# STATE OF OHIO
# DEPARTMENT OF TRANSPORTATION

# *BUT-SR 4/129-9.30/2.30*

## *BUTLER COUNTY*

## *REILY TOWNSHIP AND FAIRFIELD TOWNSHIP*

*(SEE SHEET 2 FOR LOCATION MAP)*

### *LOCATION MAP*

*LATITUDE: 39°23'32" LONGITUDE: -84°39'06"*

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

### *DESIGN DESIGNATION*

*SEE SHEET 2*

### *DESIGN EXCEPTIONS*

*NONE*

### *ADA DESIGN WAIVERS*

*NONE*

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

*PLAN PREPARED BY:*
*ODOT DISTRICT 8 ENGINEERING*
*505 SR 741*
*LEBANON, OH 45036*

*ENGINEER'S SEAL*

STATE OF OHIO
MAXWELL L. BAILEY
E-78411
REGISTERED PROFESSIONAL ENGINEER

Digitally signed by mbailey5
Date: 2024.07.12 09:04:04-04'00'

### *INDEX OF SHEETS:*


| | |
|---|---|
| *TITLE SHEET* | *1* |
| *LOCATION MAPS* | *2* |
| *GENERAL NOTES* | *3-4* |
| *MOT NOTES* | *5* |
| *GENERAL SUMMARY* | *6* |
| *BUT-4-0930* | |
| *CULVERT SITE PLAN* | *7* |
| *CULVERT DETAILS* | *8* |
| *BUT-129-0230* | |
| *CULVERT SITE PLAN* | *9* |
| *CULVERT DETAILS* | *10* |


### *FEDERAL PROJECT NUMBER*

E210(523)

### *RAILROAD INVOLVEMENT*

NONE

### *PROJECT DESCRIPTION*

*REHABILITATION OF BRIDGE SIZE TWIN CULVERT BUT-4-0930 OVER SHAFFER CREEK BY REPAIRING DETERIORATED PORTIONS OF THE METAL PIPE. REPAIR BRIDGE SIZE CULVERT BUT-129-0230 OVER A TRIBUTARY TO DRY FORK CREEK BY PAVING THE INVERT WITH CONCRETE AND REPAIRING DETERIORATED PORTIONS OF THE METAL PIPE.*

### *EARTH DISTURBED AREAS*

*PROJECT EARTH DISTURBED AREA:* *ACRES*
*ESTIMATED CONTRACTOR EARTH DISTURBED AREA:* *ACRES*
*NOTICE OF INTENT EARTH DISTURBED AREA:* *N/A ACRES**
**SEE INDIVIDUAL CULVERT SHEETS*

### *2023 SPECIFICATIONS*

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

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

***DISTRICT DEPUTY DIRECTOR***

Tammy K Campbell

***DIRECTOR, DEPARTMENT OF TRANSPORTATION***

Jack Marchbanks

| *STANDARD CONSTRUCTION DRAWINGS* | | | | | | *SUPPLEMENTAL SPECIFICATIONS* | | *SPECIAL PROVISIONS* |
|---|---|---|---|---|---|---|---|---|
| *DM-1.1* | *7/17/20* | | | | | *800-2023* | *01/19/24* | *WATERWAY PERMITS CONDITIONS* |
| | | | | | | *832* | *7/21/23* | |
| *MGS-1.1* | *7/16/21* | | | | | | | *7/8/2024* |
| *MGS-2.1* | *1/19/18* | | | | | | | |
| *MGS-4.2* | *7/19/13* | | | | | | | |
| *MT-95.31* | *7/19/19* | | | | | | | |
| *MT-95.40* | *7/21/23* | | | | | | | |
| *MT-95.45* | *7/21/23* | | | | | | | |
| *MT-97.10* | *4/19/19* | | | | | | | |
| *MT-105.10* | *1/17/20* | | | | | | | |
| *MT-110.10* | *7/19/13* | | | | | | | |

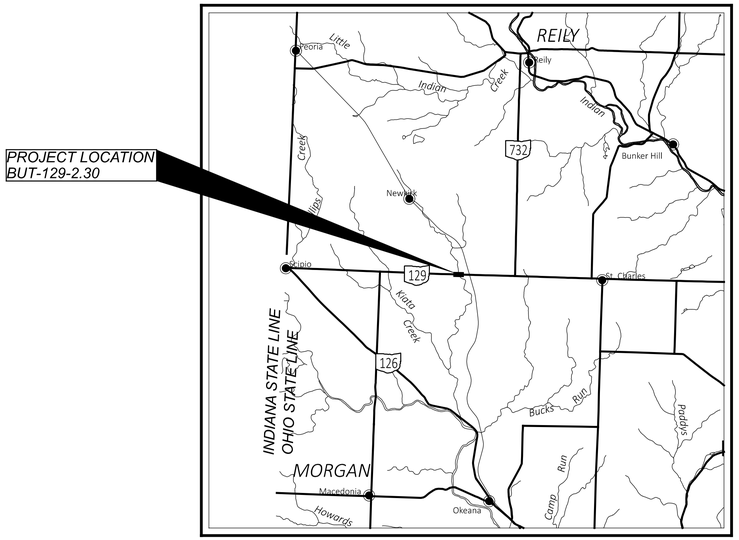
TITLE SHEET

DESIGN AGENCY

DESIGNER MLB
REVIEWER TRB 02-23-24
PROJECT ID 112976
SHEET 01 TOTAL 10

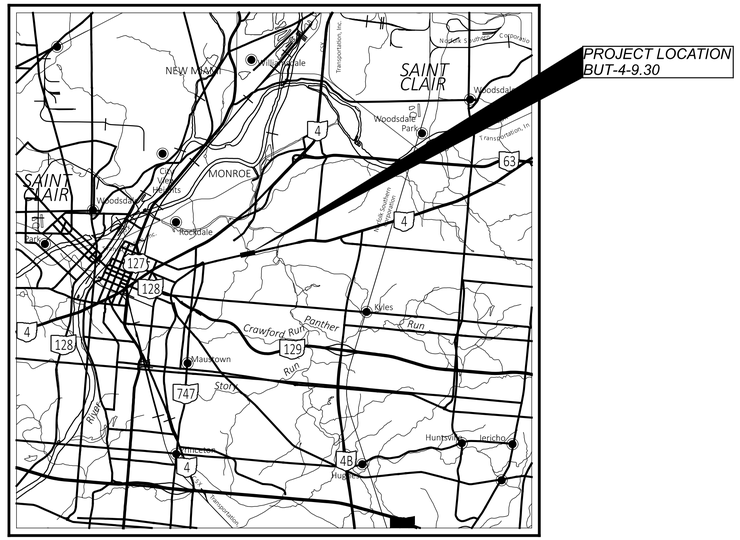
BUT SR 4/129 9.30/2.30


MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/12/2024 TIME: 8:48:55 AM USER: mbailey5
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Butler\112976\400-Engineering\Roadway\Sheets\112976_GT001.dgn




**LOCATION MAP**

*BUT-SR 129-2.30*




**LOCATION MAP**

*BUT-SR 4-9.30*

*PORTION TO BE IMPROVED* ▬▬▬

*INTERSTATE HIGHWAY* ▬▬▬

*FEDERAL ROUTES* ▬▬▬

*STATE ROUTES* ▬▬▬

*COUNTY & TOWNSHIP ROADS* ▬▬▬

*OTHER ROADS* ▬▬▬

## *DESIGN DESIGNATION*

| | |
|---|---|
| *CURRENT ADT (2025)* | *1,900* |
| *DESIGN YEAR ADT (2037)* | *2,400* |
| *DESIGN HOURLY VOLUME (2037)* | *300* |
| *DIRECTIONAL DISTRIBUTION* | *54%* |
| *TRUCKS (24 HOUR B&C)* | *5%* |
| *DESIGN SPEED* | *60* |
| *LEGAL SPEED* | *55* |
| *DESIGN FUNCTIONAL CLASSIFICATION:* | |
| *05 MAJOR COLLECTOR RURAL* | |
| *NHS PROJECT* | *NO* |

*PORTION TO BE IMPROVED* ▬▬▬

*INTERSTATE HIGHWAY* ▬▬▬

*FEDERAL ROUTES* ▬▬▬

*STATE ROUTES* ▬▬▬

*COUNTY & TOWNSHIP ROADS* ▬▬▬

*OTHER ROADS* ▬▬▬

## *DESIGN DESIGNATION*

| | |
|---|---|
| *CURRENT ADT (2025)* | *16,500* |
| *DESIGN YEAR ADT (2037)* | *17,500* |
| *DESIGN HOURLY VOLUME (2037)* | *2,100* |
| *DIRECTIONAL DISTRIBUTION* | *52%* |
| *TRUCKS (24 HOUR B&C)* | *4%* |
| *DESIGN SPEED* | *50* |
| *LEGAL SPEED* | *45* |
| *DESIGN FUNCTIONAL CLASSIFICATION:* | |
| *03 OTHER PRINCIPAL ARTERIAL URBAN* | |
| *NHS PROJECT* | *YES* |

LOCATION MAP

DESIGN AGENCY

DESIGNER
GAT

REVIEWER
TRB 02-23-24

PROJECT ID
112976

SHEET 02 | TOTAL 10

BUT SR 4/129 9.30/2.30

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**ENDANGERED BAT HABITAT REMOVAL**

THIS PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT, AND NORTHERN LONG-EARED BAT. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT (ESA). FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS: A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK 3 INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

**WORK LIMITS**

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

**SEEDING AND MULCHING**

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

| | |
|---|---|
| 659, TOPSOIL | 505 CU. YD. |
| 659, SEEDING AND MULCHING | 4,550 SQ. YD. |
| 659, COMMERCIAL FERTILIZER | 0.61 TON |
| 659, LIME | 0.94 ACRES |
| 659, WATER | 24.6 M. GAL. |

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

**ITEM 601 - ROCK CHANNEL PROTECTION, MISC.: REMOVAL OF ROCK IN STRUCTURE AND REPLACEMENT**

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING ROCK FROM THE INVERT OF THE EXISTING CULVERT AND PLACING IT BACK ONCE THE INVERT FIELD PAVING IS COMPLETE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE LUMP SUM BID FOR ITEM 601, ROCK CHANNEL PROTECTION MISC.: REMOVAL OF ROCK IN STRUCTURE AND REPLACEMENT AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE WORK.

**ITEM 202 - REMOVAL, MISC.: DISINTEGRATED CONCRETE**

THIS ITEM SHALL CONSIST OF REMOVING DISINTEGRATED CONCRETE FROM THE FACE OF THE EXISTING HEADWALLS AND WINGWALLS AT THE BUT-4-0930 CULVERT LOCATION. DISINTEGRATED CONCRETE SHALL BE REMOVED TO A MAXIMUM DEPTH OF 5". CONCRETE REMOVAL SHALL BE REMOVED PER CMS 519.03 AND THE CONCRETE SURFACE PREPARATION SHALL BE COMPLETE PER CMS 519.04.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID FOR ITEM 202, REMOVAL, MISC.: DISINTEGRATED CONCRETE AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE WORK.

**UTILITIES**

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

CITY OF HAMILTON

WATER, NATURAL GAS AND SANITARY SEWER
CITY OF HAMILTON ENGINEERING
345 HIGH STREET, FLOOR 3
HAMILTON, OH 45011
JOY RODENBURGH, P.E.
513-785-7280

STORM WATER
CITY OF HAMILTON ENGINEERING
345 HIGH STREET, FLOOR 3
HAMILTON, OH 45011
ALLEN MESSER, P.E.
513-785-7280

**COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN**

COFFERDAMS AND EXCAVATION BRACING INSTALLED FOR THE PROJECT ARE FOR DEWATERING THE WORK AREA AND ARE CONSIDERED FILL. COFFERDAMS AND EXCAVATION BRACING DESIGN, CONSTRUCTION, AND REIMBURSEMENT FOR DAMAGE IS BASED ON CMS 503. THE CONTRACTOR MUST COMPLY WITH ANY IN-STREAM RESTRICTION IN THE SPECIAL PROVISIONS WATERWAY PERMIT. ADDING FILL TO THE STREAM TO DEWATER THE WORK AREA REQUIRES A TEMPORARY ACCESS FILL (TAF) SUBMISSION PER THE SPECIAL PROVISIONS.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM DURING THE MONTHS OF APRIL THROUGH OCTOBER: ALL REQUIREMENTS OF CMS 503 APPLY, UNLESS STIPULATED ELSEWHERE IN THIS NOTE.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM AT ANY TIME IN THE MONTHS OF NOVEMBER THROUGH MARCH: EVEN IF THE ACTUAL WATER ELEVATION EXCEEDS 3 FEET ABOVE THE STATED ORDINARY HIGH WATER MARK, THE DEPARTMENT WILL NOT REIMBURSE THE CONTRACTOR FOR RESULTING DAMAGE TO THE WORK PROTECTED BY THE COFFERDAM. ALL OTHER REQUIREMENTS OF CMS 503 APPLY.

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH REBOUNDABLE RETROREFLECTIVE SHEETING, PER CMS 730.191.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

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

THIS PROJECT HAS BEEN IDENTIFIED AS BEING WITHIN THE INFLUENCE AREA OF A PUBLIC USE AIRPORT OR HELIPORT. NO TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT AT MAXIMUM OPERATING HEIGHT SHALL EXCEED A HEIGHT OF 25 FT. IF ANY TEMPORARY STRUCTURES OR CONSTRUCTION EQUIPMENT WILL EXCEED THIS HEIGHT, FURTHER COORDINATION WITH THE FEDERAL AVIATION ADMINISTRATION (FAA), AND ODOT OFFICE OF AVIATION, WILL BE NECESSARY PRIOR TO ERECTING SUCH TEMPORARY STRUCTURES OR OPERATING SUCH EQUIPMENT ON THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT FORM 7460-1 TO THE FAA. NOTIFY THE ODOT OFFICE OF AVIATION WHEN SUBMITTING FAA FORM 7460-1.

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

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

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

GENERAL NOTES

DESIGN AGENCY

DESIGNER MLB

REVIEWER TRB 02-23-24

PROJECT ID 112976

SHEET 03 TOTAL 10

BUT SR 4/129 9.30/2.30

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/12/2024 TIME: 8:49:14 AM USER: mbailey5
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**CMP REPAIR METHOD A- METAL SEALER**

*PROTECTIVE COATING REPAIR USING A METAL SEALER: CMP REPAIR METHOD A IS INTENDED FOR REPAIRING AREAS OF CORRUGATED METAL PIPES THAT HAVE NOT EXPERIENCED ANY SIGNIFICANT SECTION LOSS, BUT HAS EXPERIENCED MINOR SURFACE RUST, FRECKLED RUST, LEACHING, OR LOSS OF GALVANIZATION. REPAIR AREAS AS SHOWN IN THE PLANS PER ONE OF THE FOLLOWING MANUFACTURES PRODUCTS:*

*REPAIR USING DIAMANT/STRONGHOLD ONE METAL SEALER: CLEAN SURFACE TO BE TREATED WITH DIAMANT CLEANER #1417 TO REMOVE ANY OIL, GREASE OR DIRT. APPLY DICHTOL 1546 BLUE BY BRUSH OR BY SPRAY METHOD (BRUSH ONLY IF PERFORMED OVER STANDING WATER) PER MANUFACTURER APPROVED METHOD. APPLY A MINIMUM OF 2 COATS AT 1 MINUTE INTERVALS FOR A TOTAL THICKNESS OF 0.003". MULTIPLE COATS MAY BE NEEDED UNTIL SEALER BEGINS TO BUILD. DO NOT ALLOW TO DRY BETWEEN COATS.*

*OR*

*REPAIR USING DEVCON EZ SPRAY CERAMIC RED/BLUE: CLEAN THE SURFACE WITH DEVCON CLEANER BLEND 300 TO REMOVE ANY OIL, GREASE OR DIRT. GRIT BLAST SURFACE WITH 8-40 MESH TO AN SSPC SP-10 PROFILE THEN LEAVE OVERNIGHT TO ALLOW ANY SALT TO SWEAT TO THE SURFACE. REPEAT BLASTING NEXT DAY. PERFORM CHLORIDE PENETRATION TEST TO DETERMINE SOLUBLE SALT CONTENT IS LESS THAN 40 PPM. USE SALT REMOVER SUCH AS CHLOR-RID OR APPROVED EQUAL TO REMOVE SALTS. CLEAN SURFACE AGAIN WITH DEVCON CLEANER BLEND 300. APPLY THE FIRST COAT OF EZ SPRAY CERAMIC AT A THICKNESS OF APPROXIMATELY 15 MIL (0.015 IN). APPLY A SECOND COAT OF EZ SPRAY CERAMIC AT A THICKNESS OF APPROXIMATELY 15 MIL (0.015 IN) DURING THE RE-COAT TIME PERIOD OF 4-6 HOURS AFTER THE FIRST COAT WAS APPLIED TO ENSURE PROPER ADHESION.*

*OR*

*REPAIR USING LOCTITE PC 7693 COLD GALVANIZING COATING COMPOUND: CLEAN THE SURFACE WITH LOCTITE 7840 TO REMOVE ANY OIL GREASE OR DIRT. GRIT BLAST SURFACE WITH 8-40 MESH TO AN SSPC SP-10 PROFILE THEN LEAVE OVERNIGHT TO ALLOW ANY SALT TO SWEAT TO THE SURFACE. REPEAT BLASTING NEXT DAY. PERFORM CHLORIDE PENETRATION TEST TO DETERMINE IF SOLUBLE SALT CONTENT IS LESS THAN 40 PPM. USE SALT REMOVER SUCH AS CHLOR-RID OR APPROVED EQUAL TO REMOVE SALTS. APPLY TWO COATS OF LOCTITE PC 7693 GALVANIZING COATING COMPOUND AT 15 MINUTE INTERVALS.*

*PAYMENT FOR ALL REPAIR OPTIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 CONDUIT, MISC.: REPAIR METHOD A. QUANTITIES LISTED ON PLAN SHEETS ARE FOR ESTIMATE PURPOSES ONLY AND SHALL BE FIELD VERIFIED. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPENCIES.*

**CMP REPAIR METHOD B- METAL REPAIR OF SECTION LOSS**

*CMP REAIR METHOD B IS INTENDED TO USE A METAL REPAIR PUTTY FOR REPAIRING AREAS OF CORRUGATED METAL PIPES THAT HAVE EXPERIENCED MINOR TO MODERATE SECTION LOSS AS EVIDENT BY DARK BROWN AREAS, LOSS OF MATERIAL WITH DEEP PITS, AND/OR SMALL FLAKING METAL. PRIOR TO CMP REPAIR DESCRIBED BELOW, ANY REPAIR AREA EXHIBITING ACTIVE WATER INFILTRATION SHALL BE SEALED WITH AN ALL-WEATHER CMP COMPATIBLE HYDROPHOBIC GROUT. THE EXISTING CMP SHALL BE CLEANED AND PREPARED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AND HYDROPHOBIC GROUT SHALL BE INSTALLED AS DIRECTED BY THE MANUFACTURER. REPAIR PER ONE OF THE FOLLOWING MANUFACTURERS PRODUCTS:*

*REPAIR USING DIAMANT/STRONGHOLD ONE MATERIAL REPACOAT 2447: GRIT BLAST AREAS WITH AN 8-40 MESH GRIT TO AN SSPC SP-10 PROFILE AND TREAT WITH ONE COAT OF DICHTOL 1546 PER REPAIR METHOD A FOR A DISTANCE OF 12" PAST THE LIMITS OF RUST. APPLY REPACOUR 2447 TO FILL THE AREAS OF SECTION LOSS AND RUSTING PLUS AN ADDITIONAL 2" PERIMETER IN ALL DIRECTIONS. THE TOTAL COATING SHALL FILL THE DETERIORATED AND HAVE A MINIMUM THICKNESS OF 0.0125" THICK.*

*OR*

*REPAIR USING DEVCON PLASTIC STEEL LIQUID AND EZ SPRAY CERAMIC RED/BLUE: CLEAN THE SURFACE WITH DEVCON CLEANER BLEND 300 TO REMOVE ANY OIL, GREASE OR DIRT. GRIT BLAST TO AN SSPC SP-10 PROFILE FOR A DISTANCE OF 12"PAST THE LIMITS OF RUST. APPLY PLASTIC STEEL LIQUID (B) TO FILL THE AREAS OF SECTION LOSS AND RUSTING FOR A DISTANCE OF 2" PAST THE ORIGINAL LIMITS OF RUST. THE SECTION LOSS SHALL BE FILLED PLUS AN ADDITIONAL MINIMUM THICKNESS OF 1/8" OF MATERIAL SHALL BE SPREAD OVER THE RUSTED/REPAIRED AREA AND THE 2"PERIMETER AREA. APPLY THE FIRST COAT OF EZ SPRAY CERAMIC AT A THICKNESS OF APPROXIMATELY 15 MIL (0.015 IN) DURING THE RE-COAT TIME PERIOD OF 2-4 HOURS AFTER THE PLASTIC STEEL LIQUID IS APPLIED TO ENSURE PROPER ADHESION. APPLY A SECOND COAT OF EZ SPRAY CERAMIC AT A THICKNESS OF APPROXIMATELY 15 MIL (0.015 IN) DURING THE RE-COAT TIME PERIOD OF 4-6 HOURS AFTER THE FIRST COAT WAS APPLIED TO ENSURE PROPER ADHESION. EZ SPRAY CERAMIC SHALL BE PLACED 12" PAST THE LIMITS OF RUST.*

*OR*

*CLEAN THE SURFACE WITH LOCTITE 7840 TO REMOVE ANY OIL, GREASE, OR DIRT. REPAIR USING LOCTITE EA 3471 NA (FIXMASTER STEEL PUTTY): GRIT BLAST AREAS WITH AN 8-40 MESH GRIT TO AN SSPC SP-10 PROFILE AND TREAT WITH EITHER PRODUCT IN CMP REPAIR METHOD A FOR A DISTANCE OF 12" PAST THE LIMITS OF RUST. APPLY LOCTITE EA 3471 TO FILL THE AREAS OF SECTION LOSS AND RUSTING FOR A DISTANCE OF 2" PAST THE ORIGINAL LIMITS OF RUST. THE SECTION LOSS SHALL BE FILLED PLUS AN ADDITIONAL MINIMUM THICKNESS OF 1/16" OF MATERIAL SHALL BE SPREAD OVER THE RUSTED/REPAIRED AREA AND THE 2" PERIMETER AREA.*

*OR*

*CLEAN THE SURFACE WITH LOCTITIE 7840 TO REMOVE ANY GREASE OR DIRT. GRIT BLAST AREAS WITH AN 8-40 MESH GRIT TO AN SSPC SP-10 PROFILE. APPLY LOCTITIE EA 3471 TO FILL THE AREAS OF SECTION LOSS AND RUSTING PLUS AND ADDITIONAL 4" PERIMETER IN ALL DIRECTIONS. TREAT WITH ONE COAT OF LOCTITE PC 7693 GALVANIZING COATING COMPOUND PER REPAIR METHOD A FOR A DISTANCE OF 12" PAST THE LIMITS OF RUST. THE SECTION LOSS SHALL BE FILLED PLUS AN ADDITIONAL MINIMUM THICKNESS OF 1/16" OF MATERIAL SHALL BE SPREAD OVER THE REPAIR AREA.*

*PAYMENT FOR ALL REPAIRS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 CONDUIT, MISC.: REPAIR METHOD B. QUANTITIES LISTED ON PLAN SHEETS ARE FOR ESTIMATE PURPOSES ONLY AND SHALL BE FIELD VERIFIED. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPENCIES.*

***CMP REPAIR METHOD C- METAL REPAIR OF SECTION LOSS WITH PERFORATIONS***

*CMP REPAIR METHOD C IS INTENDED FOR REPAIRING AREAS OF CORRUGATED METAL PIPES THAT ARE PERFORATED OR ARE VERY THIN AFTER GRIT BLASTING AS EVIDENT BY DARK BROWN LAYERED RUST AND OR THE PRESENCE OF HOLES. THIS REPAIR IS NOT INTENDED TO ACT AS A FULLY STRUCTURAL REPAIR, BUT IT IS INTENDED TO STOP CORROSION AND PREVENT BACKFILL INFILTRATION. REPAIR AS FOLLOWS:*

*REPAIR USING DIAMANT/STRONGHOLD ONE MATERIAL MM1018 PUTTY: FILL HOLES THAT ARE LEAKING BACKFILL WITH EXPANDABLE FOAM, HYDRAULIC CEMENT, OR OTHER REPAIR METHODS AS NECESSARY. THE FILL MATERIAL SHALL NOT REDUCE THE REPAIR THICKNESS BY EXTENDING INTO THE THICKNESS OF THE CONDUIT WALL REPAIR. GRIT BLAST AREAS WITH AN 8-40 MESH GRIT TO AN SSPC SP-10 PROFILE AND TREAT WITH ONE COAT OF DICHTOL 1546 PER REPAIR METHOD A FOR A DISTANCE OF 12" PAST THE LIMITS OF RUST. APPLY MM1018 METAL POLYMER PUTTY TO FILL THE AREAS OF SECTION LOSS AND RUSTING PLUS AN ADDITIONAL 4" PERIMETER IN ALL DIRECTIONS. THE SECTION LOSS SHALL BE FILLED PLUS AN ADDITIONAL MINIMUM THICKNESS OF 1/16" OF MATERIAL SHALL BE SPREAD OVER THE REPAIR AREA. AN 18 GAGE, GALVANIZED METAL MESH WITH A 1/8" GRID SPACING SHALL BE PRESSED INTO THE REPAIR AREA CONFORMING TO THE METAL CORRUGATIONS. THE METAL MESH SHALL EXTEND 2" PAST THE RUSTED AREAS. ADDITIONAL MATERIAL SHALL BE PLACED IN A SECOND COATING TO ENSURE THE METAL MESH IS IN FULLY ENGULFED BY THE PUTTY AND HAS A 1/16" MINIMUM THICKNESS OVERTOP OF THE MESH.*

*OR*

*REPAIR USING DEVCON PLASTIC STEEL PUTTY AND EZ SPRAY CERAMIC RED/BLUE: FILL HOLES THAT ARE LEAKING BACKFILL WITH EXPANDABLE FOAM, HYDRAULIC CEMENT, OR OTHER APPROVED REPAIR METHODS AS NECESSARY. THE FILL MATERIAL SHALL NOT REDUCE THE REPAIR THICKNESS BY EXTENDING INTO THE THICKNESS OF THE CONDUIT WALL REPAIR. CLEAN THE SURFACE WITH DEVCON CLEANER BLEND 300 TO REMOVE ANY OIL, GREASE OR DIRT. GRIT BLAST TO AN SSPC SP-10 PROFILE FOR A DISTANCE OF 12" PAST THE LIMITS OF RUST. APPLY DEVCON PLASTIC STEEL PUTTY (A) TO FILL THE AREAS OF SECTION LOSS AND RUSTING PLUS AN ADDITIONAL 4" PERIMETER IN ALL DIRECTIONS. THE SECTION LOSS SHALL BE FILLED PLUS AN ADDITIONAL MINIMUM THICKNESS OF 1/16"OF MATERIAL SHALL BE SPREAD OVER THE REPAIR AREA. AN 18 GAGE, GALVANIZED METAL MESH WITH A 1/8" GRID SPACING SHALL BE PRESSED INTO THE REPAIR AREA CONFORMING TO THE METAL CORRUGATIONS. THE METAL MESH SHALL EXTEND 2" PAST THE RUSTED AREAS. ADDITIONAL MATERIAL SHALL BE PLACED IN A SECOND COATING TO ENSURE THE METAL MESH IS IN FULLY ENGULFED BY THE PUTTY AND HAS A 1/16"MINIMUM THICKNESS OVERTOP OF THE MESH. FOR A DISTANCE OF 12" AROUND THE RUSTED AREA APPLY THE FIRST COAT OF EZ SPRAY CERAMIC AT A THICKNESS OF APPROXIMATELY 15 MIL (0.015 IN) DURING THE RECOAT TIME PERIOD OF 2-4 HOURS AFTER THE PLASTIC STEEL PUTTY IS APPLIED TO ENSURE PROPER ADHESION. APPLY A SECOND COAT OF EZ SPRAY CERAMIC AT A THICKNESS OF APPROXIMATELY 15 MIL (0.015 IN) DURING THE RECOAT TIME PERIOD OF 4-6 HOURS AFTER THE FIRST COAT WAS APPLIED TO ENSURE PROPER ADHESION.*

*OR*

*REPAIR USING LOCTITE EA 3471 NA (FIXMASTER STEEL PUTTY): FILL HOLES THAT ARE LEAKING BACKFILL WITH EXPANDABLE FOAM (LOCTITE TITE FOAM), HYDRAULIC CEMENT, OR OTHER REPAIR METHODS AS NECESSARY. THE FILL MATERIAL SHALL NOT REDUCE THE REPAIR THICKNESS BY EXTENDING INTO THE THICKNESS OF THE CONDUIT WALL. CLEAN THE SURFACE WITH LOCTITE 7840 TO REMOVE ANY OIL, GREASE, OR DIRT FOR A DISTANCE OF 12" PAST THE LIMITS OF RUST. GRIT BLAST AREAS WITH AN 8-40 MESH GRIT TO AN SSPC SP-10 PROFILE. APPLY LOCTITE FIXMASTER STEEL PUTTY TO FILL THE AREAS OF SECTION LOSS AND RUSTING PLUS AN ADDITIONAL 4" PERIMETER IN ALL DIRECTIONS. AN 18 GAUGE FALVANIZED METAL MESH WITH 1/8" GIRD SPACING SHALL BE PRESSED INTO THE REPAIR AREA CONFORMING TO THE METAL CORRUGATIONS. THE METAL MESH SHALL EXTEND 2" PAST THE RUSTED AREA. TREAT WITH ONE COAT OF LOCTITE PC 7693 GALVANIZING COATING COMPOUND PER REPAIR METHOD A FOR A DISTANCE OF 12" PAST THE LIMITS OF RUST. THE SECTION LOSS SHALL BE FILLED PLUS AN ADDITIONAL MINIMUM THICKNESS OF 1/16" OF MATERIAL SHALL BE SPREAD OVER THE REPAIR AREA. AN 18 GAGE, GALVANIZED METAL MESH WITH A 1/8" GRID SPACING SHALL BE PRESSED INTO THE REPAIR AREA CONFORMING TO THE METAL CORRUGATIONS. THE METAL MESH SHALL EXTEND 2" PAST THE RUSTED AREA. ADDITIONAL MATERIAL SHALL BE PLACED IN A SECOND COATING TO ENSURE THE METAL MESH IS FULLY ENGULFED BY THE PUTTY AND HAS A 1/16" MINIMUM THICKNESS OVERTOP OF THE MESH.*

*PAYMENT FOR ALL REPAIRS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 611 CONDUIT, MISC.: REPAIR METHOD C. QUANTITIES LISTED ON PLAN SHEETS ARE FOR ESTIMATE PURPOSES ONLY AND SHALL BE FIELD VERIFIED. THE ENGINEER SHALL BE NOTIFIED OF ANY QUANTITY DISCREPENCIES.*

***MOCK UP***

*FOR REPAIR METHOD A, REPAIR METHOD B, AND REPAIR METHOD C, THE CONTRACTOR SHALL CONDUCT A SEPARATE MOCK-UP REPAIR USING THE PRODUCTS CHOSEN BY THE CONTRACTOR FOR EACH REPAIR METHOD. THE MOCK-UP SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER AND THE PRODUCT'S REPRESENTATIVE FOR ACCEPTANCE OF THE APPLICATION, MEANS AND METHODS. THIS MOCK-UP MAY BE CONDUCTED ON A REPRESENTATIVE SECTION OF THE DEFECTIVE PIPE AT A LOCATION AGREED UPON BY THE ENGINEER. UPON ACCEPTANCE OF THE MOCK-UP BY THE ENGINEER, THE CONTRACTOR MAY PROCEED WITH PROJECT REPAIRS.*

GENERAL NOTES

DESIGN AGENCY

DESIGNER MLB

REVIEWER TRB 02-23-24

PROJECT ID 112976

SHEET 04 TOTAL 10

BUT SR 4/129 9.30/2.30

**ITEM 614, MAINTAINING TRAFFIC**

ALL LANES OF TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT. LANE CLOSURES ARE PERMITTED PER THE LANE VALUE CONTRACT TABLE.

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

NEW YEAR'S (OBSERVED)
GENERAL/REGULAR ELECTION DAY (NOV)
TOTAL SOLAR ECLIPSE (4/8/24)
MEMORIAL DAY
FOURTH OF JULY (OBSERVED)
LABOR DAY
THANKSGIVING
CHRISTMAS (OBSERVED)
(OTHER HOLIDAY OR SPECIAL EVENT)

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

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

DURING THE SAME PERIODS, MAINTAIN PEDESTRAIN ACCESS IF PEDESTRIAN ACCESS WAS PRESENT PRIOR TO CONSTRUCTION.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE PER THE LANE VALUE CONTRACT (PN 127).

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

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

| DESCRIPTION OF CRITICAL LANE TO BE MAINTAINED | RESTRICTED TIME PERIOD | TIME UNIT | DISINCENTIVE PER LANE PER TIME UNIT |
|---|---|---|---|
| BUT-4-0930 | NO RESTRICTIONS | 1 MINUTE | $80 |
| BUT-129-0230 | NO RESTRICTIONS | 1 MINUTE | $20 |

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

| ITEM | DURATION OF CLOSURE | NOTICE DUE TO PERMITS & PIO |
|---|---|---|
| RAMP & ROAD CLOSURES | >= 2 WEEKS | 21 CALENDAR DAYS PRIOR TO CLOSURE |
| | > 12 HOURS & < 2 WEEKS | 14 CALENDAR DAYS PRIOR TO CLOSURE |
| | <= 12 HOURS | 4 CALENDAR DAYS PRIOR TO CLOSURE |
| LANE CLOSURES & RESTRICTIONS | >= 2 WEEKS | 14 CALENDAR DAYS PRIOR TO CLOSURE |
| | < 2 WEEKS | 5 BUSINESS DAYS PRIOR TO CLOSURE |
| START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES | N/A | 14 CALENDAR DAYS PRIOR TO IMPLEMENTATION |

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

**ACCESS BEHIND GUARDRAIL**

REMOVE AND RE-ERECT GUARDRAIL AS NECESSARY FOR ACCESS TO A WORK LOCATION. REMOVE GUARDRAIL ONLY WHEN IT CAN BE REPLACED ON THE SAME DAY. OBTAIN APPROVAL FROM THE ENGINEER FOR EACH LOCATION, PRIOR TO PERFORMING THE WORK. THIS WORK INCLUDES REMOVAL OF EXISTING GUARDRAIL AND POSTS AND RE-ERECTION OF THE SAME MATERIALS. EXISTING RAIL ELEMANTS AND BARRIER REFLECTORS MAY BE REUSED.

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

MOT NOTES

DESIGN AGENCY

DESIGNER MLB

REVIEWER SK 03-19-24

PROJECT ID 112976

SHEET 05 TOTAL 10

BUT SR 4/129-9.30/2.30

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/12/2024 TIME: 8:49:33 AM USER: mbailey5
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Butler\112976400-Engineering\MOT\Sheets\112976_MN001.dgn

| SHEET NUM. | | | | | | | | | | | | PART. | | ITEM | ITEM EXT | GRAND TOTAL | UNIT | DESCRIPTION | SEE SHEET NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 7 | 9 | | | | | | | | | | 01/NHS/13 | 02/STR/13 | | | | | | |
| | | | | | | | | | | | | | | | | | | **ROADWAY** | |
| | | | | | | | | | | | | LS | LS | 201 | 11000 | LS | | CLEARING AND GRUBBING | |
| | 327 | | | | | | | | | | | 327 | | 202 | 38000 | 327 | FT | GUARDRAIL REMOVED | |
| | 4 | | | | | | | | | | | 4 | | 202 | 42040 | 4 | EACH | ANCHOR ASSEMBLY REMOVED, TYPE T | |
| | LS | LS | | | | | | | | | | LS | LS | 503 | 11101 | LS | | COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN | 3 |
| | | | | | | | | | | | | | | | | | | | |
| | 275 | | | | | | | | | | | 275 | | 606 | 15050 | 275 | FT | GUARDRAIL, TYPE MGS | |
| | 6 | | | | | | | | | | | 6 | | 606 | 26550 | 6 | EACH | ANCHOR ASSEMBLY, MGS TYPE T | |
| | 6 | | | | | | | | | | | 6 | | 626 | 00110 | 6 | EACH | BARRIER REFLECTOR, TYPE 2 BI-DIRECTIONAL | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **EROSION CONTROL** | |
| 4,550 | | | | | | | | | | | | 2,275 | 2,275 | 659 | 10000 | 4,550 | SY | SEEDING AND MULCHING | |
| 0.61 | | | | | | | | | | | | 0.3 | 0.31 | 659 | 20000 | 0.61 | TON | COMMERCIAL FERTILIZER | |
| 0.94 | | | | | | | | | | | | 0.47 | 0.47 | 659 | 31000 | 0.94 | ACRE | LIME | |
| 24.6 | | | | | | | | | | | | 12.3 | 12.3 | 659 | 35000 | 24.6 | MGAL | WATER | |
| 5,000 | | | | | | | | | | | | 2,500 | 2,500 | 832 | 30000 | 5,000 | EACH | EROSION CONTROL | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **DRAINAGE** | |
| | 1 | | | | | | | | | | | 1 | | 611 | 13600 | 1 | FT | 30" CONDUIT, TYPE C | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **STRUCTURE OVER 20 FOOT SPAN (BUT-4-0930)** | |
| | 675 | | | | | | | | | | | 675 | | 202 | 98400 | 675 | SF | REMOVAL MISC.: DISINTEGRATED CONCRETE | 3 |
| | 3,832 | | | | | | | | | | | 3,832 | | 509 | 26000 | 3,832 | LB | GALVANIZED STEEL REINFORCEMENT | |
| | 410 | | | | | | | | | | | 410 | | 510 | 10000 | 410 | EACH | DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT | |
| | 41.8 | | | | | | | | | | | 41.8 | | 511 | 46010 | 41.8 | CY | CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING | |
| | 125 | | | | | | | | | | | 125 | | 512 | 10100 | 125 | SY | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), FEDERAL COLOR 17778 | |
| | | | | | | | | | | | | | | | | | | | |
| | 235 | | | | | | | | | | | 235 | | 611 | 97700 | 235 | SF | CONDUIT, MISC.: CMP REPAIR METHOD A | 4 |
| | 35 | | | | | | | | | | | 35 | | 611 | 97700 | 35 | SF | CONDUIT, MISC.: CMP REPAIR METHOD B | 4 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **STRUCTURE OVER 20 FOOT SPAN (BUT-129-0230)** | |
| | | LS | | | | | | | | | | | LS | 601 | 35100 | LS | | ROCK CHANNEL PROTECTION, MISC.: REMOVAL OF ROCK IN STRUCTURE AND REPLACEMENT | 3 |
| | | 25 | | | | | | | | | | | 25 | 601 | 34200 | 25 | CY | ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER | |
| | | 84 | | | | | | | | | | | 84 | 611 | 96551 | 84 | FT | FIELD PAVING OF EXISTING PIPE, AS PER PLAN, 20'-1" x 13' CMP ARCH | 9 |
| | | 44 | | | | | | | | | | | 44 | 611 | 97700 | 44 | SF | CONDUIT, MISC.: CMP REPAIR METHOD A | 4 |
| | | 4 | | | | | | | | | | | 4 | 611 | 97700 | 4 | SF | CONDUIT, MISC.: CMP REPAIR METHOD B | 4 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | **INCIDENTALS** | |
| | | | | | | | | | | | | LS | LS | 614 | 11000 | LS | | MAINTAINING TRAFFIC | |
| | | | | | | | | | | | | LS | LS | 624 | 10000 | LS | | MOBILIZATION | |

GENERAL SUMMARY

BUT SR 4/129 9.30/2.30



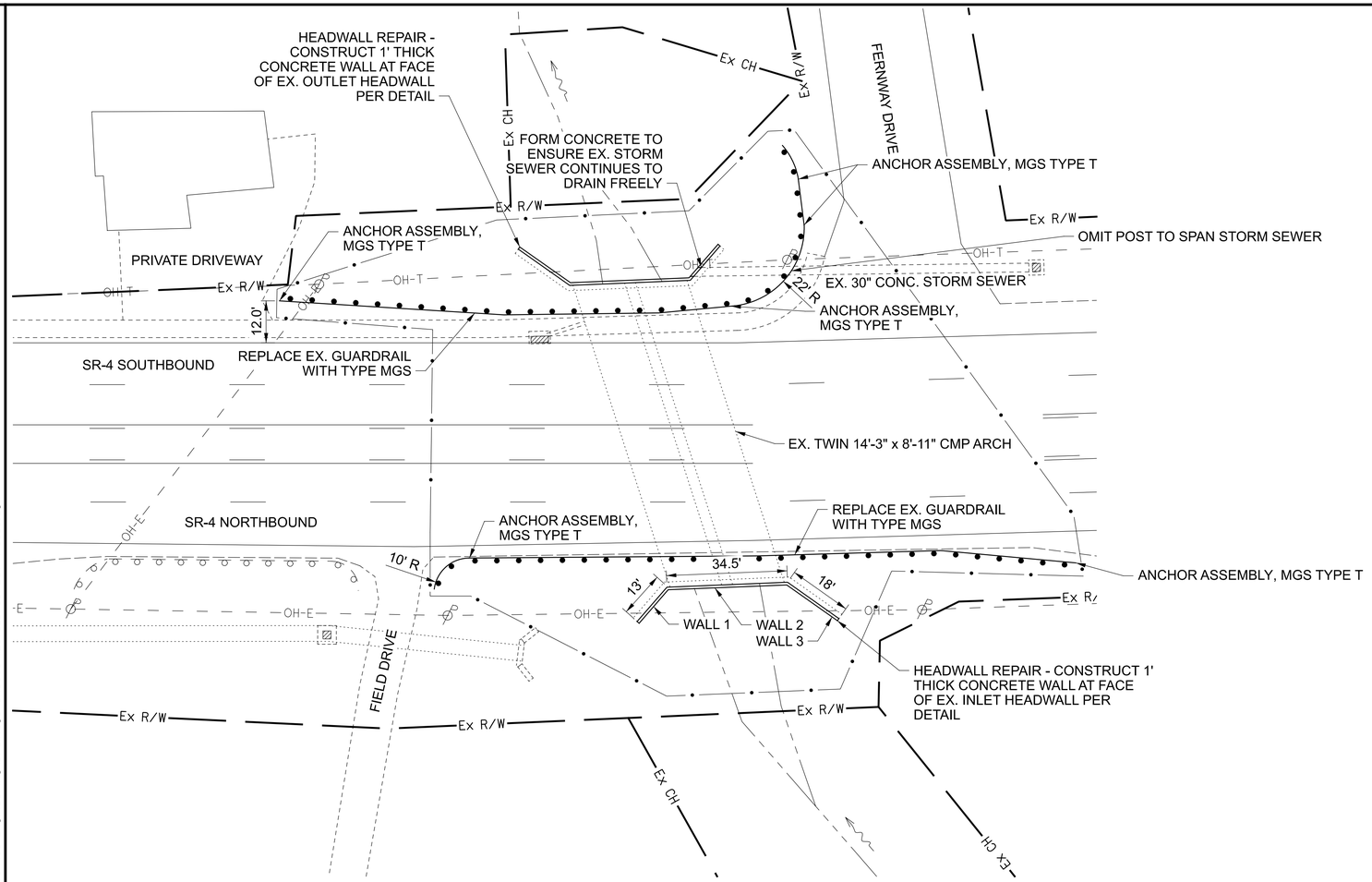
DESIGN AGENCY

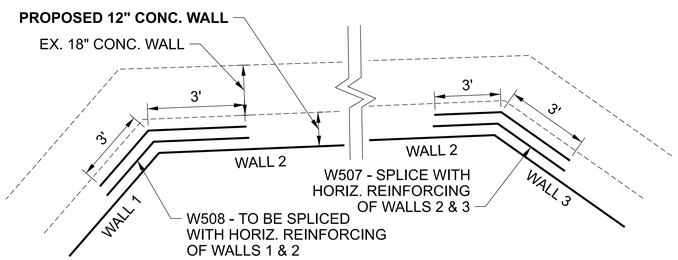
DESIGNER MLB

REVIEWER TRB 02-23-24

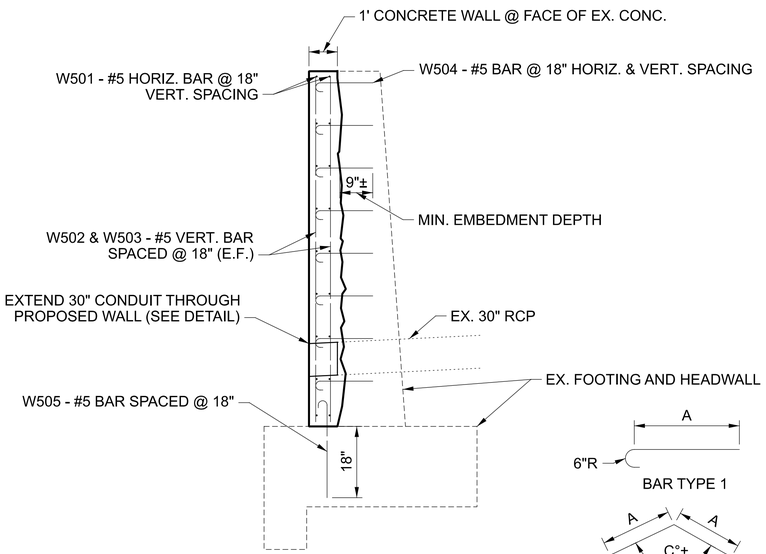
PROJECT ID 112976

SHEET 06 TOTAL 10




CORNER OF WALL REINFORCING DETAIL




| BAR MARK | NUMBER | | | LENGTH | | | WEIGHT (LBS.) | TYPE | BAR TYPE DIMENSIONS | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wall 1 | Wall 2 | Wall 3 | Wall 1 | Wall 2 | Wall 3 | | | A | B | C |
| W501 | 10 | 10 | 10 | 12'- 8" | 34'- 2" | 17'- 8" | 672 | ST | | | |
| | 2 | | | 7'- 1" | | | | | | | |
| W502 | SERIES | | | TO | | | 162 | ST | | | |
| | 8 | | | 12'- 4" | | | | | | | |
| | | | 2 | | | 8'- 4" | | | | | |
| W503 | | | SERIES | | | TO | 237 | ST | | | |
| | | | 11 | | | 12'- 4" | | | | | |
| W504 | 47 | 90 | 68 | 2'- 6" | 2'- 6" | 2'- 6" | 535 | 1 | 1'- 6" | | |
| W505 | 8 | 22 | 11 | 3'- 3" | 3'- 3" | 3'- 3" | 139 | 1 | 2'- 0" | | |
| W506 | 8 | | | 5'- 6" | | | 46 | ST | | | |
| W508 | 10 | | | 6'- 0" | | | 63 | 2 | 3'- 0" | 3'- 0" | 133 +/- |
| W507 | | | 10 | | | 6'- 0" | 63 | 3 | 3'- 0" | 3'- 0" | 142.5 +/- |
| | | | | | | PER WALL SUBTOTAL | 1,916 | | | | |

| | |
|---|---|
| PROJECT EARTH DISTURBED AREA: | 0.47 ACRES |
| ESTIMATED CONTRACTOR EARTH DISTRUBED AREA: | 0.1 ACRES |
| NOTICE OF INTENT EARTH DISTURBED AREA: | NO NOI REQUIRED |

HORIZONTAL SCALE IN FEET
0 10 20 40

*REHABILITATE CULVERT BUT-4-0930 BY PERFORMING THE FOLLOWING WORK:*

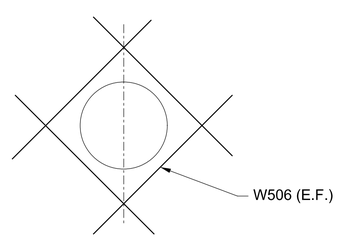
1. *REPAIR INLET AND OUTLET HEADWALLS PER DETAIL.*
2. *REPAIR AREAS OF RUSTED STEEL ABOVE EXISTING PAVED INVERT PER REPAIR METHODS A OR B AS NOTED ON GENERAL NOTES SHEET AND DETAILED ON DETAIL SHEET.*
3. *REPLACE EXISTING GUARDRAIL AND ANCHOR ASSEMBLIES WITH TYPE MGS.*

## *EXISTING STRUCTURE*

| | | |
|---|---|---|
| *TYPE:* | | *TWIN CMP PIPE ARCH* |
| *SIZE:* | | *TWIN 14'-3" SPAN x 8'-11" RISE, 88' LONG* |
| *SKEW:* | | *16° R.F.* |
| *ALIGNMENT:* | | *TANGENT* |
| *STRUCTURE FILE NUMBER (SFN):* | | *0900095* |
| *DATE BUILT:* | | *1957* |
| *CONDITION:* | | *POOR* |
| *COORDINATES:* | *LATITUDE:* | *39.404158* |
| | *LONGITUDE:* | *-84.529011* |
| *STREAM NAME:* | | *SHAFFER CREEK* |
| *OHWM:* | | *607.4 (CULVERT INVERT = 605.4)* |

ESTIMATED QUANTITIES (CARRIED TO GENERAL SUMMARY)

| ITEM | QUANTITY | UNIT | DESCRIPTION |
|---|---|---|---|
| 202 | 675 | SF | REMOVAL, MISC.: DISINTEGRATED CONCRETE |
| 202 | 327 | FT | GUARDRAIL REMOVED |
| 202 | 4 | EA | ANCHOR ASSEMBLY REMOVED, TYPE T |
| 509 | 3,832 | EA | GALVANIZED STEEL REINFORCEMENT |
| 510 | 410 | EA | DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT |
| 511 | 41.8 | CY | CLASS QC1 CONCRETE, RETAINING/WINGWALL NON INCLUDING FOOTING |
| 512 | 125 | SY | SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), FEDERAL COLOR 17778 |
| 606 | 275 | FT | GUARDRAIL, TYPE MGS |
| 606 | 6 | EA | ANCHOR ASSEMBLY, MGS TYPE T |
| 611 | 1 | FT | 30" CONDUIT, TYPE C |
| 611 | 235 | SF | CONDUIT, MISC: CMP REPAIR METHOD A |
| 611 | 35 | SF | CONDUIT, MISC: CMP REPAIR METHOD B |
| 626 | 6 | EA | BARRIER REFLECTORS, TYPE 2 BI-DIRECTIONAL |




REINFORCING AROUND 30" CONDUIT DETAIL

# BUT-4-0930
# CULVERT SITE PLAN

DESIGN AGENCY

DESIGNER MLB
REVIEWER TRB 02-23-24
PROJECT ID 112976
SHEET 07 TOTAL 10

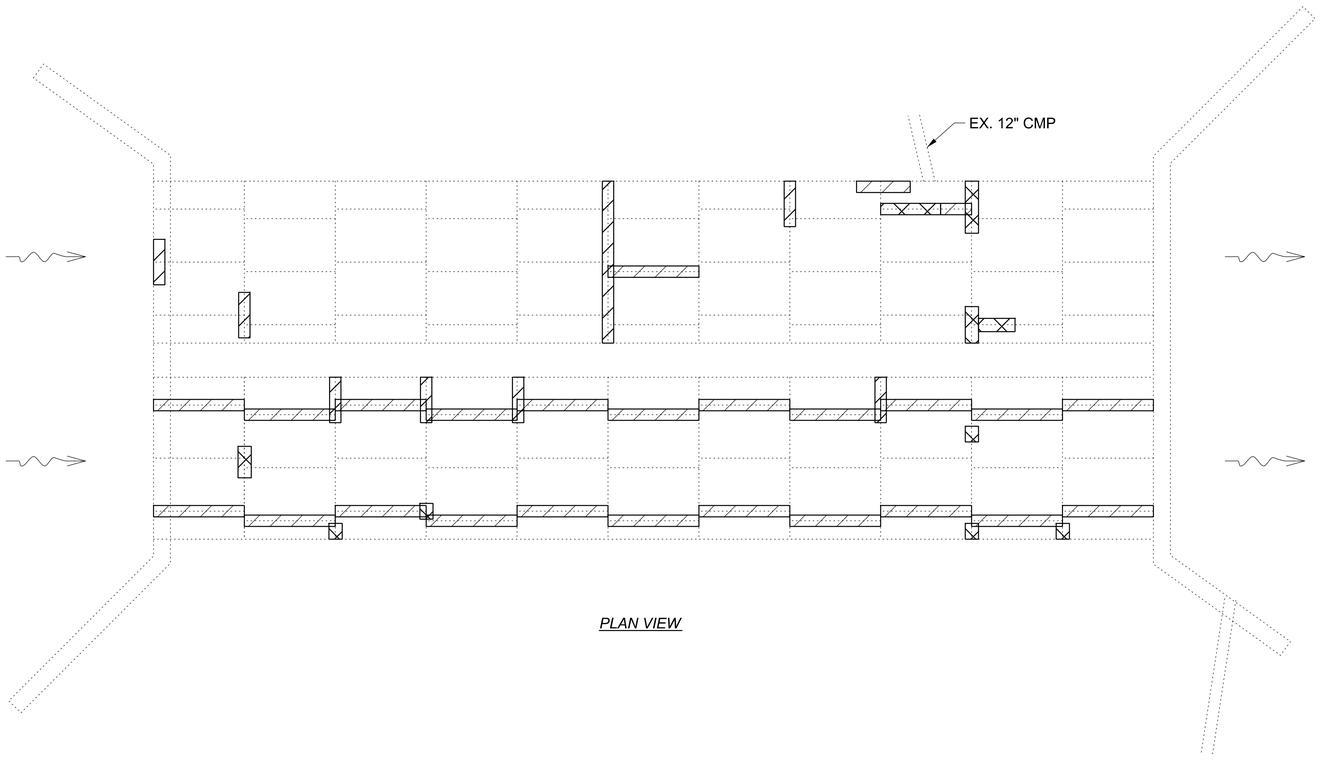
BUT SR 4/129 9.30/2.30

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/12/2024 TIME: 8:53:00 AM USER: mbailey5
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 08\Butler\112976\400-Engineering\Drainage\Sheets\112976_DP001-BUT-4-0930.dgn

LEGEND

REPAIR METHOD A

REPAIR METHOD B




*PLAN VIEW*

**NOTES:**

1. SEE GENERAL NOTES SHEET FOR CMP REPAIR METHOD A AND B NOTES.

2. ALL QUANTITIES CARRIED TO SHEET 7.

BUT-4-0930
CULVERT DETAIL

DESIGN AGENCY

DESIGNER
MLB

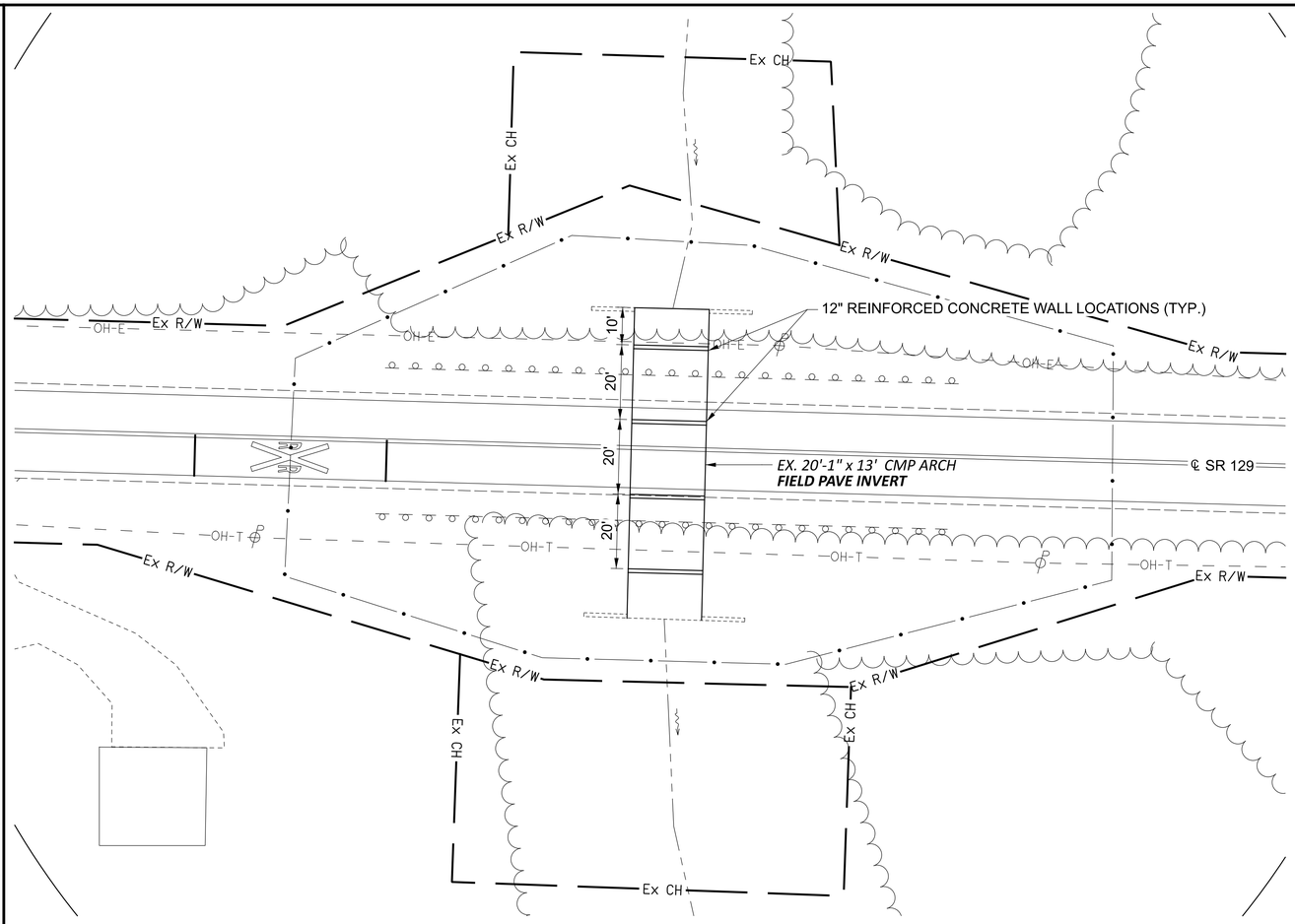
REVIEWER
TRB 02-23-24

PROJECT ID
112976

SHEET 08 | TOTAL 10

BUT SR 4/129 9.30/2.30

MODEL: Sheet PAPERSIZE: 34x22 (In.) DATE: 7/12/2024 TIME: 8:53:10 AM USER: mballey5
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01Active Projects\District 08\Butler\112976\400-Engineering\Drainage\Sheets\112976_DC001-BUT-4-0930.dgn




| | |
|---|---|
| PROJECT EARTH DISTURBED AREA: | 0.47 ACRES |
| ESTIMATED CONTRACTOR EARTH DISTRUBED AREA: | 0.1 ACRES |
| NOTICE OF INTENT EARTH DISTURBED AREA: | NO NOI REQUIRED |

HORIZONTAL SCALE IN FEET
0 10 20 40

*REHABILITATE CULVERT BUT-129-0230 BY PERFORMING THE FOLLOWING WORK:*

1. *REMOVE EXISTING ROCK CHANNEL PROTECTION (RCP) ALONG INVERT OF EXISTING CMP PIPE. STORE RCP TO BE RE-INSTALLED AT END OF PROJECT. IT IS ASSUMED THAT 50% OF THE REQUIRED RCP TO BE PLACED WILL BE RECOVERED FROM EXISTING MATERIAL.*
2. *PAVE INVERT OF EXISTING PIPE PER CMS 611.11. INCLUDE 12" REINFORCED CONCRETE WALLS EVERY 20 FT PER DETAIL. WALLS AND FIELD PAVING TO BE A MONOLITHIC STRUCTURE. WALLS SHALL BE APPROXIMATELY 12" HIGH AT THE MIDDLE OF THE ELLIPTICAL SHAPED CULVERT.*
3. *REPLACE RCP ALONG CULVERT BOTTOM TO A HEIGHT EQUAL TO EXISTING GRADE PRIOR TO COMMENCEMENT OF EXISTING RCP REMOVAL.*
4. *REPAIR AREAS OF RUSTED STEEL ABOVE NEWLY PAVED INVERT PER REPAIR METHODS A OR B AS NOTED ON GENERAL NOTES SHEET AND DETAILED ON DETAIL SHEET.*

**ROCK CHANNEL PROTECTION, MISC.: REMOVAL OF ROCK IN STRUCTURE AND REPLACEMENT**

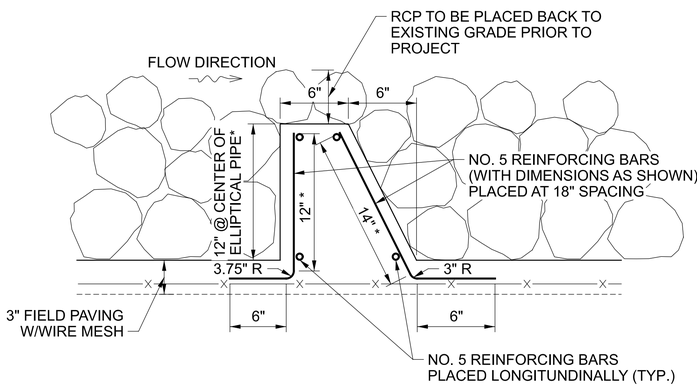
THIS ITEM SHALL BE PAID AT THE LUMP SUM BID. THE PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THIS CLEANOUT.

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS AND ROCK FROM THE EXISTING CULVERT. ALL SEDIMENT AND DEBRIS MATERIAL SMALLER THAN 6" REMOVAL SHALL BE DISPOSED OF AS PER 105.16 AND 105.17. ALL ROCK 6" AND LARGER SHALL BE STORED AND REPLACED AFTER FIELD PAVING IS COMPLETED. IT IS ASSUMED ABOUT 50% OF THE REMOVED MATERIAL WILL BE REPLACED. THE CONDUIT SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

## *EXISTING STRUCTURE*

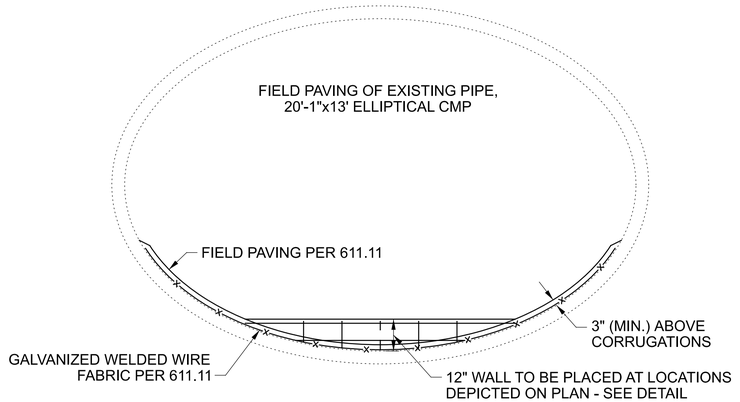
| | | |
|---|---|---|
| *TYPE:* | | *CMP PIPE ARCH* |
| *SIZE:* | | *20'-1" SPAN x 13' RISE, 84' LONG* |
| *SKEW:* | | *0°* |
| *ALIGNMENT:* | | *TANGENT* |
| *STRUCTURE FILE NUMBER (SFN):* | | *0903205* |
| *DATE BUILT:* | | *1982* |
| *CONDITION:* | | *SATISFACTORY* |
| *COORDINATES:* | *LATITUDE:* | *39.391309* |
| | *LONGITUDE:* | *-84.774853* |
| *STREAM NAME:* | | *TRIBUTARY TO KIATA CREEK* |
| *OHWM:* | | *808.8 (CULVERT INVERT = 807.30)* |

| ESTIMATED QUANTITIES (CARRIED TO GENERAL SUMMARY) | | | |
|---|---|---|---|
| ITEM | QUANTITY | UNIT | DESCRIPTION |
| 601 | LS | LS | ROCK CHANNEL PROTECTION, MISC: REMOVAL OF ROCK IN STRUCTURE AND REPLACEMENT |
| 601 | 25 | CY | ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER |
| 611 | 84 | FT | FIELD PAVING OF EXISTING PIPE, 20'-1"x13' CMP ARCH, AS PER PLAN |
| 611 | 44 | SF | CONDUIT, MISC: CMP REPAIR METHOD A |
| 611 | 4 | SF | CONDUIT, MISC: CMP REPAIR METHOD B |




## 12" WALL DETAIL

* HEIGHT DEPICTED IS LONGEST DIMENSION AT CENTER OF ELLIPTICAL PIPE. LENGTH WILL VARY DUE TO ELLIPTICAL SHAPE OF EXISTING CULVERT.




**FIELD PAVING OF EXISTING PIPE, AS PER PLAN**

FIELD PAVE THE EXISTING PIPE PER THE REQUIREMENTS OF 611.11. PROVIDE A 2:1 SLOPE AT THE TOP OF THE PAVED INVERT TO PREVENT WATER FROM SITTING ON THE TOP EDGE AS SHOWN IN THE PLAN DETAIL.

AT LOCATIONS DEPICTED IN THE PLAN, A 12" HIGH REINFORCED CONCRETE WALL SHALL BE POURED AS A MONOLITHIC STRUCTURE WITH THE FIELD PAVING AS DETAILED ON THIS SHEET. ALL REINFORCING STEEL USED SHALL BE GALVANIZED COATED PER CMS 509.12.

DUE TO THE EXCESSIVE SEDIMENT AND DEBRIS AT THIS LOCATION, THE PIPE CLEANOUT PRIOR TO FIELD PAVING OF THE EXISTING PIPE IS ITEMIZED SEPARATELY AND SHALL BE PAID FOR USING THE PAY ITEM ROCK CHANNEL PROTECTION, MISC: REMOVAL OF ROCK IN STRUCTURE AND REPLACEMENT. SEE NOTE ON THIS SHEET FOR ADDITIONAL INFORMATION.

# BUT-129-0230
# CULVERT PLAN & DETAIL

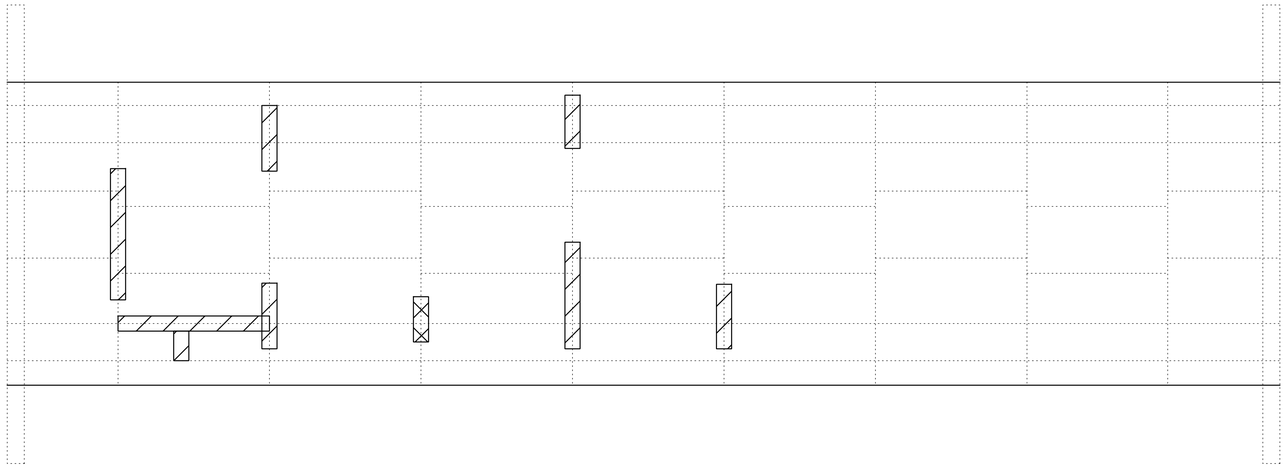
DESIGN AGENCY

DESIGNER MLB
REVIEWER TRB 02-23-24
PROJECT ID 112976
SHEET 09 TOTAL 10

LEGEND

REPAIR METHOD A

REPAIR METHOD B



*PLAN VIEW*

**NOTES:**

1. SEE GENERAL NOTES SHEET FOR CMP REPAIR METHOD A AND B NOTES.

2. ALL QUANTITIES CARRIED TO SHEET 9.

# BUT-129-0230
# CULVERT DETAIL

DESIGN AGENCY

DESIGNER
MLB

REVIEWER
TRB 02-23-24

PROJECT ID
112976

SHEET 10 | TOTAL 10

BUT SR 4/129 9.30/2.30

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