

CITY OF RICHMOND HEIGHTS

HARRIS ROAD - HARMS ROAD

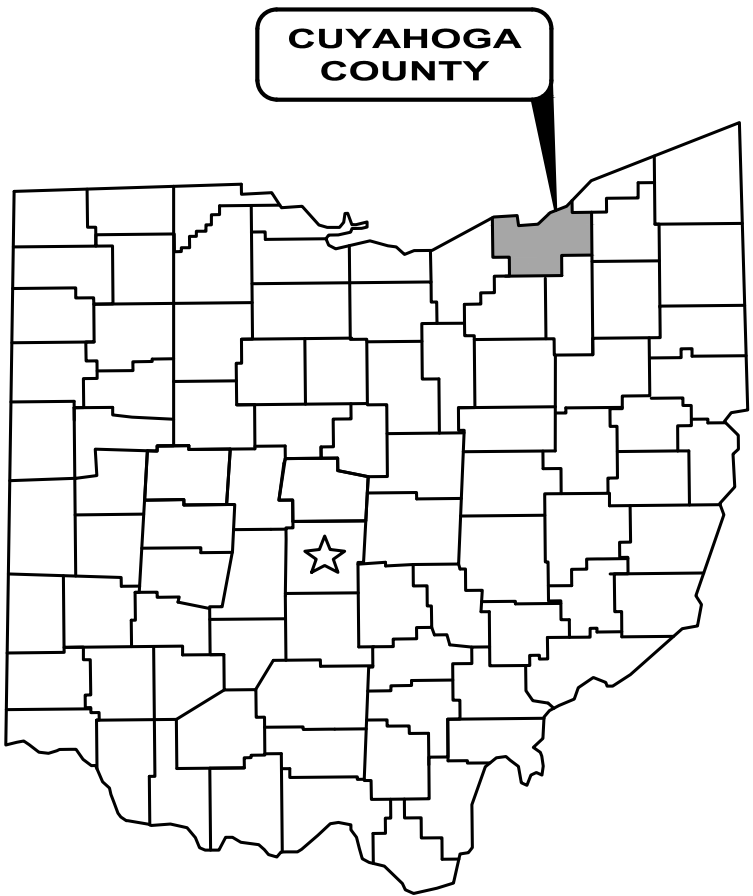
DRAINAGE IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

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MARCH 2025



LOCATION MAP  
NOT TO SCALE

CITY COUNCIL

BOBBY JORDAN	PRESIDENT
JUANITA LEWIS	COUNCIL-AT-LARGE
DANIEL J. URSU	COUNCIL-AT-LARGE
TRACEY BLAIR	CLERK OF COUNCIL
BAYYINAH BROOKS	SPECIAL ASSISTANT TO THE MAYOR
TRACEY JUSTICE	WARD I
ASU MOOK ROBINSON	WARD II
CASSANDRA NELSON	WARD III
BRIAN SILVER	WARD IV

APPROVED

*Justin Haselton*  
RICHMOND HEIGHTS  
ENGINEERING DEPT. 03/13/2025

ENGINEER:

VERDANTAS LLC  
1001 LAKESIDE AVE E, SUITE 1005  
CLEVELAND, OHIO 44114  
  
(216) 430-8500 PHONE

PROJECT SITE:

THE PROJECT IS LOCATED ON HARRIS ROAD  
BETWEEN PLEASANT TRAIL AND DOUGLAS IN  
RICHMOND HEIGHTS, OHIO.



- 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.
- THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.



*William Vasko*

WILLIAM VASKO

P.E. No. 86752

3/07/2025  
DATE

ENGINEER'S PROJECT No. 241785



GENERAL

A PRECONSTRUCTION CONFERENCE SCHEDULED BY THE CITY OF RICHMOND HEIGHTS ENGINEER SHALL BE HELD PRIOR TO ANY WORK STARTING. IN ADDITION, THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE RICHMOND HEIGHTS CITY ENGINEER PRIOR TO BEGINNING WORK TO ARRANGE FOR INSPECTION.

THE IMPROVEMENT PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS OF THE THE CITY OF RICHMOND HEIGHTS, CUYAHOGA COUNTY STANDARDS, AS WELL AS THE CONSTRUCTION AND MATERIAL SPECIFICATIONS OF THE OHIO DEPARTMENT OF TRANSPORTATION, 2023 EDITION, INCLUDING ALL SUPPLEMENTAL SPECIFICATIONS AND DRAWINGS, SHALL GOVERN THIS PROJECT. FOR PURPOSES OF THIS PLAN, REFERENCES TO DIRECTOR OR ENGINEER SHALL BE CONSTRUED TO MEAN THE RICHMOND HEIGHTS CITY ENGINEER AND/OR HIS REPRESENTATIVE.

ALL WORK CONTEMPLATED SHALL BE GOVERNED BY THE RULES, REGULATIONS AND SPECIFICATIONS OF THE CITY OF RICHMOND HEIGHTS ENGINEER AND AT ALL TIMES BE SUBJECT TO CUYAHOGA COUNTY DIRECT SUPERVISION AND INSPECTION.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT SHALL COMPLY WITH THE U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.

MATERIAL TESTING AND PERMITS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL AND EQUIPMENT TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR THIS PROJECT. THE EXECUTED PROJECT CONTRACT SHALL SERVE TO FULFILL THE CITY OF RICHMOND HEIGHTS' PERMITTING REQUIREMENTS.

CLEARING AND GRUBBING

ALL TREES, STUMPS, ROOTS AND DEBRIS REMOVED FROM THE WORK LIMITS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT A LOCATION ACCEPTABLE TO THE ENGINEER.

UTILITIES

THE LOCATION OF ALL EXISTING UTILITY FACILITIES ARE SHOWN ON THE PLANS FROM DATA AVAILABLE AT THE TIME OF THE FIELD SURVEY IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF THE EXISTING UTILITY OWNERS AND UTILITY PROTECTION SERVICE LISTED BELOW IN ACCORDANCE WITH SECTION 154.64 OF THE ORC AND AS OUTLINED IN THE PROJECT SPECIFICATIONS.

THE UTILITY OWNERSHIPS ARE AS FOLLOWS:

AT&T JAMES JANIS 13630 LORAIN AVE CLEVELAND OHIO 44111 216-534-7285 Pj8191@att.com	ENBRIDGE GAS/DOMINION 320 SPRINGSIDE DR. SUITE 320 AKRON OHIO 44333 330-664-2409 relocation@dominionenergy.com	CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS CUYAHOGA COUNTY ADMINISTRATIVE HEADQUARTERS 2079 E. 9TH STREET, 5TH FLOOR CLEVELAND OHIO 44115 ATTN: LAURA WEBER (216-443-8205) laweber@cuyahogacounty.gov
CHARTER ROB ZELKO 7820 DIVISION DR. MENTOR OHIO 44060 330-633-9203 Rob.Zelko@charter.com	ILLUMINATING CO JOHN ZASSICK BROOKLYN SERVICE CENTER 3601 RIDGE RD. CLEVELAND OHIO 44102 440-546-8706 jmzassick@firstenergycorp.com	CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS CUYAHOGA COUNTY PERMITS AND INSPECTION DEPARTMENT 2501 HARVARD AVENUE NEWBURGH HEIGHTS OHIO 44105 ATTN: JUSTIN PATRONITE (216-443-8209) jpatronite@cuyahogacounty.gov
CLEVELAND WATER FRED ROBERTS 1201 LAKESIDE AVE CLEVELAND OHIO 44114 216-664-2444 ext 75590 fred_roberts@clevelandwater.com		

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS, EXCLUDING SATURDAY, SUNDAYS AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO (2) DAYS AHEAD OF THE PLANNED CONSTRUCTION.

SERVICE CONNECTIONS

1.

ALL WATER SERVICE CONNECTIONS SHOWN ON THE PLAN WERE DERIVED FROM RECORDS. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL CONNECTIONS. ALL ACTIVE CONNECTIONS ENCOUNTERED SHALL BE RECONNECTED TO EXISTING FACILITIES OR CONNECTED TO THE NEW FACILITIES, EVEN IF NOT SHOWN ON THE PLANS.
2.

THE CONTRACTOR SHALL EXPECT AT LEAST ONE SERVICE CONNECTION FOR ADDRESS NUMBER ON BOTH SIDES OF THE STREET FOR THE ENTIRE PROJECT LENGTH.
4.

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.
5.

THE CONTRACTOR SHALL BE REQUIRED TO BYPASS AND MAINTAIN THE FLOW TO/FROM ALL HOUSE UTILITY CONNECTIONS DURING CONSTRUCTION.
6.

THE CONTRACTOR SHALL SUPPLY ALL PIPE AND ADAPTERS TO CONNECT TO EXISTING PIPING. THE ADAPTERS MUST BE SUBMITTED TO AND APPROVED BY AQUA WATER PRIOR TO CONSTRUCTION.
7.

THE COST OF UTILITY RELOCATION, REPLACEMENT, AND/OR SUPPORT SHALL BE INCLUDED IN THE COST PER LINEAL FOOT OF PROPOSED STORM SEWER.

CONTRACTORS RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

AT POINTS WHERE THE CONTRACTOR'S OPERATIONS ARE ADJACENT TO PROPERTIES OF TELEPHONE, CABLE, AND POWER COMPANIES, OR ARE ADJACENT TO OTHER PROPERTY, DAMAGE TO WHICH MIGHT RESULT IN CONSIDERABLE EXPENSE, LOSS, OR INCONVENIENCE, WORK SHALL NOT BE COMMENCED UNTIL ALL ARRANGEMENTS NECESSARY FOR THE PROTECTION THEREOF HAVE BEEN MADE.

THE CONTRACTOR SHALL COOPERATE WITH THE OWNERS OF ANY UNDERGROUND OR OVERHEAD UTILITY LINES IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS MAY PROGRESS IN A REASONABLE MANNER, THAT DUPLICATION OF REARRANGEMENT WORK MAY BE REDUCED TO A MINIMUM, AND THAT SERVICES RENDERED BY THOSE PARTIES WILL NOT BE UNNECESSARILY INTERRUPTED.

IN THE EVENT OF INTERRUPTION TO UNDERGROUND OR OVERHEAD UTILITY SERVICES AS A RESULT OF ACCIDENTAL BREAKAGE OR AS A RESULT OF BEING EXPOSED OR UNSUPPORTED, THE CONTRACTOR SHALL IMMEDIATELY ALERT THE OCCUPANTS OF NEARBY PREMISES AS TO ANY EMERGENCY AND/OR INTERRUPTION OF SERVICE THAT THE CONTRACTOR MAY CREATE OR DISCOVER AT OR NEAR SUCH PREMISES. THE CONTRACTOR SHALL THEN NOTIFY THE ENGINEER AND THE OWNER OR OPERATOR OF THE UTILITY FACILITY OF THE DISRUPTION AND SHALL COOPERATE WITH SAID UTILITY OWNER OR OPERATOR IN THE RESTORATION OF SERVICE. IF WATER SERVICE IS INTERRUPTED, REPAIR WORK SHALL BE CONTINUOUS UNTIL THE SERVICE IS RESTORED. NO WORK SHALL BE UNDERTAKEN AROUND FIRE HYDRANTS UNTIL PROVISIONS FOR CONTINUED SERVICE HAVE BEEN APPROVED BY THE LOCAL FIRE AUTHORITY.

PROTECTION AND RESTORATION OF PROPERTY

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC AND PRIVATE PROPERTY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY AND/OR PERSONS DURING THE PROSECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN HIS MANNER OR METHOD OF EXECUTING THE WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY WILL NOT BE RELEASED UNTIL THE PROJECT SHALL HAVE BEEN COMPLETED AND ACCEPTED.

DUST NUISANCE ORIGINATING FROM ANY OF THE CONTRACTOR'S OPERATIONS EITHER INSIDE OR OUTSIDE THE RIGHT-OF-WAY SHALL BE CONTROLLED BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL ORDINANCES AND REGULATIONS AT THE SOLE EXPENSE OF THE CONTRACTOR.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLIGENCE OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NONEXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE, AT HIS OWN EXPENSE, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE BY REPAIRING, REBUILDING OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER.

WHEN MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS INTERFERE WITH CONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND REERECT THEM IN A TEMPORARY LOCATION DURING CONSTRUCTION IN A MANNER SATISFACTORY TO AND AS DIRECTED BY THE ENGINEER. AFTER COMPLETION OF THE CONSTRUCTION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL ERECT THE MAIL BOXES, ROAD OR STREET NAME SIGNS AND SUPPORTS IN THEIR ORIGINAL LOCATION UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR CLEARING AND GRUBBING.

LANDSCAPING AND DRIVEWAY ITEMS

WHEN THE CONSTRUCTION OPERATIONS ARE IN CLOSE PROXIMITY TO LANDSCAPING FEATURES (TIMBERS, ROCKS, BOULDERS, ETC.), DRIVEWAY TIMBERS, DRIVEWAY CURBING, ETC. THE CONTRACTOR SHALL SAVE, REMOVE AND PLACE THESE ITEMS OUTSIDE THE WORK LIMITS AT A LOCATION ACCEPTABLE TO THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE STORM SEWER.

USE OF PRIVATE PROPERTY

THE CONTRACTOR CAN USE PRIVATE PROPERTY FOR THE STORAGE OF EQUIPMENT AND MATERIALS ONLY WITH A WRITTEN AGREEMENT WITH THE PROPERTY OWNER. THE CONTRACTOR SHALL PROVIDE THIS AGREEMENT TO THE ENGINEER PRIOR TO ANY USE OF PRIVATE PROPERTY.

REMOVAL ITEMS

ALL ITEMS NOTED ON THE PLANS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER BY THE CONTRACTOR UNLESS OTHERWISE NOTED.

SUBSURFACE INVESTIGATIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO MAKE HIS OWN INVESTIGATION OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL.

CONNECTION TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO OR TO CROSS EITHER OVER OR UNDER AN EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE, BOTH AS TO LINE AND GRADE, AND ADJUST LINE AND/OR GRADE AS NECESSARY BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT CONDUIT ITEM.

EXISTING NATURAL GAS FACILITIES

THE DOMINION EAST OHIO NATURAL GAS COMPANY SHALL BE RESPONSIBLE FOR ALL RELOCATIONS OF THEIR GAS MAIN FACILITIES AS REQUIRED, INCLUDING HOUSE CONNECTIONS AND VALVE BOX RELOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VALVE BOX AND ALL OTHER GAS MAIN APPURTENANCE ADJUSTMENTS TO GRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH DOMINION EAST OHIO SO THAT THE COMPLETION OF HIS WORK IS NOT DELAYED BY THE DOMINION EAST OHIO WORK. THE CONTRACTOR SHALL NOTIFY DOMINION EAST OHIO AT LEAST 48 HOURS IN ADVANCE OF ANY WORK WHICH MAY AFFECT THEIR SYSTEM.

DRIVEWAY AND ROADWAY PAVEMENT INSTALLATION

ALL PAVEMENT INSTALLATION SHOULD BE CONDUCTED UNDER SUITABLE WEATHER CONDITIONS. THE ENGINEER SHALL BE NOTIFIED IN ADVANCE OF ANY PROPOSED PAVEMENT INSTALLATION TO DETERMINE THE SUITABILITY OF WEATHER CONDITIONS FOR PAVEMENT INSTALLATION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL ROADWAYS AND DRIVES PRIOR TO FINAL INSTALLATION. THE COST OF ANY TEMPORARY SURFACE MATERIAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE ITEM OF WORK.

GARBAGE COLLECTION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE TRANSFER OF ALL GARBAGE, GARBAGE CANS, AND RECYCLE BINS FROM DRIVEWAYS WITHIN THE CONSTRUCTION ZONE TO THE OPPOSITE SIDE OF THE ROADWAY. ONCE THE GARBAGE AND RECYCLABLE MATERIALS HAVE BEEN COLLECTED, ALL GARBAGE CANS AND RECYCLE BINS SHALL BE RETURNED TO THE APPROPRIATE DRIVEWAYS AND OUTSIDE OF THE CONSTRUCTION LIMITS, OR AS DIRECTED BY THE ENGINEER. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

PROTECTION OF TREES

TREE PROTECTION MEASURES SHALL BE INSTALLED AS SPECIFIED PRIOR TO THE START OF CONSTRUCTION.

SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO TREES AND THEIR ROOT SYSTEMS WHICH ARE NOT CALLED FOR REMOVAL. THE OPERATION OF ALL EQUIPMENT SHALL BE CONDUCTED IN A MANNER WHICH WILL NOT INJURE TREES, TRUNKS, BRANCHES OR THEIR ROOTS UNLESS SUCH TREES ARE DESIGNATED FOR REMOVAL. THE STORAGE OF MATERIALS, AND THE DEPOSITION OF EXCAVATION SHALL BE PROHIBITED WITHIN THE TREE CANOPY OF ANY TREE TO BE SAVED.

SHOULD THE CONTRACTOR'S OPERATIONS DAMAGE ANY TREE TO SUCH AN EXTENT THAT IT, IN THE OPINION OF THE CITY OF RICHMOND HEIGHTS, WILL NOT LIVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REMOVING THE TREE AND ALL PAYMENTS TO THE PROPERTY OWNER FOR THE VALUE OF THE REMOVED TREE, AS DETERMINED BY AN ARBORIST MUTUALLY AGREED UPON BY THE CITY OF RICHMOND HEIGHTS AND THE CONTRACTOR.

PLACEMENT OF TREE PROTECTIVE BARRIERS

PRIOR TO CONSTRUCTION, TREE PROTECTIVE BARRIERS SHALL BE PLACED AROUND ALL TREES TO BE PRESERVED AND ANY OTHER VEGETATION LOCATED NEAR CONSTRUCTION ACTIVITY WHICH IS TO BE SAVED. THESE BARRIERS WILL BE LOCATED JUST OUTSIDE OF THE TREE'S CANOPY.

PROTECTIVE BARRIERS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE AND FINAL ACCEPTANCE HAS BEEN ISSUED BY THE CITY OF RICHMOND HEIGHTS.

AREAS WITHIN THE PROTECTIVE BARRIERS SHALL BE FREE OF ALL BUILDING MATERIALS, DIRT, CHEMICALS (INCLUDING GAS, OIL AND CONTAMINATED WATER), CONSTRUCTION DEBRIS, VEHICLES, AND DEVELOPMENT ACTIVITIES.

NO DISTURBANCE SHALL OCCUR WITHIN THE PROTECTIVE AREA OF A TREE DESIGNATED TO BE PRESERVED.

THE COST TO PROTECT TREES AND PROVIDE BARRIERS SHALL BE INCIDENTAL TO THE TOTAL PROJECT COST.

SPECIFICATIONS OF TREE PROTECTIVE BARRIERS

TREE PROTECTIVE BARRIERS WILL BE FLORESCENT POLYETHYLENE LAMINAR SAFETY FENCING, MINIMUM FOUR (4) FEET IN HEIGHT OR A SECURELY INSTALLED POST AND RAIL WOODEN FENCE, MINIMUM FOUR (4) FEET IN HEIGHT WITH A MINIMUM TWO (2) INCH X FOUR (4) INCH RAIL. THE FENCE SHALL BE MADE HIGHLY VISIBLE WITH A FLORESCENT ORANGE OR YELLOW PAINT. SUCH BARRIERS SHALL REMAIN INTACT THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS, AND IF DISTURBED MUST BE RESTORED PRIOR TO THE END OF THE WORKING DAY.

VIDEOTAPING

THE CONTRACTOR SHALL PROVIDE ABOVE GROUND VIDEOTAPING OF ALL WORK AREAS PRIOR TO THE BEGINNING OF THE WORK. THE CONTRACTOR SHALL NOT START WORK UNTIL SUCH TIME AS THE ENGINEER HAS BEEN PROVIDED A COPY OF THE COMPLETE VIDEO.

GRADING

DRIVEWAY ELEVATIONS TO MATCH EXISTING. CONTRACTOR TO GRADE GRADE DOWN TO STRUCTURE/SWALE ELEVATION.



NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

HARRIS ROAD - HARMS ROAD  
DRAINAGE IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	MARCH 2025
SCALE:	AS SHOWN
DESIGNED BY:	WTV
DRAWN BY:	JCR
CHECKED BY:	JRH

GENERAL NOTES

PROJECT NO.	
241785	
DISCIPLINE	
CIVIL	
SHEET NAME	
GN-1	
SHEET	OF
2	7



STANDARD SPECIFICATIONS - SEWER MAINS AND APPURTENANCES

DEVELOPER/ENGINEER PROCEDURES

All Developer/Engineering Procedures as established by Cuyahoga County Department of Public Works (CCDPW) shall be followed, which include: Latest ODOT Specifications, Municipality standards, Uniform Standards For Sewerage Improvements and Uniform Standards Sewer Details, Cuyahoga County Sanitary Engineering Division Rules and Regulations, and Contractor Permit Information. In the case of conflicts between written specifications and drawings, the written specification shall apply. One (1) electronic copy in pdf format, and six (6) paper set of detail drawings on 22" x 34" sheets signed by the City Engineer and Design Engineer, (including plan and profile, applicable sewer details, proposed and existing topography and all buried utilities) and specifications of all proposed sewers and shall be submitted for review and approval to: Cuyahoga County Department of Public Works, c/o Permit Department, 2501 Harvard Ave., Newburgh Heights, OH 44105. Upon the Sanitary Engineer's approval of the detail drawings and specifications for construction, the developer/engineer will have eighteen (18) months from the date of the approval of plans to begin construction or plans must be resubmitted to the CCDPW for approval. The cost to record any and all easements and/or plats for Developer's projects for sewer lines, water lines, or pump stations to be dedicated to Cuyahoga County or a given community for ownership, operation and maintenance shall be at the cost of the Developer/Engineer.

COLLECTION SYSTEM IMPROVEMENTS

The CCDPW and/or Municipality shall determine whether or not the County sewer collection and tributary system has available capacity to allow for a development to proceed. Gravity sewers shall consist of a minimum size of eight (8) inch diameter for mainline sewers and six (6) inch diameter for service laterals at minimum slope of 1% (for laterals) and full flow minimum velocities of two (2) f/s. The CCDPW shall require sewers and pump stations to be sized and to be installed at depths for the ultimate development of the entire tributary service area. Gravity sewers and service laterals shall be required in place of force mains/pressure sewers when the CCDPW determines it is in the public interest to do so. The requirements herein shall generally supersede any other requirements and any conflict in requirements shall be ultimately determined by CCDPW.

Generally, design shall be in accordance with Ohio E.P.A. regulations, the latest version of "Ten State Standards" and shall conform to the latest Uniform Standards For Sewerage Improvements, Uniform Standards Sewer Details, and ODOT Specifications.

The Developer and/or Engineer shall not allow other new utilities to be installed within six (6) feet horizontally of an installed new sanitary sewer or in the same trench as the sewer except at crossings. Should this occur, the Developer will be responsible for maintaining the sanitary sewer mains and the CCDPW will not permit taps to said line until the other utility lines are relocated six (6) feet away from the sanitary sewer. Sewer lines shall be located within the public road right-of-way, or within an approved easement. Water mains shall be installed with at least a ten (10) feet horizontal and eighteen (18) Inch vertical separation from any sanitary sewers per Uniform Standards For Sewerage Improvements. The County also requires eighteen (18) inch vertical separation from any sanitary or storm sewers, measured from out-to-out.

COLLECTION MATERIAL MINIMUM REQUIRED SPECIFICATIONS AND INSTALLATION STANDARDS

LINE CONSTRUCTION STAKING

Gravity sanitary sewers and force mains shall be staked prior to the installation of new pipe. A State of Ohio Registered Professional Surveyor shall be required for the mainline staking and offsets. Staking shall be for both line and grade no greater spacing than every fifty (50) feet plus at all fittings and off-set at ten (10) feet. All public gravity sewers shall be installed with the use of a laser to insure that they are installed properly to grade.

MAIN LINE AND SERVICE LATERAL SEWER PIPE

All sewer pipe and laterals shall be buried below frost line consisting of a minimum of at least three (3) feet of cover over the top of the pipe; for this requirement, the Designer shall consider both the existing grade and any anticipated future grade. All sewers (storm and sanitary) crossing a creek shall have six (6) inches of concrete (3000 PSI) encasement. Depths for sewers mains, laterals and force mains with less than three (3) feet of cover shall be approved in writing by the CCDPW prior to the construction phase; additional requirements for such situations may be mandated by the CCDPW.

Flexible PVC sewer pipe buried with less than thirteen (13) feet of cover shall be solid wall pipe; PVC compounds shall meet the requirements of ASTM F-789, SDR 35, six (6) inch through fifteen (15) inch diameter and ASTM F-679 (eighteen (18) inch through thirty (30) inch diameter pipe), conforming to ASTM D-3034, with joints conforming to ASTM D-3212. Fittings shall conform to ASTM D-3034. Gaskets shall conform to ASTM F-477. Pipe bedding shall conform to the Uniform Standards For Sewerage Improvements.

Flexible PVC sewer pipe buried with more than thirteen (13) feet of cover shall be solid wall pipe; PVC compounds shall meet the requirements of ASTM F-949. Pipe shall meet minimum pipe stiffness rating of PS-115 and shall consist of SDR 26 or thicker walled pipe as needed, as recommended by the manufacturer for the actual buried depth, conform to ASTM D-3034 through fifteen (15) inch diameter and ASTM F-679 for larger sizes. Fittings shall conform to ASTM D-3034. Pipe bedding shall conform to the Uniform Standards For Sewerage Improvements.

HDPE sewer pipe shall meet the requirements: N-12 meeting AASHTO M294 with water-tight joint meeting ASTM D3212, gasket meeting ASTM F477 and ASTM D2321, or HP Pipe meeting ASTM F2764 with water-tight joint meeting ASTM D3212, gasket meeting ASTM F477 and ASTM D2321 and SaniTite HP pipe meeting ASTM F2764 (Dual wall 12'-24" and Triple wall 30'-60") with water-tight joint meeting ASTM D3212, gasket meeting ASTM F477 (Double gasket) and ASTM D2321

Alternate pipe different than those specified above for gravity sewer installations may be used, but piping material shall conform to the latest Uniform Standards For Sewerage Improvements and Uniform Standards Sewer Details.

All sewers and laterals in the near vicinity of borings, drilling, and/or jacking of any piping shall also be CCTV inspected by the contractor at his cost to assure that no damage has been done to the piping. A copy of the video(s) and accompanying report(s) shall be submitted to the CCDPW.

All existing sewers, existing sewer laterals, and/or other existing facilities to be re-used shall be located by the contractor and CCTV inspected prior to beginning of construction at the contractor's expense. The CCTV inspection shall be submitted to the CCDPW and approved before the re-use of any existing facilities may be incorporated into the project.

Service lateral pipe shall be six (6) inch diameter consisting of PVC (solid wall pipe) and shall conform to the Uniform Standards For Sewerage Improvements. If the design necessitates a larger service lateral pipe for larger usage customers, the increased size shall be subject to CCDPW approval. Service lateral pipes shall not be installed without a Permit from the County and without calling at least 24 hours in advance for inspection at (216) 443-6209. County service lateral inspections will only be performed during normal County work hours. Service laterals shall only serve gravity drains in the customer's structure, including if possible basement or lower level, such as floor drains, toilet, sink, showers, slop sinks, clothes washer drains, etc. Service laterals which cannot be gravity shall utilize an approved grinder pump system. Service laterals for residential customers shall have a test-tee installed within three (3) feet of the right-of-way line. Service laterals for commercial customers shall have a test-tee installed within five feet (5') of the building foundation exterior, and at the right-of-way line. Service laterals shall not have any bends other than 45-degree or 22.5-degree bends. Ninety (90) degree bends (horizontal or vertical) are not acceptable. Test Tees are to be installed behind bends (upstream of) greater than 22.5-degree. One Test Tee should be installed for every one hundred (100) feet of pipe installed and spaced and located to allow access for easy cleaning. All Cleanouts shall be straight cleanouts or Test Tees, no swiping cleanouts. Clean water connections of the sanitary sewer are prohibited, including, but not limited to, storm water drains, yard drains, driveway drains, roof water drains, exterior footer or foundation by gravity or with interior sump pump, etc. In developments where connection to a service lateral will not occur for more than thirty (30) days, the Developer's contractor shall install a watertight cap and lateral 2x2 markers including a metal rod so the ends can be located or unless approved by the Engineer. When a building(s) is abandoned, existing service laterals shall be cut and capped with a watertight cap adjacent to the sewer main. All new lateral riser shall conform to Uniform Standards Detail No. 10 (with two 45 deg bends instead of one 90 deg bend as shown) and the lateral should be installed vertical to the surface. All Test Tees shall conform to the Uniform Standards Sewer Detail. All lateral connections to existing cleanouts and/or Test Tees shall be made at the lowest point in the Cleanout or Test Tee; connections above this point are prohibited. Solvent cement type joints or glued joints are prohibited or unless approved by the Engineer.

In all communities where the CCDPW issues permits, the installation of Bentonite Clay Dams (per the Uniform Standard Detail) on sanitary sewers, storm sewers, and sanitary and storm laterals may be required by the CCDPW. Where sewers and laterals cross creeks and/or ditches, two additional Dams may be required on the pipe, one on either side of the crossing. In addition, in Olmsted Township, the installation of Bentonite Clay Dams shall be required on all sanitary and storm laterals; plus, where sewer laterals cross creeks and/or ditches, a minimum of two Dams shall be required on every pipe, one Dam on either side of the crossing.

Connections of service laterals and/or sewers to existing and/or proposed sewer pipe mains shall be as follows:

a. To PVC Sewer Mains - cut out a section of the existing sewer main, install a manufactured PVC wye (with six (6) inch or appropriate size branch) with water tight PVC no-hub couplings, or approved equal, pipe adaptors for connections on sewer mains 18-inch and smaller. Where sewer mains are larger than 18-inch, Inserta-tees maybe used, manufactured by Inserta Fittings Company, or approved equal. PVC to PVC piping connections should be completed using a manufactured PVC No-Hub coupling or unless approved by the Engineer. Pipe bedding and installation shall conform to the Uniform Standards or Sewerage Improvements.

b. To Concrete Sewer Mains - cut out a section of the existing sewer main, install a manufactured RCP wye (with six (6) inch or appropriate size branch) with water-tight Strongback Fernco type, or approved equal, pipe adaptors. Where sewer mains are larger than 10-inch, core pipe and install a manufactured flexible watertight six (6) inch rubber boot with stainless steel band(s), Model NPC Kor-N-Tee (as manufactured by NPC) or approved equal. Pipe bedding and installation shall conform to the Uniform Standards For Sewerage Improvements. RCP to PVC piping connections should be completed using a Strongback Fernco connection or equal.

c. To Vitrified Clay Pipe Sewer Mains - remove one (1) section of existing pipe (joint-to-joint), install a manufactured watertight PVC wye (with six (6) inch or appropriate size branch) with water-tight Strongback Fernco type, or approved equal, pipe adaptors on sewer mains 18-inch and smaller. Where sewer mains are larger than 18-inch, Inserta-tees maybe used, manufactured by Inserta Fittings Company, or approved equal. Pipe bedding and installation shall conform to the Uniform Standards For Sewerage Improvements.

Service lateral connections to manholes shall use a KOR-N-SEAL or approved equal (connections are only allowed in special cases and only one (1) inside drop per manhole allowed). Service laterals from the public sewer main to the building foundation shall not be installed until the building foundation and basement construction has been completed.

External grease interceptors shall be installed in services for all food service businesses and oil/grit interceptors on all services for customers with floor drains in garage/warehouse type buildings. Interceptors are to be sized as required by CCDPW Rules and Regulations with a minimum effective grease interceptor size of 750 gallons. The customer shall be responsible for maintenance by cleaning/pumping their interceptor on a regular schedule. Interceptors shall be constructed water-tight and shall meet the requirements of CCDPW standards. The inlet and outlet pipes shall be sized from the building foundation to the grease trap shall be six inch (6") diameter minimum with a six (6) inch minimum diameter outlet to three (3) feet outside the tank. There shall be cleanouts installed in the inlet pipe and outlet pipes outside the grease interceptor.

PRESSURE SEWER/FORCE MAIN PIPE

Pressure sewer/force main pipe shall be designed for a minimum pressure of 150 p.s.i. and shall consist of:

- PVC, conforming to AWWA C300, DR 18 (solid wall pipe with PVC compounds meeting the requirements of SDR-26 ASTM D-2241), pipe shall include rubber gaskets or o-rings conforming to the requirements of ASTM D-3139.
- Ductile Iron Pipe (DIP) shall have a minimum wall thickness of Class 52, with push-on type joints, cement lined (AWWA C104), and shall meet the requirements of AWWA C150 and C151.
- HDPE, conforming to SDR 11 (ASTM F714 and D3035). Pipe joints shall be joined by use of the heat fusion technique of butt fusion resulting in a monolithic pipe.

- All joints shall be fully restrained and as strong as the pipe in both tension and hydrostatic loading.
- Pressure sewer pipe shall be pressure tested per manufacturer's recommendations.
- Restrained joints shall be used at a minimum at all joint fittings and at the next pipe joint from each fitting in all directions. Restrained joints shall consist of Meg-a-Lugs, Model Ebba Series 100 or equal as approved by CCDPW.
- Thrust blocks shall be used at all change of direction fittings in addition to the restrained joints, and shall be 4,000 psi concrete.
- Commercial and non-residential force mains shall have minimum cover of six (6) feet.
- Grinder pump pressure sewer/force mains shall be flexible HDPE SDR 11, jointless. The sewer shall be installed with a minimum of six (6) feet of cover.
- All high points in force main shall have an air release valve installed in a standard manhole conforming to the Uniform Standards Sewer Details.
- Two (2) No. 8 stranded wires shall be buried with all PVC and HPDE pressure sewer pipes located at the 10:00 and 2:00 positions and terminated in valve boxes, along with four (4) inch wide tape noting "SEWER FORCE MAIN BURIED BELOW" buried over pipe twelve (12) inch below finish grade.

GENERAL PIPE REQUIREMENTS & TESTING

All manufacturer's recommendations for unloading, installation, trench preparation, assembly, backfill, pressure or infiltration test, deflection tests, etc. shall be followed unless in conflict with these specifications, the latest version of Ten State Standards, Ohio EPA, or the Uniform Standards For Sewerage improvements standards. If there is a conflict, the more restrictive requirements shall govern, unless approved in writing by the CCDPW. The use of recycled concrete or slag for bedding and backfill is not approved by the CCDPW.

Installed sanitary sewer pipe eight (8) inch to twenty four (24) inch shall require an air testing conforming with ASTM F-1417; concrete pipe shall be tested per ASTM C-969, ASTM C-1103 or ASTM C-1214; clay pipe shall be tested per ASTM C-826 or ASTM C-1091. Installed sanitary sewer pipe twenty seven (27) inch to forty eight (48) inch shall require weir testing per the Uniform Standards For Sewerage Improvements.

All flexible pipe 8-inch and larger (Sanitary, Combined & Storm) shall meet maximum five (5) percent deflection (Mandrel) testing at 60-days from the time of backfilling the sewer trench. The mandrel shall be as specified in the Uniform Standards. When the use of the specified mandrel is not possible, laser profiling per ODOT 611.12 and 611.13 is required and shall be used in lieu of the mandrel testing. All testing above shall be performed by a certified independent agency paid by the contractor and witnessed by a representative (inspector) of the CCDPW.

All new gravity sewers 8-inch and larger shall be CCTV inspected by a CCDPW approved company regularly engaged in this type of work upon completion of installation. Costs shall be paid for by the contractor unless otherwise noted in the specifications. A copy of the video(s) and accompanying report(s) shall be submitted to the CCDPW.

SEWER PIPEBACKFILL

Material used for bedding and backfilling along the sides of the sewer and cover to a height of 12 inches over the top of the sewer shall consist of coarse interlocking aggregate No. 57, 6, 67, 68, 7, 78, or 8 and as per Uniform Standard Sewer Details. Slag or recycled concrete is not permitted. Backfill above the pipe shall be premium backfill using Low Strength Mortar (LSM) when within five (5) feet of pavement or within city right-of-way or unless indicated differently in the specifications. All material shall be compacted to 95% Proctor in maximum 12-inch lifts.

MANHOLES/STRUCTURES

All manholes/structures shall be watertight structures made of precast concrete sections with full depth channels and shall meet the requirements of ASTM C-478 and Uniform Standards For Sewerage Improvements and Details. Chimney seals shall be installed on all new sanitary manholes. All manhole/structure frames and castings shall conform to the Uniform Standards For Sewerage Improvements and Details. Openings in ALL Structure Section for ALL pipes (Sanitary, Combined & Storm) shall be prefabricated. Flexible connections shall be provided for sanitary, storm and combined sewers. Premium seals shall meet ASTM C-923.

All new sanitary manholes shall be vacuum tested in accordance with the procedures of ASTM C-1244. No bricks shall be used as grade rings. The testing shall be performed by a certified independent agency paid by the contractor and witnessed by a representative (inspector) of the CCDPW.

GENERAL COUNTY SEWER NOTES

REVISIONS:

SCALE  
NO SCALE

DATE: JUNE 2022

UNIFORM STANDARDS: CUYAHOGA COUNTY DEPARTMENT OF PUBLIC WORKS --- MUNICIPAL ENGINEERS ASSOCIATION OF NE OHIO

SHEET NO. 4



NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

HARRIS ROAD - HARMS ROAD  
DRAINAGE IMPROVEMENTS

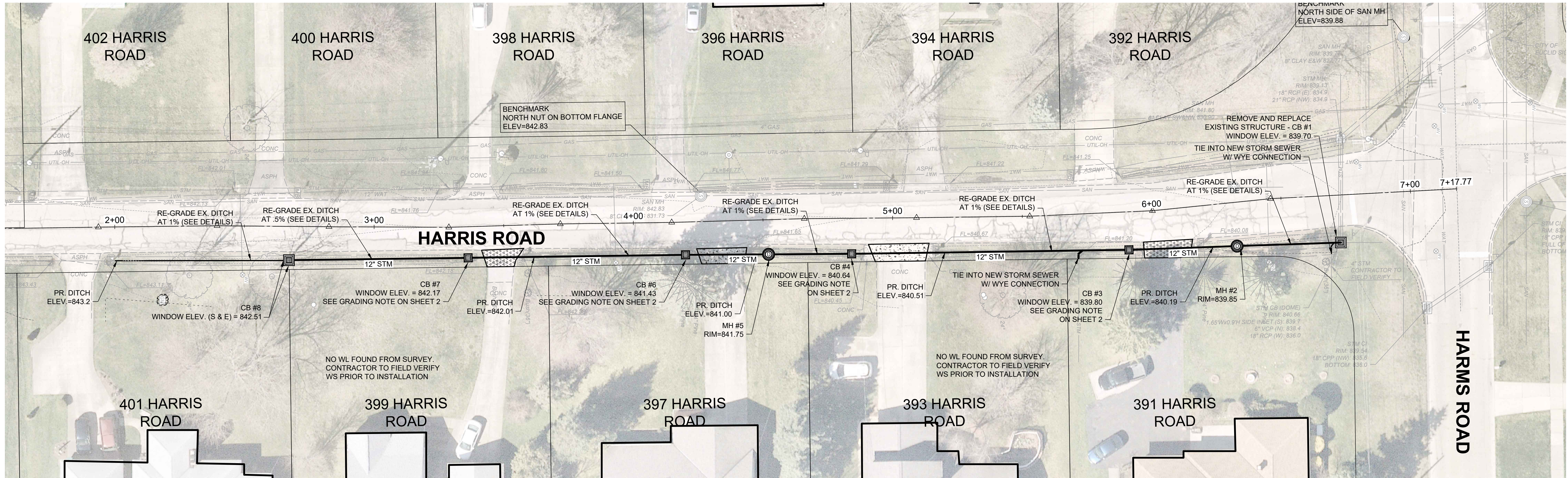
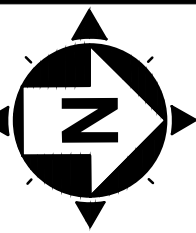
CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	MARCH 2025
SCALE:	AS SHOWN
DESIGNED BY:	WTV
DRAWN BY:	JCR
CHECKED BY:	JRH

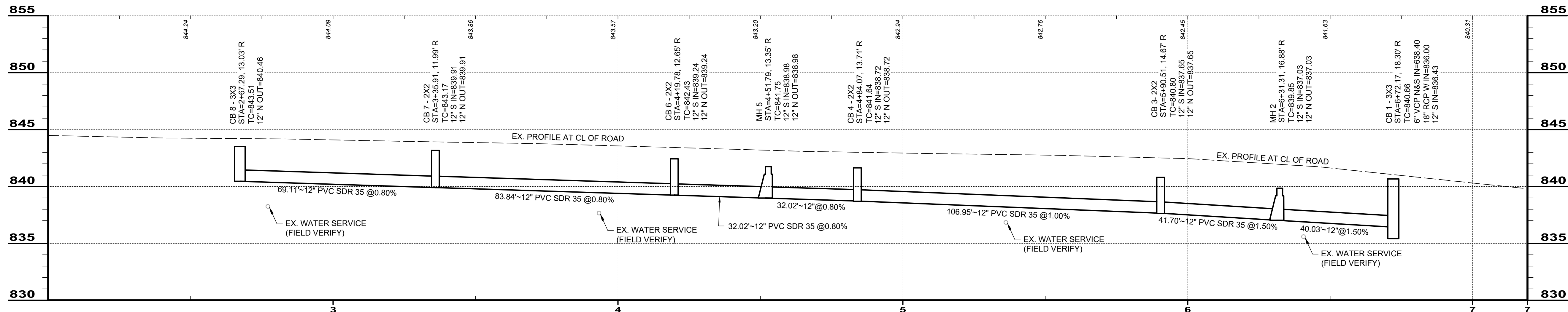
CUYAHOGA COUNTY  
GENERAL NOTES

PROJECT NO.	
241785	
DISCIPLINE	
CIVIL	
SHEET NAME	
GN-2	
SHEET	OF
3	7





LEGEND		SHEET NOTES	
	CONCRETE DRIVE APRON REPLACEMENT	PER ENBRIDGE OHIO, THE EXISTING GAS SERVICE LINES ARE APPROXIMATELY 18" BELOW EXISTING GRADE. PER CLEVELAND WATER DEPARTMENT, THE EXISTING WATER SERVICE LINES ARE APPROXIMATELY 5'-6" BELOW EXISTING GRADE. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE NEW STORM SEWER WITH THESE EXISTING SERVICE LINES.	
	ASPHALT DRIVE APRON REPLACEMENT		



HARRIS RD STM SEWER PROFILE



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NO	REVISION	DATE

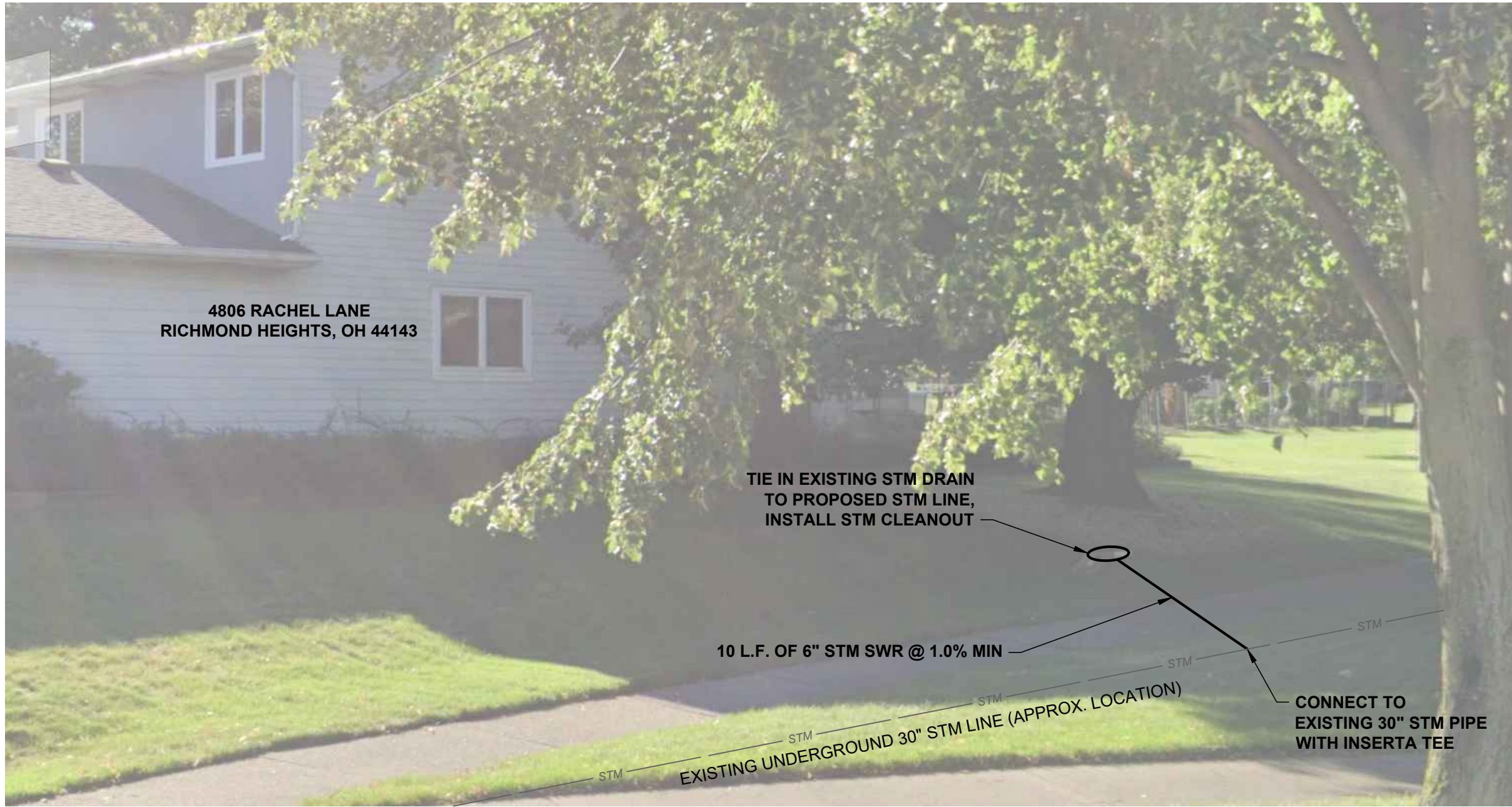
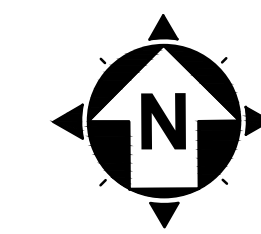
CITY OF RICHMOND HEIGHTS  
**HARRIS ROAD - HARMS ROAD  
DRAINAGE IMPROVEMENTS**  
CUYAHOGA COUNTY, OHIO

ISSUED FOR: BID  
ISSUE DATE: MARCH 2025  
SCALE: AS SHOWN  
DESIGNED BY: WTV  
DRAWN BY: JCR  
CHECKED BY: JRH

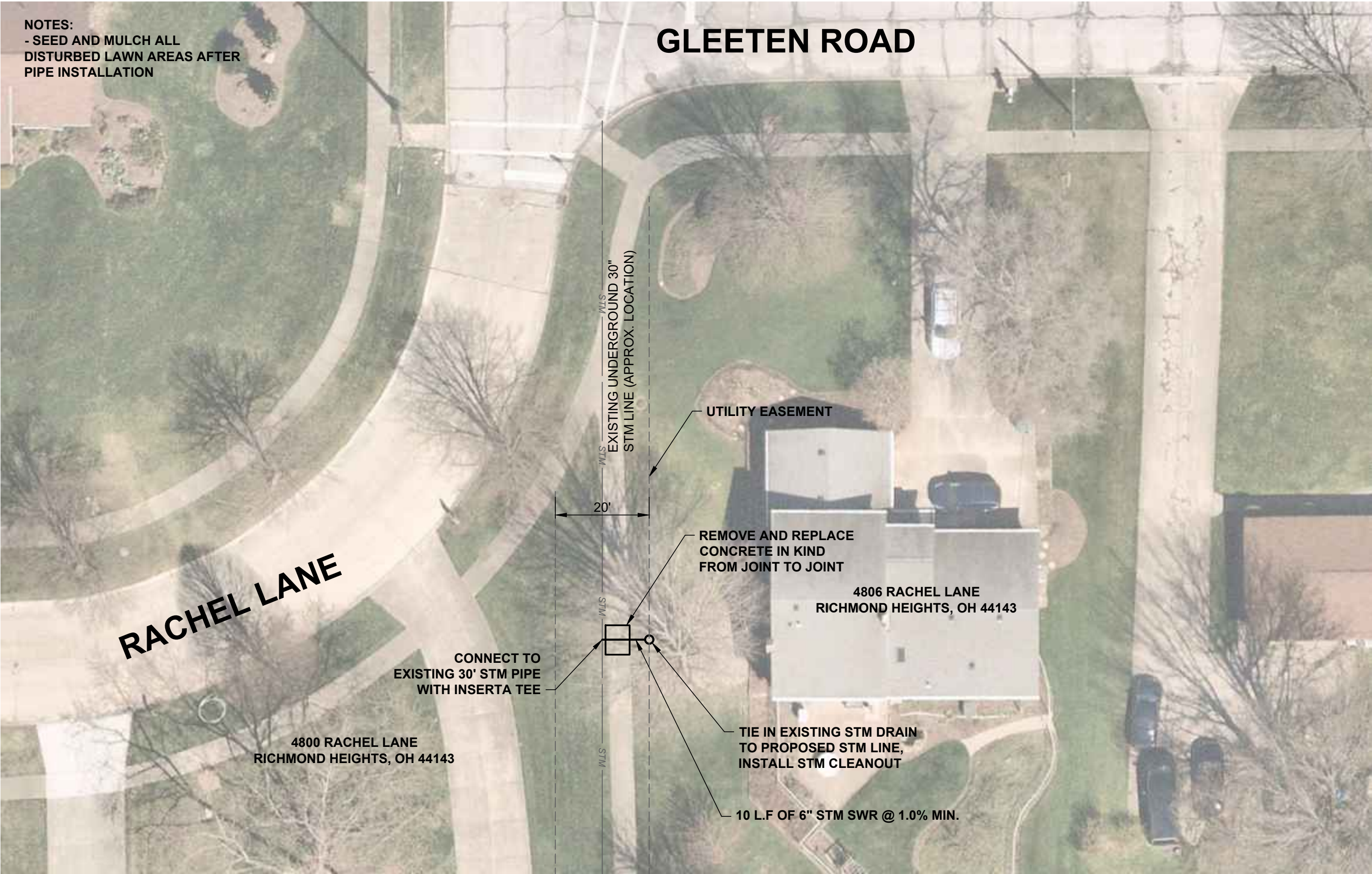
**SITE LAYOUT**

PROJECT NO.	
241785	
DISCIPLINE	
CIVIL	
SHEET NAME	
SITE LAYOUT	
SHEET	OF
4	7





STREET VIEW  
NO SCALE



AERIAL VIEW  
NO SCALE

STATE OF OHIO

WILLIAM T. VASKO

E-86752

REGISTERED PROFESSIONAL ENGINEER

verdantas

NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

HARRIS ROAD - HARMS ROAD DRAINAGE IMPROVEMENTS

CUYAHOGA COUNTY, OHIO

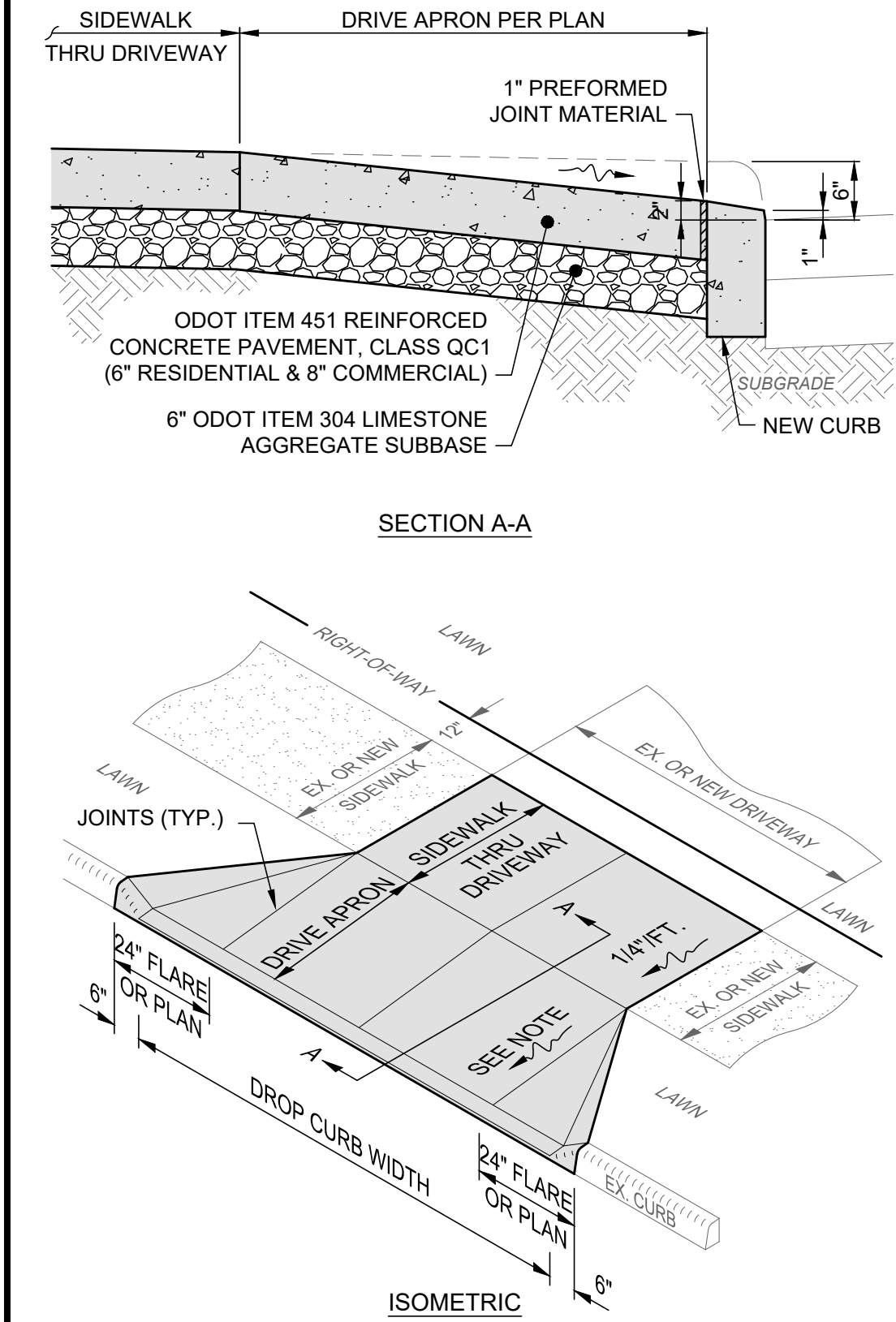
ISSUED FOR:	BID
ISSUE DATE:	MARCH 2025
SCALE:	AS SHOWN
DESIGNED BY:	WTV
DRAWN BY:	JCR
CHECKED BY:	JRH

4800 RACHEL LANE IMPROVEMENTS

PROJECT NO.	
241785	
DISCIPLINE	
CIVIL	
SHEET NAME	
RACHEL LANE	
SHEET	OF
5	7

H\30504041785\DWG\SHEETSC\_241785 - RACHEL LANE.DWG - RACHEL LANE - 3/30/2025 9:11:55 AM - JOSH ROHRBACH





NOTES:

1. CONCRETE AT ACTIVE DRIVE APRONS SHALL BE CLASS QC MS.
2. THE DROP CURB SHALL BE HAND FORMED AT THE TIME THE CONCRETE CURB IS POURED.
3. JOINTS SHALL BE PROVIDED AT THE NORMAL FACE AND BACK OF SIDEWALK LOCATION.
4. MINIMUM DRIVE APRON SLOPE PERMITTED IS 1/8"/FT. (1.00%) AND MAXIMUM IS 1"/FT. (8.33%). SEE GRADING PLAN FOR ACTUAL SLOPES AND ELEVATIONS.
5. THIS DETAIL SHOWS A DRIVE APRON WITH VARIOUS APRON FLARES FOR REFERENCE ONLY; SEE LAYOUT PLAN FOR ACTUAL APRON CONFIGURATION AND FLARE WIDTHS.

CONCRETE DRIVE APRON DETAIL

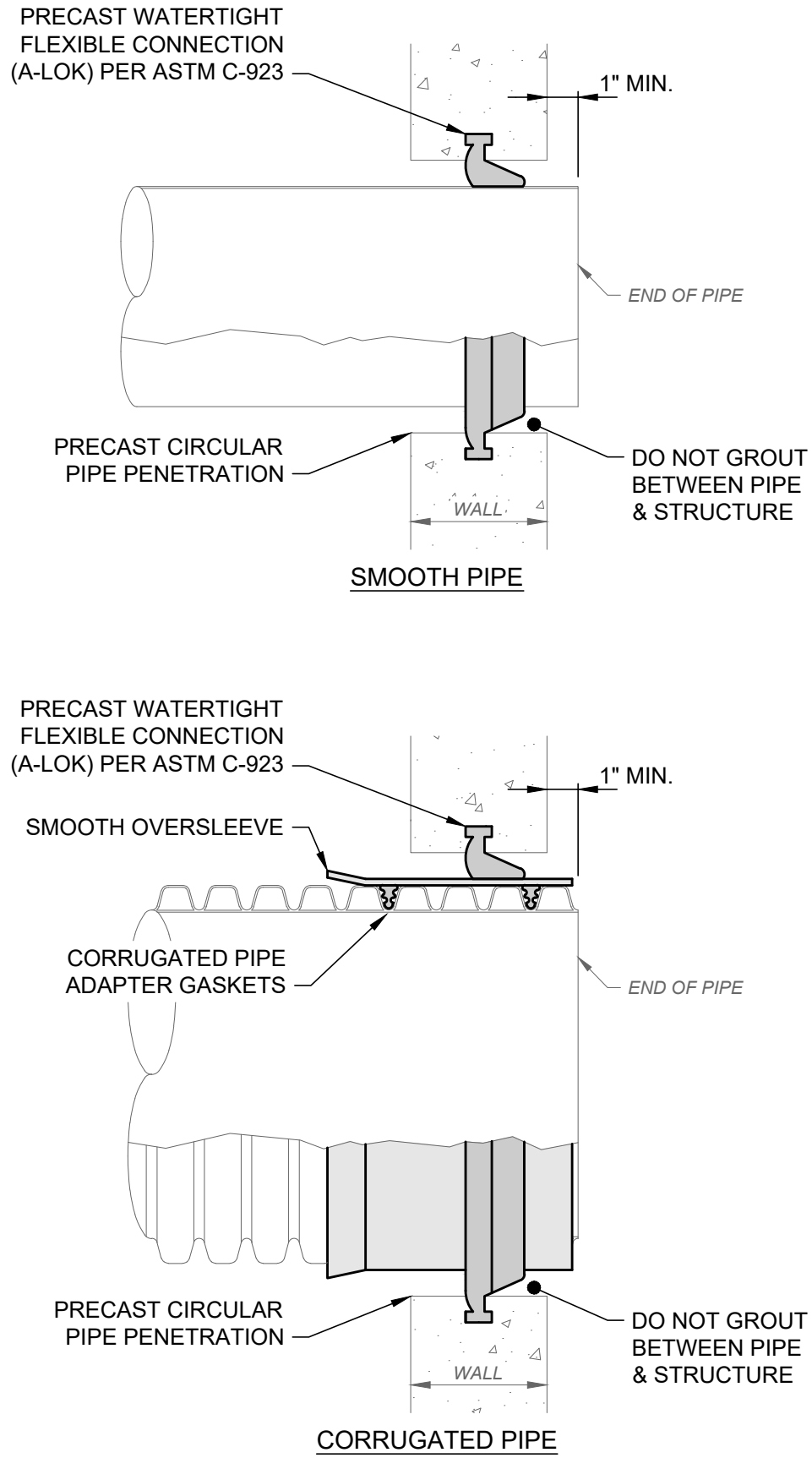
SCALE: NONE

1. SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
2. THE SEED BED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. 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. 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 OCCUR WHEN THE SOIL IS DRY ENOUGH 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 SEEDING MUST OCCUR, 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 NEEDED.
7. ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART				
MIXTURE	FORMULA	LB/ AC.	TIME	MOW
CREeping RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		≥4"
TURF-TYPE FESCUE	10-10-10	500		
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND YEARLY AFTER ESTABLISHED	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400		

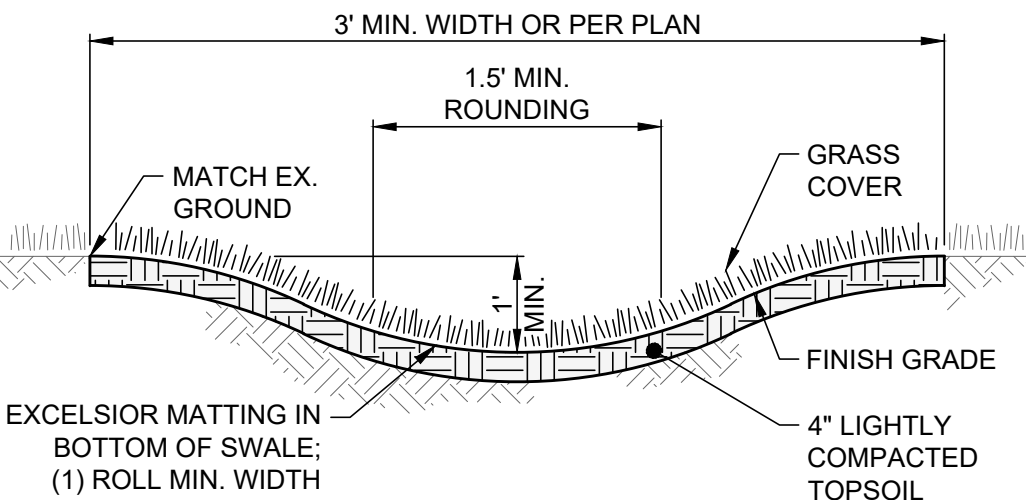
PERMANENT SEEDING SPECIES SELECTION		
SEED MIX	SEED RATE LB/AC.	NOTES:
GENERAL USE		
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	20 - 40 10 - 20 20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH ≤2.0 FT./SEC. VELOCITY
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5	
LAWN		
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120	
KENTUCKY BLUEGRASS CREEPING RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS

PERMANENT SEEDING NOTES



FLEXIBLE GASKET CONNECTION TO PRECAST CONCRETE STRUCTURE DETAIL

SCALE: NONE

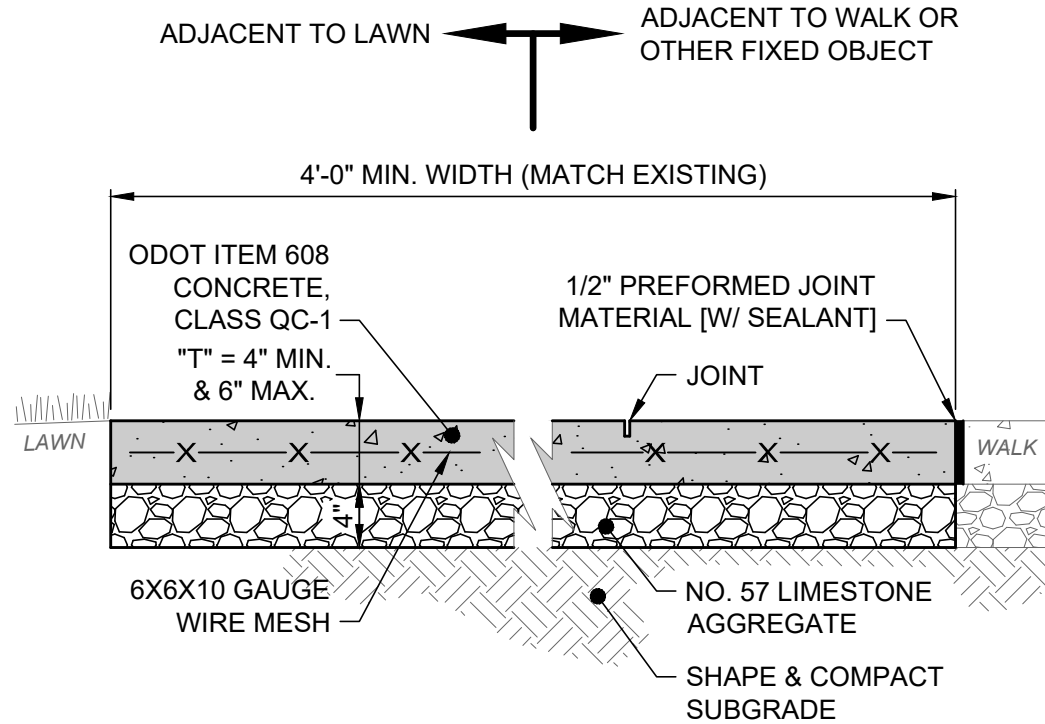
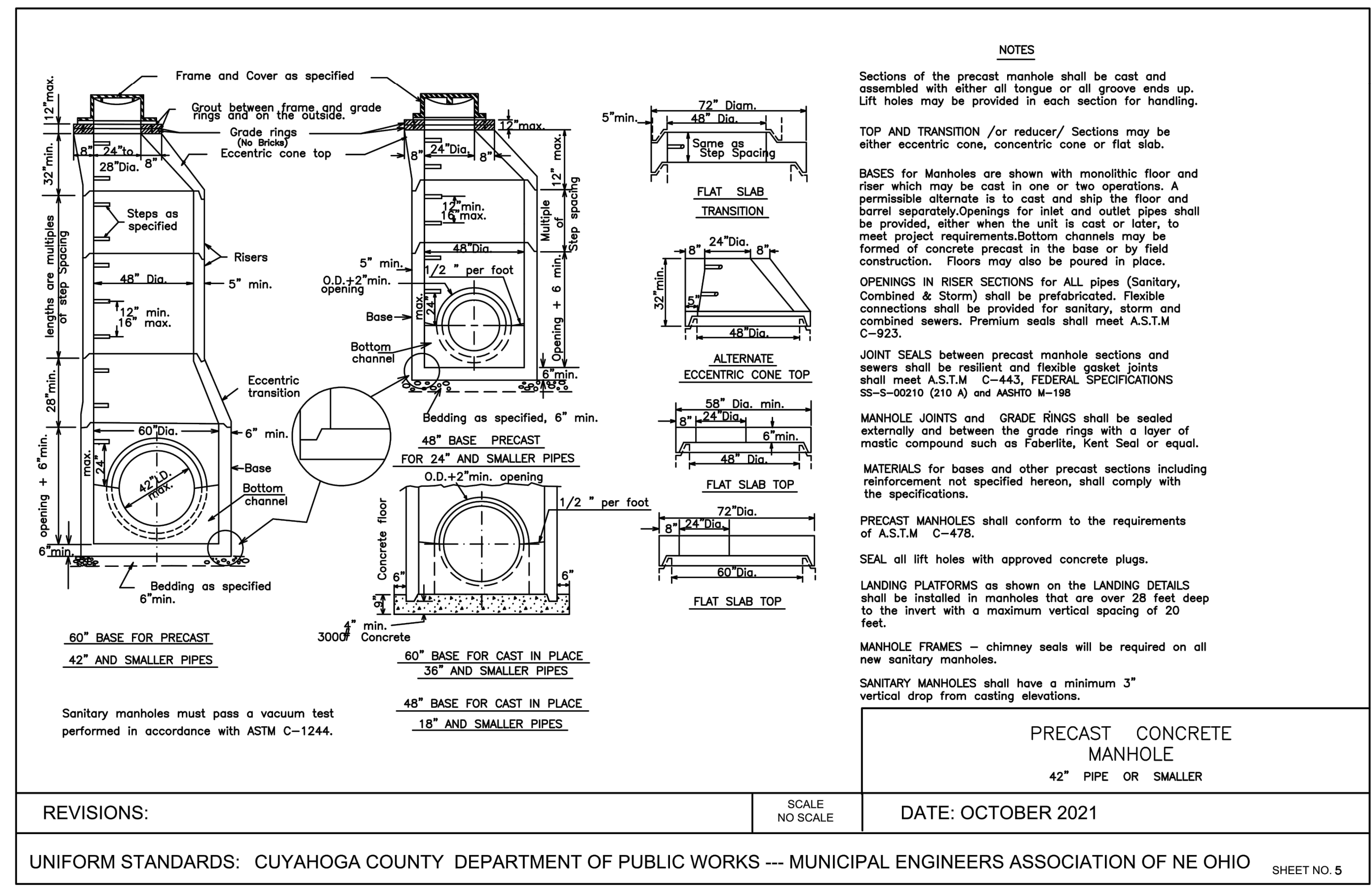


GRASS SWALE DETAIL

SCALE: NONE

NOTES:

1. THIS DETAIL IS FOR REFERENCE AND DIMENSION CONTROL ONLY.
2. PLACE TOPSOIL AND FINE GRADE TO A SMOOTH FINISH, FREE OF LUMPS AND DEPRESSIONS.
3. AFTER LIGHT ROLLING, GRASS SWALE SHALL MEET THE GRADES, ELEVATIONS AND SLOPES SHOWN ON THE GRADING PLANS

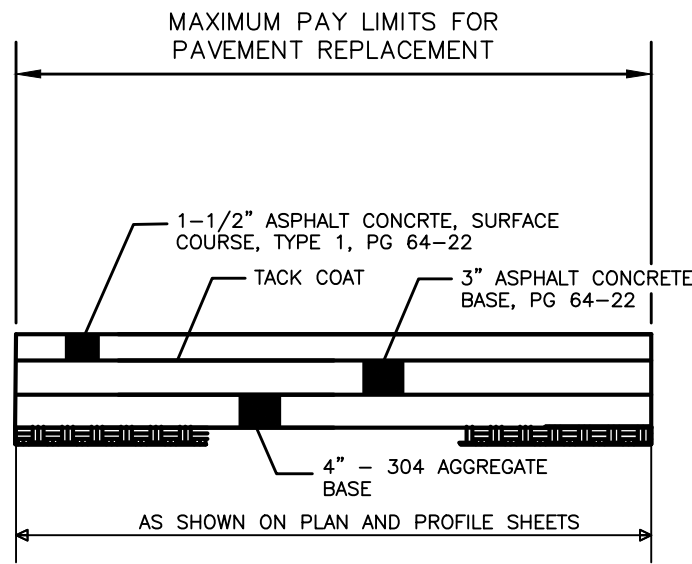


NOTES:

1. THIS DETAIL SHOWS A 4" SIDEWALK AND AGGREGATE FOR REFERENCE ONLY, MATCH EXISTING.
2. CONTRACTOR SHALL DETERMINE LOCATION OF ALL JOINTS. DIVIDE JOINTS INTO EQUALLY SPACED RECTANGULAR BLOCKS (4' MIN.).
3. SAW CUT OR HAND TOOL JOINT 1/8" WIDE BY 1/4 OF "T" DEEP.
4. ROUND ALL EDGES AND JOINTS WITH A 1/4" RADIUS.
5. INSTALL PREFORMED JOINT MATERIAL EVERY 30', OR BETWEEN SIDEWALK AND FIXED OBJECT (I.E. MANHOLE, WALK, BUILDING).
6. LIGHTLY BROOM THE FINISH PERPENDICULAR TO THE WALKING PATH OR PER PLAN. IF HAND TOOLED JOINTS AND EDGES ARE SPECIFIED, FINISH AFTER PANEL INTERIOR TEXTURE HAS BEEN APPLIED (I.E WINDOW PANE EFFECT).
7. APPLY LIQUID-MEMBRANE CURING COMPOUND (200 S.F./GAL.).

CONCRETE WALK DETAIL

SCALE: NONE



ASPHALT DRIVE REPLACEMENT  
NOT TO SCALE



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NO	REVISION	DATE

CITY OF RICHMOND HEIGHTS

**HARRIS ROAD - HARMS ROAD  
DRAINAGE IMPROVEMENTS**

CUYAHOGA COUNTY, OHIO

ISSUED FOR:	BID
ISSUE DATE:	MARCH 2025
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DESIGNED BY:	WTV
DRAWN BY:	JCR
CHECKED BY:	JRH

DETAILS - 1

PROJECT NO.	
241785	
DISCIPLINE	
CIVIL	
SHEET NAME	
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SHEET	OF
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