

**UTILITIES**

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AES OHIO  
1900 DRYDEN ROAD  
DAYTON, OH 45439  
CONTACT: MR. WILLIAM WARD  
PHONE: (937) 554-9063  
WILLIAM.WARD@AES.COM

GREENE COUNTY SANITARY ENGINEERING:  
667 DAYTON XENIA ROAD  
XENIA, OH 45385  
CONTACT: PROJECT MANAGER  
SED\_PM@CO.GREENE.OH.US

ODOT DISTRICT 8:  
505 SOUTH STATE ROUTE 741  
PO BOX 272  
BUILDING 2801  
LEBANON, OH 45036  
CONTACT: MS. JIM JUDD  
PHONE: (513) 933-6692

TELEPHONE:  
AT&T METRO/LNS  
CCI NETWORKS, LLC  
2649 GARDNER ROAD  
BROADVIEW, IL 60155  
CONTACT: TIM LAPOINTE  
PHONE: (713) 830-7437  
t10695@att.com

TELEPHONE:  
AT&T TRANSMISSION LONG DISTANCE  
7555 E. PLEASANT VALLEY RD. SUITE 140  
INDEPENDANCE, OH 44131  
CONTACT: MICHAEL DIEDERICH  
PHONE: (216) 750-0135  
MD4145@ATT.COM

TELEPHONE:  
AT&T OHIO  
DAYTON, OH 45459  
CONTACT: HOWARD LAUDERMILK  
PHONE: (937) 296-3588

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

**ROUNDING**

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

**EXISTING PLANS**

EXISTING PLANS ENTITLED GRE-35-(0.13-9.45) AND GRE-35-1.17 MAY BE INSPECTED IN THE ODOT DISTRICT 8 OFFICE IN LEBANON, OHIO

**SURVEYING PARAMETERS**

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS. SEE SHEET NO. 5 OF THE PLANS FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

**PROJECT CONTROL**

POSITIONING METHOD: STATIC GNSS  
MONUMENT TYPE: A

**VERTICAL POSITIONING**

ORTHOMETRIC HEIGHT DATUM: NAVD88  
GEOID: GEOID03

**HORIZONTAL POSITIONING**

REFERENCE FRAME: NAD85(1995)  
ELLIPSOID: GRS80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO STATE PLANE SOUTH ZONE  
COMBINED SCALE FACTOR: 0.99991836  
ORIGIN OF COORDINATE SYSTEM: 0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH CMS 623.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

**WORK LIMITS**

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

**CLEARING AND GRUBBING**

THE DEPARTMENT HAS NOT MARKED INDIVIDUAL TREES AND STUMPS FOR REMOVAL. UNLESS SPECIFICALLY DESIGNATED AS "DO NOT DISTURB" IN THE PLANS, REMOVE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID FOR ITEM 201 CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	TOTAL
18"	645
30"	107
48"	6

**BENCHING OF FOUNDATION SLOPES**

ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05.

**ITEM 204 - PROOF ROLLING**

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 - PROOF ROLLING 45 HOURS.

**AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS**

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 50 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT SHALL EXCEED THE PERMISSIBLE HEIGHT, UNTIL A COPY OF THE FAA APPROVAL AND THE ODOT OFFICE OF AVIATION PERMIT HAS BEEN FURNISHED TO THE PROJECT ENGINEER.

FEDERAL AVIATION ADMINISTRATION  
SOUTHWEST REGIONAL OFFICE  
OBSTRUCTION EVALUATION GROUP  
10101 HILLWOOD PARKWAY  
FORT WORTH, TX 76177  
FAX: (817) 222-5920  
HTTP://CEAAA.FAA.GOV

OHIO DEPARTMENT OF TRANSPORTATION  
OFFICE OF AVIATION  
2829 WEST DUBLIN-GRANVILLE ROAD  
COLUMBUS, OHIO 43235  
OHIO.AIRPORT.PROTECTION@DOT.OHIO.GOV

**PART-WIDTH CONSTRUCTION**

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

**CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL**

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

**CONTRACTION AND/OR EXPANSION JOINTS**

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

**FENCE LENGTHS**

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

**EXISTING PAVEMENT THICKNESS**

THE EXISTING PAVEMENT THICKNESS SHOWN ON SHEETS 11,12, 27, AND 29 ARE APPROXIMATE ONLY. THE CONTRACTOR IS TO REFER TO THE CORRESPONDING BORING LOG/SOIL PROFILE INFORMATION SHEETS FOR THE PAVEMENT THICKNESS AT SPECIFIC LOCATIONS.

**PAVEMENT RESTORATION FOR PIPE INSTALLATIONS AND/OR REMOVALS**

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PAVEMENT RESTORATION FOLLOWING INSTALLATION AND/OR REMOVAL OF PIPES.

ITEM 301 - ASPHALT CONCRETE BASE, PG64-22 9 CU. YDS.  
ITEM 202 - PAVEMENT REMOVED, AS PER PLAN 24 SQ. YDS.

THE ABOVE QUANTITY IS BASED ON A 301 THICKNESS OF 13" INCHES AND A PAVEMENT RESTORATION WIDTH THAT INCLUDES THE TRENCH WIDTH PLUS TWO FEET ON EACH SIDE OF THE TRENCH.

PROVIDE ANY MATERIALS USED OUTSIDE THE LIMITS STATED ABOVE AT NO ADDITIONAL COST.

**ITEM 607, FENCE, SNOW**

THE FOLLOWING QUANTITY HAS BEEN PROVIDED FOR PLACING OF TEMPORARY SNOW FENCE DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.

LOCATION:  
US 35 STA. 295+00 LT. TO STA. 323+50 LT.  
TREBEIN RD. STA. 890+50 RT. TO 898+00 RT.

ITEM 607 - FENCE, SNOW 3600 FT

PAYMENT FOR THE ABOVE WORK SHALL INCLUDE ALL MATERIAL, EQUIPMENT, PARTS, LABOR, AND TOOLS NEEDED TO SECURELY PLACE TEMPORARY SNOW FENCE.

**ITEM 206 - MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS, AS PER PLAN**

OBTAIN SOIL SAMPLES AS OUTLINED IN SUPPLEMENT 1120 FOLLOWING EXCAVATION OR EMBANKMENT PLACEMENT TO THE DESIGN SUBGRADE LEVEL. THE SOIL SAMPLES FOR SUPPLEMENT 1120 TESTING ARE TO BE OBTAINED FROM THE ACTUAL SUBGRADE SOILS. SAMPLING OF THE SOILS OUTSIDE THE ACTUAL STABILIZATION LIMITS OR FROM A BORROW AREA IS PROHIBITED. THE CONSTRUCTION SCHEDULE SHALL INCLUDE SPECIFIC ACTIVITIES FOR SAMPLING AND TESTING OF THE SUBGRADE SOILS FOR ALL PHASES OR PARTIAL PHASES OF CONSTRUCTION. THE INDIVIDUAL CONSTRUCTION PHASES ARE CONSIDERED TO BE PHASE 1, 1A, 2, 3, AND 4. PERFORM THE MIXTURE DESIGN PROCEDURE FOR EACH PHASE AS OUTLINED IN SUPPLEMENT 1120. DURING CONSTRUCTION, OBTAIN FIELD VERIFICATION SAMPLES FOR EACH PHASE OF CONSTRUCTION AND SUBMIT THE TEST RESULTS FOR EACH PHASE AS THE LABORATORY TESTING IS COMPLETE.

CALCULATED  
CHECKED

GENERAL NOTES

GRE-US 35-5.63

30  
698

**ITEM 614, MAINTAINING TRAFFIC**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING, MAINTAINING, AND SUBSEQUENT REMOVAL OF ALL TEMPORARY ROADS AND PAVEMENT, SIGNS AND BARRICADES, BARRIERS, LIGHTS, AND OTHER INCIDENTALS NECESSARY FOR THE PURPOSES OF MAINTAINING TRAFFIC.

FOR US 35 (MAINTAIN 2 LANES IN EACH DIRECTION EXCEPT LANE CLOSURE ALLOWED ACCORDING TO THE PERMITTED LANE CLOSURE TIMES NOTE) AND VALLEY ROAD/TREBEIN ROAD (MAINTAIN 1 LANE IN EACH DIRECTION EXCEPT LANE CLOSURES USING FLAGGERS ARE PERMITTED DURING WORKING HOURS).

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	LABOR DAY
NEW YEAR'S	THANKSGIVING
EASTER	POPCORN FESTIVAL
MEMORIAL DAY	ANKENEY SOCCER COMPLEX TOURNAMENTS
FOURTH OF JULY	HAMVENTION
TOTAL SOLAR ECLIPSE (4/8/24)	

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY - 6:00 AM MONDAY
MONDAY	12:00N FRIDAY - 6:00 AM TUESDAY
MONDAY (TOTAL SOLAR ECLIPSE)	12:00N FRIDAY - 6:00 AM WEDNESDAY
TUESDAY	12:00N MONDAY - 6:00 AM WEDNESDAY
TUESDAY (GEN./REG. ELECTION)	5:00 AM TUESDAY - 12:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY - 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY - 6:00 AM FRIDAY
THURSDAY (THANKSGIVING ONLY)	6:00 AM WEDNESDAY - 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY - 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY - 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER LANE VALUE CONTRACT TABLE.

CONSTRUCTION OF THE PROJECT HAS BEEN DIVIDED INTO FOUR MAJOR PHASES, AS OUTLINED IN THE SEQUENCE OF CONSTRUCTION NOTES (SHEETS 42 THROUGH 43) AND THE SCHEMATIC PLANS SHOWN IN SHEETS 44 THROUGH 55.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION FOR MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ACCESS FOR PROPERTY OWNERS AND BUSINESS TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT. AT LEAST ONE DRIVEWAY SHALL BE MAINTAINED FOR EACH RESIDENCE THROUGHOUT THE PROJECT AREA. ALL REASONABLE EFFORTS SHALL BE MADE TO REDUCE ADVERSE IMPACTS ON THE BUSINESSES AND PROPERTY OWNERS IN THE PROJECT AREA.

NOTICE OF CLOSURE SIGNS (W20-H13), SHALL BE ERECTED BY THE CONTRACTOR PRIOR TO THE VALLEY ROAD CLOSURE IN PRE-PHASE 1 AND PHASE 3, STEP 2. THE NOTICE OF CLOSURE SIGN (W20-H13) SHALL BE DISPLAYED TO THE PUBLIC 14 CALENDAR DAYS PRIOR TO CLOSURE.

**ITEM 614, MAINTAINING TRAFFIC (CONT'D)**

THE SIGNS SHALL BE ERECTED ON THE RIGHT- HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERECTED AT OR NEAR THE POINT OF CLOSURE. THE SIGNS MAY BE ERECTED ANYWHERE ON RAMPS AS LONG AS THEY ARE VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS, THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING MOTORISTS.

**NOTICE CLOSURE SIGN TIME TABLE**

TIME	DURATION OF CLOSURE	SIGN DISPLAYED TO PUBLIC
RAMP &	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
ROAD	> 12 HOURS & < 2 WEEKS	7 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURE	≤ 12 HOURS	2 BUSINESS DAYS PRIOR TO CLOSURE

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN MM-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE.

AFTER THE ROAD IS OPEN TO THROUGH TRAFFIC AND THE "NOTICE OF CLOSURE" SIGNS ARE NO LONGER NEEDED THE CONTRACTOR SHALL REMOVE THE SIGN.

THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND INSTALL THE SIGNS AS DIRECTED BY THE ENGINEER.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.

ROAD NAME WILL BE  
 CLOSED DATE  
 FOR \* DAYS  
 513-933-6060

\* INFORMATION TO BE SUPPLIED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER

W20-H13

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN SCD MT-101.60 DURING PRE-PHASE 1, PHASE 1A, STEP 1 AND PHASE 3, STEP 2 AND THE SIGN LOCATIONS ARE SHOWN ON THE PLANS.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN IN THE PLAN.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE STANDARD CONSTRUCTION DRAWINGS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

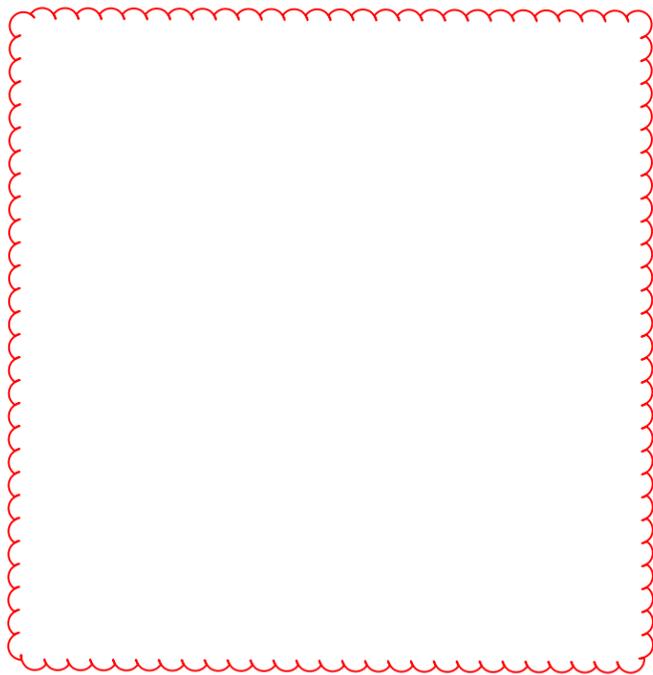
PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS, AND ALL OTHER INCIDENTALS FOR MAINTAINING TRAFFIC SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

**PERMITTED LANE CLOSURE TIMES**

SHORT TERM LANE CLOSURES ARE THOSE WHICH ARE PERMITTED BY THE PERMITTED LANE CLOSURE NOTE. THESE TIMES SHALL NOT BE REVISED WITHOUT PRIOR APPROVAL FROM THE DISTRICT 8 WORK ZONE TRAFFIC CONTROL ENGINEER. SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOUSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED. PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE LANE VALUE CONTRACT TABLE INCLUDED IN THESE PLANS. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

**LANE VALUE CONTRACT TABLE**

DESCRIPTION OF CRITICAL LANE TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE \$ PER TIME UNIT PER LANE
ALL LANES (US 35) OPEN TO TRAFFIC	EB: 7 AM to 7 PM WB: 6 AM to 7 PM	1 MINUTE	\$190
US 35: 15 MIN SHORT DURATION COMPLETE CLOSURE	5:00am 12:00 MIDNIGHT	1 MINUTE	(SAME AS US 35 ALL LANES OPEN TO TRAFFIC)
VALLEY ROAD PRE-PHASE 1 COMPLETE CLOSURE	6:00am 10:00pm (MAX. 2 NIGHTS)	1 MINUTE	\$15
VALLEY ROAD PHASE 3, STEP 2 COMPLETE CLOSURE	21 DAYS	1 DAY	\$2,700



**LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

**LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT'D)**

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 2,000 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

**TEMPORARY WALLS AND TEMPORARY SHORING**

WHERE TEMPORARY RETAINING WALLS OR TEMPORARY SHORING ARE REQUIRED TO COMPLETE WORK IDENTIFIED IN THE PLANS AS "CONSTRUCTION CRITICAL FOR NEXT PHASE", DETAILS FOR THE TEMPORARY WALLS OR TEMPORARY SHORING ARE INCLUDED IN THE PROJECT PLANS.

WORK IDENTIFIED IN THE PLANS AS "CONSTRUCTION AVAILABLE THIS PHASE" MAY NOT BE ABLE TO BE COMPLETED ENTIRELY DURING THAT PARTICULAR PHASE WITHOUT THE NEED FOR ADDITIONAL TEMPORARY WALLS OR SHORING. IF THE CONTRACTOR ELECTS TO ACCELERATE WORK IN AREAS IDENTIFIED AS "CONSTRUCTION AVAILABLE THIS PHASE" SUCH THAT ADDITIONAL TEMPORARY WALLS OR SHORING ARE REQUIRED, THE CONTRACTOR IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF THE TEMPORARY WALLS OR SHORING AT NO ADDITIONAL COST TO THE DEPARTMENT.

**TEMPORARY SHORING FOR STORM PIPE INSTALLATION**

TEMPORARY SHORING REQUIRED FOR STORM PIPE INSTALLATION (DUE TO PART WIDTH CONSTRUCTION) SHALL BE CONSIDERED INCIDENTAL TO ITEM 614, MAINTENANCE OF TRAFFIC. NO SEPARATE PAYMENT SHALL BE MADE.

**TRAFFIC INCIDENT MANAGEMENT (TIM) DURING MOT**

OHIO TIM IS OHIO'S TRAFFIC INCIDENT MANAGEMENT PROGRAM WHICH IS COMMITTED TO MAINTAINING THE SAFE AND EFFECTIVE FLOW OF TRAFFIC DURING EMERGENCIES AS TO PREVENT FURTHER DAMAGE, INJURY OR UNDUE DELAY OF THE MOTORING PUBLIC. IN ADDITION TO COMPLYING WITH THE PROVISION OF OMUTCD CHAPTER 6I, CONTROL OF TRAFFIC THROUGH TRAFFIC INCIDENT MANAGEMENT AREAS, THE CONTRACTOR SHALL ACTIVELY PARTICIPATE IN TIM PLANNING AND IMPLEMENTATION AS OUTLINED BELOW.

1. SUPERINTENDENT SHALL IDENTIFY THE INDIVIDUAL PERSONS ON THE PROJECT WHO WILL, OR MAY NEED TO, PERFORM THE DUTIES HEREIN. AT A MINIMUM, INCLUDE THE SUPERINTENDENT, FOREMEN AND SUPERVISORS (OR EQUIVALENT) AS WELL AS THE WORKSITE TRAFFIC SUPERVISOR (WTS; IF APPLICABLE TO THE PROJECT). THESE INDIVIDUALLY IDENTIFIED PERSONS SHALL COLLECTIVELY BE KNOWN AS CONTRACTOR TRAFFIC INCIDENT MANAGEMENT (TIM) CONTACTS. NOTIFY THE PROJECT ENGINEER OF THE CONTRACTOR TIM CONTACTS (ALONG WITH CONTACT INFORMATION FOR EACH) AT OR BEFORE THE PRECONSTRUCTION MEETING.
2. SUPERINTENDENT SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY CONTRACTOR TIM CONTACT IS ADDED, REMOVED OR THE CONTACT INFORMATION CHANGES OVER THE COURSE OF THE PROJECT.
3. PRIOR THE FIRST DAY OF WORK IN THE FIELD, EACH CONTRACTOR TIM CONTACT ON THE PROJECT SHALL HAVE ATTENDED AND SUCCESSFULLY COMPLETED OHIO TIM TRAINING PROVIDED BY THE DEPARTMENT OR DESIGNEE. TRAINING INFORMATION CAN BE FOUND AT WWW.OHIOTIM.COM.
4. SUPERINTENDENT, AT A MINIMUM, SHALL ATTEND AND ACTIVELY PARTICIPATE IN A DEPARTMENT SCHEDULED TIM MEETING BEFORE CONSTRUCTION WORK BEGINS AND BEFORE EACH PHASE CHANGE. THESE MEETINGS WILL RESULT IN A DEPARTMENT ISSUED PROJECT SPECIFIC TRAFFIC INCIDENT MANAGEMENT PLAN (TIMP). AT THE TIM MEETINGS THE ATTENDING CONTRACTOR TIM CONTACTS SHALL:
  - A. COLLABORATE WITH ODOT AND SAFETY FORCES;
  - B. SHARE PROJECT SPECIFIC DETAILS THAT IMPACT TIM RESPONDERS; AND

**TRAFFIC INCIDENT MANAGEMENT (TIM) DURING MOT (CONT'D)**

C. RECOMMEND WAYS TO INCORPORATE NECESSARY EMERGENCY ACCESS AND OTHER TIM ELEMENTS FOR TIM RESPONDERS GIVEN PROJECT SPECIFIC WORK BEING COMPLETED AND PROJECT SPECIFIC PHASING.

5. CONTRACTOR TIM CONTACTS SHALL IMPLEMENT COMPONENTS OF THE RESULTING TIMP (SUCH AS APPROVED EMERGENCY INGRESS/EGRESS POINTS, ETC), AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH 109.05.
6. CONTRACTOR TIM CONTACTS SHALL PERFORM, AT A MINIMUM, THE FOLLOWING FUNCTIONS WHEN AN INCIDENT/CRASH OCCURS:
  - A. IF OBSERVED OR PRESENT WHEN OCCURS, CALL 911 AND THEN NOTIFY THE TRAFFIC MANAGEMENT CENTER (TMC) TO PROVIDE THE FOLLOWING:
    - I. LOCATION, INCLUDING MILEPOST NUMBER AND DIRECTION OF TRAVEL
    - II. NUMBER AND TYPE OF VEHICLES INVOLVED, IF KNOWN
    - III. ESTIMATED EXTENT OF DAMAGE OR INJURY, IF KNOWN
    - IV. ESTIMATED NUMBER OF PATIENTS INVOLVED, IF KNOWN
    - V. ANY POTENTIAL HAZARDOUS CONDITIONS, IF KNOWN
    - VI. THE PLACARD NUMBER ON ANY HAZARDOUS MATERIALS PLACARD FROM A SAFE DISTANCE, IF APPLICABLE AND VISIBLE
  - B. FOLLOWING AN INCIDENT/CRASH:
    - I. INITIATE TRAFFIC MANAGEMENT/PROVIDE TEMPORARY TRAFFIC CONTROL AS INDICATED IN THE TIMP, AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH 109.05.
    - II. RECOMMEND ROADWAY REPAIR NEEDS.
    - III. PROVIDE REPAIR RESOURCES AND INITIATE REPAIRS, AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH 109.05.
    - IV. ATTEND AND PARTICIPATE IN AN AFTER ACTION REVIEW (AAR).

ALL COSTS, UNLESS OTHERWISE SPECIFIED, RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614, MAINTAINING TRAFFIC. FAILURE TO PERFORM THE REQUIREMENTS OF THIS PLAN NOTE WILL RESULT IN A DAILY FINE OF 2% OF ITEM 614, MAINTAINING TRAFFIC AND MAY RESULT IN ONE OR MORE CONTRACTOR TIM CONTACTS BEING REMOVED FROM THE LIST OF OHIO TIM TRAINED INDIVIDUALS (AT THE SOLE DISCRETION OF THE OHIO TIM EXECUTIVE COMMITTEE). IN THE EVENT AN INDIVIDUAL IS REMOVED FROM THE OHIO TIM TRAINED LIST, THE INDIVIDUAL WILL BE REMOVED FROM CONTRACTOR TIM CONTACT RESPONSIBILITIES ON ALL PROJECTS.

**ITEM 614, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN**

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.

RAISED PAVEMENT MARKERS IN USE DURING THE SNOW-PLOWING SEASON SHALL CONFORM TO 621.

RAISED PAVEMENT MARKERS IN USE DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR TO 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER C&MS 621.08.

AN ESTIMATED QUANTITY OF 2480 EACH OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

**DELINEATION OF PORTABLE AND PERMANENT BARRIER**

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLE-STACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

**DELINEATION OF PORTABLE AND PERMANENT BARRIER (CONT'D)**

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

- ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY) 1018 EACH
- ITEM 614, BARRIER REFLECTOR, TYPE 1 (TWO-WAY) 132 EACH
- ITEM 614, OBJECT MARKER, ONE-WAY 1150 EACH
- ITEM 614, INCREASED BARRIER DELINEATION 2412 FEET

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

**DELINEATION OF TEMPORARY AND PERMANENT GUARDRAIL**

BARRIER REFLECTORS SHALL BE INSTALLED ON ALL TEMPORARY GUARDRAIL USED FOR TRAFFIC CONTROL; AND, ON ALL PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. BARRIER REFLECTORS SHALL CONFORM TO C&MS 626 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET.

OBJECT MARKERS SHALL BE INSTALLED ON ALL TEMPORARY AND PERMANENT GUARDRAIL LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE. GUARDRAIL-MOUNTING OF OBJECT MARKERS SHALL BE MADE BY INSTALLING THE OBJECT MARKERS ON THE EXTENSION BLOCKS RATHER THAN DIRECTLY ONTO THE GUARDRAIL ITSELF. OBJECT MARKERS SHALL CONFORM TO C&MS 614.03 AND THE SPACING SHALL BE APPROXIMATELY 50 FEET WITH A 25 FOOT OFFSET FROM THE BARRIER REFLECTORS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

- ITEM 614, BARRIER REFLECTOR, TYPE 2, ONE-WAY 28 EACH
- ITEM 614, OBJECT MARKER, ONE-WAY 28 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE ABOVE ITEMS).

**ITEM 614 - DETOUR SIGNING**

THE CONTRACTOR SHALL ERECT, MAINTAIN, AND SUBSEQUENTLY REMOVE ALL DETOUR SIGNING AND SUPPORTS SPECIFIED IN THE DETOUR-SIGNING PLANS, AND IN ACCORDANCE WITH CMS 614.06.

SHOULD THE CONTRACTOR FAIL TO REMOVE THE DETOUR SIGNING AND SUPPORTS BY THE REQUIRED TIME LIMIT, LIQUIDATED DAMAGES AS SPECIFIED IN PLAN NOTES, SHALL BE ASSESSED IN ACCORDANCE WITH CMS 108.07.

PAYMENT SHALL BE MADE AT THE LUMP SUM CONTRACT PRICE FOR ITEM 614, DETOUR SIGNING. PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND OTHER INCIDENTALS NECESSARY TO INSTALL AND ERECT, MAINTAIN, AND REMOVE THE DESIGNATED DETOUR ROUTE.

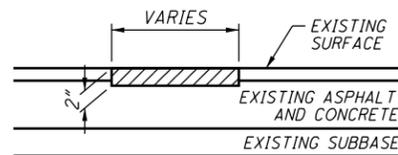
**ITEM 606, ANCHOR ASSEMBLY, TYPE T**

USE TYPE T ANCHOR ASSEMBLIES ON THE TRAILING END OF EXISTING GUARDRAIL RUNS AS SPECIFIED ON THE PHASING PLANS AND IN ACCORDANCE WITH DETAILS SHOWN ON SHEETS 102-103.

AN ESTIMATED QUANTITY OF 3 EACH OF ITEM 606 ANCHOR ASSEMBLY, TYPE T HAS BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

**ITEM 253 PARTIAL DEPTH PAVEMENT REPAIR**

THE FOLLOWING ESTIMATED QUANTITIES OF ITEM 253 PARTIAL DEPTH PAVEMENT REPAIR HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED IN EACH YEAR OF MOT AS DIRECTED BY THE ENGINEER FOR MAINTAINING TRAFFIC.



EXISTING DETERIORATED ASPHALT SHALL BE REMOVED TO A MINIMUM DEPTH OF 4 INCHES OR TOP OF CONCRETE OR AS DIRECTED BY THE ENGINEER AND REPLACED WITH ITEM 301, ASPHALT CONCRETE BASE. THE 301 SHALL BE COMPACTED AS PER 401.15 AND IN APPROXIMATELY EQUAL LAYERS IF REQUIRED DUE TO THE DEPTH OF REPAIR. THE LOCATIONS AND SIZE OF THE REPAIRS SHALL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 253 PAVEMENT REPAIR, PERFORMED IN 2023 500 CU YDS  
 ITEM 253 PAVEMENT REPAIR, PERFORMED IN 2024 300 CY YDS

**OVERNIGHT TRENCH CLOSING**

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH ACCORDING TO MT-101.90 CONDITION II BELOW. THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

**TRENCH FOR WIDENING**

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

**PLACEMENT OF ASPHALT CONCRETE**

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

**FLOODLIGHTING**

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

**TEMPORARY EMBANKMENT FOR MAINTENANCE OF TRAFFIC**

TEMPORARY EMBANKMENT PLACED FOR DIVERSION 7 (EAST END OF PROJECT) IS TO REMAIN IN PLACE AT THE END OF THE PROJECT. TEMPORARY EMBANKMENT PLACED FOR DIVERSION 6 (WEST END OF PROJECT) IS TO BE REMOVED AT THE END OF THE PROJECT. THE CONTRACTOR MAY ELECT TO KEEP PORTIONS OF TEMPORARY EMBANKMENT IN PLACE PROVIDED A FINAL PERMANENT GRADED FORESLOPE AND BACKSLOPE OF 2:1 AND DITCH BOTTOM WIDTH (INCLUDING MODIFIED WIDTH) MATCHING THE PLANS BEHIND GUARDRAIL IS PROVIDED, AND 3:1 MINIMUM FORESLOPES WITH BACKSLOPES AND DITCH BOTTOM (INCLUDING MODIFIED WIDTH) MATCHING THE PLANS WHERE NO GUARDRAIL IS PROPOSED. ALL DITCH BACKSLOPES SHALL BE LOCATED COMPLETELY WITHIN THE PERMANENT RIGHT-OF-WAY LIMITS.

Martin.Pierce@jacobs.com

12/21/2022 8:45:43 AM

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**LEGEND**

	CONSTRUCTION AVAILABLE THIS PHASE	CONSTRUCTION CRITICAL FOR NEXT PHASE	
			PERMANENT BRIDGE
			PERMANENT ROADWAY
			TEMPORARY ROADWAY
			TEMPORARY WALL (TW)
			ROAD/RAMP CLOSED
			DEMOLITION AND REMOVAL
			TYPE 3 BARRICADE WITH R11-2 (ROAD CLOSED)
			WORK ZONE IMPACT ATTENUATOR
			DRUM
			TRAFFIC MAINTAINED/DIRECTION OF TRAVEL
			PORTABLE BARRIER
			SIGN RELOCATED
			SIGN REMOVED
			WORK ZONE YELLOW EDGE LINE
			WORK ZONE WHITE EDGE LINE
			WORK ZONE LANE LINE
			WORK ZONE CHANNELIZING LINE
			WORK ZONE WHITE DOTTED LINE
			WORK ZONE DOUBLE YELLOW LINE
			WORK ZONE STOP LINE
			PORTABLE BARRIER
			PAVEMENT FOR MAINTAINING TRAFFIC (TEMPORARY)
			PORTABLE BARRIER, 50", AS PER PLAN

CONSTRUCTION OF THE PROJECT HAS BEEN DIVIDED INTO 4 CONSTRUCTION PHASES.

THE ASSUMED CONSTRUCTION TRAFFIC PHASING SCHEMES WOULD REQUIRE SOME SEGMENTS OF THE ROADWAY ON THE SAME ALIGNMENT TO BE CONSTRUCTED IN SEPARATE PHASES. APPROXIMATE ALIGNMENT STATIONS FOR CONSTRUCTION PHASES HAVE BEEN PROVIDED IN THE PLANS.

THE CONTRACTOR CAN ELECT TO COMPLETE INDIVIDUAL CONSTRUCTION TRAFFIC PHASES ANY TIME DURING THE PROJECT CONTRACT, PROVIDED THE PREREQUISITES HAVE BEEN MET, AND FINAL COMPLETION DATE IS MET.

**PRE-PHASE 1 CONSTRUCTION**

OBJECTIVE: INSTALL TEMPORARY PIPE CULVERT CROSSING EXISTING VALLEY ROAD, AS SHOWN IN THE PLAN.

TRAFFIC ROUTING: ALL TRAFFIC ON EXISTING FACILITIES, EXCEPT VALLEY ROAD (SOUTH OF US 35 IS CLOSED).

CLOSED TO TRAFFIC:

- VALLEY ROAD (SOUTH OF US 35) AT INTERSECTION WITH US 35 IS CLOSED (TWO OVERNIGHT CLOSURES); 10:00 PM TO 6:00 AM EACH CLOSURE.

DETOUR

- DIVERT VALLEY ROAD TRAFFIC VIA PROGRESS DRIVE AND UPPER BELLBROOK ROAD (SEE DETOUR PLAN).

**PHASE 1 CONSTRUCTION**

OBJECTIVE: COMPLETE AND OPEN NEW VALLEY ROAD/TREBEIN ROAD BRIDGE OVERPASS.

**TRAFFIC PHASE 1**

TRAFFIC ROUTING – ALL TRAFFIC ON EXISTING FACILITIES:

OPEN TO TRAFFIC:

- MAINTAIN LOCAL ACCESS ON VALLEY ROAD AND TREBEIN ROAD

CLOSED TO TRAFFIC

- US 35 WB TO VALLEY ROAD (LEFT TURN LANE)
- COVER THE LEFT TURN SIGNAL HEAD

DETOUR

- DIVERT US 35 WB TO VALLEY TRAFFIC TO USE THE SUPER STREET TURNAROUND (ORCHARD LANE)

CONSTRUCTION CRITICAL TO TRAFFIC PHASE 2

PERMANENT ROADWAY CONSTRUCTION

- VALLEY/TREBEIN ROAD STA 870+00 TO 887+00
- RAMP F STA 829+75 TO 843+00
- RAMP G STA 929+50 TO 945+00

PERMANENT BRIDGE CONSTRUCTION

- GRE-035-0627: VALLEY ROAD/TREBEIN ROAD OVER US 35

PERMANENT RETAINING WALL CONSTRUCTION

- RW-01: TREBEIN ROAD – SOUTH ABUTMENT
- RW-02B: TREBEIN ROAD – NORTH ABUTMENT

CONSTRUCTION AVAILABLE THIS TRAFFIC PHASE

PERMANENT ROADWAY CONSTRUCTION

- RAMP H STA 1030+90 TO 1045+00
- RAMP E STA 721+00 TO 727+50

PERMANENT BRIDGE CONSTRUCTION

- GRE-035-0610: RAMP E OVER LITTLE MIAMI RIVER

TEMPORARY RETAINING WALL CONSTRUCTION

- TW-1: WEST OF EXISTING TREBEIN ROAD
- TW-2: EAST OF EXISTING TREBEIN ROAD

**TRAFFIC PHASE 1A**

OBJECTIVE: COMPLETE VALLEY ROAD/TREBEIN ROAD IN 3 STEPS.

**PHASE 1A, STEP 1**

TRAFFIC ROUTING:

- MAINTAIN EXISTING VALLEY ROAD/TREBEIN ROAD

CONSTRUCTION CRITICAL TO NEXT TRAFFIC PHASE

TEMPORARY ROADWAY (DIVERSIONS)

- DIVERSION NO. 1 – WIDEN EXISTING PAVEMENT AT VALLEY ROAD, LT (WEST SIDE)
- DIVERSION NO. 2 – WIDEN EXISTING PAVEMENT AT TREBEIN ROAD, LT (WEST SIDE)
- DIVERSION NO. 5 – TEMPORARY INTERSECTION CONNECTION AT EXISTING VALLEY ROAD AND PROPOSED VALLEY ROAD – SOUTH OF US 35

**PHASE 1A, STEP 2**

TRAFFIC ROUTING:

- SHIFT EXISTING VALLEY ROAD TRAFFIC ONTO TEMPORARY ROAD (DIVERSION NO. 1)
- SHIFT EXISTING TREBEIN ROAD TRAFFIC ONTO TEMPORARY ROAD (DIVERSION NO. 2)

CONSTRUCTION CRITICAL TO NEXT TRAFFIC PHASE

TEMPORARY ROADWAY (DIVERSIONS)

- DIVERSION NO. 3 – WIDEN EXISTING PAVEMENT AT VALLEY ROAD, RT - TEMPORARY CONNECTION (EAST SIDE)
- DIVERSION NO. 5 – COMPLETE TIE-IN OF TEMPORARY CONNECTION TO EXISTING VALLEY ROAD
- DIVERSION NO. 5A – COMPLETE TIE-IN OF TEMPORARY CONNECTION TO EXISTING VALLEY ROAD FOR TEMPORARY DRIVEWAY ACCESS
- DIVERSION NO. 4C – TEMPORARY WIDENING/REPAIR OF EXISTING PAVEMENT AT PROPOSED MEDIAN BRIDGE PIERS (GRE-035-0627)

PERMANENT ROADWAY CONSTRUCTION

- VALLEY/TREBEIN ROAD STA 887+00 TO 897+90.97, RT
- DRIVE AT VALLEY ROAD, STA 869+02.36, LT (PARTIAL)
- GLEN THOMPSON ACCESS DR (PARTIAL) AT TREBEIN ROAD STA 887+50, LT

CONSTRUCTION AVAILABLE THIS TRAFFIC PHASE

PERMANENT ROADWAY CONSTRUCTION

- VALLEY/TREBEIN ROAD STA 864+00 TO 870+00, RT

**PHASE 1A, STEP 3**

OBJECTIVES:

- COMPLETE CONSTRUCTION OF GLENN THOMPSON ACCESS DRIVE TO PARK FACILITIES
- COMPLETE CONSTRUCTION OF DRIVE AT VALLEY ROAD, STA 869+02.36, LT

TRAFFIC ROUTING

- DIVERT TRAFFIC ON EXISTING VALLEY ROAD AND EXISTING TREBEIN ROAD TO USE NEWLY CONSTRUCTED VALLEY/TREBEIN ROAD BRIDGE OVERPASS
- MAINTAIN LOCAL ACCESS VIA EXISTING VALLEY ROAD (SOUTH OF US 35)
- MAINTAIN LOCAL ACCESS TO PARK FACILITIES VIA EXISTING VALLEY ROAD

CLOSED TO TRAFFIC:

- US 35 WESTBOUND (RIGHT TURN LANE) TO TREBEIN ROAD (NORTH OF US 35)
- US 35 EASTBOUND (LEFT TURN LANE) TO TREBEIN ROAD (NORTH OF US 35)
- COVER THE LEFT TURN SIGNAL HEAD

DIVERSION ROUTE:

- SIGN FOR US 35 WESTBOUND TO TREBEIN ROAD TO USE EXISTING VALLEY ROAD VIA TEMPORARY ROAD (DIVERSION NO. 5)/NEW OVERPASS (SOUTH OF US 35)
- SIGN FOR US 35 EASTBOUND TO TREBEIN ROAD TO USE EXISTING VALLEY ROAD VIA TEMPORARY ROAD (DIVERSION NO. 5)/NEW OVERPASS (SOUTH OF US 35)

CONSTRUCTION CRITICAL TO NEXT TRAFFIC PHASE

PERMANENT ROADWAY CONSTRUCTION

- GLEN THOMPSON ACCESS DRIVE (TREBEIN ROAD AT STA 888+75, LT)
- COMPLETE CONSTRUCTION OF DRIVE AT VALLEY ROAD, STA 869+02.36, LT

**PHASE 2 CONSTRUCTION**

OBJECTIVES:

- OPEN RAMP E
- OPEN RAMP H

CONSTRUCT PHASE 2 CONSTRUCTION IN 2 STEPS.

PHASE 2, STEP 1

TRAFFIC ROUTING – US 35 ON EXISTING FACILITIES, EXCEPT AS NOTED BELOW:

OPEN TO TRAFFIC:

- ADJUST EXISTING SIGNAL HEADS FOR US 35 WESTBOUND AND EASTBOUND AT THE EXISTING VALLEY ROAD/TREBEIN ROAD INTERSECTION FOR ALL TRAFFIC PHASES OF CONSTRUCTION. ALL MATERIALS AND LABOR REQUIRED FOR ADJUSTING AND MODIFYING SIGNAL HEADS AND TRAFFIC LANE USE SIGNS FOR THE PURPOSE OF MAINTAINING TRAFFIC SHALL BE CONSIDERED INCIDENTAL TO ITEM 614, MAINTENANCE OF TRAFFIC.

SHEET NUM.										PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
30	185	186	187	189	195	602	Office Calcs.	01/NHS/OT	02/NHS/BR	03/NHS/BR								
<b>ROADWAY</b>																		
LS								LS				201	11000	LS		CLEARING AND GRUBBING		
24	64,886							64,910				202	23001	64,910	SY	PAVEMENT REMOVED, AS PER PLAN	32	
	769							769				202	30600	769	SY	CONCRETE MEDIAN REMOVED		
	1,725							1,725				202	35100	1,725	FT	PIPE REMOVED, 24" AND UNDER		
	90			39				129				202	35200	129	FT	PIPE REMOVED, OVER 24"		
	5,097							5,097				202	38000	5,097	FT	GUARDRAIL REMOVED		
	9,132							9,132				202	38300	9,132	FT	GUARDRAIL REMOVED, BARRIER DESIGN		
	8							8				202	47800	8	EACH	IMPACT ATTENUATOR REMOVED		
	2							2				202	53100	2	EACH	MAILBOX REMOVED		
	1							1				202	56100	1	EACH	BUILDING DEMOLISHED, GRAIN SILO		
	11							11				202	58100	11	EACH	CATCH BASIN REMOVED		
	6							6				202	58200	6	EACH	INLET REMOVED		
						15,046		15,046				202	75000	15,046	FT	FENCE REMOVED		
						3		3				202	75250	3	EACH	GATE REMOVED		
	1							1				202	98100	1	EACH	REMOVAL MISC.: SEPTIC TANK AND LEACH FIELD		
	2							2				202	98100	2	EACH	REMOVAL MISC.: PRECAST CONCRETE OUTLET		
	2							2				202	98100	2	EACH	REMOVAL MISC.: PRIVATE WOODEN SIGN		
	9							9				202	98100	9	EACH	REMOVAL MISC.: CONCRETE BUMPER BLOCKS		
	2							2				202	98100	2	EACH	REMOVAL MISC.: CONCRETE FOUNDATION		
	21							21				202	98300	21	SY	REMOVAL MISC.: ROCK CHANNEL PROTECTION		
	10							10				202	98700	10	FT	ABANDON MISC.: PIPE 24" AND UNDER		
	131		24,705					24,836				203	10000	24,836	CY	EXCAVATION		
						1,479		1,479				203	10001	1,479	CY	EXCAVATION, AS PER PLAN (VERTICAL SIDES ONLY)	32	
	2,753		227,731			84		230,568				203	20000	230,568	CY	EMBANKMENT		
							6,586	6,586				203	20001	6,586	CY	EMBANKMENT, AS PER PLAN	32	
								12				SPECIAL	20365000	12	EACH	SETTLEMENT PLATFORM	35	
							4,224	4,224				204	10000	4,224	SY	SUBGRADE COMPACTION		
							162	162				204	13000	162	CY	EXCAVATION OF SUBGRADE		
							162	162				204	30020	162	CY	GRANULAR MATERIAL, TYPE C		
57								57				204	45000	57	HOUR	PROOF ROLLING		
								2,517	2,517			204	50000	2,517	SY	GEOTEXTILE FABRIC		
								2,764	2,764			206	10500	2,764	TON	CEMENT		
								106,793	106,793			206	11000	106,793	SY	CURING COAT		
								106,793	106,793			206	15010	106,793	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP		
							LS	LS				206	30000	LS		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS		
30							LS	LS				206	30001	LS		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS, AS PER PLAN	30	
		18,250						18,250				606	15050	18,250	FT	GUARDRAIL, TYPE MGS		
		6,462						6,462				606	15100	6,462	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS		
		2,800						2,800				606	15550	2,800	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS		
		3						3				606	20000	3	EACH	FLARED END SECTION		
		12						12				606	26150	12	EACH	ANCHOR ASSEMBLY, MGS TYPE E, MASH 2016		
		14						14				606	26550	14	EACH	ANCHOR ASSEMBLY, MGS TYPE T		
		5						5				606	35002	5	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1		
		5						5				606	35102	5	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2		
			1					1				606	60022	1	EACH	IMPACT ATTENUATOR, TYPE 2 (UNIDIRECTIONAL), SPEED = 60 MPH, HAZARD = 28"		
			3					3				606	60028	3	EACH	IMPACT ATTENUATOR, TYPE 2 (BIDIRECTIONAL), SPEED = 60 MPH, HAZARD = 36"		
						16,057		16,057				607	15000	16,057	FT	FENCE, TYPE 47		
3,600								3,600				607	30000	3,600	FT	FENCE, SNOW		
						7		7				607	35000	7	FT	FENCE REMOVED AND REBUILT		
			2,785					2,785				622	10100	2,785	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1		
			205					205				622	10120	205	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C		
			40					40				622	10121	40	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN	32	
			862					862				622	10160	862	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D		
			94					94				622	10161	94	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN A	32	
			156					156				622	10161	156	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN B	32	
			1					1				622	24840	1	EACH	CONCRETE BARRIER END SECTION, TYPE B		
			2					2				622	24850	2	EACH	CONCRETE BARRIER END SECTION, TYPE B1		
			1					1				622	25000	1	EACH	CONCRETE BARRIER END SECTION, TYPE D		

GENERAL SUMMARY

GRE - US 35 - 5.63

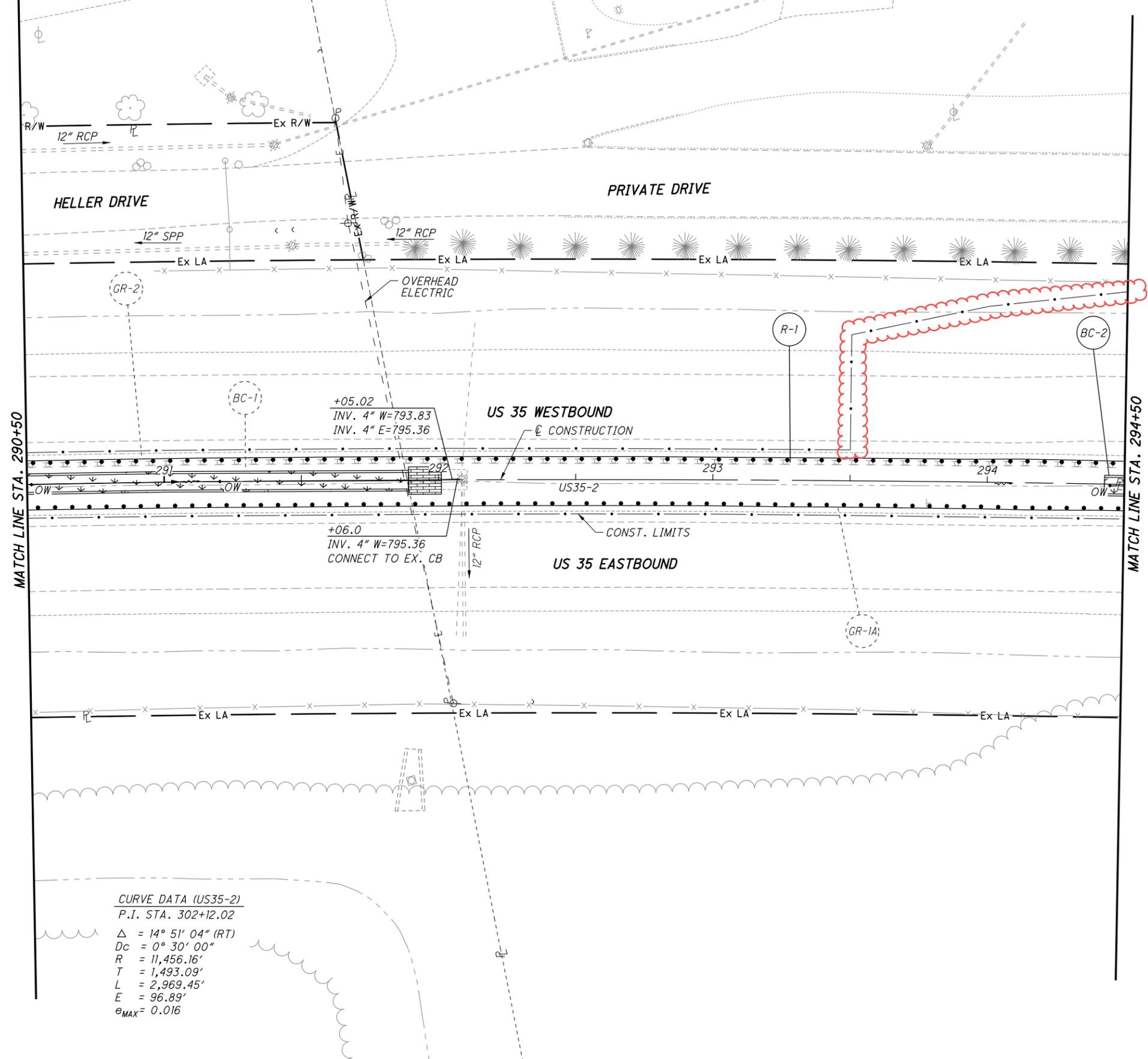
107217gg001.dgn 12/20/2022 1:48:51 PM Martin.Pierce@jacobs.com

107217gp024.dgn Sheet 12/5/2022 1:32PM CH\_ODOTV81\_Half\_BW.pen ProjectWise\_Dynamic\_Composition\_Server JEGSVCPWU01

NOTES:  
1. FOR EROSION PROTECTION LEGEND,  
SEE SHEET 208

CALCULATED  
CHECKED

0 20 40  
HORIZONTAL  
SCALE IN FEET



CURVE DATA (US35-2)  
P.I. STA. 302+12.02

$\Delta$	= 14° 51' 04" (RT)
$D_c$	= 0° 30' 00"
$R$	= 11,456.16'
$T$	= 1,493.09'
$L$	= 2,969.45'
$E$	= 96.89'
$e_{MAX}$	= 0.016

PLAN - US 35  
STA. 290+50 TO STA. 294+50

GRE-US 35-5.63

210  
698

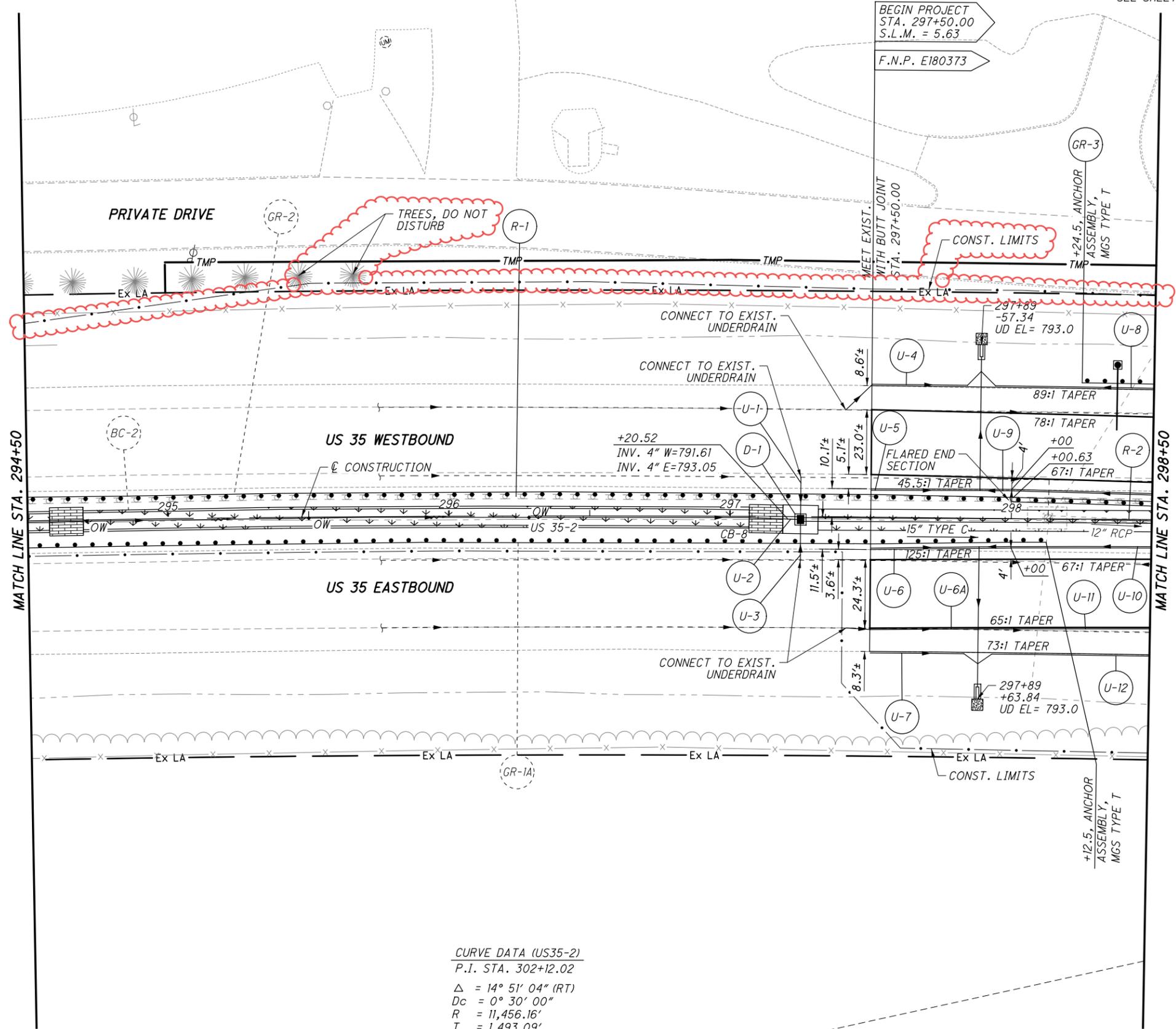
107217gp025.dgn Sheet 12/5/2022 1:32PM CH\_OD01V81\_Half\_BW\_pen ProjectWise Dynamic Composition Server JEGSVCPWU01

NOTES:  
1. FOR EROSION PROTECTION LEGEND,  
SEE SHEET 208

CALCULATED

CHECKED

0 20 40  
10  
HORIZONTAL  
SCALE IN FEET



CURVE DATA (US35-2)  
 P.I. STA. 302+12.02  
 $\Delta = 14^\circ 51' 04''$  (RT)  
 $D_c = 0^\circ 30' 00''$   
 $R = 11,456.16'$   
 $T = 1,493.09'$   
 $L = 2,969.45'$   
 $E = 96.89'$   
 $e_{MAX} = 0.016$

MATCH LINE STA. 294+50

MATCH LINE STA. 298+50

PLAN - US 35  
STA. 294+50 TO STA. 298+50

GRE-US 35-5.63

211  
698

107217gp026.dgn Sheet 12/5/2022 2:05PM CH\_OD0TV81\_Half\_BW.pen ProjectWise Dynamic Composition Server JEGSYCPWU01

NOTES:

1. FOR EROSION PROTECTION LEGEND, SEE SHEET 208

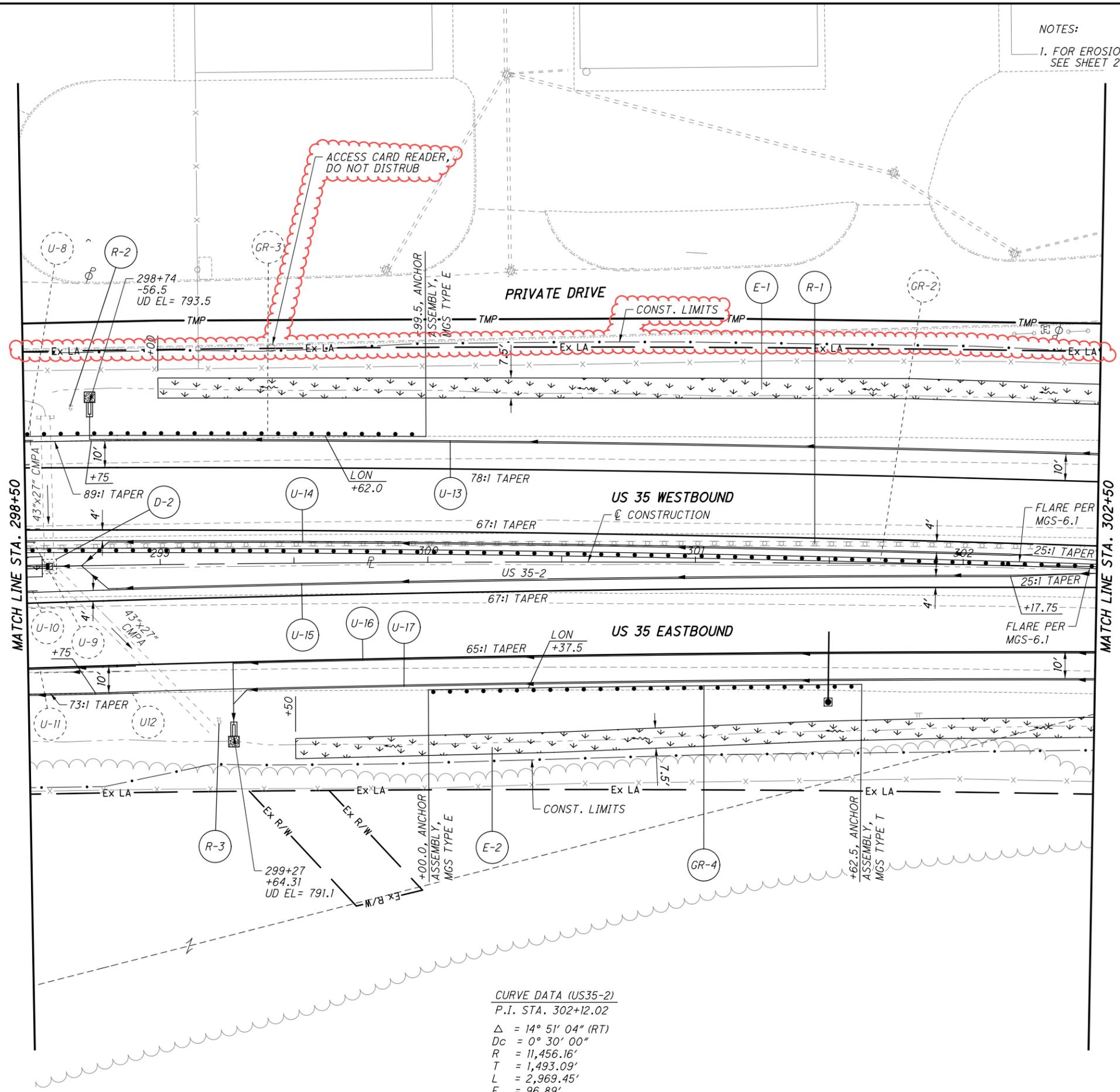


CALCULATED  
CHECKED

PLAN - US 35  
STA. 298+50 TO STA. 302+50

GRE-US 35-5.63

212  
698



CURVE DATA (US35-2)  
 P.I. STA. 302+12.02  
 $\Delta = 14^\circ 51' 04''$  (RT)  
 $Dc = 0^\circ 30' 00''$   
 $R = 11,456.16'$   
 $T = 1,493.09'$   
 $L = 2,969.45'$   
 $E = 96.89'$   
 $\theta_{MAX} = 0.016$

MATCH LINE STA. 298+50

MATCH LINE STA. 302+50

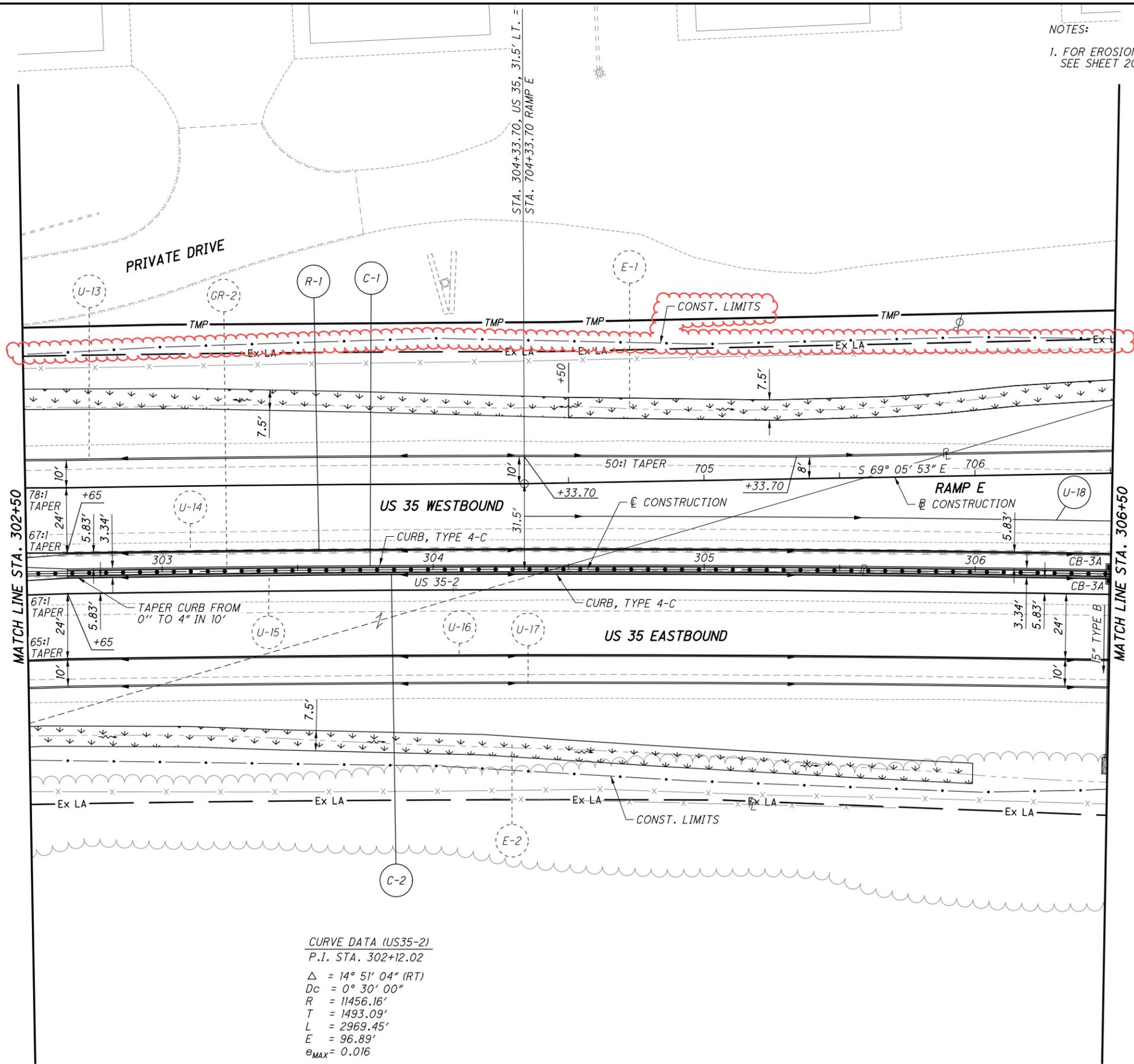
107217gp027.dgn Sheet 12/5/2022 1:32PM CH\_OD01V81\_Half\_BW\_pen ProjectWise Dynamic Composition Server JEGSVCPWU01

NOTES:

1. FOR EROSION PROTECTION LEGEND, SEE SHEET 208



CALCULATED  
CHECKED



CURVE DATA (US35-2)  
 P.I. STA. 302+12.02  
 $\Delta = 14^\circ 51' 04''$  (RT)  
 $Dc = 0^\circ 30' 00''$   
 $R = 11456.16'$   
 $T = 1493.09'$   
 $L = 2969.45'$   
 $E = 96.89'$   
 $e_{MAX} = 0.016$

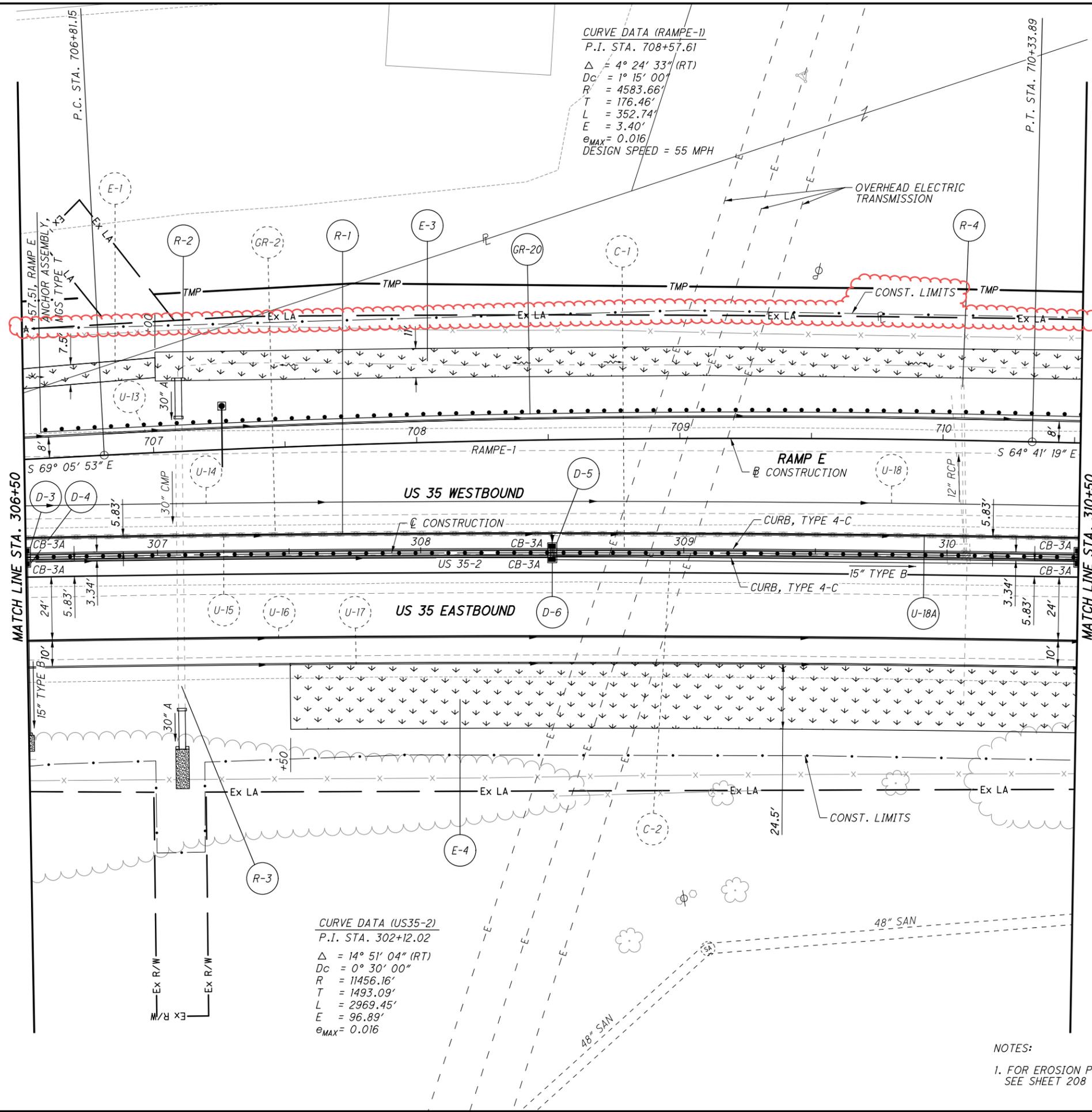
MATCH LINE STA. 302+50

MATCH LINE STA. 306+50

PLAN - US 35  
STA. 302+50 TO STA. 306+50

GRE-US 35-5.63

107217gp028.dgn Sheet 12/5/2022 1:32PM CH\_OD0TV81\_Half\_BW\_pen ProjectWise Dynamic Composition Server JEGSVCPWU01



**CURVE DATA (RAMPE-1)**  
 P.I. STA. 708+57.61  
 $\Delta = 4^\circ 24' 33''$  (RT)  
 $D_c = 1^\circ 15' 00''$   
 $R = 4583.66'$   
 $T = 176.46'$   
 $L = 352.74'$   
 $E = 3.40'$   
 $e_{MAX} = 0.016'$   
 DESIGN SPEED = 55 MPH

**CURVE DATA (US35-2)**  
 P.I. STA. 302+12.02  
 $\Delta = 14^\circ 51' 04''$  (RT)  
 $D_c = 0^\circ 30' 00''$   
 $R = 11456.16'$   
 $T = 1493.09'$   
 $L = 2969.45'$   
 $E = 96.89'$   
 $e_{MAX} = 0.016'$

NOTES:  
 1. FOR EROSION PROTECTION LEGEND, SEE SHEET 208

CALCULATED 0 20 40  
 CHECKED  
 HORIZONTAL SCALE IN FEET

PLAN - US 35  
 STA. 306+50 TO STA. 310+50

107217gp029.dgn Sheet 12/5/2022 1:32PM CH\_ODOTVB8\_Half\_BW.pen ProjectWise\_Dynamic\_Composition\_Server JEGSVCPWU01

NOTES:

1. FOR EROSION PROTECTION LEGEND, SEE SHEET 208

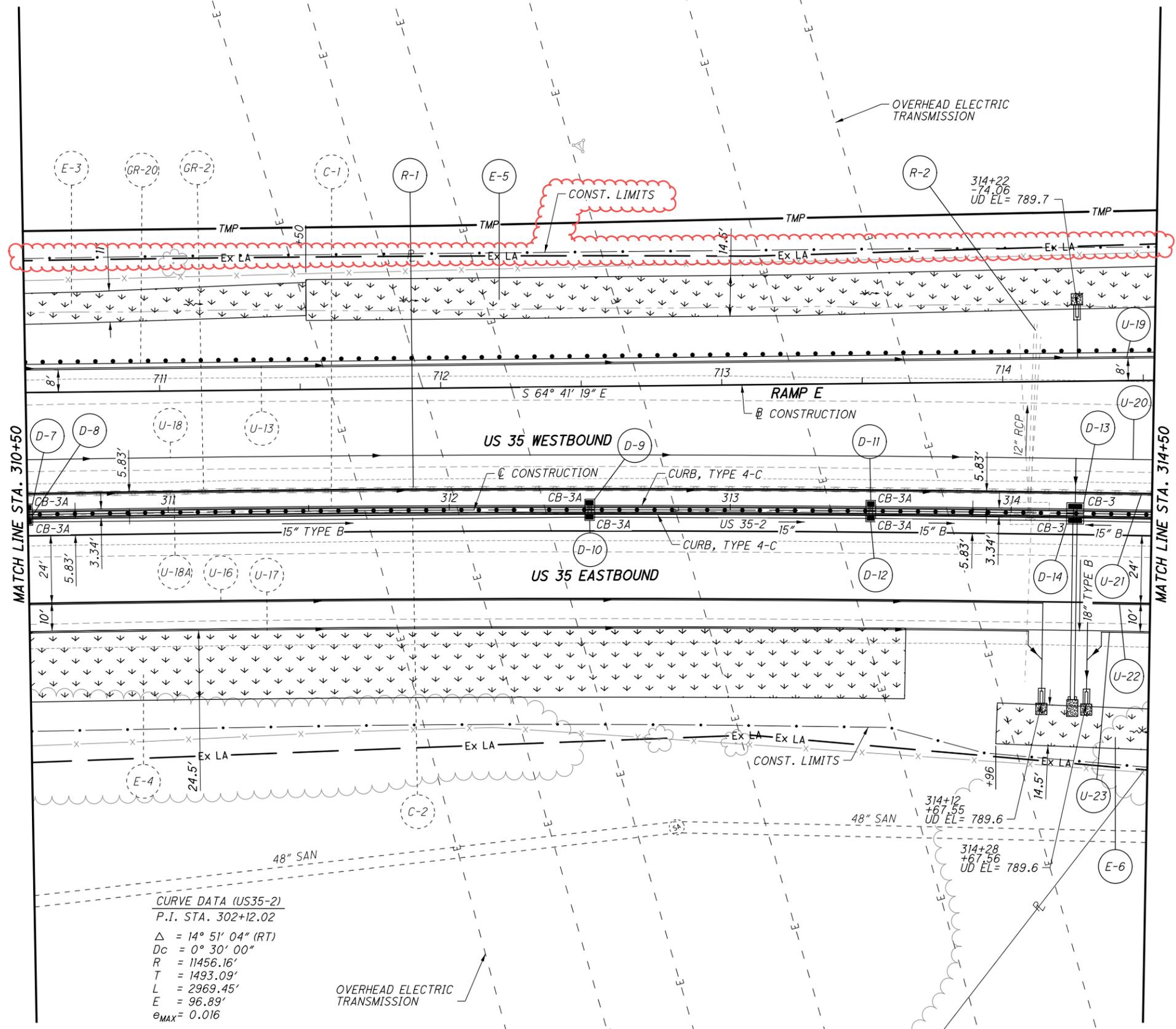


CALCULATED  
CHECKED

PLAN - US 35  
STA. 310+50 TO STA. 314+50

GRE-US 35-5.63

215  
698



**CURVE DATA (US35-2)**  
 P.I. STA. 302+12.02  
 $\Delta = 14^\circ 51' 04''$  (RT)  
 $Dc = 0^\circ 30' 00''$   
 $R = 11456.16'$   
 $T = 1493.09'$   
 $L = 2969.45'$   
 $E = 96.89'$   
 $e_{MAX} = 0.016$

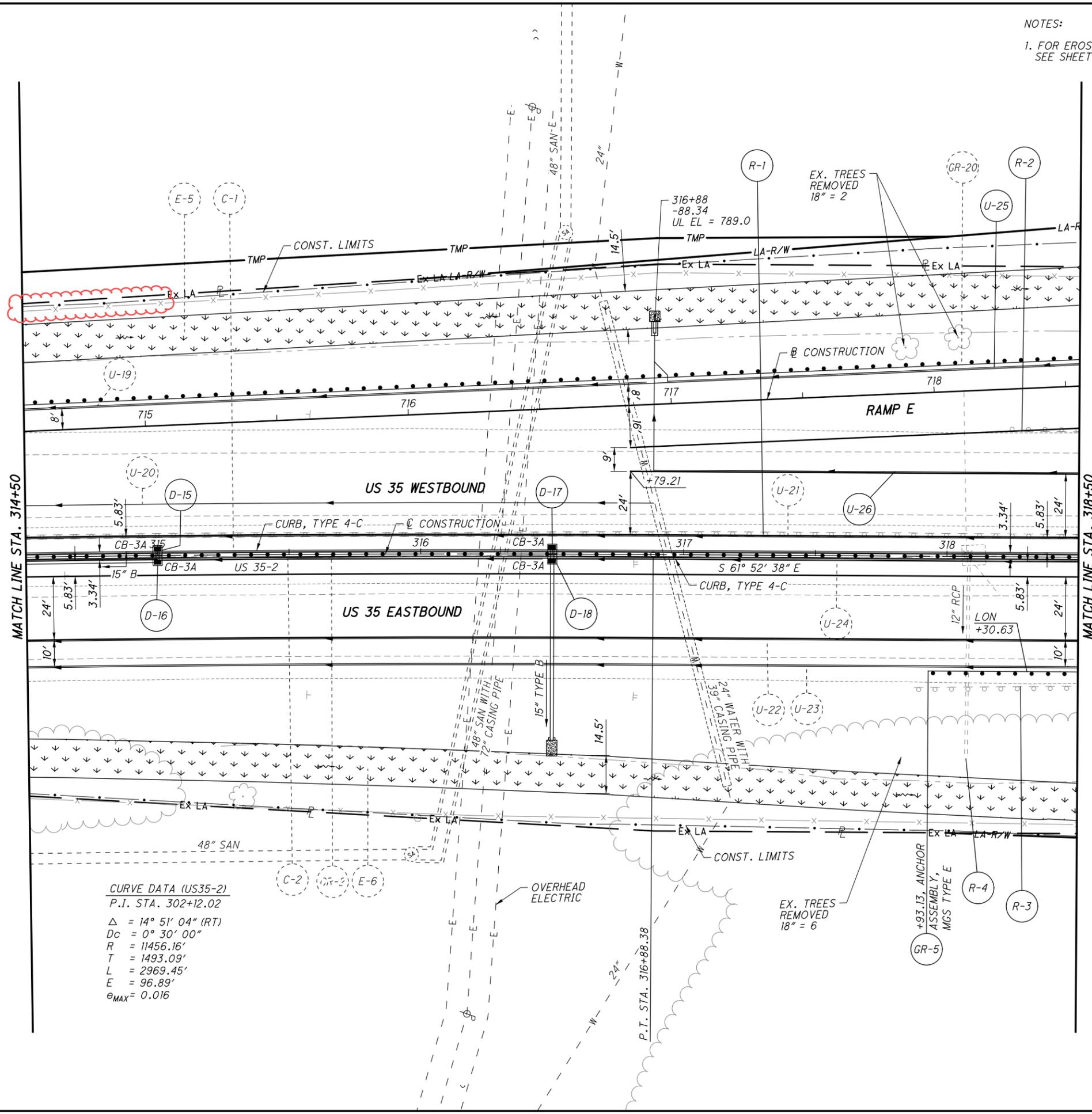
OVERHEAD ELECTRIC  
TRANSMISSION

314+22  
-74.06  
UD EL= 789.7

314+12  
+67.55  
UD EL= 789.6

314+28  
+67.56  
UD EL= 789.6

NOTES:  
 1. FOR EROSION PROTECTION LEGEND,  
 SEE SHEET 208



**CURVE DATA (US35-2)**  
 P.I. STA. 302+12.02  
 $\Delta = 14^\circ 51' 04''$  (RT)  
 $D_c = 0^\circ 30' 00''$   
 $R = 11456.16'$   
 $T = 1493.09'$   
 $L = 2969.45'$   
 $E = 96.89'$   
 $e_{MAX} = 0.016$



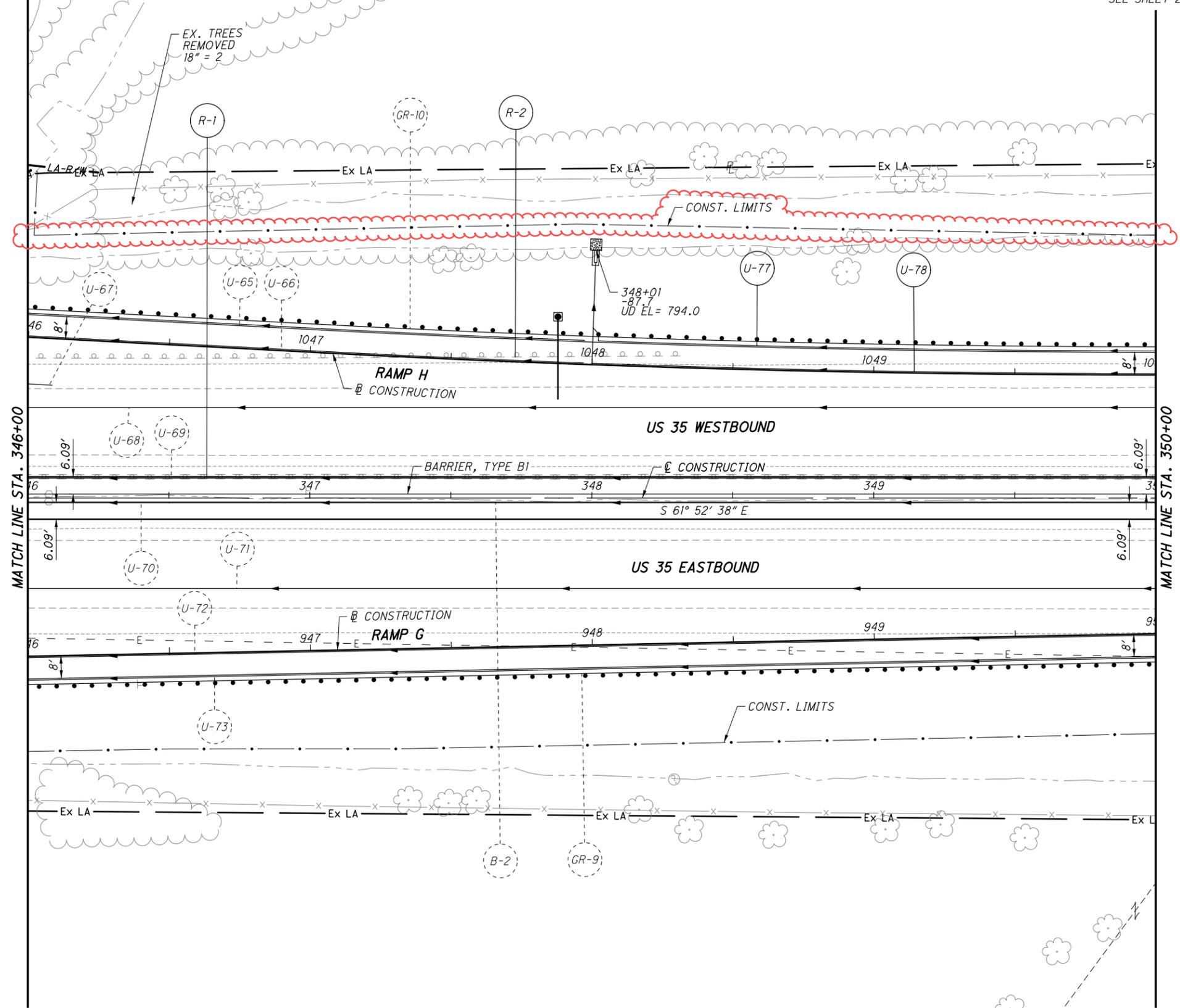
CALCULATED  
 CHECKED

**PLAN - US 35**  
**STA. 314+50 TO STA. 318+50**

**GRE-US 35-5.63**

107217gp038.dgn Sheet 12/5/2022 1:32PM CH\_OD01V81\_Half\_BW.pen ProjectWise\_Dynamic\_Composition\_Server JEGSVCPWU01

NOTES:  
1. FOR EROSION PROTECTION LEGEND,  
SEE SHEET 208



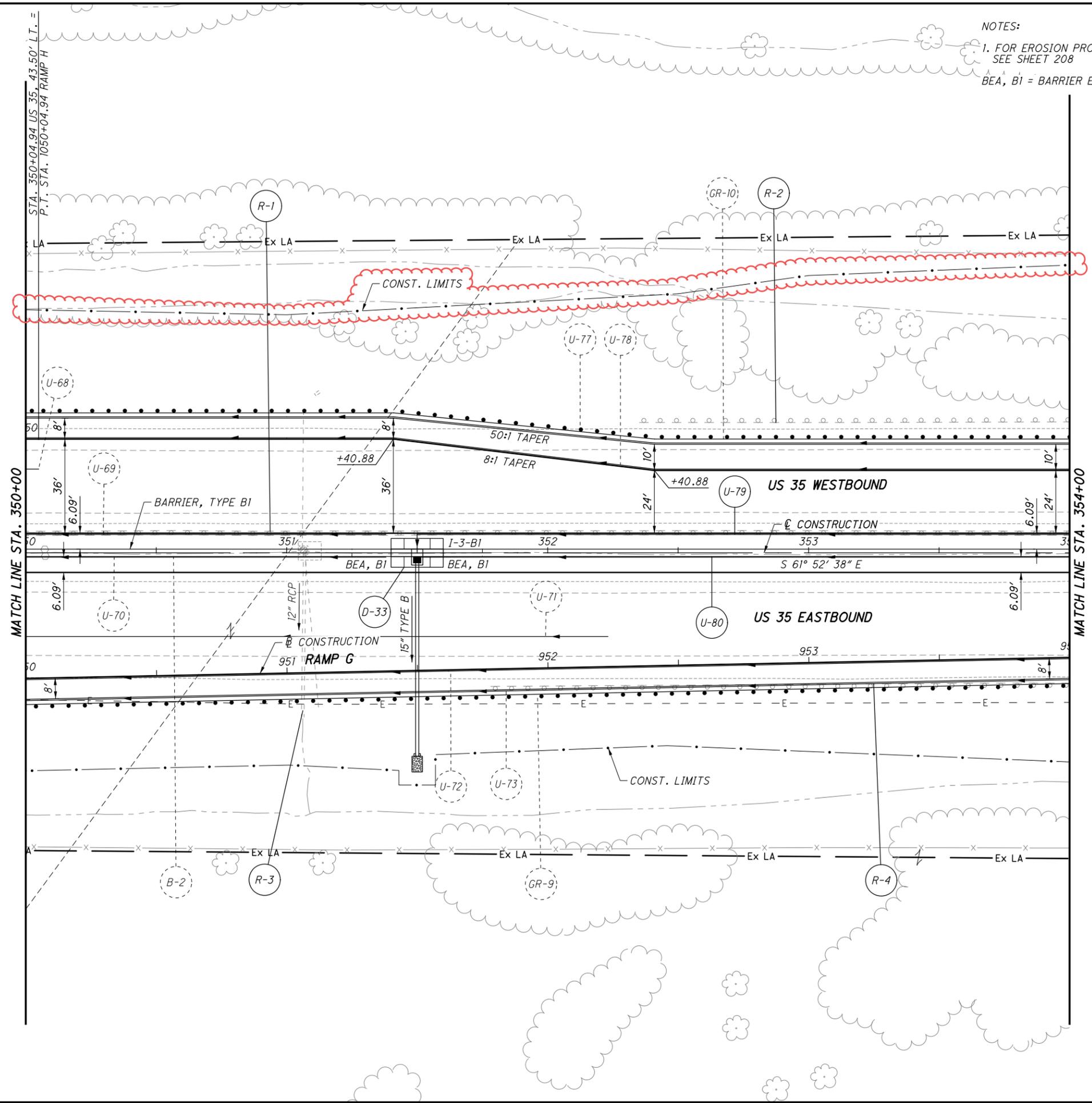
CALCULATED  
CHECKED

0 20 40  
HORIZONTAL  
SCALE IN FEET

PLAN - US 35  
STA. 346+00 TO STA. 350+00

GRE-US 35-5.63

107217gp039.dgn Sheet 12/5/2022 1:32PM CH\_ODOTV81\_Half\_BW.pen ProjectWise\_Dynamic\_Composition\_Server JEGSVCPWU01



NOTES:  
 1. FOR EROSION PROTECTION LEGEND,  
 SEE SHEET 208  
 BEA, B1 = BARRIER END ANCHORAGE, TYPE B1

CALCULATED  
 CHECKED

0 20 40  
 10  
 HORIZONTAL  
 SCALE IN FEET

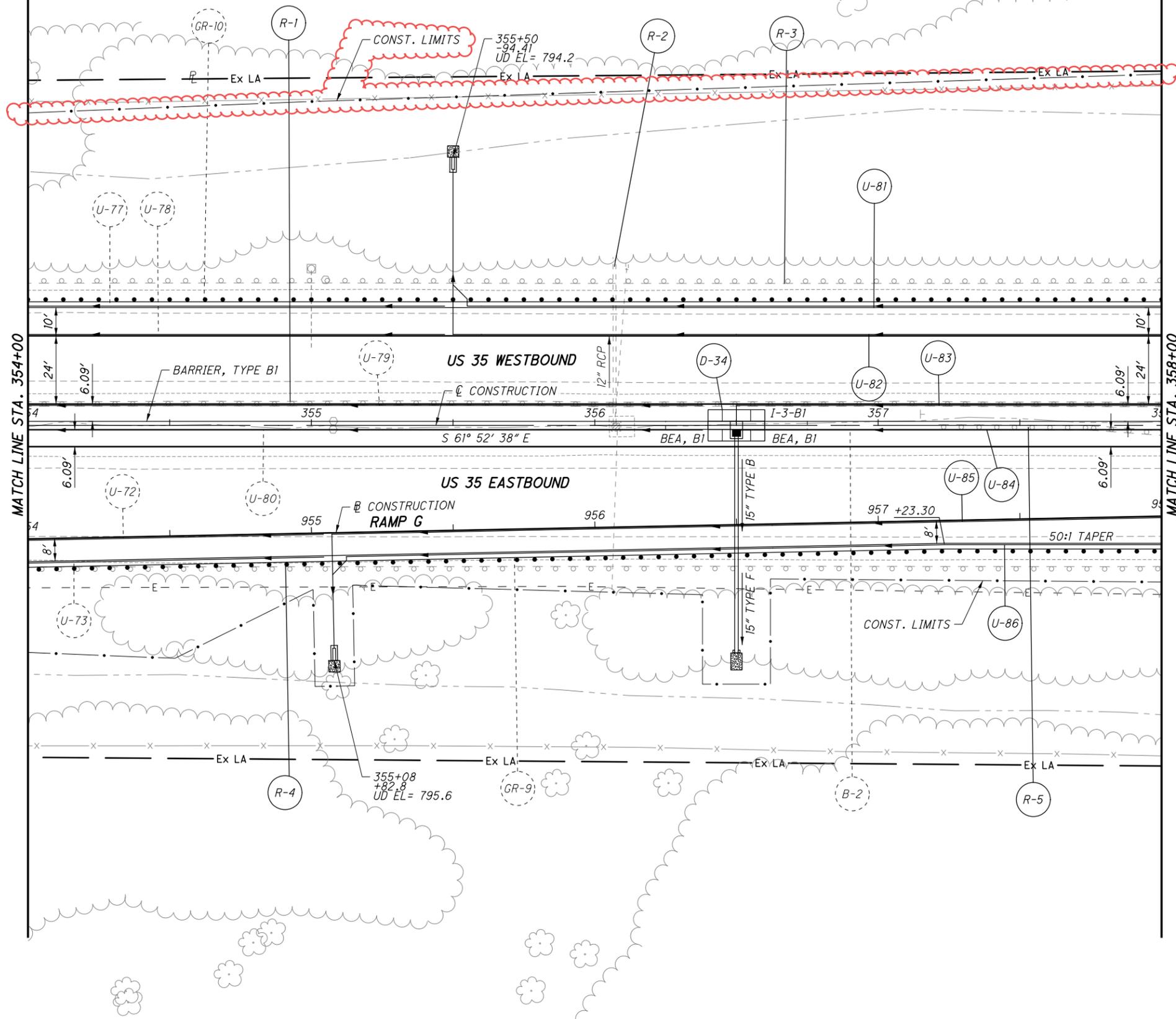
PLAN - US 35  
 STA. 350+00 TO STA. 354+00

107217gp040.dgn Sheet 12/5/2022 1:32PM CH\_ODOTV81\_Half\_BW.pen ProjectWise Dynamic Composition Server JEGSVCPWU01

NOTES:

1. FOR EROSION PROTECTION LEGEND,  
SEE SHEET 208

BEA, BI = BARRIER END ANCHORAGE, TYPE B1



CALCULATED  
CHECKED

0 10 20 40  
HORIZONTAL  
SCALE IN FEET

PLAN - US 35  
STA. 354+00 TO STA. 358+00

GRE-US 35-5.63

107217gp041.dgn Sheet 12/5/2022 1:32PM CH\_000TV81\_Half\_BW\_pen ProjectWise Dynamic Composition Server JEGSVCPWU01



0 20 40  
HORIZONTAL  
SCALE IN FEET

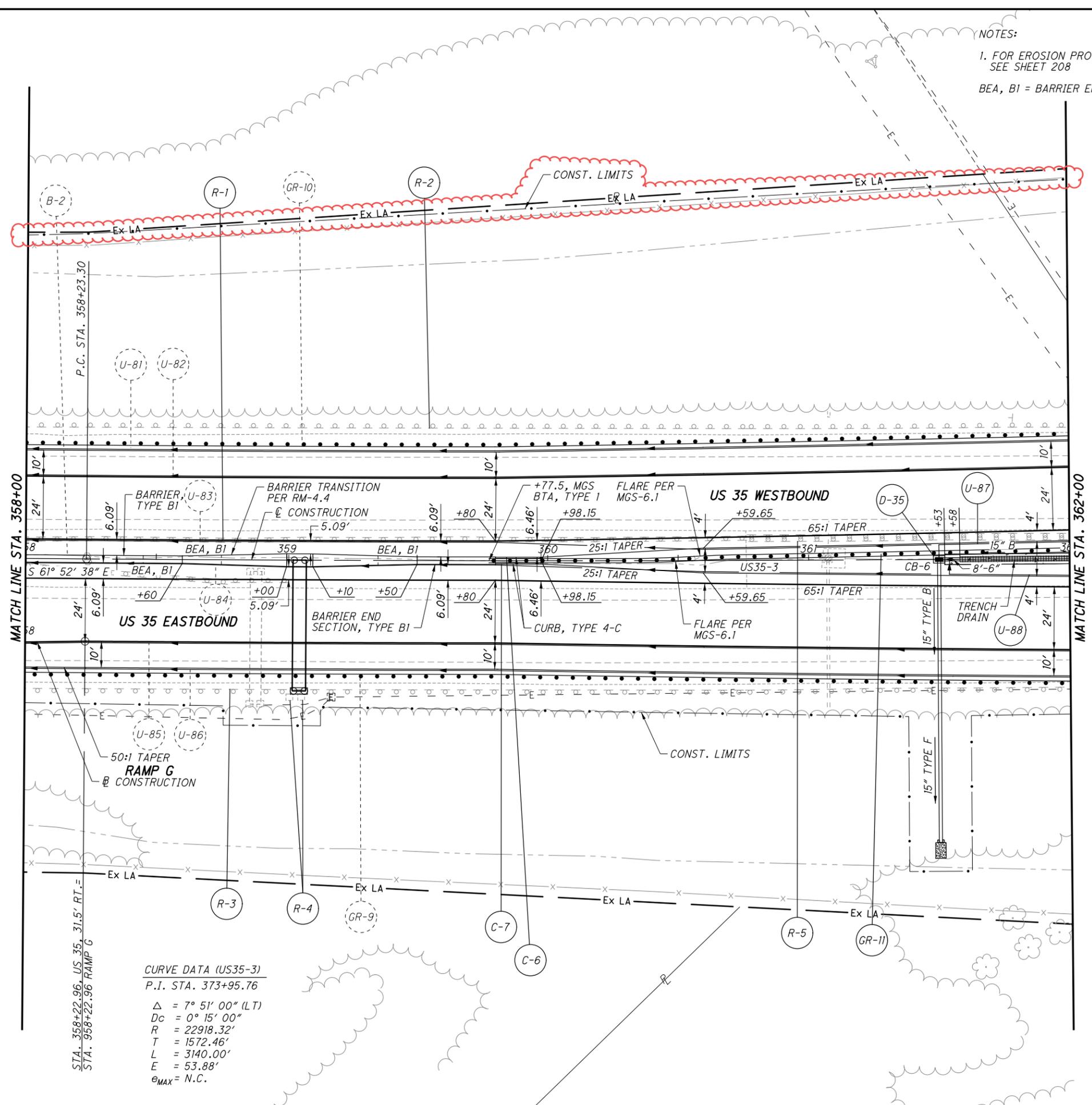
CALCULATED  
CHECKED

PLAN - US 35  
STA. 358+00 TO STA. 362+00

GRE-US 35-5.63

227  
698

NOTES:  
1. FOR EROSION PROTECTION LEGEND,  
SEE SHEET 208  
BEA, BI = BARRIER END ANCHORAGE, TYPE BI



**CURVE DATA (US35-3)**  
P.I. STA. 373+95.76

$\Delta$	= 7° 51' 00" (LT)
$D_c$	= 0° 15' 00"
$R$	= 22918.32'
$T$	= 1572.46'
$L$	= 3140.00'
$E$	= 53.88'
$e_{MAX}$	= N.C.

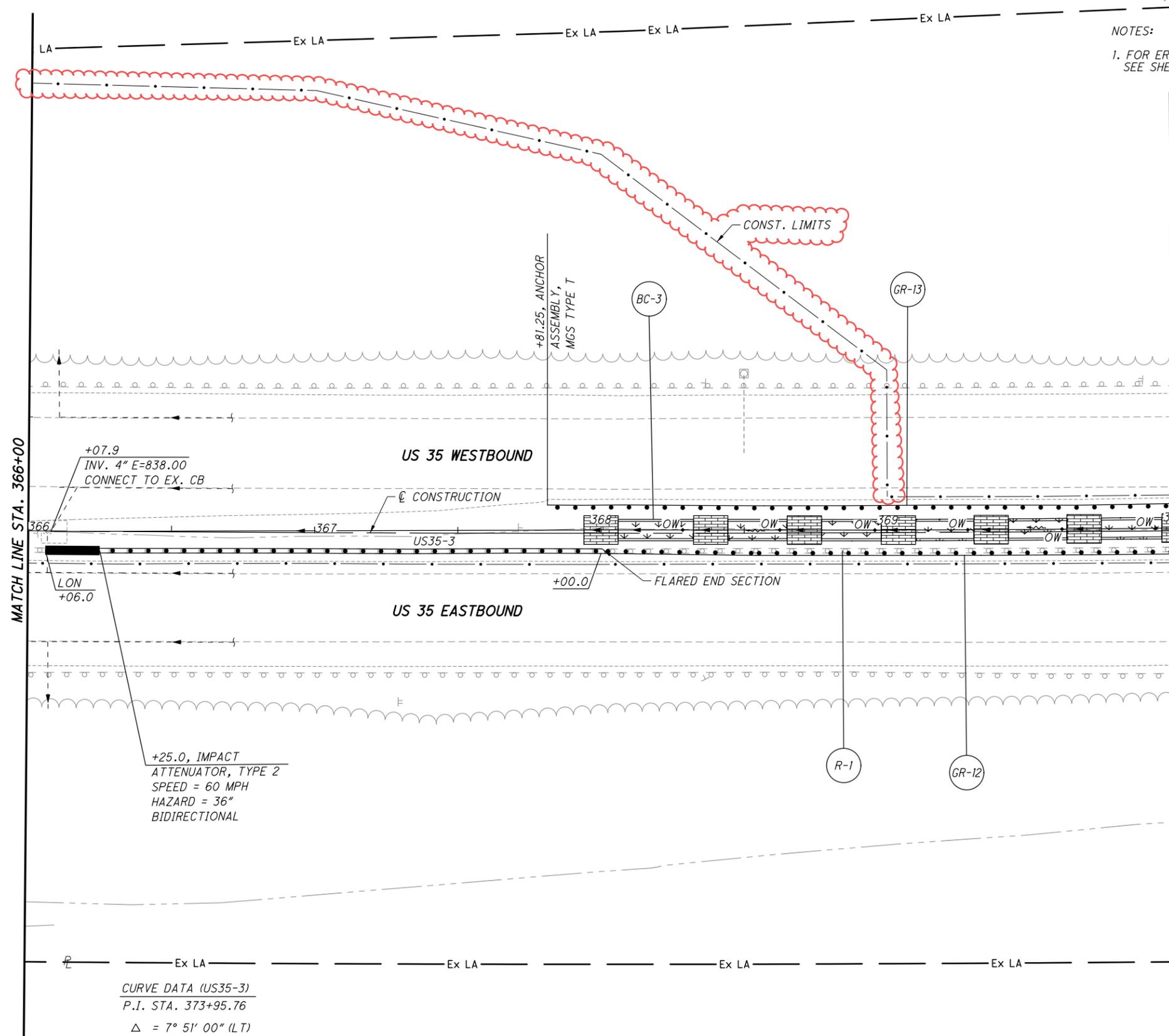
STA. 358+22.96, US 35, 31.5' RT. =  
STA. 958+22.96 RAMP G

MATCH LINE STA. 358+00

MATCH LINE STA. 362+00



107217gp043.dgn Sheet 12/5/2022 1:32PM CH\_ODOTV81\_Half\_BW.pen ProjectWise\_Dynamic\_Composition\_Server JEGSVCPWU01



NOTES:  
 1. FOR EROSION PROTECTION LEGEND, SEE SHEET 208

**CURVE DATA (US35-3)**  
 P.I. STA. 373+95.76  
 $\Delta = 7^\circ 51' 00''$  (LT)  
 $D_c = 0^\circ 15' 00''$   
 $R = 22918.32'$   
 $T = 1572.46'$   
 $L = 3140.00'$   
 $E = 53.88'$   
 $e_{MAX} = N.C.$

CALCULATED  
 CHECKED

0 20 40  
 HORIZONTAL SCALE IN FEET

PLAN - US 35  
 STA. 366+00 TO STA. 370+00

GRE-US 35-5.63

229  
 698

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS  
SBR-1-13 DATED 07-20-18

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS

800 DATED 05-02-22  
840 DATED 04-15-22  
878 DATED 01-21-22

DESIGN SPECIFICATIONS

THIS STRUCTURES CONFORM TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 8TH EDITION, 2017, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA

CONCRETE CLASS OC1 - COMPRESSIVE STRENGTH 4.0 KSI (COPING & LEVELING PAD)  
CONCRETE CLASS OC2 - COMPRESSIVE STRENGTH 4.5 KSI (PARAPET & MOMENT SLAB)  
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI (ALL REINFORCING SHALL BE EPOXY COATED)

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (i.e. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURES LISTED IN TABLE ON THIS SHEET, K/FT APPLIED PERPENDICULAR TO THE FACE OF WALL AT BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

BRIDGE SUPERSTRUCTURE LOADINGS			
MSE WALL	BRIDGE NO.	LOCATION	HORIZ. LOAD (K/FT)
RW-01	GRE-035-0627	REAR ABUT.	0.73
RW-02	GRE-035-0627	FWD. ABUT.	0.76

FOUNDATION BEARING RESISTANCE

THE FACTORED BEARING RESISTANCE AT THE BASE OF THE REINFORCED SOIL MASS FOR EACH WALL IS LISTED BELOW:

FACTORED BEARING RESISTANCE			
MSE WALL	WALL LIMITS		FBR (PSF)
	FROM STA.	TO STA.	
RW-01	78+11.00	79+93.00	9.17
RW-02A	23+34.00	25+83.58	12.67
RW-02B	26+84.48	29+10.00	12.67
	29+10.00	31+50.00	10.63
	31+31.00	36+00.00	6.57
	36+00.00	39+07.00	4.76

ITEM 511, CLASS OC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET

ALL MATERIAL, LABOR AND INCIDENTALS NECESSARY TO FURNISH AND PLACE CONCRETE FOR THE MOMENT SLAB AND PARAPETS ON MOMENT SLABS ALONG MSE WALL RW-02 SHALL BE INCLUDED FOR PAYMENT WITH ITEM 511, CLASS OC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL JOINT MATERIALS AND BOND BREAKERS IN CONTACT WITH THE MOMENT SLAB. ALL REINFORCING IN MOMENT SLAB AND PARAPETS ON TOP OF MOMENT SLAB SHALL BE INCLUDED WITH ITEM 509, EPOXY COATED REINFORCING STEEL FOR PAYMENT.

ITEM 840, FOUNDATION PREPARATION, AS PER PLAN

BACKFILL THE FOUNDATION PREPARATION EXCAVATION TO WITHIN 12" OF THE LEVELING PAD BOTTOM WITH NO. 2 CRUSHED CARBONATE STONE.

THE TOP 12 OF THE FOUNDATION PREPARATION IS TO CONSIST OF GRANULAR MATERIAL, TYPE C. BOTH THE NO. 2 STONE AND GRANULAR MATERIAL, TYPE C ARE TO BE COMPRISED OF CRUSHED CARBONATE STONE. PLACE AND COMPACT BOTH MATERIALS PER ITEM 203.

ALL OTHER ITEMS OUTLINED IN SS840 FOR FOUNDATION PREPARATION APPLY.

MINIMUM SOIL REINFORCEMENT LENGTHS

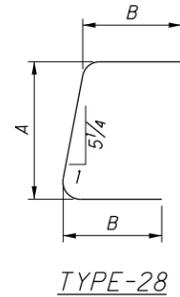
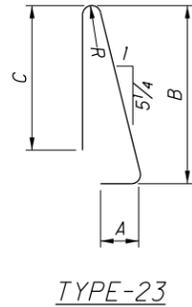
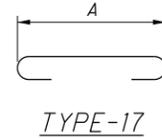
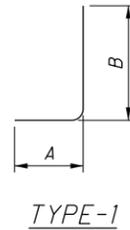
PROVIDE STRAP LENGTHS IN ACCORDANCE WITH SS840 AND AS OUTLINED IN THE TABLE BELOW:

MSE WALL	WALL LIMITS		MIN. STRAP LENGTH
	FROM STA.	TO STA.	
RW-01	78+11.00	78+16.77	8.00'
	78+16.77	78+26.77	12.00'
	78+26.77	78+46.77	17.00'
	78+46.77	79+66.77	28.00'
	79+66.77	79+76.77	15.00'
	79+76.77	79+86.77	11.00'
RW-02A	23+34.00	23+45.00	12.00'
	23+45.00	23+55.00	15.00'
	23+55.00	23+65.00	16.00'
	23+65.00	24+50.00	15.00'
	24+50.00	25+25.00	14.00'
	25+25.00	25+83.58	13.00'
RW-02B	26+84.48	27+50.00	14.00'
	27+50.00	28+25.00	15.00'
	28+25.00	29+00.00	17.00'
	29+00.00	29+80.00	18.00'
	29+80.00	30+20.00	19.00'
	30+20.00	31+40.00	31.00'
	31+40.00	31+80.00	20.00'
	31+80.00	32+20.00	19.00'
	32+20.00	33+10.00	18.00'
	33+10.00	33+60.00	17.00'
	33+60.00	34+00.00	16.00'
	34+00.00	34+40.00	15.00'
	34+40.00	34+70.00	14.00'
	34+70.00	35+00.00	13.00'
	35+00.00	35+30.00	12.00'
	35+30.00	35+70.00	11.00'
35+70.00	36+00.00	10.00'	
36+00.00	36+40.00	9.00'	
36+40.00	36+80.00	8.00'	
36+80.00	39+07.01	8.00'	

PART.	ESTIMATED QUANTITIES									
	02/NHS/BR	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	RW-01	RW-02A	RW-02B	SHEET
	1841	203	20000	1841	CY	EMBANKMENT	603	210	1028	
	1672	203	35110	1672	CY	GRANULAR MATERIAL, TYPE B	749		923	
	LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING			LS	
	96418	509	10000	96418	LB	EPOXY COATED REINFORCING STEEL		16347	80071	
	847	511	53012	847	CY	CLASS OC2 CONCRETE, MISC.: MOMENT SLAB AND PARAPET		138	709	2/23
	4123	512	10100	4123	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	482	617	3024	
	2945	516	13900	2945	SF	2" PREFORMED EXPANSION JOINT FILLER		499	2446	
	30633	840	20000	30633	SF	MECHANICALLY STABILIZED EARTH WALL	2831	5035	22767	
	11137	840	21000	11137	CY	WALL EXCAVATION	1284	1670	8183	
	3852	840	22001	3852	SY	FOUNDATION PREPARATION, AS PER PLAN	534	563	2755	2/23
	21254	840	23000	21254	CY	SELECT GRANULAR BACKFILL	2981	3098	15175	
	58	840	23050	58	CY	NATURAL SOIL	58			
	3435	840	25010	3435	FT	6" DRAINAGE PIPE, PERFORATED	383	550	2502	
	128	840	25020	128	FT	6" DRAINAGE PIPE, NON-PERFORATED	5	9	114	
	1661	840	26000	1661	FT	CONCRETE COPING	188	250	1223	
	7	840	27000	7	DAY	ON-SITE ASSISTANCE	1	1	5	

107217\_002.wn001.dgn 12/13/2022 9:16:46 AM Jason.Centers@jacobs.com

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
	TOTAL				A	B	C	D	E	R	INC
<b>RETAINING WALL RW-02A &amp; RW-02B</b>											
MS501	1397	9'-6"	13842	23	0'-11"	4'-9"	3'-0"				2 3/4"
MS502	2818	10'-3"	30127	17	9'-1"						
MS503	164	14'-7"	2494	STR							
MS504	8	9'-5"	79	STR							
MS505	5	4'-7"	24	STR							
MS506	4	10'-6"	44	STR							
MS507	4	10'-7"	44	STR							
MS508	1066	29'-6"	32799	STR							
MS509	52	19'-8"	1067	STR							
MS510	26	9'-7"	260	STR							
MS511	26	21'-4"	579	STR							
MS512	26	15'-5"	418	STR							
MS513	11	5'-8"	65	1	1'-0"	4'-9"					
MS514	2	7'-0"	15	STR							
MS515	7	4'-9"	35	STR							
MS601	1397	2'-6"	5246	1	1'-0"	1'-6 1/2"					
MS602	1397	3'-6"	7344	28	1'-0"	1'-6 1/2"					
MS603	82	14'-7"	1796	STR							
MS604	4	9'-5"	57	STR							
MS605	4	4'-7"	28	STR							
MS606	2	10'-6"	32	STR							
MS607	2	7'-6"	23	STR							
	<b>TOTAL</b>		<b>96418</b>								



**NOTES:**

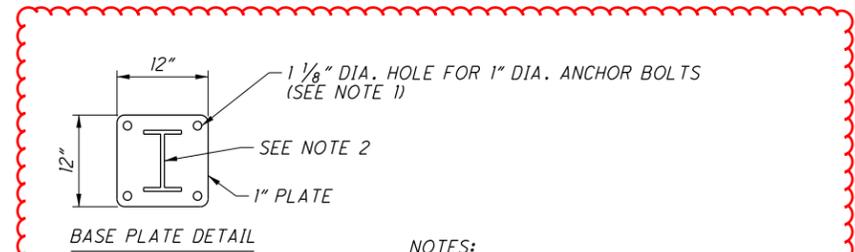
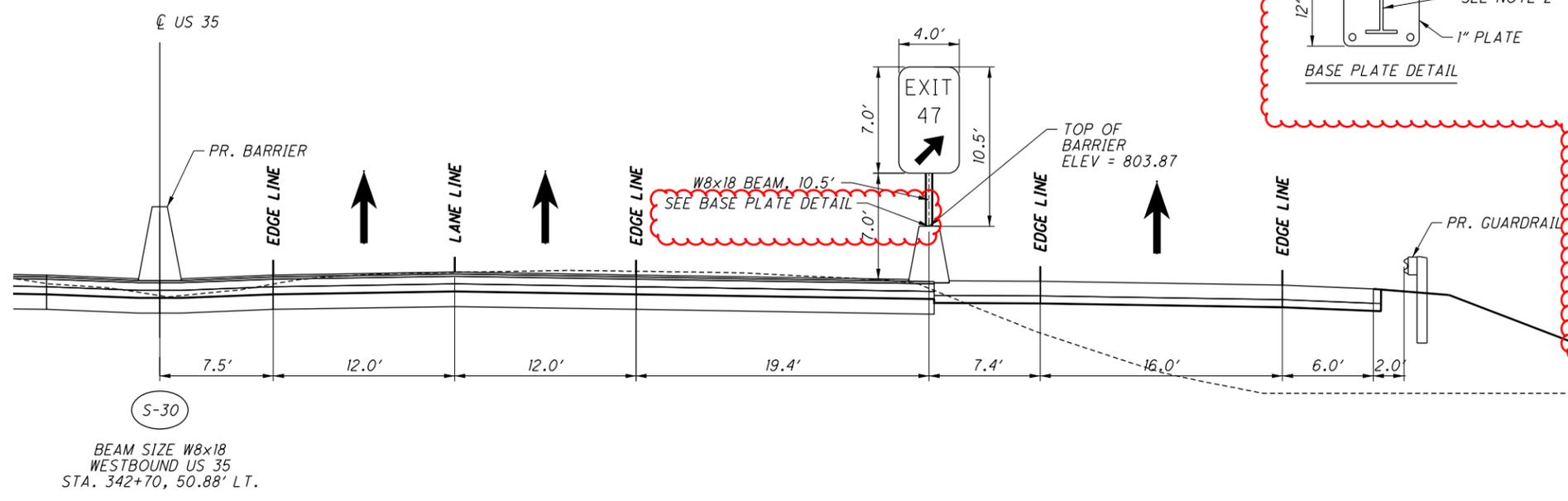
1. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE P601 IS A NUMBER 6 BAR.
2. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
3. "R" INDICATES RADIUS, UNLESS NOTED OTHERWISE.
4. UNLESS OTHERWISE NOTED "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.
5. ALL REINFORCING STEEL SHALL BE EPOXY COATED.

REINFORCING STEEL LIST

GRE-US 35-5.63  
PID No. 107217

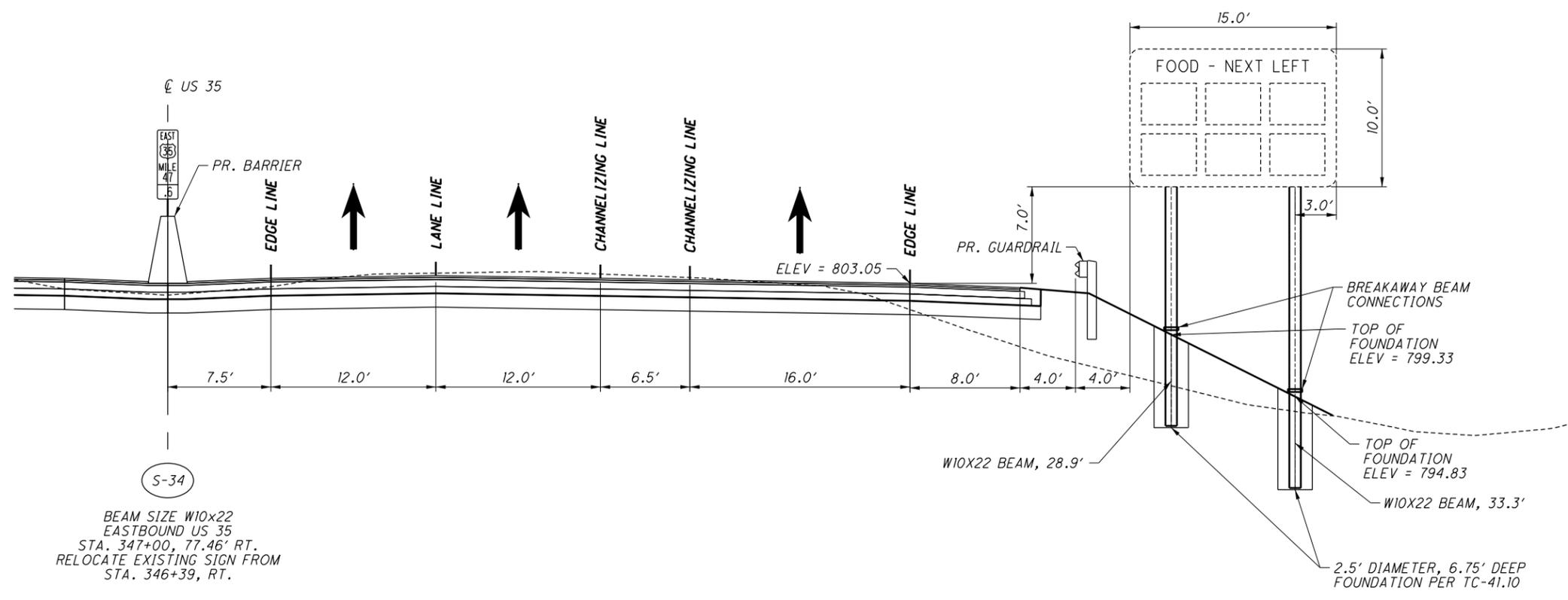
23/23

472  
698



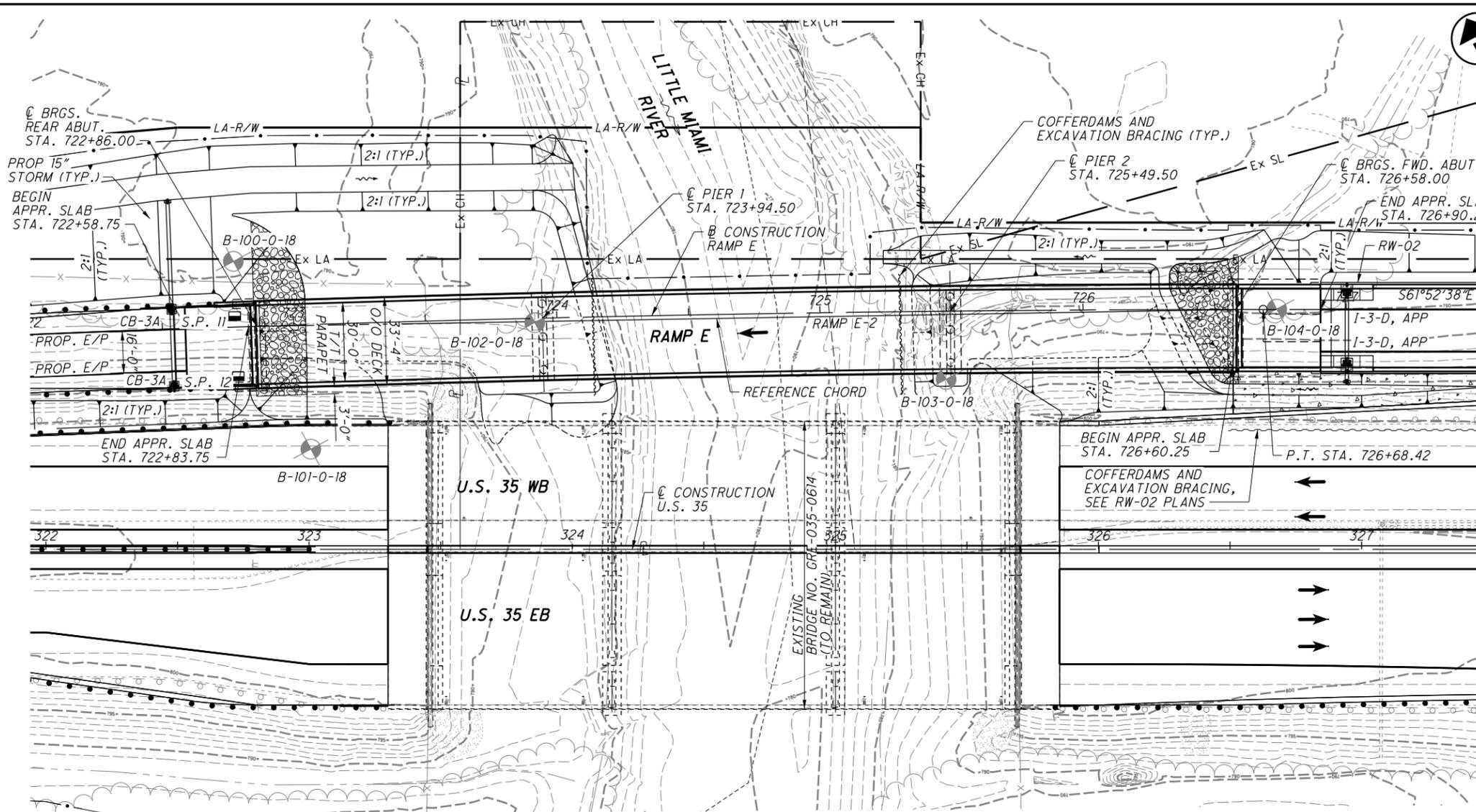
- NOTES:**
1. ANCHORS SHALL BE EMBEDDED A MINIMUM DEPTH OF 7" INTO FIRM CONCRETE ACCORDING TO CMS 510 AND GROUTED WITH A NON-SHRINK, NON-METALLIC GROUT CONFORMING TO CMS 705.20. ANCHORS SHALL BE ASTM F1554, GRADE 105 AND GALVANIZED ACCORDING TO CMS 711.02.
  2. BASE PLATE WELD SIZE SHALL BE EQUAL TO THE BEAM FLANGE AND WEB THICKNESS RESPECTIVELY, BUT NO LESS THAN 1/4" IN EITHER INSTANCE.

S-30  
BEAM SIZE W8x18  
WESTBOUND US 35  
STA. 342+70, 50.88' LT.



S-34  
BEAM SIZE W10x22  
EASTBOUND US 35  
STA. 347+00, 77.46' RT.  
RELOCATE EXISTING SIGN FROM  
STA. 346+39, RT.

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BENCHMARK DATA	
BM #8 STA. 322+55.38, ELEV. 800.45, OFFSET 0.16 LT.	
BM #9 STA. 333+64.82, ELEV. 795.50, OFFSET 48.82 RT.	

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLAN SHEET 5/698

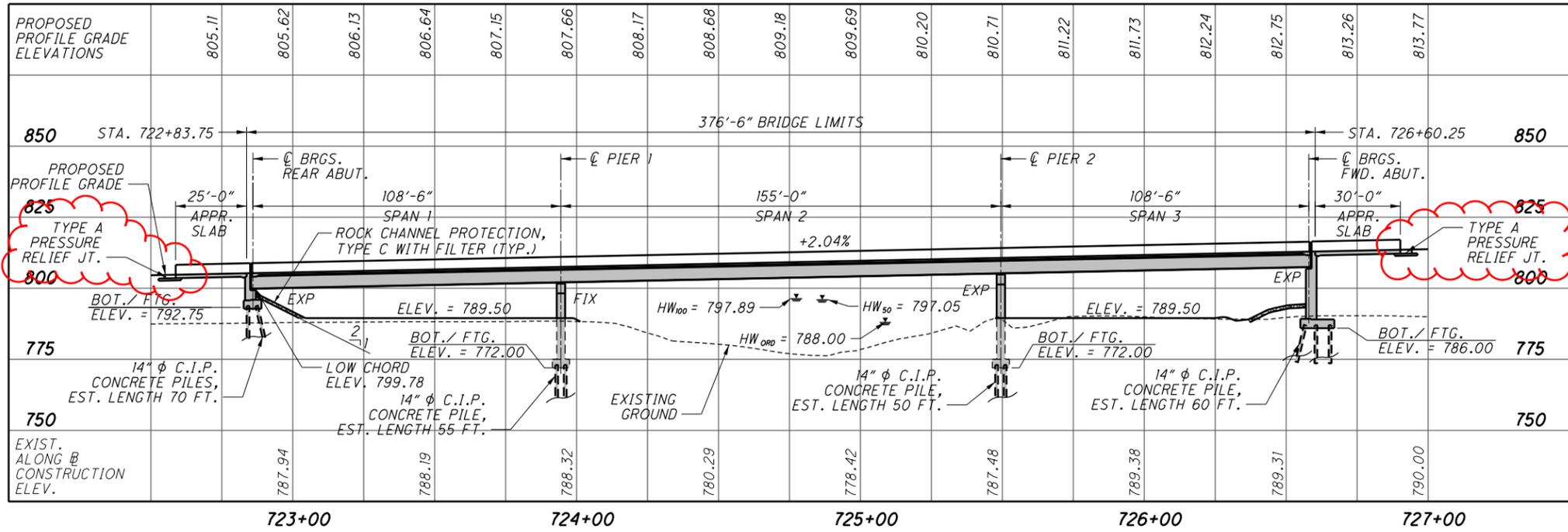
- NOTES**
- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
  - FOR SETTLEMENT PLATFORM LOCATION TABLE AND NOTES, SEE SHEET 35/698.

**DESIGN TRAFFIC:**  
 2025 ADT = 2280      2025 ADTT = 160  
 2045 ADT = 3230      2045 ADTT = 230  
 DIRECTIONAL DISTRIBUTION = 1.00

**HYDRAULIC DATA**  
 DRAINAGE AREA = 295.0 SQ. MILES  
 DESIGN STORM = 50 YEAR  
 Q (50) = 22,100 CFS      Q (100) = 26,400 CFS  
 V (50) = 15.6 FPS      V (100) = 12.3 FPS  
 HW (50) = 797.05      HW (100) = 797.89  
 FREEBOARD HW (50) = 2.73 FEET.

- LEGEND**
- ⊕ BORING LOCATION
  - ▣ SETTLEMENT PLATFORM (SEE NOTE 2)

**CURVE DATA (RAMP E-2)**  
 P.I. STA. = 723+87.32  
 $\Delta$  = 2°48'42" RT.  
 D<sub>c</sub> = 0°30'00"  
 R = 11,459.16'  
 T = 281.21'  
 L = 562.32'  
 E = 3.45'



EXISTING STRUCTURE - NONE

**PROPOSED STRUCTURE**

TYPE: 3-SPAN CONTINUOUS CURVED COMPOSITE STEEL PLATE GIRDERS (ASTM A709 GRADE 50W) WITH REINFORCED CONCRETE DECK & SUBSTRUCTURES ON PILES.

SPANS: 108'-6", 155'-0", 108'-6" C/C BEARINGS  
 ROADWAY: 30'-0" TOE/TOE PARAPET  
 LOADING: HL-93, FWS=60 PSF  
 WEARING SURFACE: MONOLITHIC CONCRETE  
 SKEW: NONE (RADIAL)  
 APPROACH SLABS: REAR = AS-1-15, 25'-0" LONG;  
 FWD = AS-1-15, 30'-0" LONG AS-2-15 INSTALLATION  
 ALIGNMENT: 0°30'00" RIGHT CURVE  
 SUPERELEVATION: 0.016 FT/FT  
 COORDINATES: LATITUDE N39°42'05"  
 LONGITUDE W83°59'58"

**JACOBS**  
 1880 WATCROSS ROAD  
 CINCINNATI, OHIO 45240  
**DESIGN AGENCY**  
**DATE** 9/20  
**REVIEWED** JTC  
**STRUCTURE FILE NUMBER** 2900215  
**DRAWN** PEG  
**REVISION**  
**DESIGNED** PEG  
**CHECKED** FBW  
**GREENE COUNTY**  
 STA. 722+83.75  
 STA. 726+60.25  
**SITE PLAN**  
 BRIDGE NO. GRE-035-0610  
 RAMP E OVER LITTLE MIAMI RIVER  
**GRE-US 35-5.63**  
**PID No. 107217**  
 1/36  
 538  
 698

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

- A-1-20 REVISED 01-21-22
- AS-1-15 REVISED 07-17-15
- AS-2-15 REVISED 01-18-19
- EXJ-4-87 REVISED 07-15-22
- GSD-1-19 DATED 01-15-21
- SBR-1-13 REVISED 07-20-18 (SEE INSERT SHEETS 572B-572F)

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

- 832 DATED 10-19-18
- 840 DATED 04-15-22

**DESIGN SPECIFICATION:**

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**OPERATIONAL IMPORTANCE:**

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**DESIGN LOADING:**

HL-93  
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

**DESIGN DATA:**

CONCRETE CLASS OC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS OC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50W - YIELD STRENGTH 50 KSI

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

**MONOLITHIC WEARING SURFACE:**

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

**DECK PLACEMENT DESIGN ASSUMPTIONS:**

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH MAXIMUM WHEEL LOAD OF 2.65 KIPS

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103"

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65"

**PILE DRIVING CONSTRAINTS**

PRIOR TO DRIVING THE REAR ABUTMENT PILES, CONSTRUCT SPILL THROUGH SLOPE AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE REAR ABUTMENT UP TO THE LEVEL OF THE SUBGRADE ELEVATION FOR A MINIMUM DISTANCE OF 200 FEET BEHIND THE REAR ABUTMENT. DO NOT BEGIN THE EXCAVATION FOR THE REAR ABUTMENT FOOTING AND INSTALLATION OF THE ABUTMENT PILES UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND 30 CALENDAR DAY WAITING PERIOD HAS ELAPSED. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE THE ABUTMENT PILES TO THE UVB.

**ITEM 203, EMBANKMENT, AS PER PLAN:**

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE REAR APPROACH EMBANKMENT BETWEEN RAMP E STATIONS 722+00.00 TO 723+05.00 (SEE REAR ABUTMENT & PIER 1 EMBANKMENT PAYMENT LIMITS DETAIL, THIS SHEET).

**ITEM 625 - STRUCTURE GROUNDING SYSTEM:**

IN ORDER TO PROPERLY GROUND THIS STRUCTURE, A QUANTITY OF 1 EACH - STRUCTURE GROUNDING SYSTEM IS CARRIED IN THE GENERAL SUMMARY.

**SPECIAL DESIGN SPECIFICATIONS**

THIS BRIDGE REQUIRED THE USE OF A TWO DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MDX. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD WERE THE STEEL GIRDERS AND CROSSFRAMES.

DEAD LOAD DISTRIBUTION: THE NON-COMPOSITE DEAD LOAD WAS DISTRIBUTED TO THE GIRDERS BASED ON TRIBUTARY AREA. COMPOSITE DEAD LOAD, CONSISTING OF PARAPET AND FUTURE WEARING SURFACE WERE DIVIDED EQUALLY AMONG THE GIRDERS  
LIVE LOAD DISTRIBUTION FACTOR:

- EXTERIOR MEMBERS - DIRECT LANE LOADING FOR WHEEL (OR AXLE) LOAD & FOR LANE LOAD MOMENTS.
- DIRECT LANE LOADING FOR WHEEL (OR AXLE) LOAD & FOR LANE LOAD SHEARS.
- INTERIOR MEMBERS - DIRECT LANE LOADING FOR WHEEL (OR AXLE) LOAD & FOR LANE LOAD MOMENTS.
- DIRECT LANE LOADING FOR WHEEL (OR AXLE) LOAD & FOR LANE LOAD SHEARS.

**PILES DRIVEN TO TIP ELEVATION FOR PILE/SOIL SETUP**

THE ULTIMATE BEARING VALUE IS 390 KIPS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 390 KIPS PER PILE FOR THE PIER PILES. PART OF THE ULTIMATE BEARING VALUE WILL BE ACHIEVED THROUGH PILE/SOIL SETUP, WHICH IS A TIME-DEPENDENT INCREASE IN RESISTANCE THAT OCCURS IN SOME SOILS.

THE TOTAL FACTORED LOAD IS 409 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES THE FORWARD ABUTMENT PILES INCLUDE AN ADDITIONAL 137 KIPS OF FACTORED LOAD PER PILE TO ACCONT FOR POSSIBLE DOWDRAG LOADING.

NOTIFY THE ENGINEER AT LEAST 5 DAYS BEFORE DRIVING PILES SO THAT THE ENGINEER CAN NOTIFY THE DISTRICT GEOTECHNICAL ENGINEER, THE OFFICE OF CONSTRUCTION ADMINISTRATION, AND THE OFFICE OF GEOTECHNICAL ENGINEERING.

DRIVE THE FIRST TWO PILES IN EACH SUBSTRUCTURE TO THE TIP ELEVATION GIVEN BELOW FOR THE SUBSTRUCTURE. DRIVE THE THIRD AND FOURTH PILES TO 75% AND 85% OF THE LENGTH OF THE FIRST TWO PILES. PERFORM DYNAMIC LOAD TESTING ON ALL FOUR PILES WHILE DRIVING. AFTER DRIVING THE FOUR PILES, CEASE ALL DRIVING OPERATIONS AT THE SUBSTRUCTURE FOR A MINIMUM OF 7 DAYS. INCLUDE THE WAITING PERIOD AS A SEPARATE ACTIVITY IN THE PROGRESS SCHEDULE. AFTER THE WAITING PERIOD, PERFORM PILE RESTRIKES ON THE FOUR PILES (TWO RESTRIKE ITEMS). SUBMIT ALL TEST RESULTS TO THE ENGINEER. THE ENGINEER WILL REVIEW THE TEST RESULTS AND ESTABLISH DRIVING CRITERIA FOR THE PILING IN THE SUBSTRUCTURE WITH THE ASSISTANCE OF THE DISTRICT GEOTECHNICAL ENGINEER, THE OFFICE OF CONSTRUCTION ADMINISTRATION, AND THE OFFICE OF GEOTECHNICAL ENGINEERING. THE DRIVING CRITERIA WITH PILE SETUP SHALL BE PERFORMED FOR THE FIRST STAGE OF BRIDGE CONSTRUCTION. THE CONTRACTOR SHALL NOT ORDER PILES FOR SUBSEQUENT PHASES UNTIL AFTER THE DRIVING CRITERIA HAS BEEN ESTABLISHED WITH SETUP. THE DEPARTMENT WILL ADJUST THE FURNISHED PILE QUANTITIES BASED ON THE RESTRIKE TEST RESULTS.

IF THE DYNAMIC LOAD TESTING INDICATES A PILE HAS ACHIEVED THE ULTIMATE BEARING VALUE ABOVE THE TIP ELEVATION DURING THE INITIAL DRIVING (BEFORE THE WAITING PERIOD), STOP DRIVING AND NOTIFY THE ENGINEER. IF THE RESTRIKE TEST RESULTS ON THE FOUR PILES INDICATE THAT A PILE DID NOT ACHIEVE THE REQUIRED ULTIMATE BEARING VALUE, DRIVE THE PILE TO THE ESTABLISHED DRIVING CRITERIA. SPLICING OF THE PILES BEYOND THE ESTIMATED LENGTH PROVIDED IN THE PLANS WILL BE PAID BY THE DEPARTMENT UNDER CMS 109.05 WITH A NEGOTIATED PRICE PER SPLICE.

REAR ABUTMENT  
16 PILES 75 FEET LONG, ORDER LENGTH  
TIP ELEVATION, 717.75 FEET  
2 DYNAMIC LOAD TESTING ITEMS  
2 RESTRIKES

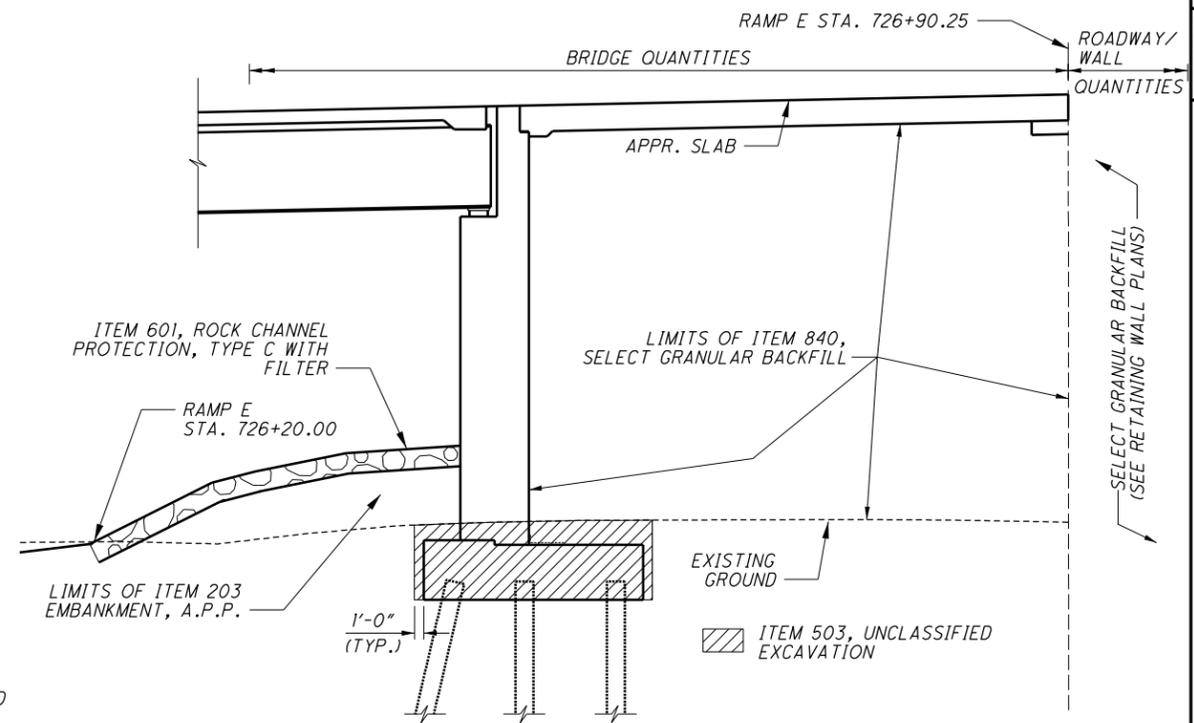
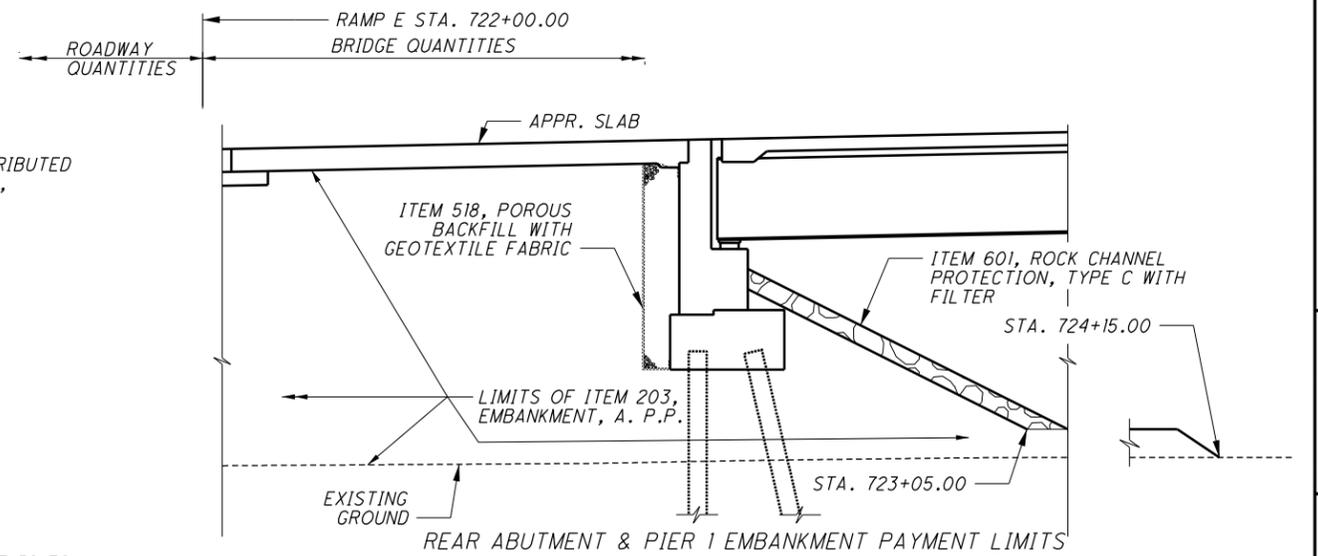
PIER 2  
16 PILES 55 FEET LONG, ORDER LENGTH  
TIP ELEVATION, 717.00 FEET  
2 DYNAMIC LOAD TESTING ITEMS  
2 RESTRIKES

PIER 1  
16 PILES 60 FEET LONG, ORDER LENGTH  
TIP ELEVATION, 712.00 FEET  
2 DYNAMIC LOAD TESTING ITEMS  
2 RESTRIKES

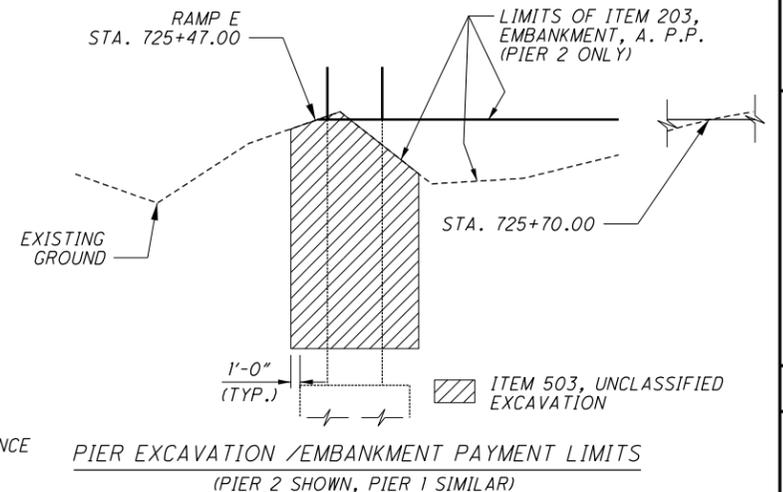
FORWARD ABUTMENT  
51 PILES 65 FEET LONG, ORDER LENGTH  
TIP ELEVATION, 721.00 FEET  
2 DYNAMIC LOAD TESTING ITEMS  
2 RESTRIKES

**ABBREVIATIONS:**

- |         |   |                         |            |   |  |         |   |                    |
|---------|---|-------------------------|------------|---|--|---------|---|--------------------|
| ABUT.   | - | ABUTMENT                | FTG.       | - | FOOTING                                | PROP.   | - | PROPOSED           |
| APPR.   | - | APPROACH                | FWD.       | - | FORWARD                                | R.A.    | - | REAR ABUTMENT      |
| APPROX. | - | APPROXIMATE             | L.T.       | - | LEFT                                   | REF.    | - | REFERENCE          |
| BOT.    | - | BOTTOM                  | MAX.       | - | MAXIMUM                                | REQ.    | - | REQUIRED           |
| BRG.    | - | BEARING                 | M.O.T.     | - | MAINTENANCE OF TRAFFIC                 | RT.     | - | RIGHT              |
| C/C     | - | CENTER TO CENTER        | MIN.       | - | MINIMUM                                | SB      | - | SOUTHBOUND         |
| C.J.    | - | CONSTRUCTION JOINT      | NB         | - | NORTHBOUND                             | SER.    | - | SERIES             |
| CONT.   | - | CONTINUED               | N.F.       | - | NEAR FACE                              | SHLDR.  | - | SHOULDER           |
| C.P.P.  | - | CORRUGATED PLASTIC PIPE | N.P.C.P.P. | - | NON-PERFORATED CORRUGATED PLASTIC PIPE | SPA.    | - | SPACING            |
| DIA.    | - | DIAMETER                | NO.        | - | NUMBER                                 | STA.    | - | STATION            |
| EL.     | - | ELEV.                   | O/O.       | - | OUT TO OUT                             | TYP.    | - | TYPICAL            |
| EX.     | - | EXIST.                  | OFF.       | - | OFFSET                                 | T/SLOPE | - | TOE OF SLOPE       |
| EXP.    | - | EXPANSION               | P.C.P.P.   | - | PERFORATED CORRUGATED PLASTIC PIPE     | T/T     | - | TOE TO TOE         |
| E.F.    | - | EACH FACE               | P.E.J.F.   | - | PREFORMED EXPANSION JOINT FILLER       | VAR.    | - | VARIABLE           |
| F.A.    | - | FORWARD ABUTMENT        |            |   |  | V.C.    | - | VERTICAL CLEARANCE |
| F.F.    | - | FAR FACE                |            |   |  | VERT.   | - | VERTICAL           |



FORWARD ABUTMENT EXCAVATION/ EMBANKMENT PAYMENT LIMITS



PIER EXCAVATION / EMBANKMENT PAYMENT LIMITS (PIER 2 SHOWN, PIER 1 SIMILAR)

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**ITEM 511, CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK, AS PER PLAN**

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE 499.03, CLASS OC 2 MEETING A DESIGN STRENGTH OF 4,500 PSI  
CORROSION INHIBITOR 515.15

THE CLASS OC2 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:  
WATER/CEMENT RATIO = 0.40 MAXIMUM

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE A MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST EFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

APPROACH SLABS AND DIAPHRAGMS ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508. PERMANENT STAY-IN-PLACE (SIP) FORMS ARE NOT ALLOWED. THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

**ITEM 511, CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET), AS PER PLAN**

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC FIBERS, AND CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE 499.03, CLASS OC 2 MEETING A DESIGN STRENGTH OF 4,500 PSI, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02  
FIBERS FOR CONCRETE CORROSION INHIBITOR ASTM C 1116, TYPE III 515.15

THE CLASS OC2 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:  
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 5 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 IN. MIN. TO 2.5 IN. MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

**ITEM 511, CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET), AS PER PLAN, CONT'D.**

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR COPOLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AND ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.0 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT AND MOISTURE. PLACING THE BAG THAT THE FIBERS COME IN INTO THE CONCRETE MIX IS NOT PERMITTED.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 5.0 LBS/CY OF CONCRETE. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX, MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3#40F ITS RATED CAPACITY OR 6 CUBIC YARDS, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE A MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST EFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED. THIS SPECIFICATION IS INTENDED FOR USE ON NON DECORATIVE BRIDGE RAILING. USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING SIMILAR TO TEXAS RAILING AND MACRO-SYNTHETIC CONCRETE PER THIS SPECIFICATION ON TRADITIONAL CONCRETE RAILING WHEN APPLICABLE.

**ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN**

DUE TO THE RECENT SUPPLY SHORTAGES, THE DEPARTMENT HAS BEEN MADE AWARE OF DIFFICULTIES THAT SUPPLIERS ARE HAVING IN OBTAINING THE NECESSARY MATERIALS FOR EPOXY. ON THIS PROJECT THE CONTRACTOR CAN USE TRADITIONAL EPOXY-URETHANE SEALERS APPROVED ON THE OPL OR ELECT TO SUBSTITUTE BRIDGE COTE XL-70 W/SILANE THAT IS LISTED ON THE APPROVED NOISE SUPPLIER LIST UNDER APPROVED SEALERS FOR NOISE BARRIERS. APPROVEDNOISESUPPLIERSLIST.PDF (OHIO.GOV).

IF BRIDGE COTE XL-70 W/SILANE IS CHOSEN, MEET THE REQUIREMENTS OF THE BRIDGE COTE XL-70 W/SILANE TECHNICAL DATA SHEET WITH THE EXCEPTION OF THE SURFACE PREPARATION THAT WILL STILL FOLLOW THE REQUIREMENTS LISTED UNDER C&S 512 FOR EPOXY URETHANE SEALERS.

PART.	ESTIMATED QUANTITIES					DESCRIPTION	ABUT.	PIERS	SUPER	GEN.	SHEET
	02/NHS/BR	ITEM	EXT.	TOTAL	UNIT						
	2497	203	20001	2497	CY	EMBANKMENT, AS PER PLAN	2431	66			3/36
	LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING		LS			
	LS	503	21300	LS		UNCLASSIFIED EXCAVATION	LS	LS			3/36
	LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	LS	LS			
	5860	507	00600	5860	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	4180	1680			
	6355	507	00650	6355	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	4515	1840			
	190393	509	26000	190393	LB	GALVANIZED STEEL REINFORCEMENT	40207	27795	122391		
	374	511	34447	374	CY	CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK, AS PER PLAN				374	4/36
	127	511	34451	127	CY	CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET), AS PER PLAN				127	4/36
	79	511	41012	79	CY	CLASS OC1 CONCRETE WITH OC/OA, PIER ABOVE FOOTINGS		79			
	67	511	43512	67	CY	CLASS OC1 CONCRETE WITH OC/OA, ABUTMENT INCLUDING FOOTING	67				
	186	511	44112	186	CY	CLASS OC1 CONCRETE WITH OC/OA, ABUTMENT NOT INCLUDING FOOTING	186				
	182	511	46512	182	CY	CLASS OC1 CONCRETE WITH OC/OA, FOOTING	123	59			
	1365	512	10101	1365	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	270	220	875		4/36
	16	512	33000	16	SY	TYPE 2 WATERPROOFING	16				
	404562	513	10300	404562	LB	STRUCTURAL STEEL MEMBERS, LEVEL 5			404562		
	3840	513	20000	3840	EACH	WELDED STUD SHEAR CONNECTORS			3840		
	1307	514	00060	1307	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			1307		17/36
	1307	514	00066	1307	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			1307		17/36
	69	516	11210	69	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL			69		
	164	516	13600	164	SF	1" PREFORMED EXPANSION JOINT FILLER			164		
	4	516	44101	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16" x 26" X 2.50" PAD WITH 17" x 34" x 2" PLATE)		4			24/36
	4	516	44201	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16" x 26" X 3.50" PAD WITH 17" x 27" x 2" PLATE)		4			24/36
	8	516	44301	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 16" X 4.70" PAD WITH 15" x 17" x 2" PLATE)	8				24/36
	268	518	20000	268	SY	PREFABRICATED GEOCOMPOSITE BOARD	268				
	34	518	21200	34	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	34				
	129	518	40000	129	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	129				
	38	518	40010	38	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	38				
	8	523	20000	8	EACH	DYNAMIC LOAD TESTING	4	4			
	85	526	25010	85	SY	REINFORCED CONCRETE APPROACH SLABS WITH OC/OA (T=15")					85
	100	526	30010	100	SY	REINFORCED CONCRETE APPROACH SLABS WITH OC/OA (T=17")					100
	1319	840	23000	1319	CY	SELECT GRANULAR BACKFILL	1319				

DESIGN AGENCY: **JACOBS**  
1880 WATERCROSS ROAD  
CINCINNATI, OHIO 45240

DATE: 9/20  
REVIEWED BY: JTC  
STRUCTURE FILE NUMBER: 2900215

DESIGNED BY: PEG  
CHECKED BY: FBW

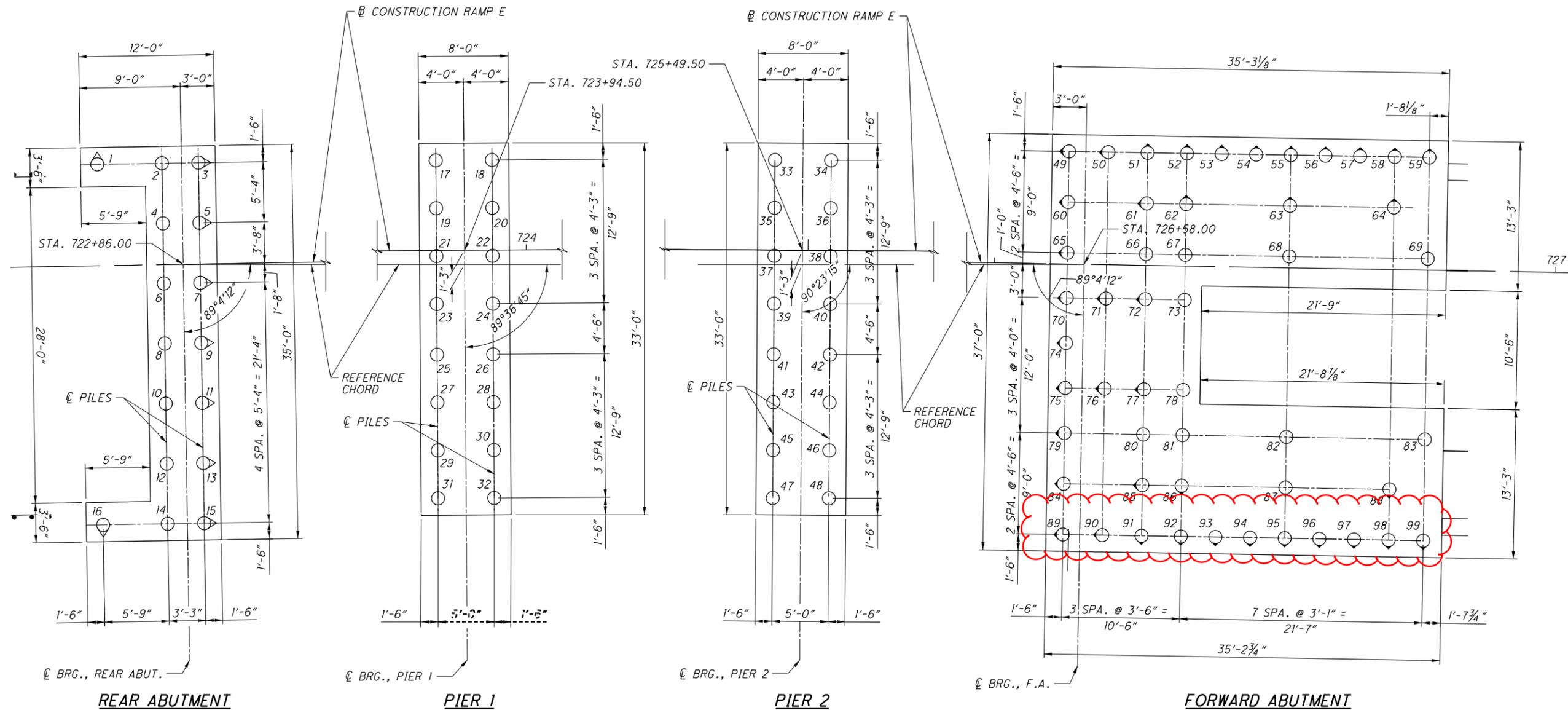
GENERAL NOTES II & ESTIMATED QUANTITIES

BRIDGE NO. GRE-035-0610  
RAMP E OVER LITTLE MIAMI RIVER

GRE-US 35-5.63  
PID No. 107217

4 / 36

541  
698



**FOUNDATION PLAN**

**LEGEND:**

- DENOTES VERTICAL 14" φ CAST-IN-PLACE REINFORCED CONCRETE PILE
- ◐ DENOTES 1:4 BATTERED 14" φ CAST-IN-PLACE REINFORCED CONCRETE PILE

**NOTES:**

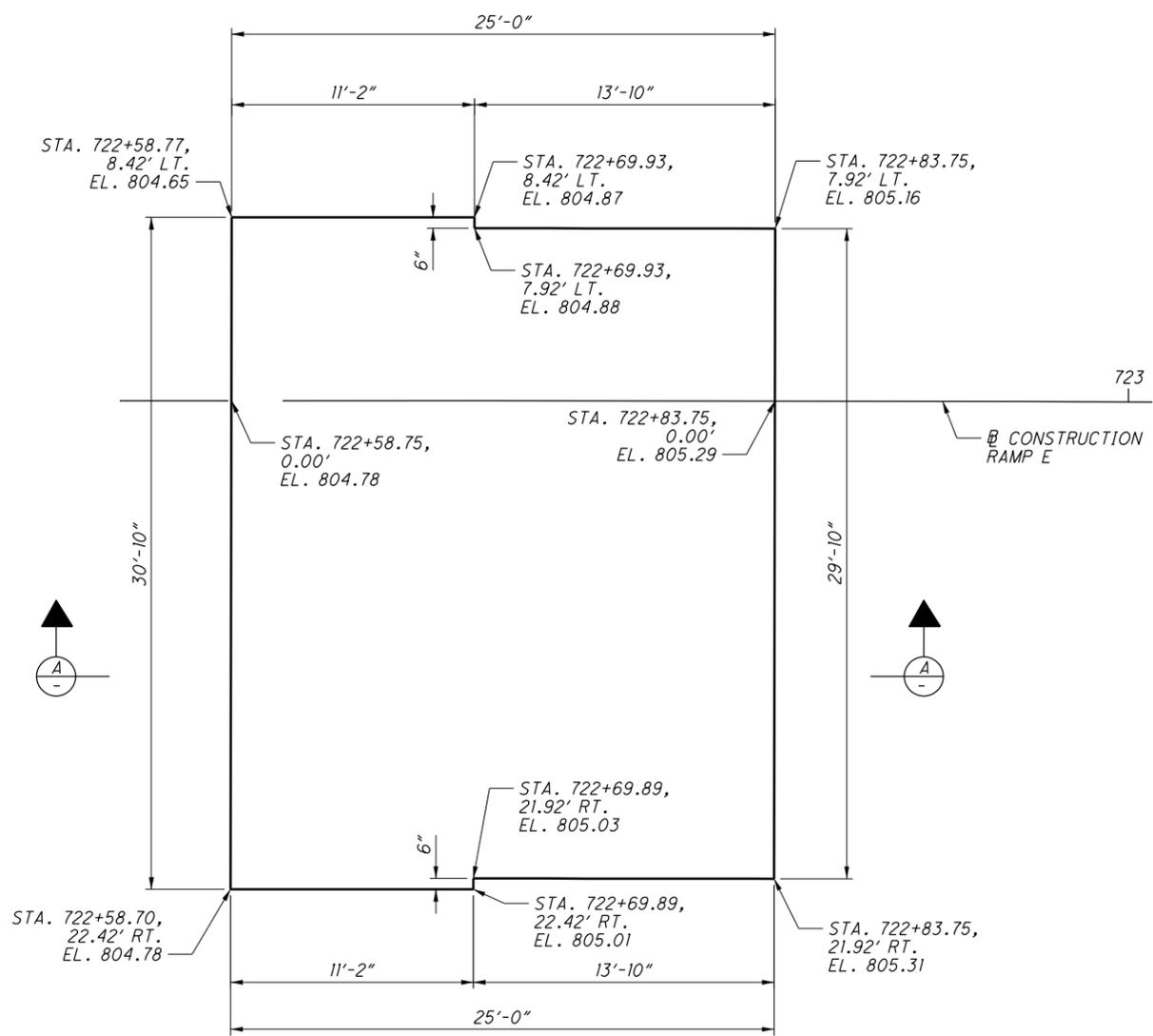
1. CL BRGS. AT ABUTMENTS AND CL PIERS ARE RADIAL TO THE BL CONSTRUCTION RAMP E.

**FOUNDATION PLAN**

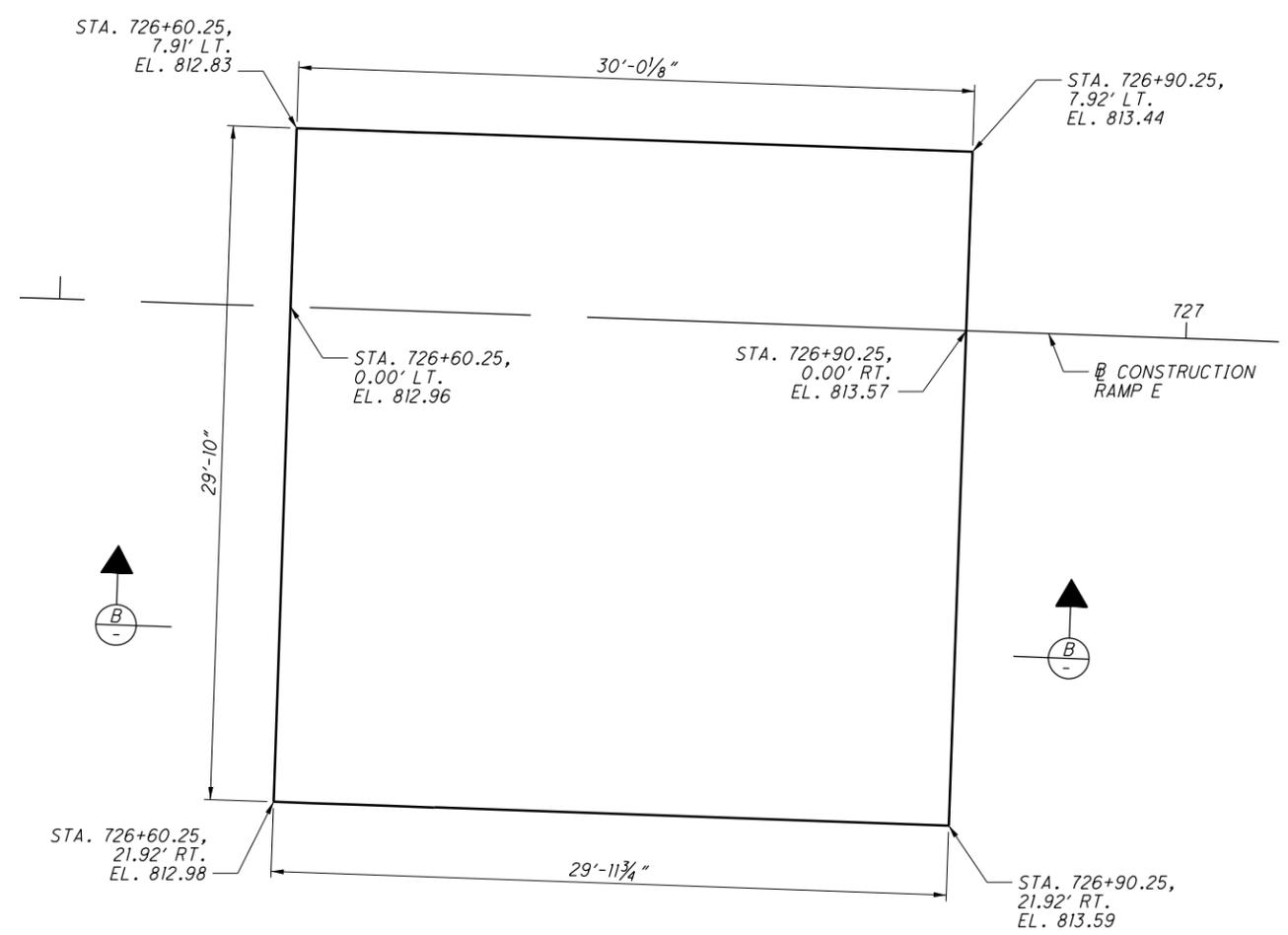
BRIDGE NO. GRE-035-0610  
RAMP E OVER LITTLE MIAMI RIVER

GRE-US 35-5.63  
PID No. 107217

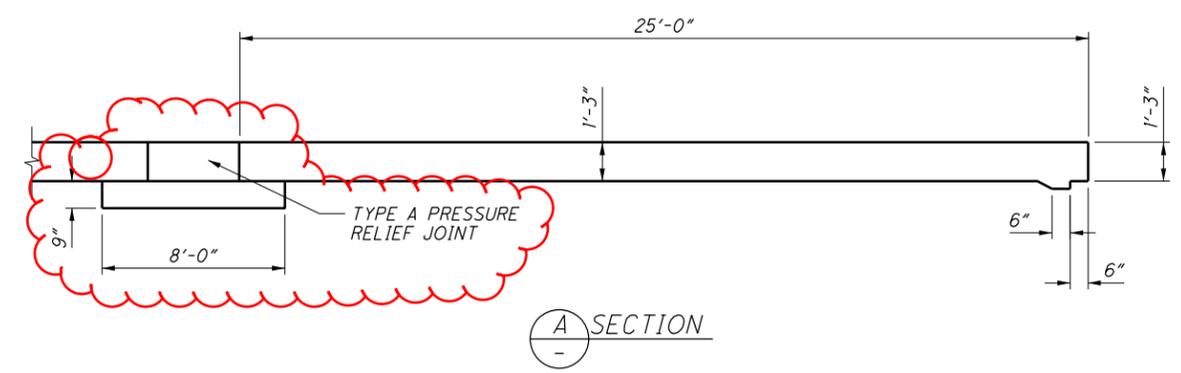
DESIGNED	PEG	CHECKED	FBW
DRAWN	PEG	REVISED	
REVIEWED	JTC	STRUCTURE FILE NUMBER	2900215
DATE	9/20		



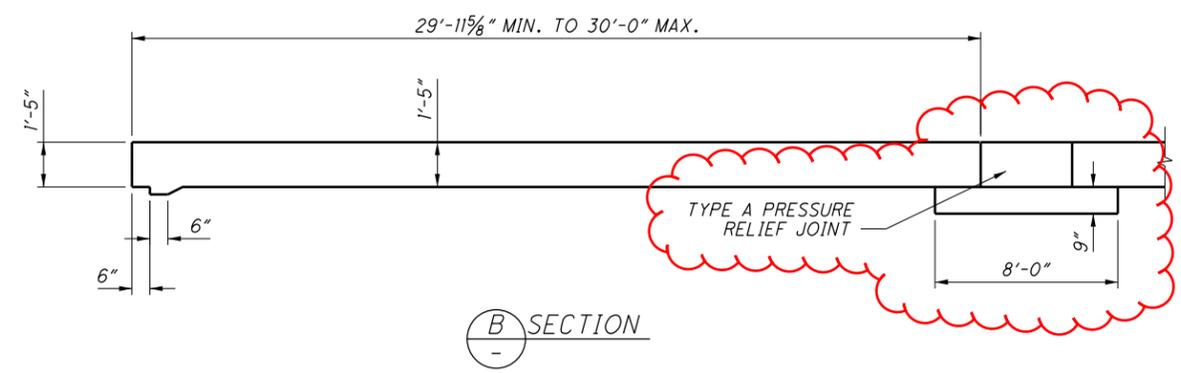
**REAR APPROACH SLAB**



**FORWARD APPROACH SLAB**



**SECTION A**



**SECTION B**

- NOTES:**
1. FOR ADDITIONAL APPROACH SLAB DETAILS, SEE STD. DWG. AS-1-15 AND AS-2-15.
  2. DIMENSIONS ARE MEASURED PARALLEL OR PERPENDICULAR TO CONSTRUCTION RAMP E.

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**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	07-17-15	
AS-2-15	REVISED	01-18-19	
BR-2-15	REVISED	01-21-22	
PSID-1-13	REVISED	01-15-21	
SBR-1-13	REVISED	07-20-18	(SEE INSERTS SHEETS 572B-572F)
SIGD-1-21	REVISED	01-21-22	
SIGD-2-14	REVISED	01-15-21	
TST-1-99	REVISED	01-15-21	
VPF-1-90	REVISED	07-20-18	

**DESIGN SPECIFICATION:**

THIS STRUCTURE CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 8TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**DESIGN LOADING:**

HL-93  
FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS/SQ.FT.

**DESIGN DATA:**

CONCRETE CLASS OC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS OC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

GALVANIZED STEEL REINFORCEMENT - MIN. YIELD STRENGTH 60 KSI

CONCRETE FOR PRESTRESSED BEAMS:  
COMPRESSIVE STRENGTH (FINAL) - 7.5 KSI  
COMPRESSIVE STRENGTH (RELEASE) - 6.0 KSI

WELDED WIRE FABRIC:  
YIELD STRENGTH - 70 KSI

PRESTRESSING STRANDS:  
AREA = 0.217 SQ.IN (0.6" φ)  
ULTIMATE STRENGTH = 270 KSI  
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

**MONOLITHIC WEARING SURFACE:**

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

**DECK PLACEMENT DESIGN ASSUMPTIONS:**

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH MAXIMUM WHEEL LOAD OF 2.65 KIPS

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103"

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65"

**ITEM 625 - STRUCTURE GROUNDING SYSTEM**

IN ORDER TO PROPERLY GROUND THIS STRUCTURE, A QUANTITY OF 1 EACH - STRUCTURE GROUNDING SYSTEM IS CARRIED IN THE GENERAL SUMMARY.

**PROPRIETARY RETAINING WALL DATA:**

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR THE INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 4.04K/FT FOR THE REAR ABUTMENT AND 2.66 K/FT FOR THE FORWARD ABUTMENT, APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

**PILE DRIVING CONSTRAINTS**

PILE DRIVING TO THE DESIGN LOADS MAY NOT BEGIN UNTIL SUFFICIENT EMBANKMENT AND MSE WALL SETTLEMENT HAS OCCURRED AS DOCUMENTED BY THE SETTLEMENT PLATFORMS. THE ANTICIPATED WAITING PERIOD TO PERMIT SUFFICIENT EMBANKMENT SETTLEMENT IS 60 DAYS. THE DISTRICT GEOTECHNICAL ENGINEER MAY REDUCE OR EXTEND THE WAITING PERIOD BASED ON THE MAGNITUDE AND RATE OF THE EMBANKMENT SETTLEMENT AS DETERMINED BY THE SETTLEMENT PLATFORMS. THE SETTLEMENT WAITING PERIOD BEGINS ONCE THE APPROACH EMBANKMENT REACHES THE DESIGN SUBGRADE LEVEL FOR A MINIMUM DISTANCE OF 100 FT. BEHIND EACH ABUTMENT. THE PLANS HAVE PROVISIONS FOR A TEMPORARY SURCHARGE AT THE ABUTMENT LOCATION TO PERMIT PLACEMENT OF EMBANKMENT TO THE DESIGN SUBGRADE LEVEL. BEGIN PILE DRIVING ONLY FOLLOWING TERMINATION OF THE SETTLEMENT MONITORING WAITING PERIOD BY THE DISTRICT GEOTECHNICAL ENGINEER. THE CONTRACTOR MAY PARTIALLY DRIVE THE PILES TO PRIOR TO MSE WALL CONSTRUCTION TO PERMIT PROPER PLACEMENT.

PILES DRIVEN TO TIP ELEVATION FOR PILE/SOIL SETUP THE ULTIMATE BEARING VALUE IS 390 KIPS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 390 KIPS PER PILE FOR THE PIER PILES. PART OF THE ULTIMATE BEARING VALUE WILL BE ACHIEVED THROUGH PILE/SOIL SETUP, WHICH IS A TIME-DEPENDENT INCREASE IN RESISTANCE THAT OCCURS IN SOME SOILS.

NOTIFY THE ENGINEER AT LEAST 5 DAYS BEFORE DRIVING PILES SO THAT THE ENGINEER CAN NOTIFY THE DISTRICT GEOTECHNICAL ENGINEER, THE OFFICE OF CONSTRUCTION ADMINISTRATION, AND THE OFFICE OF GEOTECHNICAL ENGINEERING.

DRIVE THE FIRST TWO PILES IN EACH SUBSTRUCTURE TO THE TIP ELEVATION GIVEN BELOW FOR THE SUBSTRUCTURE. DRIVE THE THIRD AND FOURTH PILES TO 75% AND 85% OF THE LENGTH OF THE FIRST TWO PILES. PERFORM DYNAMIC LOAD TESTING ON ALL FOUR PILES WHILE DRIVING. AFTER DRIVING THE FOUR PILES, CEASE ALL DRIVING OPERATIONS AT THE SUBSTRUCTURE FOR A MINIMUM OF 7 DAYS. INCLUDE THE WAITING PERIOD AS A SEPARATE ACTIVITY IN THE PROGRESS SCHEDULE. AFTER THE WAITING PERIOD, PERFORM PILE RESTRIKES ON THE FOUR PILES (TWO RESTRIKE ITEMS). SUBMIT ALL TEST RESULTS TO THE ENGINEER. THE ENGINEER WILL REVIEW THE TEST RESULTS AND ESTABLISH DRIVING CRITERIA FOR THE PILING IN THE SUBSTRUCTURE WITH THE ASSISTANCE OF THE DISTRICT GEOTECHNICAL ENGINEER, THE OFFICE OF CONSTRUCTION ADMINISTRATION, AND THE OFFICE OF GEOTECHNICAL ENGINEERING. THE DRIVING CRITERIA WITH PILE SETUP SHALL BE PERFORMED FOR THE FIRST STAGE OF BRIDGE CONSTRUCTION. THE CONTRACTOR SHALL NOT ORDER PILES FOR SUBSEQUENT PHASES UNTIL AFTER THE DRIVING CRITERIA HAS BEEN ESTABLISHED WITH SETUP. THE DEPARTMENT WILL ADJUST THE FURNISHED PILE QUANTITIES BASED ON THE RESTRIKE TEST RESULTS.

IF THE DYNAMIC LOAD TESTING INDICATES A PILE HAS ACHIEVED THE ULTIMATE BEARING VALUE ABOVE THE TIP ELEVATION DURING THE INITIAL DRIVING (BEFORE THE WAITING PERIOD), STOP DRIVING AND NOTIFY THE ENGINEER. IF THE RESTRIKE TEST RESULTS ON THE FOUR PILES INDICATE THAT A PILE DID NOT ACHIEVE THE REQUIRED ULTIMATE BEARING VALUE, DRIVE THE PILE TO THE ESTABLISHED DRIVING CRITERIA. SPLICING OF THE PILES BEYOND THE ESTIMATED LENGTH PROVIDED IN THE PLANS WILL BE PAID BY THE DEPARTMENT UNDER CMS 109.05 WITH A NEGOTIATED PRICE PER SPLICE.

REAR ABUTMENT  
32 PILES 90 FEET LONG, ORDER LENGTH  
TIP ELEVATION, 728.50 FEET  
2 DYNAMIC LOAD TESTING ITEMS  
2 RESTRIKES

PIER 1  
30 PILES 70 FEET LONG, ORDER LENGTH  
TIP ELEVATION, 730.30 FEET  
2 DYNAMIC LOAD TESTING ITEMS  
2 RESTRIKES

FORWARD ABUTMENT  
26 PILES 95 FEET LONG, ORDER LENGTH  
TIP ELEVATION, 724.00 FEET  
2 DYNAMIC LOAD TESTING ITEMS  
2 RESTRIKES

**ITEM 690, SPECIAL - MISC.: TEMPORARY SURCHARGE**

DESCRIPTION: THIS ITEM CONSISTS OF DESIGNING, CONSTRUCTING, AND REMOVING A TEMPORARY SURCHARGE AT THE REAR AND FORWARD ABUTMENTS OF THE STRUCTURE TO THE LOCATIONS AND LIMITS SHOWN IN THE PLANS.

AS DIRECTED IN THE PILE DRIVING CONSTRAINTS, A TEMPORARY SURCHARGE IS NECESSARY AT THE ABUTMENTS FOR THIS BRIDGE TO MITIGATE EMBANKMENT SETTLEMENT. CONSTRUCT THE TEMPORARY SURCHARGE SO IT EXTENDS VERTICALLY FROM THE ELEVATION OF THE BOTTOM OF THE PROPOSED ABUTMENT FOOTING TO THE PROPOSED ROADWAY SUBGRADE ELEVATION. CONSTRUCT THE TEMPORARY SURCHARGE USING ITEM 203 EMBANKMENT WITH A DRY DENSITY OF AT LEAST 105 PCF AFTER COMPACTION. ALTERNATE MATERIALS, SUCH AS PRECAST CONCRETE, MAY BE UTILIZED FOR ALL OR A PORTION OF THE REQUIRED SURCHARGE LOAD PROVIDED THE APPLIED SURCHARGE IS GREATER THAN OR EQUIVALENT TO THE SURCHARGE OF EMBANKMENT WITH A DRY UNIT WEIGHT OF 110 PCF. SUPPORT THE SIDES OF THE TEMPORARY SURCHARGE SO THAT THE TOP OF THE SURCHARGE MATERIAL ALIGNS WITH THE REAR OF THE ABUTMENT FOOTING. CONSTRUCT THE TEMPORARY SURCHARGE SO THAT IT EXTENDS AT LEAST 100 FEET BEHIND EACH ABUTMENT.

PREPARE AND PROVIDE SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE TEMPORARY SURCHARGE, INCLUDING THE METHOD USED TO SUPPORT THE SIDES OF THE TEMPORARY SURCHARGE AND ALL DETAILS OF THE SUPPORT SYSTEM. ENSURE THE TEMPORARY SURCHARGE DESIGN ACCOMMODATES THE LOCATION AND COMPOSITION OF THE PROPOSED MSE WALLS FOR THE BRIDGE STRUCTURE. HAVE TWO OHIO REGISTERED ENGINEERS SIGN, SEAL, AND DATE THE DRAWINGS AND CALCULATIONS ACCORDING TO C&MS 501.05. SUBMIT THE DRAWINGS AND CALCULATIONS TO THE ENGINEER AT LEAST 30 DAYS BEFORE CONSTRUCTION OF THE TEMPORARY SURCHARGE BEGINS.

REMOVE THE TEMPORARY SURCHARGE AFTER THE CONDITIONS SPECIFIED IN THE PILE DRIVING CONSTRAINTS ARE SATISFIED AND THE ENGINEER AUTHORIZES REMOVAL.

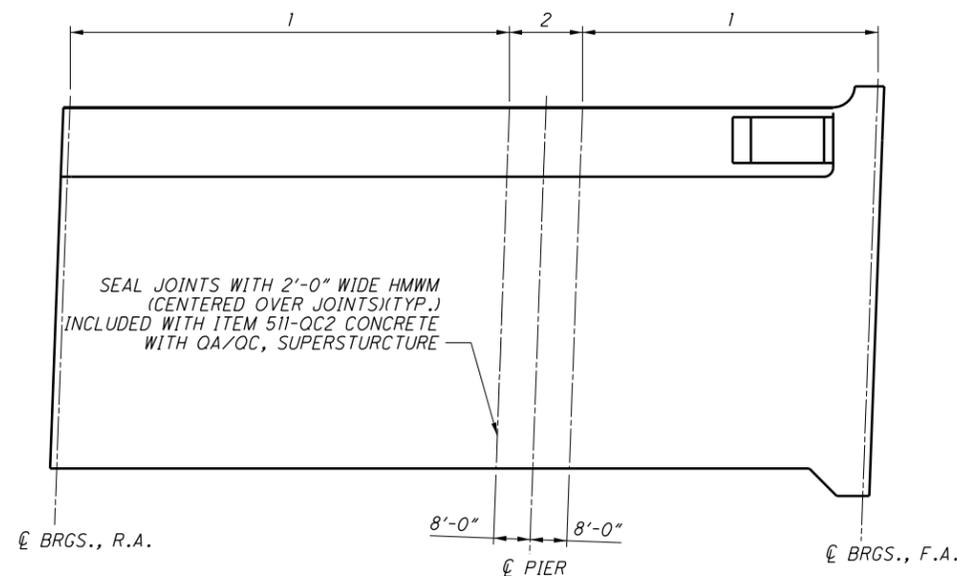
BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO DESIGN, CONSTRUCT AND REMOVE THE TEMPORARY SURCHARGE AT THE REAR AND FORWARD ABUTMENTS FOR THE BRIDGE AT THE CONTRACT LUMP SUM BID PRICE FOR ITEM SPECIAL 690E98400 SPECIAL-MISC.: TEMPORARY SURCHARGE.

**ABBREVIATIONS:**

ABUT.	ABUTMENT	FTG.	FOOTING	PROP.	PROPOSED
APPR.	APPROACH	FWD.	FORWARD	R.A.	REAR ABUTMENT
APPROX.	APPROXIMATE	LT.	LEFT	REF.	REFERENCE
BOT.	BOTTOM	MAX.	MAXIMUM	REQ.	REQUIRED
BRG.	BEARING	M.O.T.	MAINTENANCE OF	RT.	RIGHT
C/C	CENTER TO CENTER		TRAFFIC	SB	SOUTHBOUND
C.I.P.	CAST-IN-IRON	NB	NORTHBOUND	SER.	SERIES
C.J.	CONSTRUCTION JOINT	N.F.	NEAR FACE	SHLDR.	SHOULDER
CLR.	CLEAR	NO.	NUMBER	SPA.	SPACING
CONSTR.	CONSTRUCTION	N.P.C.P.P.	NON-PERFORATED	STA.	STATION
CONT.	CONTINUED		CORRUGATED	TYP.	TYPICAL
C.P.P.	CORRUGATED PLASTIC PIPE		PLASTIC PIPE	T/SLOPE	TOP OF SLOPE
		N.T.S.	NOT TO SCALE	T/T	TOE TO TOE
DIA.	DIAMETER	O/O	OUT TO OUT	U.N.O.	UNLESS NOTED
EL.	ELEV. - ELEVATION	OFF	OFFSET		OTHERWISE
EX.	EXIST. - EXISTING	P.C.P.P.	PERFORATED	VAR.	VARIABLES
EXP.	EXPANSION		CORRUGATED	V.C.	VERTICAL CURVE
E.F.	EACH FACE		PLASTIC PIPE	VERT.	VERTICAL
F.A.	FORWARD ABUTMENT	P.E.J.F.	PREFORMED		
F.F.	FAR FACE		EXPANSION		
			JOINT FILLER		

**NOTES:**

2 SHALL NOT BE POURED PRIOR TO 1 WITHOUT APPROVAL BY THE ENGINEER. SEQUENCE OF SPAN POURS SHALL BE DETERMINED BY THE CONTRACTOR



**DECK POUR SEQUENCE PLAN**

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**ITEM 511, CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK, AS PER PLAN**

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE 499.03, CLASS OC 2 MEETING A DESIGN STRENGTH OF 4,500 PSI  
CORROSION INHIBITOR 515.15

THE CLASS OC2 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:  
WATER/CEMENT RATIO = 0.40 MAXIMUM

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE A MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST EFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

APPROACH SLABS AND DIAPHRAGMS ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508. PERMANENT STAY-IN-PLACE (SIP) FORMS ARE NOT ALLOWED. THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

**ITEM 511, CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET), AS PER PLAN**

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC FIBERS, AND CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE 499.03, CLASS OC 2 MEETING A DESIGN STRENGTH OF 4,500 PSI, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02  
FIBERS FOR CONCRETE CORROSION INHIBITOR ASTM C 1116, TYPE III 515.15

THE CLASS OC2 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:  
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 5 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 IN. MIN. TO 2.5 IN. MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

**ITEM 511, CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET), AS PER PLAN, CONT'D.**

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR COPOLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYNTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AND ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.0 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT AND MOISTURE. PLACING THE BAG THAT THE FIBERS COME IN INTO THE CONCRETE MIX IS NOT PERMITTED.

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 5.0 LBS/CY OF CONCRETE. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX, MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 3#40F ITS RATED CAPACITY OR 6 CUBIC YARDS, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETE MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE A MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST EFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED. THIS SPECIFICATION IS INTENDED FOR USE ON NON DECORATIVE BRIDGE RAILING. USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING SIMILAR TO TEXAS RAILING AND MACRO-SYNTHETIC CONCRETE PER THIS SPECIFICATION ON TRADITIONAL CONCRETE RAILING WHEN APPLICABLE.

**ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN**

DUE TO THE RECENT SUPPLY SHORTAGES, THE DEPARTMENT HAS BEEN MADE AWARE OF DIFFICULTIES THAT SUPPLIERS ARE HAVING IN OBTAINING THE NECESSARY MATERIALS FOR EPOXY. ON THIS PROJECT THE CONTRACTOR CAN USE TRADITIONAL EPOXY-URETHANE SEALERS APPROVED ON THE OPL OR ELECT TO SUBSTITUTE BRIDGE COTE XL-70 W/SILANE THAT IS LISTED ON THE APPROVED NOISE SUPPLIER LIST UNDER APPROVED SEALERS FOR NOISE BARRIERS. APPROVEDNOISESUPPLIERSLIST.PDF (OHIO.GOV).

IF BRIDGE COTE XL-70 W/SILANE IS CHOSEN, MEET THE REQUIREMENTS OF THE BRIDGE COTE XL-70 W/SILANE TECHNICAL DATA SHEET WITH THE EXCEPTION OF THE SURFACE PREPARATION THAT WILL STILL FOLLOW THE REQUIREMENTS LISTED UNDER C&MS 512 FOR EPOXY URETHANE SEALERS.

PART.		ESTIMATED QUANTITIES										
02/NHS/BR	ITEM	FXT	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER	GEN.	SHEET		
LS	503	11100	LS		COFFERDAMS AND EXCAVATION BRACING		LS					
LS	503	21300	LS		UNCLASSIFIED EXCAVATION		LS					
LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION	LS	LS					
7010	507	00600	7010	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	5060	1950					
7450	507	00650	7450	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	5350	2100					
198337	509	26000	198337	LB	GALVANIZED STEEL REINFORCEMENT	29535	31153	137649				
2	511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2						
148	511	34412	148	CY	CLASS OC2 CONCRETE WITH OC/OA, SUPERSTRUCTURE			148				
436	511	34447	436	CY	CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK, AS PER PLAN			436		3/30		
30	511	34451	30	CY	CLASS OC2 CONCRETE WITH OC/OA, BRIDGE DECK (PARAPET), AS PER PLAN			30		3/30		
70	511	41012	70	CY	CLASS OC1 CONCRETE WITH OC/OA, PIER ABOVE FOOTINGS		70					
252	511	43512	252	CY	CLASS OC1 CONCRETE WITH OC/OA, ABUTMENT INCLUDING FOOTING	252						
63	511	46512	63	CY	CLASS OC1 CONCRETE WITH OC/OA, FOOTING		63					
97	511	51510	97	CY	CLASS OC2 CONCRETE, SIDEWALK			97				
682	512	10101	682	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	309	158	215		3/30		
8	515	15110	8	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF60-49 (104'-9" LONG)			8				
8	515	15110	8	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF60-49 (73'-0" LONG)			8				
28	515	20000	28	EACH	INTERMEDIATE DIAPHRAGMS			28				
10	516	13600	10	SF	1" PREFORMED EXPANSION JOINT FILLER			10				
101	516	13900	101	SF	2" PREFORMED EXPANSION JOINT FILLER	101						
204	516	14020	204	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	204						
8	516	44101	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 21" X 2.5735" PAD WITH 16" x 25" 1.75" PL)	8				22/30		
8	516	44101	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 19.5" X 2.5735" PAD WITH 16" x 25" 1.75" PL)	8				22/30		
16	516	44101	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 19.5" X 2.5735" PAD WITH 16" x 40" 1.75" PL)		16			22/30		
206	517	75120	206	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)			206				
3	518	12301	3	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			3		27/30		
213	518	40000	213	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	213						
54	518	40010	54	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	54						
6	523	20000	6	EACH	DYNAMIC LOAD TESTING	4	2					
561	526	30011	561	SY	REINFORCED CONCRETE APPROACH SLABS WITH OC/OA (T=17"), AS PER PLAN				561	23/30		
79	526	90010	79	FT	TYPE A INSTALLATION			79				
165	607	39910	165	FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC			165				
165	607	39930	165	FT	VANDAL PROTECTION FENCE, 12' CURVED, COATED FABRIC			165				
20	608	53020	20	SF	DETECTABLE WARNING			20				
110	625	25504	110	FT	CONDUIT, 3", 725.051				110			
1	625	30706	1	EACH	PULL BOX, 725.08, 24"				1			
LS	690	98400	LS		SPECIAL - MISC.: TEMPORARY SURCHARGE				LS	2/30		
33	846	00110	33	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM					33		

**JACOBS**  
1880 WATERCROSS ROAD  
CINCINNATI, OHIO 45240

DESIGN AGENCY

DATE 5/2022  
JTC  
STRUCTURE FILE NUMBER 2900213

REVIEWED  
JTC  
DRAWN  
MM  
REVISOR

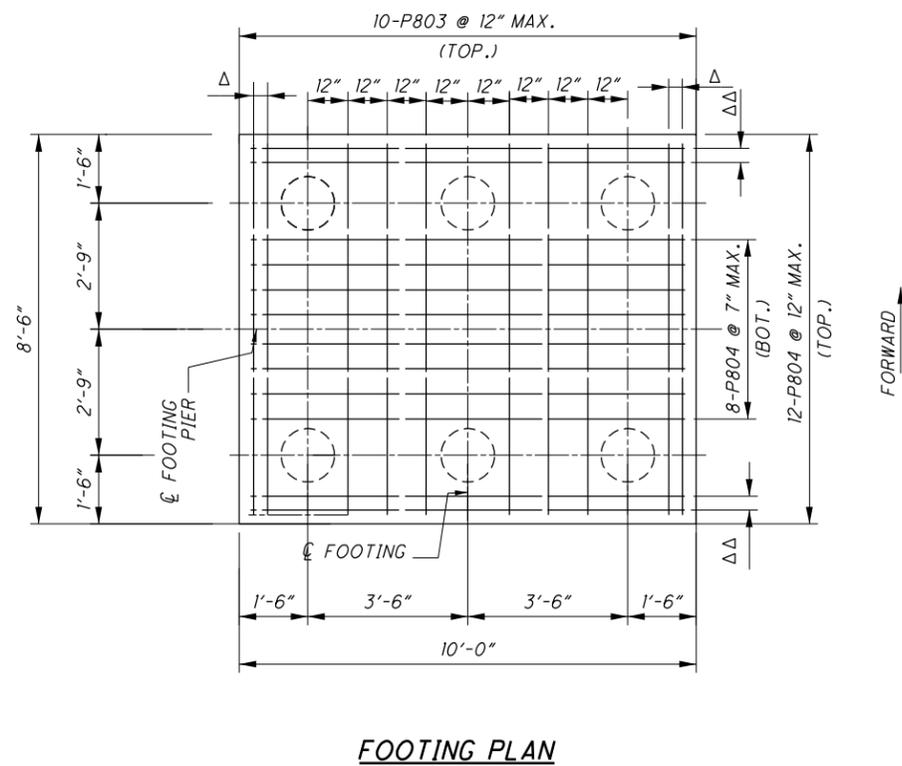
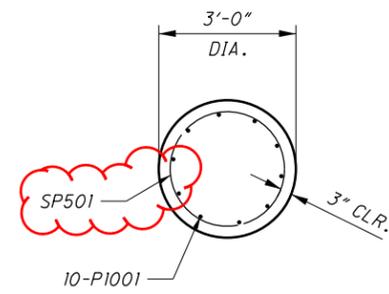
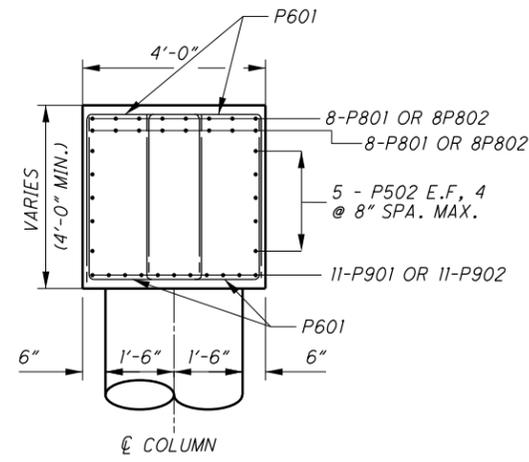
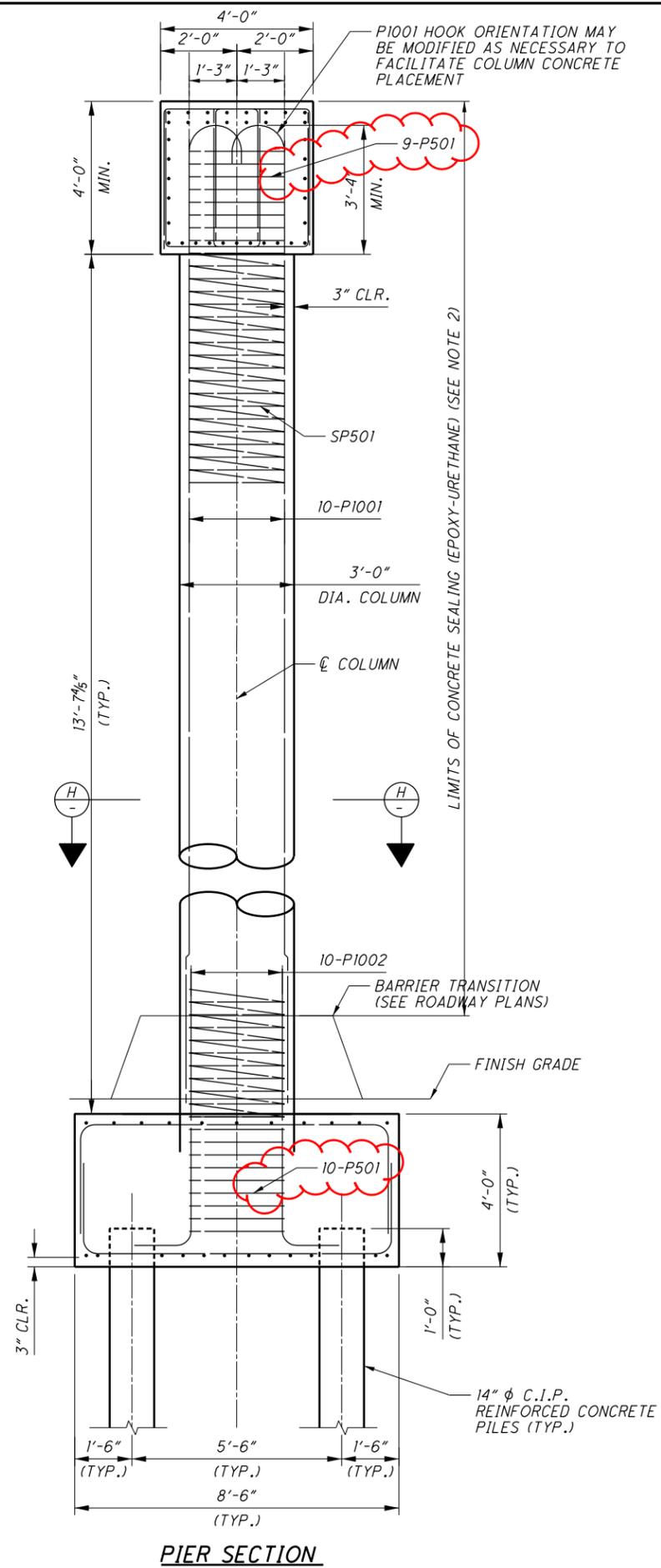
DESIGNED  
MM  
CHECKED  
FBW

**GENERAL NOTES II & ESTIMATED QUANTITIES**  
BRIDGE NO. GRE-035-0627  
VALLEY/TREIBEN ROAD OVER U.S. 35

**GRE-US 35-5.63**  
PID No. 107217

3 / 30

575  
698



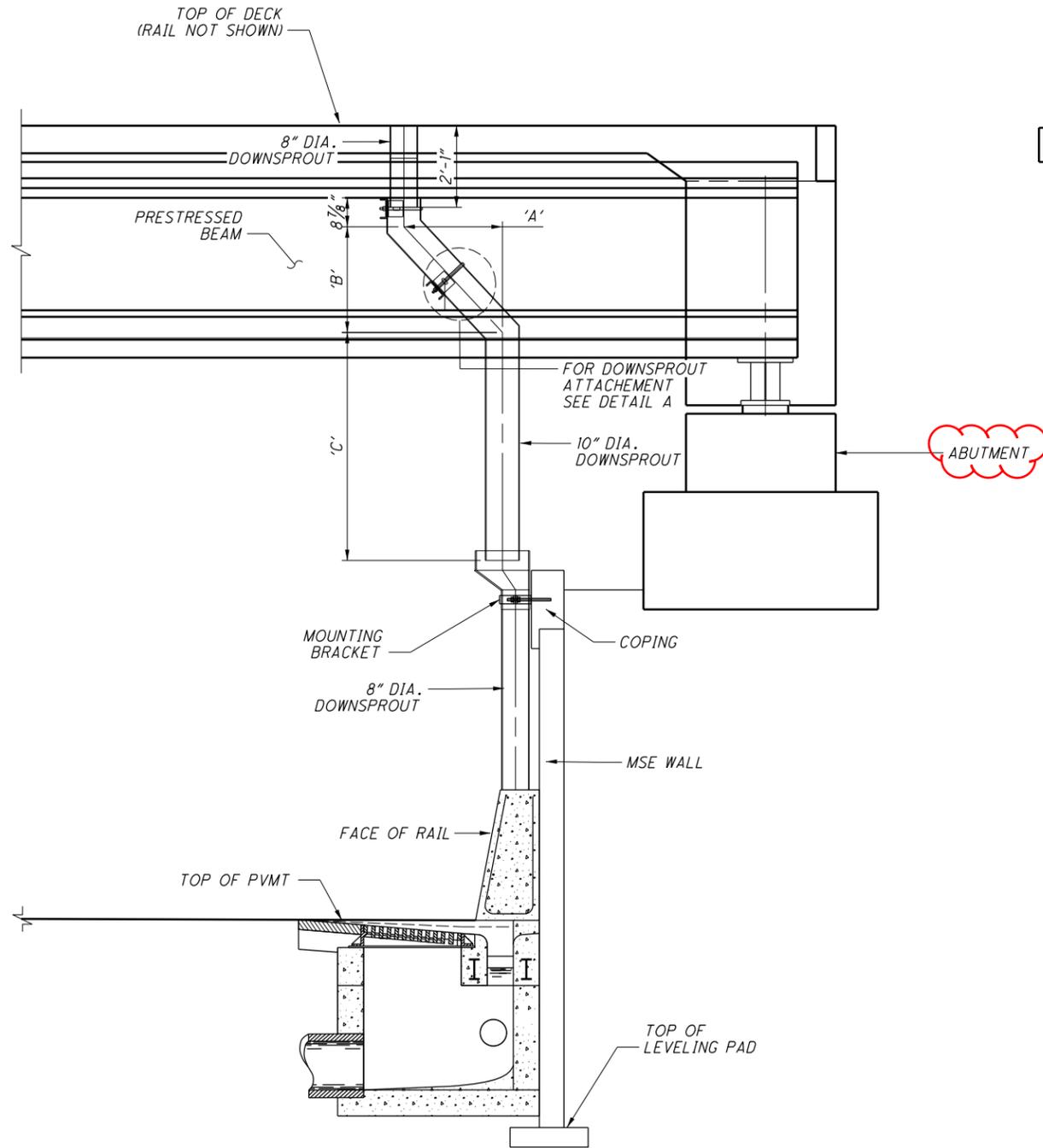
**NOTES:**

- SEE SHEET 12/29 FOR PIER PLAN AND ELEVATION.
- SEAL ENTIRE SURFACE OF COLUMNS ABOVE BARRIER AND SIDE AND BOTTOM OF CAP PER ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). DO NOT SEAL THE TOP OF THE PIER CAP.

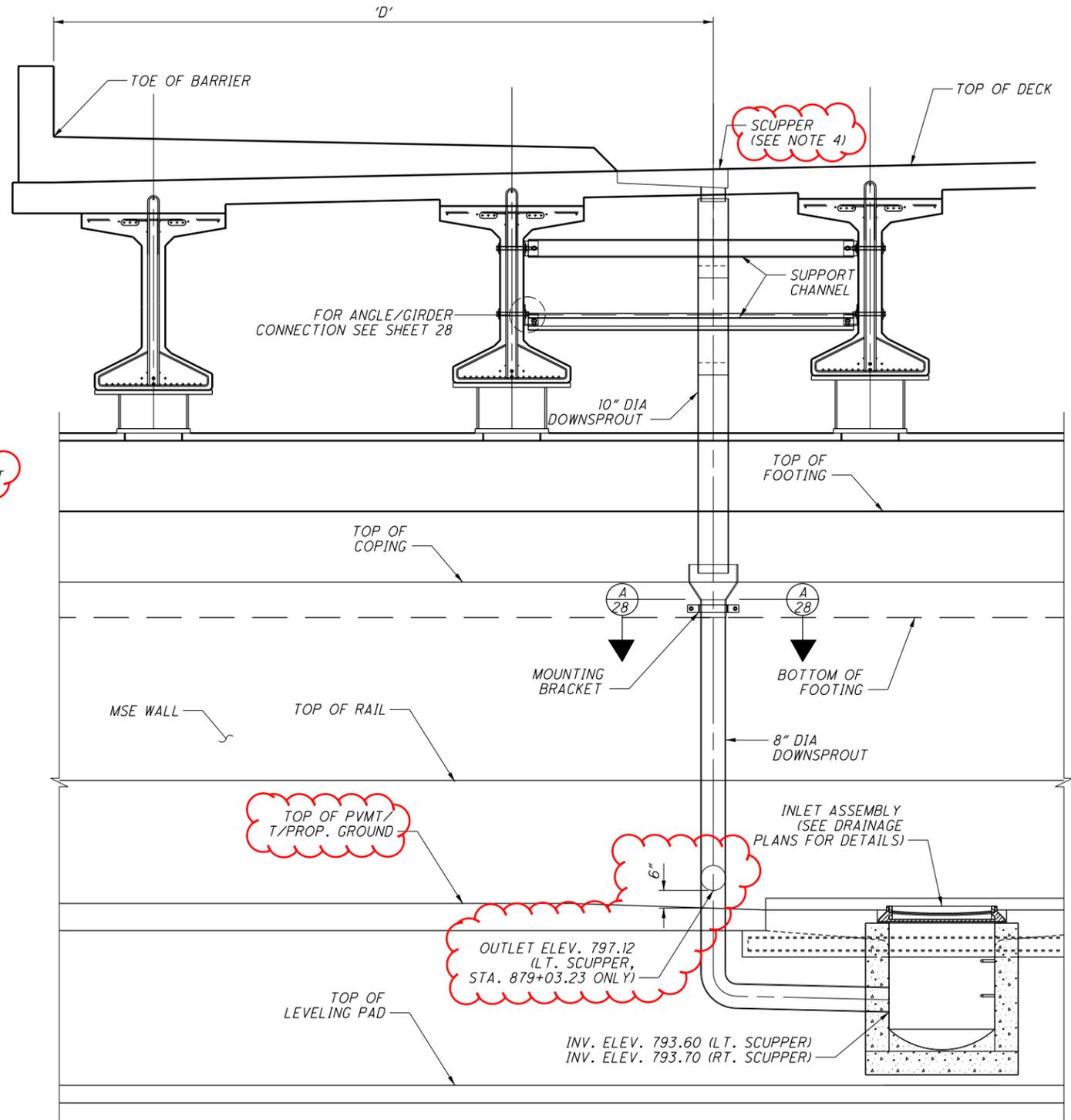
**LEGEND:**

- Δ 2-P803 (BOT.)
- Δ Δ 2-P804 (BOT.)
- 14" C.I.P. REINFORCED CONCRETE PILE

DIMENSION	STA. 879+03.23 LT.	STA. 880+60.00 LT.	STA. 880+58.00 RT.
'A'	0'-0"	6'-8 $\frac{1}{16}$ "	6'-8 $\frac{3}{4}$ "
'B'	0'-0"	2'-8 $\frac{1}{16}$ "	2'-8 $\frac{1}{16}$ "
'C'	8'-6 $\frac{3}{8}$ "	5'-9 $\frac{15}{16}$ "	5'-9 $\frac{15}{16}$ "
'D'	2'-8 $\frac{1}{16}$ "	2'-8 $\frac{1}{16}$ "	5'-7 $\frac{3}{8}$ "



LEFT SIDE ELEVATION



LEFT SIDE SECTION  
(RIGHT SIDE IS A MIRROR IMAGE OF THE LEFT)

NOTES:

1. DOWNSPROUT PIPE SHALL BE PER CMS 748.06.
2. DOWNSPROUTS AND ALL ASSOCIATED HARDWARE SHALL BE GALVANIZED PER CMS 711.02.
3. SEE SHEET 28 FOR ADDITIONAL SCUPPER AND DOWNSPROUT DETAILS.
4. FOR THE LEFT SCUPPERS, PROVIDE A NEENAH FOUNDRY MODEL R-3910-V OR AN APPROVED EQUAL. FOR THE RIGHT SCUPPER, PROVIDE A NEENAH FOUNDRY MODEL R-3945-A DESIGNED FOR CONTINUOUS TRAFFIC LOADING (WITH -2% SLOPE) OR AN APPROVED EQUAL.

035\_0627MD002.dgn 12/13/2022 9:07:27 AM Jason.Centers@jacobs.com

035\_0627RL001.dgn 12/8/2022 10:15:15 AM Jason.Centers@jacobs.com

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE - PARAPETS											
R501	2	15'-6"	33	1	10"	14'-8"					
R502	2	15'-8"	33	1	2'-11"	13'-0"					
R503	2	13'-1"	28	STR							
R504	67	10'-10"	758	30	1'-6"	8"	3'-11"	3'-9"			
R505	212	7'-10"	1733	30	1'-6"	8"	2'-5"	2'-3"			
R506	3	14'-7"	46	STR							
R507	3	14'-7"	46	STR							
R508	2	29'-7"	62	STR							
R509	2	29'-7"	62	STR							
R510	5	4'-7"	24	1	1'-6"	3'-1"					
R511	5	4'-5"	23	1	1'-6"	2'-11"					
R512	8	14'-8"	123	STR							
R513	24	30'-0"	751	STR							
R514	136	4'-8"	662	STR							
R515	4	3'-1"	13	STR							
R516	7	8'-5"	123	40	8'-5"					5'-8"	
R517	7	7'-5"	86	40	7'-5"					5'-2"	
R518	15	10'-4"	162	30	1'-6"	8"	3'-8"	3'-6"			
R519	12	2'-7"	47	STR							
X501	2	9'-10"	21	STR							
X502	4	5'-6"	23	STR							
X503	4	5'-6"	23	STR							
X504	4	25'-10"	108	STR							
X505	4	7'-7"	32	STR							
X506	54	7'-7"	425	22	1'-0"	3'-2"	3'-0"			0'-3 1/4"	
X507	4	16'-11"	103	STR							
X508	20	29'-6"	626	STR							
X509	44	14'-8"	672	STR							
X510	4	21'-7"	90	37	10'-0"	8'-9"	1'-10"				
X511	2	4'-7"	20	41	1'-0"	2'-8"	2'-8"				
X512	2	1'-6"	4	STR							
X513	2	1'-7"	6	STR							
Y601	205	2'-6"	780	1	1'-1"	1'-6"					
Y602	205	3'-7"	1108	28	1'-7"	1'-0"	1'-1"				
Y603	2	4'-0"	13	1	0'-10"	3'-0"					
Y604	2	4'-1"	13	1	0'-10"	3'-1"					
Y605	2	4'-2"	13	1	0'-10"	3'-2"					
Y606	2	4'-3"	13	1	0'-10"	3'-3"					
Y607	2	4'-4"	14	1	0'-10"	3'-4"					
Y608	2	4'-5"	14	1	0'-10"	3'-5"					
Y609	2	4'-6"	14	1	0'-10"	3'-6"					
Y610	2	4'-7"	14	1	0'-10"	3'-7"					
Y611	2	4'-8"	15	1	0'-10"	3'-8"					
Y612	2	4'-9"	15	1	0'-10"	3'-9"					
Y613	2	4'-10"	15	1	0'-10"	3'-10"					
Y614	2	4'-11"	15	1	0'-10"	3'-11"					
Y615	8	4'-2"	51	1	0'-10"	3'-2"					
Y616	2	7'-7"	23	STR							
Y617	22	7'-0"	232	STR							
Y618	2	4'-7"	14	STR							
Y619	2	1'-3"	4	STR							
Y620	2	4'-7"	14	41	1'-0"	2'-8"	2'-8"				
Y621	1	1'-7"	3	STR							
Y622	3	2'-5"	11	1	1'-0"	1'-7"					
Y623	3	4'-5"	20	42	2'-9"	11"	11"				
SUB-TOTAL			9396								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUBSTRUCTURE - PIER											
SP501	5	13'-8"	1512	21	0'-4"	2'-6"	13'-8"				
P501	95	7'-10"	779	40	7'-10"					1'-3"	
P502	30	28'-5"	890	STR							
P601	380	9'-5"	5375	2	3'-8"	2'-5"	3'-8"				
P801	32	32'-3"	2755	1	2'-6"	30'-0"					
P802	16	27'-4"	1168	STR							
P803	100	11'-5"	3048	2	1'-11"	8'-1"	1'-11"				
P804	120	12'-11"	4139	2	1'-11"	9'-7"	1'-11"				
P901	22	32'-3"	2412	1	2'-6"	30'-0"					
P902	11	28'-10"	1078	STR							
P1001	50	28'-7"	6150	16	27'-2"						
P1002	50	8'-7"	1847	1	1'-6"	7'-5"					
SUB-TOTAL			31153								

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
SUPERSTRUCTURE - DECK											
S401	510	30'-0"	10221	STR							
S402	85	10'-7"	601	STR							
S403	674	9'-10"	4428	37	2'-5"	3'-0"	4'-5"				
S404	105	30'-0"	2104	STR							
S405	7	27'-8"	129	STR							
S406	21	29'-8"	416	STR							
S407	14	23'-0"	215	STR							
S408	241	2'-3"	362	2	8"	1'-1"	8"				
S409	241	2'-10"	456	2	8"	1'-8"	8"				
S410	257	14'-8"	2518	STR							
S411	22	6'-3"	92	2	2'-8"	1'-1"	2'-8"				
S412	24	4'-10"	77	2	1'-8"	1'-8"	1'-8"				
S413	1	5'-7"	4	2	2'-4"	1'-1"	2'-4"				
S414	1	4'-3"	3	2	1'-8"	1'-1"	1'-8"				
S501	1664	30'-0"	52067	STR							
S502	101	17'-2"	1799	STR							
S503	354	30'-0"	11077	16	29'-5"						
S504	333	26'-2"	9088	16	25'-7"						
S505	2 SERIES OF 12	26'-2" TO 32'-2"	724	38	12"						
S506	2 SERIES OF 9	26'-2" TO 37'-6"	362	38	9"	25'-7"	31'-7"			0'-6"	
S507	12	36'-9"	460	16	36'-2"	25'-7"	36'-2"			0'-6"	
S508	8	6'-3"	53	STR							
S509	2 SERIES OF 3	6'-4" TO 8'-8"	45	39	3"					1'-2 1/2"	
S510	2 SERIES OF 5	6'-4" TO 13'-0"	52	39	5"	6'-4"	8'-8"				
S511	325	24'-6"	8306	STR						2'-3"	
S512	704	9'-2"	6732	16	8'-7"	6'-4"	13'-0"				
S601	192	30'-0"	8652	STR							
S602	192	25'-0"	7210	STR							
SUB-TOTAL			128253								

**NOTES:**

1. THE BAR SIZE IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST NUMBER INDICATES THE BAR SIZE NUMBER.
2. ALL DIMENSIONS ARE MEASURED OUT-TO-OUT OF BAR UNLESS NOTED OTHERWISE.
3. RADIUS DIMENSION "R" IS TO THE OUTSIDE OF BAR. RADIUS DIMENSION "I.R." IS TO THE INSIDE OF BAR.
4. FOR STANDARD HOOK DIMENSIONS, SEE SECTION 509.05 OF THE SPECIFICATIONS.

DESIGNED BY: JTC

CHECKED BY: FBW

REINFORCING STEEL LIST 1

BRIDGE NO. GRE-035-0627

VALLEY/TREBEIN ROAD OVER U.S. 35

DESIGN AGENCY: JACOBS

1880 WAFCROSS ROAD

CINCINNATI, OHIO 45240

DATE: 5/2022

FILE NUMBER: 2900213

REVIEWED BY: JTC

STRUCTURE FILE NUMBER: 2900213

DRAWN BY: MM

REVISED:

GRE-US 35-5.63

PID No. 107217

29/30

601

698