

CENTER STREET PUBLIC SPACE, PARKING LOT, AND TRAILHEAD IMPROVEMENTS

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO

2020

CIP LB-17

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF IMPROVEMENTS TO AND EXPANSION OF EXISTING PARKING ALONG CENTER STREET. IMPROVEMENTS INCLUDE GRADING OF SITE, INSTALLATION OF PERVIOUS PAVERS AND NEW ASPHALT PAVEMENT, ELECTRICAL IMPROVEMENTS, STORM SEWER, AND SITE LIGHTING.

BENCHMARKS

ID.	ELEVATION	DESCRIPTION
BM #1	940.43	CHISELED "X" ON ROADSIDE ANCHOR BOLT OF HIGH TENSION ELECTRIC TOWER
BM #2	938.40	ROADSIDE TOP FLANGE BOLT ON FIRE HYDRANT ON EAST CORNER OF INTERSECTION OF CENTER STREET & WAYNE STREET

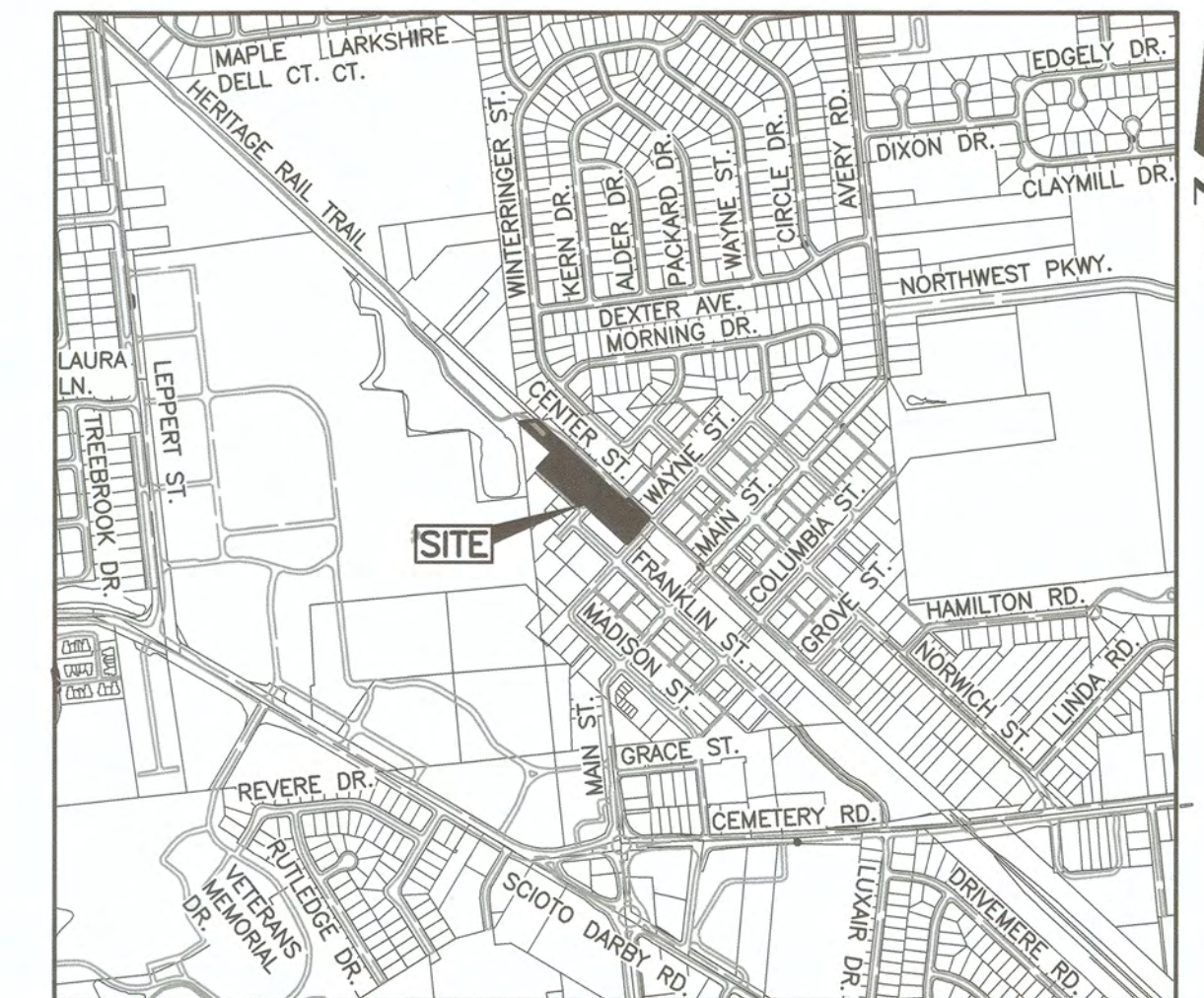
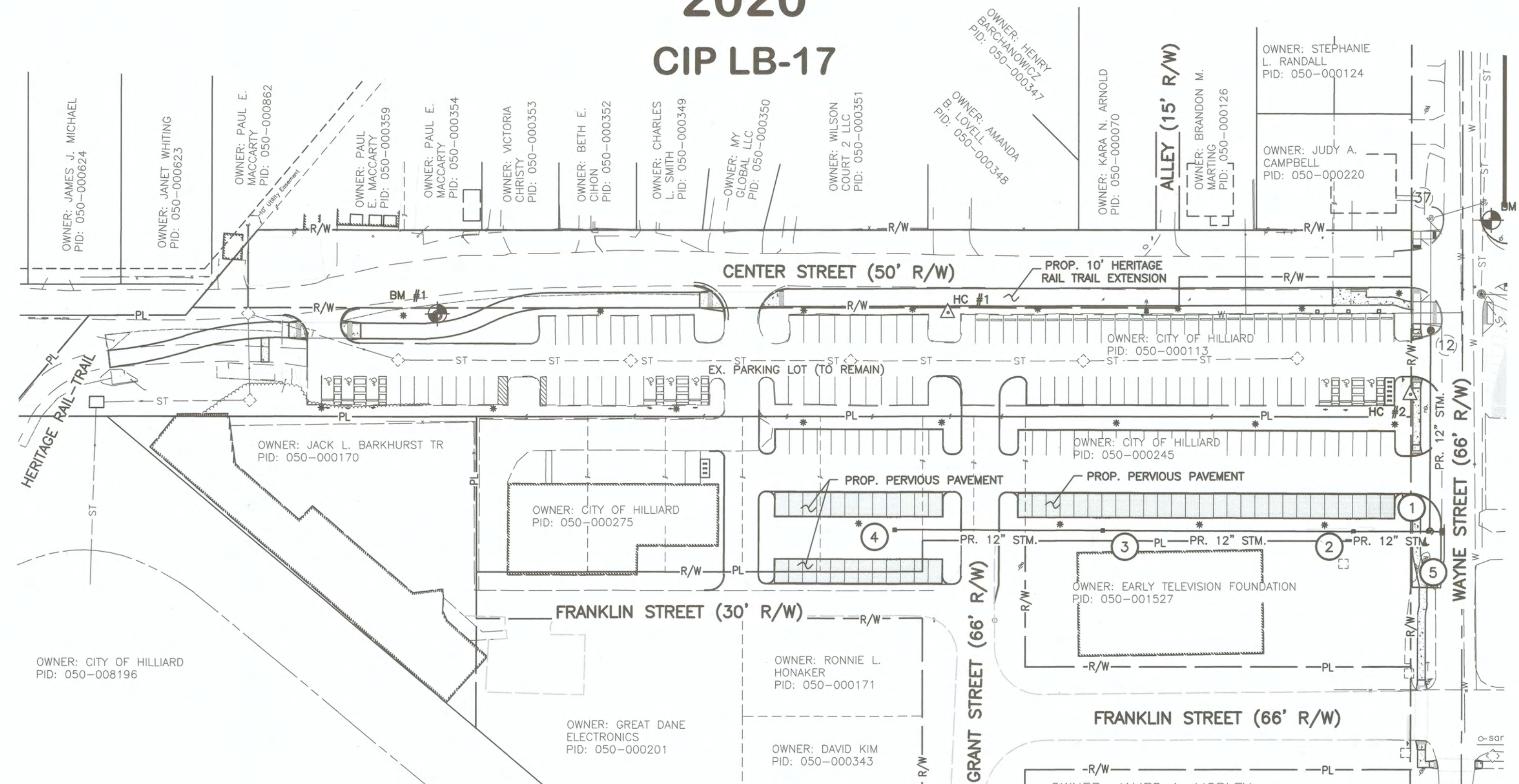
NOTE: ALL BENCHMARKS AND ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD88) UNLESS OTHERWISE NOTED.

HORIZONTAL CONTROL POINTS

ID.	NORTHING	EASTING	DESCRIPTION
HC #1	741949.25	1783240.73	IRON PIN SET ON SOUTHWEST SIDE OF CENTER STREET IN FIRST GRASS ISLAND NORTHWEST OF WAYNE STREET
HC #2	741708.15	1783424.30	TACKED HUB SET IN GRASS ON NORTHWEST SIDE OF WAYNE STREET SOUTHWEST OF EXISTING PARKING LOT

NOTE: ALL HORIZONTAL CONTROL SHOWN ARE BASED ON STATE PLANE COORDINATES, OHIO SOUTH ZONE, HORIZONTAL DATUM = NAD83 (NSRS 2011 ADJ)

ALL IRON PINS SET ARE 5/8" X 30" REBAR WITH A RED CAP INSCRIBED "E.P. FERRIS TRAVERSE"



LOCATION MAP
SCALE: 1" = 1000'

SITE DATA TABLE

DESCRIPTION	AREA	UNIT
PROJECTED EARTH DISTURBED AREA	1.53	ACRE
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.10	ACRE
NOTICE OF INTENT EARTH DISTURBED AREA	1.63	ACRE

INDEX MAP

SCALE: 1" = 60'

SHEET INDEX

TITLE SHEET	1
GENERAL NOTES	2
DETAILS & TYPICAL SECTIONS	3-4
EXISTING CONDITIONS PLAN	5
EROSION CONTROL NOTES & DETAILS	6
SITE UTILITY PLAN	7
GRADING PLAN	8
PLAN & PROFILE - HERITAGE RAIL TRAIL	9-10
CROSS SECTIONS - HERITAGE RAIL TRAIL	11-12
STORM PROFILES	13
PAVEMENT MARKING & SIGNING PLAN	14
LIGHTING PLAN	15-19 15A-19A

STANDARD CONSTRUCTION DRAWINGS

CITY OF HILLIARD	COC DIVISION OF SEWERAGE & DRAINAGE	COC DIVISION OF PUBLIC SERVICE	COC DIVISION OF WATER	OHIO DEPARTMENT OF TRANSPORTATION
HP-1	SL-8	AA-S102	1441	L-6637A
DD-1	SL-16	AA-S125A	2000	
SW-1	TC-1	AA-S133A	2170	
CR-1	TC-2	AA-S149	2171	
CR-2		AA-S150	2179	
SL-6		AA-S154		
SL-7				

THE STANDARD CONSTRUCTION DRAWINGS LISTED ABOVE SHALL BE CONSIDERED A PART OF THESE PLANS.



REVISIONS

NO.	DATE	DESCRIPTION	BY
1	3-9-20	REVISED LIGHTING PLAN	

CITY OF HILLIARD REVIEW

THE SIGNATURES BELOW SIGNIFY ONLY CONCURRENCE WITH THE PURPOSE AND THE GENERAL LOCATION OF THIS PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE ENGINEER PREPARING THE PLANS.

REVIEWED BY:

Albert J. Dome 02/26/2020
DIRECTOR OF PUBLIC SERVICE DATE

Clark A. Rausch 2/26/2020
CITY ENGINEER DATE

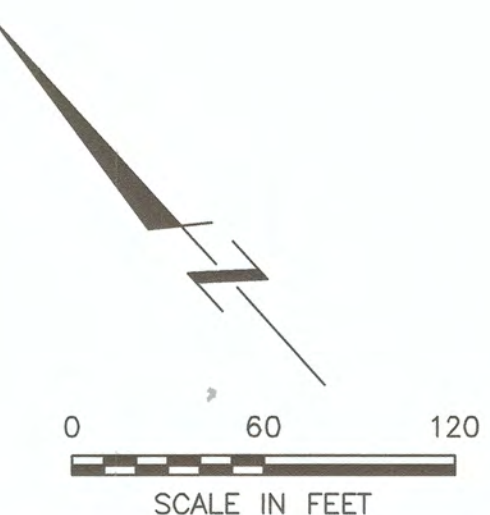
John W. Mann 2/26/2020
NORWICH TOWNSHIP FIRE CHIEF DATE

E. P. FERRIS
AND ASSOCIATES
INC.

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (FAX)
www.EPFERRIS.com



BY: *Brian D. Saunders* 2/26/20
Date
Brian D. Saunders, P.E.
Registered Engineer No. 77949



SHEET NO.	OF
1	19

DATE: 2/25/2020

M:\570019_005_Centers\Public_Improvement\Drawings\Public_Improvement_Plan\570019_005_PIP_TITLE.dwg ~TITLE LAST EDITED BYCKELLY ON 2/26/20

PROJECT #: 570.019_005

GENERAL NOTES

- THE REGULATIONS AND CONSTRUCTION STANDARDS OF THE CITY OF HILLIARD, TOGETHER WITH THE CURRENT CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE CITY OF COLUMBUS (CMSC) AND THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) SHALL GOVERN ALL CONSTRUCTION ITEMS THAT ARE A PART OF THIS PLAN UNLESS OTHERWISE NOTED.
- THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE WILL MAKE INSPECTION OF THE WORK. THE CITY ENGINEER WILL REQUIRE AT LEAST 48 HOURS WRITTEN NOTICE BEFORE ANY WORK TAKES PLACE. FAILURE TO REQUEST THE NECESSARY INSPECTION MAY RESULT IN THE REJECTION OF THE WORK AND THE PROJECT.
- IT IS THE INTENTION OF THE PLANS TO PROVIDE AND REQUIRE A COMPLETED PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM THE PLANS, WHICH ARE CLEARLY NECESSARY FOR COMPLETION OF THE WORK, AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK, THOUGH NOT DIRECTLY SHOWN OR CALLED FOR IN THE PLANS. THIS INCLUDES, BUT IS NOT LIMITED TO SUCH INCIDENTAL ITEMS AS RELOCATION OF MAILBOXES, SAW CUTTING, AND REMOVAL AND/OR RELOCATION OF SIGNS, SPRINKLERS, OR OTHER MISCELLANEOUS ITEMS.
- ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.
- NOTE INTENTIONALLY OMITTED.
- THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION THAT ARE NOT SPECIFIED HEREIN. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR SAFETY ON THE WORK SITE, OR THE FAILURE BY THE CONTRACTOR TO PERFORM WORK ACCORDING TO PLANS.
- NOTE INTENTIONALLY OMITTED.
- THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. THE CONTRACTOR SHALL EXERCISE PRECAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTION AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS.
- THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE, EXISTING RIGHT-OF-WAYS, TEMPORARY AND PERMANENT EASEMENTS, AND SHALL NOT ENTER UPON OTHER PROPERTIES WITHOUT WRITTEN PERMISSION OF THE OWNER. IF THE PROPOSED WORK REQUIRES EASEMENTS UPON OTHER PROPERTIES, THE CONTRACTOR SHALL NOTIFY THE OWNER(S) IN WRITING NO LESS THAN 72 HOURS IN ADVANCE OF THE COMMENCEMENT OF THE WORK, AND COPY THE CITY ON ALL CORRESPONDENCE. FAILURE TO NOTIFY AFFECTED PROPERTY OWNERS MAY SUBJECT THE CONTRACTOR TO THE PENALTIES ASSOCIATED WITH THE VIOLATION OF HILLIARD CITY CODE, SECTION 541.05, CRIMINAL TRESPASS.
- THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES AND OTHER SURVEY REFERENCE MONUMENTS OR MARKERS. IN CASES OF WILLFUL OR CARELESS DESTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE MARKERS. THE CONTRACTOR SHALL EMPLOY AN OHIO PROFESSIONAL SURVEYOR AS APPROVED BY THE CITY ENGINEER AT THE CONTRACTOR'S EXPENSE.
- PROPERTY BOUNDARIES, INCLUDING PROPERTY LINES AND ROAD RIGHT-OF-WAY, ARE SHOWN FROM THE BEST INFORMATION AVAILABLE AND ARE NOT NECESSARILY COMPLETE OR CORRECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE FINISHED WORK CONFORM TO THE LINES, GRADES, ELEVATIONS AND DIMENSIONS CALLED FOR ON THE DRAWINGS AND TYPICAL SECTIONS.
- ANY DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH WORK TO HILLIARD CITY CODE, SECTION 509.08. CONSTRUCTION ACTIVITY IS ONLY PERMITTED BETWEEN THE HOURS OF 7:30 A.M. AND 7:00 P.M., MONDAY - SATURDAY. ANY CONSTRUCTION ACTIVITY BEYOND THESE HOURS REQUIRES A WRITTEN REQUEST TO THE DIRECTOR OF PUBLIC SERVICE MEETING THE REQUIREMENTS OF HILLIARD CITY CODE, SECTION 509.08(B).
- PAVEMENTS SHALL BE CUT IN NEAT, STRAIGHT LINES THE FULL DEPTH OF THE EXISTING PAVEMENT, OR AS REQUIRED BY THE CITY ENGINEER.
- ALL SOIL SUBGRADE SHALL BE PREPARED AND COMPACTED IN ACCORDANCE WITH ITEM 204 TO A DEPTH OF 12 INCHES BELOW THE SUBGRADE SURFACE. SUBGRADE SHALL BE SCARIFIED AND CONTAIN SUFFICIENT MOISTURE TO MEET ITEM 203 COMPACTION REQUIREMENTS.
- THE CONTRACTOR IS NOT PERMITTED TO USE ANY RECLAIMED MATERIALS IN ITEM 304.
- NON-RUBBER Tired VEHICLES SHALL NOT BE MOVED ON OR ACROSS PUBLIC STREETS OR HIGHWAYS WITHOUT THE WRITTEN PERMISSION OF THE CITY ENGINEER.
- TRACKING OR SPILLING MUD, DIRT, OR DEBRIS UPON STREETS, RESIDENTIAL OR COMMERCIAL DRIVES, SIDEWALKS OR BIKE PATHS IS PROHIBITED PER HILLIARD CITY CODE, SECTION 905.12 AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE CONTRACTOR FAILS TO REMOVE SAID MUD, DIRT, DEBRIS, OR SPILLAGE, THE CITY OF HILLIARD RESERVES THE RIGHT TO REMOVE THESE MATERIALS AND CLEAN AFFECTED AREAS, THE COST OF WHICH SHALL BE PAID BY THE CONTRACTOR/DEVELOPER PER HILLIARD CITY CODE, SECTION 905.13.
- DURING CONSTRUCTION THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE AND PROPER SOIL EROSION CONTROL MEASURES FOR PROTECTION OF ALL ADJACENT ROADS AND LANDS, PER COLS ITEM 207.
- THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL OR BETTER THAN EXISTED BEFORE CONSTRUCTION. DRAINAGE DITCHES OR WATERCOURSES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THE GRADES AND CROSS-SECTIONS THAT EXISTED BEFORE CONSTRUCTION.
- THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES SEWER, DRAIN, AND DITCH FLOWS THROUGH EXISTING FACILITIES. REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PUT INTO SERVICE. THE CONTRACTOR, TO A CONDITION SATISFACTORY TO THE CITY ENGINEER, SHALL RESTORE THE FLOW OF ALL SEWERS, DRAINS, AND OTHER WATERCOURSES DISTURBED DURING THE PROSECUTION OF THE WORK.
- ANY MODIFICATION OF THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE HILLIARD CITY ENGINEER.
- THE CONTRACTOR SHALL CALL TOLL FREE, THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AT 1-800-362-2764 SEVENTY-TWO (72) HOURS IN ADVANCE OF THE ANTICIPATED START OF CONSTRUCTION, AND SHALL NOTIFY ALL UTILITY COMPANIES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO WORK IN THE VICINITY OF THEIR LINES. THE CONTRACTOR SHALL ALSO CALL THE OIL AND GAS PRODUCERS AND SUPPLIERS AT 1-800-925-0988.

UTILITY CONTACTS				
UTILITY	PROVIDER	ADDRESS	TELEPHONE	CONTACT
TELEPHONE	AT&T	111 N. 4TH ST., RM. 802, COLUMBUS, OH 43215	(614) 223-8903	ALLEN RIVERA
ELECTRIC	AEP	850 TECH CENTER DRIVE GAHANNA, OH 43230-6605	(614) 883-6831	PAUL PAXTON
ELECTRIC TRANSMISSION	AEP TRANSMISSION	700 MORRISON ROAD, GAHANNA, OH 43250-6642	(614) 552-1893	BARBARA DUNLAP
GAS	COLUMBIA GAS	1600 DUBLIN ROAD, COLUMBUS, OH 43215	(614) 481-1056	JOHN ARMSTUTZ
CABLE TELEVISION	SPECTRUM	1266 DUBLIN ROAD, P.O. BOX 2553, COLUMBUS, OH 43216-2553	(614) 481-5263	TERRY ALLEN
WATER	CITY OF HILLIARD	3800 MUNICIPAL WAY, HILLIARD, OH 43026	(614) 876-7361	-

- EXISTING UTILITIES SHOWN ON THE PLAN ARE FROM THE BEST AVAILABLE RECORDS AND FIELD INVESTIGATION AND ARE NOT NECESSARILY COMPLETE OR CORRECT. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN OR NOT.
- THE CONTRACTOR SHALL EXPOSE AND VERIFY THE LOCATION AND ELEVATION OF ANY UTILITIES WITHIN THE LIMITS OF THE PROPOSED CONDUIT PATH, PRIOR TO STARTING ANY EXCAVATION. IN CASE OF CONFLICT, ADJUSTMENTS IN LOCATION AND ELEVATION OF UTILITIES MAY BE MADE IF APPROVED PER GENERAL NOTE #24, OR ARRANGEMENTS SHALL BE MADE TO MOVE THE EXISTING UTILITY TO PROVIDE ADEQUATE CLEARANCE.
- ALL WATER LINES MUST BE CONSTRUCTED WITH A MINIMUM OF TEN (10) FEET HORIZONTAL AND ONE & ONE HALF (1.5) FOOT VERTICAL SEPARATION FROM ALL SEWER LINES. ALL NON WATER LINE UTILITIES MUST BE CONSTRUCTED WITH A MINIMUM THREE (3) FEET HORIZONTAL AND ONE (1) FOOT VERTICAL SEPARATION.
- EXISTING DRAIN TILES ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED OR CONNECTED TO THE STORM SEWER SYSTEM AS APPROVED BY THE CITY ENGINEER. THE COST OF SAID WORK TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.

- ALL TRENCHES WITHIN PAVEMENT, BERM, AND SHOULDER LIMITS SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.
- ACCESS TO ALL ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. AREAS WITH MULTIPLE DRIVES SHALL HAVE AT LEAST HALF OF THE DRIVES OPEN AT ALL TIMES. PROPERTIES WITH A SINGLE ACCESS WILL REQUIRE STAGED CONSTRUCTION; SHORT-TERM FULL CLOSURE OF A SINGLE ACCESS WILL BE PERMITTED WITH THE PROPERTY OWNER AND/OR TENANT'S AGREEMENT. SUCH FULL CLOSURES SHALL BE SCHEDULED AND COORDINATED WITH THE PROPERTY OWNER/TENANT.
- AT ALL UTILITY CROSSINGS THE TRENCH BACKFILL SHALL CONSIST OF COMPACTED GRANULAR MATERIAL, COLS ITEM 912, BETWEEN THE DEEPER AND SHALLOWER PIPE.
- COMPACTED GRANULAR MATERIAL, COLS ITEM 912 SHALL CONSIST OF NATURAL, BROKEN OR CRUSHED STONE, CRUSHED GRAVEL, OR CRUSHED SLAG. SYNTHETIC OR MAN-MADE MATERIALS ARE UNACCEPTABLE.
- BACKFILL FOR TRENCHES UNDER PAVEMENT AND WITHIN THE RIGHT-OF-WAY SHALL BE COMPACTED GRANULAR MATERIAL, COLS ITEM 912, TO THE PAVEMENT SUBGRADE. WHERE TRENCHES CROSS THE PAVEMENT, COLS ITEM 912 SHALL EXTEND THE FULL WIDTH OF THE RIGHT-OF-WAY, AND TO WITHIN 6 INCHES OF FINISHED GRADE WHERE NOT UNDER PAVEMENT.
- BACKFILL FOR TRENCHES PARALLEL TO THE PAVEMENT AND WITHIN THE RIGHT-OF-WAY, WITH THE TOP OF THE TRENCH 3 FEET OR CLOSER TO THE BACK OF CURB OR EDGE OF PAVEMENT OR LOCATED UNDER A PEDESTRIAN PATHWAY, SHALL BE COMPACTED GRANULAR MATERIAL, COLS ITEM 912, TO WITHIN 6 INCHES OF FINISHED GRADE. BACKFILL FOR ALL OTHER TRENCHES WITHIN THE RIGHT-OF-WAY PARALLEL TO THE PAVEMENT, SHALL BE COMPACTED BACKFILL, COLS ITEM 911, EXCEPT THAT COMPACTION SHALL BE TO A MINIMUM 95 PERCENT MAXIMUM DRY DENSITY. PRIOR TO CONSTRUCTION OF THE STREETS, THE CITY ENGINEER MAY REQUIRE SOIL TESTS ON THE BACKFILL WHERE TEST RESULTS INDICATE THAT THE BACKFILL DOES NOT MEET COMPACTION REQUIREMENTS THE BACKFILL SHALL BE REMOVED, REPLACED, AND RE-TESTED UNTIL MEETING THOSE REQUIREMENTS.
- ALL AREAS FOR UNDERGROUND ELECTRIC AND STREET LIGHTING ELECTRIC, TELEPHONE, AND CABLE TV INSTALLATIONS SHALL BE BROUGHT TO FINISHED GRADE, AS SHOWN ON THE GRADING PLAN, PRIOR TO THEIR BEING INSTALLED. ALL FILL REQUIRED SHALL BE COMPACTED IN ACCORDANCE WITH COLS ITEM 203.12. CONDITION 1. THIS WORK SHALL BE PERFORMED AS PART OF THIS PLAN AND THE COST SHALL BE INCLUDED UNDER ITEM 203.
- ALL SEEDING SHALL BE APPLIED AT THE RATE OF 8 POUNDS (LB.) PER 1,000 SQUARE FEET (SF) AND SHALL USE THE FOLLOWING SEED MIXTURE:
 - 40% TITAN TALL FESCUE
 - 40% TARHEEL TALL FESCUE
 - 10% DENIM KENTUCKY BLUEGRASS
 - 10% RENAISSANCE PERENNIAL RYE GRASS
- COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST, AND SLOW RELEASE NITROGEN, 50% DERIVED FROM NATURAL ORGANIC SOURCES OF UREA-FORM, PHOSPHOROUS, AND POTASSIUM AND WITH THE FOLLOWING COMPOSITION SHALL BE APPLIED:
 - COMPOSITION: 13% NITROGEN, 26% PHOSPHOROUS, AND 12% POTASSIUM BY WEIGHT.
 - FERTILIZER SHOULD BE APPLIED AT THE RATE OF 6 POUNDS (LB.) PER 1,000 SQUARE FEET (FT.).
- ALL SIGNS, LANDSCAPING, STRUCTURES OR OTHER APPURTENANCES DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER. THE CONTRACTOR SHALL PAY FOR THE COST OF THIS WORK.

SITE SPECIFIC NOTES

- STANDARD DRAWINGS:** THE STANDARD DRAWINGS LISTED IN THE CONTRACT DOCUMENTS SHALL BE CONSIDERED A PART OF THESE PLANS.
- MINIMUM PIPE REQUIREMENTS:** THE MINIMUM REQUIREMENTS FOR SEWER PIPE ON THIS PROJECT SHALL BE REINFORCED CONCRETE PIPE, 706.02 AND PLASTIC PIPE PER 720.01.
 - ALL PVC PIPE SHALL BE ASTM D-3035 SDR-21
 - ALL HDPE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH AASHTO M 294 AND MP7-97, SUCH AS ADS N-12 SMOOTH WALL HDPE OR APPROVED EQUAL. ALL DRAINAGE PIPE SHALL BE HDPE UNLESS OTHERWISE NOTED ON THE PLANS.
 - ALL R.C.P. SHALL BE CLASS IV ASTM C655 BELL AND SPIGOT PIPE WITH RUBBER GASKET PER ASTM C443.
- PLAN DISCREPANCIES:** DISCREPANCIES BETWEEN PORTIONS OF THE CONTRACT DOCUMENTS, DRAWINGS, AND SPECIFICATIONS ARE NOT INTENDED. STATED DIMENSIONS TAKE PRECEDENCE OVER GRAPHICS. DO NOT SCALE DRAWINGS TO DETERMINE LOCATIONS. THE CONTRACTOR IS TO CLARIFY ANY SUCH DISCREPANCIES WITH THE ENGINEER PRIOR TO COMMENCING WORK.
- TRAFFIC CONTROL:** CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT OF WAY OR ADJOINING PROPERTIES. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED AND MAINTAINED IN CONFORMANCE WITH THE ODOT MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- ACCESSIBILITY:** ALL SIDEWALKS AND CURB RAMPS SHALL BE ADA COMPLIANT. WALKING SURFACE CROSS SLOPES SHALL NOT EXCEED 0.016. WALKS, SIDEWALKS AND PEDESTRIAN WAYS SHALL BE FREE OF GRATING WHENEVER POSSIBLE. FOR GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS, GRID OPENINGS IN THE GRATINGS SHALL BE LIMITED TO 1/2" IN THE DIRECTION OF TRAFFIC FLOW, ON ACCESSIBLE ROUTES, WHEN THE SLOPE IN THE DIRECTION OF TRAVEL OF ANY WALK EXCEEDS 1%:20H, IT SHALL COMPLY WITH THE PROVISIONS OF A PEDESTRIAN RAMP. PER ADA STANDARDS FOR ACCESSIBLE DESIGN 4.5.2: ON ACCESSIBLE ROUTES, CHANGES IN ELEVATION UP TO 1/4" ARE ALLOWED. CHANGES GREATER THAN 1/4" MUST BE BEVELED NO GREATER THAN 1V:2H AND CHANGES GREATER THAN 1/2" SHALL COMPLY WITH REQUIREMENTS FOR CURB RAMPS.
- UTILITY COORDINATION:** IT SHALL BE THE GENERAL CONTRACTOR AND SITE UTILITY CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL DIVISIONS OF LABOR WITH THE REQUISITE UTILITY. ALL REQUIRED MATERIALS AND LABOR NECESSARY TO PROVIDE SERVICES FOR THE SITE SHALL BE INCLUDED IN THE BID, WHETHER NOTED ON THE PLANS OR NOT. EXACT ROUTING OF THE UTILITIES SHOULD VARY FROM WHAT IS PROVIDED ON THE DRAWINGS BASED UPON JURISDICTIONAL REQUIREMENTS.

- THE CONTRACTOR SHALL COORDINATE WITH THE PRIVATE UTILITIES FOR ANY RELOCATIONS NECESSARY FOR THE COMPLETION OF THIS PROJECT. COST SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE VARIOUS RELATED ITEMS.
- EROSION CONTROL:**
 - SEEDING AND MULCHING:** THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS IN CONFORMANCE WITH CMSC ITEM 659 - SEEDING AND MULCHING. THE AREA FOR PAYMENT SHALL BE THE AREA WITHIN THE CONSTRUCTION LIMITS OUTSIDE OF PAVED AREAS AS DEFINED BY THE PLANS. PAYMENT WILL BE MADE UNDER CMSC ITEM 659 - SEEDING AND MULCHING AT THE UNIT PRICE BID PER SQUARE YARD FOR THE QUANTITIES AS DETERMINED FROM THE MEASUREMENTS SPECIFIED ABOVE. PAYMENT FOR WATERING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 659 - SEEDING AND MULCHING, NO SEPARATE PAYMENT SHALL BE MADE FOR WATERING, IN CASE AN AREA OUTSIDE THESE LIMITS IS DAMAGED AND IS IN NEED OF GRADING AND SEEDING, IT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL WATER SEEDED AREAS AT A RATE OF 120 GALLONS PER 1,000 SQUARE FEET AS SOON AS THE SEED IS COVERED. THE CONTRACTOR SHALL WATER ALL SEEDED AREAS AT A RATE OF 120 GALLONS PER 1,000 SQUARE FEET EVERY OTHER DAY FOR FOUR WEEKS. WATERING SHALL BE PERFORMED IN THE MORNING BETWEEN 6:00AM AND 10:00AM AND SHALL BE APPLIED BY MEANS OF A HYDRO-SEEDER OR A WATER TANK UNDER PRESSURE WITH A NOZZLE THAT WILL PRODUCE A SPRAY THAT WILL NOT DISLodge THE MULCHING MATERIAL. THE COST FOR WATER SHALL BE INCLUDED IN THE COST FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.
 - MAINTENANCE:** MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER ANY AREA IS SEEDING AND SHALL CONTINUE FOR A MINIMUM FOUR-WEEK ACTIVE GROWING PERIOD FOLLOWING THE COMPLETION OF ALL SEEDING WORK, AND UNTIL FINAL ACCEPTANCE OF THE PROJECT, IN THE EVENT THAT SEEDING OPERATIONS ARE NOT COMPLETED UNTIL AFTER THE FALL FOR ADEQUATE GERMINATION AND GROWTH OF GRASS, THEN MAINTENANCE SHALL CONTINUE INTO THE FOLLOWING SPRING.
 - MAINTENANCE SHALL INCLUDE RESEEDING, MOWING TO MAINTAIN A HEIGHT OF 3 INCHES, WATERING, WEEDING, FERTILIZING AND RESTETING AND STRAIGHTENING OF PROTECTIVE BARRIERS. MAINTENANCE SHALL ALSO INCLUDE CHEMICAL TREATMENTS AS REQUIRED FOR FUNGUS AND/OR PEST CONTROL.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN THE SEEDING AREAS. AFTER THE GRASS IN SEEDING AREAS HAS APPEARED, ALL AREAS AND PARTS OF AREAS THAT, IN THE OPINION OF THE CITY, FAIL TO SHOW A UNIFORM STAND OF GRASS FOR ANY REASON WHATSOEVER SHALL BE RESEEDED AND SUCH AREAS AND PARTS OF AREAS SHALL BE RESEEDED REPEATEDLY UNTIL A SUFFICIENT FACTORY GROWTH OF GRASS IS OBTAINED. THE COST FOR RESEEDING TOGETHER WITH NECESSARY GRADING, FERTILIZING, AND TRIMMING SHALL BE INCLUDED IN THE COST FOR ITEM 659 - SEEDING AND MULCHING, AS PER PLAN.
 - TOPSOIL:** THE REQUIREMENTS OF CMSC ITEM 653 SHALL GOVERN THE CONSTRUCTION OF THIS WORK. FOUR INCHES OF TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS THAT ARE TO BE SEEDING AND

- MULCHED. FINAL GRADES SHALL CONFORM TO THOSE SHOWN ON THE PLANS. TOPSOIL FOUND SUITABLE BY THE PROJECT ENGINEER DURING CLEARING AND GRUBBING SHALL BE SEGREGATED FROM THE OTHER EXCAVATED MATERIAL AND STOCKPILED FOR REUSE. PAYMENT FOR SEGREGATING, STOCKPILING AND REUSE OF STOCKPILED TOPSOIL SHALL BE INCLUDED IN THE AMOUNT BID FOR CMSC ITEM 901. IF STOCKPILED TOPSOIL IS INSUFFICIENT, THE ENGINEER MAY DIRECT THE CONTRACTOR TO IMPORT ADDITIONAL TOPSOIL. IMPORTED TOPSOIL SHALL BE PAID FOR UNDER THE UNIT PRICE BID FOR CMSC ITEM 653, TOPSOIL FURNISHED AND PLACED, AS DIRECTED BY THE ENGINEER.
 - DUST CONTROL: THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR DUST CONTROL.
 - CMSC 616 - WATER, 2.66 MGAL
 - CMSC 616 - CALCIUM CHLORIDE, 0.21 TONS
 - TEMPORARY SEDIMENT AND EROSION CONTROL: THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR EROSION AND SEDIMENTATION CONTROL MEASURES:
 - CMSC 207 - CONSTRUCTION SEEDING AND MULCHING, 100 S.Y.
 - CMSC 207 - PERIMETER FILTER FABRIC FENCE, 400 FT.
 - CMSC 207 - STABILIZED CONSTRUCTION ENTRANCE, 1 EACH
 - CMSC 207 - CONCRETE WASHOUT AREA, 1 EACH
 - ALL EROSION AND SEDIMENT PRACTICES ARE SUBJECT TO FIELD MODIFICATIONS AT THE DISCRETION OF THE CITY OF HILLIARD AND/OR THE OHIO EPA.
 - ALL DISTURBED AREAS, WHICH WILL REMAIN UNWORKED FOR 21 DAYS OR MORE, SHALL BE SEEDED WITHIN 7 DAYS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY SEDIMENT CONTROL DEVICES AT THE CONCLUSION OF THE CONSTRUCTION BUT NOT BEFORE GROWTH OF PERMANENT GROUND COVER IS ESTABLISHED. THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE (CONSISTENT WITH SEDIMENT/EROSION CONTROL PRACTICES) OF THE WORK AREA AT ALL TIMES.
 - SOIL STOCKPILES:** ALL SOIL STOCKPILES, INCLUDING TRENCH EXCAVATION STOCKPILES SHALL BE PROTECTED FROM EROSION BY PERIMETER CONTROL DEVICES SUCH AS STRAW BALE DIKES OR SILT FENCES. THESE PERIMETER CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT. EXCAVATED MATERIALS SHALL NOT BE STORED ON EXISTING PUBLIC ROADWAY PAVEMENTS. THIS INCLUDES EXCESS OR UNUSABLE EXCAVATED SOIL.
 - DISPOSAL OF EXCESS EXCAVATION:** THE CONTRACTOR SHALL DISPOSE OF ALL EXCESS EXCAVATION OUTSIDE OF THE LIMITS OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE A COPY OF THE SIGNED, WRITTEN AGREEMENT BETWEEN THE CONTRACTOR AND THE OFF-SITE LANDOWNER BEFORE SUCH DISPOSAL OCCURS. THIS WRITTEN AGREEMENT SHALL CLEARLY STATE THE PURPOSE OF THE AGREEMENT AND INDICATE THE LANDOWNER'S PERMISSION FOR SUCH USE.
 - STORM SEWER INLET PROTECTION:** ALL STORM SEWER INLETS SHALL BE PROTECTED FROM EXCESSIVE AMOUNTS OF SEDIMENTS USING ADEQUATE FILTERING DEVICES AS APPROVED BY THE CITY OF HILLIARD. THESE DEVICES SHALL BE MAINTAINED UNTIL THE DENUDED AREA HAS BEEN STABILIZED, OR AS DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED UNDER CMSC ITEM 207 - STORM SEWER INLET PROTECTION. STRAW OR HAY BALES ARE NOT APPROVED FOR INLET PROTECTION.
 - DEWATERING:** SHOULD WATER BE ENCOUNTERED, THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING EQUIPMENT OF SUCH CAPACITY TO ADEQUATELY DEWATER THE TRENCH PER CMSC ITEM 901.06. THE TRENCH SHALL BE SUFFICIENTLY DEWATERED SO THAT THE PLACEMENT OF BEDDING AND LAYING AND JOINING OF THE PIPE IS MADE ON FIRM, DRY GROUND. THE CONTRACTOR SHALL CONVEY ALL TRENCH WATER TO A NATURAL DRAINAGE CHANNEL OR STORM SEWER WITHOUT CAUSING ANY DAMAGE TO THE PROPERTY BY UTILIZING PROPER EROSION AND SEDIMENT CONTROLS. DIRECT DISCHARGE OF SEDIMENT LADEN WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY OF HILLIARD REGULATIONS. THE CONTRACTOR WILL BE HELD LIABLE FOR THE VIOLATION AND SUBSEQUENT FINES. THE COST OF ALL DEWATERING WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 901.

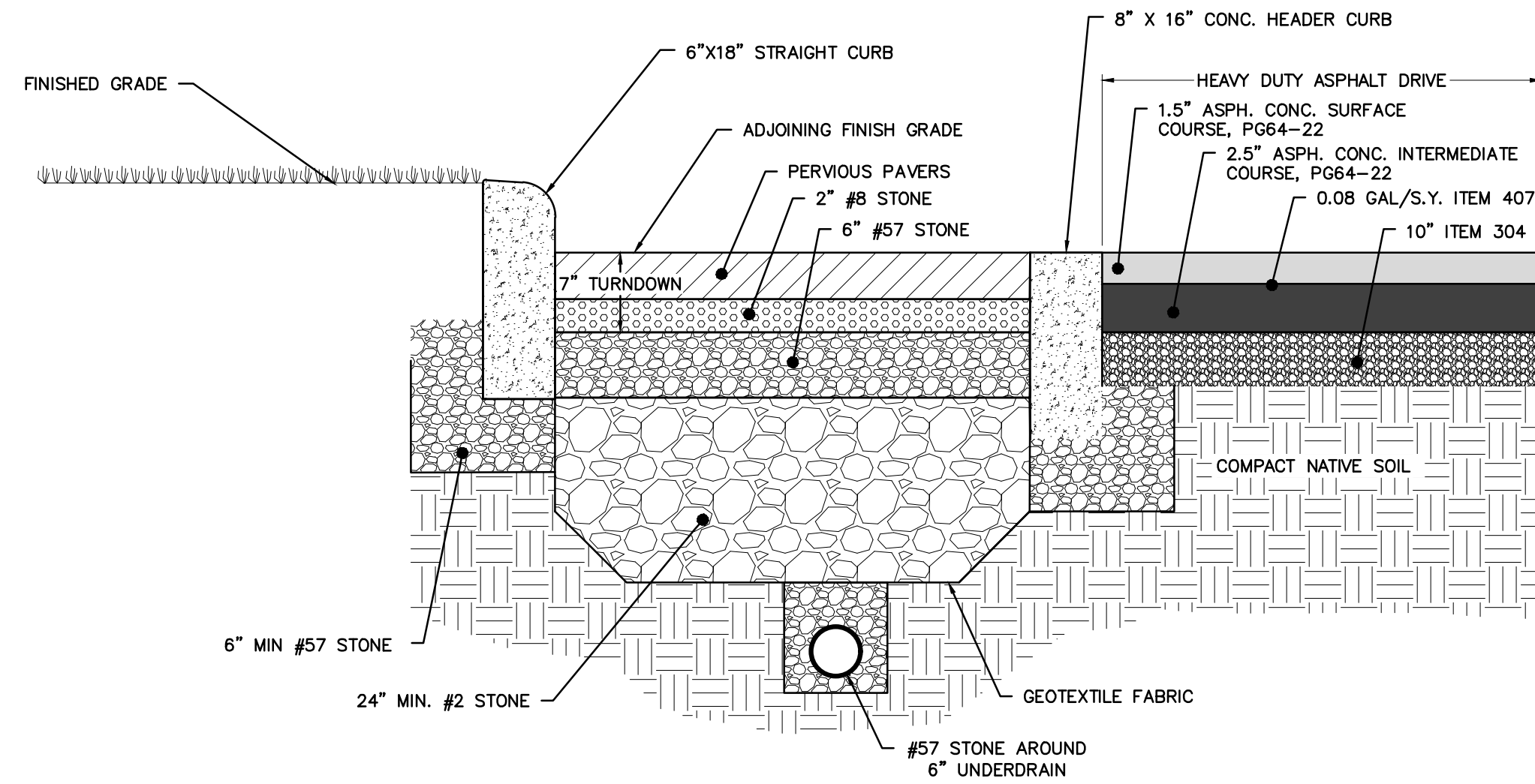
GENERAL SUMMARY OF QUANTITIES			
COC ITEM	QUANTITY	UNIT	DESCRIPTION
EARTHWORK			
201	1	LS	CLEARING AND GRUBBING, TOPSOIL REMOVAL
202	2001	SY	PAVEMENT REMOVED
202	100	SY	CONCRETE PAD REMOVED
202	591	LF	CURB REMOVED
202	371	SF	WALK REMOVED
202	3	EA	LIGHT POLE REMOVED
203	1854	CY	EXCAVATION
203	158	CY	EMBANKMENT
204	3309	SY	SUBGRADE COMPACTION
PAVEMENT			
259	50	CY	PERMANENT PAVEMENT REPLACEMENT (TYPE I)
304	666	CY	AGGREGATE BASE
407	214	GAL	TACK COAT, TRACKLESS TACK
448	105	CY	1.5" ASPHALT CONCRETE, SURFACE COURSE, PG 64-22
448	27	CY	1.5" ASPHALT CONCRETE, INTERMEDIATE COURSE, PG 64-22
448	130	CY	2.5" ASPHALT CONCRETE, INTERMEDIATE COURSE, PG 64-22
452	20	SY	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS C
608	1050	SF	4" CONCRETE WALK
608	8	EA	CURB RAMP
608	72	SF	DETECTABLE WARNING, TYPE E (COLOR DETERMINED BY CITY)
609	2321	LF	CURB, STRAIGHT 18"
SPEC	782	SY	PERVIOUS CONCRETE PAVERS INCLUDING AGGREGATE BASE & CONC. HEADER CURB
LEISURE PATH			
202	756	LF	FENCE REMOVED
203	275	CY	EXCAVATION
203	54	CY	EMBANKMENT
204	956	SY	SUBGRADE COMPACTION
304	145	CY	AGGREGATE BASE
448	40	CY	1.5" ASPHALT CONCRETE, SURFACE COURSE, PG64-22
448	40	CY	1.5" ASPHALT CONCRETE, INTERMEDIATE COURSE, PG64-22
608	4	EA	CURB RAMP
608	100	SF	DETECTABLE WARNING, TYPE E (COLOR DETERMINED BY CITY)
EROSION CONTROL			
207	10	EA	INLET PROTECTION
207	385	LF	FILTER FABRIC FENCE
653	332	CY	TOPSOIL, 4"
659	2991	SY	SEEDING AND MULCHING
WATER			
809	1	EA	HYDRANT RELOCATION

8. SEWERS:

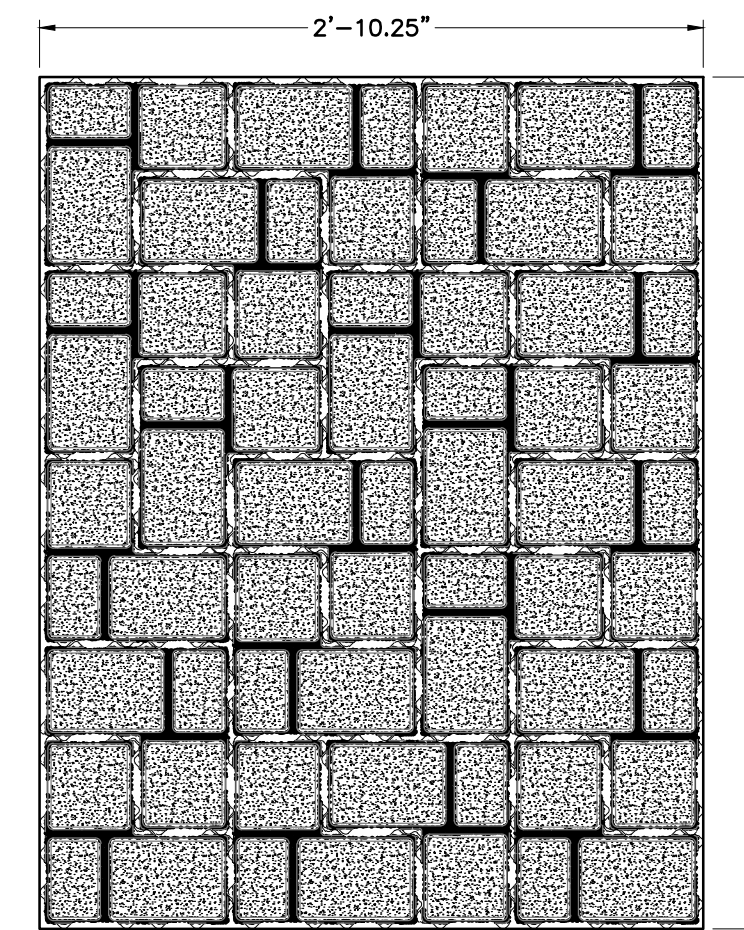
- EXISTING SYSTEMS: EXISTING DRAINAGE SYSTEMS (FIELD TILES, ROOF DRAIN OUTLETS, SUMP PUMPS, ETC.) ENCOUNTERED DURING CONSTRUCTION OF THE NEW STORM SEWER OR REMOVAL OF EXISTING STORM SEWERS SHALL BE EXTENDED AS NECESSARY AND BLIND TAPPED TO THE NEW STORM SEWER PER DIVISION OF SEWERAGE AND DRAINAGE STANDARD DRAWING AA-5159 OR CONNECTED TO THE CATCH BASIN AS DIRECTED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN CMSC ITEM 901.
 - IF THE CONTRACTOR ENCOUNTERS A PIPE OR CONNECTION TO THE STORM SEWER THAT IN THE ESTIMATE OF THE ENGINEER MAY BE AN ILLICIT CONNECTION FROM AN ON-SITE SEWAGE DISPOSAL SYSTEM, THE FRANKLIN COUNTY HEALTH DEPARTMENT SHALL BE CONTACTED AT 614-525-3160 TO DETERMINE WHETHER THE PIPE MAY BE RECONNECTED TO THE CITY'S STORM SEWER SYSTEM.
 - ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
- DEFLECTION TESTING:** ALL PLASTIC SEWER MAIN LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION, IN CONFORMANCE WITH THE REQUIREMENTS OF OPEA GLUMRB 33.85.
- LEAKAGE TESTING:** ALL PLASTIC SEWER MAIN LINES SHALL BE LEAKAGE TESTED AFTER INSTALLATION, IN CONFORMANCE WITH THE REQUIREMENTS OF OPEA GLUMRB 33.93.
- GRADE CHANGES:** IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING SEWER, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN SEWER SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED SEWER WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.
 - IF IT IS DETERMINED THAT THE PROPOSED SEWER WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED SEWER WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.
 - GRADES AND ELEVATIONS SHOWN ON THE PLANS SHALL NOT BE REVISED UNDER ANY CIRCUMSTANCES WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE ENGINEER. INVERT ELEVATIONS SHALL NOT DEVIATE FROM PLAN ELEVATION BY MORE THAN 0.05 FOOT, FAILING TO MEET THE ABOVE REQUIREMENTS IS CAUSE FOR REJECTION OF THE AFFECTED SECTION OF SEWER.
- STRUCTURE ADJUSTMENT:** THE CONTRACTOR SHALL FIELD VERIFY THE TOP OF CASTING ELEVATION OF ALL NEW STORMWATER STRUCTURES. IF PRECAST STRUCTURES ARE UTILIZED THE TOP 6 INCHES MINIMUM SHALL BE FIELD PLACED EITHER WITH GRADE RINGS OR BRICK AND MORTAR TO ALLOW FOR FIELD ADJUSTMENT. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPLICABLE CMSC ITEM 604.
 - IF THE ENGINEER DETERMINES THAT AN INLET IS TOO LOW AFTER IT HAS BEEN PLACED AND ROUGH GRADING PERFORMED, THE CONTRACTOR SHALL ADJUST THE INLET AS DIRECTED BY THE ENGINEER AND REGRADE THE AREA ACCORDINGLY. THE COST TO ADJUST THE INLET SHALL BE PAID FOR IN THE UNIT PRICE BID FOR CMSC ITEM SPECIAL - INLET ADJUSTED TO GRADE, AS DIRECTED BY ENGINEER AND SHALL CONSTITUTE FULL PAYMENT FOR ADJUSTING THE INLET INCLUDING GRADE RINGS, CONCRETE, EXCAVATION, BACKFILL, REGRADING, ETC.

8.6. MANHOLE STEPS: MANHOLE STEPS SHALL BE REINFORCED POLYPROPYLENE PLASTIC PER DOSD STD. CONSTRUCTION DRAWING AA-S119. PAYMENT FOR MANHOLE STEPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CMSC ITEM 604, MANHOLE.

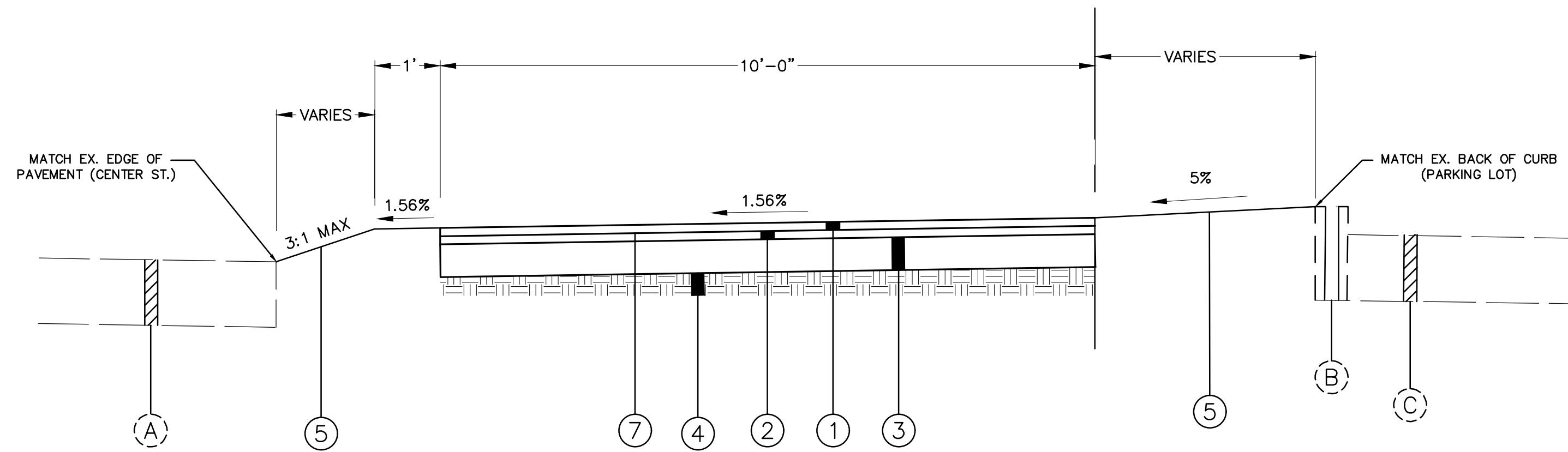
GENERAL SUMMARY OF QUANTITIES			
COC ITEM	QUANTITY	UNIT	DESCRIPTION
LIGHTING / ELECTRICAL			
1001	19	EA	LIGHT POLE, DECORATIVE, POST TOP 14', FIBERGLASS (ACCESSORIES PER DETAIL)
1001	19	EA	LUMINAIRE, LED, 75W (MODEL # PROJ. T2-32LED 4K 700 BLK HSS)
1001	11	EA	PULL BOX, MEDIUM DUTY (13"x24") (MIS-54)
1001	12	EA	STREET LIGHT FOUNDATION, 8" DEEP (24" EXPOSED, ROUND)
1001	7	EA	STREET LIGHT FOUNDATION, 24" SQ. X 6" DEEP (FLUSH)
1001	1820	LF	3" CONDUIT, CONCRETE ENCASED, AS PER PLAN
1001	1820	LF	TRENCH, 24" DEEP
1001	2100	CK FT	UNDERGROUND CIRCUIT, 3-WIRE (MIS-404)
1001	2100	CK FT	UNDERGROUND CIRCUIT, #2 AWG, 3-WIRE, AS PER PLAN
1001	19	EA	GROUND ROD (MIS-55)
1001	19	EA	POLE TO BE WIRED, 3-WIRE (MIS-501)
1001	1	EA	RISER, STREET LIGHT CIRCUIT (MIS-56)
1001	1	EA	OLD HILLIARD SERVICE ENCLOSURE (SL-5)
1001	38	EA	CONNECTOR KITS
STORM			
603	250	LF	12" STORM PIPE, 911 BACKFILL
603	175	LF	12" STORM PIPE, 912 BACKFILL
603	107	LF	4" CONDUIT, TYPE F
604	1	EA	CONNECT TO EX. MANHOLE
604	1	EA	CATCH BASIN, AA-S1133A
604	2	EA	CATCH BASIN, AA-S1133B
604	1	EA	CURB & GUTTER INLET - AA-S125A
604	2	EA	ORIFICE PLATE
604	1	EA	MANHOLE, TYPE C
605	490	LF	6" PIPE UNDERDRAIN
605	506	LF	4" PIPE UNDERDRAIN
TRAFFIC CONTROL			
630	4	EA	SIGN SUPPORT ASSEMBLY, POLE MOUNTED
630	11	EA	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL
630	1	EA	REMOVAL OF GROUND MOUNTED SIGN & REERECTION
630	72	FT	2" GROUND-MOUNTED SUPPORT, NO. 2 POST, TYPE "S"
630	27	FT	2 1/4" SIGN POST ANCHOR
630	53	SF	SIGN, FLAT SHEET, AS PER PLAN
630	54	FT	GROUND-MOUNTED SIGN SUPPORT, AS PER PLAN
642	3088	FT	PARKING STALL MARKING 5", WHITE
642	540	FT	PARKING STALL MARKING, YELLOW
642	98	FT	TRANSVERSE/DIAGONAL LINE, 5" WHITE
642	3	EA	HANDICAP SYMBOL MARKING
644	16	FT	STOP LINE, 20"
64			



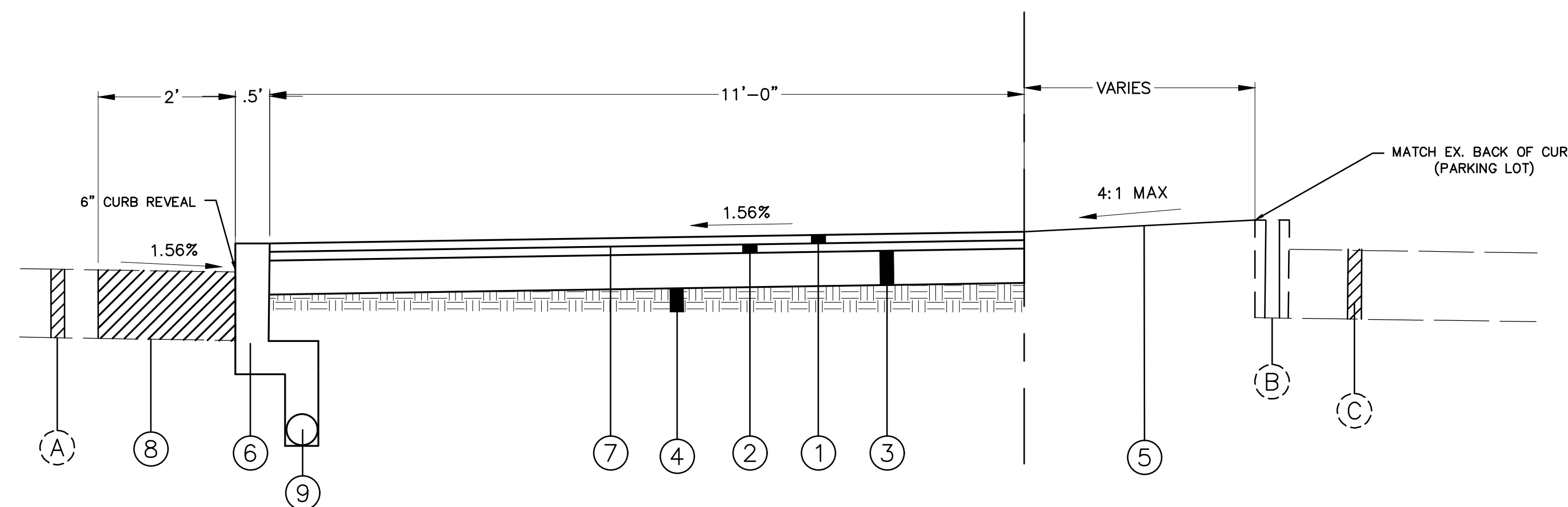
PERVIOUS PAVERS & ASPHALT PARKING/DRIVE TYPICAL SECTION



PERVIOUS PAVERS PLAN VIEW
ITEM SPECIAL - RUSTIC RED COLOR PAVERS

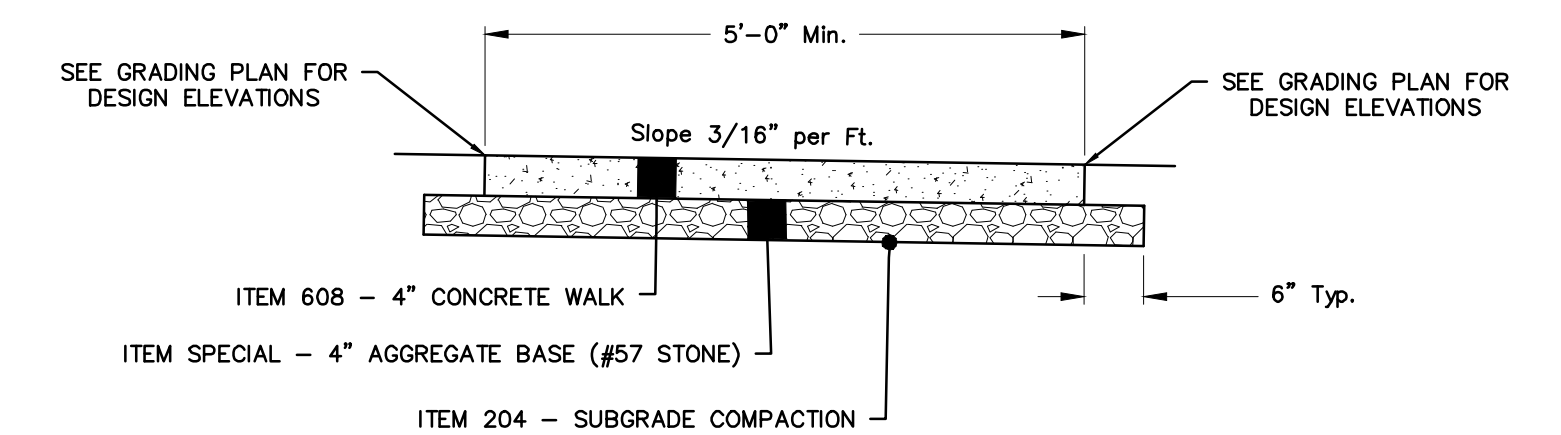


HERITAGE RAIL TRAIL EXTENSION -TYPICAL SECTION
STA. 10+00 TO 14+25



HERITAGE RAIL TRAIL EXTENSION -TYPICAL SECTION
STA. 14+25 TO 18+16

LEGEND			
— PL —	PROPERTY LINE	■	PR. CATCH BASIN
— R/W —	EX. RIGHT-OF-WAY	⊕	PR. STORM MANHOLE
— PR. R/W —	PR. RIGHT-OF-WAY	■	PR. STORM CURB INLET
— LL —	LOT LINE	●	PR. SANITARY MANHOLE
— — — — —	ROADWAY CENTERLINE	— ST —	PR. STORM SEWER
— — — — —	EDGE OF PAVEMENT/BACK OF CURB	— DS —	PR. DOWNSPOUT LINE
— — — — —	EDGE OF DRIVEWAYS	— SA —	PR. SANITARY
— — — — —	MISC. EASEMENTS	— SS —	PR. SANITARY SERVICE
⊕	EX. FIRE HYDRANT	— W —	PR. WATER
⊕	EX. WATER SERVICE VALVE	— WS —	PR. WATER SERVICE
⊕	EX. PULL BOX	— FS —	PR. FIRE SERVICE
⊕	EX. TREE	— G —	PR. GAS LINE
⊕	EX. SANITARY MANHOLE	— C —	PR. TELECOM
⊕	EX. CATCH BASIN	⊕	PR. WATER VALVE
⊕	EX. STORM MANHOLE	▭	PR. CONCRETE WALK/DRIVE
⊕	EX. STORM CURB INLET	⊕	PR. CLEAN-OUT
⊕	EX. UTILITY POLE	↑	PR. FLOOD ROUTE
⊕	EX. LIGHT POLE	→	PR. DRAINAGE FLOW DIRECTIONAL ARROW
⊕	EX. UNDERGROUND TELEPHONE PEDESTAL	— — — — —	PR. CONSTRUCTION LIMITS
⊕	EX. MAILBOX	TBR	TO BE REMOVED
⊕	EX. SIGN	TBA	TO BE ABANDONED
— X — X —	EX. FENCE	TBRL	TO BE RELOCATED
— W —	EX. WATER LINE	ATG	ADJUST TO GRADE
— WS —	EX. WATER SERVICE	DND	DO NOT DISTURB
— WS (PLAN) —	EX. WATER SERVICE (LOCATION PER RECORD PLAN)	AB	ABANDONED
— UGT —	EX. UNDERGROUND TELEPHONE		
— G —	EX. GAS		
— ST —	EX. STORM		
— SA —	EX. SANITARY		
— CMS —	EX. COMBINED SEWER		
— UGE —	EX. UNDERGROUND ELECTRIC		
— OHE —	EX. OVERHEAD ELECTRIC		
— OHL —	EX. OVERHEAD STREET LIGHTING		
— L —	EX. UNDERGROUND STREET LIGHTING		
— FO —	EX. FIBER OPTIC		



SIDEWALK SPECIFICATIONS

LEGEND	
①	ITEM 448 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE (LIGHT TRAFFIC), PG64-22
②	ITEM 448 - 1-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE (MEDIUM TRAFFIC), PG64-22
③	ITEM 304 - 6" AGGREGATE BASE
④	ITEM 204 - SUBGRADE COMPACTION
⑤	ITEM 659 - SEEDING AND MULCHING
⑥	ITEM 609 - CURB, STRAIGHT 18"
⑦	ITEM 407 - TACK COAT, TRACKLESS TACK (0.08 GAL/S.Y.)
⑧	ITEM 259 - PERMANENT PAVEMENT REPLACEMENT (TYPE 1)
⑨	ITEM 605 - 4" PIPE UNDERDRAIN
(A)	EXISTING ASPHALT PAVEMENT (CENTER STREET)
(B)	EXISTING 6" STRAIGHT CURB (EX. PARKING LOT)
(C)	EXISTING ASPHALT (EX. PARKING LOT)

M:\570019_005_CenterStParkingLot\DWG\Production\Drawings\Public Improvement\Plan\570019_005_PIP_CK.dwg ~Details LAST EDITED BYBSAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

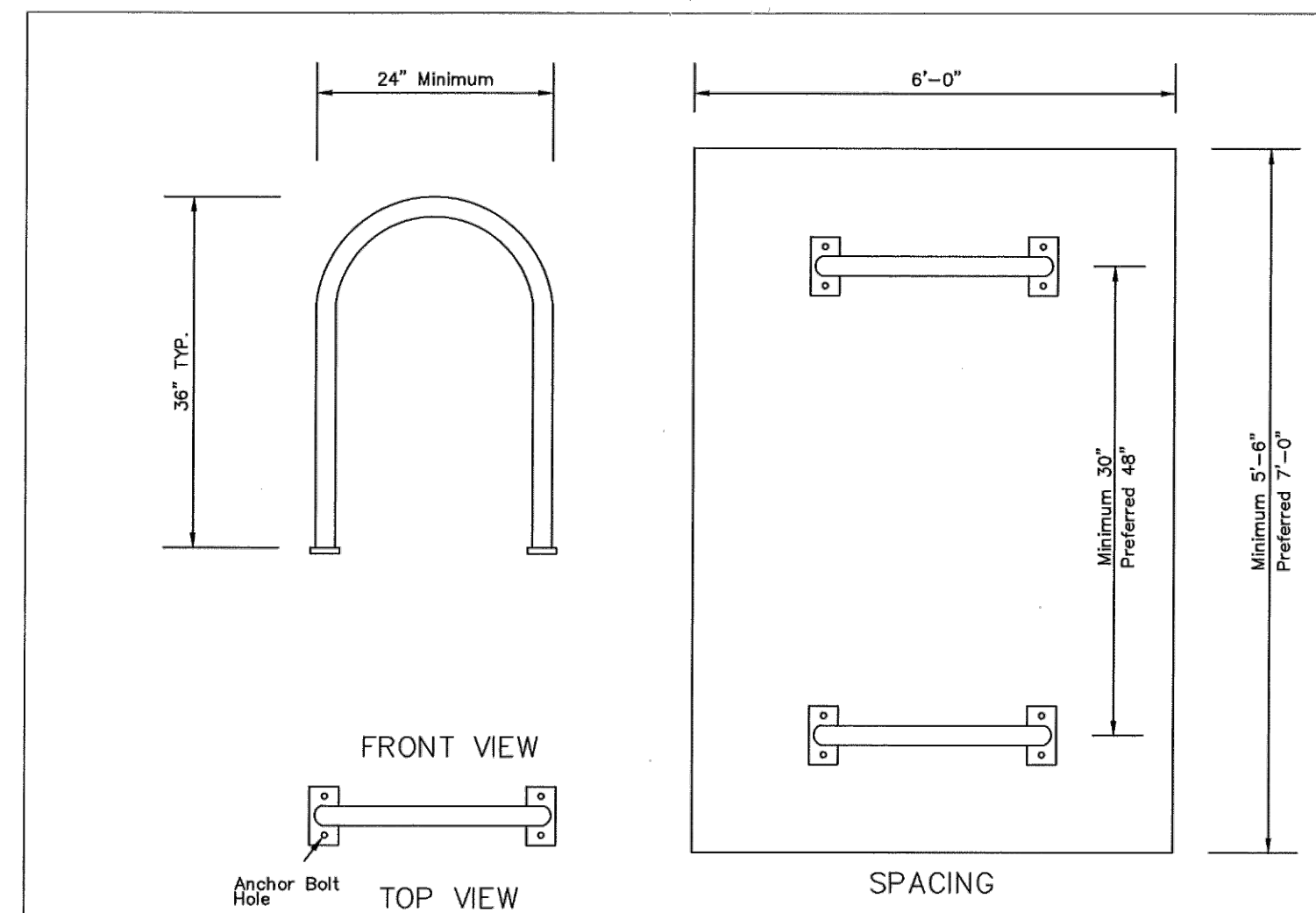
880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	EKO
DRAWN BY:	EKO
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

DETAILS & TYPICAL SECTIONS

SCALE:	N/A
SHEET NO.	OF
3	19



Total No. of Parking Spaces Required	Total No. of Inverted "U" Racks Required
1-20	1
21-40	2
61-100	3
101-140	4
141-180	5
181-220	6
221-260	7
261-300	8
301-340	9
341+	10

1. Bicycle parking shall be located in highly visible areas near the intended use.
2. Bicycle parking racks shall be positioned out of walkway clear zones and not pose a tripping hazard for visually impaired pedestrians.
3. Bicycle parking racks shall be located to avoid potential conflict with parking and circulation of motor vehicles.
4. Bicycle parking racks shall be of the inverted "U" type design, unless an alternative design has been approved by the Public Service Department.
5. Bicycle parking racks shall support a bicycle upright in two places. See Figure 1.
6. Bicycle parking racks shall enable the bicycle frame and one or both wheels to be secured through use of a "U" type lock.
7. Bicycle parking racks shall be securely anchored to an approved hard surface.
8. A two foot by six foot space is required to accommodate two bicycles.
9. Parallel bike racks shall be a minimum on-center spacing of 30 inches. Spacing of 48 inches is optimal.

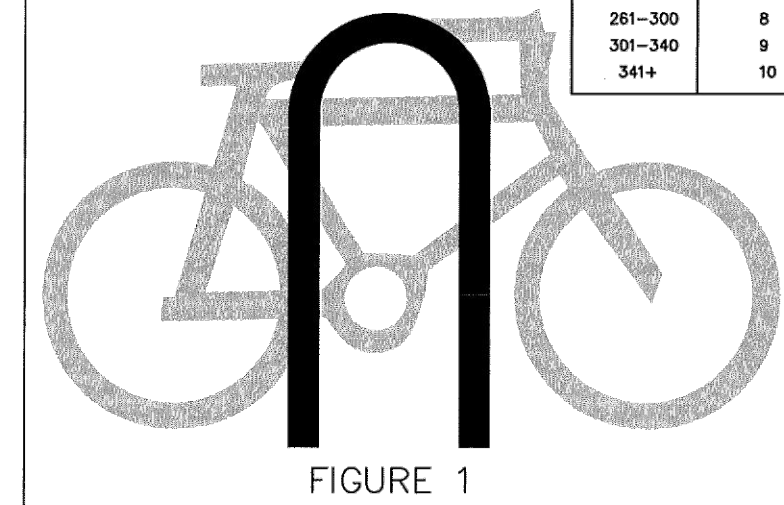


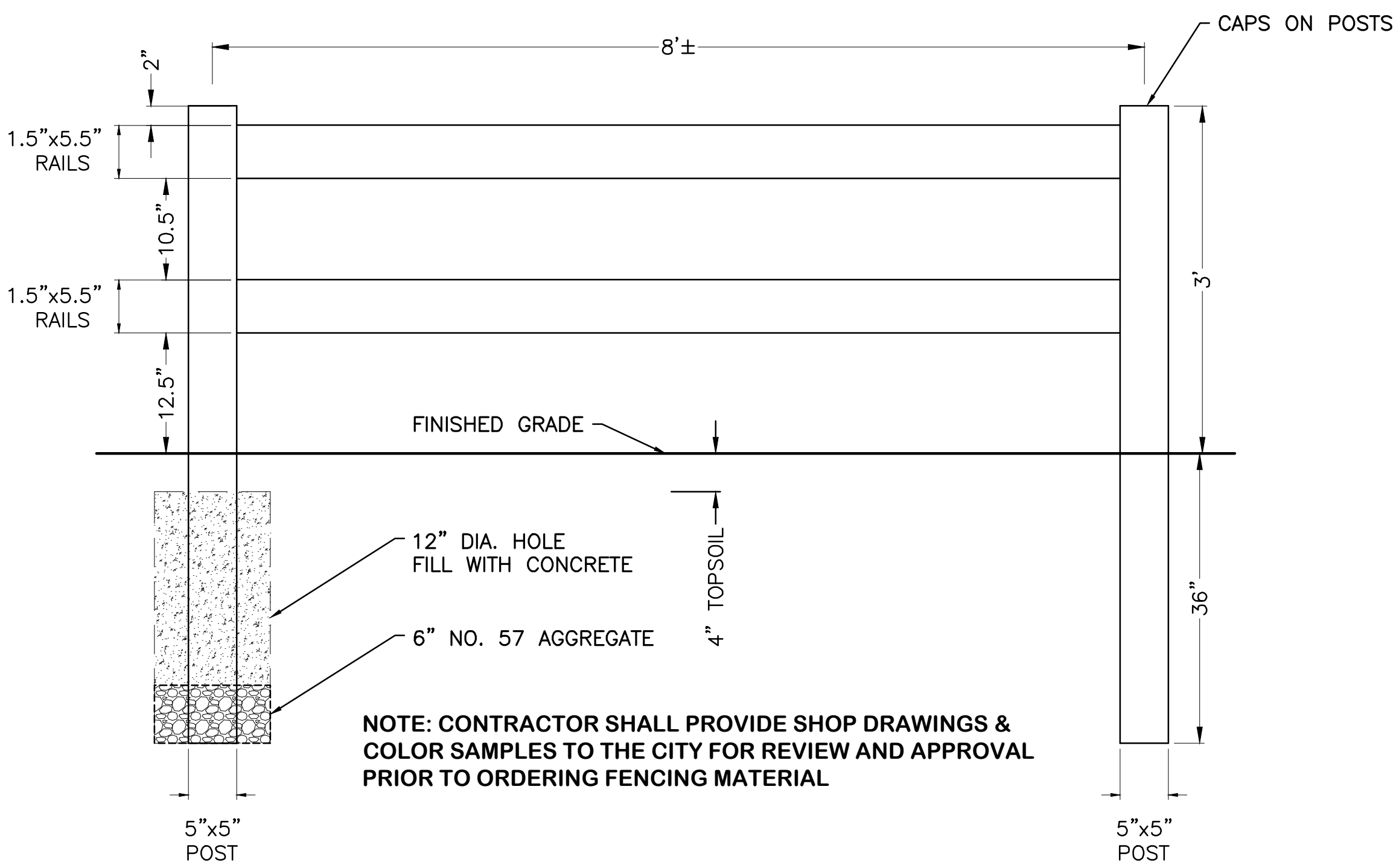
FIGURE 1

INVERTED "U" BICYCLE RACK

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF PLANNING AND OPERATIONS
NOT FOR DESIGN PURPOSES
REV: 05/31/13
SHT 1 OF 1

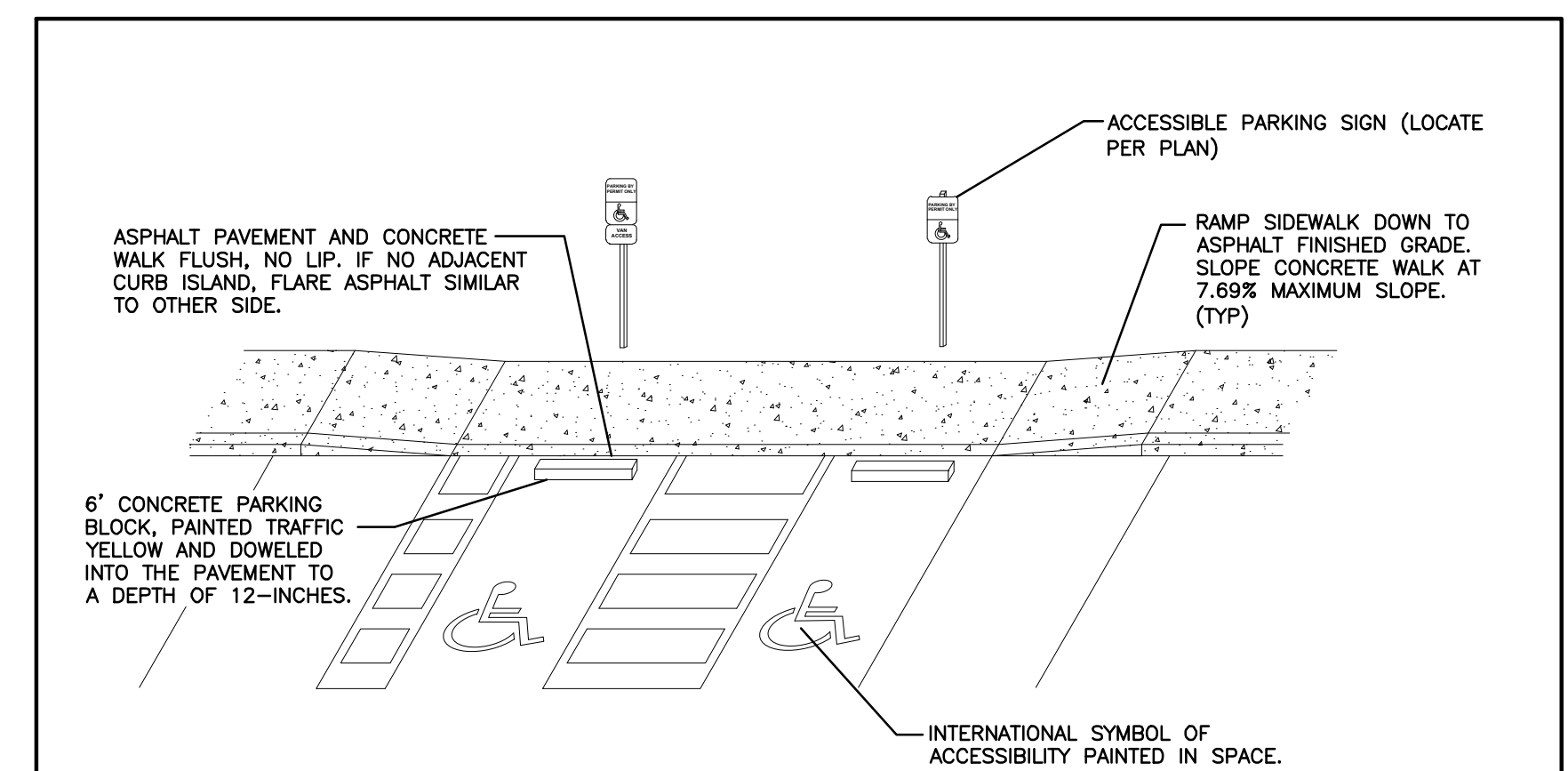
BICYCLE RACK SPECIFICATIONS

ITEM SPECIAL - BIKE RACK U-SHAPED BLACK POWDER COATED (SURFACE MOUNTED)



NOTE: CONTRACTOR SHALL PROVIDE SHOP DRAWINGS & COLOR SAMPLES TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO ORDERING FENCING MATERIAL

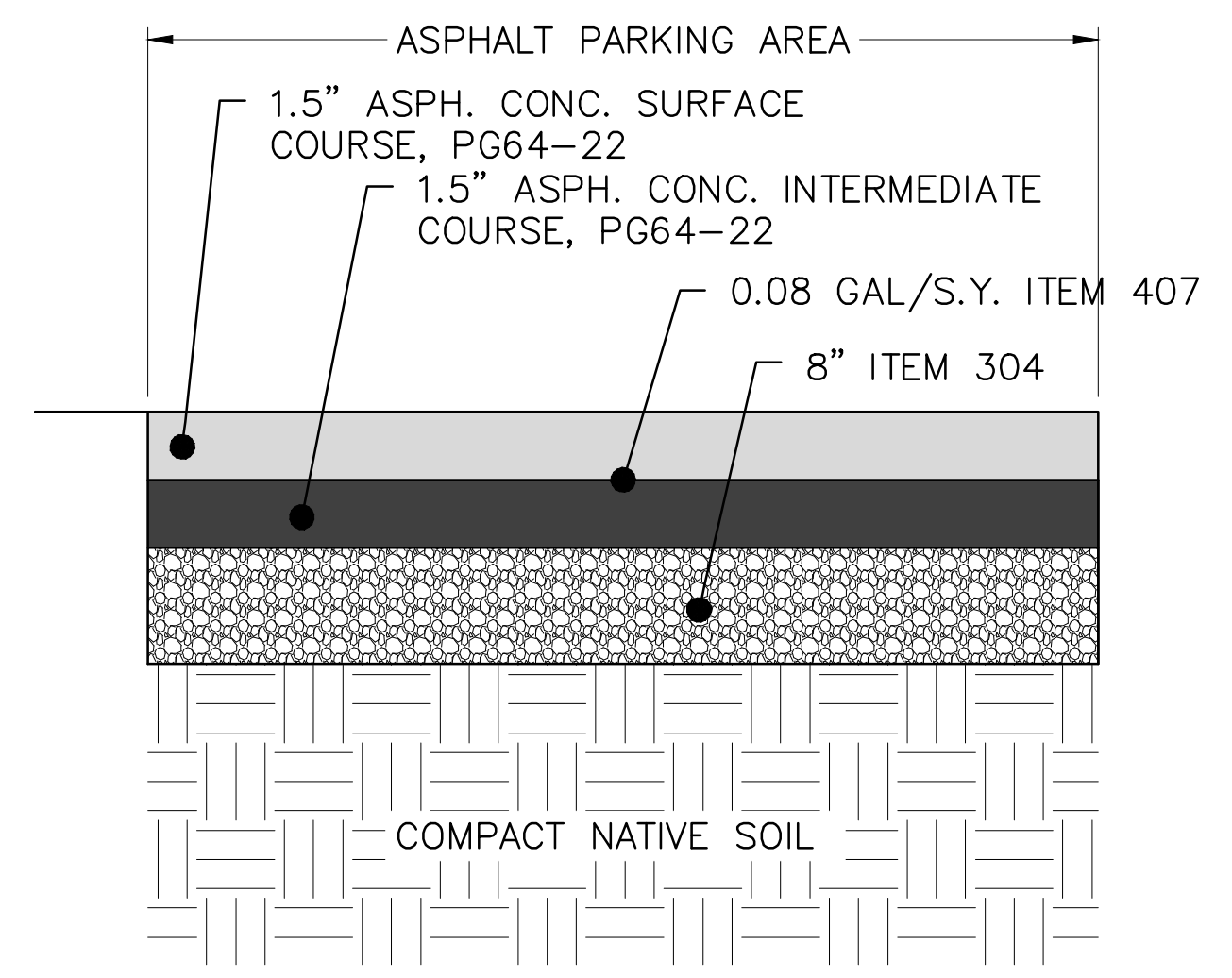
FENCE SPECIFICATIONS ITEM SPECIAL - 3' VINYL 2-RAIL FENCE, WHITE



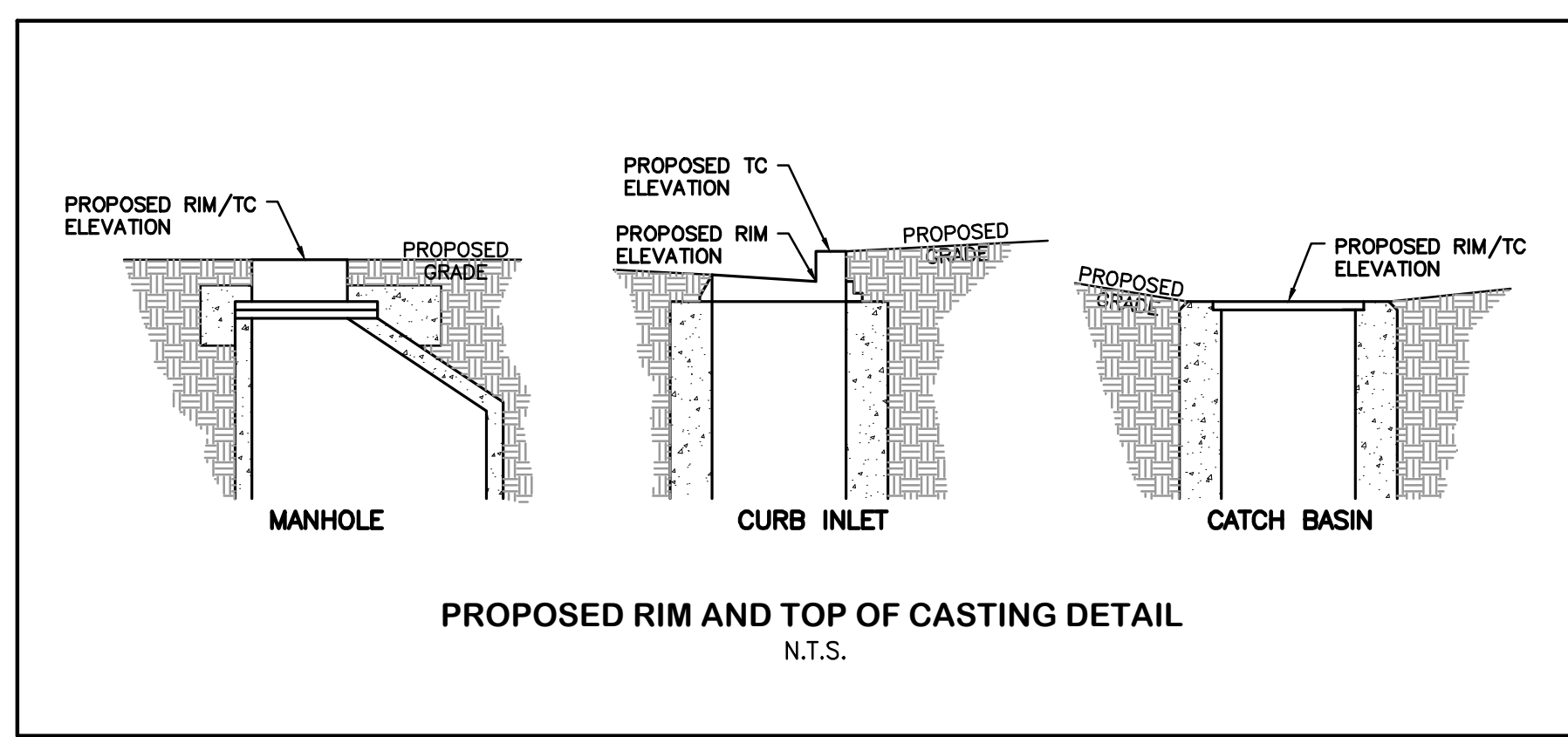
NOTES

- ACCESSIBLE SPACE / LOADING AREA: MAXIMUM 1.56% (1:64) SLOPE IN ANY DIRECTION.
- ASPHALT TO CONCRETE BLENDED TRANSITION TO BE COMPLETELY FLUSH, NO LIP. CURBS/WALKS SHALL BE FLUSH WITH LOADING AREA.
- PLACEMENT AND STRIPING SHOWN IN DETAIL IS SCHEMATIC. SEE SITE PLAN FOR CONFIGURATION.
- PASSENGER LOADING AREAS SHALL BE PAINT STRIPED PER THE CITY OF COLUMBUS STANDARDS OR FEDERAL ADAAG REQUIREMENTS, WHICHEVER IS MOST STRINGENT.

ADA PARKING SPACE DETAIL N.T.S.



ASPHALT PARKING BUILDUP



PROPOSED RIM AND TOP OF CASTING DETAIL N.T.S.

M:\570019_005_CenterStParkingLot\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_GN.dwg ~Details (2) LAST EDITED BYBSAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK.

E. P. FERRIS
AND ASSOCIATES
INC.
Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

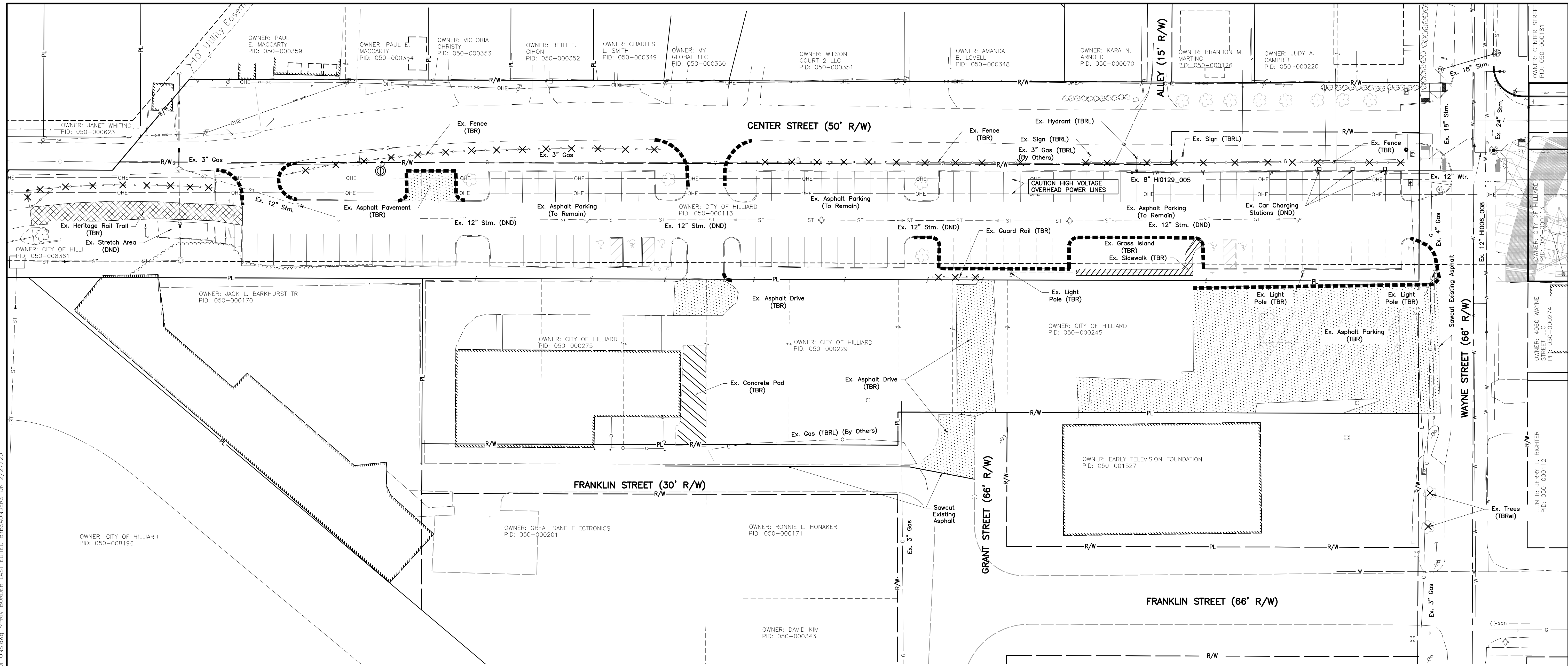
CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	EKO
DRAWN BY:	EKO
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

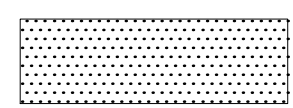
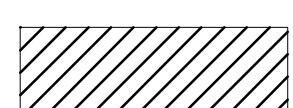
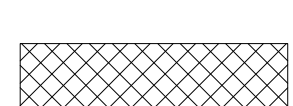


DETAILS & TYPICAL SECTIONS

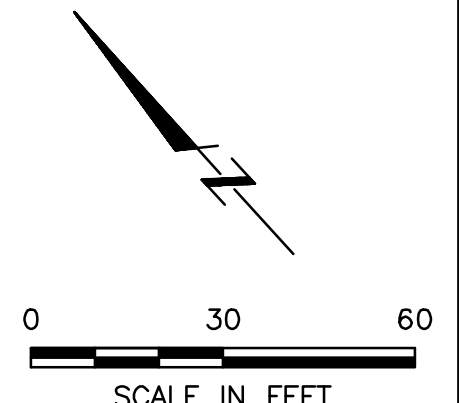
SCALE: N/A	
SHEET NO.	OF
4	19

M:\570019_005_CenterStParking\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_EXISTING_CONDITIONS.dwg --PRV_BORDER_LAST_EDITED_BYSAUNDERS ON 2/27/20



DEMO LEGEND

-  EX. PAVEMENT REMOVED
-  EX. WALK REMOVED
-  EX. PATH REMOVED
-  EX. CONCRETE PAD REMOVED
-  EX. CURB REMOVED



REVISIONS	DATE	BY	CHK.

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	EKO
DRAWN BY:	EKO
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

EXISTING CONDITIONS PLAN

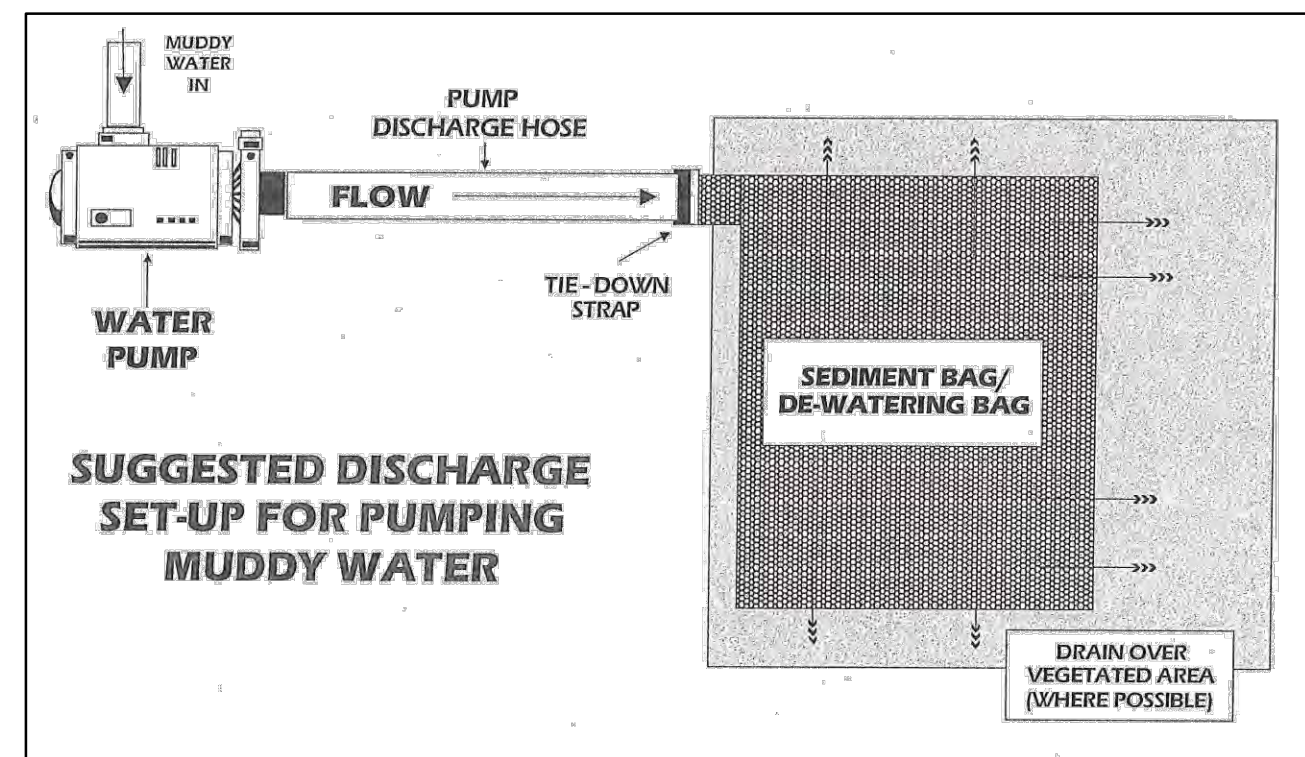
SCALE: 1" = 30'

SHEET NO.	OF
5	19

NOTICE:
THE PUMPING OR DIRECT DISCHARGE OF SEDIMENT-LADEN (MUDDY) WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY OF COLUMBUS REGULATIONS.

ALL INLETS RECEIVING FLOW FROM RUNOFF, PUMPING ACTIVITIES, OR OTHER DIRECT DISCHARGES SHALL BE FITTED WITH AN INLET PROTECTION DEVICE THAT IS PROPERLY SIZED AND SECURED TO REDUCE THE DISCHARGE OF SEDIMENT INTO THE STORM SEWER SYSTEM AND RECEIVING STREAM. INLET PROTECTION IS REQUIRED ON ALL INLETS RECEIVING DISCHARGE REGARDLESS OF WHETHER OR NOT THE INLET IS TRIBUTARY TO ANY DOWNSTREAM EROSION AND SEDIMENT CONTROLS.

DISCHARGE HOSES USED DURING PUMPING ACTIVITIES SHALL BE FITTED WITH SEDIMENT BAGS THAT ARE PROPERLY SIZED PER MANUFACTURER'S RECOMMENDATIONS REGARDLESS OF WHAT OTHER SEDIMENT CONTROLS ARE IN PLACE FURTHER DOWNSTREAM. SEDIMENT BAGS MUST BE PROPERLY SECURED TO THE DISCHARGE HOSE AND PLACED OVER VEGETATED AREAS, WHERE FEASIBLE, DURING DISCHARGE. SEE DETAIL BELOW OF A TYPICAL SEDIMENT BAG INSTALLATION.



EROSION/SEDIMENT/DUST CONTROL CONSTRUCTION PRACTICES

UTILIZE EROSION AND SEDIMENT CONTROL PRACTICES PER THE SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS AND THE ODNR RAINWATER AND LAND DEVELOPMENT MANUAL. EROSION CONTROL DEVICES ARE TO BE MAINTAINED IN EFFECTIVE WORKING CONDITION DURING CONSTRUCTION AND UNTIL THE CONSTRUCTION AREA HAS BEEN PERMANENTLY STABILIZED. THE CONTRACTOR SHALL CONSULT WITH SOIL CONSERVATION SERVICE AND THE ENGINEER CONCERNING PROPER EROSION AND SEDIMENT PRACTICES.

STOCKPILED TOPSOIL AND EXCAVATED MATERIAL IS TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING, OR COVERED WITH ANCHORED STRAW MULCH.

FINAL GRADING WILL BE CONSISTENT WITH PRE-CONSTRUCTION TOPOGRAPHY TO MAINTAIN DRAINAGE AND AESTHETICS.

REMOVE ONLY THOSE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED TO PERMIT ACTUAL CONSTRUCTION. PROTECT THE REMAINING TO PRESERVE THEIR AESTHETIC AND EROSION CONTROL VALUE.

BACKFILL TRENCHES IMMEDIATELY AFTER COMPACTION. SEED AND MULCH TRENCHES WITHIN TWO WEEKS AFTER TRENCHES ARE OPENED.

SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER THE STORM DRAIN SYSTEM, WATERWAYS (NATURAL OR MAN-MADE) OR ADJACENT PRIVATE PROPERTY. CONSTRUCTION OCCURRING NEAR STORM DRAIN INLETS OR WATERWAYS (NATURAL OR MAN-MADE) SHALL REQUIRE EROSION CONTROL MEASURES, SUCH AS SILT FENCE AND STRAW BALE BARRIERS, TO PREVENT SILT FROM ENTERING THE STORM DRAIN, WATERWAYS (NATURAL OR MAN-MADE) OR ADJACENT PRIVATE PROPERTY.

ALL EROSION/SEDIMENT/DUST CONTROL PRACTICES SHALL BE PERFORMED AS RECOMMENDED BY THE SOIL CONSERVATION SERVICE PUBLICATION "ODNR'S RAINWATER AND LAND DEVELOPMENT MANUAL".

STABILIZATION OF DENUDED AREAS

DENUDED AREAS SHALL HAVE SOIL STABILIZATION APPLIED WITHIN SEVEN DAYS OF DISTURBANCE IF THEY ARE TO REMAIN SUBSTANTIALLY UNWORKED FOR MORE THAN 14 DAYS. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION SHALL ALSO BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WHICH WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 14 DAYS.

SEDIMENT CONTROLS

STORM WATER RUNOFF FROM DENUDED AREAS SHALL PASS THROUGH A SEDIMENT BASIN OR OTHER SUITABLE SEDIMENT TRAPPING FACILITY. THESE CONTROLS SHALL BE SELECTED AND LOCATED AS DIRECTED BY THE ENGINEER.

CONSTRUCTION ACCESS ROUTES

MEASURES SHALL BE TAKEN TO PREVENT SOIL TRANSPORT ONTO SURFACES WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, OR ONTO PUBLIC ROADS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT OFF-SITE TRACKING OF SEDIMENTS BY VEHICLES, EQUIPMENT, AND WORKERS IS MINIMIZED.

SLOUGHING AND DUMPING

NO SOIL, ROCK, DEBRIS OR ANY OTHER MATERIAL SHALL BE DUMPED OR PLACED INTO A WATER RESOURCE OR INTO SUCH PROXIMITY THAT IT MAY READILY SLOUGH, SLIP, OR ERODE INTO A WATER RESOURCE, UNLESS SUCH DUMPING OR PLACING IS AUTHORIZED BY THE ENGINEER. UNSTABLE SOILS PRONE TO SLIPPING OR LAND SLIDING SHALL NOT BE GRADED, EXCAVATED, FILLED OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS DONE IN ACCORDANCE WITH A QUALIFIED PROFESSIONAL ENGINEER'S RECOMMENDATIONS TO CORRECT, ELIMINATE OR STRENGTHEN THE SOILS. WHERE NECESSARY, AS REQUIRED THROUGH THE DURATION OF THIS CONSTRUCTION PROJECT. THIS INCLUDES SWEEPING, POWER CLEANING AND MANUAL (IF NECESSARY) REMOVAL OF DIRT OR MUD IN THE STREET GUTTERS.

THIS PLAN MUST BE POSTED ON-SITE. A COPY OF THE SWPPP AND THE APPROVED EPA STORMWATER PERMIT (WITH THE SITE-SPECIFIC NOI NUMBER) SHALL BE KEPT ON-SITE AT ALL TIMES.

ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AND THE DISCRETION OF THE CITY OF COLUMBUS AND/OR THE OHIO EPA.

DIRECT DISCHARGE OF SEDIMENT LADEN WATER TO THE CITY'S SEWER SYSTEM OR A RECEIVING STREAM IS A VIOLATION OF OHIO EPA AND CITY OF COLUMBUS REGULATIONS. THE CONTRACTOR WILL BE HELD LIABLE FOR THE VIOLATION AND SUBSEQUENT FINES.

ESTABLISHMENT OF PERMANENT VEGETATION

PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL GROUND COVER IS ACHIEVED WHICH, IN THE OPINION OF THE ENGINEER, IS MATURE ENOUGH TO CONTROL SOIL EROSION SATISFACTORILY AND TO SURVIVE ADVERSE WEATHER CONDITIONS.

SEEDING AND MULCHING:

1. TEMPORARY SEEDING SHALL CONSIST OF ANNUAL RYE-GRASS AS PER ITEM 207. SEED AND MULCHING SHALL BE APPLIED IN ACCORDANCE WITH ITEM 659.
2. PERMANENT SEEDING AND MULCHING SHALL BE TREATED IN ACCORDANCE WITH ITEM 659.

TIMING OF SEDIMENT-TRAPPING PRACTICES

SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL THROUGHOUT EARTH-DISTURBING ACTIVITY. SETTLING FACILITIES, PERIMETER CONTROLS AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING OR CONSTRUCTION AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS RE-STABILIZED. THESE CONTROLS SHALL BE SELECTED AND LOCATED AS DIRECTED BY THE ENGINEER.

NOTE: LOCATIONS SHOWN FOR SEDIMENT FILTERING BARRIERS ARE SUGGESTED LOCATIONS; THE FINAL AND MOST APPROPRIATE LOCATION FOR THESE DEVICES SHALL BE APPROVED BY THE ENGINEER, BASED ON SITE CONDITIONS AND OBSERVED TOPOGRAPHY. PROPER IMPLEMENTATION, INSTALLATION, MAINTENANCE, AND REPAIR OF SEDIMENT FILTERING BARRIERS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

OUTFLOWS FROM DEWATERING OPERATIONS

ALL WATER PRODUCED FROM CLEANING AND DEWATERING OPERATIONS, WHETHER SPECIFICALLY FROM TRENCH DEWATERING OPERATIONS OR FROM MORE EXTENSIVE DEWATERING OPERATIONS, SHALL BE DISCHARGED IN SUCH A MANNER AS TO ELIMINATE EROSION FROM SUCH A DISCHARGE BY DIVERTING THE WATER THROUGH ONE OR MORE FILTER FENCES. PRIOR TO PUMPING, THE ENGINEER SHALL APPROVE THE INSTALLATION OF THE FILTER FENCE.

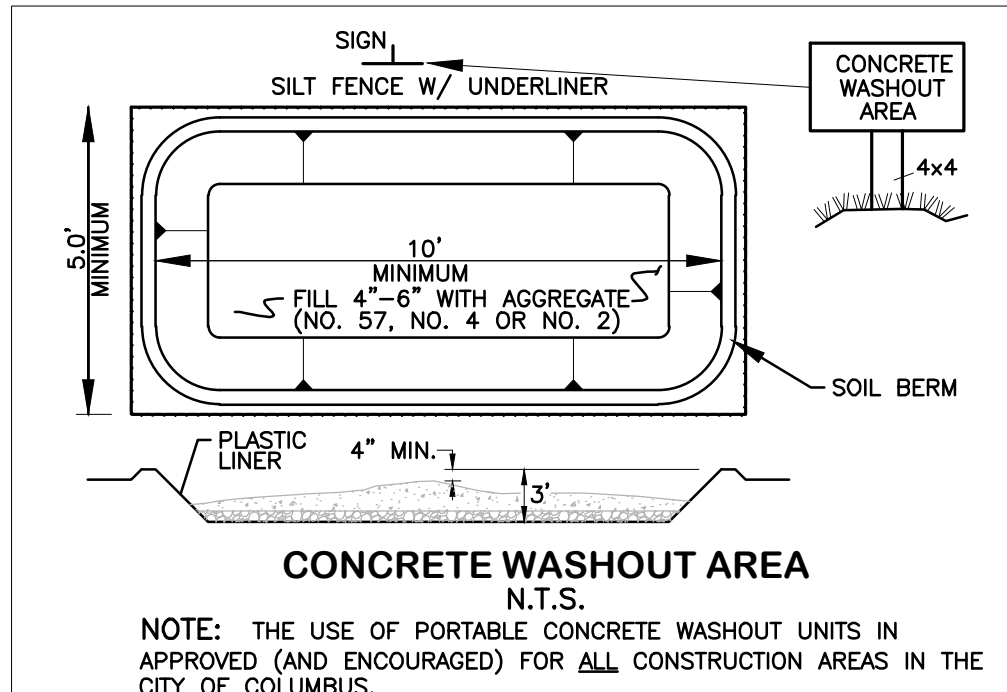
ADDITIONAL CONTROLS

THE CONTRACTOR SHALL ENSURE THAT NO SEDIMENTS ARE TRACKED OFF-SITE BY CONSTRUCTION EQUIPMENT, VEHICLES, AND WORKERS. THE CONTRACTOR SHALL ALSO ENSURE THAT NO OTHER SOLID (OTHER THAN SEDIMENT) OR LIQUID WASTE IS DISCHARGED INTO ANY STORM WATER FLOW.

PROHIBITED CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL NOT USE CONSTRUCTION PROCEEDINGS, ACTIVITIES, OR OPERATIONS THAT MAY UNNECESSARILY IMPACT THE NATURAL ENVIRONMENT OR THE PUBLIC HEALTH AND SAFETY. PROHIBITED CONSTRUCTION PROCEDURES, ACTIVITIES, OR OPERATIONS INCLUDE BUT ARE NOT LIMITED TO:

1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOOD PLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
2. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS.
3. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM DRAINS.
4. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE AND OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.



PROHIBITED CONSTRUCTION ACTIVITIES (CONT'D)

5. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF A STREAM.
6. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.
7. DISPOSAL OF TREES, BRUSH AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR AT UNSPECIFIED LOCATIONS.
8. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.
9. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED BY THE ENGINEER FOR SAID PURPOSES.

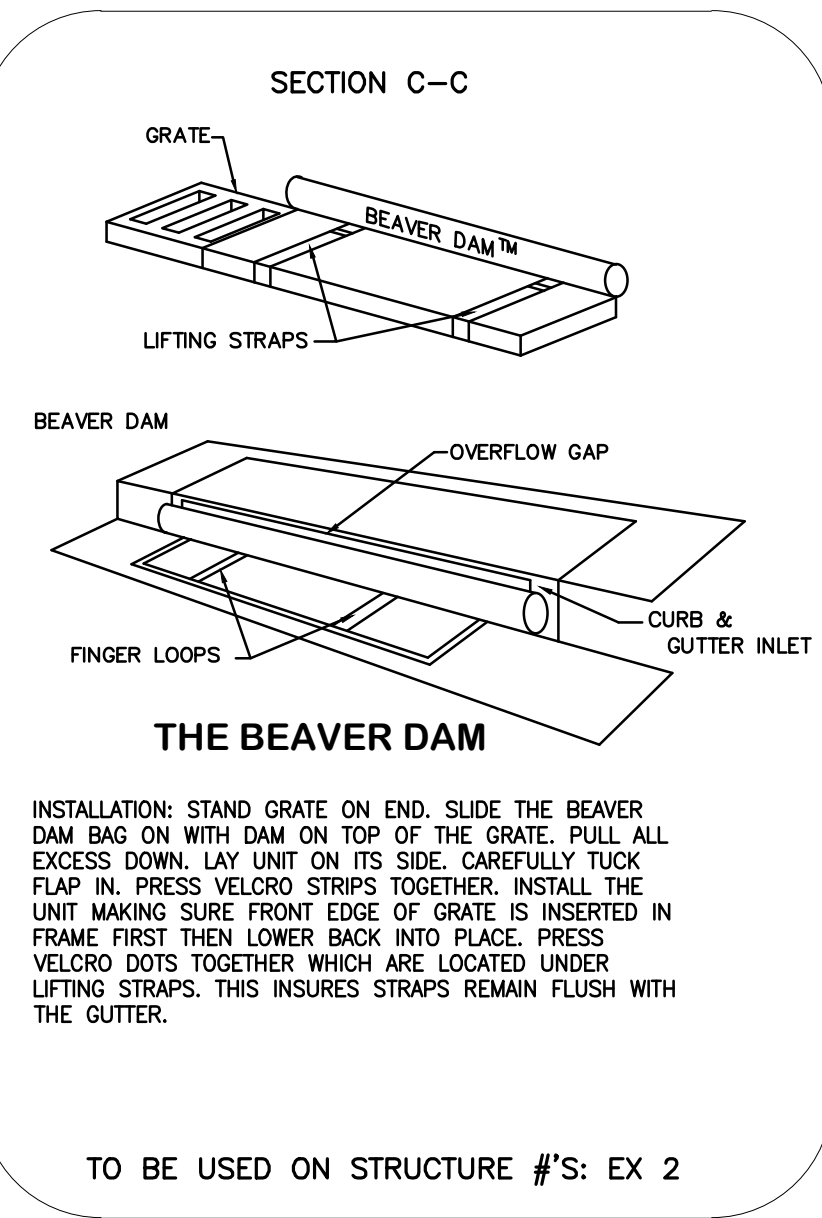
MAINTENANCE AND INSPECTION

ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE DESIGNED AND CONSTRUCTED TO MINIMIZE MAINTENANCE REQUIREMENTS. THEY SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND INSPECTION OF ALL EROSION/SEDIMENT CONTROL DEVICES REQUIRED BY THE ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. INSPECTION SHALL BE PERFORMED AS PRESCRIBED IN THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (N.P.D.E.S.) GENERAL PERMIT. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR, IN THE PRESENCE OF THE ENGINEER ONCE EVERY 7 CALENDAR DAYS AND/OR WITHIN 24 HOURS AFTER ANY RAIN EVENT OF GREATER THAN 0.5 INCHES IN A 24 HOUR PERIOD. THESE INSPECTIONS SHALL IDENTIFY AREAS CONTRIBUTING TO STORM WATER DISCHARGES ASSOCIATED WITH THE PROJECT, EVALUATE THE ADEQUACY, IMPLEMENTATION, AND MAINTENANCE OF EXISTING AND PROPOSED EROSION/ SEDIMENTATION MEASURES; AND DETERMINE WHETHER ADDITIONAL MEASURES ARE REQUIRED.

ACCEPTABLE INSPECTION REPORTS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER, IF REQUESTED, WITHIN 48 HOURS OF INSPECTION COMPLETION. THE REPORT SHALL CONTAIN THE RESULTS OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE STORM WATER POLLUTION PLAN, A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE PLAN, AND IDENTIFICATION OF ANY INCIDENTS OF NON-COMPLIANCE.

POLLUTION PREVENTION PLAN AVAILABILITY AND UPDATES

THE OWNER SHALL BE SOLELY RESPONSIBLE TO ENSURE THE IMMEDIATE AVAILABILITY OF THE POLLUTION PREVENTION PLAN ON-SITE. THE OWNER SHALL ALSO BE SOLELY RESPONSIBLE TO PERFORM ALL UPDATES AND AMENDMENTS TO THE POLLUTION PREVENTION PLAN.



TO BE USED ON STRUCTURE #S: EX 2

EROSION AND SEDIMENTATION CONTROL NARRATIVE

OEPA NPDES GENERAL PERMIT NUMBER: 46C06611*AG

PLAN DESIGNER: E.P. Ferris & Associates
880 King Ave.
Columbus, OH 43212
Phone: 614-299-2999 Fax: 614-299-2992
Email: cmcwhinney@epferris.com

DEVELOPER: City of Hilliard
3800 Municipal Way
Hilliard, OH 43026
Phone: 614-334-2459
Email: crauch@hilliardohio.gov

PROJECT DESCRIPTION: The existing site consists of a parking lot and open ground bordered on the north by Center Street and the east by Wayne Street. Construction activities will include the partial demolition of the existing site, and construction of a surface parking area. The disturbed area consists of approximately 1.53 Ac.

SITE DRAINS TO: The site drains into a storm sewer maintained by the City of Hilliard. The nearest water course is the Scioto River.

EXISTING SITE CONDITIONS: The site generally is gently sloping with most of the runoff flowing to the south and east of the site.

ADJACENT AREAS: The existing adjacent developments have been taken into account for the storm system and flood routing following existing drainage path.

CRITICAL AREAS: None

EROSION CONTROL MEASURES: Erosion and site run-off will be controlled through the use of filter fabric fence placed at low lying areas around the site and a temporary sediment basin.

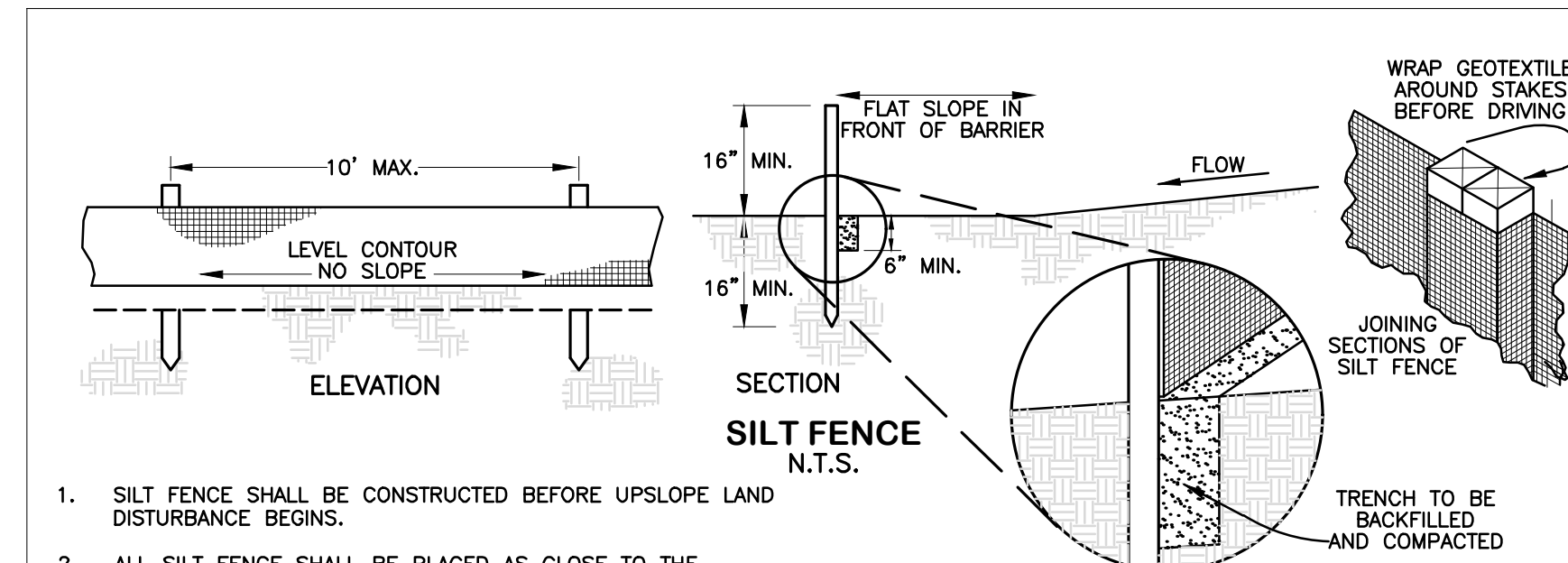
SEDIMENT CONTROL MEASURES: Sediment will be controlled through the use of inlet protection at proposed and existing inlets.

PERMANENT STABILIZATION: All disturbed areas are to be seeded. See Sheet 2 for seeding notes.

MAINTENANCE: All erosion control devices will be inspected by the construction superintendent daily and after significant rainfalls. Any damaged devices will be repaired and/or replaced immediately or as necessary.

CONSTRUCTION SEQUENCE: Erosion control devices around and within the site will be in place as needed prior to construction activities. Initial grading will commence as well as construction of underground utilities. As storm sewers are completed, inlet/catch basin erosion devices will be installed. Only after final grading, seeding/sodding and paving operations have been completed will erosion devices be removed.

SITE CONTACT: City of Hilliard
3800 Municipal Way
Hilliard, OH 43026
Phone: 614-334-2459
Email: crauch@hilliardohio.gov



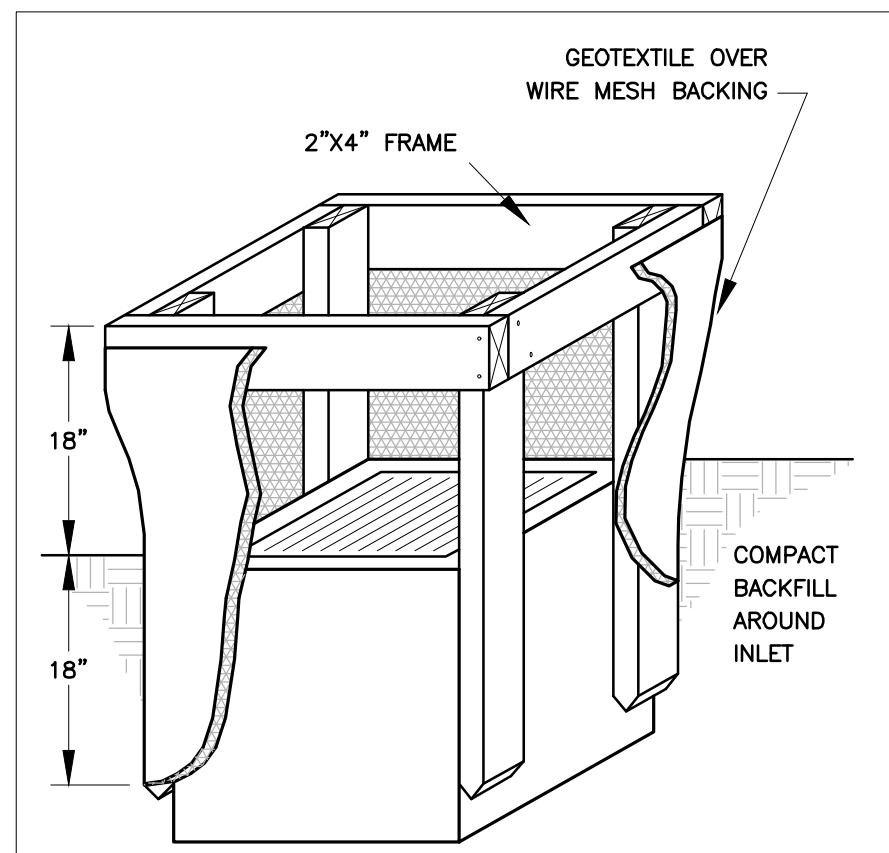
1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS THAT MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. ENDS OF THE SILT FENCES SHALL BE BROUGHT UPSLOPE SLIGHTLY SO THAT WATER PONDED BY THE SILT FENCE WILL BE PREVENTED FROM FLOWING AROUND THE ENDS.
4. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
5. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
6. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. THE SILT FENCE SHALL BE PLACED IN AN EXCAVATED OR SLICED TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE MADE WITH A TRENCHER, CABLE LAYING MACHINE, SLICING MACHINE, OR OTHER SUITABLE DEVICE THAT WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
8. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE. A MINIMUM OF 8 INCHES OF GEOTEXTILE MUST BE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6-INCH DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTIONED ON BOTH SIDES OF THE FABRIC.
9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-IN. OVERLAP PRIOR TO DRIVING INTO THE GROUND. (SEE DETAILS).
10. MAINTENANCE-SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER THE FABRIC OR AROUND THE FENCE ENDS, OR IN ANY OTHER WAY ALLOWS A CONCENTRATED FLOW DISCHARGE, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1)THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2)ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3)OTHER PRACTICES SHALL BE INSTALLED.

CRITERIA FOR SILT FENCE MATERIALS

1. FENCE POST - THE LENGTH SHALL BE A MINIMUM OF 32 INCHES. WOOD POSTS WILL BE 2-BY-2-IN. NOMINAL DIMENSIONED HARDWOOD OF SOUND QUALITY. THEY SHALL BE FREE OF KNOTS, SPLITS AND OTHER VISIBLE IMPERFECTIONS, THAT WILL WEAKEN THE POSTS. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT. POSTS SHALL BE DRIVEN A MINIMUM 16 INCHES INTO THE GROUND, WHERE POSSIBLE. IF NOT POSSIBLE, THE POSTS SHALL BE ADEQUATELY SECURED TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT/WATER LOADING.
2. SILT FENCE FABRIC - SEE CHART BELOW.

FABRIC PROPERTIES	VALUES	TEST METHOD
MINIMUM TENSILE STRENGTH	120 LBS. (535 N)	ASTM D 4632
MAXIMUM ELONGATION AT 60 LBS	50%	ASTM D 4632
MINIMUM PUNCTURE STRENGTH	50 LBS (220 N)	ASTM D 4633
MINIMUM TEAR STRENGTH	40 LBS (180 N)	ASTM D 4633
APPARENT OPENING SIZE	0.84 MM	ASTM D 4751
MINIMUM PERMITTIVITY	1X10-2 SEC.-1	ASTM D 4491
UV EXPOSURE STRENGTH RETENTION	70%	ASTM G 4355

NOTE: THE USE OF STRAW WATTLES HAS PROVEN TO BE A VERSATILE AND EFFECTIVE ESC BMP, ESPECIALLY IN RESIDENTIAL SETTINGS. STRAW WATTLES MAY BE SUBSTITUTED FOR SILT FENCE IN LINEAR INSTALLATIONS. STRAW WATTLES OR COMPOST ROLLS HAVE A MINIMUM OF 12-INCHES IN DIAMETER PER OEPA.

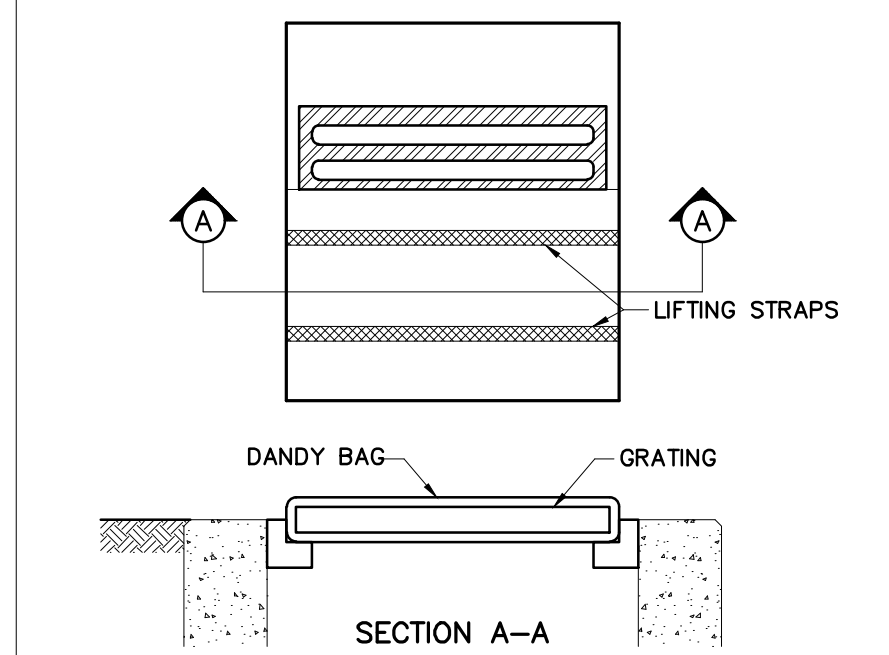


SECTION
FILTER FABRIC INLET PROTECTION
N.T.S.

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE INLET BECOMES FUNCTIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2-INCH BY 4-INCH CONSTRUCTION GRADE LUMBER. THE 2-INCH BY 4-INCH POSTS SHALL BE DRIVEN ONE (1) FT. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2-INCH BY 4-INCH FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WILL POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPONDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE MATERIAL SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6-INCH LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION. THE TOP OF THE DIKE SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.

TO BE USED ON STRUCTURE #S: 1, 2

NOTE:
VERTICAL INLET PROTECTION TO BE USED WHERE POSSIBLE AND ALWAYS IN AREAS TO BE GRASSED.



TO BE PLACED AT ALL CATCH BASINS IN PAVEMENT
INLET PROTECTION - DANDY BAG
N.T.S.

INSTALLATION: STAND GRATE ON END, PLACE DANDY BAG OVER GRATE. ROLL GRATE OVER SO THAT OPEN END IS UP. PULL UP SLACK, TUCK FLAP IN. BE SURE END OF GRATE IS COMPLETELY COVERED BY FLAP OR DANDY BAG WILL NOT FIT PROPERLY. HOLDING HANDLES, CAREFULLY PLACE DANDY BAG WITH GRATE INSERTED INTO CATCH BASIN FRAME, SO THAT THE RED DOT ON THE TOP OF THE DANDY BAG IS VISIBLE.

MAINTENANCE: WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL REMOVE SILT & OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.

TO BE USED ON STRUCTURE #S: 4, 5, 6

M:\570019_005_CenterStPaving\DWG\Production Drawings\Public Improvement\Plan\570019_005_PIP_SWPPP.dwg --SWPPP LAST EDITED BY:BSAUNDERS ON 2/27/20

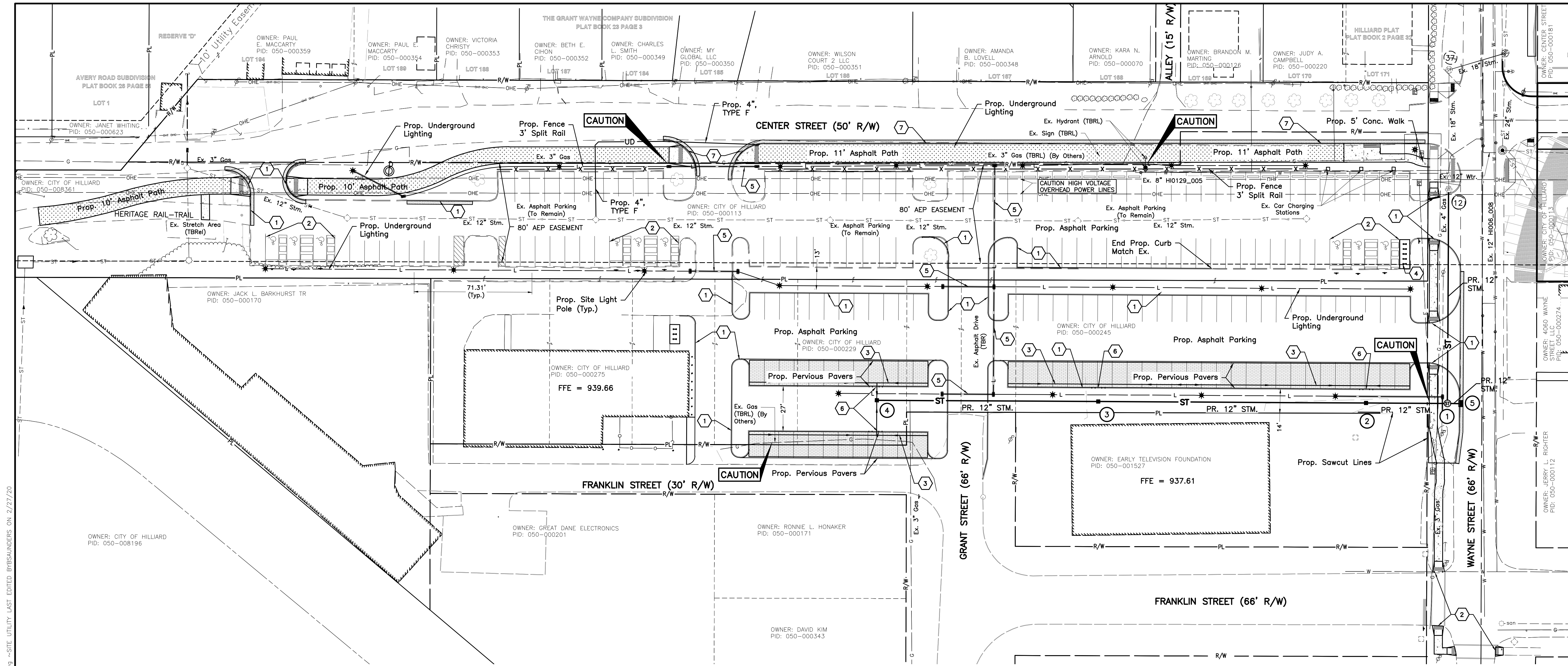
REVISIONS	DATE	BY	CHK.

E. P. FERRIS
AND
ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

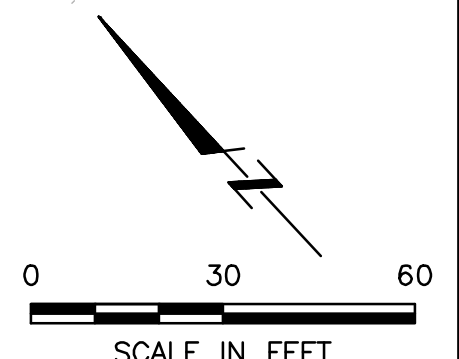
880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005	SCALE:	N/A
DESIGNED BY:	EKO	SHEET NO.	6
DRAWN BY:	EKO	OF	19
CHECKED BY:	BDS		
APPROVED BY:	BDS		
DATE:	2/27/2020		



- CODED NOTES**
- 1 PROPOSED STRAIGHT 18" CURB
 - 2 PROPOSED ADA RAMP
 - 3 PROPOSED 6" UNDERDRAIN - 0.5% MIN. SLOPE
 - 4 PROPOSED BIKE RACKS (5) - U-SHAPED BLACK POWDER COATED ON 6'X18' CONCRETE PAD (4" THICK)
 - 5 PROPOSED ELECTRICAL CONDUIT
 - 6 PROPOSED 2' FLUSH CURB OPENING. TAPER CURB 6" TO 0" IN 1'.
 - 7 PROPOSED STRAIGHT 18" CURB WITH ITEM 605 4" UNDERDRAIN PER COC STD. DWG. 2000



M:\570019_005_CenterSparking\DWG\Production\Drawings\Public Improvement\Plan\570019_005_PIP_SITE UTILITY.dwg ~SITE UTILITY LAST EDITED BYBSAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

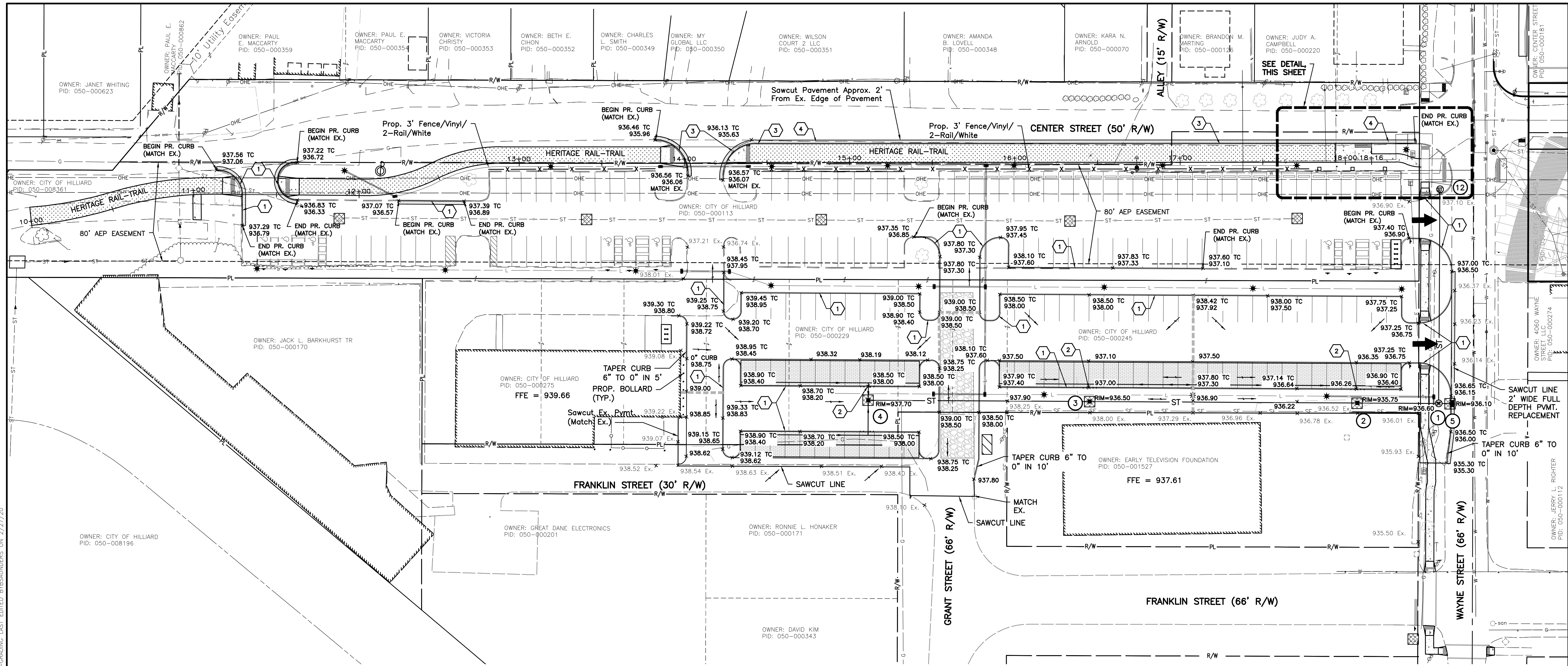
880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	EKO
DRAWN BY:	EKO
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

SITE UTILITY PLAN	
SCALE: 1" = 30'	
SHEET NO.	OF
7	19

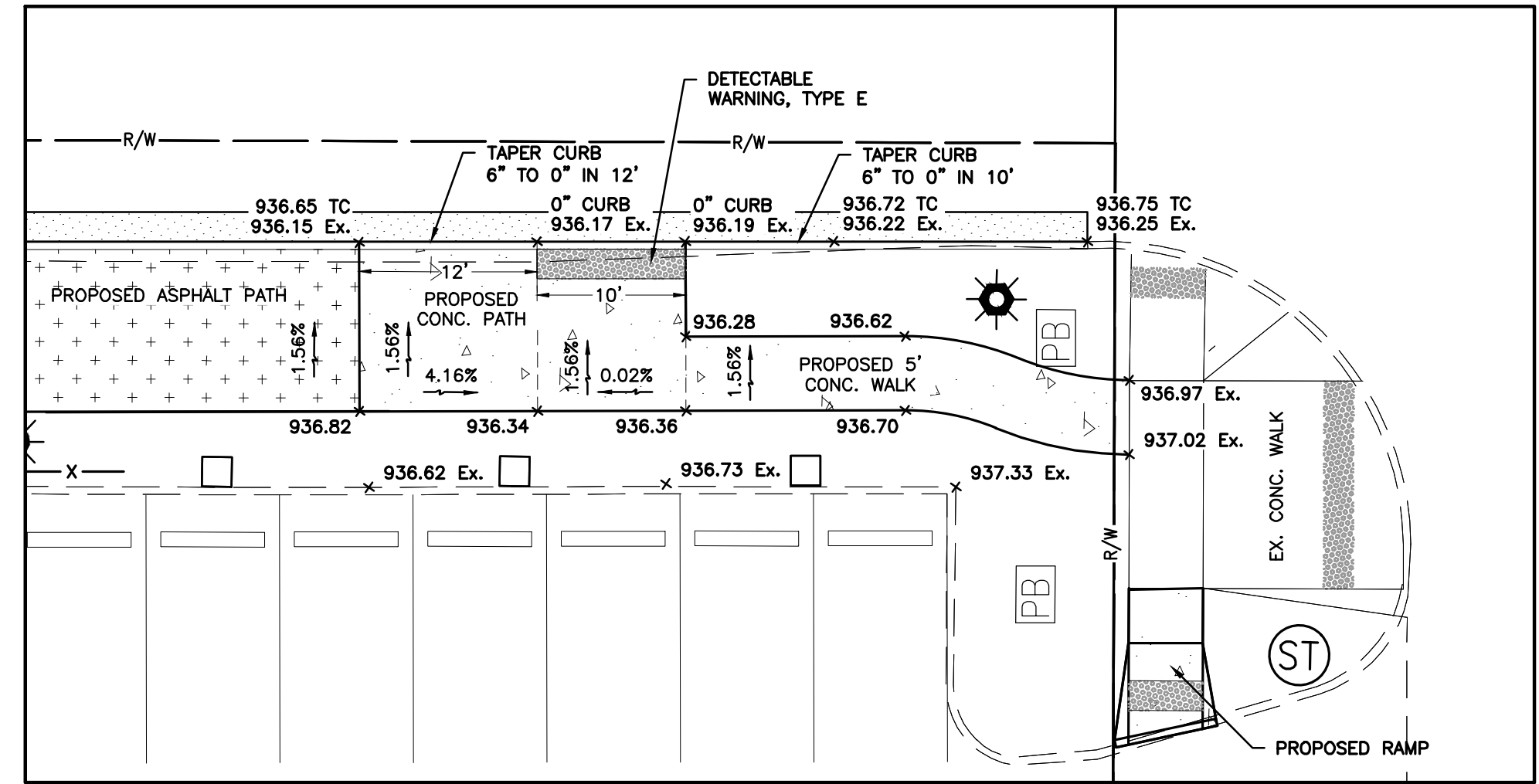
M:\570019_005_CenterStPaving\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_GRADING.dwg ~ GRADING LAST EDITED BY SAUNDERS ON 2/27/20



LEGEND

- FILTER FABRIC FENCE
- INLET PROTECTION
- PROPOSED FLOOD ROUTE
- EX. CONTOUR (1 FOOT INTERVAL)
- STABILIZED CONSTRUCTION ENTRANCE (PER STD DWG 2230)
- CONCRETE WASHOUT AREA
- PROPOSED SILT FENCE

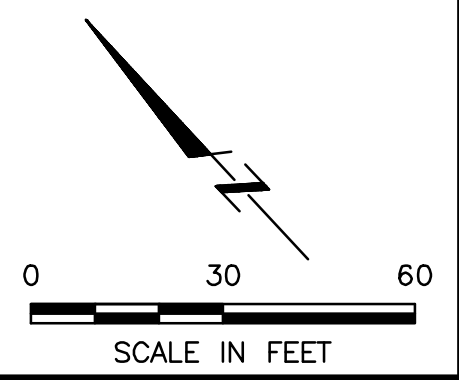
NOTE:
 THIS PLAN MUST BE POSTED ON-SITE. A COPY OF THE SWPPP PLAN AND THE APPROVED EPA STORMWATER PERMIT (WITH THE SITE-SPECIFIC NOI NUMBER) SHALL BE KEPT ON-SITE AT ALL TIMES.



TRAIL CONNECTION GRADING DETAIL
 SCALE: 1" = 10'

CODED NOTES

- 1 PROPOSED STRAIGHT 18" CURB
- 2 2' WIDE FLUSH CURB OPENING. TAPER CURB 6" TO 0" IN 1'
- 3 PROPOSED STRAIGHT 18" CURB WITH ITEM 605 4" UNDERDRAIN PER COC STD. DWG. 2000
- 4 PERMANENT PAVMENT REPLACEMENT PER ITEM 259.



REVISIONS	DATE	BY	CHK.

E. P. FERRIS
 AND ASSOCIATES
 INC

Consulting Civil Engineers and Surveyors

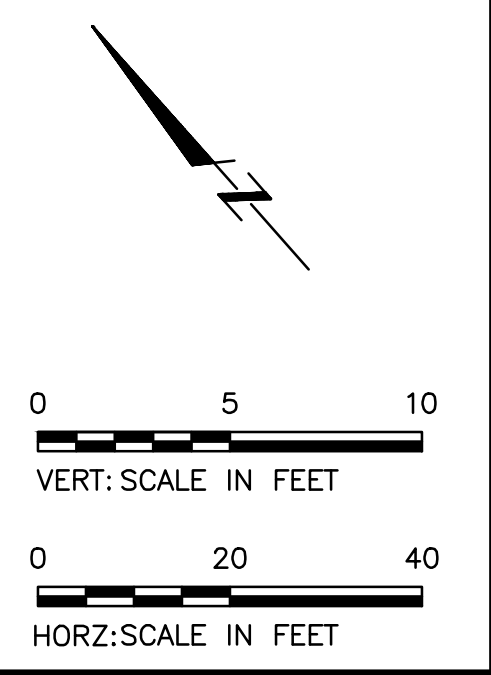
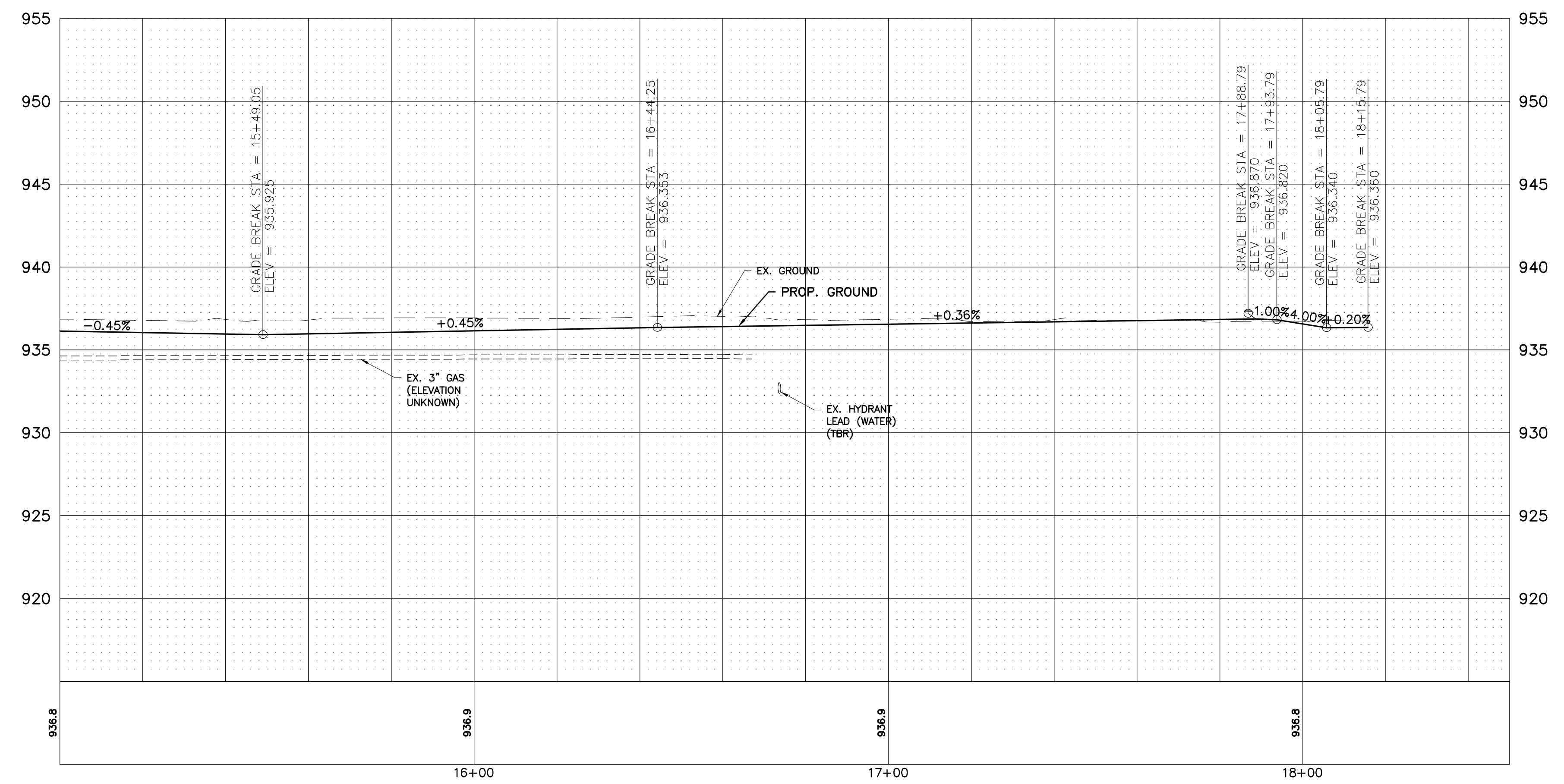
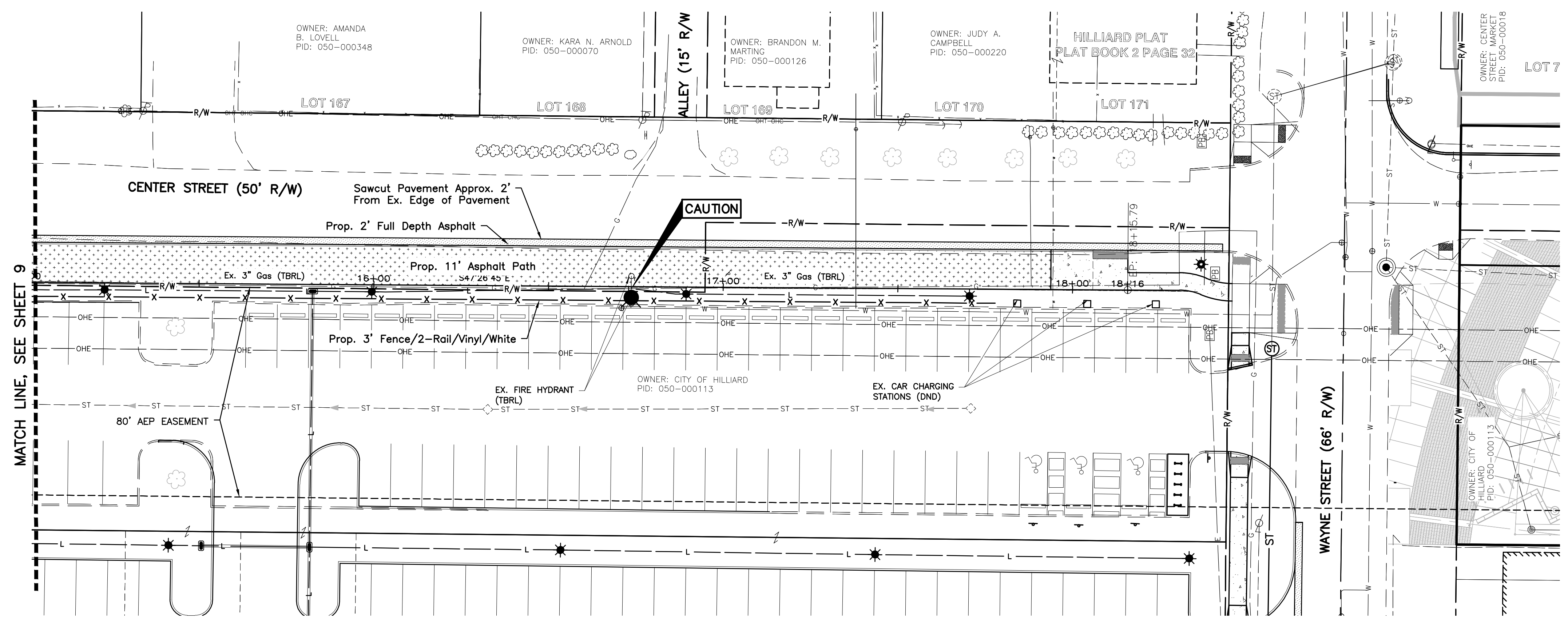
880 KING AVENUE
 COLUMBUS, OHIO 43212
 (614) 299-2999
 (614) 299-2992 (Fax)
 www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS
 CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	MJO
DRAWN BY:	CK
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

GRADING PLAN

SCALE:	
1" = 30'	
SHEET NO.	OF
8	19



M:\570019_005_CenterStreetPublicSpace\Production Drawings\Public Improvement_Plan\570019_005_PIP_P&P.dwg -P&P2 LAST EDITED BY: SAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK.

E. P. FERRIS
AND ASSOCIATES
INC

Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

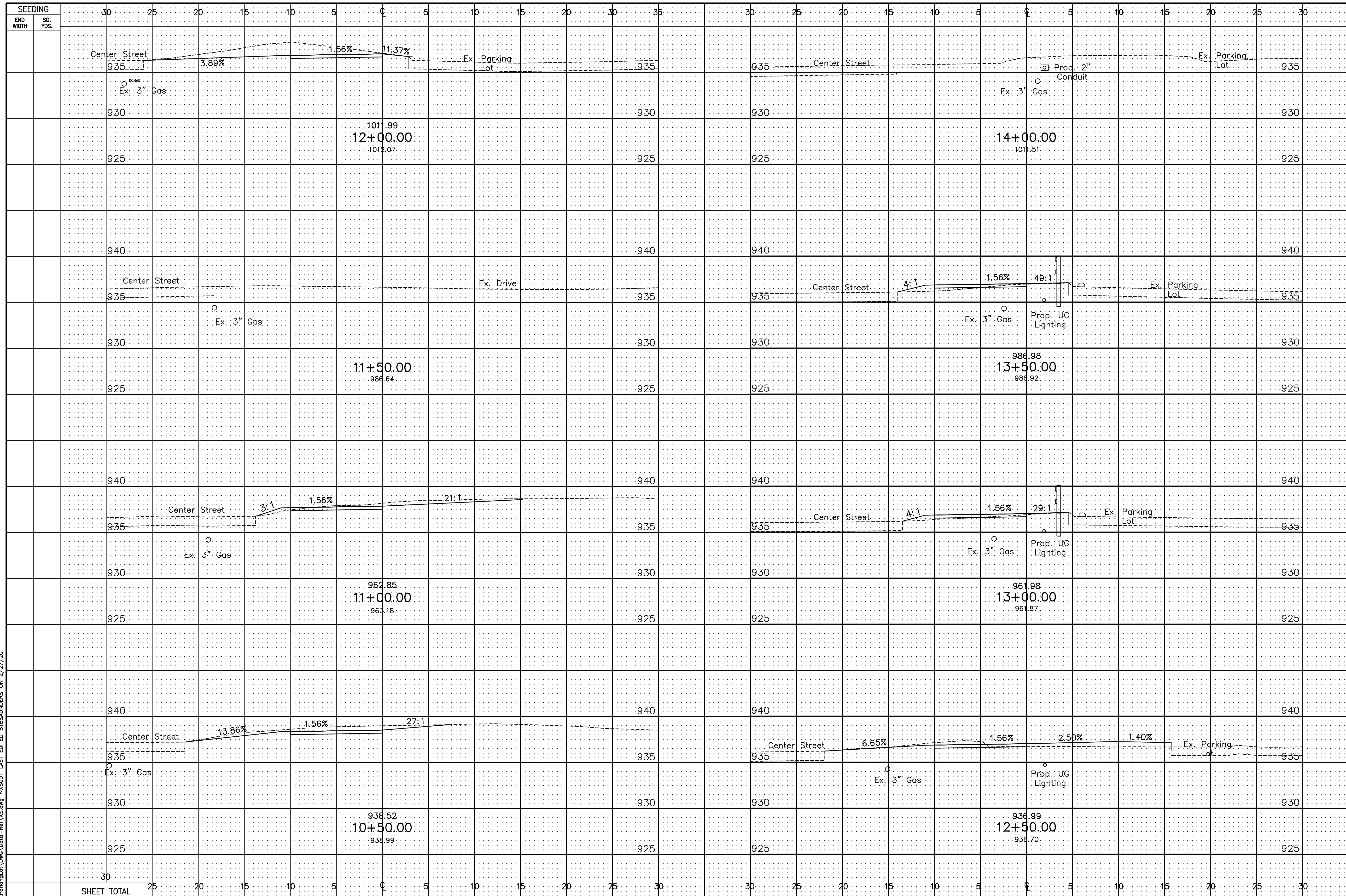
CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	CK
DRAWN BY:	CK
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

**PLAN & PROFILE -
HERITAGE RAIL TRAIL**

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

SHEET NO.	OF
10	##



M:\570019_005_CenterSParkingLot\DWG\Data-Ref\VS.dwg ~XSD01 LAST EDITED BY SAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

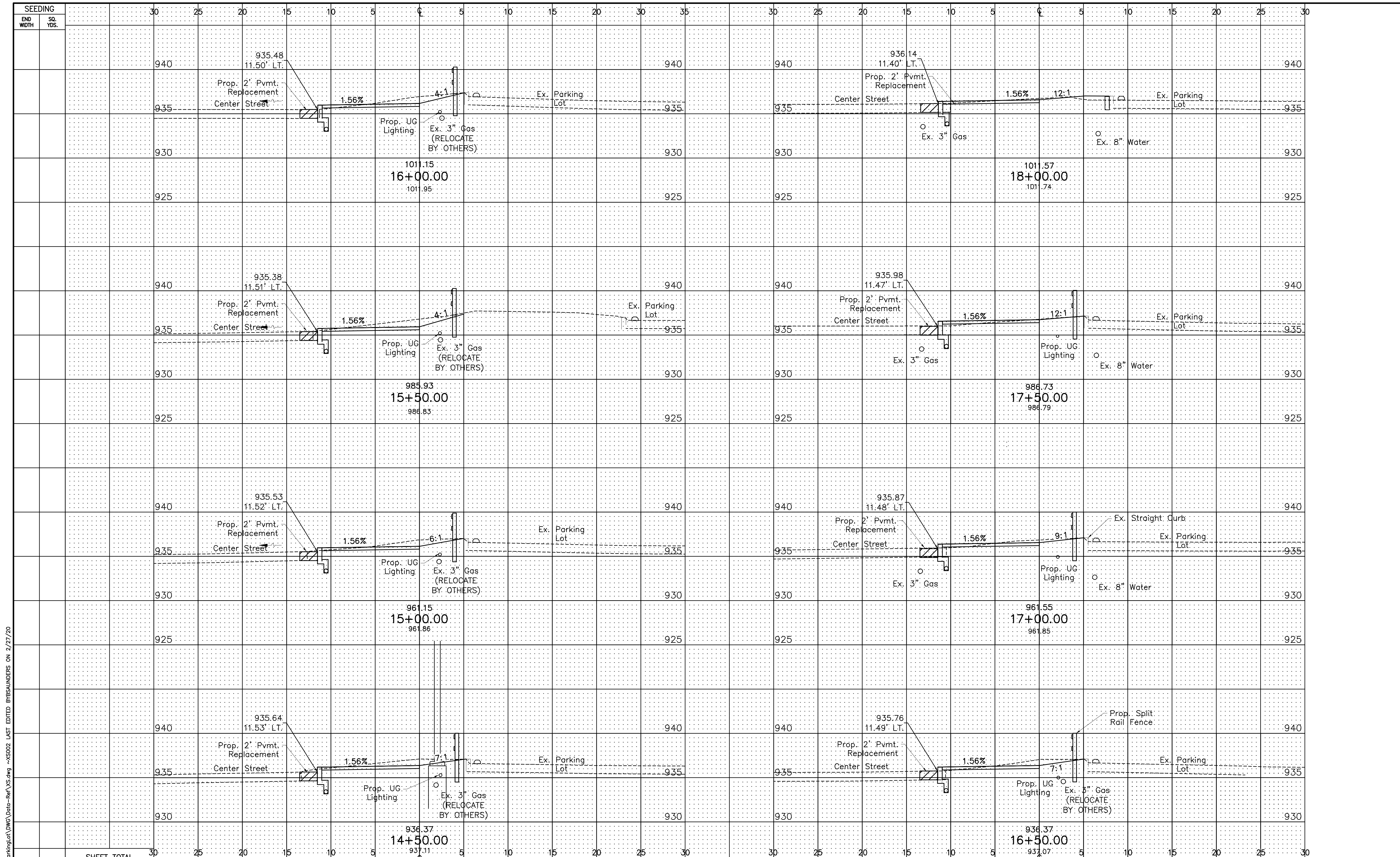
880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	CK
DRAWN BY:	CK
CHECKED BY:	CDM
APPROVED BY:	CDM
DATE:	2/26/2020

**CROSS SECTIONS
STATION RANGE
STA. 10+00 - 14+00**

SCALE: HORZ. 1"=5' VERT. 1"=5'	
SHEET NO.	OF
11	19



M:\570019_005_CenterStreetParkingLot\DWG>Data-Ref\VS.dwg ~X5002 LAST EDITED BY SAUNDERS ON 2/27/20

SHEET TOTAL	30	25	20	15	10	5	0	5	10	15	20	25	30	30	25	20	15	10	5	0	5	10	15	20	25	30
	925						937.11						925							937.07						925

REVISIONS	DATE	BY	CHK

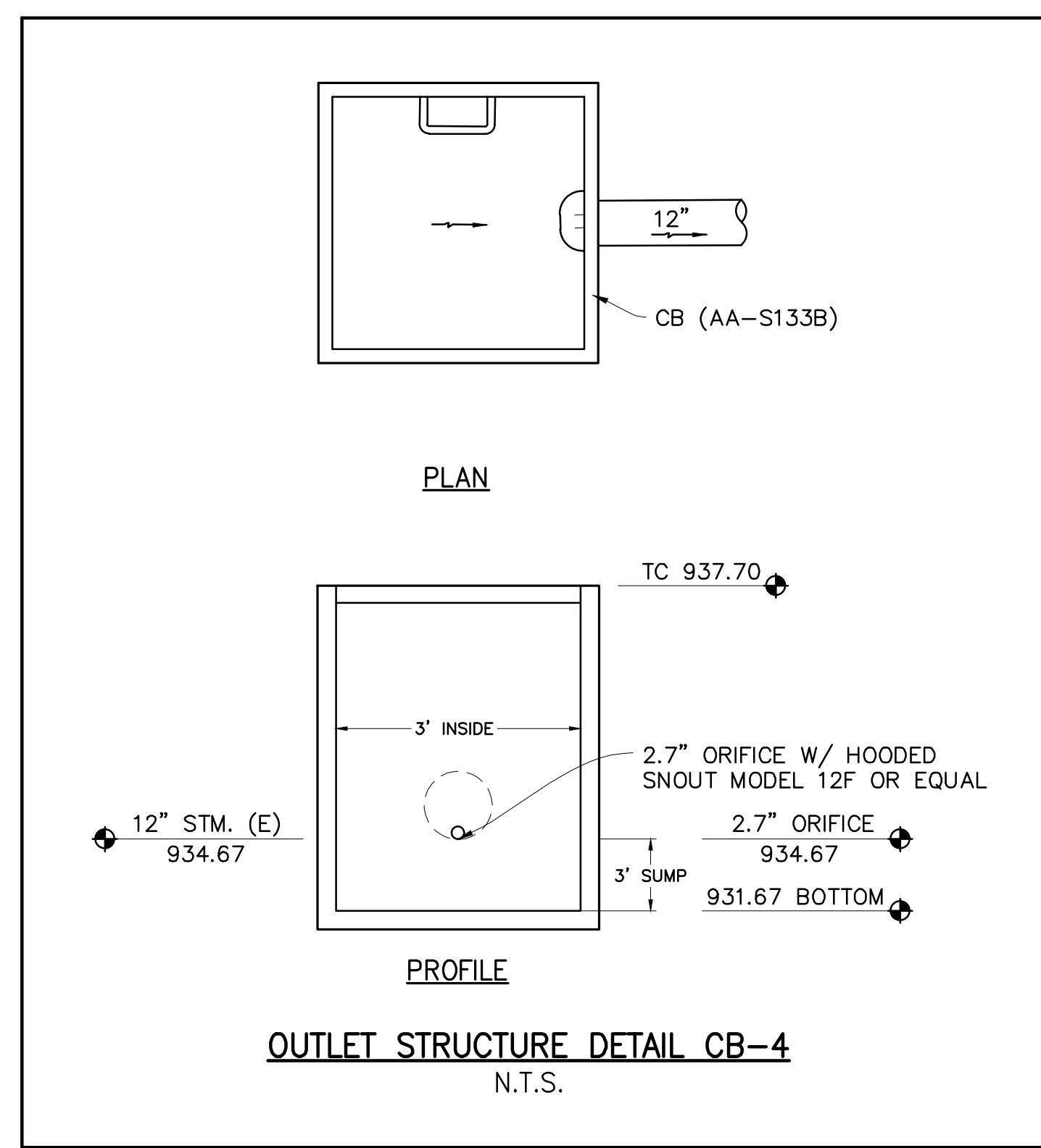
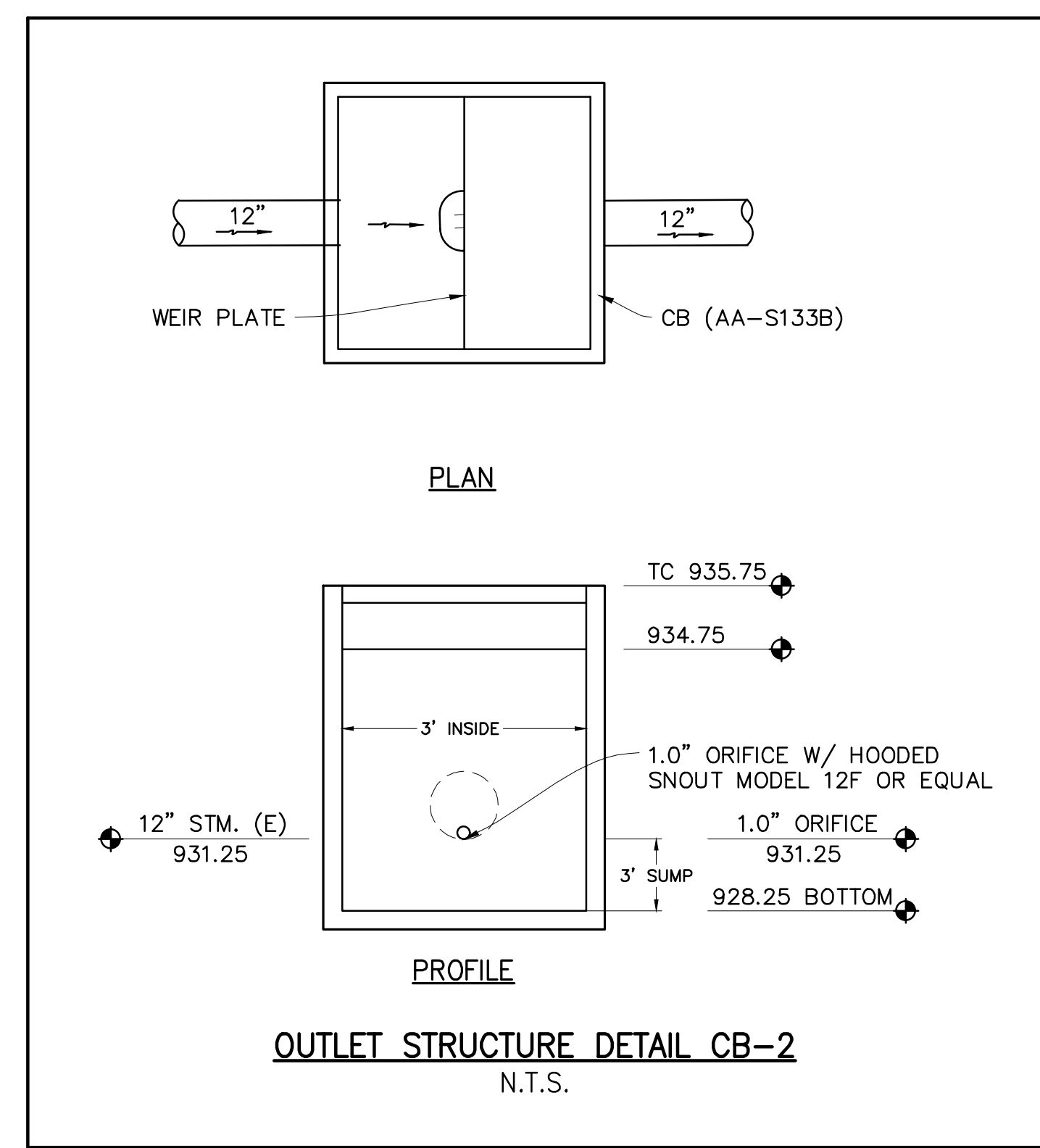
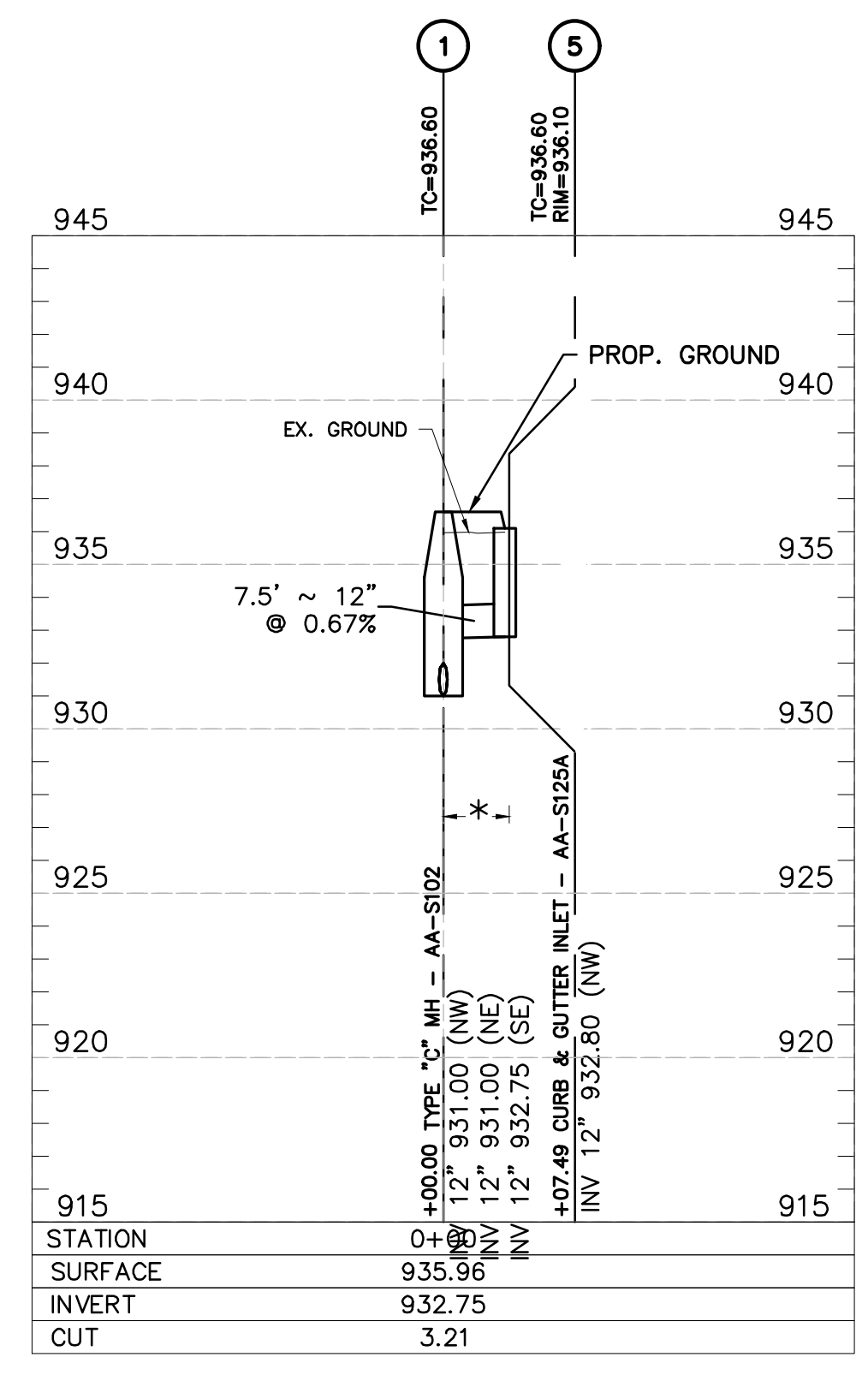
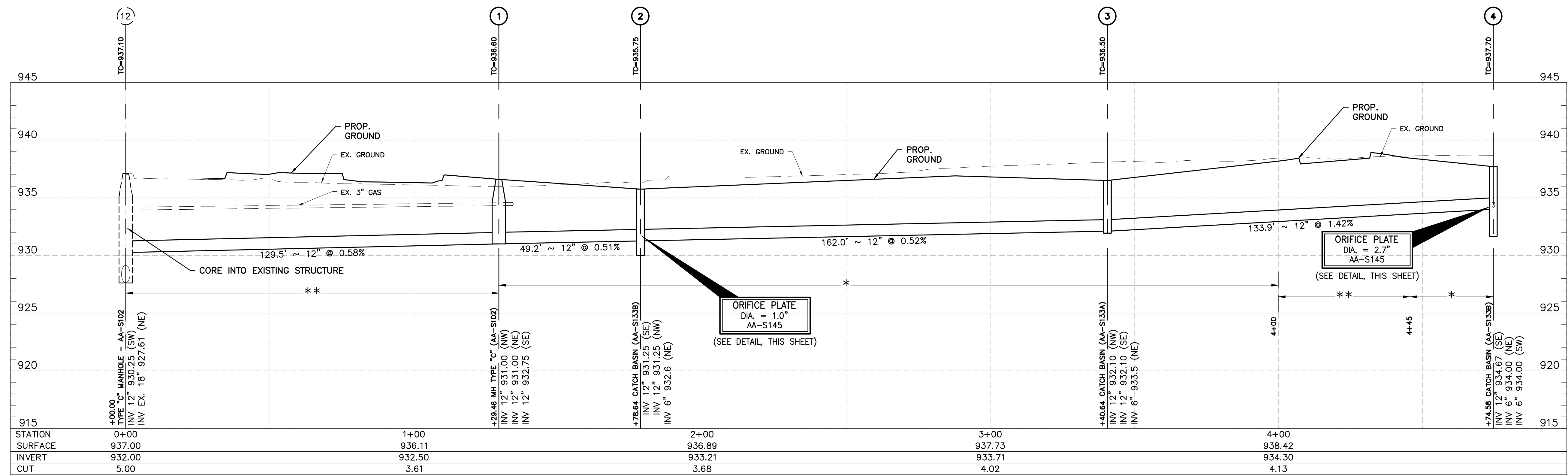
E. P. FERRIS
 AND ASSOCIATES
 INC
 Consulting Civil Engineers and Surveyors
 880 KING AVENUE
 COLUMBUS, OHIO 43212
 (614) 299-2999
 (614) 299-2992 (Fax)
 www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
 AND TRAILHEAD IMPROVEMENTS**
 CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	CK
DRAWN BY:	CK
CHECKED BY:	CDM
APPROVED BY:	CDM
DATE:	2/26/2020

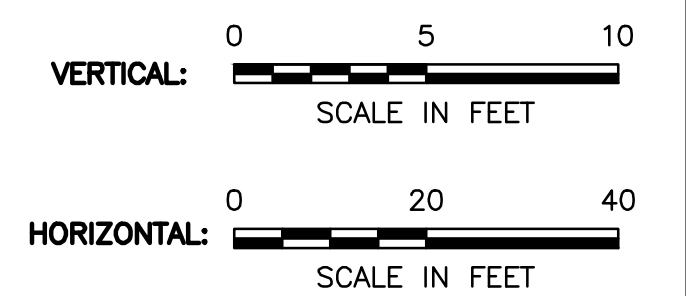
**CROSS SECTIONS
 STATION RANGE
 STA. 14+50 - 18+00**

SCALE:	
HORZ.	1"=5'
VERT.	1"=5'
SHEET NO.	OF
12	19



NOTE: TC REPRESENTS THE TOP OF CASTING ELEVATION OF STORM STRUCTURES. TC AND RIM ELEVATIONS ARE NOT THE SAME FOR CURB INLETS.

- NOTE:**
- * ITEM 911 COMPACTED BACKFILL
 - ** ITEM 912 COMPACTED GRANULAR MATERIAL



M:\570019_005_CenterStParkingLot\DWG\Data-Ref\570019_005-FlopStorm.dwg --Storm Profiles LAST EDITED BYBSAUNDERS ON 2/27/20

* = TYPE 911 BACKFILL
** = TYPE 912 BACKFILL

REVISIONS	DATE	BY	CHK.

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

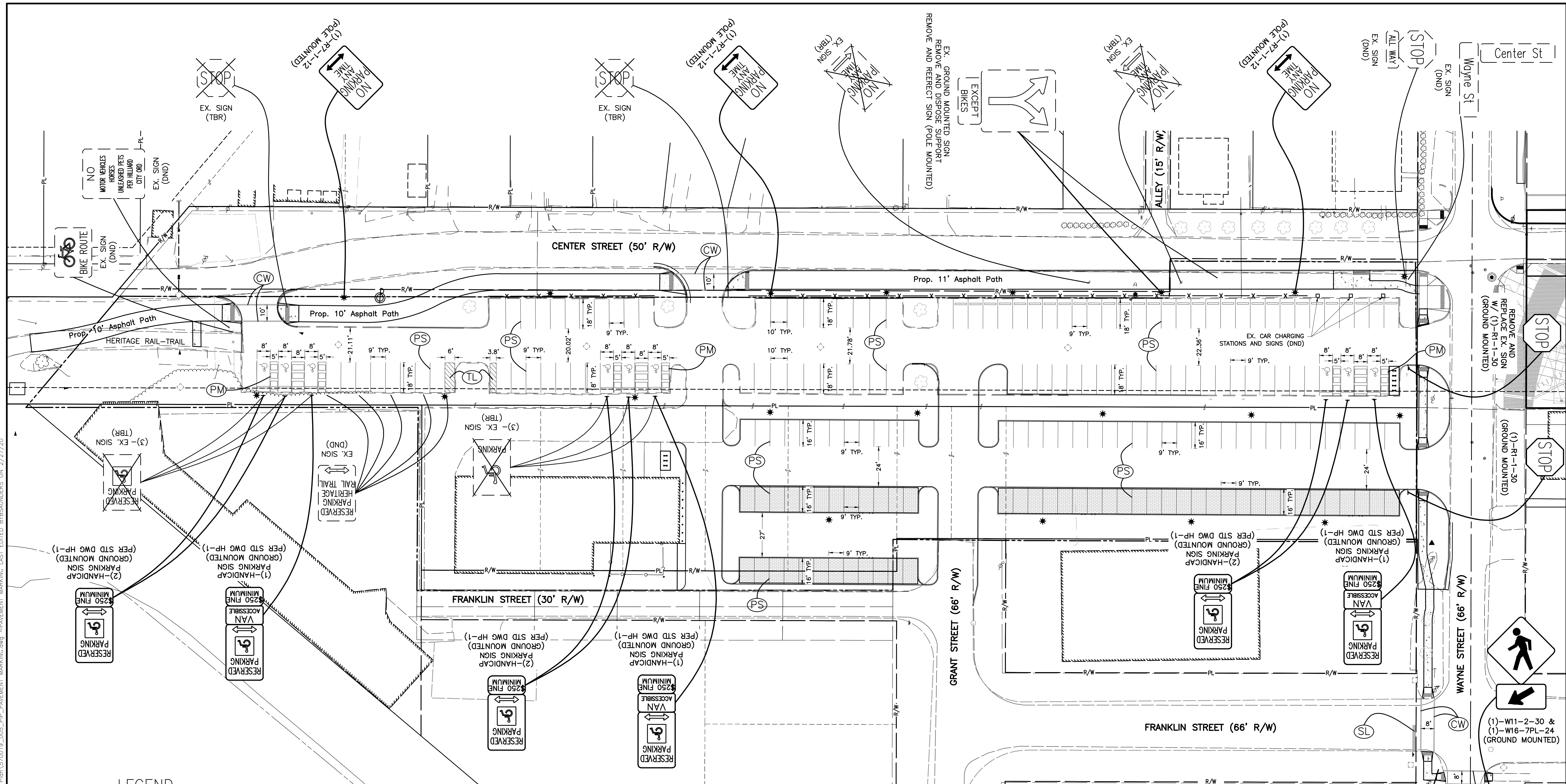
CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	CK
DRAWN BY:	CK
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

STORM SEWER PROFILES

SCALE:	HORIZONTAL: 1" = 20'
	VERTICAL: 1" = 5'
SHEET NO.	OF
13	19

M:\570019_005_CenterStPaving\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_PAVEMENT MARKING.dwg ~ PAVEMENT MARKING LAST EDITED BY SAUNDERS ON 2/27/20

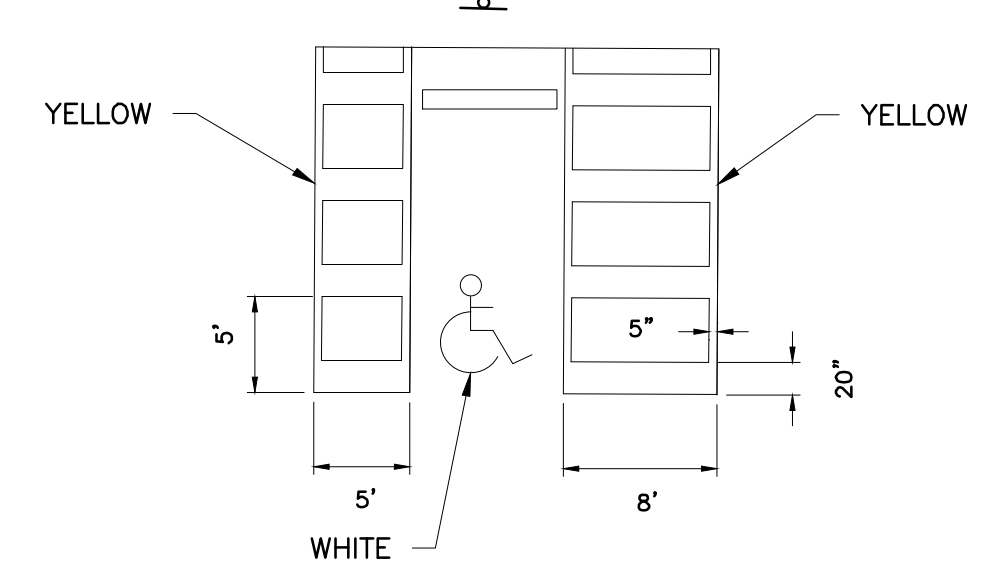


LEGEND

- DY PROPOSED PAVEMENT MARKINGS
- DY EXISTING PAVEMENT MARKINGS TO REMAIN
- PROPOSED SIGN
- EXISTING SIGN
- EXISTING SIGN TO BE REMOVED
- (DND) - DO NOT DISTURB
- (TBR) - TO BE REMOVED

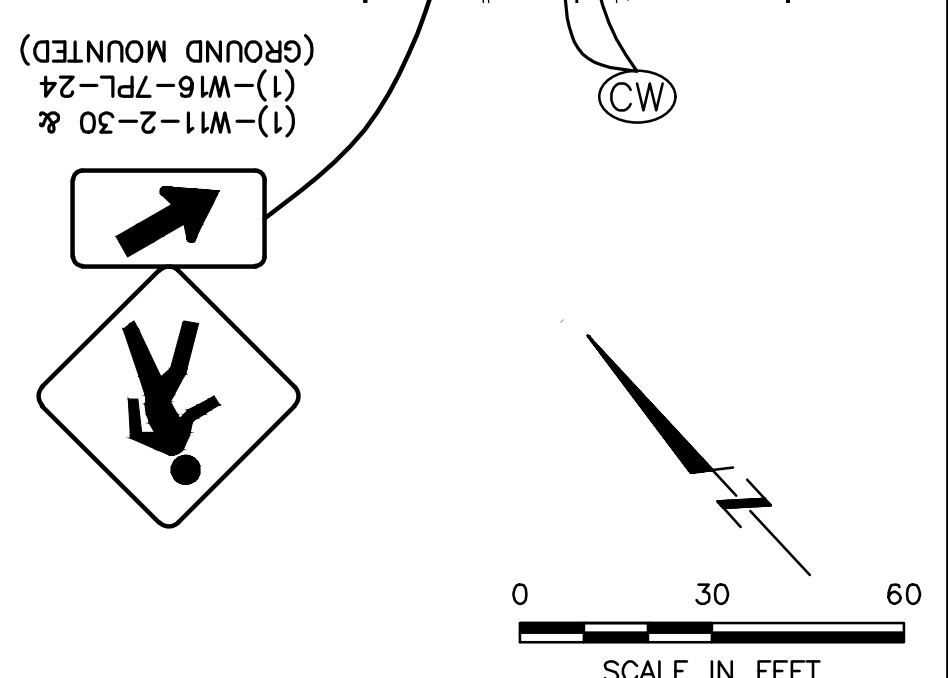
LINE SPECIFICATIONS	
SL	STOP LINE, 20" WHITE
CW	CROSSWALK LINE, 10" WHITE
PS	PARKING STALL MARKING, 5" WHITE
PM	ACCESSIBILITY PARKING SPACE MARKING (SEE DETAIL)
TL	TRANSVERSE LINE, 5" WHITE

ACCESSIBLE PARKING SPACE DETAIL



NOTE: SEE HILLIARD SCD TC-2 FOR ADDITIONAL SIGN DETAILS AND SPECIFICATIONS.

ALL SIGN SUPPORTS AND ATTACHMENT ASSEMBLIES SHALL BE PAINTED BLACK IN ACCORDANCE WITH HILLIARD SCD TC-2.



REVISIONS	DATE	BY	CHK

E. P. FERRIS
AND ASSOCIATES
INC

Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
 AND TRAILHEAD IMPROVEMENTS**
 CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	WCS
DRAWN BY:	WCS
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

PAVEMENT MARKING AND SIGNING PLAN

SCALE:	
1" = 30'	
SHEET NO.	OF
14	19

LIGHTING GENERAL NOTES:

THE STREET LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CURRENT CITY OF HILLIARD'S SPECIFICATIONS AND THE CITY OF COLUMBUS, OHIO, DIVISION OF POWER (DOP), MATERIAL AND INSTALLATION SPECIFICATIONS (MIS), ARE HEREBY INCORPORATED INTO THIS SET OF PLANS. THE DIVISION OF POWER STANDARD SPECIFICATIONS CAN BE OBTAINED AT 3500 INDIANOLA AVE. THE MIS NUMBERS LISTED IN THE ROADWAY LIGHTING QUANTITIES ARE REFERENCED TO SPECIFIC SPECIFICATIONS PUBLISHED BY THE DIVISION OF POWER WHICH SHALL GOVERN ALL WORK RELATING TO THE INSTALLATION OF ROADWAY LIGHTING EQUIPMENT AND APPARATUS FOR THIS PROJECT.

AS-BUILT RECORDS - THE CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DOCUMENTS. THESE DOCUMENTS SHALL INCLUDE REVIEWED SHOP DRAWINGS, CHANGE ORDERS, EQUIPMENT OPERATING INSTRUCTIONS, FIELD TEST RECORDS, AND AS-BUILT DRAWINGS. THE AS-BUILT DRAWINGS SHALL BE MARKED LEGIBLE IN RED WITH THE ACTUAL LOCATION OF EQUIPMENT AS CONSTRUCTED.

ALL EQUIPMENT INSTALLED SHALL HAVE LOCATIONS MARKED IN DISTANCES OFF A LANDMARK AT LEAST EVERY 25 FEET OR LOCATIONS AT A LATER DATE. FINAL DOCUMENTS AND PLANS SHALL BE HANDED OVER TO THE CITY OF HILLIARD.

PERMITS:

THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS.

CODES AND ORDINANCES:

THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL LOCAL CODES AND ORDINANCES PERTINENT TO THE PROGRESSION OF THE WORK DESCRIBED WITHIN THE PROJECT PLANS. ANY REQUIRED PERMIT SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND SUBCONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

CONTRACTOR'S RESPONSIBILITY WITH EXISTING AND NEW UTILITIES:

THE CONTRACTOR SHALL PERFORM ANY EXPLORATORY EXCAVATIONS NECESSARY TO LOCATE UNDERGROUND UTILITIES PRIOR TO DIGGING, DRILLING OR PUSHING. WHERE PROJECT WORK IS LOCATED CLOSE TO EXISTING UTILITY LINES, POTENTIAL LOCATION CONFLICTS, EXCAVATIONS SHALL BE ACCOMPLISHED UTILIZING HAND DIGGING OR VACUUM BORING. THE COST OF THE WORK SHALL BE INCLUDED IN CONTRACTOR'S BID PRICE.

WHERE POTENTIAL LOCATION CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITIES SUFFICIENTLY IN ADVANCE OF INSTALLING CONDUIT, FOUNDATIONS, OR OTHER LIGHTING EQUIPMENT IN ORDER THAT ENGINEER MAY DETERMINE THE EXACT ELEVATION AND LOCATION TO MAKE ANY NECESSARY ADJUSTMENTS. ALL COST FOR THIS WORK TO BE INCLUDED IN THE VARIOUS ITEMS BID.

WHERE EXCAVATIONS OCCUR ALONGSIDE OF CURBS OR SIDEWALK, THE CONTRACTOR SHALL SHORE, BRACE OR SUPPORT PIECES IN PLACE SO THAT THEY WILL NOT BECOME DISLODGED OR DAMAGED. ANY DAMAGED CURB OR SIDEWALK SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.

ALL PROPOSED LIGHT STANDARDS AND OTHER LIGHTING EQUIPMENT LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR IN REGARDS FOR PROPER CLEARANCES IN RELATIONSHIP TO EXISTING OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO DIGGING OF CONCRETE FOUNDATION HOLES OR ANY OTHER EXCAVATION. WHERE CONDUIT IN TRENCH IS TO BE ENCASE IN CONCRETE AND UTILITY LINES CONFLICT IN LOCATION, CONTACT ENGINEER FOR INSTRUCTIONS.

THE CITY OF HILLIARD, OPERATIONS DIVISION WILL LOCATE AND MARK ALL UNDERGROUND TRAFFIC CONTROL CABLES. THE DIVISION SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF ANY WORK WITHIN 300 FEET OF SIGNALIZED INTERSECTIONS OR WITHIN ANY AREA IN WHICH THE DIVISION HAS UNDERGROUND CONTROL CABLES. ANY REPAIRS TO TRAFFIC CABLES RESULTING FROM THIS WORK WILL BE DONE BY THE CONTRACTOR.

SAWING PAVEMENT:

WHERE NECESSARY TO DISTURB PAVEMENTS OR DRIVES, THE PAVEMENT SHALL BE SAW CUT IN NEAT, STRAIGHT LINES, THE DEPTH OF THE SAW CUT SHALL BE AT LEAST 2 INCHES. THE COST OF THE SAW CUTTING SHALL BE INCLUDED IN THE CONTRACTOR'S PRICE BID.

UTILITY CLEARANCE REQUIREMENTS:

MAINTAIN A MINIMUM OF 3' HORIZONTAL AND 18" VERTICAL CLEARANCE FROM ALL WATER & SEWER LINES.

CABLE SPLICING:

NO SPLICES SHALL BE MADE IN CIRCUIT CABLES, EXCEPT AT NOTED LOCATIONS. SPLICES CAN BE MADE IN PULL BOXES ONLY WHERE A CIRCUIT BRANCHES OR TEES.

STAKING - LIGHTING:

THE CONTRACTOR SHALL PERFORM THE NECESSARY CONSTRUCTION STAKING AND MAINTENANCE OF STAKING REQUIRED FOR CONSTRUCTION OF THIS PROJECT. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

TRENCH, CONDUIT AND PULL BOX LOCATIONS

THE CONTRACTOR SHALL PERFORM THE NECESSARY CONSTRUCTION STAKING AND MAINTENANCE OF STAKING REQUIRED FOR CONSTRUCTION OF THIS PROJECT. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

NO TRENCHES KEPT OPEN:

ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

CLEAN UP:

THIS PROJECT IS LOCATED IN A DOWNTOWN AREA IN WHICH IT IS NECESSARY TO MAINTAIN A CLEAN PROJECT SIDE. THE PROJECT CONSTRUCTION SITE SHALL BE MAINTAINED IN A CLEAN HEALTHY STATE AT ALL TIMES. DIRT PILES FROM EXCAVATIONS SHALL BE REMOVED FROM SITE OR PROPERLY PLACED BACK INTO HOLES OR PITS DAILY. AT THE END OF EACH WORK DAY THE PROJECT SITE SHALL HAVE ALL DEBRIS REMOVED, AND SIDEWALK, CURBS, GUTTERS AND STREET SURFACES BROOM SWEEP. DIRT LAYING ON UNDISTURBED SOD AREAS MAY CAUSE DAMAGE TO THE HEALTH OF GRASS AND IS NOT PERMITTED. THE TRACKING OF MUD, DIRT OR DEBRIS, OR SPILLAGE OF THE SAME, UPON THE CITY STREETS, RESIDENTIAL AND COMMERCIAL DRIVES, SIDEWALKS OR BIKE PATHS ARE PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. FAILURE TO REMOVE SAID MUD, DIRT OR DEBRIS, OR SPILLAGE MAY RESULT IN THE CITY PROVIDING THAT SERVICE AND THE COST OF THAT SERVICE WITHHELD FROM MONEYS WHICH MAY BECOME DUE TO THE CONTRACTOR. EXCAVATED MATERIALS SHALL NOT BE STORED ON EXISTING ROADWAY PAVEMENT. COST FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.

NATIONAL ELECTRIC CODE:

ALL WORK PERFORMED ON THIS PROJECT SHALL BE ACCOMPLISHED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION.

MANUALS AND INSTRUCTIONS:

THE CONTRACTOR SHALL FURNISH THE ENGINEER SIX (6) SETS OF OPERATING MANUALS FOR ALL DEVICES BEFORE THE FINAL PAYMENT IS AUTHORIZED. THE MANUALS SHALL BE IDENTICAL AND HARD BOUND. THESE MANUALS SHALL INCLUDE:

- A) SHOP DRAWINGS (REVIEWED BY ENGINEER)
- B) DESCRIPTION OF OPERATION OF EACH ELECTRICAL SYSTEM
- C) LIST INDICATING MANUFACTURE OF ALL ELECTRICAL EQUIPMENT
- D) MAINTENANCE SCHEDULE RECOMMENDED BY EQUIPMENT MANUFACTURER
- E) COMPLETE PARTS LIST FOR ALL EQUIPMENT
- F) SERVICE TELEPHONE NUMBER OF INSTALLING COMPANY
- G) ANY DEVIATIONS FROM THE DRAWINGS SHALL BE SO INDICATED BY A SEPARATE PAGE INSERTED IN THE MANUAL

THE CONTRACTOR SHALL INSTRUCT A PERSON OR PERSONS, APPROVED BY THE OWNER, IN THE COMPLETE OPERATION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS AND SUBMIT IN WRITING THAT SUCH HAS BEEN DONE PRIOR TO FINAL ACCEPTANCE. THE LETTER SHALL CONTAIN THE NAME OF SAID PERSON OR PERSONS RECEIVING INSTRUCTIONS. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTOR'S PRICE BID.

SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND/OR EQUIPMENT MANUFACTURER AND SUBMITTED FOR THE FOLLOWING ITEMS AND SUCH OTHER ITEMS AS THE ENGINEER MAY DIRECT.

- A) CONTROL CENTERS - EQUIPMENT AND APPARATUS
- B) LUMINAIRES AND LIGHT POLES
- C) WIRING OR CABLES, CONDUIT
- D)CONNECTORS, CONNECTOR KITS, ETC.
- E) SPLICE BOXES
- F) GROUND RODS AND GROUNDING APPARATUS
- G) SERVICE POLES
- H) CONCRETE FOUNDATION SHOWING REINFORCING STEEL PLACEMENT AND BASES, ANCHOR BOLTS AND DIMENSIONS AND CONDUITS.
- I) PAINTS AND COATINGS
- J) CIRCUIT IDENTIFICATIONS MATERIALS, MARKINGS AND POST IDENTIFICATION LABELS
- K) SHOP DRAWINGS (REVIEWED BY ENGINEER)
- L) DESCRIPTION OF OPERATION OF EACH ELECTRICAL SYSTEM
- M) LIST INDICATING MANUFACTURE OF ALL ELECTRICAL EQUIPMENT
- N) MAINTENANCE SCHEDULE RECOMMENDED BY EQUIPMENT MANUFACTURER
- O) COMPLETE PARTS LIST FOR ALL EQUIPMENT INCLUDING SERVICE TELEPHONE NUMBER OF INSTALLING COMPANY
- P) ANY DEVIATIONS FROM THE DRAWINGS SHALL BE SO INDICATED BY A SEPARATE PAGE INSERTED IN THE MANUAL

THE CONTRACTOR SHALL INSTRUCT A PERSON OR PERSONS, APPROVED BY THE OWNER, IN THE COMPLETE OPERATION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS AND SUBMIT IN WRITING THAT SUCH HAS BEEN DONE PRIOR TO FINAL ACCEPTANCE. THE LETTER SHALL CONTAIN THE NAME OF SAID PERSON OR PERSONS RECEIVING INSTRUCTIONS.

SHOP DRAWINGS:

CERTIFICATION SHALL BE SUPPLIED BY CONTRACTOR WHEN SPECIFIED OR REQUIRED INCLUDING CERTIFIED FIELD TEST REPORTS AND MANUFACTURERS' CERTIFICATIONS. FIELD TEST REPORTS SHALL BE RECORDED, WRITTEN AND CERTIFIED TO THE CITY. FIELD TEST SHALL INCLUDE CABLE, OPERATIONAL AND RESISTANCE TO GROUND TESTS. MANUFACTURERS' CERTIFICATION SHALL INCLUDE FACTORY TEST REPORTS AND TEST REPORTS PERFORMED AND REQUIRED BY INDEPENDENT TESTING LABORATORY FOR LUMINAIRE PHOTOMETRIC ANALYSIS, STRENGTHS AND ALLOWABLE LOADING OF MATERIALS, ELECTRICAL COMPONENT RATINGS, ETC. ALSO, A COPY OF SUPPLIER'S DELIVERY TICKETS FOR EACH LOAD OF CONCRETE, SAND, GRAVEL, ETC. SHALL BE SUPPLIED TO THE ENGINEER.

MATERIALS:

NEW FIRST QUALITY MATERIALS SHALL BE FURNISHED. THEY SHALL COMPLY, WHEN APPLICABLE, WITH THE UNDERWRITERS LABORATORIES (UL) REQUIREMENTS AND MEET THE APPLICABLE MINIMUM REQUIREMENTS OF STANDARDS OF EEL, NEMA, IES, ANSI, IPCEA, AASHO, IEEE, IMSA AND OTHER ORGANIZATIONS. THE MATERIALS SHALL ALSO COMPLY WITH THE NATIONAL ELECTRIC CODE, NATIONAL ELECTRIC SAFETY CODE AND LOCAL CODES FOR THE AREA OF INSTALLATION. ALL ELECTRICAL PARTS, WIRE, SWITCHES AND OTHER ELEMENTS OF THE INSTALLATION SHALL BE OF AMPLIFIED CAPACITY TO CARRY THE REQUIRED CURRENT WITHOUT EXCESSIVE HEATING OR CAUSING AN EXCESSIVE DROP OF POTENTIAL.

MATERIAL AND EQUIPMENT SHALL BE THE STANDARD PRODUCT NAMED HEREIN OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURE OF THE PRODUCT AND SHALL ESSENTIALLY DUPLICATE ITEMS THAT HAVE BEEN IN SATISFACTORY USE FOR AT LEAST TWO (2) YEARS PRIOR TO BID OPENING.

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE AS A MINIMUM THE MANUFACTURER'S NAME, ADDRESS, AND CATALOG OR STYLE NUMBER ON A NAME PLATE SECURELY ATTACHED TO THE ITEM OF EQUIPMENT. NAME PLATES FOR INDIVIDUAL ITEMS OF ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED IN REFERENCED PUBLICATIONS AND SHALL BE PROVIDED ON EACH ITEM OF EQUIPMENT.

SUBMITTALS REVIEW OF MATERIALS, EQUIPMENT DATA AND SHOP DRAWINGS

THE MATERIALS AND EQUIPMENT INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL REVIEWED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT PROOF THAT THE ITEMS FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS CONFORM TO THE SPECIFIED REQUIREMENTS. THE LABEL OF OR LISTING IN THE ELECTRICAL CONSTRUCTION MATERIALS DIRECTORY OF UL OR THE MANUFACTURERS' ITEMS COMPLY WITH APPLICABLE SPECIFICATIONS, STANDARDS OR PUBLICATIONS AND WITH THE MANUFACTURERS' STANDARDS WILL BE ACCEPTABLE EVIDENCE OF SUCH COMPLIANCE.

THE CONTRACTOR SHALL SUBMIT FOR THE ENGINEER'S REVIEW FOUR (4) COMPLETE ITEMIZED COPIES OF THE CATALOG DATA AND/OR SHOP DRAWINGS FOR EVERY ITEM OF EQUIPMENT BUILT OR ASSEMBLED BY THE CONTRACTOR OR FACTORY MANUFACTURED AND ALL COMPONENTS TO BE USED IN THE WORK, INCLUDING SPECIFIC PERFORMANCE DATA, MATERIAL DESCRIPTION, DIMENSIONS, RATING, CAPACITY, MATERIAL GAUGE OR THICKNESS, BRAND NAME, CROSS SECTION OR CONSTRUCTION, JOINING METHODS, CATALOG NUMBER AND GENERAL TYPE. THIS SUBMISSION SHALL BE COMPLIED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER BEFORE ANY OF THE EQUIPMENT IS ORDERED. CERTAIN SHOP DRAWINGS, AS CALLED FOR, SHALL BE PREPARED BY THE CONTRACTOR OR MAY BE PREPARED BY A QUALIFIED REGISTERED REVIEW OF THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS, PROVIDING PROPER CLEARANCE AND FABRICATIONS PROCESS.

WHEN SUBMITTED FOR THE ENGINEER'S REVIEW, SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S CERTIFICATION THAT HE HAS PREPARED OR REVIEWED, CHECKED AND APPROVED THE SHOP DRAWINGS, THAT THEY ARE IN HARMONY WITH THE REQUIREMENTS OF THE PROJECT AND WITH THE PROVISIONS OF THE CONTRACT DOCUMENTS AND THAT HE HAS VERIFIED ALL FIELD MEASUREMENTS AND CONSTRUCTION CRITERIA, MATERIALS, CATALOG NUMBERS AND SIMILAR DATA. CONTRACTOR SHALL ALSO CERTIFY THAT THE WORK REPRESENTED BY THE SHOP DRAWINGS IS RECOMMENDED BY THE CONTRACTOR AND THE CONTRACTOR'S GUARANTY WILL FULLY APPLY.

ESTIMATE OF QUANTITIES				
COC CMS ITEM NO.	QUANTITY	UNIT	DESCRIPTION	
MIS-1	NONPAY	ITEM	STREET LIGHT LOCKOUT/TAGOUT (LOTO)	
MIS-2	NONPAY	ITEM	GUIDELINES FOR INSPECTION & ACCEPTANCE OF STREET LIGHTING SYSTEMS	
MIS-3	NONPAY	ITEM	GUIDELINES FOR STREET LIGHTING 'MATERIALS FOR APPROVAL' SUBMITTAL PACKAGES	
MIS-4	NONPAY	ITEM	INSPECTION CHECKLIST	
MIS-58	NONPAY	ITEM	MINIMUM TREE CLEARANCE FOR DOWNTOWN, URBAN, AND RURAL AREAS.	
1001	19	EA	LIGHT POLE DECORATIVE, POST TOP 14', FIBERGLASS WITH ALL ACCESSORIES PER THE DETAILS (SL-16)	
1001	11	EA	PULL BOX, MEDIUM DUTY 13"x24" (MIS-54)	
1001	19	EA	GROUND ROD (MIS-55)	
1001		EA	RISER, STREET LIGHT CIRCUIT (MIS-56)	
1001	12	EA	STREET LIGHT FOUNDATION, 8' DEEP (24" EXPOSED, ROUND)	
1001	7	EA	STREET LIGHT FOUNDATION, 24" SQ. X 6' DEEP (FLUSH)	
1001	2,100	CF	UNDERGROUND CIRCUIT, 3-WIRE (MIS-404)	
1001	19	EA	CABLE TO BE WIRED, 3 WIRE (MIS-501)	
1001	19	EA	LUMINAIRE LED, 75W (MODEL # PROV T2-32LED 4K 700 BLK HSS)	
1001	1,820	LF	TRENCH, 24" DEEP	
1001	1	EA	THOROUGHFARE SIGN/OLD HILLIARD SERVICE ENCLOSURE (SL-5)	
1001	1,820	LF	2" CONDUIT, CONCRETE BASED (MIS-700)	

NOTES: THE SPECIFIC PRODUCTS SPECIFIED IN THESE DOCUMENTS CAN BE SUBSTITUTED WITH AN EQUIVALENT ALTERNATIVE PRODUCT IF APPROVED BY THE ENGINEER OF RECORD AND THE CITY OF HILLIARD. IT IS THE CONTRACTORS RESPONSIBILITY TO PAY ALL FEES ASSOCIATED WITH REVISIONS TO THE PLANS, ENGINEERING DRAWING OR CALCULATION CHANGES, AND JURISDICTIONAL REVIEW (LOCAL, STATE, AND/OR FEDERAL) IF THE PLANS HAVE BEEN SIGNED BY THE CITY OF HILLIARD OR ARE SUBSTANTIALLY COMPLETE/REVIEWED.

M:\570019_005_CenterStPaving\DWG\Production\Plan\570019_005_PIP_LIGHTING.dwg ~LAST EDITED BY:BSAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK.



880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

LIGHTING NOTES

SCALE:	NTS
SHEET NO.	OF
15	19

LIGHTING GENERAL NOTES:

THE STREET LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY OF HILLIARD'S SPECIFICATIONS AND THE CITY OF COLUMBUS, OHIO, DIVISION OF POWER (DOP), MATERIAL AND INSTALLATION SPECIFICATIONS (MIS), AND ARE HEREBY INCORPORATED INTO THIS SET OF PLANS. THE DIVISION OF POWER STANDARD SPECIFICATIONS CAN BE OBTAINED AT 3500 INDIANOLA AVE. THE MIS NUMBERS LISTED IN THE ROADWAY LIGHTING QUANTITIES ARE REFERENCED TO SPECIFIC SPECIFICATIONS PUBLISHED BY THE DIVISION OF POWER WHICH SHALL GOVERN ALL WORK RELATING TO THE INSTALLATION OF ROADWAY LIGHTING EQUIPMENT AND APPARATUS FOR THIS PROJECT.

AS-BUILT RECORD – THE CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DOCUMENTS. THESE DOCUMENTS SHALL INCLUDE REVIEWED SHOP DRAWINGS, CHANGE ORDERS, EQUIPMENT OPERATING INSTRUCTIONS, FIELD TEST RECORDS, AND AS-BUILT DRAWINGS. THE AS-BUILT DRAWINGS SHALL BE MARKED LEGIBLY IN RED WITH THE ACTUAL LOCATION OF EQUIPMENT AS CONSTRUCTED. ALL EQUIPMENT INSTALLED SHALL HAVE LOCATIONS MARKED IN DISTANCES OFF A LANDMARK AT LEAST EVERY 25 FEET OR LOCATION AT A LATER DATE. FINAL DOCUMENTS AND PLANS SHALL BE HANDED OVER TO THE CITY OF HILLIARD.

PERMITS:

THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS.

CODES AND ORDINANCES:

THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL LOCAL CODES AND ORDINANCES PERTINENT TO THE PROGRESSION OF THE WORK DESCRIBED WITHIN THE PROJECT PLANS. ANY REQUIRED PERMIT SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND SUBCONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

CONTRACTOR'S RESPONSIBILITY WITH EXISTING AND NEW UTILITIES:

THE CONTRACTOR SHALL PERFORM ANY EXPLORATORY EXCAVATIONS NECESSARY TO LOCATE UNDERGROUND UTILITIES PRIOR TO DIGGING, DRILLING OR PUSHING. WHERE PROJECT WORK IS LOCATED CLOSE TO EXISTING UTILITY LINES, POTENTIAL LOCATION CONFLICTS, EXCAVATIONS SHALL BE ACCOMPLISHED UTILIZING HAND DIGGING OR VACUUM BORING. THE COST OF THE WORK SHALL BE INCLUDED IN CONTRACTOR'S BID PRICE.

WHERE POTENTIAL LOCATION CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO UNCOVER SUCH UTILITIES SUFFICIENTLY IN ADVANCE OF INSTALLING CONDUIT, FOUNDATIONS, OR OTHER LIGHTING EQUIPMENT IN ORDER THAT ENGINEER MAY DETERMINE THE EXACT ELEVATION AND LOCATION TO MAKE ANY NECESSARY ADJUSTMENTS. ALL COST FOR THIS WORK TO BE INCLUDED IN THE VARIOUS ITEMS BID.

WHERE EXCAVATIONS OCCUR ALONGSIDE OF CURBS OR SIDEWALK, THE CONTRACTOR SHALL SHORE, BRACE OR SUPPORT PIECES IN PLACE SO THAT THEY WILL NOT BECOME DISLODGED OR DAMAGED. ANY DAMAGED CURB OR SIDEWALK SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID PRICE.

ALL PROPOSED LIGHT STANDARDS AND OTHER LIGHTING EQUIPMENT LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR IN REGARDS FOR PROPER CLEARANCES IN RELATIONSHIP TO EXISTING OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO DIGGING OF CONCRETE FOUNDATION HOLES OR ANY OTHER EXCAVATION. WHERE CONDUIT IN TRENCH IS TO BE ENCASE IN CONCRETE AND UTILITY LINES CONFLICT IN LOCATION, CONTACT ENGINEER FOR INSTRUCTIONS.

THE CITY OF HILLIARD, OPERATIONS DIVISION WILL LOCATE AND MARK ALL UNDERGROUND TRAFFIC CONTROL CABLES. THE DIVISION SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF ANY WORK WITHIN 300 FEET OF SIGNALIZED INTERSECTIONS OR WITHIN ANY AREA IN WHICH THE DIVISION HAS UNDERGROUND CONTROL CABLES. ANY REPAIRS TO TRAFFIC CABLES RESULTING FROM THIS WORK WILL BE DONE BY THE CONTRACTOR.

SAWING PAVEMENT:

WHERE NECESSARY TO DISTURB PAVEMENTS OR DRIVES, THE PAVEMENT SHALL BE SAW CUT IN NEAT, STRAIGHT LINES, THE DEPTH OF THE SAW CUT SHALL BE AT LEAST 2 INCHES. THE COST OF THE SAW CUTTING SHALL BE INCLUDED IN THE CONTRACTOR'S PRICE BID PRICE FOR VARIOUS ASSOCIATED ITEMS.

UTILITY CLEARANCE REQUIREMENTS:

MAINTAIN A MINIMUM OF 3' HORIZONTAL AND 18" VERTICAL CLEARANCE FROM ALL WATER & SEWER LINES.

CABLE SPLICING:

NO SPLICES SHALL BE MADE IN CIRCUIT CABLES, EXCEPT AT NOTED LOCATIONS. SPLICES CAN BE MADE IN PULL BOXES ONLY WHERE A CIRCUIT BRANCHES OR TEES.

STAKING -- LIGHTING:

THE CONTRACTOR SHALL PERFORM THE NECESSARY CONSTRUCTION STAKING AND MAINTENANCE OF STAKING REQUIRED FOR CONSTRUCTION OF THIS PROJECT. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

TRENCH, CONDUIT AND PULL BOX LOCATIONS

THE CONTRACTOR SHALL PERFORM THE NECESSARY CONSTRUCTION STAKING AND MAINTENANCE OF STAKING REQUIRED FOR CONSTRUCTION OF THIS PROJECT. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

NO TRENCHES KEPT OPEN:

ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS.

CLEAN UP:

THIS PROJECT IS LOCATED IN A DOWNTOWN AREA IN WHICH IT IS NECESSARY TO MAINTAIN A CLEAN PROJECT SITE. THE PROJECT CONSTRUCTION SITE SHALL BE MAINTAINED IN A CLEAN HEALTHY STATE AT ALL TIMES. DIRT PILES FROM EXCAVATIONS SHALL BE REMOVED FROM SITE OR PROPERLY PLACED BACK INTO HOLES OR PITS DAILY. AT THE END OF EACH WORK DAY THE PROJECT SITE SHALL HAVE ALL DEBRIS REMOVED, AND SIDEWALK, CURBS, GUTTERS AND STREET SURFACES BROOM SWEEP. DIRT LAYING ON UNDISTURBED SOD AREAS MAY CAUSE DAMAGE TO THE HEALTH OF GRASS AND IS NOT PERMITTED. THE TRACKING OF MUD, DIRT OR DEBRIS, OR SPILLAGE OF THE SAME, UPON THE CITY STREETS, RESIDENTIAL AND COMMERCIAL DRIVES, SIDEWALKS OR BIKE PATHS ARE PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. FAILURE TO REMOVE SAID MUD, DIRT OR DEBRIS, OR SPILLAGE MAY RESULT IN THE CITY PROVIDING THAT SERVICE AND THE COST OF THAT SERVICE WITHHELD FROM MONEYS WHICH MAY BECOME DUE TO THE CONTRACTOR. EXCAVATED MATERIALS SHALL NOT BE STORED ON EXISTING ROADWAY PAVEMENT. COST FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.

NATIONAL ELECTRIC CODE:

ALL WORK PERFORMED ON THIS PROJECT SHALL BE ACCOMPLISHED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION.

MANUALS AND INSTRUCTIONS:

THE CONTRACTOR SHALL FURNISH THE ENGINEER SIX (6) SETS OF OPERATING MANUALS FOR ALL DEVICES BEFORE THE FINAL PAYMENT IS AUTHORIZED. THE MANUALS SHALL BE IDENTICAL AND HARD BOUND. THESE MANUALS SHALL INCLUDE:

- A) SHOP DRAWINGS (REVIEWED BY ENGINEER)
- B) DESCRIPTION OF OPERATION OF EACH ELECTRICAL SYSTEM
- C) LIST INDICATING MANUFACTURE OF ALL ELECTRICAL EQUIPMENT
- D) MAINTENANCE SCHEDULE RECOMMENDED BY EQUIPMENT MANUFACTURER
- E) COMPLETE PARTS LIST FOR ALL EQUIPMENT
- F) SERVICE TELEPHONE NUMBER OF INSTALLING COMPANY
- G) ANY DEVIATIONS FROM THE DRAWINGS SHALL BE SO INDICATED BY A SEPARATE PAGE INSERTED IN THE MANUAL

THE CONTRACTOR SHALL INSTRUCT A PERSON OR PERSONS, APPROVED BY THE OWNER, IN THE COMPLETE OPERATION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS AND SUBMIT IN WRITING THAT SUCH HAS BEEN DONE PRIOR TO FINAL ACCEPTANCE. THE LETTER SHALL CONTAIN THE NAME OF SAID PERSON OR PERSONS RECEIVING INSTRUCTIONS. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR AND/OR EQUIPMENT MANUFACTURER AND SUBMITTED FOR THE FOLLOWING ITEMS AND SUCH OTHER ITEMS AS THE ENGINEER MAY DIRECT.

- A) CONTROL CENTERS – EQUIPMENT AND APPARATUS
- B) LUMINAIRES AND LIGHT POLES
- C) WIRING OR CABLES, CONDUIT
- D)CONNECTORS, CONNECTOR KITS, ETC.
- E) SPLICE BOXES
- F) GROUND RODS AND GROUNDING APPARATUS
- G) SERVICE POLES
- H) CONCRETE FOUNDATION SHOWING REINFORCING STEEL PLACEMENT AND BASES, ANCHOR BOLTS AND DIMENSIONS AND CONDUITS.
- I) PAINTS AND COATINGS
- J) CIRCUIT IDENTIFICATIONS MATERIALS, MARKINGS AND POST IDENTIFICATION LABELS
- K) SHOP DRAWINGS (REVIEWED BY ENGINEER)
- L) DESCRIPTION OF OPERATION OF EACH ELECTRICAL SYSTEM
- M) LIST INDICATING MANUFACTURE OF ALL ELECTRICAL EQUIPMENT
- N) MAINTENANCE SCHEDULE RECOMMENDED BY EQUIPMENT MANUFACTURER
- O) COMPLETE PARTS LIST FOR ALL EQUIPMENT INCLUDING SERVICE TELEPHONE NUMBER OF INSTALLING COMPANY
- P) ANY DEVIATIONS FROM THE DRAWINGS SHALL BE SO INDICATED BY A SEPARATE PAGE INSERTED IN THE MANUAL

THE CONTRACTOR SHALL INSTRUCT A PERSON OR PERSONS, APPROVED BY THE OWNER, IN THE COMPLETE OPERATION OF ALL ELECTRICAL EQUIPMENT AND SYSTEMS AND SUBMIT IN WRITING THAT SUCH HAS BEEN DONE PRIOR TO FINAL ACCEPTANCE. THE LETTER SHALL CONTAIN THE NAME OF SAID PERSON OR PERSONS RECEIVING INSTRUCTIONS.

FIELD TEST REPORTS:

CERTIFICATION SHALL BE SUPPLIED BY CONTRACTOR WHEN SPECIFIED OR REQUIRED INCLUDING CERTIFIED FIELD TEST REPORTS AND MANUFACTURERS' CERTIFICATIONS. FIELD TEST REPORTS SHALL BE RECORDED, WRITTEN AND CERTIFIED TO THE CITY. FIELD TEST SHALL INCLUDE CABLE, OPERATIONAL AND RESISTANCE TO GROUND TESTS. MANUFACTURERS' CERTIFICATION SHALL INCLUDE FACTORY TEST REPORTS AND TEST REPORTS PERFORMED AND REQUIRED BY INDEPENDENT TESTING LABORATORY FOR LUMINAIRE PHOTOMETRIC ANALYSIS, STRENGTHS AND ALLOWABLE LOADING OF MATERIALS, ELECTRICAL COMPONENT RATINGS, ETC. ALSO, A COPY OF SUPPLIER'S DELIVERY TICKETS FOR EACH LOAD OF CONCRETE, SAND, GRAVEL, ETC. SHALL BE SUPPLIED TO THE ENGINEER.

MATERIALS:

NEW FIRST QUALITY MATERIALS SHALL BE FURNISHED. THEY SHALL COMPLY, WHEN APPLICABLE, WITH THE UNDERWRITERS LABORATORIES (UL) REQUIREMENTS AND MEET THE APPLICABLE MINIMUM REQUIREMENTS OF STANDARDS OF EEL, NEMA, IES, ANSI, IPCEA, AASHO, IEEE, IMSA AND ASTM ORGANIZATIONS. THE MATERIALS SHALL ALSO COMPLY WITH THE NATIONAL ELECTRIC CODE, NATIONAL ELECTRIC SAFETY CODE AND LOCAL CODES FOR THE AREA OF INSTALLATION. ALL ELECTRICAL PARTS, WIRE, SWITCHES AND OTHER ELEMENTS OF THE INSTALLATION SHALL BE OF AMPLE CAPACITY TO CARRY THE REQUIRED CURRENT WITHOUT EXCESSIVE HEATING OR CAUSING AN EXCESSIVE DROP OF POTENTIAL.

MATERIAL AND EQUIPMENT SHALL BE THE STANDARD PRODUCT NAMED HEREIN OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURE OF THE PRODUCT AND SHALL ESSENTIALLY DUPLICATE ITEMS THAT HAVE BEEN IN SATISFACTORY USE FOR AT LEAST TWO (2) YEARS PRIOR TO BID OPENING.

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE AS A MINIMUM THE MANUFACTURER'S NAME, ADDRESS, AND CATALOG OR STYLE NUMBER ON A NAME PLATE SECURELY ATTACHED TO THE ITEM OF EQUIPMENT. NAME PLATES FOR INDIVIDUAL ITEMS OF ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED IN REFERENCED PUBLICATIONS AND SHALL BE PROVIDED ON EACH ITEM OF EQUIPMENT.

SUBMITTALS REVIEW OF MATERIALS, EQUIPMENT DATA AND SHOP DRAWINGS

THE MATERIALS AND EQUIPMENT INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL REVIEWED BY THE ENGINEER.

THE CONTRACTOR SHALL SUBMIT PROOF THAT THE ITEMS FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS CONFORM TO THE SPECIFIED REQUIREMENTS. THE LABEL OF OR LISTING IN THE ELECTRICAL CONSTRUCTION MATERIALS DIRECTORY OF UL OR THE MANUFACTURERS' ITEMS COMPLY WITH APPLICABLE SPECIFICATIONS, STANDARDS OR PUBLICATIONS AND WITH THE MANUFACTURERS' STANDARDS WILL BE ACCEPTABLE EVIDENCE OF SUCH COMPLIANCE.

THE CONTRACTOR SHALL SUBMIT FOR THE ENGINEER'S REVIEW AND APPROVAL FOUR (4) COMPLETE ITEMIZED COPIES OF THE CATALOG DATA AND/OR SHOP DRAWINGS FOR EVERY ITEM OF EQUIPMENT BUILT OR ASSEMBLED BY THE CONTRACTOR OR FACTORY MANUFACTURED AND ALL COMPONENTS TO BE USED IN THE WORK, INCLUDING SPECIFIC PERFORMANCE DATA, MATERIAL DESCRIPTION, DIMENSIONS, RATING, CAPACITY, MATERIAL GAUGE OR THICKNESS, BRAND NAME, CROSS SECTION OR CONSTRUCTION, JOINING METHODS, CATALOG NUMBER AND GENERAL TYPE. THIS SUBMISSION SHALL BE COMPLIED BY THE CONTRACTOR AND REVIEWED BY THE ENGINEER BEFORE ANY OF THE EQUIPMENT IS ORDERED. CERTAIN SHOP DRAWINGS, AS CALLED FOR, SHALL BE PREPARED BY THE CONTRACTOR OR MAY BE PREPARED BY A QUALIFIED REGISTERED REVIEW OF THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR DEVIATIONS FROM DRAWINGS OR SPECIFICATIONS, PROVIDING PROPER CLEARANCE AND FABRICATIONS PROCESS.

WHEN SUBMITTED FOR THE ENGINEER'S REVIEW, SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S CERTIFICATION THAT HE HAS PREPARED OR REVIEWED, CHECKED AND APPROVED THE SHOP DRAWINGS, THAT THEY ARE IN HARMONY WITH THE REQUIREMENTS OF THE PROJECT AND WITH THE PROVISIONS OF THE CONTRACT DOCUMENTS AND THAT HE HAS VERIFIED ALL FIELD MEASUREMENTS AND CONSTRUCTION CRITERIA, MATERIALS, CATALOG NUMBERS AND SIMILAR DATA. CONTRACTOR SHALL ALSO CERTIFY THAT THE WORK REPRESENTED BY THE SHOP DRAWINGS IS RECOMMENDED BY THE CONTRACTOR AND THE CONTRACTOR'S GUARANTY WILL FULLY APPLY.

ESTIMATE OF QUANTITIES				
COC CMS ITEM NO.	QUANTITY	UNIT	DESCRIPTION	
MIS-1	NONPAY	ITEM	STREET LIGHT LOCKOUT/TAGOUT (LOTO)	
MIS-2	NONPAY	ITEM	GUIDELINES FOR INSPECTION & ACCEPTANCE OF STREET LIGHTING SYSTEMS	
MIS-3	NONPAY	ITEM	GUIDELINES FOR STREET LIGHTING 'MATERIALS FOR APPROVAL' SUBMITTAL PACKAGES	
MIS-4	NONPAY	ITEM	INSPECTION CHECKLIST	
MIS-58	NONPAY	ITEM	MINIMUM TREE CLEARANCE FOR DOWNTOWN, URBAN, AND RURAL AREAS.	
1001	19	EA	LIGHT POLE DECORATIVE, POST TOP 14', FIBERGLASS WITH ALL ACCESSORIES PER THE DETAILS, AS PER PLAN	
1001	11	EA	PULL BOX, MEDIUM DUTY 13"x24" (MIS-54)	
1001	19	EA	GROUND ROD (MIS-55)	
1001	1	EA	RISER, STREET LIGHT CIRCUIT (MIS-56)	
1001	12	EA	STREET LIGHT FOUNDATION, 8' DEEP (24" EXPOSED, ROUND)	
1001	7	EA	STREET LIGHT FOUNDATION, 24" SQ. X 6' DEEP (FLUSH)	
1001	2,100	CK FT	UNDERGROUND CIRCUIT, #2 AWG, 3-WIRE, AS PER PLAN	
1001	2,100	CK FT	UNDERGROUND CIRCUIT, 2-WIRE (MIS-403)	
1001	19	EA	POLE TO BE WIRED, 3 WIRE (MIS-501)	
1001	19	EA	LUMINAIRE, LED, 75W (MODEL # PROV T2-32LED 4K 700 BLK HSS)	
1001	1,820	LF	TRENCH, 24" DEEP	
1001	1	EA	THOROUGHFARE STREET/OLD HILLIARD SERVICE ENCLOSURE (SL-5)	
1001	1,820	LF	3" CONDUIT, CONCRETE ENCASED, AS PER PLAN	
1001	38	EA	CONNECTOR KITS	

NOTES:
THE SPECIFIC PRODUCTS SPECIFIED IN THESE DOCUMENTS CAN BE SUBSTITUTED WITH AN EQUIVALENT ALTERNATIVE PRODUCT IF APPROVED BY THE ENGINEER OF RECORD AND THE CITY OF HILLIARD. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PAY ALL FEES ASSOCIATED WITH REVISIONS TO THE PLANS, ENGINEERING DRAWING OR CALCULATION CHANGES, AND JURISDICTIONAL REVIEW (LOCAL, STATE, AND/OR FEDERAL) IF THE PLANS HAVE BEEN SIGNED BY THE CITY OF HILLIARD OR ARE SUBSTANTIALLY COMPLETE/REVIEWED.

M:\570019_005_CenterStPknkng\DWG\Production\Plan\570019_005_PIP_LIGHTING.dwg ~Lighting Notes01 - LAST EDITED BYRBRURGHY ON 3/9/20

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REVISIONS</th> <th>DATE</th> <th>BY</th> <th>CHK.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS	DATE	BY	CHK.																	 <p>E. P. FERRIS AND ASSOCIATES INC</p> <p><i>Consulting Civil Engineers and Surveyors</i></p>	<p>880 KING AVENUE COLUMBUS, OHIO 43212 (614) 299-2999 (614) 299-2992 (Fax) www.EPFERRIS.com</p>	<p>CITY OF HILLIARD, FRANKLIN COUNTY, OHIO CENTER STREET PUBLIC SPACE, PARKING LOT, AND TRAILHEAD IMPROVEMENTS CITY OF HILLIARD</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>JOB NO. 570.019_005</td> </tr> <tr> <td>DESIGNED BY: RJB</td> </tr> <tr> <td>DRAWN BY: RJB</td> </tr> <tr> <td>CHECKED BY: BDS</td> </tr> <tr> <td>APPROVED BY: BDS</td> </tr> <tr> <td>DATE: 3/9/2020</td> </tr> </table>	JOB NO. 570.019_005	DESIGNED BY: RJB	DRAWN BY: RJB	CHECKED BY: BDS	APPROVED BY: BDS	DATE: 3/9/2020	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">SCALE:</td> </tr> <tr> <td colspan="2" style="text-align: center;">NTS</td> </tr> <tr> <td>SHEET NO.</td> <td>OF</td> </tr> <tr> <td style="text-align: center;">15A</td> <td style="text-align: center;">19</td> </tr> </table>	SCALE:		NTS		SHEET NO.	OF	15A	19
REVISIONS	DATE	BY	CHK.																																				
JOB NO. 570.019_005																																							
DESIGNED BY: RJB																																							
DRAWN BY: RJB																																							
CHECKED BY: BDS																																							
APPROVED BY: BDS																																							
DATE: 3/9/2020																																							
SCALE:																																							
NTS																																							
SHEET NO.	OF																																						
15A	19																																						

CONTRACTOR'S COORDINATION WITH POWER SUPPLYING AGENCY:

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH THE POWER UTILITY (AMERICAN ELECTRIC POWER) FOR REMOVAL/RELOCATION OF CIRCUITS, AERIAL AND UNDERGROUND CABLES, THE LOCATION OF THE CONTROL CENTERS, POWER FEEDS, RELOCATIONS OF POWER SERVICES TO BUILDINGS, STRUCTURES AND ELECTRICAL EQUIPMENT BEING INSTALL PER THIS PROJECT ALONG WITH MEETING THE REQUIREMENT OF NEC, LATEST EDITION. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH AEP'S STANDARDS AND REGULATIONS WHERE APPLICABLE, COST ASSOCIATED WITH MAKING THE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE POWER UTILITY FOR THIS PROJECT IS:

AMERICAN ELECTRIC POWER COMPANY
850 TECH CENTER DR., SAHANNA, OHIO 43230
(614) 883-7935
ATTENTION: JACOB WALDEN

CONCRETE PROTECTION:

CONTRACTOR IS RESPONSIBLE TO PROTECT ALL CONCRETE WORK AGAINST THE COLD WEATHER BY MEANS OF BLANKETS, STRAWS, ETC. NEW CONCRETE SURFACES SUBJECT TO PEDESTRIAN TRAFFIC WITHIN 24 HOURS SHALL BE PROTECTED BY PLYWOOD SHEETING AS DETERMINED BY THE CITY. THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS.

EXISTING UNDER DRAINS:

EXISTING UNDER DRAINS WHICH ARE TO REMAIN, WHEN ENCOUNTERED IN THE CONSTRUCTION WORK SHALL NOT BE DISTURBED. THE CONTRACTOR, AT HIS EXPENSE, WILL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF EXISTING UNDER DRAINS DAMAGE OR DISPLACEMENT DUE TO THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ATTEMPT TO TUNNEL UNDER ALL CURBS AND ROOF DRAINS TO AVOID DAMAGE.

AS BUILT DRAWINGS:

THE CONTRACTOR SHALL MAINTAIN A SET PROJECT RECORD DOCUMENTS. THESE DOCUMENTS SHALL INCLUDE REVIEWED SHOP DRAWINGS, CHANGE ORDERS, EQUIPMENT OPERATING INSTRUCTIONS, FIELD TEST RECORDS, AND AS BUILT DRAWINGS. THE AS BUILT DRAWINGS SHALL BE MARKED LEGIBLY RED AND MARK THE ACTUAL LOCATIONS OF EQUIPMENT AND CONDUITS CONSTRUCTED. THE COST OF THE WORK SHALL BE INCLUDED IN THE CONTRACTORS PRICE BID.

GROUNDING AND BONDING:

GROUNDING IS TO BE PROVIDED ON ALL METAL COMPONENTS, LIGHT POLES, METAL JUNCTION BOX COVERS, METAL CONDUITS, TRANSFORMER NEUTRAL AT SWITCHBOARD, TRANSFORMER ENCLOSURES, TERMINATORS, LIGHTING ARRESTERS, AND IN GROUND CABLES IN STRUCTURES. GROUND WIRE FOR WOOD POLES SHALL BE TIED TO EQUIPMENT RUN DOWN POLE AND CONNECTED TO GROUND ROD. GROUND WIRE CONNECTED TO ELECTRICAL LIGHT POLE, LUMINAIRES AND OTHER GROUND MOUNTED ELECTRICAL EQUIPMENT SHALL BE INSTALLED PER THE PROJECT PLANS. GROUND WIRE INSTALL ON WOODEN UTILITY POLES SHALL BE PROTECTED BY HALF-ROUND WOOD, PLASTIC, OR FIBER MOLDING FROM GROUND LINE TO A POINT A LEAST 8 FEET ABOVE THE GROUND WHERE ATTACHED TO A WOODEN POLE. ALL CONNECTIONS SHALL BE MADE WITH SODOR-LESS CONNECTORS OR BY THE EXOTHERMIC WELDING PROCESS USING NO. 2 OR 4 AWG BARE COPPER WIRE AS INDICATED ON THE PLANS.

GROUND RODS SHALL BE 3/4" DIA. X 10'-0" LONG COPPER RODS. USE AS MANY AS REQUIRED SO AS NOT TO EXCEED A RESISTANCE OF 25 OHMS.

GROUND RODS SHALL BE DRIVEN FULL LENGTH IN UNDISTURBED EARTH IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. THE TOP SHALL BE AT LEAST 12 INCHES BELOW THE SURFACE OF THE EARTH, EXCEPT A NOTED LOCATIONS. THE GROUND CABLE SHALL BE ATTACHED TO THE GROUND ROD BY EXOTHERMIC WELD AND SECURED TO THE POLE WITH STAPLES. THE STAPLES ON THE GROUND WIRE SHALL BE SPACED TWO FEET APART EXCEPT FOR A DISTANCE OF EIGHT FEET ABOVE THE GROUND AND EIGHT FEET DOWN FROM THE TOP OF THE POLE WHERE THEY SHALL BE SIX INCHES APART.

ALL GROUNDING SHALL BE CONTINUOUS AND COMPLY WITH THE PRINCIPLES SET FORTH PER THE NATIONAL ELECTRIC CODE ARTICLE 250, LATEST EDITION.

ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

- d) PROVIDE AND EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
- b) WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT, THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
- c) METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL.
- d) THE CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
- e) THE CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
- f) BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
- g) METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

GROUNDING AND BONDING (CONT):

WIRE FOR GROUNDING AND BONDING.

- (a) USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR, BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS: THE INSULATION SHALL BE GREEN OR REEEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
- (b) IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

THE COST FOR ALL THE GROUND ROD SHALL BE INCLUDED IN THE PRICE BID FOR THE SPLICE BOXES AND FOUNDATIONS INSTALLED AS NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

CONDUIT LOCATION AND DEPTH:

UNLESS OTHERWISE INDICATED ON PLANS OR DIRECTED BY ENGINEER, INSTALL ALL CONDUITS, DUCTS AND LIGHT POLE FOUNDATIONS AS SHOWN ON THE PROJECT PLANS.

CONDUIT CROSSING STREET INTERSECTIONS SHALL BE INSTALLED AT DEPTHS GREATER THAN CURB SECTION. CONDUIT LOCATIONS SHALL NOT INTERFERE WITH EXISTING CURB DRAINS. LOWER THE INSTALLED CONDUIT BURIAL DEPTH WHERE NECESSARY TO CLEAR CURB DRAINS. TUNNEL UNDER CURBS FOR INSTALLATION OF CONDUIT. DO NOT DAMAGE EXISTING CURBS TO REMAIN. INCLUDE COST OF THIS WORK IN THE VARIOUS UNIT BID PRICES AS NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

EXCAVATIONS ADJACENT TO OR NEAR TREES AND PLANTS SHALL BE PUSHED SO THAT THE ROOTS ARE PRESERVED AND LEFT UNCUT.

PROTECTION OF LIGHTING POLES, AND LUMINAIRES:

LIGHT POLES, LUMINAIRES AND OTHER PAINTED ACCESSORIES SHALL BE COMPLETELY WRAPPED AND HAVE ALL SURFACES PROTECTED FROM DAMAGE DURING SHIPMENT TO THE PROJECT SITE. LIGHT POLES SHALL BE SHIPPED ON RACKS WHICH MAINTAIN SEPARATION BETWEEN THE LIGHT POLE AND OTHER OBSTACLES WHICH MAY SCRATCH, MAR OR DAMAGE THE LIGHT POLES PAINTED SURFACES. LUMINAIRES SHALL BE SHIPPED IN PROTECTIVE CONTAINERS. LIGHT POLES AND LUMINAIRES INSTALLED WITH DAMAGED, MARRED OR SCRATCHED PAINTED SURFACES SHALL BE REMOVED AND SHIPPED BACK TO THE FACTORY FOR RESURFACING AND PAINTING. LIGHT POLES WITH VERY MINOR SCRATCHES MAY BE TOUCHED UP IN FIELD. THE PRIME COLOR OF PAINT SHALL BE OF A DIFFERENT COLOR SHAD THAN THE FINISH COAT.

PROTECTION OF LIGHTING POLES, AND LUMINAIRE:

COLOR FOR LIGHT POLES, LUMINAIRE AND ACCESSORIES SHALL BE "BLACK". CONTRACTOR SHALL SUBMIT PAINT COLOR CHIPS FOR APPROVAL PRIOR TO APPLYING ANY PAINT COATINGS. THE COLOR OF THE LUMINAIRE SHALL BE MATCHED TO THE COLOR OF THE LIGHT POLE AND THE LUMINAIRE MANUFACTURER SHALL COORDINATE COLOR WITH THE LIGHT POLE MANUFACTURER.

PAINTING WORK WILL BE DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF FOUR (4) DAYS IN ADVANCE TO PERFORMING ANY PAINTING WORK SO ENGINEER CAN SCHEDULE AND ARRANGE FOR INSPECTIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATION AND TIME OF THE WORK AND MAKE THE WORK AVAILABLE FOR INSPECTION.

STANDARD DRAWINGS:

ITEM EXTENSION	DESCRIPTION	REVISION DATE
MIS-1	STREET LIGHT LOCKOUT/TAGOUT (LOTO)	1/1/2018
MIS-2	GUIDELINES FOR INSPECTION & ACCEPTANCE OF STREET LIGHTING SYSTEMS	1/1/2018
MIS-3	GUIDELINES FOR STREET LIGHTING "MATERIALS FOR APPROVAL" SUBMITTAL PACKAGES	1/1/2018
MIS-4	INSPECTION CHECKLIST	1/1/2018
MIS-58	MINIMUM TREE CLEARANCE FOR DOWNTOWN, URBAN, AND RURAL AREAS.	1/1/2018
MIS-54	PULL BOX, MEDIUM DUTY 13"x24"	1/1/2018
MIS-55	GROUND ROD	1/1/2018
MIS-56	RISER, STREET LIGHT CIRCUIT	1/1/2018
MIS-404	UNDERGROUND CIRCUIT, 3 WIRE	1/1/2018
MIS-501	POLE TO BE WIRED, 3 WIRE	1/1/2018
MIS-603	CONTROLLER, 3 WIRE, 480V, PAD MOUNT	1/1/2018
MIS-700	2" CONDUIT, CONCRETE ENCASED	1/1/2018
SL-5	THOROUGHFARE STREET/OLD HILLIARD SERVICE ENCLOSURE	9/1/2015
SL-16	OLD HILLIARD STREET POLE BASE, POLE & LUMINAIRE	9/1/2015

M:\57001_005_CenterStParkingLot\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_LIGHTING.dwg ~Lighting Notes02.LAST EDITED BY:BSAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK.

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

LIGHTING NOTES

SCALE: NTS

SHEET NO. 16 OF 19

CONTRACTOR'S COORDINATION WITH POWER SUPPLYING AGENCY:

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL WORK WITH THE POWER UTILITY (AMERICAN ELECTRIC POWER) FOR REMOVAL/RELOCATION OF CIRCUITS, AERIAL AND UNDERGROUND CABLES, THE LOCATION OF THE CONTROL CENTERS, POWER FEEDS, RELOCATIONS OF POWER SERVICES TO BUILDINGS, STRUCTURES AND ELECTRICAL EQUIPMENT BEING INSTALL PER THIS PROJECT ALONG WITH MEETING THE REQUIREMENT OF NEC, LATEST EDITION. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH AEP'S STANDARDS AND REGULATIONS WHERE APPLICABLE, COST ASSOCIATED WITH MAKING THE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE POWER UTILITY FOR THIS PROJECT IS:

AMERICAN ELECTRIC POWER COMPANY
850 TECH CENTER DR., GAHANNA, OHIO 43230
(614) 883-7935
ATTENTION: JACOB WALDEN

CONCRETE PROTECTION:

CONTRACTOR IS RESPONSIBLE TO PROTECT ALL CONCRETE WORK AGAINST THE COLD WEATHER BY MEANS OF BLANKETS, STRAWS, ETC. NEW CONCRETE SURFACES SUBJECT TO PEDESTRIAN TRAFFIC WITHIN 24 HOURS SHALL BE PROTECTED BY PLYWOOD SHEETING AS DETERMINED BY THE CITY. THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS.

EXISTING UNDER DRAINS:

EXISTING UNDER DRAINS WHICH ARE TO REMAIN, WHEN ENCOUNTERED IN THE CONSTRUCTION WORK SHALL NOT BE DISTURBED. THE CONTRACTOR, AT HIS EXPENSE, WILL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF EXISTING UNDER DRAINS DAMAGE OR DISPLACEMENT DUE TO THE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ATTEMPT TO TUNNEL UNDER ALL CURBS AND ROOF DRAINS TO AVOID DAMAGE.

GROUNDING AND BONDING:

GROUNDING IS TO BE PROVIDED ON ALL METAL COMPONENTS, LIGHT POLES, METAL JUNCTION BOX COVERS, METAL CONDUITS, TRANSFORMER NEUTRAL AT SWITCHBOARD, TRANSFORMER ENCLOSURES, TERMINATORS, LIGHTING ARRESTERS, AND IN GROUND CABLES IN STRUCTURES. GROUND WIRE FOR WOOD POLES SHALL BE TIED TO EQUIPMENT RUNNING DOWN POLE AND CONNECTED TO GROUND ROD. GROUND WIRE CONNECTED TO ELECTRICAL LIGHT POLE, LUMINAIRES AND OTHER GROUND MOUNTED ELECTRICAL EQUIPMENT SHALL BE INSTALLED PER THE PROJECT PLANS. GROUND WIRE INSTALL ON WOODEN UTILITY POLES SHALL BE PROTECTED BY HALF-ROUND WOOD, PLASTIC, OR FIBER MOLDING FROM GROUND LINE TO A POINT A LEAST 8 FEET ABOVE THE GROUND WHERE ATTACHED TO A WOODEN POLE. ALL CONNECTIONS SHALL BE MADE WITH SOLDER-LESS CONNECTORS OR BY THE EXOTHERMIC WELDING PROCESS USING NO. 2 OR 4 AWG BARE COPPER WIRE AS INDICATED ON THE PLANS OR COMPRESSION CLAMP.

GROUND RODS SHALL BE 3/4" DIA. X 10'-0" LONG COPPER RODS. USE AS MANY AS REQUIRED SO AS NOT TO EXCEED A RESISTANCE OF 25 OHMS.

RESISTANCE MEASURING DEVICE FOR GROUND RODS SHALL BE A CERTIFIED 3-POINT FALL-OF-POTENTIAL METER. ONLY PERMITTABLE METER DEVICE. RESISTANCE TESTING SHALL BE MADE THROUGH AN ISOLATED GROUND WIRE CONNECTED TO ITS GROUND RODS.

ALL GROUNDING SHALL BE CONTINUOUS AND COMPLY WITH THE PRINCIPLES SET FORTH PER THE NATIONAL ELECTRIC CODE ARTICLE 250, LATEST EDITION.

ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

- a) PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
- b) WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT, THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
- c) METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL.
- d) THE CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
- e) THE CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
- f) BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
- g) METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

GROUNDING AND BONDING (CONT):

WIRE FOR GROUNDING AND BONDING.

- (a) USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR, BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS: THE INSULATION SHALL BE GREEN OR LARGER.
- (b) IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

THE COST FOR ANY GROUND ROD SHALL BE INCLUDED IN THE PRICE BID FOR THE SPLICE BOXES AND FOUNDATIONS INSTALLED AS NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

CONDUIT LOCATION AND DEPTH:

UNLESS OTHERWISE INDICATED ON PLANS OR DIRECTED BY ENGINEER, INSTALL ALL CONDUITS, DUCTS AND LIGHT POLE FOUNDATIONS AS SHOWN ON THE PROJECT PLANS.

CONDUIT CROSSING STREET INTERSECTIONS SHALL BE INSTALLED AT DEPTHS GREATER THAN CURB SECTION, 3 FEET MINIMUM. CONDUIT LOCATIONS SHALL NOT INTERFERE WITH EXISTING CURB DRAINS. LOWER THE INSTALLED CONDUIT BURIAL DEPTH WHERE NECESSARY TO CLEAR CURB DRAINS. TUNNEL UNDER CURBS FOR INSTALLATION OF CONDUIT. DO NOT DAMAGE EXISTING CURBS TO REMAIN. INCLUDE COST OF THIS WORK IN THE VARIOUS UNIT BID PRICES AS NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

EXCAVATIONS ADJACENT TO OR NEAR TREES AND PLANTS SHALL BE PUSHED SO THAT THE ROOTS ARE PRESERVED AND LEFT UNCUT.

PROTECTION OF LIGHTING POLES, AND LUMINAIRES:

LIGHT POLES, LUMINAIRES AND OTHER PAINTED ACCESSORIES SHALL BE COMPLETELY WRAPPED AND HAVE ALL SURFACES PROTECTED FROM DAMAGE DURING SHIPMENT TO THE PROJECT SITE. LIGHT POLES SHALL BE SHIPPED ON RACKS WHICH MAINTAIN SEPARATION BETWEEN THE LIGHT POLE AND OTHER OBSTACLES WHICH MAY SCRATCH, MAR OR DAMAGE THE LIGHT POLES PAINTED SURFACES. LUMINAIRES SHALL BE SHIPPED IN PROTECTIVE CONTAINERS. LIGHT POLES AND LUMINAIRES INSTALLED WITH DAMAGED, MARRED OR SCRATCHED PAINTED SURFACES SHALL BE REMOVED AND SHIPPED BACK TO THE FACTORY FOR RESURFACING AND PAINTING. LIGHT POLES WITH VERY MINOR SCRATCHES MAY BE TOUCHED UP IN FIELD. THE PRIME COAT OF PAINT SHALL BE OF A DIFFERENT COLOR SHADE THAN THE FINISH COAT.

COLOR FOR LIGHT POLES, LUMINAIRES AND ACCESSORIES SHALL BE "BLACK". CONTRACTOR SHALL SUBMIT PAINT COLOR CHIPS FOR APPROVAL PRIOR TO APPLYING ANY PAINT COATINGS. THE COLOR OF THE LUMINAIRE SHALL BE MATCHED TO THE COLOR OF THE LIGHT POLE AND THE LUMINAIRE MANUFACTURER SHALL COORDINATE COLOR WITH THE LIGHT POLE MANUFACTURER.

PAINTING WORK WILL BE INSPECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF FOUR (4) WORK DAYS IN ADVANCE TO PERFORMING ANY PAINTING WORK SO ENGINEER CAN SCHEDULE AND ARRANGE FOR INSPECTIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATION AND TIME OF THE WORK AND MAKE THE WORK AVAILABLE FOR INSPECTION.

CONNECTOR KITS:

CONNECTOR KITS SHALL BE HOMAC OR BUCHANAN MANUFACTURER OR APPROVED EQUAL.

ITEM 1001 HILLIARD SERVICE ENCLOSURE (SL-5):

THIS WORK SHALL INCLUDE A COMPLETE ELECTRICAL LIGHTING SYSTEM POWER SERVICE AND CONTROL TO INCLUDE ALL WIRING, CONDUITS, LIGHTING CONTROLLERS, TRANSFORMERS, CONDUIT AND SPLICE BOXES TO PROVIDE COMPLETE AND OPERABLE CONTROLLED ELECTRIC POWER SERVICE TO THE LIGHTING AND RECEPTACLE SYSTEMS. ALL WORK SHALL BE IN COMPLIANCE WITH 625.16, 725.19. AND THE PLAN DETAILS AND SPECIFICATIONS.

FURNISH AND INSTALL ALL EQUIPMENT NECESSARY TO PROVIDE COMPLETE ELECTRICAL SERVICE AND LIGHTING CONTROLLER. MAKE ALL NECESSARY ARRANGEMENT WITH THE LOCAL ELECTRICAL POWER COMPANY (AEP) FOR CONNECTIONS TO ESTABLISH ELECTRICAL SERVICE.

CONTROLLER SHALL ALSO INCLUDE AN OVERRIDE SWITCH TO POWER THE GFCI OUTLETS ON THE POLES SEPARATE FROM THE LUMINAIRE.

3" CONDUIT, CONCRETE ENCASED, AS PER PLAN:

THE NON-METALLIC CONDUIT SHALL BE SCHEDULE 40 POLYVINYL CHLORIDE. IT SHALL BE DESIGNED TO FORM A SOUND, STRONG DUCT, FREE FROM DEFECTS. IT SHALL BE NON-MAGNETIC, RESISTANT TO CORROSIVE ACTION, UNAFFECTED BY ELECTROLYSIS AND SHALL NOT SOFTEN, DEFORM OR DETERIORATE WHEN EXPOSED TO THE MAXIMUM SAFE OPERATING TEMPERATURE OF CABLES. THE INSIDE SURFACE OF THE CONDUIT SHALL BE SMOOTH, AND ROUND AND SHALL HAVE A 3" NOMINAL INSIDE DIAMETER. THE CONDUIT SHALL BE CARLON, HERITAGE, CANTEX HEAVY WALL PV-DUIT PLUS CONDUIT OR APPROVED EQUAL.

THE COUPLINGS SHALL BE OF THE SAME MATERIAL AS THE CONDUIT, AND SHALL BE SUFFICIENTLY TIGHT TO PREVENT SILT OR CONCRETE FROM ENTERING THE CONDUIT.

SPACERS SHALL BE PLASTIC BASE TYPE FOR 3" CONDUIT.

UNDERGROUND CIRCUIT, #2 AWG, 3-WIRE, AS PER PLAN:

THE CABLE FOR PHASE CONDUCTORS SHALL BE AS FOLLOWS:

- A. THE CABLE SHALL BE #2 AWG, 3 WIRE INSTALLATION
- B. THE CABLE SHALL BE SPECIFICATION FAA-L-824 TYPE C, SINGLE CONDUCTOR AND SUITABLE FOR OVERHEAD OR DIRECT BURIAL INSTALLATION.
- C. THE INSULATION SHALL BE RATED AT 90 DEGREES CELSIUS CONTINUOUS OPERATION, 130 DEGREES CELSIUS EMERGENCY AND 250 DEGREES CELSIUS SHORT CIRCUIT.
- D. THE CABLE SHALL CONSIST OF NO. 2 AWG SOFT ANNEALED 7 STRAND BARE COPPER CONDUCTOR.

STANDARD DRAWINGS:

ITEM EXTENSION	DESCRIPTION	REVISION DATE
MIS-1	STREET LIGHT LOCKOUT/TAGOUT (LOTO)	1/1/2018
MIS-2	GUIDELINES FOR INSPECTION & ACCEPTANCE OF STREET LIGHTING SYSTEMS	1/1/2018
MIS-3	GUIDELINES FOR STREET LIGHTING "MATERIALS FOR APPROVAL" SUBMITTAL PACKAGES	1/1/2018
MIS-4	INSPECTION CHECKLIST	1/1/2018
MIS-58	MINIMUM TREE CLEARANCE FOR DOWNTOWN, URBAN, AND RURAL AREAS.	1/1/2018
MIS-54	PULL BOX, MEDIUM DUTY 13"x24"	1/1/2018
MIS-55	GROUND ROD	1/1/2018
MIS-56	RISER, STREET LIGHT CIRCUIT	1/1/2018
MIS-403	UNDERGROUND CIRCUIT, 2 WIRE	1/1/2018
MIS-501	POLE TO BE WIRED, 3 WIRE	1/1/2018
SL-5	THOROUGHFARE STREET/OLD HILLIARD SERVICE ENCLOSURE	9/1/2015

M:\570019_005_CenterStPorkingLot\DWG\Production Drawings\Public Improvement Plan\570019_005_PIP_LIGHTING.dwg ~Lighting Notes02.LAST EDITED BYRBRURGHY ON 3/9/20

REVISIONS	DATE	BY	CHK.



E. P. FERRIS
AND
ASSOCIATES
INC

Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

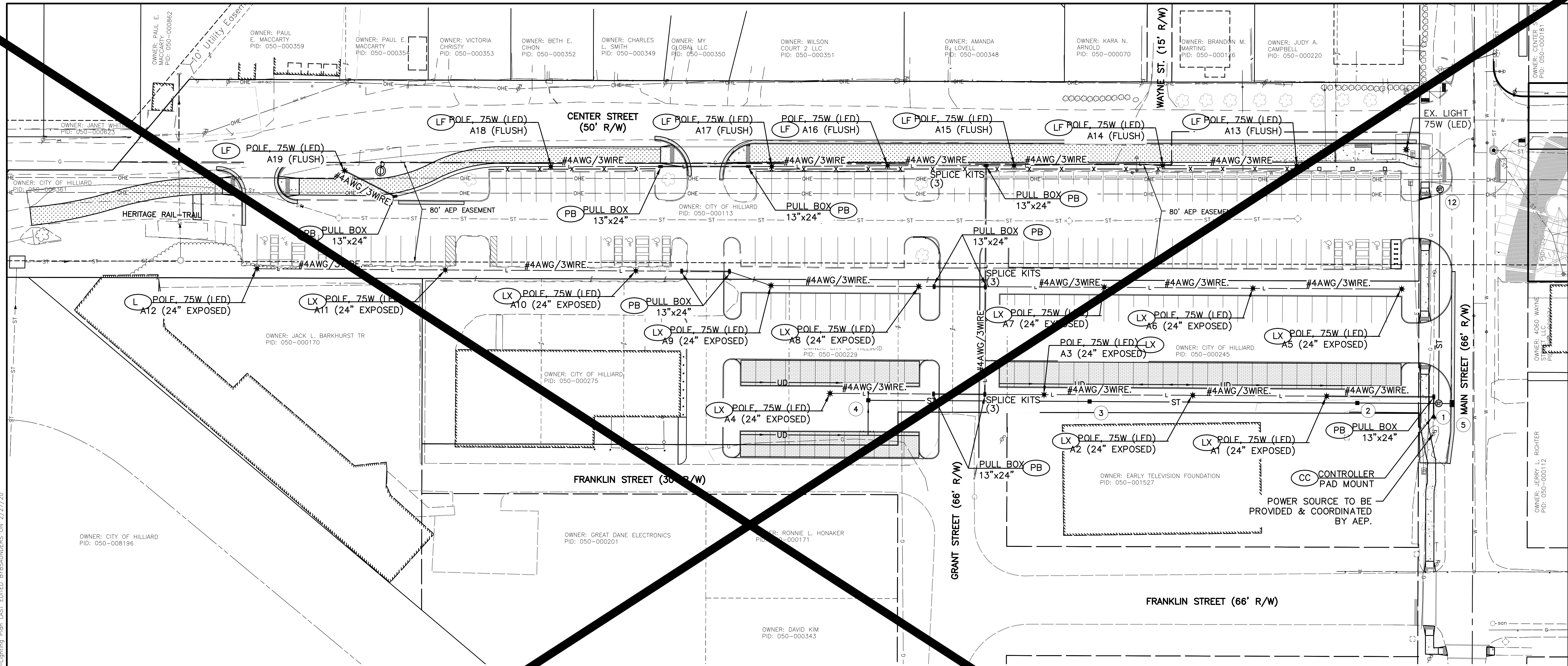
CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	3/9/2020

LIGHTING NOTES

SHEET NO. 16A		OF 19	
----------------------	--	--------------	--

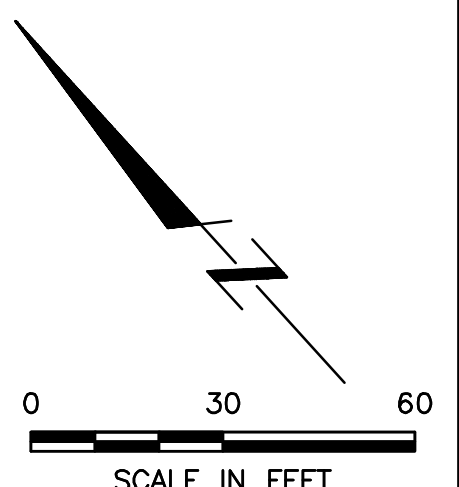
M:\570019_005_CenterStParkingLot\DWG\Production\Plan\570019_005_PIP_LIGHTING.dwg ~Lighting Plan LAST EDITED BY:SAUNDERS ON: 2/27/20



EXPOSE AND LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATING ADJACENT TO THEM FOR ALL NEW EQUIPMENT TO BE INSTALLED.

- NOTES:**
- LUMINAIRE SHALL BE LED MODEL # PROV T2-32LED 4K 75W BLK HSS (75W LED)
 - POLE SHALL BE POST TOP, 14', FIBERGLASS, PAINTED BLACK
 - POLE A1-A12 TO HAVE 8' FOUNDATION (24" EXPOSED, FINISHED ROUND)
 - POLE A13-A19 TO HAVE 6' FOUNDATION (FLUSH W/ PROPOSED GRADE)

- LEGEND**
- (LF) - POLE, OLD HILLIARD STREET POLE BASE, POLE & LUMINAIRE, 75W LED (FLUSH)
 - (LX) - POLE, OLD HILLIARD STREET POLE BASE, POLE & LUMINAIRE, 75W LED (24" EXPOSED)
 - (PB) - PULL BOX, 13"x24"
 - (CC) - THOROUGHFARE STREET/OLD HILLIARD SERVICE ENCLOSURE
 - L- - 3-WIRE UNDERGROUND CIRCUIT
 - ||- - 2-INCH CONDUIT, CONCRETE ENCASED



REVISIONS	DATE	BY	CHK

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

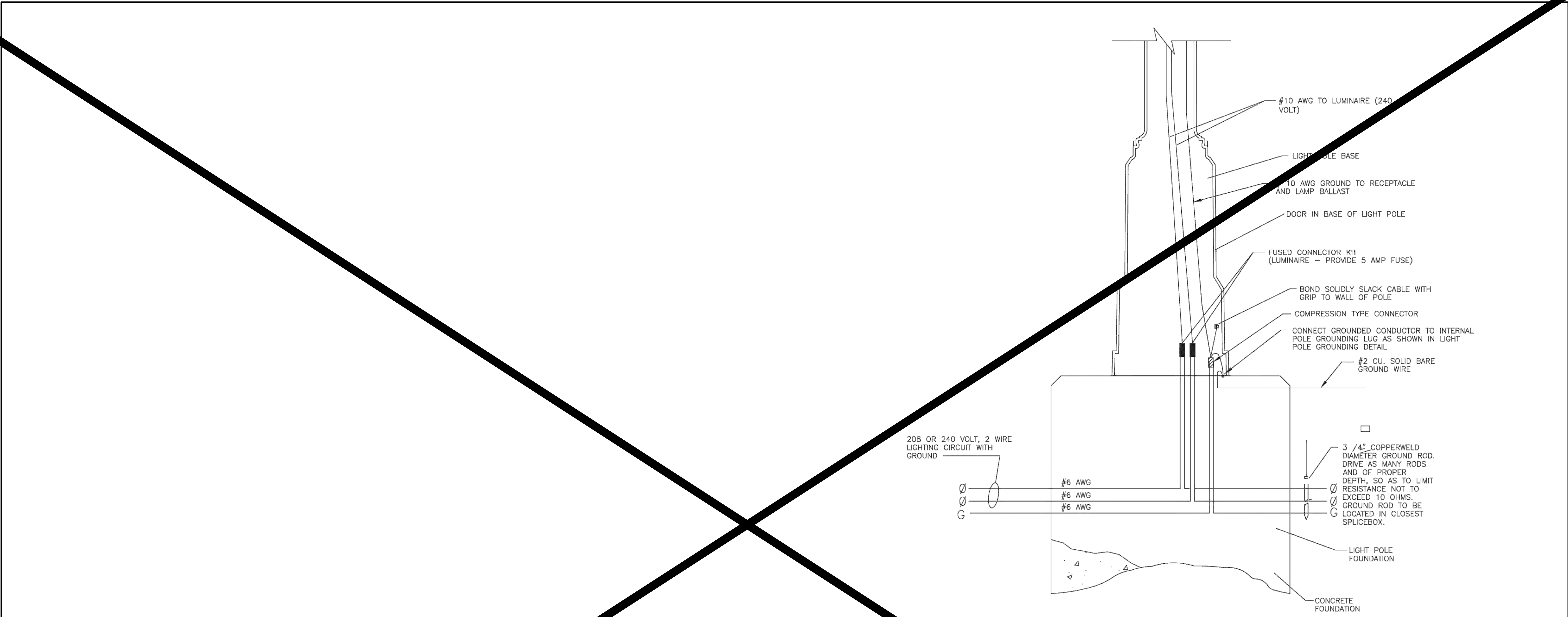
JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

LIGHTING PLAN

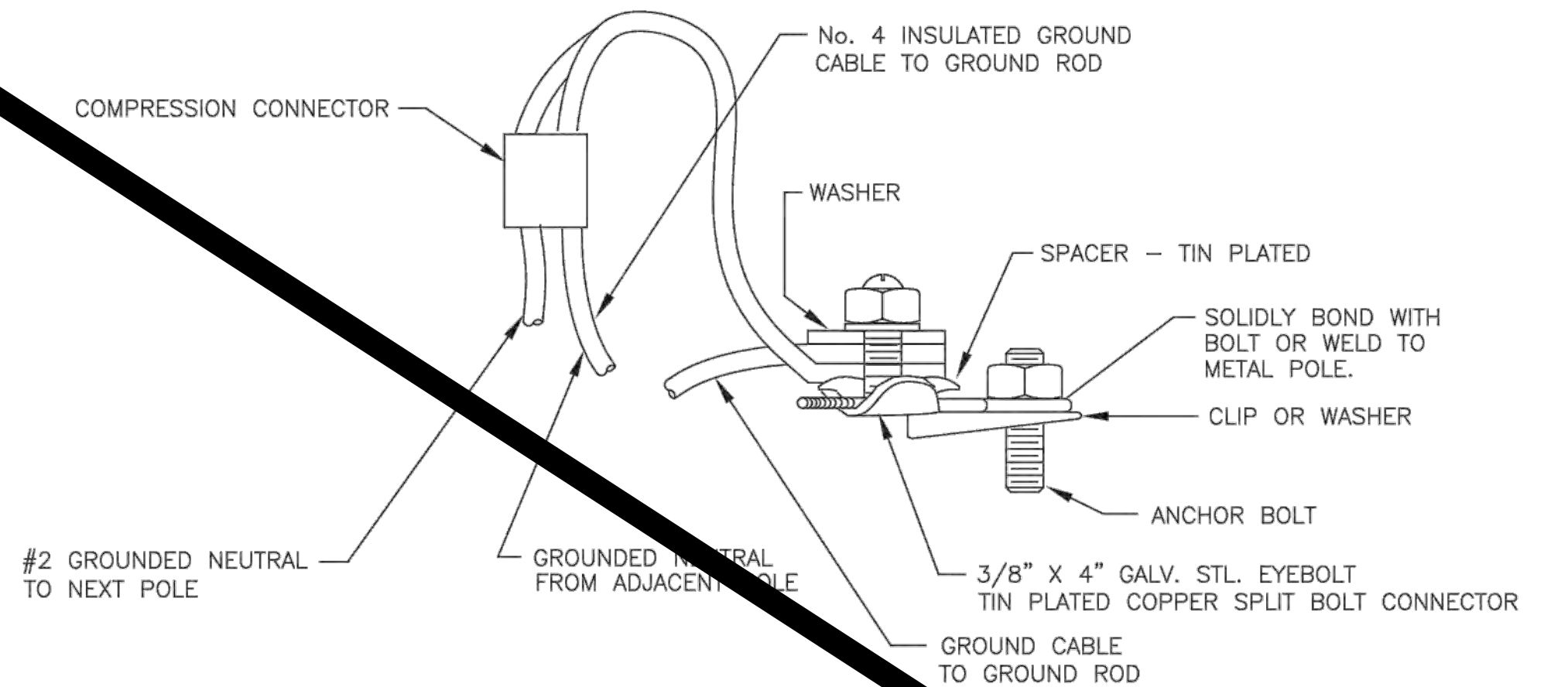
SCALE:
1" = 30'

SHEET 17 OF 19

M:\570019_005_CenterStParkingLot\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_LIGHTING.dwg ~Lighting Notes03 LAST EDITED BY SAUNDERS ON 2/27/20



TYPICAL POLE WIRING SCHEMATIC FOR NEW LIGHT STANDARDS



LIGHT POLE GROUNDING DETAIL

3 WIRE, GROUNDED NEUTRAL POLE GROUNDING DETAIL

REVISIONS	DATE	BY	CHK.

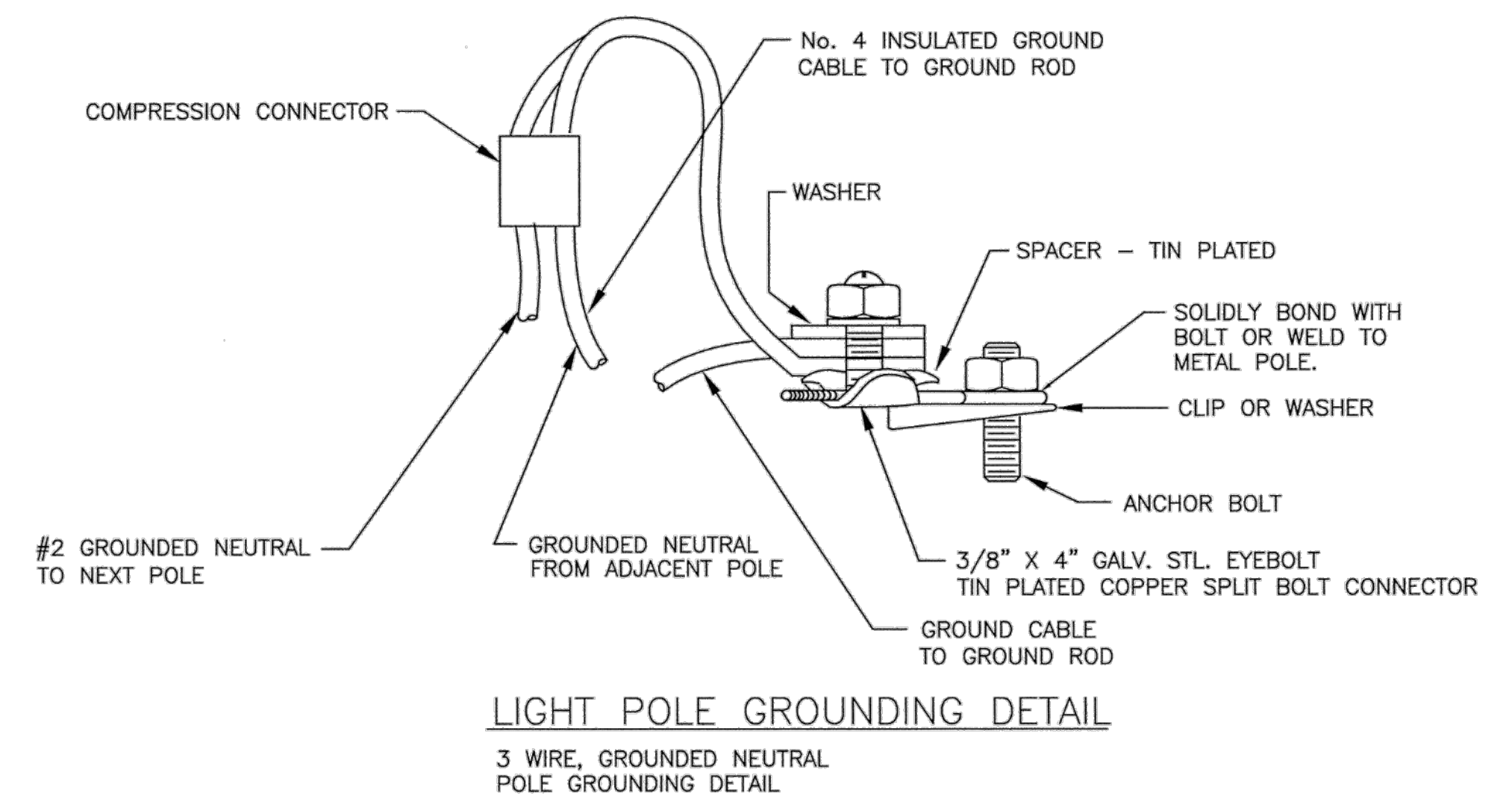
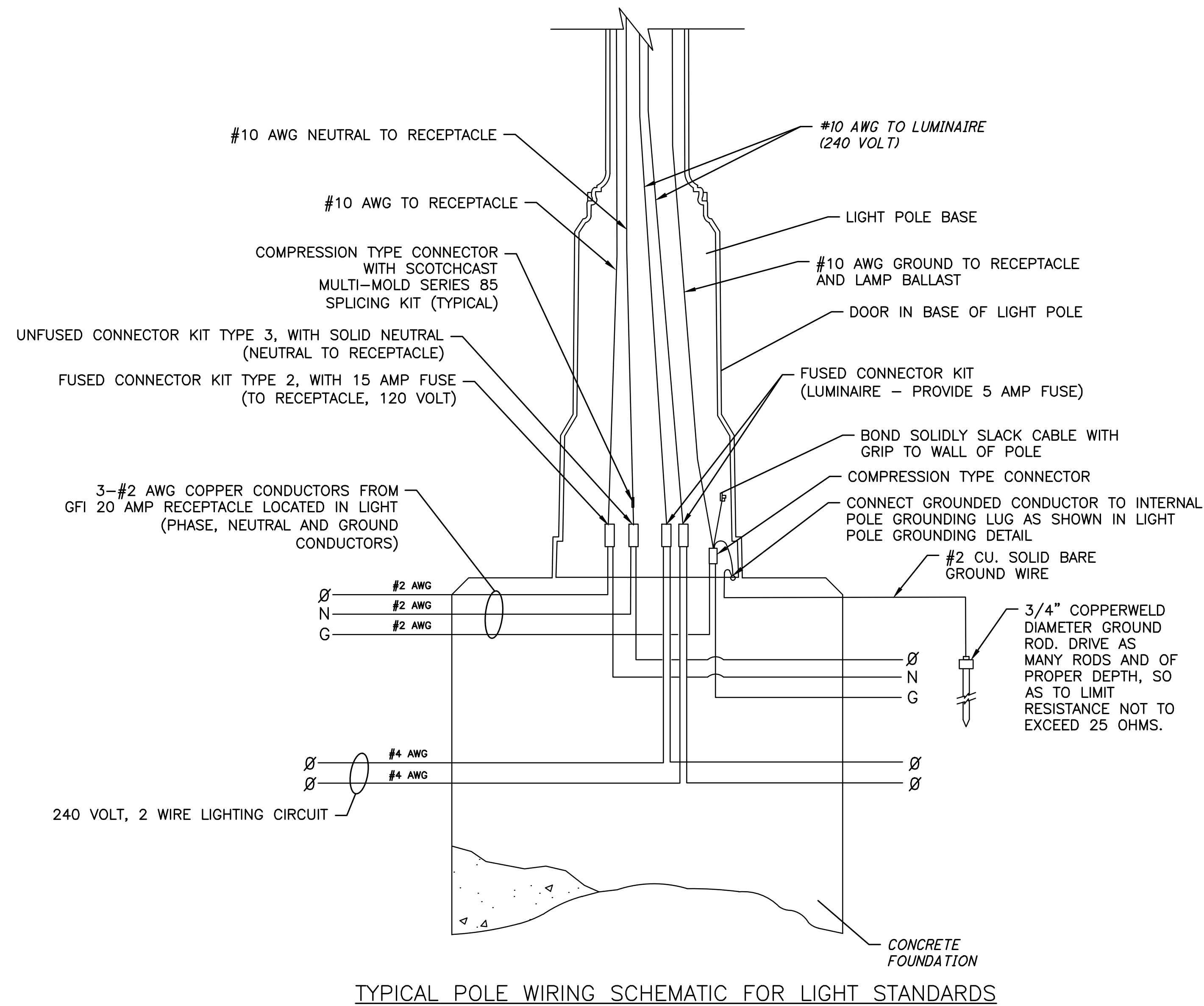
E. P. FERRIS
 AND ASSOCIATES
 INC.
 Consulting Civil Engineers and Surveyors
 880 KING AVENUE
 COLUMBUS, OHIO 43212
 (614) 299-2999
 (614) 299-2992 (Fax)
 www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
 AND TRAILHEAD IMPROVEMENTS**
 CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

SCALE:		NTS
SHEET NO.	OF	
18	19	

M:\570019_005_CenterStParkingLot\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_LIGHTING.dwg ~ Lighting Notes03.LAST EDITED BY RBUROGHY ON 3/9/20



TYPICAL POLE WIRING SCHEMATIC FOR LIGHT STANDARDS

LIGHT POLE GROUNDING DETAIL
3 WIRE, GROUNDED NEUTRAL
POLE GROUNDING DETAIL

REVISIONS	DATE	BY	CHK.

E. P. FERRIS
 AND ASSOCIATES
 INC.
 Consulting Civil Engineers and Surveyors

880 KING AVENUE
 COLUMBUS, OHIO 43212
 (614) 299-2999
 (614) 299-2992 (Fax)
 www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
 AND TRAILHEAD IMPROVEMENTS**
 CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	3/9/2020

LIGHTING DETAILS
 SCALE: NTS
 SHEET NO. 18A OF 19

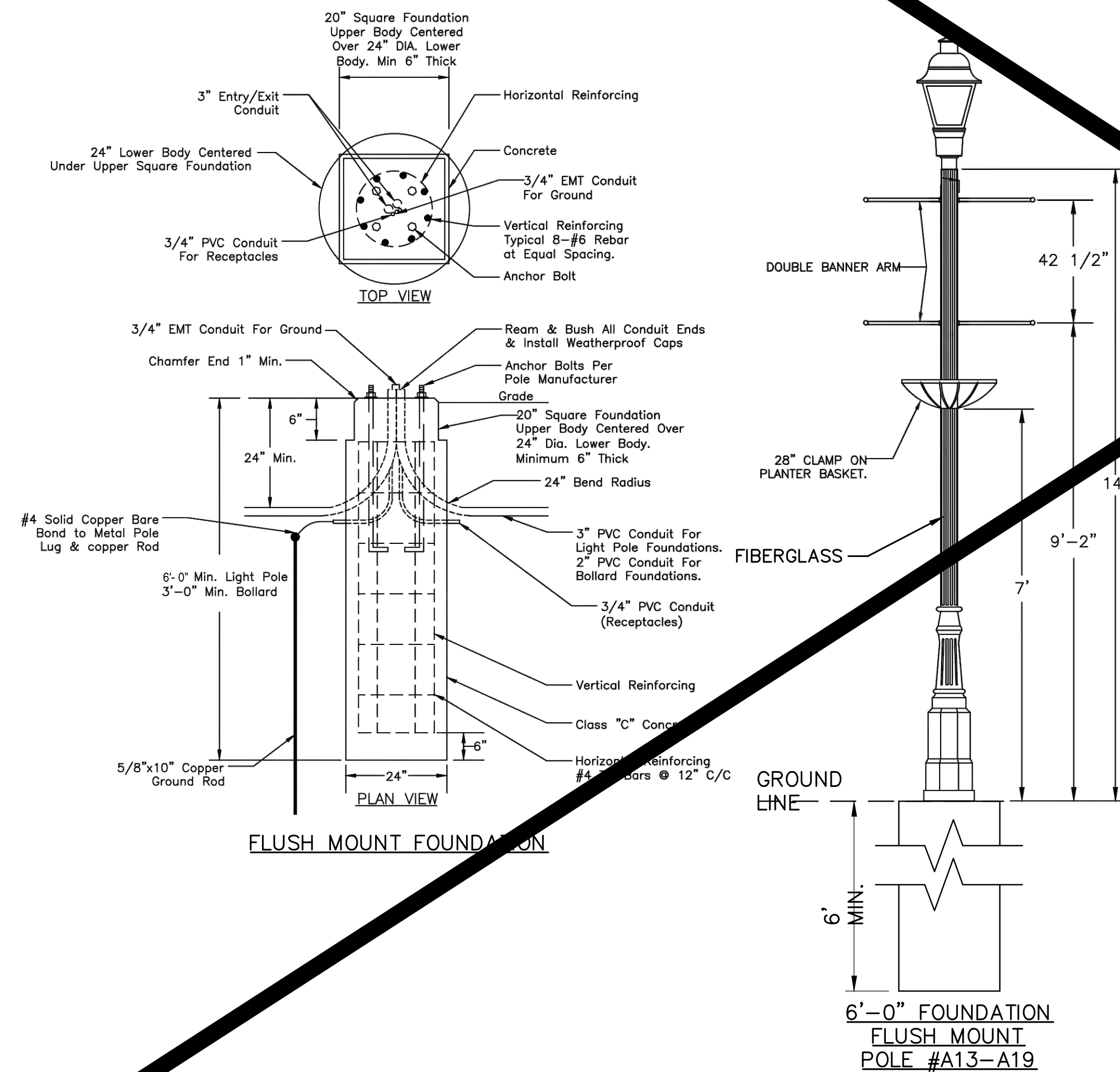
LIGHT POLE AND LUMINAIRE:

1. THE CONTRACTOR WILL FURNISH, ASSEMBLE AND INSTALL THE LIGHT POLES, LUMINAIRES AND MISC. EQUIPMENT. THE CONTRACTOR SHALL ALSO INSTALL ALL LIGHT POLE ACCESSORIES FURNISHED WITH THE LIGHT POLE SHOWN ON THE PLAN DETAILS.
2. ENTIRE LIGHT POLE DESIGN SHALL BE BASED ON 90 MPH WIND FACTOR, WITH WIND GUST FACTOR 1.3.
3. PROVIDE GROUNDING SCREW INSIDE DECORATIVE BASE, EASILY ACCESSIBLE FOR CONDUCTOR AND GROUNDING CABLE.
4. ALL EXPOSED FASTENERS SHALL BE PAINTED BLACK TO MATCH POLE. PROVIDE APPROVED SURFACE PREPARATION TO ALL HARDWARE PRIOR TO APPLICATION OF ALL PAINT COATINGS.
5. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE LIGHT POLE AND LUMINAIRE FOR ENGINEERS REVIEW PRIOR TO ORDERING ANY EQUIPMENT, DRAWINGS SHALL SHOW IN DETAIL ALL EQUIPMENT PROVIDED, COMPLETELY DIMENSIONED AND LIST ALL PART NUMBERS.
6. SUBMIT COMPLETE PHOTOMETRIC DATA FOR LUMINAIRES PROPOSED, TESTING SHALL BE CERTIFIED BY APPROVED TESTING LABORATORY, INCLUDE ISO CANDLE CURVES FROM PHOTOMETRIC TEST, UTILIZATION CURVES, ISOLUX LINES, HORIZONTAL AND FOOT CANDLES FROM A SINGLE UNIT. SUBMIT A DISK TO INCLUDE PHOTOMETRIC DATA FILES FORMATTED.
7. LUMINAIRE SHALL BE LED MODEL #PROV 32LED 4K 700 BLK HSS, OR APPROVED INTERCHANGEABLE EQUAL. (SL-16)

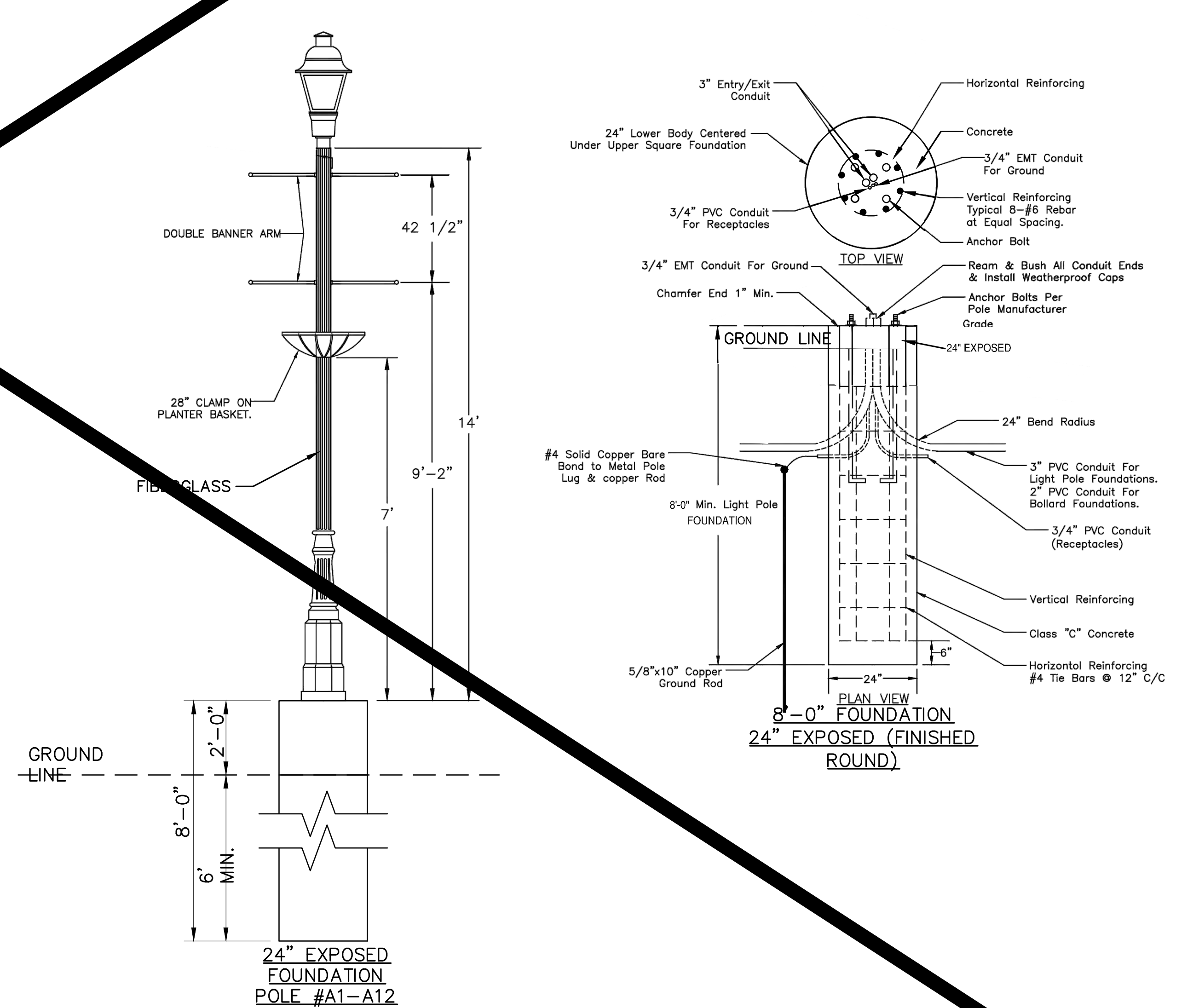
LIGHT POLE NOTES:

1. LIGHT POLE SHALL BE CONSTRUCTED OF PULLTRUDED FIBERGLASS WITH METAL REINFORCEMENT.
2. BOLT CIRCLE TO BE PROVIDED BY POLE MANUFACTURER AND INSTALLED PER THEIR TEMPLATE.
3. POLE TO BE COLOR BLACK AS NOTED.
4. LIGHT POLE TO BE STERNBERG LIGHTING, VIRGINIA SERIES, CATALOG NUMBER 3714FPS/GFCI DBA/BK, OR APPROVED INTERCHANGEABLE EQUAL.
5. SUBMIT SHOP DRAWING FOR APPROVAL PRIOR TO MANUFACTURE.

**OLD HILLIARD STREET POLE BASE
FLUSH MOUNT**



**OLD HILLIARD STREET POLE BASE
24" EXPOSED**



M:\570019_005_CenterSParkingLot\DWG\Production Drawings\Public Improvement_Plan\570019_005_PIP_LIGHTING.dwg ~Lighting Detail_LAST_EDITED BY:BSAUNDERS ON 2/27/20

REVISIONS	DATE	BY	CHK.

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	2/27/2020

LIGHTING DETAILS

SCALE:	NTS
SHEET NO.	OF
19	19

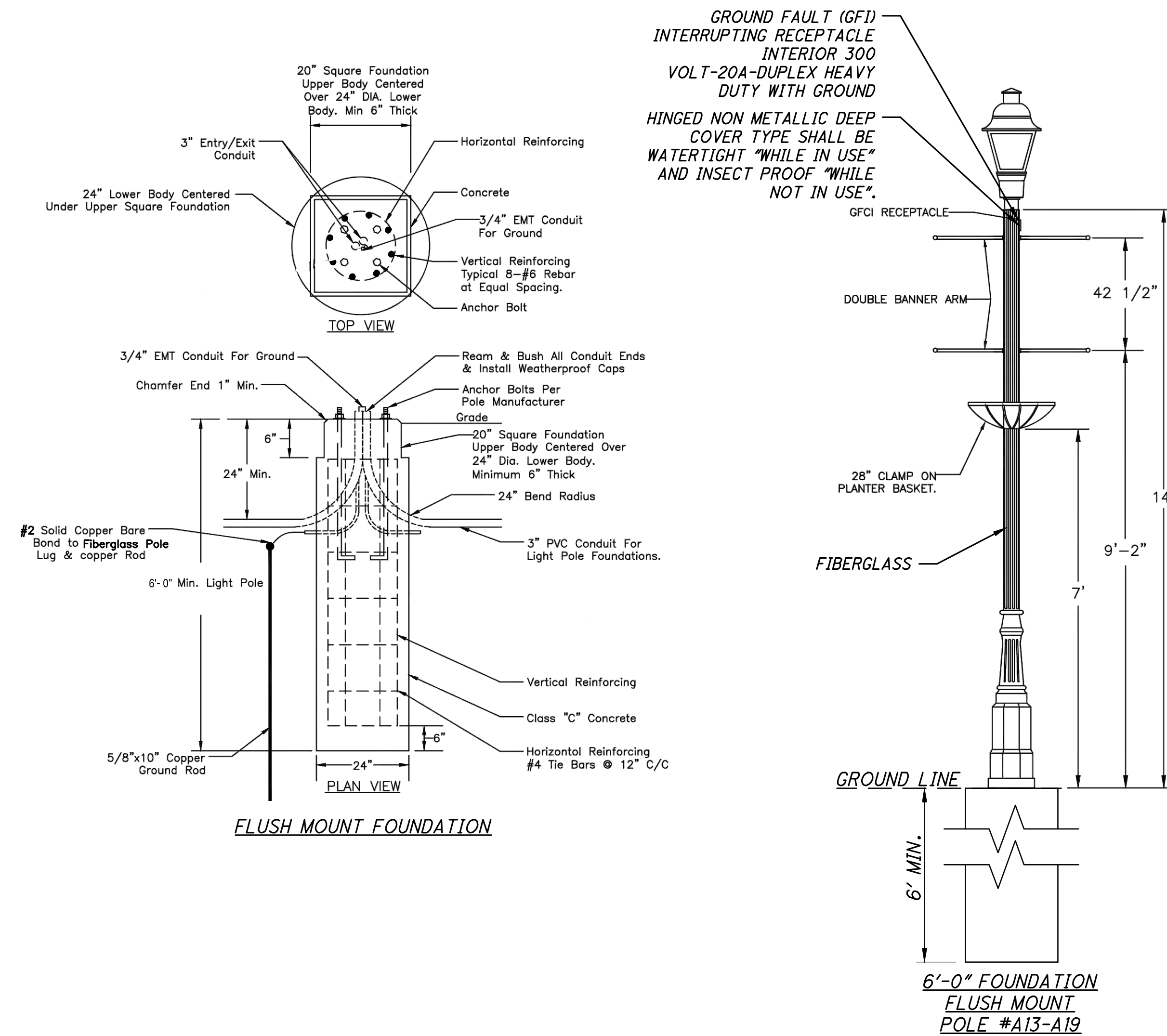
LIGHT POLE AND LUMINAIRE:

1. THE CONTRACTOR WILL FURNISH, ASSEMBLE AND INSTALL THE LIGHT POLES, LUMINAIRES AND MISC. EQUIPMENT. THE CONTRACTOR SHALL ALSO INSTALL ALL LIGHT POLE ACCESSORIES FURNISHED WITH THE LIGHT POLE SHOWN ON THE PLAN DETAILS.
2. ENTIRE LIGHT POLE DESIGN SHALL BE BASED ON 90 MPH WIND FACTOR, WITH WIND GUST FACTOR 1.3.
3. PROVIDE GROUNDING SCREW INSIDE DECORATIVE BASE, EASILY ACCESSIBLE FOR CONDUCTOR AND GROUNDING CABLE.
4. ALL EXPOSED FASTENERS SHALL BE PAINTED BLACK TO MATCH POLE. PROVIDE APPROVED SURFACE PREPARATION TO ALL HARDWARE PRIOR TO APPLICATION OF ALL PAINT COATINGS.
5. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE LIGHT POLE AND LUMINAIRE FOR ENGINEERS REVIEW PRIOR TO ORDERING ANY EQUIPMENT, DRAWINGS SHALL SHOW IN DETAIL ALL EQUIPMENT PROVIDED, COMPLETELY DIMENSIONED AND LIST ALL PART NUMBERS.
6. SUBMIT COMPLETE PHOTOMETRIC DATA FOR LUMINAIRES PROPOSED, TESTING SHALL BE CERTIFIED BY APPROVED TESTING LABORATORY, INCLUDE ISO CANDLE CURVES FROM PHOTOMETRIC TEST, UTILIZATION CURVES, ISOLUX LINES OF HORIZONTAL AND FOOT CANDLES FROM A SINGLE UNIT. SUBMIT A DISK TO INCLUDE PHOTOMETRY DATA IES FORMATTED.
7. LUMINAIRE SHALL BE LED MODEL #PROV T2-32LED 4K 700 BLK HSS, OR APPROVED INTERCHANGEABLE EQUAL. (SL-16)
8. 1-3" CONDUIT FOR 240V LIGHTING CIRCUIT, AND 120V RECEPTACLE.

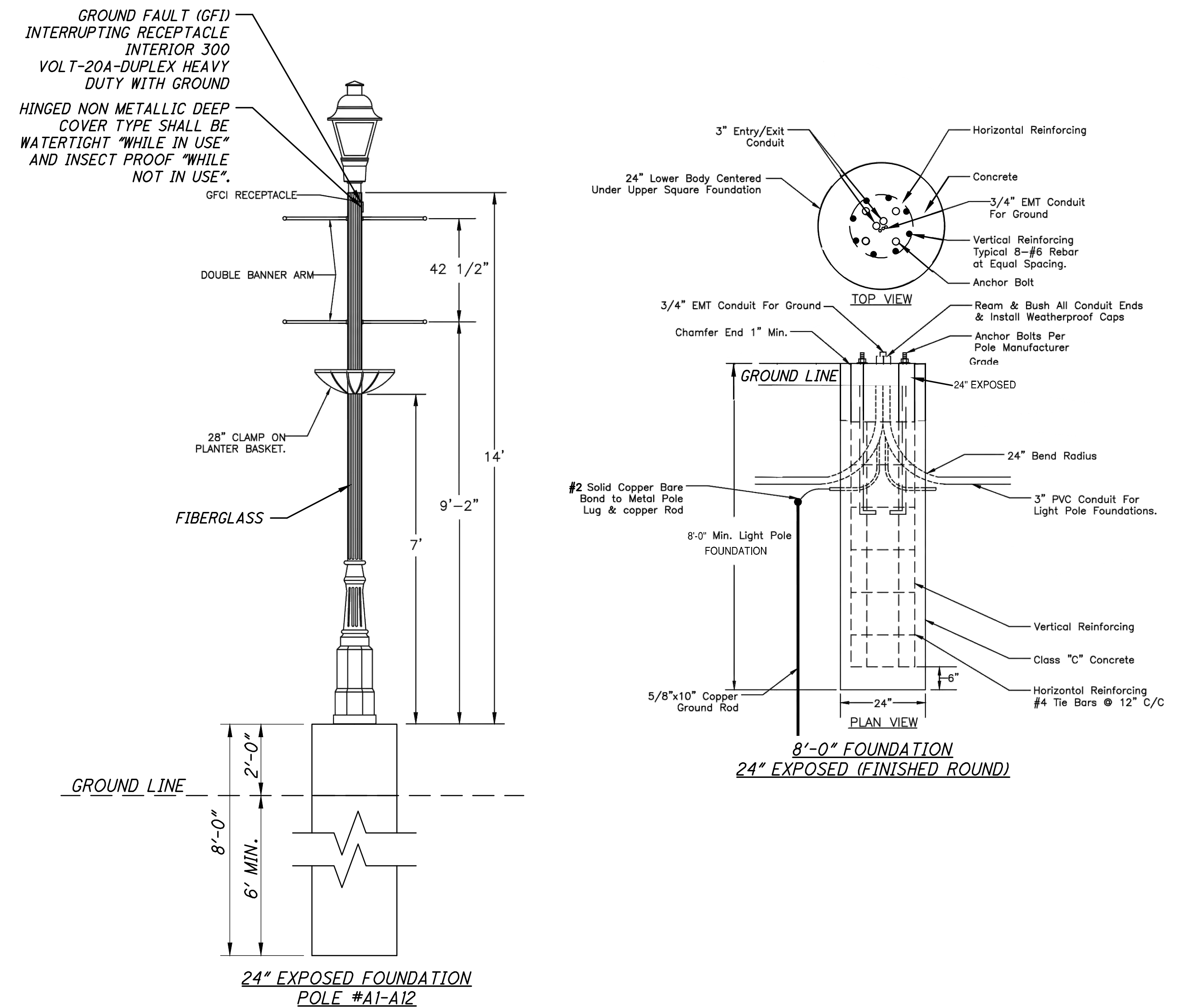
LIGHT POLE NOTES:

1. LIGHT POLE SHALL BE CONSTRUCTED OF PULLTRUDED FIBERGLASS WITH METAL REINFORCEMENT.
2. BOLT CIRCLE TO BE PROVIDED BY POLE MANUFACTURER AND INSTALLED PER THEIR TEMPLATE.
3. POLE TO BE COLOR BLACK AS NOTED.
4. LIGHT POLE TO BE STERNBERG LIGHTING, VIRGINIA SERIES, CATALOG NUMBER 3714FPS/GFCI DBA/BK, OR APPROVED INTERCHANGEABLE EQUAL.
5. SUBMIT SHOP DRAWING FOR APPROVAL PRIOR TO MANUFACTURE.

**OLD HILLIARD STREET POLE BASE
FLUSH MOUNT**



**OLD HILLIARD STREET POLE BASE
24" EXPOSED**



M:\570019_005_CenterStParkingLot\DWG\Production Drawings\Public Improvement\Plan\570019_005_PIP_LIGHTING.dwg ~Lighting Detail: LAST EDITED BY:REBURGHY ON: 3/9/20

REVISIONS	DATE	BY	CHK

E. P. FERRIS
AND ASSOCIATES
INC
Consulting Civil Engineers and Surveyors

880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999
(614) 299-2992 (Fax)
www.EPFERRIS.com

CITY OF HILLIARD, FRANKLIN COUNTY, OHIO
**CENTER STREET PUBLIC SPACE, PARKING LOT,
AND TRAILHEAD IMPROVEMENTS**
CITY OF HILLIARD

JOB NO.	570.019_005
DESIGNED BY:	RJB
DRAWN BY:	RJB
CHECKED BY:	BDS
APPROVED BY:	BDS
DATE:	3/9/2020

LIGHTING DETAILS

SCALE: NTS	
SHEET NO. 19A	OF 19