

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
**MAPLE HIGHLANDS
TRAIL PHASE 2**
CITY OF CHARDON
GEAUGA COUNTY

PROJECT DESCRIPTION

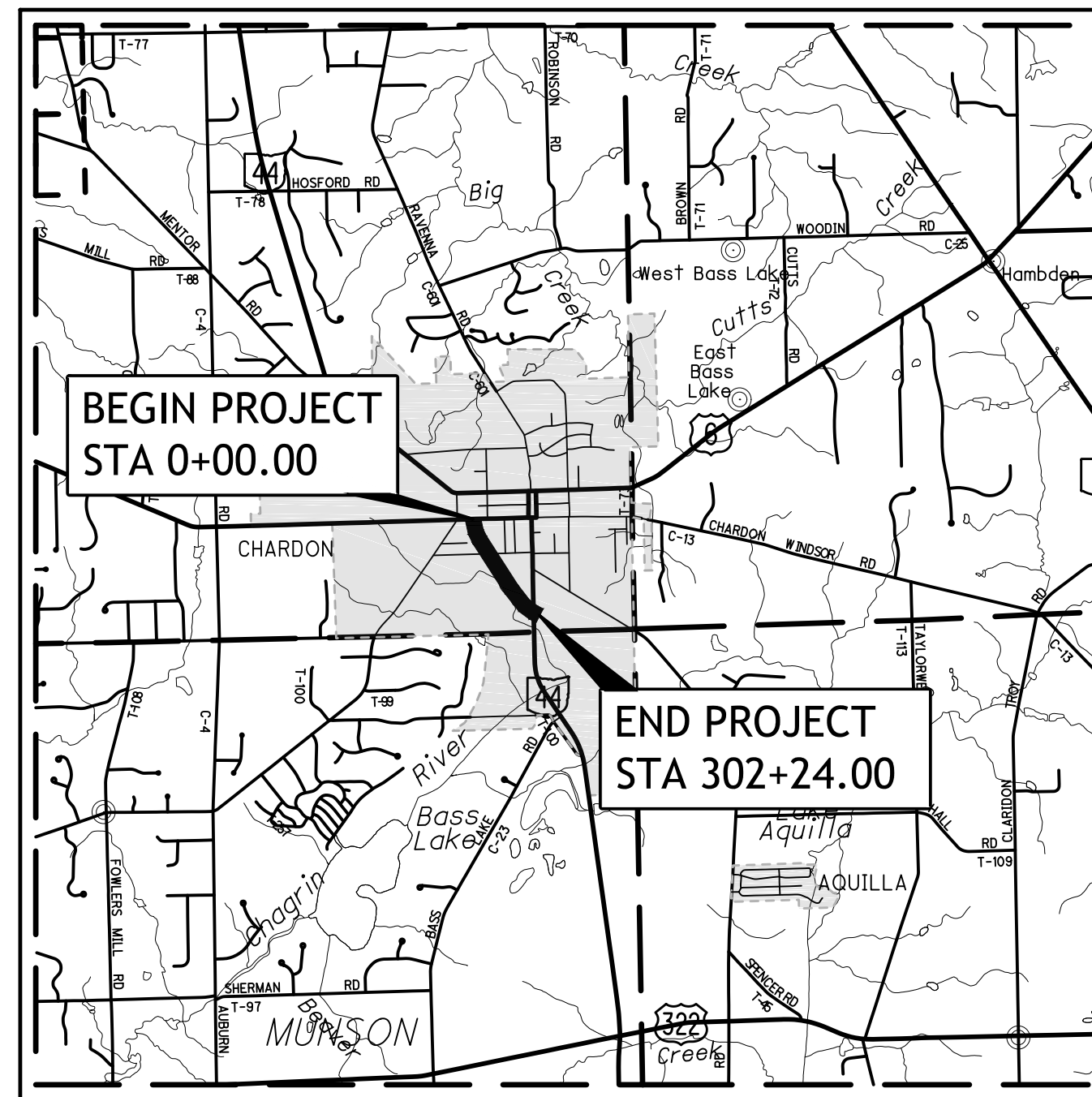
CONSTRUCTION OF 0.89 MILES OF MULTI-PURPOSE BIKE AND HIKE TRAIL FROM WATER STREET AT THE TERMINUS OF MAPLE HIGHLANDS TRAIL PHASE 1 TO STATE ROUTE 44 AT THE TERMINUS OF MAPLE HIGHLANDS TRAIL CENTRAL SECTION. IMPROVEMENTS INCLUDE PAVEMENT, DRAINAGE IMPROVEMENTS, LANDSCAPING, IMPROVEMENTS TO ARBY'S PARKING LOT, TRAILHEAD WITH RESTROOM BUILDING, ELECTRICAL SERVICE AND PARKING AREA.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 5.22 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 5.22 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 5.22 ACRES

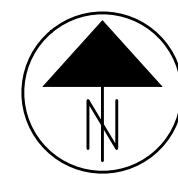
2019 SPECIFICATIONS

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



LOCATION MAP

LATITUDE: 41° 34' 44" N LONGITUDE: 81° 12' 36" W



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

DESIGN EXCEPTIONS

NONE REQUIRED

INDEX OF SHEETS:

COVER SHEET	1
GENERAL NOTES	2-5A
SCHEMATIC PLAN	6
TYPICAL SECTIONS	7-8
GENERAL SUMMARY	9-10A
SWPPP	11-13
PLAN AND PROFILE	14-21
ARBY'S PARKING LOT RECONFIGURATION	22-24
PARK AVENUE TRAILHEAD PARKING LOT	25-27
HANGING ROCK ENLARGEMENT	28
NODE ENLARGEMENTS	29-32
ROAD CROSSING SIGNAGE PLANS	33-34
CROSS SECTIONS	35-44
CONSTRUCTION DETAILS	45-49

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
ENVIRONMENTAL DESIGN GROUP
450 GRANT STREET, AKRON, OH 44311
(330) 375-1390

ENGINEERS SEAL:

SIGNED: JILL PFEIFFER-WARD
DATE: 11-20-19

ENGINEERS SEAL:

SIGNED: _____
DATE: _____

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS				
BP-2.2	7/18/08	HW-2.1	7/20/18	MT-97.10	4/19/19	TC-41.40	10/18/13	800-2016	4/19/19
BP-3.1	10/18/19	HW-2.2	7/20/18			TC-42.20	10/18/13		
BP-4.1	7/19/13					TC-52.10	10/18/13		
BP-5.1	1/18/19	MH-1.2	1/15/16			TC-52.20	7/20/18		
BP-7.1	7/20/18					TC-71.10	1/19/18		
CB-1.1	7/19/19								
CB-1.2	1/15/16								
CB-2.2	7/20/18								

APPROVED _____
DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

RAILROAD INVOLVEMENT	NONE
CONSTRUCTION PROJECT NO.	NONE
PID NO.	103163
FEDERAL PROJECT NO.	E190249
CITY OF CHARDON MAPLE HIGHLANDS TRAIL PHASE 2	
	1/49

PROHIBITED CONSTRUCTION ACTIVITIES CONT'D

10. RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE PROPERTY OR PUBLIC PROPERTY AND RIGHT-OF-WAY WITHOUT THE WRITTEN PERMISSION OF THE PROPERTY OWNER AND THE CONSENT OF THE OWNER'S REPRESENTATIVE.
11. OPERATIONS ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 AM AND 5:00 PM OR OUTSIDE THE HOURS ALLOWED FOR CONSTRUCTION BY LOCAL ORDINANCES OR REGULATIONS ARE PROHIBITED.
12. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF LOCAL OFFICIALS AND THE OWNER, AND CLOSING CLEAR ACCESS:
 - BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES;
 - BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE; OR
 - BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS.

DRAINAGE

1. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE BY ROUTING DRAINAGE FLOWS THAT ARE INTERRUPTED BY TRAIL AND ROAD CONSTRUCTION ON THE UPSLOPE SIDE OF THE TRAIL OR ROADWAY. THE CONTRACTOR SHALL MAKE MINOR GRADING ADJUSTMENTS IN THE FIELD ALONG THE PROPOSED SWALES AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
2. WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.
3. IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED DIFFERS FROM THE PLAN ELEVATIONS OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.
4. ALL PROPOSED PIPE CONNECTIONS TO EXISTING PIPES OR STRUCTURES MUST BE INSPECTED BY THE CITY OF CHARDON.
5. ALL STORM PIPES SHALL BE AS NOTED IN THE PLANS. THE COST OF PIPE, EXCAVATION, BEDDING, BACKFILL, REMOVAL OF EXISTING PIPE, AND ASSOCIATED LABOR AND MATERIALS SHALL BE INCLUDED IN THE LINEAR FOOT COST BID FOR THE PIPE.
6. COMPACTION TESTING WILL BE REQUIRED FOR THE NEW STORM SEWER CONSTRUCTION. COMPACTION RATES ARE 98% OF MAXIMUM DRY DENSITY PER AASHTO T-99 FOR THE VARIOUS LIFTS OF TRENCH BACKFILL AND THEY SHALL BE VERIFIED IN THE FIELD AS CONSTRUCTION PROGRESSES. THE GEOTECHNICAL ENGINEER WILL RUN PROCTOR TESTS FOR THE BACKFILL MATERIAL AND BE ON-SITE TO VERIFY THE SPECIFIED COMPACTION RATES. THE OWNER WILL PAY FOR THE SERVICES OF AN INDEPENDENT QUALIFIED GEOTECHNICAL ENGINEER TO COMPLETE THIS WORK. THE CONTRACTOR WILL PROVIDE A MATERIAL SAMPLE OF THE EXPECTED BACKFILL MATERIAL AT LEAST 72 HOURS IN ADVANCE OF CONDUCTING THE STORM SEWER WORK.

REVIEW OF EXISTING DRAINAGE FACILITIES

1. BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE OWNER, THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE OWNER.
2. ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.
3. PAYMENT FOR ALL OPERATIONS RELATED TO NEW CONDUITS AND APPURTENANCES DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT STORM SEWER ITEMS.

BEST MANAGEMENT PRACTICES

1. THE CONDITIONS OF THE NPDES CONSTRUCTION STORMWATER GENERAL PERMIT SHALL BE MET DURING ALL STAGES OF CONSTRUCTION. THE LOCATION AND TIMING OF ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE FIELD ADJUSTED TO PREVENT SIGNIFICANT IMPACT ON THE RECEIVING WATERS. IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONTINUE THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT THE UPSLOPE DISTURBED AREAS ARE STABILIZED.
2. TO PROTECT AND DELINEATE THE BOUNDARY OF THE EXISTING ADJACENT WETLANDS, STREAM CHANNELS AND OR DRAINAGEWAYS ITEM 832 - PERIMETER FILTER FABRIC FENCE AND ITEM 832 - CONSTRUCTION FENCE WILL BE REQUIRED. THIS FILTER FABRIC FENCE AND THE CONSTRUCTION FENCE ARE TO BE INSTALLED AT THE PROPOSED CONSTRUCTION LIMITS AND MAINTAINED BY THE CONTRACTOR THROUGHOUT PROJECT CONSTRUCTION.
3. THE OHIO EPA NOTICE OF INTENT WILL BE SUBMITTED TO OHIO EPA BY THE OWNER AT LEAST 21 DAYS PRIOR TO CONSTRUCTION.
4. THE DISTURBED AREA FOR THE PROJECT AS SHOWN IN THE PLANS IS 5.22 ACRES.

ENVIRONMENTAL

1. THE CONTRACTOR SHALL NOT PERFORM ANY WORK IN AND/OR PLACE ANY FILL IN THE STREAM.
2. THE REQUIRED OPEA NPDES STORM WATER PERMIT SHALL BE OBTAINED PRIOR TO CONSTRUCTION OF THE PROJECT.

3. THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY LISTED AND PROTECTED INDIANA BAT AND NORTHERN LONG-EARED BAT. THE CONTRACTOR SHALL NOT REMOVE TREES UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THE CONTRACTOR SHALL DEMARCATE CLEARING LIMITS IN THE FIELD TO AVOID ANY UNAUTHORIZED TREE CLEARING. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ITEM 201 - CLEARING AND GRUBBING, AS PER PLAN

WORK OF THIS ITEM IS FOR CLEARING WITHIN THE CONSTRUCTION LIMITS, AS PER ITEM 201, AND AS SHOWN ON THE PLANS. TRIM BRANCHES OF TREES EXTENDING OVER THE TRAIL SURFACE TO PROVIDE A MINIMUM CLEAR HEIGHT OF 10 FEET ABOVE THE TRAIL SURFACE.

THE CITY OF CHARDON HAS PREVIOUSLY CLEARED PORTIONS OF THE WORK AREA AS PART OF A PRIOR PROJECT.

THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE PROJECT SITE TO ASCERTAIN THE EXTENT OF WORK INVOLVED PRIOR TO SUBMITTING THE BID FOR THE CONTRACT.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 202 - SITE DEMOLITION, AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING AND PROPERLY DISPOSING OF OR SALVAGING FOR REINSTALLATION ALL ITEMS WITHIN THE PROJECT LIMITS THAT INTERFERE WITH PROPOSED WORK, ARE VISIBLE AT THE GROUND SURFACE, AND/OR ARE DESIGNATED ON THE PLANS TO BE REMOVED OR SALVAGED. REMOVAL ITEMS INCLUDE, BUT ARE NOT LIMITED TO, PAVEMENT, GATE, UTILITY BOX, WATER FOUNTAIN, SIGNS, UTILITY PIPES AND SERVICES, POLES, AND BOULDERS. BACKFILL RESULTING TRENCHES, HOLES AND PITS PER ITEM 202.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 202 - REMOVAL, MISC.: EXISTING UTILITY POLE AND LIGHT FIXTURE REMOVAL

THIS ITEM CONSISTS OF REMOVING EXISTING UTILITY POLES AS INDICATED ON THE PLANS AND TURNING OVER TO OWNER.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 202 - MANHOLE REMOVED, AS PER PLAN

REMOVE EXISTING MANHOLE AS PER 202.10. BULKHEAD EXISTING 10" SANITARY SEWER PIPE TO THE NORTHWEST PER 202.11.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 203 - EMBANKMENT, AS PER PLAN

SUITABLE FILL MATERIALS SHALL CONFORM TO 203.02.R FOR EMBANKMENT.

ALL EQUIPMENT, LABOR, TOOLS, MATERIAL, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 204 - EXCAVATION, AS PER PLAN

EXISTING SOILS EXCAVATED ON PARCEL 10-900018 (PARCEL SOUTH OF ARBY'S TO PARK AVENUE) MUST BE USED AS FILL WITHIN THE PROJECT LIMITS. IF EARTH MOVING ACTIVITIES REQUIRE EXCESS SOIL TO BE REMOVED FROM THE PROJECT AREA AND DISPOSED OF, SOILS FROM OTHER AREAS OF THE PROJECT SHALL BE HAULED OFF. IF THE CONTRACTOR CHOOSES TO REMOVE THE SOIL FROM PARCEL 10-900018 FROM THE PROJECT LIMITS, IT MUST BE DISPOSED OF AS SOLID WASTE AT NO ADDITIONAL COST TO THE PROJECT.

ALL EQUIPMENT, LABOR, TOOLS, MATERIAL, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 204 - PROOF ROLLING, AS PER PLAN

THIS ITEM OF WORK CONSISTS OF PROOF ROLLING AS PER ITEM 204 EXCEPT THAT THE PROOF ROLLING EQUIPMENT SHALL BE A 20-TON LOADED, TANDEM AXLE TRUCK.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THESE ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 304 - AGGREGATE BASE, AS PER PLAN

THIS ITEM OF WORK CONSISTS OF AGGREGATE BASE PER ITEM 304 EXCEPT THAT ALL MATERIALS SHALL BE CRUSHED LIMESTONE.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THESE ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 441 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN

THIS ITEM SHALL CONSIST OF INSTALLING A COMPLETE AND FUNCTIONING ASPHALT SURFACE COURSE AS SHOWN ON THE DRAWINGS AND IN CONFORMANCE WITH ODOT ITEM 441.

COARSE AND FINE AGGREGATES FOR THE SURFACE COURSE SHALL BE CRUSHED LIMESTONE. NO RECYCLED OR RECLAIMED ASPHALT, OR ACBFS SHALL BE PERMITTED. BINDER SHALL BE PG64-22.

AFTER COMPLETION OF THE SURFACE COURSE, THE CONTRACTOR SHALL USE A CERTIFIED 702.01 PG BINDER TO SEAL THE FOLLOWING LOCATIONS:

- ALL CASTINGS INCLUDING BUT NOT LIMITED TO MONUMENTS, MANHOLES, WATER VALVES, CATCH BASINS, CURB INLETS.
- FORWARD JOINT FOR DRIVEWAY ASPHALT AND TRAILING JOINT WHEN BUTTING TO EXISTING ASPHALT DRIVE.
- PERIMETER OF ALL PAVEMENT REPAIRS OR OTHER ASPHALT INLAYS WHEN PAVEMENT REPAIRS/INLAYS ARE NOT OVERLAID WITH AN ASPHALT CONCRETE SURFACE COURSE.

THE WIDTH OF THE APPLIED SEALER SHALL BE 2-3 INCHES.

ANY ADDITIONAL COSTS ASSOCIATED WITH THE WORK IDENTIFIED IN THIS NOTE SHALL BE INCLUDED IN THE APPROPRIATE ASPHALT CONCRETE SURFACE COURSE ITEM OF WORK.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 605 - 4" UNCLASSIFIED PIPE UNDERDRAIN, AS PER PLAN

THIS ITEM CONSISTS OF INSTALLING 4" UNCLASSIFIED PIPE UNDERDRAIN AS SHOWN ON DRAWINGS AND IN CONFORMANCE WITH ODOT ITEM 605 AND 707.32. THIS INCLUDES ALL PERFORATED UNDERDRAIN PIPE, SOLID CONNECTOR PIPE, CLEANOUTS, CONNECTORS, AND #57 AGGREGATE REQUIRED FOR A COMPLETE INSTALLATION.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 607 - FENCE, MISC., TIMBER RAIL (44")

THIS ITEM OF WORK CONSISTS OF CONSTRUCTING A COMPLETE AND FUNCTIONAL WOOD RAIL AS PER ITEM 607, AND AS SHOWN AND DETAILED ON THE PLANS. THIS INCLUDES ALL EXCAVATION, WOOD, FASTENERS, MISCELLANEOUS HARDWARE, STAINING AND ALL OTHER ACCESSORIES AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR WOOD RAIL SHOWING DIMENSIONS, DETAILS, MATERIALS, PROFILES, FINISHES, ETC., AND PRODUCT DATA FOR PRESERVATIVE TREATMENTS, TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

CONTRACTOR SHALL VERIFY LAYOUT INFORMATION AND DIMENSIONS BY FIELD MEASUREMENTS FOR TIMBER RAIL SHOWN ON DRAWINGS. DO NOT INTERRUPT UTILITY SERVICES TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES ACCORDING TO REQUIREMENTS INDICATED:

- A. NOTIFY ENGINEER NO FEWER THAN TWO DAYS IN ADVANCE OF PROPOSED INTERRUPTION OF UTILITY SERVICES.
- B. DO NOT PROCEED WITH INTERRUPTION OF UTILITY SERVICES WITHOUT ENGINEER'S WRITTEN PERMISSION.

ALL FABRICATION INCLUDING BEVELING, NOTCHING, EASING AND CUTTING SHALL BE ACCOMPLISHED PRIOR TO TREATMENT. THIS DOES NOT REFER TO FIELD CUTTING AND BORING. FIELD FABRICATION SHALL BE TREATED ACCORDING TO AWWA STANDARD M4.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 608 - 4" CONCRETE WALK, AS PER PLAN

THIS ITEM CONSISTS OF INSTALLING COMPLETE AND FUNCTIONING CONCRETE WALK AS SHOWN ON DRAWINGS AND IN CONFORMANCE WITH ODOT ITEM 608.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 608 - WALKWAY, MISC.: DECORATIVE CONCRETE WALK

THIS ITEM CONSISTS OF INSTALLING COMPLETE AND FUNCTIONING DECORATIVE CONCRETE WALK AS SHOWN ON DRAWINGS AND IN CONFORMANCE WITH ODOT ITEM 608. THE CONCRETE WILL BE INTEGRALLY COLORED.

CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR EACH DECORATIVE CEMENT CONCRETE WALK MIXTURE AND CONCRETE COLOR SAMPLES AT LEAST 4-INCHES BY 4-INCHES IN SIZE TO ENGINEER FOR APPROVAL PRIOR TO ORDERING CONCRETE. INCLUDE ALTERNATE MIXTURE DESIGNS WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.

COLOR CONCRETE PIGMENT SHALL BE ASTM C 979, SYNTHETIC MINERAL-OXIDE PIGMENTS OR COLORED WATER-REDUCING ADMIXTURES; COLOR SHALL BE STABLE, NONFADING, AND RESISTANT TO LIME AND OTHER ALKALIS. COLOR SHALL BE INTEGRALLY MIXED WITH THE CONCRETE. INTEGRAL CONCRETE COLOR BASIS OF DESIGN IS SOLOMON COLORS 750 DESERT TAN. CONCRETE PIGMENT APPROVED MANUFACTURERS ARE:

- A. SOLOMON COLORS.
- B. INCRETE SYSTEMS INC.
- C. L. M. SCOFIELD COMPANY.

CONTRACTOR SHALL ADD COLOR PIGMENT TO CONCRETE MIXTURE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND TO RESULT IN HARDENED CONCRETE COLOR CONSISTENT WITH APPROVED MOCK-UP AND SUPPLIED APPROVED SAMPLE.

FINISHING: DECORATIVE CONCRETE WALK CONSISTS OF INTEGRALLY COLORED CONCRETE.

INTEGRALLY COLORED CONCRETE FINISH SHALL BE A MEDIUM-TO-FINE-TEXTURED BROOM FINISH. AFTER FINAL FLOATING, APPLY A HAND-TROWEL EDGE FINISH ON EDGES NEXT TO ADJACENT CONCRETE PAVEMENT AND/OR PRECAST CONCRETE PAVERS FOLLOWED BY A BROOM FINISH TO CONCRETE. BROOM FINISH SHALL CONSIST OF DRAWING A SOFT BRISTLE BROOM ACROSS FLOAT-FINISHED CONCRETE SURFACE, PERPENDICULAR TO LINE OF TRAFFIC, TO PROVIDE A UNIFORM, FINE-LINE TEXTURE.

CONTRACTOR SHALL SEAL DECORATIVE CONCRETE PAVEMENT. SEALANT SHALL BE A CLEAR ACRYLIC SEALER. APPLY UNIFORMLY IN TWO COATS IN CONTINUOUS OPERATIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. ALLOW FIRST COAT TO DRY BEFORE APPLYING SECOND COAT, AT 90-DEGREES TO THE DIRECTION OF THE FIRST COAT USING SAME APPLICATION METHODS AND RATES. BEGIN SEALING DRY SURFACE NO SOONER THAN 28 DAYS AFTER CONCRETE PLACEMENT.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, SAMPLES, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 608 - DETECTABLE WARNING, AS PER PLAN

THIS ITEM CONSISTS OF INSTALLING COMPLETE AND FUNCTIONING DETECTABLE WARNINGS AS SHOWN ON DRAWINGS AND IN CONFORMANCE WITH ODOT ITEM 608 AS MODIFIED BELOW, INCLUDING CONCRETE PAVEMENT, AGGREGATE BASE, EXCAVATION AND SUBGRADE COMPACTION AND PROOFROLLING.

DETECTABLE WARNING TILE SHALL BE REPLACEABLE. WET-SET, CAST IRON UNIT(S). MATERIAL SHALL BE PER ASTM A159 G3000 CAST IRON, WITH +/- 0.03" CASTING TOLERANCE AND 1/8" MAXIMUM WARP FROM CORNER TO CORNER. TRUNCATED DOME SURFACE SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT REGARDING DOME SIZES, SPACING AND SLIP RESISTANCE. UNIT SHALL BE IN A NATURAL, UNFINISHED STATE WHICH WILL PATINA TO DARK GRAY OVER TIME. UNITS SHALL HAVE

CORROSION RESISTANT ANCHORS THAT ARE EMBEDDED IN WET CONCRETE TO PROVIDE SECURE ANCHORAGE. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ADJACENT TILES MUST ALIGN HORIZONTALLY AND WITHOUT LIPPAGE.

CONTRACTOR SHALL SUBMIT PRODUCT DATA FOR DETECTABLE WARNING TILE AND PRODUCT SAMPLES AT LEAST 4-INCHES BY 4-INCHES IN SIZE TO ENGINEER FOR APPROVAL PRIOR TO ORDERING.

PROVIDE ONE OF THE FOLLOWING PRODUCTS OR APPROVED EQUAL.

BASIS OF DESIGN: IRONDOME REPLACEABLE TACTILE WARNING SURFACE UNIT, 24"x24" BY ADA SOLUTIONS, INC., 323 ANDOVER ST. - SUITE 3, WILMINGTON, MA 01887; PH: 800-372-0519.

24"x 24" WET SET CAST IRON DETECTABLE WARNING TILE 2.350 DOME SPACING BY TUFITILE, 1200 FLEX CT., LAKE ZURICH, IL 60047; PH: 888-960-8897.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, SAMPLES, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 611 - 6" CONDUIT, TYPE E, AS PER PLAN, PERFORATED PVC

THIS ITEM CONSISTS OF INSTALLING 6" PERFORATED PVC UNDERDRAIN WITH BIORETENTION CELLS AS SHOWN ON DRAWINGS AND IN CONFORMANCE WITH ODOT ITEM 605 AND 707.32. THIS INCLUDES ALL PERFORATED UNDERDRAIN PIPE, SOLID CONNECTOR PIPE, CLEANOUTS, CONNECTORS, AND #57 AGGREGATE REQUIRED FOR A COMPLETE INSTALLATION.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 611 - CATCH BASIN, MISC.: CATCH BASIN REMOVED AND REINSTALLED

EXISTING CATCH BASINS SHALL BE REMOVED PER ITEM 202.10. REINSTALL CATCH BASIN PER ITEM 611. REUTILIZE EXISTING GRATES DURING REINSTALLATION PER 611.10.D. ANY DAMAGE CAUSED TO CATCH BASIN DURING REMOVAL AND REINSTALLATION SHALL BE REPAIRED TO A STATE EQUIVALENT TO THAT BEFORE THE REMOVAL AND REINSTALLATION.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 611 - CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN

EXISTING CATCH BASIN WILL BE LOCATED WITHIN THE PROPOSED DRIVEWAY APRON. ADJUST EXISTING STRUCTURE TO PROPOSED GRADE AND REPLACE CASTING WITH AN APPROPRIATE CASTING FOR AN INLET LOCATED WITH LOWERED CURB ALONG DRIVEWAY APRON. CONTRACTOR TO FIELD VERIFY EXISTING GRATE AND OPENING SIZE AND SUBMIT A PROPOSED REPLACEMENT TO ENGINEER FOR REVIEW AND APPROVAL. ALL WORK SHALL BE PER ITEM 611.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 611 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN

EXISTING MANHOLE WILL BE LOCATED WITHIN PROPOSED TRAIL LIMITS. ADJUST MANHOLE TO PROPOSED GRADE AND REPLACE LID WITH AN ADA COMPLIANT VENTED LID. CONTRACTOR TO FIELD VERIFY EXISTING LID SIZE AND SUBMIT A PROPOSED REPLACEMENT TO ENGINEER FOR REVIEW AND APPROVAL. ALL WORK SHALL BE PER ITEM 611.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 616 - DUST CONTROL, AS PER PLAN

DUST PRODUCED FROM ANY OPERATIONS INSIDE OR OUTSIDE THE WORK LIMITS SHALL BE CONTROLLED BY THE CONTRACTOR IN ACCORDANCE WITH ODOT ITEM 616.

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

ITEM 616, WATER 20 M. GAL.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 624 - MOBILIZATION, AS PER PLAN

WORK OF THIS ITEM INCLUDES MOBILIZATION PER ITEM 624. THIS ITEM ALSO INCLUDES PROVIDING TEMPORARY SANITARY FACILITIES FOR USE BY WORKERS IN A LOCATION APPROVED BY OWNER. CONTRACTOR SHALL OBTAIN MAINTENANCE SERVICE FOR FACILITY. REMOVE AFTER CONSTRUCTION IS COMPLETED. THIS ITEM ALSO INCLUDES CLEANING UP ALL DEBRIS AND MATERIALS RESULTING FROM CONSTRUCTION AND RESTORING ALL SURFACES, STRUCTURES, LANDSCAPE AND PROPERTY TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL CLEAN THE PROJECT AREA AT THE END OF EACH WORK DAY FOR THE DURATION OF THE PROJECT. ALL ADJOINING ROADWAYS SHALL BE FREE OF DIRT, MUD AND DEBRIS AT ALL TIMES.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

Notes for the following items were revised and moved to Sheet 5A:

Item 204 - Excavation of Subgrade
Item 204 - Granular Material, Type E, As Per Plan

CALCULATED
SDK
CHECKED
SDK

GENERAL NOTES

CITY OF CHARDON
MAPLE HIGHLANDS TRAIL PHASE 2

3
48

ITEM SPECIAL – BIORETENTION CELL

WORK OF THIS ITEM CONSISTS OF INSTALLING COMPLETE AND FUNCTIONING BIORETENTION CELLS AS SHOWN ON PLANS AND PER ITEM 203 – EXCAVATION AND ITEM 203 – EMBANKMENT.

ITEM INCLUDES MATERIAL AND INSTALLATION OF: BIORETENTION SOIL, HARDWOOD MULCH, SPILLWAY PROTECTION AGGREGATE, TEMPORARY 8" COMPOST FILTER SOCK, CLEAN CONCRETE SAND, #8 OR #78 AGGREGATE, AND WASHED #57 STONE AS SHOWN ON DRAWINGS.

BIORETENTION SOIL SHALL HAVE THE ATTRIBUTES LISTED ON THE BIORETENTION CELL DETAIL. CONTRACTOR SHALL SUBMIT BIORETENTION SOIL SAMPLE AND PRODUCT TESTING SHEET FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

SPILLWAY PROTECTION AGGREGATE SHALL BE AS PER PLANS. CONTRACTOR TO SUBMIT SAMPLE FOR APPROVAL PRIOR TO INSTALLATION.

PERFORATED PIPE SHALL BE PER ODOT 707.42 OR 707.33, PERFORATED WITH TWO ROWS OF HOLES 120 DEGREES APART. INSTALL PERFORATIONS DOWN.

MULCH SHALL BE FINE, TRIPLE SHREDDED ORGANIC HARDWOOD, FREE OF WEED SEEDS, ROOTS, OR ANY OTHER SUBSTANCE NOT CONSISTING OF EITHER WHOLE OR BRANCH WOOD AND BARK. THE MULCH SHALL BE UNIFORMLY APPLIED IN 3 INCH DEPTH IN PLANTING AREAS SHOWN ON PLANS. DO NOT FERTILIZE.

SCARIFY SUBGRADE SOIL SURFACES THAT HAVE BEEN SMEARED TO A SMOOTH SURFACE DURING EXCAVATION OF THE PROPOSED BIORETENTION. AREAS SHALL BE SCARIFIED USING A TOOTHED BUCKET TO A DEPTH OF 2"-3". DO NOT COMPACT SOILS. HEAVY EQUIPMENT SHALL NOT BE USED WITHIN THE BIORETENTION AREAS. EXCAVATION FOR THE BIORETENTION CELL SHALL BE PAID SEPARATELY UNDER ITEM 203 – EXCAVATION. INSTALLATION OF THE CATCH BASIN, UNDERDRAINS AND PLANTINGS ARE PAID UNDER THEIR RESPECTIVE ITEMS.

MIXING OR PLACING BIORETENTION SOIL WILL NOT BE ALLOWED IF THE AREA RECEIVING BIORETENTION SOIL IS WET OR SATURATED OR HAS BEEN SUBJECTED TO MORE THAN 1/2-INCH OF PRECIPITATION WITHIN 4-8 HOURS PRIOR TO MIXING OR PLACEMENT. LANDSCAPE ARCHITECT SHALL HAVE FINAL AUTHORITY TO DETERMINE IF WET OR SATURATED CONDITIONS EXIST.

PLACE BIORETENTION SOIL LOOSELY IN LIFTS NOT TO EXCEED 10'. FINAL GRADE SHALL BE MEASURED ONLY AFTER THE SOIL HAS BEEN WATER COMPACTED, WHICH REQUIRES FILLING THE CELL WITH WATER, WITHOUT CREATING ANY SCOUR OR EROSION, TO AT LEAST 1 INCH OF PONDING. IF WATER COMPACTION IS NOT AN OPTION, FINAL GRADE SHALL BE MEASURED AT 1/2 INCHES ABOVE THE GRADE SPECIFIED ON THE PLANS TO ALLOW FOR SETTLING AFTER THE FIRST STORM.

THE CONTRACTOR SHALL INSTALL A TEMPORARY 8" COMPOST FILTER SOCK AS SPECIFIED ON THE DRAWINGS ALONG THE FACE AND/OR UP SLOPE OF THE CURB/EDGE OF WATER QUALITY BMP COMPLETELY SURROUNDING THE UP-SLOPE PORTION OF THE WATER INLET TO PROVIDE TEMPORARY DIVERSION OF SEDIMENT ENTERING THE WATER QUALITY BMP PRIOR TO PLANTING. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE 8" COMPOST FILTER SOCK INCLUDING ANY RESIDUAL COMPOST AND SEDIMENT PRIOR TO PROJECT COMPLETION. THE CONTRACTOR MUST PROVIDE WRITTEN CONFIRMATION FROM THE COMPOST FILTER SOCK MANUFACTURER THAT CONTAINS THE FOLLOWING STATEMENT, "THE COMPOST FILTER SOCK DESIGN SHOWN IN THE SWPPP AND ITEM SPECIAL – BIORETENTION CELL IS APPROPRIATE AND WILL MEET THE CONSTRUCTION GENERAL PERMIT REQUIREMENTS FOR SEDIMENT AND EROSION CONTROL." THIS CONFIRMATION BY THE COMPOST FILTER SOCK MANUFACTURER WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR OBTAINING THE REQUIRED RESULTS.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM SPECIAL – STEEL BOLLARD

THIS ITEM CONSISTS OF INSTALLING COMPLETE AND FUNCTIONING PIPE BOLLARDS AS SHOWN ON DRAWINGS AND IN CONFORMANCE WITH ODOT ITEMS 607 AND 203. THIS INCLUDES ALL ANCHORS, FOOTER EXCAVATION, CONCRETE POST FILL, MISCELLANEOUS HARDWARE AND MATERIALS NEEDED FOR A COMPLETE INSTALLATION.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR BOLLARDS SHOWING DIMENSIONS, DETAILS, MATERIALS, PROFILES, FINISHES, ETC., TO ENGINEER FOR APPROVAL.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM SPECIAL – WHEEL STOP

THIS ITEM CONSISTS OF INSTALLING PRECAST CONCRETE WHEEL STOPS AT THE LOCATIONS SHOWN ON THE DRAWINGS. THE STOPS SHALL BE CONSTRUCTED FROM 5,000 PSI AIR-ENTRAINED CONCRETE, WITH TWO (2) #4 REINFORCING BARS ALONG THE LENGTH OF THE BLOCK. THE STOPS SHALL BE 6' LONG, 9" WIDE AT THE BASE, TAPERED TO 4" WIDE AT THE TOP AND DESIGNED TO EQUALIZE PRESSURE DOWN AND FORWARD FROM CAR WHEELS TO RELIEVE TENSION ON SETTING PINS. THE HEIGHT OF THE STOPS SHALL BE SIX AND ONE HALF INCHES (6.5"). SLOTS ON THE UNDERSIDE OF THE STOPS SHALL BE PROVIDED TO ALLOW DRAINAGE AND THE UNITS TO BE LIFTED WITH A FORKLIFT. TWO (2) HOLES, EACH OF 3/4" DIAMETER, SHALL BE PROVIDED FOR ANCHORING PURPOSES.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM SPECIAL – TWO SIDED PITCHED ROOF KIOSK

THIS ITEM INCLUDES ALL LABOR, EQUIPMENT, TOOLS, SUBMITTALS, INCIDENTALS AND MATERIALS REQUIRED TO INSTALL TWO SIDED PITCHED ROOF KIOSK AS PER DRAWINGS AND SPECIFICATIONS.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM SPECIAL – ARBY'S DUMPSTER PAD

THIS ITEM CONSISTS OF INSTALLING A CONCRETE DUMPSTER PAD AND REINSTALLING EXISTING CHAIN LINK FENCE AND GATE FOR THE DUMPSTER ENCLOSURE AT ARBY'S PARKING LOT AS PER DRAWINGS AND SPECIFICATIONS AND PER ITEMS 202, 203, 451, AND 607.

INSTALL FENCE AND GATE POSTS IN 18 INCH DIAMETER BY 48 INCH DEEP SONOTUBE FOOTER WITH BOTTOM OF POST SET AT 42 INCH DEPTH. INSTALL POSTS PLUMB AND BRACE AS NECESSARY UNTIL CONCRETE SETS. REINSTALL GATE, FENCE FABRIC, HORIZONTAL MEMBERS, AND DECORATIVE SLATS IN CHAIN LINK FABRIC. REPLACE DECORATIVE SLATS AS NECESSARY TO ENSURE NO HOLES ARE PRESENT IN THE CHAIN LINK FABRIC. DECORATIVE SLATS SHALL MATCH EXISTING. ENSURE GATE OPERATES SMOOTHLY AND GATE LATCH ENGAGES. DRILL HOLES IN PAVEMENT TO ACCEPT DROP RODS IN BOTH OPEN AND CLOSED POSITIONS FOR BOTH GATE LEAVES.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM SPECIAL – ARBY'S SHED RELOCATION

THIS ITEM CONSISTS OF MOVING AN EXISTING SHED ON SITE AND PLACING ON A NEW AGGREGATE PAD PER THE DRAWINGS. THIS WORK ALSO INCLUDES INSTALLING AGGREGATE PAD PER THE DRAWINGS.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM SPECIAL – ARBY'S LIT SIGN RELOCATION

THIS ITEM INCLUDES ALL LABOR, EQUIPMENT, TOOLS, SUBMITTALS, INCIDENTALS AND MATERIALS REQUIRED TO RELOCATE ARBY'S LIT SIGN ON SITE AS PER DRAWINGS AND SPECIFICATIONS. ALL WORK SHALL CONFORM TO ODOT ITEMS 202, 625, 630 AND 631.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF PROPOSED SIGN FOUNDATION, SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF OHIO.

CONTRACTOR SHALL SALVAGE EXISTING SIGN INDICATED ON PLANS, USING CARE NOT TO DAMAGE SIGN. CONTRACTOR SHALL STORE SIGN TO PREVENT DAMAGE UNTIL PROPOSED FOUNDATION IS PREPARED AND IS READY FOR SIGN INSTALLATION. OWNER SHALL APPROVE PROPOSED SIGN LOCATION.

EXTEND POWER SERVICE TO SIGN FROM EXISTING SIGN LOCATION. MATCH EXISTING SERVICE TYPE, STYLE AND MATERIALS.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM SPECIAL – MISC: RECTANGULAR RAPID FLASHING BEACON SIGN ASSEMBLY (RRFB)

THIS ITEM CONSISTS OF INSTALLING A COMPLETE, FULLY FUNCTIONING RECTANGULAR RAPID FLASHING BEACON SIGN ASSEMBLY (RRFB) SYSTEM AS PER DRAWINGS AND SPECIFICATIONS. ALL WORK SHALL CONFORM TO ODOT ITEMS 203, 630, 632, 633, 644, AND 725, THE OHIO DEPARTMENT OF TRANSPORTATION TRANSPORTATION ENGINEERING MANUAL AND OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). THIS ITEM INCLUDES CONTROLLER, BATTERY, RADIO, SOLAR PANEL, LED INDICATIONS IN A LIGHT BAR, PUSHBUTTON SIGNAGE, PUSHBUTTON, POLE SHAFT, AND PEDESTAL BASE AS INDICATED ON SOUTH STREET CROSSING SIGNAGE PLAN. TRAIL X-ING SIGNS, YIELD PAVEMENT MARKINGS AND YIELD WORD ON PAVEMENT ASSOCIATED WITH THE CROSSING ARE PAID SEPARATELY. SYSTEM INCLUDES ALL COMPONENTS AND ACCESSORIES TO PROVIDE ONE COMPLETE STREET CROSSING.

RRFB SHALL MEET THE REQUIREMENTS OF THE OMUTCD. BEACON SHALL BE SOLAR POWERED. SOLAR PANELS SHALL BE SELF CLEANING AND HAVE A MINIMUM 20 YEAR WARRANTY.

ALL PRODUCTS SHALL BE SUPPLIED BY ONE MANUFACTURER TO ENSURE COMPATIBILITY. THE SYSTEM SHALL BE SUPPORTED BY A 3-YEAR WARRANTY.

THE RRFB SHALL HAVE TWO (2) LIGHT BARS (MOUNTED BACK-TO-BACK, FACING DUAL DIRECTIONS). EACH LIGHT BAR SHALL HOUSE TWO RAPIDLY AND ALTERNATELY FLASHING RECTANGULAR YELLOW INDICATIONS AND ONE YELLOW SIDE-MOUNTED PEDESTRIAN INDICATION, EACH WITH AN LED-ARRAY BASED LIGHT SOURCE. THE LED-BASED PULSING LIGHT ARRAYS SHALL BE DESIGNED, LOCATED AND OPERATED IN ACCORDANCE WITH THE DETAILED REQUIREMENTS AS SPECIFIED ON THE PLANS. ACTIVE VEHICLE INDICATIONS SHALL BE VISIBLE AT DISTANCES OVER 1000 FEET DURING THE DAY AND OVER 1 MILE AT NIGHT. INDIVIDUAL COMPONENTS SHALL BE REPLACEABLE INDEPENDENTLY OF OTHER COMPONENTS, EQUIPPED WITH APPROVED TERMINAL STRIPS OR WIRE-END MOLDED CONNECTORS.

OPERATION SHALL FOLLOW FHWA GUIDELINES, WHICH STATE THAT THE RRFB SHALL BE NORMALLY DARK, AND SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AT A PREDETERMINED TIME AFTER THE PEDESTRIAN ACTUATION. THE FLASH CYCLE DURATION SHOULD BE BASED ON THE MUTCD PROCEDURES FOR TIMING OF PEDESTRIAN CLEARANCE TIMES FOR PEDESTRIAN SIGNALS. FLASH PATTERN SHALL BE MUTCD SPECIFIED 2-4-.1. UPON ACTIVATION BY ADA-COMPLIANT PUSH BUTTON, A 900 MHZ TRANSCIEVER RADIO USING SPREAD SPECTRUM RADIO FREQUENCY TO MINIMIZE RF INTERFERENCE SHALL WIRELESSLY ACTIVATE ALL INTEGRAL INDICATIONS. WHEN ACTIVATED, THE TWO YELLOW INDICATIONS IN EACH RRFB SHALL FLASH IN A RAPIDLY ALTERNATING FLASHING SEQUENCE (LEFT INDICATION ON, THEN RIGHT INDICATION ON). THE LIGHT INTENSITY OF THE VEHICLE INDICATIONS SHALL MEET THE MINIMUM SPECIFICATION OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 DATED NOVEMBER 2008. WHEN ACTIVATED, ALL INDICATIONS ASSOCIATED WITH A GIVEN CROSSWALK SHALL SIMULTANEOUSLY COMMENCE OPERATION OF THEIR ALTERNATING RAPID FLASHING WITH 120 MSEC AND SHALL CEASE OPERATION AT A PREDETERMINED TIME AFTER ACTUATION. THE PEDESTRIAN INDICATION SHALL BE DIRECTED AT AND VISIBLE TO PEDESTRIANS IN THE CROSSWALK, AND IT SHALL FLASH CONCURRENTLY WITH THE VEHICLE INDICATIONS TO GIVE CONFIRMATION THAT THE RRFB IS IN OPERATION. THE SYSTEM SHALL INCLUDE AN ACTUATION COUNTER PROVIDING DATA THAT CAN BE DOWNLOADED ON-SITE TO A LAPTOP COMPUTER USING DB9 OR USB TYPE CABLES. AUTONOMY WITH A FULLY CHARGED BATTERY SHALL BE UP TO 14-28 DAYS WITHOUT SUN, DEPENDENT UPON AMBIENT TEMPERATURE AND NUMBER OF ACTIVATIONS.

EACH RRFB SHALL OPERATE ON SOLAR-ASSISTED BATTERY POWER. LIGHT BAR HOUSING AND INDICATIONS SHALL BE CONSTRUCTED OF DURABLE, CORROSION-RESISTANT POWDER-COATED ALUMINUM WITH STAINLESS STEEL FASTENERS. ENCLOSED COMPONENTS SHALL BE MODULAR IN DESIGN WHEREBY ANY COMPONENT CAN BE EASILY REPLACED USING COMMON HAND TOOLS, WITHOUT HAVING TO REMOVE THE HOUSING FROM THE POLE. PROVIDE ALL NECESSARY MOUNTING HARDWARE. EACH OF THE TWO RRFB LED INDICATIONS SHALL BE APPROXIMATELY 7 INCHES BY 3 INCHES. THE PEDESTRIAN LED INDICATION SHALL BE APPROXIMATELY 1/2 INCH BY 1 3/4 INCHES AND SHALL BE SIDE-MOUNTED. THE LEDS SHALL BE RATED FOR A MINIMUM 15-YEAR LIFE SPAN.

THE CONTROLLER SHALL BE HOUSED IN A NEMA 4X RATED ALUMINUM ENCLOSURE INTENDED FOR OUTDOOR USE. THE LED LIGHT OUTPUTS AND FLASH PATTERN SHALL BE COMPLETELY PROGRAMMABLE. THE FLASHING OUTPUT SHALL HAVE 70 TO 80 PERIODS OF FLASHING PER MINUTE. THE CONTROLLER SHALL BE RECONFIGURABLE IF FUTURE GUIDELINES SPECIFY A DIFFERENT FLASH PATTERN. THE CONTROLLER SHALL BE CAPABLE OF STORING INPUT COUNT DATA IN PRESET INTERVALS, WITH DOWNLOADABLE CAPABILITIES USING OPTIONAL WINDOWS-BASED PC SOFTWARE PROGRAM AND STANDARD RS232 PROGRAMMING CABLE. THE CONTROLLER SHALL BE INDEPENDENTLY REPLACEABLE.

THE BATTERY SHALL BE A 12VDC ABSORBED GLASS MAT (AGM) SEALED LEAD-ACID, MAINTENANCE-FREE BATTERY. THE BATTERY SHALL BE RATED AT 45 AH MINIMUM AND SHALL CONFORM TO BATTERY COUNCIL INTERNATIONAL (BCI) SPECIFICATIONS. THE BATTERY SHALL BE SOLAR-CHARGED WITH A CAPACITY UP TO 30 DAYS OF AUTONOMY WITHOUT SUNLIGHT, VARYING WITH AMBIENT TEMPERATURE AND NUMBER OF ACTIVATIONS. THE BATTERY SHALL BE INDEPENDENTLY REPLACEABLE. THE BATTERY SHALL HAVE A MINIMUM OPERATING TEMPERATURE RANGE OF -76 DEGREES TO 140 DEGREES FAHRENHEIT.

THE WIRELESS TRANSCIEVER RADIO CONTROL SHALL BE SOLAR-POWERED, OPERATING ON A FCC-APPROVED 900 mhz FREQUENCY, HOPPING SPREAD SPECTRUM NETWORK WITH A NORMAL OPERATING RANGE OF 1000 FEET. RADIOS SHALL PROVIDE WIRELESS COMMUNICATION BETWEEN THE ASSEMBLIES TO INTEGRATE THE PUSHBUTTON ACTIVATION OF INDICATIONS. THE RADIO SHALL SYNCHRONIZE THE CONTROLLERS TO ACTIVATE THE INDICATIONS WITHIN 120 MSEC OF ONE ANOTHER AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE. RADIO SYSTEMS SHALL OPERATE FROM 3.6 VDC TO 15 VDC. THE RADIO SHALL BE INDEPENDENTLY REPLACEABLE. THE RADIO SHALL HAVE A MINIMUM OPERATING TEMPERATURE RANGE OF -30 DEGREES TO 165 DEGREES FAHRENHEIT.

THE SOLAR PANEL SHALL PROVIDE 55 WATTS AT PEAK TOTAL OUTPUT. THE SOLAR PANEL SHALL BE AFFIXED TO AN ALUMINUM PLATE AND BRACKET, ADJUSTABLE AT AN ANGLE OF 45 DEGREES TO 60 DEGREES TO FACILITATE ADJUSTMENT FOR MAXIMUM SOLAR COLLECTION AND OPTIMAL BATTERY STRENGTH. THE SOLAR PANEL ASSEMBLY SHALL BE MOUNTED ON A 360 DEGREE ROTATABLE POLE CAP MOUNT, TO FACILITATE ADJUSTMENT FOR MAXIMUM SOLAR COLLECTION AND OPTIMAL BATTERY STRENGTH. THE SOLAR PANEL SHALL BE RATED FOR 90 MPH CONDITIONS. THE SOLAR PANEL SHALL HAVE A MINIMUM OPERATING TEMPERATURE RANGE OF -40 DEGREES TO 185 DEGREES FAHRENHEIT.

ALL SIGNS SHALL CONFORM TO OMUTCD STANDARDS. ALL SIGN BLANKS AND PLAQUES SHALL BE FEDERALLY SPECIFIED 0-.080 GAUGE, 5052 ALUMINUM. SIGN SHEETING SHALL BE DIAMOND GRADED CUBED OR EQUIVALENT PRISMATIC SHEETING, WITH ANTI-GRAFFITTI OVERLAY. ALL SIGN ASSEMBLIES SHALL USE ANTI-VANDAL FASTENERS AND TOOLS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE. CROSSING SIGNS SHALL BE AS PER PLANS. PEDESTRIAN PUSHBUTTON INSTRUCTION SIGNS SHALL BE FURNISHED, AT A MINIMUM SIZE OF 5 INCHES BY 7 INCHES, TO BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON.

THE PEDESTRIAN PUSHBUTTON SHALL BE A VANDAL RESISTANT ADA PUSH BUTTON. PUSHBUTTON SHALL OPERATE AS A NORMALLY OPEN CIRCUIT. PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION WITHIN A TEMPERATURE RANGE OF -30 DEGREES TO 165 DEGREES FAHRENHEIT.

THE SYSTEM SHALL BE MOUNTED ON A STANDARD 15 FT, 4.5 INCH O.D. ALUMINUM PEDESTAL POLE AND SIGNAL PEDESTAL BASE. POLE SHALL BE AN EXTRUDED SEAMLESS ALUMINUM 6061-T6 SCHEDULE 40 MANUFACTURED POLE, CONFORMING TO ASTM B 429. PEDESTAL BASE SHALL BE ALUMINUM CASTING MADE OF 319 ALUMINUM ALLOY. BASE SHALL BE THREADED TO RECEIVE A 4 INCH NPT PEDESTAL POLE. BASE SHALL INCLUDE A DOOR OPENING A MINIMUM OF 8.5 INCHES SQUARE AND SHALL INCLUDE AN ALUMINUM DOOR ATTACHED WITH A STAINLESS STEEL BOLT.

PEDESTRIAN SIGNAL AND PEDESTRIAN PUSHBUTTON SHALL MEET THE PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (2011) REQUIRING AUDIBLE AND VIBROTACTILE FORMATS. AUDIBLE AND VIBROTACTILE NOTIFICATIONS SHALL INCLUDE EXISTENCE AND LOCATION OF THE PUSHBUTTON, BEGINNING OF THE WALK INTERVAL, DIRECTION OF THE CROSSWALK, AND INTERSECTION STREET NAMES IN BRAILLE, RAISED PRINT, OR THROUGH SPEECH MESSAGES. PEDESTALS SHALL BE STEEL PER ODOT 732.15. FOUNDATIONS SHALL BE PER 632.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF PROPOSED GROUND MOUNTED SUPPORT FOUNDATION SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE OF OHIO.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

PAVEMENT ALTERNATES

ALTERNATE 1 SHALL CONSIST OF THE FOLLOWING ITEMS AND WORK:

ITEM 204 – EXCAVATION OF SUBGRADE

THIS ITEM OF WORK SHALL CONSIST OF REMOVING AND DISPOSING OF ALL UNSUITABLE SUBGRADE MATERIAL BY EXCAVATING THE EXISTING SUBGRADE AND SUBBASE TO A MAXIMUM DEPTH OF 12 INCHES BELOW THE LOWEST COURSE OF PAVING MATERIAL AND PLACEMENT OF EMBANKMENT AND SUBGRADE COMPACTION PER ITEM 204, THE GEOTECHNICAL INVESTIGATION REPORT, ODOT GEOTECHNICAL BULLETIN 1 (GB 1), AND AS DETAILED AND SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. EXACT LIMITS OF REMOVAL SHALL BE DETERMINED BY THE ENGINEER.

ALL EQUIPMENT, LABOR, TOOLS, MATERIAL, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ITEM 204 – GRANULAR MATERIAL, TYPE E, AS PER PLAN

UNDERCUT AREAS SHALL BE REPLACED WITH COMPACTED 703.16C GRANULAR FILL MATERIAL. PLACEMENT OF GEOGRID FOR SUBGRADE STABILIZATION PER 204.07, B, AND GEOTEXTILE FABRIC PER 712.09 TYPE D FOR SOIL SEPARATION AS REQUIRED PER ITEMS 204, GB 1, AND GEOTECHNICAL INVESTIGATION REPORTS SHALL BE INCLUDED IN THE UNIT PRICE BID.

ALL EQUIPMENT, LABOR, TOOLS, MATERIAL, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID.

ALTERNATE 2 SHALL CONSIST OF THE FOLLOWING ITEMS AND WORK:

ITEM 206 – CEMENT STABILIZED SUBGRADE

THIS ITEM OF WORK SHALL CONSIST OF CEMENT STABILIZING ALL UNSUITABLE SUBGRADE THROUGH THE APPLICATION OF TYPE 1 PORTLAND CEMENT PER THE GEOTECHNICAL INVESTIGATION REPORTS AND ODOT GEOTECHNICAL BULLETIN 1 (GB 1), AND PER ITEM 206. LIME STABILIZATION IS NOT ACCEPTABLE.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID. ALL WORK INCLUDED IN THIS ITEM SHALL BE CONSIDERED PART OF THE ALTERNATE BID.

ITEM 206 – MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS

THIS ITEM OF WORK SHALL CONSIST OF PERFORMING ALL WORK TO COMPLETE THE MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS AS PER ITEM 206 OF THE C&MS.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID. ALL WORK INCLUDED IN THIS ITEM SHALL BE CONSIDERED PART OF THE ALTERNATE BID.

DRAINAGE ALTERNATES

ITEM 611 – PIPE CULVERTS AND SEWERS, BY SIZE AND TYPE

THROUGHOUT THE PLANS, VARIOUS PIPE MATERIALS ARE SPECIFIED FOR INDIVIDUAL PIPES.

ALTERNATE 3 SHALL CONSIST OF PERFORMING ALL WORK TO INSTALL ALL PIPES WITH THE PIPE MATERIAL AS CALLED OUT IN THE PLANS.

ALTERNATE 4 SHALL CONSIST OF PERFORMING ALL WORK TO INSTALL ALL PIPES FOLLOWING ODOT'S OPEN SPEC PIPE CRITERIA. PIPE MATERIAL SHALL BE SELECTED BY CONTRACTOR FROM RELEVANT ITEM 611 PER THE C&MS. PIPES HAVE BEEN QUANTIFIED FOLLOWING TYPES A-F DESIGNATION IN THE GENERAL SUMMARY FOR THIS PURPOSE.

ALL EQUIPMENT, LABOR, TOOLS, MATERIALS, SUBMITTALS, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM SHALL BE INCLUDED IN THE UNIT PRICE BID. ALL WORK INCLUDED IN THIS ITEM SHALL BE CONSIDERED PART OF THE ALTERNATE BIDS.

CALCULATED
SDK
CHECKED
SDK

GENERAL NOTES

CITY OF CHARDON
MAPLE HIGHLANDS TRAIL PHASE 2

SHEET NUM.										PART.		ALT (X)	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS								01/MPO/OT	02/NFP/OT									
21								21				451	10011	21	SY	6" REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN (CONCRETE COLLARS)	22,-23, 48	
36								36				452	10011	36	SY	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P, AS PER PLAN (DRIVEWAYS)	47	
1,790								1,790				608	10001	1,790	SF	4" CONCRETE WALK, AS PER PLAN	3, 45	
445								445				608	98000	445	SF	WALKWAY, MISC.:DECORATIVE CONCRETE WALK	3, 45	
86								86				608	52000	86	SF	CURB RAMP		
96								96				608	53021	96	SF	DETECTABLE WARNING, AS PER PLAN	3	
1,170								1,029	141			609	26000	1,170	FT	CURB, TYPE 6		
5,381								5,381				SPECIAL	69098200	5,381	SF	TRAIL NODE PAVEMENT	5, 45	
								LS				SPECIAL	69098400	LS		EXISTING PARKING LOT RECONFIGURATION	4, 22-24	
																WATER WORK		
49								49				638	04901	49	FT	1" COPPER SERVICE BRANCH, AS PER PLAN	4	
485								485				638	98600	485	FT	WATER WORK, MISC.:4" HDPE WATER LINE	4	
																TRAFFIC CONTROL		
222								222				630	03100	222	FT	GROUND MOUNTED SUPPORT, NO. 3 POST		
216								216				630	80100	216	SF	SIGN, FLAT SHEET		
3								3				630	85100	3	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		
2								2				630	85200	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DELIVERY		
2								2				630	86002	2	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
3								3				630	86010	3	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND REERECTION		
786								786				642	01190	786	FT	PARKING LOT STALL MARKING		
2								2				642	01700	2	EACH	HANDICAP SYMBOL MARKING		
110								110				644	00601	110	FT	CROSSWALK LINE, AS PER PLAN	4, 45	
2								2				644	01410	2	EACH	WORD ON PAVEMENT, 96"		
28								28				644	20800	28	FT	YIELD LINE		
2								2				630	97700	2	EACH	SIGNING, MISC.:ACCESSIBLE PARKING SIGNAGE	4, 47	
1								1				SPECIAL	69098000	1	EACH	RECTANGULAR RAPID FLASHING BEACON	5A, 34	
LS									LS			SPECIAL	69098400	LS		PARKING LOT EXPANSION PAVEMENT MARKINGS	4	
																LANDSCAPING		
86								86				661	00501	86	CY	MULCH, AS PER PLAN	4	
131								131				661	14000	131	EACH	PERENNIALS, Calamagrostis x acutifolia 'Karl Foerster', Clump, #1 CONT.	4	
79								79				661	14000	79	EACH	PERENNIALS, Hemerocallis 'Gentle Shepherd', Clump, #2 CONT.	4	
795								795				661	14000	795	EACH	PERENNIALS, Hemerocallis 'Happy Returns Dayily, Clump, #1 CONT.	4	
52								52				661	14000	52	EACH	PERENNIALS, Liatris spicata 'Blazing Star', Clump, #2 CONT.	4	
1,056								1,056				661	14000	1,056	EACH	PERENNIALS, Sporobolus heterolepsis, Clump, #2 CONT.	4	
89								89				661	20000	89	EACH	DECIDUOUS SHRUB, 15" HEIGHT, Spiraea japonica 'Tracy', #3 CONT.	4	
39								39				661	20020	39	EACH	DECIDUOUS SHRUB, 18" HEIGHT, Hydrangea quercifolia 'Pee Wee', #3 CONT.	4	
27								27				661	20020	27	EACH	DECIDUOUS SHRUB, 18" HEIGHT, Itea virginica 'Virginia Sweetspire', #3 CONT.	4	
120								120				661	30020	120	EACH	EVERGREEN SHRUB, 15" HEIGHT, Juniperus chinensis 'Old Gold', #3 CONT	4	
34								34				661	30120	34	EACH	EVERGREEN SHRUB, 6' HEIGHT, Thuja plicata 'Virescens', B&B	4	
9								9				661	40080	9	EACH	DECIDUOUS TREE, 2" CALIPER, Acer rubrum 'Red Maple', B&B	4	
12								12				661	40080	12	EACH	DECIDUOUS TREE, 2" CALIPER, Pyrus calleryana 'Redspire', B&B	4	
6								6				661	40080	6	EACH	DECIDUOUS TREE, 2" CALIPER, Ulmus americana 'Valley Forge', B&B	4	
2,856								2,856				661	99900	2,856	EACH	PLANTING, MISC.:, Narcissus 'Dutch Master', BULB; TOP SIZE	4	
449								449				SPECIAL	69098700	449	CY	PLANTING SOIL MIX	4	
																INCIDENTALS		
								LS				103	05000	LS		PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND		
								LS				614	11000	LS		MAINTAINING TRAFFIC		
								LS				623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING		
								LS				624	10001	LS		MOBILIZATION, AS PER PLAN	4, 5	
																PAVEMENT ALTERNATES		
381								381			X	204	13000	381	CY	EXCAVATION OF SUBGRADE (ALTERNATE 1)		
381								381			X	204	30041	381	CY	GRANULAR MATERIAL, TYPE E, AS PER PLAN (ALTERNATE 1)	3	
1,488								1,488			X	206	15010	1,488	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP (ALTERNATE 2)	5A	
								LS			X	206	30000	LS		MIXTURE DESIGN FOR CHEMICALLY STABILIZED SOILS (ALTERNATE 2)	5A	
								LS			X	624	10001	LS		MOBILIZATION, AS PER PLAN (ALTERNATE 2)	3	

CALCULATED SDK
 CHECKED SDK
 GENERAL SUMMARY
 CITY OF CHARDON
 MAPLE HIGHLANDS TRAIL PHASE 2
 10
 49

