| SHEET NUM. | | | | | | | | | | | PART. | | | ITEM | ITEM EXT | GRAND TOTAL | UNIT | DESCRIPTION | SEE SHEET NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P.011 | P. 023 | P.058 | P.059 | P.063 | P.080 | P.086 | | | | | 01/NHS/13 | 02/S>2/13 | 03/S>2/05 | | | | | | |
| | | | | | | | | | | | | | | | | | | **ROADWAY** | |
| LS | | | | | | | | | | | LS | LS | | 201 | 11001 | LS | | CLEARING AND GRUBBING, AS PER PLAN | P.011 |
| | | 5,568 | | | | | | | | | 3,704 | 1,864 | | 202 | 23000 | 5,568 | SY | PAVEMENT REMOVED | |
| | 610 | 777 | | | | | | | | | 658 | 729 | | 202 | 30700 | 1,387 | FT | CONCRETE BARRIER REMOVED | |
| | | 642 | | | | | | | | | 642 | | | 202 | 35100 | 642 | FT | PIPE REMOVED, 24" AND UNDER | |
| | | 1,435 | | | | | | | | | 861 | 574 | | 202 | 38000 | 1,435 | FT | GUARDRAIL REMOVED | |
| | | | | | | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | 1 | | | 202 | 42000 | 1 | EACH | ANCHOR ASSEMBLY REMOVED, TYPE A | |
| | | 1 | | | | | | | | | 1 | | | 202 | 42010 | 1 | EACH | ANCHOR ASSEMBLY REMOVED, TYPE E | |
| | | 9 | | | | | | | | | 6 | 3 | | 202 | 47000 | 9 | EACH | BRIDGE TERMINAL ASSEMBLY REMOVED | |
| | | 2 | | | | | | | | | 2 | | | 202 | 58000 | 2 | EACH | MANHOLE REMOVED | |
| | | 2 | | | | | | | | | 2 | | | 202 | 58100 | 2 | EACH | CATCH BASIN REMOVED | |
| | | | | | | | | | | | | | | | | | | | |
| | | 2 | | | | | | | | | 2 | | | 202 | 58200 | 2 | EACH | INLET REMOVED | |
| | | 36 | | | | | | | | | | 36 | | 202 | 75000 | 36 | FT | FENCE REMOVED | |
| | | | | | 638 | 1,212 | | | | | 1,451 | 399 | | 203 | 10000 | 1,850 | CY | EXCAVATION | |
| | | | | | 76 | 86 | | | | | 104 | 58 | | 203 | 20000 | 162 | CY | EMBANKMENT | |
| | | | | 974 | | | | | | | 518 | 456 | | 204 | 10000 | 974 | SY | SUBGRADE COMPACTION | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | 1,952 | | | | | | | 1,306 | 646 | | 204 | 13000 | 1,952 | CY | EXCAVATION OF SUBGRADE (12" DEEP) | |
| | | | | 1,952 | | | | | | | 1,306 | 646 | | 204 | 30020 | 1,952 | CY | GRANULAR MATERIAL, TYPE C | |
| | | | | 3 | | | | | | | 2 | 1 | | 204 | 45000 | 3 | HOUR | PROOF ROLLING | |
| | | | | 5,856 | | | | | | | 3,919 | 1,937 | | 204 | 50000 | 5,856 | SY | GEOTEXTILE FABRIC | |
| | | | 1,062.5 | | | | | | | | 525 | 537.5 | | 606 | 15050 | 1,062.5 | FT | GUARDRAIL, TYPE MGS | |
| | | | | | | | | | | | | | | | | | | | |
| | | | 3 | | | | | | | | 3 | | | 606 | 26150 | 3 | EACH | ANCHOR ASSEMBLY, MGS TYPE E [MASH 2016] | |
| | | | 1 | | | | | | | | | 1 | | 606 | 26550 | 1 | EACH | ANCHOR ASSEMBLY, MGS TYPE T | |
| | | | 7 | | | | | | | | 5 | 2 | | 606 | 35002 | 7 | EACH | MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1 | |
| | | | 4 | | | | | | | | 2 | 2 | | 606 | 35102 | 4 | EACH | MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2 | |
| | | | 36 | | | | | | | | | 36 | | 607 | 23000 | 36 | FT | FENCE, TYPE CLT | |
| | | | | | | | | | | | | | | | | | | | |
| | | | 36 | | | | | | | | | 36 | | 607 | 70000 | 36 | FT | FENCELINE SEEDING AND MULCHING | |
| | | | 78 | | | | | | | | 1.5 | 76.5 | | 622 | 10140 | 78 | FT | CONCRETE BARRIER, SINGLE SLOPE, TYPE C1 | |
| | | | 20 | | | | | | | | | 20 | | 622 | 10141 | 20 | FT | CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN | P.093 |
| | | | 212 | | | | | | | | 212 | | | 622 | 10160 | 212 | FT | CONCRETE BARRIER, SINGLE SLOPE, TYPE D | |
| | | | 4 | | | | | | | | 2 | 2 | | 622 | 10200 | 4 | EACH | BARRIER TRANSITION | P.099 |
| | | | | | | | | | | | | | | | | | | | |
| | | | 2 | | | | | | | | 2 | | | 622 | 25000 | 2 | EACH | CONCRETE BARRIER END SECTION, TYPE D | |
| | | | 7 | | | | | | | | 4 | 3 | | 622 | 25014 | 7 | EACH | CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1 | |
| | | | 1 | | | | | | | | | 1 | | 622 | 25015 | 1 | EACH | CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN A | P.093 |
| | | | 1 | | | | | | | | 1 | | | 622 | 25015 | 1 | EACH | CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN B | P.093 |
| | | | 2 | | | | | | | | 2 | | | 622 | 25050 | 2 | EACH | CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D | |
| | | | | | | | | | | | | | | | | | | | |
| | 950 | | 385 | | | | | | | | 899 | 436 | | 622 | 90000 | 1,335 | FT | BARRIER, MISC.: MC-9.3, TYPE A | P.098 |
| | | | | | | | | | | | LS | LS | | SPECIAL | 69098400 | LS | | CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION | P.012 |
| | | | | | | | | | | | LS | LS | | 878 | 25000 | LS | | INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS | |

GENERAL SUMMARY

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.054 TOTAL 208

HAM-US 50-29.00

MODEL: General Summary Sheet 01 PAPERSIZE: 34x22 (in.) DATE: 1/17/2024 TIME: 12:27:52 PM USER: mswhitt
pw:\\hq-pwint01.a-e.transyscorp.com:transyscorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Roadway\Sheets\110570_GG001.dgn

# REMOVAL ESTIMATED QUANTITIES

| REF NO. | SHEET NO. | ALIGNMENT | STATION TO STATION FROM | STATION TO STATION TO | SIDE | PLANIMETERED AREAS | | 202 PAVEMENT REMOVED SY | 202 CONCRETE BARRIER REMOVED FT | 202 PIPE REMOVED, 24" AND UNDER FT | 202 GUARDRAIL REMOVED FT | 202 BRIDGE TERMINAL ASSEMBLY REMOVED EACH | 202 ANCHOR ASSEMBLY REMOVED, TYPE E EACH | 202 ANCHOR ASSEMBLY REMOVED, TYPE A EACH | 202 MANHOLE REMOVED EACH | 202 CATCH BASIN REMOVED EACH | 202 INLET REMOVED EACH | 202 FENCE REMOVED FT | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R-1 | P.065 | US-50 | 93+00.00 | 94+17.80 | LT | 3,940.70 | | 438 | | | | | | | | | | | | | | | | |
| R-2 | P.065 | US-50 | 93+00.00 | 94+17.80 | RT | 3,831.36 | | 426 | | | | | | | | | | | | | | | | |
| R-3 | P.065 | US-50 | 93+00.00 | 94+17.80 | LT/RT | 1,496.52 | | 166 | | | | | | | | | | | | | | | | |
| R-4 | P.065 | US-50 | 90+38.13 | 94+25.04 | RT | | | | | | 381 | 1 | | | | | | | | | | | | |
| R-5 | P.065 | US-50 | 93+00.00 | 94+44.35 | CL | | | | 124.4 | | | | | | | | | | | | | | | |
| R-13 | P.067 | US-50 | 98+74.00 | 99+98.00 | CL | | | | 124.0 | | | | | | | | | | | | | | | |
| R-14 | P.067 | US-50 | 98+67.73 | 98+77.21 | RT | | | | | | | | | | | | | 36 | | | | | | |
| R-15 | P.067 | US-50 | 99+01.12 | 99+98.00 | LT | 3,126.85 | | 347 | | | | | | | | | | | | | | | | |
| R-16 | P.067 | US-50 | 99+01.12 | 99+98.00 | RT | 3,132.95 | | 348 | | | | | | | | | | | | | | | | |
| R-17 | P.067 | US-50 | 99+01.12 | 99+98.00 | LT/RT | 1,250.50 | | 139 | | | | | | | | | | | | | | | | |
| R-21 | P.067 | US-50 | 98+98.32 | 100+69.44 | LT | | | | | | 174 | 1 | | | | | | | | | | | | |
| R-22 | P.067 | US-50 | 98+99.80 | 101+12.54 | RT | | | | | | 211 | 2 | | | | | | | | | | | | |
| R-23 | P.067 | US-50 | 100+90.64 | 103+38.73 | LT | | | | | | 253 | 1 | | | | | | | | | | | | |
| R-24 | P.067 | US-50 | 101+93.30 | 103+82.32 | RT | | | | | | 186 | 2 | | | | | | | | | | | | |
| R-33 | P.069 | US-50 | 103+05.00 | 103+77.68 | CL | | | | 52.7 | | | | | | | | | | | | | | | |
| R-37 | P.069 | US-50 | 103+05.00 | 103+48.80 | LT | 1,551.86 | | 172 | | | | | | | | | | | | | | | | |
| R-38 | P.069 | US-50 | 103+05.00 | 103+73.07 | RT | 2,557.07 | | 284 | | | | | | | | | | | | | | | | |
| R-39 | P.069 | US-50 | 103+05.00 | 103+55.47 | LT/RT | 1,189.98 | | 132 | | | | | | | | | | | | | | | | |
| R-40 | P.069 | US-50 | 105+63.24 | 106+15.00 | LT | 1,887.41 | | 210 | | | | | | | | | | | | | | | | |
| R-41 | P.069 | US-50 | 105+93.07 | 106+48.00 | RT | 1,935.27 | | 215 | | | | | | | | | | | | | | | | |
| R-42 | P.069 | US-50 | 105+84.77 | 106+48.00 | LT/RT | 1,387.62 | | 154 | | | | | | | | | | | | | | | | |
| R-43 | P.069 | US-50 | 105+54.92 | 106+82.74 | LT | | | | | | 125 | 1 | 1 | | | | | | | | | | | |
| R-44 | P.069 | US-50 | 103+66.00 | 103+66.00 | CL | | | | | 40 | | | | | | | 1 | | | | | | | |
| R-45 | P.069 | US-50 | 105+67.00 | 105+57.00 | LT | | | | | 63 | | | | | | 1 | | | | | | | | |
| R-46 | P.069 | US-50 | 105+88.00 | 105+67.00 | CL | | | | | 22 | | | | | | | 1 | | | | | | | |
| R-47 | P.069 | US-50 | 105+98.00 | 106+48.00 | CL | | | | 50.0 | | | | | | | | | | | | | | | |
| R-53 | P.071 | RAMPS M & L | 1+96.31 | 3+02.76 | RT | | | | | | 105 | 1 | | 1 | | | | | | | | | | |
| R-54 | P.071 | RAMPS M & L | 3+00.00 | 4+49.00 | LT | | | | | 171 | | | | | 1 | | | | | | | | | |
| R-55 | P.071 | RAMPS M & L | 0+25.00 | 3+00.00 | LT | | | | | 278 | | | | | 1 | | | | | | | | | |
| R-56 | P.071 | RAMPS M & L | 2+35.00 | 3+00.00 | LT | | | | | 68 | | | | | | 1 | | | | | | | | |
| R-57 | P.071 | RAMPS M & L | 0+25.00 | 4+50.00 | CL | | | | 425.0 | | | | | | | | | | | | | | | |
| R-58 | P.071 | RAMPS M & L | 0+25.00 | 4+50.00 | LT/RT | 22,822.77 | | 2536 | | | | | | | | | | | | | | | | |
| TOTALS CARRIED TO GENERAL SUMMARY | | | | | | | | 5568 | 777 | 642 | 1435 | 9 | 1 | 1 | 2 | 2 | 2 | 36 | | | | | | |

HAM-US 50-29.00



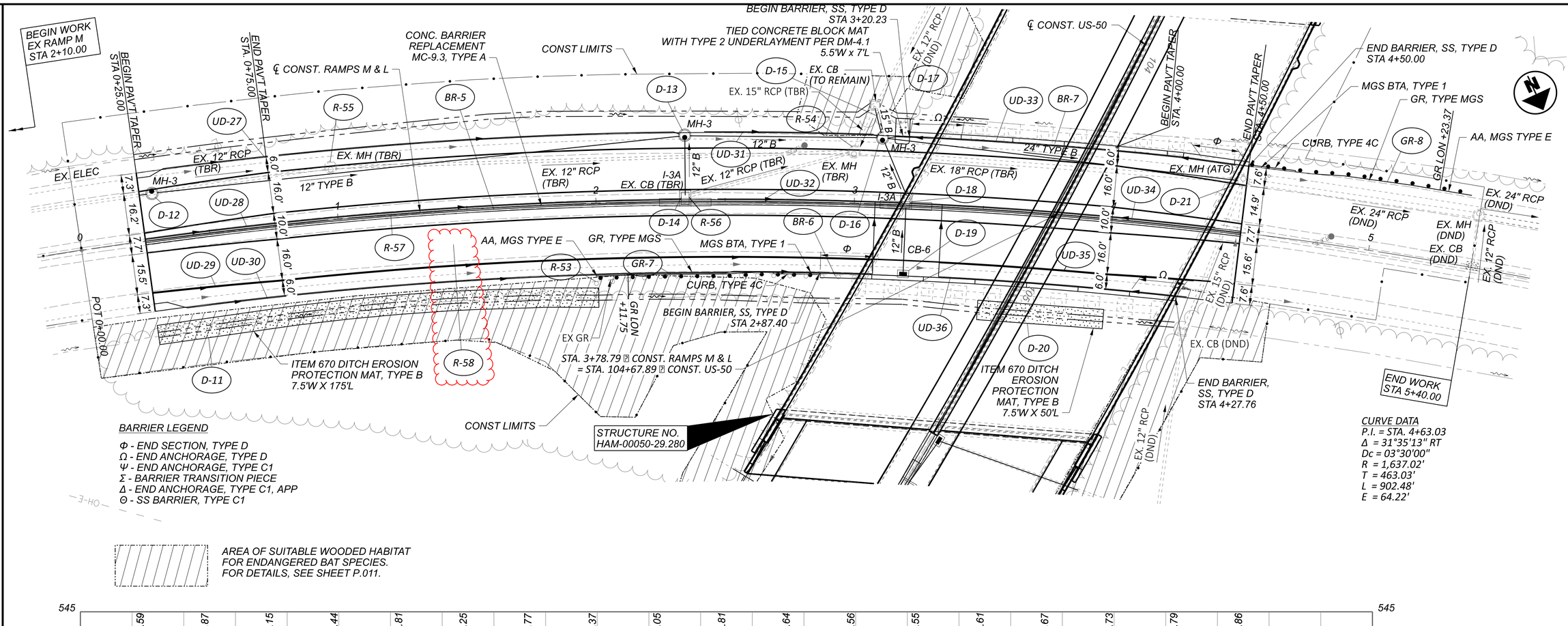
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

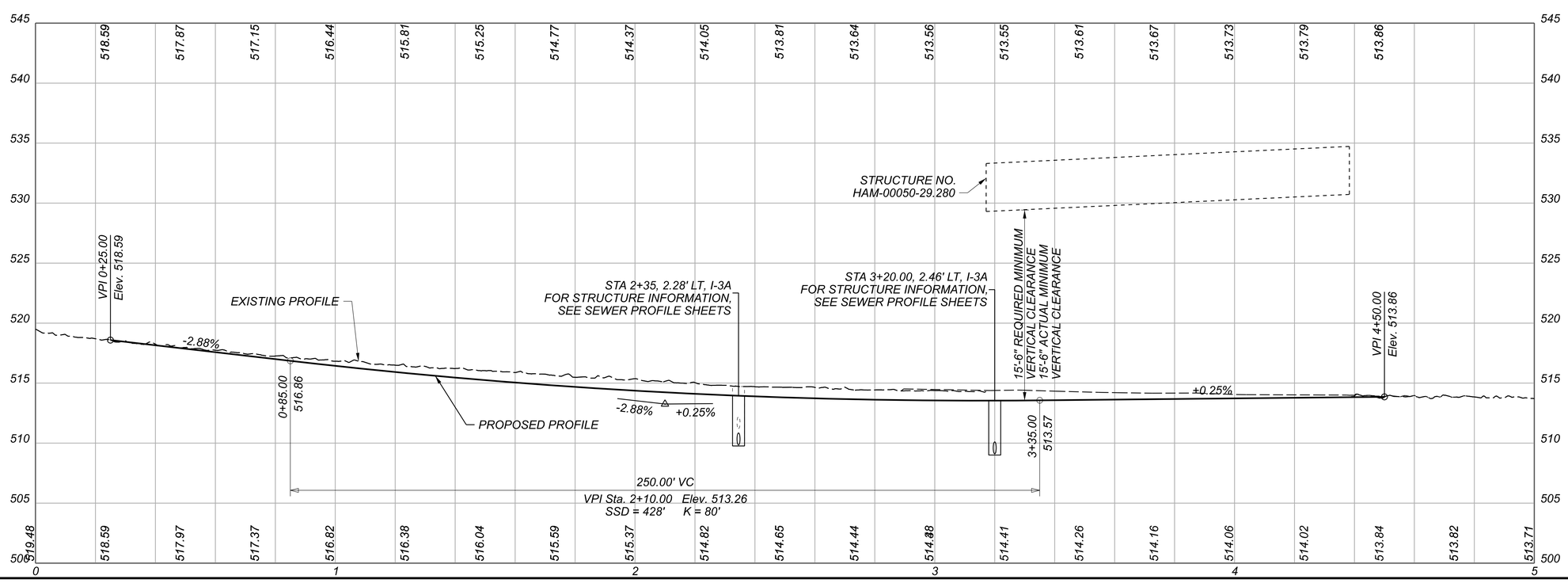
DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.058 TOTAL 208




HAM-US 50-29.00



# PLAN AND PROFILE
# RAMPS M & L

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.071 TOTAL 208

# STRUCTURE GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

| | | |
|---|---|---|
| AS-1-15 | REVISED | 01-20-2023 |
| AS-2-15 | REVISED | 07-21-2023 |
| EXJ-4-87 | REVISED | 07-21-2023 |
| PCB-91 | REVISED | 07-17-2020 |
| SBR-1-20 | REVISED | 07-21-2023 |
| SBR-2-20 | REVISED | 07-21-2023 |
| VPF-1-90 | REVISED | 07-21-2023 |

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

| | | |
|---|---|---|
| 800 | DATED | 10-20-2023 |

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**OPERATIONAL IMPORTANCE:**

A LOAD MODIFIER OF 1.00 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.

**DESIGN LOADING:**

DECK: VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.00KSF
STAY-IN-PLACE (SIP) FORMS OF 0.015KSF

SUPERSTRUCTURE: EXISTING BEAMS - AS LOAD RATED,
VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.00KSF
STAY-IN-PLACE (SIP) FORMS OF 0.015KSF - SPANS 1 AND 2 ONLY

SUBSTRUCTURE: EXISTING SUBSTRUCTURE
VEHICULAR LIVE LOAD: CF 2000 (57)
FUTURE WEARING SURFACE (FWS) OF 0.00KSF

FOUNDATIONS: EXISTING FOUNDATIONS
VEHICULAR LIVE LOAD: CF 2000 (57)
FUTURE WEARING SURFACE (FWS) OF 0.00KSF

**DESIGN DATA:**

CONCRETE CLASS QC3 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT: GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, BRIDGE RAILING, BACKWALLS, WINGWALLS, APPROACH SLABS)

GFRP REINFORCEMENT (BRIDGE RAILING)

**MONOLITHIC WEARING SURFACE:**

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

**PROTECTION OF TRAFFIC:**

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF VEHICULAR TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER AT LEAST 30 DAYS BEFORE DEMOLITION BEGINS. THE CONTRACTOR SHALL ALSO SUBMIT DEMOLITION PLANS IN ACCORDANCE WITH THE NORFOLK SOUTHERN "SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS", AND THE INDIANA & OHIO RAILWAY "CONSTRUCTION SUBMISSION CRITERIA" TO EACH RESPECTIVE RAILROAD COMPANY PRIOR TO STARTING ANY DEMOLITION OPERATIONS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT WILL BE NECESSARY TO ENSURE SUCH PROTECTION. THE CONTRACTOR NEEDS TO ANTICIPATE AT TIME OF BID THAT THE RAILROADS WILL EXPECT FALSEWORK PROTECTION UNDER THE ENTIRE BRIDGE WITHIN THE LIMITS OF THE RAILROAD RIGHT-OF-WAY. ODOT EXPECTS FALSEWORK PROTECTION UNDER THE BRIDGE TO PROTECT RED BANK ROAD USERS. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

**NON-USE OF ASBESTOS-CONTAINING MATERIALS:**

THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

**MAINTENANCE OF TRAFFIC:**

FOR MAINTENANCE OF TRAFFIC NOTES, PERMITTED LANE CLOSURES AND DETAILS, REFER TO MAINTENANCE OF TRAFFIC PLANS.

CLOSE COORDINATION WITH NORFOLK SOUTHERN RAILWAY COMPANY AND INDIANA & OHIO RAILWAY COMPANY WILL BE REQUIRED FOR CONSTRUCTION ACTIVITIES OVER THE TRACKS. IT IS ESSENTIAL THAT THE CONSTRUCTION BE PERFORMED WITH A MINIMUM INTERFERENCE WITH RAIL TRAFFIC. CONTINUINITY OF SAFE RAIL OPERATIONS WILL BE REQUIRED FOR THE DURATION OF THE PROJECT.

**EXISTING STRUCTURE PLANS:**

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 S. STATE ROUTE 741, LEBANON, OH 45036 AND ARE AVAILABLE FOR REFERENCE. EXISTING PLANS HAVE BEEN INCLUDED IN THE REFERENCE FOLDER ON THE OFFICE OF CONTRACTS WEB PAGE FOR DOWNLOAD.

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**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 THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

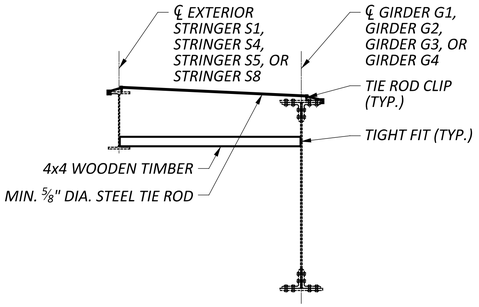
AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.23 KIPS FOR THE LEFT AND RIGHT BRIDGES.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

THE LEFT AND RIGHT BRIDGES REQUIRE TEMPORARY TIMBER BLOCKING AND TENSION TIE ROD SUPPORTS OF THE EXISTING EXTERIOR STRINGER TO PREVENT ROTATION DURING DECK PLACEMENT. THE LOCATIONS OF THE TEMPORARY SUPPORTS ARE SHOWN ON THE LEFT AND RIGHT BRIDGE FRAMING PLAN, SHEETS 25 AND 26 OF 50 , RESPECTIVELY. SEE TEMPORARY SUPPORT DETAIL BELOW FOR ADDITIONAL DETAILS. THE STEEL TIE ROD SHALL BE GALVANIZED AND HAVE A MINIMUM TENSILE STRENGTH OF 105 KSI. THE TIE ROD CLIP SHALL BE A GAMCO BH-85 TYPE 1 TIE BAR HANGER WITH INTERLOCK END, OR AN APPROVED EQUAL.




## TEMPORARY SUPPORT DETAIL

(LEFT BRIDGE OUTSIDE SHOWN, OTHER LOCATIONS SIMILAR)

ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO PROVIDE TEMPORARY SUPPORT OF THE EXISTING STRINGERS AS SHOWN IN THE PLANS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE FOR PAYMENT.

**CONSTRUCTION CLEARANCE:**

MAINTAIN A CONSTRUCTION CLEARANCE OF 14 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 22 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL, AND 6 FEET FROM THE CENTER OF TRACKS, AT ALL TIMES.

**NORFOLK SOUTHERN RAILROAD COORDINATION:**

ALL WORK TO BE PERFORMED ON, OVER, UNDER, OR ADJACENT TO THE RAILROAD RIGHT-OF-WAY SHALL COMPLY WITH THE NORFOLK SOUTHERN RAILWAY COMPANY ("RAILROAD", "NSR", OR "NS") PUBLIC PROJECTS MANUAL (APPENDIX E, SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS, AND APPENDIX H1, OVERHEAD GRADE SEPARATION DESIGN CRITERIA). WHEN IN CONFLICT WITH OTHER PROJECT SPECIFICATIONS, THE MOST STRINGENT ONE SHALL APPLY.

SEE NS PUBLIC PROJECTS MANUAL, APPENDIX E, SECTIONS 2 AND 3, AND APPENDIX H1, SECTIONS 8.F AND 8.G:

THE CONTRACTOR SHALL NOT COMMENCE ANY WORK ON RAILROAD RIGHTS-OF-WAY UNTIL HE HAS MET THE CONDITIONS PRESENTED IN NS PUBLIC PROJECTS MANUAL (SEE APPENDIX E, NORFOLK SOUTHERN - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS).

THE CONTRACTOR SHALL SO ARRANGE AND CONDUCT HIS WORK THAT THERE WILL BE NO INTERFERENCE WITH RAILROAD'S OPERATIONS. WHENEVER WORK IS LIABLE TO AFFECT THE OPERATIONS OR SAFETY OF TRAINS, THE METHODS OF DOING SUCH WORK SHALL FIRST BE SUBMITTED TO THE RAILROAD ENGINEER FOR APPROVAL, BUT SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM ANY LIABILITY. RIGHT-OF-WAY AND/OR SECURITY FENCE SHALL BE PROVIDED AS DIRECTED BY THE NS PUBLIC PROJECT ENGINEER.

"ONE CALL" SERVICES DO NOT LOCATE BURIED NORFOLK SOUTHERN SIGNALS AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE SEVEN (7) DAYS IN ADVANCE OF WORK AT THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE THE RAILROAD'S UNDERGROUND FACILITIES. UPON REQUEST FROM THE CONTRACTOR OR SPONSOR, RAILROAD SIGNAL FORCES WILL LOCATE AND PAINT MARK OR FLAG THE RAILROAD'S UNDERGROUND FACILITIES IN THE AREA TO BE DISTURBED FOR THE CONTRACTOR. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE LINES WHICH ARE CRITICAL TO THE SAFETY OF THE RAILROAD AND THE PUBLIC. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD FACILITY, THE LINE SHALL BE POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION BY THE CONTRACTOR AND PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF THE RAILROAD'S REPRESENTATIVE.

RAILROAD PROTECTIVE SERVICES WILL LIKELY BE REQUIRED FOR MUCH OF THE WORK AT THE TRACK LEVEL. THE CONTRACTOR WILL BE RESPONSIBLE FOR SECURING RAILROAD PROTECTIVE SERVICE PERSONNEL FROM A THIRD-PARTY PROVIDER APPROVED BY THE NS RAILROAD AND THE SPONSOR.

ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO AECOM FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO:
www.nscorp.com > real estate > ns services > wire, pipeline, and fiber optics projects
NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED.

FOR PROJECTS EXCEEDING 30 DAYS OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE THE RAILROAD PROTECTIVE SERVICES PERSONNEL A SMALL WORK AREA WITH A DESK/COUNTER AND CHAIR WITHIN THE FIELD/SITE TRAILER, INCLUDING THE USE OF BATHROOM FACILITIES, WHERE THE RAILROAD PROTECTIVE SERVICES PERSONNEL CAN CHECK IN/OUT WITH THE PROJECT, AS WELL AS TO THE RAILROAD PROTECTIVE SERVICES PERSONNEL'S HOME TERMINAL. THE WORK AREA SHOULD PROVIDE ACCESS TO TWO (2) ELECTRICAL OUTLETS FOR RECHARGING RADIO(S), AND A LAPTOP COMPUTER; AND HAVE THE ABILITY TO PRINT OFF NEEDED DOCUMENTATION AND ORDERS AS NEEDED AT THE FIELD/SITE TRAILER. THIS SHOULD AID IN MAXIMIZING THE RAILROAD PROTECTIVE SERVICES PERSONNEL'S TIME AND EFFICIENCY ON THE PROJECT.

THE FOLLOWING CONTACT INFORMATION SHALL BE USED FOR COORDINATION WITH NS RAILROAD:
ELDRIDGE CHAMBERS
PUBLIC IMPROVEMENTS ENGINEER
NORFOLK SOUTHERN CORPORATION
650 WEST PEACHTREE STREET, NW, BOX 45
ATLANTA, GA 30308
(470) 463-6307 (OFFICE)
eldridge.chambers@nscorp.com

**INDIANA & OHIO RAILROAD COORDINATION:**

CONTRACTOR TO NOTIFY G&W PUBLIC PROJECTS DEPARTMENT 30 DAYS PRIOR TO STARTING CONSTRUCTION.

G&W FLAGGING SERVICES WILL BE REQUIRED FOR ALL WORK WITHIN G&W RIGHT-OF-WAY OR ANY WORK THAT HAS A "POTENTIAL TO FOUL".

THE CONTRACTOR MUST NOT USE THE RAILROAD RIGHT-OF-WAY FOR STORAGE OF MATERIALS OR EQUIPMENT DURING CONSTRUCTION. THE RAILROAD'S RIGHT-OF-WAY MUST REMAIN CLEAR AT ALL TIMES. THE CONTRACTOR MUST PLAN AND PERFORM THE WORK IN A MANNER SUCH THAT THE RAILROAD TRACKS AT THE PROJECT LOCATION REMAIN FULLY CAPABLE OF OPERATING RAIL TRAFFIC THROUGHOUT THE WORK PERIOD AND RAIL TRAFFIC IS NOT DELAYED OR OTHERWISE IMPACTED DUE TO THE WORK BEING PERFORMED.

ALL WORK PERFORMED ON, ABOVE, OR ADJACENT TO RAILROAD PROPERTY SHALL BE IN ACCORDANCE WITH THE PUBLIC PROJECT MANUAL, CURRENT EDITION. WORK PLANS SHALL BE SUBMITTED FOR REVIEW TO THE RAILROAD FOR TASKS RELATED TO SITE ACCESS, SOIL AND WATER MANAGEMENT, BALLAST PROTECTION, DEMOLITION, CONTAINMENT, CONCRETE FORMWORK, AND ALL OTHER WORK THAT POTENTIALLY AFFECTS RAILROAD PROPERTY OR OPERATIONS. ALL WORK PLANS SHALL BE PREPARED AND SUBMITTED TO THE RAILROAD IN ADHERENCE WITH THE PUBLIC PROJECT MANUAL, SECTION 1.11 CONSTRUCTION SUBMISSION CRITERIA.

THE CONTRACTOR WILL BE REQUIRED TO REACH OUT TO G&W REAL ESTATE FOR AN ROE APPLICATION AND AGREEMENT FOR WORK TO TAKE PLACE ON THE G&W ROW. HERE IS THE WEBSITE FOR ROE INFORMATION:
https://www.gwrr.com/real_estate/accessing_property

**RAILROAD PROJECT COORDINATION:**

THE CONTRACTOR SHALL PERFORM ONGOING COORDINATION OF THEIR DESIGN AND CONSTRUCTION ACTIVITIES WITH THE RAILROAD(S) THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL PROVIDE A CURRENT SCHEDULE ON A MONTHLY BASIS INCLUDING ANTICIPATED DATES OF THE FOLLOWING ITEMS:

1. CONSTRUCTION SUBMITTALS REQUIRING RAILROAD REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION (PER THE RAIL AGREEMENT(S)).
2. CONSTRUCTION START AND END DATES FOR WORK THAT MAY CREATE AN IMPACT TO THE RAIL FACILITY/OPERATIONS.
3. ANTICIPATED DATES AND DURATIONS FOR FLAGGERS.
4. ANY OTHER MILESTONES THAT MAY IMPACT RAIL FACILITIES OR OPERATIONS.

MEANS AND METHODS: THE CONTRACTOR SHALL DEVELOP A DETAILED SUBMISSION INDICATING THE PROGRESSION OF WORK WITH SPECIFIC TIMES WHEN TASKS WILL BE PERFORMED FOR WORK ACTIVITIES THAT ARE ON OR IN THE VICINITY OF THE RAILROAD PROPERTY. THIS SUBMISSION MAY REQUIRE A WALKTHROUGH AT WHICH TIME THE RAILROAD AND/OR THEIR REPRESENTATIVE WILL BE PRESENT. WORK WILL NOT BE PERMITTED TO COMMENCE UNTIL THE CONTRACTOR HAS PROVIDED THE RAILROADS WITH A SATISFACTORY PLAN THAT THE PROJECT WILL BE UNDERTAKEN WITHOUT SCHEDULING, PERFORMANCE, OR SAFETY RELATED ISSUES. PROVIDE A LIST OF THE ANTICIPATED EQUIPMENT TO BE USED, THE LOCATION OF ALL EQUIPMENT TO BE USED, AND ENSURE A CONTINGENCY PLAN OF ACTION IS IN PLACE SHOULD A PRIMARY PIECE OF EQUIPMENT MALFUNCTION. ALL WORK IN THE VICINITY OF THE RAILROAD PROPERTY THAT HAS THE POTENTIAL OF AFFECTING TRAIN OPERATIONS MUST BE SUBMITTED AND APPROVED BY THE RAILROAD PRIOR TO WORK BEING PERFORMED. THIS SUBMISSION WILL ALSO INCLUDE A DETAILED NARRATIVE DISCUSSING THE COORDINATION OF PROJECT SAFETY ISSUES BETWEEN THE CONTRACTOR AND THE RAILROAD AND/OR THEIR REPRESENTATIVE. THE NARRATIVE SHALL ADDRESS PROJECT LEVEL COORDINATION AND DAY TO DAY, SPECIFIC WORK OPERATIONS INCLUDING CRANE AND EQUIPMENT OPERATIONS, ERECTION PLANS, AND TEMPORARY WORKS.

UP TO SIXTY (60) CALENDAR DAYS WILL BE REQUIRED TO REVIEW ALL CONSTRUCTION SUBMISSIONS. UP TO AN ADDITIONAL SIXTY (60) CALENDAR DAYS WILL BE REQUIRED TO REVIEW ANY SUBSEQUENT SUBMISSIONS RETURNED NOT APPROVED.

CONSTRUCTION SCHEDULE: SUBMIT A DETAILED CONSTRUCTION SCHEDULE FOR THE DURATION OF THE PROJECT CLEARLY INDICATING THE TIME PERIODS WHILE WORKING ON AND AROUND THE RAILROAD'S RIGHT-OF-WAY. AS THE WORK PROGRESSES, THIS SCHEDULE SHALL BE UPDATED MONTHLY AND RESUBMITTED AS NECESSARY TO REFLECT CHANGES IN WORK SEQUENCE, DURATION, AND METHOD, ETC.

GENERAL NOTES - 1
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 8 | TOTAL 50
SHEET P.122 | TOTAL 208

HAM-US 50-29.00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**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE (CONTINUED):**
**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN (CONTINUED):**

FABRICATE THE SIP FORMING SYSTEM ACCORDING TO ITEM 513 EXCEPT THAT FABRICATOR PRE-QUALIFICATION IS NOT REQUIRED. SUBMIT MILL TEST REPORTS FOR THE SIP FORMS ACCORDING TO 501.06. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE SIP FORMS ACCORDING TO 513.06. FURNISH FORM MATERIALS CONFORMING TO ASTM A653 WITH G235 COATING WEIGHT WITH A MINIMUM THICKNESS OF 20 GAGE. HOT DIP GALVANIZE ALL HARDWARE, HANGERS, AND INCIDENTALS.

DO NOT WELD SIP FORMS OR THEIR SUPPORTS TO THE STEEL BRIDGE MEMBERS.

ACHIEVE A ONE-INCH MINIMUM BEARING LENGTH ON ALL SUPPORTS OF A FLUTE.

PLACE CONCRETE ACCORDING TO THE CONTRACT SPECIFICATIONS:
-FILL THE ENTIRE FORM WITH DECK CONCRETE.
-UTILIZE PROPER CONSTRUCTION TECHNIQUES TO PREVENT VOIDS AND HONEYCOMBS ESPECIALLY AT ENDS OF SIP FORM SHEETS.

INSTALL SIP FORMS ACCORDING TO THESE NOTES:

1. PROVIDE THE ENGINEER WITH A WRITTEN INSTALLATION AND INSPECTION PROCEDURE. INCLUDE METHODS FOR ADJUSTING SUPPORT HEIGHTS, SIP ATTACHMENT SEQUENCE, PLACEMENT METHODS USED TO MINIMIZE COATING DAMAGE, COATING REPAIR METHODS, ACCEPTABLE TOLERANCES, AND INSPECTION CRITERIA.
2. FIELD CUT SIP FORMS USING MECHANICAL CUTTING METHODS. THERMAL CUTTING IS NOT PERMITTED.
3. PLACE FORM SUPPORTS IN DIRECT CONTACT WITH THE TOP OF THE BRIDGE'S STRUCTURAL MEMBERS.
4. SET THE HEIGHT OF THE FORM SUPPORTS SO SIP FORMS DO NOT REST DIRECTLY ON THE BRIDGE'S STRUCTURAL MEMBERS AND TO DEVELOP THE SPECIFIED DECK THICKNESS.
5. PLACE THE SIP FORMS DIRECTLY ON THE SUPPORTS.
6. CONNECT SIP FORMS TO SUPPORTS BEFORE USING THE SIP AS A WORKING SURFACE AND BEFORE THE END OF EACH WORK SHIFT.
7. PROVIDE SAFETY STOPS TO ELIMINATE HAZARDS FROM SUDDEN UPLIFT AND LATERAL MOVEMENT.

IN ADDITION TO THE REQUIREMENTS OF 105.10, FURNISH, ERECT, AND MOVE APPROPRIATE EQUIPMENT OR SCAFFOLDING TO ALLOW THE FOLLOWING INSPECTION ACCESS. PROVIDE COMPLETED INSPECTION CHECK LISTS TO DOCUMENT THE FOLLOWING INSPECTIONS:

1. PRIOR TO PLACING CONCRETE, VISUALLY INSPECT SIP FORMS FOR DAMAGE.
2. TWO DAYS AFTER CONCRETE PLACEMENT, TEST DECK FOR SOUNDNESS OR BONDING OF THE FORMS BY SOUNDING ON THE FORMS WITH A HAMMER. SOUND ALL SURFACES OR AT LEAST 10% OF THE PANELS WITH THE ENGINEER.
3. REMOVE SIP FORMS IN AREAS WITH DOUBTFUL SOUNDNESS OR BONDING FOR THE ENGINEER'S VISUAL INSPECTION. DO NOT REPLACE SIP FORMS REMOVED FOR INSPECTION. REMOVE FORMS SO THAT ADJACENT FORMS OR WORK IS NOT DEBONDED OR OTHERWISE DAMAGED.
4. IF DEFECTS ARE DISCOVERED DURING THE SPECIFIED INSPECTIONS, TEST THE COMPLETE DECK AND PROPOSE REPAIR OR REMOVAL METHODS ACCEPTABLE TO THE DEPARTMENT. THE DEPARTMENT MAY REQUIRE ADVANCED NON-DESTRUCTIVE TESTING METHODS SUCH AS GROUND PENETRATING RADAR TO VERIFY THE DECK CONDITION ACCORDING TO 105.11.

FURNISH GALVANIZED STEEL REINFORCEMENT 709.16 IN LIEU OF EPOXY COATED STEEL REINFORCEMENT FOR REINFORCED CONCRETE APPROACH SLABS.

ALL LABOR, MATERIALS AND INCIDENTALS FOR THE FABRICATION, DESIGN, AND INSTALLATION OF THE SIP FORMS SHALL BE INCLUDED WITH ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE FOR PAYMENT.

**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE BRIDGE RAILING:**

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

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

| | |
|---|---|
| PORTLAND CEMENT CONCRETE | 499.03, CLASS QC3 MEETING A DESIGN STRENGTH OF 4,500 PSI WITH MACRO-SYNTHETIC FIBERS AND WITH MODIFICATION PER 511.02 |
| FIBERS FOR CONCRETE | ASTM C1116, TYPE III |
| CORROSION INHIBITOR | 515.15 |
| LIGHTWEIGHT AGGREGATE | ASTM C3300 |

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE RAILING SHALL MEET THE FOLLOWING CRITERIA:
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 INCHES MIN. TO 2.5 INCHES MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX. THE FINAL CONCRETE MIX SHALL HAVE A MAXIMUM DRY WEIGHT OF 120 LBS/CF WITH THE LIGHTWEIGHT AGGREGATE MEETING THE REQUIREMENTS OF ASTM C330.

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 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 CO-POLYMERS 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, AN ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'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 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. 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. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. 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 3/4 OF 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.

**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, SUPERSTRUCTURE BRIDGE RAILING (CONTINUED):**

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 AN 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 AFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

THIS LIGHTWEIGHT CONCRETE WILL ONLY BE USED ON THE SUPERSTRUCTURE RAILING AND NOT ON THE RAILINGS ON ANY APPROACH SLAB OR ABUTMENT BACKWALL. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

**ITEM 514 - SURFACE PREPARATION OF EXISTING STEEL:**
**ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN:**
**ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN:**
**ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:**

NO SPECIFIC AREAS HAVE BEEN DESIGNATED IN THE PLANS THAT WILL REQUIRE PAINTING. HOWEVER, AN ESTIMATED QUANTITY OF 100 SF HAS BEEN PROVIDED IF THE ENGINEER DETERMINES AN AREA REQUIRES PAINTING. THE CONTRACTOR MUST RECEIVE APPROVAL FROM THE ENGINEER BEFORE PERFORMING THIS WORK.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK.

EXISTING STEEL AREAS SHALL RECEIVE A PRIME, INTERMEDIATE, AND FINISH COAT APPLIED IN THE FIELD. PROPOSED STEEL, IF APPLICABLE, SHALL BE SHOP PRIMED AND RECEIVE AN INTERMEDIATE AND FINISH COAT APPLIED IN THE FIELD.

THE FINISH COAT SHALL MATCH THE EXISTING BEAM'S COLOR. OBTAIN THE ENGINEER'S APPROVAL OF PAINT COLOR BEFORE APPLYING FINISH COAT.

PRIOR TO THE START OF WORK ON THE STRUCTURE, THE CONTRACTOR SHALL DOCUMENT THE EXISTING CONDITION OF THE PAINTED STRUCTURE TO IDENTIFY AREAS PREVIOUSLY DAMAGED THAT ARE OUTSIDE THE LIMITS OF THE CURRENT PAY ITEMS. PAINTED AREAS THAT WERE NOT PREVIOUSLY DAMAGED THAT RECEIVE DAMAGE BY THE CONTRACTOR'S ACTIVITIES ONCE WORK BEGINS WILL BE REPAIRED AT THE CONTRACTOR'S COST.

**ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:**

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

**ITEM SPECIAL - STRUCTURES: SITE ACCESS:**

THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO ACCESS THE BRIDGE, INCLUDING BUT NOT LIMITED TO, COORDINATION WITH THE RAILROAD(S) ON THEIR REQUIREMENTS OF A TEMPORARY GRADE CROSSING AT THEIR TRACKS, ANY CLEARING AND GRUBBING REQUIRED TO GAIN ACCESS THAT IS NOT ACCOUNTED FOR IN OTHER WORK ITEMS, AND THE INSTALLATION, MAINTENANCE, AND REMOVAL OF RAILROAD TEMPORARY GRADE CROSSINGS. THIS ITEM ALSO INCLUDES REPAIR OF OLD RED BANK ROAD TO BE DONE AS DIRECTED BY THE ENGINEER, AND THE REPLACEMENT OF ANY EXISTING ROAD FEATURES, TO THE SATISFACTION OF THE ENGINEER, THAT ARE DAMAGED DUE TO THE CONTRACTOR'S CHOSEN SITE ACCESS.

**ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN:**

WITH PRIOR APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REDRESS THE SLOPES WITH THE EXISTING CRUSHED AGGREGATE. WHERE ADDITIONAL MATERIAL IS REQUIRED, FURNISH AND PLACE CRUSHED AGGREGATE IN ACCORDANCE WITH CMS 601. AN ESTIMATED QUANTITY OF 100 SQUARE YARDS HAS BEEN INCLUDED FOR THIS WORK. ACTUAL QUANTITIES OF SLOPE TO BE REDRESSED AND NEW MATERIAL TO BE PLACED SHALL BE AS DIRECTED BY THE ENGINEER.

**ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN:**

THE STANDARD DRAWING VPF-1-90 SHALL BE FOLLOWED CONCERNING THE VANDAL PROTECTION FENCE EXCEPT FOR THE FOLLOWING:

THE FABRIC SHALL CONSIST OF A 1 INCH DIAMOND MESH USING 0.148 INCH DIAMETER (9 GAGE) WIRE CONFORMING TO ASTM F668 CLASS 2A OR 2B.

**ITEM SPECIAL - AS-BUILT CONSTRUCTION PLANS:**

ALL NECESSARY CHANGES TO THE RAILROAD TRACK CLEARANCES (VERTICAL AND HORIZONTAL) AND DEPTH, SIZE, AND LOCATION OF FOUNDATION COMPONENTS MADE IN THE FIELD TO THIS CONSTRUCTION PLAN SHALL BE CAREFULLY DOCUMENTED AND PRESENTED TO EACH RAILROAD COMPANY AT THE CONCLUSION OF THE PROJECT. THEREFORE, STRICT ADHERENCE TO THE PLANS IS IN THE BEST INTEREST OF ALL PARTIES. HOWEVER, IF CHANGES MUST BE MADE IN THE FIELD, THE CONTRACTOR SHALL CAREFULLY AND CLEARLY RECORD THEM. AT THE CONCLUSION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT THESE CHANGES (IF ANY) TO THE PROJECT ENGINEER IN A DOCUMENT SIGNED, DATED, AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER OR SURVEYOR IN THE STATE OF OHIO. THE PROJECT ENGINEER SHALL SUBMIT THE COMPLETED DOCUMENT TO EACH RAILROAD COMPANY.

ALL LABOR, MATERIALS, EQUIPMENT, AND OTHER INCIDENTALS NECESSARY TO PERFORM THIS WORK SHALL BE INCLUDED IN ITEM SPECIAL - AS-BUILT CONSTRUCTION PLANS FOR PAYMENT.

**ABBREVIATONS:**

| | |
|---|---|
| CONST. | CONSTRUCTION |
| DIA. | DIAMETER |
| DIM. | DIMENSION |
| E.F. | EACH FACE |
| EL. | ELEVATION |
| EX. | EXISTING |
| EXP. | EXPANSION |
| F.F. | FAR FACE |
| FIX. | FIXED |
| FT. | FOOT/FEET |
| H.P. | HIGH PRESSURE |
| INV. | INVERT |
| L.F. | LEFT FORWARD |
| LT. | LEFT |
| MAX. | MAXIMUM |
| MIN. | MINIMUM |
| N.F. | NEAR FACE |
| P.E.J.F. | PREFORMED EXPANSION JOINT FILLER |
| PT. | POINT |
| R.F. | RIGHT FORWARD |
| RT. | RIGHT |
| SPA. | SPACING/SPACES |
| STA. | STATION |
| TYP. | TYPICAL |

# GENERAL NOTES - 3

BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

| DESIGNER | CHECKER |
|---|---|
| ZTW | RSB |

REVIEWER
NFF 08/22/23

PROJECT ID
110570

| SUBSET | TOTAL |
|---|---|
| 10 | 50 |

| SHEET | TOTAL |
|---|---|
| P.124 | 208 |

HAM-US 50-29.00

MODEL: Sheet - 3 PAPERSIZE: 34x22 (in.) DATE: 1/24/2024 TIME: 9:30:49 AM USER: hidegeorge
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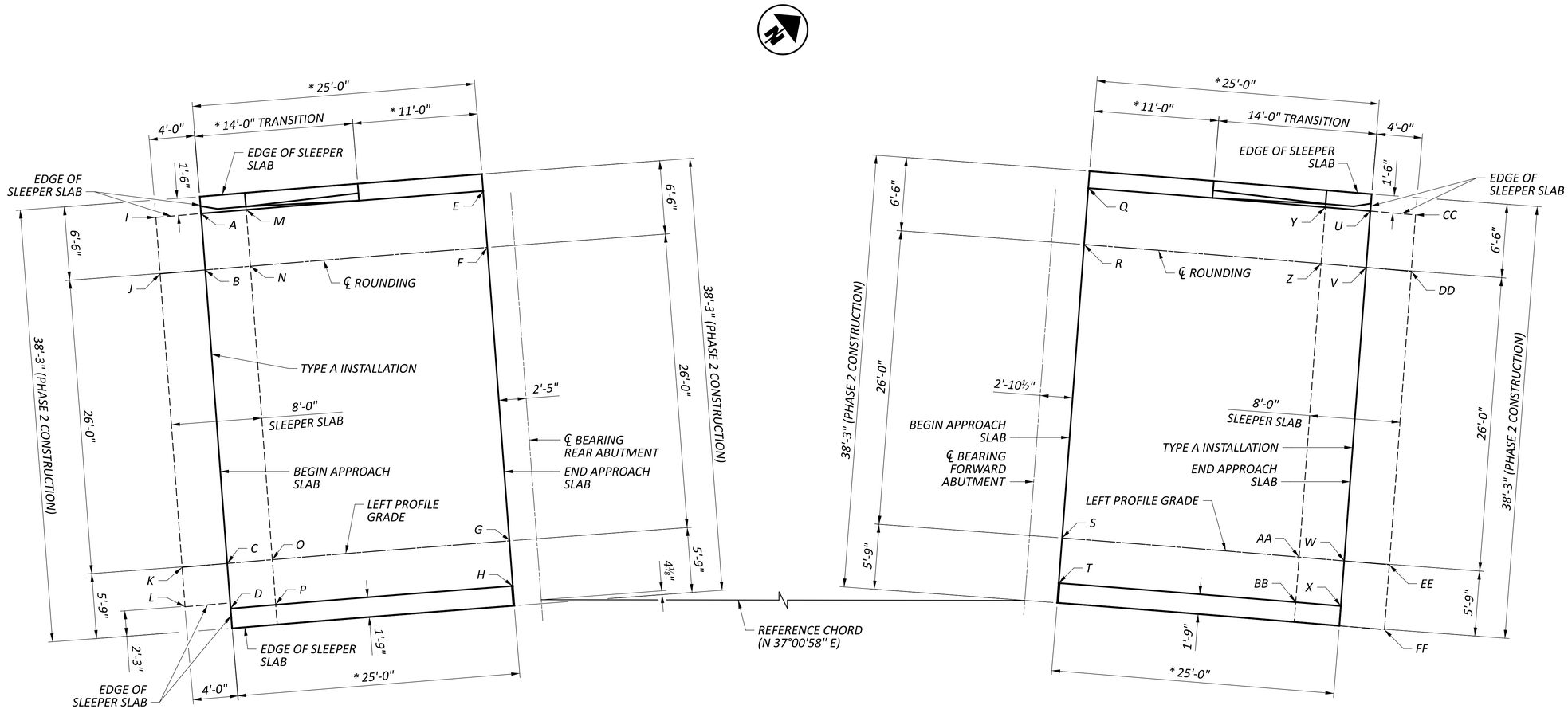



*LEFT BRIDGE*
*REAR APPROACH SLAB PLAN*

*LEFT BRIDGE*
*FORWARD APPROACH SLAB PLAN*

## *REAR APPROACH SLAB LOCATIONS*

| *APPROACH SLAB SURFACE ELEVATIONS* | | | | *SLEEPER SLAB ELEVATIONS* | | | |
|---|---|---|---|---|---|---|---|
| | *STATION* | *OFFSET* | *ELEVATION* | | *STATION* | *OFFSET* | *ELEVATION* |
| *A* | *94+18.09* | *36.36' LT.* | *548.53* | *I* | *94+14.14* | *36.36' LT.* | *547.33* |
| *B* | *94+18.05* | *31.36' LT.* | *548.69* | *J* | *94+14.09* | *31.36' LT.* | *547.49* |
| *C* | *94+17.84* | *5.36' LT.* | *547.52* | *K* | *94+13.84* | *5.36' LT.* | *546.31* |
| *D* | *94+17.80* | *1.36' LT.* | *547.33* | *L* | *94+13.81* | *1.86' LT.* | *546.15* |
| *E* | *94+42.77* | *36.40' LT.* | *548.23* | *M* | *94+22.04* | *36.37' LT.* | *547.24* |
| *F* | *94+42.78* | *31.40' LT.* | *548.39* | *N* | *94+22.00* | *31.37' LT.* | *547.39* |
| *G* | *94+42.79* | *5.40' LT.* | *547.21* | *O* | *94+21.83* | *5.37' LT.* | *546.22* |
| *H* | *94+42.79* | *1.40' LT.* | *547.02* | *P* | *94+21.80* | *1.37' LT.* | *546.03* |

## *FORWARD APPROACH SLAB LOCATIONS*

| *APPROACH SLAB SURFACE ELEVATIONS* | | | | *SLEEPER SLAB ELEVATIONS* | | | |
|---|---|---|---|---|---|---|---|
| | *STATION* | *OFFSET* | *ELEVATION* | | *STATION* | *OFFSET* | *ELEVATION* |
| *Q* | *98+76.03* | *36.76' LT.* | *542.71* | *Y* | *98+96.77* | *36.76' LT.* | *541.18* |
| *R* | *98+76.05* | *31.76' LT.* | *542.86* | *Z* | *98+96.82* | *31.76' LT.* | *541.34* |
| *S* | *98+76.11* | *5.76' LT.* | *541.68* | *AA* | *98+97.07* | *5.76' LT.* | *540.16* |
| *T* | *98+76.12* | *1.76' LT.* | *541.50* | *BB* | *98+97.10* | *1.76' LT.* | *539.97* |
| *U* | *99+00.72* | *36.76' LT.* | *542.38* | *CC* | *99+04.67* | *36.76' LT.* | *541.08* |
| *V* | *99+00.77* | *31.76' LT.* | *542.53* | *DD* | *99+04.73* | *31.76' LT.* | *541.23* |
| *W* | *99+01.06* | *5.76' LT.* | *541.35* | *EE* | *99+05.05* | *5.76' LT.* | *540.05* |
| *X* | *99+01.10* | *1.76' LT.* | *541.16* | *FF* | *99+05.12* | *0.01' LT.* | *539.86* |

## *LEGEND:*

* *MEASURED ALONG EDGE OF APPROACH SLAB*

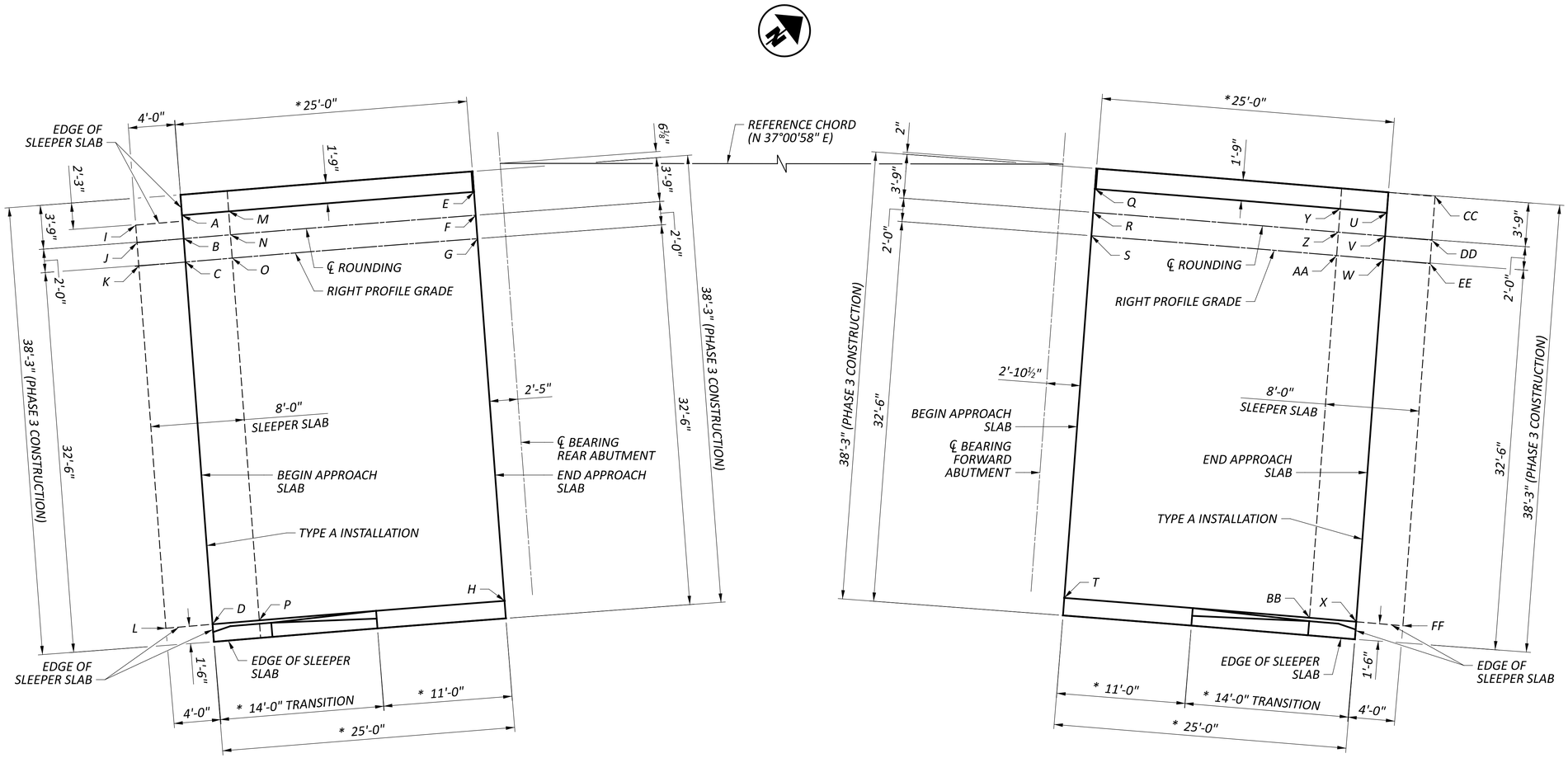
## *NOTES:*

1. *FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15''), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.*
2. *FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.*
3. *FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 42 THROUGH 44 OF 50.*
4. *FOR ROUNDING DETAIL, SEE SHEET 37 OF 50.*

LEFT BRIDGE APPROACH SLAB
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER GJZ | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 46 | TOTAL 50
SHEET P.160 | TOTAL 208

HAM-US 50-29.00




*RIGHT BRIDGE*
*REAR APPROACH SLAB PLAN*

*RIGHT BRIDGE*
*FORWARD APPROACH SLAB PLAN*

## REAR APPROACH SLAB LOCATIONS

| | APPROACH SLAB SURFACE ELEVATIONS | | | | SLEEPER SLAB ELEVATIONS | | |
|---|---|---|---|---|---|---|---|
| | STATION | OFFSET | ELEVATION | | STATION | OFFSET | ELEVATION |
| A | 94+17.77 | 2.30' RT. | 547.05 | I | 94+13.77 | 2.81' RT. | 545.86 |
| B | 94+17.76 | 4.30' RT. | 547.08 | J | 94+13.75 | 4.31' RT. | 545.88 |
| C | 94+17.74 | 6.30' RT. | 547.03 | K | 94+13.73 | 6.31' RT. | 545.83 |
| D | 94+17.48 | 37.30' RT. | 545.58 | L | 94+13.43 | 37.31' RT. | 544.38 |
| E | 94+42.79 | 2.27' RT. | 546.75 | M | 94+21.78 | 2.30' RT. | 545.75 |
| F | 94+42.80 | 4.27' RT. | 546.78 | N | 94+21.76 | 4.30' RT. | 545.79 |
| G | 94+42.80 | 6.27' RT. | 546.73 | O | 94+21.75 | 6.30' RT. | 545.73 |
| H | 94+42.81 | 37.27' RT. | 545.28 | P | 94+21.54 | 37.30' RT. | 544.28 |

## FORWARD APPROACH SLAB LOCATIONS

| | APPROACH SLAB SURFACE ELEVATIONS | | | | SLEEPER SLAB ELEVATIONS | | |
|---|---|---|---|---|---|---|---|
| | STATION | OFFSET | ELEVATION | | STATION | OFFSET | ELEVATION |
| Q | 98+76.13 | 1.91' RT. | 541.16 | Y | 98+97.14 | 1.91' RT. | 539.62 |
| R | 98+76.13 | 3.91' RT. | 541.19 | Z | 98+97.16 | 3.91' RT. | 539.65 |
| S | 98+76.14 | 5.91' RT. | 541.14 | AA | 98+97.18 | 5.91' RT. | 539.60 |
| T | 98+76.21 | 36.91' RT. | 539.69 | BB | 98+97.48 | 36.91' RT. | 538.14 |
| U | 99+01.14 | 1.91' RT. | 540.81 | CC | 99+05.12 | 0.16' RT. | 539.50 |
| V | 99+01.16 | 3.91' RT. | 540.85 | DD | 99+05.17 | 3.91' RT. | 539.54 |
| W | 99+01.19 | 5.91' RT. | 540.80 | EE | 99+05.20 | 5.91' RT. | 539.49 |
| X | 99+01.54 | 36.91' RT. | 539.33 | FF | 99+05.59 | 36.91' RT. | 538.03 |

## *LEGEND:*

* *MEASURED ALONG EDGE OF APPROACH SLAB*

## *NOTES:*

1. *FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.*
2. *FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.*
3. *FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 42 THROUGH 44 OF 50.*
4. *FOR ROUNDING DETAIL, SEE SHEET 37 OF 50 .*

RIGHT BRIDGE APPROACH SLAB
BRIDGE NO. HAM-00050-29.100
US-50 OVER NSRR, IORY, DUCK CREEK, & RED BANK ROAD

SFN 3103811

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE., E., STE 1000
CLEVELAND, OHIO 44114

| DESIGNER | CHECKER |
|---|---|
| GJZ | TOR |

REVIEWER NFF 08/22/23

PROJECT ID 110570

| SUBSET | TOTAL |
|---|---|
| 47 | 50 |

| SHEET | TOTAL |
|---|---|
| P.161 | 208 |

HAM-US 50-29.00

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# STRUCTURE GENERAL NOTES

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

| | | |
|---|---|---|
| AS-1-15 | REVISED | 01-20-2023 |
| AS-2-15 | REVISED | 07-21-2023 |
| PCB-91 | REVISED | 07-17-2020 |
| SBR-1-20 | REVISED | 07-21-2023 |
| SBR-2-20 | REVISED | 07-21-2023 |
| SICD-2-14 | REVISED | 01-15-2021 |

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

| | | |
|---|---|---|
| 800 | DATED | 10-20-2023 |

**DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO THE REQUIREMENTS OF THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**OPERATIONAL IMPORTANCE:**

A LOAD MODIFIER OF 1.00 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.

**DESIGN LOADING:**

| | |
|---|---|
| DECK: | VEHICULAR LIVE LOAD: HL-93<br>FUTURE WEARING SURFACE (FWS) OF 0.00KSF |
| SUPERSTRUCTURE: | EXISTING BEAMS - AS LOAD RATED,<br>VEHICULAR LIVE LOAD: HL-93<br>FUTURE WEARING SURFACE (FWS) OF 0.00KSF |
| SUBSTRUCTURE: | EXISTING SUBSTRUCTURE<br>VEHICULAR LIVE LOAD: CF 2000 (57)<br>FUTURE WEARING SURFACE (FWS) OF 0.00KSF |
| FOUNDATIONS: | EXISTING FOUNDATIONS<br>VEHICULAR LIVE LOAD: CF 2000 (57)<br>FUTURE WEARING SURFACE (FWS) OF 0.00KSF |

**DESIGN DATA:**

CONCRETE CLASS QC3 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT: GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, BRIDGE RAILING, DIAPHRAGM, WINGWALLS, APPROACH SLABS)

GFRP REINFORCEMENT (BRIDGE RAILING)

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

**MONOLITHIC WEARING SURFACE:**

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

**PROTECTION OF TRAFFIC:**

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE, SUBMIT PLANS FOR THE PROTECTION OF VEHICULAR TRAFFIC ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER AT LEAST 30 DAYS BEFORE DEMOLITION BEGINS. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT WILL BE NECESSARY TO ENSURE SUCH PROTECTION. ALL COSTS ASSOCIATED WITH THIS TRAFFIC PROTECTION WILL BE INCLUDED WITH ITEM 202 FOR PAYMENT.

**MAINTENANCE OF TRAFFIC:**

FOR MAINTENANCE OF TRAFFIC NOTES, PERMITTED LANE CLOSURES AND DETAILS, REFER TO MAINTENANCE OF TRAFFIC PLANS.

**EXISTING STRUCTURE PLANS:**

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE, 505 S. STATE ROUTE 741, LEBANON, OH 45036 AND ARE AVAILABLE FOR REFERENCE. EXISTING PLANS HAVE BEEN INCLUDED IN THE REFERENCE FOLDER ON THE OFFICE OF CONTRACTS WEB PAGE FOR DOWNLOAD.

**EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**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 THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.58 KIPS FOR THE LEFT AND RIGHT BRIDGES.

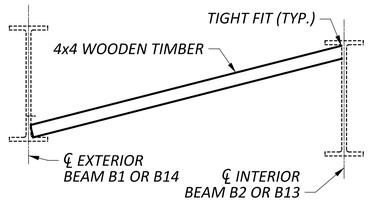
A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65 INCHES.

THE EXISTING BEAMS REQUIRE LATERAL RESTRAINT DURING THE DECK POURING OPERATION AT THE CENTERLINE OF ABUTMENT BEARINGS IF THE DIAPHRAGM CONCRETE ENCASING THE BEAM ENDS IS PLACED CONCURRENTLY WITH THE DECK CONCRETE. THE CONTRACTOR SHALL PROVIDE A MEANS OF TEMPORARILY BRACING THE EXISTING BEAMS TO PREVENT ROTATION, SLIDING, TIPPING, OR OTHER MOVEMENT THAT MAY RESULT FROM THE DECK POURING OPERATION IN A MANNER SATISFACTORY TO THE ENGINEER. SUBMIT SEALED CONSTRUCTION PLANS AND CALCULATIONS FOR THE BEAM RESTRAINT PER CMS 501.05.

THE LEFT AND RIGHT BRIDGES REQUIRE TEMPORARY TIMBER BLOCKING OF THE EXISTING EXTERIOR BEAM BOTTOM FLANGE TO PREVENT ROTATION DURING DECK PLACEMENT. THE LOCATIONS OF THE TEMPORARY TIMBER BLOCKING ARE SHOWN ON THE LEFT AND RIGHT BRIDGE FRAMING PLAN, SHEETS 21 AND 22 OF 44 , RESPECTIVELY. SEE TEMPORARY TIMBER BLOCKING DETAIL BELOW FOR ADDITIONAL DETAILS.




## TEMPORARY TIMBER BLOCKING DETAIL

(LEFT BRIDGE SHOWN, RIGHT BRIDGE SIMILAR)

ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO PROVIDE RESTRAINT OF THE EXISTING BEAMS AT THE ℄ OF ABUTMENT BEARING DURING DECK PLACEMENT, AS WELL AS TEMPORARY TIMBER BLOCKING AS SHOWN IN THE PLANS, SHALL BE INCLUDED WITH ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE DECK FOR PAYMENT.

**NON-USE OF ASBESTOS-CONTAINING MATERIALS:**

THE CONTRACTOR SHALL AT NO TIME INCORPORATE ANY MATERIALS WHICH ARE COMPOSED OF OR CONTAIN ANY AMOUNTS OF ASBESTOS. THE SUBSTITUTION OF MATERIALS WHICH CONTAIN ANY AMOUNTS OF ASBESTOS WILL IN NO CIRCUMSTANCES BE ACCEPTABLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF CERTIFICATION ASSERTING THAT NO ASBESTOS CONTAINING MATERIALS WERE USED IN ANY PORTION OF THE CONSTRUCTION.

**ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:**

DESCRIPTION:
THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING CONCRETE BRIDGE RAILINGS, DECK JOINTS, BEARINGS, EXISTING UTILITY LINES, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, END CROSS-FRAMES, SCUPPERS, ETC.) THIS ITEM INCLUDES TAKING SURVEY SHOTS OF THE BEAM FLANGES BEFORE AND AFTER DECK REMOVAL AND CALCULATING THE REQUIRED ITEMS TO DETERMINE THE SCREED AND TOP OF HAUNCH ELEVATIONS. IT SHALL ALSO INCLUDE THE REMOVAL OF ABUTMENT BACKWALLS, PORTIONS OF THE WINGWALLS, POROUS BACKFILL, PLUGGING OF WEEPHOLES, AND OTHER APPURTENANCES AS SHOWN IN THE PLANS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

MAXIMUM REMOVAL LIMITS:
SOUND THE CONCRETE TO DETERMINE THE LIMITS OF THE CONCRETE TO BE REMOVED AND COMPARE THESE LIMITS TO THE AREAS SHOWN IN THE PLANS. IF NEW AREAS ARE DISCOVERED OR IF THE DIMENSIONS OF THE PLAN AREAS INCREASE BY MORE THAN 25% IN ANY DIRECTION, DOCUMENT THE AREAS AND NOTIFY THE ENGINEER FOR EVALUATION TWO WEEKS PRIOR TO REMOVAL. THE ENGINEER WILL DETERMINE IF PATCHING IN DISCRETE SECTIONS/STAGES IS NEEDED OR IF THE INSTALLATION OF TEMPORARY FALSEWORK IS REQUIRED.

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING BEGINS, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF CONCRETE REINFORCEMENT IN THE DECK SLAB. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER, TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

EXISTING WELDED ATTACHMENTS:
REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

REMOVAL METHODS:
THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL BEAMS, STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

**ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (CONTINUED):**

SUBSTRUCTURE CONCRETE REMOVAL:
REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PLUGGING EXISTING WEEPHOLES:
THE EXISTING WEEPHOLES SHALL BE FLUSHED OUT TO REMOVE ANY LOOSE DEBRIS AND FILLED ENTIRELY WITH CLASS QC1 CONCRETE AS PER ITEM 499.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVAL AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

**ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN:**

THIS WORK CONSISTS OF REMOVING IN ITS ENTIRETY THE EXISTING BULB ANGLES THAT WERE CAST INTO THE DECK WHEN THE EXISTING DECK WAS CONSTRUCTED. THE USE OF EXPLOSIVES, HEADACHE BALLS, AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE STRUCTURAL STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

EXISTING WELDED ATTACHMENTS:
GRIND THE FLANGE SURFACES SMOOTH WHERE THE EXISTING WELDED BULB ANGLE ATTACHES TO THE FLANGES LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS.

MEASUREMENT & PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LINEAR FOOT BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVAL AT THE CONTRACT PRICE FOR ITEM 202 - REMOVAL MISC.: PORTION OF STRUCTURE REMOVED, BULB ANGLE, AS PER PLAN.

**ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 1):**
**ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN (TEMPORARY WALL 2):**

THIS ITEM SHALL INCLUDE THE INSTALLATION AND REMOVAL OF THE TEMPORARY WALLS AS SHOWN IN THE PLANS.

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE BID FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

**ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:**

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF CMS SECTION 503 AND SHALL INCLUDE THE EXCAVATION AND BACKFILLING REQUIRED TO CONSTRUCT THE NEW PORTIONS OF THE ABUTMENT DIAPHRAGMS AND WINGWALLS. EXCAVATION AND BACKFILLING FOR SUBSTRUCTURE REMOVAL AND STRUCTURE DRAINAGE SHALL BE INCLUDED WITH RESPECTIVE ITEMS 202 AND 518.

GENERAL NOTES - 1
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

| | |
|---|---|
| SFN | 3103870 |
| DESIGN AGENCY | TRANSYSTEMS, 1100 SUPERIOR AVE. E., STE 1000, CLEVELAND, OHIO 44114 |
| DESIGNER | ZTW |
| CHECKER | RSB |
| REVIEWER | NFF 08/22/23 |
| PROJECT ID | 110570 |
| SUBSET | 3 |
| TOTAL | 44 |
| SHEET | P.167 |
| TOTAL | 208 |

HAM-US 50-29.00

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**ITEM 509 - CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN:**

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT CONCRETE REINFORCEMENT BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING STEEL REINFORCEMENT BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW CONCRETE REINFORCEMENT OF THE SAME SIZE, COATING, AND MATERIAL AT NO COST TO THE DEPARTMENT. AN ESTIMATED QUANTITY OF 100 POUNDS HAS BEEN INCLUDED FOR THIS WORK.

**ITEM 509 - GALVANIZED STEEL REINFORCEMENT, AS PER PLAN:**

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE STEEL REINFORCEMENT DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE GALVANIZED COATING, AS A RESULT OF THIS WORK, ACCORDING TO CMS 711.02.

**ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:**

DOWEL BARS SHALL BE INSTALLED USING NONSHRINK, NONMETALLIC GROUT PER CMS 510 AND ACI 355.4. ALL EXISTING CONCRETE REINFORCEMENT IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A CONCRETE REINFORCEMENT LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF EXISTING CONCRETE REINFORCEMENT IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING CONCRETE REINFORCEMENT.

**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE DECK:**
**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE RAILING:**
**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, DIAPHRAGMS:**
**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA,(T=15"), 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 511 WITH THE FOLLOWING CONDITIONS AND REVISIONS:

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

| | |
|---|---|
| PORTLAND CEMENT CONCRETE | 499.03, CLASS QC3 MEETING A DESIGN STRENGTH OF 4,500 PSI WITH MACRO-SYNTHETIC FIBERS AND WITH MODIFICATION PER 511.02 |
| FIBERS FOR CONCRETE | ASTM C1116, TYPE III |
| CORROSION INHIBITOR | 515.15 |

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 INCHES MIN. TO 2.5 INCHES 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.

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 CO-POLYMERS 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, AN ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'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.

**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE DECK (CONTINUED):**
**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, BRIDGE RAILING (CONTINUED):**
**ITEM 511 - CLASS QC3 CONCRETE, MISC.: CLASS QC3 CONCRETE WITH QC/QA, DIAPHRAGMS (CONTINUED):**
**ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA, (T=15"), AS PER PLAN (CONTINUED):**

USE A MINIMUM DOSAGE RATE OF MACRO-SYNTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. 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. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. 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 3/4 OF 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 AN 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 AFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

APPROACH SLABS, DIAPHRAGMS, AND BRIDGE RAILING CONCRETE 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. USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING SIMILAR TO TEXAS RAILING AND MACRO-SYNTHETIC CONCRETE PER THIS SPECIFICATION ON TRADITIONAL CONCRETE RAILING WHEN APPLICABLE.

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.

FURNISH GALVANIZED STEEL REINFORCEMENT 709.16 IN LIEU OF EPOXY COATED STEEL REINFORCEMENT FOR REINFORCED CONCRETE APPROACH SLABS.

**ABBREVIATONS:**

| | |
|---|---|
| CONST. | CONSTRUCTION |
| DIA. | DIAMETER |
| DIM. | DIMENSION |
| E.F. | EACH FACE |
| EL. | ELEVATION |
| EX. | EXISTING |
| EXP. | EXPANSION |
| F.F. | FAR FACE |
| FIX. | FIXED |
| FT. | FOOT/FEET |
| H.P. | HIGH PRESSURE |
| INV. | INVERT |
| LT. | LEFT |
| MAX. | MAXIMUM |
| MIN. | MINIMUM |
| N.F. | NEAR FACE |
| P.E.J.F. | PREFORMED EXPANSION JOINT FILLER |
| PT. | POINT |
| RT. | RIGHT |
| SPA. | SPACING/SPACES |
| STA. | STATION |
| TYP. | TYPICAL |

**ITEM 513 - STRUCTURAL STEEL, MISC.: MOMENT PLATE RETROFIT**
**ITEM 513 - STRUCTURAL STEEL, MISC.: FIELD DRILLING HOLES**

THE EXISTING BEAMS SHALL HAVE RETROFIT SPLICE PLATES INSTALLED AS INDICATED IN THE PLANS. STEEL SHALL BE ASTM A709 GRADE 50 (YIELD STRENGTH 50 KSI) AND BOLTS SHALL BE ASTM F3125 GRADE A325, TYPE 1.

AFTER THE DECK HAS BEEN REMOVED, PERFORM SURFACE PREPARATION OF THE TOP FLANGE RETROFIT AREAS TO REMOVE THE EXISTING PAINT SYSTEM. THE SURFACE PREPARATION LIMITS SHALL EXTEND 1-FT. PAST EACH END OF THE TOP RETROFIT SPLICE PLATES.

THE ENGINEER SHALL CAREFULLY VISUALLY INSPECT THE CLEANED AREA AT EACH END OF ALL THE TOP FLANGE MOMENT PLATES.

IF THE ENGINEER DETERMINES THE TRANSVERSE MOMENT PLATE WELD IS STILL PERFORMING ADEQUATELY, LEAVE THE WELD IN PLACE. IF THE WELD APPEARS RUSTED OR HAS SEPARATED FROM THE EXISTING BEAM OR MOMENT PLATE, THE CONTRACTOR SHALL REMOVE THE EXISTING TRANSVERSE MOMENT PLATE WELD AND INSPECT FOR DAMAGE TO THE BASE METAL OF THE BEAM. GRINDING MAY BE DIRECTED BY THE ENGINEER TO ENHANCE THE INVESTIGATION FOR CRACK PRESENCE. ALL STEEL GRINDING MUST BE DONE CAUTIOUSLY ON A CASE-BY-CASE BASIS.

IF THE ENGINEER SUSPECTS THAT A CRACK HAS ADVANCED INTO THE BASE METAL OF THE BEAM, IMMEDIATELY ALERT THE OFFICE OF CONSTRUCTION ADMINISTRATION - BRIDGE CONSTRUCTION SPECIALIST. PROVIDE THE LOCATION OF THE CRACK, LENGTH, AND DEPTH SO AN EVALUATION AND REPAIR OR REPLACEMENT RECOMMENDATION CAN BE MADE.

AFTER APPROVAL FROM THE ENGINEER, EXISTING MOMENT PLATES WITH ADEQUATE TRANSVERSE WELDS OR TRANSVERSE WELD AREAS THAT HAVE BEEN REPAIRED TO THE SATISFACTION OF THE ENGINEER, SHALL BE RETROFITTED WITH BOLTED SPLICE PLATES AS SHOWN IN THE PLANS.

APPLY ORGANIC ZINC PRIME COAT TO THE EXISTING STRUCTURAL STEEL IN THE RETROFIT AREA TO THE SURFACE PREPARATION LIMITS. NEW STRUCTURAL STEEL FOR THE MOMENT PLATE RETROFIT SHALL HAVE SHOP DRILLED BOLT HOLES AND SHALL BE DELIVERED TO THE SITE WITH A SHOP APPLIED INORGANIC ZINC PRIME COAT.

FIELD DRILL BOLT HOLES THROUGH THE EXISTING STEEL MOMENT PLATES AND EXISTING BEAM FLANGES USING THE NEW RETROFIT SPLICE PLATES AS A TEMPLATE. INSTALL BOLTED RETROFIT SPLICE PLATES AT EACH END OF ALL TOP MOMENT PLATES OF BOTH LEFT AND RIGHT BRIDGES (56 LOCATIONS).

APPLY INTERMEDIATE AND FINISH PAINT COATS TO THE NEW AND EXISTING STEEL AT EACH MOMENT PLATE RETROFIT LOCATION. SEE SHEET 23 OF 44 FOR ADDITIONAL MOMENT PLATE RETROFIT/FLANGE PAINTING LIMITS. PAINT COLOR SHALL MATCH EXISTING.

STEEL MEMBERS TO BE FABRICATED UNDER THIS ITEM DO NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. HOWEVER, THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. TO ENSURE ADEQUATE INFORMATION IS PROVIDED TO THE FABRICATOR. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED TO THE ENGINEER, IF REQUESTED, BY THE OFFICE OF STRUCTURAL ENGINEERING.

IN ACCORDANCE WITH CMS 501.06, MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING NEW STEEL ITEMS INTO THE WORK. AFTER FABRICATION, THE CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND AN APPROVED SET OF DRAWINGS TO THE OFFICE OF STRUCTURAL ENGINEERING FOR INFORMATION. PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH CMS 513 AND SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.

ALL NECESSARY LABOR, EQUIPMENT, AND MATERIAL TO PERFORM THE INITIAL INSPECTION, APPLY A SHOP PRIME COAT, AND INSTALL THE BOLTED RETROFIT SPLICE PLATES AS DESCRIBED ABOVE SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: MOMENT PLATE RETROFIT FOR PAYMENT.

ALL NECESSARY LABOR, EQUIPMENT, AND MATERIAL TO PERFORM THE FIELD DRILLING OF BOLT HOLES THROUGH THE EXISTING STRUCTURAL STEEL BEAM FLANGES AND EXISTING MOMENT PLATES SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL, MISC.: FIELD DRILLING HOLES FOR PAYMENT.

SURFACE PREPARATION AND PAINTING OF NEW AND EXISTING STRUCTURAL STEEL AS DESCRIBED SHALL BE INCLUDED WITH ITEM 514 FOR PAYMENT.

**ITEM 514 - FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT:**
**ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT, AS PER PLAN:**
**ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN:**

PAINTED AREAS THAT ARE DAMAGED BY WELDING, DRILLING, CUTTING, OR OTHER MEANS TO REHABILITATE THIS BRIDGE ARE DESIGNATED IN THE PROJECT PLANS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL NECESSARY EQUIPMENT TO INSPECT THIS WORK. THE MAJORITY OF THE AREAS TO BE REPAIR PAINTED ARE:
EXISTING BEAM MOMENT PLATE RETROFIT LOCATIONS

EXISTING STEEL AREAS SHALL RECEIVE A PRIME, INTERMEDIATE, AND FINISH COAT APPLIED IN THE FIELD. PROPOSED STEEL SHALL BE SHOP PRIMED AND RECEIVE AN INTERMEDIATE AND FINISH COAT APPLIED IN THE FIELD.

THE FINISH COAT SHALL MATCH THE EXISTING BEAM'S COLOR. OBTAIN THE ENGINEER'S APPROVAL OF PAINT COLOR BEFORE APPLYING FINISH COAT.

PRIOR TO THE START OF WORK ON THE STRUCTURE, THE CONTRACTOR SHALL DOCUMENT THE EXISTING CONDITION OF THE PAINTED STRUCTURE TO IDENTIFY AREAS PREVIOUSLY DAMAGED THAT ARE OUTSIDE THE LIMITS OF THE CURRENT PAY ITEMS. PAINTED AREAS THAT WERE NOT PREVIOUSLY DAMAGED THAT RECEIVE DAMAGE BY THE CONTRACTOR'S ACTIVITIES ONCE WORK BEGINS WILL BE REPAIRED AT THE CONTRACTOR'S COST.

**ITEM 514 - FIELD PAINTING, MISC.: COATING OF BEAM ENDS:**

PRIOR TO ENCASING THE BEAM ENDS, PREPARE THE ENDS PER SSPC SP10 OR SSPC SP11 TO BARE METAL ACHIEVING A 1.5 TO 3.5 MIL PROFILE. PAINT THE BEAM ENDS WITH ORGANIC ZINC PRIME COAT PER CMS 514. PROVIDE THE PRIME COAT THICKNESS AS PER CMS 514.20. EXTEND THE LIMITS OF THE BEAM PREPARATION AND PAINTING 1 FOOT BEYOND THE LIMITS OF THE END DIAPHRAGM CONCRETE.

AFTER THE DIAPHRAGM IS SET, SEAL THE INTERFACE BETWEEN THE BEAM AND CONCRETE WITH CAULK.

THE DEPARTMENT WILL PAY FOR ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO PERFORM WORK AS DESCRIBED ABOVE AT THE CONTRACT BID PRICE FOR ITEM 514 - FIELD PAINTING, MISC.: COATING OF BEAM ENDS.

**ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN:**

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH CMS 501.05. IF, DURING THE JACKING OPERATIONS, DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

**ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN:**

PRIOR TO THE SURFACE CLEANING SPECIFIED IN CMS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

**ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN:**

WITH PRIOR APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REDRESS THE SLOPES WITH THE EXISTING CRUSHED AGGREGATE. WHERE ADDITIONAL MATERIAL IS REQUIRED, FURNISH AND PLACE CRUSHED AGGREGATE IN ACCORDANCE WITH CMS 601. AN ESTIMATED QUANTITY OF 100 SQUARE YARDS HAS BEEN INCLUDED FOR THIS WORK. ACTUAL QUANTITIES OF SLOPE TO BE REDRESSED AND NEW MATERIAL TO BE PLACED SHALL BE AS DIRECTED BY THE ENGINEER.

# GENERAL NOTES - 2
# BRIDGE NO. HAM-00050-29.280
# US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114
DESIGNER ZTW | CHECKER RSB
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 4 | TOTAL 44
SHEET P.168 | TOTAL 208

HAM-US 50-29.00

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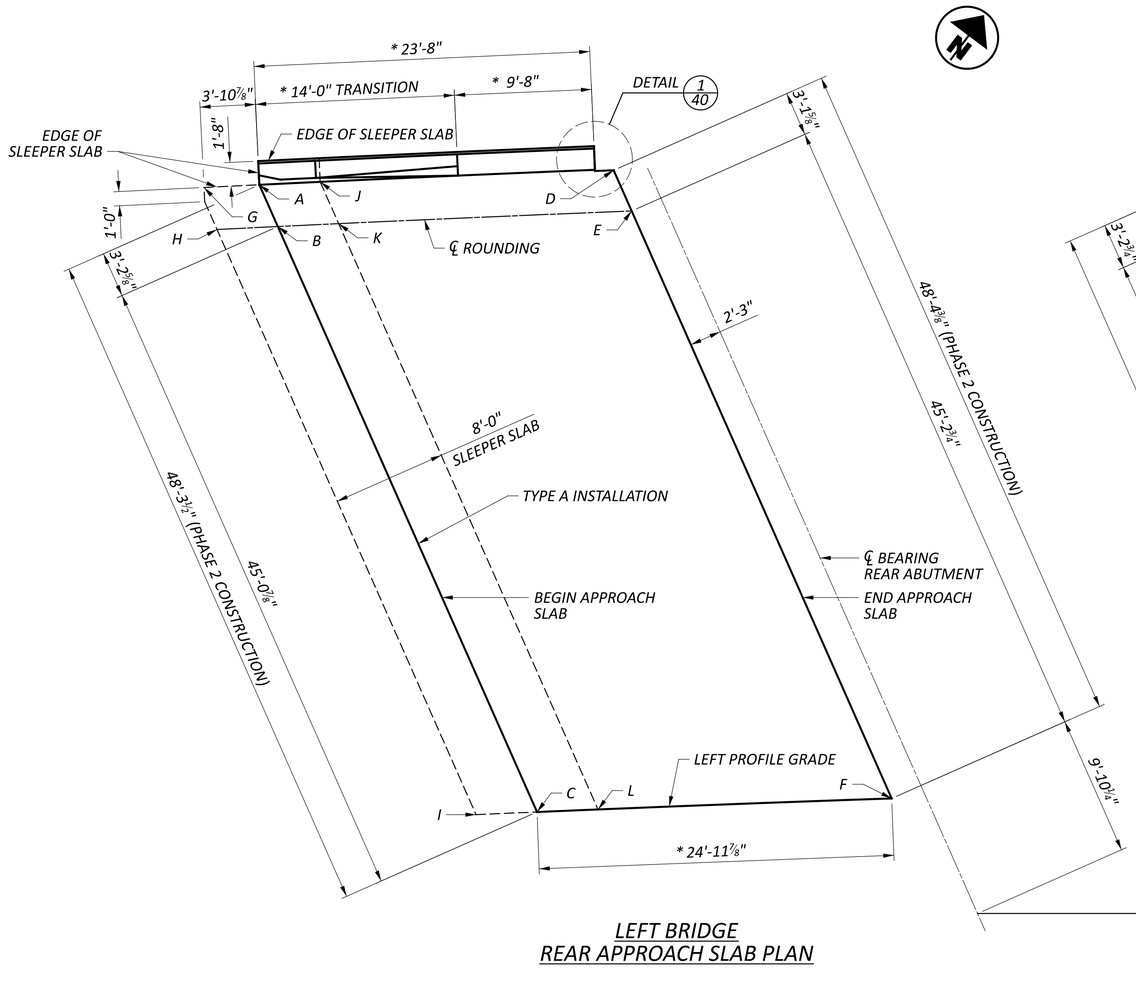
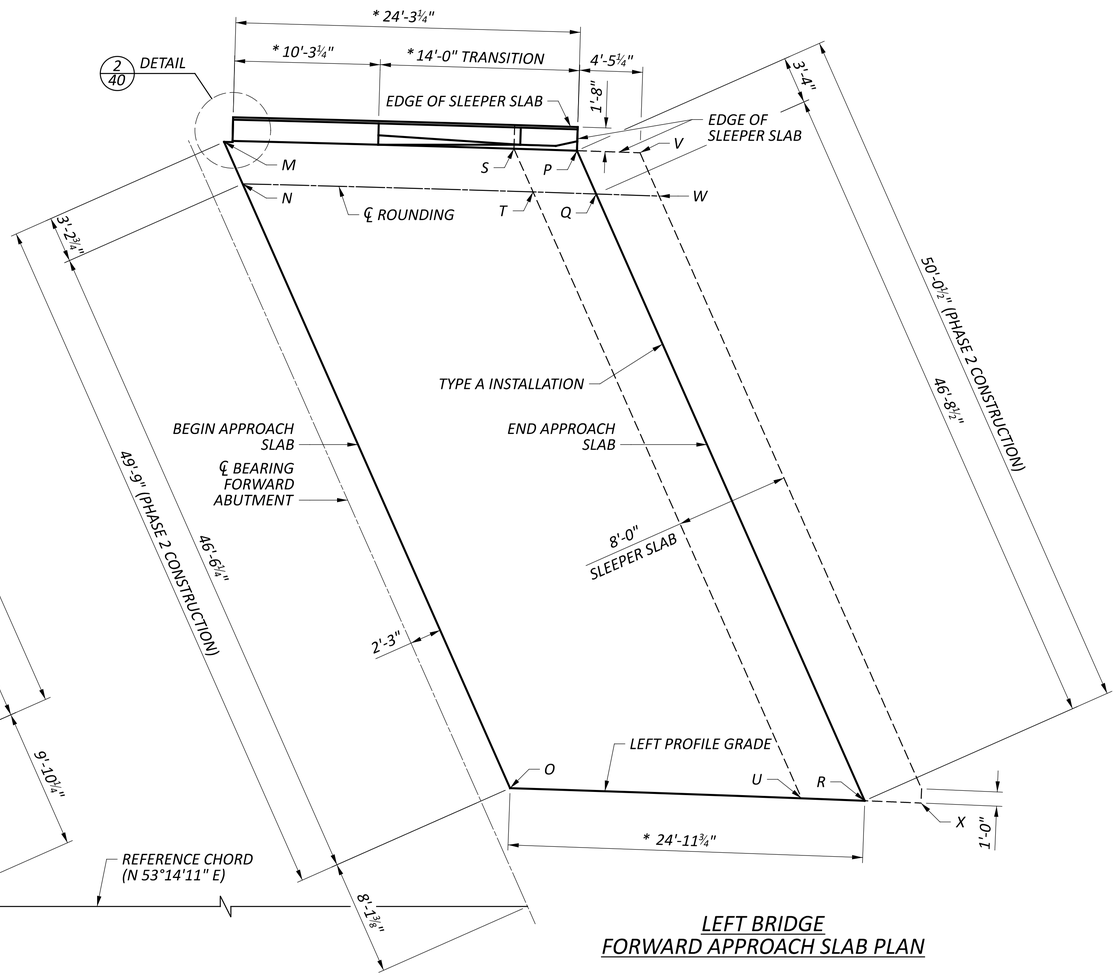



LEFT BRIDGE
REAR APPROACH SLAB PLAN



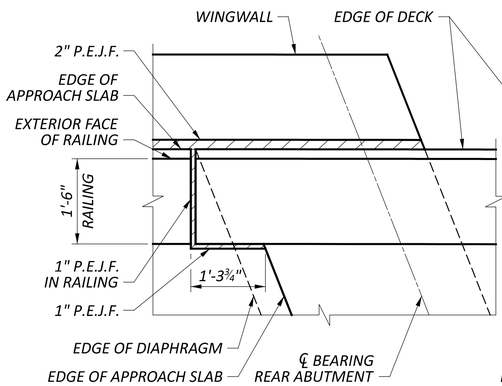

LEFT BRIDGE
FORWARD APPROACH SLAB PLAN

## REAR APPROACH SLAB LOCATIONS

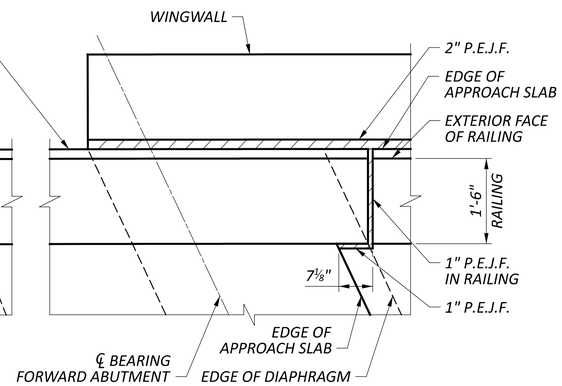
| | APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4) | | | | SLEEPER SLAB ELEVATIONS | | |
|---|---|---|---|---|---|---|---|
| | STATION | OFFSET | ELEVATION | | STATION | OFFSET | ELEVATION |
| A | 103+31.21 | 53.29' LT. | 538.48 | G | 103+27.38 | 53.29' LT. | 537.25 |
| B | 103+32.35 | 50.29' LT. | 538.55 | H | 103+28.13 | 50.29' LT. | 537.32 |
| C | 103+48.54 | 8.29' LT. | 536.54 | I | 103+44.26 | 8.29' LT. | 535.31 |
| D | 103+55.71 | 53.21' LT. | 538.36 | J | 103+35.42 | 53.29' LT. | 537.21 |
| E | 103+56.85 | 50.29' LT. | 538.43 | K | 103+36.56 | 50.29' LT. | 537.28 |
| F | 103+73.46 | 8.29' LT. | 536.43 | L | 103+52.83 | 8.29' LT. | 535.27 |

## FORWARD APPROACH SLAB LOCATIONS

| | APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4) | | | | SLEEPER SLAB ELEVATIONS | | |
|---|---|---|---|---|---|---|---|
| | STATION | OFFSET | ELEVATION | | STATION | OFFSET | ELEVATION |
| M | 105+38.60 | 53.21' LT. | 537.97 | S | 105+58.64 | 53.29' LT. | 536.73 |
| N | 105+39.95 | 50.29' LT. | 538.05 | T | 105+60.06 | 50.29' LT. | 536.81 |
| O | 103+59.76 | 8.29' LT. | 536.13 | U | 105+80.23 | 53.29' LT. | 534.91 |
| P | 105+63.00 | 53.29' LT. | 537.99 | V | 105+67.36 | 53.29' LT. | 536.74 |
| Q | 105+64.42 | 50.29' LT. | 538.07 | W | 105+68.79 | 50.29' LT. | 536.82 |
| R | 105+84.67 | 8.29' LT. | 536.16 | X | 105+88.62 | 8.29' LT. | 534.92 |




1/40 DETAIL




2/40 DETAIL

## LEGEND:

* MEASURED ALONG EDGE OF APPROACH SLAB

## NOTES:

1. FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA, (T=15"), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.
2. FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.
3. FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 38 AND 39 OF 44 .
4. APPROACH SLAB SURFACE ELEVATIONS ARE GIVEN AT TOP OF CONCRETE APPROACH SLAB, UNDERNEATH THE ASPHALT.
5. FOR ROUNDING DETAIL, SEE SHEET 29 OF 44 .

# LEFT BRIDGE APPROACH SLAB DETAILS
# BRIDGE NO. HAM-00050-29.280
# US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

| DESIGNER | CHECKER |
|---|---|
| GJZ | TOR |

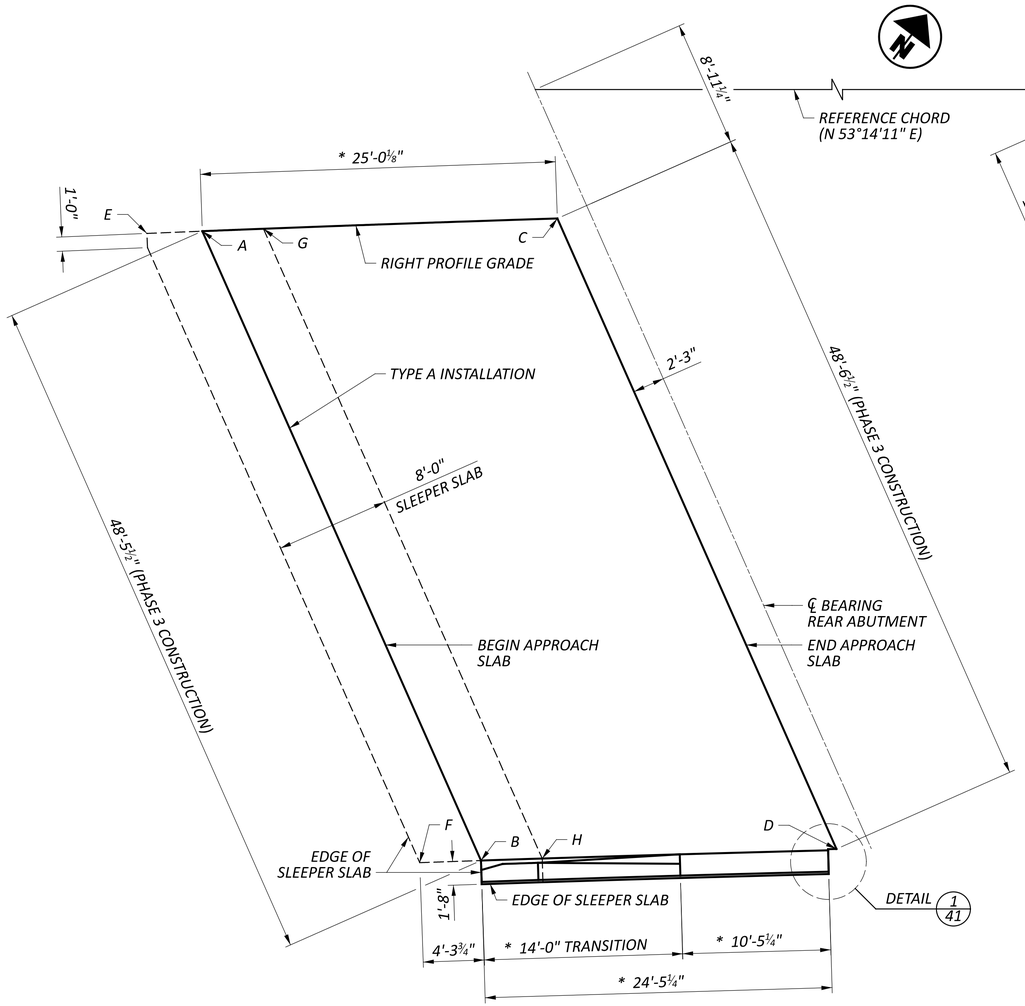
REVIEWER: NFF 08/22/23

PROJECT ID: 110570

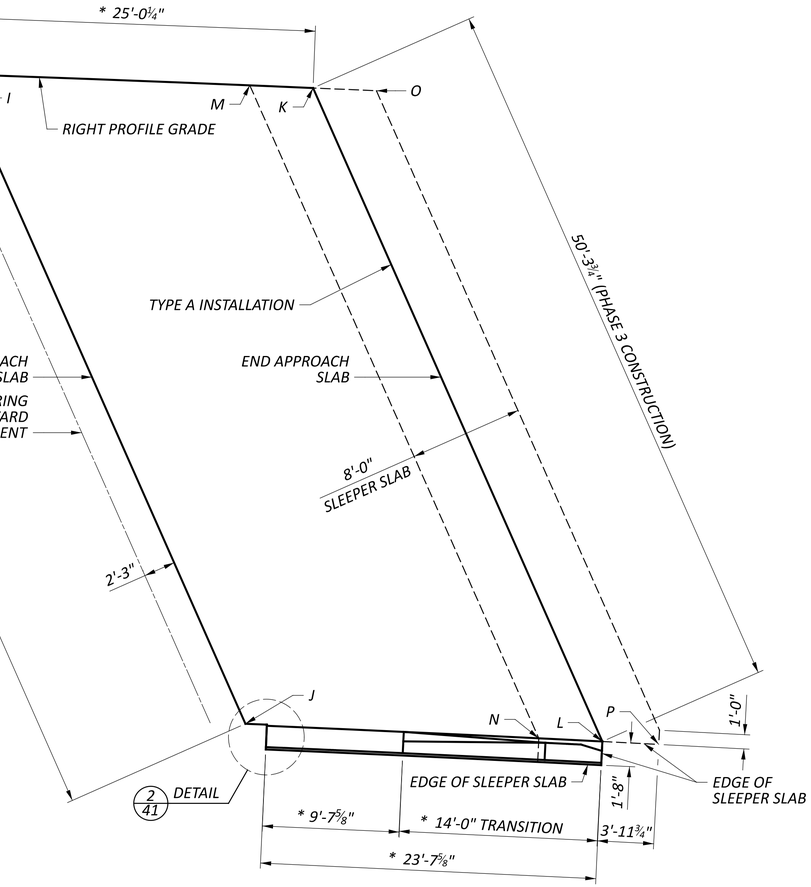
| SUBSET | TOTAL |
|---|---|
| 40 | 44 |

| SHEET | TOTAL |
|---|---|
| P.204 | 208 |

HAM-US 50-29.00




## RIGHT BRIDGE
## REAR APPROACH SLAB PLAN



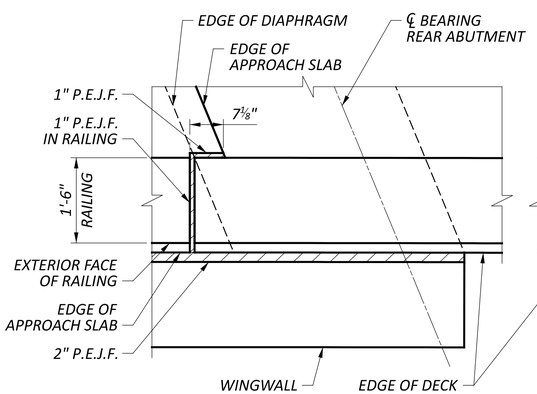

## RIGHT BRIDGE
## FORWARD APPROACH SLAB PLAN

### REAR APPROACH SLAB LOCATIONS

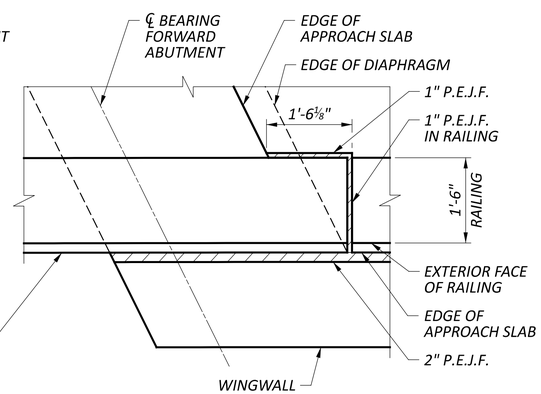
| | APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4) | | | | SLEEPER SLAB ELEVATIONS | | |
|---|---|---|---|---|---|---|---|
| | STATION | OFFSET | ELEVATION | | STATION | OFFSET | ELEVATION |
| A | 103+55.41 | 9.13' RT. | 535.91 | E | 103+51.49 | 9.13' RT. | 534.68 |
| B | 103+73.58 | 54.13' RT. | 533.73 | F | 103+69.18 | 54.13' RT. | 532.49 |
| C | 103+80.50 | 9.13' RT. | 535.81 | G | 103+59.73 | 9.13' RT. | 534.65 |
| D | 103+99.10 | 54.04' RT. | 533.63 | H | 103+77.97 | 54.13' RT. | 532.46 |

### FORWARD APPROACH SLAB LOCATIONS

| | APPROACH SLAB SURFACE ELEVATIONS (SEE NOTE 4) | | | | SLEEPER SLAB ELEVATIONS | | |
|---|---|---|---|---|---|---|---|
| | STATION | OFFSET | ELEVATION | | STATION | OFFSET | ELEVATION |
| I | 105+68.16 | 9.13' RT. | 535.59 | M | 105+88.78 | 9.13' RT. | 534.37 |
| J | 105+90.37 | 54.04' RT. | 533.52 | N | 106+11.45 | 54.13' RT. | 532.30 |
| K | 105+93.26 | 9.13' RT. | 535.63 | O | 105+97.74 | 9.13' RT. | 534.39 |
| L | 106+16.01 | 54.13' RT. | 533.55 | P | 106+20.07 | 54.13' RT. | 532.31 |




1/41 DETAIL




2/41 DETAIL

## LEGEND:

* MEASURED ALONG EDGE OF APPROACH SLAB

## NOTES:

1. FOR THE 25-FT. APPROACH SLAB REINFORCEMENT REQUIREMENTS AND ADDITIONAL STANDARD APPROACH SLAB DETAILS, SEE GENERAL NOTE ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN AND ODOT STANDARD DRAWING AS-1-15.
2. FOR APPROACH SLAB TYPE A INSTALLATION REQUIREMENTS, SEE ODOT STANDARD DRAWING AS-2-15.
3. FOR APPROACH SLAB RAILING DETAILS, SEE SHEETS 38 AND 39 OF 44 .
4. APPROACH SLAB SURFACE ELEVATIONS ARE GIVEN AT TOP OF CONCRETE APPROACH SLAB, UNDERNEATH THE ASPHALT.

RIGHT BRIDGE APPROACH SLAB DETAILS
BRIDGE NO. HAM-00050-29.280
US-50 OVER RAMPS TO RED BANK ROAD

SFN 3103870
DESIGN AGENCY TRANSYSTEMS 1100 SUPERIOR AVE. E., STE 1000 CLEVELAND, OHIO 44114
DESIGNER GJZ | CHECKER TOR
REVIEWER NFF 08/22/23
PROJECT ID 110570
SUBSET 41 | TOTAL 44
SHEET P.205 | TOTAL 208

HAM-US 50-29.00

**CONTINGENCY QUANTITIES**

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DIRECTION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THE PROJECT.

**ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE**

THE SEGMENT 1 PAVEMENT PLANING SHALL BE SCHEDULED TO BE COVERED BY THE SURFACE COURSE PRIOR TO REOPENING THE LANE TO TRAFFIC, EXCEPT THE CONTRACTOR IS PERMITTED TO MILL AHEAD 1000 FEET BEYOND THE PLACED SURFACE COURSE. THE MILLED AHEAD SURFACE SHALL BE COVERED BY THE SURFACE COURSE ASPHALT WITHIN 72 HOURS OF BEING OPEN TO TRAFFIC. ADDITIONALLY, THE MILLED AHEAD SURFACE SHALL NOT BE LOCATED WITHIN AN INTERSECTION OR RAMP. THE MILLED AHEAD SURFACE SHALL BE SMOOTH, FREE OF DEBRIS, AND FREE OF POTHOLES.

THE SEGMENT 2 PAVEMENT PLANING SHALL BE SCHEDULED SUCH THAT THE MILLED SURFACE SHALL BE COVERED BY THE SURFACE COURSE ASPHALT WITHIN 72 HOURS OF BEING OPEN TO TRAFFIC. THE MILLED SURFACE SHALL BE SMOOTH, FREE OF DEBRIS, AND FREE OF POTHOLES.

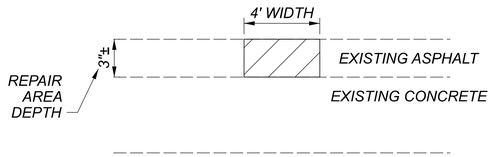
A DISINCENTIVE IN THE AMOUNT OF $9,300 SHALL BE ASSESSED FOR EACH DAY THE CONTRACTOR FAILS TO MEET ANY OF THESE REQUIREMENTS.

**ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442)**

THIS OPERATION SHALL BE PERFORMED BEFORE RESURFACING OF ROADWAY.

THE FOLLOWING QUANTITY IS GENERATED ON SHEETS P.007 & P.009 AND CARRIED TO THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PARTIAL DEPTH PAVEMENT REPAIR:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR (442) 341 CY

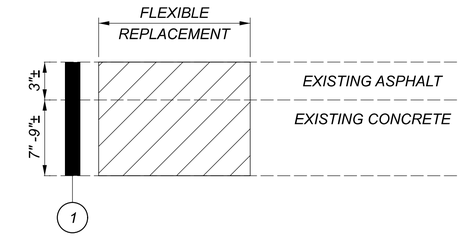



EXISTING DETERIORATED ASPHALT SHALL BE REMOVED TO A DEPTH OF 3"± AND MINIMUM WIDTH OF 4' OR AS DIRECTED BY THE ENGINEER. THIS WORK CONSISTS OF PARTIAL DEPTH REMOVAL OF EXISTING PAVEMENT IN AREAS EXHIBITING DETERIORATION AT THE SURFACE, APPLYING TACK COAT, AND PLACING AND COMPACTING ASPHALT CONCRETE. THE LOCATION AND SIZE OF THE REPAIR SHALL BE DETERMINED BY THE ENGINEER. THE EXISTING CONCRETE SURFACE SHALL NOT BE DISTURBED.

PLACE ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5MM, TYPE A (449) INTO THE REPAIR.

**ITEM 252 - FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN**

THIS ITEM SHALL CONSIST OF CUTTING AND REMOVING DETERIORATED PAVEMENT FULL DEPTH AND PLACING 10"-12"± ITEM 252 - FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT. IT IS NOT THE INTENT TO REPAIR EVERY DETERIORATED AREA WITHIN THE PROJECT. THE ENGINEER SHALL DETERMINE WHICH AREAS ARE TO BE REPAIRED. THIS ITEM SHALL COMMENCE WITHIN 7 DAYS OF THE BEGINNING OF MAINLINE PAVEMENT PLANING. PAYMENT SHALL BE BASED ON THE ACTUAL NUMBER OF SQUARE YARDS OF PAVEMENT REMOVED AND REPLACED TO THE LIMITS DESIGNATED BY THE ENGINEER.




1 ITEM 252 - PAVEMENT REPAIR (10"-12"±)

PLACE ITEM 301 - ASPHALT CONCRETE BASE (449) INTO THE REPAIR.

GENERAL NOTES


HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/26/2024 TIME: 3:05:36 PM USER: Josh_Rognon
V:\Projects\TRAN_110570_HAM-50_BRIDGES\400-Engineering\Roadway\Sheets\110570_GN001.dgn


DESIGN AGENCY
2LMN

DESIGNER
MAK

REVIEWER
ALL 08/22/23

PROJECT ID
110570

SHEET P.013 TOTAL 208

*EXISTING LEGEND*

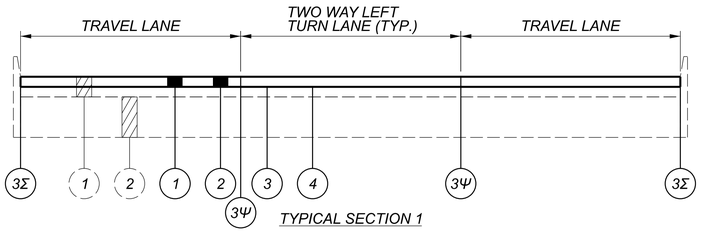
1. *3"± EXISTING ASPHALT PAVEMENT*
2. *7-9"± EXISTING CONCRETE PAVEMENT*

*LEGEND*

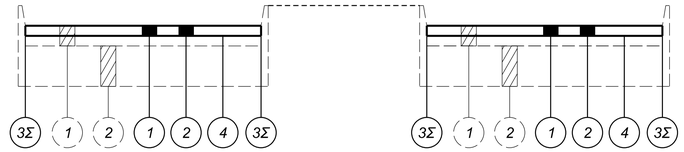
1. *ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)*
2. *ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)*
3. *ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)*
4. *ITEM 407 - NON TRACKING TACK COAT (0.06 or 0.09 GAL/SY, PER CMS TABLE 407.06-1)*
5. *ITEM 442 - 1-3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446)*
6. *ITEM 301 - 9" ASPHALT CONCRETE BASE, PG64-22 (449) (PLACE IN 2 LIFTS)*
7. *ITEM 304 - 6" AGGREGATE BASE*
8. *ITEM 204 - EXCAVATION OF SUBGRADE, 12 INCHES DEEP*
9. *ITEM 422 - SINGLE SLOPE CONCRETE BRIDGE RAILING*
10. *ITEM 605 - 6" BASE PIPE UNDERDRAIN*
11. *ITEM 204 - PROOF ROLLING*
12. *ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D*
13. *ITEM 622 - BARRIER, MISC.: MC-9.3, TYPE A*
14. *ITEM 606 - GUARDRAIL, TYPE MGS*
15. *APPROACH SLAB (T = 15")*
16. *ITEM 204 - GEOTEXTILE FABRIC*
17. *ITEM 204 - GRANULAR MATERIAL, TYPE C*
18. *ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1*
19. *ITEM 204 - SUBGRADE COMPACTION*
20. *ITEM 609 - CURB, TYPE 4C*

*Ψ - APPLY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1. (LOCATIONS ARE APPROXIMATELY AS SHOWN IN THE TYPICAL SECTION DETAILS. ACTUAL LOCATIONS IN THE FIELD WILL BE SLIGHTLY OFF THE LANE LINES.)*

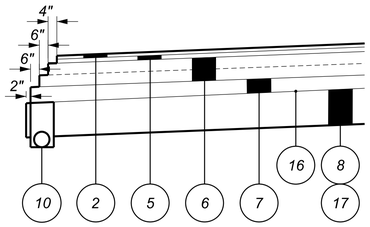
*Σ - APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1*




*TYPICAL SECTION 1*

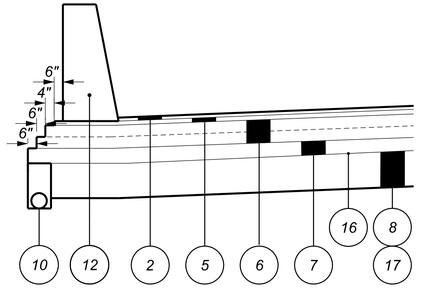



*TYPICAL SECTION 2*



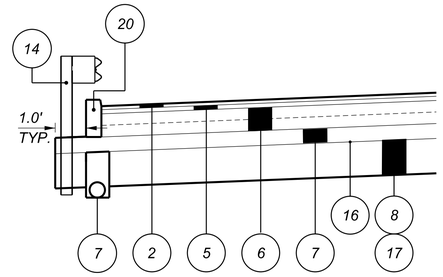

ASPHALT EDGE COURSE DETAIL

1




*CONCRETE BARRIER*
*ASPHALT EDGE COURSE DETAIL*

2




*GUARDRAIL TYPE MGS*
*ASPHALT EDGE COURSE DETAIL*

3

| SEGMENT | LOG POINT TO LOG POINT | LENGTH | | AVG WIDTH | TYPICAL | PAVEMENT AREA | PARTIAL DEPTH PAVEMENT REPAIR (442) | FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN | FULL DEPTH PAVEMENT SAWING | PAVEMENT PLANING, ASPHALT CONCRETE (1.5" DEEP) | PATCHING PLANED SURFACE | NON-TRACKING TACK COAT | 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) | VOID REDUCING ASPHALT MEMBRANE (VRAM) | DETECTOR LOOP | LOOP DETECTOR LEAD-IN CABLE | EDGE LINE, 6" | CENTER LINE | CHANNELIZING LINE, 8" | STOP LINE | CROSSWALK LINE, 12" | TRANSVERSE/DIAGONAL LINE | LANE ARROW | DOTTED LINE, 6" | BIKE LANE SYMBOL MARKING | YIELD LINE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MILES | MILES | FT | FT | | SY | CY | SY | FT | SY | SY | GAL | CY | FT | EACH | FT | MILE | MILE | FT | FT | FT | FT | EACH | FT | EACH | FT |
| | US-50 SLM | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 29.31 TO 29.35 | 0.04 | 211 | 110.0 | 1 | 2581 | 11 | 129 | 774 | 2581 | 258 | 232.3 | 107.6 | 2112 | | | | | | | | | | | | |
| 1 | 29.35 TO 29.45 | 0.10 | 528 | 84.0 | 1 | 4928 | 21 | 246 | 1478 | 4928 | 493 | 443.5 | 205.3 | 4224 | | | | | | | | | | | | |
| 1 | 29.45 TO 29.46 | 0.01 | 53 | 100.0 | 1 | 587 | 2 | 29 | 176 | 587 | 59 | 52.8 | 24.4 | 475 | | | | | | | | | | | | |
| 1 | 29.46 TO 29.53 | 0.07 | 370 | 110.0 | 1 | 4517 | 19 | 226 | 1355 | 4517 | 452 | 406.6 | 188.2 | 3696 | | | | | | | | | | | | |
| 1 | 29.53 TO 29.59 | 0.06 | 317 | 100.0 | 1 | 3520 | 15 | 176 | 1056 | 3520 | 352 | 316.8 | 146.7 | 2851 | | | | | | | | | | | | |
| 1 | 29.59 TO 29.75 | 0.16 | 845 | 84.0 | 1 | 7885 | 33 | 394 | 2365 | 7885 | 788 | 709.6 | 328.5 | 6758 | | | | | | | | | | | | |
| 1 | 29.75 TO 29.79 | 0.04 | 211 | 56.0 | 1 | 1314 | 5 | 66 | 394 | 1314 | 131 | 118.3 | 54.8 | 1056 | | | | | | | | | | | | |
| 1 | 29.79 TO 29.85 | 0.06 | 317 | 30.0 | 2 | 1056 | 4 | 53 | 317 | 1056 | 106 | 95.0 | 44.0 | 634 | 1 | 150 | 0.12 | 0.06 | 122 | 25 | 111 | 64 | 3 | 297 | 0 | 0 |
| 1 | 29.85 TO 29.86 | 0.01 | 53 | 44.0 | 1 | 258 | 1 | 13 | 77 | 258 | 26 | 23.2 | 10.8 | 211 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 29.86 TO 29.92 | 0.06 | 317 | 31.0 | 2 | 1091 | 5 | 55 | 327 | 1091 | 109 | 98.2 | 45.5 | 634 | 0 | 0 | 0.00 | 0.04 | 50 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 1 | 29.92 TO 29.94 | 0.02 | 106 | 38.0 | 1 | 446 | 2 | 22 | 134 | 446 | 45 | 40.1 | 18.6 | 422 | 0 | 0 | 0.00 | 0.09 | 0 | 0 | 84 | 55 | 0 | 0 | 1 | 0 |
| 1 | 29.94 TO 29.95 | 0.01 | 53 | 32.0 | 2 | 188 | 1 | 9 | 56 | 188 | 19 | 16.9 | 7.8 | 106 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 29.95 TO 29.99 | 0.04 | 211 | 40.0 | 1 | 939 | 4 | 47 | 282 | 939 | 94 | 84.5 | 39.1 | 845 | 0 | 0 | 0.00 | 0.05 | 40 | 0 | 84 | 66 | 1 | 0 | 3 | 0 |
| 1 | 29.99 TO 30.02 | 0.03 | 158 | 31.0 | 2 | 546 | 2 | 27 | 164 | 546 | 55 | 49.1 | 22.7 | 317 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 75 | 50 | 0 | 0 | 1 | 0 |
| 1 | 30.02 TO 30.05 | 0.03 | 158 | 37.0 | 1 | 651 | 3 | 33 | 195 | 651 | 65 | 58.6 | 27.1 | 634 | 0 | 0 | 0.00 | 0.11 | 0 | 0 | 0 | | 0 | 0 | 1 | 0 |
| 1 | 30.05 TO 30.07 | 0.02 | 106 | 24.0 | 2 | 282 | 1 | 14 | 84 | 282 | 28 | 25.3 | 11.7 | 211 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 1 | 30.07 TO 30.08 | 0.01 | 53 | 40.0 | 1 | 235 | 1 | 12 | 70 | 235 | 23 | 21.1 | 9.8 | 211 | 0 | 0 | 0.00 | 0.00 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 30.08 TO 30.10 | 0.02 | 106 | 28.0 | 2 | 329 | 1 | 16 | 99 | 329 | 33 | 29.6 | 13.7 | 211 | 1 | 150 | 0.00 | 0.06 | 0 | 26 | 77 | 56 | 1 | 0 | 1 | 0 |
| 1 | 30.10 TO 30.11 | 0.01 | 53 | 38.0 | 1 | 223 | 1 | 11 | 67 | 223 | 22 | 20.1 | 9.3 | 211 | 0 | 0 | 0.00 | 0.00 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 30.11 TO 30.14 | 0.03 | 158 | 28.0 | 2 | 493 | 2 | 25 | 148 | 493 | 49 | 44.4 | 20.5 | 317 | 0 | 0 | 0.00 | 0.03 | 0 | 0 | 74 | 0 | 0 | 0 | 2 | 0 |
| 1 | 30.14 TO 30.17 | 0.03 | 158 | 38.0 | 1 | 669 | 3 | 33 | 201 | 669 | 67 | 60.2 | 27.9 | 634 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 1 | 30.17 TO 30.19 | 0.02 | 106 | 28.0 | 2 | 329 | 1 | 16 | 99 | 329 | 33 | 29.6 | 13.7 | 211 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 30.19 TO 30.21 | 0.02 | 106 | 40.0 | 1 | 469 | 2 | 23 | 141 | 469 | 47 | 42.2 | 19.6 | 422 | 0 | 0 | 0.00 | 0.09 | 37 | 0 | 82 | 60 | 1 | 0 | 5 | 0 |
| 1 | 30.21 TO 30.22 | 0.01 | 53 | 28.0 | 2 | 164 | 1 | 8 | 49 | 164 | 16 | 14.8 | 6.8 | 106 | 0 | 0 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 30.22 TO 30.27 | 0.05 | 264 | 44.0 | 1 | 1,291 | 5 | 65 | 387 | 1,291 | 129 | 116.2 | 54 | 1056 | 0 | 0 | 0.02 | 0.04 | 30 | 0 | 60 | 60 | 3 | 0 | 2 | 24 |
| SUBTOTAL | | | | | | | 145.8 | 1,749.4 | 10,496.6 | 34,988.8 | 3,498.9 | 3,149.0 | 1,457.9 | 28,564.8 | 2 | 300 | 0.14 | 0.57 | 344 | 63 | 647 | 411 | 10 | 297 | 21 | 24 |
| TOTAL CARRIED TO GENERAL SUMMARY | | | | | | | 146 | 1,749 | 10,497 | 34,989 | 3,499 | 3,149 | 1,458 | 28,565 | 2 | 300 | 0.14 | 0.57 | 344 | 63 | 647 | 411 | 10 | 297 | 21 | 24 |

SEE TRAFFIC CONTROL SUBSUMMARY OF SEGMENT 1 FOR THE QUANTITIES WITHIN THESE SLM POINTS.

# TYPICAL SECTIONS - US-50

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/29/2024 TIME: 12:09:22 PM USER: mswhitt
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DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.007 TOTAL 208

(1) 3"± EXISTING ASPHALT PAVEMENT

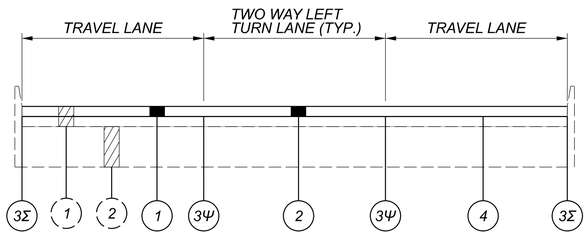
(2) 7-9"± EXISTING CONCRETE PAVEMENT

(1) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5" THICK)

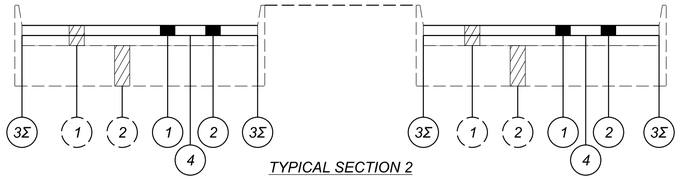
(2) ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446)

(3) ITEM 872 - VOID REDUCING ASPHALT MEMBRANE (VRAM)

(4) ITEM 407 - NON-TRACKING TACK COAT (0.06 OR 0.09 GAL/SY, PER CMS TABLE 407.06-1)




TYPICAL SECTION 1




TYPICAL SECTION 2

Ψ - APPLY FULL WIDTH AND FULL RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1
(LOCATIONS ARE APPROXIMATELY AS SHOWN IN THE TYPICAL SECTION DETAILS.
ACTUAL LOCATIONS IN THE FIELD WILL BE SLIGHTLY OFF THE LANE LINES.)

Σ - APPLY HALF WIDTH AND HALF RATE AS PER VRAM APPLICATION REQUIREMENTS IN ODOT SS 872, TABLE 872.04-1

| SEGMENT | ROUTE | LOG POINT TO LOG POINT | LENGTH | | AVG WIDTH | TYPICAL | EXISTING PAVEMENT TYPE | PAVEMENT AREA | 251 | 252 | 252 | 254 | 254 | 407 | 442 | 872 | 621 | 621 | 644 | 644 | 644 | 644 | 644 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | PARTIAL DEPTH PAVEMENT REPAIR (442) | FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN | FULL DEPTH PAVEMENT SAWING | PAVEMENT PLANING, ASPHALT CONCRETE (1.5") | PATCHING PLANED SURFACE | NON-TRACKING TACK COAT | 1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) | VOID REDUCING ASPHALT MEMBRANE (VRAM) | RPM | RAISED PAVEMENT MARKER REMOVED | EDGE LINE, 6" | LANE LINE, 6" | CENTER LINE | CHANNELIZING LINE, 12" | STOP LINE | LANE ARROW |
| | | MILE | MILE | FT | FT | | | SY | CY | SY | FT | SY | SY | GAL | CY | FT | EACH | EACH | MILE | MILE | MILE | FT | EACH | EACH |
| 2 | US-50 | 34.24 TO 34.40 | 0.16 | 845 | 39.50 | 1 | ASPHALT | 3709 | 21 | 186 | 1116 | 3709 | 371 | 334 | 155 | 3380 | 16 | 16 | 0.32 | 0 | 0.32 | 0 | 0 | 0 |
| | | 34.40 TO 34.44 | 0.04 | 212 | 30.25 | 2 | ASPHALT | 713 | 4 | 36 | 216 | 713 | 72 | 65 | 30 | 848 | 2 | 2 | 0.08 | 0 | 0.08 | 0 | 0 | 0 |
| | | 34.44 TO 34.53 | 0.09 | 476 | 39.00 | 1 | ASPHALT | 2063 | 12 | 104 | 624 | 2063 | 207 | 186 | 86 | 1904 | 16 | 16 | 0.16 | 0 | 0.16 | 110 | 0 | 2 |
| | | 34.53 TO 34.56 | 0.03 | 159 | 30.00 | 2 | ASPHALT | 530 | 3 | 27 | 162 | 530 | 53 | 48 | 23 | 636 | 2 | 2 | 0.06 | 0 | 0.06 | 0 | 0 | 0 |
| | | 34.56 TO 34.60 | 0.04 | 212 | 40.25 | 1 | ASPHALT | 949 | 6 | 48 | 288 | 949 | 95 | 86 | 40 | 848 | 8 | 8 | 0.08 | 0 | 0.06 | 0 | 0 | 2 |
| | | 34.60 TO 34.64 | 0.04 | 212 | 28.00 | 2 | ASPHALT | 660 | 4 | 33 | 198 | 660 | 66 | 60 | 28 | 848 | 2 | 2 | 0.08 | 0 | 0.08 | 0 | 0 | 0 |
| | | 34.64 TO 34.79 | 0.15 | 792 | 42.25 | 1 | ASPHALT | 3718 | 21 | 186 | 1116 | 3718 | 372 | 335 | 155 | 3168 | 26 | 26 | 0.28 | 0 | 0.28 | 0 | 0 | 2 |
| | | 34.79 TO 34.84 | 0.05 | 265 | 30.50 | 2 | ASPHALT | 899 | 5 | 45 | 270 | 899 | 90 | 81 | 38 | 1060 | 2 | 2 | 0.10 | 0 | 0.10 | 0 | 0 | 0 |
| | | 34.84 TO 34.91 | 0.07 | 370 | 40.75 | 1 | ASPHALT | 1676 | 10 | 84 | 504 | 1676 | 168 | 151 | 70 | 1480 | 10 | 10 | 0.14 | 0 | 0.12 | 0 | 0 | 2 |
| | | 34.91 TO 34.92 | 0.01 | 53 | 30.75 | 2 | ASPHALT | 182 | 2 | 10 | 60 | 182 | 19 | 17 | 8 | 212 | 2 | 2 | 0.02 | 0 | 0.02 | 0 | 0 | 0 |
| | | 34.92 TO 34.93 | 0.01 | 53 | 39.75 | 1 | ASPHALT | 235 | 2 | 12 | 72 | 235 | 24 | 22 | 10 | 212 | 2 | 2 | 0.02 | 0 | 0.02 | 0 | 0 | 0 |
| | | 34.93 TO 34.94 | 0.01 | 53 | 30.25 | 2 | ASPHALT | 179 | 1 | 9 | 54 | 179 | 18 | 17 | 8 | 212 | 2 | 2 | 0.02 | 0 | 0.02 | 0 | 0 | 0 |
| | | 34.94 TO 35.07 | 0.13 | 687 | 42.00 | 1 | ASPHALT | 3206 | 18 | 161 | 966 | 3206 | 321 | 289 | 134 | 2748 | 14 | 14 | 0.23 | 0 | 0.22 | 0 | 0 | 4 |
| | | 35.07 TO 35.08 | 0.01 | 53 | 29.00 | 2 | ASPHALT | 171 | 1 | 9 | 54 | 171 | 18 | 16 | 8 | 212 | 2 | 2 | 0.02 | 0 | 0.02 | 0 | 0 | 0 |
| | | 35.08 TO 35.14 | 0.06 | 317 | 40.25 | 1 | ASPHALT | 1418 | 8 | 81 | 486 | 1418 | 142 | 128 | 60 | 1268 | 10 | 10 | 0.12 | 0 | 0.12 | 0 | 0 | 0 |
| | | 35.14 TO 35.15 | 0.01 | 53 | 29.75 | 2 | ASPHALT | 176 | 1 | 9 | 54 | 176 | 18 | 16 | 8 | 212 | 2 | 2 | 0.02 | 0 | 0.02 | 0 | 0 | 0 |
| | | 35.15 TO 35.20 | 0.05 | 265 | 39.50 | 1 | ASPHALT | 1164 | 7 | 59 | 354 | 1164 | 117 | 105 | 49 | 1060 | 6 | 6 | 0.10 | 0 | 0.10 | 0 | 0 | 0 |
| | | 35.20 TO 35.21 | 0.01 | 53 | 31.50 | 2 | ASPHALT | 186 | 2 | 10 | 60 | 186 | 19 | 17 | 8 | 212 | 2 | 2 | 0.02 | 0 | 0.02 | 0 | 0 | 0 |
| | | 35.21 TO 35.43 | 0.22 | 1162 | 40.75 | 1 | ASPHALT | 5262 | 30 | 264 | 1584 | 5262 | 527 | 474 | 220 | 4648 | 40 | 40 | 0.38 | 0.05 | 0.30 | 480 | 50 | 9 |
| | | 35.43 TO 35.47 | 0.04 | 212 | 28.25 | 2 | ASPHALT | 666 | 4 | 34 | 204 | 666 | 67 | 60 | 28 | 848 | 4 | 4 | 0.08 | 0 | 0.08 | 0 | 0 | 0 |
| | | 35.47 TO 35.52 | 0.05 | 265 | 40.00 | 1 | ASPHALT | 1178 | 7 | 59 | 354 | 1178 | 118 | 107 | 50 | 1060 | 10 | 10 | 0.09 | 0 | 0.08 | 0 | 0 | 2 |
| | | 35.52 TO 35.55 | 0.03 | 159 | 30.00 | 2 | ASPHALT | 530 | 3 | 27 | 162 | 530 | 53 | 48 | 23 | 636 | 2 | 2 | 0.06 | 0 | 0.04 | 0 | 0 | 2 |
| | | 35.55 TO 35.64 | 0.09 | 476 | 39.75 | 1 | ASPHALT | 2103 | 12 | 106 | 636 | 2103 | 211 | 190 | 88 | 1904 | 8 | 8 | 0.18 | 0 | 0.18 | 0 | 0 | 0 |
| | | 35.64 TO 35.66 | 0.02 | 106 | 31.50 | 2 | ASPHALT | 371 | 3 | 19 | 114 | 371 | 38 | 34 | 16 | 424 | 2 | 2 | 0.04 | 0 | 0.04 | 0 | 0 | 0 |
| | | 35.66 TO 35.72 | 0.06 | 317 | 39.75 | 1 | ASPHALT | 1401 | 8 | 71 | 426 | 1401 | 141 | 127 | 59 | 1268 | 2 | 2 | 0.10 | 0 | 0.12 | 185 | 0 | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| SUBTOTAL | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTALS CARRIED TO GENERAL SUMMARY | | | | | | | | | 195 | 1,689 | 10,134 | 33,345 | 3,345 | 3,013 | 1,402 | 31,308 | 194 | 194 | 2.80 | 0.05 | 2.66 | 775 | 50 | 27 |

TYPICAL SECTIONS (SEGMENT 2)

DESIGN AGENCY
2LMN

DESIGNER
MAK

REVIEWER
ALL 08/22/23

PROJECT ID
110570

SHEET P.009 TOTAL 208

HAM-US 50-29.00

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 1/29/2024 TIME: 12:09:27 PM USER: mswhitt
pw:\\hq-pwin01.a-e.transysocorp.com:transysocorp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Roadway\Sheets\2LMN Sheets\110570_GY001.dgn

| SHEET NUM. | | | | | | | | | | | PART. | | | ITEM | ITEM EXT | GRAND TOTAL | UNIT | DESCRIPTION | SEE SHEET NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P.007 | P.009 | P.011 | P.012 | P.016 | P.059 | P.060 | P.061 | P.063 | P.064 | | 01/NHS/13 | 02/S>2/13 | 03/S>2/05 | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **EROSION CONTROL** | |
| | | | 4 | | | | | | | | 2 | 2 | | 601 | 21050 | 4 | SY | TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT | |
| | | | | | | 5 | | | | | 5 | | | 601 | 21060 | 5 | SY | TIED CONCRETE BLOCK MAT WITH TYPE 2 UNDERLAYMENT | |
| | | 2 | | | | | | | | | 1 | 1 | | 659 | 00100 | 2 | EACH | SOIL ANALYSIS TEST | |
| | | 190 | | | | | | | | | 178 | 12 | | 659 | 00300 | 190 | CY | TOPSOIL | |
| | | 1,708 | | | | | | | | | 1,604 | 104 | | 659 | 10000 | 1,708 | SY | SEEDING AND MULCHING | |
| | | | | | | | | | | | | | | | | | | | |
| | | 86 | | | | | | | | | 81 | 5 | | 659 | 14000 | 86 | SY | REPAIR SEEDING AND MULCHING | |
| | | 86 | | | | | | | | | 81 | 5 | | 659 | 15000 | 86 | SY | INTER-SEEDING | |
| | | 0.24 | | | | | | | | | 0.22 | 0.02 | | 659 | 20000 | 0.24 | TON | COMMERCIAL FERTILIZER | |
| | | 0.35 | | | | | | | | | 0.33 | 0.02 | | 659 | 31000 | 0.35 | ACRE | LIME | |
| | | 10 | | | | | | | | | 9.5 | 0.5 | | 659 | 35000 | 10 | MGAL | WATER | |
| | | | | | | | | | | | | | | | | | | | |
| | | 4 | | | | | | | | | 3.8 | 0.2 | | 659 | 40000 | 4 | MSF | MOWING | |
| | | | | | | 188 | | | | | 188 | | | 670 | 00720 | 188 | SY | DITCH EROSION PROTECTION MAT, TYPE B | |
| | | | | | | | | | LS | | LS | LS | | 832 | 15000 | LS | | STORM WATER POLLUTION PREVENTION PLAN | |
| | | | | | | | | | LS | | LS | LS | | 832 | 15002 | LS | | STORM WATER POLLUTION PREVENTION INSPECTIONS | |
| | | | | | | | | | LS | | LS | LS | | 832 | 15010 | LS | | STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 107,210 | | 36,451 | 70,759 | | 832 | 30000 | 107,210 | EACH | EROSION CONTROL | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **DRAINAGE** | |
| | | | 20 | | | | | | | | 10 | 10 | | 605 | 13300 | 20 | FT | 6" UNCLASSIFIED PIPE UNDERDRAINS | |
| | | | | | | | 3,216 | | | | 2,006 | 1,210 | | 605 | 14000 | 3,216 | FT | 6" BASE PIPE UNDERDRAINS | |
| | | | | | | | 476 | | | | 345 | 131 | | 611 | 00510 | 476 | FT | 6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS | |
| | | | 50 | | | | | | | | 25 | 25 | | 611 | 01500 | 50 | FT | 6" CONDUIT, TYPE F | |
| | | | | | | 371 | | | | | 371 | | | 611 | 04400 | 371 | FT | 12" CONDUIT, TYPE B | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | 98 | | | | | 98 | | | 611 | 04400 | 98 | FT | 12" CONDUIT, TYPE B, 706.02 | |
| | | | | | | 22 | | | | | 22 | | | 611 | 04400 | 22 | FT | 12" CONDUIT, TYPE B, 707.42 | |
| | | | | | | 14 | | | | | 14 | | | 611 | 05900 | 14 | FT | 15" CONDUIT, TYPE B | |
| | | | | | | 141 | | | | | 141 | | | 611 | 10400 | 141 | FT | 24" CONDUIT, TYPE B | |
| | | | | | | 2 | | | | | 2 | | | 611 | 98370 | 2 | EACH | CATCH BASIN, NO. 6 | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | 1 | | | 611 | 99111 | 1 | EACH | INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN A | P.090 |
| | | | | | | 1 | | | | | 1 | | | 611 | 99111 | 1 | EACH | INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN B | P.090 |
| | | | | | | 1 | | | | | | 1 | | 611 | 99151 | 1 | EACH | INLET ADJUSTED TO GRADE, AS PER PLAN | P.090 |
| | | | | | | 2 | | | | | 2 | | | 611 | 99500 | 2 | EACH | INLET, MISC.: I-3A | P.090 |
| | | | | | | 3 | | | | | 3 | | | 611 | 99574 | 3 | EACH | MANHOLE, NO. 3 | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1 | | | | | 1 | | | 611 | 99654 | 1 | EACH | MANHOLE ADJUSTED TO GRADE | |
| | | | 2 | | | | | | | | 1 | 1 | | 611 | 99710 | 2 | EACH | PRECAST REINFORCED CONCRETE OUTLET | |
| | | | 800 | | | | | | | | 550 | 250 | | SPECIAL | 69098100 | 800 | FT | MISC: DRAINAGE SYSTEM CLEANING, 36" AND UNDER | P.012 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **PAVEMENT** | |
| 146 | 195 | | | | | | | | | | | | 341 | 251 | 01030 | 341 | CY | PARTIAL DEPTH PAVEMENT REPAIR (442) | |
| 1,749 | 1,689 | | | | | | | | | | | | 3,438 | 252 | 01001 | 3,438 | SY | FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT, AS PER PLAN | P.013 |
| 10,497 | 10,134 | | | | | | | | | | | | 20,631 | 252 | 01500 | 20,631 | FT | FULL DEPTH PAVEMENT SAWING | |
| 34,989 | 33,345 | | | 6 | | | | 15,208 | | | 2,907 | 12,307 | 68,334 | 254 | 01000 | 83,548 | SY | PAVEMENT PLANING, ASPHALT CONCRETE (1.5" DEEP) | |
| 3,499 | 3,345 | | | | | | | 1,521 | | | 290 | 1,231 | 6,844 | 254 | 01600 | 8,365 | SY | PATCHING PLANED SURFACE | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 1,402 | | | 930 | 472 | | 301 | 56000 | 1,402 | CY | ASPHALT CONCRETE BASE, PG64-22, (449) | |
| | | | | | | | | 1,144 | | | 749 | 395 | | 304 | 20000 | 1,144 | CY | AGGREGATE BASE | |
| 3,149 | 3,013 | | | | | | | 2,102 | | | 770 | 1,332 | 6,162 | 407 | 20000 | 8,264 | GAL | NON-TRACKING TACK COAT | |
| 1,458 | 1,402 | | | | | | | 882 | | | 294 | 588 | 2,860 | 442 | 10000 | 3,742 | CY | ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446) | |
| | | | | | | | | 299 | | | 208 | 91 | | 442 | 10080 | 299 | CY | ASPHALT CONCRETE INTERMEDIATE COURSE, 12.5 MM, TYPE A (446) | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | 73 | | | | | | 36.5 | 36.5 | | 609 | 24510 | 73 | FT | CURB, TYPE 4-C | |
| 28,565 | 31,308 | | | | | | | 19,140 | | | 6,117 | 13,023 | 59,873 | 872 | 10000 | 79,013 | FT | VOID REDUCING ASPHALT MEMBRANE (VRAM) | |

GENERAL SUMMARY

HAM-US 50-29.00

MODEL: General Summary Sheet 02 PAPERSIZE: 34x22 (in.) DATE: 1/29/2024 TIME: 12:10:00 PM USER: mswhitt
pw:\\hq-pwint01.a-e.transysconp.com:transysconp-pw1\Documents\Projects_2020\CL402\402200084\Agency_Folders\400-Engineering\Roadway\Sheets\110570_GG001.dgn

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E. STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.055 TOTAL 208

***ITEM 614, 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 OMUTCD INTENDS THAT FLAGGERS BE USED.*

*IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, 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).*

*IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, 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).*

*FOR OPERATIONS WITHOUT POSITIVE PROTECTION OCCURRING WITHIN 10 FEET OF AN OPEN TRAVELED LANE THAT MEET ALL OF THE FOLLOWING CRITERIA:*
- *ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND*
- *AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND,*
- *AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)*

*"WITHOUT POSITIVE PROTECTION" MEANS USE OF DRUMS, CONES, SHADOW VEHICLE, ETC, WITHOUT PROTECTION FROM PORTABLE BARRIER OR OTHER RIGID BARRIER ALONG THE WORK AREA. THIS PHRASE DOES NOT APPLY TO CASES WHERE POSITIVE PROTECTION IS REQUIRED. MOBILE OPERATIONS ARE REGARDED AS "WITHOUT POSITIVE PROTECTION". FOR WORK ZONES USING A COMBINATION OF BARRIER AND TEMPORARY TRAFFIC CONTROL DEVICES (CONES, DRUMS, ETC), THE DESIGNATION SHALL BE BASED UPON THE TYPE OF DEVICES USED IN THE AREA THAT WORKERS ARE LOCATED.*

*IF MULTIPLE ACTIVE LOCALIZED QUALIFYING WORK AREAS OCCUR WITHOUT POSITIVE PROTECTION, PER MAINLINE TRAFFIC DIRECTION, PROVIDE A UNIFORMED LEO AND OFFICIAL PATROL CAR IN ADVANCE OF:*
- *THE FIRST ACTIVE WORK AREA THAT DRIVERS WILL ENCOUNTER; OR*
- *THE ACTIVE WORK AREA LATERALLY CLOSEST TO THE OPEN TRAVELED LANE; OR*
- *OTHER LOCATION AS APPROVED BY THE ENGINEER.*

*THE UNIFORMED LEO AND OFFICIAL PATROL CAR MAY RELOCATE AMONG THE LISTED LOCATIONS AS APPROPRIATE AS THE OPERATIONS PROCEED IN THE LOCALIZED QUALIFYING WORK AREAS.*

***ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONT.)***

*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 THAT 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 500 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.*

***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.*

***ITEM 614 - WORK ZONE MARKINGS***

*THE CONTRACTOR SHALL PLACE WORK ZONE PAVEMENT MARKINGS UPON COMPLETION OF THE ASPHALT SURFACE COURSE PRIOR TO OPENING THE ROADWAY TO TRAFFIC.*

*THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF C&MS 614.11.*

| | |
|---|---|
| *ITEM 614 WORK ZONE EDGE LINE 6", CLASS I, 807 PAINT* | *3.60 MILE* |
| *ITEM 614 WORK ZONE LANE LINE 6", CLASS I, 807 PAINT* | *1.67 MILE* |
| *ITEM 614 WORK ZONE CHANNELIZING LINE, 12", CLASS I, 807 PAINT* | *4,635 FT* |
| *ITEM 614 WORK ZONE DOTTED LINE, 6", CLASS I, 807 PAINT* | *2,011 FT* |
| *ITEM 614 WORK ZONE EDGE LINE 6", CLASS III, 642 PAINT* | *2.80 MILE* |
| *ITEM 614 WORK ZONE LANE LINE 6", CLASS III, 642 PAINT* | *0.05 MILE* |
| *ITEM 614 WORK ZONE CENTER LINE, CLASS III, 642 PAINT* | *2.66 MILE* |
| *ITEM 614 WORK ZONE CHANNELIZING LINE, 12", CLASS III, 642 PAINT* | *775 FT* |
| *ITEM 614 WORK ZONE STOP LINE, CLASS III, 642 PAINT* | *50 FT* |
| *ITEM 614 WORK ZONE ARROW, CLASS III, 642 PAINT* | *27 EACH* |

## MAINTENANCE OF TRAFFIC - GENERAL NOTES

DESIGN AGENCY
2LMN
DESIGNER JJR
REVIEWER ALL 08/22/23
PROJECT ID 110570
SHEET P.020 TOTAL 208

HAM-US 50-29.00

| SHEET NUM. | | | | | | | | | | | PART. | | | ITEM | ITEM EXT | GRAND TOTAL | UNIT | DESCRIPTION | SEE SHEET NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P.015 | P.016 | P.018 | P.019 | P.020 | P. 023 | P.091 | | | | | 01/NHS/13 | 02/S>2/13 | 03/S>2/05 | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **RETAINING WALLS (001)** | |
| | | | | | | LS | | | | | | LS | | 202 | 11201 | LS | | PORTIONS OF STRUCTURE REMOVED, AS PER PLAN | P.091 |
| | | | | | | 476 | | | | | | 476 | | SPECIAL | 53051020 | 476 | SF | RETAINING WALL, TIMBER LAGGING | P.091 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | LS | | | | | | **STRUCTURE OVER 20 FOOT SPAN (HAM-00050-29.100)** | P.115 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | LS | | | | | | | **STRUCTURE OVER 20 FOOT SPAN (HAM-00050-29.280)** | P.165 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **MAINTENANCE OF TRAFFIC** | |
| | | | | 500 | | | | | | | 200 | 200 | 100 | 614 | 11110 | 500 | HOUR | LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE | |
| | 1,620 | | | | | | | | | | 551 | 1,069 | | 614 | 11630 | 1,620 | FT | INCREASED BARRIER DELINEATION | |
| | | | | | 16 | | | | | | 10 | 6 | | 614 | 12380 | 16 | EACH | WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL) | |
| | | | LS | | | | | | | | LS | | | 614 | 12420 | LS | | DETOUR SIGNING | |
| 8 | | | | | | | | | | | 4 | 4 | | 614 | 12484 | 8 | EACH | WORK ZONE INCREASED PENALTIES SIGN | |
| | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | 2 | 2 | | 614 | 12756 | 4 | EACH | WORK ZONE CROSSOVER LIGHTING SYSTEM | |
| | 192 | | | | | | | | | | 65 | 127 | | 614 | 12801 | 192 | EACH | WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN | P.016 |
| | | 30 | | | | | | | | | 30 | | | 614 | 13000 | 30 | CY | ASPHALT CONCRETE FOR MAINTAINING TRAFFIC | |
| | | | | | 426 | | | | | | 183 | 243 | | 614 | 13310 | 426 | EACH | BARRIER REFLECTOR, TYPE 1 (ONE WAY) | |
| | | | | | 15 | | | | | | 7 | 8 | | 614 | 13312 | 15 | EACH | BARRIER REFLECTOR, TYPE 2 (ONE WAY) | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | 109 | | | | | | 42 | 67 | | 614 | 13350 | 109 | EACH | OBJECT MARKER, ONE WAY | |
| | | | | | 161 | | | | | | 68 | 93 | | 614 | 13360 | 161 | EACH | OBJECT MARKER, TWO WAY | |
| | | | 48 | | | | | | | | 24 | 12 | 12 | 614 | 18601 | 48 | SNMT | PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN | P.019 |
| | | | | | 0.2 | | | | | | 0.2 | | | 614 | 20010 | 0.2 | MILE | WORK ZONE LANE LINE, CLASS I, 6" | |
| | | | | 1.67 | | | | | | | 0.77 | 0.9 | | 614 | 20056 | 1.67 | MILE | WORK ZONE LANE LINE, CLASS I, 6", 807 PAINT | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | 0.05 | | | | | | | | | 0.05 | 614 | 20560 | 0.05 | MILE | WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT | |
| | | | | 2.66 | | | | | | | | | 2.66 | 614 | 21550 | 2.66 | MILE | WORK ZONE CENTER LINE, CLASS III, 642 PAINT | |
| | | | | | 5.8 | | | | | | 2.4 | 3.4 | | 614 | 22010 | 5.8 | MILE | WORK ZONE EDGE LINE, CLASS I, 6" | |
| | | | | 3.6 | | | | | | | 1.91 | 1.69 | | 614 | 22056 | 3.6 | MILE | WORK ZONE EDGE LINE, CLASS I, 6", 807 PAINT | |
| | | | | 2.8 | | | | | | | | | 2.8 | 614 | 22360 | 2.8 | MILE | WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | 1,453 | | | | | | 1,453 | | | 614 | 23010 | 1,453 | FT | WORK ZONE CHANNELIZING LINE, CLASS I, 12" | |
| | | | | 4,635 | | | | | | | 4,635 | | | 614 | 23110 | 4,635 | FT | WORK ZONE CHANNELIZING LINE, CLASS I, 12", 807 PAINT | |
| | | | | 775 | | | | | | | | | 775 | 614 | 23690 | 775 | FT | WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT | |
| | | | | | 2,708 | | | | | | 971 | 1,737 | | 614 | 24000 | 2,708 | FT | WORK ZONE DOTTED LINE, CLASS I | |
| | | | | 2,011 | | | | | | | 1,415 | 596 | | 614 | 24102 | 2,011 | FT | WORK ZONE DOTTED LINE, CLASS I, 6", 807 PAINT | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | 50 | | | | | | | | | 50 | 614 | 26610 | 50 | FT | WORK ZONE STOP LINE, CLASS III, 642 PAINT | |
| | | | | 27 | | | | | | | | | 27 | 614 | 30650 | 27 | EACH | WORK ZONE ARROW, CLASS III, 642 PAINT | |
| | | LS | | | | | | | | | LS | LS | | 615 | 10000 | LS | | ROADS FOR MAINTAINING TRAFFIC | |
| | | | | | 424 | | | | | | 210 | 214 | | 615 | 20000 | 424 | SY | PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A | |
| | | | 20 | | | | | | | | 6 | 6 | 8 | 616 | 10000 | 20 | MGAL | WATER | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | 7,560 | | | | | | 3,046 | 4,514 | | 622 | 41100 | 7,560 | FT | PORTABLE BARRIER, UNANCHORED | |
| | | | | | 3,592 | | | | | | 1,096 | 2,496 | | 622 | 41110 | 3,592 | FT | PORTABLE BARRIER, ANCHORED | |
| | | | | | 10 | | | | | | 5 | 5 | | 630 | 83000 | 10 | SF | COVERING OF SIGN | |
| | 24 | | | | | | | | | | 12 | 12 | | 829 | 00100 | 24 | SNMT | WORK ZONE EGRESS WARNING SYSTEM | |
| | 60,000 | | | | | | | | | | | 60,000 | | 900 | 00100 | 60,000 | EACH | RAILROAD FLAGGING SERVICES | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **INCIDENTALS** | |
| | | | | | | | | | | | LS | LS | LS | 108 | 10000 | LS | | CPM PROGRESS SCHEDULE | |
| | | LS | | | | | | | | | LS | LS | LS | 614 | 11000 | LS | | MAINTAINING TRAFFIC | |
| | | | | | | | | | | | 2 | 4 | 2 | 619 | 16020 | 8 | MNTH | FIELD OFFICE, TYPE C | |
| | | | | | | | | | | | LS | LS | LS | 623 | 10000 | LS | | CONSTRUCTION LAYOUT STAKES AND SURVEYING | |
| | | | | | | | | | | | LS | LS | LS | 624 | 10000 | LS | | MOBILIZATION | |

GENERAL SUMMARY

DESIGN AGENCY
TRANSYSTEMS
1100 SUPERIOR AVE. E., STE 1000
CLEVELAND, OHIO 44114

DESIGNER
MSW

REVIEWER
GHM 08/22/23

PROJECT ID
110570

SHEET P.057 TOTAL 208

HAM-US 50-29.00

MODEL: General Summary Sheet 04 PAPERSIZE: 34x22 (in.) DATE: 2/2/2024 TIME: 9:50:10 AM USER: mswhitt
pw:\\hq-pwint01.a-e.transystems.com:transystemscorp-pw1\Documents\Projects_2020\CIL402\402200084\Agency_Folders\400-Engineering\Roadway\Sheets\110570_GG001.dgn