IMPROVEMENT EXCEPT AS OTHERWISE PROVIDED.

TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS SHALL APPLY TO THIS

#### PROJECT SAFETY

**UTILITY NOTIFICATION** 

THE CONTRACTOR SHALL MAINTAIN A SAFE WORKING ENVIRONMENT AT/ALONG THE PROJECT SITE AT ALL TIMES. THE CONTRACTOR SHALL PROPERLY SUPPORT AND/OR MAINTAIN ALL EXCAVATIONS PER APPLICABLE SAFETY REQUIREMENTS AND COMPLY WITH ALL O.S.H.A. REGULATIONS. THIS SHALL INCLUDE STRICT COMPLIANCE WITH ALL APPLICABLE REGULATIONS/REQUIREMENTS REGARDING TRENCH SAFETY. ADEQUATE BARRICADES, WARNING LIGHTS, SIGNS, FENCING, ETC. SHALL BE ERECTED AROUND THI CONSTRUCTION AREA DURING ALL NON—WORKING HOURS TO ALERT PERSONS OF THI POTENTIAL DANGER ASSOCIATED WITH THE AREA UNDER CONSTRUCTION AS WELL AS TO PREVENT ACCESS BY UNAUTHORIZED PERSONNEL TO THE CONSTRUCTION SITE/AREA. TRENCHES SHALL BE BACKFILLED AT THE END OF EACH WORK DAY OR PROPERLY SECURED AS APPROVED BY THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE SAFETY OF THE GENERAL PUBLIC AS WELL AS ALL CONSTRUCTION PERSONNEL. PUBLIC STREETS SHALL BE KEPT CLEAN AND FREE OF DEBRIS (MUD. STONE, ETC.) AT ALL TIMES, THE CONTRACTOR SHALL ALERT ALL LOCAL EMERGENCY AGENCIES/SERVICES (FIRE, POLICE, AMBULANCE, ETC.) OF THE NATURE OF THE PROPOSED PROJECT PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY. ACCESS FOR EMERGENCY VEHICLES SHALL BE MAINTAINED AT ALL TIMES.

AT NO TIME SHALL ANY PERSONNEL ENTER EXISTING STRUCTURES/CHAMBERS WITHOUT PROPER SAFETY EQUIPMENT, INCLUDING BUT NOT LIMITED TO AIR PACKS, AIR MONITORS AND/OR AIR SENSORS, PROTECTIVE CLOTHING, BODY HARNESS WITH POSITIVE MEANS OF REMOVING A PERSON FROM THE STRUCTURE/CHAMBER, ETC. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. REQUIREMENTS INCLUDING THOSE SPECIFIED FOR ENTERING CONFINED SPACES.

UNDERGROUND UTILITIES

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED BY FIELD OBSERVATIONS, FROM EXISTING RECORDS, AND/OR FROM THE OWNERS OF THE RESPECTIVE UTILITIES. THE INFORMATION AS SHOWN IS BELIEVED TO BE CORRECT, HOWEVER, THE COMPLETENESS AND ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT ALL THE VARIOUS UTILITY COMPANIES (PUBLIC AND PRIVATE) TO VERIFY THE EXISTENCE, LIMITS, AND/OR LOCATION OF ANY UTILITIES WHICH MAY BE ALONG THE ROUTE, WITHIN, AND/OR ADJACENT TO THIS IMPROVEMENT.

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING OPERATIONS ON THIS PROJECT THE CONTRACTOR(S) SHALL NOTIFY THE ENGINEER, THE REGISTERED UTILITY PROTECTION AGENCY/SERVICE, AND THE OWNERS OF ANY OTHER UTILITIES (PUBLIC AND/OR PRIVATE) THAT MAY HAVE UTILITY LINES OR FACILITIES WITHIN THE VICINITY OF THIS PROJECT BUT WHO ARE NOT MEMBERS OF THE REGISTERED UTILITY PROTECTION SERVICE OF HIS/HER INTENTION TO BEGIN CONSTRUCTION ACTIVITY ON THIS PROJECT. THE OWNERS OF ANY UNDERGROUND UTILITY FACILITY SHALL, WITHIN 48 HOURS AFTER NOTICE IS RECEIVED, EXCLUDING SATURDAYS, SUNDAYS, AND OTHER LEGAL HOLIDAYS; STAKE, MARK OR OTHERWISE DESIGNATE THE EXISTENCE AND/OR 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 AND/OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY FIVE WORKING DAYS AHEAD OF THE PLANNED CONSTRUCTION. OHIO UTILITIES PROTECTION SERVICE: 1-800-362-2764 (CONTACT NON-MEMBERS DIRECTLY).

THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE EXISTENCE AS WELL AS THE ACTUAL LOCATION, ALIGNMENT, AND ELEVATIONS OF ALL EXISTING UTILITIES/FACILITIES WITHIN AND/OR ADJACENT TO THE GENERAL LIMITS OF THESE IMPROVEMENTS INCLUDING WATERLINES, SANITARY AND STORM SEWERS, GAS LINES, COMMUNICATION LINES/BANKS, ELECTRIC LINES, ETC. PRIOR TO ORDERING MATERIALS OR BEGINNING WORK. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK UNTIL THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES WHICH COULD EFFECT COMPLETION OF THIS IMPROVEMENT HAVE BEEN FIELD CHECKED AND VERIFIED. THIS WILL LIKELY REQUIRE EXPLORATORY EXCAVATIONS TO BE PERFORMED BY THE CONTRACTOR FOR WHICH HE WILL NOT BE DIRECTLY REIMBURSED.  $\,$  THE CONTRACTOR SHALL NOT ASSUME THAT EXISTING UTILITIES/CONDUITS WERE INSTALLED AT TYPICAL/STANDARD DEPTHS OR AT UNIFORM SLOPES/GRADES/DEPTHS BETWEEN ACCESS POINTS (CATCH BASINS, MANHOLES, JUNCTION CHAMBERS, ETC.). WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE, GRADE AND ELEVATION BEFORE STARTING TO INSTALL THE PROPOSED CONDUIT. ANY CONFLICTS AND/OR DISCREPANCIES FROM THE PLAN INFORMATION SHALL BE BROUGHT TO THE ATTÉNTION OF THE ENGINEER SO THAT THE APPROPRIATE ADJUSTMENTS IN ALIGNMENT AND/OR GRADE MAY BE MADE PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO VERIFY AND/OR DETERMINE EXISTING INFORMATION AS INDICATED/REQUIRED WILL RESULT IN THE CONTRACTOR BEING RESPONSIBLE FOR ANY CHANGES NECESSARY TO COMPLETE THE WORK SPECIFIED WITHOUT ADDITIONAL

CLEAN UP AT END OF PROJECT

PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL SWALES, DITCHES, STORM SEWERS, CATCH BASINS, STORM MANHOLES, SANITARY SEWERS, SANITARY MANHOLES, GUTTERS, AND OTHER IMPROVEMENTS ARE CLEAN AND FREE OF ANY AND ALL DEBRIS.

STORM, SANITARY, AND WATER UTILITY SEPARATIONS

A TEN FOOT MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) SHALL BE MAINTAINED BETWEEN WATERLINES AND SANITARY SEWERS.

AN 18-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) SHALL BE

MAINTAINED BETWEEN WATERLINES AND SANITÀRY SEWERS AT ALL CROSSINGS.

A TEN FOOT MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) SHALL BE MAINTAINED BETWEEN WATERLINES AND STORM SEWERS.

AN 18-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) SHALL BE

MAINTAINED BETWEEN WATERLINES AND STORM SEWERS AT ALL CRÓSSINGS.

CATCH BASIN, MANHOLE, VALVE BOX, ETC. ADJUSTMENT TO GRADE

THE CONTRACTOR SHALL ADJUST AS NECESSARY ALL TOP OF GRATE/TOP OF CASTING ELEVATIONS FOR PROPOSED/EXISTING CATCH BASINS, MANHOLES, AND VALVE BOXES TO MATCH FINAL ELEVATIONS AND GRADES AS APPROVED BY ENGINEER. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THIS WORK.

COMPENSATION WILL BE PROVIDED FOR THIS WORK.

PROTECTION OF UTILITIES

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS/MEASURES NECESSARY TO PROTECT AND SUPPORT ANY EXISTING UTILITIES/FACILITIES LOCATED ALONG THE ROUTE OF THE

PROPOSED IMPROVEMENTS, WITHIN THE GENERAL PROJECT LIMITS, AND/OR ENCOUNTERED DURING THE COMPLETION OF THE PROPOSED IMPROVEMENTS AS DIRECTED/APPROVED BY THE OWNERS OF THE RESPECTIVE UTILITIES AND THE ENGINEER. UTILITIES MUST BE KEPT IN SERVICE AT ALL TIMES.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY COORDINATE THEIR WORK WITH ALL UTILITY COMPANIES TO MINIMIZE/AVOID POSSIBLE DELAYS IN THE COMPLETION OF THE REQUIRED IMPROVEMENTS. DELAYS WILL NOT BE THE RESPONSIBILITY OF THE OWNER NOR

## WORK IN THE RIGHT-OF-WAY A PERMIT MUST BE OBTAINED

A PERMIT MUST BE OBTAINED FROM THE CITY OF MASSILLON ENGINEER PRIOR TO ANY WORK BEING PERFORMED INSIDE A ROADWAY RIGHT—OF—WAY. THE CONTRACTOR MUST NOTIFY THE CITY ENGINEER'S OFFICE 72 HOURS PRIOR TO ANY CONSTRUCTION INSIDE THE RIGHT—OF—WAY IN ORDER TO COORDINATE INSPECTION.

## MAINTAINING TRAFFIC

THE CONTRACTOR SHALL SAFELY AND PROPERLY MAINTAIN TRAFFIC ADJACENT TO, THROUGH, AND/OR ALONG THE PROJECT ROUTE/SITE AS DESCRIBED BELOW AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATION MANUAL OF CONSTRUCTION AND MATERIALS SPECIFICATIONS ITEM 614 MAINTAINING TRAFFIC. THE CONTRACTOR SHALL FURNISH, MAINTAIN, AND REMOVE ALL SIGNS, FLAGS, FLAGMEN, WATCHMEN, BARRICADES, SIGN SUPPORTS, CONES, BARRELS, AND INCIDENTALS IN CONFORMANCE WITH THE MOST RECENT REVISIONS OF THE CURRENT EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. INTERFERENCE WITH VEHICULAR TRAFFIC SHALL BE KEPT TO A MINIMUM AT ALL TIMES. ALL OPEN TRENCHES AND EXCAVATIONS SHALL BE PROTECTED WITH DRUMS, BARRICADES, BARRIERS, ETC. ACCESS SHALL BE MAINTAINED AT ALL TIMES FOR EMERGENCY AND FIRE DEPARTMENT VEHICLES. ANY TEMPORARY LANE CLOSING MUST BE APPROVED BY THE ENGINEER AND THE PUBLIC AGENCY HAVING JURISDICTION OF THE ROADWAY IN WRITING WITH PRIOR NOTIFICATION GIVEN TO FIRE, POLICE AND OTHER EMERGENCY AGENCIES. TRAFFIC MUST BE MAINTAINED AT ALL TIMES IN A SAFE MANNER.

#### RESTORATION OF DISTURBED AREAS

PROVIDED FOR IN THE PLANS/SPECIFICATIONS.

EXISTING DRIVES, BERMS, LAWNS, TELEPHONE/POWER POLES, PAVEMENTS, RETAINING WALLS, CURBS, SIDEWALKS, SIGNS, MAILBOXES, FENCING, PAPER BOXES, STORM SEWERS, UTILITIES, LANDSCAPING ITEMS/AREAS OR OTHER APPURTENANCES DISTURBED/DAMAGED DURING CONSTRUCTION BUT NOT SPECIFICALLY DESIGNATED FOR REMOVAL AND/OR REPLACEMENT SHALL BE RESTORED TO A CONDITION EQUAL TO THAT WHICH EXISTED PRIOR TO CONSTRUCTION AND TO THE COMPLETE SATISFACTION OF THE ENGINEER/OWNER. COST FOR THE RESTORATION OF THESE ITEMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE OR

RESTORATION OF EXISTING ROADWAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, COUNTY, CITY, AND/OR OTHER AGENCIES HAVING AUTHORITY. COST FOR THE RESTORATION OF ROADWAYS WILL BE PER THE APPROPRIATE PAY ITEMS. NO PUBLIC ROADWAY SHALL BE DISTURBED WITHOUT PRIOR WRITTEN APPROVAL AND ACQUISITION OF ANY AND ALL NECESSARY PERMITS.

#### EASEMENTS AND RIGHTS-OF-WAY

THE CONTRACTOR SHALL STAY WITHIN THE PROPERTIES, EASEMENTS, AND RIGHTS—OF—WAY PROVIDED AT ALL TIMES. NO MATERIAL SHALL BE STORED NOR ANY WORK PERFORMED ON PRIVATE PROPERTY. DISTURBANCE OF EXISTING FEATURES AND/OR IMPROVEMENTS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND AS APPROVED BY THE ENGINEER/OWNER.

INSPECTION

ALL WORK REQUIRED/ASSOCIATED WITH THIS PROJECT THAT IS WITHIN THE ROAD RIGHT-OF-WAY OF THE CITY OF MASSILLON OR CONNECTIONS/EXTENSIONS OF UTILITY MAINS OR SERVICES SHALL BE INSPECTED BY THE CITY OF MASSILLON OR THEIR DESIGNATED REPRESENTATIVE AND THE OWNER OF THE RESPECTIVE UTILITY IF DIFFERENT. THE CONTRACTOR SHALL GIVE A 48 HOUR NOTICE BEFORE STARTING ANY WORK ON THIS PROJECT AND SHALL KEEP THE CITY INFORMED OF HIS/HER CONSTRUCTION SCHEDULE. NO WORK AS SPECIFIED ABOVE SHALL BE PERFORMED UNLESS AN AUTHORIZED INSPECTOR IS PRESENT.

#### SUBSURFACE INVESTIGATIONS

SUBSURFACE INVESTIGATIONS HAVE BEEN PERFORMED FOR THIS PROJECT. THE CONTRACTOR MAY PERFORM ADDITIONAL SUBSURFACE INVESTIGATIONS AT HIS OWN RISK, EXPENSE, AND RESPONSIBILITY. THE CONTRACTOR MUST CONTACT THE OWNER, ENGINEER AND ALL UTILITY COMPANIES, PUBLIC AND PRIVATE, WHICH MAY HAVE FACILITIES WITHIN THE PROJECT LIMITS, 48 HOURS PRIOR TO PERFORMING ANY SUBSURFACE INVESTIGATIONS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE PROPER AND COMPLETE RESTORATION OF AREAS DISTURBED BY TEST HOLES OR BORINGS, TO THE SATISFACTION OF THE ENGINEER AND FOR PROPER TRAFFIC CONTROL DURING THE PERFORMANCE OF THE INVESTIGATIONS. THE ENGINEER MUST APPROVE TEST HOLE/PIT LOCATIONS.

THE ENGINEER/OWNER WILL NOT BE RESPONSIBLE FOR THE TYPE AND/OR SUITABILITY OF THE MATERIAL UNDERLYING THE LIMITS OF THE PROJECT. THE CONTRACTOR MUST APPRAISE HIMSELF OF ANY EXISTING SITE CONDITIONS WHICH MAY EFFECT HIS BID OR PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL PERFORM WHATEVER INVESTIGATIONS AND/OR TESTING WHICH MAY BE NECESSARY TO ADEQUATELY DETERMINE/ESTIMATE TO THE SATISFACTION OF THE CONTRACTOR HIMSELF ANY AND ALL SITE CONDITIONS WHICH COULD EFFECT THE PERFORMANCE/COMPLETION OF THE PROPOSED IMPROVEMENTS. THIS COULD INCLUDE BUT NOT BE LIMITED TO UNSUITABLE AND/OR UNSTABLE SOIL/SUBSURFACE CONDITIONS, ROCK, WATER (PERCHED OR FREE), SPRINGS, ETC. IF THE CONTRACTOR IS UNSURE OR UNABLE TO DETERMINE THE NATURE OF THE SUBSURFACE CONDITIONS, HE SHALL ASSUME THE WORST CASE. NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR UNANTICIPATED AND/OR UNFORESEEN CONDITIONS.

## DUST CONTROL

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY CONTROL DUST FROM THE PROJECT SITE AS NECESSARY/REQUIRED TO MAINTAIN SAFE VISIBILITY WITHIN AND/OR ADJACENT TO THE SITE AND TO AVOID IMPACT ON ADJACENT BUILDINGS AND/OR PROPERTIES. METHODS FOR DUST CONTROL MUST BE APPROVED BY THE ENGINEER.

#### DISPOSAL OF EXCESS, UNSUITABLE, AND/OR UNUSABLE MATERIALS

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DISPOSE OF ANY EXCESS, UNSUITABLE AND/OR UNUSABLE MATERIALS RESULTING FROM THE COMPLETION OF THE PROPOSED IMPROVEMENTS THAT ARE NOT OTHERWISE NEEDED/REQUIRED WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN WRITTEN PERMISSION FROM ANY PROPERTY OWNER PRIOR TO PLACEMENT OF ANY MATERIALS FROM THIS PROJECT ONTO OTHER PROPERTIES AND SHALL FURNISH THE OWNER/ENGINEER WITH COPIES OF THESE WRITTEN AGREEMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY AND ALL CLAIMS RESULTING FROM THE PLACEMENT/DISPOSAL OF EXCESS, UNSUITABLE, AND/OR UNUSABLE MATERIALS ONTO OTHER PROPERTIES, INCLUDING BUT NOT LIMITED TO ENVIRONMENTAL ISSUES. NO MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE WITHOUT PERMISSION OF THE CONSTRUCTION MANAGER OR ENGINEER.

REMOVAL AND/OR DEMOLITION OF EXISTING IMPROVEMENTS AND/OR UTILITIES

THE CONTRACTOR SHALL REMOVE AND/OR DEMOLISH ALL EXISTING IMPROVEMENTS AS SPECIFIED AND/OR REQUIRED TO PROPERLY COMPLETE THE PROPOSED IMPROVEMENTS. EXISTING IMPROVEMENTS SHALL BE REMOVED COMPLETELY UNLESS OTHERWISE SPECIFIED BY THE GEOTECHNICAL ENGINEER. ALL TRENCHES, EXCAVATIONS, VOIDS RESULTING FROM THE REMOVAL OR DEMOLITION SHALL BE BACKFILLED WITH APPROVED GRANULAR MATERIAL COMPACTED TO 98% MAXIMUM DAY DENSITY PER ASTM D-698 OR EQUIVILANT RELATIVE DENSITY, AND AS REQUIRED BY THE ENGINEER. THE CONTRACTOR SHALL BE LIABLE AND RESPONSIBLE TO SUPPORT AND PROTECT ALL EXISTING STRUCTURES, BUILDINGS, FOUNDATIONS, UTILITIES, AND/OR OTHER IMPROVEMENTS DURING THE REMOVAL AND/OR REPLACEMENT OR BACKFILL OF ITEMS SPECIFIED OR REQUIRED TO BE REMOVED.

#### BACKFILL OF TRENCHES ADJACENT TO UTILITY POLES

WHERE THE PROPOSED SANITARY SEWER, STORM SEWER, AND/OR WATERLINE IS ADJACENT TO AN EXISTING UTILITY POLE, THE UTILITY TRENCH SHALL BE PROPERLY AND COMPLETELY BACKFILLED AND COMPACTED IMMEDIATELY AFTER INSTALLATION. THE UTILITY SHALL BE INSTALLED AND BACKFILLED AS A TYPE B CONDUIT PER ODOT ITEM 603 FOR A MINIMUM LENGTH OF 10 LF, 5' ON EACH SIDE OF THE UTILITY POLE.

#### TOPOGRAPHIC INFORMATION

THE EXISTING TOPOGRAPHIC INFORMATION USED FOR THE DESIGN OF THIS IMPROVEMENT AND DEPICTED THROUGHOUT THE CONSTRUCTION DRAWINGS WAS OBTAINED FROM AN ACTUAL TOPOGRAPHIC SURVEY PERFORMED BY DEIBEL SURVEYING, INC. AND/OR FROM STARK COUNTY TOPOGRAPHIC MAPPING. THE CONTRACTOR SHALL VERIFY EXISTING DATA THAT COULD EFFECT COMPLETION OF THE PROPOSED IMPROVEMENTS PRIOR TO STARTING CONSTRUCTION.

#### MAINTENANCE OF UTILITY SERVICES

PROHIBITED CONNECTIONS TO SANITARY SEWERS

BE PERFORMED AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN UTILITY SERVICES ALONG/WITHIN THE PROJECT AREA AT ALL TIMES. WATER SERVICE MAY BE INTERRUPTED FOR LIMITED PERIODS OF TIME (4 HOURS MAXIMUM) DURING CONNECTION BETWEEN EXISTING WATER LINES AND RELOCATED/NEW WATER MAINS WHICH CANNOT BE COMPLETED OTHERWISE. SHUTDOWN/DISRUPTION OF WATER SERVICE TO BUSINESSES, SCHOOLS, CHURCHES, OR OTHER COMMERCIAL USERS SHALL BE SCHEDULED TO AVOID DISRUPTION DURING OPERATING HOURS OF BUSINESS. NO SHUT DOWN SHALL OCCUR WITHOUT PRIOR WRITTEN PERMISSION OF THE CITY OF MASSILLON WATER DEPARTMENT. PROPERTY OWNERS/BUSINESSES AFFECTED BY THE APPROVED INTERRUPTION OF SERVICE SHALL BE NOTIFIED 48 HOURS IN ADVANCE BY THE CONTRACTOR. STORM, SANITARY SERVICES, AND OTHER UTILITIES SHALL BE MAINTAINED/PROVIDED WITHOUT INTERRUPTION.

UTILITY SERVICES SERVING THE ADJACENT BUSINESSES SHALL NOT BE INTERRUPTED AT

#### ANY TIME FOR ANY REASON.

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

STORM SEWERS

ALL PROPOSED STORM SEWERS SHALL MEET THE REQUIREMENTS OF O.D.O.T. ITEM 603 AS SPECIFIED AND AS DIRECTED BY THE ENGINEER. BEDDING AND BACKFILL SHALL BE PER THE APPLICABLE DETAIL. (SLAG NOT PERMITTED) STORM SEWER PIPE MATERIALS (EXCEPT AS SPECIFICALLY NOTED OTHERWISE) SHALL MEET THE REQUIREMENTS OF O.D.O.T. 706.02 (REINFORCED CONCRETE CIRCULAR PIPE), OR 707.33 (SMOOTH LINED CORRUGATED POLYETHYLENE). PIPE MEETING 707.33 SHALL HAVE BELL AND SPIGOT ENDS WITH A GASKET SEAL TO PROVIDE A WATERTIGHT JOINT. (ASTM F-477) LEAKAGE TESTING WILL

ALL DOWNSPOUT LINES AND/OR EXTENSIONS OF ROOF DRAINS/DOWNSPOUT LINES SHALL BE POLYVINYL CHLORIDE PIPE, (PVC) SDR-35 MEETING THE REQUIREMENTS OF O.D.O.T. 707.45. STANDARD BENDS AND FITTINGS SHALL BE USED FOR CHANGES IN DIRECTION AND/OR ELEVATION OF THE DOWNSPOUT/ROOF DRAINS AND FOR THE CONNECTION OF DOWNSPOUT LINES TO THE HEADER LINE. HEADER STORM LINES SHALL MEET ODOT 707.33 &/OR 707.45 & AS SPECIFIED HEREIN.

BEDDING MATERIAL SHALL MEET THE REQUIREMENTS/SPECIFICATIONS OF THE PIPE MANUFACTURER AND SHALL BE AS SPECIFIED AND AS APPROVED BY THE ENGINEER.

## CATCH BASINS & STORM MANHOLES

ALL STORM SEWER CATCH BASINS AND MANHOLES SHALL MEET THE REQUIREMENTS OF O.D.O.T. ITEM 604. PIPE OPENINGS SHALL BE CAST INTO ALL PRECAST CATCH BASINS AND MANHOLES. KNOCKOUT PANELS/SIDES ARE UNACCEPTABLE. CATCH BASINS SHALL BE CB 2-2B, CB-2-3, CB-3A. BICYCLE SAFE GRATES ARE REQUIRED. STORM MANHOLES

## TEMPORARY SEEDING AND MULCHING

THE CONTRACTOR SHALL BE RESPONSIBLE TO SEED AND MULCH WITHIN SEVEN (7) DAYS ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITY HAS OCCURRED BUT WILL TEMPORARILY REMAIN IDLE FOR A PERIOD OF MORE THAN 14 DAYS, AND OTHER DISTURBED AREAS WHERE EROSION MAY BECOME A PROBLEM AS DETERMINED BY THE ENGINEER.

## DAMAGE TO EXISTING UTILITIES/SERVICES

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE AND/OR DISRUPTION TO EXISTING UTILITY LINES/MAINS AND SERVICES. ALL COSTS ASSOCIATED WITH THE REPAIR, REPLACEMENT, AND/OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE PROVIDED BY THE OWNER OR THE ENGINEER. ALL LIABILITY SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, PLACING, AND MAINTAINING CONSTRUCTION LAYOUT STAKES NECESSARY FOR THE PROPER COMPLETION OF THE WORK ASSOCIATED WITH THIS PROJECT. THE OWNER AND/OR ENGINEER WILL NOT BE RESPONSIBLE FOR STAKING HORIZONTAL OR VERTICAL CONTROL. BENCH MARKS WILL BE PROVIDED WITHIN AND/OR ADJACENT TO THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLETE A BENCH CIRCUIT BETWEEN AT LEAST TWO (2) SEPARATE BENCH MARKS WHENEVER ELEVATIONS ARE BEING TRANSFERRED AND/OR SET. ANY DISCREPANCIES OUTSIDE NORMAL SURVEYING STANDARDS/LIMITS WITH THE BENCH MARK ELEVATIONS SHOWN SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CLOSELY EXAMINE THE PROJECT SITE AND ALL ADJACENT AREA(S) AND APPRISE HIMSELF OF ANY ITEMS AND/OR CONDITIONS THAT COULD AFFECT HIS/HER BID AND/OR ABILITY TO COMPLETE THE PROPOSED IMPROVEMENTS. THIS SITE INSPECTION/EVALUATION SHALL BE COMPLETED PRIOR TO SUBMITTING A

## PRECONSTRUCTION MEETING

EXAMINATION OF SITE

PROPOSAL OR BID.

A PRECONSTRUCTION MEETING WITH THE STARK COUNTY SOIL AND WATER CONSERVATION DISTRICT, ENGINEER, CITY OF MASSILLON, CONTRACTOR, AND THE OWNER'S REPRESENTATIVE IS REQUIRED FOR THIS PROJECT PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL CONTACT THE CITY OF MASSILLON 330-830-1722 AND THE STARK COUNTY SOIL AND WATER CONSERVATION DISTRICT AT 330-451-7645 SEVENTY-TWO (72) HOURS PRIOR TO THE ANTICIPATED MEETING DATE TO SCHEDULE THIS MEETING.

#### BILIZATION\_

ALL AREAS DISTURBED DURING CONSTRUCTION, SHALL BE PERMANENTLY STABILIZED BY SEEDING, LIMING, FERTILIZING, MULCHING, ETC. IN ACCORDANCE WITH ODOT ITEM 659, SEEDING AND MULCHING. STABILIZATION SHALL OCCUR WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF THE IMPROVEMENTS.

ALL SITE PREPARATION AND EARTHWORK ACTIVITIES INCLUDING THOSE REQUIRED TO COMPLETE THE PROPER CONSTRUCTION OF THE DETENTION BASIN IF REQUIRED SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. INCLUDING DIVISION 200 EARTHWORK AND THE RECOMMENDATIONS AND REQUIREMENTS OF THE PROJECT GEOTECHNICAL ENGINEER AS OUTLINED IN THE SUBSURFACE INVESTIGATION REPORT. THIS SHALL INCLUDE ALL REMOVALS. CLEARING AND GRUBBING, TOPSOIL REMOVAL/STRIP, PROOF ROLLING, SUBGRADE PREPARATION, SUITABILITY OF MATERIALS, PERFORMANCE OF ALL EXCAVATION(S), PLACEMENT OF EMBANKMENT AND BACKFILL, COMPACTION, SLOPE STABILITY, CORE TRENCH CONSTRUCTION, AND ALL OTHER RELATED AND/OR NECESSARY OPERATIONS/PROCEDURES. ALL EXCAVATION SHALL BE CONSIDERED AS UNCLASSIFIED EXCAVATION. ALL EARTHWORK ACTIVITY SHALL BE PERFORMED IN THE PRESENCE OF A QUALIFIED GEOTECHNICAL REPRESENTATIVE FURNISHED BY THE OWNER WHO WILL BE RESPONSIBLE TO DETERMINE COMPLIANCE WITH O.D.O.T. SPECIFICATIONS AND/OR THE GEOTECHNICAL RECOMMENDATIONS/REQUIREMENTS. IN CASE OF A CONFLICT BETWEEN THE O.D.O.T. SPECIFICATIONS AND THE GEOTECHNICAL ENGINEER'S

RECOMMENDATIONS/REQUIREMENTS SHALL GOVERN.

COMPACTION REQUIREMENTS MAY VARY THROUGHOUT THE PROJECT SITE DEPENDENT UPON THE INTENDED USE/AREA (BUILDING AREA, ROADWAY, LAWN, ETC.).

EXISTING WATERLINES

RECOMMENDATIONS/REQUIREMENTS, THE GEOTECHNICAL ENGINEER'S

## THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING, BRACING, RESTRAINING, AND MAINTAINING ALL EXISTING WATERLINES DURING CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.

IT IS THE INTENT THAT THE WORK HEREIN REQUIRED SHALL BE COMPLETED IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO COMPLETE THE WORK, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.

THE COST OF MATERIALS, EQUIPMENT, AND/OR LABOR NECESSARY FOR THE PROPER

COMPLETION OF THE PROPOSED IMPROVEMENTS BUT FOR WHICH NO SPECIFIC PAY ITEM

HAS BEEN LISTED, SHALL BE INCLUDED WITH ONE OF THE OTHER PAY ITEMS LISTED.

THE CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO THE ENGINEER SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND SIMILAR SUBMITTALS REQUIRED FOR THE COMPLETION OF THE PROPOSED IMPROVEMENTS WITH REASONABLE PROMPTNESS AND IN SUCH SEQUENCE AS TO CAUSE NO DELAY IN THE WORK. CONTRACTOR SHALL NOT BEGIN WORK NOR ORDER MATERIALS UNTIL ENGINEER HAS REVIEWED AND APPROVED REQUIRED SUBMITTALS.

ALL WATER MAINS, SERVICES AND APPURTENANCES SHALL BE CONSTRUCTED

ACCORDING TO THE CITY OF MASSILLON WATER DEPARTMENT REQUIREMENTS AND

#### WATER MAINS/SERVICES

CITY OF MASSILLON REQUIREMENTS

SPECIFICATIONS IN EFFECT AT THE TIME OF CONSTRUCTION. WATER MAINS SHALL BE CLASS 52, DUCTILE IRON MEETING AWWA C-151 WITH PUSH ON JOINTS. THE MINIMUM COVER OVER WATER MAINS SHALL BE 5'-0" FROM THE GROUND SURFACE TO THE BARREL OF THE PIPE. THE OUTSIDE SURFACE OF ALL DUCTILE IRON PIPE, FITTINGS, AND APPURTENANCES SHALL BE SHOP COATED WITH EITHER A COAL TAR OR ASPHALT BASE BITUMINOUS MATERIAL. IF THIS COATING MATERIAL IS FOUND TO BE DAMAGED PRIOR TO THE PIPE TRENCH BEING BACKFILLED, THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL APPROVED MATERIAL AS REQUIRED TO REPAIR THE DAMAGES. THE CONTRACTOR SHALL HAVE SUFFICIENT COATING MATERIAL AVAILABLE AT THE JOB SITE PRIOR TO LAYING THE PIPE. THE INTERIOR OF ALL PIPES AND FITTINGS SHALL BE LINED WITH DOUBLE CEMENT MORTAR AND SEAL COATED IN COMPLETE CONFORMANCE WITH AWWA C-104, OR THE LATEST REVISION. FITTINGS SHALL BE RATED FOR 250 PSI WORKING PRESSURE IN ACCORDANCE WITH AWWA C-110/AWWA C-153. PIPE LENGTHS MAY BE DEFLECTED AT THE JOINT IF REQUIRED. AT ONE-HALF THE DEGREE RECOMMENDED BY THE MANUFACTURER. THE CONTRACTOR IS NOT TO MAKE ANY SERVICE TAPS ON THE WATER MAIN. DISINFECTION OF WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C-651. ALL WATERLINE PRESSURE TESTING SHALL CONFORM TO AWWA C-600. DISINFECTION AND TESTING SHALL MEET

ALL DUCTILE IRON PIPE, INCLUDING FITTINGS AND APPURTENANCES BURIED UNDERGROUND, SHALL BE ENCASED WITH 8 MIL POLYETHYLENE FILM/TUBING CONFORMING TO AWWA C-105 PROPERLY INSTALLED AND SEALED PER MANUFACTURERS REQUIREMENTS. COST FOR POLYETHYLENE TUBING (POLYWRAP) TO BE INCLUDED IN DIP WATERLINE PAY ITEM

WATER MAINS SHALL BE INSTALLED AS AND SHALL MEET THE REQUIREMENTS OF O.D.O.T. ITEM 638 AND AS SPECIFIED AND AS DIRECTED BY THE ENGINEER. WATERLINES SHALL BE BEDDED AND BACKFILLED PER THE APPLICABLE DETAIL. BEDDING MATERIAL SHALL MEET THE REQUIREMENTS/SPECIFICATIONS OF THE PIPE MANUFACTURER AND SHALL BE AS SPECIFIED AND APPROVED BY THE ENGINEER. SLAG IS NOT PERMITTED.

ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. SHALL BE SECURED/
RESTRAINED USING MECHANICAL JOINT RESTRAINT, MEGALUG OR APPROVED EQUAL.
POURED—IN—PLACE CONCRETE THRUST BLOCKS SHALL ALSO BE PROVIDED AT/FOR
EACH BEND, FITTING, TEE, DEAD END, ETC. THIS BLOCKING SHALL BE CAREFULLY
PLACED TO ENSURE IT IS POSITIONED PROPERLY TO WITHSTAND THE RESULTANT
FORCES AT EACH BEND, FITTING, ETC. AND SHALL BEAR ON STABLE UNDISTURBED
GROUND CAPABLE OF WITHSTANDING THE POTENTIAL LOADING. IN ADDITION TO THE
RESTRAINT OF ALL BENDS, FITTINGS, TEES, VALVES, DEAD ENDS, ETC. THE
CONTRACTOR SHALL ALSO SECURE/RESTRAIN ALL PIPE JOINTS UTILIZING MEGALUGS,
FIELD LOK GASKETS, OR APPROVED EQUAL. TIE RODS WHERE USED SHALL BE 3/4'
DIAMETER.

THE CONTRACTOR SHALL PROVIDE 18" VERTICAL CLEARANCE BETWEEN PROPOSED WATERLINES AND SANITARY SEWERS. WHEN 18" CLEARANCE BETWEEN A WATERLINE AND SANITARY SEWER CANNOT BE OBTAINED, THE CONTRACTOR SHALL PROVIDE CONCRETE ENCASEMENT AS DIRECTED BY THE CITY.

FIRE HYDRANTS SHALL MEET CITY OF MASSILLON WATER DEPARTMENT STANDARDS AND REQUIREMENTS. ALL COSTS FOR THE 6" PIPING ASSOCIATED WITH THE INSTALLATION OF FIRE HYDRANTS SHALL BE INCLUDED WITH THE FIRE HYDRANT PAY ITEM. ALL HYDRANTS WILL BE INSTALLED WITH PUMPER NOZZLE FACING THE STREET.

ALL WATER SERVICES MUST BE INSTALLED BEFORE ANY PAVEMENT FOR THE PROPOSED ROADWAYS HAS BEEN PLACED.

WHEN AN EXISTING WATER MAIN MUST BE SHUT DOWN TO PERFORM REQUIRED WORK, THE PROPERTIES TO BE EFFECTED SHALL BE GIVEN A MINIMUM 48 HOUR NOTICE OF SAID SHUT DOWN. THE WORK WILL BE SCHEDULED AND COORDINATED TO MINIMIZE THE TIME THE MAIN IS OUT OF SERVICE AND AS SPECIFIED.

THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS IN ADVANCE OF ANY REQUEST FOR SHUTDOWN OF AN EXISTING MAIN. THE CONTRACTOR SHALL NOT OPERATE ANY VALVES. VALVES WILL BE OPERATED BY CITY WATER DEPARTMENT PERSONNEL ONLY. VALVES DAMAGED BY THE CONTRACTOR'S OPERATION WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

A MINIMUM OF 35 PSI SHALL BE MAINTAINED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

NEW SERVICE BRANCHES SHALL BE INSTALLED PER ODOT ITEM 638.16.

ALL VALVE BOXES SHALL BE ADJUSTED TO FINAL GRADE OF THE SURROUNDING IMPROVEMENTS ONCE THE PROJECT HAS BEEN COMPLETED.

WATER SERVICES 2 1/2" DIAMETER & UNDER SHALL BE TYPE "K" COPPER PER MASSILLON STANDARDS & REQUIREMENTS.

## TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

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

## SANITARY SEWERS

CONSTRUCTED IN ACCORDANCE WITH CITY OF MASSILLON SPECIFICATIONS.

ALL SANITARY SEWERS AND LATERALS SHALL BE PVC SDR-35 OR SDR-26 AS SPECIFIED MEETING REQUIREMENTS OF ASTM D-3034 WITH JOINTS MEETING ASTM D-3212. INSTALLATION SHOULD BE IN ACCORDANCE WITH ASTM D-2321. MINIMUM COVER OVER SANITARY SEWERS SHALL BE 4 FEET. FORCE MAINS SHALL BE PRESSURE RATED POLYVINYL CHLORIDE (PVC) PIPE, SDR-21 MEETING THE REQUIREMENTS OF ASTM D-2241 AND ASTM D-1784. ALL JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D-3139. THE MINIMUM COVER OVER A SANITARY FORCE MAIN SHALL BE 5'-0".

SANITARY SEWERS, FORCE MAINS, AND LATERALS SHALL BE INSTALLED AS AND SHALL MEET THE REQUIREMENTS OF O.D.O.T. ITEM 603 AND AS SPECIFIED AND AS DIRECTED BY THE ENGINEER. SANITARY SEWERS, FORCE MAINS, AND LATERALS SHALL BE BEDDED AND BACKFILLED PER THE APPLICABLE DETAIL. BEDDING MATERIAL SHALL MEET THE REQUIREMENTS/SPECIFICATIONS OF THE PIPE MANUFACTURER AND SHALL BE AS SPECIFIED AND APPROVED BY THE ENGINEER. SLAG IS NOT PERMITTED.

SANITARY SEWERS, LATERALS, FORCE MAINS, AND APPURTENANCES SHALL BE

BE CONDUCTED 30 DAYS AFTER INSTALLATION AND BACKFILLING OF THE PIPE OR AS OTHERWISE DIRECTED BY THE ENGINEER. THE ALLOWABLE DEFLECTION RATE SHALL NOT EXCEED FIVE (5%) PERCENT.

EXFILTRATION TESTING (OR INFILTRATION IF APPLICABLE) SHALL NOT EXCEED A MAXIMUM ALLOWABLE LEAKAGE OF 100 GALLON/INCH OF PIPE DIAMETER/MILE/DAY. IN LIEU OF SAID WATER TESTS, A LOW PRESSURE AIR TEST MAY BE CONDUCTED PER RECOMMENDED

DEFLECTION TESTING OF 6" DIAMETER AND LARGER FLEXIBLE CONDUIT (PVC, ETC.) SHALL

SAID WATER TESTS, A LOW PRESSURE AIR TEST MAY BE CONDUCTED PER RECOMMEND STANDARDS FOR SEWAGE WORKS (ASTM F-1417). THE PROPOSED SANITARY SEWER SYSTEMS SHALL BE TESTED, APPROVED, AND ACCEPTED PRIOR TO BEING PUT INTO SERVICE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY MAINTAINING ANY EXISTING

SANITARY FLOW DURING THE COMPLETION AND/OR TESTING OF THE PROPOSED

IMPROVEMENTS, AS APPROVED BY THE ENGINEER.

MANHOLE UPSTREAM OF THE EXISTING MANHOLE.

THE ACTUAL LOCATION OF EACH SANITARY SEWER LATERAL SHALL BE VERIFIED IN THE FIELD. REVISIONS TO THE PLAN LOCATIONS MUST BE APPROVED BY A REPRESENTATIVE OF THE OWNER/ENGINEER.

BULKHEADS SHALL BE ERECTED IN EXISTING MANHOLES WHERE TAPS FOR NEW MAINLINE SEWERS ARE MADE AND SHALL REMAIN IN PLACE UNTIL THE NEW SEWERS ARE COMPLETE, TESTED AND APPROVED. IN CASES WHERE A BULKHEAD WOULD INTERRUPT THE FLOW FROM

EXISTING SERVICE CONNECTIONS, THE BULKHEAD SHALL BE PLACED IN THE FIRST NEW

SANITARY SEWER SERVICE LATERALS SHALL BE 6 INCH MINIMUM AND BE LAID AT NO LESS THAN 1.00% GRADE.

ALL SANITARY SEWERS, 8—INCH DIAMETER AND LARGER, MUST PASS AN INTERNAL TELEVISION INSPECTION PER THE CITY OF MASSILLON SPECIFICATIONS.

MANHOLE TOP OF CASTING ELEVATIONS MAY REQUIRE ADJUSTMENT FROM THE PLAN ELEVATION TO MATCH EXISTING/PROPOSED GRADES. COST FOR THIS ADJUSTMENT IS THE RESPONSIBILITY OF THE CONTRACTOR. MANHOLE COVERS MAY NOT BE BURIED. UPON

COMPLETION OF CONSTRUCTION AND RESTORATION, ALL MANHOLES, PROPOSED AND

C-1244 AND PER THE CITY OF MASSILLON STANDARDS/REQUIREMENTS.

EXISTING, SHALL BE ADJUSTED TO MATCH FINISHED GRADE.

MANHOLE FRAME AND CASTING SHALL BE ADJUSTED TO GRADE USING EITHER PRECAST CONCRETE ADJUSTING RINGS OR PAVING BRICK AS APPROVED BY THE CITY. THE FRAME SHALL BE SECURED TO THE MANHOLE SECTION USING BUTYL RESIN RING (CON SEAL).

MANHOLES SHALL BE LEAKAGE TESTED (AIR/VACUUM) IN ACCORDANCE WITH ASTM

ALL FORCE MAIN FITTINGS (TEES, 90° BENDS, 45° BENDS, ETC.) SHALL BE DUCTILE IRON SHORT BODY MECHANICAL JOINT FITTINGS WITH APPROPRIATE TRANSITION GASKETS MEETING ANSI/AWWA C-153/A21.53. ALL FITTINGS SHALL BE RESTRAINED USING SERIES 2000 PV MEGALUG RETAINER GLANDS, AS MANUFACTURED BY EBBA IRON, INC. OR APPROVED EQUAL. THE CONTRACTOR SHALL USE CAUTION TO ENSURE THE INSTALLATION OF THE MEGALUG IS COMPLETED IN TOTAL COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS. IN ADDITION, CONCRETE THRUST BLOCKS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER AT ALL BENDS, FITTINGS, ETC. THRUST BLOCKS SHALL BE CAREFULLY PLACED AND FORMED AS NECESSARY TO ENSURE THEY ARE POSITIONED PROPERLY TO WITHSTAND THE RESULTANT FORCES AT EACH FITTING. MINIMUM BEARING AREA FOR A 45° BEND AGAINST ADJACENT UNDISTURBED, STABLE, SOLID EARTH SHALL BE 5 SQUARE FEET. THRUST BLOCKS SHALL BEAR ON STABLE, UNDISTURBED GROUND, AND SHALL BE CAPABLE OF WITHSTANDING THRUST/RESULTANT FORCES WITHIN THE SANITARY FORCE MAIN WITHOUT RELIANCE ON OTHER RESTRAINTS WITHIN THE SYSTEM. CONTRACTOR SHALL USE EXTREME CARE WHEN EXCAVATING FOR AND INSTALLING THE FITTINGS (45° BENDS, ETC.), SO AS TO LIMIT BOTH THE TRENCH WIDTH AND THE AMOUNT OF DISTURBANCE TO THE TRENCH WALLS (ADJACENT TO THE FORCE MAIN) TO WHICH CONCRETE THRUST BLOCKS WILL BEAR. IF UNSUITABLE MATERIAL IS ENCOUNTERED IN THE AREA WHERE A THRUST BLOCK IS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT APPROPRIATE ALTERNATE MEASURES TO RESTRAIN THE FORCE MAIN CAN BE TAKEN. THESE ALTERNATE MEANS COULD INCLUDE ADDITIONAL JOINT RESTRAINT ADJACENT TO THE FITTING/BEND.

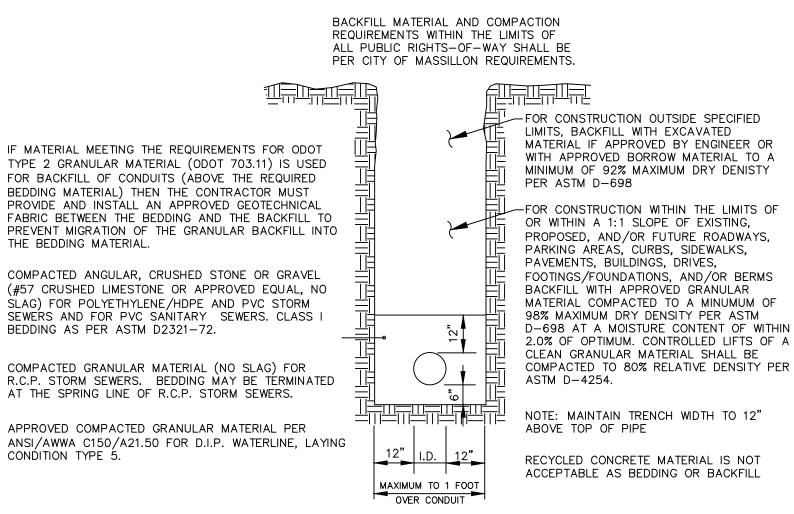
REQUIREMENTS.

CONNECTIONS TO EXISTING MANHOLES SHALL BE CORE DRILLED, WITH BENCHES AND CHANNELS FORMED AND REPAIRED AS NECESSARY.

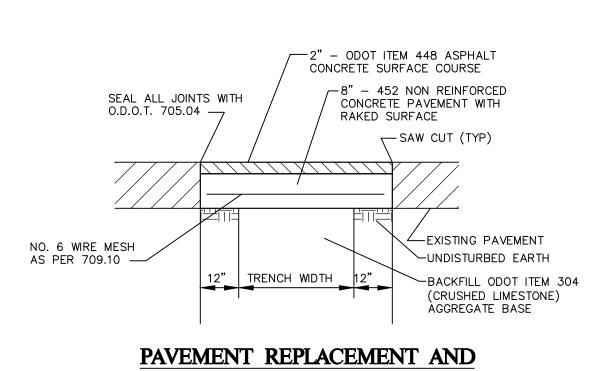
ALL MANHOLE DROP ATTACHMENTS SHALL BE "OUTSIDE" TYPE DROPS.

ALL FORCE MAIN CONSTRUCTION SHALL BE SUBJECT TO HYDROSTATIC LEAKAGE TESTING

AS LINE SECTIONS ARE COMPLETED PER THE CITY OF MASSILLON STANDARDS AND



PIPE BEDDING AND BACKFILL DETAIL



**BACKFILL WITHIN** 

PUBLIC ROAD RIGHT-OF-WAY

H e t t l e r
E n g i n e elle i n g
Civil & Construction Consultants

Issued / Revised

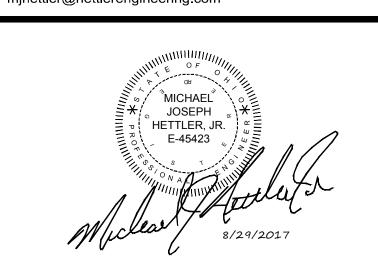
8-9-17

ISSUED FOR BIDDING & PERMIT

No. Date

\_\_\_\_

1225 North Main Street • Suite A • North Canton, OH 44720 PH: 330-966-1776 • FAX: 330-966-7911 • C: 330-495-3343 mjhettler@hettlerengineering.com



# Massillon Museum Expansion + Renovation

121 Lincoln Way Massillon, OH 44646

Project No. 25-16085-00

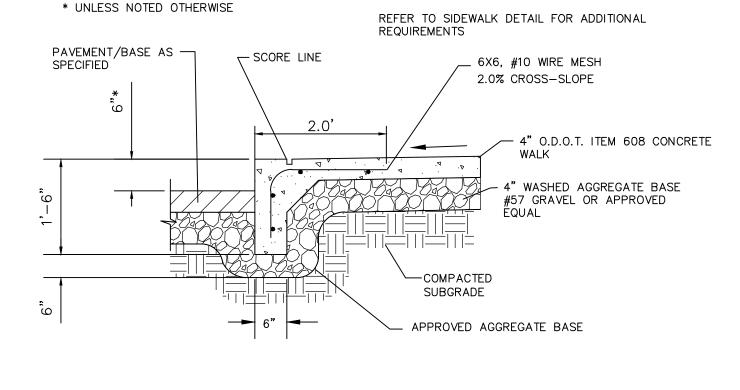


The Hanna Building
1422 Euclid Avenue, Suite 300
Cleveland, Ohio 44115-1407
T: 216.522.1350

www.DLRgroup.com

NOTES & DETAILS

C-105



CONCRETE SIDEWALK
WITH INTEGRAL CURB
NOT TO SCALE

