



CALL NO. 103

CONTRACT ID. 201034

WHITLEY COUNTY

FED/STATE PROJECT NUMBER NHPP 0751(090)

DESCRIPTION I-75

WORK TYPE ASPHALT REHAB INTERSTATE/PARKWAY

PRIMARY COMPLETION DATE 9/15/2021

LETTING DATE: November 20,2020

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 am EASTERN STANDARD TIME November 20,2020. Bids will be publicly announced at 10:00 am EASTERN STANDARD TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

DBE CERTIFICATION REQUIRED - 15%

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

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PART I
SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 11

CONTRACT ID - 201034

NHPP 0751(090)

COUNTY - WHITLEY

PCN - DE11800752034

NHPP 0751(090)

I-75 (MP 0.000) ASPHALT PAVEMENT REHAB ON I-75 FROM MP 0.000 TO MP 11.120 IN WHITLEY COUNTY (MP 11.120), A DISTANCE OF 011.12 MILES.ASPHALT REHAB INTERSTATE/PARKWAY SYP NO. 11-20015.00.
GEOGRAPHIC COORDINATES LATITUDE 83:50:00.00 LONGITUDE 36:57:00.00

COMPLETION DATE(S):

COMPLETED BY 09/15/2021

APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

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

BID SUBMITTAL

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

JOINT VENTURE BIDDING

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

UNDERGROUND FACILITY DAMAGE PROTECTION

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

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

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

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

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

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

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

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

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

HARDWOOD REMOVAL RESTRICTIONS

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

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

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

ACCESS TO RECORDS

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

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

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

April 30, 2018

FEDERAL CONTRACT NOTES

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

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

CIVIL RIGHTS ACT OF 1964

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

NOTICE TO ALL BIDDERS

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

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

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

SECOND TIER SUBCONTRACTS

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

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

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

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

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

DBE GOAL

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

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

OBLIGATION OF CONTRACTORS

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

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

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

CERTIFICATION OF CONTRACT GOAL

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

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

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

DBE PARTICIPATION PLAN

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

The DBE Participation Plan shall include the following:

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

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

UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

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

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

CONSIDERATION OF GOOD FAITH EFFORTS REQUESTS

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

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

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

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

FAILURE TO MEET GOOD FAITH REQUIREMENT

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

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

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

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

SANCTIONS FOR FAILURE TO MEET DBE REQUIREMENTS OF THE PROJECT

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

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

PROMPT PAYMENT

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

CONTRACTOR REPORTING

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

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

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

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

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

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

DEFAULT OR DECERTIFICATION OF THE DBE

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

PROHIBITION ON TELECOMMUNICATIONS EQUIPMENT OR SERVICES

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

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

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

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

SECTION 7 is expanded by the following new Article:

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

Pursuant to Title 46CFR Part 381, the Contractor agrees

- To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

- To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph 1 of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

- To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

ASPHALT MIXTURE

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

DGA BASE

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

DGA BASE FOR SHOULDERS

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

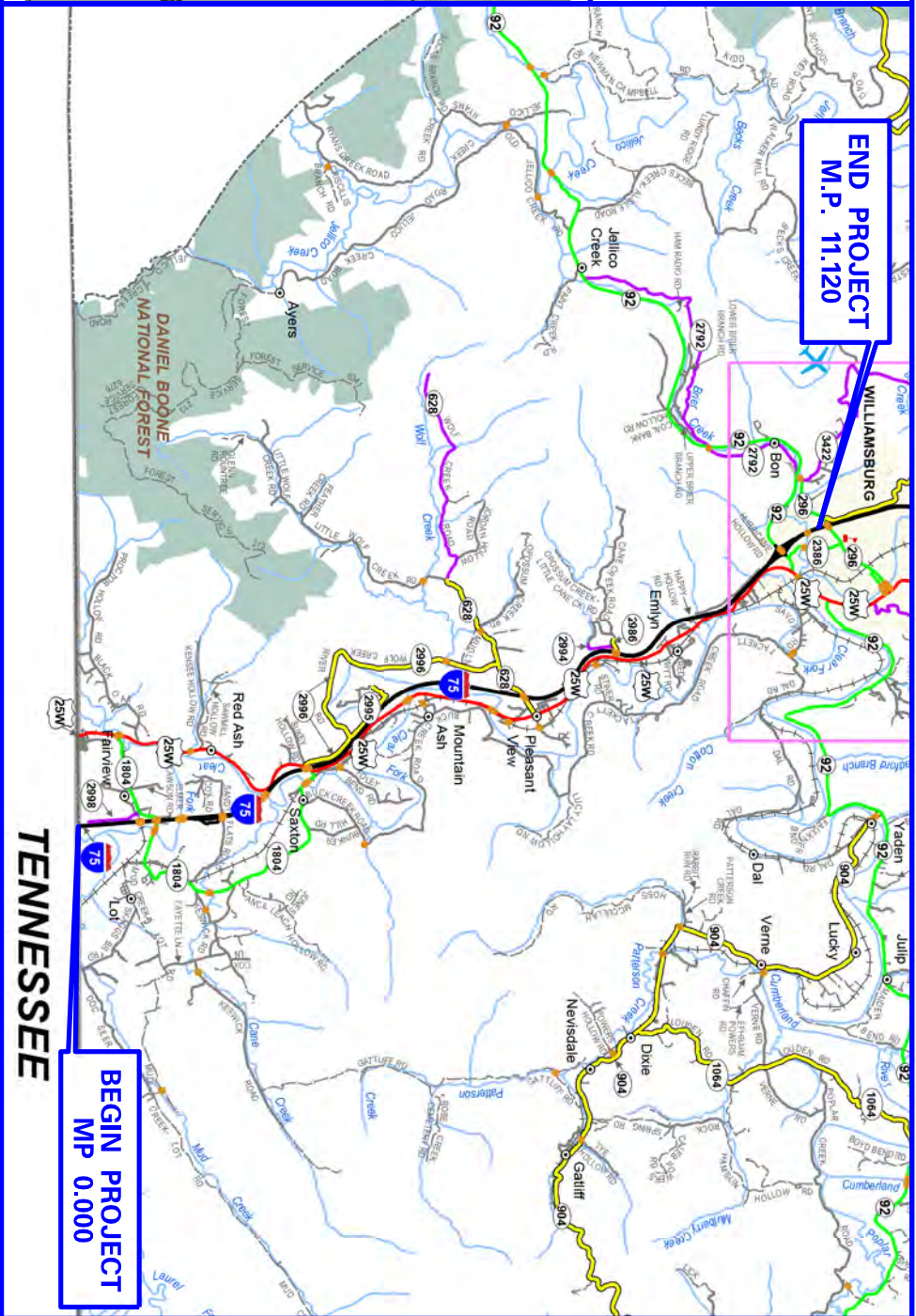
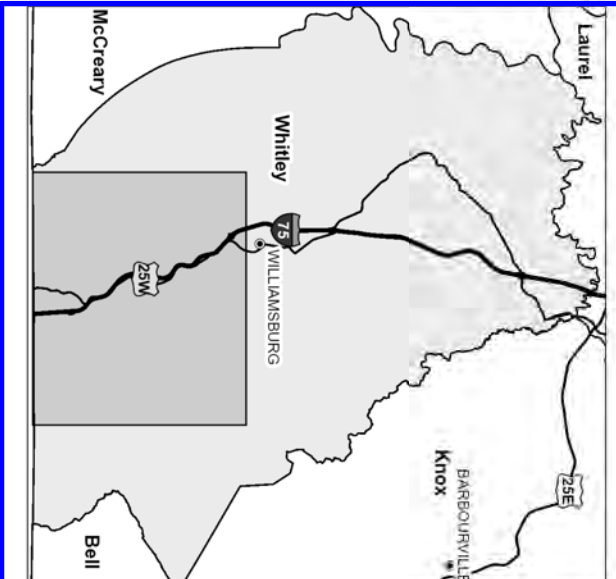
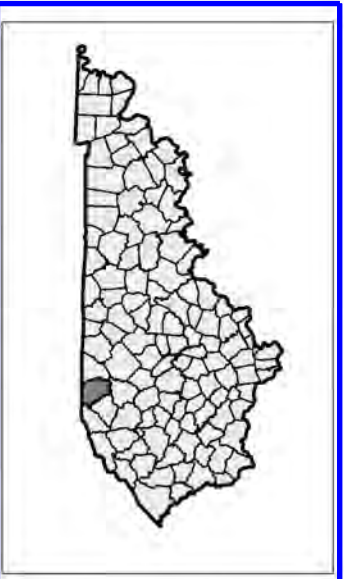
Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

INCIDENTAL SURFACING

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

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.



PROJECT NUMBER: FD52 118 0075 000-012, NHPP 0751 (090)

ITEM NUMBER: 11-20015 **LETTING DATE:** NOVEMBER 20, 2020

RECOMMENDED BY: ANDRE JOHANNES, P.E. **DATE:**

Project Manager

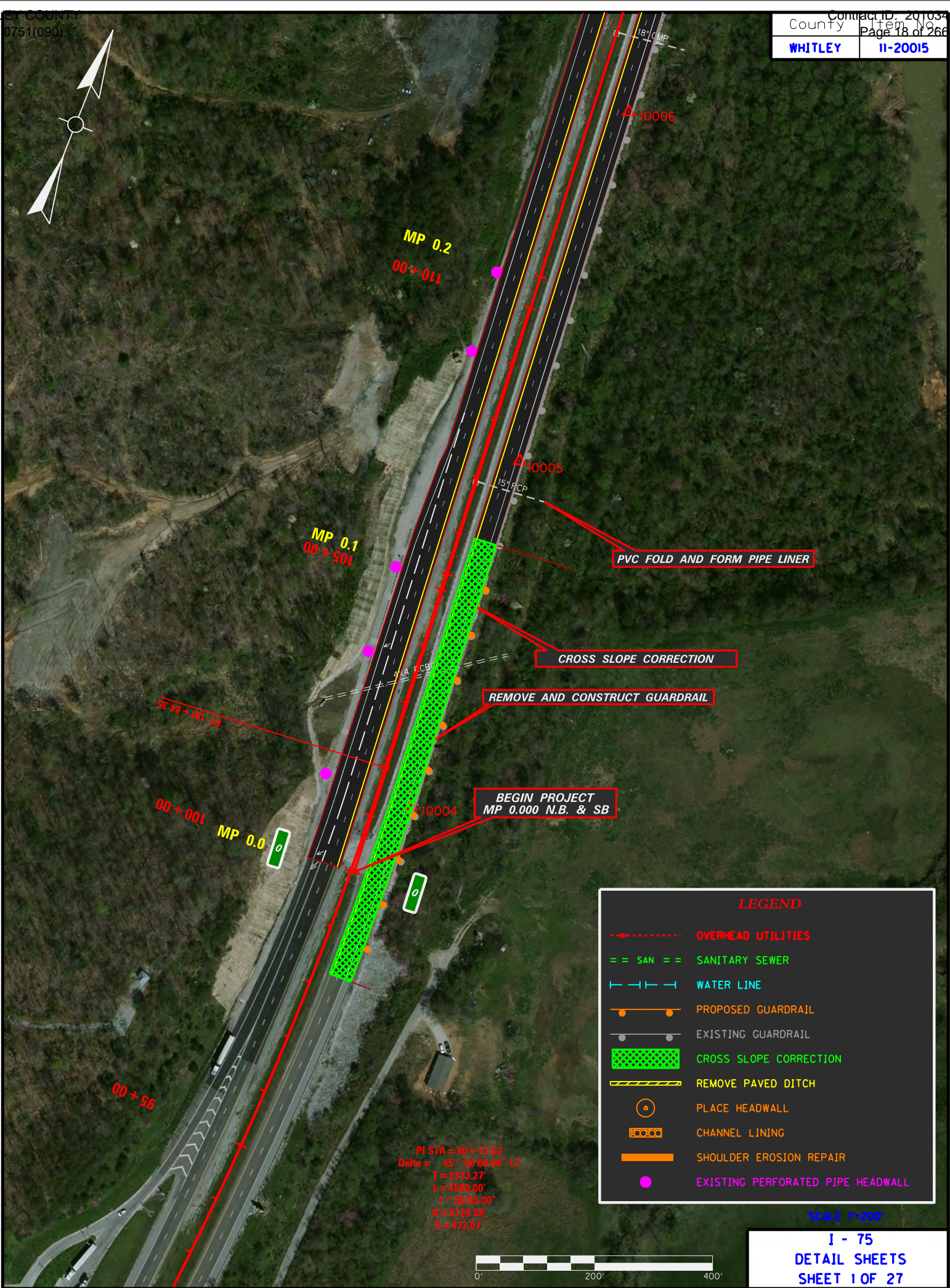
PLAN APPROVED BY: **DATE:**

State Highway Engineer

FHWA APPROVED BY: **DATE:**



1 INDR Circle, U.S. 460
Franklin, TN 37068
615-253-5800



95+98 + 101 LB

00+00

MP 0.0

MP 0.1
00+50

MP 0.2
00+01

18' CMP

10006

15' FCP

10005

15' FCB

10004

95+00

PI STA = 80 + 57.62
 Delta = 45° 00' 00.00" LT
 T = 2373.27
 L = 4500.00'
 1° 00' 00.00"
 R = 5129.58
 E = 472.07

PVC FOLD AND FORM PIPE LINER

CROSS SLOPE CORRECTION

REMOVE AND CONSTRUCT GUARDRAIL

BEGIN PROJECT
MP 0.000 N.B. & SB

| LEGEND | |
|--------|-----------------------------------|
| | OVERHEAD UTILITIES |
| | SANITARY SEWER |
| | WATER LINE |
| | PROPOSED GUARDRAIL |
| | EXISTING GUARDRAIL |
| | CROSS SLOPE CORRECTION |
| | REMOVE PAVED DITCH |
| | PLACE HEADWALL |
| | CHANNEL LINING |
| | SHOULDER EROSION REPAIR |
| | EXISTING PERFORATED PIPE HEADWALL |

SCALE 1"=200'

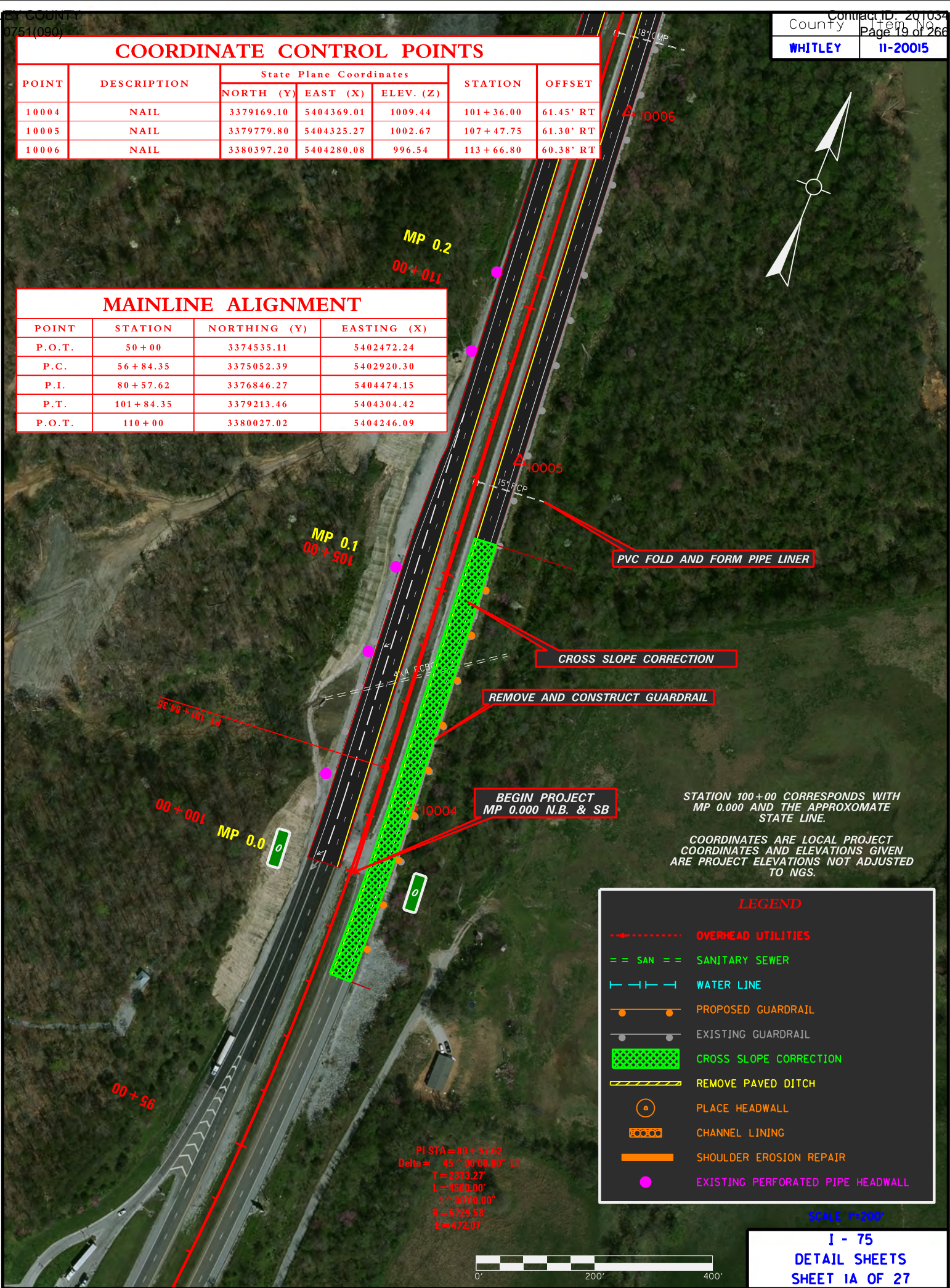


COORDINATE CONTROL POINTS

| POINT | DESCRIPTION | State Plane Coordinates | | | STATION | OFFSET |
|-------|-------------|-------------------------|------------|-----------|-----------|-----------|
| | | NORTH (Y) | EAST (X) | ELEV. (Z) | | |
| 10004 | NAIL | 3379169.10 | 5404369.01 | 1009.44 | 101+36.00 | 61.45' RT |
| 10005 | NAIL | 3379779.80 | 5404325.27 | 1002.67 | 107+47.75 | 61.30' RT |
| 10006 | NAIL | 3380397.20 | 5404280.08 | 996.54 | 113+66.80 | 60.38' RT |

MAINLINE ALIGNMENT

| POINT | STATION | NORTHING (Y) | EASTING (X) |
|--------|-----------|--------------|-------------|
| P.O.T. | 50+00 | 3374535.11 | 5402472.24 |
| P.C. | 56+84.35 | 3375052.39 | 5402920.30 |
| P.I. | 80+57.62 | 3376846.27 | 5404474.15 |
| P.T. | 101+84.35 | 3379213.46 | 5404304.42 |
| P.O.T. | 110+00 | 3380027.02 | 5404246.09 |



STATION 100+00 CORRESPONDS WITH MP 0.000 AND THE APPROXIMATE STATE LINE.

COORDINATES ARE LOCAL PROJECT COORDINATES AND ELEVATIONS GIVEN ARE PROJECT ELEVATIONS NOT ADJUSTED TO NGS.

LEGEND

- - - - - OVERHEAD UTILITIES
- = = SAN = SANITARY SEWER
- | - | - | - | WATER LINE
- PROPOSED GUARDRAIL
- EXISTING GUARDRAIL
- CROSS SLOPE CORRECTION
- REMOVE PAVED DITCH
- PLACE HEADWALL
- CHANNEL LINING
- SHOULDER EROSION REPAIR
- EXISTING PERFORATED PIPE HEADWALL

PI STA = 80+57.62
Delta = 45° 00' 00.00" LT
T = 2373.27
L = 4500.00'
R = 5129.58
E = 472.07

SCALE 1"=200'





REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 24" PIPE & 1-24" PIPE CULVERT HEADWALL

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL

PVC FOLD AND FORM PIPE LINER

REPLACE GUARDRAIL

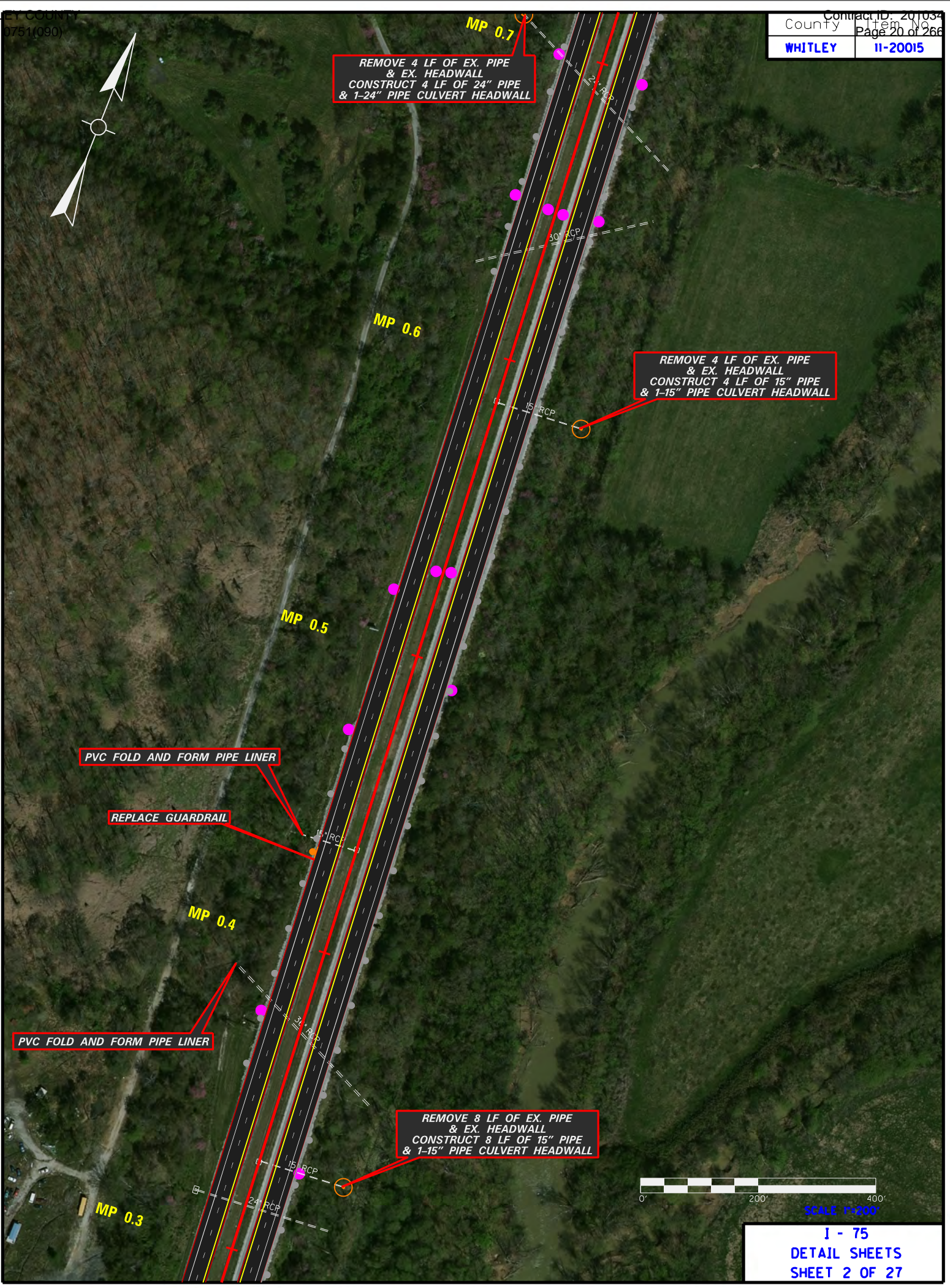
PVC FOLD AND FORM PIPE LINER

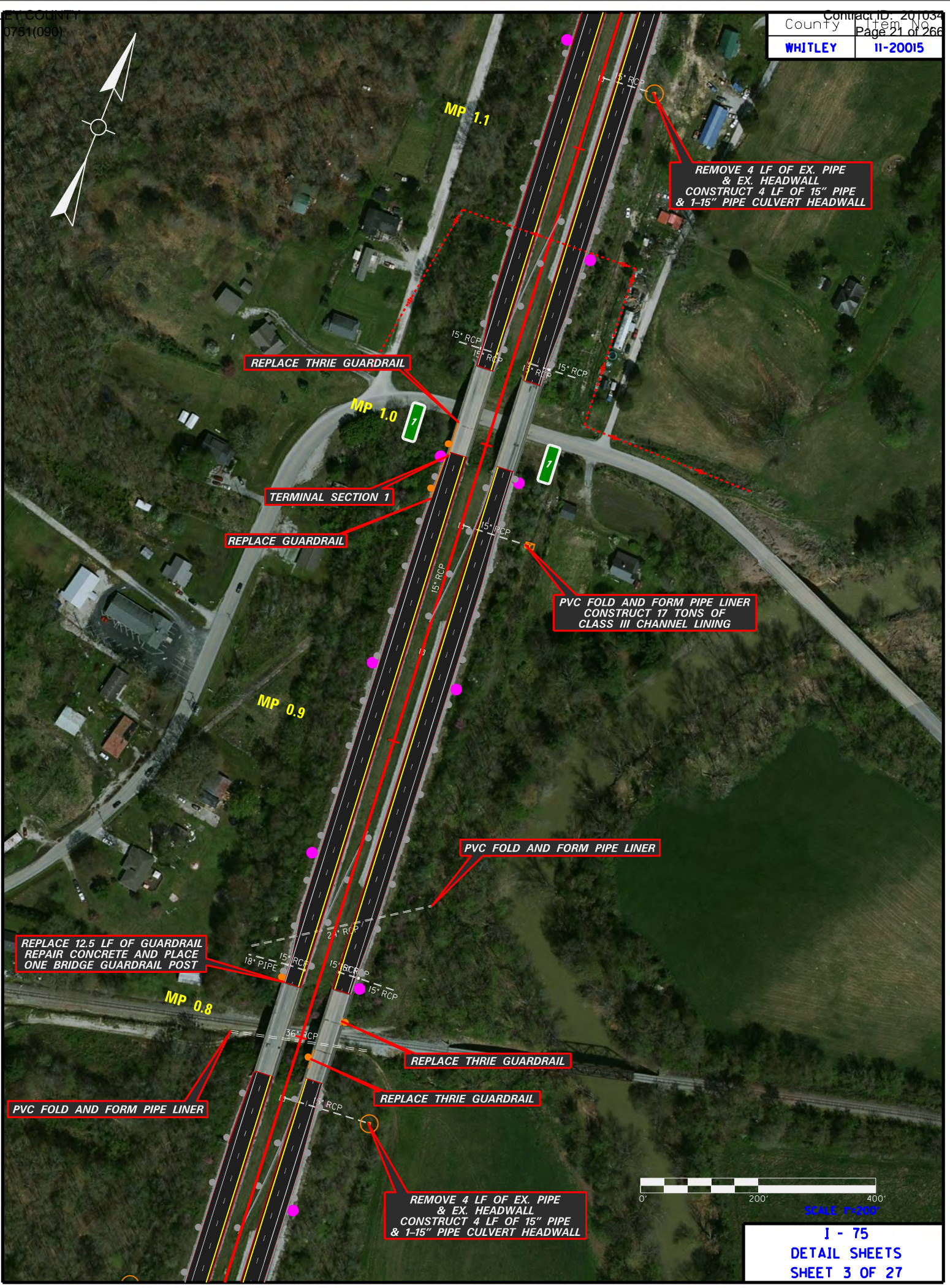
REMOVE 8 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 8 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL



SCALE 1"=200'

1 - 75
DETAIL SHEETS
SHEET 2 OF 27





REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL

REPLACE THRIE GUARDRAIL

TERMINAL SECTION 1

REPLACE GUARDRAIL

PVC FOLD AND FORM PIPE LINER
CONSTRUCT 17 TONS OF
CLASS III CHANNEL LINING

PVC FOLD AND FORM PIPE LINER

REPLACE 12.5 LF OF GUARDRAIL
REPAIR CONCRETE AND PLACE
ONE BRIDGE GUARDRAIL POST

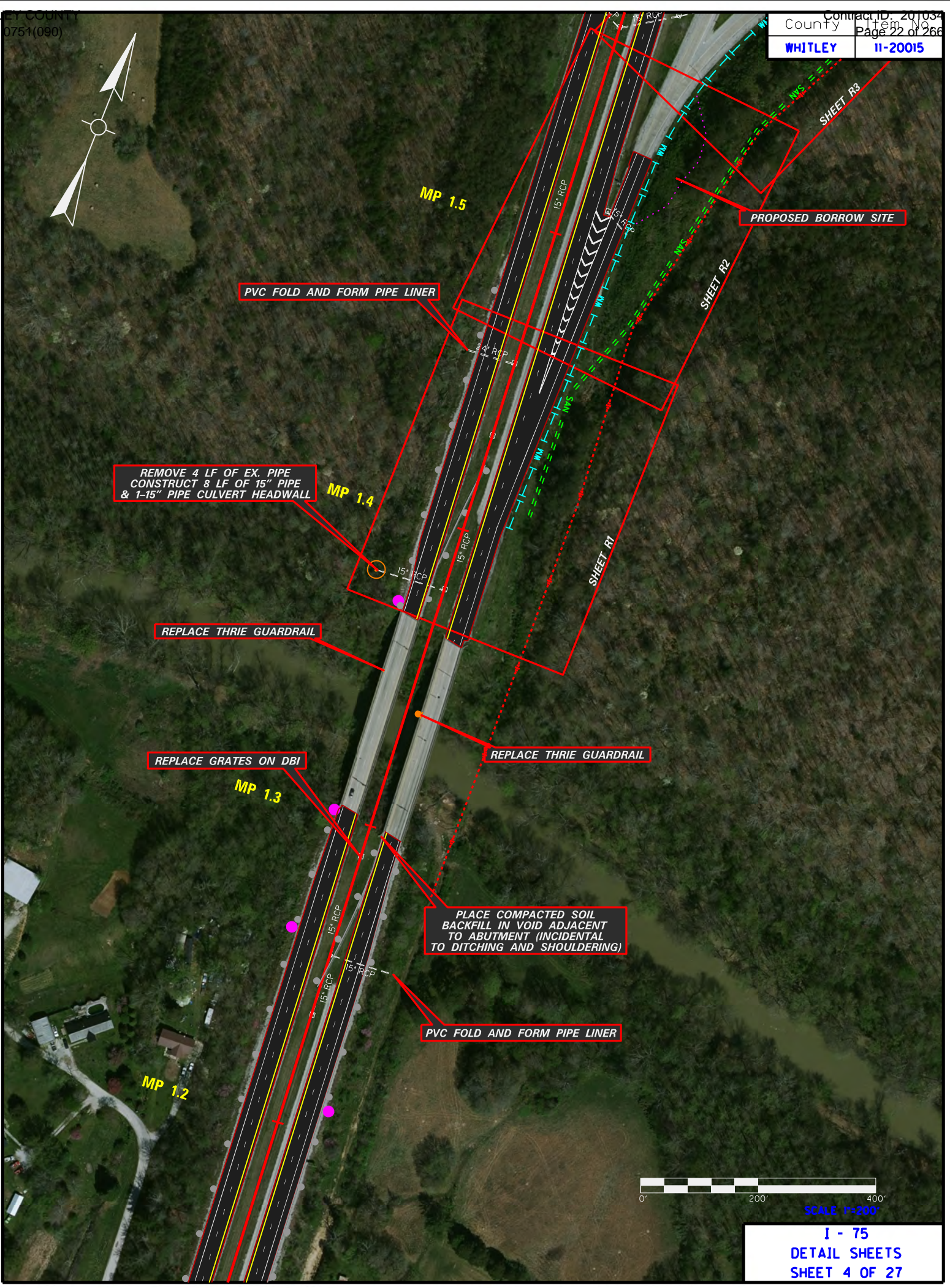
REPLACE THRIE GUARDRAIL

REPLACE THRIE GUARDRAIL

REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL



SCALE 1"=200'



SCALE 1"=200'



PVC FOLD AND FORM PIPE LINER

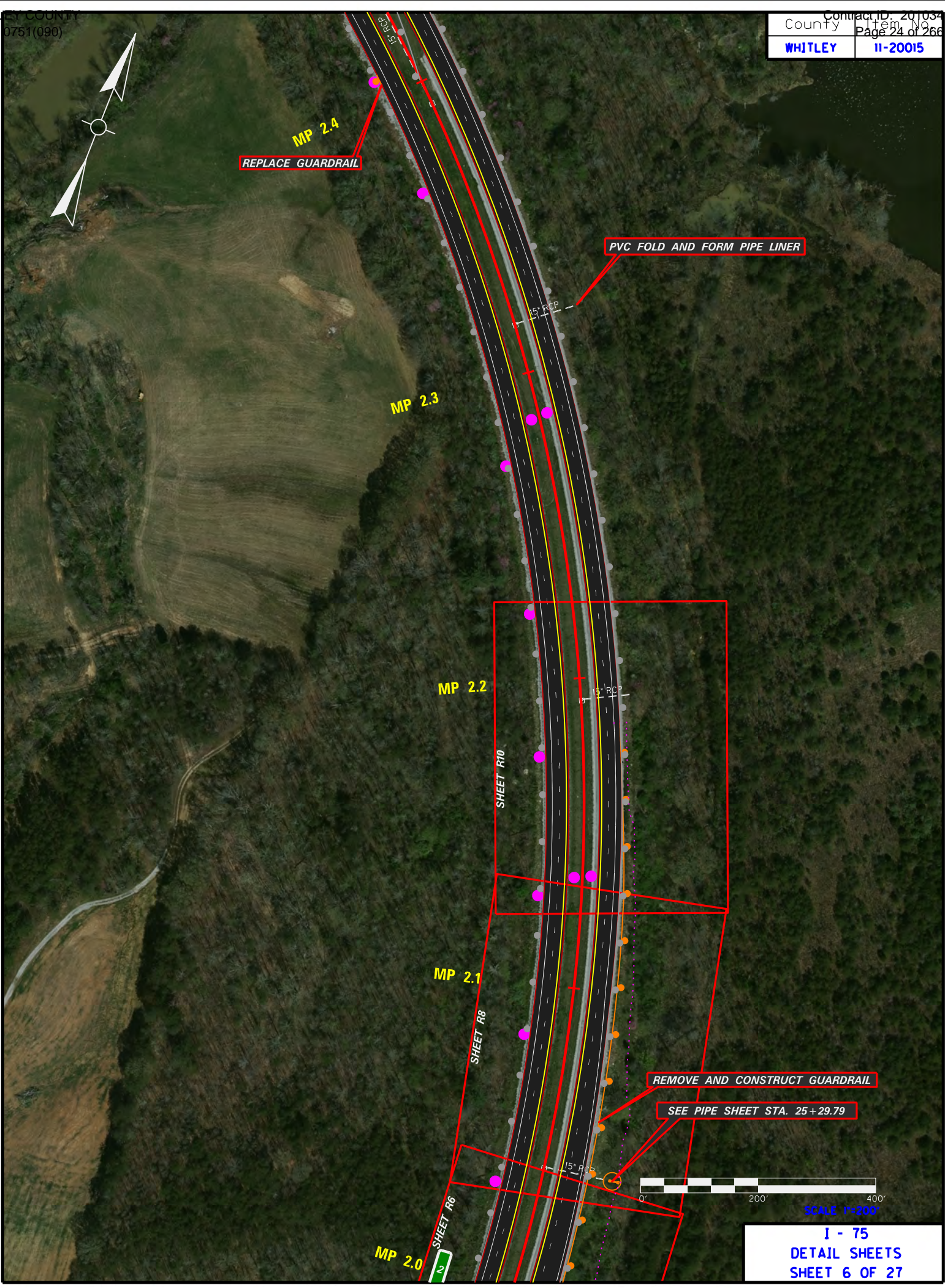
REMOVE AND CONSTRUCT GUARDRAIL

SEE PIPE SHEET STA. 21+78.74

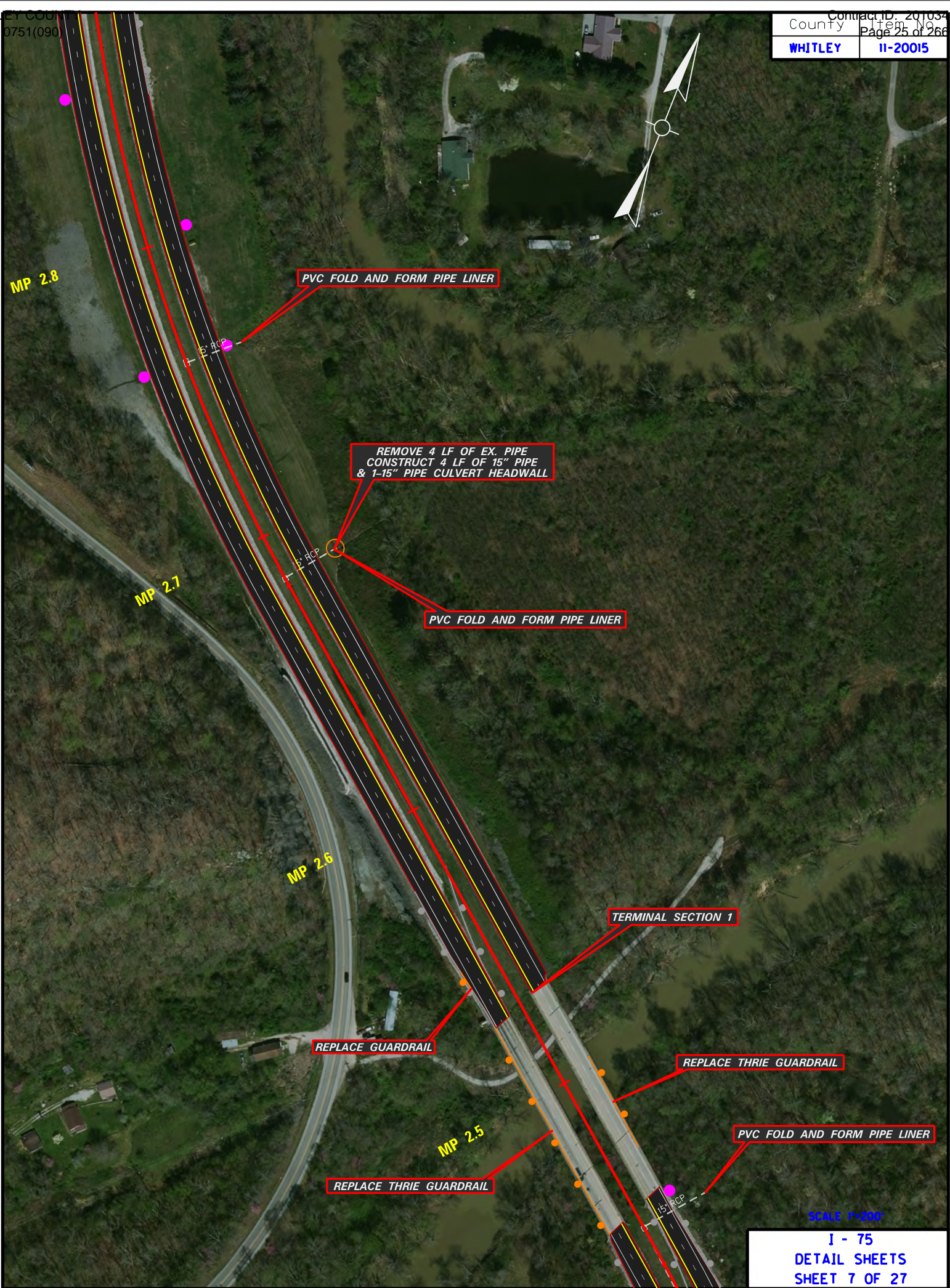


SCALE 1"=200'

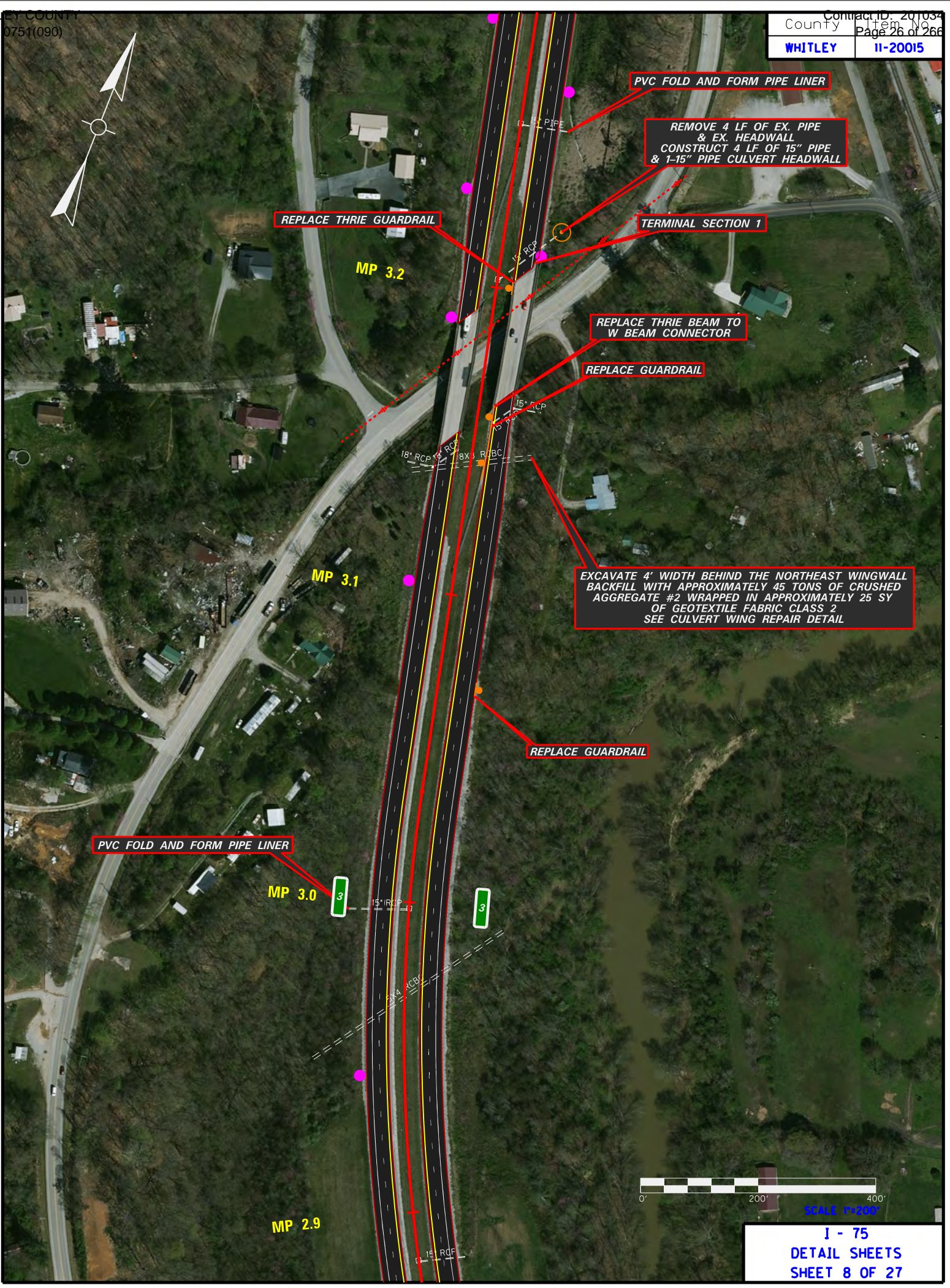
1 - 75
DETAIL SHEETS
SHEET 5 OF 27



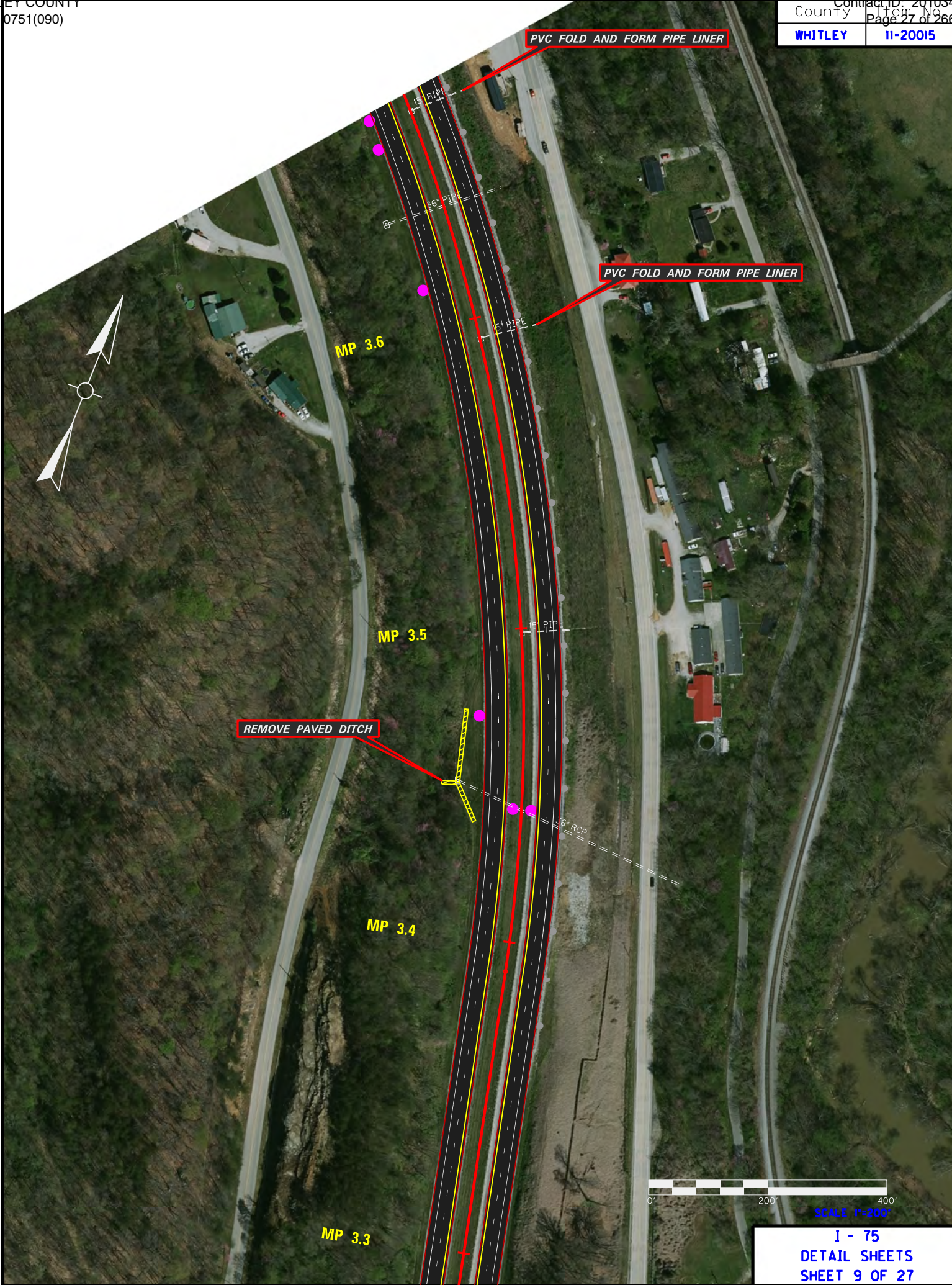
1 - 75
DETAIL SHEETS
SHEET 6 OF 27



SCALE 1"=200'



SCALE 1"=200'



SCALE 1"=200'
**1 - 75
DETAIL SHEETS
SHEET 9 OF 27**

**ITS EQUIPMENT
DO NOT DISTURB**

**REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL**



MP 4.0 4

MP 4.0 4

MP 3.9

MP 3.8

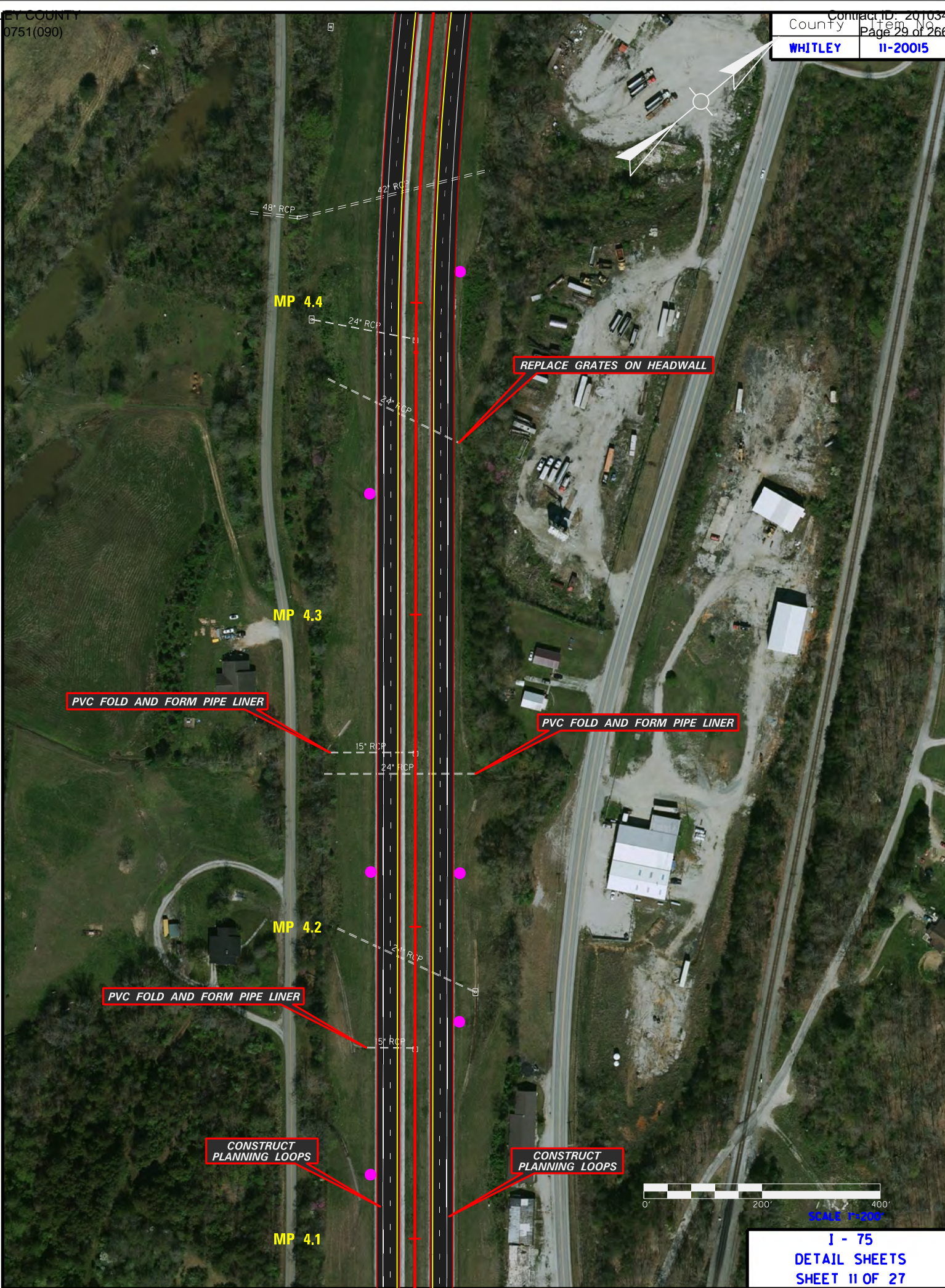
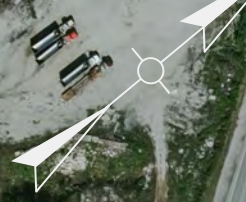
MP 3.7

15" RCP

15" CMP



SCALE 1"=200'



PVC FOLD AND FORM PIPE LINER

REPLACE GRATES ON HEADWALL

PVC FOLD AND FORM PIPE LINER

PVC FOLD AND FORM PIPE LINER

CONSTRUCT PLANNING LOOPS

CONSTRUCT PLANNING LOOPS



SCALE 1"=200'



PVC FOLD AND FORM PIPE LINER

MP 4.8

MP 4.7

MP 4.6

MP 4.5

15' RCP

15' RCP

15' RCP



SCALE 1"=200'
I - 75
DETAIL SHEETS
SHEET 12 OF 27



MP 5.2

PVC FOLD AND FORM PIPE LINER

MP 5.1

REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL

PVC FOLD AND FORM PIPE LINER

MP 5.0

5

5

MP 4.9



SCALE 1"=200'

I - 75
DETAIL SHEETS
SHEET 13 OF 27



PVC FOLD AND FORM PIPE LINER

**REMOVE 4 LF OF EX. PIPE
CONSTRUCT 8 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL**

MP 5.6

18" RCP
18" RCP
18" RCP

TERMINAL SECTION 1

PVC FOLD AND FORM PIPE LINER

**REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL**

MP 5.5

15" RCP

**REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL**

15" RCP

MP 5.4

PVC FOLD AND FORM PIPE LINER

MP 5.3

15" RCP



SCALE 1"=200'



MP 6.0 6

6

REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL

PVC FOLD AND FORM PIPE LINER

PVC FOLD AND FORM PIPE LINER
CONSTRUCT 17 TONS OF
CLASS III CHANNEL LINING

MP 5.9

15' RCP

MP 5.8

15' RCP

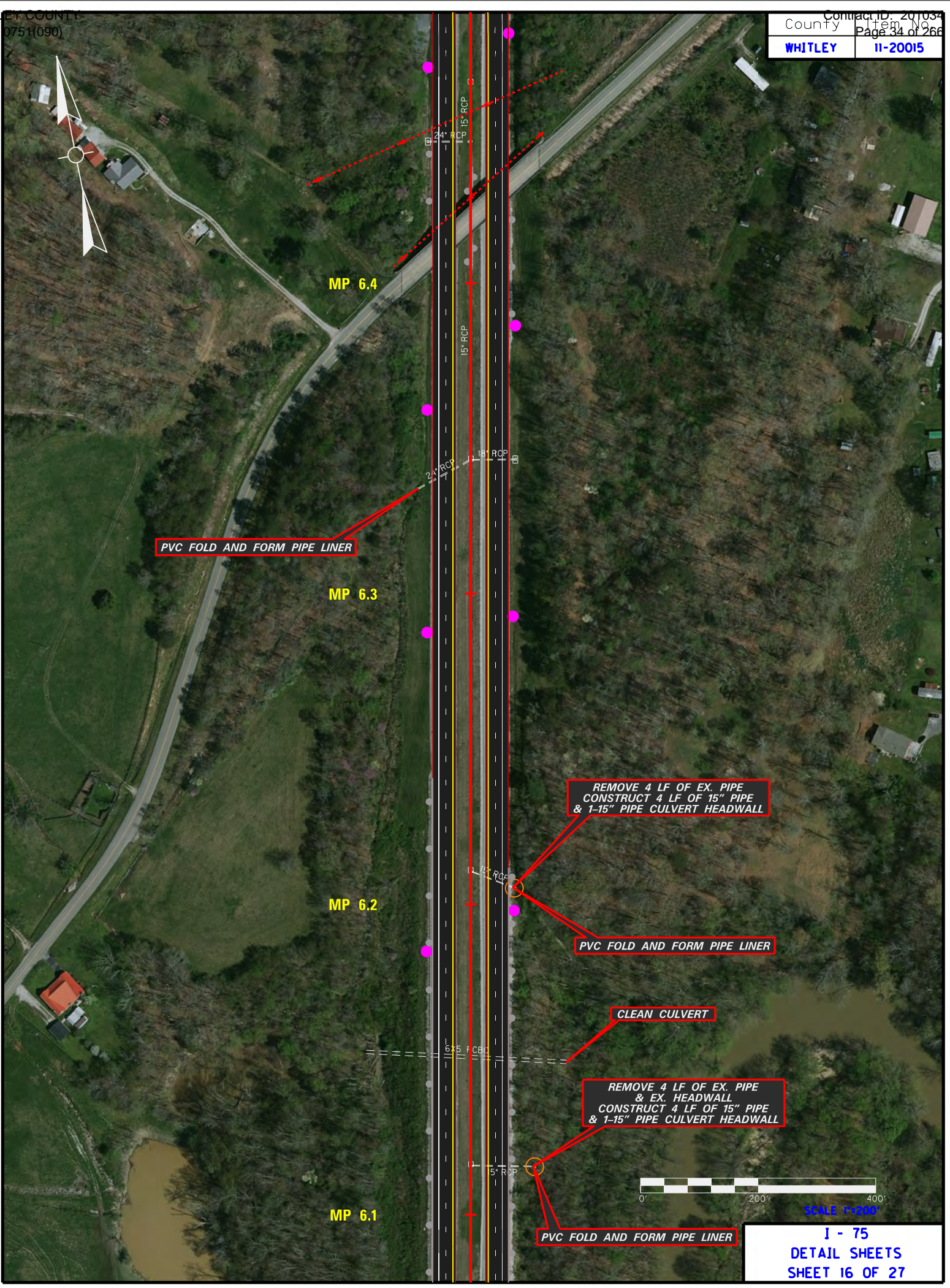
PVC FOLD AND FORM PIPE LINER
CONSTRUCT 17 TONS OF
CLASS III CHANNEL LINING

REPLACE GUARDRAIL

MP 5.7

SCALE 1"=200'

1 - 75
DETAIL SHEETS
SHEET 15 OF 27



MP 6.4

MP 6.3

MP 6.2

MP 6.1

PVC FOLD AND FORM PIPE LINER

REMOVE 4 LF OF EX. PIPE
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL

PVC FOLD AND FORM PIPE LINER

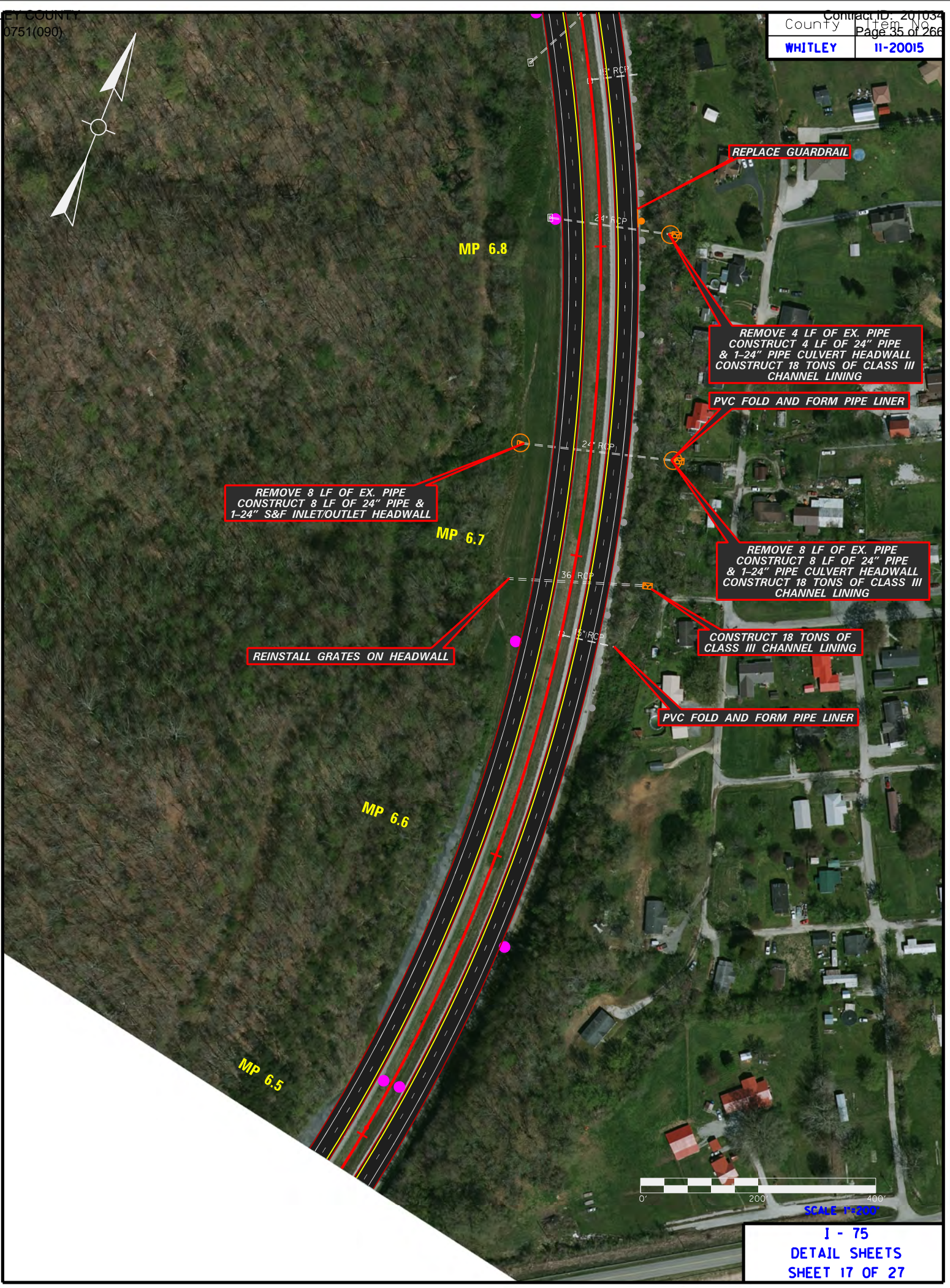
CLEAN CULVERT

REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL

PVC FOLD AND FORM PIPE LINER



SCALE 1"=200'



REMOVE 8 LF OF EX. PIPE
CONSTRUCT 8 LF OF 24" PIPE &
1-24" S&F INLET/OUTLET HEADWALL

REMOVE 4 LF OF EX. PIPE
CONSTRUCT 4 LF OF 24" PIPE
& 1-24" PIPE CULVERT HEADWALL
CONSTRUCT 18 TONS OF CLASS III
CHANNEL LINING

PVC FOLD AND FORM PIPE LINER

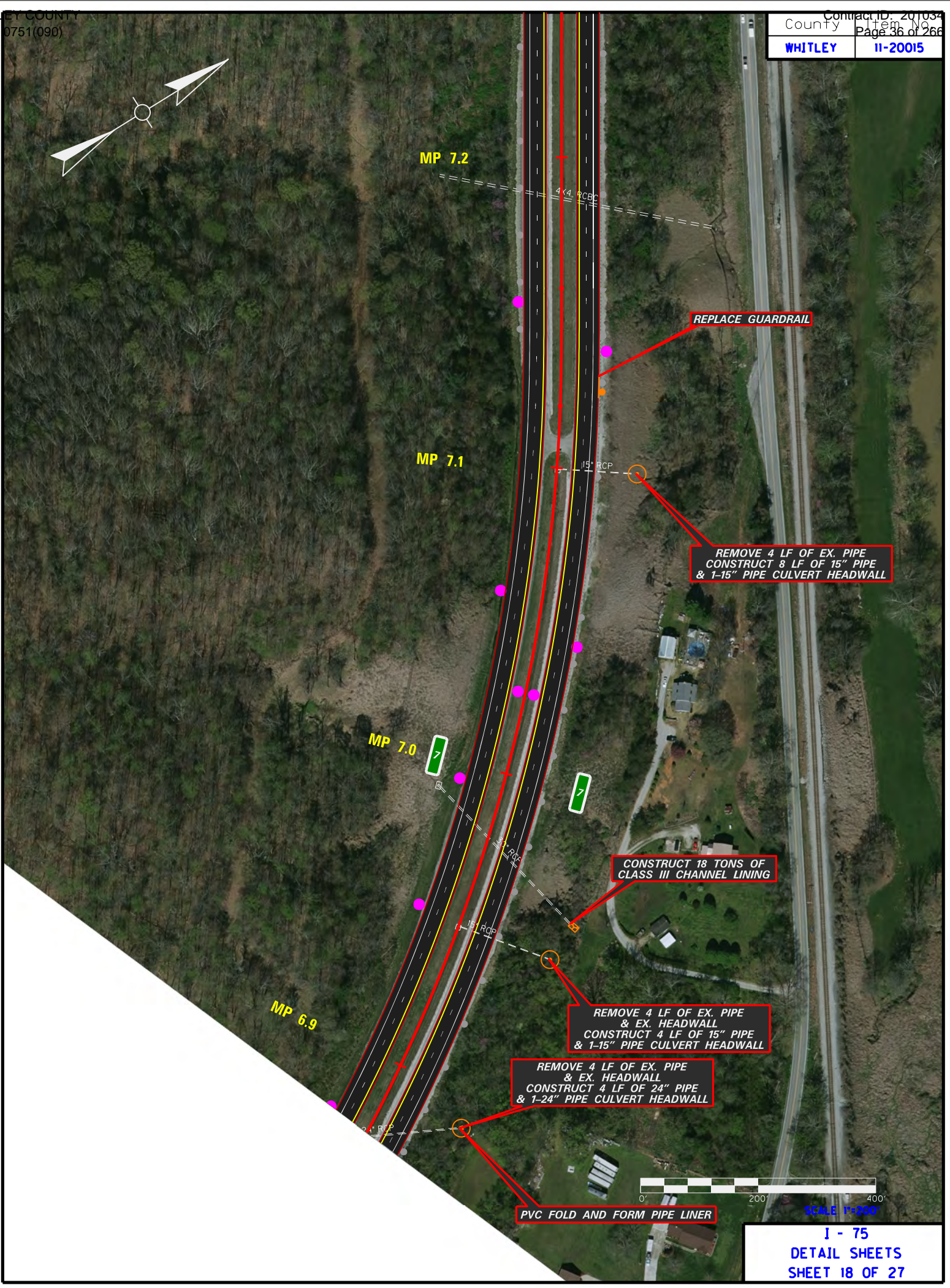
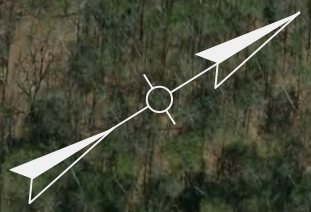
REMOVE 8 LF OF EX. PIPE
CONSTRUCT 8 LF OF 24" PIPE
& 1-24" PIPE CULVERT HEADWALL
CONSTRUCT 18 TONS OF CLASS III
CHANNEL LINING

CONSTRUCT 18 TONS OF
CLASS III CHANNEL LINING

PVC FOLD AND FORM PIPE LINER

REINSTALL GRATES ON HEADWALL





MP 7.2

MP 7.1

MP 7.0

MP 6.9

REPLACE GUARDRAIL

**REMOVE 4 LF OF EX. PIPE
CONSTRUCT 8 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL**

**CONSTRUCT 18 TONS OF
CLASS III CHANNEL LINING**

**REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL**

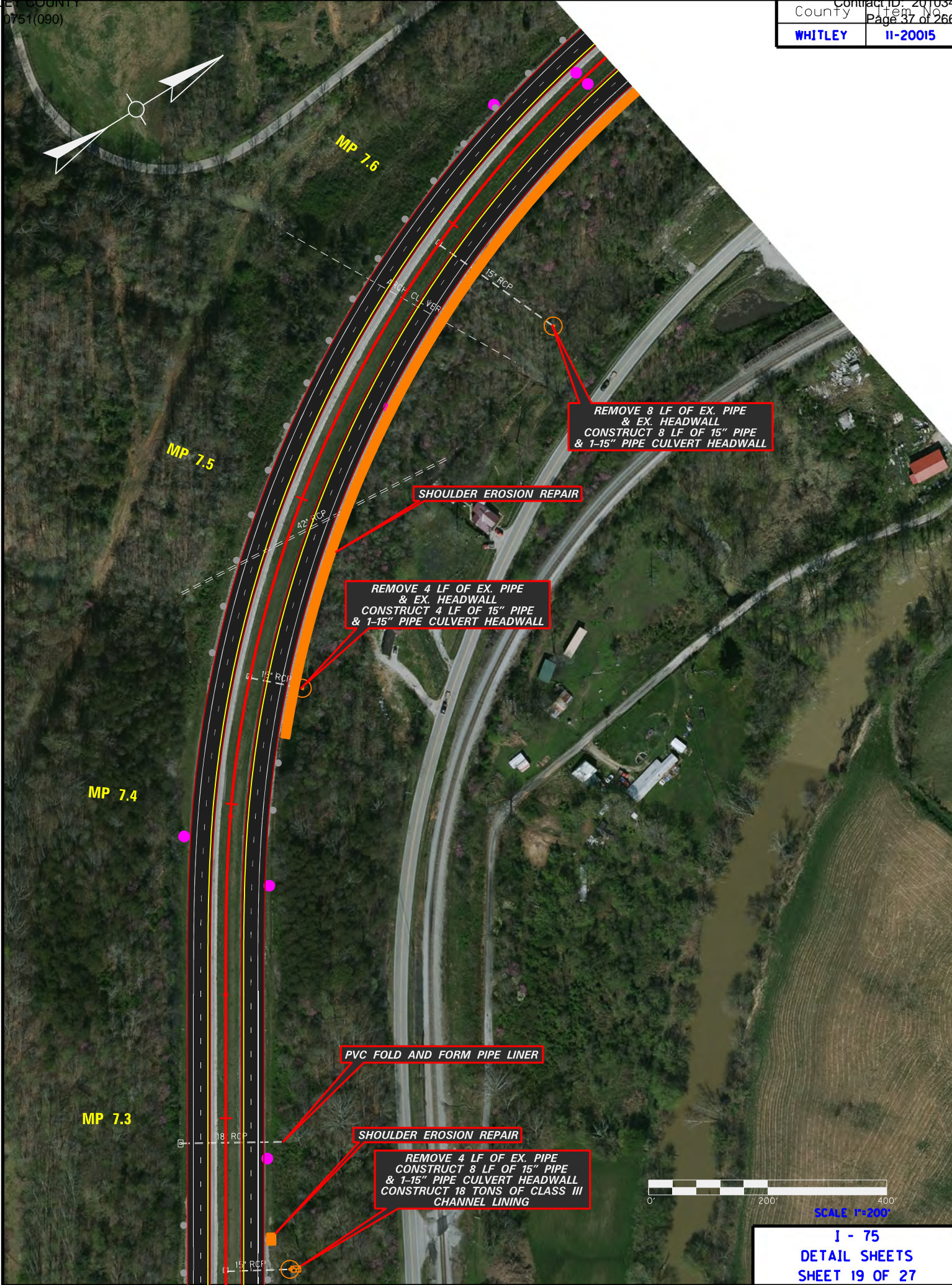
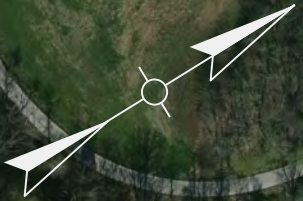
**REMOVE 4 LF OF EX. PIPE
& EX. HEADWALL
CONSTRUCT 4 LF OF 24" PIPE
& 1-24" PIPE CULVERT HEADWALL**

PVC FOLD AND FORM PIPE LINER



SCALE 1"=200'

**I - 75
DETAIL SHEETS
SHEET 18 OF 27**



REMOVE 8 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 8 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL

SHOULDER EROSION REPAIR

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL

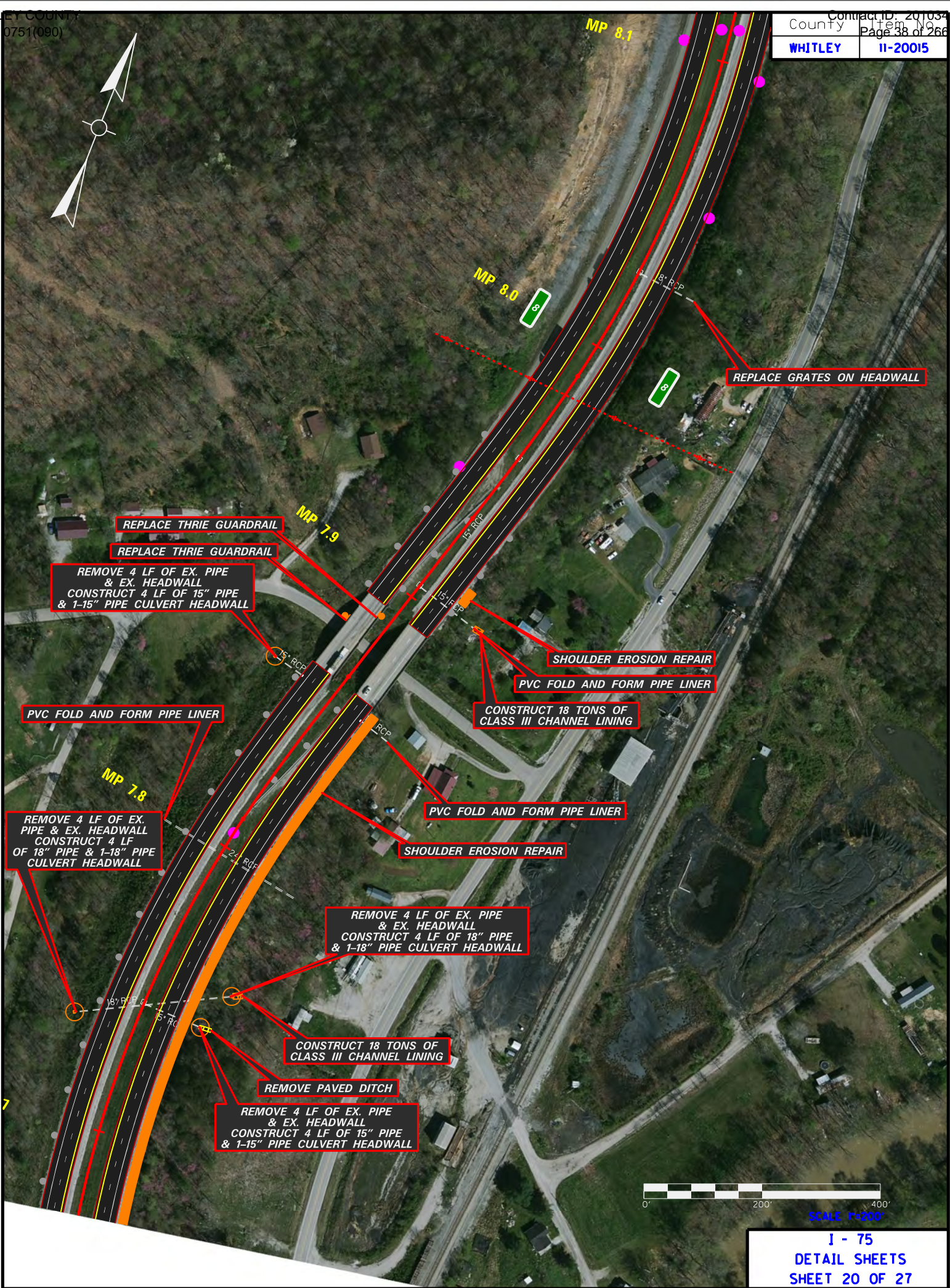
PVC FOLD AND FORM PIPE LINER

SHOULDER EROSION REPAIR

REMOVE 4 LF OF EX. PIPE
CONSTRUCT 8 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL
CONSTRUCT 18 TONS OF CLASS III CHANNEL LINING



SCALE 1"=200'



SCALE 1"=200'



MP 8.5

MP 8.4

MP 8.3

MP 8.2

REPLACE GUARDRAIL

PVC FOLD AND FORM PIPE LINER

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 36" PIPE & 1-36" PIPE CULVERT HEADWALL

SCALE 1"=200'





REPLACE GRATES ON HEADWALL

PVC FOLD AND FORM PIPE LINER

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 18" PIPE & 1-18" PIPE CULVERT HEADWALL

MP 8.9

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL

PVC FOLD AND FORM PIPE LINER

REPLACE GUARDRAIL

CONSTRUCT 210 TONS OF CLASS III CHANNEL LINING

MP 8.8

PVC FOLD AND FORM PIPE LINER

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 18" PIPE & 1-18" PIPE CULVERT HEADWALL

MP 8.7

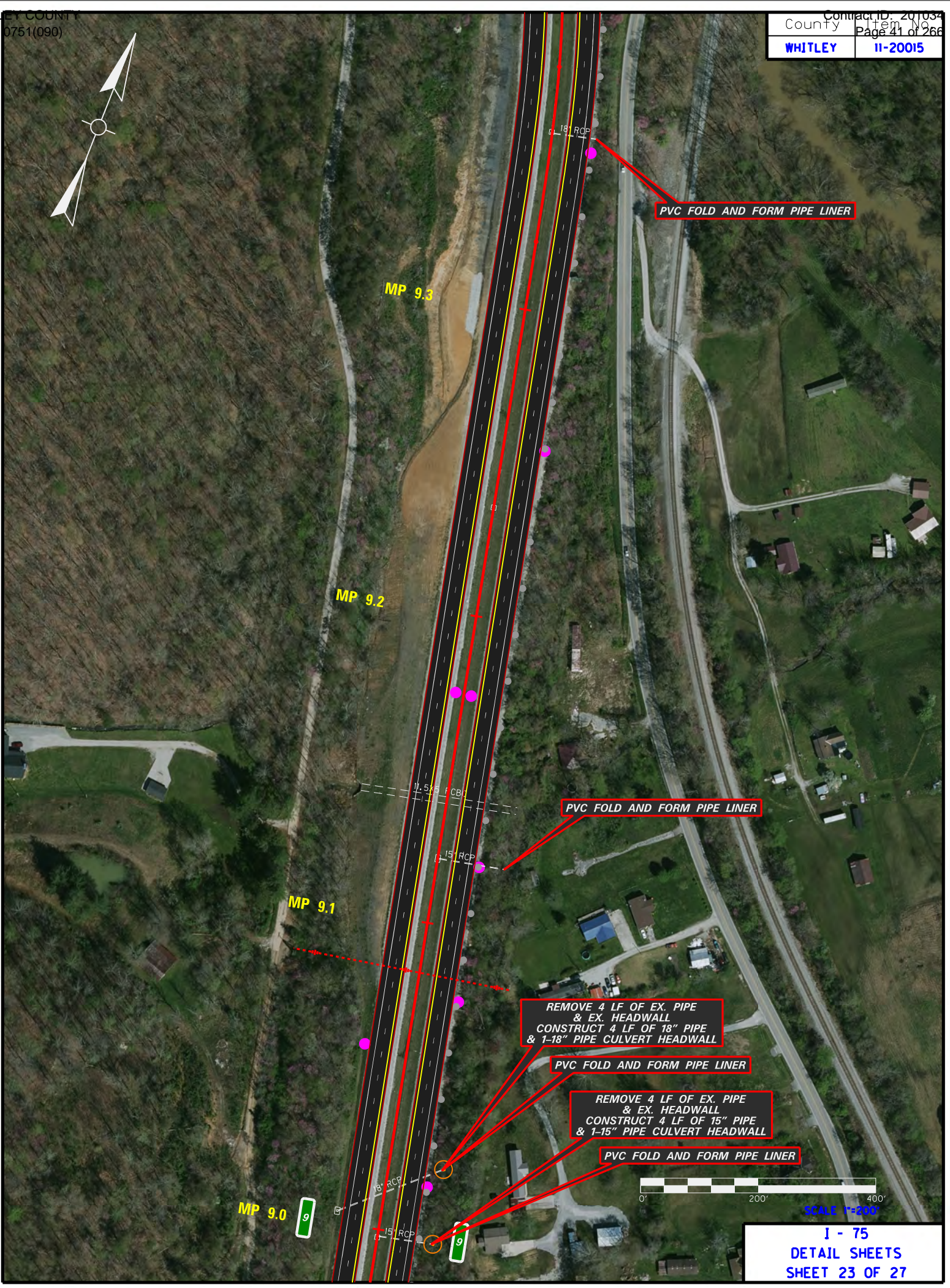
PVC FOLD AND FORM PIPE LINER

PVC FOLD AND FORM PIPE LINER

MP 8.6



SCALE 1"=200'



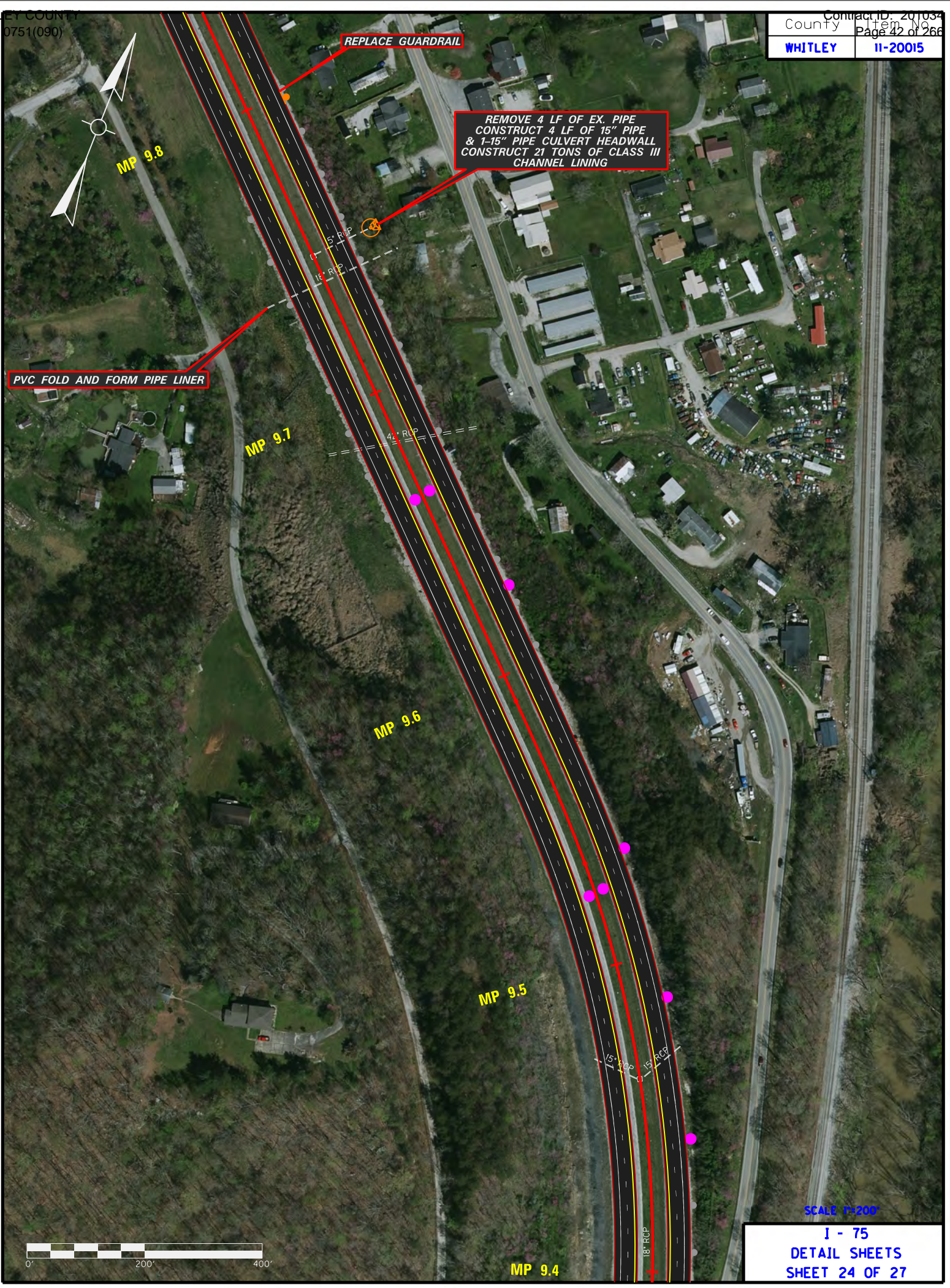
PVC FOLD AND FORM PIPE LINER

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 18" PIPE & 1-18" PIPE CULVERT HEADWALL

REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL



SCALE 1"=200'



PVC FOLD AND FORM PIPE LINER

REPLACE GUARDRAIL

REMOVE 4 LF OF EX. PIPE
CONSTRUCT 4 LF OF 15" PIPE
& 1-15" PIPE CULVERT HEADWALL
CONSTRUCT 21 TONS OF CLASS III
CHANNEL LINING

MP 9.8

MP 9.7

MP 9.6

MP 9.5

MP 9.4

5' RCP
12' RCP

4' RCP

15' RCP
15' RCP

18' RCP



SCALE 1"=200'

I - 75
DETAIL SHEETS
SHEET 24 OF 27

TERMINAL SECTION 1

MP 10.2

REINSTALL GRATES ON HEADWALL

CAUTION: UNDERGROUND GAS

MP 10.1

**REMOVE 4 LF OF EX. PIPE & EX. HEADWALL
CONSTRUCT 4 LF OF 15" PIPE & 1-15" PIPE CULVERT HEADWALL**

MP 10.0

70

70

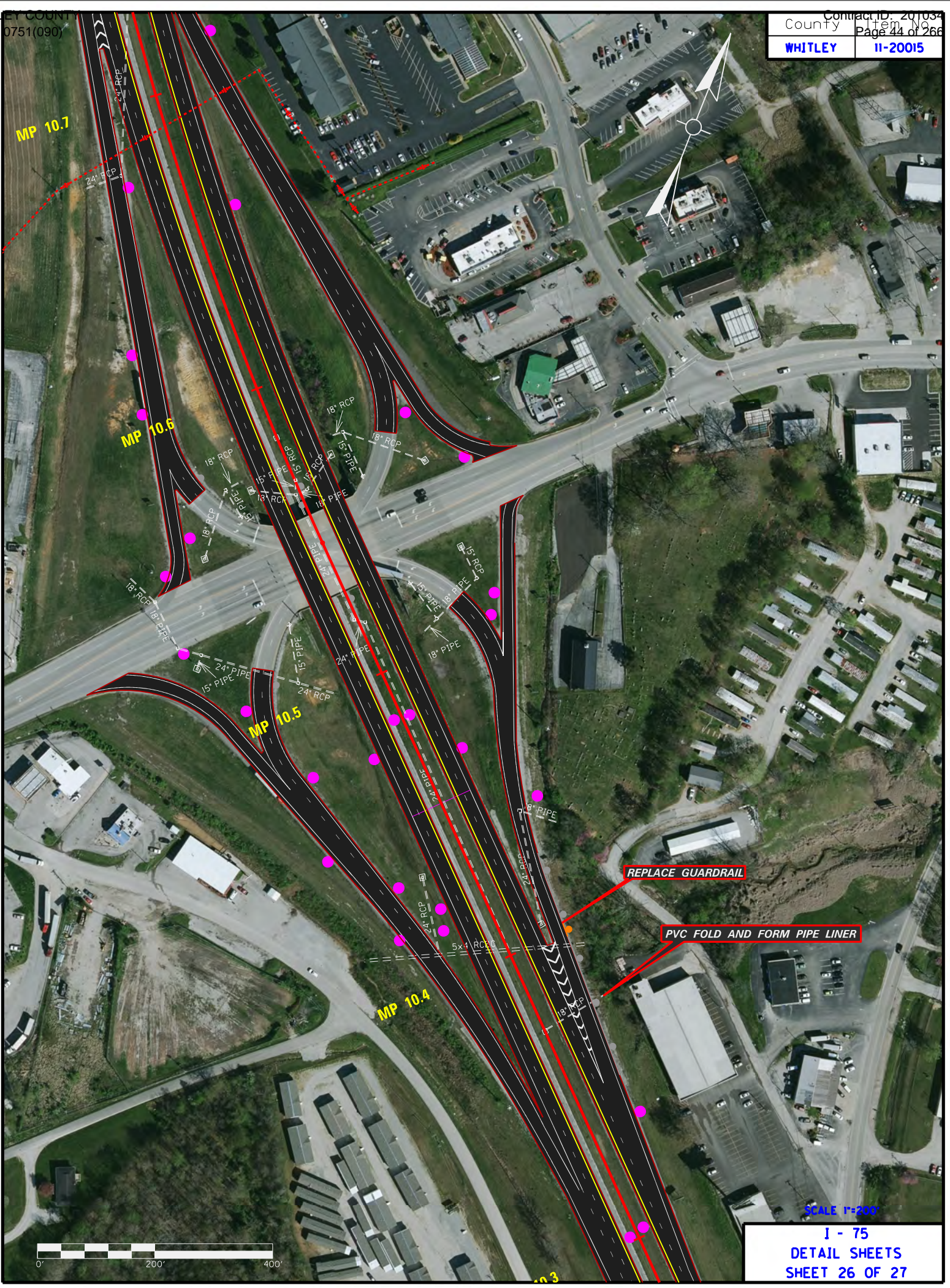
MP 9.9

PVC FOLD AND FORM PIPE LINER



SCALE 1"=200'

**I - 75
DETAIL SHEETS
SHEET 25 OF 27**



REPLACE GUARDRAIL

PVC FOLD AND FORM PIPE LINER

SCALE 1"=200'

I - 75
DETAIL SHEETS
SHEET 26 OF 27

**REPAIR SHOULDER
WITH COMPACTED DGA
AND ASPHALT SEAL COAT**

**END PROJECT
MP 11.120 N.B. & SB**

**CONSTRUCT
PLANNING LOOPS**

**CONSTRUCT
PLANNING LOOPS**



MP 11.1

MP 11.0

MP 10.9

MP 10.8



15' RCP

50'x16' ARCH

24" RCP

15' RCP

24" RCP



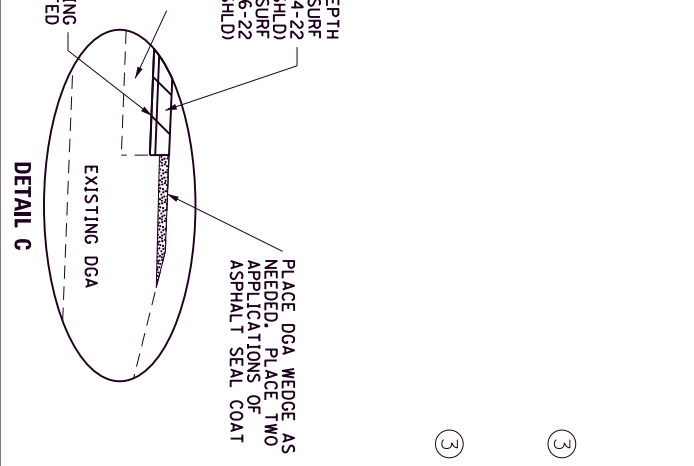
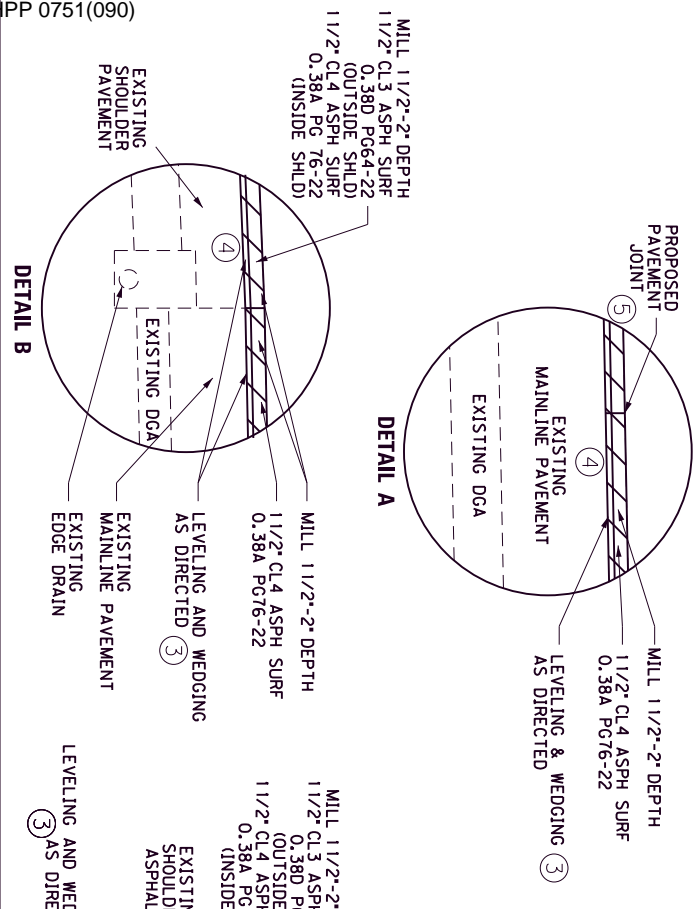
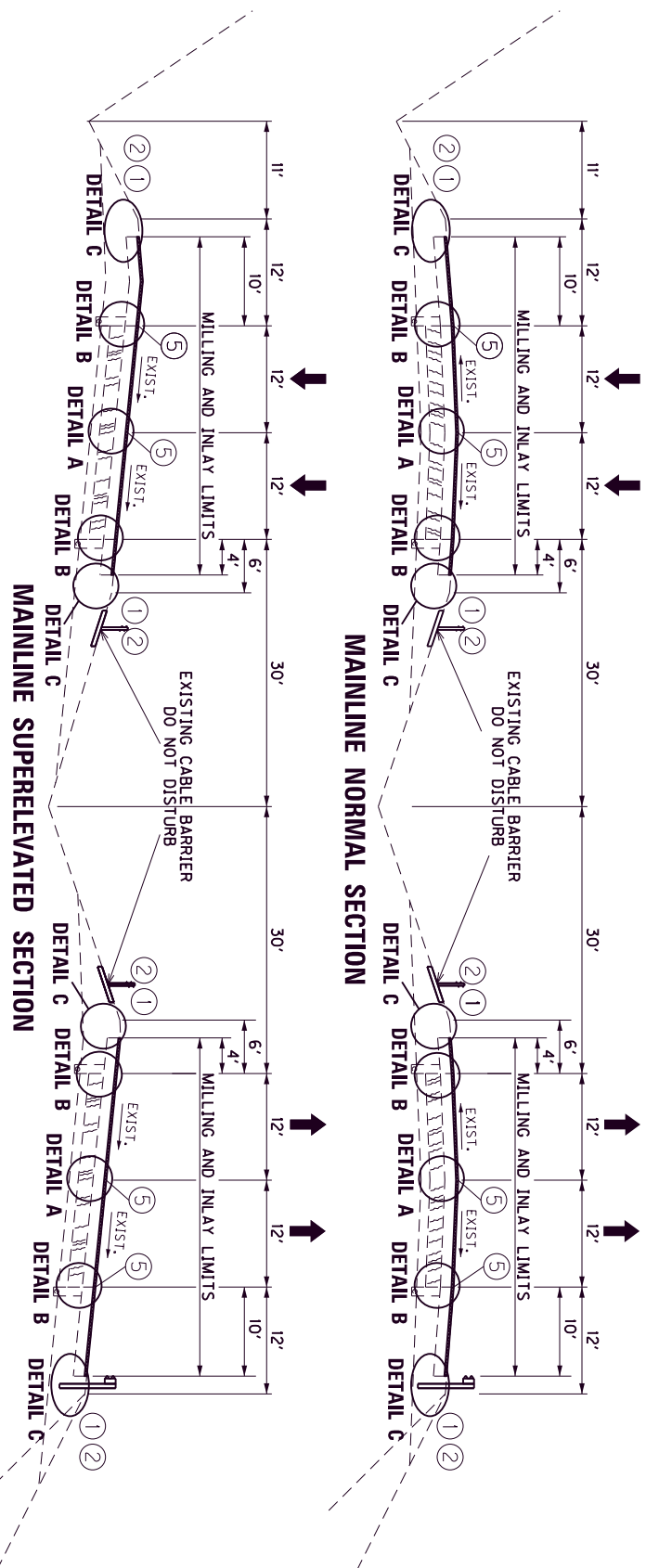
SCALE 1"=200'

**I - 75
DETAIL SHEETS
SHEET 27 OF 27**

PROPOSED TYPICAL SECTIONS

I-75
M.P. 0.00 - M.P. 11.12

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | |



SURFACING SCHEDULE ④

- MAINLINE TRAFFIC LANES AND INSIDE SHOULDERS**
- ① ASPHALT PAVEMENT MILLING AND TEXTURING.....1 1/2'-2' DEPTH
 - ② LEVELING AND WEDGING PG76-22.....AS DIRECTED
 - ③ CL4 ASPH SURFACE 0.38A PG76-22.....1 1/2' DEPTH
- OUTSIDE SHOULDERS**
- ① ASPHALT PAVEMENT MILLING AND TEXTURING.....1 1/2'-2' DEPTH
 - ② LEVELING AND WEDGING PG76-22.....AS DIRECTED
 - ③ CL3 ASPH SURFACE 0.38D PG64-22.....1 1/2' DEPTH

NOTE:
 VARY MILLING DEPTH TO RESULT IN REMOVAL OF ALL EXISTING ASPHALT SURFACE.

① ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FOOT DOWN THE DITCH OR FILL SLOPE (where applicable). TWO APPLICATIONS OF THE FOLLOWING:
 ASPHALT SEAL COAT 2.4 lbs. / S.Y.
 ASPHALT SEAL AGGREGATE 20 lbs. / S.Y.

② EX. DGA SHOULDER 2' WHERE GUARDRAIL IS PRESENT, USE 7" POSTS.

③ TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES.

④ APPLY ASPHALT MATERIAL FOR TACK AT A RATE OF 0.84 LBS/SY BETWEEN EACH LAYER OF ASPH. CONCRETE. JOINT ADHESIVE

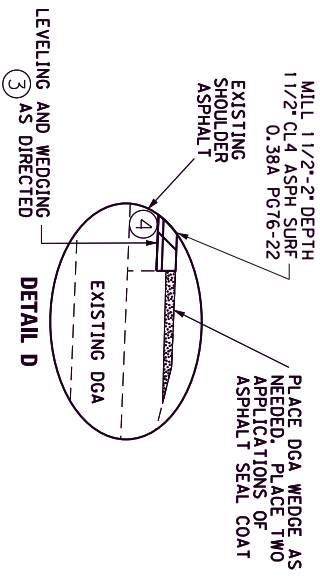
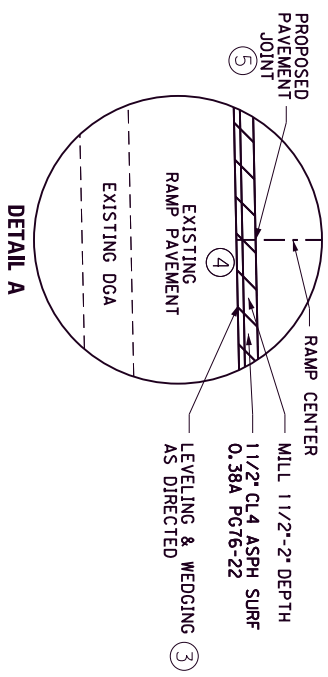
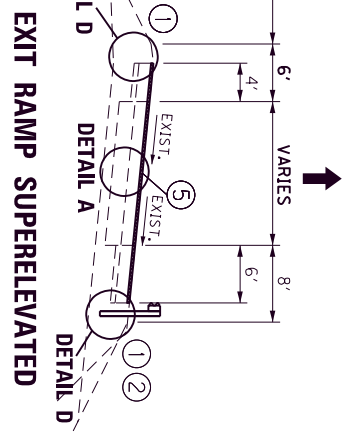
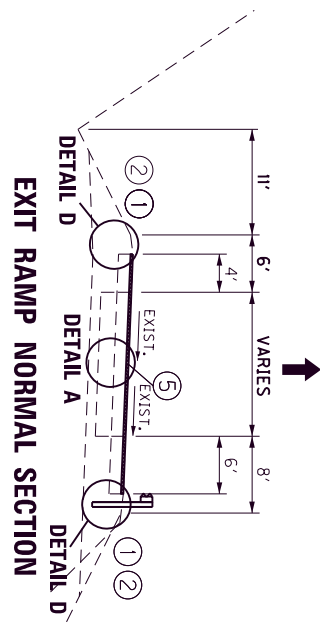
NOT TO SCALE

I-75
TYPICAL SECTIONS

PROPOSED TYPICAL SECTIONS

I-75 EXIT RAMP

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | |



- SURFACING SCHEDULE (4)**
EXIT RAMP LANE AND SHOULDERS
- (1) ASPHALT PAVEMENT MILLING AND TEXTURING.....1 1/2"-2" DEPTH
 - (2) ASPHALT PAVEMENT MILLING AND TEXTURING.....1 1/2"-2" DEPTH
 - (3) LEVELING AND WEDGING PG76-22.....AS DIRECTED
 - (4) CL4 ASPH SURFACE 0.38A PG76-22.....1 1/2" DEPTH

- (1) ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FOOT DOWN THE DITCH OR FILL SLOPE (where applicable). TWO APPLICATIONS OF THE FOLLOWING : ASPHALT SEAL COAT 2.4 lbs. / S.Y., ASPHALT SEAL AGGREGATE 20 lbs. / S.Y.
- (2) EX. DGA SHOULDER 2' WHERE GUARDRAIL IS PRESENT, USE 7' POSTS.
- (3) TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES.
- (4) APPLY ASPHALT MATERIAL FOR TACK AT A RATE OF 0.84 LBS/SY BETWEEN EACH LAYER OF ASPH. CONCRETE.
- (5) JOINT ADHESIVE

NOTE: VARY MILLING DEPTH TO RESULT IN REMOVAL OF ALL EXISTING ASPHALT SURFACE.

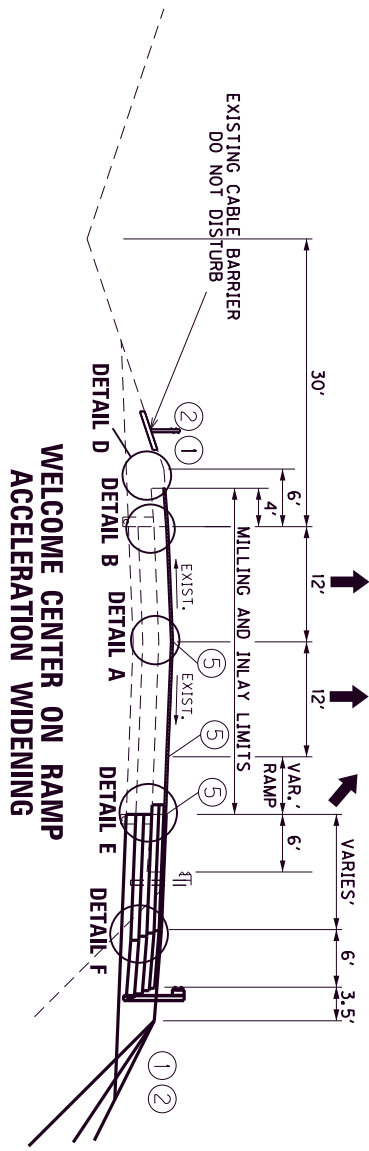
NOT TO SCALE

I-75
TYPICAL SECTIONS

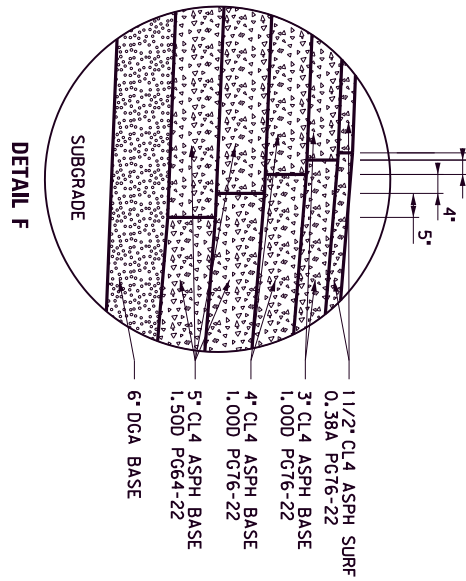
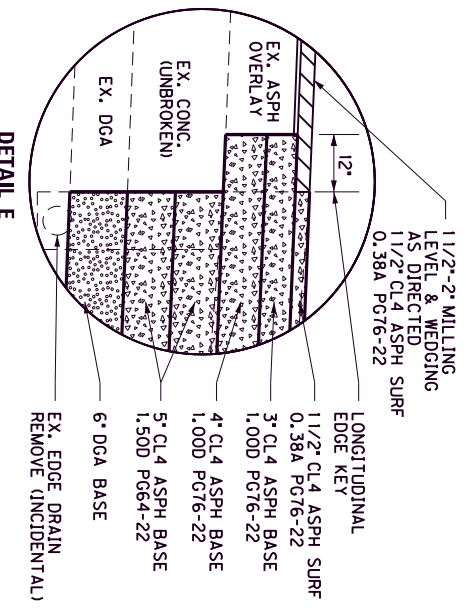
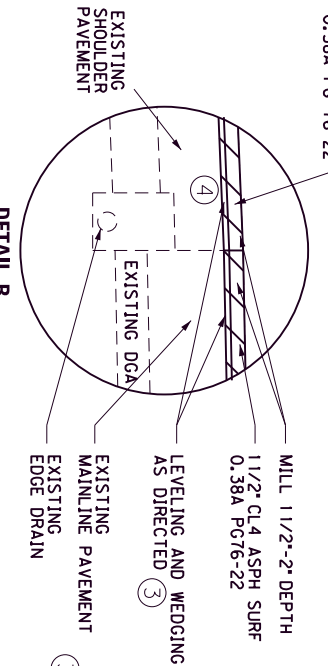
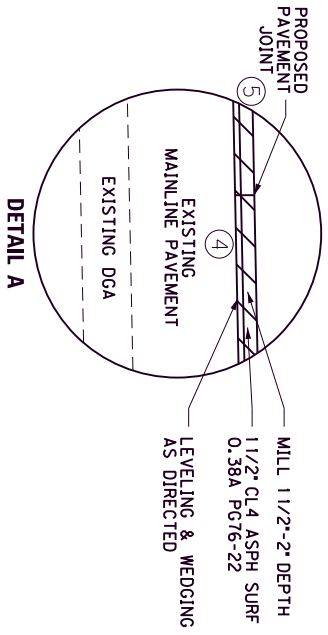
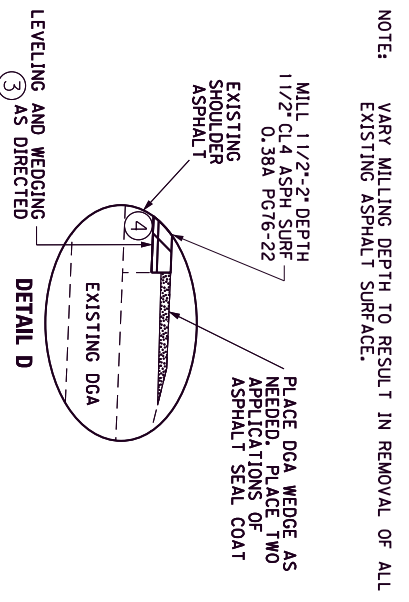
PROPOSED TYPICAL SECTIONS

WELCOME CENTER RAMP WIDENING

I-75



WELCOME CENTER ON RAMP ACCELERATION WIDENING



SURFACING SCHEDULE

| Item | Description | Quantity |
|------|---|----------|
| 1 | ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FOOT DOWN THE DITCH OR FILL SLOPE (Where Applicable). TWO APPLICATIONS OF THE FOLLOWING: | |
| 2 | SHOULDER WIDENED TO 3.5' WHERE GUARDRAIL IS PRESENT | |
| 3 | TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES. | |
| 4 | APPLY ASPHALT MATERIAL FOR TACK AT A RATE OF 0.84 LBS/SY BETWEEN EACH LAYER OF ASPH. CONCRETE. | |
| 5 | JOINT ADHESIVE | |

MAINLINE, SHOULDERS & RAMP OVERLAY

| Item | Description | Quantity |
|------|---|----------|
| 1 | ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FOOT DOWN THE DITCH OR FILL SLOPE (Where Applicable). TWO APPLICATIONS OF THE FOLLOWING: | |
| 2 | SHOULDER WIDENED TO 3.5' WHERE GUARDRAIL IS PRESENT | |
| 3 | TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES. | |
| 4 | APPLY ASPHALT MATERIAL FOR TACK AT A RATE OF 0.84 LBS/SY BETWEEN EACH LAYER OF ASPH. CONCRETE. | |
| 5 | JOINT ADHESIVE | |

RAMP WIDENING (DRIVING LANE & SHOULDERS)

| Item | Description | Quantity |
|------|---|----------|
| 1 | ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FOOT DOWN THE DITCH OR FILL SLOPE (Where Applicable). TWO APPLICATIONS OF THE FOLLOWING: | |
| 2 | SHOULDER WIDENED TO 3.5' WHERE GUARDRAIL IS PRESENT | |
| 3 | TO BE USED AS DIRECTED BY THE ENGINEER FOR PAVEMENT IRREGULARITIES. | |
| 4 | APPLY ASPHALT MATERIAL FOR TACK AT A RATE OF 0.84 LBS/SY BETWEEN EACH LAYER OF ASPH. CONCRETE. | |
| 5 | JOINT ADHESIVE | |

TYPICAL SECTIONS

| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | |

I-75
WHITLEY COUNTY
ITEM NO. 11-20015 , PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
GENERAL SUMMARY

| ITEM NUMBER | ITEM | | UNIT | QUANTITY |
|-------------|-------------------------------------|---|------|----------|
| 00001 | DGA BASE | ① | TON | 4,201 |
| 00100 | ASPHALT SEAL AGGREGATE | ① | TON | 109 |
| 00103 | ASPHALT SEAL COAT | ① | TON | 13 |
| 00194 | LEVELING & WEDGING PG76-22 | ① | TON | 1,000 |
| 00219 | CL4 ASPH BASE 1.00D PG76-22 | ① | TON | 2,384 |
| 00339 | CL3 ASPH SURF 0.38D PG64-22 | ① | TON | 10,333 |
| 00342 | CL4 ASPH SURF 0.38A PG76-22 | ① | TON | 32,396 |
| 00208 | CL4 ASPH BASE 1.50D PG64-22 | ① | TON | 1,116 |
| 02676 | MOBILIZATION FOR MILL & TEXT | ① | LS | 1 |
| 02677 | ASPHALT PAVE MILLING & TEXTURING | ① | TON | 57,951 |
| 20071EC | JOINT ADHESIVE | ① | LF | 244,337 |
| 00356 | ASPHALT MATERIAL FOR TACK | ① | TON | 225 |
| 21289ED | LONGITUDINAL EDGE KEY | ① | LF | 1,325 |
| 02696 | SHOULDER RUMBLE STRIPS | ① | LF | 239,060 |
| 00462 | CULVERT PIPE-18 IN | ② | LF | 20 |
| 00461 | CULVERT PIPE-15 IN | ② | LF | 140 |
| 00464 | CULVERT PIPE-24 IN | ② | LF | 28 |
| 01202 | PIPE CULVERT HEADWALL-15 IN | ② | EACH | 27 |
| 01208 | PIPE CULVERT HEADWALL-24 IN | ② | EACH | 4 |
| 01310 | REMOVE PIPE | ② | LF | 172 |
| 02165 | REMOVE PAVED DITCH | ② | SQYD | 160 |
| 02484 | CHANNEL LINING CLASS III | ② | TON | 658 |
| 01451 | S & F BOX INLET-OUTLET-24 IN | ② | EACH | 1 |
| 02625 | REMOVE HEADWALL | ② | EACH | 29 |
| 01641 | JUNCTION BOX-15 IN | ② | EACH | 1 |
| 24861EC | PVC FOLD AND FORM PIPE LINER-15 IN | ② | LF | 3,603 |
| 24862EC | PVC FOLD AND FORM PIPE LINER-18 IN | ② | LF | 1,385 |
| 24863EC | PVC FOLD AND FORM PIPE LINER-24 IN | ② | LF | 1,562 |
| 24865EC | PVC FOLD AND FORM PIPE LINER-36 IN | ② | LF | 843 |
| 00468 | CULVERT PIPE-36 IN | ② | LF | 15 |
| 01204 | PIPE CULVERT HEADWALL-18 IN | ② | EACH | 5 |
| 01212 | PIPE CULVERT HEADWALL-36 IN | ② | EACH | 2 |
| 21802EN | G/R STEEL W BEAM-S FACE (7 FT POST) | ③ | LF | 5,412.5 |
| 21380ES719 | GUARDRAIL THRIE BEAM | ③ | LF | 812.5 |
| 02381 | REMOVE GUARDRAIL | ③ | LF | 6,225 |
| 02360 | GUARDRAIL TERMINAL SECTION NO 1 | ③ | EACH | 1 |
| 02360 | GUARDRAIL TERMINAL SECTION NO 1 | ③ | EACH | 4 |

- ① CARRIED OVER FROM PAVEMENT SUMMARY
- ② CARRIED OVER FROM PIPE SUMMARY
- ③ CARRIED OVER FROM GUARDRAIL SUMMARY

I-75
WHITLEY COUNTY
ITEM NO. 11-20015 , PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
GENERAL SUMMARY

| ITEM NUMBER | ITEM | UNIT | QUANTITY |
|-------------|--|-------|----------|
| 20629NS719 | THRIE BEAM TO W BEAM CONNECTOR (3) | EACH | 1 |
| 01982 | DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE (3) | EACH | 130 |
| 01983 | DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW (3) | EACH | 7 |
| 02159 | TEMP DITCH | LF | 5,000 |
| 02160 | CLEAN TEMP DITCH | LF | 5,000 |
| 02703 | SILT TRAP TYPE A | EACH | 9 |
| 02704 | SILT TRAP TYPE B | EACH | 9 |
| 02705 | SILT TRAP TYPE C | EACH | 9 |
| 02706 | CLEAN SILT TRAP TYPE A | EACH | 9 |
| 02707 | CLEAN SILT TRAP TYPE B | EACH | 9 |
| 02708 | CLEAN SILT TRAP TYPE C | EACH | 9 |
| 02575 | DITCHING AND SHOULDERING | LF | 58,714 |
| 05950 | EROSION CONTROL BLANKET | SQYD | 20,000 |
| 05952 | TEMP MULCH | SQYD | 26,667 |
| 05953 | TEMP SEEDING AND PROTECTION | SQYD | 20,000 |
| 05963 | INITIAL FERTILIZER | TON | 2.1 |
| 05964 | MAINTENANCE FERTILIZER | TON | 1.3 |
| 05985 | SEEDING AND PROTECTION | SQYD | 40,000 |
| 05992 | AGRICULTURAL LIMESTONE | TON | 24.8 |
| 40030 | TEMPORARY SILT FENCE | LF | 5,000 |
| 01984 | DELINEATOR FOR BARRIER - WHITE | EACH | 62 |
| 02014 | BARRICADE-TYPE III | EACH | 8 |
| 03171 | CONCRETE BARRIER WALL TYPE 9T | LF | 3,080 |
| 06511 | PAVE STRIPING-TEMP PAINT-6 IN | LF | 307,872 |
| 06549 | PAVE STRIPING-TEMP REM TAPE-B | LF | 4,500 |
| 06550 | PAVE STRIPING-TEMP REM TAPE-W | LF | 1,800 |
| 06551 | PAVE STRIPING-TEMP REM TAPE-Y | LF | 1,800 |
| 06585 | PAVEMENT MARKER TY IVA-MW TEMP | EACH | 75 |
| 08903 | CRASH CUSHION TY VI CLASS BT TL3 | EACH | 1 |
| 25075EC | QUEUE PROTECTION VEHICLE | HOURL | 240 |
| 25076EC | FURNISH QUEUE PROTECTION VEHICLES | LS | 1 |
| 24873EC | CONTROL SYSTEM FOR INCIDENT MANAGEMENT | LS | 1 |
| 02650 | MAINTAIN & CONTROL TRAFFIC | LS | 1 |
| 02565 | OBJECT MARKER TYPE 2 | EACH | 32 |
| 06401 | FLEXIBLE DELINEATOR POST-M/W | EACH | 1,266 |
| 06404 | FLEXIBLE DELINEATOR POST-M/Y | EACH | 85 |
| 06546 | PAVE STRIPING-THERMO-12 IN W | LF | 3,430 |

(3) CARRIED OVER FROM GUARDRAIL SUMMARY

I-75
WHITLEY COUNTY
ITEM NO. 11-20015 , PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
GENERAL SUMMARY

| ITEM NUMBER | ITEM | UNIT | QUANTITY |
|-------------|---|----------|----------|
| 06573 | PAVE MARKING-THERMO STR ARROW | EACH | 2 |
| 24489EC | INLAID PAVEMENT MARKER | EACH | 1,779 |
| 24679ED | PAVE MARK THERMO CHEVRON | SQFT | 972 |
| 25008EC | PAVE STRIPING-THERMO-6 IN W-WET REFLECT | LF | 152,560 |
| 25009EC | PAVE STRIPING-THERMO-6 IN Y-WET REFLECT | LF | 121,633 |
| 25019EC | GROOVE FOR PAVE STRIPING - 7 IN | LF | 274,193 |
| 01005 | PERFORATED PIPE EDGE DRAIN-4 IN | LF | 5,872 |
| 01006 | PERFORATED PIPE EDGE DRAIN-6 IN | LF | 5,872 |
| 01010 | NON-PERFORATED PIPE-4 IN | LF | 180 |
| 01011 | NON-PERFORATED PIPE-6 IN | LF | 180 |
| 01020 | PERF PIPE HEADWALL TY 1-4 IN | EACH | 4 |
| 01021 | PERF PIPE HEADWALL TY 1-6 IN | EACH | 4 |
| 01024 | PERF PIPE HEADWALL TY 2-4 IN | EACH | 4 |
| 01025 | PERF PIPE HEADWALL TY 2-6 IN | EACH | 4 |
| 01028 | PERF PIPE HEADWALL TY 3-4 IN | EACH | 4 |
| 01029 | PERF PIPE HEADWALL TY 3-6 IN | EACH | 4 |
| 01740 | CORED HOLE DRAINAGE BOX CON-4 IN | EACH | 1 |
| 01741 | CORED HOLE DRAINAGE BOX CON-6 IN | EACH | 1 |
| 20758ED | REMOVE AND RESET PERF PIPE HEADWALL | EACH | 1 |
| 00078 | CRUSHED AGGREGATE SIZE NO 2 | (4) TON | 1,208 |
| 02603 | FABRIC-GEOTEXTILE CLASS 2 | (5) SQYD | 75 |
| 08100 | CONCRETE-CLASS A | (6) CUYD | 17.2 |
| 08150 | STEEL REINFORCEMENT | (6) LB | 980 |
| 08003 | FOUNDATION PREPARATION | (6) LS | 1 |
| 02403 | REMOVE CONCRETE MASONRY | (6) CUYD | 11 |
| 02223 | GRANULAR EMBANKMENT | (6) CUYD | 25 |
| 20465EC | CLEAN CULVERT | (7) LS | 1 |
| 21759NN | REPAIR/PATCH WINGWALL | (8) EACH | 1 |
| 04793 | CONDUIT-1 1/4 IN | (9) LF | 180 |
| 04795 | CONDUIT-2 IN | (9) LF | 100 |
| 04820 | TRENCHING AND BACKFILLING | (9) LF | 270 |
| 04829 | PIEZOELECTRIC SENSOR | (9) EACH | 12 |
| 04830 | LOOP WIRE | (9) LF | 6,680 |
| 04895 | LOOP SAW SLOT AND FILL | (9) LF | 850 |
| 20359NN | GALVANIZED STEEL CABINET | (9) EACH | 2 |
| 20360ES818 | WOOD POST | (9) EACH | 4 |
| 20391NS835 | ELECTRICAL JUNCTION BOX TYPE A | (9) EACH | 6 |
| 02262 | FENCE-WOVEN WIRE TYPE 1 | LF | 100 |
| 02265 | REMOVE FENCE | LF | 100 |

- | | |
|---|---|
| <p>(4) INCLUDES 24 TONS P. PIPE HEADWALLS, 45 TONS FOR WINGWALL REPAIR MP 3.12, AND 1139 TONS FOR SLOPE EROSION REPAIRS.</p> <p>(5) FOR CULVERT WING REPAIR MP 3.12, AND CULVERT REPAIR MP 8.84.</p> <p>(6) CARRIED FROM MP 8.84 CULVERT EST. OF QTY.</p> | <p>(7) FOR RCBC LOCATED AT MP 6.15.</p> <p>(8) FOR CULVERT WING REPAIR MP 3.12.</p> <p>(9) CARRIED OVER FROM PLANNING LOOP SUMMARY.</p> |
|---|---|

**I-75
WHITLEY COUNTY
ITEM NO. 11-20015 , PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
PAVING SUMMARY**

PAVING AREAS (SY)

| ITEM | TOTAL | ITEM | TOTAL |
|----------------------------------|---------|---------------------------------------|---------|
| MAINLINE AND INSIDE SHOULDER | | MAINLINE, RAMPS, AND ALL SHOULDERS | |
| 1.5" CL4 ASPH SURF 0.38A PG76-22 | 374,649 | 2" ASPHALT PAVE MILLING AND TEXTURING | 517,150 |
| | | | |
| MAINLINE OUTSIDE SHOULDER | | SHOULDERS | |
| 1.5" CL4 ASPH SURF 0.38D PG64-22 | 124,467 | ASPHALT SEAL AGGREGATE | 5,406 |
| | | ASPHALT SEAL COAT | 5,406 |
| RAMP MAINLINE AND SHOULDERS | | | |
| 1.5" CL4 ASPH SURF 0.38A PG76-22 | 18,034 | | |
| | | | |
| WELCOME CENTER WIDENING | | | |
| 3" CL4 ASPH BASE 1.00D PG76-22 | 2,059 | | |
| 4" CL4 ASPH BASE 1.00D PG76-22 | 2,096 | | |
| 5" CL4 ASPH BASE 1.50D PG64-22 | 4,058 | | |
| DGA BASE (CY) | 1,543 | | |
| | | | |
| | | | |
| | | | |
| | | | |

PAVING SUMMARY

| ITEM CODE | ITEM | UNIT | QUANTITY |
|-----------|----------------------------------|------|----------|
| 00001 | DGA BASE | ① | 4,201 |
| 00100 | ASPHALT SEAL AGGREGATE | ② | 109 |
| 00103 | ASPHALT SEAL COAT | ③ | 13 |
| 00194 | LEVELING & WEDGING PG76-22 | ④ | 1,000 |
| 00219 | CL4 ASPH BASE 1.00D PG76-22 | ⑤ | 2,384 |
| 00339 | CL3 ASPH SURF 0.38D PG64-22 | ⑥ | 10,333 |
| 00342 | CL4 ASPH SURF 0.38A PG76-22 | | 32,396 |
| 00208 | CL4 ASPH BASE 1.50D PG64-22 | | 1,116 |
| 02676 | MOBILIZATION FOR MILL & TEXT | LS | 1 |
| 02677 | ASPHALT PAVE MILLING & TEXTURING | ⑦ | 57,951 |
| 20071EC | JOINT ADHESIVE | LF | 244,337 |
| 00356 | ASPHALT MATERIAL FOR TACK | ⑧ | 225 |
| 21289ED | LONGITUDINAL EDGE KEY | LF | 1,325 |
| 02696 | SHOULDER RUMBLE STRIPS | LF | 239,060 |
| | | | - |

- ① BASED ON 115 LBS/SY/IN OR 2.07 TONS/CY. INCLUDE 256 TONS FROM SHLD EROSION REPAIR DETAIL AND 750 TONS FOR SHOULDER DROP-OFFS AS DIRECTED.
- ② BASED ON COVERAGE OF 5% OF SHOULDERS AND BASED ON 2 APPLICATIONS OF 20 LBS/SY
- ③ BASED ON COVERAGE OF 5% OF SHOULDERS AND BASED ON 2 APPLICATIONS OF 2.4 LBS/SY
- ④ FOR PROFILE CORRECTION AND CROSS SLOPE CORRECTION.

- ⑤ INCLUDES 1000 TONS FOR ASPH. BASE REPAIRS AND 583 TONS FOR P. PIPE TRENCH CAP.
- ⑥ INCLUDES 64 TONS FOR RUMBLE STRIP ERADICATION
- ⑦ INCLUDES 1000 TONS FOR ASPH. BASE REPAIRS AND 64 TONS FOR RUMBLE STRIP ERADICATION
- ⑧ BASED ON APPLICATION RATE OF 0.84 LBS/SY.

ALL ITEMS CARRIED OVER TO GENERAL SUMMARY
ASPHALT MIXES CALC. BASED ON 110 LBS/SY/IN

**I-75
WHITLEY COUNTY
ITEM NO. 11-20015, PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
PIPE SUMMARY**

| MILEPOINT | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | REMARKS | |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|---------|---------|-------|-------|-------|---------|-----|
| ITEM CODE | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | | |
| UNIT | LF | LF | LF | EACH | EACH | LF | SQYD | TON | EACH | EACH | EACH | LF | LF | LF | LF | LF | EACH | EACH | | |
| 0.131 | | | | | | | | | | | | | | | | | | | | |
| 0.330 | | 8 | | 1 | | 8 | | | | 1 | | | | | | | | | | S&F |
| 0.373 | | | | | | | | | | | | | | | 331 | | | | | |
| 0.434 | | | | | | | | | | | | | | | | | | | | |
| 0.586 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 0.707 | | | | | | 4 | | | | 1 | | | | | | | | | | S&F |
| 0.780 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 0.799 | | | | | | | | | | | | | | | | | | | | |
| 0.837 | | | | | | | | | | | | | | | | | | | | |
| 0.973 | | | | | | | | 17 | | | | | | 315 | | | | | | |
| 1.124 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 1.256 | | | | | | | | | | | | | | | | | | | | |
| 1.379 | | 8 | | 1 | | 4 | | | | | | | | | | | | | | S&F |
| 1.456 | | | | | | | | | | | | | | 84 | | | | | | |
| 1.868 | | | | | | | | | | | | 163 | | | | | | | | |
| 2.316 | | | | | | | | | | | | | | | | | | | | |
| 2.447 | | | | | | | | | | | | | | | | | | | | |
| 2.686 | | 4 | | 1 | | 4 | | | | | | | | | | | | | | S&F |
| 2.761 | | | | | | | | | | | | | | | | | | | | |
| 2.998 | | | | | | | | | | | | | | | | | | | | |
| 3.220 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 3.253 | | | | | | | | | | | | | | | | | | | | |
| 3.451 | | | | | | | 146 | | | | | | | | | | | | | |
| 3.593 | | | | | | | | | | | | | | | | | | | | |
| 3.669 | | | | | | | | | | | | | | | | | | | | |
| 4.009 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| SHEET TOTAL | | 40 | 4 | 8 | 1 | 40 | 146 | 17 | | 7 | | 1,251 | 163 | 399 | 573 | | | | | |

ALL ITEMS CARRIED OVER TO THE GENERAL SUMMARY.

I-75
WHITLEY COUNTY
ITEM NO. 11-20015, PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
PIPE SUMMARY

| STATION | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | REMARKS | |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|---------|---------|-------|-------|-------|---------|---------------------------|
| ITEM CODE | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | | |
| UNIT | LF | LF | LF | EACH | EACH | LF | SQYD | TON | EACH | EACH | EACH | LF | LF | LF | LF | LF | EACH | EACH | | |
| 4.161 | | | | | | | | | | | | 83 | | | | | | | | |
| 4.249 | | | | | | | | | | | | | | 264 | | | | | | |
| 4.256 | | | | | | | | | | | | 145 | | | | | | | | |
| 4.824 | | | | | | | | | | | | 112 | | | | | | | | |
| 5.089 | | 4 | | 1 | | 4 | | | | 1 | | 114 | | | | | | | | S&F |
| 5.221 | | | | | | | | | | | | 106 | | | | | | | | |
| 5.354 | | | | | | | | | | | | 109 | | | | | | | | |
| 5.468 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 5.549 | | 4 | | 1 | | 4 | | | | 1 | | 113 | | | | | | | | S&F |
| 5.601 | | | | | | | | | | | | | 42 | | | | | | | |
| 5.660 | | 8 | | 1 | | 4 | | | | | | | | | | | | | | S&F |
| 5.793 | | | | | | | | | | | | 100 | | | | | | | | |
| 5.926 | | | | | | | | 17 | | | | 100 | | | | | | | | |
| 6.021 | | 4 | | 1 | | 4 | | | | 1 | | 88 | | | | | | | | S&F |
| 6.116 | | 4 | | 1 | | 4 | | | | 1 | | 107 | | | | | | | | S&F |
| 6.205 | | 4 | | 1 | | 4 | | | | | | 78 | | | | | | | | S&F |
| 6.343 | | | | | | | | | | | | | | 104 | | | | | | |
| 6.674 | | | | | | | | | | | | 93 | | | | | | | | |
| 6.691 | | | | | | | | 18 | | | | | | | | | | | | |
| 6.734 | | | 16 | | 1 | 16 | | 18 | 1 | | | | | 253 | | | | | | S&F, S&F BOX INLET/OUTLET |
| 6.804 | | | 4 | | 1 | 4 | | 18 | | | | | | | | | | | | S&F |
| 6.890 | | | 4 | | 1 | 4 | | | | 1 | | | | 279 | | | | | | S&F |
| 6.949 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 6.961 | | | | | | | | 18 | | | | | | | | | | | | S&F |
| 7.100 | | 8 | | 1 | | 4 | | | | | | | | | | | | | | S&F |
| 7.252 | | 8 | | 1 | | 4 | | 18 | | | | | | | | | | | | S&F |
| SHEET TOTAL | | 52 | 24 | 10 | 3 | 64 | | 124 | 1 | 7 | | 1,348 | 42 | 900 | | | | | | |

ALL ITEMS CARRIED OVER TO THE GENERAL SUMMARY

**I-75
WHITLEY COUNTY
ITEM NO. 11-20015, PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
PIPE SUMMARY**

| STATION | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | REMARKS | |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|---------|---------|-------|-------|-------|---------|-----|
| ITEM CODE | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | | |
| UNIT | LF | LF | LF | EACH | EACH | LF | SQYD | TON | EACH | EACH | EACH | LF | LF | LF | LF | LF | EACH | EACH | | |
| 7.292 | | | | | | | | | | | | | 173 | | | | | | | |
| 7.441 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 7.592 | | 8 | | 1 | | 8 | | | | 1 | | | | | | | | | | S&F |
| 7.743 | | 4 | | 1 | | 4 | 14 | | | 1 | | | | | | | | | | S&F |
| 7.743 | 8 | | | | | 8 | | 18 | | 2 | | | | 263 | | 2 | | | | S&F |
| 7.797 | | | | | | | | | | | | | | | | | | | | |
| 7.858 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | |
| 7.859 | | | | | | | | | | | | 58 | | | | | | | | |
| 7.904 | | | | | | | | 18 | | | | 118 | | | | | | | | |
| 8.219 | | | | | | 4 | | | | 1 | | | | | | 4 | | 1 | | S&F |
| 8.292 | | | | | | | | | | | | 82 | | | | | | | | |
| 8.581 | | | | | | | | | | | | 94 | | | | | | | | |
| 8.677 | 4 | | | | | 4 | | | | 1 | | | 183 | | | | 1 | | | S&F |
| 8.733 | | | | | | | | | | | | 140 | | | | | | | | |
| 8.837 | | | | | | | | 210 | | | | | | | | | | | | |
| 8.884 | | 4 | | 1 | | 4 | | | | 1 | | 111 | | | | | | | | S&F |
| 8.960 | 4 | | | | | 4 | | | | 1 | | | 191 | | | | 1 | | | S&F |
| 8.998 | | 4 | | 1 | | 4 | | | | 1 | | 93 | | | | | | | | S&F |
| 9.022 | 4 | | | | | 4 | | | | 1 | | | 192 | | | | 1 | | | S&F |
| 9.121 | | | | | | | | | | | | 115 | | | | | | | | |
| 9.357 | | | | | | | | | | | | | 78 | | | | | | | |
| 9.739 | | | | | | | | | | | | | 246 | | | | | | | |
| 9.749 | | 4 | | 1 | | 4 | | 21 | | | | | | | | | | | | S&F |
| 9.900 | | | | | | | | | | | | 96 | | | | | | | | |
| 10.052 | | 4 | | 1 | | 4 | | | | 1 | | | | | | | | | | S&F |
| 10.373 | | | | | | | | | | | | | 117 | | | | | | | |
| SHEET TOTAL | 20 | 36 | | 8 | | 60 | 14 | 267 | | 13 | | 907 | 1,180 | 263 | | 4 | 5 | 1 | | |

ALL ITEMS CARRIED OVER TO THE GENERAL SUMMARY.

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**WHITLEY COUNTY
ITEM NO. 11-20015 , PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
PIPE SUMMARY**

| STATION | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | REMARKS |
|---------------|--------------------|--------------------|--------------------|-----------------------------|-----------------------------|-------------|--------------------|--------------------------|------------------------------|-----------------|--------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--------------------|-----------------------------|-----------------------------|------------------------------------|
| | CULVERT PIPE-18 IN | CULVERT PIPE-15 IN | CULVERT PIPE-24 IN | PIPE CULVERT HEADWALL-15 IN | PIPE CULVERT HEADWALL-24 IN | REMOVE PIPE | REMOVE PAVED DITCH | CHANNEL LINING CLASS III | S & F BOX INLET-OUTLET-24 IN | REMOVE HEADWALL | JUNCTION BOX-15 IN | PVC FOLD AND FORM PIPE LINER-15 IN | PVC FOLD AND FORM PIPE LINER-18 IN | PVC FOLD AND FORM PIPE LINER-24 IN | PVC FOLD AND FORM PIPE LINER-36 IN | CULVERT PIPE-36 IN | PIPE CULVERT HEADWALL-18 IN | PIPE CULVERT HEADWALL-36 IN | |
| ITEM CODE | 00462 | 00461 | 00464 | 01202 | 01208 | 01310 | 02165 | 02484 | 01451 | 02625 | 01641 | 24861EC | 24862EC | 24863EC | 24865EC | 00468 | 01204 | 01212 | |
| UNIT | LF | LF | LF | EACH | EACH | LF | SQYD | TON | EACH | EACH | EACH | LF | LF | LF | LF | LF | EACH | EACH | |
| 10.856 | | | | | | | | | | | | | | | | | | | |
| 21+78.74 | | | 4 | | | | | | | 1 | | | | | 270 | 11 | | 1 | SEE PIPE SHEET |
| 25+29.79 | | 12 | 4 | 1 | | | | | | 1 | 1 | | | | | | | | SEE PIPE SHEET |
| | | | | | | | | 250 | | | | | | | | | | | TO BE USED AS DIRECTED BY ENGINEER |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| SHEET TOTAL | 20 | 140 | 172 | 27 | 4 | 8 | 160 | 658 | 1 | 29 | 1 | 3,603 | 1,385 | 1,562 | 843 | 15 | 5 | 1 | |
| PROJECT TOTAL | | | | | | | | | | | | | | | | | | | |

ALL ITEMS CARRIED OVER TO THE GENERAL SUMMARY.

**I-75
WHITLEY COUNTY
ITEM NO. 11-20015, PAVEMENT REHABILITATION
MILEPOINT 0.000 TO 11.120
GUARDRAIL SUMMARY**

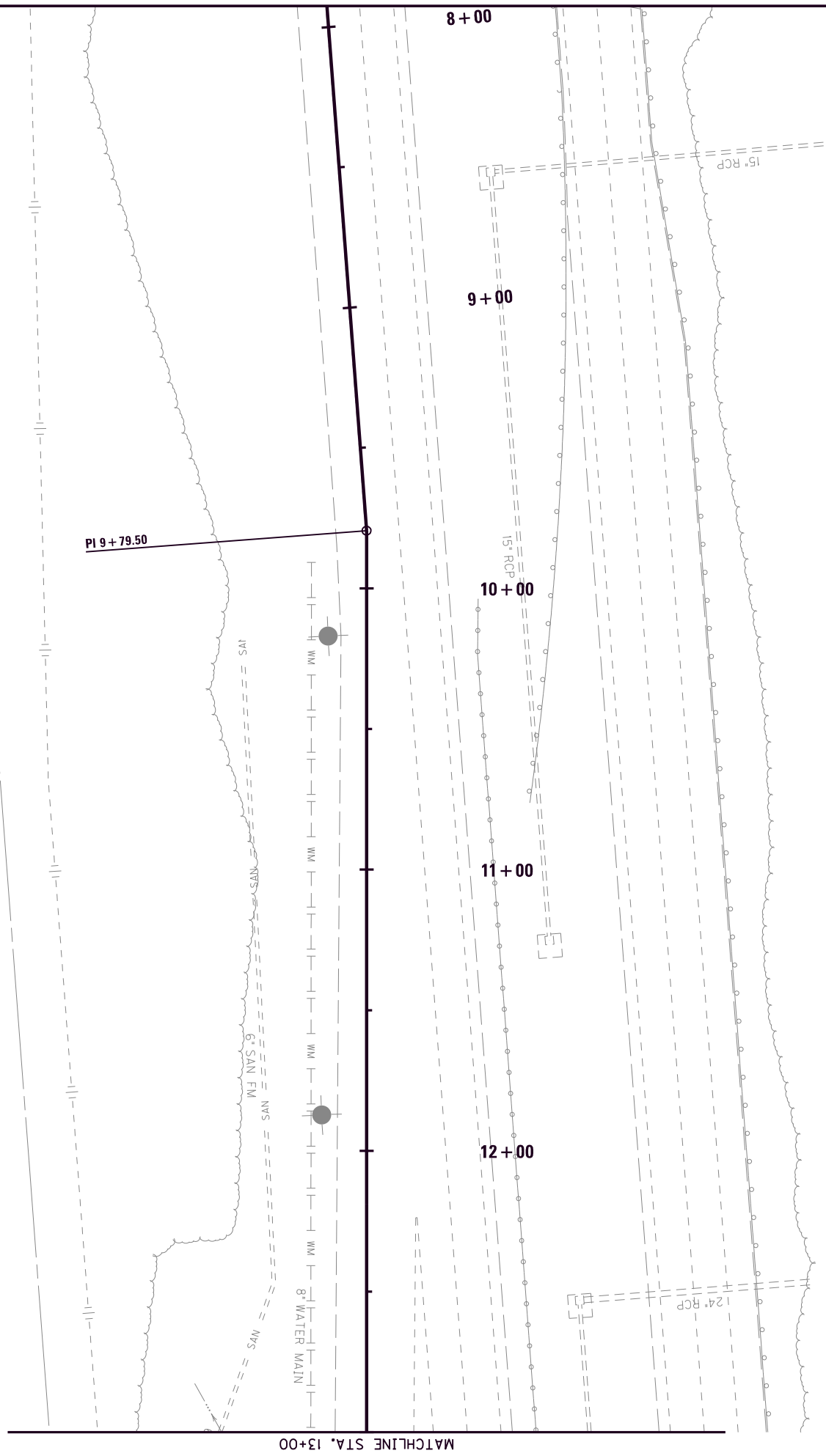
| POINT NUMBERS | FROM MILEPOST | TO MILEPOST | G/R STEEL W BEAM-S FACE (7 FT POST) | | GUARDRAIL THREE BEAM | | REMOVE GUARDRAIL | | GUARDRAIL TERMINAL SECTION NO 1 | | THREE BEAM TO W BEAM CONNECTOR | | DELINATOR FOR DIRECTIONAL WHITE | | DELINATOR FOR DIRECTIONAL YELLOW | | DESCRIPTION |
|---------------|---------------|-------------|--|------------|----------------------|-------|------------------|-------|------------------------------------|-------|-----------------------------------|------|------------------------------------|------|-------------------------------------|--|--------------------------------------|
| | | | LF | LF | LF | LF | EACH | EACH | EACH | EACH | EACH | EACH | EACH | EACH | | | |
| ITEM CODE | | | 21802EN | 21380ES719 | 02381 | 02360 | 02360 | 02360 | 20629NS719 | 01982 | 01983 | | | | | | |
| UNIT | | | LF | LF | LF | EACH | EACH | EACH | EACH | EACH | EACH | | | | | | |
| 345 | 0.428 | 0.432 | 25 | | 25 | | | | | 1 | | | | | | | |
| 1551 | 0.791 | 0.797 | | 37.5 | 37.5 | | | | | | | | 1 | | | | |
| 1554 | 0.808 | 0.810 | | 25 | 25 | | | | | 1 | | | | | | | |
| 330 | 0.815 | 0.818 | 12.5 | | 12.5 | | | | | 1 | | | | | | | |
| 314 | 0.978 | 0.993 | 87.5 | | 87.5 | | | | | 2 | | | | | | | |
| 1549 | 0.993 | 1.004 | | 62.5 | 62.5 | | | | 1 | 2 | | | | | | | |
| 1545 | 1.338 | 1.340 | | 12.5 | 12.5 | | | | | 1 | | | | | | | |
| 1547 | 1.349 | 1.350 | | 12.5 | 12.5 | | | | | 33 | | | | | | | |
| | 1.882 | 2.185 | 1,637.5 | | 1,637.5 | | | | | | | | | | | | TERMINAL SECTION FOR THREE GUARDRAIL |
| 256 | 2.405 | 2.408 | 25 | | 25 | | | | | 1 | | | | | | | |
| 1538 | 2.450 | 2.527 | | 412.5 | 412.5 | | | | | 9 | | | | | | | |
| 1539 | 2.471 | 2.504 | | 187.5 | 187.5 | | | | | 4 | | | | | | | |
| 587 | 2.530 | 2.530 | | | | | | | 1 | | | | | | | | TERMINAL SECTION FOR THREE GUARDRAIL |
| 242 | 2.541 | 2.548 | 37.5 | | 37.5 | | | | | 1 | | | | | | | |
| 595 | 3.069 | 3.073 | 25 | | 25 | | | | | 1 | | | | | | | |
| 535 | 3.138 | 3.162 | 137.5 | | 137.5 | | | | 1 | | | | | | | | |
| 1536 | 3.198 | 3.202 | | 25 | 25 | | | | | | | | | | | | |
| 543 | 3.210 | 3.210 | | | | | | | 1 | | | | | | | | TERMINAL SECTION FOR THREE GUARDRAIL |
| 614 | 5.595 | 5.595 | | | | | | | 1 | | | | | | | | TERMINAL SECTION FOR THREE GUARDRAIL |
| 620 | 5.765 | 5.771 | 37.5 | | 37.5 | | | | | 1 | | | | | | | |
| 640 | 6.806 | 6.812 | 37.5 | | 37.5 | | | | | 1 | | | | | | | |
| 643 | 7.123 | 7.130 | 37.5 | | 37.5 | | | | | 1 | | | | | | | |
| 1558 | 7.881 | 7.883 | | 12.5 | 12.5 | | | | | 1 | | | | | | | |
| 1557 | 7.888 | 7.890 | | 25 | 25 | | | | | | | | | | | | |
| 1084 | 8.514 | 8.518 | 25 | | 25 | | | | | 1 | | | | | | | |
| 68 | 8.824 | 8.839 | 87.5 | | 87.5 | | | | | 2 | | | | | | | |
| SHEET TOTAL | | | 2,212.5 | 812.5 | 3,025 | 4 | 1 | 64 | 7 | | | | | | | | |

ALL ITEMS CARRIED OVER TO GENERAL SUMMARY.



SCALE 1" = 50'

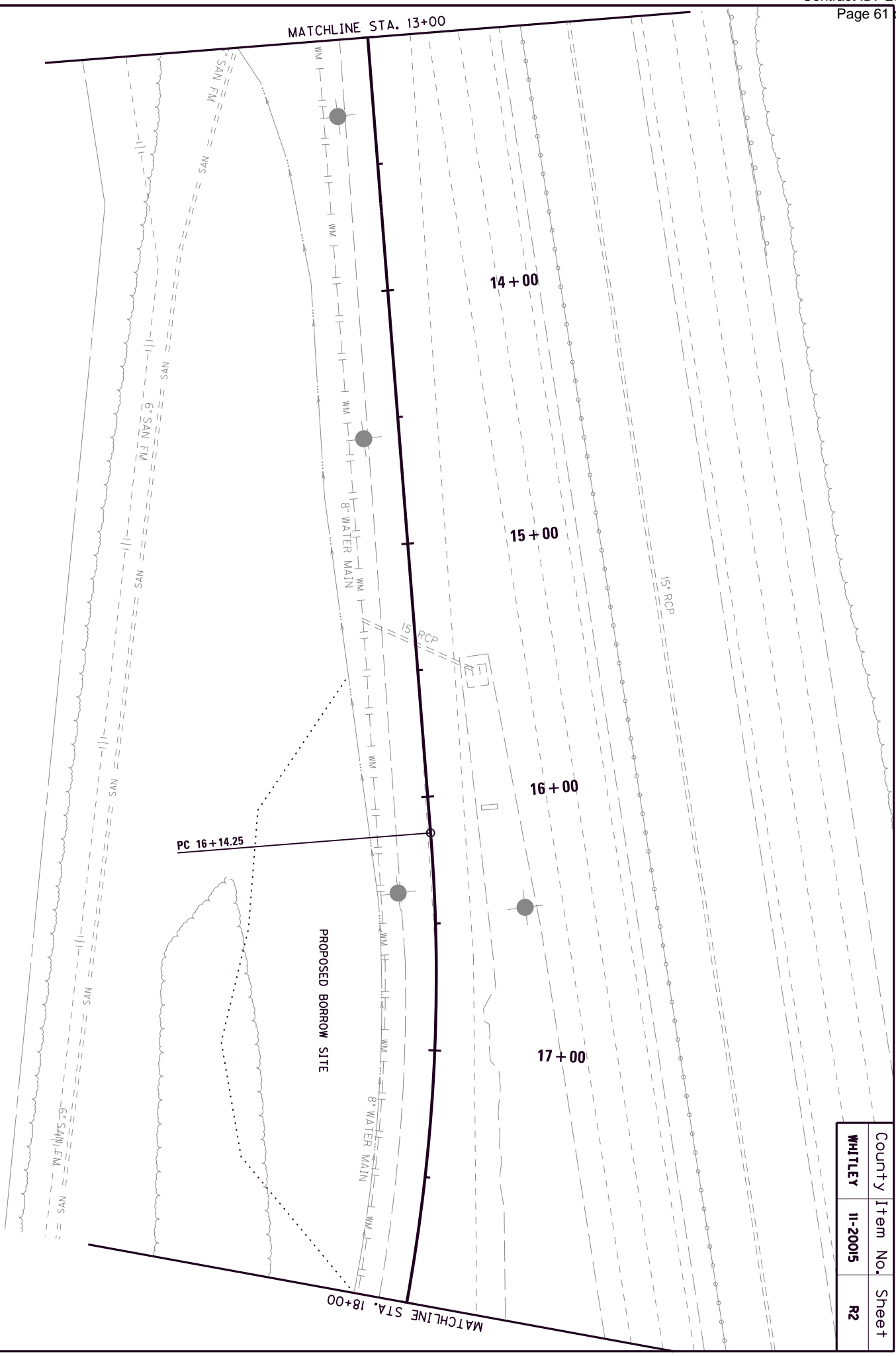
PROPOSED BORROW SITE
STA. 10+00 TO STA. 13+00



| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | RI |

MATCHLINE STA. 13+00

MATCHLINE STA. 18+00



| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | R2 |

I-75
PROPOSED BORROW SITE
STA. 13+00 TO STA. 18+00

SCALE 1" = 50'



MATCHLINE STA. 18+00

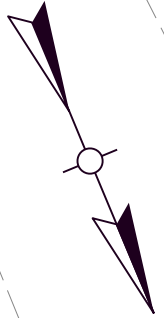
PI 19+14.60

19+00

20+00

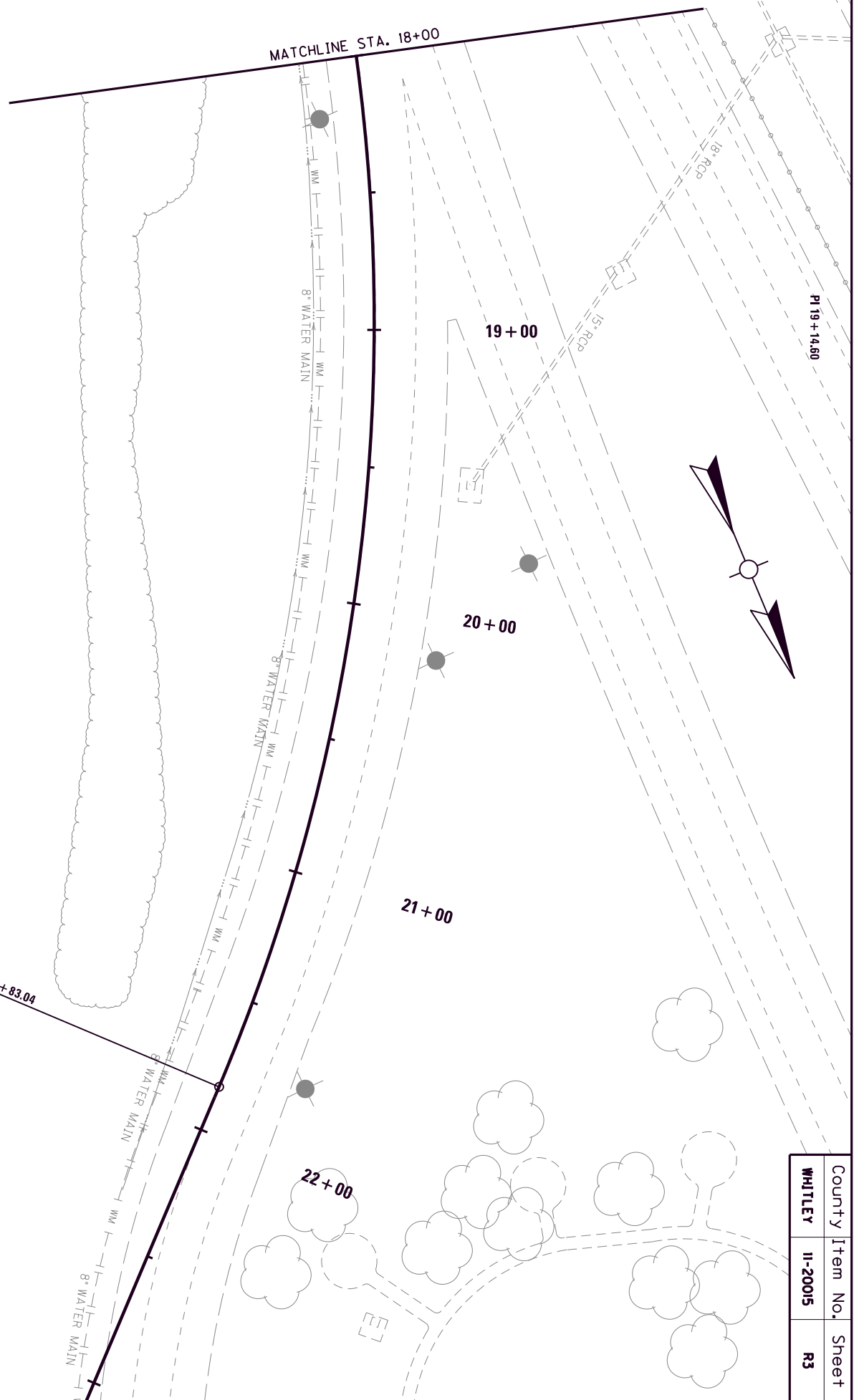
21+00

22+00



SCALE 1" = 50'

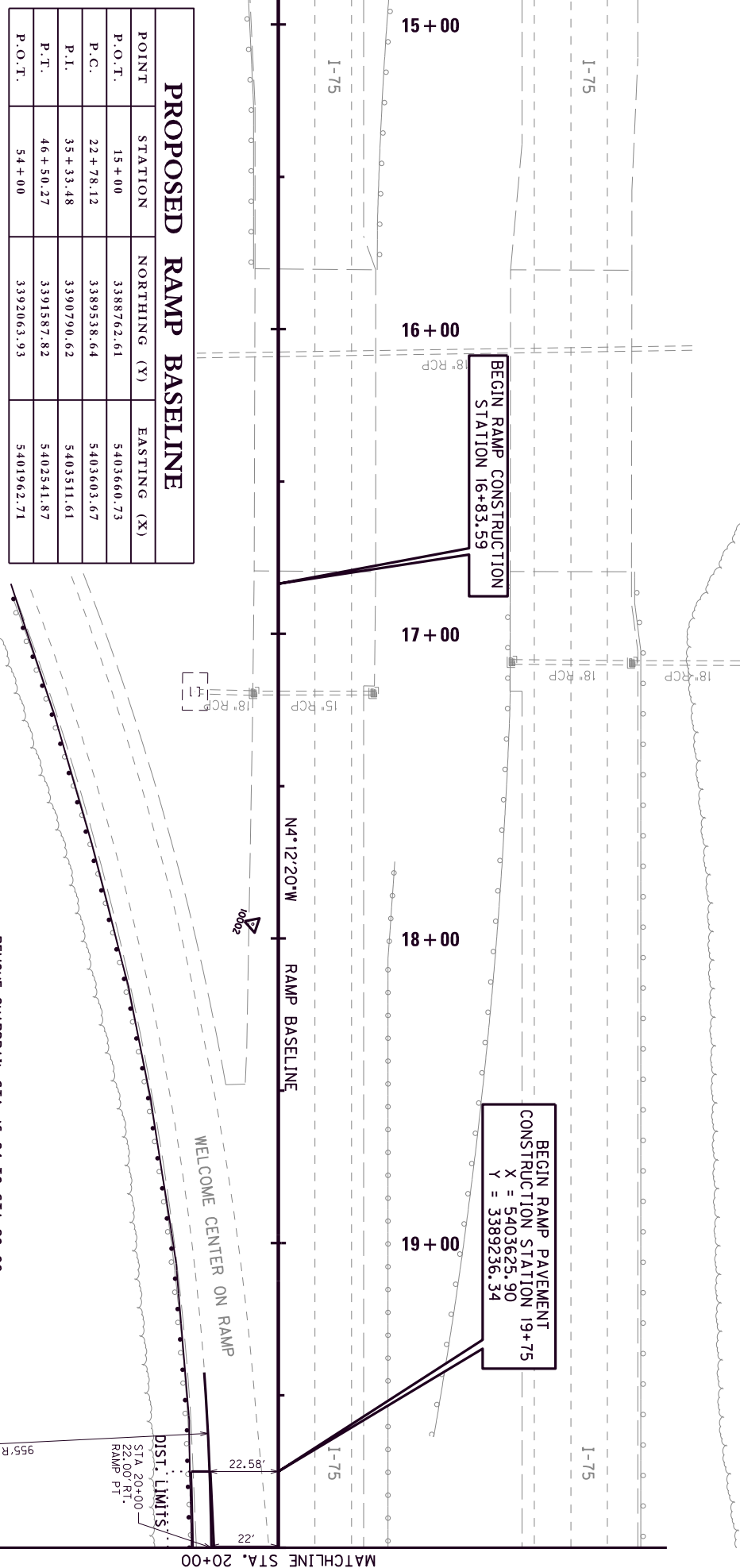
I-75
PROPOSED BORROW SITE
STA. 18+00 TO STA. 23+00



| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | R3 |



| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | R4 |



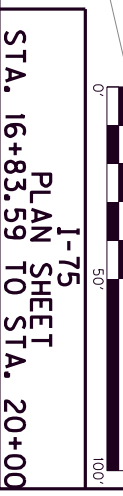
| POINT | STATION | NORTHING (Y) | EASTING (X) |
|--------|----------|--------------|-------------|
| P.O.T. | 15+00 | 3388762.61 | 5403660.73 |
| P.C. | 22+78.12 | 3389538.64 | 5403603.67 |
| P.I. | 35+33.48 | 3390790.62 | 5403511.61 |
| P.T. | 46+50.27 | 3391587.82 | 5402541.87 |
| P.O.T. | 54+00 | 3392063.93 | 5401962.71 |

COORDINATE CONTROL POINTS

| POINT | DESCRIPTION | State Plane Coordinates | | | STATION | OFFSET |
|-------|-------------|-------------------------|------------|-----------|----------|------------|
| | | NORTH (Y) | EAST (X) | ELEV. (Z) | | |
| 10002 | MAG SPIKE | 3389057.73 | 5403647.44 | 1002.86 | 17+95.30 | 8.38' RT |
| 10003 | MONUMENT | 3388787.16 | 5403778.40 | 1006.41 | 15+15.85 | 119.15' RT |
| 10082 | NAIL | 3389596.49 | 5403615.85 | 1001.29 | 23+34.60 | 16.93' RT |
| 10265 | NAIL | 3389411.92 | 5403635.48 | 1001.48 | 21+49.41 | 22.44' RT |

REMOVE GUARDRAIL STA. 16+84 TO STA 20+00
 CONSTRUCT GUARDRAIL STA. 16+84 TO STA 20+00
 BEGIN BY CONNECT TO EXISTING GUARDRAIL END
 AT MATCH LINE. SEE GUARDRAIL SUMMARY FOR
 QUANTITIES.

SCALE 1" = 50'



15+00 1003.9
 15+50 1003.8
 16+00 993.8
 16+50 987.2
 17+00 1003.3
 17+50 1003.1
 18+00 1003.0
 18+50 1002.9
 19+00 1002.7
 1002.75
 19+50 1002.6
 1002.58
 20+00 1002.4
 1002.38

990

995

1000

1005

995

1000

1005

SCALE 1" = 50' HOR.
 1" = 5' VERT.

RAMP EXTENSION PROFILE
 I-75
 STA. 19+75 TO STA 20+00

VPI 19+00.00
 Elev 1002.75

VPI 19+50.00
 Elev 1002.58

-0.32%

-0.40%

BEGIN RAMP WIDENING
 PAVEMENT CONSTRUCTION STA 19+75

VPI 20+00.00 Elev 1002.38 MATCHLINE 20+00

SPLINE GRADE

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | R5 |



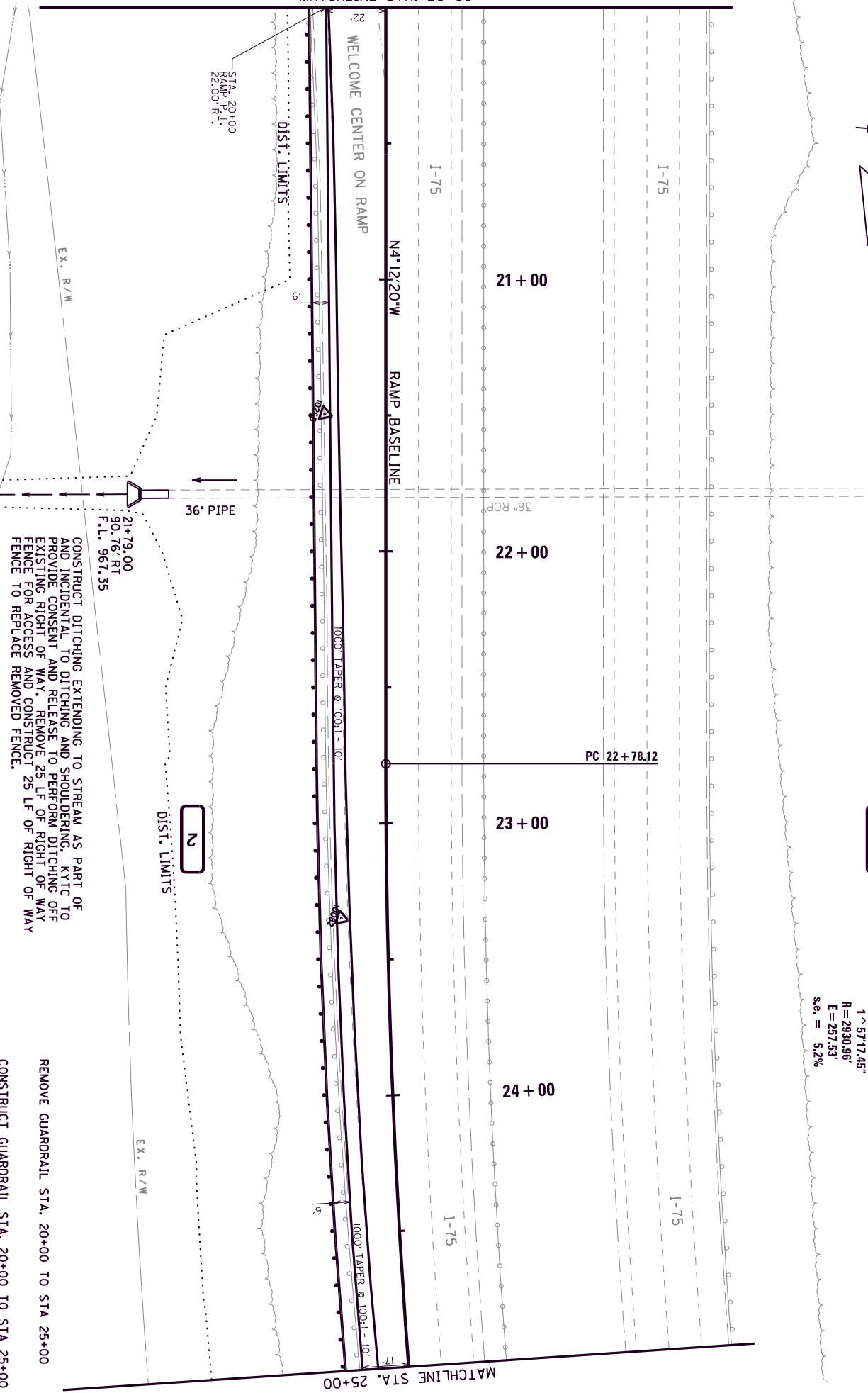
N

PI STA = 35 + 33.48
Delta = $46 \angle 22.18.70^\circ$ LT
T = 1255.36'
L = 2372.15'
1 $\angle 57.17.45^\circ$
R = 2930.96'
E = 257.53'
S.e. = 5.2%

| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | R6 |

MATCHLINE STA. 20+00

MATCHLINE STA. 25+00



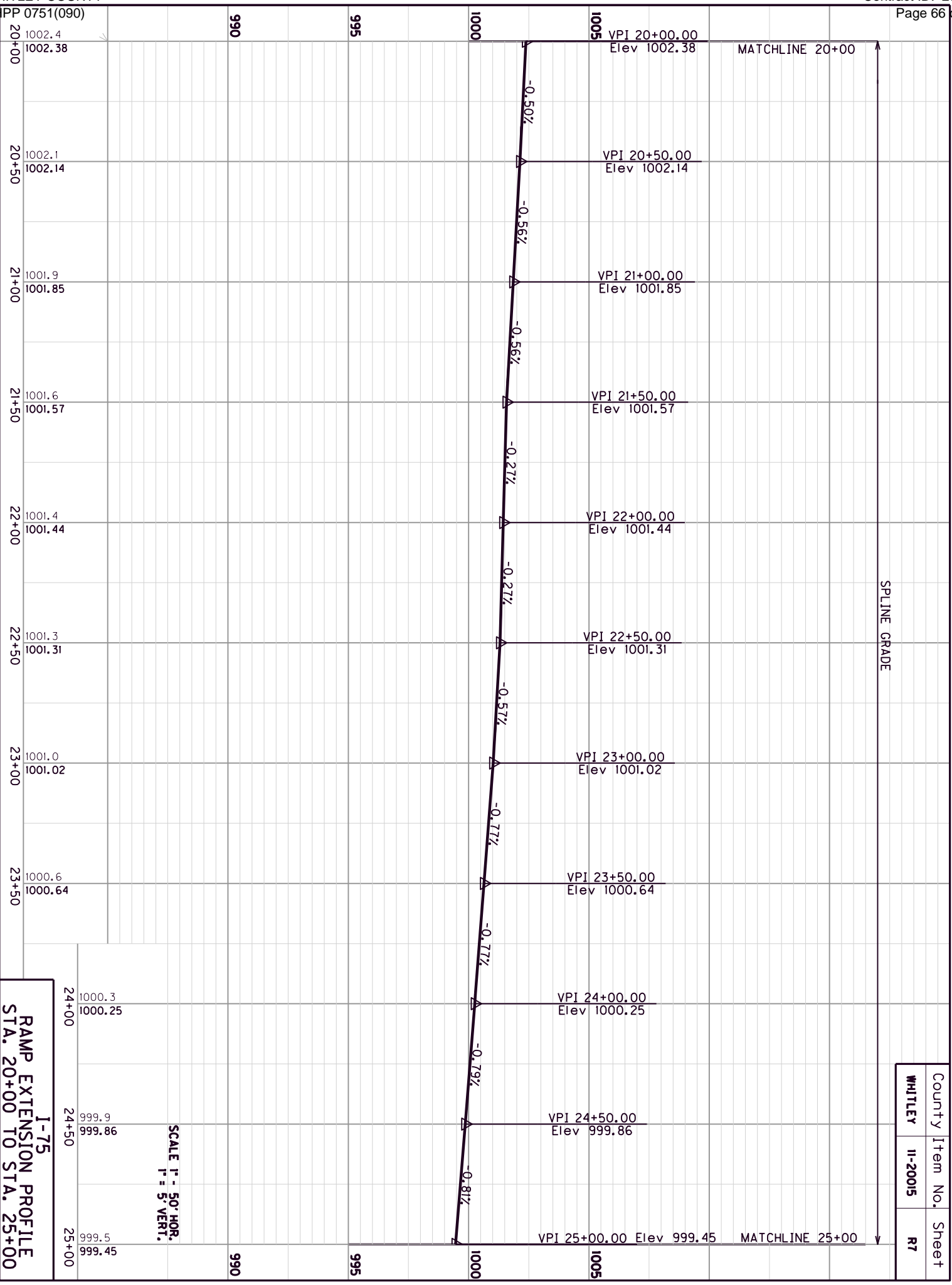
SCALE 1" = 50'

CONSTRUCT DITCHING EXTENDING TO STREAM AS PART OF AND INCIDENTAL TO DITCHING AND SHOULDERING. KYTC TO PROVIDE CONSENT AND RELEASE TO PERFORM DITCHING OFF EXISTING RIGHT OF WAY. REMOVE 25 LF OF RIGHT OF WAY FENCE FOR ACCESS AND CONSTRUCT 25 LF OF RIGHT OF WAY FENCE TO REPLACE REMOVED FENCE.

CONSTRUCT GUARDRAIL STA. 20+00 TO STA 25+00 BEGIN AT MATCHLINE AND END AT MATCH LINE. SEE GUARDRAIL SUMMARY FOR QUANTITIES.

REMOVE GUARDRAIL STA. 20+00 TO STA 25+00

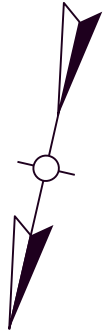
I-75
PLAN SHEET
STA. 20+00 TO STA. 25+00



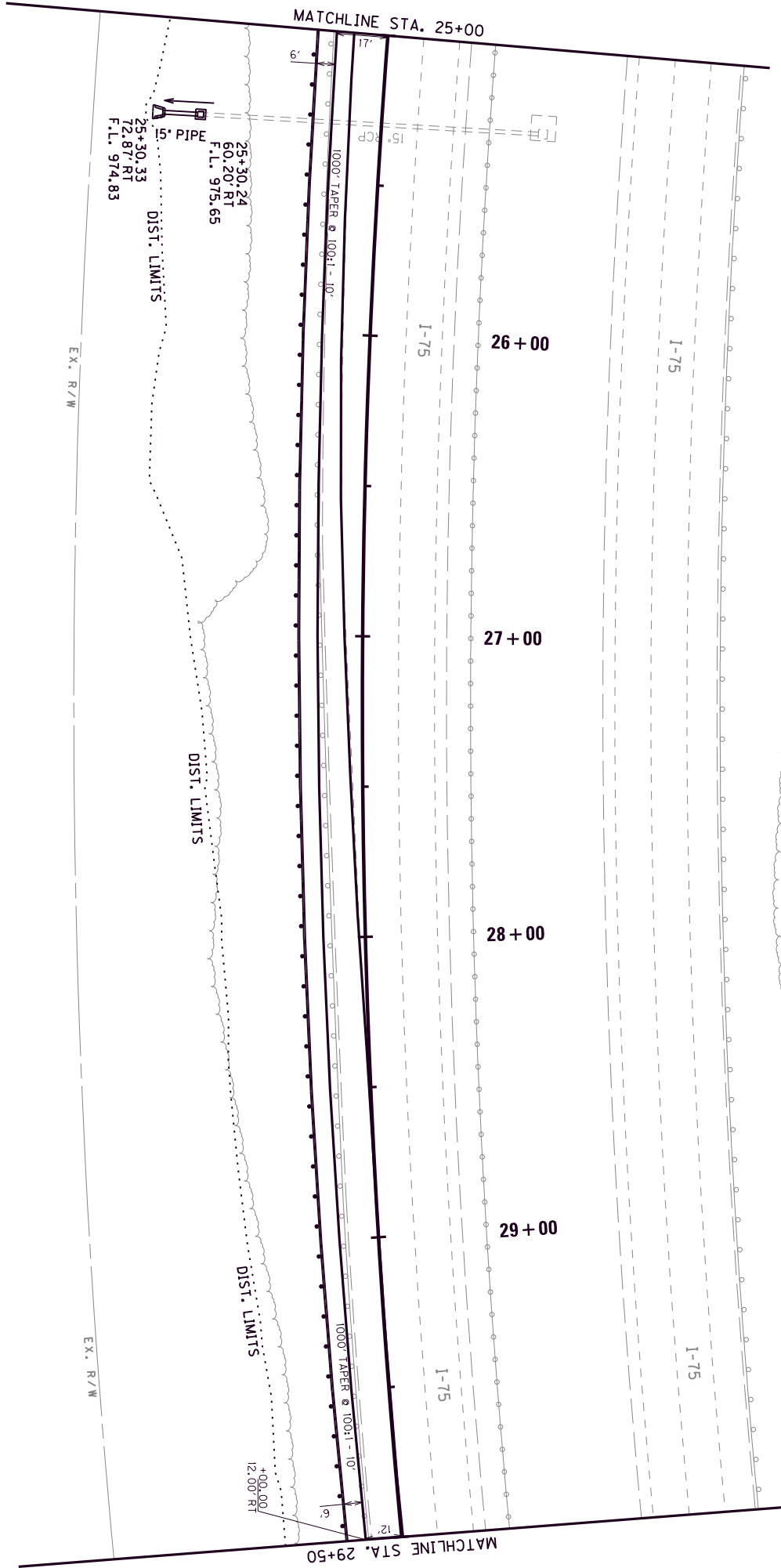
RAMP EXTENSION PROFILE
STA. 20+00 TO STA. 25+00

SCALE 1" = 50' HOR.
1" = 5' VERT.

| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | R7 |



PI STA = 35 + .3348
 Delta = $46 \angle 22^{\circ} 18.70'$ LT
 T = 1255.36'
 L = 2372.15'
 1 \angle 57' 17.45"
 R = 2930.96'
 E = 297.53'
 s.e. = 5.2%



REMOVE GUARDRAIL STA. 25+00 TO STA 30+00

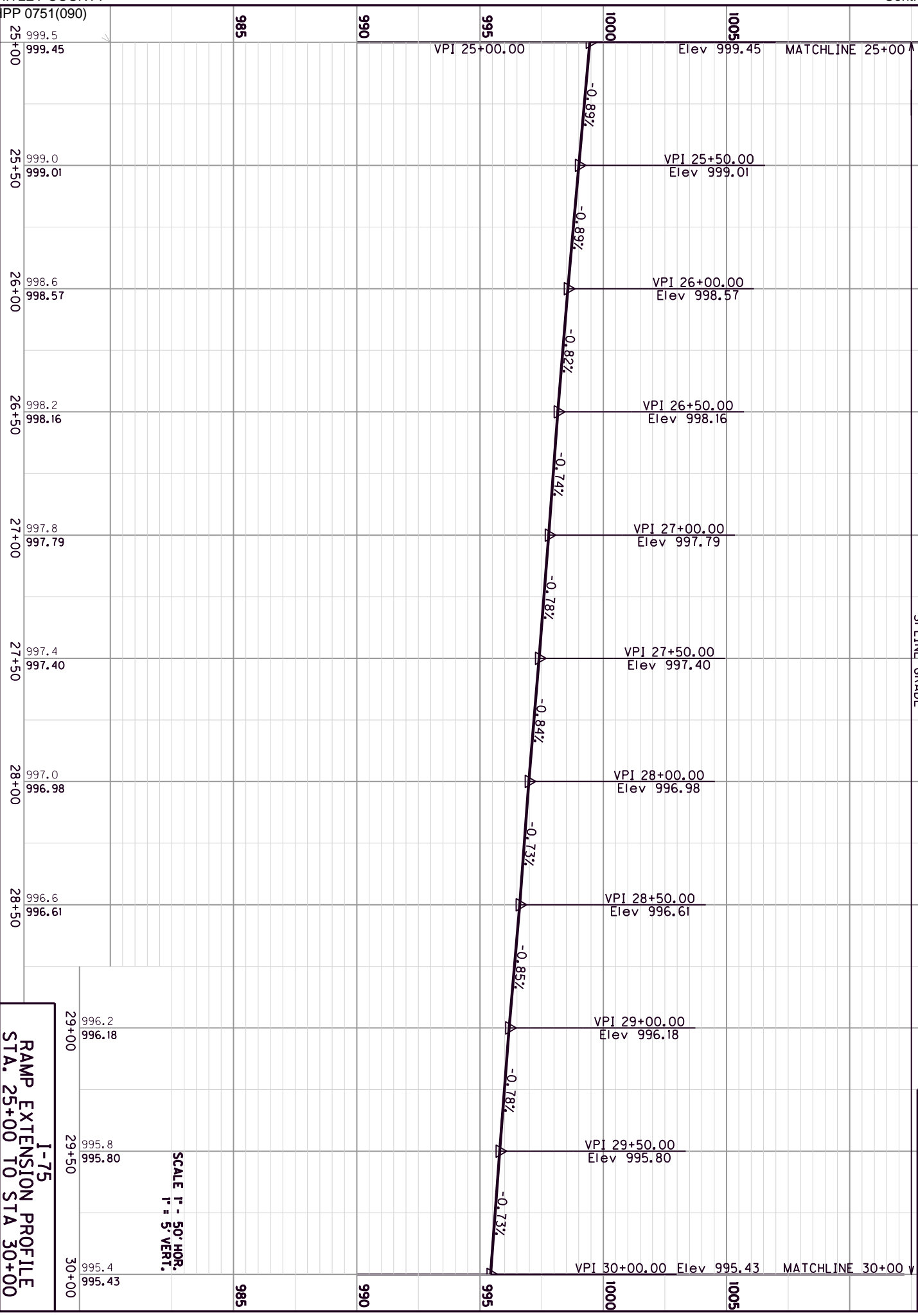
CONSTRUCT GUARDRAIL STA. 25+00 TO STA 30+00
 BEGIN AT MATCHLINE AND END AT MATCH LINE.
 SEE GUARDRAIL SUMMARY FOR QUANTITIES.



SCALE 1" = 50'

I-75
 PLAN SHEET
 STA. 25+00 TO 30+00

| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | R8 |

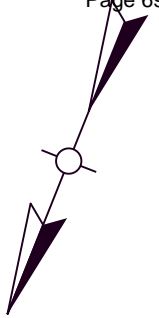


SPLINE GRADE

RAMP EXTENSION PROFILE
I-75
STA. 25+00 TO STA 30+00

SCALE 1" = 50' HOR.
1" = 5' VERT.

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | R9 |



MATCHLINE STA. 30+00

+00.00
12:00' RT

DIST. LIMITS

300' TAPER @ 25:1 - 12'

I-75

31+00

I-75

END RAMP PAVEMENT
CONSTRUCTION STATION 33+00
X = 5403354.37
Y = 3390524.31

32+00

DIST. LIMITS

33+00

+00.00
0:00' RT
+00.00
10:00' RT

34+00

I-75

I-75

35+00

EX. R/W

EX. R/W

REMOVE GUARDRAIL STA. 30+00 TO STA 33+00

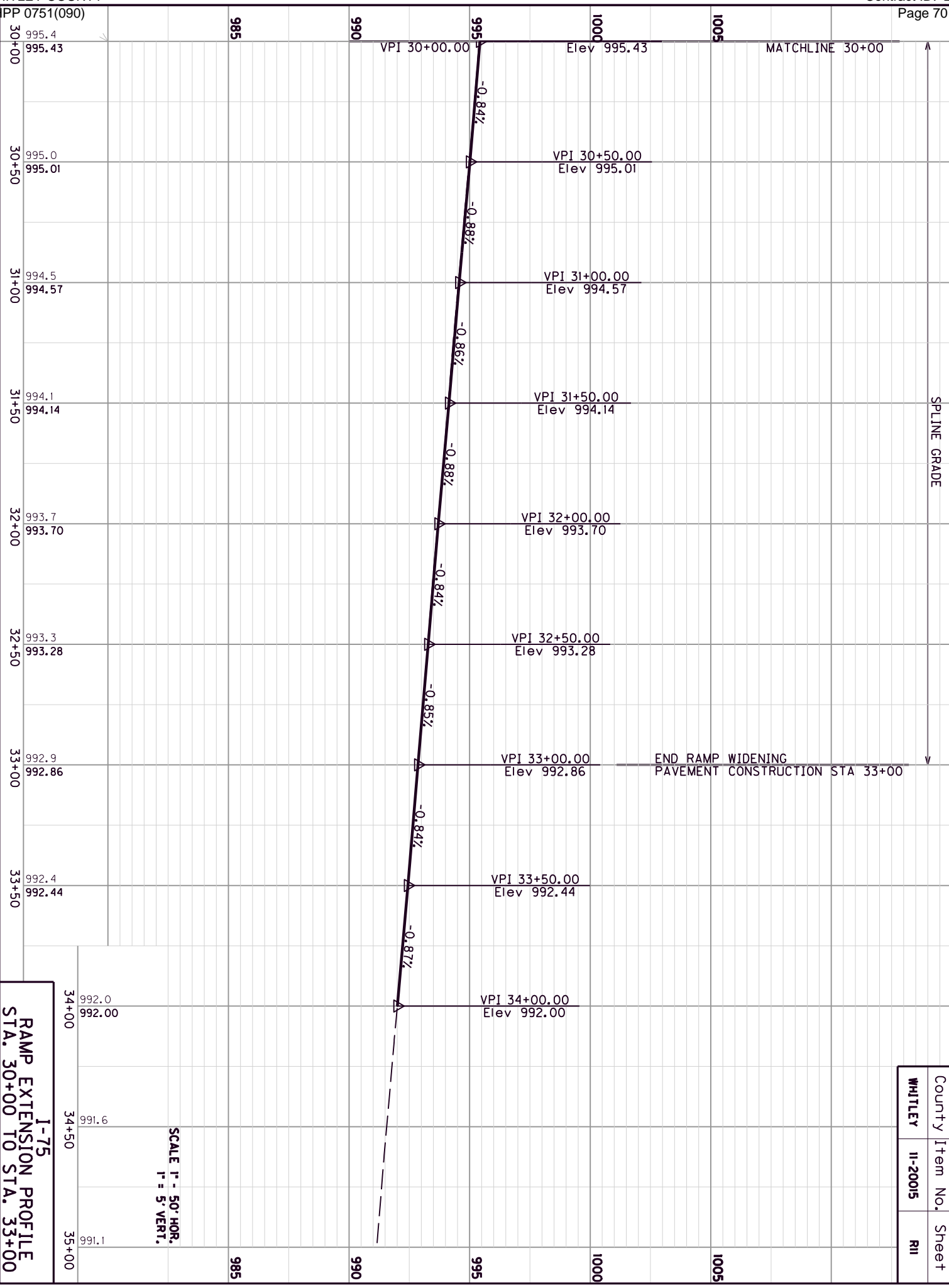
CONSTRUCT GUARDRAIL STA. 30+00 TO STA 33+00
BEGIN AT MATCHLINE AND END AT TIE TO EXISTING.
SEE GUARDRAIL SUMMARY FOR QUANTITIES.



SCALE 1" = 50'

I-75
PLAN SHEET
STA. 30+00 TO STA. 33+00

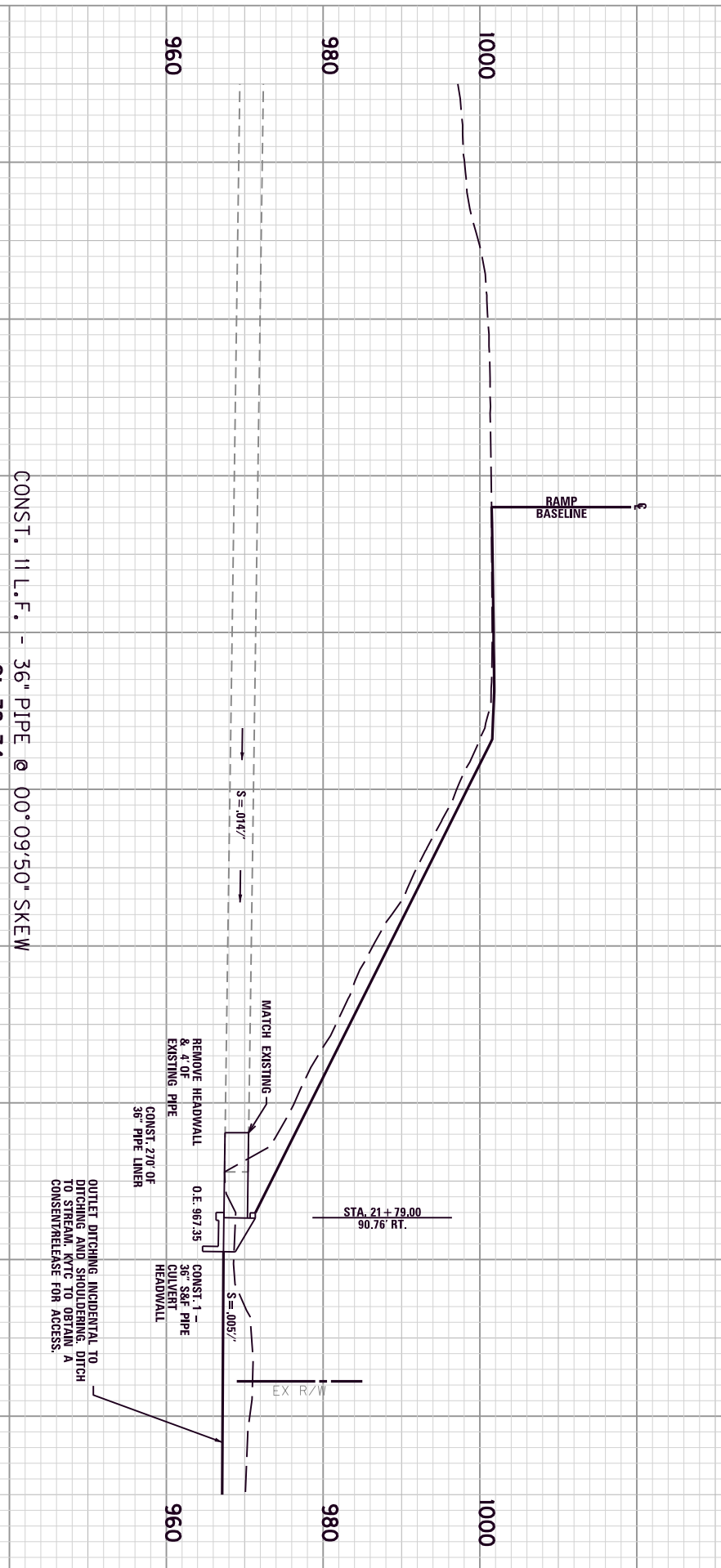
| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | R10 |



| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | R11 |

PIPE DRAINAGE SHEET

| MAXIMUM COVER HEIGHT | CULVERT PIPE | | | | | | ENTRANCE PIPE | | | | | | PIPE CULVERT HEADWALL 36" | REMOVE PIPE | REMOVE HEADWALL | PVC FOLD AND FORM LINER 36" | | | |
|----------------------|-----------------|-----|-----|-----|-----|-----|---------------|-----|-----|-----|-----|-----|---------------------------|-------------|-----------------|-----------------------------|---|---|---|
| | DESIGN PH LEVEL | 15' | 18' | 24' | 30' | 36' | 42' | 15' | 18' | 24' | 30' | 36' | | | | | | | |
| FT | | | | | | | | | | | | | EACH | LF | EACH | LF | | | |
| - | - | - | - | - | - | 11 | - | - | - | - | - | - | 1 | 4 | 1 | 270 | - | - | - |



CONST. 11 L.F. - 36" PIPE @ 00° 09' 50" SKEW
21+78.74

STA. 21+79.00
90.76' RT.

OUTLET DITCHING INCIDENTAL TO DITCHING AND SHOULDERING. DITCH TO STREAM. KYTC TO OBTAIN A CONSENT/RELEASE FOR ACCESS.

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

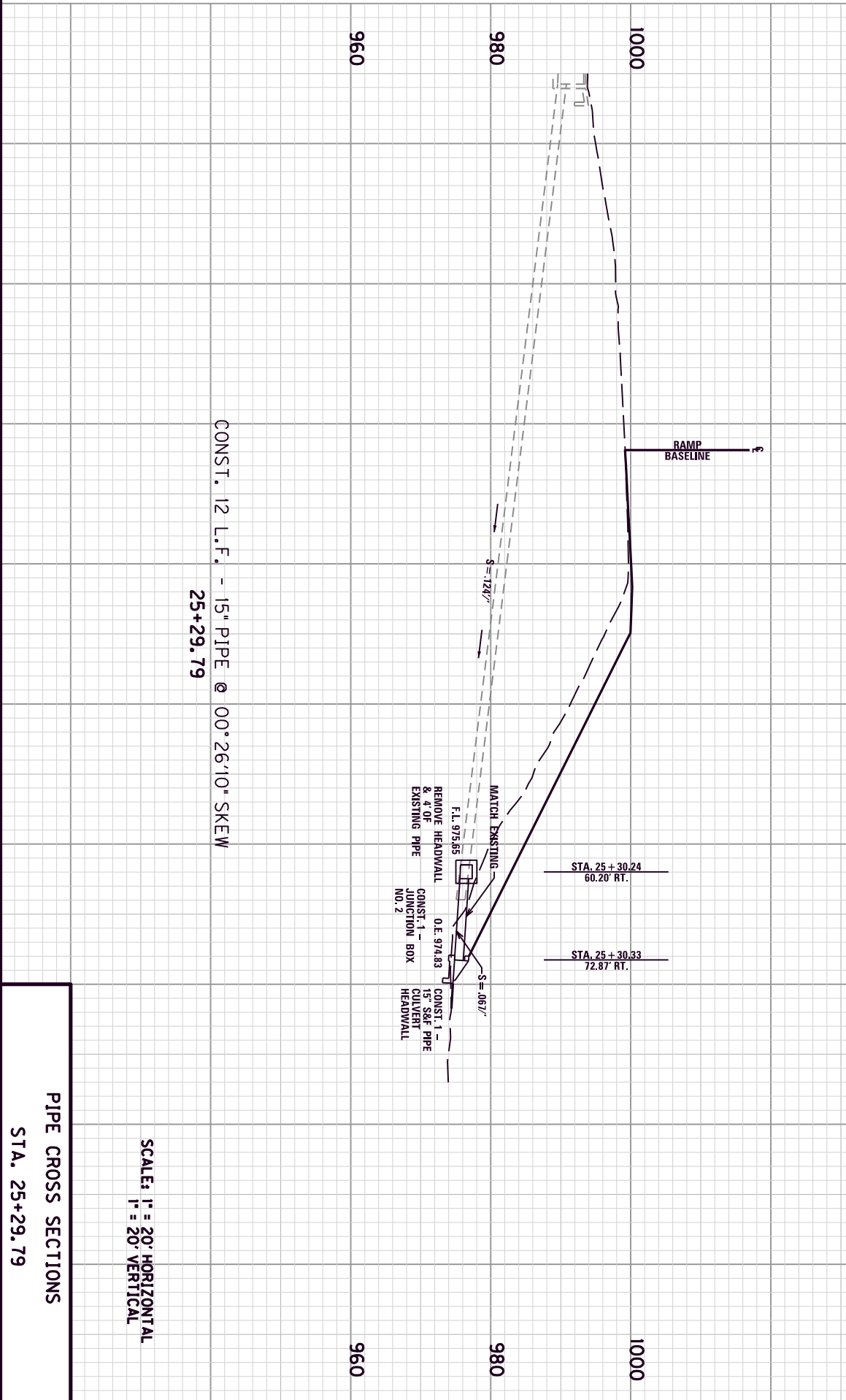
PIPE CROSS SECTIONS
STA. 21+78.74

| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | R12 |

PIPE DRAINAGE SHEET

| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | R13 |

| MAXIMUM COVER HEIGHT | DESIGN PH LEVEL | CULVERT PIPE | | | | | | ENTRANCE PIPE | | | | | | PIPE CULVERT HEADWALL 15' | REMOVE PIPE | REMOVE HEADWALL | JUNCTION BOX - 15 IN |
|----------------------|-----------------|--------------|-----|-----|-----|-----|-----|---------------|-----|-----|-----|-----|---|---------------------------|-------------|-----------------|----------------------|
| | | 15' | 18' | 24' | 30' | 36' | 42' | 15' | 18' | 24' | 30' | 36' | | | | | |
| FT | | 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
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| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |



CONST. 12 L.F. - 15" PIPE @ 00°26'10" SKEW
25+29.79

STA. 25 + 30.24
60.20' RT.

STA. 25 + 30.33
72.87' RT.

F.L. 975.85
REMOVE HEADWALL
& 4' OF
EXISTING PIPE
NO. 2

O.E. 974.83
CONST. 1 -
15" S&F PIPE
CULVERT
HEADWALL

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

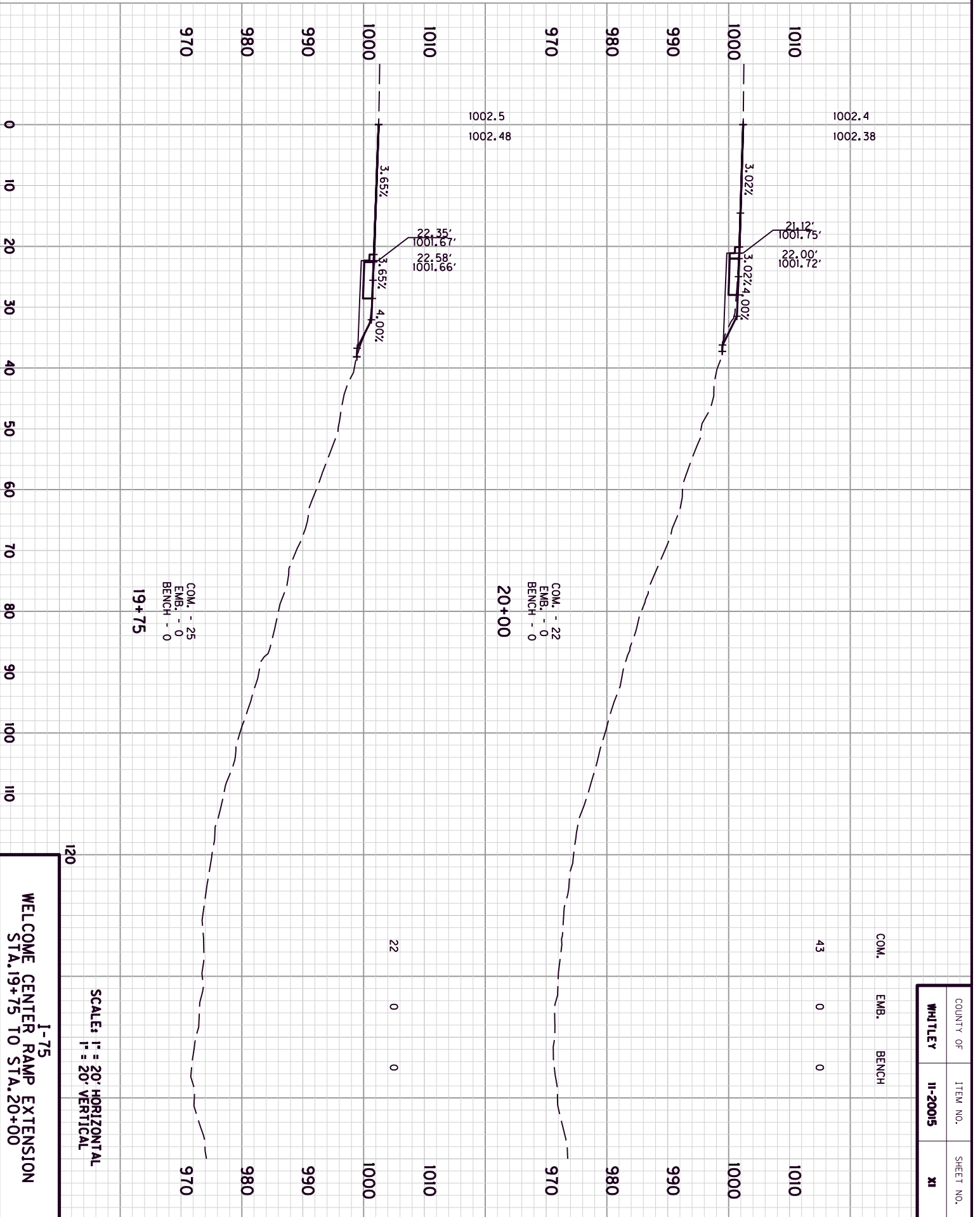
PIPE CROSS SECTIONS
STA. 25+29.79

MicroStation v8.11.9.459

E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

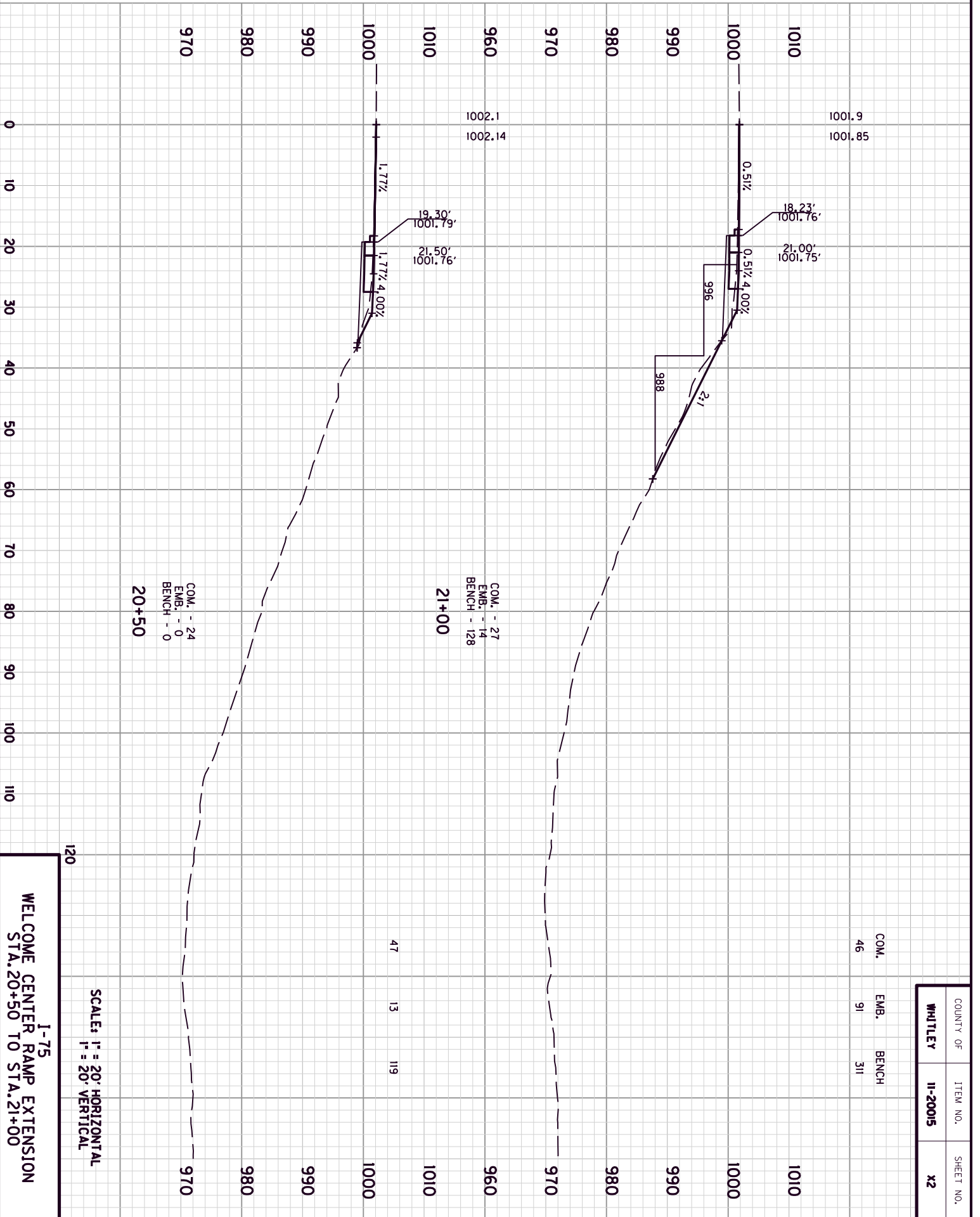


MicroStation v8.11.9.459

E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



COM. - 24
EMB. - 0
BENCH - 0
20+50

COM. - 27
EMB. - 14
BENCH - 128
21+00

COM. 46
EMB. 91
BENCH 311

| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | II-20015 | X2 |

1-75
WELCOME CENTER RAMP EXTENSION
STA. 20+50 TO STA. 21+00

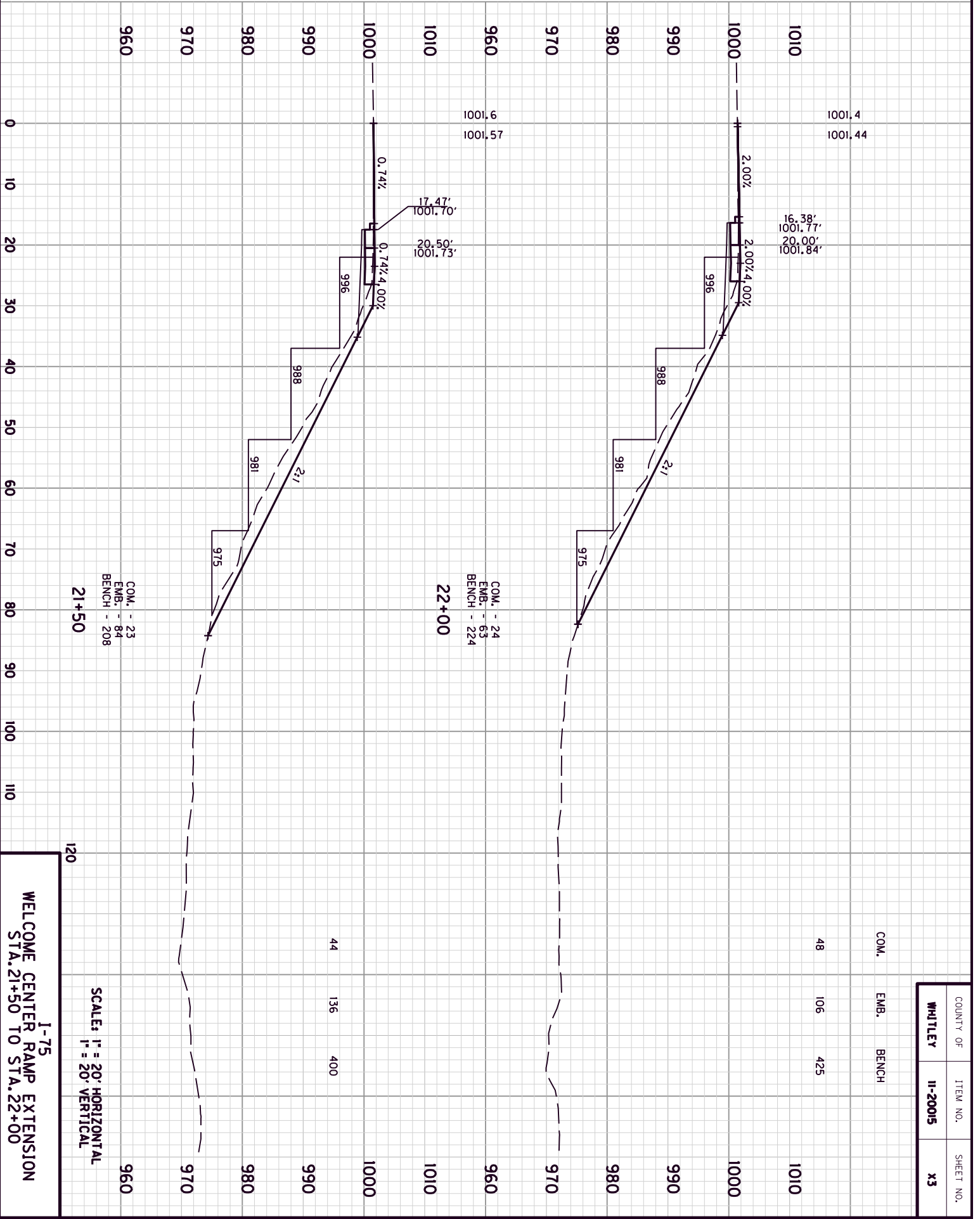
SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:



1-75
WELCOME CENTER RAMP EXTENSION
STA. 21+50 TO STA. 22+00

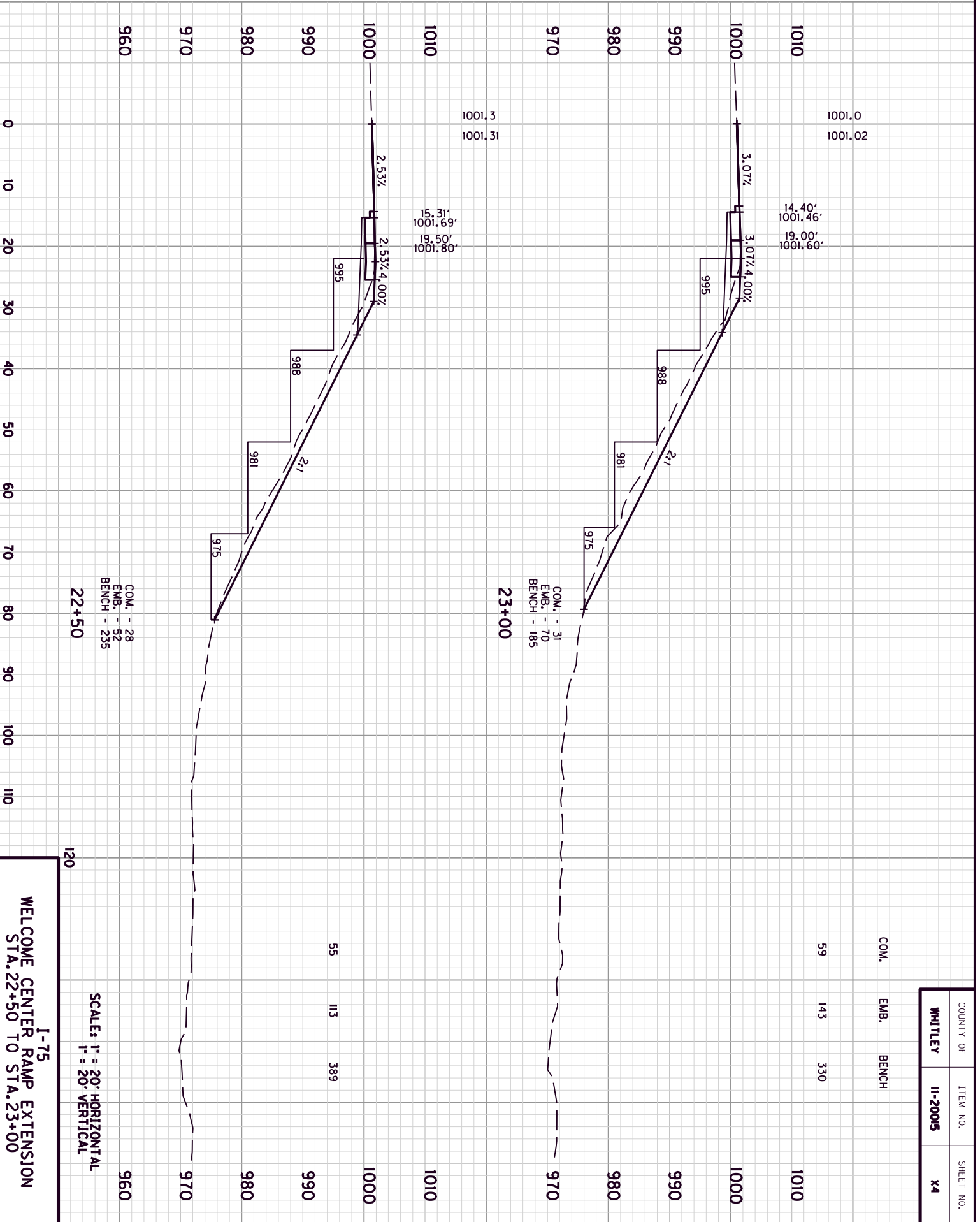
SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:



COM. - 28
EMB. - 52
BENCH - 235
22+50

COM. - 31
EMB. - 70
BENCH - 185
23+00

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

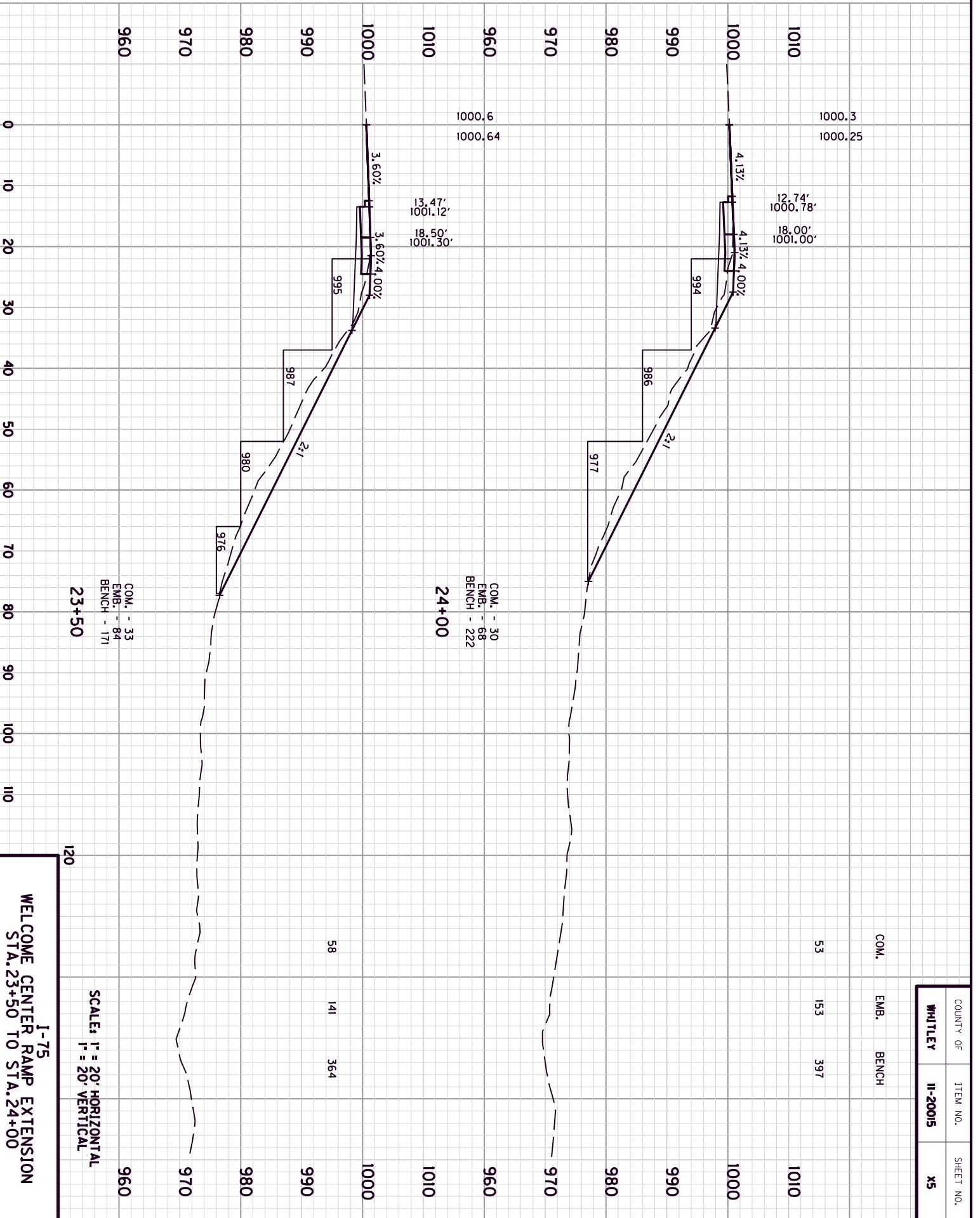
1-75
WELCOME CENTER RAMP EXTENSION
STA. 22+50 TO STA. 23+00

MicroStation v8.11.9.459

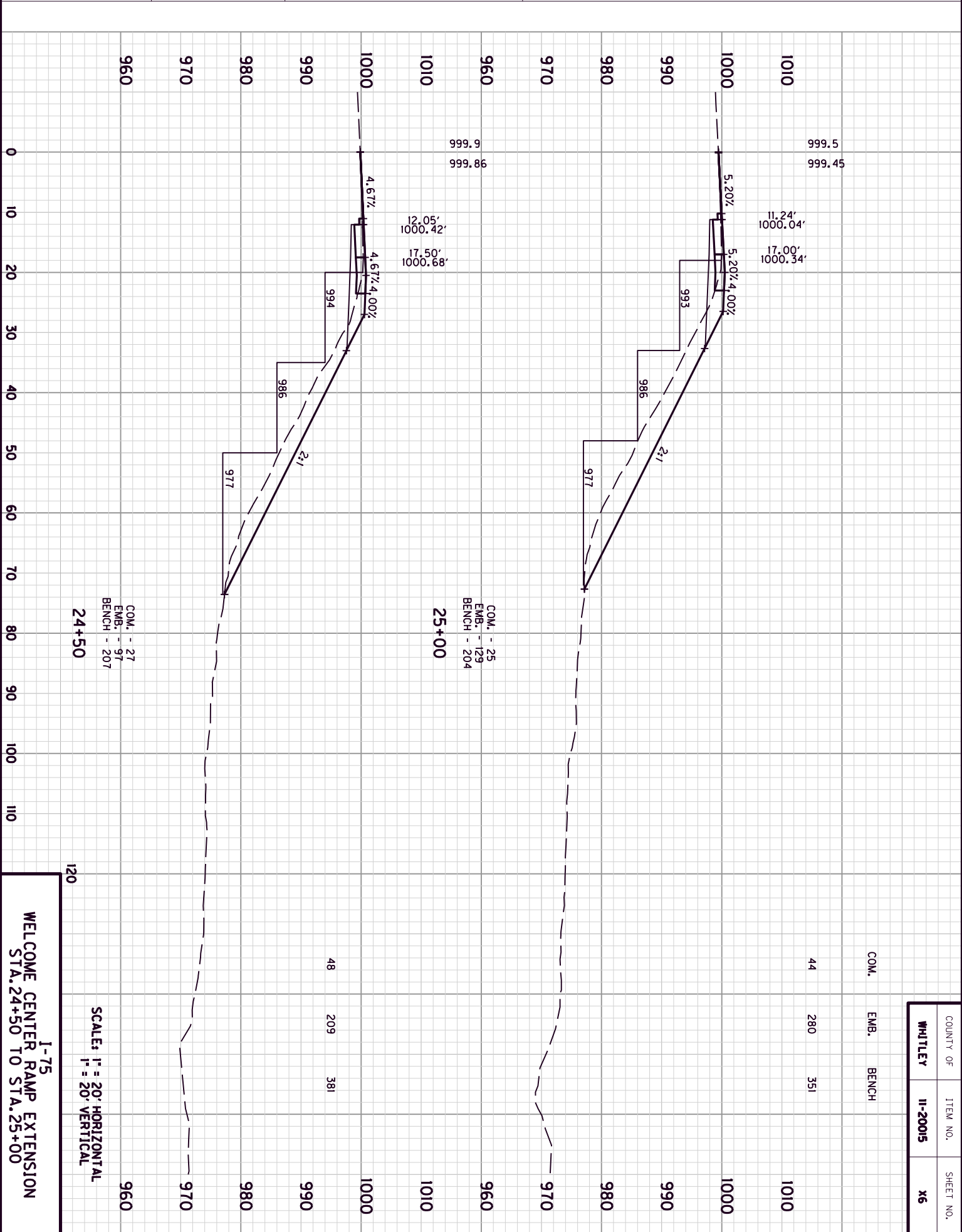
E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



MicroStation v8.11.9.459 E-SHEET NAME: USER: cbrunty DATE PLOTTED: October 11, 2020 FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | 11-20015 | X6 |

COM. EMB. BENCH

44 280 351

COM. - 25
EMB. - 129
BENCH - 204
25+00

COM. - 27
EMB. - 97
BENCH - 207
24+50

48 209 381

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

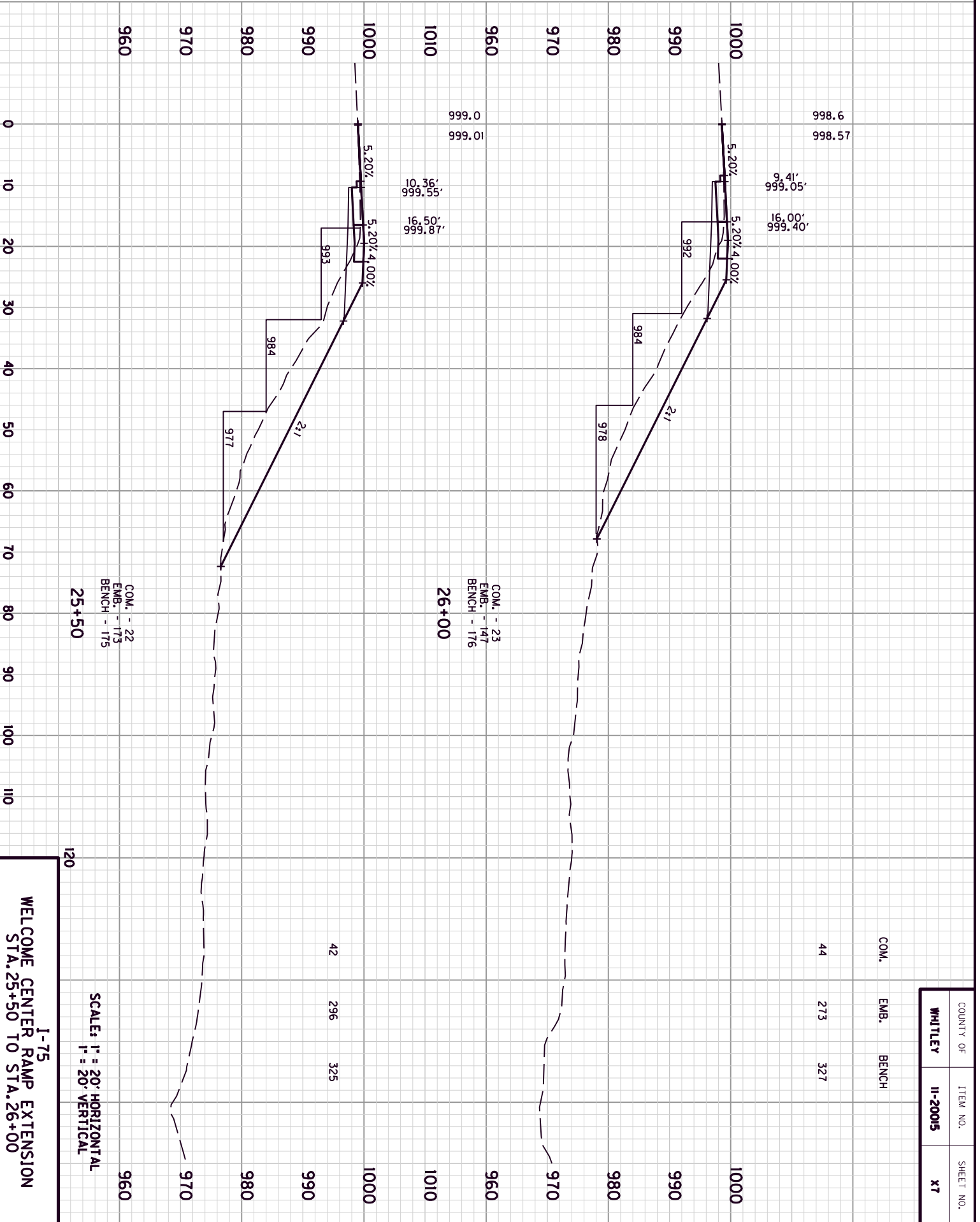
1-75
WELCOME CENTER RAMP EXTENSION
STA. 24+50 TO STA. 25+00

MicroStation v8.11.9.459

E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



COM. - 23
EMB. - 147
BENCH - 176
26+00

COM. - 22
EMB. - 173
BENCH - 175
25+50

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

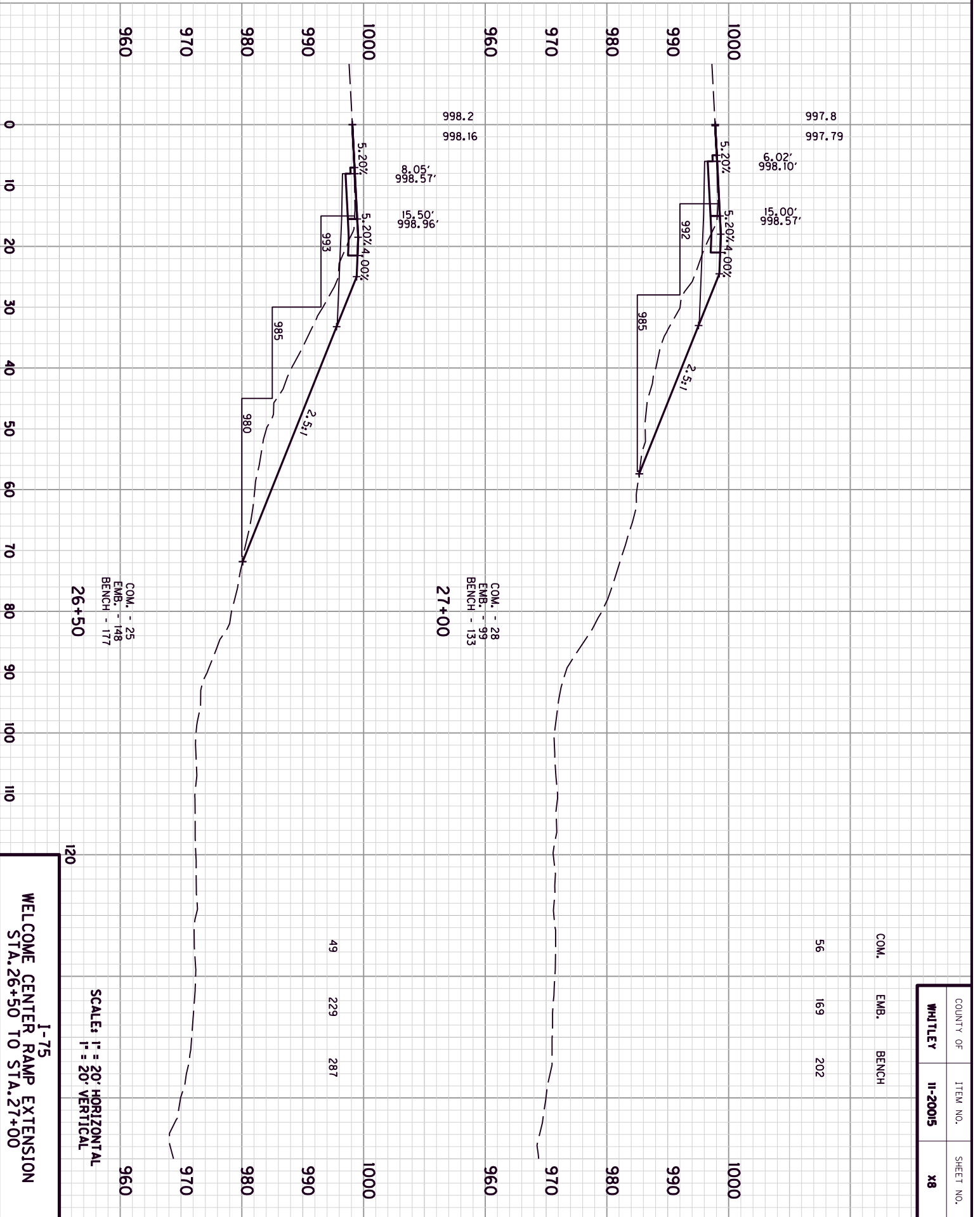
1-75
WELCOME CENTER RAMP EXTENSION
STA. 25+50 TO STA. 26+00

MicroStation v8.11.9.459

E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | II-20015 | X8 |

COM. EMB. BENCH

56 169 202

COM. - 28
EMB. - 99
BENCH - 133
27+00

COM. - 25
EMB. - 148
BENCH - 177
26+50

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

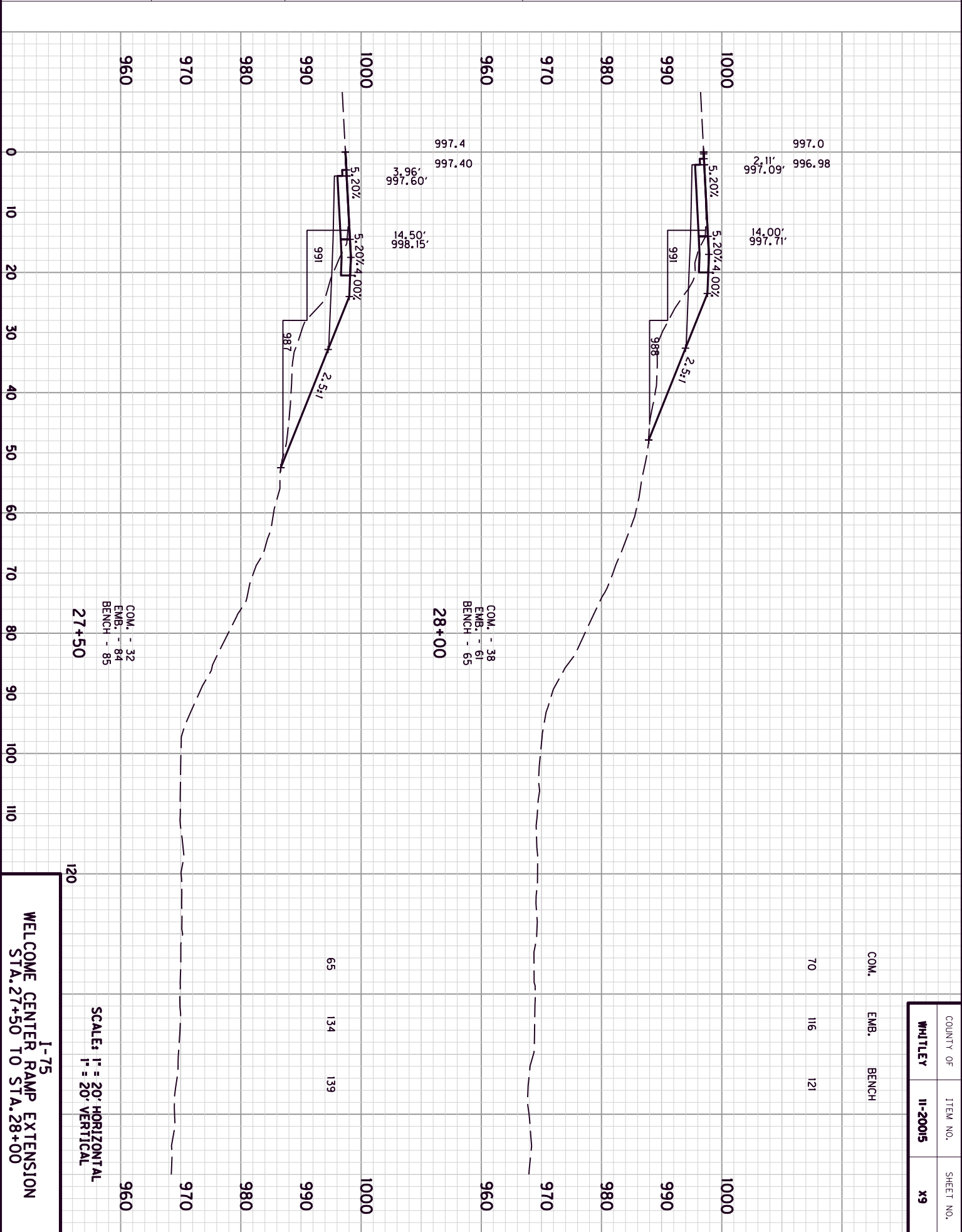
1-75
WELCOME CENTER RAMP EXTENSION
STA. 26+50 TO STA. 27+00

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:



COM. - 38
EMB. - 61
BENCH - 65
28+00

COM. - 32
EMB. - 84
BENCH - 85
27+50

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

1-75
WELCOME CENTER RAMP EXTENSION
STA. 27+50 TO STA. 28+00

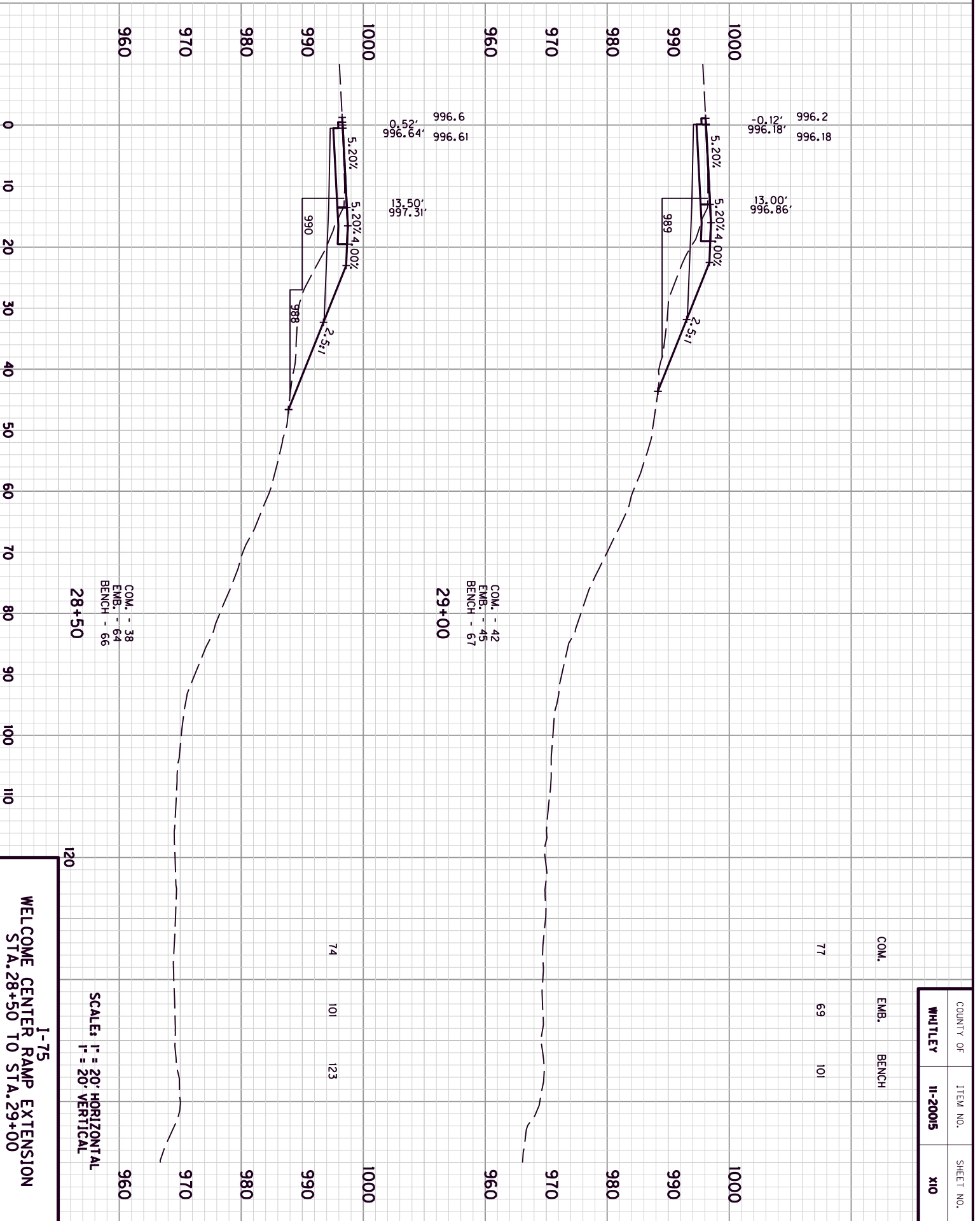
| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | 11-20015 | X9 |

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:

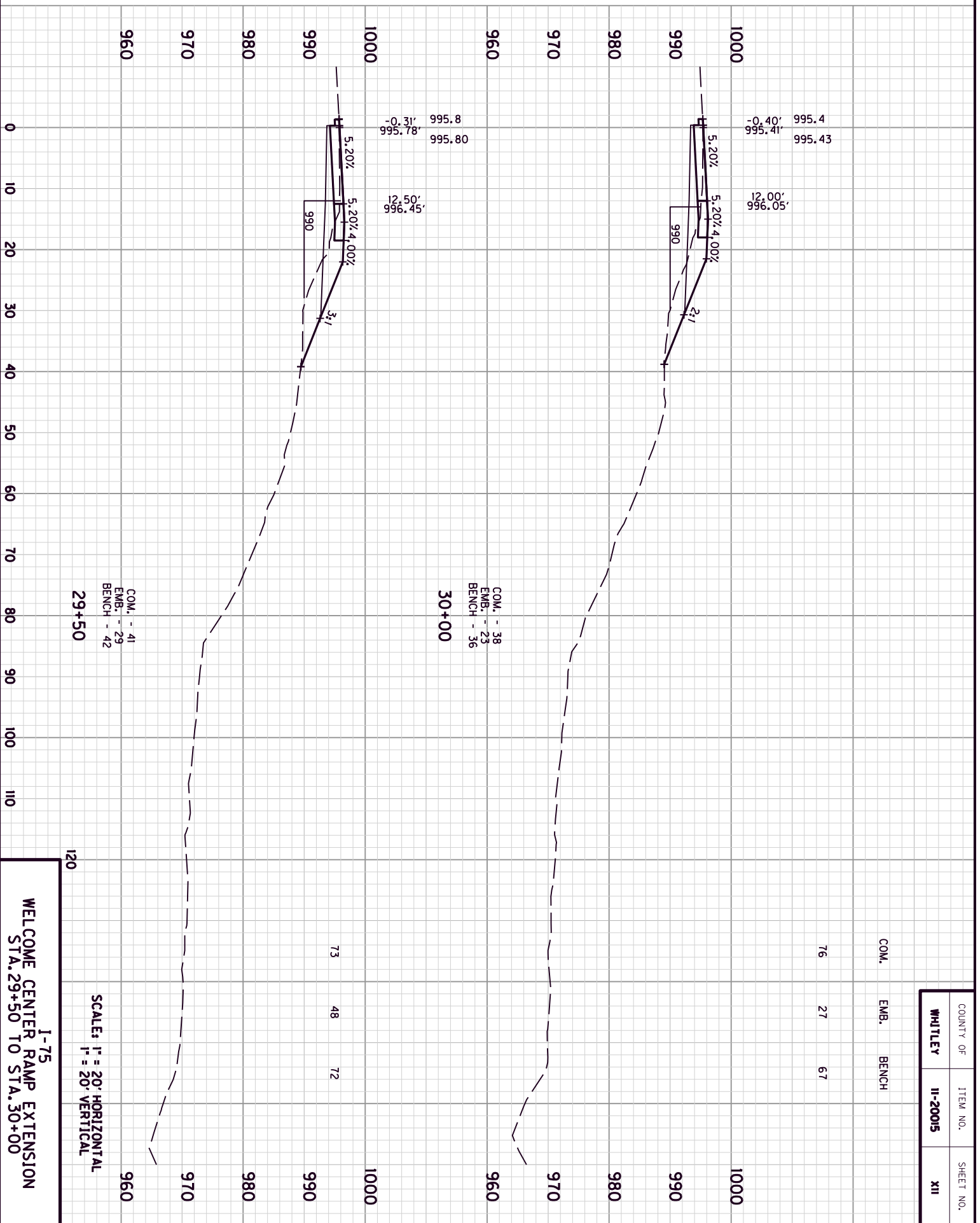


USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:



| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | II-20015 | XII |

1-75
WELCOME CENTER RAMP EXTENSION
STA. 29+50 TO STA. 30+00

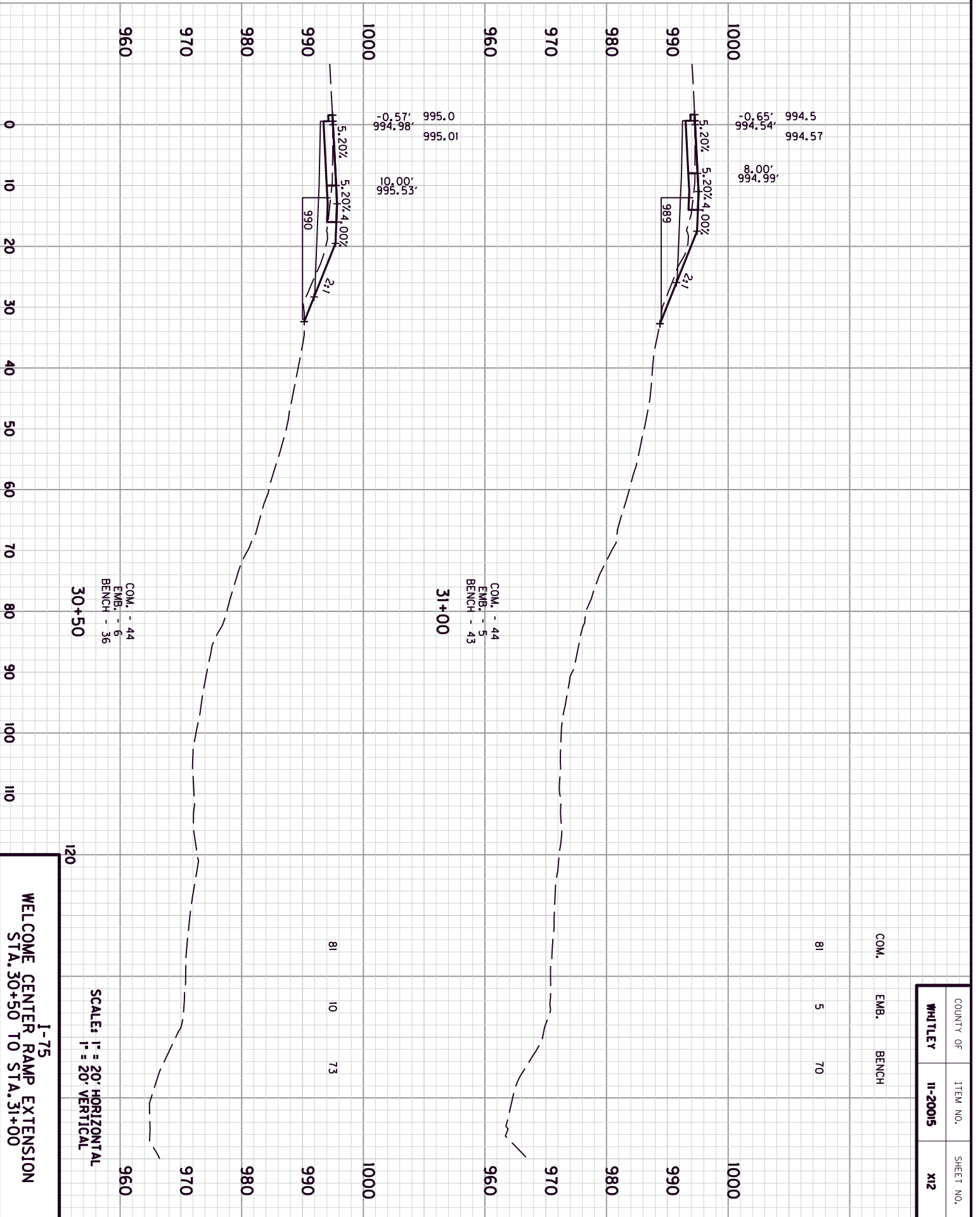
SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

MicroStation v8.11.9.459

E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



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|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X12 |

WELCOME CENTER RAMP EXTENSION
STA. 30+50 TO STA. 31+00

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

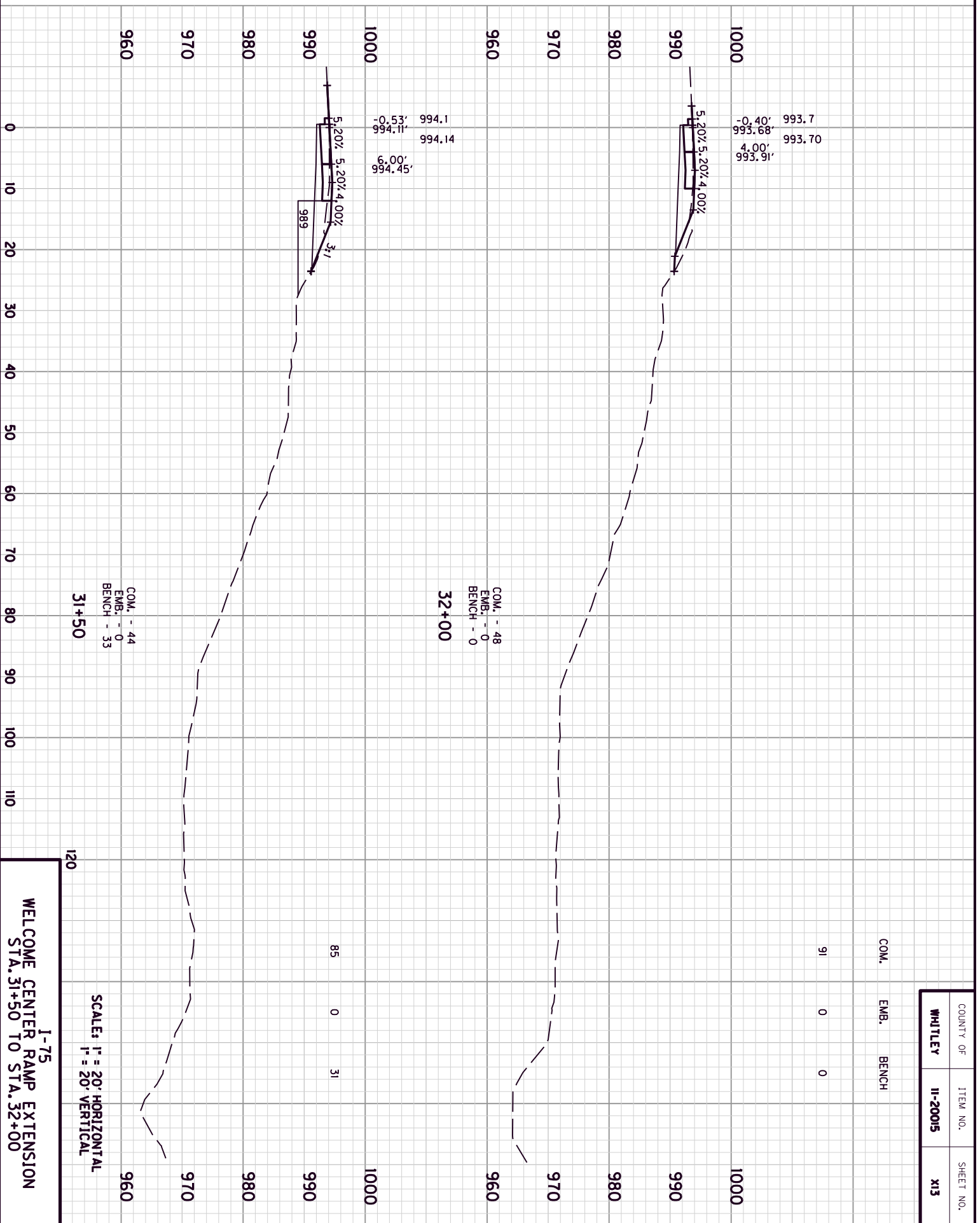
1-75

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:



COM. EMB. BENCH

91 0 0

COM. - - 48
EMB. - - 0
BENCH - - 0

32+00

COM. - - 44
EMB. - - 0
BENCH - - 33

31+50

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

1-75
WELCOME CENTER RAMP EXTENSION
STA. 31+50 TO STA. 32+00

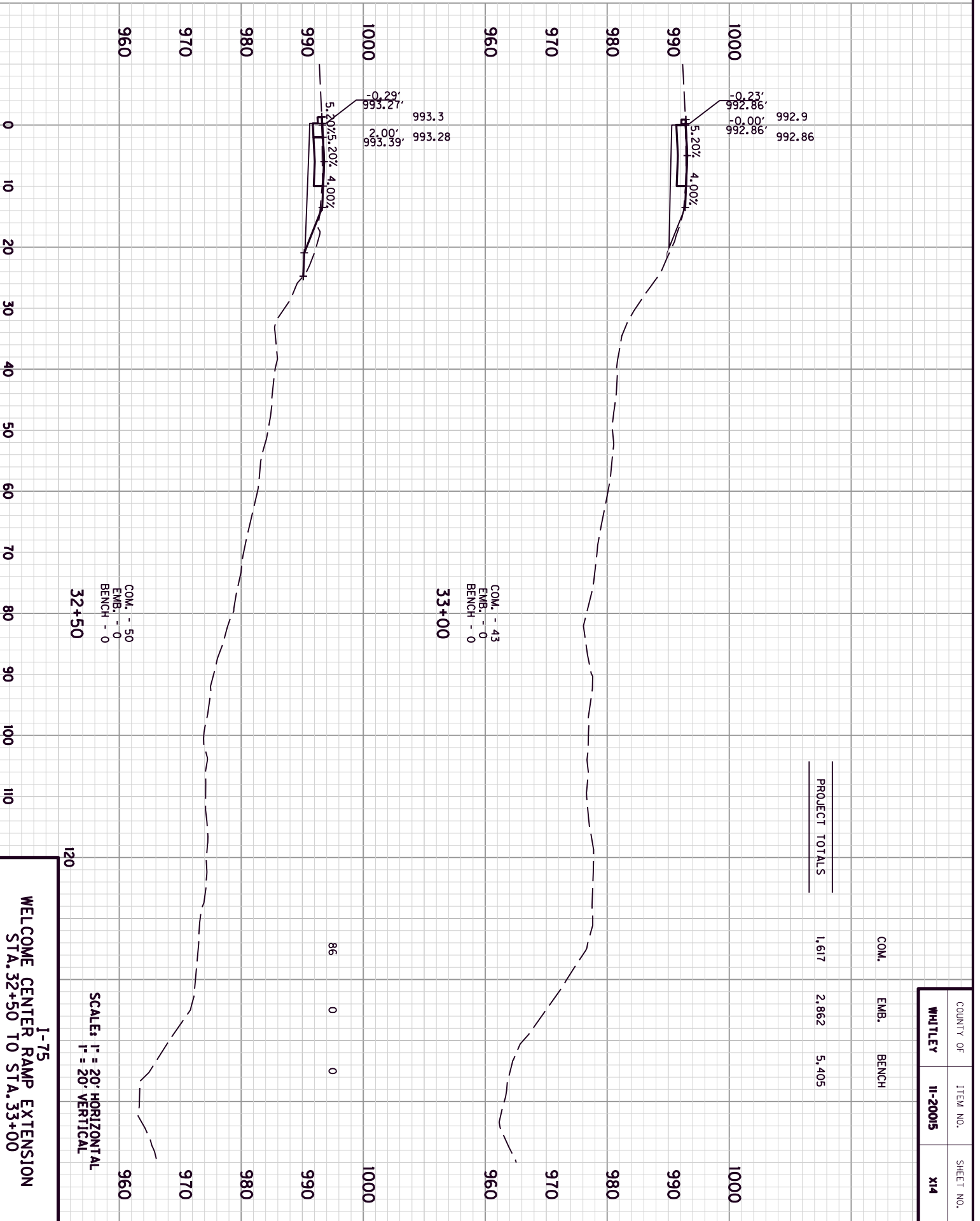
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|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X13 |

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:



| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | 11-20015 | X14 |

COM. - 43
EMB. - 0
BENCH - 0
33+00

COM. - 50
EMB. - 0
BENCH - 0
32+50

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

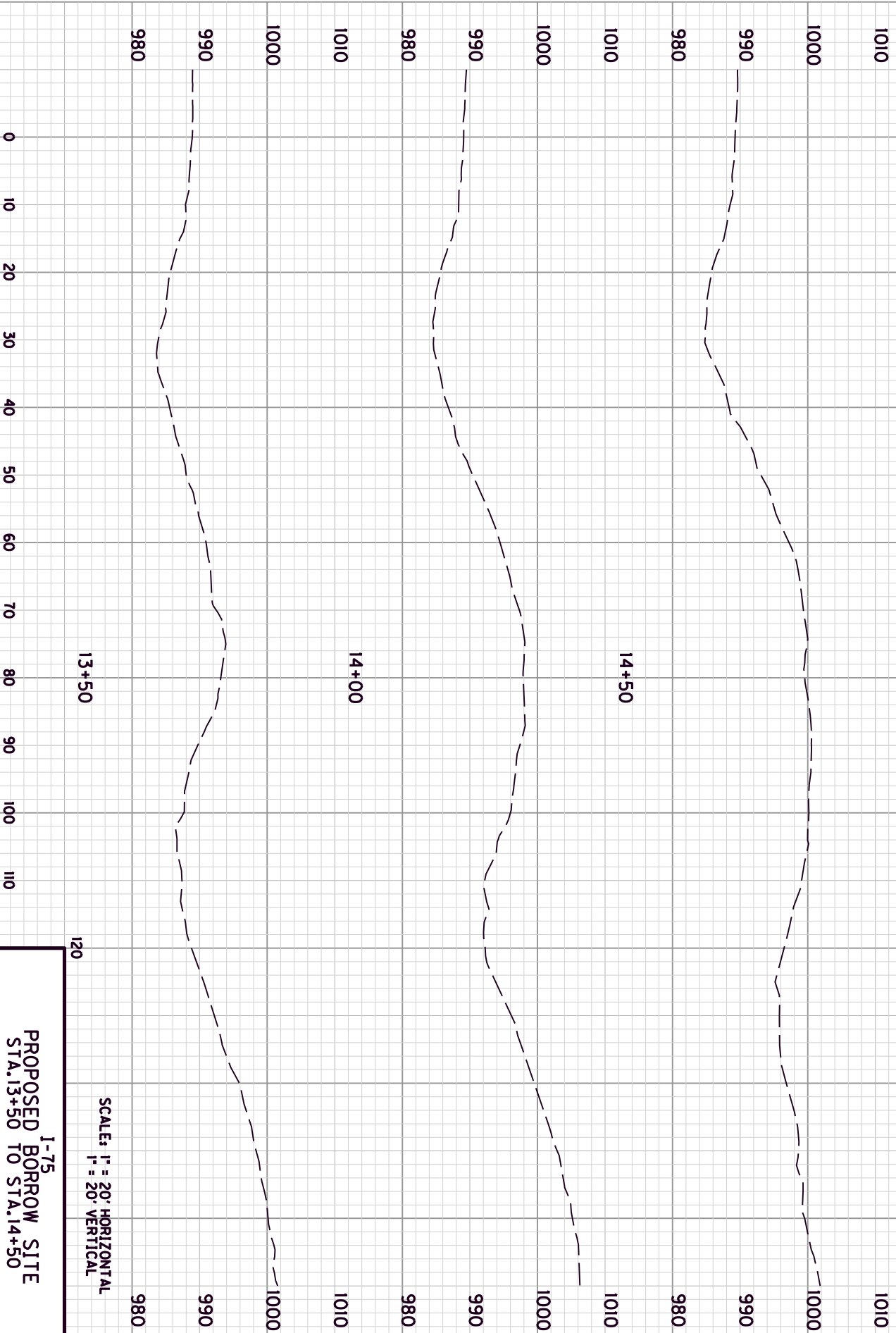
1-75
WELCOME CENTER RAMP EXTENSION
STA. 32+50 TO STA. 33+00

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:



| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X15 |

1-75
PROPOSED BORROW SITE
 STA. 13+50 TO STA. 14+50

SCALE: 1" = 20' HORIZONTAL
 1" = 20' VERTICAL

USER: cbrunty
DATE PLOTTED: October 11, 2020

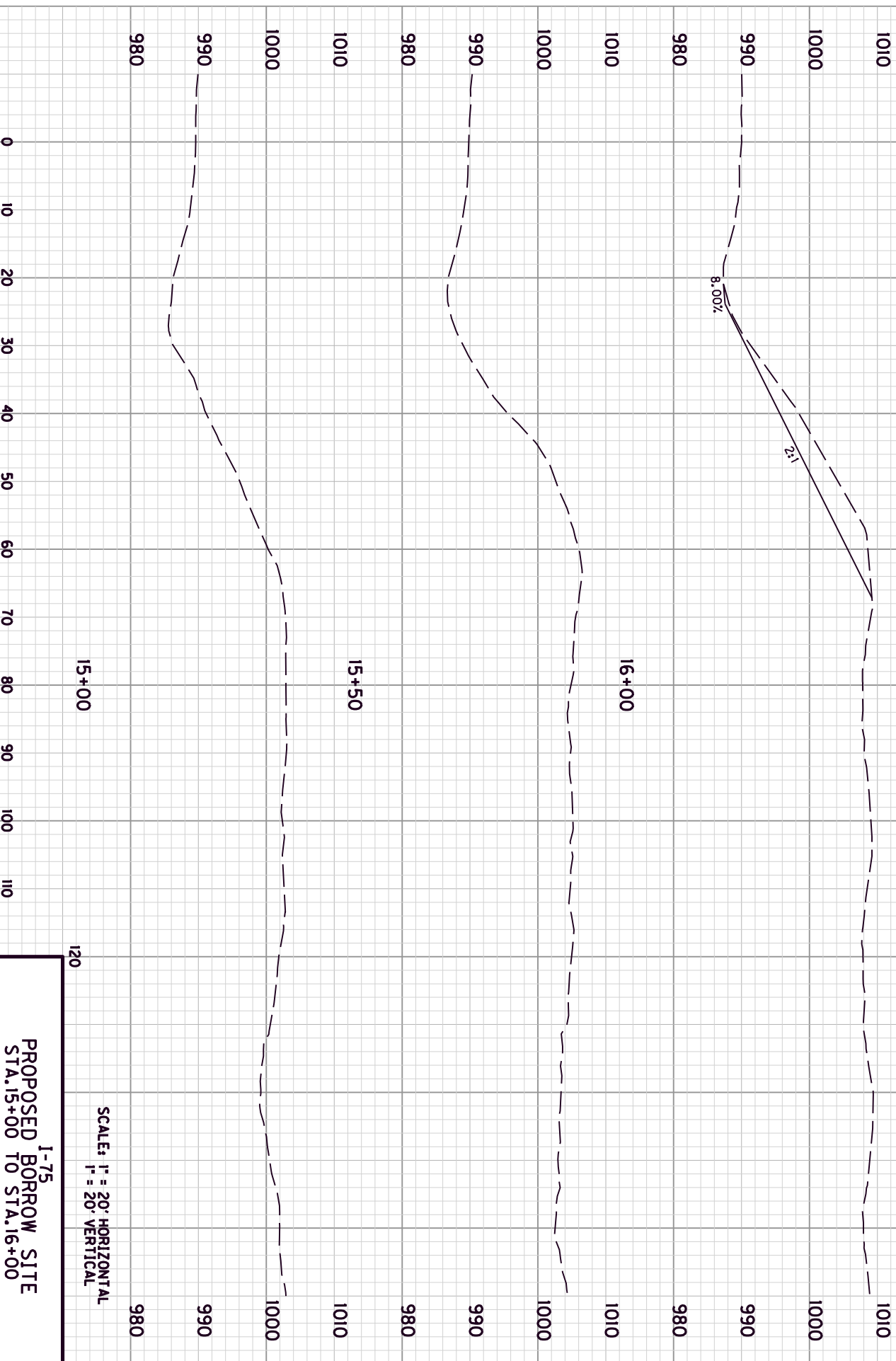
FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:

NOTE FOR PROPOSED BORROW, UTILITIES AND WILL CONTRACTOR IS TO LOCATE IN LOCATIONS FOR NOT DISTURB EXISTING CONDUCT OPERATIONS IN UTILITIES.

PROPOSED BORROW LIMITS ARE AN APPROXIMATION OF A POTENTIAL BORROW SCHEME THAT WILL YIELD THE APPROXIMATE AMOUNT OF MATERIAL REQUIRED TO COMPLETE THE EMBANKMENT IN PLACE. THE CONTRACTOR MAY ELECT TO MODIFY THIS CONCEPT IF APPROVED BY THE ENGINEER. PROFILES PROVIDED RESULTING IN A DESIGN OF A BORROW PILE GENERAL PROVIDE SLOPES OF 2:1 EXCEPT FROM THE DITCH, AND GENERAL TRANSITION AREAS.



| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | 11-20015 | X16 |

1-75
PROPOSED BORROW SITE
STA. 15+00 TO STA. 16+00

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

USER: cbrunty
DATE PLOTTED: October 11, 2020

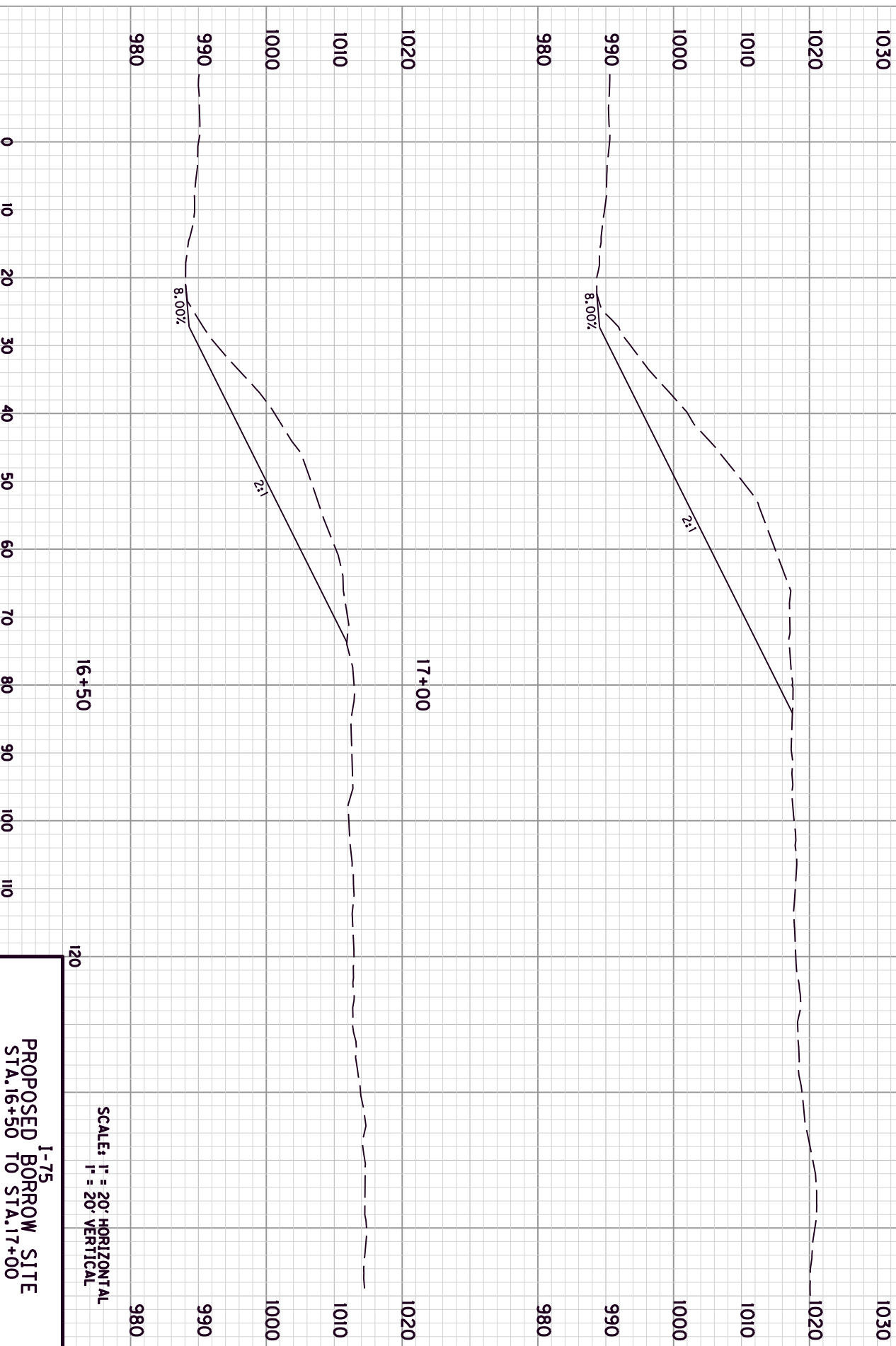
FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:

NOTE FOR PROPOSED BORROW, UTILITIES AND WILL CONTRACTOR IS TO LOCATE IN LOCATION FOR NOT DISTURB EXISTING CONDUCT OPERATIONS IN UTILITIES.

PROPOSED BORROW LIMITS ARE AN APPROXIMATION OF A POTENTIAL BORROW SCHEME THAT WILL YIELD THE APPROXIMATE AMOUNT OF MATERIAL REQUIRED TO COMPLETE THE EMBANKMENT IN PLACE. THE CONTRACTOR MAY ELECT TO MODIFY THIS CONCEPT IF APPROVED BY THE ENGINEER. PROJECT HAS A SMOOTH TRANSITION INTO AND OUT OF THE BORROW PITS. PROVIDE RESULTING IN A DESIGN OF A FROM ACCEPTABLE GENERAL PROVIDE SLOPES OF 2:1 EXCEPT IN THE DITCH, AND GENERAL TRANSITION AREAS.



| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X17 |

1-75
PROPOSED BORROW SITE
STA. 16+50 TO STA. 17+00

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

USER: cbrunty
DATE PLOTTED: October 11, 2020

FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN

MicroStation v8.11.9.459

E-SHEET NAME:

NOTE FOR PROPOSED BORROW, UTILITIES AND WILL CONTRACTOR IS TO LOCATE IN LOCATION FOR NOT DISTURB EXISTING CONDUCT OPERATIONS IN UTILITIES.

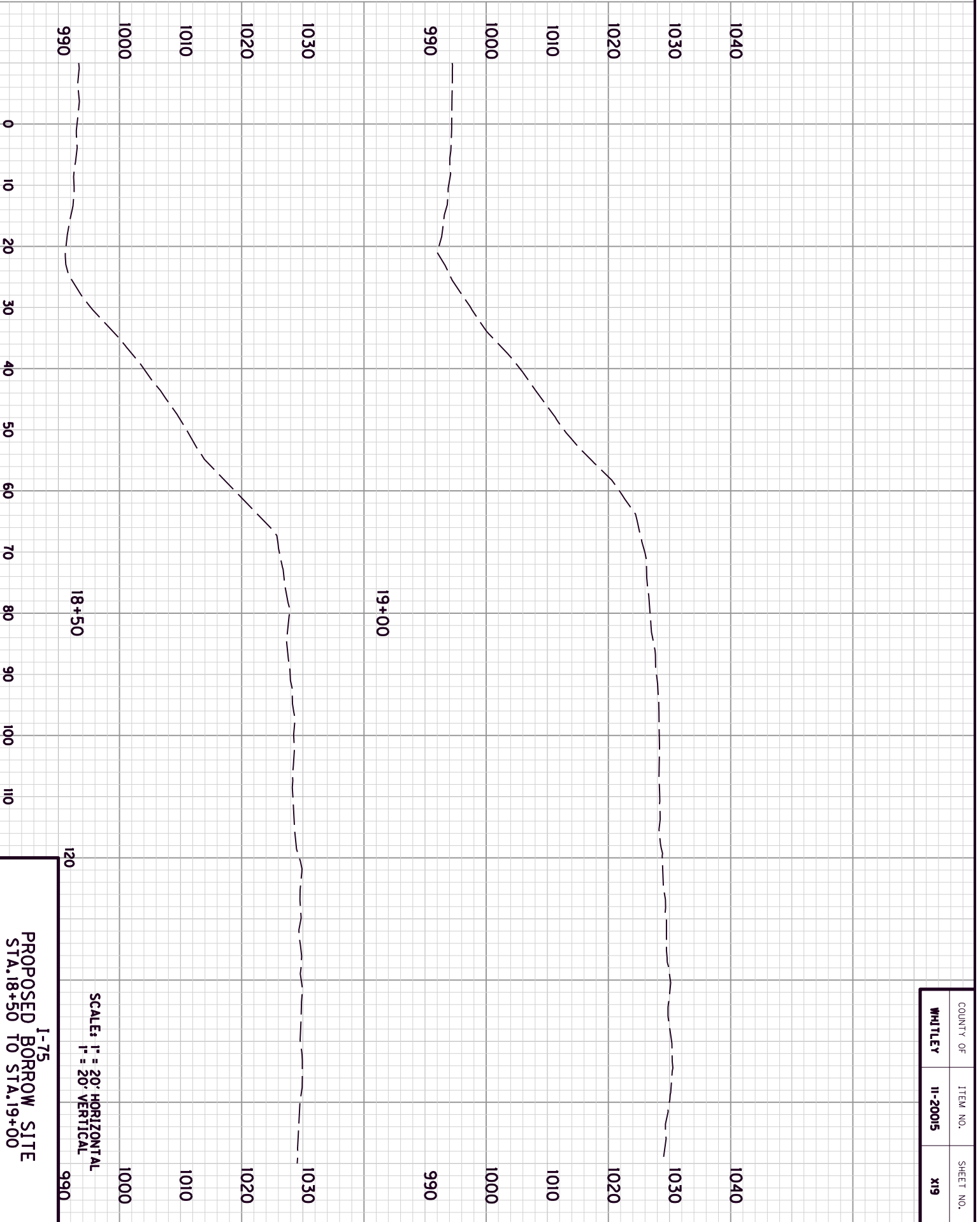
PROPOSED BORROW LIMITS ARE AN APPROXIMATION OF A POTENTIAL BORROW SCHEME THAT WILL YIELD THE APPROXIMATE AMOUNT OF MATERIAL REQUIRED TO COMPLETE THE EMBANKMENT IN PLACE. THE CONTRACTOR MAY ELECT TO MODIFY THIS CONCEPT IF APPROVED BY THE ENGINEER. PROPOSED BORROW LIMITS ARE A DESIGN DECISION AND NOT A GUARANTEE. THE BORROW PROVIDED RESULTS IN A DESIGN SLOPE OF 2:1 EXCEPT FROM THE DITCH, AND GENERAL TRANSITION AREAS.



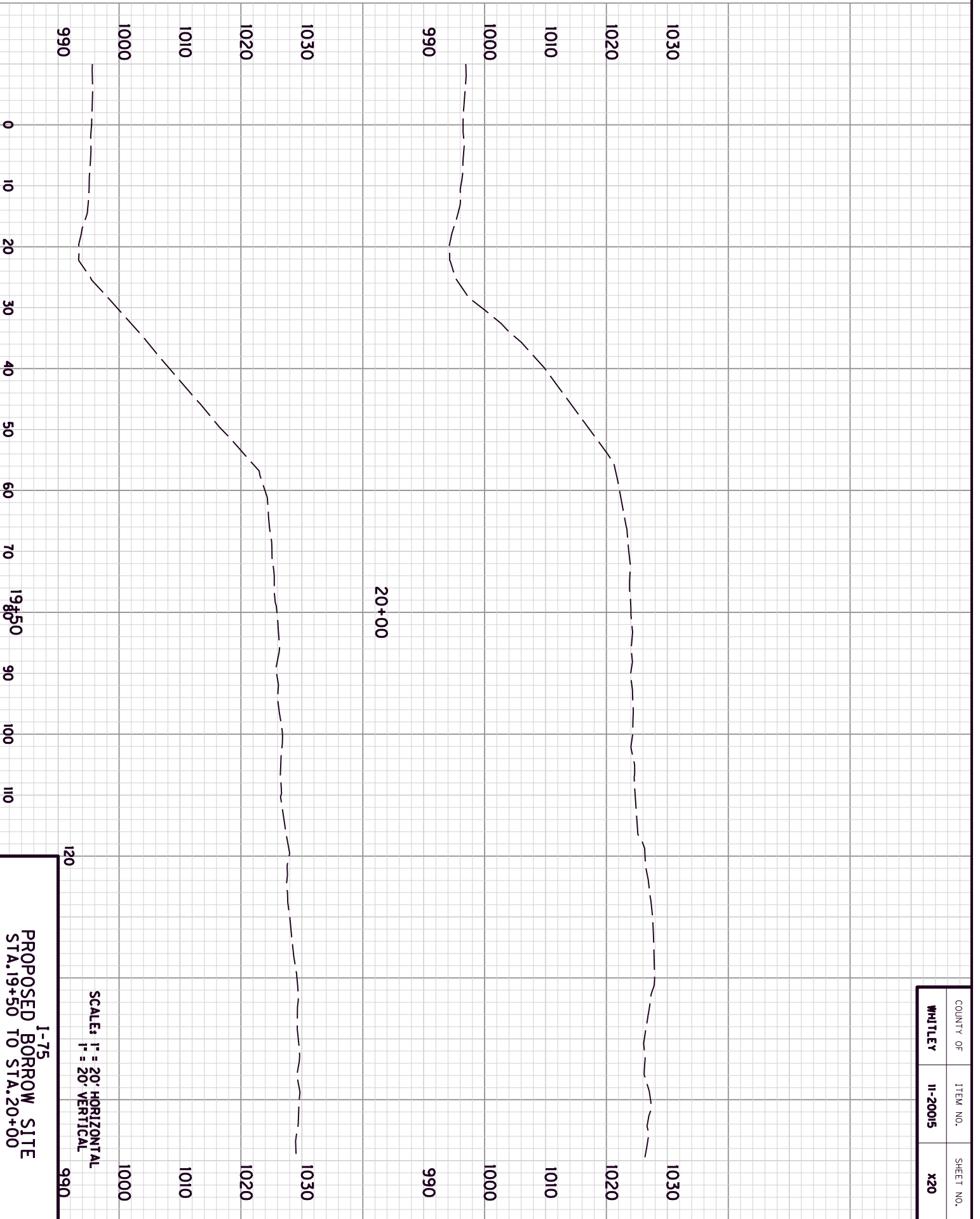
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|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X18 |

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

1-75
PROPOSED BORROW SITE
STA. 17+50 TO STA. 18+00



| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X19 |



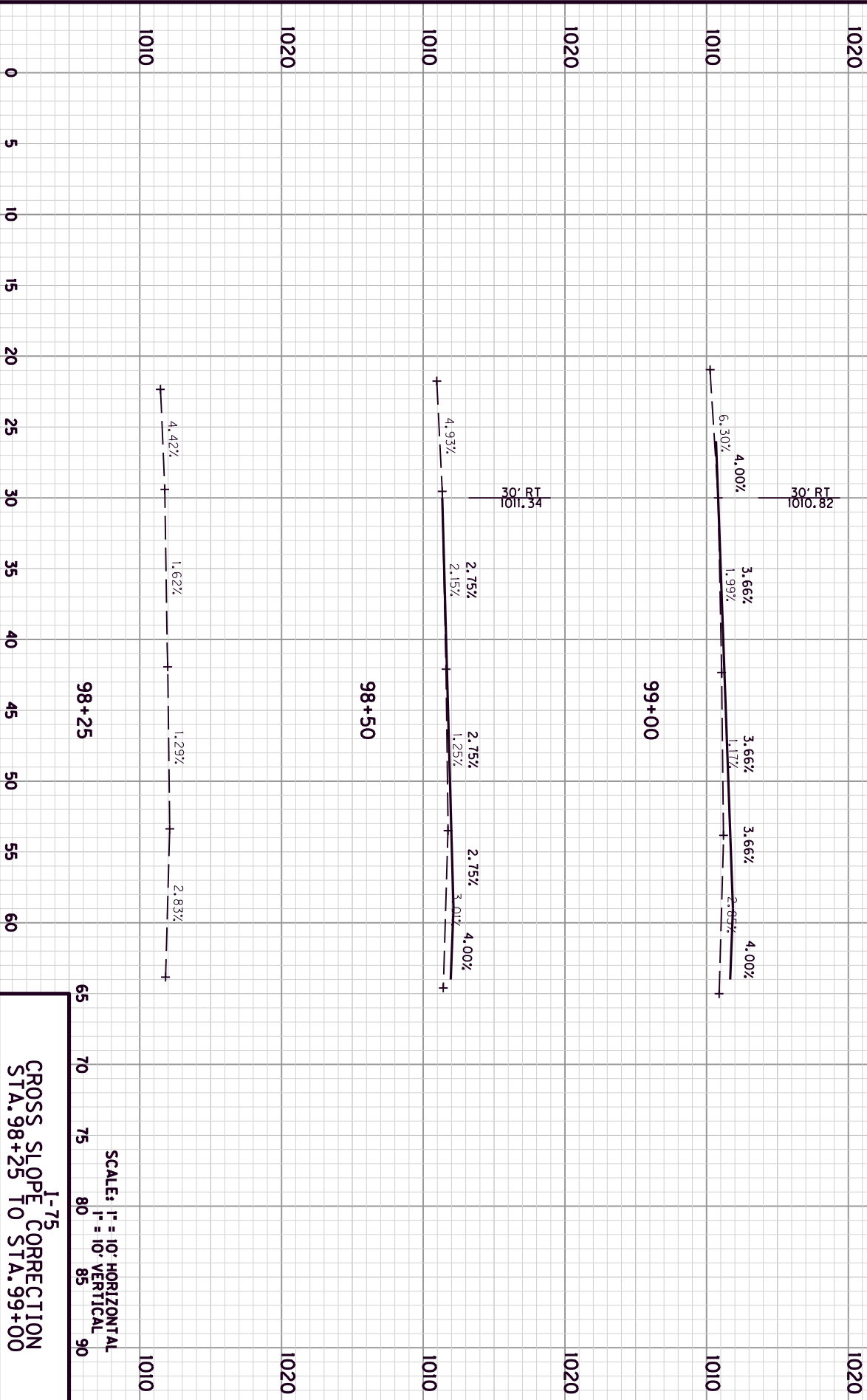
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|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X20 |

MicroStation v8.11.9.459

E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

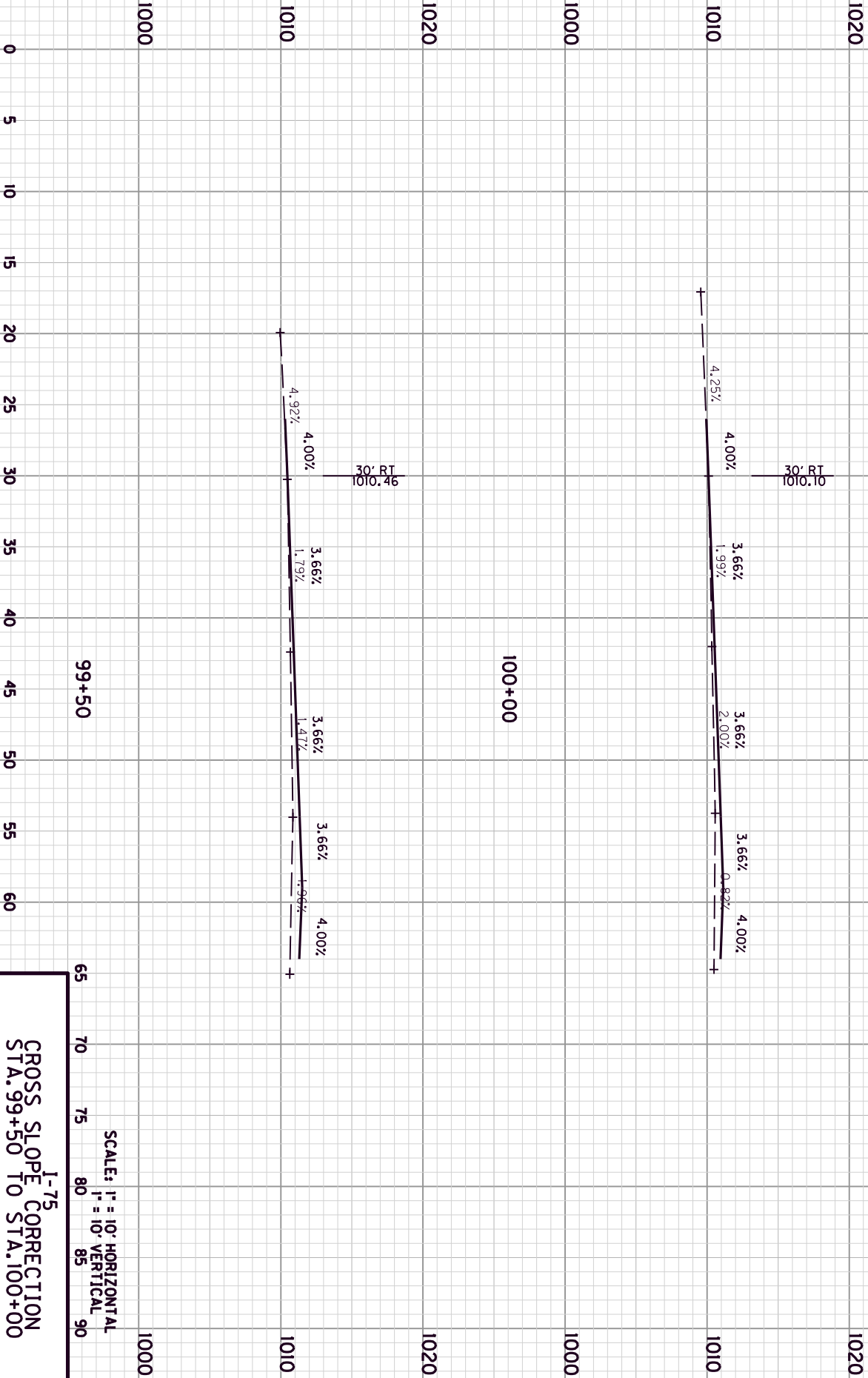
FILE NAME: G:\ENGR\HDI365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



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|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X21 |

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

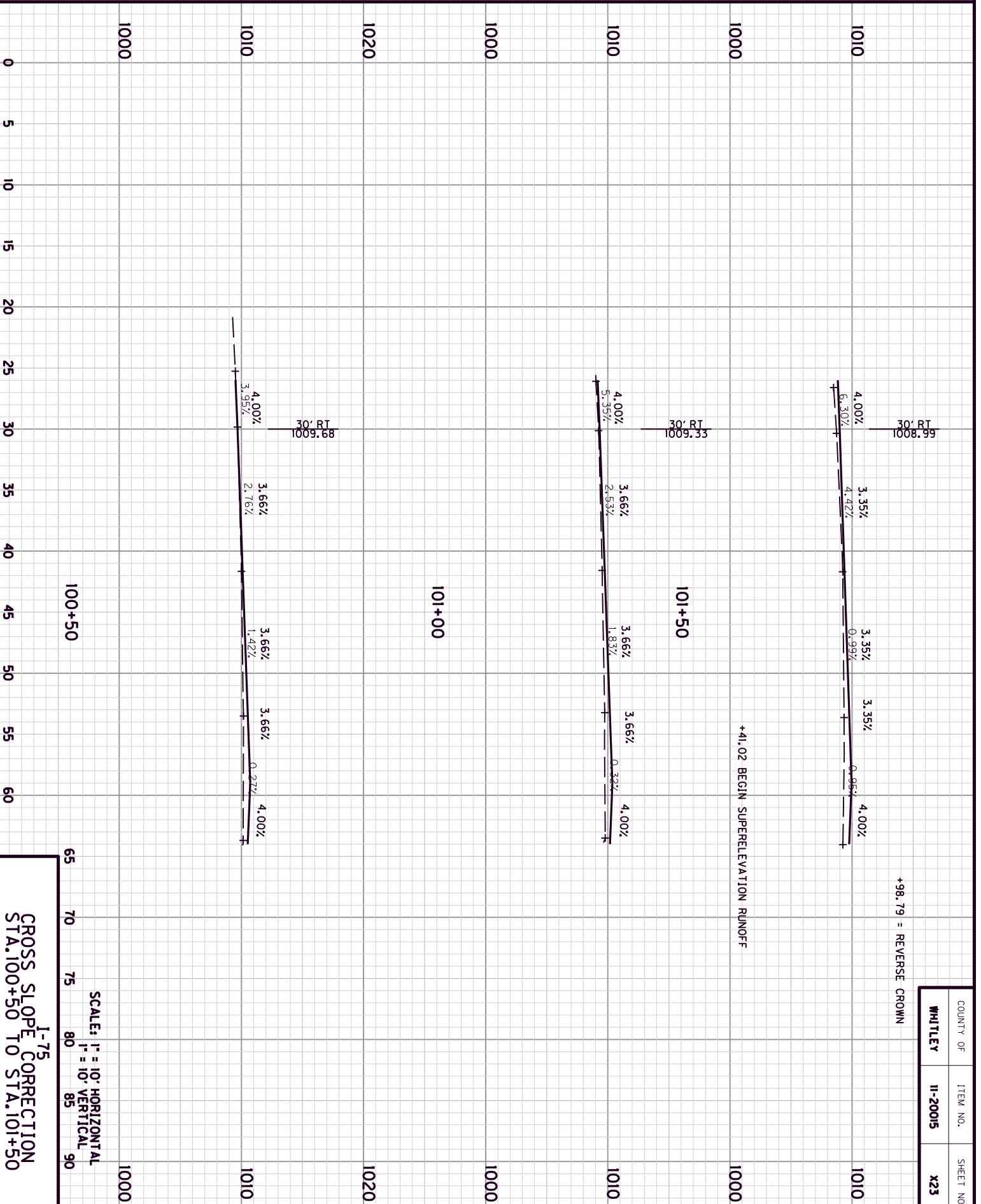
1-75
CROSS SLOPE CORRECTION
STA. 98+25 TO STA. 99+00



| COUNTY OF | ITEM NO. | SHEET NO. |
|-----------|----------|-----------|
| WHITLEY | 11-20015 | X22 |

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

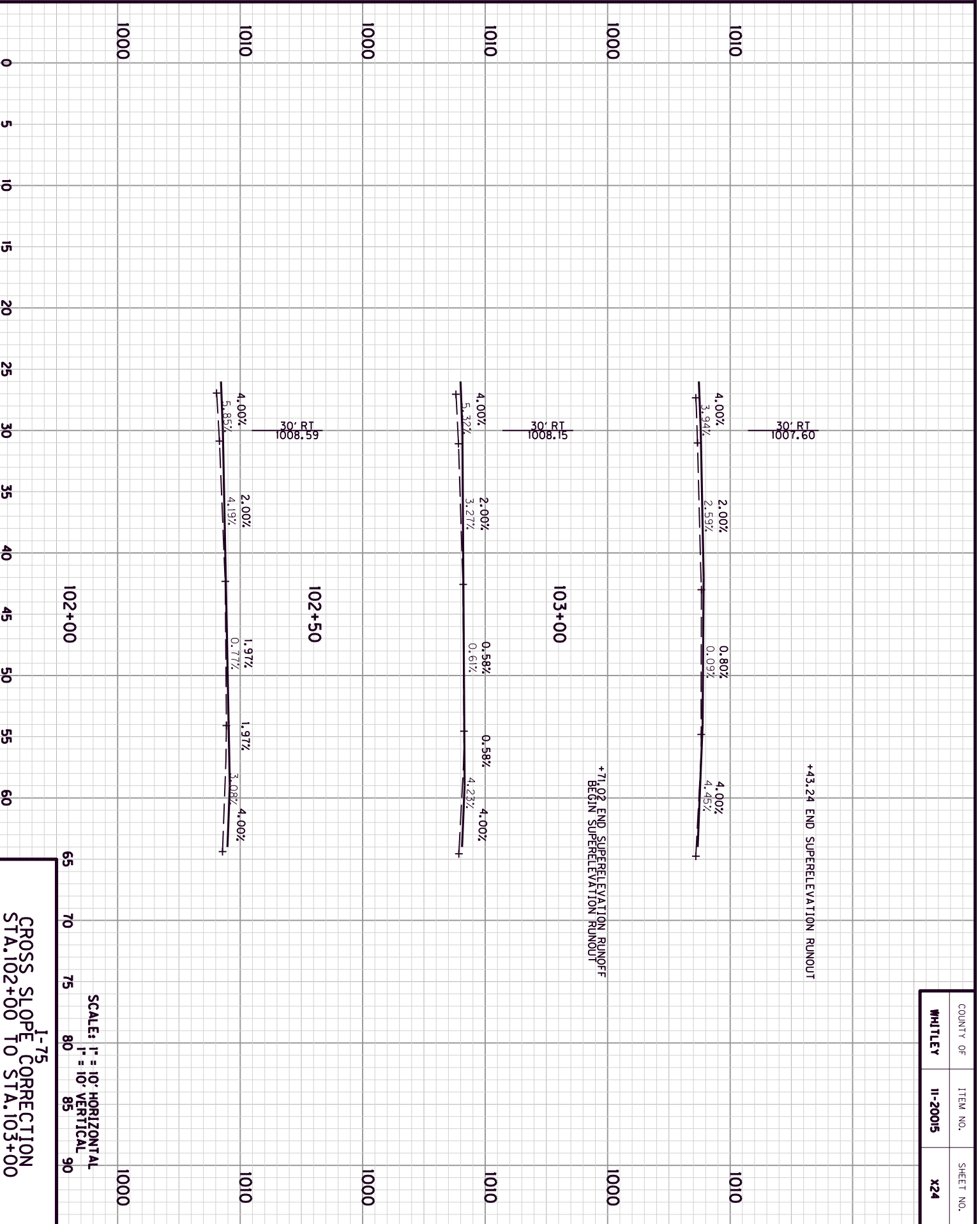
1-75
 CROSS SLOPE CORRECTION
 STA. 99+50 TO STA. 100+00



| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X23 |

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

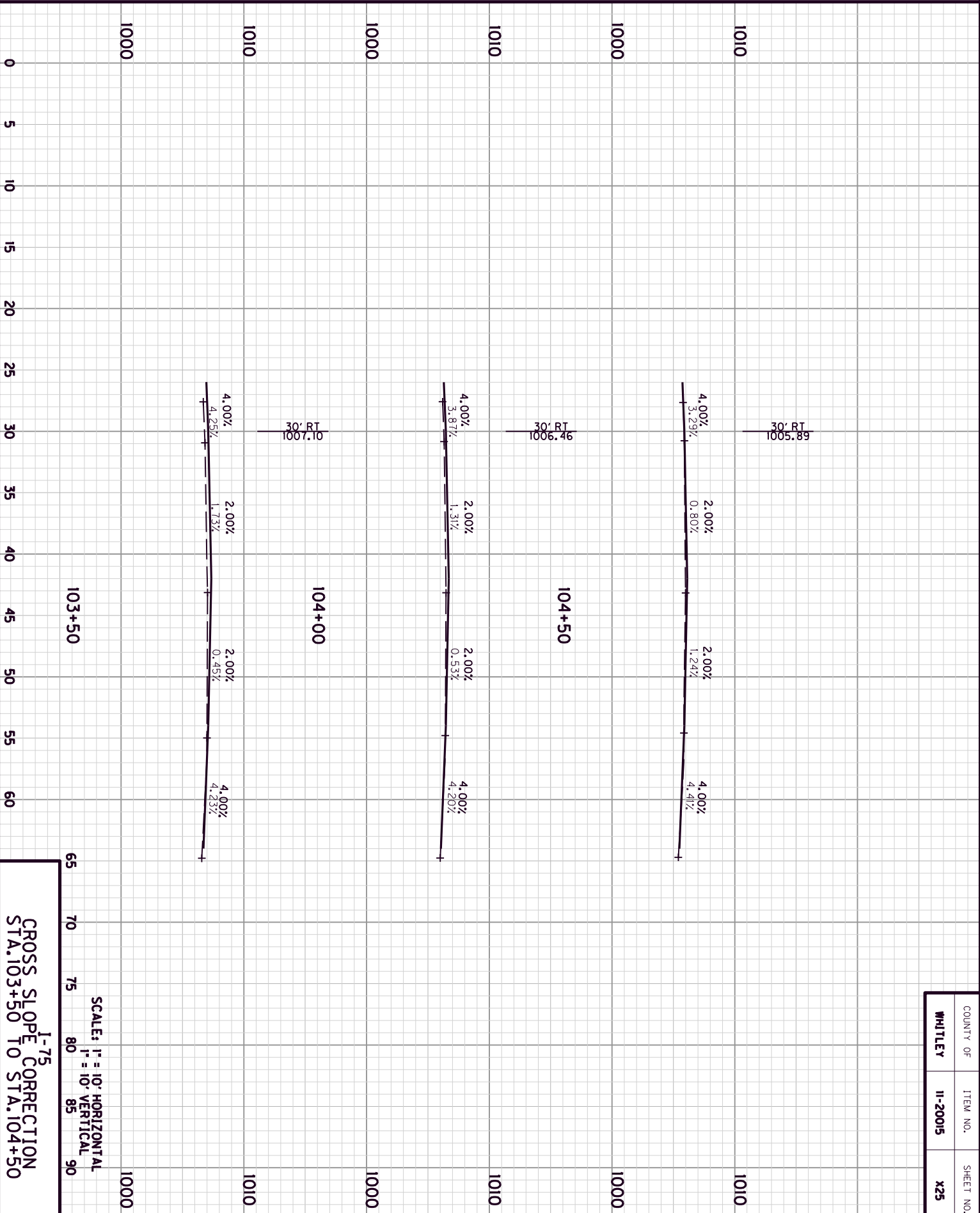
1-75
GROSS SLOPE CORRECTION
STA. 100+50 TO STA. 101+50



| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X24 |

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

1-75
CROSS SLOPE CORRECTION
STA. 102+00 TO STA. 103+00



| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X25 |

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

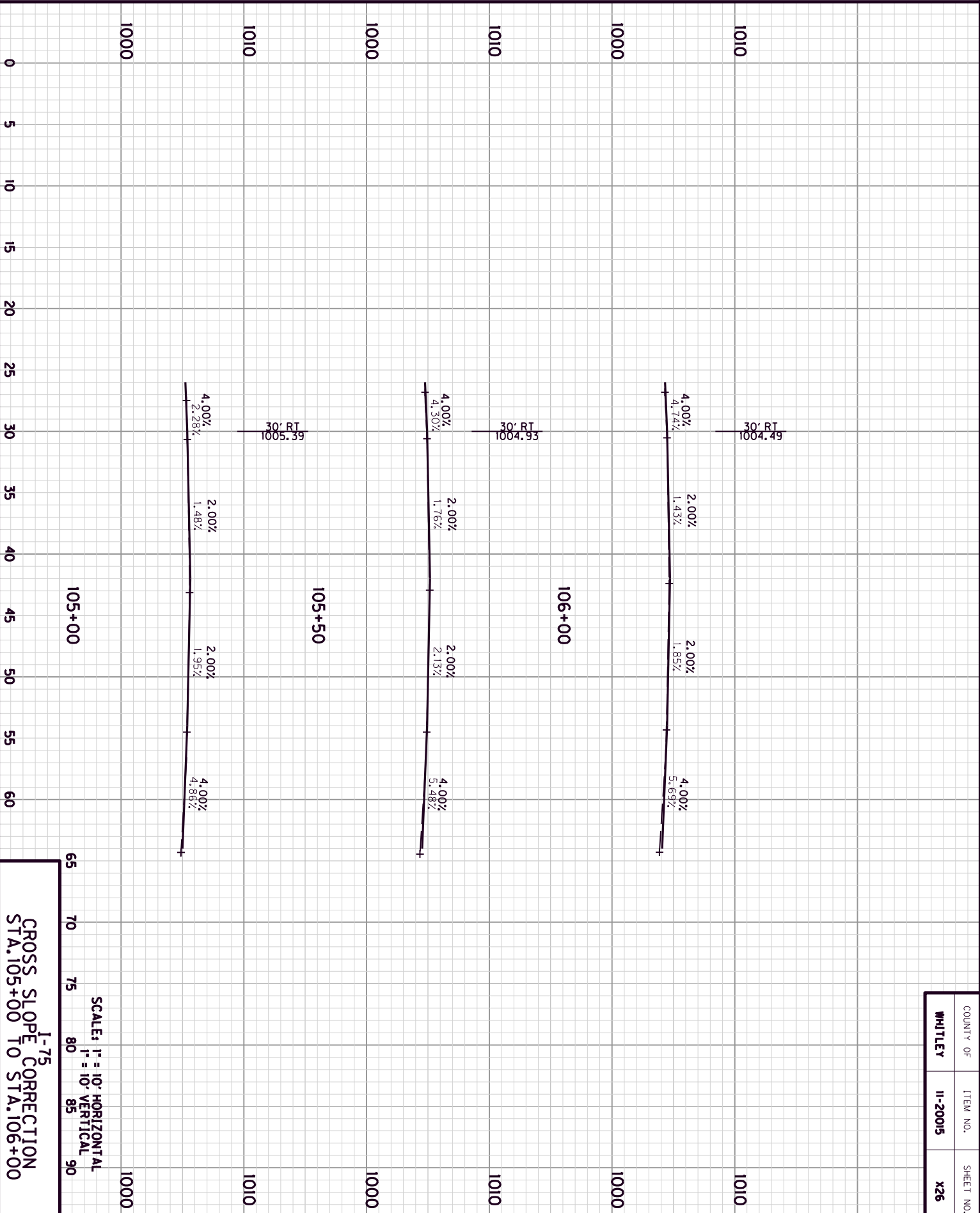
1-75
CROSS SLOPE CORRECTION
STA. 103+50 TO STA. 104+50

MicroStation v8.11.9.459

E-SHEET NAME:

USER: cbrunty
DATE PLOTTED: October 11, 2020

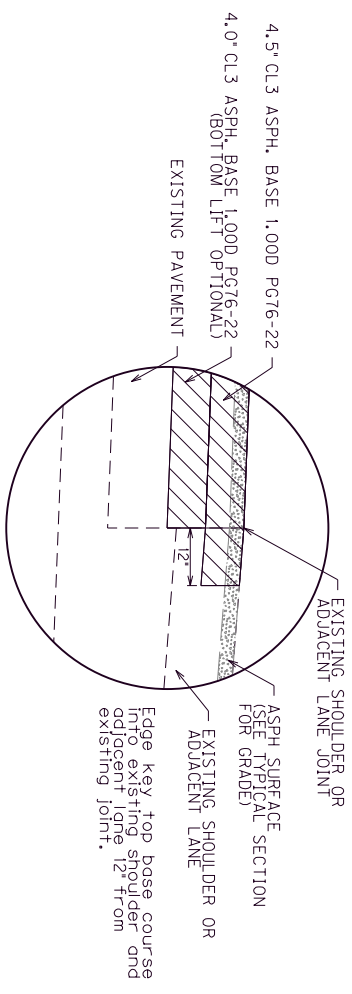
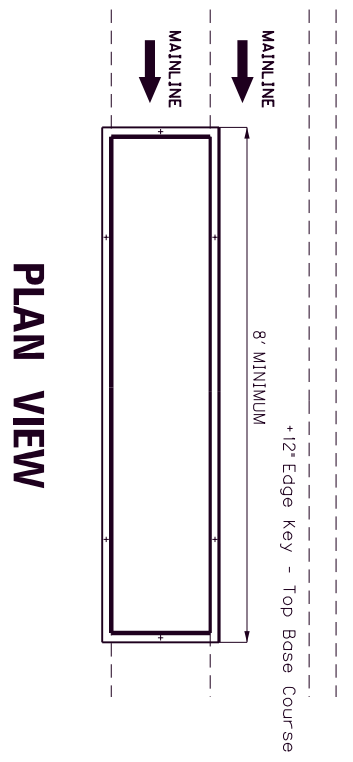
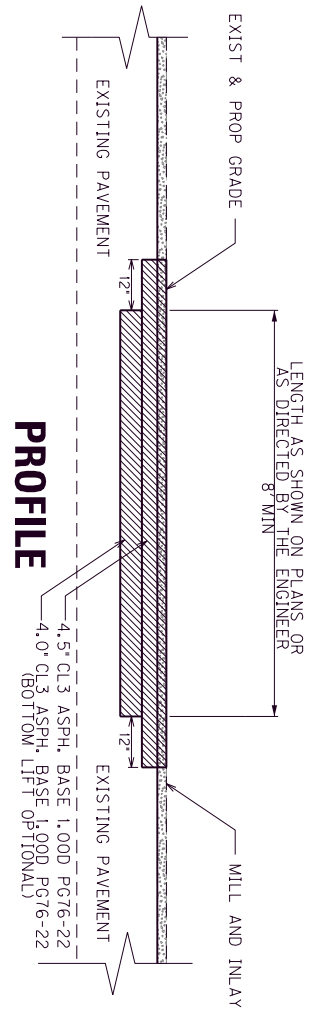
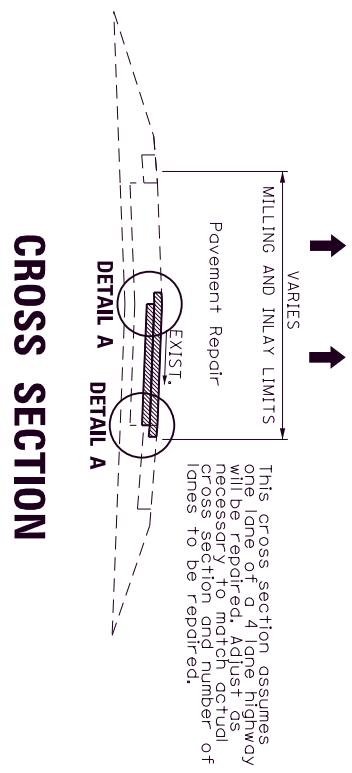
FILE NAME: G:\ENGR\HD1365.01 I75 WHITLEY\CAD\XSEC\XSEC.DGN



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|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | X26 |

I-75 ASPHALT BASE REPAIR DETAIL WHITLEY COUNTY

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | |



BID ITEM
2677 ASPHALT PAVE MILLING AND TEXTURING 1,000 TONS
216 CL3 ASPH BASE 1,000 PG76-22
356 ASPHALT MATERIAL FOR TACK

• Only items listed will be considered for payment and will consider full compensation for listed work required with other items of work considered incidental to other items of work.
Asph base course class and binder grade to be chosen by designer based on current asphalt warrants and/or to remain consistent with mainline asphalt surface used on the project.

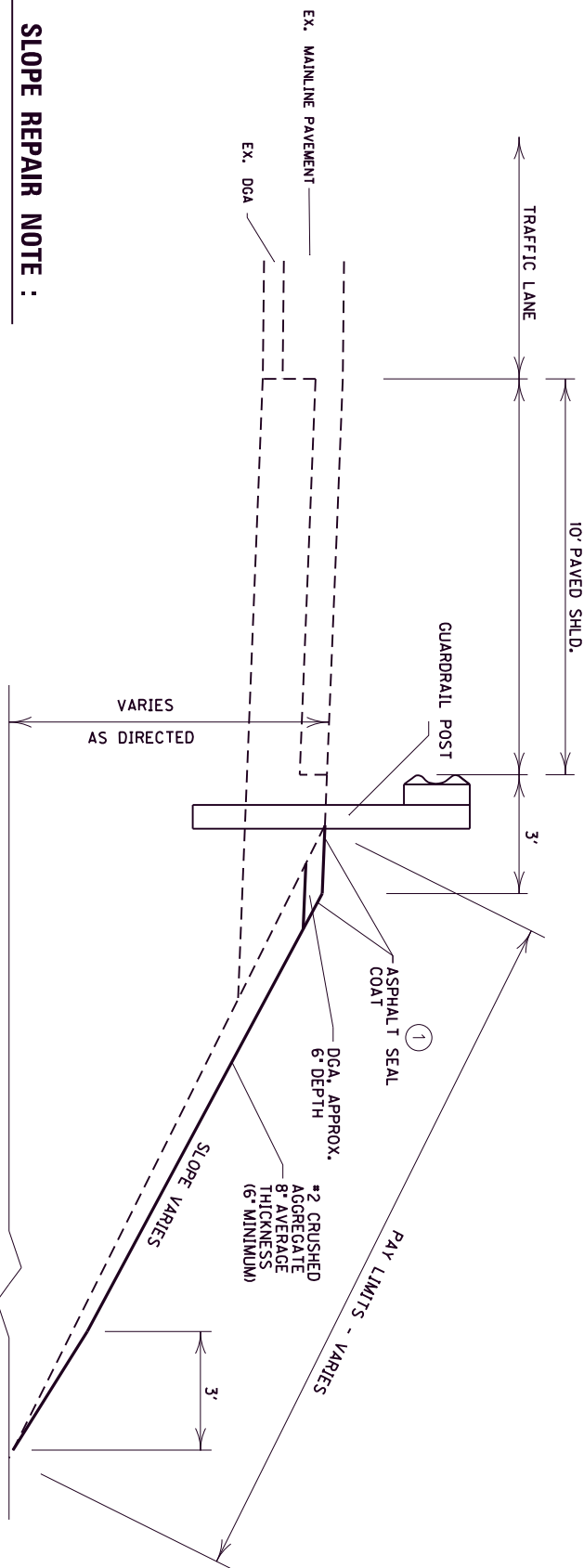
1,000 TONS
1,000 TONS
1,1.B.D. TONS

- NOTES**
1. Caution: Existing concrete pavement may exist below the asphalt pavement.
 2. Pavement repair shall be performed at locations selected by and as directed by the Engineer. The Engineer will assess, select, and mark areas for treatment. The full lane width will be removed and replaced. The Engineer may elect to perform repairs on one lane or multiple lanes. It is anticipated to only remove and replace one layer of asphalt base, however the Engineer may elect to remove and replace the second lift of base. An edge key 12" into existing pavement is required for the top course of base. For estimate purposes, quantities were estimated based on 4.3 thicknesses and a quantity of 1000 tons established to be used at the discretion of the engineer.
 3. Complete pavement repair operations in one continuous operation or protect with barrier wall. Do not leave an unprotected hole with no workers present. If barrier wall must be used for pavement repairs, it will be considered incidental to other items of work and not be considered for payment.
 4. Before resurfacing, open repaired area to traffic for a minimum of 14 days. Monitor pavement for settlement during this 14 days and repair by leveling and wedging, as approved by the Engineer, until placement of final surface course.
 5. The item ASPHALT PAVE MILLING AND TEXTURING includes removal of all asphalt to the required depth.
 6. Perform typical mill and inlay operations with resurfacing items subject to payment as part of the resurfacing operation.

NOT TO SCALE

**I-75
ASPHALT BASE REPAIR DETAIL**

SHOULDER EROSION REPAIR DETAIL



SLOPE REPAIR NOTE :

THE EXISTING MATERIAL MUST BE LEVELED PRIOR TO PLACING THE #2 STONE. THE #2 STONE SHOULD BE PLACED TO THE DIMENSIONS AS SHOWN AND A MINIMUM DEPTH OF 6 INCHES. TAPER THE #2 STONE THE LAST 3 FEET. EXCAVATE EACH SIDE OF EXISTING HEADWALLS (PERF. PIPE AND STORM DRAIN) TO A THICKNESS 6 INCHES BELOW THE HEADWALL SURFACE FOR A WIDTH OF 5 FEET EACH SIDE OF THE HEADWALL AND BLEND #2 STONE TO THE HEADWALL WINGS. DISPOSE OF EXCESS MATERIAL OFF THE PROJECT.

THE BID ITEM *CRUSHED AGGREGATE SIZE NO. 2* INCLUDES ALL LABOR AND EQUIPMENT NECESSARY TO GRADE THE EXISTING SLOPE AND CAP THE SLOPE WITH A MINIMUM OF 6 INCHES OF #2 STONE.

EXTEND THE REPAIRS ONLY THROUGH THE WASH AREA. DO NOT DISTURB AREAS WITH ESTABLISHED VEGETATION.

REMOVE GUARDRAIL WHERE NECESSARY TO PERFORM SHOULDER REPAIRS. PIN ENDS DOWN TO ELIMINATE EXPOSURE TO BLUNT ENDS AND PLACE TRAFFIC DRUMS ON SHOULDER AT 20' SPACING UNTIL GUARDRAIL IS RE-ESTABLISHED. QUANTITIES HAVE BEEN ESTABLISHED FOR PAYMENT OF GUARDRAIL REMOVAL AND INSTALLATION OF NEW RAIL FOR AREAS NOT RECEIVING NEW GUARDRAIL DUE TO DAMAGE.

BID ITEM

| | | | |
|--|-------------------------------|---------|------|
| * 0078 | CRUSHED AGGREGATE NO. 2 | 1,139 | TONS |
| ** 2381 | REMOVE GUARDRAIL | 2,362.5 | LF |
| ** 21802EN | GUARDRAIL STEEL W BEAM-S FACE | 2,362.5 | LF |
| *** 0001 | DGA BASE | 256 | TONS |
| ASPHALT SEAL COAT QUANTITIES ESTABLISHED IN THE PAVING SUMMARY | | | |

LOCATIONS:

| BEGIN MP | END MP | LENGTH | CRUSHED AGG. | DGA | GUARDRAIL |
|----------------------|--------|--------------|--------------|------------|-----------------|
| N.B. OUT. SHLD 7.260 | 7.263 | 20' | 10 | 3 | 0' |
| N.B. OUT. SHLD 7.423 | 7.863 | 2319' | 1,114 | 249 | 2,325' |
| N.B. OUT. SHLD 7.908 | 7.913 | 30' | 15 | 4 | 37.5' |
| TOTAL: | | 2,369 | 1,139 | 256 | 2,362.5' |

① ASPHALT SEAL REQUIRED FROM OUTSIDE EDGE OF PAVED SHOULDER TO A POINT 2 FOOT DOWN THE DITCH OR FILL SLOPE OR BOTTOM OF DGA LAYER. TWO APPLICATIONS OF THE FOLLOWING :

ASPHALT SEAL COAT..... 2.4 lbs. / S.Y.
 ASPHALT SEAL AGGREGATE 20 lbs. / S.Y.

* (CARRIED ON GENERAL SUMMARY)
 ** (CARRIED ON GUARDRAIL SUMMARY)
 *** (CARRIED ON PAVING SUMMARY)

NOT TO SCALE

SLOPE REPAIR DETAIL

LONGITUDINAL EDGE DRAIN DETAIL

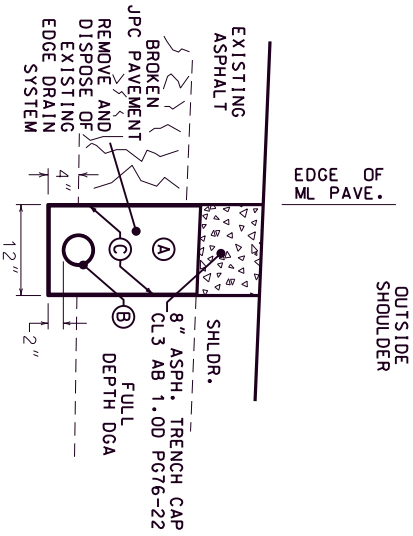
SPECIAL NOTE FOR PAVEMENT SUBSURFACE DRAINAGE OUTLET

A QUANTITY OF CRUSHED AGGREGATE SIZE NO. 2 AS DEFINED IN THE CURRENT KENTUCKY STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SHALL BE USED AT ALL PERFORATED PIPE HEADWALL OUTLETS AS ILLUSTRATED IN THE DETAIL AT RIGHT. CRUSHED AGGREGATE SIZE NO. 2 SHALL BE PLACED A MINIMUM DEPTH OF 4 INCHES AS DETAILED BELOW.

DENSE GRADED AGGREGATE (DGA) REMOVED DURING PLACEMENT OF THE CRUSHED AGGREGATE SIZE NO. 2 SHALL BE USED TO BRESS THE EXISTING SHOULDERS WHERE DGA IS EXPOSED. OTHER MATERIALS REMOVED DURING PLACEMENT OF THE CRUSHED AGGREGATE SIZE NO. 2 SHALL BE WASTED AS DIRECTED BY THE ENGINEER. NO DIRECT PAYMENT WILL BE ALLOWED FOR DISPOSAL OF WASTED MATERIAL.

THE CONTRACT UNIT PRICE FOR CRUSHED AGGREGATE SIZE NO. 2 SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, AND OTHER INCIDENTALS NECESSARY TO PLACE CRUSHED AGGREGATE SIZE NO. 2 FOR CONTROL OF VEGETATION AND/OR EROSION CONTROL AT PAVEMENT EDGE DRAIN OUTLETS.

SEE CURRENT STANDARD DRAWING RDP-010 FOR DIMENSIONS AND OTHER DETAILS. ESTIMATE ONE TON OF CRUSHED AGGREGATE SIZE NO. 2 FOR EACH PERFORATED PIPE HEADWALL OUTLET.



- Ⓐ CRUSHED AGGREGATE SIZE NO. 57 (NO SAND)
 - Ⓑ PERFORATED PIPE - 4" OR 6" (NO SOCK)
 - Ⓒ NON-PERFORATED PIPE - 4" OR 6" (OUTLET)
 - Ⓓ CLASS 2 GEOTEXTILE FABRIC
- NOTE: MODIFY LOCATION AS NEEDED TO MATCH EXIST. LOC.
TRENCH DETAILS

NOTES :

- (1) AN INITIAL CAMERA INSPECTION OF THE EXISTING LONGITUDINAL EDGE DRAIN SYSTEM WILL BE PERFORMED TO DETERMINE THE CONDITION OF THE EXISTING SYSTEM. THE CONTRACTOR WILL CONSULT WITH THE ENGINEER AFTER THE INITIAL INSPECTION TO DETERMINE THE EXTENT OF LOCATIONS THAT REQUIRE REPLACEMENT. A SECOND INSPECTION WILL BE REQUIRED AT THE LOCATION OF THE REPAIRS ONLY TO CERTIFY THE REPAIR WORK. THE ITEM INSPECT AND CERTIFY EDGE DRAIN SYSTEM WILL INCLUDE BOTH THE INITIAL INSPECTION AND THE RE-INSPECTION REQUIRED AFTER COMPLETION OF THE REPAIRS.

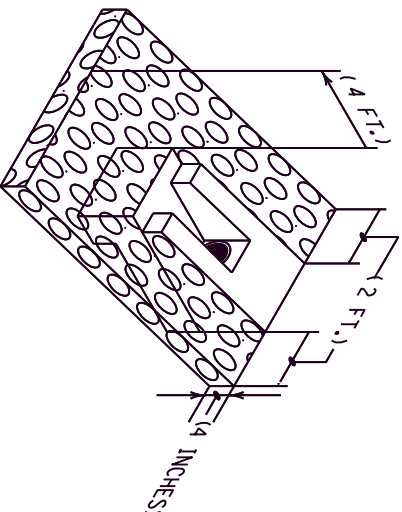
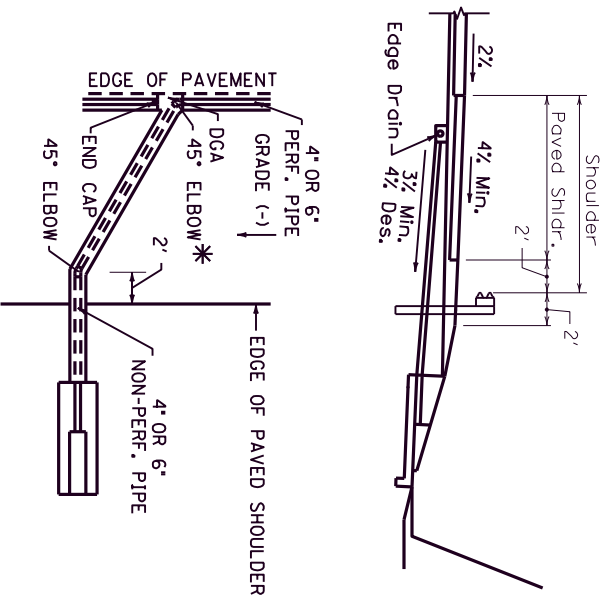
EXISTING LONGITUDINAL EDGE DRAINS ALONG THE EDGE OF EXISTING PAVEMENT SHALL BE REMOVED WHERE DAMAGED, OBSTRUCTED, OR DEEMED NON-FUNCTIONAL BY THE INITIAL CAMERA INSPECTION AND NEW EDGE DRAINS CONSTRUCTED. REMOVAL AND DISPOSAL OF THE EXISTING UNDERDRAIN SYSTEM SHALL BE INCIDENTAL TO THE OTHER ITEMS OF WORK. ASPHALT QUANTITIES HAVE BEEN ADDED FOR THE CAP REPLACEMENT (SEE DETAIL).

ALL LONGITUDINAL PIPE DRAINAGE SYSTEMS FOR THE PAVEMENT SHALL OUTLET TO A HEADWALL OR MEDIAN BOX INLET. OUTLETS SHALL BE IN FULL SECTION WHENEVER POSSIBLE. OUTLET SPACING SHALL NOT EXCEED 500' FOR 4" PIPE AND 1000' FOR 6" PIPE, EXCEPT GRADES 1% OR LESS. THEN THE SPACING SHALL NOT EXCEED 250' FOR 4" PIPE AND 500' FOR 6" PIPE. ALL SAGS SHALL HAVE AN OUTLET. USE EXISTING OUTFALL LOCATIONS WHERE POSSIBLE. REUSE EXISTING PERFORATED PIPE HEADWALLS WHERE POSSIBLE. TYING TO EXISTING HEADWALLS WILL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.

- (2) FABRIC GEOTEXTILE CLASS 2 AND CRUSHED AGGREGATE SIZE NO. 57 ARE INCIDENTAL TO PERFORATED PIPE (4" OR 6") REMOVAL OF EXISTING EDGE DRAIN ON THE INSIDE AND OUTSIDE SHOULDER SHALL BE INCLUDED IN THE UNIT PRICE BID FOR NEW PERFORATED PIPE. WASTE THE EXISTING UNDERDRAIN PIPE, EXISTING PERFORATED PIPE HEADWALLS NOT BEING USED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

LOCATIONS:

TO BE DETERMINED. CONTINGENCY QUANTITIES HAVE BEEN ESTABLISHED AND ARE SHOWN ON THE GENERAL SUMMARY BASED ON AN ESTIMATION THAT APPROXIMATELY 5% OF THE EXISTING SYSTEM WILL REQUIRE REPLACEMENT. FINAL PAYMENT OF THESE ITEMS WILL BE BASED ON THE ACTUAL QUANTITIES PLACED. A QUANTITY OF REMOVE AND RESET PERF PIPE HEADWALL HAS BEEN ESTABLISHED TO BE USED AT THE ENGINEERS DISCRETION TO REUSE EXISTING HEADWALLS AND CORRECT ELEVATIONS.



EDGE DRAIN OUTLET

* Use Tee in Lieu of Elbow at Sump Conditions
(OUTSIDE SHOULDER DEPICTED)

NOT TO SCALE

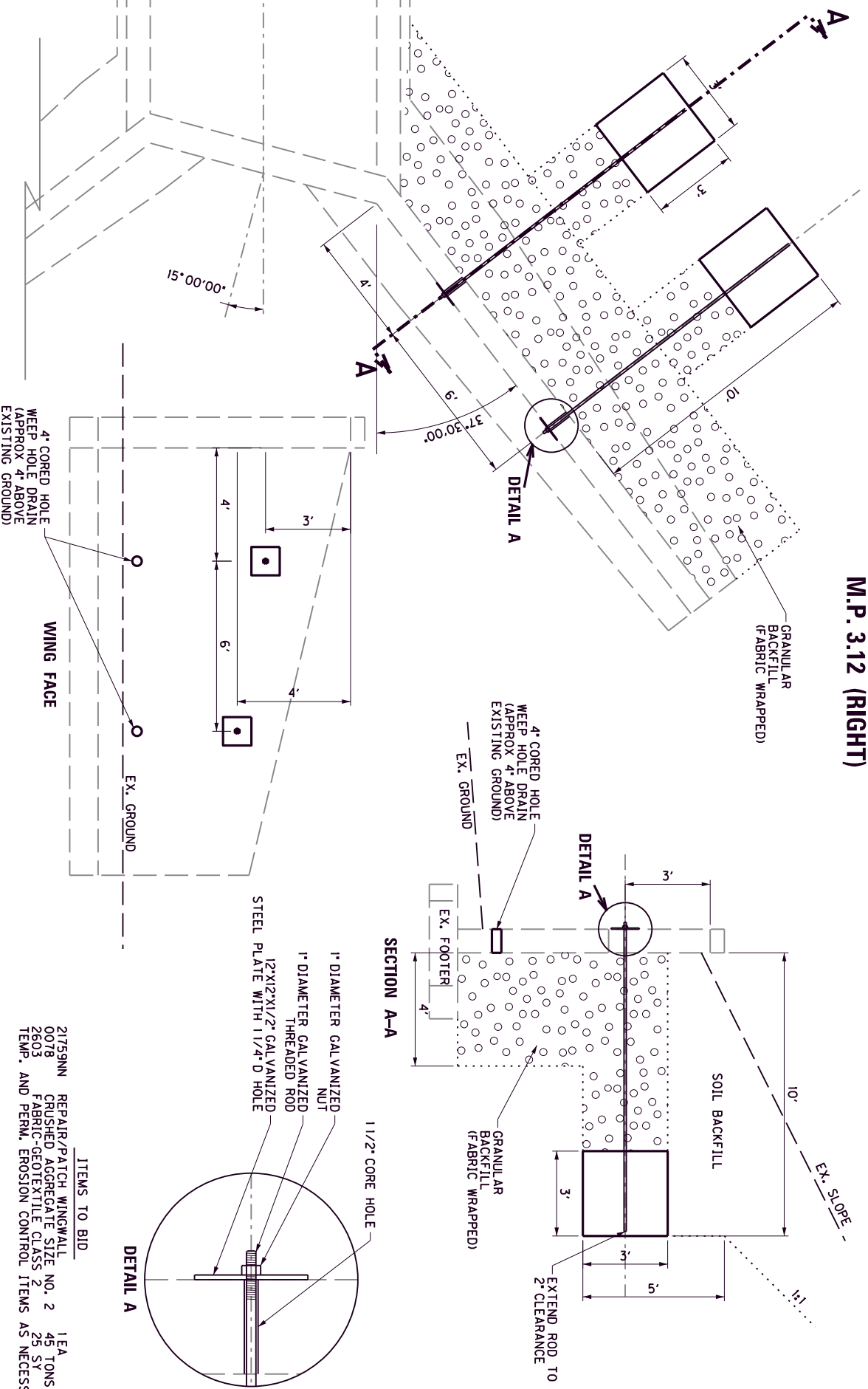
I-75 PROPOSED
EDGE DRAIN DETAIL

| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | |

CULVERT WING REPAIR

M.P. 3.12 (RIGHT)

| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |



NOTE: THE INTENT OF THIS REPAIR IS TO STABILIZE THE EXISTING NORTHEAST WING, PREVENT FURTHER MOVEMENT AND NOT TO STRAIGHTEN OR MAKE PLUMB.

CORE HOLES IN THE EXISTING WINGS AT THE LOCATIONS AND DIMENSIONS SHOWN FOR THE TIE BACK RODS AND FOR PROPOSED WEEPHOLES. EXCAVATE A TRENCH BEHIND THE EXISTING WING TO ACCEPT THE TIE BACK ROD AT EACH TIE BACK LOCATION. EXCAVATE FOR AND FORM TWO 3X3X3' (1 CY) DEADMEN. COMPLETE EXCAVATION OF THE REMAINING 4' WIDTH OF SOIL FROM THE BACK FACE OF THE EXISTING WALL TO THE EXISTING FOOTING. PLACE GEOTEXTILE FABRIC CLASS 2 AT THE INTERFACE OF ALL SOIL AND CRUSHED AGGREGATE AND BACKFILL WITH CRUSHED AGGREGATE #2 LEVEL WITH BOTTOM OF PROPOSED DEADMEN. CAST PROPOSED ANCHOR RODS INTO PROPOSED DEADMEN EXTENDING FROM OUTSIDE THE CULVERT FACE TO WITHIN 2' OF THE BACK FORM OF THE CONCRETE. COMPLETE BACKFILL OF CRUSHED AGGREGATE #2 AND FABRIC, SNUGGLY TIGHTEN BOLTS ON THE BACK RODS, AND COMPLETE SOIL BACKFILL.

CRUSHED AGGREGATE SIZE NO. 2, FABRIC-GEOTEXTILE CLASS 2, AND EROSION CONTROL ITEMS WILL BE PAID FOR IN ACCORDANCE WITH THE SPECIFICATIONS. ALL OTHER ITEMS OF WORK REQUIRED FOR THIS REPAIR WILL BE CONSIDERED INCIDENTAL TO THE ITEM "REPAIR/PATCH WINGWALL". INCLUDING ANY CLEARING, SITE PREPARATION, EXCAVATION AND BACKFILL, CORING OF WEEPHOLES AND HOLE FOR ANCHORS, CONCRETE DEADMEN ANCHORS, AND ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED TO COMPLETE THIS REPAIR. ALL HARDWARE IS TO BE GALVANIZED.

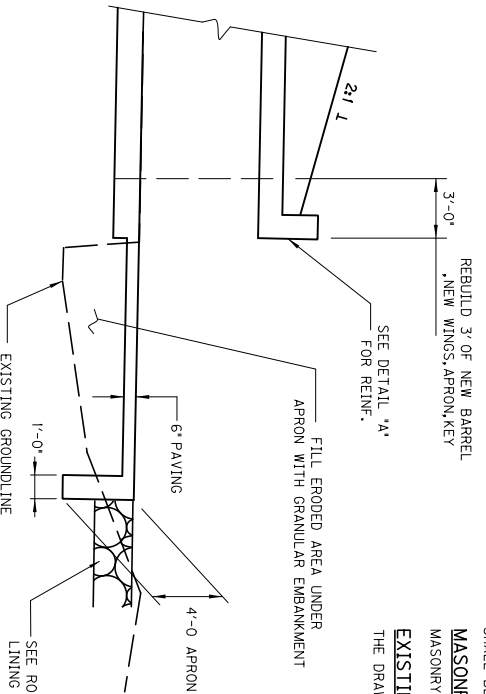
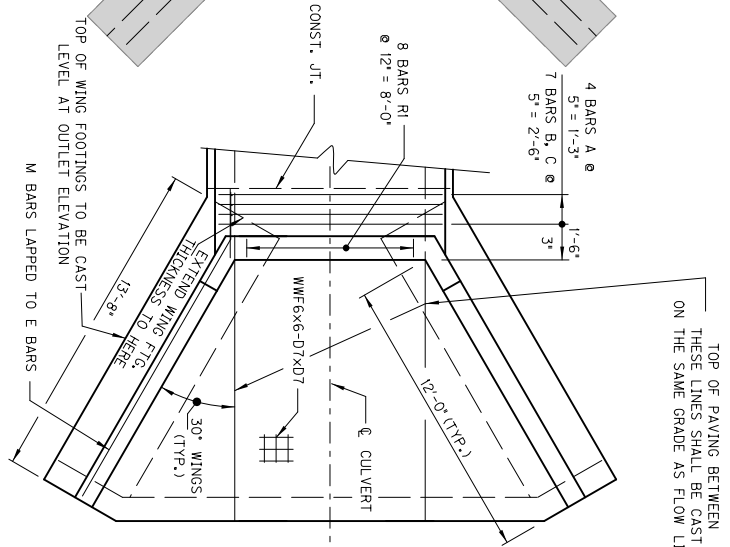
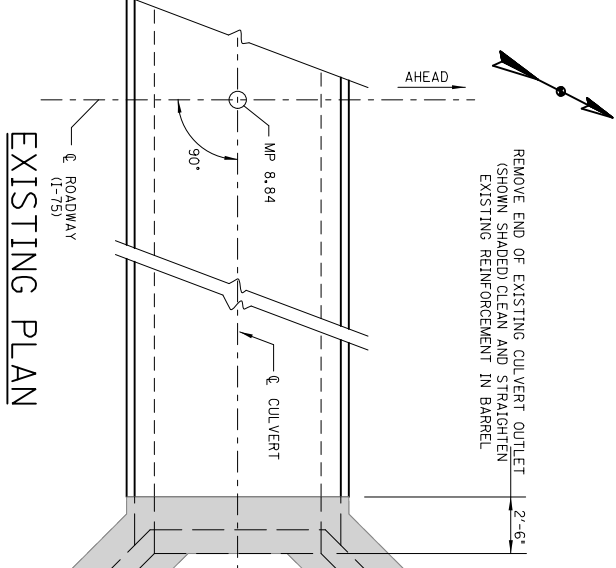
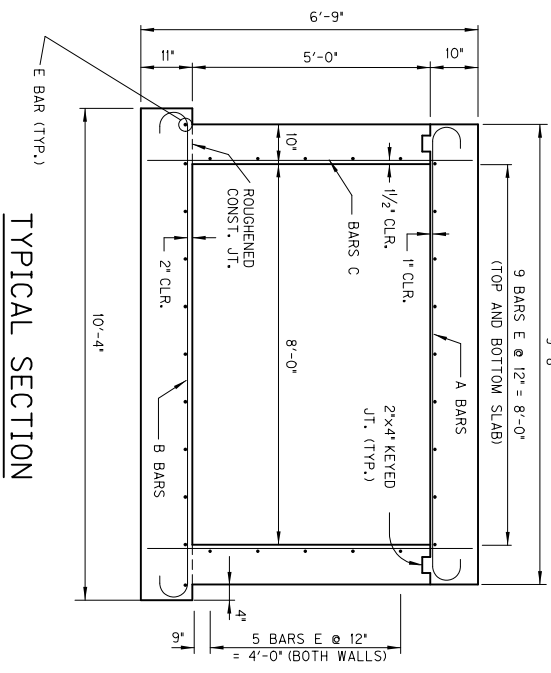
- ITEMS TO BID
- 21759NN REPAIR/PATCH WINGWALL
 - 0078 CRUSHED AGGREGATE SIZE NO. 2
 - 2503 FABRIC-GEOTEXTILE CLASS 2
 - TEMP. AND PERM. EROSION CONTROL ITEMS AS NECESSARY
 - 1 EA
 - 25 STONS

MILEPOST 3.12
CULVERT WING REPAIR

SHEET LOCATION: FILE NAME: G:\Ngr\VDI365.01 I75\Whitley\BRIDGES\8x5RBCB.dgn USERNAME: dkirby DATE: 9/18/2020 2:28:24 PM

BEFORE YOU DIG

THE CONTRACTOR IS INSTRUCTED TO CALL 1-800-125-6007 TO REACH KY 811, THE ONE-CALL SYSTEM FOR INFORMATION ON THE LOCATION, A DEPTH OF TWO FEET AND NO MORE THAN 1500 BUSINESS DAYS PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL UTILITIES OWNERS, INCLUDING THOSE WHO DO NOT SUBSCRIBE TO KY 811. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL UTILITIES OWNERS, INCLUDING THOSE WHO DO NOT SUBSCRIBE TO KY 811. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL UTILITIES OWNERS, INCLUDING THOSE WHO DO NOT SUBSCRIBE TO KY 811. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL UTILITIES OWNERS, INCLUDING THOSE WHO DO NOT SUBSCRIBE TO KY 811.



PROPOSED SECTION

PROPOSED PLAN

GENERAL NOTES

SPECIFICATIONS
REFERENCES TO THE STANDARD SPECIFICATIONS ARE TO THE CURRENT KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WITH CURRENT SUPPLEMENTAL SPECIFICATIONS. REFERENCES TO AASHTO SPECIFICATIONS ARE TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CURRENT EDITION WITH INTERIM REVISIONS.

DESIGN STRESSES
F_y = 60,000 psi
F_c = 3,500 psi
CONCRETE
CLASS 'A' CONCRETE SHALL BE USED THROUGHOUT.

REINFORCEMENT
DIMENSIONS SHOWN FROM THE FACE OF CONCRETE TO BARS ARE CLEAR DISTANCES UNLESS OTHERWISE SHOWN. SPACING OF BARS IS FROM CENTER TO CENTER, BEVELED EDGES
ALL EXPOSED EDGES SHALL BE BEVELED 3/4" UNLESS OTHERWISE NOTED.

COMPLETION OF STRUCTURE

TEMPORARY SHEETING, SHORING, COFFERDAMS AND/OR DEWATERING METHODS MAY BE REQUIRED FOR THE INSTALLATION OF THE CULVERT.

STRUCTURE EXCAVATION

STRUCTURE EXCAVATION SHALL BE PAID IN ACCORDANCE WITH SECTION 603 OF THE SPECIFICATIONS. COFFERDAMS, SHEETING OR SHORING THAT MAY BE NECESSARY FOR CONSTRUCTION OF ANY PHASE OF WORK INCIDENTAL TO THE LUMP SUM BID FOR FOUNDATION PREPARATION.

WELDED WIRE FABRIC

WELDED STEEL WIRE FABRIC SHALL CONFORM TO SECTION 811 OF THE SPECIFICATIONS. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS 'A' CONCRETE. APPROXIMATE QUANTITY, 19 S.Y., WWF6x6-D7x07, NO. 4 BARS SPACED AT 12" IN EACH DIRECTION, MAY BE USED IN PLACE OF WELDED WIRE FABRIC.

BONDING NEW CONCRETE TO OLD CONCRETE

ALL NEW CONCRETE SHALL BE BONDED TO THE OLD CONCRETE WITH A TWO-COMPONENT EPOXY RESIN SYSTEM CONFORMING TO SECTION 511 AND 826 OF THE SPECIFICATIONS. THE COST OF THIS WORK, INCLUDING ALL LABOR, TOOLS, AND MATERIALS IS TO BE INCIDENTAL TO THE UNIT PRICE BID FOR CLASS 'A' CONCRETE.

SAWCUTTING CONCRETE

SAWCUT BARREL TO A DEPTH OF 1" PRIOR TO REMOVING EXISTING CONCRETE. COST SHALL BE INCLUDED IN THE UNIT BID FOR REMOVE CONCRETE MASONRY.

MASONRY COATING

MASONRY COATING WILL NOT BE REQUIRED FOR THIS STRUCTURE.

EXISTING STRUCTURE

THE DRAWING NUMBER OF THE EXISTING CULVERT IS 15705.

ESTIMATE OF QUANTITIES

| BID ITEM CODE | ITEM | QUAN | UNIT |
|---------------|-------------------------|------|-------|
| 8100 | CONCRETE, CLASS 'A' | 17.2 | C.Y. |
| 8150 | STEEL REINFORCEMENT | 980 | LEBS. |
| 8003 | FOUNDATION PREPARATION | 1 | L.S. |
| 2403 | REMOVE CONCRETE MASONRY | 11 | C.Y. |
| 2223 | GRANULAR EMBANKMENT | 25 | C.Y. |

| | | |
|-----------------------------------|----------------------------|-------------|
| DATE | REVISION | DATE |
| SEPTEMBER, 2020 | CHECKED BY | |
| DESIGNED BY | WJH | |
| DETAILED BY | WJH | |
| COMMUNICABLE of Kentucky | | |
| DEPARTMENT OF HIGHWAYS | | |
| WHITLEY | | |
| REGISTERED PROFESSIONAL ENGINEERS | | |
| DATE | PROJECT NO. | SHEET NO. |
| 1/75 | UNNAMED TRB. TO CLEAR FORK | |
| MP 8.84 | 8'x5' RBCB REPAIR | |
| PREPARED BY | | |
| HMB PROFESSIONAL | | |
| ENGINEERS, INC. | | |
| ITEM NUMBER | 11-20015 | DRAWING NO. |

WHITLEY CO. I-75 ~m.p. 4.12
~LAT/LONG N 36.645347 W 84.126212
STATION P83

SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE EACH JUNCTION BOX AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

INSTALL FOUR (4) TYPE A JUNCTION BOXES (JB A1, JB A2, JB A3 AND JB A4).

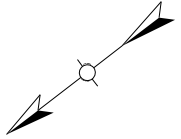
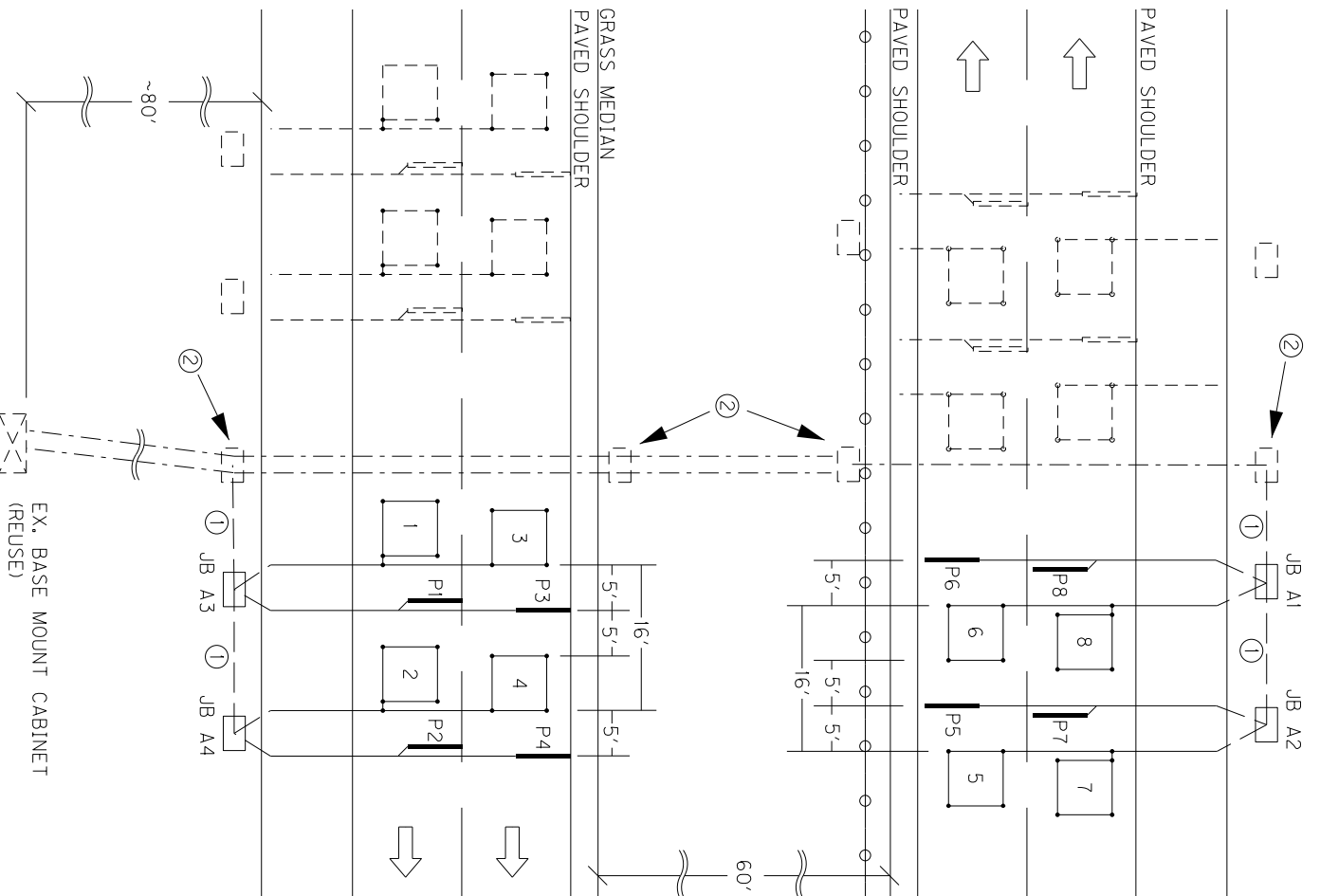
INSTALL ONE (1) 1 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

REMOVE EXISTING WIRE BETWEEN EXISTING JUNCTION BOXES AND BASE MOUNT CABINET AND REUSE EXISTING RACEWAYS FOR NEWLY INSTALLED WIRE.

CODED NOTE:

① INSTALL ONE (1) 2" RIGID CONDUIT.

② REUSE EXISTING TYPE A JUNCTION BOX.



WHITLEY CO. I-75 ~m.p. 11.11
~LAT/LONG N 36.73115, W 84.17148
STATION 515



SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED AND LABELED INSIDE EACH JUNCTION BOX AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1 AND A2).

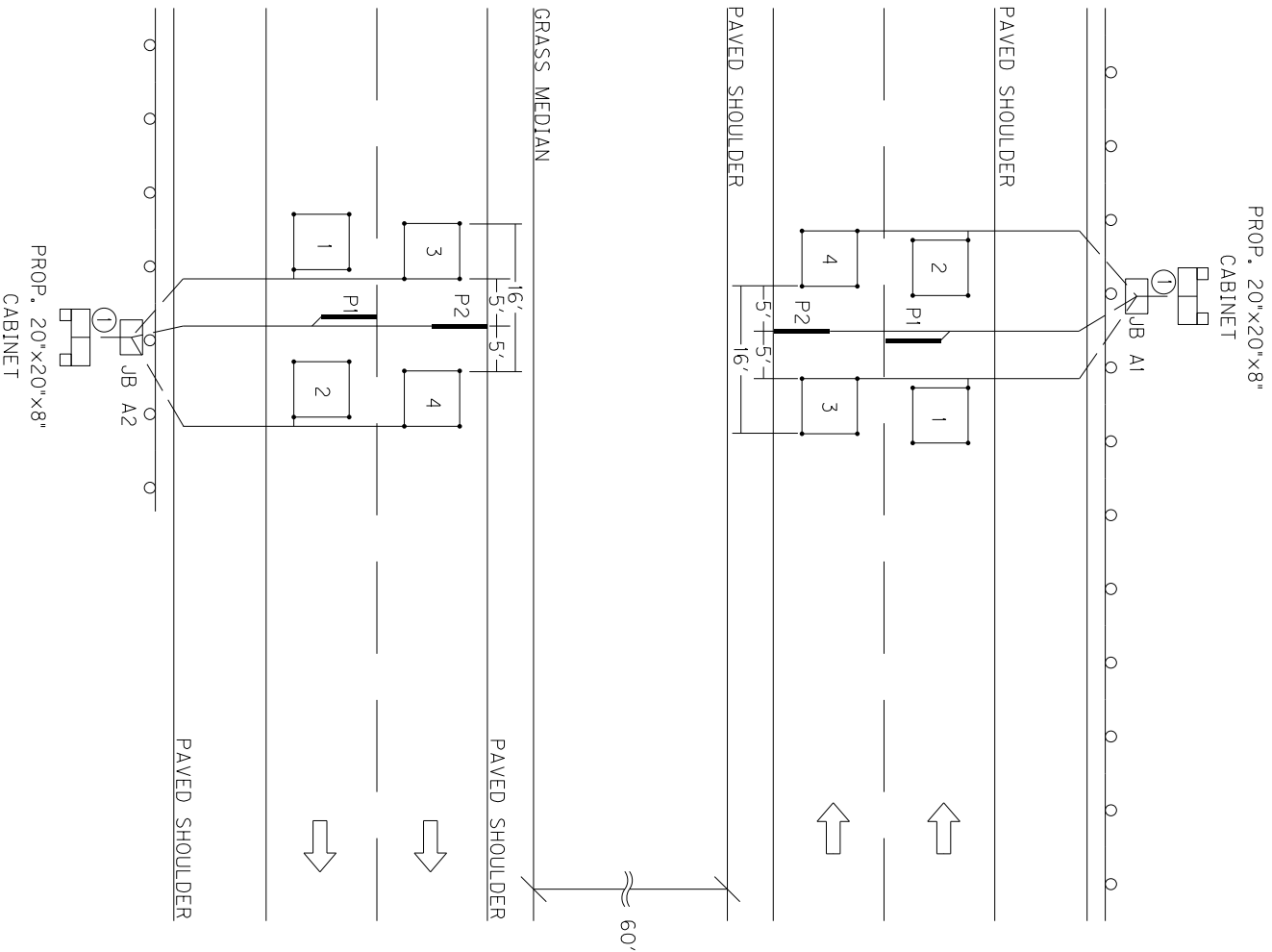
INSTALL ONE (1) 1/4" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

INSTALL TWO (2) 20"x20"x8" CABINETS MOUNTED TO TWO (2) WOOD POSTS EACH.

CODED NOTE:

① INSTALL ONE (1) 2" CONDUIT.

REMOVE ANY EX. TRAFFIC DATA COLLECTION EQUIPMENT (CABINETS, JUNCTION BOXES, CONDUIT, WIRE, ETC.) AND DISPOSE OF OFF THE PROJECT.



Permanent Traffic Data Acquisition Station
Estimate Of Quantities

Revised February 2019

**PERMANENT TRAFFIC DATA ACQUISITION STATIONS
ESTIMATE OF QUANTITIES**

| Bid Item Code | Description | Unit | Quantity |
|---------------|--------------------------------|--------|----------|
| 4793 | CONDUIT 1 ¼ INCH | LIN FT | 180 |
| 4795 | CONDUIT 2 INCH | LIN FT | 100 |
| 4811 | ELECTRICAL JUNCTION BOX TYPE B | EACH | |
| 4820 | TRENCHING AND BACKFILLING | LIN FT | 270 |
| 4821 | OPEN CUT ROADWAY | LIN FT | |
| 4829 | PIEZOELECTRIC SENSOR | EACH | 12 |
| 4830 | LOOP WIRE | LIN FT | 6680 |
| 4850 | CABLE NO. 14/1 PAIR | LIN FT | |
| 4871 | POLE – 35’ WOODEN | EACH | |
| 4895 | LOOP SAW SLOT AND FILL | LIN FT | 850 |
| 4899 | ELECTRICAL SERVICE | EACH | |
| 20213EC | INSTALL PAD MOUNT ENCLOSURE | EACH | |
| 20359NN | GALVANIZED STEEL CABINET | EACH | 2 |
| 20360ES818 | WOOD POST | EACH | 4 |
| 20391NS835 | ELECTRICAL JUNCTION BOX TYPE A | EACH | 6 |
| 20392NS835 | ELECTRICAL JUNCTION BOX TYPE C | EACH | |
| 20468EC | ELECTRICAL JUNCTION BOX 10x8x4 | EACH | |
| 21543EN | BORE AND JACK CONDUIT | LIN FT | |
| 23206EC | INSTALL CONTROLLER CABINET | EACH | |

MATERIAL, INSTALLATION, AND BID ITEM NOTES FOR PERMANENT TRAFFIC DATA ACQUISITION STATIONS

1. DESCRIPTION

Except as specified in these notes, all work shall consist of furnishing and installing all materials necessary for permanent data acquisition station equipment installation(s) and shall be performed in accordance with the current editions of:

- The Contract
- Division of Planning Standard Detail Sheets
- Kentucky Transportation Cabinet, Department of Highways, *Standard Specifications for Road and Bridge Construction*
- Kentucky Transportation Cabinet, Department of Highways, Standard Drawings
- National Fire Protection Association (NFPA) 70: *National Electrical Code*
- Institute of Electrical and Electronic Engineers (IEEE), *National Electrical Safety Code*
- Federal Highway Administration, *Manual on Uniform Traffic Control Devices*
- American Association of State Highway and Transportation Officials (AASHTO), *Roadside Design Guide*.
- Standards of the utility company serving the installation, if applicable

The permanent traffic data acquisition station layout(s) indicate the extent and general arrangement of the proposed installation and are for general guidance. Any omission or commission shown or implied shall not be cause for deviation from the intent of the plans and specifications. Information shown on the plans and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department of Highways (Department) does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown. If any modifications of the plans or specifications are considered necessary by the Contractor, details of such modifications and the reasons, therefore, shall be submitted in writing to the Engineer for written approval prior to beginning such modified work.

The Contractor shall contact all utility companies and the district utility agent prior to beginning construction to insure proper clearance and shielding from existing and proposed utilities. The Contractor shall use all possible care in excavating on this project so as not to disturb any existing utilities whether shown on the plans or not shown on the plans. Any utilities disturbed or damaged by the Contractor during construction shall be replaced or repaired to original condition by the Contractor at no cost to the department. If necessary, to avoid existing utilities, the Contractor shall hand dig areas where poles or conduit cross utilities.

Material, Installation, and Bid Item Notes for
Permanent Traffic Data Acquisition Stations

Revised August, 2018

The Contractor shall be responsible for all damage to public and/or private property resulting from his work.

The Contractor shall inspect the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions. Submission of a bid will be considered an affirmation of this inspection having been completed. The Department will not honor any claims resulting from site conditions.

2. MATERIALS

All proposed materials shall be approved prior to being utilized. The Contractor shall submit for material approval an electronic file of descriptive literature, drawings and any requested design data for the proposed materials. After approval, no substitutions of any approved materials may be made without the written approval of the Engineer.

Materials requiring sampling shall be made available a sufficient time in advance of their use to allow for necessary testing.

2.1. Anchoring

2.1.1. Anchor and Anchor Rod

Anchor, except rock anchor, shall be expanding type, with a minimum area of 135 square inches.

Anchor rod shall be galvanized steel, double-eye, have a minimum diameter of 5/8 inches, and a minimum length of 84 inches. Minimum holding capacity shall be 15,400 lbs.

Rock anchor shall be galvanized steel, triple-eye, expanding type, with a minimum diameter of 3/4 inch, a minimum 53 inches long, and a minimum tensile strength of 23,000 lb.

2.1.2. Guy Wire and Guy Guard

Guy wire shall be Class A, Zinc-coated, 3/8 inch diameter, high strength grade steel (minimum 10,800 lb.) and galvanized per ASTM A475. Guy guard shall be 8' long, fully-rounded, yellow, and able to be securely attached to the guy wire.

2.1.3. Strandwise for Guy Wire

Strandwise for guy wire shall be 3/8 inch and rated to hold a minimum of 90% of the rated breaking strength (RBS) of the strand used.

2.2. Asphalt

Asphalt shall be a minimum CL2 Asph Surf 0.38C PG64-22 and conform to the *Standard Specifications for Road and Bridge Construction*.

2.3. Backer Rod

Backer rod shall be 1/2 inch diameter, closed cell polyethylene foam and shall meet or exceed the following physical properties:

- Density (average): 2.0 lbs/cu.ft. (minimum): ASTM D 1622 test method
- Tensile Strength: 50 PSI (minimum): ASTM D 1623 test method
- Compression Recovery: 90% (minimum): ASTM D 5249 test method
- Water Absorption: 0.03 gm/cc (maximum): ASTM C 1016 test method

2.4. Cabinets

2.4.1. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall be constructed of 16 or 14 gauge galvanized steel and shall meet or exceed the industry standards set forth by UL 50 and NEMA 3R. The finish shall be an ANSI 61 gray polyester powder finish inside and out over the galvanized steel. Cabinet shall have minimum inside dimensions of 20 inches high by 20 inches wide by 8 inches deep.

The cabinet shall be equipped with the following:

- Drip shield top
- Seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow
- Hinged cover with 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened with captive plated steel screws, knob or latch
- Hasp and staple for padlocking
- No gaskets or knockouts
- Back panel for terminal block installation
- Post mounting hardware
- Terminal Blocks

2.4.2. Anchor Bolt for Pad Mounted Cabinet

Anchor bolt for pad mounted cabinet shall be galvanized steel with minimum dimensions of 3/8 inch by 6 inches.

2.5. Concrete

Concrete shall be Class A and conform to the *Standard Specifications for Road and Bridge Construction*.

2.6. Conduit and Conduit Fittings

Conduit and conduit fittings shall be rigid steel unless otherwise specified.

Conduit shall be zinc galvanized inside and out and conform to the NEC, UL Standard 6, and ANSI C-80.1.

Rigid Steel Conduit Fittings shall be galvanized inside and out and conform to the NEC, UL Standard 514B, and ANSI C-80.4. Intermediate Metal Conduit (IMC) will not be approved as an acceptable alternative to rigid steel conduit.

2.7. Conduit sealant

Conduit sealant shall be weather-, mold-, and mildew-resistant and chemically resistant to gasoline, oil, dilute acids and bases. Conduit sealant shall be closed cell type and shall meet or exceed the following properties:

- Cure Time 20 minutes max.
- Density 64.4 kg/m³; 6 lbs/ft³
- Compressive Strength (ASTM 1691) 13.8 MPa; 330 or 300 psi

- Tensile Strength (ASTM 1623) 15.9 MPa; 270 or 250 psi
- Flexural Strength (ASTM D790) 14.5 MPa; 460 or 450 psi
- Service Temperature -20 to 200 F

2.8. Electrical Service Meter Base

Electrical service meter base shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.9. Electrical Service Disconnect

Electrical service disconnect shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.10. Flashing Arrow

Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle

Ground Fault Circuit Interrupter Receptacle shall be 2-pole, 3-wire, 20 Amp, 125 Volt, 60 Hz, NEMA 5-20R configuration and meet or exceed the following standards and certifications:

- NEMA WD-1 and WD-6
- UL 498 and 943
- NOM 057
- ANSI C-73

This item shall include a UL listed, 4 inch x4 inch x 2¹/₈ inch box with ¾ inch side and end knockouts and a 1½ inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

2.12. Grounding

2.12.1. Ground Rod

Ground Rod shall be composite shaft consisting of a pure copper exterior (5 mil minimum) that has been inseparably molten welded to a steel core. Ground Rod shall have a minimum diameter of 5/8 inch, a minimum length of 8 feet and shall be manufactured for the sole purpose of providing electrical grounding.

2.12.2. Ground Rod Clamp

Ground rod shall be equipped with a one piece cast copper or bronze body with a non-ferrous hexagonal head set screw and designed to accommodate a 10 AWG solid through 2 AWG stranded grounding conductor.

2.13. Grout

2.13.1. Grout for Inductive Loop Installation

Grout for inductive loop installation shall be non-shrink, shall meet the requirements of the *Standard Specifications for Road and Bridge Construction*,

and shall be included on the KYTC Division of Materials, *List of Approved Materials*.

2.13.2. Grout for Piezoelectric Sensor Installation

Grout for piezoelectric sensor installation shall be per the piezoelectric sensor manufacturer's recommendation. Grout shall be suitable for installation in both asphalt and Portland cement pavements. Grout shall have a short curing time (tack free in ten minutes; open to traffic in forty minutes; and fully cured within sixty minutes) to prevent unnecessary lane closure time and should be of sufficient consistency to prevent running when applied on road surfaces with a drainage cross slope. Particulate matter within the grout shall not separate or settle and the grout shall not shrink during the curing process.

2.14. Hardware

Except where specified otherwise, all hardware such as nuts, bolts, washers, threaded ends of fastening devices, etc. with a diameter less than 5/8 inch shall be passivated stainless steel, alloy type 316 or type 304. Stainless steel hardware shall meet ASTM F593 and F594 for corrosion resistance. All other nuts and bolts shall meet ASTM A307 and shall be galvanized.

2.14.1. Conduit Strap

Conduit strap shall be double-hole, stainless steel, and sized to support specified conduit. Conduit strap shall attach to wood pole or post with two 2 1/4 inch wood screws.

2.14.2. Mounting Strap for Pole Mount Cabinet

Mounting strap for pole mount cabinet shall be 3/4 inch x 0.03 inch stainless steel; equipped with clips or buckles to securely hold strap.

2.14.3. Metal Framing Channel and Fittings

Metal framing channel shall be 1 5/8 inches wide galvanized steel that conforms to ASTM A1011 and ASTM A653. One side of the channel shall have a continuous slot with in-turned edges to accommodate toothed fittings.

Fittings shall be punch pressed from steel plates and conform to ASTM A575 and the physical requirements of ASTM A1011.

2.15. Junction Box

2.15.1. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall meet or exceed ANSI/SCTE 77-2007, Tier 15. Box shall have an open bottom. A removable, non-slip cover marked "PLANNING" shall be equipped with a lifting slot and attached with a minimum of two 3/8 inch stainless steel hex bolts and washers. Type A Box shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep. Type B Box shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12

inches deep. Type C Box shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep.

2.15.2. Aggregate for Junction Box Type A, B, or C

Aggregate for junction box type A, B, or C shall be gradation size no. 57 and conform to the *Standard Specifications for Road and Bridge Construction*.

2.15.3. Junction Box 10x8x4

Junction Box Type 10x8x4 shall be constructed of a UV-stabilized, nonmetallic material or non-rusting metal and be weatherproof in accordance with NEMA 4X. Box shall be equipped with an overhanging door with a continuous durable weatherproof gasket between the body and door. Door shall be hinged with screws, hinge(s) and pin(s) and shall be equipped with a padlockable latch on the side opposite the hinge(s). Junction Box 10x8x4 shall have minimum inside dimensions of 10 inches high by 8 inches wide by 4 inches deep.

2.16. Maintain and Control Traffic

Materials for the bid item Maintain and Control Traffic shall conform to the *Standard Specifications for Road and Bridge Construction*, and the KYTC Department of Highways *Standard Drawings*.

2.17. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall provide a consistent level voltage output signal when a vehicle axle passes over it, shall have a shielded transmission cable attached, and shall meet the following requirements:

- Dimensions: such that sensor will fit in a ¾ inch wide by 1 inch deep saw cut. Total length shall be 6 feet unless specified otherwise.
- Output uniformity: ± 7% (maximum)
- Typical output level range: 250mV (minimum) from a wheel load of 400 lbs.
- Working temperature range: -40° to 160° F.
- Sensor life: 30 million Equivalent Single Axle Loadings (minimum)

Shielded transmission cable shall be coaxial and shall meet the following requirements:

- RG 58C/U with a high density polyethylene outer jacket rated for direct burial
- Length shall be a minimum of 100 feet. Installations may exceed 100 feet so the piezo shall be supplied with a lead-in of appropriate length so that the cable can be installed splice-free from the piezo to the cabinet.
- Soldered, water resistant connection to the sensor.

One installation bracket for every 6 inches of sensor length shall also be supplied. Piezo shall be a RoadTrax BL Class I or approved equal.

2.18. Saw Slot Sealant

Saw Slot Sealant shall be non-shrink, non-stringing, moisture cure, polyurethane

encapsulant suitable for use in both asphalt and concrete pavements. It shall provide a void-free encapsulation for detector loop cables and adequate compressive yield strength and flexibility to withstand heavy vehicular traffic and normal pavement movement.

The cured encapsulant shall meet or exceed the following:

- Hardness (Indentation): 35-65 Shore A, ASTM D2240
- Tensile Strength: 150 psi minimum, ASTM D412
- Elongation: 125% minimum 2 inch/minute pull, ASTM D412
- Tack-free Drying Time: 24 hours maximum, ASTM C679
- Complete Drying Time: 30 hours maximum, KM 64-447
- Chemical Interactions (seven day cure at room temperature, 24-hour immersion, KM 64-446):
 - Motor Oil: No effect
 - Deicing Chemicals: No effect
 - Gasoline: Slight swell
 - Hydraulic Brake Fluid: No effect
 - Calcium Chloride (5%): No effect

2.19. Seeding and Protection

Material for Seeding and Protection shall be Seed Mixture Type I and conform to the *Standard Specifications for Road and Bridge Construction*.

2.20. Signs

Materials for signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

2.21. Splicing Materials

2.21.1. Electrical Tape

Electrical tape shall be a premium grade, UL-listed, all-weather, vinyl-insulating tape with a minimum thickness of 7 mil. Tape shall be flame retardant and resistant to abrasion, moisture, alkalis, acids, corrosion, and weather (including ultraviolet exposure).

2.21.2. Splice Kit

Splice kit shall be inline resin-type and rated for a minimum of 600V. Resin shall be electrical insulating-type and shall provide complete moisture and insulation resistance.

2.22. Steel Reinforcing Bar

Steel reinforcing bar shall be #5 and shall conform to the *Standard Specifications for Road and Bridge Construction*.

2.23. Terminal Block

Terminal block shall be rated for a minimum of 300 V and have a minimum of six

terminal pairs with 9/16-inch nominal spacing (center to center) for connecting loop and piezoelectric sensor wires to cable assemblies. Terminal block shall have screw type terminal strips to accommodate wire with spade-tongue ends.

2.24. Warning Tape

Warning tape shall be acid and alkali resistant formulated for direct burial. Tape shall be a minimum of 3 inches wide by 4.0 mils (nominal) thick, and shall be permanently imprinted with a minimum 1 inch black legend on a red background warning of an electric line. Tape shall meet or exceed the following industry specifications:

- American Gas Association (AGA) 72-D-56
- American Petroleum Institute (API) RP 1109
- American Public Works Association (APWA) Uniform Color Code
- Department of Transportation (DOT) Office of Pipeline Safety USAS B31.8
- Federal Gas Safety Regulations S 192-321 (e)
- General Services Administration (GSA) Public Buildings Service Guide: PBS 4-1501, Amendment 2
- National Transportation Safety Board (NTSB) PSS 73-1
- Occupational Safety and Health Administration (OSHA) 1926.956 (c) (1)

2.25. Wire and Cable

All cable and wire shall be plainly marked in accordance with the National Electrical Code (NEC).

2.25.1. Loop Wire

Loop wire shall be 14 AWG, stranded, copper, single conductor, and shall conform to the International Municipal Signal Association (IMSA) Specification No. 51-7.

2.25.2. Cable No. 14/1 Pair

Cable No. 14/1 pair loop lead-in cable shall be 14 AWG, stranded, copper paired, electrically shielded conductors, and shall conform to IMSA 19-2.

2.25.3. Grounding conductor

Grounding conductor and bonding jumper shall be solid or stranded, 4 AWG bare copper.

2.25.4. Service Entrance Conductor

Service entrance conductor shall be stranded, copper, Type USE-2, sized as required to comply with the NEC.

2.25.5. Terminal for electrical wire or cable

Terminal for electrical wires or cables shall be insulated, solderless, spade tongue terminals of correct wire and stud size. Terminal for electrical wires or cables shall be incidental to the wire or cable (including piezoelectric sensor transmission cable) to be connected to terminal strips.

2.26. Wood Post

Wood post shall be Southern Pine pretreated to conform to the American Wood Preservers' Association (AWPA) C-14 or UC4B and shall have minimum dimensions of 4 inches by 4 inches by 8 feet long (for Galvanized Steel Cabinet) or 4 feet long (for Junction Box 10x8x4), sawed on all four sides with both ends square.

2.27. Wooden Pole

Wooden pole shall be a Class IV wood pole of the length specified and shall conform to the *Standard Specifications for Road and Bridge Construction* except the pole shall be treated in accordance with AWPA P9 Type A.

3. CONSTRUCTION METHODS

The plans indicate the extent and general arrangement of the installation and are for guidance. When the Contractor deems any modifications to the plans or specifications necessary, details of such changes and the reasons shall be submitted in writing to the engineer for written approval prior to beginning the modified work.

After the project has been let and awarded, the Division of Construction shall notify the Division of Planning of the scheduled date for a Pre-Construction meeting so that prior arrangements can be made to attend. This will allow the Division of Planning an opportunity to address any concerns and answer any questions that the Contractor may have before beginning the work.

The Division of Planning Equipment Management Team (502-564-7183) shall be notified a minimum of seven days before any work pertaining to these specifications begins to allow their personnel the option to be present during installation.

Unless otherwise specified, installed materials shall be new.

Construction involving the installation of loops or piezoelectric sensors shall not be performed when the temperature of the pavement is less than 38°F.

A final inspection will be performed by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the installation is in compliance with the plans and specifications.

Any required corrective work shall be performed per the *Standard Specifications for Road and Bridge Construction*.

3.1. Anchoring

Furnish: Anchor, anchor rod, guy wire, strand vise, guy guard.

Anchor shall be installed in relatively dry and solid soil. Rock anchor shall be installed in solid rock. Excavate the hole at a 45° to 60° angle in line with the guy (hole size shall be slightly larger than the expanded anchor – see manufacturer's recommendation). Attach rod to anchor, install assembly into hole, and expand anchor. Backfill and tamp entire disturbed area. The effectiveness of the anchor is dependent upon the thoroughness of backfill tamping. Attach guy to strand vise on pole and anchor rod and tighten to required tension. Install guy guard on guy.

3.2. Bore and Jack Pipe – 2”

Furnish: Steel Encasement Pipe, 2”

Bore and jack pipe – 2” shall conform to the Section 706 of the *Standard Specifications for Road and Bridge Construction*.

3.3. Cleanup and Restoration

Furnish: Seed Mix Type 1 (as required); fertilizer (as required); agricultural limestone (as required); mulch or hydromulch (as required); tackifier (as required).

The Contractor shall be responsible for repairing any damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. This shall include filling any ruts and leveling ground appropriately. Contractor shall dispose of all waste and debris off the project. Sow all disturbed earthen areas with Seed Mix Type 1 per Section 212 of the *Standard Specifications for Road and Bridge Construction*. All materials and labor necessary for cleanup and restoration shall be considered incidental to other bid items.

3.4. Conduit

Furnish: Conduit; conduit fittings; bushings (grounding where required); LB condulets (as required); weatherheads (as required); conduit straps; hardware; conduit sealant.

Conduit that may be subject to regular pressure from traffic shall be laid to a minimum depth of 24 inches below grade. Conduit that will not be subject to regular pressure from traffic shall be laid to a minimum depth of 18 inches below grade.

Conduit ends shall be reamed to remove burrs and sharp edges. Cuts shall be square and true so that the ends will butt together for the full circumference of the conduit. Tighten couplings until the ends of the conduit are brought together. Do not leave exposed threads. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with an Engineer-approved, rust inhibitive paint. Conduit bends shall have a radius of no less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans.

Contractor shall install a bushing (grounding bushing where required) on both ends of all conduits. Cap spare conduits on both ends with caps or conduit sealant.

Conduit openings in junction boxes and cabinets shall be waterproofed with a flexible, removable conduit sealant, working it around the wires, and extending it a minimum 1 inch into the end of the conduit.

After the conduit has been installed and prior to backfilling, the conduit installation shall be inspected and approved by the Engineer.

3.5. Electrical Service

Furnish: Meter base, service disconnect, wire, GFCI AC duplex receptacle with box and cover; conduit, conduit fittings, bushings (grounding where required); LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant; ground rod with clamp; grounding conductor.

Prior to any construction, the Contractor shall initiate a work order with the local power

company for the installation of electrical service to the site. A representative from the Division of Planning and the local power company shall be consulted prior to choosing an exact location for the pole. The Contractor shall clear the right-of-way for the electrical service drop.

Contractor shall obtain electrical inspections, memberships, meter base, service disconnect and any other requirements by the utility serving the installation and pay all fees as required.

Install meter-base and disconnect panel with a 30-ampere, fused, circuit breaker inside. Install a manufactured weatherproof hub connectors to connect the conduit to the top of the meter base and service disconnect.

Install a rigid $\frac{3}{4}$ inch conduit with three 8 AWG service conductors from the cabinet, through the service disconnect to the meter base and a $1\frac{1}{4}$ " conduit with three 8 AWG service conductors from the meter base to a weatherhead two feet from the top of the electrical service pole. Install conduit straps 30 inches on center and provide a drip loop where the wire enters the weatherhead. Splice electric drop with service entrance conductors at the top of the pole.

The limit of conduit incidental to "Install Electrical Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

Install a 120-volt, 20-amp GFCI AC duplex receptacle with box and cover in the automatic data recorder (ADR) cabinet.

Install a ground rod with clamp. Install a grounding conductor wire from the meter base, through the disconnect panel, to the ground rod clamp. Install grounding conductor in $1\frac{3}{4}$ " conduit from service disconnect to ground rod.

After completing the installation and before the electrical service is connected, obtain a certificate of compliance from the Kentucky Department of Housing, Buildings and Construction, Electrical Inspection Division.

3.6. Flashing Arrow

Furnish: Arrow Panel

Construction of Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction*.

3.7. Galvanized Steel Cabinet

Furnish: Cabinet; wood posts; concrete; conduit fittings; metal framing channel; pipe clamp; terminal block(s); spade tongue wire terminals; wire labels; hardware.

Where right-of-way allows, locate the cabinet such that it is outside the clear zone in accordance with the *Roadside Design Guide*. Install Cabinet such that the door of the

cabinet faces the roadway.

Excavate as required and install wood posts to a depth of 36 inches and place concrete around posts as shown on the standard detail sheets. Install metal framing channel with pipe clamp between posts.

Install Cabinet on wood posts 38 inches above the finished grade as shown on the standard detail sheets. Install a unistrut between posts when two posts are specified.

Install the required number of terminal blocks on the cabinet back plate. Install a spade tongue terminal on each loop and piezo sensor wire entering the cabinet and connect wires to terminal block(s). Wiring shall be neat and orderly. Label all wires and cables inside cabinet.

Install conduit from ground to cabinet and attach to pipe clamp. Install locknuts to attach conduit to cabinet and install a conduit bushing as shown on the standard detail sheets.

3.8. Grounding

Furnish: Ground rod with clamp; grounding conductor.

At sites with electrical or solar service, all conduits, poles, and cabinets shall be bonded to ground rods and the electrical system ground to form a complete grounded system.

Install such that top of ground rod is a minimum of 3 inches below finished grade.

Grounding systems shall have a maximum 25 ohms resistance to ground. If the resistance to ground is greater than 25 ohms, two or more ground rods connected in parallel shall be installed. Adjacent ground rods shall be separated by a minimum of 6 feet.

3.9. Install Pad Mount Enclosure

Furnish: Concrete; anchor bolts with washers and nuts; conduit; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the enclosure from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site.

Where right-of-way allows, locate the enclosure such that it is outside the clear zone in accordance with the *Roadside Design Guide*.

Excavate as required, and place concrete to construct the enclosure foundation as specified on the standard detail sheets. Install enclosure on the concrete base such that the door(s) of the enclosure opens away from traffic (hinges away from traffic). Install anchor bolts, washers, and nuts to secure the enclosure to the foundation.

Install ground rod with clamp and install one ¾ inch rigid conduit from enclosure base to

ground rod. Install a grounding conductor from ground rod to enclosure base and bond to each conduit bushing in the base.

Install one ¾ inch rigid steel conduit for electrical service from the base of the enclosure to 24 inches beyond the concrete base. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with a cap, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit.”

Install specified rigid steel conduit(s) into the base of the enclosure for sensor wire entry. Install one spare 2 inch conduit from the enclosure base to 2 feet beyond the concrete base. Plug spare conduit on both ends with a cap, conduit sealant or electrical tape.

The limit of all conduits incidental to “Install Pad Mount Enclosure” is 24 inches beyond the edge of the concrete base.

Wiring in enclosure shall be neat and orderly. Label all wires and cables inside enclosure. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.10. Install Controller Cabinet

Furnish: Mounting brackets; mounting straps; conduit; LB condulets; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; cable staples; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the cabinet from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site. Any existing holes in the cabinet not to be reused shall be covered or plugged to meet NEC requirements.

Install mounting brackets and secure cabinet to pole with mounting straps.

Install a ground rod with clamp. Install grounding conductor in 1-¾” conduit from cabinet to ground rod.

Install one ¾ inch rigid steel conduit with two lb condulets from cabinet to electrical service disconnect box. Make all field wiring connections to the electrical service, as applicable.

If electrical service is not provided as a bid item in the contract, plug conduit on both ends with cap, plumbers putty, conduit sealant, or electrical tape. Mark the location of the buried conduit end with a wooden stake labeled “¾ in. conduit”.

Install specified rigid steel conduit(s) and type LB condulet(s) into the bottom of the

cabinet for sensor wire entry. The limit of conduits incidental to “Install Controller Cabinet” is 24 inches beyond the face of the pole.

Wiring in cabinet shall be neat and orderly. Label all wires and cables inside cabinet. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.11. Junction Box Type 10x8x4

Furnish: Junction box; wood post; conduit fittings; wire labels; hardware.

Where right-of-way allows, locate the junction box such that it is outside the clear zone in accordance with the Roadside Design Guide.

Excavate as required and install wood post(s) to a depth of 18 inches. Install junction box on wood post such that the bottom of the box is 18 inches above the finished grade as shown on the standard detail sheets. Box shall be installed with four (4) 2½ inch wood screws and washers.

Install locknuts to attach conduit to junction box and install a conduit bushing as shown on the standard detail sheets.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.12. Junction Box Type A, B, or C

Furnish: Junction box, No. 57 aggregate; grounding conductor

Excavate as required and place approximately 12 inches of No. 57 aggregate beneath the proposed junction box to allow for drainage. Install specified junction box type A, B, or C near the edge of pavement, flush with finished grade per the detail sheets. Where required, orient the box so that the dimensions comply with the National Electrical Code. Stub conduits with grounding bushings into junction box at its base to accommodate wires and connect grounding conductor to all grounding bushings. Backfill to existing grade, and restore disturbed area to the satisfaction of the Engineer.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.13. Loops - Proposed

Furnish: Wire; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for loop installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the precise layout locations on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist.

Upon completion of this meeting, the Contractor shall measure out and mark the proposed loop locations with spray paint or chalk such that the saw slots will be parallel

and perpendicular to the direction of traffic. Marked lines shall be straight and exact to the locations determined and sized as shown on the plans. Unless indicated otherwise, loops shall be 6 feet by 6 feet square and loops in the same lane shall be spaced 16 feet from leading edge to leading edge.

On resurfacing, rehabilitation, and new construction projects that include new asphalt pavement, the Contractor shall install loops prior to laying the final surface course. On projects with milling and texturing, the Contractor may install the loops prior to or after the milling operation; however, if installed prior to milling, the Contractor shall be responsible for ensuring that the loops are installed at a depth such that the milling operation will not disturb the newly installed loops. The Contractor shall correct damage caused by the milling operations to newly installed loops prior to placement of the final surface course at no additional cost to the Cabinet.

For projects that include the installation of new asphalt and piezoelectric sensors, the Contractor shall mark or otherwise reference all loops installed prior to the final surface course such that the loops can be accurately located when the piezoelectric sensors are installed after placement of the final surface course.

For projects that do not have asphalt surfacing, the Contractor shall install the loops in the surface of the pavement.

The Prime Contractor shall coordinate the installation of loops with the electrical sub-Contractor and the Engineer to ensure correct operation of the completed installation.

The following is a typical step by step procedure for the installation of a loop.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and centered in the lane.
- Make each saw-cut 3/8-inch wide and at a depth such that the top of the backer rod is a minimum of 2 inches below the surface of rigid (PCC/Concrete) pavement or 4 inches below the surface of asphalt pavement.
- Drill a 1½ inch core hole at each corner and use a chisel to smooth corners to prevent sharp bends in the wire.
- Clean ALL foreign and loose matter out of the slots and drilled cores and within 1 foot on all sides of the slots using a high pressure washer.
- Completely dry the slots and drilled cores and within 1 foot on all sides of the slots using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45° angle to the conduit adjacent to the roadway.
- Closely inspect all cuts, cores, and slots for jagged edges or protrusions prior to the placement of the wire. All jagged edges and protrusions shall be ground or re-cut and cleaned again.

- Place the loop wire splice-free from the termination point (cabinet or junction box) to the loop, continue around the loop for four turns, and return to the termination point.
- Push the wire into the saw slot with a blunt object such as a wooden stick. Make sure that the loop wire is pushed fully to the bottom of the saw slot.
- Install conduit sealant to a minimum of 1” deep into the cored 1½ inch hole.
- Apply loop sealant from the bottom up and fully encapsulate the loop wires in the saw slot. The wire should not be able to move when the sealant has set.
- Cover the encapsulated loop wire with a continuous layer of backer rod along the entire loop and home run saw slots such that no voids are present between the loop sealant and backer rod.
- Finish filling the saw cut with non-shrinkable grout per manufacturer’s instructions. Alleviate all air pockets and refill low spaces. There shall be no concave portion to the grout in the saw slot. Any excess grout shall be cleaned from the roadway to alleviate tracking.
- Clean up the site and dispose of all waste off the project.
- Ensure that the grout has completely cured prior to subjecting the loop to traffic. Curing time varies with temperature and humidity.

Exceptions to installing loop wire splice-free to the junction box or cabinet may be considered on a case-by-case basis and must be pre-approved by the Engineer. If splices are allowed, they shall be located in a junction box and shall conform to the construction note for Splicing.

If loop lead-in cable (Cable No. 14/1 Pair) is specified, cable shall be installed splice free to the cabinet ensuring that extra cable is left in each junction box or cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Loop inductance readings shall be between 100 and 300 microhenries. The difference of the loop inductance between two loops in the same lane shall be ± 20 microhenries. Inductance loop conductors shall test free of shorts and grounds. Upon completion of the project, all loops must pass an insulation resistance test of a minimum of 100 million ohms to ground when tested with a 500 Volt direct current potential in a reasonably dry atmosphere between conductors and ground.

3.14. Loops – Existing

When noted on a data collection station layout sheet that there are existing inductive loops within the limits of the project, notify the Engineer in writing, a minimum of 14 calendar days prior to beginning milling operations. After milling and prior to placing asphalt inlay, conduct an operating test on the existing inductance loops at the control cabinet in the presence of the Engineer to determine if the inductance loop conductors have an insulating resistance of a minimum of 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground. The Department may also conduct its own tests with its own equipment.

If the tests indicate the loop resistances are above the specified limit and the Engineer determines the system is operable, proceed with the asphalt inlay. If the test indicates the loop resistance is not within the specified limits or if the Engineer determines the system is otherwise not operable, prior to placing the asphalt inlay install and test new loop detectors according to the station layout, notes, and Detail Drawings.

The Engineer will contact and maintain liaison with the District Planning Engineer and the Division of Planning in order to coordinate any necessary work.

3.15. Maintain and Control Traffic

Furnish (all as required): Drums, traffic cones, barricades used for channelization purposes, delineators, and object markers.

Maintain and Control Traffic shall conform to the plans, the Standard Specifications for Road and Bridge Construction, and the KYTC Department of Highways Standard Drawings.

3.16. Open Cut Roadway

Furnish: Concrete, reinforcing bars.

Excavate trench by sawing and chipping away roadway to dimensions as indicated on the detail sheets. After placing conduit, install concrete and steel reinforcing bars per the *Standard Specifications for Road and Bridge Construction*. Restore any disturbed sidewalk to its original condition.

3.17. Piezoelectric Sensor

Furnish: Piezoelectric sensor and cable; sensor support brackets; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for piezoelectric sensor (piezo) installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the final layout on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist. Roadway ruts at the proposed piezo location shall not be in excess of 1/2 inch under a 4-foot straight edge.

Install the piezo perpendicular to traffic in the final surface course of the pavement. Locate the sensor in the lane as shown on the site layout drawing. Eleven-foot length sensors shall be centered in the lane.

The following is a typical step by step procedure for the installation of a piezo. Refer specifically to the manufacturer's instructions provided with the sensor prior to installation.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and properly positioned in the lane.

- It is strongly recommended that a ¾ inch wide diamond blade be used for cutting the slot, or that blades be ganged together to provide a single ¾ inch wide cut. The slot shall be wet cut to minimize damage to the pavement.
- Cut a slot ¾ inch wide ($\pm 1/16$ inch) by 1 inch minimum deep. The slot should be a minimum of 2 inches longer than the sensor (including the lead attachment). Drop the saw blade an extra ½ inch down on both ends of the sensor. The lead out of the passive cable should be centered on the slot.
- Cut the slot for the passive cable ¼ inch wide and at a depth so that the top of the backer rod is a minimum of 2 inches below the road surface.
- Clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot using a high pressure washer.
- Completely dry the slot and within 1 foot on all sides of the slot using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45° angle to the conduit adjacent to the roadway.
- Place strips of 2-4 inch wide tape strips on the pavement along the lengths of both sides of the sensor slot, 1/8 inch away from the slot.
- Wear clean, protective latex (or equivalent) gloves at all times when handling sensors. Visually inspect sensor to ensure it is straight. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify that the correct sensor type and length is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet. Piezo lead-in cable shall not be spliced.
- Test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within $\pm 20\%$ of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results and label “pre-installation.” This information should be stored in the counter cabinet and/or returned to Department Planning personnel.
- Lay the sensor next to the slot and ensure that it is straight and flat.
- Clean the sensor with steel wool or an emery pad and wipe with alcohol and a clean, lint-free cloth.
- Place the installation bracket clips every 6 inches along the length of the sensor.
- Bend the tip of the sensor downward at a 30° angle. Bend the lead attachment end down at a 15° angle and then 15° back up until level (forming a lazy Z).
- Place the sensor in the slot, with the brass element 3/8 inch below the road surface along the entire length. The tip of the sensor should be a minimum of 2 inches from the end of the slot and should not touch the bottom of the slot. The top of the plastic installation bracket clips should be 1/8 inch below the surface of the road. The lead attachment should not touch the bottom or sides of the slot. Ensure the sensor ends are pushed down per the manufacturer’s instructions.
- Visually inspect the length of the sensor to ensure it is at uniform depth along its length and it is level (not twisted, canted or bent).

- On the passive cable end, block the end of the slot approximately 3-5 inches beyond the end of the lead attachment area creating an adequate “dam” so that the sensor grout does not flow out.
- Use one bucket of sensor grout per piezo installation. Overfill the slot with sensor grout and allow to cure for a minimum of 10 minutes before continuing with the installation. Ensure that sensor grout fills around and beneath the sensor completely and that there is not a trough on top.
- Remove the tape along the sides of the saw slot when the adhesive starts to cure.
- Carefully remove the dam from the end of the sensor.
- Route the lead-in cable through the saw slot
- Install conduit sealant to a minimum of 1” deep into the cored 1½ inch hole.
- Cover the lead-in cable with encapsulant, backer rod, and grout.
- If necessary, after the grout has hardened, grind with an angle grinder until the profile is a 1/16 inch mound. There shall be no concave portion to the mound.
- Clean up the site and dispose of all waste off the project.
- Ensure that the sensor grout has completely cured prior to subjecting the sensor to traffic. Curing time will vary with temperature and humidity.

Upon installation, test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within $\pm 20\%$ of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Perform a functional test of the piezo with an oscilloscope to ensure that the sensor is generating a proper response to the passage of vehicles.

Record the sensor serial number and the test results and label “post-installation.” This information should be stored in the counter cabinet and/or returned to Department Planning personnel.

3.18. Pole – Wooden

Furnish: Pole; anchoring equipment (as required); hardware (as required).

Excavate and install wood pole to a minimum depth of one-sixth the total pole height. Place backfill material in hole and compact until flush with existing grade. Install guy wire, guy guard, anchor, anchor rod, and strand vise, if necessary. Anchor shall be a minimum of one-third the pole height from the face of the pole. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

3.19. Removal of Existing Equipment

The Contractor shall remove existing materials (including but not limited to: poles, anchors, cabinets, junction boxes, conduit and wire) not to be reused. Contractor shall dispose of all removed materials off the project. All materials and labor necessary for the removal of existing equipment shall be considered incidental to other bid items.

3.20. Signs

Furnish: Signs; sign standards; hardware.

Construction of signs shall conform to the *Standard Specifications for Road and Bridge Construction*.

3.21. Splicing

Furnish: Splice kit; solder.

These notes describe the splicing process (if permitted) and are not intended to grant permission to splice. Permission to splice shall be determined by the Division of Planning and the locations shall be shown on the layout sheet. If splicing is needed but not shown on the layout sheet, the Contractor shall receive prior written approval from the Division of Planning.

All splices shall conform to the provisions of the NEC.

Splices for loop and loop lead-in wire shall be twisted and soldered. Abrade the outer jacket of both wires to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground.

For piezos, the same type coax cable, supplied by the manufacturer, shall be used to splice to the sensor's lead-in cable. Cables shall be soldered. Abrade the outer jacket of both cables to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced piezo cables shall be tested and have a minimum resistance of 20 megohms, a maximum dissipation factor of 0.03, a capacitance within the manufacturer's recommended range based upon the length of additional cable. A functional test of the piezo shall be performed to ensure that the sensor is generating a proper response to the passage of vehicles.

3.22. Trenching and Backfilling

Furnish: Warning tape; seed mix type I; cereal rye or German foxtail-millet; mulch; concrete (as required); asphalt (as required).

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required).

3.23. Wiring

Furnish: Wire; wire labels; spade tongue wire terminals (as required).

Installation of all wiring shall conform to the NEC. Permanent identification numbers shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

Additional lengths of each loop and piezo sensor wire shall be neatly coiled in all cabinets and junction boxes as follows:

| <u>Enclosure Type</u> | <u>Additional length of each wire</u> |
|------------------------------|---------------------------------------|
| Galvanized Steel Cabinet | 2' – 3' |
| Pad Mount Cabinet (332) | 6' - 8' |
| Pole Mount Cabinet (336) | 3' - 4' |
| Junction Box Type 10x8x4 | 2' – 3' |
| Junction Box Type A, B, or C | 2' – 3' |

3.24. Wood Post

Furnish: Wood post; concrete (as required); seed mix type I; cereal rye or German foxtail-millet; mulch.

Excavate hole to specified depth and place concrete, if required. Install post, backfill to existing grade, and tamp backfill. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT

Only the bid items listed will be measured for payment. All other items required to complete the vehicle detection installation shall be incidental to other items of work. Payment at the contract unit price shall be full compensation for all materials, labor, equipment and incidentals to furnish and install these items.

4.1. Bore and Jack Pipe – 2”

Bore and jack pipe – 2” shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.2. Conduit

Conduit shall include furnishing and installing specified conduit in accordance with the specifications. This item shall include conduit fittings, bodies, boxes, weatherheads, expansion joints, couplings, caps, conduit sealant, electrical tape, clamps, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

4.3. Electrical Service

Electrical Service shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of an electrical service which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Meter-base per utility company’s specifications
- Service disconnect panel per utility company’s specifications
- Meter base and service disconnect entrance hubs, waterproof
- Service entrance conductors
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead
- Duplex GFCI receptacle, 120-volt, 20-amp
- Ground rod with clamp
- Grounding conductor

Also incidental to this item shall be any necessary clearing of right of way for the electrical service drop.

Electrical service will be measured in individual units each.

4.4. Flashing Arrow

Flashing Arrow shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.5. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall include furnishing and installing galvanized steel cabinet on post as specified. Incidental to this item shall be furnishing and installing grounding hardware, and any necessary post/pole mounting hardware. Also incidental to this item shall be furnishing and installing the required number of terminal blocks and connection of all

sensors to the terminal blocks. Galvanized Steel Cabinet will be measured in individual units each.

4.6. Install Pad Mount Enclosure

Install Pad Mount Enclosure shall include installing a Department-furnished enclosure as specified on the detail sheets.

This item shall include obtaining the enclosure from KYTC and transporting it to the installation site and furnishing and installing the following:

- Concrete foundation (including any excavation necessary)
- Anchor bolts, lock washers, and nuts
- Conduit
- Conduit fittings (including grounding bushings)
- Weatherhead
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Pad Mount Enclosure will be measured in individual units each.

4.7. Install Controller Cabinet

Install Controller Cabinet shall include installing a Department-furnished cabinet as specified on the detail sheets.

This item shall include obtaining the cabinet from KYTC and transporting it to the installation site and furnishing and installing the following:

- Conduit
- Conduit Fittings
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Controller Cabinet will be measured in individual units each.

4.8. Junction Box Type 10" x 8" x 4"

Junction Box Type 10"x8"x4" shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete the installation. Incidental to this item shall be furnishing and installing specified post (wood, channel, metal, etc.) as required for the installation. Junction Box Type 10"x8"x4" will be measured in individual units each.

4.9. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include excavation, furnishing and installing #57 aggregate, backfilling around the box, and restoration of disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing a

grounding conductor bonding all conduit grounding bushings in the box. Junction Box Type A, B, or C will be measured in individual units each.

4.10. Loop Saw Slot and Fill

Loop Saw Slot and Fill shall include sawing and cleaning saw slots and furnishing and installing conduit sealant, loop sealant, backer rod, grout, or other specified material. Loop Saw Slot and Fill will be measured in linear feet of sawed slot.

4.11. Maintain and Control Traffic

Maintain and Control Traffic shall be measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.12. Open Cut Roadway

Open Cut Roadway shall include excavating trench (sawing and chipping roadway) to dimensions as indicated on the detail sheets and furnishing and placing concrete, steel reinforcing bars, and asphalt. This item also includes restoring any disturbed sidewalk to its original condition. Open Cut Roadway will be measured in linear feet.

4.13. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall include sawing and cleaning saw slots and furnishing and installing piezo in accordance with the specifications. This item shall include furnishing and installing lead-in wire, conduit sealant, encapsulation material, backer rod, grout, testing, and accessories. Piezo will be measured in individual units each.

4.14. Pole – 35' Wooden

Pole – 35' Wooden shall include excavation, furnishing and installing specified wood pole, backfilling and restoring disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing guy wire, anchor and anchor rod, strand vise, and guy guard, if specified.

Pole – 35' Wooden will be measured in individual units each.

4.15. Signs

Signs shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.16. Trenching and Backfilling

Trenching and Backfilling shall include excavation, warning tape, backfilling, temporary erosion control, seeding, protection and restoration of disturbed areas to original condition. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required). Trenching and backfilling will be measured in linear feet.

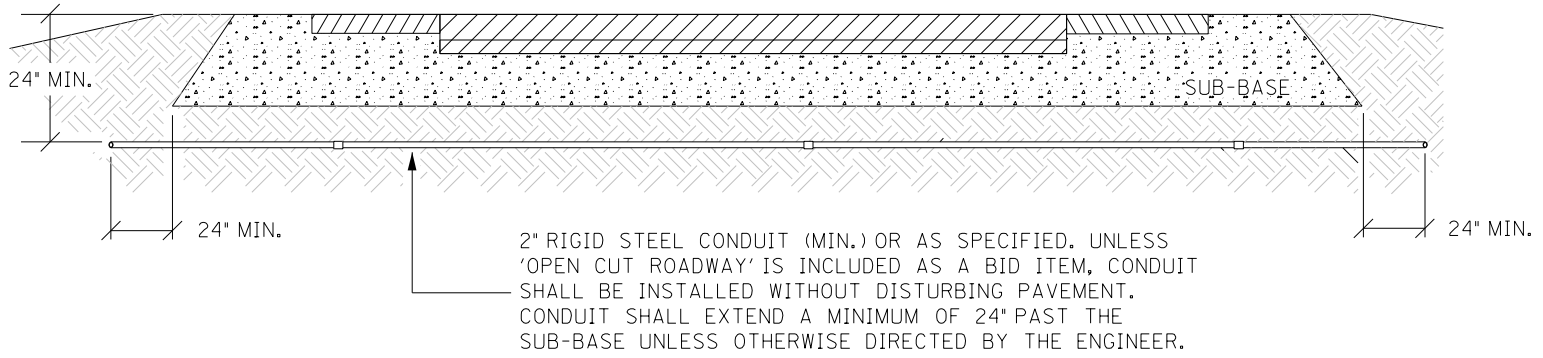
4.17. Wire or Cable

Wire or cable shall include furnishing and installing specified wire or cable within saw slot, conduit, junction box, cabinet, or overhead as indicated on the detail sheets. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice

box, and furnishing and installing other hardware required for installing cable. Wire or Cable will be measured in linear feet.

4.18. Wood Post

Wood Post shall include furnishing and installing wood post as specified. This item shall include excavation, furnishing and placing concrete (if required), backfilling around the post, and restoration of disturbed areas to the satisfaction of the engineer. Wood Post will be measured in individual units each.

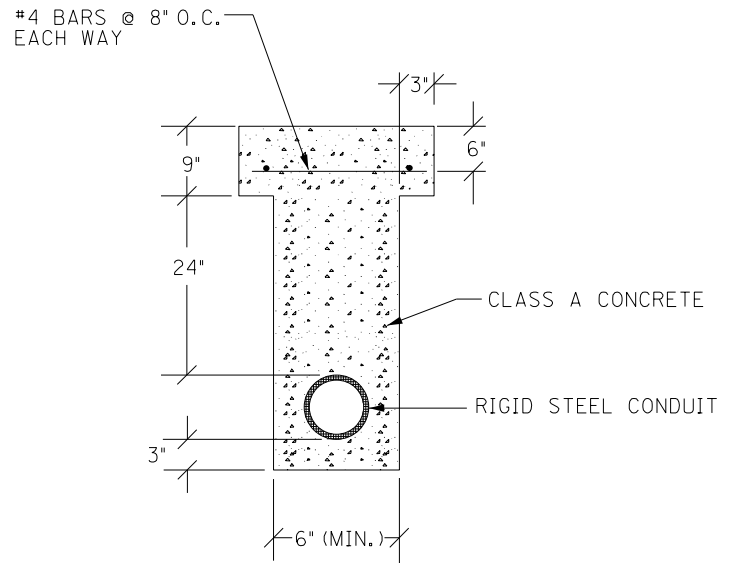
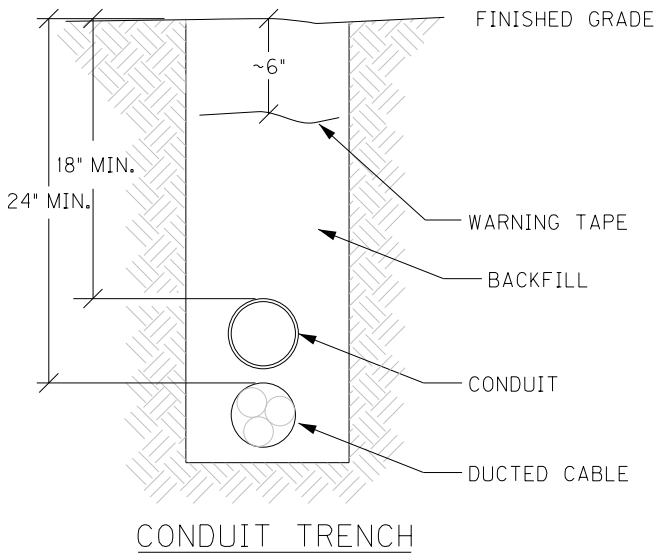


CONDUIT UNDER PAVEMENT

TOTAL TRENCH WIDTH SHALL BE 3" (NOM.) WIDER THAN THE SUM OF THE OUTSIDE DIAMETER(S) OF THE CONDUIT(S) INSTALLED. CONDUIT(S) SHALL BE CENTERED IN TRENCH.

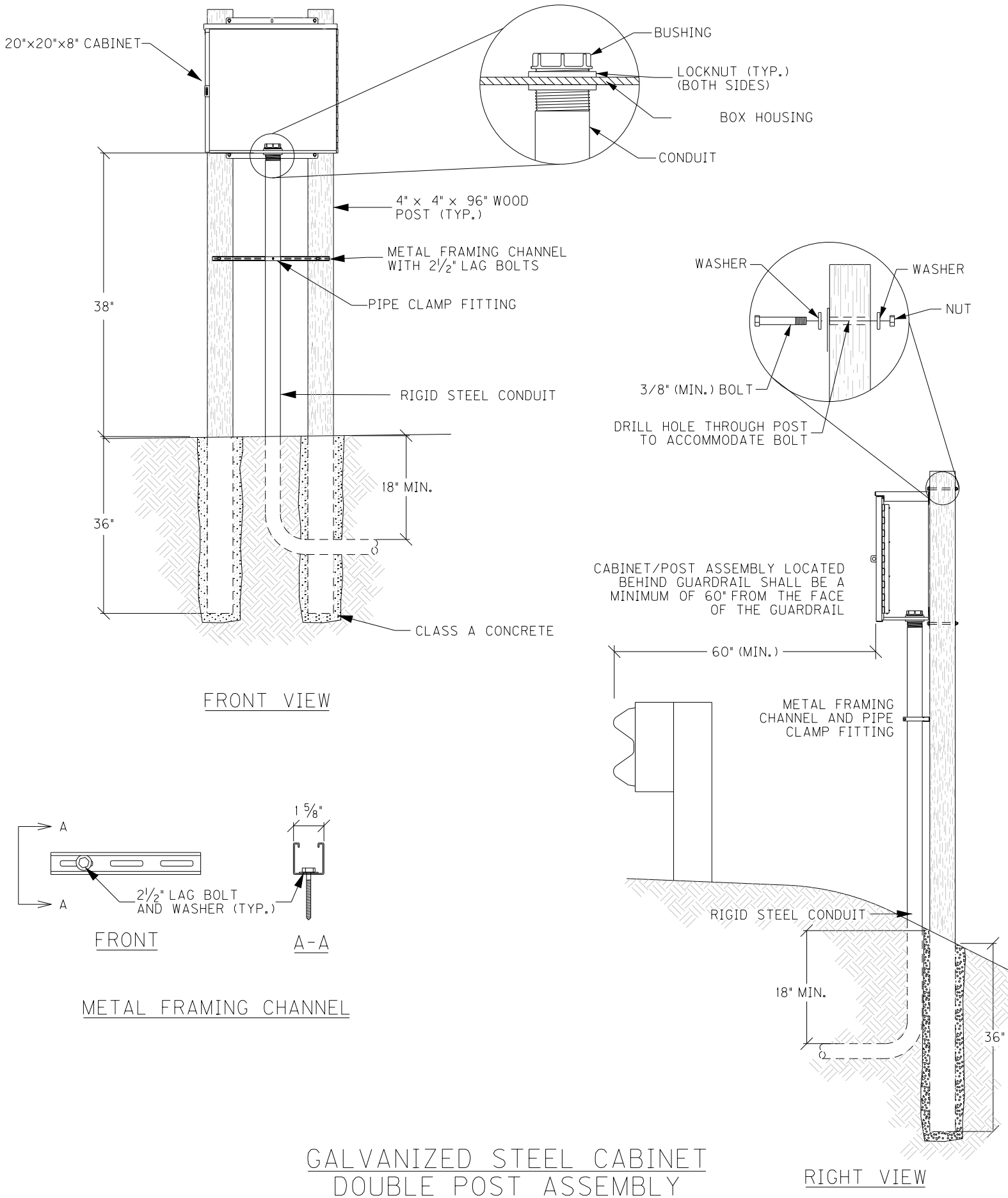
CONTRACTOR SHALL PLACE BACKFILL IN LIFTS (9" MAX.) COMPACT BACKFILL, AND RESTORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER

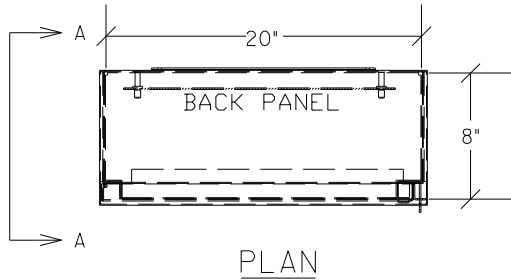
CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE ABOVE CONDUIT AS SHOWN.



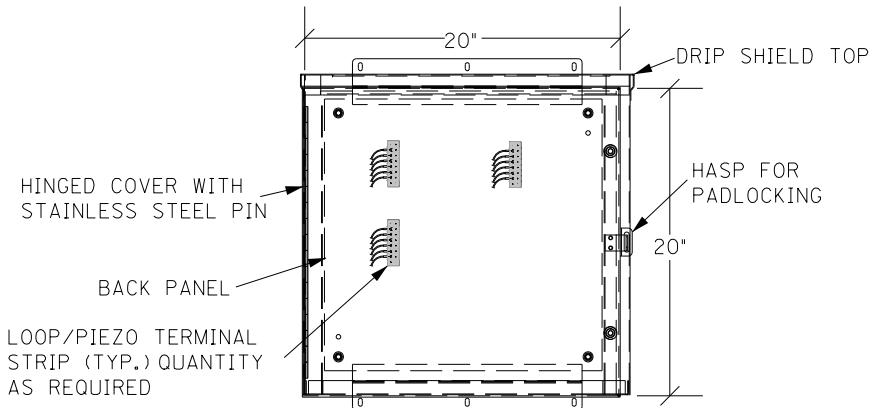
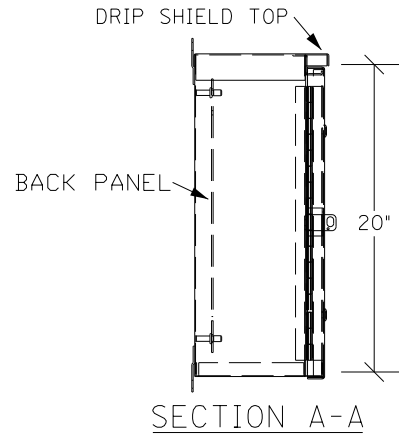
OPEN CUT PAVEMENT DETAIL

CONDUIT INSTALLATION



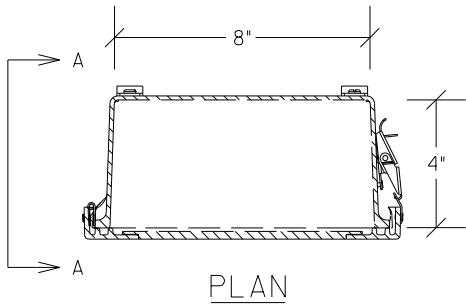


PLAN

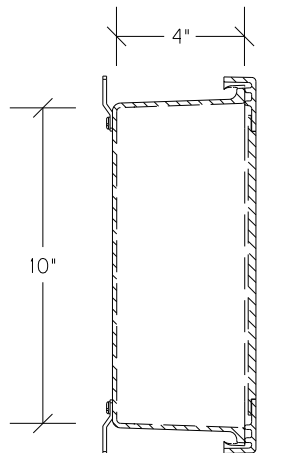


ELEVATION

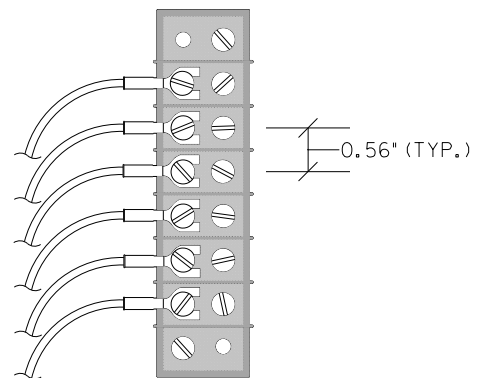
GALVANIZED STEEL CABINET



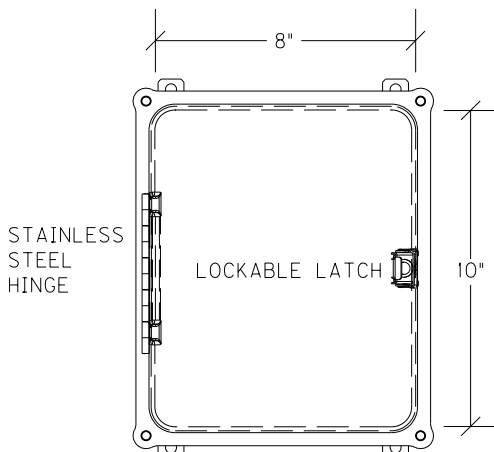
PLAN



SECTION A-A

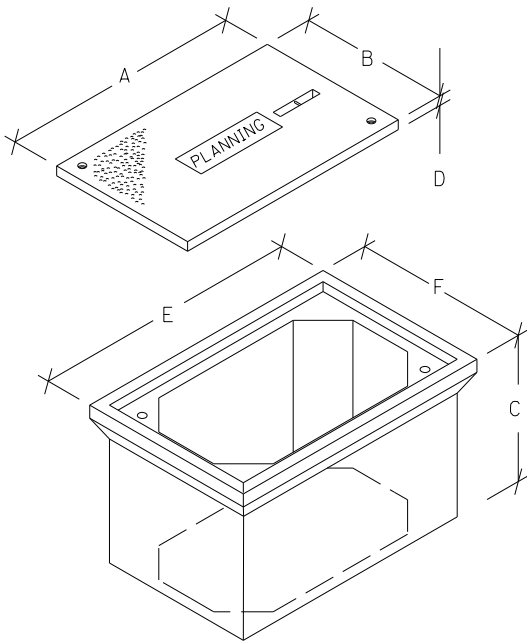


TERMINAL STRIP (TYP.)



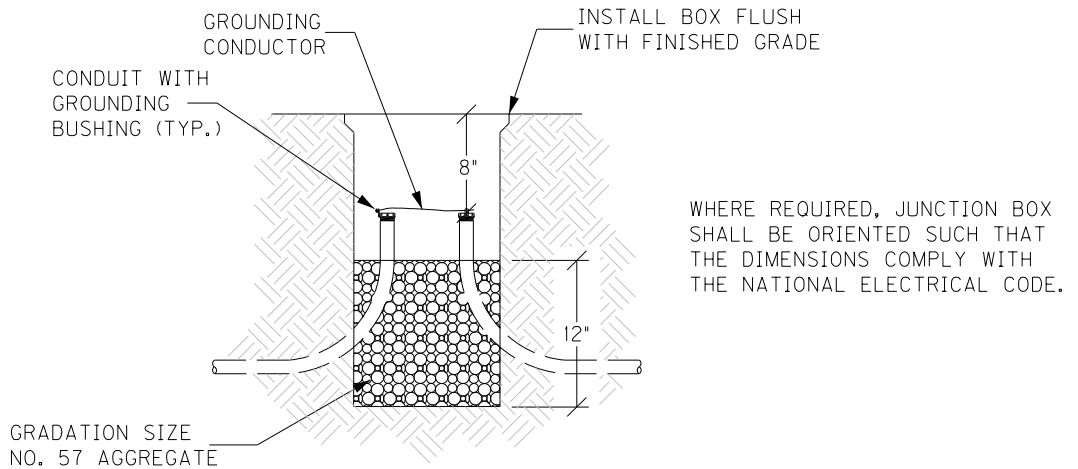
ELEVATION

JUNCTION BOX 10"X8"X4"



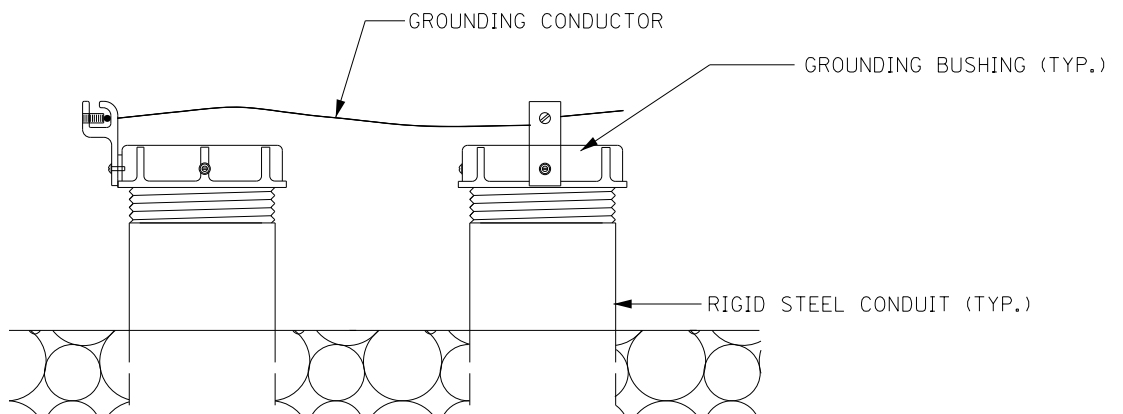
| JUNCTION BOX DIMENSIONS (NOMINAL) | | | | | | |
|-----------------------------------|-----|-----|-----|-----|-----|-----|
| | A | B | C | D* | E | F |
| TYPE A | 23" | 14" | 18" | 2" | 25" | 16" |
| TYPE B | 18" | 11" | 12" | 1¾" | 20" | 13" |
| TYPE C | 36" | 24" | 30" | 3" | 38" | 26" |

* MINIMUM
STACKABLE BOXES ARE PERMITTED



WHERE REQUIRED, JUNCTION BOX SHALL BE ORIENTED SUCH THAT THE DIMENSIONS COMPLY WITH THE NATIONAL ELECTRICAL CODE.

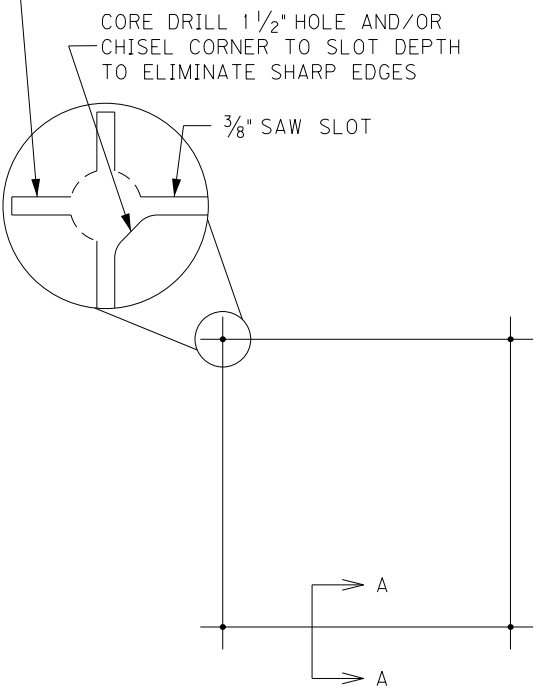
ELEVATION



GROUNDING DETAIL

JUNCTION BOX - TYPE A, TYPE B, TYPE C

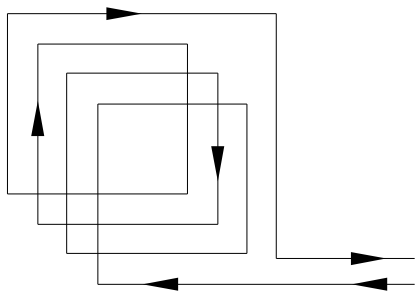
WHITLEY COUNTY
NHPP 0751(090)



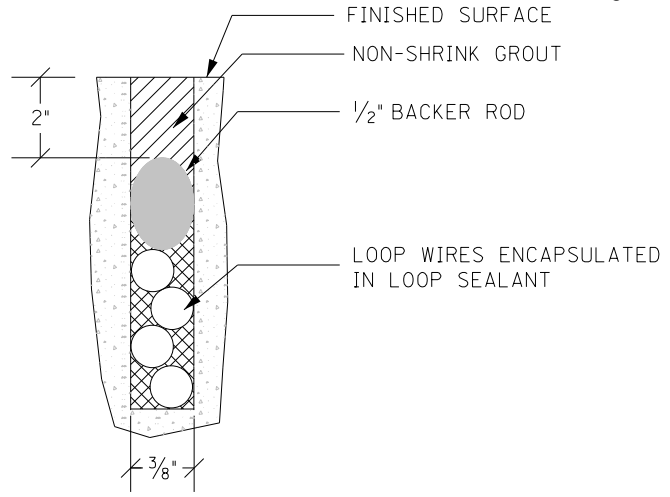
SAW CUT PLAN

UNLESS SPECIFIED OTHERWISE, ALL LOOPS SHALL BE 6' x 6' SQUARE, CENTERED IN EACH LANE, WITH FOUR TURNS OF 14 AWG LOOP WIRE.

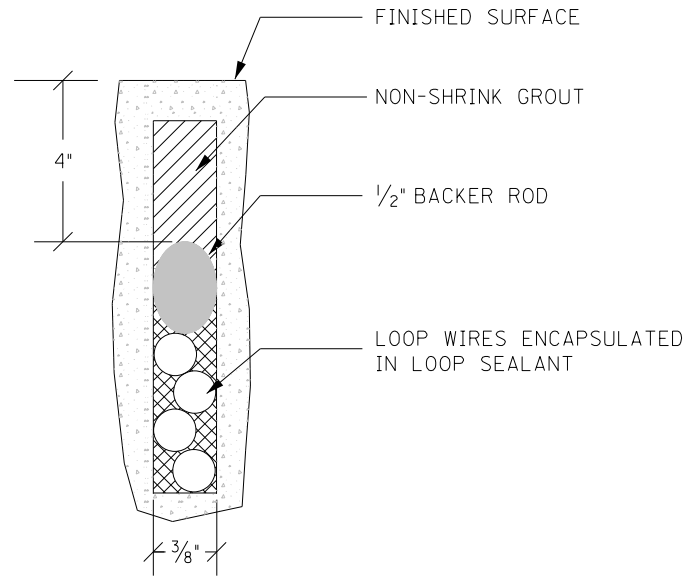
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



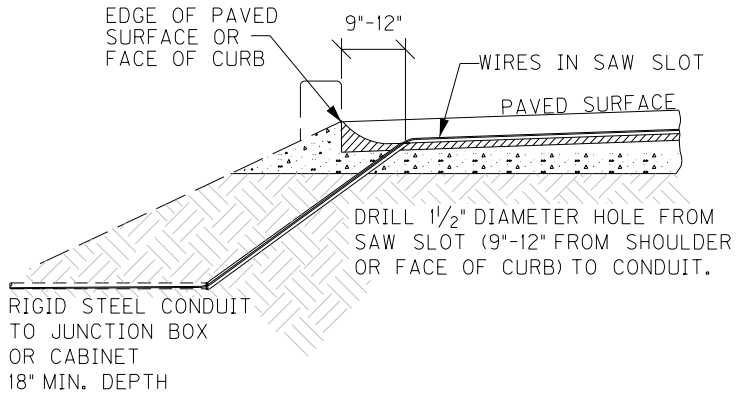
WIRING PLAN



SECTION A-A (CONCRETE)



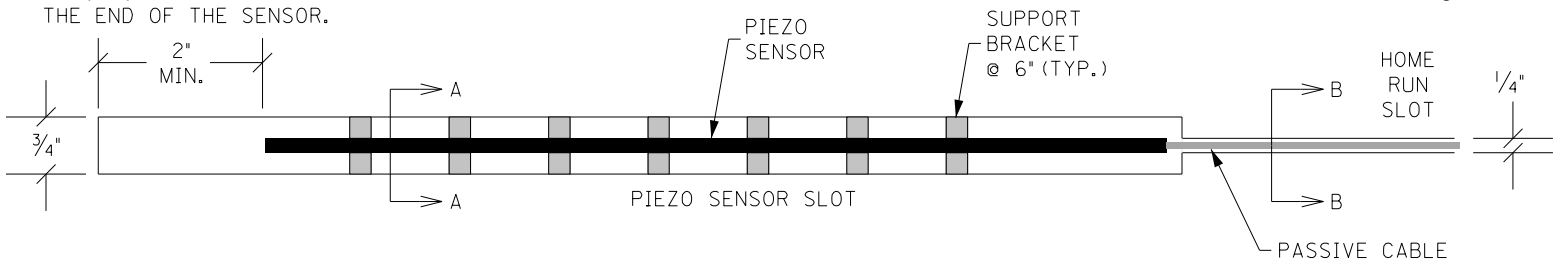
SECTION A-A (ASPHALT)



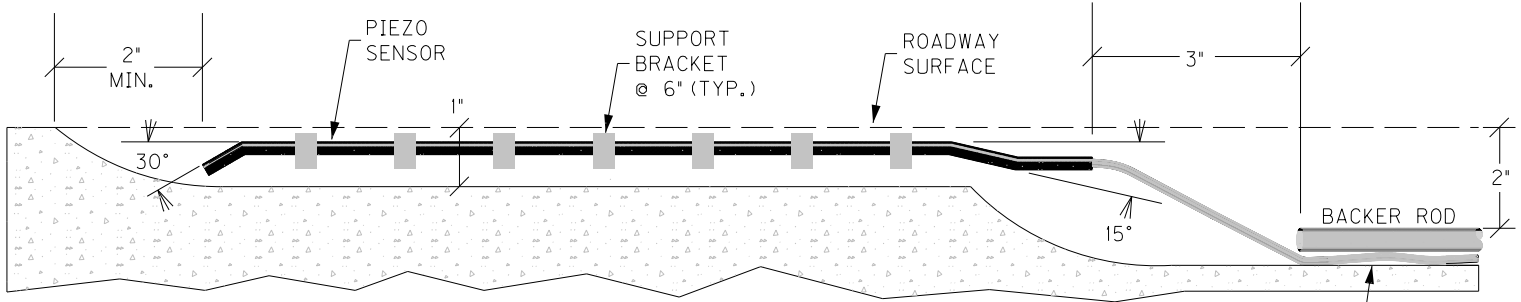
SAW SLOT EDGE OF PAVEMENT TRANSITION

INDUCTIVE LOOP DETECTOR

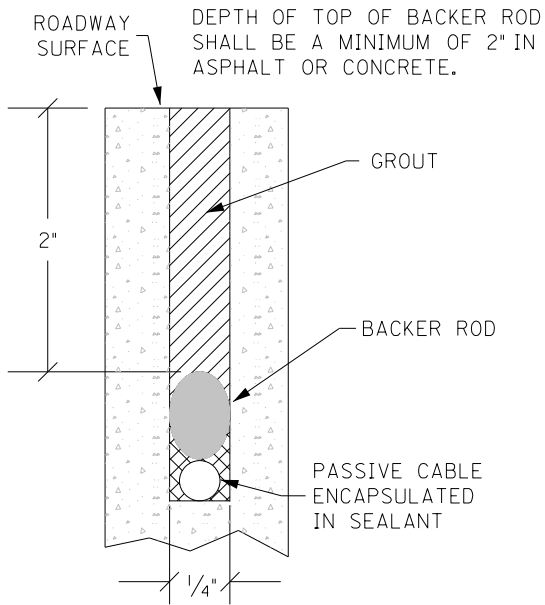
WHITLEY COUNTY
NHPP 07511090
SAW SLOT A OF 2" BEYOND THE END OF THE SENSOR.



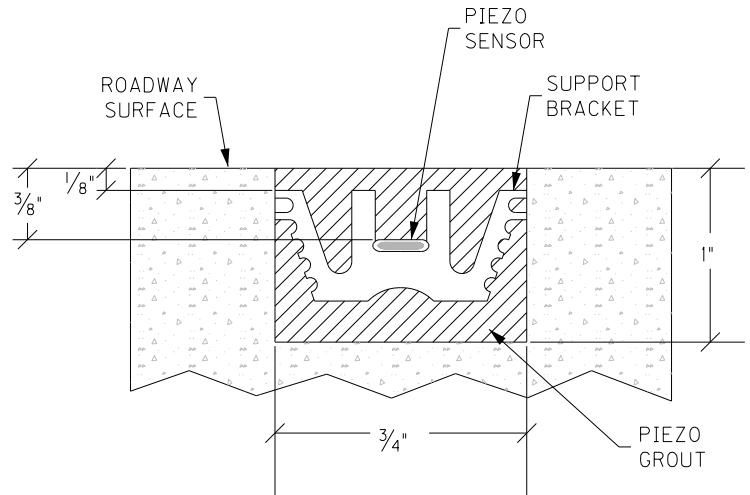
PLAN



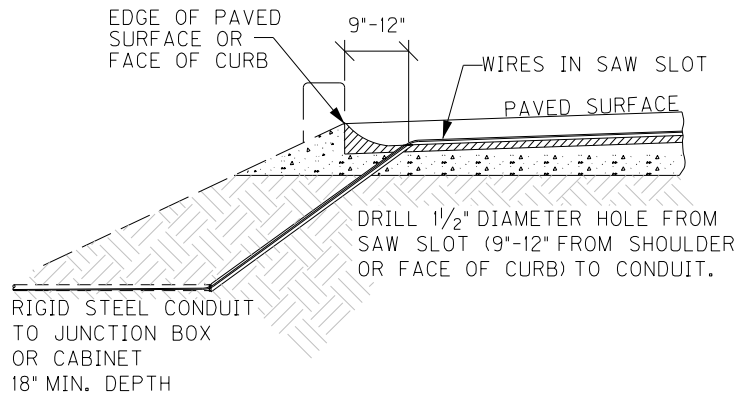
ELEVATION



SECTION B-B



SECTION A-A



SAW SLOT EDGE OF PAVEMENT TRANSITION

PIEZOELECTRIC SENSOR INSTALLATION

PERFORATED PIPE DRAINAGE SUMMARY

| I-75 NORTHBOUND RT Sta. To Sta. | | 4 INCH PERFORATED PIPE | 4 INCH NONPERFORATE D PIPE | PERF. PIPE HEADWALL TYPE 1 - 4" | PERF. PIPE HEADWALL TYPE 2 - 4" | PERF. PIPE HEADWALL TYPE 3 - 4" | PERF. PIPE HEADWALL TYPE 4 - 4" | CORE HOLE CONNECTION |
|------------------------------------|---------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OF BID ON | | LIN. FOOT | | | EACH | | | |
| 0+00 | 2+50 | 250 | 21 | 1 | | | | |
| 2+50 | 5+00 | 250 | 21 | 1 | | | | |
| 5+00 | 7+50 | 250 | 21 | 1 | | | | |
| 7+50 | 10+00 | 250 | 21 | 1 | | | | |
| 10+00 | 12+50 | 250 | 21 | 1 | | | | |
| 12+50 | 15+00 | 250 | 21 | 1 | | | | |
| 15+00 | 17+00 (Sag) | 200 | 21 | 1 | | | | |
| 17+00 | 19+50 | 250 | 21 | 1 | | | | |
| 19+50 | 22+00 | 250 | 21 | 1 | | | | |
| 22+00 | 24+50 | 250 | 21 | 1 | | | | |
| 24+50 | 27+00 | 250 | 21 | 1 | | | | |
| 27+00 | 29+50 | 250 | 21 | 1 | | | | |
| 29+50 | 32+00 | 250 | 21 | 1 | | | | |
| 32+00 | 34+00 (Crest) | 200 | 21 | | | | | |
| 34+00 | 36+50 | 250 | 21 | 1 | | | | |
| 36+50 | 39+00 | 250 | 21 | 1 | | | | |
| 39+00 | 41+50 | 250 | 21 | 1 | | | | |
| 41+50 | 41+70 | 20 | 21 | 1 | | | | |
| 43+30 | 48+30 | 500 | 21 | 2 | | | | |
| 48+30 | 53+30 | 500 | 21 | 1 | | | | |
| 53+30 | 58+30 | 500 | 21 | 1 | | | | |
| 58+30 | 63+30 | 500 | 21 | 1 | | | | |
| 63+30 | 66+00 (Sag) | 270 | 21 | 1 | | | | |
| 66+00 | 68+50 | 250 | 21 | | | 1 | | |
| 68+50 | 68+80 | 30 | 21 | | | | | |
| 72+32 | 74+82 | 250 | 21 | | | | 2 | |
| 74+82 | 77+32 | 250 | 21 | | | | 1 | |
| 77+32 | 79+82 | 250 | 21 | | | | | 1 |
| 79+82 | 82+32 | 250 | 21 | | | | 1 | |
| 82+32 | 84+82 | 250 | 21 | | | | 1 | |
| 84+82 | 87+32 | 250 | 21 | | | | 1 | |
| 87+32 | 89+82 | 250 | 21 | | | | 1 | |
| 89+82 | 92+32 | 250 | 21 | | | | 1 | |
| 92+32 | 94+82 | 250 | 21 | | | | 1 | |
| 94+82 | 97+32 | 250 | 21 | | | | 1 | |
| 97+32 | 98+00 (Crest) | 68 | 21 | | | | | |
| 98+00 | 98+50 | 50 | 21 | | | | 1 | |
| 99+53 | 102+03 | 250 | 21 | | | 2 | | |
| 102+03 | 104+53 | 250 | 21 | 1 | | | | |
| 104+53 | 107+03 | 250 | 21 | 1 | | | | |
| PAGE TOTALS: | | 10088 | 840 | 25 | 0 | 3 | 11 | 1 |

NOT FOR CONSTRUCTION

THIS IS THE PROPOSED EDGE DRAIN SCHEDULE FROM THE 2005 REHABILITATION PROJECT. TO BE USED TO ASSIST IN THE LOCATION OF THE EXISTING OUTLETS FOR INSPECTION AND REPAIR PURPOSES.

PERFORATED PIPE DRAINAGE SUMMARY

| I-75 NORTHBOUND RT Sta. To Sta. | | 4 INCH PERFORATED PIPE | 4 INCH NONPERFORATE D PIPE | PERF. PIPE HEADWALL TYPE 1 - 4" | PERF. PIPE HEADWALL TYPE 2 - 4" | PERF. PIPE HEADWALL TYPE 3 - 4" | PERF. PIPE HEADWALL TYPE 4 - 4" | CORE HOLE CONNECTION |
|------------------------------------|---------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | | EACH | | | |
| 107+03 | 109+53 | 250 | 21 | 1 | | | | |
| 109+53 | 112+03 | 250 | 21 | 1 | | | | |
| 112+03 | 114+53 | 250 | 21 | 1 | | | | |
| 114+53 | 117+03 | 250 | 21 | 1 | | | | |
| 117+03 | 119+53 | 250 | 21 | 1 | | | | |
| 119+53 | 122+03 | 250 | 21 | 1 | | | | |
| 122+03 | 124+53 | 250 | 21 | 1 | | | | |
| 124+53 | 127+03 | 250 | 21 | 1 | | | | |
| 127+03 | 129+53 | 250 | 21 | 1 | | | | |
| 129+53 | 129+75 | 22 | 21 | 1 | | | | |
| 133+80 | 136+30 | 250 | 21 | | 2 | | | |
| 136+30 | 138+80 | 250 | 21 | | 1 | | | |
| 138+80 | 141+30 | 250 | 21 | | 1 | | | |
| 141+30 | 143+80 | 250 | 21 | | 1 | | | |
| 143+80 | 145+00 (Sag) | 120 | 21 | | 1 | | | |
| 145+00 | 147+50 | 250 | 21 | | 1 | | | |
| 147+50 | 150+00 | 250 | 21 | | 1 | | | |
| 150+00 | 155+00 | 500 | 21 | | 1 | | | |
| 155+00 | 160+00 | 500 | 21 | 1 | | | | |
| 160+00 | 165+00 | 500 | 21 | 1 | | | | |
| 165+00 | 166+96 | 196 | 21 | 1 | | | | |
| 169+04 | 174+04 | 500 | 21 | | | 2 | | |
| 174+04 | 177+90(Crest) | 386 | 21 | | | | | |
| 177+90 | 182+90 | 500 | 21 | | | 1 | | |
| 182+90 | 187+90 | 500 | 21 | | 1 | | | |
| 187+90 | 192+90 | 500 | 21 | | 1 | | | |
| 192+90 | 197+90 | 500 | 21 | | | 1 | | |
| 197+90 | 202+00(Crest) | 410 | 21 | | | | | |
| 202+00 | 207+00 | 500 | 21 | | 1 | | | |
| 207+00 | 212+00 | 500 | 21 | | | 1 | | |
| 212+00 | 217+00 | 500 | 21 | | | 1 | | |
| 217+00 | 222+00 | 500 | 21 | | | 1 | | |
| 222+00 | 227+00 | 500 | 21 | | | 1 | | |
| 227+00 | 232+00 | 500 | 21 | | | 1 | | |
| 232+00 | 237+00 | 500 | 21 | | | 1 | | |
| 237+00 | 238+00 (Sag) | 100 | 21 | | | 1 | | |
| 238+00 | 240+50 | 250 | 21 | | | | 1 | |
| 240+50 | 243+00 | 250 | 21 | | | | 1 | |
| PAGE TOTALS: | | 12984 | 798 | 13 | 12 | 11 | 2 | 0 |

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PERFORATED PIPE DRAINAGE SUMMARY

| I-75 NORTHBOUND RT Sta. To Sta. | | 4 INCH PERFORATED PIPE | 4 INCH NON PERFORATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 4" | PERF. PIPE HEADWALL TYPE 2 - 4" | PERF. PIPE HEADWALL TYPE 3 - 4" | PERF. PIPE HEADWALL TYPE 4 - 4" | CORE HOLE CONNECTION |
|------------------------------------|---------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | EACH | | | | |
| 243+00 | 245+50 | 250 | 21 | | | | 1 | |
| 245+50 | 248+00 | 250 | 21 | | 1 | | | |
| 248+00 | 250+50 | 250 | 21 | | 1 | | | |
| 250+50 | 253+00 | 250 | 21 | | 1 | | | |
| 253+00 | 255+50 | 250 | 21 | | 1 | | | |
| 255+50 | 258+00 | 250 | 21 | 1 | | | | |
| 258+00 | 260+50 | 250 | 21 | 1 | | | | |
| 260+50 | 263+00 | 250 | 21 | 1 | | | | |
| 263+00 | 265+50 | 250 | 21 | 1 | | | | |
| 265+50 | 266+00(Crest) | 50 | 21 | | | | | |
| 266+00 | 268+50 | 250 | 21 | 1 | | | | |
| 268+50 | 271+00 | 250 | 21 | 1 | | | | |
| 271+00 | 273+50 | 250 | 21 | 1 | | | | |
| 273+50 | 276+00 | 250 | 21 | 1 | | | | |
| 276+00 | 278+50 | 250 | 21 | 1 | | | | |
| 278+50 | 281+00 | 250 | 21 | 1 | | | | |
| 281+00 | 283+50 | 250 | 21 | 1 | | | | |
| 283+50 | 286+00 | 250 | 21 | 1 | | | | |
| 286+00 | 288+50 | 250 | 21 | 1 | | | | |
| 288+50 | 291+00 | 250 | 21 | 1 | | | | |
| 291+00 | 293+04 | 204 | 21 | 1 | | | | |
| PAGE TOTALS: | | 5004 | 441 | 15 | 4 | 0 | 1 | 0 |
| NB RT TOTALS: | | 28076 | 2079 | 53 | 16 | 14 | 14 | 1 |

NOT FOR CONSTRUCTION

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PERFORATED PIPE DRAINAGE SUMMARY

| I-75 NORTHBOUND LT Sta. To Sta. | | 6 INCH PERFORATED PIPE | 6 INCH NON PERFORATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 6" | PERF. PIPE HEADWALL TYPE 2 - 6" | PERF. PIPE HEADWALL TYPE 3 - 6" | PERF. PIPE HEADWALL TYPE 4 - 6" | CORE HOLE CONNECTION |
|------------------------------------|----------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | EACH | | | | |
| 0+00 | 5+00 | 500 | 15 | | | 1 | | |
| 5+00 | 6+81 | 181 | 28 | | | | | 1 |
| 6+81 | 11+81 | 500 | 15 | | | 1 | | |
| 11+81 | 14+68 | 287 | 28 | | | | | 1 |
| 14+68 | 17+13 (Sag) | 245 | 28 | | | | | 1 |
| 17+13 | 22+13 | 500 | 28 | | | | | 1 |
| 22+13 | 22+62 | 49 | 28 | | | | | 1 |
| 22+62 | 27+62 | 500 | 15 | | | 1 | | |
| 27+62 | 30+58 | 296 | 28 | | | | | 1 |
| 30+58 | 34+00 (Crest) | 342 | 28 | | | | | |
| 34+00 | 37+72 | 372 | 28 | | | | | 1 |
| 45+50 | 48+70 | 320 | 28 | | | | | 1 |
| 56+75 | 58+87 | 212 | 43 | | | 1 | | 1 |
| 58+87 | 64+78 (Sag) | 591 | 28 | | | | | 1 |
| 75+14 | 76+38 | 124 | 56 | | | | | 2 |
| 76+38 | 81+38 | 500 | 15 | | | 1 | | |
| 81+38 | 82+35 | 97 | 28 | | | | | 1 |
| 82+35 | 87+35 | 500 | 15 | | | 1 | | |
| 87+35 | 87+81 | 46 | 28 | | | | | 1 |
| 101+88 | 106+88 | 500 | 30 | | | 2 | | |
| 106+88 | 107+24 | 36 | 28 | | | | | 1 |
| 107+24 | 112+24 | 500 | 43 | | | 1 | | 1 |
| 112+24 | 115+18 | 294 | 28 | | | | | 1 |
| 115+18 | 120+18 | 500 | 15 | | | 1 | | |
| 120+18 | 121+65 | 147 | 28 | | | | | 1 |
| 121+65 | 125+65 | 400 | 28 | | | | | 1 |
| 135+87 | 140+87 | 500 | 30 | | | 2 | | |
| 140+87 | 141+72 | 85 | 28 | | | | | 1 |
| 141+72 | 145+67 (Sag) | 395 | 28 | | | | | 1 |
| 145+67 | 152+04 | 637 | 28 | | | | | 1 |
| 152+04 | 158+00 | 596 | 28 | | | | | 1 |
| 158+00 | 163+67 | 567 | 15 | | | 1 | | |
| 171+29 | 181+29 | 1000 | 15 | | | 1 | | |
| 181+29 | 184+16 | 287 | 28 | | | | | 1 |
| 184+16 | 189+12 | 496 | 28 | | | | | 1 |
| 189+12 | 193+08 | 396 | 28 | | | | | 1 |
| 193+08 | 202+00 (Crest) | 892 | 28 | | | | | |
| 202+00 | 203+00 | 100 | 28 | | | | | 1 |
| 203+00 | 210+93 | 793 | 28 | | | | | 1 |
| 210+93 | 218+86 | 793 | 28 | | | | | 1 |
| 218+86 | 223+80 | 494 | 28 | | | | | 1 |
| PAGE TOTALS: | | 16570 | 1106 | 0 | 0 | 14 | 0 | 30 |

NOT FOR CONSTRUCTION

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PERFORATED PIPE DRAINAGE SUMMARY

| I-75 NORTHBOUND LT Sta. To Sta. | | 6 INCH PERFORATED PIPE | 6 INCH NONPERFOR ATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 6" | PERF. PIPE HEADWALL TYPE 2 - 6" | PERF. PIPE HEADWALL TYPE 3 - 6" | PERF. PIPE HEADWALL TYPE 4 - 6" | CORE HOLE CONNECTION |
|------------------------------------|---------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | EACH | | | | |
| 223+80 | 230+74 | 694 | 28 | | | | | 1 |
| 230+74 | 238+65 (Sag) | 791 | 28 | | | | | 1 |
| 238+65 | 243+65 | 500 | 15 | | | 1 | | |
| 243+65 | 246+51 | 286 | 28 | | | | | 1 |
| 246+51 | 251+51 | 500 | 15 | | | 1 | | |
| 251+51 | 253+45 | 194 | 28 | | | | | 1 |
| 253+45 | 258+45 | 500 | 15 | | | 1 | | |
| 258+45 | 263+45 | 500 | 15 | | | 1 | | |
| 263+45 | 266+00(Crest) | 255 | 28 | | | | | |
| 266+00 | 267+60 | 160 | 28 | | | | | 1 |
| 267+60 | 272+60 | 500 | 15 | | | | | |
| 272+60 | 274+54 | 194 | 28 | | | | | 1 |
| 274+54 | 279+54 | 500 | 15 | | | 1 | | |
| 279+54 | 281+48 | 194 | 28 | | | | | 1 |
| 281+48 | 286+48 | 500 | 15 | | | 1 | | |
| 286+48 | 287+40 | 92 | 28 | | | | | 1 |
| 287+40 | 288+67 | 127 | 28 | | | | | 1 |
| PAGE TOTALS: | | 6487 | 385 | 0 | 0 | 7 | 0 | 9 |
| NB LT TOTALS: | | 23057 | 1491 | 0 | 0 | 21 | 0 | 39 |

NOT FOR CONSTRUCTION

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| I-75 SOUTHBOUND LT Sta. To Sta. | | 4 INCH PERFORATED PIPE | 4 INCH NON PERFORATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 4" | PERF. PIPE HEADWALL TYPE 2 - 4" | PERF. PIPE HEADWALL TYPE 3 - 4" | PERF. PIPE HEADWALL TYPE 4 - 4" | CORE HOLE CONNECTION |
|------------------------------------|---------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | | EACH | | | |
| 0+00 | 2+50 | 250 | 21 | | | 1 | | |
| 2+50 | 5+00 | 250 | 21 | | | 1 | | |
| 5+00 | 7+50 | 250 | 21 | | | 1 | | |
| 7+50 | 10+00 | 250 | 21 | | | 1 | | |
| 10+00 | 12+50 | 250 | 21 | | | 1 | | |
| 12+50 | 15+00 | 250 | 21 | | | 1 | | |
| 15+00 | 17+00 (Sag) | 200 | 21 | | | 1 | | |
| 17+00 | 19+50 | 250 | 21 | | | 1 | | |
| 19+50 | 22+00 | 250 | 21 | | | 1 | | |
| 22+00 | 24+50 | 250 | 21 | 1 | | | | |
| 24+50 | 27+00 | 250 | 21 | 1 | | | | |
| 27+00 | 29+50 | 250 | 21 | | 1 | | | |
| 29+50 | 32+00 | 250 | 21 | | | 1 | | |
| 32+00 | 34+00 (Crest) | 200 | 21 | | | 1 | | |
| 34+00 | 36+50 | 250 | 21 | 1 | | | | |
| 36+50 | 39+00 | 250 | 21 | 1 | | | | |
| 39+00 | 41+50 | 250 | 21 | 1 | | | | |
| 41+50 | 41+72 | 22 | 21 | 1 | | | | |
| 43+30 | 48+30 | 500 | 21 | 2 | | | | |
| 48+30 | 52+64 | 434 | 21 | 1 | | | | |
| 54+38 | 59+38 | 500 | 21 | 2 | | | | |
| 59+38 | 64+38 | 500 | 21 | 1 | | | | |
| 64+38 | 66+00 (Sag) | 162 | 21 | 1 | | | | |
| 66+00 | 68+50 | 250 | 21 | 1 | | | | |
| 68+50 | 68+80 | 30 | 21 | 1 | | | | |
| 72+60 | 75+10 | 250 | 21 | | | 2 | | |
| 75+10 | 77+60 | 250 | 21 | 1 | | | | |
| 77+60 | 80+10 | 250 | 21 | | | 1 | | |
| 80+10 | 82+60 | 250 | 21 | | | 1 | | |
| 82+60 | 83+42 | 82 | 21 | | | | | 1 |
| 83+42 | 85+92 | 250 | 21 | | | 1 | | |
| 85+92 | 88+42 | 250 | 21 | | | 1 | | |
| 88+42 | 90+92 | 250 | 21 | | | 1 | | |
| 90+92 | 93+42 | 250 | 21 | | | 1 | | |
| 93+42 | 95+92 | 250 | 21 | | | 1 | | |
| 95+92 | 98+00 (Crest) | 208 | 21 | | | | | |
| 98+00 | 98+50 | 50 | 21 | 1 | | | | |
| 99+48 | 101+98 | 250 | 21 | 1 | | | | |
| 101+98 | 104+48 | 250 | 21 | 1 | | | | |
| 104+48 | 106+98 | 250 | 21 | 1 | | | | |
| PAGE TOTALS: | | 9888 | 840 | 20 | 1 | 20 | 0 | 1 |

NOT FOR CONSTRUCTION

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PERFORATED PIPE DRAINAGE SUMMARY

| I-75 SOUTHBOUND LT Sta. To Sta. | | 4 INCH PERFORATED PIPE | 4 INCH NON PERFORATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 4" | PERF. PIPE HEADWALL TYPE 2 - 4" | PERF. PIPE HEADWALL TYPE 3 - 4" | PERF. PIPE HEADWALL TYPE 4 - 4" | CORE HOLE CONNECTION |
|------------------------------------|----------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | | EACH | | | |
| 106+98 | 109+48 | 250 | 21 | 1 | | | | |
| 109+48 | 111+98 | 250 | 21 | 1 | | | | |
| 111+98 | 114+48 | 250 | 21 | 1 | | | | |
| 114+48 | 116+98 | 250 | 21 | 1 | | | | |
| 116+98 | 119+48 | 250 | 21 | 1 | | | | |
| 119+48 | 121+98 | 250 | 21 | 1 | | | | |
| 121+98 | 124+48 | 250 | 21 | 1 | | | | |
| 124+48 | 126+98 | 250 | 21 | 1 | | | | |
| 126+98 | 128+83 | 185 | 21 | 1 | | | | |
| 133+06 | 135+56 | 250 | 21 | 2 | | | | |
| 135+56 | 138+06 | 250 | 21 | | | 1 | | |
| 138+06 | 140+56 | 250 | 21 | | | 1 | | |
| 140+56 | 143+06 | 250 | 21 | | | 1 | | |
| 143+06 | 145+00 (Sag) | 194 | 21 | | | 1 | | |
| 145+00 | 150+00 | 500 | 21 | | | 1 | | |
| 150+00 | 155+00 | 500 | 21 | 1 | | | | |
| 155+00 | 160+00 | 500 | 21 | | | | | |
| 160+00 | 165+00 | 500 | 21 | | | | | |
| 165+00 | 166+06 | 106 | 21 | | | 1 | | |
| 167+90 | 172+90 | 500 | 21 | | | 1 | | |
| 172+90 | 177+90 (Crest) | 500 | 21 | | | | | |
| 177+90 | 182+90 | 500 | 21 | | | 1 | | |
| 182+90 | 187+90 | 500 | 21 | | | 1 | | |
| 187+90 | 192+90 | 500 | 21 | | | | 1 | |
| 192+90 | 197+90 | 500 | 21 | | | | 1 | |
| 197+90 | 202+00 (Crest) | 410 | 21 | | | 1 | | |
| 202+00 | 207+00 | 500 | 21 | 1 | | | | |
| 207+00 | 212+00 | 500 | 21 | | | 1 | | |
| 212+00 | 217+00 | 500 | 21 | | | 1 | | |
| 217+00 | 222+00 | 500 | 21 | | | 1 | | |
| 222+00 | 227+00 | 500 | 21 | | | 1 | | |
| 227+00 | 232+00 | 500 | 21 | | | | 1 | |
| 232+00 | 237+00 | 500 | 21 | | | | 1 | |
| 237+00 | 238+00 (Sag) | 100 | 21 | | 1 | | | |
| 238+00 | 240+50 | 250 | 21 | | 1 | | | |
| 240+50 | 243+00 | 250 | 21 | | | 1 | | |
| 243+00 | 245+50 | 250 | 21 | | | 1 | | |
| 245+50 | 248+00 | 250 | 21 | 1 | | | | |
| PAGE TOTALS: | | 13495 | 798 | 14 | 2 | 18 | 4 | 0 |

NOT FOR CONSTRUCTION

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PERFORATED PIPE DRAINAGE SUMMARY

| I-75 SOUTHBOUND LT Sta. To Sta. | | 4 INCH PERFORATED PIPE | 4 INCH NON PERFORATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 4" | PERF. PIPE HEADWALL TYPE 2 - 4" | PERF. PIPE HEADWALL TYPE 3 - 4" | PERF. PIPE HEADWALL TYPE 4 - 4" | CORE HOLE CONNECTION |
|------------------------------------|----------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | EACH | | | | |
| 248+00 | 250+50 | 250 | 21 | 1 | | | | |
| 250+50 | 253+00 | 250 | 21 | 1 | | | | |
| 253+00 | 255+50 | 250 | 21 | 1 | | | | |
| 255+50 | 258+00 | 250 | 21 | 1 | | | | |
| 258+00 | 260+50 | 250 | 21 | 1 | | | | |
| 260+50 | 263+00 | 250 | 21 | 1 | | | | |
| 263+00 | 265+50 | 250 | 21 | 1 | | | | |
| 265+50 | 266+00 (Crest) | 5 | 1 | 1 | | | | |
| 266+00 | 268+50 | 250 | 21 | 1 | | | | |
| 268+50 | 271+00 | 250 | 21 | 1 | | | | |
| 271+00 | 273+50 | 250 | 21 | 1 | | | | |
| 273+50 | 276+00 | 250 | 21 | 1 | | | | |
| 276+00 | 278+50 | 250 | 21 | 1 | | | | |
| 278+50 | 281+00 | 250 | 21 | 1 | | | | |
| 281+00 | 283+50 | 250 | 21 | 1 | | | | |
| 283+50 | 286+00 | 250 | 21 | 1 | | | | |
| 286+00 | 288+50 | 250 | 21 | 1 | | | | |
| 288+50 | 293+04 | 454 | 21 | 1 | | | | |
| PAGE TOTALS: | | 4504 | 378 | 17 | 0 | 0 | 0 | 0 |
| SB LT TOTALS: | | 27887 | 2016 | 51 | 3 | 38 | 4 | 1 |

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PERFORATED PIPE DRAINAGE SUMMARY

| I-75 SOUTHBOUND RT Sta. To Sta. | | 6 INCH PERFORATED PIPE | 6 INCH NON PERFORATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 6" | PERF. PIPE HEADWALL TYPE 2 - 6" | PERF. PIPE HEADWALL TYPE 3 - 6" | PERF. PIPE HEADWALL TYPE 4 - 6" | CORE HOLE CONNECTION |
|------------------------------------|----------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 |
| UNIT OT BID ON | | LIN. FOOT | | EACH | | | | |
| 0+00 | 5+00 | 500 | 15 | | | 1 | | |
| 5+00 | 6+81 | 181 | 28 | | | | | 1 |
| 6+81 | 11+81 | 500 | 15 | | | 1 | | |
| 11+81 | 14+68 | 287 | 28 | | | | | 1 |
| 14+68 | 17+13 (Crest) | 245 | 28 | | | | | 1 |
| 17+13 | 22+13 | 500 | 28 | | | | | 1 |
| 22+13 | 22+62 | 49 | 28 | | | | | 1 |
| 22+62 | 27+62 | 500 | 15 | | | 1 | | |
| 27+62 | 30+58 | 296 | 28 | | | | | 1 |
| 30+58 | 34+00 (Sag) | 342 | 28 | | | | | |
| 34+00 | 37+72 | 372 | 28 | | | | | 1 |
| 45+50 | 48+70 | 320 | 28 | | | | | 1 |
| 56+75 | 58+87 | 212 | 43 | | | 1 | | 1 |
| 58+87 | 64+78 | 591 | 28 | | | | | 1 |
| 75+14 | 76+38 | 124 | 56 | | | | | 2 |
| 76+38 | 81+38 | 500 | 15 | | | 1 | | |
| 81+38 | 82+35 | 97 | 28 | | | | | 1 |
| 82+35 | 87+35 | 500 | 15 | | | 1 | | |
| 87+35 | 87+81 | 46 | 28 | | | | | 1 |
| 101+88 | 106+88 | 500 | 30 | | | 2 | | |
| 106+88 | 107+24 | 36 | 28 | | | | | 1 |
| 107+24 | 112+24 | 500 | 43 | | | 1 | | 1 |
| 112+24 | 115+18 | 294 | 28 | | | | | 1 |
| 115+18 | 120+18 | 500 | 15 | | | 1 | | |
| 120+18 | 121+65 | 147 | 28 | | | | | 1 |
| 121+65 | 125+65 | 400 | 28 | | | | | 1 |
| 135+87 | 140+87 | 500 | 30 | | | 2 | | |
| 140+87 | 141+72 | 85 | 28 | | | | | 1 |
| 141+72 | 145+67 (Sag) | 395 | 28 | | | | | 1 |
| 145+67 | 152+04 | 637 | 28 | | | | | 1 |
| 152+04 | 158+00 | 596 | 28 | | | | | 1 |
| 158+00 | 163+67 | 567 | 15 | | | 1 | | |
| 171+29 | 181+29 | 1000 | 15 | | | 1 | | |
| 181+29 | 184+16 | 287 | 28 | | | | | 1 |
| 184+16 | 189+12 | 496 | 28 | | | | | 1 |
| 189+12 | 193+08 | 396 | 28 | | | | | 1 |
| 193+08 | 202+00 (Crest) | 892 | 28 | | | | | |
| 202+00 | 203+00 | 100 | 28 | | | | | 1 |
| 203+00 | 210+93 | 793 | 28 | | | | | 1 |
| 210+93 | 218+86 | 793 | 28 | | | | | 1 |
| 218+86 | 223+80 | 494 | 28 | | | | | 1 |
| PAGE TOTALS: | | 16570 | 1106 | 0 | 0 | 14 | 0 | 30 |

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PERFORATED PIPE DRAINAGE SUMMARY

| I-75 SOUTHBOUND RT Sta. To Sta. | | 6 INCH PERFORATED PIPE | 6 INCH NONPERFOR ATED PIPE | PERF. PIPE HEADWALL TYPE 1 - 6" | PERF. PIPE HEADWALL TYPE 2 - 6" | PERF. PIPE HEADWALL TYPE 3 - 6" | PERF. PIPE HEADWALL TYPE 4 - 6" | CORE HOLE CONNECTION | |
|------------------------------------|----------------|------------------------------|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|--|
| ITEM CODE | | 1000 | 1010 | 1020 | 1024 | 1028 | 1032 | 1741 | |
| UNIT OT BID ON | | LIN. FOOT | | EACH | | | | | |
| 223+80 | 230+74 | 694 | 28 | | | | | 1 | |
| 230+74 | 238+65 (Sag) | 791 | 28 | | | | | 1 | |
| 238+65 | 243+65 | 500 | 15 | | | 1 | | | |
| 243+65 | 246+51 | 286 | 28 | | | | | 1 | |
| 246+51 | 251+51 | 500 | 15 | | | 1 | | | |
| 251+51 | 253+45 | 194 | 28 | | | | | 1 | |
| 253+45 | 258+45 | 500 | 15 | | | 1 | | | |
| 258+45 | 263+45 | 500 | 15 | NOT FOR CONSTRUCTION | | | | | |
| 263+45 | 266+00 (Crest) | 255 | 28 | | | | | | |
| 266+00 | 267+60 | 160 | 28 | | | | | 1 | |
| 267+60 | 272+60 | 500 | 15 | | | 1 | | | |
| 272+60 | 274+54 | 194 | 28 | | | | | 1 | |
| 274+54 | 279+54 | 500 | 15 | | | 1 | | | |
| 279+54 | 281+48 | 194 | 28 | | | | | 1 | |
| 281+48 | 286+48 | 500 | 15 | | | 1 | | | |
| 286+48 | 287+40 | 92 | 28 | | | | | 1 | |
| 287+40 | 288+67 | 127 | 28 | | | | | 1 | |
| PAGE TOTALS: | | 6487 | 385 | 0 | 0 | 7 | 0 | 9 | |
| SB RT TOTALS: | | 23057 | 1491 | 0 | 0 | 21 | 0 | 39 | |

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**Perforated Pipe Edge Drain Summary
 Northbound Outside Lane**

| Milepost | 4" Perf Pipe | 4" Non Perf Pipe | Perforated Pipe Headwall 4" | | | | Comments |
|----------|--------------|------------------|-----------------------------|--------|--------|--------|--------------------|
| | | | Type 1 | Type 2 | Type 3 | Type 4 | |
| 5.657 | | | | | | | |
| 5.676 | 100 | 20 | 1 | | | | bottom sag sort of |
| 5.723 | 250 | 20 | 1 | | | | |
| 5.771 | 250 | 20 | 1 | | | | |
| 5.818 | 250 | 20 | 1 | | | | |
| 5.865 | 250 | 20 | 1 | | | | |
| 5.913 | 250 | 20 | 1 | | | | |
| 5.960 | 250 | 20 | 1 | | | | |
| 6.007 | 250 | 20 | 1 | | | | |
| 6.055 | 250 | 20 | 1 | | | | |
| 6.102 | 250 | 20 | 1 | | | | |
| 6.197 | 500 | 20 | 1 | | | | |
| 6.291 | 500 | 20 | | | | 1 | |
| 6.386 | 500 | 20 | | | | 1 | |
| 6.481 | 500 | 20 | | | | 1 | |
| 6.576 | 500 | 20 | | | | 1 | |
| 6.670 | 500 | 20 | | 1 | | | |
| 6.718 | 250 | 20 | 1 | | | | |
| 6.765 | 250 | | | | | | top of crest |
| 6.812 | 250 | 20 | 1 | | | | |
| 6.860 | 250 | 20 | 1 | | | | |
| 6.907 | 250 | 20 | 1 | | | | |
| 6.954 | 250 | 20 | 1 | | | | |
| 7.002 | 250 | 20 | | | 1 | | |
| 7.049 | 250 | 40 | | | 1 | | |
| 7.096 | 250 | 20 | 1 | | | | |
| 7.144 | 250 | 20 | 1 | | | | |
| 7.191 | 250 | 20 | 1 | | | | |
| 7.286 | 500 | 20 | | | 1 | | |
| 7.380 | 500 | 20 | | | 1 | | |
| 7.475 | 500 | 20 | 1 | | | | |
| 7.541 | 345 | 20 | | 1 | | | |
| 7.588 | 250 | 20 | | 1 | | | Bottom Sag |
| 7.635 | 250 | 20 | 1 | | | | |
| 7.683 | 250 | 20 | 1 | | | | |
| 7.777 | 500 | 20 | 1 | | | | |
| 7.864 | 460 | | | | | | Bridge End |
| 7.892 | | 20 | 1 | | | | Bridge End |
| 7.987 | 500 | 20 | | | 1 | | |
| 8.054 | 355 | 20 | | | | 1 | |
| 8.101 | 250 | 20 | | | | 1 | |
| 8.149 | 250 | 20 | 1 | | | | |
| 8.176 | 145 | 20 | | | | | Top crest |
| 8.223 | 250 | 20 | 1 | | | | |
| 8.271 | 250 | 20 | 1 | | | | |
| 8.365 | 500 | 20 | | | 1 | | |

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**Perforated Pipe Edge Drain Summary
 Northbound Outside Lane**

| Milepost | 4" Perf Pipe | 4" Non Perf Pipe | Perforated Pipe Headwall | | | | Comments |
|----------|--------------|------------------|--------------------------|--------|--------|---------------------|----------|
| | | | Type 1 | Type 2 | Type 3 | Type 4 | |
| 8.460 | 500 | 20 | | | 1 | | |
| 8.555 | 500 | 20 | 1 | | | | |
| 8.650 | 500 | 20 | 1 | | | | |
| 8.744 | 500 | 20 | 1 | | | | |
| 8.839 | 500 | 20 | 1 | | | | |
| 8.934 | 500 | 20 | 1 | | | | |
| 9.028 | 500 | 20 | 1 | | | | |
| 9.076 | 250 | 20 | 1 | | | | |
| 9.119 | 227 | 20 | 1 | | | Bottom Sag | |
| 9.166 | 250 | 20 | 1 | | | | |
| 9.261 | 500 | 20 | 1 | | | | |
| 9.355 | 500 | 20 | 1 | | | | |
| 9.450 | 500 | 20 | | | 1 | | |
| 9.497 | 250 | 20 | | | 1 | | |
| 9.545 | 250 | 20 | | | 1 | | |
| 9.583 | 200 | | | | | Top crest | |
| 9.630 | 250 | 20 | 1 | | | | |
| 9.677 | 250 | 20 | 1 | | | | |
| 9.772 | 500 | 20 | 1 | | | | |
| 9.867 | 500 | 20 | | | | 1 | |
| 9.962 | 500 | 20 | | | | 1 | |
| 10.056 | 500 | 20 | 1 | | | | |
| 10.151 | 500 | 20 | | | | | |
| 10.246 | 500 | 20 | | | 1 | Skip pipe 10.279 | |
| 10.279 | 175 | 20 | | | 1 | to 10.376 | |
| 10.376 | | 20 | 1 | | | Bottom Sag/Gore | |
| 10.423 | 250 | 20 | | | | 1 | |
| 10.471 | 250 | 20 | | | | 1 | |
| 10.565 | 500 | 20 | | | 1 | | |
| 10.660 | 500 | 20 | | | | 1 | |
| 10.741 | 425 | | | | | AI/Gore | |
| | | | | | | skip from 10.741 to | |
| 11.010 | | 20 | 1 | | | 11.01 | |
| 11.025 | 80 | 20 | 1 | | | | |
| 11.120 | 500 | 20 | 1 | | | | |
| 11.200 | 425 | | | | | | |
| 11.200 | | | | | | | |
| Totals | 27187 | 1520 | 47 | 3 | 13 | 11 | |

NOT FOR CONSTRUCTION

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**Perforated Pipe Edge Drain Summary
 Southbound Outside Lane**

| Milepost | 4" Perf Pipe | 4" Non Perf Pipe | Perforated Pipe Headwall | | | | Comments |
|----------|--------------|------------------|--------------------------|--------|--------|--------|--------------------|
| | | | Type 1 | Type 2 | Type 3 | Type 4 | |
| 5.657 | | | | | | | |
| 5.676 | 100 | 20 | 1 | | | | bottom sag sort of |
| 5.723 | 250 | 20 | 1 | | | | |
| 5.771 | 250 | 20 | 1 | | | | |
| 5.818 | 250 | 20 | 1 | | | | |
| 5.865 | 250 | 20 | 1 | | | | |
| 5.913 | 250 | 20 | 1 | | | | |
| 5.960 | 250 | 20 | 1 | | | | |
| 6.007 | 250 | 20 | 1 | | | | |
| 6.055 | 250 | 20 | 1 | | | | |
| 6.102 | 250 | 20 | 1 | | | | |
| 6.197 | 500 | 20 | 1 | | | | |
| 6.291 | 500 | 20 | | | | 1 | |
| 6.386 | 500 | 20 | | | | 1 | |
| 6.481 | 500 | 20 | | | 1 | | |
| 6.576 | 500 | 20 | | | 1 | | |
| 6.670 | 500 | 20 | | | | 1 | |
| 6.718 | 250 | 20 | | | | 1 | |
| 6.765 | 250 | | | | | | top of crest |
| 6.812 | 250 | 20 | | | | 1 | |
| 6.860 | 250 | 20 | | | | 1 | |
| 6.907 | 250 | 20 | | | | 1 | |
| 6.954 | 250 | 20 | | | 1 | | |
| 7.002 | 250 | 20 | | | 1 | | |
| 7.049 | 250 | 20 | | | 1 | | |
| 7.096 | 250 | 20 | | | 1 | | |
| 7.144 | 250 | 20 | | 1 | | | |
| 7.191 | 250 | 20 | 1 | | | | |
| 7.286 | 500 | 40 | | | | | Core hole |
| 7.380 | 500 | 20 | | | 1 | | |
| 7.475 | 500 | 20 | 1 | | | | |
| 7.541 | 345 | 20 | 1 | | | | |
| 7.588 | 250 | 20 | 1 | | | | Bottom Sag |
| 7.635 | 250 | 20 | 1 | | | | |
| 7.683 | 250 | 20 | | 1 | | | |
| 7.777 | 500 | 20 | 1 | | | | |
| 7.864 | 460 | | | | | | Bridge End |
| 7.892 | | 20 | 1 | | | | Bridge End |
| 7.987 | 500 | 20 | | 1 | | | |
| 8.054 | 355 | 95 | | | | | Core Hole |
| 8.101 | 250 | 20 | | | 1 | | |
| 8.149 | 250 | 20 | | | 1 | | |
| 8.176 | 145 | | | | | | Top crest |
| 8.223 | 250 | 20 | | | 1 | | |
| 8.271 | 250 | 20 | | | 1 | | |
| 8.365 | 500 | 20 | | | 1 | | |

NOT FOR CONSTRUCTION

THIS IS THE PROPOSED EDGE DRAIN SCHEDULE FROM THE 2007 REHABILITATION PROJECT. TO BE USED TO ASSIST IN THE LOCATION OF THE EXISTING OUTLETS FOR INSPECTION AND REPAIR PURPOSES.

**Perforated Pipe Edge Drain Summary
 Southbound Outside Lane**

| Milepost | 4" Perf Pipe | 4" Non Perf Pipe | Perforated Pipe Headwall | | | | Comments |
|---------------|--------------|------------------|--------------------------|----------|-----------|-----------|--------------------------|
| | | | Type 1 | Type 2 | Type 3 | Type 4 | |
| 8.460 | 500 | 20 | | | | 1 | |
| 8.555 | 500 | 20 | | | | 1 | |
| 8.650 | 500 | 20 | | | | 1 | |
| 8.744 | 500 | 20 | | | 1 | | |
| 8.839 | 500 | 20 | 1 | | | | |
| 8.934 | 500 | 20 | | | | 1 | |
| 9.028 | 500 | 20 | | | | 1 | |
| 9.076 | 250 | 20 | | 1 | | | |
| 9.119 | 227 | 20 | | 1 | | | Bottom Sag |
| 9.166 | 250 | 20 | 1 | | | | |
| 9.261 | 500 | 20 | | 1 | | | |
| 9.355 | 500 | 20 | | | 1 | | |
| 9.450 | 500 | 20 | | | | 1 | |
| 9.497 | 250 | 20 | | | | 1 | |
| 9.545 | 250 | 20 | | | | 1 | |
| 9.583 | 200 | | | | | | Top crest |
| 9.630 | 250 | 20 | | | | 1 | |
| 9.677 | 250 | 20 | 1 | | | | |
| 9.772 | 500 | 20 | | 1 | | | |
| 9.867 | 500 | 20 | | | 1 | | |
| 9.962 | 500 | 20 | | | | 1 | |
| 10.056 | 500 | 20 | | 1 | | | |
| 10.082 | 137 | 20 | | | | | |
| | | | | | | | |
| | | | | | | | Gore/outlet ramp |
| 10.376 | | 20 | | | | 1 | Bottom Sag |
| 10.423 | 250 | 20 | | | 1 | | |
| 10.471 | 250 | 20 | | | 1 | | |
| 10.565 | 500 | 20 | | | 1 | | |
| 10.660 | 500 | 20 | | | | 1 | |
| 10.721 | 320 | | | | | | AI/Gore |
| 10.815 | | 20 | | | | 1 | Skip 10.721-10.815 |
| 10.910 | 500 | 20 | 1 | | | | |
| 11.004 | 500 | 20 | 1 | | | | |
| 11.099 | 500 | 20 | 1 | | | | |
| 11.156 | 300 | 20 | 1 | | | | |
| 11.199 | 230 | | | | | | |
| Totals | 27069 | 1575 | 25 | 8 | 20 | 19 | 2 core structures |

NOT FOR CONSTRUCTION

THIS IS THE PROPOSED EDGE DRAIN SCHEDULE FROM THE 2007 REHABILITATION PROJECT. TO BE USED TO ASSIST IN THE LOCATION OF THE EXISTING OUTLETS FOR INSPECTION AND REPAIR PURPOSES.

**Perforated Pipe Edge Drain Summary
 Northbound Left**

| Beg MP | Perf Pipe 6 inch | Non Perf Pipe 6inch | Core Hole Drainage Str. | P. Pipe HW 6" Type 3 | Comments |
|--------|---------------------|------------------------|----------------------------|-------------------------|----------------------|
| 5.657 | | 100 | 1 | | Bottom sag is at |
| 5.676 | 100 | | | | 5.676 even though |
| 5.733 | 301 | 12 | | 1 | box is at 5.657 |
| 5.790 | 301 | 30 | 1 | | |
| 5.855 | 343 | 12 | | 1 | |
| 5.920 | 343 | 30 | 1 | | |
| 6.016 | 507 | 30 | 1 | | |
| 6.111 | 502 | 30 | 1 | | |
| 6.206 | 502 | 30 | 1 | | |
| 6.367 | 850 | 30 | 1 | | |
| 6.443 | 401 | 30 | 1 | | |
| 6.519 | 401 | 12 | | 1 | |
| 6.670 | 797 | 30 | 1 | | |
| 6.765 | 502 | | | | Top Crest |
| 6.853 | 465 | 30 | 1 | | |
| 6.950 | 512 | 30 | 1 | | |
| 7.026 | 401 | 12 | | 1 | |
| 7.101 | 396 | 30 | 1 | | |
| 7.176 | 396 | 12 | | 1 | |
| 7.251 | 396 | 30 | 1 | | |
| 7.438 | 987 | 30 | 1 | | |
| 7.488 | 264 | 12 | | | |
| 7.587 | 523 | 30 | 1 | | Bottom Sag |
| 7.662 | 396 | 12 | | 1 | |
| 7.736 | 391 | 30 | 1 | | |
| 7.779 | 227 | 12 | | 1 | Bridge digout outlet |
| 7.901 | | | | 1 | Bridge digout outlet |
| 7.978 | | | | 1 | |
| 8.024 | 243 | 30 | 1 | | |
| 8.105 | 428 | 12 | | 1 | |
| 8.176 | 375 | | | | top crest |
| 8.232 | 296 | 12 | | 1 | |
| 8.289 | 301 | 30 | 1 | | |
| 8.430 | 744 | 30 | 1 | | |
| 8.576 | 771 | 30 | 1 | | |
| 8.724 | 781 | 30 | 1 | | |
| 8.873 | 787 | 30 | 1 | | |
| 8.994 | 639 | 30 | 1 | | |
| 9.057 | 333 | 12 | | 1 | |
| 9.119 | 327 | 30 | 1 | | Bottom Sag |
| 9.176 | 301 | 12 | | 1 | |
| 9.233 | 301 | 30 | 1 | | |
| 9.355 | 644 | 30 | 1 | | |
| 9.460 | 554 | 30 | 1 | | |
| 9.522 | 327 | 12 | | 1 | |
| 9.583 | 322 | | | | Top Crest |

NO FOR CONSTRUCTION

THIS IS THE PROPOSED EDGE DRAIN SCHEDULE FROM THE 2007 REHABILITATION PROJECT. TO BE USED TO ASSIST IN THE LOCATION OF THE EXISTING OUTLETS FOR INSPECTION AND REPAIR PURPOSES.

**Perforated Pipe Edge Drain Summary
 Northbound Left**

| Beg MP | Perf Pipe 6 inch | Non Perf Pipe 6inch | Core Hole Drainage Str. | P. Pipe HW 6" Type 3 | Comments |
|--------|---------------------|------------------------|----------------------------|-------------------------|------------|
| 9.663 | 422 | 12 | | 1 | |
| 9.743 | 422 | 30 | 1 | | |
| 9.895 | 803 | 30 | 1 | | |
| 10.055 | 845 | 30 | 1 | | |
| 10.214 | 840 | 30 | 1 | | |
| 10.294 | 422 | 12 | | 1 | |
| 10.373 | 417 | 30 | 1 | | Bottom Sag |
| 10.477 | 549 | 12 | | 1 | |
| 10.580 | 544 | 30 | 1 | | |
| 10.730 | 792 | 30 | 1 | | |
| 10.852 | 644 | 30 | 1 | | |
| 10.973 | 639 | 30 | 1 | | |
| 11.113 | 739 | 30 | 1 | | |
| 11.200 | 459 | | | | |

Totals 28216 1372 37 18

NOT FOR CONSTRUCTION

THIS IS THE PROPOSED EDGE DRAIN SCHEDULE FROM THE 2007 REHABILITATION PROJECT. TO BE USED TO ASSIST IN THE LOCATION OF THE EXISTING OUTLETS FOR INSPECTION AND REPAIR PURPOSES.

**Perforated Pipe Edge Drain Summary
 Southbound Right**

| Beg MP | Perf Pipe 6 inch | Non Perf Pipe 6inch | Core Hole Drainage Str. | P. Pipe HW 6" Type 3 | Comments |
|--------|---------------------|------------------------|----------------------------|-------------------------|----------------------|
| 5.657 | | 100 | 1 | | Bottom sag is at |
| 5.676 | 100 | | | | 5.676 even though |
| 5.733 | 301 | 12 | | 1 | box is at 5.657 |
| 5.790 | 301 | 30 | 1 | | |
| 5.855 | 343 | 12 | | 1 | |
| 5.920 | 343 | 30 | 1 | | |
| 6.016 | 507 | 30 | 1 | | |
| 6.111 | 502 | 30 | 1 | | |
| 6.206 | 502 | 30 | 1 | | |
| 6.367 | 850 | 30 | 1 | | |
| 6.443 | 401 | 30 | 1 | | |
| 6.519 | 401 | 12 | | 1 | |
| 6.670 | 797 | 30 | 1 | | |
| 6.765 | 502 | | | | Top Crest |
| 6.853 | 465 | 30 | 1 | | |
| 6.950 | 512 | 30 | 1 | | |
| 7.026 | 401 | 12 | | 1 | |
| 7.101 | 396 | 30 | 1 | | |
| 7.176 | 396 | 12 | | 1 | |
| 7.251 | 396 | 30 | 1 | | |
| 7.438 | 987 | 30 | 1 | | |
| 7.488 | 264 | 12 | | | |
| 7.587 | 523 | 30 | 1 | | Bottom Sag |
| 7.662 | 396 | 12 | | 1 | |
| 7.736 | 391 | 30 | 1 | | |
| 7.779 | 227 | 12 | | 1 | Bridge digout outlet |
| 7.901 | | | | 1 | Bridge digout outlet |
| 7.978 | | | | 1 | |
| 8.024 | 243 | 30 | 1 | | |
| 8.105 | 428 | 12 | | 1 | |
| 8.176 | 375 | | | | top crest |
| 8.232 | 296 | 12 | | 1 | |
| 8.289 | 301 | 30 | 1 | | |
| 8.430 | 744 | 30 | 1 | | |
| 8.576 | 771 | 30 | 1 | | |
| 8.724 | 781 | 30 | 1 | | |
| 8.873 | 787 | 30 | 1 | | |
| 8.994 | 639 | 30 | 1 | | |
| 9.057 | 333 | 12 | | 1 | |
| 9.119 | 327 | 30 | 1 | | Bottom Sag |
| 9.176 | 301 | 12 | | 1 | |
| 9.233 | 301 | 30 | 1 | | |
| 9.355 | 644 | 30 | 1 | | |
| 9.460 | 554 | 30 | 1 | | |
| 9.522 | 327 | 12 | | 1 | |
| 9.583 | 322 | | | | Top Crest |

NOT FOR CONSTRUCTION

THIS IS THE PROPOSED EDGE DRAIN SCHEDULE FROM THE 2007 REHABILITATION PROJECT. TO BE USED TO ASSIST IN THE LOCATION OF THE EXISTING OUTLETS FOR INSPECTION AND REPAIR PURPOSES.

**Perforated Pipe Edge Drain Summary
 Southbound Right**

| Beg MP | Perf Pipe 6 inch | Non Perf Pipe 6inch | Core Hole Drainage Str. | P. Pipe HW 6" Type 3 | Comments |
|--------|---------------------|------------------------|----------------------------|-------------------------|------------|
| 9.663 | 422 | 12 | | 1 | |
| 9.743 | 422 | 30 | 1 | | |
| 9.895 | 803 | 30 | 1 | | |
| 10.055 | 845 | 30 | 1 | | |
| 10.214 | 840 | 30 | 1 | | |
| 10.294 | 422 | 12 | | 1 | |
| 10.373 | 417 | 30 | 1 | | Bottom Sag |
| 10.477 | 549 | 12 | | 1 | |
| 10.580 | 544 | 30 | 1 | | |
| 10.730 | 792 | 30 | 1 | | |
| 10.852 | 644 | 30 | 1 | | |
| 10.973 | 639 | 30 | 1 | | |
| 11.113 | 739 | 30 | 1 | | |
| 11.200 | 459 | | | | |

Totals 28216 1372 37 18

Project Totals

| | |
|------------------------------------|-------|
| Perforated Pipe-4 Inch | 54256 |
| Perforated Pipe-6 Inch | 56432 |
| Non-Perforated Pipe-4 Inch | 3095 |
| Non-Perforated Pipe-6 Inch | 2744 |
| Inspect and Certify Edge Drain | 1 |
| Perf Pipe Headwall TY 1-4 Inch | 72 |
| Perf Pipe Headwall TY 2-4 Inch | 11 |
| Perf Pipe Headwall TY 3-4 Inch | 33 |
| Perf Pipe Headwall Ty 4-4 Inch | 30 |
| Perf Pipe Headwall Ty 3-6 Inch | 36 |
| Cored Hole Drainage Box Con-4 Inch | 2 |
| Cored Hole Drainage Box Con-6 Inch | 74 |

NOT FOR CONSTRUCTION

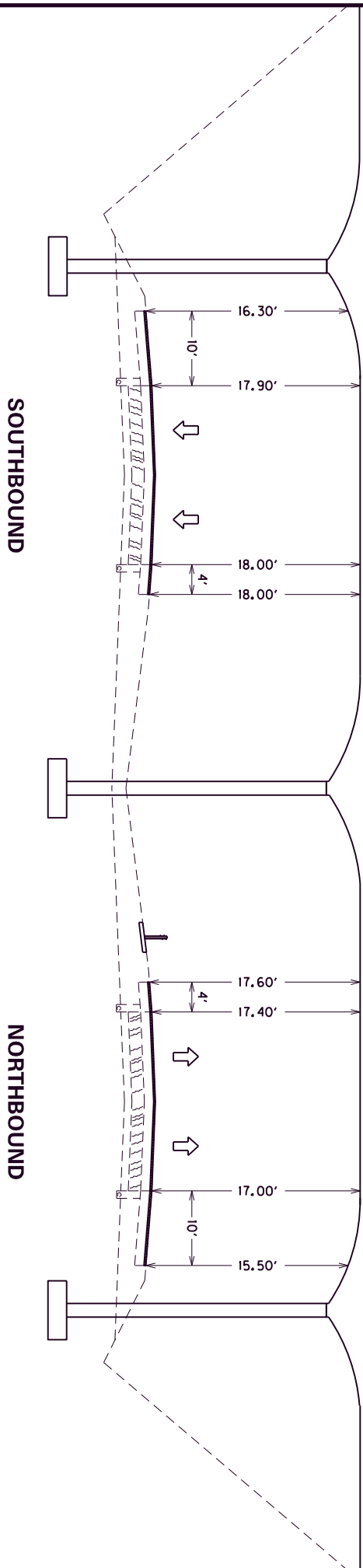
THIS IS THE PROPOSED EDGE DRAIN SCHEDULE FROM THE 2007 REHABILITATION PROJECT. TO BE USED TO ASSIST IN THE LOCATION OF THE EXISTING OUTLETS FOR INSPECTION AND REPAIR PURPOSES.

EXISTING VERTICAL CLEARANCE DETAIL

KY 628 OVERPASS
M.P. 6.420

| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | |

EXIST. KY 628 OVER I-75



SOUTHBOUND

NORTHBOUND

***NO ACTION NEEDED**

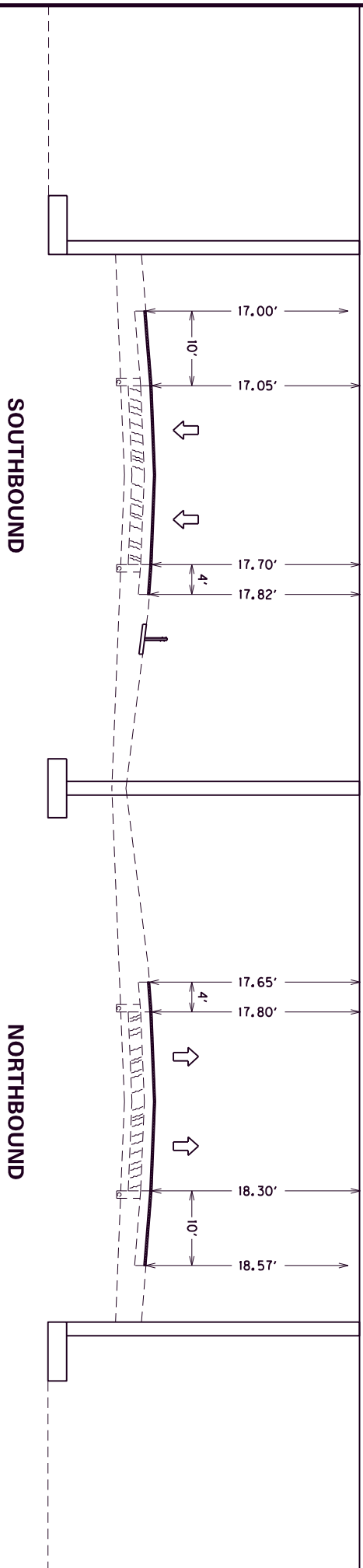
NOT TO SCALE

J-75
VERTICAL CLEARANCE

EXISTING VERTICAL CLEARANCE DETAIL

KY 92 OVERPASS
M.P. 10.542

EXIST. KY 92 OVER J-75



***NO ACTION NEEDED**

NOT TO SCALE

J-75
VERTICAL CLEARANCE

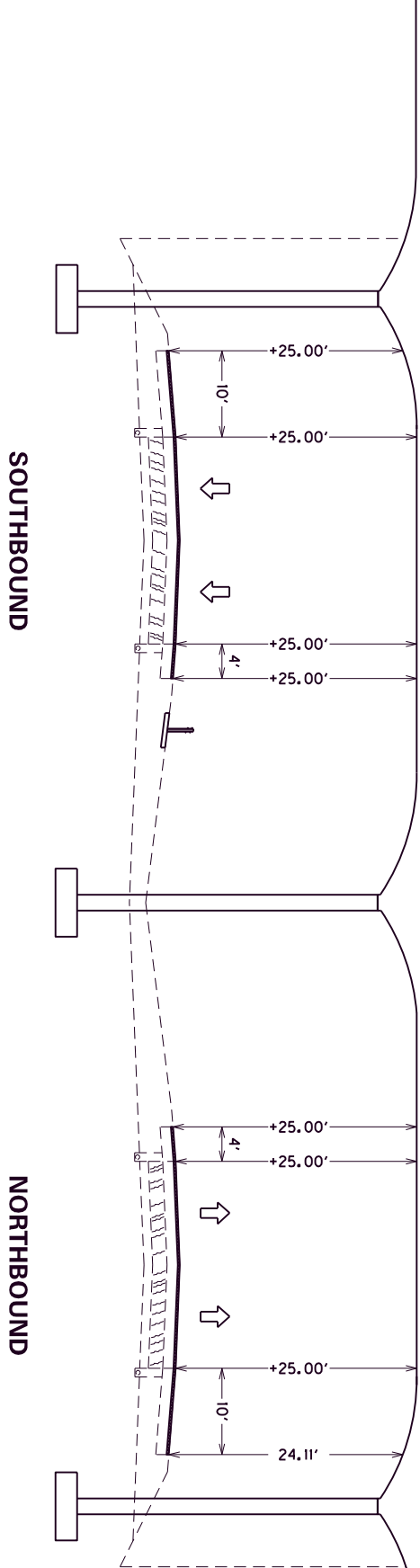
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|-----------|----------|-----------|
| WHITLEY | 11-20015 | |

EXISTING VERTICAL CLEARANCE DETAIL

KY 296 OVERPASS
M.P. 11.235

| | | |
|-----------|----------|-----------|
| COUNTY OF | ITEM NO. | SHEET NO. |
| WHITLEY | 11-20015 | |

EXIST. KY 296 OVER I-75



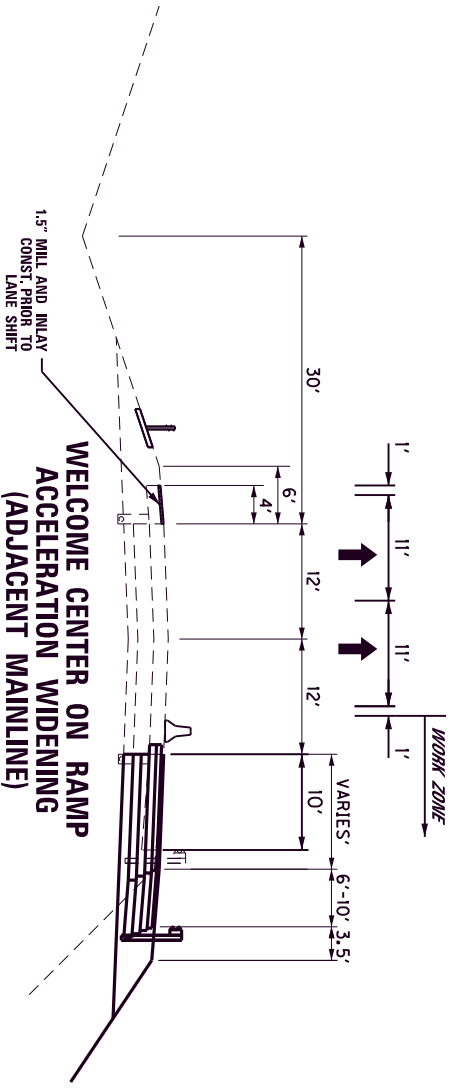
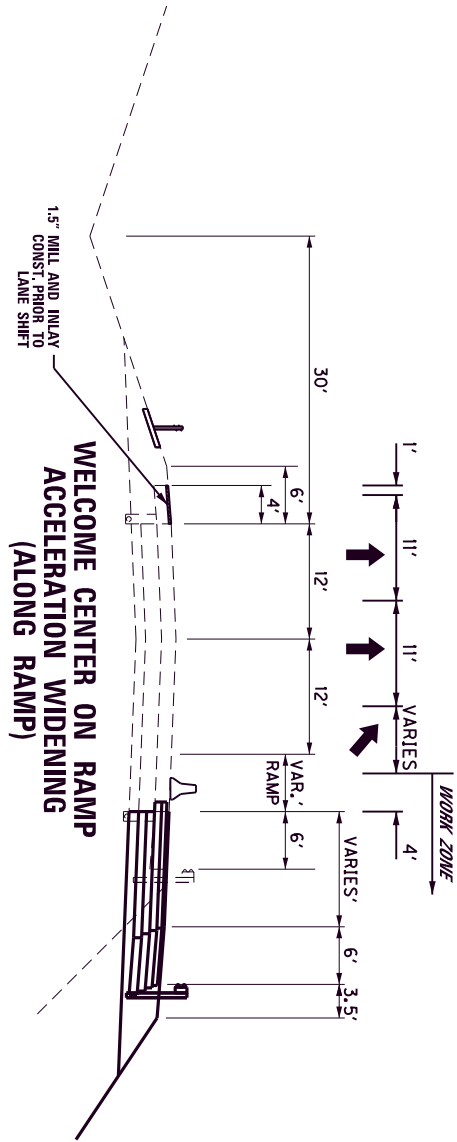
***NO ACTION NEEDED**

NOT TO SCALE

J-75
VERTICAL CLEARANCE

M.O.T. TYPICAL SECTIONS

I-71 PHASE I



I-75
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

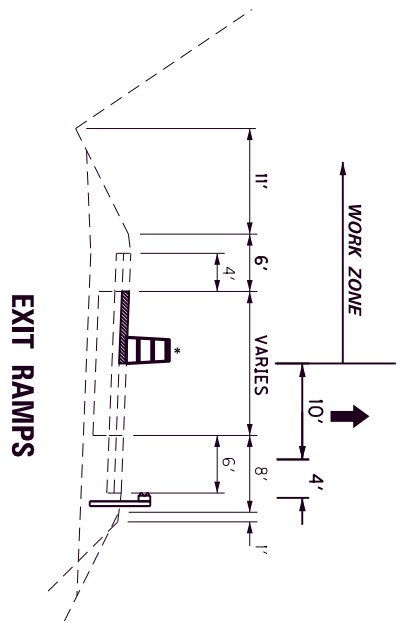
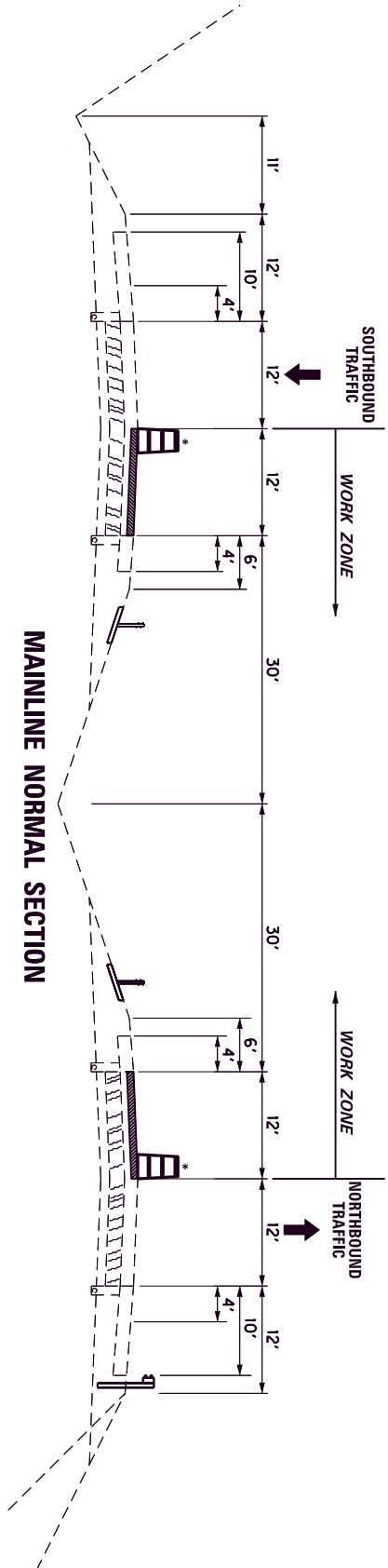
| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | |

M.O.T. TYPICAL SECTIONS

I-71

PHASE IIIA

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | |



* MOVE DRUM TEMPORARILY WHEN NECESSARY TO MAINTAIN TRAFFIC FLOW. IMMEDIATELY REMOVE EQUIPMENT ONTO MAIN ASPHALT AS SOON AS PRACTICAL TO RESTORE LANE WIDTHS.

NOT TO SCALE

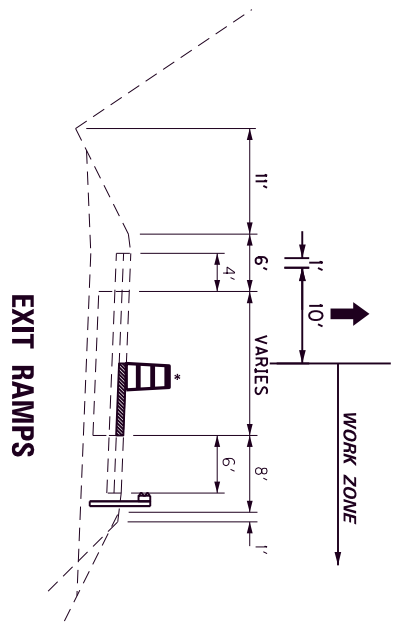
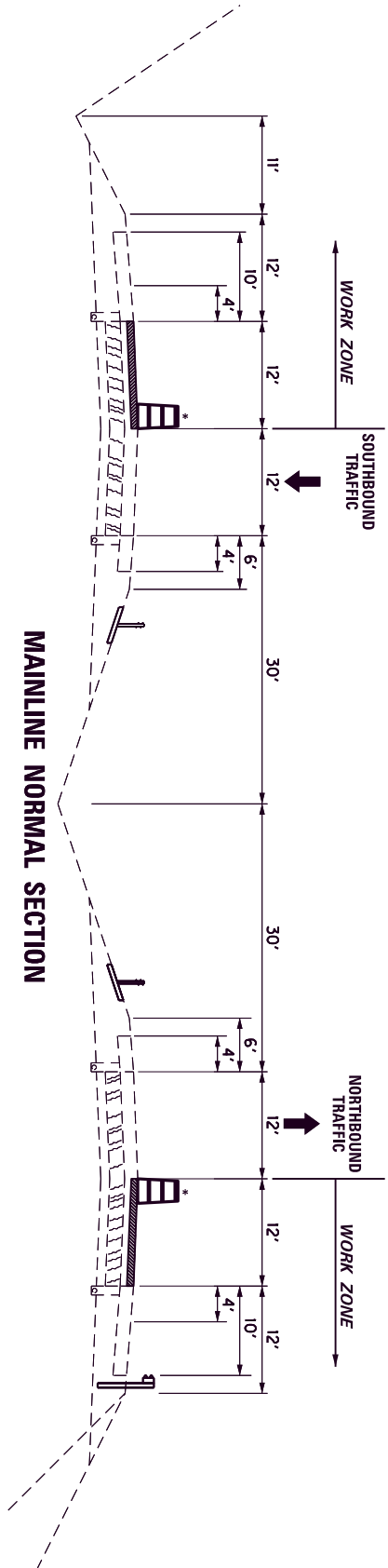
I-75
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

M.O.T. TYPICAL SECTIONS

I-71

PHASE IIB

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | |



* MOVE DRUM TEMPORARILY WHEN NECESSARY TO ALLOW EQUIPMENT ONTO MAIN ASPHALT IMMEDIATELY AS SOON AS PRACTICAL TO RESTORE LANE WIDTHS.

NOT TO SCALE

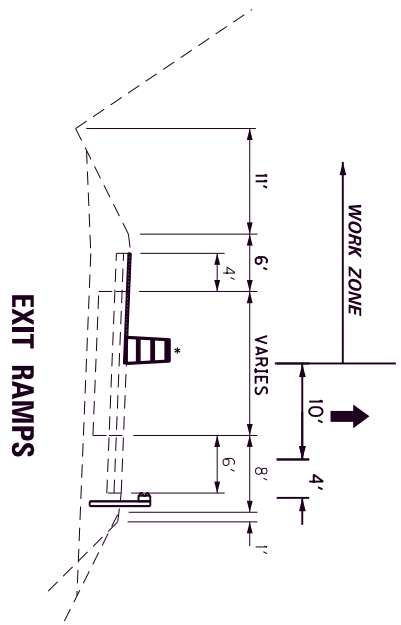
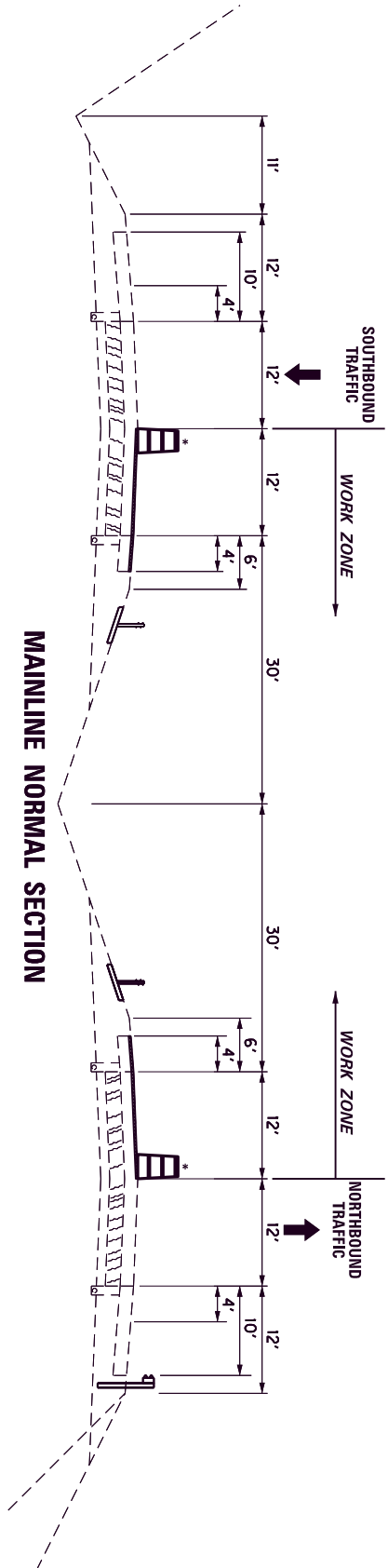
I-75
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

M.O.T. TYPICAL SECTIONS

I-71

PHASE IIIA

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | |



* MOVE DRUM TEMPORARILY WHEN NECESSARY TO ALLOW EQUIPMENT ONTO MAIN ASPHALT IMMEDIATELY AS EQUIPMENT TO RESTORE LANE WIDTHS. AS SOON AS PRACTICAL TO RESTORE LANE WIDTHS.

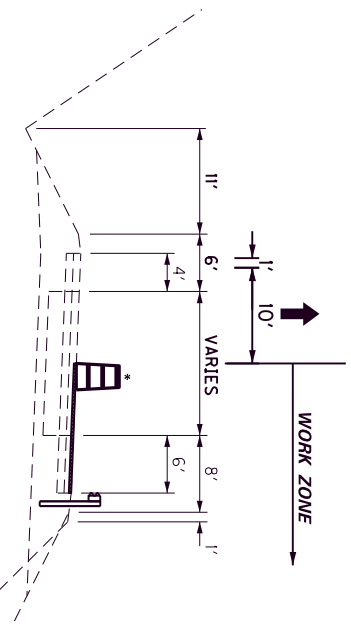
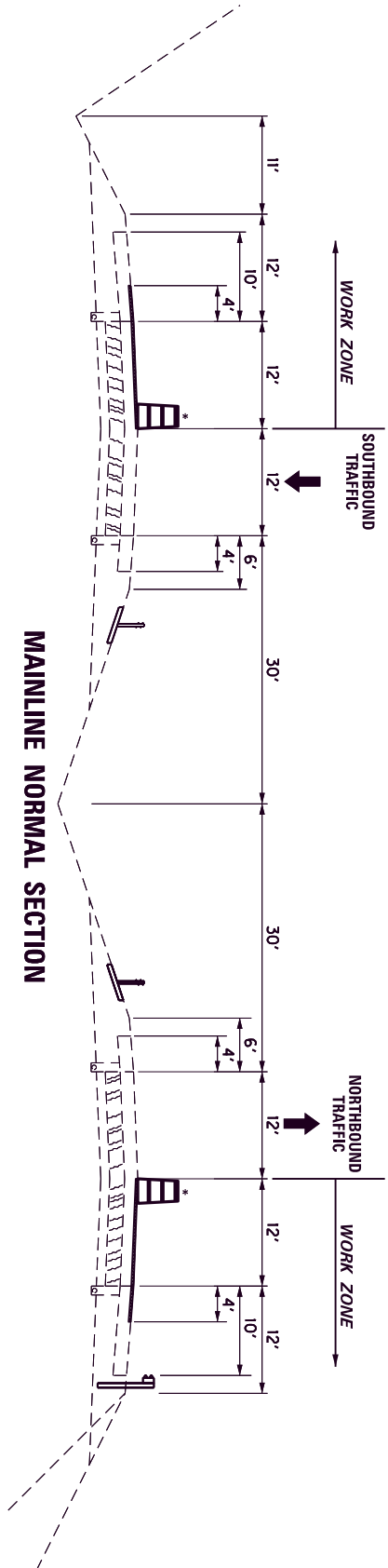
NOT TO SCALE

I-75
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

M.O.T. TYPICAL SECTIONS

I-71 PHASE IIIB

| | | |
|---------|----------|-------|
| County | Item No. | Sheet |
| WHITLEY | 11-20015 | |

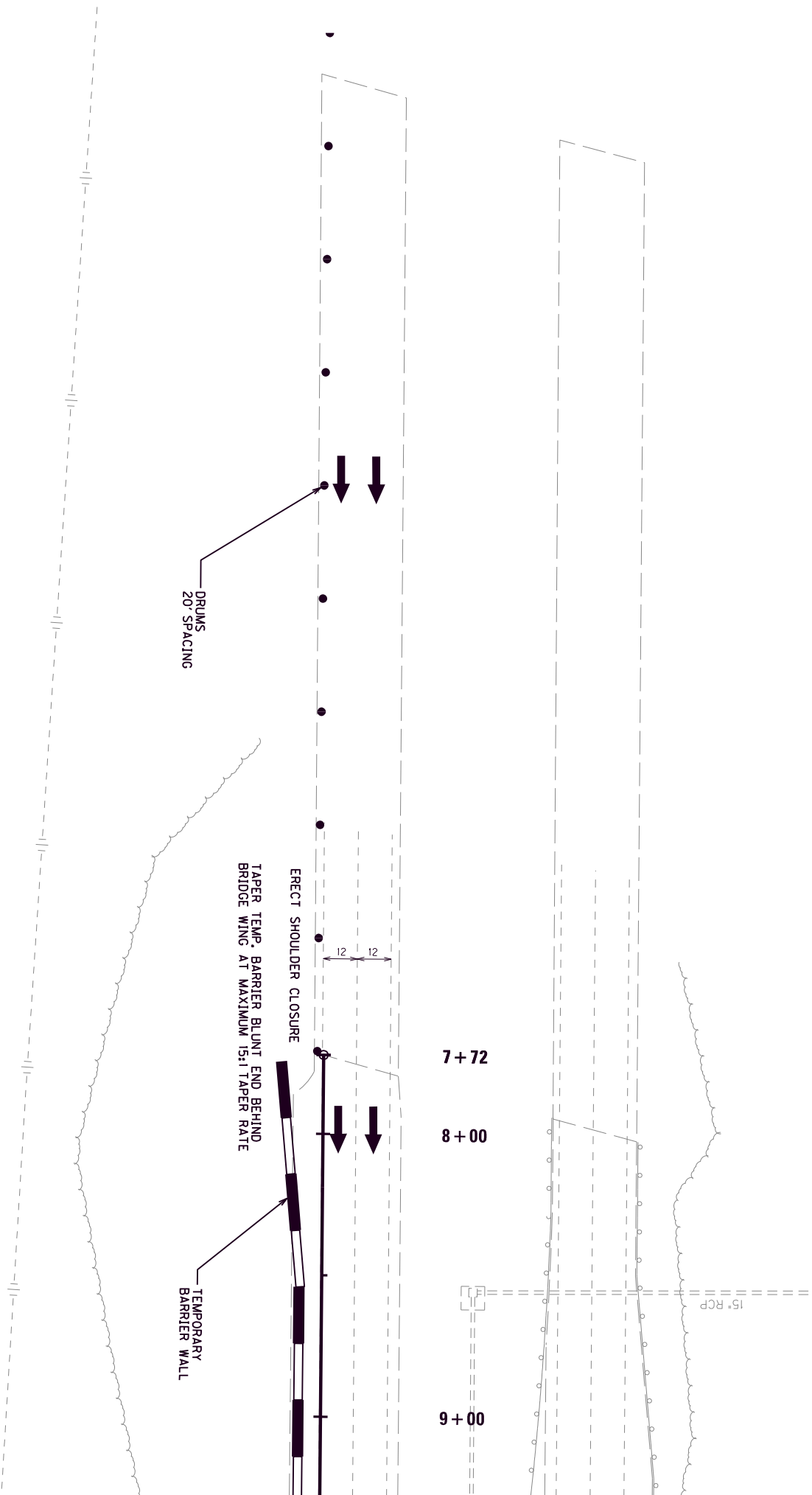


* MOVE DRUM TEMPORARILY WHEN NECESSARY TO ALLOW EQUIPMENT ONTO MAIN ASPHALT IMMEDIATELY AS SOON AS PRACTICAL TO RESTORE LANE WIDTHS.

NOT TO SCALE

I-75
MAINTENANCE OF TRAFFIC
TYPICAL SECTIONS

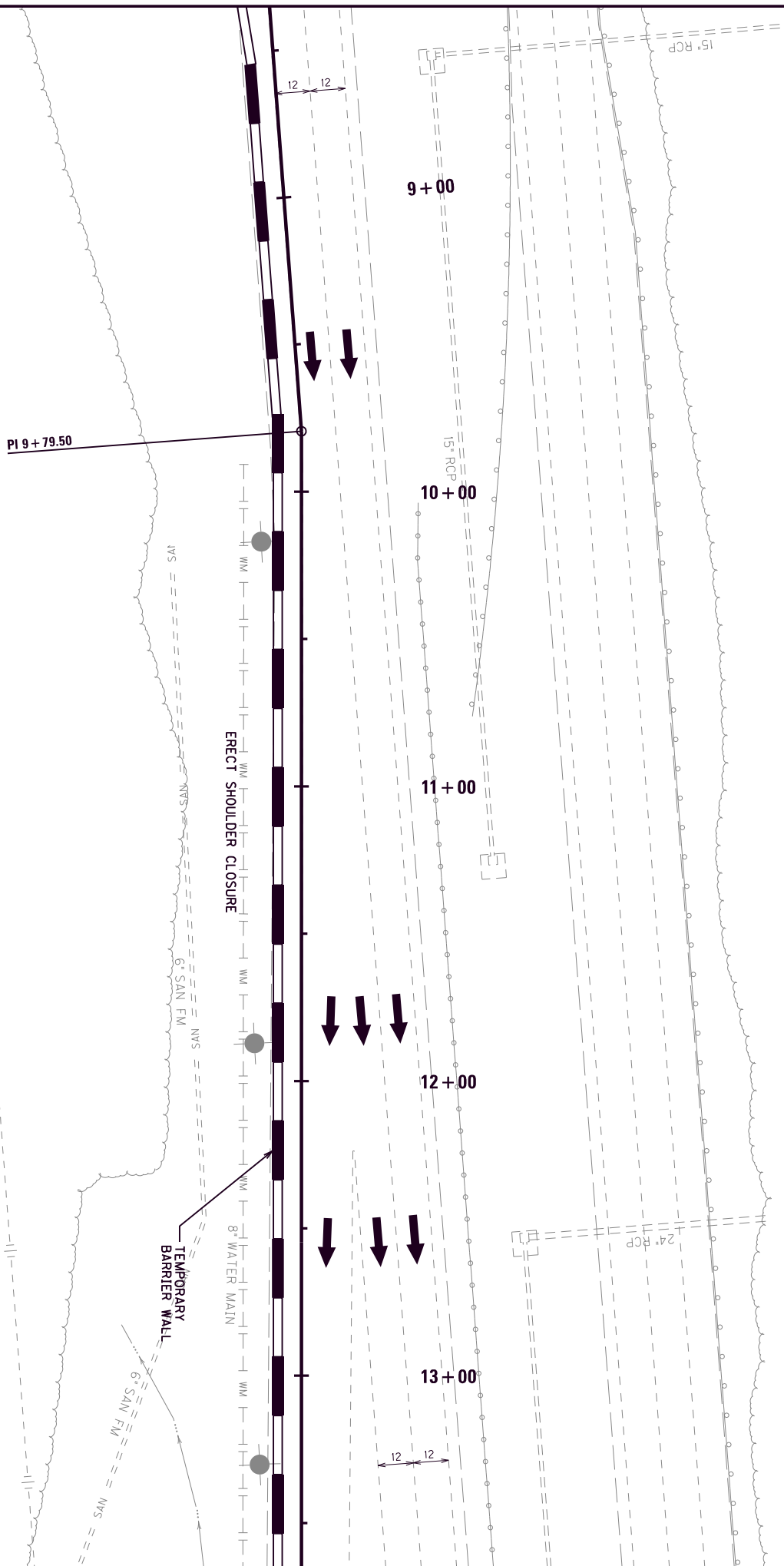
| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |



**I-75
PROPOSED BORROW SITE
MAINTENANCE OF TRAFFIC**



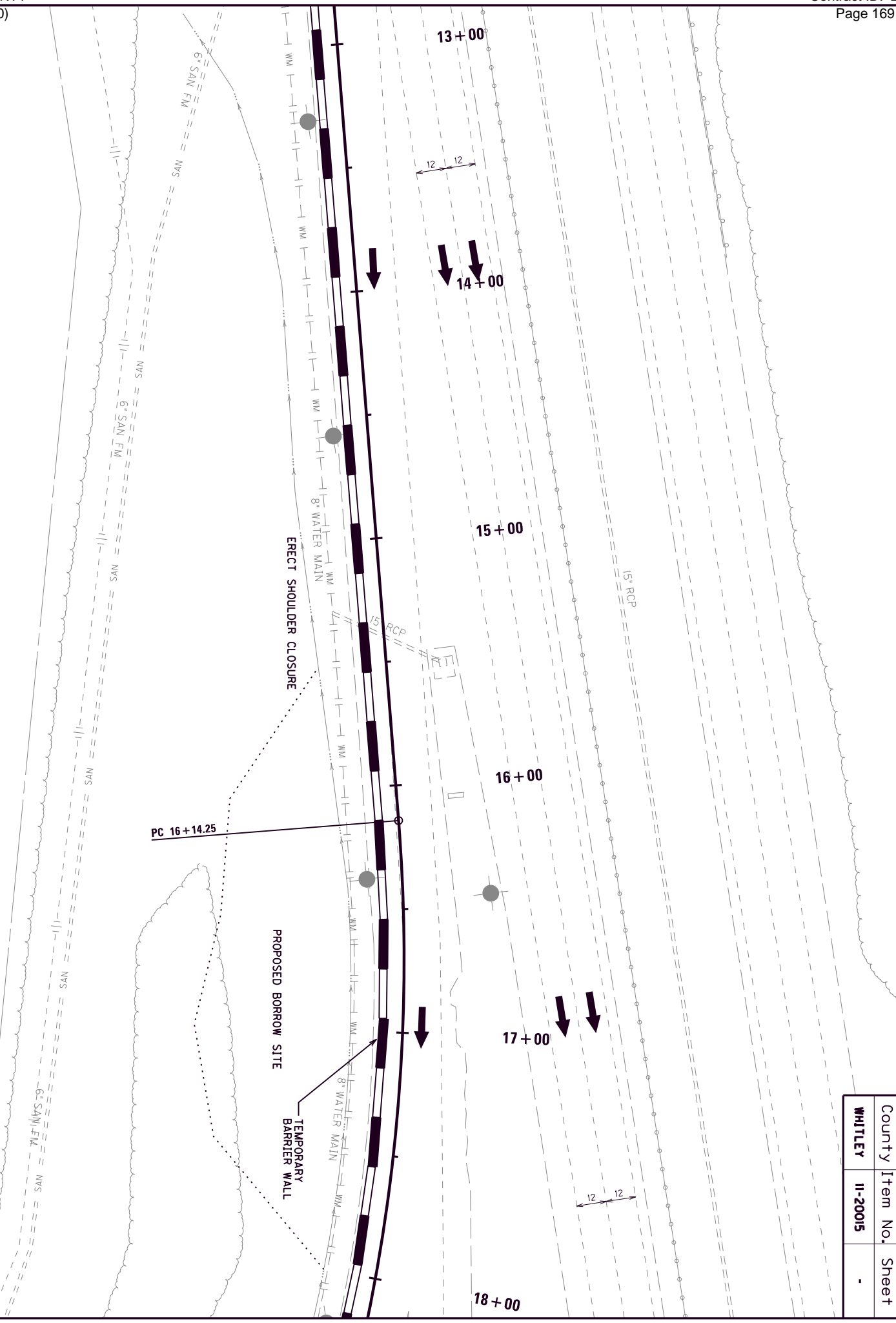
**I-75
PROPOSED BORROW SITE
MAINTENANCE OF TRAFFIC**



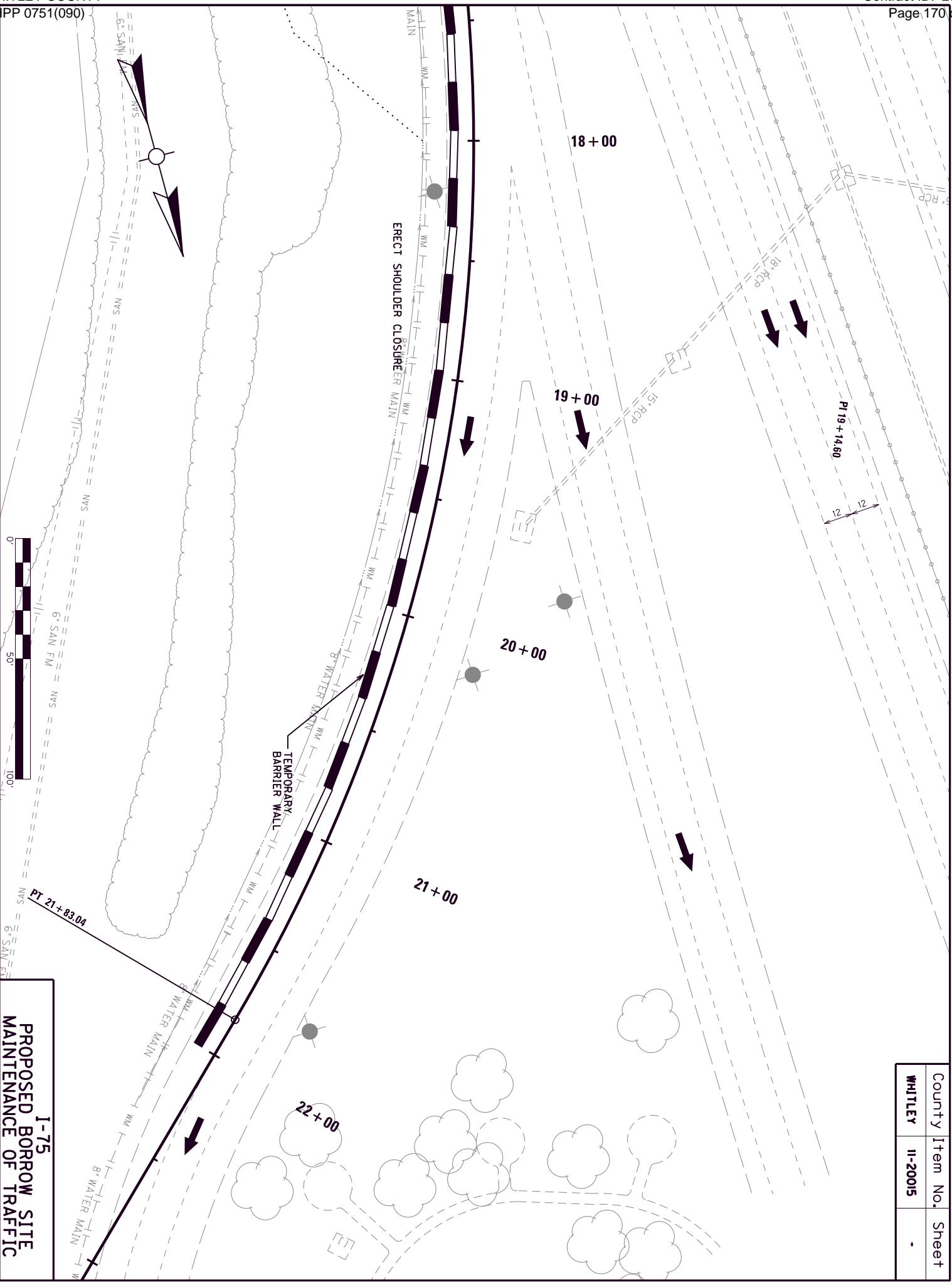
| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |



**I-75
PROPOSED BORROW SITE
MAINTENANCE OF TRAFFIC**

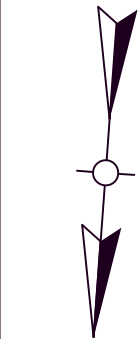


| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |

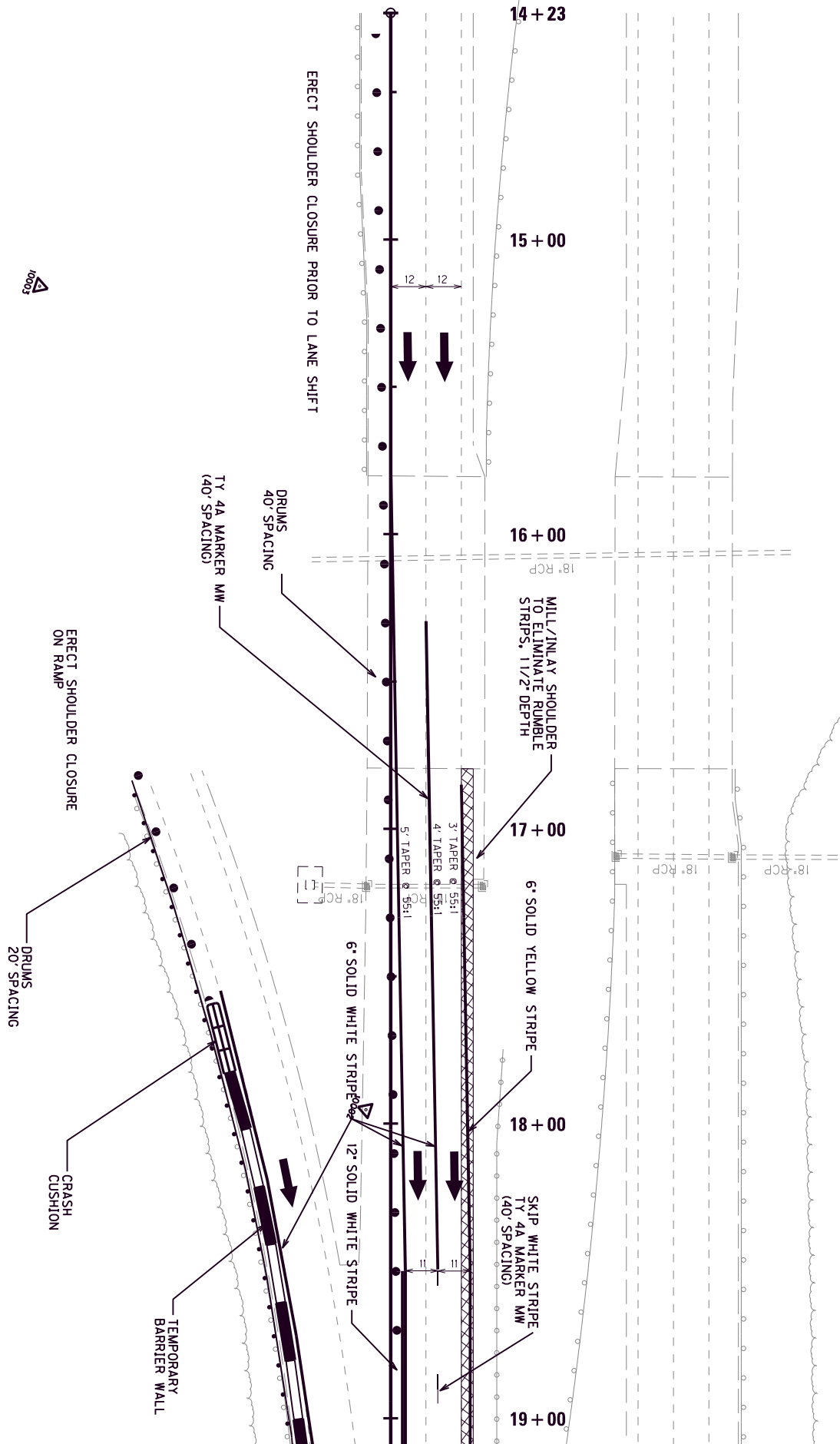


I-75
PROPOSED BORROW SITE
MAINTENANCE OF TRAFFIC

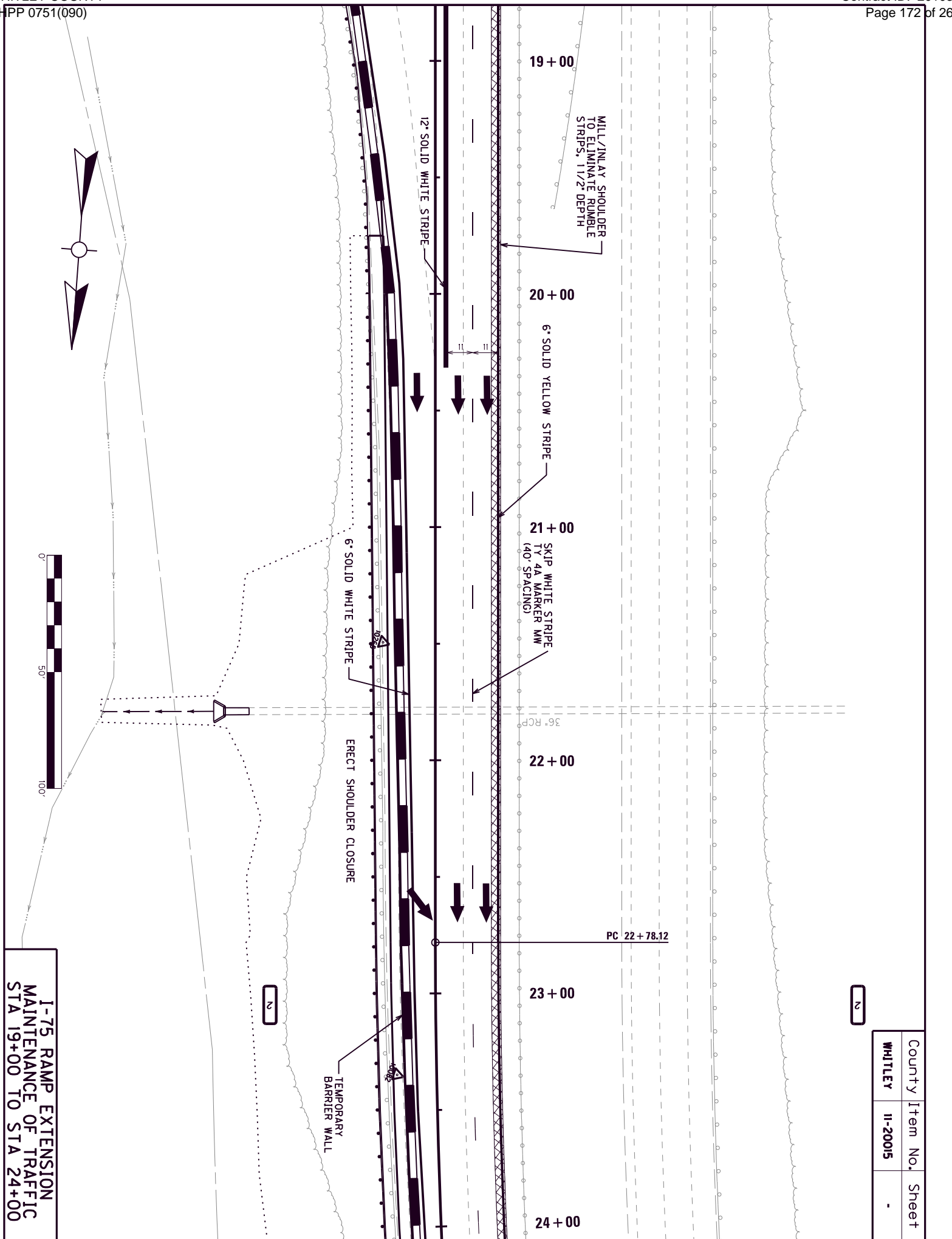
| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |



**I-75 RAMP EXTENSION
MAINTENANCE OF TRAFFIC
STA 14+00 TO STA 19+00**



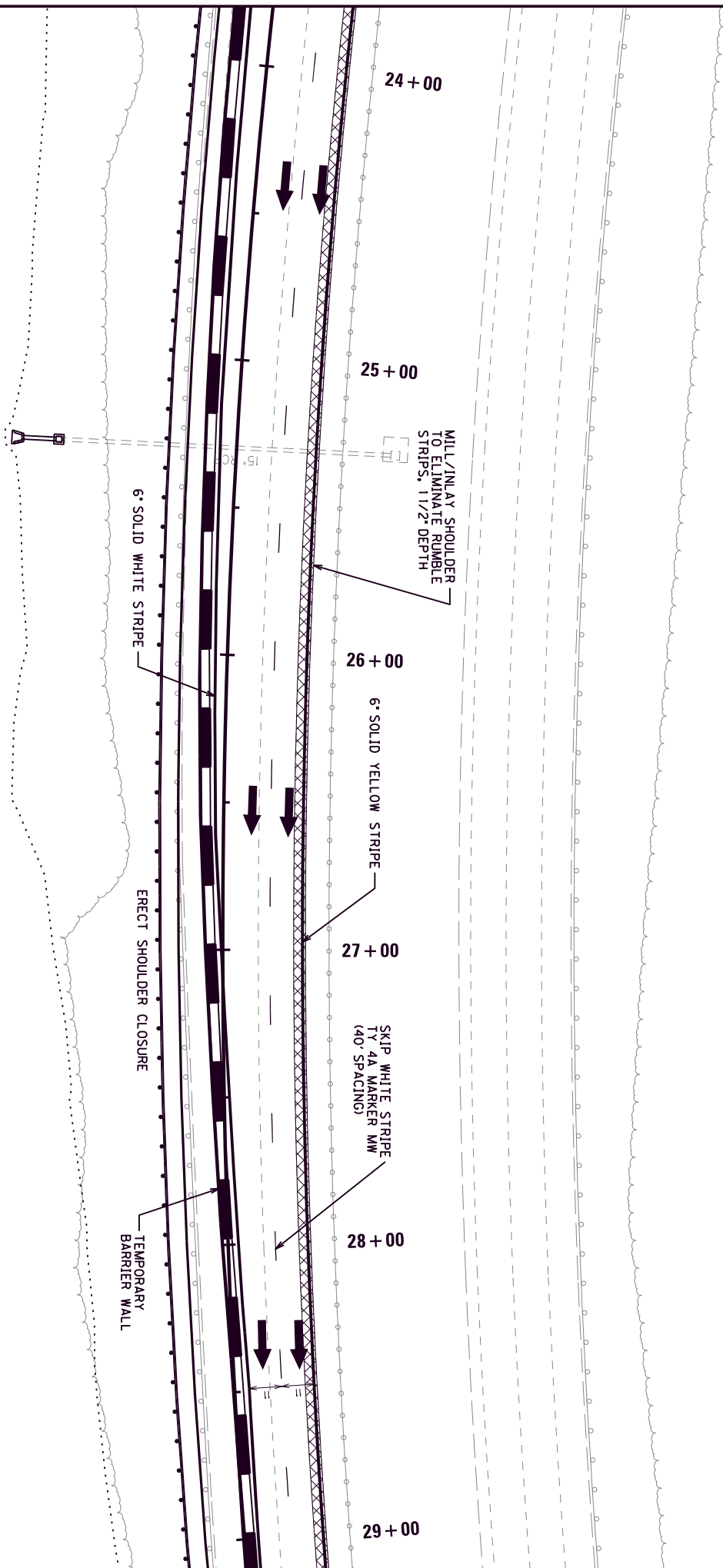
| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |



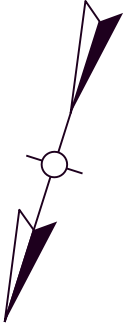
I-75 RAMP EXTENSION
MAINTENANCE OF TRAFFIC
STA 19+00 TO STA 24+00

| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |

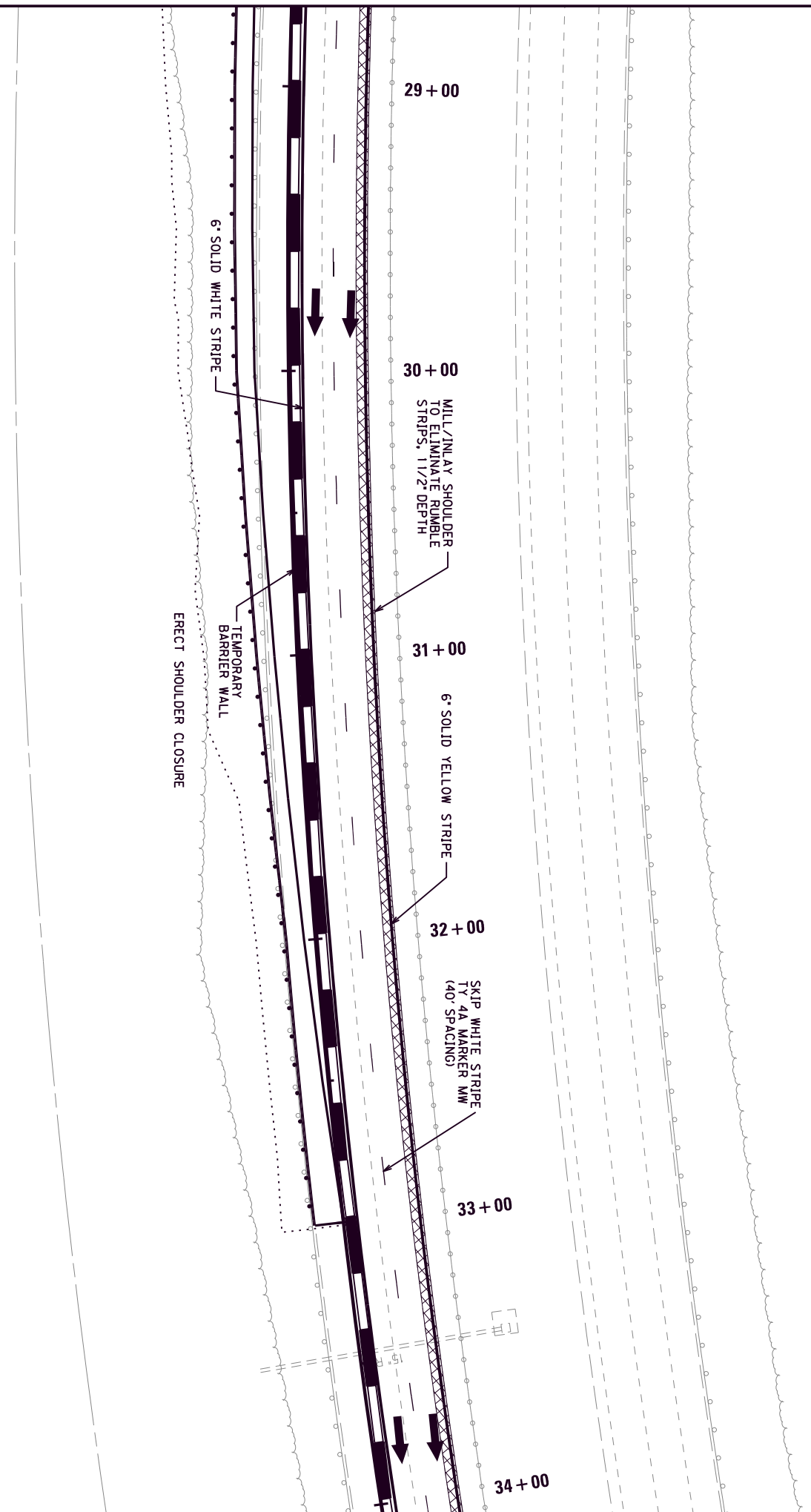
| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |



I-75 RAMP EXTENSION
MAINTENANCE OF TRAFFIC
STA 24+00 TO STA 29+00



I-75 RAMP EXTENSION
MAINTENANCE OF TRAFFIC
STA 29+00 TO STA 33+00



6' SOLID WHITE STRIPE
TEMPORARY BARRIER WALL
ERECT SHOULDER CLOSURE

29 + 00

30 + 00

31 + 00

32 + 00

33 + 00

34 + 00

MILL/INLAY SHOULDER
TO ELIMINATE RUMBLE
STRIPS, 1 1/2' DEPTH

6' SOLID YELLOW STRIPE

SKIP WHITE STRIPE
TY 4A MARKER MW
(40' SPACING)

| County | Item No. | Sheet |
|---------|----------|-------|
| WHITLEY | 11-20015 | - |

**TRAFFIC CONTROL PLAN
WHITLEY COUNTY
I-75
NHPP 0751 (090)
FD52 118 0075 000-012
Item No. 11-20015**

**THIS PROJECT IS A FULLY
CONTROLLED ACCESS HIGHWAY**

TRAFFIC CONTROL GENERAL

Except as provided herein, "Maintain and Control Traffic" shall be in accordance with the Standard Specifications and the Standard Drawings, current editions. 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". All lane closures used on the Project will be in compliance with the appropriate Standard Drawings. Do NOT use cones for lane closures or shoulder closures.

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

Reduce the speed limit in work areas to 55 miles per hour (35 miles per hour for ramps if applicable) and establish double fines for work zone speeding violations. The extent of these areas within the project limits will be restricted to the proximity of actual work areas as determined by the Engineer. Notify the Engineer a minimum of 12 hours prior to using the double fine signs. At the beginning of the work zone, the "BEGIN DOUBLE FINES ZONE" signs will be dual mounted. At the end of the work zone, the "END DOUBLE FINES ZONE" signs will be dual mounted as well. Remove or cover the signs or turn off flashers when the highway work zone does not have workers present for more than a two-hour period of time. Payment for the signs will be at the unit bid price for Temporary Signs. Any relocation or covering of the signs or operation of flashers will be incidental to "Maintain and Control Traffic", lump sum.

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

PROJECT PHASING & CONSTRUCTION PROCEDURES

No lane closures will be allowed on the project during the following days, except as allowed elsewhere in the proposal, and unless otherwise approved by the Engineer:

| | |
|--------------------------------|--|
| Christmas | 6:00 am Dec 24,2020 – 7:00 pm Dec 27, 2020 |
| New Years | 6:00 am Dec 31, 2020 – 7:00 pm Jan 3, 2021 |
| Easter and KEA Spring Break | 6:00 am Apr 2, 2021 –10:00 pm Apr 11, 2021 |
| Spring 2021 Bristol S.B. (TBA) | Wednesday 9:00 am – Sunday 7:00 pm |
| Spring 2021 Bristol N.B. (TBA) | Saturday 9:00 am – Monday 10:00 pm |
| Memorial Day | 6:00 am May 28, 2021 – 10:00 pm May 31, 2021 |
| Independence Day | 6:00 am Jul 2, 2021 – 10:00 pm Jul 4, 2021 |
| Fall 2021 Bristol S.B. (TBA) | Wednesday 9:00 am – Sunday 7:00 pm |
| Fall 2021 Bristol N.B. (TBA) | Saturday 9:00 am – Monday 10:00 pm |
| Labor Day | 6:00 am Sep 3, 2021 – 10:00 pm Sep 6, 2021 |
| Thanksgiving Weekend | 6:00 am Nov 25, 2021 – 7:00 pm Nov 28, 2021 |
| Sundays (NB & SB) | 9:00 am – 7:00 pm Every Week |
| Mondays (NB & SB) | 9:00 am – 7:00 pm Every Week |
| Tuesdays (NB & SB) | 9:00 am – 7:00 pm Every Week |
| Wednesdays (NB & SB) | 9:00 am – 7:00 pm Every Week |
| Thursdays (NB & SB) | 9:00 am – 7:00 pm Every Week |
| Fridays (NB) | 9:00 am – 7:00 pm Every Week |
| Fridays (SB) | 7:00 am – 10:00 pm Every Week |
| Saturdays (NB & SB) | 9:00 am – 7:00 pm Every Week |

Note: In the event that traffic backups reach an unacceptable level, the days and hours of allowable single lane traffic may be modified by the Cabinet.

ASPHALT BASE REPAIR LOCATIONS

A quantity of asphalt base repairs has been established to repair deteriorated pavement found at a depth below the level of the asphalt surface. The Engineer will determine the exact location at the time of construction. Once removal of pavement at a particular repair location has begun, the contractor shall work continuously to complete the work required to bring the pavement even with the existing surface grade. Type III Barricades shall be placed immediately in front of pavement removal areas.

The contractor must notify the Engineer at least seven (7) days prior to the beginning of each construction phase in either direction.

SHOULDER PREPARATION AND RESTORATION

Except for construction of the Welcome Center on ramp extension, it is not anticipated or intended that shoulders will be used for temporary roadways for maintenance of traffic, however, wide loads may need to use the shoulders and traffic may tend to shy away from work in the adjacent lane and onto the shoulders. Shoulder conditions should be monitored and repairs made as necessary if damage develops.

A quantity of milling and asphalt surface has been established and will be paid to mill and inlay the inside shoulder in the vicinity of the proposed lane shift necessary for construction of the Welcome Center on ramp extension.

The clear lane width will be 12 feet, (10' when work is in progress and 11' at Welcome Center ramp extension); however, make provisions for the passage of wide loads up to 16'. Use a lane closure all times when work is performed in the lane or adjacent shoulder. Shoulders used as temporary roadways will be inspected by the Engineer and if deemed necessary by the Engineer, repaired with asphalt mixture for leveling & wedging as directed prior to opening to traffic. Perform any maintenance of the shoulder as deemed necessary by the Engineer in order to maintain traffic. Remove failed materials and perform additional patching as directed by the Engineer prior to using the shoulder as a travel lane. Patch and remove any foreign debris on the shoulders as directed by the Engineer. No additional measurement or payment will be made for maintenance or repairs to shoulders used for temporary travel lanes and will be considered incidental to "Maintain and Control Traffic".

Project Phasing:

PHASE I

In this phase, construct the ramp extension for the Welcome Center on ramp. This work may be performed concurrently with other phases but must be completed prior to final asphalt surfacing.

Close the inside lane in the vicinity of the Welcome Center during times of allowable nighttime lane closures. Perform mill and inlay of the inside shoulder to eradicate the existing rumble strips. Place temporary striping to shift the inside lane of traffic partially onto the inside shoulder in accordance with the MOT plan sheets. Switch lane closures to open the inside lane and close the outside lane in the vicinity of the Welcome Center. Reconfigure striping to restrict the width of the Welcome Center on ramp and to place the lane taper for the outside lane. Complete these operations within one nighttime closure.

During times of allowable nighttime lane closures, erect temporary concrete barriers at the Welcome Center off ramp borrow site (if used) and at the Welcome Center ramp extension area in accordance with the MOT plan sheets.

Complete construction of the Welcome Center ramp extension through the final asphalt base course, shoulder wedging and guardrail installation. Remove barrier wall prior to placement of the final asphalt surfacing course. Work may be performed during daytime hours for this operation if conducted behind barrier wall and if material is obtained from the pre-approved off ramp borrow site. Construction traffic is to be introduced to the truck lane of the Welcome Center ramp by use of flaggers and is to egress from the Welcome Center ramp to the work area in a manner to not interfere with ramp use by the public. If a mainline lane closure is needed at any time during this phase, it must be in place only during times of allowable nighttime closures.

The contractor will be responsible for preparing a haul road and ramp to enter and to exit the Welcome Center facility ramps with construction equipment as approved by the engineer. A minimum of 100 feet in length of gravel surface will be provided and maintained at the contractor's expense to reduce tracking. The contractor will be responsible for removing temporary roads, restoring ditches and slopes to their original condition, and for repair of any damage caused by construction traffic to the Welcome Center shoulders, ramp or parking pavement. Construction of temporary roads, removal, restoration of ditches and slopes, and any pavement repair associated with ramp construction will be considered incidental to embankment in place.

If the contractor elects to use a different borrow site, the contractor must develop a detailed Maintenance of Traffic plan to be submitted along with the usual Borrow Site submittal. The engineer will review the site and the Maintenance of Traffic plan for approval. If lane closures are required for this work based on use of an alternate borrow site, this work must be performed by use of nighttime lane closures only.

PHASE IA

In this phase complete the cross slope correction through the leveling and wedging course using alternating lane closures during times of allowable nighttime closures. This phase may be performed concurrently with Phases IIA and IIB. Coordinate operations with and keep informed the Tennessee Department of Transportation.

During times of allowable nighttime lane closures, close the inside lane in the vicinity of the proposed cross slope correction. Mill the inside lane and inside shoulder to remove the existing surface. Place Leveling and Wedging material to the grades indicated on the cross slope correction cross sections, (minus the 1.5" final surfacing course thickness). Place temporary striping on inside lane edge lines. Provide a temporary vertical taper 50' in length with Leveling and Wedging to ramp traffic down from the ends of cross slope correction area to the proposed Leveling and Wedging course.

Alternate the lane closure, opening the inside lanes and closing the outside lanes in the proposed work area. Mill the outside lane and outside shoulder to remove the existing surface. Place Leveling and Wedging material to the grades indicated on the cross slope correction cross sections, (minus the 1.5" final surfacing course thickness). Place temporary striping and open both lanes of traffic. Provide a temporary vertical taper 50' in length with Leveling and Wedging to ramp traffic down from the ends of cross slope correction area to the proposed Leveling and Wedging course. This entire phase must be completed in one night shift during a period that nighttime lane closures are allowed.

PHASE IB

During times of allowable nighttime lane closures, close the outside lane in the vicinity of the proposed cross slope correction. Remove existing guardrail, wedge DGA shoulder, place asphalt seal coat and install new guardrail.

PHASE IIA

In this phase, close the inside lanes and complete Asphalt Base Repairs, Shoulder Slope Modifications, Perforated Pipe Inspection and Repairs, Storm Drainage Repairs located in or adjacent the mainline inside lanes. Complete Erosion Remedial Measures, Guardrail Repairs and all other items of work, located in or adjacent the mainline inside lanes, required prior to placement of the final surfacing.

Perform all work this phase using nighttime lane closures only. Complete all work at the end of each shift to a point that traffic may be restored to two-lanes per direction and restore traffic to two-lanes prior to the beginning of the time of daytime lane closure restriction. Remove lane closures and restore traffic to two lanes on the mainline for any period of time that no work will be performed requiring a lane closure.

PHASE IIB

In this phase, close the outside lanes and complete Asphalt Base Repairs, Shoulder Slope Modifications, Perforated Pipe Inspection and Repairs, and Pipe Extensions and/or Headwall Installations located in or adjacent the mainline outside lanes. Complete Erosion Remedial Measures, Paved Ditch Removal, Guardrail Repairs, Ditching and all other items of work, located in or adjacent the mainline outside lanes, required prior to placement of the final surfacing.

Perform all work this phase using nighttime lane closures only. Complete all work at the end of each shift to a point that traffic may be restored to two-lanes per direction and restore traffic to two-lanes prior to the beginning of the time of daytime lane closure restriction. Remove lane closures and restore traffic to two lanes on the mainline for any period of time that no work will be performed requiring a lane closure.

PHASE IIIA

Shift traffic to the outside lanes, closing the inside mainline lanes to traffic. Perform milling and place the 1.5 inch inlay on the inside lanes and inside shoulder and left sides of ramps.

Place DGA shoulder wedge where necessary to eliminate shoulder edge drop-offs and place asphalt seal coat in areas designated by the engineer.

Maintain 12' lane widths at all times except in local areas where the milling and paving operations are active. Maintain 10' lane widths for short durations in the vicinity of the paving operations and restore 12' lanes as soon as practical after milling and/or paving operations are complete in a local area.

PHASE IIIB

Shift traffic to the inside lanes, closing the outside mainline lanes to traffic. Perform milling and place the 1.5 inch inlay on the outside lanes and outside shoulder and on the right sides of ramps.

Place DGA shoulder wedge where necessary to eliminate shoulder edge drop-offs and place asphalt seal coat in areas designated by the engineer.

Maintain 12' lane widths at all times except in local areas where the milling and paving operations are active. Maintain 10' lane widths for short durations in the vicinity of the paving operations and restore 12' lanes as soon as practical after milling and/or paving operations are complete in a local area.

PHASE IV

Using alternating lane closures complete any remaining work including installation of final pavement markings, inlaid pavement markers, flexible delineators, shoulder rumble strips and final cleanup, etc.

NOTE on Asphalt Base Repair: Once the pavement in these areas has been removed, the contractor must work continuously until the pavement has been replaced even with the existing adjacent lane. The Engineer may restrict the number of locations being repaired at the same time. Traffic will be required to run on asphalt base repairs for a minimum of 14 days prior to placement of the final surfacing.

NOTE – WIDE LOADS: Make provisions for wide loads up to 16 feet wide to pass when necessary.

LANE CLOSURES

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". Lane closures must be installed on both inside lanes while work is being performed in the common median.

Remove lane closures and restore traffic to two lanes on the mainline for any period of time that no work will be performed requiring a lane closure.

Lane closures shall not exceed 4 miles in length.

Lane closures shall not be in place during times restricted in the "PROJECT PHASING AND CONSTRUCTION PROCEDURES" above except as described in this section:

No lane closures will be allowed during restricted holiday and event dates and times listed above except in case of a bona fide emergency as determined by the engineer.

Restrictions to lane closures have also been established for daily peak traffic hours that apply to each respective day of the week, applicable to every week, for the duration of this contract. These restrictions generally occur during daylight hours and will be referred to as "Daytime Lane Closures" for simplicity. Lane closures during off peak hours will be referred to as "Nighttime Lane Closures" for simplicity.

All work on this project requiring a lane closure except for placement of the final asphalt surfacing course must be performed by nighttime lane closure. A total of 16 daytime lane closures will be allowed to complete the final surfacing operations only of mainline, ramps and shoulders. Daytime lane closures will only be allowed from Monday through Thursday northbound and will only be allowed Monday through Wednesday southbound. Daytime lane closures will not be allowed during restricted holiday and events times listed above. A daytime closure will be counted for each lane closure in place. If multiple lane closures are in place, then multiple days will be counted. For example, if two lane closures are in place during daytime hours, two daytime lane closure days will be charged for that day. Any daytime lane closure that is in place during hours defined as daytime lane closures will be charged as a full day of daytime lane closure, regardless of the length of time the lane closure is in place. The contractor may choose the days and weeks to perform final surfacing during daytime lane closures providing they are not during restricted holiday dates and times listed and provided they are only during the days of the week specified as allowed.

If the contractor fails to complete final surfacing operations within the 16 days allowed, then uncompleted final surfacing items must be completed under nighttime lane closures.

Liquidated damages as specified in the Special Note for Project Completion and Liquidated Damages will be applied for all lane closures that are in place during prohibited hours and for all days in which the time allotted for daytime lane closures are exceeded.

SIGNS

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

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

A quantity of signs has been included for "Roadwork Ahead" signs on entrance ramps, extra double fine signs, keep left/keep right and speed limit signs between interchanges. These are to be paid for only once regardless of how many times they are moved or relocated.

FLASHING ARROWS

Flashing arrows will be paid for once, regardless of how many times they are moved or relocated. The Department **WILL NOT** take possession of the flashing arrows upon completion of the work.

BLASTING

No blasting will be allowed on the project. Removal of rock from borrow excavation or from other excavation shall be performed mechanically.

PORTABLE CHANGEABLE MESSAGE SIGNS

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

PAVEMENT MARKINGS

Remove or cover the lenses of pavement markers that do not conform to the traffic control scheme in use, or as directed by the Engineer. Replace or uncover lenses before a closed lane is reopened to traffic. No direct payment will be made for removing or covering and uncovering the lenses, but will be incidental to "Maintain and Control Traffic," lump sum.

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

1. Temporary striping will be 6" in width.
2. Edge lines will be required for temporary striping during the lane closures.
3. Existing, temporary, or permanent striping will be in place before a lane is opened to traffic

Should the Contractor change the existing striping pattern, the Contractor is to restripe the roadway back to its original configuration at his own expense if no work is anticipated for a period of time (i.e. Winter shutdown).

PAVEMENT EDGE DROP-OFFS

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

Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

Less than 2" – Protect with a lane closure.

2" to 4" – Protect with a lane closure. Place plastic drums, vertical panels, or barricades every 50 feet. Cones may not be used in place of plastic drums, panels, and barricades at any time. Construct a wedge with compacted cuttings from milling, trenching, or asphalt mixtures with a 3:1 or flatter slope, when work is not active in the drop-off area. Place Type III Barricades at the beginning of the lane closures, and place additional Type III Barricades spaced at 2,500 feet during the time the lane closure is in place.

Greater than 4" - Positive separation or Wedge with 3:1 or flatter slope required. If there is 8 feet or more distance between the edge of pavement and drop-off, bridge panels will be placed at 20 feet throughout the dropoff area. Also, barrels will be placed every 20 feet throughout the drop-off area. Payment for CSB or DGA used for wedging will be allowed.

Temporary Conditions, Asphalt Base Repair areas – In areas where pavement is to be removed, work should proceed continuously so that traffic is exposed to a drop-off for the minimum amount of time necessary to bring the pavement back up to existing grade. Barrel spacing should be 20 feet and appropriate lighting should be utilized to illuminate the area during nighttime operations. Place Type III Barricades immediately in advance of each Asphalt Base Repair location.

TRAFFIC COORDINATOR

Designate an employee to be traffic coordinator. The designated Traffic Coordinator must meet the requirements of section 112.03.12 of the Standard Specifications. The Traffic Coordinator will inspect the project maintenance of traffic once every two hours during the Contractor's operations and at any time a lane closure is in place. The Traffic Coordinator will report all incidents throughout the work zone to the Engineer on the project. The Contractor will furnish the name and telephone number where the Traffic Coordinator can be contacted at all times.

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

COORDINATION OF WORK

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

Coordinate with and keep the Tennessee Department of Transportation advised of any activities that may affect traffic near the Tennessee state line.

CONTRACTOR'S AND CONTRACTOR'S EMPLOYEES' VEHICLES

Do not use or allow employees to use median crossovers at any time. The Department will not allow use of median crossovers for contractor's vehicles by use of inside lane closures on this project. In all phases of construction, change vehicular direction of travel only at interchanges.

WIDE LOADS

Wide load detours will not be established on this project. Provide for passage of wide loads up to 16 feet. Wide loads may use a portion of the shoulder to allow for passage. Temporarily shift traffic drums to allow for passage of wide loads when necessary.

INCIDENT MANAGEMENT SYSTEM

See Special Note for Portable Queue Warning Alert System and See Special Note for Traffic Queue Protection Vehicle.

**I-75
Whitley County
NHPP 0751 (090)
FD52 118 0075 000-012
Item No. 11-20015
MP 0.000 TO MP 11.12**

**THIS PROJECT IS A FULLY
CONTROLLED ACCESS HIGHWAY**

I. DESCRIPTION

Perform all work in accordance with the Department's 2019 Standard Specifications, Supplemental Specifications, Applicable Special Provisions, and Applicable Standard and Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Maintain and Control Traffic; (2) Drainage structure work; (3) Asphalt Base Repairs (4) Guardrail Repairs (5) Edge Drain Repairs (6) Cross Slope Correction (7) Asphalt Pavement and Milling and Texturing; (8) Pavement Markers and Markings; (9) Erosion Repairs and Grading Slopes and (10) Ramp Extension Construction (11) All other work specified as part of this contract.

II. MATERIALS

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

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Pavement Markings -6 inch.** See Special Note for Grooved All Weather Pavement Markings.
- C. **Channel Lining Class II & III.** Channel lining will be limestone and is to be placed at pipe outlets, ditch repair and eroded locations as directed by the Engineer.

- D. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”
- E. **HMA Electronic Delivery Management System.** See “Special Note for HMA Electronic Delivery Management System”.
- F. **PVC Fold and Form Pipe Liner-Size.** See “Special Note for PVC Fold-and-Form Pipe Liner and “Special Note for Pipe Liner Acceptance Testing”.
- G. **Repair/Patch Wingwall.** See Detail.
- H. **Guardrail Posts.** Contrary to the Standard Drawings, use 7’ posts for all new guardrail posts to be installed on the project.

III. CONSTRUCTION METHODS

- A. **Maintain and Control Traffic.** See Traffic Control Plan. Use waterblasting methods only for striping removal when necessary in lieu of abrasive or other methods.
- B. **Site Preparation.** Be responsible for all site preparation. Do not disturb existing signs. This item will include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; shoulder preparation and restoration, temporary and permanent erosion and pollution control; and all incidentals. Site preparation will be only as approved or directed by the Engineer.
- C. **Disposal of Waste.** Dispose of all cuttings, debris, and other waste off the right-of-way at approved sites obtained by the Contractor. The contractor will be responsible for obtaining any necessary permits for this work. Temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads will not be allowed. No separate payment will be made for obtaining the necessary permits, but will be incidental to the other items of the work. Disposal of existing cuttings and brush shall adhere to Section 202 of the current Standard Specifications.
- D. **Final Dressing, Clean Up, and Seeding and Protection.** After all work is completed, completely remove all debris from the job site. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I and use erosion control blanket in lieu of “Seeding and Protection” in all seeding applications except use seeding and protection for permanent erosion control for ramp extension work. Install erosion control blanket in all ditching areas not receiving aggregate channel lining.

- E. **Guardrail.** Remove guardrail where necessary to perform erosion repairs, widening for ramp extension, cross slope revision, or other activities necessary requiring removal of guardrail for access. Replace guardrail as soon as practical at the conclusion of the work requiring the removal of the guardrail.

Except as noted, or as discovered in the field as necessary, only replace the damaged rail segments for three beam rail and reattach to the existing posts without replacement of posts. At least one post was found damaged and in need of replacement. For posts requiring replacement and/or patching of bridge plinth, patch the concrete with an approved patching material from the "List of Approved Materials" and either reattach an undamaged post or replace the post in like kind.

- F. **Pavement Striping and Inlaid Pavement Markers.** Permanent striping will be in accordance with Section 112 for temporary striping, and Section 714 for Thermoplastic Markings and Special Note for Grooved All Weather Pavement Markings, except that:

- (1). Striping will be 6" in width.
- (2). Permanent striping or temporary striping will be in place before a lane is opened to traffic.
- (3). Permanent Pavement Markers shall be installed per Standard Drawings TPM-105-03 (Arrangement C), TPM-125-03, TPM-135-03.
- (4). Type 4A temporary pavement markers are to be used on the skip line for the long duration temporary lane shift for the Welcome Center on ramp extension work.

- G. **On-Site Inspection.** In accordance with section 102.06, each Contractor submitting a bid for this work will make a thorough inspection of the site prior to submitting a bid and will thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

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

- I. **Utility Clearance.** It is not anticipated that 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.

ATTENTION: Existing utilities depicted in the vicinity of the Welcome Center are based on limited visual evidence and supplemented by as-built plans whose accuracy cannot be verified. The contractor is responsible to obtain an accurate location of all utilities prior to beginning excavation operations and take all precautions to not damage any existing utilities. The contractor will be responsible for any resulting damage to any utilities and responsible for repairs at his own expense.

- J. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”.
- K. **Crushed Aggregate No. 2.** Crushed Aggregate No. 2 will be used for slope protection at shoulder erosion repair areas, stabilization of the wingwall of the culvert at MP 3.14, and for border areas of perforated pipe headwalls.
- L. **Remove Paved Ditch.** As individually approved by the engineer, paved ditches that are required to be removed due to failure or damage, may be broken into fragments no greater than 1 foot diameter and reshaped and allowed to remain in place. The ditches must be regraded, filling any voids, and the broken concrete used in the same manner as channel lining. The broken concrete will be supplemented by a 1 – 2 feet thick application of Channel Lining Class III as directed by the engineer.
- M. **Asphalt Base Repairs.** See Asphalt Base Repair Detail. It is anticipated that failures may develop over the winter months and prior to final asphalt surfacing on the project. A quantity of milling and texturing and asphalt base has been established to be used at the direction of the engineer to address these potential failures and will be identified for repairs by the engineer prior to placement of the final asphalt surface course.
- N. **HMA Electronic Delivery Management System.** See “Special Note for HMA Electronic Delivery Management System”.
- O. **PVC Fold and Form Pipe Liner-Size.** See “Special Note for PVC Fold-and-Form Pipe Liner and “Special Note for Pipe Liner Acceptance Testing”.
- P. **Repair/Patch Wingwall.** See Detail.
- Q. **Asphalt Pave Milling & Texturing.** Remove the entire existing surface course thickness prior to placement of final asphalt surfacing. The proposed milling thickness was calculated based on an average 2” thickness to ensure adequate quantity of milling and texturing is available to remove the existing surface course. Continually monitor and adjust milling depths to only remove the existing surface course. It is not intended to mill more than 1 ½” depth unless it is necessary to remove the existing surface course.

IV. METHOD OF MEASUREMENT

- A. **Maintain and Control Traffic.** See Traffic Control Plan. Only the bid items listed will be measured for payment. No measurement or payment for striping removal or removal or covering of existing pavement marker lenses will be made and will be considered incidental to “Maintain and Control Traffic”. Maintenance and repairs of damages to shoulders used as temporary travel lanes caused by the application of traffic, will be considered incidental to “Maintain and Control Traffic” with no separate measurement or payment.
- B. **Site Preparation.** Other than the bid items listed, site preparation will not be measured for payment, but will be incidental to the other items of work.
- C. **Erosion Control.** Erosion control items will be measured and paid in accordance with the Standard Specifications for Road and Bridge Construction. No direct measurement for seeding in locations that erosion control blanket is used will be made as the seeding is incidental to the erosion control blanket in accordance with the specifications.
- D. **Remove Existing Paved Ditch.** Removal of paved ditches will be measured by the square yard and will include the measured quantity that are broken, reshaped, supplemented by channel lining and allowed to remain on the project as approved by the engineer
- E. **Joint Adhesive.** See “Special Note for Longitudinal Pavement Joint Adhesive”.
- F. **Pavement Markers Removal.** No direct payment will be made for the removal of the existing pavement markers prior to the milling operation and shall be considered incidental to milling and texturing.
- G. **HMA Electronic Delivery Management System.** See “Special Note for HMA Electronic Delivery Management System”.
- H. **PVC Fold and Form Pipe Liner-Size.** See “Special Note for PVC Fold-and-Form Pipe Liner and “Special Note for Pipe Liner Acceptance Testing”.
- I. **Wet Reflective Striping.** See “Special Note for Grooved All Weather Pavement Markings”.
- J. **Temporary Striping.** No direct measurement or payment will be made for temporary striping placed on final asphalt surface courses if used as an interim marking and prior to placement of the final pavement markings.
- K. **Pave Mark Thermo Chevron.** Thermo Chevrons will be measured by the area of the actual painted area, and not the total area of the island or gore to be treated.
- L. **Repair/Patch Wingwall.** See Detail.

V. BASIS OF PAYMENT

No direct payment will be made other than for the bid items listed. All other items required to complete the construction will be incidental to the bid items listed. Existing signs damaged by the Contractor will be replaced by the Contractor at his expense. Payment will be made in accordance with the KYTC Standard Specifications, current edition with supplemental specifications and current Standard Drawings unless otherwise specified herein.

- A. **Maintain and Control Traffic.** See Traffic Control Plan.
- B. **Site Preparation.** Other than the bid items listed, no direct payment will be allowed for site preparation, but will be incidental to the other items of work.
- C. **Pavement Marker Removal.** No direct payment will be made for the removal of the existing pavement markers prior to the milling operation and shall be considered incidental to milling and texturing.
- D. **Lane Closures.** Contrary to Section 112, lane closures will not be measured for payment but will be incidental to the bid item "Maintain and Control Traffic". Arrow boards, portable message boards, and signs shall be paid for one time regardless of how many times they are moved.
- E. **Ditching and Shouldering.** In accordance with Section 209 of the Standard Specifications, the bid item "Ditching and shouldering" includes ditching on both sides of the roadway and the median for the entire length of the project. Cleaning of all drainage structures, including perforated pipe headwalls and pipe structures 36 inches in diameter or less is also included in this bid item. In addition to Section 209.04.06 shouldering shall include all materials required to complete the shoulder repairs as shown in the shoulder repair detail except the bid items listed for payment on the shoulder repair detail. Approximate locations for this repair is shown on the shoulder repair detail.
- F. **Remove Existing Paved Ditch.** The removal of the existing paved ditch shall be paid for as "square yards" and shall include the breaking and reshaping of the existing concrete in preparation for installation of the Class III Channel Lining.
- G. **Waterblasting Striping Removal.** Waterblasting Striping Removal will be required for all striping removal applications and will be considered incidental to "Maintain and Control Traffic".
- H. **Joint Adhesive.** See "Special Note for Longitudinal Pavement Joint Adhesive"
- I. **Fabric-Geotextile Class 2.** No direct measurement or payment will be made for Fabric-Geotextile Class 2 used in conjunction with the placement of channel lining in channel lined ditches. All other applications of Fabric-Geotextile Class 2 will be measured and paid in accordance with the Standard Specifications.

- J. **Asphalt Base Repair.** See Asphalt Base Repair detail.
- K. **HMA Electronic Delivery Management System.** See “Special Note for HMA Electronic Delivery Management System”.
- L. **PVC Fold and Form Pipe Liner-Size.** See “Special Note for PVC Fold-and-Form Pipe Liner and “Special Note for Pipe Liner Acceptance Testing”.
- M. **Inspect and Certify Edge Drain System.** One payment for “Inspect and Certify Edge Drain System” will include both the initial camera inspection of the entire existing system which is required to identify damaged and nonfunctional areas in the existing system requiring replacement, and also includes the second inspection required for certification of the newly installed replacement areas.
- N. **Wet Reflective Striping.** See “Special Note for Grooved All Weather Pavement Markings”.
- O. **Temporary Striping.** No direct measurement or payment will be made for temporary striping placed on final asphalt surface courses if used as an interim marking and prior to placement of the final pavement markings.
- P. **Repair/Patch Wingwall.** See Detail.
- Q. **Guardrail Thrie Beam.** Payment will be full compensation for furnishing and installing new rail components, patching any bridge concrete as necessary to reattach posts or install new posts, furnishing and installing new posts where damaged.
- R. **Roadway Excavation, Borrow Excavation and Embankment in Place.** Earthwork required for the Welcome Center ramp extension will be paid as the design quantity of “Embankment in Place” plus or minus any authorized adjustments. No direct payment will be made for the items “Roadway Excavation” or “Borrow Excavation”. All excavation and borrow necessary to complete the work will be considered incidental to “Embankment in Place”. Excavation or embankment necessary to complete all other items or work except the Welcome Center ramp extension, such as excavating or dressing slopes around culverts and headwalls will be considered incidental to the item of work.
- S. **Clearing and Grubbing.** Only the clearing required for the Welcome Center ramp extension will be considered for payment. All other clearing will be considered “site preparation” and will be considered incidental to other items of work.

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Whitley County
NHPP 0751 (090)
FD52 118 0075 000-012
Item No. 11-20015
MP 0.000 TO MP 11.12**

This project is intended to provide a thin mill and inlay to provide a new mainline riding surface through the length of the project. Mainline pavement will be milled and inlaid and will include mill and inlay of the entire width of both shoulders.

1. The dimensions shown on the typical section for pavement and shoulder widths and thickness are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened unless otherwise specified in the Proposal.
2. The contractor is to be advised of the locations of overhead utility wires on the project. The following locations are approximate:

| | |
|-----------|------------|
| Mile 1.07 | Mile 9.08 |
| Mile 3.19 | Mile 10.01 |
| Mile 6.43 | Mile 10.69 |
| Mile 6.46 | Mile 11.23 |
| Mile 7.98 | Mile 11.33 |

CAUTION: Other overhead utility locations may exist. These and all other utilities should be avoided on this project. If any utility is impacted, it will be the contractor's responsibility to contact the affected utility and cover any costs associated with the impact.

3. The contractor is advised that the planned locations of work established by milepoints are referenced from the Kentucky Transportation Cabinet's Official Route Log. The existing reference markers may not correspond to the established work locations.
4. Quantities of guardrail removal and installation of new guardrail have been established for areas requiring removal for access for shoulder erosion repair work, cross slope repair, etc. The contractor will place traffic drums on 20' spacing in the areas and pin down exposed blunt ends until such time that guardrail is re-established. Either a lane closure or shoulder closure shall be in place at any time that a section of guardrail is not in place. If the contractor chooses to remove guardrail for access to other areas of work, such as drainage structure work, etc., removal and reinstallation of guardrail for those access points will be at the contractor's expense and all temporary measures required for removal and replacement will be met.

5. The Contractor shall deliver existing salvaged guardrail system materials to the Central Sign Shop and Recycle center at 1224 Wilkinson Blvd in Frankfort, KY. Contact Section Supervisor at (502) 564-8187 to schedule the delivery of material. Deliver the material between the hours of 8:00AM and 3:30PM, Monday through Friday. There is a Guardrail Delivery Verification Sheet which must be completed and signed by the Contractor, Engineer and a representative of the Central Sign Shop and Recycle Center. A copy of this sheet is included elsewhere in the proposal.
6. Flexible Delineators shall meet the requirements of Section 830 and 838 of the Standard Specifications, and be placed in accordance with Section 3D of the M.U.T.C.D., current edition and current Standard Drawing.
7. This project requires the use of a Material Transfer Vehicle. In accordance with Section A of 403.03.05.
8. The speed limit on the project will be reduced to 55 mph while lane closures are in place. Any time work is suspended (i.e. winter shutdown) the speed limit will revert back to 70 mph. Also, double fine signs are set up in the project to be installed while workers are present in the work zone.
9. Areas throughout the project have slopes that are eroding significantly. These areas shall be repaired in accordance with the "Slope Repair Detail" as shown elsewhere in the proposal. The repair locations listed may be lengthened, shortened, or eliminated by the Engineer. Locations and quantities for this item of work is shown on the "Slope Repair Detail".
10. The existing paved median U-turns within the project limits will be resurfaced.
11. The contractor will **NOT** be allowed to access median U-turns and cross the median. All contractor equipment turn arounds must be made at the nearest interchange.
12. Quantities of Channel Lining Class III have been included to be used in eroded areas around pipe inlet/outlets or in ditches to be repaired as directed and/or approved by the Engineer. The actual limits of the channel lining will be as directed and/or approved by the Engineer. Geotextile Fabric Class 2, as outlined in Section 214 of the Standard Specifications, will not be measured for payment and will be considered incidental to channel lining.

13. The contractor is to take care not to damage any existing roadway signs. Any roadway signs that are damaged during construction are to be replaced at the contractor's expense in accordance with section 105.08 of the standard specifications. Any signs encountered that requires removal to perform the work must be stored in a covered building, protected from damage and reinstalled after completion of the work. Removal and re-installation of the signs will be considered incidental to other items of work.
14. The cleaning of existing pipe culvert inlets and outlets 36 inches or less in diameter are incidental to the bid item for "Ditching and Shouldering" in accordance with Section 209 of the 2019 Edition of the Standard Specifications for Road and Bridge Construction. This includes the cleaning of existing perforated pipe headwalls. Cleaning of all drainage structures and perforated pipe headwalls will be required whether or not they are identified on the plan sheets. Locations of existing drainage structures and perforated pipe headwalls are for informational purposes only and are not to be considered to consist of all possible structures. Reinstall any existing grates that are present but not in place on the drainage structure, incidental to "Ditching and Shouldering". A quantity of "Replace Grate" has been established to replace damaged grates or install new grates where missing. Confirm the type of grate needed prior to ordering materials.
15. Areas established as asphalt base repair locations will be repaired as directed by the Engineer. After the contractor has closed the roadway the Engineer will mark the areas to be repaired. The engineer reserves the right to increase, decrease, or eliminate this item of work based on the field conditions encountered.
16. Any excavation, embankment and backfill for the culvert pipe installation and headwall installation is incidental to the respective bid item. The contractor may borrow soil at the local installation area if available, provided final dressing and seeding of all disturbance is performed.
17. A quantity of remove pipe has been estimated for removal and replacement of small drainage structures. Remove only the amount needed for the repair. Replace pipe with the same materials as the existing pipe to be connected. Use metal bands for corrugated metal pipe tie-ins and remove concrete pipe to the nearest bell or spigot and bell up the new section if possible. If pipe cannot be connected by belling or by pipe bands, the contractor may seal the connection area and place a concrete collar with a minimum 12 inch thickness in any direction at his own expense. Verify size, length and type of pipe prior to ordering precast small drainage structures and replacement pipe.

18. A quantity of "Remove Fence" and "Fence-Woven Wire Type 1" has been established to remove the right of way fence where outlet ditching is needed beyond the right of way limits. KYTC will attempt to obtain a consent and release for any area that is outside the existing right of way or easement for the purposes of ditching. These potential ditching locations will be considered part of, and incidental to, "Ditching and Shouldering". All work on the project must be performed on existing right of way or easement or must be covered by a consent and release. These fencing quantities are to be used only as directed by the engineer.
19. Quantities of Asphalt Seal Coat and Seal Aggregate, and DGA base have been established to wedge and eliminate greater than 1 inch drop offs. Due to the inconsistent nature of the slopes outside the paved shoulder, and due to the existence of existing guardrail, application of asphalt seal coat will not be practical in all locations. The intent is to provide a DGA wedge to eliminate dropoff situations and to re-establish the typical stone shoulder width where needed and where practical to do so.
20. Coordinate activities of any adjacent contracts with this contract. The engineer will decide the relative priority concerning phasing and maintenance of traffic when conflicts arise with projects in close proximity with this project.
21. There are quantities of perforated pipe headwalls, perforated and non-perforated pipe, remove and reset perforated pipe headwalls, and #2 crushed aggregate established to remove and replace some of the existing edge drain system. The bid item "Remove and Reset Perforated Pipe Headwalls" will be full compensation to remove the existing headwall, cleaning the headwall of debris, install a new rodent screen, and reinstall the headwall at a 4% slope to insure positive outflow. The existing pipe and headwalls to be removed and replaced instead of removed and reset shall become the property of the contractor and be disposed off the project. Outlet pipes and headwalls are to be located where existing perforated pipe headwalls occur in the field if practical. Some headwalls were not discovered during the initial survey. The contractor shall space outfall pipes and headwalls per notes on the edge drain detail. Removal and disposal of existing perforated pipe outlets is incidental to other items of work. There are quantities of Crushed Aggregate Size No. 2 to be utilized in accordance with standard drawing RDP-010-09 around the headwall for both new headwalls and re-installed headwalls.
22. The existing edge drain system is to be preserved except in areas designated or during the inspection determined to be removed and replaced. Any part of the edge drain system damaged during other construction activities will be replaced at the contractor's expense. The Contractor will clean existing perforated pipe headwalls and replace rodent screens as part of the bid items "Ditching and Shouldering".

23. Perforated pipe headwall types are to be field verified prior to ordering. Class 4 Asphalt Base 1.0D PG76-22 shall be used in the trench cap to bring the top of trench elevation back to the original grade prior to milling and resurfacing (See Typical Section). Quantities for the asphalt cap have been included in the summaries.
24. See detail sheets for repairs to culverts located at MP 3.14, and at MP 8.84.
25. See plan sheets, MOT plan sheets, and maintenance of traffic plan for extension of the Welcome Center on ramp. Coordinate work with the Welcome Center to ensure no interruption in services. Contact Paul Nicholson at 606-598-2145.

A proposed borrow site adjacent the Welcome Center off ramp has been identified and cross sections provided. The contractor may elect to propose an alternate site for review and approval of the engineer. See the maintenance of traffic plan for MOT requirements.

26. Protect and avoid any signalization and lighting equipment within the project limits. The contractor will be responsible for the cost of any repairs necessary caused by the contractor's operations.
27. See planning loop summary and details for replacement of planning equipment.
28. See proposed cross sections for cross slope revision at approximate MP 0 to MP 0.12. The contractor will be required to submit as-built elevations to verify the cross slope of the final surface course is in substantial conformance with the proposed cross sections. Submittal of as-built elevations will be considered incidental to staking.

A profile elevation has been provided on the cross sections at 30' from centerline, which is to be considered the "Grade Point". Superelevation rotation is to be performed from the "Grade Point". The elevations were developed from a spline grade.

29. A small void has developed near the median side wing of the south end of the northbound bridge abutment at approximate MP 1.3. Excavate approximately 3 feet deep at the void and place compacted soil back into the hole to seal off and eliminate surface runoff from entering. This item will be considered incidental to the item "Ditching and Shouldering".

REFERENCES

1. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019.
2. FHWA Manual on Uniform Traffic Control Devices – 2009 Edition.
3. Kentucky Department of Highways Standard Drawings, Current Edition, as applicable:
 - RBE-100-11 CRASH CUSHION TYPE VI
 - RBI-001-12 TYPICAL GUARDRAIL INSTALLATIONS
 - RBI-002-07 TYPICAL GUARDRAIL INSTALLATIONS
 - RBI-005-08 GUARDRAIL INSTALLATION AT BRIDGE COLUMNS
 - RBR-001-13 STEEL BEAM GUARDRAIL (“W” BEAM)
 - RBR-005-11 GUARDRAIL COMPONENTS
 - RBR-010-06 GUARDRAIL TERMINAL SECTIONS
 - RBR-015-06 STEEL GUARDRAIL POSTS
 - RBR-018 GUARDRAIL SYSTEM TRANSITION
 - RBR-055-01 DELINEATORS FOR GUARDRAIL
 - RBR-060 DELINEATORS AT NARROW SHOULDER BRIDGES
 - RBR-100-07 STEEL BEAM GUARDRAIL (THRIE BEAM)
 - RDB-005-09 DROP BOX INLET TYPE 5A-5B-5C-5D-5E & 5F
 - RDB-101-05 GRATES FOR SLOPED BOX OUTLET TYPE 1
 - RDB-106-05 GRATES FOR SLOPED AND FLARED BOX INLET-OUTLET
 - RDD-040-05 CHANNEL LINING CLASS II AND III
 - RDH-020-03 SLOPED AND FLARED HEADWALLS FOR 12” TO 27” PIPE
 - RDH-110-02 PIPE CULVERT HEADWALLS 0 DEGREE SKEW
 - RDH-210-03 DIMENSIONS & QUANTITIES 30” – 108” HEADWALLS CIRCULAR PIPE 0 DEGREE SKEW
 - RDI-001-010 CULVERT, ENTRANCE AND STORM SEWER PIPE TYPES AND COVER HEIGHTS
 - RDI-002-05 CULVERT AND STORM PIPE TYPES AND COVER HEIGHTS
 - RDI-020-10 PIPE BEDDING FOR CULVERTS ENTRANCE AND STORM SEWER PIPE
 - RDI-021-01 PIPE BEDDING FOR CULVERTS, ENTRANCE, AND STORM SEWER REINFORCED CONCRETE PIPE
 - RDI-025-06 PIPE BEDDING TRENCH CONDITION
 - RDI-026-01 PIPE BEDDING TRENCH CONDITION REINFORCED CONC. PIPE
 - RDI-035-02 COATING, LININGS AND PAVINGS FOR NON-STRUCTURAL PLATE PIPE
 - RDI-040-01 EROSION CONTROL BLANKET SLOPE INSTALLATION
 - RDI-041-01 EROSION CONTROL BLANKET CHANNEL INSTALLATION
 - RDP-001-06 PERFORATED PIPE TYPES AND COVER HEIGHTS
 - RDP-010-09 PERFORATED PIPE HEADWALLS
 - RDX-002-04 JUNCTION BOX
 - RDX-060-04 INTERMEDIATE AND END ANCHORS FOR CIRCULAR PIPE
 - RDX-160-06 SECURITY DEVICES FOR FRAMES, GRATES AND LIDS
 - RDX-210-03 TEMPORARY SILT FENCE
 - RDX-220-05 SILT TRAP - TYPE A
 - RDX-225-01 SILT TRAP - TYPE B
 - RDX-230-01 SILT TRAP - TYPE C
 - RFW-005-08 WOVEN WIRE FENCE TYPE 1

| | |
|------------|---|
| RGS-002-06 | SUPERELEVATION FOR MULTI-LANE PAVEMENT |
| RGX-001-06 | MISCELLANEOUS STANDARDS |
| RGX-010-04 | TYPICAL EMBANKMENT FOUNDATION BENCHES |
| TPM-105-03 | PAVEMENT MARKER ARRANGEMENTS MULTI-LANE ROADWAYS |
| TPM-125-03 | PAVEMENT MARKER ARRANGEMENT EXIT GORE AND OFF RAMP |
| TPM-135-03 | PAVEMENT MARKER ARRANGEMENT ON-RAMP WITH PARALLEL ACCELERATION LANE |
| TPM-170-01 | FLEXIBLE DELINEATOR POST ARRANGEMENTS FOR HORIZONTAL CURVES |
| TPM-171-01 | FLEXIBLE DELINEATOR POST ARRANGEMENTS FOR INTERCHANGE RAMPS AND CROSSOVERS |
| TPM-200 | TYPICAL ENTRANCE RAMP MARKINGS FOR INTERSTATES AND PARKWAYS |
| TPM-201 | TYPICAL EXIT RAMP MARKINGS FOR INTERSTATES AND PARKWAYS |
| TPM-204 | TYPICAL MARKINGS FOR GORE AREAS |
| TPR-130 | RUMBLE STRIP DETAILS MULTI-LANE ROADWAYS |
| TTC-115-04 | LANE CLOSURE MULTI-LANE HIGHWAY CASE I |
| TTC-135-03 | SHOULDER CLOSURE |
| TTC-155-02 | TEMPORARY PAVEMENT MARKER ARRANGEMENTS FOR CONSTRUCTION ZONES |
| TTD-120-03 | DOUBLE FINES ZONE SIGN |
| TTD-125-03 | PAVEMENT CONDITION WARNING SIGNS |
| TTD-130 | SPEED ZONE SIGNING FOR WORK ZONES |
| TTS-110-02 | MOBILE OPERATION FOR PAINT STRIPING CASE III |
| TTS-115-02 | MOBILE OPERATION FOR PAINT STRIPING CASE IV |
| TTS-120-02 | MOBILE OPERATION FOR DURABLE STRIPING CASE 1 |

4. Kentucky Transportation Cabinet, Department of Highways, Standard Specifications for Road and Bridge Construction, Edition of 2019, Including - Supplemental Specifications, as applicable:

| | |
|--------------|---|
| Special Note | Typical Section Dimensions <i>attached</i> |
| Special Note | Portable Changeable Message Signs <i>attached</i> |
| Special Note | Before You Dig <i>attached</i> |
| Special Note | Fixed Completion Date and Liquidated Damages <i>attached</i> |
| General Note | Asphalt Pavement Ride Quality (Cat A) <i>attached</i> |
| General Note | Compaction of Asphalt Mixtures (Option A) <i>attached</i> |
| Special Note | Asphalt Milling and Texturing <i>attached</i> |
| Special Note | Special Note for Significant Project <i>attached</i> |
| Special Note | Guardrail Delivery Verification Sheet <i>attached</i> |
| Special Note | Special Note for Longitudinal Pavement Joint Adhesive <i>attached</i> |
| Special Note | Special Note for HMA Electronic Delivery Management System (HMA e-Ticketing) <i>attached</i> |
| Special Note | Special Note for Experimental KYCT and Hamburg Testing <i>attached</i> |
| Special Note | Special Note for Pipe Liner Acceptance Testing <i>attached</i> |
| Special Note | Special Note for PVC Fold-and-Form Pipe Liner <i>attached</i> |
| Special Note | Special Note for Portable Queue Warning Alert System <i>attached</i> |
| Special Note | Special Note for Traffic Queue Protection Vehicle <i>attached</i> |
| Special Note | Special Note for Grooved All Weather Pavement Markings |

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS
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The dimensions shown on the typical sections for pavement and shoulder widths are nominal or typical dimensions. The actual dimensions to be constructed may be varied to fit existing conditions as directed or approved by the Engineer. It is not intended that existing pavement or shoulders be widened or narrowed **EXCEPT** where specified elsewhere in the Proposal.

SPECIAL NOTE FOR BEFORE YOU DIG

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Call 1-800-752-6007 toll free a minimum of two and no more than ten business days prior to excavation for information on the location of existing under-ground utilities which subscribe to the before-u-dig (BUD) service. Coordinate excavation with all utility owners, including those who do not subscribe to BUD.

Special Note for Fixed Completion Date and

Liquidated Damages

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Liquidated Damages in the amount specified in the Standard Specifications, per calendar day, will be assessed for each day work remains incomplete beyond the Specified Project Completion Date. This project has a Fixed Project Completion Date of September 15, 2021.

Additionally, Liquidated Damages will be charged for each hour that a lane closure is in place during times restricted in the Maintenance of Traffic plan. A penalty of \$500 per hour, per lane closure, will be assessed for the first hour, or portion of an hour, that traffic is reduced to one lane during times prohibited in the Maintenance of Traffic plan. A penalty of \$1,000 per hour, per lane closure, will be assessed for the second hour, or portion of an hour, and any successive hours that traffic is reduced to one lane during times prohibited in the Maintenance of Traffic plan.

See the Maintenance of Traffic plan for details on times and dates that lane closures are prohibited.

All penalties or Liquidated Damages will be assessed cumulatively and charged concurrently when applicable.

Also contrary to Section 108, liquidated damages will be charged during the months of December through March.

**SPECIAL NOTE FOR
ASPHALT MILLING AND TEXTURING
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ITEM NO. 11-20015**

Do not allow public traffic to drive on the milled surface.

The Contractor will take possession and dispose of the millings at a location off the right of way except for quantities of millings to be retained by the Department.

At no additional expense to the Department, the contractor will be required to deliver 10,000 tons of millings to the Whitley County Maintenance Facility, 0.3 miles south of KY 92 on US25W, Williamsburg, KY, Phone (606)549-1870.

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

**SPECIAL NOTE FOR HMA ELECTRONIC DELIVERY MANAGEMENT
SYSTEM
(HMA e-Ticketing)**

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. Incorporate a GPS Fleet Management System for all HMA delivered to the project in order to monitor, track, and report loads of HMA during the construction processes from the point of measurement and loading to the point of incorporation to the project.

2.0 MATERIALS AND EQUIPMENT. Submit to the Engineer for approval, no fewer than 30 days prior to HMA placement activities, a GPS fleet management system supplier that can provide a qualified representative for on-site technical assistance during the initial setup, pre-construction verifications, and data management and processing as needed during the Project to maintain equipment.

Provide operator settings, user manuals, training videos, and required viewing/export software for review. Provide equipment that will meet the following:

1. A wireless fleet management or GPS device that is capable of tracking all delivery trucks (both company-owned and third-party) must be installed on all trucks and equipment (dump trucks, belly dumps, side-load dumps, transfer vehicles, pavers, or any other trucks/vehicles) used to transfer and incorporate HMA into the project. KYTC personnel shall have the ability to access Real Time monitoring through the use of a mobile device such as an iPad, smartphone, etc.
2. The fleet management system shall be fully integrated with the Contractor's Load Read-Out scale system at the HMA plant site.
3. The fleet management system shall have the ability to measure and track vehicles and their contents (weights and material types) continuously from the plant site to the project site. The system shall have internal battery backup capabilities due to loss of power, and have the ability to store data if GPS connectivity is lost and transmit that same data when unit re-establishes connectivity. To be considered continuous, no two data points shall be more than 60 seconds apart unless the vehicle is stopped. Duration of stop time for any reason shall be recorded.

3.0 CONSTRUCTION. Provide the Engineer with the manufacturer's specifications and all required documentation for data access at the pre-construction conference.

A. Construction Requirements

1. Install and operate equipment in accordance with the manufacturer's specifications.
2. Verify the GPS is working within the requirements of this Special Note.

B. Data Deliverables

Provide to the Engineer a means in which to gather report summaries by way of iOS apps, web pages, or any other method at the disposal of the Engineer. The Engineer may request data at any time during paving operations.

1. Real-time Continuous Data Items

Provide the Engineer access to a GIS map-based data viewer which displays the following information in real-time with a web-based system compatible with iOS and Windows environments.

- Each Truck
 - Unique Truck ID
 - Truck status
 - Time At Source
 - Time At Destination
 - Time At Paver
 - Time At Scale
 - Time to and from plant/job
 - Time Stopped with Engine Running
 - Time of last transmission
 - Location (Latitude and Longitude in decimal degrees to nearest 0.0000001) every 60 seconds
 - Description of Material being transported (i.e. asphalt base, asphalt surface)
 - Mix Design Number
 - Net Weight of material being transported to the nearest 0.01 ton
 - Running Daily Total of Net Weight of material being transported to nearest 0.01 ton.
 - Project Number

- Scale Location
- Project Location
- Point of Delivery (i.e. paver)

2. Daily Summary

The following summary information shall be provided to the Engineer electronically within 4 hours of beginning operations on the next working day

- For each Material
 - List of Individual Loads
 - Contractor Name
 - Project Number
 - Unique Truck ID
 - Net Weight For Payment (nearest 0.01 tons)
 - Date
 - Mix Temperature at Time of Loading, Fahrenheit (to be key entered by plant)
 - Time Loaded
 - Time Unloaded
 - Delivery Location (Latitude/Longitude in decimal degrees to nearest 0.0000001)
- For each Bid Item
 - Total Quantity for Payment (nearest 0.01 tons)

4.0 MEASUREMENT. The Department will measure the HMA electronic delivery management system as a lump sum item.

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

1. Payment is full compensation for all work associated with providing all required equipment, training, and documentation.
2. Delays due to GPS satellite reception of signals or equipment breakdowns will not be considered justification for contract modifications or contract extensions.
3. Payment will be full compensation for costs related to providing the GPS system, including all equipped pavers and transfer vehicles, integration with plant load-out systems, and any software required for the construction and reporting process. All quality control procedures including the GPS systems representative's technical support and on-site training shall be included in the Contract lump sum price.

| <u>Code</u> | <u>Pay Item</u> | <u>Pay Unit</u> |
|-------------|---|-----------------|
| 24986EC | HMA ELECTRONIC DELIVERY MANAGEMENT SYSTEM | LS |

SPECIAL NOTE FOR EXPERIMENTAL KYCT AND HAMBURG TESTING

1.0 General

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

2.0 Equipment

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

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

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

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

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

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

3.0 Testing Requirements

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

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

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

3.2.2 Number of Specimens and Conditioning. Fabricate specimens in accordance with the Kentucky Method for KYCT Index Testing. Contrary to the method, fabricate a minimum of 3 and up to 6 test specimens. The specimens shall be compacted at the temperature in accordance to KM 64-411. KYCT mix design specimens shall be short-term conditioned for four hours at compaction temperature in accordance to KM 64-411. Contrary to the Kentucky Method, plant produced bituminous material shall be short-term conditioned immediately after sampling for two hours at compaction temperature in accordance to KM 64-411. Additionally, fabricated specimens shall be allowed to cool in air (fan is permissible) for 30 minutes +/- 5 minutes and conditioned in a 77 °F water bath for 30 minutes +/- 5 minutes. To insure confidence and reliability of the test results provided by KYCT testing and Hamburg testing, reheating of the asphalt mixture is prohibited.

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

3.2.4 File Name. As according to section 7.12 of The Kentucky Method for KYCT Index Testing, save the filename with the following format; "CID_Approved Mix Number_Lot Number_Sublot Number_Date"

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

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

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

3.3.3 File Name. Save the Excel spreadsheet with the following file name; “Hamburg_CID_Approved Mix Number_Lot Number_Sublot Number_Date” and upload the file into the AMAW.

4.0 Data

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

5.0 KYCT Video Demonstration

<https://www.youtube.com/watch?v=84j0bM45-hg&feature=youtu.be>

6.0 Payment

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

June 3, 2019

June 1, 2017

SPECIAL NOTE FOR PVC FOLD-AND-FORM PIPE LINER

I. GENERAL

A. SUMMARY

1. Section Includes: Definition of the approved methods and materials to rehabilitate gravity pipelines by the insertion of a continuously extruded, folded, PVC Fold-and-Form Pipe Liner into a conduit (host pipe), and the “blow-molding” (thermoforming) of the pipe liner to conform to the shape of the existing pipe. The pipe liner shall:

- a) Extend continuously from one access point to the next access point with no joints.
- b) Provide a tightly conforming fit against the inner wall of the host pipe.
- c) Definitions:
 - (1) PVC Fold-and-Form Pipe Liner: A continuously extruded (joint-less), polyvinyl chloride (PVC) Pipe Liner that is shaped into a reduced form to facilitate insertion into existing pipelines or conduits. The Pipe Liner shall return to its extruded, round memory upon application of heat and pressure and form tightly against the host pipe by “blow molding” (thermoforming) techniques.
 - (2) Host Pipe: An existing gravity pipeline or conduit to be internally rehabilitated by installation of the PVC Fold-and-Form Pipe Liner.

B. REFERENCES

1. Codes and standards referred to in this Special Note are:
 - a) ASTM D 256: Standard Test Methods for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
 - b) ASTM D 638: Standard Test Method for Tensile Properties of Plastics
 - c) ASTM D 790: Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics
 - d) ASTM D 1784: Standard Specification for Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds
 - e) ASTM D 2122: Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
 - f) ASTM D 2152: Standard Test Method for Extrusion Quality using Acetone Immersion
 - g) ASTM D 2444: Standard Test Method for Impact Strength
 - h) ASTM F 1057: Standard Test Method for Extrusion Quality using Heat Reversion
 - i) ASTM F 1504: Standard Specification for Folded/Formed Poly (Vinyl Chloride) Pipe for Existing Sewer and Conduit rehabilitation

C. PIPE DESIGN AND DIMENSION

1. Submittals: The Contractor shall furnish engineering data covering materials and installation procedures.

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2. Unless otherwise specified, the Contractor shall determine the minimum and maximum length of liner to effectively span the distance from the inlet to the outlet of the respective pipelines.

3. The pipe liner shall have a nominal outside diameter and minimum wall thickness based upon project parameters and the condition of the host pipe.

D. SAFETY

1. The CONTRACTOR shall conform to all safety requirements of pertinent regulatory agencies, and shall secure the site for the working conditions in compliance with the same. The CONTRACTOR shall erect signs and devices as are necessary for the safety of the work site.

2. The CONTRACTOR shall also provide all of the WORK in accordance with applicable OSHA standards. Emphasis shall be placed upon the requirements for entering confined spaces and working with steam.

II. PRODUCTS

A. MATERIAL SPECIFICATIONS:

1. The PVC Fold-and-Form Pipe Liner will be manufactured from virgin PVC Fold-and-Form Pipe Liner compound, containing no fillers, and meet or exceed the following minimum physical properties:

- a) COMBUSTIBILITY: Self-Extinguishing
- b) FLEXURAL MODULUS: ASTM D 790 280,000 PSI @73F
- c) FLEXURAL STRENGTH: ASTM D 790 5,000 PSI @73F
- d) IZOD IMPACT: ASTM D 256 1.5 FT-LB/IN
- e) CHEMICAL RESISTANCE: suitable under general sanitary sewer conditions

2. CHARACTERISTICS: The PVC Fold-and-Form Pipe Liner shall be designed to meet the following installation performance requirements:

- a) The Pipe Liner shall be capable of expanding a full pipe size larger than the nominal diameter (ex: 8" to 10") without splitting, or rupturing with the understanding that the pipe liner dimension ratio will increase when so expanded.
- b) After being expanded by "blow-molding", the installed Pipe Liner will match the configuration of the host pipe.
- c) The Pipe Liner shall be capable of negotiating pipe line bends in the host pipe without splitting, rupturing, or wrinkling of the pipe liner material.
- d) The pipe liner shall be dimensionally stable after cool-down.
- e) Processing of the pipe liner shall cause no degradation of the pipe liner physical properties.

3. MARKINGS: The pipe liner shall be marked at maximum five (5) foot intervals indicating ASTM D 1784 cell classification, manufacturer, and size (diameter and SDR). Each production lot will be uniquely coded.

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4. DIMENSIONS:

a) The Pipe Liner outside diameter will be manufactured substantially smaller than the inside diameter of the host pipe. The pipe liner shall be manufactured with sufficient excess wall thickness to allow the pipe liner to meet or exceed the DR requirements after being expanded by “blow-molding” within the host pipe.

b) Unless otherwise specified, the Standard Dimension Ration (SDR) of 4” to 15” diameter Pipe Liner will be SDR 35. 18” to 36” Pipe Liner will be specified by wall thickness. The Pipe Liner will be continuously extruded (no joints) at the factory to the minimum length required to effectively span the distance between access points, in accordance with actual distances which shall be field verified by the Contractor prior to manufacturing.

B. MATERIAL TESTING: Each production lot of Pipe Liner will be inspected and tested at the time of manufacture for defects in accordance with ASTM D 2444, and ASTM D 2152. All pipe liners shall conform to the specified dimensions. Material design properties shall be confirmed in accordance with ASTM D 790.

III. EXECUTION

A. HOST PIPE PREPARATION

1. The existing pipeline shall be cleaned of any obstructions and televised using CCTV immediately prior to installation of the pipe liner. The host pipe condition shall be acceptable to the ENGINEER as appropriate for lining prior to the insertion of the pipe Liner.

2. Prior to beginning the insertion of the pipe liner, the CONTRACTOR shall confirm that the host pipe is adequately cleaned.

B. INSTALLATION PROCEDURES:

1. The pipe liner manufacturer’s installation instructions and procedures shall be followed during installation.

2. Point Repairs

a) Point repairs and obstruction removals shall be completed, as necessary, in order to enable lining.

3. Liner Insertion

a) The entrance to the host pipe shall be covered so as to provide a smooth surface to prevent damage to the Pipe Liner.

b) The Pipe Liner shall be positioned to enable it to naturally curve into the access point and the host pipe.

c) The insertion end of the Pipe Liner shall be sealed to inhibit fluids and solids from entering the lumen of the Pipe Liner.

d) Insert the Pipe Liner into the entry access point. Slowly feed the Pipe Liner from the supply reel, while simultaneously pulling the Pipe Liner at the exit access point, to minimize tension on the Pipe Liner. Maintain two-way communication between personnel at entry and exit access points to coordinate the rate of Pipe Liner supply and pulling operations.

e) Use a power winch and a steel cable connected to the pulling head as recommended by the manufacturer to advance the Pipe Liner.

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4. Pipe Liner Processing and “Blow-Molding”:
 - a) Process and “blow-mold” the PVC Fold and-Form Pipe Liner in accordance with the manufacturer’s instructions for heating and expanding the Pipe Liner. Upon completion of processing and “blow-molding”, the Pipe Liner shall fit tightly against the inside wall of the host pipe and be locked into the joints of the host pipe, if possible.
 - b) Temperature and pressure gauges shall be used at the insertion and termination access points to monitor internal conditions during Pipe Liner processing and “blow-molding”.
 - c) Introduce pressurized steam to heat and relax the Pipe Liner in strict accordance with the recommendations of the Pipe Liner manufacturer.
 - d) Continue the application of steam while introducing compressed air to increase internal pressure on the Pipe Liner as recommended by the manufacturer. **DO NOT ALLOW PRESSURE TO EXCEED 12 PSI, AS DAMAGE MAY OCCUR TO HOST PIPE.**
 - e) Discontinue the use of steam while continuing the use of compressed air to maintain the internal pressure. Allow the Pipe Liner to cool below 100 F before releasing pressure.
5. Liner Termination:
 - a) During the pulling in place and “blow-molding” process, the PVC liner shall form a bell shape at each end effectively locking the liner in place.

IV. PAYMENT

- A. Payment for PVC Fold and Form Pipe Liners will be made per linear foot as
 1. PVC FOLD AND FORM PIPE LINER – 12 IN - ITEM 24860EC
 2. PVC FOLD AND FORM PIPE LINER – 15 IN - ITEM 24861EC
 3. PVC FOLD AND FORM PIPE LINER – 18 IN - ITEM 24862EC
 4. PVC FOLD AND FORM PIPE LINER – 24 IN - ITEM 24863EC
 5. PVC FOLD AND FORM PIPE LINER – 30 IN - ITEM 24864EC
 6. PVC FOLD AND FORM PIPE LINER – 36 IN - ITEM 24865EC
- B. Payment will be considered full compensation for all work, equipment, and incidentals necessary to install the pipe liners in accordance with this note.

SPECIAL NOTE FOR PIPE LINER ACCEPTANCE TESTING

PART 1 -- GENERAL

1.01 SCOPE OF WORK

- A. Furnish all necessary labor, materials, equipment, services and incidentals required to visually inspect by means of closed-circuit television (CCTV) designated pipe sections including, but not limited to, recording and playback equipment, materials and supplies.
- B. The inspection shall be performed on one section (i.e. curb box inlet to curb box inlet) at a time. The section being inspected shall be suitably isolated from the remainder of the system.
- C. Video recordings shall be made of the television inspections and copies of both the recordings and printed inspection logs shall be supplied to the Engineer.
- D. Contractor may have to perform point repairs, remove obstructions or remove protruding service connections to complete pre-rehabilitation TV inspection.

PART 2 -- PRODUCTS

2.01 EQUIPMENT

- A. The television camera used for inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The camera shall be operative in 100 percent humidity conditions. The camera, television monitor and other components of the video system shall be capable of producing a minimum 500-line resolution color video picture. Picture quality and definition shall be to the satisfaction of the Engineer and if unsatisfactory, inspection shall be performed again with the appropriate changes made as designated by the Engineer at no additional cost to the Engineer. The television inspection equipment shall have an accurate footage counter that shall display on the monitor, the exact distance of the camera from the centerline of the starting manhole.

PART 3 -- EXECUTION

3.01 PROCEDURE

- A. The camera shall be moved through the pipe in either direction at a uniform rate, stopping when necessary to ensure proper documentation of the pipe's condition but in no case will the television camera be pulled at a speed greater than 30 fpm. Manual winches, power winches, TV cable and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the pipe conditions shall be used to move the camera through the line. If, during the inspection operation, the television camera will not pass through the entire section, the equipment shall be removed and repositioned in a manner so that the inspection can be performed from the opposite opening. All set-up costs for the inspection shall be included in the unit prices bid. If the camera fails to pass through the entire section, the Contractor shall perform point repairs as required or approved by the Engineer. Point repairs will be paid as each at the bid price for "PIPE REPAIR". The Contractor shall re-clean or further remove blockage after the point repairs at no additional cost to the Engineer.
- B. Whenever non-remote powered and controlled winches are used to pull the television camera

through the line, telephones, radios, or other suitable means of communication shall be set up between the two openings of the line being inspected to ensure that good communications exist between members of the crew.

The camera height shall be adjusted such that the camera lens is always centered in the pipe being televised. Flow shall be controlled such that depth of flow shall not exceed 20% of pipe's diameter.

Lighting system shall be adequate for quality pictures.

3.02 RECORDING OF FIELD OBSERVATIONS

A. Television Inspection logs

1. Printed location records shall be kept which shall clearly show the location. In addition, other data of significance including joints, unusual conditions, roots, collapsed sections, or presence of scale and corrosion that the camera failed to pass through and reasons for the failure and other discernible features shall be recorded and annotated using the PACP system and a copy of such records shall be supplied to the Engineer.

B. Digital Recordings

1. The purpose of digital recording shall be to supply a visual and audio record of areas of interests of the pipe segments that may be replayed by the Engineer. Digital recording playback shall be at the same speed that it was recorded and shall be made in color. The Contractor shall be required to have all digital media and necessary playback equipment readily accessible for review by the Engineer during the project.
2. The Contractor shall perform CCTV inspection of each newly installed or rehabilitated pipe segment after testing and before re-introducing any flow into the pipe. Each test shall be witnessed by the Engineer.
3. The Contractor shall record each CCTV inspection on a DVD and submit such recordings to the Engineer as a prerequisite for Partial Utilization/Substantial Completion.
4. CCTV inspections shall be performed by a PACP certified and trained person.
5. Inspections shall include narration that notes the location and type of defects, if any.
6. At the completion of the project, the Contractor shall furnish all of the original digital recordings to the Engineer. Each disc shall be labeled as to its contents. Labels shall include the disc number, date televised, sewer segment reach designation, street location, and structure numbers on the disc. The Contractor shall keep a copy of the discs for 30 days after the final payment for the project, at which time the discs may be erased at the Contractor's option.

PART 4 – PAYMENT

Payment for both the video inspection prior to and after the Pipe Liners have been installed will be made as one lump sum payment as PIPE LINER ACCEPTANCE TESTING. Payment for PIPE LINER ACCEPTANCE TESTING will be considered full compensation for all work, equipment, and incidentals necessary to perform the video inspection in accordance with this note.

Payment for pipe point repairs will be made as each at the bid price for PIPE REPAIR. Payment for PIPE REPAIR will be considered full compensation for all work, equipment, and incidentals necessary to make point repairs as required and approved by the Engineer.

SPECIAL NOTE FOR PORTABLE QUEUE WARNING ALERT SYSTEM

1.0 Description

This item shall consist of furnishing, installing, relocating, operating, servicing, and removing various components of a portable, quickly deployable, real-time automated ITS queue warning alert system (PQWAS), in accordance with the standard specifications and this special provision. The Contractor shall also provide the maintenance of the complete system for the duration of the project or as directed by the Project Engineer.

2.0 Materials

Materials shall be in accordance as follows:

All materials used shall meet the manufacturer's specifications and recommendations.

All PQWAS materials installed on the project shall be provided by the Contractor in excellent quality condition, shall be corrosion resistant and in strict accordance with all of the details show within Contractor's Plans approved by KYTC. The Contractor shall maintain an adequate inventory of parts and replacement units to support maintenance and repair of the PQWAS. Pre-deployment is a condition of the system's acceptance and is based on the successful performance demonstration for a (5) day continuous period in accordance to this specification and as set forth in the plans. Ensure compliance to all FCC and Department specifications.

The Contractor shall maintain this system and shall be locally available to service and maintain system components, move portable devices as necessary and respond to emergency situations. The Contractor has oversight responsibility for directing placement of devices in the project area. The Contractor is to be accessible seven (7) days a week and twenty-four (24) hours a day while the system is deployed. The Contractor shall provide contact information for the system's coordinator and others responsible for maintenance of the system prior to installation of the system. Furnish a System Coordinator for monitoring the PQWAS throughout all periods of deployment.

A. General Capabilities and Performance Requirements

1. Overall PQWAS capabilities and performance requirements include the following:
 - a. Furnish a system capable of providing advance traffic information to motorists when there is a queueing of traffic due to congestion resulting from lane reductions, emergency events or other conditions. The condition-responsive notification to the motorist occurs with the use of Portable Changeable Message Signs (PCMS) in accordance to the below capabilities and performance requirements, activated through real-time traffic data collected downstream of the PCMS locations. This equipment must be a packaged system, pre-programmed and operates as a stand-alone PQWAS meeting this specification. Conditions might exist that

require relocation of the portable sensors at any given time, the sensors shall be portable and shall not require re-calibration in the field for fast and easy deployments. Due to the potential need to replace damaged sensors or to change the position of one or more sensors at any given time, sensors must be interchangeable and re-locatable by an unskilled laborer. The system must continue to function if as many as half the sensors fail to function.

- b. Provide a PQWAS that consists of the following field equipment: portable radar sensors and portable changeable message signs (PCMS). Provide a system capable of withstanding inclement weather conditions while continuing to provide adequate battery power. The portable radar sensor battery, in a stand-alone state and without a solar panel for recharging, shall be capable of keeping power and capable of sending data for (10) consecutive days or longer. The system shall notify drivers of real-time queue events via specifically placed PCMS units up stream of the work zone. All predetermined/preprogrammed messages are to be approved by KYTC. The number and location of portable radar sensors and PCMS units are defined in the plans (see attachment-A) or as directed by the Project Engineer. The decision to deploy or relocate field equipment is made by the Project Engineer and instrumented through the System Coordinator. The decision for equipment removal is made by the Project Engineer after work is complete. The sensors and PCMS units shall be identifiable via global positioning system (GPS) and shall contain an accelerometer to detect and alert of unauthorized movement.
- c. The portable radar sensor shall be capable of collecting traffic speed data. The processed data is used to remotely control PCMS units to display user definable, Engineer approved and locally stored messages. The message trigger state thresholds for slow and stopped speeds shall be user configurable and revisable in less than (1) hour from the Project Engineer's request. Weekly Traffic Data Reports shall be presented to the Project Engineer and shall include speed data per sensor location, travel times, and queue lengths in graphical and numerical formats. In the event the Project Engineer requires a report, other than a weekly report, for any reason; then the Contractor shall provide report within (48) hours of request. Unlimited data reports shall be included within price of system. Sensors shall require no calibration or adjustments in the field. It should take no longer than (30) minutes to apply (1) Type-1 queue warning system and no more than (45) minutes to apply (1) Type-2 queue warning system (see attachment-A below). Sensor should begin transmitting data within (30) seconds of being turned on. If sensor loses cellular communication, then network functions shall automatically utilize satellite communications until cell communication is reconnected. Contractor shall identify the most trustworthy cellular provider within the project area.
- d. Data shall be accessible through a website and the Contractor shall provide a username and password for protection. The website shall be accessible seven (7) days a week and twenty-four (24) hours a day. The website shall provide historical & real-time data in graphical and numerical formats and shall have the capability of being integrated within the Department's Traffic Management Center (if requested). The website should be compatible to most hand held devices. Data shall be saved on the manufacturer's network for up to (5) years from the deployment date of system and shall be provided at the request of the Department at any time within the (5) year window. The use of the website shall be included within the price of system.

- e. **Warning Alerts:** queue events, low battery voltage warnings, sensor movement alerts, high and low speed alerts shall be provided via cellular text messaging and/or via email messaging at the request of select Contractor personnel and KYTC officials.
- f. The PQWAS system shall have the capabilities to provide alternate route messaging on specifically placed portable changeable message units and/or fixed Variable Message Systems (VMS). The intent of this service is to provide alternate route messaging to motorists before entering the project limits from all directions and giving them appropriate time to adjust their routes. Alternative routes shall be predefined and approved by KYTC. Additional PCMS units may be required for alternate route messaging and will be paid separately from the PQWAS pay item. KYTC's Traffic Management Center will provide detour messages via fixed VMS units during the term of the project.

B. Portable Radar Sensor Capabilities and Performance Requirements

The PQWAS shall include portable radar sensors (PRD) to monitor and detect queue events.

1. The Radar Sensor shall be FHWA accepted to meet NCHRP 350 test requirements
2. The Radar Sensor shall be locatable at all times via an internal Global Positioning System (GPS) and shall be capable of Cellular & Satellite Communications
3. The Radar Sensor shall have a dry-cell battery capable of powering the system for (10) consecutive days or longer
4. The Radar sensor shall be K-Band technology and have a line of sight up to 200 linear feet without obstruction
5. The Radar sensor shall have the ability to be charged in the field through adaptable solar recharging technology in the case the sensor is utilized for more than 10 consecutive days

C. PCMS Capabilities and Performance Requirements

The PQWAS shall include portable changeable message signs (PCMS) designated to relay automated messaging of queue events, alternate route messages, and caution for the work area defined by the project limits. PCMS placements shall meet the requirements set forth by the Cabinet in each direction of the National Highway System (NHS) – see **attachment-A** for specified PCMS & Sensor quantities below.

1. The PCMS unit shall be a Full Matrix 24 rows x 50 columns and shall be capable of 1 line, 2 line or 3 line messages
2. The PCMS unit shall be legible from a distance over twelve hundred feet (1200')
3. The height and size of characters shall be 18" to 58"
4. The PCMS shall be capable of storing up to 199 pre-programmed messages and up to 199 user-defined messages
5. The PCMS shall have a weather tight control cabinet with back lit LCD handheld controller.
6. The PCMS shall utilize a hydraulic lift to raise the unit to display height
7. The PCMS unit shall include solar recharging ports to allow for recharging of the portable radar sensors when they are not deployed.
8. The PCMS shall be NTCIP compliant and shall have an active Modem with active cellular service to be included within the price of the PQWAS System.

9. The user shall have the ability to communicate and override the PCMS remotely in the event of an emergency, Amber Alert, etc.
10. The PCMS unit shall have a docking station to include safety rails that allow a commercial safety strap to tie down the portable radar sensors while in transport. The docking station shall hold-up to (4) sensors safely and securely at all times.

3.0 Construction Requirements

All communication costs include cellular telephone services, FCC licensing, wireless data networks, satellite and internet subscription charges, and battery charging and maintenance. Additional to these requirements, the Contractor shall assume all responsibility for any and all damaged equipment due to crashes, vandalism, and adverse weather that may occur during the contract period.

The PQWAS shall operate continuously (24 hours / 7 Days) when deployed on the project. The system is in a constant "data collection" mode when deployed. The Contractor shall provide technical support for the PQWAS for all periods of operation.

In the event communication is lost with any component of the PQWAS, provide a means and staff to manually program a PCMS message. If communication is lost for more the 10 consecutive minutes, the system shall revert to a fail-safe ROADWORK/# MILES/AHEAD message displayed on the PCMS units until communication is restored.

System Operator, local control function and remote management operation must be password protected.

The PQWAS shall be capable of acquiring traffic information and selecting messages automatically without operator intervention after system utilization. The lag time between changes in threshold ranges and the posting of the appropriate PCMS message(s) shall be no greater than (60) seconds. The system operation and accuracy must not be appreciably degraded by inclement weather or degraded visibility conditions including precipitation, fog, darkness, excessive dust, and road debris.

The system shall be capable of storing ad-hoc messages created by the System Coordinator and logging this action when overriding any default or automatic advisory message.

The PQWAS communication system shall incorporate an error detection/correction mechanism to insure the integrity of all traffic conditions data and motorists information messages. Any required configuration of the PQWAS communication system shall be performed automatically during system initialization.

The system's acceptance is based on the successful performance demonstration of PQWAS for a (5) day continuous period in accordance to this specification and as set forth in the plans. Ensure compliance to all FCC and Department specifications.

4.0 Equipment Maintenance.

Maintain system components in good working condition at all times. Repair or replace damaged or malfunctioning components, at no cost to the Department, as soon as possible and within (12) hours of notification by the Engineer. Periodically clean PCMS units if necessary.

5.0 Method of Measurement.

Portable Queue Warning Alert System includes portable radar sensors, PCMS units, cellular/SAT communications, all supporting field equipment, website, and unlimited data reports will be measured by Type-1 or Type-2 queue warning plan for the PQWAS installed, maintained and removed. See plan Types 1 & 2 for specific number of radar sensors and PCMS units required for this project (see attachment-A). Specific Plan Type will be identified within proposal and/or project plans.

6.0 Basis of Payment.

Portable Queue Warning Alert System includes portable radar sensors, PCMS units, Cell/SAT communications, all supporting field equipment, website, and unlimited data reports for the term of the project will be paid for at the contract unit price per PQWAS system as defined as a Type-1 or Type-2 Queue Warning plan (see attachment-A for specified PCMS & sensor quantities). Price and payment shall include furnishing of all labor, equipment, and materials for the installation, maintenance, and relocation of sensors and supporting field equipment.

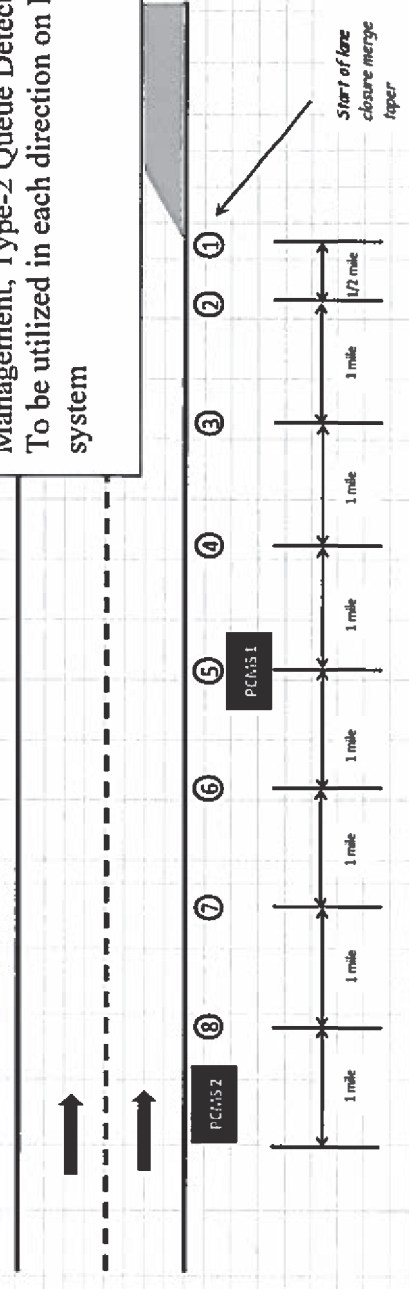
PCMS Units are included

Payment will be made under:

Pay Item
Control System for Incident Management

Pay Unit Symbol
Lump Sum

Attachment-A: Control System for Incident Management, Type-2 Queue Detection Plan
To be utilized in each direction on Interstate system



PCMS Operations Rules: Deployment Plan 1 (Max Design Queue ≤ 7.5 Miles)

| PCMS 2 Message | Last 5-Minute Average Speed V (mph) | | | | | | | |
|------------------|-------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | ⑧ | ⑦ | ⑥ | ⑤ | ④ | ③ | ② | ① |
| WATCH YOUR SPEED | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
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| WATCH YOUR SPEED | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| WATCH YOUR SPEED | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| WATCH YOUR SPEED | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| WATCH YOUR SPEED | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| WATCH YOUR SPEED | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |

| PCMS 1 Message | Last 5-Minute Average Speed V (mph) | | | | | | | |
|---------------------|-------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | ⑧ | ⑦ | ⑥ | ⑤ | ④ | ③ | ② | ① |
| LANE CLOSED 3 MILES | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| LANE CLOSED 3 MILES | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| LANE CLOSED 3 MILES | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| LANE CLOSED 3 MILES | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| LANE CLOSED 3 MILES | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
| LANE CLOSED 3 MILES | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |
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| LANE CLOSED 3 MILES | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 | V > 55 OR V = 0.0 |

① Non-Intrusive Traffic Speed Detector
PCMS
Portable Changeable Message Sign

LANE CLOSURE MONITORING SYSTEM PLAN 2

| | |
|-------------|---------------------|
| © KYTC 2014 | |
| DNL - LB/MT | SHEET 1 of 1 |
| CKL - | FEDERAL AID PROJECT |
| DNL - DN | TBD |
| STATE AID | TBD |
| REASON | TBD |
| D-41 | TBD |
| COUNTY | CONTROL SEC |
| LANE# | JOB |
| | INVENTORY |
| | NE-S J-79 |

Note: Location of the sensors and the PCMS can be adjusted slightly based on site conditions (ramp locations, other static signing, overpasses, etc.)

Special Note for Traffic Queue Protection Vehicle

- 1.0 DESCRIPTION.** Furnish, Operate, and Maintain Traffic Queue Protection Vehicle at locations and times described herein. The Queue Protection Vehicle is expected to alert motorists (inside and outside of project limits) of all stopped traffic caused by construction activities or incidents within the project limits.
- 2.0 MATERIALS.** The contractor shall provide a minimum of one (1) queue protection vehicle for each traveling direction where traffic flow is reduced or modified in a manner where a queue could occur. One (1) additional queue protection vehicle shall be onsite in reserve. The Traffic Queue Protection Vehicle must fulfill the following minimum requirements:
1. A truck mounted attenuators that meets or exceeds NCHRP TL-3 requirements.
 2. Four (4) round yellow strobe lights (with auto-dimmers) positioned rear facing
 - Two (2) mounted under rear bumper
 - Two (2) mounted at cab level
 - Visibility of strobe lights can not be deterred by attenuator
 3. One (1) standard cab mounted light bar.
 4. A truck mounted message board with a minimum of 3 Lines and 8 Characters per line.
 5. Four Hour National Traffic Incident Management (TIM) Responder Training for Queue Truck Operators.
- 3.0. CONSTRUCTION.** A queue will be defined as anytime that traffic traveling through the project is reduced to a speed of twenty (20) miles per hour or less. The following procedures will be followed when a traffic queue occurs until free flow traffic conditions are present:
- The queue protection vehicle shall be positioned no further than ½ mile upstream from the back of the slow moving traffic.
 - The queue protection vehicle shall be positioned on the shoulder and clear of the traveled way so as not to impede traffic.
 - The queue protection vehicle shall relocate as needed to maintain approximately ½ mile distance from the back of the slow moving traffic.
 - The 2nd queue protection vehicle shall be held in reserve, on site, and support the primary vehicle if conditions prevent repositioning by reverse. This vehicle shall not be paid for idle time.
 - Queue Protection Vehicles shall be kept in project limits during planned lane closures and other project activities expected to cause a queue. One Queue Protection Vehicle shall remain on the project at all times available to respond to incidents within the project limits in a timely manner.
 - Queue length estimates and traffic conditions shall be reported to the KYTC project engineer or designee at the following periods:
 1. At 30 minute intervals
 2. At significant changes
 3. When free flow traffic is achieved
 - The KYTC project engineer or designee will document all daily queue reports and provide these logs to the Director of Maintenance and Director of Construction at the end of each month.

The Queue Protection Vehicle shall be mobilized by the Project Engineer or designee for planned construction activities. For unplanned incidents mobilization should be initiated by the first person (KYTC's or Contractor's project staff) receiving notification of the queue.

4. MEASUREMENT.

4.01 Queue Protection Vehicle. The Department will measure the time from when the vehicle is in position protecting the queue until either free flow traffic is achieved or the vehicle is no longer protecting the queue, whichever occurs first. Idle time will not be paid. The Department will not measure mobilization, removal, maintenance, labor, fuel, or any additional items but will consider them all incidental to this item of work.

4.02 Furnish Queue Protection Vehicles. The Department will measure the quantity by lump sum to have the Contractor furnish vehicles as defined in '2.0 Materials' of this Special Note. The Department will measure Furnish Queue Protection Vehicles for payment only once per contract. The Department will not measure mobilization, removal, labor, fuel, or any additional items but will consider them all incidental to this item of work. In the event that a Queue Protection Vehicle is damaged or inoperable the contractor will supply a replacement vehicle within two weeks at no additional cost to the department.

5. PAYMENT.

| <u>Code</u> | <u>Pay Item</u> | <u>Pay Unit</u> |
|-------------|-----------------------------------|-----------------|
| 25075EC | Queue Protection Vehicle | Hour |
| 25076EC | Furnish Queue Protection Vehicles | Lump Sum |

SPECIAL NOTE FOR GROOVED ALL WEATHER PAVEMENT MARKINGS

1. DESCRIPTION. Furnish and install a wet retroreflective pavement marking system in accordance with this special note. Project will include use of thermoplastic striping. Striping (both edge and skip lines) shall include specified elements to provide wet retroreflectivity. Lines shall be installed in a shallow groove to protect retroreflective elements.

2. THERMOPLASTIC STRIPING. Thermoplastic pavement markings shall comply with Sections 714 and 837 of the Department of Highways' Standard Specifications for Road and Bridge Construction, unless otherwise noted. Contrary to Section 714 of the Standard Specifications, thermoplastic striping shall be a minimum thickness of 100 mils. Striping shall include specified elements to provide wet retroreflectivity.

Gaps in the edge lines, as outlined in the Subsection 714.03.01 of the Standard Specifications for Road and Bridge Construction, will not be necessary since striping will be recessed below the surface.

3. WET REFLECTIVE ELEMENTS. Wet reflective beads shall be one of the following products:

- 3M Connected Roads All Weather Elements
- Potters Visimax Highway Glass Bead System

The color of the wet reflective beads shall match the color of the line being applied. Traditional and wet reflective beads shall be applied in a double-drop application of traditional glass beads and wet reflective optical elements. Contractor shall follow manufacturer's recommendations as to incorporating wet reflective elements into the striping operation. Apply traditional beads and wet reflective elements in sufficient quantities to obtain the dry retroreflectivity requirements and desired wet retroreflectivity levels. A 50/50 ratio of traditional beads to wet reflective elements is recommended, but bead distribution may be modified with the approval of the engineer, if the contractor feels that a different distribution is necessary to meet dry/wet retroreflectivity levels.

The manufacturer of the wet reflective bead shall have a factory representative on site before the contractor begins striping operations. The factory representative shall assure the engineer that the wet reflective system has been calibrated for proper application before the contractor begins. The factory representative shall remain available to periodically assure the engineer the system is being applied according to the manufacturer's recommendations. A random sample of wet reflective elements shall be provided to the Division of Materials before use on the project.

4. PLACEMENT IN GROOVE. In an attempt to protect the retroreflective elements, striping shall be installed in shallow grooves. Contractor shall follow bead manufacturer's recommendations regarding grooving applications.

Grooves shall be a minimum of 2" from any longitudinal pavement joint. The groove shall not be

installed on concrete surfaces or in other areas identified by the Engineer. The groove shall not be installed continuously for intermittent pavement markings, but only where markings are to be applied.

Grooves shall be 1 inch \pm ¼ inch wider than the pavement marking material. Groove depth shall be 150 mils \pm 5 mils, unless otherwise approved by the Engineer. Depth shall be consistent across the full width of the groove. Depth plates shall be provided by the Contractor to the Engineer to assure that desired groove depth is achieved.

Grooves that are ground deeper or wider than the specified allowable limits shall be repaired per the direction of the Engineer at no additional cost. Grooves that are ground too shallow, too narrow, or with unacceptable rises between blade cuts shall be reground to the correct size, depth, and surface finish at no additional cost. Slots ground out of alignment shall be patched using an approved method and materials.

Prior to cutting out the grooves for all recessed lines, the Contractor shall use a chalk line or other suitable method to layout the proposed pavement markings on the surface course so that the Engineer can inspect the locations.

Grooves shall be clean, dry and free of laitance, oil, dirt, grease, paint or other foreign contaminants. If water is used to clean the groove or the grooving process takes place during rainfall, a minimum of 24 hours of dry time is required prior to the placement of pavement markings.

After the depth, width, length, and surface condition has been approved by the Engineer, grooves shall be cleaned of any fine particles using high-pressure compressed air before application of the striping. The Contractor shall prevent traffic from traversing the grooves and re-clean grooves, as necessary, prior to application of pavement markings at no additional cost to the Department.

5. PAVEMENT MARKING PERFORMANCE. Pavement marking retroreflectivity performance under dry conditions will be evaluated in accordance with the Standard Specifications for Road and Bridge Construction.

The use of wet reflective elements on this project is part of a pilot effort to evaluate potential pavement marking enhancements. As a result, minimum wet retroreflectivity values have been established and will be measured. However, the wet retroreflectivity performance will not be considered as part of the acceptance and payment for pavement striping on this project.

Desired minimum wet recovery retroreflectivity requirements at the end of the proving period (Standard Specifications for Road and Bridge Construction, Section 714.03.06) are as follows:

Retroreflectivity (mcd(ft⁻²)(fc⁻¹)) {metric equivalent mcd(m⁻²)(lux⁻¹)}

| | White | Yellow |
|-----------------------------|-------|--------|
| Wet recovery (ASTM 2177) | 250 | 175 |
| Wet Continuous (ASTM E2832) | 150 | 100 |

In support of wet retroreflectivity testing, samples of representative markings (both white and yellow) shall be provided on one foot sections of rigid panel (20 gauge aluminum or thicker). Samples shall be taken at the beginning and end of the striping operation (total of two samples per color). Samples shall be protected from damage and submitted to the Division of Materials for testing and record of the project output for the materials used. Lines on the project are subject to future testing to monitor pavement marking performance in the field.

6. MEASUREMENT. Wet retroreflective elements will be incidental to the pay items for pavement striping.

The Department will measure work required for the installation of the recessed groove. The Department will not measure surface preparation and pre-marking of the groove for payment and will consider them incidental to the groove pay item. Corrective work will not be measured for payment.

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

| <u>Code</u> | <u>Pay Item</u> | <u>Pay Unit</u> |
|-------------|--|-----------------|
| 25019EC | Groove for Pave Striping – 7 IN | LF |
| 25008EC | Pave Striping-Thermo-6 IN W-Wet Reflect | LF |
| 25009EC | Pave Striping-Thermo-6 IN Y- Wet Reflect | LF |

March 27, 2019

| | | |
|---|---|--|
|  | 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 | | |

| <input checked="" type="checkbox"/> Original | <input type="checkbox"/> Re-Certification | RIGHT OF WAY CERTIFICATION | |
|--|---|-----------------------------------|---------------------|
| ITEM # | COUNTY | PROJECT # (STATE) | PROJECT # (FEDERAL) |
| 11-20015 | Whitley | FD52 118 0075 000-012 | NHPP 0751 (090) |

PROJECT DESCRIPTION
 Pavement rehab on I-75 in Whitley County Mileposts 0.00-11.27 Both Directions

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.

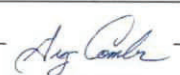

Condition # 1 (Additional Right of Way Required and Cleared)
 All necessary right of way, including control of access rights when applicable, have been acquired including legal and physical possession. Trial or appeal of cases may be pending in court but legal possession has been obtained. There may 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 | 0 | EXCEPTION (S) Parcel # | ANTICIPATED DATE OF POSSESSION WITH EXPLANATION |
|--|---|------------------------|---|
| Number of Parcels That Have Been Acquired | | | |
| Signed Deed | 0 | | |
| Condemnation | 0 | | |
| Signed ROE | | | |

Notes/ Comments (Use Additional Sheet if necessary)

| LPA RW Project Manager | | Right of Way Supervisor | |
|------------------------|--|-------------------------|---|
| Printed Name | | Printed Name | Greg Combs |
| Signature | | Signature |  2020.09.29 07:29:24 |
| Date | | Date | -04'00' |
| Right of Way Director | | FHWA | |
| Printed Name | | Printed Name | |
| Signature |  2020.09.29 | Signature | No Signature Required as per FHWA-KYTC Current Stewardship Agreement |
| Date | 10:31:42 -04'00' | Date | |

UTILITIES AND RAIL CERTIFICATION NOTE

**WHITLEY COUNTY, NHPP 0751 (090)
FD52 118 0075 000-012
I-75 ASPHALT MILLING AND FILLING
11-20015.0**

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

Do not disturb existing utility facilities.

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

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

UNDERGROUND FACILITY DAMAGE PROTECTION – BEFORE YOU DIG

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

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

SPECIAL CAUTION NOTE – PROTECTION OF UTILITIES

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

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

UTILITIES AND RAIL CERTIFICATION NOTE

**WHITLEY COUNTY, NHPP 0751 (090)
FD52 118 0075 000-012
I-75 ASPHALT MILLING AND FILLING
11-20015.0**

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

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

AREA UTILITIES CONTACT LIST AS PROVIDED BY KY 811

| <u>Utility Company/Agency</u> | <u>Contact Name</u> | <u>Contact Information</u> |
|-------------------------------|---------------------|----------------------------|
|-------------------------------|---------------------|----------------------------|

PART II
SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2019* and *Standard Drawings, Edition of 2020*.

SUPPLEMENTAL SPECIFICATIONS

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

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

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

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

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.

ATTACHMENTS

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

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.

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).

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 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.

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.

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.

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.

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).

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.

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6. Training and Promotion:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

III. NONSEGREGATED FACILITIES

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

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

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

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

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

1. Minimum wages

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

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

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

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

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

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

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

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

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

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

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

2. Withholding

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

3. Payrolls and basic records

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

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

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

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

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

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

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

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

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

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

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

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

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

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

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

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

b. Trainees (programs of the USDOL).

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

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

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

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

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;
- (2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and
- (4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

**KENTUCKY TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS**

**EMPLOYMENT REQUIREMENTS
RELATING TO
NONDISCRIMINATION OF EMPLOYEES
(APPLICABLE TO FEDERAL-AID SYSTEM CONTRACTS)**

**AN ACT OF THE KENTUCKY GENERAL ASSEMBLY
TO PREVENT DISCRIMINATION IN EMPLOYMENT**

**KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972**

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (forty and above); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age forty (40) and over. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, except that such a notice or advertisement may indicate a preference, limitation, or specification based on religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, when religion, national origin, sex, or age forty (40) and over, or because the person is a qualified individual with a disability, is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age forty (40) and over, in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

Revised: January 25, 2017

Standard Title VI/Non-Discrimination Assurances

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Non-discrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration** may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration** may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

Standard Title VI/Non-Discrimination Statutes and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 -- 12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 *et seq.*)

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (7) provides:

No present or former public servant shall, within six (6) months following termination of his office or employment, accept employment, compensation, or other economic benefit from any person or business that contracts or does business with, or is regulated by, the state in matters in which he was directly involved during the last thirty-six (36) months of his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, or for which he received, prior to his state employment, a professional degree or license, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved during the last thirty-six (36) months of his tenure in state government. This subsection shall not prohibit the performance of ministerial functions, including but not limited to filing tax returns, filing applications for permits or licenses, or filing incorporation papers, nor shall it prohibit the former officer or public servant from receiving public funds disbursed through entitlement programs.

KRS 11A.040 (9) states:

A former public servant shall not represent a person or business before a state agency in a matter in which the former public servant was directly involved during the last thirty-six (36) months of his tenure, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, 3 Fountain Place, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Revised: January 27, 2017

"General Decision Number: KY20200107 01/03/2020

Superseded General Decision Number: KY20190107

State: Kentucky

Construction Type: Highway

Counties: Adair, Barren, Bell, Breathitt, Casey, Clay, Clinton, Cumberland, Estill, Floyd, Garrard, Green, Harlan, Hart, Jackson, Johnson, Knott, Knox, Laurel, Lawrence, Lee, Leslie, Letcher, Lincoln, Magoffin, Martin, McCreary, Menifee, Metcalfe, Monroe, Morgan, Owsley, Perry, Pike, Powell, Pulaski, Rockcastle, Russell, Taylor, Wayne, Whitley and Wolfe Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on

the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

| | |
|---------------------|------------------|
| Modification Number | Publication Date |
| 0 | 01/03/2020 |

SUKY2015-047 10/20/2015

| | Rates | Fringes |
|-------------------|----------|---------|
| BOILERMAKER..... | \$ 24.65 | 12.94 |
| BRICKLAYER | | |
| Bricklayer..... | \$ 22.90 | 8.50 |
| Stone Mason..... | \$ 21.50 | 8.50 |
| CARPENTER | | |
| Carpenter..... | \$ 24.90 | 14.50 |
| Piledriver..... | \$ 24.55 | 14.50 |
| CEMENT MASON..... | \$ 21.25 | 8.50 |
| ELECTRICIAN | | |

| | | |
|-------------------------|----------|-------|
| Electrician..... | \$ 29.36 | 10.55 |
| Equipment Operator..... | \$ 26.90 | 10.31 |
| Groundsman..... | \$ 17.79 | 8.51 |
| Lineman..... | \$ 30.09 | 10.94 |

When workmen are required to work from bosum chairs, trusses, stacks, tanks, scaffolds, catwalks, radio and T.V. towers, structural steel (open, unprotected, unfloored raw steel), and bridges or similar hazardous locations where workmen are subject to fall, except where using JLG's and bucket trucks up to 75 feet: Add 25% to workman's base rate for 50 to 75 feet, and add 50% to workman's base rate for over 75 feet.

| | | |
|-----------------|----------|-------|
| IRONWORKER..... | \$ 27.56 | 20.57 |
|-----------------|----------|-------|

LABORER

| | | |
|--------------|----------|-------|
| Group 1..... | \$ 21.80 | 12.36 |
| Group 2..... | \$ 22.05 | 12.36 |
| Group 3..... | \$ 22.10 | 12.36 |
| Group 4..... | \$ 22.70 | 12.36 |

GROUP 1: Aging and Curing of Concrete (Any Mode or Method), Asbestos Abatement Worker, Asphalt Plant Laborers, Asphalt Laborers, Batch Truck Dumpers, Carpenter Tenders, Cement Mason Tenders, Cleaning of Machines, Concrete Laborers, Demolition Laborers, Dredging Laborers, Drill Tender, Environmental Laborer - Nuclear, Radiation, Toxic and Hazardous Waste - Level D, Flagmen, Grade Checkers, All Hand Digging and Hand Back Filling, Highway Marker Placers, Landscaping Laborers, Mesh Handlers and Placers, Puddler, Railroad Laborers, Rip-rap and Grouters, Right of Way Laborers, Sign, Guard Rail and Fence Installers (All Types), Signalmen, Sound Barrier Installer, Storm and Sanitary Sewer Laborers, Swampers, Truck Spotters and Dumpers, Wrecking of Concrete Forms, General Cleanup

GROUP 2: Batter Board Men (Sanitary and Storm Sewer), Brickmason Tenders, Mortar Mixer Operator, Scaffold Builders, Burner and Welder, Bushammers, Chain Saw Operator, Concrete Saw Operators, Deckhand Scow Man, Dry Cement Handlers,

Environmental Laborers - Nuclear, Radiation, Toxic and
Hazardous Waste - Level C, Forklift Operators for Masonry,
Form Setters, Green Concrete Cutting, Hand Operated Grouter
and Grinder Machine Operator, Jack Hammers, Lead Paint
Abatement, Pavement Breakers, Paving Joint Machine, Pipe
Layers - Laser Operators (Non-metallic), Plastic Pipe Fusion,
Power Driven Georgia Buggy and Wheel Barrow, Power Post Hole
Diggers, Precast Manhole Setters, Walk-behind Tampers, Walk-
behind Trenchers, Sand Blasters, Concrete Chippers, Surface
Grinders, Vibrator Operators, Wagon Drillers

GROUP 3: Air Track Driller (All Types), Asphalt Luteman and
Rakers, Gunnite Nozzleman, Gunnite Operators and Mixers, Grout
Pump Operator, Powderman and Blaster, Side Rail Setters, Rail
Paved Ditches, Screw Operators, Tunnel Laborers (Free Air),
Water Blasters

GROUP 4: Caisson Workers (Free Air), Cement Finishers,
Environmental Laborer - Nuclear, Radiation, Toxic and
Hazardous Waste - Level A and B, miners and Drillers (Free
Air), Tunnel Blasters, and Tunnel Mockers (Free Air),
Directional and Horizontal Boring, Air Track Drillers (All
Types), Powder Man and Blasters, Troxler and Concrete Tester
if Laborer is Utilized

PAINTER

| | | |
|----------------------------|----------|-------|
| All Excluding Bridges..... | \$ 19.92 | 9.57 |
| Bridges..... | \$ 23.92 | 10.07 |

| | | |
|--------------|----------|------|
| PLUMBER..... | \$ 22.52 | 7.80 |
|--------------|----------|------|

POWER EQUIPMENT OPERATOR:

| | | |
|--------------|----------|-------|
| Group 1..... | \$ 29.95 | 14.40 |
| Group 2..... | \$ 29.95 | 14.40 |
| Group 3..... | \$ 27.26 | 14.40 |
| Group 4..... | \$ 26.96 | 14.40 |

GROUP 1: Auto Patrol, Batcher Plant, Bituminous Paver, Cable-
Way, Clamshell, Concrete Mixer (21 cu ft or over), Concrete

Pump, Crane, Crusher Plant, Derrick, Derrick Boat, Ditching and Trenching Machine, Dragline, Dredge Engineer, Elevator (regardless of ownership when used for hoisting any building material), Elevating Grader and all types of Loaders, Hoe-type Machine, Hoisting Engine, Locomotive, LeTourneau or Carry-all Scoop, Bulldozer, Mechanic, Orangepeel Bucket, Piledriver, Power Blade, Roller (Bituminous), Roller (Earth), Roller (Rock), Scarifier, Shovel, Tractor Shovel, Truck Crane, Well Point, Winch Truck, Push Dozer, Grout Pump, High Lift, Fork Lift (regardless of lift height), all types of Boom Cats, Multiple Operator, Core Drill, Tow or Push Boat, A-Frame Winch Truck, Concrete Paver, Grade-All, Hoist, Hyster, Material Pump, Pumpcrete, Ross Carrier, Sheepfoot, Sideboom, Throttle-Valve Man, Rotary Drill, Power Generator, Mucking Machine, Rock Spreader attached to Equipment, Scoopmobile, KeCal Loader, Tower Cranes, (French, German and other types), Hydrocrane, Tugger, Backfiller Gurries, Self-propelled Compactor, Self-Contained Hydraulic Percussion Drill

GROUP 2: All Air Compressors (200 cu ft/min or greater), Bituminous Mixer, Concrete Mixer (21 cu. ft. or over), Welding Machine, Form Grader, Tractor (50 hp and over), Bull Float, Finish Machine, Outboard Motor Boat, Brakeman, Mechanic Tender, Whirly Oiler, Tract-air, Road Widening Trencher, Articulating Trucks

GROUP 3: Greaser on Grease Facilities servicing Heavy Equipment

GROUP 4: Bituminous Distributor, Cement Gun, Conveyor, Mud Jack, Paving Joint Machine, Pump, Tamping Machine, Tractor (under 50 hp), Vibrator, Oiler, Air Compressor (under 200 cu ft per minute), Concrete Saw, Burlap and Curing Machine, Hydro Seeder, Power Form Handling Equipment, Deckhand Oiler, Hydraulic Post Driver

SHEET METAL WORKER.....\$ 20.40 7.80

TRUCK DRIVER

| | |
|--|-------|
| Driver (3 Tons and Over), Driver (Truck Mounted Rotary Drill).....\$ 23.74 | 14.50 |
| Driver (3 Tons and Under), Tire Changer and Truck Mechanic Tender.....\$ 23.53 | 14.50 |
| Driver (Semi-Trailer or Pole Trailer), Driver (Dump Truck, Tandem Axle), Driver of Distributor.....\$ 23.40 | 14.50 |
| Driver on Mixer Trucks (All Types).....\$ 23.45 | 14.50 |
| Driver on Pavement Breakers.\$ 23.55 | 14.50 |
| Driver, Euclid and Other Heavy Earth Moving Equipment and Low Boy.....\$ 24.31 | 14.50 |
| Driver, Winch Truck and A- Frame when used in Transporting Materials.....\$ 23.30 | 14.50 |
| Greaser on Greasing Facilities.....\$ 24.40 | 14.50 |
| Truck Mechanic.....\$ 23.50 | 14.50 |
| Truck Tender and Warehouseman.....\$ 23.20 | 14.50 |

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours

they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this

classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010

08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

"

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid to an employee at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in such workweek. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Director
Division of Construction Procurement
Frankfort, Kentucky 40622
502-564-3500

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(Executive Order 11246)**

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

| GOALS FOR MINORITY PARTICIPATION IN EACH TRADE | GOALS FOR FEMALE PARTICIPATION IN EACH TRADE |
|---|---|
| 4.5% | 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 Whitley County.

PART IV
INSURANCE

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

PART V
BID ITEMS

PROPOSAL BID ITEMS

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Report Date 10/27/20

Section: 0001 - PAVING

| LINE | BID CODE | ALT | DESCRIPTION | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|----------------------------------|------------|------|-----------|----|--------|
| 0010 | 00001 | | DGA BASE | 4,201.00 | TON | | \$ | |
| 0020 | 00100 | | ASPHALT SEAL AGGREGATE | 109.00 | TON | | \$ | |
| 0030 | 00103 | | ASPHALT SEAL COAT | 13.00 | TON | | \$ | |
| 0040 | 00194 | | LEVELING & WEDGING PG76-22 | 1,000.00 | TON | | \$ | |
| 0050 | 00208 | | CL4 ASPH BASE 1.50D PG64-22 | 1,116.00 | TON | | \$ | |
| 0060 | 00219 | | CL4 ASPH BASE 1.00D PG76-22 | 2,384.00 | TON | | \$ | |
| 0070 | 00339 | | CL3 ASPH SURF 0.38D PG64-22 | 10,333.00 | TON | | \$ | |
| 0080 | 00342 | | CL4 ASPH SURF 0.38A PG76-22 | 32,396.00 | TON | | \$ | |
| 0090 | 00356 | | ASPHALT MATERIAL FOR TACK | 225.00 | TON | | \$ | |
| 0100 | 02676 | | MOBILIZATION FOR MILL & TEXT | 1.00 | LS | | \$ | |
| 0110 | 02677 | | ASPHALT PAVE MILLING & TEXTURING | 57,951.00 | TON | | \$ | |
| 0120 | 02696 | | SHOULDER RUMBLE STRIPS | 239,060.00 | LF | | \$ | |
| 0130 | 20071EC | | JOINT ADHESIVE | 244,337.00 | LF | | \$ | |
| 0140 | 21289ED | | LONGITUDINAL EDGE KEY | 1,325.00 | LF | | \$ | |

Section: 0002 - ROADWAY

| LINE | BID CODE | ALT | DESCRIPTION | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|--|----------|------|-----------|----|--------|
| 0150 | 00078 | | CRUSHED AGGREGATE SIZE NO 2 | 1,208.00 | TON | | \$ | |
| 0160 | 01005 | | PERFORATED PIPE EDGE DRAIN-4 IN | 5,872.00 | LF | | \$ | |
| 0170 | 01006 | | PERFORATED PIPE EDGE DRAIN-6 IN | 5,872.00 | LF | | \$ | |
| 0180 | 01010 | | NON-PERFORATED PIPE-4 IN | 180.00 | LF | | \$ | |
| 0190 | 01011 | | NON-PERFORATED PIPE-6 IN | 180.00 | LF | | \$ | |
| 0200 | 01020 | | PERF PIPE HEADWALL TY 1-4 IN | 4.00 | EACH | | \$ | |
| 0210 | 01021 | | PERF PIPE HEADWALL TY 1-6 IN | 4.00 | EACH | | \$ | |
| 0220 | 01024 | | PERF PIPE HEADWALL TY 2-4 IN | 4.00 | EACH | | \$ | |
| 0230 | 01025 | | PERF PIPE HEADWALL TY 2-6 IN | 4.00 | EACH | | \$ | |
| 0240 | 01028 | | PERF PIPE HEADWALL TY 3-4 IN | 4.00 | EACH | | \$ | |
| 0250 | 01029 | | PERF PIPE HEADWALL TY 3-6 IN | 4.00 | EACH | | \$ | |
| 0260 | 01740 | | CORED HOLE DRAINAGE BOX CON-4 IN | 1.00 | EACH | | \$ | |
| 0270 | 01741 | | CORED HOLE DRAINAGE BOX CON-6 IN | 1.00 | EACH | | \$ | |
| 0280 | 01982 | | DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE | 130.00 | EACH | | \$ | |
| 0290 | 01983 | | DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL YELLOW | 7.00 | EACH | | \$ | |
| 0300 | 01984 | | DELINEATOR FOR BARRIER - WHITE | 62.00 | EACH | | \$ | |
| 0310 | 02014 | | BARRICADE-TYPE III | 8.00 | EACH | | \$ | |
| 0320 | 02159 | | TEMP DITCH | 5,000.00 | LF | | \$ | |
| 0330 | 02160 | | CLEAN TEMP DITCH | 5,000.00 | LF | | \$ | |
| 0340 | 02230 | | EMBANKMENT IN PLACE | 8,267.00 | CUYD | | \$ | |
| 0350 | 02262 | | FENCE-WOVEN WIRE TYPE 1 | 100.00 | LF | | \$ | |
| 0360 | 02265 | | REMOVE FENCE | 100.00 | LF | | \$ | |
| 0370 | 02360 | | GUARDRAIL TERMINAL SECTION NO 1 | 5.00 | EACH | | \$ | |
| 0380 | 02381 | | REMOVE GUARDRAIL | 6,225.00 | LF | | \$ | |
| 0390 | 02545 | | CLEARING AND GRUBBING 1 ACRE | 1.00 | LS | | \$ | |
| 0400 | 02565 | | OBJECT MARKER TYPE 2 | 32.00 | EACH | | \$ | |

PROPOSAL BID ITEMS

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| LINE | BID CODE | ALT | DESCRIPTION | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|------------|-----|---|------------|-------|-----------|----|--------------|
| 0410 | 02575 | | DITCHING AND SHOULDERING | 58,714.00 | LF | | \$ | |
| 0420 | 02603 | | FABRIC-GEOTEXTILE CLASS 2 | 75.00 | SQYD | | \$ | |
| 0430 | 02650 | | MAINTAIN & CONTROL TRAFFIC | 1.00 | LS | | \$ | |
| 0440 | 02703 | | SILT TRAP TYPE A | 9.00 | EACH | | \$ | |
| 0450 | 02704 | | SILT TRAP TYPE B | 9.00 | EACH | | \$ | |
| 0460 | 02705 | | SILT TRAP TYPE C | 9.00 | EACH | | \$ | |
| 0470 | 02706 | | CLEAN SILT TRAP TYPE A | 9.00 | EACH | | \$ | |
| 0480 | 02707 | | CLEAN SILT TRAP TYPE B | 9.00 | EACH | | \$ | |
| 0490 | 02708 | | CLEAN SILT TRAP TYPE C | 9.00 | EACH | | \$ | |
| 0500 | 02726 | | STAKING | 1.00 | LS | | \$ | |
| 0510 | 03171 | | CONCRETE BARRIER WALL TYPE 9T | 3,080.00 | LF | | \$ | |
| 0520 | 05950 | | EROSION CONTROL BLANKET | 20,000.00 | SQYD | | \$ | |
| 0530 | 05952 | | TEMP MULCH | 26,667.00 | SQYD | | \$ | |
| 0540 | 05953 | | TEMP SEEDING AND PROTECTION | 20,000.00 | SQYD | | \$ | |
| 0550 | 05963 | | INITIAL FERTILIZER | 2.10 | TON | | \$ | |
| 0560 | 05964 | | MAINTENANCE FERTILIZER | 1.30 | TON | | \$ | |
| 0570 | 05985 | | SEEDING AND PROTECTION | 40,000.00 | SQYD | | \$ | |
| 0580 | 05992 | | AGRICULTURAL LIMESTONE | 24.80 | TON | | \$ | |
| 0590 | 06401 | | FLEXIBLE DELINEATOR POST-M/W | 1,266.00 | EACH | | \$ | |
| 0600 | 06404 | | FLEXIBLE DELINEATOR POST-M/Y | 85.00 | EACH | | \$ | |
| 0610 | 06511 | | PAVE STRIPING-TEMP PAINT-6 IN | 307,872.00 | LF | | \$ | |
| 0620 | 06546 | | PAVE STRIPING-THERMO-12 IN W | 3,430.00 | LF | | \$ | |
| 0630 | 06549 | | PAVE STRIPING-TEMP REM TAPE-B | 4,500.00 | LF | | \$ | |
| 0640 | 06550 | | PAVE STRIPING-TEMP REM TAPE-W | 1,800.00 | LF | | \$ | |
| 0650 | 06551 | | PAVE STRIPING-TEMP REM TAPE-Y | 1,800.00 | LF | | \$ | |
| 0660 | 06573 | | PAVE MARKING-THERMO STR ARROW | 2.00 | EACH | | \$ | |
| 0670 | 06585 | | PAVEMENT MARKER TY IVA-MW TEMP | 75.00 | EACH | | \$ | |
| 0680 | 08903 | | CRASH CUSHION TY VI CLASS BT TL3 | 1.00 | EACH | | \$ | |
| 0690 | 10020NS | | FUEL ADJUSTMENT | 71,958.00 | DOLL | \$1.00 | \$ | \$71,958.00 |
| 0700 | 10030NS | | ASPHALT ADJUSTMENT | 180,737.00 | DOLL | \$1.00 | \$ | \$180,737.00 |
| 0710 | 20629NS719 | | THRIE BEAM TO W BEAM CONNECTOR | 1.00 | EACH | | \$ | |
| 0720 | 20758ED | | REMOVE AND RESET PERF PIPE HEADWALL | 1.00 | EACH | | \$ | |
| 0730 | 21380ES719 | | GUARDRAIL THRIE BEAM | 812.50 | LF | | \$ | |
| 0740 | 21802EN | | G/R STEEL W BEAM-S FACE (7 FT POST) | 5,412.50 | LF | | \$ | |
| 0750 | 22660EN | | REPLACE GRATE | 1,011.00 | LB | | \$ | |
| 0760 | 24489EC | | INLAID PAVEMENT MARKER | 1,779.00 | EACH | | \$ | |
| 0770 | 24679ED | | PAVE MARK THERMO CHEVRON | 972.00 | SQFT | | \$ | |
| 0780 | 24873EC | | CONTROL SYSTEM FOR INCIDENT MANAGEMENT | 1.00 | L S | | \$ | |
| 0790 | 25008EC | | PAVE STRIPING-THERMO-6 IN W-WET REFLECT | 152,560.00 | LF | | \$ | |
| 0800 | 25009EC | | PAVE STRIPING-THERMO-6 IN Y-WET REFLECT | 121,633.00 | LF | | \$ | |
| 0810 | 25019EC | | GROOVE FOR PAVE STRIPING - 7 IN | 274,193.00 | LF | | \$ | |
| 0820 | 25075EC | | QUEUE PROTECTION VEHICLE | 240.00 | HOURL | | \$ | |
| 0830 | 25076EC | | FURNISH QUEUE PROTECTION VEHICLES | 1.00 | LS | | \$ | |
| 0840 | 40030 | | TEMPORARY SILT FENCE | 5,000.00 | LF | | \$ | |

Section: 0003 - TRAFFIC LOOPS

PROPOSAL BID ITEMS

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Report Date 10/27/20

| LINE | BID CODE | ALT | DESCRIPTION | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|------------|-----|--------------------------------|----------|------|-----------|----|--------|
| 0850 | 04793 | | CONDUIT-1 1/4 IN | 180.00 | LF | | \$ | |
| 0860 | 04795 | | CONDUIT-2 IN | 100.00 | LF | | \$ | |
| 0870 | 04820 | | TRENCHING AND BACKFILLING | 270.00 | LF | | \$ | |
| 0880 | 04829 | | PIEZOELECTRIC SENSOR | 12.00 | EACH | | \$ | |
| 0890 | 04830 | | LOOP WIRE | 6,680.00 | LF | | \$ | |
| 0900 | 04895 | | LOOP SAW SLOT AND FILL | 850.00 | LF | | \$ | |
| 0910 | 20359NN | | GALVANIZED STEEL CABINET | 2.00 | EACH | | \$ | |
| 0920 | 20360ES818 | | WOOD POST | 4.00 | EACH | | \$ | |
| 0930 | 20391NS835 | | ELECTRICAL JUNCTION BOX TYPE A | 6.00 | EACH | | \$ | |

Section: 0004 - DEMOBILIZATION &/OR MOBILIZATION

| LINE | BID CODE | ALT | DESCRIPTION | QUANTITY | UNIT | UNIT PRIC | FP | AMOUNT |
|------|----------|-----|----------------|----------|------|-----------|----|--------|
| 0940 | 02568 | | MOBILIZATION | 1.00 | LS | | \$ | |
| 0950 | 02569 | | DEMOBILIZATION | 1.00 | LS | | \$ | |