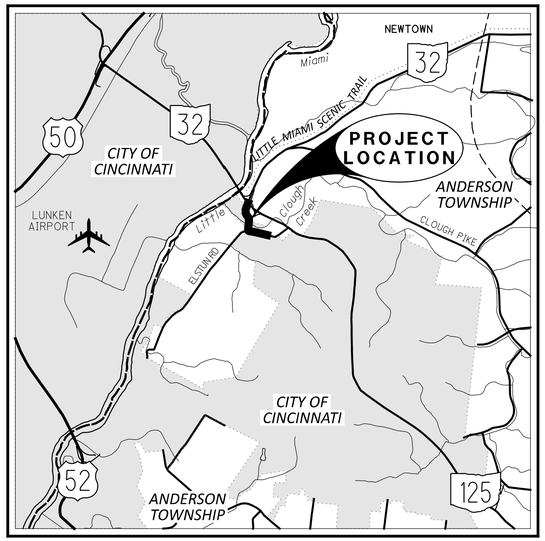



**LOCATION MAP**

*LATITUDE: 39 °06'20" LONGITUDE: -84°23'59"*

*PORTION TO BE IMPROVED*
*INTERSTATE HIGHWAY*
*FEDERAL ROUTES*
*STATE ROUTES*
*COUNTY & TOWNSHIP ROADS*
*OTHER ROADS*

| DESIGN DESIGNATION | ELSTUN CONNECTION PATH | ELSTUN RD | SR 32 EB RAMP |
|---|---|---|---|
| CURRENT ADT (2022) | | 3600 | 6500 |
| DESIGN YEAR ADT (2042) | | 4100 | 8500 |
| DESIGN HOURLY VOLUME (2042) | | 450 | 850 |
| DIRECTIONAL DISTRIBUTION | | 0.60 | 0.60 |
| TRUCKS (24 HOUR B&C) | | 0.02 | 0.02 |
| DESIGN SPEED | 15 | 35 | 35 |
| LEGAL SPEED | | 35 | 35 |
| DESIGN FUNCTIONAL CLASSIFICATION: | SHARED-USE PATH | (07) URBAN LOCAL | (03) URBAN PRINCIPAL ARTERIAL |
| NHS PROJECT | NO | NO | YES |

## ADA DESIGN WAIVERS

NONE REQUIRED

## DESIGN EXCEPTIONS

NONE REQUIRED

**UNDERGROUND UTILITIES**
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
Stantec
10200 Alliance Road,
Suite 300
Cincinnati OH 45242
(513) 842-8200

# STATE OF OHIO
# DEPARTMENT OF TRANSPORTATION

# HAM-LMST EXTENSION TO ELSTUN ROAD PHASE 2

ANDERSON TOWNSHIP
CITY OF CINCINNATI
HAMILTON COUNTY

**INDEX OF SHEETS:**



**FEDERAL PROJECT NUMBER**

E201 (160)

**RAILROAD INVOLVEMENT**

NONE

**PROJECT DESCRIPTION**

CONSTRUCTION A OF A NEW 0.34 MILE, 10' WIDE SHARED-USE PATH CONNECTION FROM THE LITTLE MIAMI SCENIC TRAIL NEAR THE SR 125 / SR 32 INTERCHANGE TO SPINDLEHILL DRIVE. THIS PROJECT IS PHASE 2 OF THE GREATER ELSTUN CONNECTION TO THE LITTLE MIAMI SCENIC TRAIL. THE PROJECT INCLUDES A NEW STRUCTURE OVER CLOUGH CREEK.

**EARTH DISTURBED AREAS**

| | |
|---|---|
| PROJECT EARTH DISTURBED AREA: | 2.53 ACRES |
| ESTIMATED CONTRACTOR EARTH DISTURBED AREA: | 0.13 ACRES |
| NOTICE OF INTENT EARTH DISTURBED AREA: | 2.66 ACRES |

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY DECLARE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE TRAFFIC THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Tammy K. Campbell
Tammy K. Campbell, P.E.
District 08 Deputy Director

Jack Marchbanks, PhD
Director, Department of Transportation

**STANDARD CONSTRUCTION DRAWINGS**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BP-3.1 | 1/21/22 | RM-5.2 | 7/21/23 | TC-52.10 | 10/18/13 | | |
| | | | | TC-52.20 | 1/15/21 | | |
| CB-2-2A, 2B, 2C | 1/20/23 | HW-1.1 | 7/20/18 | TC-61.30 | 7/19/19 | | |
| | | HW-2.1 | 7/15/22 | | | | |
| DM-1.1 | 7/17/20 | HW-2.2 | 7/20/18 | | | | |
| DM-4.1 | 7/17/20 | | | | | | |
| DM-4.3 | 1/15/16 | MT-97.10 | 4/19/19 | | | | |
| DM-4.4 | 1/15/16 | MT-98.30 | 7/16/21 | | | | |
| | | MT-101.60 | 4/21/23 | | | | |
| MGS-1.1 | 7/16/21 | MT-101.90 | 7/17/20 | | | | |
| MGS-2.1 | 1/19/18 | MT-105.10 | 1/17/20 | | | | |
| MGS-4.2 | 7/19/13 | | | | | | |
| MGS-4.3 | 1/18/13 | TC-41.20 | 10/18/13 | | | | |
| | | TC-41.30 | 4/21/23 | | | | |
| MH-2 | 7/16/21 | TC-42.20 | 10/18/13 | | | | |

**SUPPLEMENTAL SPECIFICATIONS**

| | |
|---|---|
| 800 2023 | 10/20/22 |
| 823 | 10/20/22 |
| 832 | 7/21/23 |
| 863 | 7/21/23 |
| 870 | 7/21/23 |
| 878 | 1/21/22 |
| 894 | 4/16/21 |
| 902 | 7/19/19 |

**SPECIAL PROVISIONS**

WATERWAY PERMIT 12/15/23

ENGINEER'S SEAL
STATE OF OHIO PAUL J DURHAM E-81699 REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S SEAL
RETAINING WALL AND BRIDGE
STATE OF OHIO MICHAEL R STURDEVANT E-49864 REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S SEAL
GEOTECHNICAL
STATE OF OHIO BRENDAN P ANDREWS E-81471 REGISTERED PROFESSIONAL ENGINEER

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER ZTM
REVIEWER PJD 10-20-23
PROJECT ID 113602
SHEET P.1 TOTAL 71

TITLE SHEET

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 8:32:22 AM USER: pdurham
V:\1736\active\113602\engineering\1136024\00-Engineering\Roadway\Sheets\113602_GT001.dgn

**UTILITIES**

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

ELECTRIC DISTRIBUTION:
DUKE ENERGY
2010 DANA AVENUE
CINCINNATI, OH 45207
PHONE: (513) 514-8211
(AARON WRIGHT)

ELECTRIC TRANSMISSION:
DUKE ENERGY
139 EAST FOURTH ST, 4TH FLOOR ANNEX
CINCINNATI, OH 45202
PHONE: (513) 659-3513
(TIM MEYER)

GAS:
DUKE ENERGY
139 EAST FOURTH ST,
P.O. BOX 960, ROOM 460A
CINCINNATI, OH 45202
PHONE: (513) 614-8648
(RICHARD HACK)

TELEPHONE:
CINCINNATI BELL TELEPHONE
221 EAST FOURTH ST, BLDG 121-900
CINCINNATI, OH 45202
PHONE: (513) 565-7043
(MARK CONNER)

SANITARY:
METROPOLITAN SEWER DISTRICT (MSD)
1600 GEST STREET
CINCINNATI, OH 45242
PHONE: (513) 557-7108
(ROB FRANKLIN)

CABLE:
CHARTER COMMUNICATIONS
11252 CORNELL PARK DRIVE
CINCINNATI, OH 45242
PHONE: (513) 386-5499
(KENT RIEGER)

TRAFFIC MAINTENANCE:
ODOT DISTRICT 8
505 SOUTH STATE ROUTE 741
LEBANON, OHIO 45036
PHONE: (513) 933-6689

**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.

**SURVEYING PARAMETERS**

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON ODOT PROJECTS.

PROJECT CONTROL POINTS ARE SHOWN IN A TABLE AT THE BOTTOM OF THIS SHEET.

PROJECT CONTROL

POSITIONING METHOD: GPS-FAST STATIC
MONUMENT TYPE: 30" X 5/8" IRON PIN W/ CAP

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 18

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD 83 (2011)
ELLIPSOID: (GRS 80)
MAP PROJECTION: LAMBERT CONFORMAL
COORDINATE SYSTEM: SPC (3402 OH SOUTH)
COMBINED SCALE FACTOR: 1.0000718352
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.

**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**

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

**ITEM 203 - ROADWAY MISC.: EXISTING GAS LINE PROTECTION**

THIS ITEM SHALL CONSIST OF UTILITY COORDINATION AND THE INSTALLATION AND SUBSEQUENT REMOVAL OF PROTECTION MEASURES FOR AN EXISTING 24" GAS MAIN.

WHEN IT IS NECESSARY FOR THE CONTRACTOR TO CROSS THE EXISTING 24" GAS MAIN SHOWN ON SHEET 19 WITH HEAVY EQUIPMENT, APPROPRIATE PROTECTION MEASURES SHALL BE IMPLEMENTED TO PREVENT DAMAGE TO THE EXISTING PIPELINE. THE CONTRACTOR SHALL CONTACT JOHN PERKINS WITH DUKE ENERGY AT (513) 287-1276 OR JOHN.PERKINS@DUKE-ENERGY.COM TO COORDINATE THE LOCATION OF AND REQUIRED PROTECTION FOR HEAVY EQUIPMENT CROSSINGS. THIS CROSSING SHALL MEET THE PROTECTION REQUIRMENTS OF DUKE ENERGY. THESE REQUIRMENTS ARE EXPECTED TO INCLUDE BUILDING AND REMOVING A CRANE MAT BRIDGE OVER THE EXISTING GAS MAIN AS SHOWN IN THE DETAIL TO THE RIGHT.

INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE ABOVE WORK IN THE UNIT PRICE BID FOR ITEM 203 ROADWAY MISC.: EXISTING GAS LINE PROTECTION

**ITEM 863 - REINFORCED EMBANKMENT, AS PER PLAN**

ALL ASPECTS OF ITEM 863 REINFORCED EMBANKMENT SHALL APPLY WITH THE ADDITIONAL REQUIREMENT THAT COHESIVE SOILS CLASSIFYING AS CLAY (A-7-6) SHALL BE PROHIBITED FROM USE AS REINFORCED SOIL SLOPE BACKFILL.

THE REINFORCED EMBANKMENT ZONE SHALL EXTEND 1' BELOW THE BOTTOM REINFORCING LAYER AND 1' BEYOND THE END OF THE PRIMARY REINFORCING LAYERS.

**ROUNDING**

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

**ITEM 204 - PROOF ROLLING**

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

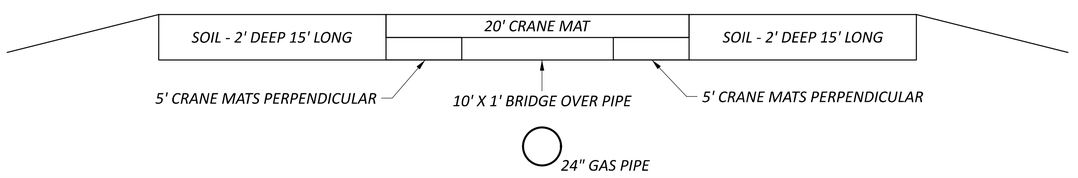
ITEM 204 - PROOF ROLLING 1 HOUR.

CENTERLINE AND PROJECT CONTROL TABLE

| IDENTIFIER | STATION | OFFSET | NORTHING | EASTING | ELEVATION | DESCRIPTION |
|---|---|---|---|---|---|---|
| CP-1 | 74+01.48 | 67.42' RT | 408920.630 | 1429244.290 | 474.49 | I.P.S "STANTEC" CONTROL |
| CP-2 | 77+44.64 | 97.29' RT | 408568.616 | 1429311.171 | 471.68 | I.P.S "STANTEC" CONTROL |
| CP-3 | 81+08.45 | 37.11' RT | 408224.423 | 1429481.744 | 500.60 | I.P.S "STANTEC" CONTROL |
| CP-4 | 84+75.05 | 39.50' RT | 408125.424 | 1429851.469 | 508.13 | I.P.S "STANTEC" CONTROL |
| CP-5 | 89+73.96 | 44.63' RT | 408003.303 | 1430349.875 | 519.18 | I.P.S "STANTEC" CONTROL |

NOTE: ALL COORDINATES ARE PROJECT COORDINATES

**EXISTING GAS LINE PROTECTION DETAIL**




GENERAL NOTES

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 11:10:37 AM USER: djachen
V:\1736\active\173620137\engineering\113602\400-Engineering\Roadway\Sheets\113602_GN001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER ZTM
REVIEWER PJD 10-20-23
PROJECT ID 113602
SHEET P.6 TOTAL 71

***ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING***

*CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:*

1. *SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.*

2. *EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).*

   *IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.*

3. *COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.*

4. *APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.*

   *PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.*

5. *EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.*

6. *PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.*

7. *FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.*

*THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.*

***ITEM 602 - CONCRETE MASONRY, FULL HEIGHT HEADWALLS***

*CONSTRUCT HEADWALLS FOR CONDUITS SMALLER THAN 42" PER HW-1.1 EXCEPT THAT THE DIMENSIONS SHOULD BE MODIFIED ACCORDING TO THE TABLE ON SHEET P.44. NOTE THAT ADDITIONAL HEIGHT AND/OR LENGTH MAY BE NECESSARY TO INSTALL CHECK VALVES, DEPENDING ON THE TYPE SELECTED, AS NOTED IN THE PLANS.*

***ITEM 607 - FENCE, MISC.: WOOD FENCE***

*THIS ITEM SHALL CONSIST OF CONSTRUCTING A WOODEN BIKEWAY RAILING ACCORDING TO STANDARD CONSTRUCTION DRAWING RM-5.2. AT THE LOCATION SPECIFIED ON THE PLANS. ALL LABOR, EQUIPMENT, AND MATERIALS REQUIRED TO PERFORM THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607, FENCE, MISC.: WOOD FENCE.*

***SAW CUT***

*THE EXISTING PAVEMENT EDGES SHALL BE SAW CUT TO LOCATE A SOUND PAVEMENT. FOR ESTIMATING PURPOSES, PAVEMENT CALCULATIONS INCLUDED IN THE PLAN INDICATE AN AVERAGE WIDTH OF 1' OF EXISTING PAVEMENT BEING REPLACED.*

***ITEM SPECIAL–SETTLEMENT PLATFORMS***

*DESCRIPTION: THIS ITEM CONSISTS OF FURNISHING, CONSTRUCTING, AND MAINTAINING SETTLEMENT PLATFORMS AND OBTAINING SETTLEMENT READINGS AS REQUIRED BY THE PLANS OR AS DIRECTED BY THE ENGINEER. AT THE OPTION AND EXPENSE OF THE CONTRACTOR, ADDITIONAL SETTLEMENT PLATFORMS MAY BE INSTALLED AT LOCATIONS APPROVED BY THE ENGINEER. SETTLEMENT READINGS SHALL BE TAKEN AND RECORDED AT EACH OF THE FOLLOWING SETTLEMENT MONITORING PERIODS:*

*1) THREE TIMES A WEEK FOR THE FIRST 2 WEEKS;*

*2) ON A WEEKLY BASIS THEREAFTER UNTIL AS DETERMINED BY THE ENGINEER.*

*THE ESTIMATED WAITING PERIOD IS 70 CALENDER DAYS FOR THE REAR ABUTMENT (SP-1) AND 170 CALENDER DAYS FOR THE FORWARD ABUTMENT (SP-2).*

*THE READINGS SHALL BE PLOTTED ON GRAPH PAPER PRESENTING DEFORMATION (ON THE NEGATIVE Y-AXIS) AND FILL HEIGHT (ON THE POSITIVE Y-AXIS) VERSUS TIME (ON THE X-AXIS). IN ORDER TO CREATE THE GRAPH, USE THE SETTLEMENT PLATFORM SPREADSHEET LOCATED AT HTTP://WWW.DOT.STATE.OH.US/DIVISIONS/ENGINEERING/GEOTECHNICAL/ENGLISH.XLS IN THE OGE WEBSITE PUBLICATIONS AND DOCUMENTS SECTION. A COPY OF EACH CUMULATIVE PLOT SHALL BE SENT TO THE OFFICE OF GEOTECHNICAL ENGINEERING, ATTENTION: GEOTECHNICAL DESIGN COORDINATOR, AFTER EACH SETTLEMENT READING IS RECORDED.*

*SETTLEMENT PLATFORMS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:*

*BEHIND EACH BRIDGE ABUTMENT*
*STA 77+00.00, 0.00' LT SP-1*
*STA 79+80.00, 0.00' LT SP-2*

*MATERIALS: SOUND LUMBER SUCH AS 19MM (3/4-INCH) EXTERIOR GRADE PLYWOOD SHALL BE USED FOR THE BASE. THE PIPE SHALL BE 64MM (2-1/2-INCH) STANDARD BLACK PIPE WITH THREADED FITTINGS AS SHOWN ON THE PLANS. A STEEL PLATE 915MM X 915MM X 3.2MM (36" X 36" X 1/8") MAY BE SUBSTITUTED FOR THE LUMBER FOR THE PLATFORMS, AT THE CONTRACTOR'S OPTION.*

*CONSTRUCTION METHODS: THE PLATFORM SHALL CONFORM TO THE DETAILS SHOWN ON THE PLANS. THE PLATFORM SHALL BE SET ON A LEVEL SURFACE. THE PIPE SHALL BE FIRMLY SECURED TO THE PLATFORM AND SHALL BE MAINTAINED IN A PLUMB POSITION DURING THE PLACEMENT OF THE EMBANKMENT. THE PIPE SHALL BE MARKED AT INTERVALS TO FACILITATE MEASUREMENT OF THE DEPTH OF FILL. THE CONTRACTOR SHALL STOP WORK IN ANY LOCATION WHERE THE SETTLEMENT PLATFORM HAS BEEN DISTURBED OR DAMAGED. PLATFORMS OR PIPES DAMAGED OR DISPLACED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR PROPER CONDITION AT THE CONTRACTOR'S EXPENSE.*

*PRIOR TO PAVING, THE TOP OF THE SETTLEMENT PLATFORM PIPE SHALL BE CUT OFF 600 (TWO FEET) BELOW THE FINISHED SURFACE OF THE SUBGRADE OR FINISHED GROUND SURFACE, WHICHEVER IS APPLICABLE.*

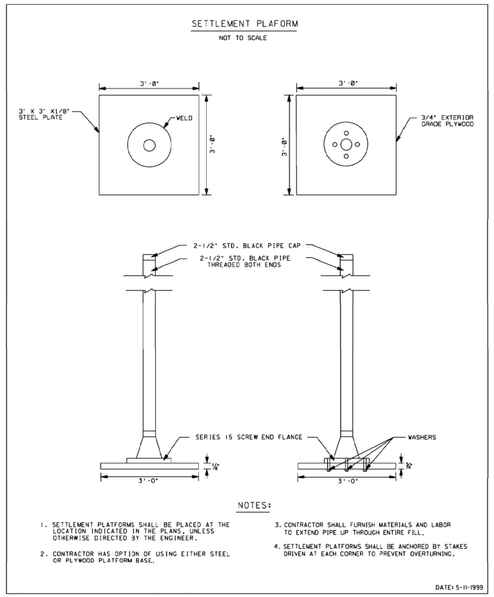
*METHOD OF MEASUREMENT: THE NUMBER OF SETTLEMENT PLATFORMS TO BE PAID FOR SHALL BE THE ACTUAL NUMBER OF SETTLEMENT PLATFORMS COMPLETED, MAINTAINED, AND ACCEPTED BY THE ENGINEER.*

*BASIS OF PAYMENT: PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE EACH FOR "ITEM SPECIAL – SETTLEMENT PLATFORMS" WHICH IS COMPENSATION FOR CONSTRUCTING MAINTAINING, AND MONITORING THE SETTLEMENT PLATFORMS INCLUDING FURNISHING ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK. PAYMENT SHALL NOT BE MADE FOR SETTLEMENT PLATFORMS WHICH BECOME USELESS DUE TO DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS.*

***ITEM SPECIAL–SETTLEMENT PLATFORMS (CONTINUED)***

*THE FOLLOWING QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS WORK:*

*ITEM 203 SETTLEMENT PLANFORM 2 EACH*




W:/Geotech/settnew.dgn 01/17/03 03:19:07 PM

***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.*

***ITEM SPECIAL - CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION***

*ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL, THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.*

*TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CMS SPECIFICATIONS 455 RESPECTIVELY.*

*THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S), ALL EQUIPMENT, AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.*

***ITEM SPECIAL - CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION (CONTINUED)***

*THE TECHNICIAN SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.*

*THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TEST AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE **IMMEDIATE** CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.*

*UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS, TE-45'S, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING-RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE-TESTING WORK.*

*THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR.*

*THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO. AND, THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.*

*ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.*

*PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:*

*UPON APPROVAL OF CONSULTANT . . . . . 20%*
*PROGRESSIVE EQUIVALENT PAYMENTS . . . . . 50%*
*UPON SUBMISSION OF FINAL REPORT . . . . . 30%.*

*THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.*



MODEL: Sheet2 PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 8:11:24 AM USER: pdurham
V:\173\active\173620137\engineering\113602\400-Engineering\Roadway\Sheets\113602_GN001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER ZTM
REVIEWER PJD 10-20-23
PROJECT ID 113602
SHEET P.7 TOTAL 71

***EXISTING SEWERS TO REMAIN***

*THE EXISTING 36" SANITARY SEWER RUNNING PARALLEL TO AND THEN CROSSING THE ELSTUN CONNECTION SHALL BE INSPECTED ACCORDING TO THE FOLLOWING SPECIFICATIONS PRE AND POST CONSTRUCTION.*

*REQUIREMENTS OF PACP CCTV AND MANHOLE SEWER INSPECTIONS*

*MSD CONFORMS TO THE NATIONAL ASSOCIATION OF SEWER SERVICE COMPANIES' (NASSCO) PIPELINE ASSESSMENT CERTIFICATION PROGRAM (PACP) AND MANHOLE INSPECTION UTILIZING MSD INSPECTION FORMS. THESE INSPECTIONS WILL BE MAINTAINED WITHIN MSD'S LIBRARY OF SEWER INSPECTIONS AND IT IS IMPERATIVE THAT THEY MEET ALL APPROPRIATE MSD REQUIREMENTS.*

*ALL PACP CCTV WORK TO BE PERFORMED VIA THIS CONTRACT SHALL THEREFORE CONFORM TO ALL CURRENT NASSCO STANDARDS EXCEPT WHERE SPECIFICALLY INSTRUCTED OTHERWISE BY THE MSDGC PROGRAM MANAGER (PM). THESE STANDARDS INCLUDE BUT ARE NOT LIMITED TO: SPEED OF CAMERA TRAVEL, CENTERING OF CAMERA IN PIPE, CODING OF DEFECTS/STRUCTURAL FEATURES/OBSERVATIONS, PANNING OF DEFECTS/STRUCTURAL FEATURES, CAMERA LIGHTING, HEADER INFORMATION, FLOW CONTROL, AND REVERSAL INSPECTIONS. MSD GIS STANDARDS AND DESIGNATIONS SHALL APPLY FOR HEADER INFORMATION INCLUDING, BUT NOT LIMITED TO: MANHOLE NUMBERS, ASSET ID NUMBERS, CITYWORKS® WORK ORDER NUMBERS, BUILDING SEWER NAMES AND IDENTIFICATION, AND PREVIOUSLY UNDOCUMENTED MANHOLES.*

*ALL PACP CCTV WORK TO BE PERFORMED VIA THIS WORK ORDER SHALL BE CARRIED OUT UTILIZING A COLOR PAN AND TILT ROTATING HEAD CAMERA SPECIFICALLY DESIGNED AND CONSTRUCTED FOR SEWER INSPECTION. ALL CCTV WORK SHALL BE RECORDED ENTIRELY IN DIGITAL MP4 FORMAT ENCODED WITH A FILE COMPRESSION OF HIGH EFFICIENCY VIDEO CODING (HEVC OR H.265) (OTHER FORMATS NEED MSDGC PM APPROVAL) WITH AN APPROPRIATE PACP DATABASE FILE (NASSCO PACP DATABASE HAVING COMPATIBILITY WITH PIPETECH® PIPELINE INSPECTION SOFTWARE), AND ALL VIDEO MUST BE CONTINUOUSLY METERED.*

*THE PERSON CODING THE PIPELINE INSPECTION MUST BE NASSCO PACP CERTIFIED WITH A MINIMUM OF THREE YEARS OF FULL-TIME EXPERIENCE CODING DEFECTS USING THE NASSCO STANDARD. PACP CERTIFICATION NUMBERS MUST BE PROVIDED TO MSDGC AND PROOF OF EXPERIENCE MUST BE DEMONSTRATED BY DOCUMENTATION SUCH AS A RESUME WITH REFERENCES.*

*ROBOTIC PACP & MANHOLE INSPECTION*

*THE CONTRACTOR SHALL BE RESPONSIBLE FOR:*

- *CONDUCTING A FINAL MANHOLE-TO-MANHOLE (MH-MH), TELEVISING OF THE MAINLINE SEWER SECTION TO EVALUATE THE CONDITION OF THE SEWER AFTER ALL APPROPRIATE CLEANING, TRIMMING, GRINDING, AND FLUSHING HAS BEEN PERFORMED. IN THE EVENT AN INSPECTION CANNOT BE COMPLETED FROM ONE SET-UP DUE TO A STRUCTURAL OR MAINTENANCE DEFECT, THE INSPECTOR SHALL PERFORM A REVERSE INSPECTION FROM AN ADDITIONAL SET-UP THE SAME DAY. THE INSPECTOR SHALL SUBMIT TWO INSPECTION REPORTS AS THE FINAL INSPECTION. THIS FINAL TELEVISING SHALL BE IN PACP AND SHALL FOLLOW ALL PACP V 7.0 STANDARDS.*

- *EMPLOYING VARIOUS FLOW CONTROL METHODS AS APPROPRIATE TO ENSURE VISIBILITY OF THE ENTIRE CIRCUMFERENCE OF THE SEWER.*

*THE CONTRACTOR SHALL SUBMIT WORK IN THE FORMAT REQUIRED BY MSDGC AND SHALL FOLLOW GUIDELINES FROM THE MSDGC PROJECT PM. IN ORDER TO CONTINUE IMPROVING THE UPLOADING OF DATA AND SUBMITTALS, THE MSDGC PM MAY UPDATE THE REQUIREMENTS AT ANY TIME, BUT WILL GIVE THE CONTRACTOR SUFFICIENT ACCESS TO MSD'S PROGRAMS AS NEEDED.*

***EXISTING SEWERS TO REMAIN (CONTINUED)***

*SUBMITTAL OF WORK TO MSDGC*

*WORK COMPLETED AND SUBMITTED TO MSDGC SHALL FOLLOW THE SPECIFICATIONS DETAILED IN THE SUBSECTIONS BELOW.*

*REQUIREMENTS OF ALL PACP CCTV SUBMITTALS AND MANHOLE INSPECTION SUBMITTALS*

*ALL SUBMITTALS OF PACP INSPECTIONS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:*

- *EACH SUBMITTAL – THE PACP DATABASE FILE AND ITS CORRESPONDING VIDEO FILES – SHALL CONTAIN WORK FROM ONLY 1 (ONE) INSPECTOR AND ONLY 1 (ONE) CCTV WORK CATEGORY FROM THE LIST BELOW:*

  - *SANITARY AND/OR COMBINED MAINLINE SEWER INSPECTIONS (PACP)*
  - *STORM MAINLINE SEWER INSPECTIONS (PACP)*

- *EACH SUBMITTAL SHALL BE ASSIGNED A UNIQUE TRACKING IDENTIFIER.*

  - *IN THE EVENT THAT A SUBMITTAL IS REJECTED AS UNACCEPTABLE, THE MSD PM SHALL DIRECT THE CONTRACTOR WHETHER TO REUSE THE ORIGINAL OR TO ASSIGN A NEW TRACKING IDENTIFIER.*

- *EACH SUBMITTAL SHALL INCLUDE INSPECTIONS FROM ONLY ONE CALENDAR MONTH.*

- *EACH PACP VIDEO FILE MUST BE IN STANDARD *.MP4 FORMAT AND NAMED AS DESCRIBED BELOW:*

  - *[MONTH]_[DAY]_[YEAR]-[HOUR]_[MINUTE]_[AM/PM]-[INSPECTOR NAME]-[WORK ORDER NUMBER].MP4*
  - *E.G., "1_03_2012-11_23_AM-M LONGMIRE-411032.MP4"*

- *EACH MANHOLE INSPECTION SHALL FOLLOW THE FORMAT PROVIDED BY MSD UTILIZING THEIR MANHOLE INSPECTION FORM.*

- *ALL PACP AND MANHOLE INSPECTIONS MUST BE SUBMITTED WITHIN FOURTEEN (14) CALENDAR DAYS OF THE DATE OF WORK.*

- *IN THE CASE OF REJECTION OF A WHOLE OR ANY PART OF A SUBMITTAL, CONTRACTOR SHALL HAVE FOURTEEN (14) CALENDAR DAYS FROM THE DATE OF NOTIFICATION OF SAID REJECTION TO ADDRESS, CORRECT, AND/OR RE-PERFORM AND THEN RE-SUBMIT SAID WORK TO MSDGC.*

*NO ADDITIONAL LOADING MAY BE ADDED TO THE EXISTING SEWER.*

*ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN THE LUMP SUM UNIT PRICE BID FOR ITEM 611, CONDUIT, SEWER INSPECTION.*

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

*IN ADDITION TO THE NORMAL REQUIREMENTS OF ITEM 203 EMBANKMENT THE CONTRACTOR MUST CONTACT DUKE ENERGY WITHIN 14 CALENDAR DAYS OF EMBANKMENT WORK AROUND DUKE ELECTRIC'S TRANSMISSION POLES. ONCE NOTIFIED, THE PROJECT AND DUKE WILL HOLD A MEETING WITHIN 3 DAYS OF THE BEGINNING OF THE EMBANKMENT WORK TO DISCUSS THE EMBANKMENT PROCEDURES, EQUIPMENT, AND ANY CONCERNS THE UTILITY OWNER MAY HAVE WITH THIS ITEM OF WORK. THE REPRESENTATIVE FROM DUKE WILL WORK DIRECTLY WITH THE CONTRACTOR AND THE PROJECT INSPECTOR OR ENGINEER TO ENSURE THE TRANSMISSION POLES AND SERVICE TO ITS CUSTOMERS WILL NOT BE IMPEDED DURING THIS OPERATION. IF DESIRED DUKE MAY HAVE A REPRESENTATIVE ONSITE DURING THE EMBANKMENT WORK TO OBSERVE THE EMBANKMENT INSTALLATION PROCESS. IF DUKE DOES NOT HAVE A REPRESENTATIVE ONSITE OR IS UNABLE TO SEND OUT A REPRESENTATIVE, THE CONTRACTOR MAY CONTINUE WITH THE WORK, BUT WILL MAKE EVERY REASONABLE PRECAUTION TO AVOID DAMAGING THE POLES. THIS NOTE DOES NOT WAIVE THE REQUIREMENTS OF THE CONTRACTOR TO CONSTRUCT THE EMBANKMENT IN ACCORDANCE WITH ITEM 203 EMBANKMENT.*

*THIS LINE ITEM IS CONSIDERED FULL PAYMENT FOR ALL LABOR, MATERIALS, EQUIPMENT FOR THIS ITEM OF WORK. ALL OTHER ITEMS, RESOURCES, MAINTENANCE OF TRAFFIC, OR OTHER RESOURCES REQUIRED TO COMPLETE THIS WORK IS INCIDENTAL TO THIS ITEM OF WORK.*

***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 100 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND THE ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE PROJECT CONTRACTOR WILL BE REQUIRED TO FILE A NEW FAA FORM 7460-1, ADVISING THE FAA THAT THE AERONAUTICAL STUDY NUMBER (ASN), NOTED BY THE NUMBERS BELOW, IS BEING RESUBMITTED AND THAT AN ALTERATION TO THE ORIGINAL SUBMISSION IS REQUESTED.*

*ASN'S*
*2023-AGL-15951-OE*
*2023-AGL-15952-OE*
*2023-AGL-15953-OE*
*2023-AGL-18391-OE*
*2023-AGL-18392-OE*
*2023-AGL-18393-OE*
*2023-AGL-18394-OE*

*NOTIFY THE ODOT OFFICE OF AVIATION WHEN RESUBMITTING 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.*

*CONSTRUCTION VEHICLES*
*NOTICE IS REQUIRED IF THE PROJECT IS ABANDONED OR MODIFIED.*
*COMPLIANCE WITH CONDITIONS OF FAA DETERMINAITON.*

*CRANE*
*NOTICE IS REQUIRED IF THE PROJECT IS ABANDONED OR MODIFIED.*
*OBSTRUCTION MARKING AND/OR LIGHTING PER THE CURRENT FAA ADVISORY CIRCULAR (AC 70/7460-1M) "OBSTRUCTION MARKING AND LIGHTING" IS REQUIRED.*
*COMPLIANCE WITH CONDITIONS OF FAA DETERMINATION.*

*FAA APPROVAL MAY TAKE UP TO 45 DAYS. ALL SUBMISSIONS SHALL BE DIRECTED TO THESE OFFICES:*

*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*

GENERAL NOTES

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet4 PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 11:11:20 AM USER: qlachen
V:\1736\active\173620137\engineering\113602\400-Engineering\Roadway\Sheets\113602_GN001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER ZTM
REVIEWER PJD 10-20-23
PROJECT ID 113602
SHEET P.9 TOTAL 71

**ITEM 614, MAINTAINING TRAFFIC (ROAD CLOSED SIGN)**

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 AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

SR 32 WB RAMP TO SR 125 EB

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 30 M. GAL

**FLAGGER OPERATION**

FLAGGERS, ONE FOR EACH DIRECTION, SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS ONE LANE OPERATION IS IN EFFECT ON ELSTUN ROAD AND THE LITTLE MIAMI SCENIC TRAIL. THE FLAGGERS SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AT ALL TIMES. FLAGGER OPERATIONS SHALL BE CONDUCTED ACCORDING TO MT-97.10.

**PROTECTION OF THE LITTLE MIAMI SCENIC TRAIL**

TEMPORARY ORANGE CONSTRUCTION FENCING SHALL BE INSTALLED, AS NECESSARY, ALONG PROPOSED CONSTRUCTION LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES IN THE AREA OF THE LITTLE MIAMI SCENIC TRAIL TO PROTECT THE SECTION 4(F) PROPERTY AND THE PUBLIC. IT IS ANTICIPATED THAT THIS FENCING WILL BE NEEDED BETWEEN THE TIME THAT THE PERMANENT WOODEN BIKEWAY RAILING ALONG THE LITTLE MIAMI SCENIC TRAIL IS REMOVED AND THIS PROJECT IS COMPLETELY OPEN TO TRAFFIC.

PAYMENT FOR THE ABOVE WORK SHALL BE INCLUDED IN THE LUMP SUM ITEM FOR MAINTENANCE OF TRAFFIC

**CONSTRUCTION ACCESS POINTS:**

THE CONTRACTOR MAY ACCESS THE WORK FROM THE FOLLOWING TWO LOCATIONS:

FROM THE SR 32 RAMP BETWEEN STA. 72+00 AND 73+00 (WEST ACCESS POINT)

FROM ELSTUN ROAD NEAR STA. 81+00 (EAST ACCESS POINT)

THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IS MAINTAINED AT ALL ACCESS POINTS THROUGHOUT THE DURATION OF THE CONSTRUCTION ACTIVITIES. ALL SURFACE MATERIALS USED FOR ACCESS POINTS SHALL BE FIRM AND UNYIELDING MATERIAL AS APPROVED BY THE ENGINEER. ACCESS DRIVES SHALL BE MAINTAINED IN ACCORDANCE WITH C&MS 614 AND ENSURE THAT THE SURFACE MATERIAL IS NOT TRACKED OUT INTO EXISTING LANES OF TRAFFIC. ALL INGRESS AND EGRESS SHALL ONLY OCCUR AT THE ESTABLISHED ACCESS POINTS.

THE WEST ACCESS POINT SHALL BE CREATED BY REMOVING FOUR SECTIONS (50 FEET) OF GUARDRAIL TO CREATE AN OPENING IN THE EXISTING GUARDRAIL, INSTALLING TYPE T ANCHOR ASSEMBLIES PLACED TANGENT TO THE SR 32 RAMP ALIGNMENT, CONSTRUCTING NEW GUARDRAIL TURN BACKS, AND PERFORMING CLEARING AND GRADING OPERATIONS TO CONSTRUCT A DRIVE TO ACCESS THE WORK WEST OF CLOUGH CREEK. THIS ACCESS POINT SHALL NOT INTERFERE WITH THE OPERATION OF THE LITTLE MIAMI SCENIC TRAIL.
(SEE DETAIL BELOW)

IT WILL BE NECESSARY TO INTERMITTENTLY CLOSE THE RAMP DURING THE REMOVAL AND RECONFIGURATION OF THE GUARDRAIL, THE GRADING FOR THE WEST ACCESS POINT, AND THE REESTABLISHING OF THE GUARDRAIL. THE RAMP CLOSURES SHALL BE LIMITED TO THE HOURS BETWEEN 9 AM AND 3 PM MONDAY THROUGH FRIDAY. WHEN NO WORK IS BEING PERFORMED, ALL HAZARDS SHALL BE DELINEATED WITH DRUMS, ALL DETOUR SIGNS SHALL BE COVERED, THE PCMS SIGN SHALL BE TURNED OFF, AND THE RAMP SHALL BE REOPENED TO TRAFFIC. DRUMS SPACED AT 10' CENTER TO CENTER SHALL BE PLACED ACCROSS THE ACCESS POINT WHEN NOT IN USE.

PROPER SIGNING SHALL BE INSTALLED AS FOLLOWS:

- TRUCKS ENTERING AND EXITING SIGN, W8-H6a-48, AND ON LEFT/RIGHT SIGN, W8-H6aP, INSTALLED 300' IN ADVANCE OF THE ACCESS POINT
- ROAD WORK AHEAD SIGN, W20-1-48, INSTALLED 600' IN ADVANCE OF THE ACCESS POINT.

IT IS ANTICIPATED THAT ALL WORK WILL BE PERFORMED DURING DAYTIME HOURS AND THE INSTALLATION OF FLASHING WARNING LIGHTS ON THE ADVANCE WARNING SIGNS WILL NOT BE REQUIRED.

THE EAST ACCESS POINT SHALL BE CONSTRUCTED OFF THE WEST SIDE OF ELSTUN ROAD. CLEARING AND GRADING OPERATIONS SHALL BE PERFORMED TO CONSTRUCT A DRIVE TO ACCESS THE WORK EAST OF CLOUGH CREEK. THE CONTRACTOR SHALL NOT PARK OR STORE ANY VEHICLES, EQUIPMENT, OR MATERIALS ALONG THE SHOULDER OR IN THE CLEAR ZONE OF ELSTUN ROAD. DRUMS SPACED AT 10' CENTER TO CENTER SHALL BE PLACED ACCROSS THE ACCESS POINT WHEN NOT IN USE.

PROPER SIGNING SHALL BE INSTALLED AS FOLLOWS:

- TRUCKS ENTERING AND EXITING SIGN, W8-H6a-48, AND ON LEFT/RIGHT SIGN, W8-H6aP, INSTALLED 100' IN ADVANCE OF THE ACCESS POINT
- ROAD WORK AHEAD SIGN, W20-1-48, INSTALLED 100' IN ADVANCE OF TRUCKS ENTERING AND EXITING SIGN, W8-6A, FOR EASTBOUND ELSTUN ROAD AND AT STA. 91+00 FOR WESTBOUND ELSTUN ROAD.

**CONSTRUCTION ACCESS POINTS: (CONTINUED)**

IT IS ANTICIPATED THAT ALL WORK WILL BE PERFORMED DURING DAYTIME HOURS AND THE INSTALLATION OF FLASHING WARNING LIGHTS ON THE ADVANCE WARNING SIGNS WILL NOT BE REQUIRED.

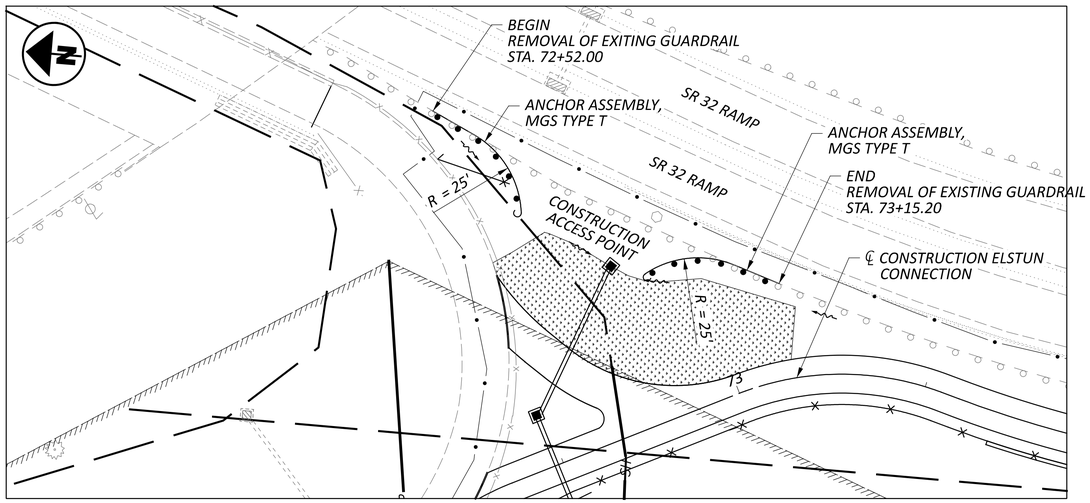
PAYMENT FOR ALL ITEMS ASSOCIATED WITH THE CONSTRUCTION OF THESE ACCESS POINTS, INCLUDING GUARDRAIL WORK, AND OTHER REPAIRS NECESSARY TO RESTORE THE ROADWAY TO PRECONSTRUCTION CONDITION, SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 MAINTENANCE OF TRAFFIC.

**DETOUR SIGNING**

A LUMP SUM QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO INCLUDE FURNISHING, INSTALLING, MAINTAINING, AND REMOVING THE DETOUR SIGNING AND ASSOCIATED SIGN SUPPORTS.

ITEM 614, DETOUR SIGNING LUMP SUM

TEMPORARY REMOVAL OF EXISTING GUARDRAIL FOR WEST CONSTRUCTION ACCESS




HAM-LMST EXTENSION TO ELSTUN PHASE 2

MAINTENANCE OF TRAFFIC NOTES

MODEL: Sheet 2 PAPERSIZE: 34x22 (in.) DATE: 1/16/2024 TIME: 6:07:14 PM USER: pdurham
V:\1736\active\173620137\engineering\113602\400-Engineering\MOT\Sheets\113602_MN001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER STC

REVIEWER PJD 10-20-23

PROJECT ID 113602

SHEET P.11 TOTAL 71

| SHEET NUM. | | | | | | | | | | | | | PART. | ITEM | ITEM EXT | GRAND TOTAL | UNIT | DESCRIPTION | SEE SHEET NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 15 | 16 | 17 | 46 | 47 | 55 | | 01/S>2/28 | | | | | | |
| | | | | | | | | | | | | | | | | | | **ROADWAY** | |
| LS | | | | | | | | | | | | | LS | 201 | 11000 | LS | | CLEARING AND GRUBBING | |
| | | | | | | | 53 | | | | | | 53 | 202 | 35200 | 53 | FT | PIPE REMOVED, OVER 24" | |
| | | | | | | | 117 | | | | | | 117 | 202 | 75000 | 117 | FT | FENCE REMOVED | |
| | | | | | | 1,221 | | | | | | | 1,221 | 203 | 10000 | 1,221 | CY | EXCAVATION | |
| | | | | | | 14,384 | | | | | | | 14,384 | 203 | 20001 | 14,384 | CY | EMBANKMENT, AS PER PLAN | 9 |
| | | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | 2 | SPECIAL | 20365000 | 2 | EACH | SETTLEMENT PLATFORM | 7 |
| LS | | | | | | | | | | | | | LS | 203 | 98500 | LS | | ROADWAY, MISC.: EXISTING GAS LINE PROTECTION | 6 |
| | | | | | | | 1 | | | | | | 1 | 203 | 98600 | 1 | EACH | ROADWAY, MISC.: TRAIL COUNTER | 8 |
| | | | | | | | 2,284 | | | | | | 2,284 | 204 | 10000 | 2,284 | SY | SUBGRADE COMPACTION | |
| | | | | | | | 410 | | | | | | 410 | 204 | 13000 | 410 | CY | EXCAVATION OF SUBGRADE | 7 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | 410 | | | | | | 410 | 204 | 30020 | 410 | CY | GRANULAR MATERIAL, TYPE C | |
| 1 | | | | | | | | | | | | | 1 | 204 | 45000 | 1 | HOUR | PROOF ROLLING | |
| | | | | | | | 1,230 | | | | | | 1,230 | 204 | 50000 | 1,230 | SY | GEOTEXTILE FABRIC, 712.09, TYPE D | |
| | | | | | | | 871 | | | | | | 871 | 607 | 98000 | 871 | FT | FENCE, MISC.: WOOD FENCE | 7 |
| | LS | | | | | | | | | | | | LS | SPECIAL | 69098400 | LS | | CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION | 7 |
| | | | | | | | | | | | | | | | | | | | |
| | | LS | | | | | | | | | | | LS | SPECIAL | 69098400 | LS | | SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN | 8 |
| | | | | | | 3,454 | | | | | | | 3,454 | 863 | 00100 | 3,454 | SY | GEOGRID, TYPE P1 | |
| | | | | | | 850 | | | | | | | 850 | 863 | 00600 | 850 | SY | GEOGRID, TYPE S1 | |
| | | | | | | 2,956 | | | | | | | 2,956 | 863 | 00801 | 2,956 | CY | REINFORCED EMBANKMENT, AS PER PLAN | 6 |
| | | | | | | | | | | | | | LS | 878 | 25000 | LS | | INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **EROSION CONTROL** | |
| | | | | | | 2 | | | | | | | 2 | 601 | 11000 | 2 | SY | RIPRAP, TYPE D | |
| | | | | | | 3 | | | | | | | 3 | 601 | 32200 | 3 | CY | ROCK CHANNEL PROTECTION, TYPE C WITH FILTER | |
| | | | | | | 2 | | | | | | | 2 | 659 | 00100 | 2 | EACH | SOIL ANALYSIS TEST | |
| | | | | | | 1,015 | | | | | | | 1,015 | 659 | 00300 | 1,015 | CY | TOPSOIL | |
| | | | | | | 9,143 | | | | | | | 9,143 | 659 | 10001 | 9,143 | SY | SEEDING AND MULCHING, AS PER PLAN | 15 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | 458 | | | | | | | 458 | 659 | 14001 | 458 | SY | REPAIR SEEDING AND MULCHING, AS PER PLAN | 15 |
| | | | | | | 1.24 | | | | | | | 1.24 | 659 | 20000 | 1.24 | TON | COMMERCIAL FERTILIZER | |
| | | | | | | 1.89 | | | | | | | 1.89 | 659 | 31000 | 1.89 | ACRE | LIME | |
| | | | | | | 50 | | | | | | | 50 | 659 | 35000 | 50 | MGAL | WATER | |
| | | | | | | 885 | | | | | | | 885 | 670 | 00500 | 885 | SY | SLOPE EROSION PROTECTION | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | 582 | | | | | | | 582 | 670 | 00700 | 582 | SY | DITCH EROSION PROTECTION | |
| | | | | | | | | LS | | | | | LS | 832 | 15000 | LS | | STORM WATER POLLUTION PREVENTION PLAN | |
| | | | | | | | | LS | | | | | LS | 832 | 15002 | LS | | STORM WATER POLLUTION PREVENTION INSPECTIONS | |
| | | | | | | | | LS | | | | | LS | 832 | 15010 | LS | | STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE | |
| | | | | | | | | 80,000 | | | | | 80,000 | 832 | 30000 | 80,000 | EACH | EROSION CONTROL | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **DRAINAGE** | |
| | | | | | | LS | | | | | | | LS | 503 | 11100 | LS | | COFFERDAMS AND EXCAVATION BRACING | |
| | | | | | | 9.4 | | | | | | | 9.4 | 602 | 20000 | 9.4 | CY | CONCRETE MASONRY | 7 |
| | | | | | | 98 | | | | | | | 98 | 611 | 04400 | 98 | FT | 12" CONDUIT, TYPE B | |
| | | | | | | 92 | | | | | | | 92 | 611 | 04900 | 92 | FT | 12" CONDUIT, TYPE D | |
| | | | | | | 110 | | | | | | | 110 | 611 | 11900 | 110 | FT | 27" CONDUIT, TYPE B, 706.02 | |
| | | | | | | | | | | | | | | | | | | | |
| | | LS | | | | | | | | | | | LS | 611 | 97300 | LS | | CONDUIT, MISC.: SEWER INSPECTION | 9 |
| | | | | | | 3 | | | | | | | 3 | 611 | 98470 | 3 | EACH | CATCH BASIN, NO. 2-2B | |
| | | | | | | 1 | | | | | | | 1 | 611 | 98510 | 1 | EACH | CATCH BASIN, NO. 2-3 | |
| | | | | | | 1 | | | | | | | 1 | 611 | 99570 | 1 | EACH | MANHOLE, NO. 2 | |
| | | 1 | | | | | | | | | | | 1 | 611 | 99900 | 1 | EACH | DRAINAGE STRUCTURE, MISC.:CHECK VALVE FOR 12" CONDUIT | 8 |
| | | | | | | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | | | 1 | 611 | 99900 | 1 | EACH | DRAINAGE STRUCTURE, MISC.:CHECK VALVE FOR 27" CONDUIT | 8 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **PAVEMENT** | |
| | | | | | | | 504 | | | | | | 504 | 304 | 20000 | 504 | CY | AGGREGATE BASE | |
| | | | | | | | 97 | | | | | | 97 | 407 | 20000 | 97 | GAL | NON-TRACKING TACK COAT | |
| | | | | | | | 73 | | | | | | 73 | 823 | 40000 | 73 | CY | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449) PG64-22 | |
| | | | | | | | 86 | | | | | | 86 | 823 | 41000 | 86 | CY | ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449) | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 36 | | | 36 | 630 | 03100 | 36 | FT | **TRAFFIC CONTROL**<br>GROUND MOUNTED SUPPORT, NO. 3 POST | |
| | | | | | | | | | | 3 | | | 3 | 630 | 08600 | 3 | EACH | SIGN POST REFLECTOR | |
| | | | | | | | | | | 8.1 | | | 8.1 | 630 | 80100 | 8.1 | SF | SIGN, FLAT SHEET | |
| | | | | | | | | | | 0.05 | | | 0.05 | 644 | 00300 | 0.05 | MILE | CENTER LINE DASHED, 4" | |
| | | | | | | | | | | 15 | | | 15 | 644 | 20800 | 15 | FT | YIELD LINE | |

GENERAL SUMMARY

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 8:54:39 AM USER: zmorman
V:\1736\active\173620137\engineering\113602\400-Engineering\Roadway\Sheets\113602_GG001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road,
Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER
ZTM

REVIEWER
PJD 10-20-23

PROJECT ID
113602

SHEET P.13 | TOTAL 71

| SHEET NUM. | | | | | | | | | | | | PART. | ITEM | ITEM EXT | GRAND TOTAL | UNIT | DESCRIPTION | SEE SHEET NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 7 | 8 | 9 | 10 | 11 | 15 | 16 | 17 | 46 | 47 | 55 | 01/S>2/28 | | | | | | |
| | | | | | | | | | | | | | | | | | **LANDSCAPING** | |
| | | 25 | | | | | | | | | | 25 | 661 | 40040 | 25 | EACH | DECIDUOUS TREE, 1" CALIPER | 7 |
| | | | | | | | | | | | | | | | | | **RETAINING WALLS** | |
| | | | | | | | | | 205 | | | 205 | 512 | 10100 | 205 | SY | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) | |
| | | | | | | | | | 302 | | | 302 | 518 | 21200 | 302 | CY | POROUS BACKFILL WITH GEOTEXTILE FABRIC | |
| | | | | | | | | | 2,012 | | | 2,012 | 870 | 10000 | 2,012 | SF | PREFABRICATED MODULAR RETAINING WALL | |
| | | | | | | | | | 318 | | | 318 | 870 | 11000 | 318 | CY | WALL EXCAVATION | |
| | | | | | | | | | 235 | | | 235 | 870 | 12000 | 235 | FT | 6" DRAINAGE PIPE, PERFORATED | |
| | | | | | | | | | 50 | | | 50 | 870 | 12100 | 50 | FT | 6" DRAINAGE PIPE, NON-PERFORATED | |
| | | | | | | | | | 235 | | | 235 | 870 | 12500 | 235 | FT | CONCRETE COPING | |
| | | | | | | | | | 2 | | | 2 | 870 | 14000 | 2 | DAY | ON-SITE ASSISTANCE | |
| | | | | | | | | | | | | | | | | | **STRUCTURE OVER 20 FOOT SPAN (HAM-LMST ELSTUN-0.09)** | |
| | | | | | | | | | | | LS | LS | 503 | 11101 | LS | | COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN | 51 |
| | | | | | | | | | | | LS | LS | 503 | 21300 | LS | | UNCLASSIFIED EXCAVATION | |
| | | | | | | | | | | | LS | LS | 505 | 11100 | LS | | PILE DRIVING EQUIPMENT MOBILIZATION | |
| | | | | | | | | | | | 880 | 880 | 507 | 00100 | 880 | FT | STEEL PILES HP10X42, FURNISHED | |
| | | | | | | | | | | | 800 | 800 | 507 | 00150 | 800 | FT | STEEL PILES HP10X42, DRIVEN | |
| | | | | | | | | | | | 9,767 | 9,767 | 509 | 10000 | 9,767 | LB | EPOXY COATED STEEL REINFORCEMENT | |
| | | | | | | | | | | | 69 | 69 | 511 | 42012 | 69 | CY | CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS | |
| | | | | | | | | | | | 74 | 74 | 511 | 43512 | 74 | CY | CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING | |
| | | | | | | | | | | | 171 | 171 | 512 | 10100 | 171 | SY | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) | |
| | | | | | | | | | | | 31 | 31 | 518 | 20000 | 31 | SY | PREFABRICATED GEOCOMPOSITE DRAIN | |
| | | | | | | | | | | | 11 | 11 | 518 | 21200 | 11 | CY | POROUS BACKFILL WITH GEOTEXTILE FABRIC | |
| | | | | | | | | | | | 62 | 62 | 518 | 40000 | 62 | FT | 6" PERFORATED CORRUGATED PLASTIC PIPE | |
| | | | | | | | | | | | 80 | 80 | 518 | 40010 | 80 | FT | 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS | |
| | | | | | | | | | | | 11 | 11 | 524 | 94804 | 11 | FT | DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK | |
| | | | | | | | | | | | 52 | 52 | 524 | 94902 | 52 | FT | DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK | |
| | | | | | | | | | | | LS | LS | SPECIAL | 53000200 | LS | | STRUCTURES, MISC: PREFABRICATED BRIDGE | 50-52 |
| | | | | | | | | | | | 1,285 | 1,285 | 601 | 32004 | 1,285 | CY | ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC | |
| | | | | | | | | | | | 2 | 2 | 894 | 10000 | 2 | EACH | THERMAL INTEGRITY PROFILING (TIP) TEST | 51 |
| | | | | | | | | | | | | | | | | | **MAINTENANCE OF TRAFFIC** | |
| | | | | | LS | | | | | | | LS | 614 | 12420 | LS | | DETOUR SIGNING | |
| | | | | 2 | | | | | | | | 2 | 614 | 18001 | 2 | SNMT | PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN | 10 |
| | | | | | 30 | | | | | | | 30 | 616 | 10000 | 30 | MGAL | WATER | |
| | | | | | | | | | | | | | | | | | **INCIDENTALS** | |
| | | | | LS | | | | | | | | LS | 614 | 11000 | LS | | MAINTAINING TRAFFIC | 10 |
| | | | | | | | | | | | | LS | 623 | 10000 | LS | | CONSTRUCTION LAYOUT STAKES AND SURVEYING | |
| | | | | | | | | | | | | LS | 624 | 10000 | LS | | MOBILIZATION | |

GENERAL SUMMARY

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 8:52:55 AM USER: zmorman
V:\1736\active\173620137\engineering\113602400-Engineering\Roadway\Sheets\113602_GG002.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER ZTM

REVIEWER PJD 10-20-23

PROJECT ID 113602

SHEET P.14 TOTAL 71

## EARTHWORK QUANTITIES

| STATION | | 203 | | 863 | | |
|---|---|---|---|---|---|---|
| | | EXCAVATION | EMBANKMENT, AS PER PLAN | GEOGRID, TYPE P1 | GEOGRID, TYPE S1 | REINFORCED EMBANKMENT, AS PER PLAN |
| | | CU YD | CU YD | SQ YD | SQ YD | CU YD |
| ELSTUN CONNECTION | | | | | | |
| 72+12.37 | 90+00.00 | 1221 | 11599 | 2614 | 640 | 2116 |
| REAR ABUTMENT | | | 685 | 840 | 210 | 840 |
| FORWARD ABUTMENT | | | 2100 | | | |
| SUBTOTAL | | 1221 | 14384 | 3454 | 850 | 2956 |
| TOTALS CARRIED TO GENERAL SUMMARY | | 1221 | 14384 | 3454 | 850 | 2956 |

***ITEM 659 - SEEDING AND MULCHING, AS PER PLAN***

*ALL ASPECTS OF SPECIFICATION 659 SHALL APPLY EXCEPT THOSE MODIFIED BELOW*

*THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:*

### SEEDING AND MULCHING QUANTITIES

(QUANTITIES CARRIED TO GENERAL SUMMARY)

ITEM 659 SEEDING & MULCHING, AS PER PLAN
9143 SQ YD (FROM SHEET NO. 42)

ITEM 659 SOIL ANALYSIS TEST
9143 SQ YD x 9 x 1/43560 ACRES x 1 EACH /10 ACRES = 0.19 EACH
USE 2 EACH

ITEM 659 TOPSOIL
9143 SQ YD x 111 CY/1000 SY = 1014.88
USE 1015 CY

ITEM 659 COMMERCIAL FERTILIZER
9143 SQ YD x 1 TON/7410 SQ YD = 1.24 TONS

ITEM 659 LIME
9143 SQ YD x 9 x 1/43560 = 1.89 ACRES

ITEM 659 WATER
9143 SQ YD x 0.0027 M GAL/SQ YD x 2 = 49.38 M GAL
USE 50 M GAL

ITEM 659 REPAIR SEEDING & MULCHING, AS PER PLAN
9143 SQ YD x 0.05 = 458 SQ YD

*VEGETATION OUTSIDE OF THE PROJECT CONSTRUCTION LIMITS SHALL BE LEFT UNDISTURBED. ALL DISTURBED/EXPOSED AREAS WITHIN THE CONSTRUCTION LIMITS (INCLUDING STAGING AND CONSTRUCTION ACCESS AREAS) SHALL BE PROPERLY STABILIZED (SEEDED/MULCHED) IMMEDIATELY AFTER GRADING TO PREVENT EROSION AND ESTABLISHMENT OF INVASIVE PLANT SPECIES. THE ABOVE ESTIMATED QUANTITY CALCULATIONS ARE BASED ON THESE LIMITS.*

*FURNISH GRASS SEED MIXTURE CLASS 1 ALONG ROADSIDES AND IN OTHER AREAS EXPECTED TO BE MOWED REGULARLY. FURNISH NATIVE GRASS SEED CLASS 4B ALONG TRAILSIDES. FURNISH GRASS SEED MIXTURE CLASS 3B ON SLOPES STEEPER THAN 3:1. FURNISH GRASS SEED & WILDFLOWER SEED MIXTURE CLASS 5B ALONG STREAMBANKS AND IN ALL OTHER AREAS AS OUTLINED ABOVE. SEED CLASS SELECTION FOR ALL AREAS SHALL BE AT THE APPROVAL OF THE ENGINEER.*

*THE CONTRACTOR SHALL PERFORM WATERING AND MAINTENANCE, AS NECESSARY, UNTIL THE SEEDED AREAS HAVE BECOME FULLY ESTABLISHED.*

*PAYMENT FOR ALL THE ABOVE WORK SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SQUARE YARD FOR ITEM 659, SEEDING AND MULCHING, AS PER PLAN, OR OTHER PERTINENT PAY ITEM LISTED ABOVE.*

## DRAINAGE AND EROSION CONTROL SUBSUMMARY

| REF. NO. | SHEET NO. | STATION FROM | STATION TO | SIDE | 503 | 601 | | 602 | 611 | | | | | | | | 670 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | COFFERDAMS AND EXCAVATION BRACING | ROCK CHANNEL PROTECTION, TYPE C WITH FILTER | RIPRAP, TYPE D | CONCRETE MASONRY | 12" CONDUIT, TYPE B | 12" CONDUIT, TYPE D | 27" CONDUIT, TYPE B, 706.02 | CATCH BASIN, NO. 2-2B | CATCH BASIN, NO. 2-3 | MANHOLE, NO. 2 | DRAINAGE STRUCTURE, MISC.: CHECK VALVE FOR 12" CONDUIT | DRAINAGE STRUCTURE, MISC.: CHECK VALVE FOR 27" CONDUIT | SLOPE EROSION PROTECTION | DITCH EROSION PROTECTION |
| | | | | | LUMP | CU YD | SQ YD | CU YD | FOOT | FOOT | FOOT | EACH | EACH | EACH | EACH | EACH | SQ YD | SQ YD |
| | | ELSTUN CONNECTION | | | | | | | | | | | | | | | | |
| D1 | 16 | 72+48.00 | 72+80.00 | LT | | | | | | 44 | | 1 | | | | | | |
| D2 | 16 | 72+48.00 | 72+48.50 | LT/RT | | | | 3.80 | | 43 | | 1 | | | 1 | | | |
| D3 | 16 | 75+32.00 | 75+10.90 | LT/RT | | 2 | | 0.21 | 78 | | | | 1 | | | | | |
| D4 | 17 | 77+76.00 | 76+80.60 | LT | 1 | | | | | 5 | | 1 | | 1 | | | | |
| D5 | 17 | 77+11.00 | 77+45.50 | RT | | | | 5.1 | | | 110 | | | | | 1 | | |
| D6 | 18 | 82+40.00 | | LT/RT | | 1 | 1.2 | 0.21 | 20 | | | | | | | | | |
| E1 | 16 | 72+52.06 | 73+17.79 | LT | | | | | | | | | | | | | 205 | |
| E2 | 17 | 76+50.00 | 76+76.00 | LT | | | | | | | | | | | | | | 24 |
| E3 | 17-18 | 79+68.90 | 81+08.00 | LT | | | | | | | | | | | | | 126 | |
| E4 | 18-19 | 82+45.00 | 86+20.00 | LT | | | | | | | | | | | | | | 313 |
| E5 | 19 | 87+06.00 | 90+00.00 | LT | | | | | | | | | | | | | | 245 |
| E6 | | 76+00.00 | 77+16.00 | RT | | | | | | | | | | | | | 387 | |
| E7 | | 77+69.00 | 80+50.00 | RT | | | | | | | | | | | | | 167 | |
| SUBTOTAL | | | | | 1 | 3.0 | 1.2 | 9.32 | 98 | 92 | 110 | 3 | 1 | 1 | 1 | 1 | 885 | 582 |
| TOTALS CARRIED TO GENERAL SUMMARY | | | | | 1 | 3 | 2 | 9.40 | 98 | 92 | 110 | 3 | 1 | 1 | 1 | 1 | 885 | 582 |

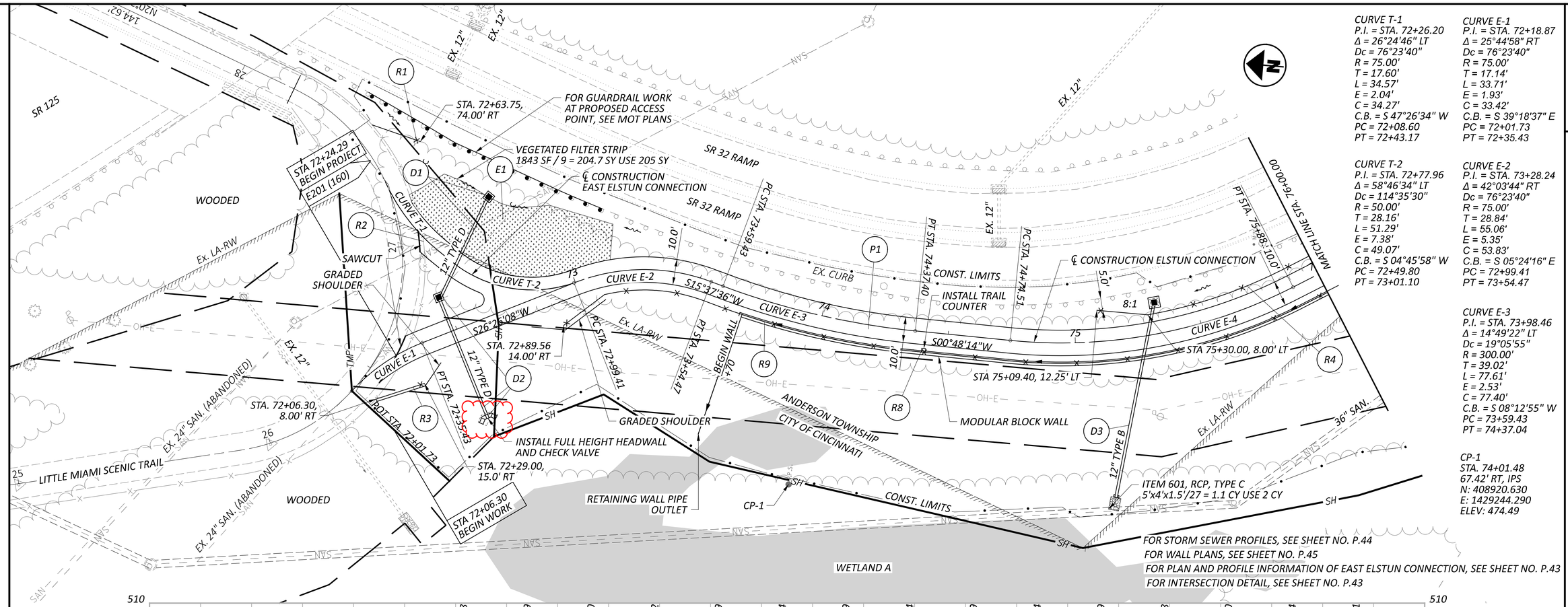
SUBSUMMARY

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 8:45:53 AM USER: zmorman
V:\1736\active\113602137\engineering\113602400-Engineering\Roadway\Sheets\113602_GS003.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER ZTM
REVIEWER PJD 10-20-23
PROJECT ID 113602
SHEET P.15 TOTAL 71




**CURVE T-1**
P.I. = STA. 72+26.20
Δ = 26°24'46" LT
Dc = 76°23'40"
R = 75.00'
T = 17.60'
L = 34.57'
E = 2.04'
C = 34.27'
C.B. = S 47°26'34" W
PC = 72+08.60
PT = 72+43.17

**CURVE T-2**
P.I. = STA. 72+77.96
Δ = 58°46'34" LT
Dc = 114°35'30"
R = 50.00'
T = 28.16'
L = 51.29'
E = 7.38'
C = 49.07'
C.B. = S 04°45'58" W
PC = 72+49.80
PT = 73+01.10

**CURVE E-1**
P.I. = STA. 72+18.87
Δ = 25°44'58" RT
Dc = 76°23'40"
R = 75.00'
T = 17.14'
L = 33.71'
E = 1.93'
C = 33.42'
C.B. = S 39°18'37" E
PC = 72+01.73
PT = 72+35.43

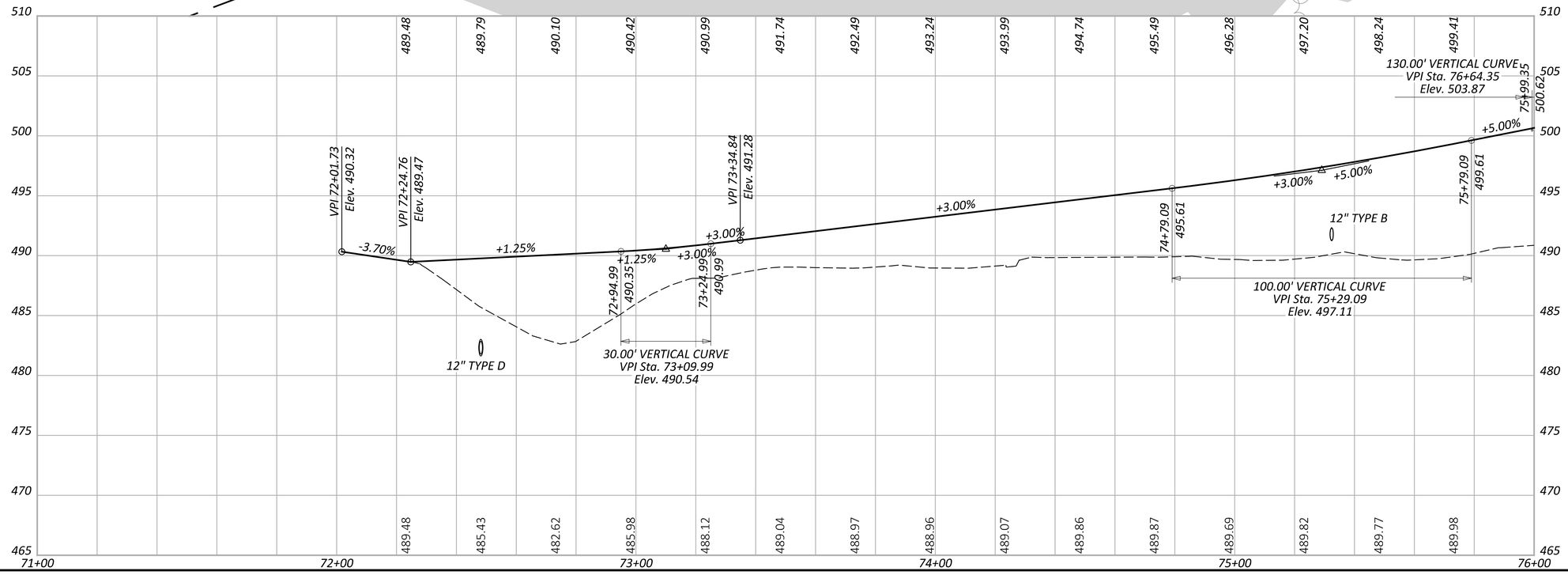
**CURVE E-2**
P.I. = STA. 73+28.24
Δ = 42°03'44" RT
Dc = 76°23'40"
R = 75.00'
T = 28.84'
L = 55.06'
E = 5.35'
C = 53.83'
C.B. = S 05°24'16" E
PC = 72+99.41
PT = 73+54.47

**CURVE E-3**
P.I. = STA. 73+98.46
Δ = 14°49'22" LT
Dc = 19°05'55"
R = 300.00'
T = 39.02'
L = 77.61'
E = 2.53'
C = 77.40'
C.B. = S 08°12'55" W
PC = 73+59.43
PT = 74+37.04

**CP-1**
STA. 74+01.48
67.42' RT, IPS
N: 408920.630
E: 1429244.290
ELEV: 474.49

HORIZONTAL SCALE IN FEET
0 10 20 40

FOR STORM SEWER PROFILES, SEE SHEET NO. P.44
FOR WALL PLANS, SEE SHEET NO. P.45
FOR PLAN AND PROFILE INFORMATION OF EAST ELSTUN CONNECTION, SEE SHEET NO. P.43
FOR INTERSECTION DETAIL, SEE SHEET NO. P.43




# PLAN AND PROFILE
# STA 72+25.02 TO STA 76+00.00

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: CLP_B363 - Plan 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 7:39:07 AM USER: pdurham
V:\1736\active\173620137\engineering\113602\400-Engineering\Roadway\Sheets\113602_GP001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER ZTM
REVIEWER PJD 10-20-23
PROJECT ID 113602
SHEET P.18 TOTAL 71

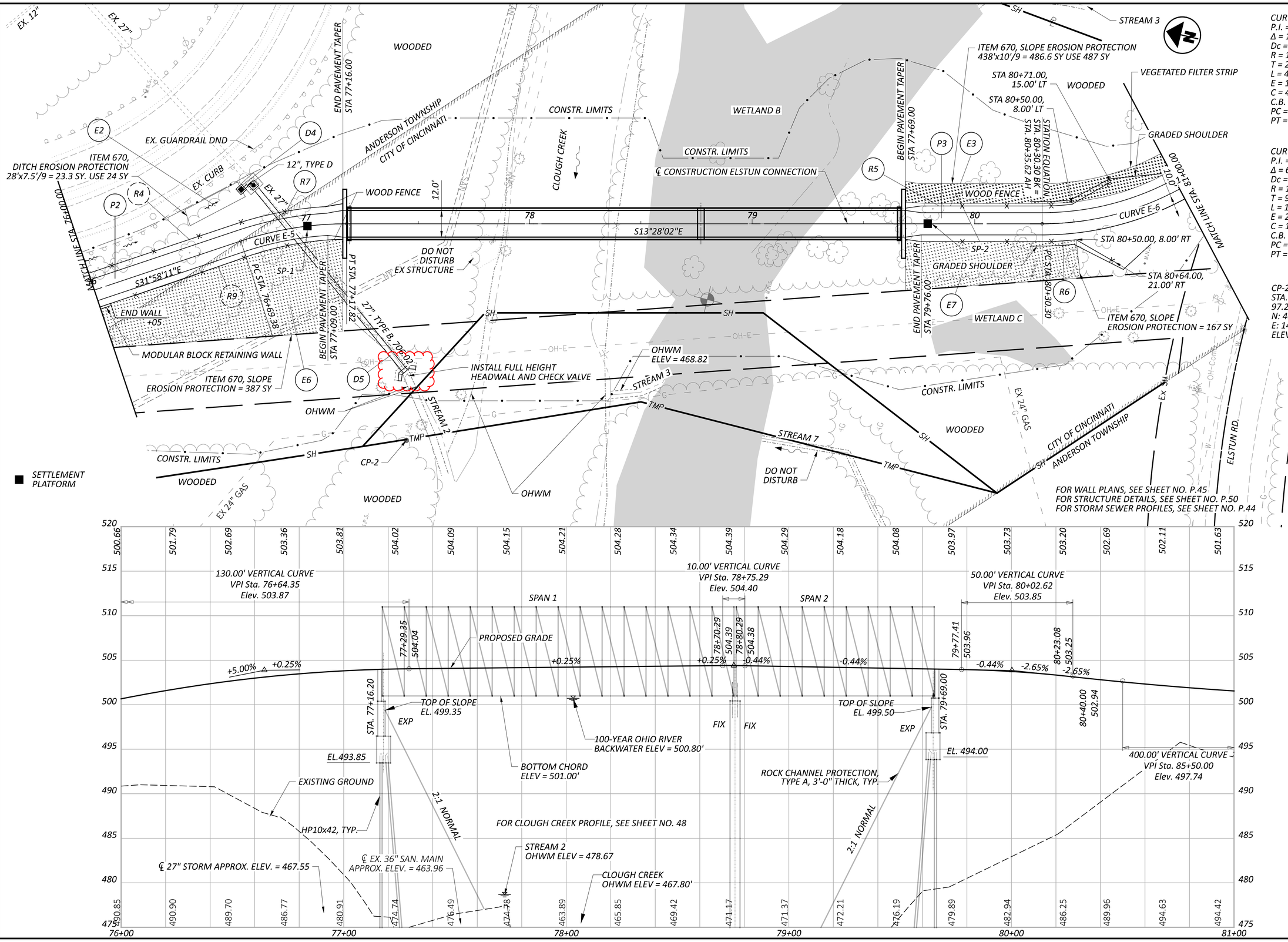
# PLAN AND PROFILE
## STA 76+00.00 TO STA 81+00.00

HORIZONTAL SCALE IN FEET
0 10 20 40

CURVE E-5
P.I. = STA. 76+93.81
Δ = 18°30'09" RT
Dc = 38°11'50"
R = 150.00'
T = 24.43'
L = 48.44'
E = 1.98'
C = 48.23'
C.B. = S 22°43'07" E
PC = 76+69.38
PT = 77+17.82

CURVE E-6
P.I. = STA. 81+21.05
Δ = 69°50'27" LT
Dc = 44°04'25"
R = 130.00'
T = 90.76'
L = 158.46'
E = 28.55'
C = 148.83'
C.B. = S 48°23'15" E
PC = 80+30.30
PT = 81+94.08

CP-2
STA. 77+44.64
97.29' RT, IPS
N: 408568.616
E: 1429311.171
ELEV: 471.68





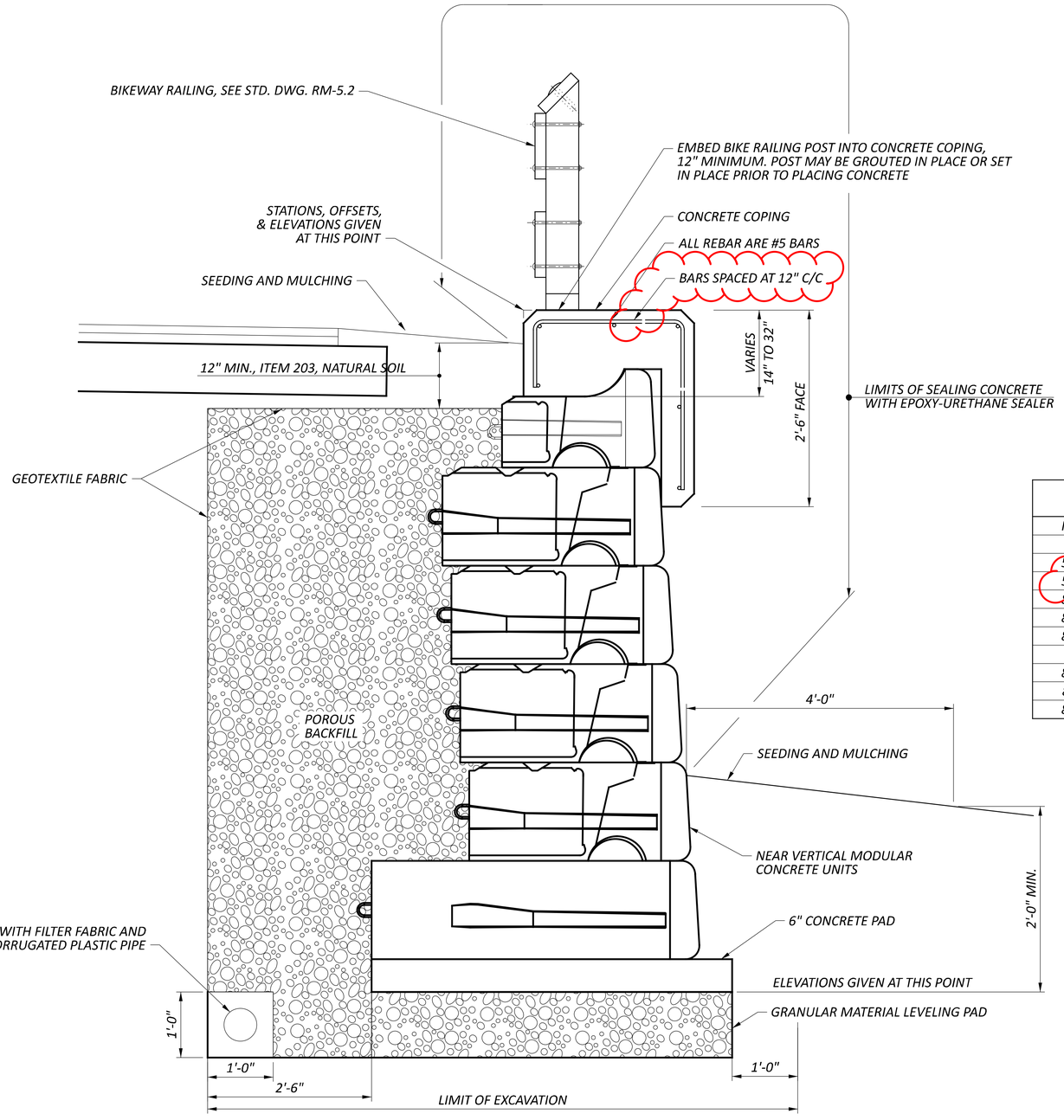



DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200


DESIGNER ZTM
REVIEWER PJD 10-20-23
PROJECT ID 113602
SHEET P.19 TOTAL 71

HAM-LMST EXTENSION TO ELSTUN PHASE 2


MODEL: CLP_B363 - Plan 2 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 7:42:02 AM USER: pdurham
V:\1736\active\173620137\engineering\113602\400-Engineering\Roadway\Sheets\113602_GP001.dgn




**PROPOSED MODULAR BLOCK WALL SECTION**

*RETAINING WALL ESTIMATED QUANTITIES*

| ITEM | EXTENSION | TOTAL | UNIT | DESCRIPTION |
|---|---|---|---|---|
| | | | | |
| 512 | 10100 | 205 | SY | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) |
| 518 | 21200 | 302 | CY | POROUS BACKFILL WITH GEOTEXTILE FABRIC |
| 870 | 10000 | 2012 | SF | PREFABRICATED MODULAR RETAINING WALL |
| 870 | 11000 | 318 | CY | WALL EXCAVATION |
| 870 | 12000 | 235 | FT | 6" DRAINAGE PIPE, PERFORATED |
| | | | | |
| 870 | 12100 | 50 | FT | 6" DRAINAGE PIPE, NON-PERFORATED |
| 870 | 12500 | 235 | FT | CONCRETE COPING |
| 870 | 14000 | 2 | DAY | ON-SITE ASSISTANCE |

*NOTES:*

1. *WALL IS A MODULAR BLOCK WALL PER ODOT SUPPLEMENTAL SPECIFICATION 870 AND THE ODOT BDM.*
2. *ALL EXPOSED SURFACES OF THE WALL ARE TO BE SEALED WITH EPOXY-URETHANE SEALER.*
3. *PAYMENT FOR THE RAILING AND CONNECTIONS ARE INCIDENTAL TO ITEM 607 FENCE, MISC.; WOOD FENCE.*

HAM-LMST EXTENSION TO ELSTUN PHASE 2

WALL NOTES & DETAILS

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 1/17/2024 TIME: 8:10:28 AM USER: msturdevant
V:\1736\active\173620137\engineering\113602400-Engineering\Roadway\Sheets\113602_WN001.dgn

DESIGN AGENCY
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

DESIGNER EDA

REVIEWER MRS MM-DD-YY

PROJECT ID 113602

SHEET P.46 TOTAL 71

**ITEM 530, STRUCTURE, MISC.: - PREFABRICATED BRIDGE**

**1.0 GENERAL**

**1.1 SCOPE**

THESE SPECIFICATIONS ARE FOR FULLY ENGINEERED HALF THROUGH TRUSS (NO OVERHEAD BRACING) BRIDGE OF STEEL CONSTRUCTION AND SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND FABRICATION. THE WORK INCLUDED UNDER THIS ITEM SHALL CONSIST OF DESIGN, FABRICATING, FINISHING AND TRANSPORTING THE STEEL TRUSS BRIDGE SUPERSTRUCTURE INCLUDING BEARINGS.

**1.2 QUALIFIED BRIDGE MANUFACTURER**

THE PREFABRICATED TRUSS SUPERSTRUCTURE SHALL BE SUPPLIED BY A MANUFACTURER ON ODOT'S PREQUALIFICATION LIST AS FOUND AT THE FOLLOWING WEBSITE:

HTTPS://WWW.DOT.STATE.OH.US/DIVISIONS/CONSTRUCTIONMGT/MATERIALS/MISCELLANEOUSLIST/STRUCTURALSTEELFABRICATORS.PDF

ALL SUPPLIERS SHALL FABRICATE THEIR PRODUCT UTILIZING A MODERN FABRICATION FACILITY OWNED AND OPERATED BY THE BRIDGE MANUFACTURER THAT INCLUDES THE USE OF CNC BEAM DRILLING MACHINES, NO BROKERS ARE ALLOWED.

**1.3 BRIDGE MANUFACTURER'S DESIGN PROFESSIONAL AND SUBMITTALS**

THE BRIDGE MANUFACTURER SHALL HAVE AS A DIRECT EMPLOYEE, AN ENGINEER WHO IS EXPERIENCED IN BRIDGE DESIGN TO BE IN RESPONSIBLE CHARGE OF ALL ENGINEERING RELATED TASK AND DESIGN. THE ENGINEER SHALL HAVE A MINIMUM OF 10 YEARS OF EXPERIENCE IN BRIDGE DESIGN AND BE A CURRENTLY LICENSED CIVIL OR STRUCTURAL PROFESSIONAL ENGINEER IN THE STATE OF OHIO AND SHALL BE THE ENGINEER WHO WILL SEAL AND SIGN THE PLANS.

ENGINEERING DRAWINGS, 11X17 FORMAT, SHALL BE PREPARED AND SUBMITTED TO THE CONTRACTOR OR OWNER FOR THEIR REVIEW AFTER RECEIPT OF THE ORDER. SUBMITTAL DRAWINGS SHALL BE UNIQUE DRAWINGS, PREPARED TO ILLUSTRATE THE SPECIFIC PORTION OF THE BRIDGE BEING FABRICATED. ALL RELATIVE

DESIGN INFORMATION SUCH AS MEMBER SIZE, ASTM/AASHTO MATERIAL SPECIFICATION, DIMENSIONS NECESSARY TO FABRICATE AND REQUIRED WELDING SHALL BE CLEARLY SHOWN ON THE DRAWINGS. DRAWINGS SHALL HAVE REFERENCED DETAILS AND SHEET NUMBERS. ALL DRAWINGS SHALL BE STAMPED, SIGNED AND DATED BY THE BRIDGE MANUFACTURER□S DESIGN PROFESSIONAL.

STRUCTURAL CALCULATIONS FOR THE DESIGN OF THE BRIDGE SUPERSTRUCTURE SHALL BE PREPARED BY THE BRIDGE MANUFACTURER AND SUBMITTED FOR REVIEW AFTER RECEIPT OF THE ORDER. CALCULATIONS SHALL INCLUDE COMPLETE DESIGN, ANALYSIS AND CODE CHECKS FOR THE CONTROLLING MEMBERS, CONNECTIVITY AND SUPPORT CONDITIONS, TRUSS STABILITY CHECKS, DECK DESIGN, DEFLECTION CHECKS, BEARINGS AND ALL SPLICES.

**2.0 APPLICABLE CODES AND STANDARDS**

**2.1 GOVERNING SPECIFICATIONS**

BRIDGE SHALL BE DESIGNED IN COMPLIANCE WITH THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, 2009 (AASHTO PED) AND THE OHIO BRIDGE DESIGN MANUAL. CALCULATIONS SHALL BE IN ACCORDANCE WITH THIS DOCUMENT, AND FORMULAS SHALL REFERENCE THE APPROPRIATE SECTIONS.

**2.2 OTHER REFERENCE CODES, SPECIFICATIONS AND STANDARDS**

- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020 (AASHTO LRFD)
- AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, FIRST EDITION, 2005 (AASHTO SIGNS)
- AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017 (AISC)
- ANSI/AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 2016 (AISC 360)
- AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, D1.1, 2015 (AWS D1.1)
- SETRA TECHNICAL GUIDE FOR FOOTBRIDGES, 2006 (SETRA)

THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES SHALL CONTROL IF ANY CONFLICTING REQUIREMENTS OCCUR WITH THE OTHER REFERENCE DOCUMENTS AND/OR OTHER LOCAL CODES.

**3.0 BRIDGE SYSTEM TYPE**

**3.1 TRUSS STYLE**

THE TRUSS STYLE SHALL BE THE SAME FOR BOTH SPANS AND BE THE MOST ECONOMICAL STYLE. THE VERTICAL TRUSSES SHALL BE DESIGNED SUCH THAT THE TOP AND BOTTOM CHORD MEMBERS ARE PARALLEL FOR THE ENTIRE LENGTH OF BRIDGE. THE INTERIOR VERTICALS OF THE TRUSSES SHALL BE PERPENDICULAR TO THE TOP FACE OF THE BOTTOM CHORD AND THE END VERTICALS OF THE TRUSSES SHALL BE PLUMB. TRUSSES SHALL BE LAID OUT SUCH THAT DIAGONALS SHALL BE AT AN ANGLE OF 30-DEGREES OR MORE WITH RESPECT TO THE BOTTOM CHORD.

**3.2 DIAGONAL STYLE**

THE VERTICAL TRUSS SHALL USE A SINGLE-DIAGONAL, PRATT CONFIGURATION, WHERE ALL THE DIAGONALS ARE IN TENSION FOR GRAVITY LOADS.

**3.3 FLOOR BEAM LOCATION**

THE BRIDGE SHALL UTILIZE AN H-SECTION CONFIGURATION WHERE THE ENDS OF THE FLOOR BEAMS ARE WELDED ONLY TO THE INTERIOR FACE OF THE VERTICALS. THE DISTANCE FROM THE TOP OF DECK TO THE BOTTOM OF THE BOTTOM CHORD SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER DURING FINAL DESIGN.

**4.0 BRIDGE GEOMETRY**

**4.1 SPAN LENGTH**

THE BRIDGE WILL CONSIST OF TWO SIMPLE SPAN TRUSSES. THE TOTAL DISTANCE OF THE BRIDGE FROM CENTER TO CENTER OF BEARING AT THE ABUTMENTS WILL BE 247 FEET. SPAN 1 WILL BE 158 FEET FROM CENTERLINE OF BEARING AT THE ABUTMENT TO CENTERLINE OF PIER. SPAN 2 WILL BE 90 FEET FROM CENTERLINE OF PIER TO CENTERLINE OF BEARING AT THE ABUTMENT.

**4.2 WIDTH**

THE BRIDGE WIDTH SHALL PROVIDE A MINIMUM CLEARANCE OF 12'-0" BETWEEN ALL INTERIOR RAILING ELEMENTS.

**4.3 TOP OF TRUSS HEIGHT ABOVE DECK**

THE TOP OF THE TOP CHORD SHALL NOT BE LESS THAN 48" ABOVE THE DECK (MEASURED FROM THE HIGH POINT OF THE DECK). NOTE THAT THIS DIMENSION MAY BE EXCEEDED DUE TO TRUSS HEIGHT REQUIREMENTS FOR STRUCTURAL, DEFLECTION AND VIBRATION REQUIREMENTS. THE SAME HEIGHT SHALL BE USED FOR BOTH SPANS.

**4.4 LOWER STEEL CLEARANCE**

THE BRIDGE MANUFACTURER SHALL DETERMINE THE DISTANCE FROM THE TOP OF THE DECK (MEASURED FROM THE HIGHEST POINT OF THE DECK) TO THE BOTTOM OF ANY STEEL MEMBER.

**4.5 TRUSS BAY SPACING**

THE NUMBER OF BAYS AND THE DIMENSION OF THE PANEL POINTS SHALL BE DETERMINED BY THE BRIDGE MANUFACTURER.

**4.6 CAMBER**

EACH SINGLE SIMPLE-SPAN BRIDGE SHALL HAVE A VERTICAL CAMBER DIMENSION AT THE MID-SPAN EQUAL TO 100% OF THE ANTICIPATED FULL DEAD LOAD DEFLECTION.

**4.7 ELEVATION DIFFERENCE**

THE TOP OF THE DECKS AT EACH END OF THE BRIDGE SHALL BE CONSTRUCTED WITH A VERTICAL ELEVATION DIFFERENCE AS SHOWN ON THE PLANS.

**5.0 STRUCTURAL DESIGN LOADS**

**5.1 DEAD LOAD**

THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR THE TOTAL BRIDGE WEIGHT INCLUDING THE FINAL DECK SYSTEM.

**5.2 PEDESTRIAN LOADING (PL)**

THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR A UNIFORM PEDESTRIAN LOADING OF 90 PSF OR AN H15 TRUCK. THIS LOADING SHALL BE PATTERNED TO PRODUCE THE MAXIMUM LOAD EFFECTS. CONSIDERATION OF DYNAMIC LOAD ALLOWANCE IS NOT REQUIRED WITH THIS LOADING.

**5.3 VEHICLE LOAD (VL)**

WHEN VEHICULAR ACCESS IS NOT PREVENTED BY PERMANENT PHYSICAL METHODS, THE SUPERSTRUCTURE AND DECK SYSTEM SHALL BE DESIGNED FOR EACH OF THE FOLLOWING CONCENTRATED/VEHICULAR LOADS:

- A CONCENTRATED LOAD OF 1,000 POUNDS PLACED ON ANY AREA 2.5' BY 2.5' SQUARE.
- A SINGLE TRUCK SHALL BE PLACED TO PRODUCE THE MAXIMUM LOAD EFFECTS AND SHALL NOT BE PLACED IN COMBINATION WITH THE PEDESTRIAN LOAD. THE DYNAMIC LOAD ALLOWANCE NEED NOT BE CONSIDERED FOR THIS LOADING. THE TRUCK SHALL BE AN H10 VEHICLE (20,000 POUND TWO-AXLE VEHICLE WITH 80% TO REAR AXLE).

**5.4 WIND LOAD (WS)**

PEDESTRIAN BRIDGES SHALL BE DESIGNED FOR WIND LOADS AS SPECIFIED IN AASHTO SIGNS, ARTICLES 3.8 AND 3.9. THE LOADING SHALL BE APPLIED OVER THE EXPOSED AREA IN FRONT ELEVATIONS OF BOTH TRUSSES INCLUDING ALL ENCLOSURES.

IN ADDITION TO THE WIND LOAD SPECIFIED ABOVE, A VERTICAL UPLIFT LINE LOAD AS SPECIFIED IN AASHTO LRFD ARTICLE 3.8.2 AND DETERMINED AS THE FORCE CAUSED BY A PRESSURE OF 20 PSF OVER THE FULL DECK WIDTH, SHALL BE APPLIED CONCURRENTLY. THIS LOADING SHALL BE APPLIED AT THE WINDWARD QUARTER POINT OF THE DECK WIDTH.

**5.5 SEISMIC (EQ)**

THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR SEISMIC LOADING AS SPECIFIED IN SECTION 3.10 OF AASHTO LRFD. THE TRANSVERSE LOADS SHALL BE CALCULATED CONSIDERING THE TRANSVERSE PERIOD OF THE BRIDGE AND LONGITUDINAL LOADS SHALL BE CALCULATED USING A PERIOD OF ZERO. A RESPONSE MODIFICATION FACTOR OF 0.8 SHALL BE USED FOR THE CALCULATION OF FORCES APPLIED TO THE BRIDGE ANCHORAGE. A RESPONSE MODIFICATION FACTOR OF 1.0 SHALL BE USED FOR THE CALCULATION OF BEARING REACTIONS. THE TRANSVERSE SEISMIC LOAD SHALL BE APPLIED TO ALL THE BEARINGS AND THE LONGITUDINAL SEISMIC LOAD SHALL BE APPLIED TO THE FIXED BEARINGS ONLY. THE VERTICAL BEARING REACTIONS SHALL BE CALCULATED USING AN OVERTURNING FORCE ON THE BRIDGE BASED ON THE CENTER OF GRAVITY OF THE BRIDGE TIMES THE TRANSVERSE SEISMIC LOAD.

**5.6 FATIGUE LOAD (FL)**

THE FATIGUE LOADING SHALL BE AS SPECIFIED IN SECTION 11 OF AASHTO SIGNS. THE NATURAL WIND GUST SPECIFIED IN ARTICLE 11.7.1.2 AND THE TRUCK-INDUCED GUST SPECIFIED IN ARTICLE 11.7.1.3 OF AASHTO SIGNS ONLY NEED ONLY BE CONSIDERED, AS APPROPRIATE.

**5.7 COMBINATION OF LOADS**

THE LOAD COMBINATIONS AND LOAD FACTORS TO BE USED SHALL BE AS SPECIFIED IN AASHTO LRFD TABLE 3.4.1-1, WITH THE FOLLOWING EXCEPTIONS:

- LOAD COMBINATIONS STRENGTH II, STRENGTH IV, AND STRENGTH V NEED NOT BE CONSIDERED.
- THE LOAD FACTOR FOR FATIGUE I LOAD COMBINATION SHALL BE TAKEN AS 1.0, AND FATIGUE II LOAD COMBINATION NEED NOT BE CONSIDERED.

**6.0 STRUCTURAL DESIGN CRITERIA**

STRUCTURAL DESIGN OF THE BRIDGE STRUCTURE SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF OHIO, WHO IS EXPERIENCED IN TRUSS BRIDGE DESIGN, AND DONE IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRATICES AND PRINCIPLES.

**6.1 MODELING**

THE BRIDGE SHALL BE MODELED AND ANALYZED UTILIZING A THREE-DIMENSIONAL COMPUTER SOFTWARE WHICH SHALL ACCOUNT FOR MOMENTS INDUCED IN MEMBERS DUE TO JOINT FIXITY WHERE APPLICABLE. MOMENTS DUE TO BOTH TRUSS DEFLECTION AND JOINT ECCENTRICITY MUST BE CONSIDERED. ALL LOADS LISTED IN SECTION 5 OF THESE SPECIFICATIONS SHALL BE APPLIED TO THE MODEL AND ANALYZED APPROPRIATELY.

**6.2 LATERAL FRAME AND MEMBER DESIGN**

THE BRIDGE SHALL BE DESIGNED AND PROPORTIONED SUCH THAT APPROPRIATE LATERAL STIFFNESS IS PROVIDED LOCALLY AND GLOBALLY, TO ENSURE THAT THE STRUCTURE IS STABLE.

GENERAL NOTES (2)
HAM LMST TO ELSTUN
OVER CLOUGH CREEK

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/12/2024 TIME: 1:39:25 PM USER: msturdevant
V:\1736\active\173620137\engineering\113602\400-Engineering\Structures\sheets\113602_SN002.dgn

SFN 0

DESIGN AGENCY

Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

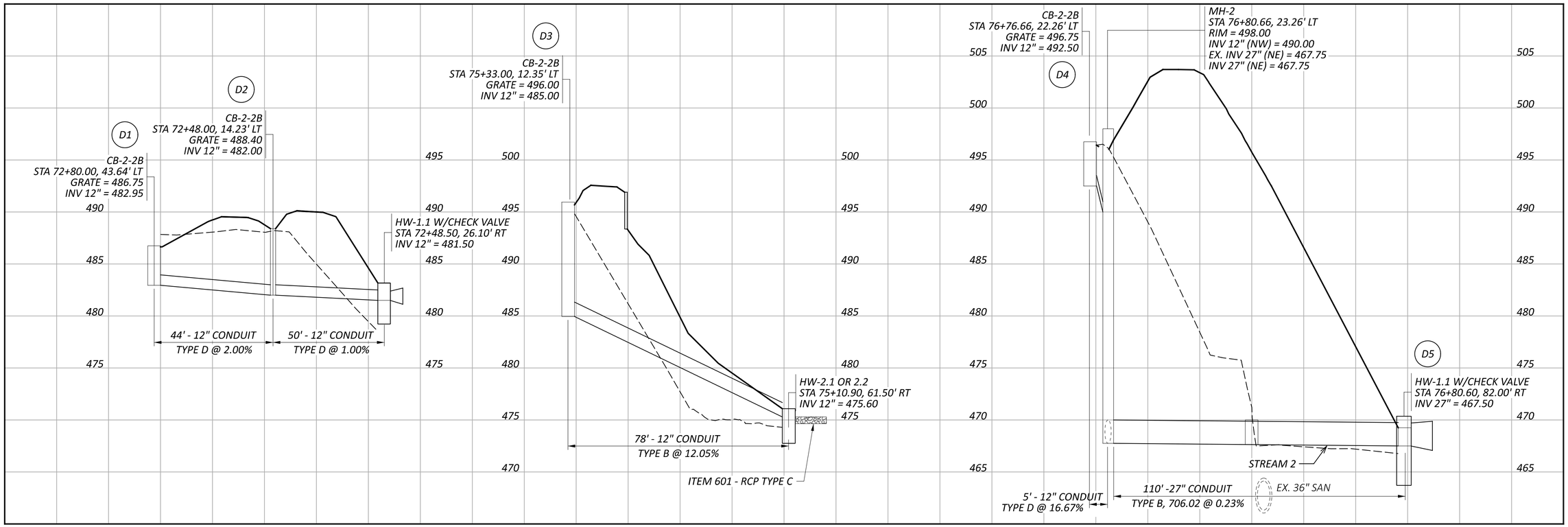
| DESIGNER | CHECKER |
|---|---|
| MRS | EDA |

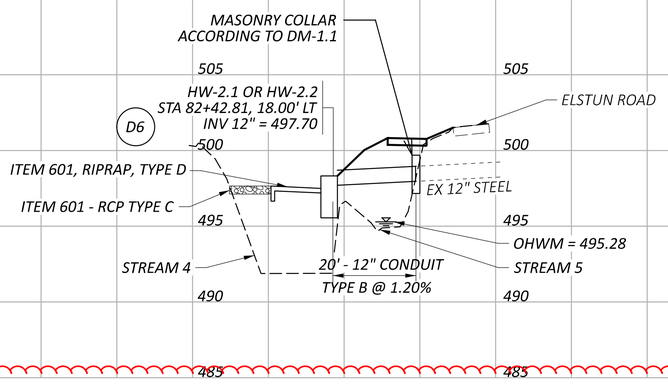
REVIEWER: BSM 12-20-22

PROJECT ID: 113602

| SUBSET | TOTAL |
|---|---|
| 3 | 10 |

| SHEET | TOTAL |
|---|---|
| P.52 | 71 |




FULL-HEIGHT HEADWALLS (English)

| PIPE DIA. D | H | a | b | c | $t_S$ | Bar# d | $\theta \approx 0^\circ$ | | | | | $\theta \approx 15^\circ$ | | | | | | | $\theta \approx 30^\circ$ | | | | | | | PIPE DIA. D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | $L_2$ | $h_2$ | Conc. CMP (cy) | Conc. RCP (cy) | Steel (lbs.) | $L_1$ | $L_2$ | $h_1$ | $h_2$ | Conc. CMP (cy) | Conc. RCP (cy) | Steel (lbs.) | $L_1$ | $L_2$ | $h_1$ | $h_2$ | Conc. CMP (cy) | Conc. RCP (cy) | Steel (lbs.) | |
| 12" | 2'-4" | 2'-0" | 1'-6" | 1'-3" | 1'-6" | #5 | 2'-0" | 1'-3" | 2.4 | 2.3 | 238 | | | | | | | | | | | | | | | 12" |
| 27" | 4'-0" | 3'-0" | 1'-6" | 2'-0" | 1'-6" | #5 | 3'-0" | 2'-6" | 3.8 | 3.7 | 376 | 6'-3" | 4'-0" | 3'-0" | 2'-7" | 5.2 | 5.1 | 515 | 5'-3" | 5'-0" | 3'-0" | 2'-8" | 5.1 | 5 | 505 | 27" |

HAM-LMST EXTENSION TO ELSTUN PHASE 2

STORM SEWER PROFILES
ELSTUN CONNECTION

MODEL: D1-HW13 - Profile 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 1:34:48 PM USER: pdurham
V:\1736\active\173620137\engineering\113602\400-Engineering\Drainage\Sheets\113602_DF001.dgn

DESIGN AGENCY
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

DESIGNER ZTM
REVIEWER PJD 07-21-2023
PROJECT ID 113602
SHEET P.44 TOTAL 71

## ESTIMATED QUANTITIES

| ITEM | EXTENSION | TOTAL | UNIT | DESCRIPTION | ABUT. | PIERS | SUPER. | GEN. | SHEET NO. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| 503 | 11101 | LUMP | LS | COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN | | | | LUMP | |
| 503 | 21300 | LUMP | LS | UNCLASSIFIED EXCAVATION | | | | LUMP | |
| 505 | 11100 | LUMP | LS | PILE DRIVING EQUIPMENT MOBILIZATION | | | | LUMP | 2 |
| 507 | 00100 | 880 | FT | STEEL PILES HP10X42, FURNISHED | 880 | | | | 2 |
| 507 | 00150 | 800 | FT | STEEL PILES HP10X42, DRIVEN | 800 | | | | 2 |
| | | | | | | | | | |
| 509 | 10000 | 9767 | LB | EPOXY COATED REINFORCING STEEL | 5745 | 4022 | | | 10 |
| 511 | 42012 | 69 | CY | CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS | | 69 | | | 9 |
| 511 | 43512 | 74 | CY | CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING | 74 | | | | 8 |
| 512 | 10100 | 171 | SY | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) | 130 | 41 | | | 8/9 |
| 518 | 20000 | 31 | SY | PREFABRICATED GEOCOMPOSITE DRAIN | 31 | | | | 8 |
| | | | | | | | | | |
| 518 | 21200 | 11 | CY | POROUS BACKFILL WITH GEOTEXTILE FABRIC | 6 | | | | 8 |
| 518 | 40000 | 62 | FT | 6" PERFORATED CORRUGATED PLASTIC PIPE | 62 | | | | 8 |
| 518 | 40010 | 80 | FT | 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS | 80 | | | | 8 |
| 524 | 94804 | 11 | FT | DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK | | 11 | | | 9 |
| 524 | 94902 | 52 | FT | DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK | | 52 | | | 9 |
| | | | | | | | | | |
| SPECIAL | 53000200 | LUMP | LS | STRUCTURE, MISC.: PREFABRICATED BRIDGE | | | LUMP | | 1 |
| 601 | 32004 | 1285 | CY | ROCK CHANNEL PROTECTION, TYPE A WITH GEOTEXTILE FABRIC | | | | 1285 | 1 |
| 894 | 10000 | 2 | EACH | THERMAL INTEGRITY PROFILING (TIP) TEST | | 2 | | | 2 |

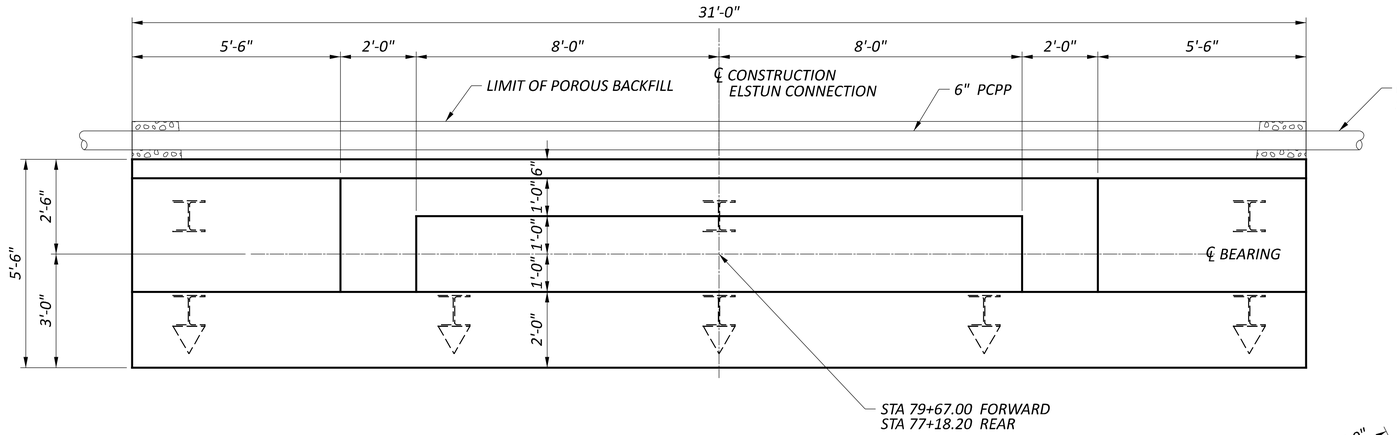
ESTIMATED QUANTITIES
HAM LMST TO ELSTUN
OVER CLOUGH CREEK

HAM-LMST EXTENSION TO ELSTUN PHASE 2

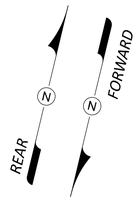
MODEL: Sheet PAPERSIZE: 1.41667x0.916667 (ft.) DATE: 1/16/2024 TIME: 4:06:52 PM USER: msturdevant
V:\1736\active\173620137\engineering\113602\s00-Engineering\Structures\sheets\113602_SQ001.dgn

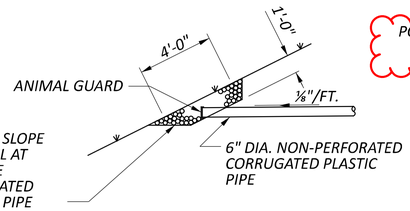
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

| | |
|---|---|
| SFN | 0 |
| DESIGNER | MRS |
| CHECKER | EDA |
| REVIEWER | BSM 12-20-22 |
| PROJECT ID | 113602 |
| SUBSET | 6 |
| TOTAL | 10 |
| SHEET | P.55 |
| TOTAL | 71 |



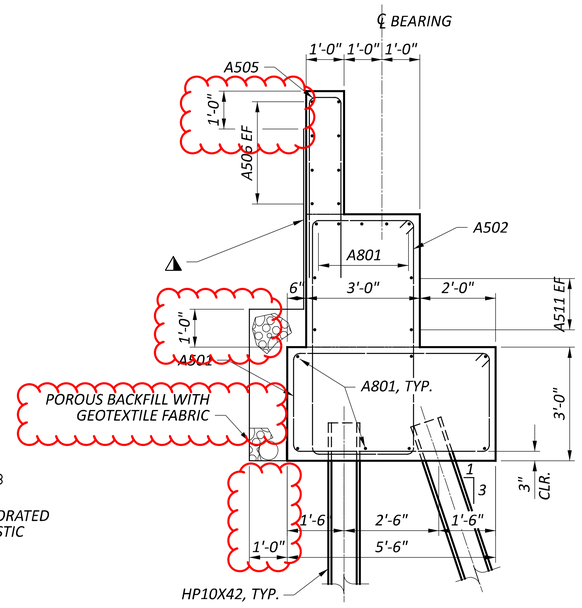

**PLAN**



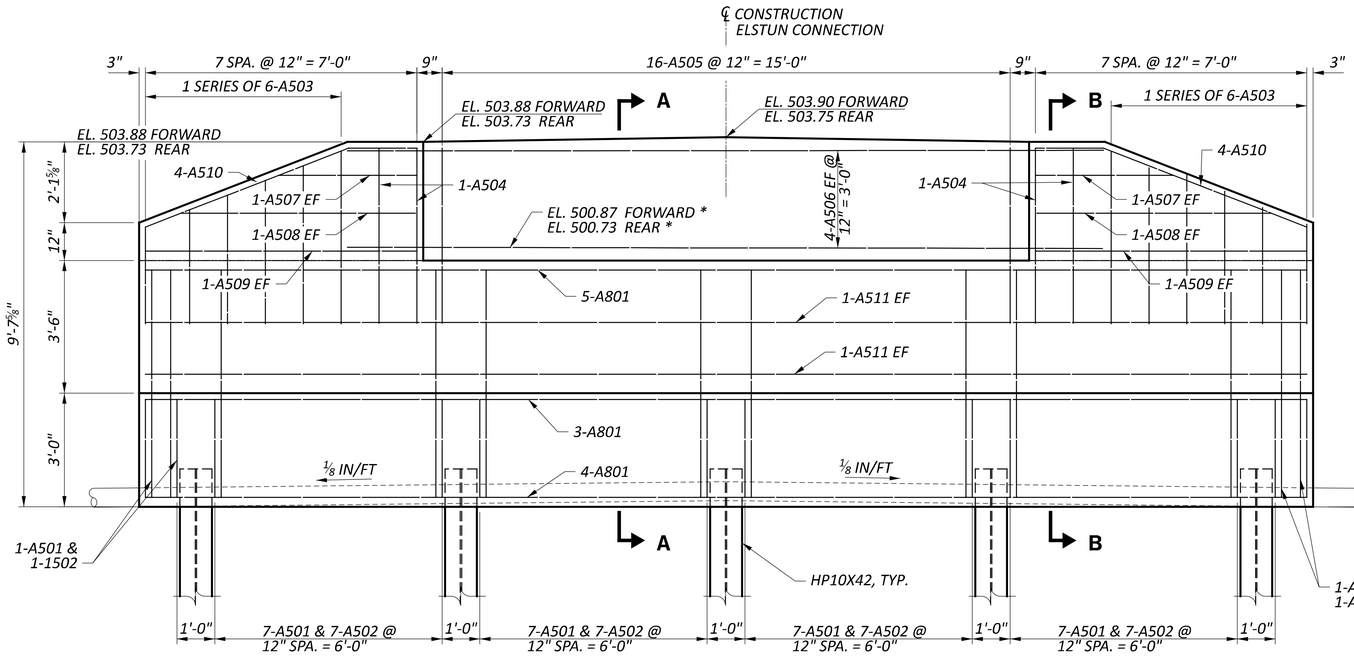




CRUSHED AGGREGATE SLOPE PROTECTION MATERIAL AT END OF PIPE. INCLUDE WITH 6" NON-PERFORATED CORRUGATED PLASTIC PIPE FOR PAYMENT.

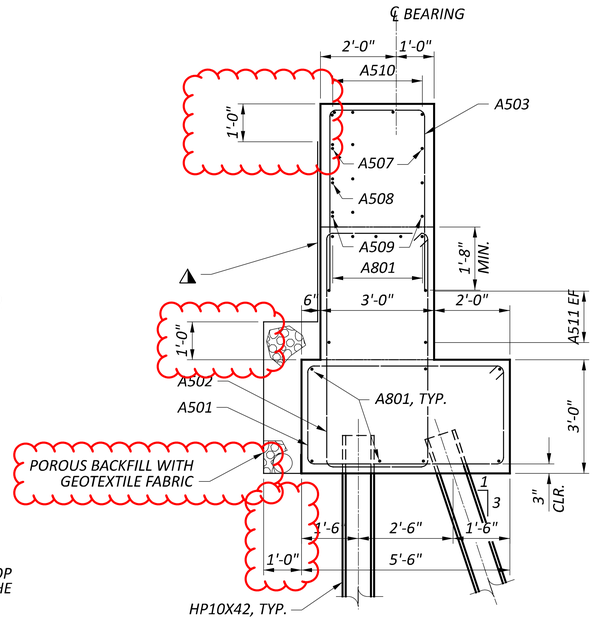
**DETAIL 1**




**SEC A-A**




**ELEVATION**




**SEC B-B**

* ELEVATION BASED ON 3'-3" DIMENSION FROM TOP OF DECK TO BEAM SEAT. ADJUST AS NEEDED IF THE ACTUAL DIMENSION VARIES FROM THIS.

⚠ PREFABRICATED GEOCOMPOSITE DRAINAGE SYSTEM IN ACCORDANCE WITH C&MS 518.

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Sheet PAPERSIZE: 1.41667x0.916667 (ft.) DATE: 1/16/2024 TIME: 4:20:34 PM USER: msturdevant
V:\1736\active\173620137\engineering\113602\v00-Engineering\Structures\sheets\113602_SR001.dgn

ABUTMENT DETAILS
HAM LMST TO ELSTUN
OVER CLOUGH CREEK

SFN
0

DESIGN AGENCY
Stantec
11687 Lebanon Road
Cincinnati OH 45241
(513) 842-8200

| DESIGNER | CHECKER |
|---|---|
| MRS | EDA |

REVIEWER
BSM 12-20-22

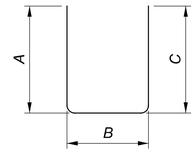
PROJECT ID
113602

| SUBSET | TOTAL |
|---|---|
| 8 | 10 |

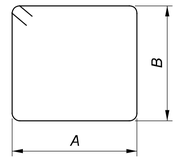
| SHEET | TOTAL |
|---|---|
| P.57 | 71 |

| MARK | NUMBER TOTAL | LENGTH | WEIGHT | TYPE | DIMENSIONS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A | B | C | D | E | R | INC |
| **ABUTMENTS** | | | | | | | | | | | |
| A801 | 24 | 30'-8" | 1965 | STR | | | | | | | |
| | | | | | | | | | | | |
| A501 | 64 | 15'-11" | 1063 | 3 | 5'-2" | 2'-7" | | | | | |
| A502 | 64 | 17'-11" | 1196 | 3 | 2'-8" | 6'-1" | | | | | |
| | 4 | 7'-7" | | | 2'-7" | | 2'-7" | | | | |
| A503 | SERIES OF | TO | 240 | 2 | TO | 2'-8" | TO | | | | 9 5/8" |
| | 6 | 11'-7" | | | 4'-7" | | 4'-7" | | | | |
| | | | | | | | | | | | |
| A504 | 8 | 11'-9" | 98 | 2 | 4'-8" | 2'-8" | 4'-8" | | | | |
| A505 | 32 | 9'-9" | 325 | 2 | 4'-8" | 8" | 4'-8" | | | | |
| A506 | 16 | 20'-0" | 334 | STR | | | | | | | |
| A507 | 8 | 3'-8" | 31 | STR | | | | | | | |
| A508 | 8 | 6'-3" | 52 | STR | | | | | | | |
| | | | | | | | | | | | |
| A509 | 8 | 7'-2" | 60 | STR | | | | | | | |
| A510 | 16 | 7'-6" | 125 | 19 | 1'-9" | 5'-4" | 2'-1" | | | | |
| A511 | 8 | 30'-8" | 256 | STR | | | | | | | |
| | | TOTAL | 5745 | | | | | | | | |

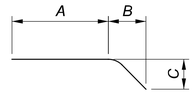
| MARK | NUMBER TOTAL | LENGTH | WEIGHT | TYPE | DIMENSIONS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A | B | C | D | E | R | INC |
| **PIER** | | | | | | | | | | | |
| P701 | 40 | 28'-7" | 2337 | STR. | | | | | | | |
| | | | | | | | | | | | |
| P501 | 63 | 15'-8" | 1030 | STR. | | | | | | | |
| P502 | 45 | 6'-5" | 301 | 2 | 1'-6" | 3'-8" | 1'-6" | | | | |
| | | | | | | | | | | | |
| P401 | 120 | 4'-5" | 354 | 30 | 3'-8" | | | | | | |
| | | TOTAL | 4022 | | | | | | | | |
| | | | | | | | | | | | |
| DS801 | 40 | 35'-11" | 3836 | STR. | | | | | | | |
| DS501 | 2 | 866'-2" | 1807 | 27 | 4 1/2" | 2'-10" | 35'-11" | | | | |
| | | | | | | | | | | | |
| ALL DS-BARS ABOVE ARE INCLUDED FOR PAYMENT WITH ITEMS 524, DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK AND DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK | | | | | | | | | | | |



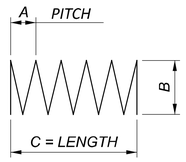

TYPE-2



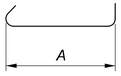

TYPE-3




TYPE-19




TYPE-27




TYPE-30

REINFORCING STEEL LIST
HAM LMST TO ELSTUN
OVER CLOUGH CREEK

HAM-LMST EXTENSION TO ELSTUN PHASE 2

MODEL: Untitled Sheet PAPERSIZE: 17x11 (in.) DATE: 10/23/2023 TIME: 1:43:04 PM USER: zmorman
V:\1736\active\173620137\engineering\113602\400-Engineering\Structures\sheets\113602_SL001.dgn

SFN 0

DESIGN AGENCY

Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242
(513) 842-8200

| DESIGNER | CHECKER |
|---|---|
| MRS | EDA |

REVIEWER: BSM 12-20-22

PROJECT ID: 113602

| SUBSET | TOTAL |
|---|---|
| 10 | 10 |

| SHEET | TOTAL |
|---|---|
| P.59 | 71 |