Walnut Woods Site Plan

City of Massillon

Stark County, Ohio

PROJECT DESCRIPTION

PROPOSED DEVELOPMENT – 53 UNIT APARTMENT DEVELOPMENT, PARKING LOT, AND UTILITIES.

CONVENTIONAL SIGNS

RIGHT OF WAY	EXISTING: Ex R/W	PROPOSED: R/W		
MAJOR CONTOUR	EXISTING:	PROPOSED:		
MINOR CONTOUR	EXISTING:	PROPOSED:		
CORPORATION LINE				
FENCE LINE	EXISTING:	PROPOSED:		
GUARDRAIL	EXISTING:	PROPOSED:		
SANITARY MANHOLES	EXISTING: (SA)	PROPOSED: (SA)	ADJUSTED:	
DRAINAGE MANHOLES	EXISTING:	PROPOSED:	ADJUSTED:	
CATCH BASINS	EXISTING:	PROPOSED:	ADJUSTED:	
SIGNS	1-POST:	2-POST:	3-POST:	STREET:
EXISTING POLES	POWER:	TELEPHONE	LIGHT	SPAN
PROPOSED POLES	POWER:	TELEPHONE	LIGHT	SPAN
EXIST. UTILITIES	VALVE:	HYDRANT:	METERS:	GUY:

UNDERGROUND UTILITIES

TWO WORKING DAYS

BEFORE YOU DIG

CALL 1-800-362-2764 (TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS

MUST BE CALLED DIRECTLY

TWO WORKING DAYS

BEFORE YOU DIG

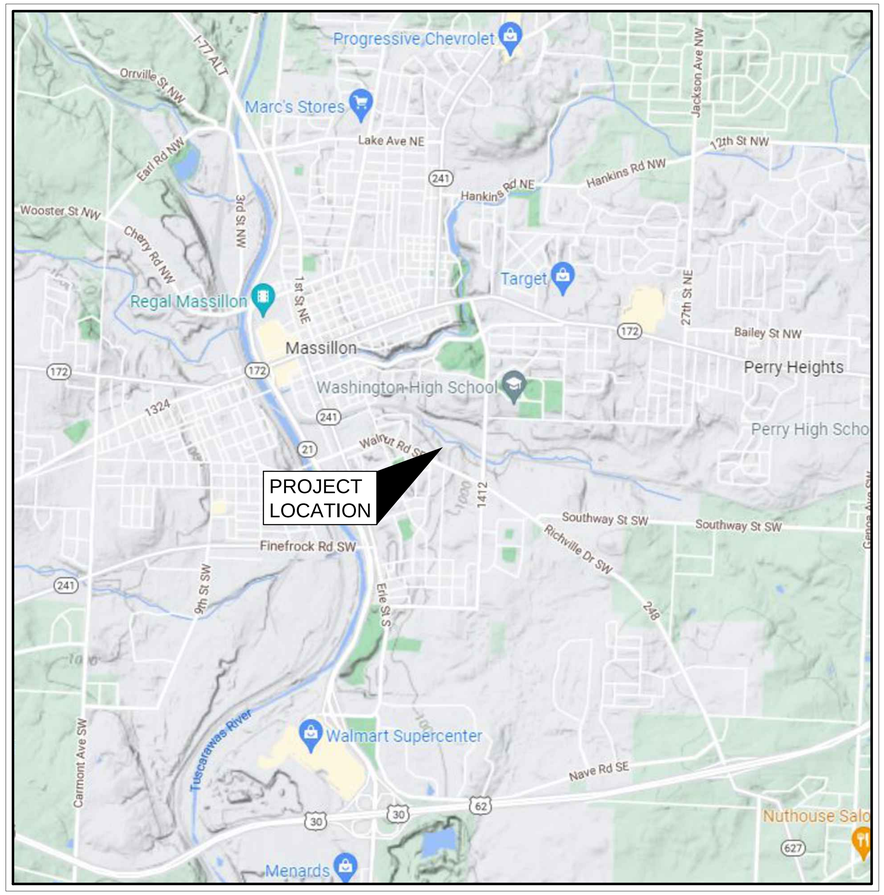
1-800-925-0988 (TOLL FREE)

OIL @ GAS PRODUCERS UNDERGROUND PROTECTION SERVICE

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

4/17/2023
DATE



VICINITY MAP

INDEX OF SHEETS:

OHIO EPA PERMITS/APPROVALS

NPDES NOTICE OF INTENT (N.O.I.) HAS BEEN APPROVED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY THIS _____ DAY OF _____, 2022.
FACILITY PERMIT NO. _____

REGISTERED PROFESSIONAL ENGINEER

DATE

APPROVAL OF THESE PLANS IS FOR AQUA AND OHIO EPA COMPLICANE ONLY, NOT FOR DESIGN OR CONSTRUCTION.

LOCAL APPROVALS

APPROVED BY MASSILLON ENGINEERING DEPARTMENT

DATE

APPROVAL - STARK SOIL & WATER

APPROVED BY STARK SOIL AND WATER PER LETTER DATED _____

ONLY SIGNED PLANS APPROVED BY THE ENGINEERING DEPARTMENT ARE TO BE USED FOR CONSTRUCTION.

CIVPRO ENGINEERING

PLAN PREPARED BY:
CIVPRO ENGINEERING, LLC
4450 Belden Village Street NW, Suite 800
Canton, Ohio 44718
(234) 410-3913

OWNER:
Raymond N. & Ruth E. Troyer
4023 Mark Rd. NE
Carrollton, Ohio 44615

DEVELOPER:
Spire Development
330 W. Spring Street, Suite 430
Columbus, Ohio 43215
(614) 350-0391

NW NE SW SE N

VERTICAL FEET 0

0 1000 2000
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: KAD
DATE: MAR. 2023

REVISIONS: DESCRIPTION | DATE

Walnut Woods Site Plan
Title Sheet
City of Massillon, OH 1236
Stark County, Ohio

CIVPRO ENGINEERING
DESIGNED & SURVEYED FOR CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800, CANTON, OHIO 44718
PHONE: (234) 410-3913 EMAIL: KADYLEWSKI@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:

UTILITIES

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

CODE	NAME	FAC
AQLP	AQUA OHIO - MASSILLON	WATR
EOG	DOMINION ENERGY OHIO - CANTON/USIC	NGDS
MAS	MASSILLON - CITY OF	OTHR
MSS	MASSILLON CABLE TV	OTHR
OBFP	AT&T - OHIO (USIC)	OTHR
OED	OHIO EDISON - (USIC)	ELEC

THE CONTRACTOR SHALL NOTIFY ALL UTILITIES 48 HOURS PRIOR TO WORK.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE SHOWN AT APPROXIMATE LOCATIONS AND WHERE OBTAINED AS REQUIRED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.

OUPS - 1-800-362-2764
OGUPUPS - 1-800-925-0988

DATUM ELEVATION

ALL BENCHMARKS ARE BASED ON REFERENCE BENCHMARKS PROVIDED BY STARK COUNTY.

STATIONING

ALL STATIONING SHOWN IS REFERENCED TO THE BASELINE AS SHOWN.

SUBSURFACE CONDITIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING THEIR BID. PROSPECTIVE BIDDERS ARE TO COORDINATE WITH THE OWNER FOR ACCESS TO THE SITE FOR INSPECTIONS AND EXPLORATORY EXCAVATION. THE BIDDER SHALL CONTACT THE OWNER AT LEAST 72 HOURS IN ADVANCE OF THE DESIRED INSPECTION OR EXCAVATION. THE BIDDER SHALL CONTACT O.U.P.S. AND OBTAIN LOCATIONS OF OTHER UTILITIES.

QUANTITIES

QUANTITIES ARE INDICATED FOR COMPARISON OF BIDS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY QUANTITIES BEFORE ORDERING MATERIALS. VARIATIONS FROM THE PLAN QUANTITIES SHALL BE APPROVED BY THE STARK COUNTY ENGINEER BEFORE MATERIAL ORDERS ARE PLACED. MATERIALS REJECTED DUE TO INCOMPATIBILITY BETWEEN ORDERED QUANTITIES AND FIELD CONDITIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION SPECIFICATIONS & STANDARDS

ALL CONSTRUCTION IS TO BE COMPLETED ACCORDING TO THE CURRENT STARK COUNTY SPECIFICATIONS AND STANDARDS, AND THE LATEST EDITION OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. WHEN A CONFLICT ARISES BETWEEN THE STARK COUNTY AND ODOT'S STANDARDS, THE MORE STRINGENT STANDARD WILL BE USED AT THE DISCRETION OF THE STARK COUNTY SANITARY ENGINEER. THE CONTRACTOR SHALL FOLLOW ALL OSHA AND ADA REGULATIONS AND REQUIREMENTS.

PRESERVATION OF EXISTING UTILITY SERVICES

ANY EXISTING WATER LINE, SANITARY SEWER, STORM SEWER, GAS LINE OR OTHE UTILITY IN OR OUTSIDE OF THE CONSTRUCTION LIMITS, DAMAGED DURING CONSTRUCTION OF THE PROPOSED PROJECT SHALL BE REPLACED AT THE CONTRACTORS EXPENSE.

CONTRACTOR AVAILABILITY

THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A 24 HOUR PHONE NUMBER WHERE THE CONTRACTOR SHALL BE AVAILABLE FOR EMERGENCIES.

PRESERVATION OF PRIVATE PROPERTY

THE CONTRACTOR SHALL PERFORM WORK AS TO NOT DISTURB, DAMAGE OR DESTROY ANY TELEPHONE OR POWER POLES, SIGNS, LANDSCAPING ITEMS, ETC.. ANY ITEM DAMAGED OR DESTROYED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE. PRIOR ENGINEER APPROVAL IS REQUIRED BEFORE ANY OF THE ABOVE ITEMS ARE PERFORMED.

ACCESSIBILITY TO PRIVATE PROPERTY

ACCESS TO ALL DRIVEWAYS AND PARKING AREAS WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THE TRENCH SHALL BE BACKFILLED AT THE END OF EACH WORK DAY TO PROVIDE ACCESS. THE CONTRACTOR MUST NOTIFY EACH PROPERTY OWNER AT LEAST 24 HOURS IN ADVANCE OF CUTTING THEIR DRIVEWAY.

WORK LIMITS

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

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL BE AS SHOWN ON THE TYPICAL SECTIONS.

GRADING AND FILLING OPERATIONS

THE PLACEMENT OF COMPACTED AGGREGATE SHALL NOT EXTEND PAST THE EXISTING GRADED SHOULDERS. NO EXCAVATION, GRADING, OR FILLING OPERATIONS SHALL BE PERFORMED IN ANY WETLANDS OR STREAMS, UNLESS THE REQUIRED STATE AND/OR FEDERAL PERMITS HAVE BEEN OBTAINED IN ACCORDANCE WITH ALL APPLICABLE STATE AND/OR FEDERAL LAWS AND REGULATIONS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR STORE EQUIPMENT AND/OR MATERIALS IN ANY WETLANDS OR STREAMS.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT. A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE BID FORM FOR ITEM201SPEC, CLEARING AND GRUBBING. THIS ITEM SHALL INCLUDE ALL PROVISIONS AS SET FORTH IN THE 2008 ODOT SPECIFICATIONS. REMOVAL ITEMS MAY INCLUDE TREES, STUMPS, AND BRUSH AS DETERMINED BY THE CITY ENGINEER.

ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201SPEC, CLEARING AND GRUBBING.

PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS

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

REMOVAL AND RELOCATION OF EXISTING UTILITIES

THE CONTRACTOR IS REQUIRED TO COOPERATE WITH EACH RESPECTIVE UTILITY OWNER FOR THE REMOVAL AND RELOCATION OF ANY AND ALL UTILITIES THAT CREATE A CONFLICT WITH CONSTRUCTION OF THE PROJECT.

CROSSING OR CONNECTING TO EXISTING PIPES AND UTILITIES

WHERE THE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE STARK COUNTY SANITARY ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

PAYMENT FOR THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEM.

REVIEW OF SANITARY AND DRAINAGE FACILITIES

AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK SHALL BE COMPLETED BEFORE AND AFTER WORK HAS COMMENCED. FINAL ACCEPTANCE BY THE STARK COUNTY SANITARY ENGINEER WILL NOT OCCUR UNTIL AFTER SAID INSPECTION. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE OBSERVATIONS SHALL BE PROVIDED IN WRITING BY THE CONTRACTOR TO THE STARK COUNTY SANITARY ENGINEER.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STARK COUNTY SANITARY ENGINEER.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.08 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 408, BITUMINOUS PRIME COAT

THE RATE OF APPLICATION OF THE 408 PRIME COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.40 GALLONS PER SQUARE YARD OF PRIME COAT FOR ESTIMATING PURPOSES ONLY.

ITEM 659, TOPSOIL, SEEDING AND MULCHING

ITEM 659 SHALL BE APPLIED TO ALL EXPOSED SOIL AREAS DISTURBED DURING CONSTRUCTION. SUCH AS SPECIFIED IN ITEM 659 AND IS NOT LIMITED TO JUST TOPSOIL, SEEDING AND MULCHING.

THE CITY SHALL APPROVE SEED MIX PRIOR TO APPLICATION TO BE USED THROUGHOUT CONSTRUCTION LIMITS.

ITEM 603SPEC - PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING CONDUITS SPECIFIED IN THE FIELD. ALL MATERIAL REMOVED SHALL BE DISPOSED OF AS PER 203.05. ALL SEWERS SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER.

CLEANOUT OF THE PIPE SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM SPECIAL - PIPE CLEANOUT. THIS PRICE SHALL INCLUDE THE COST FOR MATERIAL, EQUIPMENT, LABOR, AND ALL INCIDENTALS REQUIRED TO COMPLETE THE CLEANOUT.

CONDITIONS OF WORK

ALL WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ACT, STATE, COUNTY, AND STARK COUNTY LAWS AND REGULATIONS. ALL WORK, AT ALL TIMES SHALL BE SUBJECT TO OBSERVATION BY THE STARK COUNTY SANITARY ENGINEER AND/OR HIS REPRESENTATIVE. ALL WORK SHALL COMPLY WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS AND OHIO EPA, AND STANDARDS OF STARK COUNTY SANITARY ENGINEER. ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, AND APPLICABLE CITY, COUNTY, STATE AND FEDERAL CODES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY ACCESS TO ALL ABUTTING PROPERTIES TO THE PROJECT SITE. ADJACENT ROADS SHALL BE MAINTAINED AND KEPT CLEAN OF MUD AND OTHER DEBRIS THAT MAY BE CAUSED BY TRAFFIC EXITING THE WORK SITE. THE CONTRACTOR SHALL COORDINATE AND PROVIDE FOR ALL NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL SHALL FOLLOW THE MORE STRINGENT GUIDELINES OF THE STARK COUNTY SANITARY ENGINEER OR ODOT AT THE DISCRETION OF THE STARK COUNTY SANITARY ENGINEER.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND MAINTAIN FACILITIES FOR A CONSTRUCTION OFFICE, EMPLOYEE PARKING, AND EMPLOYEE SANITARY FACILITIES. ON STREET PARKING WILL NOT BE PERMITTED. THE CONTRACTOR SHALL PROVIDE FOR THE LAWFUL OFF-SITE DISPOSAL OF DEMOLITION DEBRIS AND CONSTRUCTION WASTE.

NW NE SW SE N

VERTICAL SCALE IN FEET 1 .5 0

HORIZONTAL SCALE IN FEET 1 .5 0

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS: DESCRIPTION | DATE

Walnut Woods Site Plan
General Notes
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 630, CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KADMD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:
PROJECT NUMBER:

RESTORATION

FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED UP TO MAY 15TH OF ANY CALENDAR YEAR, RESTORATION SHALL BE COMPLETE BY JUNE 30th OF THAT YEAR. FOR INSTALLATION OF SANITARY SEWER TESTED AND ACCEPTED FROM MAY 15th TO SEPTEMBER 30th OF ANY CALENDAR, YEAR RESTORATION SHALL BE COMPLETE BY NOVEMBER 15th OF THAT CALENDAR YEAR. FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED AFTER NOVEMBER 15TH OF ANY CALENDAR YEAR. RESTORATION SHALL BE COMPLETE BY MAY 15th OF THE NEXT CALENDAR YEAR. THAT CALENDAR YEAR. FOR SANITARY SEWER INSTALLED, TESTED, AND ACCEPTED AFTER NOVEMBER 15TH OF ANY CALENDAR YEAR. RESTORATION SHALL BE COMPLETE BY MAY 15th OF THE NEXT CALENDAR YEAR.

ALL SOIL AREAS DISTURBED BY THE CONTRACTOR SHALL BE TOPSOILED, SEEDED AND MULCHED. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR EACH ITEM OF AFFECTED WORK. TOPSOIL, SEEDING AND MULCHING SHALL NOT BE A SEPARATE PAY ITEM. THIS INCLUDES BACKFILLING, SEEDING AND MULCHING ALONG THE EDGE OF ALL PAVEMENT RESTORATION.

CONTRACTOR TO REPLACE ALL PAVEMENT MARKINGS. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR PAVEMENT.

CONTRACTOR TO USE HOT APPLIED JOINT CRACK SEALER ON ASPHALT PAVEMENT AT ALL ENDS AND INTERSECTIONS.

CONTRACTOR'S EQUIPMENT - OPERATION STORAGE

A QUALIFIED FLAGGER SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA OUTSIDE THE R/W. THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL OF THE ENGINEER. WHEN PARKING ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE PLACED AND DELINEATED AS PER 614.03. NO EQUIPMENT SHALL BE PARKED IN THE MEDIAN OF THE HIGHWAY. ADEQUATE BARRICADE AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT, INCLUDING PRIVATE VEHICLES, SHALL BE STORED AT THE APPROVED CONTRACTOR'S STORAGE AREA. NO EQUIPMENT SHALL BE PARKED ON PRIVATE PROPERTY UNLESS PRIOR APPROVAL OF THE OWNER AND THE PROJECT ENGINEER/SUPERVISOR HAS BEEN GRANTED.

EXISTING DATA

EACH CONTRACTOR SHALL VISIT THE SITE PERSONALLY TO ASCERTAIN THE NATURE OF THE WORK AND BECOME THOROUGHLY FAMILIARIZED WITH THE SITE PRIOR TO BID SUBMISSION.

EXISTING STRUCTURES, GRADES, PIPING, ETC. ARE INDICATED IN APPROXIMATE LOCATION ON THE PLAN. INFORMATION SHOWN IS NOT GUARANTEED TO BE CORRECT AND COMPLETE. THE DATA SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE EXISTENCE OF FACILITIES ABOVE OR BELOW GROUND, WHICH MAY NOT BE SHOWN, WILL NOT BE A BASIS FOR A CLAIM FOR EXTRA WORK.

EXISTING UNDERGROUND UTILITIES SHOWN ARE RECORDS PROVIDED BY UTILITY COMPANIES AND ARE APPROXIMATE ONLY. SERVICE LATERALS ARE NOT SHOWN.

IT IS THE RESPONSIBILITY OF CONTRACTOR TO NOTIFY THE CITY, PRIOR TO BID OPENING OF NON-CONFORMING OR CONFLICTING INFORMATION.

EXCAVATED MATERIAL

ALL EXCAVATED MATERIAL AND ALL MATERIAL USED IN CONSTRUCTION OF THE WORK SHALL BE PILED AND STORED IN A MANNER THAT WILL NOT ENDANGER THE WORK AND THAT WILL LEAVE DRIVEWAYS OR OTHER CONTROLS UNOBSTRUCTED AND ACCESSIBLE WHILE THE WORK IS TO BE COMPLETED. SATISFACTORY PROVISIONS SHALL BE MADE FOR STREET DRAINAGE, AND NATURAL WATERCOURSES SHALL NOT BE OBSTRUCTED. DURING THE PROGRESS OF THE WORK, ALL MATERIAL PILES SHALL BE KEPT TRIMMED UP AND MAINTAINED IN A NEAT MANNER. ALL EXCAVATED WASTE MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE, AS DIRECTED BY THE ENGINEER. THE WASTE SITE IS TO BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY, UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS ALONG WITH A LETTER FROM THE PROPOSED WASTE SITE OWNER SITE, AS DIRECTED BY THE ENGINEER. THE WASTE SITE IS TO BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE CITY, PERMITTING SUCH AND HOLDING THE CITY HARMLESS.

DOWN SPOUTS

ALL DOWN SPOUTS UNABLE TO BE CONNECTED TO THE STORM LATERAL SHALL BE CORE DRILLED THROUGH THE CURB AS PER ENGINEER'S DIRECTION.

CURB OPENING SHALL NOT GREATER THAN A 3 1/2" DIAMETER.

THE WORK ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR ITEM 609.

WORKING AREA

NO EXCAVATION WITH SIDE SLOPES STEEPER THAN 2:1 AND/OR DEEPER THAN 2' WILL BE PERMITTED. OPEN CASTINGS AND PIPES SHALL BE LEFT SECURED WHEN THE SITE IS UNATTENDED BY THE CONTRACTOR. THE CONTRACTOR SHALL SECURE ALL SUCH EXCAVATIONS, OPEN CASTINGS AND PIPES AGAINST UNAUTHORIZED ENTRY COVERING WITH STEEL PLATES, TEMPORARY BACK FILLING, FENCING AND SECURITY SERVICES SHALL BE INCLUDED IN THE PRICE BID FOR THE WORK. PLATES, TEMPORARY BACK FILLING, FENCING AND SECURITY SERVICES SHALL BE INCLUDED IN THE PRICE BID FOR THE WORK.

ITEM 207SPEC EROSION CONTROL

THE CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION CONTROL PLAN TO THE STARK COUNTY SANITARY ENGINEER TO BE FORWARDED TO THE APPROPRIATE PERMITTING AGENCIES. SAID PLAN MUST COMPLY WITH THE MOST CURRENT RULES AND REGULATIONS OF THE STARK COUNTY SANITARY ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING STORM WATER POLLUTION CONTROL PLAN 24 HOURS A DAY FOR THE DURATION OF THIS PROJECT. ALL DEVICES (SILT FENCE, INLET PROTECTION, ROCK CHANNEL, ETC.) SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.

THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 207SPEC - EROSION CONTROL

CONDITIONS OF WORK

ALL WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ACT, STATE, COUNTY, AND STARK COUNTY SANITARY ENGINEER LAWS AND REGULATIONS. ALL WORK, AT ALL TIMES SHALL BE SUBJECT TO OBSERVATION BY THE OWNER AND/OR ENGINEER. ALL WORK SHALL COMPLY WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS, OHIO EPA, AND STANDARDS OF THE STARK COUNTY SANITARY ENGINEER. ALL ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, AND APPLICABLE CITY, COUNTY, STATE AND FEDERAL CODES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE AND SATISFACTORY ACCESS TO ALL ABUTTING PROPERTIES TO THE PROJECT SITE. ADJACENT ROADS SHALL BE MAINTAINED AND KEPT CLEAN OF MUD AND OTHER DEBRIS THAT MAY BE CAUSED BY TRAFFIC EXITING THE WORK SITE. THE CONTRACTOR SHALL COORDINATE AND PROVIDE FOR ALL NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH CURRENT STARK COUNTY SANITARY ENGINEER RULES AND REGULATIONS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND MAINTAIN FACILITIES FOR A CONSTRUCTION OFFICE, EMPLOYEE PARKING, AND EMPLOYEE SANITARY FACILITIES. ON STREET PARKING WILL NOT BE PERMITTED. THE CONTRACTOR SHALL PROVIDE FOR THE LAWFUL OFF-SITE DISPOSAL OF DEMOLITION DEBRIS AND CONSTRUCTION WASTE.

REMOVAL OF TREES OR STUMPS

ALL TREES AND STUMPS REMOVED DURING CONSTRUCTION SHALL BE UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THIS SHALL INCLUDE ALL TREES AND STUMPS WITHIN THE CONSTRUCTION LIMITS UNLESS OTHERWISE STATED BY CITY REPRESENTATIVE.

CONCRETE REMOVAL

ALL EXISTING CONCRETE INCLUDING CURBS, DRIVES, AND BASE ETC. WITHIN WORK LIMITS SHALL BE REMOVED AND PAID FOR UNDER:

ITEM 203 EXCAVATION INCLUDING ROADWAY

ITEM 614SPEC MAINTAINING TRAFFIC

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING AND MAINTAINING SAFE AND EFFECTIVE TRAFFIC CONTROL 24 HOURS A DAY FOR THE DURATION OF THIS PROJECT. ALL TRAFFIC CONTROL DEVICES (PAVEMENT MARKINGS, SIGNS, BARRELS, CONES, ETC.) SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.

THE CONTRACTOR SHALL DEVISE A MAINTENANCE OF TRAFFIC SCHEME WHICH SHALL BE STAMPED BY A PROFESSIONAL ENGINEER, AND PRESENT IT TO THE ENGINEER FOR APPROVAL. THE MAINTENANCE OF TRAFFIC SCHEME SHALL PRESENT, IN GENERAL, THE METHOD FOR CONDUCTING THE REQUIRED WORK IN A SAFE AND EFFICIENT MANNER.

THE PLANS SHALL INCLUDE THE FOLLOWING COMPONENTS:

PLAN VIEW AT AN APPROPRIATE SCALE TO SHOW:
- WORK AREA
- BEGIN/END STATIONING OF TAPERS, TEMPORARY MARKINGS, ETC.
- TEMPORARY PAVEMENT
- LOCATIONS OF SIGNS (EXISTING OVERHEAD SIGNS AND ALL PROPOSED, COVERED, OR MODIFIED SIGNS)
- LOCATIONS OF TYPICAL SECTIONS
- REFERENCES TO APPLICABLE STANDARD DRAWINGS

TYPICAL SECTIONS SHOWING:
- LANE WIDTHS, PAVEMENT MARKINGS, DRUMS, PCB, ETC.
- LIMITING STATIONS
- WORK AREA AND DROP-OFFS

SIGN DETAILS FOR PROPOSED SIGNS AND OVERLAYS/MODIFACATIONS

THE MAINTENANCE OF TRAFFIC SCHEME SHALL BE IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION, THE REFERENCED STANDARD CONSTRUCTION DRAWINGS INCLUDING DESIGNER NOTES, THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS), POLICY NO. 516-003(P) TRAFFIC MANAGEMENT IN WORK ZONES INTERSTATE AND OTHER FREEWAYS, ODOT LOCATION AND DESIGN MANUAL, VOLUME 1, AND ALL REQUIREMENTS DETAILED IN THESE PLANS.

THIS SUBMITTAL SHALL CONSIST OF THREE (3) COPIES OF THE PLANS FOR REVIEW AND DISTRIBUTION. NO WORK SHALL BEGIN AT THE LOCATION UNTIL THE MAINTENANCE OF TRAFFIC PLANS HAVE BEEN APPROVED BY THE STARK COUNTY SANITARY ENGINEER.

THE PROGRESS SCHEDULE WILL BE REQUIRED TO APPROVE THE MAINTENANCE OF TRAFFIC PLANS. THIS SCHEDULE OF OPERATIONS SHALL DETAIL THE CONTRACTOR'S WORK ACTIVITIES AND HIS METHODS OF MAINTAING TRAFFIC DURING THESE ACTIVITIES. MAINTENANCE OF TRAFFIC PLANS SHALL BE PREPARED AND SUBMITTED TO THE STARK COUNTY SANITARY ENGINEER FOR APPROVAL. THESE PLANS SHALL BE SEALED BY A REGISTERED PRFESSIONAL ENGINEER. THE CITY SHALL HAVE 14 CALENDAR DAYS TO REVIEW AND COMMENT ON THESE PLANS. THE CONTRACTOR SHALL NOT BEGIN ANY WORK REQUIRING TRAFFIC CONTROL UNTIL THE ENGINEER HAS GIVEN APPROVAL OF THE CONTRACTOR'S SEQUENCE OF OPERATIONS AND MAINTENANCE OF TRAFFIC PLANS.

THE MAINTENANCE OF TRAFFIC SCHEME SHALL TAKE INTO CONSIDERATION SNOW AND ICE OPERATIONS FROM DECEMBER 1 THROUGH MARCH 31. LANE SHIFTS, RESTRICTIONS, AND CLOSURES MAY NOT BE APPROVED IF THEY ADVERSELY AFFECT SNOW REMOVAL OPERATIONS.

THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN.

FINAL APPROVAL

A VIDEO IN THE FORM OF DVD WILL BE MADE BY THE CONTRACTOR AND SUBMITTED TO THE STARK COUNTY SANITARY ENGINEER PRIOR TO THE PROJECT COMMENCING. AFTER THE FINAL INVOICE IS SUBMITTED THE SITE SHALL BE VIDEOED AGAIN BY THE CONTRACTOR. ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT. AS BUILT DRAWINGS SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE STARK COUNTY SANITARY ENGINEER IN A CLEAR AND LEGENDABLE MANNER PRIOR TO FINAL INVOICE.

COST OF THIS WORK SHALL BE INCLUDED IN ITEM 623 CONSTRUCTION STAKING

SANITARY SEWER SPECIFICATIONS

SANITARY GRAVITY SEWER PIPE AND FITTINGS SHALL BE PVC SDR 35 CONFORMING TO ASTM D-3034. PVC COMPOUNDS SHALL CONFORM TO ASTM D-2321 PVC PIPE AND FITTINGS SHALL HAVE BELL AND SPIGOT TYPE JOINTS CONFORMING TO ASTM D-3212 AND GASKETS CONFORMING TO ASTM C-923

BACKFILL IN SEWER TRENCHES SHALL CONFORM TO ODOT ITEM 603.10 AND BE PLACED IN LAYERS SUFFICIENT TO MEET THE COMPACTION REQUIREMENT OF 100% OF MAXIMUM LABORATORY DRY DENSITY PER ASTM D-698 AND THOROUGHLY COMPACTED WITH MACHINE MOUNDED COMPACTION EQUIPMENT. THE PLACING OF BACKFILL MATERIAL SHALL BE CONTINUED UNTIL THE TRENCH IS ENTIRELY FILLED AND COMPACTED WITH THE APPROVED GRANULAR MATERIAL TO THE GRADE CALLED FOR ON THE CONTRACT DRAWINGS. EXCAVATED MATERIAL CONFORMING TO ODOT ITEM 203 SHALL BE USED FOR BACKFILLING EXISTING STRUCTURES (AFTER REMOVAL) ONLY. CRUSHED GRAVEL CONFORMING TO GRADATION REQUIREMENTS OF ODOT ITEM 304 OR APPROVED EQUAL AS SHOWN IN ODOT TABLE 703-1 SHALL BE USED FOR BACKFILLING ALL SEWER TRENCH AREAS SHOWN ON THE PLANS AND AS DIRECTED BY THE STARK COUNTY SANITARY ENGINEER. FLOODING, JETTING, OR PUDDLING OF BACKFILL MATERIAL WILL NOT BE PERMITTED UNLESS APPROVED BY THE STARK COUNTY SANITARY ENGINEER. COMPACTION TESTING OF THE BACKFILL BY A GEOTECHNICAL ENGINEER MAY BE REQUIRED BY THE OWNER AT THE EXPENSE OF THE CONTRACTOR.

SANITARY SEWERS SHALL BE AIR TESTED FOR LEAKAGE AND MANDREL TESTED FOR DEFLECTION. THE MAXIMUM ALLOWABLE PIPE DEFLECTION SHALL BE 5%.

PRIOR TO FINAL PAYMENT FOR AND ACCEPTANCE OF SANITARY SEWER INSTALLATION THE RESULTS OF THE AIR PRESSURE TESTS, TELEVISION TESTS AND MADREL TESTS SHALL BE FORWARDED TO THE STARK COUNTY SANITARY ENGINEER.

DEFLECTION TESTING

MAXIMUM ALLOWABLE PIPE DEFLECTION (REDUCTION IN VERTICAL INSIDE DIAMETER) SHALL BE 5%. DEFLECTION TESTS OF PIPE SHALL BE PERFORMED NOT SOONER THAN 30 DAYS AFTER THE BACKFILL HAS BEEN PROPERLY PLACED AND BEFORE FINAL ACCEPTANCE. LOCATIONS WITH EXCESS DEFLECTION SHALL BE EXCAVATED AND REPAIRED BY RE-BEDDING OR REPLACEMENT OF THE PIPE AT THE CONTRACTOR'S EXPENSE. DEVICES FOR TESTING INCLUDE A DEFLECTOMETER METER, OR PROPERLY SIZED (60, NO-GO) MANDREL OR SEWER BALL.THE DEFLECTION TESTING MUST BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES. FOR THE PURPOSE OF DEFLECTION MEASUREMENTS, THE BASE INSIDE PIPE DIAMETERS WITHOUT DEFLECTION ARE PROVIDED IN TABLE A. THE MAXIMUM ALLOWABLE DEFLECTION SHALL BE APPLIED TO THE BASE INSIDE DIAMETER IN DETERMINING THE MINIMUM PERMISSIBLE DIAMETER. IT MUST BE EMPHASIZED THAT TO INSURE ACCURATE TESTING, THE LINES MUST BE THOROUGHLY CLEANED.

TABLE A
INSIDE DIAMETERS FOR DEFLECTION MEASUREMENTS
OF ASTM D 3034 SDR 35 / SDR 21 PVC SEWER PIPE

SIZE	SDR	AVG. O.D.	BASE I.D.	DEFLECTION MANDREL
6"	35	6.275	5.742	5.54
8"	35	8.400	7.665	7.28
10"	35	10.500	9.563	9.08
12"	35	12.500	11.361	10.79

NW NE SW SE N

VERTICAL SCALE IN FEET 1 .5 0

HORIZONTAL SCALE IN FEET 1 .5 0

CHECKED BY: KAD
DATE: MAR, 2023
DRAWN BY: JTD
DATE: MAR, 2023

REVISIONS:

DESCRIPTION	DATE

Walnut Woods Site Plan
General Notes
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KADMONDPRODNGINEERING.COM
WWW.CIVPRODNGINEERING.COM

DRAWING NAME:
REF NUMBER:

TELEVISION TESTING

ALL SANITARY SEWERS, 8-INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION. THE CONTRACTOR SHALL PROVIDE A COMPLETE INTERNAL INSPECTION DVD TO THE STARK COUNTY SANITARY DEPARTMENT. THE RECORDING PROCEDURE SHALL BE IN ACCORDANCE WITH STARK COUNTY SANITARY DEPARTMENT STANDARDS.

LEAKAGE TESTS

LEAKAGE TESTS SHALL BE PERFORMED WHICH MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE TESTING METHODS SELECTED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS DURING THE TEST AND ANTICIPATED DURING THE DESIGN LIFE OF THE SEWER COMPLETED AND ACCEPTED.

WATER (HYDROSTATIC) TEST

THE LEAKAGE EXFILTRATION OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY [9L/(MM OF PIPE DIAMETER KM D)] FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2 FEET (0.6 M).

AIR TESTING AS PER ASTM F1417

AIR TESTING WILL BE CONDUCTED AS THE PROJECT IS BEING CONSTRUCTED. AT NO TIME WILL MORE THAN 900 FEET OF PIPE BE INSTALLED BEFORE AIR TESTING IS PERFORMED. SEWAGE WILL NOT BE DIVERTED TO ANY SECTION OF PIPE, REGARDLESS OF LENGTH, UNTIL ALL TESTING IS COMPLETED AND ACCEPTED.

AFTER BACKFILLING A MANHOLE TO MANHOLE REACH OF SANITARY SEWER LINE, THE CONTRACTOR SHALL, AT HIS EXPENSE, CONDUCT THE LINE ACCEPTANCE TESTS. THE TESTS SHALL BE PERFORMED ACCORDING TO THE STATED PROCEDURES AND UNDER THE SUPERVISION OF THE STARK COUNTY SANITARY ENGINEER OR HIS REPRESENTATIVE.

EQUIPMENT USED SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS AND BE APPROVED BY THE STARK COUNTY SANITARY ENGINEER:

1: PNEUMATIC PLUGS SHALL HAVE A SEALING LENGTH EQUAL TO OR A GREATER THAN THE DIAMETER OF THE PIPE BEING INSPECTED.
2: PNEUMATIC PLUGS SHALL RESIST INTERNAL TEST PRESSURES WITHOUT REQUIRED EXTERNAL BRACING OR BLOCKING.
3: ALL AIR USED SHALL PASS THROUGH A SINGLE CONTROL PANEL.
4. THREE INDIVIDUAL HOSES SHALL BE USED FOR THE FOLLOWING CONNECTIONS:
   - a. FROM CONTROL PANEL TO PNEUMATIC PLUGS FOR INFLATION.
   - b. FROM CONTROL PANEL TO SEALED LINE FOR INTRODUCING THE LOW PRESSURE AIR.
   - c. FROM SEALED LINE TO CONTROL PANEL FOR CONTINUALLY MONITORING AIR PRESSURE RISE IN THE SEALED LINE.

ALL PNEUMATIC PLUGS SHALL BE SEAL TESTED BEFORE BEING USED IN THE ACTUAL TEST INSTALLATION. ONE LENGTH OF PIPE SHALL BE LAID ON THE GROUND AN SEALED AT BOTH ENDS WITH THE PNEUMATIC PLUGS TO BE CHECKED. THE SEALED PIPE SHALL BE PRESSURED TO 5 PSIG. THE PLUGS MUST HOLD AGAINST THIS PRESSURE WITHOUT HAVING TO BE BRACED.

AFTER A MANHOLE TO MANHOLE REACH OF PIPE HAS BEEN BACKFILLED AND CLEANED, AND THE PNEUMATIC PLUGS ARE CHECKED BY THE ABOVE PROCEDURE, THE PLUGS SHALL BE PLACED IN THE LINE AT EACH MANHOLE. LOW PRESSURE AIR SHALL BE SLOWLY INTRODUCED INTO THIS SEALED LINE UNTIL THE INTERNAL AIR PRESSURE REACHES APPROXIMATELY 4 PSIG.

AT LEAST TWO MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSIG, THE AIR HOSE FROM THE CONTROL PANEL TO THE AIR SUPPLY SHALL BE DISCONNECTED. THE PORTION OF THE LINE BEING TESTED SHALL BE TERMED "ACCEPTABLE" IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 2.5 PSIG (GREATER THEN THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE) SHALL NOT BE LESS THAN THE TIME SHOWN FOR THE GIVEN DIAMETERS IN THE FOLLOWING TABLE:

PIPE DIAMETER IN.	MINIMUM TIME MINUTES	LENGTH FOR MINUTES TIME, FT.	TIME FOR LONGER LENGTH, S	SPECIFICATION TIME LENGTH (L) SHOWN, MINUTES							
				100 FT.	150 FT.	200 FT.	250 FT.	300 FT.	350 FT.	400 FT.	450 FT.
4	3:46	597	0.380 L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	0.854 L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520 L	7:34	7:34	7:34	7:36	7:36	8:52	10:08	11:24
10	9:26	239	2.374 L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	198	3.416 L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	6.342 L	14:10	14:10	17:46	22:15	26:42	31:09	35:36	40:04
18	17:0	133	7.692 L	17:00	19:13	25:38	32:09	38:27	44:52	51:16	57:41
21	19:50	114	10.470 L	19:50	26:10	36:54	43:37	52:21	XX:XX	69.48	78:31
24	22:40	99	13.674 L	22:47	34:11	45:34	56:58	68:22	76:46	91:10	102:33
27	25:30	88	17.306 L	28:51	43:16	57:41	72:07	86:32	100:57	115:22	129:48
30	28:20	80	21.366 L	35:37	53:25	71:13	89:02	106:50	124:38	142:26	160:15
33	31:10	72	25.852 L	49:05	64:38	86:10	107:43	129:16	150:43	172:21	193:53
36	34:00	66	30.768 L	51:17	76:55	102:34	128:12	153:50	170.29	205:07	230:46

IN AREAS WHERE GROUND WATER IS KNOWN TO EXIST, THE CONTRACTOR SHALL INSTALL A 1/2 INCH DIAMETER CAPPED PIPE NIPPLE APPROXIMATELY 10 INCHES LONG, THROUGH THE MANHOLE WALL ON TOP OF ONE OF THE SANITARY SEWER LINES ENTERING THE MANHOLE. THIS SHALL BE DONE AT THE TIME THE SANITARY SEWER LINE IS INSTALLED. IMMEDIATELY PRIOR TO THE PERFORMANCE OF THE LINE ACCEPTABILITY TEST, THE GROUND WATER SHALL BE DETERMINED BY REMOVING THE PIPE CAP, BLOWING AIR THROUGH THE PIPE NIPPLE IN THE GROUND SO AS TO CLEAR IT, AND THEN CONNECTING A CLEAR PLASTIC TUBE TO THE NIPPLE. THE PLASTIC TUBE SHALL BE VERTICAL AND A MEASUREMENT OF THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. THE HEIGHT, IN FEET OF WATER OVER THE INVERT OF THE PIPE, SHALL BE TAKEN AFTER THE WATER HAS STOPPED RISING IN THIS PLASTIC TUBE. AIR TEST PRESSURE IS TO BE INCREASED BY 0.433 PSI FOR EACH FOOT THE GROUND WATER IS ABOVE THE INVERT OF THE SEWER LINE BEING TESTED. THE ALLOWABLE DROP OF ONE POUND AND THE TIMING OF THE TEST REMAIN THE SAME.

IF A LINE ACCEPTABILITY TEST IS BEING CONDUCTED ON MORE THAN ONE MANHOLE REACH OF PIPE, THE ENTIRE SECTION BEING TESTED SHALL MEET THE LINE ACCEPTABILITY REQUIREMENTS AS IF ONLY ONE (1) OF THE MANHOLE REACHES IN THE SECTION WERE BEING TESTED.

NEGATIVE AIR PRESSURE (VACUUM) TESTING OF MANHOLES AS PER ASTM C-1244

PREPARATION OF THE MANHOLE:

A. ALL LIFT HOLES SHALL BE PLUGGED

B. ALL PIPES ENTERING THE MANHOLE SHALL BE TEMPORARILY PLUGGED, TAKING CARE TO SECURELY BRACE THE PIPE AND PLUGS TO PREVENT THEM FROM BEING DRAWN INTO THE MANHOLE

PROCEDURE:

A. THE TEST HEAD SHALL BE PLACED AT THE TOP OF THE MANHOLE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. A VACUUM OF 10 IN. OF MERCURY SHALL BE DRAWN ON THE MANHOLE, THE VALVE ON THE VACUUM LINE OF THE TEST HEAD CLOSED, AND THE VACUUM PUMP SHUT OFF. THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 IN OF MERCURY.

C. THE MANHOLE SHALL PASS IF THE TIME FOR THE VACUUM READING TO DROP FROM 10 IN. OF MERCURY TO 9 IN. OF MERCURY MEETS OR EXCEEDS THE VALUES INDICATED IN TABLE BELOW.

MINIMUM TEST TIMES FOR MANHOLES

DEPTH (FT)	DIAMETER, IN.								
	30	33	36	42	48	54	60	66	72
	TIME, IN SECONDS								
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	46	51	57
16	22	24	39	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81

CLEAN WATER STATEMENT

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.

COMMENCING. AFTER THE FINAL INVOICE IS SUBMITTED THE SITE SHALL BE VIDEOED AGAIN BY THE CONTRACTOR. ANY DISCREPANCIES WILL BE RESOLVED PRIOR TO FINAL PAYMENT. AS BUILT DRAWINGS SHALL BE CREATED BY THE CONTRACTOR AND SUBMITTED TO THE CITY OF STARK COUNTY SANITARY ENGINEER IN A CLEAR AND LEGIBLE MANNER PRIOR TO FINAL INVOICE.

COST OF THIS WORK SHALL BE INCLUDED IN ITEM 623 CONSTRUCTION STAKING

RELATION TO WATER MAINS

SEWERS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.

SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER.

STARK COUNTY SANITARY FOR SCSD 27-15

CONNECTIONS TO EXISTING MANHOLES

(SEC. 16.09) ITEM 16C: WHERE EXISTING MANHOLES REQUIRE CONNECTIONS FOR PROPOSED SANITARY SEWER, THE CONTRACTOR SHALL CORE DRILL MANHOLES FOR OPENINGS REQUIRED, IF OPENINGS DO NOT EXIST. INLET AND OUTLET PIPES SHALL BE CONNECTED TO NEW AND EXISTING MANHOLES WITH A GASKETED FLEXIBLE WATERTIGHT CONNECTION SATISFYING ASTM C425 AND C443. KOR-N-SEAL BOOTS BY NPC, A-LOK PRODUCTS OR APPROVED EQUAL SHALL BE USED. ANY REWORK OF THE EXISTING MANHOLE BENCH REQUIRED TO PROVIDE A NEW CHANNEL FOR THE PROPOSED CONNECTION SHALL BE SUPPLIED. ANY BYPASSING OF FLOWS REQUIRED TO PERFORM THIS WORK SHALL ALSO BE SUPPLIED.

OHIO EPA NOTES

1. THE PROPOSED SANITARY SEWER MUST MAINTAIN A 10' HORIZONTAL SEPARATION FROM ALL WATER LINES. WHEN CROSSING A WATER LINE, A VERTICAL CLEARANCE OF 18" MUST BE MAINTAINED.

2. THE STORM SEWERS MUST MAINTAIN A 10' HORIZONTAL SEPARATION FROM ALL WATER LINES. WHEN CROSSING A WATER LINE, A VERTICAL CLEARANCE OF 18" MUST BE MAINTAINED.

NW NE SW SE N

VERTICAL IN FEET 1 .5 0

1 .5 0 HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR, 2023
DRAWN BY: JTD
DATE: MAR, 2023

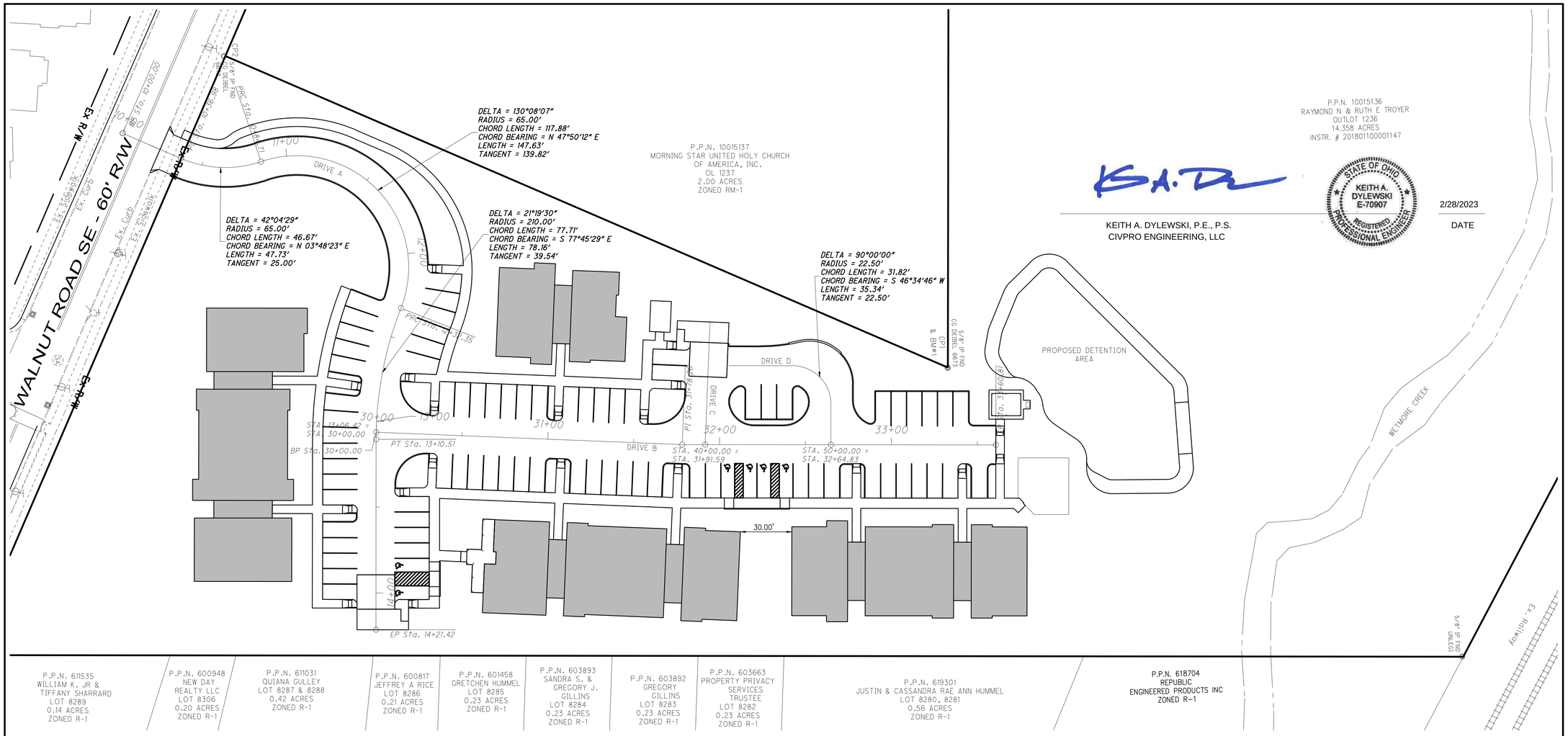
REVISIONS: DESCRIPTION DATE

Walnut Woods Site Plan
General Notes
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KAD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:



KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

2/28/2023
DATE

DRIVE A:

STATION	DESCRIPTION	NORTHING	EASTING
10+00.00	BEGIN	410028.8450	2242758.2795
10+36.98	PC	410062.4045	2242773.8173
10+60.85	PI	410085.0907	2242784.3209
10+84.71	PRC	410108.9685	2242776.9154
11+58.53	PI	410242.5166	2242735.4966
12+32.35	PRC	410188.0980	2242864.2958
12+71.43	PI	410172.7102	2242900.7160
13+10.51	PT	410171.6205	2242940.2386
14+21.42	END	410168.5635	2243051.1065

DRIVE B:

STATION	DESCRIPTION	NORTHING	EASTING
30+00.00	BEGIN	410171.7729	2242936.1529
31+78.26	PI	410349.6345	2242948.0581
33+60.81	END	410532.1178	2242953.0897

DRIVE C:

STATION	DESCRIPTION	NORTHING	EASTING
40+00.00	BEGIN	410362.9635	2242948.4256
40+71.48	END	410367.7371	2242877.1087

DRIVE D:

STATION	DESCRIPTION	NORTHING	EASTING
50+00.00	BEGIN	410436.1689	2242950.4441
50+23.50	PC	410436.8166	2242926.9531
50+41.17	PI	410437.4368	2242904.4616
50+58.84	PT	410414.9454	2242903.8415
50+95.93	END	410377.8700	2242902.8192

CONTROL

THE OHIO STATE PLAN COORDINATE SYSTEM, NORTH ZONE (3401) NAD 83 (2011) WAS USED FOR THIS PROJECT. ALL NORTHING AND EASTING VALUES ARE IN U.S. SURVEY FOOT.

DESCRIPTION	NORTHING	EASTING
CP1 (PKS)	410668.7839'	2242907.4667'
CP2 (PKS)	410088.9044'	2242714.8727'

BENCHMARK - BM#1

CP1 - IRON PIN FOUND CAPPED "CG DEIBEL 6673" AT THE BOUNDARY CORNER. SEE LOCATION CALLED OUT AS "CP1 & BM#1" ON THE MAP.

ELEV. = 991.077

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG

OHIO Utilities Protection SERVICE — Call Before You Dig 1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-800-925-0988

NW N NE W E SW SE S

VERTICAL FEET: 0 0 0

0 15 30

HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
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Walnut Woods Site Plan

Schematic Plan
City of Massillon OL 1236
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
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PHONE: (234) 410-3913 EMAIL: KADK@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:

FEMA FLOOD ZONE DATA:
FLOOD ZONE X; AREA OF MINIMAL FLOOD HAZARD
FLOOD PANEL - 39151C0192F
EFFECTIVE ON: 9/14/2018

XCB-1
T/G = 1003.791
12" Inv. = 1000.591

XCB-2
T/G = 1003.629
12" Inv. = 1001.129

XCB-3
T/G = 1003.638
12" Inv. = 1000.438
12" Inv. = 1000.438

XCB-4
T/G = 1003.103
10" Inv. = 999.403

XCB-5
T/G = 1000.641
12" Inv. = 996.431

XCB-6
T/G = 1000.508
8" Inv. = 997.658

CONTROL

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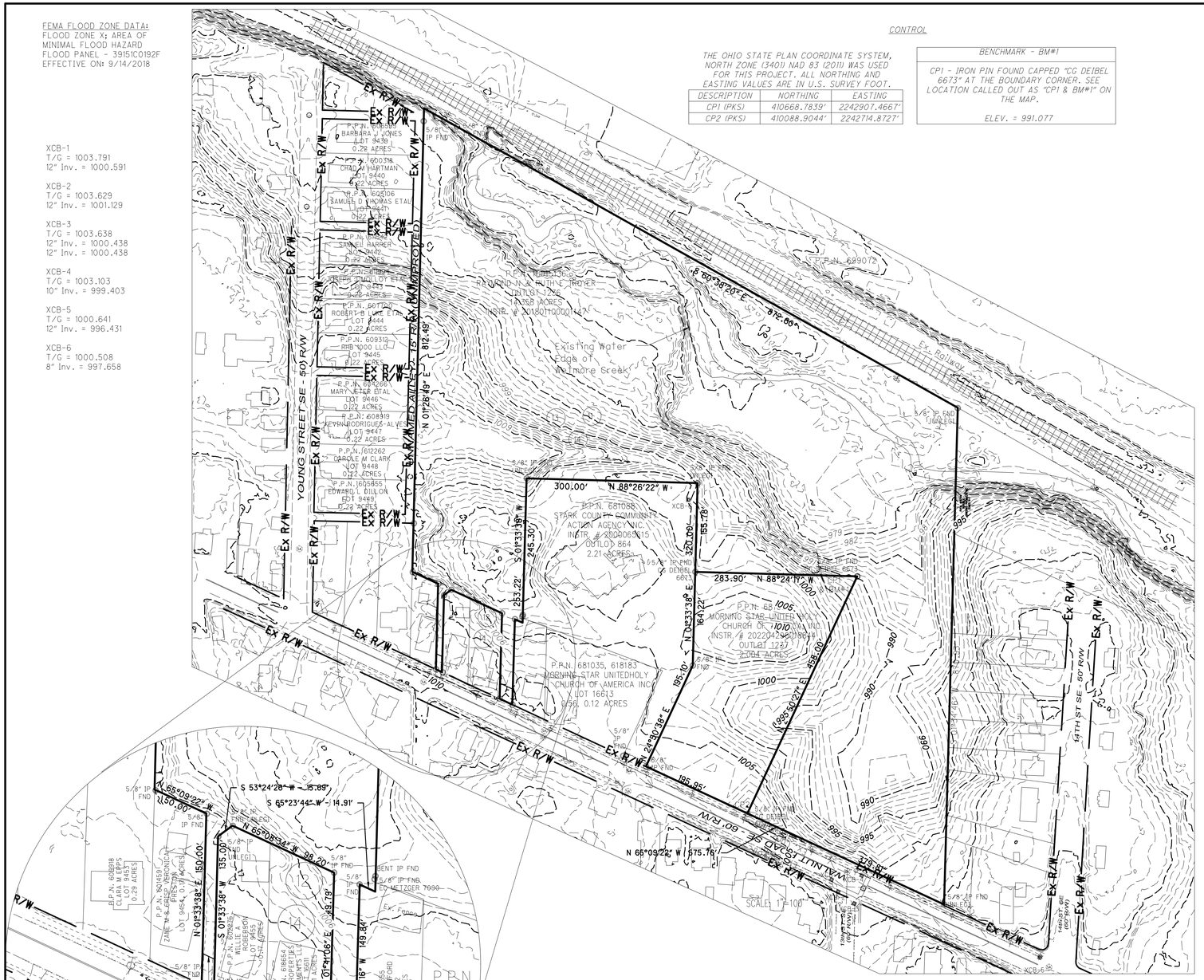
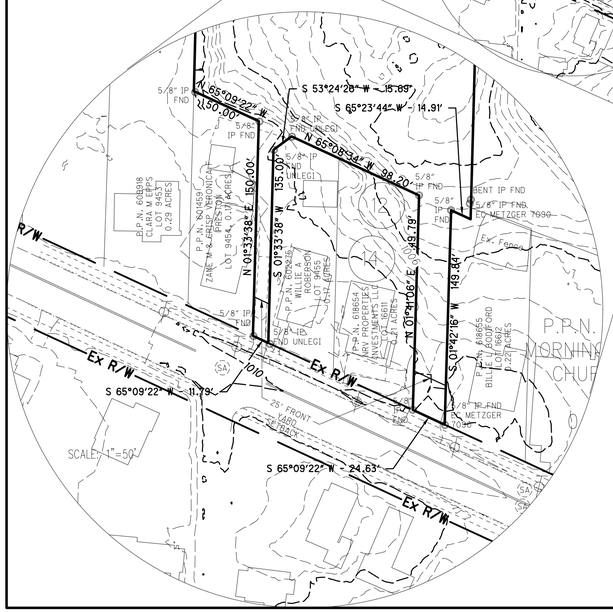
ELEV. = 991.077





LEGEND:

EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

ZONING REQUIREMENTS SUMMARY
(ZONED RM-1, MULTIPLE-FAMILY RESIDENTIAL DISTRICT)

MIN. LOT SIZE:	SEE NOTE 1
MIN. LOT WIDTH:	SEE NOTE 1
MAX. STRUCTURE HEIGHT:	2½ OR 25'
MIN. YARD SETBACKS	
FRONT:	25' SEE NOTE 2
SIDE:	15' SEE NOTE 2
REAR:	35' SEE NOTE 2
MIN. FLOOR AREA PER UNIT:	SEE NOTE 3
MAX. OF LOT AREA COVERED (BY ALL BUILDINGS)	25%
MAX. FLOOR AREA RATIO PER LOT:	0.5

NOTE 1: THE TOTAL NUMBER OF ROOMS IN A MULTIPLE-DWELLING STRUCTURE OF TWO AND ONE-HALF STORIES OR LESS SHALL NOT BE MORE THAN THE AREA OF THE PARCEL, IN SQUARE FEET DIVIDED BY 1,200. THE TOTAL NUMBER OF ROOMS IN A MULTIPLE DWELLING OF OVER TWO AND ONE-HALF STORIES SHALL NOT BE MORE THAN THE AREA OF THE PARCEL, IN SQUARE FEET DIVIDED BY 600. NOT MORE THAN TEN PERCENT (10%) OF THE UNITS ON ANY GIVEN PARCEL MAY BE OF AN EFFICIENCY APARTMENT TYPE. FOR THE PURPOSE OF COMPUTING ROOMS, THE FOLLOWING SHALL CONTROL:
EFFICIENCY AND MODIFIED APARTMENT UNIT = ONE ROOM
ONE BEDROOM UNIT = TWO ROOMS
TWO BEDROOM UNIT = THREE ROOMS
THREE BEDROOM UNIT = FOUR ROOMS
FOUR BEDROOM UNIT = FIVE ROOMS
PLANS PRESENTED SHOWING ONE, TWO OR THREE BEDROOM UNITS AND INCLUDING A DEN, LIBRARY OR OTHER EXTRA ROOM SHALL COUNT SUCH EXTRA ROOMS AS A BEDROOM FOR THE PURPOSE OF COMPUTING DENSITY.
THE AREA USED FOR COMPUTING DENSITY SHALL BE THE TOTAL SITE AREA EXCLUSIVE OF ANY DEDICATED PUBLIC RIGHT OF WAY OF EITHER INTERIOR OR BORDERING STREETS.

NOTE 2: IN RM-1 AND RM-2 MULTIPLE-FAMILY RESIDENTIAL DISTRICTS, THE MINIMUM AMOUNT OF USEABLE OPEN SPACE OR RECREATION AREA PER DWELLING UNIT, EXCLUSIVE OF A REQUIRED FRONT YARD, PARKING AREAS OR DRIVEWAYS, SHALL BE EQUAL TO 150 SQUARE FEET OF LOT AREA PER BEDROOM. A BALCONY OR ROOF SUNDECK OF FIFTY SQUARE FEET OR GREATER MAY BE COUNTED TOWARD MEETING THE MINIMUM AMOUNT OF OPEN SPACE PER DWELLING UNIT. IN ALL RM-1 AND RM-2 MULTIPLE RESIDENTIAL DISTRICTS, THE MINIMUM DISTANCE BETWEEN ANY TWO BUILDINGS SHALL BE REGULATED ACCORDING TO THE LENGTH AND HEIGHT OF SUCH BUILDINGS, HOWEVER, IN NO INSTANCE SHALL THIS DISTANCE BE LESS THAN THIRTY FEET. THE FORMULA REGULATING THE REQUIRED MINIMUM DISTANCE BETWEEN TWO BUILDINGS IS AS FOLLOWS:

$S = \frac{LA + LB + 2(HA + HB)}{6}$, WHERE

S = REQUIRED MINIMUM HORIZONTAL DISTANCE BETWEEN ANY WALL OF BUILDING A AND ANY WALL OF BUILDING B OR THE VERTICAL PROLONGATION OF EITHER.
LA = TOTAL LENGTH OF BUILDING A.
THE TOTAL LENGTH OF BUILDING A IS THE LENGTH OF THAT PORTION OR PORTIONS OF A WALL OR WALLS OF BUILDING A FROM WHICH, WHEN VIEWED DIRECTLY FROM ABOVE, LINES DRAWN PERPENDICULAR TO BUILDING A WILL INTERSECT ANY WALL OF BUILDING B.
LB = TOTAL LENGTH OF BUILDING B.
THE TOTAL LENGTH OF BUILDING B IS THE LENGTH OF THAT PORTION OR PORTIONS OF A WALL OR WALLS OF BUILDING B FROM WHICH, WHEN VIEWED DIRECTLY FROM ABOVE, THE LINES DRAWN PERPENDICULAR TO BUILDING B WILL INTERSECT ANY WALL OF BUILDING A.
HA = HEIGHT OF BUILDING A.
THE HEIGHT OF BUILDING A AT ANY GIVEN LEVEL IS THE HEIGHT ABOVE NATURAL GRADE LEVEL OF ANY PORTION OR PORTIONS OF A WALL OR WALLS ALONG THE LENGTH OF BUILDING A. NATURAL GRADE LEVEL SHALL BE THE MEAN LEVEL OF THE GROUND IMMEDIATELY ADJOINING THE PORTION OR PORTIONS OF THE WALL OR WALLS ALONG THE TOTAL LENGTH OF THE BUILDING.
HB = HEIGHT OF BUILDING B.
THE HEIGHT OF BUILDING B AT ANY GIVEN LEVEL IS THE HEIGHT ABOVE NATURAL GRADE LEVEL OF ANY PORTION OR PORTIONS OF A WALL OR WALLS ALONG THE LENGTH OF BUILDING B. NATURAL GRADE LEVEL SHALL BE THE MEAN LEVEL OF THE GROUND IMMEDIATELY ADJOINING THE PORTION OR PORTIONS OF THE WALL OR WALLS ALONG THE TOTAL LENGTH OF THE BUILDING.

NOTE 3: SEE THE MIN. FLOOR AREA PER FLOOR AREA PER UNIT BELOW:
1 BEDROOM: 500 S.F. 1 BEDROOM: 500 S.F.
1 BEDROOM: 500 S.F. 1 BEDROOM: 500 S.F.

FIDELITY NATIONAL TITLE INSURANCE COMPANY

FILE NO. 21-1290 COMMITMENT EFFECTIVE DATE: NOVEMBER 12, 2021 AT 7:29 AM

SCHEDULE B EXCEPTIONS

(#.) REFERENCE ANNOTATION WHEN SHOWN ON THE MAP.

(11.) OIL AND GAS LEASE GRANTED TO GREAT LAKES ENERGY PARTNERS, L.L.C., DATED APRIL 30, 2005, AND RECORDED JUNE 30, 2005, IN INSTRUMENT NUMBER 200506300042426, AND RE-RECORDED AUGUST 30, 2005, IN INSTRUMENT NUMBER 200508300005839?, STARK COUNTY RECORDS.

(12.) TERMS AND CONDITIONS OF THE EASEMENT FOR UTILITIES RESERVED IN DEED DATED JANUARY 13, 2003, AND RECORDED JANUARY 29, 2003, IN INSTRUMENT NUMBER 200301290008925, STARK COUNTY RECORDS.

(13.) OIL AND GAS LEASE GRANTED TO MB OPERATING CO., INC., DATED SEPTEMBER 21, 1994, AND RECORDED OCTOBER 7, 1994, IN VOLUME 1721, PAGE 674, STARK COUNTY RECORDS.

AGREEMENT OF PARTIAL RELEASE OF SURFACE RIGHTS BY MB OPERATING CO., INC., DATED JUNE 25, 1999, AND RECORDED AUGUST 6, 1999, IN INSTRUMENT NUMBER 1999060714, STARK COUNTY RECORDS.

(14.) OIL AND GAS LEASE GRANTED TO MB OPERATING CO., INC., DATED NOVEMBER 15, 1993, AND RECORDED DECEMBER 3, 1993, IN VOLUME 1548, PAGE 490, STARK COUNTY RECORDS.

AGREEMENT OF PARTIAL RELEASE OF SURFACE RIGHTS BY MB OPERATING CO., INC., DATED JUNE 25, 1999, AND RECORDED AUGUST 6, 1999, IN INSTRUMENT NUMBER 1999060714, STARK COUNTY RECORDS.

ALL OF THE ABOVE SCHEDULE B EXCEPTIONS ARE SHOWN ON THE MAP AND ARE BLANKET IN NATURE, COVERING ENTIRE LOTS OR OUTLOTS.

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

4/2/2023
DATE

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CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG
OHIO UTILITIES PROTECTION SERVICE
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(Non-members must be called directly)
OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

NW NE SW SE N

VERTICAL FEET 0 0 0

0 50 100
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS:

DATE	DESCRIPTION

Walnut Woods Site Plan
Existing Conditions Plan
City of Massillon OL 1236
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS · SURVEYORS · CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE AVE. NW, SUITE 400, CANTON, OHIO 44718
PHONE: (234) 410-3915 EMAIL: KAD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

4/2/2023
DATE

P.P.N. 10015136
RAYMOND N & RUTH E TROYER
OUTLOT 1236
14.358 ACRES
INSTR. # 201801100001147
ZONED RM-1

P.P.N. 10015137
MORNING STAR UNITED HOLY CHURCH
OF AMERICA, INC.
OL 1237
2.00 ACRES
ZONED RM-1

WALNUT ROAD SE - 60' R/W
13th ST. SE (60' R/W)
EX. R/W
EX. Sidewalk
EX. Curb
PROP. 28.94' CUT
EX. Gutter
EX. Sidewalk
136.46'
CONTRACTOR TO REPLACE/REPAIR SIDEWALK & CURB AS PART OF DRIVE APRON CONSTRUCTION.
48.10'
25' FRONT YARD SETBACK
SIDE YARD SETBACK
15' SIDE YARD SETBACK
BUILDING A
8 UNITS
F.F. = 993.00
S.F. = +/- 3,642
75.25'x51.75'
BUILDING D
16 UNITS
F.F. = 993.50
S.F. = +/- 8,385
159.17'x56.67'
OFFICE BUILDING
BUILDING C
13 UNITS
F.F. = 992.50
S.F. = +/- 7,321
148..08'x51.75'
BUILDING B
16 UNITS
F.F. = 990.00
S.F. = +/- 6,875
136.92'x51.75'
PROPOSED DETENTION AREA
PROPOSED DETENTION BASIN
SA
25.02'
20.54'
23.50'

P.P.N. 611535
WILLIAM K. JR &
TIFFANY SHARRARD
LOT 8289
0.14 ACRES
ZONED R-1

P.P.N. 600948
NEW DAY
REALTY LLC
LOT 8306
0.20 ACRES
ZONED R-1

P.P.N. 611031
QUIANA GULLEY
LOT 8287 & 8288
0.42 ACRES
ZONED R-1

P.P.N. 600817
JEFFREY A RICE
LOT 8286
0.21 ACRES
ZONED R-1

P.P.N. 601458
GRETCHEN HUMMEL
LOT 8285
0.23 ACRES
ZONED R-1

P.P.N. 603893
SANDRA S. &
GREGORY J.
GILLINS
LOT 8284
0.23 ACRES
ZONED R-1

P.P.N. 603892
GREGORY
GILLINS
LOT 8283
0.23 ACRES
ZONED R-1

P.P.N. 603663
PROPERTY PRIVACY
SERVICES
TRUSTEE
LOT 8282
0.23 ACRES
ZONED R-1

P.P.N. 619301
JUSTIN & CASSANDRA RAE ANN HUMMEL
LOT 8280, 8281
0.56 ACRES
ZONED R-1

P.P.N. 618704
REPUBLIC
ENGINEERED PRODUCTS INC
ZONED R-1

KEY:

1. PROP. CURB
2. PROP. INTEGRAL SIDEWALK & CURB
3. CONCRETE SIDEWALK
4. PROP CONCRETE CURB STOP
5. PROP. HANDICAP SIGNS
6. PROP. CONCRETE RAMP
7. PROP. TRASH ENCLOSURE
8. PROP. TRASH ENCLOSURE
9. PROP. PLAYGROUND
10. PROP. PICNIC SHELTER
11. PROP. FROST PROOF SLAB / CONCRETE SLAB SEE ARCHITECTAL DWG
12. PROP. CONCRETE DRIVE APRON
13. PROP. SEGMENTED RETAINING WALL (0-2 FEET TALL)

PROPOSED BUILDING AREA = 26,241 SF
PROPOSED PAVEMENT AREA = 34,612 SF

PARKING SUMMARY
REGULAR SPACES = 75
HANDICAPPED SPACES = 6
TOTAL = 81

LEGEND:

(X) PARKING SPACE COUNT
PROPOSED HEAVY DUTY ASPHALT PAVEMENT
PROPOSED LIGHT DUTY ASPHALT PAVEMENT
PROPOSED CONCRETE

FEMA FLOOD ZONE DATA:
FLOOD ZONE X; AREA OF MINIMAL FLOOD HAZARD
FLOOD PANEL - 39151C0192F
EFFECTIVE ON: 9/14/2018

CONTROL

THE OHIO STATE PLAN COORDINATE SYSTEM, NORTH ZONE (3401) NAD 83 (2011) WAS USED FOR THIS PROJECT. ALL NORTHING AND EASTING VALUES ARE IN U.S. SURVEY FOOT.

DESCRIPTION	NORTHING	EASTING
CP1 (PKS)	410668.7839'	2242907.4667'
CP2 (PKS)	410088.9044'	2242714.8727'

BENCHMARK - BM#1

CP1 - IRON PIN FOUND CAPPED "CG DEIBEL 6673" AT THE BOUNDARY CORNER. SEE LOCATION CALLED OUT AS "CP1 & BM#1" ON THE MAP.

ELEV. = 991.077

NOTES:
1. ALL DIMENSIONS AND CURVES RADII ARE AT EDGE OF PAVEMENT OR FACE OF CURB WHERE APPLICABLE UNLESS OTHERWISE NOTED.
2. PROVIDE CONTROL JOINTS ON CURBS EVERY 10' MAXIMUM, AND AT P.C.'S AND P.T.'S. PROVIDE EXPANSION JOINTS EVERY 30' MAXIMUM. FOR INTEGRAL CURBS AND WALK, ALIGN CURB JOINTS WITH WALK JOINTS.
3. CONTRACTORS SHALL VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
4. PAVEMENT MARKINGS SHALL BE INSTALLED PER ODOT ITEM 642, TYPE 1. THE PARKING STALL LINES SHALL BE WIDTH: 4", COLOR: WHITE. THE NON-PARKING AREAS ADJACENT TO THE ADA STALLS SHALL BE WIDTH: 4" ALIGNED: 45° DIAGONAL TO ADJACENT PARKING STALL LINES. ADA SYMBOL AND ASSOCIATED STRIPING SHALL BE ODOT STANDARD AND COLOR: BLUE
5. ALL EMBANKMENT UNDER NEW PAVEMENT SHALL BE COMPACTED WITH SELECT SITE MATERIAL PER ODOT SPECIFICATION 203.
6. ALL PROP. PARKING SPACES SHALL HAVE PARKING BLOCKS INSTALLED.
7. ALL RADII ARE 3' UNLESS OTHERWISE LABELED.

UNDERGROUND UTILITIES
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UNDERGROUND PROTECTION SERVICE
1-800-925-0988

SW NW SE NE N

VERTICAL FEET 0 0 0

0 15 30
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS:
DATE | DESCRIPTION

Walnut Woods Site Plan

Site Plan
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4456 BELDEN VILLAGE STREET NW, SUITE 101, CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KADYLEWSKI@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF. NUMBER:

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

4/3/2023
DATE

CONTROL

THE OHIO STATE PLAN COORDINATE SYSTEM, NORTH ZONE (3401) NAD 83 (2011) WAS USED FOR THIS PROJECT. ALL NORTHING AND EASTING VALUES ARE IN U.S. SURVEY FOOT.

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ELEV. = 991.077

FEMA FLOOD ZONE DATA:
FLOOD ZONE X: AREA OF MINIMAL FLOOD HAZARD
FLOOD PANEL - 39151C0192F
EFFECTIVE ON: 9/14/2018

ESTIMATED CUT & FILL CALCULATIONS:
TOTAL CUT VOLUME: 4,876 C.Y.
TOTAL FILL VOLUME: 8,406 C.Y.

NET: 3,530 C.Y. OF FILL

LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 991.48 / ×999.12 PROPOSED SPOT ELEVATIONS

NOTES:
1. ALL PROPOSED GRADES SHALL MEET EXISTING GRADES FLUSH.
2. A CUT FACTOR OF 1.00 AND A FILL FACTOR OF 1.00 WAS USED FOR THE ESTIMATED CUT & FILL CALCULATIONS. THEY WERE ESTIMATED SIMPLY BY COMPARING THE EXISTING SURFACE TO THE FINISHED GRADE SURFACE.
3. WHERE THE PAVEMENT MEETS THE FACE OF CURB OR THE FACE OF SIDEWALK, THE SPOT ELEVATION PROVIDED IS AT THE EDGE OF PAVEMENT. THE TOP OF CURB OR SIDEWALK IS TYPICALLY 6" HIGHER.
4. SEE DETAILS FOR SIDEWALK RAMPS.
5. GRADE AROUND THE BUILDINGS IS 8" BELOW THE FINISHED FLOOR EXCEPT AT THE ENTRYWAY.

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG

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(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

N

VERTICAL FEET: 0

0 10 20
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS:

DATE	DESCRIPTION

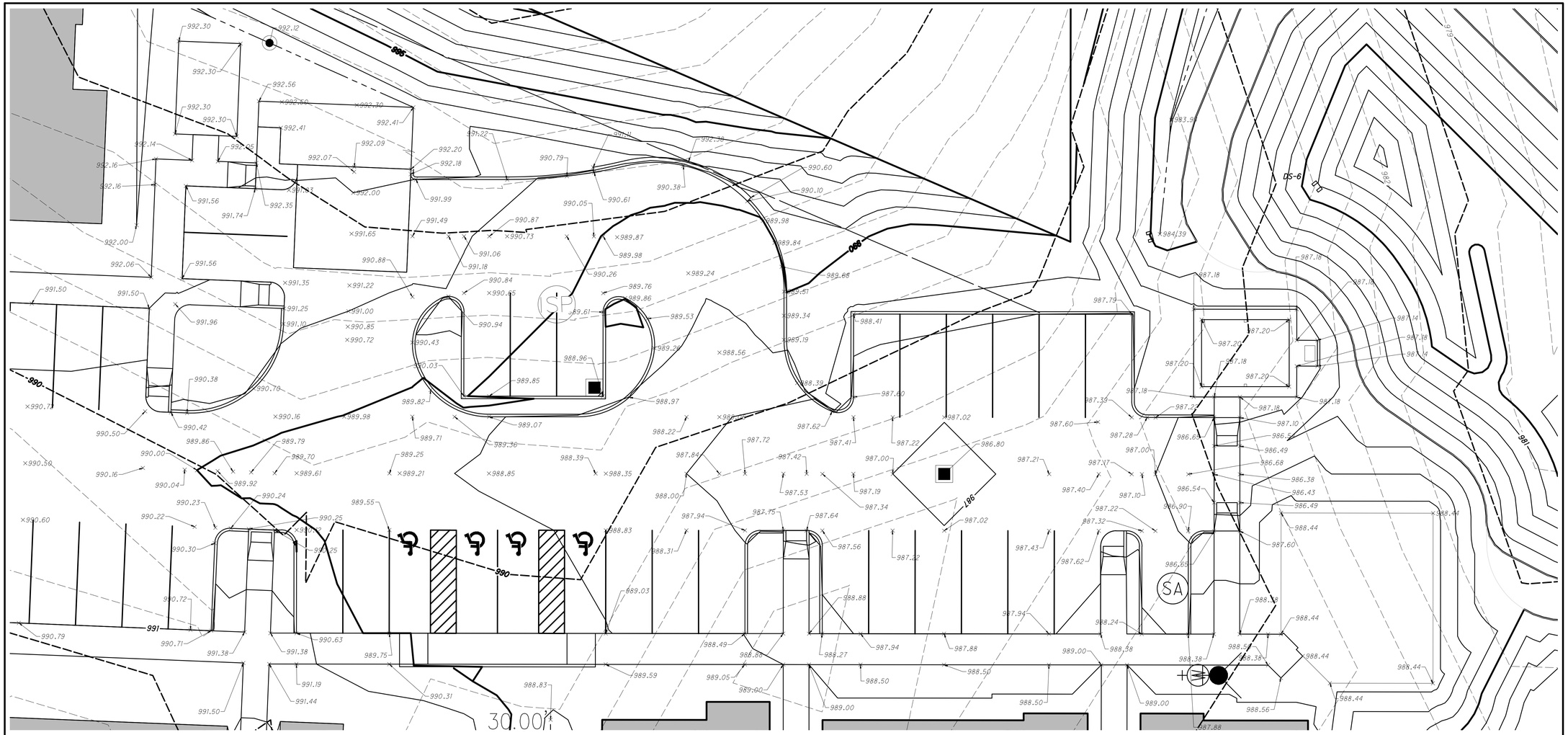
Walnut Woods Site Plan

Grading Plan
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4456 BELDEN VILLAGE AVE. NW, SUITE 101, CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KADYLEWSKI@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF. NUMBER:



KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED
PROFESSIONAL ENGINEER

2/28/2023
DATE

FEMA FLOOD ZONE DATA:
FLOOD ZONE X; AREA OF MINIMAL FLOOD HAZARD
FLOOD PANEL - 39151C0192F
EFFECTIVE ON: 9/14/2018

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TOTAL FILL VOLUME: 8,406 C.Y.

NET: 3,530 C.Y. OF FILL

LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- × 991.48 ×999.12 PROPOSED SPOT ELEVATIONS

CONTROL

THE OHIO STATE PLAN COORDINATE SYSTEM, NORTH ZONE (3401) NAD 83 (2011) WAS USED FOR THIS PROJECT. ALL NORTHING AND EASTING VALUES ARE IN U.S. SURVEY FOOT.

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(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
1-800-925-0988

NW NE SW SE N

VERTICAL FEET 0 0

0 5 10
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS:

DATE	DESCRIPTION

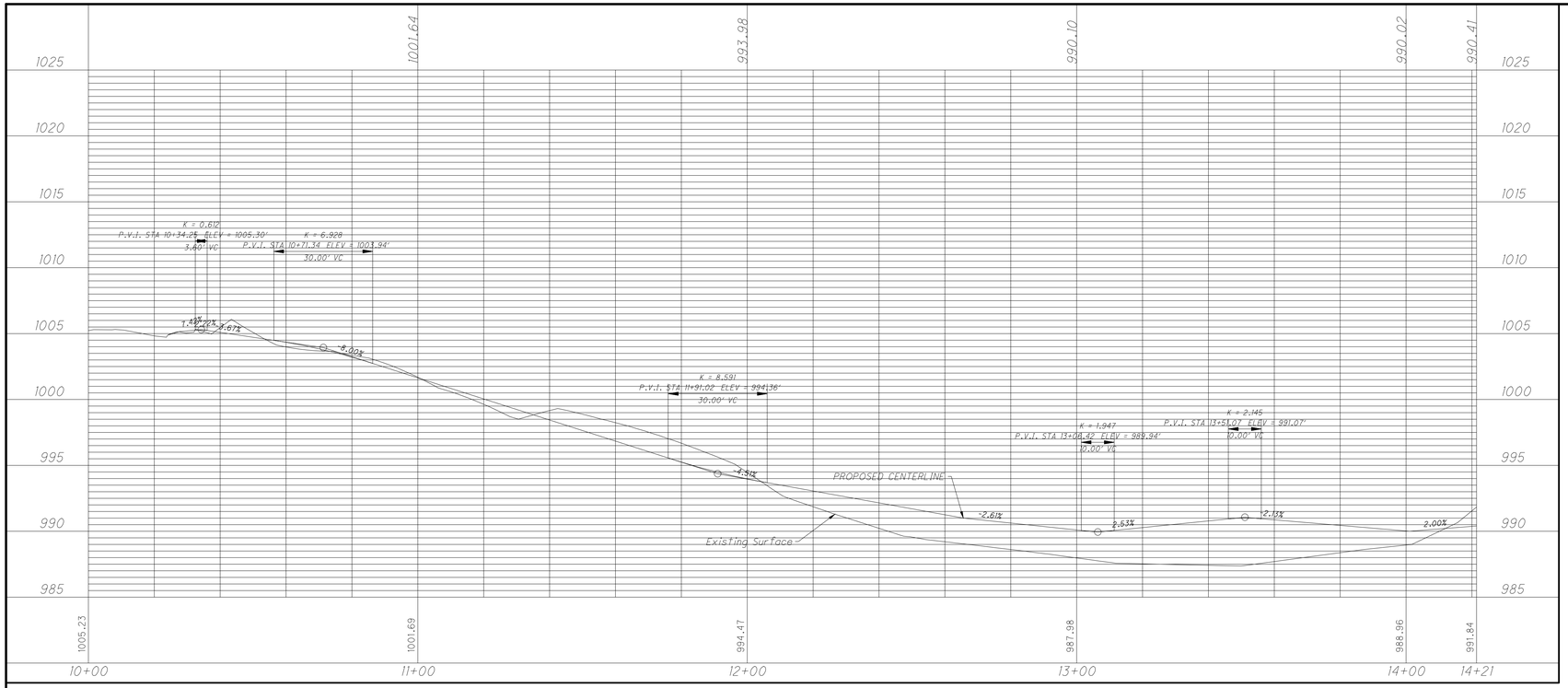
Walnut Woods Site Plan

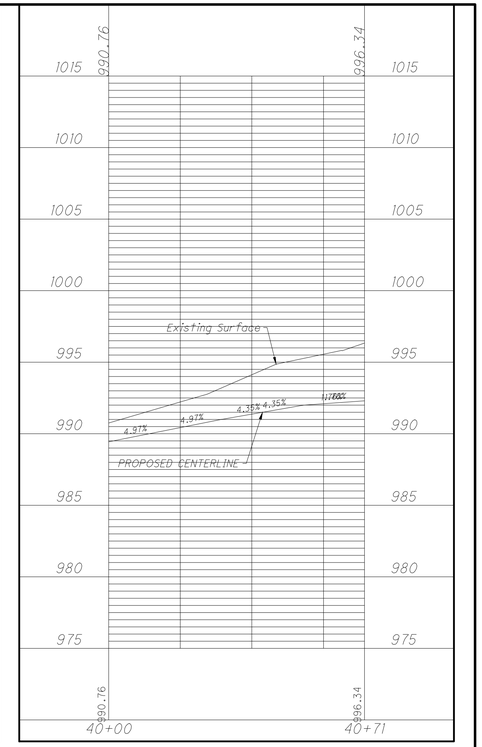
Grading Plan
City of Massillon
Stark County, Ohio

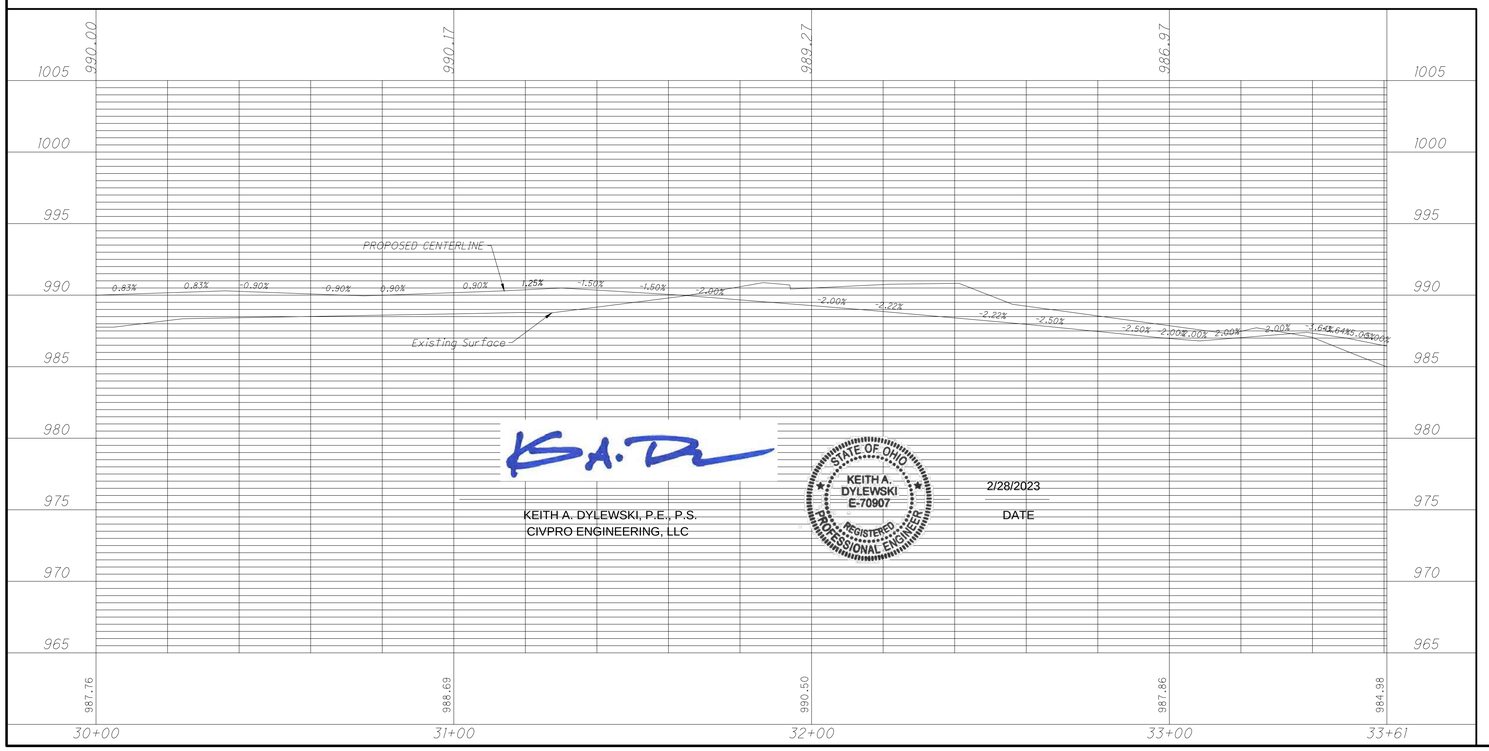
CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 801, CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KADK@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

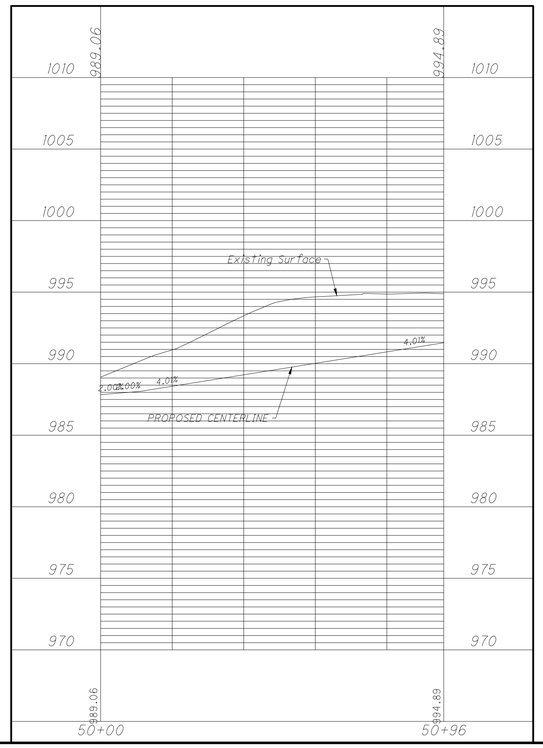
DRAWING NAME:

REF. NUMBER:









KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

2/28/2023
DATE

NW NE SW SE N

VERTICAL FEET: 5, 2.5, 0

0 5 10
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS:

DESCRIPTION	DATE

Walnut Woods Site Plan

Centerline Profiles
City of Massillon
Stark County, Ohio

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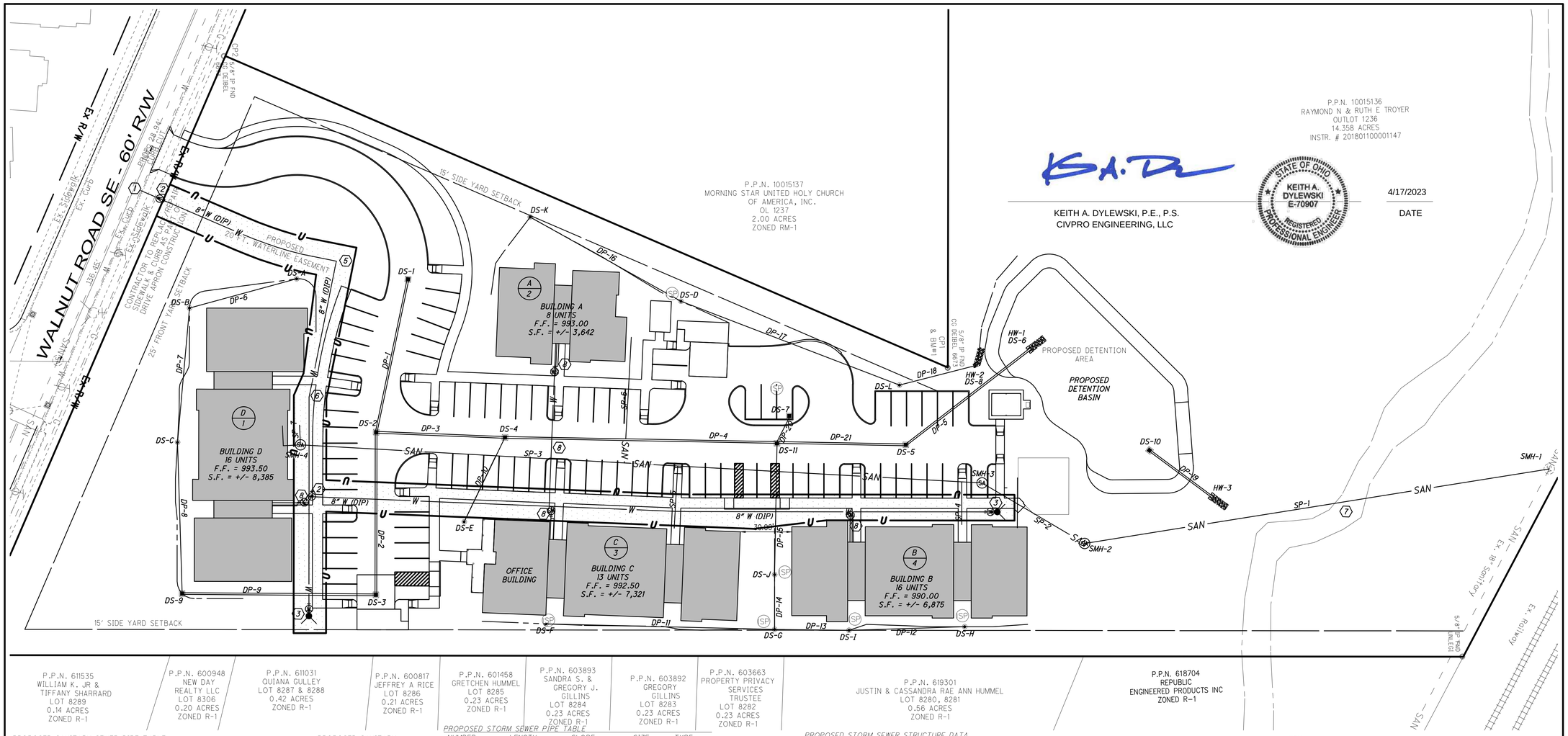
PHONE: (234) 410-3913 EMAIL: KADK@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME: Site Plan 1-10-23.dwg
REF NUMBER:



KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

4/17/2023
DATE

P.P.N. 611535
WILLIAM K. JR & TIFFANY SHARRARD
LOT 8289
0.14 ACRES
ZONED R-1

P.P.N. 600948
NEW DAY REALTY LLC
LOT 8306
0.20 ACRES
ZONED R-1

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P.P.N. 603892
GREGORY GILLINS
LOT 8283
0.23 ACRES
ZONED R-1

P.P.N. 603663
PROPERTY PRIVACY SERVICES TRUSTEE
LOT 8282
0.23 ACRES
ZONED R-1

P.P.N. 619301
JUSTIN & CASSANDRA RAE ANN HUMMEL
LOT 8280, 8281
0.56 ACRES
ZONED R-1

P.P.N. 618704
REPUBLIC ENGINEERED PRODUCTS INC
ZONED R-1

PROPOSED SANITARY SEWER PIPE TABLE

NUMBER	LENGTH	SLOPE	SIZE	TYPE
SP-1	274'	1.00%	8"	SDR35
SP-2	69'	5.67%	8"	SDR35
SP-3	397'	1.00%	8"	SDR35
SP-4	25'	1.00% MIN.	6"	SDR35
SP-5	36'	1.00% MIN.	6"	SDR35
SP-6	74'	1.00% MIN.	6"	SDR35
SP-7	12'	1.00% MIN.	6"	SDR35

**SEE BUILDING PLUMBING AND WATER PLANS P1-1 THRU P1-4 FOR SANITARY LATERAL AND WATER SERVICE BUILDING CONNECTIONS.

BASIC WATERLINE QUANTITIES

8" DI PIPE: 731 L.F.
8" SOLID SLEEVES: 1
8" GATE VALVES: 1
FIRE HYDRANT ASSEMBLIES: 2
RESTRAINED CAPS: 1
4" WATER SERVICE CONNECTIONS: 2" FIRELINES=4; 2" DOMESTIC SERVICES=4

FEMA FLOOD ZONE DATA:
FLOOD ZONE X; AREA OF MINIMAL FLOOD HAZARD
FLOOD PANEL - 39151C0192F
EFFECTIVE ON: 9/14/2018

CONTROL

THE OHIO STATE PLAN COORDINATE SYSTEM, NORTH ZONE (3401) NAD 83 (2011) WAS USED FOR THIS PROJECT. ALL NORTHING AND EASTING VALUES ARE IN U.S. SURVEY FOOT.

DESCRIPTION	NORTHING	EASTING
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CP2 (PKS)	410088.9044'	2242714.8727'

BENCHMARK - BM#1

CP1 - IRON PIN FOUND CAPPED "CG DEIBEL 6673" AT THE BOUNDARY CORNER. SEE LOCATION CALLED OUT AS "CP1 & BM#1" ON THE MAP.

ELEV. = 991.077

PROPOSED SANITARY SEWER STRUCTURE DATA

SMH-1 (1286 Wetmore Trunk)*
TYPE: EXISTING MANHOLE
N=410853.7309
E=2242975.5700
RIM = UNKNOWN
8" INV = 971.00
18" INV = APX. 970.5 W & E

SMH-2
TYPE: MASS1048-AGS
N=410516.7772
E=2242972.2560
RIM = 982.48
8" INV = 978.48
8" INV = 973.74

SMH-3
TYPE: MASS1048-AGS
N=410127.6480
E=2242946.2090
RIM = 987.54
8" INV = 982.39
8" INV = 982.39

SMH-4
TYPE: MASS1048-AGS
N=410127.6480
E=2242946.2090
RIM = 992.36
8" INV = 986.36

PROPOSED STORM SEWER PIPE TABLE

NUMBER	LENGTH	SLOPE	SIZE	TYPE
DP-1	91.6'	4.00%	10"	B (ODOT)
DP-2	94.7'	1.27%	12"	B (ODOT)
DP-3	74.4'	1.01%	18"	B (ODOT)
DP-4	158.4'	1.01%	18"	B (ODOT)
DP-5	91.8'	0.65%	24"	B (ODOT)
DP-6	64.6'	1.01%	6"	PVC
DP-7	78.5'	1.01%	6"	PVC
DP-8	88.1'	1.00%	8"	PVC
DP-9	112.8'	0.99%	10"	B (ODOT)
DP-10	54.6'	2.77%	6"	B (ODOT)
DP-11	133.1'	2.66%	6"	PVC
DP-12	67.3'	1.23%	8"	PVC
DP-13	43.3'	1.02%	8"	PVC
DP-14	31.9'	3.95%	10"	PVC
DP-15	74.5'	4.04%	10"	B (ODOT)
DP-16	100.5'	1.00%	12"	B (ODOT)
DP-17	136.2'	1.63%	12"	B (ODOT)
DP-18	45.5'	2.20%	12"	B (ODOT)
DP-19	44.3'	2.50%	12"	B (ODOT)
DP-20	15.6'	6.92%	6"	B (ODOT)
DP-21	75.0'	0.59%	24"	B (ODOT)

NOTES:
1. ALL EMBANKMENT UNDER NEW STRUCTURES SHALL BE COMPACTED WITH SELECT SITE MATERIAL PER ODOT SPECIFICATION 203.
2. MASS-V5630 SHALL BE INSTALLED PER LATEST ODOT SCD AND CMS, OR CITY OF MASSILLON APPROVED EQUAL.
3. ALL STRUCTURES REQUIRE SHOP DRAWING APPROVAL PRIOR TO INSTALLATION.
4. ALL SANITARY LATERALS SHALL HAVE A MINIMUM OF 3' OF COVER.
5. NO PRIVATE SUB METERS FOR WATER SERVICE.
*6. THE DATA FOR SMH-1 WAS RETRIEVED FROM THE CITY OF MASSILLON'S ONLINE, PUBLIC UTILITIES GIS THIS DATA SHOULD BE VERIFIED IN THE FIELD BEFORE CONSTRUCTION. THE SLOPE OF SP-1 COULD BE AFFECTED.
7. COORDINATE THE DOWNSPOUT LOCATIONS, TRENCH DRAINS, AND THE SANITARY SEWER LATERAL ELEVATION NEEDED AT THE BUILDINGS WITH THE ARCHITECTURAL PLAN.
8. ALL PROPOSED WATERLINE SHALL BE INSTALLED WITH A MINIMUM OF 4' OF COVER. SEWERS SHALL MAINTAIN A 18" MIN. OF VERTICAL SEPARATION FROM ALL SEWERS AT CROSSING POINTS.
9. NDS CATCH BASINS MAY BE USED WHEN SPECIFIED. THESE CATCH BASIN GRATES SHALL NOT BE TRAFFIC RATED. THE CATCH BASINS SHOULD BE LARGE ENOUGH TO FIT THE REQUIRED PIPES (SEE INVERT TABLE IN PLAN DETAILS).

PROPOSED STORM SEWER STRUCTURE DATA

DS-1
TYPE: ODOT 2-2C
N=2242847.6091
E=2242946.5840
T/G = 993.28
10" INV = 989.46

DS-2
TYPE: ODOT 2-2C
N=410171.7729
E=2242936.1529
T/G = 990.00
10" INV = 983.56
12" INV = 983.14
18" INV = 982.89

DS-3
TYPE: ODOT 2-2C
N=410169.1244
E=2243030.7661
T/G = 990.00
10" INV = 984.51
12" INV = 984.34

DS-4
TYPE: ODOT 2-2C
N=410246.6404
E=2242941.1642
T/G = 989.95
6" INV = 983.14
18" INV = 982.14

DS-5
TYPE: ODOT 2-2C
N=410479.7755
E=2242951.6465
T/G = 986.80
24" INV = 979.60

DS-6
TYPE: ODOT HW 2.1
N=410553.9709
E=2242897.5368
24" INV = 979.00

DS-7
TYPE: ODOT 2-2C
N=410412.3814
E=2242933.1152
T/G = 989.10
6" INV = 987.46

DS-8
TYPE: ODOT HW 2.1
N=410521.3898
E=2242906.5890
12" INV = 984.88

DS-9
TYPE: ODOT 2-2B
N=410056.4037
E=2243027.0457
T/G = 991.31
8" INV = 985.80
10" INV = 985.63

DS-10 (SEE DETAIL)
TYPE: MASS7030
N=410621.4378
E=2242958.6126
T/G = 984.44

DS-A
TYPE: NDS CB
N=410127.8515
E=2242845.6545
T/G = 991.53
6" INV = 988.28

DS-B
TYPE: NDS CB
N=4110065.0552
E=2242860.9814
T/G = 991.53
6" INV = 987.63
6" INV = 987.63

DS-C
TYPE: NDS CB
N=410056.0048
E=2242938.9535
T/G = 991.54
6" INV = 986.84
8" INV = 985.80

DS-D
TYPE: NDS CB
N=410351.1305
E=2242864.6100
T/G = 992.12
12" INV = 988.10
12" INV = 988.10

DS-E
TYPE: NDS CB
N=410221.5845
E=2242989.6316
T/G = 991.63
6" INV = 984.65

DS-F
TYPE: NDS CB
N=410267.5888
E=2243050.2738
T/G = 990.53
6" INV = 988.53

DS-G
TYPE: NDS CB
N=410400.5197
E=2243057.0513
T/G = 988.64
6" INV = 984.99
10" INV = 984.82

DS-H
TYPE: NDS CB
N=410511.1495
E=2243058.3851
T/G = 988.10
8" INV = 986.09

DS-I
TYPE: NDS CB
N=410443.8233
E=2243058.6962
T/G = 987.78
8" INV = 985.26
8" INV = 985.26

DS-J
TYPE: NDS CB
N=410401.3996
E=2243025.1635
T/G = 988.27
10" INV = 983.40
10" INV = 983.40

DS-K
TYPE: NDS CB
N=410264.6755
E=2242813.3010
T/G = 991.11
12" INV = 989.11

DS-L
TYPE: NDS CB
N=410476.9677
E=2242916.7770
T/G = 988.80
12" INV = 985.88

DS-11
TYPE: ODOT 2-2C
N=410404.8197
E=2242948.7637
T/G = 988.56
6" INV = 986.38
10" INV = 980.40
18" INV = 980.54
24" INV = 980.04

KEY:
1. PROP TAPPING SLEEVE AND VALVE PER AQUA WATER
2. PROP 8" VALVE
3. PROP HYDRANT ASSEMBLY, AS PER PLAN
5. 90 DEG. WATERLINE BEND
6. 11.25 DEG. WATERLINE BEND
7. BORE/DIRECTIONAL DRILL UNDER STREAM
8. 4" WATER SERVICE LINE - 2" FIRE LINE; 2" DOMESTIC

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG
OHIO UTILITIES PROTECTION SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)
OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

VERTICAL FEET 0 0 0
0 15 30
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: JTD
DATE: Dec. 2022

REVISIONS:

DATE	DESCRIPTION
4/17/23	CITY & SSWCD

Walnut Woods Site Plan
Utility Plan
City of Massillon
Stark County, Ohio

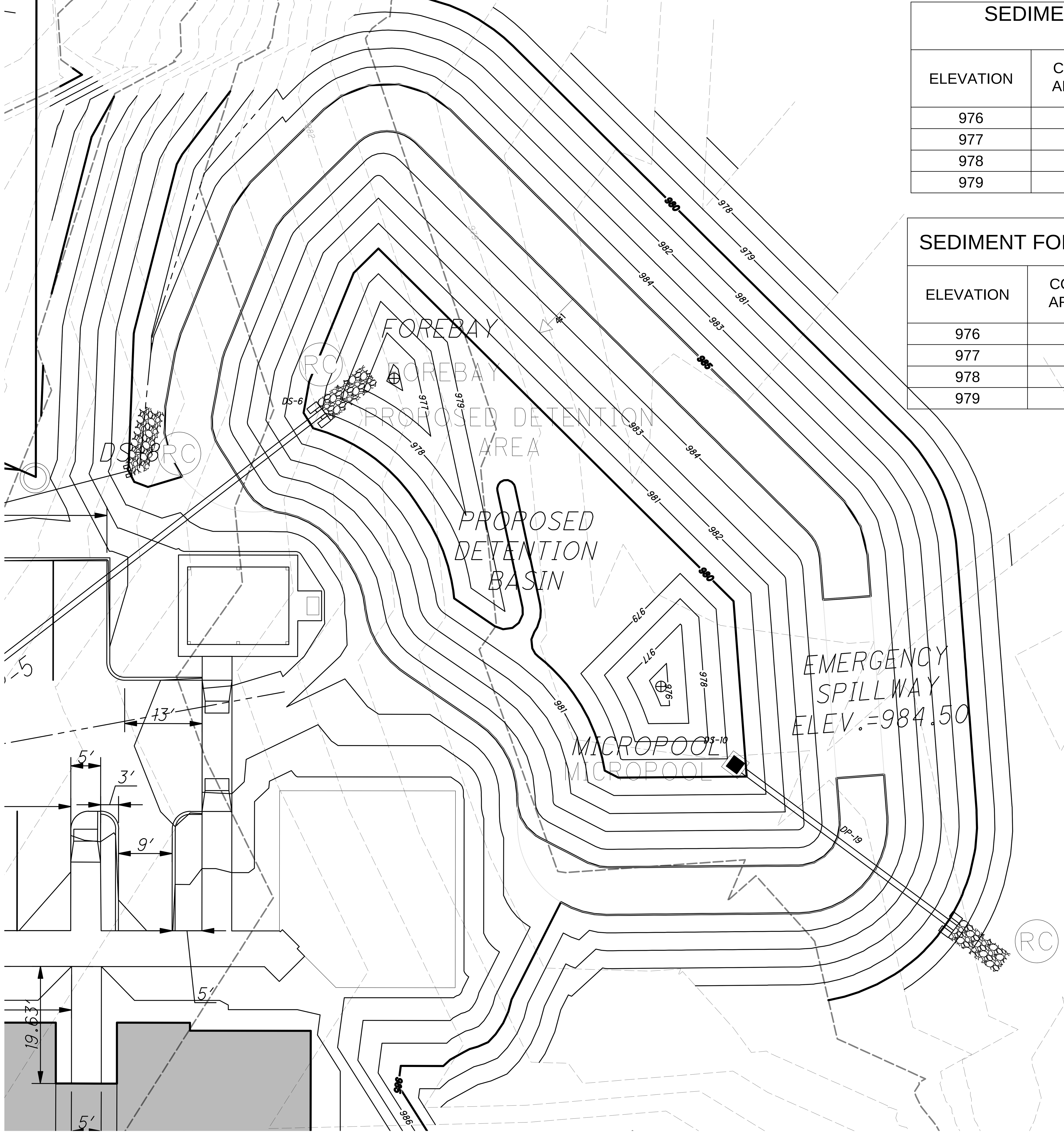
CIVPRO ENGINEERING
ENGINEERING • SURVEYING • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE AVE NW, SUITE 630, CANTON, OHIO 44718
PHONE: (234) 410-3913 EMAIL: KADK@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:

LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR



CONTROL

THE OHIO STATE PLAN COORDINATE SYSTEM, NORTH ZONE (3401) NAD 83 (2011) WAS USED FOR THIS PROJECT. ALL NORTHING AND EASTING VALUES ARE IN U.S. SURVEY FOOT.

DESCRIPTION	NORTHING	EASTING
CP1 (PKS)	410668.7839'	2242907.4667'
CP2 (PKS)	410088.9044'	2242714.8727'

BENCHMARK - BM#1

CP1 - IRON PIN FOUND CAPPED "CG DEIBEL 6673" AT THE BOUNDARY CORNER. SEE LOCATION CALLED OUT AS "CP1 & BM#1" ON THE MAP.

ELEV. = 991.077

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG

Ohio Utilities Protection Service

Call Before You Dig
1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

SEDIMENT MICROPOOL VOLUME INFORMATION

ELEVATION	CONTOUR AREA (FT^2)	INCREMENTAL VOLUME (FT^3)	CUMULATIVE VOLUME (FT^3)
976	15	0	0
977	107	54	54
978	275	185	239
979	715	485	724

SEDIMENT FOREBAY VOLUME INFORMATION

ELEVATION	CONTOUR AREA (FT^2)	INCREMENTAL VOLUME (FT^3)	CUMULATIVE VOLUME (FT^3)
976	5	0	0
977	86	37	37
978	278	173	210
979	1,064	636	846

FEMA FLOOD ZONE DATA:
FLOOD ZONE X; AREA OF MINIMAL FLOOD HAZARD
FLOOD PANEL - 39151C0192F
EFFECTIVE ON: 9/14/2018

ESTIMATED CUT & FILL CALCULATIONS:
TOTAL CUT VOLUME: 4,876 C.Y.
TOTAL FILL VOLUME: 8,406 C.Y.

NET: 3,530 C.Y. OF FILL

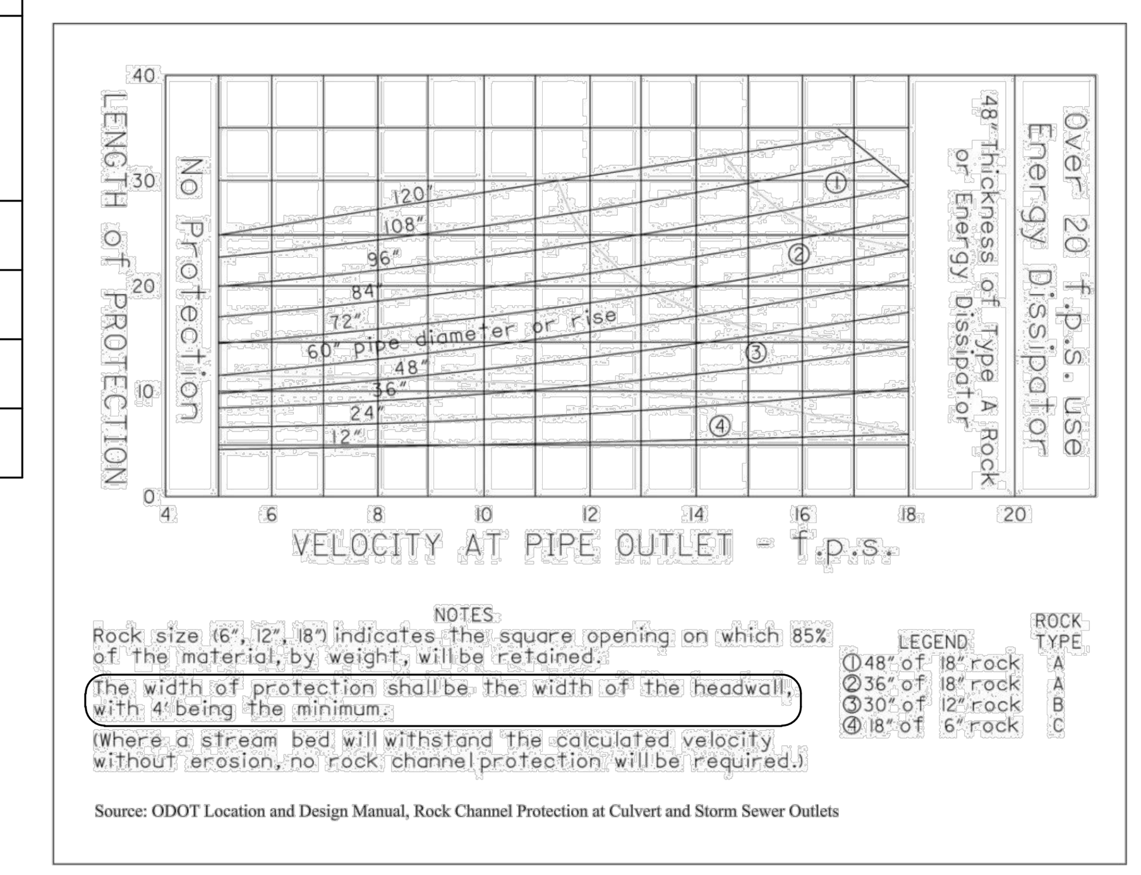


Figure 4.4.1 Length of Rock Outlet Protection and Rock Size

DS-6 (HW-1)	DS-8 (HW-2)	(HW-3)
DIAMETER: 24"	DIAMTER: 12"	DIAMTER: 12"
10 YR. VELOCITY: 6.26 FPS	10 YR. VELOCITY: 0.25 FPS	10 YR. VELOCITY: 2.14 FPS
LENGTH OF ROCK: 8'	LENGTH OF ROCK: 5'	LENGTH OF ROCK: 5'
DEPTH OF ROCK: 18"	DEPTH OF ROCK: 18"	DEPTH OF ROCK: 18"
ROCK SIZE: 6"	ROCK SIZE: 6"	ROCK SIZE: 6"
ROCK TYPE: C	ROCK TYPE: C	ROCK TYPE: C

24 CHAPTER 4 Permanent Runoff Control

NOTES:
1. THE TYPICAL BASIN SLOPE IS 3:1 UNLESS OTHERWISE LABELED ON THIS PLAN.
2. ⊕ = PLACEMENT OF A SEDIMENT MARKER.
3. THIS POST CONSTRUCTION STORMWATER BASIN MUST BE MAINTAINED. THE FOREBAY MUST BE RESTORED TO ITS ORIGINAL VOLUME WHEN SEDIMENT ACCUMULATES.
4. ALL EMBANKMENT UNDER PAVEMENT AND STRUCTURES SHALL BE COMPACTED WITH SELECT SITE MATERIAL PER ODOT SPECIFICATION 203.
5. ALL PROPOSED GRADES SHALL MEET EXISTING GRADES FLUSH.
6. A CUT FACTOR OF 1.00 AND A FILL FACTOR OF 1.00 WAS USED FOR THE ESTIMATED CUT & FILL CALCULATIONS. THEY WERE ESTIMATED SIMPLY BY COMPARING THE EXISTING SURFACE TO THE FINISHED GRADE SURFACE.

VERTICAL IN FEET
HORIZONTAL SCALE IN FEET (0, 5, 10)

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS:

DATE	DESCRIPTION
4/18/23	CITY & SSWCD

Walnut Woods Site Plan
Stormwater Management Basin
City of Massillon
Stark County, Ohio

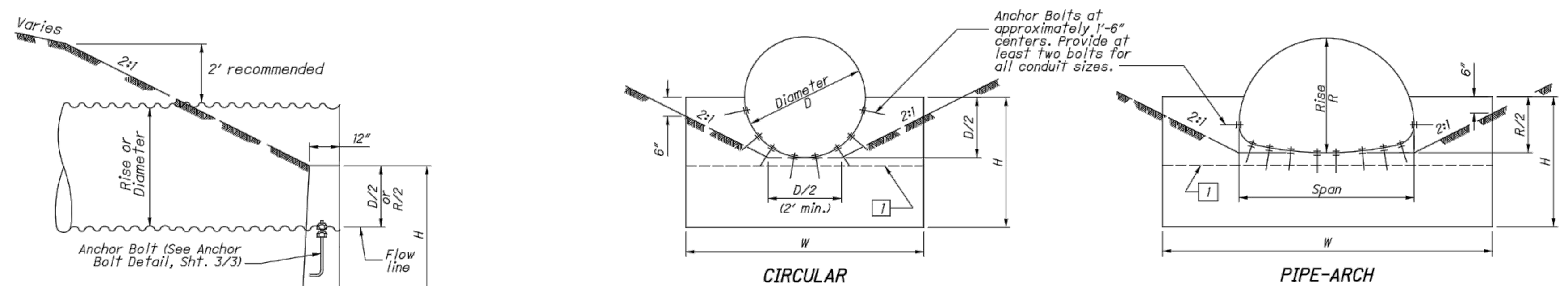
CIVPRO ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KAD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:
REF NUMBER:

ODOT HEADWALL (HW) 2.1 DETAIL

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

2/28/2023
DATE



METAL PIPE PROFILE W/ ANCHOR BOLT OPTION

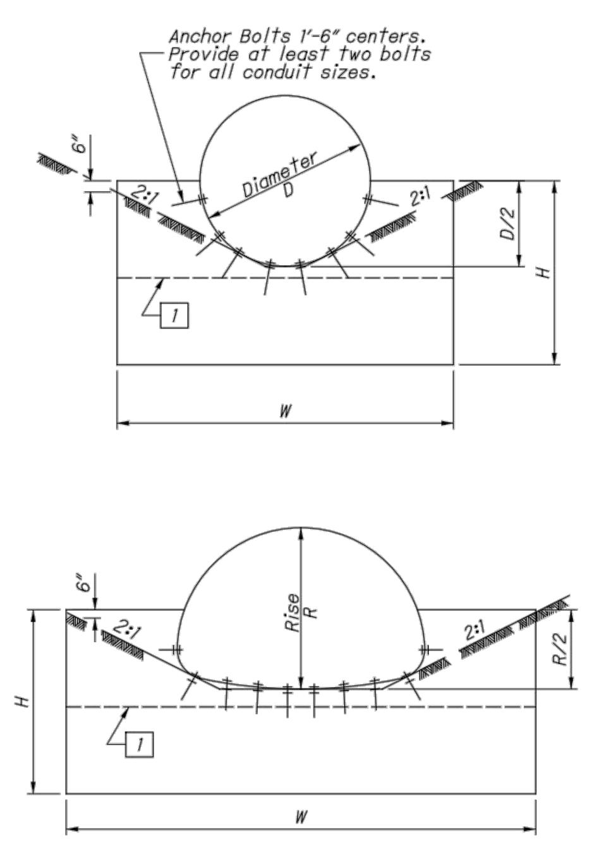
CIRCULAR — PIPE-ARCH

METAL PIPE END TREATMENT "A" W/ ANCHOR BOLT OPTION

CAST-IN-PLACE HW FOR CORRUGATED METAL PIPE & PLASTIC PIPE (English)																
CIRCULAR					PIPE ARCH						PIPE ARCH					
D	W	H	T	CONC. cu. yds.	SPAN	RISE	W	H	T	CONC. cu. yds.	SPAN	RISE	W	H	T	CONC. cu. yds.
12″	2′-0″	3′-0″	12″	0.21	2.67″x½″ Corrugations						*81″	59″	12′-4″	5′-5″	15″	2.14
15″	2′-6″	3′-2″	12″	0.27	17″	13″	3′-0″	3′-0″	12″	0.31	87″	63″	13′-0″	5′-7″	17″	2.50
18″	3′-0″	3′-3″	12″	0.33	21″	15″	3′-6″	3′-0″	12″	0.35	95″	67″	14′-0″	5′-9″	20″	3.14
21″	3′-6″	3′-4″	12″	0.39	24″	18″	4′-0″	3′-2″	12″	0.43	103″	71″	15′-0″	5′-11″	22″	3.54
24″	4′-0″	3′-6″	12″	0.46	28″	20″	4′-6″	3′-3″	12″	0.48	112″	75″	16′-0″	6′-1″	24″	3.96
27″	4′-6″	3′-8″	12″	0.53	35″	24″	5′-6″	3′-5″	12″	0.61	117″	79″	17′-9″	6′-3″	25″	4.89
30″	5′-0″	3′-9″	12″	0.60	42″	29″	6′-6″	3′-7″	12″	0.73	128″	83″	18′-0″	6′-5″	26″	5.01
33″	5′-6″	3′-10″	12″	0.68	49″	33″	7′-8″	3′-9″	12″	0.90	137″	87″	19′-0″	6′-7″	27″	5.45
36″	6′-0″	4′-0″	12″	0.76	57″	38″	9′-0″	4′-0″	12″	1.10	142″	91″	20′-9″	6′-9″	27″	6.31
39″	6′-6″	4′-2″	12″	0.84	64″	43″	10′-0″	4′-4″	12″	1.31	6″x2″ Corrugations (18″ Corner Radius)					
42″	7′-0″	4′-3″	12″	0.92	71″	47″	11′-0″	4′-8″	12″	1.54						
48″	8′-0″	4′-6″	12″	1.10	*77″	52″	11′-8″	5′-3″	12″	1.84	*6′-1″	4′-7″	11′-8″	5′-7″	12″	1.89
54″	9′-3″	4′-9″	12″	1.33	*83″	57″	12′-4″	5′-5″	15″	2.46	*6′-4″	4′-9″	12′-0″	5′-8″	14″	2.12
60″	10′-6″	5′-6″	12″	1.78	6″x2″ Corrugations (31″ Corner Radius)						*6′-9″	4′-11″	12′-4″	5′-9″	15″	2.42
66″	11′-9″	5′-9″	12″	2.06							*7′-0″	5′-1″	12′-8″	5′-10″	16″	2.44
72″	13′-0″	6′-0″	12″	2.37	13′-3″	9′-4″	23′-11″	7′-11″	32″	9.63	7′-3″	5′-3″	12′-11″	5′-11″	17″	2.69
78″	14′-3″	6′-3″	14″	2.94	13′-6″	9′-6″	24′-9″	8′-0″	32″	10.12	7′-8″	5′-5″	13′-2″	6′-0″	18″	2.77
84″	15′-6″	6′-6″	14″	3.30	14′-0″	9′-8″	24′-10″	8′-1″	33″	10.33	7′-11″	5′-7″	14′-0″	6′-1″	20″	3.15
90″	16′-9″	6′-9″	16″	4.00	14′-2″	9′-10″	25′-9″	8′-2″	33″	10.87	8′-2″	5′-9″	14′-8″	6′-2″	21″	3.45
96″	18′-0″	7′-0″	16″	4.40	14′-5″	10′-0″	26′-7″	8′-3″	33″	11.39	8′-7″	5′-11″	15′-0″	6′-3″	22″	3.75
102″	19′-3″	7′-3″	18″	5.28	14′-11″	10′-2″	26′-9″	8′-4″	34″	11.68	8′-10″	6′-1″	15′-10″	6′-4″	23″	4.15
108″	20′-6″	7′-6″	20″	6.21	15′-4″	10′-4″	26′-11″	8′-5″	34″	11.96	9′-4″	6′-3″	16′-0″	6′-5″	24″	4.65
114″	21′-9″	7′-9″	22″	7.25	15′-7″	10′-6″	27′-9″	8′-6″	34″	12.51	9′-6″	6′-5″	16′-10″	6′-6″	26″	4.93
120″	23′-0″	8′-0″	24″	8.38	15′-10″	10′-8″	28′-7″	8′-7″	35″	13.06	9′-9″	6′-7″	17′-9″	6′-7″	27″	5.41
*126″	23′-0″	8′-3″	26″	8.64	16′-3″	10′-10″	28′-8″	8′-8″	35″	13.34	10′-3″	6′-9″	17′-10″	6′-8″	27″	5.45
132″	23′-0″	8′-6″	28″	9.23	16′-6″	11′-0″	29′-7″	8′-9″	35″	13.94	10′-8″	6′-11″	17′-11″	6′-9″	27″	5.59
138″	24′-1″	8′-9″	30″	10.50	17′-0″	11′-2″	29′-8″	8′-10″	36″	14.24	10′-11″	7′-1″	18′-10″	6′-10″	28″	5.97
144″	25′-2″	9′-0″	32″	11.89	17′-2″	11′-4″	30′-7″	8′-11″	36″	14.84	11′-5″	7′-3″	18′-11″	6′-11″	28″	6.12
150″	26′-4″	9′-3″	34″	13.38	17′-5″	11′-6″	31′-5″	9′-0″	36″	15.42	11′-7″	7′-5″	19′-9″	7′-0″	28″	6.52
156″	27′-5″	9′-6″	36″	15.01	17′-11″	11′-8″	31′-7″	9′-1″	37″	15.83	11′-10″	7′-7″	20′-9″	7′-1″	29″	6.94
162″	28′-7″	9′-9″	38″	16.75	18′-1″	11′-10″	32′-5″	9′-2″	37″	16.43	12′-4″	7′-9″	20′-10″	7′-2″	29″	7.12
168″	29′-8″	10′-0″	40″	18.61	18′-7″	12′-0″	32′-6″	9′-3″	37″	16.78	12′-6″	7′-11″	21′-8″	7′-3″	29″	7.53
174″	30′-9″	10′-3″	42″	20.28	18′-9″	12′-2″	33′-4″	9′-4″	38″	17.43	12′-8″	8′-1″	22′-7″	7′-4″	30″	7.95
180″	31′-11″	10′-6″	43″	21.87	19′-3″	12′-4″	33′-5″	9′-5″	38″	17.78	12′-10″	8′-4″	23′-7″	7′-5″	30″	8.48
186″	33′-0″	10′-9″	44″	23.54	19′-6″	12′-6″	34′-5″	9′-6″	38″	18.49	13′-5″	8′-5″	23′-7″	7′-6″	30″	8.63
192″	34′-2″	11′-0″	45″	25.30	19′-8″	12′-8″	35′-3″	9′-7″	39″	19.19	13′-11″	8′-7″	23′-7″	7′-7″	31″	8.81
198″	35′-3″	11′-3″	46″	27.12	19′-11″	12′-10″	36′-3″	9′-8″	39″	19.95	14′-1″	8′-9″	25′-1″	7′-8″	31″	9.29
204″	36′-4″	11′-6″	47″	29.15	20′-5″	13′-0″	36′-3″	9′-9″	39″	20.30	14′-3″	8′-11″	25′-6″	7′-9″	31″	9.78
210″	37′-6″	11′-9″	48″	31.03	20′-7″	13′-2″	37′-2″	9′-10″	40″	21.05	14′-10″	9′-1″	25′-6″	7′-10″	32″	10.25
216″	38′-7″	12′-0″	49″	33.43	3″x1″ Corrugations						15′-4″	9′-3″	25′-6″	7′-11″	32″	10.25
222″	39′-9″	12′-3″	50″	36.26	40″	31″	6′-6″	3′-7″	12″	0.70	15′-6″	9′-5″	26′-5″	8′-0″	32″	10.74
228″	40′-10″	12′-6″	51″	37.52	46″	36″	7′-8″	3′-9″	12″	0.85	15′-8″	9′-7″	27′-5″	8′-1″	33″	11.28
234″	42′-0″	12′-9″	52″	39.86	53″	41″	9′-0″	4′-0″	12″	1.06	15′-10″	9′-10″	28′-5″	8′-2″	33″	12.00
240″	43′-1″	13′-0″	53″	42.28	60″	46″	10′-0″	4′-4″	12″	1.27	16′-5″	9′-11″	28′-5″	8′-3″	33″	12.09
246″	44′-2″	13′-3″	54″	44.83	66″	51″	11′-0″	4′-8″	12″	1.54	16′-7″	10′-1″	29′-4″	8′-4″	34″	12.64
252″	45′-4″	13′-6″	55″	47.44	*73″	55″	11′-8″	5′-3″	12″	1.81	--	--	--	--	--	--

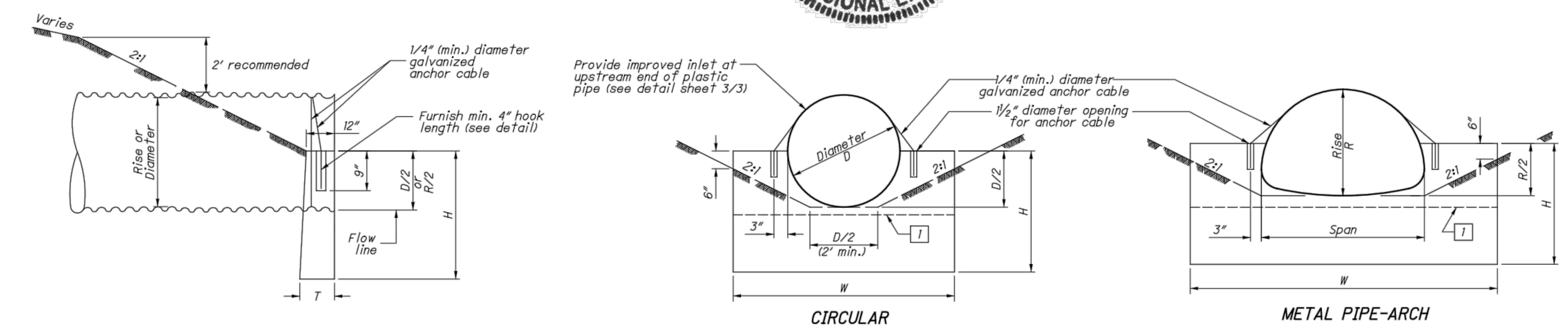
* Determine channel configuration for pipe sizes between end treatment "A" and end treatment "B" by 2:1 slopes passing through a point 6″ below the top and at each side of the headwall. For end treatment "B", 2:1 slopes are tangent to pipe.

[1] Top surface of 6″ inlet headwall extension



METAL PIPE END TREATMENT "B" W/ ANCHOR BOLT OPTION

STATE OF OHIO DEPARTMENT OF TRANSPORTATION — OFFICE OF STRUCTURAL ENGINEERING — HW-2.1 — HALF-HEIGHT HEADWALLS FOR CORRUGATED METAL PIPE AND PLASTIC PIPE — 1/4

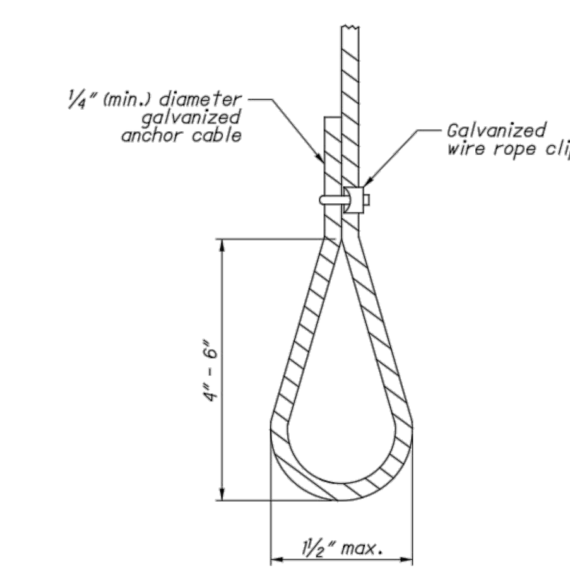


PLASTIC & METAL PIPE PROFILE W/ ANCHOR CABLE OPTION

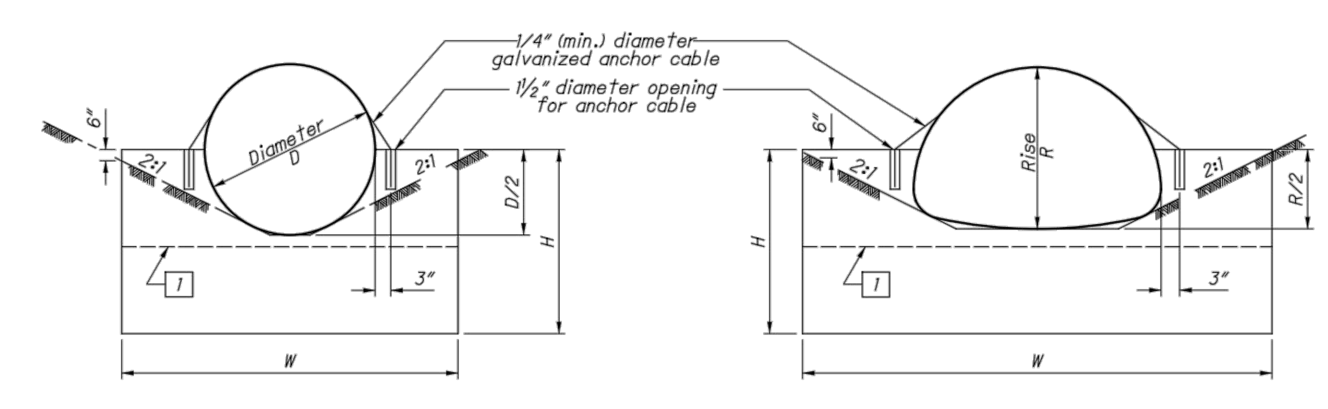
CIRCULAR — METAL PIPE-ARCH

PLASTIC & METAL PIPE END TREATMENT "A" W/ ANCHOR CABLE OPTION

[1] Top surface of 6″ inlet headwall extension



ANCHOR CABLE DETAIL



METAL PIPE END TREATMENT "B" W/ ANCHOR CABLE OPTION

NOTES

Tightly Wrap galvanized anchor cable one time completely around the circumference of the conduit. Furnish hook at least 4″ long at the ends of the anchor cable as shown above.

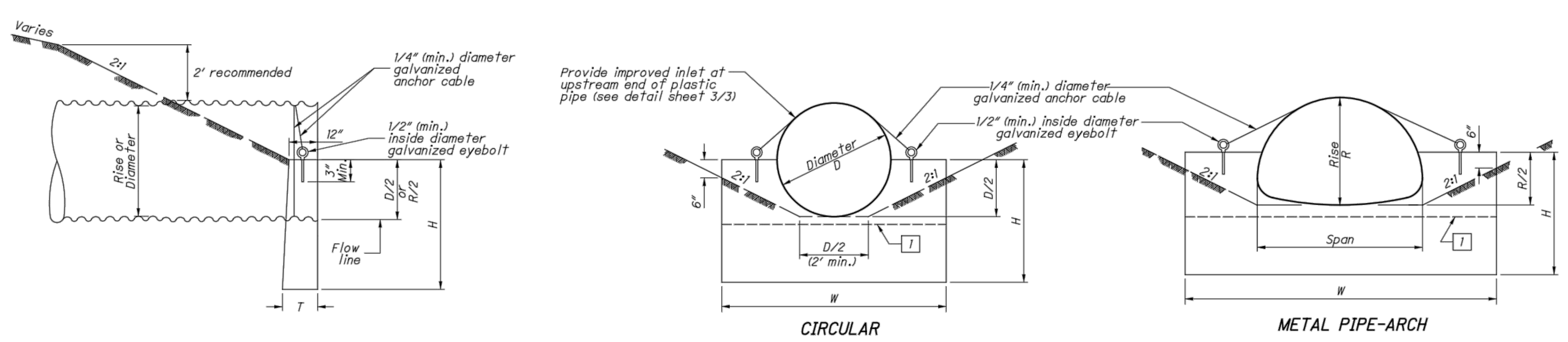
Cut galvanized anchor cable to length required.

Form or drill 1½″ diameter openings for anchor cable at locations shown. Alternatively, place anchor cable in wet concrete at the dimensions shown above to secure conduit to headwall.

Fill any openings made for anchor cables with grout after the cables are placed to a taut fit.

Secure cables such that they are taut after the grout or concrete has cured.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION — OFFICE OF STRUCTURAL ENGINEERING — HW-2.1 — HALF-HEIGHT HEADWALLS FOR CORRUGATED METAL PIPE AND PLASTIC PIPE — 2/4

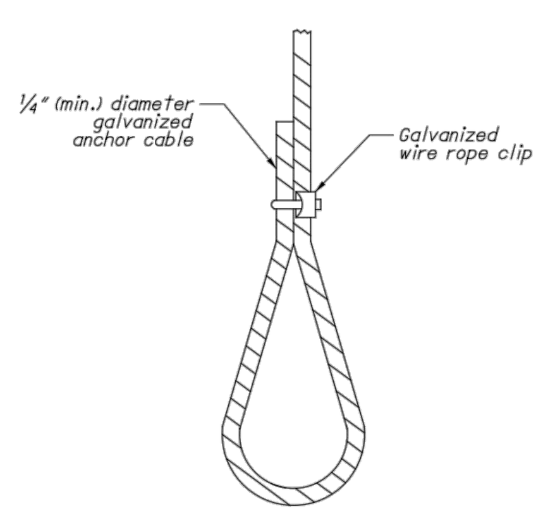


PLASTIC & METAL PIPE PROFILE W/ ANCHOR CABLE EYE BOLT OPTION

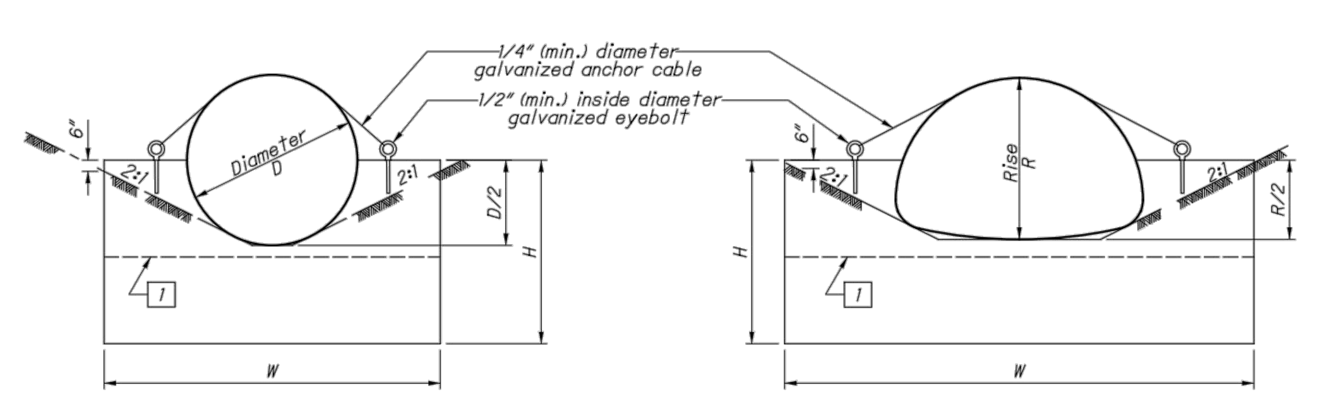
CIRCULAR — METAL PIPE-ARCH

PLASTIC & METAL PIPE END TREATMENT "A" W/ ANCHOR CABLE EYE BOLT OPTION

[1] Top surface of 6″ inlet headwall extension



ANCHOR CABLE DETAIL FOR EYEBOLT OPTION



METAL PIPE END TREATMENT "B" W/ ANCHOR CABLE EYE BOLT OPTION

NOTES

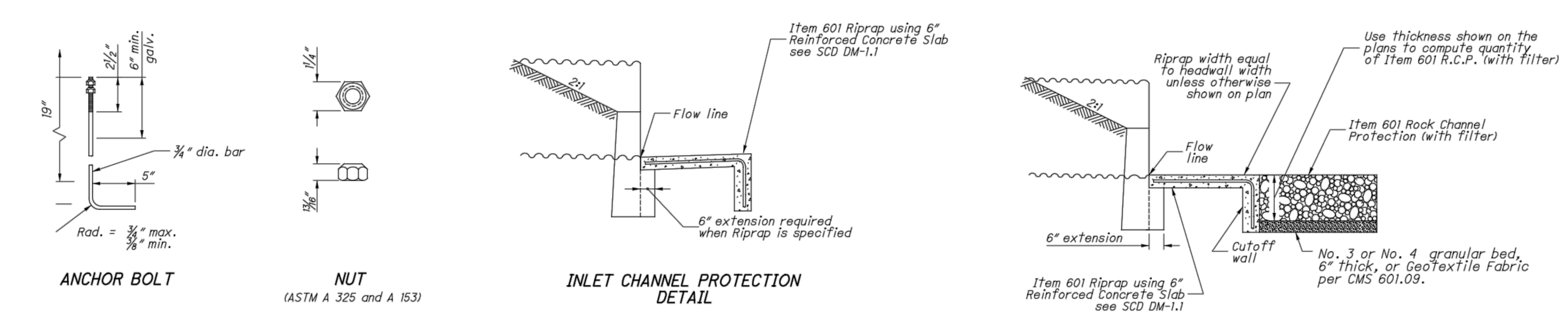
Drill openings a min. of 3″ deep for eyebolts at the locations shown. Insert entire length of bolt shank into opening. Fill openings with grout and allow to harden before securing anchor cable. Alternatively, place eyebolts in wet concrete at the locations shown above.

Tightly Wrap galvanized anchor cable one time completely around the circumference of the conduit.

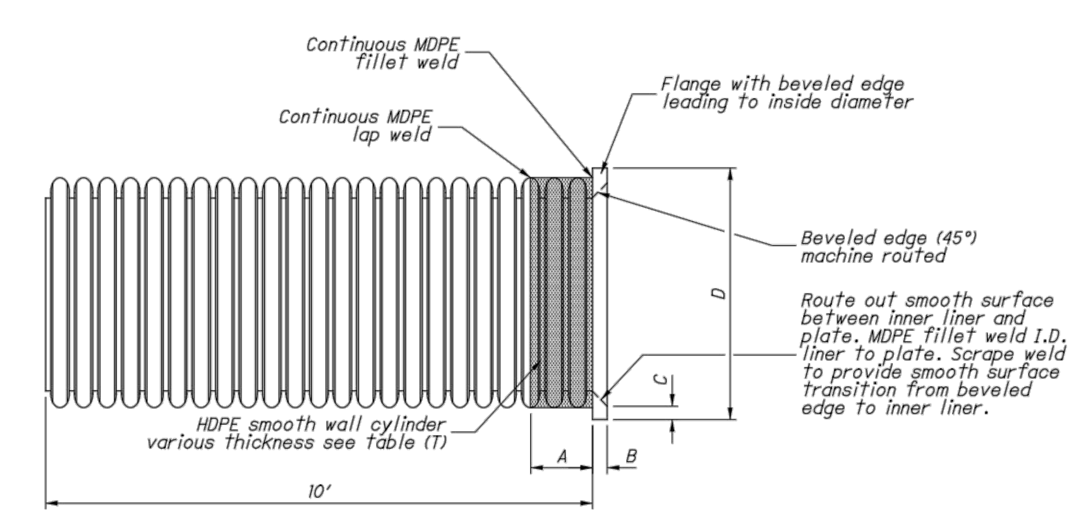
Cut galvanized anchor cable to length required.

Place cable through eyebolt and form a loop as shown in the above detail. Ensure the cable is pulled to a tight fit and secured with a galvanized wire rope clip.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION — OFFICE OF STRUCTURAL ENGINEERING — HW-2.1 — HALF-HEIGHT HEADWALLS FOR CORRUGATED METAL PIPE AND PLASTIC PIPE — 3/4



ANCHOR BOLT — NUT (ASTM A 325 and A 153) — INLET CHANNEL PROTECTION DETAIL — OUTLET CHANNEL PROTECTION DETAIL



HDPE IMPROVED INLET - TYPE A CONDUITS

PIPE SIZE	A	B	C	D	T
12 in.	6.00 in.	0.50 in.	1.00 in.	15.15 in.	0.13 in.
15 in.	6.00 in.	0.63 in.	1.26 in.	18.73 in.	0.19 in.
18 in.	6.00 in.	0.75 in.	1.50 in.	22.57 in.	0.25 in.
24 in.	8.00 in.	1.00 in.	2.00 in.	30.08 in.	0.25 in.
30 in.	8.00 in.	1.25 in.	2.50 in.	37.50 in.	0.38 in.
36 in.	10.00 in.	1.50 in.	3.00 in.	45.00 in.	0.38 in.
42 in.	10.00 in.	1.75 in.	3.50 in.	51.90 in.	0.38 in.
48 in.	10.00 in.	2.00 in.	4.00 in.	59.60 in.	0.38 in.
60 in.	12.00 in.	2.50 in.	5.00 in.	74.50 in.	0.38 in.

NOTES

GENERAL: Provide a riprap reinforced concrete slab according to SCD DM-1.1 if the pipe is depressed or it is specified in the plan. Payment for the slab is made per square yard of **Item 601 Riprap Using 6″ Reinforced Concrete Slab** and includes the cost of the cutoff wall.

This drawing is for cast-in-place half-height concrete headwalls. Precast half-height headwalls are only approved for round conduits with a maximum conduit diameter of 78″. When precast headwalls are furnished, provide openings for the anchor cable as shown and fill with grout after placement of the anchor cable. If anchor bolts are to be used with a precast headwall, fill the anchor cable openings with grout.

CONCRETE: Use 4000 psi compressive strength concrete for headwall. Concrete quantities are based on headwalls without the 6″ extension under the channel protection.

ANCHOR BOLTS: Furnish bolts (see detail sheet 2/3) that meet ASTM A 307 for anchoring both ends of metal pipe. The top 6″ min. of the bolt must be galvanized according to ASTM A 153. Cost of anchors is included in the price bid per foot of Item 611.

Headwall dimensions are based on end treatment "A" for pipe sizes up to and including 120″, 71″x47″, and 66″x51″, and on end treatment "B" for sizes over and including 132″, 13′-3″x9′-4″, and 7′-3″x5′-3″.

PLASTIC PIPE: Plastic pipe may not be available in all the sizes specified on this drawing.

ANCHOR CABLE: Furnish galvanized anchor cable (see detail sheet 2/4 & 3/4) that meets ASTM A 1023 for anchoring both ends of plastic or metal pipe. Wire rope clip must be galvanized according to ASTM A 153. Cost of anchor cable and wire rope clip is included in the unit price bid per foot of Item 611.

EYEBOLTS: Furnish eyebolts (see detail sheet 3/4) that meet ASTM A 489 for anchoring both ends of metal or plastic pipe. The eyebolts must be galvanized according to ASTM A 153. Furnish eyebolts with a min. I.D. eye of 1/2″ and a min. shank length of 3″. Cost of eyebolts is included in the price bid per foot of Item 611.

IMPROVED INLET FOR HDPE PIPE: Furnish improved inlet at upstream end of culverts and open-ended storm sewers using plastic pipe when specified in the plans.

Use HDPE smooth cap and flange materials according to ASTM D 3350 345464C.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION — OFFICE OF STRUCTURAL ENGINEERING — HW-2.1 — HALF-HEIGHT HEADWALLS FOR CORRUGATED METAL PIPE AND PLASTIC PIPE — 4/4

HORIZONTAL SCALE IN FEET

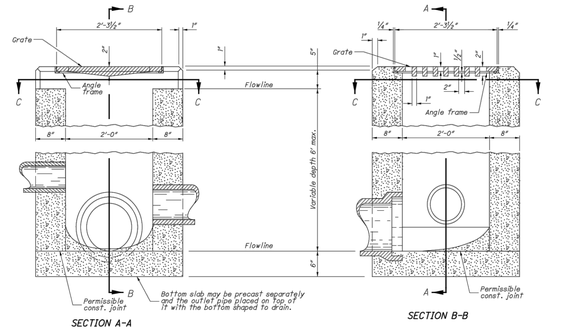
CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022
REVISIONS: DATE / DESCRIPTION

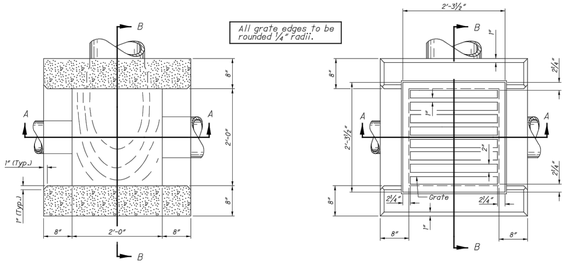
Walnut Woods Site Plan
Details
City of Massillon
Stark County, Ohio

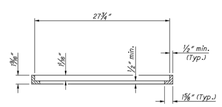
CIVPRO ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS

DRAWING NAME:
REF NUMBER:

ODOT CATCH BASIN (CB) 2-2A, 2-2B & 2-2C DETAIL







CATCH BASIN No. 2-2A

NOTES

GENERAL: Catch Basins 2-2A and 2-2B are not intended for use in roadway applications. Catch Basin 2-2C is intended for parking lot use only.

CATCH BASINS 2-2A, 2-2B & 2-2C: This sheet depicts Catch Basin 2-2A. See Sheet 2 of 2 for Catch Basin 2-2B & 2-2C.

GRATE AND FRAME: Furnish a design essentially the same and equally as strong as the one shown (see Construction Information Table), or meet the requirements of CMS 711.14. Provide grate openings and dimensions as shown here unless otherwise shown in the plans.

Cast the following text into the top of the grate:

"DUMP NO WASTE" and **"DRAINS TO WATERWAY"**

Print text in bold, capital letters at least ½" high. "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Construct brick or cast-in-place walls with a nominal 8" thickness. Provide precast walls at least 6" thick with sufficient reinforcing to permit shipping and handling without damage. Do not use brick above the flow line of the side opening for Type 2-2A.

CONCRETE: Use 4000 psi compressive strength for cast-in-place concrete. Meet the requirements of CMS 706.13 for all precast concrete and mark with the catch basin number.

PRECAST BASE: If a precast base is used, set it deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Do not use brick layers to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate.

MINIMUM DEPTH: The minimum depth of CB No. 2-2A is the outside diameter (O.D.) of the outlet pipe plus 1".

OPENINGS: Ensure pipe openings are the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per C&MS 611.

2-2A SIDE INLETS: Provide inlets on both sides of the No. 2-2A catch basin in sags and on upstream side only where the ditch has a continuous down grade past the catch basin. Do not use CB 2-2A within the Clear Zone. The flow line should be 4" to 6" below normal ditch returning to normal 10' to 15' each side of the inlet.

PAYMENT: All materials and labor, including excavation and backfilling, are paid for under **Item 611 – Catch Basin, No. 2-2A.**

CONSTRUCTION INFORMATION
Minimum weight of grate, 120 lbs.
Minimum weight of frame, 40 lbs.

CATCH BASIN	OUTLET PIPE SIZE
2-2A, 2-2B, 2-2C	12" to 21"

STATE OF OHIO DEPARTMENT OF TRANSPORTATION HYDRAULIC ENGINEER
Jeffery E. Syar

REVISIONS
7-15-05
7-20-12
1-18-13
1-15-16
7-20-18
7-19-19
7-16-21

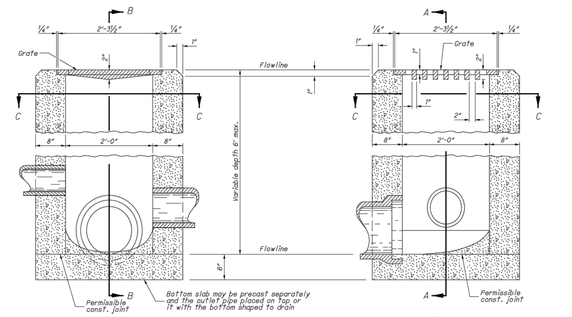
HIGHWAY HYDRAULIC ENGINEER
M. Cozzoli

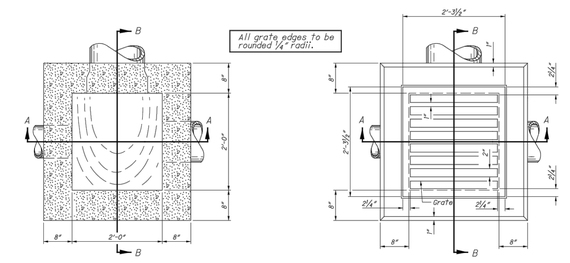
OFFICE OF HIGHWAY INVESTMENT MANAGEMENT
OFFICE OF HIGHWAY ENGINEERING

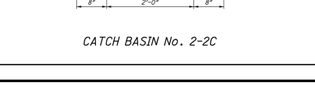
STANDARD HYDRAULIC CONSTRUCTION DRAWING
CATCH BASIN Nos 2-2A, 2-2B, 2-2C

DRAWING
CB-2-2A, 2-2B, 2-2C

1 / 2







CATCH BASIN No. 2-2B

NOTES

CATCH BASINS 2-2A, 2-2B & 2-2C: This sheet depicts Catch Basin 2-2B & 2-2C. See Sheet 1 of 2 for Catch Basin 2-2A.

CB-2-2B GRATE: Furnish a design essentially the same and equally as strong as the one shown (see Construction Information Table), or meet the requirements of CMS 711.14. Provide grate openings and dimensions as shown here unless otherwise shown in the plans.

If necessary, bicycle safe grates will be specified in the plans. Furnish Neenah No. R-4859-S or EJ No. 5110M3 (0051043) grates or approved equals.

Place grate elevation 4" to 6" below normal ditch and return to normal 10' to 15' each side of inlet.

CB-2-2C FRAME & GRATE: Where the catch basin is specified for use in a parking lot, furnish Neenah No. R-1878-ASC or EJ No. V-5622 (45622010) frame and V-5620 (45620030) grate or approved equals. If necessary, bicycle safe grates will be specified in the plans. Furnish Neenah No. R-3403 grate or EJ No. 5250M (0052503) grate or approved equals.

On cast-in-place and precast units, provide a level surface on the catch basin 4" below the plan grate elevation for setting the frame and grate assembly. Provide a concrete apron to encase and secure the frame of a width not less than the thickness of the catch basin walls that the frame was placed on or as shown in the plans. Slope apron to provide local depression.

GRATE TEXT: Cast the following text into the top of the grate:

"DRAINS TO WATERWAY" and **"DUMP NO WASTE"**

Print text in bold, capital letters at least 1/2" high. "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Construct brick or cast-in-place walls with a nominal 8" thickness. Provide precast walls at least 6" thick with sufficient reinforcing to permit shipping and handling without damage.

CONCRETE: Use 4000 psi compressive strength for cast-in-place concrete. Meet the requirements of CMS 706.13 for all precast concrete and mark with the catch basin number.

PRECAST BASE: If a precast base is used, set it deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Do not use brick layers to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate.

MINIMUM DEPTH: The minimum depth of CB No. 2-2B is the outside diameter (O.D.) of the outlet pipe plus 4". The minimum depth of CB No. 2-2C is the outside diameter (O.D.) of the outlet pipe plus 8".

OPENINGS: Ensure pipe openings are the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any voids per C&MS 611.

PAYMENT: All materials and labor, including excavation and backfilling, are paid for under **Item 611 – Catch Basin, No. 2-2B or 2C.**

CONSTRUCTION INFORMATION
Minimum weight of grate, 120 lbs.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION HYDRAULIC ENGINEER
Jeffery E. Syar

REVISIONS
7-15-05
7-20-12
1-18-13
1-15-16
7-20-18
7-19-19
7-16-21

HIGHWAY HYDRAULIC ENGINEER
M. Cozzoli

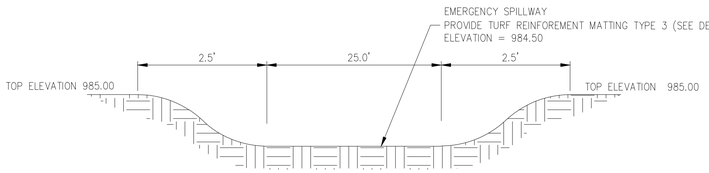
OFFICE OF HIGHWAY INVESTMENT MANAGEMENT
OFFICE OF HIGHWAY ENGINEERING

STANDARD HYDRAULIC CONSTRUCTION DRAWING
CATCH BASIN Nos 2-2A, 2-2B, 2-2C

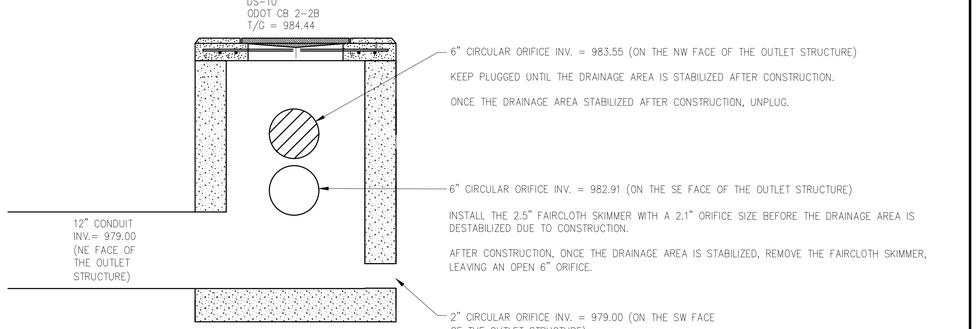
DRAWING
CB-2-2A, 2-2B, 2-2C

2 / 2

EMERGENCY SPILLWAY DETAIL



OUTLET STRUCTURE DETAIL (DS-10)

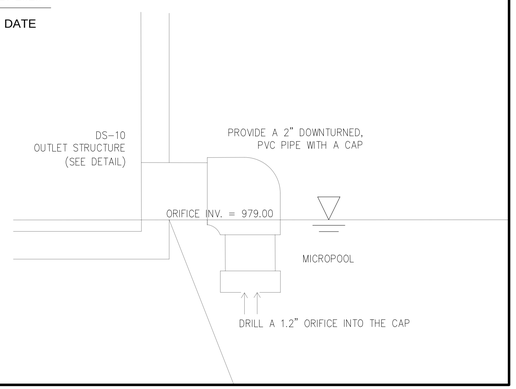


KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED PROFESSIONAL ENGINEER

4/17/2023
DATE

NON-CLOG OUTLET DETAIL



NW NE SW SE

VERTICAL INCH FEET
0 0 0
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS:

DESCRIPTION	DATE
SSWCD	4/17/23

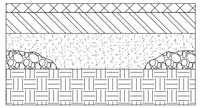
Walnut Woods Site Plan

Details
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4456 BELDEN VILLAGE STREET NW, SUITE 600, CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KADM@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:



ASPHALT PAVEMENT

REFERENCE CHART FOR DEPTHS

A. ASPHALT PAVEMENT SURFACE COURSE
B. ASPHALT PAVEMENT BINDER COURSE
C. AGGREGATE BASE MATERIAL
D. SUBGRADE-COMPACT

PAVEMENT LAYER DEPTHS					
	ASPHALT				
	A	B	C		
STANDARD DUTY	1.5"	1.5"	6"		
HEAVY DUTY	2.0"	2.0"	8"		

PAVEMENT SECTIONS

NTS

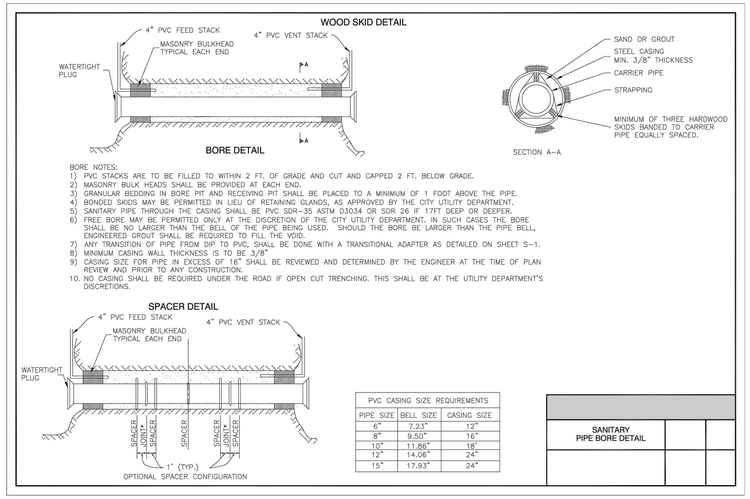
NDS WE PUT WATER IN ITS PLACE

851 N. Harvard Avenue P.O. Box 339 Lindsay, CA 93247
559.562.9888 phone 800.992.9949 toll free www.ndspro.com

NDS Catch Basin Invert Table

Outlet	Pipe Size / Type	NDS Catch Basin							
		9"	12"	18"	18" EXP	24"	1200 NGB Top	1200 NGB Center	1200 NGB Bottom
1242	3"	7.5	8.6875	12.875*	11.25*	---	7.5	8.875	11.0625
	4"	8.125	9.3125	13.375*	11.8125*	---	8.0625	9.4375	11.625
1243	3"	7.5	8.75	13*	11.25*	---	7.5	8.875	11.0625
	4"	8.0625	9.375	13.5*	11.8125*	---	8.0625	9.4375	11.625
1245 Top	3"	6.5625	7.875	12*	10.375*	---	6.625	8.0625	10.25
	4"	7.1875	8.375	12.5*	10.875*	---	7.1875	8.5625	10.75
1245 Left	3"	7.4375	8.9375	13*	11.125*	---	7.125	8.5625	11.6875
	4"	8	9.4375	13.5*	11.625*	---	7.625	9.0625	11.1875
1245 Right	3"	7.625	8.5	12.75*	11.125*	---	7.9375	9.3125	11.5
	4"	8.1875	9	13.25*	11.625*	---	8.4375	9.875	12
1245 Bottom	3"	8.4375	9.625	13.75*	11.1875*	---	8.375	9.75	11.9375
	4"	9	10.125	14.25*	12.6875*	---	8.875	10.25	12.4375
1266	6" S&D	9.125	10.3125	14.375*	12.5*	---	9	10.75	12.4375
	6" Corrugated	9.375	10.5625	14.6875*	13*	---	9.3125	10.375	12.8125
1888	8" S&D	---	---	15	13.25	---	---	---	---
	8" Corrugated	---	---	15.9375	14.0625	---	---	---	---
1889 Top	8" S&D	---	---	14.25*	---	---	---	10.75	12.582
	8" Corrugated	---	---	15.25*	---	---	---	11.25	13.375
1889 Left	8" S&D	---	10.75	15.25*	---	---	---	11.3125	13.625
	8" Corrugated	---	12.0625	16.25*	---	---	---	12.125	14.3125
1889 Right	8" S&D	---	---	14.5*	---	---	---	10.875	12.875
	8" Corrugated	---	---	15.5*	---	---	---	11.625	13.75
1889 Bottom	8" S&D	---	11.375	15.5*	---	---		11.875	14.0625
	8" Corrugated	---	12.4375	16.5*	---	---	11.3125	12.75	14.75

Notes: Distances are taken from the top of the catch basin to the invert of the outlet. Lengths are in inches.
* Requires 1890 Reducer Ring

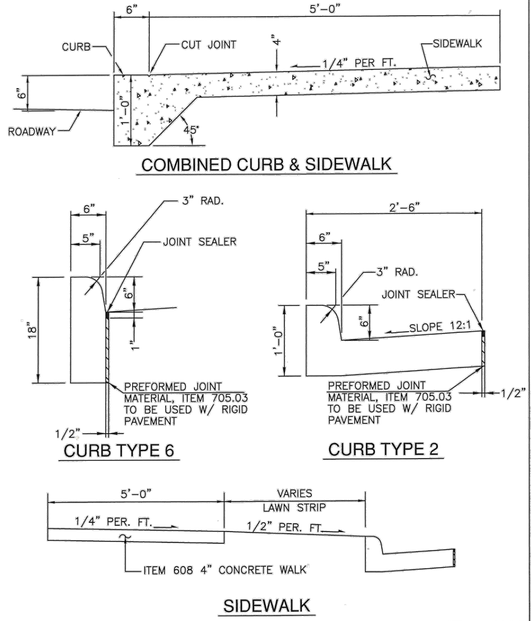


PVC CASING SIZE REQUIREMENTS		
PIPE SIZE	BELL SIZE	CASING SIZE
6"	7.23"	12"
8"	9.50"	16"
10"	11.88"	18"
12"	14.06"	24"
15"	17.93"	24"

SANITARY PIPE BORE DETAIL

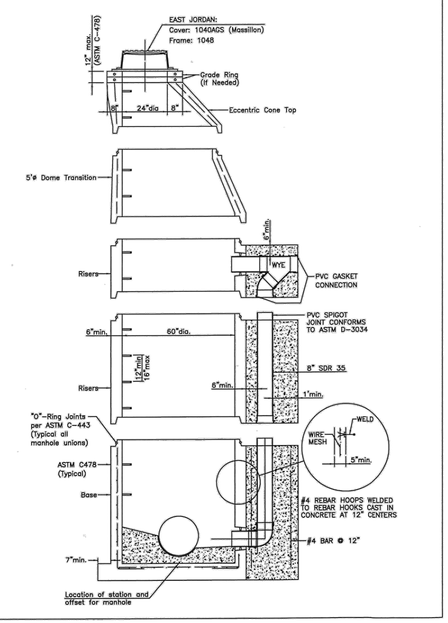
Kathy Catazaro-Perry, Mayor
Massillon City of Champions
CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

SIDEWALK AND CURB DETAILS



Kathy Catazaro-Perry, Mayor
Massillon City of Champions
CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

STANDARD DROP MANHOLE



NDS WE PUT WATER IN ITS PLACE

851 N. Harvard Avenue P.O. Box 339 Lindsay, CA 93247
559.562.9888 phone 800.992.9949 toll free www.ndspro.com

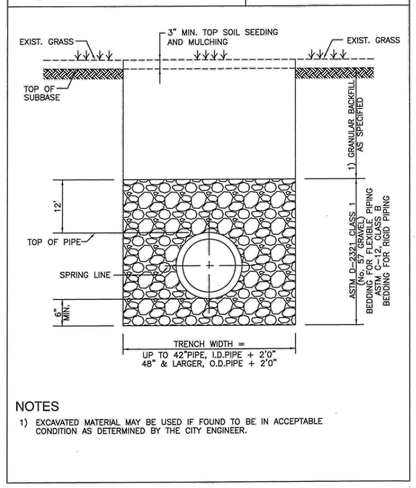
NDS Catch Basin Invert Table

Outlet	Pipe Size / Type	NDS Catch Basin							
		9"	12"	18"	18" EXP	24"	1200 NGB Top	1200 NGB Center	1200 NGB Bottom
18" EXP 1st Ring	10" S&D	---	---	---	14.5625	---	---	---	---
18" EXP 2nd Ring	12" S&D	---	---	---	15.5625	---	---	---	---
18" EXP 3rd Ring	14.1875 O.D.	---	---	---	16.4375	---	---	---	---
2410 with 1242*	3"	---	---	---	---	16.25	---	---	---
	4"	---	---	---	---	16.8125	---	---	---
2410 with 1243*	3"	---	---	---	---	16.3125	---	---	---
	4"	---	---	---	---	16.75	---	---	---
2410 with 1245 Top*	3"	---	---	---	---	15.375	---	---	---
	4"	---	---	---	---	15.875	---	---	---
2410 with 1245 Left*	3"	---	---	---	---	15.9375	---	---	---
	4"	---	---	---	---	16.5	---	---	---
2410 with 1245 Right*	3"	---	---	---	---	16.5625	---	---	---
	4"	---	---	---	---	17.125	---	---	---
2410 with 1245 Bottom*	3"	---	---	---	---	17.125	---	---	---
	4"	---	---	---	---	17.625	---	---	---
2410 with 1266*	6" S&D	---	---	---	---	17.6875	---	---	---
	6" Corrugated	---	---	---	---	17.9375	---	---	---
2410 with 1888	8" S&D	---	---	---	---	18.1875	---	---	---
	8" Corrugated	---	---	---	---	19.125	---	---	---
2410 1st Ring	10" S&D	---	---	---	---	19.6875	---	---	---
2410 2nd Ring	10" Corrugated	---	---	---	---	20.25	---	---	---
2410 3rd Ring	12" S&D	---	---	---	---	20.6875	---	---	---
2410 4th Ring	12" Corrugated	---	---	---	---	21.75	---	---	---

Notes: Distances are taken from the top of the catch basin to the invert of the outlet. Lengths are in inches.
* Requires 1890 Reducer Ring

Kathy Catazaro-Perry, Mayor
Massillon City of Champions
CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

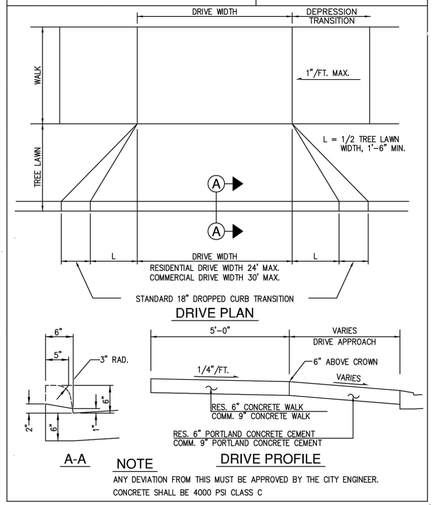
TRENCH DETAIL OUTSIDE ROADWAY



NOTES
1) EXCAVATED MATERIAL MAY BE USED IF FOUND TO BE IN ACCEPTABLE CONDITION AS DETERMINED BY THE CITY ENGINEER.

Kathy Catazaro-Perry, Mayor
Massillon City of Champions
CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

DRIVEWAY APPROACH DETAIL



NOTE
ANY DEVIATION FROM THIS MUST BE APPROVED BY THE CITY ENGINEER.
CONCRETE SHALL BE 4000 PSI CLASS C

SW NW SE NE

VERTICAL FEET 0 0 0

HORIZONTAL SCALE IN FEET 0 0 0

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS: DESCRIPTION | DATE

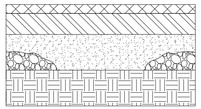
Walnut Woods Site Plan
Details
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 610, CANTON, OHIO 44718
PHONE: (234) 410-3913 EMAIL: KADBOX@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:

15 / 27



ASPHALT PAVEMENT

REFERENCE CHART FOR DEPTHS

A. ASPHALT PAVEMENT SURFACE COURSE
B. ASPHALT PAVEMENT BINDER COURSE
C. AGGREGATE BASE MATERIAL
D. SUBGRADE-COMPACT

PAVEMENT LAYER DEPTHS					
	ASPHALT				
	A	B	C		
STANDARD DUTY	1.5"	1.5"	6"		
HEAVY DUTY	2.0"	2.0"	8"		

PAVEMENT SECTIONS

NTS

NDS WE PUT WATER IN ITS PLACE

851 N. Harvard Avenue P. O. Box 339 Lindsay, CA 93247
559.562.9888 phone 800.992.9949 toll free www.ndspro.com

NDS Catch Basin Invert Table

Outlet	Pipe Size / Type	NDS Catch Basin							
		9"	12"	18"	18" EXP	24"	1200 NGB Top	1200 NGB Center	1200 NGB Bottom
1242	3"	7.5	8.6875	12.875*	11.25*	---	7.5	8.875	11.0625
	4"	8.125	9.3125	13.375*	11.8125*	---	8.0625	9.4375	11.625
1243	3"	7.5	8.75	13*	11.25*	---	7.5	8.875	11.0625
	4"	8.0625	9.375	13.5*	11.8125*	---	8.0625	9.4375	11.625
1245 Top	3"	6.5625	7.875	12*	10.375*	---	6.625	8.0625	10.25
	4"	7.1875	8.375	12.5*	10.875*	---	7.1875	8.5625	10.75
1245 Left	3"	7.4375	8.9375	13*	11.125*	---	7.125	8.5625	11.6875
	4"	8	9.4375	13.5*	11.625*	---	7.625	9.0625	11.1875
1245 Right	3"	7.625	8.5	12.75*	11.125*	---	7.9375	9.3125	11.5
	4"	8.1875	9	13.25*	11.625*	---	8.4375	9.875	12
1245 Bottom	3"	8.4375	9.625	13.75*	11.1875*	---	8.375	9.75	11.9375
	4"	9	10.125	14.25*	12.6875*	---	8.875	10.25	12.4375
1266	6" S&D	9.125	10.3125	14.375*	12.5*	---	9	10.75	12.4375
	6" Corrugated	9.375	10.5625	14.6875*	13*	---	9.3125	10.375	12.8125
1888	8" S&D	---	---	15	13.25	---	---	---	---
	8" Corrugated	---	---	15.9375	14.0625	---	---	---	---
1889 Top	8" S&D	---	---	14.25*	---	---	---	10.75	12.582
	8" Corrugated	---	---	15.25*	---	---	---	11.25	13.375
1889 Left	8" S&D	---	10.75	15.25*	---	---	---	11.3125	13.625
	8" Corrugated	---	12.0625	16.25*	---	---	---	12.125	14.3125
1889 Right	8" S&D	---	---	14.5*	---	---	---	10.875	12.875
	8" Corrugated	---	---	15.5*	---	---	---	11.625	13.75
1889 Bottom	8" S&D	---	11.375	15.5*	---	---		11.875	14.0625
	8" Corrugated	---	12.4375	16.5*	---	---	11.3125	12.75	14.75

Notes: Distances are taken from the top of the catch basin to the invert of the outlet. Lengths are in inches.
* Requires 1890 Reducer Ring

NDS WE PUT WATER IN ITS PLACE

851 N. Harvard Avenue P. O. Box 339 Lindsay, CA 93247
559.562.9888 phone 800.992.9949 toll free www.ndspro.com

NDS Catch Basin Invert Table

Outlet	Pipe Size / Type	NDS Catch Basin							
		9"	12"	18"	18" EXP	24"	1200 NGB Top	1200 NGB Center	1200 NGB Bottom
18" EXP 1st Ring	10" S&D	---	---	---	14.5625	---	---	---	---
18" EXP 2nd Ring	12" S&D	---	---	---	15.5625	---	---	---	---
18" EXP 3rd Ring	14.1875 O.D.	---	---	---	16.4375	---	---	---	---
2410 with 1242*	3"	---	---	---	---	16.25	---	---	---
	4"	---	---	---	---	16.8125	---	---	---
2410 with 1243*	3"	---	---	---	---	16.3125	---	---	---
	4"	---	---	---	---	16.75	---	---	---
2410 with 1245 Top*	3"	---	---	---	---	15.375	---	---	---
	4"	---	---	---	---	15.875	---	---	---
2410 with 1245 Left*	3"	---	---	---	---	15.9375	---	---	---
	4"	---	---	---	---	16.5	---	---	---
2410 with 1245 Right*	3"	---	---	---	---	16.5625	---	---	---
	4"	---	---	---	---	17.125	---	---	---
2410 with 1245 Bottom*	3"	---	---	---	---	17.125	---	---	---
	4"	---	---	---	---	17.625	---	---	---
2410 with 1266*	6" S&D	---	---	---	---	17.6875	---	---	---
	6" Corrugated	---	---	---	---	17.9375	---	---	---
2410 with 1888	8" S&D	---	---	---	---	18.1875	---	---	---
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2410 1st Ring	10" S&D	---	---	---	---	19.6875	---	---	---
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2410 3rd Ring	12" S&D	---	---	---	---	20.6875	---	---	---
2410 4th Ring	12" Corrugated	---	---	---	---	21.75	---	---	---

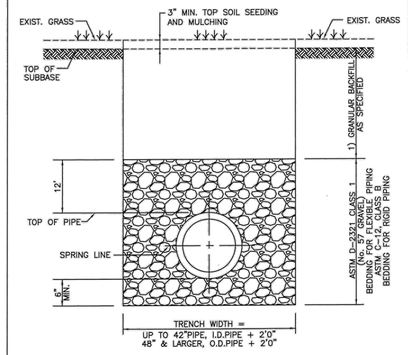
Notes: Distances are taken from the top of the catch basin to the invert of the outlet. Lengths are in inches.
* Requires 1890 Reducer Ring

Kathy Catazaro-Perry, Mayor

Massillon City of Champions

CITY OF MASSILLON ENGINEERING
151 LINCOLN WAY EAST
MASSILLON, OHIO (330)830-1722
FAX: (330)830-1786

TRENCH DETAIL
OUTSIDE
ROADWAY



NOTES
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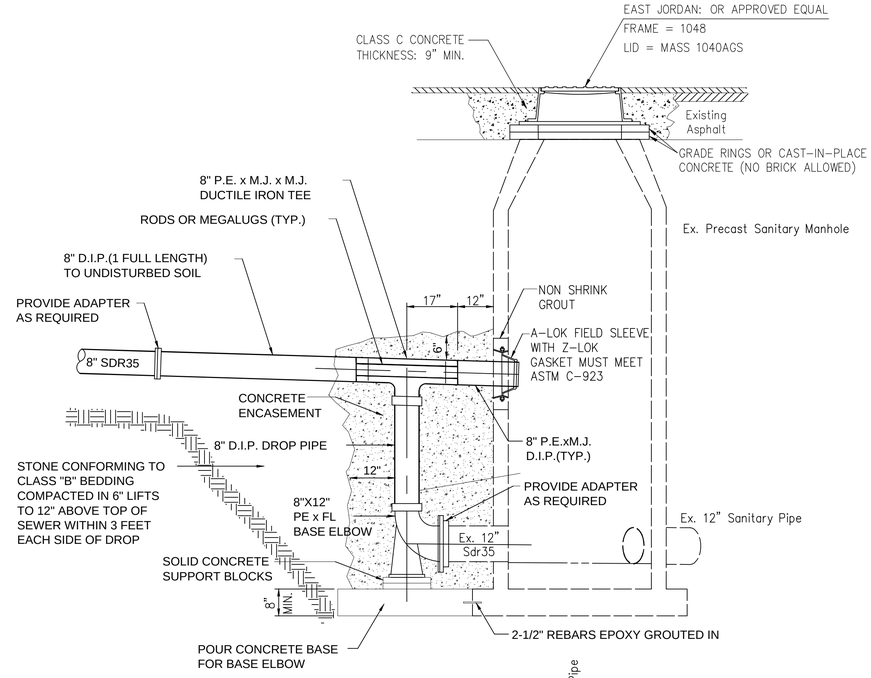
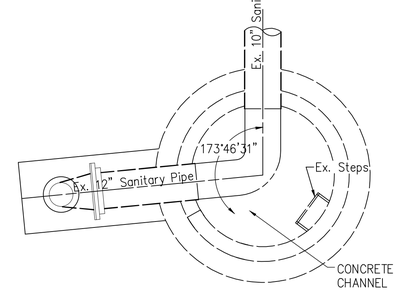




NOTE:

ALL MATERIAL AND LABOR TO PERFORM THE PROPER INSTALLATION OF ITEM 604 SANITARY MANHOLE MASS1048-M SHALL BE INCLUDED IN THE UNIT PRICE BID. THIS INCLUDES BUT NOT LIMITED THE REMOVAL OF EXISTING STRUCTURES, CONDUIT, ROADWAY, CURB. AND INSTALLATION OF 57 GRAVEL, ITEM 304 AGGREGATE BASE, CONDUIT PIPE, JOINT SEALER, FIELD SLEEVE AND A-LOK, FERNCO, CLASS C CONCRETE, ADPTERS, D.I.P. FITTINGS, D.I.P. PIPE, CONCRETE COLLAR, AND CURBIING.

ITEM 604 SANITARY MANHOLE MASS1048-AGS-M

NW NE SW SE

VERTICAL FEET 0 0 0

HORIZONTAL SCALE IN FEET 0 0 0

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS: DESCRIPTION | DATE

Walnut Woods Site Plan
Details
City of Massillon
Stark County, Ohio

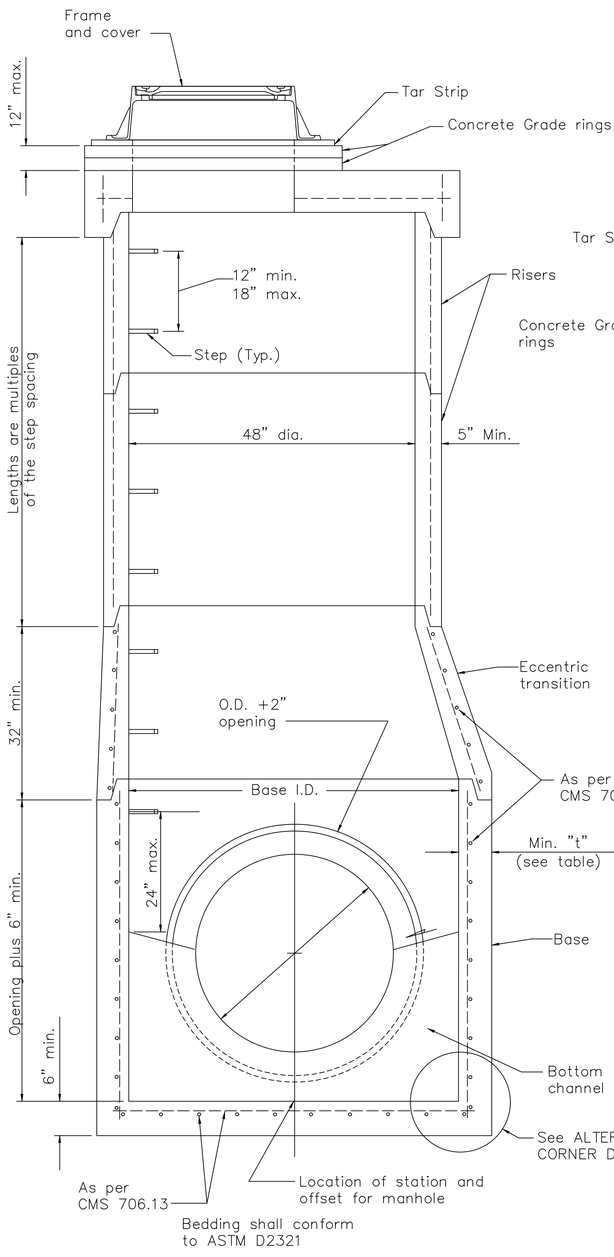
CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 610, CANTON, OHIO 44718
PHONE: (234) 410-3913 EMAIL: HOR@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:

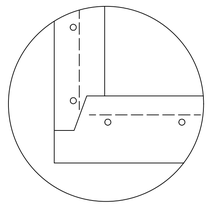
16 / 27

1056 AND 1056AGS

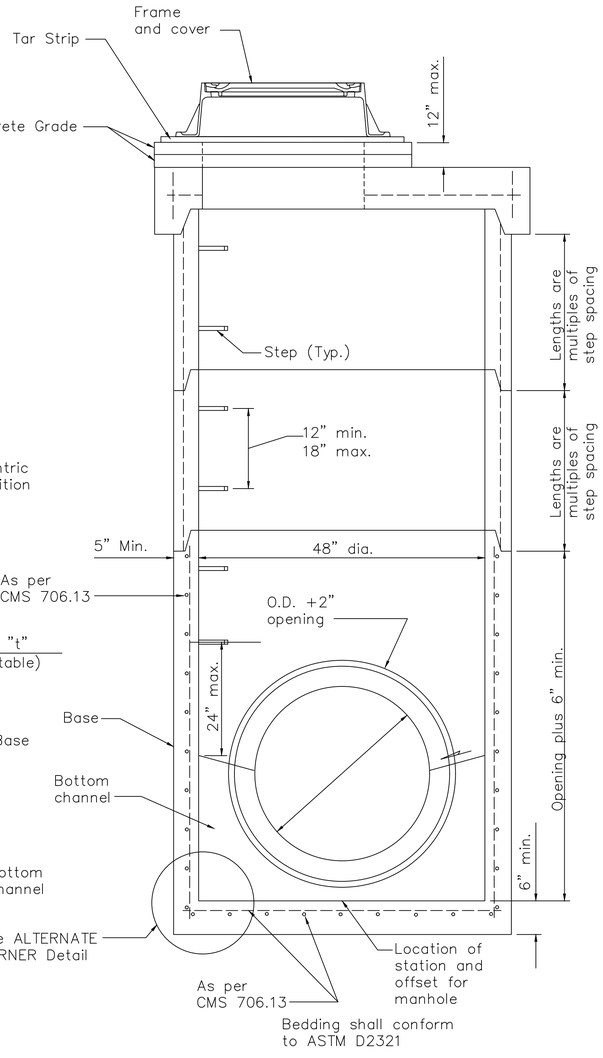


60" to 108" PRECAST BASE

SEE TABLE FOR MAXIMUM PIPE SIZES



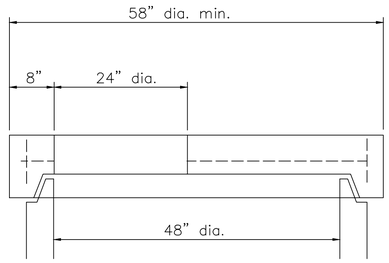
ALTERNATE CORNER DETAIL



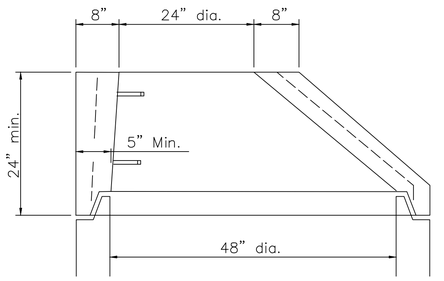
24" PRECAST BASE

FOR 30" AND SMALLER PIPE

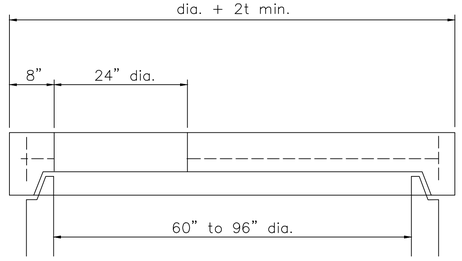
SECTION VIEWS OF REINFORCED PRECAST MANHOLES



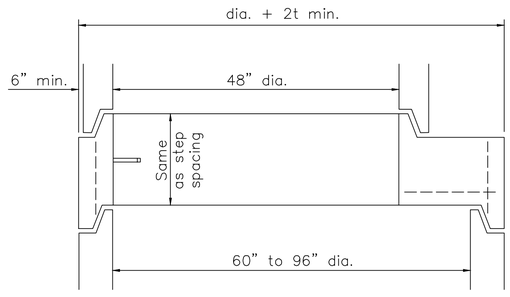
FLAT SLAB TOP



ALTERNATE ECCENTRIC CONE TOP



FLAT SLAB TOP



FLAT SLAB TRANSITION

MAXIMUM PIPE SIZE		
BASE I.D.	MIN. "t"	MAX. PIPE SIZE
60"	5"	36"
72"	6"	48"
84"	7"	54"
90"	7 1/2"	60"
96"	8"	66"
108"	9"	72"

GENERAL: With normal soil and site conditions, this standard precast manhole may be used for any required manhole depth. Cast and assemble sections of the precast manhole with either all tongue or all groove ends up. Lift holes may be provided in each section for handling. Leave handling device for flat slab in place.

CASTINGS: Provide a design essentially the same and equally as strong as the the one shown. Below is a list of approved EJ

DRAINAGE: Cover = Massillon 1040A
Cover = 1040 M3 ADA(WHEN SPECIFIED)
Frame = 1048

SANITARY: Cover = Massillon 1040AGS
Frame = 1048

TOP: Provide a flat slab for this section unless an eccentric cone is specified.

TRANSITION (OR REDUCER): This section can be either eccentric cone or flat slab.

BASE: Manhole is shown with a monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Provide openings for inlet and outlet pipes, either when the unit is cast or later, to meet project requirement. Bottom channels may be formed of concrete, precast in the base or field constructed.

RISER SECTIONS: Openings for 18" and smaller inlet pipes may either prefabricated or cut in field provided the sides of pipe at the springline do not project into the manhole.

CONNECTIONS: Connections between precast manhole sections and pipes on sanitary sewers may be sealed with a resilient connectors conforming to ASTM C 923.

JOINT SEAL: Furnish resilient seal between precast manhole sections on sanitary sewers and flexible gasket joints per ASTM C-443.

OPENING: The maximum pipe opening is the O.D. of the pipe being supplied plus 2" when fabricated or field cut. Fill any drainage manhole voids per CMS 611.

MATERIALS: Provide materials for bases and other precast sections, including reinforcement not specified here, that meet the requirements of C-478

DROP PIPE: When specified on the plans, construct drop pipe as shown on SCD MASS1048-DROP.

TOP SLAB REBAR: Use epoxy coated reinforcing steel within the top slab.

NW NE SW SE N

VERTICAL SCALE IN FEET: 200 100 0

HORIZONTAL SCALE IN FEET: 200 100 0

CHECKED BY: KAD
DATE: MAR, 2023
DRAWN BY: JTD
DATE: MAR, 2023

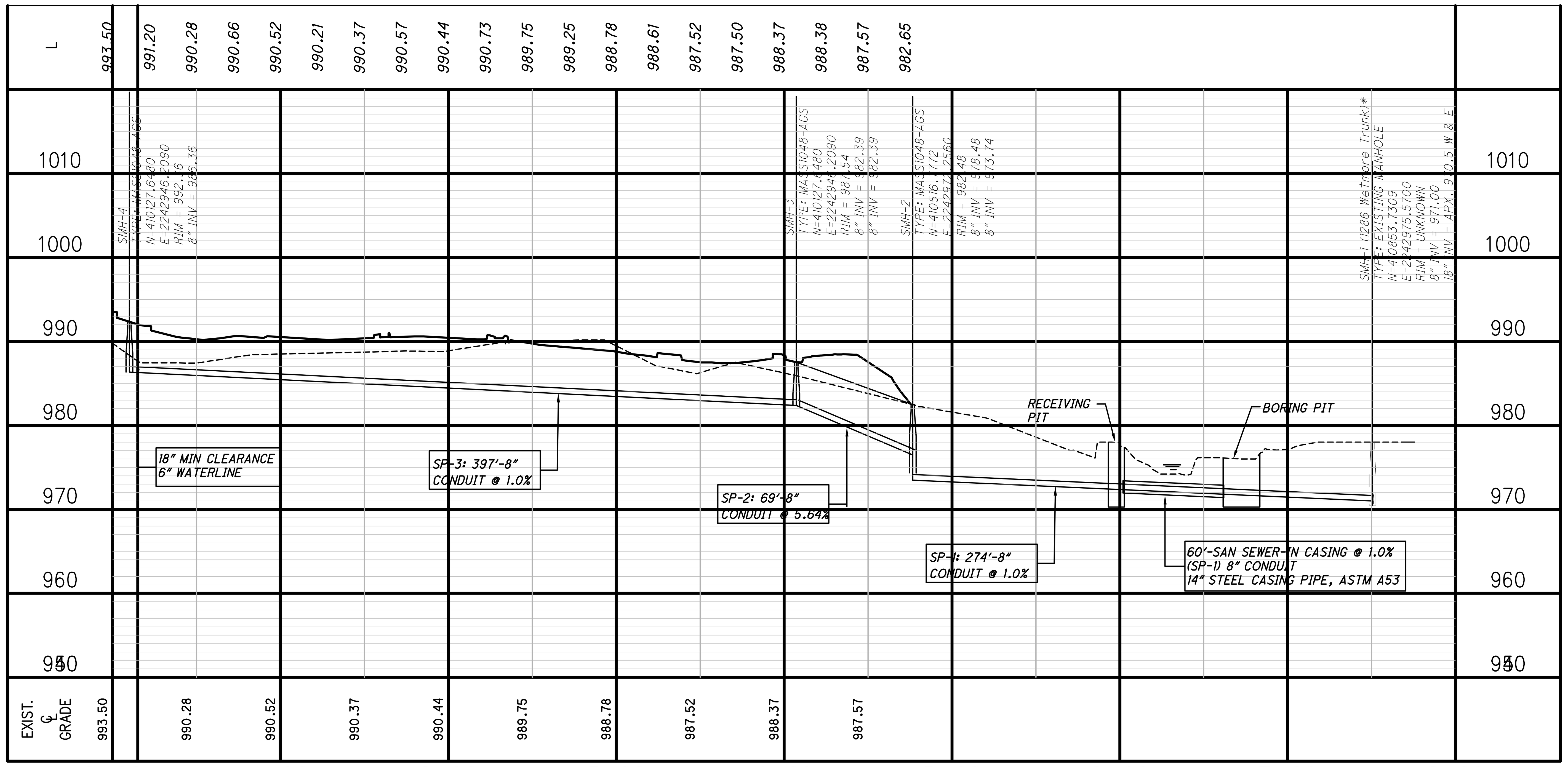
REVISIONS:

DESCRIPTION	DATE

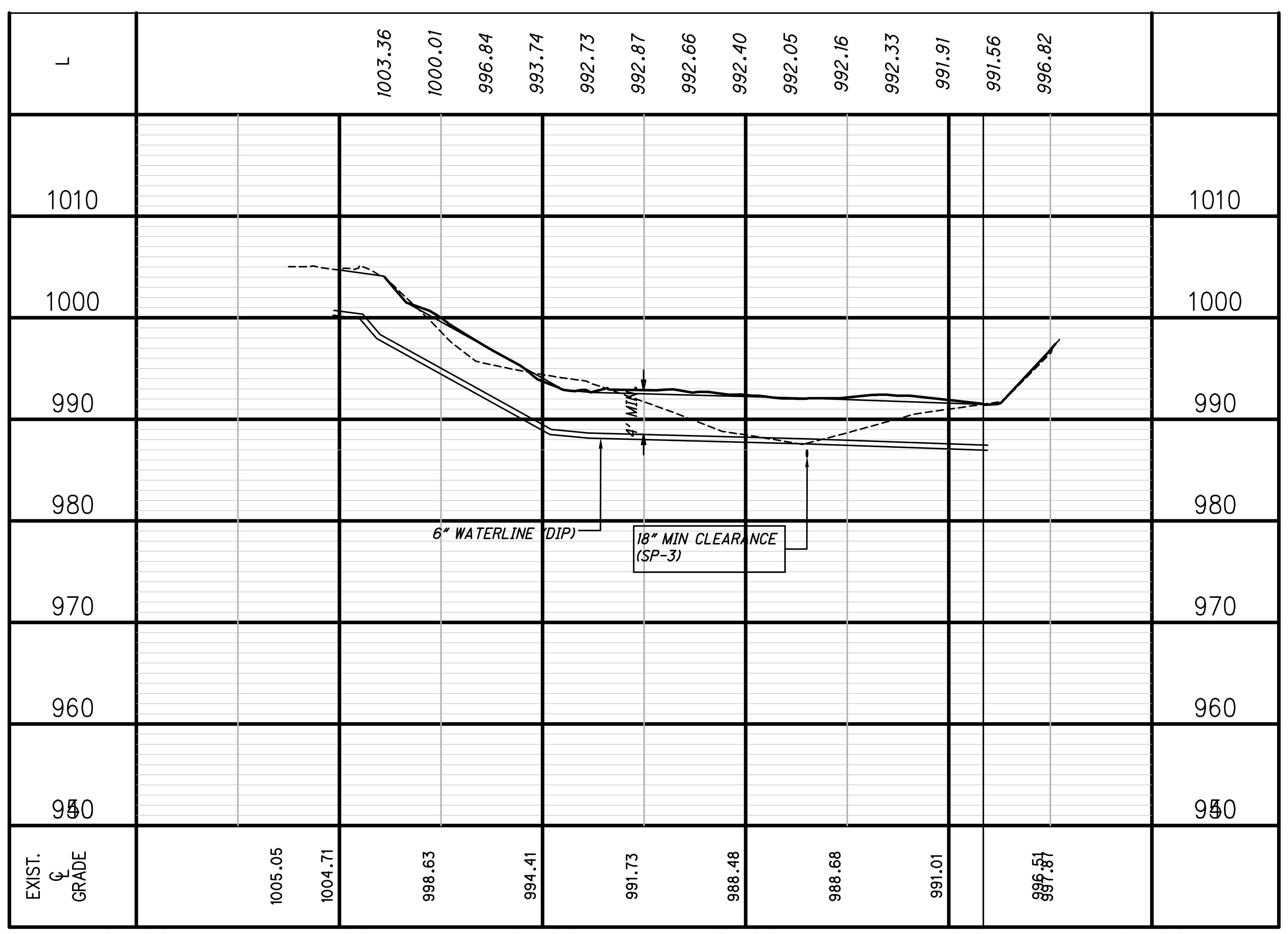
Walnut Woods Site Plan
MH-MASS1048A AND MH-MASS1048AGS
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (330) 268-3734 EMAIL: KAD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

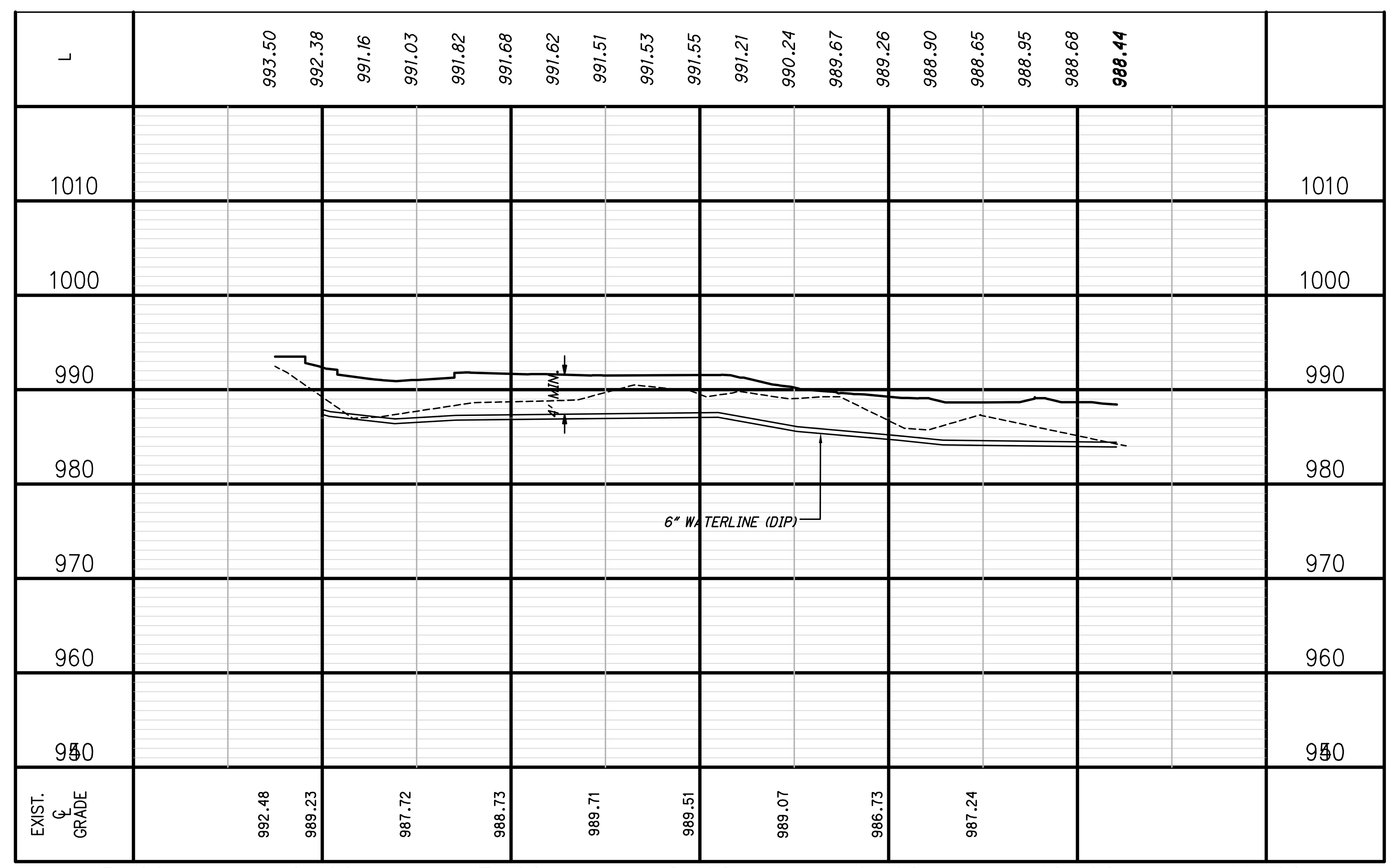
DRAWING NAME: Manhole Details
REF NUMBER:



SANITARY PROFILES



WATER PROFILES



WATER PROFILES

HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS:
DATE | DESCRIPTION

Walnut Woods Site Plan

Sanitary and Water Profiles
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS-SURVEYORS-CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KAD@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME:

REF NUMBER:

Walnut Woods SWP3

City of Massillon

Stark County, Ohio

GENERAL NOTES:

FOR REVISIONS/AMENDMENTS TO THE SWP3, CONTACT KEITH A. DYLEWSKI AT CIVPRO ENGINEERING, LLC AT (234) 410-3913.

A LOG DOCUMENTING GRADING AND STABILIZATION ACTIVITIES AS WELL AS AMENDEMENTS TO THIS SWP3 SHALL BE MAINTAINED WITH THESE PLANS

A PRE-CONSTRUCTION MEETING IS REQUIRED BETWEEN THE DEVELOPER, CONTRACTOR, MASSILLON ENGINEERING DEPARTMENT, AND STARK COUNTY SOIL AND WATER PRIOR TO THE BEGINNING OF ANY CONSTRUCTION ACTIVITY ON SITE. CONTACT PARTIES AT LEAST SEVEN DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY.

ESTIMATED CONSTRUCTION SCHEDULE: START - 7/1/23 END - 10/1/24

OFFSITE BORROW AREAS:

IF OFFSITE BORROW AREA IS REQUIRED. CONTRACTOR SHALL OBTAIN ALL APPLICABLE LOCAL AND STATE PERMITS. LOCATION SHALL BE COVERED BY NOI AND APPROVED SWPPP.

SWP3 STATEMENT:
THIS SWP3 PLAN WAS DEVELOPED TO CONTROL EROSION AND SEDIMENT PRIOR TO EXITING THE SITE. SEDIMENT WILL BE CONTROLLED WITH THE SHOWN BMP'S. SILT FENCE SHOULD BE PLACED AT THE BOTTOM OF THE SLOPES. SEE THE IMPLEMENTATION SCHEDULE & SEQUENCE OF MAJOR CONSTRUCTION OPERATIONS ON THE NEXT SHEET. THE SCHEDULE SHOULD BE FOLLOWED TO MAINTAIN PROPER CONTROL OF EROSION AND SEDIMENT ON SITE. ALL DISTURBED AREAS WHERE CONSTRUCTION WILL CEASE FOR MORE THAN 14 DAYS MUST BE STABILIZED. SEEDING AND MULCHING SHOULD BE CONSISTENT WITH THE SOIL STABILIZATION REQUIREMENTS SECTION. SLOPES 3:1 OR GREATER REQUIRE EROSION CONTROL MATTING TO BE INSTALLED TO CONTROL EROSION. A LOG OF GRADING AND STABILIZATION ACTIVITIES AND SITE INSPECTION NEEDS TO RE KEPT. INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER A STORM EVENT GREATER THAN 1/2 INCH OF RAINFALL WITHHIN A 24-HOUR DURATION. ALL MEASURES SHALL BE OBSERVED TO ENSURE CORRECT OPERATION; REPAIRS TO ANY DAMAGED DEVICE/STRUCTURE SHALL BE COMPLETED WITHIN 3 DAYS OF THE INSPECTION.

THE CONTRACTOR SHALL PREVENT AND/OR REDUCE AND CONTROL SOIL EROSION RESULTING FROM THE PROPOSED IMPROVEMENTS. THE USE OF SILT FENCING, JUTE MATTING, TEMPORARY SEEDING, SILT CHECKS, INLET PROTECTION AROUND ALL CATCH BASINS, STABILIZED CONSTRUCTION ENTRANCE(S), ETC. WILL BE REQUIRED. SEDIMENT CONTROL STRUCTURES/DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL RAINWATER AND LAND DEVELOPMENT - OHIO'S STANDARDS FOR STORM WATER MANAGEMENT, LAND DEVELOPMENT AND URBAN STREAM PROTECTION. SEDIMENT CONTROL DEVICES MUST BE INSTALLED PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUED INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS SET FORTH ON THE APPROVED STORM WATER POLLUTION PREVENTION PLAN IF APPLICABLE, OR AS DETAILED ON THE CONSTRUCTION PLANS, AS SPECIFIED BY THE CITY OF MASSILLON

I, THE UNDERSIGNED, 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 MANAGED 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.

DESIGN ENGINEER - KEITH A. DYLEWSKI, P.E., P.S. DATE

LONG-TERM MAINTENANCE OF STRUCTURAL POST- CONSTRUCTION CONTROLS SHALL BE THE RESPONSIBITY OF THE OWNER.

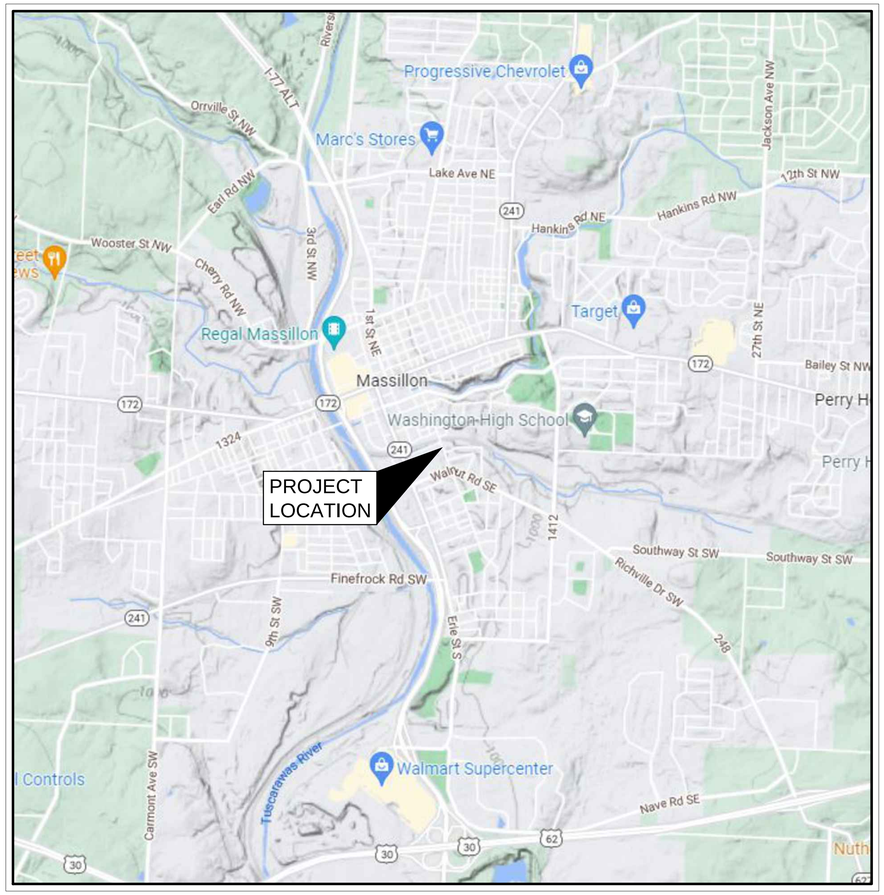
OWNER DATE

THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION & MAINTENANCE OF SEDIMENT CONTROL & BMP MEASURES DURING THE SEQUENCE OF CONSTRUCTION.

SITE CONTRACTOR DATE

THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION & MAINTENANCE OF SEDIMENT CONTROL & BMP MEASURES ONCE ALL SITE WORK IS COMPLETED.

BUILDING CONTRACTOR DATE



VICINITY MAP

CIVPRO ENGINEERING

PLAN PREPARED BY:

CIVPRO ENGINEERING, LLC
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(234) 410-3913

OWNER:

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4023 Mark Rd. NE
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KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO · KEITH A. DYLEWSKI · E-70907 · REGISTERED PROFESSIONAL ENGINEER

4/3/2023
DATE

INDEX OF SHEETS:

IMPLEMENTATION SCHEDULE & SEQUENCE OF MAJOR CONSTRUCTION OPERATIONS:

STEP 1: PRELIMINARY OPERATIONS (BEFORE ANY GRADING ACTIVITIES BEGIN)

A. CONTACT STARK SOIL & WATER CONSERVATION DISTRICT TO SCHEDULE A PRE-CONSTRUCTION MEETING AT (330) 451-7645 PRIOR TO ANY EARTH MOVING ACTIVITY. APPROVAL FROM ALL AGENCIES INCLUDING AN APPROVAL LETTER FROM THE STARK COUNTY REGIONAL PLANNING COMMISSION MUST HAVE BEEN RECEIVED.

B. CONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE.

STEP 2: SEDIMENT BASIN

A. CLEAR THE STORMWATER MANAGEMENT AREA FOR THE STORMWATER MANAGEMENT BASIN.

B. EXCAVATE THE STORMWATER MANAGEMENT (SEDIMENT) BASIN, DS-10 (OUTLET STRUCTURE), AND DP-19 (OUTLET PIPE) PER THE PLAN. THE FOREBAY AND MICROPOOL IN THE STORMWATER MANAGEMENT BASIN DO NOT NEED TO BE CONSTRUCTED YET (OPTIONAL).

C. ATTACH THE FAIRCLOTH SKIMMER (SEE DETAIL IN SWP3) TO THE OUTLET STRUCTURE.

STEP 3: CLEARING AND SITE PREPARATIONS

A. CLEAR AND GRUB THE REMAINING AREA WITHIN THE GRADING LIMITS OF THE PLAN.

B. CONSTRUCT THE CONCRETE WASHOUT AREA, VEHICLE FUELING AREA, CONSTRUCTION DUMPSTER AREA, AND SOLID, SANITARY, AND TOXIC WASTE AREA AS NEEDED.

STEP 4: UTILITIES

A. CONSTRUCT THE REMAINDER OF THE STORM SEWER SYSTEM INCLUDING ANY HEADWALLS, CATCH BASINS, YARD DRAINS, AND ROCK CHANNEL PROTECTION, PER PLAN.

B. CONSTRUCT THE PROPOSED SANITARY AND WATER SYSTEMS.

STEP 5: STRIPPING AND STOCKPILING OF TOPSOIL

A. STRIP THE TOPSOIL WHERE APPLICABLE AND PLACE IT IN DESIGNATED STOCKPILE AREAS.

B. CONSTRUCT A FILTER BERM AROUND STOCKPILE(S).

STEP 6: MASS GRADING OPERATIONS

A. PERFORM THE MASS GRADING OF THE SITE PER PLAN WHILE PERMANENTLY STABILIZING DISTURBED AREAS VIA SEEDING WITHIN 7 DAYS OF REACHING FINAL GRADE; HOWEVER, STEEP SLOPES AND HIGHLY EROSIVE SOILS SHALL BE PERMANENTLY STABILIZED USING EROSION CONTROL MATTING.

STEP 7: PAVING OPERATIONS & BUILDING CONSTRUCTION

A. CONSTRUCT THE PROPOSED ASPHALT & CONCRETE PAVEMENT, CURB, AND WALKS.

STEP 8: FINAL GRADING OPERATIONS

A. REMOVE ANY SEDIMENT ACCUMULATED IN ANY DRAINAGE STRUCTURES.

B. ELIMINATE/REMOVE ANY TEMPORARY CONCRETE WASHOUT AREA, VEHICLE FUELING AREA, CONSTRUCTION DUMPSTER AREA, AND SOLID, SANITARY, AND TOXIC WASTE AREA.

C. REMOVE THE SILT FENCING.

STEP 9: POST-GRADING OPERATIONS

A. MONITOR THE PROGRESS OF THE PERMANENT SITE STABILIZATION WHILE RE-SEEDING AND REPAIRING ANY DAMAGED AREAS. AREAS WHERE THE SEED HAS NOT PRODUCED 80% COVER, SHALL BE RESEEDED.

B. RECEIVE APPROVAL FROM STARK SOIL AND WATER TO TRANSFORM THE SEDIMENT BASIN INTO THE FINAL WATER QUALITY AND DETENTION BASIN.

C. DREDGE THE STORMWATER BASIN TO REMOVE SEDIMENT ACCUMULATED IN THE STORMWATER MANAGEMENT BASIN IF NECESSARY TO ENSURE THAT IT CONFORMS TO THE POST-CONSTRUCTION STORMWATER BASIN WITH THE FOREBAY AND MICROPOOL.

D. DETACH THE FAIRCLOTH SKIMMER AND INSTALL THE NON-CLOG OUTLET WATER QUALITY ORIFICE (SEE DETAIL IN PLANS).

STEP 10: INSPECT AND MAINTAIN ALL PERMANENT BMPs.

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG

OHIO UtilitiesProtection SERVICE — Call Before You Dig 1-800-362-2764

(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-800-925-0988

NW NE SW SE N

VERTICAL FEET 0 0 0

0 1000 2000 HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS: DESCRIPTION | DATE

Walnut Woods Site Plan
SWP3 Title Sheet
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
DESIGNED & SURVEYED FOR CONSTRUCTION MANAGERS
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DRAWING NAME:

REF NUMBER:

SEDIMENT POLLUTION CONTROLS

1. PERIMETER SEDIMENT CONTROLS (I.E. SEDIMENT TRAPS, SILT FENCE, COMPOST SOCKS, COMPOST BERMS, ETC ...) SHALL BE IMPLEMENTED BEFORE ANY GRADING, WITHIN SEVEN DAYS FROM THE START OF GRUBBING, AND SHALL CONTINUE TO FUNCTION UNTIL UPSLOPE AREAS DRAINING TO THEM ARE PERMANENTLY STABILIZED, OR AS DIRECTED BY THE CITY/COUNTY ENGINEER, OR DESIGNATED REPRESENTATIVE.

2. NO EROSION AND SEDIMENT CONTROL BMP 'S SHALL BE REMOVED FROM THE SITE PRIOR TO ADEQUATE PERMANENT STABILIZATION OF THE ASSOCIATED UPLAND DRAINAGE AREAS AND WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CITY/COUNTY ENGINEER, OR DESIGNATED REPRESENTATIVE, UNLESS THEIR REMOVAL IS SPECIFICALLY PROVIDED FOR WITHIN THE SITE'S APPROVED PLAN.

3. THERE SHALL BE NO SEDIMENT-LADEN OR TURBID DISCHARGES TO WATER RESOURCES OR WETLANDS RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUNDWATER CONTAINS SEDIMENT, IT MUST PASS THROUGH A SEDIMENT TRAP OR OTHER EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE, PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. ALTERNATIVELY, SEDIMENT MAY BE REMOVED BY SETTLING IN PLACE OR BY DEWATERING INTO A SUMP PIT, FILTER BAG OR COMPARABLE PRACTICE. GROUND WATER DEWATERING WHICH DOES NOT CONTAIN SEDIMENT OR OTHER POLLUTANTS IS NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE. HOWEVER, CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

4. STREETS DIRECTLY ADJACENT TO CONSTRUCTION ENTRANCES AND RECEIVING TRAFFIC FROM THE DEVELOPMENT AREA SHALL BE CLEANED DAILY TO REMOVE SEDIMENT TRACKED OFF-SITE. IF APPLICABLE, THE CATCH BASINS ON THESE STREETS NEAREST TO THE CONSTRUCTION ENTRANCES SHALL ALSO BE CLEANED WEEKLY. BASED ON SITE CONDITIONS, THE CITY/COUNTY ENGINEER, OR DESIGNATED REPRESENTATIVE MAY REQUIRE ADDITIONAL BEST MANAGEMENT PRACTICES TO CONTROL OFF-SITE TRACKING OF DUST.

5. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, OR REPRESENTATIVE, TO PROVIDE INSPECTION OF ALL CONTROLS ON THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS, AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD. INSPECTIONS MUST BE COMPLETED BY A QUALIFIED INDIVIDUAL. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

A. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE: THE BMP SHALL BE REPAIRED WITHIN 3 DAYS OF INSPECTION. EXCEPTION: SEDIMENT BASINS/PONDS SHALL BE REPAIRED OR MAINTAINED WITH 10 DAYS OF INSPECTION.

B. WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION, A MORE APPROPRIATE BMP SHALL BE SELECTED AND IMPLEMENTED WITHIN 10 DAYS OF THE INSPECTION.

C. WHEN PRACTICES DEPICTED IN THE SWP3 ARE NOT INSTALLED, THE BMP SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION. IF THE INSPECTION REVEALS THAT THE BMP IS NOT NECESSARY, THE RECORD MUST CONTAIN AN EXPLANATION FOR THE DECISION.

6. THE APPLICANT SHALL MAINTAIN FOR 3 YEARS FOLLOWING FINAL STABILIZATION, THE RESULTS OF THESE INSPECTIONS, THE NAMES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTIONS, THE DATES OF INSPECTIONS, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWP3, A CERTIFICATION AS TO WHETHER THE FACILITY IS IN COMPLIANCE WITH THE SWP3, AND INFORMATION ON ANY INCIDENTS OF NON-COMPLIANCE DETERMINED BY THESE INSPECTIONS.

7. ALL EROSION AND SEDIMENT CONTROL PRACTICES SPECIFIED ON THIS PLAN SHALL CONFORM WITH THE DETAILS AND SPECIFICATIONS OUTLINED IN THE CURRENT VERSION OF THE OHIO DEPARTMENT OF NATURAL RESOURCES, "RAINWATER AND LAND DEVELOPMENT" MANUAL, OR AS SPECIFIED BY THE CITY/COUNTY ENGINEER OR DESIGNATED REPRESENTATIVE.

8. EROSION AND SEDIMENT CONTROL PRACTICES NOT ALREADY SPECIFIED ON THIS PLAN MAY BE NECESSARY DUE TO UNFORESEEN ENVIRONMENTAL CONDITIONS AND/OR CHANGES IN DRAINAGE PATTERNS CAUSED BY EARTH-MOVING ACTIVITY. ADDITIONAL PRACTICES SHALL BE IMPLEMENTED AT THE DEVELOPER'S EXPENSE AS DIRECTED BY THE CITY/COUNTY ENGINEER, OR DESIGNATED REPRESENTATIVE.

9. NO STRUCTURAL SEDIMENT CONTROLS (SILT FENCE, SEDIMENT TRAPS, ETC.) SHALL BE USED IN A WA ER RESOURCE OR WETLAND UNLESS THEIR USE IS SPECIFICALLY PROVIDED FOR WITHIN THE SITE'S APPROVED PLAN.

10. SOIL STOCKPILES, TOPSOIL, OR OTHER WISE, SHALL BE SITUATED A WAY FROM STREETS, SWALES, OR OTHER WATERWAYS AND SHALL BE SEEDED AND/OR MULCHED IMMEDIATELY.

11. ON-SITE PERSONNEL SHALL TAKE ALL NECESSARY MEASURES TO COMPLY WITH APPLICABLE REGULATIONS REGARDING FUGITIVE DUST EMISSIONS INCLUDING OBTAINING NECESSARY PERMITS FOR SUCH EMISSIONS. THE CITY/COUNTY ENGINEER OR DESIGNATED REPRESENTATIVE MAY REQUIRE DUST CONTROLS INCLUDING, BUT NOT LIMITED TO, THE USE OF WATER TRUCKS TO WET DISTURBED AREAS, TAPPING STOCKPILES, TEMPORARY STABILIZATION OF DISTURBED AREAS, AND REGULATION OF THE SPEED OF VEHICLES ON THE SITE.

12. ANY DISTURBED AREA NOT PAVED, SODDED, OR BUILT UPON SHALL HAVE A MINIMUM OF 80% UNIFORM VEGETATIVE COVER PRIOR TO FINAL INSPECTION, AND, IN THE OPINION OF THE CITY ENGINEER OR DESIGNATED REPRESENTATIVE, WILL BE MATURE ENOUGH TO CONTROL EROSION SATISFACTORILY AND SURVIVE SEVERE WEATHER.

NON-SEDIMENT POLLUTION CONTROLS

1. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. THE INDIVIDUAL WHO MANAGES THE DAY- TO- DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR ENSURING ALL FORMS OF WASTE ARE PROPERLY DISPOSED OF.

2. NO CONTAMINATED SOILS ARE KNOWN TO EXIST ON SITE. CONTAMINATED SOILS DISCOVERED FROM REDEVELOPMENT SITES SHALL BE DISPOSED OF PROPERLY. RUNOFF FROM CONTAMINATED SOILS SHALL NOT BE DISCHARGED FROM THE SITE. PROPER PERMITS SHALL BE OBTAINED FOR DEVELOPMENT PROJECTS ON SOLID WASTE LANDFILL SITES OR REDEVELOPMENT SITES.

3. CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCE. A SUMP OR PIT WITH NO POTENTIAL FOR DISCHARGE SHALL BE CONSTRUCTED IF NEEDED TO CONTAIN CONCRETE WASH WATER. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FEET OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED AWAY FROM ANY WATER CONVEYANCES.

4. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF. ANY AND ALL WASTE MATERIALS (SOLID, HAZARDOUS, CONSTRUCTION & DEMOLITION, SANITARY, TOXIC, CONTAMINATED SOILS, ETC.) GENERATED AT THE SITE SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL RULES/REGULATIONS. ON-SITE STORAGE CONTAINERS SHALL BE COVERED AND NOT LEAKING. IT IS PROHIBITED TO BURN, BUY OR POUR OUT ONTO THE GROUND OR INTO THE STORM SEWERS ANY SOLVENTS. PAINTS, GASOLINE, DIESEL FUEL. USED MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT CURING COMPOUNDS AND ANY OTHER SUCH TOXIC OR HAZARDOUS MATERIALS OR WASTES.

5. HANDLING CONSTRUCTION CHEMICALS. MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATER COURSE, DITCH OR STORM DRAIN.

6. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED A WAY FROM WATER COURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT WITH A MINIMUM CAPACITY EQUAL TO 110% OF THE VOLUME OF ALL CONTAINERS IN A STORAGE ARE A SHALL BE PROVIDED FOR ALL FUEL/LIQUID STORAGE TANKS AND DRUMS.

7. ALL SANITARY WASTE SHALL BE COLLECTED FROM PORTABLE UNITS A MINIMUM OF THREE TIMES PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR, AS REQUIRED BY LOCAL REGULATION.

8. THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT:

A. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.

B. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR APPROPRIATE CONTAINERS, AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.

C. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE MANUFACTURER' S LABEL. SUBSTANCES WILL NOT BE MIXED WI TH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.

D. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.

E. THE MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.

F. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ON SITE.

9. IN ADDITION TO PREVIOUS NOTES, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEAN-UP:

A. MANUFACTURER' S RECOMMENDED METHODS FOR SPILL CLEAN-UP WILL BE POSTED. SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEAN-UP SUPPLIES.

B. MATERIALS AND EQUIPMENT NECESSARY FOR SPELL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE, BUT NOT LIMITED TO: BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY DESIGNATED FOR THIS PURPOSE.

C. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

D. THE SPILL AREA WILL BE KEPT WELL-VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

E. SPILLS OF TOXIC OR HAZARDOUS MATERIALS WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF SIZE.

F. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND OUTLINE THE CLEANUP PROCESS SHOULD THERE BE ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

G. THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. THEY WILL DESIGNATE SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND, IF APPLICABLE, IN THE OFFICE TRAILER ON SITE.

DEWATERING NOTES

1. THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS FROM DEWATERING ACTIVITIES.
2. CONTRACTOR SHALL PREPARE A DEWATERING PLAN PRIOR TO ANY PUMPING ACTIVITIES.
3. WATER FROM TRENCHES SHALL BE DISPOSED OF IN SUCH A MANNER TO AVOID PUBLIC NUISANCE, INJURY TO PUBLIC HEALTH OR ENVIRONMENT, DAMAGE TO PROPERTIES, OR DAMAGE TO WORK COMPLETED.

TEMPORARY STABILIZATION

TEMPORARY STABILIZATION SHALL OCCUR AS REQUIRED IN THE FOLLOWING TABLE:

TABLE 1: TEMPORARY STABILIZATION

AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
FOR ALL CONSTRUCT/ON ACTIVITIES, ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN 1 YEAR, AND WITHIN 50 FEET OF A STREAM.	WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
FOR ALL CONSTRUCT/ON ACTIVITIES, ANY DISTURBED AREA, INCLUDING SOIL STOCKPILES THAT WILL BE DORMANT FOR MORE THAN 14 DAYS BUT LESS THAN 1 YEAR, AND NOT WITHIN 50 FEET OF A STREAM.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
DISTURBED AREAS THAT WILL REMAIN IDLE OVER WINTER.	PRIOR TO THE ONSET OF WINTER WEATHER (NOV 1) STRAW MULCH 2-3 BALES PER 1000 SQ FT OR 2 TONS PER ACRE.

NOTE: WHERE VEGETATIVE STABILIZATION TECHNIQUES ARE UNOBTAINABLE DUE TO INSTABILITY, EROSION CONTROL MATTING MAY BE USED.

STRAW MULCHING

AREAS SHALL BE STABILIZED WITH STRAW MULCH WHEN CONDITIONS PROHIBIT SEEDING. STRAW MULCH SHALL BE APPLIED AT A RATE OF 2-3 STANDARD 45 LB. BALES PER 1000 SQ. FT OF DISTURBED AREA OR 2 TONS PER ACRE.

INSPECTION

1. ALL CONTROLS ON THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD. THE CONTRACTOR 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, OR WHETHER ADDITIONAL CONTROL MEASURES ARE REQUIRED. QUALIFIED INSPECTION PERSONNEL ARE INDIVIDUALS WITH KNOWLEDGE AND EXPERIENCE IN THE INSTALLATION AND MAINTENANCE OF SEDIMENT AND EROSION CONTROLS. INSPECTIONS SHALL MEET THE FOLLOWING REQUIREMENTS:

A. 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.

B. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWP3 SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY THE CONTRACTOR SHALL UTILIZE AN INSPECTION FORM. THE INSPECTION FORM SHALL INCLUDE:

C. THE INSPECTION DATE.

D. NAMES, TITLES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION.

E. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION, INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT, DURATION OF EACH STORM EVENT AND APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT IN INCHES, AND WHETHER ANY DISCHARGES OCCURRED.

F. LOCATIONS OF:

- DISCHARGES FROM SEDIMENT OR OTHER POLLUTANTS FROM THE SITE.
- BMP'S THAT NEED TO BE MAINTAINED.
- BMP'S THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION.
- WHERE ADDITIONAL BMP'S ARE NEEDED THAT DID NOT EXIST AT THE TIME OF THE INSPECTION.
- CORRECTIVE ACTION REQUIRED INCLUDING ANY NECESSARY CHANGES TO THE SWP3 AND IMPLEMENTATION DATES.

G. DISCHARGE LOCATIONS SHALL BE INSPECTED TO DETERMINE WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATER RESOURCE OR WETLANDS.

H. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING

I. THE PERMIT APPLICANT SHALL MAINTAIN FOR 3 YEARS FOLLOWING FINAL STABILIZATION THE RESULTS OF THESE INSPECTIONS, THE NAMES AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTIONS, THE DATES OF THE INSPECTIONS, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE SWP3, A CERTIFICATION AS TO WHETHER THE FACILITY IS IN COMPLIANCE WITH THE SWP3, AND INFORMATION ON ANY INCIDENTS OF NON-COMPLIANCE DETERMINED BY THESE INSPECTIONS.

MAINTENANCE

1. ALL CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION UNTIL FINAL STABILIZATION. ALL SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UP SLOPE AREAS THEY CONTROL REACH FINAL STABILIZATION THE CONTRACTOR SHALL COMPLY WITH THE MAINTENANCE SCHEDULE CONTAINED IN THE APPROVED PLANS FOR THE PROPOSED EROSION CONTROLS. A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF ALL CONTRACTORS AND SUB-CONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE BMP'S SHALL BE MAINTAINED AT THE JOB SITE AS PROOF ACKNOWLEDGING THAT THEY HAVE REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3.

2. WHEN INSPECTIONS REVEAL THE NEED FOR REPAIR, REPLACEMENT, OR INSTALLATION OF EROSION AND SEDIMENT CONTROL BMP'S, THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

A. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE CONTROL PRACTICES IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION.

B. WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION: CONTROL PRACTICES THAT FAIL TO PERFORM THEIR INTENDED FUNCTION AS DETAILED IN THE SWP3 SHALL BE REPLACED WITH ANOTHER MORE APPROPRIATE CONTROL WITHIN 10 DAYS. THE SWP3 SHALL BE AMENDED TO SHOW THE NEW CONTROL PRACTICE.

C. WHEN PRACTICES ON THE SWP3 ARE NOT INSTALLED: CONTROL PRACTICES REQUIRED BY THE SWP3 BUT NOT IMPLEMENTED AT THE TIME OF THE INSPECTION SHALL BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION. IF THE PLANNED CONTROL IS NOT NEEDED, AN EXPLANATION AS TO WHY THE CONTROL IS NOT NEEDED SHALL BE ADDED TO THE SWP3.

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO
KEITH A. DYLEWSKI
E-70907
REGISTERED
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2/28/2023
DATE

NW NE SW SE N

VERTICAL FEET 0 0 0

0 0 0
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS:

DESCRIPTION	DATE

Walnut Woods Site Plan

SWP3 General Notes
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE ST. NW, SUITE 600, CANTON, OH 44718
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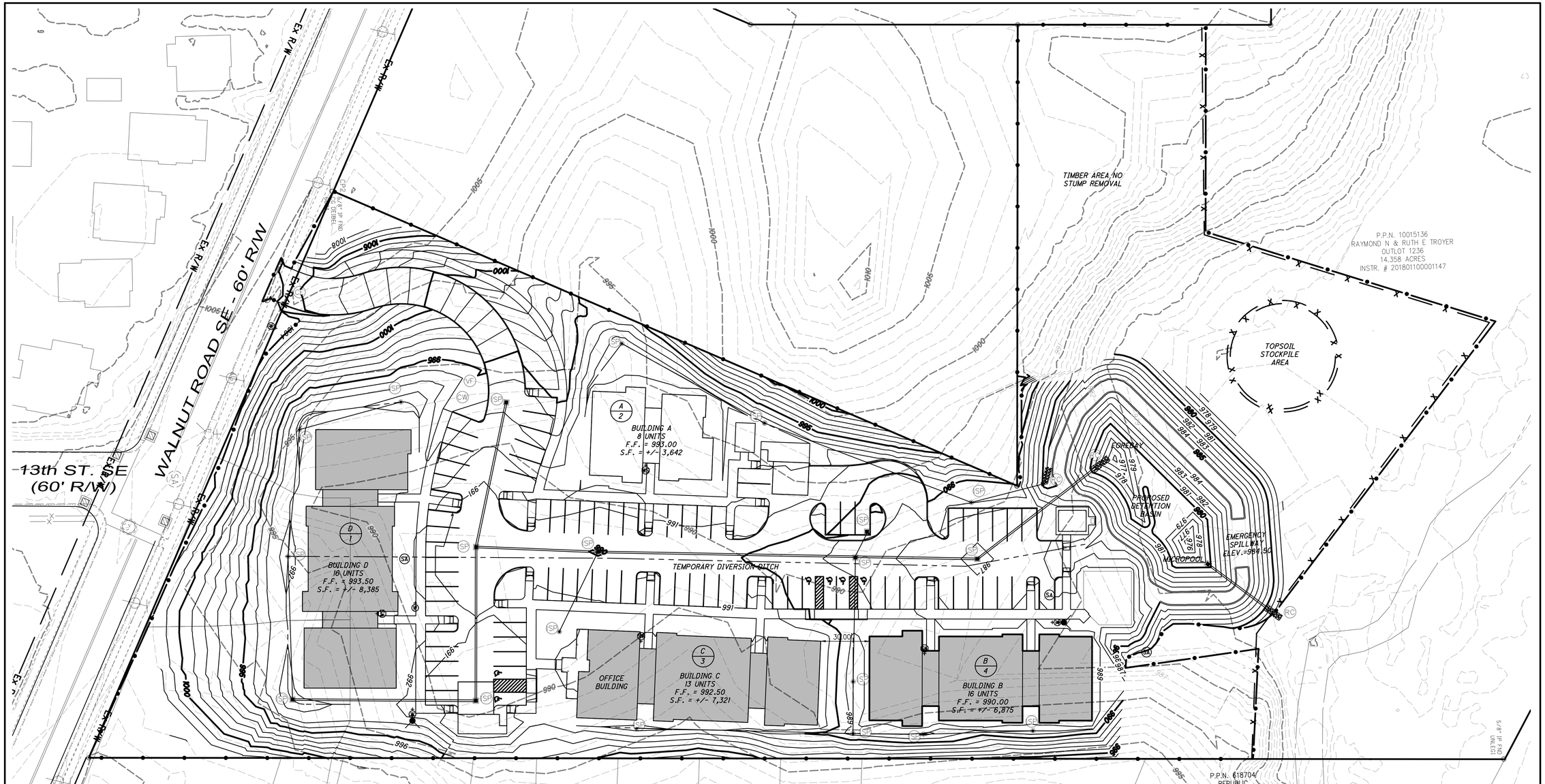
WWW.CIVPROENGINEERING.COM

DRAWING NAME: Site Plan 1-10-23.dwg
REF NUMBER:



LEGEND:

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- POTENTIAL TOPSOIL STOCKPILE AREA
- SILT FENCE
- LIMITS OF CONSTRUCTION/ DISTURBANCE & POTENTIAL TREE CLEARING (4.895 ACRES)

CONTROL

THE OHIO STATE PLAN COORDINATE SYSTEM, NORTH ZONE (3401) NAD 83 (2011) WAS USED FOR THIS PROJECT. ALL NORTHING AND EASTING VALUES ARE IN U.S. SURVEY FOOT.

DESCRIPTION	NORTHING	EASTING
CP1 (PKS)	410668.7839'	2242907.4667'
CP2 (PKS)	410088.9044'	2242714.8727'

BENCHMARK - BM#1

CP1 - IRON PIN FOUND CAPPED "CG DEIBEL 6673" AT THE BOUNDARY CORNER. SEE LOCATION CALLED OUT AS "CP1 & BM#1" ON THE MAP.

ELEV. = 991.077

NOTES:
1. ALL EMBANKMENT UNDER NEW STRUCTURES SHALL BE COMPACTED WITH SELECT SITE MATERIAL PER ODOT SPECIFICATION 203.
2. ALL PROPOSED GRADES SHALL MEET EXISTING GRADES FLUSH.
3. CONTRACTOR SHALL STRIP ANY TOP SOIL AND STOCKPILE PRIOR TO SITE GRADING.
4. SEE THE STORMWATER MANAGEMENT BASIN SHEET FOR A MORE DETAILED VIEW OF THE STORMWATER MANAGEMENT BASIN.

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STATE OF OHIO
KEITH A. DYLEWSKI
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4/17/2023
DATE

- PS — PERMANENT SEEDING
- TS — TEMPORARY SEEDING
- CE — CONSTRUCTION ENTRANCE
- IP — INLET PROTECTION
- SF — EXCAVATED DROP INLET SEDIMENT PROTECTION
- VF — VEHICLE FUELING AREA
- SA — STORAGE AREA (SOLID, SAN. WASTE.....)
- CW — CONCRETE WASHOUT PITS
- RC — ROCK CHANNEL PROTECTION

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS
UNDERGROUND PROTECTION SERVICE
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NW NE SW SE N

VERTICAL FEET: 0 0 0

0 15 30
HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS:

DATE	DESCRIPTION
4/17/23	CITY & SSWCD

Walnut Woods Site Plan

SWP3 Plan
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
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PHONE: (234) 410-3913 EMAIL: KJD@CIVPROENGINEERING.COM
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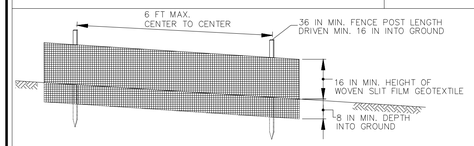
DRAWING NAME:

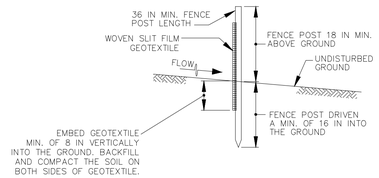
REF NUMBER:

SILT FENCE

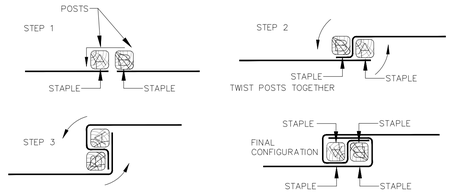
STANDARD SYMBOL: SF



ELEVATION



CROSS SECTION



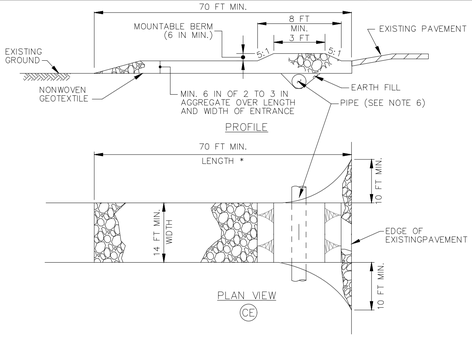
JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE

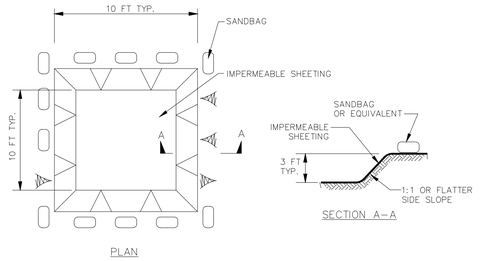


CONSTRUCTION SPECIFICATIONS

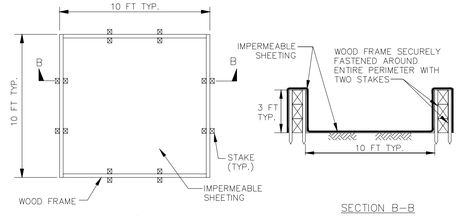
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 70 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 14 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



EXCAVATED WASHOUT STRUCTURE

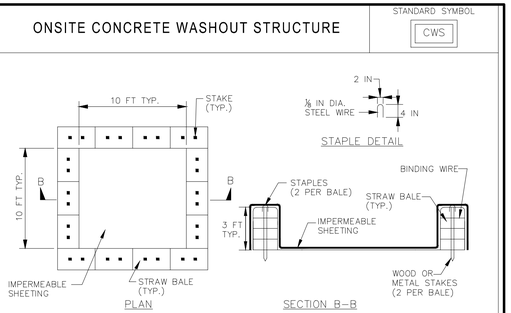


WASHOUT STRUCTURE WITH WOOD PLANKS

1 OF 2

ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

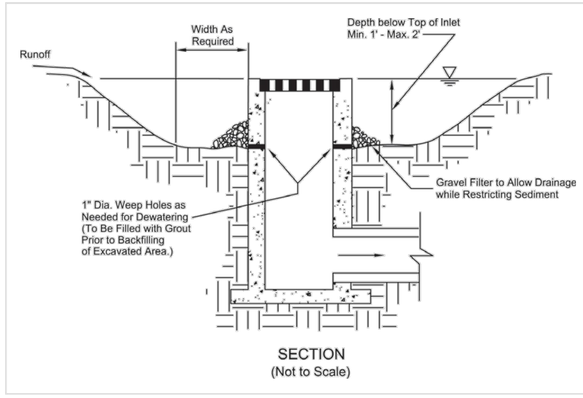
WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

2 OF 2

Excavated Drop Inlet Sediment Protection

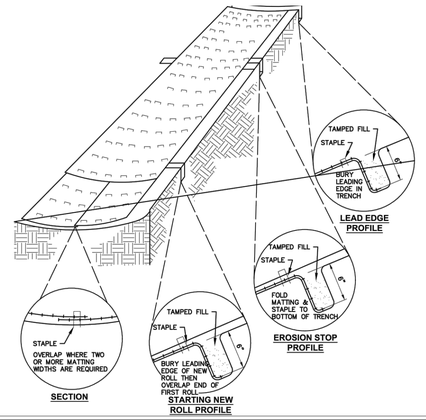


SECTION
(Not to Scale)

TURF REINFORCEMENT MATTING DETAIL (NTS)

NOTES

1. CHANNEL/SLOPE SOIL PREPARATION GRADE AND COMPACT AREA OF INSTALLATION, PREPARING SEEDBED BY LOOSENING 2"-3" OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS SUCH AS LIME AND FERTILIZER INTO SOIL. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER DEBRIS SO THAT INSTALLED TURF REINFORCEMENT MATTING (TRM) WILL HAVE DIRECT CONTACT WITH THE SOIL SURFACE.
2. CHANNEL/SLOPE SEEDING APPLY SEED TO SOIL SURFACE PRIOR TO INSTALLATION. ALL CHECK SLOTS, ANCHOR TRENCHES, AND OTHER DISTURBED AREAS MUST BE RESEEDED. REFER TO THE PERMANENT SEEDING SPECIFICATION FOR SEEDING RECOMMENDATIONS.



SLOPE INSTALLATION

1. EXCAVATE TOP AND BOTTOM TRENCHES (12"X6"). INTERMITTENT EROSION CHECK SLOTS (6"X6") MAY BE REQUIRED BASED ON SLOPE LENGTH. EXCAVATE TOP ANCHOR TRENCH 2' X 3' OVER CREST OF THE SLOPE.
2. IF INTERMITTENT EROSION CHECK SLOTS ARE REQUIRED INSTALL TRM IN 6"X6" SLOT AT A MAXIMUM OF 30' CENTERS OR THE MID POINT OF THE SLOPE. TRM SHOULD BE STAPLED INTO TRENCH ON 12" CENTERS.
3. INSTALL TRM IN TOP ANCHOR TRENCH, ANCHOR ON 12" SPACINGS, BACKFILL AND COMPACT SOIL.
6. UNROLL TRM DOWN SLOPE WITH ADJACENT ROLLS OVERLAPPED A MINIMUM OF 3". ANCHOR THE SEAM EVERY 18". LAY THE TAM LOOSE TO MAINTAIN DIRECT SOIL CONTACT, DO NOT PULL TAUGHT.
7. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSLOPE TAM ON TOP FOR A SHINGLE EFFECT. BEGIN ALL NEW ROLLS IN AN EROSION CHECK SLOT IF REQUIRED, DOUBLE ANCHOR ACROSS ROLL EVERY 12".
8. INSTALL TAM IN BOTTOM ANCHOR TRENCH (12"X6"), ANCHOR EVERY 12". PLACE ALL OTHER STAPLES THROUGHOUT SLOPE AT 1 TO 2.5 PER SQUARE YARD DEPENDANT ON SLOPE. REFER TO MANUFACTURER'S ANCHOR GUIDE.

CHANNEL INSTALLATION

9. EXCAVATE INITIAL ANCHOR TRENCH (12"X6") ACROSS THE LOWER END OF THE PROJECT AREA.
10. EXCAVATE INTERMITTENT CHECK SLOTS (6"X6") ACROSS THE CHANNEL AT 30' INTERVALS ALONG THE CHANNEL.
11. EXCAVATE LONGITUDINAL CHANNEL ANCHOR SLOTS (4"X4") ALONG BOTH SIDES OF THE CHANNEL TO BURY THE EDGES. WHENEVER POSSIBLE EXTEND THE TAM 2'-3' ABOVE THE CREST OF CHANNEL SIDE SLOPES.
12. INSTALL TAM IN INITIAL ANCHOR TRENCH (DOWNSTREAM) ANCHOR EVERY 12", BACKFILL AND COMPACT SOIL.
13. ROLL OUT TRM BEGINNING IN THE CENTER OF THE CHANNEL TOWARD THE INTERMITTENT CHECK SLOT. DO NOT PULL TAUGHT. UNROLL ADJACENT ROLLS UPSTREAM WITH A 3" MINIMUM OVERLAP (ANCHOR EVERY 18") AND UP EACH CHANNEL SIDE SLOPE.
14. AT TOP OF CHANNEL SIDE SLOPES INSTALL TAM IN THE LONGITUDINAL ANCHOR SLOTS, ANCHOR EVERY 18".
15. INSTALL TRM IN INTERMITTENT CHECK SLOTS. LAY INTO TRENCH AND SECURE WITH ANCHORS EVERY 12", BACKFILL WITH SOIL AND COMPACT.
16. OVERLAP ROLL ENDS A MINIMUM OF 12" WITH UPSTREAM TAM ON TOP FOR A SHINGLING EFFECT. BEGIN ALL NEW ROLLS IN AN INTERMITTENT CHECK SLOT, DOUBLE ANCHORED EVERY 12".
17. INSTALL UPSTREAM END IN A TERMINAL ANCHOR TRENCH (12"X6"); ANCHOR EVERY 12", BACKFILL AND COMPACT.
18. COMPLETE ANCHORING THROUGHOUT CHANNEL AT 2.5 PER SQUARE YARD USING SUITABLE GROUND ANCHORING DEVICES (U SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, PLASTIC STAKES, AND TRIANGULAR WOODEN STAKES). ANCHORS SHOULD BE OF SUFFICIENT LENGTH TO RESIST PULLOUT. LONGER ANCHORS MAY BE REQUIRED IN LOOSE SANDY OR GRAVELLY SOILS.

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO — KEITH A. DYLEWSKI — E-70907 — REGISTERED PROFESSIONAL ENGINEER

2/28/2023
DATE

NW NE SW SE

VERTICAL FEET: 0 0 0

HORIZONTAL SCALE IN FEET: 0 0 0

CHECKED BY: KAD
DATE: Dec. 2022
DRAWN BY: BMH
DATE: Dec. 2022

REVISIONS:

DATE	DESCRIPTION

Walnut Woods Site Plan
SWP3 Details
City of Massillon
Stark County, Ohio

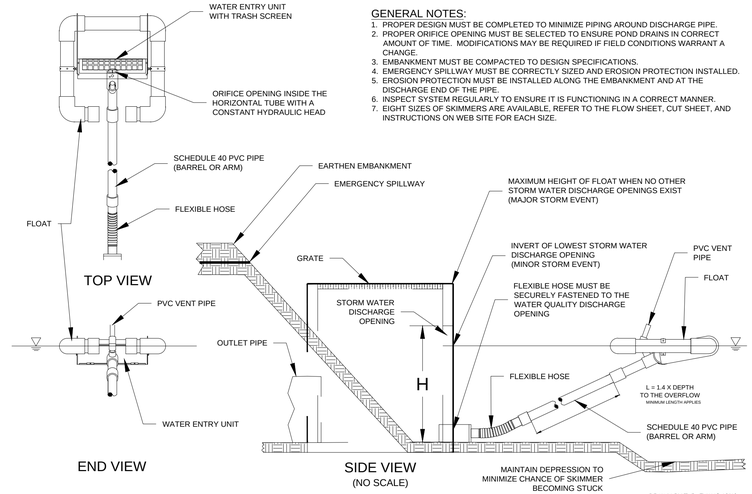
CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 207, CANTON, OH 44718
PHONE: (234) 410-3913 EMAIL: KA@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME: Site Plan 1-10-23.dwg
REF NUMBER:

KEITH A. DYLEWSKI, P.E., P.S.
CIVPRO ENGINEERING, LLC

STATE OF OHIO · KEITH A. DYLEWSKI · E-70907 · REGISTERED PROFESSIONAL ENGINEER

2/28/2023
DATE



GENERAL NOTES:

1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

DRAWN BY T. R. EVANS 10/10

J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
TELEPHONE: (919) 732-1244
FAX: (919) 732-1266
EMAIL: WARREN@FAIRCLOTHSKIMMER.COM

FAIRCLOTH® SKIMMER DISCHARGE SYSTEM WITH OUTLET STRUCTURE

Sediment Basin Sizing and Dewatering Compliance Tool

version 1.1 2020-06-26

Project Summary

Project Name:	Walnut Woods Site Plan	
Project Location:	Massillon, OH, 44646	Street address (or street name and nearest intersection), City, state, zip code
Subwatershed ID/Label:		
Project Latitude:	40.789724 N	Enter latitude at entrance to site in decimal degrees (format: 40.947544)
Project Longitude:	81.509092 W	Enter longitude at entrance to site in decimal degrees (format: -81.465240)
NPDES Permit Applicant:		
Submitted by:	BMH	Name of design engineer
Date:	12/6/2022	mm/dd/yyyy
Watershed:	Statewide	Select from dropdown which watershed the project is located in, select "Statewide" if not in the Big Darby Creek Watershed

Subwatershed Total Drainage Area, A_{total} =	5.11	acres	=	222,766 ft^2
Subwatershed Disturbed Drainage Area, A_{dist} =	3.09	acres	=	134,579 ft^2

Report to the nearest 0.01 acre; include any drainage from off-site

All Basin dewatering discharge calculations in these worksheets assume free discharge from the outlet (i.e., no tailwater)

Step 1 - Sediment Basin Volume Requirements

For Statewide Watersheds

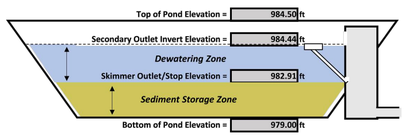
Minimum Sediment Storage Volume, Vsediment =	3090	ft3	=	114	yd3	= 0.071 acre-ft
Minimum Dewatering Zone Volume, Vdewatering =	9205	ft3	=	341	yd3	= 0.211 acre-ft

Requirement: Minimum Sediment Volume = 1000 ft3/acre of disturbed drainage area
Requirement: Minimum Dewatering Volume = 1800 ft3/acre of total drainage area

Step 2 - Basin Stage-Storage Relationship

	Elevation ft	Area ft^2	Incremental Volume ft^3	Cumulative Volume ft^3
Bottom of Sediment Storage (Pond) =	979.00	1,799		
	980.00	2,655	2,213	2,213
	981.00	3,527	3,081	5,294
IMPORTANT: Must include the exact Skimmer Outlet/Skimmer Stop Elevation and the Secondary Outlet Invert Elevation in the Stage-Storage Table	982.00	4,379	3,945	9,239
	982.91	5,212	4,358	13,598
	983.00	5,297	473	14,070
	984.00	6,373	5,827	19,897
	984.44	6,975	2,936	22,833
	984.50	7,058	421	23,254

Basin Schematic



Note: The basin dewatering discharge calculation in this worksheet assumes a free discharge from the outlet (i.e., no tailwater). The skimmer outlet elevation may need to be adjusted upward to account for tailwater as appropriate. Tailwater is common to low gradient ditches or water bodies with prolonged increases in water level

Step 3 - Outlet Elevations and Storage Volumes

Skimmer Outlet Invert/Skimmer Stop Elevation =	982.91	ft	OKAY
Secondary Outlet Invert Elevation =	984.44	ft	OKAY
Provided Sediment Storage Volume =	13,598	ft^3	OKAY
Provided Dewatering Volume =	9,235	ft^3	OKAY

The invert of the Skimmer Outlet/Skimmer Stop (ex. stone pad) corresponds to the top of the sediment storage zone/permanent pool and the bottom of the Dewatering Volume. It cannot be below the bottom of the pond.
The invert elevation for the next (usually peak discharge or flood control) outlet. This elevation must exceed that of the Skimmer Outlet Invert Elevation and be below the top of the pond. *Check - The difference between the skimmer outlet invert/skimmer stop elevation and the secondary outlet invert elevation (dewatering zone depth) must not exceed 5ft.
The Sediment Storage Volume must exceed the requirement listed above in Step 1
The Dewatering Volume must exceed the requirement listed above in Step 1

Step 4 - Skimmer-Type Outlet Sizing

Select Skimmer Type or Manufacturer: Faircloth Skimmer

Faircloth Skimmer Sizing Calculator: Click Here For Link to Online Calculator

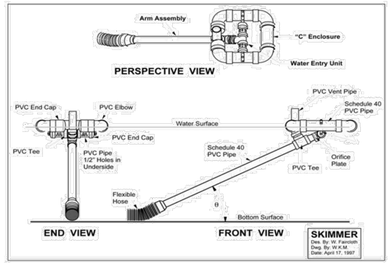
Follow directions on webpage to calculate exact skimmer size and model, include screenshot of results in SWP3. *Note* Input requir

Orifice Size Selected:	2.1	in
Dewatering Drawdown Time:	48	hrs

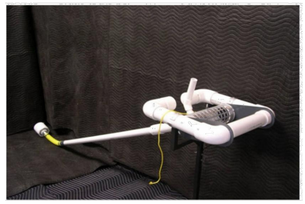
Check to ensure that orifice sizing calculation is done using required, NOT provided dewatering volume
Check that dewatering drawdown time is greater than 2 days and less than 7 days

Example Faircloth Float Spec Sheet

Please note the drawing and image shown below are provided solely to assist with identification of the skimmer type and its associated componants. The drawing and photo below does not necessarily depict an installation that complies with the General Permit or Rainwater & Land Development specification, especially where the sediment storage zone in omitted.



Faircloth Float Photo



Walnut Woods Site Plan
SWP3 Details
City of Massillon
Stark County, Ohio

NW NE SW SE N

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WWW.CIVPROENGINEERING.COM

DRAWING NAME: Site Plan 1-10-23.dwg
REF NUMBER:

GENERAL WATERLINE INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE LINE AND GRADE STAKES AT 100' INTERVALS FOR WATER MAIN AND FOR EACH FITTING AND APPURTENANCE. A COPY OF CUT SHEET SHALL BE PROVIDED TO FIELD INSPECTOR PRIOR TO INSTALLATION.
2. WATER WORK SHALL NOT BEGIN UNTIL AREAS OF WATERLINE CONSTRUCTION ARE ROUGH GRADED (WITHIN 1FT. OF FINISHED GRADE AND FILL AREAS ARE COMPLETED AND COMPACTED.)
3. NO WATER SERVICE CONNECTIONS TO ANY BUILDINGS SHALL BE PERMITTED PRIOR TO FINAL ACCEPTANCE BY AQUA OHIO, INC. WHICH SHALL INCLUDE APPROVED RECTIFICATION OF ALL PUNCH LIST ITEMS. ONCE PUNCH LIST ITEMS ARE COMPLETED, THE BUILDER SHALL BE RESPONSIBLE FOR GRADE ADJUSTMENTS TO WATER FACILITIES AT TIME OF BUILDING CONSTRUCTION AND DURING FINAL SITE GRADING.
4. A MINIMUM OF 5 FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN UTILITY CONDUIT CROSSOVERS AND WATERLINE APPURTENANCES, I.E. HYDRANTS, VALVES, TEES, ETC.
5. WATER LINE MATERIALS AND INSTALLATION PROCEDURES SHALL MEET OR EXCEED ALL APPLICABLE A.W.W.A. STANDARDS INCLUDING BUT NOT LIMITED TO THE MOST RECENT VERSIONS OF C600 AND C651.
6. WATERLINE MATERIAL AND INSTALLATION PROCEDURES SHALL BE IN ACCORDANCE WITH AQUA OHIO SPECIFICATIONS. CLASS 52 D.I.P. POLYWRAPPED, FITTINGS CLASS 53 CEMENT LINED POLYWRAPPED AND 1 IN. K COPPER TUBING WITH COMPRESSION FITTINGS FOR DOMESTIC SERVICES OR 2 IN. HDPE SDR 9 POLYETHYLENE 3408 PIPE AROUND CUL-DE-SAC. IF POLYETHYLENE IS USED, A 12 GAUGE WIRE AND METALLIC CAUTION TAPE MUST BE USED.
7. ALL PIPE AND APPURTENANCES INSTALLED ON A DEPRESSURIZED WATER MAIN ARE TO BE WIPED CLEAN AND ALL INTERIOR SURFACES SATURATED WITH A MINIMUM 1% CHLORINE SOLUTION.
8. ALL MECHANICAL JOINTS ARE TO BE RESTRAINED USING MEGALUG OR FORD EQUIVALENT. FIRE LINE RISERS TO INCLUDE (2) 5/8 IN. ALL THREAD RODS EXTENDING FROM LOWER BEND TO RISER FLANGE.
9. A RESTRAINT GASKET (FIELD-LOK OR APPROVED EQUAL) SHALL BE UTILIZED ON PUSH-ON JOINTS AS REQUIRED BY AQUA OHIO STANDARDS.
10. ALL DUCTILE IRON PIPE AND FITTINGS TO BE POLYWRAPPED AND TAPED AS PER DUCTILE IRON PIPE RESEARCH ASSOCIATION RECOMMENDATIONS.
11. DUCTILE IRON IN CASING SHALL BE CLASS 52, POLYWRAPPED AND ALL PUSH-ON JOINTS SHALL BE EQUIPPED WITH RESTRAINT GASKETS (FIELD-LOK OR APPROVED EQUAL) AND STAINLESS STEEL CASING SPACERS ARE REQUIRED.
12. ALL THRUST BLOCKING WILL BE SOLID CONCRETE BLOCKS WITH OAK WEDGES OR POURED CONCRETE, PER AQUA STANDARDS DRAWING.
13. ALL VALVES ARE OPEN RIGHT AND ALL MAIN LINE VALVES ARE TO BE PLACED ON A MINIMUM OF ONE 4" SOLID CONCRETE BLOCK. ALL VALVES TO HAVE #57 LIMESTONE UP TO OPERATING NUT OF VALVE.
14. ALL FIRE HYDRANTS TO HAVE A MINIMUM OF 1/2 CUBIC YARD OF #57 LIMESTONE 6 IN. ABOVE DRAIN HOLE OR EQUIVALENT SIZE BANK RUN GRAVEL. PLASTIC SHALL BE PLACED OVER STONE PRIOR TO BACKFILL. ALL HYDRANTS TO BE TURNED WITH 4-1/2 IN. NOZZLE FACING STREET WITH 5 IN. STORZ FITTING AND MEETING FIRE DEPARTMENT SPECIFICATIONS.
15. ALL VALVE BOX COVERS ARE TO BE PAINTED BLUE. CONTRACTOR IS RESPONSIBLE FOR ADJUSTMENTS TO VALVE BOXES, CURB BOXES, AND FIRE HYDRANTS WITH RESPECT TO FINAL GRADING. ALL VALVES BOXES IN NEW OR PROPOSED PAVEMENT SHALL BE SCREW TYPE.
16. WATERLINE WILL NOT BE ACCEPTED OR PLACED IN SERVICE UNTIL CONTRACTOR CONDUCTS AND OBTAINS SATISFACTORY RESULTS OF PRESSURE AND CHLORINE TESTS. BACTERIA TEST WILL THEN BE CONDUCTED BY AQUA OHIO. ALL VALVES, HYDRANTS, AND CURB BOXES ARE TO BE AT PROPER GRADE PRIOR TO ACCEPTANCE.
17. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE SAFETY OF THE PUBLIC ON AND SURROUNDING THE SITE DURING CONSTRUCTION.
18. THE LOCATION OF EXISTING UTILITIES AND STRUCTURES, BOTH ABOVE GROUND AND UNDERGROUND ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE SURVEY AND ARE NOT NECESSARILY COMPLETE AND/OR CORRECT. THE EXACT LOCATION AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES IS THE RESPONSIBILITY OF THE CONTRACTOR. DURING CONSTRUCTION, THE CONTRACTOR SHALL USE DUE DILIGENCE IN PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND STRUCTURES WHETHER SHOWN ON PLANS OR NOT. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR RESTORATION OF SAME IN ACCORDANCE WITH THE DIRECTIONS OF THE OWNER. THE CONTRACTOR SHALL CONTACT OHIO UTILITIES PROTECTION SERVICE, AT 1-800-362-2764, TWO WORKING DAYS PRIOR TO START OF CONSTRUCTION AS REQUIRED BY OHIO LAW.
19. THE WATERLINE SHALL BE INSTALLED AT 4'-0 IN. OF COVER FROM EXISTING/PROPOSED GRADE TO TOP OF THE WATERLINE. THIS 4' SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
20. A MINIMUM 10' -0 IN. HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE,OUT TO OUT.
21. A MINIMUM 18 IN. VERTICAL SEPARATION MUST BE MAINTAINED BETWEEN ALL STORM AND SANITARY SEWERS AND WATERLINE, OUT TO OUT.
22. DRIVEWAY RESTORATION SHALL BE AS FOLLOWS: CONCRETE DRIVEWAYS WILL BE REPLACED FROM THE NEAREST EXISTING JOINT TO THE STREET, FULL SLAB REPLACEMENT. ASPHALT DRIVEWAYS WILL BE REPLACED FROM THE FARTHEST TRENCH CUT LINE TO THE STREET. REPAIRING ONLY THE TRENCH WIDTH CUT ACROSS A DRIVEWAY ONLY IS NOT ACCEPTABLE.
23. THE CONTRACTOR SHALL VISIT THE SITE TO PERSONALLY ASCERTAIN THE NATURE OF THE WORK INVOLVED AND THOROUGHLY BECOME FAMILIAR WITH THE SITE PRIOR TO THE SUBMISSION OF HIS OR HER BID.
24. THE CONTRACTOR SHALL CAREFULLY LAYOUT THE WATERLINE AND ALL RELATED FACILITIES TO ENSURE THAT THEY ARE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY AND/OR ACQUIRED EASEMENTS AS INDICATED.
25. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE SITE (YARDS, DITCHES, DRIVEWAYS, ETC.) TO ITS ORIGINAL OR BETTER CONDITION UPON COMPLETION OF THE WATERLINE INSTALLATION.
26. THE CONTRACTOR MAY DEFLECT THE WATERLINE AS PER MANUFACTURER'S SPECS WITH PERMISSION FROM AQUA AS NEEDED TO MAINTAIN MINIMUM HORIZONTAL AND VERTICAL SEPARATION DISTANCES.
27. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, AND STAKES. ANY BENCHMARK, PROPERTY CORNER, OR SURVEY MARKER DAMAGED OR DISTURBED BY THE CONTRACTOR SHALL BE RESET BY AN OHIO REGISTERED PROFESSIONAL SURVEYOR AT THE CONTRACTORS EXPENSE.
28. ALL MAIL BOXES, TRAFFIC CONTROL SIGNS AND ADVERTISING SIGNS ENCOUNTERED DURING CONSTRUCTION SHALL BE REPLACED IMMEDIATELY AFTER THE WATER MAIN HAS BEEN INSTALLED AND BACKFILLED. TEMPORARY SIGNS TO BE USED AS NEEDED.
29. WATER SERVICE LINE CONNECTIONS ARE NOT TO BE INSTALLED UNTIL PRESSURE TEST AND BACTERIA TESTS HAVE BEEN APPROVED.
30. THE NORMAL WORKING PRESSURE IN WATER LINES SHALL NOT BE LESS THAN 35 PSI.

NOTE: THIS LIST DOES NOT SUPERCEDE CONTRACT SPECIFICATIONS AND IS INTENDED ONLY AS A GUIDELINE TO INSTALLING WATERLINES WITHIN THE AQUA OHIO SERVICE AREA. ANY QUESTIONS SPECIFIC TO YOUR PROJECT, SHOULD BE DISCUSSED WITH THE ONSITE INSPECTOR.

WATER SERVICE PROVIDER
AQUA OHIO
870 THIRD ST. NW
MASSILLON OHIO 44617

WATERLINE MATERIAL SPECIFICATIONS

DUCTILE IRON PIPE. Type required: push-on joints, cement lined, thickness class 52 for 4 inch through 16 inch, manufacturing standards AWWA C150 and C151. Polyethylene encasement shall be installed on all ductile pipe and fittings.

4" THROUGH 12" GATE VALVES. Type required: resilient seat, iron body, stainless steel bonnet bolts and nuts, mechanical joint accessories, non-rising stem, for underground service, O ring packing preferred, OPEN RIGHT (clockwise), 2 inch square operating nut, manufacturing standards and pressure ratings A WW A C509, Mueller A-2360 or equal.

FIRE HYDRANTS. Type required: post type, breakable flange design for traffic collisions, 5 1/4" diameter main valve, one 5" Storz connection and two 2 ½ in. hose nozzles, 6" MJ inlet, main valve to open left, direction of opening to be indicated with arrow cast on hydrant, to be designed for 5 foot trench, National Standard threads on nozzles, O-ring packing preferred, type 304 stainless steel bolts and nuts, operating nut and nut on caps: l ½" pentagon, color yellow paint on body trimmed with red paint on bonnet and caps, A WW A standard C502, Mueller Centurion A423-539382, US Pipe M-94 or Clow Medallion.

DUCTILE IRON FITTINGS. (tees, crosses, bends, reducers, sleeves, couplings and plugs.) Type required: mechanical joint, tees, crosses, bends and reducers are to be cement lined; working pressure rating 250 psi, manufacturing standards ANSI A21.53, ANSI A21.4 and ANSI A21.10. Compact style is acceptable. Retainer glands shall be installed on all mechanical joints.

TAPPING SLEEVES. Type required: Stainless steel or ductile iron with MJ outlet, stainless steel bolts and nuts, manufacturing standards and pressure ratings AWWA specification C110.

2" WATER MAIN. 2" water main shall be soft drawn type "K" copper tubing or high density polyethylene plastic (HDPE), copper tube size, as called out on the plan. If HDPE is used, it shall be 200 psi, SDR 9 with marking tape and a 12 gage copper tracer wire laid in the trench. Brass compression fittings shall be used. Stainless steel stiffeners are necessary at each joint.

VALVE BOXES. Type required: two piece, cast iron, screw type for adjustable height, height range to be approximately 36 to 60 inches. They are to include a well fitting cast iron lid, the word "WATER" to be cast on l id.

POLYETHYLENE ENCASEMENT. Type required: Eight mil thick polyethylene tube manufactured in accordance with ANSI/AWWA C105/A21.5. Polyethylene adhesive tape, 1 ½ in. wide to seal joints.

BLOW OFF ASSEMBLIES. Type required: Kupferle Foundry TF500 or approved equal. Install in valve box. Install 2" curb stop with curb box ahead of each blow off.

Revised Jan, 2021

GENERAL CONSTRUCTION NOTES

1. PRE-CONSTRUCTION MEETING WILL BE SCHEDULED PRIOR TO CONSTRUCTION WITH ALL APPROVING AGENCIES INVITED.
2. PRE-CONSTRUCTION VIDEOTAPE WILL BE MADE TO DOCUMENT EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL COORDINATE THE CROSSING OF RESIDENTIAL DRIVEWAYS TO MAINTAIN ACCESS.
4. TRAFFIC CONTROL WILL CONFORM TO STATE AND LOCAL REGULATIONS.

NW NE SW SE N

VERTICAL FEET 0 0 0

0 0 0 HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS:

DESCRIPTION	DATE

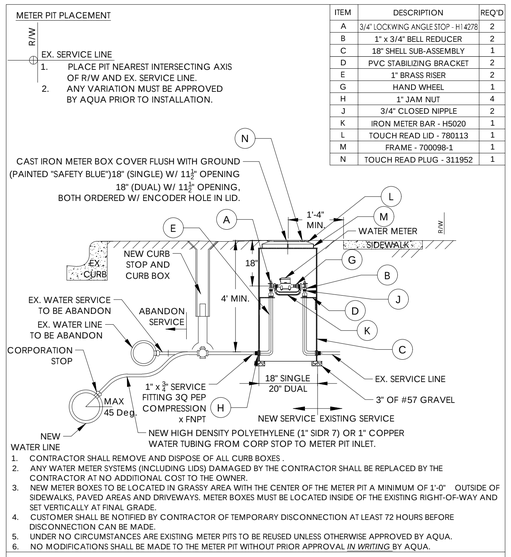
Walnut Woods Site Plan

Water Line General Notes
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
CIVIL ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 800 CANTON, OHIO 44718
PHONE: (234) 410-3913 EMAIL: KADRICH@CIVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

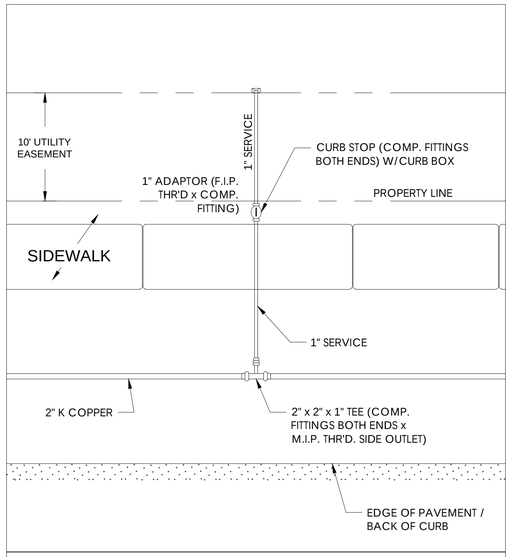
DRAWING NAME:
Walnut Woods Waterline Notes.dwg

REF NUMBER:

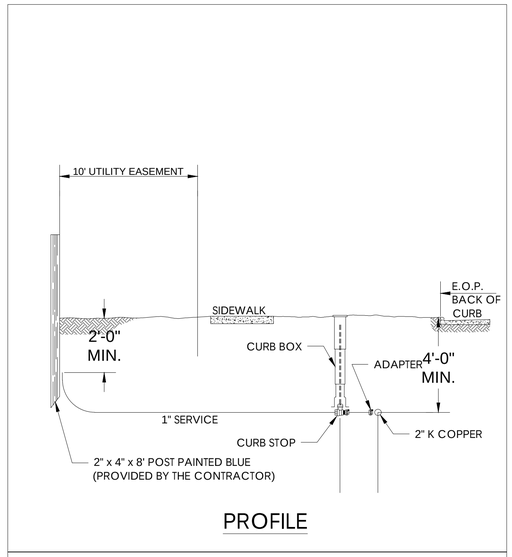


ITEM	DESCRIPTION	REQ'D
A	3/4" LOCKWING ANGLE STOP - H14278	2
B	1" x 3/4" BELL REDUCER	2
C	18" SHELL SUB-ASSEMBLY	1
D	PVC STABILIZING BRACKET	2
E	1" BRASS RISER	2
G	HAND WHEEL	1
H	1" JAM NUT	4
J	3/4" CLOSED NIPPLE	2
K	IRON METER BAR - H5020	1
L	TOUCH READ LID - 780113	1
M	FRAME - 700098-1	1
N	TOUCH READ PLUG - 311952	1

TYPICAL WATER SERVICE TAP

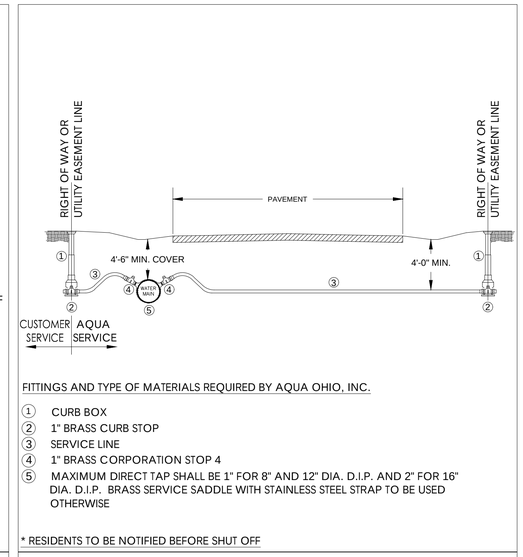


TYPICAL PRE-TAP PLAN



PROFILE

TYPICAL PRE-TAP CUL-DE-SAC LOTS ONLY

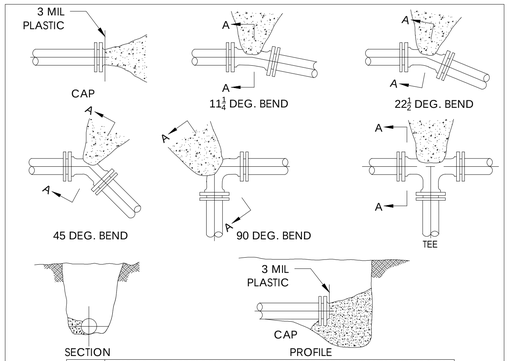


FITTINGS AND TYPE OF MATERIALS REQUIRED BY AQUA OHIO, INC.

1. CURB BOX
2. 1" BRASS CURB STOP
3. SERVICE LINE
4. 1" BRASS CORPORATION STOP 4
5. MAXIMUM DIRECT TAP SHALL BE 1" FOR 8" AND 12" DIA. D.I.P. AND 2" FOR 16" DIA. D.I.P. BRASS SERVICE SADDLE WITH STAINLESS STEEL STRAP TO BE USED OTHERWISE

* RESIDENTS TO BE NOTIFIED BEFORE SHUT OFF

AQUA OHIO, INC. TYPICAL SERVICE LINE INSTALLATION



FITTINGS SIZES	BEARING AREA OF BLOCK ON UNDISTURBED SOIL FOR HORIZONTAL BENDS (S.F.) *				
	TEES & ENDS	90 DEG. BEND	45 DEG. BEND	22½ DEG. BEND	11¼ DEG. BEND
4	1.5	2	1.5	1.5	1.5
6	3	4	2	1.5	1.5
8	4.5	7	3.5	2	1.5
10	7.5	10.5	5	3	1.5
12	10.5	15	8	4	2.5

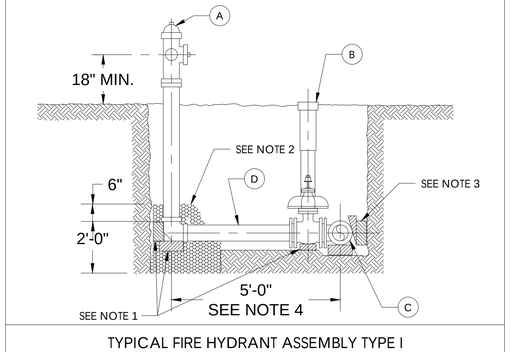
* AND VERTICAL BENDS UP

NOTES:
1). ALL BLOCKING SHALL BE POURED AGAINST FIRM, UNDISTURBED SOIL.
2). BEARING AREA AT FITTINGS NOT GIVEN IN BEARING TABLE SHALL BE AS DIRECTED BY THE ENGINEER.
3). WHEN POURING AGAINST PLUGS AND BLIND FLANGES SET A PIECE OF 3 MIL PLASTIC AGAINST FITTING, TO KEEP CONCRETE OFF BOLTS.
4). LAYOUT TO BE APPROVED BY ENGINEER PRIOR TO CONCRETE POUR.
5). BASED ON 150 PSI STATIC PRESSURE PLUS 50 PSI WATER HAMMER AND 2000 PSF SOIL BEARING.
6). PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE AFTER CONCRETE IS POURED.
7). THRUST BLOCK DETAILS ARE SHOWN AS MINIMUM AND MAY REQUIRE ADDITIONAL BLOCKING.
8). CONCRETE CINDER BLOCKS MAY BE USED IN PLACE OF POURED CONCRETE FOR WATER MAINS 12" AND SMALLER.

CONCRETE THRUST BLOCKING DETAILS

NOTES:
1. SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEES, VALVES, ALSO BEHIND AND UNDER HYDRANT ELBOW.
2. CLEAN CRUSHED STONE FILL AROUND HYDRANT DRAIN TO A DEPTH OF 2'-0".
3. SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)
4. THE DISTANCE FROM THE CENTERLINE OF MAIN TO THE CENTERLINE OF HYDRANT WILL BE 5' EXCEPT WHEN INDIVIDUAL CIRCUMSTANCES PROVE IT TO BE INFEASIBLE. WHEN SUCH CIRCUMSTANCES OCCUR, THE LENGTH OF THE LEAD WILL BE NOTED ON THE DRAWINGS WITH THE STATIONING.
5. ALL HYDRANTS SHALL STAND PLUMB AND HAVE PUMPER NOZZLE FACING THE CURB.
6. PUMPER NOZZLE SHALL BE OUTFITTED WITH 5" STORZ STEAMER CONNECTION.

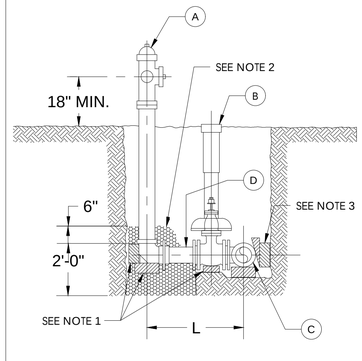
ITEM	DESCRIPTION
A	HYDRANT ASSEMBLY PER STANDARDS BY AQUA OHIO INC.
B	6" M.J. GATE VALVE, (3) PIECE VALVE BOX
C	ANCHOR TEE (CLOW F-1217)
D	6" DUCTILE IRON PIPE WITH MEGA-LUGS FOR RETAINERS



TYPICAL FIRE HYDRANT ASSEMBLY TYPE I

NOTES:
1. SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEES, VALVES, ALSO BEHIND AND UNDER HYDRANT ELBOW.
2. CLEAN CRUSHED STONE FILL AROUND HYDRANT DRAIN TO A DEPTH OF 2'-0".
3. SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)
4. ALL HYDRANTS SHALL STAND PLUMB AND HAVE PUMPER NOZZLE FACING THE CURB.
5. PUMPER NOZZLE SHALL BE OUTFITTED WITH 5" STORZ STEAMER CONNECTION.

ITEM	DESCRIPTION
A	HYDRANT ASSEMBLY PER STANDARDS BY AQUA OHIO INC.
B	6" M.J. GATE VALVE, (3) PIECE VALVE BOX
C	ANCHOR TEE (CLOW F-1217)
D	M.J. ANCHOR COUPLING x 12'L

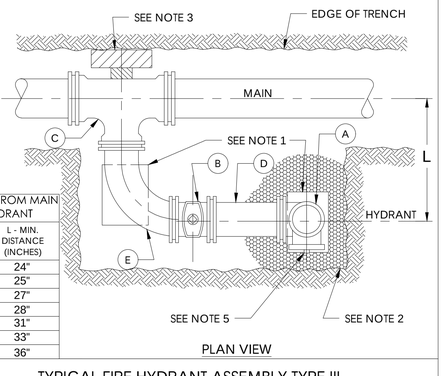


DISTANCE FROM MAIN TO HYDRANT	
MAIN LINE SIZE	L - MIN. DISTANCE (INCHES)
6"	38"
8"	40"
10"	42"
12"	43"
16"	46"
20"	58"
24"	61"

TYPICAL FIRE HYDRANT ASSEMBLY TYPE II

NOTES:
1. SOLID CONCRETE BLOCK TO BE USED UNDER ALL TEES, BENDS, ALSO BEHIND AND UNDER HYDRANT ELBOW.
2. CLEAN CRUSHED STONE FILL AROUND HYDRANT DRAIN TO A DEPTH OF 2'-0".
3. SOLID CONCRETE BLOCK WITH OAK WEDGES. (BRACED AGAINST UNDISTURBED SOIL)
4. THE DISTANCE FROM THE CENTERLINE OF MAIN TO THE CENTERLINE OF HYDRANT WILL BE 5' EXCEPT WHEN INDIVIDUAL CIRCUMSTANCES PROVE IT TO BE INFEASIBLE. WHEN SUCH CIRCUMSTANCES OCCUR, THE LENGTH OF THE LEAD WILL BE NOTED ON THE DRAWINGS WITH THE STATIONING.
5. ALL HYDRANTS SHALL STAND PLUMB AND HAVE PUMPER NOZZLE FACING THE CURB.
6. PUMPER NOZZLE SHALL BE OUTFITTED WITH 5" STORZ STEAMER CONNECTION.

ITEM	DESCRIPTION
A	HYDRANT ASSEMBLY PER STANDARDS BY AQUA OHIO, INC.
B	8" M.J. GATE VALVE, (3) PIECE VALVE BOX
C	STANDARD M.J. TEE
D	MJ ANCHOR COUPLING (F-1211)
E	MJ ANCHOR ELBOW (F-1218)



DISTANCE FROM MAIN TO HYDRANT	
MAIN LINE SIZE	L - MIN. DISTANCE (INCHES)
6"	24"
8"	25"
10"	27"
12"	28"
16"	31"
20"	33"
24"	36"

PLAN VIEW

TYPICAL FIRE HYDRANT ASSEMBLY TYPE III

NW NE SW SE N

VERTICAL FEET 0 0 0

HORIZONTAL SCALE IN FEET 0 0 0

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

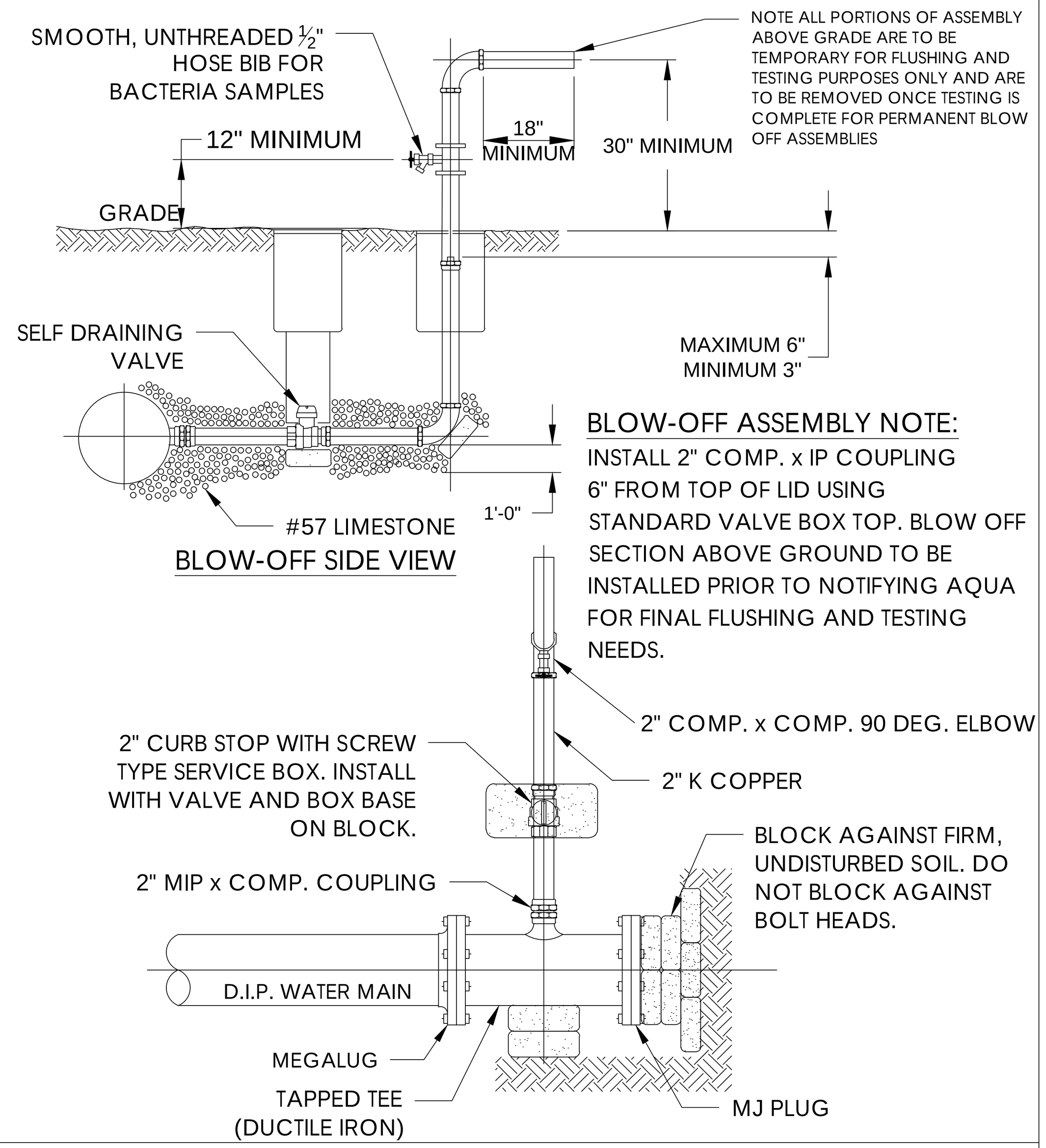
REVISIONS: DESCRIPTION | DATE

Walnut Woods Site Plan
Waterline Details
City of Massillon
Stark County, Ohio

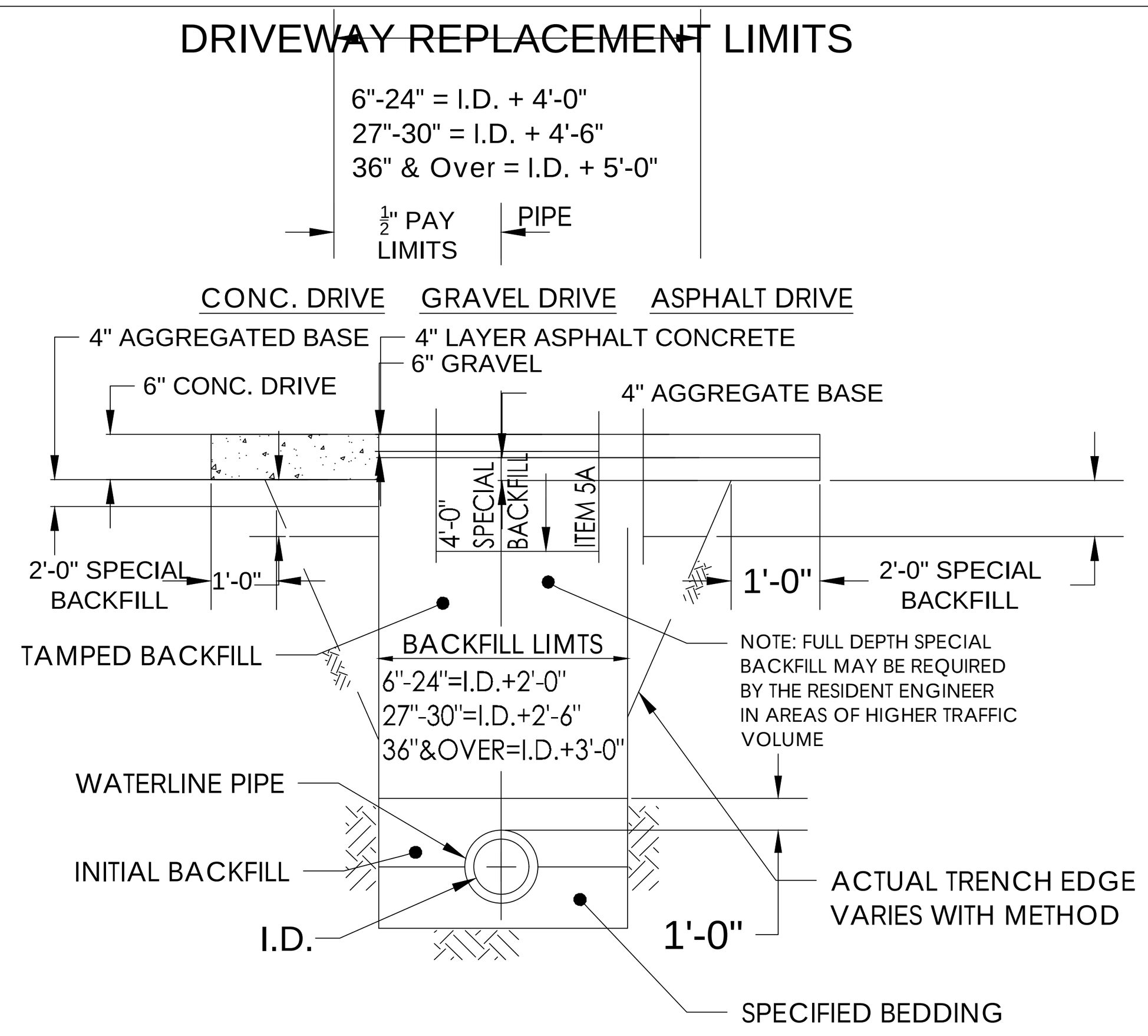
CIVPRO ENGINEERING
ENGINEERS • SURVEYORS • CONSTRUCTION MANAGERS
4450 BELDEN VILLAGE STREET NW, SUITE 207, CANTON, OHIO 44718
PHONE: (234) 410-3913 EMAIL: KADKOVPROENGINEERING.COM
WWW.CIVPROENGINEERING.COM

DRAWING NAME: Walnut Woods Waterline Notes.dwg

REF NUMBER:



2" ADAPTOR & BLOW OFF ASSEMBLY



DRIVEWAY RESTORATIONS SHALL BE AS FOLLOWS: CONCRETE DRIVEWAYS WILL BE REPLACED FROM THE NEAREST EXISTING JOINT TO THE STREET, FULL SLAB REPLACEMENT. ASPHALT DRIVEWAYS WILL BE REPLACED FROM THE FARTHEST TRENCH CUT LINE TO THE STREET. REPAIRING ONLY THE TRENCH WIDTH CUT ACROSS A DRIVEWAY IS NOT ACCEPTABLE.

NOTE: THE CONTRACTOR SHALL MAINTAIN ALL DRIVEWAYS PRIOR TO DRIVEWAY REPLACEMENT.

DRIVEWAY ~ PRIVATE DRIVE RESTORATION

FIELD-LOK GASKETS OR OTHER APPROVED PIPE RESTRAINT SYSTEMS WILL BE USED TO RESTRAIN PIPE, OR WITH PRIOR APPROVAL BY AQUA FOR THE FOLLOWING SITUATIONS:

1. FOR VERTICAL BENDS IN LIEU OF DEAD-MAN CONCRETE RESTRAINT
2. FOR VERTICAL AND HORIZONTAL BENDS INSTALLED IN POOR SOIL CONDITIONS
3. FOR HYDRANTS OR BENDS WITH SLOPING GROUND BEHIND THE POINT OF THRUST

NOTE: MEG-A-LUGS OR APPROVED EQUAL SHALL BE USED TO RESTRAIN FITTINGS AND VALVES

THRUST BLOCKS WILL NORMALLY BE USED FOR ALL HORIZONTAL BENDS. THE CONTRACTOR WILL GET WRITTEN PRIOR APPROVAL FROM AQUA TO SUBSTITUTE A RESTRAINT SYSTEM IN LIEU OF THRUST BLOCKING FOR HORIZONTAL BENDS.

CONTRACTOR WILL SUPPLY ALL FIELD-LOK GASKETS

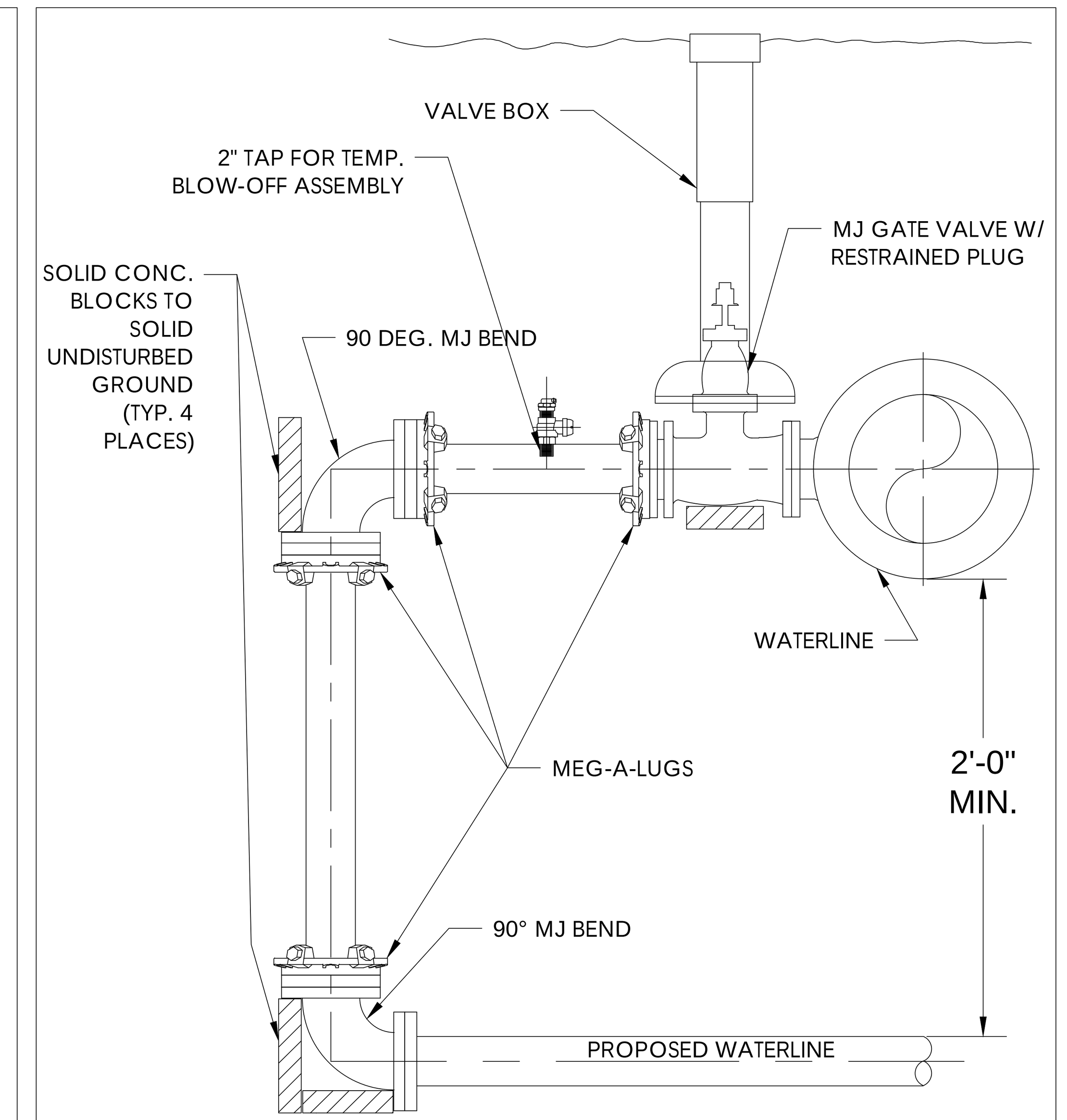
LINEAR FEET OF MECHANICAL PIPE RESTRAINT REQUIRED (EITHER SIDE OF FITTING)								
PIPE DIA. (IN.)	DEAD END	90 DEG.	45 DEG.	22.5 DEG.	11.25 DEG.	VERT. UP	VERT. DOWN	TEE BRANCH
4	36	16	8	0	0	4	16	18
6	60	28	13	0	0	10	24	35
8	108	54	18	0	0	18	36	90
12	162	90	36	18	0	36	72	144
16	214	118	49	23	12	12	21	200
24	304	165	68	33	16	16	30	289

CONSTRUCTION CRITERIA:

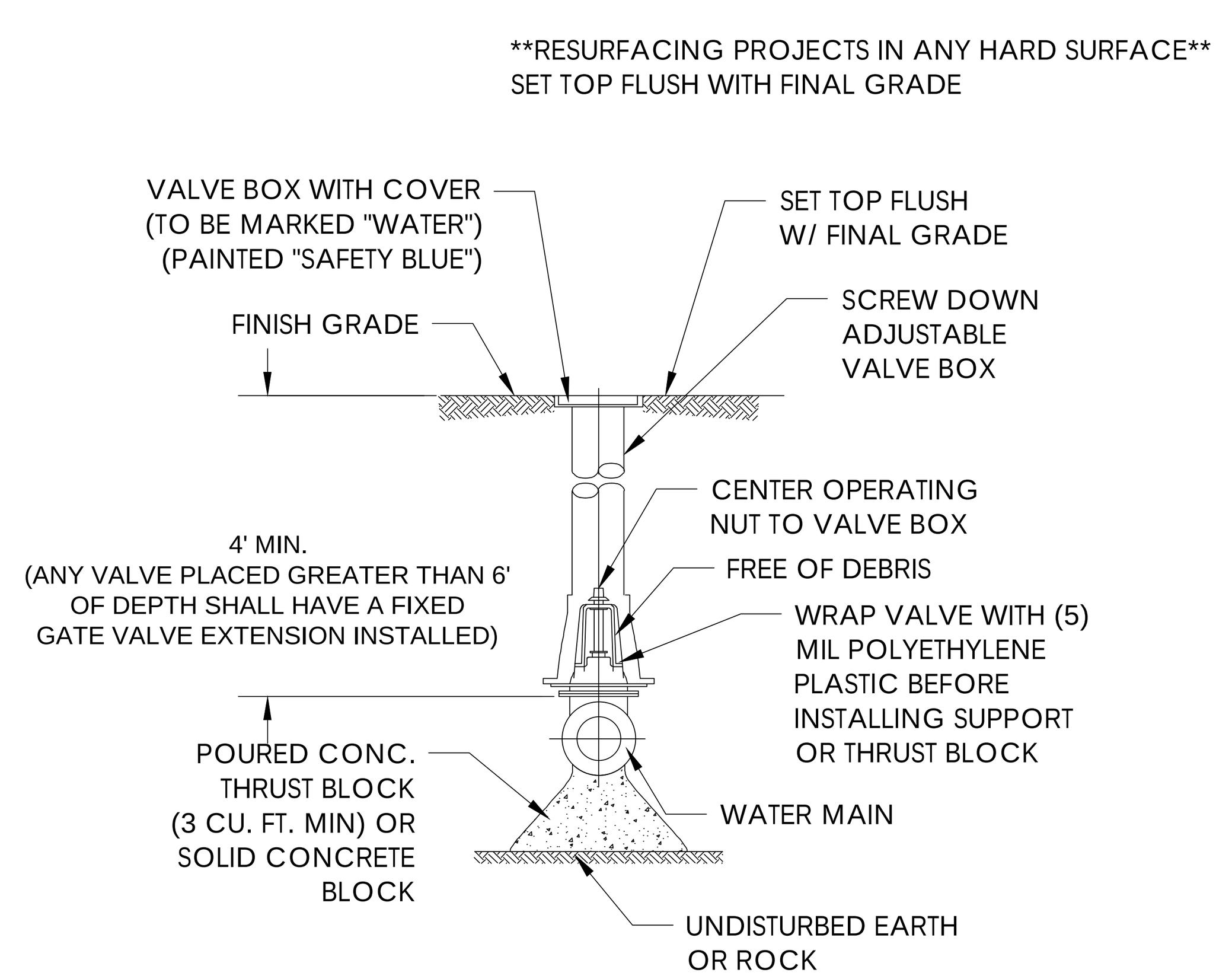
1. FOR WORKING AND/OR TEST PRESSURES< 150 PSI.
2. TYPE 2 TRENCH WITH MINIMUM OF 4.0 FT. OF COVER
3. POLYWRAPPED PIPE
4. 18 FT. PIPE LENGTHS
5. FITTINGS RESTRAINED WITH MEG-A-LUGS OR APPROVED EQUAL

NOTE: IF FIELD CONDITIONS DO NOT CONFORM TO THE NOTED CONSTRUCTION CRITERIA, THE CONTRACTOR SHALL GET WRITTEN APPROVAL FROM AQUA FOR THE NUMBER OF RESTRAINED JOINTS.

THRUST RESTRAINT WITH FIELD-LOK GASKETS



BACKSIDE TAP DETAIL



GATE VALVE INSTALLATION DETAIL

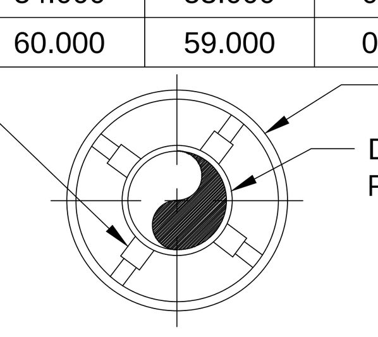
1. ALL VALVE BOXES MUST BE KEPT FREE OF DEBRIS DURING CONSTRUCTION.

GATE VALVE INSTALLATION DETAIL

~PIPE CROSSING DATA SHEET~

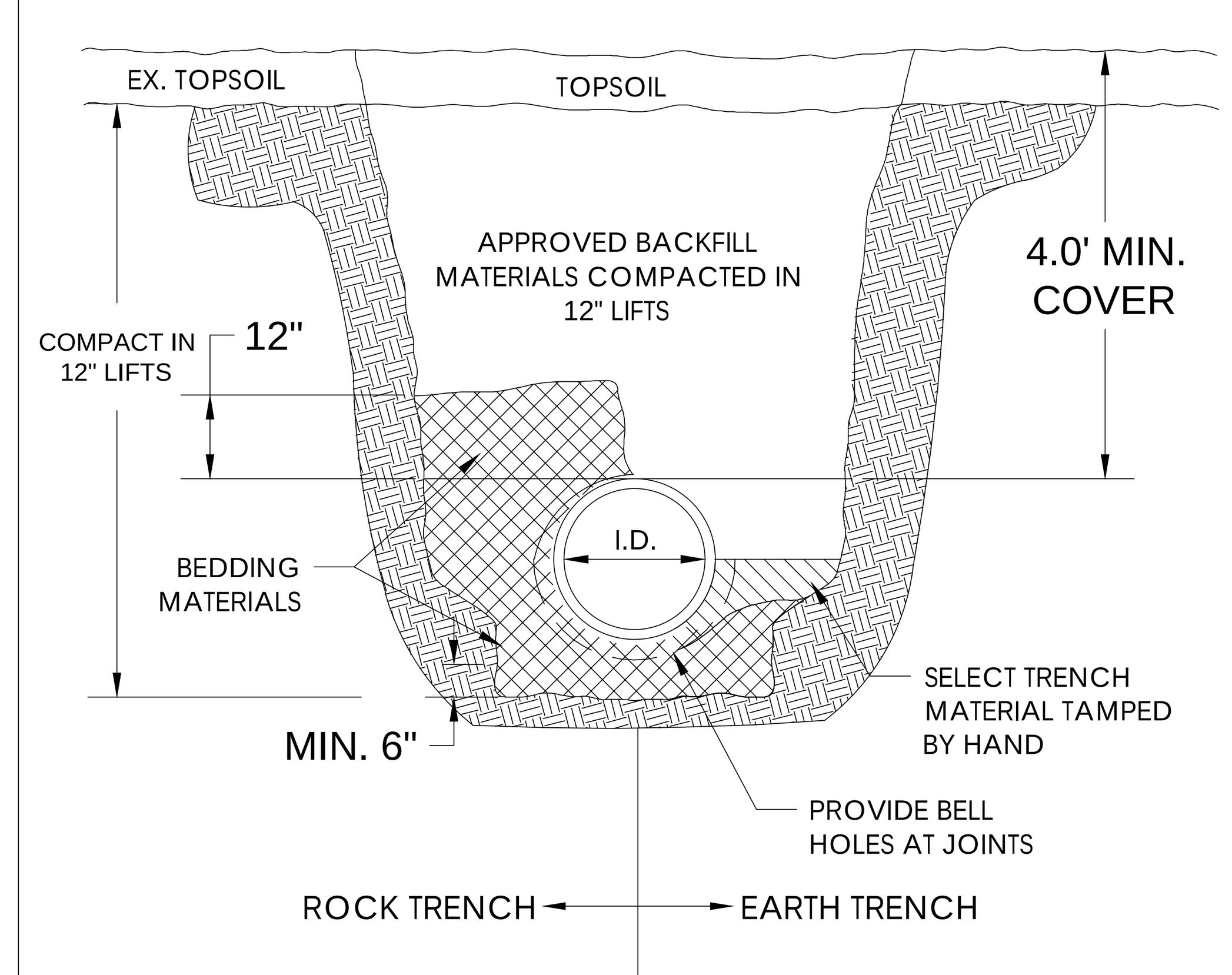
PIPE DATA	CARRIER PIPE	CASING PIPE
MATERIAL	DUCTILE IRON	STEEL
PROCESS OF MANUFACTURE	SPIN CAST	ELECTRIC
WELD SPECIFICATION	ANSI,A21.51	ASTM A53
GRADE OF CLASS	SEE SPEC	GRADE B TEST
PRESSURE	SEE SPEC	35,000 PSI, YIELD
TYPE OF JOINT	PUSH ON FIELD LOK RUBBER GASKET	WELDED
TYPE OF COATING	ASPHALTIC PRIMER	NONE
CATHODIC PROTECTION	NONE	NONE
SEAL AT END OF CASING	N/A	MOLDED SYN. RUBBER END SEAL
METHOD OF INSTALLATION	PUSH ON SKIDS	JACK AND BORE

CASING PIPE SIZING					
WATER MAIN SIZE	NOMINAL SIZE OF CASING PIPE	OUTSIDE DIAMETER	INSIDE DIAMETER	WALL THICKNESS (MIN.)	WEIGHT PER FOOT
6"	16"	16.000	15.250	0.375	62.64
8"	18"	18.000	17.250	0.375	70.65
12"	24"	24.000	23.000	0.500	125.61
16"	30"	30.000	29.000	0.500	157.68
20"	36"	36.000	35.000	0.500	189.75
24"	42"	42.000	41.000	0.500	221.82
30"	48"	48.000	47.000	0.500	253.89
36"	54"	54.000	53.000	0.500	285.96
42"	60"	60.000	59.000	0.500	318.03

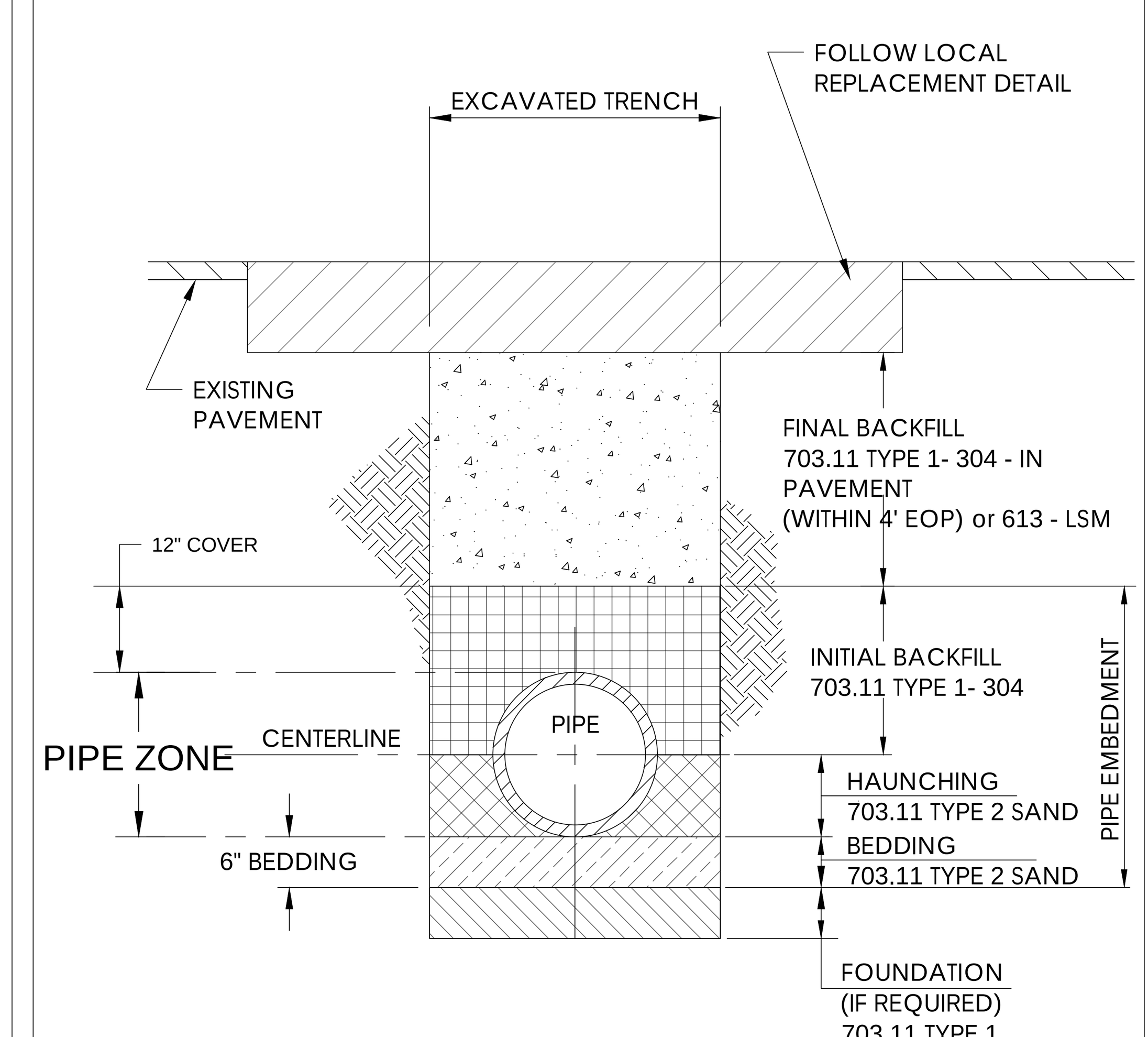


FILL CASING PIPE WITH SAND AFTER CARRIER PIPE IS IN PLACE. ENDS TO BE CLOSED OFF SUFFICIENTLY TO RETAIN THE SAND. FIELD-LOK GASKETS TO BE USED AT ALL PIPE JOINTS WITHIN CASING PIPE.

CASING PIPE DETAIL



TYPICAL TRENCH DETAIL OUTSIDE OF PAVEMENT



TYPICAL TRENCH DETAIL INSIDE OF PAVEMENT

NW NE SW SE N

VERTICAL IN FEET

HORIZONTAL SCALE IN FEET

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
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REVISIONS:	
DATE	DESCRIPTION

Walnut Woods Site Plan

Waterline Details
City of Massillon
Stark County, Ohio

CIVPRO ENGINEERING
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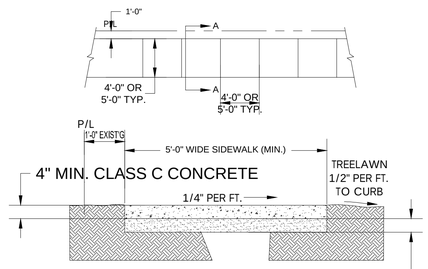
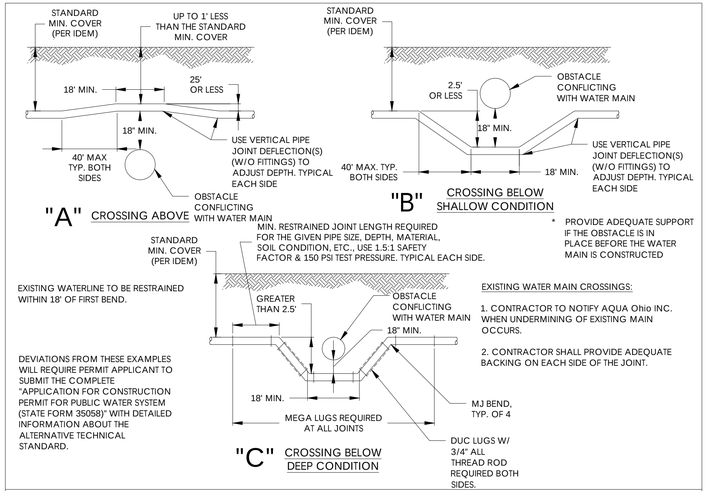
DRAWING NAME: Walnut Woods Waterline Notes.dwg

REF NUMBER:



1. EXPANSION JOINTS OF APPROVED PREFORMED ASPHALT FIBRE, 1/4" THICK SHALL BE PROVIDED AT INTERVALS OF NOT MORE THAN TWENTY-FIVE FEET AND AS DEEMED NECESSARY, SUCH AS AT MANHOLES OR UTILITY POLES BETWEEN THE SIDEWALK AND ADJOINING STRUCTURES.
2. MINIMUM FALL FROM TOP OF SIDEWALK TO TOP OF CURB IS 6".
3. SIDEWALK THICKNESS SHALL BE 6" MINIMUM AT DRIVE APPROACHES.
4. CONCRETE SHALL BE 4000 PSI @ 28 DAYS CONFORMING TO ODOT SPECIFICATION #499.

TYPICAL SIDEWALK DETAIL



DESIGN CRITERIA FOR
UTILITY CONFLICTS/CROSSINGS

NW NE SW SE N

VERTICAL IN FEET
0 0 0

HORIZONTAL SCALE IN FEET
0 0 0

CHECKED BY: KAD
DATE: MAR. 2023
DRAWN BY: JTD
DATE: MAR. 2023

REVISIONS:

DESCRIPTION	DATE

Walnut Woods Site Plan

Waterline Details
City of Massillon
Stark County, Ohio

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