

CITY OF RICHMOND HEIGHTS DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT

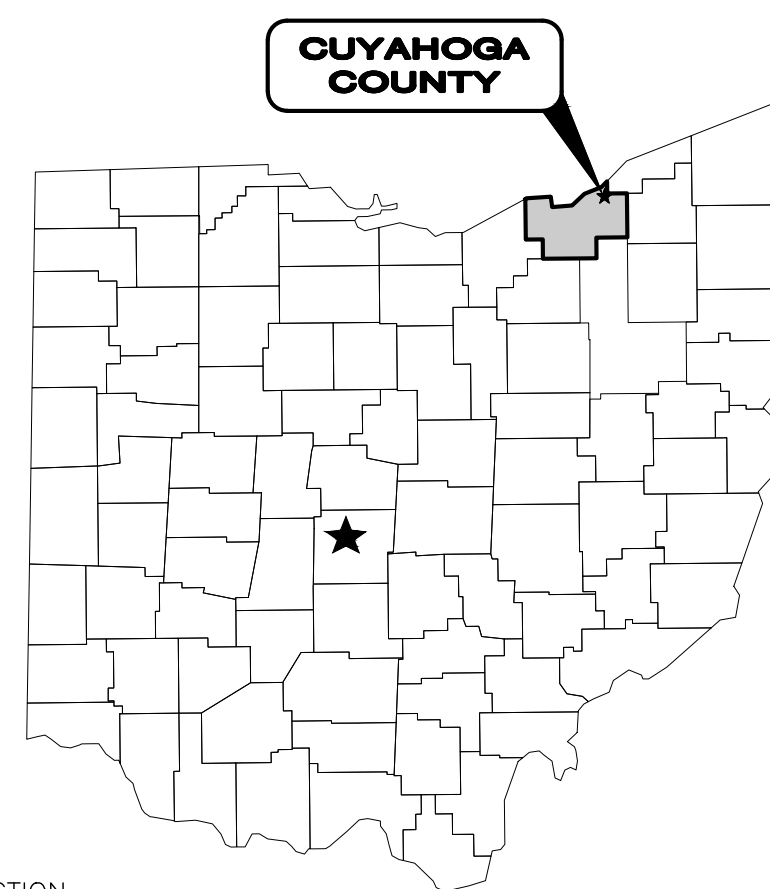
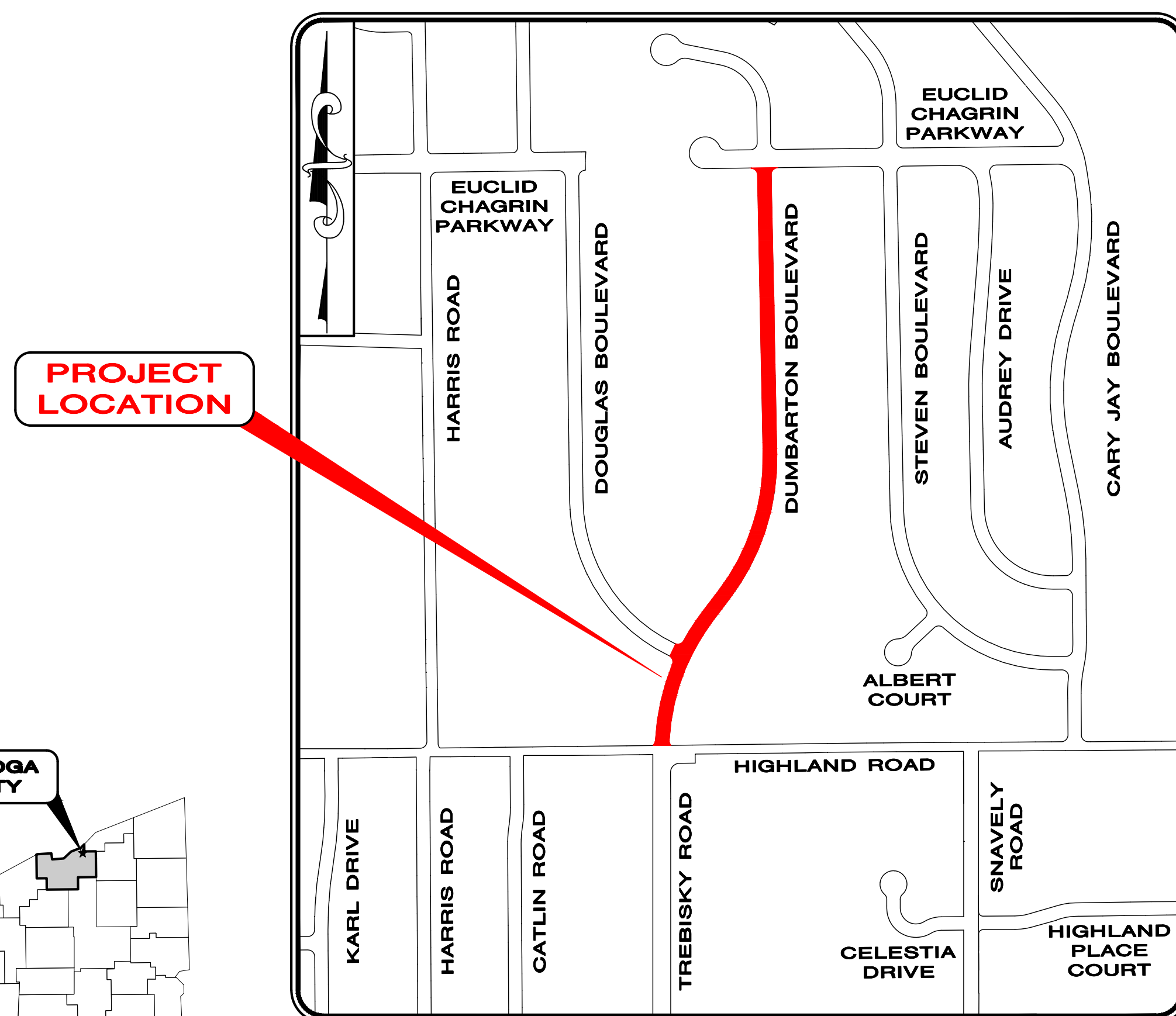


IMPROVEMENTS CUYAHOGA COUNTY, OHIO



MAY, 2025

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UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

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

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

LOCATION MAP

1" = 500'



CITY OFFICIALS:

KIM A. THOMAS MAYOR

COUNCIL-AT-LARGE

WARD COUNCIL

BOBBY JORDAN, PRESIDENT

TRACY JUSTICE, WARD I

JUANITA LEWIS

ASU MOOK ROBINSON, WARD II

DANIEL J. URSU

CASSANDRA NELSON, WARD III

TRACEY BLAIR, CLERK OF COUNCIL

BRIAN SILVER, WARD IV

BAYYINAH BROOKS, SPECIAL ASSISTANT TO THE MAYOR

CITY ADMINISTRATORS:

RYAN TIEDMAN, SERVICE DIRECTOR

NICK LOPARDO ASSISTANT SERVICE DIRECTOR

R. TODD HUNT, LAW DIRECTOR

TOM DILEILLIO, FINANCE DIRECTOR

RUDOLPH HILLIARD, BUILDING COMMISSIONER

CAMERON CAMPBELL, RECREATION DIRECTOR

CALVIN D. WILLIAMS, POLICE CHIEF

MARC NEUMANN, FIRE CHIEF

JUSTIN HASELTON, CITY ENGINEER

1. THE SURVEY SHOWN ON THESE PLANS WAS OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR ANY OTHER PURPOSE.
2. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.
3. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE © 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.



Peter J. Formica

PETER J. FORMICA

P.E. No. 58646

5-28-25

DATE

GENERAL NOTES

1.

MATERIALS OF WORK FOR "AS DIRECTED" ITEMS SHALL NOT BE ORDERED FOR THE DELIVERY TO THE PROJECT OR WORK PERFORMED UNTIL AUTHORIZED BY THE ENGINEER.
2.

MANHOLES, CATCH BASINS, MONUMENT BOXES, WATER VALVE BOXES AND OTHER CASTINGS SHALL BE RAISED OR LOWERED FLUSH WITH THE FINISHED SURROUNDING SURFACE. ANY METER OR VALVE BOX ENCOUNTERED WITHIN THE WORK SITE SHALL BE EXPOSED AND ADJUSTED TO GRADE PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID.
3.

BEFORE THE CITY WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTY RETAINER, THE CONTRACTOR SHALL FURNISH THE CITY A WRITTEN REPORT INDICATING THE RESOLUTION OF ANY AND ALL PROPERTY DAMAGE CLAIMS FILED WITH THE CONTRACTOR BY ANY PARTY DURING THE CONSTRUCTION PERIOD. THE INFORMATION TO BE SUPPLIED SHALL INCLUDE, BUT NOT BE LIMITED TO, NAME OF CLAIMANT, DATE FILED WITH CONTRACTOR, NAME OF INSURANCE COMPANY AND/OR ADJUSTOR HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.
4.

THE CONTRACTOR SHALL PROVIDE A PRE-CONSTRUCTION VIDEO TAPE SURVEY OF THE ENTIRE PROJECT AREA. ANY DAMAGE DEEMED TO HAVE BEEN CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT HIS OWN EXPENSE. ALL COSTS ASSOCIATED FOR THIS WORK, INCLUDING THE VIDEO TAPE SURVEY, SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS IN THE BID PROPOSAL UNLESS THERE IS A PRECONSTRUCTION VIDEO DOCUMENTATION BID ITEM INCLUDED IN THE PROJECT.

TRENCH EXCAVATION AND BACKFILL

1.

ALL EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THE CONTRACTOR FOR ROCK OR SHALE EXCAVATION.
2.

BACKFILL FOR ALL UNDERGROUND UTILITIES INSTALLED UNDER PAVEMENT (INCLUDING DRIVEWAYS), OR WITHIN A 1:1 ZONE OF INFLUENCE PARALLEL OR TRANSVERSE TO PAVEMENT, SHALL BE "COMPACTED GRANULAR BACKFILL" AS DESCRIBED IN SPECIFICATION SECTION 312323.14 AND IN ACCORDANCE WITH THE PLANS. BACKFILL IN OTHER AREAS SHALL BE AS DESCRIBED IN SPECIFICATION SECTION 312323.13 - "COMPACTED BACKFILL" OR SECTION 312323.14 - "COMPACTED GRANULAR BACKFILL". THE OWNER AND THE ENGINEER DO NOT GUARANTEE NOR SUGGEST THE INSITU MATERIAL TO BE EXCAVATED WILL BE SUITABLE OR IN ITS PRESENT STATE WILL CONSIST OF THE PROPER MOISTURE CONTENT TO ACHIEVE THE COMPACTION REQUIREMENTS. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE BACKFILL MATERIAL HE WILL USE. UPON REQUEST, THE OWNER WILL PROVIDE ACCESS TO THE SITE FOR THE CONTRACTOR TO CONDUCT SUCH INVESTIGATION AND TESTS DEEMED NECESSARY TO MAKE HIS DETERMINATION. NO EXTRA PAYMENT WILL BE MADE TO DISPOSE OF UNSUITABLE MATERIAL OR FURNISH AND PLACE SUITABLE MATERIAL MEETING THE REQUIREMENTS OF SECTION 312323.13 "COMPACTED BACKFILL" OR SECTION 312323.14 "COMPACTED GRANULAR BACKFILL".
3.

SLAG PRODUCTS WILL NOT BE PERMITTED FOR BEDDING OR BACKFILL MATERIAL.
4.

ALL UTILITY LINES CROSSING TRENCHES, i.e. STORM LATERALS, SANITARY SEWERS, SANITARY LATERALS, WATER MAINS, WATER SERVICE CONNECTIONS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND OBT CONDUITS. CABLE T.V. LINES SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS OR REMOVED AND REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. NO ADDITIONAL COMPENSATION WILL BE PAID FOR THE ABOVE WORK, EVEN IF NOT SHOWN ON THE PLANS.
5.

ALL EXISTING SEWER CASTINGS REMOVED ON THIS PROJECT SHALL REMAIN THE PROPERTY OF THE CITY OF RICHMOND HEIGHTS AND SHALL BE DELIVERED BY THE CONTRACTOR TO A SITE DESIGNATED BY THE CITY.
6.

IF APPLICABLE, ALL EXISTING TEST TEE MARKINGS ENCOUNTERED ON THE SIDEWALK AND/OR CURB DURING CONSTRUCTION SHALL BE REFERENCED AND RESTORED, MARKED WITH A SAW CUT SYMBOL ON THE SIDEWALK. (+) FOR STORM TEE AND (Δ) FOR SANITARY TEE.
7.

BACKFILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 9" IN DEPTH. BACKFILL MATERIAL SHALL BE PLACED WITH 2% OF THE OPTIMUM MOISTURE. THE ENGINEER MAY ORDER THE REMOVAL, REFILLING, RECOMPACTION AND RETESTING OF ALL BACKFILL NOT MEETING THE REQUIREMENTS OF THE CONTRACT.
8.

BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED USING MACHINE MOUNTED COMPACTION EQUIPMENT IN LAYERS SUFFICIENT TO MEET THE
- COMPACTION REQUIREMENT ODOT 203.
9.

NO BACKFILLING OF ANY TRENCHES OR EXCAVATIONS WILL BE PERMITTED WITHOUT TAMPING EQUIPMENT BEING USED. FLOODING, JETTING OR PUDDLING OF BACKFILL WILL NOT BE PERMITTED.

10.

TRENCH EXCAVATION SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF REPLACEMENT SECTION WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.
- PROJECT PHASING
- IT IS THE DESIRE OF THE CITY OF RICHMOND HEIGHTS TO HAVE THE CONTRACT WORK PROCEED IN AN ORDERLY AND NEAT MANNER IN ORDER TO KEEP THE DISRUPTION TO THE BUSINESSES AND RESIDENTS TO A MINIMUM. THUSLY THE CONTRACTOR IS TO PREPARE AND IMPLEMENT A WORK PHASING PLAN, APPROVED BY THE DIRECTOR OF PUBLIC SERVICE AND THE ENGINEER, INCLUSIVE OF THE FOLLOWING REQUIREMENTS:
1.

ALL WORK SHALL BE 1/2 WIDTH, EXCEPT FOR ASPHALT MILLING AND RESURFACING OPERATIONS.

2.

NO WORK SHALL BE DONE ON THE OPPOSITE SIDE OF THE STREET UNTIL ALL NEW PAVEMENT (CONCRETE OR ASPHALT BASE AND INTERMEDIATE COURSES), DRIVE APRONS, SIDEWALKS AND ROUGH GRADE LANDSCAPING ARE IN PLACE ON THE SIDE BEING CONSTRUCTED.

3.

THE CITY MAY, ACCEPT A PHASING PLAN CONSISTING OF PERFORMING 1/2 WIDTH IMPROVEMENTS ALONG THE SECTIONS/PHASES OF THE PROJECT LENGTH. THE CONTRACTORS PLAN SHALL SUBSTANTIALLY COMPLETE EACH PHASE ON BOTH SIDES OF THE RIGHT-OF-WAY BEFORE MOVING ON THE THE NEXT PHASE.

4.

DRIVE APRON ACCESS IS TO BE MAINTAINED AT ALL TIMES EXCEPTING DURING CONCRETE PLACEMENT AND CURING.
- ROADWAY EXCAVATION AND PAVEMENT
1.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS IN ADVANCE OF BEGINNING WORK WHICH REQUIRES PROOF ROLL TESTING AND/OR PRE-POUR INSPECTION PRIOR TO PLACEMENT OF PAVEMENT. WORK WILL NOT BEGIN UNTIL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER.

2.

PART WIDTH CONSTRUCTION AS DESCRIBED IN PROJECT PHASING GENERAL NOTE SHALL BE USED FOR PAVING OPERATIONS. PAVING OPERATIONS SHALL NOT BEGIN ON THE OPPOSITE LANE(S) UNTIL ROADWAY AND DRIVE APRONS ARE INSTALLED AND OPEN TO TRAFFIC ON THE STARTING SIDE.

3.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE BARRICADE DEVICES TO PREVENT VEHICULAR TRAFFIC ON NEW CONCRETE PAVEMENT AND APRONS UNTIL THE END OF THE CURE PERIOD OR THE SPECIMEN TEST BEAMS HAVE ATTAINED A MODULUS OF RUPTURE OF 400 PSI FOR M.S. CONCRETE.

4.

THE EXCAVATION, EMBANKMENT AND COMPACTION OF THE NEW ROADWAY SUBGRADES IS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 203. A MINIMUM OF TWO (2) PROOF ROLLINGS WILL BE REQUIRED AS DIRECTED BY THE ENGINEER BEFORE PAVING. THE FIRST PROOF ROLLING SHALL BE PERFORMED AFTER THE INSTALLATION OF ALL UNDERGROUND IMPROVEMENTS AND AFTER FINE GRADING JUST PRIOR TO PAVING. THE PROOF ROLLINGS SHALL BE COMPLETED AS FOLLOWS: EXCAVATION OR EMBANKMENT TO FINISHED SUBGRADE. EMBANKMENTS ARE COMPACTED AND TESTED FOR COMPACTION IN 6" LIFTS PER ODOT 203. THE SUBGRADE IS COMPACTED AND TESTED. THE SUBGRADE FOR THE NEW ROAD IS THEN PROOF ROLLED. AREAS EXHIBITING UNACCEPTABLE MOVEMENT UNDER PROOF ROLLING ARE UNDERCUT TO A DEPTH DIRECTED BY THE ENGINEER AND BACKFILLED WITH MATERIALS SPECIFIED IN THE PLANS. THE SUBGRADE IS RE-PROOF ROLLED TO VERIFY THE UTILITY OF THE UNDERCUT. UPON PASSING THE PROOF ROLL THE AREA IS APPROVED FOR THE INSTALLATION OF THE BASE MATERIAL. THE AGGREGATE BASE MATERIAL IS PLACED PER ODOT SPECIFICATIONS, COMPACTED, TESTED AND PROOF ROLLED. UPON PASSING THE PROOF ROLL THE SPECIFIED TOP COURSES OF RIGID PAVEMENT MAY BE INSTALLED MOISTURE CONTENT OF THE SUBGRADE AT THE TIME OF PROOF ROLLING SHALL CONFORM TO SECTION 203.11 OF THE ODOT SPECIFICATIONS. THE MINIMUM EQUIPMENT SHALL CONSIST OF A SINGLE UNIT, TANDEM AXLE DUMP TRUCK CAPABLE OF BEING LOADED TO 30,000 POUND AXLE LOAD, 60,000 POUND GVW. TIRE PRESSURE SHALL BE MAINTAINED AT 90 PSI OR AS SPECIFIED UNDER SECTION 203.14 OF ODOT
- SPECIFICATIONS. ANY AREA PERMITTING TIRES TO LEAVE A GROOVE OF ONE (1) INCH OR MORE SHALL BE UNACCEPTABLE FOR PAVING. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ZERO (0) TO ONE-HALF (1/2) INCH DEEP SHALL BE ACCEPTABLE. ANY AREA PERMITTING THE TEST VEHICLE TIRES TO LEAVE A GROOVE OF ONE-HALF (1/2) INCH TO ONE (1) INCH DEEP SHALL BE AT THE ENGINEER'S DISCRETION.

5. JOINT AND CRACK SEALER FOR PAVEMENT SHALL MEET THE REQUIREMENTS OF ODOT ITEM 705.04 AND ASTM D 3405. A DOUBLE BOILER SHOULD BE USED FOR HEATING THE MATERIAL.
6.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUFFICIENT SECURITY MEASURES AND/OR PERSONNEL TO PROTECT ALL NEW CONCRETE WORK FROM VANDALISM AT NO ADDITIONAL COST TO THE CITY. ANY VANDALIZED CONCRETE SHALL BE REPLACED IN FULL AT THE CONTRACTOR'S EXPENSE.
- EXISTING UTILITIES
1.

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE CITY OF RICHMOND HEIGHTS AND THE CLEVELAND WATER DEPARTMENT DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

2.

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

3.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS LISTED BELOW AND THE UTILITY PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE AND OUTLINED IN PROJECT SPECIFICATIONS. THE UTILITY OWNERSHIPS ARE AS FOLLOWS:
- | | | |
|--|---|--|
| AT&T
ATTN: JAMES JANIS
13630 LORAIN AVE., 2ND FLOOR
CLEVELAND OHIO 44111
216-534-7285
Pj8191@att.com | ENBRIDGE GAS OHIO
ATTN: WILLIAM SNYDER
320 SPRINGSIDE DR. SUITE 320
AKRON OHIO 44333
330-664-2409
relocation@dominionenergy.com | NORTHEAST OHIO REGIONAL SEWER
ATTN: ROB STOERKEL
3900 EUCLID AVE
CLEVELAND OHIO 44115
216-881-8247 |
| CLEVELAND WATER
ATTN: FRED ROBERTS
1201 LAKESIDE AVE
CLEVELAND OHIO 44114
216-664-2444 ext 75590
fred_roberts@clevelandwater.com | THE ILLUMINATING COMPANY
P.O. BOX 5000
CLEVELAND, OHIO 44101
PHONE: (216) 622-9800 | CITY OF RICHMOND HEIGHTS
457 RICHMOND ROAD
RICHMOND HEIGHTS, OHIO 44143
PHONE: (216) 731-7014 |
| OHIO UTILITY PROTECTION SERVICE
12467 MAHONING AVENUE
NORTH JACKSON, OHIO 44451
PHONE: (800) 362-2746 | | |
4.

WHERE EXISTING POWER OR TELEPHONE POLES ARE IN CLOSE PROXIMITY TO WORK, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORTS WITH THOSE OF THE UTILITY COMPANIES SUCH THAT THEIR EXISTING FACILITIES CAN BE MAINTAINED AND PROTECTED DURING THE TIME WORK IS GOING ON ADJACENT TO THE POLE. THE COST AND COORDINATION FOR ANY REQUIRED PROTECTION OR RELOCATION OF EXISTING POWER OR TELEPHONE POLES SHALL NOT BE THE RESPONSIBILITY OF THE CITY OF RICHMOND HEIGHTS. DELAYS TO THE CONTRACTOR AS A RESULT OF TIMING OF POLE RELOCATION OR PROTECTION SHALL NOT BE CONSIDERED COMPENSABLE DELAYS, AS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS WORK IN CONFORMANCE TO THE UTILITY COMPANY'S SCHEDULE.

5.

THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES AFFECTED BY THE PROPOSED CONSTRUCTION.
- SERVICE CONNECTIONS
1.

ALL ACTIVE DRAINAGE PIPES ENCOUNTERED SHALL BE RECONNECTED TO EXISTING FACILITIES OR CONNECTED TO THE NEW FACILITIES.

2.

ALL EXISTING UTILITY SERVICE CONNECTIONS (SANITARY, STORM, WATER, GAS, ELECTRIC, TELEPHONE, ETC.) WHICH ARE DAMAGED DURING THE INSTALLATION OF PIPE SHALL BE REPAIRED WITH LIKE MATERIALS OR REPLACED, AS REQUIRED. THE COST OF UTILITY SERVICE CONNECTION REPAIR/REPLACEMENT SHALL BE INCLUDED IN THE UNIT PRICES FOR ALL ITEMS IN THE PROPOSAL.

3.

ALL UTILITY LINES CROSSING THE NEW TRENCH SHALL BE PROTECTED AND SUPPORTED WITH HARDWOOD PLANKS; OR REMOVED, REPLACED, RECONNECTED AND SUPPORTED ACROSS THE ENTIRE WIDTH OF THE TRENCH. IF ANY OF THESE LINES ARE DAMAGED DURING CONSTRUCTION, THEY SHALL BE REPLACED IN-KIND.

4.

THE CONTRACTOR SHALL BE REQUIRED TO BYPASS AND MAINTAIN THE FLOW TO/FROM ALL HOUSE UTILITY CONNECTIONS DURING CONSTRUCTION.
5.

THE CONTRACTOR SHALL EXPECT ONE UNDERGROUND SEWER, GAS AND WATER CONNECTION FOR EACH LOT (INCLUDING VACANT LOTS) ON BOTH SIDES OF THE STREET FOR THE ENTIRE PROJECT LENGTH.
6.

THE COST OF UTILITY RELOCATION, REPLACEMENT, AND/OR SUPPORT SHALL BE INCLUDED IN THE COST PER LINEAL FOOT OF ASSOCIATED SEWER / WATER REPLACEMENT.
- GRASS RESTORATION
1.

PRIOR TO START OF CONSTRUCTION THE CONTRACTOR SHALL INVENTORY TREELAWNS FOR EXISTING ORNAMENTAL LANDSCAPE FEATURES INCLUDING LAWN SPRINKLER SYSTEMS AND IRON PINS. ANY LANDSCAPE FEATURE DISTURBED OR DAMAGED BY THE CONTRACTOR'S ACTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION. COST OF INVENTORY AND RESTORATION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR LAWN RESTORATION.

2.

RESTORATION OF TREELAWNS AND GRASS AREAS IN EASEMENTS SHALL BE PERFORMED BY A LANDSCAPE CONTRACTOR TO BE APPROVED BY THE CITY ENGINEER AND SERVICE DIRECTOR. THE LANDSCAPE CONTRACTOR MUST BE EXPERIENCED IN COMMERCIAL INSTALLATIONS AND PROVIDE REFERENCES AND OTHER DETAILED INFORMATION TO ENABLE THE OWNER TO JUDGE HIS EXPERIENCE AND CAPABILITY TO PERFORM THE WORK. GRASS AREAS TO BE RESTORED SHALL BE SEEDED UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS. THE SEED SHALL BE PLACED ON A FOUR (4) INCH BED OF COMPACTED TOPSOIL THAT HAS BEEN RAKED AND BROUGHT TO AN EVEN SURFACE. TOPSOIL SHALL BE SHREDDED AND BE FREE OF ROCKS, ROOTS AND WEEDS. THE CONTRACTOR SHALL PROVIDE TOPSOIL SAMPLES AND SOURCES OF SUPPLY TO THE ENGINEER FOR APPROVAL PRIOR TO DELIVERY OF THE MATERIAL TO THE JOB SITE.
- SEWER INSTALLATION
1.

ALL SANITARY SEWER 21" AND UNDER AND ALL STORM SEWER 18" AND UNDER SHALL BE PVC, SDR 26 RESILIENT AND FLEXIBLE (PREMIUM) JOINTS UNLESS OTHERWISE SHOWN ON THE PLANS. ALL STORM SEWER 21" AND GREATER SHALL BE ASTM F2281 CORRUGATED SMOOTH INTERIOR POLYPROPYLENE (PP) PIPE WITH ASTM 3212 BELL AND SPIGOT JOINTS (WT) UNLESS OTHERWISE SHOWN ON THE PLAN.

2.

ALL CONNECTIONS MADE TO EXISTING STORM SEWERS SHALL BE MADE WITH MISSION COUPLINGS OR APPROVED EQUAL.

3.

ALL SEWER REPAIRS AND/OR SECTIONS OF SEWER REPLACEMENT SHALL BE VISUALLY INSPECTED BY MEANS OF TELEVISION AND RECORDING ON DVD FORMAT VIDEOTAPE ALONG WITH AUDIO COMMENTARY. THE TELEVISION AND VIDEOTAPE RECORDING SHALL BE PERFORMED ONCE AFTER SEWER CONSTRUCTION IS COMPLETE. TELEVISION SHALL BE AS PER SPECIFICATION 330130.11. ANY DEFECT IN MATERIAL OR WORKMANSHIP REVEALED BY THE VISUAL-AID INSPECTION MUST BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE CITY AND TO THE FULL SATISFACTION OF THE CITY AND ENGINEER BEFORE ACCEPTANCE OF THE WORK AND RELEASE OF FINAL ESTIMATE AND PAYMENT THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TOTAL COST OF CLEANING ALL SEWERS PRIOR TO VISUAL INSPECTION. COST OF TELEVISION AND VIDEOTAPING OPERATION SHALL BE INCLUDED IN THE UNIT PRICES STIPULATED FOR THE VARIOUS ITEMS OF THE PROPOSAL.
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| <div><div><div><div><div><div></div></div></div><div><div><div></div><div></div></div></div><div><div>PETER J. FORMICA
58646</div><div>REGISTERED PROFESSIONAL ENGINEER</div></div></div></div></div> | <div><div><div><div></div><div>verdantas</div></div></div></div> | NO | REVISION | DATE | <div><div>CITY OF RICHMOND HEIGHTS</div><div>DUMBARTON BOULEVARD</div><div>WATERMAIN AND PAVEMENT</div><div>IMPROVEMENTS</div><div>CUYAHOGA COUNTY, OHIO</div></div> | ISSUED FOR: | BID | <div>GENERAL NOTES 1</div> | PROJECT NO. | | |
| | | | | | | ISSUE DATE: | 5/21/2025 | | 32052 | | |
| | | | | | | SCALE: | AS SHOWN | | DISCIPLINE | | |
| | | | | | | DESIGNED BY: | PJF | | CIVIL | | |
| | | | | | | DRAWN BY: | TJM | | SHEET NAME | | |
| | | | | | | CHECKED BY: | PJF | | GN1 | | |
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- Z:\PROJECT FILES\QA-RICHMOND HEIGHTS\32052 - DUMBARTON BLVD. RECON\GN01SHETS\GC_32052 - GENERAL NOTES.DWG - GN1 - 5/27/2025 2:34:27 PM - TYLER MINTUS

PROPERTY PINS AND MONUMENTS

1. THE SURVEY CONTROL PLAN SHOWS ALL EXISTING MONUMENTS AND PROPERTY CORNERS WITHIN THE CONSTRUCTION LIMITS. THE INFORMATION SHOWN ON THE PLAN HAS BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE CITY OF RICHMOND HEIGHTS DOES NOT GUARANTEE THEIR COMPLETENESS. THE CONTRACTOR SHALL PROTECT ALL PINS AND MONUMENTS DURING CONSTRUCTION. IF PINS AND MONUMENTS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHALL HAVE THEM REPLACED BY THE REGISTERED SURVEYOR AT NO ADDITIONAL COST TO THE CITY.

EROSION AND DUST CONTROL

1. SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY HYDRO SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISH GRADING IN ACCORDANCE WITH ODOT ITEM 659 OR AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL BEGIN THE RESTORATION PROCESS AS SOON AS CONSTRUCTION IS COMPLETED, PERMANENTLY STABILIZING EACH DISTURBED AREA WITH PERENNIAL VEGETATION INSTALLED ACCORDING TO SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS.
3. THE CONTRACTOR SHALL REMOVE DAILY ALL MUD, SOIL AND DEBRIS THAT MAY BE TRACKED ONTO EXISTING STREETS OR DRIVES BY HIS EQUIPMENT OR THAT OF SUBCONTRACTORS OR SUPPLIERS.
4. ALL MATERIALS TO BE DISPOSED OF OFF-SITE MUST BE DISPOSED OF IN AN ENVIRONMENTALLY SOUND MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. NO EXCESS MATERIALS ARE TO BE DISPOSED OF IN ANY WETLAND, FLOOD PLAIN OR OTHER ENVIRONMENTALLY SENSITIVE AREA.
5. EROSION CONTROL MEASURES AT THE DISPOSAL SITE MUST BE INSTALLED AND MAINTAINED UNTIL DISPOSAL IS COMPLETE AND THE DISPOSAL SITE IS PERMANENTLY STABILIZED.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY WHEN NEEDED OR ORDERED BY THE OWNER WATER OR CALCIUM CHLORIDE PER ODOT 616 FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE ORIGINATING FROM HIS CONSTRUCTION ACTIVITIES. SUFFICIENT QUANTITIES OF CALCIUM CHLORIDE SHALL BE STORED ON THE JOB SITE AT ALL TIMES TO BE USED FOR DUST CONTROL. THE COST OF DUST CONTROL SHALL BE INCLUDED IN THE UNIT BID PRICES FOR ALL ITEMS OF THE PROPOSAL.
7. OTHER EROSION AND SEDIMENT CONTROL PRACTICES SHALL MINIMIZE SEDIMENT LADEN WATER ENTERING ACTIVE STORM DRAIN SYSTEMS, UNLESS THE STORM DRAIN SYSTEM DRAINS TO A SEDIMENT POND. INLET PROTECTION IS MANDATORY WHERE SEDIMENT SETTLING PONDS WILL NOT BE IMPLEMENTED.

EXCESS EXCAVATION

1. ALL EXCESS EXCAVATION SHALL BE DISPOSED OF IN A LOCATION TO BE SELECTED BY THE CONTRACTOR. THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE CITY IF THE MATERIAL IS TO BE DISPOSED OF WITHIN THE CITY LIMITS.

AIR / NOISE CONTROL

1. CONSTRUCTION ACTIVITIES WILL BE LIMITED TO WEEKDAY DAYTIME HOURS, UNLESS APPROVED IN ADVANCE BY THE CITY.

MAINTAINING TRAFFIC

1. SEE MAINTENANCE OF TRAFFIC PLAN.

TRENCH EXCAVATION



1. TRENCH EXCAVATION SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF REPLACEMENT SECTION WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

1. THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC. 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. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY; OTHERWISE 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. ALL EQUIPMENT AND STORED MATERIALS SHALL NOT CAUSE SIGNIFICANT SIGHT DISTANCE HAZARDS TO THE TRAVELING PUBLIC. 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.

SUSPENSION OF WORK

1. IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR MAINTENANCE OF TRAFFIC AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE MANUAL, THE ENGINEER MAY SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS. NO COMPENSATION WILL BE PAID FOR SUSPENSION OF WORK.

			NO	REVISION	DATE	CITY OF RICHMOND HEIGHTS DUMBARTON BOULEVARD WATERMAIN AND PAVEMENT IMPROVEMENTS CUYAHOGA COUNTY, OHIO	ISSUED FOR:	BID	GENERAL NOTES 2	PROJECT NO.	
							ISSUE DATE:	5/21/2025		32052	
							SCALE:	AS SHOWN		DISCIPLINE	
							DESIGNED BY:	PJF		CIVIL	
							DRAWN BY:	TJM		SHEET NAME	
							CHECKED BY:	PJF		GN2	
										SHEET	OF
										3	33

REFERENCE STANDARDS

- 1. ASTM A276- STAINLESS STEEL BARS AND SHAPES
- 2. ASTM A193/A194- ALLOY-STEEL AND STAINLESS-STEEL BOLTING FOR HIGH TEMPERATURE OR HIGH-PRESSURE SERVICE AND OTHER SPECIAL PURPOSE APPLICATIONS
- 3. ASTM A536- DUCTILE IRON CASTINGS
- 4. ASTM A1097- STEEL CASING PIPE, CARBON, ELECTRIC-FUSION (ARC)-WELDED (NPS 10 AND LARGER)
- 5. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING
- 6. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC
- 7. ANSI/AWWA C111- RUBBER-GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS
- 8. ANSI/AWWA C151-DUCTILE-IRON PIPE, CENTRIFUGALLY CAST
- 9. ANSI/AWWA C153- DUCTILE IRON COMPACT FITTINGS
- 10. ANSI/AWWA C110- DUCTILE IRON FLANGED FITTINGS
- 11. AWWA C219- BOLTED SLEEVE-TYPE COUPLINGS FOR PLAIN-END PIPE
- 12. AWWA C509- RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
- 13. AWWA C515- REDUCED-WALL, RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE
- 14. AWWA C900- POLYVINYL CHLORIDE PVC PRESSURE PIPE AND FABRICATED FITTINGS
- 15. AWWA C909- MOLECULARLY ORIENTED POLYVINYL CHLORIDE
- 16. ODOT 499- CONCRETE

DUCTILE IRON PIPE

- 1. ALL PIPE SHALL BE AWWA C151 DUCTILE IRON, MINIMUM CLASS 52, WITH A CEMENT MORTAR LINING, HAVING PUSH-ON JOINTS WITH RADIALY COMPRESSED RUBBER RING GASKET. MAINS 36” AND LARGER SHALL BE MINIMUM PRESSURE CLASS 350.

PVC PIPE

- 1. AWWA C900 CLASS 235 PSI (DR18) *OR* AWWA C909 CLASS 235 PSI (DR18)
- 2. INSIDE DIAMETER: NO LARGER THAN 12”, NO SMALLER THAN 4”.

GATE VALVES

- 1. AWWA C509 *OR* C515 APPROVED MODEL RESILIENT SEATED GATE VALVES
- 2. VALVE OPERATING NUTS: TAPERED (1 7/8" TO 2" FROM TOP TO BOTTOM) AND 2" DEEP
- 3. MIDDLE RING AND FOLLOWER GLANDS TO BE DUCTILE IRON ASTM A536

AIR RELIEF VALVES

- 1. AIR RELIEF VALVE COMPONENT PARTS SHALL CONFORM TO AWWA C800 AND ASTM B584 FOR MATERIALS THAT COME INTO CONTACT WITH POTABLE WATER.
- 2. VALVE INLET AND OUTLET SIZE SHALL BE 2”. INSTALL **ONLY** CLEVELAND WATER-APPROVED AIR RELIEF VALVE PRODUCTS.

HYDRANTS

- 1. INSTALL **ONLY** CLEVELAND WATER-APPROVED HYDRANT MODELS .
- 2. HYDRANTS SHALL BE FACTORY EQUIPPED WITH THE APPROPRIATE HYDRANT NOZZLE, INCLUDING STORZ IF REQUESTED BY THE LOCAL MUNICIPALITY.
- 3. INSTALL ALL HYDRANTS WITH APPROVED PVC PIPE (ITEM 2) AND AWWA C509 6” RW GATE VALVES .
- 4. HYDRANT CONNECTIONS ARE TO BE MADE WITH RETAINED MECHANICAL JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR CAST IRON CLASS 250 OR COMPRESSION COUPLINGS WITH ROD AND

CLAMPS AS DIRECTED BY CLEVELAND WATER.

- 5. HYDRANT BRANCHES TO BE FULLY RESTRAINED. IF BRANCH IS SHORTENED, USE ONLY 1 SLEEVE OR COUPLING WITH NO NEW PIPE REQUIRED.
- 6. MIDDLE RING AND FOLLOWER GLANDS TO BE EITHER STEEL OR DUCTILE IRON ASTM A536.
- 7. FLUSHING HYDRANTS SHALL CONSIST OF 2” FIP VERTICAL INLET, 2” MIP OUTLET AND BE SELF-DRAINING. FLUSHING HYDRANT SHALL BE FULLY OPERABLE AND SERVICEABLE FROM ABOVE GROUND. EQUAL TO KUPERFERLE TRUFLO MODEL NO. TF500.

COMPRESSION COUPLINGS - VALVES AND HYDRANTS

- 1. CLASS 250 AWWA C219 GASKETED, SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END PIPE
- 2. MINIMUM WORKING PRESSURE: 250 PSI
- 3. EQUAL TO DRESSER STYLE NO. 38, 138, OR 162 (TRANSITION TYPE) OR ROMAC 501/ SMITH-BLAIR 441 STRAIGHT AND TRANSITION COUPLINGS.
- 4. EACH COUPLING TO CONSIST OF 1 DUCTILE IRON MIDDLE RING WITHOUT STOPS (ASTM-A536), 2 DUCTILE IRON FOLLOWER GLANDS (ASTM A536), 2 RUBBER COMPOUND BUNA-N BLEND, WEDGE SECTION GASKETS, AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS OF ASTM A276/A193/194 TYPE 304 EXTRA HEAVY HEX TO PROPERLY COMPRESS THE GASKETS.

FITTINGS/JOINTS

- 1. ALL FITTINGS/JOINTS TO BE APPROVED DUCTILE IRON, CLASS 350, CEMENT LINED, OR FUSION BONDED EPOXY COATED (UNLESS OTHERWISE CALLED FOR ON PLANS) .
- 2. ALL FITTINGS TO BE RESTRAINED USING A "RETAINED" MECHANICAL JOINT CONFORMING TO THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ANSI/AWWA C110/A21.10 AND ANSI/AWWA C111/A21.11, OR "COMPACT" FITTINGS IN ACCORDANCE WITH ANSI/AWWA C153/A21.53.
- 3. MUST HAVE APPROVED "TYPE I" OR "TYPE II" BOLTLESS RESTRAINED PUSH-ON JOINTS TO THE LIMITS SHOWN ON THE DRAWINGS.
- 4. ALL FITTINGS ARE TO HAVE BELL ENDS.

GASKETS AND LUBRICANTS

- 1. ELASTOMERIC GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477 FOR HIGH-HEAD APPLICATIONS.
- 2. GASKETS AND LUBRICANTS INTENDED FOR USE WITH POTABLE WATER SHALL BE CERTIFIED BY AN ACCREDITED TESTING AGENCY FOR COMPLIANCE WITH NSF/ANSI 61.

ANODE PROTECTION

- 1. MAGNESIUM ALLOY ANODES SHALL MEET ASTM B843 AND ASTM G97.
- 2. THERMITE WELDS ARE TO BE COATED WITH A PREFABRICATED ONE-PIECE PLASTIC CAP.
- 3. COPPER SLEEVES ARE REQUIRED FOR THERMITE WELD WIRE CONNECTIONS USING #10 AWG WIRE OR SMALLER.

WATER MAIN TRENCH

- 1. BEDDING, INITIAL, AND PREMIUM BACKFILL MATERIAL: # 57 OR #67 COARSE LIMESTONE AGGREGATE COMPLYING WITH ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 703.11; WRITTEN APPROVAL REQUIRED BY CWD FOR SAND BEDDING FOR DUCTILE IRON PIPE.
- 2. SUITABLE BACKFILL: EXCAVATED MATERIAL FREE OF ROCK LARGER THAN 1.5”, FROZEN MATERIALS, ORGANIC MATERIAL, AND DEBRIS.
- 3. TYPE 2 CONTROLLED LOW-STRENGTH MORTAR (CLSM) SHALL CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 613.03. CLSM MAY BE USED AS DIRECTED BY CLEVELAND WATER.

CASING

- 1. CASING SPACER: 8” WIDE STAINLESS STEEL WITH EPDM LINER AND REINFORCED PLASTIC RUNNERS
- 2. CASING PIPE: ASTM A1097 COATED OR UNCOATED STEEL WITH A MIN. 35,000 PSI SMYS.
- 3. FOR 8” WATER MAIN USE 16” CASING
- 4. FOR 12” WATER MAIN USE 20” CASING

TRACER WIRE

- 1. MUST BE INSTALLED WITH A CONTINUOUS RUN OF 12-GAUGE COPPER-CLAD STEEL WIRE.
- 2. BREAKING LOAD: MIN. 450 POUNDS
- 3. MIN. 30 MILS OF BLUE HDPE INSULATION CERTIFIED FOR DIRECT BURIAL
- 4. GROUND ROD: MIN 1.5 LB MAGNESIUM DRIVE-IN ANODE ROD WITH CONNECTED GROUND WIRE.
- 5. CONNECTORS: WATERPROOF, CONTAIN DIELECTRIC SILICONE AND RATED FOR DIRECT BURIAL.
- 6. NON-LOCKING FRICTION FIT, TWIST-ON, AND TAPED CONNECTIONS ARE NOT PERMITTED.

SERVICE CONNECTIONS

- 1. ALL SERVICE CONNECTIONS SHALL BE A MINIMUM OF 1”
- 2. FOR CONNECTIONS 2” AND SMALLER: USE TYPE K COPPER
- 3. FOR CONNECTIONS 3” AND LARGER: USE CLASS 52 DUCTILE IRON WRAPPED IN V-BIO® ENHANCED POLYETHYLENE ENCASEMENT.

BOLTS AND NUTS

- 1. ALL BOLTS AND NUTS ON ALL RETAINED MECHANICAL JOINTS SHALL HAVE FIELD APPLIED ONE 1 COAT OF BITUMASTIC PAINTING FOLLOWED BY AN ENCASEMENT OF V-BIO® POLYETHYLENE WRAP OR APPROVED EQUAL WRAPPING IN ACCORDANCE WITH ANSI/AWWA C105/A21.5 MODIFIED METHOD “A” .

CONCRETE

- 1. FOR BULKHEAD: CLASS QC 1 OR 4,000 PSI HIGH STRENGTH BAGGED CONCRETE MIX
- 2. FOR THRUST BLOCK: CLASS QC 1 WITH 4,000 PSI 28 DAY COMPRESSIVE STRENGTH (ODOT 499)

FROST PROOFING


- 1. USE PRE-FORMED CELLULAR CONCRETE FOAM “GILSULATE 500 XR” AS MANUFACTURED BY GILSULATE INTERNATIONAL, INC. OR APPROVED EQUAL.


LOWERING


- 1. PIPE USED SHALL BE 8” (MIN.) AND 12” (MAX.) IN DIAMETER.
- 2. MAXIMUM BEND ALLOWED TO BE 22.5 DEGREES.

TEE

- 1. PIPE TO BE USED ON TEE: 8” (MIN.) AND 12” (MAX)
- 2. AWWA C110 OR C153 DI CLASS 350 MJ FITTINGS WITH FBE COATING, CEMENT LINING, POLYETHYLENE ENCASEMENT
- 3. AWWA C219 PIPE COUPLINGS- ROMAC 501 OR SMITH BLAIR 441 DI ONLY
- 4. AWWA C509 DUCTILE IRON RESILIENT WEDGE GATE VALVE (MJ X MJ)
- 5. MECHANICAL JOINT RETAINER GLAND FOR PVC PIPE-TYLER UNION OR APPROVED EQUAL

	CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	REVISIONS			MATERIAL CRITERIA FOR WATER MAIN INSTALLATION AND REPLACEMENT	
		NO.	DATE	BY		
					DETAIL NO.: GEN-000A	
					SCALE: N.T.S. DATE: 7/12/2024	





NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

CLEVELAND WATER NOTES 1

PROJECT NO. 32052	
DISCIPLINE CIVIL	
SHEET NAME GN3	
SHEET 4	OF 33

2:\PROJECT FILES\QA-RICHMOND HEIGHTS\32052 - DUMBARTON BLVD. RECON\DWG\SHEETSC_32052 - GENERAL NOTES.DWG - GN3 - 5/27/2025 2:34:27 PM - TYLER MINTUN

DEVELOPERS, ENGINEERS, AND CONTRACTORS ARE TO ABIDE BY THE MOST CURRENT VERSION OF THE CLEVELAND WATER NOTES AND DETAILS. THE MOST UP-TO-DATE VERSION CAN BE FOUND AT WWW.CLEVELANDWATER.COM/CONSTRUCTION/ OR AS PROVIDED BY CLEVELAND WATER STAFF.

REFERENCE STANDARDS

1. AWWA C600 - INSTALLATION OF DUCTILE-IRON MAINS AND THEIR APPURTENANCES
1. AWWA C605- UNDERGROUND INSTALLATION OF POLYVINYL CHLORIDE (PVC) PRESSURE PIPE AND FITTINGS
2. AWWA C651- DISINFECTING WATER MAINS
3. ASTM D2774- STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING
4. ASTM F1668- STANDARD GUIDE FOR CONSTRUCTION PROCEDURES FOR BURIED PLASTIC PIPE

OVERALL PIPE PREPARATION AND EXECUTION

1. ALL DUCTILE IRON PIPE SHALL BE INSTALLED PER THE MOST CURRENT REVISION OF AWWA C600, AWWA MANUAL M41, DIPRA'S "INSTALLATION GUIDE FOR DUCTILE IRON PIPE" (ISBN 0-9642194-0-9) AND "DIRECT TAPPING OF DUCTILE IRON PIPING ENCASED IN POLYETHYLENE", AS WELL AS THE MANUFACTURER'S INSTRUCTIONS.
2. ALL DUCTILE IRON BURIED WATER MAINS, FITTINGS, VALVES, FIRE HYDRANT BRANCH PIPING AND APPURTENANCES SHALL BE ENCASED WITH V-BIO® ENHANCED POLYETHYLENE ENCASEMENT INSTALLED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF ANSI/AWWA C-105/A21.5 MODIFIED METHOD "A" AND ASTM A674.
3. PIPE AND ACCESSORIES SHOULD BE INSPECTED FOR DEFECTS AND CLEANLINESS BEFORE THEY ARE LOWERED INTO THE TRENCH. ANY DEFECTIVE OR DAMAGED MATERIAL SHOULD BE REPAIRED OR REPLACED, AND ALL FOREIGN MATTER OR DIRT REMOVED FROM THE INTERIOR OF THE PIPE AND ACCESSORIES BEFORE LOWERING INTO TRENCH.
4. ALL PVC PIPE SHALL BE INSTALLED PER AWWA, C605, ASTM D2774, ASTM F1668, AND MANUFACTURER'S INSTRUCTIONS.
5. ONCE DELIVERED, ALL PVC PIPE MUST BE PROTECTED FROM DIRECT SUN EXPOSURE UNTIL THE PIPE IS INSTALLED AND BACKFILLED.
6. ANY PIPE JOINT THAT HAS BEEN OVER-INSERTED SHALL HAVE BOTH THE BELL PIPE AND THE SPIGOT PIPE REMOVED AND DISCARDED.
7. IN NO CASE SHALL MAINS BE LAID WITH LESS THAN 3'-6" OF COVER IN UNPAVED AREAS AND 3'-0" TO BOTTOM OF SLAB IN PAVED AREAS. MAINS SHALL BE LAID AT A BURY DEPTH OF 6 FT MIN. UNLESS WRITTEN PERMISSION IS PROVIDED BY CLEVELAND WATER.
8. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO WATER MAINS, FIRE HYDRANTS, VALVES, CONNECTION MATERIALS AND OTHER WATER APPURTENANCES, SHALL BE NEW AND UNUSED AND SHALL CONFORM TO THE MOST CURRENT CLEVELAND WATER SPECIFICATIONS. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH CLEVELAND DIVISION OF WATER STANDARDS.
9. TWO FEET ABOVE THE MAIN, DETECTABLE TRACER TAPE NOTING THE PRESENCE OF A WATER MAIN SHALL BE INSTALLED FOR THE ENTIRE LENGTH OF THE MAIN, INCLUDING HYDRANT LATERALS AND OPEN CUT INSTALLED SERVICE CONNECTIONS.
10. ALL MATERIALS USED SHALL ABIDE BY REQUIREMENTS LISTED ON MATERIAL SPECIFICATION LIST (GEN-000A).

TRACER WIRE FOR PVC PIPE

1. ALL NEW TRACER WIRE INSTALLATIONS SHALL HAVE THEIR FUNCTION

VERIFIED BY BEING LOCATED USING TYPICAL LOW FREQUENCY (512HZ) LINE TRACING EQUIPMENT. THE LOCATING FIRM SHALL PROVIDE WRITTEN CERTIFICATIONS THAT THE SYSTEM IS COMPLETELY FUNCTIONAL AT TEST COMPLETION.

2. MAGNESIUM GROUND ANODE RODS ARE TO BE INSTALLED AT EACH DEAD END PER THE MANUFACTURER'S INSTRUCTIONS.
3. TRACER LINES SHALL TERMINATE AT A DEDICATED AT-GRADE ACCESS POINT/TEST STATION IDENTIFIED WITH "WATER" ON THE CAP. AT LEAST 2 FEET OF SLACK WIRE SHALL BE PROVIDED AT EACH TERMINATION POINT.
4. LATERAL TRACER LINES ON HYDRANTS, TEES, AND CROSSES ARE NOT TO CUT THE MAIN TRACER WIRE.

HYDROSTATIC PRESSURE TESTING

1. CLEAN PIPE PRIOR TO CONDUCTING HYDROSTATIC PRESSURE TESTING. CLEANING MAY BE COMPLETED VIA FLUSHING OR SWABBING EXCEPT IF DISINFECTION IS CONDUCTED USING THE TABLET METHOD.
2. FILL WATER MAIN AT A CONTINUOUS RATE, 1 FT/SEC MAXIMUM. ONCE FULL, FLUSH THE LINE NOT LESS THAN 3 FT/SEC UNLESS DIRECTED BY CLEVELAND WATER THAT CONDITIONS DO NOT PERMIT THE REQUIRED FLOW RATE TO BE ACHIEVED. FLUSHING SHALL CONTINUE UNTIL THE VOLUME OF WATER IN THE NEWLY INSTALLED MAIN HAS TURNED OVER AT LEAST ONE TIME.
3. THE HYDROSTATIC TEST PRESSURE SHALL BE 75 PSI ABOVE THE STATIC PRESSURE PREVAILING AT THE SITE, BUT IN NO CASE LESS THAN 150 PSI.
4. DURATION: 2 HOURS (WITH PRESSURE MAINTAINED WITHIN 5 PSI OF THE REQUIRED TEST PRESSURE).
5. SHOULD THE PRESSURE TEST FAIL, THE CONTRACTOR SHALL IDENTIFY THE SOURCE(S) AND CORRECT THE DEFICIENCY. THE HYDROSTATIC PRESSURE TEST SHALL BE REPEATED FOR THE PRESCRIBED DURATION TO VERIFY THAT THE NEW WATER MAIN MEETS THE TEST CRITERIA. WORK PERFORMED TO IDENTIFY AND CORRECT FAILURE SOURCE(S) AND THEIR REMEDIATION MUST BE COMPLETED TO THE SATISFACTION OF CLEVELAND WATER AT NO ADDITIONAL COST.

DISINFECTION

1. DISINFECTION FOR WATER MAINS SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN THE MOST CURRENT REVISION OF AWWA C651.

SERVICE CONNECTIONS

1. SADDLE TAPPING SHALL BE PERFORMED FOR PIPES OF ANY NOMINAL SIZE AND PRESSURE CLASS. TAP SIZE IS LIMITED TO 2-INCHES MAXIMUM.
2. TAPPING SLEEVE AND VALVE IS REQUIRED FOR SERVICE CONNECTIONS LARGER THAN 2-INCHES. THRUST RESTRAINT IS REQUIRED.
3. SERVICE CLAMPS OF SADDLES SHALL PROVIDE FULL SUPPORT AROUND THE CIRCUMFERENCE OF THE PIPE AND PROVIDE A BEARING AREA OF SUFFICIENT WIDTH ALONG THE AXIS OF THE PIPE TO PREVENT DISTORTION WHEN THE SADDLE IS TIGHTENED. NARROW U-BOLT-TYPE STRAPS AND SADDLES HAVING LUGS ARE PROHIBITED.

PIPE JOINTS

1. PIPE JOINTS SHALL ADHERE TO ANSI/AWWA C110/A21.10, C111/A21.11, C153/A21.53, C900, C905, C907 AND C909 REQUIREMENTS AND PROCEDURES FOR JOINT METHODS AND MATERIALS.



CITY OF CLEVELAND
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF WATER (CWD)

REVISIONS		
NO.	DATE	BY

GUIDELINES FOR WATER MAIN INSTALLATION AND REPLACEMENT

DETAIL NO.:	GEN-000B
SCALE: N.T.S.	DATE: 5/31/2024



NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS



















**DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS**






CUYAHOGA COUNTY, OHIO





ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
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DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF







CLEVELAND WATER NOTES 2








PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
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5	33





















SURVEY	
EX:	
	ARIAL TARGET
	AXLE
	BENCH MARK
	CHISLED "X"
	DRILL HOLE
	GPS TARGET
	HUB
	MONUMENT BOX
	MONUMENT - CONCRETE
	MONUMENT - RIGHT-OF-WAY
	NAIL - MAG
	PIN - IRON
	PIN - IRON, 1" DIAMETER
	PIPE - IRON
	SPIKE
	STAKE
	STONE - CORNER
	LAND HOOK
























GROUND	
EX:	
	GEOTECH - SOIL BORING
	GEOTECH - MONITORING WELL
	GEOTECH - TEST WELL
	WATER, SWAMP
	ROCK, LARGE









VEGETATION	
EX:	
	BUSH / SHRUB
	TREE - DECIDUOUS
	TREE - CONIFEROUS
	STUMP















UTILITIES - MISCELLANEOUS	
EX:	
	MISCELLANEOUS PULL BOX
	MISCELLANEOUS CLEAN OUT
	MISCELLANEOUS MANHOLE
	MISCELLANEOUS MANHOLE - LID ONLY
	MISCELLANEOUS PAINT MARK
	MISCELLANEOUS VALVE



















UTILITIES - TRAFFIC	
EX:	
	TRAFFIC CONTROL BOX
	TRAFFIC PULL BOX
	TRAFFIC MANHOLE
	TRAFFIC MANHOLE - ADJUST
	TRAFFIC MANHOLE - LID ONLY
	TRAFFIC PAINT MARK
	TRAFFIC SIGNAL - PEDESTRIAN







UTILITIES - POLE	
EX:	
	POLE - BRACE
	POLE - CABLE TV
	POLE - CABLE TV / LIGHT
	POLE - POWER / CABLE TV
	POLE - POWER / LIGHT
	POLE - POWER / TELEPHONE
	POLE - POWER / TELEPHONE / CABLE TV
	POLE - POWER / TEL / CABLE TV / LIGHT
	POLE - TELEPHONE / CABLE TV / LIGHT
	POLE - TELEPHONE / LIGHT
	POLE - ELECTRIC (POWER)
	POLE - GENERAL
	POLE - GUY
	POLE - GUY ANCHOR
	POLE - LIGHT
	POLE - LIGHT - DECORATIVE
	POLE - LIGHT - OVERHEAD
	POLE - MISCELLANEOUS
	POLE - TELEPHONE
	POLE - TRAFFIC

UTILITIES - STORM	
EX:	
	CAP, STORM PIPE
	CATCH BASIN - SQUARE
	CATCH BASIN - SQUARE - ADJUST
	CATCH BASIN - SQUARE - SIDE INLET
	CATCH BASIN - SQUARE - SIDE INLET - ADJ.
	CATCH BASIN - SQUARE - SOLID LID
	CATCH BASIN - SQUARE - SOLID LID - ADJ.
	CATCH BASIN - DOME
	CATCH BASIN - ROUND
	CURB INLET
	CURB INLET - ADJUST
	CURB INLET - DOUBLE
	CURB INLET - DOUBLE - ADJUST
	STORM CLEAN-OUT
	STORM DRAIN
	STORM MANHOLE
	STORM MANHOLE - ADJUST
	STORM MANHOLE - GRATE
	STORM MANHOLE - GRATE - ADJUST
	STORM MANHOLE -SIDE INLET
	STORM MANHOLE - LID ONLY
	STORM PAINT MARK
	STORM STRUCTURE NUMBER

















UTILITIES - SANITARY	
EX:	
	SANITARY CAP / PLUG
	SANITARY CLEAN-OUT
	SANITARY MANHOLE
	SANITARY MANHOLE - ADJUST / RECON
	SANITARY MANHOLE - LID ONLY
	SANITARY PAINT MARK
	SANITARY SERVICE MARKER (END)
	SANITARY STRUCTURE NUMBER





UTILITIES - GAS	
EX:	
	GAS LUMINAIRE - POST
	GAS METER
	GAS MANHOLE
	GAS MANHOLE - ADJUST
	GAS MANHOLE - LID ONLY
	GAS MARKER POST
	GAS PAINT MARK
	GAS REGULATOR
	GAS SERVICE (END)
	GAS TEST BOX
	GAS VALVE
	GAS VALVE W/ TEXT
	GAS VALVE - BOX
	GAS VENT













UTILITIES - WATER	
EX:	
	WATER CAP
	WATER PLUG
	FIRE DEPARTMENT CONNECTION
	FIRE DEPARTMENT CONNECTION - BUILDING
	FIRE HYDRANT
	BACTERIA SAMPLING POINT
	IRRIGATION CONTROL BOX
	IRRIGATION SPRINKLER
	WATER METER
	WATER METER PIT
	WATER MANHOLE
	WATER MANHOLE - ADJUST
	WATER MANHOLE - LID ONLY
	WATER PAINT MARK
	WATER REDUCER
	WATER SERVICE MARKER (END)
	WATER VALVE
	WATER VALVE W/ TEXT

UTILITES - WATER	
PROPOSED:	
	WATER LINE
	WATER SERVICE
EXISTING:	
	WATER LINE
	WATER DOUBLE LINE
	WATER LINE - ABANDONED
	WATER SERVICE









BOUNDARIES	
EXISTING:	
	BOUNDARY LINE
	SUBDIVISION LINE
	RIGHT-OF-WAY - CENTERLINE
	RIGHT-OF-WAY
	RIGHT-OF-WAY - LA
	PROPERTY LINE
	PROPERTY LINE
	PROPERTY LEASE
	ANNEXATION LINE
	CORPORATION LINE
	COUNTY LINE
	FARM LOT LINE
	FLOOD ZONE LINE
	SECTION LINE
	STATE LINE
	TOWNSHIP LINE
	EASEMENT LINE
	SETBACK LINE
	SETBACK - STREAM
	PHASE LINE
	WATERSHED LINE
	WETLAND LINE







FEATURES	
EXISTING:	
	FEATURES - GENERAL
	FENCE - GENERAL
	FENCE - BARB WIRE
	FENCE - CHAIN LINK
	FENCE - DECORATIVE
	FENCE - ELECTRIC
	FENCE - VINYL
	FENCE - WOOD
	FENCE - WOVEN WIRE
	FENCE - WROUGHT IRON
	GUARDRAIL
	GUARDRAIL - CABLE
	HANDRAIL
	WALL - RETAINING
	WALL - SCREENING
	WALL - STONE











VEGETATION	
EXISTING:	
	TREE LINE
	BUSH LINE
	BRUSH LINE
	TREE DRIP LINE









UTILITES - ELECTRIC			
EXISTING:			
	ELEC		ELEC
	ELEC-ABAN		ELEC-ABAN
	ELEC-OH		ELEC-OH
	ELEC-UG		ELEC-UG
	ELEC-OH		ELEC-OH
	ELEC-UG		ELEC-UG









UTILITES - STORM			
EXISTING:			
	STM		STM
	STM-ABAN		STM-ABAN
	UD		UD

UTILITES - SANITARY			
EXISTING:			
	SAN		SAN
	SAN-ABAN		SAN-ABAN
	SAN-FM		SAN-FM
	SS		SS

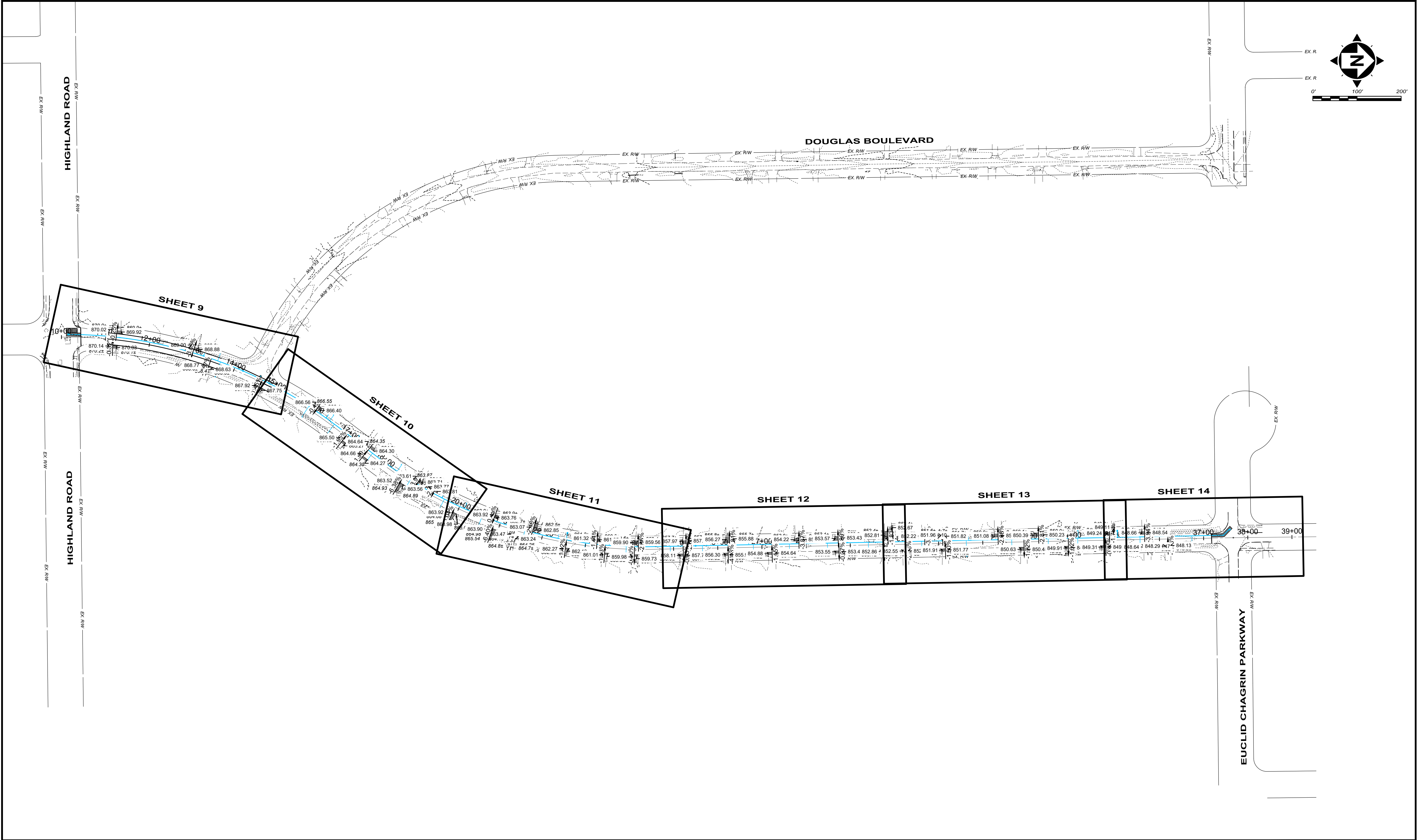
UTILITES - GAS			
EXISTING:			
	GAS		GAS
	GAS-ABAN		GAS-ABAN
	GS		GS


UTILITES - TRAFFIC			
EXISTING:			
	TRAF		TRAF
	TRAF-ABAN		TRAF-ABAN
	TRAF-OH		TRAF-OH
	TRAF-UG		TRAF-UG
			


UTILITES - CABLE TV:			
EXISTING:			
	CATV		CATV
	CATV-ABAN		CATV-ABAN
	CATV-OH		CATV-OH
	CATV-UG		CATV-UG

UTILITES - FIBER OPTIC:			
EXISTING:			
	FOC		FOC
	FOC-ABAN		FOC-ABAN
	FOC-OH		FOC-OH
	FOC-UG		FOC-UG

UTILITES - TELECOM	
--------------------	--







NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

**DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

DESIGNED BY: PJF

DRAWN BY: TJM

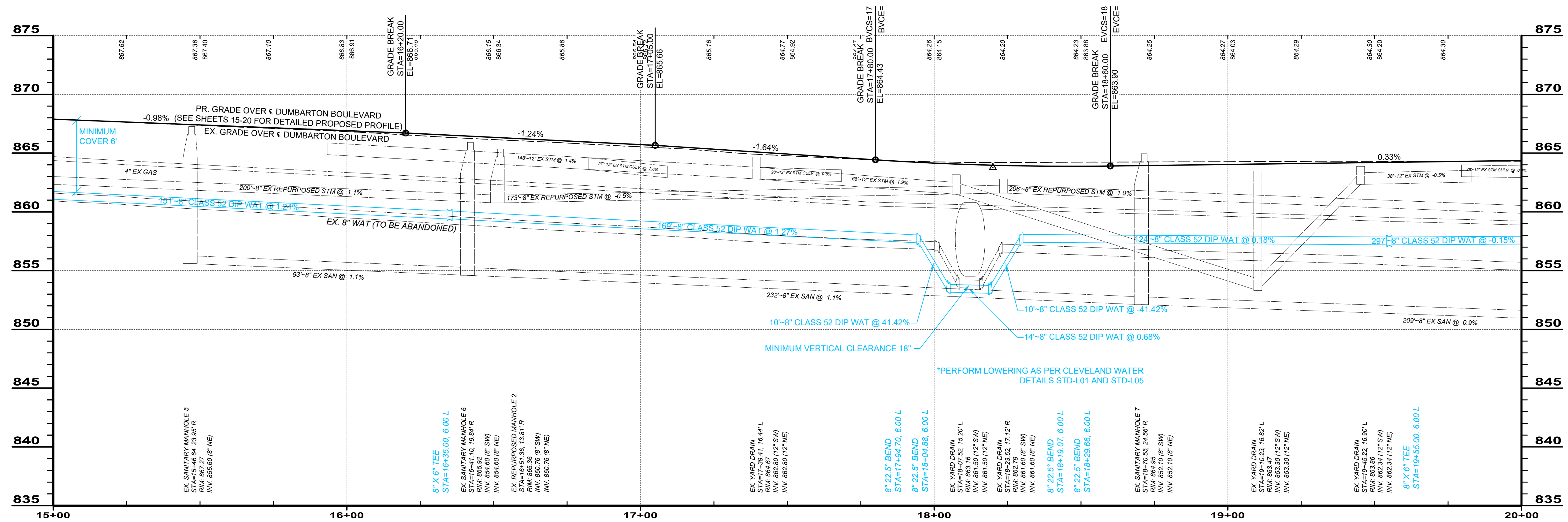
CHECKED BY: PJF

OVERALL PLAN

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
OVERALL	
SHEET	OF
8	33

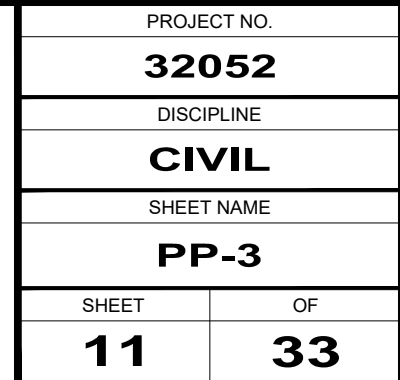
LEGEND

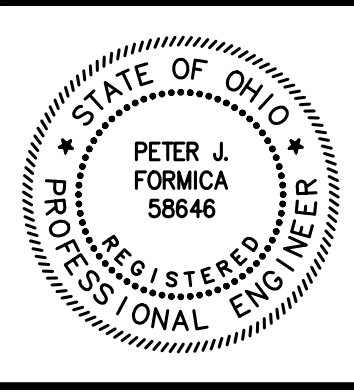
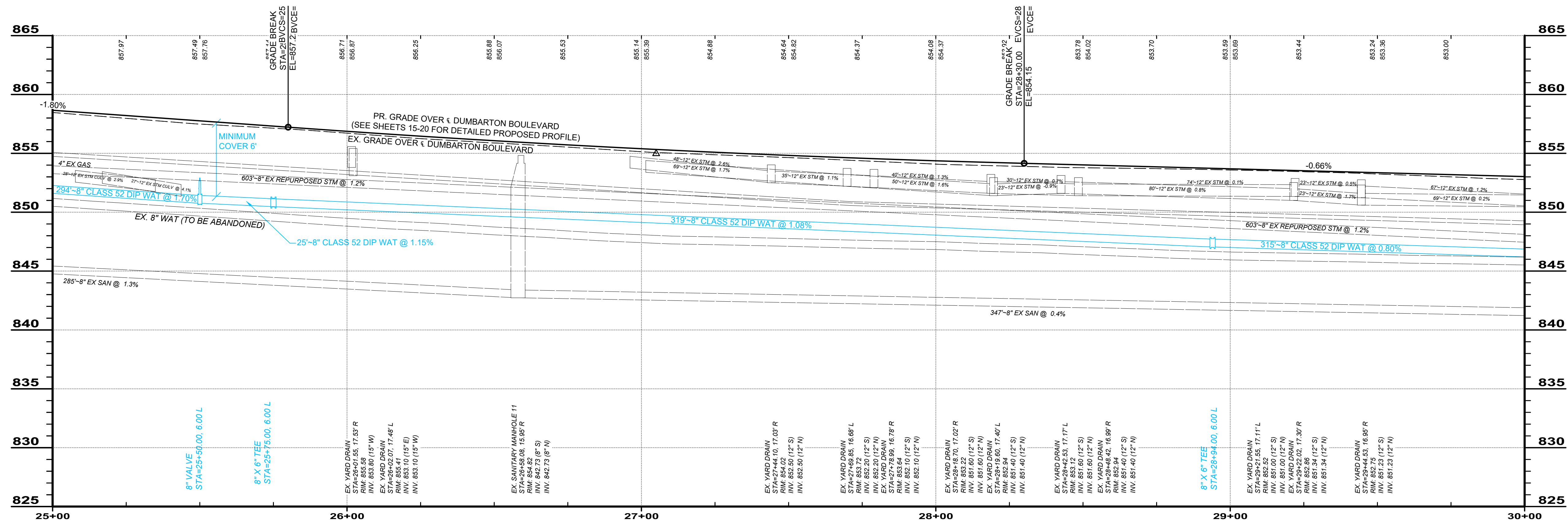
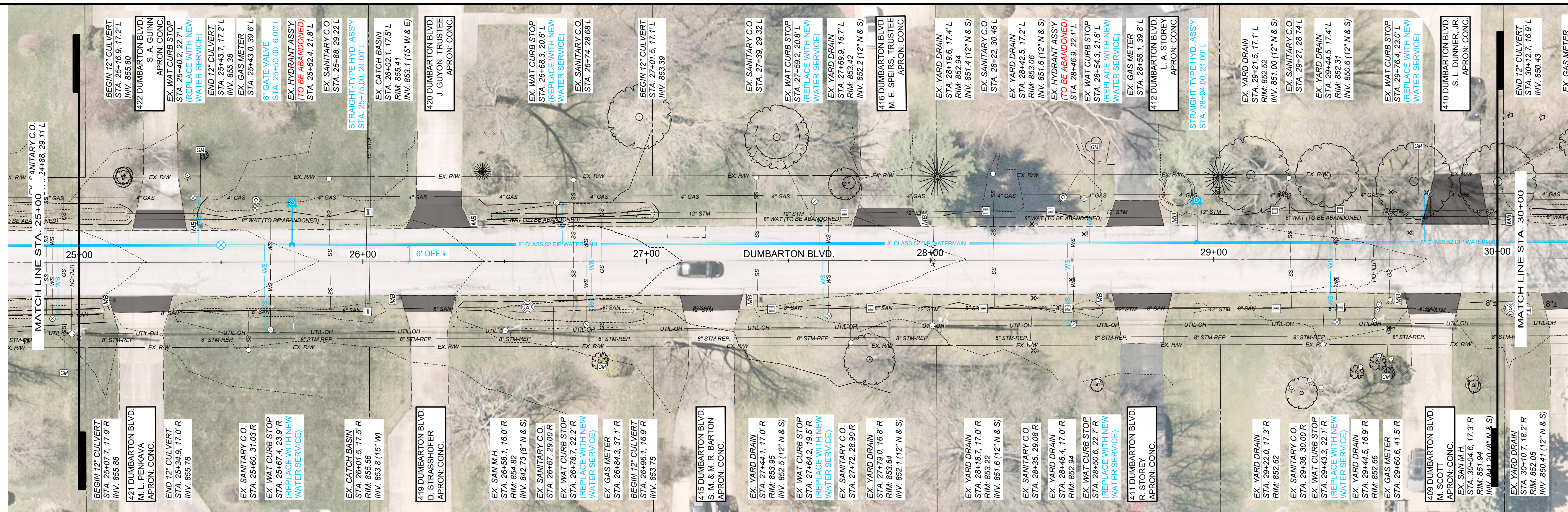
 CONCRETE DRIVE
APRON REPLACEMENT



PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
PP-2	
SHEET	OF
10	33

Z:\PROJECT FILES\CA-RZ\RICHMOND HEIGHTS\32052 - DUMBARTON BLVD. RECON\DWG\SHEETS\C 32052 - PLAN AND PROFILE.DWG - PP-2 - 5/27/2025 11:47:17 AM - TYLER MINTUS





NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

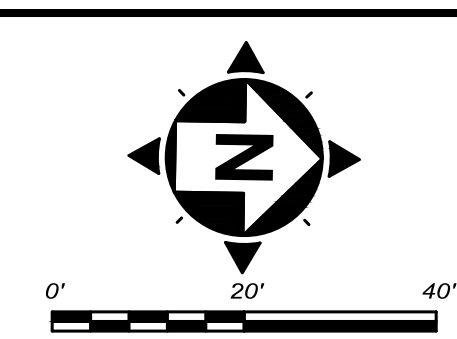
DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS



CUYAHOGA COUNTY, OHIO

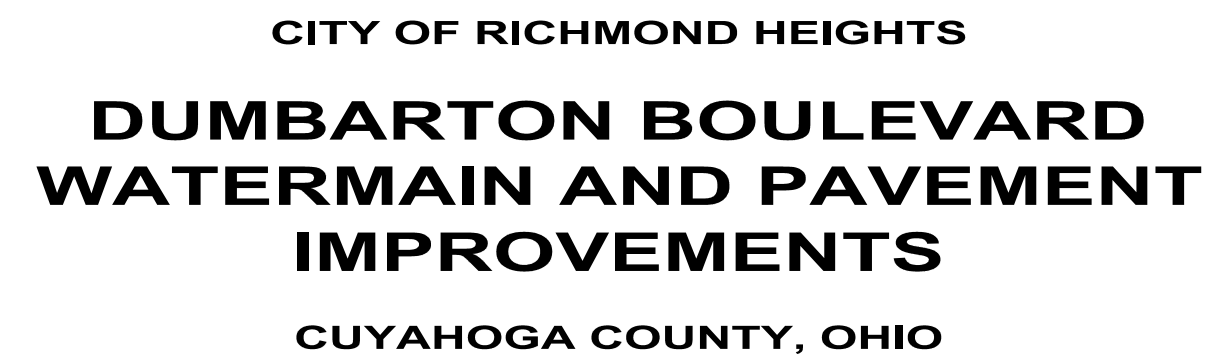
ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

PLAN AND PROFILE STA. 25+00 TO 30+00

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
PP-4	
SHEET	OF
12	33



- LEGEND**
- | | |
|---|-------------------------------------|
|  | CONCRETE DRIVE
APRON REPLACEMENT |
|  | TYPE B PAVEMENT
REPLACEMENT |

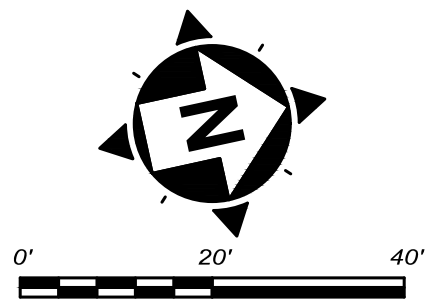


PLAN AND PROFILE STA. 35+00 TO 39+00

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
PP-6	
SHEET	OF
14	33

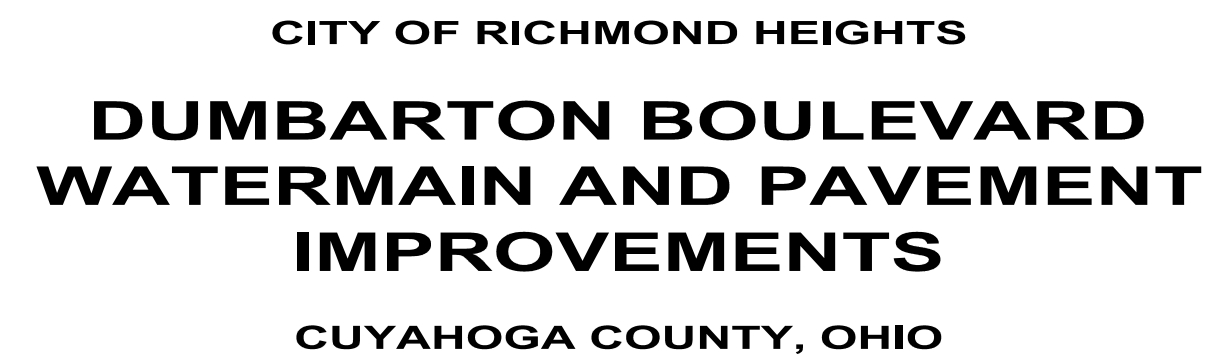
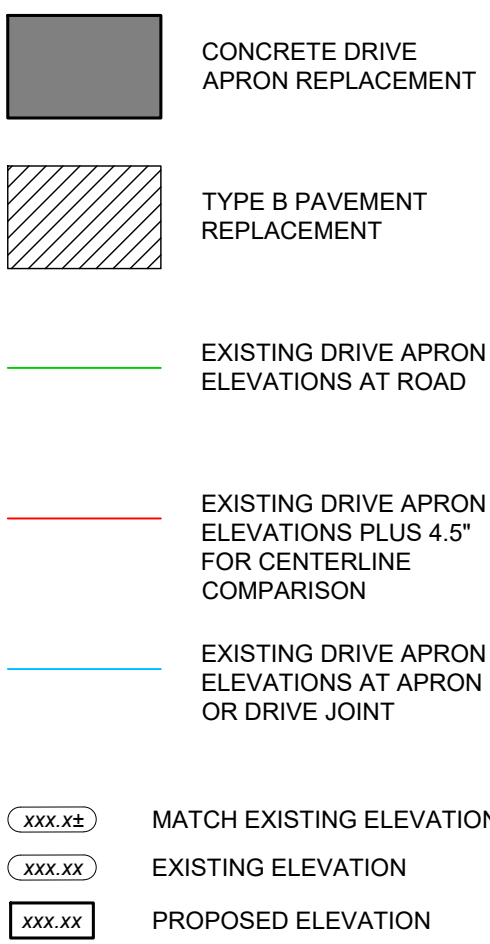


NO	REVISION	DATE



- NOTES:
1. EXISTING WATER SERVICE CONNECTIONS ARE TO BE FIELD LOCATED.
 2. CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

LEGEND



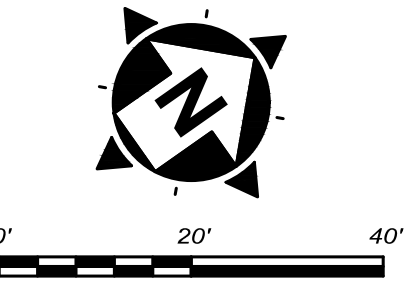
ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

**DETAILED PROPOSED
PAVEMENT PLAN AND PROFILE
STA. 10+00 TO 15+00**

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
PRPVPP-1	
SHEET	OF
15	33











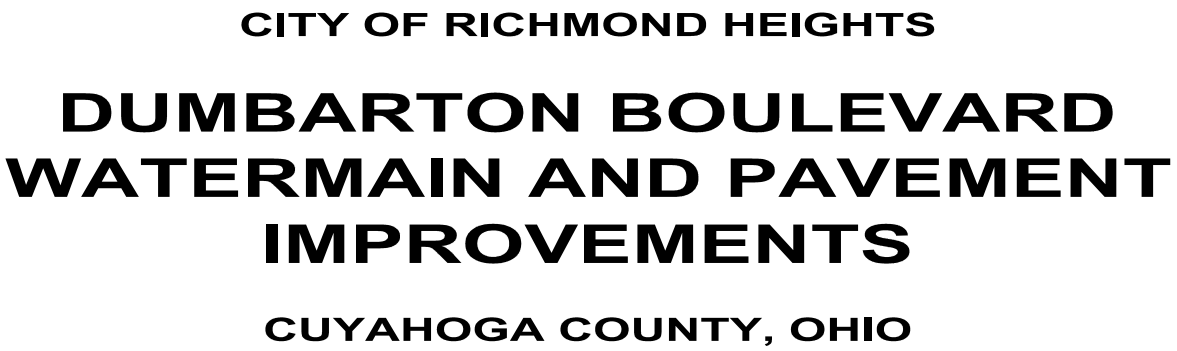
NO	REVISION	DATE



- NOTES:
1. EXISTING WATER SERVICE CONNECTIONS ARE TO BE FIELD LOCATED.
 2. CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

LEGEND

- | | |
|---|--|
|  | CONCRETE DRIVE
APRON REPLACEMENT |
|  | TYPE B PAVEMENT
REPLACEMENT |
|  | EXISTING DRIVE APRON
ELEVATIONS AT ROAD |
|  | EXISTING DRIVE APRON
ELEVATIONS PLUS 4.5"
FOR CENTERLINE
COMPARISON |
|  | EXISTING DRIVE APRON
ELEVATIONS AT APRON
OR DRIVE JOINT |
|  | MATCH EXISTING ELEVATION |
|  | EXISTING ELEVATION |
|  | PROPOSED ELEVATION |



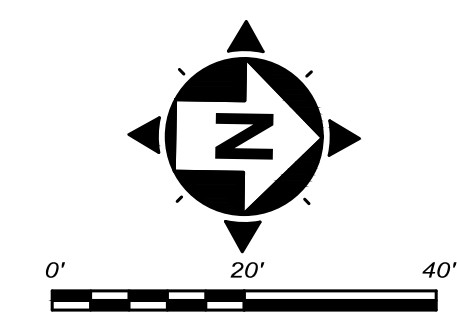
ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

DETAILED PROPOSED PAVEMENT PLAN AND PROFILE STA. 15+00 TO 20+00

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
PRPVPP-2	
SHEET	OF
16	33



NO	REVISION	DATE



- NOTES:**
1. EXISTING WATER SERVICE CONNECTIONS ARE TO BE FIELD LOCATED.
 2. CONTRACTOR SHALL ASSUME ONE GAS, WATER, SANITARY AND STORM CONNECTION EACH PER PARCEL.

LEGEND



EXISTING DRIVE APRON
ELEVATIONS AT ROAD

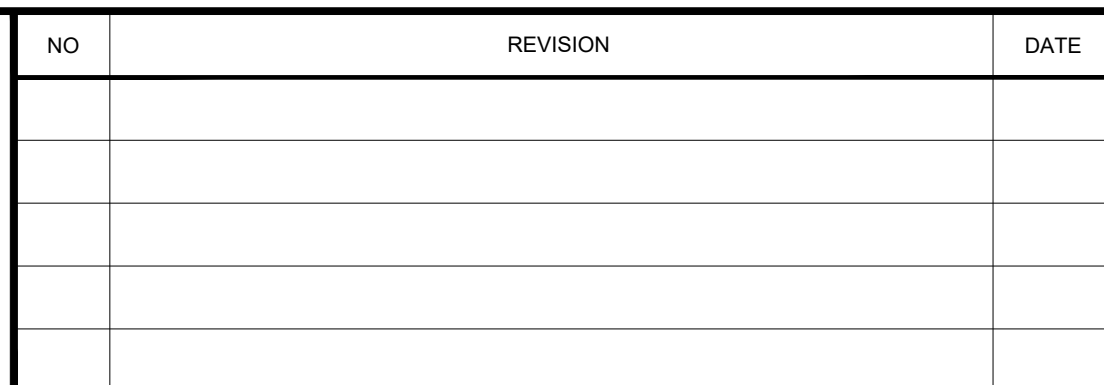
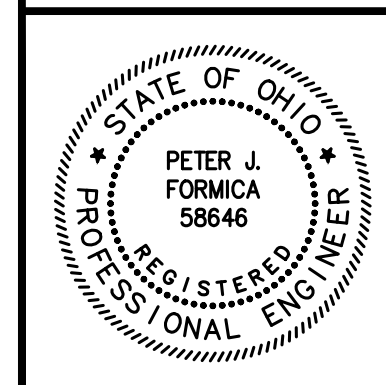
EXISTING DRIVE APRON
ELEVATIONS PLUS 4.5"
FOR CENTERLINE
COMPARISON

EXISTING DRIVE APRON
ELEVATIONS AT APRON
OR DRIVE JOINT

XXX.X± MATCH EXISTING ELEVATION

XXX.XX EXISTING ELEVATION

XXX.XX PROPOSED ELEVATION



ISSUED FOR:	BID NO.
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

DETAILED PROPOSED PAVEMENT PLAN AND PROFILE STA. 35+00 TO 39+00

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
PRPVPP-6	
SHEET	OF
20	33

Z:\PROJECT FILES\CA-RZ\RICHMOND HEIGHTS\32052 - DUMBARTON BLVD. RECON\DWG\SHEETS\C 32052 - PLAN AND PROFILE DWG - PRP\PP-6 - 5/27/2025 11:47:17 AM - TYLER MINTUS

- ☐ A Ex. 6" - 10 3/4" Bituminous Pavement
- ☐ B Ex. Aggregate Subbase
- ☐ C Ex. Soil Subgrade
- ☐ D Ex. Concrete Drive Apron (Typ)

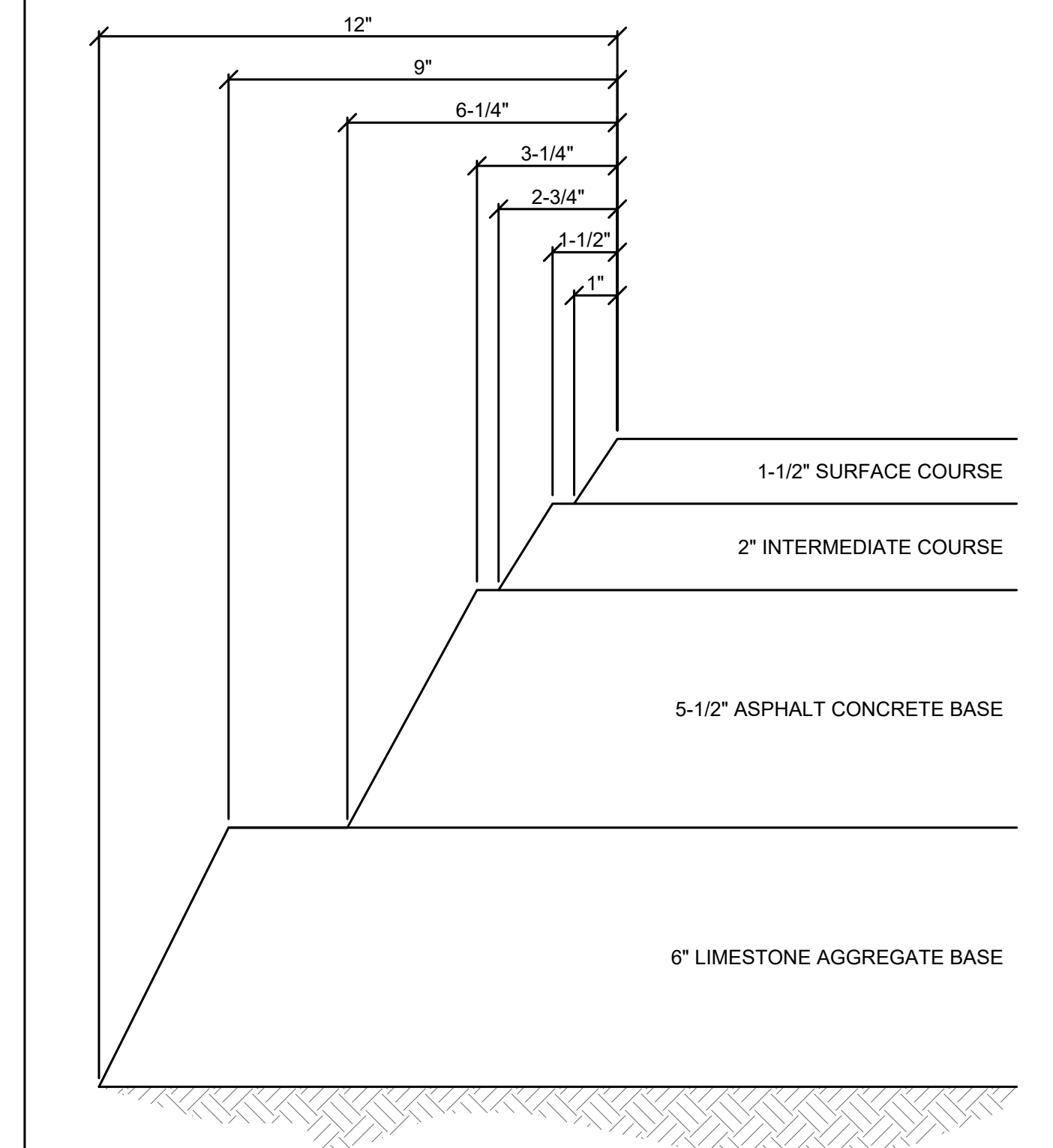
- 1 ODOT ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG 64-22, 1-1/2"
- 2 ODOT ITEM 407 TACK COAT FOR INTERMEDIATE AND SURFACE COURSE (0.06 GAL/SY)
- 3 ODOT ITEM 441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 (448), 2"
- 4 ODOT ITEM 301 ASPHALT CONCRETE BASE, 5-1/2"
- 5 ODOT ITEM 304 AGGREGATE BASE, 6", LIMESTONE, PROOF ROLLED & COMPACTED TO 89% MAX DENSITY OF STANDARD PROCTOR
- 6 PROOFROLL & COMPACT SUBGRADE PER ODOT ITEM 204
- 7 4" UNDERDRAIN, AS PER PLAN
- 8 GEOTEXTILE FABRIC, ODOT 712.09, TYPE D
- 9 CONSTRUCTION SEAL (APPLY IMMEDIATELY AFTER SURFACE COURSE INSTALLATION)
- 10 ODOT ITEM 872 VOID REDUCING ASPHALT MEMBRANE



SCALE: NONE



SCALE: NONE



PROPOSED PAVEMENT LAYER EDGE STEPPING DETAIL

SCALE: NONE



NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

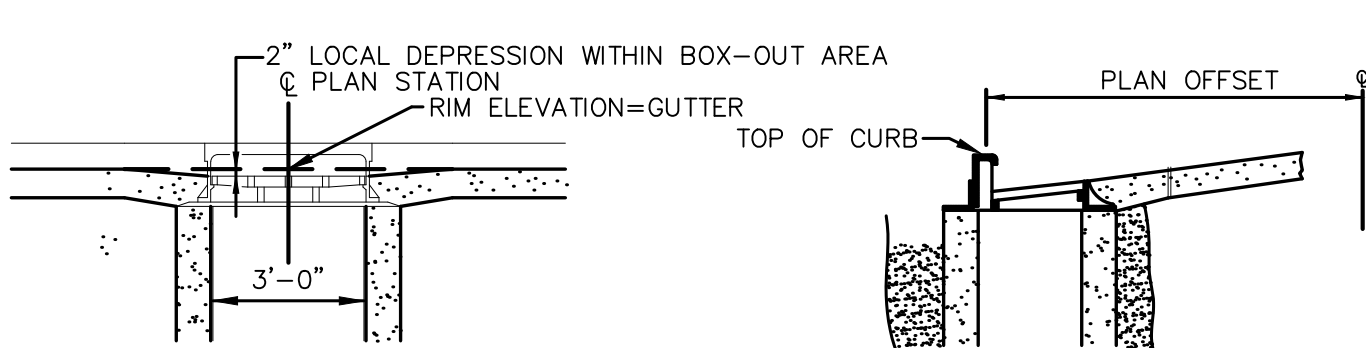
**DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
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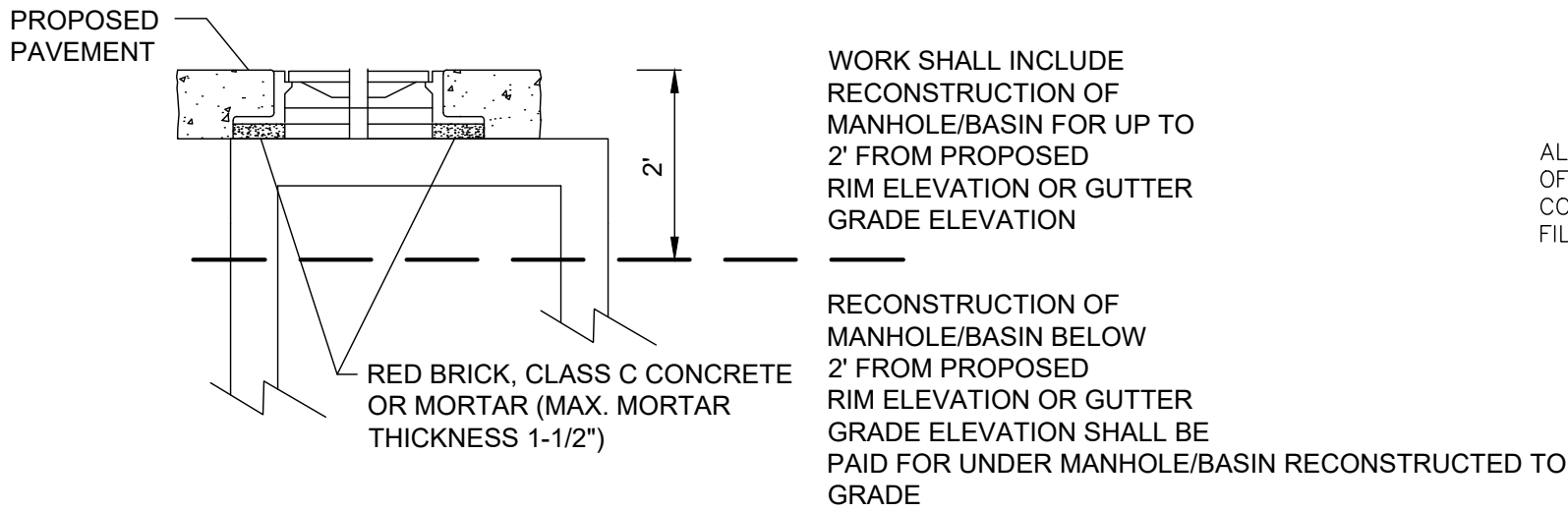
TYPICAL SECTIONS

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
TS-1	
SHEET	OF
21	33

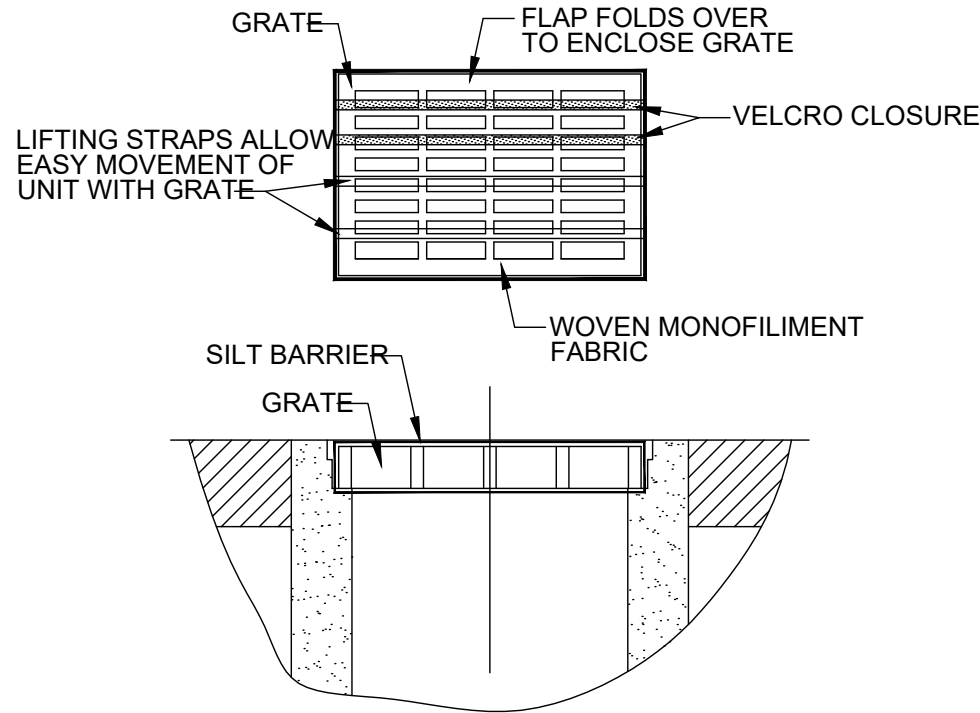


NOTE: SET CASTING 2" BELOW ROADWAY GUTTER GRADE.

INLET CASTING ADJUSTMENT AND GRADING DETAIL

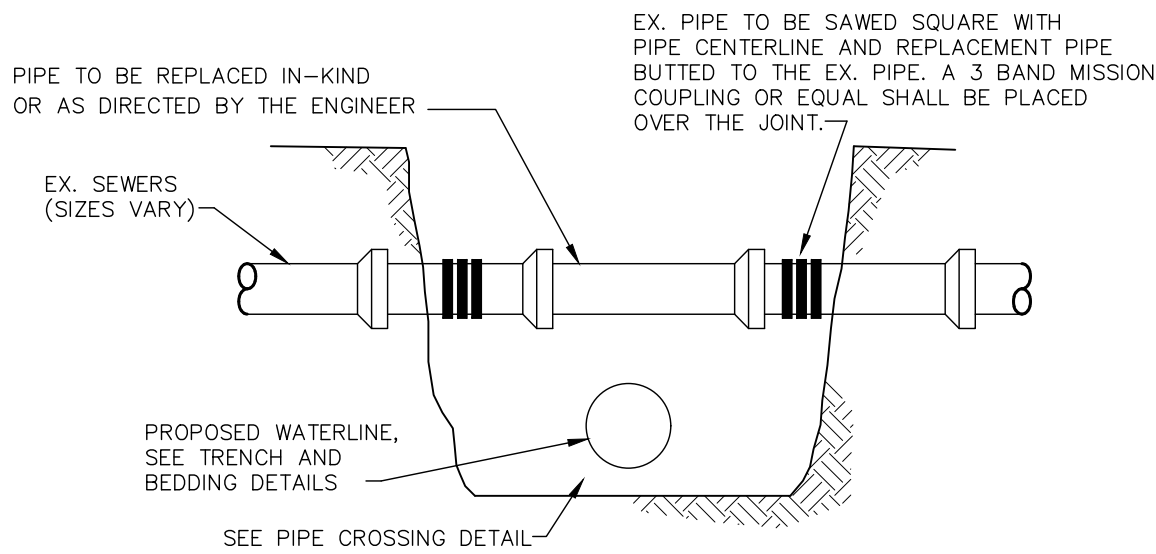


M.H./I.B. ADJUSTED TO GRADE

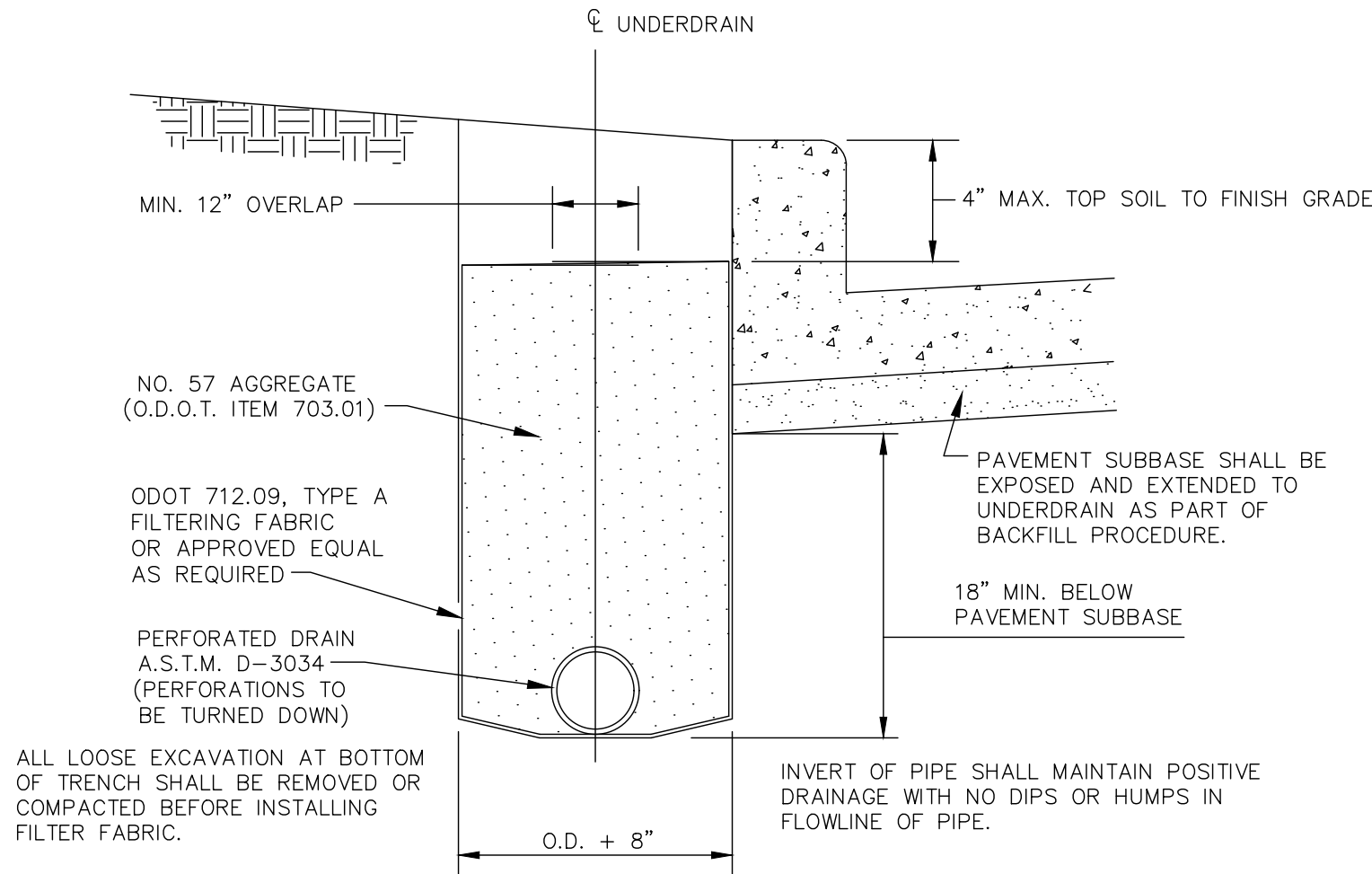


- GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT.
- MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM SURFACE AND VICINITY OF UNIT AFTER EACH STORM EVENT. REMOVE SEDIMENT THAT HAS ACCUMULATED WITHIN THE CONTAINMENT AREA OF THE SILT BARRIER AS NEEDED.
- TO INSTALL CATCH BASIN INLET SILT BARRIER: THE EMPTY SILT BARRIER SHOULD BE PLACED OVER THE GRATE AS THE GRATE STANDS ON END. TUCK THE ENCLOSURE FLAP INSIDE TO COMPLETELY ENCLOSE THE GRATE. HOLDING THE LIFTING DEVICES (DO NOT RELY ON LIFTING DEVICES TO SUPPORT THE ENTIRE WEIGHT OF THE GRATE), PLACE THE GRATE INTO ITS FRAME.

INLET PROTECTION FOR CATCH BASIN IN ROADWAY

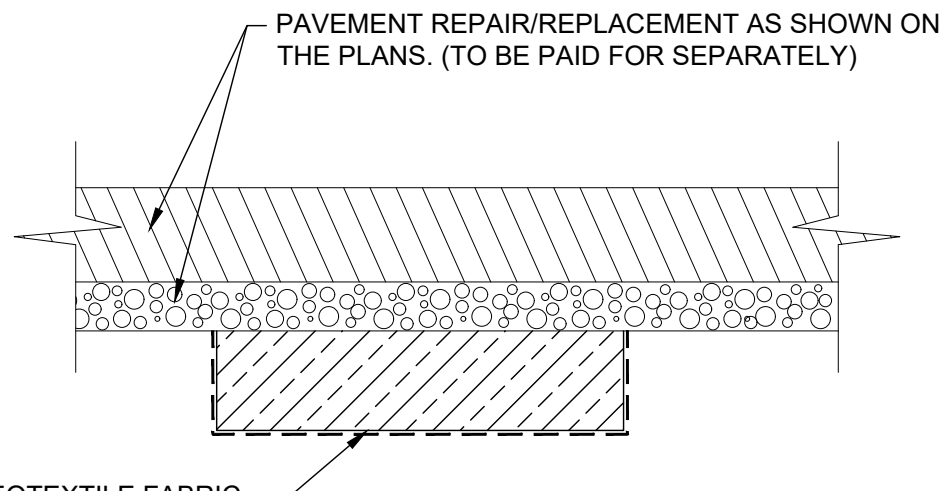


SEWER LATERAL REPAIR DETAIL



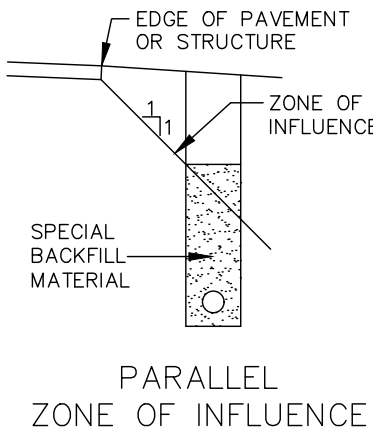
UNDERDRAIN DETAIL

NOTE: ITEM SHALL BE USED AS DIRECTED

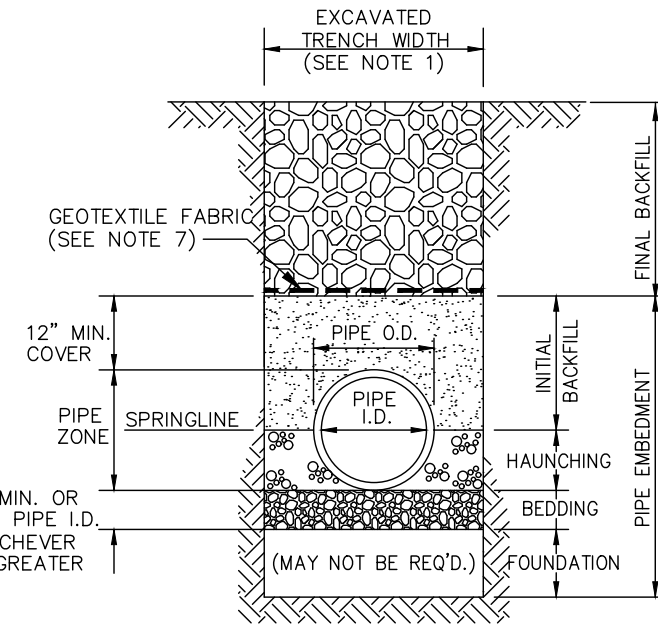


ADDITIONAL SUBGRADE REPLACEMENT DETAIL (ITEM 204)

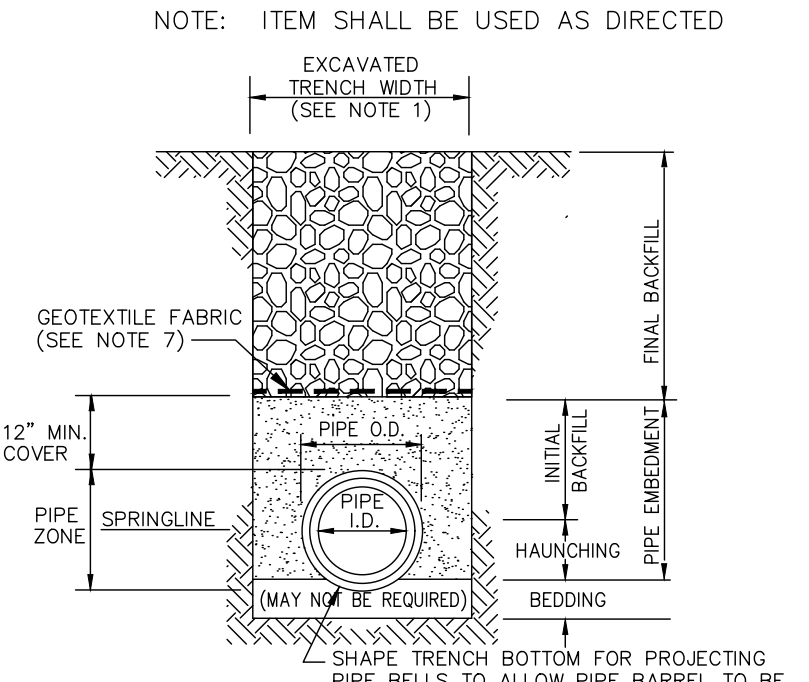
NOTE: ITEM SHALL BE USED AS DIRECTED



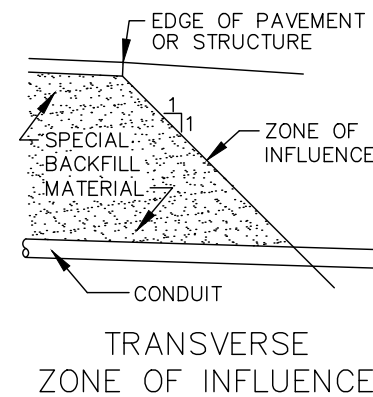
CLASS 'A' PIPE EMBEDMENT



CLASS 'B' PIPE EMBEDMENT



CLASS 'C' PIPE EMBEDMENT



NOTES:

- MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.
- FOUNDATION: WHERE AN UNSTABLE TRENCH BOTTOM CONDITION IS ENCOUNTERED, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH MATERIAL AS DIRECTED BY THE ENGINEER.
- PIPE EMBEDMENT:
CLASS A: CLASS A PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNDER PAVEMENT OR STRUCTURES WITH LESS THAN 12 INCHES OF PIPE COVER TO THE SUBGRADE. THE CONCRETE CRADLE SHALL BE IN ACCORDANCE WITH ODOT ITEM 499, CLASS "C". THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.
CLASS B: CLASS B PIPE EMBEDMENT SHALL BE USED FOR ALL PIPING UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER. THE BEDDING AND HAUNCHING SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 OR NO. 67 STONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER FOR ONLY REINFORCED CONCRETE PIPE AND DUCTILE IRON PIPE. THE INITIAL BACKFILL FOR ALL OTHER PIPES SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.
CLASS C: CLASS C PIPE EMBEDMENT SHALL ONLY BE USED FOR DUCTILE IRON WATER MAIN, DUCTILE IRON FORCE MAINS OR AS AUTHORIZED BY THE ENGINEER. THE PIPE EMBEDMENT SHALL BE AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE. THE PIPE EMBEDMENT SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, WHERE ROCK OR SHALE IS ENCOUNTERED. A MINIMUM 6-INCHES OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
- FINAL BACKFILL: IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE THE FINAL BACKFILL SHALL BE SPECIAL BACKFILL MATERIAL. IN ALL AREAS OUTSIDE OF PAVEMENT, STRUCTURES OR THE ZONE OF INFLUENCE, THE FINAL BACKFILL SHALL BE SUITABLE ON-SITE MATERIAL APPROVED BY THE ENGINEER.
- SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 02204CT.
- CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED AS SHOWN ON PLANS OR WHEN AND WHERE NECESSARY AS DIRECTED BY THE ENGINEER.
- GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 OR NO. 67 GRANULAR PIPE EMBEDMENT.
- DETECTOR TAPE: IF REQUIRED IN THE SPECIFICATIONS, INSTALL DETECTABLE WARNING TAPE ABOVE UTILITIES, 12" BELOW FINISHED GRADE, EXCEPT 6 INCHES BELOW SUBGRADE UNDER PAVEMENT AND SLABS.

TRENCHING, EMBEDMENT AND BACKFILL DETAIL

6/04

NOT TO SCALE
(FOR SEWER INSTALLATION)

SD-1-1



verdantas

NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

**DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID

ISSUE DATE: 5/21/2025

SCALE: AS SHOWN

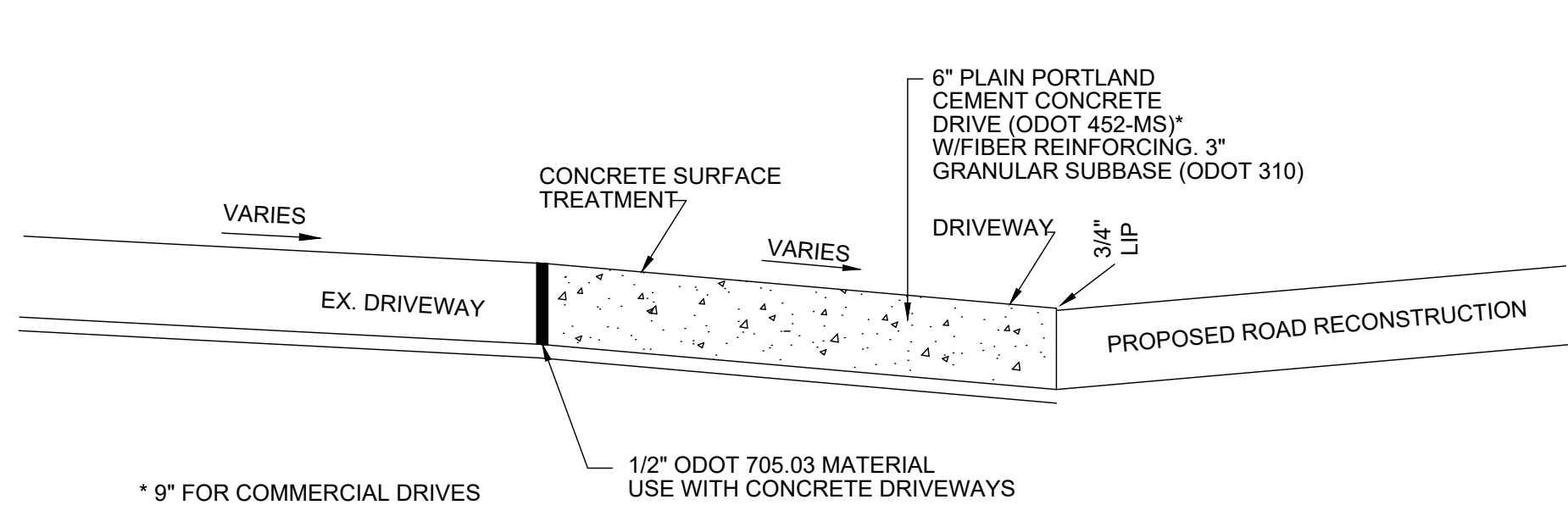
DESIGNED BY: PJF

DRAWN BY: TJM

CHECKED BY: PJF

STANDARD DETAILS 1

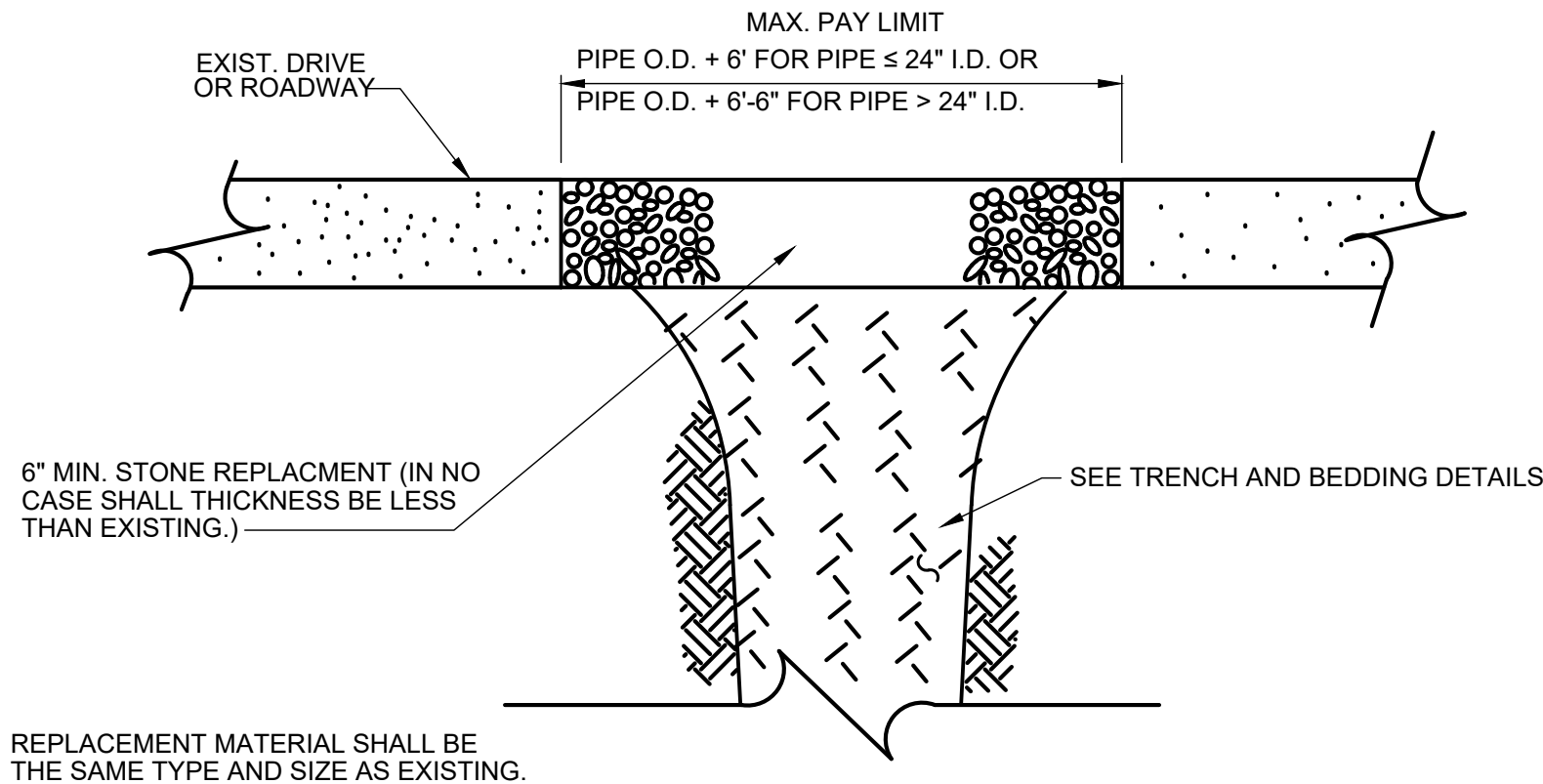
PROJECT NO.	32052
DISCIPLINE	CIVIL
SHEET NAME	DET-1
SHEET	OF
22	33



CROSS SECTION AT DRIVEWAY

NOT TO SCALE

NOTE: WIRE MESH REINFORCING SHALL BE FURNISHED & INSTALLED IN-KIND IF FOUND IN THE EXISTING APRON.

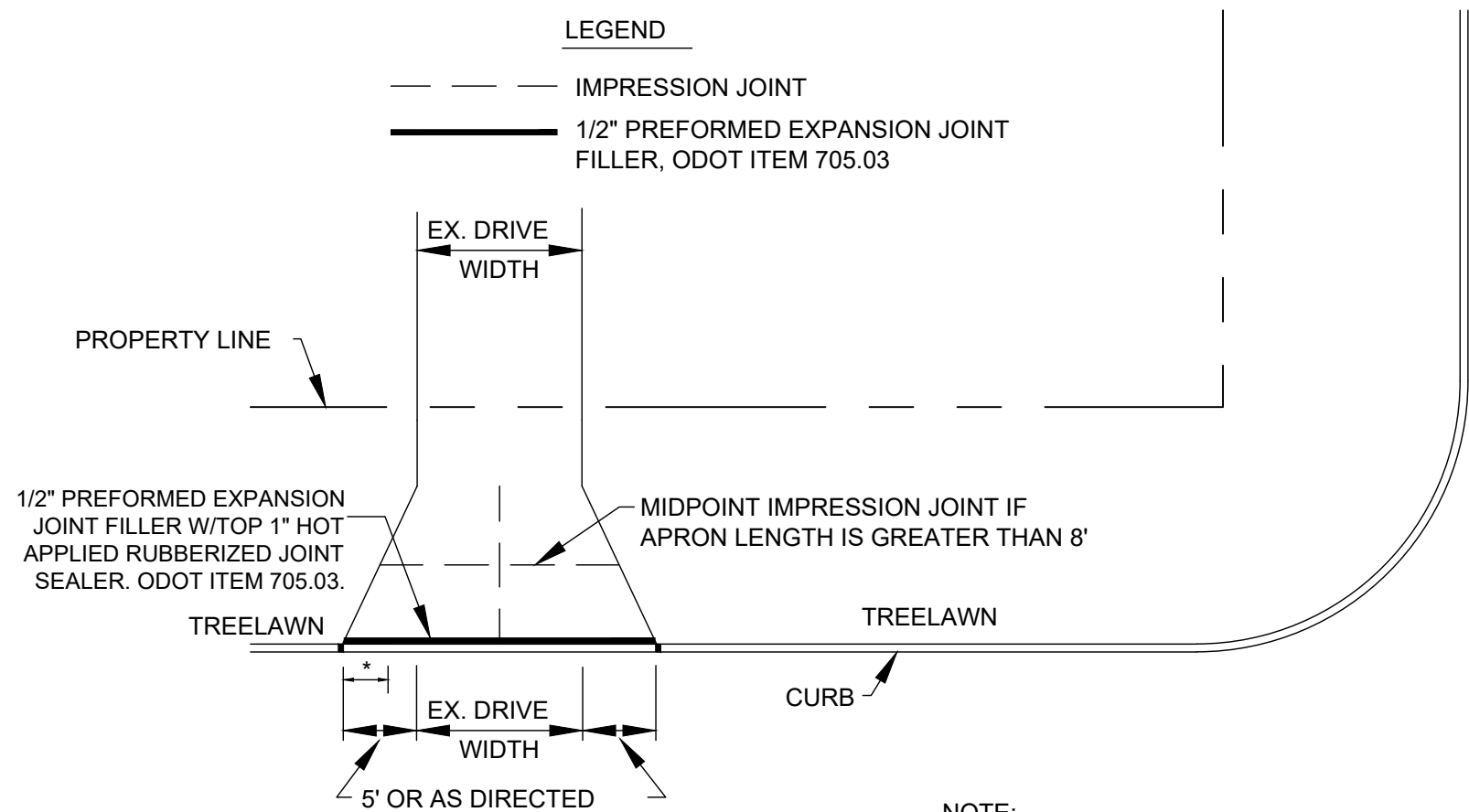


TYPE F PAVEMENT REPLACEMENT

(STONE)

10/10

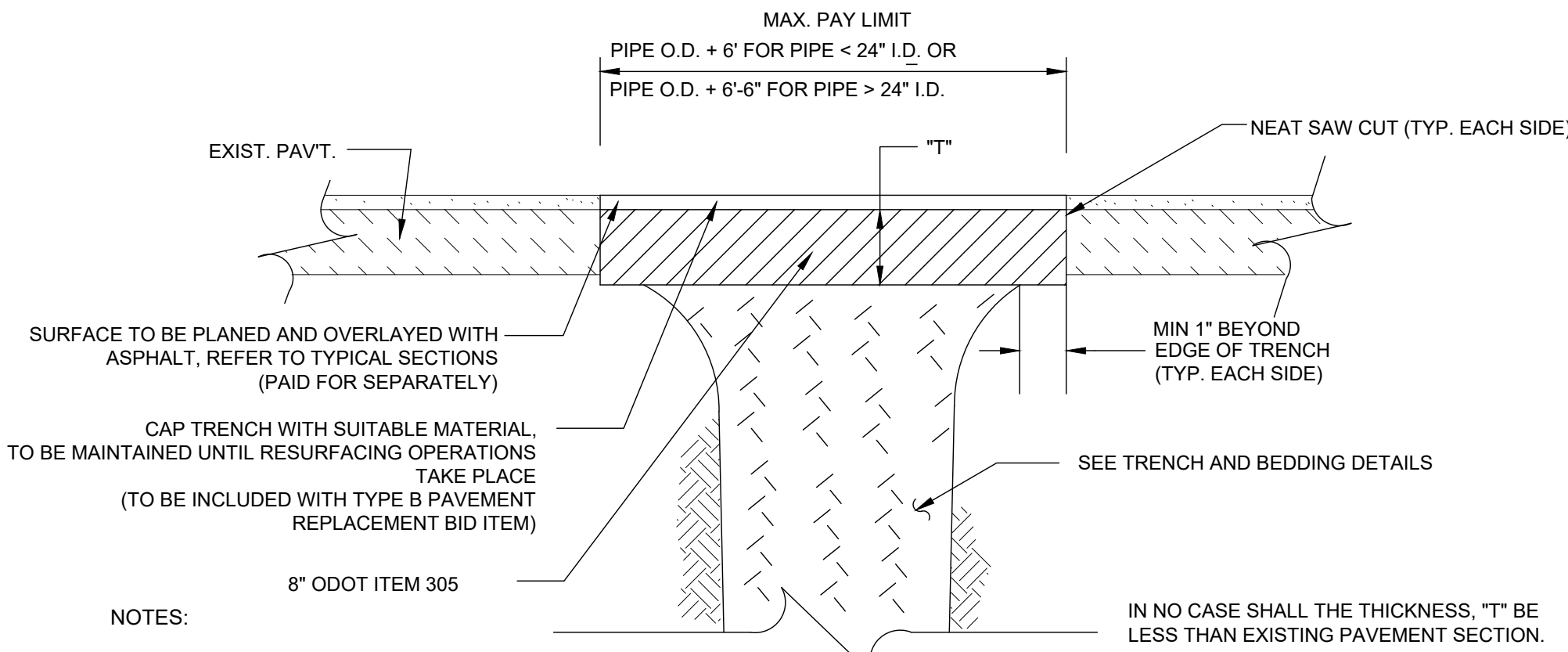
SD-5-6



DRIVEWAY APPROACH DETAIL

NOT TO SCALE

NOTE: IN NO CASE SHALL THE DRIVE APRON BE SMALLER IN DIMENSION THAN THE EXISTING APRON.

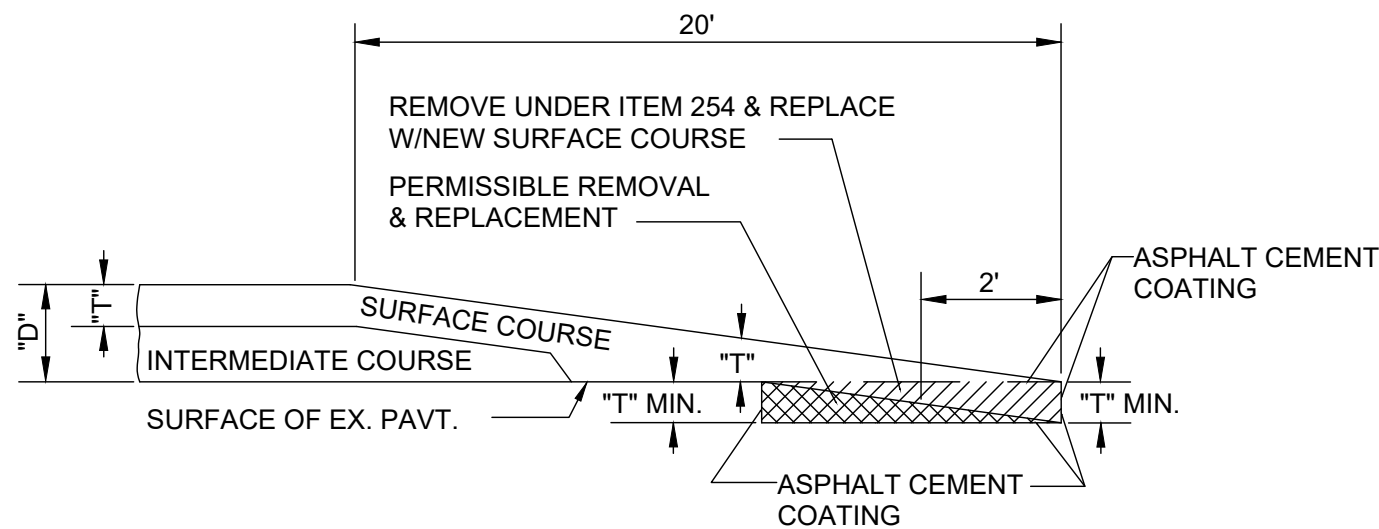


NOTES:

- EXISTING SUBBASE MATERIAL (IF ANY) SHALL BE REPLACED, AS DIRECTED BY ENGINEER.
- REPLACEMENT SHALL BE REINFORCED AS PER O.D.O.T. ITEM 709.10 OR 709.12 IF EXISTING PAVEMENT IS REINFORCED.
- 5/8"Ø HOOKBOLT @ 30" O.C. MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

TYPE "B" PAVEMENT REPLACEMENT

(ASPHALT OVER CONCRETE, MODIFIED)



BUTT JOINT DETAIL



verdantas

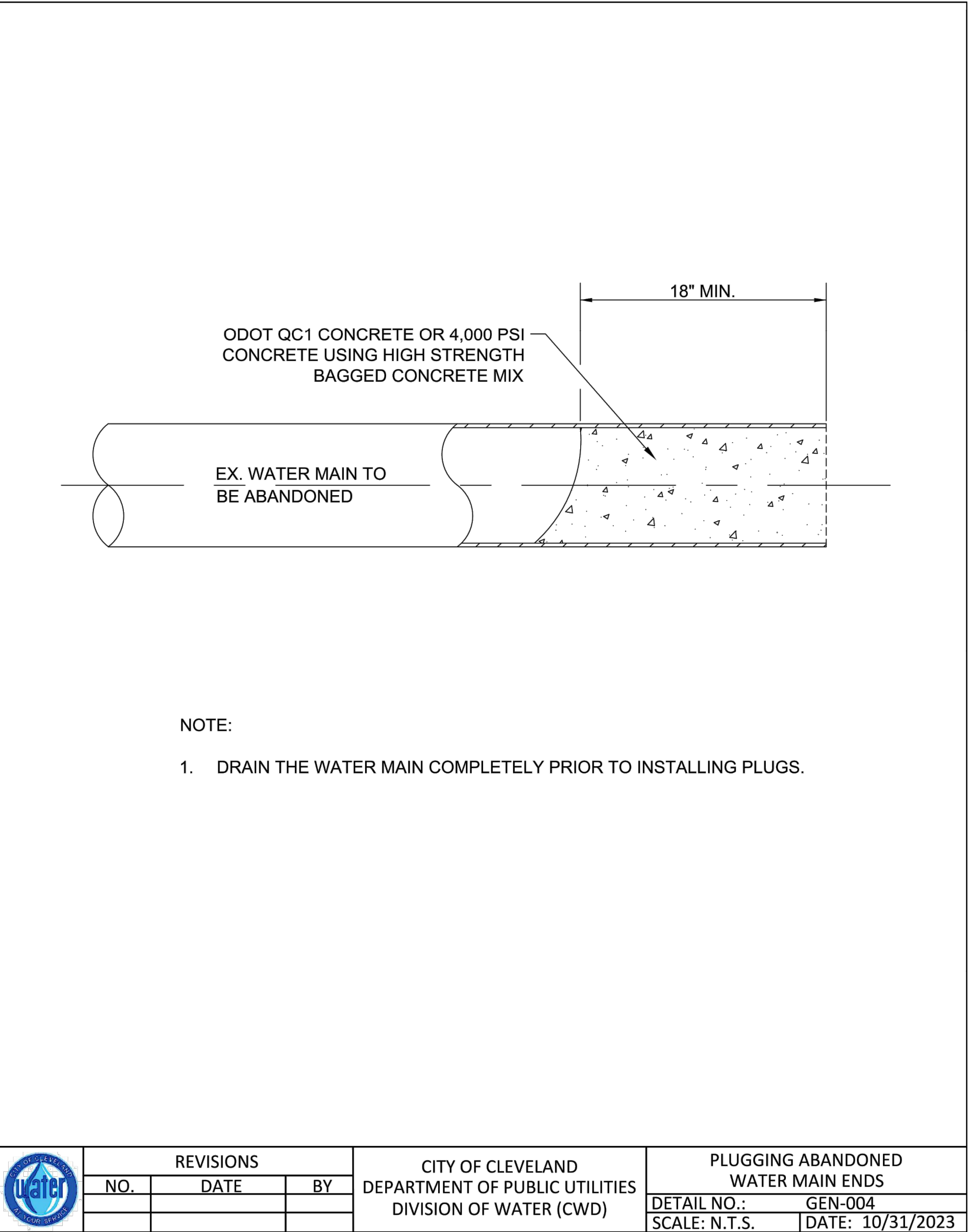
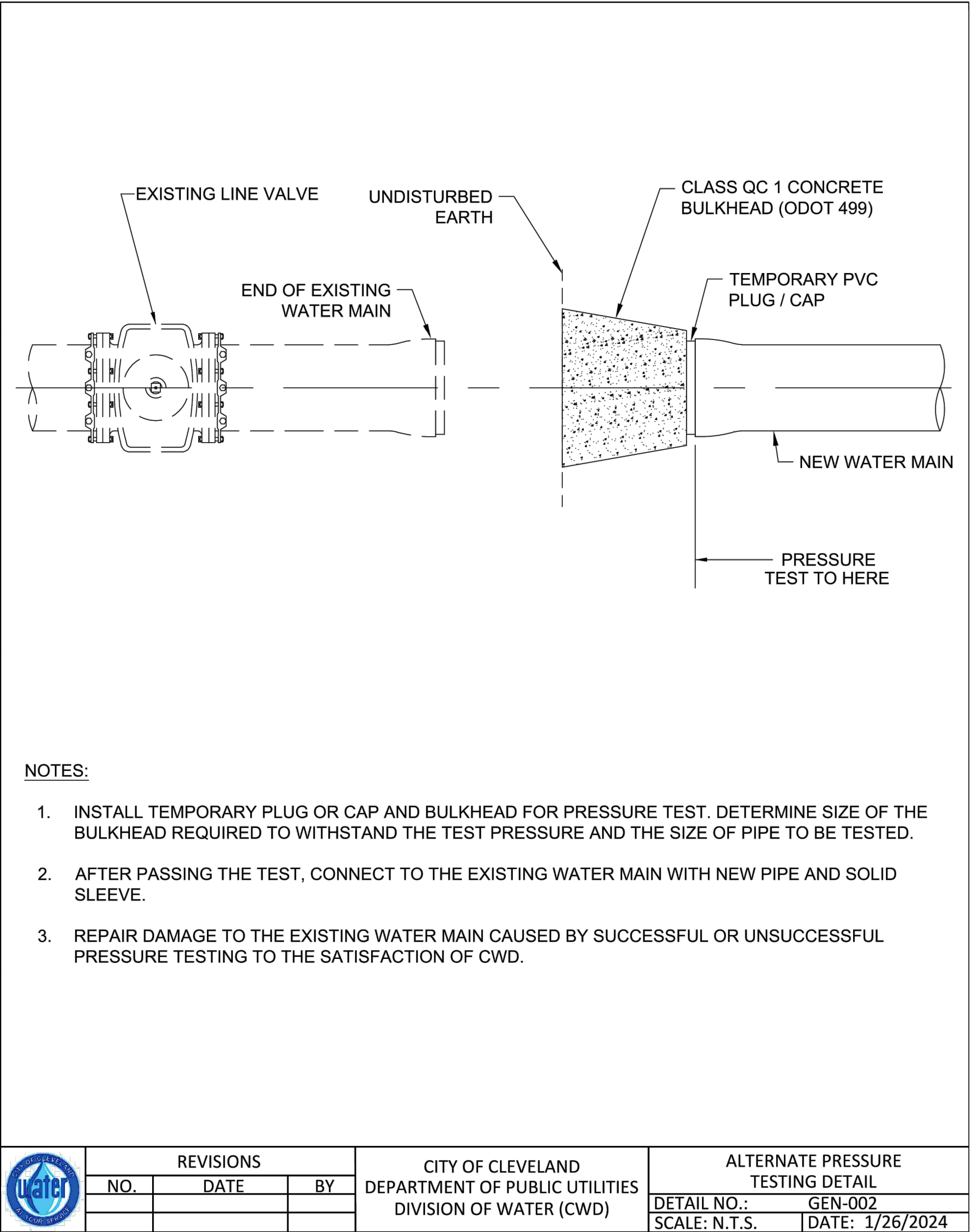
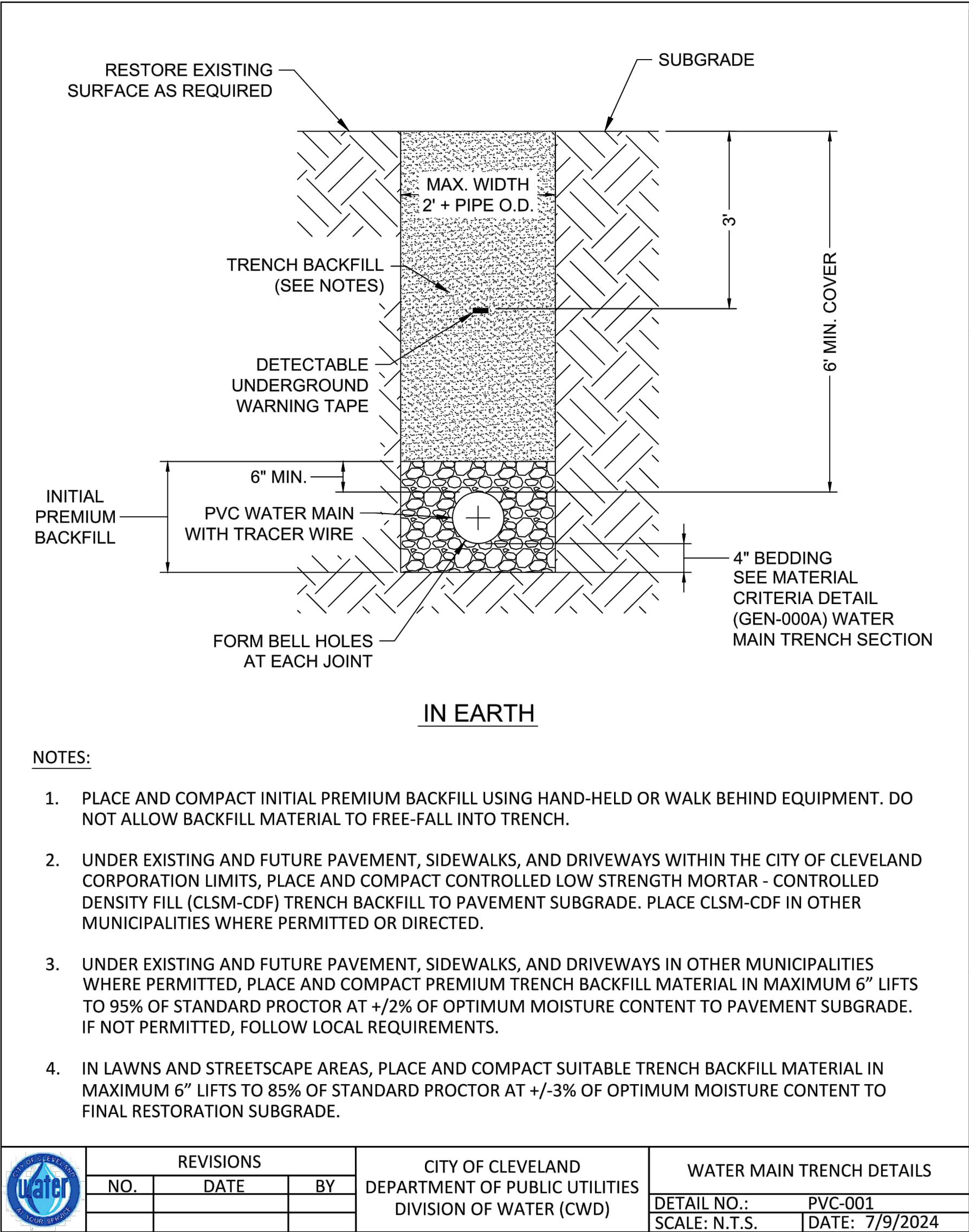
NO	REVISION	DATE

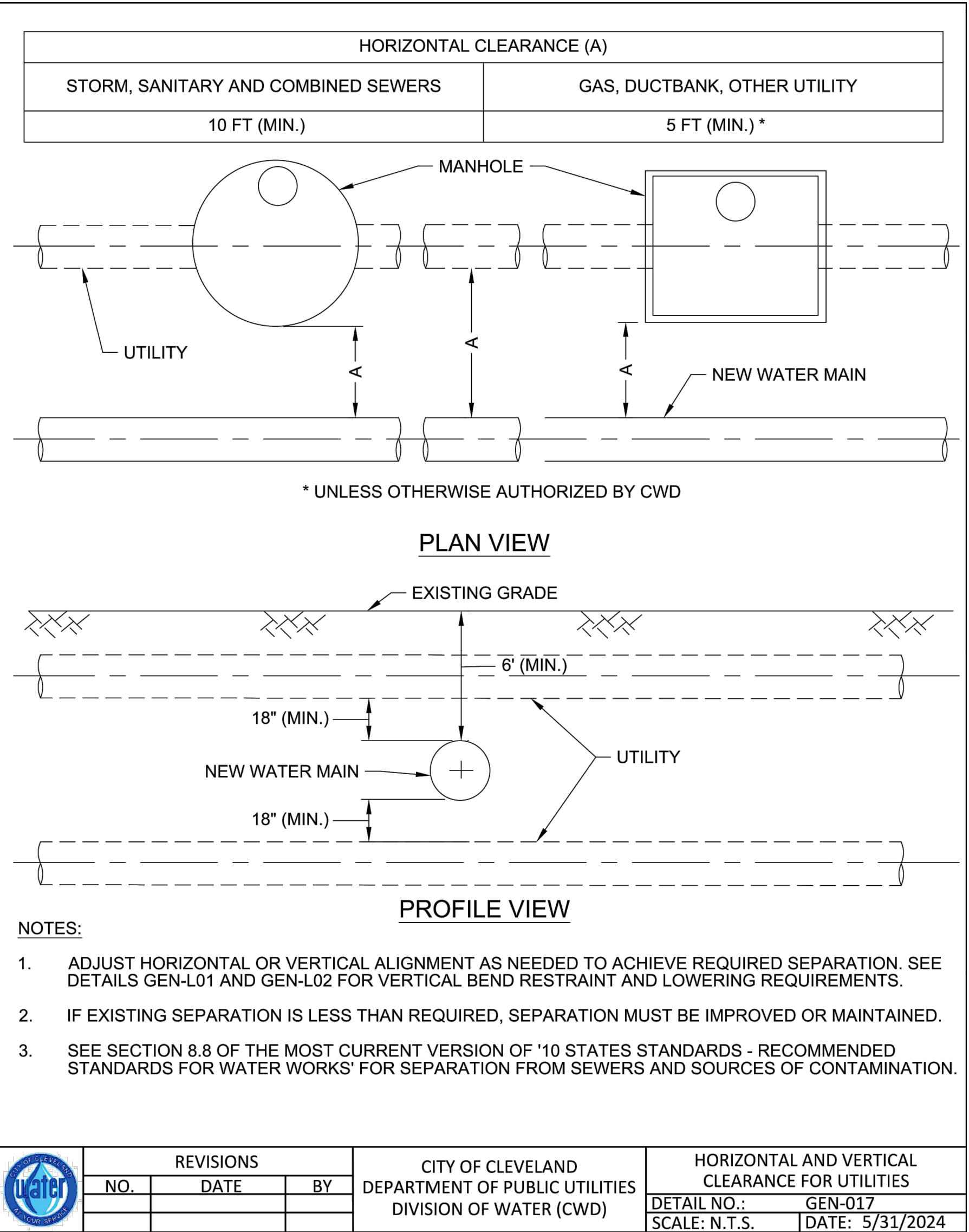
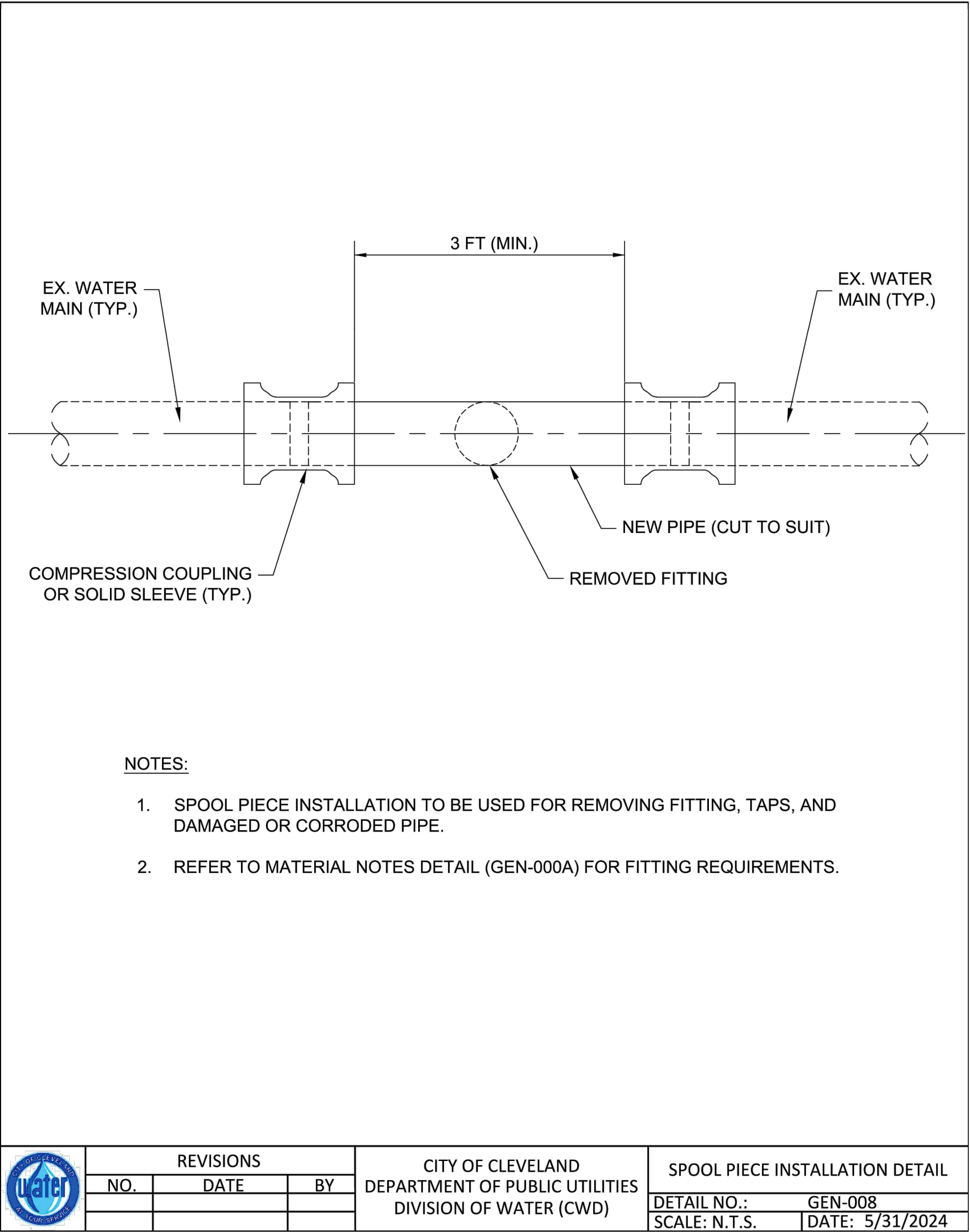
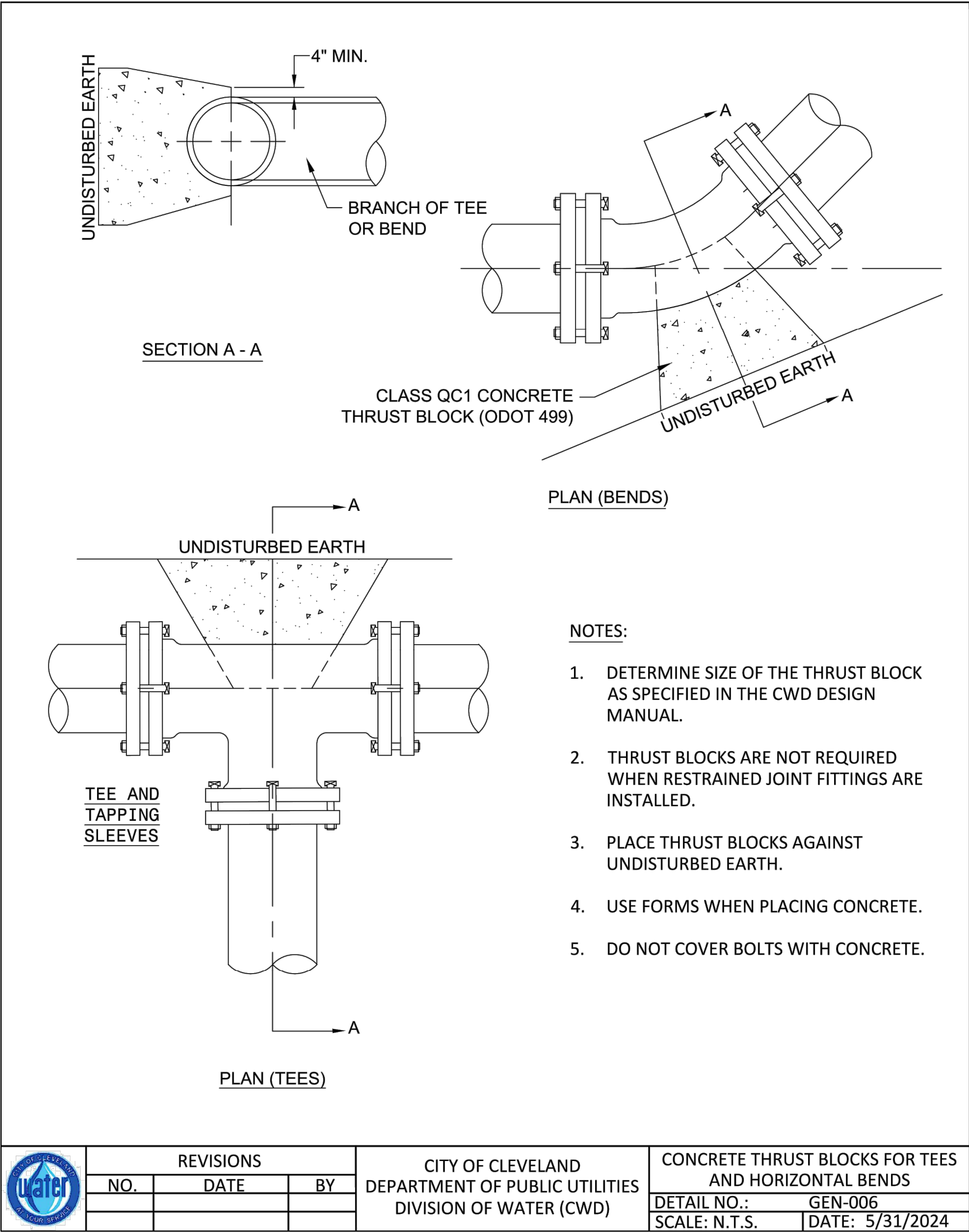
CITY OF RICHMOND HEIGHTS
DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS
CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	5/21/2025
SCALE:	AS SHOWN
DESIGNED BY:	PJF
DRAWN BY:	TJM
CHECKED BY:	PJF

STANDARD DETAILS 2

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
DET-2	
SHEET	OF
23	33





NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

**DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

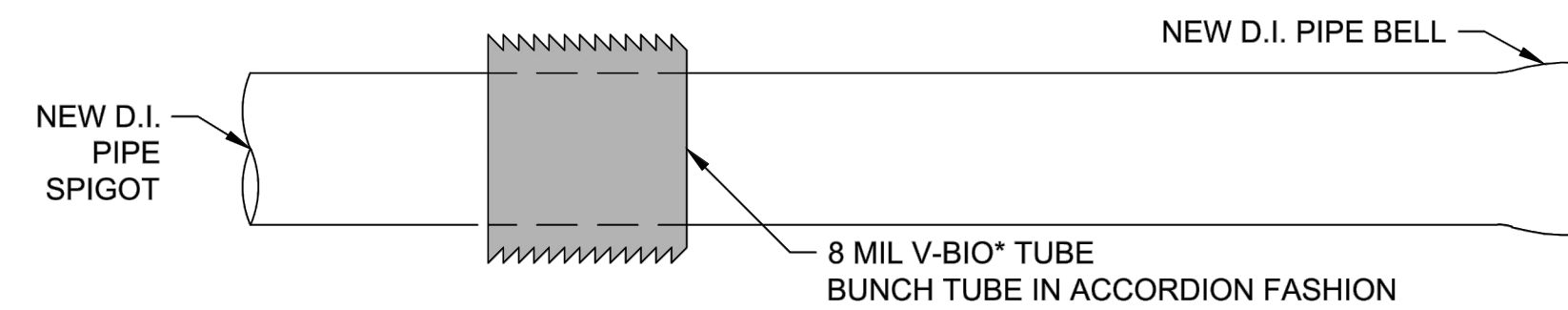
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CLEVELAND WATER DETAILS 2

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
DET-4	
SHEET	OF
25	33

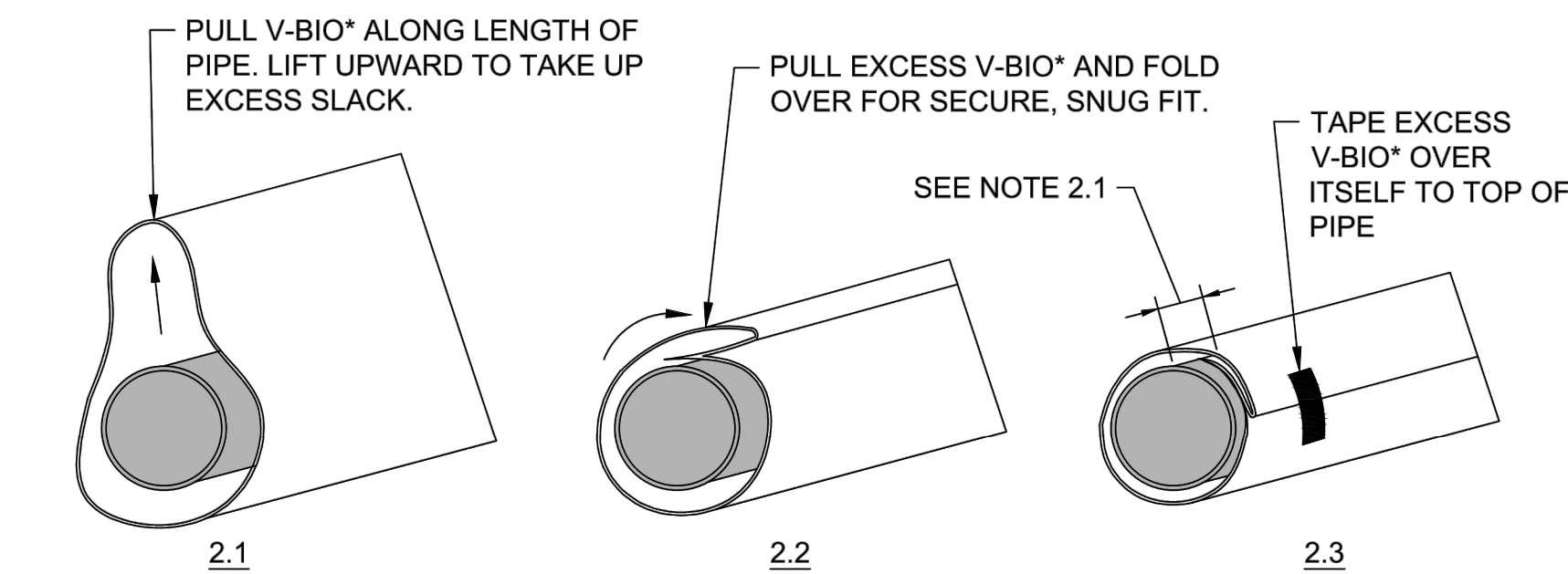
STEP 1:

- 1.1 REMOVE ALL LUMPS OF CLAY, MUD, CINDERS, OR OTHER MATERIAL THAT MIGHT HAVE ACCUMULATED ON THE PIPE SURFACE DURING STORAGE.
- 1.2 PLACE TUBE OF V-BIO* AROUND PIPE PRIOR TO LOWERING INTO TRENCH.



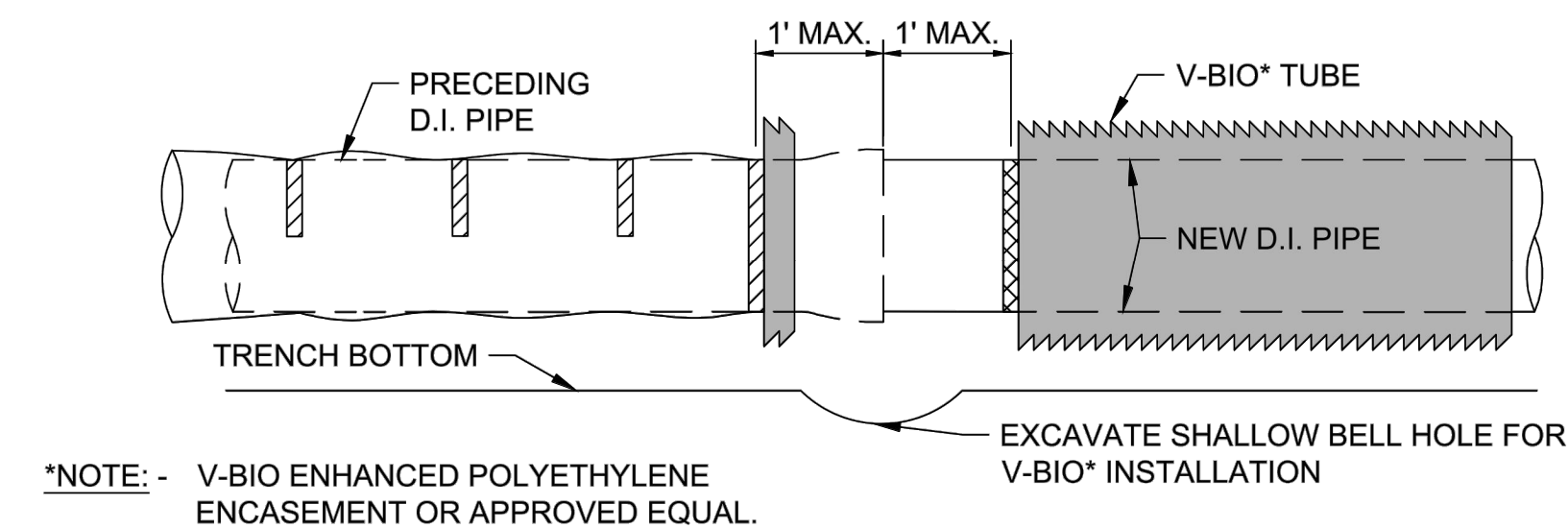
STEP 2:


- 2.1 MAINTAIN 1 FT MIN. BETWEEN END OF V-BIO* TUBE AND PIPE SPIGOT.



STEP 3:

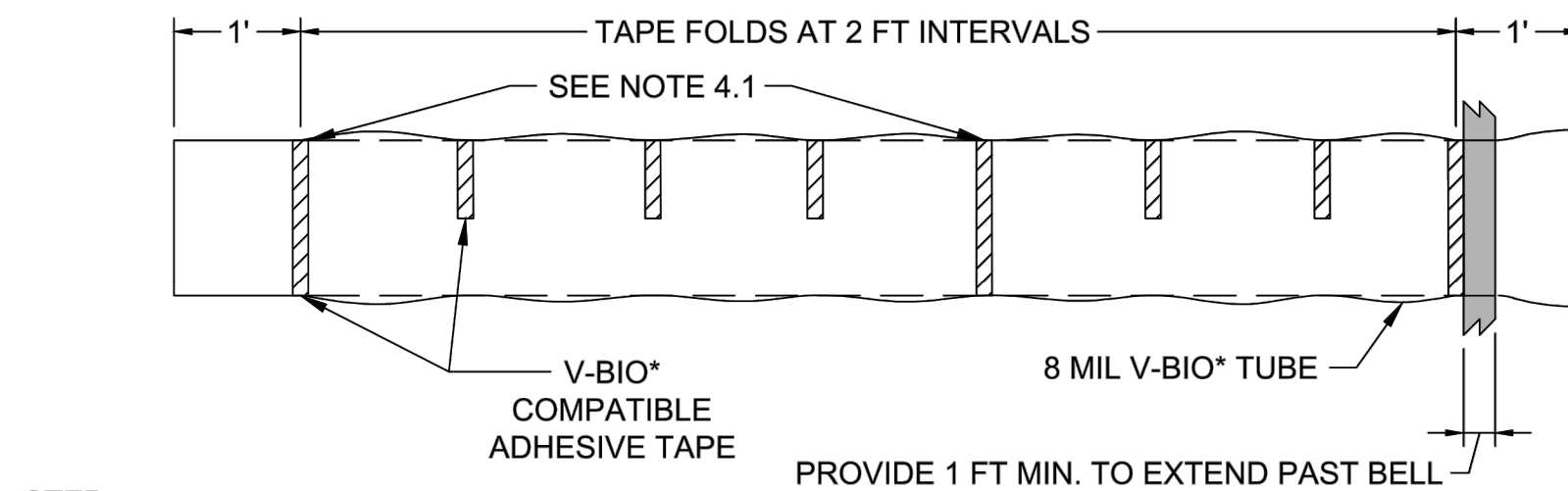
- ### 3.1 INSERT D.I. PIPE SPIGOT INTO PRECEDING PIPE BELL.



	REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	V-BIO* POLYWRAP ENCASEMENT	
	NO.	DATE	BY		DETAIL NO.:	PWE-001A
					SCALE: N.T.S.	DATE: 5/28/2024

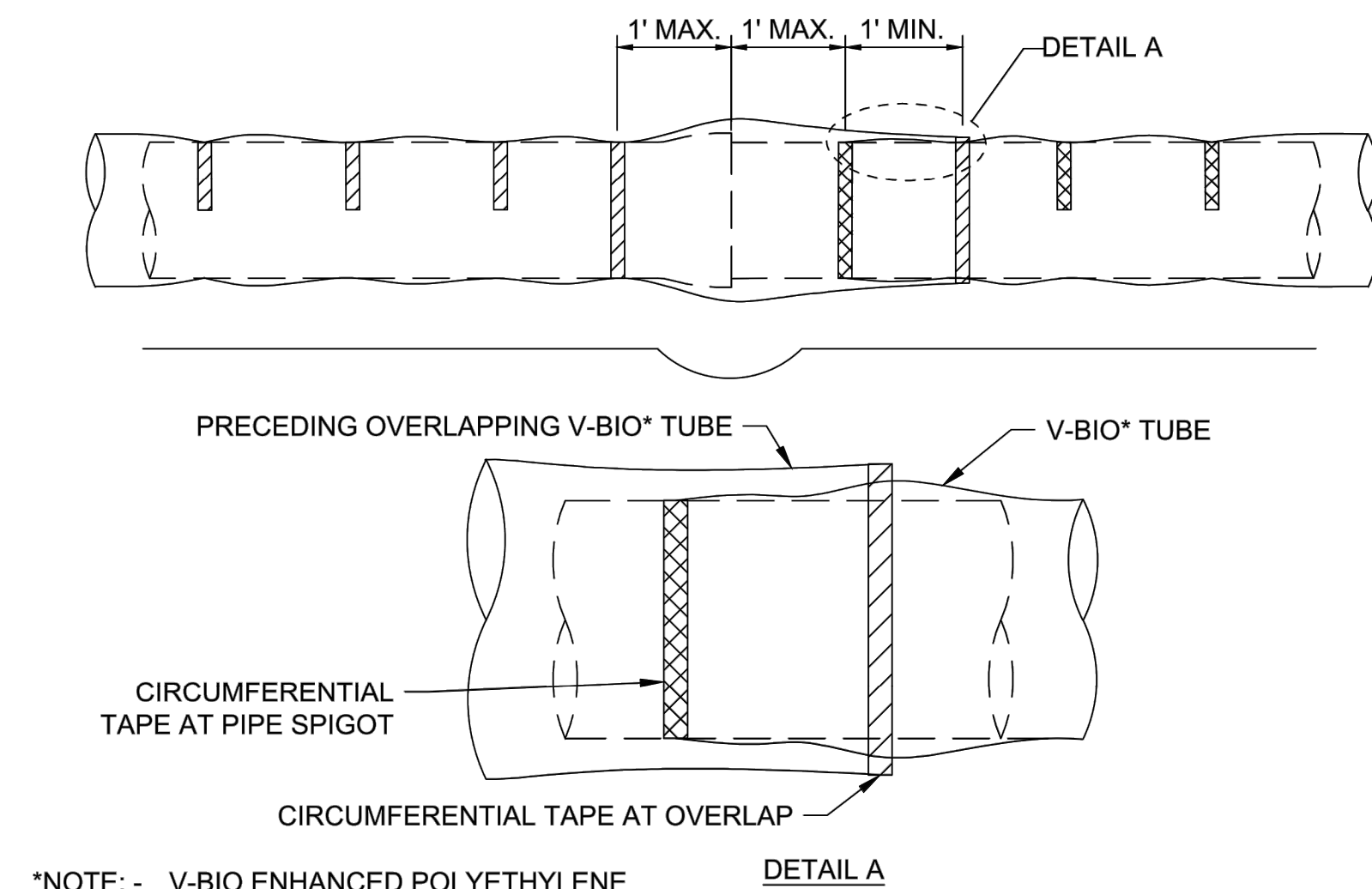
STEP 4:


- 4.1 TAPE V-BIO* FOLDS ALONG PIPE AT 2 FT INTERVALS. TAPE CIRCUMFERENTIALLY EVERY 4 FT (EVERY OTHER).
- 4.2 MAKE SURE THAT NO DIRT, BEDDING MATERIAL, OR WATER BECOMES TRAPPED BETWEEN THE WRAP AND THE PIPE.
- 4.3 ALLOW 1 FT MIN. V-BIO* WRAP TO EXTEND BEYOND PIPE BELL END.



STEP 5:

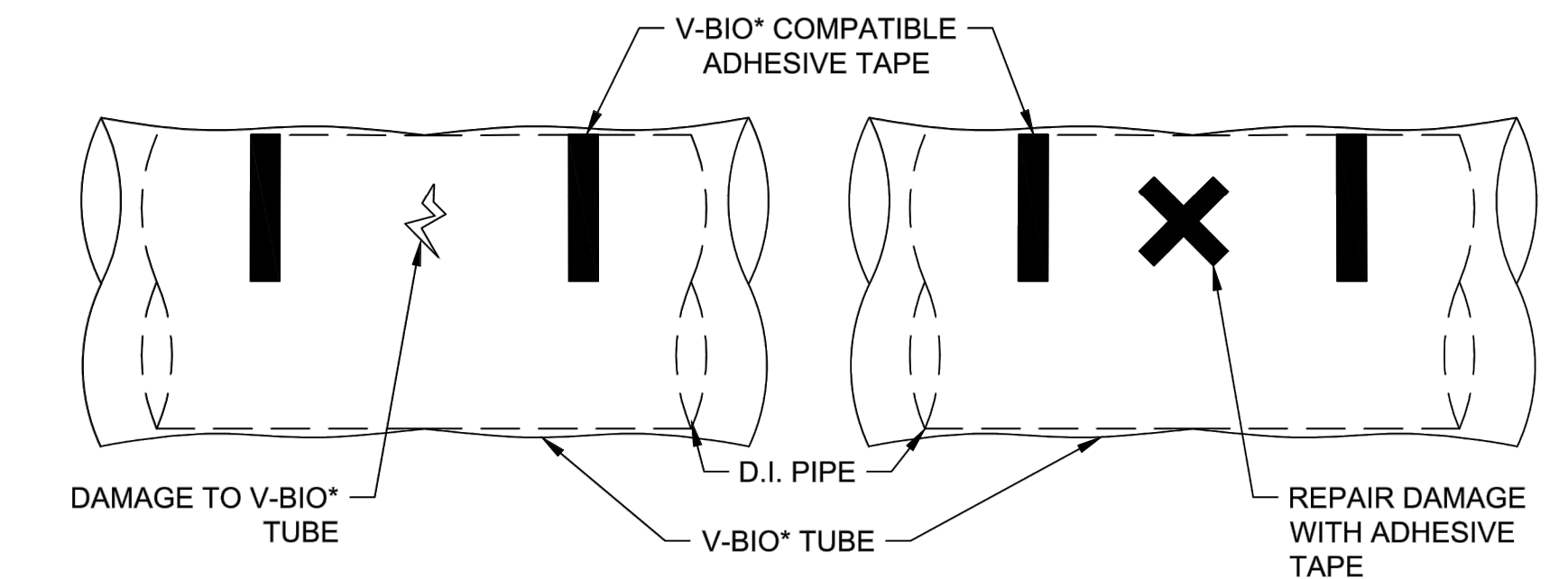
- 5.1 OVERLAP V-BIO* WITH PRECEDING V-BIO* TUBE AND TAPE CIRCUMFERENTIALLY. OVERLAP MUST EXTEND AT LEAST 1 FT MIN. PAST V-BIO* TUBE END.



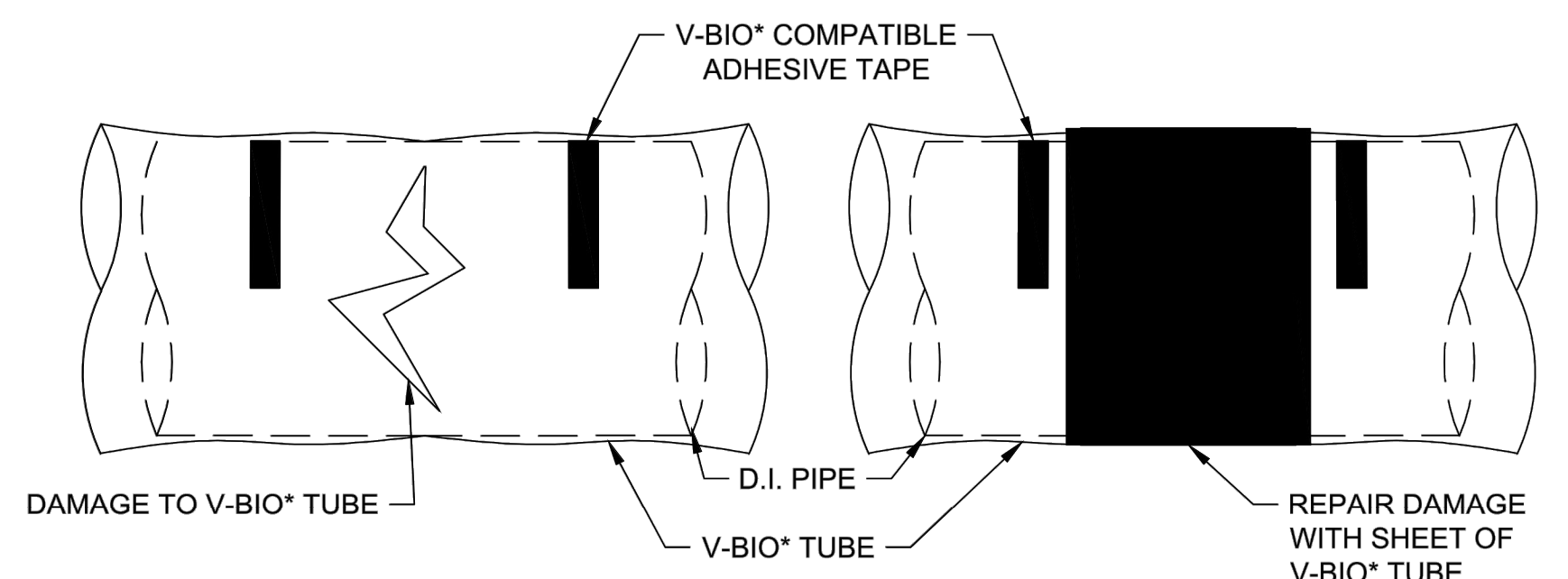
	REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	V-BIO* POLYWRAP ENCASEMENT	
	NO.	DATE	BY		DETAIL NO.:	PWE-001B
					SCALE: N.T.S.	DATE: 5/28/2024

STEP 6:

- 6.1 REPAIR ALL SMALL RIPS, TEARS, OR OTHER TUBE DAMAGE WITH ADHESIVE TAPE.
- 6.2 REPAIR BADLY DAMAGED AREAS WITH SEPARATE V-BIO® SHEETS AND SEAL EDGES WITH CIRCUMFERENTIAL ADHESIVE TAPE.
- 6.3 BACKFILL TRENCH IN ACCORDANCE WITH AWWA C600 STANDARD. AVOID DAMAGING V-BIO® DURING BACKFILL OPERATIONS.




6.1: REPAIR FOR SMALL TEARS AND RIPS



6.2: REPAIR FOR LARGE TEARS AND RIPS

*NOTE: - V-BIO ENHANCED POLYETHYLENE ENCASEMENT OR APPROVED EQUAL.

	REVISIONS			CITY OF CLEVELAND DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER (CWD)	V-BIO* POLYWRAP ENCASEMENT REPAIR	
	NO.	DATE	BY		DETAIL NO.: PWE-001C	
					SCALE: N.T.S.	DATE: 4/1/2024



NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

**DUMBARTON BOULEVARD
WATERMAIN AND PAVEMENT
IMPROVEMENTS**

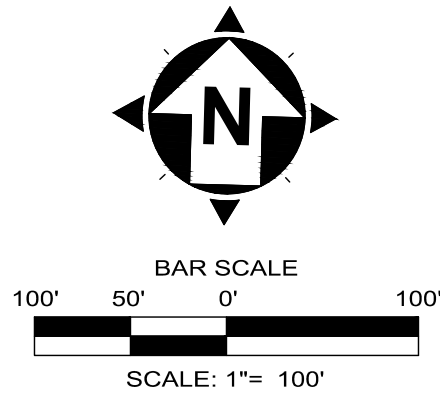
CUYAHOGA COUNTY, OHIO

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CLEVELAND WATER DETAILS 5

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
DET-7	
SHEET	OF
28	33

CONTROL MAP
STATE OF OHIO, COUNTY OF
CUYAHOGA,
CITY OF RICHMOND HEIGHTS
BEING A PART OF THE ORIGINAL EUCLID
TOWNSHIP LOT 66, TRACT 12



- NOTES:**
- THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY BE SUBJECT TO EASEMENTS AND OTHER RESTRICTIONS, EITHER RECORDED OR UNRECORDED. THE SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS, RECORD ENCUMBRANCES, RESTRICTIVE COVENANTS OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
 - THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
 - THE PROJECT CONTROL COORDINATE SYSTEM IS BASED UPON THE FOLLOWING: · HORIZONTAL DATUM - PROJECT CONTROL COORDINATES FOR THIS PROJECT HAVE BEEN ESTABLISHED BY GPS/RTK OBSERVATIONS UTILIZING THE OHIO COORDINATE SYSTEM OF 1983 (ZONE 3401-OHIO NORTH). OHIO STATE PLANE GRID COORDINATE VALUES ARE EXPRESSED IN UNITS OF U.S. SURVEY FEET. · VERTICAL DATUM - NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
 - THE SURVEY AND STREET ALIGNMENTS SHOWN HEREON WERE OBSERVED IN THE FIELD FOR CONSTRUCTION PURPOSES ONLY AND MAY NOT BE SUITABLE FOR PROPERTY LINE SURVEYS OR OTHER PURPOSES. THE PROPERTY LINES SHOWN HEREON OUR SUBJECT TO AN ACCURATE BOUNDARY SURVEY AND ARE BASED ON FOUND MONUMENTS LOCATED IN THE FIELD BEST FIT TO THE RECORDS.
 - AN ALTA/ NSPS LAND TITLE SURVEY WAS NOT PERFORMED.
 - EASEMENTS, RECORD RESTRICTIONS AND SETBACKS WERE NOT ADDRESSED DURING THIS SURVEY.
 - ALL DIMENSIONS GIVEN ARE EXPRESSED IN US SURVEY FEET.
 - THE BENCHMARK ELEVATIONS SHOWN IN THE PROJECT CONTROL TABLE ARE AT THE TOP OF THE RED CAP OF THE IRON PIN SET.
 - IRON PINS SET ARE 5/8" IRON PINS SET WITH A RED CAP INSCRIBED WITH "CT REF"

LEGEND:

- CENTERLINE MONUMENT
- I.PIN SET
- I.PIN FOUND
- I.PPIPE FOUND
- EX RW
- LIMITS OF PUBLIC R/W
- CENTERLINE PUBLIC R/W
- PARCEL LINES
- SUBDIVISION LINES

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	689143.6640	2239439.8360	867.44	Iron Pin (Set)
10	688781.4380	2239375.5710	869.77	Iron Pin (Set)
11	689449.5130	2239667.2660	863.70	Iron Pin (Set)
12	689819.7470	2239884.9510	862.72	Iron Pin (Set)
13	690232.6550	2239857.0230	855.47	Iron Pin (Set)
14	690630.2010	2239889.3310	852.55	Iron Pin (Set)
15	691067.0430	2239835.7440	848.88	Iron Pin (Set)
16	691402.7450	2239869.2770	847.19	Iron Pin (Set)
20	689429.7590	2239122.5650	862.74	Iron Pin (Set)
21	689901.9440	2239029.3610	856.31	Iron Pin (Set)

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
67	689764.2520	2239052.3880	0.00	Iron Pin (Fnd)
68	689700.1790	2239001.5960	0.00	Iron Pipe (Fnd)
69	689799.2470	2238988.9170	0.00	Iron Pin (Fnd)
70	691349.4430	2238996.8540	0.00	Monument Box (Fnd)
71	691349.5800	2238996.9320	0.00	Monument Box (Fnd)
72	691346.5800	2238784.9700	0.00	Monument Box (Fnd)
73	691364.7690	2240183.0190	0.00	Monument Box (Fnd)
74	689840.2610	2239047.2970	0.00	Iron Pin (Fnd)
111	689449.5130	2239667.2660	863.71	Iron Pin (Set)
112	689819.7470	2239884.9510	862.72	Iron Pin (Set)

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
22	690358.9400	2238989.7200	851.58	Iron Pin (Set)
23	690854.4030	2238984.4740	847.40	Iron Pin (Set)
24	691312.6360	2238978.1160	844.42	Iron Pin (Set)
50	688696.0870	2238377.9720	0.00	Monument Box (Fnd)
51	688717.6200	2240236.4520	0.00	Monument Box (Fnd)
52	689354.6240	2239663.7910	0.00	Iron Pin (Fnd)
53	689258.0780	2239592.5670	0.00	Iron Pin (Fnd)
54	689281.7000	2239536.2650	0.00	Iron Pin (Fnd)
55	689542.6640	2239721.4390	0.00	Iron Pipe (Fnd)
56	689996.1750	2239909.1640	0.00	Iron Pin (Fnd)

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
113	690232.6550	2239857.0230	855.44	Iron Pin (Set)
114	690630.2010	2239889.3310	852.52	Iron Pin (Set)
115	691067.0430	2239835.7440	848.87	Iron Pin (Set)
116	691402.7450	2239869.2770	847.15	Iron Pin (Set)
120	689429.7590	2239122.5650	862.74	Iron Pin (Set)
121	689901.9440	2239029.3610	856.31	Iron Pin (Set)
200	691015.5440	2239837.4660	851.53	Benchmark (Set) A IN ALBERTVL

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
57	689994.8300	2239849.3670	0.00	Iron Pin (Fnd)
58	690044.1140	2239849.2980	0.00	Iron Pin (Fnd)
59	690096.1660	2239908.4140	0.00	Iron Pin (Fnd)
60	691360.4470	2239853.0740	0.00	Monument Box (Fnd)
61	689006.2590	2239472.7600	0.00	Iron Pin (Fnd)
62	689215.4640	2239314.9710	0.00	Iron Pin (Fnd)
63	689275.4130	2239334.6470	0.00	Iron Pin (Fnd)
64	689369.6690	2239231.3650	0.00	Iron Pin (Fnd)
65	689344.1420	2239173.8180	0.00	Iron Pipe (Fnd)
66	689656.5230	2239073.8350	0.00	Iron Pin (Fnd)

CITY OF RICHMOND HEIGHTS

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WATERMAIN AND PAVEMENT
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SURVEY CONTROL 1

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
CTRL 1	
SHEET	OF
30	33

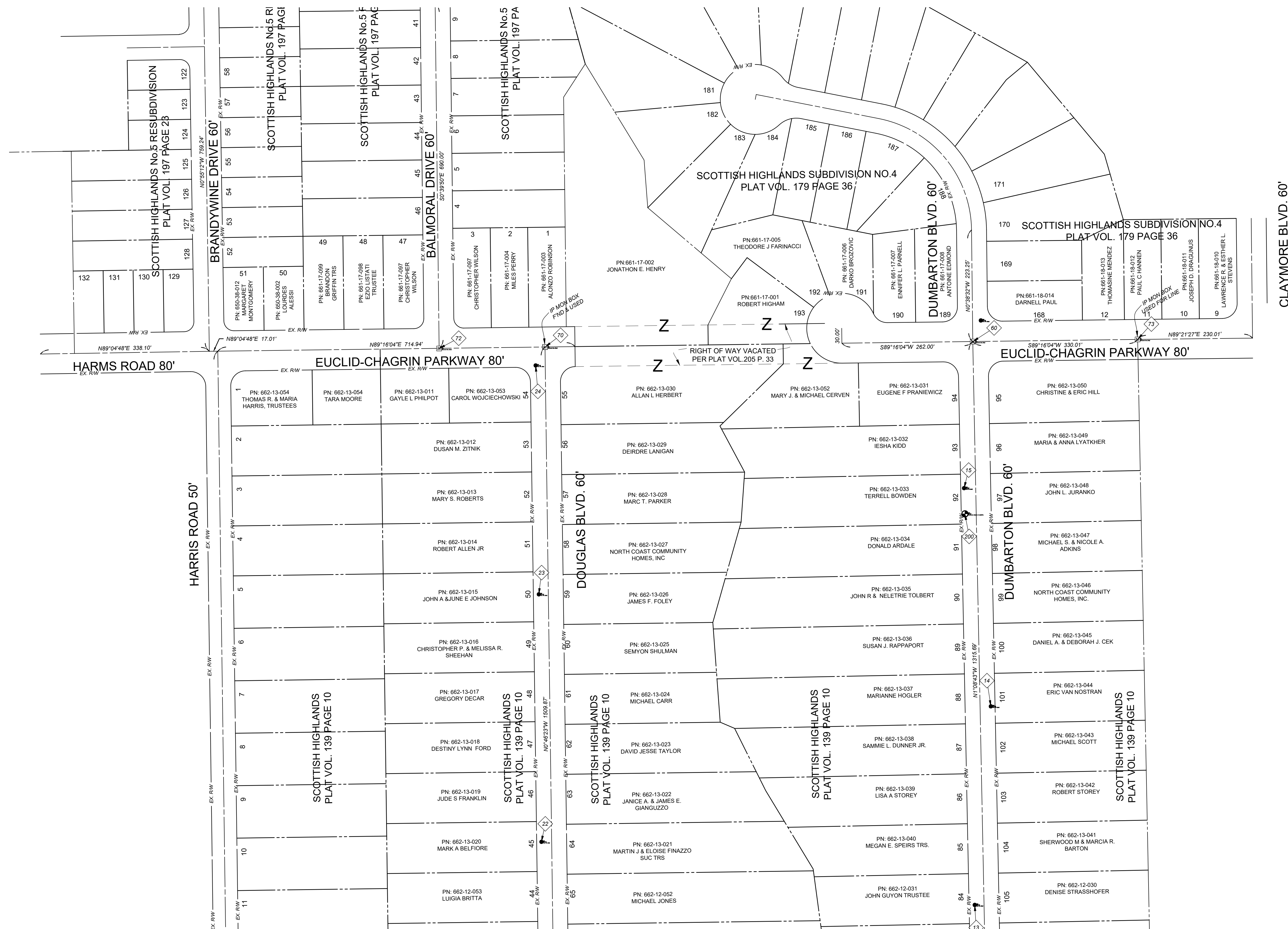


NO	REVISION	DATE

BAR SCALE

100' 50' 0' 100'

SCALE: 1"= 100'



CLAYMORE BLVD. 60'

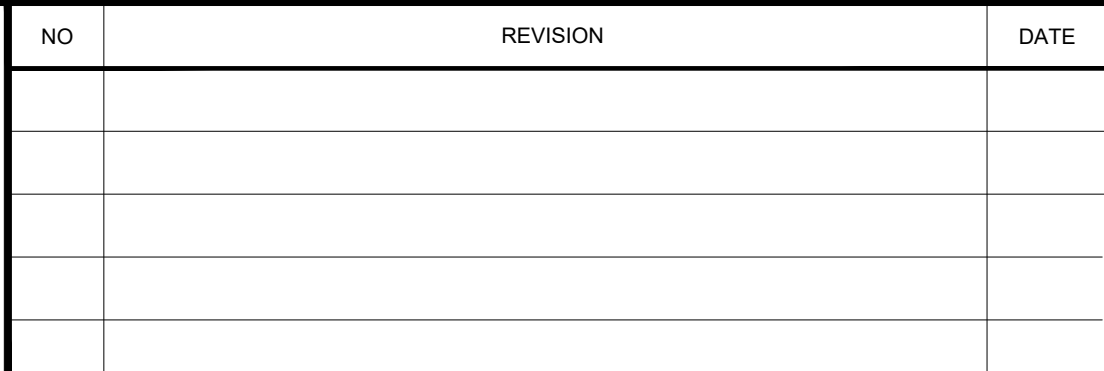


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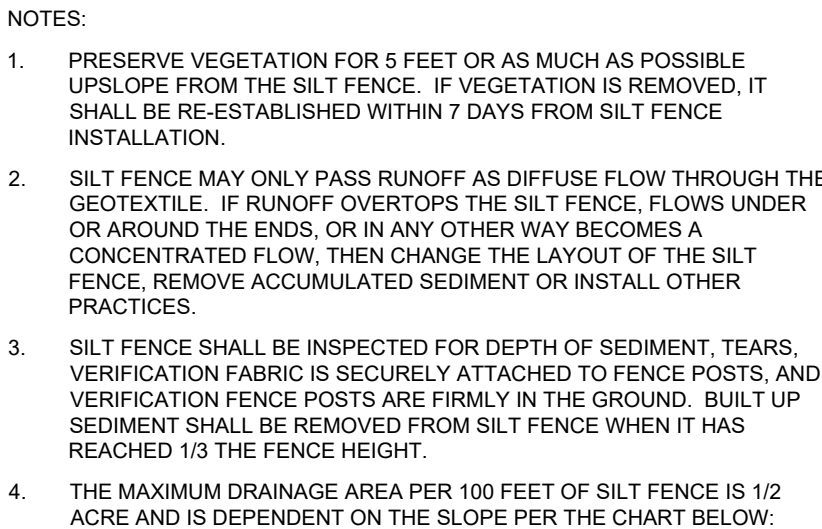
SURVEY CONTROL 2

PROJECT NO.	
32052	
DISCIPLINE	
CIVIL	
SHEET NAME	
CTRL 3	
SHEET	OF
31	33

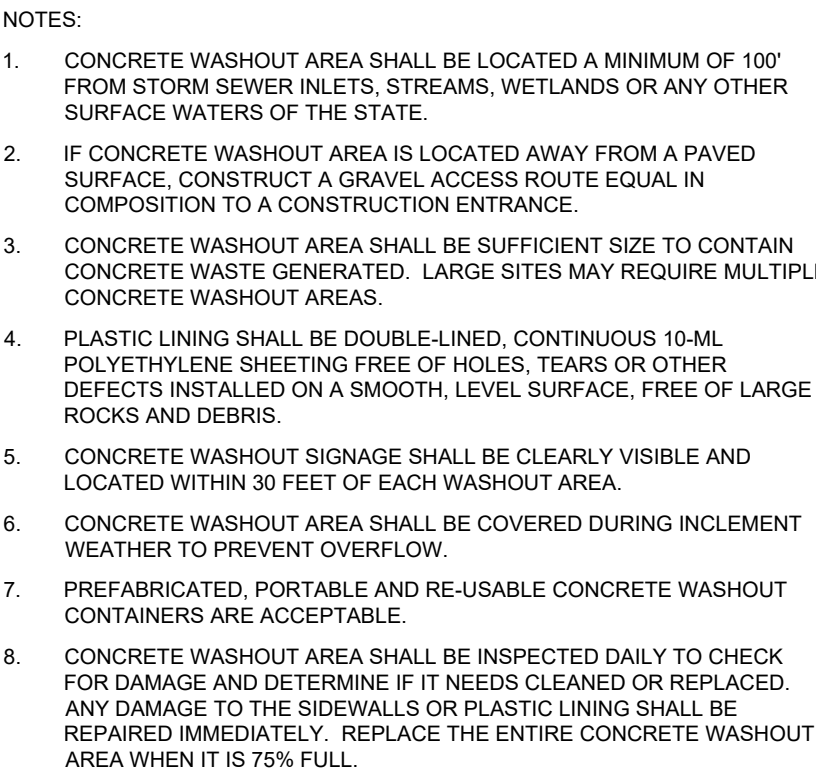
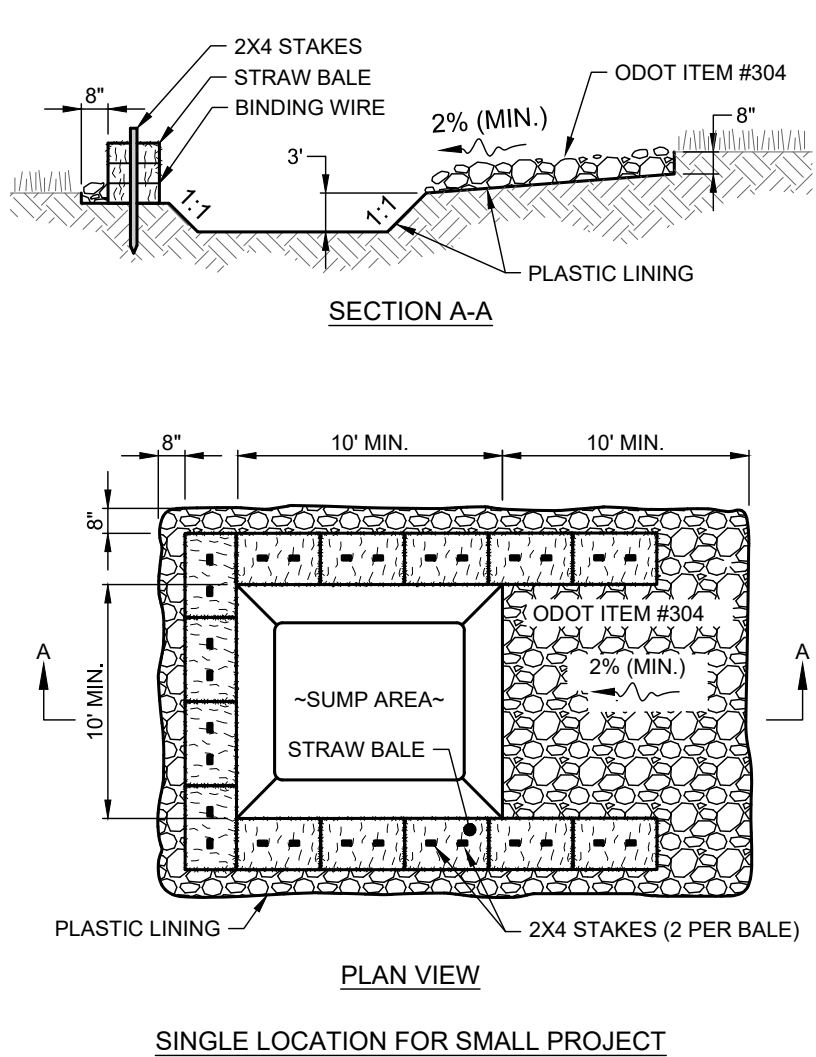
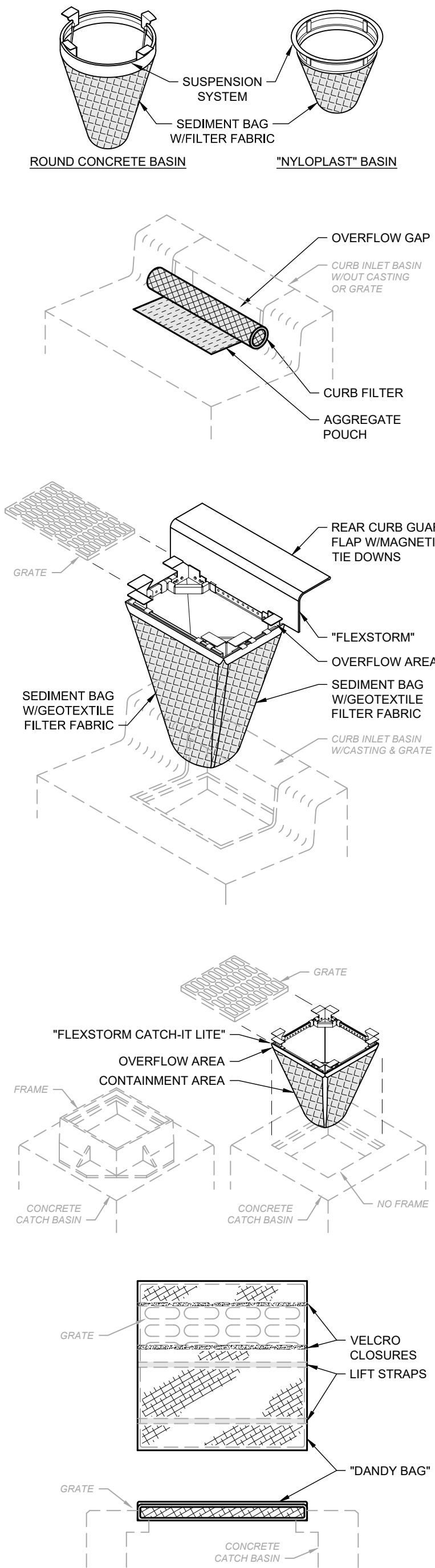


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CTRL 2	
SHEET	OF
32	33



1. SUBSOLING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOLING IS NOT PERMITTED ON SLIP-PRONE AREAS.
2. THE SEED BED SHALL BE PREPARED BY APPLYING AGRICULTURAL GRAIN OR LIME/STONE OR FERTILIZER IF RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/ACR. OR FERTILIZER AT 500 LBS/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
3. APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED BETWEEN MARCH 1 AND MAY 31 OR AUGUST 1 AND SEPTEMBER 30. TILLAGE FOR SEEDBED PREPARATION SHALL BE LIMITED TO DISKING OR CRIMPING TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND. SEEDING SHOULD NOT BE APPLIED BETWEEN OCTOBER 1 AND NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. IF FERTILIZER IS USED, INCREASE THE SEEDING RATE BY 50% AND ANCHOR. APPLY ADDITIONAL MULCH AND IRRIGATION AS REQUIRED TO ENSURE GERMINATION.
4. MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
5. SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS.
6. SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF SEEDING. DURING THIS PERIOD INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS REQUIRED.
7. ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION.



The top drawing is a plan view of a filter sock connection. It shows two filter socks joined end-to-end. The connection point is labeled "FILTER SOCK CONNECTION". The filter socks are labeled "FILTER SOCK (TYP.)". The ends of the filter socks are labeled "CLOSED END (TYP.)". The stakes used to secure the filter socks are labeled "STAKE (TYP.)". The distance between the stakes is labeled "18\" MIN. OVERLAP".

The bottom drawing is a "SECTION VIEW" of the filter sock. It shows a cross-section of the filter sock, which is labeled "2\" X 2\" WOOD STAKES (10' ON CENTER)". The filter sock is labeled "FILTER SOCK". The area where sediment collects is labeled "SEDIMENT STORAGE AREA". The flow direction is indicated by an arrow labeled "FLOW". The distance from the sediment storage area to the top of the filter sock is labeled "3\" TO 4\"". The minimum depth of the filter sock is labeled "12\" MIN.".

MAX. DRAINAGE AREA (AC.) PER 100-FT OF FILTER SOCK (*)	RANGE OF SLOPE PER INDIVIDUAL DRAINAGE AREA
0.50 AC.	<2% (50H:1V)
0.25 AC.	≥2% (50H:1V) BUT <20% (5H:1V)
0.125 AC.	≥20% (5H:1V) BUT <50% (2H:1V)

MAX. SLOPE LENGTH ABOVE FILTER SOCK				
SLOPE (%)	RATIO (H:V)	12"	18"	24"
0% TO <2%	0 TO <50:1	250'	300'	350'
≥2% TO <10%	≥50:1 TO <10:1	125'	200'	25'
≥10% TO <20%	≥10:1 TO <5:1	100'	150'	200'
≥20% TO <50%	≥5:1 TO ≥2:1	50'	75'	100'

1. THE SEED BED SHALL BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION.
2. SOIL AMENDMENTS MAY BE REQUIRED TO ESTABLISH VEGETATION. PERFORMANCE SOIL TESTS TO PREDICT THE NEED FOR LIME OR FERTILIZER IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS
3. APPLY SEED UNIFORMLY. COVER BROADCAST SEED BY RAKING OR DRAGGING, AND LIGHTLY TAMPING INTO PLACE.
4. MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING.
5. INSPECT FOR SOIL EROSION OR VEGETATION LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED AND RE-MULCH AS NEEDED.

TEMPORARY SEEDING SPECIES SELECTION			
DATES	SPECIES	LB/1,000 SF	LB/AC.
MARCH 1 - AUGUST 15	OATS	3	128
	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
	PERENNIAL RYEGRASS TALL FESCUE	2	40
AUGUST 16 - OCTOBER 31	RYE	3	112
	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
	WHEAT	3	120
	TALL FESCUE	1	40
	PERENNIAL RYEGRASS	1	40
PERENNIAL RYEGRASS TALL FESCUE	2	40	
	1	40	
NOVEMBER 1 - FEBRUARY 28	ONLY MULCH OR DORMANT SEEDING.		

1. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:
 - A. UNROTTED SMALL GRAIN STRAW APPLIED AT 2 TONS/AC. (2 TO 3 BALES).
 - B. WOOD-CELLULOSE FIBER (I.E. HYDROSEEDING) APPLIED AT 1 TON/AC.
 - C. ROLLED EROSION CONTROL PRODUCT OR MULCH MATTING APPLIED PER MANUFACTURER RECOMMENDATION.
 - D. WOOD MULCH OR CHIPS APPLIED AT 6 TONS/AC.
2. MULCH SHALL BE ANCHORED IMMEDIATELY BY ONE OF THE FOLLOWING METHODS:
 - A. PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL USING A DISK, CRIMPER OR SIMILAR TOOL.
 - B. NETTING PER MANUFACTURER RECOMMENDATION IN CONCENTRATED RUNOFF AREAS OR CRITICAL SLOPES.
 - C. SYNTHETIC BINDERS AT MANUFACTURER RATE.
 - D. WOOD-CELLULOSE FIBER BINDER AT A NET DRY WEIGHT OF 750 LB./AC, MIXED WITH WATER, AND CONTAIN 50 LB/100 GAL. MAX. OF WOOD CELLULOSE FIBER.

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SHEET	OF
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