**OWNER** 

**CITY OF GAHANNA** 200 S HAMILTON RD GAHANNA, OH 43230

**ENGINEER/SURVEYOR** 

WORTHINGTON, OHIO 43085 PHONE: (614) 540-6633 CONTACT: BRIAN BURKHART, PE EMAIL: BBURKHART@CECINC.COM

FED ONE DUBLIN, LLC

EMAIL: SHANES@FEDONEDUBLIN.COM

STD DWG 2010

STD DWG 2190

STD DWG 2300

STD DWG 2319

TYPE C

STD DWG 4021

STD DWG 9190

**DESCRIPTION** 

8400 INDUSTRIAL PARKWAY PLAIN CITY, OHIO 43064

PHONE: (614) 570-6823 CONTACT: SARA HANES

**GAHANNA** 

OF THESE PLANS.

**DEVELOPER** 

250 OLD WILSON BRIDGE ROAD, SUITE 250

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.** 

STANDARD CONSTRUCTION DRAWINGS

**CITY OF COLUMBUS** 

AA-S102

AA-S125A

AA-S149

AA-S151

THE STANDARD CONSTRUCTION DRAWINGS LISTED ABOVE SHALL BE CONSIDERED A PART

**VARIANCE TABLE** 

L-6409A

L-6309A/B

L-6310

L-6311

L-6312

L-7001

**APPROVAL DATE** 

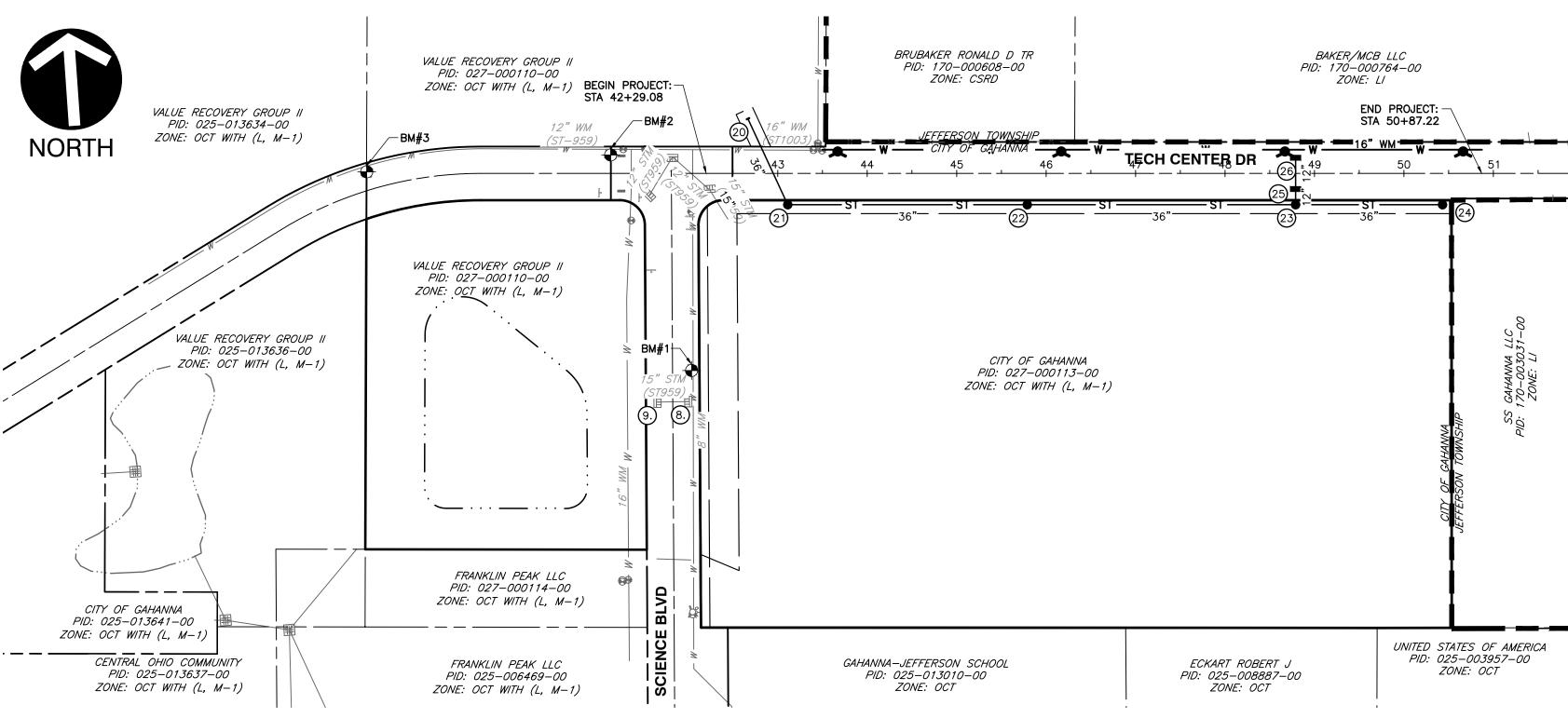
**DESIGN DESIGNATION** 

5760 CURRENT ADT (2022) 6960 DESIGN YEAR ADT (2042) 30 MPH DESIGN SPEED 25 MPH LEGAL SPEED CLASSIFICATION MAJOR COLLECTOR

# PUBLIC ROADWAY IMPROVEMENT PLAN

## TECH CENTER DRIVE EXTENSION

# CITY OF GAHANNA, COUNTY OF FRANKLIN, STATE OF OHIO 2022



## **CITY OF GAHANNA APPROVAL**

CITY OF GAHANNA SIGNATURES ON THIS PLAN SIGNIFIES ONLY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED IMPROVEMENT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE

WATER RESOURCES ENGINEER

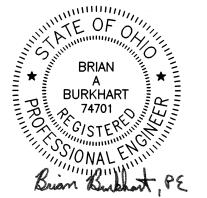
DIRECTOR OF PUBLIC SERVICE & ENGINEERING

CITY ENGINEER

FINANCE DIRECTOR

THIS IS TO CERTIFY THAT GOOD ENGINEERING PRACTICES HAVE BEEN UTILIZED IN THE DESIGN OF THIS PROJECT AND THAT ALL OF THE MINIMUM STANDARDS

HAVE BEEN MET, INCLUDING THOSE STANDARDS GREATER THAN MINIMUM WHERE, IN MY OPINION, THEY ARE NEEDED TO PROTECT THE SAFETY OF THE PUBLIC. ANY VARIANCES TO THE ABOVE STANDARDS ARE CONSISTENT WITH SOUND ENGINEERING PRACTICES AND ARE NOT DETRIMENTAL TO THE PUBLIC SAFETY AND CONVENIENCE. THESE VARIANCES HAVE BEEN LISTED HEREIN AND HAVE BEEN APPROVED BY THE CITY ENGINEER.



REGISTERED PROFESSIONAL ENGINEER

6/29/2022

1 OF 14

#### BENCHMARKS: •

THE NORTHING AND EASTING SHOWN ARE APPROXIMATE AND ONLY INTENDED TO PROVIDE RECOVERY OF THE BENCHMARK. THESE COORDINATES ARE NOT INTENDED TO BE USED FOR THE HORIZONTAL CONTROL OF THE PROJECT. THE HORIZONTAL CONTROL FOR THE PROJECT SHALL BE CONTROLLED BY THE MONUMENTS FOUND OR SET BY A PROFESSIONAL SURVEYOR.

#### SOURCE BENCHMARK:

TOP OF A 5/8" SOLID REBAR THIRTY INCHES IN LENGTH WITH A RED PLASTIC CAP BEARING THE INITIALS "CEC INC TRAVERSE", CEC POINT #1. THE ELEVATION WAS DETERMINED USING STATIC GPS OBSERVATIONS PERFORMED ON JULY 19 OF THE YEAR 2021 AS BASED ON A NGS OPUS-S SOLUTION USING O.D.O.T. CORS NETWORK, OHIO SOUTH ZONE NAD 83 (2011 ADJUSTMENT), NAVD 88 (GEOID 18) DATUM.

> EASTING: 1872539 ELEVATION: 907.59

ODOT

#### **BENCHMARK 1**

CHISELED "X" ON THE ARROW BOLT OF THE FIRST HYDRANT SOUTH OF THE INTERSECTION OF SCIENCE BOULEVARD AND TECH CENTER DRIVE BEING LOCATED ON THE EAST SIDE OF SCIENCE BOULEVARD.

ELEVATION: 907.88

#### **BENCHMARK 2:**

CHISELED "X" ON THE ARROW BOLT OF THE FIRST HYDRANT WEST OF THE INTERSECTION OF SCIENCE BOULEVARD AND TECH CENTER DRIVE BEING LOCATED ON THE NORTH SIDE OF TECH CENTER DRIVE.

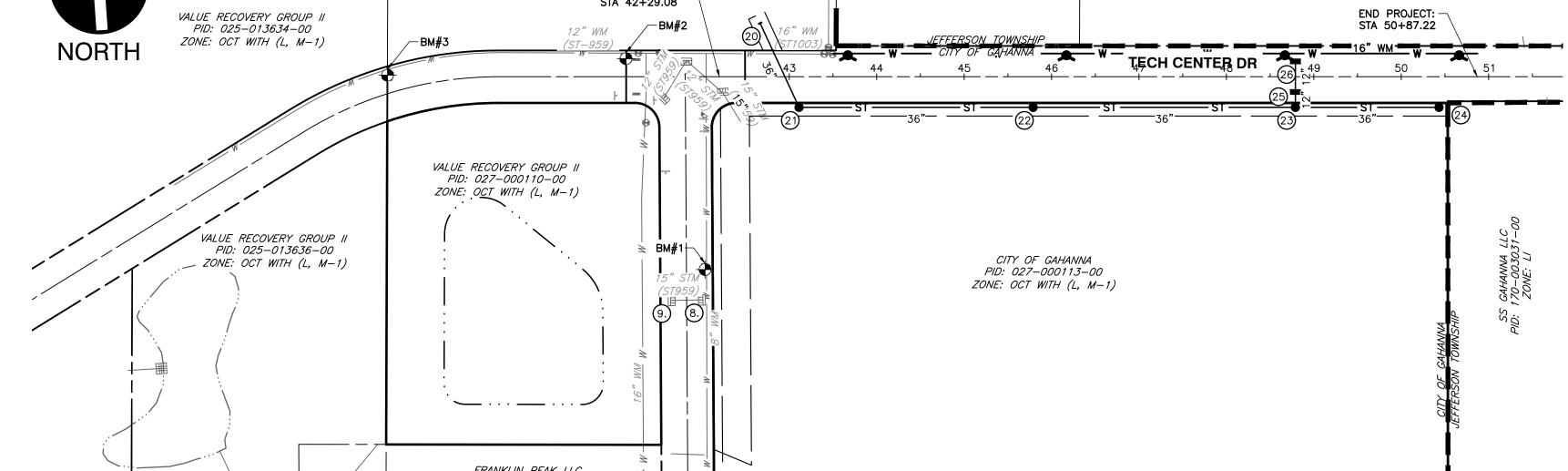
ELEVATION: 907.18

CHISELED "X" ON THE FLANGE BOLT OF THE SECOND HYDRANT WEST OF THE INTERSECTION OF SCIENCE BOULEVARD AND TECH CENTER DRIVE BEING LOCATED ON THE NORTH SIDE OF TECH CENTER DRIVE.

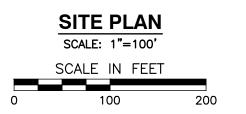
ELEVATION: 907.80

### **REFERENCES**

- EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION IS PER SURVEY PERFORMED BY CIVIL & ENVIRONMENTAL CONSULTANTS INC. ON
- EXISTING UTILITY INFORMATION SHOWN PER RECORDS AND PER SURVEY PERFORMED BY CIVIL & ENVIRONMENTAL CONSULTANTS INC. ON
- ALL OF THE PROJECT SITE IS IN THE FLOOD HAZARD ZONE X, AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, MAP NUMBER 39049C0351K, EFFECTIVE DATE JUME 17, 2008



SEE PV-437 FOR STORM WATER MANAGEMENT DETAILS AND EROSION AND SEDIMENT CONTROL DETAILS.



ST-1086

**VICINITY MAP** SCALE: 1"=1,000'

**SHEET TITLE** 

TYPICAL SECTION & ESTIMATE OF QUANTITIES

::: JEFFERSON TOWNSHIP

**DRAWING INDEX** 

COVER SHEET

GENERAL NOTES

STANDARD DRAWINGS

STANDARD DRAWINGS

GRADING PLAN

**CROSS SECTIONS** 

CROSS SECTIONS

CROSS SECTIONS

STORM PROFILES

PLAN & PROFILE

STREET TREE PLAN

PHOTOMETRIC PLAN

PAVEMENT MARKING & SIGNAGE PLAN

DESCRIPTION

C001

C003

C300

C301

C302

C400

C500

C601

C700

3

10

12

13

SITE

国

ALL WORK IS TO BE ACCEPTABLE TO CITY OF GAHANNA OFFICIALS. NO WORK IS TO COMMENCE UNTIL ARRANGEMENTS HAVE BEEN MADE WITH THE CITY OF GAHANNA ENGINEER FOR INSPECTION.

THE CONTRACTOR SHALL NOTIFY THE CITY OF GAHANNA ENGINEER AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.

ALL PERTINENT STANDARD CONSTRUCTION DRAWINGS ARE AVAILABLE UPON REQUEST AT THE OFFICE OF THE CITY OF GAHANNA ENGINEER.

THE CONTRACTOR IS TO SCHEDULE A PRE-CONSTRUCTION MEETING ONE BUSINESS WEEK PRIOR TO CONSTRUCTION. THE MEETING SHALL TAKE PLACE AT LEAST ONE BUSINESS WEEK PRIOR TO THE FOLLOWING: SITE CLEARING, MATERIAL DELIVERED ON-SITE, EQUIPMENT ON-SITE AND FIELD OFFICE

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL 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. PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR

THE PRICE(S) QUOTED SHALL INCLUDE ALL ITEMS OF LABOR, MATERIALS, TOOLS. EQUIPMENT. INSURANCE AND OTHER COSTS NECESSARY TO FULLY COMPLETE THE WORK PURSUANT TO THE CONTRACT DOCUMENTS. IT IS THE INTENTION OF THE CONTRACT DOCUMENTS TO PROVIDE AND REQUIRE A COMPLETED WORK PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM SUCH CONTRACT DOCUMENTS WHICH ARE CLEARLY NECESSARY FOR THE COMPLETION OF SUCH WORK AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK ALTHOUGH NOT DIRECTLY SPECIFIED OR CALLED FOR IN THE CONTRACT DOCUMENTS.

ALL FIELD TILE BROKEN DURING EXCAVATION SHALL BE REPLACED WITH PERFORATED PIPE OR CONNECTED TO THE STORM SEWER SYSTEM. THE COST FOR THIS WORK SHALL BE INCLUDED IN PRICE BID FOR THE VARIOUS

NO NATURAL DRAINAGE COURSES SHALL BE ALTERED AND NO FILL, MATERIALS OR STRUCTURES SHALL BE PLACED IN IT UNLESS PROVISIONS ARE MADE FOR THE FLOW OF WATER IN A MANNER SATISFACTORY TO THE CITY ENGINEER. AN EASEMENT SHALL BE PROVIDED ON BOTH SIDES OF ANY EXISTING IMPORTANT SURFACE DRAINAGE COURSE ADEQUATE FOR THE PURPOSE OF PROTECTING, WIDENING, DEEPENING, ENCLOSING OR OTHERWISE IMPROVING SUCH STREAM FOR DRAINAGE PURPOSES.

DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE AND PROPER SOIL EROSION CONTROL MEASURES FOR PROTECTION OF ALL ADJACENT ROADS AND LANDS.

THE CONTRACTOR SHALL REPAIR OR REPLACE ANY OR ALL EXISTING SIGNS, SHRUBS, FENCES, OR OTHER PHYSICAL FEATURES DAMAGED DURING THE EXECUTION OF THIS CONTRACT AT THEIR OWN EXPENSE. ALL REPAIRS SHALL

BE TO THE SATISFACTION OF THE CITY OF GAHANNA. THE CONTRACTOR SHALL CONFINE ACTIVITIES TO THE PROJECT SITE, EXISTING RIGHT-OF-WAYS, TEMPORARY EASEMENTS AND PERMANENT EASEMENTS, AND SHALL NOT ENTER UPON OTHER PROPERTIES WITHOUT WRITTEN PERMISSION

DUST CONTROL SHALL BE MAINTAINED THROUGHOUT THE ENTIRE SITE.

OF THE PROPERTY OWNER.

THE CONTRACTOR SHALL CLEAN ADJACENT STREETS ON A DAILY BASIS IF MUD IS TRACKED FROM VEHICLES VISITING THE SITE.

SHOULD WATER BE ENCOUNTERED, THE CONTRACTOR SHALL FURNISH AND OPERATE SUITABLE PUMPING EQUIPMENT OF SUCH CAPACITY ADEQUATE TO DEWATER THE TRENCH. THE TRENCH SHALL BE SUFFICIENTLY DEWATERED SO THE PLACEMENT OF REDDING AND LAYING AND JOINING OF THE MADE IN A TRENCH FREE OF STANDING WATER. THE CONTRACTOR SHALL CONVEY ALL TRENCH WATER TO A NATURAL DRAINAGE CHANNEL OR STORM SEWER WITHOUT CAUSING ANY PROPERTY DAMAGE. THE COST FOR DEWATERING ACTIVITIES SHALL BE INCLUDED IN PRICE BID FOR THE VARIOUS

THE CONTRACTOR IS ULTIMATELY RESPONSIBLE TO ENSURE CONSTRUCTION TO PLAN GRADE. THE CONTRACTOR SHALL ENSURE THERE IS A SURVEYOR'S LEVEL AND ROD ON THE PROJECT FOR USE IN PERFORMING GRADE CHECKS WHENEVER SEWER LINE STRUCTURES OR PIPES ARE BEING INSTALLED. THE CONTRACTOR SHALL MAKE THIS EQUIPMENT AVAILABLE FOR USE AND ASSIST THE CITY INSPECTOR IN PERFORMING GRADE CHECKS WHEN REQUESTED BY THE INSPECTOR. THE INSPECTOR WILL MAKE ALL REASONABLE ATTEMPTS TO CONFINE REQUESTS FOR ASSISTANCE IN PERFORMING GRADE CHECKS TO TIMES CONVENIENT TO THE CONTRACTOR. THESE CHECKS WILL BE PERFORMED TO ENSURE THAT CONSTRUCTION MATCHES PLAN GRADE, AND TO ENSURE THAT ALL EXISTING INVERTS ALONG WITH THE PROPOSED TOP OF

THE CONTRACTOR SHALL REFERENCE ALL IRON PINS OR MONUMENTS. IF ANY PINS OR MONUMENTS ARE DESTROYED OR DAMAGED BY THE CONTRACTOR, THEY SHALL BE ACCURATELY REPLACED BY A REGISTERED SURVEYOR IN THE STATE OF OHIO AT THE COMPLETION OF THE PROJECT.

CASTING ELEVATIONS ARE VERIFIED DURING CONSTRUCTION OF THE SEWER.

VERTICAL CONTROL HAS BEEN ESTABLISHED FOR THE PROJECT AS SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED SURVEYS TO COMPLETE THE PROJECT INCLUDING REESTABLISHMENT OF CONTROL POINTS. PROJECT LAYOUT AND STAKING OF EASEMENTS.

ALL CURB RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN FULL COMPLIANCE WITH REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) OF 1990, INCLUDING ALL SUPPLEMENTS IN ACCORDANCE WITH THE CITY OF COLUMBUS STANDARD DRAWING 2319, INCLUDING ALL SUPPLEMENTS AND/OR REPLACEMENTS. CURRENT ON THE DATE OF THE START OF PROJECT CONSTRUCTION. SIDEWALKS SHALL BE CONSTRUCTED WITH A 3/16" PER FOOT (1.56%) CROSS SLOPE.

NO NON-RUBBER TIRED VEHICLES SHALL BE MOVED ON CITY STREETS, EXISTING PRIVATE ROADWAYS, OR PARKING LOTS UNLESS WRITTEN APPROVAL IS GRANTED BY THE APPROPRIATE CITY AUTHORITY OR PROPERTY OWNER. ANY DAMAGE MUST BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY OF GAHANNA AT NO COST TO THE CITY OR PROPERTY OWNER.

ANY MODIFICATION TO THE WORK AS SHOWN ON THESE DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE CITY OF GAHANNA.

THE CONTRACTOR SHALL MAKE HIS OWN PROVISIONS TO PROVIDE A SITE STAGING AREA AND JOB TRAILER (IF REQUIRED) FOR THE PROJECT

ORANGE CONSTRUCTION FENCING SHALL BE PLACED AROUND THE EXISTING TREES TO BE SAVED AND REMAIN IN PLACE DURING THE DEVELOPMENT CONSTRUCTION. THE LOCATION AND LIMITS OF THE FENCING AND ANY CLEARING NECESSARY SHALL BE AS PER THE APPROVED PLANS.

INCONVENIENCE TO THE ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC SHALL BE KEPT TO AN ABSOLUTE MINIMUM. ALL WORK IS TO CONTINUE ON A UNIFORM BASIS AND ON SCHEDULE, PARTICULARLY THE RESTORATION AND CLEAN UP OF DISTURBED AREAS AFTER CONSTRUCTION.

THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT SOIL TRANSPORT DURING CONSTRUCTION ONTO PUBLIC ROADS. THE CONTRACTOR SHALL CLEAN

AND SWEEP STREETS AS DIRECTED BY THE CITY. THE COST FOR STREET SWEEPING AND CLEANING IS TO BE INCLUDED IN THE PRICE BID UNDER

THE COST OF RELOCATING AND/OR SECURING ANY POWER POLES AS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

ANY REQUIRED RELOCATION, SUPPORT, PROTECTION, RESTORATION, OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S ELECTRICAL OR STREET LIGHTING SYSTEMS IN THE CONSTRUCTION AREA IS TO BE PERFORMED SOLELY BY THE CITY AT THE EXPENSE OF THE PROJECT. THE CITY SHALL BE NOTIFIED PRIOR TO CONSTRUCTION TO ALLOW FOR ENGINEERING AND RELOCATION OF

IF ANY ELECTRIC FACILITY BELONGING TO THE CITY IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, ITS AGENTS, SERVANTS, OR EMPLOYEES, THE CITY SHALL MAKE ALL NECESSARY REPAIRS, AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO

#### **UTILITIES:**

THE CONTRACTOR SHALL GIVE NOTICE TO THE OHIO UTILITIES PROTECTION SERVICE (PHONE 1-800-362-2764) AND TO THE OWNERS OF THE UTILITY FACILITIES SHOWN ON THE PLAN WHO ARE NOT MEMBERS OF A REGISTERED UTILITY PROTECTION SERVICE. THE ABOVE-MENTIONED NOTICE SHALL BE GIVEN AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS RELATED ITEMS. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECTS ON THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL GIVE NOTICE TO OUPS AND OTHER UTILITY OWNERS PER THE GENERAL

WHERE POTENTIAL GRADE CONFLICTS MIGHT OCCUR WITH EXISTING UTILITIES, THE CONTRACTOR SHALL EXPOSE AND VERIFY THE DEPTH OF THE EXISTING UTILITY IN ADVANCE OF THE PROPOSED CONSTRUCTION.

THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS AS ACCURATELY AS PROVIDED BY THE UTILITY OWNER. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF THE SAME AND FOR ANY RESULTING CONTINGENT DAMAGE.

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND ARE REGISTERED MEMBERS OF THE UNDERGROUND UTILITY PROTECTION SERVICE:

WATER FACILITIES
CITY OF GAHANNA WATER DIVISION 200 S. HAMILTON RD GAHANNA, OH 43230 TEL: (614) 342-4440

FAX: (614) 342-4100 ELECTRIC FACILITIES

AMERICAN ELECTRIC POWER 850 TECH CENTER DR GAHANNA, OH 43230 TEL: (614) 883-6811

CITY OF GAHANNA SEWER DIVISION 200 S. HAMILTON RD GAHANNA, OH 43230 TEL: (614) 342-4440 FAX: (614) 883-6868

COLUMBIA GAS OF OHIO 200 CIVIC CENTER DR COLUMBUS, OH 43215 TEL: (614) 460-6000 FAX: (614) 460-4265

TELEPHONE AT&T 150 E. GAY ST

FAX: (614) 883-6868

COLUMBUS, OH 43212 TEL: (800) 660-1000 FAX: (614) 223-6296

#### **WATER NOTES:**

ALL WATER LINE MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE DIVISION OF WATER AND THE DIRECTION OF THE CITY OF GAHANNA.

WATER MAINS AND FIRE HYDRANT LEADS SHALL BE DUCTILE IRON PIPE, CLASS 53 (AWWA C151) WITH CEMENT MORTAR LINING AND SEAL COAT (AWWA C104) OR PVC, CLASS 150 MEETING AWWA C900. JOINTS SHALL BE RUBBER GASKET PUSH-ON MECHANICAL (AWWA C110).

FIRE HYDRANTS SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE AS SHOWN ON THE CITY OF COLUMBUS L-6409 AND L-6637 STANDARD CONSTRUCTION DRAWINGS. FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250 FIRE HYDRANT, AMERICAN DARLING 4-1/2 MK73 - 5, OR APPROVED EQUAL AND PAINTED GREY AND RED.

ALL WATER SERVICES SHALL BE INSTALLED IN ACCORDANCE AS SHOWN ON THE CITY OF COLUMBUS L-9901 STANDARD CONSTRUCTION DRAWING. STAINLESS STEEL SERVICE SADDLES SHALL BE PROVIDED FOR ALL WATER

ALL GATE VALVES SHALL BE RESILIENT SEAT TYPE MANUFACTURED TO MEET OR EXCEED TO REQUIREMENTS OF ANSI/AWWA C509 OR THE LATEST REVISION.

WATERLINES SHALL BE LAID WITH A MINIMUM OF 4'-0" OF COVER FROM THE FINISHED GRADE TO THE TOP OF THE WATER LINE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HORIZONTAL AND VERTICAL DEFLECTIONS OR BENDS OF THE WATER LINES IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DEFLECT WATER LINES TO PROVIDE A 1'-6" VERTICAL AND 10'-0" HORIZONTAL CLEARANCE WITH SEWERS.

ALL WATER LINES, INCLUDING MAINS AND SERVICES, SHALL BE TESTED UNDER A MINIMUM HYDROSTATIC TEST OF 150 PSI AND IN ACCORDANCE WITH AWWA C600 AND CITY OF COLUMBUS CMS ITEMs 801.13 AND 801.14. NO PRESSURE TEST SHALL BE PERFORMED IF THE TEMPERATURE IS BELOW FRFF7ING.

THE CONTRACTOR SHALL SUBMIT TWO (2) COPIES OF THE PLANS, RESULTS OF THE PRESSURE TEST AND A LETTER REQUESTING CHLORINATION TO THE CITY OF GAHANNA. COST OF CHLORINATION SHALL BE INCLUDED IN THE PRICE BID FOR THE WATER LINE ITEMS.

NO PERSON SHALL INSTALL OR MAINTAIN A WATER SERVICE CONNECTION WHERE A BOOSTER PUMP HAS BEEN INSTALLED.

ALL MECHICANICAL JOINTS ARE REQUIRED TO BE MEGALUGGED, CONCRETE BACKING IS STILL REQUIRED. ALL MECHANICAL PIPE DEFLECTIONS ARE REQUIRED TO BE MEGALUGGED, ALL-THREADED, CONCRETE BACKED, AND JOINT RESTRAINTS MAY BE REQUIRED BY THE ENGINEER. THE HYDRANT TEE IS TO BE ALL-THREADED TO THE MAINLINE VALVE FOR FUTURE EXPANSION. 1 FULL STICK OF PIPE (20') IS TO BE LAID BEFORE FOR THE PLUG.

ALL FITTINGS ARE TO BE GPS LOCATED PRIOR TO BACKFILL USING X, Y, AND Z COORDINATES.

ANY WATER USAGE FOR FILLING THE WATER MAIN AND CHLORINATION SHALL GO THROUGH A WATER METER. ANY UNMETERED WATER USE WILL BE CHARGED TO THE CONTRACTOR/DEVELOPER BASED ON FLOW RATE CALCULATIONS.

THE WATER LINE AND SEWER LINE TRENCH UNDER THE INFLUENCE OF PAVEMENT ARE TO BE COMPACTION TESTED.

INSTALL COPPERHEAD® OR EQUAL 12-GAUGE HIGH STRENGTH 452LB BREAK

STRENGTH 30 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAIN AND SERVICE LINES INSTALLED BY TRENCHING

INSTALL COPPERHEAD® OR EQUAL 12-GAUGE EXTRA HIGH STRENGTH 1150LB BREAK STRENGTH 45 MIL HDPE JACKET, COPPER-CLAD, STEEL REINFORCED TRACER WIRE ON ALL WATER MAIN AND SERVICE LINES INSTALLED BY BORING

FASTEN WIRE TO PIPE IN TWO PLACES PER PIPE SECTION. EXTEND TRACER WIRE TO GROUND SURFACE AT ALL VALVES AND HYDRANTS. SPLICE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.

CONNECT ALL SERVICE LINE WIRES TO MAIN LINE WIRES USING BURNDY COPPER SPLIT BOLT KS-15. THOROUGHLY WRAP THE CONNECTOR AND BARE WIRES WITH 3M TEMFLEX 2155 RUBBER SPLICING TAPE, COVER ENTIRE CONNECTION WITH SCOTCH SUPER 88 HEAVY DUTY GRADE ELECTRICAL TAPE.

CONTRACTOR SHALL TEST THE CONTINUITY OF ALL WIRE USING A THIRD-PART TESTER. CONTRACTOR SHALL CONTACT THE CITY OF GAHANNA DEPARTMENT OF PUBLIC SERVICE AND ENGINEERING A MINIMUM OF 24 HOURS PRIOR TO TEST. TESTER SHALL SEND A SIGNED REPORT TO CITY OF GAHANNA AFFIRMING ALL WIRE HAS CONTINUITY. CONTRACTOR SHALL REPAIR ALL DEFICIENCIES.

ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651.

THE NORMAL WORKING PRESSURE OF THE SYSTEM SHALL NOT DECREASE BELOW 35 PSI. ALL WATER MAIN IMPROVEMENTS HAVE BEEN DESIGNED TO MAINTAIN A MINIMUM PRESSURE OF 20 PSI AT GROUND LEVEL AT ALL POINTS IN THE SYSTEM UNDER ALL CONDITIONS OF FLOW.

#### **SANITARY SEWER NOTES:**

SERVICE RISERS, ITEM 914, SHALL BE INSTALLED WHERE DEPTHS FROM THE WYES TO THE EXISTING OR PROPOSED ELEVATIONS EXCEED 10'. THE TOPS OF RISERS SHALL BE NO MORE THAN ±9' BELOW THE EXISTING OR PROPOSED SURFACE ELEVATION, WHICHEVER IS HIGHER.

A MINIMUM VERTICAL CLEARANCE OF 1.5' SHALL BE PROVIDED BETWEEN THE PROPOSED SANITARY SERVICE AND EXISTING UTILITIES OR STRUCTURES UNLESS OTHERWISE NOTED ON THESE PLANS.

ALL PVC SEWER LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION IN CONFORMANCE WITH THE REQUIREMENTS OF ITEM 901.21 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT VERSION.

ALL SANITARY SEWER AND SANITARY SERVICES ARE TO BE MANDREL TESTED, AIR TESTED, CLEANED AND CAMERA INSPECTED.

ALL SANITARY MANHOLES ARE REQUIRED TO PASS A VACUUM TEST PER CITY OF COLUMBUS ITEM 901.20 AND ASTM-C-1244.

PIPE FOR ALL 6" SANITARY SERVICES SHALL BE PVC SEWER PIPE ASTM D-3034, SDR-35. THE SERVICES SHALL BE FIELD TESTED BY THE INFILTRATION, EXFILTRATION OR AIR TEST.

ALL PIPES SHALL BE LAID WITH TYPE 1 GRANULAR MATERIAL BEDDING AND BACKFILL AS SHOWN ON STANDARD CONSTRUCTION CITY OF COLUMBUS AA-S151. INSTALLATION SHALL CONFORM TO CMS SECTION 900.

#### **STORM SEWER NOTES:**

ANY PLACEMENT OF STORM SEWERS BENEATH EXISTING OR PROPOSED PAVEMENT SHALL BE BACKFILLED IN ACCORDANCE WITH COLUMBUS CMS ITEM 912, COMPACTED GRANULAR BACKFILL.

ALL PIPES SHALL BE LAID WITH TYPE 1 GRANULAR MATERIAL BEDDING AND BACKFILL AS SHOWN ON STANDARD CONSTRUCTION CITY OF COLUMBUS AA-S151. INSTALLATION SHALL CONFORM TO CMS SECTION 901.

ALL CONCRETE PIPE AND STORM SEWER STRUCTURES SHALL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT SAID PIPE AND/OR STORM STRUCTURES HAVE BEEN INSPECTED BY THE CITY OF COLUMBUS AND MEETS THEIR SPECIFICATIONS. PIPE AND STRUCTURES WITHOUT PROPER IDENTIFICATION WILL NOT BE PERMITTED FOR INSTALLATION.

ALL CURB INLETS AND MANHOLES SHALL BE CHANNELED AS DIRECTED. THE COST FOR THIS WORK IS TO BE INCLUDED IN THE PRICE BID FOR VARIOUS STORM SEWER ITEMS.

IN CASE OF CONFLICT IN GRADE BETWEEN WATER LINES AND STORM SEWERS, THE WATER LINES SHALL BE LOWERED DURING CONSTRUCTION.

ALL PLASTIC SEWER LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION IN CONFORMANCE WITH THE REQUIREMENTS OF COLUMBUS CMS ITEM 901.

ALL STORM SEWER IS TO BE MANDREL TESTED, CLEANED AND CAMERA

#### **MAINTENANCE OF TRAFFIC:**

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND SAFE MOVEMENT OF PEDESTRIANS THROUGH, AROUND AND AWAY FROM THE CONSTRUCTION SITE AS DESIGNATED IN SECTION 60.01 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

THE SAFETY OF PEDESTRIAN TRAFFIC SHALL BE CONSIDERED AT ALL TIMES IN THE PROVISION OF TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS AND NOTES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LIGHTS, SIGNS, BARRICADES AND OTHER WARNINGS TO PHYSICALLY SEPARATE THE PEDESTRIAN FROM HAZARDS INCIDENTAL TO THE CONSTRUCTION OPERATIONS SUCH AS OPEN EXCAVATIONS, ETC

ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) FOR CONSTRUCTION AND MAINTENANCE OPERATIONS. ALL DEVICES SHALL MEET FP-85 REFLECTANCE STANDARDS AND IN FULL COMPLIANCE WITH "QUALITY STANDARDS FOR WORK ZONE TRAFFIC CONTROL DEVICES" PUBLISHED BY ATTSSA. ALL TRAFFIC CONTROL DEVICES MUST MEET NCHRP 350.

STEADY BURNING, TYPE "C" LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT. ALL SIGNS, NINE SQUARE FEET (36" X 36") AND OVER SHALL HAVE YELLOW TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS AND THREE FLAGS. CONES ARE NOT APPROVED FOR USE AT NIGHT.

THE ROADWAY SHALL NOT BE OPENED TO TRAFFIC UNTIL PERMANENT TRAFFIC CONTROLS ARE IN PLACE OR UNTIL TEMPORARY TRAFFIC CONTROLS APPROVED BY THE INSPECTOR ARE INSTALLED. THE CONTRACTOR ASSUMES ALL LIABILITY FOR THE PREMATURE REMOVAL OF TEMPORARY TRAFFIC CONTROLS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REINSTALLATION AND/OR REPLACEMENT OF ALL PERMANENT TRAFFIC CONTROL DEVICES DAMAGED OR REMOVED DURING THE CONSTRUCTION. PERMANENT TRAFFIC CONTROLS NO LONGER IN CONFLICT WITH TEMPORARY TRAFFIC CONTROLS SHALL BE REPLACED IMMEDIATELY.

ALL PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS SHALL BE MAINTAINED THROUGHOUT THE PROJECT BY THE CONTRACTOR. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, AND IMPROPERLY PLACED TRAFFIC CONTROL DEVICES.

SECURELY PLATED DURING NON-WORKING HOURS. ALL LANES SHALL BE FULLY OPEN TO TRAFFIC ON ALL PUBLIC STREETS AND ALLEYS UNLESS OTHERWISE APPROVED BY THE CITY OF GAHANNA.

ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR

ANY WORK DONE BY THE CITY INCLUDING INSTALLATION, RELOCATION, REMOVAL AND/OR REPLACEMENT OF PERMANENT TRAFFIC CONTROL DEVICES AS A RESULT OF WORK DONE BY THE CONTRACTOR OR AS A RESULT OF THE NEGLIGENCE OF THE CONTRACTOR SHALL BE AT THE EXPENSE OF THE

#### **STREET LIGHT NOTES:**

STREET LIGHT POLE TO BE A HAPCO ROUND TAPERED ALUMINUM POLE WITH SINGLE ARM, PAINTED "GAHANNA GREEN". SEE SHEET C601 FOR DETAIL.

STREET LIGHT TO BE AMERICAN ELECTRIC LIGHTING ATBM P60. SEE SHEET C601 FOR SPECIFICATIONS.

CONTRACTOR TO PROVIDE SPLICE BOXES AT CONNECTIONS AND TERMINUS OF THE FIBER OPTIC CABLE CONDUITS.

CONTRACTOR TO COORDINATE TIE-IN LOCATION FOR ELECTRIC SERVICE WITH ELECTRIC COMPANY.

LED REQUIREMENTS:

A. CORRELATED COLOR TEMPERATURE (CCT) 3000K. ACCEPTABLE LM80 TEST RESULTS SHALL BE PROVIDED.

B. COLOR RENDERING INDEX (CRI) MINIMUM 70

C. OPERATING ENVIRONMENT, AMBIENT -40\}OC TO +400C (-40°F TO +104°F)

D. VOLTAGE 480V OR 120V (THE CITY OF GAHANNA USES A 480V OR 120V DISTRIBUTION SYSTEM)

E. COOLING SYSTEM PASSIVE HEAT SINK WITH NO FANS. PUMPS. OR LIQUIDS. AND SHALL BE RESISTANT TO DEBRIS BUILD UP THAT DOES NOT DEGRADE HEAT DISSIPATION PERFORMANCE.

#### APPLICATION: DESIGNER NOTE

THE LED COBRA HEAD LUMINAIRE MAY BE USED FOR:

NEW INSTALLATION OF COBRA HEAD LUMINAIRES ON NEWLY PLACED SUPPORTS WHOSE SPACING HAS BEEN DESIGNED SPECIFICALLY FOR THE LUMINAIRE. STREET LIGHT DESIGNS USING PHOTOMETRIC SOFTWARE ARE REQUIRED FOR EACH LUMINAIRE. THE DESIGNER SHALL COMPLY WITH IESNA RP-08 (LATEST VERSION).

2) REPLACING EXISTING HID LUMINAIRES ON EXISTING POLES WHERE SPACING RÉMAINS UNCHANGED.

THE HOUSING SHALL BE CONSTRUCTED OF DIE-CAST ALUMINUM AND BE RUST RESISTANT. PAINT FINISH SHALL BE POWDER-COATED GRAY OR AS DIRECTED BY THE CITY OF GAHANNA. THE PAINT FINISH SHALL EXCEED A RATING OF SIX PER ASTM D 1654 AFTER 1000 HOURS OF TESTING PER B117. PAINTED OR FINISHED LUMINAIRE COMPONENTS EXPOSED TO THE ENVIRONMENT SHALL EXHIBIT NO GREATER THAN 30% REDUCTION OF GLOSS PER ASTM D523, AFTER 500 HOURS OF UV TESTING AT ASTM G154 CYCLE 6. LUMINAIRE HOUSING SHALL ALLOW TOOL-LESS ENTRY. ALL SCREWS SHALL BE STAINLESS STEEL. NO PARTS SHALL BE CONSTRUCTED OF POLYCARBONATES. LUMINAIRE HOUSING SHALL BE PROVIDED WITH AN INTERNAL LEVEL BUBBLE TO AID IN INSTALLATION. LUMINAIRE DOOR SHALL BE SECURELY HINGED AND INCAPABLE OF INVOLUNTARY SEPARATION FROM HOUSING. LUMINAIRE SHALL BE ATTACHED BY MEANS OF A SLIP-FITTER CONNECTION TO A 2.0" IPS BRACKET. THE SLIP-FITTER SHALL INCLUDE MEANS FOR SECURELY ATTACHING THE LUMINAIRE AND SHALL ALSO PROVIDE FOR TILT ADJUSTMENTS 50 ABOVE AND BELOW HORIZONTAL. THE SLIP-FITTER SHOULD BE TOTALLY ENCLOSED IN LUMINAIRE HOUSING. THE HOUSING SHALL BE EQUIPPED WITH A LATCHING ACCESS DOOR ASSEMBLY. THE LUMINAIRE SHALL HAVE LESS THAN THE CONCENTRATION VALUES OF THE FOLLOWING ROHS RESTRICTED SUBSTANCES: MERCURY, CADMIUM, CHROMIUM VI, POLYBROMINATED BIPHENYL, POLYBROMINATED BIPHENYL ETHER, AND LEAD.

LED POWER SUPPLY / DRIVER:

A) POWER FACTOR, MINIMUM 0.90

B) DRIVER OUTPUT CURRENT, MA VARIABLE

C) DIMMING SIGNAL, CONTROL RANGE, VDC 0 TO 10

D) SURGE PROTECTION DEVICE SHALL COMPLY WITH ANSI C136.37, ANSI/IEEE C62.41.2. EACH SURGE PROTECTION DEVICE SHALL BE INTERNALLY MOUNTED INSIDE HOUSING AND SPECIFIED FOR 480V OR 120V OPERATION WITH A MINIMUM 10 KV/10KA SURGE PROTECTION. THE SURGE PROTECTION DEVICE SHALL BE A UL 1449 3RD EDITION TYPE 4 RECOGNIZED COMPONENT FOR USE IN TYPE 2 LOCATIONS.

E) LED DRIVER SHALL BE MOUNTED INSIDE THE HOUSING, REPLACEABLE, AND SHALL BE PRE-WIRED TO 480V OR 120V READY FOR INSTALLATION. DRIVER AND LED ARRAYS SHALL BE DESIGNED FOR MULTI-CURRENT INPUT OPERATIONS WITH 0-10V DRIVER ADJUSTABLE OUTPUT. THE LED DRIVER SHALL COMPLY WITH FCC RULES AND REGULATIONS. TITLE 47 CFR PART 15 NON-CONSUMER (CLASS A) LED DRIVER SHALL TOLERATE SUSTAINED OPEN CIRCUIT AND SHORT CIRCUIT OUTPUT CONDITIONS WITHOUT DAMAGE. LED DRIVER SHALL HAVE AN INDEPENDENTLY VERIFIED AND DOCUMENTED FAILURE RATE OF <0.01% PER 1000 HOURS. WIRING INSIDE THE HOUSING SHALL COMPLY WITH 600V/1050C RATING OR HIGHER. THE LED DRIVER SHALL HAVE A "CLASS A" SOUND RATING. POWER SUPPLY/DRIVER SHALL BE UL RECOGNIZED FOR DRY AND DAMP LOCATIONS, ALL OTHER ELECTRICAL COMPONENTS SHALL BE UL LISTED OR RECOGNIZED FOR WET LOCATIONS. OUTPUT OPERATING FREQUENCY MUST BE >120HZ AND INPUT OPERATING FREQUENCY OF 60 HZ. THE LED DRIVER SHALL BE ROHS COMPLIANT.

LED MODULE / ARRAY REQUIREMENTS:

LED MODULE(S)/ARRAY(S) SHALL DELIVER A MINIMUM OF 70% OF INITIAL INSTALLED FOR 100,000 HOURS AND MEET L70 STANDARDS. LIGHTING DISTRIBUTION SHALL BE IN ACCORDANCE WITH "IESNA LIGHTING DISTRIBUTIONS."

7-PIN PHOTO-ELECTRIC RECEPTACLE:

THE LUMINARE SHALL BE FURNISHED WITH A 7-PIN PHOTO-ELECTRIC RECEPTACLE INSTALLED IN THE TOP OF THE LUMINAIRE HOUSING. THE RECEPTACLE SHALL BE TWIST LOCK TYPE, AND HAVE THE CAPABILITY TO BE DIRECTIONALLY ADJUSTED. THE 7-PIN PHOTO-ELECTRIC RECEPTALE SHALL BE SUITABLE FOR OPERATION WITH LED LUMINAIRES, AND CONFORM TO ANSI DESIGN STANDARD C136.10. THE PHOTO-ELECTRIC SOCKET SHALL ACCOMMODATE DIMMING AND/OR AUTOMATION INTEGRATION.

7-PIN LONG LIFE PHOTO CONTROL (AS REQUIRED BY THE ENGINEER):

THE LUMINAIRE SHALL BE SUPPLIED WITH A "LONG LIFE" PHOTO CONTROL THAT SHALL BE SOLID STATE, AND SUITABLE FOR OPERATION WITH 7-PIN PHOTO CONTROL RECEPTACLES AND LED LUMINAIRES. THE PHOTO CONTROL SHALL HAVE A MINIMUM DESIGN LIFE OF 20 YEARS.

SHORTING CAP FOR 7-PIN LED PHOTO-ELECTRIC RECEPTACLE (480 VOLT LUMINAIRE ONLY):

THE LUMINAIRE SHALL BE SUPPLIED WITH A SHORTING CAP SUITABLE FOR OPERATION WITH A 7-PIN LED PHOTO-ELECTRIC RECEPTACLE. THE SHORTING CAP SHALL CONTAIN A GASKET AROUND THE OUTER PERIMETER OF THE CAP FOR PROPER SEALING AGAINST DEBRIS. THE SHORTING CAP SHALL MEET OR EXCEED ANSI DESIGN STANDARD ANSI C136.10

TESTING/CERTIFCATION/STSANDARDS/RECOMMENDED PRACTICE SHALL COMPLY WITH CITY OF COLUMBUS STANDARD DRAWING MIS-197.

THE WARRANTY SHALL PROVIDE FOR THE FULL REPLACEMENT OF THE ENTIRE LUMINAIRE ASSEMBLY, WHICH INCLUDES THE POWER SUPPLIES/DRIVER, DEFECTIVE ELECTRICAL AND NON-ELECTRICAL PARTS, AND LIGHT SOURCE FOR A PERIOD OF TEN (10) YEARS FROM DATE OF ACCEPTANCE. THE LUMINAIRE SHALL BE COVERED FOR PART REPLACEMENT OF DEFECTIVE LUMINAIRES DURING THE WARRANTY PERIOD. NEGLIGIBLE LIGHT OUTPUT FROM MORE THAN 10 PERCENT OF THE LED PACKAGES CONSTITUTES LUMINAIRE FAILURE, LONG-LIFE PHOTOCONTROL SHALL BE COVERED FOR FULL REPLACEMENT FOR A PERIOD OF TEN (10) YEARS FROM THE DATE OF ACCEPTANCE FOR ANY FAILURE AND/OR DEFECT IN WORKMANSHIP.

EXTERNAL LABELING - EXTERNAL LABELS SHALL BE PER ANSI C136.15-2011

#### SPARE PARTS:

THE CONTRACTOR SHALL PROVIDE 3% OF THE CONSTRUCTION QUANTITIES OF THE COMPLETE LUMINAIRE, ROUNDED UP TO THE NEAREST WHOLE NUMBER AND SHALL BE A MINIMUM OF 2 LUMINAIRES — EACH.

ALL SPARE PARTS SHALL BE WARRANTED BY THE PRODUCT MANUFACTURER FOR FORM, FIT, AND FUNCTION AND SHALL BE FULLY COMPATIBLE WITH THE PRODUCT SUPPLIED. IN ADDITION, ALL SPARE PARTS SHALL BE WARRANTED AGAINST FAILURE FOR A PERIOD NOT LESS THAN 10 YEARS.

SPARE PARTS SHALL BE PACKAGED TO PREVENT CORROSION OR DETERIORATION DURING LONG-TERM STORAGE AND DELIVERED UNDAMAGED TO 152 OKLAHOMA AVE, GAHANNA 43230. THE RECEIPT OF DELIVERY SHALL BE CONSIDERED PART OF THE SUBSTANTIAL COMPLETION REQUIREMENT.

ALL PACKAGING SHALL BE CLEARLY LABELED WITH THE PRODUCT MANUFACTURER'S NAME AND PART NUMBER. ELECTRONIC PARTS SHALL BE PACKED IN SEALED PLASTIC WRAPPERS OR HERMETICALLY-SEALED CONTAINERS. DESICCANT-CARTRIDGES SHALL BE INCLUDED IN THE PACKAGING.

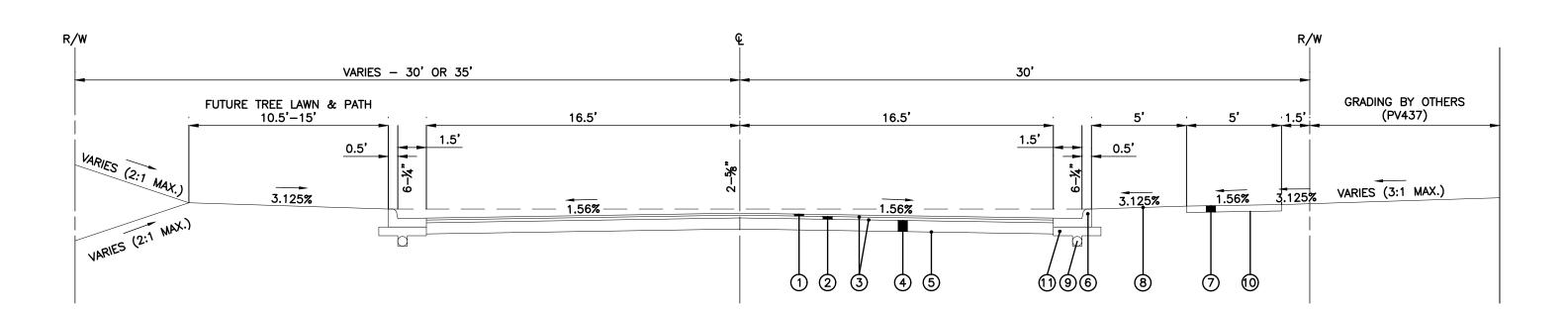
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ST-1086

RAWING NO.:

SHEET 2 OF 14



TYPICAL PAVEMENT SECTION (TECH CENTER DRIVE)

SCALE: 1"=5"

**DESIGN SPEED: 30 MPH** 

POSTED SPEED: 25 MPH

1) ITEM 448, 1 1/2" ASPHALT CONCRETE, SURFACE COURSE (HEAVY TRAFFIC), PG70-22

2 ITEM 448, 1 1/2" ASPHALT CONCRETE, INTERMEDIATE COURSE (HEAVY TRAFFIC), PG70-22

3 ITEM 407, TACK COAT (0.1 GAL/SY)

4 SPEC, 8" ROLLER COMPACTED CONCRETED

5) SPEC, 12" CEMENT BASE STABILIZATION

6 SPEC, COMBINATION CURB & GUTTER, (SEE DETAIL BELOW)

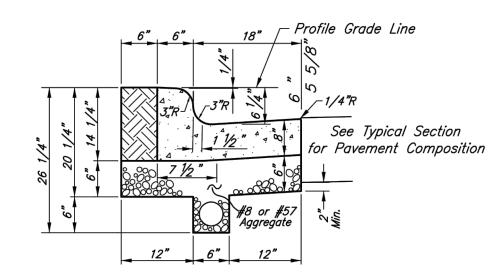
7 ITEM 608, 4" CONCRETE WALK, COC STD DWG 2300

8 ITEM 659, SEEDING AND MULCHING

9 ITEM 605, 6" RIGID PIPE UNDERDRAIN

10 ITEM 203, COMPACTED SOIL

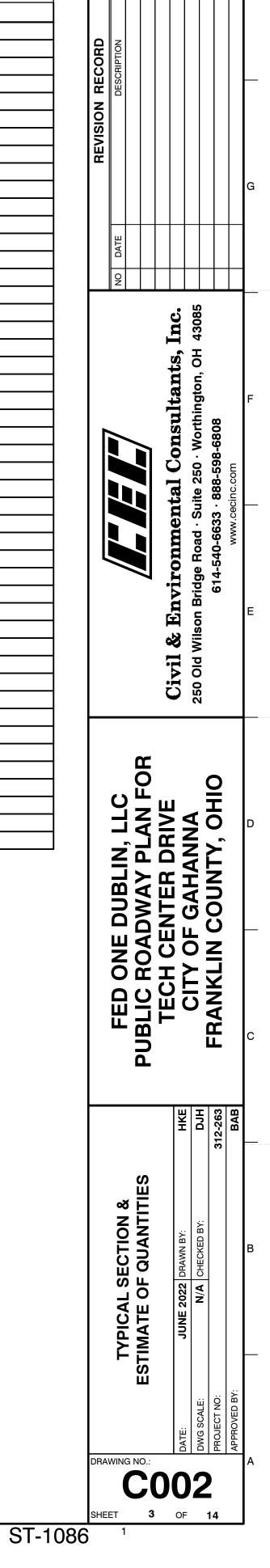
11) ITEM 304, #8 OR #57 AGGREGATE BASE

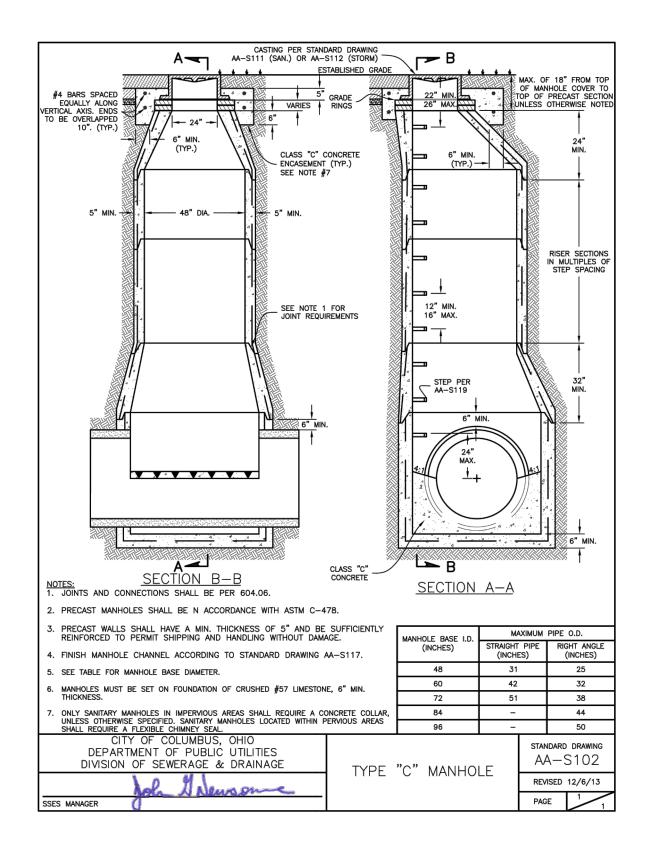


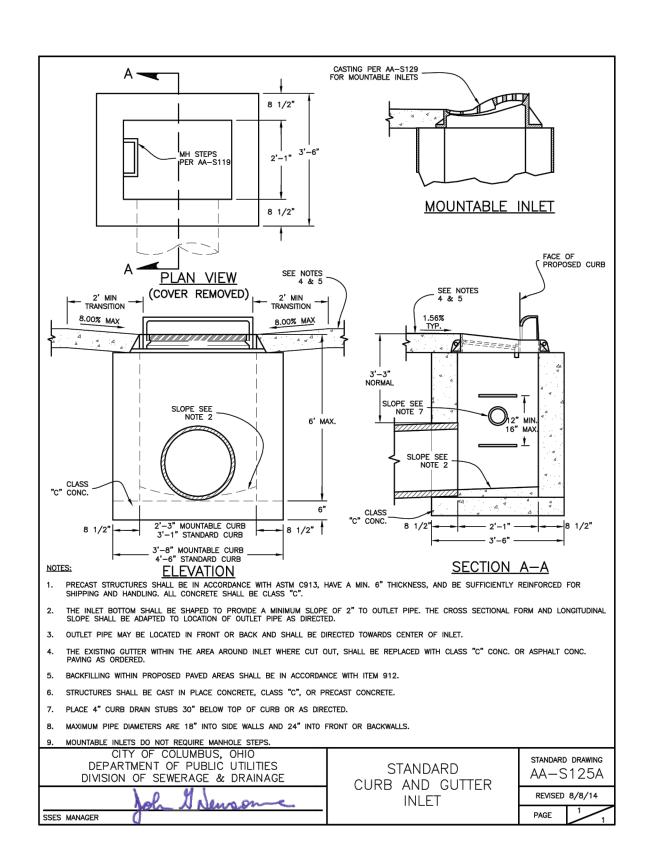
SPECIAL 8" CURB & GUTTER DETAIL
SCALE: N.T.S.

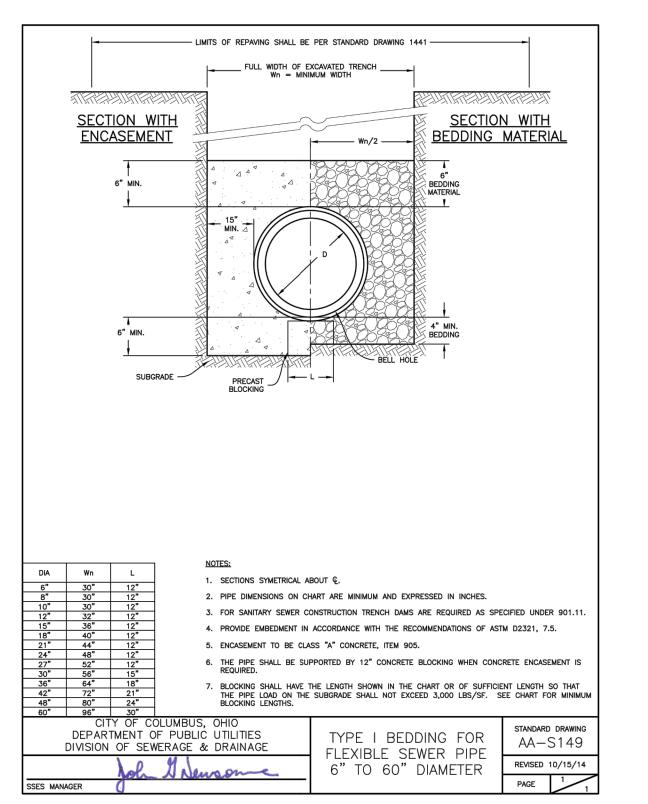
ITEM	QUANTITY	UNIT	DESCRIPTION		
			DEMOLITION		
202	628	SY	FULL DEPTH CONCRETE PAVEMENT REMOVAL		
202	130	LF	CONCRETE CURB REMOVAL		
202	100	LF	STORM SEWER REMOVED		
202	1	EA	BARRICADE REMOVED		
252	35	LF	SAWCUT		
			EARTHWORK		
201	LUMP	SUM	CLEARING AND GRUBBING		
203	200	CY	EXCAVATION		
203	1,550	CY	EMBANKMENT		
			STREET		
203	421	SY	COMPACTED SOIL		
SPEC	3146	SY	8" ROLLER COMPACTED CONCRETED		
SPEC	3146	SY	12" CEMENT BASE STABILIZATION		
407	630	GAL	NON-TRACKING TACK COAT (0.1 GAL/SY)		
448	132	CY	1 1/2" ASPHALT CONCRETE, SURFACE COURSE (HEAVY TRAFFIC), PG70-22		
448	132	CY	1 1/2" ASPHALT CONCRETE, INTERMEDIATE COURSE (HEAVY TRAFFIC), PG70-22		
605	1,716	LF	6" RIGID PIPE UNDERDRAIN		
608	3778	SF	4" CONCRETE WALK, COC STD DWG 2300		
608	2	EA	CURB RAMP		
608	2	EA	DETECTABLE WARNING, TYPE E		
609	1,716	LF	COMBINATION CURB & GUTTER, TYPE STANDARD, COC STD DWG 2010		
614	1	LS	MAINTENANCE OF TRAFFIC		
624	1	LS	MOBILIZATION		
637	1	EA	TEMPORARY BARRICADE		
•			TRAFFIC CONTROL		
630	28	LF	U-CHANNEL DRIVE POSTS, 2#/FT POST		
630	14	SF	SIGN (FLAT SHEET)		
644	88	LF	CROSSWALK LINE		
•			WATER		
801	740	LF	16" WATER LINE & PIPE FITTINGS		
802	1	EA	16" VALVE & APPURTENANCES		
809	4	EA	FIRE HYDRANTS, TYPE B		
SPEC	1	EA	16" PLUG AND THRUST BLOCK		
•		•	STORM SEWER		
604	4	EA	48" MANHOLE, TYPE "C" (AA-S102)		
604	2	EA	INLET, CURB & GUTTER (AA-S125A)		
604	1	EA	ENDWALL (AA-S169) FOR 30" PIPE		
901	53	LF	12" STORM PIPE, TYPE I, BEDDING W/ ITEM 912 COMPACTED GRANULAR MATERIAL		
901	38	LF	36" STORM PIPE, TYPE I, BEDDING W/ ITEM 911 COMPACTED BACKFILL		
901	898	LF	36" STORM PIPE, TYPE I, BEDDING W/ ITEM 912 COMPACTED GRANULAR MATERIAL		
			MISCELLANEOUS		
SPEC	31	EA	1-1/2" CALIPER DECIDUOUS TREE (SEE SHEET C500 FOR SPECIES OPTIONS)		
601	31	CY	ROCK CHANNEL PROTECTION, TYPE "C"		
605	920	LF	4" FIBER OPTIC CABLE CONDUIT		
605	820	LF	UNDERGROUND ELECTRIC CONDUIT		
605	5	EA	LIGHTPOLE		

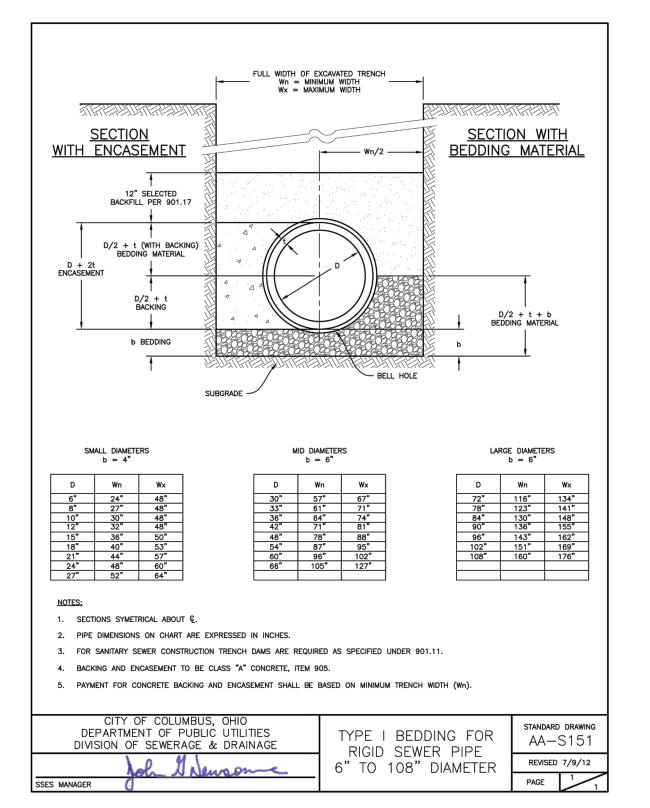
**ESTIMATE OF QUANTITIES** 

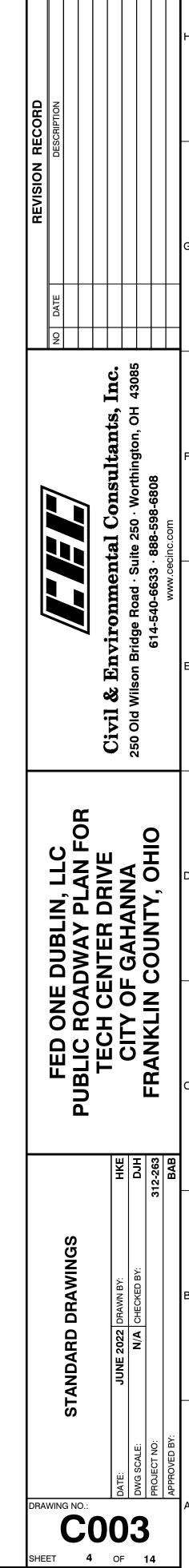


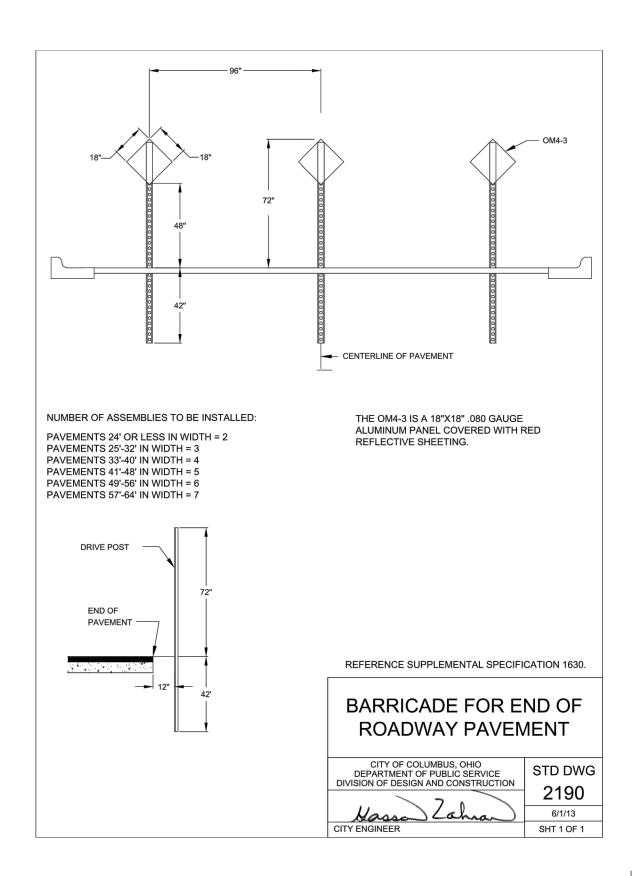












TRÊNCH WIDTH 🚊 . WL I.D. + 24"

1. REFER TO OSHA REQUIREMENTS FOR MAXIMUM ALLOWABLE TRENCH SLOPES.

2. THIS PORTION OF PIPE EMBEDMENT ZONE MUST BE RECOMPACTED TO PROPER DENSITIES

STANDARD DETAIL

TYPICAL TRENCH

EXCAVATION & BACKFILL UNDER

INFLUENCE OF PAVEMENT (FOR 16" DIAMETER WATER MAIN AND SMALLER)

3. PROVIDE FILTER FABRIC WHEN VERY FINE OR UNSTABLE MATERIAL IS ENCOUNTERED.

4. BACKFILL SHALL BE COMPACTED PER THE REQUIREMENTS OF ITEM 801.12.

EX. PAVEMENT-

FINAL BACKFILL ITEM 703.11 COMPACTED GRANULAR MATERIA

INITIAL BACKFILL ITEM 703.11 COMPACTED GRANULAR MATERIAL-

POLYETHYLENE ENCASEMENT
IN ACCORDANCE WITH ITEM 801.03
& DIVISION OF WATER STANDARD
DETAIL DRAWING "L-1003"

(FOR DUCTILE IRON PIPE ONLY)-

NOTES:

CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER

5-14-13

APPROVED: EC Westerfield

ADMINISTRATOR

SHAPE BELL HOLE CONFORM TO PIPE O.D.

OR ITEM 613 FLOWABLE

-PAVEMENT REPLACEMENT PER STD. DWG. 1441

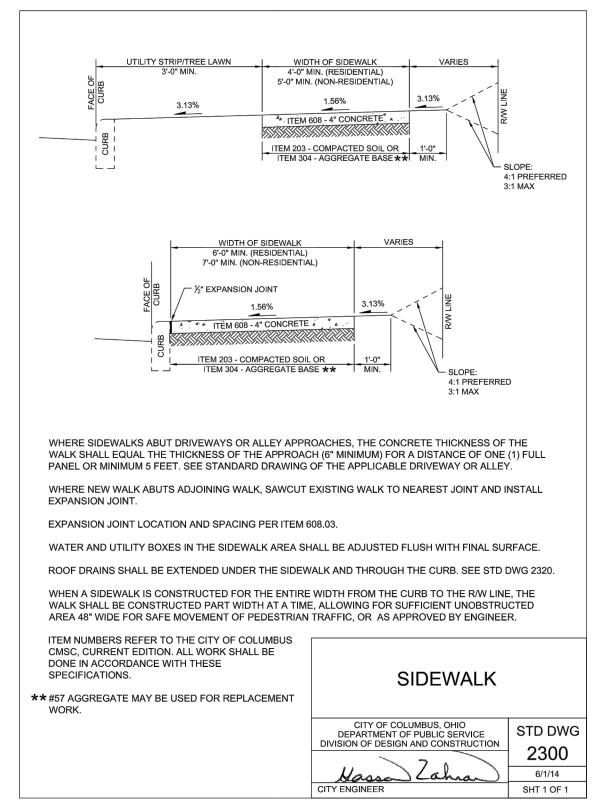
MAXIMUM 8" LIFTS

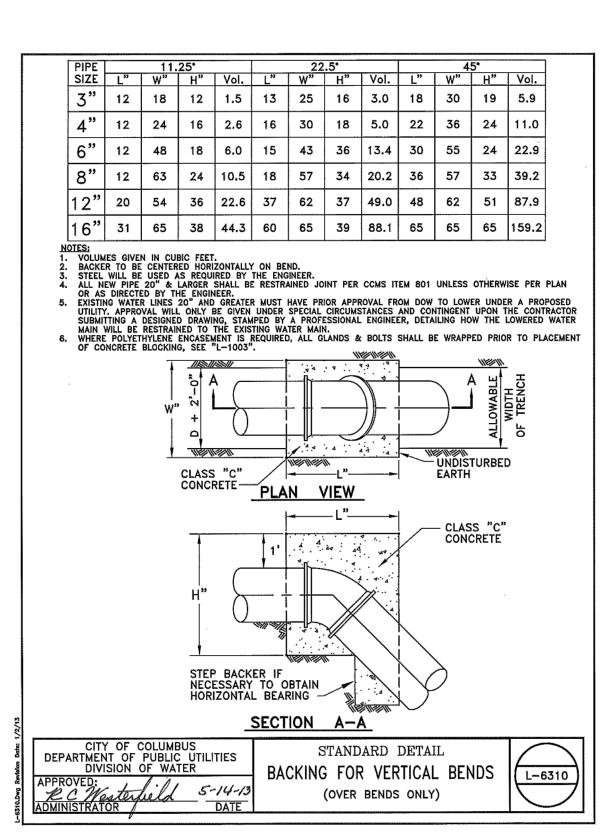
FOR DEPTH OF COVER < 10'
PROVIDE FLAT BOTTOM TRENCH
FOR DEPTH OF COVER > 10'

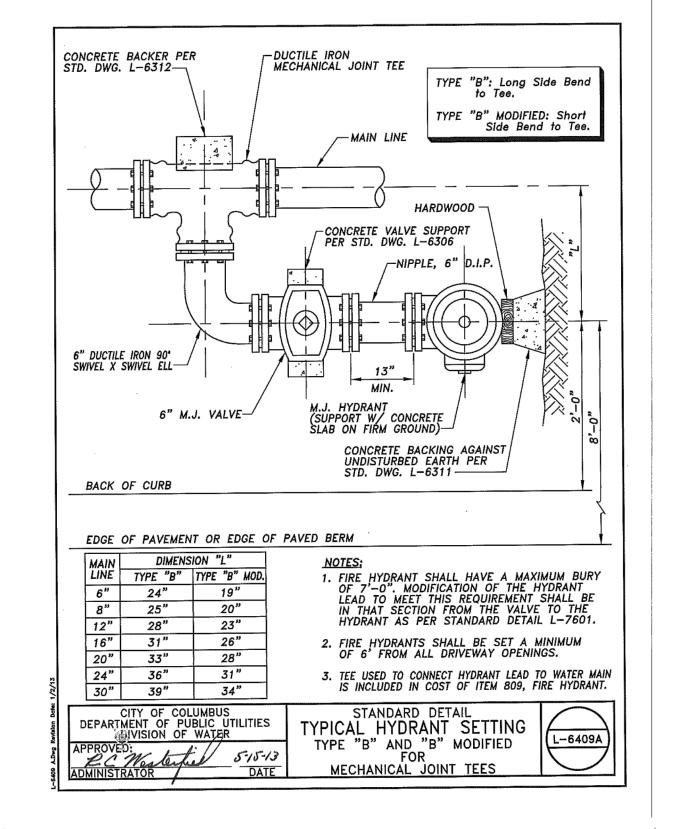
L-6309A

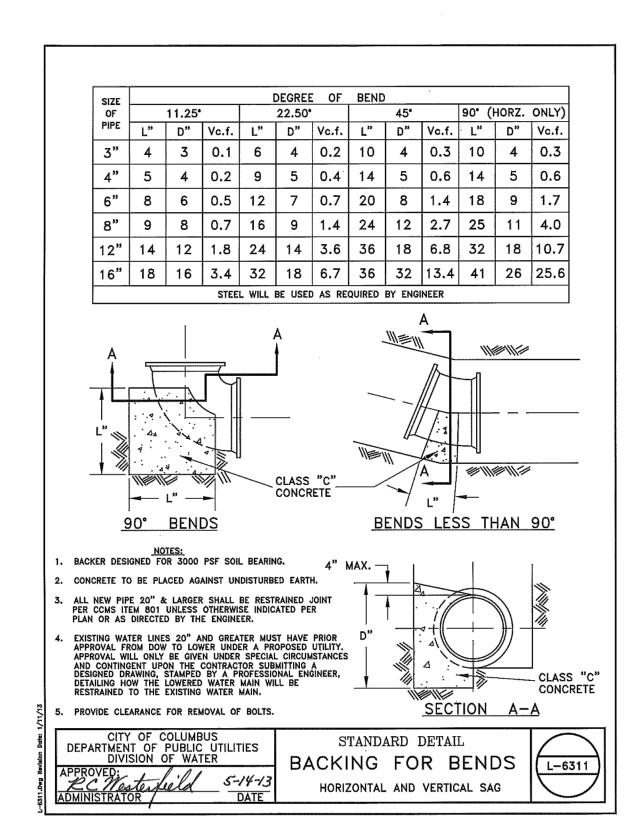
IS FOUND, OVER EXCAVATE 4" MIN.
AND CCS NO. 57 BEDDING MATERIAL

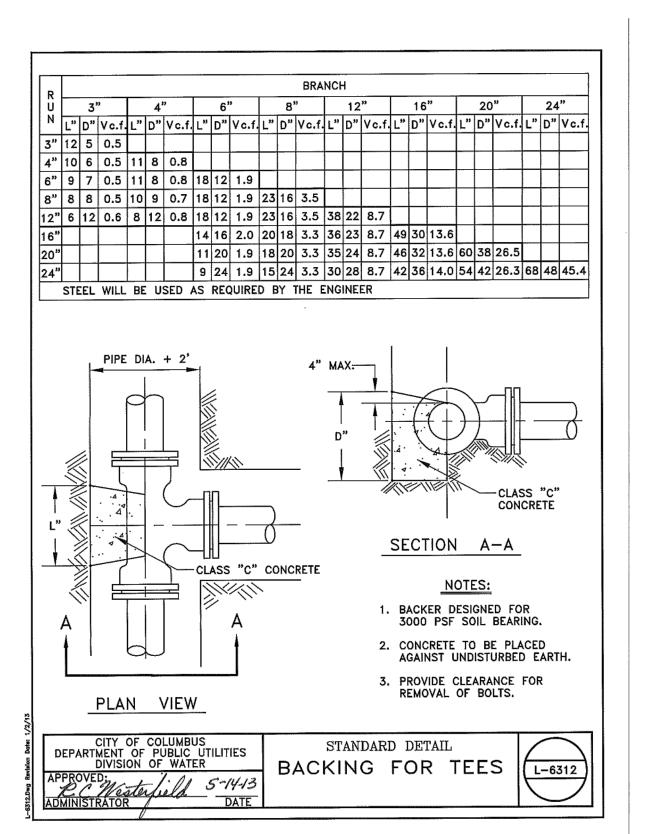
UNIFORMLY PLACED AND COMPACTED.

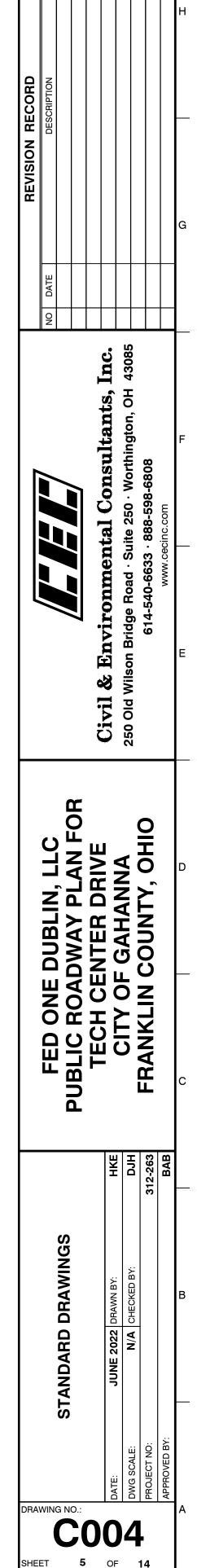


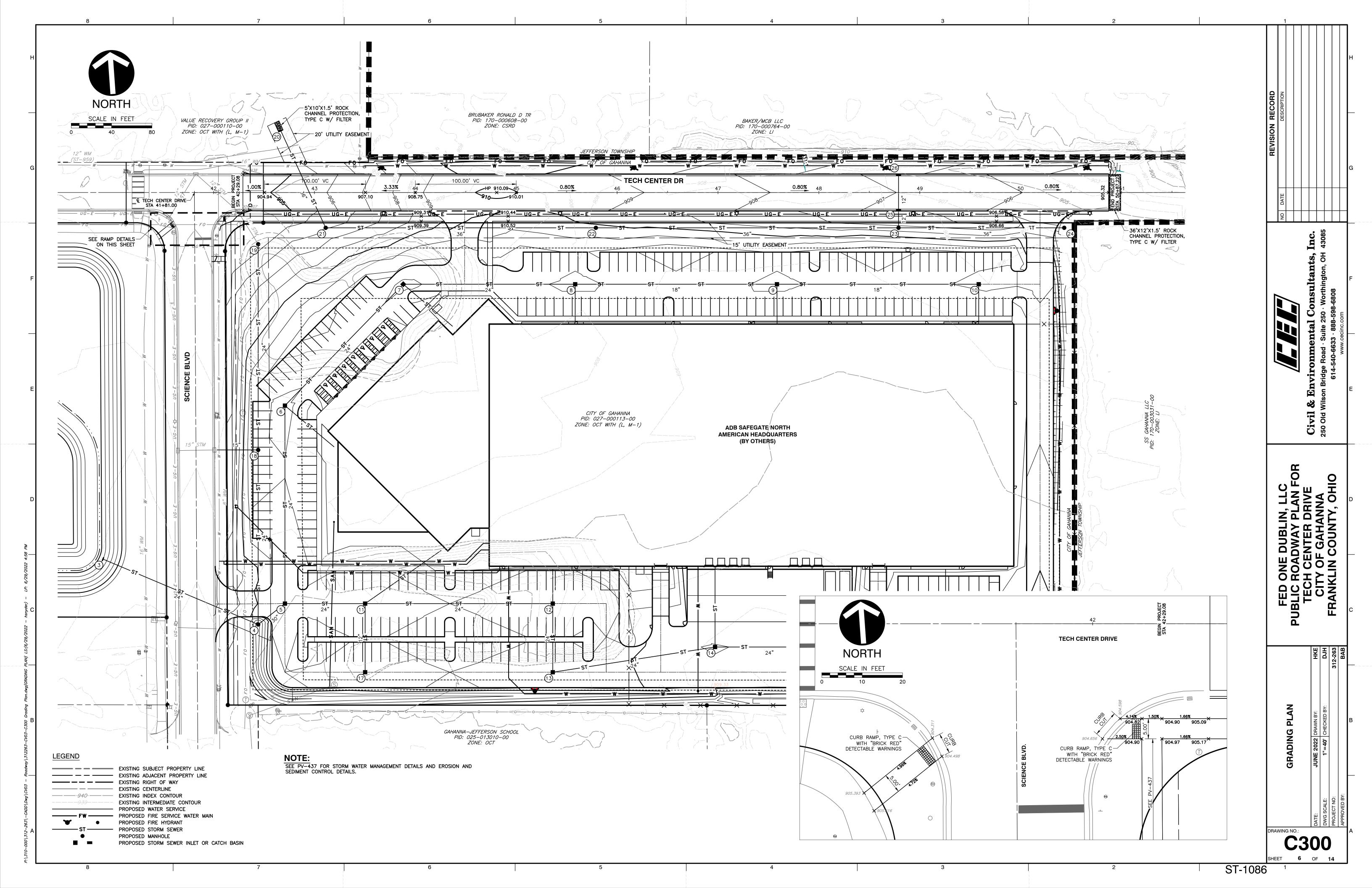


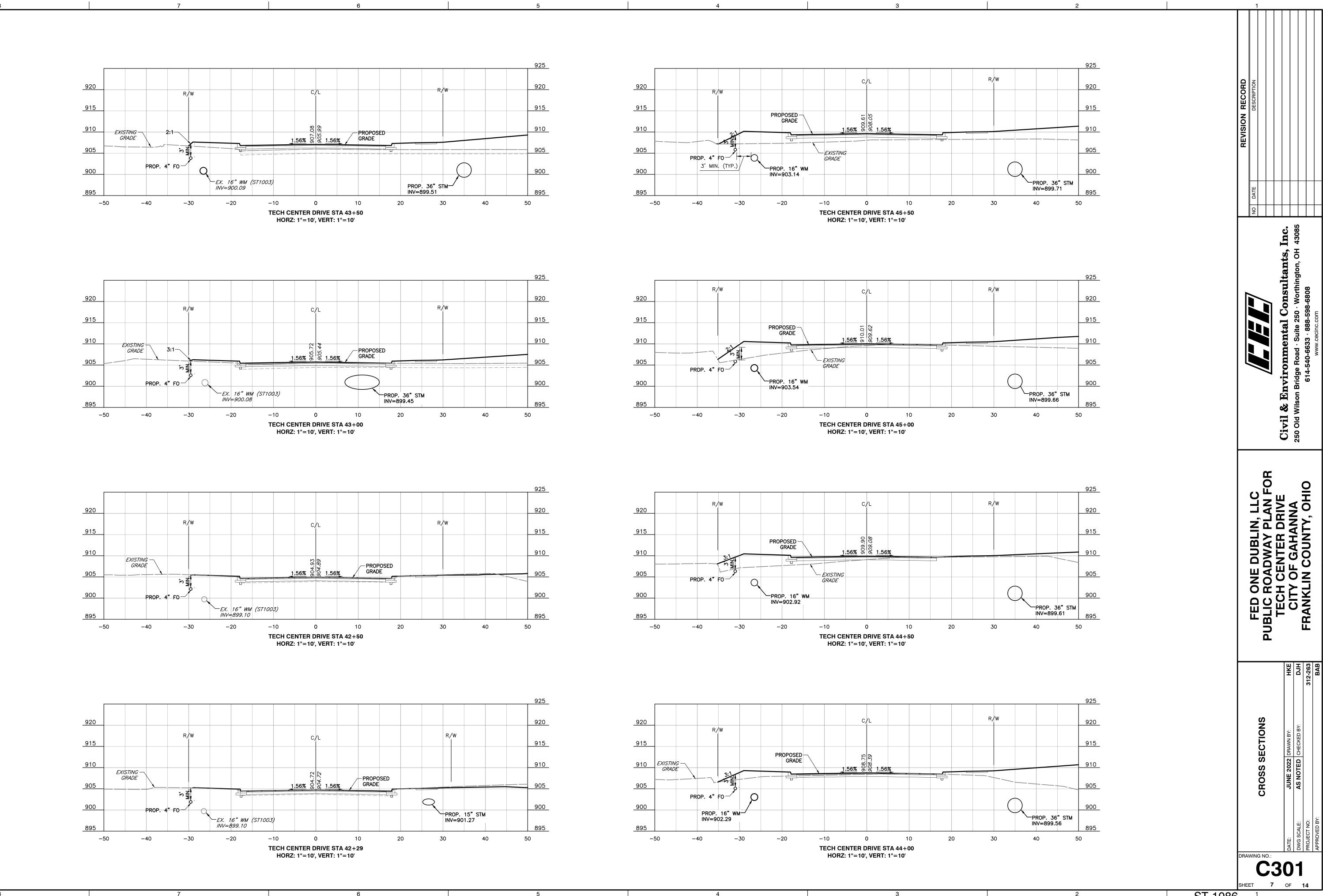


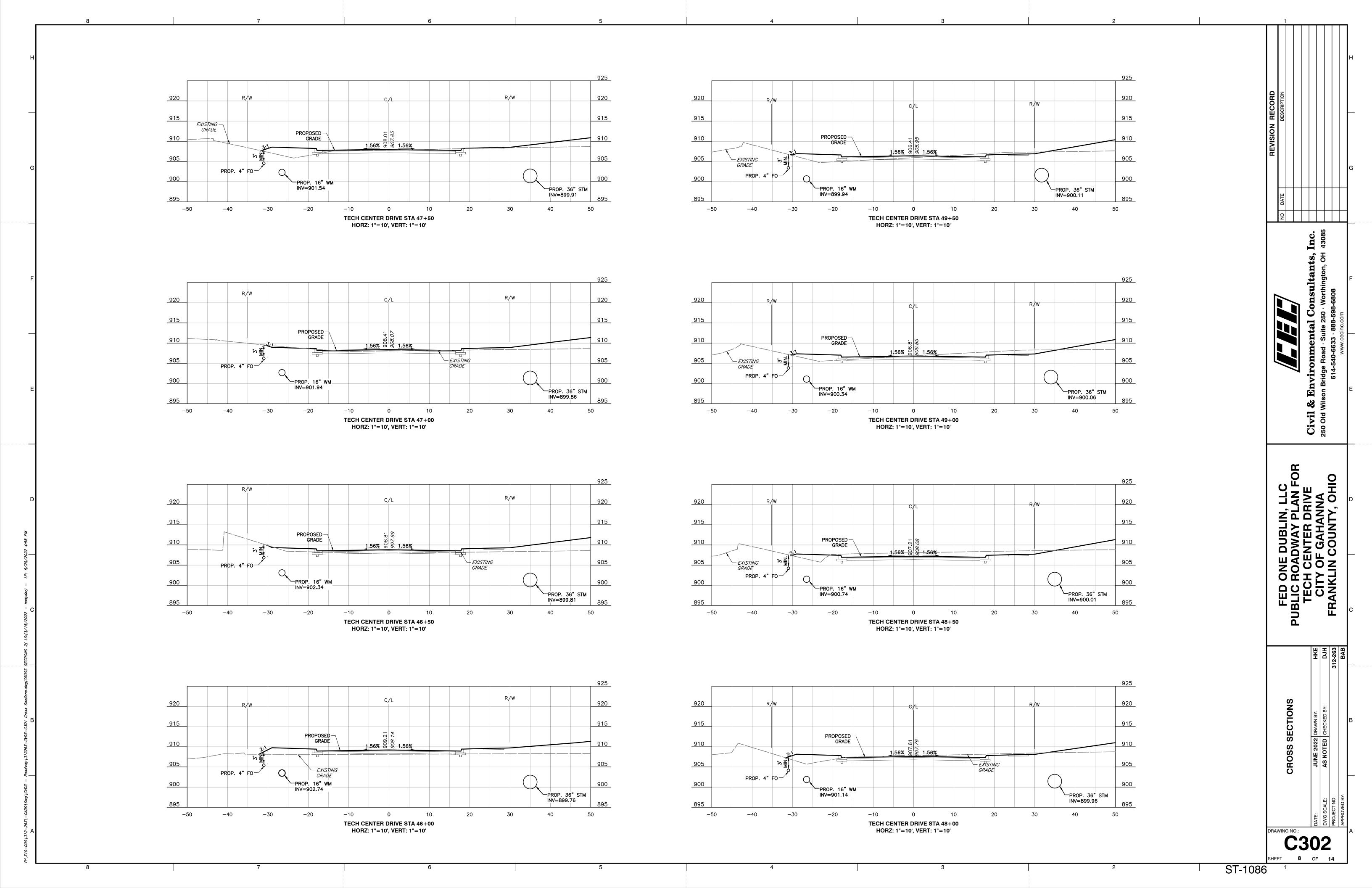


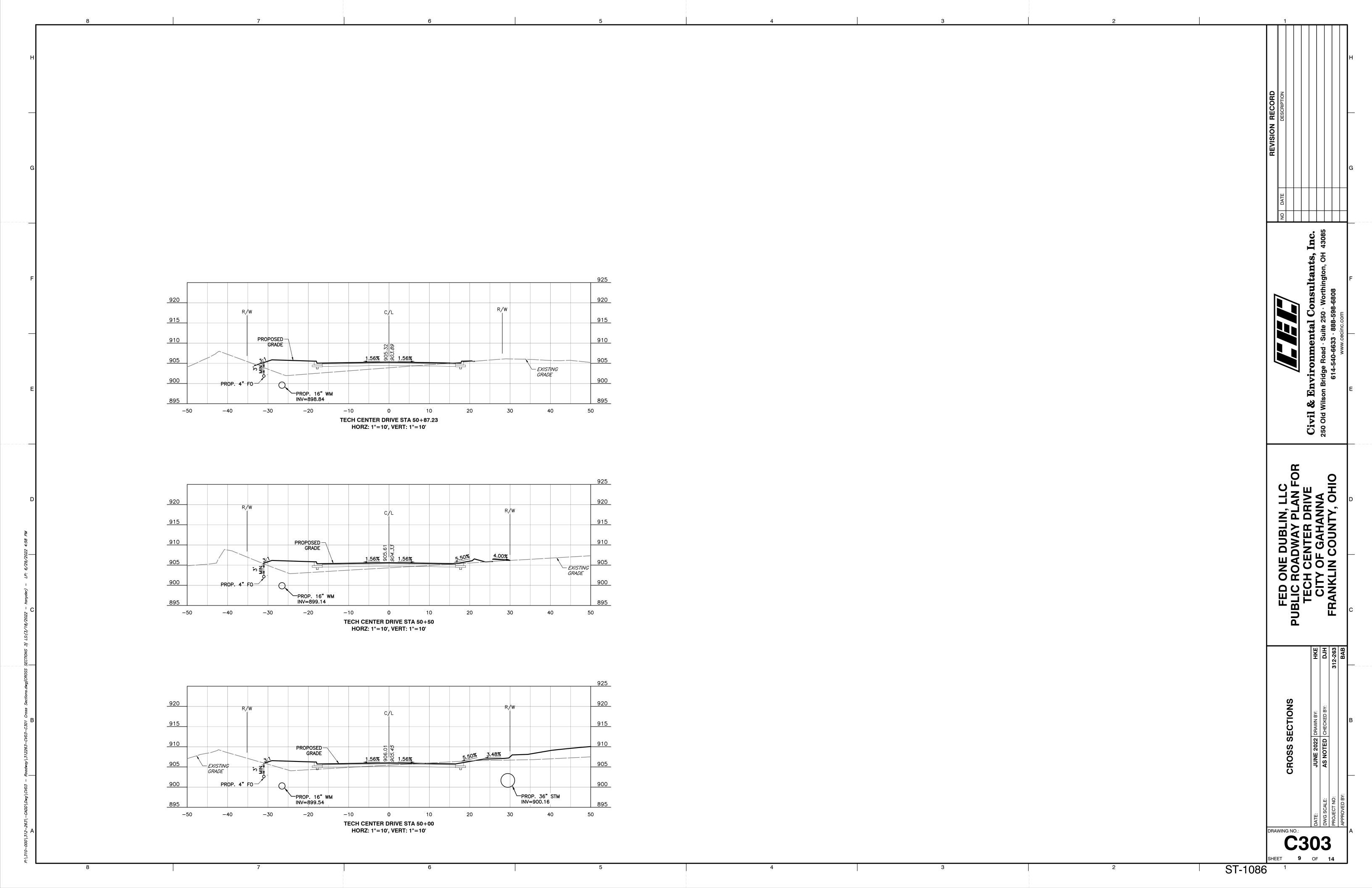


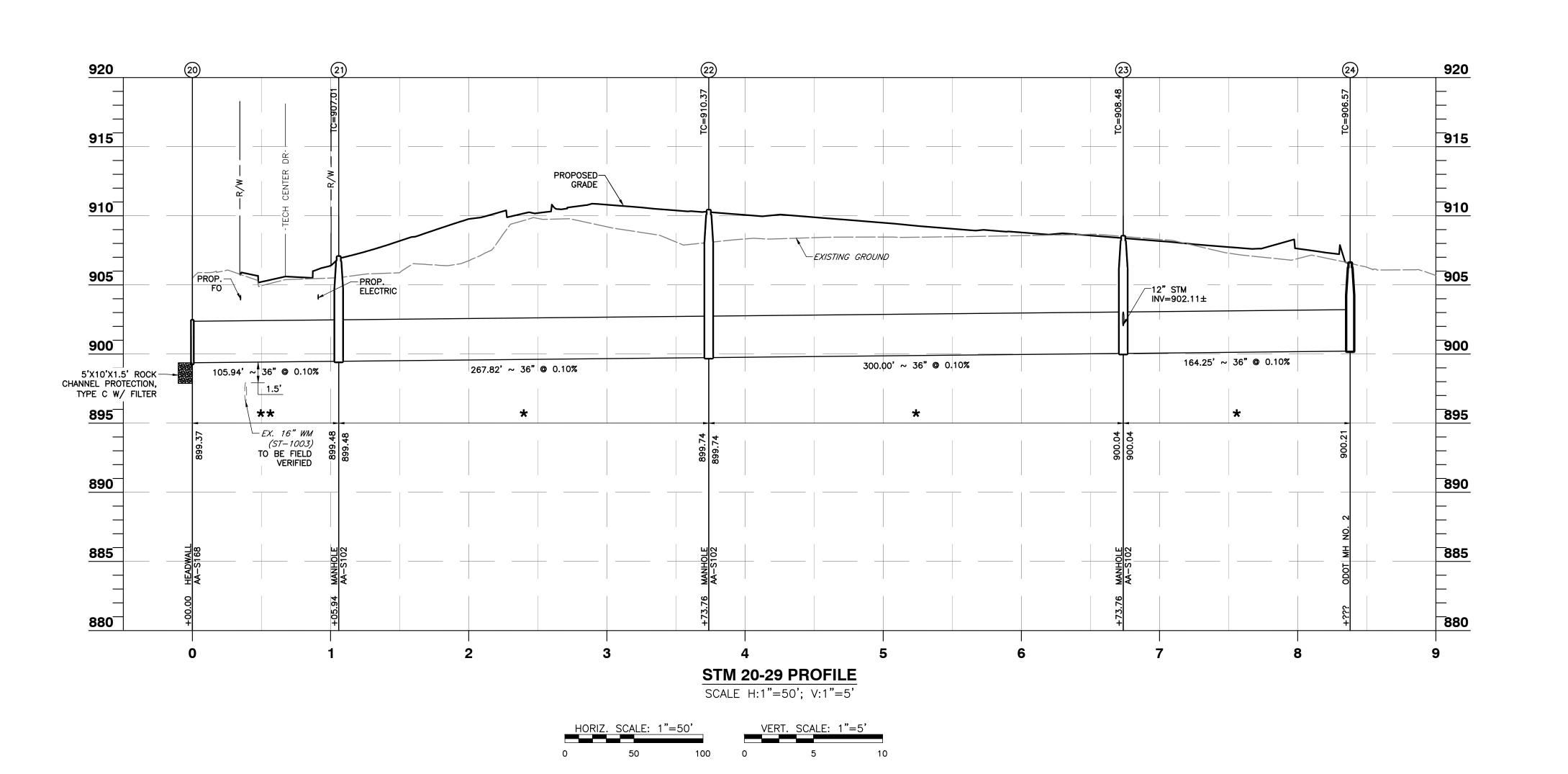








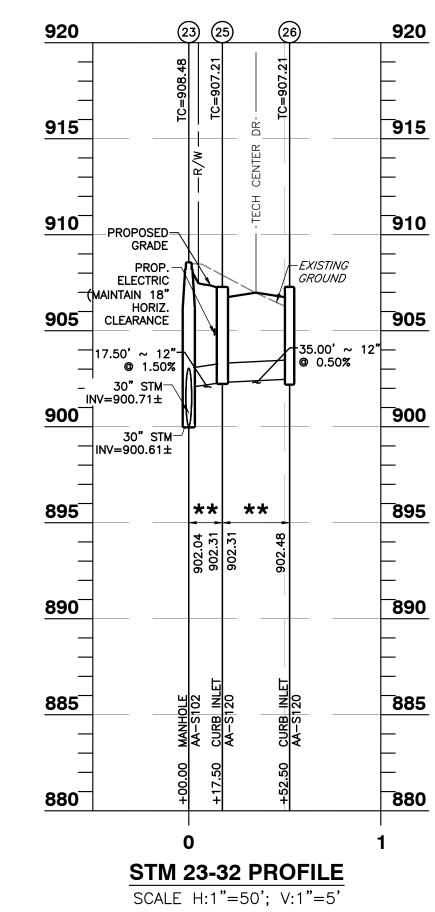




	WATERMAIN/STORM SEWER	)
WATERMAIN/EX SE	<b>* * * * * * * * * *</b>	
- WATERMAIN/EXISTING STORM SEWER BEDDING	1' MIN.  1' BEDDING MATERIAL	COMPACTED CLAY BARRIER PER ITEM 203. IN AREAS WITH LESS THAN 28" OF
1' MIN.  COMPACTED CLAY BARRIER PER ITEM 203. IN AREAS WITH LESS THAN 28" OF	BEDDING MATERIAL  SEE STD DWG AA-S149 FOR BEDDING REQUIREMENTS	BENT-O-FIX THERMAL LOCK GEOSYNTHETIC CLAY LINER (GCL) OR APPROVED EQUAL. GCL SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
MATERIAL SEPARATION, CONTRACTOR SHALL PROVIDE A	FLEXIBLE SEWER PIPE	RIGID SEWER PIPE
FOR BEDDING REQUIREMENTS  BEDDING MATERIAL  PROP. SAN  THERMAL LOCK GEOSYNTHETIC CLAY LINER (GCL) OR APPROVED EQUAL. GCL SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.  NOTE: THIS DETAIL INCLUDES BOTH SANITARY MAINLINES AND SANITARY LATERALS THAT ARE CROSSED BY STORM SEWERS OR WATERMAINS.	* INCHES    D	* INCHES    D

## (#) ANTI INFILTRATION AND INFLOW BARRIER DETAIL

NOT TO SCALE

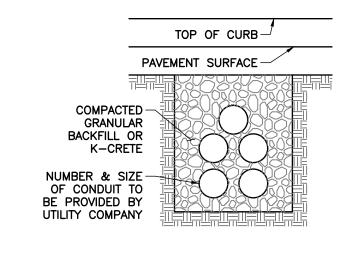


#### **NOTES:**

- BACKFILL SHALL BE COMPACTED IN HORIZONTAL LIFTS, WITH LOOSE THICKNESSES NOT EXCEEDING 8 INCHES. EACH LIFT SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE "STANDARD" COMPACTION TEST (ASTM D-698) PER ITEM 911.
- \*\* COMPACTED GRANULAR BACKFILL PER ITEM 912
- ANTI INFILTRATION AND INFLOW BARRIER, SEE DETAIL ON THIS SHEET.

ALL FILLS ARE TO BE PLACED A MINIMUM OF 2.5' ABOVE THE PROPOSED STORM SEWER PRIOR TO THE START OF SEWER CONSTRUCTION PER ITEM 203 OF THE CMSC.

18" MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN ALL STORM, SANITARY, AND WATER LINES.



GAS MAIN, ELECTRIC, TELEPHONE AND CABLE TV CONDUIT TO BE SUPPLIED BY THE FOLLOWING UTILITY COMPANIES AND INSTALLED BY THE PROJECT CONTRACTOR. THE CONTRACTOR SHALL CONTACT THE FOLLOWING UTILITIES FOR CONSTRUCTION PLANS AND CONDUITS AT LEAST 30 WORKING DAYS IN ADVANCE OF ANTICIPATED INSTALLATION. THE NUMBER AND SIZE OF ALL CONDUITS SHALL BE DETERMINED BY THE UTILITY COMPANY AT THE TIME OF CONSTRUCTION.

COLUMBIA GAS OF OHIO
JOE CODISPOTI 614-460-6354 SOUTH CENTRAL POWER CO. PHILLIP STRINGER 740-689-6237 TIME WARNER CABLE 914-255-6342 GRAHAM SMITH

PRIVATE UTILITY CONDUITS

NOT TO SCALE

Environment son Bridge Road · Suit 614-540-6633 · 8 Civil 250 Old V FED ONE DUBLIN, LLC
PUBLIC ROADWAY PLAN FOR
TECH CENTER DRIVE
CITY OF GAHANNA
FRANKLIN COUNTY, OHIO PROFIL STORM DRAWING NO.: SHEET 10 OF 14 ST-1086

STRUCTURE NO.

20

21

22

23

24

25

26

START STRUCTURE

21

22

23

23

25

NORTHING

728509.84

728410.79

728391.83

728370.59

728358.96

728388.05

728422.96

END STRUCTURE

22

23

24

25

26

STORM STRUCTURE SEWER COORDINATE CHART

STATE PLANE COORDINATES - OHIO SOUTH ZONE\*

**EASTING** 

1872434.78

1872472.35

1872739.50

1873038.74

1873202.58

1873039.98

1873042.46

105.94

267.82'

300.00'

164.25'

17.50'

35.00'

STORM ALIGNMENT TABLE

(AS-BUILT)

**BEARING** 

S 20°46'07" E

S 85°56'25" E

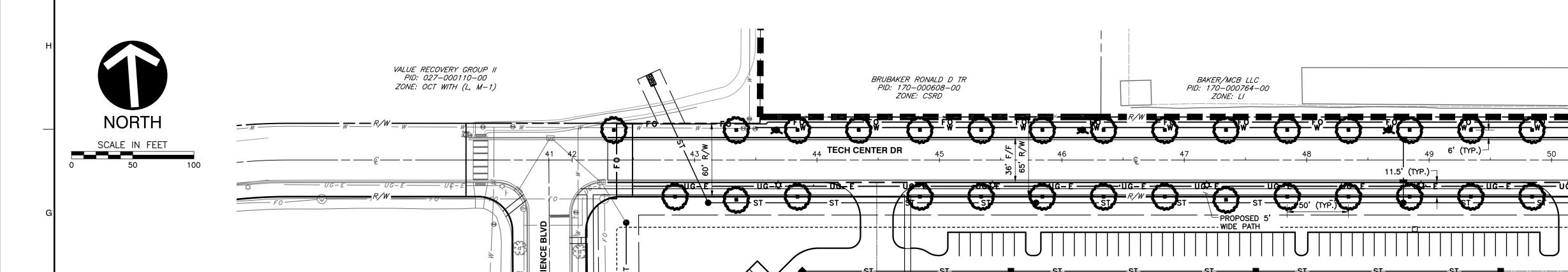
S 85°56'25" E

S 85°56'25" E

N 04°03'35" E

N 04°03'35" E

(AS-BUILT)



TECH CENTER DRIVE STREET TREE PLAN

SCALE: 1" = 50'

#### **GENERAL LANDSCAPE NOTES:**

1. ALL CONSTRUCTION METHODS AND MATERIALS MUST CONFORM TO CURRENT STANDARDS AND SPECIFICATIONS OF THE FEDERAL, STATE, COUNTY, CITY, OR LOCAL REQUIREMENTS, WHICHEVER HAS JURISDICTION.

VALUE RECOVERY GROUP II PID: 027-000110-00 ZONE: OCT WITH (L, M-1)

- 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD DIMENSIONS AND ELEVATIONS DURING THE ENTIRE CONSTRUCTION SCHEDULE. IF ANY DISCREPANCIES ARE FOUND IN THESE PLANS FROM ACTUAL FIELD DIMENSIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
- 3. CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT/RECORD DRAWINGS ON THE JOB SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
- 4. NO CHANGES TO THE SITE LANDSCAPE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
- 5. CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUALITY AND QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING AS SHOWN ON DRAWINGS.
- 6. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT "AMERICAN ASSOCIATION OF NURSERY STOCK. ANSI Z60.1-1996", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMAN.

ALL TREES PLANTED ON BERM SHALL BE PLANTED AT EXISTING GRADE.

- 7. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN FINISHED
- AND APPROVED. 8. ALL PLANTS SHALL BE PLANTED SO THAT THE ROOT CROWN IS PLANTED AT GRADE LEVEL.
- 9. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOT WRAPPING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING. REMOVE TO TOP WIRE FROM TREE BASKET. TWINE OR ROPE SHALL BE REMOVED FROM AROUND CROWN OF TRUNK TO PREVENT GIRDLING OF TREE OR SHRUB.
- 10. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL SHALL BE CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS.
- 11. THE DAY PRIOR TO PLANTING, THE LOCATIONS OF ALL TREES AND SHRUBS SHALL BE
- STAKED FOR APPROVAL BY OWNER(S). 12. THE LANDSCAPE CONTRACTOR SHALL REFER TO CONTRACT SPECIFICATIONS FOR ADDITIONAL
- REQUIREMENTS. 13. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE NEW PLANT MATERIAL THROUGH ONE (1)

CALENDAR YEAR FROM THE TIME OF SUBSTANTIAL COMPLETION OF PROJECT.

- 14. IF THERE IS A DISCREPANCY BETWEEN THE PLANS AND THE PLANT SCHEDULE, THE PLANS
- SHALL TAKE PRECEDENCE.

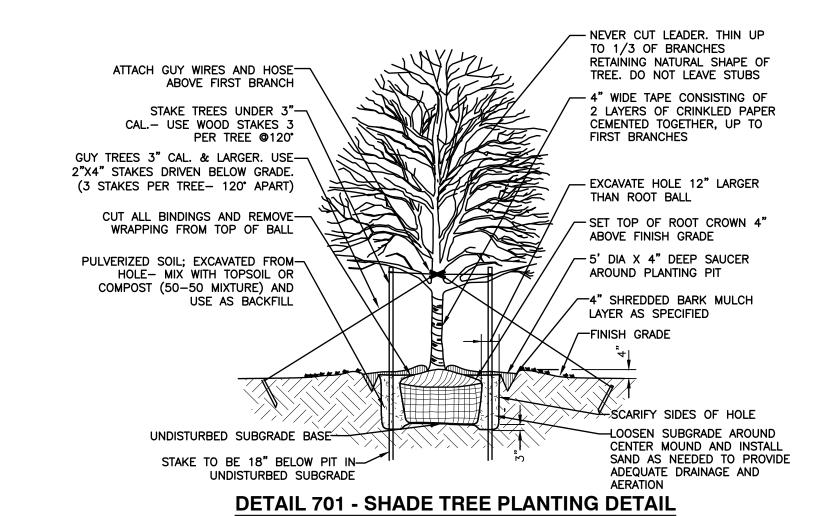
15. CONTRACTOR SHALL REPAIR ANY DAMAGE TO PROPERTY FROM PLANTING OPERATIONS AT NO

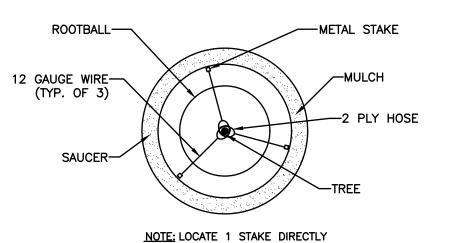
- 16. STAKES AND OR GUY WIRES SHALL BE REMOVED AFTER ONE (1) YEAR OF INSTALLATION.
- 17. ALL EXISTING LANDSCAPING SHALL BE MAINTAINED DURING CONSTRUCTION. ANY MATERIAL DEEMED DEAD OR UNSATISFACTORY BY LANDSCAPE ARCHITECT, WILL BE REPLACED
- 18. IF PLANT SPECIES SPECIFIED ARE FOUND TO BE UNAVAILABLE OR NOT IN SUFFICIENT QUANTITIES AT TIME OF PLANTING, THE CONTRACTOR MAY SUBSTITUTE SPECIES UPON WRITTEN APPROVAL BY LANDSCAPE ARCHITECT.

EQUIVALENT IN SIZE AND SHAPE AT NO COST TO OWNER.

#### TREE PLAN NOTES:

- 1. LARGE TREES TO BE PLANTED AT 50' SPACING. CONTRACTOR TO USE ULMUS AMERICANA
- 2. TREES SHALL BE DECIDUOUS, 1-1/2" CALIPER AT 12" ABOVE THE PLANTING LINE, BALED AND BURLAP. SPECIES SHALL BE QUERCUS SP. PREFERRED RED OAK, BLACK OAK OR SIMILAR BUT SHALL MEET THE GAHANNA TREE COMMISSION SPECIFICATIONS FOR "LARGE TREES" FROM PERMITTED LIST.
- 3. DEPTHS OF UTILITIES SHALL ACCOUNT FOR TREE PLACEMENT AND ROOT DEPTHS.





NOT TO SCALE

**DETAIL 700 - TREE STAKING DETAIL** NOT TO SCALE

EXISTING SUBJECT PROPERTY LINE ----- EXISTING ADJACENT PROPERTY LINE EXISTING RIGHT OF WAY - EXISTING CENTERLINE EXISTING EDGE OF PAVEMENT EXISTING STORM SEWER EXISTING STORM STRUCTURE EXISTING WATER LINE EXISTING WATER STRUCTURE EXISTING LIGHT POLE  $-\bar{Fo}$  Existing fiber optics - SAN ----- PROPOSED SANITARY SEWER PROPOSED SANITARY MANHOLE 囡 PROPOSED SANITARY SERVICE - DW ----- PROPOSED DOMESTIC WATER MAIN PROPOSED WATER SERVICE Civil 250 Old PROPOSED FIRE HYDRANT PROPOSED STORM SEWER PROPOSED MANHOLE PROPOSED STORM SEWER INLET OR CATCH BASIN PROPOSED HEADWALL PROPOSED LIGHT POLE FED ONE DUBLIN, L PUBLIC ROADWAY PLA TECH CENTER DRIV CITY OF GAHANN, FRANKLIN COUNTY, (

**LEGEND** 

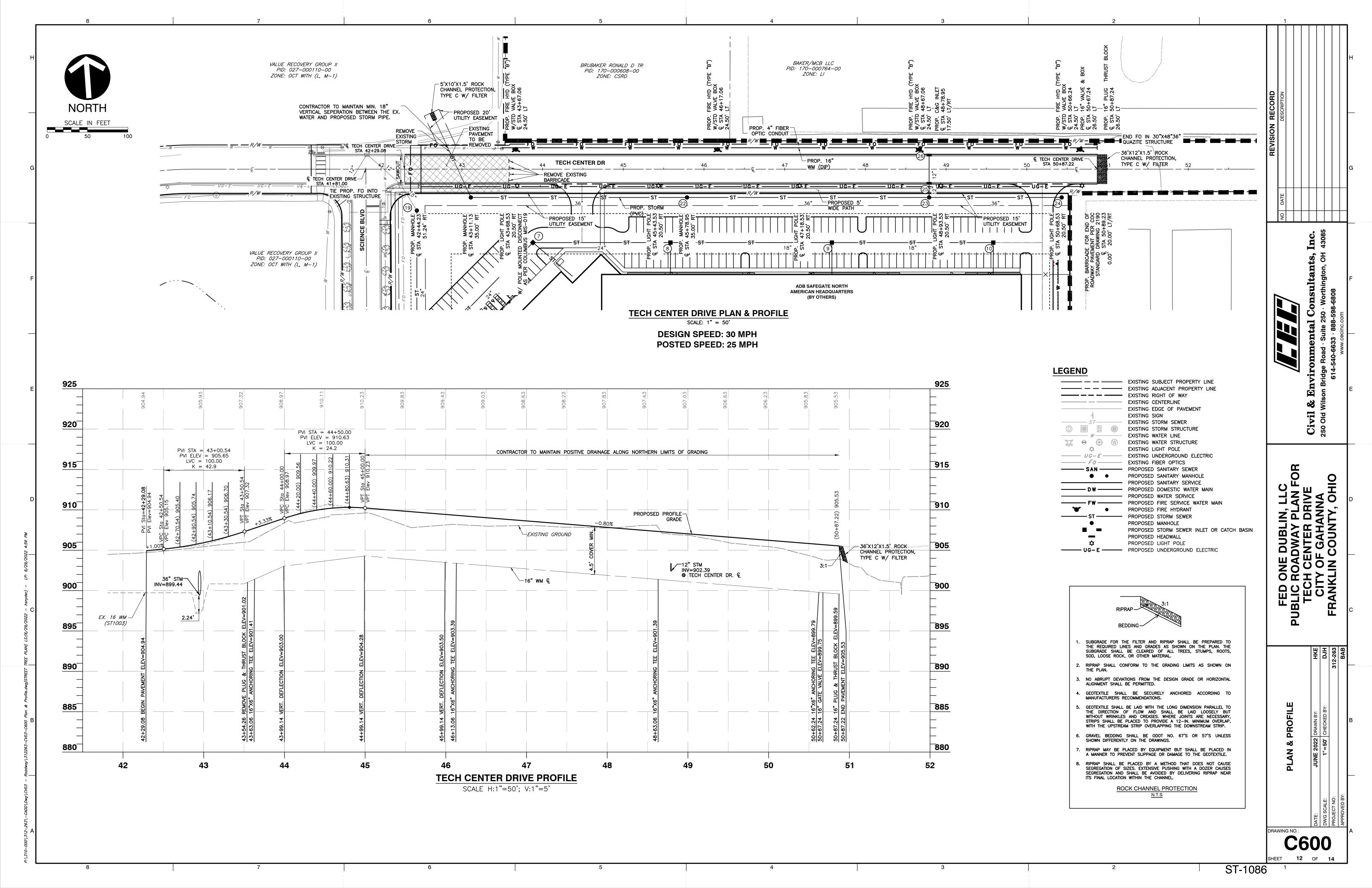
EXISTING SIGN

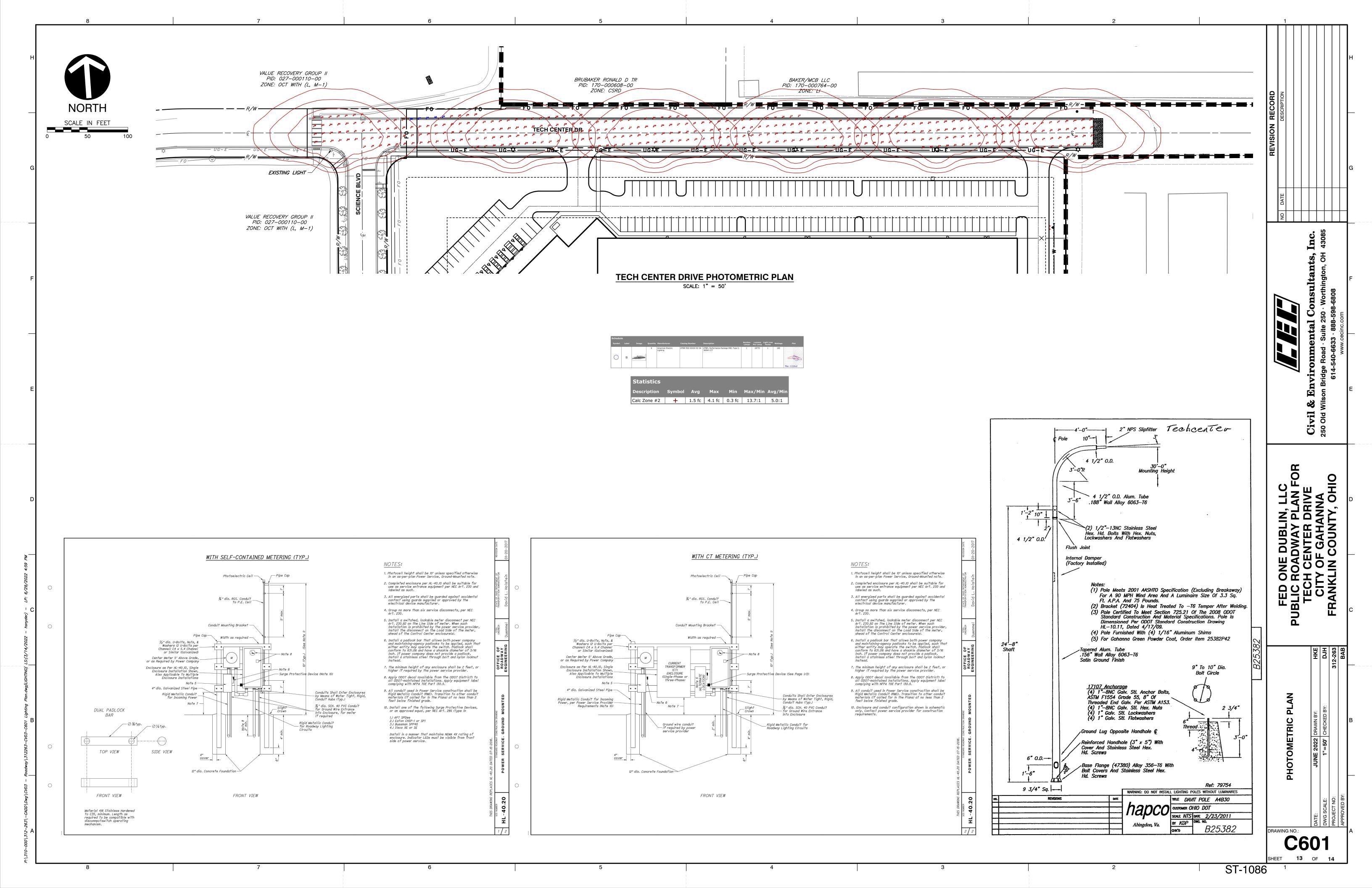
PROPOSED TREE

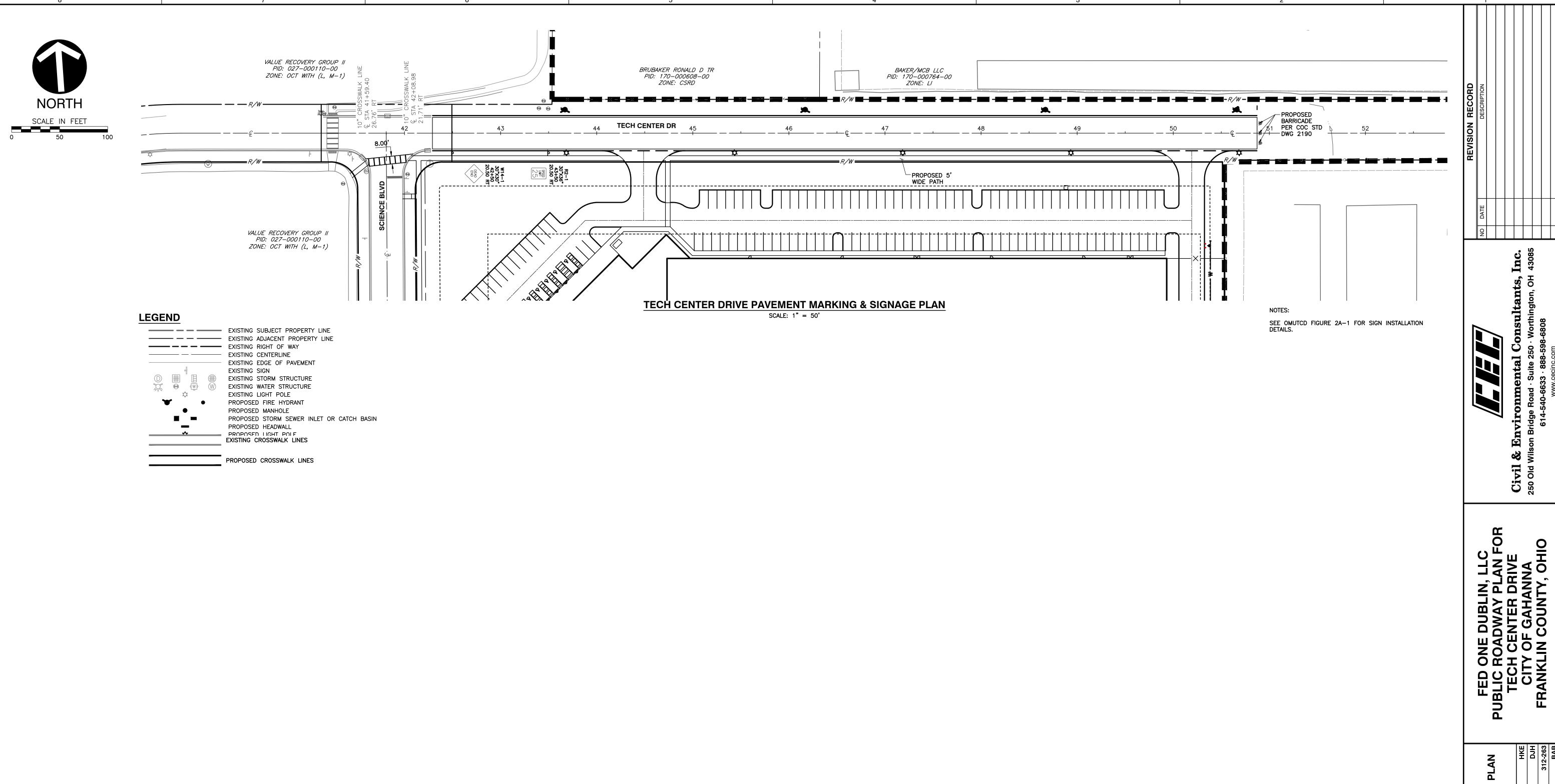
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