THE CITY OF WILLOWICK 2025 LATERAL REPAIR PROGRAM LAKE COUNTY, OHIO



CITY COUNCIL:

MS. MONICA KOUDELA

MR. PATRICK MOHORCIC

MR. DEVON MCFARLAND

MS. NATALIE ANTOSH

MS. THERESA BISBEE

MR. CHARLIE MALTA

MR. DAVID PHARES

COUNCIL MEMBER, WARD 3

COUNCIL MEMBER, WARD 3

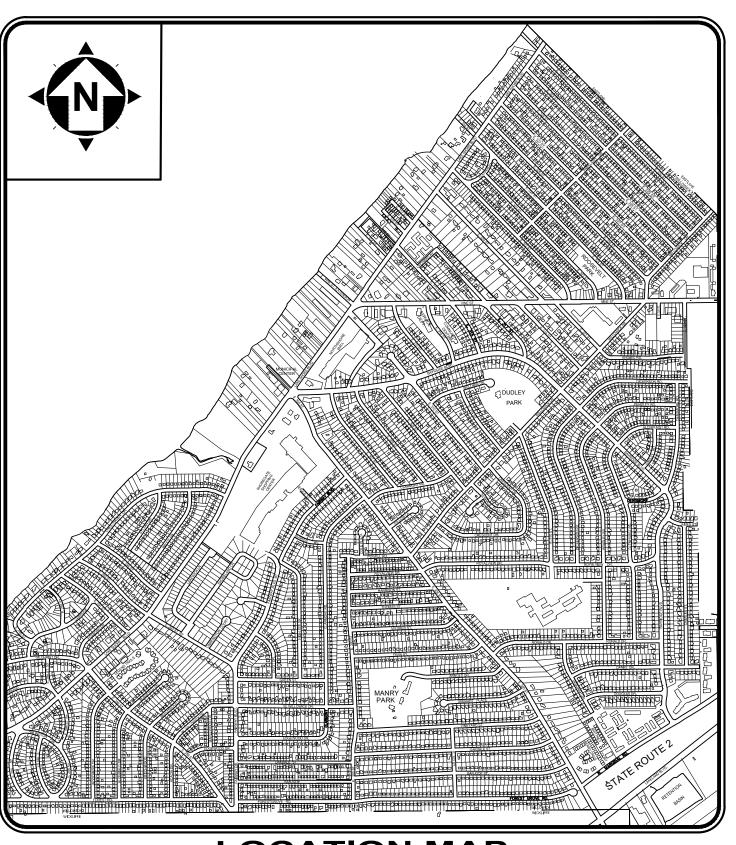
COUNCIL MEMBER, WARD 3



OHIO 811 DESIGN SERIAL NUMBERS & UTILITY MEMBER LIST:

- 1. THE ILLUMINATING COMPANY
- 2. DOMINION ENERGY OHIO
- 3. LAKE COUNTY DEPARTMENT OF UTILITIES
- 4. AT&T OHIO
- 5. THE CITY OF WILLOWICK
- 1. 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.
- 2. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764, THREE WORKING DAYS PRIOR TO CONSTRUCTION.

AUGUST 2025



LOCATION MAP

verdantas

OWNER:

THE CITY OF WILLOWICK 30435 LAKESHORE BOULEVARD WILLOWICK, OH 44095 (440) 585-3700 PHONE

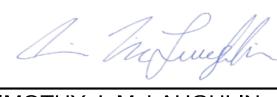
CITY OFFICIALS:

CITY MAYOR/ SAFETY DIRECTOR	MR. MICHAEL J. VANNI
SERVICE DIRECTOR	MR. TODD SHANNON
FINANCE DIRECTOR	MS. CHERYL BENEDICT
LAW DIRECTOR	MS. MANDY GWIRTZ
DIRECTOR OF RECREATION	MS JULIE KLESS
POLICE CHIEF	MR. ROB DAUBEMIRE
FIRE CHIEF	MR. BILL MALOVRH
CHIEF HOUSING AND ZONING INSPECTOR	MR. SEAN BRENNAN

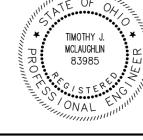
ENGINEER:

VERDANTAS LLC 8150 STERLING COURT MENTOR, OH 44060

(440) 951-9000 PHONE (440) 951-7487 FAX



TIMOTHY J. McLAUGHLIN



P.E. No. 83985

PROJECT SITE:

RECEIVE LATERAL REHABILITATION

OR REPLACEMENT. REFER TO SHEETS 8-12 FOR PARCELS TO

RECEIVE WORK.

DATE

8/12/25

TIMOTHY J. MCLAUGHLIN 83985 C/S/S/TERG ONAL	MEER * OKINI
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verdantas

	SCALE: AS SHOWN	ON	REVISION	DATE	
2)					
R PROGRAM	DATE : 08/13/2025				
ARE COUNTY	DESIGNED BY: JPB				
ERIES	DRAWN BY: JPB				
	CHECKED BY: TJM				

DRAWING NAME

00G-01

SHEET OF

ENGINEER'S PROJECT No. 36192

EXISTING PLAN LINE SYMBOLOGY: (S) SANITARY MANHOLE GAS SERVICE STORM MANHOLE SANITARY SEWER CURB INLET SANITARY SEWER, SERVICE STORM SEWER WATERLINE WATER LINE, SERVICE GAS VALVE SANITARY CLEANOUT PROPERTY LINE STORM CLEANOUT RIGHT-OF-WAY LINE SURVEY STATIONING PAVED ROADWAY **EVERGREEN TREE** PAVED DRIVEWAY PAVED SIDEWALK CURB FACE CURB BACK PROPOSED PLAN LINE SYMBOLOGY: TYPE 4C CURB REPLACEMENT SANITARY SEWER, SERVICE TO BE REPLACED OR REHABBED

PROPOSED TYPE "C" ASPHALT REPLACEMENT

PROPOSED TYPE "A" CONCRETE DRIVE/SIDEWALK REPLACEMENT

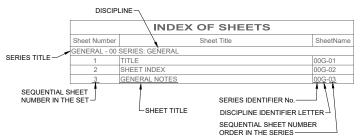
SERIES INFORMATION: DISCIPLINE INFORMATION:

IDENTIFIER: DISCIPLINE: GENERAL - 00 SERIES CIVIL - 10 SERIES

GENERAL CIVIL STRUCTURAL ARCHITECTURAL

PROCESS MECHANICAL (PLUMBING & HVAC) ELECTRICAL INSTRUMENTATION

INDEX EXPLAINATION:



REFERENCE DIMENSION:

12'-4" (REF.)

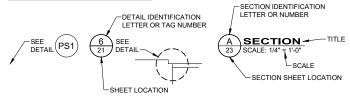
REFERENCE DIMENSIONS ARE GIVEN FOR INFORMATION ONLY. THEY ARE CALCULATED DIMENSIONS NOT INTENDED TO BE USED WITHOUT FIELD VERIFICATION AND ARE USEFUL IN SHOWING INTENDED DESIGN

PLAN REVISIONS:

A REVISION DESCRIPTION

B REVISION DESCRIPTION

DETAIL REFERENCES:



GENERAL SYMBOLOGY NOTES:

- THIS IS A STANDARD SHEET SHOWING COMMONLY USED SYMBOLOGY.
- 2. ALL SYMBOLS ARE NOT NECESSARILY USED ON THIS PROJECT.
- 3. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE NEW IMPROVEMENTS SO AS TO HIGHLIGHT SPECIFIC TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
- 4. SYMBOLOGY OR DIAGRAMMATICAL LEGENDS MAY BE SHOWN ON INDIVIDUAL SHEETS FOR SCHEDULES, DIAGRAMS, DETAILS, SCHEMATICS OR EQUIPMENT.

DRAWING CODED NOTE TYPES:

CT CONTRACTUAL NOTES ARE DEPICTED WITH A HEXAGON, SQUARE, CIRCLE OR TRIANGLE. ALL OTHER EXISTING WRITTEN CALLOUTS SHOWN ON THE REUSED SCANNED PLANS, SECTIONS & DETAILS ARE FOR EXISTING CONDITIONS AND REFERENCE ONLY, MANY OF THOSE NOTES FROM THE SCANNED DRAWINGS PERTAIN TO PREVIOUS WORK DONE.

ABBREVIATIONS

PIPE MATERIAL ID:

BR = BRASS BS = BLACK ST BZ = BRONZE = GRAY CAST IRON CU = COPPER
CS = CAST IRON
CT = CARBON STE = CARBON STEEL TUBING = DUCTILE IRON PIPE = DIAMETER RATIO FRP = FIBERGLASS REINFORCED PLASTIC GS = GALVANIZED STEEL
HDPE = HIGH-DENSITY POLYETHYLENE PIPE PVC = POLYVINYL CHLORIDE PIPE

SS = STAINLESS STEEL
STL = STEEL PIPE
SDR = STANDARD DIAMETER RATIO

SCH = SCHEDULE

FG FND

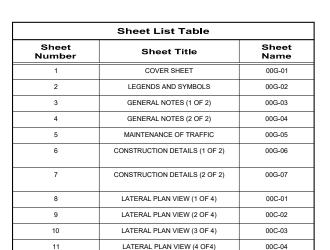
= EACH WAY

= FINISH FLOOR = FINISH GRADE

= FOUNDATION

= HORIZONTAL

STHE	<u>:R:</u>		
ADD'L AGG ALUM. BTWN C/L CLR CONC CONT DWL EF EL. EMBED	= ADDITIONAL = AGGREGATE = ALUMINUM = BETWEEN = CWNTERLINE = CLEAR = CONCRETE = CONTINUOUS = DOWEL(S) = EACH FACE = ELEVATION = EMBEDMENT	HP LP MAX MFR MIN REF REINF STRC T/ TYP UNO VERT	= HIGH POINT = LOW POINT = MAXIMUM = MANUFACTURER = MINIMUM = REFERENCE = REINFORCING = STRUCTURE = TOP OF = TYPICAL = UNLESS NOTED OTHERWISE = VERTICAL





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SCALE: AS SHOWN	DATE: 08/13/2025	DESIGNED BY: IPB		DRAWN BY: JPB		CHECKED BY: TJM
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GENERAL:

- THE CONTRACTOR SHALL PERFORM ALL OF THE WORK AND FURNISH ALL OF THE LABOR AND MATERIALS
 NECESSARY FOR THE FINAL COMPLETION OF THIS CONTRACT IN THE MANNER AND UNDORE THE CONDITIONS
 HEREIN SPECIFIED AND PROVIDED AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS.
- A PRE-CONSTRUCTION VIDEO TAPE OF THE PROJECT AREA WILL BE REQUIRED AND SUBMITTED TO THE ENGINEER BEFORE CONSTRUCTION BEGINS.
- 3. THE CONTRACTOR SHALL NOT COMMENCE ANY FORM OF CONSTRUCTION WITHOUT CONTACTING THE ENGINEER, AS APPROPRIATE, A MINIMUM OF 48 HOURS IN ADVANCE OF CONSTRUCTION ACTIVITY TO ARRANGE FOR OBSERVATION. IF ANY CHANGE IN THE WORK SCHEDULE BECOMES NECESSARY, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER TO AVOID UNNECESSARY OBSERVATION COSTS. IF NO NOTIFICATION IS MADE IN REGARDS TO CANCELLATION OF WORK, THE CONTRACTOR WILL BE CHARGED FOR THE TIME INCURRED.
- 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE LOCAL ACCESS, VEHICULAR AND PEDESTRIAN, TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR WILL FURNISH, MAINTAIN AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGGERS, SIGNING AND OTHER TRAFFIC CONTROLS TO INSURE THE SAFETY OF PERSONS AND VEHICLES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS.
- ACCESS TO ALL DRIVEWAYS WILL BE MAINTAINED AT ALL TIMES EXCEPT THE TIME WHEN SEWER INSTALLATION AND PAVEMENT REPLACEMENT WILL NOT PERMIT.
- ALL SHOP DRAWINGS WILL BE SUBMITTED TO THE ENGINEER FOR PRELIMINARY CHECKING. THE ENGINEER SHALL FORWARD THE CHECKED SHOP DRAWINGS TO THE OWNER FOR FINAL CHECKING AND APPROVAL. SHOP DRAWINGS MUST BE APPROVED PRIOR TO ORDERING ANY MATERIALS.
- 7. BEFORE THE OWNER WILL APPROVE AND ACCEPT THE WORK AND RELEASE THE GUARANTEE RETAINER, THE CONTRACTOR WILL FURNISH THE OWNER 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 ADJUSTER HANDLING CLAIM, HOW CLAIM WAS RESOLVED AND IF CLAIM WAS NOT RESOLVED FOR THE FULL AMOUNT, A STATEMENT INDICATING THE REASON FOR SUCH ACTION.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MATERIAL AND EQUIPMENT TESTING. THE OWNER MAY REQUIRE SUBGRADE COMPACTION TESTING, ASPHALT AND CONCRETE QUALITY CONTROL TESTING WHICH WILL BE PAID FOR BY THE OWNER.
- 9. WHEN MAILBOXES, FENCES, NEWSPAPER BOXES OR STREET SIGNS AND SUPPORTS INTERFERE WITH CONSTRUCTION, THE CONTRACTOR SHALL REMOVE AND ERECT THEM IN A TEMPORARY LOCATION DURING CONSTRUCTION (EXCEPT FENCES). AFTER COMPLETION OF THE CONSTRUCTION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL ERECT THE MAILBOXES, FENCES, NEWSPAPER BOXES OR STREET SIGNS AND SUPPORTS IN A PERMANENT LOCATION IN ACCORDANCE WITH THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE WORK SHALL BE INCLUDED IN THE UNIT PRICES BID FOR OTHER ITEMS.
- 10. PROPERTY PINS AND MONUMENTS ALONG THE ROUTE OF THE IMPROVEMENT, WHICH MAY BE DISTURBED BY THE CONTRACTOR, SHALL BE REFERENCED BY A PROFESSIONAL SURVEYOR, SO THEY CAN BE REPLACED IN THE EVENT THAT THEY ARE DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT ALL PINS, MONUMENTS AND REFERENCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF LOCATING AND REFERENCING AND REPLACING THE PROPERTY PINS AND MONIMENTS.

PROHIBITED CONSTRUCTION ACTIVITIES

- ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED
- 2. THE USE OF EXPLOSIVES, UNLESS A PERMIT IS ISSUED BY THE OWNER.
- PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS DIRECTLY INTO ANY SURFACE WATERS, STREAM CORRIDORS, OR STORM SEWERS; ALL SUCH WATER WILL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO RELEASE.
- 4. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, OR ANY OTHER HARMFUL WASTE INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.
- 5. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT. HE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN OEPA OPEN BUILDING AIR PERMIT OR DISPOSING OF THE TREES AND STUMPS
- STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY, PUBLIC OR PRIVATE, NOT PREVIOUSLY SPECIFIED ON THE PLANS BY THE ENGINEER FOR SUCH PLIPPOSES
- 7. RUNNING WELL POINT OR PUMP DISCHARGE LINES THROUGH PRIVATE OR PUBLIC PROPERTY AND RIGHTS-OF-WAY WITHOUT PERMISSION OF THE PROPERTY OWNER AND THE CONSENT OF THE ENGINEER.
- 8. OPERATION ENTAILING THE USE OF VIBRATORY HAMMERS OR COMPACTORS OUTSIDE THE HOURS OF 8:00 AM AND 5:00 PM OR OUTSIDE THE HOURS ALLOWED BY LOCAL ORDINANCES OR REGULATIONS.
- 9. CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE OR BOULEVARD WITHOUT THE PRIOR CONSENT OF MUNICIPAL OFFICIALS AND THE ENGINEER AND CLOSING CLEAR ACCESS:

 a. BY FIRE PROTECTION EQUIPMENT AND EMERGENCY VEHICLES;
 - b. BY THE PUBLIC TO ANY COMMERCIAL OR PROFESSIONAL PLACE OF BUSINESS, QUASI-PUBLIC OR PUBLIC ESTABLISHMENT, OR PLACE OF RESIDENCE; OR
 - c. BY VEHICLES TO DRIVEWAYS WITHOUT THE PROVISION OF ALTERNATIVE MEANS OF BUILDING INGRESS AND EGRESS
- 10. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
- 11. LOCATING STOCKPILE STORAGE AREAS IN ENVIRONMENTALLY SENSITIVE AREAS.
- 12. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN AND STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS.
- 13. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOW LINE OF ANY STREAM.
- 14. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA
- DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR AT UNSPECIFIED LOCATIONS.
- 16. DISCHARGING INJURIOUS SILICA DUST CONCENTRATIONS INTO THE ATMOSPHERE RESULTING FROM BREAKING, CUTTING, CHIPPING, RILLING, BUFFING, GRINDING, POLISHING, SHAPING OR SURFACING CLOSER THAN 200 FEET TO PLACES OF RESIDENCES OR COMMERCIAL, PROFESSIONAL, QUASI-PUBLIC OR PUBLIC PLACES OF HUMAN OCCUPATION.
- 17. NO USING ANY SUBSTANCE OTHER THAN WATER TO CONTROL DUST
- 18. THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY, SUCH AS CALCIUM CHLORIDE, WATER OR A MOTORIZED DUST-FREE STREET SWEEPING DEVICE PERFORMED DAILY OR AS DIRECTED BY THE OWNER, TO MAINTAIN ALL PAVED AREAS AFFECTED BY THE CONSTRUCTION.
- PAYMENT FOR ALL SOIL EROSION, SEDIMENT AND DUST CONTROL MEASURES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER VARIOUS ITEMS.

EXISTING UTILITIES:

- THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY A
 SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE
 OWNER DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. THE CONTRACTOR IS RESPONSIBLE
 TO VERIEY AND IDENTIFY ALL UTILITIES ILLUSTRATED ON THE PLANS OR NOT IDENTIFIED.
- 2. BEFORE ANY WORK IS STARTED, THE CONTRACTOR SHALL CALL THE "OHIO UTILITIES PROTECTION SERVICE", OUPS, AT 1-800-362-2764, A MINIMUM OF SEVENTY-TWO (72) HOURS IN ADVANCE OF THE WORK. NON-MEMBER UTILITIES MUST BE CONTACTED DIRECTLY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS, AT NO ADDITIONAL EXPENSE TO THE OWNER, 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 BY THE CONTRACTOR AND ALL REPAIR WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE RESPECTIVE AGENCY OF TO ADDITIONAL EXPENSE TO THE OWNER, INCLUDING ANY INSPECTION FEES OR MAINTENANCE CREWS.
- 3. 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.
- NO SEPARATE PAYMENT WILL BE MADE FOR UTILITY SUPPORT, POLE SUPPORT OR POLE RELOCATION. THE
 CONTRACTOR SHALL INCLUDE THE COST OF UTILITY SUPPORT, POLE SUPPORT AND POLE RELOCATION IN
 THE UNIT PRICE(S) BID FOR OTHER RELATED ITEMS OF WORK.
- CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL THE EXISTING GAS, WATER, ELECTRIC, CABLE, FIBER, TELEPHONE, SANITARY OR OTHER UNDERGROUND UTILITIES PRIOR TO THE INSTALLATION OF ANY PROPOSED IMPROVEMENT INDICATED ON THE PLANS. SHOULD A CONFLICT EXIST AT A UTILITY CROSSING, THE PROJECT ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- 6. THE CONTRACTOR SHALL ANTICIPATE AT A MINIMUM ONE SERVICE CONNECTION FOR EACH UTILITY (GAS, WATER, STORM SEWER, FIBER OPTIC OR POWER) SHOWN TO EACH PROPERTY, EVEN IF NOT SHOWN ON PLAN.
- 7. SERVICE CONNECTIONS ON THE PLANS THAT HAVE BEEN IDENTIFIED ARE BASED ON AS BUILTS PROVIDED BY THE RESPECTIVE UTILITY COMPANY ARE APPROXIMATE. THE OWNER DOES NOT GUARANTEE THEIR LOCATION AND THE CONTRACTOR IS RESPONSIBLE AND SHALL FIELD VERIFY THE LOCATION AND DEPTH PRIOR TO COMMENCEMENT OF ANY WORK IN THE AREA.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION OF THE EXISTING UTILITY OWNERS AND THE UTILITY PROTECTION SERVICE IN THE LIST FEATURED ON THE COVER OF THE PLANS IN ACCORDANCE WITH SECTION 153 AG OF THE PUN DE
- 9. IN THE EVENT THAT ANY LEAD SERVICE CONNECTION IS ENCOUNTERED DURING THIS PROJECT BY THE CONTRACTOR, AQUA OHIO SHALL BE IMMEDIATELY NOTIFIED AND WORK AT THAT LOCATION SHALL CEASE UNTIL DIRECTION ON HOW TO PROCEED IS MADE BY LCDU. CONTRACTOR SHALL CONTINUE WITH WORK ONCE LCDU GIVES NOTICE TO PROCEED WITHOUT ADDITIONAL PAYMENT FOR REMOBILIZATION.

TRAFFIC CONTROL

- MAINTAINING TRAFFIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 614 AND THE MOST RECENT VERSION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).
- THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR REVIEW AND ACCEPTANCE BY THE ENGINEER PRIOR TO BEGINNING WORK.
- 3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN SAFE LOCAL ACCESS, VEHICULAR AND PEDESTRIAN INCLUDING PERSONS WITH DISABILITIES, TO ALL PROPERTIES WITHIN THE PROJECT LIMITS. THE CONTRACTOR WILL FURNISH, MAINTAIN AND SUBSEQUENTLY REMOVE ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, BARRIERS, TEMPORARY PAVEMENT, LIGHTING, FLAGGERS, SIGNING, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROLS TO ENSURE THE SAFETY OF PERSONS AND VEHICLES DURING CONSTRUCTION MATURE DROJECT LIMITS.
- 4. AT ALL EXCAVATION LOCATIONS THE CONTRACTOR SHALL PROVIDE SUITABLE FLASHERS, BARRICADES, AND TRAFFIC CONTROL DEVICES AS DEEMED NECESSARY BY THE ENGINEER AND IN ACCORDANCE WITH THE OMUTCD FOR SUCH TIME UNTIL THE AREA IS COMPLETELY BACKFILLED.
- ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN OR INCLUDED IN OTHER PAY ITEMS.
- 6. ACCESS MUST BE MAINTAINED FOR EMERGENCY VEHICLES AT ALL TIMES.
- 7. NO TRENCH WILL BE LEFT OPEN AT THE END OF A WORK DAY, WHERE PRACTICAL; ANY OPEN TRENCH WILL BE PROPERLY IDENTIFIED AND BARRICADED FOR SAFETY PURPOSES.
- PRIOR TO CLOSING OFF CLEAR ACCESS TO ANY PUBLIC ALLEY, STREET, ROAD, AVENUE, OR BOULEVARD, THE CONTRACTOR MUST HAVE CONSENT FROM LOCAL OFFICIALS AND THE ENGINEER.
- PRIOR TO CLOSING OFF ACCESS TO ANY PORTION OF PRIVATE PROPERTY WHERE SEWER WORK MAY BE LOCATED, THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE PROPERTY OWNER TO IMPLEMENT PROPOSED TRAFFIC CONTROL DEVICES WHICH SHALL ALSO REQUIRE FINAL APPROVAL BY THE ENGINEER

TREE/VEGETATION PROTECTION

- . TREE REMOVAL WILL BE LIMITED TO THE TIME PERIOD BETWEEN OCTOBER 1 AND MARCH 31.
- . TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHEREVER POSSIBLE.
- 3. NO TREE REMOVAL WILL BE PERMITTED OUTSIDE THE TEMPORARY OR PERMANENT EASEMENT WITHOUT PERMISSION OF THE ENGINEER.
- TREES WHICH ARE NOT REMOVED WILL BE PROTECTED BY ENSURING THAT TREES TO BE REMOVED ARE FELLED SO AS NOT TO INJURE THE REMAINING TREES.
- 5. THE PROJECT IS WITHIN THE RANGE OF THE STATE AND FEDERALLY ENDANGERED INDIAN BAT (MYOTIS SODALIS) AND NORTHERN LONG-EARED BAT (MYOTIS SEPTENTRIONALIS), THE STATE ENDANGERED LITTLE BROWN BAT (MYOTIS LUCIFUGUS), AND THE STATE ENDANGERED FICOLORED BAT (PERIMYOTIS SUBFLAVIS) AND MAY IMPACT SUMMER ROOSTING HABITAT FOR THESE SPECIES, PER U.S. FISH AND WILDLIFE RECOMMENDATIONS, THE REMOVAL OF TREES GREATER THAN OR EQUAL TO 3-INCHES IN DIAMETER SHOULD ONLY OCCUR BETWEEN OCTOBER 1 AND MARCH 31. IF THIS TIME FRAME CANNOT BE FOLLOWED, THE U.S. FISH AND WILDLIFE SERVICE AND OHIO DEPARTMENT OF NATURAL RESOURCES (CONTACT EILEEN WYZA AT EILEEN.WYZA@DNR.OHIO.GOV) MUST BE CONTACTED PRIOR TO CUTTING FOR GUIDANCE ON NECESSARY STEPS TO DOCUMENT THE ABSENCE OR PRESENCE OF THESE SPECIES.
- PRIOR TO CLEARING, THE CONTRACTOR AND ENGINEER, SHALL WALK THE ACQUIRED EASEMENTS IN AN EFFORT TO DESIGNATE THE TREES THAT ARE TO BE SAVED. TREES TO BE SAVED WILL BE CLEARLY MARKED BY PAINT WITH THE LETTER "S". TREES TO BE PROTECTED BY AN APPROPRIATE BARRIER SHALL BE MARKED WITH AN "S" ENCLOSED IN A CIRCLE. TREES MARKED FOR REMOVAL IN THE PLANS WILL BE INSPECTED BY THE OWNER AND THE ENGINEER BEFORE REMOVAL & WILL BE SAVED WHERE POSSIBLE.
- 7. SOIL AND OTHER MATERIAL WILL NOT BE STORED NEXT TO OR WITHIN THE DRIP-LINEOF TREES.
- 8. PRESERVATION OF LANDSCAPING SHOULD TAKE PRECEDENCE OVER REMOVAL. IF REMOVAL OR DAMAGE IS UNAVOIDABLE, EXISTING VEGETATION SHOULD BE REPAIRED OR REPLACED "IN-KIND" UNLESS THE HOMEOWNER SPECIFIES OTHERWISE.

- IF TREES/SHRUBS CANNOT BE REPLACED IN THE SAME LOCATION DUE TO INSTALLATION OF THE SEWER SYSTEM, RELOCATION SHOULD BE CONSIDERED.
- THE CONTRACTOR'S ARBORIST SHALL REPAIR ALL INJURIES TO BARK, TRUNKS, LIMBS, AND ROOTS OF REMAINING VEGETATION BY PROPERLY DRESSING, CUTTING, BRACING AND PAINTING, USING ONLY APPROVED TREE SURGERY METHODS, TOOLS, AND MATERIALS.
- 11. SELECTIVE PRUNING OF TREE LIMBS PRIOR TO INITIATION OF CONSTRUCTION SHOULD ONLY BE USED WITHIN ESTABLISHED EASEMENTS WHERE REMOVAL IS NECESSARY FOR OPERATION OF EQUIPMENT.
- 12. LIMIT THE USE OF RIP-RAP TO AREAS WHERE STREAM FLOW CONDITIONS PREEMPT VEGETATIVE
- 13. TREE REMOVAL WILL BE LIMITED TO THAT NECESSARY FOR CONSTRUCTION AND WILL BE LIMITED FURTHER TO THE PERMANENT EASEMENT WHENEVER POSSIBLE. IF THE PROJECT IS LOCATED WITHIN THE RANGE OF THE FEDERALLY-ENDANGERED INDIDANA BAT (MYOTIS SODALIS) AND TREES MUST BE CUT, THIS MUST OCCUR BETWEEN SEPTEMBER 30 AND APRIL 1. INDIANA BATS ARE HIGHLY-DEPENDENT UPON TREES INCLUDING DEAD AND DYING TREES OF SPECIES WITH EXFOLIATING BARK, CREVICES, OR CAVITIES IN UPLAND AREAS OR RIPARIAN CORRIDORS AND LIVING TREES OF THE SPECIES LISTED ABOVE WITH EXFOLIATING BARK, CAVITIES, OR HOLLOW AREAS FORMED FROM BROKEN BRANCHES OR TOPS. IF SUITABLE TREES MUST BE CUT DURING THE PROHIBITED TIME PERIOD, A NET SURVEY MUST BE CONDUCTED TO DETERMINE THE PRESENCE OF ABSENCE OF INDIANA BATS PRIOR TO CUTTING.

ENVIRONMENTAL PROTECTION

1. 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 AT A SITE APPROVED BY THE ENGINEER. NO EXCESS MATERIALS ARE TO BE DISPOSED OF IN ANY WETLAND, FLOODPLAIN, SURFACE WATER, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS. EROSION CONTROL MEASURES AT THE DISPOSAL SITE MUST BE INSTALLED AND MAINTAINED UNTIL DISPOSAL IS COMPLETE AND THE DISPOSAL SITE IS PERMANENTLY STABILIZED. GIVING EXCAVATED SOIL AWAY DOES NOT RELIEVE THE CONTRACTOR OR ENGINEER OF THIS RESPONSIBILITY.

EXCAVATION AND TRENCHING

- TRENCHING, HAUNCHING, BEDDING, AND ALL EARTHWORK SHALL BE IN ACCORDANCE WITH DETAILS WITHIN THE PLANS AND SPECIFICATION SECTIONS 310000 AND 333100.
- SLAG PRODUCTS OR CRUSHED CONCRETE WILL NOT BE PERMITTED FOR BEDDING, BACKFILL, OR TRAFFIC COMPACTED SURFACE.
- 3. ALL UTILITY LINES CROSSING THE NEW SEWER TRENCH, (I.E. STORM SEWERS, STORM LATERALS, WATERLINES, WATERLINE CONNECTIONS, SANITARY SEWERS, SANITARY LATERALS, GAS MAINS, GAS SERVICE CONNECTIONS, UNDERGROUND COT CONDUITS, CABLE TV 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 UNLESS ANY OF THE ABOVE UTILITIES ARE ENCOUNTERED AND NOT SHOWN ON THE DRAWINGS.
- ANY COMPACTION TESTING REQUIRED AT THE SOLE DISCRETION OF THE ENGINEER SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

DEWATERING PROCEDURES

- THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING A DEWATERING SYSTEM IN ACCORDANCE WITH SPECIFICATION SECTION 312000. CONTRACTOR SHALL DEVELOP A SYSTEM THAT WILL ENSURE WELL WATER SERVICE IS MAINTAINED FOR ALL PROPERTIES WITHIN THE PROJECT LIMITS FOR THE DURATION OF CONSTRUCTION.
- 2. ALL DEWATERING FLOWS FROM EXCAVATION AND TRENCHING OPERATIONS SHALL BE SETTLED INTO INSTALLATION BASINS OR DIRECTED THROUGH APPROVED FILTERING DEVICES PRIOR TO BEING DISCHARGED TO STABILIZED SITES, SUCH AS STREAMS OR STORM SEWER; NOT ONTO EXPOSED SOILS, STREAM BANKS, OR ANY EITHER SITE WHERE THE FLOW COULD CAUSE OR INCREASE THE RATE OF FROSION
- 3. SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER INTO THE STORM SEWER SYSTEM. FOR THE ENTIRE COURSE OF CONSTRUCTION, EROSION CONTROL (FILTERS OR OTHER APPROVED BMPS) MEASURES SHALL BE IMPLEMENTED AT ALL NEARBY INLETS TO PREVENT SILT FROM ENTERING INTO THE SYSTEM. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THESE DEVICES FOR THE ENTIRE DURATION OF CONSTRUCTION AND SHALL ONLY REMOVED BY ORDER OF THE ENGINEER.
- CONVEY WATER FROM THE CONSTRUCTION SITE IN A CLOSED CONDUIT. TRENCH EXCAVATIONS SHALL NOT BE PERMITTED AS TEMPORARY DRAINAGE DITCHES.

MATERIAL DISPOSAL AND TEMPORARY SURFACES

- 1. THE REMOVAL AND DISPOSAL OF ALL SURPLUS EXCAVATED MATERIAL AND CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR ULTIMATE DISPOSAL. THE DISPOSAL OF ALL CONSTRUCTION DEBRIS SHALL BE AT AN APPROVED LOCATION BY THE OWNER AND THE ENGINEER. THE DISPOSAL OF ALL "CLEAN" MATERIAL SHALL BE AT APPROVED LANDFILLS, AND/OR OTHER SITES APPROVED BY THE OWNER AND THE DISPOSAL OF EXISTING PIPELINE AND WASTEWATER SLUDGE SHALL BE AN APPROVED LOCATION. THE CONTRACTOR SHALL OBTAIN ALL APPROVALS, PERMITS, LICENSES, ETC. STATE AND FEDERAL AGENCIES AND OR PRIVATE LANDOWNERS. THE CONTRACTOR SHALL FOR THE CONTRACTOR SHALL BE AT COPY OF ALL APPROVALS OR WRITTEN PERMISSION PRIOR TO DISPOSING OF ANY WASTE SITE.
- THE COST OF HEREIN DESCRIBED WORK, INCLUDING SEEDING AND MULCHING NECESSARY TO SECURE RESULTS, SHALL BE CONSIDERED INCIDENTAL TO THE OTHER VARIOUS ITEMS OF WORK IN THIS CONTRACT INCLUDED IN THE RESPECTIVE PAY ITEMS. NO SEPARATE PAYMENT SHALL BE MADE.
- 3. TEMPORARY SURFACES WHERE EXCAVATION ARE LOCATED IN STREETS, DRIVES AND PARKING AREAS FURNISHED AND PLACED BY THE CONTRACTOR AND SHALL BE FULLY MAINTAINED TO MINIMIZE INCONVENIENCE TO THE PUBLIC AT NO ADDITIONAL COST TO THE OWNER.
- THE ABOVE-DESCRIBED WORK SHALL BE CONSIDERED INCIDENTAL TO THE COMPLETION OF ALL WORK INCLUDED IN THE RESPECTIVE PAY ITEMS AND SHALL NOT BE A SEPARATE PAY ITEM.



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EROSION AND SEDIMENT CONTROL

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH ODOT ITEM 207 AND AS REQUIRED BY THE ASHTABULA COUNTY SOIL AND WATER CONSERVATION DISTRICT.
- SITE CLEARING AND GRUBBING SHALL NOT COMMENCE UNTIL SUCH TIME THAT THE CONTRACTOR IS PREPARED TO START CONSTRUCTION. REMOVE ONLY THOSE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED FOR CONSTRUCTION OF ACTUAL FACILITIES; PROTECT THE REST TO PRESERVE THEIR AESTHETIC, HABITAT. AND EROSION CONTROL VALUES.
- 3. IMMEDIATELY FOLLOWING SITE AND ACCESS CLEARING, TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED. THEY WILL BE MAINTAINED IN EFFECTIVE OPERATING CONDITION DURING CONSTRUCTION UNTIL FINAL SEPOING AND SITE RESTORATION OCCURS.
- 4. AT THE LIFT STATION CONSTRUCTION SITES INSTALL SEDIMENT BASINS AND DIVERSION DIKES BEFORE DISTURBING THE LAND THAT DRAINS INTO THEM
- 5. DIVERSION CHANNELS WILL BE CONSTRUCTED AROUND THE LIFT STATION SITE TO COLLECT RUNOFF AND PREVENT SILT AND OTHER ERODIBLE MATERIALS FROM ENTERING LOCAL DRAINAGE COURSES. DIVERSION CHANNELS WILL FLOW TO TEMPORARY SEDIMENT BASINS, AND ARE TO BE STABILIZED THROUGH SEEDING,
- 6. EXISTING TOPSOIL WILL BE STOCKPILED AND REPLACED UPON FINAL GRADING OF THE CONSTRUCTION SITE.
- 7. EXTENSIVE AREAS OF STOCKPILED TOPSOIL AT THE CONSTRUCTION SITE ARE TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING AND MULCHING OR COVERING SUCH AS WITH ANCHORED STRAW MULCH. SILT BARRIERS WILL BE INSTALLED DOWN GRADIENT OF THESE AREAS ON CONTOUR AND WITH THEIR ENDS UP SLOPE OF THE CONTOUR TO PREVENT SILT LADEN RUNOFF FROM ENTERING WATERWAYS OR STORM SEWERS. WITHIN 15 DAYS OF COMPLETION OF CONSTRUCTION, ANY REMAINING SOIL MUST EITHER BE REMOYED OR PERMANENTILY STABILIZED.
- SILT FENCES SHOULD BE TRENCHED SIX TO TWELVE INCHES DEEP, THE FABRIC LAID IN THE TRENCH, AND THE SOIL PROPERLY BACKFILLED INTO THE TRENCH TO PREVENT UNDERCUTTING.
- 9. WHERE TRENCH EXCAVATION OCCURS PARALLEL TO ANY WATERWAY, A VEGETATED BARRIER SHOULD BE MAINTAINED BETWEEN THE STREAM AND THE CONSTRUCTION SITE. ALL TRENCH SPOILS WILL BE STOCKPILED ON THE SIDE OF THE TRENCH AWAY FROM THE WATERWAY, AND A LINE OF SILT BARRIERS WILL BE ESTABLISHED ALONG THE EDGE OF CONSTRUCTION ON THE CONTOUR BETWEEN THE TRENCH AND THE WATERWAY.
- 10. NO MORE THAN 200 FEET OF TRENCH SHALL BE OPEN AT ANY GIVEN TIME. TRENCH OPENING AND LAYING OF PIPE SHOULD OCCUR SO AS TO MINIMIZE THE AMOUNT OF DISTURBED ARE. ALL TRENCHES ARE TO BE BACKFILLED AND COMPACTED IMMEDIATELY AFTER PIPE INSTALLATION. IMMEDIATELY FOLLOWING THE BACKFILLING OF THE TRENCH, THE GROUND SURFACE WILL BE ROUGH GRADED TO THE EXISTING CONTOURS TO ALLOW FOR PROPER DRAINAGE, AND WILL BE SEEDED AND/OR MULCHED IN STAGES TO PREVENT EROSION.
- ANY DISTURBED AREA THAT WILL NOT BE ACTIVELY UNDER CONSTRUCTION FOR A PERIOD OF 15 DAYS OR MORE WILL BE TEMPORARILY STABILIZED IMMEDIATELY BY SEEDING AND MULCHING OR BY ANCHORED STRAW MULCH.
- 12. AS CONSTRUCTION IS COMPLETED, PERMANENTLY STABILIZE EACH DISTURBED AREA IN STAGES WITH PERENNIAL VEGETATION INSTALLED ACCORDING TO OHIO EPA (OR EQUIVALENT) STANDARDS AND SPECIFICATIONS. AFTER FINAL SOIL SETTLING OVER THE SANITARY SEWER, OUTFALL SEWER, AND FORCE MAIN ALIGNMENTS, THE CONTRACTOR SHALL BRING THE TRENCH BACK TO GRADE IF NECESSARY, PLACE TOPSOIL, AND FINE GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THAT SECTION OF PIPE. FINAL GRADING WILL BE CONSISTENT WITH PRE-CONSTRUCTION TOPOGRAPHY FOR DRAINAGE AND AESTHETIC REASONS.
- 13. BORING PITS (FOR JACK AND BORE LOCATIONS) SHALL BE SURROUNDED WITH SILT BARRIERS TO PREVENT EROSION OF THE EXCAVATED PIT MATERIAL. STORM SEWER INLETS WILL BE SURROUNDED WITH SILT BARRIERS TO PREVENT SILTATION.
- 14. SLOPES EXCEEDING 15 PERCENT OR THAT TEND TO BE UNSTABLE REQUIRE SPECIAL TREATMENT SUCH AS WATER DIVERSION BERMS, SODDING, OR THE USE OF JUTE OR EXCELSIOR BLANKETS.
- 15. WHEN BORROW MATERIAL IS OBTAINED FROM OTHER THAN COMMERCIALLY OPERATED SOURCES, EROSION OF THE BORROW SITE WILL BE SO CONTROLLED BOTH DURING AND AFTER COMPLETION OF THE WORK THAT EROSION WILL BE MINIMIZED AND SEDIMENT WILL NOT ENTER STREAMS OR OTHER BODIES OF WATER. WASTE OR DISPOSAL AREAS AND CONSTRUCTION ROADS SHALL BE LOCATED AND CONSTRUCTED IN A MANNER THAT WILL KEEP SEDIMENT FROM ENTERING STREAMS. TEMPORARY EROSION CONTROL BARRIERS AND LIMITED SITE CLEARING WILL BE USED AS NEEDED.
- 16. IF WORK IS SUSPENDED FOR ANY REASON, THE CONTRACTOR SHALL MAINTAIN THE SOIL EROSION AND SEDIMENTATION CONTROLS IN GOOD OPERATING CONDITION DURING THE SUSPENSION OF THE WORK. ALSO, WHEN SEASONAL CONDITIONS PERMIT AND THE SUSPENSION OF WORK IS EXPECTED TO EXCEED A PERIOD OF ONE MONTH, THE CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH ALL DISTURBED AREAS LEFT EXPOSED WHEN THE WORK IS STOPPED.

GRASS RESTORATION

- 1. GRASS AREAS TO BE RESTORED SHALL BE SEEDED UNLESS OTHERWISE SHOWN ON THE CONTRACT
- SEEDING AND/OR SODDING SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 329200.19 OF THE DETAILED SPECIFICATIONS.
- 3. ALL GRASSED AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY SEEDING AND MULCHING RATHER THAN SODDING UNLESS OTHERWISE SHOWN ON PLANS, DETAILS, OR SPECIFICATIONS.
- SEEDING AND MULCHING OF ALL DISTURBED AREAS SHALL IMMEDIATELY FOLLOW EXCAVATION AND SEWER
 INSTALLATION OPERATIONS.
- 5. ALL EXPOSED SLOPES ARE TO BE SEEDED AND MULCHED IMMEDIATELY AFTER GRADING WORK IS COMPLETED. IF, IN THE OPINION OF THE ENGINEER, ADDITIONAL EROSION AND SEDIMENTATION CONTROLS ARE REQUIRED, THEY SHALL BE INSTALLED UNDER HIS DIRECTION IN ACCORDANCE WITH APPLICABLE SECTIONS OF ODDITIEM 207 AND STANDARD CONSTRUCTION DRAWING NO. MC-11.

SEWER REHABILITATION NOTES

- ALL SECTIONS OF SEWER SHALL BE CLEANED AND TELEVISED PRIOR TO THE COMMENCEMENT OF ANY REHABILITATION WORK AS REQUIRED BY NASSCO GUIDELINES AND PARTS OF SPECIFICATION DIVISION 33.
- ALL REHAB SYSTEMS SHALL BE PREPPED, STORED, AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GUIDELINES.
- 3. SEWER FLOWS SHALL BE MAINTAINED IN ACCORDANCE WITH SPECIFICATION SECTION 330130.03. ANY AND ALL FLOW MANAGEMENT SYSTEMS REQUIRED TO INSTALL THE REHABILITATION PRESCRIPTIONS SHALL BE INCLUDED IN THE REHABILITATION PAY ITEM.
- 4. THE CONTRACTOR SHALL VERIFY ALL VISIBLE CONNECTIONS PRIOR TO CONSTRUCTION. THIS WILL INCLUDE, AT THE ENGINEER'S DISCRETION, DYE TESTING AND OR LATERAL LAUNCHING (TELEVISING) TO CONFIRM THE ACTIVITY STATUS OF THE CONNECTION.
- 5. ALL ACTIVE CONNECTIONS SHALL BE REINSTATED.

CURED-IN-PLACE PIPE (CIPP) LINING NOTES:

- REFER TO SPECIFICATION SECTIONS 330130.72 AND 330130.74 FOR CIPP LINING SPECIFICATIONS, MINIMUM DESIGN CRITERIA. AND PERFORMANCE REQUIREMENTS.
- ALL CIPP LINING SYSTEMS ON PIPES 36" OR LESS SHALL BE DESIGNED IN ACCORDANCE WITH THE MOST RECENT VERSION OF ASTM F1216 AND PROJECT SPECIFICATIONS. ALL CIPP LINING SYSTEMS GREATER THAN 36" IN DIAMETER SHALL BE DESIGN IN ACCORDANCE WITH THE MOST RECENT VERSION OF ASCE MOP 145 AND PROJECT SPECIFICATIONS.
- 3. THE CONTRACTOR SHALL SUBMIT A LINER THICKNESS CALCULATION BASED ON THE ACTUAL PHYSICAL PROPERTIES OF THE APPROVED SUBMITTED LINER SYSTEM FOR EACH SECTION IN ACCORDANCE WITH ALL SPECIFICATIONS. LINER THICKNESS CALCULATIONS SHALL BE PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER IN CURRENTLY LICENSED IN THE STATE OF OHIO.
- 4. ALL LINING SYSTEMS SHALL NOT EXCEED A THICKNESS THAT WILL REDUCE THE ORIGINAL DESIGN CAPACITY OF EACH SEWER SECTION. ANY LINER SYSTEM SHALL HAVE A MANUFACTURER CERTIFIED FRICTION FACTOR LOWER THAN THAT OF THE NATIVE MATERIAL OF WHICH IT IS BEING INSTALLED IN
- 5. SEWER FLOWS SHALL BE MAINTAINED IN ACCORDANCE WITH SPECIFICATION 330130.03. ALL BYPASS PLANS MUST BE APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL VERIFY ALL VISIBLE CONNECTIONS PRIOR TO INSTALLATION OF ANY LINING SYSTEM.
 THIS WILL INCLUDE AT THE ENGINEER'S DISCRETION, DYE TESTING AND/OR LATERAL LAUNCHING TO CONFIRM
 THE SOURCE OF THE CONNECTION.
- ALL ACTIVE CONNECTIONS SHALL BE REINSTATED IMMEDIATELY AFTER THE INSTALLATION AND CURING OF LINING. LOCATOR TAPE SHALL BE INSTALLED ON ANY NEW CONNECTION INTO THE MAINLINE SEWER.
- 8. PROTRUDING TAPS SHALL BE CUT BACK TO BE FLUSH WITH THE EXISTING PIPE SURFACE PRIOR TO INSTALLATION OF ANY LINING SYSTEM. THIS SHALL BE PAID AS A SEPARATE PAY ITEM.

SEWER SYSTEM NOTES:

- ALL SEWER MATERIALS, METHODS AND PROCEDURES FOR INSTALLATION, BEDDING/BACKFILL/HAUNCHING REQUIREMENTS, AND ALL OTHER WORK DIRECTLY ASSOCIATED WITH THE SEWER SHALL BE IN ACCORDANCE DIVISION 31 AND 33 SPECIFICATION SECTIONS OR AS OTHERWISE SPECIFIED WITHIN THE PLANS AND DETAILS.
- 2. CONTRACTOR SHALL RE-CONNECT ALL ENCOUNTERED DOWN LATERALS AND OTHER CONNECTIONS UNLESS DIRECTED OTHERWISE WITHIN.



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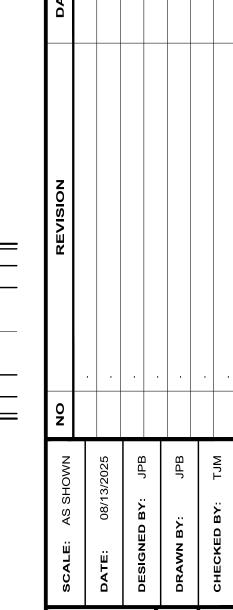
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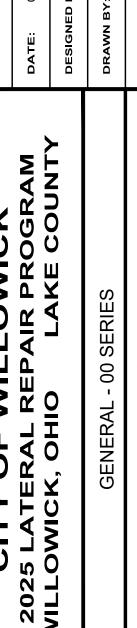
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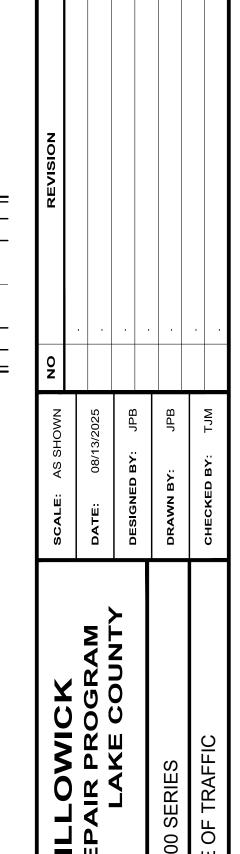
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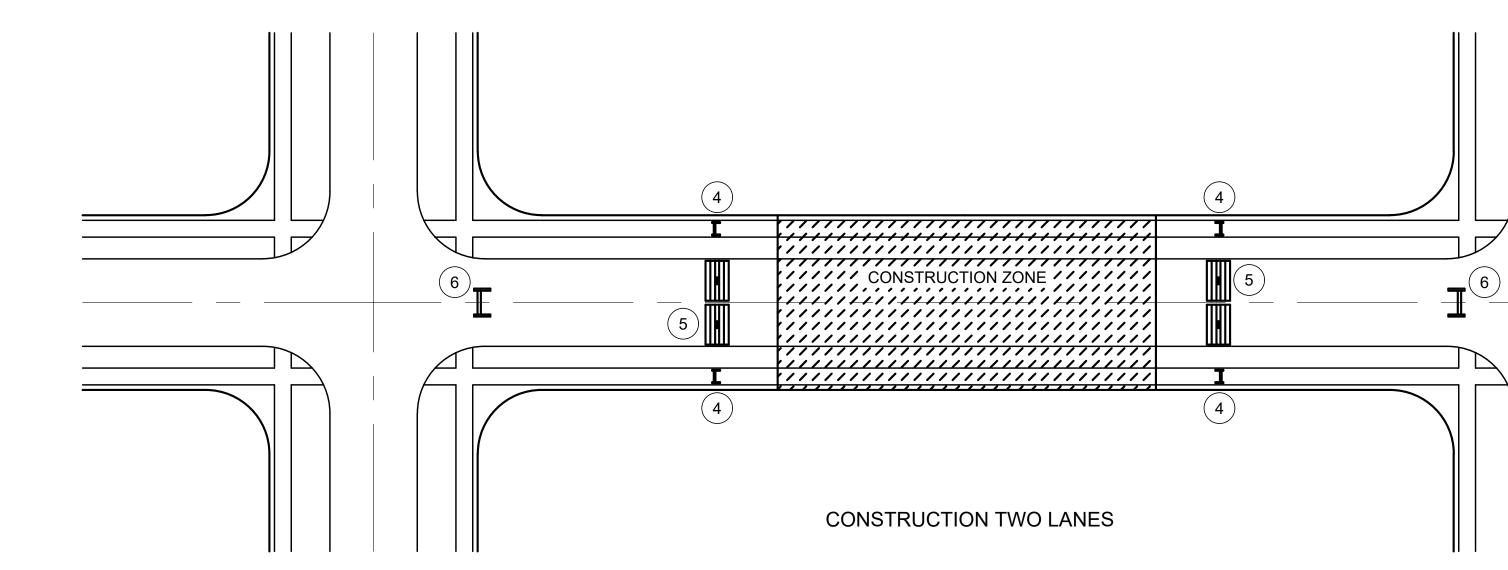
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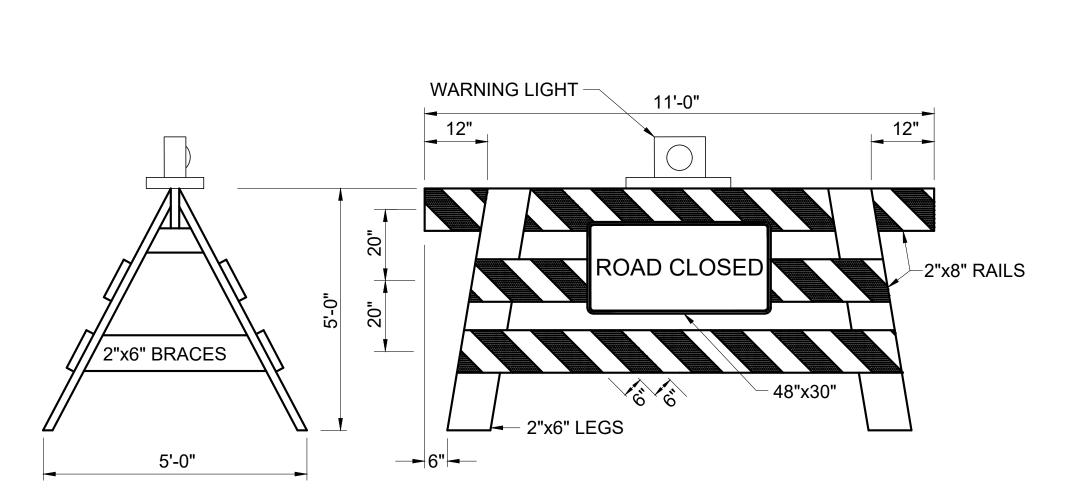
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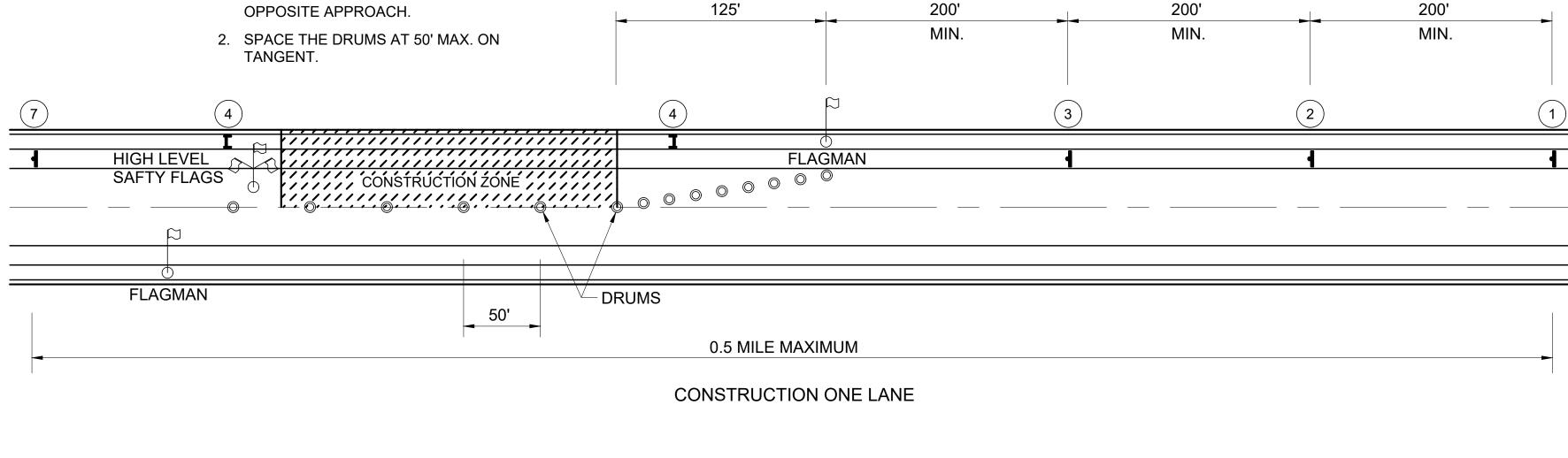
TYPE III PORTABLE CONSTRUCTION BARRICADE

18 1/2"

6'-0"



- A. BARRICADES: BARRICADES SHALL BE CONSTRUCTED ACCORDING TO DETAILS SHOWN. WHEN THE ROAD IS CLOSED TO TRAFFIC, BARRICADES SHALL BE USED TO EFFECTIVELY CLOSE THE ENTIRE ROADWAY. THE ENDS OF THE BARRICADE SHALL BE LOCATED BY THE ENGINEER TO EFFECT THE DESIRED CLOSING OF THE ROADWAY.
- B. PAINTING AND REFLECTORIZATION: ALL RAILS OF THE BARRICADES AND GATES SHALL BE REFLECTORIZED WITH ORANGE AND WHITE REFLECTORIZED TYPE "G" SHEETING IN 6" WIDE ALTERNATE STRIPES WHICH SLOPE DOWNWARD TOWARD THE CENTERLINE OF THE ROAD AT AN ANGLE OF 45°. ALL THREE RAILS OF THE ROAD CLOSED BARRICADE SHALL BE STRIPED ON THE SIDE FACING TRAFFIC. ALL GATE RAILS SHALL BE STRIPED ON BOTH SIDES. ALL POSTS, BRACES, GATE-LEGS, AND UNSTRIPED RAILS SHALL BE PAINTED WHITE.
- C. TYPE "C" STEADY BURNING BARRICADE WARNING LIGHTS: EACH GATE SHALL BE EQUIPPED WITH A TYPE "C" STEADY BURNING BARRICADE WARNING LIGHT, CONSPICUOSLY VISIBLE AT ALL DISTANCES UP TO 1000' UNDER NORMAL CONDITIONS BETWEEN SUNSET AND SUNRISE DURING THE PERIOD THE ROAD IS CLOSED.
- D. SIGNS: WHERE THE ROAD IS CLOSED TO TRAFFIC BY THE ERECTION OF BARRICADES, "ROAD CLOSED" SIGNS (R-75) SHALL BE MOUNTED ON THE BARRICADES AS SHOWN. WHEN TRAFFIC IS MAINTAINED, A "ROAD CONSTRUCTION AHEAD" SIGN (OW-128) SHALL BE USED ON THE RIGHT SHOULDER ON THE APPROACHES AT THE INTERSECTING STREET IN ADVANCE OF THE PROJECT. WHERE THE SIDEWALK IS CLOSED TO PEDESTRIAN TRAFFIC "SIDEWALK CLOSED" SIGNS SHALL BE ERECTED ACROSS THE WALK AT THE LOCATION SHOWN.

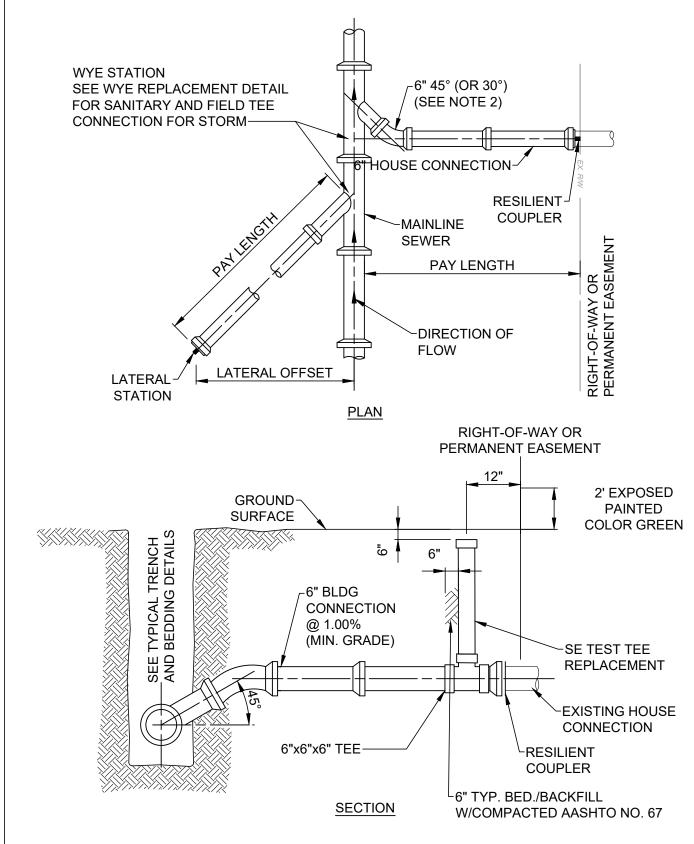


SIDEWALK

ROAD CLOSED

NOTES:

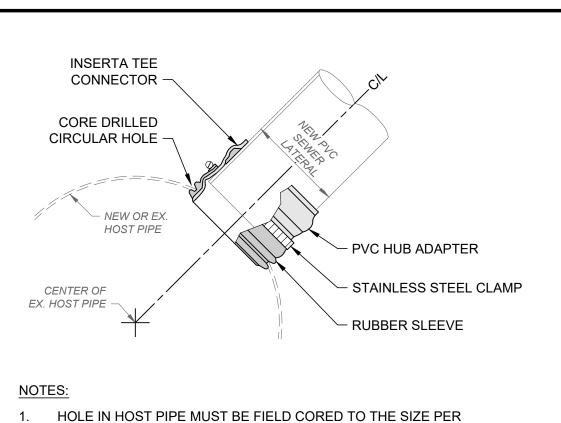
1. USE THE SAME WARNING SIGNS ON THE



- 1. LATERAL TO BE INSTALLED AT A MINIMUM SLOPE OF 1%.
- 2. FOR ALL GRAVITY SEWER CONNECTIONS TO THE MAINLINE SEWERS. USE 45° OR 30° BENDS AS REQUIRED TO REDIRECT LATERALS PERPENDICULAR TO MAINLINE SEWER USE ONLY GASKETED PVC WYE FITTINGS.
- PAY LENGTH FOR THE LATERAL REPLACEMENT SECTION SHALL BE DEFINED IN THE PRICES TO INCLUDE, TEST TEES, WYES, AND FIELD TEE CONNECTIONS SHALL BE PAID AS SEPARATE ITEMS AS DEFINED IN THE PRICES TO INCLUDE.

SANITARY & STORM LATERAL DETAIL

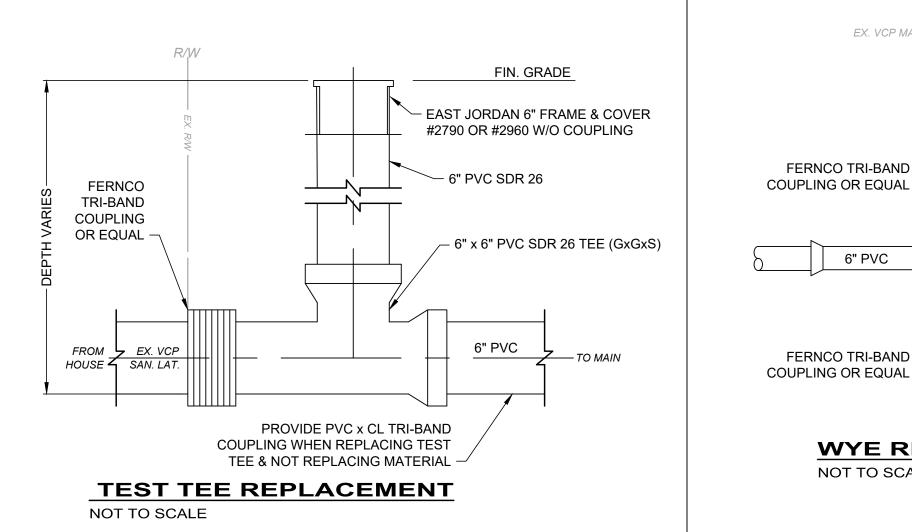
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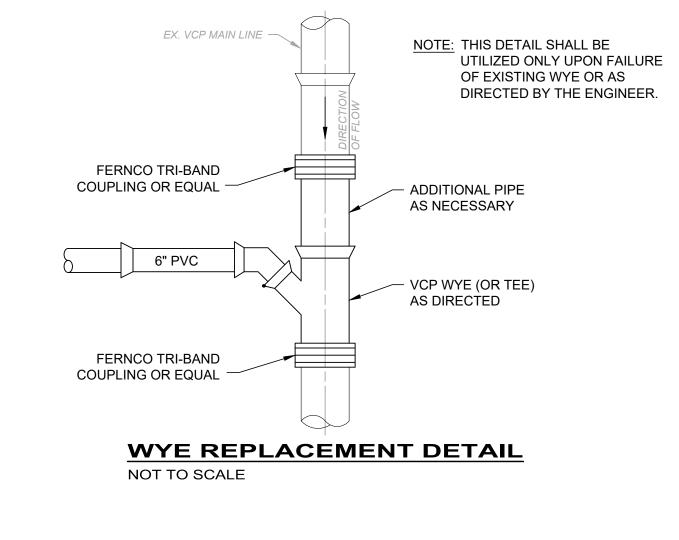


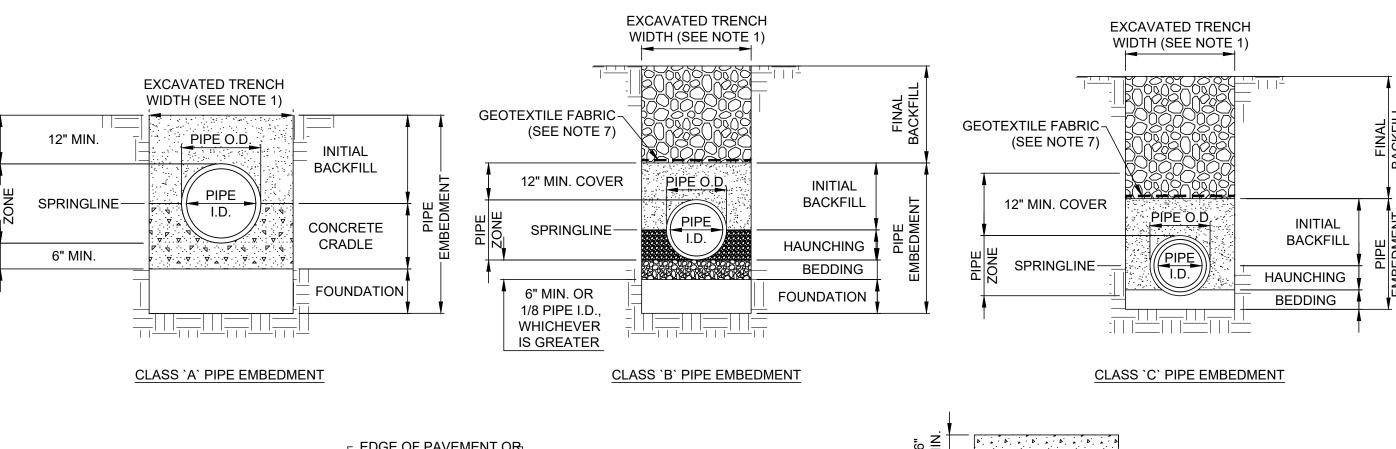
- MANUFACTURER RECOMMENDATION USING INSERTA TEE HOLE SAW.
- 2. THIS DETAIL SHOWS A PVC LATERAL PIPE CONNECTION TO A SMOOTH HOST PIPE FOR REFERENCE ONLY. USE APPROPRIATE INSERTA TEE FOR TYPE OF LATERAL AND HOST PIPE SIZES AND MATERIALS FOR A WATER TIGHT CONNECTION.

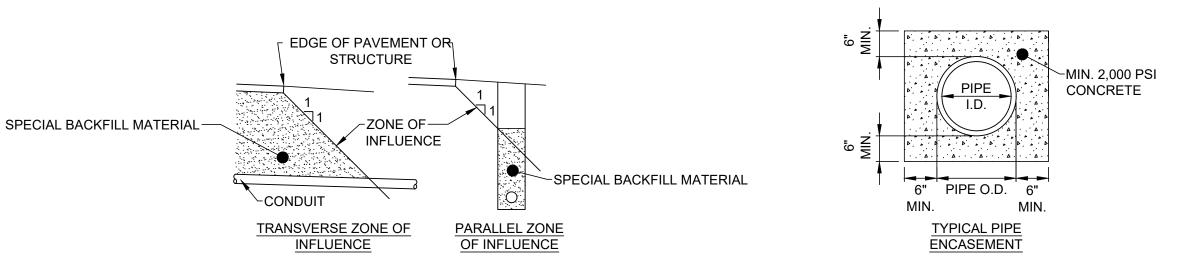
STORM FIELD TEE CONNECTION DETAIL

SCALE: NONE









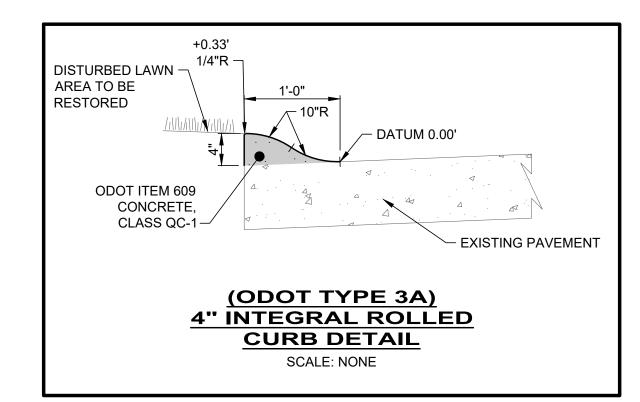
- 1. MAXIMUM EXCAVATED TRENCH WIDTH: THE MAXIMUM EXCAVATED TRENCH WIDTH FROM THE BOTTOM OF THE TRENCH TO 12" OVER THE TOP OF THE PIPE (WITHIN PIPE EMBEDMENT) SHALL BE O.D. + 24" FOR ALL PIPES UP TO AND INCLUDING 24" I.D. + 30" FOR PIPE FROM 24" I.D. TO 54" I.D. AND O.D. + 48" FOR PIPES SIZES 60" I.D. AND OVER.
- 2. FOUNDATION: REQUIRED FOR THIS PROJECT. AS PER THE GEOTECHNICAL REPORT, THE CONTRACTOR SHALL EXCAVATE AND REMOVE AN ADDITIONAL 12" OF MATERIAL AND REPLACE WITH A LAYER OF 6" OF AASHTO NO. 1 AND NO. 2 CRUSHED LIMESTONE, FOLLOWED BY A LAYER OF 6" OF AASHTO NO. 57 GRANULAR LIMESTONE.
- 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 LIMESTONE 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 HAUNCHING SHALL BE AASHTO NO. 57 LIMESTONE GRANULAR PIPE EMBEDMENT. IN ALL AREAS UNDER PAVEMENT, STRUCTURES OR WITHIN THE ZONE OF INFLUENCE, THE INITIAL BACKFILL SHALL BE AASHTO NO. 57 LIMESTONE 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 LIMESTONE 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 LIMESTONE 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 LIMESTONE GRANULAR PIPE BEDDING OR SAND BEDDING SHALL BE PLACED AS DIRECTED BY THE
- 4. 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. LSM SHALL BE USED IN PLACE OF SPECIAL BACKFILL MATERIAL WHEN TOP OF PIPE IS WITHIN 5' OF PAVEMENT OR WITHIN CITY RIGHT-OF-WAY OR UNLESS INDICATED ON DRAWINGS
- 5. SPECIFICATIONS: ALL TRENCHING, PIPE EMBEDMENT AND BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH SPECIFICATION 310000 EARTHWORK.
- 6. CLAY TRENCH DAMS: CLAY TRENCH DAMS SHALL BE REQUIRED FOR EACH LATERAL, UPSTREAM OF EVERY MANHOLE, AS SHOWN ON THE DRAWINGS, AND AS DIRECTED BY THE ENGINEER.
- 7. GEOTEXTILE FABRIC: INSTALL A GEOTEXTILE FABRIC IN ACCORDANCE WITH ODOT 712.09, TYPE A, AFTER ALL INITIAL BACKFILL CONSISTING OF AASHTO NO. 57 LIMESTONE GRANULAR PIPE EMBEDMENT.
- 8. TYPICAL PIPE ENCASEMENT, AS PER PLAN OR AS DIRECTED BY THE ENGINEER.

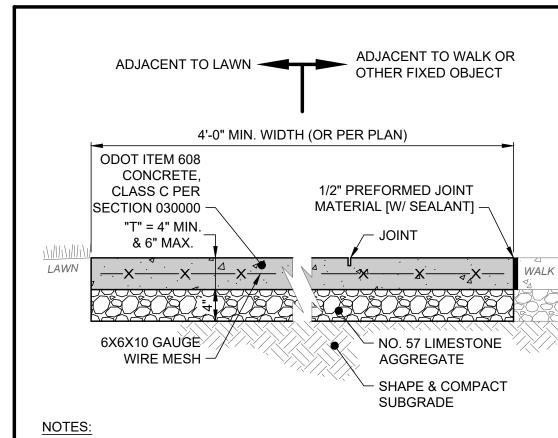
TRENCHING, BEDDING, AND BACKFILL DETAIL



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PROJECT NO: 36192 **DRAWING NAME** 00G-06 SHEET

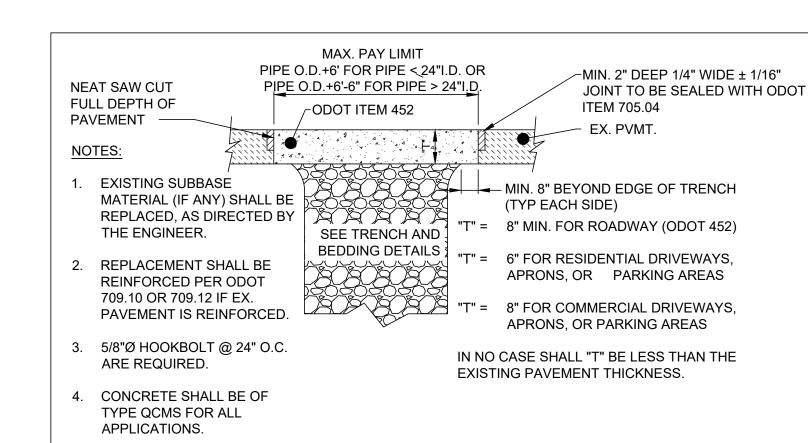




- 1. THIS DETAIL SHOWS A 4" SIDEWALK AND AGGREGATE FOR REFERENCE ONLY, SEE LAYOUT PLAN FOR ACTUAL THICKNESSES.
- 2. SEE LAYOUT PLAN FOR JOINT LOCATIONS. IF JOINTS NOT SHOWN, CONTRACTOR SHALL DETERMINE LOCATION OF ALL JOINTS. DIVIDE JOINTS INTO EQUALLY SPACED RECTANGULAR BLOCKS (4' MIN.).
- 3. SAW CUT 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. [SEE SEPARATE "EXPANSION JOINT W/ SEALANT" DETAIL.]
- 7. 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).
- 8. APPLY LIQUID-MEMBRANE CURING COMPOUND (200 S.F./GAL.).

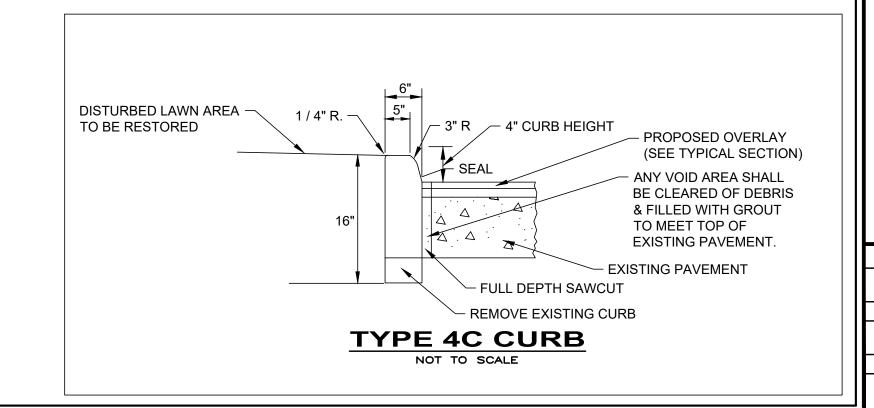
CONCRETE WALK DETAIL

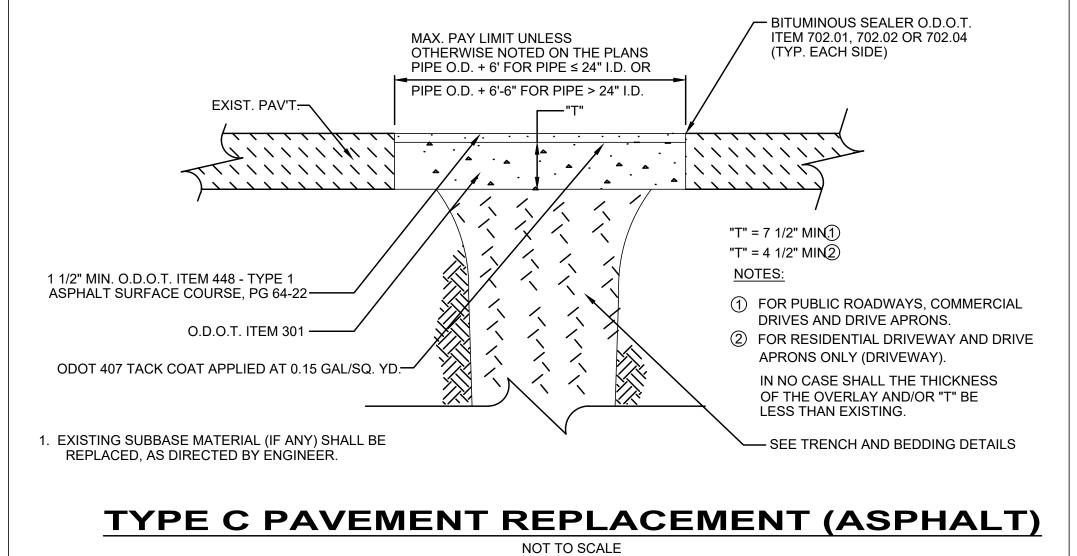
SCALE: NONE



TYPE 'A' PAVEMENT (CONCRETE) REPLACEMENT

NOT TO SCALE







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OF WILLOWICK SCALE: AS SHOWN	EPAIR PROGRAM	OHIO LAKE COUNTY DESIGNED BY:	GENERAL - 00 SERIES	I RUCTION DETAILS (2 OF 2)	
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PROJECT NO:

36192

DRAWING NAME

00G-07

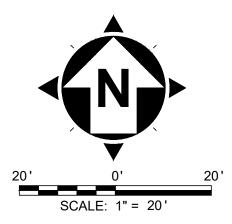
SHEET

SITE PLAN CODED NOTES:

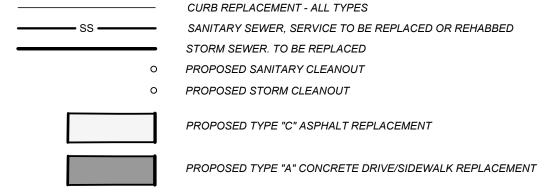
- 1 SANITARY SEWER LINING PER SPECIFICATION SECTION 33
- 2 SANITARY AND STORM LATERAL REPLACEMENT
- 3 ASPHALT ROAD REPLACEMENT, SEE DETAIL ON SHEET 7
- (4) CONCRETE ROAD REPLACEMENT, SEE DETAIL ON SHEET 7
- 5 CONCRETE SIDEWALK REPLACEMENT, SEE DETAIL ON SHEET 7
- 6 BEGIN TYPE 4C CURB REPLACEMENT, SEE DETAIL ON SHEET 7
- (7) END TYPE 4C CURB REPLACEMENT, SEE DETAIL ON SHEET 7
- 8 LOCATE EXISTING/ REINSTALL NEW CLEANOUT
- 9 BEGIN TYPE 3A CURB REPLACEMENT, SEE DETAIL ON SHEET 7
- (10) END TYPE 3A CURB REPLACEMENT, SEE DETAIL ON SHEET 7

SITE PLAN CODED NOTES:

- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY LATERAL CONNECTIVITY AND LOCATION PRIOR TO ANY REHABILITATION WORK.
- 2. EACH PROPERTY LISTED MUST HAVE TWO CAST IRON CLEANOUTS FOR STORM AND SANITARY. FOR PROPERTIES WITH ONLY ONE OR NO CLEANOUTS, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE AND UNEARTH THE EXISTING CLEANOUT. IF NO CLEANOUT CAN BE FOUND, THE CONTRACTOR SHALL INSTALL A NEW CLEANOUT PER THE STANDARD DETAIL SHOW ON SHEET 6.
- 3. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE HOMEOWNERS AND UTILITY PROVIDERS. THE CONTRACTOR SHALL SUPPORT ALL EXISTING UTILITIES IN PLACE DURING CONSTRUCTION. ANY DAMAGE INCURRED DURING CONSTRUCTION TO THE EXISTING UTILITIES SHALL BE AT THE COST OF THE CONTRACTOR.



PROPOSED PLAN LINE SYMBOLOGY:



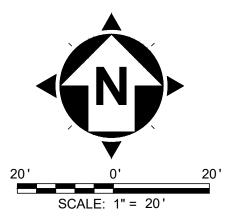


SITE PLAN CODED NOTES: (1) SANITARY SEWER LINING PER SPECIFICATION SECTION 33 2 SANITARY AND STORM LATERAL REPLACEMENT (4) CONCRETE ROAD REPLACEMENT, SEE DETAIL ON SHEET 7

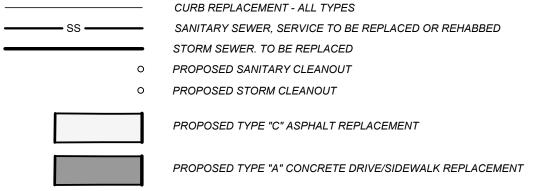
- 3 ASPHALT ROAD REPLACEMENT, SEE DETAIL ON SHEET 7
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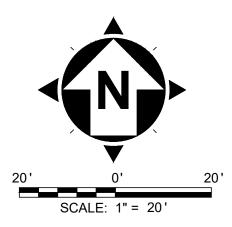




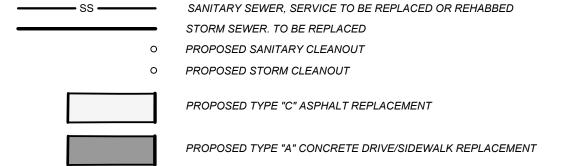
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PROPOSED PLAN LINE SYMBOLOGY:



CURB REPLACEMENT - ALL TYPES

