SUMMIT COUNTY SURFACE WATER MANAGEMENT DISTRICT COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

SUMMIT COUNTY, COPLEY, OHIO 44321 APRIL 2025

OWNER:

SUMMIT COUNTY ENGINEER
538 EAST SOUTH STREET
AKRON, OH 44311
330-808-5600
CONTACT: CHARLES HAUBER, P.E., P.S.,
ENGINEER PROJECT MANAGER

DESIGNED BY:

ENVIROSCIENCE, INC. 5070 STOW ROAD STOW, OHIO 44224 PHONE: 880-940-4025 CONTACT: ANGELINA D. HOTZ, P.E.

PREPARED BY:

APPROVED BY:

ENVIROSCIENCE, INC - ANGELINA D HOTZ DATE

PREPARED FOR:

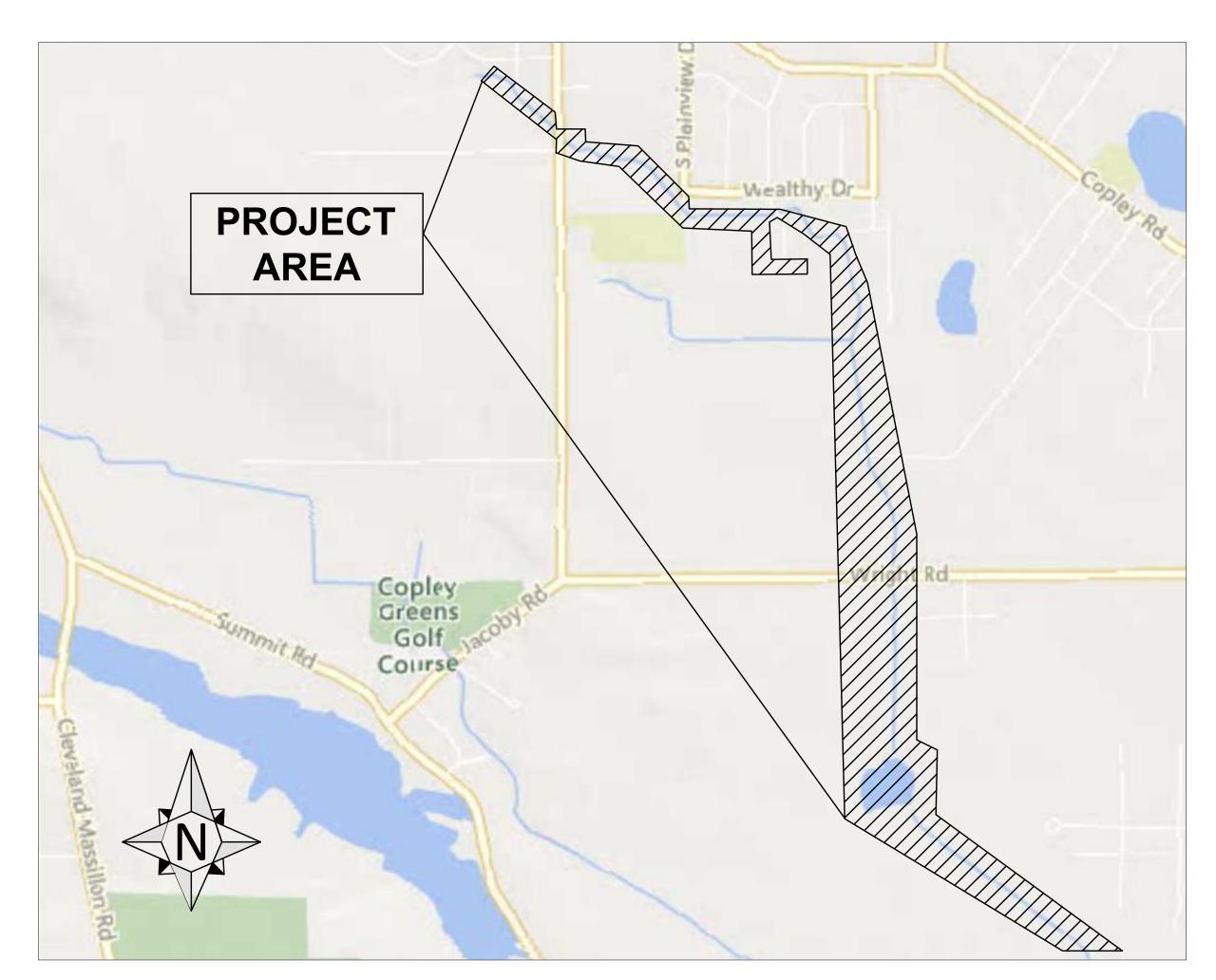
APPROVED BY:

SUMMIT COUNTY ENGINEER

DATE

2023 SPECIFICATIONS:

ALL ITEM NUMBERS REFER TO THE LATEST STATE OF OHIO, DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, UNLESS NOTED OTHERWISE. WITH EXCEPTION TO PAYMENT, ALL EQUIPMENT, MATERIAL, AND WORKMANSHIP SHALL BE PERFORMED ACCORDING TO THESE SPECIFICATIONS AND ANY REFERENCED OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS AND SUMMIT COUNTY ENGINEER'S STANDARDS NOTED THROUGHOUT THE PLANS.



SITE LOCATION MAP

SCALE: 1" = 1000'

FINAL DESIGN

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STANDARD DRAWINGS

MOT-97.10 FLAGGER CLOSING 1 LANE OF A 2-LANE HIGHWAY - STATIONARY OPERATION MT-101.60 ROAD CLOSURE USING TYPE 2 BARRICADES

PROJECT DESCRIPTION:

THE COPLEY DITCH (COUNTY DITCH NO. 38) HAS BEEN SUBJECT TO SEVERE EROSION AND HAS CAUSED FLOODING DURING MAJOR STORMS IN RECENT YEARS. THE PROPOSED PROJECT WILL REPAIR THE WATERCOURSE AND INSTALL MEASURES TO MITIGATE THE EROSIVE AND FLOODING EFFECT OF FUTURE STORMS. REPAIR OF THE DRAINAGE COURSE WILL INCLUDE NUMEROUS MEASURES SUCH AS CLEANING, REMOVING OBSTRUCTIONS, REGRADING, RESTORING, RECONSTRUCTING, AND STABILIZATION. THE PROPOSED CHANNEL IMPROVEMENTS WILL REDUCE EROSION, SCOUR AND FLOODING AND IMPROVE STORM WATER QUALITY.

THE DRAINAGE COURSE LOCATION IS DESCRIBED AS RUNNING NORTHERLY FROM THE COPLEY TOWNSHIP LINE / NORTON CORPORATION LIMIT, CROSSING WRIGHT ROAD (C.H. 206) AND CONTINUING NORTHERLY AND NORTHWESTERLY ACROSS JACOBY ROAD (C.H. 208). THE ADJACENT LAND IS AGRICULTURAL AND RESIDENTIAL LOCATED IN COPLEY TOWNSHIP, SUMMIT COUNTY, OHIO.

EARTH DISTURBED AREA:

PROJECT EARTH DISTURBED AREA (INCLUDES STAGING AND ACCESS AREAS): 9.91 AC

PREPARED BY:





THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE SUMMIT COUNTY ENGINEER (THE OWNER) PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL PROVIDE 48 HOUR NOTICE TO THE OWNER AND THE SUMMIT COUNTY SOIL AND WATER CONSERVATION DISTRICT TO SCHEDULE INSPECTIONS. THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN EARTH DISTURBING ACTIVITY ARE REQUIRED TO SIGN A SUBCONTRACTOR CERTIFICATION AND SUBMIT AN OHIO EPA CO-PERMITTEE FORM. A COPY OF SIGNED CO-PERMITTEE FORM SHALL BE KEPT WITH THE SWPPP

ALL WORK COMPLETED SHALL BE GOVERNED BY THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE SUMMIT COUNTY ENGINEER AND AT ALL TIMES BE SUBJECT TO THEIR DIRECT SUPERVISION AND INSPECTION.

ALL WORK COMPLETED UNDER THIS CONTRACT SHALL COMPLY WITH THE US DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

THE CONTRACTOR SHALL KEEP A LEGIBLE AND CURRENT COPY OF THE APPROVED PLANS AND BID SPECIFICATIONS ON SITE AT

ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR. THE COST OF SAME SHALL BE INCLUDED IN UNIT PRICES FOR THE VARIOUS RELATED ITEMS.

ANY MATERIAL OR ITEM OF WORK WHICH HAS NO SPECIFICATION, SHALL BE APPROVED BY THE OWNER. COST SHALL BE INCLUDED IN THE PRICES FOR THE VARIOUS RELATED ITEMS.

ANY DEFECTS IN CONSTRUCTION, INCLUDING MATERIALS OR WORKMANSHIP, SHALL BE CORRECTED BY REMOVAL AND REPLACEMENT OR OTHER APPROVED METHODS PRIOR TO ACCEPTANCE BY THE OWNER. THE COST SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

ANY MODIFICATIONS TO THE WORK AS SHOWN ON THESE APPROVED PLANS SHALL HAVE PRIOR WRITTEN APPROVAL OF THE OWNER PRIOR TO PERFORMING THE WORK.

MATERIALS AND EQUIPMENT SHALL NOT BE STORED IN PUBLIC RIGHT OF WAYS OR WITHIN THE DRIP LINE OF EXISTING TREES TO REMAIN. ON-SITE STORAGE AREAS, NOT NOTED ON THE PLANS, MUST BE APPROVED BY THE OWNER PRIOR TO PLACING ANY MATERIAL OR EQUIPMENT.

PDF AS-BUILTS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE OWNER PRIOR TO RELEASE OF FINAL RETAINER.

1. CONSTRUCTION GENERAL SEQUENCE

CONSTRUCTION WILL FOLLOW THE GENERAL SEQUENCE OF:

- OUPS COORDINATION;
- MOBILIZE TO SITE, ENSURE ALL EQUIPMENT BROUGHT TO THE SITE IS CLEAN. DIRTY EQUIPMENT SHALL NOT BE PERMITTED:
- INSTALL EROSION AND SEDIMENT CONTROLS;
- CONSTRUCT TEMPORARY ACCESS ROADS AND STAGING AREAS;
- TREE AND VEGETATION CLEARING AND GRUBBING; VEGETATION WILL BE CLEARED DURING APPROPRIATE TIMEFRAME FROM OCTOBER 1ST TO MARCH 31ST;
- SITE LAYOUT AND ESTABLISH WORKING LIMITS;
- INITIATE WATER CONTROL/DIVERSION PROCEDURES (AS NECESSARY);
- STRIP AND STOCKPILE TOPSOIL AS NECESSARY IN GRADING AREAS;
- TIME AND STOCKFILE TOPSOIL AS NECESSANT IN GRADING AREAS,
- BEGIN UPSTREAM AND WORK IN A DOWNSTREAM DIRECTION FOR STREAM IMPROVEMENTS;
- BEGIN EARTHMOVING ACTIVITIES INCLUDING EXCAVATION AND GRADING OF IMPROVEMENT FEATURES;
- EXCAVATE NEW STREAM ALIGNMENT PROFILE TO SUBGRADE;
- IMPORT ROCK SUBSTRATE MATERIAL AND INSTALLED TO FINISH GRADES;
 PERFORM FINISH GRADING;
- SPOIL MATERIALS IN DESIGNATED SPOIL LOCATIONS OR HAUL OFF SITE;
- INSTALL STOCKPILED TOPSOIL TO FINISH GRADE;
- SEED, STABILIZE, AND INSTALL EROSION CONTROL FABRIC;
- INSTALL NATIVE PLANTINGS. REMOBILIZATION MAY BE NECESSARY DEPENDING ON TIMING OF PLANTINGS;
- CONTRACTOR SHALL REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE SITE HAS REACHED
- STABILIZATION REQUIREMENTS;
- DEMOBILIZE.

. PERMITS

WORK WITHIN PROJECT SITE/LIMITS IS SUBJECT TO U.S. ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION (I.E., JURISDICTIONAL WATERS OF THE U.S.). ANY IMPACTS AND PLACEMENT OF FILL TO JURISDICTIONAL WATERS OUTSIDE OF THE PROJECT LIMITS IS PROHIBITED. THE FOLLOWING PERMITS APPLY TO THIS PROJECT:

- NATIONWIDE PERMIT (NWP) 27 FROM THE U.S. ARMY CORPS OF ENGINEERS (USACE). NO PCN IS REQUIRED
- LOCAL FLOODPLAIN PERMIT; FEMA CLOMR / LOMR
- OHIO EPA NOTICE OF INTENT (NOI) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER AN NPDES GENERAL PERMIT.
- VARIANCE FROM COPLEY TOWNSHIP FOR RIPARIAN SETBACK.

3. QUALITY ASSURANCE, QUALITY CONTROL, AND OWNER OVERSIGHT

FIELD OBSERVATION/CONSTRUCTION OVERSIGHT WILL BE CONDUCTED BY SUMMIT COUNTY ENGINEER AND/OR THEIR CONSTRUCTION REPRESENTATIVE. A SUMMIT COUNTY ENGINEER STAFF MEMBER OR ITS DESIGNATED REPRESENTATIVE SHALL BE CONSULTED WITH PRIOR TO THE CONSTRUCTION AND PLACEMENT OF RESTORATION FEATURES. THE CONTRACTOR SHALL COORDINATE WITH THE CONSTRUCTION REPRESENTATIVE FOR EVALUATION OF CHANNEL GRADING, ANY TEMPORARY STREAM CROSSINGS, SUBGRADES, SUBSTRATES INCLUDING BANK RUN, GRAVELS, COBBLES AND BOULDERS, AND ANY BOULDER HABITAT STRUCTURES AND PLANTINGS.

THE CONSTRUCTION REPRESENTATIVE SHALL DETERMINE THE ACCEPTABILITY OF ALL STREAM CONSTRUCTION AND ITS PROCEDURES. THERE WILL BE CONSTANT REVIEW OF ALL MATERIALS, CONSTRUCTION PRACTICES, AND THE QUALITY AND QUANTITY OF ALL PHASES OF THE RIVER RESTORATION PORTION OF THE PROJECT. THE CONSTRUCTION REPRESENTATIVE SHALL HAVE AUTHORITY TO REQUEST STREAM FEATURE ADJUSTMENTS AS MAY BE NECESSARY TO BEST MEET THE RESTORATION OBJECTIVES. EVALUATION OF CONSTRUCTED GRADES WILL DETERMINE APPROVAL. ALL RESTORATION ELEMENTS SHALL NOT BE CONSIDERED COMPLETE UNTIL APPROVED BY THE CONSTRUCTION REPRESENTATIVE.

PRIOR TO ANY MATERIAL BEING DELIVERED TO THE SITE, THE CONTRACTOR SHALL SUBMIT TO THE SUMMIT COUNTY ENGINEER AND THEIR CONSTRUCTION REPRESENTATIVE DOCUMENTATION OF THE MATERIAL SPECIFICATIONS FROM THE VENDOR/SUPPLIER. MATERIAL SUBMITTALS SHALL INCLUDE SOURCE LOCATION, SIZES, QUALITY AND PHOTOS (WHEN APPLICABLE FOR ROCK MATERIAL). THE SUBMITTAL SHALL DEMONSTRATE COMPLETE CONFORMANCE WITH THE REQUIREMENTS OF THE MATERIAL SPECIFICATION. ANY SUBSTITUTIONS SHALL BE APPROVED BY THE SUMMIT COUNTY ENGINEER AND THE CONSTRUCTION REPRESENTATIVE.

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, AND CONCRETE MONUMENTS, OR ANY TYPE OF LAND MONUMENT. THE CONTRACTOR SHALL HAVE ALL MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. THE CONTRACTOR SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY A REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

THE CONTRACTOR SHALL PERFORM WORK AS TO NOT DISTURB, DAMAGE OR DESTROY ANY FENCES, LANDSCAPING ITEMS, CART PATHS, BRIDGES, GABION BASKETS ETC., UNLESS SPECIFIED. ANY ITEM DAMAGED OR DESTROYED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY ITEM DISTURBED OR IN CONFLICT WITH THE PROPOSED WORK SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR WILL COORDINATE WITH THE CONSTRUCTION OVERSIGHT REPRESENTATIVE TO VERIFY SUBGRADE AND FINISHED GRADE ELEVATIONS OF THE STREAMBED AND BANKFULL FLOODPLAIN FEATURES.

4. CLEARING AND GRUBBING

NO TREE REMOVAL WILL BE PERMITTED OUTSIDE THE LIMITS OF WORK INDICATED ON THE PLANS UNLESS AUTHORIZED. TREE REMOVAL IS SUBJECT TO THREATENED AND ENDANGERED (T&E) BAT REQUIREMENTS. CLEARING MUST OCCUR FROM OCTOBER 1ST TO MARCH 31ST, OR AS SPECIFIED BY THE US FISH & WILDLIFE SERVICE (USFWS).

TREE CLEARING MUST BE REVIEWED BY THE CONSTRUCTION REPRESENTATIVE PRIOR TO CUTTING. ONLY TREES MARKED

AS TO BE REMOVED SHOULD BE CUT UNLESS INSTRUCTED OTHERWISE BY THE CONSTRUCTION REPRESENTATIVE.

AREAS TO BE GRADED SHALL BE CLEARED AND GRUBBED PER ODOT ITEM 201. TREE AND STUMP REMOVAL SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR CLEARING AND GRUBBING.

5. EARTHWORK

EXCAVATION, EMBANKMENT AND COMPACTION SHALL COMPLY WITH ODOT ITEM 203, UNLESS NOTED OTHERWISE IN THE PLANS. ALL EARTHWORK, INCLUDING FURNISHING SUITABLE MATERIAL NECESSARY TO ACHIEVE THE PLAN ELEVATIONS AND GRADES, SHALL BE INCLUDED IN THE UNIT PRICE FOR EXCAVATION OR EMBANKMENT.

CONTRACTOR SHALL MAINTAIN UNIFORM AND POSITIVE SLOPES ON ALL GRADED SURFACES, WITH THE EXCEPTION OF THE FLOODPLAIN AREAS WHICH SHALL BE GRADED TO A FLAT ELEVATION, UNLESS OTHERWISE NOTED ON THE PLANS.

SUBGRADE SHALL BE APPROVED BY THE OWNER OR THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO SPREADING TORSOIL

CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS SHOWN ON THE DRAWINGS. ANY EXCESS MATERIAL SHALL BE HAULED FROM SITE AND LEGALLY DISPOSED OF. MATERIALS SPOILED ON SITE IN THE IDENTIFIED SPOIL AREAS (BERM) SHALL BE GRADED SMOOTHLY WITH A NATURAL APPEARANCE, SHALL NOT IMPEDE SURFACE DRAINAGE, AND SHALL BE TOPPED WITH TOPSOIL AND SEEDED.

6. WATER MANAGEMENT

THE CONTINUATION OF STREAM FLOW FROM UPSTREAM TO DOWNSTREAM BEYOND THE END OF THE PROJECT MUST BE MAINTAINED AT ALL TIMES. TEMPORARY DAMMING TO COMPLETELY STOP FLOW IS PROHIBITED. TEMPORARY DAMMING TO FACILITATE BYPASS PUMPING IS PERMITTED. CHANNEL DIVERSION IS NOT EXPECTED TO BE NECESSARY. IF NECESSARY, BYPASS PUMPING IS PERMITTED AS LONG AS PROPER EROSION AND SEDIMENT CONTROL BMP'S ARE FOLLOWED.

IN RIVER WORK, SUCH AS RIFFLE RESTORATION, PLACEMENT OF MATERIALS OR SUBSTRATE, AND BANK STABILIZATION SHALL MINIMIZE WORKING IN FLOWING WATER BY COFFERING OR DIVERSION OF WATER AWAY FROM THE ACTIVE WORK AREA THROUGH PUMPING BYPASS.

THE CONTRACTOR IS RESPONSIBLE FOR CONTROL OF SURFACE WATER, SUBSURFACE WATER, AND DRAINAGE DURING THE CONSTRUCTION PERIOD. ALL TEMPORARY FILLS, CROSSINGS, AND CULVERTS NECESSARY TO PROMOTE DRAINAGE DURING CONSTRUCTION WILL BE INSTALLED AND REMOVED AT THE CONTRACTOR'S EXPENSE PRIOR TO ACCEPTANCE OF THE WORK. ANY CLAIMS ARISING FROM UPSTREAM OR DOWNSTREAM DAMAGES AS A RESULT OF THE CONSTRUCTION OR FAILURE OF THESE TEMPORARY WORKS WILL BE THE CONTRACTOR'S RESPONSIBILITY.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTROL THE SURFACE AND SUBSURFACE WATER AND DRAINAGE IN ANY EXCAVATION AREA, DEWATERING PLACEMENT AREA AND BORROW AREA. SHOULD MATERIAL QUALITY LESSEN THROUGH INADEQUATE DRAINAGE, THE CONTRACTOR MAY BE DIRECTED BY THE CONSTRUCTION REPRESENTATIVE TO CONSTRUCT DRAINAGE FACILITIES AT THE CONTRACTOR'S EXPENSE.

ALL PIPE OUTLETS ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. THE CONTRACTOR SHALL CUT OR EXTEND PIPE TO ADJUST TO PROPOSED BANK GRADE USING THE DETAIL INCLUDED ON SHEET 32. ROCK CHANNEL PROTECTION SHALL BE PROVIDED FOR EROSION CONTROL, AS DIRECTED BY THE OWNER OR THEIR CONSTRUCTION REPRESENTATIVE, FOR ALL PIPE OUTLETS INTO THE STREAMBANK OR FLOODPLAIN.

7. TOPSOIL AND SEED PREPARATION

TOPSOIL SHALL BE STRIPPED AND STOCKPILED ON-SITE PER ODOT 651. TOPSOIL SHALL BE RE-SPREAD PER ODOT 652 TO ACHIEVE FINISH GRADE WITH 5-INCHES MIN. MAXIMUM OF 1 FOOT. EXCESS TOPSOIL SHALL BE STOCKPILED FOR USE TO COVER PROPOSED SPOIL AREAS. PRIOR TO TOPSOIL INSTALLATION SUBGRADE SHALL BE DECOMPACTED TO A MINIMUM DEPTH OF 1 FOOT USING RIPPER ATTACHMENT. PRIOR TO SEEDING ALL AREAS MUST BE INSPECTED AND APPROVED BY CONSTRUCTION REPRESENTATIVE. AFTER TOPSOIL INSTALLATION AREAS SHALL BE PREPPED FOR SEED INSTALLATION USING A SKID STEER TILLER ATTACHMENT. NATIVE AND TEMPORARY SEED MIXES SHALL THEN BE INSTALLED.

FOLLOWING SEED APPLICATION TOPSOILS SHALL BE PROTECTED WITH SUITABLE STRAW MULCH OR EROSION FABRIC DEEMED SUITABLE TO WITHSTAND THE LEVEL OF RISK ASSOCIATED WITH POTENTIAL FLOODING, WIND OR OTHER RISK WITH THE POTENTIAL TO THREATEN TOPSOIL OR SEED VIABILITY.

TOPSOILS SHALL NOT BE OVERCOMPACTED. OVERCOMPACTED TOPSOIL OR AREAS DEEMED UNSUITABLE UPON INSPECTION SHALL BE MODIFIED TO SUITABLE GROWING CONDITIONS. TOPSOIL AND SUBGRADE MATERIAL SHOULD BE ABLE TO BE PENETRATED TO FULL SHOVEL DEPTH WITH LIGHT FORCE FROM A NORMAL SPADE SHOVEL.

IF PLANS REQUIRE IMPORTED TOPSOIL OR STOCKPILED TOPSOIL IS INSUFFICIENT TO COMPLETE FINISHED GRADES, AN APPROVED IMPORTED TOPSOIL SHALL BE INSTALLED, PER ODOT ITEM 653.

8. SITE ACCESS

CONSTRUCTION ACCESS TO THE SITE SHALL BE PROVIDED, AS SHOWN IN THE PLANS. ALL CONSTRUCTION VEHICLES SHALL ACCESS/LEAVE SITE FROM DESIGNATED ACCESS POINTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS NECESSARY ALONG CONSTRUCTION ACCESS ROUTE AND STAGING AREA. THE ACCESS ROUTES AND STAGING AREA SHALL BE DECOMPACTED AND SEEDED UPON COMPLETION OF THE WORK. ANY DAMAGE CAUSED TO ROADS, SIDEWALKS, BRIDGES OR OTHER SITE FEATURES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. RESTORATION OF THE STAGING AND ACCESS AREAS UPON COMPLETION OF WORK IS INCLUDED IN THE UNIT BID FOR MOBILIZATION.

9. TEMPORARY STREAM CROSSING

TEMPORARY STREAM CROSSING IF NECESSARY AT A LOCATION WHERE CONSTRUCTION EQUIPMENT WILL CROSS THE STREAM THE CONTRACTOR SHALL CONSTRUCT A STABLE CROSSING FROM ONE OF TWO OPTIONS.

TIMBERMAT CROSSING: USING VARIOUS COMBINATIONS AND CONFIGURATIONS OF TIMBERMATS PLACED PARALLEL AND ACROSS CHANNELS CAN BE USED AS A CROSSING(S). A SUITABLE ROCK MATTRESS CAN BE USED AS A FOUNDATION.

HDPE PIPE / ROCK CROSSING: A ROCK MATTRESS ROCK CHANNEL PROTECTION TO PROTECT THE STREAM BED AND BANKS. MATERIAL SHALL CONSIST OF NATURAL RIVER ROCK FROM SAME APPROVED AGGREGATE SOURCE FOR PROJECT. INSTALL TEMPORARY CULVERT PIPING IN ACCORDANCE WITH THE STANDARD TEMPORARY STREAM CROSSING DETAIL. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REMOVE PIPING AND REUSE AS APPROVED BY THE CONSTRUCTION REPRESENTATIVE OR REMOVE MATERIAL FROM THE PROJECT SITE.

10. RIVERBED AND STREAMBANK SUBGRADE

THIS WORK SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PRODUCE CHANNEL DIMENSIONS AND PROFILE GRADES AS DETAILED IN THE STREAM AND FLOODPLAIN RESTORATION PLANS. THIS SHALL INCLUDE EARTHWORK CONSTRUCTION WITHIN THE NEW FLOODPLAIN CORRIDOR PER GRADING PLAN, PROFILE AND CROSS-SECTIONS. STREAM CHANNEL AND FLOODPLAIN GRADING SHALL BE PERFORMED TO ESTABLISH STABLE EARTHEN BANK ALONG THE NEW BANKFULL ALIGNMENT BY EITHER EXCAVATION OR FILL. IF EARTHEN FILL IS NECESSARY, FILL SHALL BE PLACED IN MINIMUM 9" LOOSE LAYER LIFTS AND COMPACTED MECHANICALLY (E.G., WITH MACHINE BUCKET) FOR STREAMBANK AND/OR FLOODPLAIN CREATION. EARTHEN FILL SHALL BE COMPACTED SO THAT IT IS FIRM AND STABLE AND THERE IS NO PRESENCE OF SOIL PUMPING OR SINKING. REFER TO LIMITS OF PROPOSED STREAMBANK CONSTRUCTION SHOWN ON PLAN, PROFILE AND CROSS-SECTIONS. OVERCOMPACTION IS NOT DESIRABLE BECAUSE IT WILL LIMIT PLANT GROWTH AND ROOT DEVELOPMENT. IF SUBGRADE IN STREAMBANK AND FLOODPLAIN AREAS ARE DEEMED TO BE OVERCOMPACTED BY CONSTRUCTION REPRESENTATIVE, THEN AREA SHALL DECOMPACTED TO A MINIMUM DEPTH OF 1 FT USING A RIPPER ATTACHMENT PRIOR TO APPLICATION OF TOPSOIL TO ACHIEVE FINISH GRADE. THIS INCLUDES ALL HAUL ROADS THAT ARE WITHIN THE RESTORATION AREA.

RIVERINE SUBGRADE SHALL BE EXCAVATED OR INSTALLED PER THE LINES & GRADES ON THE PLAN AND PROFILE DRAWINGS INCLUDED HEREIN. IF EXCAVATION IS PERFORMED INTO NATURAL UNDISTURBED GROUND TO ACHIEVE THE SUBGRADE THEN COMPACTION IS NOT NECESSARY. IF FILL IS NECESSARY TO ACHIEVE SUBGRADE, THEN FILL SHALL BE COMPACTED MECHANICALLY. THE SUBGRADE SHALL BE COMPACTED SO THAT IT IS FIRM AND STABLE AND THAT THERE IS NO VISUAL PRESENCE OF SOIL PUMPING OR SINKING.

COMPACTION OF THE SUBGRADE IS NECESSARY TO CREATE THE FOUNDATION TO ACHIEVE THE FINISH GRADE OF THE STREAMBED PROFILE. A FAILURE TO PROPERLY CREATE THIS FOUNDATION WILL RESULT IN PROFILE SETTLING AND ADVERSE CHANGES IN STREAM SLOPE AND MORPHOLOGY RELATIONSHIPS.

11. SURVEY

THE ELEVATION DATUM OF THE SURVEY IS NAVD88, AND THE HORIZONTAL DATUM IS NAD83(2011), OHIO STATE PLANE, NORTH ZONE, 3401, US FOOT. ELEVATIONS, EX. UTILITIES AND STRUCTURES PROVIDED IN THE PLANS ARE BASED ON A

SURVEY PROVIDED BY GPD GROUP (520 SOUTH MAIN STREET, SUITE 2531, AKRON, OHIO 44311; (330) 572-2100, COMPLETED IN JULY 2024. ADDITIONAL STREAM GEOMORPHOLOGICAL DATA WAS OBTAINED BY ENVIROSCIENCE, INC IN SEPTEMBER 2024. PARCEL BOUNDARIES, WETLAND BOUNDARIES, RIPARIAN SETBACKS, AND SUPPLEMENTAL CONTOURS WERE OBTAINED FROM SUMMIT COUNTY GIS.

12. EXISTING UTILITIES

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY FACILITIES ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF FIELD SURVEY IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE (O.R.C.). THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE LISTED BELOW IN ACCORDANCE WITH SECTION 153.64 OF THE O.R.C.. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE SITE AND BECOME FAMILIAR WITH ALL UTILITIES (WATER, SANITARY, ELECTRIC, GAS, TELEPHONE, FIBER OPTIC, etc.) WITHIN THE LIMITS OF THE PROJECT, WHICH MAY INTERFERE WITH THE PROPOSED CONSTRUCTION. THE DETAILS AND DIMENSIONS SHOWN ON PLANS PERTAINING TO THE EXISTING FACILITIES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING FACILITIES AND DO NOT NECESSARILY REPRESENT AS-BUILT CONDITIONS. THE CONTRACT GMP HAS BEEN BASED ON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON EXAMINATION OF THE WORK SITE BY THE CONTRACTOR. ALL PROJECT WORK HAS BEEN BASED UPON THE DETAILS AND DIMENSIONS PRESENTED ON THESE PLANS AND SPECIFICATIONS. UNEXPECTED UTILITY WORK SHALL BE CONTEMPLATED FOR COMPLETION AND PAID AS A PART OF THE PROJECT GENERAL ALLOWANCE.

BEFORE ANY WORK IS STARTED THAT WILL INTERFERE WITH THE EXISTING UTILITIES, THE CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE, AT 1-800-362-2764, FORTY-EIGHT (48) HOURS IN ADVANCE OF THE WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE PROJECT, TO AVOID DAMAGE TO EXISTING UNDERGROUND AND OVERHEAD UTILITY LINES DURING THE ENTIRE PROJECT. IN THE EVENT OF DAMAGE TO EXISTING PUBLIC AND/OR PRIVATE UTILITIES, THE AGENCY CONCERNED SHALL BE NOTIFIED IMMEDIATELY AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY AT NO ADDITIONAL EXPENSE TO THE PROJECT, INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.

PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL COORDINATE UTILITY SUPPORT AND/OR RELOCATION BY THE UTILITY OWNER FOR ALL EXISTING UTILITIES WHICH WILL BE AFFECTED DURING CONSTRUCTION. THE COST FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING UTILITIES SHALL BE RESPONSIBILITY OF THE CONTRACTOR.

WHERE EXISTING UTILITY POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THE OPERATION OF THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE.

ALL VALVES, MANHOLES, VAULTS AND OTHER APRICED IN THE CONSTRUCTION REPRESENTATIVE THE CONTRACTOR SHALL SUPPLY ALL HARDWARE AND LABOR NECESSARY TO ADJUST UTILITIES TO GRADE.

AKRON, OH 44306 AKRON, OH 44306

13. PRE-CONSTRUCTION VIDEO RECORDING

ATTN: K. BRENT KELLEY

ATTN: BOB GEISER / DEAN (BOB) LEACH
THE CONTRACTOR SHALL BECORD AN AUDIOVISUAL BECORDING OF THE BROJECT LIMITS AND ADJACENT AREAS

THE CONTRACTOR SHALL RECORD AN AUDIOVISUAL RECORDING OF THE PROJECT LIMITS AND ADJACENT AREAS, ESPECIALLY ALONG THE EXISTING CURB NEAR THE CONSTRUCTION ENTRANCE, EXISTING CATCH BASINS/CULVERTS, AND PROPERTIES WHERE EXISTING CONDITIONS MAY BE DISTURBED. THE RECORDING SHALL BE OF DIGITAL FORMAT AND BE PROVIDED TO THE OWNER PRIOR TO MOBILIZATION.

AKRON, OH 44306

(330) 375-2851 EXT. 7842

ATTN: CHRIS SLABAUGH
STRUCTURES, PAVEMENTS, BASES, GABION BASKETS, AND OTHER ITEMS SHOWN ON THE DRAWINGS TO BE REMOVED SHALL
BE REMOVED PER ODOT ITEM 202. THE COST OF REMOVAL AND HAULING MATERIALS AND OTHER RELATED WORK SHALL BE
INCLUDED IN THE PRICES FOR THE VARIOUS RELATED ITEMS.

15. UTILITY CONTACT INFORMATION

14. **DEMOLITION**

FIRST ENERGY

1610 W. MARKET ST.

AKRON, OH 44313

(330) 829-9265

ATTN: CHRISTIAN PUTZIER

ENBRIDGE GAS OHIO
ENGINEERING REVIEW & RESPONSE TEAM
320 SPRINGSIDE DRIVE, SUITE 320
(330) 664-2409
ATTN: RELOCATION

16. WETLAND RESTRICTIONS

THE CONTRACTOR SHALL MINIMIZE ANY DISTURBANCE TO POTENTIAL WETLANDS TO THE MAXIMUM EXTENT PRACTICAL. MATERIAL REMOVED FROM THE CHANNEL SHALL BE PLACED UPLAND OUTSIDE OF THE FLOODWAYS. MATERIALS SHALL NOT BE STOCKPILED IN THE STREAM CHANNEL, BANKS, ADJACENT WETLANDS, OR FLOODPLAIN. MATERIAL REMOVED FROM THE CHANNEL MAY BE PLACED DIRECTLY INTO AN ENCLOSED TRUCK BED AND HAULED TO AN APPROVED UPLAND DISPOSAL SITE. DO NOT DISCHARGE MATERIAL BACK INTO JURISDICTIONAL WATERS.

17. PROTECTION OF WORK

IT IS NECESSARY FOR THE CONTRACTOR TO PROTECT BOTH THE WORK AREA AND THE COMPLETED WORK DURING THE CONSTRUCTION PROCESS. DUE TO THE POTENTIAL FOR LARGE FLOOD EVENTS, THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRS BOTH SMALL AND LARGE IF WORK IS NOT ADEQUATELY PROTECTED. INSTALLED TOPSOIL, STREAMBANKS, STREAM SUBSTRATES AND PLANTED VEGETATION ARE OF PARTICULAR IMPORTANCE.

TOPSOIL SHALL BE PROTECTED UNTIL GRASS OF SUFFICIENT HEIGHT, THICKNESS AND COVERAGE IS PRESENT TO MEET SWPPP SPECIFICATIONS AND PROTECT TOPSOIL FROM WASHING AWAY. AREAS DETERMINED TO BE AT RISK DURING CONSTRUCTION AND ARE NOT SPECIFICALLY CALLED OUT ON PLANS DUE TO PRESENCE OF SWALES, MICROTOPOGRAPHY OR SIMILAR CONDITION THAT ELEVATES RISK OF THE AREA SHOULD BE BROUGHT TO THE ATTENTION OF THE CLIENT AND/OR THE CONSTRUCTION REPRESENTATIVE TO DISCUSS APPROPRIATE PROTECTION MEASURES. FAILURE TO PROPERLY PROTECT TOPSOIL BEFORE STABILIZATION WILL REQUIRE RE-INSTALLATION OF TOPSOIL AT THE COST OF THE CONTRACTOR. IN GENERAL, ANY AREA THAT IS SUSCEPTIBLE TO FLOODING OR FLOWING WATER SHOULD BE INSPECTED AND ANY MINOR MODIFICATIONS/REPAIRS TAKEN AS PROTECTIVE MEASURES, SUCH AS ADDITIONAL STAPLING OF EROSION CONTROL BLANKETS, ARE REQUIRED AND EXPECTED. STREAMBANKS ARE IMPORTANT TO ENSURE THAT INTEGRITY AND SHAPE IS MAINTAINED. TOPSOIL, SOD MATS AND EROSION FABRIC ASSOCIATED WITH STREAMBANKS SHOULD BE SCRUTINIZED TO ENSURE THEY ARE ADEQUATELY PROTECTED AND STABLE. TECHNIQUES SUCH AS USING ADDITIONAL STAKES/PINS/LONGER PINS ON STREAMBANK SECTIONS THAT ARE MORE SUSCEPTIBLE TO EROSIVE FORCES, SUCH AS ON AN OUTSIDE MEANDER BENDS, ARE GOOD MEASURES.

RIVER SUBSTRATES ARE MORE SUSCEPTIBLE TO MOVEMENT AND SETTLING DURING THE INITIAL STAGE OF CONSTRUCTION. IT IS IMPORTANT TO ENSURE THAT BOTH SUBGRADE AND FINISH GRADE SUBSTRATES ARE SUFFICIENTLY COMPACTED WITH MACHINE BUCKET, TAMPER OR SIMILAR METHOD. THE APPROPRIATE SUBSTRATE COMPOSITION UNIFORMLY DISTRIBUTED HELPS WITH STABILITY OF THE STREAMBED. YET, SUFFICIENT SURFACE ROUGHNESS MUST BE MAINTAINED SO THAT CHANNEL FLOW VELOCITIES DO NOT BECOME EXCESSIVE. THAT IS, LARGER ROCKS MUST PROTRUDE INTO THE FLOW CROSS-SECTION. ADDITIONAL PROTRUSION HEIGHTS CAN BE ACHIEVED BY THE ADDITION OF SURFACE BOULDERS. SEE NOTE 4-D IN SPECIFICATIONS, THIS SHEET. AREAS OF SUBSTRATE MOVEMENT OR SHIFTING DUE TO FAILURE TO PROPERLY COMPACT OR HAVE APPROPRIATE UNIFORM DISTRIBUTION OF PARTICLE SIZES WILL REQUIRE REPAIR. LASTLY MEASURES SHOULD BE TAKEN DURING VEGETATION INSTALLATION SUCH THAT VEGETATION CAN WITHSTAND FLOOD FLOWS.

THE CONTRACTOR SHALL MINIMIZE ANY DISTURBANCE TO POTENTIAL WETLANDS TO THE MAXIMUM EXTENT PRACTICAL. MATERIAL REMOVED FROM THE CHANNEL SHALL BE PLACED UPLAND OUTSIDE OF THE FLOODPLAIN. MATERIALS SHALL NOT BE STOCKPILED IN THE STREAM CHANNEL, BANKS, ADJACENT WETLANDS, OR FLOODPLAIN. MATERIAL REMOVED FROM THE CHANNEL MAY BE PLACED DIRECTLY INTO AN ENCLOSED TRUCK BED AND HAULED TO AN APPROVED UPLAND DISPOSAL SITE. DO NOT DISCHARGE MATERIAL BACK INTO JURISDICTIONAL WATERS.

DRAFT - NOT FOR CONSTRUCTION

NO. REVISION/ISSUE DATE

FINAL DESIGN

GENERAL NOTES



SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

800-940-4025 | EnviroScienceInc.com

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

GENERAL NOTES & SPECIFICATIONS

DESIGNED BY: A
DRAWN BY: TO
CHECKED BY: JE

DATE: APRIL 2025

VERT. SCALE: NA
HORIZ. SCALE: NA

02 55

GENERAL NOTES CONT.

17. RIVERBED SUBSTRATE

THE WENTWORTH SCALE IS USED TO DEFINE SUBSTRATE SIZES AS MEASURED ALONG THE MEDIAN AXIS OF THE SUBSTRATE. THE BROAD RANGES FOR SAND, GRAVEL, COBBLE AND BOULDERS ARE SHOWN IN TABLE 1 BELOW:

TABLE 1 - SUBSTRATE MATERIAL TYPE AND SIZE RANGES				
MATERIAL TYPE	SIZE RANGE			
BOULDER	GREATER THAN 10 INCHES			
COBBLE	2.5 INCHES TO 10 INCHES			
GRAVEL	2 MM TO 2.5 INCHES			
SANDS	0.063 MM TO 2 MM			
SILTS AND CLAYS	LESS THAN 0.063 MM			

THE WENTWORTH SCALE MATERIAL SUB-GRADATIONS AND SIZE RANGES FOR GRAVELS AND COBBLES ARE SHOWN IN TABLE 2 BELOW:

TABLE 2 - GRAVEL AND COBBLE MATERIAL SUB-GRADATIONS AND SIZE RANGES						
MATERIAL SUB-GRADTIONS	SIZE RANGE (MM)	SIZE RANGE (INCHES)				
VERY FINE GRAVEL	2-4	0.08-0.15				
FINE GRAVEL	4-8	0.15-0.31				
MEDIUM GRAVEL	8-16	0.31-0.63				
COARSE GRAVEL	16-32	0.63-1.26				
VERY COARSE GRAVEL	32-64	1.26-2.52				
SMALL COBBLE	64-90	2.52-3.54				
MEDIUM COBBLE	90-128	3.54-5.04				
LARGE COBBLE	128-180	5.04-7.09				
VERY LARGE COBBLE	180-256	7.09-10.08				

THE WENTWORTH SCALE MORE SPECIFICALLY DEFINES BOULDERS AS SHOWN IN TABLE 3 BELOW:

TABLE 3 - BOULDERS SIZE RANGES AND DESCRIPTIONS					
SIZE RANGE (INCHES)	DESCRIPTION				
48+	4.0+	VERY LARGE BOULDER			
36-48	3.0-4.0	LARGE BOULDER			
20-36	1.6-3.0	MEDIUM BOULDER			
14-20	1.16-1.6	SMALL-MEDIUM BOULDER			
10-11	0.83-1.16	SMALL BOULDER			

18. MILESTONE WALK THROUGH

A FINAL WALK THROUGH FOR EACH MAJOR COMPONENT WILL BE COMPLETED BY THE CONSTRUCTION REPRESENTATIVE. THE MAJOR COMPONENT WILL BE COMPLETED ONLY AFTER THE FINAL WALK THROUGH AND ANY ASSOCIATED PUNCH LIST ITEMS ARE CORRECTED AS REQUIRED PER THE DRAWINGS AND SPECIFICATIONS.

THE MAJOR COMPONENTS OF THIS PROJECT ARE:

- WORK AREA 1: RIFFLE INSTALLATION (1); GRADE CONTROL INSTALLATION (1)
- WORK AREA 2: TWO STAGE DITCH CONSTRUCTION 933 LF LOW-FLOW CHANNEL, 0.68 AC FLOODPRONE BENCH EXPANSION, 545 LF BANK STABILIZATION
- WORK AREA 3: WETLAND DIVERSION SWALE CREATION, 736 LF
- WORK AREA 4: TWO-STAGE DITCH CONSTRUCTION 212 LF
- WORK AREA 5: TWO-STAGE DITCH CONSTRUCTION 589 LF, 0.35 AC FLOODPRONE BENCH EXPANSION; LEVEE REMOVAL AREAS (2)
- WORK AREA 6: FLOODPRONE BENCH EXPANSION, INCLUDING LEVEE REMOVAL 0.18 AC; GRADE CONTROL (1)
- WORK AREA 7: FLOODPRONE WETLAND EXPANSION (WITH WETLAND DEPRESSIONS) INCLUDING LEVEE REMOVAL 1.42 AC
- WORK AREA 8: LEVEE REMOVAL AREAS (2); ALTERNATING CHANNEL FILL AREAS (3)

NOTICE OF FINAL WALK THROUGH NEEDS TO BE GIVEN 48 HOURS IN ADVANCE. CONTRACTOR SHOULD NOT DEMOBILIZE OR REMOVE ACCESS TO AREAS WITHOUT FINAL APPROVAL.

SPECIFICATIONS

1. ITEM SPEC - BANK RUN (SAND/GRAVEL) - FURNISHED AND PLACED, AS PER PLAN

AGGREGATE FOR THIS ITEM SHALL BE A NATURAL MATERIAL COMPOSED OF A MIXTURE OF HARD, DURABLE PARTICLES OR FRAGMENTS OF STONE OR GRAVEL AND SAND, SOME COBBLES, AND SMALL AMOUNTS OF SILT, CLAY OR OTHER SIMILAR BINDING MATERIAL, AND SHALL BE FREE OF EXCESSIVE OR DETRIMENTAL AMOUNTS OF CLAY, CLAY LUMPS, LOAM, ROOTS, VEGETABLE MATTER, RUBBISH, WOOD, MULCH, OR OTHER NON-STABLE MATERIALS. CONCRETE OR CRUSHED CONCRETE IN ANY FORM SHALL NOT BE USED. ACCEPTABLE BANK RUN MATERIAL WILL CONTAIN A MIX OF SAND, GRAVEL, AND COBBLE WITH THE FOLLOWING BREAKDOWN:

- 30 50% OF MEDIUM TO COARSE SANDS (0.25MM 2MM PARTICLES)
- 20 35% FINE TO MEDIUM GRAVEL (2MM 16MM PARTICLES)
- 10 20% LARGE GRAVEL (>16MM) AND COBBLE (>64MM)
- SHALL NOT CONTAIN GREATER THAN 10% SILT (<0.062MM) PASSING A #200 SCREEN

BANK RUN SUBSTRATE IS DEFINED AS NON CRUSHED SAND AND GRAVEL SUBSTRATE MATERIAL WHICH SHALL BE UNWASHED/UNSORTED RAW MATERIAL FROM A LOCAL SAND & GRAVEL OPERATION WITHIN THE WATERSHED OR GEOLOGY. THIS MATERIAL IS SUITABLE FOR THE BASE OR FIRST LAYER PLACED ON THE STREAMBED SUBGRADE IN ALL AREAS. IF MATERIAL IS OUTSIDE SPECIFICATIONS TOLERANCE, MATERIAL CAN BE APPROVED BY THE CONTRACTOR IN COORDINATION WITH CONSTRUCTION REPRESENTATIVE. ALTERNATIVE APPROVED MATERIAL WILL BE BIASED TOWARDS LESS FINES AND MORE COARSE MATERIAL. LIMESTONE SHALL NOT BE USED. SITE VISITS TO THE ACTUAL SAND & GRAVEL OPERATION SHOULD BE ARRANGED WITH THE CONSTRUCTION REPRESENTATIVE TO EVALUATE THE PROPOSED MIX PRIOR TO DELIVERY OF MATERIALS TO THE SITE.

MATERIAL EXCAVATED FROM WITHIN THE EXISTING STREAM CHANNEL CAN BE REUSED AS BANK RUN MATERIAL.

2. ITEM SPEC - GRAVEL/COBBLE - FURNISHED AND PLACED, AS PER PLAN

DEFINED AS A MIXTURE OF GRAVEL AND COBBLE WITH A WIDE RANGE OF DIMENSIONS/SIZES AS DETAILED BELOW. THE SIZE VARIABILITY IS PARAMOUNT TO HAVE APPROPRIATE FUNCTION AND STABILITY OF THE STREAMBED. IT IS UP TO THE CONTRACTOR AND THE CONSTRUCTION REPRESENTATIVE TO WORK TOGETHER TO APPROVE THE APPROPRIATE SUBSTRATE GRAVEL/COBBLE MIX. SITE VISITS TO THE ACTUAL SAND & GRAVEL OPERATION SHOULD BE ARRANGED WITH THE CONSTRUCTION REPRESENTATIVE TO EVALUATE THE PROPOSED MIX PRIOR TO DELIVERY. MATERIAL SHALL BE FROM A LOCAL SAND & GRAVEL OPERATION. LIMESTONE SHALL NOT BE USED IN THE GRAVEL/COBBLE COMPONENTS. CONCRETE OR CRUSHED CONCRETE IN ANY FORM SHALL NOT BE USED. MATERIAL RANGES FROM 2MM TO 10 INCHES, BROKEN DOWN AS FOLLOWS:

2MM - 2.5 INCHES: 30%

2.5 -10 INCHES: 70%

3. ITEM SPEC - BOULDER FURNISHED AND PLACED, AS PER PLAN, AS DIRECTED

DEFINED AS ANGULAR IN SHAPE AND COMPRISED OF SANDSTONE, GRANITE, OR SIMILAR HARD MATERIAL. LIMESTONE IS NOT PERMITTED. CONCRETE OR CRUSHED CONCRETE IN ANY FORM SHALL NOT BE USED. FRIABLE MATERIAL OR LOW QUALITY SANDSTONE IS NOT ACCEPTABLE. THE SANDSTONE MATERIAL SHOULD BE ABLE TO BE MOVED, DUMPED, MANIPULATED AND COMPACTED BY THE FORCE OF AN EXCAVATOR WITHOUT SIGNIFICANT OR SUBSTANTIAL BREAKS, CHIPS, FRACTURES, OR CRUMBLES CAUSING A LOSS OF MORE THAN 25% OF THE BOULDER'S COMPOSITION. THE RIGHT TO REJECT MATERIAL IS AT THE DISCRETION OF THE OWNER TO ENSURE THEY HAVE A DURABLE, STABLE CONSTRUCTED PROJECT. ANGULAR MATERIAL IS PREFERRED BECAUSE IT INCREASES THE INTERLOCKING ABILITY OF THE STONE AND IS LESS LIKELY TO ROLL OR MOVE. MATERIAL SHALL BE FROM A LOCAL SAND & GRAVEL OPERATION.

BOULDERS ARE SUITABLE FOR SPECIFIC HABITAT, GRADE CONTROL STRUCTURES, BANK STABILIZATION, ROCK KEYS OR STRATEGICALLY POSITIONED ON THE RIFFLE, RUN OR POOL AREAS TO FUNCTION AS ROUGHNESS ELEMENTS. BOULDERS ARE MEASURED ACROSS THEIR MEDIAN AXIS.

SEE TABLE 4 BELOW FOR THE STANDARD BOULDER SIZE RANGES:

TABLE 4 - BOULDER SIZES, ODOT ITEM 601					
TYPE	SIZE RANGE (INCHES)	DESCRIPTION			
A+	>30"	VERY LARGE TO LARGE			
Α	18" TO 30"	MEDIUM BOULDER			
В	12" TO 24"	MEDIUM TO SMALL-MEDIUM BOULDER			
С	6" TO 18"	SMALL-MEDIUM TO SMALL BOULDER			

THE PERCENTAGE RANGE FOR EACH MATERIAL SUB-GRADATION RANGE IS LISTED IN TABLE 5 BELOW:

TABLE 5 - MATERIAL SUB-GRADATION RANGE

COMPONENT	BANK RUN	GRAVEL	GRAVEL COBBLE		BOUL	DERS	
COMPONENT	DAIN KON	GRAVEL	. COBBLE	TYPE A+	TYPE A	TYPE B	TYPE C
STREAM SUBSTRATE	10%	20%	20%	0%	5%	15%	30%
BANK STABILIZATION	5%	2%	3%	0%	0%	45%	45%

SUBSTRATE COMPONENTS WILL BE VERIFIED BY THE CONSTRUCTION REPRESENTATIVE AT THE SUPPLIERS PLACE OF OPERATION OR ON-SITE. THE SUBSTRATE MIX WILL BE VERIFIED BY A CONSTRUCTION REPRESENTATIVE BY PERFORMING A RANDOM PARTICLE ANALYSIS ON THE PROPOSED MIX BY SPREADING THE MIX OUT ON A 10 FT BY 25 FT AREA. CHANGES OR APPROVAL OF THE SUBSTRATE COMPONENT MIX (I.E. FINAL PERCENTAGES) WILL BE DETERMINED BY THIS ANALYSIS.

4. RIVERBED SUBSTRATE INSTALLATION

STREAMBED SUBSTRATE INSTALLATION REQUIRES THREE TYPES OF SUBSTRATES: BANK RUN, GRAVEL/COBBLE MIX AND BOULDERS. REFER TO THE DRAWINGS FOR SPECIFIC ELEVATIONS ALONG THE STREAM PROFILES AND THE TYPICAL CROSS-SECTION DETAILS PROVIDED IN THE PLAN SET. THE STEPS TO BE TAKEN TO INSTALL THE RIVERBED SUBSTRATE ARE DETAILED IN ITEMS A THROUGH D BELOW:

- A. AFTER THE SUBGRADE ELEVATIONS ARE ACHIEVED, PLACE 0.1-0.25 FT OF BANK RUN OVER THE ENTIRE SUBGRADE. IF THE SUBGRADE MATERIAL IS DEEMED SUITABLE BY THE CONSTRUCTION REPRESENTATIVE, THEN THIS STEP CAN BE SKIPPED.
- B. PLACE BOULDERS AT SPACED INTERVALS TO BE DETERMINED BASED ON STREAMBED FEATURE SIZE AND LENGTH, TO FORM THE INTERNAL CORE OF THE SUBSTRATE.
- C. FILL GRAVEL/COBBLE MIX ON TOP OF BANK RUN AND AROUND BOULDERS TO FINISH GRADE. THE GRAVEL/COBBLE MATERIAL PLACED ON TOP OF THE BANK RUN LAYER IN THE POOLS AND BETWEEN AND AROUND THE BOULDERS IN THE RIFFLES IS TO BE SHAPED TO ACHIEVE THE FINISH GRADE. PLACE BOULDERS AT SPACED INTERVALS TBD BASED ON STREAM FEATURE SIZE AND DEPTH TO FORM INTERNAL CORE OF THE SUBSTRATE. THE THICKNESS OF THE GRAVEL/COBBLE MIX WILL VARY FROM ALONG THE PROFILE AND IN THE CROSS-SECTION WITH THICKER PORTIONS BEING LOCATED AT THE RIFFLES AND EDGES OF THE STREAM CHANNEL IN THE POOLS. THE GRAVEL/COBBLE MIX SHALL BE TAMPED WITH A HOE BUCKET OR SIMILAR TO PACK THE SUBSTRATE. FINISH GRADES ARE VERIFIED IN THE LOWEST ELEVATION OF THE CHANNEL (I.E., THALWEG) AT AN AVERAGE SHAPE OF THE STREAM BOTTOM WHERE WATER WILL FLOW. IN OTHER WORDS, THE FINISH GRADE IS NOT PERFORMED ON TOP OF A ROCK OR IN THE SPACE BETWEEN ROCKS, BUT THE AVERAGE BOTTOM OF THE CHANNEL SHAPE AT ITS DEEPEST LOCATION THROUGH THE CROSS SECTION.
- D. AFTER STEP C, SURFACE BOULDERS SHALL BE PLACED OVER THE ENTIRE INSTALLED SUBSTRATE SUCH THAT THE PERCENTAGE OF BOULDERS IDENTIFIED IN TABLE 5 IS ACHIEVED. THE INTENT OF THE SURFACE BOULDERS ARE TO CREATE SURFACE ROUGHNESS AND CONFINE THE UNDERLYING GRAVEL COBBLE FROM BEING MOBILIZED. BOULDERS SHALL BE COMPACTED INTO THE SUBSTRATE SUCH THAT THEIR PROTRUSION HEIGHT DOES NOT EXCEED A MAXIMUM HEIGHT OF ONE-THIRD (33%) BANKFULL HEIGHT FROM THALWEG TO BANKFULL. AS AN EXAMPLE, IF DEPTH OF THALWEG TO BANKFULL IS 1.7FT THEN TOP OF BOULDER SHALL NOT EXTEND GREATER THAN 0.56FT FROM THALWEG ELEVATION. THIS SPECIFICATION IS APPLICABLE TO RIFFLE, RUN AND GLIDE AREAS. POOL AREAS BOULDERS ARE ALLOWED TO COME WITHIN 1FT OF THE BASE FLOW POOL WATER ELEVATION.
- E. SUBSTRATE INSTALLATION WILL BE VERIFIED BY PEBBLE COUNT TO VERIFY PERCENTAGES. INSTALLATION OF THE SUBSTRATE IN A SMALL TEST AREA CAN BE PERFORMED TO VERIFY MIX AND INSTALLATION METHOD AND IS RECOMMENDED THIS OCCUR WITH COORDINATION WITH CONSTRUCTION REPRESENTATIVE. PROTRUSION HEIGHTS SHALL BE EVALUATED TO ENSURE BOULDERS DO NOT CREATE TOO MUCH TURBULENCE.

5. ITEM SPEC - EROSION CONTROL BLANKET FOR GENERAL PURPOSE - STRAW FABRIC, AS PER PLAN

FABRIC FOR GENERAL EROSION CONTROL SHALL BE NORTH AMERICAN GREEN BIONET \$\frac{150BN}{150BN}\$ (STRAW) OR APPROVED SUBSTITUTE FOR FLOW RATES UP TO 6.0 FPS AND SHEAR STRESS OF 1.85 LBS/SQ FT OR GREATER. **NO PLASTIC NETTING IS ALLOWED IN EROSION FABRIC.** THIS FABRIC SHALL BE USED ON CUT-SLOPES ABOVE THE FLOODPRONE AREAS AND AREAS DIRECTED BY THE CONSTRUCTION REPRESENTATIVE TO CONTROL POTENTIAL EROSION AREAS THAT DO NOT HAVE CONCENTRATED FLOW. THE EROSION FABRIC SHALL BE INSTALLED IN AREAS SUCH AS THE RESTORED STREAM CHANNEL BANKS AND FLOODPLAIN. PRIOR TO INSTALLATION, THE AREA UNDER THE FABRIC SHALL BE SEEDED AND FERTILIZED AS DESCRIBED IN THE LANDSCAPING NOTES. EROSION FABRIC SHALL BE INSTALLED PER THE MANUFACTURES INSTRUCTIONS AND IN ACCORDANCE WITH ODOT ITEM 671 AND PER THE DETAILS ON SHEETS 32 AND 49.

6. FLOODPRONE BENCHES AND WETLAND GRADING

FLOODPRONE AREAS (BANKFULL FLOODPLAINS) AND WETLANDS SHALL BE EXCAVATED TO THE GRADES PROVIDED IN THE PLANS. CONTOURS AND SPOT GRADES SHALL BE CONSIDERED THE FINISHED GRADE ELEVATION OF THE FLOODPRONE BENCH/ WETLAND. WETLAND AREAS SHALL HAVE A MINIMUM OF 0.5-FT (6 INCHES) OF SUITABLE TOPSOIL. MICROTOPOGRAPHY VARIATIONS, DEPRESSIONS, AND SMALL HUMMOCKS ARE DESIREABLE AND ENCOURAGED IN BOTH THE SUBGRADE AND FINISHED GRADES. FINISH GRADES WILL BE VERIFIED BASED ON THE AVERAGE ELEVATIONS OF THE AREA.

7. BANK STABILIZATION

BANK STABILIZATION AREAS ARE WHERE ANGULAR BOULDERS ARE NEEDED DUE TO EROSION AND BANK INSTABILITY. BANK STABILIZATION INSTALLATION SHALL BEGIN FROM THE LOWEST ELEVATION AND PROGRESS UPWARD IN ELEVATION. A FOUNDATION TOE SHALL BE INSTALLED TO PROTECT AGAINST SCOUR. THE TOE SHALL BE THE FURTHEST LIMIT OF ROCK IDENTIFIED ON THE PLANS, AND CONSIST OF THE LARGEST DIAMETER MATERIAL IN THE IDENTIFIED SIZE CLASS.

ONCE THE FOUNDATION TOE IS ESTABLISHED THE BANK STABILIZATION SHALL PROGRESS IN THE LIFTS EQUAL TO THE C AXIS (LAYING AXIS) OF THE MATERIAL SPECIFIED. IN BETWEEN LIFTS, VOIDS AND SPACES SHALL BE CHOKED WITH BANK RUN AND SAND AND GRAVEL MATERIAL, INCLUDING MATERIAL THAT MAY BE UNDERWATER. THIS MATERIAL CAN CONSIST OF APPROVED ON-SITE MATERIAL ENCOUNTERED DURING EXCAVATIONS. WORK WILL NOT BE ACCEPTED IF VOIDS AND SPACES REMAIN DURING INSTALLATION OF LIFTS. CHOKE MATERIAL SHALL BE SAND AND GRAVEL MATERIAL UP TO THE BANKFULL ELEVATION. CHOKE MATERIAL ABOVE BANKFULL ELEVATION SHALL BE APPROVED SUBSOIL OR TOPSOIL

THE START AND END POINTS OF BANK STABILIZATION AREAS SHALL BLEND INTO THE EXISTING GRADES SO THAT ROCK MATERIAL IS FLUSH TO THE ADJACENT EXISTING BANK. THESE TIE IN LOCATIONS TO EXISTING GRADE SHALL BE APPROVED BY THE CONSTRUCTION REPRESENTATIVE. SEE DETAIL, SHEET 32.

8. GRADE CONTROLS

GRADE CONTROLS ARE VANES OF ROCK, WITH DIMENSION AS DEFINED IN THE PLANS, DESIGNED TO PREVENT FLANKING OR STEEPENING OF THE ASSOCIATED EXISTING OR PROPOSED RIFFLE. THE DEPTH OF THE GRADE CONTROL IS MEASURED FROM THE FINISHED GRADE ELEVATION.

THE BANKS AND/OR BED OF THE STREAM SHALL BE OVER-EXCAVATED AS NECESSARY TO ALLOW FOR PLACEMENT OF ROCK MEETING THE MINIMUM EXTENTS AND PLACEMENT DEPTHS SPECIFIED IN THE PLANS. SHOULD THE BED OF THE STREAM BE CONTROLLED BY BEDROCK, NO BLASTING OR OTHER MEANS OF REMOVAL OF BEDROCK SHALL BE EMPLOYED WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER.

PLACE ROCK IN LIFTS OF APPROXIMATELY 18 - 24-INCH DEPTH OR ONE THICHNESS OF THE LARGES MATERIALS C AXIS. CHOKE VOIDS IN EACH LIFT WITH BANK RUN AND GRAVEL/COBBLE. USE EXCAVATOR BUCK TO COMPACT EACH LIFT BEFORE PLACING NEXT LIFT. ROCK AND CHOKING MATERIAL SHOULD BE COMPACTED SUCH THAT INDIVIDUAL ROCKS ARE NOT LOOSE ENOUGH TO BE DISPLACED BY HAND. REPEAT PROCESS UNTIL PROPOSED GRADES AND MINIMUM PLACEMENT DEPTHS ARE ACHIEVED.

9. TEMPORARY STABILIZATION AND NATIVE SEED INSTALLATION

GRAIN RYE (Secale cereale) OR OATS (Avena sativa) AT A RATE OF 30 - 50 LBS PER ACRE SHALL BE INSTALLED TO ALL DISTURBED AREA. NATIVE SEED MIXES ARE TO BE INSTALLED AT THE SPECIFIED RATE IN THE APPROPRIATE AREAS. ALL NATIVE SEED IS TO BE INSTALLED BY HAND SEEDING METHOD DUE TO VARIABILITY OF SEEDS WITHIN MIX. CONTRACTOR IS TO ESTIMATE SEEDING AREAS AND WEIGH SEED IN APPROPRIATE QUANTITIES TO ENSURE APPLICATION AT THE CORRECT RATE. A STARTER FERTILIZER IS NOT REQUIRED UNLESS SITE-SPECIFIC SOIL TESTS DEEM A DEFICIENCY IN ONE OR MORE SOIL COMPONENTS. AT THAT TIME, A FERTILIZER RATE WILL BE APPLIED AS NECESSARY TO PROMOTE A HEALTHY NATIVE COMMUNITY. FOLLOWING TEMPORARY AND NATIVE SEED INSTALLATION, SEED IS TO BE LIGHTLY RAKED INTO SOIL. COVER SOIL WITH APPROPRIATE EROSION PROTECTION PER AREA.

GENERAL NOTES

FINAL DESIGN

REVISION/ISSUE



SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

GENERAL NOTES & SPECIFICATIONS

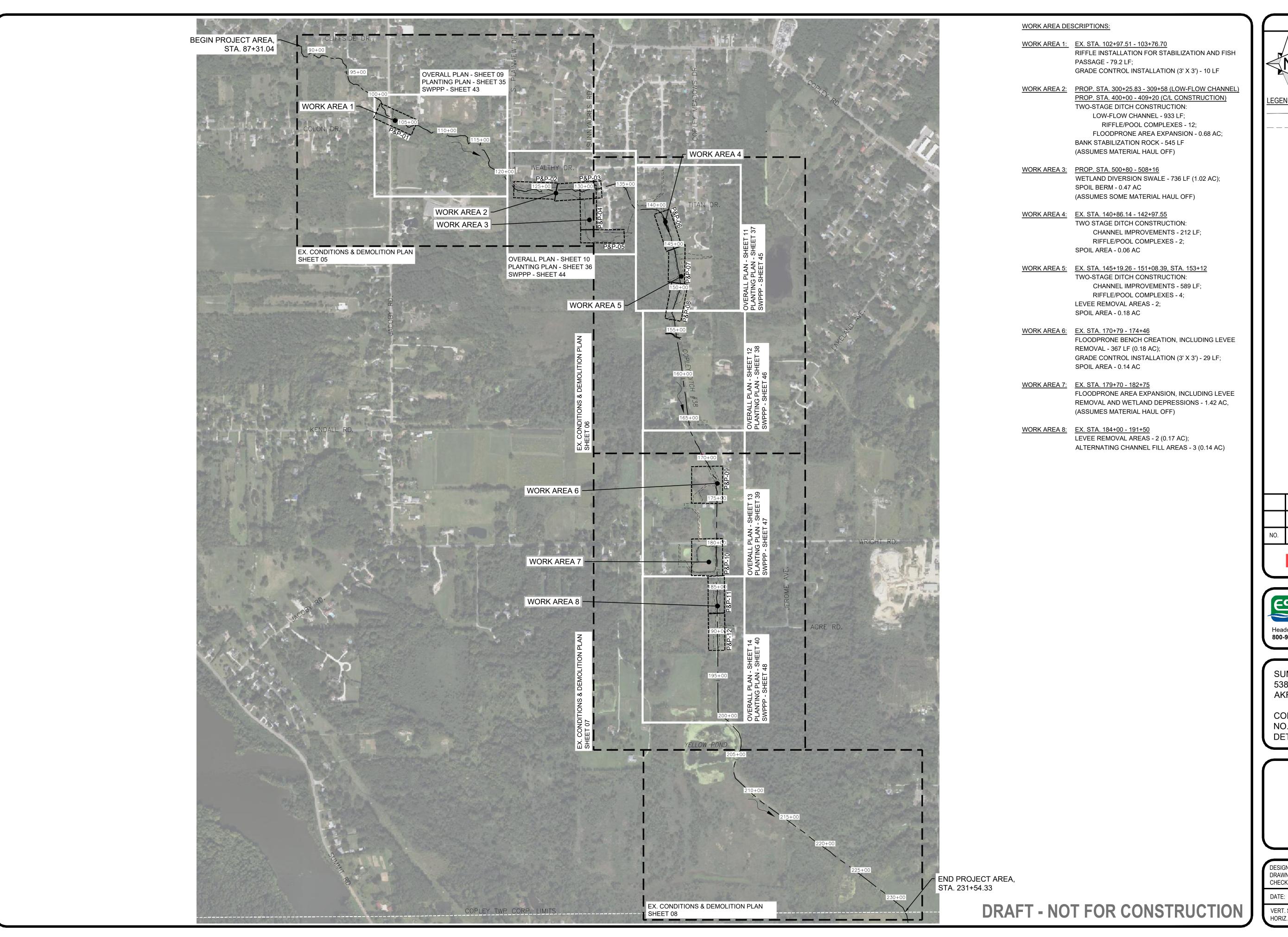
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DATE: APRIL 2025

VERT. SCALE: NA

HORIZ. SCALE: NA

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GRAPHIC SCALE IN FEET

NO. REVISION/ISSUE DATE

GENERAL NOTES

PROPERTY LINE

LIMITS OF DISTURBANCE (ACTIVE WORK AREAS)

FINAL DESIGN



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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

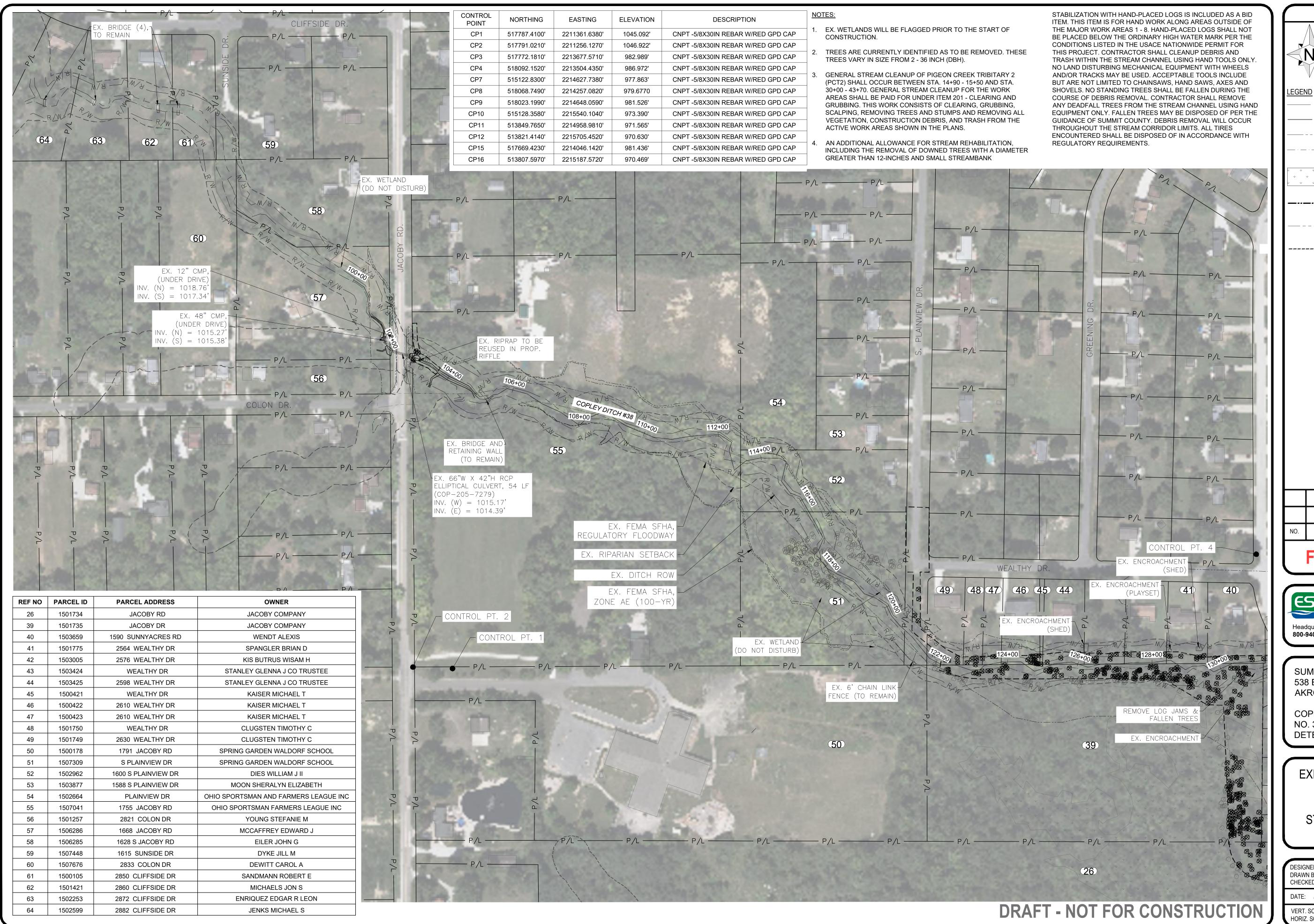
KEY PLAN

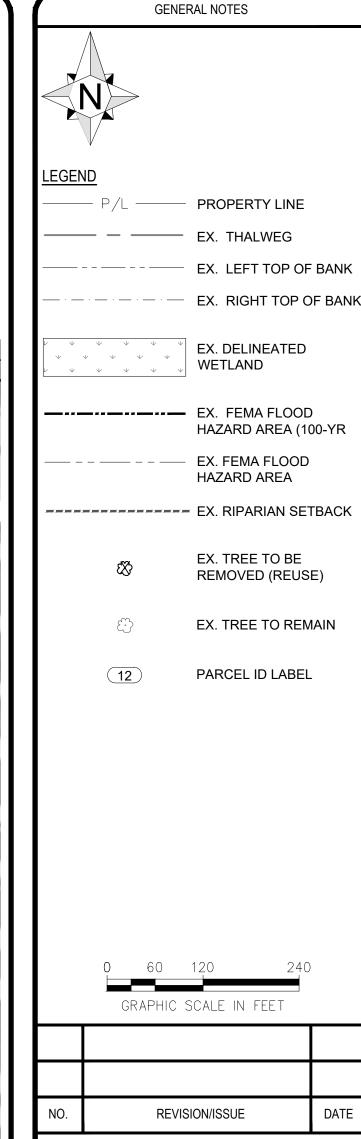
DESIGNED BY: AH
DRAWN BY: TG
CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: NA
HORIZ. SCALE: 1" = 500'

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FINAL DESIGN

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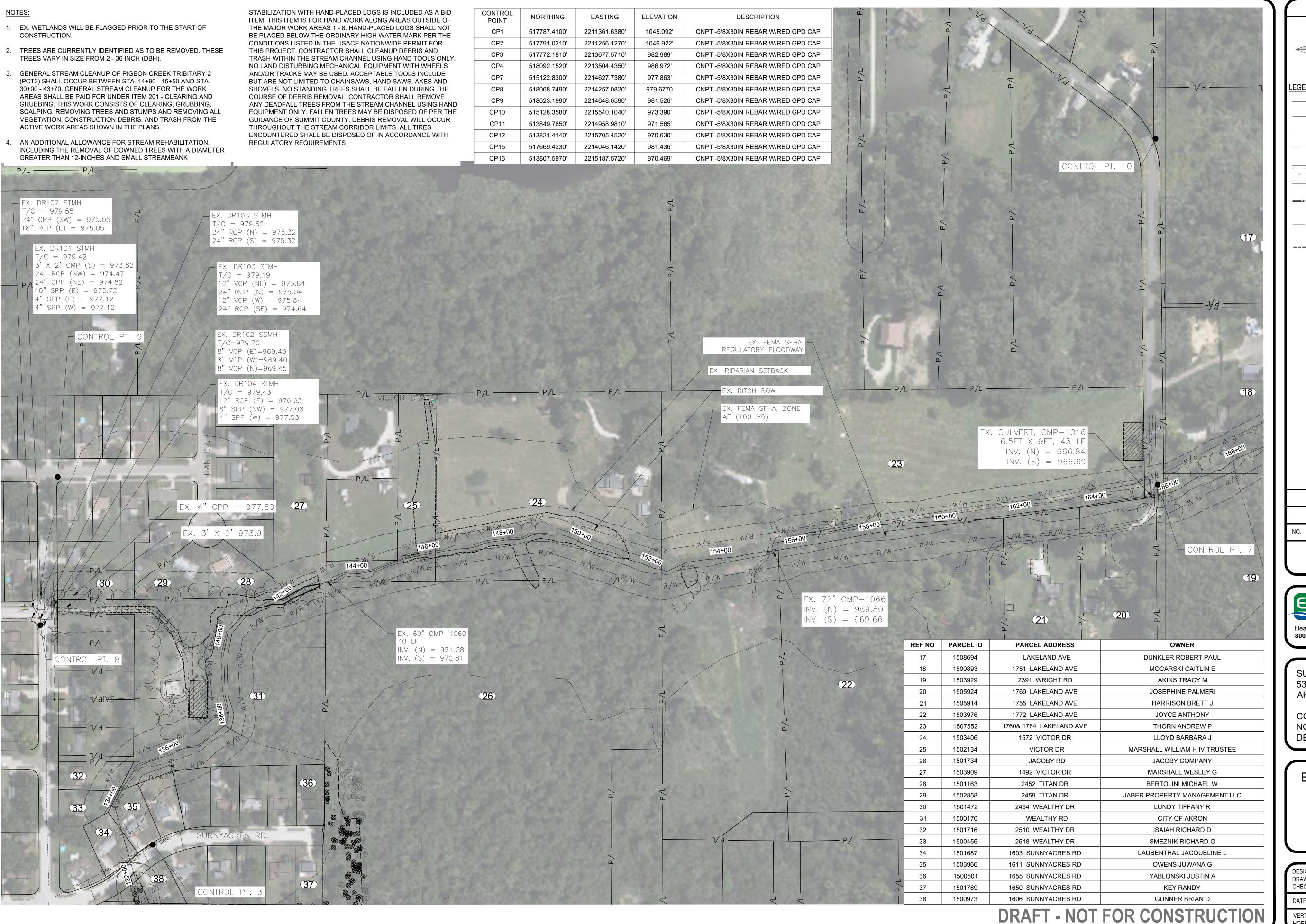
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

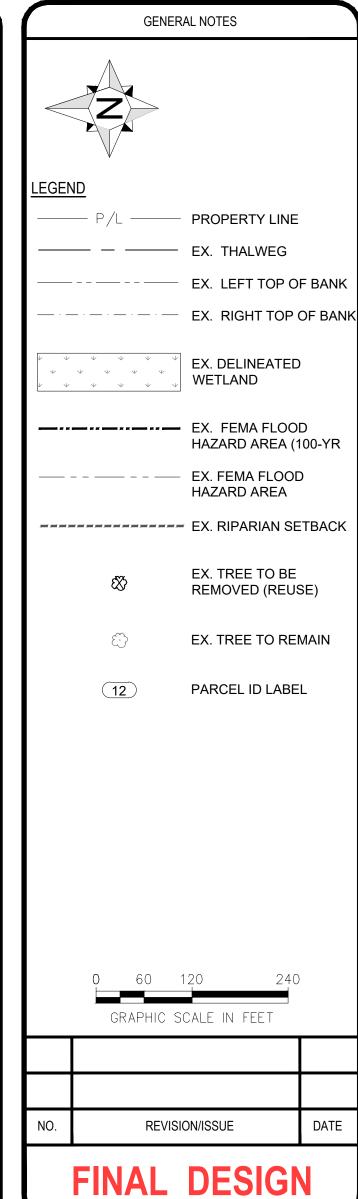
EXISTING CONDITIONS & DEMOLITION PLAN

STA. 87+31.04 - 131+09

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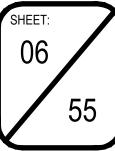
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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

EXISTING CONDITIONS & DEMOLITION PLAN

STA. 131+09 - 170+30

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VERT. SCALE:	NA 1" = 120'		





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GRAPHIC SCALE IN FEET

REVISION/ISSUE

FINAL DESIGN

GENERAL NOTES

— P/L — PROPERTY LINE

——— EX. THALWEG

EX. LEFT TOP OF BANK

- - - EX. RIGHT TOP OF BANK

WETLAND

EX. FEMA FLOOD

— - - — EX. FEMA FLOOD

----- EX. RIPARIAN SETBACK

EX. DELINEATED

HAZARD AREA

EX. TREE TO BE

REMOVED (REUSE)

EX. TREE TO REMAIN

PARCEL ID LABEL

HAZARD AREA (100-YR

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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

EXISTING CONDITIONS & DEMOLITION PLAN

STA. 170+30 - 205+37

 DESIGN DRAWN CHECKE	BY:	
DATE	A DDII	^

DATE: APRIL 2025 VERT. SCALE: NA HORIZ. SCALE: 1" = 120'

- ACTIVE WORK AREAS SHOWN IN THE PLANS.
- AN ADDITIONAL ALLOWANCE FOR STREAM REHABILITATION, INCLUDING THE REMOVAL OF DOWNED TREES WITH A DIAMETER GREATER THAN 12-INCHES AND SMALL STREAMBANK

THROUGHOUT THE STREAM CORRIDOR LIMITS. ALL TIRES ENCOUNTERED SHALL BE DISPOSED OF IN ACCORDANCE WITH REGULATORY REQUIREMENTS.

REF NO	REF NO PARCEL ID PARCEL ADDRESS		OWNER
4	1503905	2020 KNOX BLVD	WILLIAMS BESSIE
5	1508184	WRIGHT RD	BOARD OF TRUSTEES OF THE UNIVERSITY
6	1500591	2272 ACRE RD	BORNSTINE JOHN S
7	1500592	ACRE RD	BORNSTINE JOHN S
8	1501783	ACRE RD	PURNELL NORMAN ETAL
9	1501782	REGINA RD	PURNELL NORMAN ETAL
10	1503248	REGINA RD	MORRIS BARTON THERESA
11	1502254	2380 WRIGHT RD	FARMER DALE L
12	1503249	2310 WRIGHT RD	MORRIS BARTON THERESA
13	1501429	2311 WRIGHT RD	HALE ALFONAIL
14	1500068	WRIGHT RD	ARCHWOOD LEASING CO
15	1507241	WRIGHT RD	WOLCOTT ANITA K
16	1508693	2333 WRIGHT RD	WOLCOTT ANITA K
17	1508694	LAKELAND AVE	DUNKLER ROBERT PAUL
18	1500893	1751 LAKELAND AVE	MOCARSKI CAITLIN E
19	1503929	2391 WRIGHT RD	AKINS TRACY M

01 1	317707.4100	2211001.0000	1045.052	ON 1-5/0/30114 NEDAIX W/NED OF D OAI
CP2	517791.0210'	2211256.1270'	1046.922'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP3	517772.1810'	2213677.5710'	982.989'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP4	518092.1520'	2213504.4350'	986.972'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP7	515122.8300'	2214627.7380'	977.863'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP8	518068.7490'	2214257.0820'	979.6770	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP9	518023.1990'	2214648.0590'	981.526'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP10	515128.3580'	2215540.1040'	973.390'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP11	513849.7650'	2214958.9810'	971.565'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP12	513821.4140'	2215705.4520'	970.630'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP15	517669.4230'	2214046.1420'	981.436'	CNPT -5/8X30IN REBAR W/RED GPD CAP
CP16	513807.5970'	2215187.5720'	970.469'	CNPT -5/8X30IN REBAR W/RED GPD CAP

DRAFT - NOT FOR CONSTRUCTION



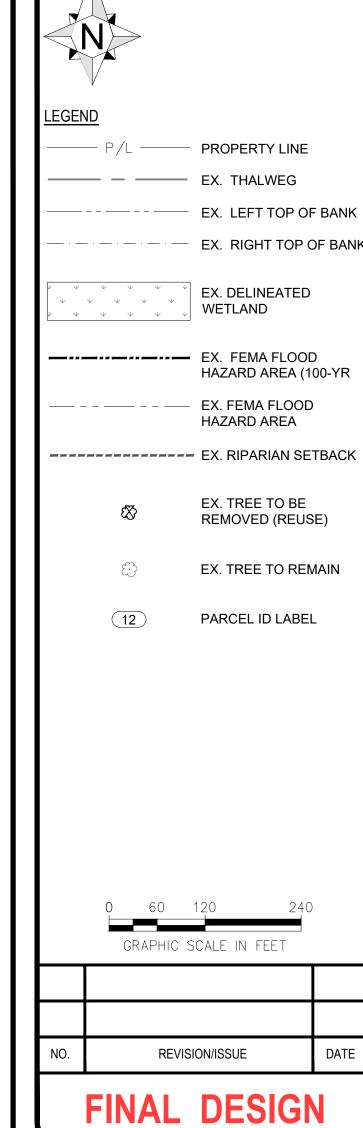
1. EX. WETLANDS WILL BE FLAGGED PRIOR TO THE START OF CONSTRUCTION.

- 2. TREES ARE CURRENTLY IDENTIFIED AS TO BE REMOVED. THESE TREES VARY IN SIZE FROM 2 - 36 INCH (DBH).
- 3. GENERAL STREAM CLEANUP OF PIGEON CREEK TRIBITARY 2 (PCT2) SHALL OCCUR BETWEEN STA. 14+90 - 15+50 AND STA. 30+00 - 43+70. GENERAL STREAM CLEANUP FOR THE WORK AREAS SHALL BE PAID FOR UNDER ITEM 201 - CLEARING AND GRUBBING. THIS WORK CONSISTS OF CLEARING, GRUBBING, SCALPING, REMOVING TREES AND STUMPS AND REMOVING ALL VEGETATION, CONSTRUCTION DEBRIS, AND TRASH FROM THE ACTIVE WORK AREAS SHOWN IN THE PLANS.
- 4. AN ADDITIONAL ALLOWANCE FOR STREAM REHABILITATION, INCLUDING THE REMOVAL OF DOWNED TREES WITH A DIAMETER GREATER THAN 12-INCHES AND SMALL STREAMBANK

STABILIZATION WITH HAND-PLACED LOGS IS INCLUDED AS A BID ITEM. THIS ITEM IS FOR HAND WORK ALONG AREAS OUTSIDE OF THE MAJOR WORK AREAS 1 - 8. HAND-PLACED LOGS SHALL NOT BE PLACED BELOW THE ORDINARY HIGH WATER MARK PER THE CONDITIONS LISTED IN THE USACE NATIONWIDE PERMIT FOR THIS PROJECT. CONTRACTOR SHALL CLEANUP DEBRIS AND TRASH WITHIN THE STREAM CHANNEL USING HAND TOOLS ONLY. NO LAND DISTURBING MECHANICAL EQUIPMENT WITH WHEELS AND/OR TRACKS MAY BE USED. ACCEPTABLE TOOLS INCLUDE BUT ARE NOT LIMITED TO CHAINSAWS, HAND SAWS, AXES AND SHOVELS. NO STANDING TREES SHALL BE FALLEN DURING THE COURSE OF DEBRIS REMOVAL. CONTRACTOR SHALL REMOVE ANY DEADFALL TREES FROM THE STREAM CHANNEL USING HAND EQUIPMENT ONLY. FALLEN TREES MAY BE DISPOSED OF PER THE GUIDANCE OF SUMMIT COUNTY. DEBRIS REMOVAL WILL OCCUR THROUGHOUT THE STREAM CORRIDOR LIMITS. ALL TIRES ENCOUNTERED SHALL BE DISPOSED OF IN ACCORDANCE WITH REGULATORY REQUIREMENTS.

) :	CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
	CP1	517787.4100'	2211361.6380'	1045.092'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP2	517791.0210'	2211256.1270'	1046.922'	CNPT -5/8X30IN REBAR W/RED GPD CAP
Y.	CP3	517772.1810'	2213677.5710'	982.989'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP4	518092.1520'	2213504.4350'	986.972'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP7	515122.8300'	2214627.7380'	977.863'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP8	518068.7490'	2214257.0820'	979.6770	CNPT -5/8X30IN REBAR W/RED GPD CAP
1D	CP9	518023.1990'	2214648.0590'	981.526'	CNPT -5/8X30IN REBAR W/RED GPD CAP
łE [CP10	515128.3580'	2215540.1040'	973.390'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP11	513849.7650'	2214958.9810'	971.565'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP12	513821.4140'	2215705.4520'	970.630'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP15	517669.4230'	2214046.1420'	981.436'	CNPT -5/8X30IN REBAR W/RED GPD CAP
	CP16	513807.5970'	2215187.5720'	970.469'	CNPT -5/8X30IN REBAR W/RED GPD CAP

REF NO	PARCEL ID	PARCEL ADDRESS	OWNER
1	1600169	SHELBY ST	COPLEY TOWNSHIP BOARD OF TRUSTEES
2	1600219	SHELBY ST	COPLEY TOWNSHIP BOARD OF TRUSTEES
3	1600136	SHELBY ST	NEFF KENNETH E
4	1503905	2020 KNOX BLVD	WILLIAMS BESSIE
5	1508184	WRIGHT RD	BOARD OF TRUSTEES OF THE UNIVERSITY



GENERAL NOTES



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SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

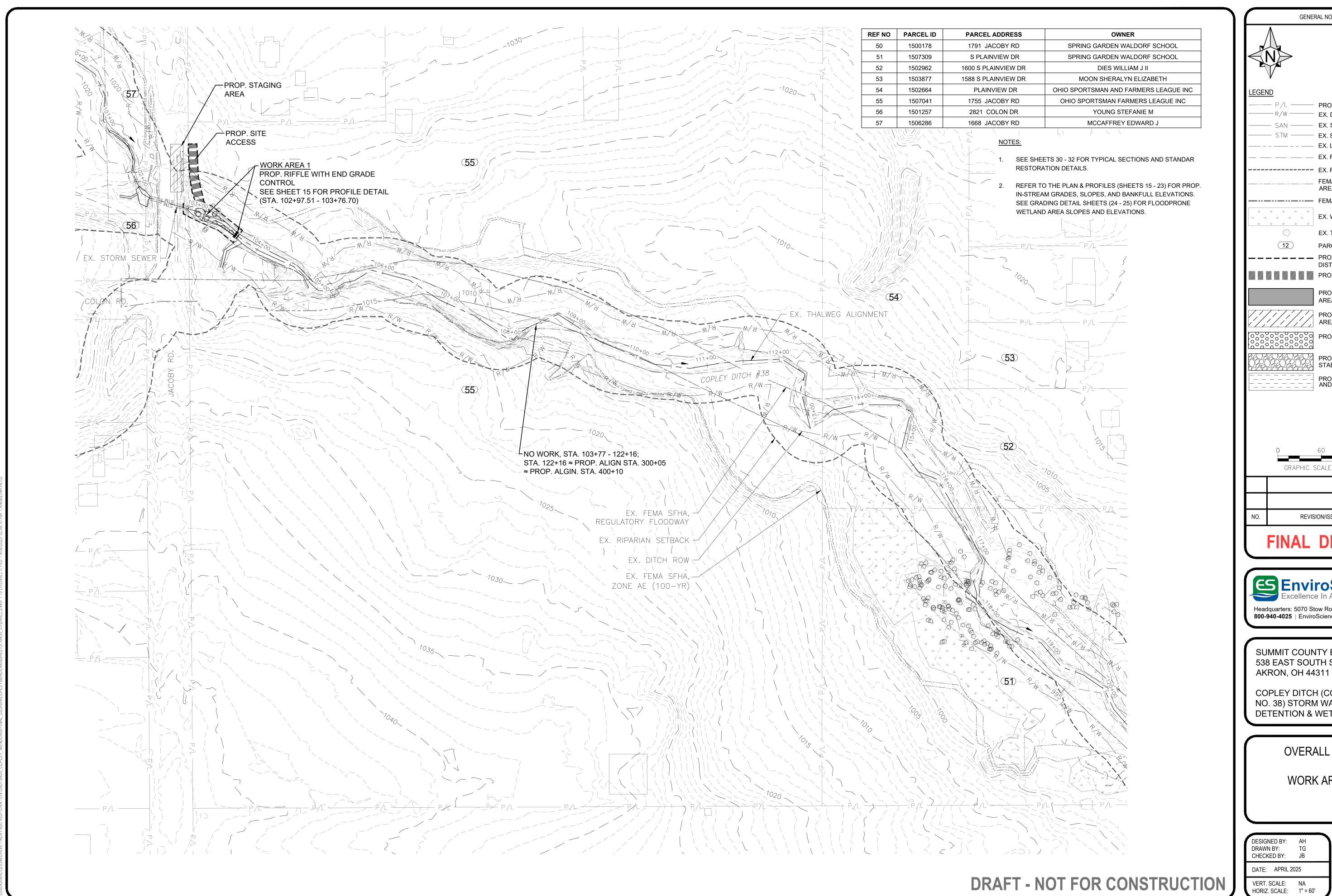
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

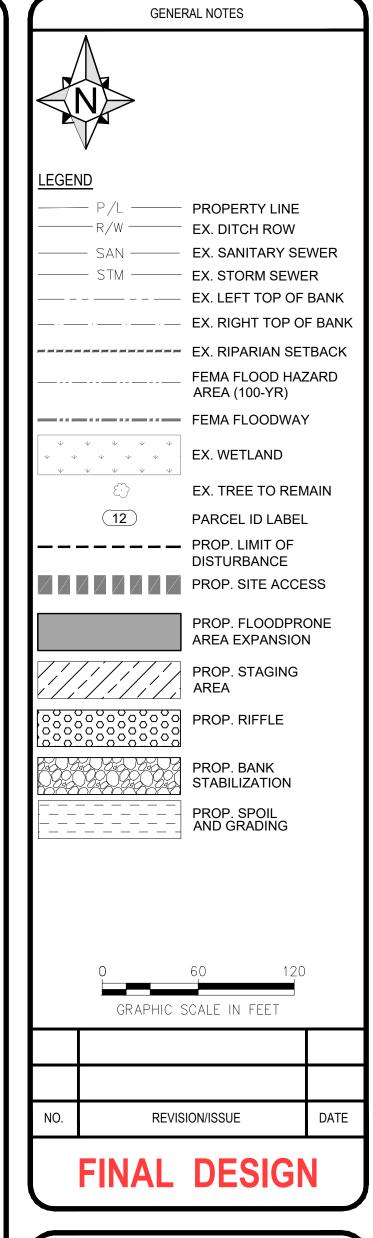
EXISTING CONDITIONS & DEMOLITION PLAN

STA. 205+37 - 231+54.33

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SHEET	\	АН	NED BY:
08		TG JB	N BY: (ED BY:
		025	APRIL 2
1/		NA 1" = 120'	SCALE:

CHECKE







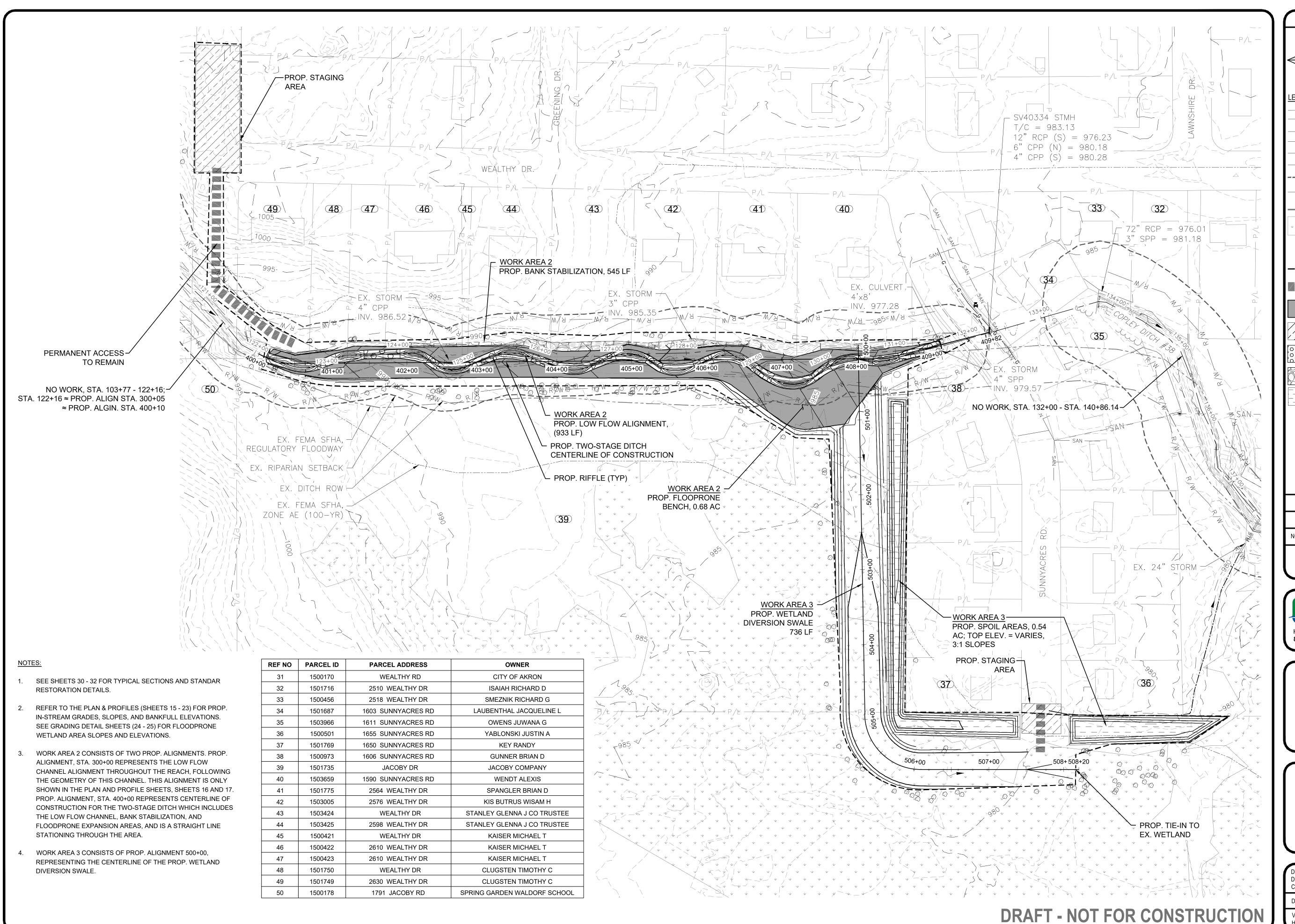
SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

OVERALL PLAN

WORK AREA 1

DRAWN BY: TG CHECKED BY: JB VERT. SCALE: NA HORIZ. SCALE: 1" = 60'



GENERAL NOTES PROPERTY LINE EX. DITCH ROW EX. SANITARY SEWER EX. STORM SEWER EX. LEFT TOP OF BANK EX. RIGHT TOP OF BANK EX. RIPARIAN SETBACK FEMA FLOOD HAZARD AREA (100-YR) FEMA FLOODWAY EX. WETLAND V V V EX. TREE TO REMAIN PARCEL ID LABEL **____ PROP. LIMIT OF** DISTURBANCE PROP. SITE ACCESS PROP. FLOODPRONE AREA EXPANSION PROP. STAGING AREA PROP. RIFFLE PROP. BANK STABILIZATION PROP. SPOIL AND GRADING GRAPHIC SCALE IN FEET

FINAL DESIGN



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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

OVERALL PLAN

WORK AREA 2 & 3

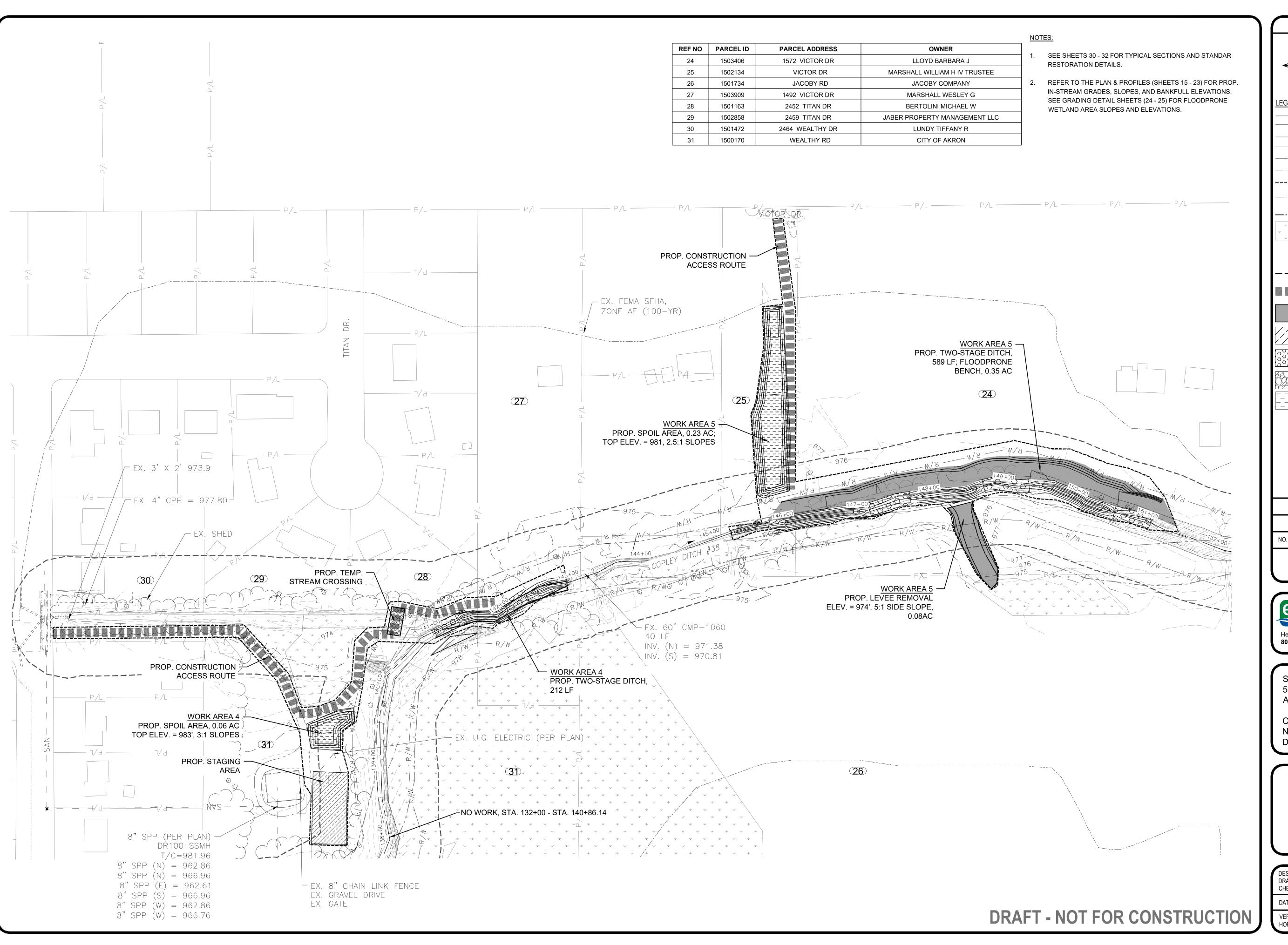
DESIGNED BY: AH
DRAWN BY: TG
CHECKED BY: JB

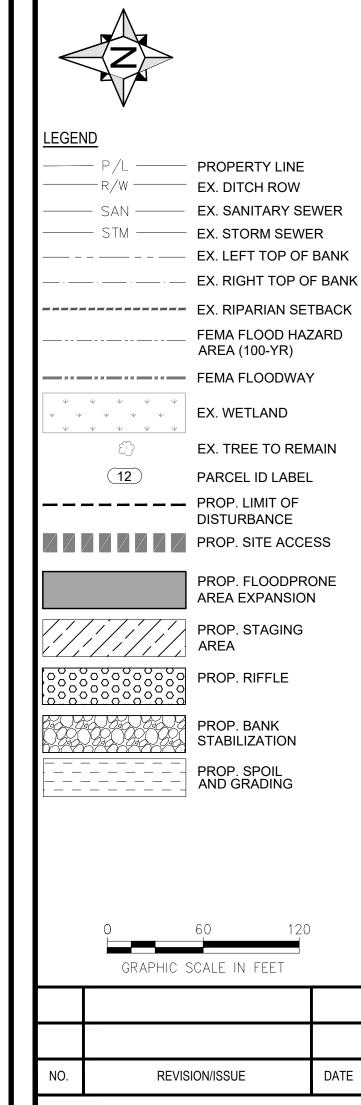
CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: NA
HORIZ. SCALE: 1" = 60'

SHEET: 10 55







FINAL DESIGN

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SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

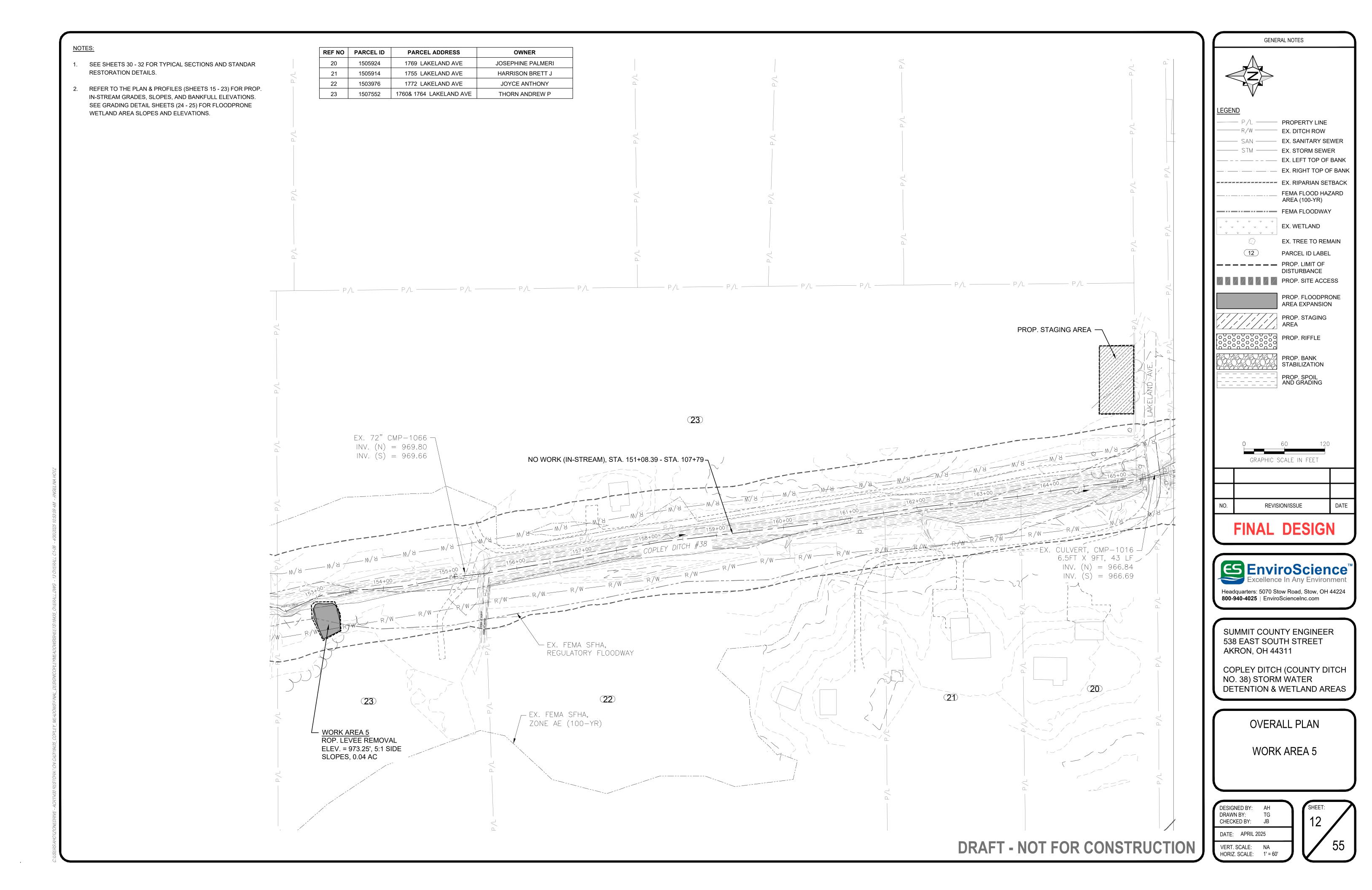
OVERALL PLAN

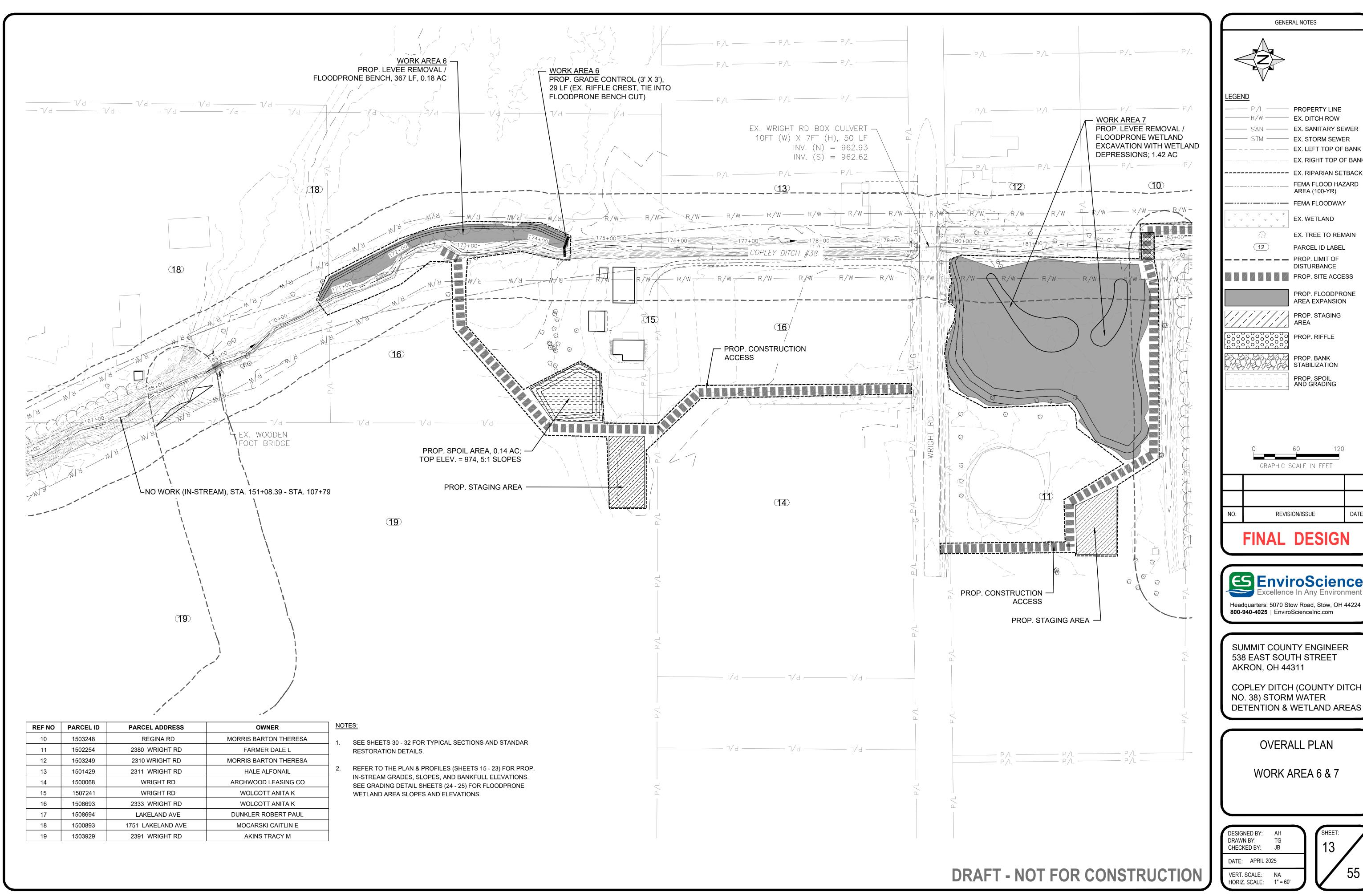
WORK AREA 4 & 5

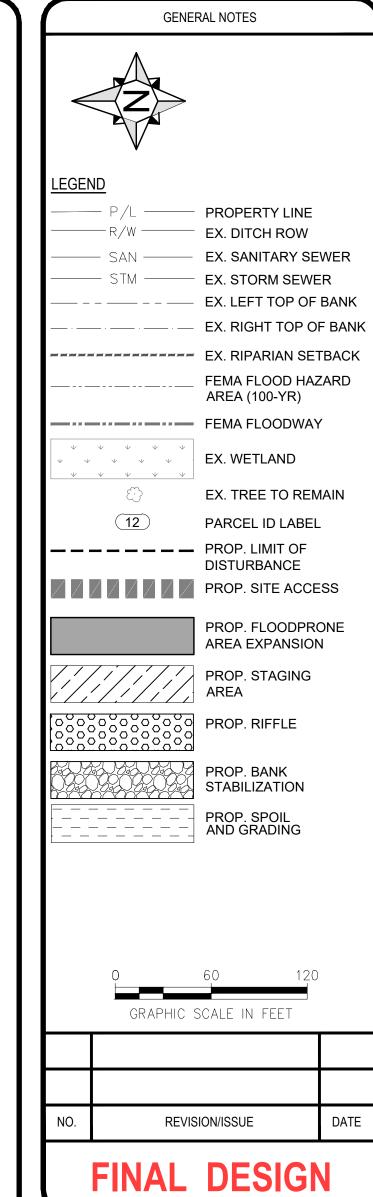
DESIGNED BY: AH
DRAWN BY: TG
CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: NA
HORIZ. SCALE: 1" = 60'









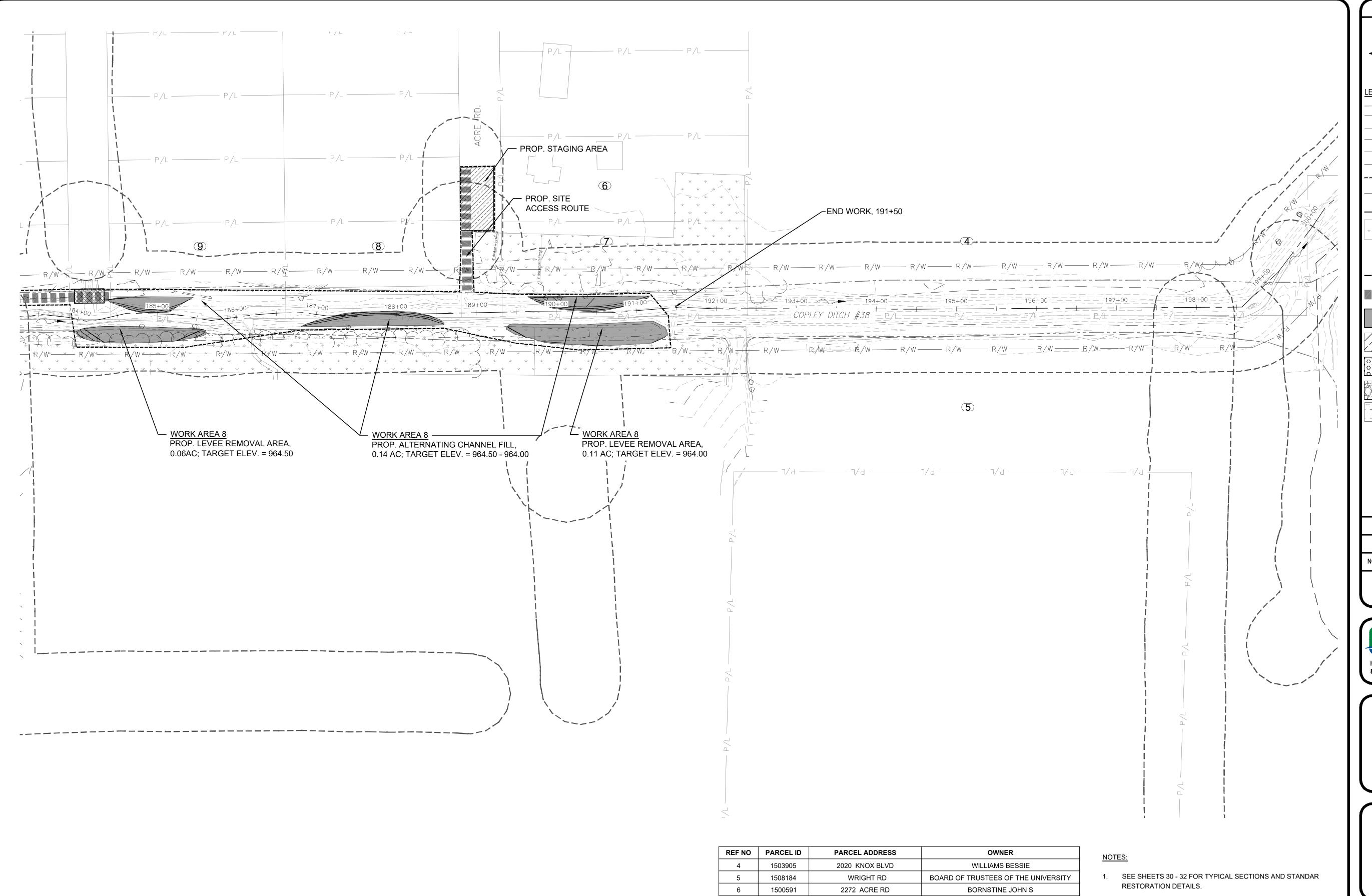
SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

OVERALL PLAN

WORK AREA 6 & 7

	_	
NED BY:	АН	SHEET:
N BY: KED BY:	TG JB	13
APRIL 2	2025	
SCALE:	NA 411 201	[] 5



1500592

1501783

1501782

1503248

ACRE RD

ACRE RD

REGINA RD

REGINA RD

BORNSTINE JOHN S

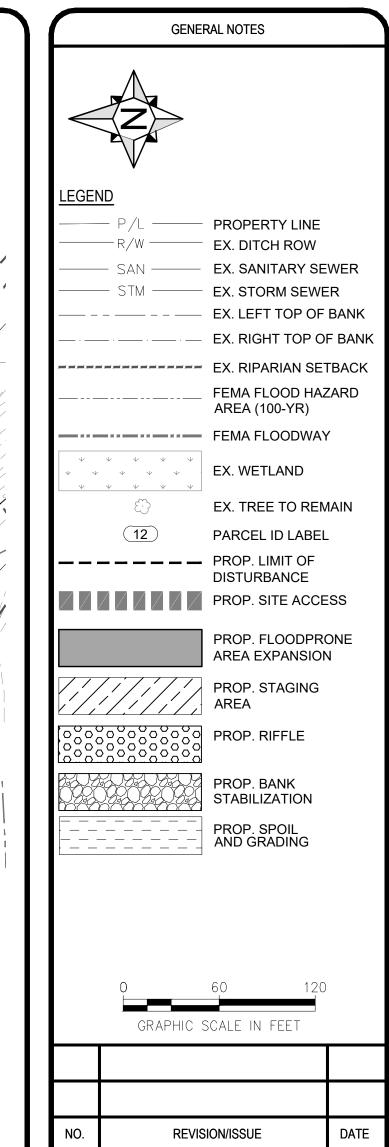
PURNELL NORMAN ETAL

PURNELL NORMAN ETAL

MORRIS BARTON THERESA

 REFER TO THE PLAN & PROFILES (SHEETS 15 - 23) FOR PROP. IN-STREAM GRADES, SLOPES, AND BANKFULL ELEVATIONS. SEE GRADING DETAIL SHEETS (24 - 25) FOR FLOODPRONE WETLAND AREA SLOPES AND ELEVATIONS.

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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

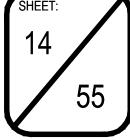
OVERALL PLAN

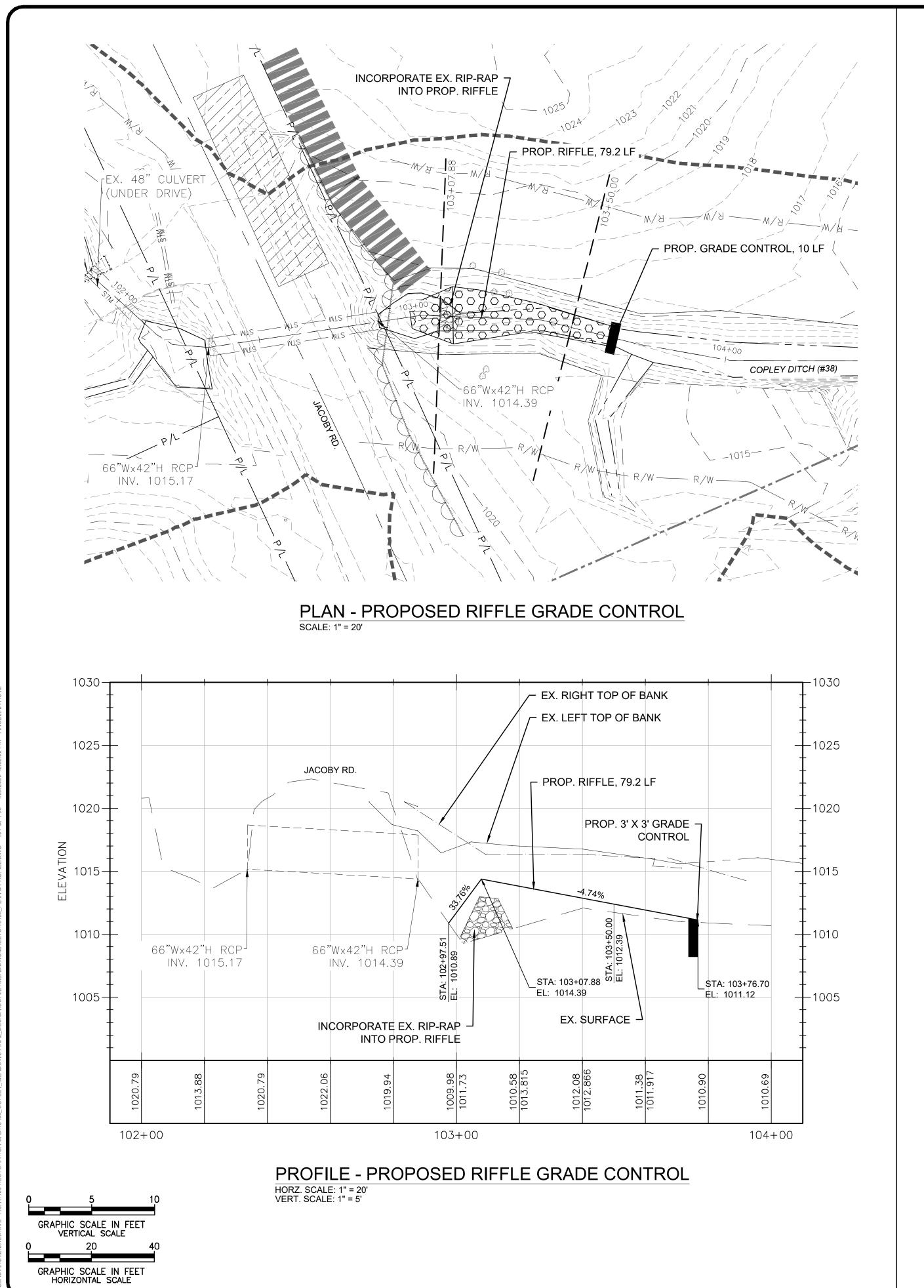
WORK AREA 8

DESIGNED BY: AH
DRAWN BY: TG
CHECKED BY: JB

DATE: APRIL 2025

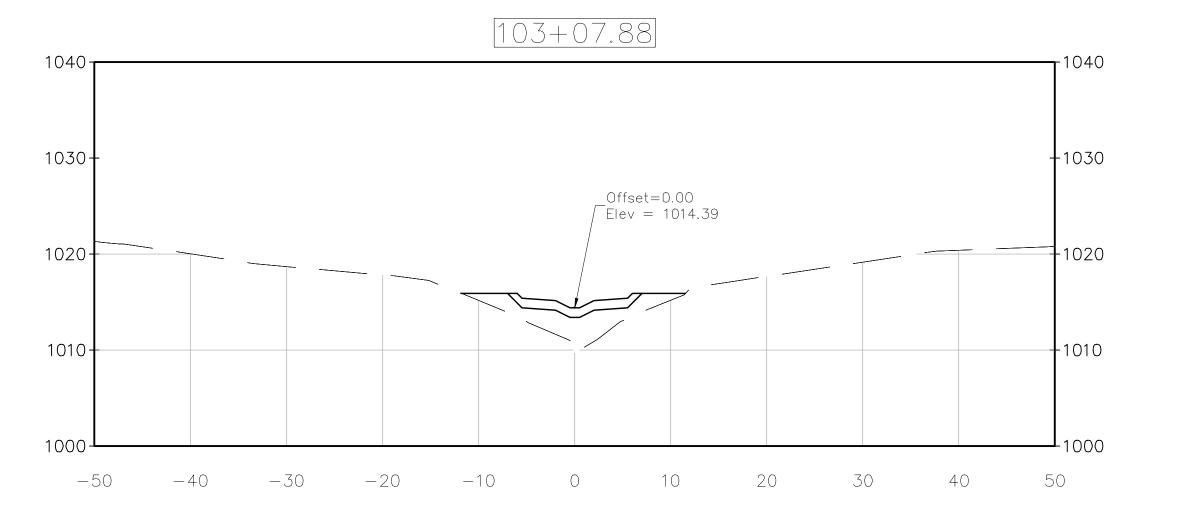
VERT. SCALE: NA
HORIZ. SCALE: 1" = 60'

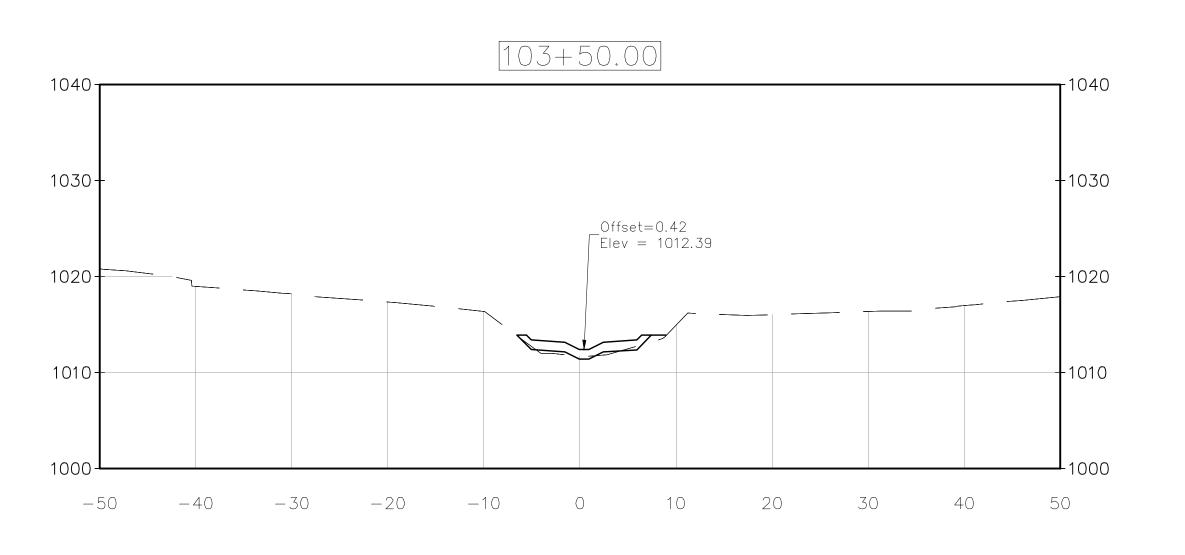




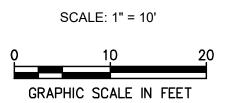
NOTES:

- 1. CONTRACTOR SHALL FIELD LOCATE ALL PIPE AND DRAIN LOCATIONS. ACTIVE PIPES AND DRAINS SHALL BE ADJUSTED OR RELOCATED PER THE DETAIL ON SHEET 32 AND AS DESCRIBED IN THE GENERAL NOTES, SHEET 02. PIPE AND DRAIN ELEVATION SHOWN REFLECT THOSE RECORDED AT EXISTING STREAM DAYLIGHT LOCATIONS.
- 2. SEE SHEETS 30 AND 31 FOR PROP. TYPICAL TWO STAGE DITCH SECTION, BANK STABILIZATION, AND STANDARD RESTORATION FEATURE DETAILS.
- 3. REFER TO SHEETS 5-8 FOR PARCEL INFORMATION.

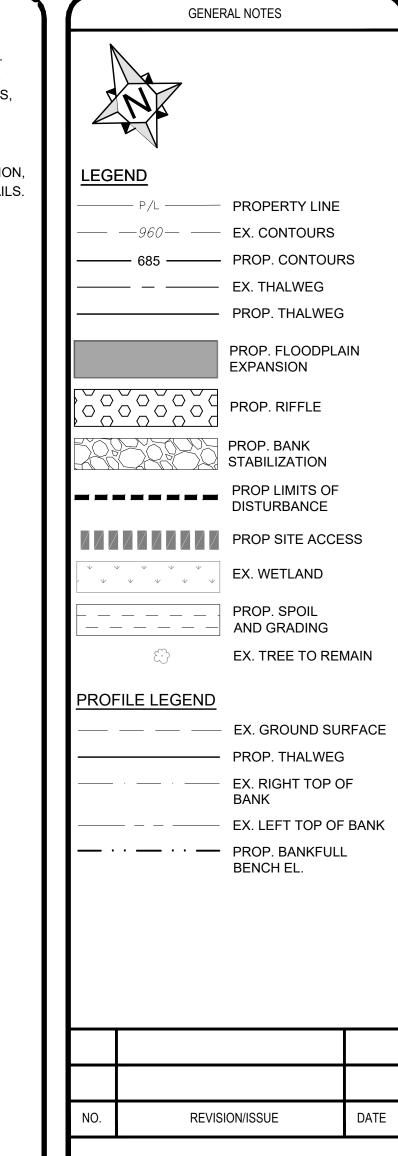




WORK AREA 1 - PROP. RIFFLE CROSS-SECTIONS



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FINAL DESIGN



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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

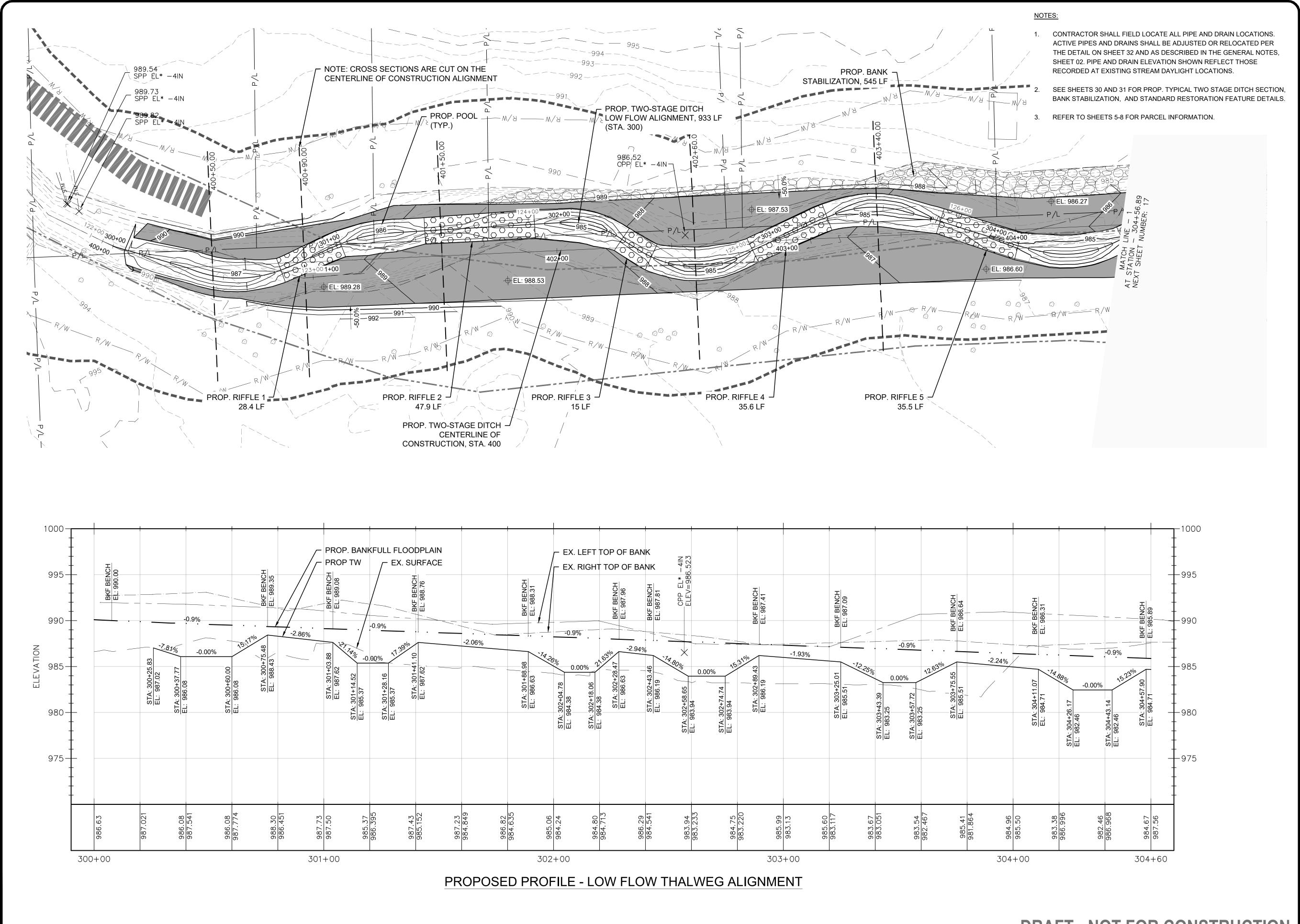
PLAN & PROFILE

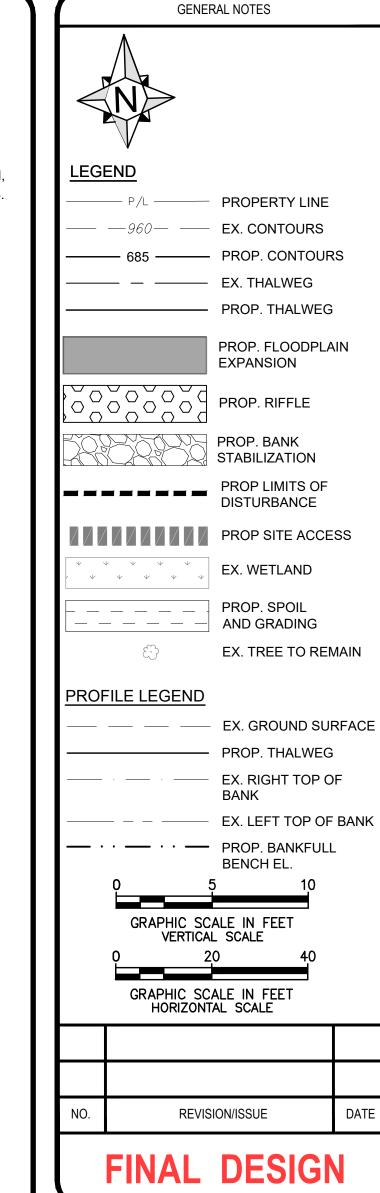
WORK AREA 1 STA. 102+00 - 104+00

CHECKED BY: JB DATE: APRIL 2025

VERT. SCALE: AS NOTED

HORIZ. SCALE: AS NOTED







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SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

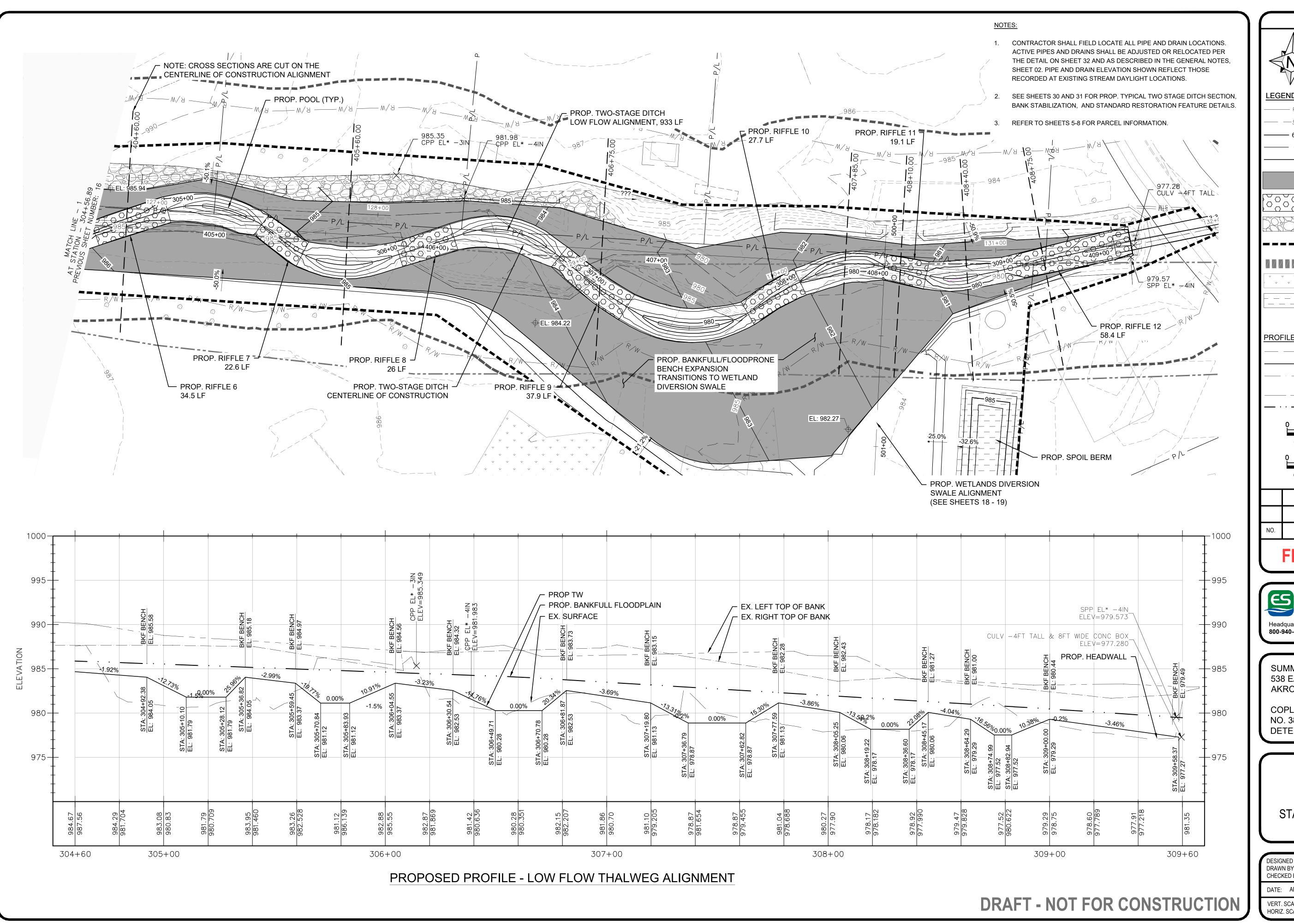
PLAN & PROFILE

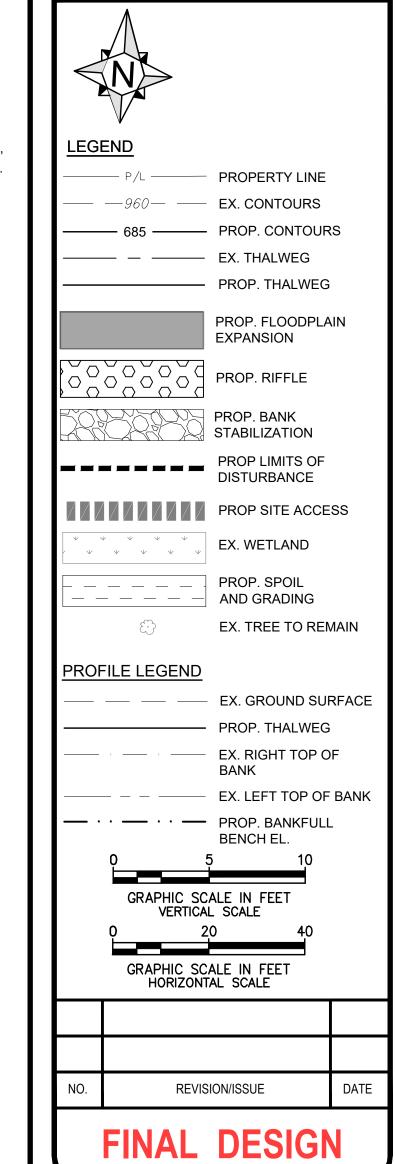
WORK AREA 2 STA. 300+00 - 304+56.89

DESIGNED BY: AH
DRAWN BY: TG
CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: 1" = 5' HORIZ. SCALE: 1" = 20' SHEET: 16 55







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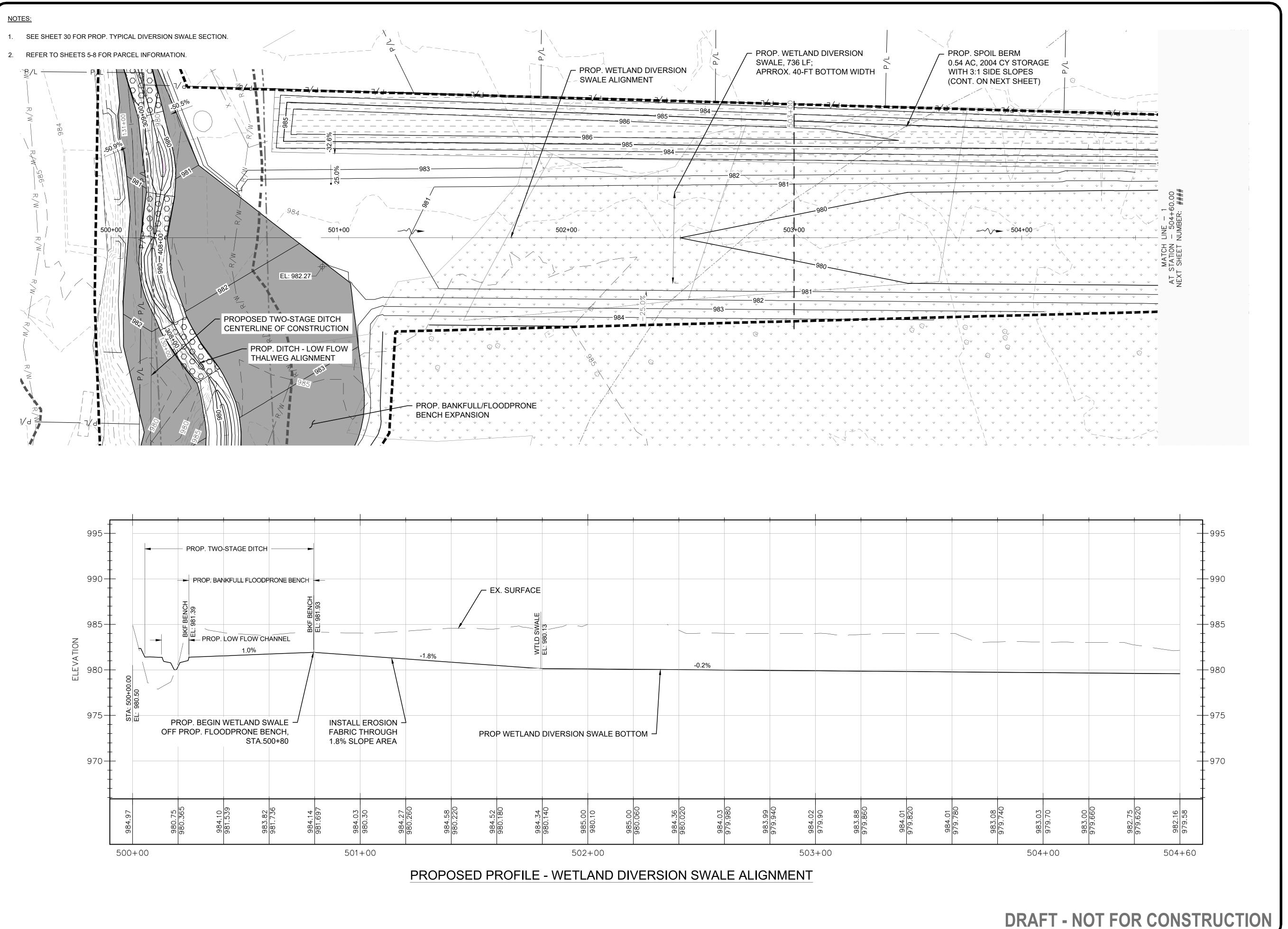
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER **DETENTION & WETLAND AREAS**

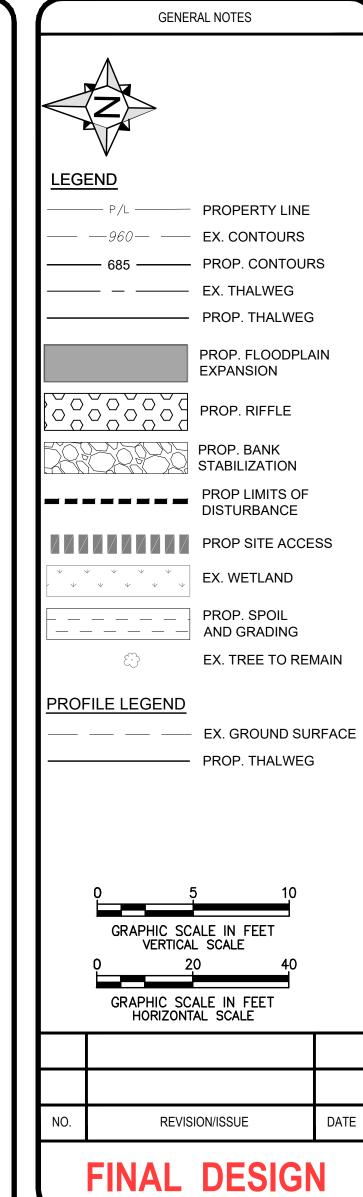
PLAN & PROFILE

WORK AREA 2 STA. 304+56.89 - 309+60

DRAWN BY: CHECKED BY: DATE: APRIL 2025

VERT. SCALE: 1" = 5' HORIZ. SCALE: 1" = 20'







SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET

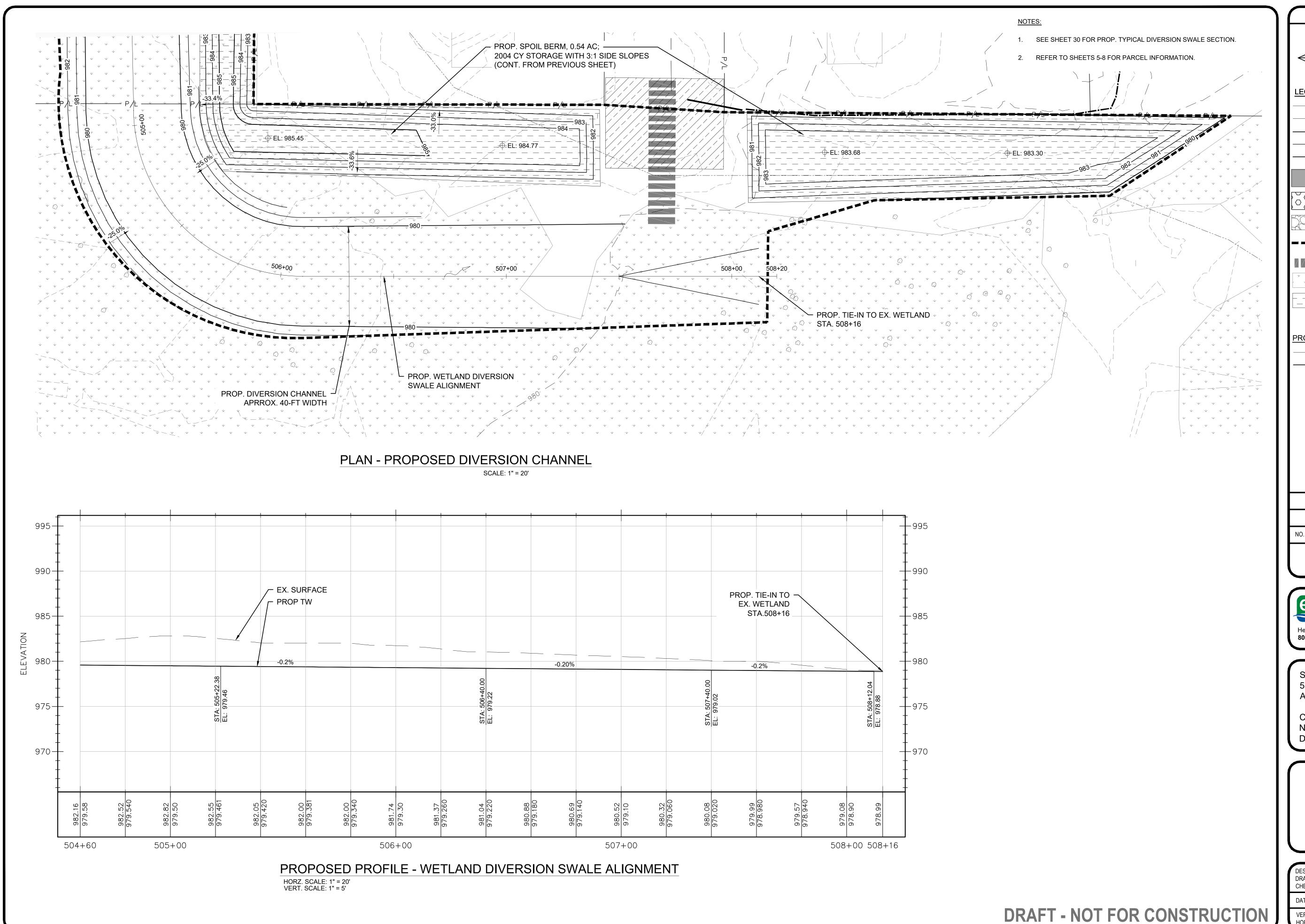
AKRON, OH 44311

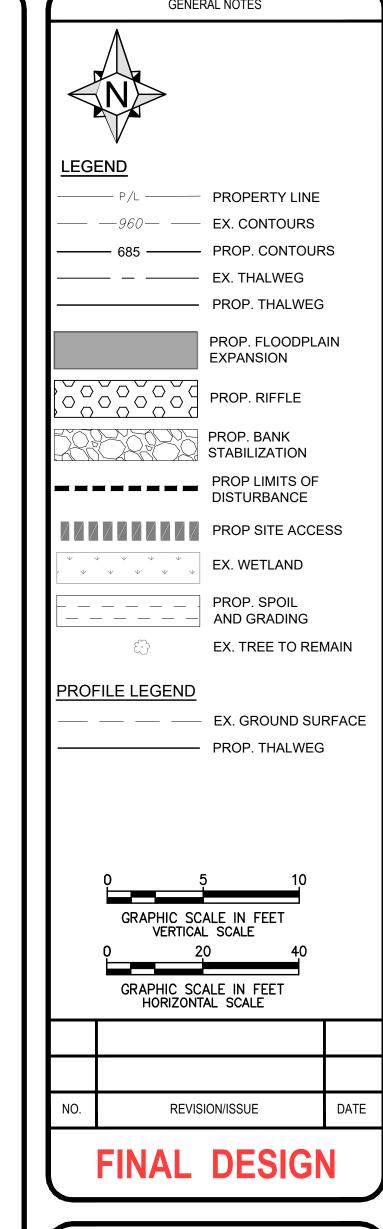
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLAN & PROFILE

WORK AREA 3 STA. 500+00 - 504+60

DRAWN BY: TG CHECKED BY: JB







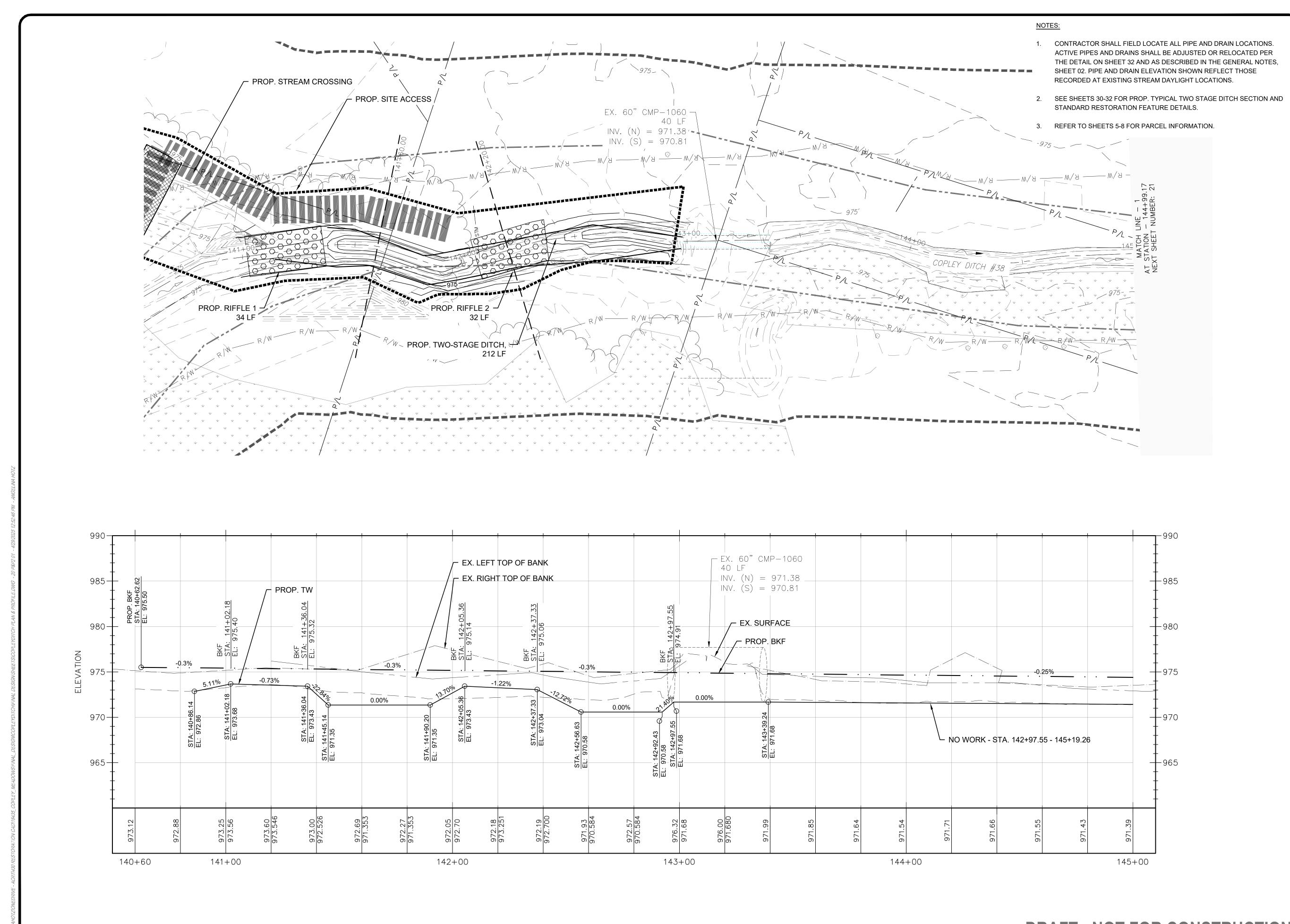
SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLAN & PROFILE

WORK AREA 3 STA. 504+60 - 508+16

CHECKED BY: JB DATE: APRIL 2025 VERT. SCALE: 1" = 5'



GENERAL NOTES — PROPERTY LINE —*960*— EX. CONTOURS — 685 — PROP. CONTOURS PROP. FLOODPLAIN **EXPANSION** PROP. RIFFLE STABILIZATION PROP SITE ACCESS EX. WETLAND PROP. SPOIL AND GRADING EX. TREE TO REMAIN PROFILE LEGEND — EX. GROUND SURFACE - PROP. THALWEG —— EX. RIGHT TOP OF EX. LEFT TOP OF BANK — · · — PROP. BANKFULL BENCH EL. GRAPHIC SCALE IN FEET VERTICAL SCALE GRAPHIC SCALE IN FEET HORIZONTAL SCALE FINAL DESIGN



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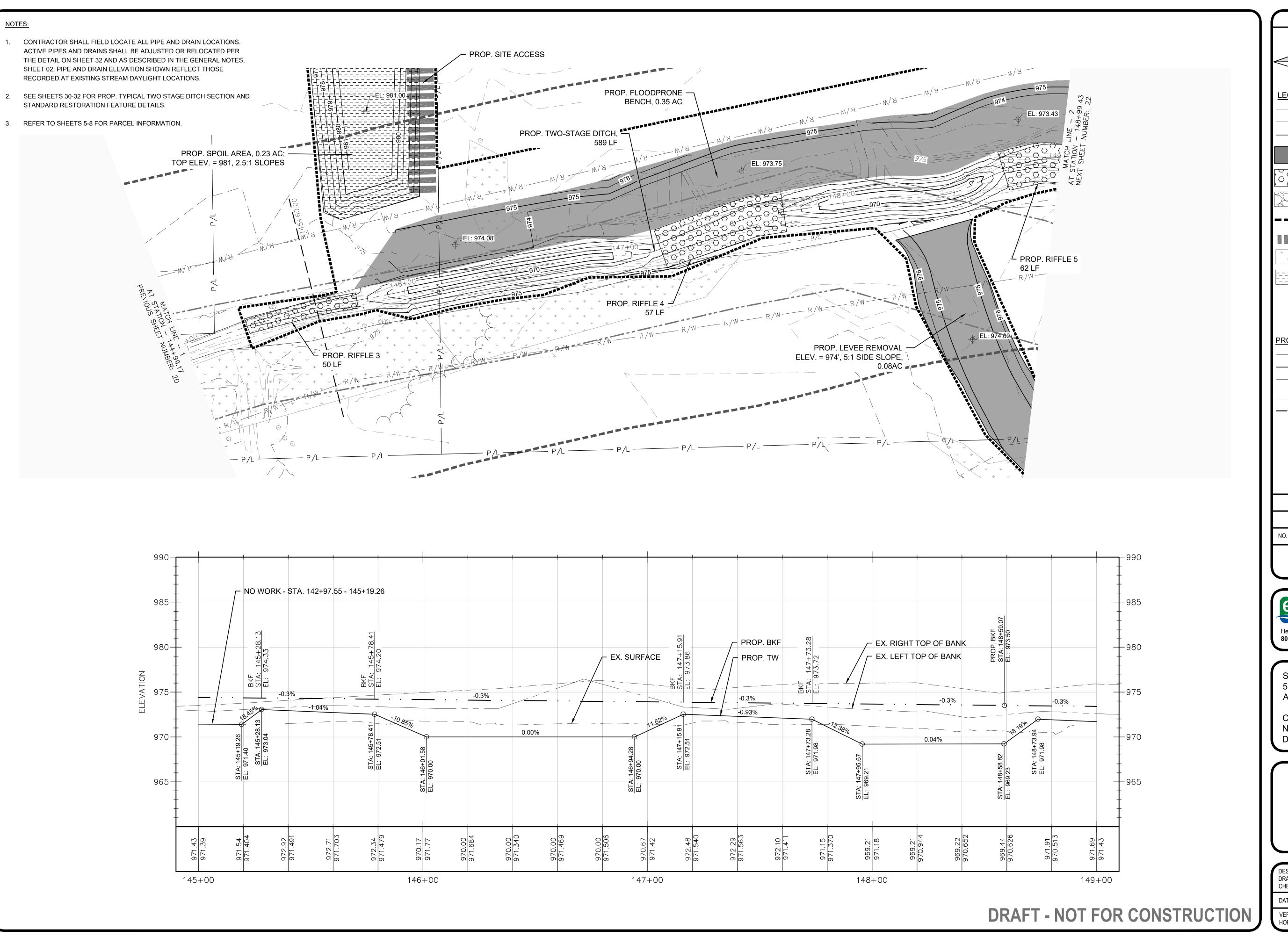
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

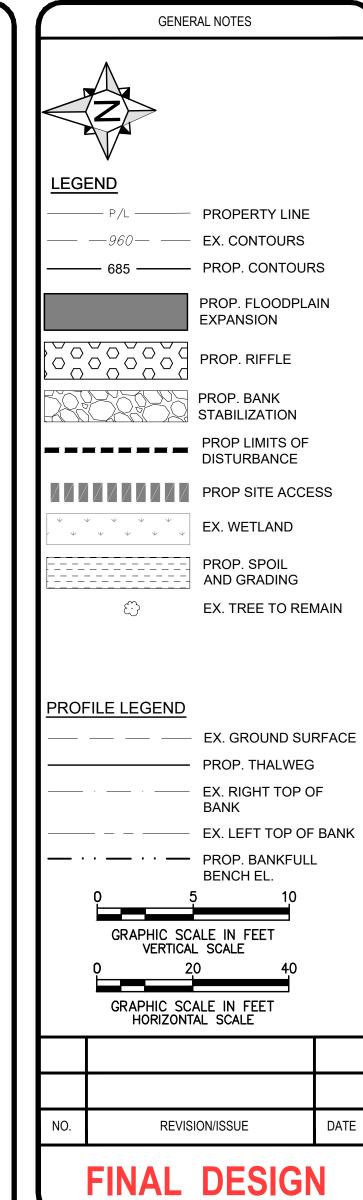
PLAN & PROFILE

WORK AREA 4 STA.140+86.14 - 142+97.55

CHECKED BY: JB

DATE: APRIL 2025 VERT. SCALE: 1" = 5' HORIZ. SCALE: 1" = 20'







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SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLAN & PROFILE

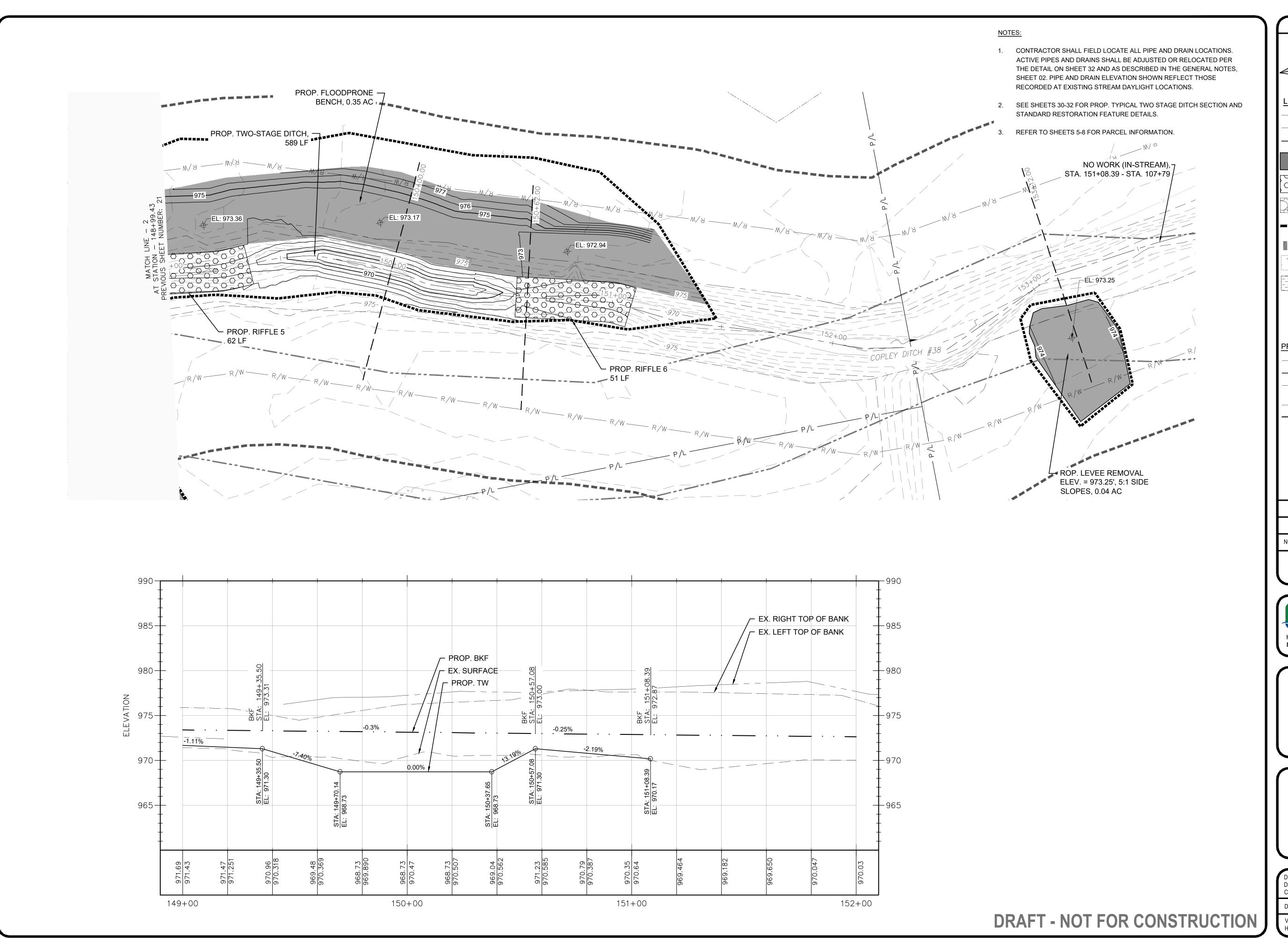
WORK AREA 5 STA. 145+19.26 - 149+00

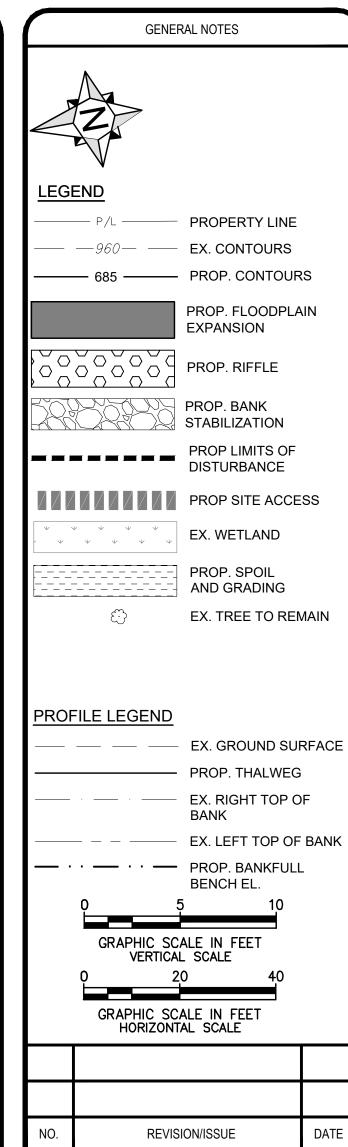
DESIGNED BY: AH
DRAWN BY: TG
CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: 1" = 5'
HORIZ. SCALE: 1" = 20'

SHEET: 21 55







FINAL DESIGN

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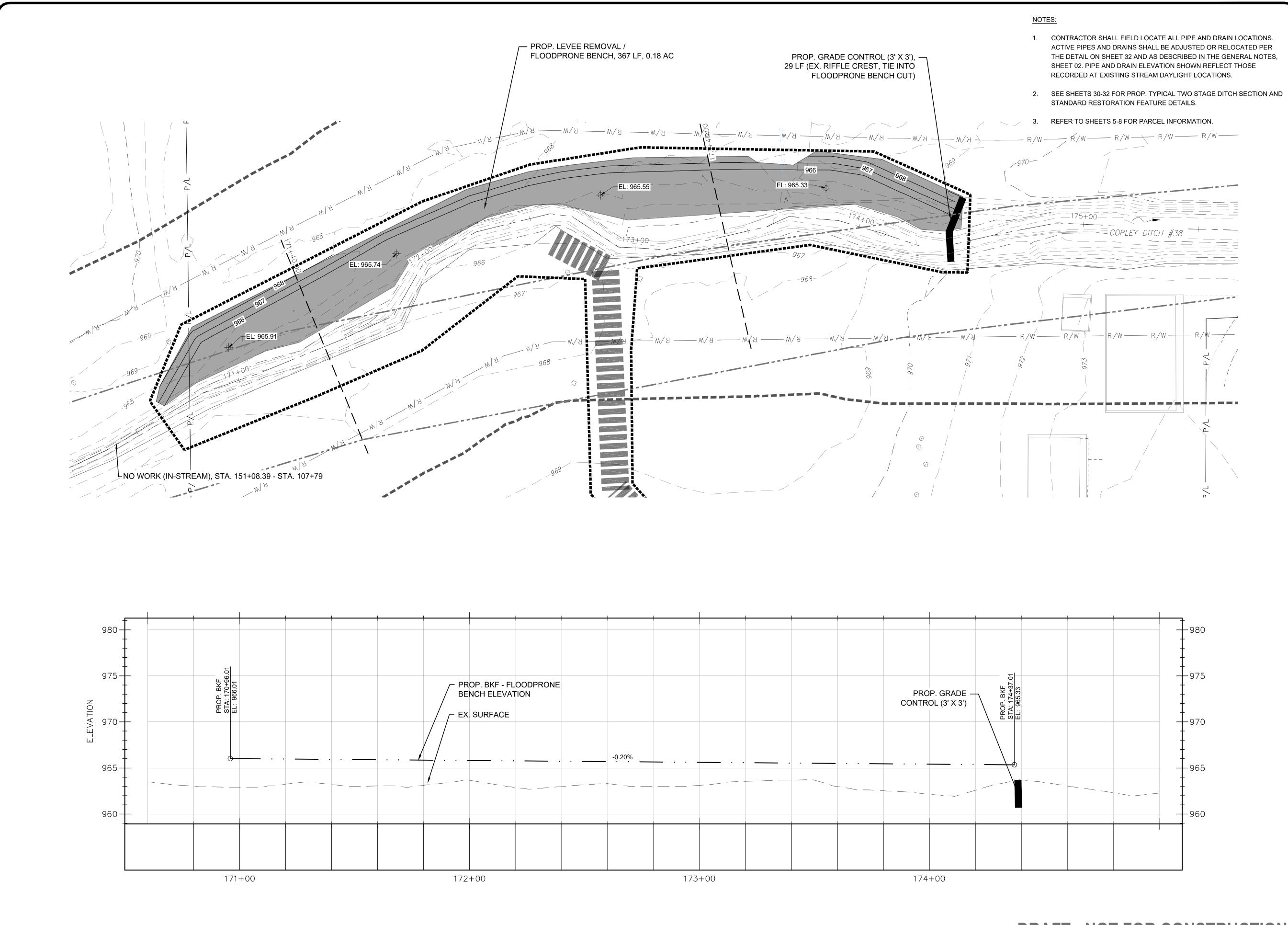
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLAN & PROFILE

WORK AREA 5 STA. 149+00 - 151+08.39

DRAWN BY: TG CHECKED BY: JB

DATE: APRIL 2025 VERT. SCALE: 1" = 5' HORIZ. SCALE: 1" = 20'



PROPERTY LINE —*960*— EX. CONTOURS — 685 — PROP. CONTOURS PROP. FLOODPLAIN **EXPANSION** PROP. RIFFLE STABILIZATION PROP SITE ACCESS EX. WETLAND PROP. SPOIL AND GRADING EX. TREE TO REMAIN PROFILE LEGEND EX. GROUND SURFACE — EX. RIGHT TOP OF EX. LEFT TOP OF BANK — · · — PROP. BANKFULL BENCH EL. GRAPHIC SCALE IN FEET HORIZONTAL SCALE REVISION/ISSUE FINAL DESIGN

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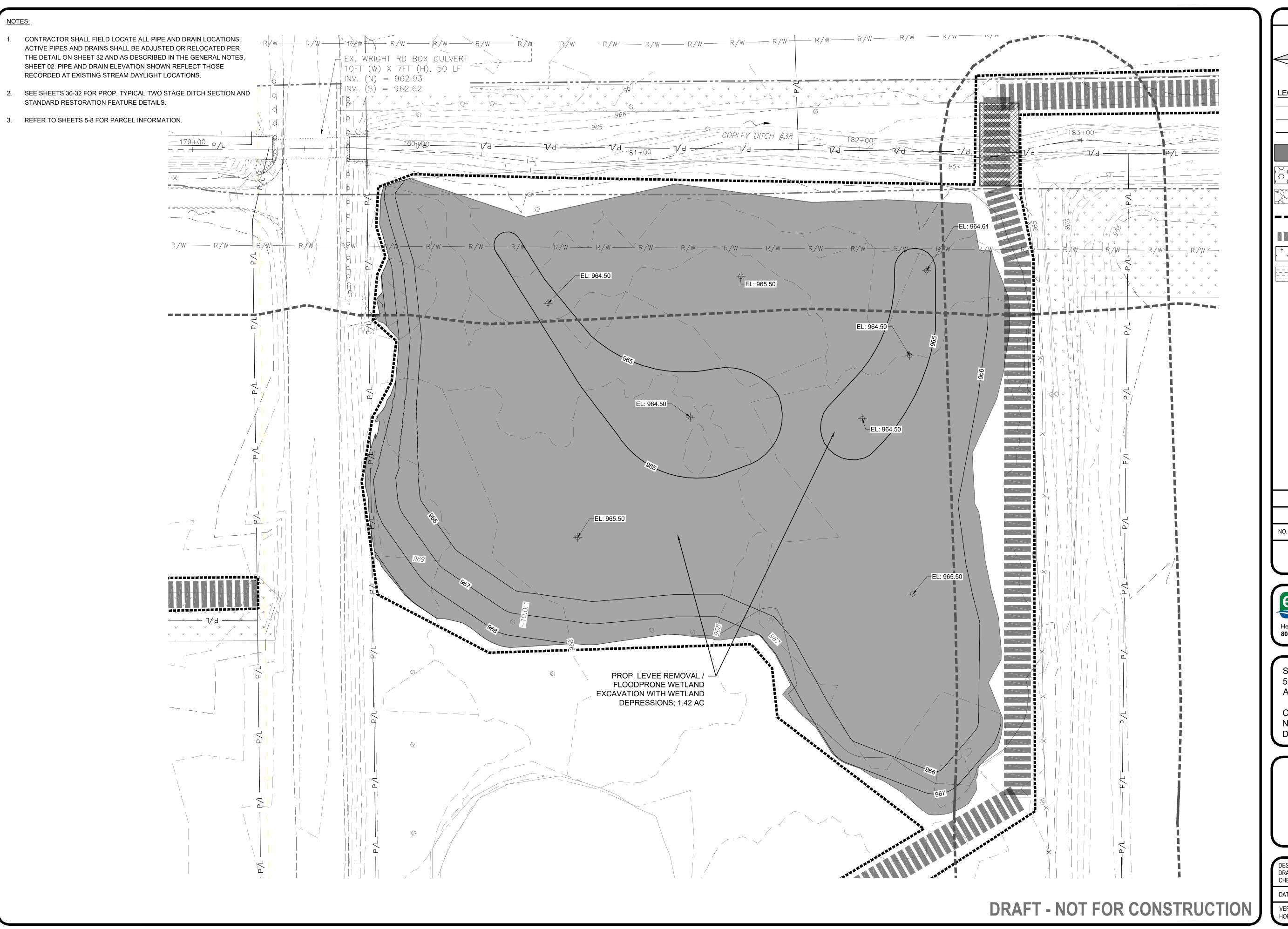
SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

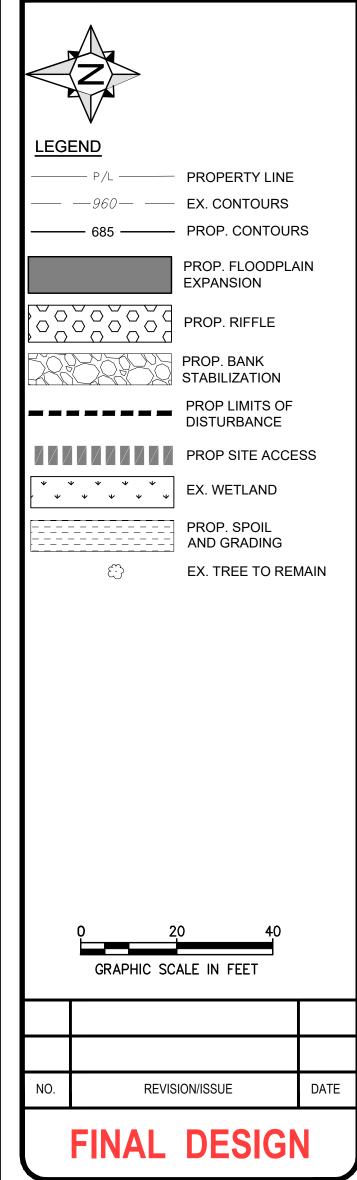
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLAN & PROFILE

WORK AREA 6 STA. 170+76 - 174+89

DRAWN BY: TG CHECKED BY: JB







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SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

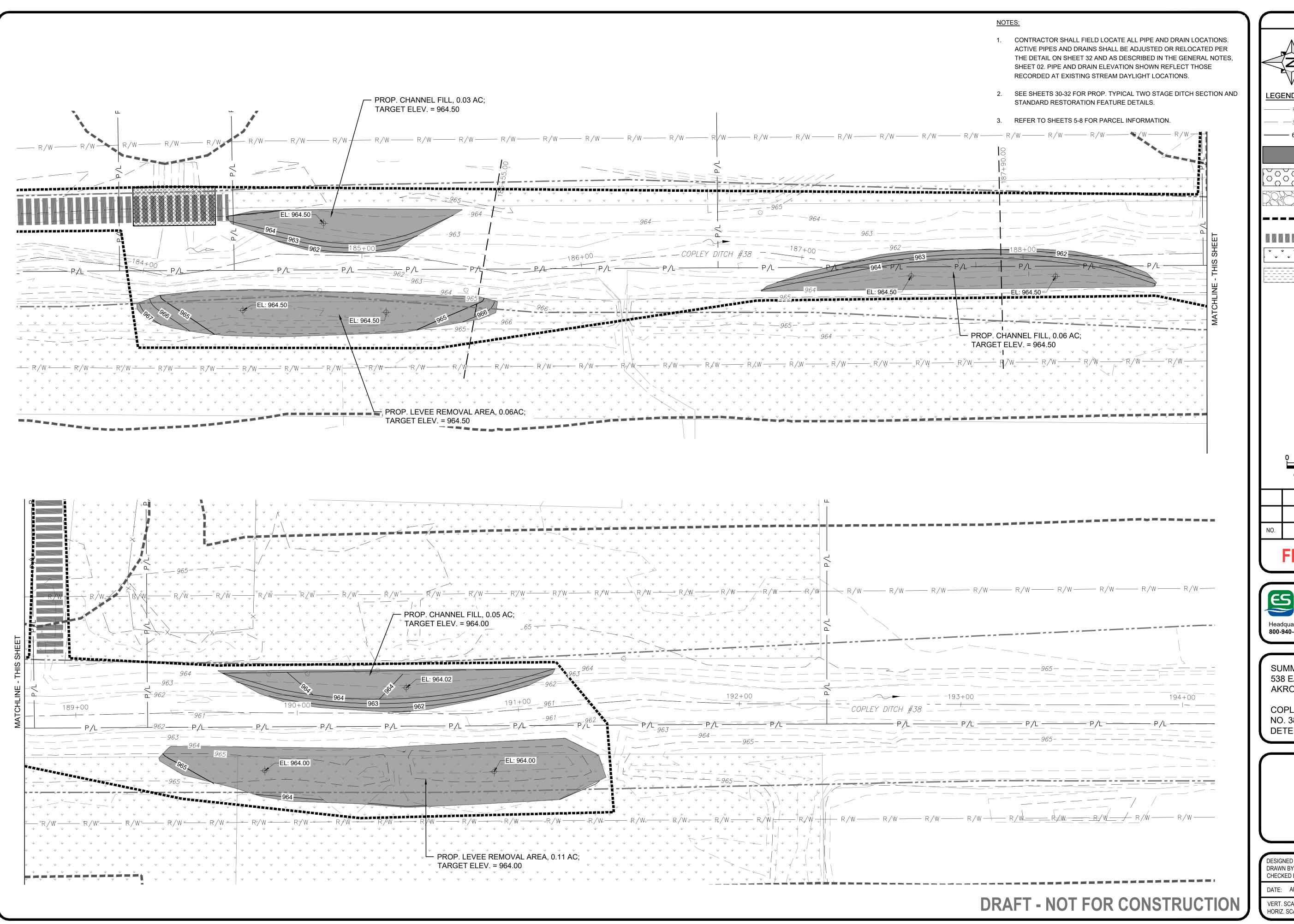
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER **DETENTION & WETLAND AREAS**

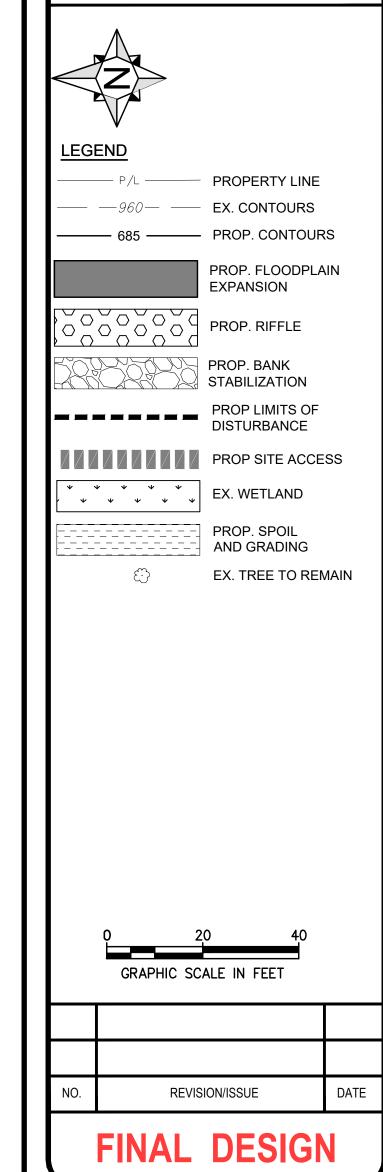
GRADING DETAIL

WORK AREA 7

CHECKED BY: JB

DATE: APRIL 2025 VERT. SCALE: NA HORIZ. SCALE: 1" = 20'







SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

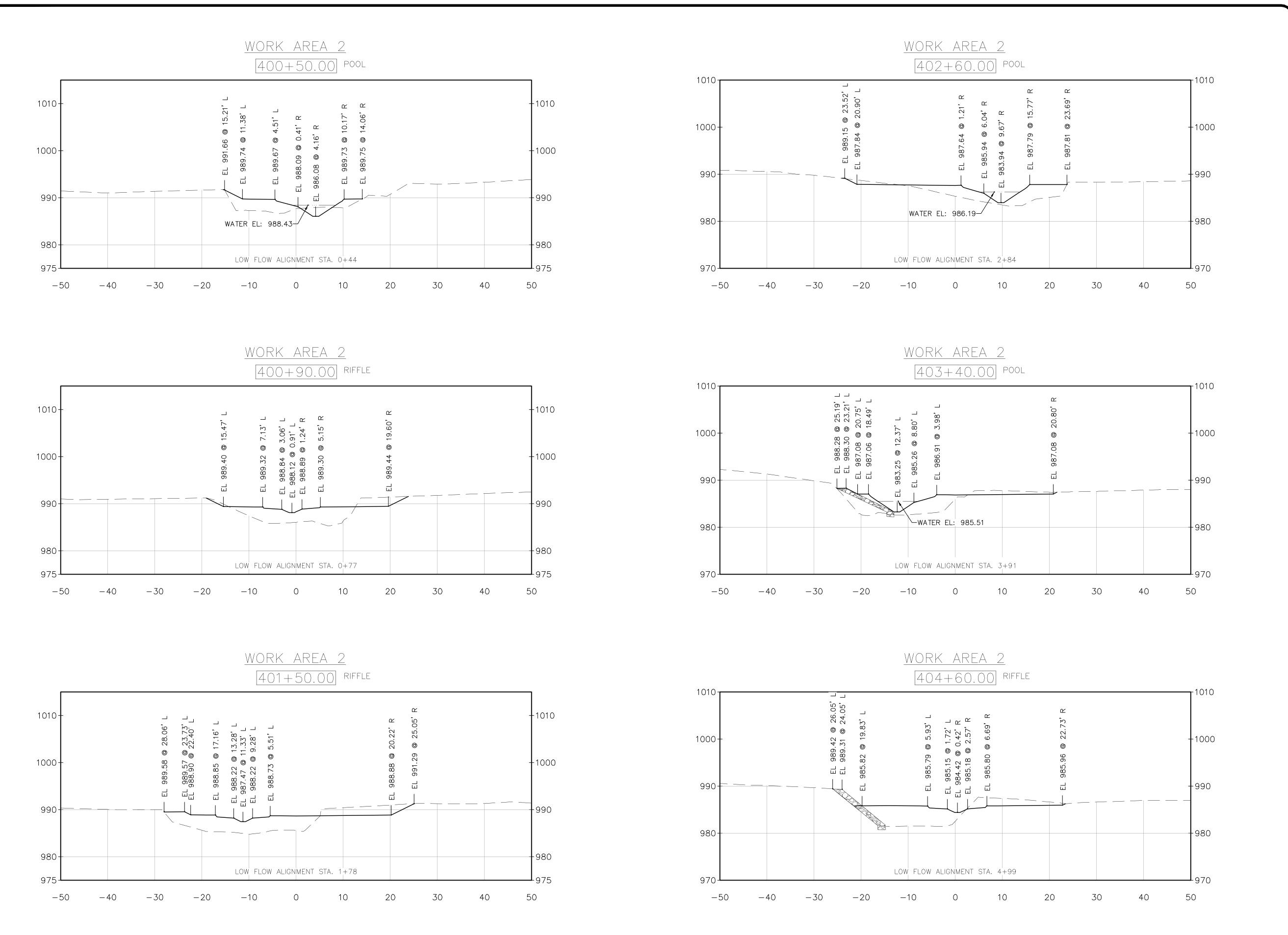
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

GRADING DETAIL

WORK AREA 8

CHECKED BY: JB

DATE: APRIL 2025 VERT. SCALE: 1" = 5' HORIZ. SCALE: 1" = 20'



<u>LEGEND</u> - --- EX GROUND PROP. GRADE PROP. POOL WATER SURFACE PROP. ROCK TOE CROSS SECTION OFFSETS ARE BASED ON THE CENTERLINE OF CONSTRUCTION ALIGNMENT (SEE PLAN & PROFILE SHEETS). ELEVATIONS PROVIDED IN CROSS SECTIONS REPRESENT FINISHED GRADE ELEVATIONS. PROP. THALWEG AND PROP. FLOODPRONE/BENCH (BANKFULL) ELEVATIONS CORRELATE WITH PLAN & PROFILE SHEETS. REFER TO SHEETS 15 - 23 FOR ELEVATIONS NOT SHOWN IN CROSS-SECTIONS. REFER TO TYPICAL SECTION, SHEETS 30-31, FOR DETAILED CHANNEL DIMENSIONS. GRAPHIC SCALE IN FEET REVISION/ISSUE

GENERAL NOTES

Excellence In Any Environment Excellence In Any Environment Headquarters: 5070 Stow Road, Stow, OH 44224 800-940-4025 | EnviroScienceInc.com

FINAL DESIGN

SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

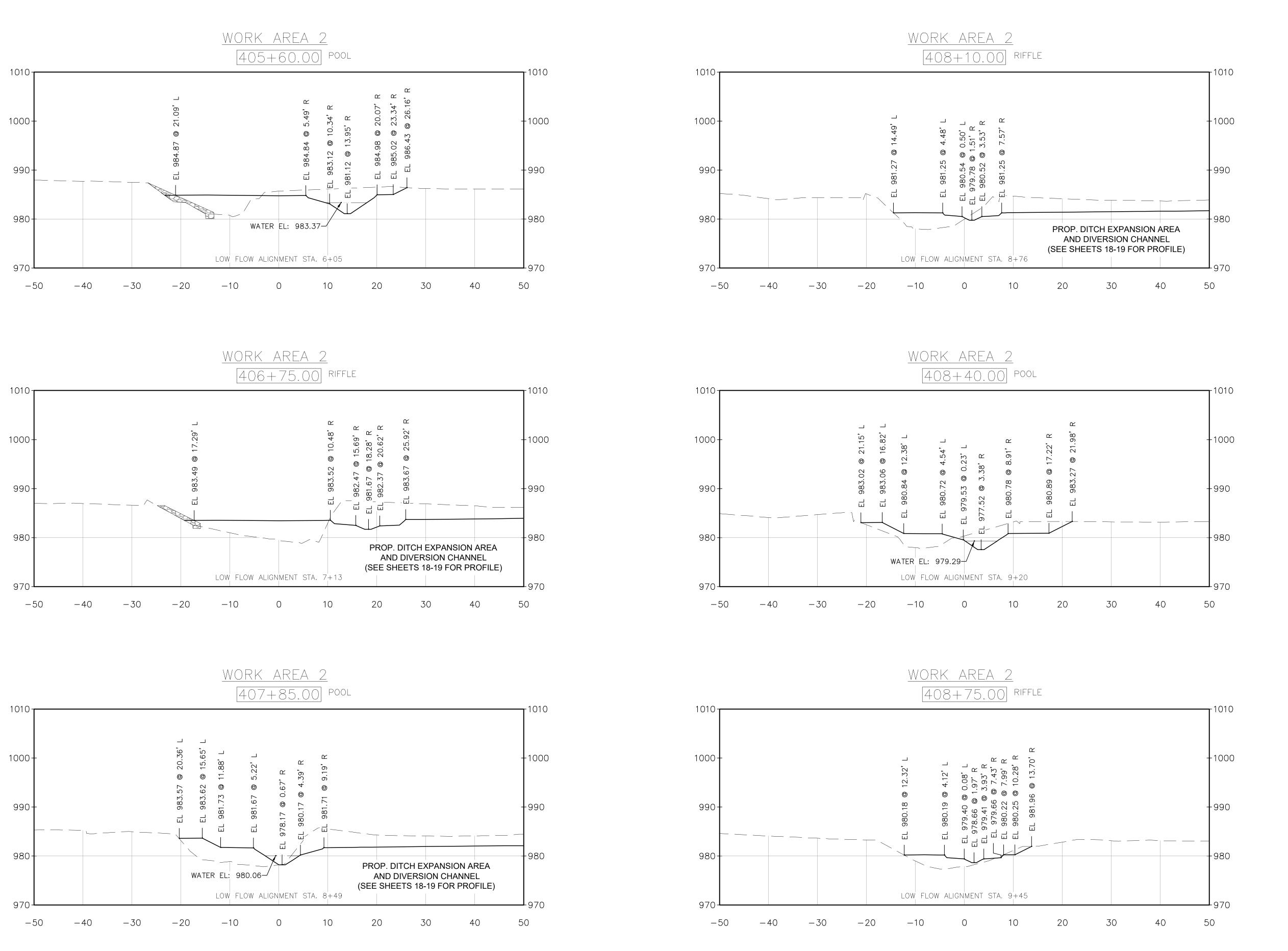
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

CROSS SECTIONS

DESIGNED BY: DRAWN BY: CHECKED BY: JB

SHEET: DATE: APRIL 2025 VERT. SCALE: 1" = 10' HORIZ. SCALE: 1" = 10'

DRAFT - NOT FOR CONSTRUCTION

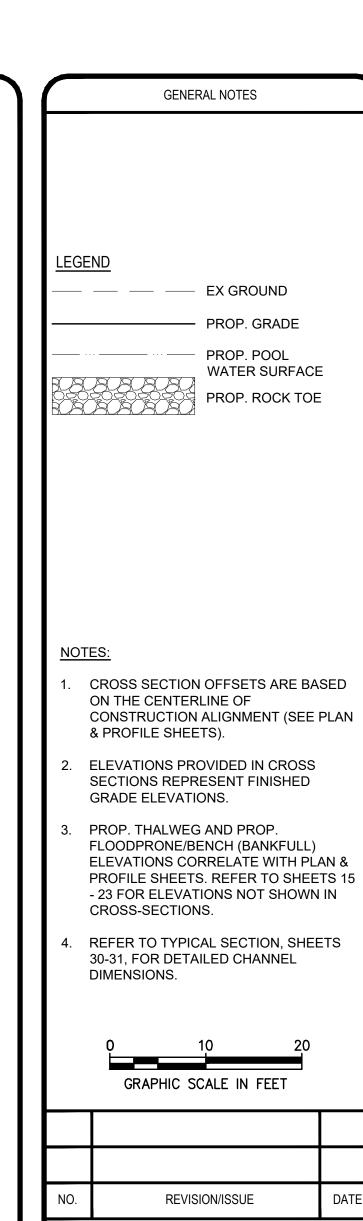


DRAFT - NOT FOR CONSTRUCTION

CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: 1" = 10'
HORIZ. SCALE: 1" = 10'





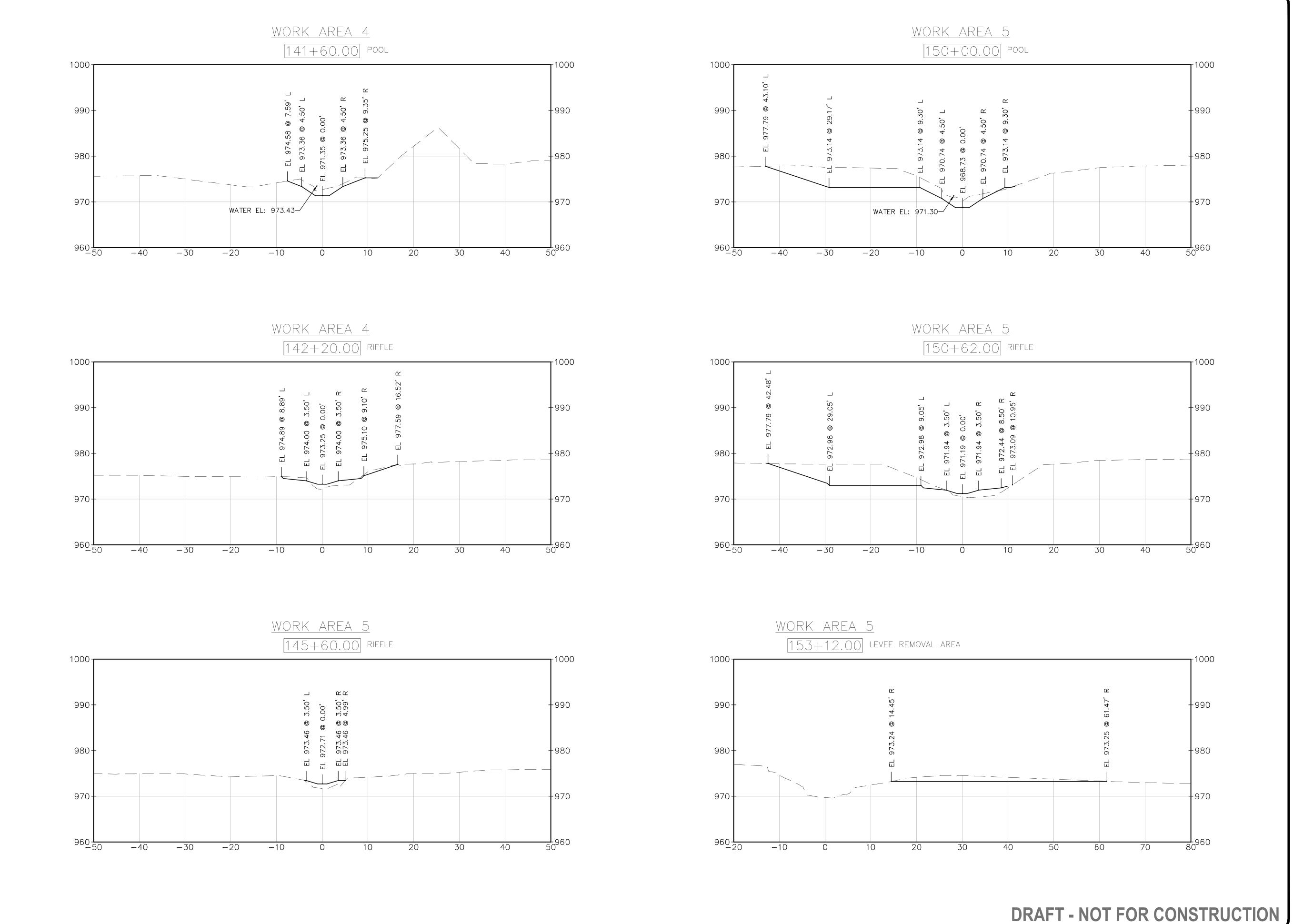
FINAL DESIGN

SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

CROSS SECTIONS

DESIGNED BY: DRAWN BY: SHEET: 27 55



GENERAL NOTES <u>LEGEND</u> — — EX GROUND PROP. GRADE PROP. POOL WATER SURFACE NOTES: ELEVATIONS PROVIDED IN CROSS SECTIONS REPRESENT FINISHED GRADE ELEVATIONS. PROP. THALWEG AND PROP. FLOODPRONE/BENCH (BANKFULL) ELEVATIONS CORRELATE WITH PLAN & PROFILE SHEETS. REFER TO SHEETS 15 23 FOR ELEVATIONS NOT SHOWN IN CROSS-SECTIONS. REFER TO TYPICAL SECTION, SHEETS 30-31, FOR DETAILED CHANNEL DIMENSIONS. GRAPHIC SCALE IN FEET REVISION/ISSUE FINAL DESIGN Excellence In Any Environment Headquarters: 5070 Stow Road, Stow, OH 44224 **800-940-4025** | EnviroScienceInc.com

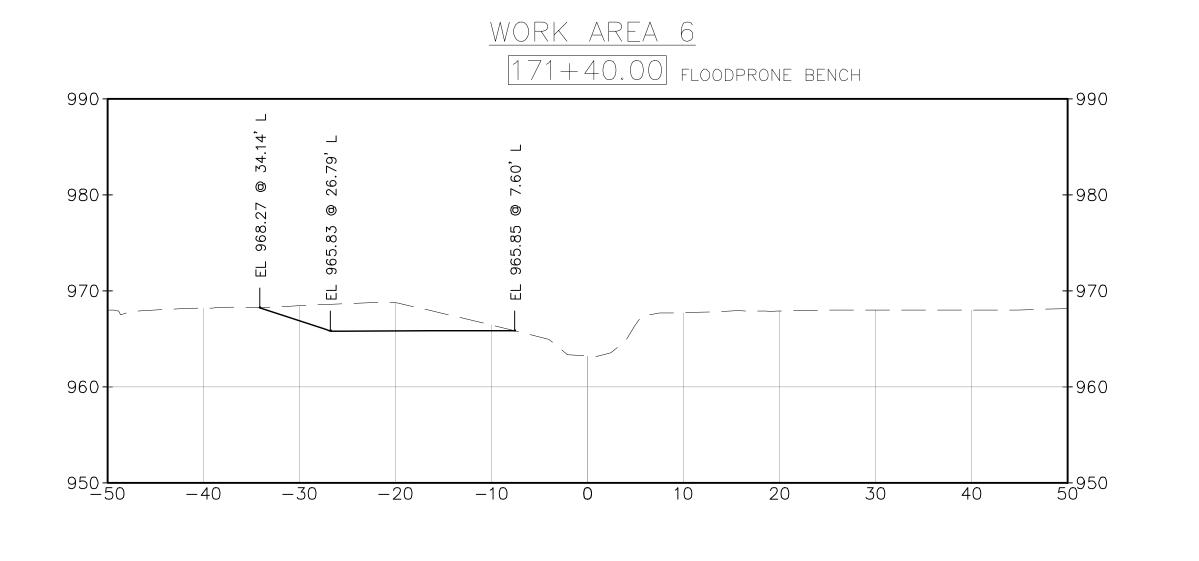
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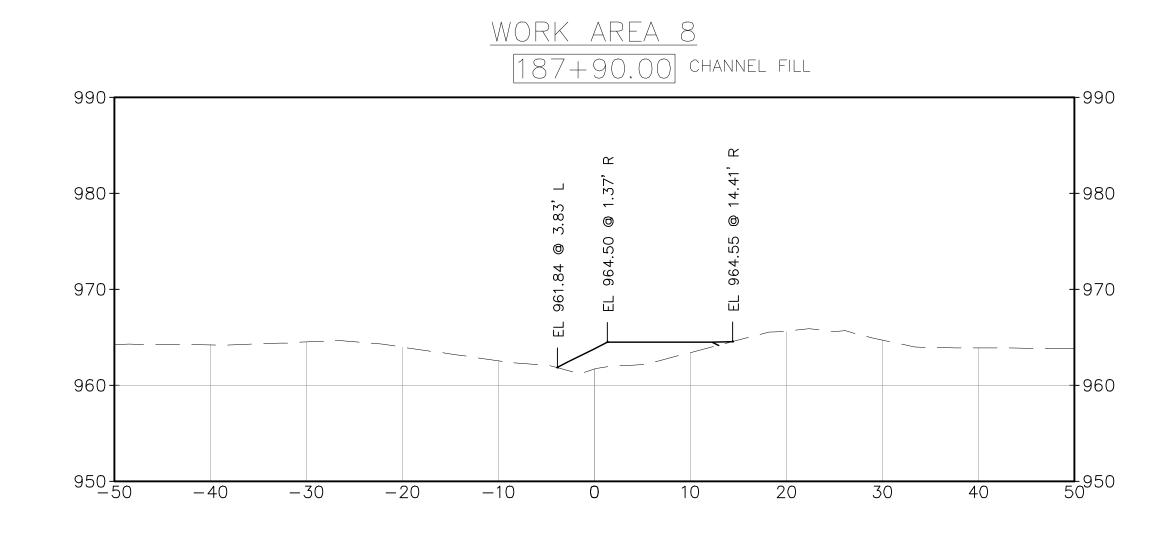
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

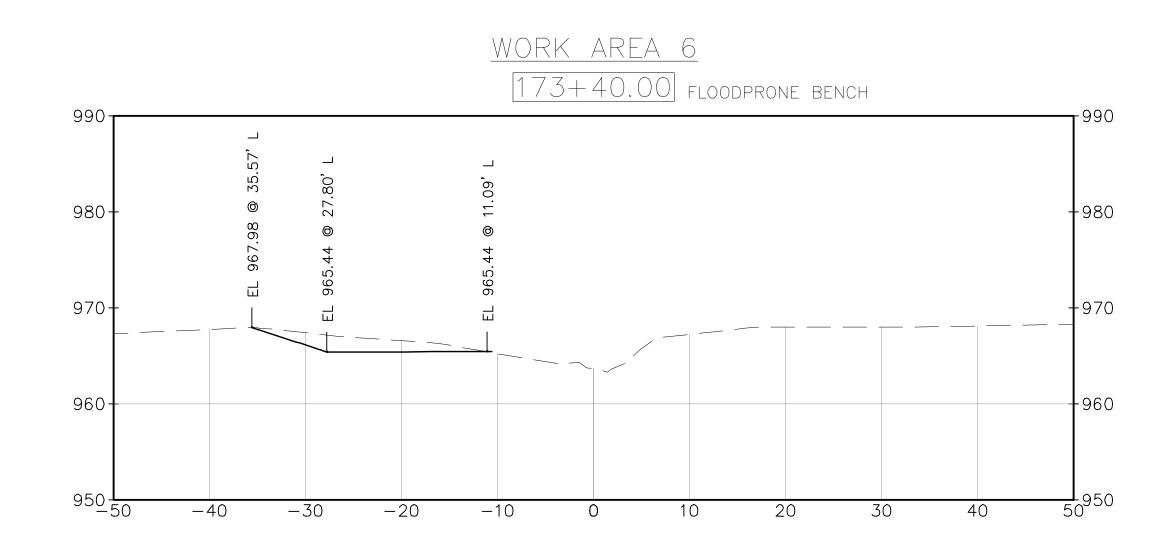
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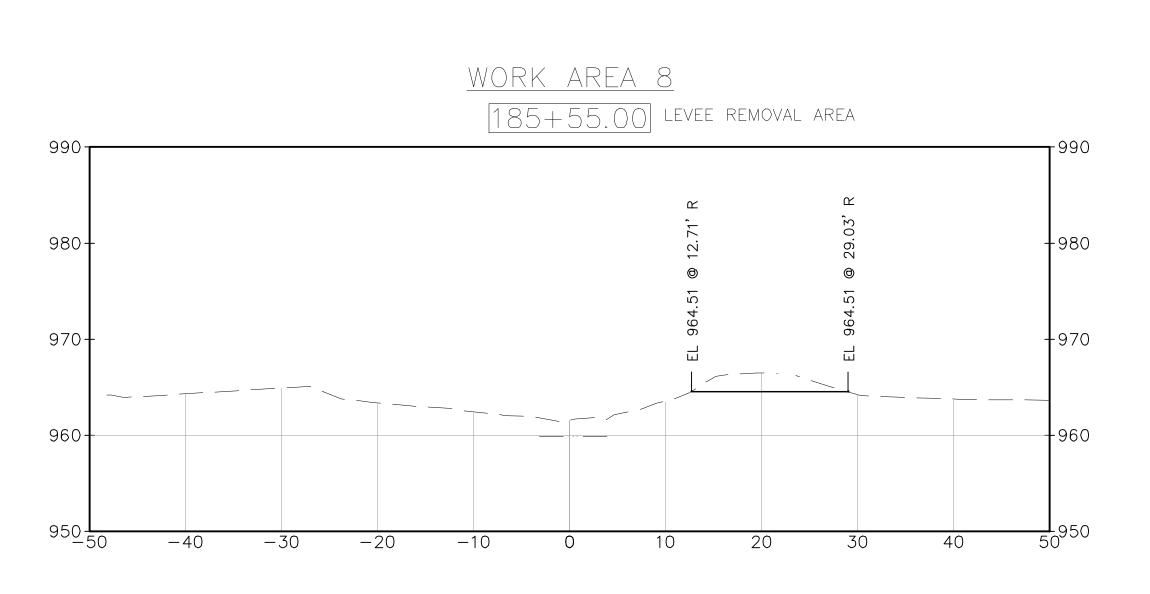
DESIGNED BY: AH DRAWN BY: TG CHECKED BY: JB

DATE: APRIL 2025 VERT. SCALE: 1" = 10' HORIZ. SCALE: 1" = 10'











ELEVATIONS PROVIDED IN CROSS

FLOODPRONE/BENCH (BANKFULL)

23 FOR ELEVATIONS NOT SHOWN IN

REFER TO TYPICAL SECTION, SHEETS 30-31, FOR DETAILED CHANNEL

GRAPHIC SCALE IN FEET

REVISION/ISSUE

FINAL DESIGN

ELEVATIONS CORRELATE WITH PLAN & PROFILE SHEETS. REFER TO SHEETS 15 -

PROP. THALWEG AND PROP.

ELEVATIONS.

CROSS-SECTIONS.

DIMENSIONS.

SECTIONS REPRESENT FINISHED GRADE

PROP. GRADE

PROP. POOL WATER SURFACE

538 EAST SOUTH STREET **AKRON, OH 44311**

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

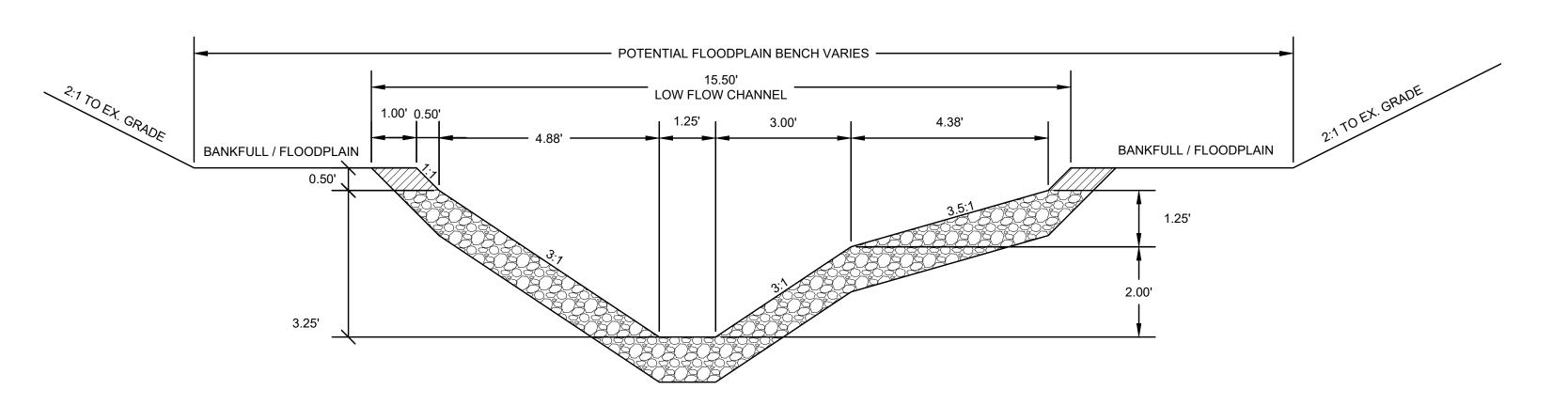
CROSS SECTIONS

DESIGNED BY: AH DRAWN BY: TG CHECKED BY: JB

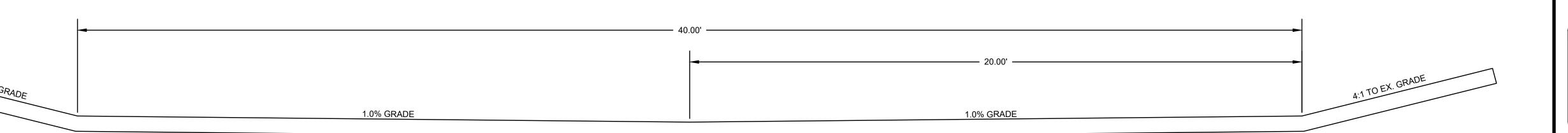
DATE: APRIL 2025 VERT. SCALE: 1" = 10' HORIZ. SCALE: 1" = 10'

1.25' 3.25'

PROP. TWO-STAGE DITCH - TYPICAL POOL RIGHT CROSS SECTION (STA. 300+25.83 - 309+58.37)



PROP. TWO-STAGE DITCH - TYPICAL POOL LEFT CROSS SECTION (STA. 300+25.83 - 309+58.37)



PROP. WETLAND DIVERSION SWALE - TYPICAL CROSS SECTION (STA. 501+00 - 508+16)

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FINAL DESIGN

GENERAL NOTES



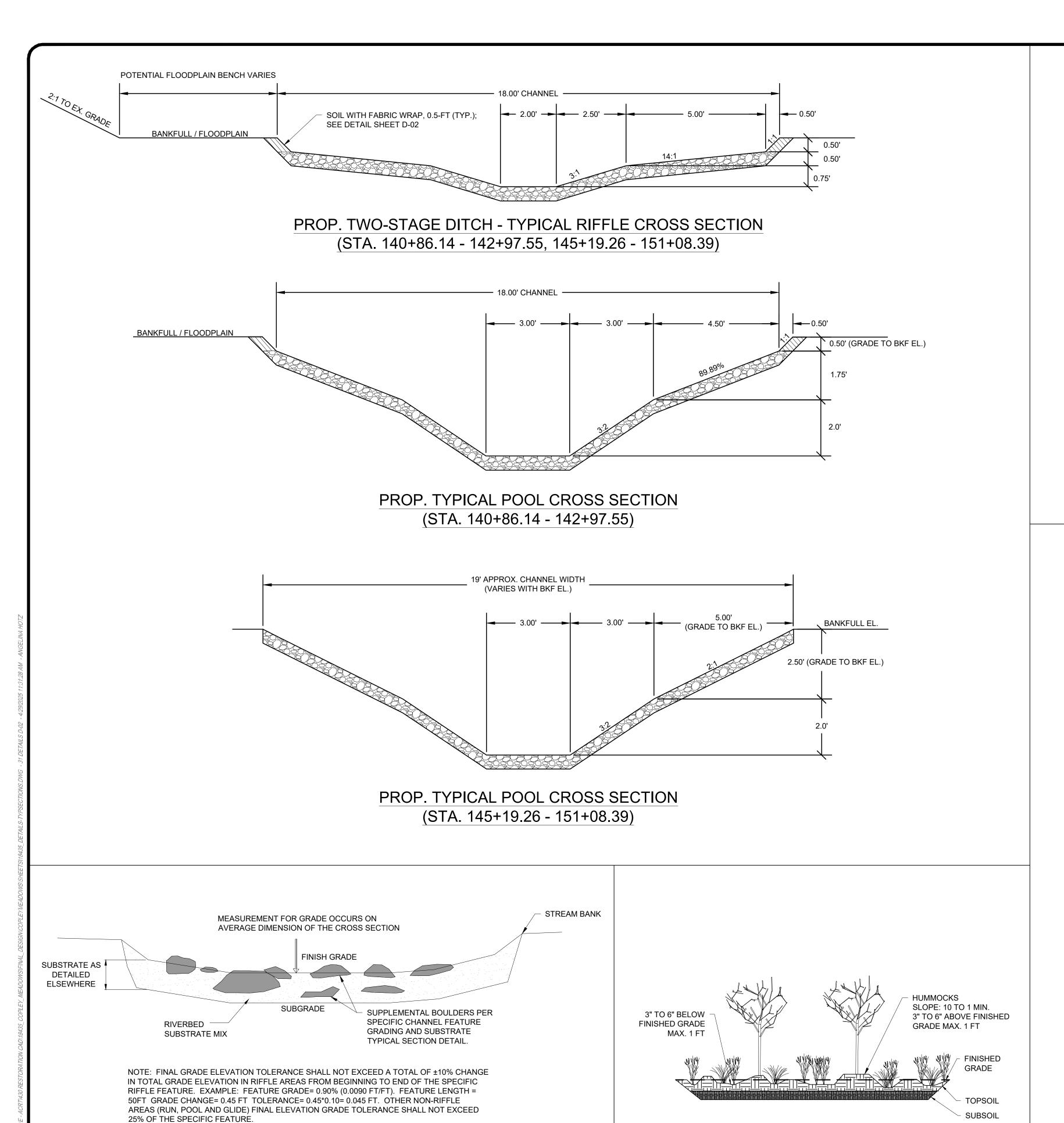
SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

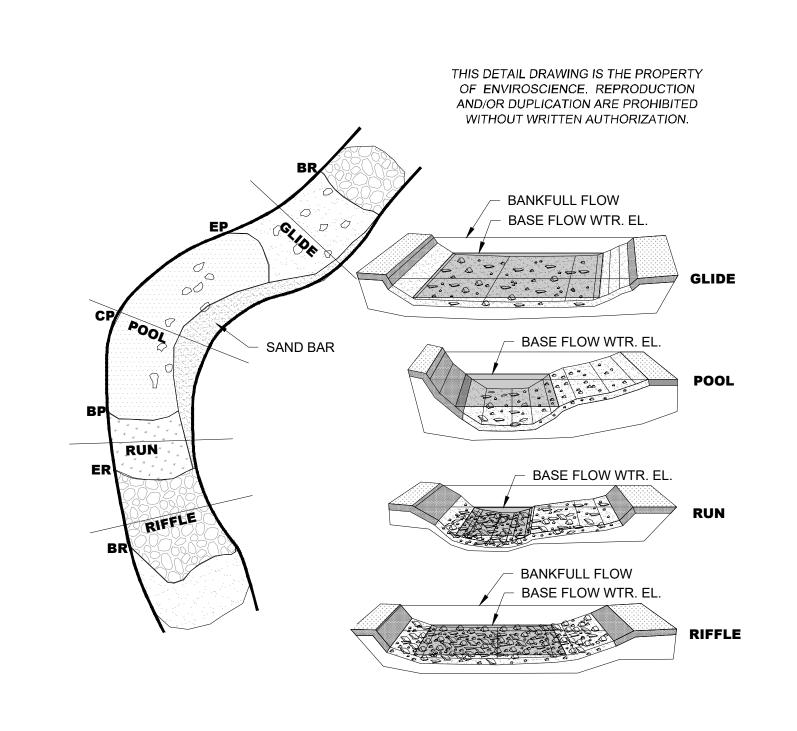
STANDARD DETAILS

DRAWN BY: CHECKED BY: DATE: APRIL 2025

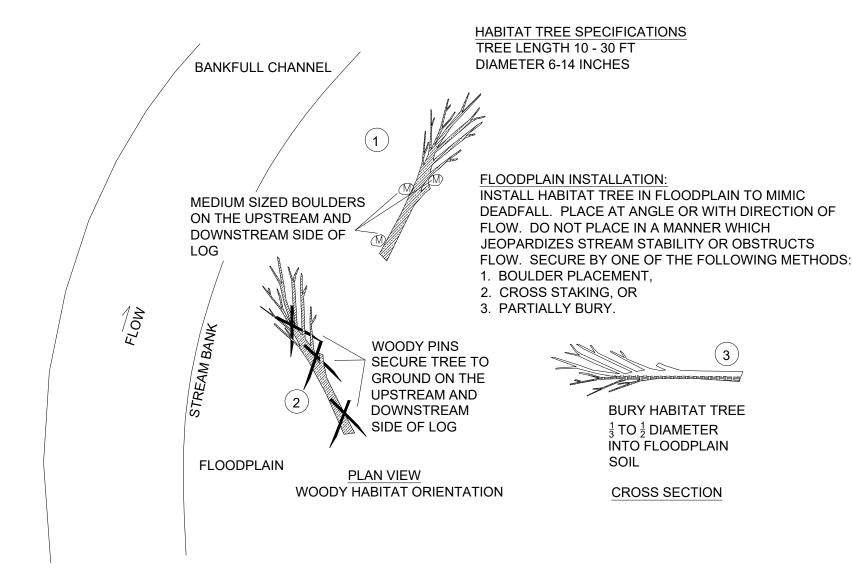
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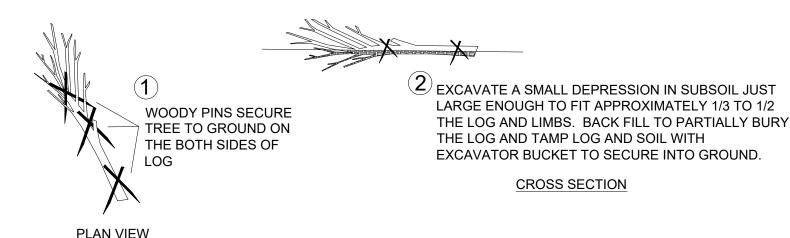
FINAL GRADE VERIFICATION DETAIL



CHANNEL FEATURE TYPICAL SECTION



WETLAND INSTALLATION:
INSTALL HABITAT TREE IN WETLAND TO MIMIC DEADFALL.
SECURE BY ONE OF THE FOLLOWING METHODS:
1. CROSS STAKING, OR
2. PARTIALLY BURY.



WOODY HABITAT ORIENTATION

WETLAND MICROTOPOGRAPHY DETAIL

WOODY HABITAT #14
DEADFALL AND FLOODPLAIN TREE

DRAFT - NOT FOR CONSTRUCTION

NO. REVISION/ISSUE DATE

FINAL DESIGN

GENERAL NOTES



SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

STANDARD DETAILS

DESIGNED BY:
DRAWN BY:
CHECKED BY:

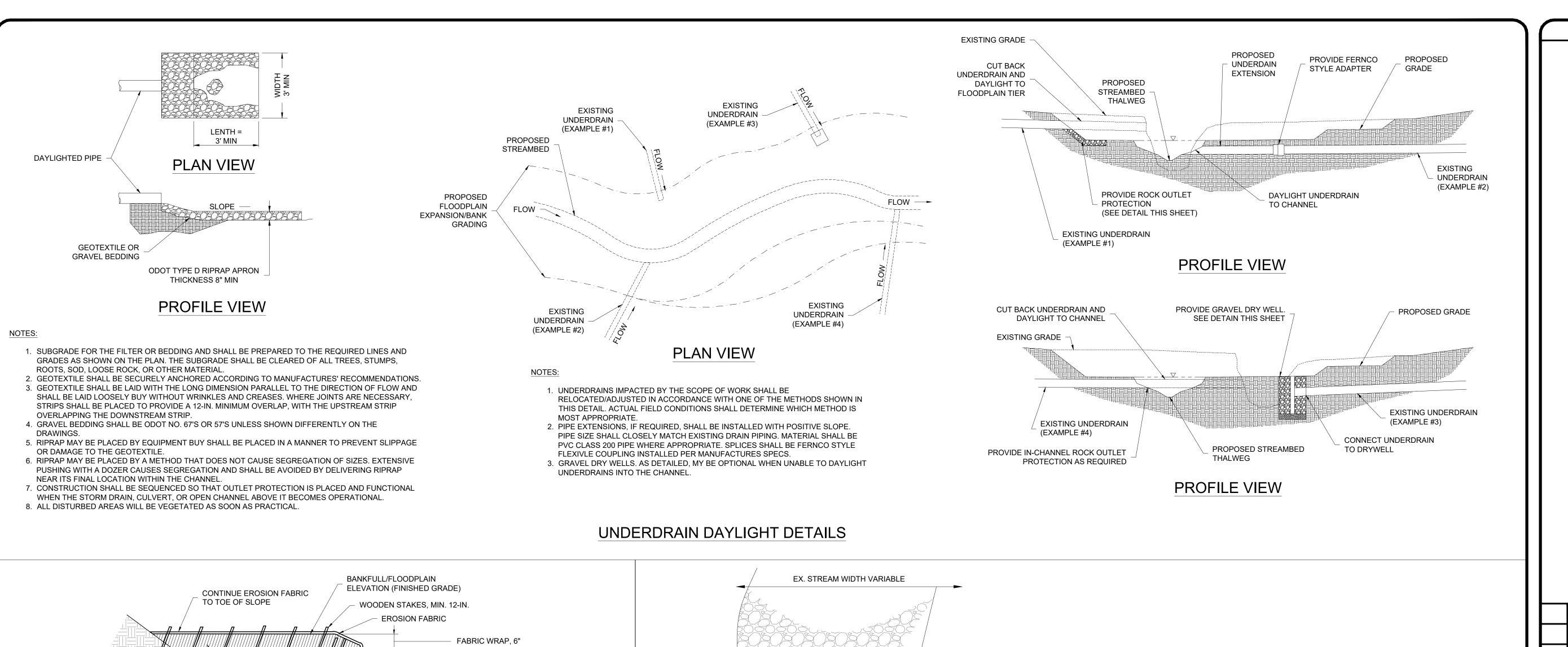
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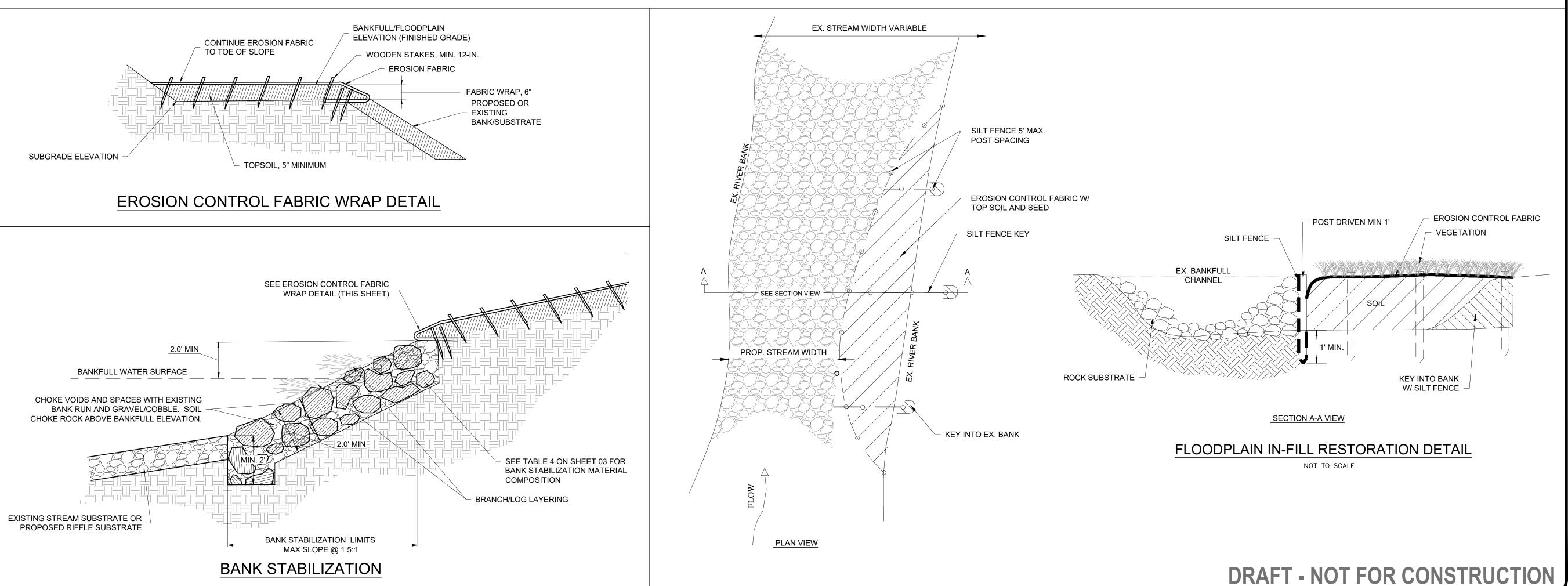
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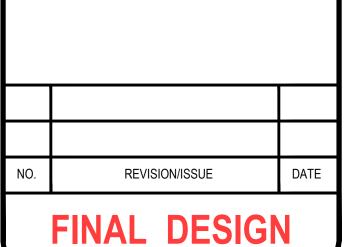
DATE: APRIL 2025

VERT. SCALE: NA

SHEET: 31 55









SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

STANDARD DETAILS

DESIGNED BY: AH
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DATE: APRIL 2025

CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: NA
HORIZ. SCALE: NA

SHEET: 32 55

FLOODPLAIN SEED MIX - 12LBS/AC				
SCIENTIFIC NAME	COMMON NAME	% OF MIX		
Elymus virginicus	VIRGINIA WILDRYE	20.00		
Panicum clandestinum	DEERTONGUE	18.00		
Elymus hystrix	BOTTLEBUSH GRASS	15.00		
Juncus tenuis	PATH RUSH	13.50		
Carex tribuloides	BLUNT BROOM SEDGE	10.00		
Solidago bicolor	WHITE GOLDENROD	5.50		
Aster macrophyllus	BIGLEAF ASTER	5.50		
Verbesina alternifolia	WINGSTEM	3.00		
Eupatorium purpureum	PURPLE JOE-PYE WEED	3.00		
Glyceria striata	FOWL MANNA GRASS	2.00		
Aquilegia canadensis	WILD COLUMBINE	1.50		
Pycnanthemum incanum	HOARY MOUNTAIN MINT	1.00		
Aster prenanthoides	ZIG ZAG ASTER	1.00		
Eupatorium coelestinum	MIST FLOWER	0.40		
Solidago caesia	BLUE-STEMMED GOLDENROD	0.30		
Cimicifuga racemosa	BLACK COHOSH	0.20		
Lobelia cardinalis	CARDINAL FLOWER	0.10		
I				

WETLAND SEED MIX - 12LBS/AC					
SCIENTIFIC NAME	COMMON NAME	% OF MIX			
Carex lurida	LURID SEDGE	27.40			
Carex scoparia	BLUNT BROOM SEDGE	22.50			
Carex vulpinoidea	FOX SEDGE	21.70			
Sparganium americanum	EASTERN BUR REED	6.90			
Elymus virginicus	VIRGINIA WILDRYE	5.00			
Verbena hastata	BLUE VERVAIN	4.00			
Juncus effusus	SOFT RUSH	3.00			
Asclepias incarnata	SWAMP MILKWEED	2.00			
Glyceria striata	FOWL MANNAGRASS	1.20			
Onoclea sensibilis	SENSITIVE FERN	1.10			
Aster puniceus	PURPLESTEM ASTER	1.00			
Eupatorium perfoliatum	BONESET	1.00			
Scirpus validus	SOFTSTEM BULRUSH	1.00			
Carex crinita	FRINGED SEDGE	0.50			
Scirpus cyperinus	WOOLGRASS	0.50			
Solidago rugosa	WRINKLELEAF GOLDENROD	0.50			
Mimulus ringens	SQUARE STEMMED MONKEYFLOWER	0.30			
Carex stricta	TUSSOCK SEDGE	0.20			
Lycopus americanus	AMERICAN WATER HOREHOUND	0.20			

UPLAND SEED MIX - 12LBS/AC				
SCIENTIFIC NAME	COMMON NAME	% OF MIX		
Andropogon gerardii	BIG BLUESTEM	60.70		
Panicum virgatum	SWITCHGRASS	20.00		
Sorghastrum nutans	INDIAN GRASS	8.00		
Oenothera biennis	COMMON EVENING PRIMROSE	2.50		
Heliopsis helianthoides	OXEYE SUNFLOWER	2.00		
Achillea millefolium	COMMON YARROW	2.00		
Veronia gigantea	TALL IRONWEED	1.50		
Asclepias syriaca	COMMON MILKWEED	1.00		
Rudbeckia triloba	BROWNEYED SUSAN	1.00		
Penstemon digitalis	FOXGLOVE BEARD TONGUE	0.50		
Solidago canadensis	CANADA GOLDENROD	0.40		
Aster pilosus	HEATH ASTER	0.30		
Eupatorium purpureum	PURPLE JOE PYE WEED	0.10		

3-GAL CONTAINERIZED TREES & SHRUBS				
SCIENTIFIC NAME	COMMON NAME	SYMBOL	SIZE	QUANTITY
Acer rubrum	RED MAPLE	AR	2-3'	11
Amelanchier laevis	SMOOTH SERVICEBERRY	AL	2-3'	14
Cercis canadensis	REDBUD	СС	2-3'	16
Lindera benzoin	SPICEBUSH	LB	2-3'	13
Liriodendron tulipifera	TULIP TREE	LT	2-3'	12
Platanus occidentalis	SYCAMORE	PO	2-3'	20
Quercus alba	WHITE OAK	QA	2-3'	12
Quercus palustris	PIN OAK	QP	2-3'	12
		•	TOTAL	110

LIVE STAKES				
SCIENTIFIC NAME	COMMON NAME	SYMBOL	SIZE	QUANTITY
Cornus amomum	SILKY DOGWOOD	CA	2-3'	600
Cornus sericea	RED OSIER DOGWOOD	cs	2-3'	550
Salix discolor	PUSSY WILLOW	SD	2-3'	550
Salix lucida	SHINING WILLOW	SL	2-3'	550
			TOTAL	2250

B&B TREES					
SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY		
Pinus strobus	EASTERN WHITE PINE	1-2"	50		

PLANTING AND SEEDING SPECIFICATIONS:

PART 1 - GENER

1. SUMMARY

- 1.1. CONTRACTOR SHALL PROCURE, PREPARE, AND INSTALL LIVE STAKES, SHRUBS, AND TREES AS INDICATED ON THE DRAWINGS
- AND TREES AS INDICATED ON THE DRAWINGS.

 1.2. CONTRACTOR SHALL PREPARED DISTURBED AREAS FOR SEEDING AND
- FURNISH AND INSTALL ALL SEED AND MULCH AS INDICATED ON THE DRAWINGS.

 1.3. THE CONTRACTOR SHALL TAKE PROPER CARE OF ALL PLANTING STOCK PRIOR TO INSTALLATION AND AFTER INSTALLATION IN COMPLIANCE WITH ALL WARRANTIES.

2. SUBMITTALS

- 2.1. PRIOR TO ANY PLANTING MATERIALS OR SEED BEING DELIVERED TO THE PROJECT SITE, CONTRACTOR SHALL SUBMIT DOCUMENTATION OF THE SOURCE OF ALL PLANT MATERIALS, SPECIES, AND PERCENT COMPOSITION OF PLANTS BY SPECIES.
- 2.2. CONTRACTOR SHALL SUBMIT DOCUMENTATION OF THE SEED MIXES BY PERCENT WEIGHT OF EACH SPECIES AND SEEDING RATE SPECIFIED BY THE SEED SUPPLIER IF IT DIFFERS FROM THE SEEDING RATE SPECIFIED IN THE CONSTRUCTION DRAWINGS.
- 2.3. ANY CHANGES TO THE SPECIES OR PERCENT COMPOSITION OF THE PLANTING MATERIALS OR SEED FROM THE CONSTRUCTION DRAWINGS SHALL CONSTITUTE A SUBSTITUTION REQUEST. THIS REQUEST SHALL BE SUBJECT TO APPROVAL BY THE OWNER AND THE ENGINEER.
- 2.4. CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER OF PROPOSED PLANTING AND SEEDING DATES.

PART 2 - MATERIALS

1. TOPSO

1.1. TOPSOIL SHALL CONFORM TO ODOT ITEM 653. FURNISH TOPSOIL CONSISTING OF LOOSE, FRIABLE, LOAMY MATERIAL WITHOUT ADMIXTURE OF SUBSOIL OR REFUSE. FOR TOPSOIL TO BE CONSIDERED LOAMY, ENSURE THAT THE FRACTION PASSING THE NO. 10 (2.00 MM) SIEVE DOES NOT CONTAIN MORE THAN 40 PERCENT CLAY. FURNISH TOPSOIL CONSISTING OF NOT LESS THAN 4 PERCENT AND NOT MORE THAN 20 PERCENT ORGANIC MATTER. TOPSOIL SHALL BE NATURAL SOIL THAT IS NOT ENGINEERED OR PROCESSED. PROCESSED OR SCREENED TOPSOIL WILL NOT BE ACCEPTED. IF THE QUALITY OR QUANTITY OF ON-SITE TOPSOIL STOCKPILED IS INSUFFICIENT TO COMPLETE THE WORK, PROVIDE IMPORTED TOPSOIL. CONTRACTOR SHALL OBTAIN RIGHTS AND PAY ALL COSTS FOR IMPORTED TOPSOIL MATERIAL.

2. MULCH:

- 2.1. MULCH SHALL BE CRIMPED STRAW, STRAW WITH TACKIFIER, OR WOOD CELLULOSE MULCH. WOOD CELLULOSE MULCH SHALL BE A PROCESSED WOOD PRODUCT HAVING UNIFORM FIBER CHARACTERISTICS WHICH SHALL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND CAN BLEND WITH SEED, FERTILIZER, OR OTHER ADDITIVES TO FORM HOMOGENEOUS SLURRY.
- 3.1. ALL SEED MIXES ARE LISTED ON THIS SHEET (33) ALONG WITH SEEDING RATES.

4. PLANTS4.1. TREES, SHRUBS, AND LIVE STAKES:

SEVERE THAN OHIO.

- A. ALL PLANT SPECIES AND QUANTITIES ARE LISTED ON THIS SHEET (33).
- B. ALL TREES, SHRUBS, AND LIVE STAKES SHALL BE SOUND, HEALTHY, BIGORUS, FIRST CLASS, FRESHLY DUG, NURSERY GROWN IN A CLIMATE SIMILAR TO OR MORE
- C. ALL PLANT MATERIAL SHALL BE FREE OF INSECTS, THEIR EGGS AND LARVAE.
- D. PLANTS SHALL BE FREE OF MECHANICAL OR CULTURAL INJURY BY RODENTS, AND FREE OF NOTICEABLE AFTER EFFECTS, BORERS AND OTHER PESTS.
- E. LIVE STAKES SHALL BE FREE FROM SUN SCALD AND SCARS AND SHALL BE HARVESTED AND INSTALLED DURING DORMANCY.

PART 3 - EXECUTION

1. SEEDING

1.01 PREPARATION

- A. CONTRACTOR SHALL PREPARE AREAS TO BE SEEDED BY ROUGH GRADING TO PROPOSED ELEVATIONS SPECIFIED IN THE CONTRACT DOCUMENTS. AREAS TO BE SEEDED SHALL BE RIPPED TO A DEPTH OF 1 FOOT IF COMPACTED BY HEAVY
- B. REMOVE ANY TRASH, NON-NATURAL MATERIALS, WOODY DEBRIS, ROOTWADS, STONES, AND CLODS OF CLAY GREATER THAN 4 INCHES IN DIAMETER OR LENGTH FROM SEEDBED. ANY RILLS OR GULLIES THAT HAVE FORMED FROM RAINFALL SINCE COMPLETION OF SITE GRADING SHALL BE FILLED PRIOR TO SEEDING.
- C. SEEDING SHALL BE PERFORMED FROM MAY 1 THROUGH DECEMBER 1. VARIANCE FROM THIS SCHEDULE MUST BE ACCEPTED BY THE CITY AND ENGINEER. NO SEEDING SHALL BE PERFORMED ON FROZEN GROUND OR WHEN THE TEMPERATURE IS 32F/00C OR LOWER.
- D. SEEDING SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETION OF GRADING OPERATIONS.

1.02 EXECUTION

- A. DRILL SEED OR BROADCAST SEED AT THE SUPPLIER'S SPECIFIED RATE.
- B. INSTALLED SEED SHALL BE LIGHTLY RAKED BY HAND OR MECHANIZED EQUIPMENT TO EMBED SEED IN THE SOIL AND CREATE SOIL CONTACT.
- C. PLACE STRAW MULCH OVER THE SEEDED AREA SUCH THAT LITTLE BARE SOIL IS SHOWING UP TO A RATE OF 1 TON PER ACRE. STRAW MULCH SHALL BE PLACED ACROSS ALL SEEDED AREAS THE DAY OF SEEDING OR WITHIN 24-HOURS OF SEEDING
- D. SEEDED AREAS SHALL BE WATERED IN AFTER SEEDING IS COMPLETED, SUCH THAT ALL AREAS HAVE BEEN WATERED BUT NOT TO THE EXTENT THAT RUNOFF CAUSING RILL FORMATION OCCURS.

2. PLANTING

2.01 PREPARATION

- A. REMOVE ANY TRASH, NON-NATURAL MATERIALS, WOODY DEBRIS, ROOTWADS, STONES, AND CLODS OF CLAY GREATER THAN 4 INCHES IN DIAMETER OR LENGTH FROM SEEDBED. ANY RILLS OR GULLIES THAT HAVE FORMED FROM RAINFALL SINCE COMPLETION OF SITE GRADING SHALL BE FILLED PRIOR TO SEEDING.
- B. LIVE STAKING AND BARE ROOT SEEDLING PLANTING SHALL BE PERFORMED DURING DORMANT SEASON, GENERALLY FROM NOVEMBER 15 TO APRIL 1. VARIANCE FROM THIS SCHEDULE MUST BE ACCEPTED BY THE CITY AND
- C. ANY SIDE BRANCHES OR TWIGS SHALL BE REMOVED WITH PRUNING SHEARS WHILE CAUSING MINIMAL DAMAGE TO THE MAIN STEM'S BARK.
- D. LIVE STAKES SHALL BE CUT SUCH THAT THE TOP OF THE STAKE IS FLAT AND THE BOTTOM OF THE STAKE IS ANGLED AT 45 DEGREES, WITH BUDS FACING THE FLAT TOP OF THE STAKE. STAKES SHALL BE MARKED OR BUNDLED IN A WAY THAT INDICATES SPECIES.

2.02 LIVE STAKE INSTALLATION

- A. SEE INSTALLATION DETAIL, SHEET 34.
- B. PLACE LIVE STAKES AT A RATE OF 1 PER 3 RUNNING FEET IN ROWS LOCATED 1 FOOT ABOVE AND ONE FOOT BELOW THE BANKFULL ELEVATION.
- C. INSTALL LIVE STAKES AT A DOWNWARD ANGLE AND FACING SLIGHTLY DOWNSTREAM. INSTALLING THE LIVE STAKE TO APPROPRIATE DEPTH IS IMPORTANT. LIVE STAKES SHALL NOT BE INSTALLED HORIZONTALLY INTO THE STREAMBANK.
- D. IF LIVE STAKES ARE NOT ABLE TO BE DRIVEN WITH A SOFT BLOW HAMMER OR RUBBER MALLET WITHOUT SPLITTING OR BREAKING, CREATE A PILOT HOLE USING A PIECE OF REBAR OR OTHER METAL TOOL.
- E. POUND LIVE STAKES INTO BANK UNTIL A MINIMUM OF TWO THIRDS OF THE STAKE ARE BELOW FINISHED GRADE.
- F. IF THE EXPOSED END OF THE LIVE STAKE SPLITS DURING INSTALLATION, REMOVE SPLIT PORTIONS OF THE LIVE STAKE WITH A CLEAN CUT FROM LOPPERS OR PRUNING SHEARS
- G. TAMP AREA AROUND LIVE STAKE SUCH THAT STAKES ARE NOT LOOSE IN PILOT HOLES AND ARE FIRMLY IN CONTACT WITH SURROUNDING SOIL AND REMOVE ANY AIR SPACES IN THE HOLE.

2.03 TREE AND SHRUB INSTALLATION

- A. SEE INSTALLATION DETAILS, SHEET 34.
- B. REMOVE ALL TWINE, WIRES AND BURLAP FROM THE TOP HALF OF ROOTBALL TO EXPOSE THE ROOT FLARE OF THE TREE.
- C. DEPTH OF THE PITS- DEEP ENOUGH AS IS NECESSARY TO ACCOMMODATE THE CALL OR ROOTS AND TO PERMIT THE REQUIRED PREPARATION OF THE BOTTOM OF THE PIT SO THAT WHEN THE TREE IS SETTLED IN THE PIT, IT WILL NOT BE NECESSARY TO RAISE OR LOWER THE TREE. THE TOP OF THE ROOT FLARE SHOULD BE AT THE TOP OF THE TREE PIT.
- D. WIDTH OF THE PITS- 2 TIMES GREATER IN DIAMETER THAN THEIR BALL OF EARTH OR SPREAD OF THE ROOTS.
- E. PLANT TREES IN PLANTING SOIL MIX IN THE CENTER OF THE PIT UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS. REMOVE ALL NON-TREATED OR NON-ORT PROOFED BURLAP, ROPES, STAVES, ETC., OFF SIDES AND TOPS OF BALLS AND REMOVE FROM THE PIT BEFORE IT IS FILLED IN. COMPLETELY REMOVAL ALL TREATED OR POLYPROPYLENE BURLAP OR ROPES FROM THE PLANTING PITS.
- F. ALL TREES ARE TO WRAPPED, AND RECEIVE STAKING AS DETAILED AND SPECIFIED IN DRAWINGS.

3. ACCEPTANCE

3.01 FINAL INSPECTION

A. AT THE CONCLUSION OF THE CONTRACT WORK, EXCLUSIVE OF MAINTENANCE AND REPLACEMENT, ONE INSPECTION WILL BE MADE TO DETERMINE WHETHER OR NOT THE CONTRACTOR HAS COMPLETED ALL THE WORK OF THE CONTRACT MEETING ALL SPECIFICATIONS OUTLINED. THE CONDITION OF LAWNS, TREES AND SHRUBS WILL BE NOTED AND DETERMINATION MADE BY THE CONSTRUCTION REPRESENTATIVE WHETHER MAINTENANCE SHALL CONTINUE IN ANY PART.

3.02 GUARANTEE PERIOD

- A. GUARANTEE PERIOD SHALL BEGIN AT THE ISSUANCE OF THE CERTIFICATE OF COMPLETION, OR THE COMPLETION DATE SET BY THE PROJECT DESIGN TEAM AND SHALL EXTEND EXACTLY ONE YEAR FROM THAT DATE.
- B. AT THE CONCLUSION OF THE GUARANTEE PERIOD, A FINAL INSPECTION OF THE WORK WILL BE MADE TO DETERMINE THE CONDITION OF THE PLANT MATERIAL. ALL PLANT MATERIAL NOT IN A HEALTHY OR 40% DEFOLIATED GROWING CONDITION WILL BE NOTED.
- REMOVE THE MATERIALS SO NOTED FROM THE SITE AT THE DIRECTION OF THE CONSTRUCTION REPRESENTATIVE AND REPLACE DURING THE FOLLOWING PLANTING SEASON WITH THE MATERIALS OF LIKE KIND AND SIZE AND IN A MANNER SPECIFIED BY THE ORIGINAL PLANTING AT NO EXTRA COST.

3.03 PLANT WARRANT

- A. CONTRACTOR SHALL REPAIR OR REPLACE PLANTINGS AND ACCESSORIES THAT FAIL IN MATERIALS, WORKMANSHIP OR GROWTH WITHIN THE SPECIFIED WARRANTY PERIOD.
- B. WARRANTY PERIOD FOR ALL TREES, SHRUBS, AND LIVE STAKES SHALL BE 1 YEAR.
- C. SURVIVABILITY AFTER ONE YEAR:
- C.A. TREES AND SHRUBS: 100% OF ALL MATERIAL INSTALLED.
- C.B. LIVE STAKES: 80% OF ALL MATERIAL INSTALLED WITH NO MORE THAN 6 ADJACENT NON-SURVIVING STAKES.

D. REVISION/ISSUE DATE FINAL DESIGN

GENERAL NOTES



SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLANTING PLAN NOTES

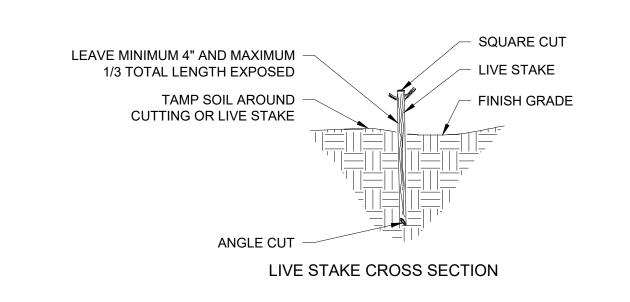
DESIGNED BY: AIDRAWN BY: TO CHECKED BY: JE

HORIZ. SCALE: NA

DATE: APRIL 2025

VERT. SCALE: NA

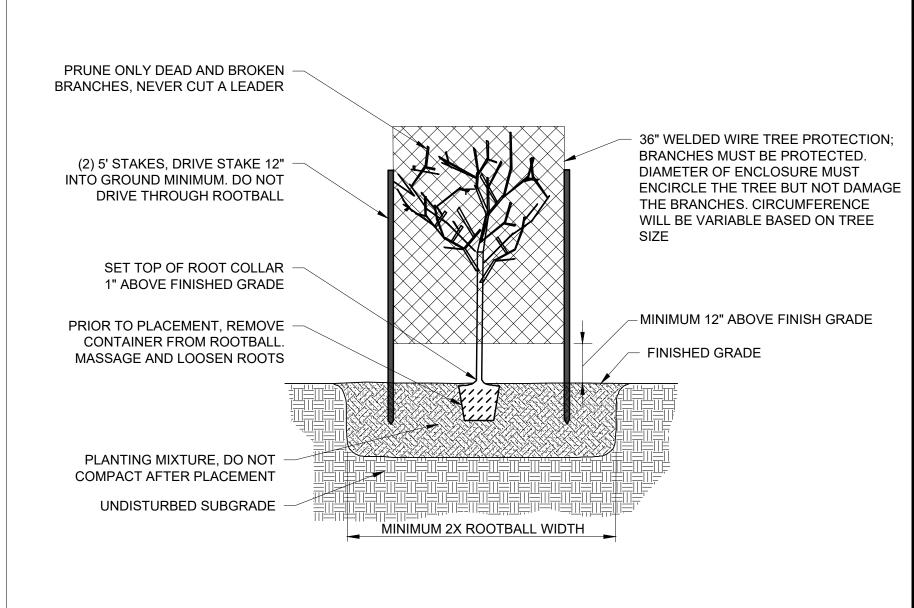
SHEET: 33 55



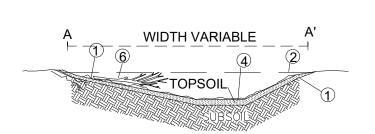
INSTALLATION SPECIFICATIONS

- 1. LIVE STAKES SHALL RANGE FROM 1/2" TO 1" IN DIAMETER AND BE FROM 2 TO 3 FT IN LENGTH
- 2. CARE SHALL BE TAKEN NOT TO DAMAGE THE LIVE STAKES DURING INSTALLATION.
- 3. A PILOT HOLE WILL BE REQUIRED TO ENSURE THAT THE LIVE STAKE IS NOT DAMAGED WHEN DRIVEN THROUGH THE SUBSOIL. PILOT HOLE SHALL BE MADE THROUGH THE USE OF A STEEL SPIKE, REBAR, OR SIMILAR TOOL TO WORK AN OPENING THROUGH THE SUBSOIL.
- 4. LIVE STAKES SHALL BE CUT TO A POINT ON THE BASAL END FOR INSERTION IN THE GROUND.
- 5. SEE CONTRACT DOCUMENTS FOR SPECIES, SIZE, SPACING, LOCATION, AND FINAL DETERMINATION ON USE OF LIVE STAKES.
- 6. USE A DEAD BLOW HAMMER TO DRIVE LIVE STAKES INTO THE PILOT HOLE.
- 7. LEAVE BETWEEN 4" AND 8" OF LIVE STAKE EXPOSED ABOVE FINISH GRADE.
- 8. TAMP SOIL AROUND LIVE STAKES.

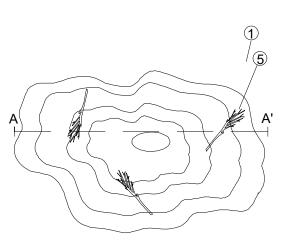
LIVE STAKE PLANTING



3 GAL. TREE PLANTING AND STAKING



CROSS SECTION



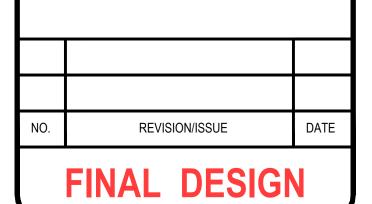
PLAN VIEW

- 1) EXCAVATE AND GRADE SUBSOIL. COMPACT IF NECESSARY WITH EQUIPMENT BUCKET OR MACHINE TRACKS.
- (2.) GRADE SIDE SLOPES OF VERNAL POOL AT A MINIMUM OF 15:1 OVER 50% OF THE SIDE
- (3.) MAXIMUM WATER DEPTH SHALL BE 0.5 FT OVER 10-25% OF THE TOTAL AREA.
- (4) USE TOPSOIL TO ACHIEVE FINISH GRADE AND SHAPE. INSTALL A MINIMUM OF 0.5 FT OF TOPSOIL. DO NOT OVER COMPACT TOPSOIL, LEAVING SOIL AS LOOSE AS POSSIBLE
- (5.) INSTALL WOODY DEBRIS / DEADFALL IN THE WETLAND AS DIRECTED.
- (6) PLANT NATIVE SHRUBS AND PLUGS AT DEPTHS ACCORDING TO SPECIES REQUIREMENTS.

SCRUB/SHRUB/REFORESTRATION AREA SCRUB/SHRUB/REFORESTRATION AREA GRADE OUT SLOPE WETLAND

WETLAND PLANTING DETAIL

DRAFT - NOT FOR CONSTRUCTION



GENERAL NOTES



SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

> PLANTING PLAN **DETAILS**

CHECKED BY: JB

DATE: APRIL 2025 VERT. SCALE: NA HORIZ. SCALE: NA

B&B TREE PLANTING AND STAKING

MINIMUM 2X ROOTBALL WIDTH

48" WELDED WIRE TREE

PROTECTION; 1 FT. DIAMETER

5' STAKE ON UPSTREAM SIDE

OF TREE, DRIVE STAKE 12" INTO GROUND MINIMUM

PRUNE ONLY DEAD AND BROKEN

SET TOP OF ROOT COLLAR 1"

PRIOR TO PLACEMENT, REMOVE

CONTAINER FROM ROOTBALL.

MASSAGE AND LOOSEN ROOTS

PLANTING MIXTURE, DO NOT

UNDISTURBED SUBGRADE

COMPACT AFTER PLACEMENT.

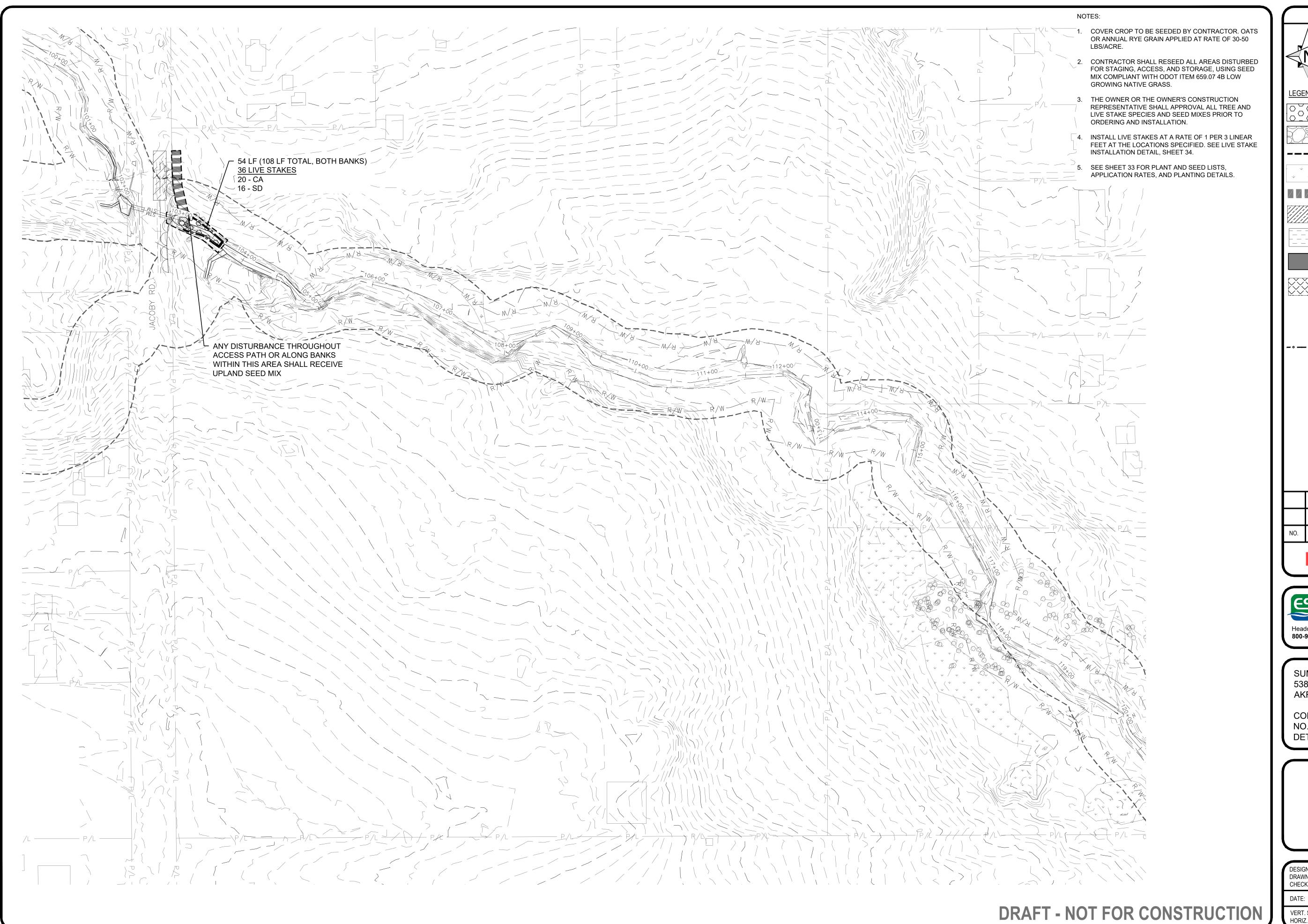
ABOVE FINISHED GRADE.

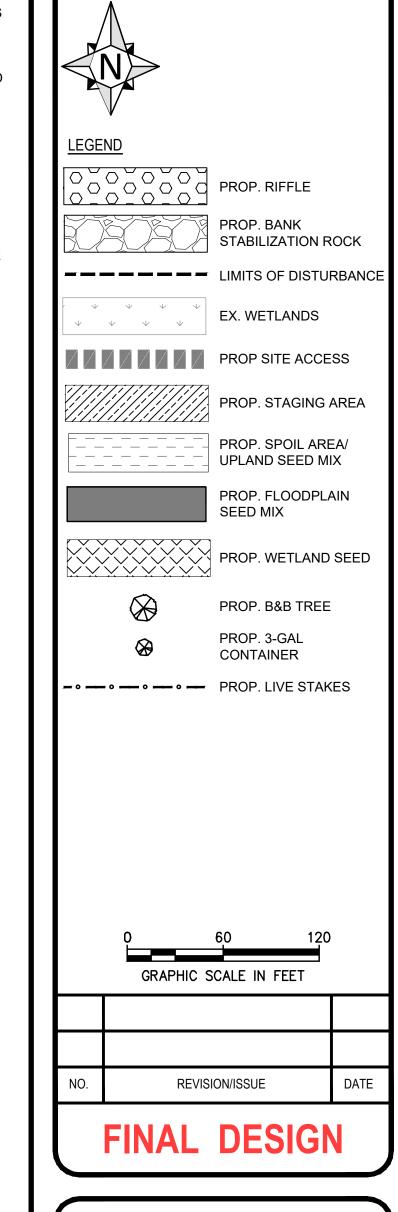
BRANCHES, NEVER CUT A LEADER

(2) 2"x2" STAKES w/ NON-CHAFING ADJUSTABLE

TREE TIES, 2 TIES PER TREE. DO NOT DRIVE THROUGH ROOTBALL.

RIPARIAN WETLAND DEPRESSION







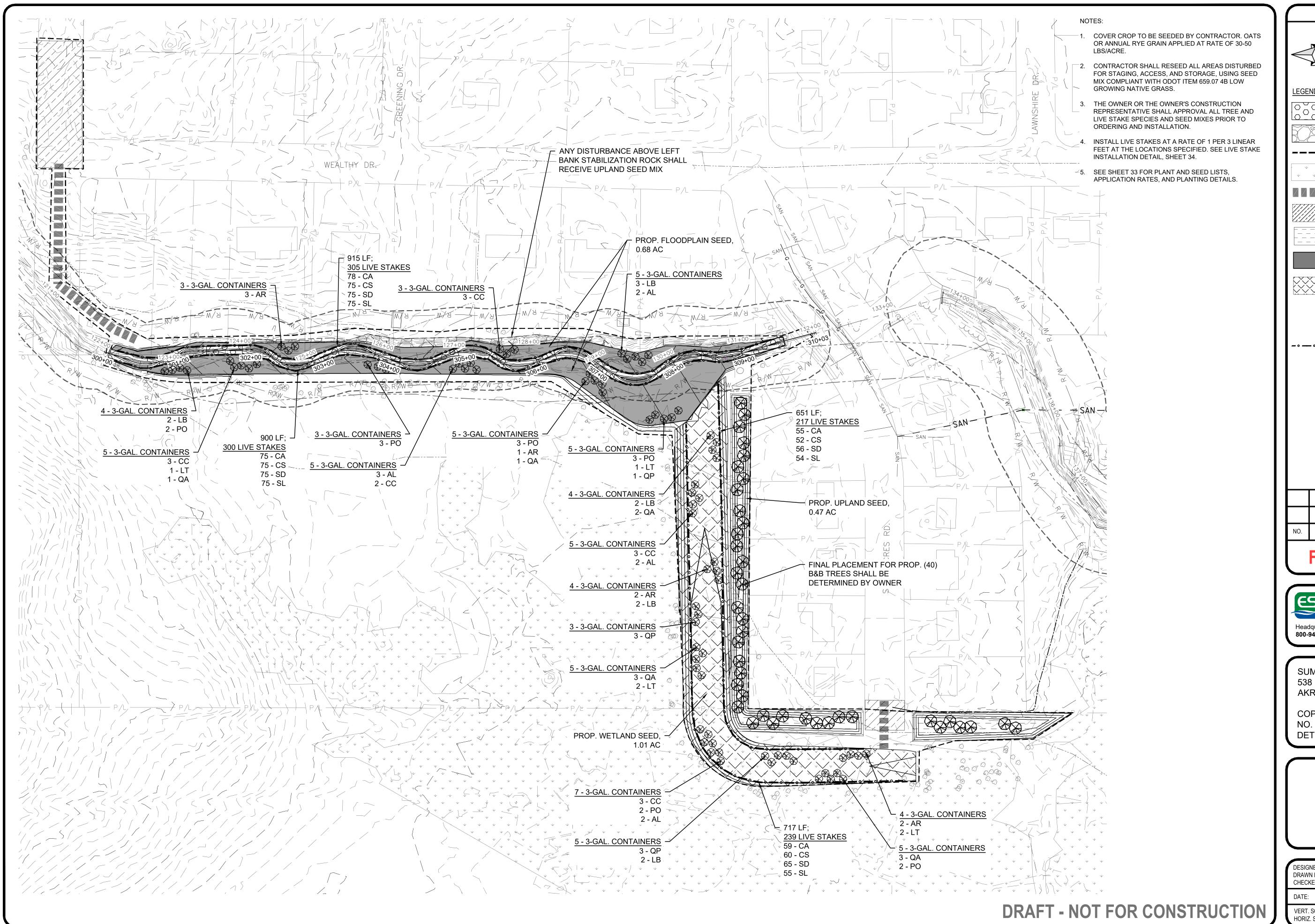
SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

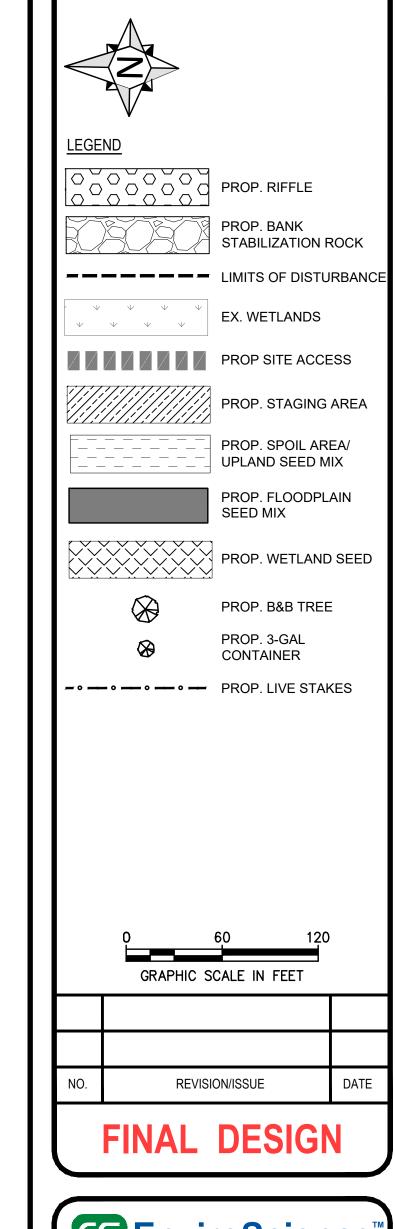
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLANTING PLAN

WORK AREA 1

DRAWN BY: TG CHECKED BY: JB







SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

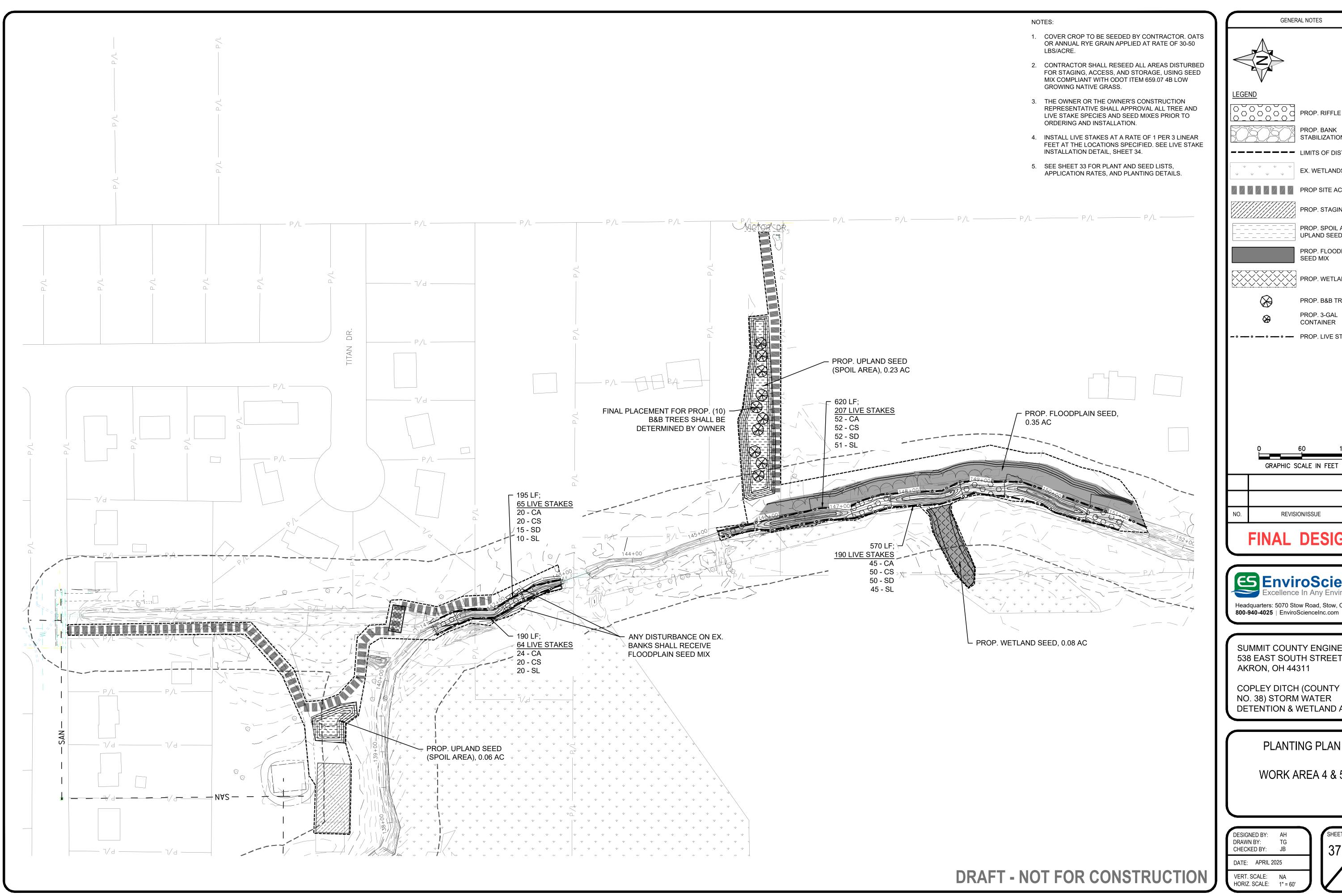
PLANTING PLAN

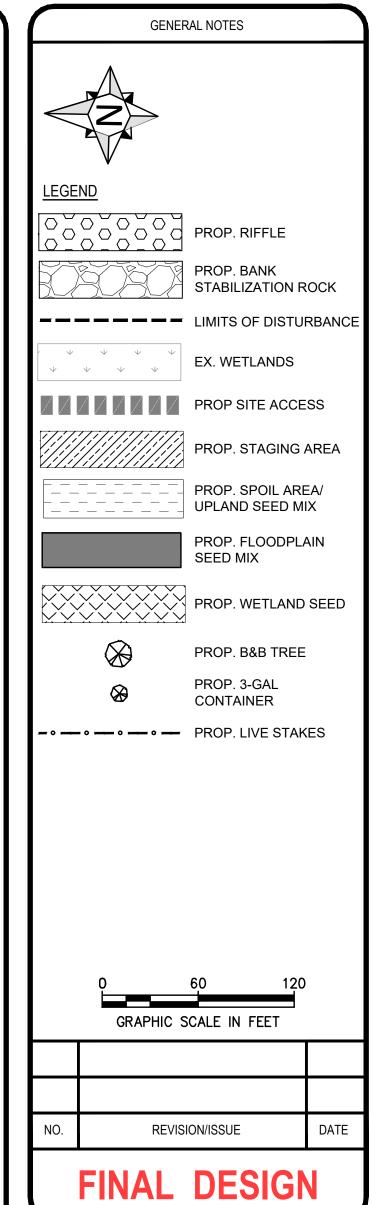
WORK AREA 2 & 3

DESIGNED BY: AH
DRAWN BY: TG
CHECKED BY: JB

DATE: APRIL 2025

VERT. SCALE: NA
HORIZ. SCALE: 1" = 60'





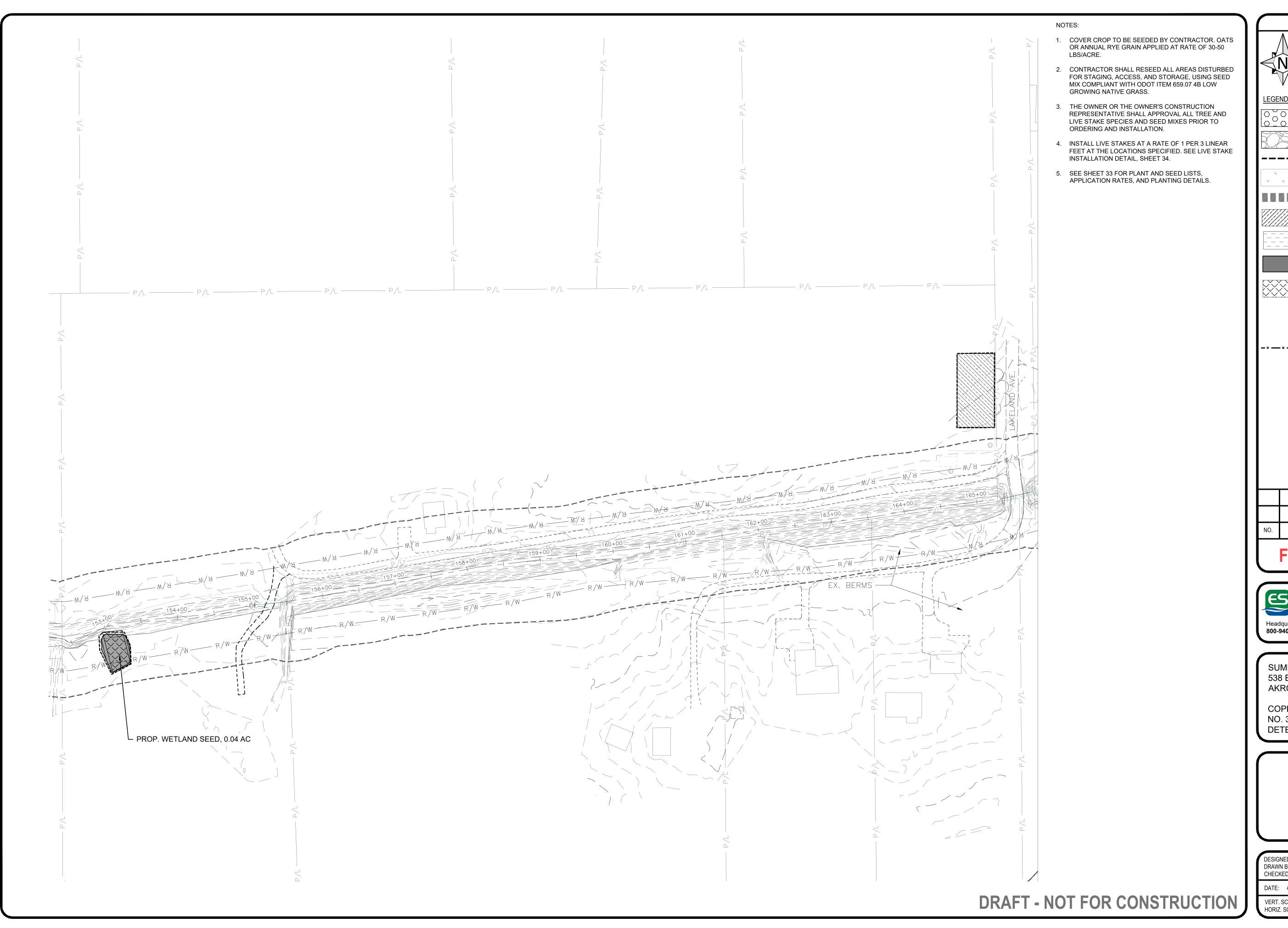


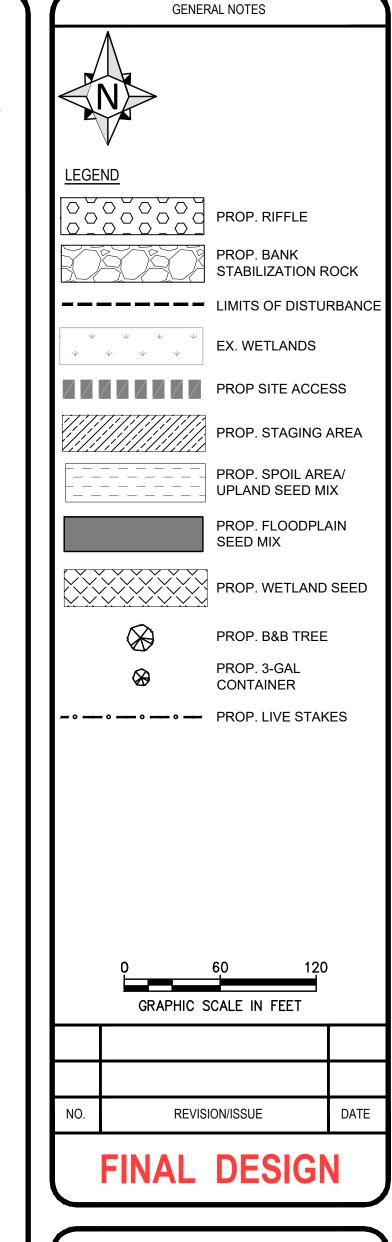
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLANTING PLAN

WORK AREA 4 & 5

CHECKED BY: DATE: APRIL 2025





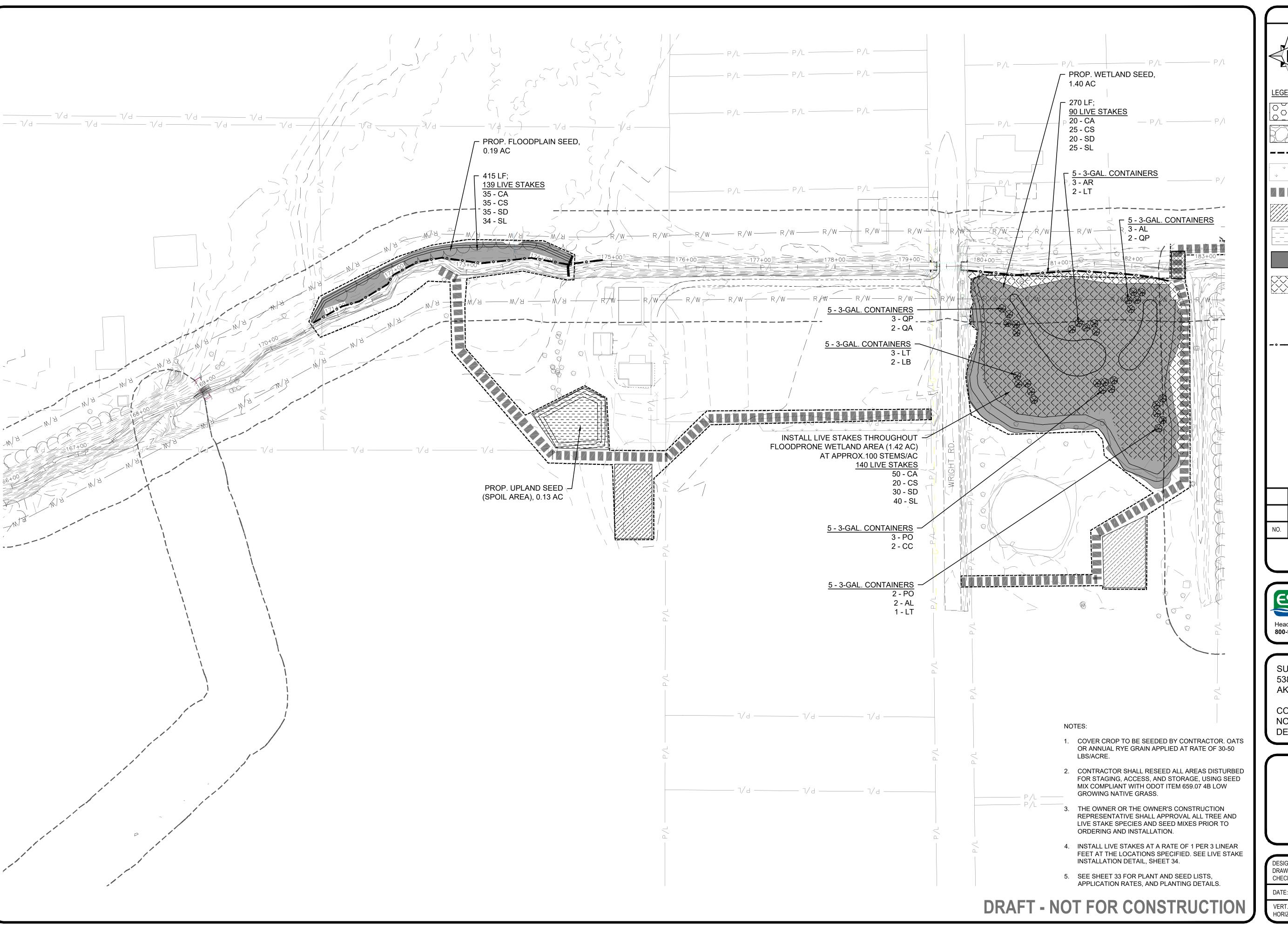


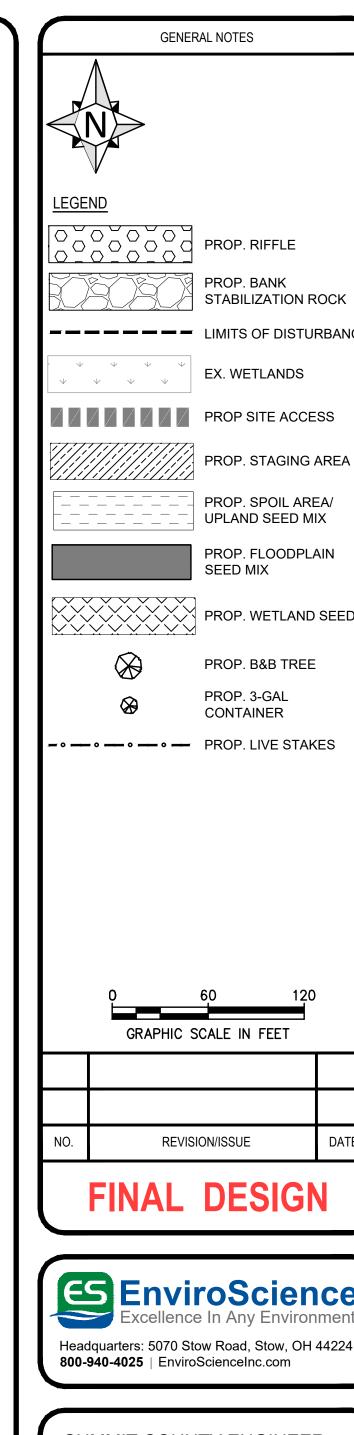
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER **DETENTION & WETLAND AREAS**

PLANTING PLAN

WORK AREA 5

CHECKED BY: JB DATE: APRIL 2025







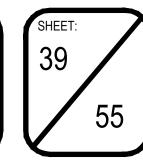
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

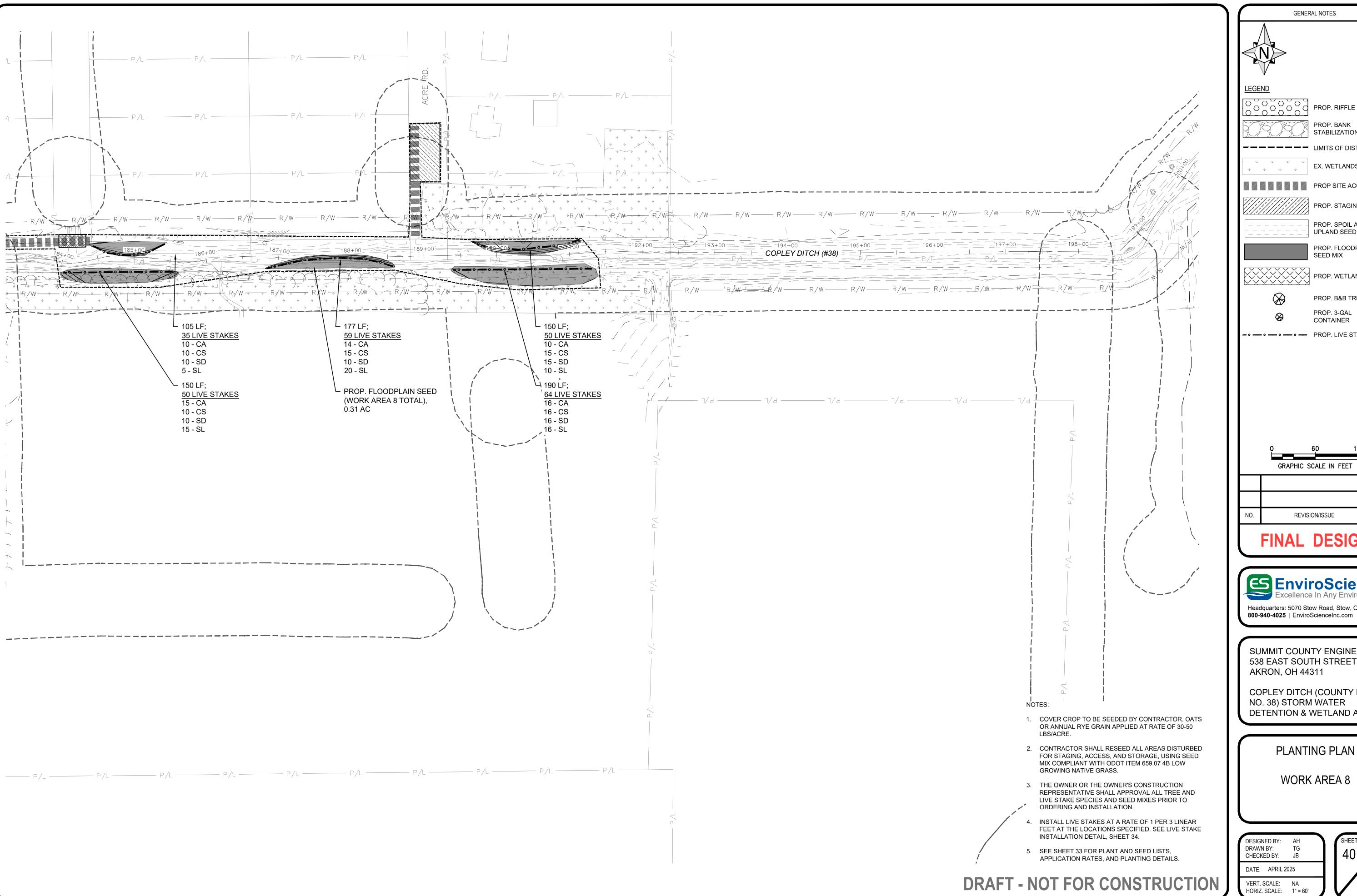
PLANTING PLAN

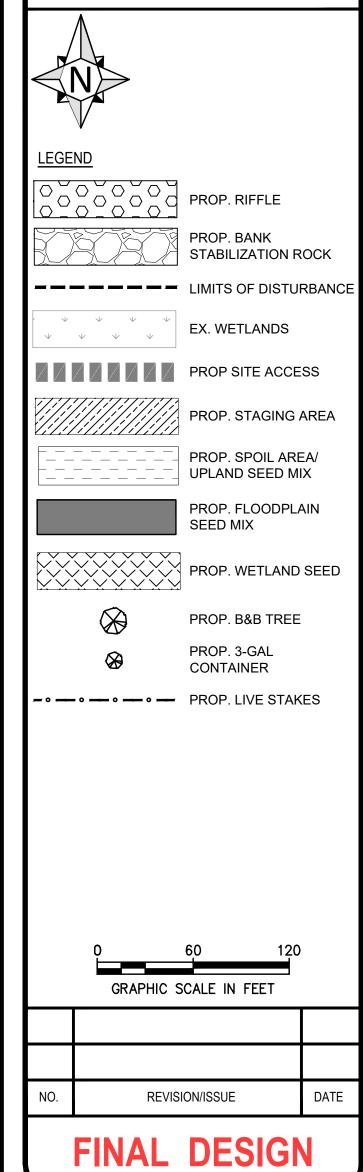
WORK AREA 6 & 7

DRAWN BY: CHECKED BY: JB

DATE: APRIL 2025 VERT. SCALE: NA HORIZ. SCALE: 1" = 60'









COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

PLANTING PLAN

WORK AREA 8

DRAWN BY: CHECKED BY: JB DATE: APRIL 2025

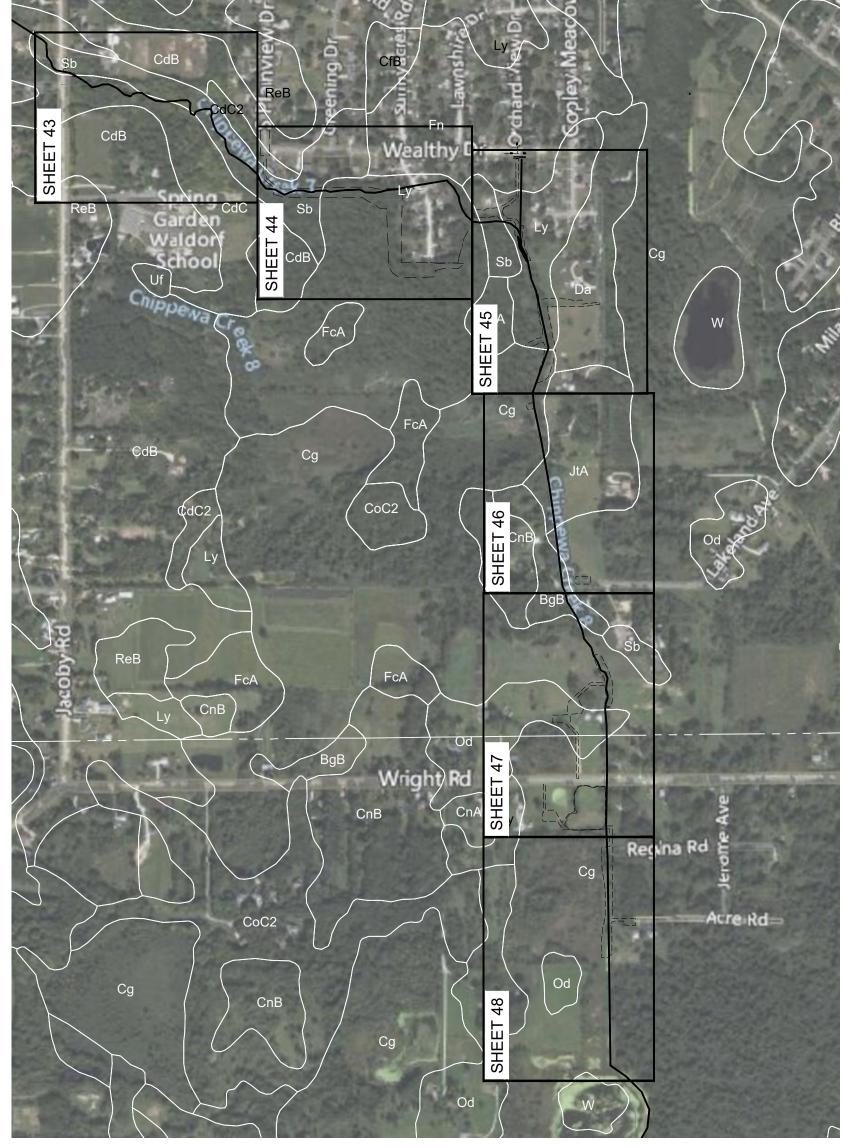
	G	RADING AND STABILIZ	ATION ACTIVITIES	LUG	
DESCRIPTION AND LOCATION ON GRADING ACTIVITY	DATE GRADING ACTIVITY INITIATED	DATE GRADING ACTIVITY CEASED	DATE WHEN STABILIZATION MEASURES INITIATED	TYPE OF STABILIZATION MEASURE	DESCRIPTION OF STABILIZATION MEASURE
				PERMANENT/TEMPORARY	

	SWPPP AMEI	NDMENT LOG	
AMENDMENT NO.	DESCRIPTION OF THE AMENDMENT	DATE OF THE AMENDMENT	AMENDMENT PREPARED BY [NAME(S) AND TITLE]
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			

SOIL TYPES IN AND AROUND PROJECT AREA

MAP UNIT SYMBOL	MAP UNIT NAME	SLOPES
BgA	BOGART LOAM	0 TO 2 PERCENT SLOPES
BgB	BOGART LOAM	2 TO 6 PERCENT SLOPES
CdB	CANFIELD SILT LOAM	2 TO 6 PERCENT SLOPES
CdC	CANFIELD SILT LOAM	6 TO 12 PERCENT SLOPES
CdC2	CANFIELD SILT LOAM	6 TO 12 PERCENT SLOPES,ERODED
СеВ	CANFIELD SILT LOAM, SANDSTONE SUBSTRATUM	2 TO 6 PERCENT SLOPES
CfB	CANFIELD-URBAN LAND COMPLEX	2 TO 6 PERCENT SLOPES
Cg	CARLISLE MUCK	
CnA	CHILI LOAM	0 TO 2 PERCENT SLOPES
CnB	CHILI LOAM	2 TO 6 PERCENT SLOPES
CnC	CHILI LOAM	6 TO 12 PERCENT SLOPES
CoC2	CHILI GRAVELLY LOAM	6 TO 12 PERCENT SLOPES, MODERATELY ERODED
Da	DAMASCUS LOAM	
DkE	DEKALB SANDY LOAM	18 TO 25 PERCENT SLOPES
FcA	FITCHVILLE SILT LOAM	0 TO 2 PERCENT SLOPES
FcB	FITCHVILLE SILT LOAM	2 TO 6 PERCENT SLOPES
Fn	FITCHVILLE-URBAN LAND COMPLEX	0 TO 2 PERCENT SLOPES
JtA	JIMTOWN LOAM	0 TO 2 PERCENT SLOPES
JtB	JIMTOWN LOAM	2 TO 6 PERCENT SLOPES
Ld	LINWOOD MUCK	
LoB	LOUDONVILLE SILT LOAM	2 TO 6 PERCENT SLOPES 5.6
LoD	LOUDONVILLE SILT LOAM	12 TO 18 PERCENT SLOPES
Ly	LURAY SILT LOAM	0 TO 2 PERCENT SLOPES
Od	OLMSTED LOAM C	
ReB	RAVENNA SILT LOAM	2 TO 6 PERCENT SLOPES
Rn	RAVENNA-URBAN LAND COMPLEX	0 TO 2 PERCENT SLOPES
Sb	SEBRING SILT LOAM	0 TO 2 PERCENT SLOPES
Uf	UDORTHENTS SANITARY LANDFILL	
Up	UDORTHENTS-PITS COMPLEX	
W	WATER	
Wt	WILLETTE MUCK	
WuB	WOOSTER SILT LOAM	2 TO 6 PERCENT SLOPES
WuD	WOOSTER SILT LOAM	12 TO 18 PERCENT SLOPES
WuE2	WOOSTER SILT LOAM	18 TO 25 PERCENT SLOPES, MODERATELY ERODED

OVERALL SITE SOILS MAP AND SHEET KEY



DRAFT - NOT FOR CONSTRUCTION

FINAL DESIGN Excellence In Any Environment Headquarters: 5070 Stow Road, Stow, OH 44224 800-940-4025 | EnviroScienceInc.com

GENERAL NOTES

COPLEY DITCH (COUNTY DITCH

SUMMIT COUNTY ENGINEER

538 EAST SOUTH STREET

AKRON, OH 44311

NO. 38) STORM WATER DETENTION & WETLAND AREAS

SWPPP COVER

DESIGNED BY: DRAWN BY: TG CHECKED BY: JB DATE: APRIL 2025

VERT. SCALE: NA HORIZ. SCALE: NA

OWNER(S)

ADDRESS:

ADDRESS:

ADDRESS:

EMAIL: PHONE:

GENERAL CONTRACTOR
COMPANY NAME: TBD

CONSTRUCTION START DATE: _____
CONSTRUCTION DURATION: ____

POINT OF CONTACT:

EMAIL: PHONE:

EMAIL: PHONE: **CONTACT INFORMATION**

330-808-5600

800-940-4025

PROJECT ENGINEER/CONSTRUCTION REPRESENTATIVE

538 EAST SOUTH STREET

CHUABER@SUMMITENGINEER.NET

5070 STOW RD.STOW, OH 44224

AHOTZ@ENVIROSCIENCEINC.COM

COMPANY NAME: SUMMIT COUNTY ENGINEER

POINT OF CONTACT: CHARLES HAUBER, P.E., P.S.,

COMPANY NAME: ENVIROSCIENCE INC.

POINT OF CONTACT: ANGELINA HOTZ, P.E.

SWPPP NOTES

TYPE OF CONSTRUCTION ACTIVITY

- I. EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE CONDUCTED PER THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND IN ACCORDANCE WITH OHIO EPA REQUIREMENTS. THE SWPPP SHALL BE AVAILABLE AT THE PROJECT SITE FOR REFERENCE TO BMP ACTIVITY. THE VARIABILITY OF EROSION AND SEDIMENT CONTROL BMP'S MAY BE MODIFIED AS APPROPRIATE TO COMPLETE THE NECESSARY RESTORATION ACTIVITIES.
- 2. TOTAL AREA OF DISTURBANCE: 9.91 AC. PROJECT ELEMENTS INCLUDE IMPORT OF ROCK, AND EARTHMOVING ACTIVITIES FOR STREAM REALIGNMENT, RIFFLE AND POOL IMPROVEMENTS, ADDITION OF A DIVERSION DITCH, BANK STABILIZATION AND FLOODPRONE AREA EXPANSIONS.
- 3. PIGEON CREEK IS THE RECEIVING STREAM FOR ALL PROJECT RUNOFF
- 4. RUNOFF COEFFICIENTS/IMPERVIOUS AREA: THERE WILL BE NO INCREASE IN IMPERVIOUS AREA UPON COMPLETION OF PROJECT.
- 5. FOR DISTURBANCE AREAS REMAINING DORMANT FOR OVER 14 DAYS WITHIN 50 FEET OF A STREAM, TEMPORARY EROSION CONTROLS SHALL BE APPLIED WITHIN 2 DAYS OF DISTURBANCE. FOR DISTURBED AREAS GREATER THAN 50 FEET FROM A STREAM AND REMAINING DORMANT FOR OVER 14 DAYS, TEMPORARY EROSION CONTROLS SHALL BE APPLIED WITHIN 7-DAYS OF DISTURBANCE. ALL DISTURBED AND ERODED EARTH SHALL BE REGRADED AND SEEDED, AS DESCRIBED IN THESE DETAILS SHEET. TO ESTABLISH STABILITY AND PROVIDE SEDIMENT CONTROL WHERE POSSIBLE. REFER TO TABLE 2: TEMPORARY IMPACTS.
- 6. FOR DISTURBED AREAS WHICH HAVE REACHED FINAL GRADE WITHIN 50 FEET OF A STREAM, PERMANENT VEGETATION SHALL BE INSTALLED WITHIN 2 DAYS OF FINAL GRADE WORK, WEATHER PERMITTING. REFER TO TABLE 1: PERMANENT IMPACTS.

TABLE 1: PERMANENT STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
OTHER AREAS AT THE FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

TABLE 2: TEMPORARY STABILIZATION

AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A SURFACE WATER OF THE STATE AND NOT AT FINAL GRADE	WITHINTWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FEET OF A SURFACE WATER OF THE STATE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA. FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S).
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

- 7. VEGETATIVE BUFFER: WHERE POSSIBLE, BUFFER STRIPS WILL BE LEFT BETWEEN TILLING AREAS AND EXISTING DRAINAGE WAYS TO USE NON-STRUCTURAL CONTROLS AND PRESERVE EXISTING VEGETATION BUFFER.
- 8. CONTRACTOR SHALL INSPECT ALL SWPPP MEASURES WEEKLY AND WITHIN 24 HOURS AFTER A RAIN EVENT OF 0.5 INCHES OR GREATER AND REPAIR SWPPP MEASURES AS NECESSARY TO PREVENT EROSION. SILTATION SHALL BE REMOVED FROM AREAS WHERE FAILURES HAVE OCCURRED AND CORRECTIVE ACTION TAKEN WITHIN 24 HOURS TO MAINTAIN ALL SWPP ITEMS. THE SITE SHALL BE INSPECTED PRIOR TO A FORECASTED RAIN EVENT OF 0.25 INCHES OR GREATER.
- 9. CONSTRUCTION ENTRANCES, AND SWPPP ITEMS SHALL REMAIN IN PLACE UNTIL EARTHWORK AND DEMOLITION OPERATIONS ARE COMPLETE AND THE SITE IS STABLE. THE SITE IS CONSIDERED STABLE WHEN 75% VEGETATIVE COVER HAS BEEN ESTABLISHED WITHIN 60 DAYS OF INITIAL SEEDING AND 90% COVERAGE AFTER ON YEAR ON ALL DISTURBED AREAS. CONTRACTOR SHALL KEEP SILT FROM ENTERING ANY STORM DRAINAGE SYSTEM.
- 10. IF AT ANY TIME UTILITY COMPANIES ARE REQUIRED TO PARTICIPATE IN CONSTRUCTION, UTILITY COMPANIES MUST COMPLY WITH ALL STORM WATER POLLUTION PREVENTION PLANS. DETAILS AND NOTES.
- 11.IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL SEDIMENTATION AND STORM WATER POLLUTION PREVENTION ITEMS AT ALL TIMES.
- 12.NO SOLID (OTHER THAN SEDIMENT) OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORM WATER RUNOFF. PROPERLY DISPOSE OF ANY LIQUID IN A CONCRETE WASHOUT THAT HAS NOT EVAPORATED.

13. THERE WILL BE NO OPEN BURNING.

- 14.PERIMETER CONTROLS SHALL BE INSTALLED/IMPLEMENTED WITHIN 7 DAYS OF GRUBBING ACTIVITIES AND PER THE CONSTRUCTION SEQUENCE IN THIS PLAN SET (AS REQUIRED). IN AREAS WHERE THE PLANS DO NOT SPECIFY, OR AREAS WHICH ARE IN ADDITION TO PLAN SPECIFICATIONS, PERIMETER CONTROLS SHALL BE INSTALLED/IMPLEMENTED WITHIN 7 DAYS OR GRUBBING ACTIVITIES AND PRIOR TO GRADING OF THE AREA THEY WILL CONTROL.
- 15. TRACKING OF SEDIMENTS BY VEHICLES WILL BE MINIMIZED BY UTILIZING THE CONSTRUCTION ENTRANCE AS THE ONLY ENTRANCE FOR VEHICLES. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING. SEDIMENT/SOIL TRACKED OFF-SITE SHALL BE REMOVED BY CONTRACTOR AND PROPERLY DISPOSED OF.
- 16. THE SWPPP SHALL BE KEPT ONSITE AT ALL TIMES DURING CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO MARK (IN A DOMINANT COLOR) DAILY ANY MINOR MODIFICATIONS MADE TO THE APPROVED SWPPP SO AS TO KEEP RECORD OF THE MODIFICATIONS MADE IN THE FIELD.

- 17. ALL SOIL DISTURBING ACTIVITIES AT THE SITE ARE TO RECEIVE A COMPLETE AND A UNIFORM PERENNIAL VEGETATIVE COVER (E.G., EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) WITH A DENSITY OF AT LEAST 75% VEGETATIVE COVER TO BE ESTABLISHED WITHIN 60 DAYS OF INITIAL SEEDING AND 90% COVERAGE AFTER ON YEAR. FOLLOWING SITE STABILIZATION, ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE REMOVED AND DISPOSED. ALL TRAPPED SEDIMENT SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION.
- 18. ALL FUEL TANKS SHALL BE STAGED WITHIN THE DESIGNATED EQUIPMENT STAGING AREAS AS SHOWN ON THE PLANS. FUELING ACTIVITIES SHALL BE VISUALLY MONITORED AT ALL TIMES TO MANAGE ACCIDENTAL SPILLAGE. IDLE EQUIPMENT, PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE STORED IN THE FLOODPLAIN OR NEAR DRAINAGE WAYS OR STREAMS THAT COULD CONVEY SUCH MATERIALS TO THE STREAM. PETROCHEMICALS AND TOXIC/HAZARDOUS MATERIALS SHALL NOT BE DISCHARGED INTO THE STREAM, ITS FLOODPLAIN OR ANY DRAINAGE WAYS/DITCHES. REFUELING OF EQUIPMENT SHALL NOT OCCUR IN THE FLOODPLAIN OR NEAR ANY DRAINAGE WAYS, DITCHES OR WITHIN 50 FEET OF STREAMS. FUEL TANKS SHALL BE CONTAINED OR DIKED. VISUAL MONITORING WOULD NOT BE SUFFICIENT IN THE EVENT OF A SPILL. SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. THAT IS SPILLED, LEAKED, OR RELEASED ONTO THE SOIL SHALL BE IMMEDIATELY CONTAINED USING SOIL BERMS AND/OR ABSORBENT PADS/SOCKS.
- A)SPILL REQUIREMENTS IN THE EVENT OF SMALL RELEASE (<25 GALLONS): IMPACTED SOIL SHALL BE DUG UP AND FREE LIQUIDS SHALL BE COLLECTED FOR DISPOSAL AT A LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL).
- B) SPILL REQUIREMENTS IN THE EVENT OF LARGER RELEASE (>25 GALLONS): SPILLS OF 25 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO THE OHIO EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE DISCOVERY OF THE RELEASE.
- C) ALL SPILLS WHICH RESULT IN CONTACT WITH WATERS OF THE STATE MUST BE REPORTED TO THE OHIO EPA HOTLINE (1-800-282-9378).
- 19. HAZARDOUS OR TOXIC WASTES SHOULD NOT BE STORED ON SITE , HOWEVER, IF THEY ARE, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
- A) ALL HAZARDOUS WASTES SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINT, FERTILIZERS, AND EQUIPMENT MAINTENANCE FLUIDS WILL BE STORED IN STRUCTURALLY SOUND AND SEALED STORAGE CONTAINERS, WITHIN A HAZARDOUS MATERIALS STORAGE AREA IN THE STAGING AREA. HAZARDOUS WASTE MATERIALS SHALL BE STORED IN APPROPRIATE AND CLEARLY MARKED CONTAINERS AND SEGREGATED FROM OTHER NON-HAZARDOUS MATERIALS. SECONDARY CONTAINMENT WILL BE PROVIDED FOR ALL WASTE MATERIALS IN THE HAZARDOUS MATERIALS STORAGE AREA. ADDITIONALLY, ALL HAZARDOUS WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND MUNICIPAL REGULATIONS.
- B) ALL WASTE MATERIALS WILL BE COLLECTED AND DISPOSED OF INTO A METAL TRASH DUMPSTER. THE DUMPSTER SHALL HAVE A WATERTIGHT LID AND BE PLACED AWAY FROM STORMWATER DRAINS OR CONVEYANCES AND MEET ALL FEDERAL, STATE, AND MUNICIPAL REGULATIONS. ONLY TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. NO CONSTRUCTION MATERIALS SHALL BE BURIED ON-SITE.
- 20. CONTAMINATED SOILS: IF SUBSTANCES SUCH AS OIL DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC., ARE SPILLED, LEAKED OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT A LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY. NOTE THAT STORMWATER RUNOFF ASSOCIATED WITH CONTAMINATED SOILS IS NOT TO BE AUTHORIZED UNDER OHIO EPA'S GENERAL STORM WATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITES. ALL HAZARDOUS WASTES SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINT, FERTILIZERS, AND EQUIPMENT MAINTENANCE FLUIDS WILL BE STORED IN STRUCTURALLY SOUND AND SEALED STORAGE CONTAINERS, WITHIN A HAZARDOUS MATERIALS STORAGE AREA IN THE STAGING AREA. HAZARDOUS WASTE MATERIALS SHALL BE STORED IN APPROPRIATE AND CLEARLY MARKED CONTAINERS AND SEGREGATED FROM OTHER NON-HAZARDOUS MATERIALS. SECONDARY CONTAINMENT WILL BE PROVIDED FOR ALL WASTE MATERIALS IN THE HAZARDOUS MATERIALS STORAGE AREA. ADDITIONALLY, ALL HAZARDOUS WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND MUNICIPAL REGULATIONS.

PERMITS

WORK WITHIN PROJECT SITE/LIMITS IS SUBJECT TO U.S. ARMY CORPS OF ENGINEERS (USACE) REGULATORY JURISDICTION (I.E., JURISDICTIONAL WATERS OF THE U.S.). ANY IMPACTS AND PLACEMENT OF FILL TO JURISDICTIONAL WATERS OUTSIDE OF THE PROJECT LIMITS IS PROHIBITED. THE FOLLOWING PERMITS APPLY TO THIS PROJECT:

- 1. NATIONWIDE PERMIT (NWP) 27 FROM THE U.S. ARMY CORPS OF ENGINEERS (USACE).
- 2. OHIO EPA NOI
- 3. FLOODPLAIN PERMIT

INSPECTION REQUIREMENTS

- FOLLOWING EACH INSPECTION A CHECKLIST MUST BE COMPLETED AND SIGNED BY THE QUALIFIED INSPECTION PERSONNEL REPRESENTATIVE. AT A MINIMUM, THE INSPECTION REPORT MUST INCLUDE:
- a) THE INSPECTION DATE
- b) NAMES, TITLES, AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION
- c) WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY IF THE FIRST INSPECTION) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT, APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES), AND WHETHER ANY DISCHARGES OCCURRED:
- d) WEATHER INFORMATION AND A DESCRIPTION OF ANY DISCHARGES OCCURRING AT THE TIME OF THE INSPECTION
- e) LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE f) LOCATION(S) OF BMPS THAT NEED TO BE MAINTAINED.
- f) LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS D
- g) LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION h) LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF THE INSPECTION
- i) CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO THE SWPPP NECESSARY AND IMPLEMENTATION DATES.
- 2. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF OR THE POTENTIAL FOR POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWPPP SHALL BE OBSERVED TO ENSURE THAT THOSE ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING. ALL SEDIMENT/SOIL TRACKED OFF-SITE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- 3. INSPECTION: AT A MINIMUM, ALL CONTROLS ON THE SITE WILL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS, PRIOR TO ANY FORECASTED RAIN EVENT OF 0.25 INCHES OR GREATER, AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24HOUR PERIOD. THE INSPECTION FREQUENCY MAY BE REDUCED TO AT LEAST ONCE EVERY MONTH IF THE ENTIRE SITE IS TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WEATHER CONDITIONS (E.G., SITE IS COVERED WITH SNOW, ICE, OR THE GROUND IS FROZEN). A WAIVER OF INSPECTION REQUIREMENTS IS AVAILABLE UNTIL ONE MONTH BEFORE THAWING CONDITIONS ARE EXPECTED TO RESULT IN A DISCHARGE IF ALL OF THE FOLLOWING CONDITIONS ARE MET: THE PROJECT IS LOCATED IN AN AREA WHERE FROZEN CONDITIONS ARE ANTICIPATED TO CONTINUE FOR EXTENDED PERIODS OF TIME (I.E., MORE THAN ONE MONTH); LAND DISTURBANCE ACTIVITIES HAVE BEEN SUSPENDED; AND THE BEGINNING AND ENDING DATES OF THE WAIVER PERIOD ARE DOCUMENTED IN THE SWP3. ONCE A DEFINABLE AREA IS FINALLY STABILIZED, THE AREA MAY BE MARKED ON THE SWP3 AND NO FURTHER INSPECTION REQUIREMENTS APPLY TO THAT PORTION OF THE SITE. THE PERMITTEE SHALL ASSIGN "QUALIFIED INSPECTION PERSONNEL" TO CONDUCT THESE INSPECTIONS TO ENSURE THAT THE CONTROL PRACTICES ARE FUNCTIONAL AND TO EVALUATE WHETHER THE SWP3 IS ADEQUATE AND PROPERLY IMPLEMENTED IN ACCORDANCE WITH THE SCHEDULE PROPOSED IN PART III.G.1.G OF THIS PERMIT OR WHETHER ADDITIONAL CONTROL MEASURES ARE REQUIRED.
- 4. BMP'S SHALL BE REPAIRED/ MAINTAINED/INSTALLED WITHIN THREE (3) DAYS OF INSPECTION FOR NON-SEDIMENT BASIN BMP'S AND TEN (10) DAYS OF INSPECTION FOR SEDIMENT PONDS.
- 5. INSPECTION RECORDS WILL BE KEPT FOR UP TO THREE (3) YEARS AFTER TERMINATION OF CONSTRUCTION ACTIVITIES.
- 6. ALL DISCHARGERS REGULATED UNDER THE GENERAL PERMIT MUST COMPLY, EXCEPT THOSE EXEMPTED UNDER STATE LAW, WITH THE LAWFUL REQUIREMENTS OF MUNICIPALITIES, COUNTIES AND OTHER LOCAL AGENCIES REGARDING DISCHARGES OF STORM WATER.

SUGGESTED GENERAL SEQUENCE OF CONSTRUCTION

CONSTRUCTION SHALL NOT BEGIN UNTIL ALL SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED. THE CONTRACTOR SHALL MINIMIZE DISTURBANCE WITHIN THE WORKING AREA WHEREVER POSSIBLE.

CONSTRUCTION WILL FOLLOW THE GENERAL SEQUENCE OF:

- OUPS COORDINATION;
- 2. MOBILIZE TO SITE, ENSURE ALL EQUIPMENT BROUGHT TO THE SITE IS CLEAN. DIRTY EQUIPMENT SHALL NOT BE PERMITTED;
- 3. INSTALL EROSION AND SEDIMENT CONTROLS;
- 4. CONSTRUCT TEMPORARY ACCESS ROADS AND STAGING AREAS;
- 5. TREE AND VEGETATION CLEARING AND GRUBBING; VEGETATION WILL BE CLEARED DURING APPROPRIATE
- 6. SITE LAYOUT AND ESTABLISH WORKING LIMITS;

TIMEFRAME FROM OCTOBER 1ST TO MARCH 31ST;

- 7. INITIATE WATER CONTROL/DIVERSION PROCEDURES (AS NECESSARY);
- 8. STRIP AND STOCKPILE TOPSOIL AS NECESSARY IN GRADING AREAS;
- 9. BEGIN UPSTREAM AND WORK IN A DOWNSTREAM DIRECTION FOR STREAM IMPROVEMENTS;
- 10. BEGIN EARTHMOVING ACTIVITIES INCLUDING EXCAVATION AND GRADING OF IMPROVEMENT FEATURES;11. EXCAVATE NEW STREAM ALIGNMENT PROFILE TO SUBGRADE;
- 12. IMPORT ROCK SUBSTRATE MATERIAL AND INSTALLED TO FINISH GRADES;
- 13. PERFORM FINISH GRADING;
- 14. SPOIL MATERIALS IN DESIGNATED SPOIL LOCATIONS OR HAUL OFF SITE;
- 15. INSTALL STOCKPILED TOPSOIL TO FINISH GRADE;
- 16. SEED. STABILIZE. AND INSTALL EROSION CONTROL FABRIC:
- 17. INSTALL NATIVE PLANTINGS. REMOBILIZATION MAY BE NECESSARY DEPENDING ON TIMING OF PLANTINGS;
- 18. CONTRACTOR SHALL REMOVE TEMPORARY EROSION AND SEDIMENT CONTROLS ONCE SITE HAS REACHED
- STABILIZATION REQUIREMENTS;
- 19. DEMOBILIZE.

DUST CONTROL

- VEGETATIVE COVER AND MULCH APPLY TEMPORARY OR PERMANENT SEEDING AND MULCH TO AREA THAT WILL REMAIN IDLE FOR OVER 14 DAYS. TO THE EXTENT POSSIBLE, EXISTING TREES AND LARGE SHRUBS SHALL REMAIN IN PLACE TO REDUCE SOIL AND AIR MOVEMENT ACROSS DISTURBED AREAS. SEE TEMPORARY SEEDING, PERMANENT SEEDING, AND MULCHING PRACTICES.
- 2. WATERING SPRAY SITE WITH WATER UNTIL THE SURFACE IS WET BEFORE AND DURING GRADING AND REPEAT AS NEEDED TO PREVENT GENERATION OF VISIBLE AIRBORNE DUST. ESPECIALLY ON HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTE. WATERING SHALL BE DONE AT A RATE THAT PREVENTS DUST BUT DOES NOT CAUSE SOIL EROSION. WETTING AGENTS SHALL BE UTILIZED ACCORDING TO MANUFACTURERS INSTRUCTIONS. CHEMICAL AND ORGANIC AGENTS SHOULD NOT BE APPLIED UNDER FROZEN CONDITIONS, RAINY CONDITIONS, OR WHEN THE TEMPERATURE IS BELOW 40-DEGREES (F). THESE AGENTS WILL NOT BE USED IN THE FLOODPLAIN.
- 3. STONE GRADED ROADWAYS AND OTHER SUITABLE AREAS WILL BE STABILIZED USING CRUSHED STONE OR COARSE GRAVEL AS SOON AS PRACTICAL AFTER REACHING AN INTERIM OR FINAL GRADE. CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER TO PROVIDE CONTROL OF SOIL EMISSIONS.
- 4. BARRIERS EXISTING WINDBREAK VEGETATION SHALL BE MARKED AND PRESERVED. SNOW FENCING OR OTHER SUITABLE BARRIER MAY BE PLACED PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT TO CONTROL AIR CURRENTS AND BLOWING SOIL. THIS MATERIAL WILL NOT BE USED IN THE FLOODPLAIN.
- 5. CALCIUM CHLORIDE THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE. APPLICATION RATES SHOULD BE STRICTLY IN ACCORDANCE WITH SUPPLIERS SPECIFIED RATES. THIS MATERIAL WILL NOT BE USED IN THE FLOODPLAIN.
- 6. OPERATION AND MAINTENANCE SITE SHALL BE CONTINUOUSLY MONITORED TO VERIFY EFFECTIVENESS OF DUST CONTROL MEASURES. WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHOULD BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

NAME:	TITLE:
SIGNATURE:	DATE:

SUBCONTRACTOR(S)

ALL SUBCONTRACTORS INVOLVED IN EARTH DISTURBING ACTIVITY ARE REQUIRED TO SIGN A SUBCONTRACTOR CERTIFICATION AND SUBMIT AN OHIO EPA CO-PERMITTEE FORM. A COPY OF SIGNED CO-PERMITTEE FORMS SHALL BE KEPT WITH THE SWPPP.

NO. REVISION/ISSUE DATE

GENERAL NOTES



SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET AKRON, OH 44311

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

SWPPP GENERAL NOTES

DESIGNED BY: AHDRAWN BY: TO CHECKED BY: JE

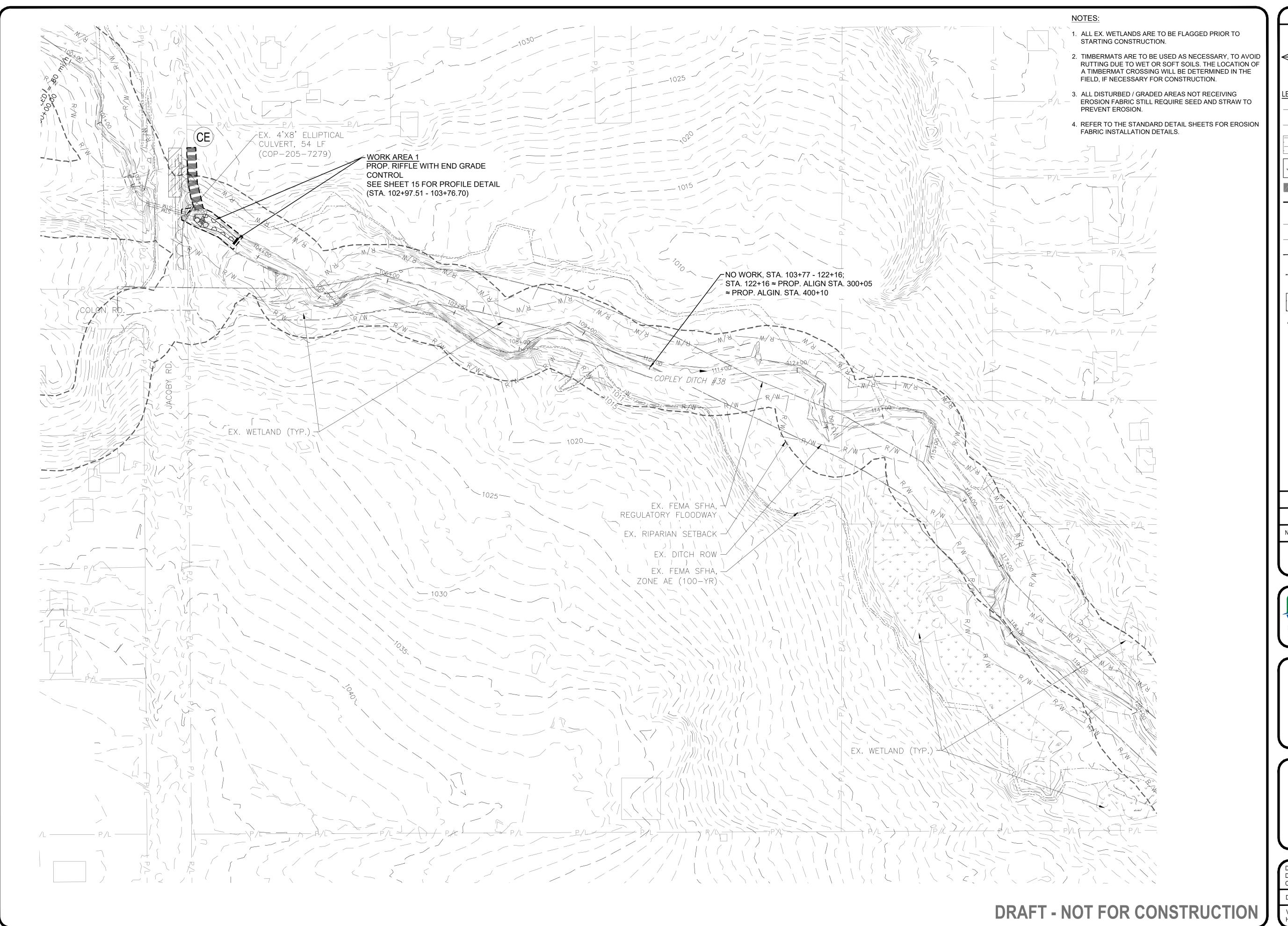
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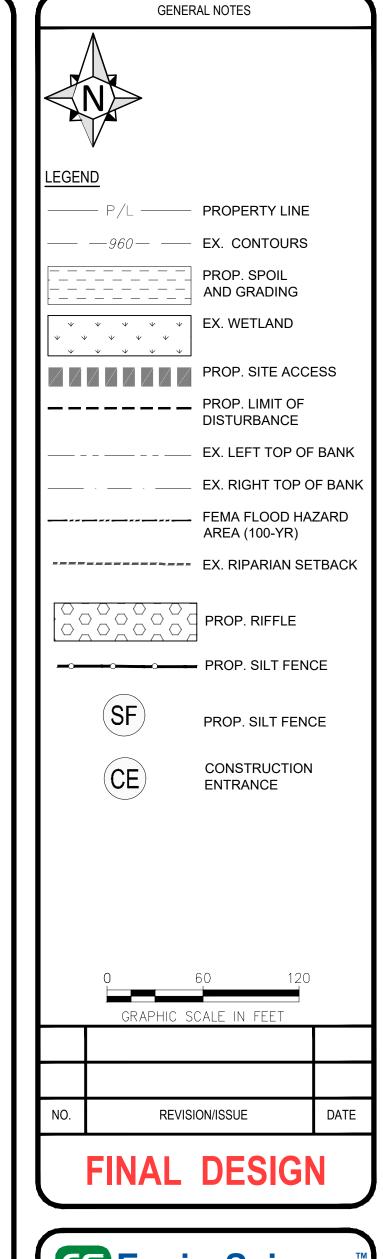
DATE: APRIL 2025

VERT. SCALE: NA
HORIZ. SCALE: NA

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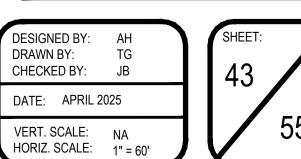


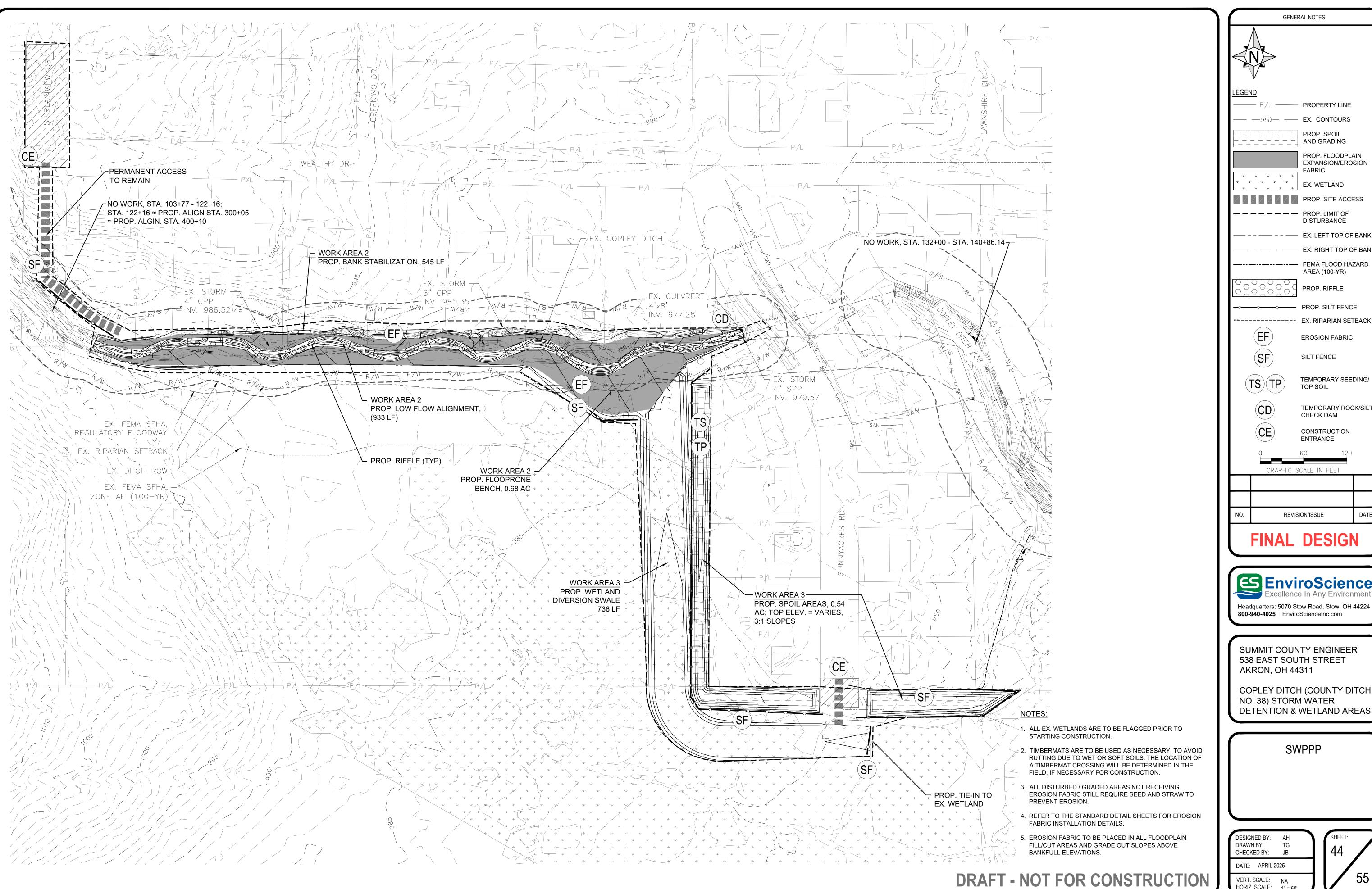


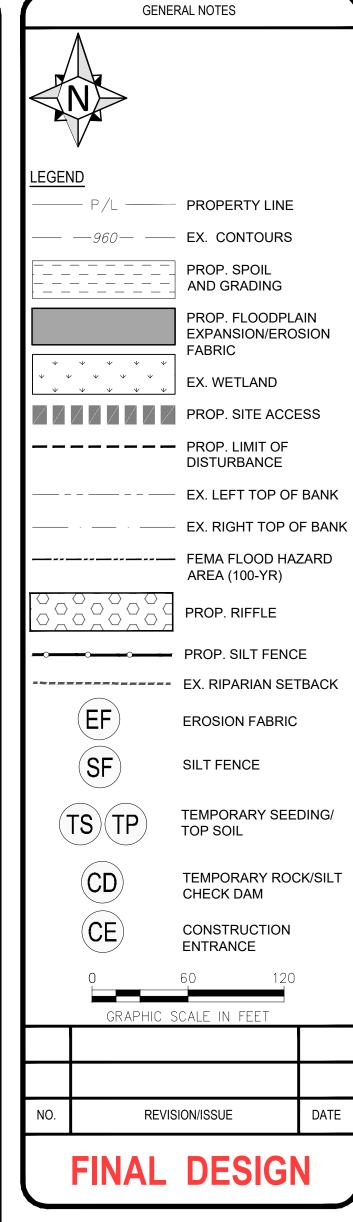


COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

SWPPP









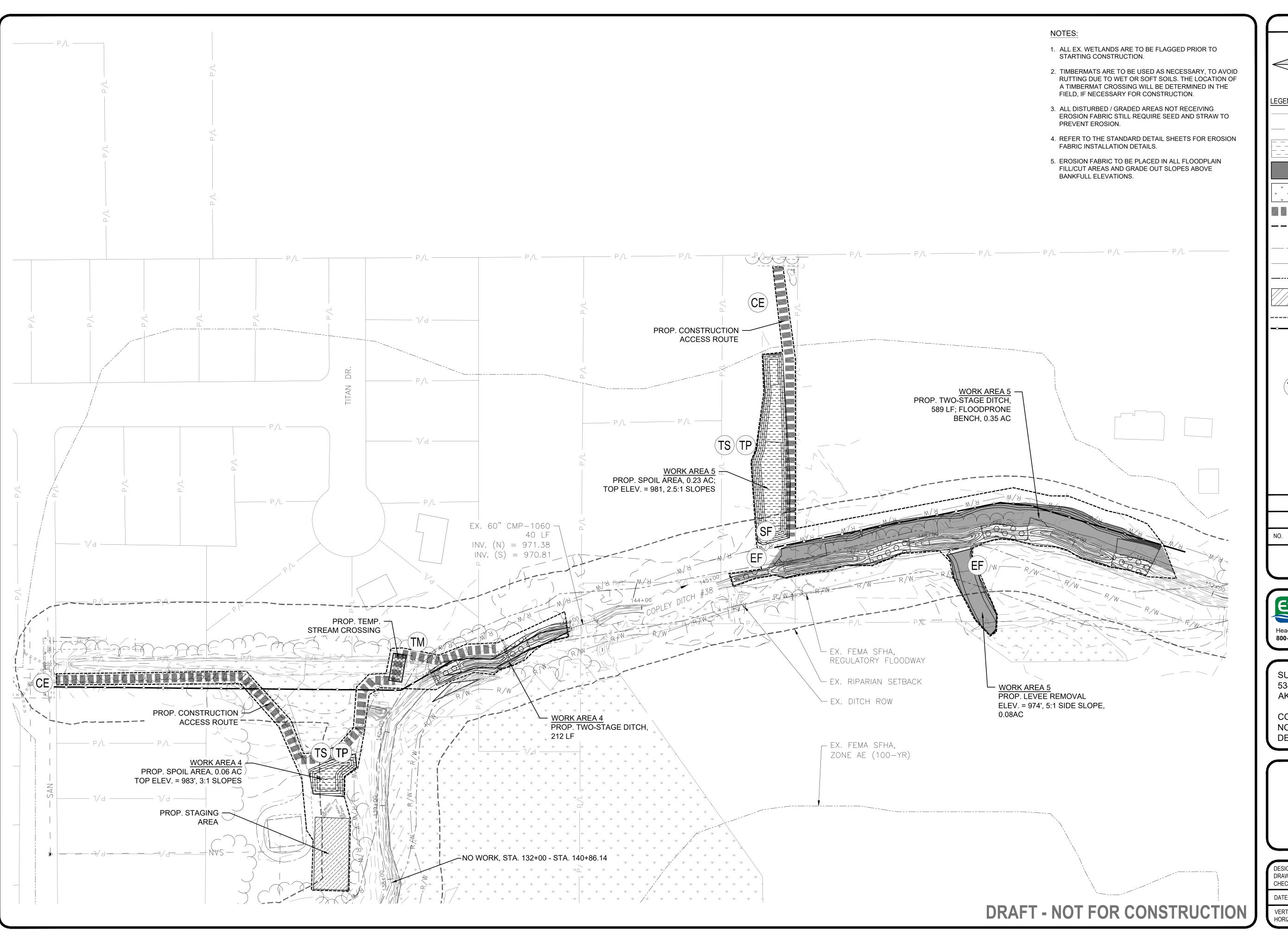
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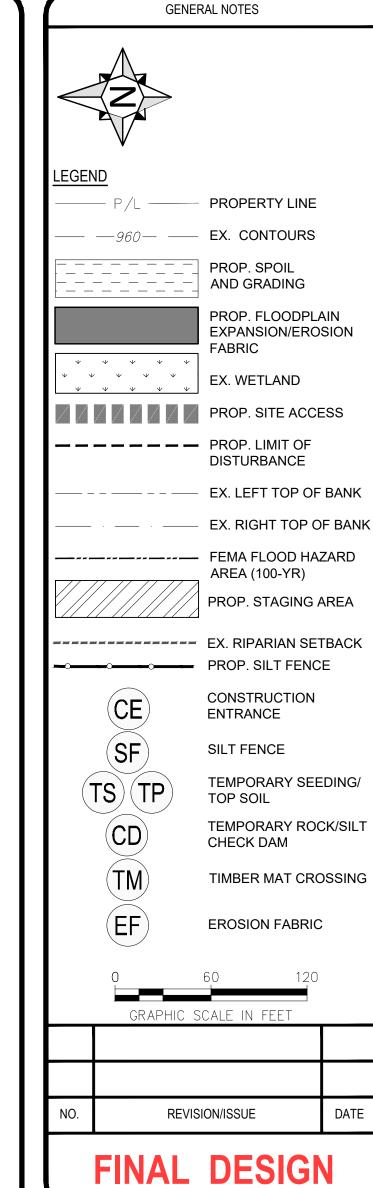
SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER **DETENTION & WETLAND AREAS**

SWPPP

DRAWN BY: CHECKED BY: DATE: APRIL 2025







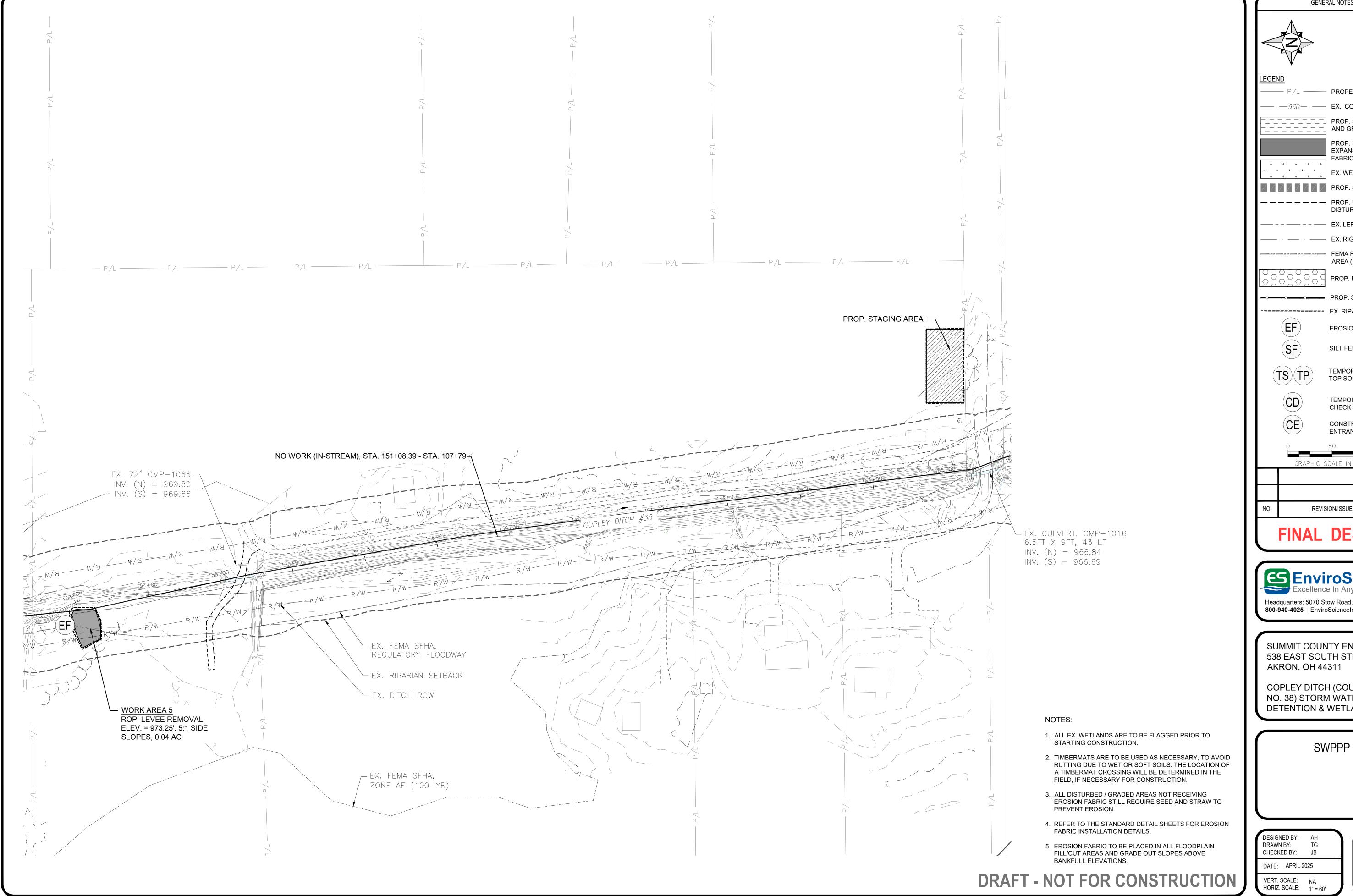
Headquarters: 5070 Stow Road, Stow, OH 44224 **800-940-4025** | EnviroScienceInc.com

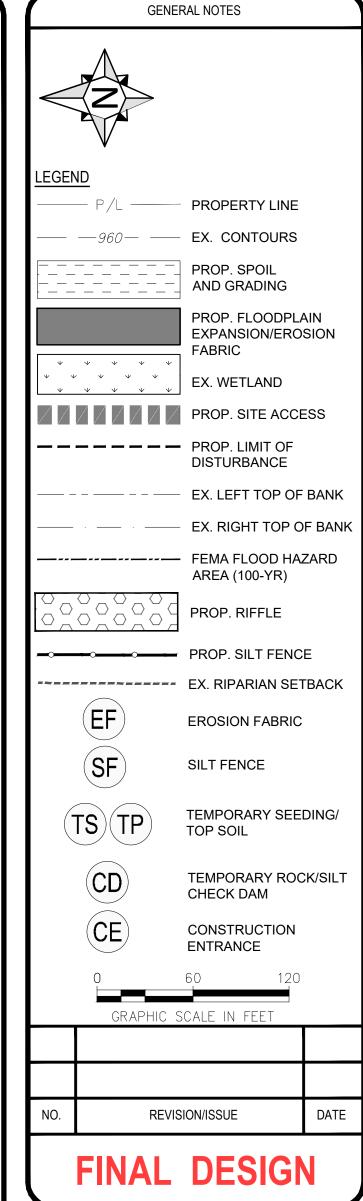
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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

SWPPP

CHECKED BY: JB DATE: APRIL 2025



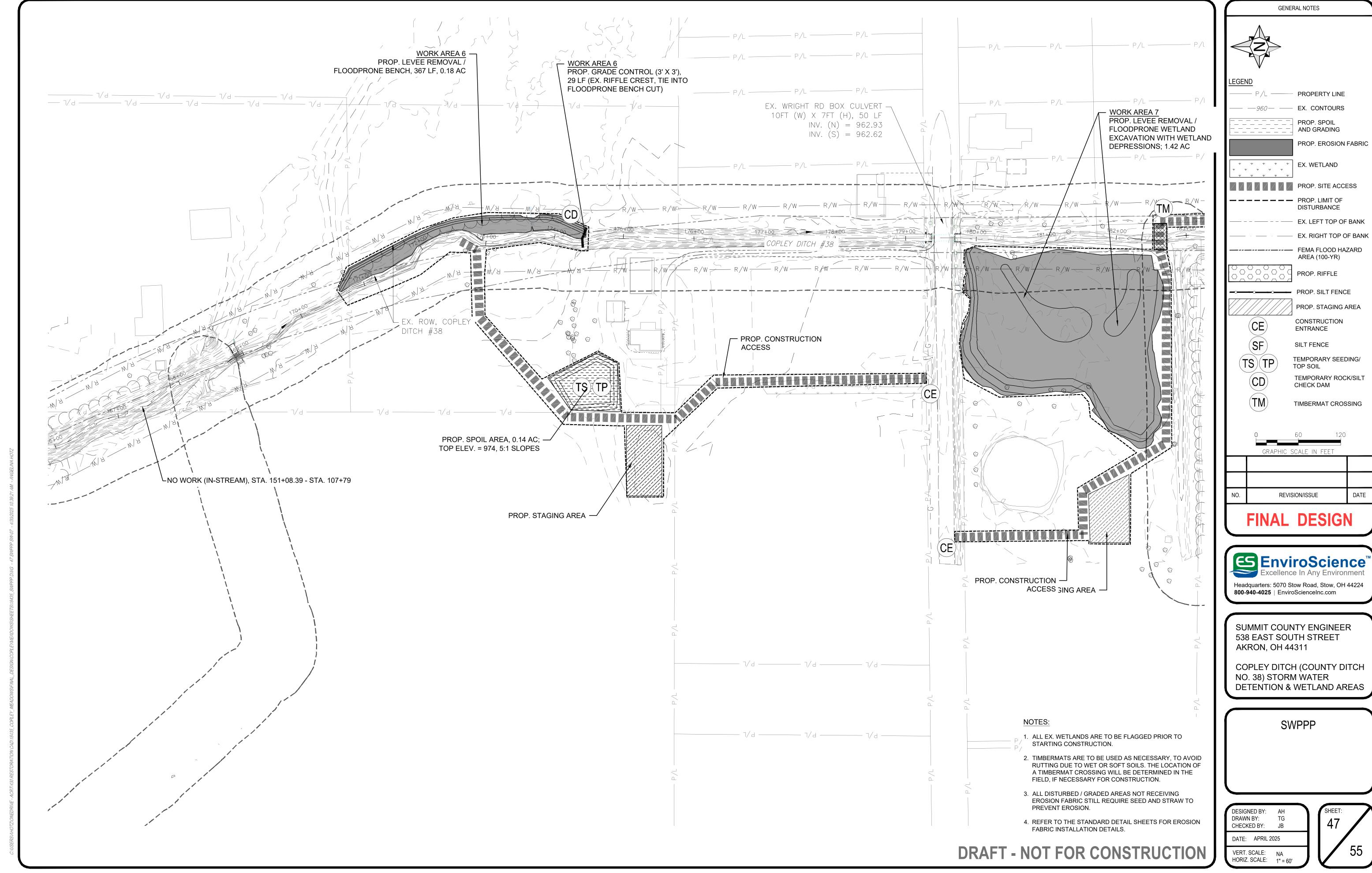


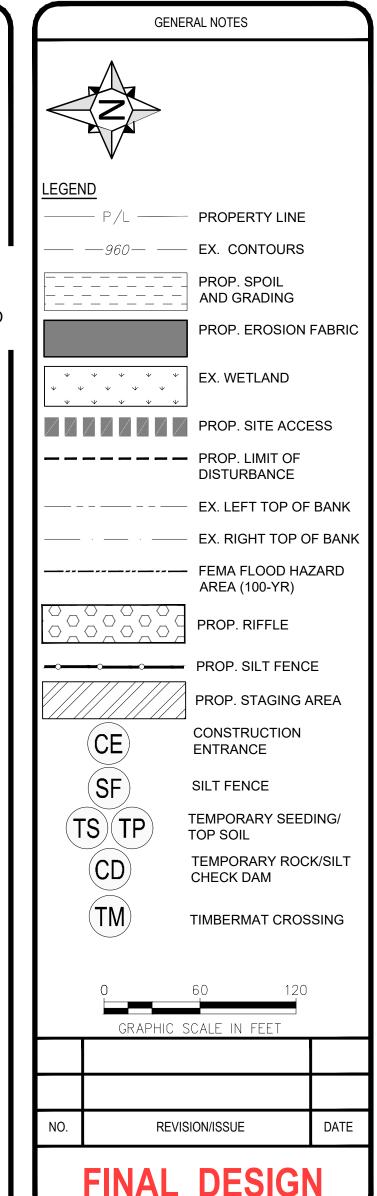


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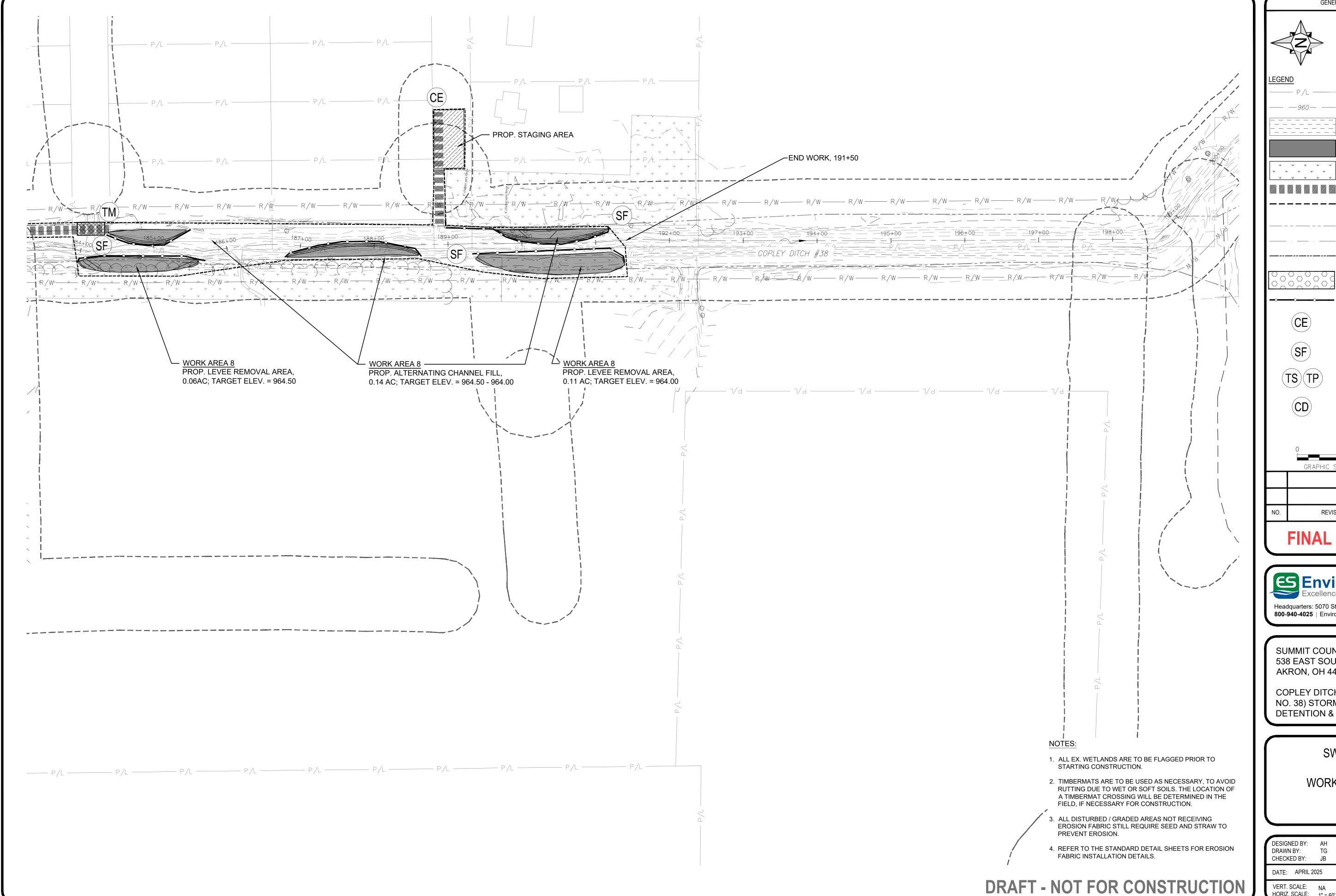
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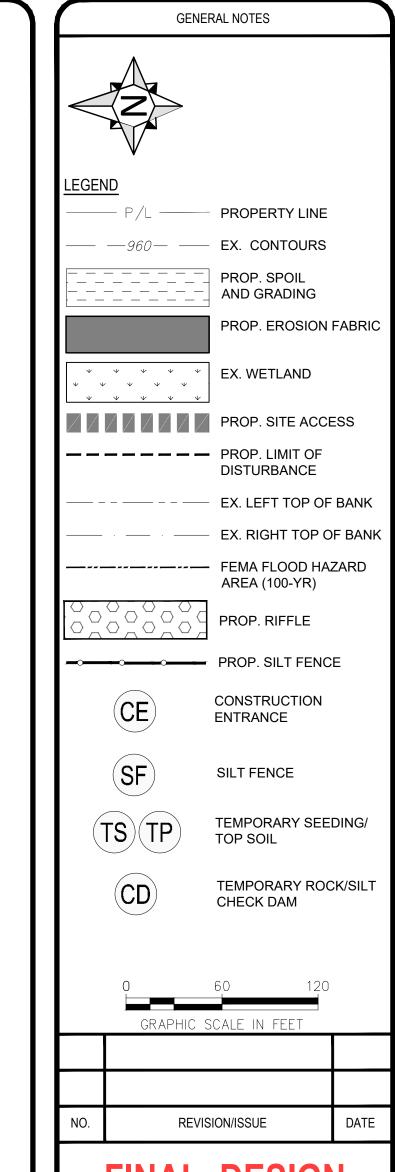
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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

SWPPP

WORK AREA 8

SPECIFICATIONS FOR SILT FENCE

- 1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- 2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TOTHE 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 COMPACTED ON BOTH SIDES OF THE FABRIC.
- 9. SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM OF 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 OVER-TOPS 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
- 11. SEDIMENT DEPOSITS SHALL BE ROUTINELY REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-HALF OF THE HEIGHT OF THE SILT FENCE. SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND AT LEAST DAILY DURING A PROLONGED RAINFALL. THE LOCATION OF EXISTING SILT FENCE SHALL BE REVIEWED DAILY TO ENSURE ITS PROPER LOCATION AND EFFECTIVENESS. IF DAMAGED, THE SILT FENCE SHALL BE REPAIRED IMMEDIATELY.

CRITERIA FOR SILT FENCE MATERIALS

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 10FT. 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.

SILT FENCE FABRIC CHART

TABLE 6.3.2 MINIMUM CRITERIA FOR SILT FENCE FABRIC (ODOT, 2002)

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 4833
MINIMUM TEAR STRENGTH	40 LBS (180 N)	ASTM D 4533
APPARENT OPENING SIZE	≤0.84 mm	ASTM D 4751
MINIMUM PERMITVITY	1X10-2 SEC, -1	ASTM D 4491
UV EXPOSURE STRENGTH RETENTION	70%	ASTM D 4355

SILT FENCE AND DIVERSIONS:

SHEET FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SILT FENCE OR DIVERSIONS TO PROTECT ADJACENT PROPERTIES, WATER RESOURCES, AND WETLANDS FROM SEDIMENT TRANSPORTED VIA SHEET FLOW. WHERE INTENDED O PROVIDE SEDIMENT CONTROL, SILT FENCE SHALL BE PLACED ON A LEVEI CONTOUR AND SHALL BE CAPABLE OF TEMPORARILY PONDING RUNOFF. THE RELATIONSHIP BETWEEN THE MAXIMUM DRAINAGE AREA TO SILT FENCE FOR A PARTICULAR SLOPE RANGE IS SHOWN IN TABLE 3 BELOW. STORM WATER DIVERSION PRACTICES SHALL BE USED TO KEEP RUNOFF AWAY FROM DISTURBED AREAS AND SLEEP SLOPES. SUCH DEVICES, WHICH INCLUDE SWALES, DIKES OR BERMS, MAY RECEIVE STORM WATER RUNOFF FROM AREAS UP TO 10 ACRES. PLACING SILT FENCE IN PARALLEL DOES NOT EXTEND THE PERMISSIBLE DRAINAGE AREA WHICH IS SERVED BY THE SILT FENCE.

MAXIMUM DRAINAGE AREA TO SILT FENCE

MAXIMUM DRAINAGE AREA (ACRES) TO 100	RANGE OF SLOPE FOR A DRAINAGE AREA (%)
LINEAR FEET OF SILT FENCE	RANGE OF SLOPE FOR A DRAINAGE AREA(70)
0.5	< 2%
0.25	> 2% BUT < 20%
0.125	≻20% BUT <50%

SALVAGING AND STOCKPILING . DETERMINE THE DEPTH AND SUITABILITY OF TOPSOIL AT THE SITE. REFER TO THE COUNTY SOIL SURVEY REPORT OF CONTACT LOCAL SWCD.

2. PRIOR TO STRIPPING TOPSOIL, INSTALL APPROPRIATE DOWNSLOPE EROSION AND SEDIMENTATION CONTROLS SUCH 2. TO ENSURE BONDING, GRADE THE

AS SEDIMENT TRAPS AND BASINS. 3. REMOVE THE SOIL MATERIAL NO DEEPER THAN WHAT THE COUNTY SOIL 3. DO NOT APPLY WHEN SITE IS WET, SURVEY DESCRIBES AS 'SURFACE SOIL'

(ie. A OR AP HORIZON) 4. CONSTRUCT STOCKPILES IN ACCESSIBLE LOCATIONS THAT DO NOT INTERFERE WITH NATURAL DRAINAGE. 4. APPLY TOPSOIL EVENLY TO A DEPTH **INSTALL APPROPRIATE SEDIMENT** CONTROLS TO TRAP SEDIMENT SUCH AS SILT FENCE IMMEDIATELY ADJACENT TO THE STOCKPILE OR SEDIMENT TRAPS OR BASINS DOWNSTREAM OF THE STOCKPILE. STOCKPILE SIDE SLOPES SHALL NOT **EXCEED A RATION OF 2:1.**

5. IF TOPSOIL IS STORED FOR MORE THAN 14 DAYS, IT SHOULD BE TEMPORARY SEEDED, OR COVERED WITH A TARP.

SPREADING THE TOPSOIL PRIOR TO APPLYING TOPSOIL, THE

TOPSOIL SHOULD BE PULVERIZED. SUBSOIL AND ROUGHEN THE TOP 3-4

INCHES BY DISKING.

MUDDY, OR FROZEN, BECAUSE IT MAKES SPREADING DIFFICULT, CAUSES COMPACTION PROBLEMS, AND INHIBITS BONDING WITH SUBSOIL.

OF AT LEAST 4 INCHES AND COMPACT SLIGHTLY TO IMPROVE CONTACT AND SUBSOIL.

5. AFTER SPREADING, GRADE AND STABILIZE WITH SEEDING OR APPROPRIATE VEGETATION.

TEMPORARY SEEDING

- 1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION-SITE.
- 2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR GREATER. THESE IDLE AREAS SHALL BE SEEDED WITHIN 7 DAYS AFTER GRADING. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
- 3. THE SEEDBED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT
- 4. SOIL AMENDMENTS--APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER. BASE RATES FOR LIME AND FERTILIZER SHALL BE USED.
- 5. SEEDING METHOD--SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

MULCHING TEMPORARY SEEDING:

BUT, GENERALLY BE LEFT LONGER THAN 6 IN.

1. APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES ON FAVORABLE SOIL CONDITIONS AND ON VERY FLAT AREAS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION. FOLLOWING SEED APPLICATION TOPSOILS AND ALL SLOPES GREATER THAN 2:1 SHALL BE PROTECTED WITH SUITABLE FOR THE PROJECT, SEE GENERAL NOTES, SHEET 3.

STRAW--IF STRAW IS USED, IT SHALL BE UNROTTED SMALL-GRAIN STRAW APPLIED AT 2 TONS/AC. OR 90 LB. / 1,000 SQ. FT. (TWO TO THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND SPREAD TWO 45 LB. BALES OF STRAW IN EACH SECTION.

HYDROSEEDERS--IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB. / AC. OR 46 LB. /1.000 SQ. FT.

OTHER-OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS / AC.

3. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER. ANCHORING

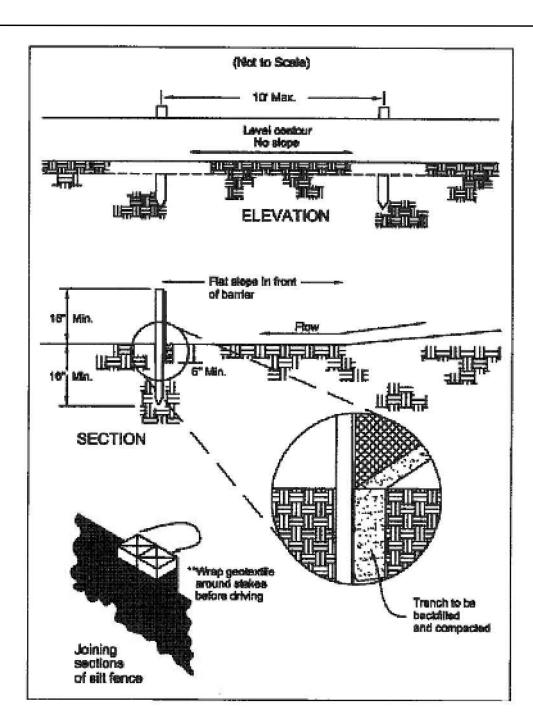
MECHANICAL--A DISK, CRIMPER OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICAL ANCHORED SHALL NOT BE FINELY CHOPPED

MULCH NETTINGS-NETTINGS SHALL BE USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES. NETTING SHALL BE BIODEGRADABLE JUTE, NO PLASTIC. SEE SPECIFICATION FOR EROSION FABRIC ON SHEET 3, AND DETAILS FOR INSTALLATION LOCATION ON STANDARD DETAIL SHEETS.

SYNTHETIC BINDERS--SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI-TAC), DCA-70, PETROSET, TERRA-TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.

WOOD-CELLULOSE FIBER--WOOD-CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB. /AC. THE WOOD-CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB. / 100 GAL.



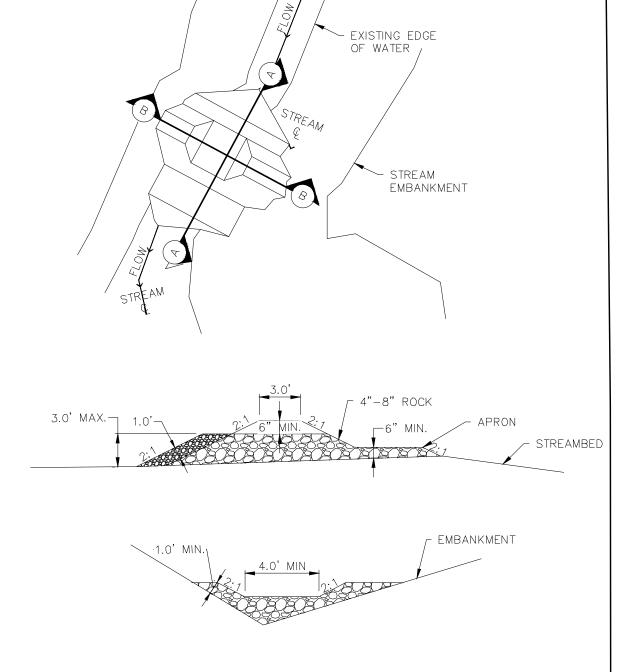


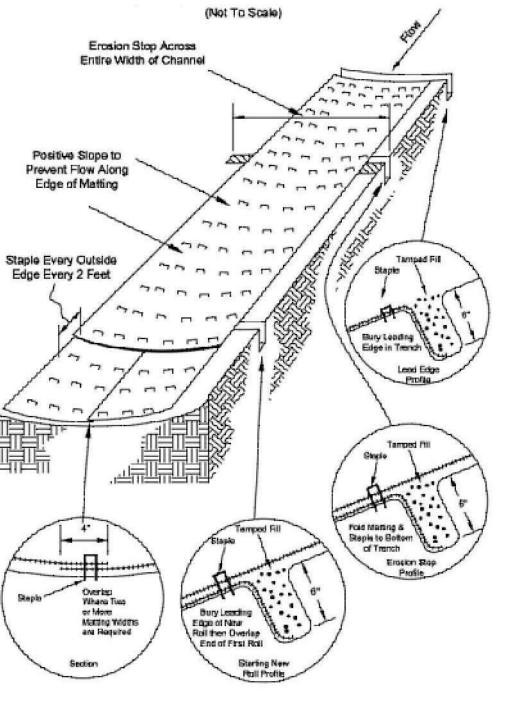
THE CHECK DAM SHALL BE CONSTRUCTED OF 4-8 INCH DIAMETER OR ODOT TYPE D STONE, PLACED SO THAT IT COMPLETELY COVERS THE WIDTH OF THE CHANNEL. ODOT TYPE D STONE IS ACCEPTABLE, BUT SHOULD BE UNDERLAIN WITH A GRAVEL FILTER

2. THE UPSTREAM SIDE OF THE CHECK DAM SHALL HAVE A LAYER OF ODOT #57 AGGREGATE.

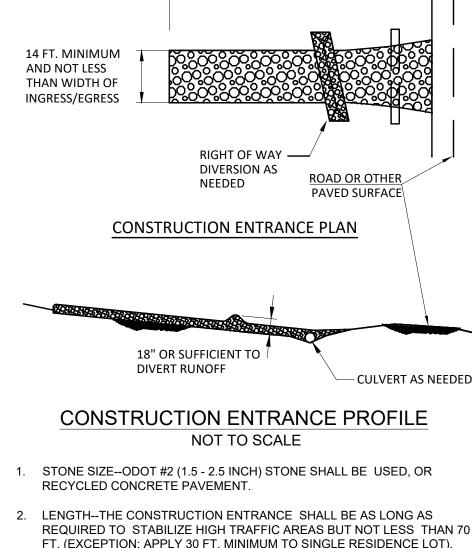
CONSISTING OF ODOT NO. 3 OR 4 SUITABLE FILTER FABRIC.

- 3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE DAM WHEN IT REACHES $\frac{1}{2}$ THE HEIGHT OF THE CHECK DAM.
- 4. MAXIMUM HEIGHT OF CHECK DAM SHALL NOT EXCEED 3.0 FEET.
- 5. THE MIDPOINT OF THE ROCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT FLOW ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES.
- 6. THE BASE OF THE CHECK DAM SHALL BE ENTRENCHED APPROXIMATELY 6 INCHES WHEN FEASIBLE.
- 7. A SPLASH APRON SHALL BE CONSTRUCTED WHERE CHECK DAMS ARE EXPECTED TO BE IN USE FOR AN EXTENDED PERIOD OF TIME. A STONE APRON SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE CHECK DAM TO PREVENT FLOWS FROM UNDERCUTTING THE STRUCTURE. THE APRON SHOULD BE 6 IN. THICK AND ITS LENGTH TWO TIMES THE HEIGHT OF THE DAM.
- 8. STONE PLACEMENT SHALL BE PERFORMED EITHER BY HAND OR MECHANICALLY AS LONG AS THE CENTER OF CHECK DAM IS LOWER THAN THE SIDES AND EXTENDS ACROSS ENTIRE CHANNEL.
- 9. SIDE SLOPES SHALL BE A MINIMUM OF 2:1.





- 1. EROSION FABRIC SHALL BE INSTALLED ALONG FLOODPLAIN BENCH AREAS AND UP THE GRADE OUT SLOPE OR UNTIL MEETING EXISTING GRADE.
- 2. EROSION FABRIC SHALL BE AMERICAN EXCELSIOR COMPANY (AEC) STRAW-COCONUT FIBRENET OR APPROVED EQUAL SUBSTITUTE. REFER TO SPECIFICATIONS AND RESTORATION DETAILS FOR ADDITIONAL INSTALLATION INSTRUCTIONS



70 FT. (30 FT. FOR ACCESS TO

INDIVIDUAL HOUSE LOT)

- REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 70
- THICKNESS--THE STONE LAYER SHALL BE AT LEAST 6-IN. THICK FOR LIGHT DUTY ENTRANCES OR AT LEAST 10-IN. FOR HEAVY DUTY USE.
- 4. WIDTH--THE ENTRANCE SHALL BE AT LEAST 14-FT. WIDE, BUT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- GEOTEXTILE--A GEOTEXTILE SHALL BE LAID OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL BE COMPOSED OF STRONG ROT-PROOF POLYMERIC FIBERS AND MEET THE FOLLOWING SPECIFICATIONS:

GEOTEXTILE SPEC. FOR CONST	RUCTION ENTRANCE
MINIMUM TENSILE STRENGTH	200 LBS.
MINIMUM PUNCTURE STRENGTH	80 PSI
MINIMUM TEAR STRENGTH	50 LBS.
MINIMUM BURST STRENGTH	320 PSI
MINIMUM ELONGATION	20%
EQUIVALENT OPENING SIZE	EOS < 0.60 mm
PERMITTIVITY	1x10-3 CM/SEC

- 6. TIMING--THE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SOON AS IS PRACTICABLE BEFORE MAJOR GRADING ACTIVITIES.
- 7. CULVERT--A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE OR TO PREVENT RUNOFF FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- 8. WATER BAR--A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
- 9. MAINTENANCE--TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECK BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- 10. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.
- 11. REMOVAL--THE ENTRANCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS STABILIZED OR REPLACED WITH A PERMANENT ROADWAY OR ENTRANCE.



CONSTRUCTION ENTRANCE

GENERAL NOTES

FINAL DESIGN



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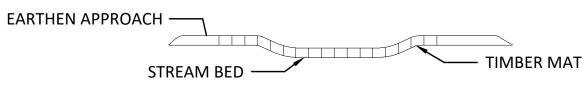
COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

SWPPP DETAILS

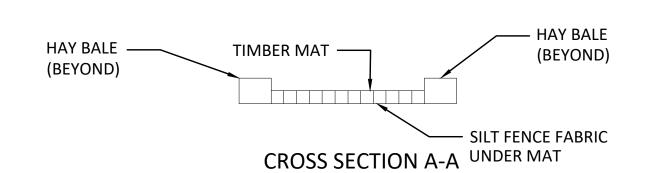
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PLAN VIEW



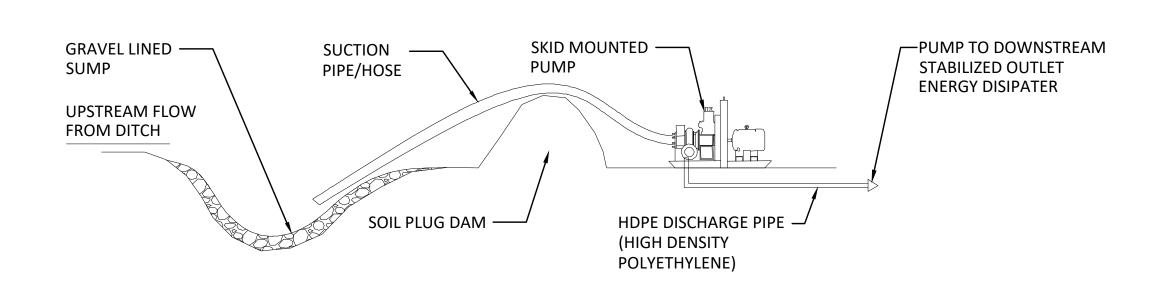
CROSS SECTION B-B



THIS TYPE OF CROSSING IS GENERALLY USED FOR SMALL STREAM CROSSINGS LESS THAN 30 FEET IN WIDTH AND A PROPER STREAM BANK CONFIGURATION

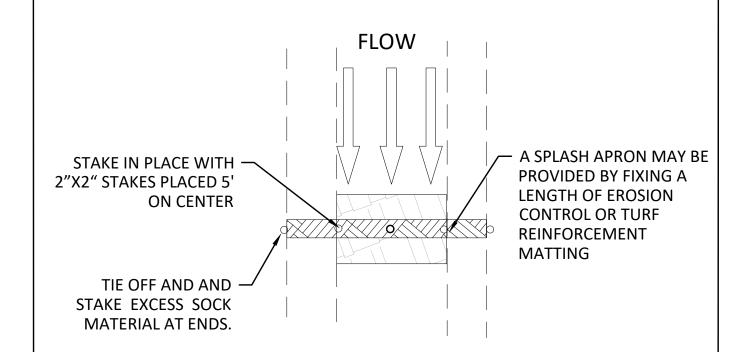
- EXTEND TIMBER MAT 50 FEET, FROM TOP OF BANK, ON BOTH SIDES OF STREAM CROSSING IN ORDER TO MINIMIZE DISTURBANCE OF STREAM BANKS AND RIPARIAN AREAS.
- 2. TIMBER MAT WILL BE TEMPORARILY REMOVED IF HIGH WATER RENDERS IT UNSAFE FOR CROSSING.
- 3. TIMBER MAT IS TO REMAIN IN PLACE UNTIL COMPLETION OF FINAL RESTORATION.
- 4. A SKIRT FORMED OF SILT FENCE, GEOTEXTILE FABRIC, OR EQUIVALENT SHALL BE PLACED ON THE BOTTOM OF THE BRIDGE TO TRAP SEDIMENT AS NECESSARY.
- INDIVIDUAL MATS SHALL BE ANCHORED AND BUTTED TIGHTLY TO MINIMIZE THE INTRODUCTION OF SEDIMENT TO THE WATERBODY.
- HAY BALES WILL BE PLACED AT THE EDGE OF THE TIMBER MAT AT THE END OF EACH WORK DAY TO PREVENT EROSION, BUT WILL BE REMOVED DURING CONSTRUCTION ACTIVITY.
- 7. TEMPORARY STREAM CROSSING SHALL BE INSPECTED ON A DAILY BASIS.
- DAMAGED CROSSING SHALL BE REPAIRED WITHIN 24 HOURS OF THE INSPECTION, AND BEFORE ANY SUBSEQUENT USE.
- SEDIMENT DEPOSITS ON THE CROSSING OR ITS APPROACHES SHALL BE REMOVED WITHIN 24 HOURS OF INSPECTION.
- 10. ANCHOR TIMBER MAT TO A TREE, OR OTHER PERMANENT OBJECT WITH SUFFICIENT STRENGTH, USING STEEL CHAIN OR CABLE

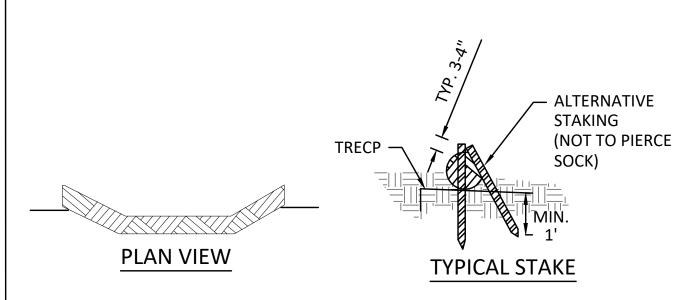




- 1. A DE-WATERING PLAN SHALL BE DEVELOPED PRIOR TO THE COMMENCEMENT OF ANY PUMPING ACTIVITIES.
- 2. THE DE-WATERING PLAN SHALL INCLUDE ALL PUMPS AND RELATED EQUIPMENT NECESSARY FOR THE DEWATERING ACTIVITIES AND DESIGNATE AREAS FOR PLACEMENT OF PRACTICES. OUTLETS FOR PRACTICES SHALL BE PROTECTED FROM SCOUR EITHER BY RIPRAP PROTECTION, FABRIC LINER, OR OTHER ACCEPTABLE METHOD OF OUTLET PROTECTION.
- 3. WATER THAT IS NOT DISCHARGED INTO A SETTLING/TREATMENTBASIN BUT DIRECTLY INTO WATERS OF THE STATE SHALL BE MONITORED HOURLY. DISCHARGED WATER SHALL BE WITHIN +/- 5° F OF THE RECEIVING WATERS.
- 4. SETTLING BASINS SHALL NOT BE GREATER THAN FOUR (4) FEET IN DEPTH. THE BASIN SHALL BE CONSTRUCTED FOR SEDIMENT STORAGE AS OUTLINED IN CHAPTER 6, SEDIMENT BASIN OR SEDIMENT TRAP. THE INLET AND OUTLET FOR THE BASIN SHALL BE LOCATED AT THE FURTHEST POINTS OF THE STORAGE. A FLOATING OUTLET SHALL BE USED TO ENSURE THAT SETTLED SOLIDS DO NOT RE-SUSPEND DURING THE DISCHARGE PROCESS. THE SETTLING BASIN SHALL BE CLEANED OUT WHEN THE STORAGE HAS BEEN REDUCED BY 50% OF ITS ORIGINAL CAPACITY.
- 5. ALL NECESSARY NATIONAL, STATE AND LOCAL PERMITS SHALL BE SECURED PRIOR TO DISCHARGING INTO WATERS OF THE STATE.

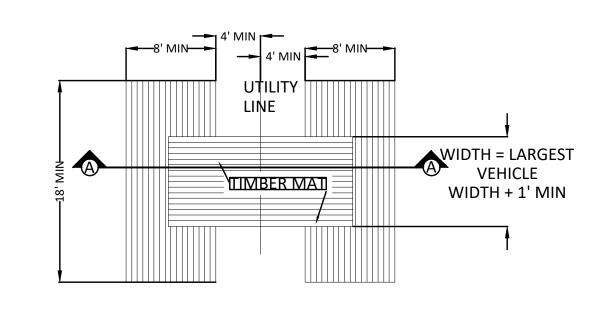
BY-PASS PUMPING/ STREAM FLOW DIVERSION DETAIL NOT TO SCALE



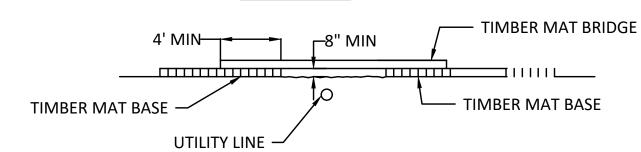


- COMPOST SOCK NETTING SHALL USE A KNITTED MESH FABRIC WITH 1/8-3/8 INCH OPENINGS, AND COMPOST MEDIA WITH PARTICLE SIZES 99% < 3 INCHES, AND 60% > 3/8 INCHES (CONFORMING TO MEDIA DESCRIBED IN THE RWLDM, CHAPTER 6 FILTER SOCK).
- COMPOST SOCK CHECK DAMS SHALL BE USED IN AREAS THAT DRAIN 5 ACRES OR LESS.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE SOCK WHEN IT REACHES / THE HEIGHT OF THE CHECK DAM.
- COMPOST SOCK CHECK DAMS SHALL BE CONSTRUCTED WITH 12, 18, OR 24 IN DIAMETER COMPOST SOCKS, AND SHALL COMPLETELY COVER THE WIDTH OF THE CHANNEL. THE MIDPOINT OF THE COMPOST SOCK CHECK DAM SHALL BE A MINIMUM OF 6 INCHES LOWER THAN THE SIDES IN ORDER TO DIRECT FLOW ACROSS THE CENTER AND AWAY FROM THE CHANNEL SIDES. FILTER SOCK CHECK DAMS SHALL BE FILLED TO A DENSITY SUCH THAT THEY SHALL REACH THEIR INTENDED HEIGHT (DIAMETER). AFTER INSTALLATION AND USE, THEY SHALL BE CONSIDERED UNSUITABLE AND IN NEED OF REPLACEMENT AFTER FALLING BELOW 80% OF THEIR MINIMUM REQUIRED HEIGHT (DIAMETER).
- ALTHOUGH NO TRENCHING IS NECESSARY, COMPOST SOCK CHECK DAMS SHALL BE PLACED ON A GRADED SURFACE WHERE CONSISTENT CONTACT WITH THE SOIL SURFACE IS MADE WITHOUT BRIDGING OVER GAPS, RILLS, GULLIES, STONES OR OTHER IRREGULARITIES.
- PLACE COMPOST SOCK CHECK DAMS SO THAT THE ENDS EXTEND TO THE TOP OF BANK. STAKING FOR COMPOST SOCK CHECK DAMS SHALL USE 2 INCH X 2 INCH WOODEN STAKES, PLACED 5 FOOT ON CENTER. STAKE LENGTH SHALL ALLOW THEM TO BE DRIVEN 12 INCHES INTO EXISTING SOIL AND ALLOW AT LEAST 2 INCHES ABOVE THE SOCK.
- SPACE COMPOST SOCK CHECK DAMS SO THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION OR LOWER ELEVATION AS THE TOP OF THE DOWNSTREAM COMPOST SOCK CHECK DAM (AT THE CENTER OF THE CHANNEL). THIS WILL BE INFLUENCED BY THE HEIGHT OF THE SOCK AND GRADIENT OF THE WATERWAY.
- A SPLASH APRON MAY BE NEEDED WHERE FLOWS OVER THE SOCK MAY ERODE THE CHANNEL AND UNDERCUT THE COMPOST SOCK CHECK DAM. CREATE THE APRON BY FIXING A LENGTH OF TEMPORARY ROLLED EROSION CONTROL PRODUCT (EROSION CONTROL MATTING) OR TURF REINFORCEMENT MATTING STARTING UPSTREAM OF THE SOCK A DISTANCE EQUAL TO THE SOCK HEIGHT AND EXTENDING A LENGTH TWO TIMES THE HEIGHT OF THE COMPOST SOCK CHECK DAM. SEE CHAPTER 7 FOR INFORMATION REGARDING THESE MATERIALS. MATERIALS USED SHOULD BE ABLE TO BE LEFT IN PLACE (E.G. BIODEDEGRADABLE/PHOTODEGRADABLE TRECP) WITHOUT CREATING PROBLEMS FOR FUTURE MOWING OR MAINTENANCE OF THE CHANNEL.





PLAN VIEW

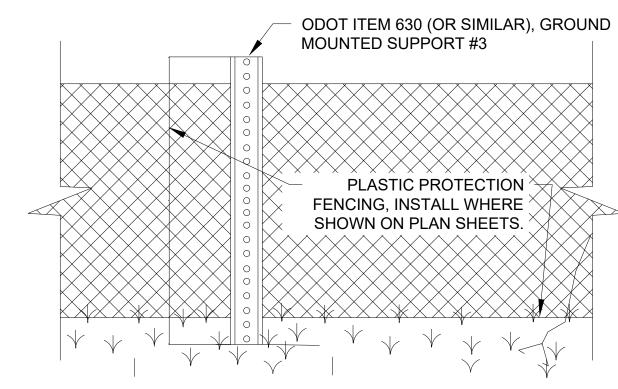


CROSS SECTION A-A

THIS TYPE OF CROSSING IS GENERALLY USED FOR UNDERGROUND UTILITY LINE CROSSINGS

- 1. PLACE TIMBER MAT BASES 4 FEET MIN FROM UTILITY OR IRRIGATION LINE WITH AN 8 INCH MIN CLEARANCE FROM GROUND LEVEL OVER LINE.
- 2. TIMBER MAT BRIDGE SHALL BE PLACED WITH A 4 FEET MIN OVERLAP OF BASE TIMBER MATS.
- 3. TIMBER MAT IS TO REMAIN IN PLACE UNTIL COMPLETION OF FINAL RESTORATION.
- 4. INDIVIDUAL MATS SHALL BE ANCHORED AND BUTTED TIGHTLY TO MINIMIZE MOVEMENT OF MATS DURING EQUIPMENT CROSSINGS.
- 5. TEMPORARY CROSSINGS SHALL BE INSPECTED ON A DAILY
- DAMAGED CROSSINGS SHALL BE REPAIRED WITHIN 24 HOURS OF THE INSPECTION, AND BEFORE ANY SUBSEQUENT USE.





- 1. ALL WETLANDS ADJACENT TO WORK AREAS WILL BE MARKED WITH FLAGGING AND/OR CAUTION TAPE TO RESTRICT CONSTRUCTION ACCESS NOT DESIGNATED FOR RESTORATION WORK, HAULING OR ACCESS.
- 2. IF FENCING BECOMES NECESSARY, FENCE MATERIAL SHALL BE PLASTIC (SNOW FENCE).
- 3. WETLAND MARKINGS, FENCING, AND POSTS SHALL BE REMOVED UPON PROJECT COMPLETION.



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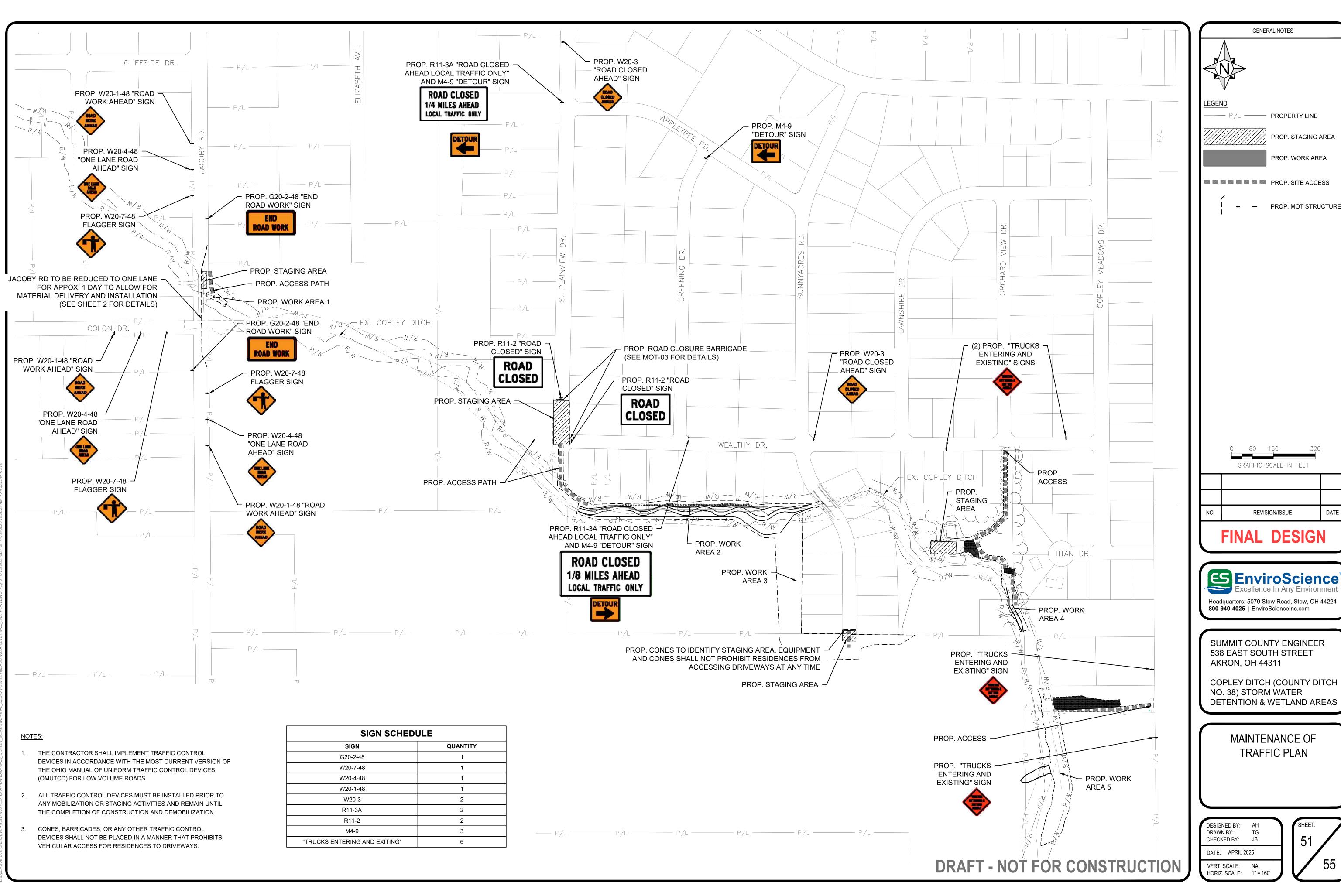
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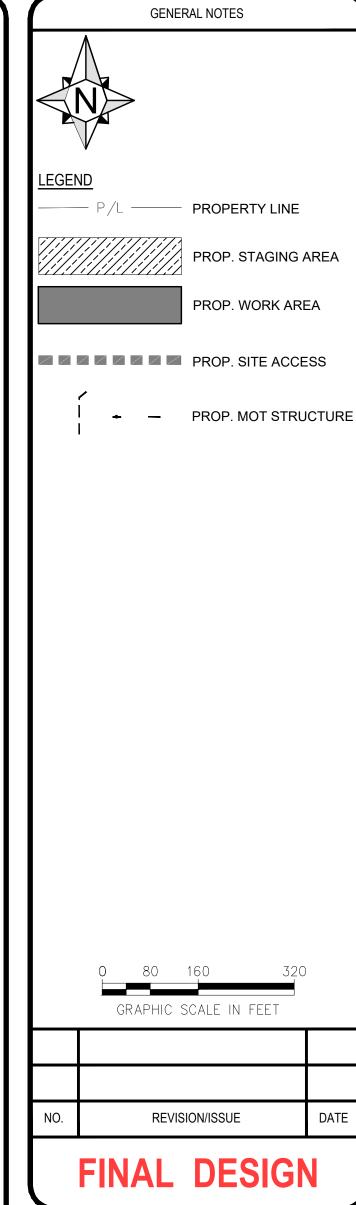
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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

SWPPP DETAILS

DESIGNED BY: DRAWN BY: CHECKED BY: DATE: APRIL 2025 VERT. SCALE: HORIZ. SCALE: NA





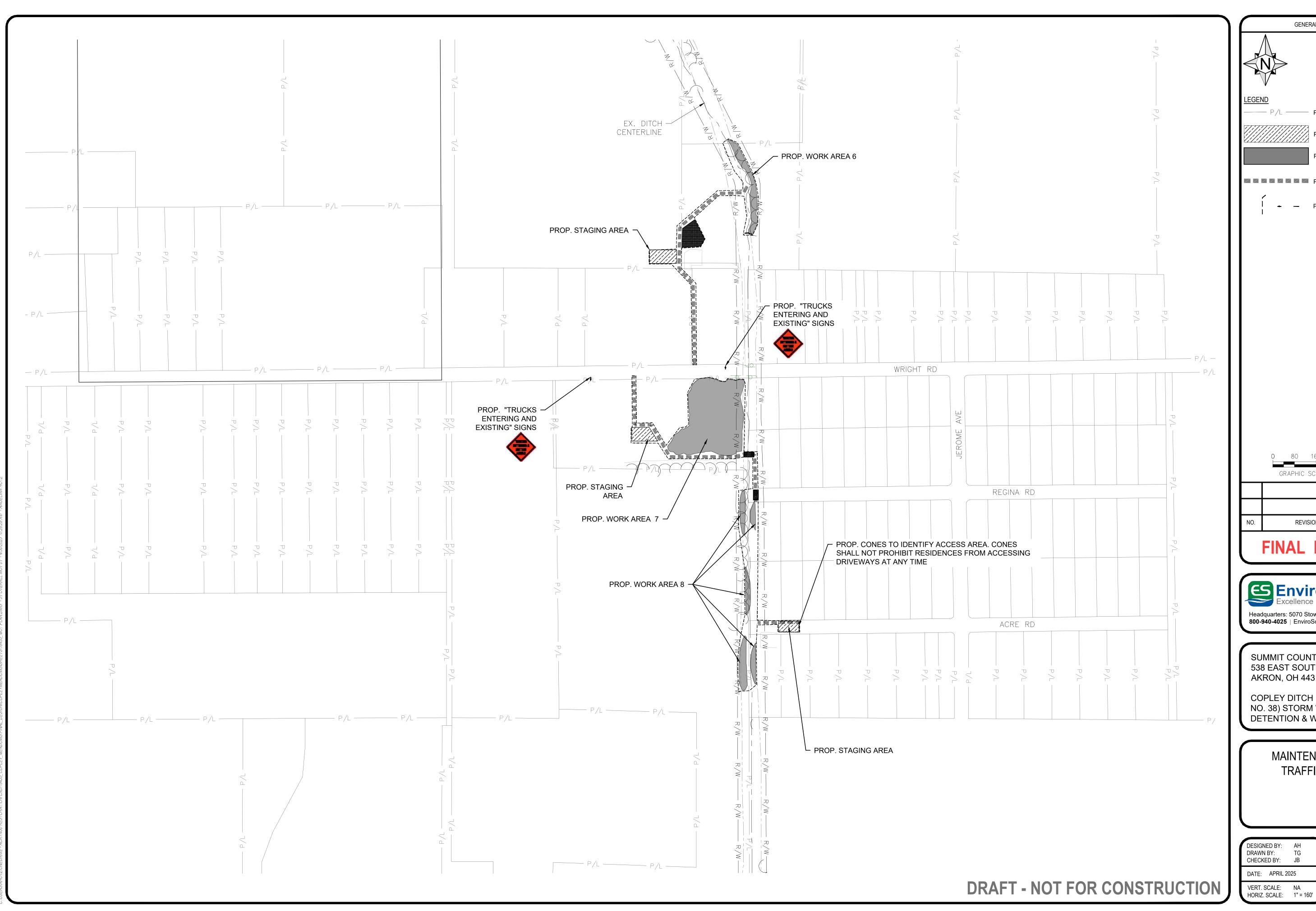
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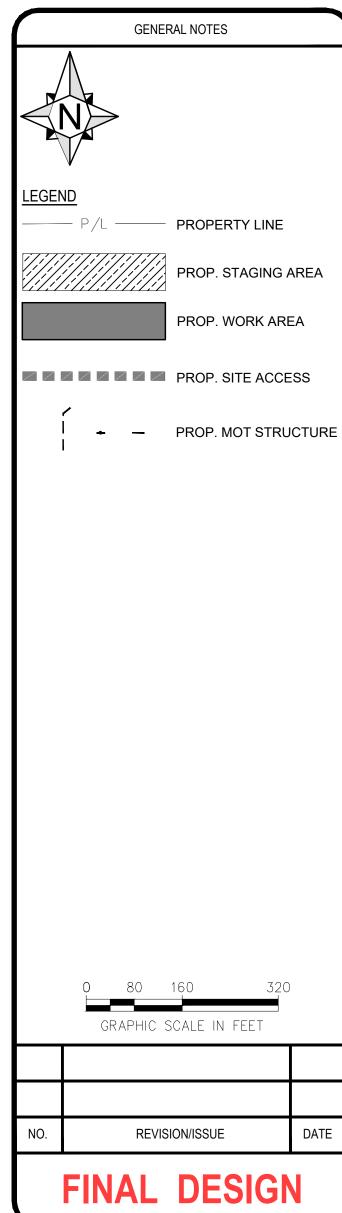
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COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER

> MAINTENANCE OF TRAFFIC PLAN

CHECKED BY: JB DATE: APRIL 2025



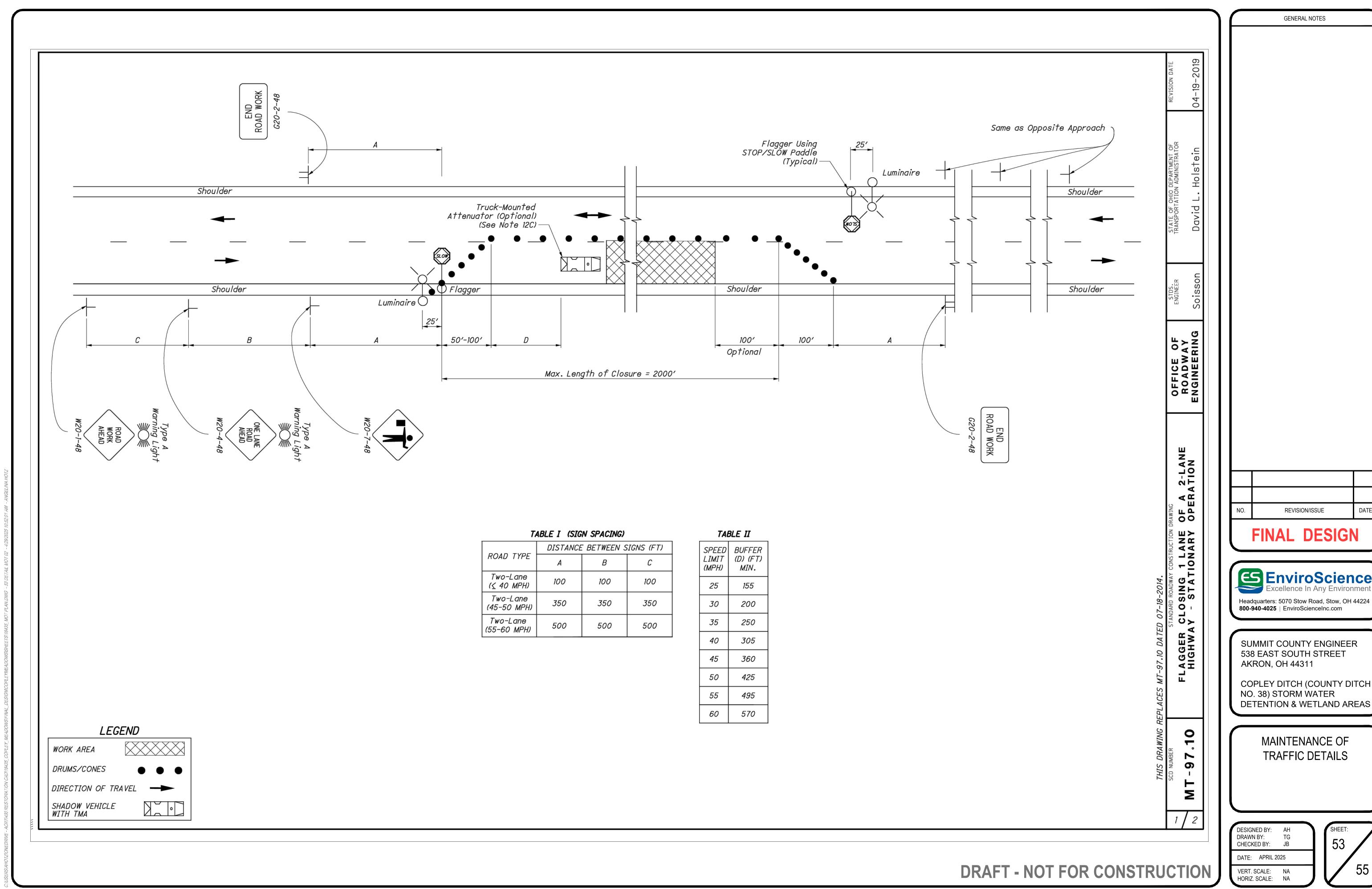




COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

> MAINTENANCE OF TRAFFIC PLAN

DRAWN BY: TG CHECKED BY: JB DATE: APRIL 2025



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SUMMIT COUNTY ENGINEER 538 EAST SOUTH STREET **AKRON, OH 44311**

COPLEY DITCH (COUNTY DITCH NO. 38) STORM WATER DETENTION & WETLAND AREAS

> MAINTENANCE OF TRAFFIC DETAILS

DESIGNED BY: DRAWN BY: TG CHECKED BY: JB DATE: APRIL 2025

NOTES:

FLAGGERS

1. Flaggers, one for each direction, shall be used to control traffic continuously for as long as a one lane operation is in effect. The flaggers shall be able to communicate with each other at all times.

LENGTH OF CLOSURE

2. Several small work areas close together should be combined into one work zone. However, the closure shall not be more than 2000' long unless approved by the Engineer. The minimum length between closures shall be 2000'. Only one side of the road shall be closed in any one work zone.

SIGN LOCATION AND SPACING

- 3A. The minimum spacing between work zone signs is shown in Table I. Maximum spacing should not be greater than 1.5 times the distances shown in Table I.
- 3B. Sign spacing should be adjusted to avoid conflict with existing signs. Minimum spacing to existing signs shall be 200' for speeds of 45 mph or less and a minimum of 400' for speeds of 50 mph or greater.
- 3C. The location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alianment.

ADJUSTMENTS FOR SIGHT DISTANCE

4. The location of the flagger station and the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.

BASIC SIGNING

- 5A. ROAD WORK AHEAD (W20-1) signs shall be provided on entrance ramps or roadways entering the work limits.
- 5B. END ROAD WORK (G20-2) signs are only required for lane closures of more than 1 day. If is intended that these signs be placed on the mainline, on all exit ramps, and on roadways exiting the work limits.
- 5C. Overlapping of signing for adjacent projects should be avoided where the messages could be confusing. Any ROAD WORK AHEAD (W20–1) or END ROAD WORK (G20–2) sign which falls within the limits of another traffic control zone shall be omitted or covered during the period when both projects are

SIGNING DETAILS

- 6A. The Advisory Speed (W13-1P) plaque shall be used when specified in the plan.
- 6B. 36" warning signs may be used when the approach speed limit is 40 mph or less.

FLASHING WARNING LIGHTS

7. Type A flashing warning lights shown on the ROAD WORK AHEAD (W20-1) signs and on the LANE CLOSED AHEAD (W20-5) signs are required whenever a night lane closure is necessary.

DRUMS / CONES

- 8A. Drum spacing shall be as follows:
 - a) Spacing along the closure shall be 40' center-to-center. b) Spacing along the approach taper shall be 10' centerto-center.
- 8B. Cones may be substituted for drums as follows:
 - a) Cones used for daytime traffic control shall have a
 - minimum height of 28".
 b) Cones used for nighttime traffic control shall have a minimum height of 42".
 - c) Use of cones at night shall be prohibited along tapers.
- 8C. Provisions shall be made to stabilize the cones and drums to prevent them from blowing over.
- 8D. A minimum of two drums shall be used to close the paved shoulder.

(RESERVED FOR FUTURE USE)

9A. (intentionally blank)

AREA ILLUMINATION

- 10A. Adequate area illumination of each flagger station shall be provided at night. Use of portable flood lighting is acceptable. Luminaires shall be located adjacent to each flagger station.
- 10B. To ensure the adequacy of floodlight placement and the elimination of glare, the Contractor and the Engineer shall drive through the worksite each night when the lighting is in place. Light placement and shielding shall be adjusted to the satisfaction of the Engineer.

INTERSECTION / DRIVEWAY ACCESS

- 11. Within the length of closure, provision shall be made to control trăffic entering from intersecting streets and major drives as necessary to prevent wrong-way movements and to keep vehicles off of new pavement not ready for traffic. The Contractor shall:
 - a) Place across the closed lane, either three drums (cones) or barricades, and/or
- b) Provide an additional flagger at every public street intersection and major driveway.

Drums (cones) placed across the closed lane shall be located 25' beyond the projected pavement edges of the driveway or cross highway, as shown in Standard Construction Drawings (SCDs MT-97.11 or MT-97.12. For barricades, see SCD MT-101.60.

Existing STOP signs shall be relocated as necessary to assure proper location for the traffic conditions.

The method of control shall be subject to the approval of the Engineer.

SHADOW VEHICLE

- 12A. The shadow vehicle shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenver workers are not in the work area.
- 12B. The shadow vehicle shall be equipped with a highintensity yellow rotating, flashing, oscillating, or strobe liaht(s).
- 12C. The shadow vehicle shall be equipped with a truckmounted or trailer attenuator (TMA) in accordance with CMS 614.03 when called for in the plans.

CHIP SEAL OPERATIONS

- 13. For chip seal operations, additional signing shall be incorporated in the advanced warning area.
 - a) The LOOSE GRAVEL (W8-7) and FRESH TAR (W21-2) signs shall both be used in advance of the chip seal operation.
- b) Repeat the LOOSE GRAVEL sign with a 35 mph Advisory Speed (W13-1) plaque every half mile per CMS 422.09.
 c) The FRESH TAR and the LOOSE GRAVEL signs shall both be used for signing of side roads intersecting the work

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OFFICE OF ROADWAY ENGINEERING

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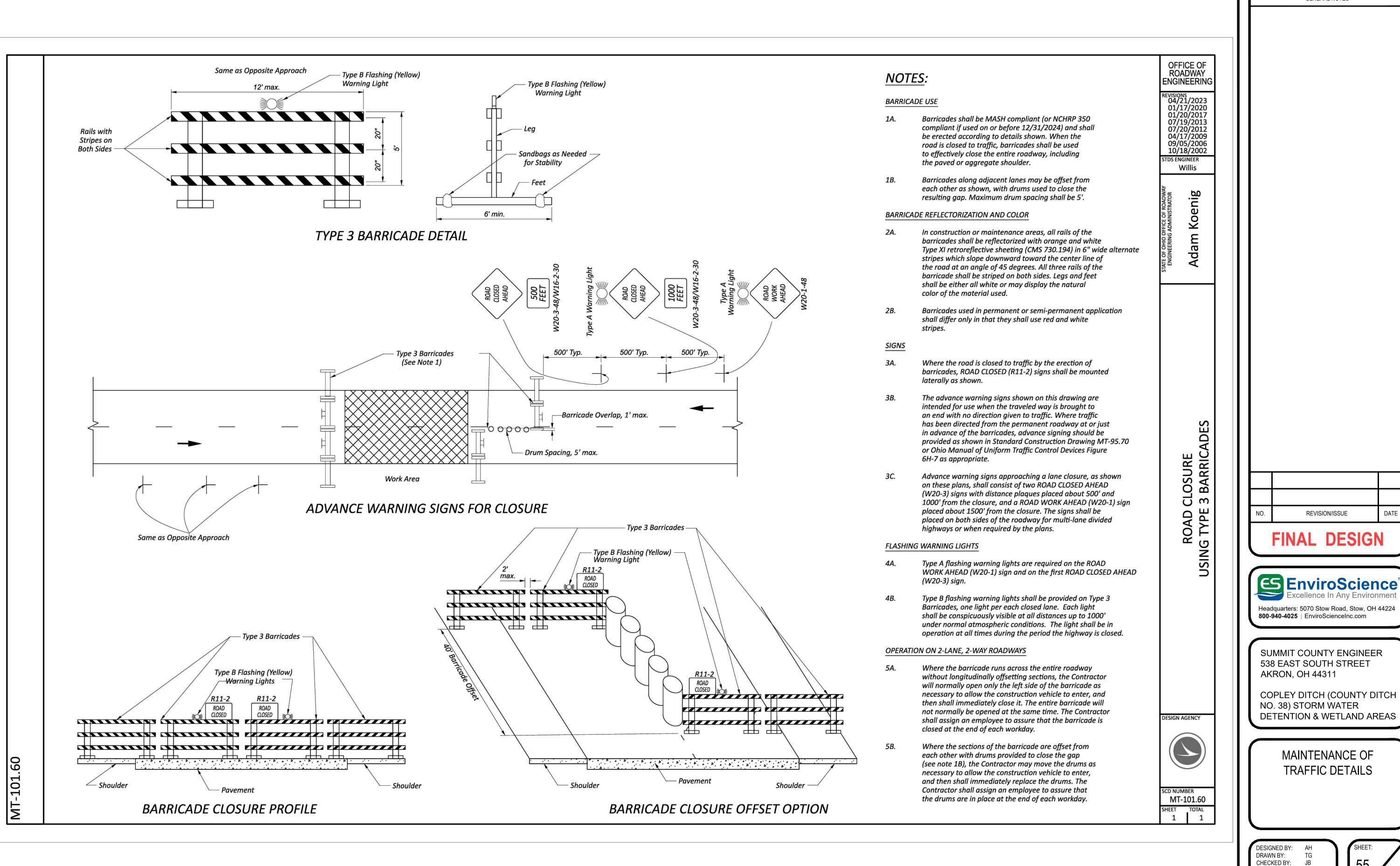
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MAINTENANCE OF

TRAFFIC DETAILS

DATE: APRIL 2025

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