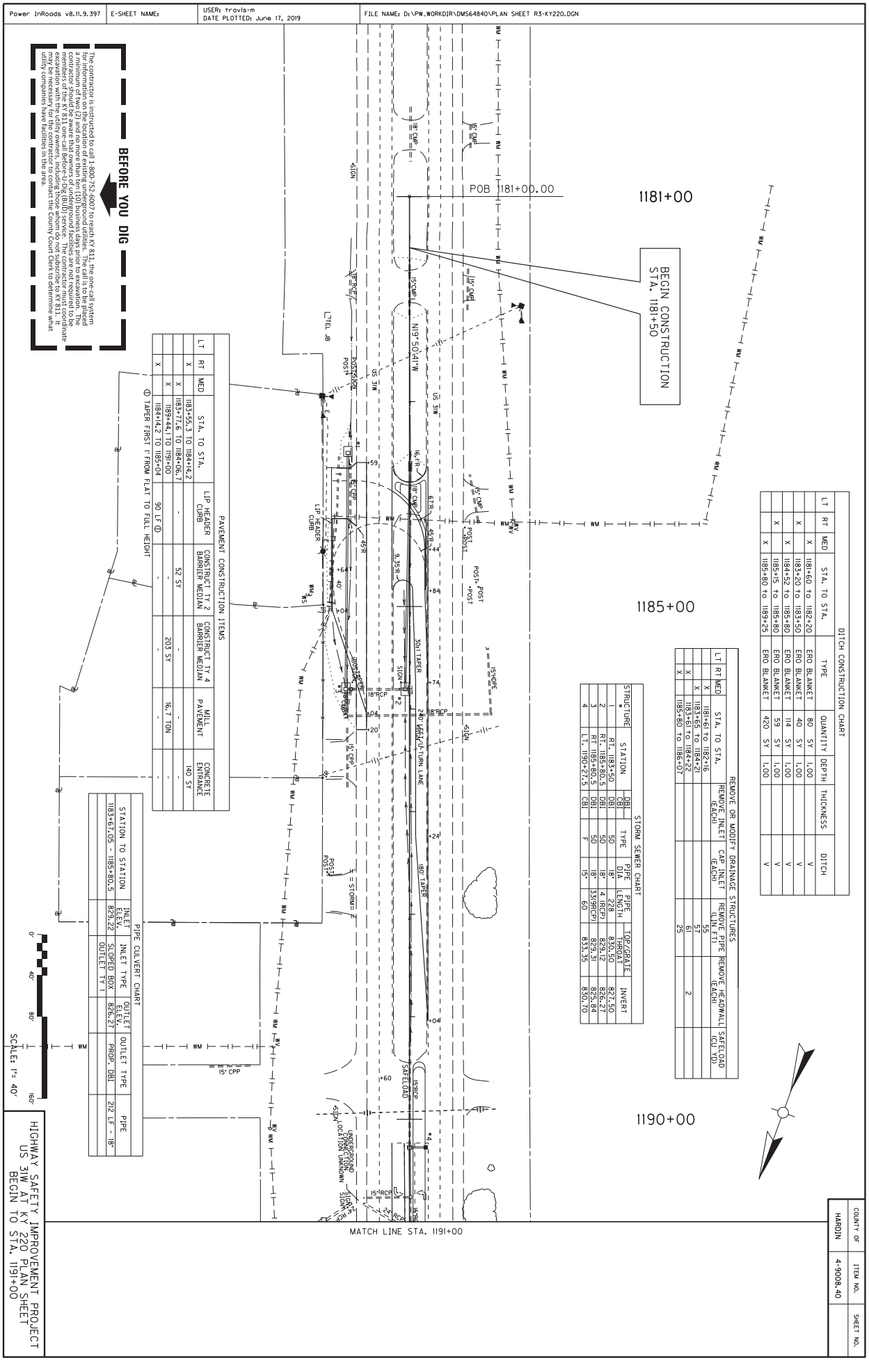
IF A PIPE COLLAR OR BEND CONNECTION IS NEEDED FOR CONSTRUCTION OF A PIPE EXTENSION, IT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE BEING CONSTRUCTED.

(1) BID ITEM TO INCLUDE THE REMOVAL OF THE TOP PHASE OF THE CURB BOX OR DROP BOX INLET

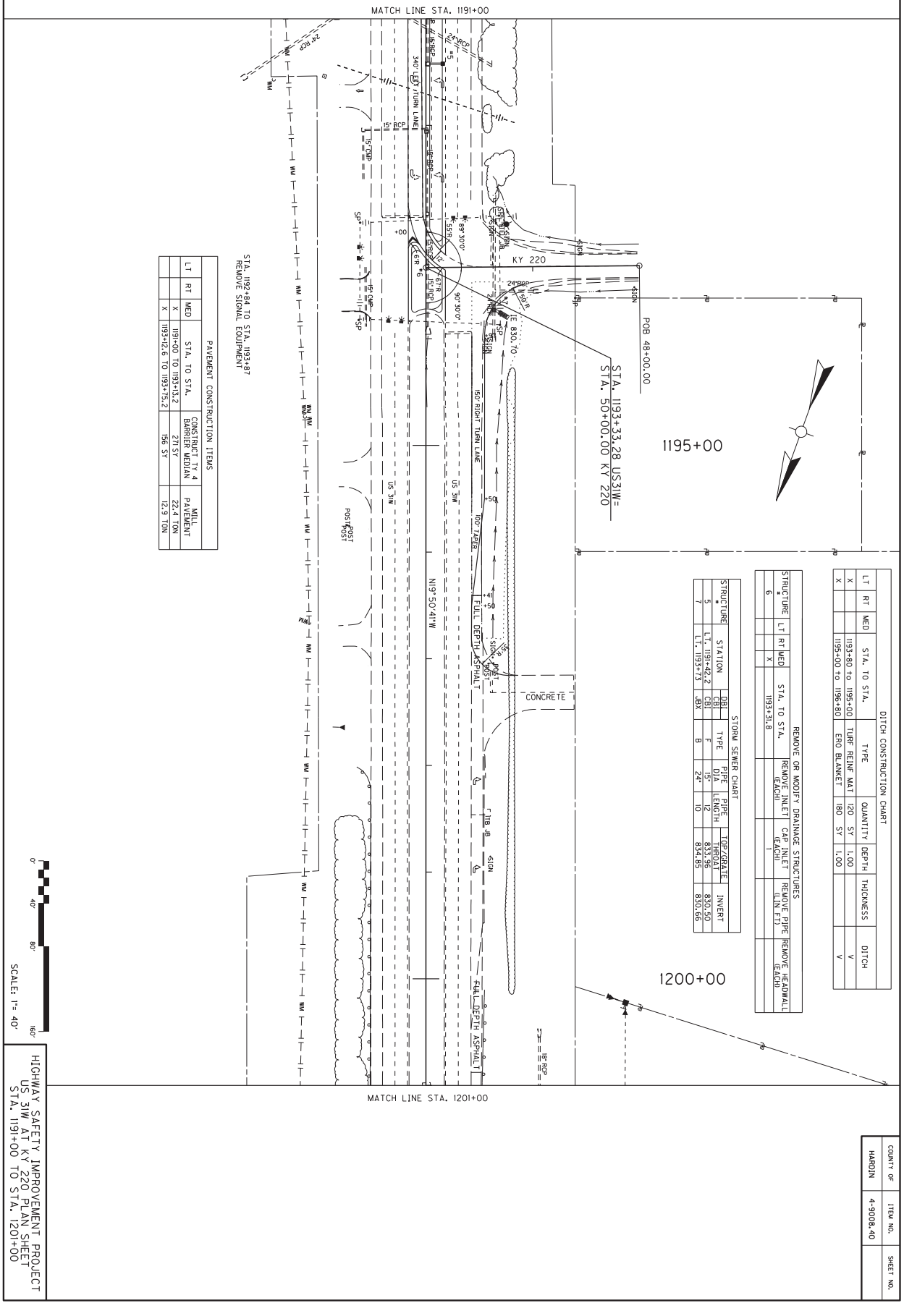
(2) FRAME AND LID TYPE 2

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 220
PIPE DRAINAGE SUMMARY

Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 17, 2019 | FILE NAME: D:\PW_WORKDIR\DM56484\KY220 DRAINAGE SUMMARY.DGN


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: June 17, 2019
FILE NAME: D:\PW_WORKDIR\DMS64840\PLAN SHEET R3-KY220.DGN
BEFORE YOU DIG
The contractor is instructed to call 1-800-752-6007 to reach KY 811, the one-call system for information on the location of existing underground utilities. The call is to be placed a minimum of two (2) and no more than ten (10) business days prior to excavation. The contractor is responsible for contacting all utility companies that are not members of the KY 811 one-call before-U-Dig (BUD) service. The contractor must coordinate excavation with the utility owners, including those whom do not subscribe to KY 811. It may be necessary for the contractor to contact the County Court Clerk to determine what utility companies have facilities in the area.
DITCH CONSTRUCTION CHART
LT RT MED STA. TO STA. TYPE QUANTITY DEPTH THICKNESS DITCH
X X X 1181+60 to 1182+20 ERO BLANKET 80 SY 1.00 V
X X 1183+20 to 1183+50 ERO BLANKET 40 SY 1.00 V
X X X 1184+52 to 1185+80 ERO BLANKET 114 SY 1.00 V
X 1185+15 to 1185+80 ERO BLANKET 59 SY 1.00 V
X X 1185+80 to 1189+25 ERO BLANKET 420 SY 1.00 V
REMOVE OR MODIFY DRAINAGE STRUCTURES
LT RT MED STA. TO STA. REMOVE INLET (EACH) CAP INLET (EACH) REMOVE PIPE (LIN FT) REMOVE HEADWALL (EACH) SAFE LOAD (LB)
X 1181+61 to 1182+16 55
X X 1183+65 to 1184+21 57
X X 1183+61 to 1184+22 61 2
X 1185+80 to 1186+07 25
STORM SEWER CHART
STRUCTURE STATION DBL CBI TYPE PIPE DIA PIPE LENGTH TOP GRATE THROAT INVERT
1 RT. 1183+50 DBI 50 18" 228 830.50 827.50
2 RT. 1185+80.5 DBI 50 18" 4 (RCP) 829.12 826.27
3 RT 1185+80.5 DBI 50 18" 339(RCP) 829.31 825.84
4 LT. 1190+27.5 CBI F 15" 60 833.35 830.70
PAVEMENT CONSTRUCTION ITEMS
LT RT MED STA. TO STA. LIP HEADER CURB CONSTRUCT TY 2 BARRIER MEDIAN CONSTRUCT TY 4 BARRIER MEDIAN MILL PAVEMENT CONCRETE ENTRANCE
X X 1183+55.3 TO 1184+14.2 - 52 SY - - 140 SY
X X 1183+77.6 TO 1184+06.7 - - - -
X 1189+44.1 TO 1191+00 - - - -
1184+14.2 TO 1185+04 90 LF Ⓓ - 203 SY 16.7 TON - -
Ⓓ TAPER FIRST 1' FROM FLAT TO FULL HEIGHT
PIPE CULVERT CHART
STATION TO STATION INLET ELEV. INLET TYPE OUTLET ELEV. OUTLET TYPE PIPE
1183+67.05 - 1185+80.5 829.22 SLOPED BOX 826.27 PROP. DBI 212 LF - 18"
OUTLET TY 1
POB 1181+00.00
BEGIN CONSTRUCTION STA. 1181+50
1181+00
1185+00
1190+00
MATCH LINE STA. 1191+00
SCALE: 1" = 40'
HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 220 PLAN SHEET
BEGIN TO STA. 1191+00
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: December 3, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64840\PLAN SHEET R4-KY220.DGN



PAYEMENT CONSTRUCTION ITEMS					
LT	RT	MED	STA. TO STA.	CONSTRUCT TY A BARRIER MEDIAN	MILL PAVEMENT
		X	1191+00 TO 1193+13.2	271 SY	22.4 TON
		X	1193+12.6 TO 1193+75.2	156 SY	12.9 TON

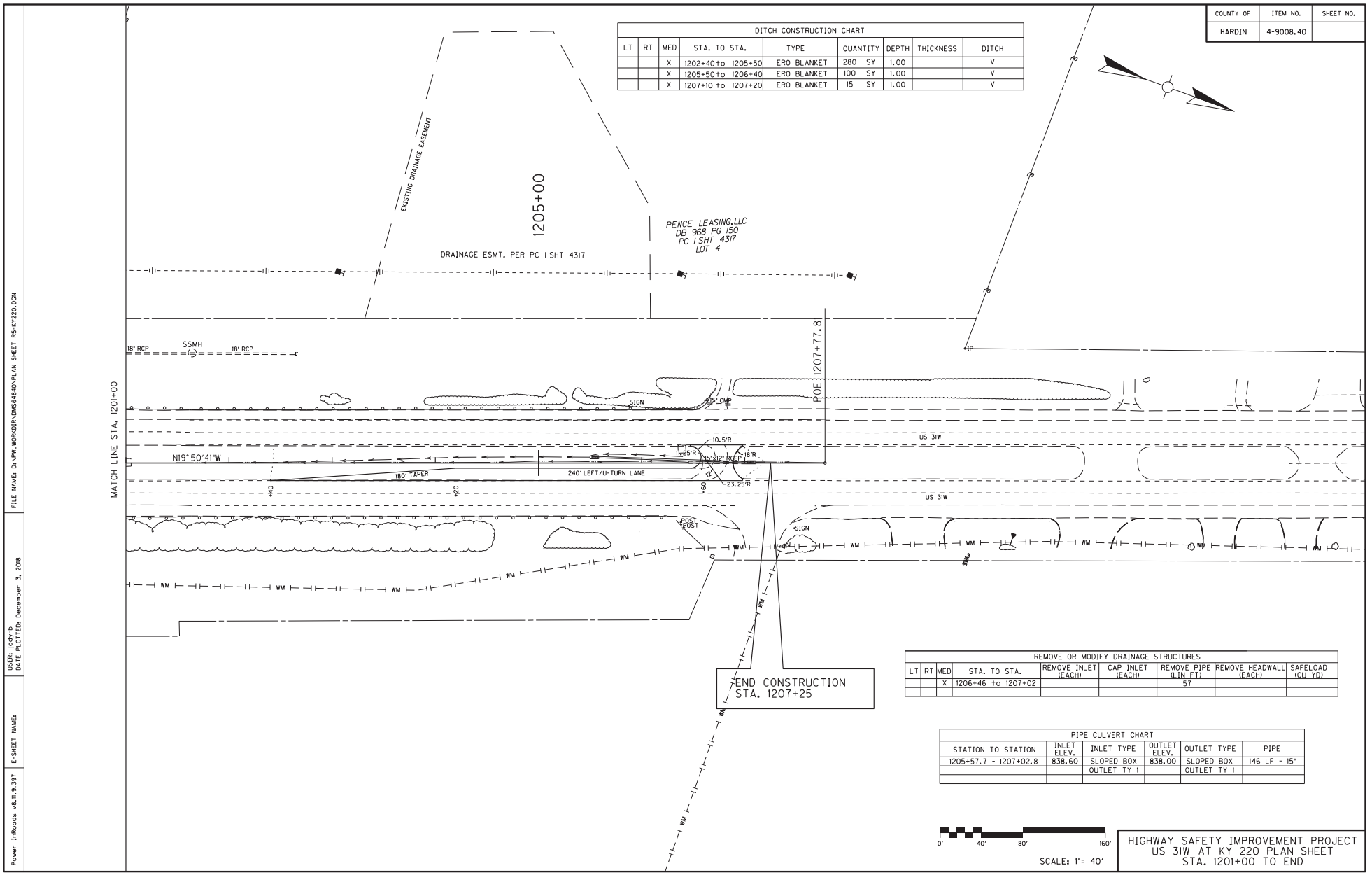
DITCH CONSTRUCTION CHART								
LT	RT	MED	STA. TO STA.	TYPE	QUANTITY	DEPTH	THICKNESS	DITCH
X			1193+80 TO 1195+00	TURF REINF MAT	120 SY	1.00		V
X			1195+00 TO 1196+80	ERO BLANKET	180 SY	1.00		V

REMOVE OR MODIFY DRAINAGE STRUCTURES									
STRUCTURE #	LT	RT	MED	STA. TO STA.	REMOVE INLET (EACH)	CAP INLET (EACH)	REMOVE PIPE (LIN FT)	REMOVE HEADWALL (EACH)	
6			X	1193+31.8		1			

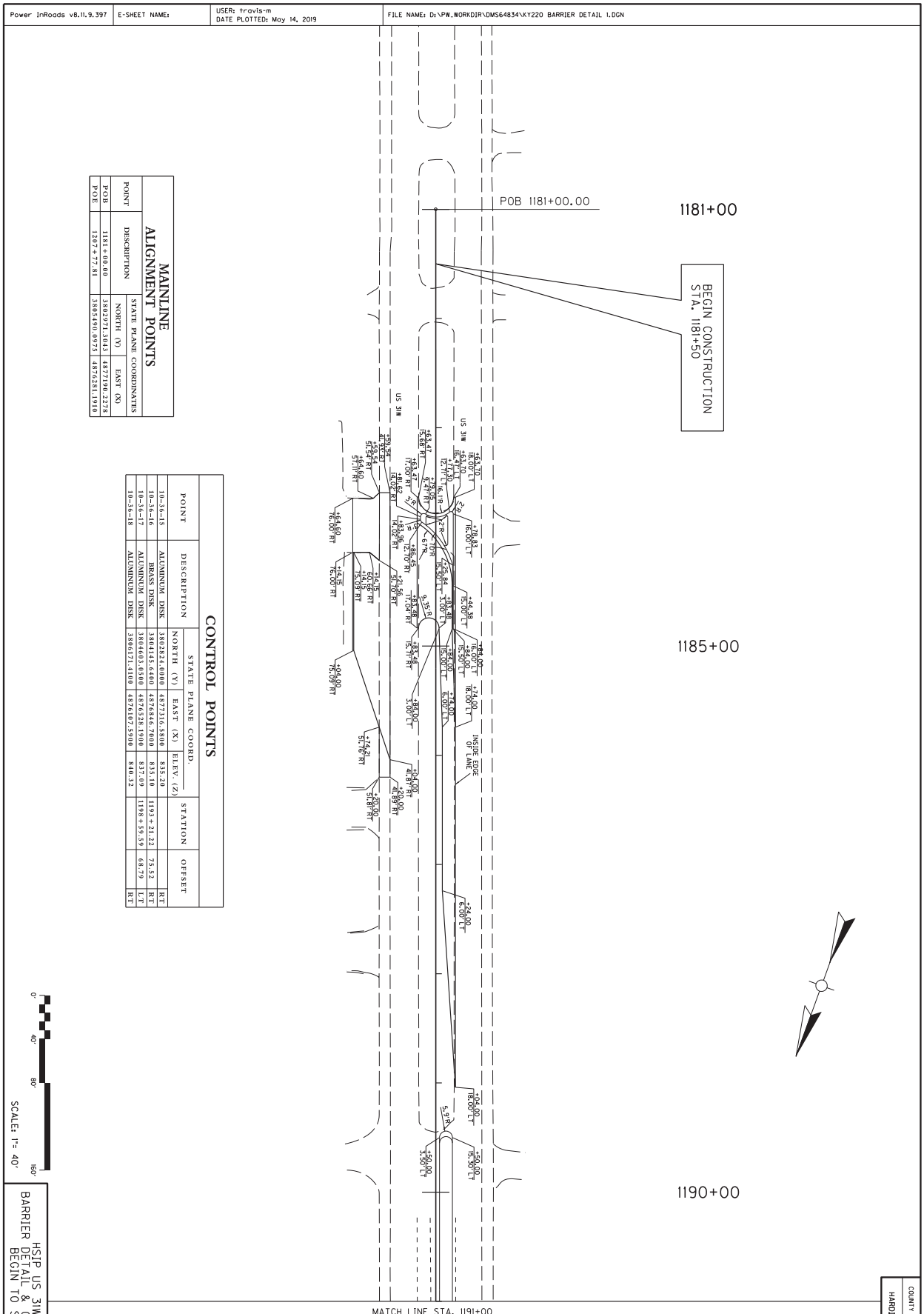
STORM SEWER CHART							
STRUCTURE #	STATION	DBL CBI	TYPE	PIPE DIA	PIPE LENGTH	TOP/GRATE THROAT	INVERT
5	Lt. 1191+42.2	CBI	F	15"	12	833.96	830.50
7	Lt. 1193+73	JBX	B	24"	10	834.85	830.66

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 220 PLAN SHEET
STA. 1191+00 TO STA. 1201+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


DITCH CONSTRUCTION CHART
LT RT MED STA. TO STA. TYPE QUANTITY DEPTH THICKNESS DITCH
X 1202+40 to 1205+50 ERO BLANKET 280 SY 1.00 V
X 1205+50 to 1206+40 ERO BLANKET 100 SY 1.00 V
X 1207+10 to 1207+20 ERO BLANKET 15 SY 1.00 V
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.
1205+00
EXISTING DRAINAGE EASEMENT
DRAINAGE ESMT. PER PC 1 SHT 4317
PENCE LEASING,LLC
DB 968 PG 150
PC 1 SHT 431?
LOT 4
MATCH LINE STA. 1201+00
18" RCP
SSMH
18" RCP
SIGN
15" CMP
POE 1207+77.8
IP
US 31W
N19°50'41"W
10.5'R
18'R
180' TAPER
240' LEFT/U-TURN LANE
23.25'R
+40
+20
+60
POST
POST
SIGN
WM
END CONSTRUCTION
STA. 1207+25
REMOVE OR MODIFY DRAINAGE STRUCTURES
LT RT MED STA. TO STA. REMOVE INLET (EACH) CAP INLET (EACH) REMOVE PIPE (LIN FT) REMOVE HEADWALL (EACH) SAFELOAD (CU YD)
X 1206+46 to 1207+02 57
PIPE CULVERT CHART
STATION TO STATION INLET ELEV. INLET TYPE OUTLET ELEV. OUTLET TYPE PIPE
1205+57.7 - 1207+02.8 838.60 SLOPED BOX 838.00 SLOPED BOX 146 LF - 15"
OUTLET TY 1 OUTLET TY 1
0' 40' 80' 160'
SCALE: 1"= 40'
HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 220 PLAN SHEET
STA. 1201+00 TO END
FILE NAME: D:\PW_WORKDIR\DM56840\PLAN SHEET RS-KY220.DGN
USER: jody-b
DATE PLOTTED: December 3, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m | DATE PLOTTED: May 14, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64834\KY220 BARRIER DETAIL 1.DGN



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1181+00.00	3892971.3043	4877190.2278
POE	1207+77.81	3895490.6975	4876281.1910

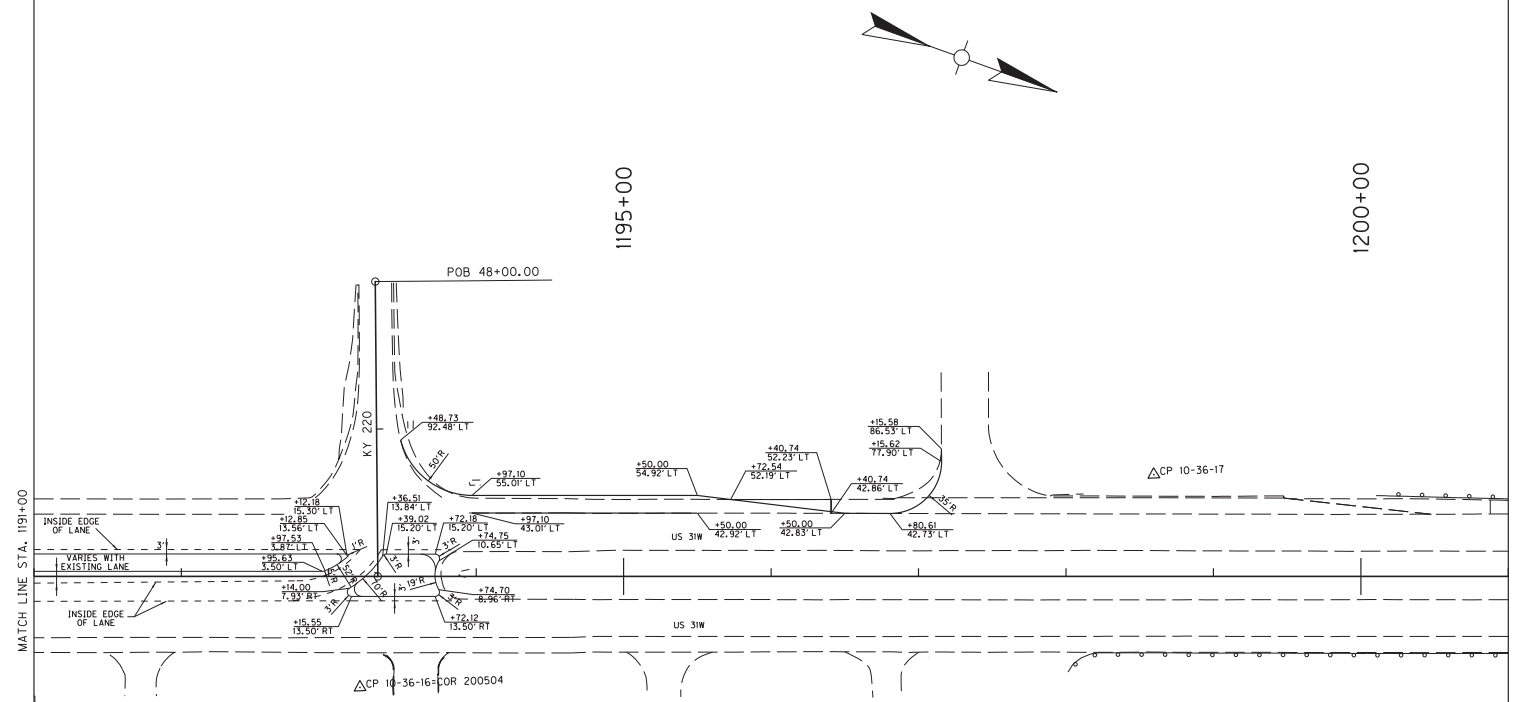
CONTROL POINTS

POINT	DESCRIPTION	STATE PLANE COORD.		ELEV. (Z)	STATION	OFFSET	
		NORTH (Y)	EAST (X)				
10-16-15	ALUMINUM DISK	3892824.0000	4877316.5800	835.20			RT
10-16-16	BRASS DISK	3894145.6400	4876846.7000	835.10	1193+21.22	75.52	RT
10-16-17	ALUMINUM DISK	3894603.0500	4876528.1900	837.09		68.79	LT
10-16-18	ALUMINUM DISK	3896171.4100	4876107.5900	840.32	1198+59.59		RT

HSIP US 31W AT KY 220
DETAIL & CONTROL PLAN SHEET
BEGIN TO STA. 1191+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1181+00.00	3802971.3043	4877190.2278
POE	1207+77.81	3805490.0975	4876281.1910
KY 220			
POB	48+00.00	3804061.8098	4876584.0361
POE	50+00.00	3804131.3429	4876771.5598

CONTROL POINTS

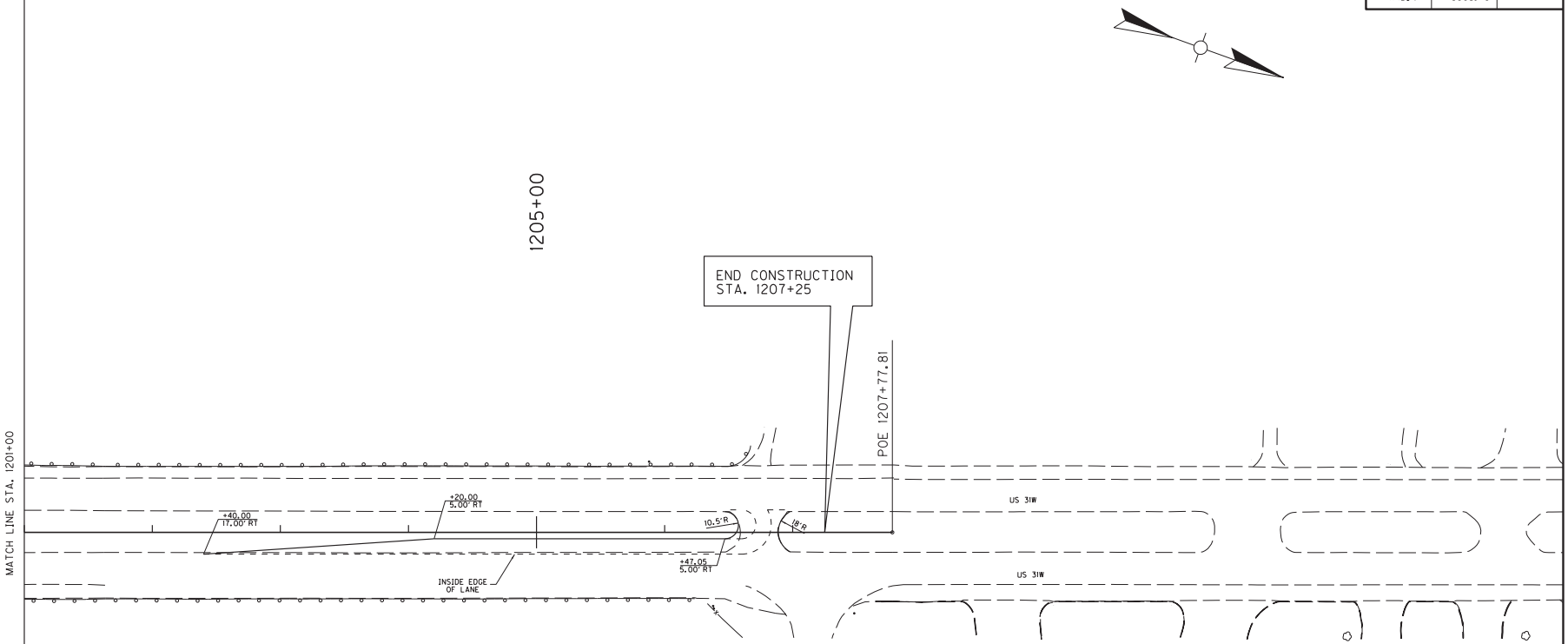
POINT	DESCRIPTION	STATE PLANE COORD.			STATION	OFFSET	
		NORTH (Y)	EAST (X)	ELEV. (Z)			
10-36-15	ALUMINUM DISK	3802824.0000	4877316.5800	835.20			RT
10-36-16	BRASS DISK	3804145.6400	4876846.7000	835.10	1193+21.22	75.52	RT
10-36-17	ALUMINUM DISK	3804603.0500	4876528.1900	837.09	1198+59.59	68.79	LT
10-36-18	ALUMINUM DISK	3806171.4100	4876107.5900	840.32			RT

0' 40' 80' 160'
SCALE: 1"= 40'

HSIP US 31W AT KY 220
BARRIER DETAIL & CONTROL PLAN SHEET
STA. 1191+00 TO STA. 1201+00

Power InRoads v8.11.0.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 17, 2019 | FILE NAME: D:\PW_WORKDIR\DM56483A\KY220 BARRIER DETAIL 2.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1181+00.00	3802971.3043	4877190.2278
POE	1207+77.81	3805490.0975	4876281.1910

CONTROL POINTS

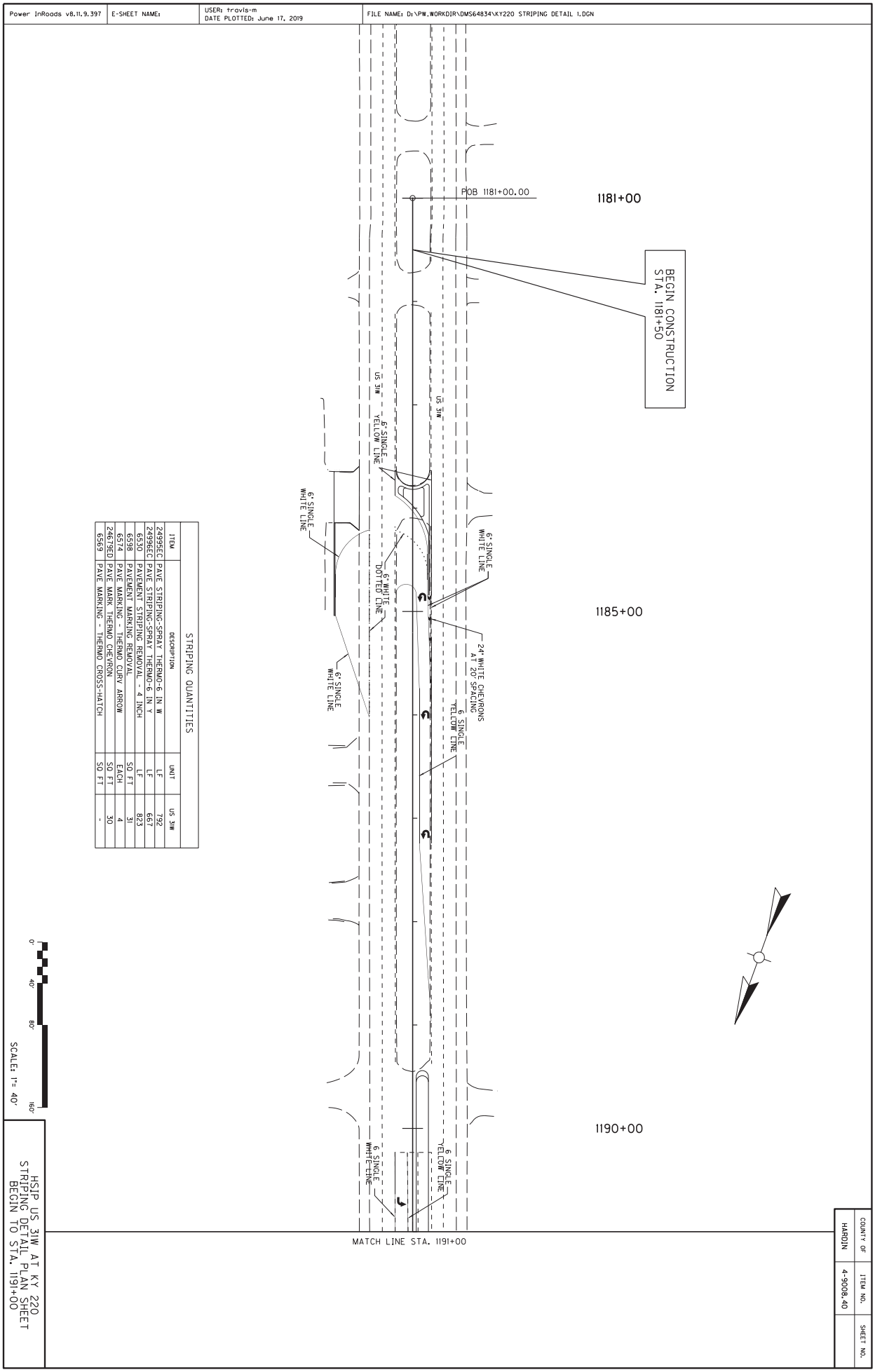
POINT	DESCRIPTION	STATE PLANE COORD.			STATION	OFFSET	
		NORTH (Y)	EAST (X)	ELEV. (Z)			
10-36-15	ALUMINUM DISK	3802824.0000	4877316.5800	835.20			RT
10-36-16	BRASS DISK	3804145.6400	4876846.7000	835.10	1193+21.22	75.52	RT
10-36-17	ALUMINUM DISK	3804603.0500	4876528.1900	837.09	1198+59.59	68.79	LT
10-36-18	ALUMINUM DISK	3806171.4100	4876107.5900	840.32			RT

0' 40' 80' 160'

SCALE: 1"= 40'

HSIP US 31W AT KY 220
BARRIER DETAIL & CONTROL PLAN SHEET
STA. 1201+00 TO END

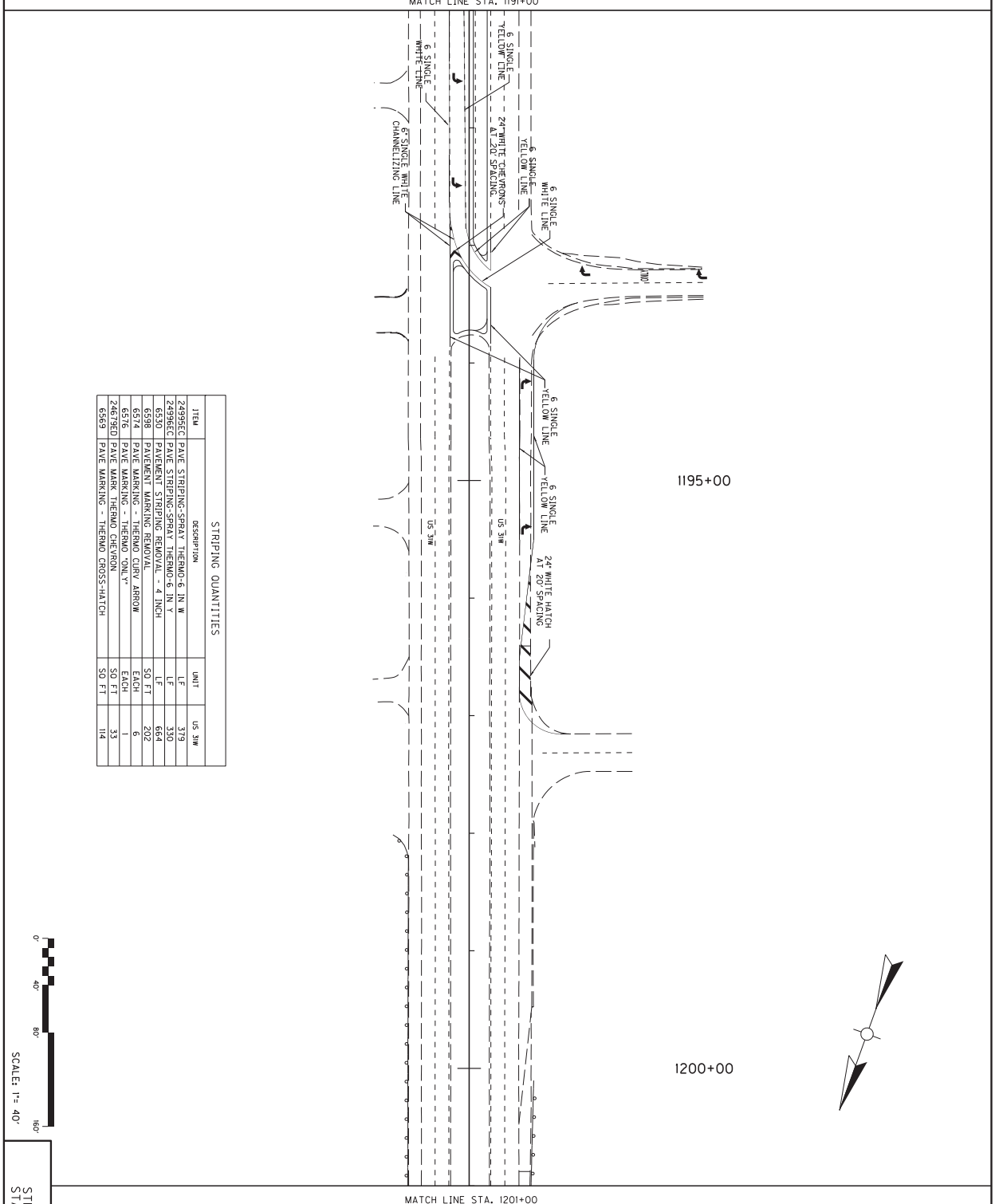
Power InRoads v8.11.0.9.397 | E-SHEET NAME: | USER: trovis-m DATE PLOTTED: August 30, 2018 | FILE NAME: D:\PW_WORKDIR\DM56483A\V220 BARRIER DETAIL 3.DGN



STRIPING QUANTITIES

ITEM	DESCRIPTION	UNIT	US 31W
24935EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	792
24936EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	667
6530	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	823
6598	PAVEMENT MARKING REMOVAL	SQ FT	3
6574	PAVE MARKING - THERMO CURV ARROW	EACH	3
24679ED	PAVE MARK - THERMO CHEVRON	SQ FT	30
6569	PAVE MARKING - THERMO CROSS-HATCH	SQ FT	-

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: August 30, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64834\KY220 STRIPING DETAIL 2.DGN



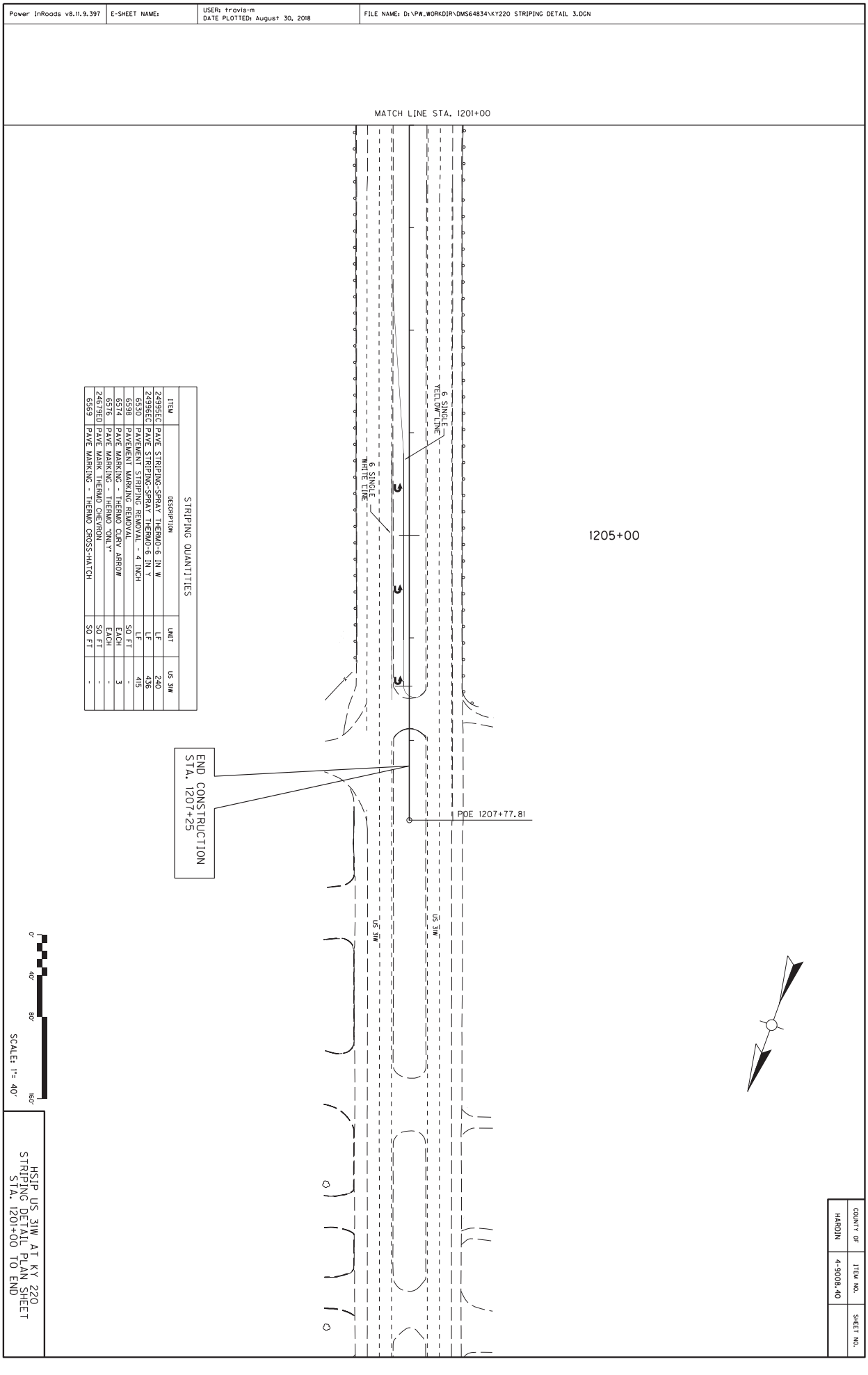
STRIPING QUANTITIES

ITEM	DESCRIPTION	UNIT	US 31W
24995EC(	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	379
24996EC(	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	330
65300	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	664
65598	PAVEMENT MARKING REMOVAL	SQ FT	202
65574	PAVE MARKING - THERMO CURV ARROW	EACH	6
65576	PAVE MARKING - THERMO ONLY	EACH	1
24679ED	PAVE MARK-THERMO CHEVRON	SQ FT	33
65969	PAVE MARKING - THERMO CROSS-HATCH	SQ FT	114

HSIP US 31W AT KY 220
STRIPING DETAIL PLAN SHEET
STA. 1191+00 TO STA. 1201+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: August 30, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64834\KY220 STRIPING DETAIL 3.DGN

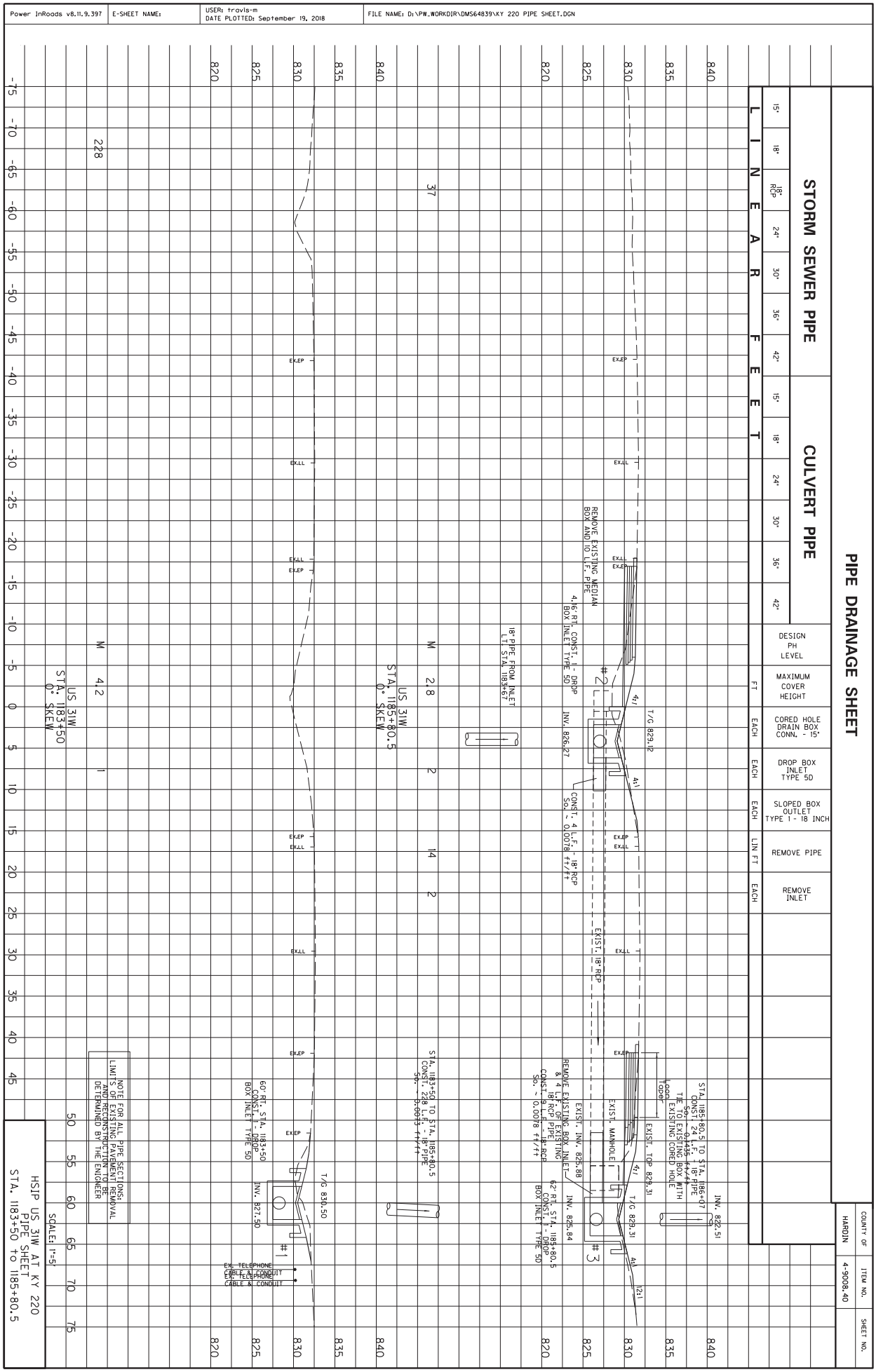


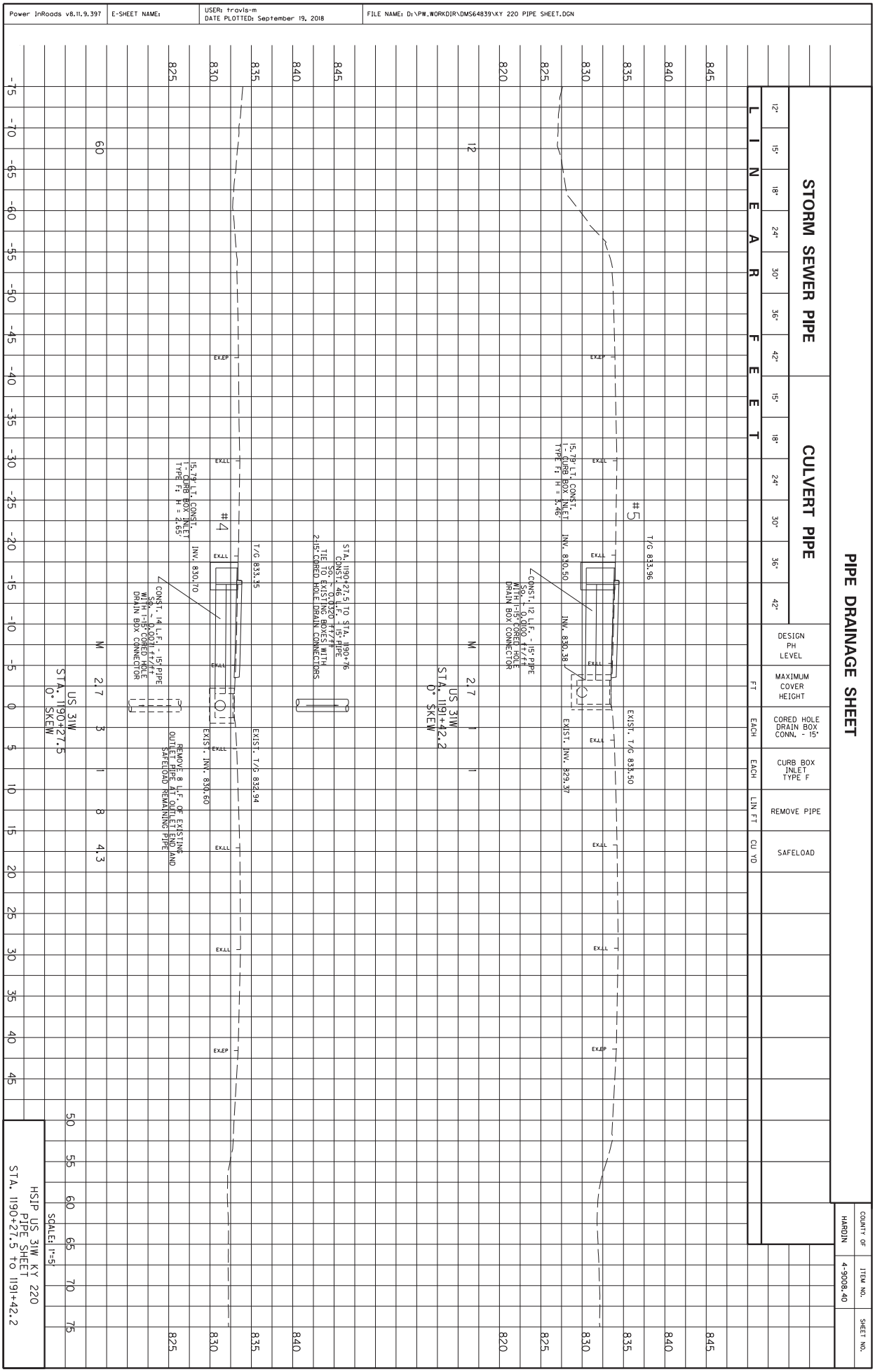
STRIPING QUANTITIES

ITEM	DESCRIPTION	UNIT	US 31W
24998EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	240
24998EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	436
65300	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	415
65598	PAVEMENT MARKING REMOVAL	SQ FT	-
65574	PAVE MARKING - THERMO CURV. ARROW	EACH	3
65576	PAVE MARKING - THERMO ONLY	EACH	-
24679ED	PAVE MARK THERMO CHEVRON	SQ FT	-
65569	PAVE MARKING - THERMO CROSS-HATCH	SQ FT	-

HSIP US 31W AT KY 220
STRIPING DETAIL PLAN SHEET
STA. 1201+00 TO END

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

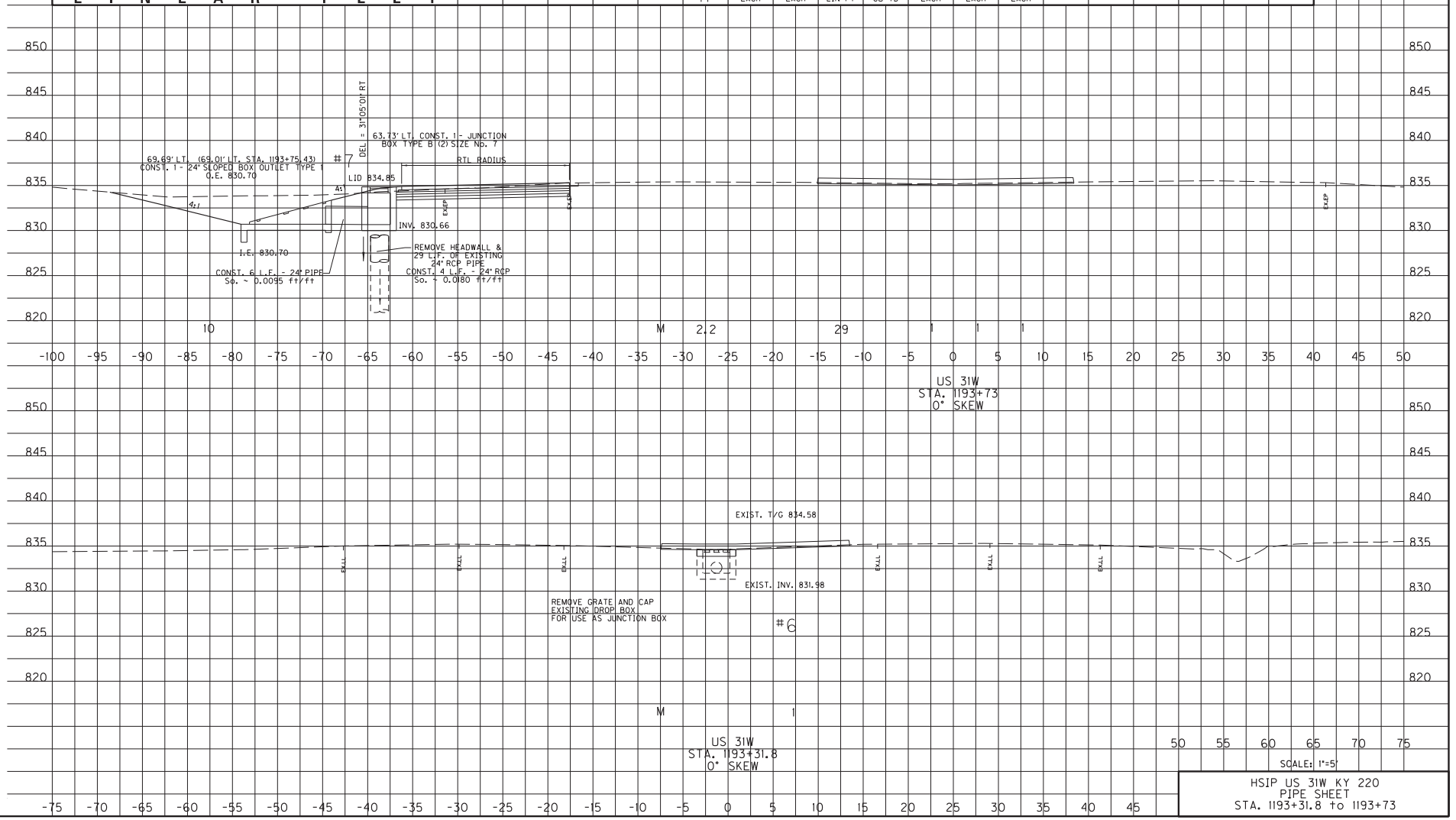

PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
15" 18" 18" RCP 24" 30" 36" 42"
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT FT
CORED HOLE DRAIN BOX CONN. - 15" EACH
DROP BOX INLET TYPE 5D EACH
SLOPED BOX OUTLET TYPE 1 - 18 INCH EACH
REMOVE PIPE LIN FT
REMOVE INLET EACH
REMOVE EXISTING MEDIAN BOX AND 10 L.F. PIPE
4.16 RT. CONST. 1 - DROP BOX INLET TYPE 5D
INV. 826.27
CONST. 4 L.F. - 18" RCP Sq. = 0.0078 ft/ft
18" PIPE FROM INLET LT. STA. 1183+61
EXIST. 18" RCP
EXIST. MANHOLE
EXIST. TOP 829.31
T/G 829.12
T/G 829.31
T/G 830.50
STA. 1185+80.5 TO STA. 1186+07 CONST. 24 L.F. - 18" PIPE Sq. = 0.1435 ft/ft TIE TO EXISTING BOX WITH EXISTING CORED HOLE
INV. 822.51
REMOVE EXISTING BOX INLET & 4 L.F. OF EXISTING 18" RCP PIPE
EXIST. INV. 825.88
INV. 825.84
CONST. 1 - DROP BOX INLET TYPE 5D
62' RT. STA. 1184+80.5
STA. 1183+50 TO STA. 1185+80.5 CONST. 228.0 L.F. - 18" PIPE Sq. = 0.0033 ft/ft
60' RT. STA. 1183+50 CONST. 1 - DROP BOX INLET TYPE 5D
INV. 827.50
NOTE FOR ALL PIPE SECTIONS: LIMITS OF EXISTING PAVEMENT REMOVAL AND RECONSTRUCTION TO BE DETERMINED BY THE ENGINEER
EX. TELEPHONE CABLE & CONDUIT
EX. TELEPHONE CABLE & CONDUIT
US 31W STA. 1183+50 0° SKEW
US 31W STA. 1185+80.5 0° SKEW
HSIP US 31W AT KY 220
PIPE SHEET
STA. 1183+50 TO 1185+80.5
SCALE: 1"=5'
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.
Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: September 19, 2018
FILE NAME: D:\PW_WORKDIR\DMS64839\KY 220 PIPE SHEET.DGN


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: September 19, 2018
FILE NAME: D:\PW_WORKDIR\DMS64839\KY 220 PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
12" 15" 18" 24" 30" 36" 42"
15" 18" 24" 30" 36" 42"
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT FT
CORED HOLE DRAIN BOX CONN. - 15" EACH
CURB BOX INLET TYPE F EACH
REMOVE PIPE LIN FT
SAFELOAD CU YD
#5
T/G 833.96
EXIST. T/G 833.50
EXIST. INV. 829.37
15.79 LT. CONST. - CURB BOX INLET TYPE F; H = 3.46'
INV. 830.50
CONST. 12 L.F. - 15" PIPE SLP. - 0.0100 ft/ft WITH 1-15" CORED HOLE DRAIN BOX CONNECTOR
INV. 830.38
12
M
2.7
1
1
US 31W
STA. 1191+42.2
0° SKEW
STA. 1190+27.5 TO STA. 1190+76
CONST. 46 L.F. - 15" PIPE
SLP. - 0.0320 ft/ft
TIE TO EXISTING BOXES WITH 2-15" CORED HOLE DRAIN CONNECTORS
#4
T/G 833.35
EXIST. T/G 832.94
15.79 LT. CONST. - CURB BOX INLET TYPE F; H = 2.65'
INV. 830.70
CONST. 14 L.F. - 15" PIPE SLP. - 0.0071 ft/ft WITH 1-15" CORED HOLE DRAIN BOX CONNECTOR
EXIST. INV. 830.60
REMOVE 8 L.F. OF EXISTING OUTLET PIPE AT OUTLET END AND SAFELOAD REMAINING PIPE
60
M
2.7
3
1
8
4.3
US 31W
STA. 1190+27.5
0° SKEW
EX.EP
EX.LL
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.
SCALE: 1"=5'
HSIP US 31W KY 220
PIPE SHEET
STA. 1190+27.5 TO 1191+42.2

PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

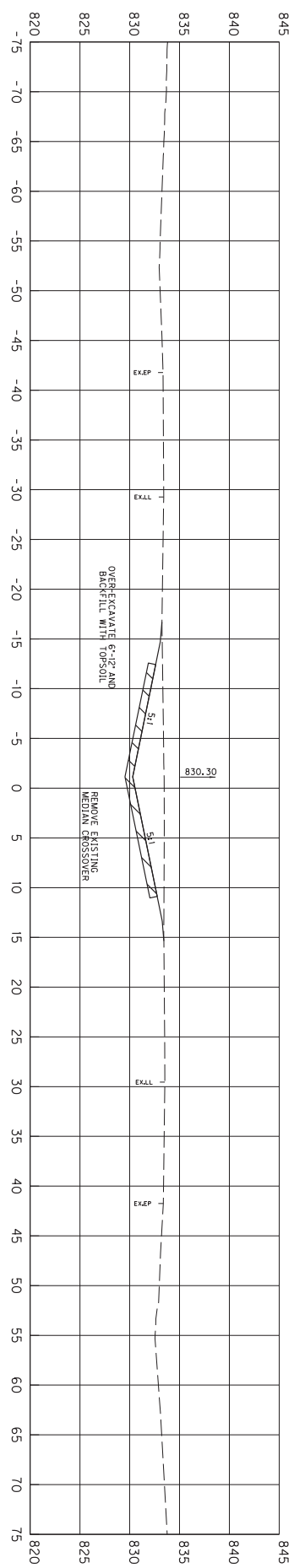
STORM SEWER PIPE (LINEAR FEET)							CULVERT PIPE (LINEAR FEET)						DESIGN PH LEVEL	MAXIMUM COVER HEIGHT	CORED HOLE DRAIN BOX CONN. - 15"	CAP INLET	REMOVE PIPE	SAFELOAD	DRAINAGE JUNCTION BOX TY B	SLOPED BOX OUTLET TYPE 1 24 IN	REMOVE HEADWALL
12"	15"	18"	24"	30"	36"	42"	15"	18"	24"	30"	36"	42"		FT	EACH	EACH	LIN FT	CU YD	EACH	EACH	EACH



HSIP US 31W KY 220
PIPE SHEET
STA. 1193+31.8 to 1193+73

FILE NAME: D:\PW_WORKDIR\DM564839\KY 220 PIPE SHEET.DGN
USER: travis-m
DATE PLOTTED: September 19, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN



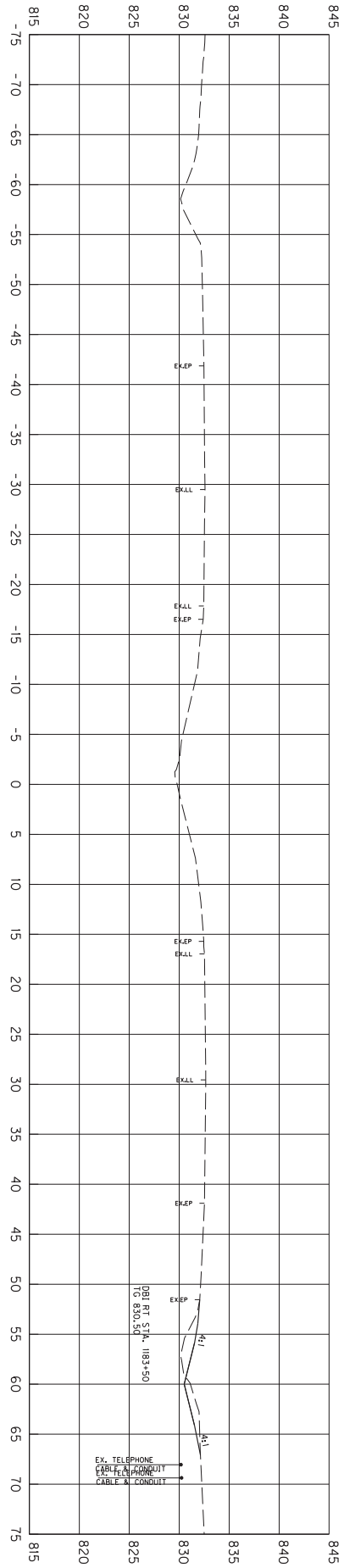
1181+85

SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1181+85 TO STA. 1181+85

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

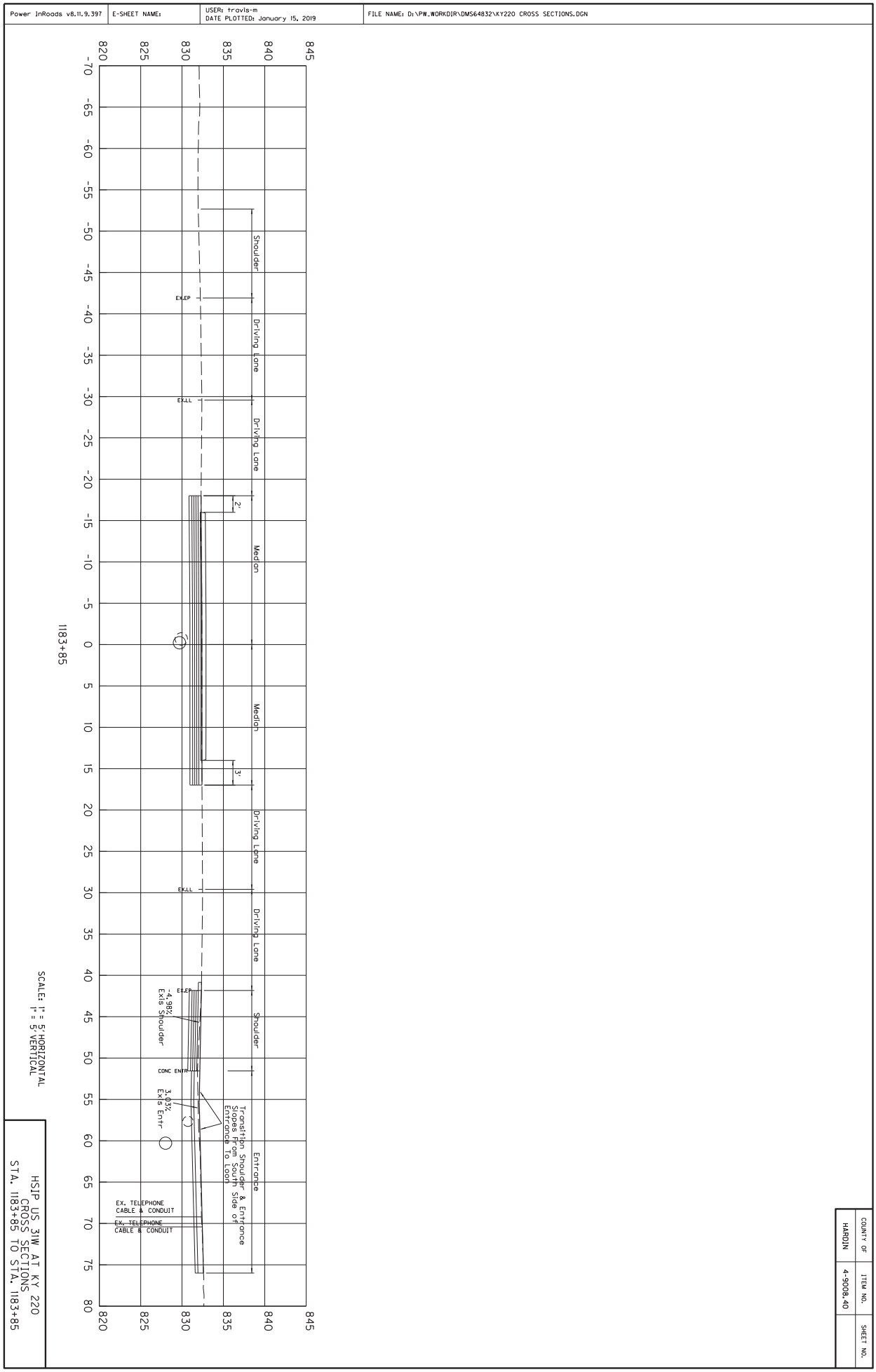


1183+50

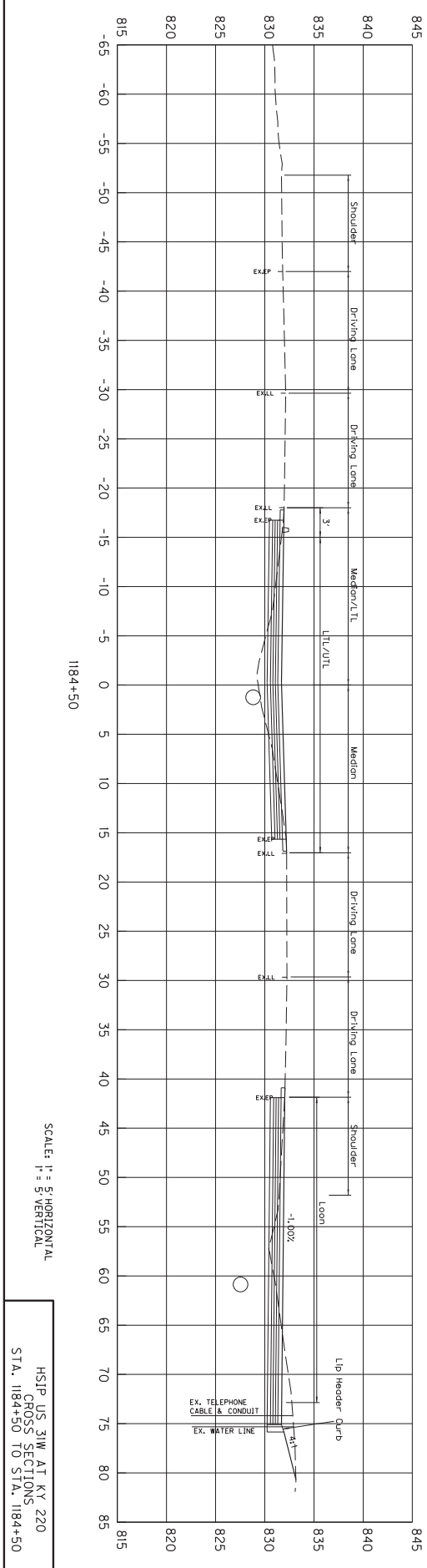
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1183+50 TO STA. 1183+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: January 15, 2019
FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN
820
825
830
835
840
845
-70
-65
-60
-55
-50
-45
-40
-35
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
Shoulder
Driving Lane
Driving Lane
Median
Median
Driving Lane
Driving Lane
Shoulder
Entrance
EXLEP
EXLL
EXLL
EXLEP
2'
3'
1183+85
-4.98%
Exis Shoulder
CONC ENTR
-3.03%
Exis Entr
Transition Shoulder & Entrance
Slopes From South Side of
Entrance To Loop
EX. TELEPHONE
CABLE & CONDUIT
EX. TELEPHONE
CABLE & CONDUIT
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1183+85 TO STA. 1183+85
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

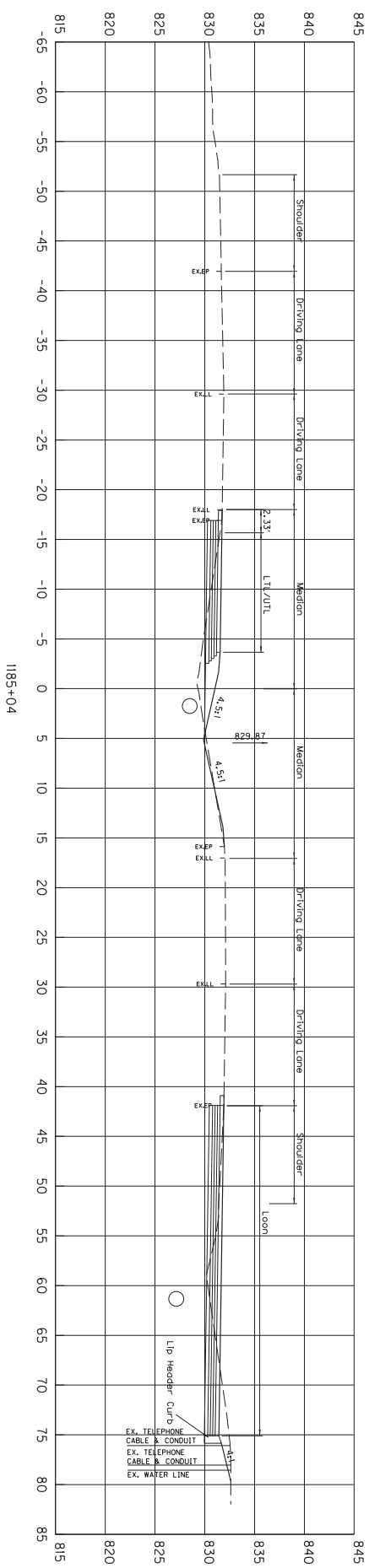


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1184+50 TO STA. 1184+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

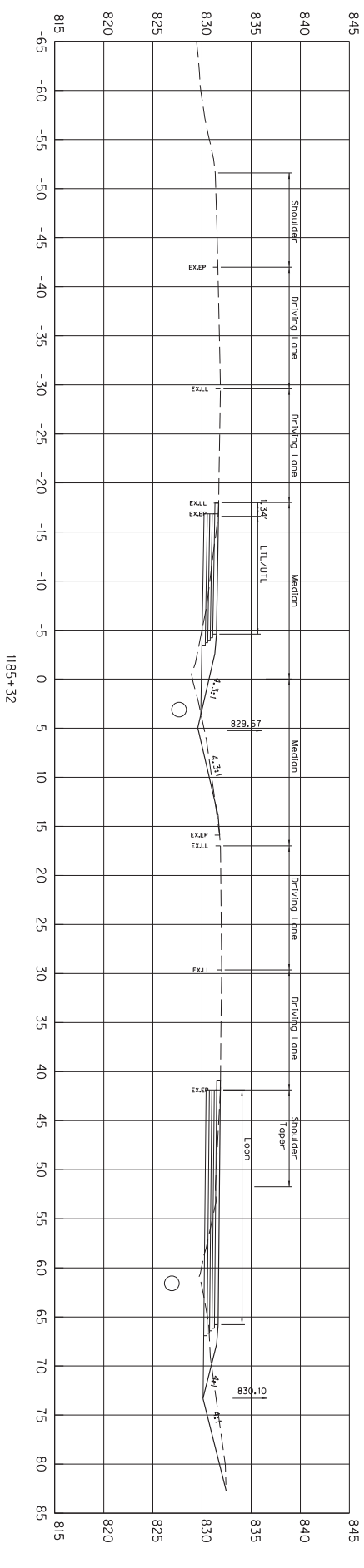


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1185+04 TO STA. 1185+04

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

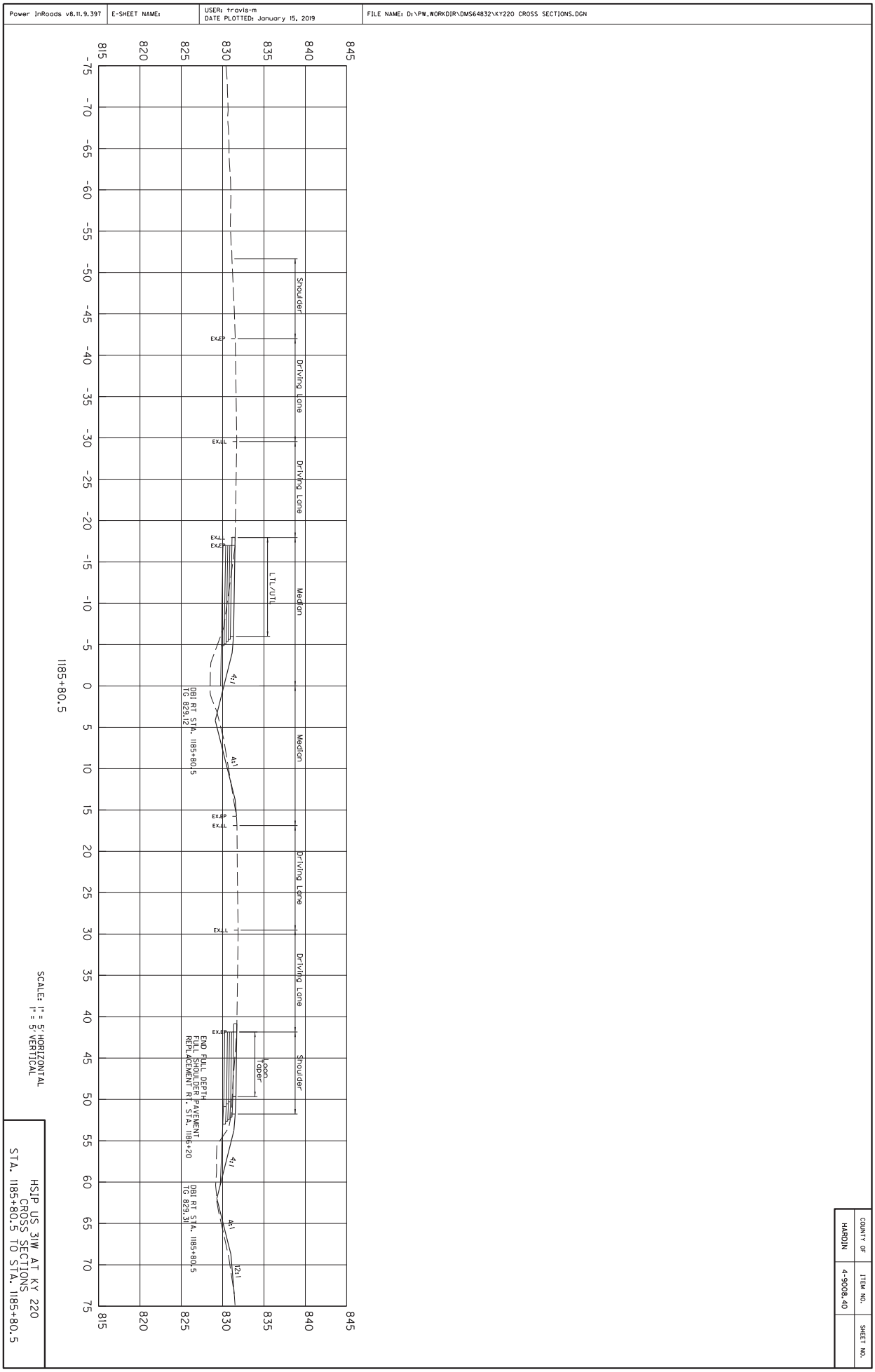
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

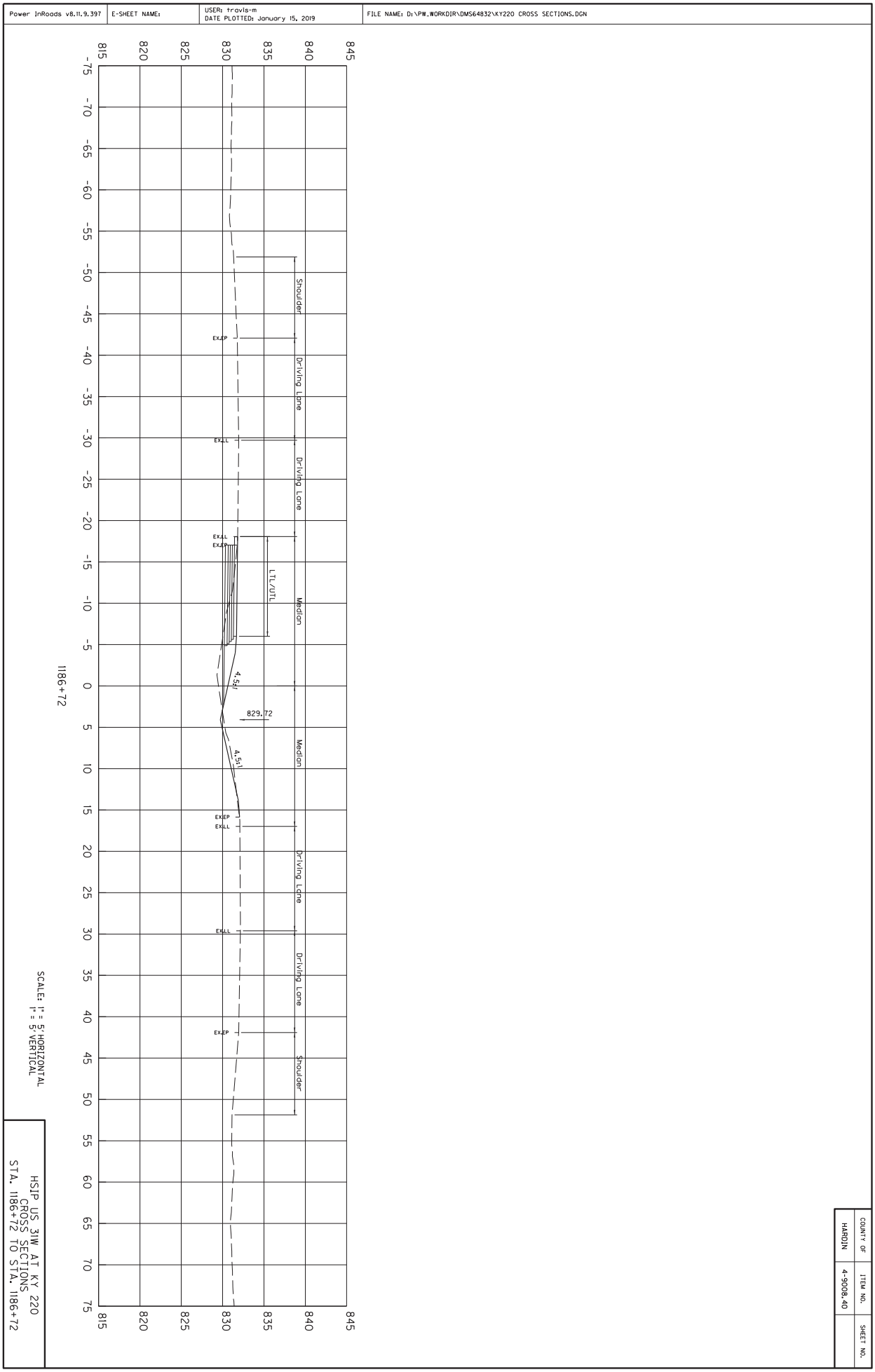


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

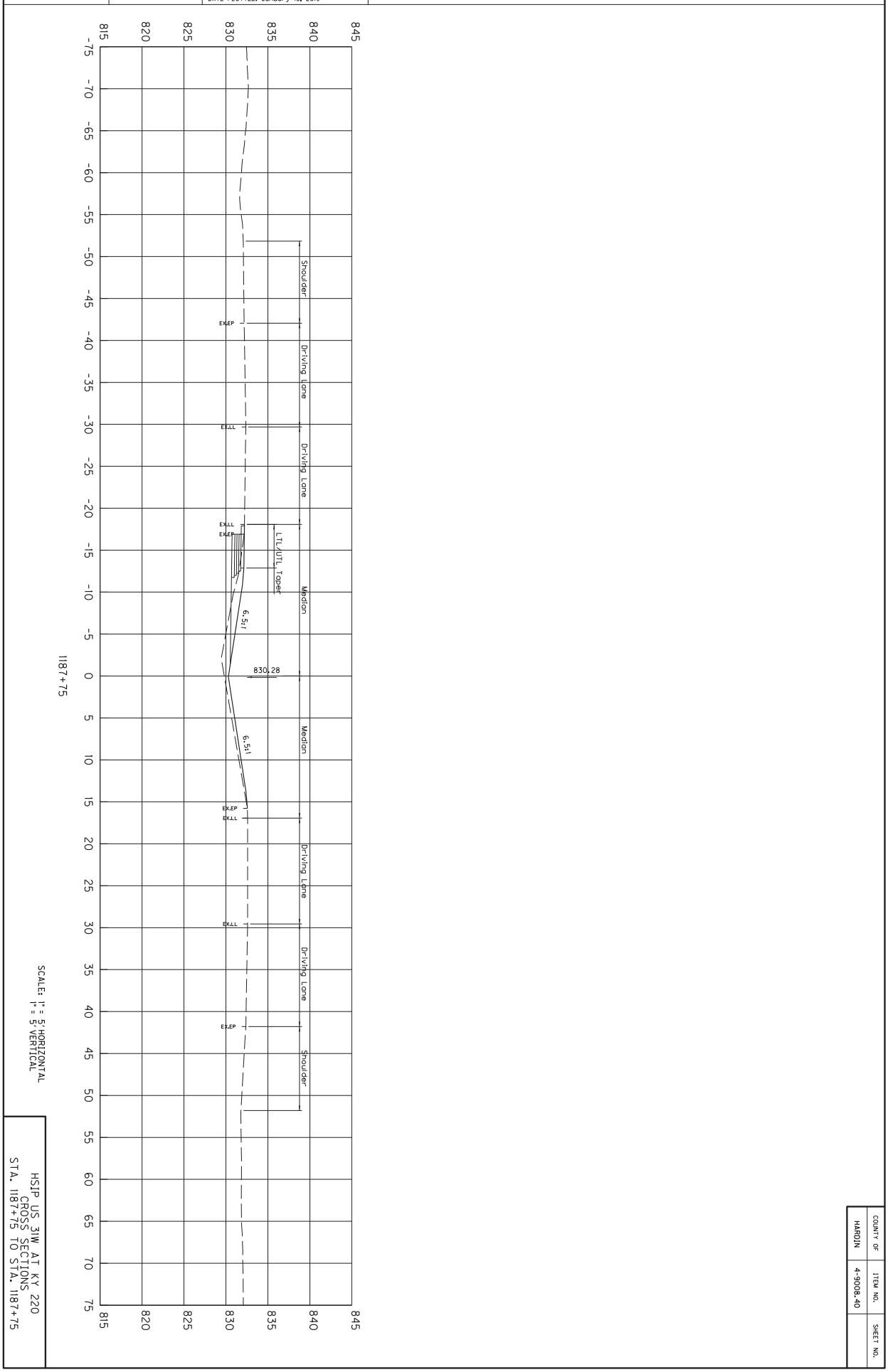
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1185+32 TO STA. 1185+32

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: January 15, 2019
FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN
815
820
825
830
835
840
845
-75
-70
-65
-60
-55
-50
-45
-40
-35
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
Shoulder
Driving Lane
Driving Lane
Median
Median
Driving Lane
Driving Lane
Shoulder
EX.EP
EX.TT
EX.TT
EX.EP
EX.EP
EX.TT
EX.TT
EX.EP
LTL/UTL
LOOP
LOOP
4:1
4:1
4:1
4:1
12:1
DBI RT STA. 1185+80.5
TG 829.12
END FULL DEPTH
FULL SHOULDER PAVEMENT
REPLACEMENT RT. STA. 1186+20
DBI RT STA. 1185+80.5
TG 829.31
1185+80.5
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1185+80.5 TO STA. 1185+80.5
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: January 15, 2019
FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN
815 820 825 830 835 840 845
-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
Shoulder
Driving Lane
Driving Lane
Median
Median
Driving Lane
Driving Lane
Shoulder
EXLP
EXLL
EXLL
EXLP
LTL/UTL
4.5%
829.72
4.5%
EXLP
EXLL
EXLL
EXLP
1186+72
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1186+72 TO STA. 1186+72
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

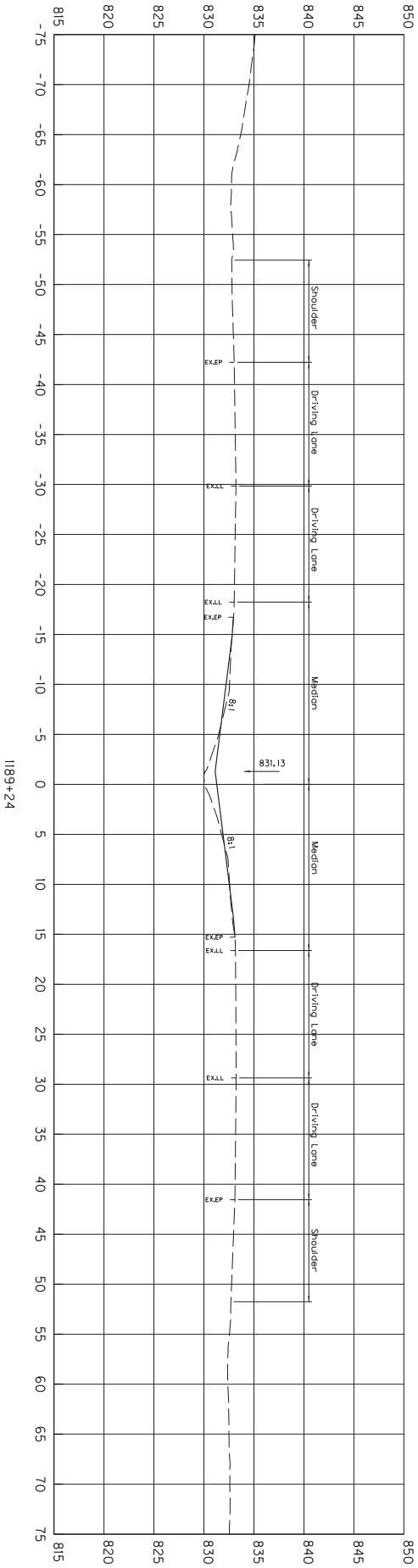


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1187+75 TO STA. 1187+75

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

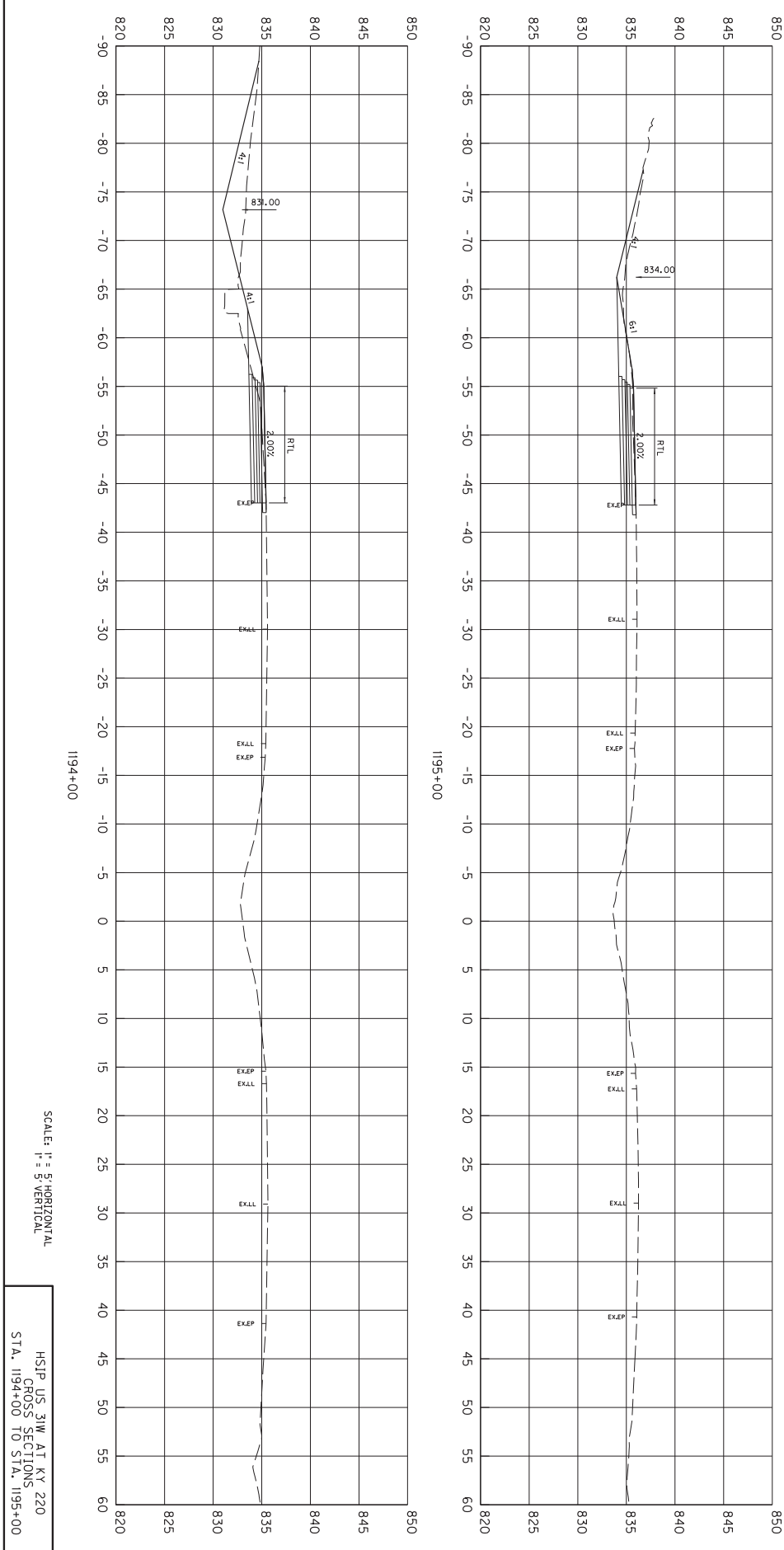


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1189+24 TO STA. 1189+24

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m | DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

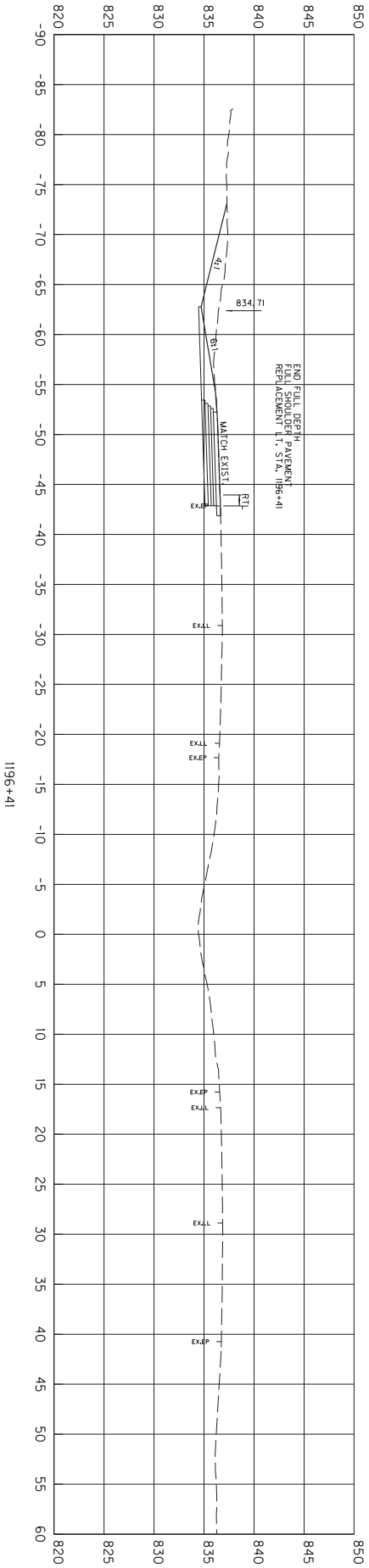


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1194+00 TO STA. 1195+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

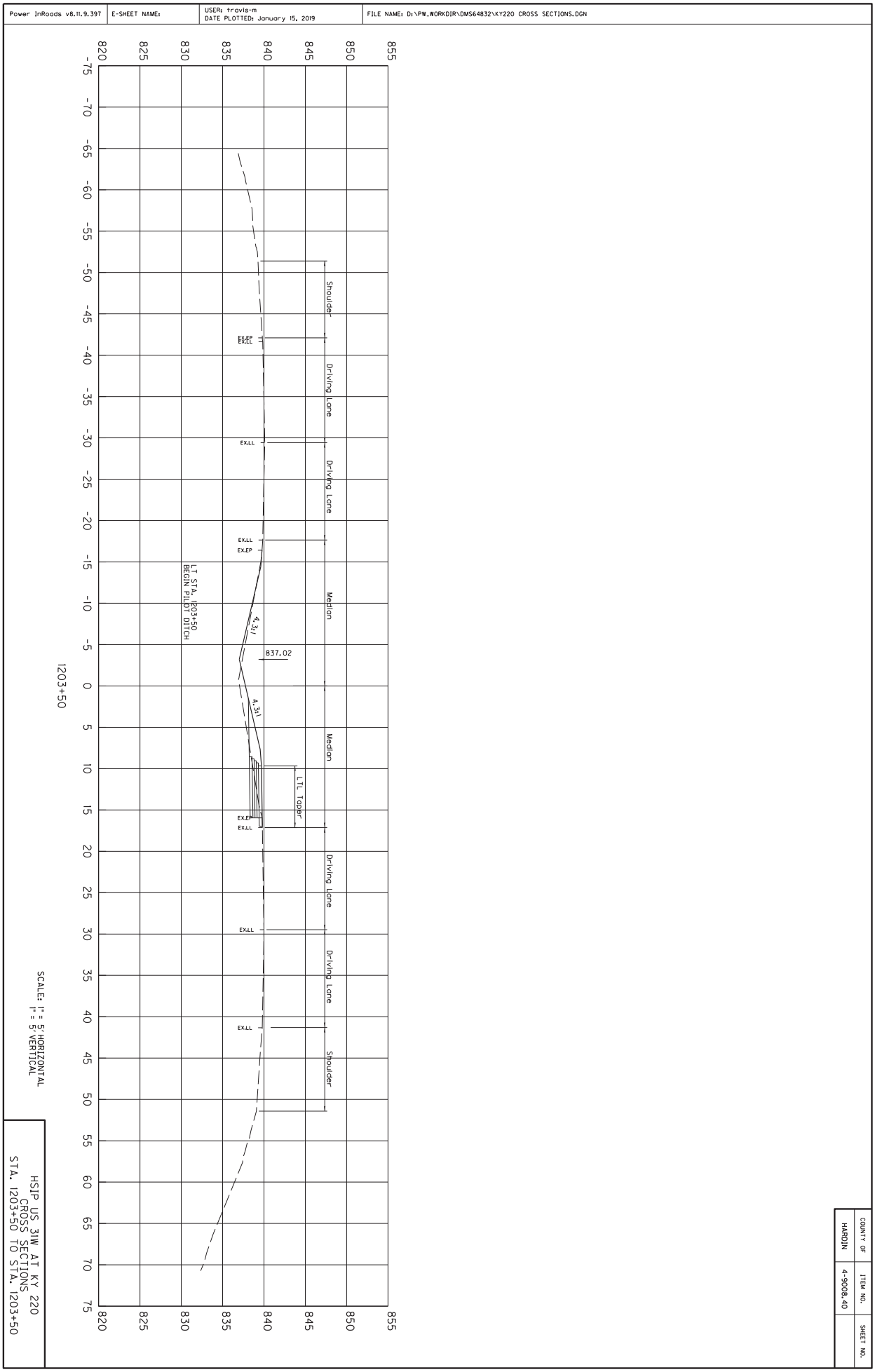
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

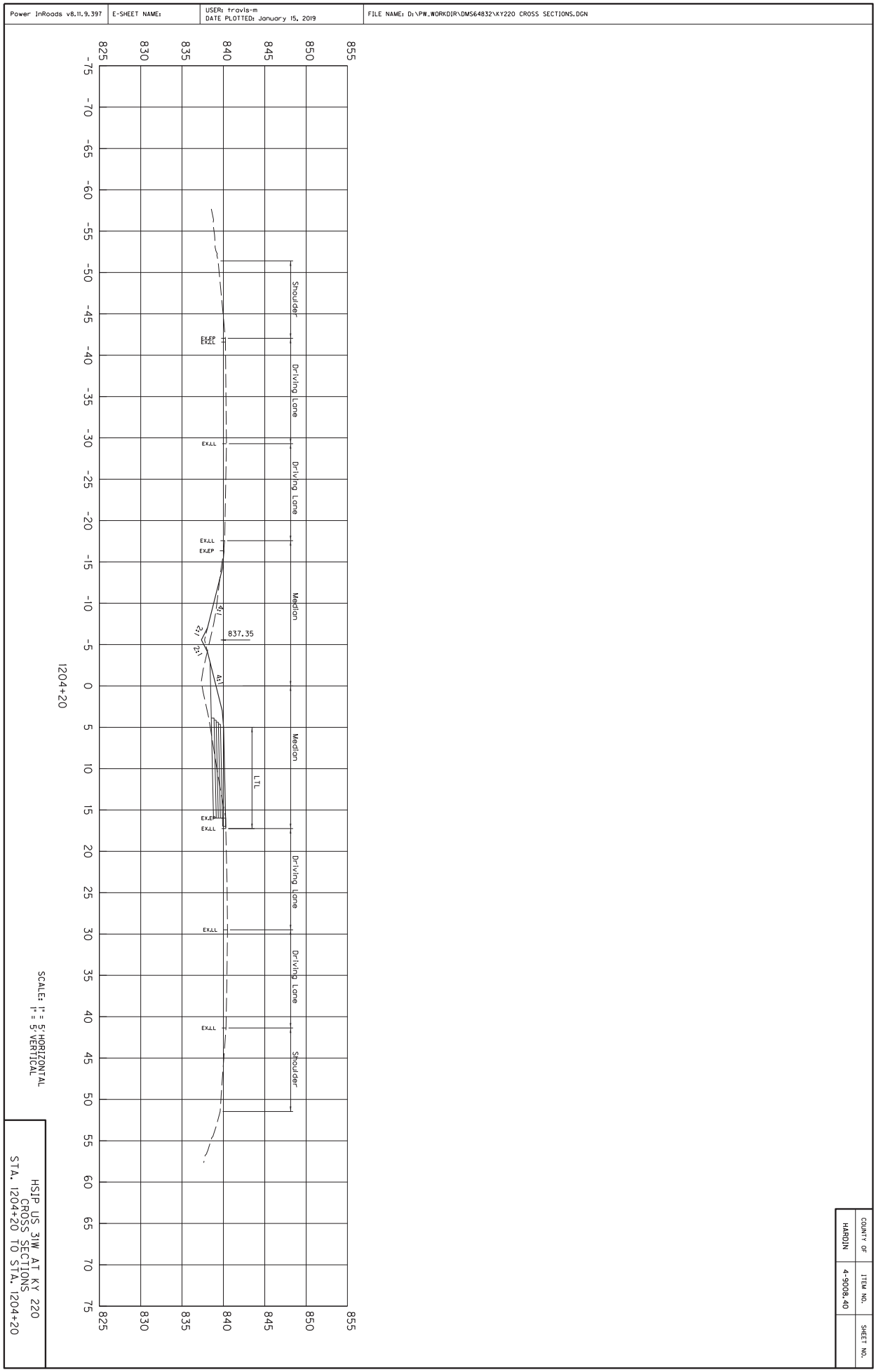


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

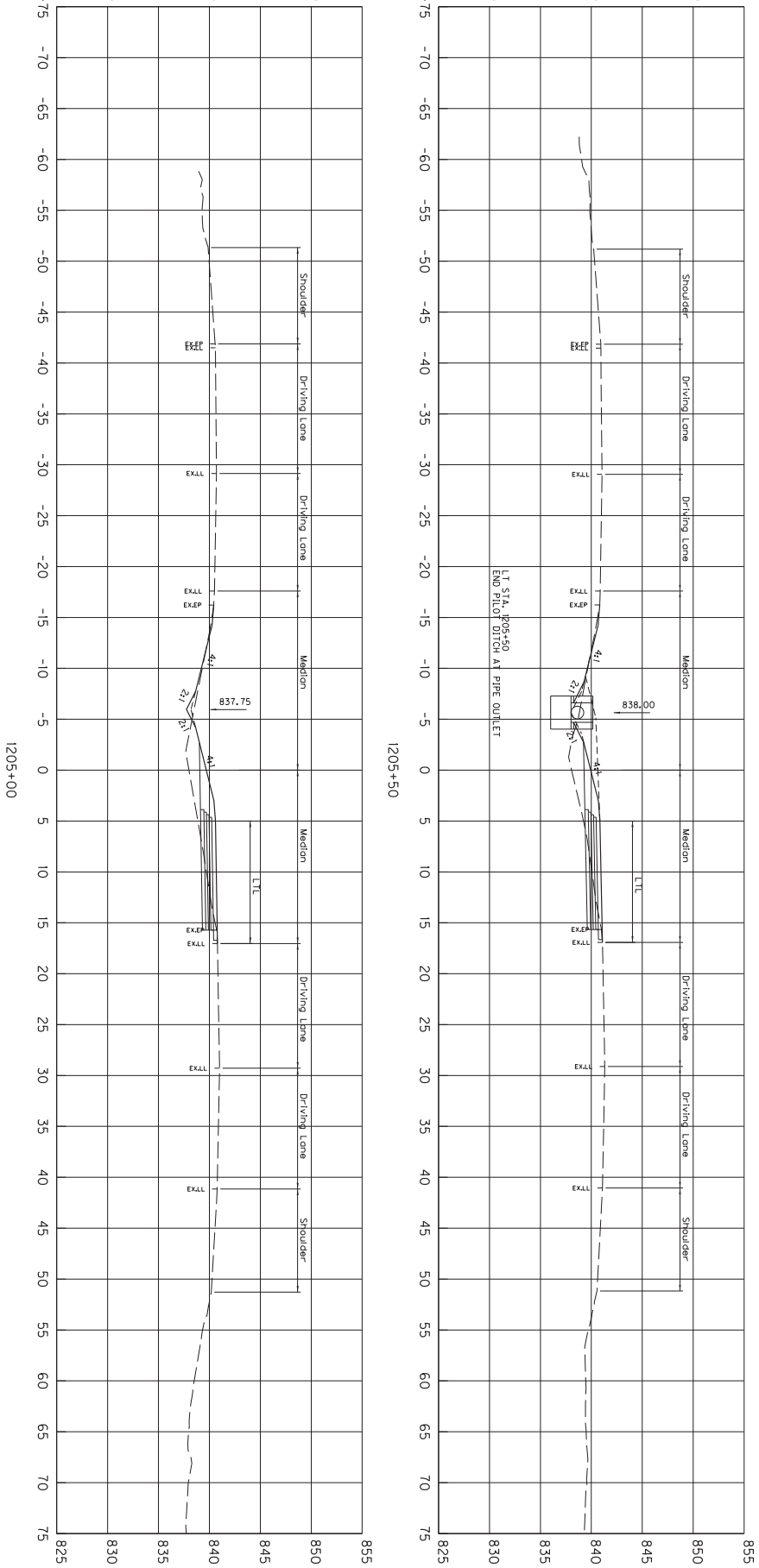
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1196+41 TO STA. 1196+41

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: January 15, 2019
FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN
820 825 830 835 840 845 850 855
-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
Shoulder
Driving Lane
Driving Lane
Median
Median
Driving Lane
Driving Lane
Shoulder
LTL Taper
EX.EP
EX.LT
EX.LT
EX.LT
EX.EP
EX.EP
EX.LT
EX.LT
EX.LT
4.3:1
4.3:1
837.02
LT STA. 1203+50
BEGIN PILOT DITCH
1203+50
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1203+50 TO STA. 1203+50
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: January 15, 2019
FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN
825 830 835 840 845 850 855
-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
Shoulder
Driving Lane
Driving Lane
Median
Median
Driving Lane
Driving Lane
Shoulder
EX.EP
EX.LL
EX.LL
EX.LL
EX.EP
837.35
4:1
2:1
2:1
4:1
LTL
EX.EP
EX.LL
EX.LL
EX.LL
1204+20
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1204+20 TO STA. 1204+20
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN

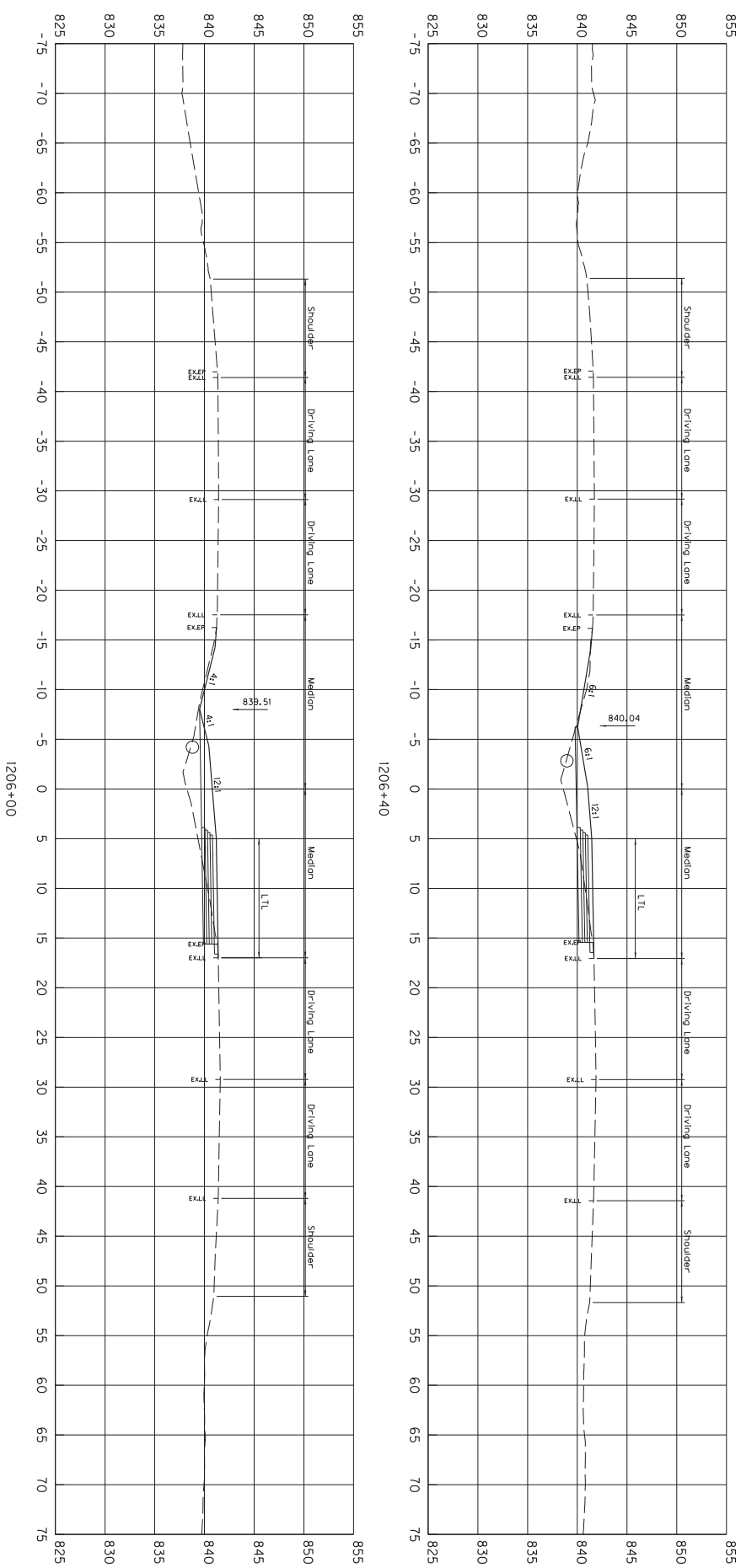


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1205+00 TO STA. 1205+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

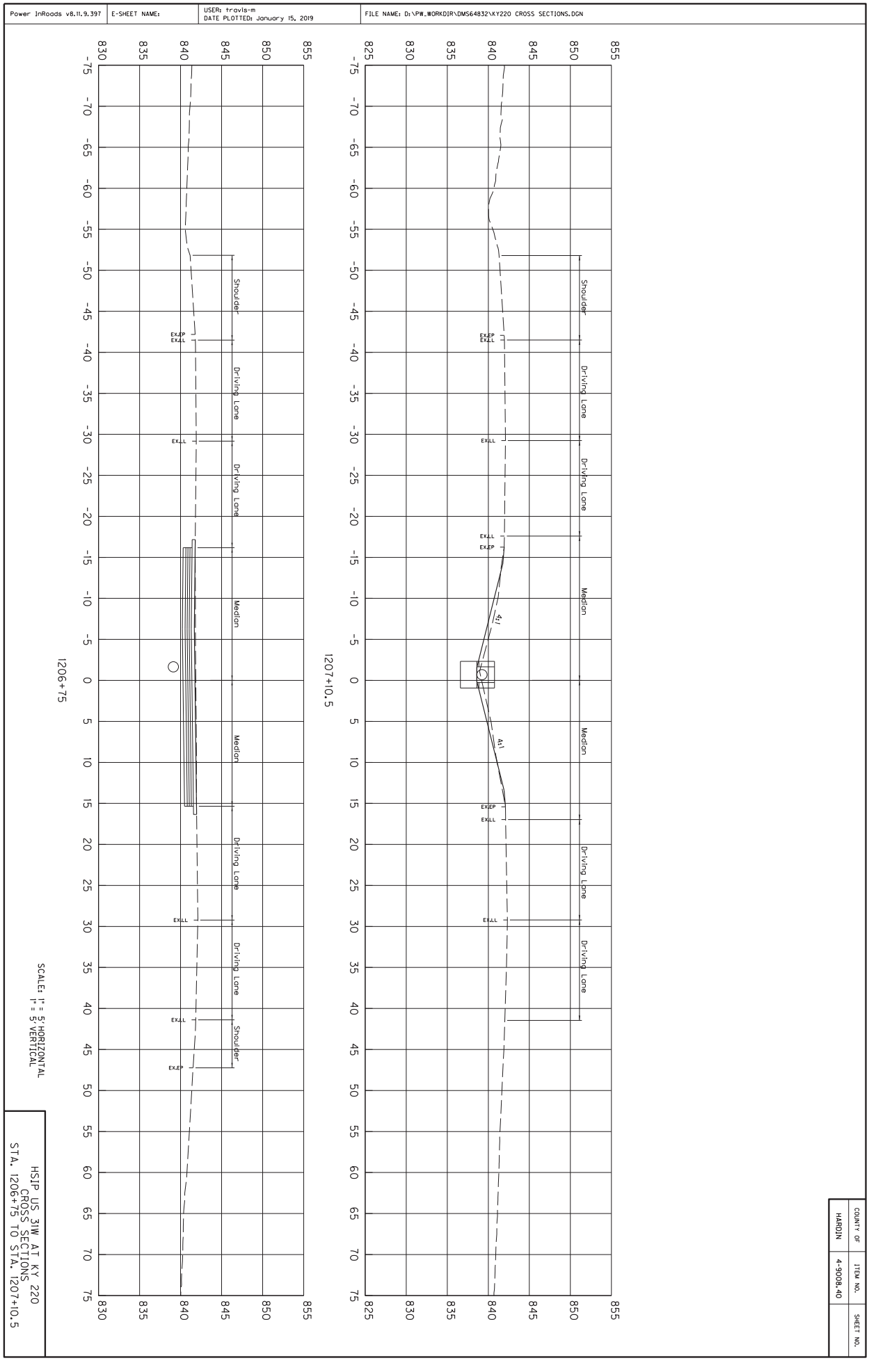
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m | DATE PLOTTED: January 15, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN



SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

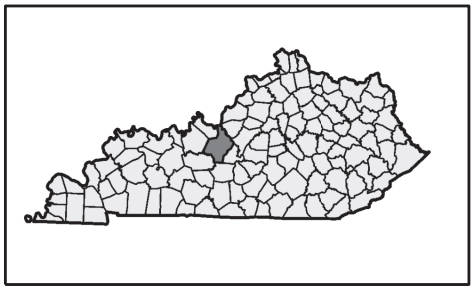
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1206+00 TO STA. 1206+40

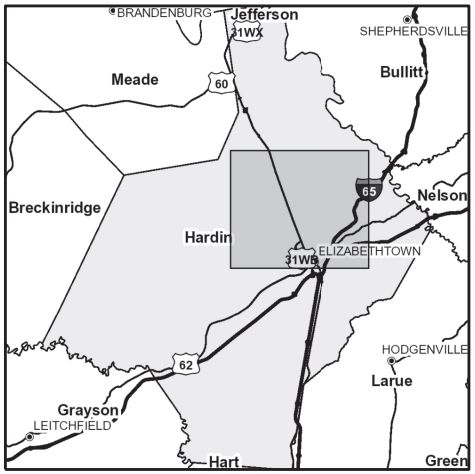
COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: January 15, 2019
FILE NAME: D:\PW_WORKDIR\DMS64832\KY220 CROSS SECTIONS.DGN
1207+10.5
1206+75
Shoulder
Driving Lane
Median
EX.LL
EX.EP
4:1
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 220
CROSS SECTIONS
STA. 1206+75 TO STA. 1207+10.5
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

COUNTY OF	ITEM NO.
HARDIN	4-9008.40

Hardin County
Construction of J–Turns and Intersection Improvements
On US 31W Near KY 434
Item No. 4–9008.40



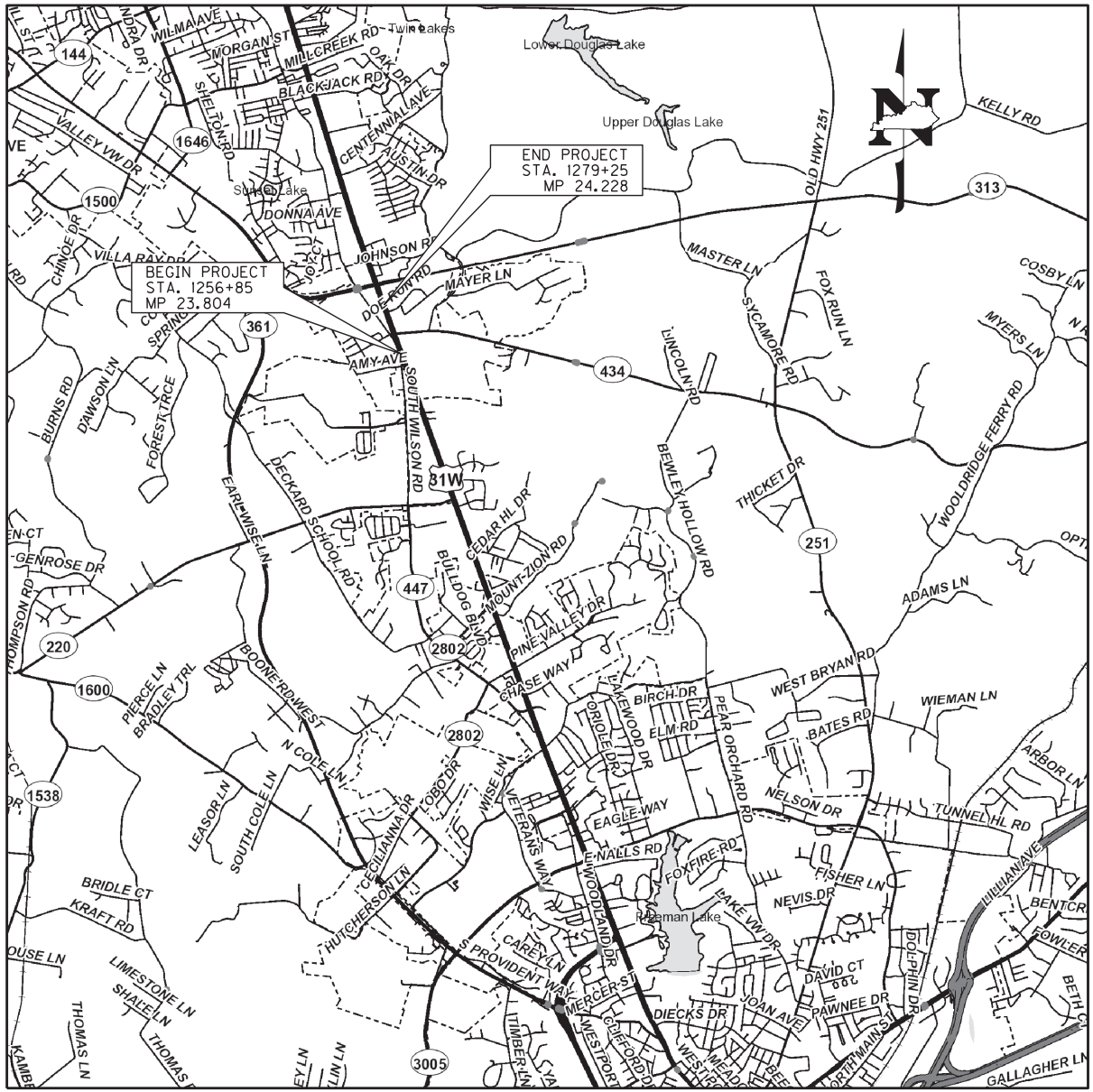


Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

PLANS OF
PROPOSED PROJECT

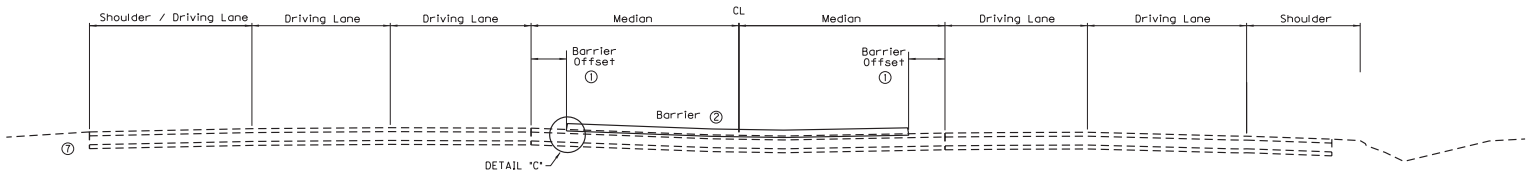
HARDIN COUNTY
US 31W

KENTUCKY TRANSPORTATION CABINET



COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

TYPICAL SECTION AND DETAILS



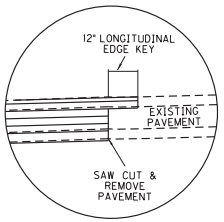
US 31W
BARRIER MEDIAN
ON EXISTING PAVEMENT

① 3' TYPICAL - SEE PLANS AND DETAILS WHERE IT MAY VARY
② STANDARD BARRIER MEDIAN TYPE 4
③ MATCH EXISTING DRIVING LANE BUT NOT LESS THAN 2.00%
④ SEE SECTIONS FOR SIDE SLOPES AND DITCH ELEVATIONS
⑤ ASPHALT SEAL COAT REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2' DOWN THE DITCH OR FILL SLOPE. 2.4 LB/SY ASPHALT SEAL COAT (TWO APPLICATIONS) AND 20 LB/SY ASPHALT SEAL AGGREGATE (TWO APPLICATIONS).
⑥ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)

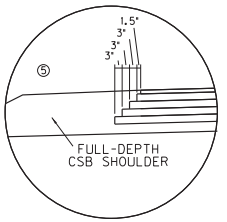
US 31W PAVEMENT DESIGN

1.5" SURFACE	1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22
⑦ 16.5" BASE	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 4" COMPACTED DEPTH CRUSHED STONE BASE

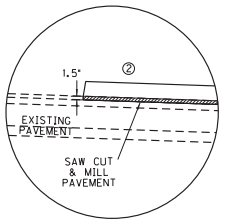
⑦ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENGINEER TO BEST MATCH THAT THICKNESS.



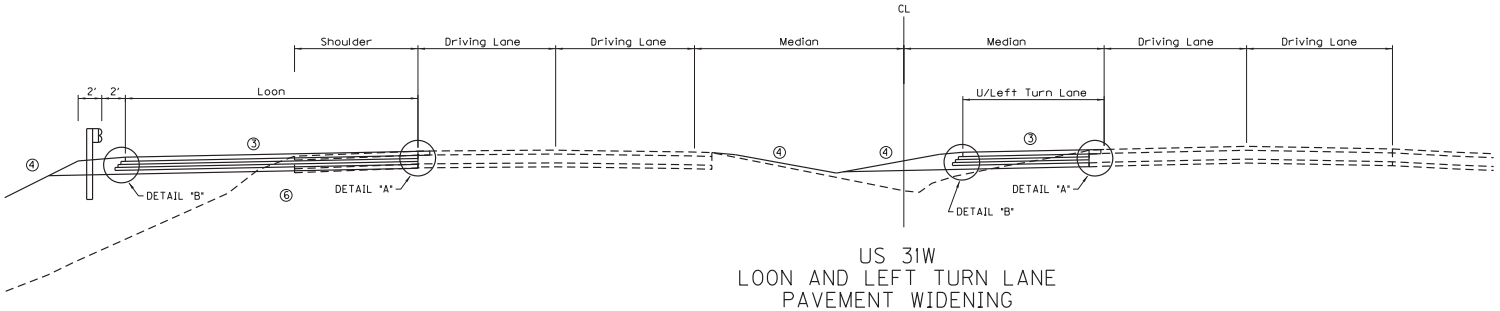
DETAIL "A"



DETAIL "B"



DETAIL "C"



US 31W
LOON AND LEFT TURN LANE
PAVEMENT WIDENING

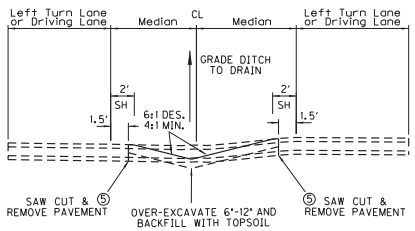
NOT TO SCALE

HIGHWAY SAFETY IMPROVEMENT PROGRAM
US 31W AT KY 434
TYPICAL SECTIONS AND DETAILS

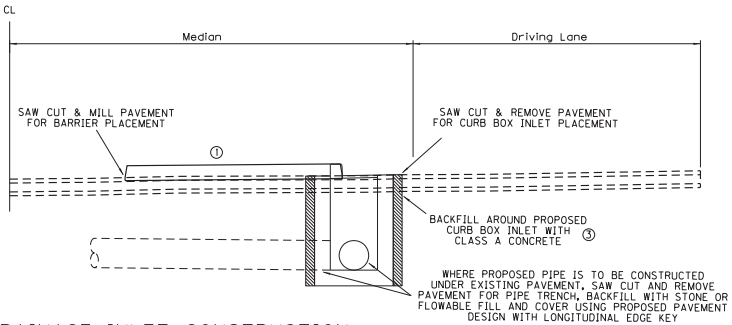
Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: February 11, 2019 | FILE NAME: D:\PW_WORKDIR\DM56484\TYPICAL KY434.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

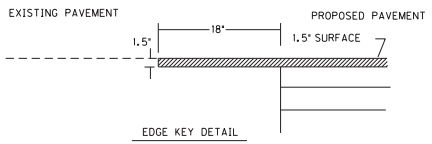
TYPICAL SECTION AND DETAILS



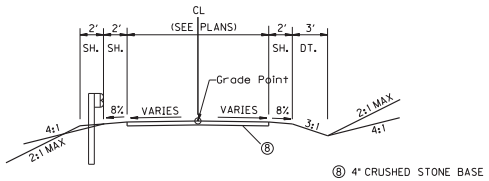
US 31W
CROSSOVER PAVEMENT REMOVAL



PROPOSED DRAINAGE INLET CONSTRUCTION
IN EXISTING PAVEMENT LOCATIONS

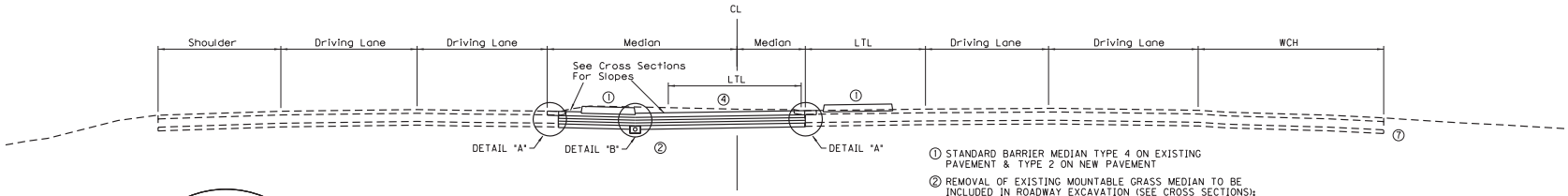


WORK UNDER THIS ITEM SHALL INCLUDE CUTTING OUT THE EXISTING BITUMINOUS SURFACE TO A MINIMUM DEPTH AND WIDTH AS SHOWN, SO THE NEW SURFACE MAY HEEL INTO THE EXISTING SURFACE. THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR "EDGE KEY" SHALL INCLUDE ALL NECESSARY MATERIALS, LABOR, EQUIPMENT, ETC. TO PERFORM THE WORK AND DISPOSE OF THE BITUMINOUS MATERIAL REMOVED.

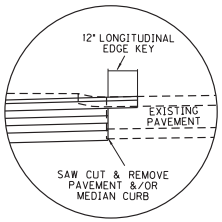


⑧ 4" CRUSHED STONE BASE

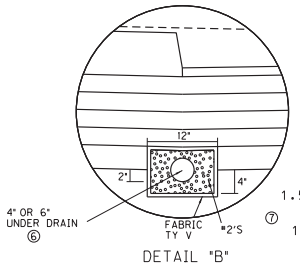
ENTRANCE



US 31W
BARRIER MEDIAN ON EXISTING
AND PROPOSED PAVEMENT



DETAIL "A"



DETAIL "B"

US 31W PAVEMENT DESIGN

1.5" SURFACE — 1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22

⑦ 16.5" BASE —
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 4" COMPACTED DEPTH CRUSHED STONE BASE

① STANDARD BARRIER MEDIAN TYPE 4 ON EXISTING PAVEMENT & TYPE 2 ON NEW PAVEMENT

② REMOVAL OF EXISTING MOUNTABLE GRASS MEDIAN TO BE INCLUDED IN ROADWAY EXCAVATION (SEE CROSS SECTIONS); REMOVAL OF MEDIAN CURB TO BE A BID ITEM

③ CONCRETE QUANTITIES TO BE INCIDENTAL TO BID ITEM FOR CURB BOX INLET

④ SEE CROSS SECTIONS FOR PAVEMENT CROSS SLOPE; GRADE TO DRAIN TO PROPOSED INLET LOCATIONS

⑤ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)

⑥ CONNECT PIPE TO PROPOSED MEDIAN DRAINAGE BOXES. PIPE MAY BE OMITTED AT MEDIAN CROSSOVERS WHERE THE STONE BASE DAYLIGHTS AND DRAINS TO THE MEDIAN DITCH

⑦ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENGINEER TO BEST MATCH THAT THICKNESS.

NOT TO SCALE

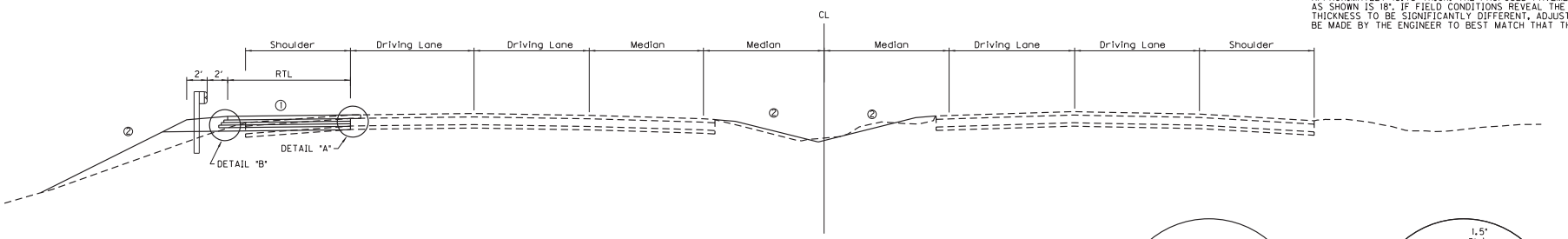
HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 434
TYPICAL SECTIONS AND DETAILS

FILE NAME: D:\PW_WORKDIR\DM568487\TYPICAL KY434.DGN
USER: travis-m
DATE PLOTTED: February 11, 2019
E-SHEET NAME:
Power InRoads v8.11.9.397

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

TYPICAL SECTION AND DETAILS

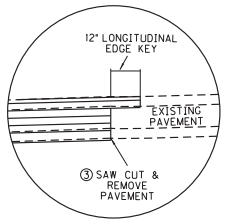
① MATCH EXISTING DRIVING LANE BUT NOT LESS THAN 2.00%
② SEE CROSS SECTIONS FOR SIDE SLOPES AND DITCH ELEVATIONS
③ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)
④ ASPHALT SEAL COAT REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2' DOWN THE DITCH OR FILL SLOPE. 2.4 LB/SY ASPHALT SEAL COAT (TWO APPLICATIONS) AND 20 LB/SY ASPHALT SEAL AGGREGATE (TWO APPLICATIONS).
⑤ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENGINEER TO BEST MATCH THAT THICKNESS.



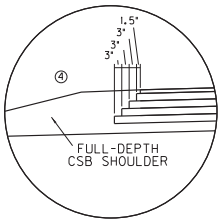
US 31W
ADDED RIGHT TURN LANE

US 31W & KY 434 PAVEMENT DESIGN

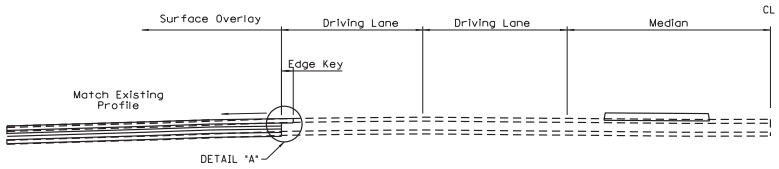
1.5" SURFACE	1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22
⑤ 16.5" BASE	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22 4" COMPACTED DEPTH CRUSHED STONE BASE



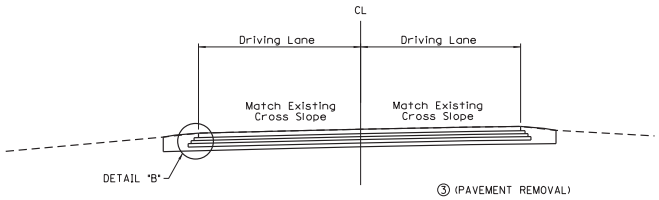
DETAIL "A"



DETAIL "B"



PROFILE



CROSS SECTION

KY 434 WEST PAVEMENT REPLACEMENT DETAIL

NOT TO SCALE

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 434
TYPICAL SECTIONS AND DETAILS

FILE NAME: D:\PW_WORKDIR\DM564847\TYPICAL KY434.DGN
USER: travis-m
DATE PLOTTED: February 11, 2019
E-SHEET NAME:
Power inRoads v8.11.9.397

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT			TOTAL PROJECT
78	CRUSHED AGGREGATE SIZE No 2 (2)	TON			19
1000	PERFORATED PIPE - 4IN	LF			410
1010	NON-PERFORATED PIPE - 4IN	LF			10
1314	PLUG PIPE	EACH			1
1904	REMOVE CURB (9)	LF			946
1917	STANDARD BARRIER MEDIAN TY 2	SQ YD			745
1921	STANDARD BARRIER MEDIAN TY 4	SQ YD			155
2159	TEMPORARY DITCH	LF			1120
2160	CLEAN TEMPORARY DITCH	LF			560
2200	ROADWAY EXCAVATION (8)	CU YD			2928
2242	WATER (7)	M GAL			32
2351	GUARDRAIL - STEEL W BEAM - SINGLE FACE	LF			475
2360	GUARDRAIL TERMINAL SECTION No 1	EACH			1
2369	GUARDRAIL END TREATMENT TY 2A	EACH			1
2381	REMOVE GUARDRAIL (12)	LF			495
2403	REMOVE CONCRETE MASONRY (11)	CU YD			1.7
2429	RIGHT-OF-WAY MONUMENT TYPE 1	EACH			4
2432	WITNESS POST	EACH			4
2483	CLASS II CHANNEL LINING	TON			180
2545	CLEARING AND GRUBBING (1)	LS			1
2562	TEMPORARY SIGNS	SQ FT			213
2585	EDGE KEY	LF			144
2600	FABRIC-GEOTEXTILE TYPE IV FOR PIPE	SQ YD			1558
2650	MAINTAIN AND CONTROL TRAFFIC	LS			1
2671	PORTABLE CHANGEABLE MESSAGE SIGNS	EACH			2
2676	MOBILIZATION FOR MILL & TEXT	LS			1
2677	ASPHALT PAVE MILLING & TEXTURING (3)	TON			12
2697	EDGELINE RUMBLE STRIPS	LF			150
2701	TEMPORARY SILT FENCE	LF			1120
2703	SILT TRAP TYPE A	EACH			1
2704	SILT TRAP TYPE B	EACH			5
2705	SILT TRAP TYPE C	EACH			15
2706	CLEAN SILT TRAP TYPE A	EACH			1
2707	CLEAN SILT TRAP TYPE B	EACH			5
2708	CLEAN SILT TRAP TYPE C	EACH			15
2726	STAKING	LS			1
2775	ARROW PANEL	EACH			2
5950	EROSION CONTROL BLANKET	SQ YD			951
5952	TEMPORARY MULCH	SQ YD			6911
5953	TEMP SEEDING AND PROTECTION	SQ YD			5183
5963	INITIAL FERTILIZER	TON			0.34
5964	MAINTENANCE FERTILIZER	TON			0.57
5985	SEEDING AND PROTECTION	SQ YD			10083
5989	SPECIAL SEEDING CROWN VETCH	SQ YD			957
5992	AGRICULTURAL LIMESTONE	TON			6.84
6530	PAVEMENT STRIPING REMOVAL - 4 INCH (4)	LF			1144
6568	PAVEMENT MARKING - THERMO STOP BAR - 24 INCH	LF			89
6569	PAVEMENT MARKING - THERMO CROSS-HATCH	SQ FT			319
6574	PAVEMENT MARKING - THERMO CURVE ARROW	EACH			19
6598	PAVEMENT MARKING REMOVAL (4)	SQ FT			279
10020NS	FUEL ADJUSTMENT (13)	DOLLAR			6088
10030NS	ASPHALT ADJUSTMENT (13)	DOLLAR			15291
20550ND	SAW CUT PAVEMENT (5)	LF			1832
21289ED	LONGITUDINAL EDGE KEY (6)	LF			3491
22861EN	FABRIC-GEOTEXTILE TYPE V (2)	SQ YD			156
24489EC	INLAID PAVEMENT MARKERS	EACH			48
24679ED	PAVE MARK THERMO CHEVRON	SQ FT			122
24814EC	PIPELINE INSPECTION	LF			1173
24955ED	REMOVE SIGNAL EQUIPMENT (10)	EACH			2
24995EC	PAVE STRIPING - SPRAY - 6 IN W	LF			3219
24996EC	PAVE STRIPING - SPRAY - 6 IN Y	LF			3555

(1) APPROXIMATELY 2.0 ACRES

(2) FOR PERFORATED PIPE UNDERDRAIN

(3) FOR PREPARATION OF STANDARD BARRIER MEDIAN TYPE 4 CONSTRUCTION

(4) FOR THE REMOVAL OF ALL STRIPING AND MARKING THAT WILL CONFLICT WITH FUTURE PROPOSED TRAFFIC PATTERNS OR PROPOSED MARKINGS

(5) FOR ALL LOCATIONS OF PAVEMENT MILLING, WIDENING, OR REPLACEMENT (SEE ALSO TYPICAL SECTIONS AND DETAILS)

(6) FOR ALL LOCATIONS OF PAVEMENT WIDENING OR REPLACEMENT (SEE ALSO TYPICAL SECTIONS AND DETAILS)

PAVING AREAS

ITEM	CROSSOVERS & LEFT TURN LANES (A)	LOONS & RIGHT TURN LANES (B)	ENTRANCES		TOTAL PROJECT
	SQUARE YARDS				
1.5" CL 3 ASPHALT SURFACE 0.38A PG 76-22	3259	1873			5132
3.0" CL 3 ASPHALT BASE 1.00D PG 76-22	3275	1888			5163
3.0" CL 3 ASPHALT BASE 1.00D PG 64-22	3016	1917			4933
3.0" CL 3 ASPHALT BASE 1.00D PG 64-22	3048	1947			4995
3.5" CL 3 ASPHALT BASE 1.00D PG 64-22	3081	1977			5058
4.0" CRUSHED STONE BASE	3119	2011	43		5173
LEVELING & WEDGING PG 64-22	10	10			20
ASPHALT SEAL COAT	487	458			945
ASPHALT SEAL AGGREGATE	487	458			945
ASPHALT MATERIAL FOR TACK NON-TRACKING	12598	7625			20223

PAVING QUANTITIES

ITEM CODE	ITEM	UNIT	CROSSOVERS & LEFT TURN LANES (A)	LOONS & RIGHT TURN LANES (B)	ENTRANCES		TOTAL PROJECT
336	CL 3 ASPHALT SURFACE 0.38A PG 76-22	TON	269	155			424
216	CL 3 ASPHALT BASE 1.00D PG 76-22	TON	540	312			852
214	CL 3 ASPHALT BASE 1.00D PG 64-22	TON	1594	1018			2612
3	CRUSHED STONE BASE (C)	TON	1223	818	10		2051
103	ASPHALT SEAL COAT (D)	TON	1.2	1.1			2.3
100	ASPHALT SEAL AGGREGATE (E)	TON	9.7	9.2			18.9
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING (F)	TON	3.1	1.9			5.0
190	LEVELING & WEDGING PG 64-22 (G)	TON	1	1			2

ALL ASPHALT MIXTURES ESTIMATED AT 110 LBS. PER SQUARE YARD PER INCH UNLESS NOTED OTHERWISE

(A) PAVEMENT AREAS WITHIN THE EXISTING MEDIAN

(B) PAVEMENT AREAS OUTSIDE EXISTING LANES; INCLUDES THE RECONSTRUCTION OF THE KY 434 WEST APPROACH

(C) ESTIMATED AT 115 LBS. PER SQUARE PER INCH OF DEPTH; QUANTITIES FOR FULL-DEPTH SHOULDERS CALCULATED BY AVERAGE END AREA METHOD

(D) ESTIMATED AT 2.40 LBS. PER SQUARE YARD (2 APPLICATIONS)

(E) ESTIMATED AT 20 LBS. PER SQUARE YARD (2 APPLICATIONS)

(F) ESTIMATED AT 0.50 LBS. PER SQUARE YARD (BETWEEN ASPHALT PAVEMENT COURSES)

(G) ESTIMATED QUANTITY FOR MAKING ADJUSTMENTS TO CROSS SLOPES AND WHERE NEEDED AT TIE-DOWNS; AS DIRECTED BY THE ENGINEER

(7) FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY; ESTIMATED AT 75 MGAL PER MILE

(8) EARTHWORK QUANTITIES ARE APPROXIMATE AND FOR INFORMATION ONLY

EARTHWORK QUANTITIES:

COMMON	2626 CY
EMBANKMENT	1198 CY
EMBANKMENT BENCH	302 CY

(9) FOR REMOVAL OF CURB AROUND MOUNTABLE GRASS MEDIAN

(10) TO INCLUDE REMOVAL OF POLES, EQUIPMENT, AND CONCRETE BASES. CONCRETE BASES TO BE REMOVED TO 12 INCHES BELOW EXISTING GROUND LINE; STOP SIGNALS AT KY 434 INTERSECTION AND NORTHBOUND WARNING FLASHERS. DELIVER SIGNAL HEADS AND CABINET AND WARNING FLASHERS TO: 310 VALLEY ROAD ELIZABETHTOWN, KY 42701

BEFORE DELIVERING, CONTACT JAKE RIGGS: (270) 401-8132

(11) FOR REMOVAL OF CONCRETE FLUME IN MEDIAN

(12) TO BE DELIVERED TO THE BAILEY BRIDGE YARD

(13) PROJECT QUANTITY PRORATED BASED ON PERCENTAGE OF ASPHALT FROM TOTAL ASPHALT OF KY 220, KY 434, AND BLACKJACK ROAD PROJECTS

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 434
GENERAL SUMMARY

Power: InRoads v8.11.9.397 | E-SHEET NAME: | USER: trovis-m DATE PLOTTED: June 20, 2019 | FILE NAME: D:\PW_WORKDIR\DMS6484\KY434 GENERAL SUMMARY.DGN

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

	STRUCTURE NO.	SKEW	COVER HEIGHT (FT)	DESIGN PH LEVEL	CULVERT PIPE - 15 INCH	CULVERT PIPE - 18 INCH	STORM SEWER PIPE - 15 INCH	STORM SEWER PIPE - 18 INCH	STORM SEWER PIPE - 24 INCH	PIPE CULVERT HEADWALL 18 INCH	REMOVE PIPE	SLOPED BOX OUTLET TYPE 1 - 15 INCH	CURB BOX INLET TYPE A	CURB BOX INLET TYPE F	DROP BOX INLET TYPE 5D	JUNCTION BOX	REMOVE INLET	REMARKS
	ITEM CODE				461	462	521	522	524	1204	1310	1432	1456	1487	1511	1650	1718	
	UNIT TO BID				LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	
	HARDIN COUNTY																	
	KY 434																	
	1257+76	N/A	2	M	110						116							PROJECTING INLET/OUTLET
	1260+15	N/A	1.5	M		74												PROJECTING INLET/OUTLET
1	1263+48	0°	4	M	9						4				1		1	EXTEND IN KIND 15" RCP
2	1265+80	0°	3	M			14							1				
3	1265+95	0°	3	M			31							1				
4	1266+10	0°	3	M			126							1				
5 & 6	1267+37	0°	3	M			130							2				
7 & 8	1268+50	0°	3	M			57					1		2				
9	1273+21.9	0°	4	M					9		4				1		1	EXTEND IN KIND 24" CMP
10	1274+69	0°	6	M				14		1						1		SLOPED & FLARED HEADWALL; JBOX SIZE No 5
11 & 12	1275+88	0°	8.8	M				383						1	1			
13	1276+25	0°	4	M				36					1					
14	1276+50	0°	3.3	M			31							1				
15	1277+00	0°	3.3	M			51							1				
16	1278+00	0°	3.7	M			98								1			
	PROJECT TOTAL				119	74	538	433	9	1	268 ①	1	1	10	4	1	2	

① INCLUDES ADDITIONAL 144 LF FROM PLANS

NOTES: IF A PIPE COLLAR OR BEND CONNECTION IS NEEDED FOR CONSTRUCTION OF A PIPE EXTENSION, IT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE BEING CONSTRUCTED.

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 434
PIPE DRAINAGE SUMMARY

FILE NAME: D:\PW_WORKDIR\DM56846\KY434 DRAINAGE SUMMARY.DGN
USER: travis-m
DATE PLOTTED: June 17, 2019
E-SHEET NAME:
Power InRoads v8.11.9.397

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

DITCH CONSTRUCTION CHART

LT	RT	MED	STA. TO STA.	TYPE	QUANTITY	DEPTH	THICKNESS	DITCH
		X	1256+85 to 1257+00	ERO BLANKET	17 SY	1.00		V
		X	1257+00 to 1257+20	CLASS II	13 TON	1.00	1.25	V
		X	1258+30 to 1258+40	CLASS II	6 TON	1.00	1.25	V
		X	1258+40 to 1259+61	ERO BLANKET	108 SY	1.00		V
		X	1259+61 to 1259+71	CLASS II	6 TON	1.00	1.25	V
		X	1260+45 to 1260+55	CLASS II	6 TON	1.00	1.25	V
		X	1260+55 to 1263+42	ERO BLANKET	255 SY	1.00		V
	X		1259+60 to 1261+72	CLASS II	135 TON	1.00	1.25	V

PAVEMENT CONSTRUCTION ITEMS

LT	RT	MED	STA. TO STA.	MILL PAVEMENT	CONSTRUCT TY 2 BARRIER MEDIAN	CONSTRUCT TY 4 BARRIER MEDIAN	REMOVE MEDIAN CURB
		X	1263+78 TO 1265+00	-	178 SY	-	-
		X	1263+69 TO 1265+00	-	-	-	263 LF
				-	-	-	-

NOTE: SEE CROSS SECTIONS FOR CROSSOVER REMOVAL

REMOVE OR MODIFY DRAINAGE STRUCTURES

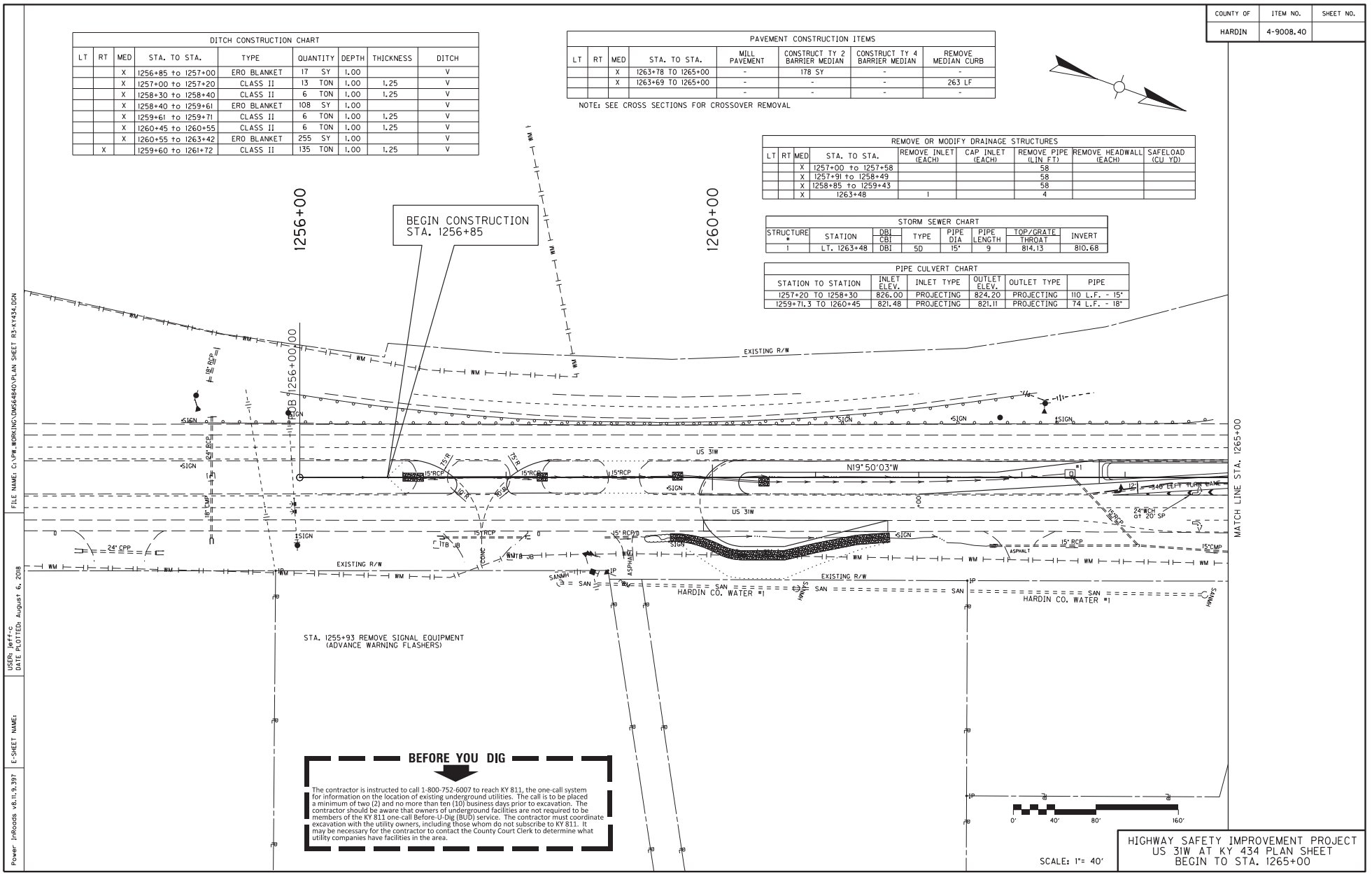
LT	RT	MED	STA. TO STA.	REMOVE INLET (EACH)	CAP INLET (EACH)	REMOVE PIPE (LIN FT)	REMOVE HEADWALL (EACH)	SAFELOAD (CU YD)
		X	1257+00 to 1257+58			58		
		X	1257+91 to 1258+49			58		
		X	1258+85 to 1259+43			58		
		X	1263+48	1		4		

STORM SEWER CHART

STRUCTURE #	STATION	DBI CBI	TYPE	PIPE DIA	PIPE LENGTH	TOP/GRATE THROAT	INVERT
1	LT. 1263+48	DBI	5D	15"	9	814.13	810.68

PIPE CULVERT CHART

STATION TO STATION	INLET ELEV.	INLET TYPE	OUTLET ELEV.	OUTLET TYPE	PIPE
1257+20 TO 1258+30	826.00	PROJECTING	824.20	PROJECTING	110 L.F. - 15"
1259+71.3 TO 1260+45	821.48	PROJECTING	821.11	PROJECTING	74 L.F. - 18"



SCALE: 1"= 40'

**HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 434 PLAN SHEET
BEGIN TO STA. 1265+00**

FILE NAME: C:\PW_WORKING\DMS6484D\PLAN SHEET R3-KY434.DGN
USER: jeff-c
DATE PLOTTED: August 6, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

DITCH CONSTRUCTION CHART

LT	RT	MED	STA. TO STA.	TYPE	QUANTITY	DEPTH	THICKNESS	DITCH
		X	1269+00 to 1269+10	CLASS II	6 TON	1.00	1.25	V
		X	1269+10 to 1269+50	ERO BLANKET	36 SY	1.00		V
		X	1271+50 to 1273+22	ERO BLANKET	153 SY	1.00		V
		X	1273+22 to 1274+50	ERO BLANKET	142 SY	1.00		V

REMOVE OR MODIFY DRAINAGE STRUCTURES

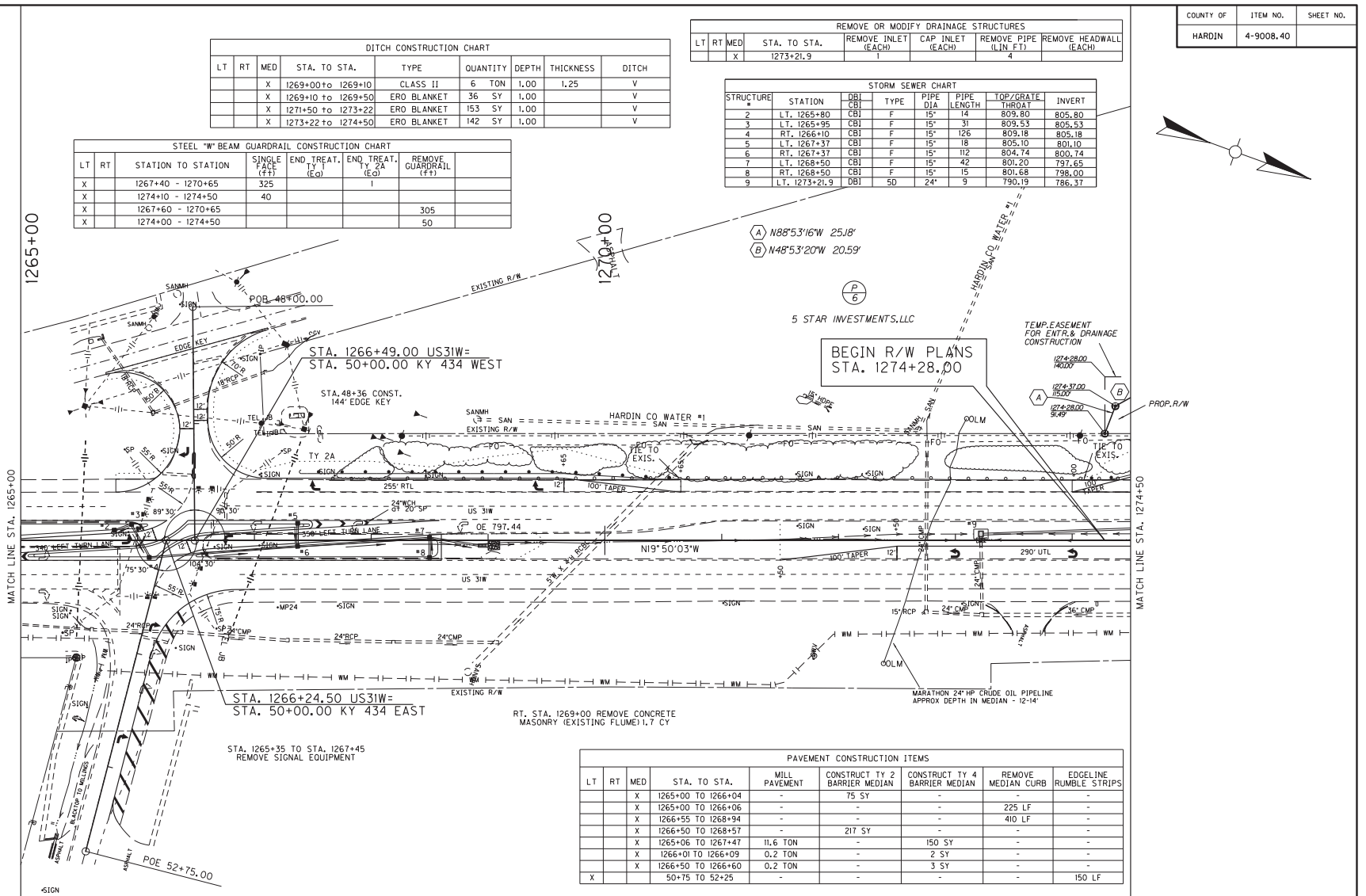
LT	RT	MED	STA. TO STA.	REMOVE INLET (EACH)	CAP INLET (EACH)	REMOVE PIPE (LIN FT)	REMOVE HEADWALL (EACH)
		X	1273+21.9	1		4	

STEEL "W" BEAM GUARDRAIL CONSTRUCTION CHART

LT	RT	STATION TO STATION	SINGLE FACE (ft)	END TREAT. TY 1 (Ea)	END TREAT. TY 2A (Ea)	REMOVE GUARDRAIL (ft)	
X		1267+40 - 1270+65	325		1		
X		1274+10 - 1274+50	40				
X		1267+60 - 1270+65				305	
X		1274+00 - 1274+50				50	

STORM SEWER CHART

STRUCTURE #	STATION	DBI CBI	TYPE	PIPE DIA	PIPE LENGTH	TOP/GRATE THROAT	INVERT
2	LT. 1265+80	CBI	F	15"	14	809.80	805.80
3	LT. 1265+95	CBI	F	15"	31	809.53	805.53
4	RT. 1266+10	CBI	F	15"	126	809.18	805.18
5	LT. 1267+37	CBI	F	15"	18	805.10	801.10
6	RT. 1267+37	CBI	F	15"	112	804.74	800.74
7	LT. 1268+50	CBI	F	15"	42	801.20	797.65
8	RT. 1268+50	CBI	F	15"	15	801.68	798.00
9	LT. 1273+21.9	DBI	5D	24"	9	790.19	786.37



PAVEMENT CONSTRUCTION ITEMS

LT	RT	MED	STA. TO STA.	MILL PAVEMENT	CONSTRUCT TY 2 BARRIER MEDIAN	CONSTRUCT TY 4 BARRIER MEDIAN	REMOVE MEDIAN CURB	EDGELINE RUMBLE STRIPS
		X	1265+00 TO 1266+04	-	75 SY	-	-	-
		X	1265+00 TO 1266+06	-	-	-	225 LF	-
		X	1266+55 TO 1268+94	-	-	-	410 LF	-
		X	1266+50 TO 1268+57	-	217 SY	-	-	-
		X	1265+06 TO 1267+47	11.6 TON	-	150 SY	-	-
		X	1266+01 TO 1266+09	0.2 TON	-	2 SY	-	-
		X	1266+50 TO 1266+60	0.2 TON	-	3 SY	-	-
X			50+75 TO 52+25	-	-	-	-	150 LF

RIGHT OF WAY MONUMENTS

SIDE	STATION	OFFSET	NORTH (Y)	EAST (X)	DESCRIPTION	TYPE
LT	1274+28.00	91.49	3811864.762	4873884.912	RW MON	1
LT	1274+37.00	115.00	3811865.251	4873859.741	RW MON	1

0' 40' 80' 160'
SCALE: 1"= 40'

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 434 PLAN SHEET
STA. 1265+00 TO STA. 1274+50

Power: InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c DATE PLOTTED: February 11, 2019 | FILE NAME: C:\PW_WORKING\DMS6484D\PLAN SHEET R4-KY434.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

DITCH CONSTRUCTION CHART

LT	RT	MED	STA. TO STA.	TYPE	QUANTITY	DEPTH	THICKNESS	DITCH
		X	1274+50 to 1275+40	ERO BLANKET	100 SY	1.00		V
X			1274+53 to 1274+59	CLASS II	8 TON	1.00	2.0'	2' FB
X			1275+88 to 1276+50	ERO BLANKET	56 SY	1.00		V
		X	1278+00 to 1279+25	ERO BLANKET	84 SY	1.50		V

STEEL "W" BEAM GUARDRAIL CONSTRUCTION CHART

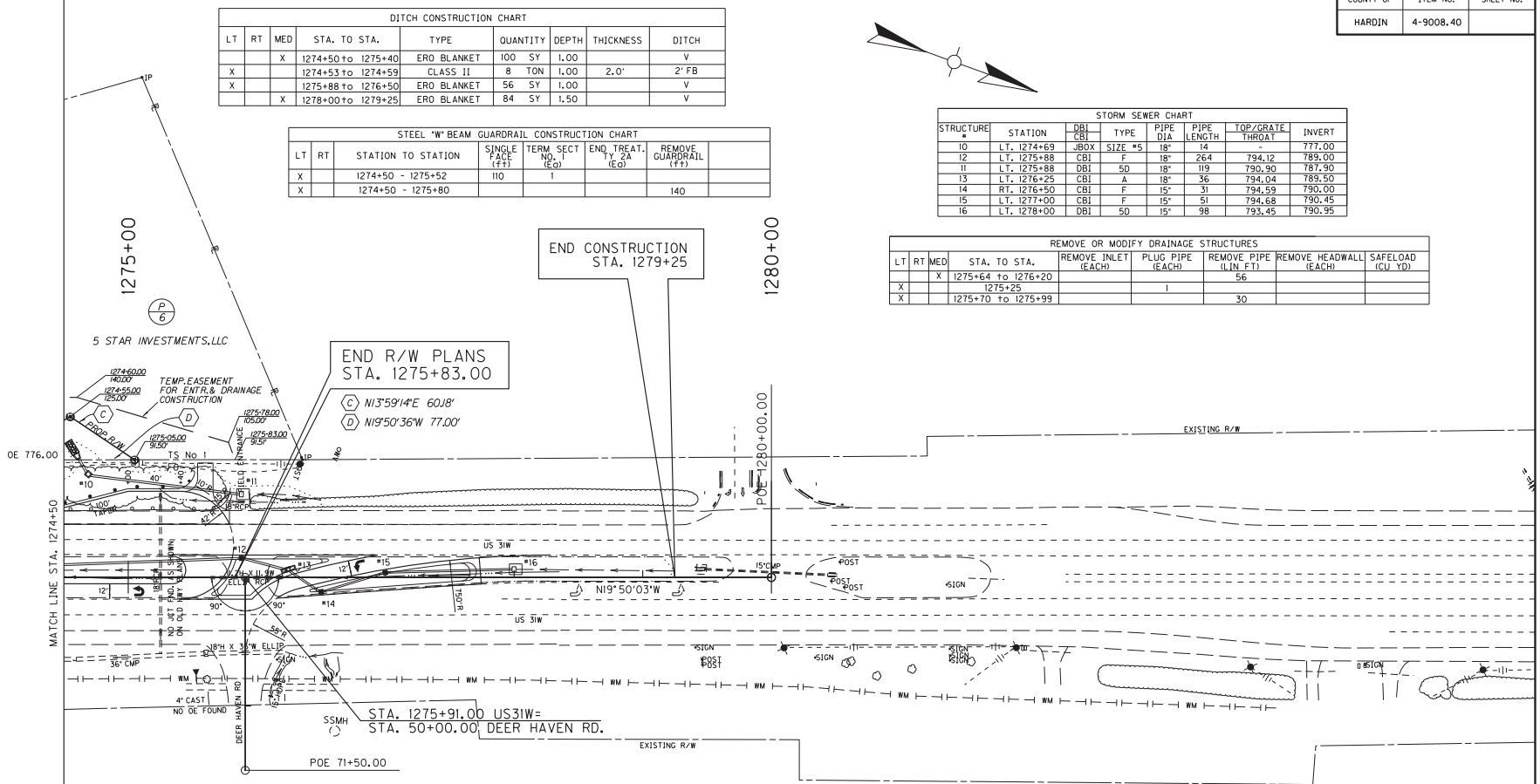
LT	RT	STATION TO STATION	SINGLE FACE (ft)	TERM SECT NO. 1 (EA)	END TREAT. TY 2A (EA)	REMOVE GUARDRAIL (ft)	
X		1274+50 - 1275+52	110	1			
X		1274+50 - 1275+80				140	

STORM SEWER CHART

STRUCTURE #	STATION	DBI / CBI	TYPE	PIPE DIA	PIPE LENGTH	TOP/GRATE / THROAT	INVERT
10	LT. 1274+69	JBOX	SIZE #5	18"	14	-	777.00
12	LT. 1275+88	CBI	F	18"	264	794.12	789.00
11	LT. 1275+88	DBI	5D	18"	119	790.90	787.90
13	LT. 1276+25	CBI	A	18"	36	794.04	789.50
14	RT. 1276+50	CBI	F	15"	31	794.59	790.00
15	LT. 1277+00	CBI	F	15"	51	794.68	790.45
16	LT. 1278+00	DBI	5D	15"	98	793.45	790.95

REMOVE OR MODIFY DRAINAGE STRUCTURES

LT	RT	MED	STA. TO STA.	REMOVE INLET (EACH)	PLUG PIPE (EACH)	REMOVE PIPE (LIN FT)	REMOVE HEADWALL (EACH)	SAFELOAD (CU YD)
		X	1275+64 to 1276+20			56		
X			1275+25		1			
X			1275+70 to 1275+99			30		



RIGHT OF WAY MONUMENTS

SIDE	STATION	OFFSET	NORTH (Y)	EAST (X)	DESCRIPTION	TYPE
LT	1274+55.00	125.00	3811878.790	4873844.227	RW MON	I
LT	1275+05.00	91.50	3811937.190	4873858.774	RW MON	I

PAVEMENT CONSTRUCTION ITEMS

LT	RT	MED	STA. TO STA.	MILL PAVEMENT	CONSTRUCT TY 2 BARRIER MEDIAN	CONSTRUCT TY 4 BARRIER MEDIAN	REMOVE MOUNTABLE MEDIAN	GRAVEL ENTRANCE
		X	1275+65 TO 1276+56	-	135 SY	-	-	-
		X	1276+41 TO 1277+71	-	140 SY	-	-	-
X			1275+60	-	-	-	-	12' / 43 SY

0' 40' 80' 160'
SCALE: 1"= 40'

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT KY 434 PLAN SHEET
STA. 1274+50 TO END

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c DATE PLOTTED: February 11, 2019 | FILE NAME: C:\PW_WORKING\DM56840\PLAN SHEET RS-KY434.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

RIGHT OF WAY SUMMARY

PARCEL NO.	OWNER(S)	TOTAL AREA OF TRACT		PERMANENT R/W ACQUIRED		EASEMENTS		AREA SEVERED				EXCESS PURCHASED		PORTION REMAINING		SEWER SYSTEM TYPE	SEWER SYSTEM AFFECTED BY PROJECT		BUILDINGS ACQUIRED NUMBER				SOURCE OF TITLE	REMARKS*
						PERMANENT	TEMPORARY	LEFT		RIGHT							YES	NO	C	R	F	S		
		ACRES	SQ. FT.	ACRES	SQ. FT.	SQ. FT.	SQ. FT.	ACRES	SQ. FT.	ACRES	SQ. FT.	ACRES	SQ. FT.	ACRES	SQ. FT.									
1	5 STAR INVESTMENTS, LLC	3.805 (A)		0.033	1,457		3,787	3.772						3.772		5		X					DB 1445 PG 281	

BASIS FOR DETERMINATION OF AREA:

(A) DEED
(B) P.V.A.
(C) CALCULATED
(D) OTHER

NOTE: PERMANENT R/W ACQUIRED + AREA SEVERED = TOTAL AREA OF TRACT.

TYPE SEWER SYSTEM
1. PRIVATE - INDIVIDUAL
2. PRIVATE - MULTI PARTY
3. PUBLIC
4. NONE
5. NOT APPLICABLE

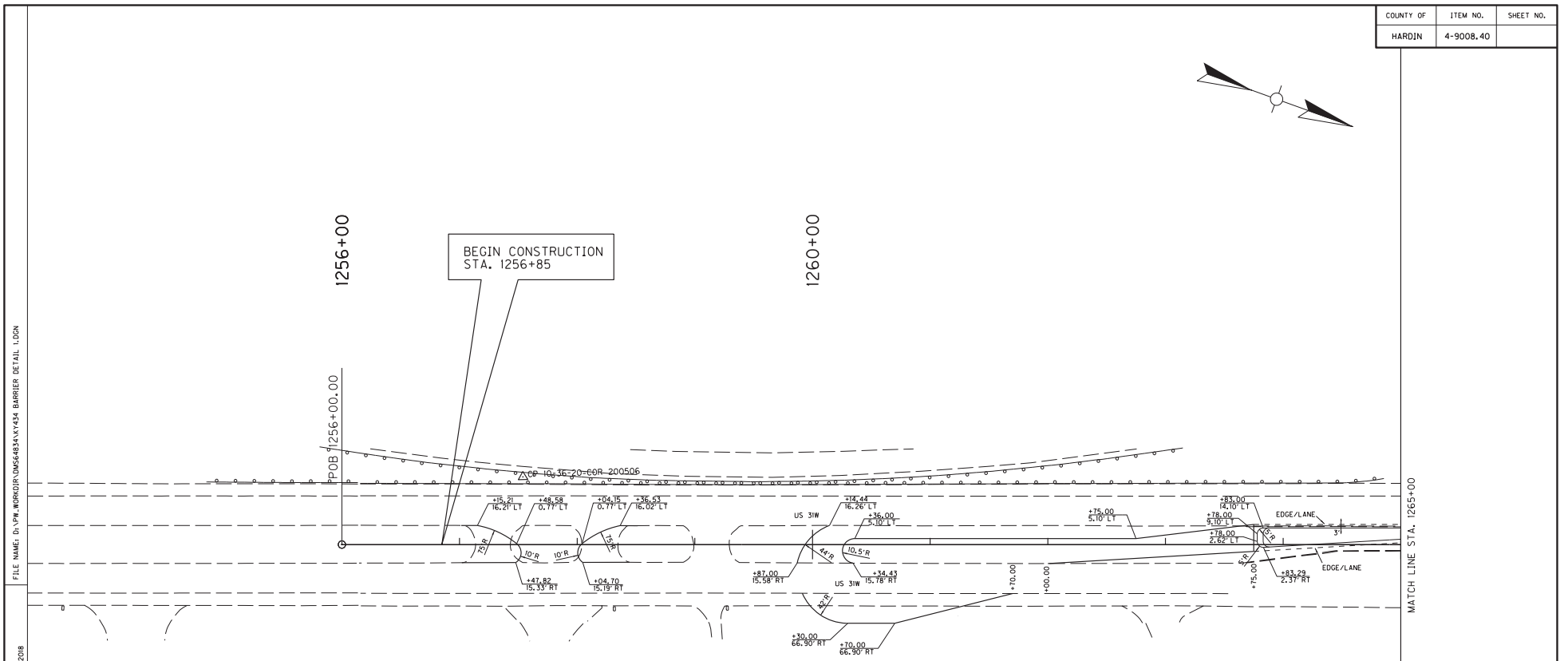
BUILDINGS ACQUIRED CODE
C - COMMERICAL
R - RESIDENTIAL
F - FARM
S - STORAGE

*INCLUDES HAZARDOUS WASTE (UST - UNDERGROUND STORAGE TANKS)

US 31W AT KY 434
RIGHT OF WAY SUMMARY SHEET

Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: trovis-m DATE PLOTTED: August 3, 2018 | FILE NAME: C:\PW_WORKING\DMS64846\RW SUM KY 434.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1256+00.00	3810176.2440	4874591.2124
POE	1280+00.00	3812433.8721	4873776.8934
KY 434 WEST			
POB	48+00.00	3811093.5165	4874047.7508
POE	50+00.00	3811163.0156	4874235.2871
KY 434 EAST			
POB	50+00.00	3811139.9690	4874243.6000
POE	52+75.00	3811165.5344	4874517.4091
DEER HAVEN			
POB	70+00.00	3812049.1346	4873915.6669
POE	71+50.00	3812100.0295	4874056.7687

CONTROL POINTS

POINT	DESCRIPTION	STATE PLANE COORD.			STATION	OFFSET	
		NORTH (Y)	EAST (X)	ELEV. (Z)			
10-36-19	ALUMINUM DISK	3809347.1900	4874823.6100	836.61			LT
10-36-20	BRASS DISK	3810301.6500	4874485.1600	828.19	1257+53.95	57.21	LT
10-36-21	ALUMINUM DISK	3811434.8900	4874231.7300	798.52	1269+05.95	88.90	RT
10-36-22	BRASS DISK	3813075.4100	4873446.5300	808.03			LT

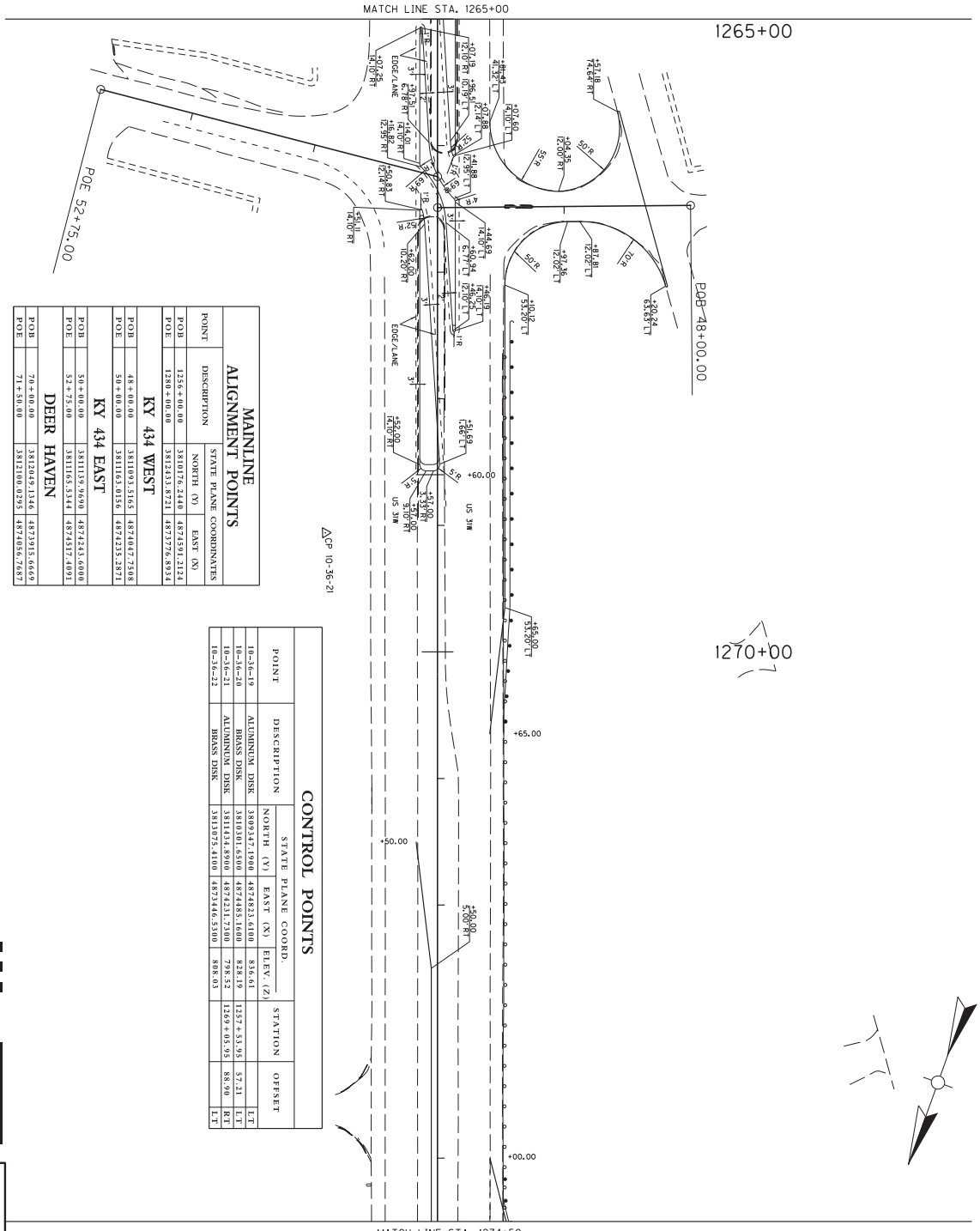
0' 40' 80' 160'

SCALE: 1"= 40'

HSIP US 31W AT KY 434
BARRIER DETAIL & CONTROL PLAN SHEET
BEGIN TO STA. 1265+00

FILE NAME: D:\PW_WORKDIR\DMS6483A\KY434 BARRIER DETAIL 1.DGN
USER: jeff-c
DATE PLOTTED: August 6, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

Power InRoads v8.11.9.397	E-SHEET NAME:	USER: travis-m DATE PLOTTED: August 6, 2018	FILE NAME: D:\PW_WORKDIR\DMS64834\KY434 BARRIER DETAIL 2.DGN



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1256+00.00	3810376.2440	4874591.2124
POE	1280+00.00	3812433.3721	4873776.8934
KY 434 WEST			
POB	48+00.00	3811093.5165	4874047.7508
POE	50+00.00	3811163.0156	4874235.2871
KY 434 EAST			
POB	50+00.00	3811139.9690	4874243.6000
POE	52+75.00	3811165.5344	4874517.4091
DEER HAVEN			
POB	70+00.00	3812049.1346	4875915.6669
POE	71+50.00	3812100.0295	4874056.7687

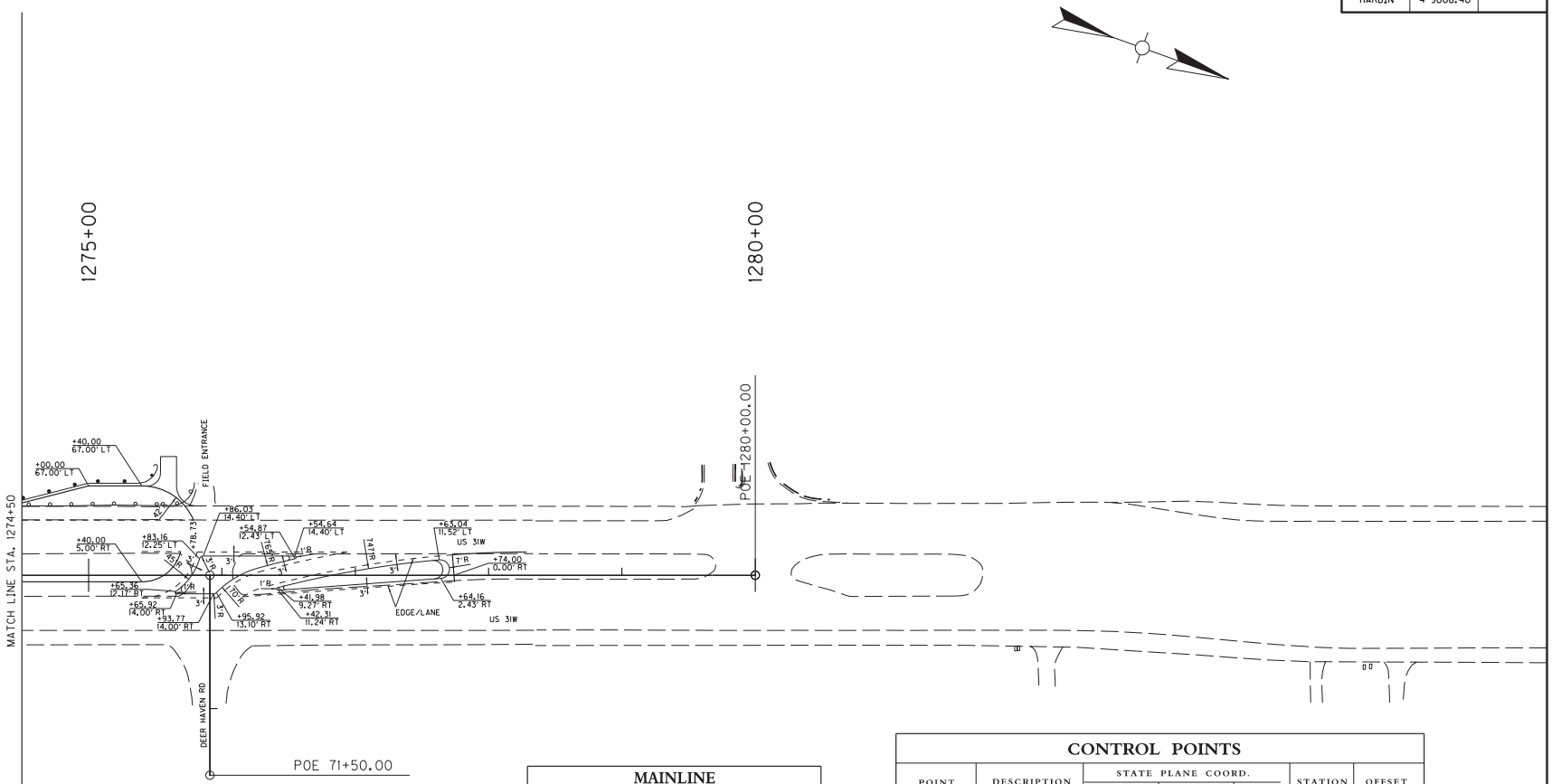
CONTROL POINTS

POINT	DESCRIPTION	STATE PLANE COORD.		ELEV. (Z)	STATION	OFFSET	
		NORTH (Y)	EAST (X)				
10-36-19	ALUMINUM DISK	3809347.1900	4874823.6100	836.61			LT
10-36-20	BRASS DISK	3810301.6500	4874485.1600	828.19	1257+53.95	57.21	LT
10-36-21	ALUMINUM DISK	3811434.8900	4874231.7200	798.52	1269+05.95	88.90	RT
10-36-22	BRASS DISK	3812075.4100	4872446.5300	808.03			LT

HSIP US 31W AT KY 434
BARRIER DETAIL & CONTROL PLAN SHEET
STA. 1265+00 TO STA. 1274+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1256+00.00	3810176.2440	4874591.2124
POE	1280+00.00	3812433.8721	4873776.8934
KY 434 WEST			
POB	48+00.00	3811093.5165	4874047.7508
POE	50+00.00	3811163.0156	4874235.2871
KY 434 EAST			
POB	50+00.00	3811139.9690	4874243.6000
POE	52+75.00	3811165.5344	4874517.4091
DEER HAVEN			
POB	70+00.00	3812049.1346	4873915.6669
POE	71+50.00	3812100.0295	4874056.7687

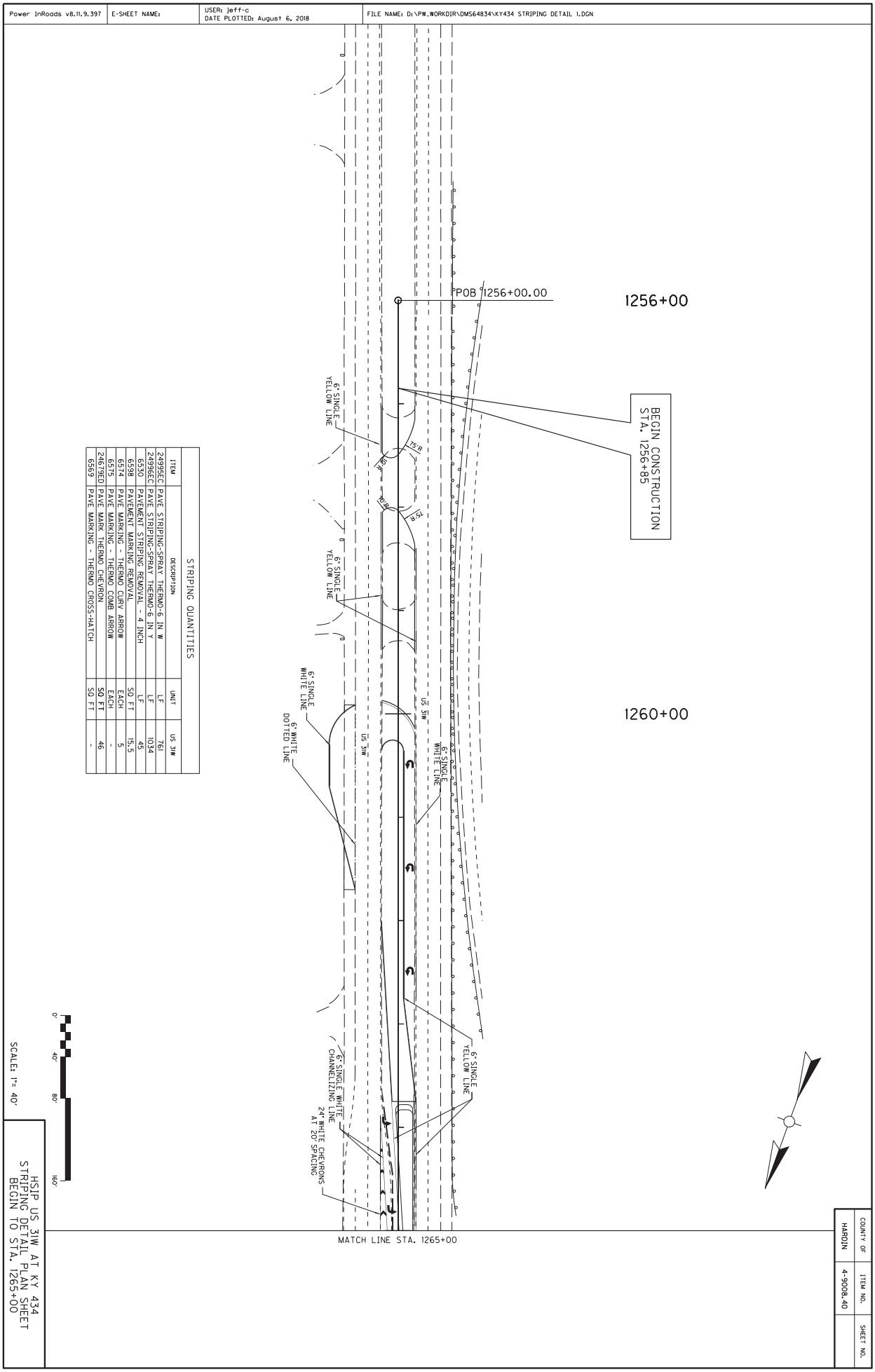
CONTROL POINTS

POINT	DESCRIPTION	STATE PLANE COORD.			STATION	OFFSET	
		NORTH (Y)	EAST (X)	ELEV. (Z)			
10-36-19	ALUMINUM DISK	3809347.1900	4874823.6100	836.61			LT
10-36-20	BRASS DISK	3810301.6500	4874485.1600	828.19	1257+53.95	57.21	LT
10-36-21	ALUMINUM DISK	3811434.8900	4874231.7300	798.52	1269+05.95	88.90	RT
10-36-22	BRASS DISK	3813075.4100	4873446.5300	808.03			LT

0' 40' 80' 160'
SCALE: 1"= 40'

HSIP US 31W AT KY 434
BARRIER DETAIL & CONTROL PLAN SHEET
STA. 1274+50 TO END

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c DATE PLOTTED: August 6, 2018 | FILE NAME: D:\PW_WORKDIR\DM56483A\KY434 BARRIER DETAIL 3.DGN



STRIPING QUANTITIES

ITEM	DESCRIPTION	UNIT	US 31W
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	761
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	1034
6590	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	45
6598	PAVEMENT MARKING REMOVAL	SQ FT	15.5
6574	PAVE MARKING - THERMO CURV ARROW	EACH	5
6575	PAVE MARKING - THERMO COMB ARROW	EACH	-
24679ED	PAVE MARK THERMO CHEVRON	SQ FT	46
6563	PAVE MARKING - THERMO CROSS-HATCH	SQ FT	-

Power InRoads v8.11.9.397	E-SHEET NAME:	USER: travis-m DATE PLOTTED: August 6, 2018	FILE NAME: D:\PW_WORKDIR\DMS64834\KY434 STRIPING DETAIL 2.DGN

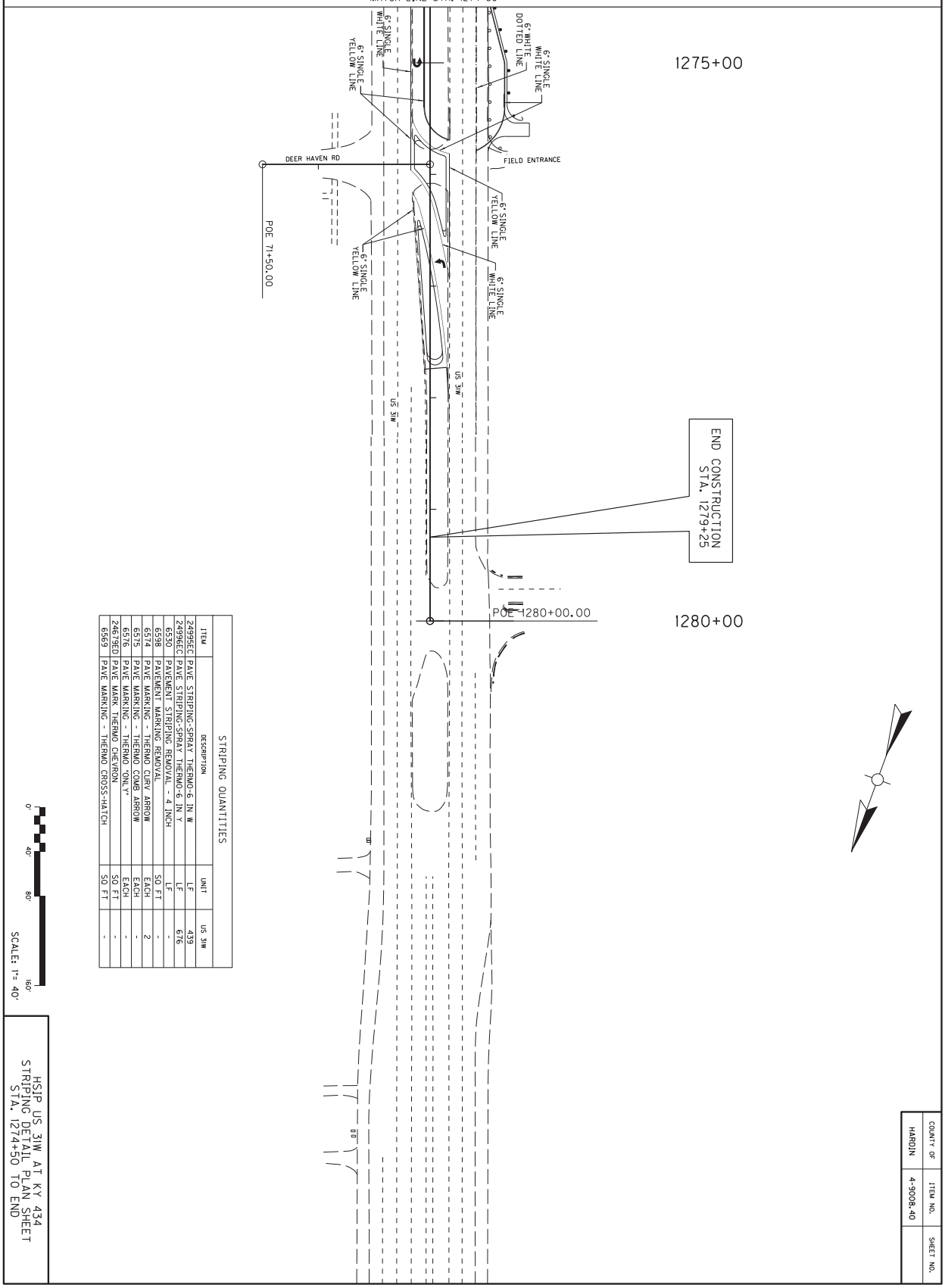
STRIPING QUANTITIES

ITEM	DESCRIPTION	UNIT	US 31W	KY 434 WEST	KY 434 EAST
249955EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	1374	362	283
249966EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	1243	216	386
6530	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	999	-	100
6568	PAVE MARKING - THERMO STOP BAR - 24 INCH	LF	-	60	29
6598	PAVEMENT MARKING REMOVAL	SQ FT	186.5	-	77
6574	PAVE MARKING - THERMO CURV ARROW	EACH	9	1	2
6575	PAVE MARKING - THERMO COMB ARROW	EACH	-	-	1
6576	PAVE MARKING - THERMO "ONLY"	EACH	-	1	-
24679ED	PAVE MARK THERMO CHEVRON	SQ FT	76	-	319
6569	PAVE MARKING - THERMO CROSS-HATCH	SQ FT	-	-	-

HSIP US 31W AT KY 434
STRIPING DETAIL PLAN SHEET
STA. 1265+00 TO STA. 1274+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: August 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64834\KY434 STRIPING DETAIL 3.DGN



STRIPING QUANTITIES

ITEM	DESCRIPTION	UNIT	US 31W
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	439
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	676
6530	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	-
6598	PAVEMENT MARKING REMOVAL	SQ FT	-
6574	PAVE MARKING - THERMO CURV ARROW	EACH	2
6575	PAVE MARKING - THERMO COMB ARROW	EACH	-
6576	PAVE MARKING - THERMO "ONLY"	EACH	-
24679ED	PAVE MARK THERMO CHEVRON	SQ FT	-
6569	PAVE MARKING - THERMO CROSS-HATCH	SQ FT	-

HSIP US 31W AT KY 434
STRIPING DETAIL PLAN SHEET
STA. 1274+50 TO END

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

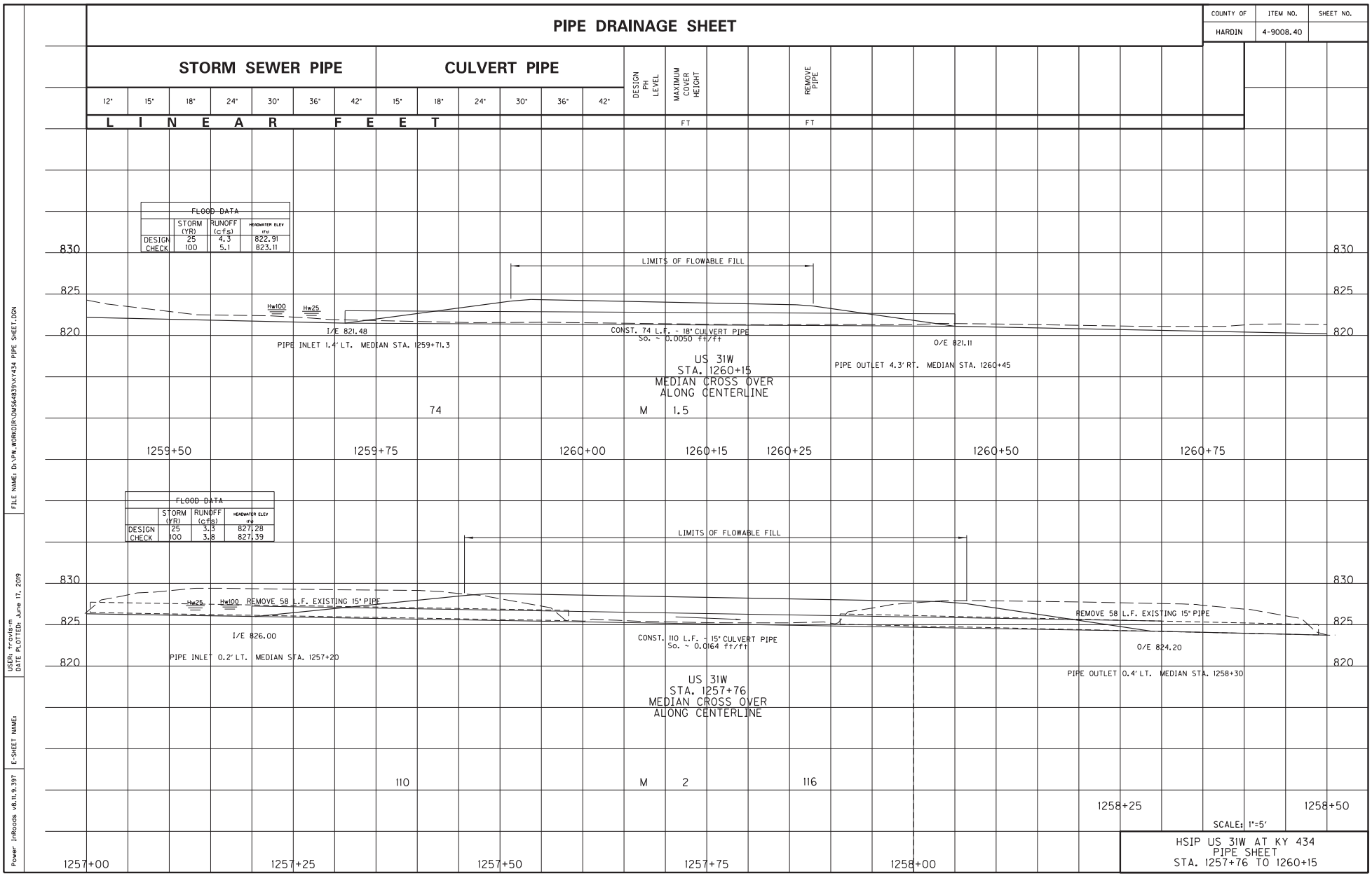
PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

STORM SEWER PIPE

CULVERT PIPE

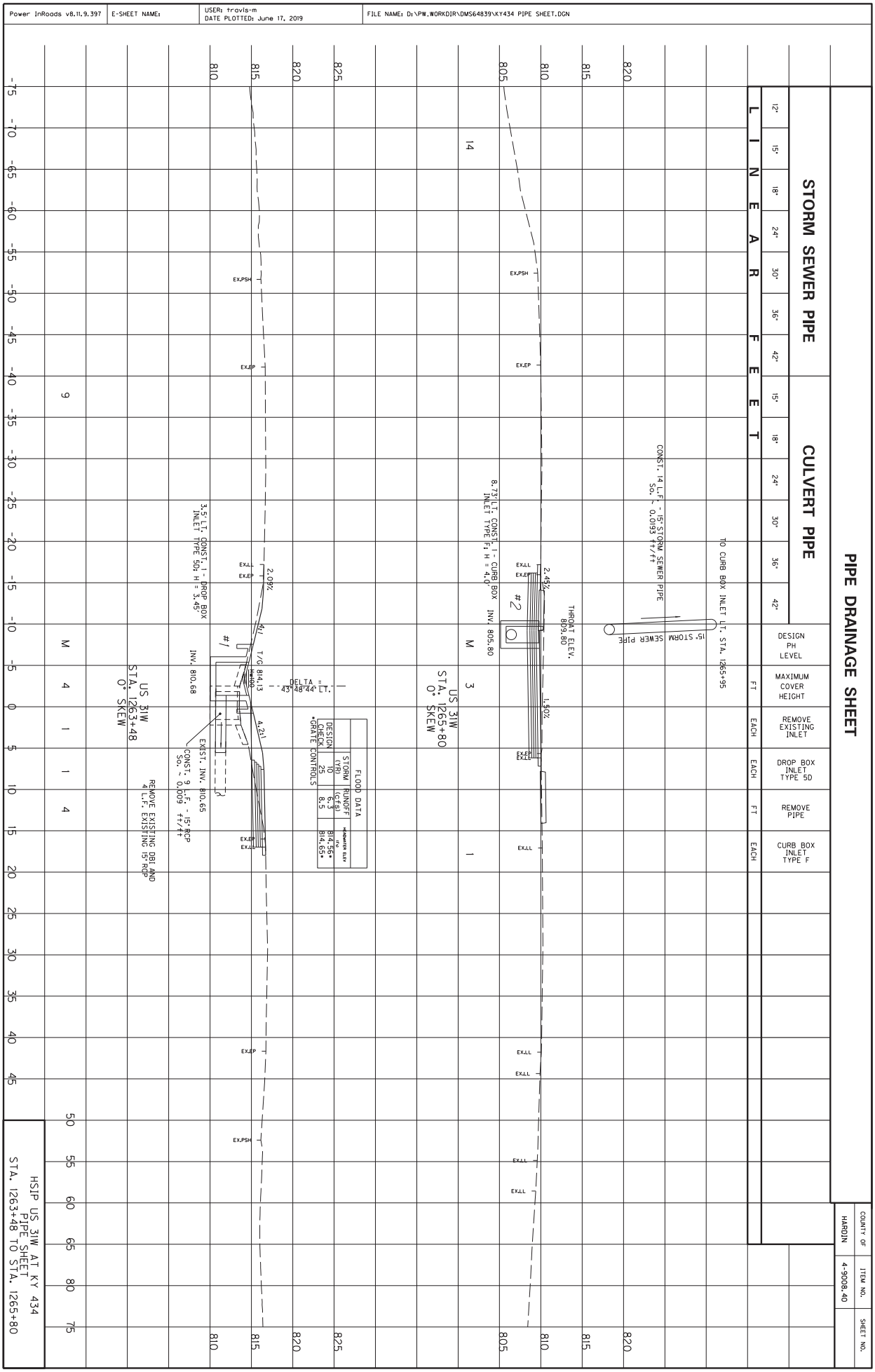
12"	15"	18"	24"	30"	36"	42"	15"	18"	24"	30"	36"	42"	DESIGN PH LEVEL	MAXIMUM COVER HEIGHT	REMOVE PIPE
LINEAR FEET														FT	FT

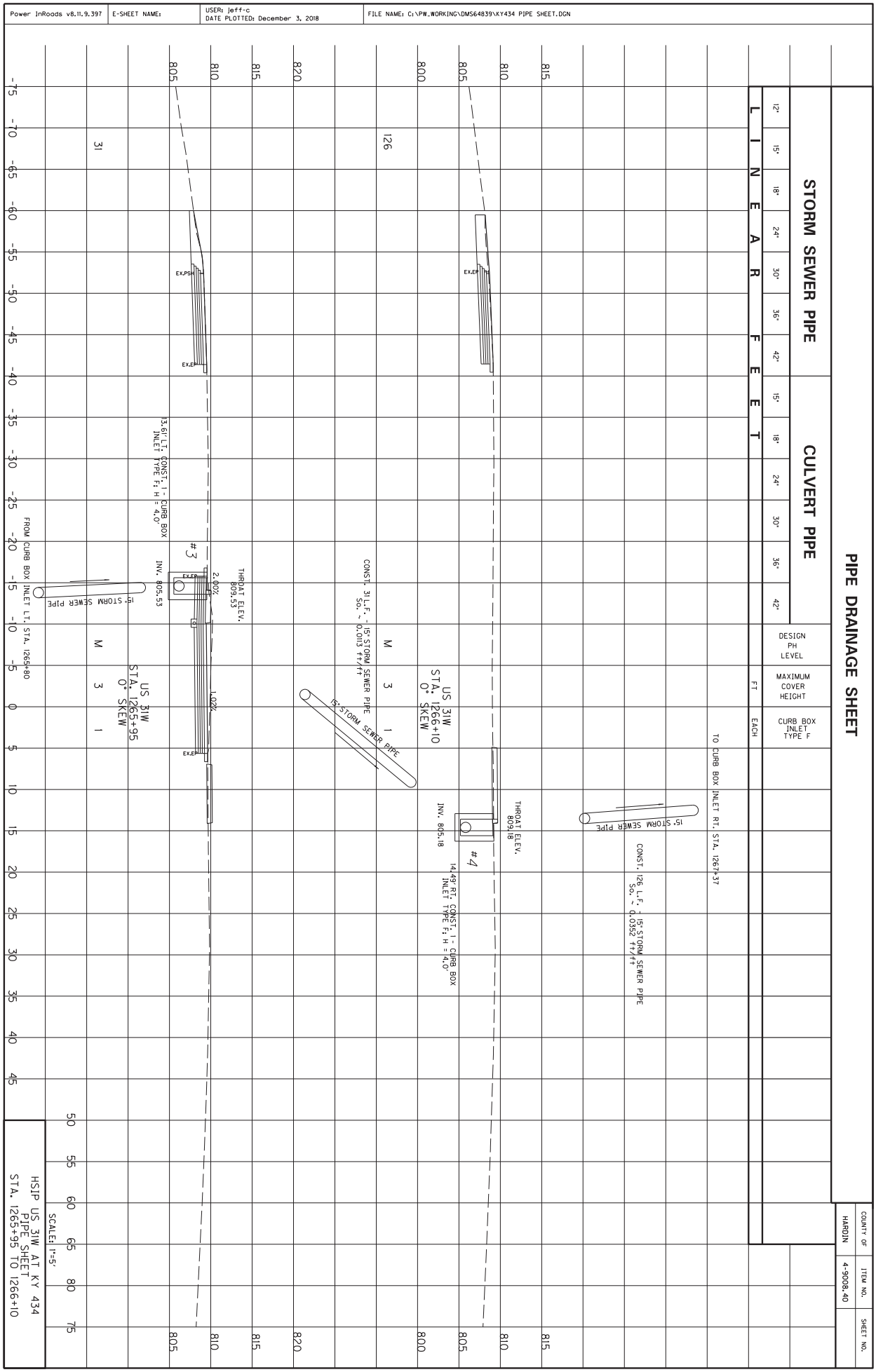


SCALE: 1"=5'

HSIP US 31W AT KY 434
PIPE SHEET
STA. 1257+76 TO 1260+15

FILE NAME: D:\PW_WORKDIR\DM564839\KY434 PIPE SHEET.DGN
USER: travis-m
DATE PLOTTED: June 17, 2019
E-SHEET NAME:
Power inRoads v8.11.9.397

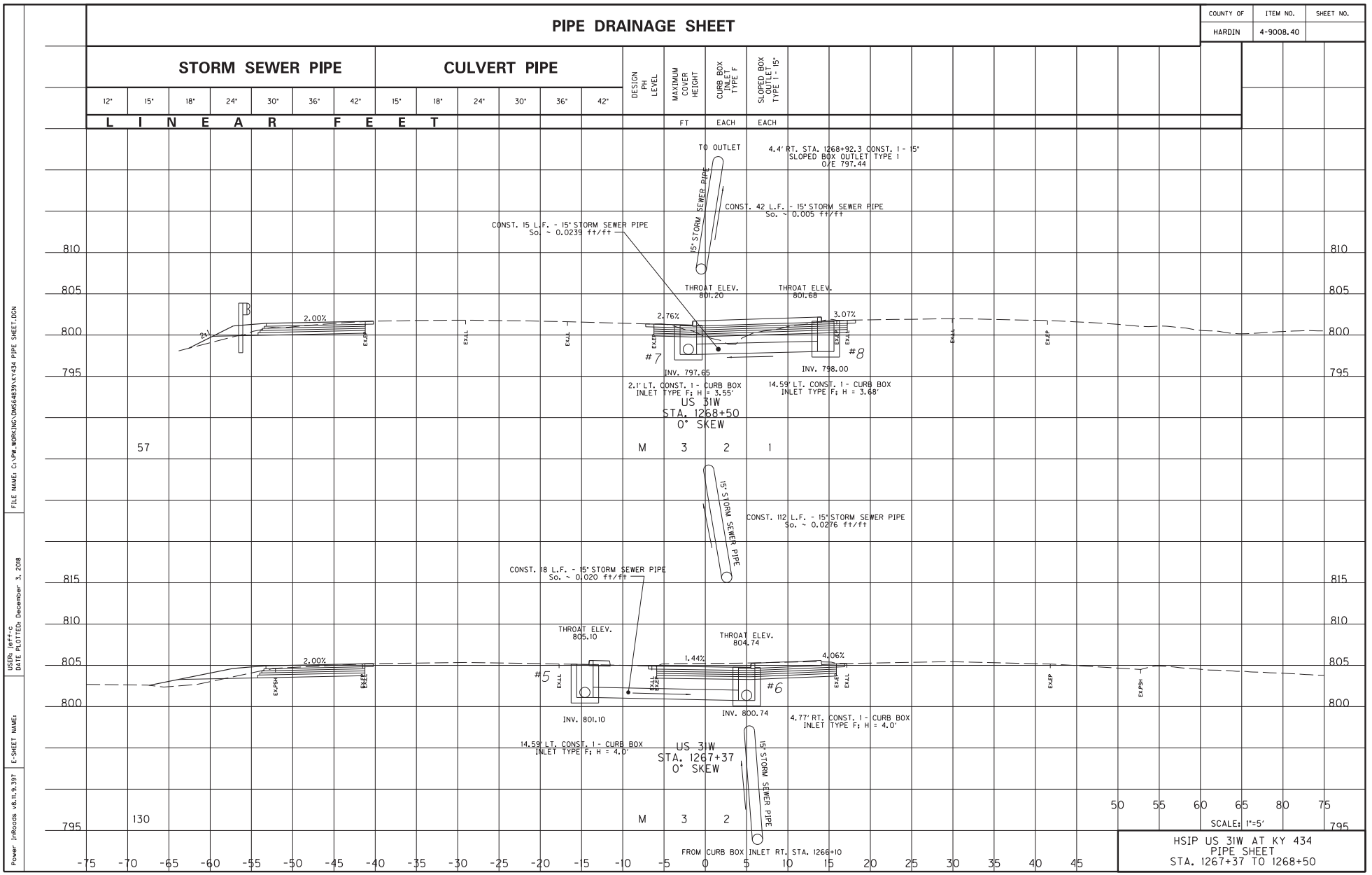

Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: June 17, 2019
FILE NAME: D:\PW_WORKDIR\DMS64839\KY434 PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
12" 15" 18" 24" 30" 36" 42"
15" 18" 24" 30" 36" 42"
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT FT
REMOVE EXISTING INLET EACH
DROP BOX INLET TYPE 5D EACH
REMOVE PIPE FT
CURB BOX INLET TYPE F EACH
TO CURB BOX INLET LT. STA. 1265+95
CONST. 14 L.F. - 15" STORM SEWER PIPE
So. = 0.093 ft/ft
15" STORM SEWER PIPE
THROAT ELEV. 809.80
#2
2.49%
1.50%
8.73' LT. CONST. 1 - CURB BOX
INLET TYPE F; H = 4.0'
INV. 805.80
US 31W
STA. 1265+80
0° SKEW
DELTA "1" 43°48'44" LT.
FLOOD DATA
STORM (yr) | RUNOFF (cfs) | *GRATE ELEV.
DESIGN 10 | 6.3 | 814.56'
CHECK 25 | 8.5 | 814.65'
*GRATE CONTROLS
3.5' LT. CONST. 1 - DROP BOX
INLET TYPE 5D; H = 3.45'
INV. 810.68
#1
2.08%
4.21%
T/G 814.13
Herr
EXIST. INV. 810.65
CONST. 9 L.F. - 15" RCP
So. = 0.009 ft/ft
REMOVE EXISTING DBL AND
4 L.F. EXISTING 15" RCP
US 31W
STA. 1263+48
0° SKEW
HSIP US 31W AT KY 434
PIPE SHEET
STA. 1263+48 TO STA. 1265+80
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: December 3, 2018
FILE NAME: C:\PW_WORKING\DMS64839\KY434 PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
12" 15" 18" 24" 30" 36" 42" 15" 18" 24" 30" 36" 42"
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT
FT
CURB BOX INLET 'F'
EACH
TO CURB BOX INLET RT. STA. 1267+37
15" STORM SEWER PIPE
CONST. 126 L.F. - 15" STORM SEWER PIPE
So. = 0.0352 ft/ft
THROAT ELEV. 809.18
#4
INV. 805.18
14.49' RT. CONST. 1 - CURB BOX INLET TYPE F; H = 4.0'
US 31W STA. 1266+10 0° SKEW
M 3 1
CONST. 31 L.F. - 15" STORM SEWER PIPE
So. = 0.0113 ft/ft
126
15" STORM SEWER PIPE
FROM CURB BOX INLET LT. STA. 1265+80
31
M 3 1
US 31W STA. 1265+95 0° SKEW
INV. 805.53
#3
THROAT ELEV. 809.53
2.00%
1.02%
13.61' LT. CONST. 1 - CURB BOX INLET TYPE F; H = 4.0'
EX.EP
EX.PSP
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.
SCALE: 1"=5'
HSIP US 31W AT KY 434
PIPE SHEET
STA. 1265+95 TO 1266+10

PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

STORM SEWER PIPE							CULVERT PIPE						DESIGN PH LEVEL	MAXIMUM COVER HEIGHT	CURB BOX TYPE F	SLOPED BOX OUTLET TYPE 1 - 15"
12"	15"	18"	24"	30"	36"	42"	15"	18"	24"	30"	36"	42"				
LINEAR FEET														FT	EACH	EACH
	57												M	3	2	1
	130												M	3	2	

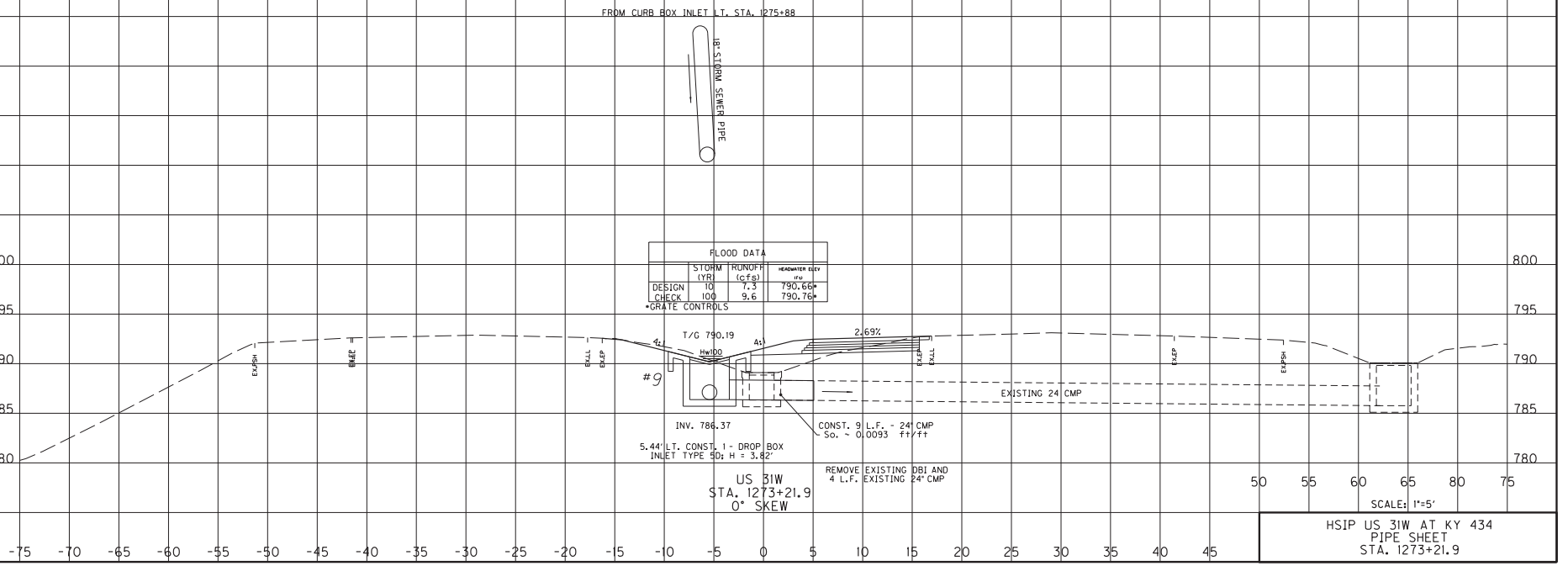


FILE NAME: C:\PW_WORKING\DMS64839\KY434 PIPE SHEET.DGN
USER: jeff-c
DATE PLOTTED: December 3, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

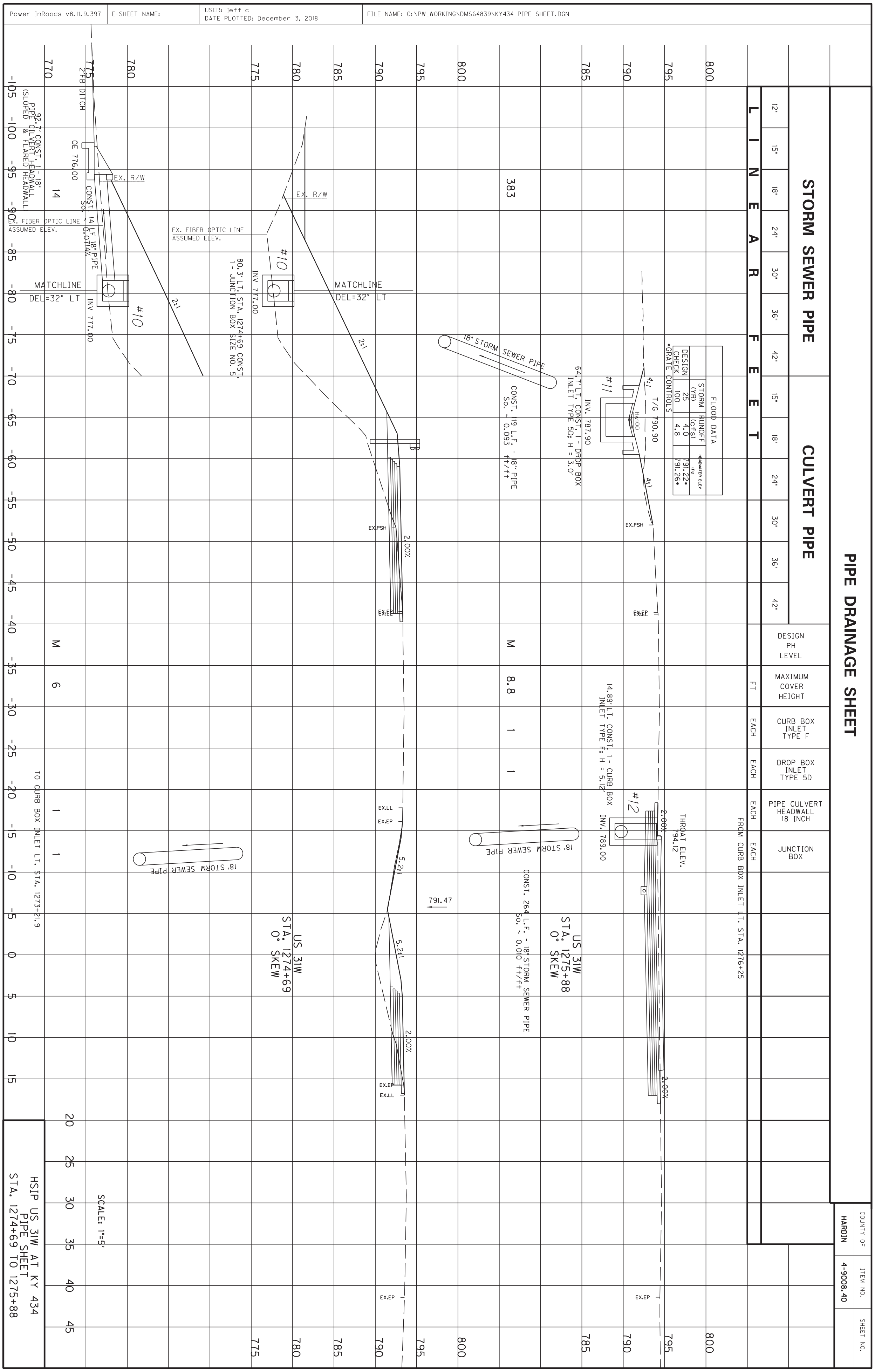
STORM SEWER PIPE							CULVERT PIPE						DESIGN PH LEVEL	MAXIMUM COVER HEIGHT	REMOVE EXISTING INLET	DROP BOX INLET TYPE 5D	REMOVE PIPE
12"	15"	18"	24"	30"	36"	42"	15"	18"	24"	30"	36"	42"					
LINEAR FEET														FT	EACH	EACH	FT
			9										M	4	1	1	4



SCALE: 1"=5'

HSIP US 31W AT KY 434
PIPE SHEET
STA. 1273+21.9

FILE NAME: C:\PW_WORKING\DMS64839\KY434 PIPE SHEET.DGN
USER: jeff-c
DATE PLOTTED: December 3, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: December 3, 2018
FILE NAME: C:\PW_WORKING\DMS64839\KY434 PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT
CURB BOX INLET TYPE F
DROP BOX INLET TYPE 5D
PIPE CULVERT HEADWALL 18 INCH
JUNCTION BOX
FLOOD DATA
STORM (YR)
RUNOFF (cfs)
DESIGN 25 4.0 791.22•
CHECK 100 4.8 791.26•
•GRATE CONTROLS
MATCHLINE DEL=32' LT
EX. R/W
EX. FIBER OPTIC LINE ASSUMED ELEV.
18" STORM SEWER PIPE
US 31W STA. 1274+69 0° SKEW
US 31W STA. 1275+88 0° SKEW
CONST. 119 L.F. - 18" PIPE So. ~ 0.093 ft/ft
CONST. 264 L.F. - 18" STORM SEWER PIPE So. ~ 0.010 ft/ft
80.3' LT. STA. 1274+69 CONST. 1 - JUNCTION BOX SIZE NO. 5
64.7' LT. CONST. 1 - DROP BOX INLET TYPE 5D, H = 3.0'
14.89' LT. CONST. 1 - CURB BOX INLET TYPE F; H = 5.12'
TO CURB BOX INLET LT. STA. 1273+21.9
FROM CURB BOX INLET LT. STA. 1276+25
SCALE: 1"=5'
HSIP US 31W AT KY 434
PIPE SHEET
STA. 1274+69 TO 1275+88
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.

PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

STORM SEWER PIPE							CULVERT PIPE						DESIGN PH LEVEL	MAXIMUM COVER HEIGHT	CURB BOX INLET TYPE A	CURB BOX INLET TYPE F
12"	15"	18"	24"	30"	36"	42"	15"	18"	24"	30"	36"	42"				
LINEAR FEET														FT	EACH	EACH
	31												M	3.3	1	
		36											M	4	1	

FROM CURB BOX INLET LT. STA. 1277+00

15" STORM SEWER PIPE

THROAT ELEV. 794.59

2.00% 2.00%

#14

INV. 790.00

US 31W
STA. 1276+50
0° SKEW

11.17' RT. CONST. 1 - CURB BOX INLET TYPE F; H = 4.59'

CONST. 31 L.F. - 15" STORM SEWER PIPE
So. = 0.0161 ft/ft

THROAT ELEV. 794.04

#13

INV. 789.50

6.37' LT. CONST. 1 - CURB BOX INLET TYPE A; (6-6) H = 4.54'

US 31W
STA. 1276+25
0° SKEW

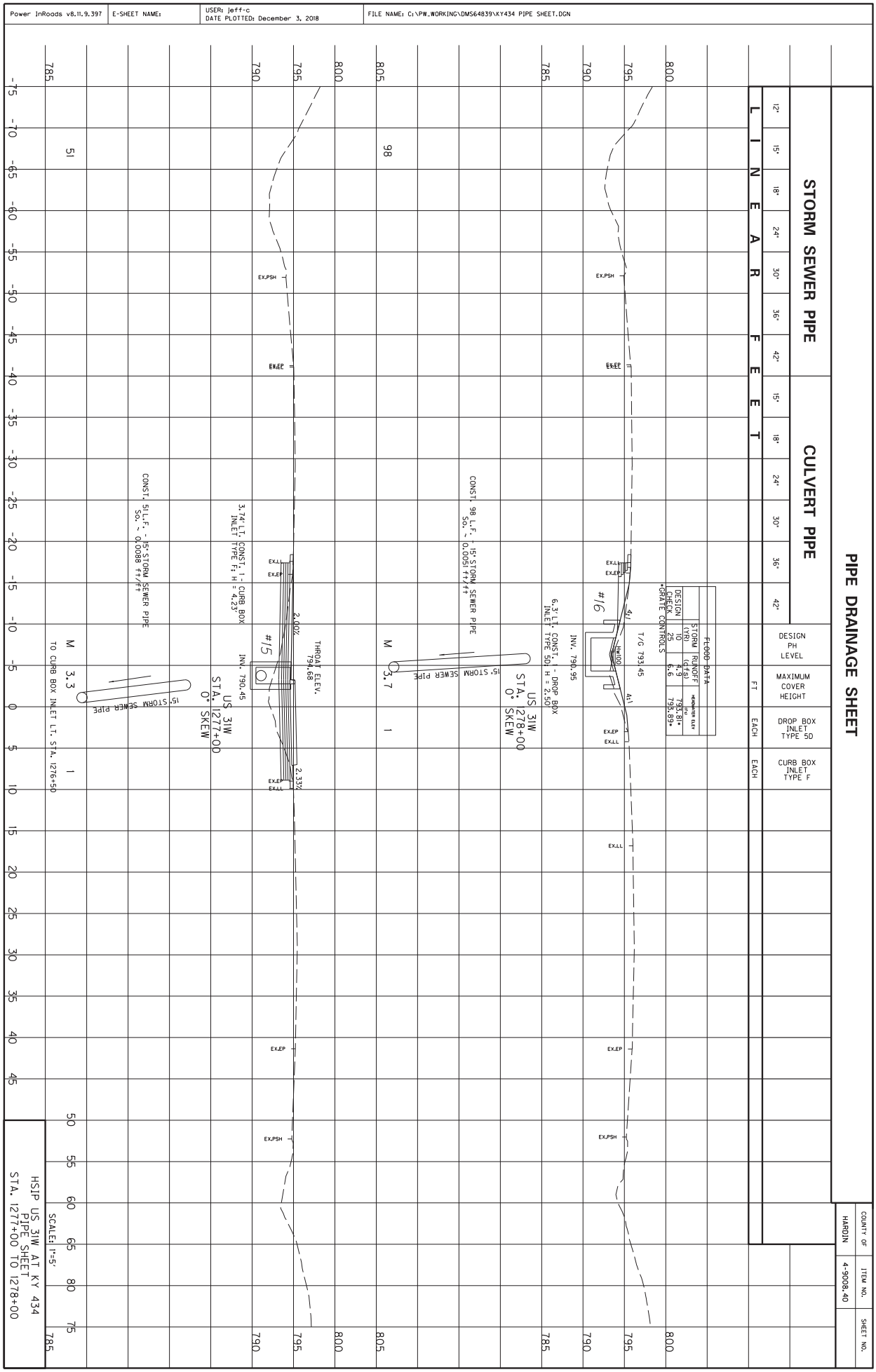
CONST. 36 L.F. - 18" STORM SEWER PIPE
So. = 0.0139 ft/ft

TO CURB BOX INLET LT. STA. 1275+88

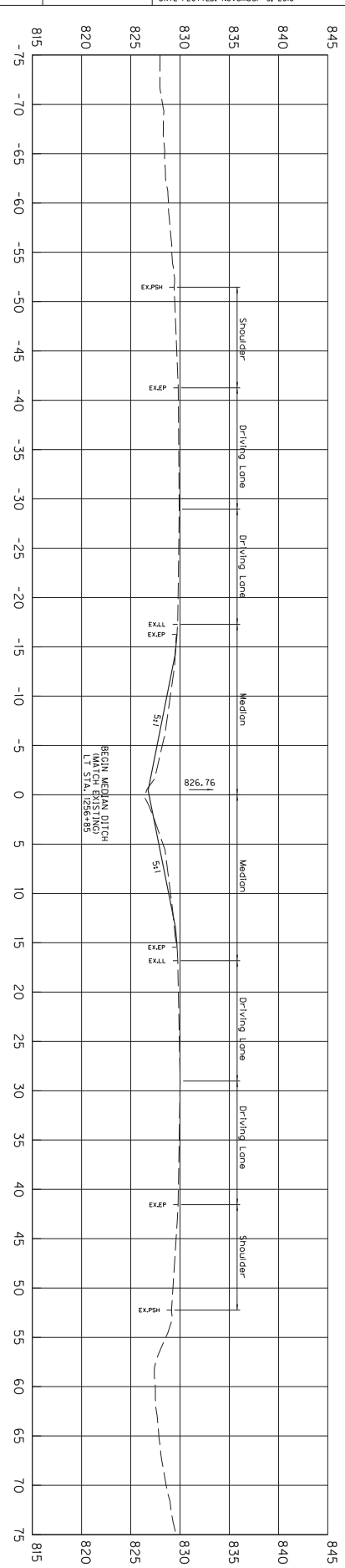
SCALE: 1"=5'

HSIP US 31W AT KY 434
PIPE SHEET
STA. 1276+25 TO 1276+50

FILE NAME: D:\PW_WORKDIR\DM564839\KY434 PIPE SHEET.DGN
USER: travis-m
DATE PLOTTED: June 17, 2019
E-SHEET NAME:
Power InRoads v8.11.9.397


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: December 3, 2018
FILE NAME: C:\PW_WORKING\DMS64839\KY434 PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
12" 15" 18" 24" 30" 36" 42"
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT FT
DROP BOX INLET TYPE 5D EACH
CURB BOX INLET TYPE F EACH
FLOOD DATA
STORM (YR) 25
RUNOFF (cfs) 4.9
HGL ELEV. 795.81*
DESIGN (YR) 10
CHECK 25
6.6
795.89*
*CRATE CONTROLS
#16
#15
CONST. 98 L.F. - 15" STORM SEWER PIPE
So. = 0.0051 ft/ft
CONST. 51 L.F. - 15" STORM SEWER PIPE
So. = 0.0088 ft/ft
6.3' Lt. CONST. 1 - DROP BOX INLET TYPE 5D; H = 2.50
INV. 790.95
3.74 Lt. CONST. 1 - CURB BOX INLET TYPE F; H = 4.23'
INV. 790.45
THROAT ELEV. 794.68
US 31W STA. 1278+00 0° SKEW
US 31W STA. 1277+00 0° SKEW
15" STORM SEWER PIPE
98
51
M 3.7 1
M 3.3 1
TO CURB BOX INLET LT. STA. 1276+50
2.00%
2.33%
EX.PSH
EX.EP
EX.LL
HSIP US 31W AT KY 434
PIPE SHEET
STA. 1277+00 TO 1278+00
SCALE: 1"=5'
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

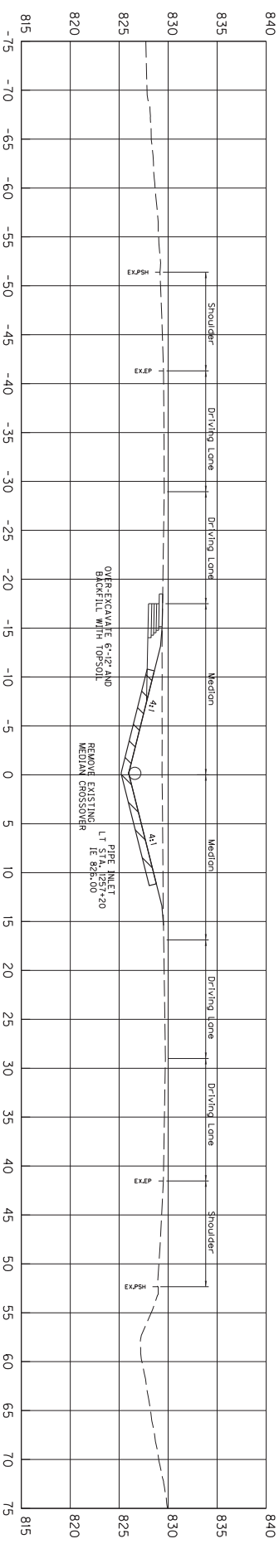


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1257+00 TO STA. 1257+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

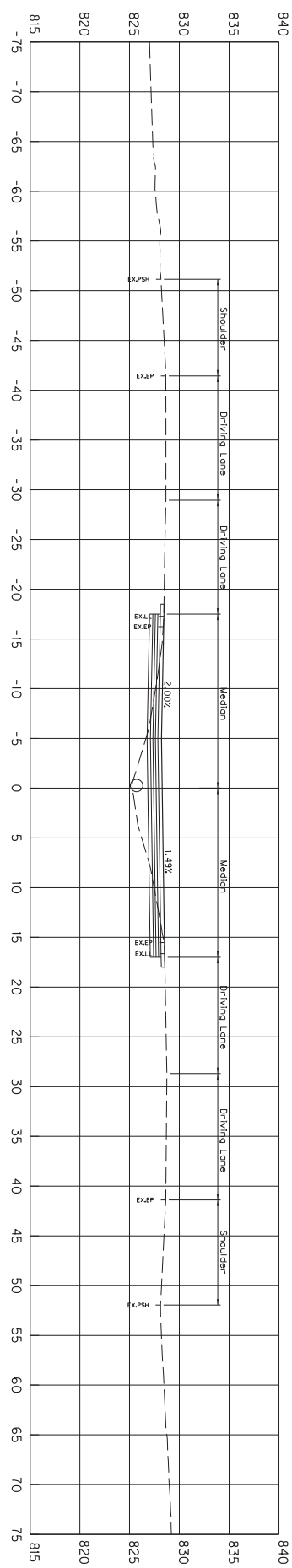


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1257+20 TO STA. 1257+20

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN



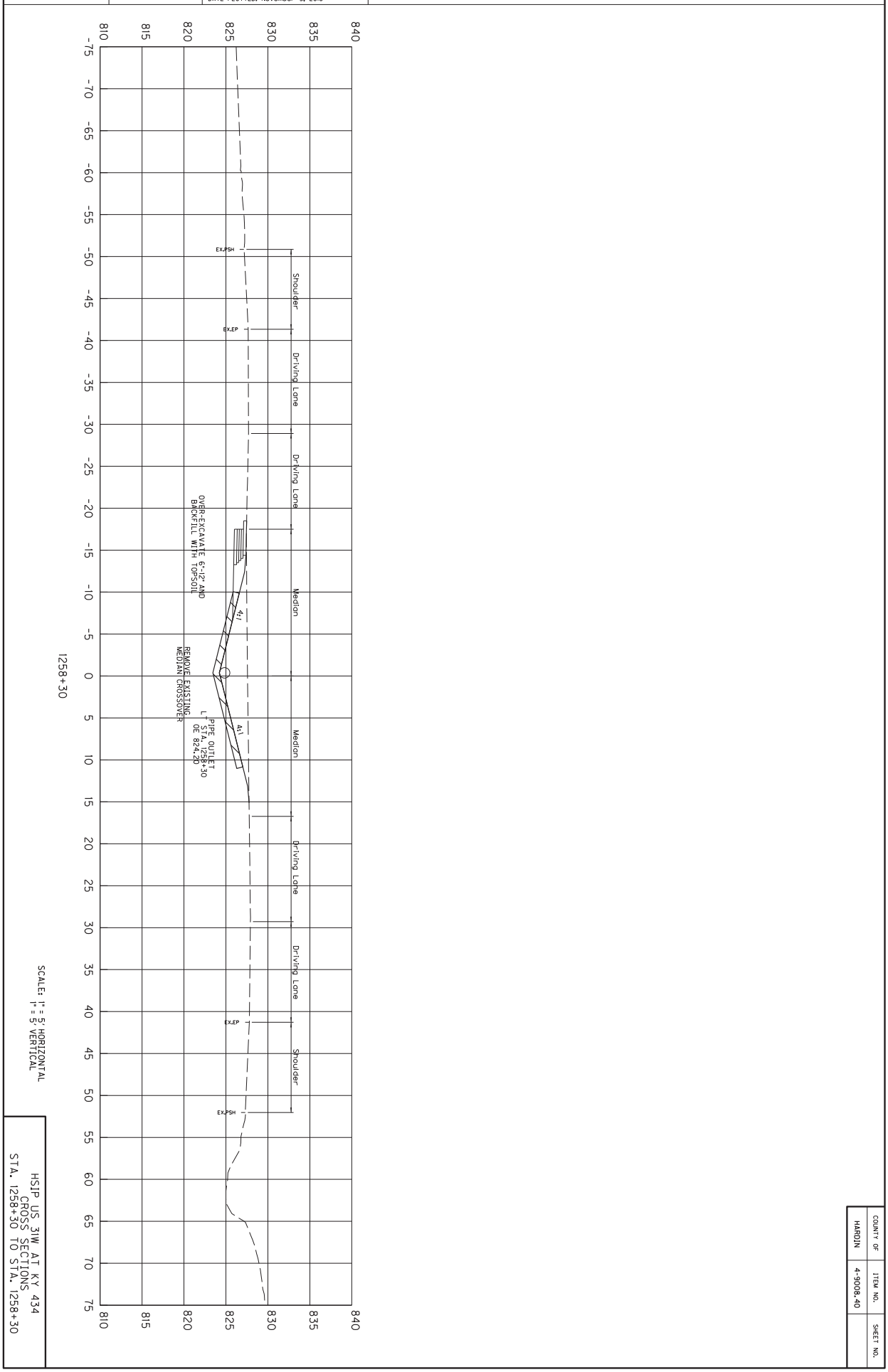
1257+76.37

SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1257+76.37 TO STA. 1257+76.37

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

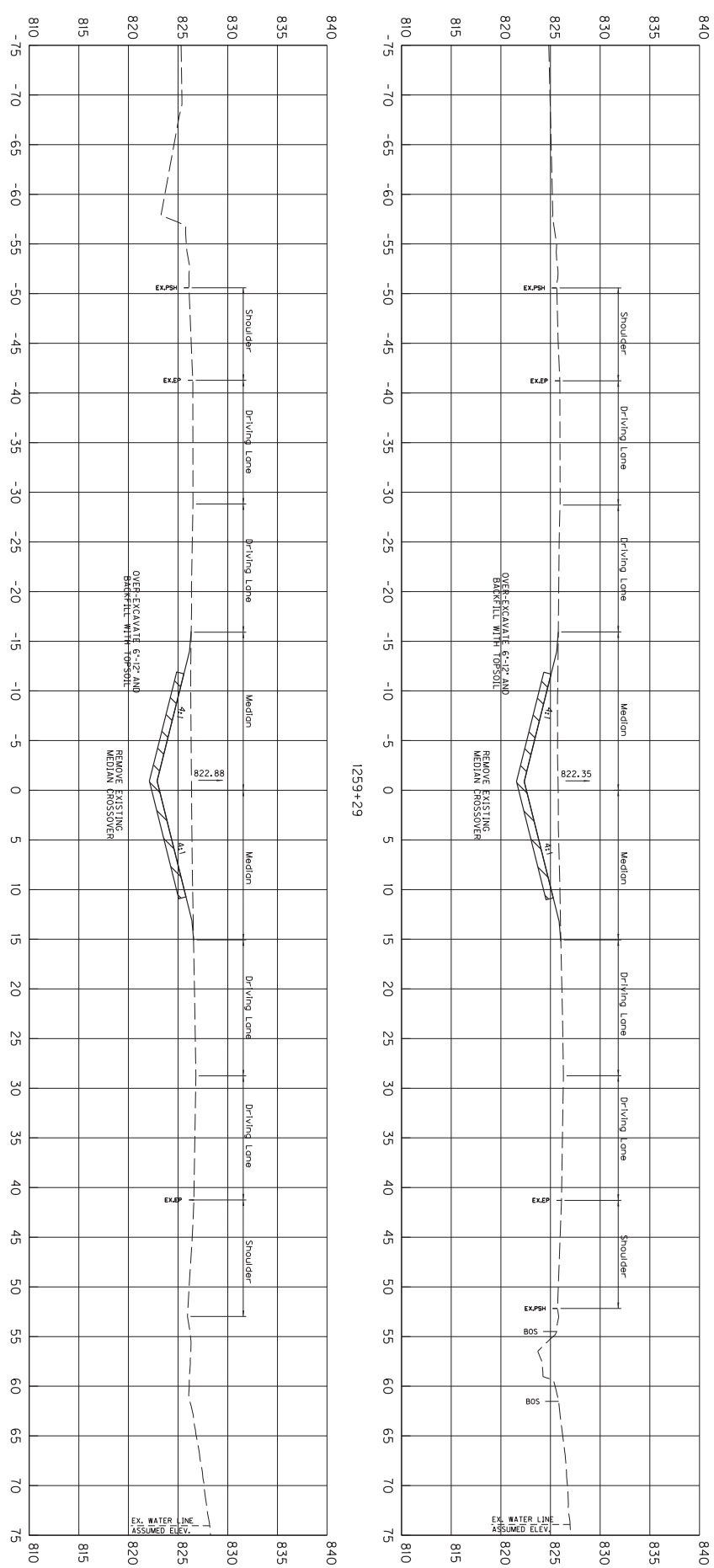


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1258+30 TO STA. 1258+30

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

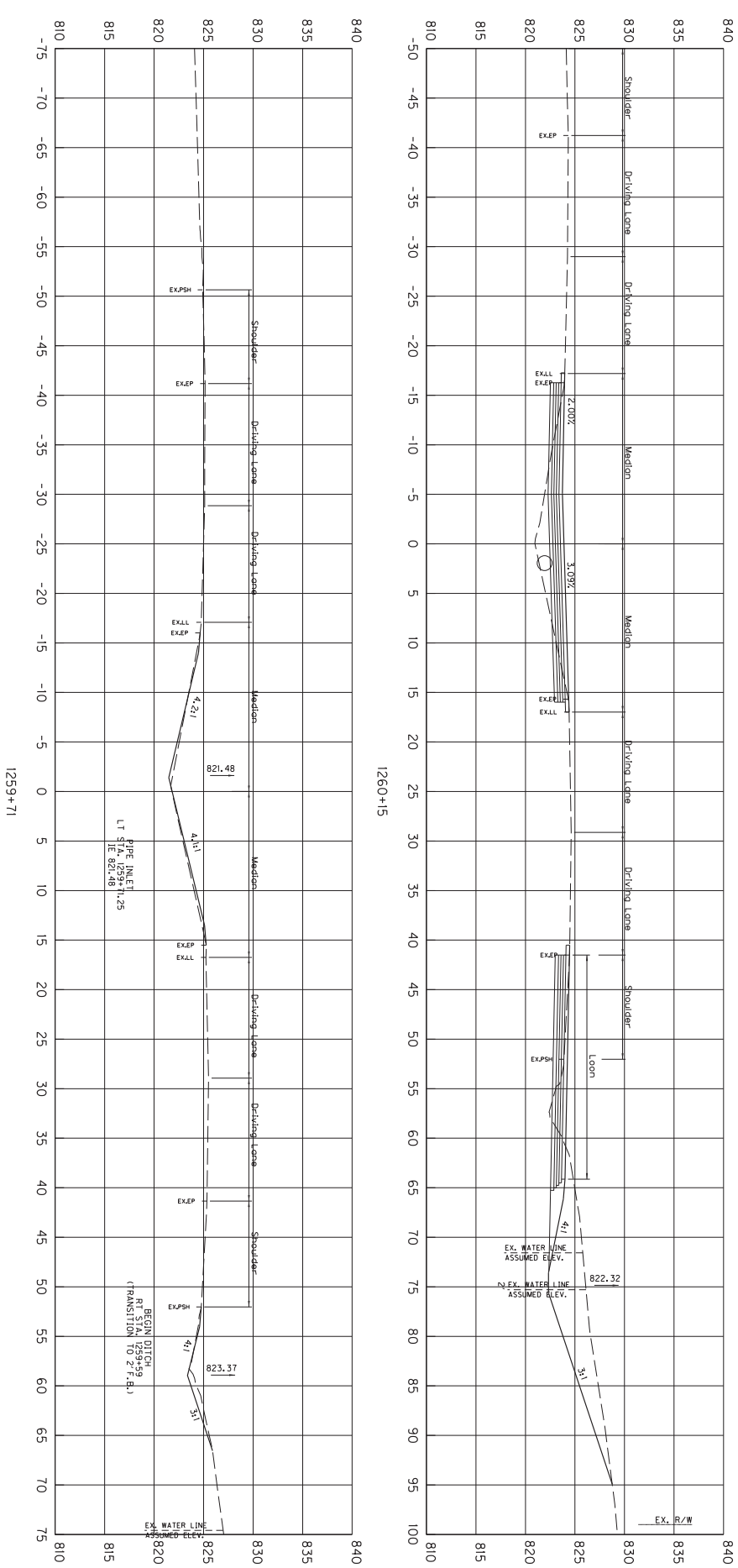


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1259+00 TO STA. 1259+29

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

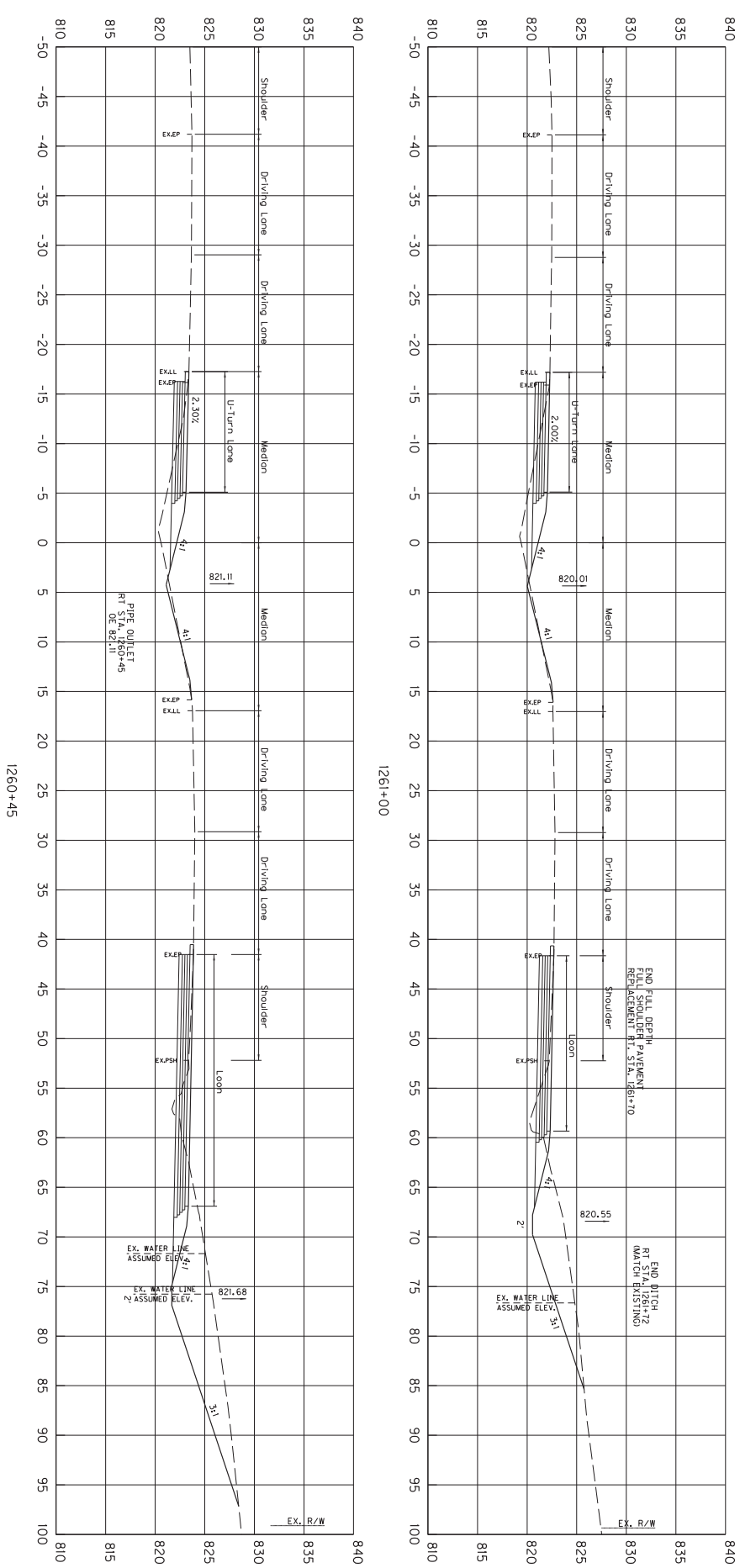


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1259+71 TO STA. 1260+15

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

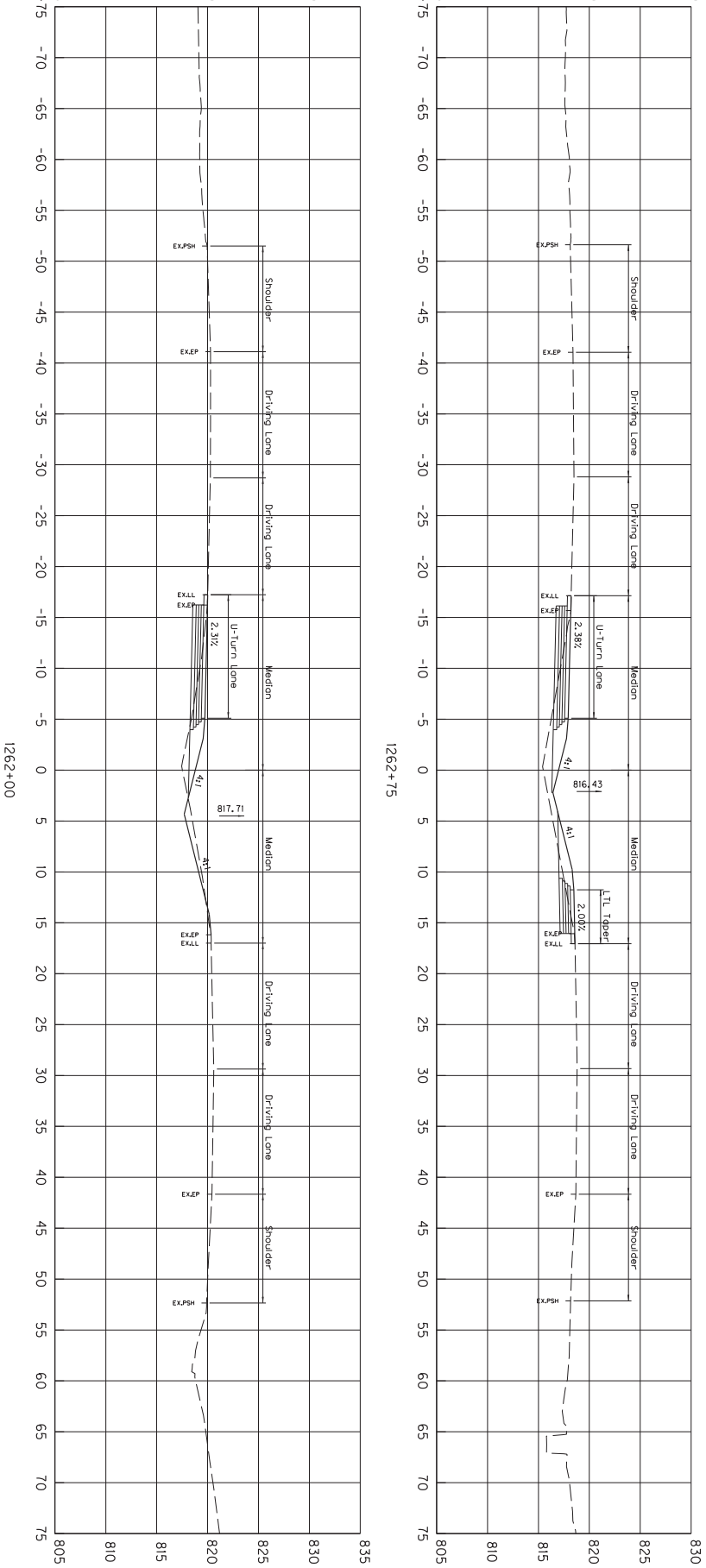


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1260+45 TO STA. 1261+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

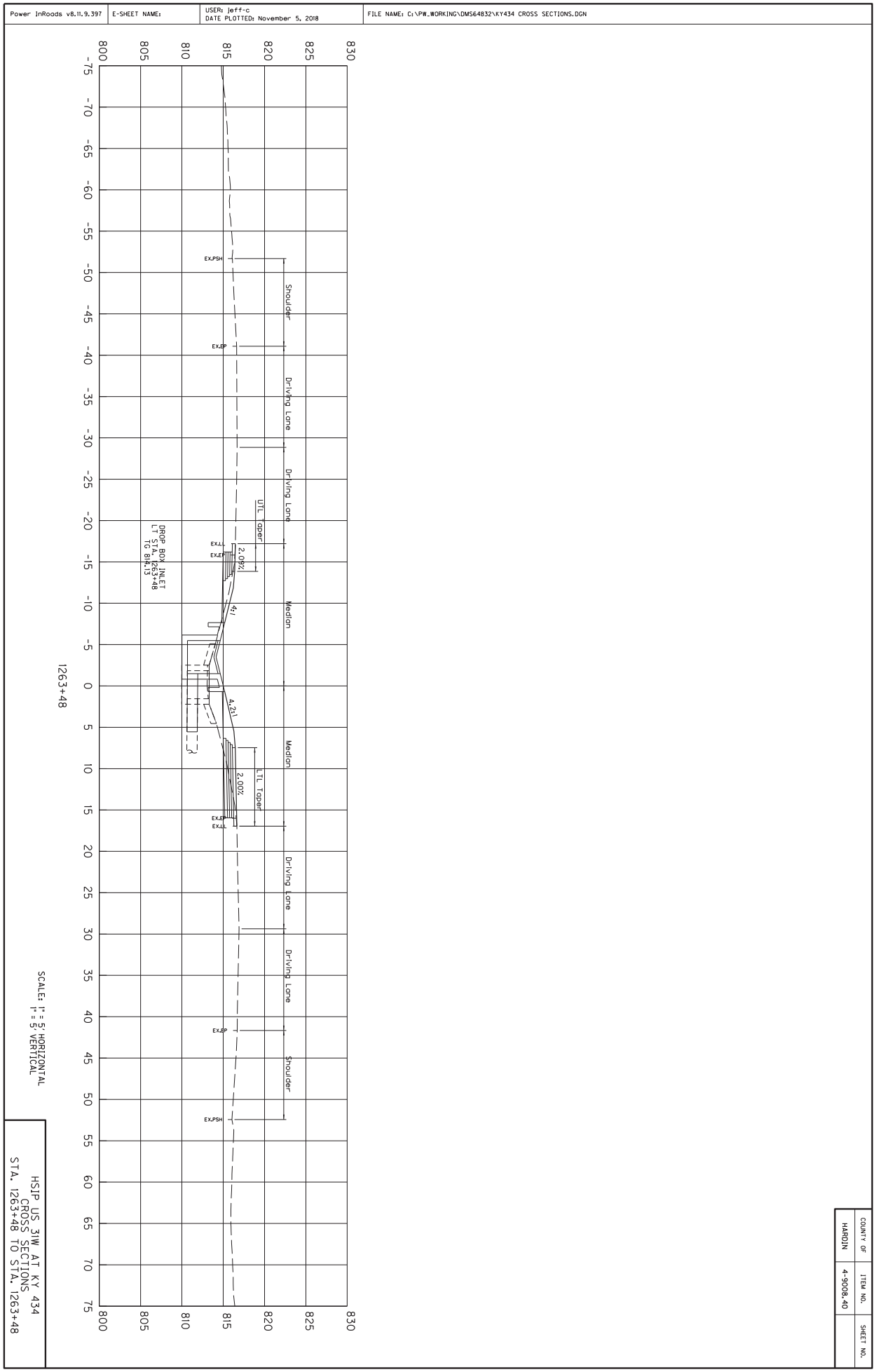
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN



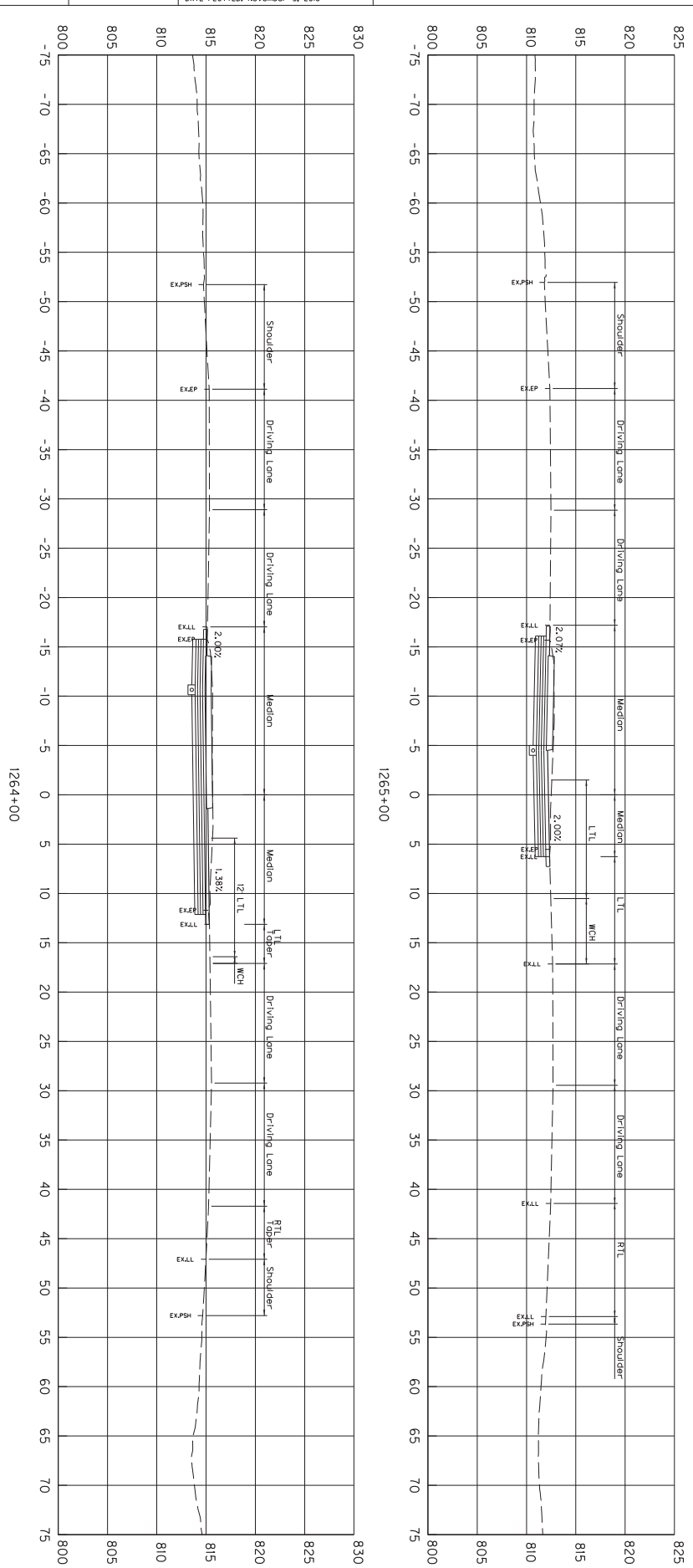
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1262+00 TO STA. 1262+75

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: November 5, 2018
FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN
800
805
810
815
820
825
830
-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
EX.PSH
EX.EP
EX.LL
Shoulder
Driving Lane
Driving Lane
UTL Taper
2.09%
4:1
Median
4.21
Median
LTL Taper
2.00%
Driving Lane
Driving Lane
EX.EP
EX.EP
EX.LL
Shoulder
EX.PSH
DROP BOX INLET
LT STA. 1263+48
TG 811.13
1263+48
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1263+48 TO STA. 1263+48
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

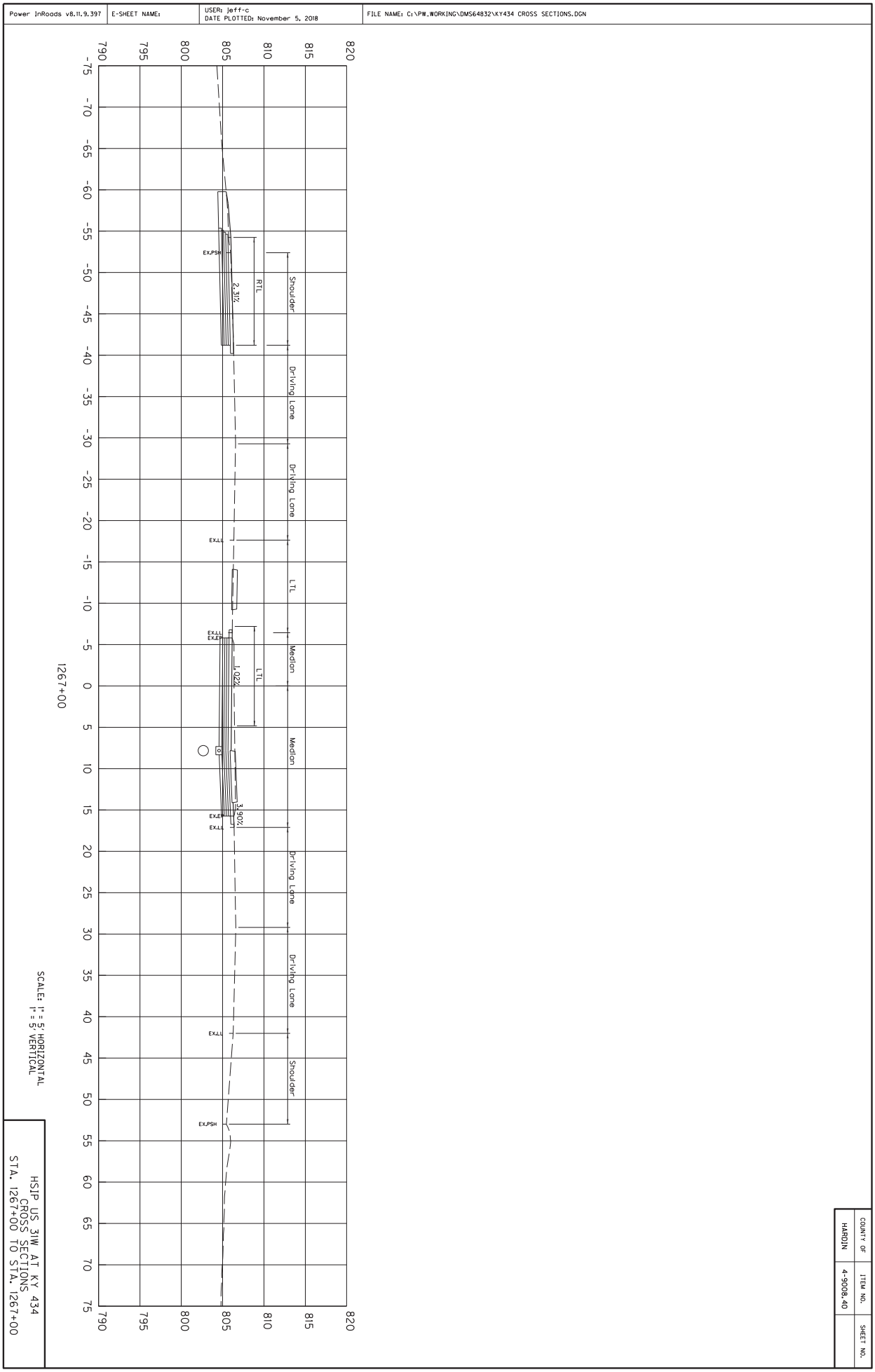
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN



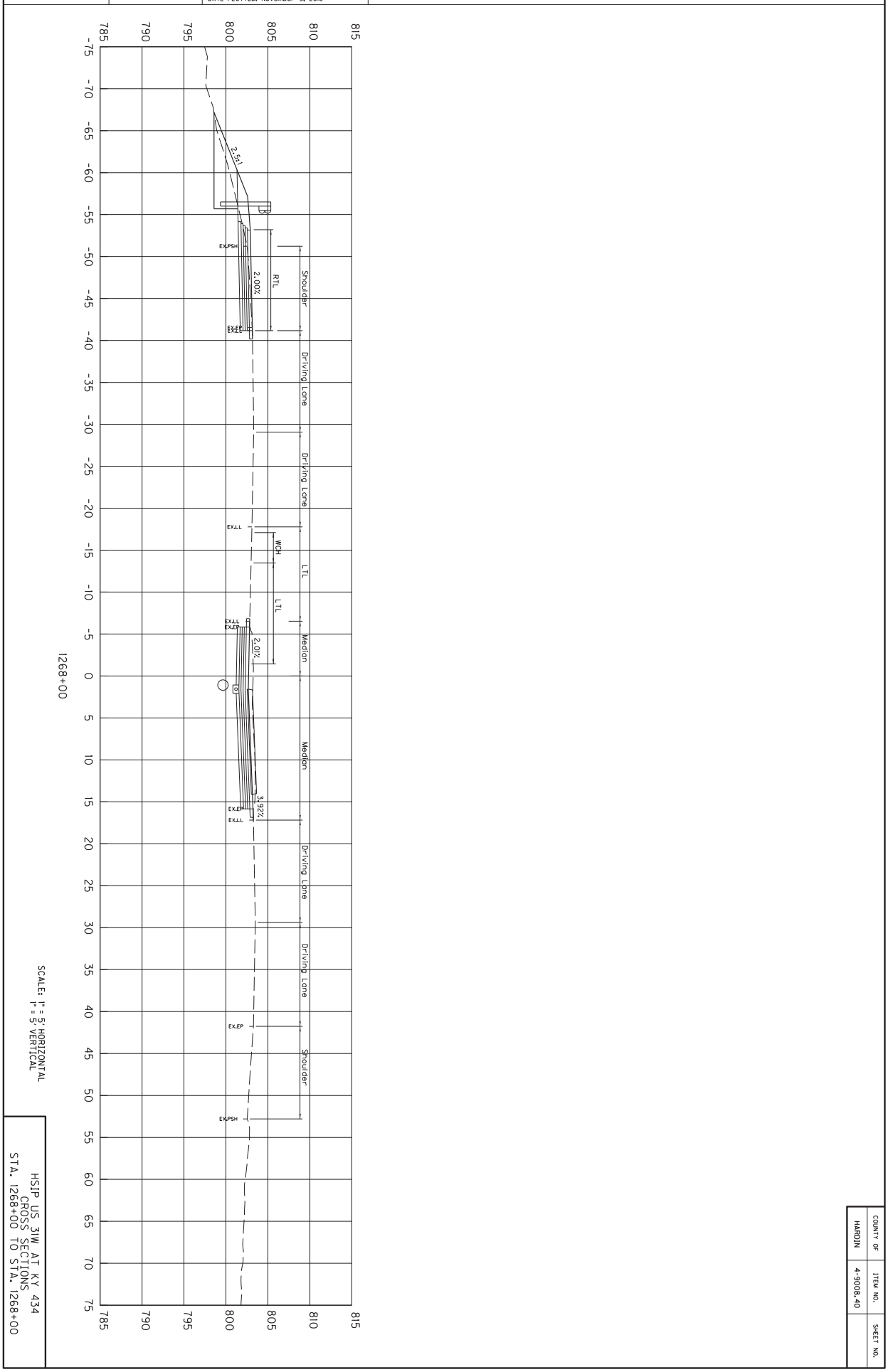
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1264+00 TO STA. 1265+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: November 5, 2018
FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN
790
795
800
805
810
815
820
-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
EX.PSH
RTL
2.31%
Shoulder
Driving Lane
Driving Lane
EX.LL
LTL
EX.LL
EX.LL
LTL
1.92%
Median
Median
3.90%
EX.LL
EX.LL
Driving Lane
Driving Lane
EX.LL
Shoulder
EX.PSH
1267+00
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1267+00 TO STA. 1267+00
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

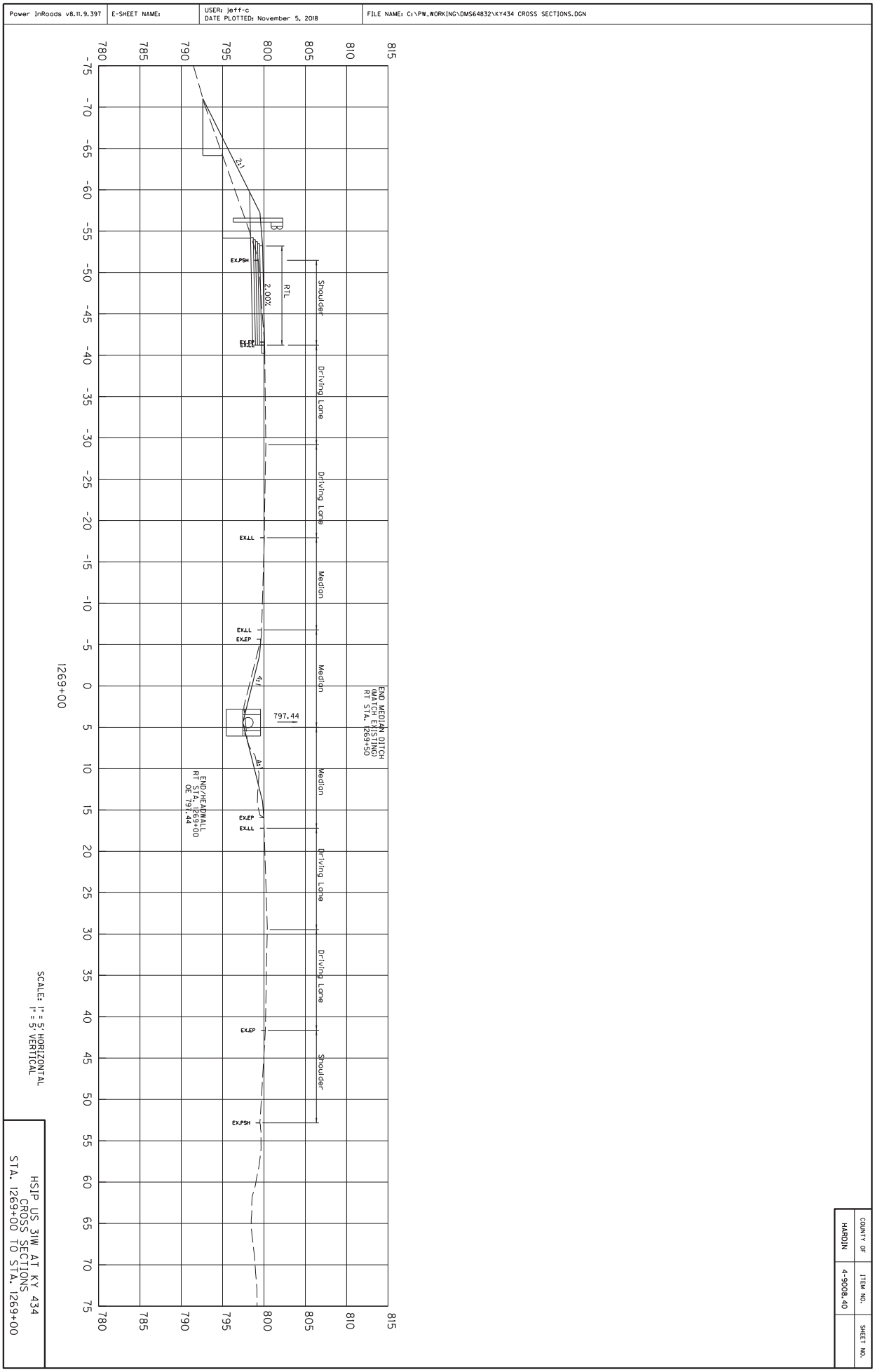
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN



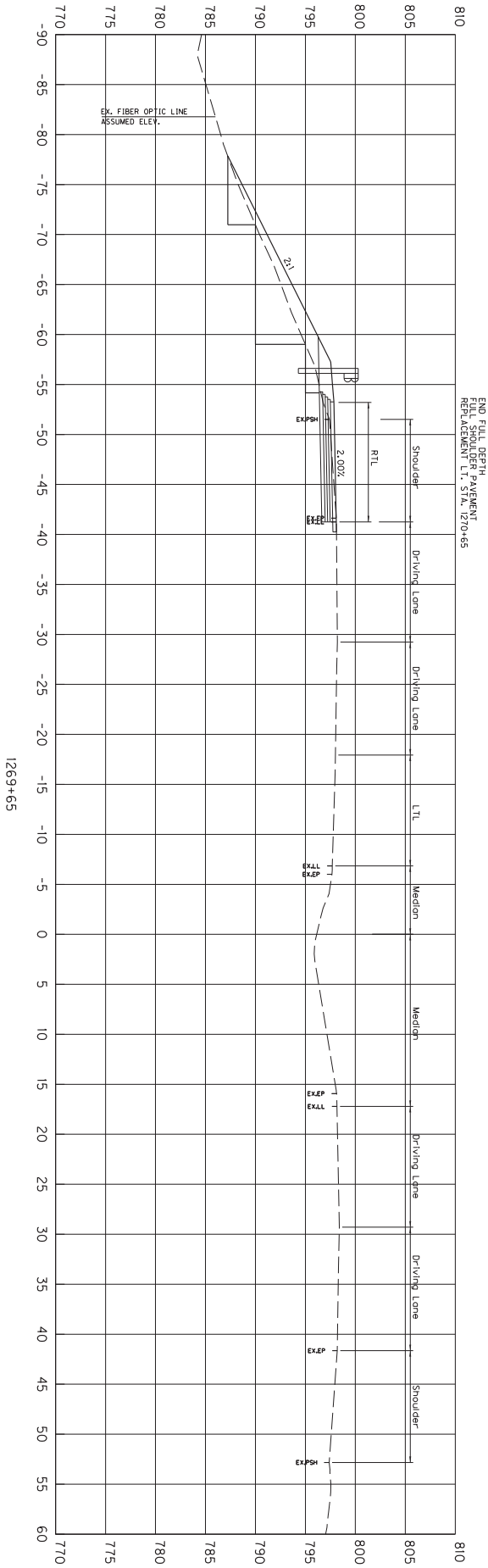
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1268+00 TO STA. 1268+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: November 5, 2018
FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN
780 785 790 795 800 805 810 815
-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
1269+00
2:1
4:1
EX.PSH
RTL
2.00%
EX.EP
EX.LL
Shoulder
Driving Lane
Driving Lane
Median
Median
Median
Driving Lane
Driving Lane
Shoulder
797.44
END MEDIAN DITCH
MATCH EXISTING
RT STA. 1269+50
END/HEADWALL
RT STA. 1269+00
OE 791.44
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1269+00 TO STA. 1269+00
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

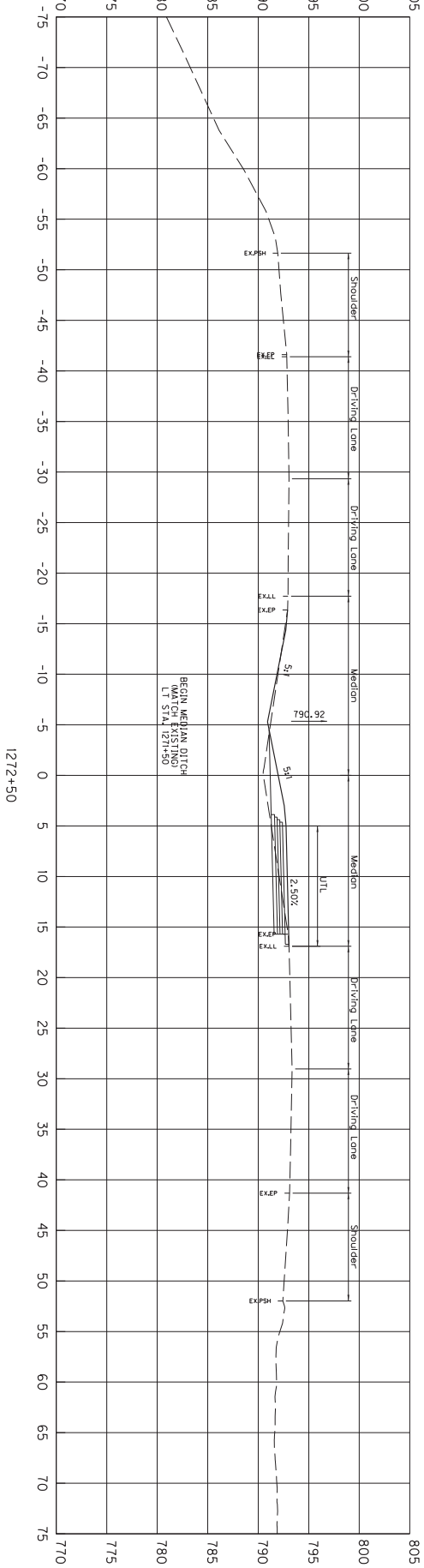


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1269+65 TO STA. 1269+65

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

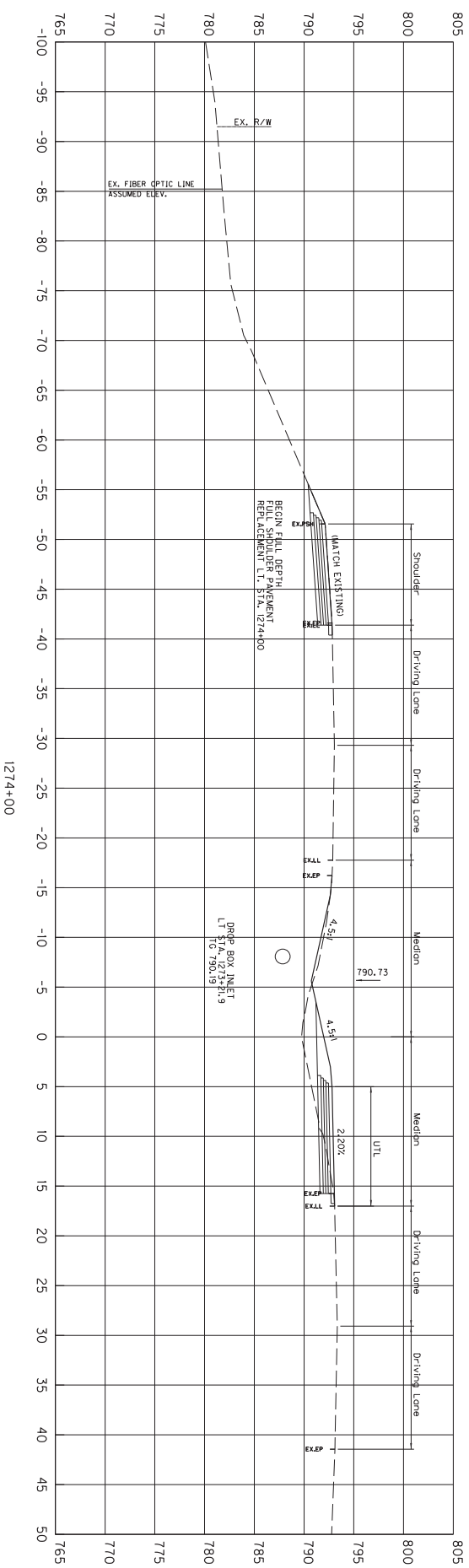


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1272+50 TO STA. 1272+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

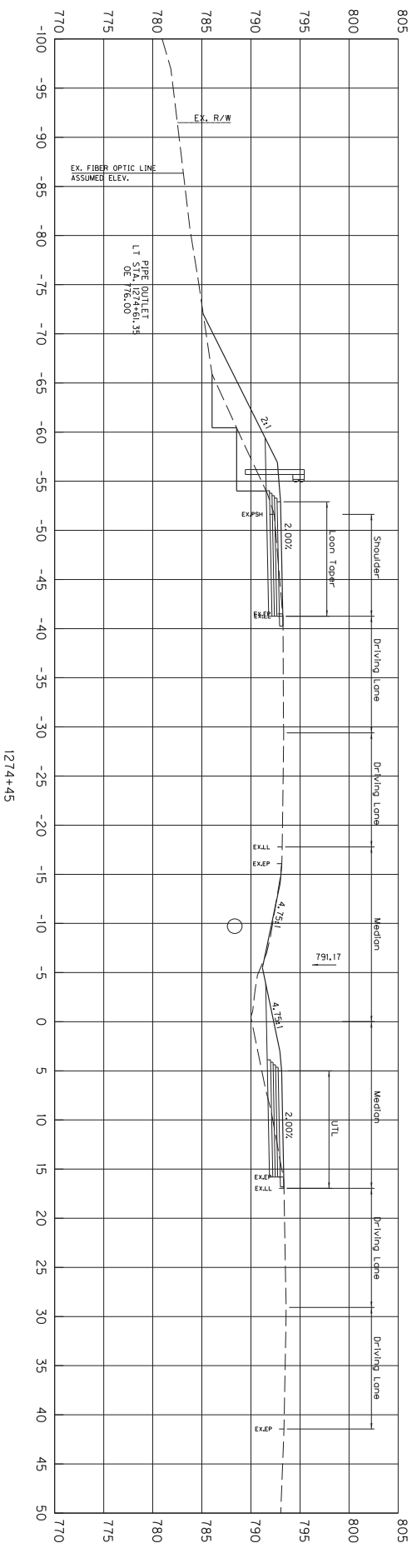


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1274+00 TO STA. 1274+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

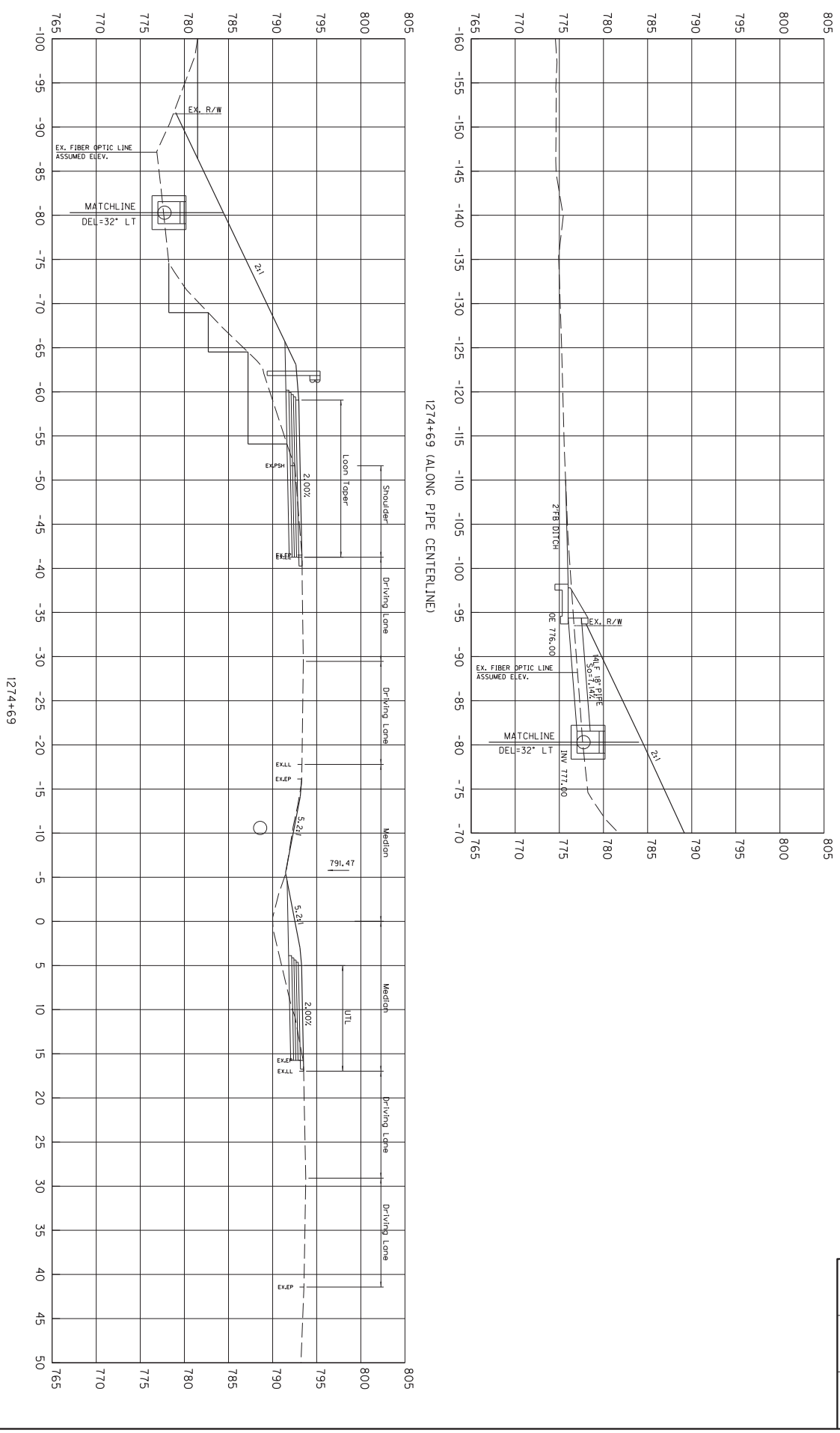


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1274+45 TO STA. 1274+45

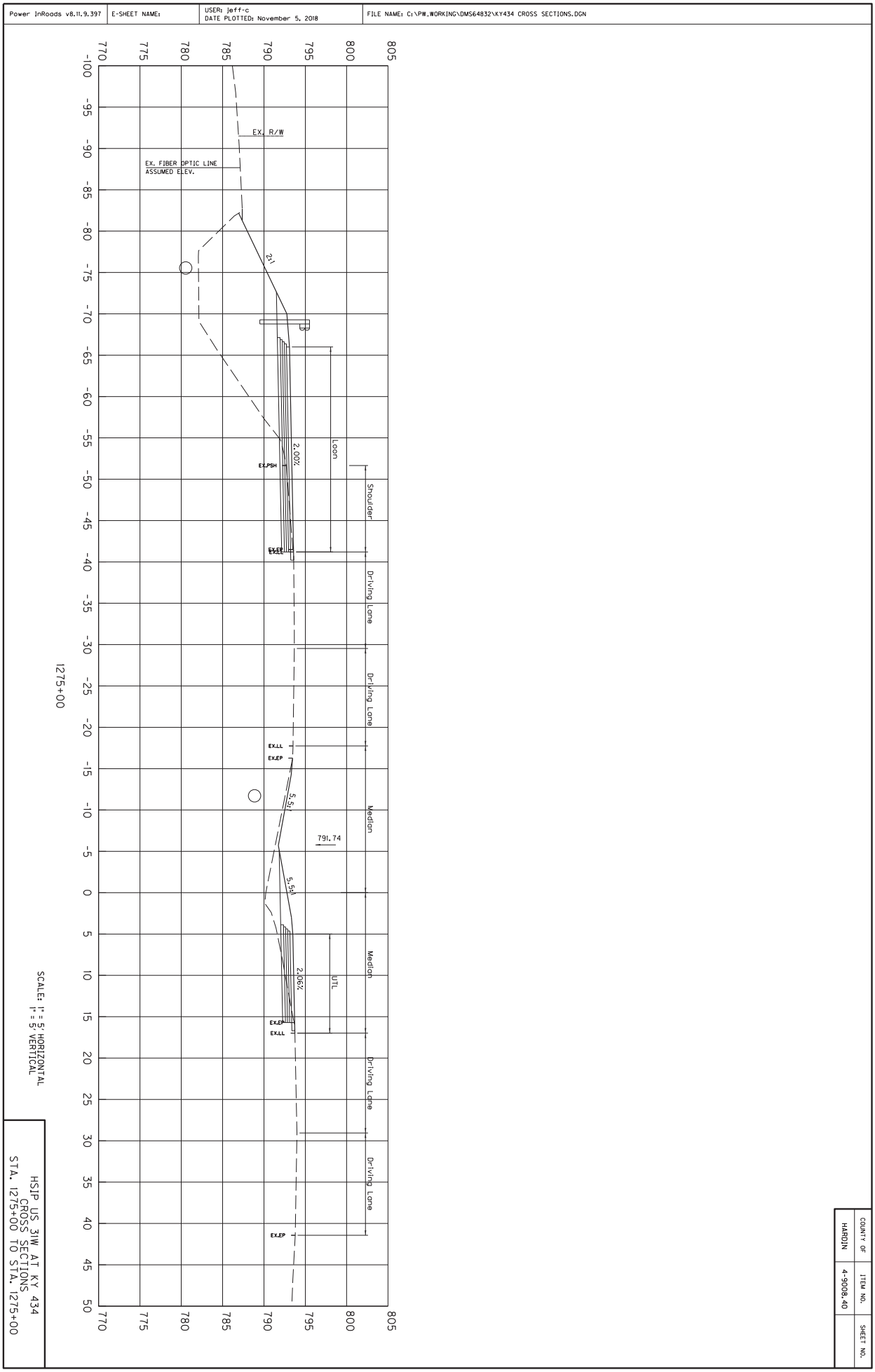
COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

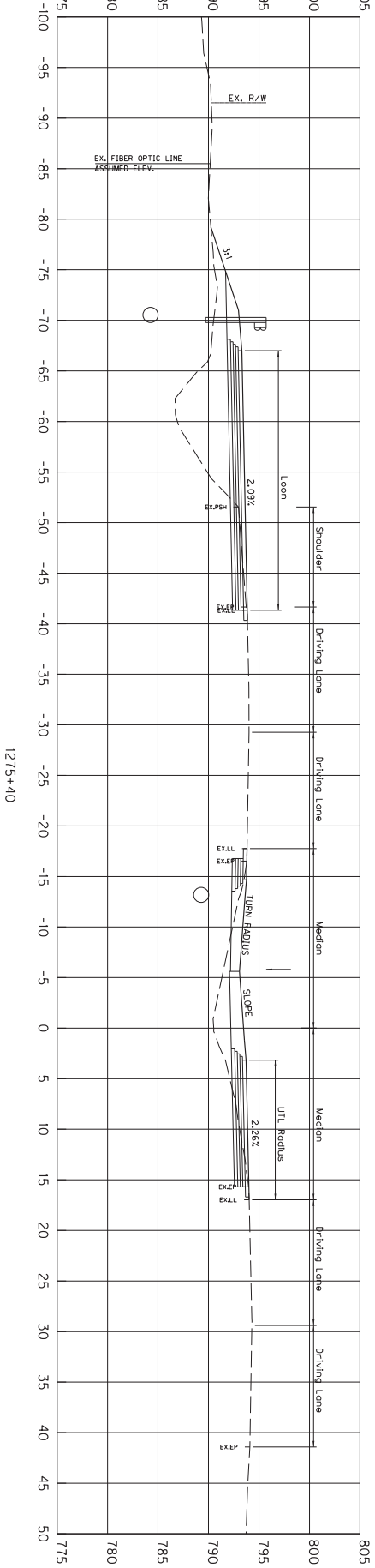


HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1274+69 TO STA. 1274+69

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: November 5, 2018
FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN
770 775 780 785 790 795 800 805
-100 -95 -90 -85 -80 -75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50
Ex. R/W
EX. FIBER OPTIC LINE
ASSUMED ELEV.
2:1
2.00%
Loon
EX.PSH
EX.EP
EX.LL
Shoulder
Driving Lane
Driving Lane
EX.LL
EX.EP
5.5%
Median
791.74
5.5%
Median
2.06%
UTL
EX.EP
EX.LL
Driving Lane
Driving Lane
EX.EP
1275+00
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1275+00 TO STA. 1275+00
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN



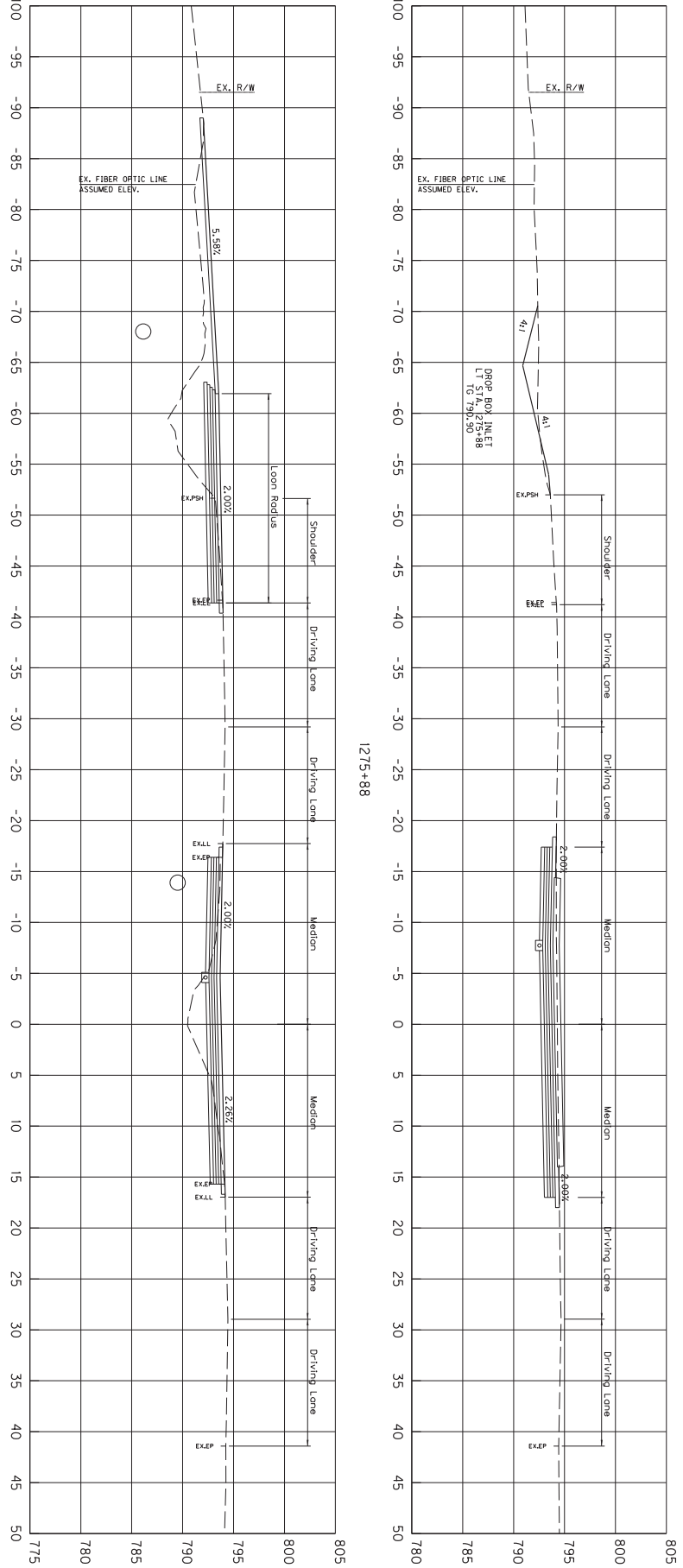
1275+40

SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1275+40 TO STA. 1275+40

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

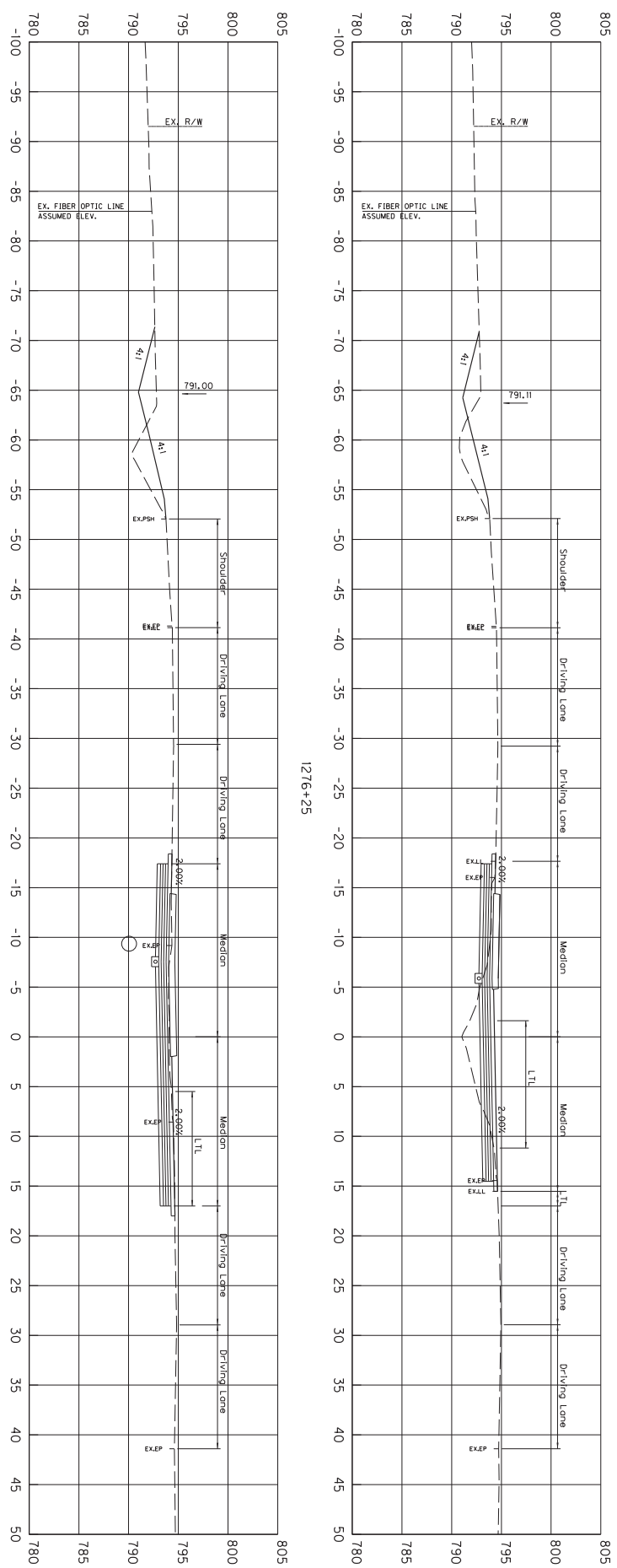


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1275+60 TO STA. 1275+88

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

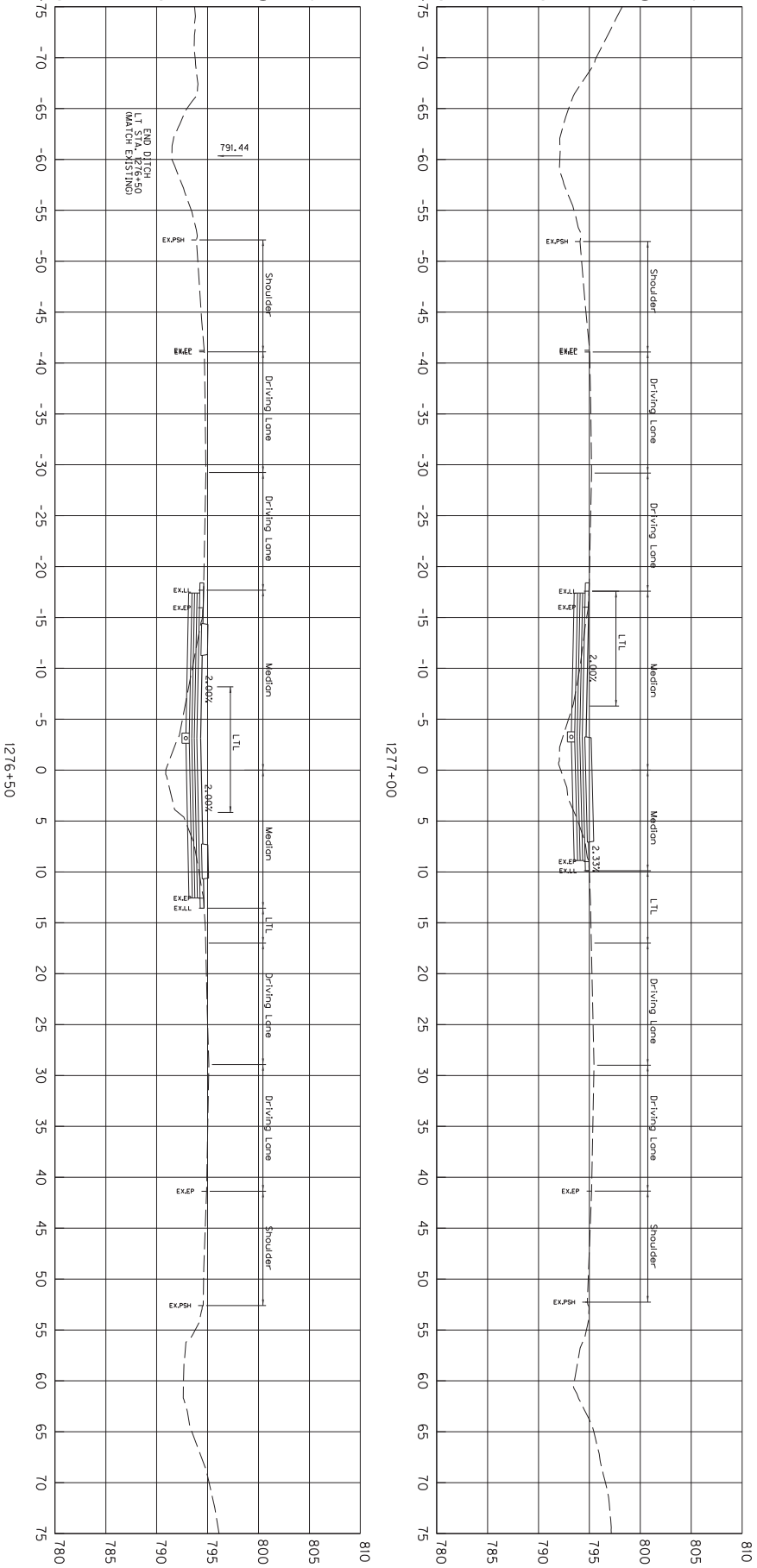


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1276+10 TO STA. 1276+25

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN

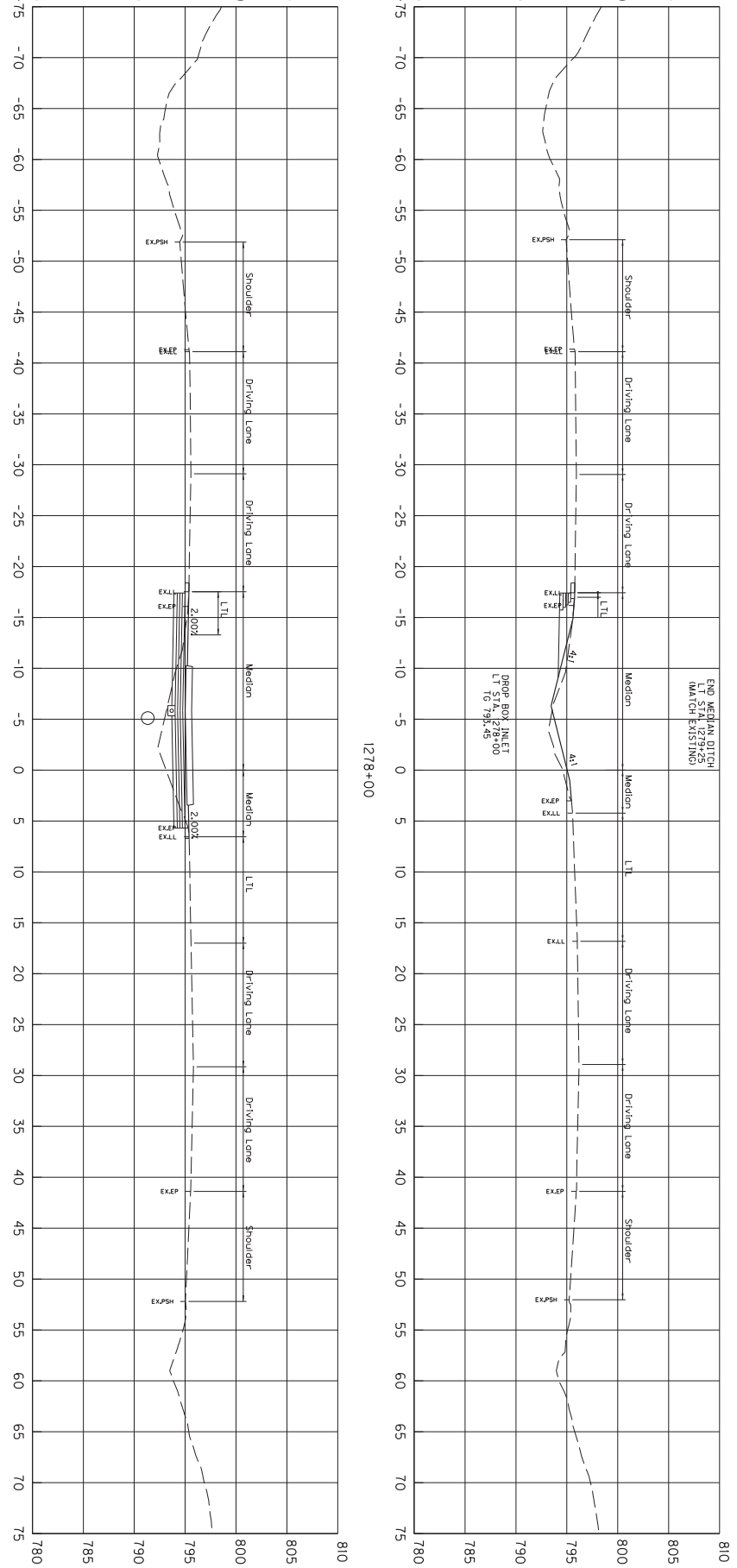


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1276+50 TO STA. 1277+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

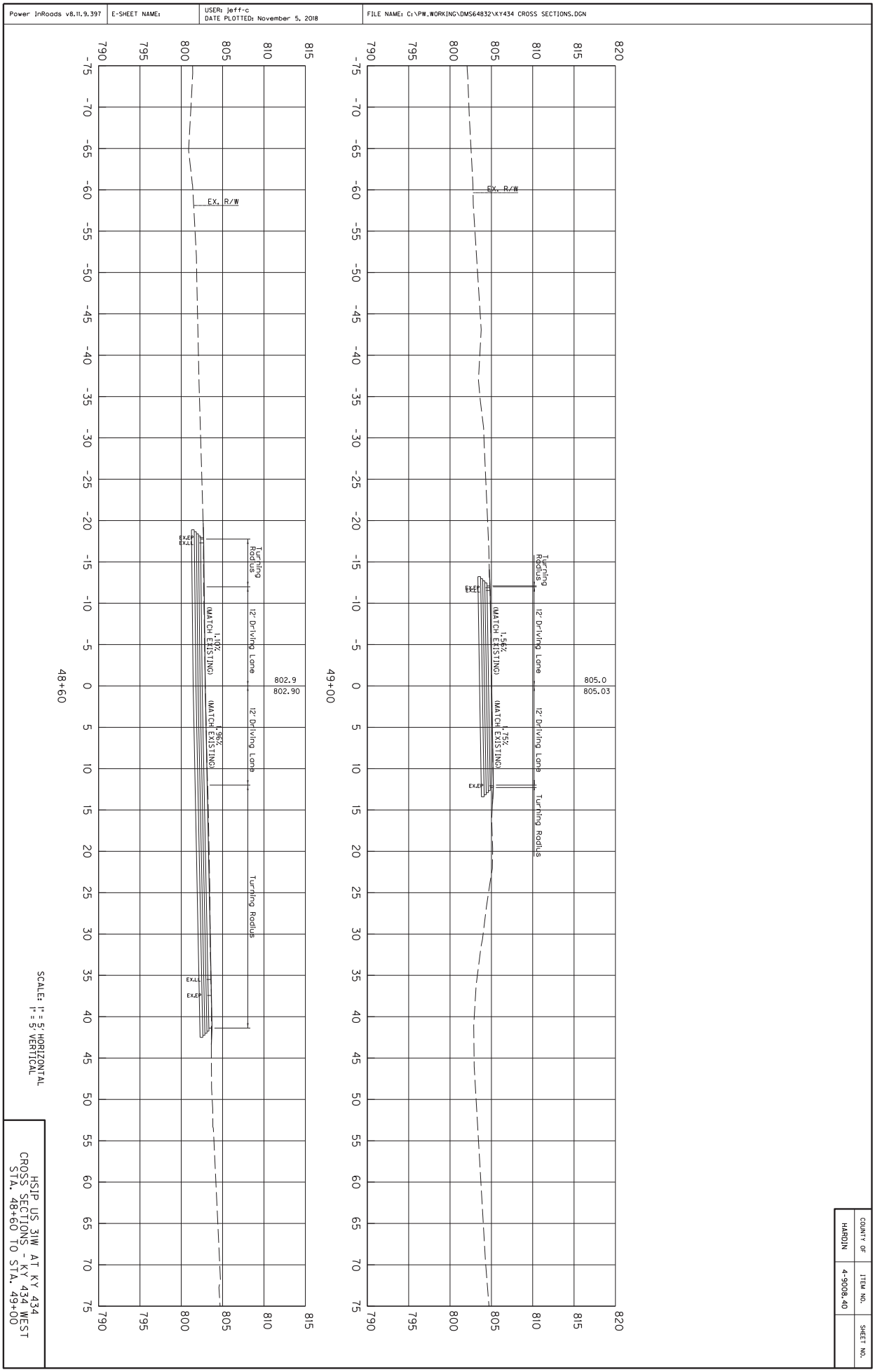
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN



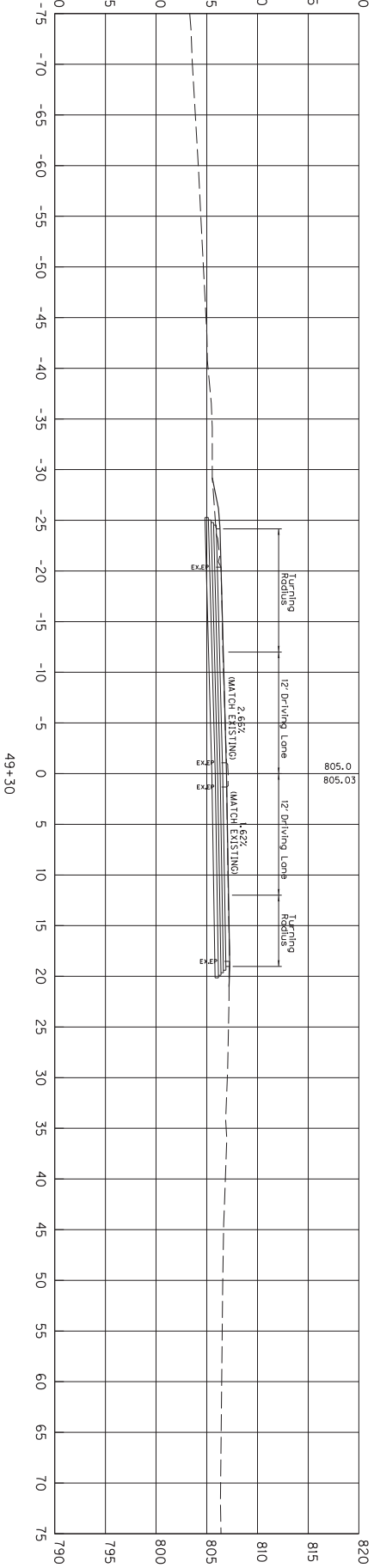
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT KY 434
CROSS SECTIONS
STA. 1277+50 TO STA. 1278+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: jeff-c
DATE PLOTTED: November 5, 2018
FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN
EX. R/W
Turning Radius
12' Driving Lane
(MATCH EXISTING) 1.56%
(MATCH EXISTING) 1.75%
EX.EP
EX.LL
805.0
805.03
49+00
(MATCH EXISTING) 1.10%
(MATCH EXISTING) 1.56%
802.9
802.90
48+60
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT KY 434
CROSS SECTIONS - KY 434 WEST
STA. 48+60 TO STA. 49+00
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: jeff-c
DATE PLOTTED: November 5, 2018 | FILE NAME: C:\PW_WORKING\DMS64832\KY434 CROSS SECTIONS.DGN



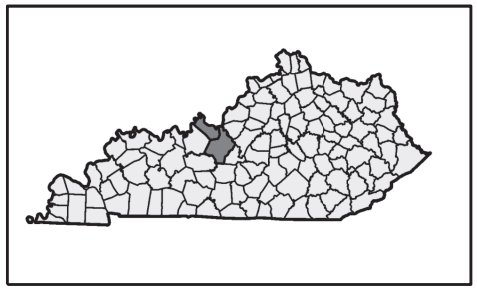
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

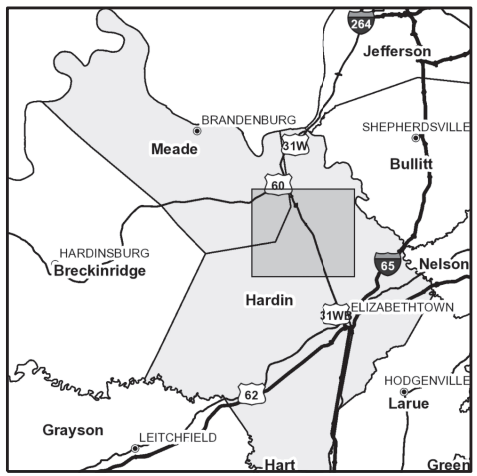
HSIP US 31W AT KY 434
CROSS SECTIONS - KY 434 WEST
STA. 49+30 TO STA. 49+30

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Hardin County
Construction of J–Turns and Intersection Improvements
On US 31W At Blackjack Road
Item No. 4–9008.40

COUNTY OF	ITEM NO.
HARDIN	4-9008.40



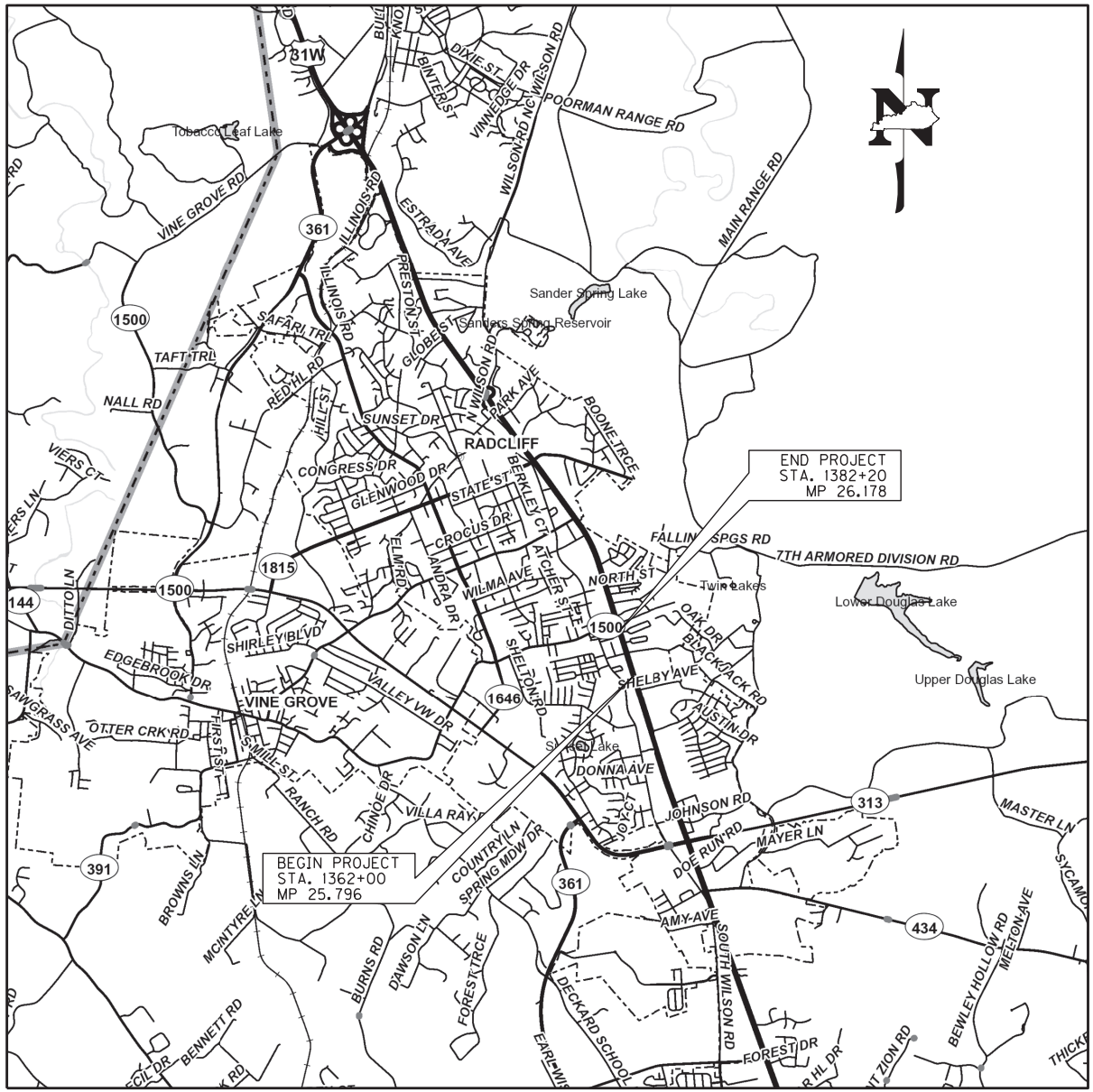


Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS

PLANS OF
PROPOSED PROJECT

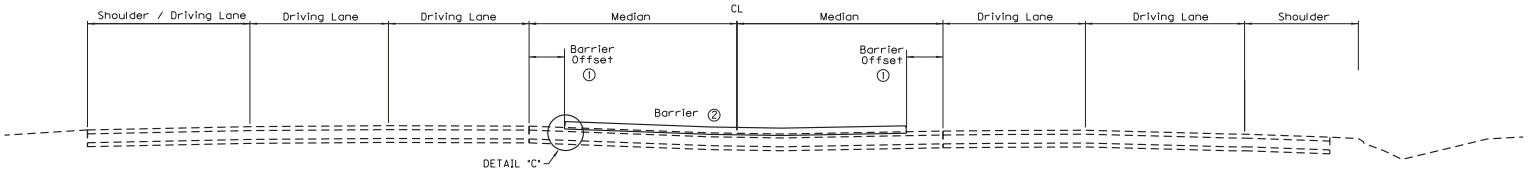
HARDIN COUNTY
US 31W

KENTUCKY TRANSPORTATION CABINET



COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

TYPICAL SECTION AND DETAILS

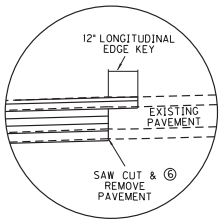


US 31W
BARRIER MEDIAN ON
EXISTING PAVEMENT

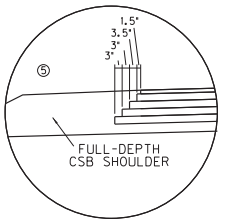
① 3' TYPICAL - SEE PLANS AND DETAILS WHERE IT MAY VARY
② STANDARD BARRIER MEDIAN TYPE 4
③ MATCH EXISTING DRIVING LANE BUT NOT LESS THAN 2.00%
④ SEE SECTIONS FOR SIDE SLOPES AND DITCH ELEVATIONS
⑤ ASPHALT SEAL COAT REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2' DOWN THE DITCH OR FILL SLOPE. 2.4 LB/SY ASPHALT SEAL COAT (TWO APPLICATIONS) AND 20 LB/SY ASPHALT SEAL AGGREGATE (TWO APPLICATIONS).
⑥ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)

US 31W PAVEMENT DESIGN

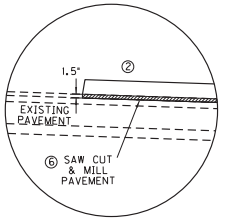
1.5" SURFACE	1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22
⑦ 16.5" BASE	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22
	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	4" COMPACTED DEPTH CRUSHED STONE BASE



DETAIL "A"

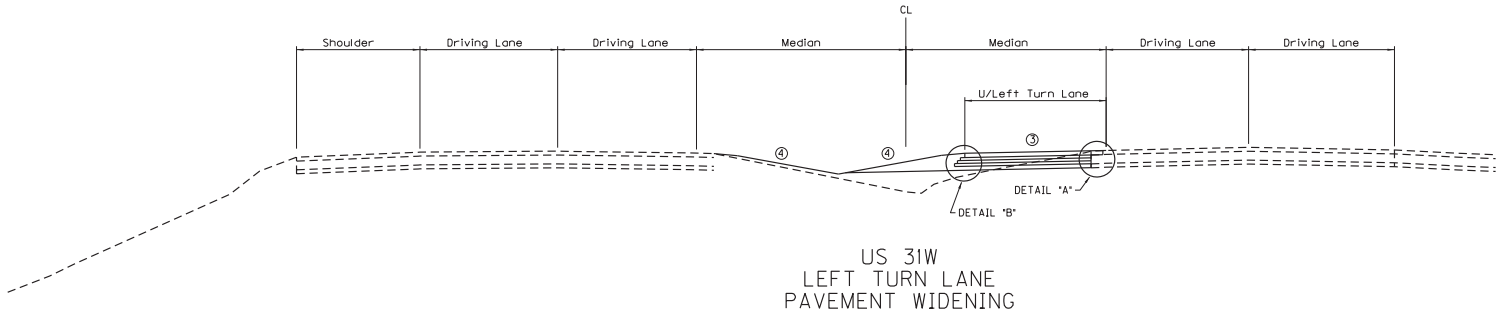


DETAIL "B"



DETAIL "C"

⑦ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENGINEER TO BEST MATCH THAT THICKNESS.



US 31W
LEFT TURN LANE
PAVEMENT WIDENING

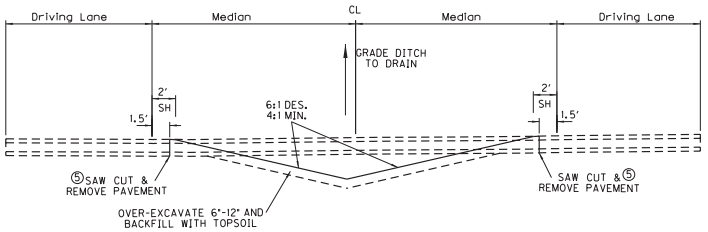
NOT TO SCALE

HIGHWAY SAFETY IMPROVEMENT PROGRAM
US 31W AT BLACKJACK ROAD
TYPICAL SECTIONS AND DETAILS

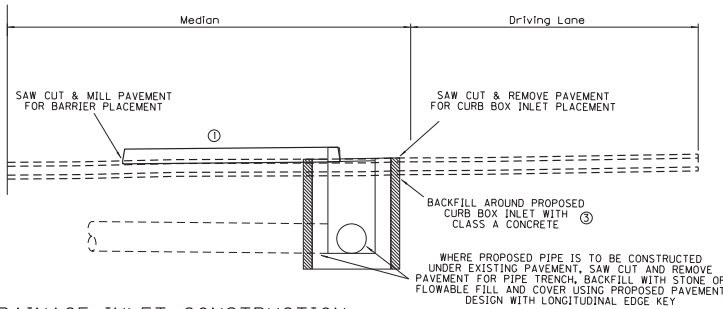
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: December 7, 2018 | FILE NAME: D:\PW_WORKDIR\DM564847\TYPICAL BLACKJACK.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

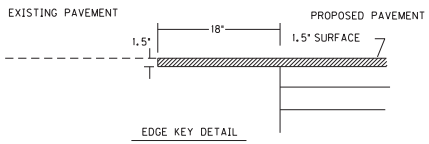
TYPICAL SECTION AND DETAILS



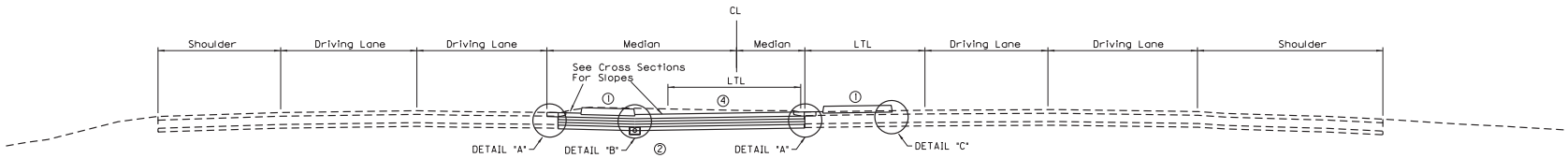
US 31W
CROSSOVER PAVEMENT REMOVAL
FOR OPEN DITCH



PROPOSED DRAINAGE INLET CONSTRUCTION
IN EXISTING PAVEMENT LOCATIONS



WORK UNDER THIS ITEM SHALL INCLUDE CUTTING OUT THE EXISTING BITUMINOUS SURFACE TO A MINIMUM DEPTH AND WIDTH AS SHOWN, SO THE NEW SURFACE MAY HEEL INTO THE EXISTING SURFACE. THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR "EDGE KEY" SHALL INCLUDE ALL NECESSARY MATERIALS, LABOR, EQUIPMENT, ETC. TO PERFORM THE WORK AND DISPOSE OF THE BITUMINOUS MATERIAL REMOVED.



① STANDARD BARRIER MEDIAN TYPE 4 ON EXISTING PAVEMENT & TYPE 2 ON NEW PAVEMENT

② REMOVAL OF EXISTING MOUNTABLE GRASS MEDIAN TO BE INCLUDED IN ROADWAY EXCAVATION (SEE CROSS SECTIONS); REMOVAL OF MEDIAN CURB TO BE A BID ITEM

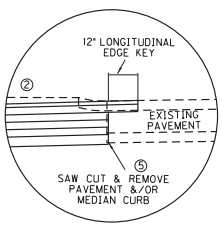
③ CONCRETE QUANTITIES TO BE INCIDENTAL TO BID ITEM FOR CURB BOX INLET

④ SEE CROSS SECTIONS FOR PAVEMENT CROSS SLOPE; GRADE TO DRAIN TO PROPOSED INLET LOCATIONS

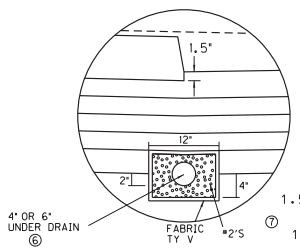
⑤ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)

⑥ CONNECT PIPE TO PROPOSED MEDIAN DRAINAGE BOXES. PIPE MAY BE OMITTED AT MEDIAN CROSSOVERS WHERE THE STONE BASE DAYLIGHTS AND DRAINS TO THE MEDIAN DITCH

⑦ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENGINEER TO BEST MATCH THAT THICKNESS.



DETAIL "A"

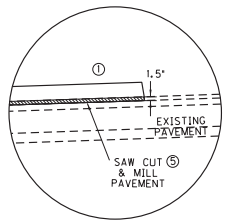


DETAIL "B"

US31W
BARRIER MEDIAN ON EXISTING
AND PROPOSED PAVEMENT

US 31W PAVEMENT DESIGN

1.5" SURFACE	1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22
⑦ 16.5" BASE	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22
	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
	4" COMPACTED DEPTH CRUSHED STONE BASE



DETAIL "C"

NOT TO SCALE

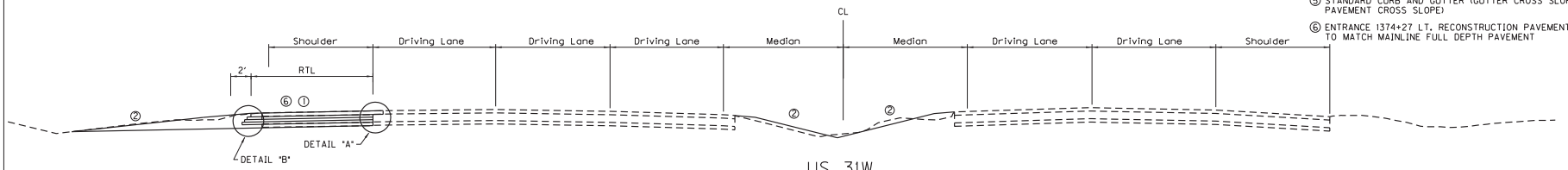
HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT BLACKJACK ROAD
TYPICAL SECTIONS AND DETAILS

FILE NAME: D:\PW_WORKDIR\DM564847\TYPICAL BLACKJACK.DGN
USER: travis-m
DATE PLOTTED: December 7, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

TYPICAL SECTION AND DETAILS

① MATCH EXISTING DRIVING LANE BUT NOT LESS THAN 2.00%
② SEE CROSS SECTIONS FOR SIDE SLOPES AND DITCH ELEVATIONS
③ SAW CUT TO BE A BID ITEM; PAVEMENT REMOVAL TO BE INCIDENTAL TO ROADWAY EXCAVATION (SEE CROSS SECTIONS)
④ ASPHALT SEAL COAT REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2' DOWN THE DITCH OR FILL SLOPE. 2.4 LB/SY ASPHALT SEAL COAT (TWO APPLICATIONS) AND 20 LB/SY ASPHALT SEAL AGGREGATE (TWO APPLICATIONS).
⑤ STANDARD CURB AND GUTTER (GUTTER CROSS SLOPE MATCHES PAVEMENT CROSS SLOPE)
⑥ ENTRANCE 1374+27 LT. RECONSTRUCTION PAVEMENT TO MATCH MAINLINE FULL DEPTH PAVEMENT



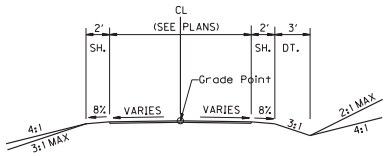
US 31W ADDED RIGHT TURN LANE

US 31W PAVEMENT DESIGN

1.5" SURFACE — 1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22

⑦ 16.5" BASE
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 4" COMPACTED DEPTH CRUSHED STONE BASE

⑦ BASED ON RECORD PLANS, THE EXISTING PAVEMENT DEPTH IS APPROXIMATELY 15.75" THICK. THE PROPOSED PAVEMENT DESIGN AS SHOWN IS 18". IF FIELD CONDITIONS REVEAL THE EXISTING THICKNESS TO BE SIGNIFICANTLY DIFFERENT, ADJUSTMENTS MAY BE MADE BY THE ENGINEER TO BEST MATCH THAT THICKNESS.

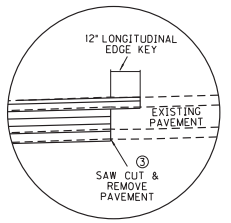


ENTRANCE

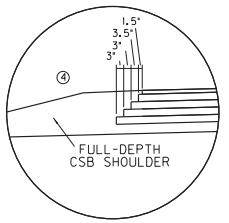
ENTRANCE PAVEMENT DESIGN

1.5" SURFACE — 1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22

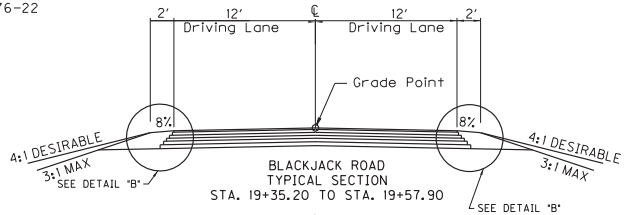
LEVELING AND WEDGING AS NEEDED



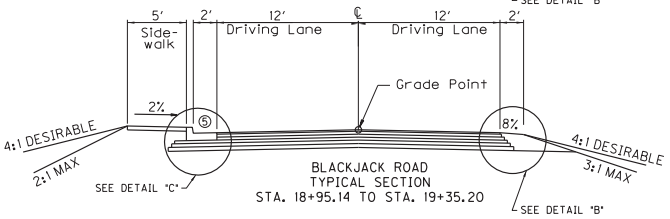
DETAIL "A"



DETAIL "B"



BLACKJACK ROAD
TYPICAL SECTION
STA. 19+35.20 TO STA. 19+57.90

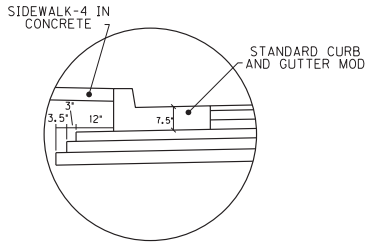


BLACKJACK ROAD
TYPICAL SECTION
STA. 18+95.14 TO STA. 19+35.20

BLACKJACK ROAD
APPROACH PAVEMENT DESIGN

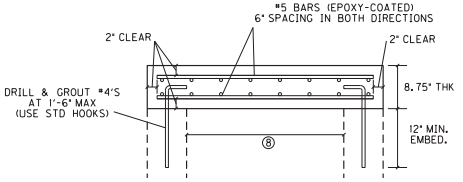
1.5" SURFACE — 1.5" DEPTH CLASS 3 ASPHALT SURFACE 0.38A PG 76-22

⑦ 16.5" BASE
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 76-22
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 3" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 3.5" DEPTH CLASS 3 ASPHALT BASE 1.00D PG 64-22
- 4" COMPACTED DEPTH CRUSHED STONE BASE



DETAIL "C"

⑧ WHERE THE SPAN EXCEEDS 4', THE CONTRACTOR SHALL SUBMIT A SEPARATE DETAIL FOR CAPPING THE BOX



EXISTING DRAINAGE BOX CAP DETAIL

NOT TO SCALE

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT BLACKJACK ROAD
TYPICAL SECTIONS AND DETAILS

FILE NAME: D:\PW_WORKDIR\DM56847\TYPICAL BLACKJACK.DGN
USER: travis-m
DATE PLOTTED: December 7, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

GENERAL SUMMARY

ITEM	DESCRIPTION	UNIT			TOTAL PROJECT
78	CRUSHED AGGREGATE SIZE NO 2 (10)	TON			24
1000	PERFORATED PIPE-4 IN	L.F.			525
1010	NON-PERFORATED PIPE-4 IN	L.F.			8
1811	STANDARD CURB AND GUTTER MOD	L.F.			41
1904	REMOVE CURB (9)	SQ.YD.			1303
1917	STANDARD BARRIER MEDIAN TYPE 2	SQ.YD.			737
1921	STANDARD BARRIER MEDIAN TYPE 4	SQ.YD.			173
2159	TEMPORARY DITCH	L.F.			979
2160	CLEAN TEMPORARY DITCH	L.F.			490
2200	ROADWAY EXCAVATION (8)	CU YD			4361
2242	WATER (7)	M GAL			29
2545	CLEARING AND GRUBBING (1)	L.S.			1
2562	TEMPORARY SIGNS	SQ. FT.			213
2585	EDGE KEY	L.F.			23
2600	FABRIC GEOTEXTILE TIPE IV FOR PIPE	SQ. YD.			1840
2650	MAINTAIN & CONTROL TRAFFIC	L.S.			1
2671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH			2
2676	MOBILIZATION FOR MILL & TEXT	L.S.			1
2677	ASPHALT MILLING AND TEXTURING (3)	TON			15
2701	TEMPORARY SILT FENCE	L.F.			979
2703	SILT TRAP TYPE A	EACH			1
2704	SILT TRAP TYPE B	EACH			5
2705	SILT TRAP TYPE C	EACH			10
2706	CLEAN SILT TRAP TYPE A	EACH			1
2707	CLEAN SILT TRAP TYPE B	EACH			5
2708	CLEAN SILT TRAP TYPE C	EACH			10
2720	SIDEWALK-4 IN CONCRETE	SQ. YD.			21
2726	STAKING	L.S.			1
2775	ARROW PANEL	EACH			2
3290	SIDEWALK RAMP TYPE 4	EACH			1
5950	EROSION CONTROL BLANKET	SQ. YD.			840
5952	TEMPORARY MULCH	SQ. YD.			3966
5953	TEMP SEEDING AND PROTECTION	SQ. YD.			2975
5963	INITIAL FERTILLIZER	TON			0.21
5964	MAINTENANCE FERTILIZER	TON			0.35
5985	SEEDING AND PROTECTION	SQ. YD.			5949
5992	AGRICULTURAL LIMESTONE	TON			4.21
6530	PAVE STRIPING-REMOVAL - 4 INCH (4)	L.F.			2037
6574	PAVE MARKING-THERMO CURVE ARROW	EACH			21
6598	PAVEMENT MARKING REMOVAL (4)	SQ. FT.			247
10020NS	FUEL ADJUSTMENT (11)	DOLLAR			5017
10030NS	ASPHALT ADJUSTMENT (11)	DOLLAR			12601
20550ND	SAWCUT PAVEMENT (5)	L.F.			2187
21289ED	LONGITUDINAL EDGE KEY (6)	L.F.			2731
22861EN	FABRIC-GEOTEXTILE TYPE V (10)	SQ. YD.			198
24489EC	INLAID PAVEMENT MARKERS	EACH			77
24679ED	PAVE MARK THERMO CHEVRON	SQ. FT.			362
24814EC	PIPELINE INSPECTION	L.F.			736
24955ED	REMOVE SIGNAL EQUIPMENT (2)	EACH			1
24995EC	PAVE STRIPING - SPRAY THERMO - 6 IN W	L.F.			2944
24996EC	PAVE STRIPING - SPRAY THERMO - 6 IN Y	L.F.			3368
23158ES505	DETECTABLE WARNINGS	SQ. FT.			20
23274EN11F	TURF REINFORCEMENT MAT 1	SQ. YD.			570

(1) APPROXIMATELY 1.2 ACRES

(2) TO INCLUDE REMOVAL OF POLES, EQUIPMENT, AND CONCRETE BASES. CONCRETE BASES TO BE REMOVED TO 12 INCHES BELOW EXISTING GROUND LINE. DELIVER SIGNAL HEADS AND CABINET TO:
310 VALLEY ROAD
ELIZABETHTOWN, KY 42701

BEFORE DELIVERING, CONTACT JAKE RIGGS:
(270) 401-8132

(3) FOR PREPARATION OF STANDARD BARRIER MEDIAN TYPE 4 CONSTRUCTION

(4) FOR THE REMOVAL OF ALL STRIPING AND MARKING THAT WILL CONFLICT WITH FUTURE PROPOSED TRAFFIC PATTERNS OR PROPOSED MARKINGS

(5) FOR ALL LOCATIONS OF PAVEMENT MILLING, WIDENING, OR REPLACEMENT (SEE ALSO TYPICAL SECTIONS AND DETAILS)

(6) FOR ALL LOCATIONS OF PAVEMENT WIDENING OR REPLACEMENT (SEE ALSO TYPICAL SECTIONS AND DETAILS)

(7) FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY; ESTIMATED AT 75 MGAL PER MILE

(8) EARTHWORK QUANTITIES ARE APPROXIMATE AND FOR INFORMATION ONLY

EARTHWORK QUANTITIES:

COMMON 4361 CY
EMBANKMENT 99 CY

(9) FOR REMOVAL OF CURB AROUND MOUNTABLE GRASS MEDIAN

(10) FOR PERFORATED PIPE UNDERDRAIN

(11) PROJECT QUANTITY PRORATED BASED ON PERCENTAGE OF ASPHALT FROM TOTAL ASPHALT OF KY 220, KY 434, AND BLACKJACK ROAD PROJECTS

PAVING AREAS

ITEM	CROSSOVERS & LEFT TURN LANES (A)	LOONS & RIGHT TURN LANES (B)	BLACKJACK ROAD	ENTRANCES	TOTAL PROJECT
	SQUARE YARDS				
1.5" CL 3 ASPHALT SURFACE 0.38A PG 76-22	2949	875	348	152	4324
3.0" CL 3 ASPHALT BASE 1.00D PG 76-22	2964	884	350	94	4292
3.0" CL 3 ASPHALT BASE 1.00D PG 64-22	2759	811	353	102	4025
3.0" CL 3 ASPHALT BASE 1.00D PG 64-22	2789	830	356	110	4085
3.5" CL 3 ASPHALT BASE 1.00D PG 64-22	2819	848	377	118	4162
4.0" CRUSHED STONE BASE	2854	870	382	127	4233
LEVELING & WEDGING PG 64-22	10	10			20
ASPHALT SEAL COAT	375	338	50		763
ASPHALT SEAL AGGREGATE	375	338	50		763
ASPHALT MATERIAL FOR TACK NON-TRACKING	11461	3400	1407	458	16726

PAVING QUANTITIES

ITEM CODE	ITEM	UNIT	CROSSOVERS & LEFT TURN LANES (A)	LOONS & RIGHT TURN LANES (B)	BLACKJACK ROAD	ENTRANCES	TOTAL PROJECT
336	CL 3 ASPHALT SURFACE 0.38A PG 76-22	TON	243	72	29	13	357
216	CL 3 ASPHALT BASE 1.00D PG 76-22	TON	489	146	58	16	708
214	CL 3 ASPHALT BASE 1.00D PG 64-22	TON	1458	434	190	58	2139
3	CRUSHED STONE BASE (C)	TON	1079	363	104	29	1576
103	ASPHALT SEAL COAT (D)	TON	0.9	0.8			1.7
100	ASPHALT SEAL AGGREGATE (E)	TON	7.5	6.8			14.3
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING (F)	TON	2.9	0.9	0.4	0.1	4.2
190	LEVELING & WEDGING PG 64-22 (G)	TON	1	1			2

ALL ASPHALT MIXTURES ESTIMATED AT 110 LBS. PER SQUARE YARD PER INCH UNLESS NOTED OTHERWISE

(A) PAVEMENT AREAS WITHIN THE EXISTING MEDIAN

(B) PAVEMENT AREAS OUTSIDE EXISTING LANES

(C) ESTIMATED AT 115 LBS. PER SQUARE PER INCH OF DEPTH; QUANTITIES FOR FULL-DEPTH SHOULDERS CALCULATED BY AVERAGE END AREA METHOD

(D) ESTIMATED AT 2.40 LBS. PER SQUARE YARD (2 APPLICATIONS)

(E) ESTIMATED AT 20 LBS. PER SQUARE YARD (2 APPLICATIONS)

(F) ESTIMATED AT 0.50 LBS. PER SQUARE YARD (BETWEEN ASPHALT PAVEMENT COURSES)

(G) ESTIMATED QUANTITY FOR MAKING ADJUSTMENTS TO CROSS SLOPES AND WHERE NEEDED AT TIE-DOWNS; AS DIRECTED BY THE ENGINEER

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT BLACKJACK ROAD
GENERAL SUMMARY

Power inRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 20, 2019 | FILE NAME: D:\PW_WORKDIR\DM56846\BLACKJACK GENERAL SUMMARY.DGN

PIPE DRAINAGE SUMMARY

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	-

STRUCTURE NO.		SKEW	COVER HEIGHT (FT)	DESIGN PH LEVEL	ENTRANCE PIPE - 15 INCH	CULVERT PIPE - 15 INCH	STORM SEWER PIPE - 15 INCH	STORM SEWER PIPE - 18 INCH	REMOVE PIPE	SLOPED BOX OUTLET TYPE 1-15 IN	SLOPED BOX OUTLET TYPE 1-18 IN	CURB BOX INLET TYPE A	CURB BOX INLET TYPE F	DROP BOX INLET TYPE 5D	REMOVE DROP BOX INLET	REMOVE HEADWALL	REMARKS
	ITEM CODE				440	461	521	522	1310	1432	1433	1456	1487	1511	1585	2625	
	UNIT TO BID				LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
	HARDIN COUNTY																
	BLACKJACK ROAD																
	1364+43 TO 1365+04		1.9	M		62				2							
1	RT. 1366+99.5	0°	3.5	M				12	14					1	1		RCP 18" STORM SEWER PIPE
2	LT. 1370+42	0°	1.7	M			12					1					
3	RT. 1370+42	0°	1.7	M				26			1		1				
4	LT. 1371+85	0°	2	M			142						1				
5	LT. 1372+79	0°	2.7	M			94					1					
	LT. 1372+93.5																
6	RT. 1373+30	0°	2.8	M			53					1					
8	RT. 1374+50	0°	2.7	M			118					1					
	1380+32 TO 1380+94		1.7	M		63				2							
7	LT. 19+32.69	6°43'41" LT.	2.6	M			118		4	2			1				4' RCP 15" STORM SEWER PIPE
	LT. 1373+89 TO 1374+60		1.3	M	71												
	PROJECT TOTAL				71	125	537	38	546 ①	6	1	4	3	1	2 ①	1 ①	

① INCLUDES ADDITIONAL QUANTITIES FROM PLANS, SEE PLAN CHARTS

NOTES: IF A PIPE COLLAR OR BEND CONNECTION IS NEEDED FOR CONSTRUCTION OF A PIPE EXTENSION, IT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE BEING CONSTRUCTED.

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT BLACKJACK ROAD
PIPE DRAINAGE SUMMARY

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 17, 2019 | FILE NAME: D:\PW_WORKDIR\DMS6846\BLACKJACK DRAINAGE SUMMARY.DGN

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: March 29, 2019 | FILE NAME: D:\PW_WORKDIR\DMS64840\PLAN SHEET R3-BLACKJACK.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

DITCH CONSTRUCTION CHART

LT	RT	MED	STA. TO STA.	TYPE	QUANTITY	DEPTH	THICKNESS	DITCH
		X	1362+00 to 1362+58	TRM TY 1	52 SY	1.00		V
		X	1364+25 to 1364+35	ERO BLANKET	9 SY	1.00		V
		X	1365+12 to 1366+91	TRM TY 1	159 SY	1.00		V
		X	1367+06 to 1369+75	TRM TY 1	359 SY	1.50		V
		X	1369+75 to 1370+07	ERO BLANKET	28 SY	2.00		V
X			1371+66 to 1371+85	ERO BLANKET	19 SY	1.50		V
X			1373+14 to 1373+89	ERO BLANKET	88 SY	1.50		V

PIPE CULVERT CHART

STATION TO STATION	INLET ELEV.	INLET TYPE	OUTLET ELEV.	OUTLET TYPE	PIPE
1364+43 - 1365+04	766.17	SL. BOX OUTLET TY 1	764.81	SL. BOX OUTLET TY 1	62 LF - 15"

STORM SEWER CHART

STRUCTURE #	STATION	DBI / CBI	TYPE	PIPE DIA	PIPE LENGTH	TOP/GRATE THROAT	INVERT
1	RT. 1366+99.5	DBI	5D	18"	12 ①	769.17	776.31
2	LT. 1370+42	CBI	A	15"	12	776.07	773.53
3	RT. 1370+42	CBI	F	18"	26	776.34	773.39
4	LT. 1371+85	CBI	F	15"	142	777.44	774.18
5	LT. 1372+79	CBI	A	15"	94	777.99	774.73
6	RT. 1373+30	CBI	A	15"	53	778.51	775.07
7	LT. 19+32.69	CBI	F	15"	114/4①	778.56	775.12

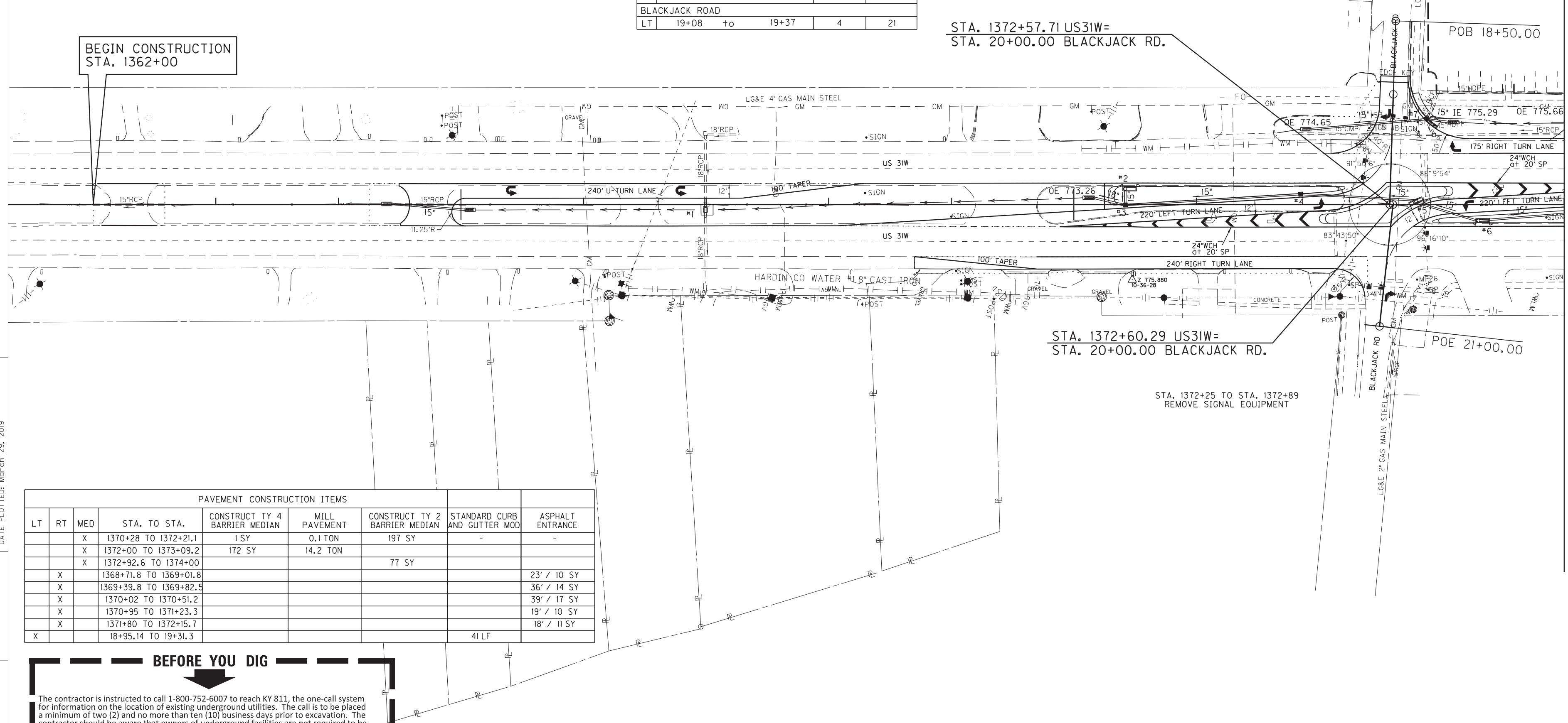
① RCP

REMOVE OR MODIFY DRAINAGE STRUCTURES

LT	RT	MED	STA. TO STA.	REMOVE DBI (EACH)	REMOVE HDWLL (EACH)	REMOVE PIPE (LIN FT)
		X	1362+00 to 1362+58			58
		X	1364+46 to 1365+04			58
		X	1366+99.5	1		14
X			1371+81 to 1374+00	1	1	236

CONSTRUCT CONCRETE SIDEWALK

LT. OR RT.	STATION TO STATION	SIDEWALK RAMP TY.	SQ. YDS.
BLACKJACK ROAD			
LT	19+08 to 19+37	4	21



PAVEMENT CONSTRUCTION ITEMS

LT	RT	MED	STA. TO STA.	CONSTRUCT TY 4 BARRIER MEDIAN	MILL PAVEMENT	CONSTRUCT TY 2 BARRIER MEDIAN	STANDARD CURB AND GUTTER MOD	ASPHALT ENTRANCE
		X	1370+28 TO 1372+21.1	1 SY	0.1 TON	197 SY	-	-
		X	1372+00 TO 1373+09.2	172 SY	14.2 TON			
		X	1372+92.6 TO 1374+00			77 SY		
	X		1368+71.8 TO 1369+01.8					23' / 10 SY
	X		1369+39.8 TO 1369+82.5					36' / 14 SY
	X		1370+02 TO 1370+51.2					39' / 17 SY
	X		1370+95 TO 1371+23.3					19' / 10 SY
	X		1371+80 TO 1372+15.7					18' / 11 SY
X			18+95.14 TO 19+31.3				41 LF	

BEFORE YOU DIG

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

0' 40' 80' 160'
SCALE: 1"= 40'

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT BLACKJACK ROAD PLAN SHEET
BEGIN TO STA. 1374+00

REMOVE OR MODIFY DRAINAGE STRUCTURES					
LT	RT	MED	STA. TO STA.	REMOVE DBI (EACH)	REMOVE HDWLL (EACH)	REMOVE PIPE (LIN FT)
X			1374+00 to 1374+66			66
		X	1380+38 to 1380+94			56
		X	1381+59 to 1382+17			58

STORM SEWER CHART							
STRUCTURE #	STATION	DBI / CBI	TYPE	PIPE DIA	PIPE LENGTH	TOP/GRATE THROAT	INVERT
8	RT. 1374+50	CBI	A	15"	118	778.67	775.74

DITCH CONSTRUCTION CHART								
LT	RT	MED	STA. TO STA.	TYPE	QUANTITY	DEPTH	THICKNESS	DITCH
		X	1376+75 to 1378+25	ERO BLANKET	254 SY	1.50		V
		X	1378+25 to 1380+24	ERO BLANKET	133 SY	1.50		V
		X	1381+02 to 1382+20	ERO BLANKET	197 SY	1.50		V
X			1374+60 to 1375+72	ERO BLANKET	112 SY	1.00		V

PIPE CULVERT CHART					
STATION TO STATION	INLET ELEV.	INLET TYPE	OUTLET ELEV.	OUTLET TYPE	PIPE
1373+89 - 1374+60	776.03		775.66		71 LF - 15"
1380+32 - 1380+94	776.36	SL. BOX OUTLET TY 1	775.98	SL. BOX OUTLET TY 1	63 LF - 15"

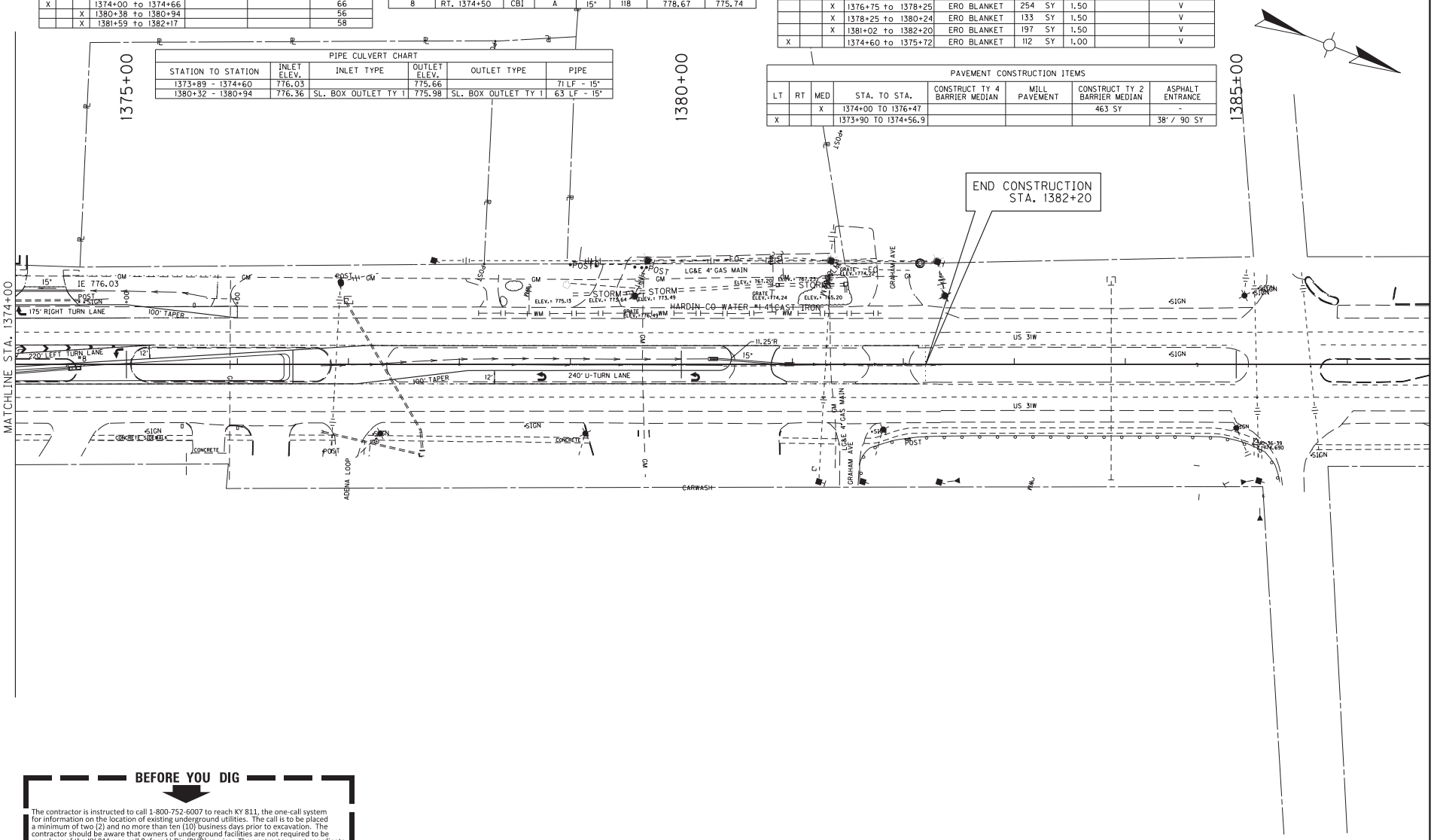
PAVEMENT CONSTRUCTION ITEMS							
LT	RT	MED	STA. TO STA.	CONSTRUCT TY 4 BARRIER MEDIAN	MILL PAVEMENT	CONSTRUCT TY 2 BARRIER MEDIAN	ASPHALT ENTRANCE
		X	1374+00 TO 1376+47			463 SY	-
X			1373+90 TO 1374+56.9				38' / 90 SY

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

1375+00 1380+00 1385+00

MATCHLINE STA. 1374+00

END CONSTRUCTION STA. 1382+20



BEFORE YOU DIG

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

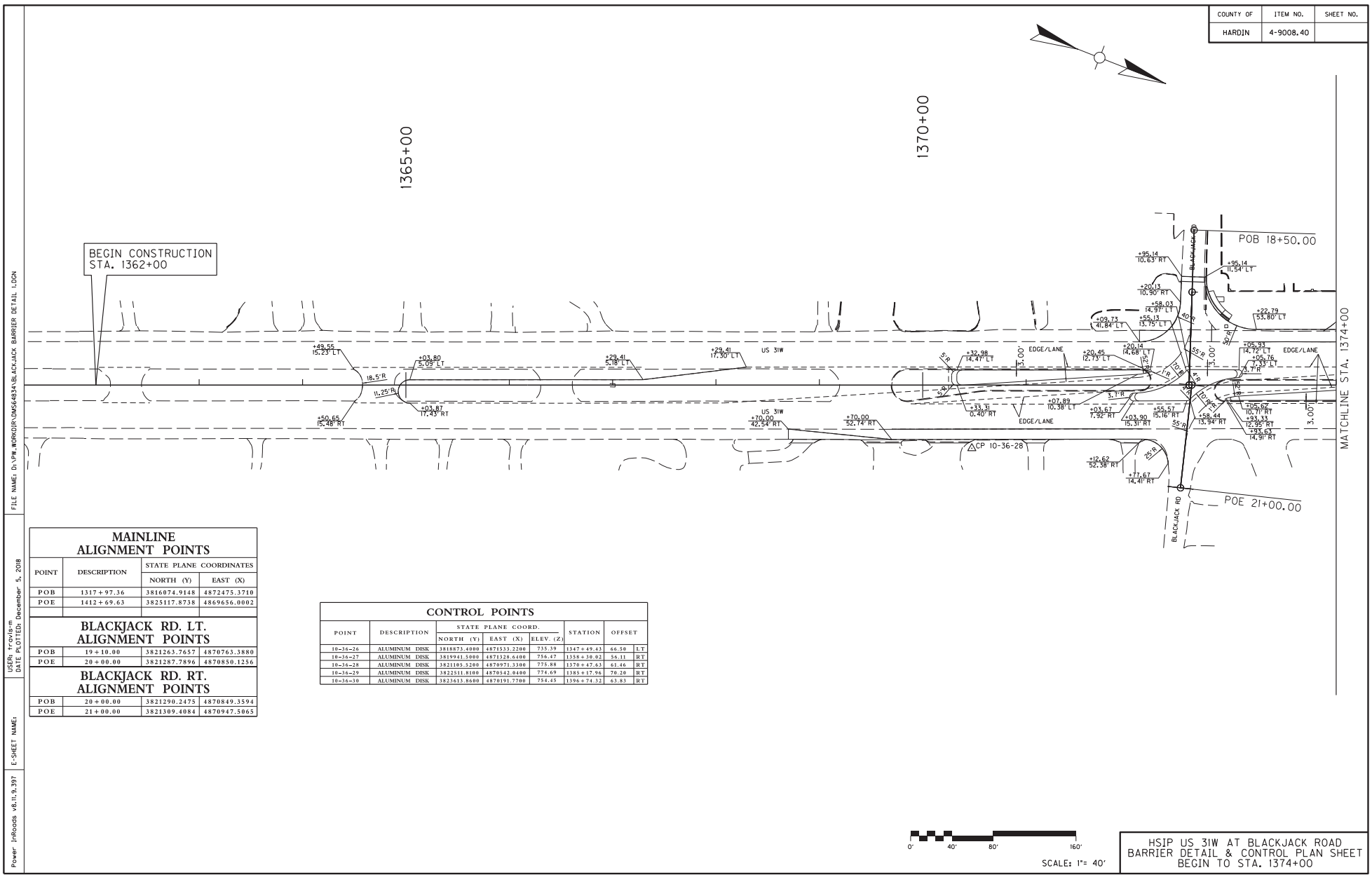
0' 40' 80' 160'

SCALE: 1"= 40'

HIGHWAY SAFETY IMPROVEMENT PROJECT
US 31W AT BLACKJACK ROAD PLAN SHEET
STA. 1374+00 TO END

Power: InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: June 17, 2019 | FILE NAME: D:\PW_WORKDIR\DM564840\PLAN SHEET R4-BLACKJACK.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1317+97.36	3816074.9148	4872475.3710
POE	1412+69.63	3825117.8738	4869656.0002

BLACKJACK RD. LT. ALIGNMENT POINTS

POB	19+10.00	3821263.7657	4870763.3880
POE	20+00.00	3821287.7896	4870850.1256

BLACKJACK RD. RT. ALIGNMENT POINTS

POB	20+00.00	3821290.2475	4870849.3594
POE	21+00.00	3821309.4084	4870947.5065

CONTROL POINTS

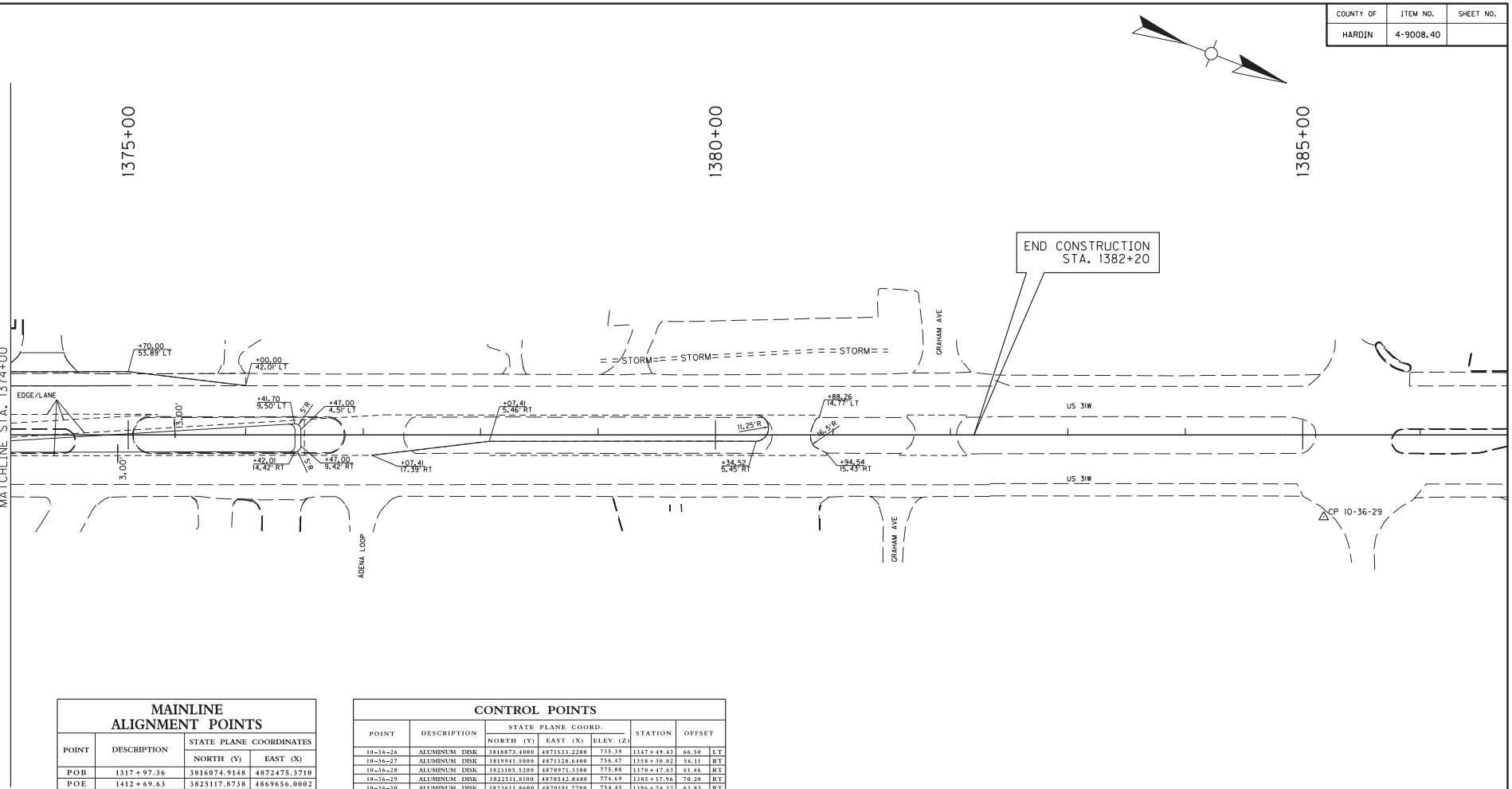
POINT	DESCRIPTION	STATE PLANE COORD.			STATION	OFFSET	
		NORTH (Y)	EAST (X)	ELEV. (Z)			
10-36-26	ALUMINUM DISK	3818873.4000	4871533.2200	735.39	1347+49.43	66.50	LT
10-36-27	ALUMINUM DISK	3819941.5000	4871328.6400	756.47	1358+30.02	56.11	RT
10-36-28	ALUMINUM DISK	3821105.5200	4870971.3300	775.88	1370+47.63	61.46	RT
10-36-29	ALUMINUM DISK	3822511.8100	4870542.0400	774.69	1385+17.96	70.20	RT
10-36-30	ALUMINUM DISK	3823613.8600	4870191.7700	754.45	1396+74.32	63.83	RT

0' 40' 80' 160'
SCALE: 1"= 40'

HSIP US 31W AT BLACKJACK ROAD
BARRIER DETAIL & CONTROL PLAN SHEET
BEGIN TO STA. 1374+00

FILE NAME: D:\PW_WORKDIR\DM56483A\BLACKJACK BARRIER DETAIL 1.DGN
USER: travis-m
DATE PLOTTED: December 5, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	



MAINLINE ALIGNMENT POINTS

POINT	DESCRIPTION	STATE PLANE COORDINATES	
		NORTH (Y)	EAST (X)
POB	1317+97.36	3816074.9148	4872475.3710
POE	1412+69.63	3825117.8738	4869656.0002

CONTROL POINTS

POINT	DESCRIPTION	STATE PLANE COORD.			STATION	OFFSET	
		NORTH (Y)	EAST (X)	ELEV. (Z)			
10-36-26	ALUMINUM DISK	3818873.4000	4871533.2200	735.39	1347+49.43	66.50	LT
10-36-27	ALUMINUM DISK	3819941.5900	4871328.6400	756.47	1358+30.82	56.11	RT
10-36-28	ALUMINUM DISK	3821105.5200	4870971.3300	775.88	1370+47.63	61.46	RT
10-36-29	ALUMINUM DISK	3822511.8100	4870542.0400	774.69	1385+17.96	70.20	RT
10-36-30	ALUMINUM DISK	3823613.8600	4870191.7700	754.45	1396+74.32	63.83	RT

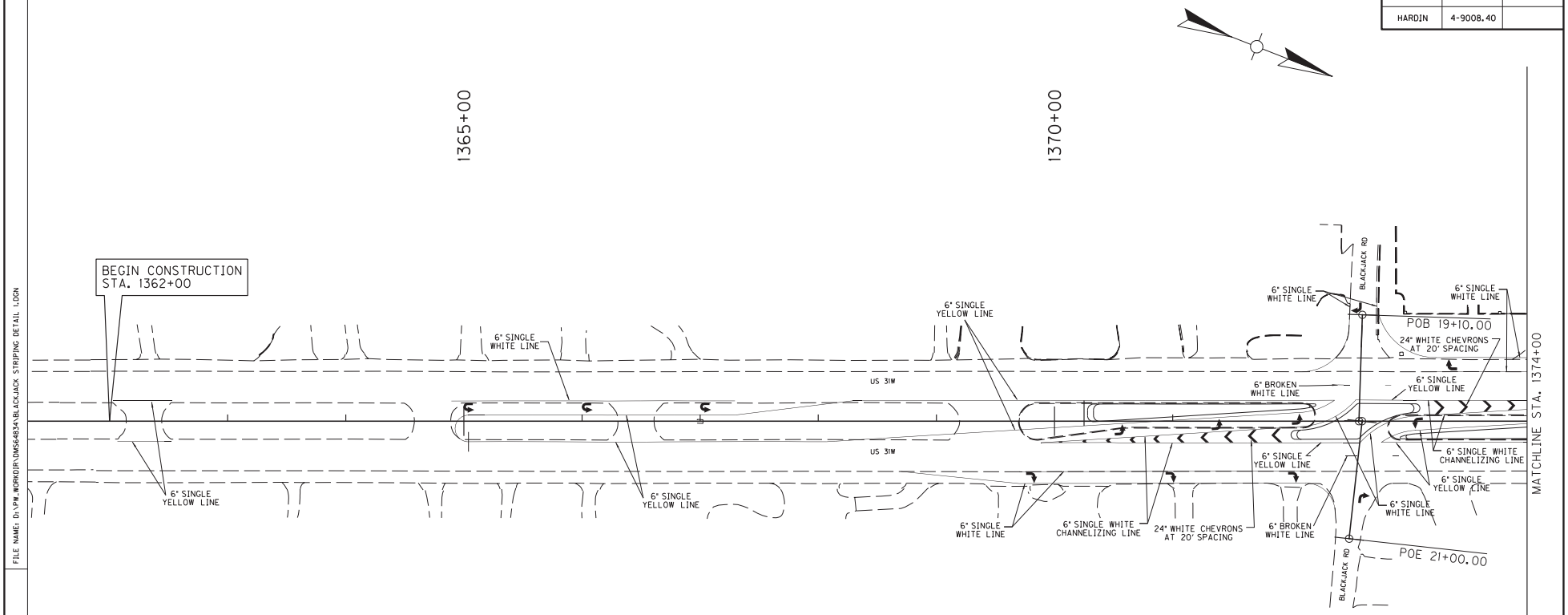
0' 40' 80' 160'

SCALE: 1"= 40'

HSIP US 31W AT BLACKJACK ROAD
BARRIER DETAIL & CONTROL PLAN SHEET
STA. 1374+00 TO END

Power: InRoads v8.11.9.397 | E-SHEET NAME: | USER: trovis-m DATE PLOTTED: September 26, 2018 | FILE NAME: D:\PW_WORKDIR\DM56483A\BLACKJACK BARRIER DETAIL 2.DGN

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	



STRIPING QUANTITIES					
ITEM	DESCRIPTION	UNIT	US 31W	BLACKJACK RD WEST	BLACKJACK RD EAST
24995EC	PAVE STRIPING-SPRAY THERMO-6 IN W	LF	1951	165	37
24996EC	PAVE STRIPING-SPRAY THERMO-6 IN Y	LF	1956	-	-
6530	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	1231	-	-
6598	PAVEMENT MARKING REMOVAL	SQ FT	183	20	28
6574	PAVE MARKING - THERMO CURV ARROW	EACH	11	1	1
24679ED	PAVE MARK THERMO CHEVRON	SQ FT	296	-	-

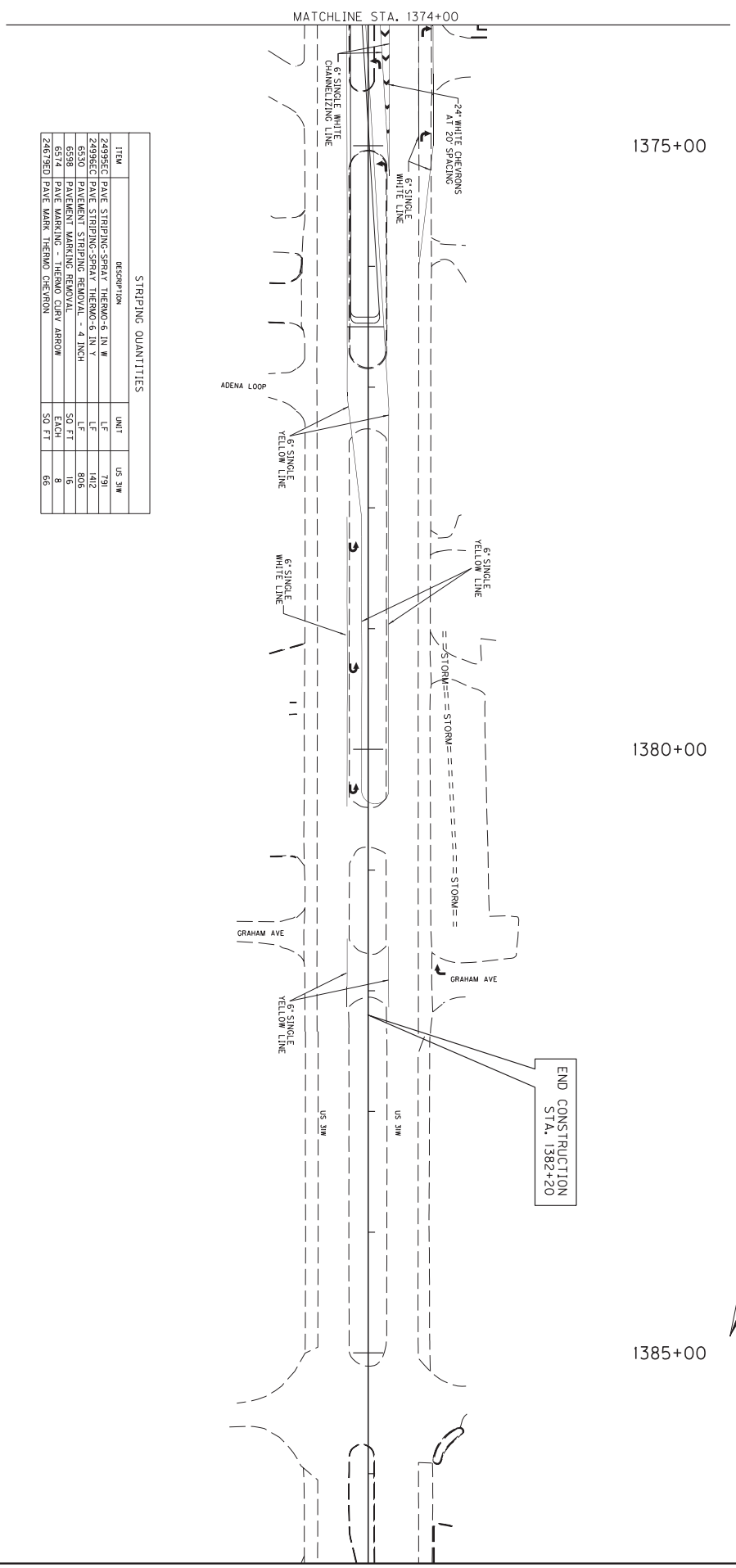
0' 40' 80' 160'

SCALE: 1"= 40'

HSIP US 31W AT BLACKJACK ROAD
STRIPING DETAIL PLAN SHEET
BEGIN TO STA. 1374+00

Power InRoads v8.11.0.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: November 14, 2018 | FILE NAME: D:\PW_WORKDIR\DM56483A\BLACKJACK STRIPING DETAIL 1.DGN

Power InRoads v8.11.9.397	E-SHEET NAME:	USER: travis-m DATE PLOTTED: November 14, 2018	FILE NAME: D:\PW_WORKDIR\DMS64834\BLACKJACK STRIPING DETAIL 2.DGN

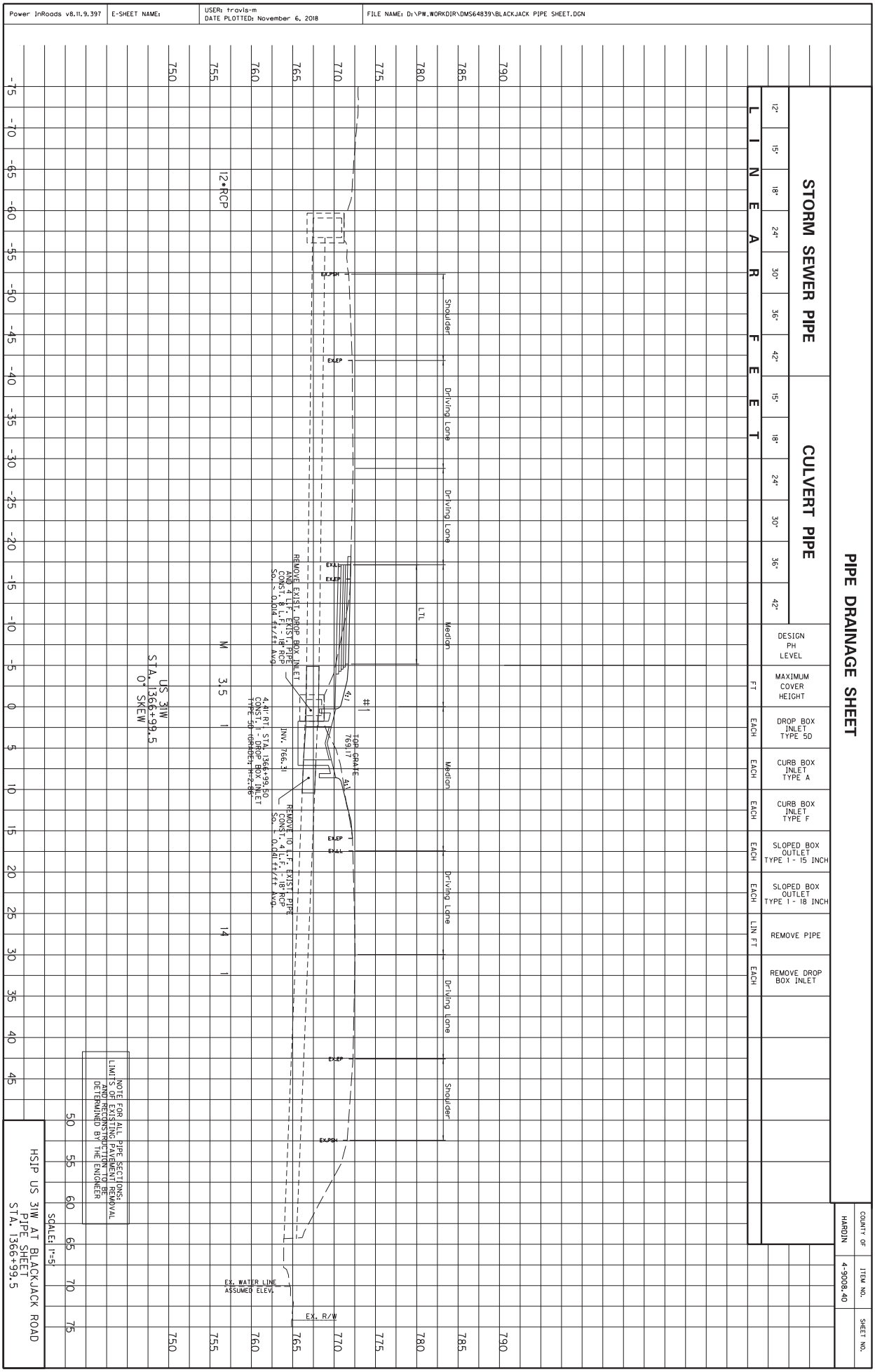


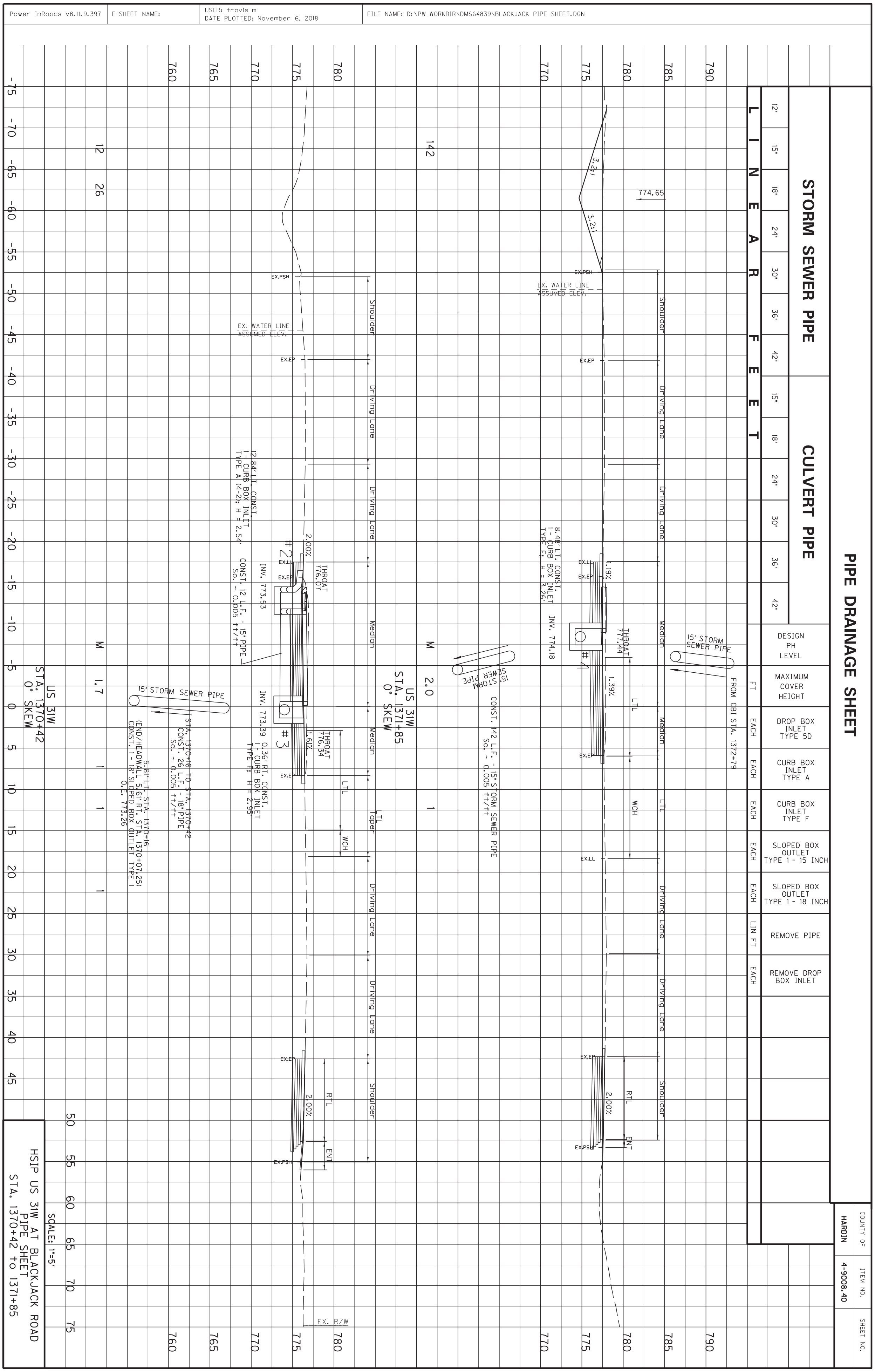
STRIPING QUANTITIES

ITEM	DESCRIPTION	UNIT	US 31W
24955EC	PAVE. STRIPING-SPRAY THERMO-6 IN W	LF	791
24956EC	PAVE. STRIPING-SPRAY THERMO-6 IN Y	LF	1412
6550	PAVEMENT STRIPING REMOVAL - 4 INCH	LF	806
6598	PAVEMENT MARKING REMOVAL	SQ FT	16
6574	PAVE. MARKING - THERMO CURV ARROW	EACH	8
24679ED	PAVE. MARK THERMO CHEVRON	SQ FT	66

HSIP US 31W AT BLACKJACK ROAD
STRIPING DETAIL PLAN SHEET
STA. 1374+00 TO END

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

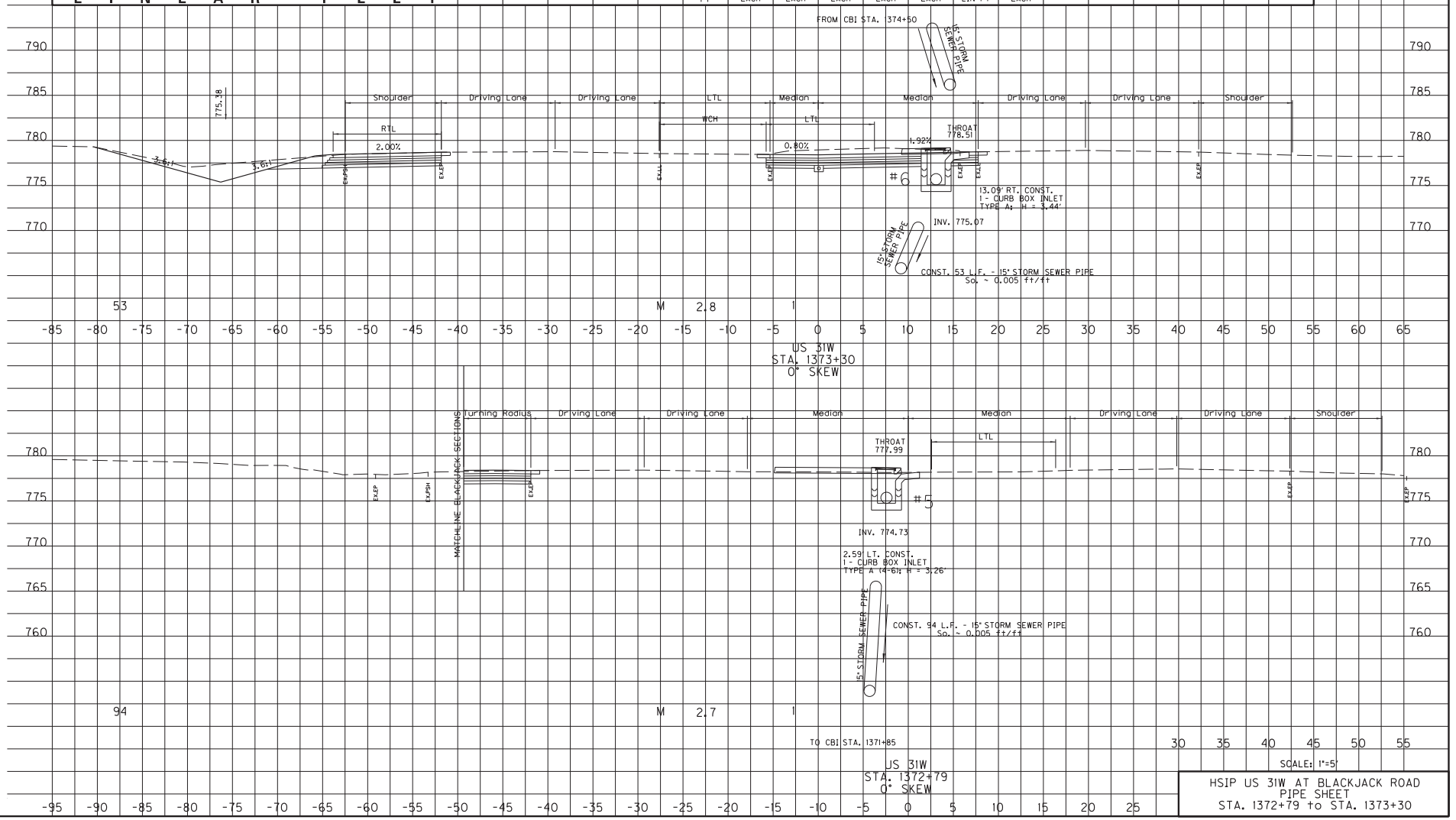

Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: November 6, 2018
FILE NAME: D:\PW_WORKDIR\DMS64839\BLACKJACK PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
12" 15" 18" 24" 30" 36" 42"
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT FT
DROP BOX INLET TYPE 5D EACH
CURB BOX INLET TYPE A EACH
CURB BOX INLET TYPE F EACH
SLOPED BOX OUTLET TYPE 1 - 15 INCH EACH
SLOPED BOX OUTLET TYPE 1 - 18 INCH EACH
REMOVE PIPE LIN FT
REMOVE DROP BOX INLET EACH
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.
12"RCP
M 3.5 1
14 1
US 31W
STA. 1366+99.5
0° SKEW
#1
TOP GRATE 769.17
INV. 766.31
4' INT. - STA. 1366+99.50 CONST. - DROP BOX INLET TYPE 5D GRADE: H=2.86
REMOVE EXIST. DROP BOX INLET AND 4 L.F. EXIST. PIPE CONST. 8 L.F. - 18" RCP So = 0.014 ft/ft Avg.
REMOVE TO L.F. EXIST. PIPE CONST. 4 L.F. - 18" RCP So = 0.04 ft/ft Avg.
Shoulder
Driving Lane
Driving Lane
Median
LTL
Median
Driving Lane
Driving Lane
Shoulder
EX.CSH
EX.EP
EX.LL
EX.EP
EX.LL
EX.EP
EX.EP
EX.CSH
EX. WATER LINE ASSUMED ELEV.
EX. R/W
NOTE FOR ALL PIPE SECTIONS: LIMITS OF EXISTING PAVEMENT REMOVAL AND RECONSTRUCTION TO BE DETERMINED BY THE ENGINEER
HSIP US 31W AT BLACKJACK ROAD
PIPE SHEET
STA. 1366+99.5
SCALE: 1"=5'
-75 -70 -65 -60 -55 -50 -45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45
50 55 60 65 70 75
750 755 760 765 770 775 780 785 790


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: November 6, 2018
FILE NAME: D:\PW_WORKDIR\DMS64839\BLACKJACK PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT
DROP BOX INLET TYPE 5D
CURB BOX INLET TYPE A
CURB BOX INLET TYPE F
SLOPED BOX OUTLET TYPE 1 - 15 INCH
SLOPED BOX OUTLET TYPE 1 - 18 INCH
REMOVE PIPE
REMOVE DROP BOX INLET
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.
HSIP US 31W AT BLACKJACK ROAD
PIPE SHEET
STA. 1370+42 to 1371+85
SCALE: 1"=5'
US 31W
STA. 1370+42
0° SKEW
US 31W
STA. 1371+85
0° SKEW
15" STORM SEWER PIPE
FROM CBI STA. 1372+79
12.84' LT. CONST.
1- CURB BOX INLET
TYPE A (4-2; H = 2.54'
CONST. 12 L.F. - 15" PIPE
So. ~ 0.005 ft/ft
INV. 773.53
THROAT 776.07
INV. 773.39
0.36' RT. CONST.
1- CURB BOX INLET
TYPE F; H = 2.95'
THROAT 776.54
STA. 1370+16 TO STA. 1370+42
CONST. 26 L.F. - 18" PIPE
So. ~ 0.005 ft/ft
5.61' LT. STA. 1370+16
5.61' RT. STA. 1370+07.25
(END/HEADWALL
CONST. 1- 18" SLOPED BOX OUTLET TYPE 1
O.L. 773.26
8.48' LT. CONST.
1- CURB BOX INLET
TYPE F; H = 3.26'
INV. 774.18
THROAT 777.44
CONST. 142 L.F. - 15" STORM SEWER PIPE
So. ~ 0.005 ft/ft
774.65
EX. WATER LINE
ASSUMED ELEV.
EX. R/W
Shoulder
Driving Lane
Median
Taper

PIPE DRAINAGE SHEET

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

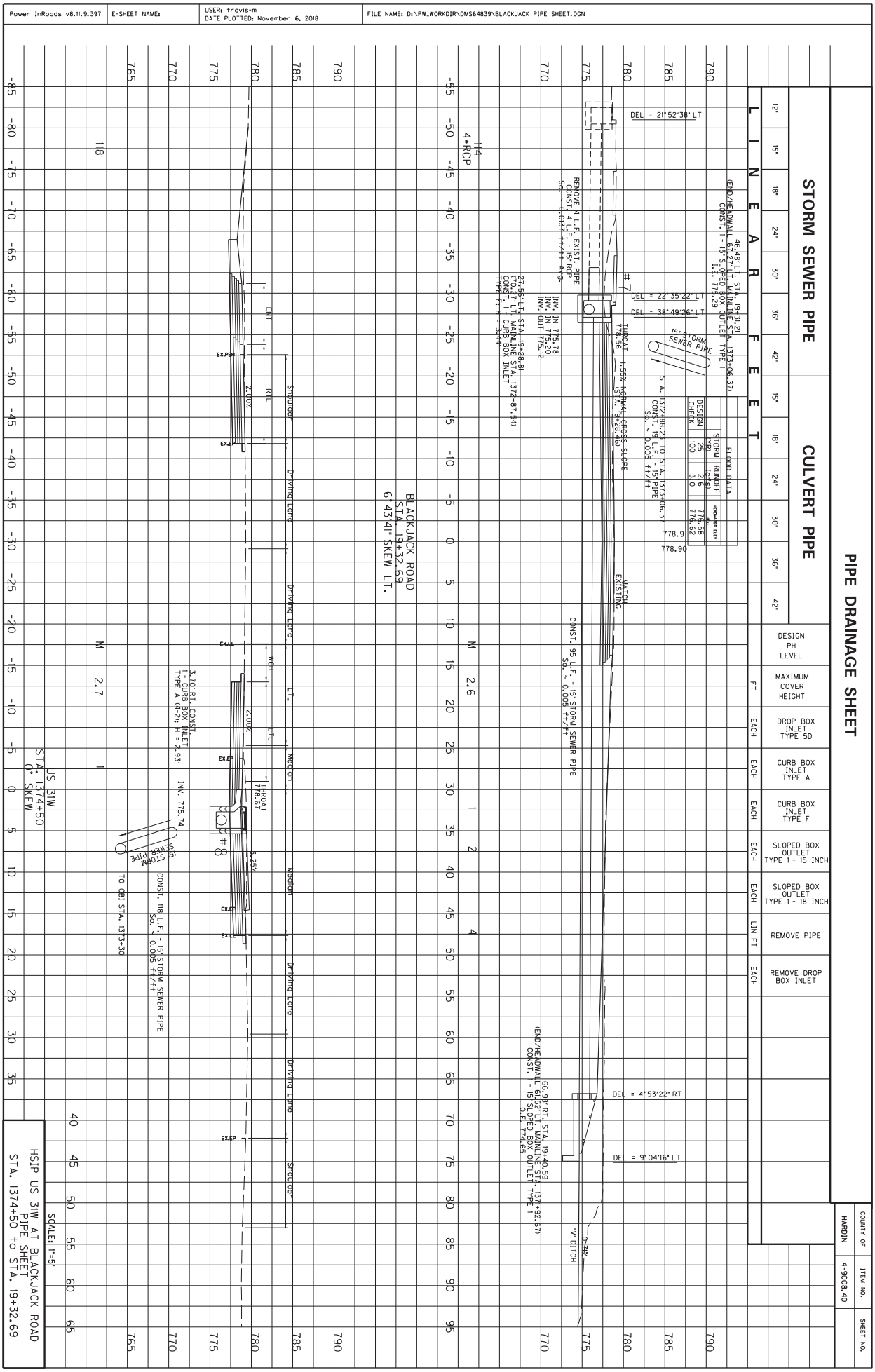
STORM SEWER PIPE							CULVERT PIPE						DESIGN PH LEVEL	MAXIMUM COVER HEIGHT	DROP BOX INLET TYPE SD	CURB BOX INLET TYPE A	CURB BOX INLET TYPE F	SLOPED BOX OUTLET TYPE I - 15 INCH	SLOPED BOX OUTLET TYPE I - 18 INCH	REMOVE PIPE	REMOVE DROP BOX INLET
12"	15"	18"	24"	30"	36"	42"	15"	18"	24"	30"	36"	42"									
LINEAR FEET														FT	EACH	EACH	EACH	EACH	EACH	LIN FT	EACH



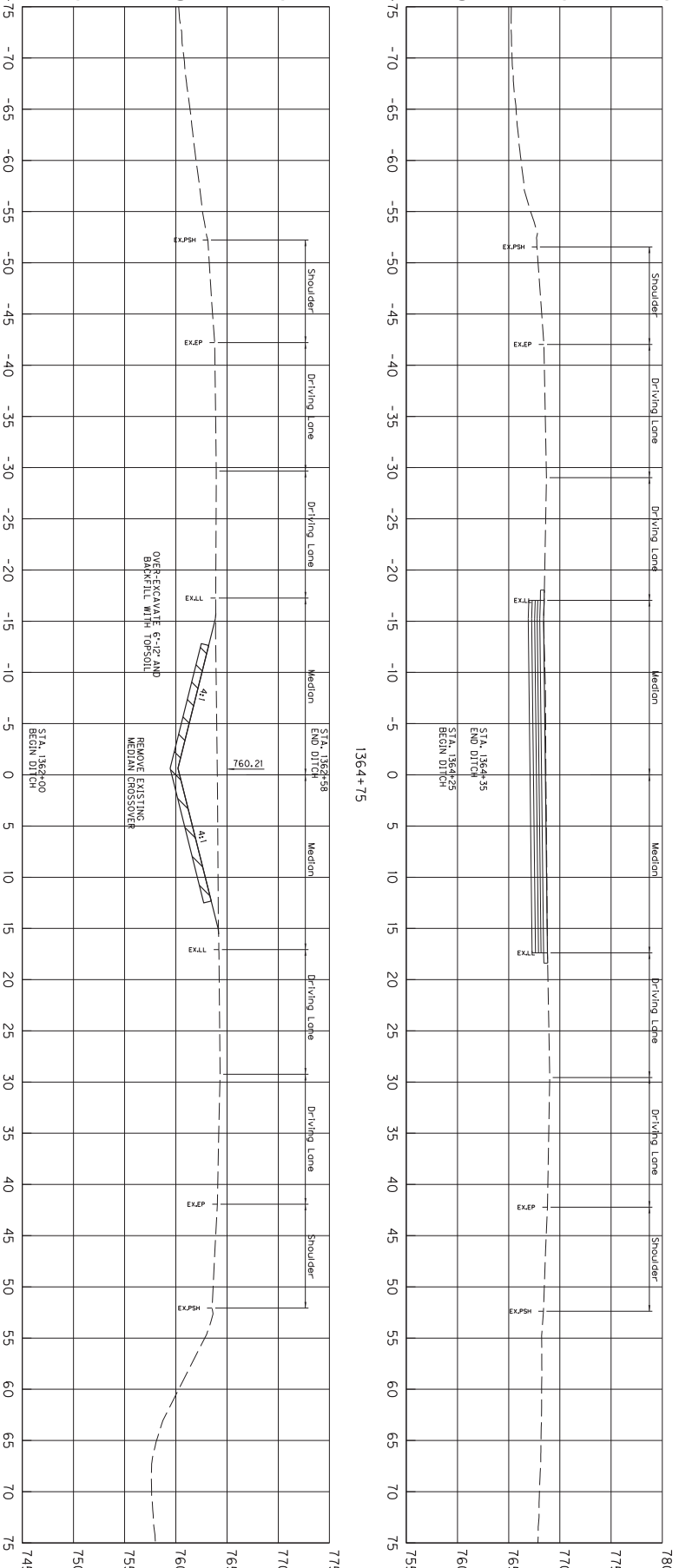
SCALE: 1"=5'

HSIP US 31W AT BLACKJACK ROAD
PIPE SHEET
STA. 1372+79 to STA. 1373+30

FILE NAME: D:\PW_WORKDIR\DM564839\BLACKJACK PIPE SHEET.DGN
USER: travis-m
DATE PLOTTED: November 6, 2018
E-SHEET NAME:
Power InRoads v8.11.9.397


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: November 6, 2018
FILE NAME: D:\PW_WORKDIR\DMS64839\BLACKJACK PIPE SHEET.DGN
PIPE DRAINAGE SHEET
STORM SEWER PIPE
CULVERT PIPE
LINEAR FEET
12" 15" 18" 24" 30" 36" 42"
DESIGN PH LEVEL
MAXIMUM COVER HEIGHT FT
DROP BOX INLET TYPE 5D EACH
CURB BOX INLET TYPE A EACH
CURB BOX INLET TYPE F EACH
SLOPED BOX OUTLET TYPE 1 - 15 INCH EACH
SLOPED BOX OUTLET TYPE 1 - 18 INCH EACH
REMOVE PIPE LIN FT
REMOVE DROP BOX INLET EACH
COUNTY OF HARDIN
ITEM NO. 4-9008.40
SHEET NO.
BLACKJACK ROAD
STA. 19+32.69
6°43'41" SKEW LT.
DEL = 21°52'38" LT
DEL = 22°35'22" LT
DEL = 38°49'26" LT
DEL = 4°53'22" RT
DEL = 9°04'16" LT
15" STORM SEWER PIPE
THROAT 778.56
-1.55% NORMAL CROSS SLOPE
MATCH EXISTING
-0.78%
"V" DITCH
FLOOD DATA
STORM RUNOFF
DESIGN 100 3.0 776.62
CHECK 100 3.0 776.58
778.9
778.90
STA. 1372+88.23 TO STA. 1373+06.37
CONST. 19 L.F. - 15" PIPE
So. = 0.005 ft/ft
CONST. 95 L.F. - 15" STORM SEWER PIPE
So. = 0.005 ft/ft
(END/HEADWALL 66.48' LT. STA. 19+31.2)
CONST. 1 - 15" SLOPED BOX OUTLET TYPE 1
I.E. 775.29
(END/HEADWALL 66.98' RT. STA. 19+40.59)
CONST. 1 - 15" SLOPED BOX OUTLET TYPE 1
I.E. 774.65
REMOVE 4 L.F. EXIST. PIPE
CONST. 4 L.F. - 15" RCP
So. = 0.005 ft/ft
INV. IN 775.78
INV. IN 775.20
INV. OUT 775.12
23.65' LT. STA. 19+58.84
(70.37' LT. MAINLINE STA. 1372+87.54)
CONST. 1 - CURB BOX INLET
TYPE F, H = 3.44'
4 RCP
EXT
R1L
2.00%
Shoulder
Driving Lane
L1L
Median
W2H
3.25%
3.70' RT. CONST.
1 - CURB BOX INLET
TYPE A (4-2), H = 2.93'
INV. 775.74
US 31W
STA. 1374+50
0° SKEW
TO CBJ STA. 1373+30
CONST. 118 L.F. - 15" STORM SEWER PIPE
So. = 0.005 ft/ft
HSIP US 31W AT BLACKJACK ROAD
PIPE SHEET
STA. 1374+50 TO STA. 19+32.69
SCALE: 1"=5'

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

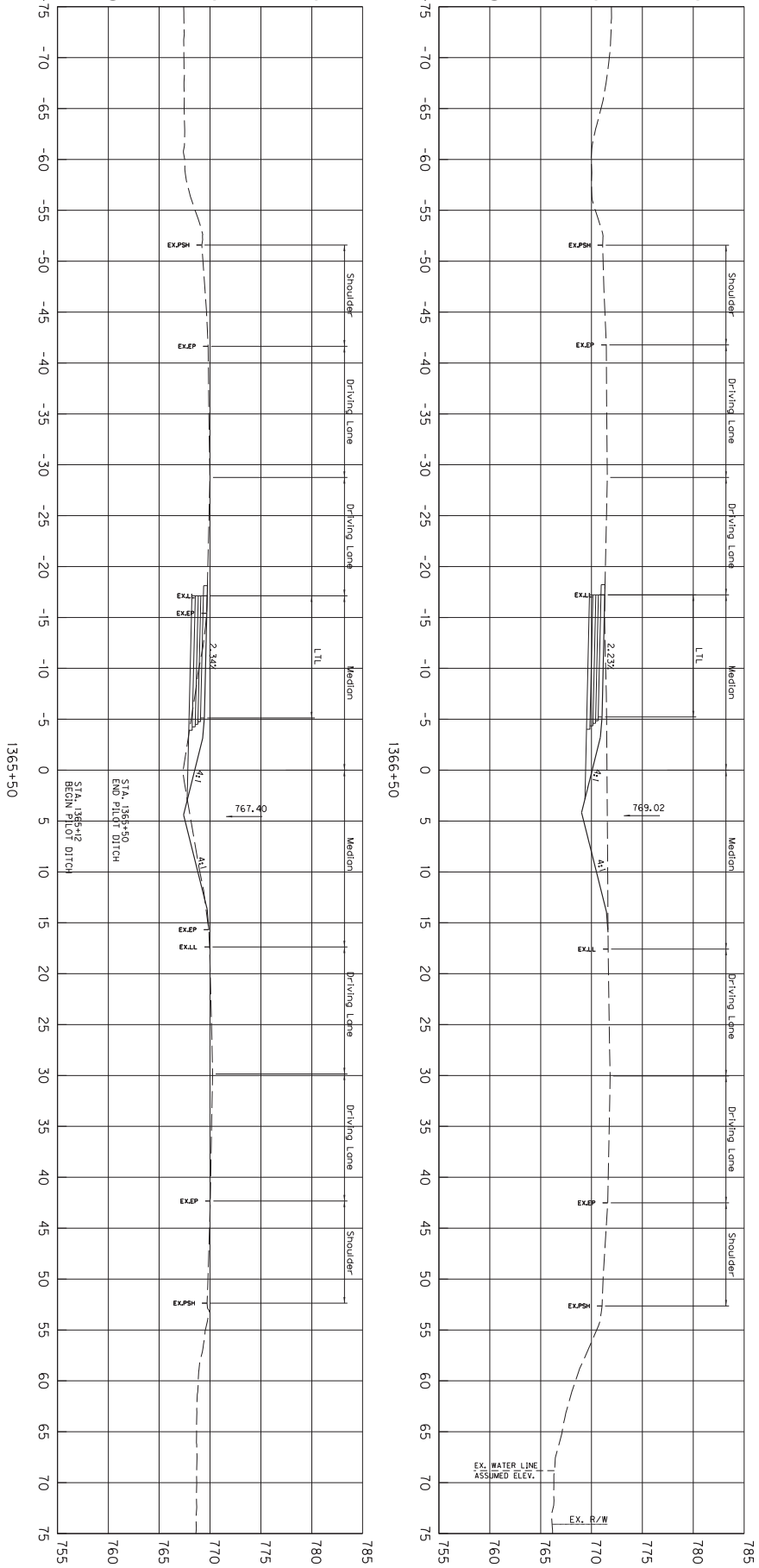


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1362+30 TO STA. 1364+75

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

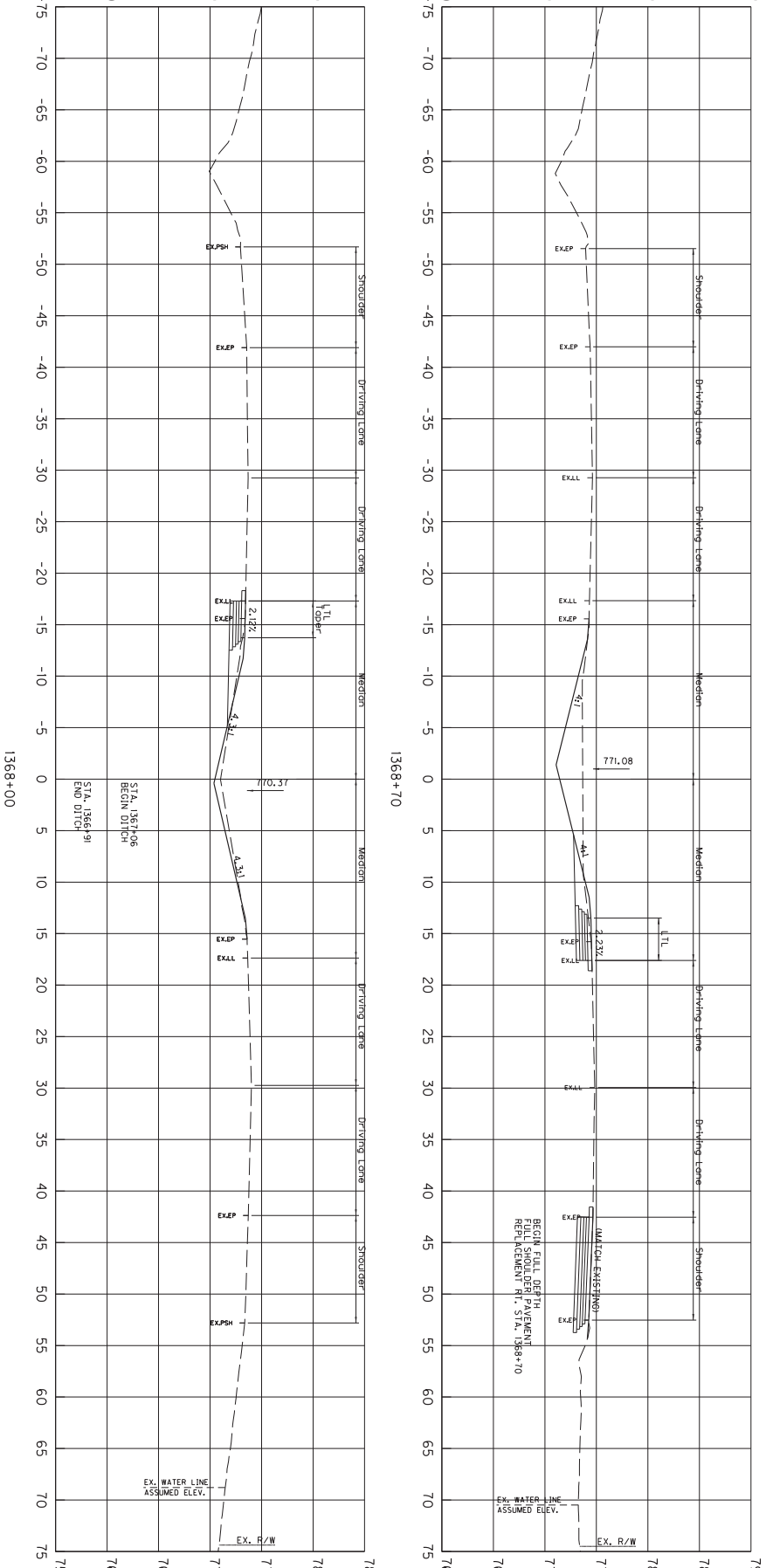


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1365+50 TO STA. 1366+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

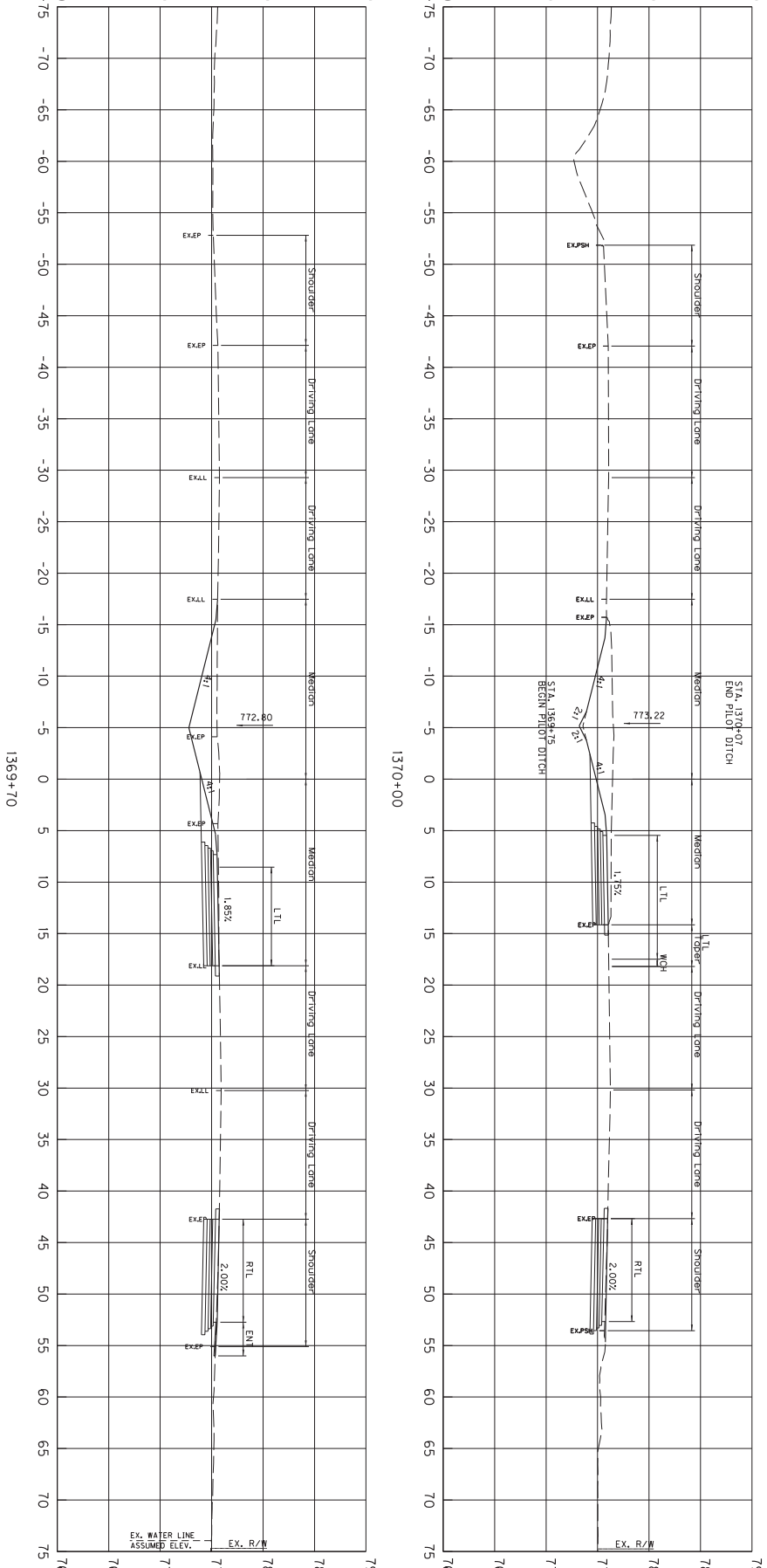


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1368+00 TO STA. 1368+70

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

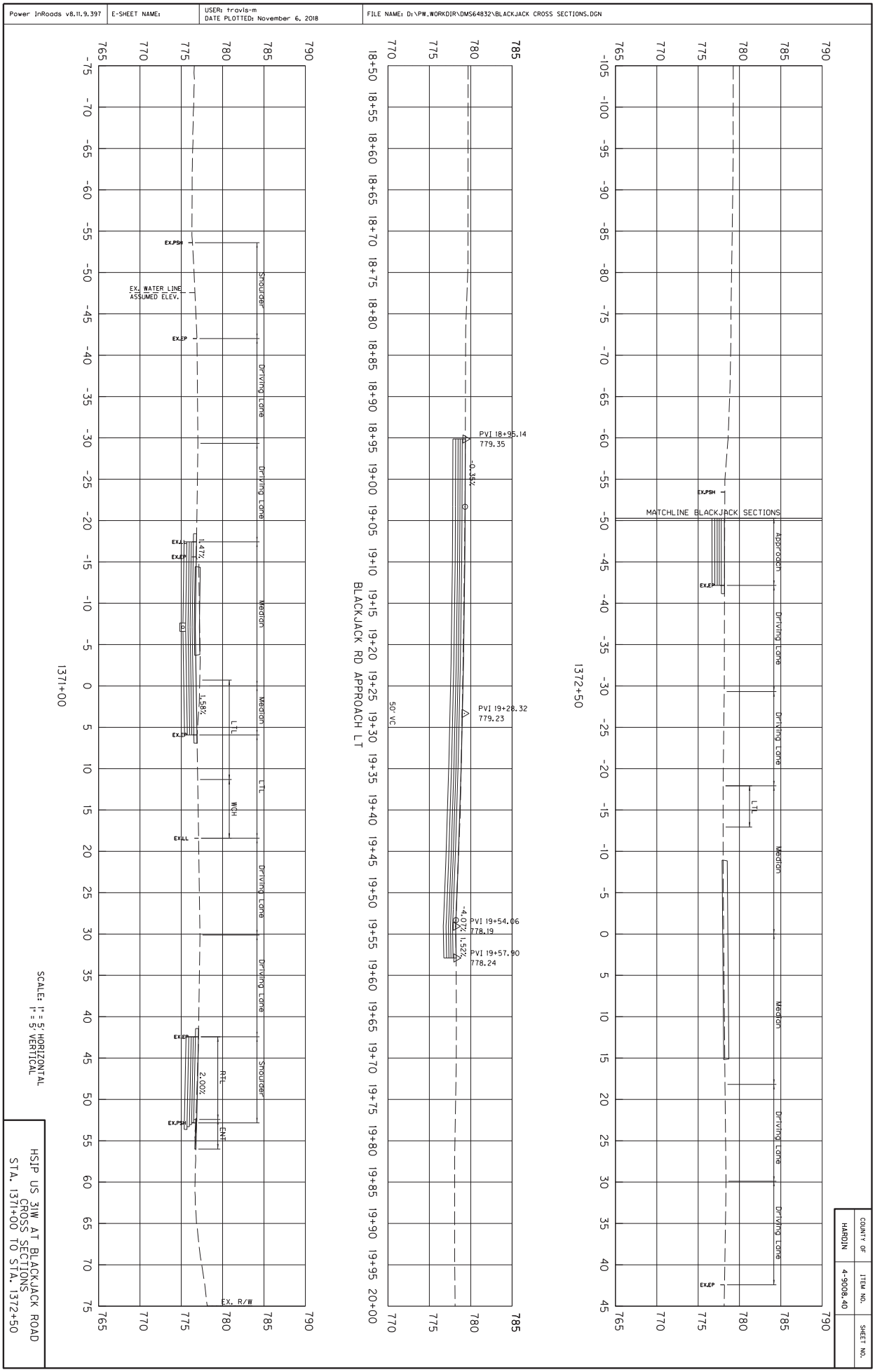
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN



SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1369+70 TO STA. 1370+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	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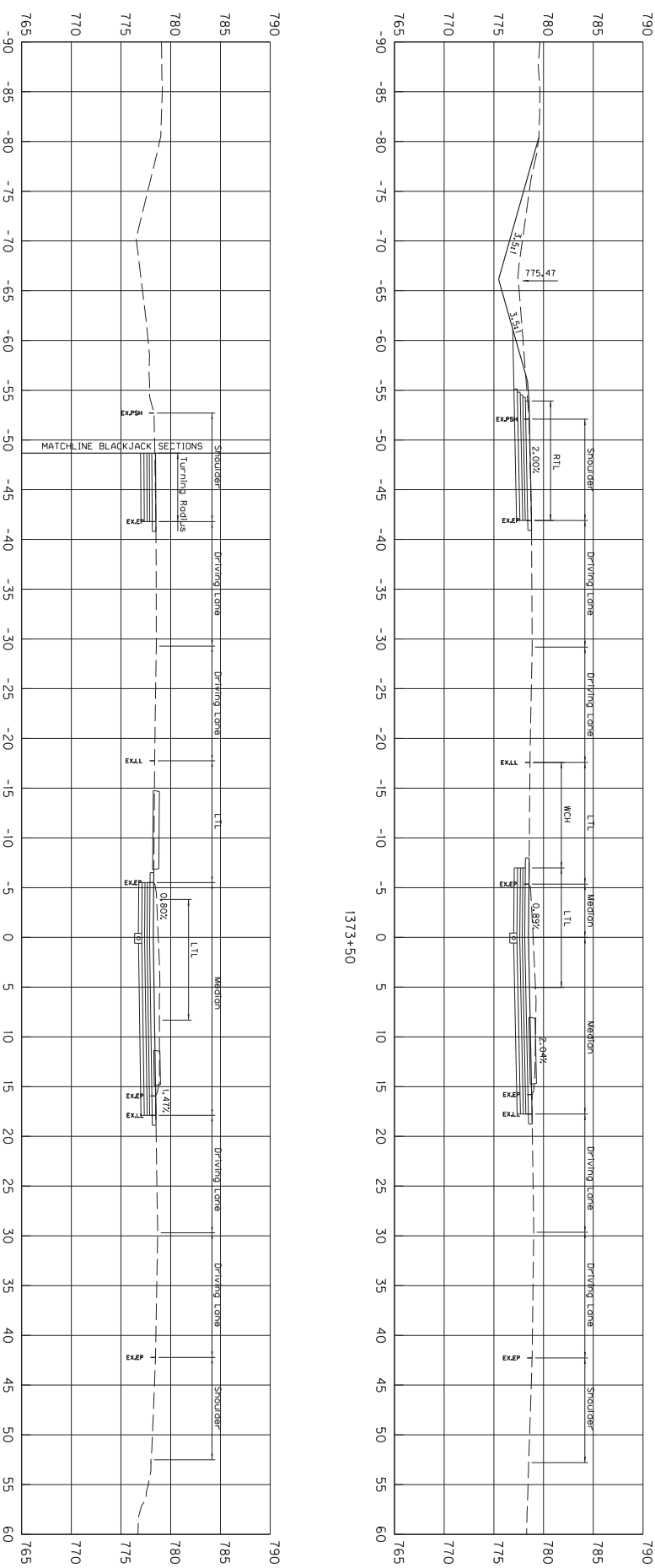
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: November 6, 2018
FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN
1371+00
BLACKJACK RD APPROACH LT
1372+50
MATCHLINE BLACKJACK SECTIONS
EX.PSM
EX.EP
EX. WATER LINE
ASSUMED ELEV.
Shoulder
Driving Lane
Median
LTL
WGH
RTL
ENT
EX.LL
EX. R/W
1.47%
1.58%
2.00%
PVI 18+95.14
779.35
-0.35%
PVI 19+28.32
779.23
50' VC
-4.07%
1.52%
PVI 19+54.06
778.19
PVI 19+57.90
778.24
Approach
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1371+00 TO STA. 1372+50
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

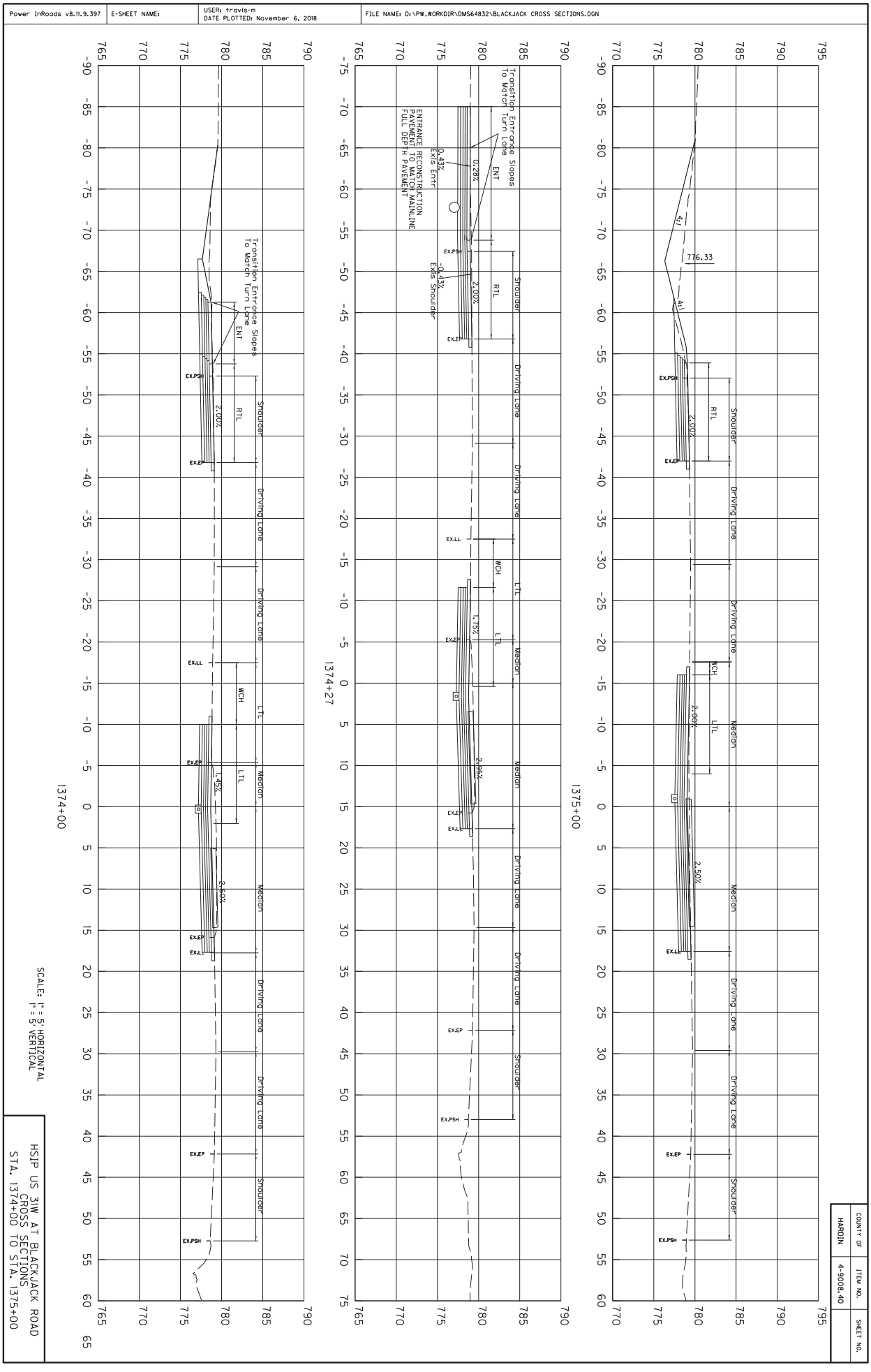
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m | DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

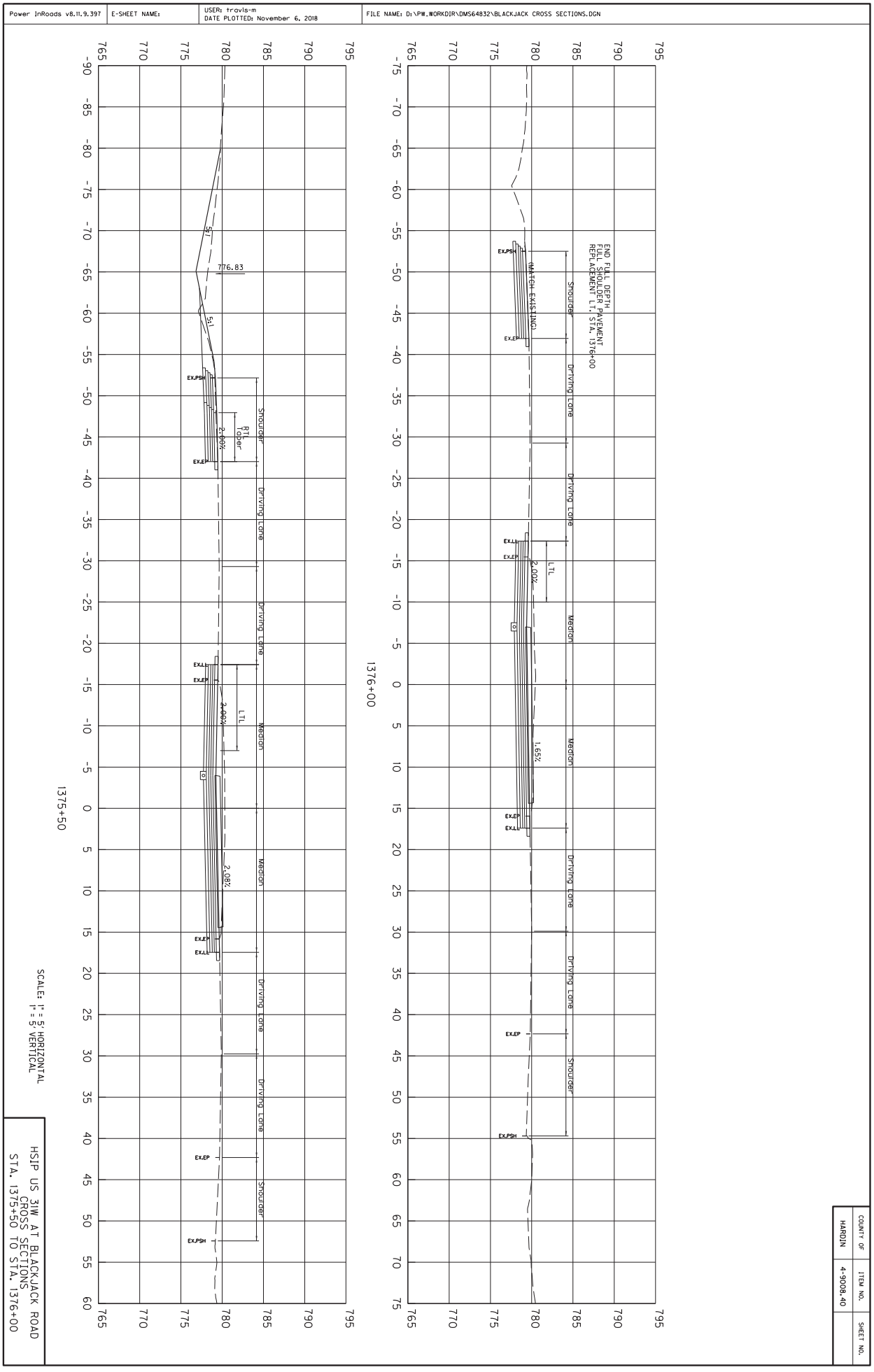


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

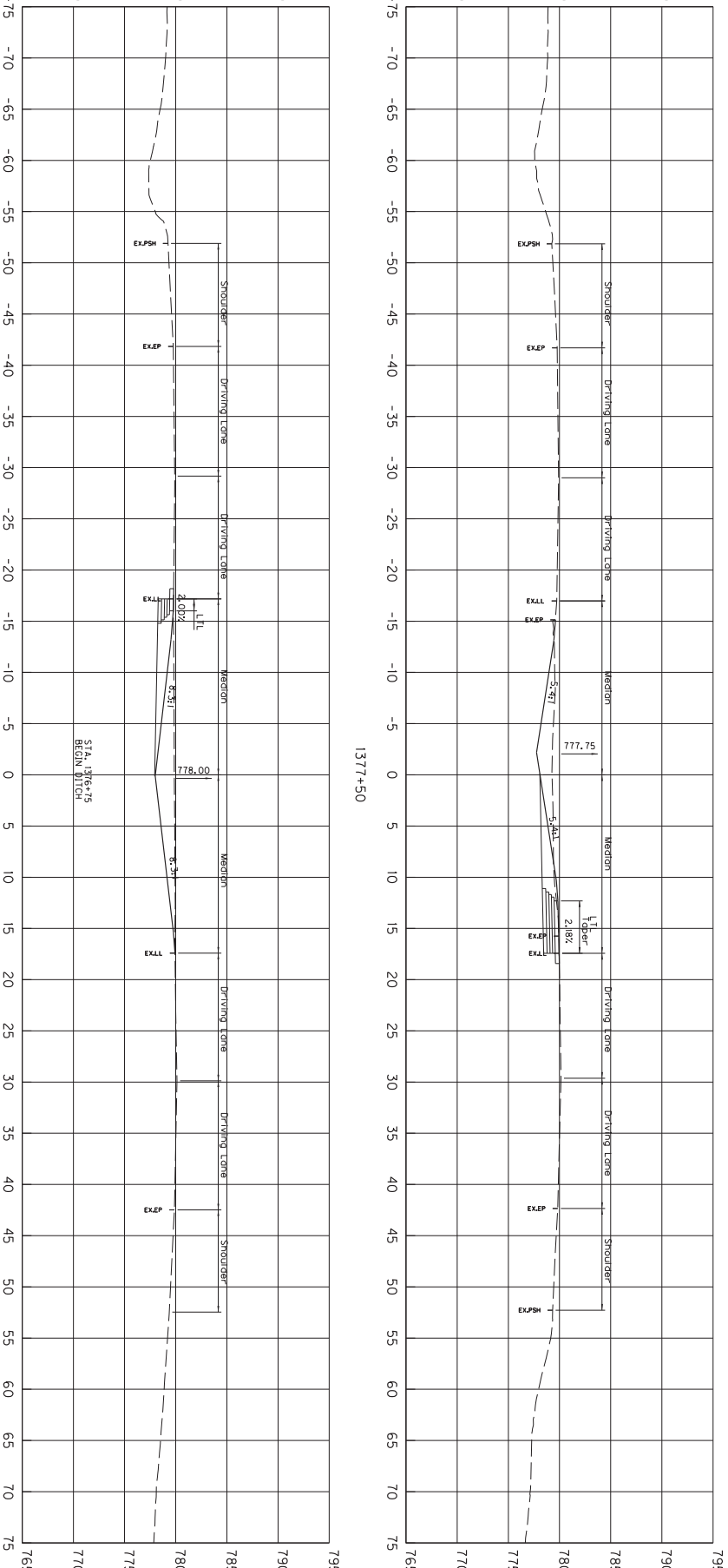
HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1373+00 TO STA. 1373+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: November 6, 2018
FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.
1374+00
1374+27
1375+00
Transition Entrance Slopes To Match Turn Lane
ENT
RTL
LTL
WCH
Shoulder
Driving Lane
Median
EX.PSH
EX.EP
EX.LL
4:1
776.33
2.00%
2.50%
2.66%
2.95%
1.75%
1.45%
0.43%
0.28%
ENTRANCE RECONSTRUCTION
PAVEMENT TO MATCH MAINLINE
FULL DEPTH PAVEMENT
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1374+00 TO STA. 1375+00


Power InRoads v8.11.9.397
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: November 6, 2018
FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN
1375+50
1376+00
776.83
5:1
2.00%
RTL
LTL
1.65%
2.08%
EX.PSH
EX.EP
EX.LL
Shoulder
Driving Lane
Median
END FILL DEPTH
FOR SHOULDER PAVEMENT
REPLACEMENT L, STA. 1376+00
MATCH EXISTING
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1375+50 TO STA. 1376+00
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

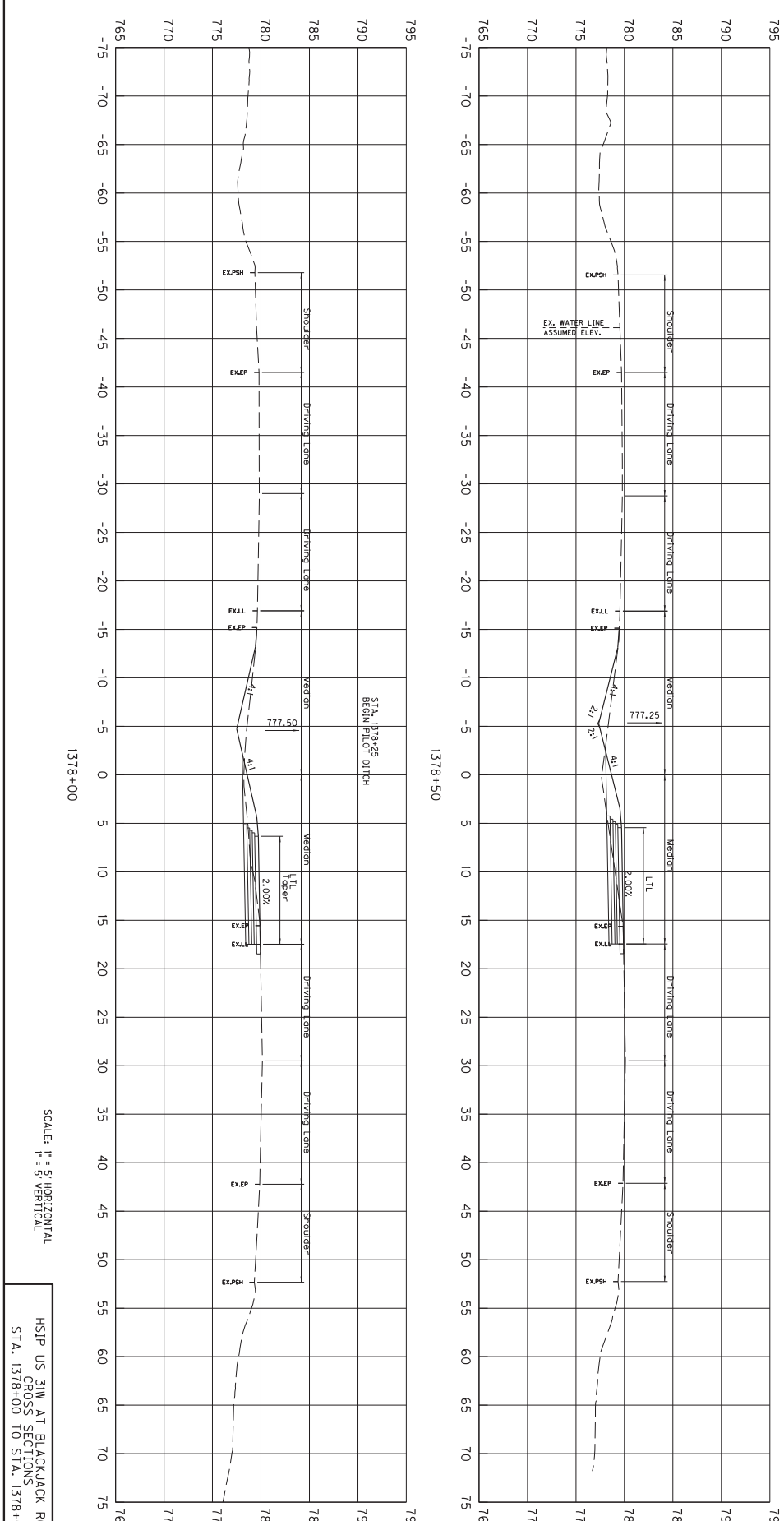


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1377+00 TO STA. 1377+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m | DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

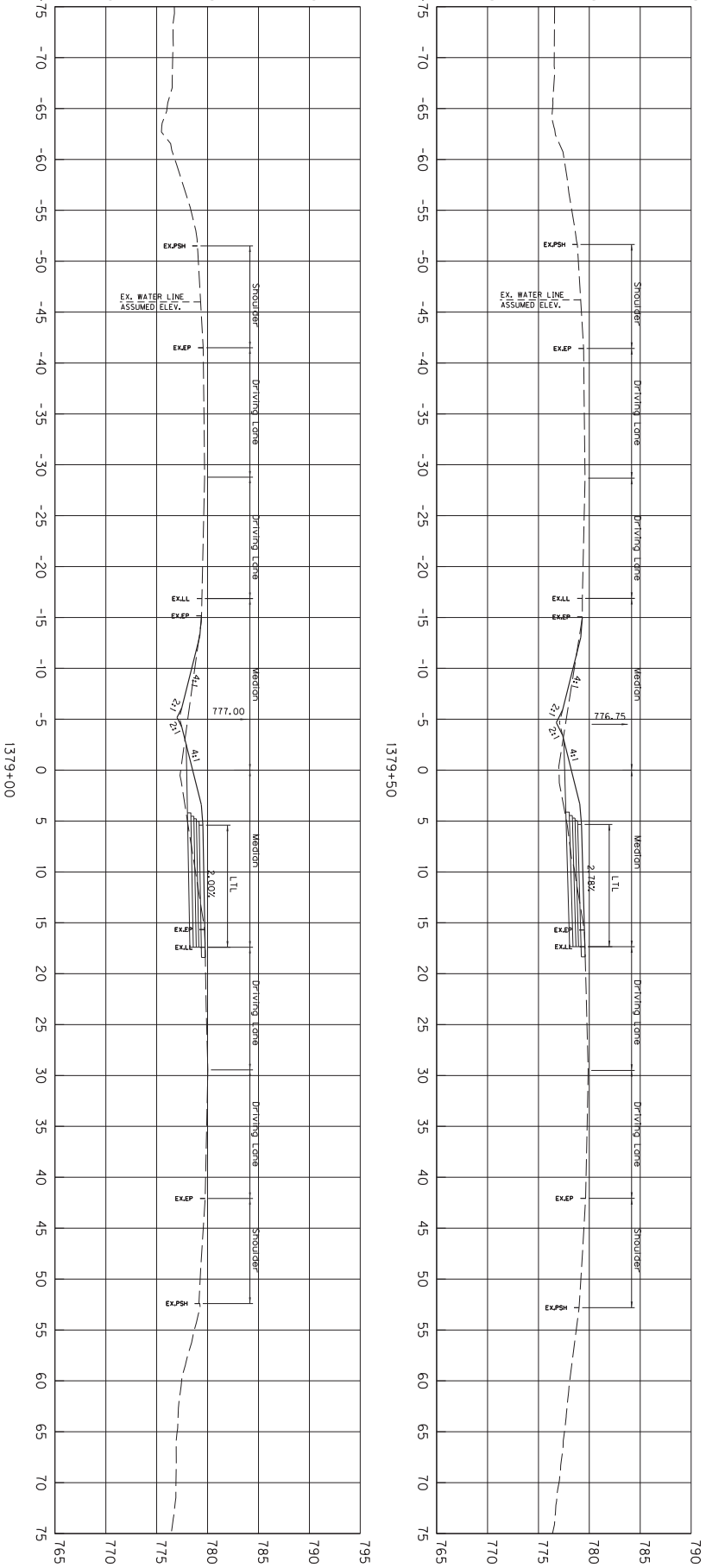


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1378+00 TO STA. 1378+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m | DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

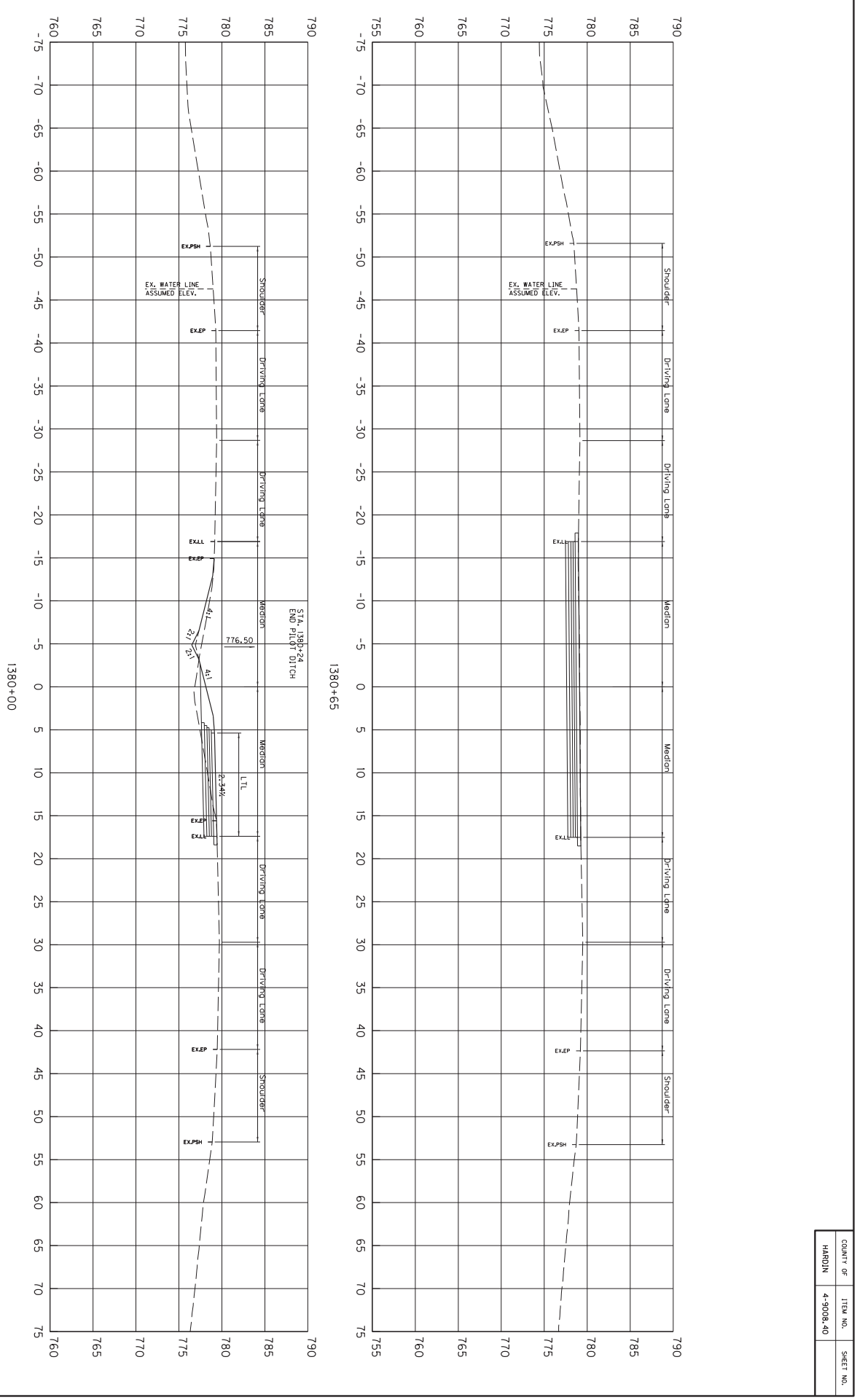


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1379+00 TO STA. 1379+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

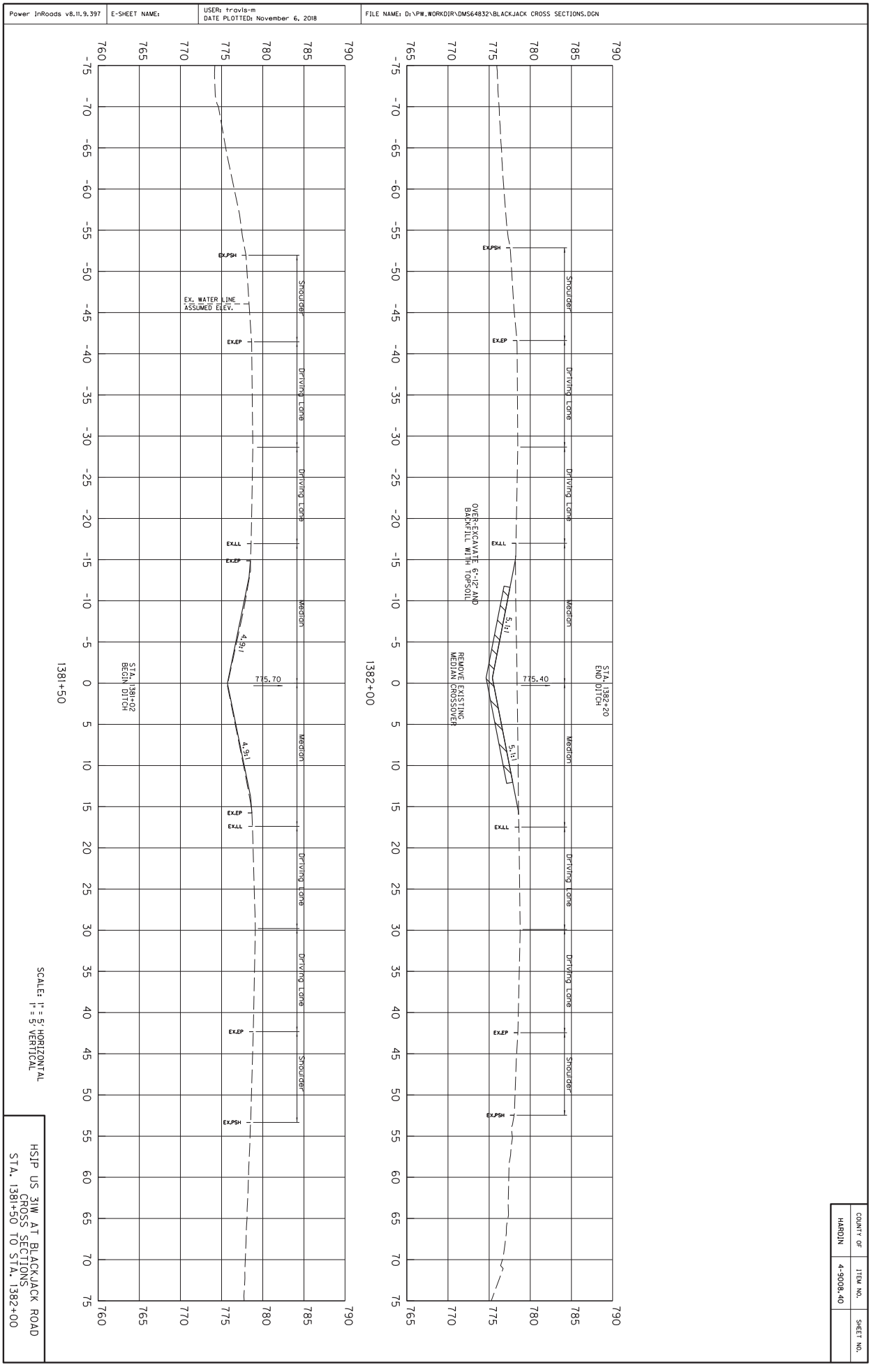
Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m | DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN



SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1380+00 TO STA. 1380+65

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	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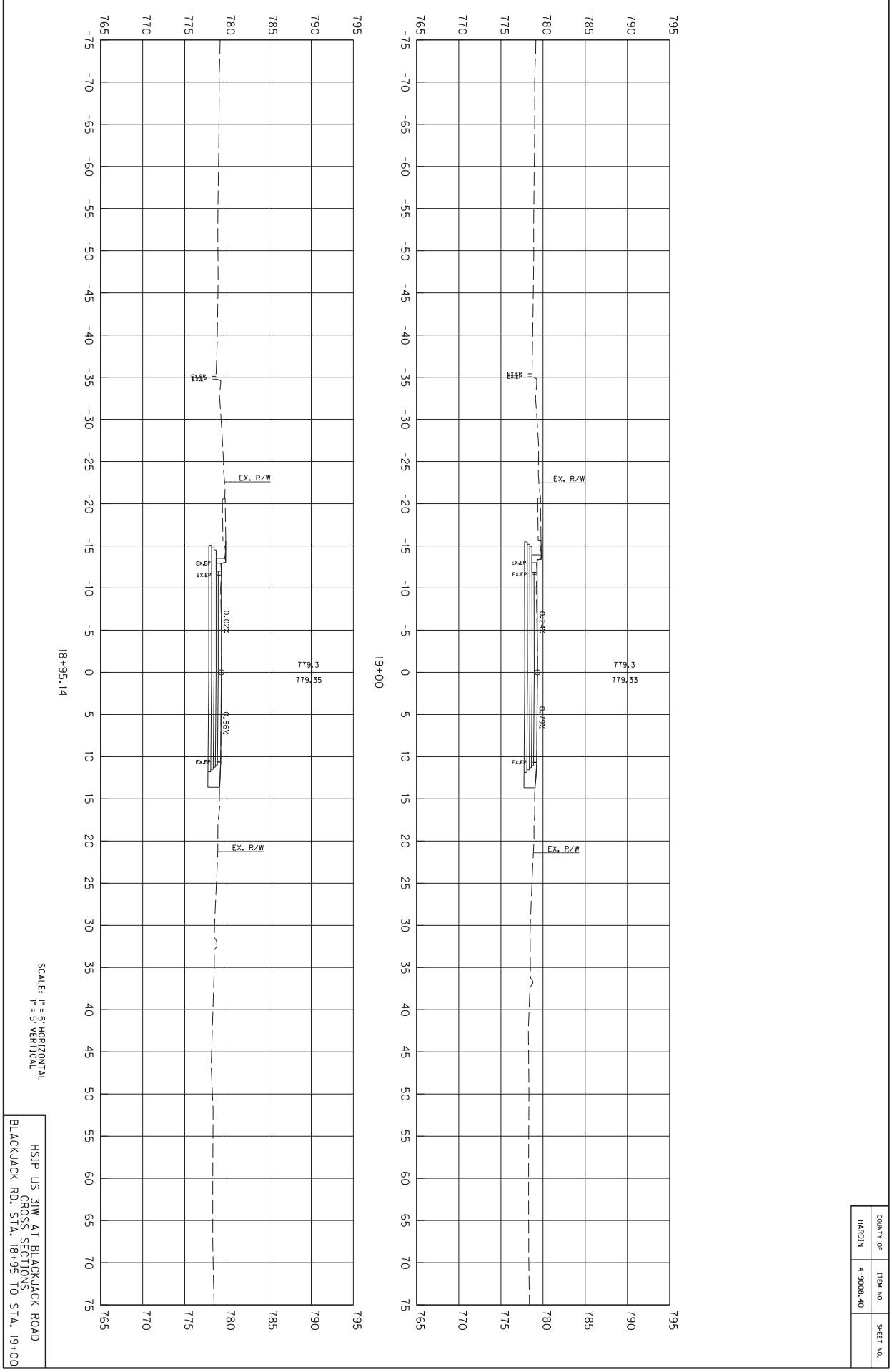
E-SHEET NAME:
USER: travis-m
DATE PLOTTED: November 6, 2018
FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN
1381+50
1382+00
STA. 1381+02 BEGIN DITCH
STA. 1382+20 END DITCH
EX. WATER LINE ASSUMED ELEV.
OVER-EXCAVATE 6"-12" AND BACKFILL WITH TOPSOIL
REMOVE EXISTING MEDIAN CROSSOVER
775.70
775.40
4.9:1
5:1
EX.PSH
EX.EP
EX.LL
Shoulder
Driving Lane
Median
SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL
HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
STA. 1381+50 TO STA. 1382+00
COUNTY OF
HARDIN
ITEM NO.
4-9008.40
SHEET NO.

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m
DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN

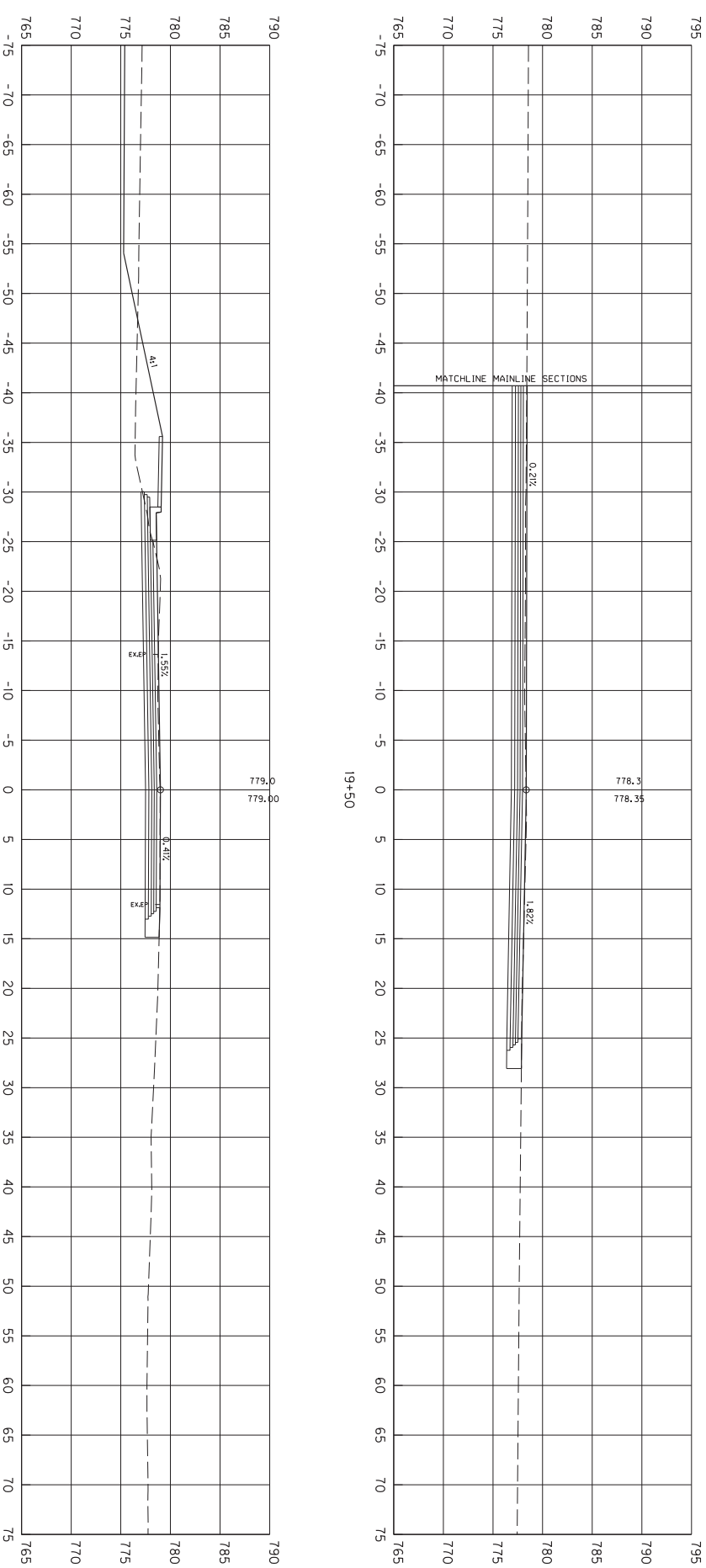


SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
BLACKJACK RD. STA. 18+95 TO STA. 19+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

Power InRoads v8.11.9.397 | E-SHEET NAME: | USER: travis-m DATE PLOTTED: November 6, 2018 | FILE NAME: D:\PW_WORKDIR\DMS64832\BLACKJACK CROSS SECTIONS.DGN



SCALE: 1" = 5' HORIZONTAL
1" = 5' VERTICAL

HSIP US 31W AT BLACKJACK ROAD
CROSS SECTIONS
BLACKJACK RD. STA. 19+28 TO STA. 19+50

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN	4-9008.40	

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: _____

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

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

SUPPLEMENTAL SPECIFICATIONS

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

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

10L

SPECIAL NOTE FOR CHANNEL CHANGE
EROSION CONTROL BLANKET

This Special Note will apply when indicated on the plans or in the proposal. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

1.0 DESCRIPTION. This specification covers erosion control blankets used for channel changes.

2.0 MATERIALS.

2.1 Erosion Control Blanket. Use a woven blanket made of 100 percent machine spun bristle coir fiber. Ensure the nominal thickness is at least 0.30 inches. Ensure the blanket's nominal weight is at least 11.8 ounces per square yard. Ensure the nominal open area of the blanket does not exceed 65 percent.

2.2 Staples. Use steel wire U-shaped staples with a minimum diameter of 0.148 inches (9 gauge), a minimum width of one inch, and a minimum length of 6 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils.

3.0 CONSTRUCTION. Prepare the bed by loosening the soil to a depth of 2 to 3 inches. Apply fertilizer, limestone, and seed at the permanent seeding rate. Cover with the erosion control blanket. Roll out the blanket in the direction of the anticipated channel flow. Anchor the blanket at the top, toe, and edges of channels on a one-foot spacing as the "Anchoring Edges and Ends" figure shows. Secure the blanket by stapling as the "Stapling Pattern" figure shows. At seams, overlap the blanket as the "Seam Overlaps" figure shows. Ensure staples are fully driven and snug against the blanket. If staples are bending, use a heavier gauge staple. Rework areas that become unstable or do not establish vegetation.

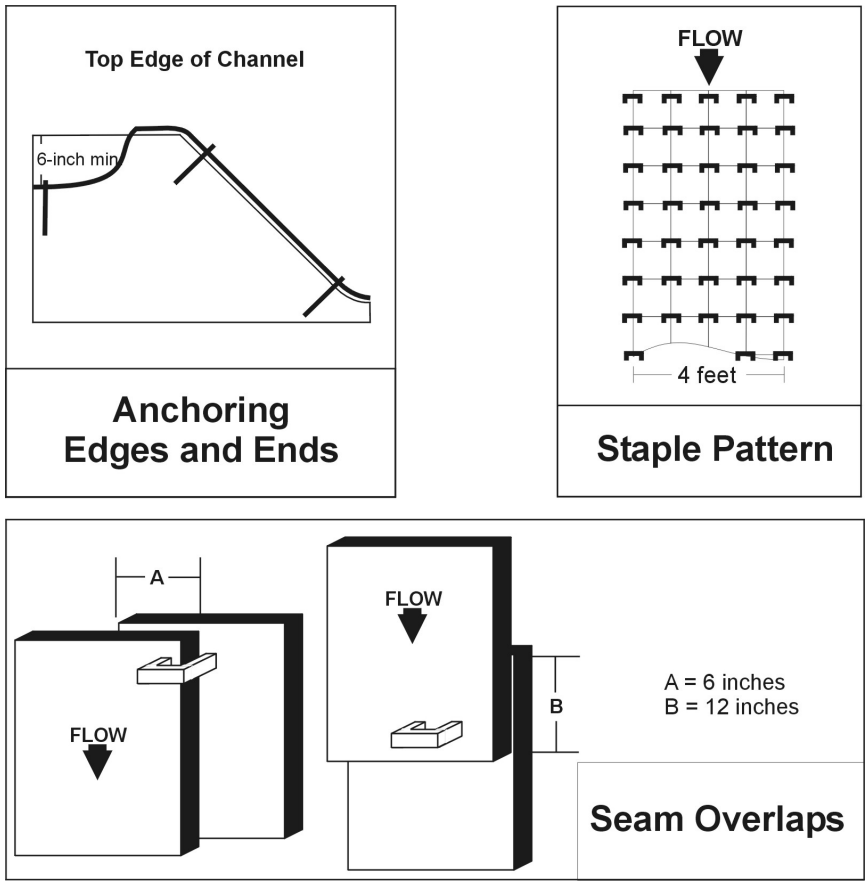
4.0 MEASUREMENT. The Department will measure the quantity of Erosion Control Blanket by the square yard of surface covered. The Department will not measure preparation of the bed or seeding for payment and will consider them incidental to the Erosion Control Blanket. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Erosion Control Blanket.

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

Code	Pay Item	Pay Unit
----	Channel Change Erosion Control Blanket	Square Yard

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

10L



June 15, 2012

11F

SPECIAL NOTE FOR TURF REINFORCING MAT

1.0 DESCRIPTION. Install turf reinforcement mat at locations specified in the Contract or as the Engineer directs. Section references herein are to the Department's Standard Specifications for Road and Bridge Construction, current edition.

2.0 MATERIALS.

2.1 Turf Reinforcement Mat (TRM). Use a Turf Reinforcement Mat defined as permanent rolled erosion control product composed of non-degradable synthetic fibers, filaments, nets, wire mesh and/or other elements, processed into a three-dimensional matrix of sufficient thickness and from the Department's List of Approved Materials. Mats must be 100% UV stabilized materials. For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting exclusively. Ensure product labels clearly show the manufacturer or supplier name, style name, and roll number. Ensure labeling, shipment and storage follows ASTM D-4873. The Department will require manufacturer to provide TRMs that are machine constructed web of mechanically or melt bonded nondegradable fibers entangled to form a three dimensional matrix. The Department will require all long term performance property values in table below to be based on non degradable portion of the matting alone. Approved methods include polymer welding, thermal or polymer fusion, or placement of fibers between two high strength biaxially oriented nets mechanically bound by parallel stitching with polyolefin thread. Ensure that mats designated in the plans as Type 4 mats, are not to be manufactured from discontinuous or loosely held together by stitching or glued netting or composites. Type 4 mats shall be composed of geosynthetic matrix that exhibits a very high interlock and reinforcement capacities with both soil and root systems and with high tensile modulus. The Department will require manufacturer to use materials chemically and biologically inert to the natural soil environments conditions. Ensure the blanket is smolder resistant without the use of chemical additives. When stored, maintain the protective wrapping and elevate the mats off the ground to protect them from damage. The Department will not specify these materials for use in heavily acidic coal seam areas or other areas with soil problems that would severally limit vegetation growth.

A) Dimensions. Ensure TRMs are furnished in strips with a minimum width of 4 feet and length of 50 feet.
B) Weight. Ensure that all mat types have a minimum mass per unit area of 7 ounces per square yard according to ASTM D 6566.
C) Performance Testing: The Department will require AASHTO's NTPEP index testing. The Department will also require the manufacturer to perform internal MARV testing at a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory for tensile strength, tensile elongation, mass per unit area, and thickness once every 24,000 yds of production or whatever rate is required to ensure 97.7% confidence under ASTM D4439& 4354. The Department will require Full scale testing for slope and channel applications shear stress shall be done under ASTM D 6459, ASTM D 6460-07 procedures.

2.2 Classifications

The basis for selection of the type of mat required will be based on the long term shear stress level of the mat of the channel in question or the degree of slope to protect and will be designated in the contract. The Type 4 mats are to be used at structural backfills protecting critical

11F

structures, utility cuts, areas where vehicles may be expected to traverse the mat, channels with large heavy drift, and where higher factors of safety, very steep slopes and/or durability concerns are needed as determined by project team and designer and will be specified in the plans by designer.

Turf Reinforcement Matting					
Properties[1]	Type 1	Type 2	Type 3	Type 4	Test Method
Minimum tensile Strength lbs/ft	125	150	175	3000 by 1500	ASTM D6818[2]
UV stability (minimum % tensile retention)	80	80	80	90	ASTM D4355[3] (1000-hr exposure)
Minimum thickness (inches)	0.25	0.25	0.25	0.40	ASTM D6525
Slopes applications	2H:1V or flatter	1.5H:1V or flatter	1H:1V or flatter	1 H: 1V or greater	
Shear stress lbs/ft^2 Channel applications	6.0[4]	8.0[4]	10.0[4]	12.0[4]	ASTM D6459 ASTM D6460-07

[1] For TRMs containing degradable components, all physical property values must be obtained on the non-degradable portion of the matting alone.
[2]Minimum Average Roll Values for tensile strength of sample material machine direction.
[3]Tensile Strength percentage retained after stated 1000 hr duration of exposure under ASTM D4355 testing. Based on nondegradable components exclusively.
[4]Maximum permissible shear design values based on short-term (0.5 hr) vegetated data obtained by full scale flume testing ASTM D6459, D6460-07. Based on nondegradable components exclusively. Testing will be done at Independent Hydraulics Facility such as Colorado State University hydraulics laboratory, Utah State University hydraulics laboratory, Texas Transportation Institute (TTI) hydraulics and erosion control laboratory.

2.3 Quality Assurance Sampling, Testing, and Acceptance

A) Provide TRM listed on the Department's List of Approved Materials. Prior to inclusion on the LAM, the manufacturer of TRM must meet the physical and performance criteria as outlined in the specification and submit a Letter Certifying compliance of the product under the above ASTM testing procedures and including a copy of report from Full Scale Independent Hydraulics Facility that Fully Vegetated Shear Stress meets shear stress requirements tested under D6459 and D6460-07.

B) Contractors will provide a Letter of Certification from Manufacturer stating the product name, manufacturer, and that the product MARV product unit testing results meets Department criteria. Provide Letters once per project and for each product.

C) Acceptance shall be in accordance with ASTM D-4759 based on testing performed by a Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP) accredited laboratory using Procedure A of ASTM D-4354.

Current mats meeting the above criteria are shown on the Department's List of Approved Materials.

2.4 Fasteners. When the mat manufacturer does not specify a specific fastener, use steel wire U-shaped staples with a minimum diameter of 0.09 inches (11 gauge), a minimum width of one inch and a minimum length of 12 inches. Use a heavier gauge when working in rocky or clay soils and longer lengths in sandy soils as directed by Engineer or Manufacturer's Representative. Provide staples with colored tops when requested by the Engineer.

3.0 CONSTRUCTION. When requested by the Engineer, provide a Manufacturer's Representative on-site to oversee and approve the initial installation of the mat. When requested by the Engineer, provide a letter from the Manufacturer approving the installation. When there is a conflict between the Department's criteria and the Manufacturer's criteria, construct using the more restrictive. The Engineer and Manufacturer's Representative must approve all alternate installation methods prior to execution. Construct according to the Manufacturer's recommendations and the following as minimum installation technique:

3.1 Site Preparation. Grade areas to be treated with matting and compact. Remove large rocks, soil clods, vegetation, roots, and other sharp objects that could keep the mat from intimate contact with subgrade. Prepare seedbed by loosening the top 2 to 3 inch of soil.

3.2 Installation. Install mats according to Standard Drawing Sepias "Turf Mat Channel Installation" and "Turf Mat Slope Installation." Install mats at the specified elevation and alignment. Anchor the mats with staples with a minimum length of 12 inches. Use longer anchors for installations in sandy, loose, or wet soils as directed by the Engineer or Manufacturer's Representative. The mat should be in direct contact with the soil surface.

4.0 MEASUREMENT. The Department will measure the quantity of Turf Reinforcement Mat by the square yard of surface covered. The Department will not measure preparation of the bed, providing a Manufacturer's Representative, topsoil, or seeding for payment and will consider them incidental to the Turf Reinforcement Mat. The Department will not measure any reworking of slopes or channels for payment as it is considered corrective work and incidental to the Turf Reinforcement Mat. Seeding and protection will be an incidental item.

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

Code	Pay Item	Pay Unit
23274EN11F	Turf Reinforcement Mat 1	Square Yard
23275EN11F	Turf Reinforcement Mat 2	Square Yard
23276EN11F	Turf Reinforcement Mat 3	Square Yard
23277EN11F	Turf Reinforcement Mat 4	Square Yard

2016 KENTUCKY STANDARD DRAWINGS
SUPPLEMENTS TO STANDARD SPECIFICATIONS
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ROADWAY

~ BARRIERS ~

GUARDRAIL AND BRIDGE END DRAINAGE

GUARDRAIL CONNECTORS TO BRIDGE ENDS

ENERGY ABSORPTION DEVICES

ENERGY ABSORPTION DEVICES (CONTINUED)

TYPICAL BARRIER INSTALLATIONS

CONCRETE MEDIAN BARRIERS

GUARDRAIL HARDWARE

~ DRAINAGE ~

BOX INLETS AND OUTLETS

DROP BOXES

SLOPED BOXES

PAVED DITCHES, FLUME INLETS AND CHANNEL LININGS

PIPE AND BOX CULVERT AND HEADWALLS

FOR ALL PIPE AND BOX CULVERT HEADWALLS (RDH SERIES) SEE HEADWALL SUPPLEMENT

TYPICAL DRAINAGE INSTALLATIONS

MANHOLES

PERFORATED PIPE

MISCELLANEOUS DRAINAGE

~ FENCES AND GATES ~

CHAIN LINK FENCE

GATES

WOVEN WIRE FENCE

~ GENERAL ~

CURVE WIDENING AND SUPERELEVATION

MISCELLANEOUS STANDARDS

~ PAVEMENT ~

MEDIANS, CURBS, APPROACHES, ENTRANCES, ETC.

NON-REINFORCED CONCRETE PAVEMENT

STANDARD REINFORCED CONCRETE PAVEMENT

MISCELLANEOUS PAVING

TRAFFIC

~ PERMANENT ~

RAISED PAVEMENT MARKERS

~ TEMPORARY ~

TRAFFIC CONTROL

DEVICES

STRIPING OPERATIONS

BRIDGES

BEARING DEVICES

BOX BEAMS

MISCELLANEOUS STANDARDS

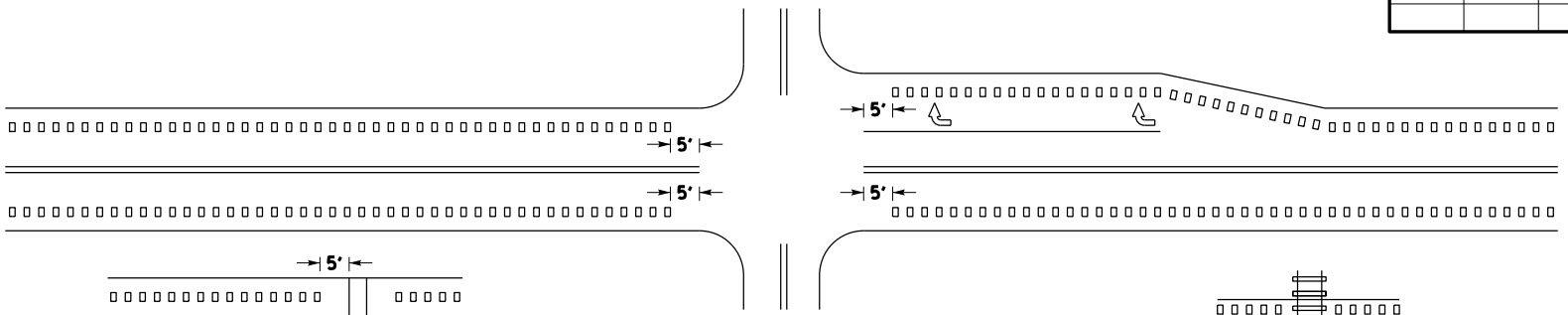
RAILING SYSTEMS

JOINTS

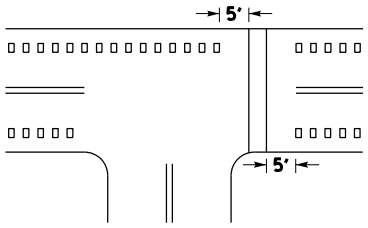
CONCRETE PILES

STEEL PILES

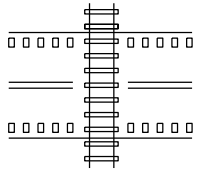
COUNTY OF	ITEM NO.	SHEET NO.



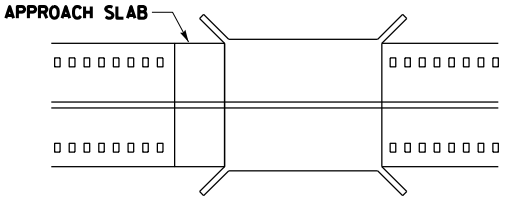
INTERSECTIONS WITH OR WITHOUT ① RIGHT TURN LANES



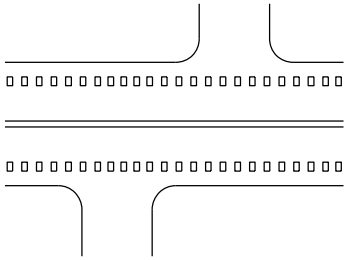
MARKED CROSSWALK ②



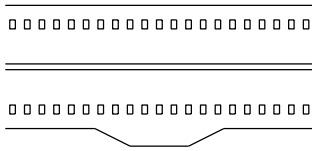
HIGHWAY-RAIL GRADE CROSSINGS ③



BRIDGE DECK/APPROACH SLAB ④



DRIVEWAYS/MINOR COMMERCIAL ENTRANCES ⑤



MAILBOX TURNOUTS ⑥

~ NOTES ~

① RUMBLE STRIPS SHALL BE OMITTED THROUGH MAJOR INTERSECTIONS WITH, OR WITHOUT, RIGHT-TURN LANES. OMIT RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF THE AREA WHERE EDGELINE PAVEMENT MARKINGS HAVE BEEN OMITTED (NORMALLY WHERE SIDE STREET RADIUS INTERSECTS MAINLINE).

② RUMBLE STRIPS SHALL NOT BE INSTALLED THROUGH MARKED CROSSWALKS. OMIT RUMBLE STRIPS APPROXIMATELY 5' IN ADVANCE OF MARKED CROSSWALKS.

③ RUMBLE STRIPS SHALL NOT BE INSTALLED ACROSS HIGHWAY-RAIL GRADE CROSSINGS.

④ RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS OR APPROACH SLABS.

⑤ RUMBLE STRIPS SHALL BE INSTALLED THROUGH DRIVEWAYS & MINOR COMMERCIAL ENTRANCES.

⑥ RUMBLE STRIPS SHALL BE INSTALLED THROUGH MAILBOX TURNOUTS.

7. RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.

BID ITEMS AND UNIT TO BID

EDGELINE RUMBLE STRIPS	LF
SHOULDER RUMBLE STRIPS	LF

DRAWING NOT TO SCALE

USE WITH SEPIA 006, 007, AND 008

KENTUCKY
DEPARTMENT OF HIGHWAYS

SHOULDER & EDGELINE RUMBLE STRIP DETAILS

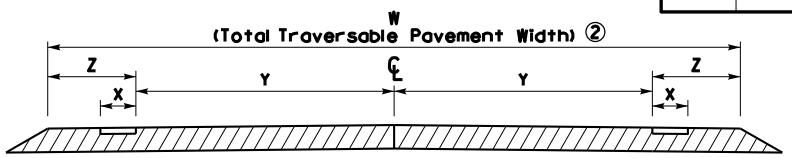
SUBMITTED B. Jeffrey Wolfe 11-23-16
DATE

005

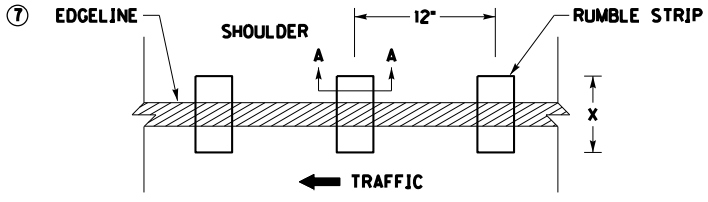
FILE NAME: C:\USERS\JEFF.LAU\DESKTOP\SEPIA 005 - TPM16S - SHOULDER & EDGELINE RUMBLE STRIP DETAILS.DGN
USER: jeff.lau
DATE PLOTTED: December 2, 2016
E-SHEET NAME: ——
MicroStation v8.11.7.443

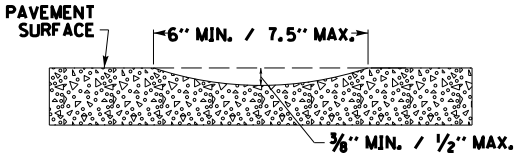
COUNTY OF	ITEM NO.	SHEET NO.

PAVEMENT WIDTH (W) ②	RUMBLE LENGTH (X) ⑥	ELRS ONLY		CLRS & ELRS	
		LANE WIDTH (Y) ③	SHOULDER WIDTH (Z) ④	LANE WIDTH (Y) ③	SHOULDER WIDTH (Z) ④
20'	8"	9'	1'	N/A	N/A
21'	8"	9.5'	1'	N/A	N/A
22'	8"	10'	1'	N/A	N/A
23'	8"	10'	1.5'	N/A	N/A
24'	8"	10.5'	1.5'	N/A	N/A
25'	8"	N/A	N/A	11'	1.5'
26'	8"	N/A	N/A	11'	2'
27'	8"	N/A	N/A	11.5'	2'
28'	8"	N/A	N/A	12'	2'
29'	8"	N/A	N/A	12'	2.5'
30'	8"	N/A	N/A	12'	3'
31'	8"	N/A	N/A	12'	3.5'
32'	8"	N/A	N/A	12'	4'
33'	8"	N/A	N/A	12'	4.5'



PAVEMENT CROSS-SECTION





SECTION A-A

~ NOTES ~

1. EDGELINE RUMBLE STRIPS SHOULD BE INSTALLED ACCORDING TO THE DIMENSIONS PROPOSED ABOVE UNLESS THERE IS AN ENGINEERING BASIS THAT SUPPORTS A CHANGE IN DIMENSION. FOR EXAMPLE, IF THE EXISTING LANE WIDTH IS NARROWER THAN THE LANE WIDTH PROPOSED IN THIS DRAWING AND THE EXISTING SHOULDER PAVEMENT DEPTH IS NOT SUITABLE TO BE CONVERTED INTO A PORTION OF THE PROPOSED LANE WIDTH, THEN THE EXISTING LANE WIDTH SHOULD BE USED INSTEAD OF THE WIDTH PROPOSED IN THIS DRAWING.

② PAVEMENT WIDTH (W) IS THE TOTAL WIDTH OF TRAVERSABLE PAVEMENT. DO NOT INCLUDE THE WIDTH OF ANY NON-TRAVERSABLE PAVEMENT, SUCH AS PAVEMENT WEDGES, WHEN MEASURING THE PAVEMENT WIDTH (W).

③ LANE WIDTH (Y) TO BE MEASURED FROM CENTER OF ROAD TO LANE SIDE EDGE OF RUMBLE STRIP.

④ PAVED SHOULDER WIDTH (Z) TO BE MEASURED FROM LANE SIDE EDGE OF RUMBLE STRIP TO OUTSIDE EDGE OF TRAVERSABLE PAVEMENT.

5. DISTANCES SHOWN ARE APPROXIMATE. MAINTAIN RUMBLE STRIP DIMENSIONS AND SPACING AS MUCH AS POSSIBLE. IF THE TYPICAL SECTION SHOWS A LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) THAT DIFFERS FROM THE WIDTHS LISTED IN THIS DRAWING, THE ENGINEER SHALL DETERMINE THE LANE WIDTH (Y) AND/OR SHOULDER WIDTH (Z) AT THE TIME OF CONSTRUCTION.
NOTE: CENTERLINE RUMBLE STRIPS SHOULD BE OMITTED WHEN THE LANE WIDTH (Y) IS LESS THAN 11 FT.

⑥ RUMBLE LENGTH (X) MAY BE MODIFIED AS THE ENGINEER DIRECTS, IF THE SHOULDER WIDTH (Z) IS EQUAL TO OR LESS THAN THE PROPOSED RUMBLE LENGTH (X).

⑦ PLACE THE EDGELINE MARKING IN THE CENTER OF THE RUMBLE STRIP.

8. EDGELINE RUMBLE STRIPS SHOULD BE OMITTED WHERE THE POSTED SPEED LIMIT IS 45 MPH OR LESS.

BID ITEM AND UNIT TO BID
EDGELINE RUMBLE STRIPS LF

DRAWING NOT TO SCALE

USE WITH SEPIA 005

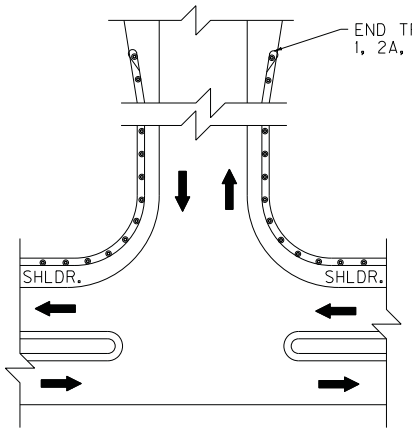
KENTUCKY
DEPARTMENT OF HIGHWAYS

EDGELINE RUMBLE STRIP DETAILS
TWO LANE ROADWAYS

SUBMITTED B. Jeffrey Wolfe 11-23-16
DATE

006

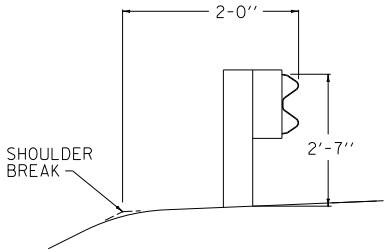
COUNTY OF	ITEM NO.	SHEET NO.
————	———	--



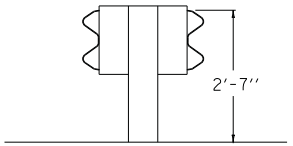
APPROACH ROADS

~ NOTES ~

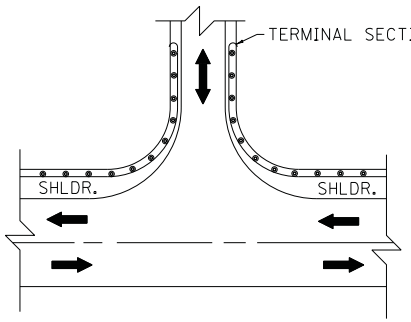
1. FOR END TREATMENT TYPE 4A USE CUR. STD. DWG. RBR-035 FOR OFFSETS.
2. THE MINIMUM LENGTH OF GUARDRAIL, INCLUDING THE END TREATMENT, PRECEDING A FIXED OBJECT IS 200 FEET: (LENGTH MAY BE REDUCED SHOULD FIELD CONDITIONS WARRANT).



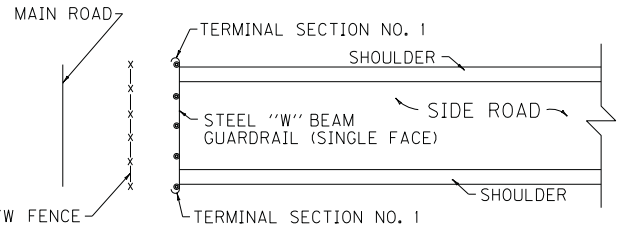
NORMAL GUARDRAIL INSTALLATION



TYPICAL DOUBLE FACE
GUARDRAIL INSTALLATION



ENTRANCES



GUARDRAIL USED AS A BARRICADE

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

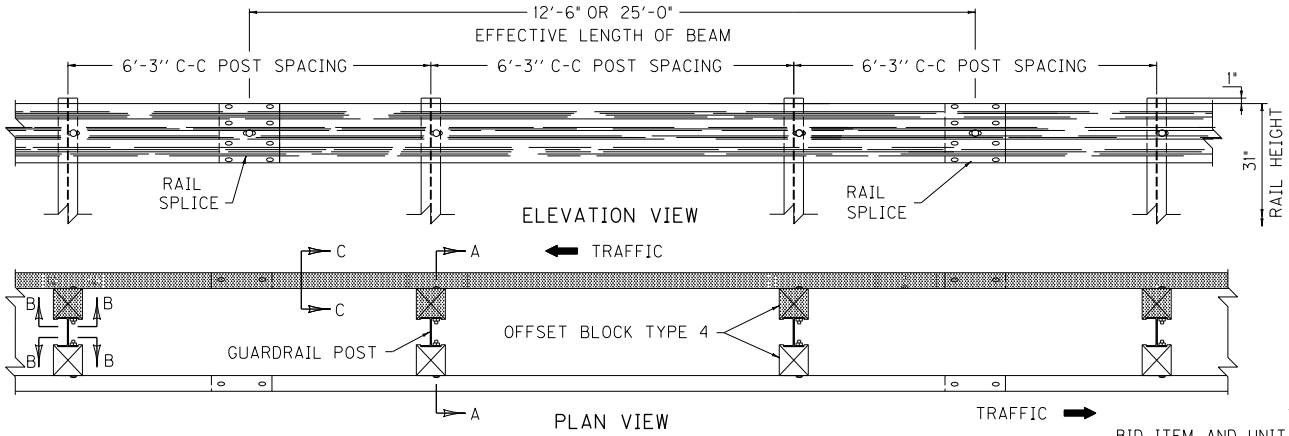
KENTUCKY
DEPARTMENT OF HIGHWAYS

TYPICAL GUARDRAIL
INSTALLATIONS

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

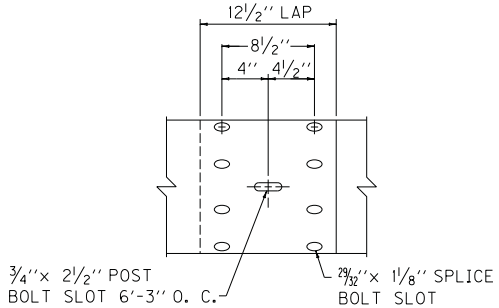
024

COUNTY OF	ITEM NO.	SHEET NO.
———	———	—

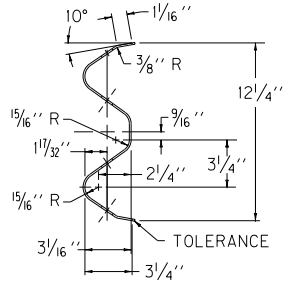


(DOUBLE FACE RAIL OR SINGLE FACE RAIL)

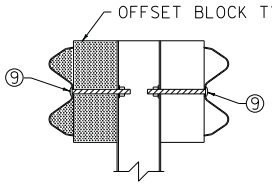
SECTION B-B



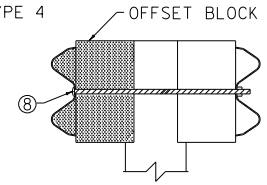
RAIL SPLICE ⑤



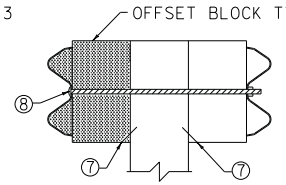
SECTION C-C
(RAIL CORRUGATED SHEET STEEL BEAM)



SECTION A-A
DOUBLE FACE RAIL WITH STEEL POST (W6x9) (TIMBER OR APPROVED COMPOSITE OFFSET BLOCK)



SECTION A-A
DOUBLE FACE RAIL WITH ROUND TIMBER POST



SECTION A-A
DOUBLE FACE RAIL WITH TIMBER POST

~ NOTES ~

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

1. DIMENSIONAL TOLERANCES NOT SHOWN OR IMPLIED ARE INTENDED TO BE THOSE CONSISTENT WITH THE PROPER FUNCTIONING OF THE PART, INCLUDING ITS APPEARANCE AND ACCEPTED MANUFACTURING PRACTICES.
2. THE RAIL ELEMENT SHALL COMPLY WITH AASHTO M-180 -CLASS A, TYPE II.
3. ALL LAPS SHALL BE PLACED IN THE DIRECTION OF TRAFFIC FLOW.
4. TOLERANCE + 1¼", -¼"
5. 8-⅝"× 1¼" LONG BUTTON HEAD BOLTS AND HEX HEAD RECESS NUTS REQUIRED FOR EACH RAIL SPLICE.
6. LENGTH EQUALS POST AND BLOCK WIDTH PLUS 2" FOR BOLT OR 2¼" FOR THREADED ROD.
7. GALVANIZED STEEL 10d COMMON COATED NAIL (DRIVE NAIL AT THE TOP OR BOTTOM CENTER OF BLOCK AND POST AFTER BOLT IS INSTALLED).
8. ⅝"× ⑥ STEEL THREADED ROD AND TWO (2) HEX HEAD NUTS OR ⅝"× ⑥ BUTTON OR HEX HEAD BOLT AND HEX HEAD NUT.
9. ⅝"×8" BUTTON HEAD BOLT, HEX HEAD RECESS NUT AND ONE ⅝" ROUND WASHER (TYP.). BOLT SHALL HAVE A MINIMUM THREAD LENGTH OF 2".

▨ REQUIRED FOR DOUBLE RAIL

10. BOTH 12'-6" AND 25' LENGTHS OF "W" BEAM GUARDRAIL SECTIONS WILL BE PERMITTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

KENTUCKY DEPARTMENT OF HIGHWAYS

STEEL BEAM GUARDRAIL ("W" BEAM)

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

027

COUNTY OF	ITEM NO.	SHEET NO.
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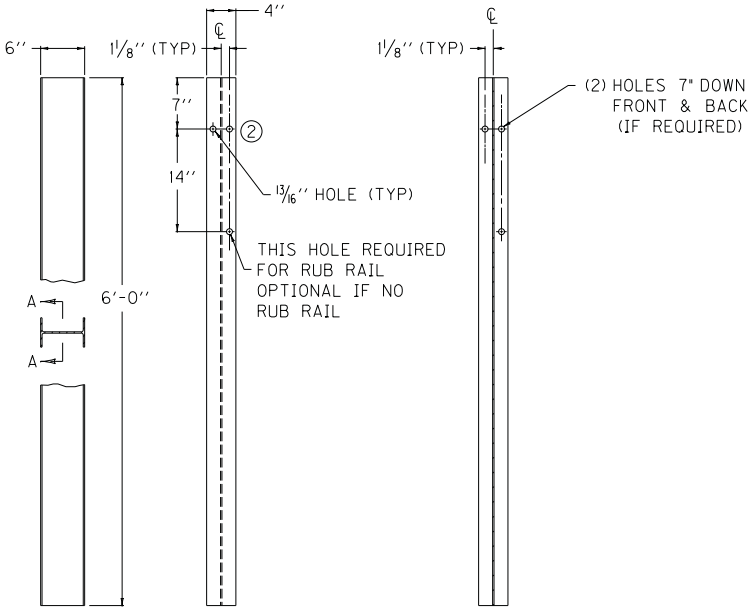


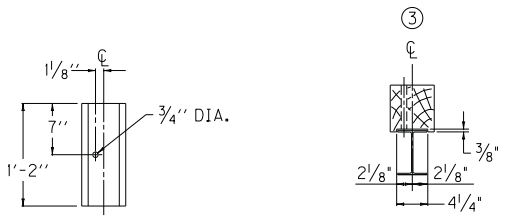
~ W6 X 9.0 STEEL POST ① ~

~ NOTES ~

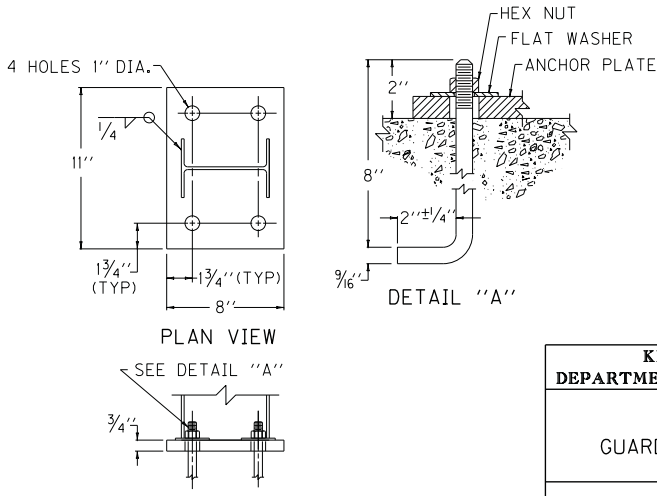
① W6 X 8.5 IS AN ACCEPTABLE ALTERNATE.

② THESE HOLES ARE REQUIRED FOR ATTACHING RAIL.

③ TIMBER OR COMPOSITE BLOCKOUTS MAY BE USED WITH STEEL POST.



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



KENTUCKY DEPARTMENT OF HIGHWAYS

STEEL
GUARDRAIL POSTS

SUBMITTED William S. Stallard DIRECTOR DIVISION OF DESIGN 3-06-18 DATE

028

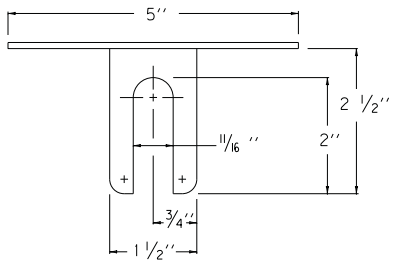
COUNTY OF	ITEM NO.	SHEET NO.

~ NOTES ~

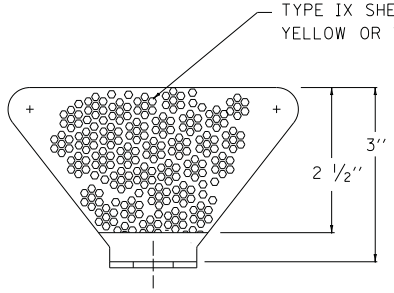
BID ITEMS AND UNIT TO BID

DELINEATOR FOR GUARDRAIL B/W	EACH
DELINEATOR FOR GUARDRAIL M/W	EACH
DELINEATOR FOR GUARDRAIL M/Y	EACH

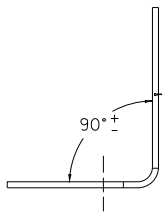
1. DELINEATORS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE EACH AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR ONE COMPLETE INSTALLATION.
2. DELINEATOR SHAPE AND DIMENSIONS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. TYPES OF DELINEATORS PERMITTED SHALL BE FROM THE LIST OF APPROVED MATERIALS.
3. GUARDRAIL DELINEATORS SHALL BE REQUIRED ON ALL GUARDRAIL.
4. DELINEATORS SHALL NOT BE INSTALLED WITHIN THE PAY LIMITS OF THE END TREATMENT.
5. DELINEATORS SHALL BE MANUFACTURED FROM 12 GA. GALVANIZED STEEL.
6. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MANUFACTURER'S TOLERANCES.
7. WHEN CONCRETE BARRIERS EXTEND ACROSS BRIDGE STRUCTURES IN LIEU OF STEEL BEAM GUARDRAIL, DELINEATORS SHALL BE INSTALLED AT SAME VERTICAL ALIGNMENT AS ON THE GUARDRAIL, AND DELINEATORS SHALL COMPLY WITH CURRENT STANDARD DRAWING RBM-020.
8. DELINEATORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



PLAN VIEW

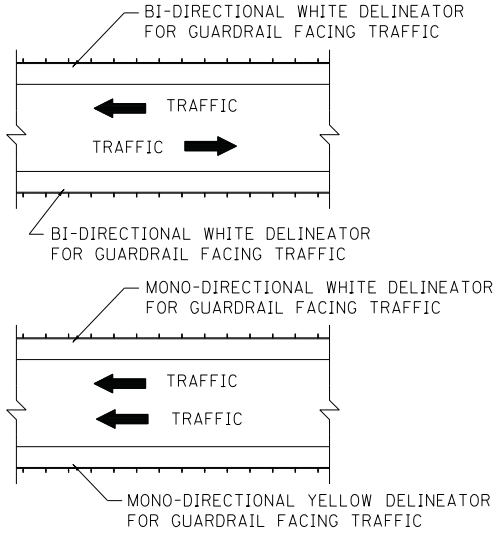


FRONT VIEW

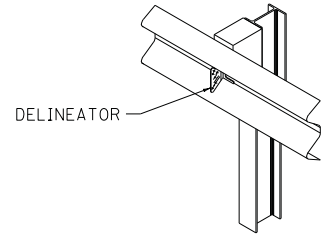


SIDE VIEW

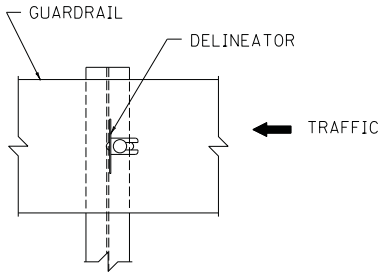
DIMENSIONS SHOWN ARE FOR ONE VERSION OF A WEB-MOUNTED GUARDRAIL DELINEATOR. DELINEATORS WITH ALTERNATE DIMENSIONS MAY BE CONSIDERED FOR INCLUSION ON THE APPROVED PRODUCTS LIST.



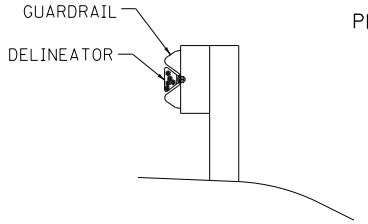
PLACEMENT OF DELINEATORS FOR GUARDRAIL



ISOMETRIC VIEW



FRONT VIEW



SIDE VIEW

APPROXIMATE DELINEATOR SPACING	
TANGENT	100'
CURVE	50'

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

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

KENTUCKY DEPARTMENT OF HIGHWAYS

DELINEATORS FOR GUARDRAIL

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

032

COUNTY OF	ITEM NO.	SHEET NO.
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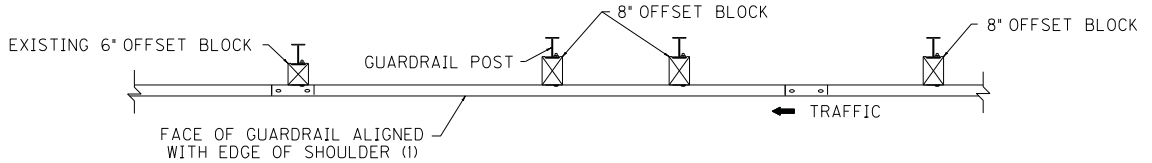
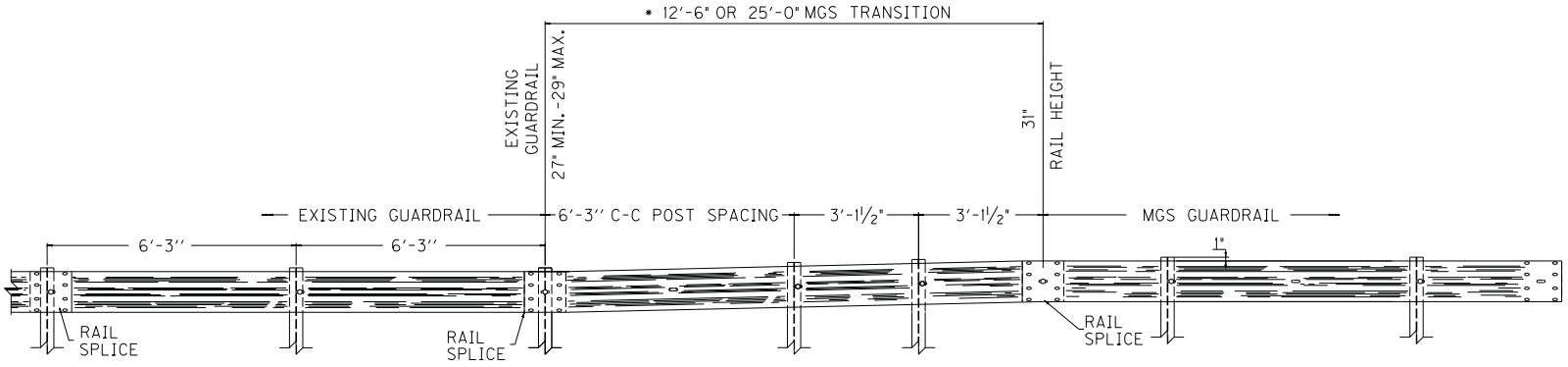


PLAN VIEW

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



ELEVATION VIEW

~ NOTES ~

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

2) MGS TRANSITION FROM EXISTING GUARDRAIL SHALL BE COMPLETED OUTSIDE THE 50 FEET MGS END TERMINAL LIMITS.

KENTUCKY DEPARTMENT OF HIGHWAYS

GUARDRAIL SYSTEM TRANSITION

SUBMITTED William S. Ballard 4-04-18
DIRECTOR DIVISION OF DESIGN DATE

033

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

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

PROJECT WAGE RATES / FEDERAL FUNDED

The contractor shall use the Davis-Bacon Act Wage Determinations for Highway construction that are effective 10 calendar days prior to the letting date. The project wage determinations can be found at the following link.

https://beta.sam.gov/search?index=wd&date_filter_index=0&date_rad_selection=date&wdType=dbra&construction_type=Highway&state=KY&page=1

The Division of Construction Procurement will post the official Wage Determinations for each Letting at https://transportation.ky.gov/Construction-Procurement/Pages under Lettings - Proposal Information - Wage Determinations.

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 Hardin County.

PART IV

INSURANCE

Refer to
Kentucky Standard Specifications for Road and Bridge Construction,
current edition

PART V

BID ITEMS

194222

PROPOSAL BID ITEMS

Report Date 8/29/19

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	4,911.00	TON		$	
0020	00100		ASPHALT SEAL AGGREGATE	45.10	TON		$	
0030	00103		ASPHALT SEAL COAT	5.40	TON		$	
0040	00190		LEVELING & WEDGING PG64-22	6.00	TON		$	
0050	00214		CL3 ASPH BASE 1.00D PG64-22	6,086.00	TON		$	
0060	00216		CL3 ASPH BASE 1.00D PG76-22	2,002.00	TON		$	
0070	00336		CL3 ASPH SURF 0.38A PG76-22	1,000.00	TON		$	
0080	02101		CEM CONC ENT PAVEMENT-8 IN	140.00	SQYD		$	
0090	24970EC		ASPHALT MATERIAL FOR TACK NON-TRACKING	11.80	TON		$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0100	00078		CRUSHED AGGREGATE SIZE NO 2	43.00	TON		$	
0110	01000		PERFORATED PIPE-4 IN	935.00	LF		$	
0120	01010		NON-PERFORATED PIPE-4 IN	18.00	LF		$	
0130	01314		PLUG PIPE	1.00	EACH		$	
0140	01811		STANDARD CURB AND GUTTER MOD	41.00	LF		$	
0150	01885		LIP HEADER CURB	90.00	LF		$	
0160	01904		REMOVE CURB	2,249.00	LF		$	
0170	01917		STANDARD BARRIER MEDIAN TYPE 2	1,534.00	SQYD		$	
0180	01921		STANDARD BARRIER MEDIAN TYPE 4	958.00	SQYD		$	
0190	02159		TEMP DITCH	2,724.00	LF		$	
0200	02160		CLEAN TEMP DITCH	1,363.00	LF		$	
0210	02200		ROADWAY EXCAVATION	8,539.00	CUYD		$	
0220	02242		WATER	98.00	MGAL		$	
0230	02403		REMOVE CONCRETE MASONRY REMOVAL OF CONCRETE FLUME IN MEDIAN	1.70	CUYD		$	
0240	02429		RIGHT-OF-WAY MONUMENT TYPE 1	4.00	EACH		$	
0250	02432		WITNESS POST	4.00	EACH		$	
0260	02483		CHANNEL LINING CLASS II	180.00	TON		$	
0270	02545		CLEARING AND GRUBBING US-31W @ BLACKJACK	1.00	LS		$	
0280	02545		CLEARING AND GRUBBING US-31W @ KY-220	1.00	LS		$	
0290	02545		CLEARING AND GRUBBING US-31W @ KY-434	1.00	LS		$	
0300	02562		TEMPORARY SIGNS	639.00	SQFT		$	
0310	02585		EDGE KEY	167.00	LF		$	
0320	02650		MAINTAIN & CONTROL TRAFFIC US-31W @ BLACKJACK	1.00	LS		$	
0330	02650		MAINTAIN & CONTROL TRAFFIC US-31W @ KY-220	1.00	LS		$	
0340	02650		MAINTAIN & CONTROL TRAFFIC US-31W @ KY-434	1.00	LS		$	
0350	02671		PORTABLE CHANGEABLE MESSAGE SIGN	6.00	EACH		$	

PROPOSAL BID ITEMS

194222

Report Date 8/29/19

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0360	02676		MOBILIZATION FOR MILL & TEXT US-31W @ BLACKJACK	1.00	LS		$	
0370	02676		MOBILIZATION FOR MILL & TEXT US-31W @ KY-220	1.00	LS		$	
0380	02676		MOBILIZATION FOR MILL & TEXT US-31W @ KY-434	1.00	LS		$	
0390	02677		ASPHALT PAVE MILLING & TEXTURING	79.00	TON		$	
0400	02697		EDGELINE RUMBLE STRIPS	150.00	LF		$	
0410	02701		TEMP SILT FENCE	2,724.00	LF		$	
0420	02703		SILT TRAP TYPE A	3.00	EACH		$	
0430	02704		SILT TRAP TYPE B	13.00	EACH		$	
0440	02705		SILT TRAP TYPE C	35.00	EACH		$	
0450	02706		CLEAN SILT TRAP TYPE A	3.00	EACH		$	
0460	02707		CLEAN SILT TRAP TYPE B	13.00	EACH		$	
0470	02708		CLEAN SILT TRAP TYPE C	35.00	EACH		$	
0480	02720		SIDEWALK-4 IN CONCRETE	21.00	SQYD		$	
0490	02726		STAKING US-31W @ BLACKJACK	1.00	LS		$	
0500	02726		STAKING US-31W @ KY-220	1.00	LS		$	
0510	02726		STAKING US-31W @ KY-434	1.00	LS		$	
0520	02775		ARROW PANEL	6.00	EACH		$	
0530	03290		SIDEWALK RAMP TYPE 4	1.00	EACH		$	
0540	05950		EROSION CONTROL BLANKET	3,079.00	SQYD		$	
0550	05952		TEMP MULCH	13,665.00	SQYD		$	
0560	05953		TEMP SEEDING AND PROTECTION	10,249.00	SQYD		$	
0570	05963		INITIAL FERTILIZER	.72	TON		$	
0580	05964		MAINTENANCE FERTILIZER	1.20	TON		$	
0590	05985		SEEDING AND PROTECTION	20,214.00	SQYD		$	
0600	05989		SPECIAL SEEDING CROWN VETCH	957.00	SQYD		$	
0610	05992		AGRICULTURAL LIMESTONE	14.46	TON		$	
0620	06530		PAVE STRIPING REMOVAL-4 IN	5,083.00	LF		$	
0630	06568		PAVE MARKING-THERMO STOP BAR-24IN	89.00	LF		$	
0640	06569		PAVE MARKING-THERMO CROSS-HATCH	433.00	SQFT		$	
0650	06574		PAVE MARKING-THERMO CURV ARROW	53.00	EACH		$	
0660	06576		PAVE MARKING-THERMO ONLY	1.00	EACH		$	
0670	06598		PAVEMENT MARKING REMOVAL	759.00	SQFT		$	
0680	10020NS		FUEL ADJUSTMENT	14,146.00	DOLL	$1.00	$	$14,146.00
0690	10030NS		ASPHALT ADJUSTMENT	35,530.00	DOLL	$1.00	$	$35,530.00
0700	20550ND		SAWCUT PAVEMENT	5,952.00	LF		$	
0710	21289ED		LONGITUDINAL EDGE KEY	8,033.00	LF		$	
0720	22861EN		HIGH STRENGTH GEOTEXTILE FABRIC TY V	354.00	SQYD		$	
0730	23158ES505		DETECTABLE WARNINGS	20.00	SQFT		$	
0740	23274EN11F		TURF REINFORCEMENT MAT 1	690.00	SQYD		$	
0750	24489EC		INLAID PAVEMENT MARKER	158.00	EACH		$	
0760	24679ED		PAVE MARK THERMO CHEVRON	547.00	SQFT		$	
0770	24814EC		PIPELINE INSPECTION	2,581.00	LF		$	
0780	24955ED		REMOVE SIGNAL EQUIPMENT	4.00	EACH		$	
0790	24995EC		PAVE STRIPING-SPRAY THERMO-6 IN W	7,574.00	LF		$	
0800	24996EC		PAVE STRIPING-SPRAY THERMO-6 IN Y	8,356.00	LF		$	

194222

PROPOSAL BID ITEMS

Report Date 8/29/19

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0810	00440		ENTRANCE PIPE-15 IN	71.00	LF		$	
0820	00461		CULVERT PIPE-15 IN	390.00	LF		$	
0830	00462		CULVERT PIPE-18 IN	286.00	LF		$	
0840	00521		STORM SEWER PIPE-15 IN	1,147.00	LF		$	
0850	00522		STORM SEWER PIPE-18 IN	736.00	LF		$	
0860	00524		STORM SEWER PIPE-24 IN	19.00	LF		$	
0870	01204		PIPE CULVERT HEADWALL-18 IN	1.00	EACH		$	
0880	01310		REMOVE PIPE	1,120.00	LF		$	
0890	01432		SLOPED BOX OUTLET TYPE 1-15 IN	9.00	EACH		$	
0900	01433		SLOPED BOX OUTLET TYPE 1-18 IN	2.00	EACH		$	
0910	01434		SLOPED BOX OUTLET TYPE 1-24 IN	1.00	EACH		$	
0920	01456		CURB BOX INLET TYPE A	5.00	EACH		$	
0930	01487		CURB BOX INLET TYPE F	15.00	EACH		$	
0940	01511		DROP BOX INLET TYPE 5D	8.00	EACH		$	
0950	01584		CAP DROP BOX INLET	1.00	EACH		$	
0960	01585		REMOVE DROP BOX INLET	2.00	EACH		$	
0970	01650		JUNCTION BOX	1.00	EACH		$	
0980	01718		REMOVE INLET	4.00	EACH		$	
0990	02600		FABRIC GEOTEXTILE TY IV FOR PIPE	4,309.00	SQYD	$2.00	$	$8,618.00
1000	02625		REMOVE HEADWALL	4.00	EACH		$	
1010	02690		SAFELOADING	4.30	CUYD		$	
1020	23822EC		CORED HOLE DRAINAGE BOX CON-15 IN	4.00	EACH		$	
1030	23952EC		DRAINAGE JUNCTION BOX TY B	1.00	EACH		$	

Section: 0004 - GUARDRAIL

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1040	02351		GUARDRAIL-STEEL W BEAM-S FACE	475.00	LF		$	
1050	02360		GUARDRAIL TERMINAL SECTION NO 1	1.00	EACH		$	
1060	02369		GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH		$	
1070	02381		REMOVE GUARDRAIL	495.00	LF		$	

Section: 0005 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1080	02569		DEMOBILIZATION	1.00	LS		$	