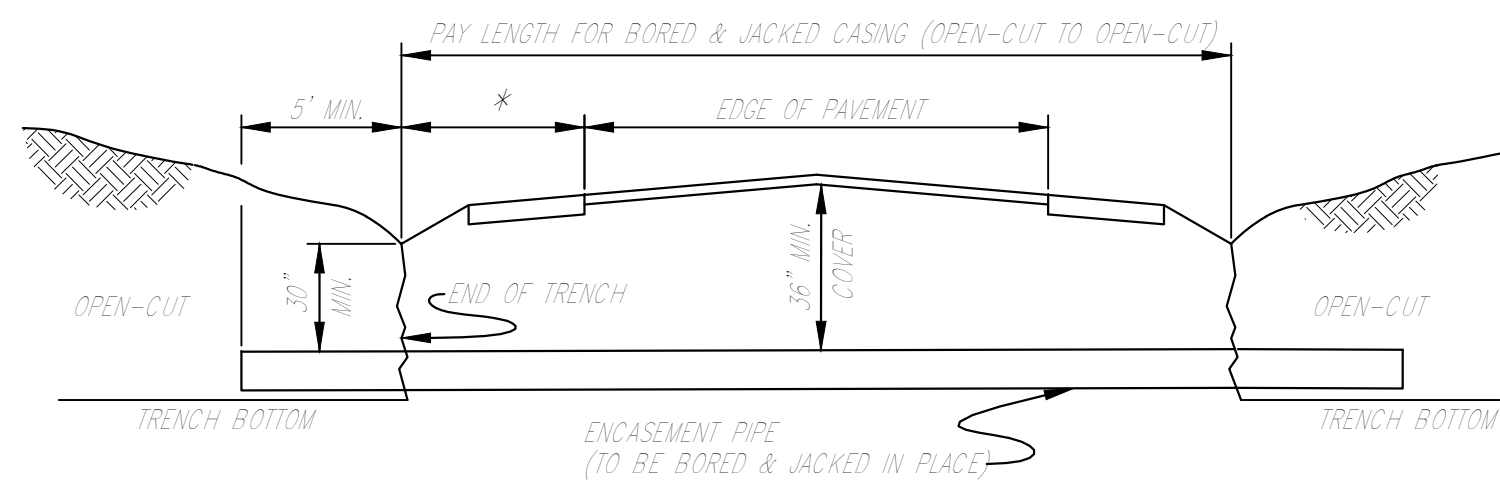


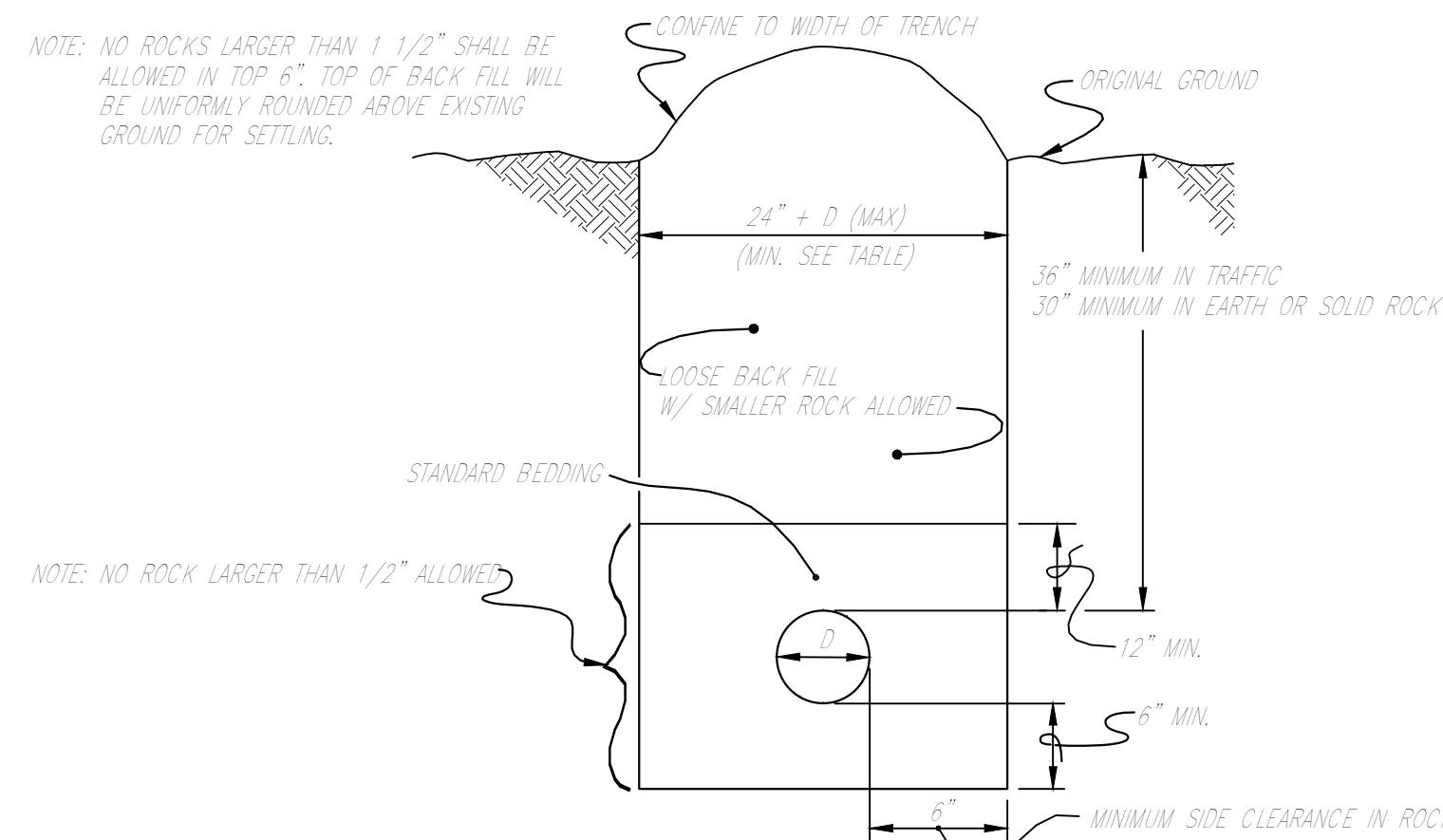
NOTE: UNDER ROAD CROSSINGS STEEL CASING PIPE SHALL BE REQUIRED. PIPES 4" & LESS SHALL BE NEW SCHEDULE 40, PIPES LARGER THAN 4" SHALL HAVE MINIMUM WALL THICKNESS OF 0.250". ALL BORED & JACKED ENCASEMENT PIPE SHALL BE INSTALLED IN BORE HOLES NO LARGER THAN THE OUTSIDE DIAMETER OF THE ENCASEMENT PIPE.

NOTE: ALL JOINTS TO BE SOLIDLY WELDED, END OF CASING TO BE SEALED W/CONCRETE AFTER LINE HAS BEEN INSTALLED & TESTED.

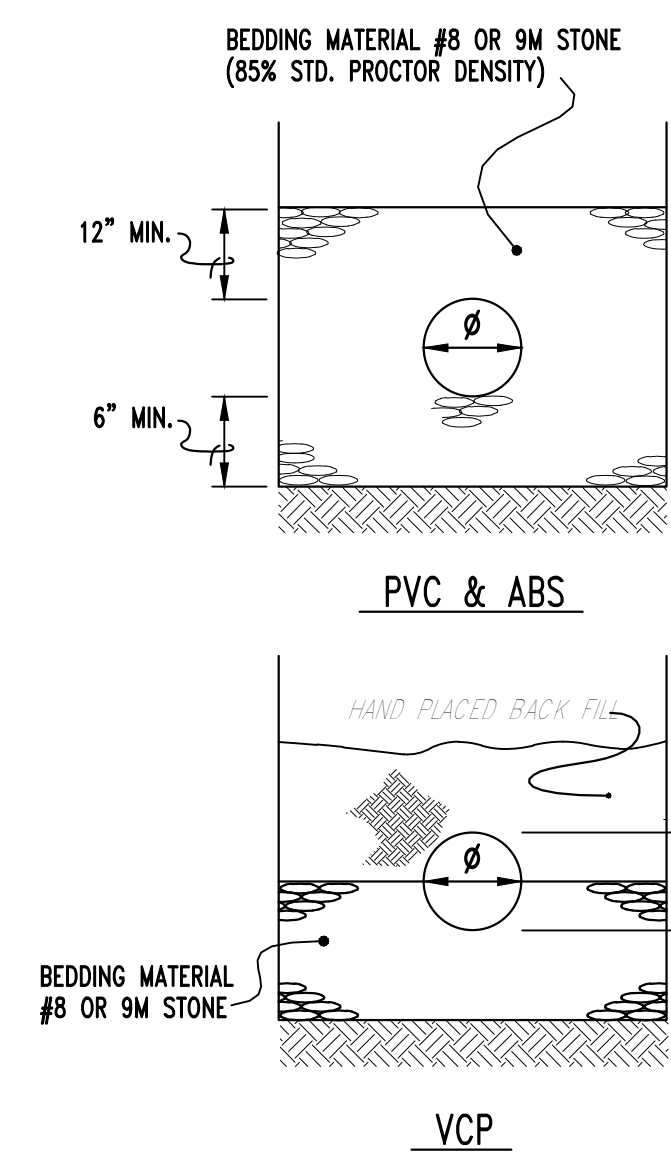
* NOTE: OPEN TRENCH NO CLOSER THAN THE DITCH LINE FROM THE EDGE OF PAVEMENT.



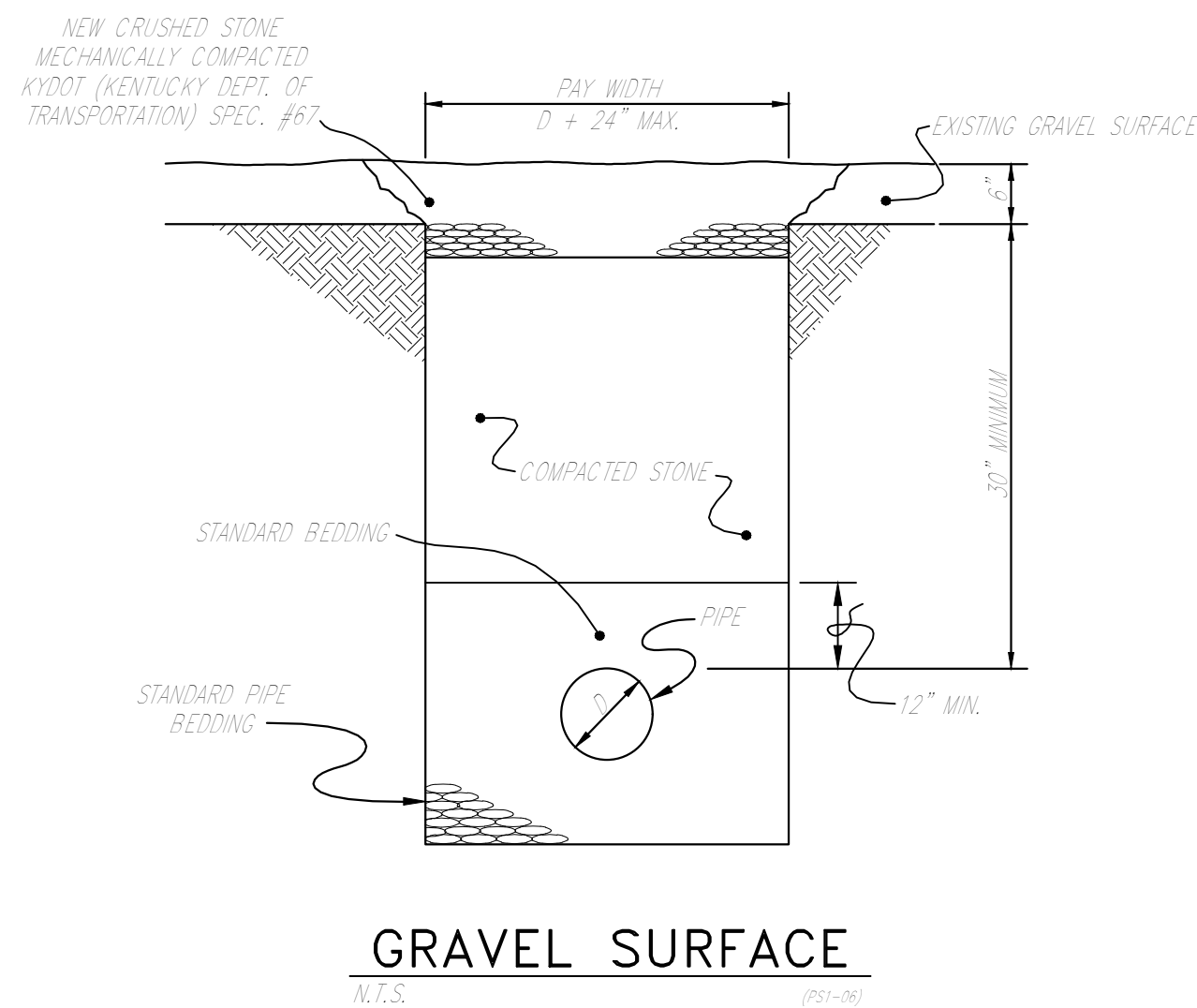
SECTION VIEW OF ROAD CROSSING
N.T.S.



TRENCH WIDTH & DEPTH
N.T.S.

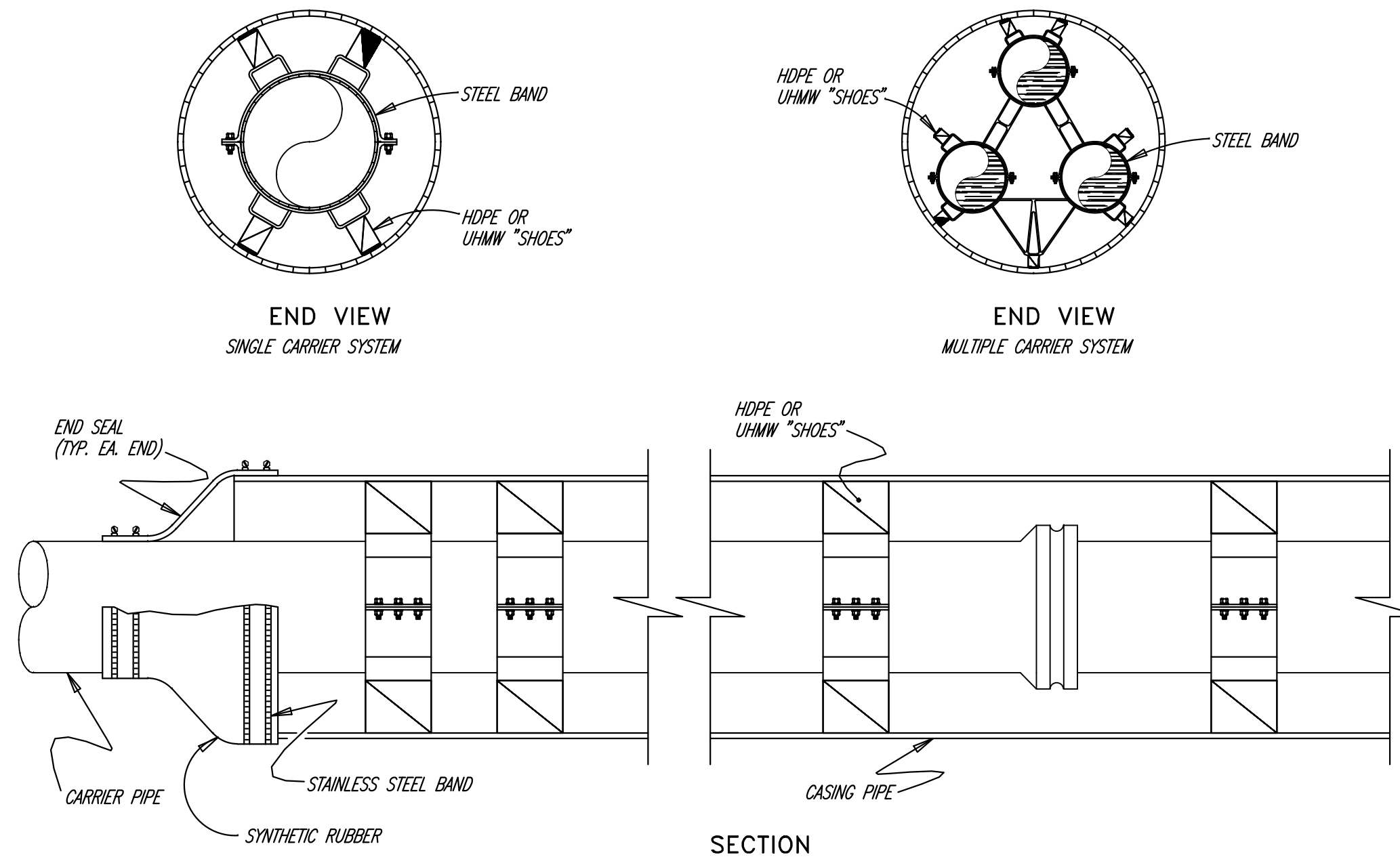


**TRENCHING, BEDDING,
& BACK FILL DETAILS**
N.T.S.



GRAVEL SURFACE
N.T.S.

NOTE: STEEL CASING PIPE SHALL CONTAIN CASING SPACERS. SPACERS SHALL BE LOCATED PER MANUFACTURE RECOMMENDATION. SPACERS SHALL BE STEEL CASING INSULATORS WITH ROLLERS OR SLIDES AS MANUFACTURED BY ADVANCE PRODUCTS & SYSTEMS, INC. PSI OR APPROVED EQUAL. CASING PIPE GRADE FOR GRAVITY LINES SHALL MATCH THE GRAVITY SEWER LINE, AND INVERT ELEVATION SHALL BE AS REQUIRED BY THE GRAVITY SEWER LINE. RUBBER END SEALS SHALL BE DESIGNED TO COVER EACH END OF THE CASING PIPE, BE MOLDED AROUND EACH OF THE CARRIER PIPES AND SECURED IN PLACE WITH STN. STL. BAND CLAMPS.



CARRIER PIPE SKIDS - DETAILS
N.T.S.

GENERAL NOTES

EXISTING GRADE ELEVATIONS SHOWN IN PROFILE AND CONTOURS SHOWN IN PLAN VIEW WERE COMPILED BY COMPUTER METHODS FROM AERIAL PHOTOGRAPHY.

THERE ARE THREE CRITICAL ELEVATION POINTS ON THIS SEWER LINE, ° THE DOGHOUSE MANHOLE LOCATION, THE FORCE MAIN CROSSING AND THE EXISTING CASING AT THE GREER PARK NEW ROAD. ° CONTRACTOR SHALL EXPOSED THE LOCATIONS AND VERIFY THE ELEVATIONS AND THE PROPOSED SEWER LOCATIONS AND ADJUST GRADES IF NECESSARY PRIOR TO LAYING LINE OR SETTING MANHOLES.

CONTRACTOR IS TO PERFORM LAY-OUT AND PRODUCE CUT-SHEETS FOR VERIFICATION OF LINE DEPTHS AND MANHOLE QUANTITIES. CONTRACTOR SHALL UTILIZE CUT-SHEETS IN THE PREPARATION OF HIS AS-BUILT DRAWING TO ACCURATELY PORTRAY THE PROFILE. CUT-SHEETS WILL BE FIELD VERIFIED BY ENGINEER. CONTRACTOR SHALL, DETERMINE THE BOUNDS OF CONSTRUCTION EASEMENTS AND RIGHT-OF-WAYS AND CONFINE ALL CONSTRUCTION ACTIVITY TO THESE AREAS, PROVIDE CONSTRUCTION WARNING SIGNS, BARRICADES AND FLAGMEN AS NECESSARY. CONTRACTOR SHALL PREVENT SOIL EROSION, CONTROL SILT RUN-OFF, PROVIDE MULCH, SILT FENCES, STRAW BALES OR OTHER MEASURES AS NECESSARY. CONTRACTOR SHALL LOCATE ANY EXISTING UTILITIES.

WHERE EXISTING UTILITIES ARE SHOWN, LOCATIONS ARE APPROXIMATE. CONSULT WITH APPLICABLE UTILITY COMPANIES TO DETERMINE EXACT LOCATIONS OF MAINS AND SERVICE LINES PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING PRIVATE PROPERTY. BORE ALL ASPHALT AND CONCRETE PAVEMENT UNLESS THE OWNER APPROVES OPEN CUTTING AND REPAIR. DO NOT CUT FENCES UNLESS THE OWNER APPROVES CUTTING AND REPAIR. PRESERVE TREES AND SHRUBS.

AT SOME LOCATIONS, THE CONTRACTOR MAY BE REQUIRED TO PROVIDE EXTRA COVER OVER LINE. COST OF EXTRA COVER IS TO BE INCLUDED IN UNIT PRICE BID FOR LINE INSTALLATION AND NO SEPARATE PAYMENT WILL BE MADE FOR SUCH EXTRA COVER. ALL SUCH LOCATIONS ARE SHOWN ON THE PLANS.

WATER AND SEWER SEPARATION REQUIREMENT

WATER AND SEWER PARALLEL CONSTRUCTION
ALL WATER AND SEWER FACILITIES SHALL BE SEPARATED BY A MINIMUM OF 10 FEET MEASURED AS THE SHORTEST DISTANCE BETWEEN CLOSEST POINTS. NO WATER MAIN MAY BE CONSTRUCTED WITHIN 10 FT OF A SEWER MAIN, FORCE MAIN, MANHOLE OR ANY OTHER APPURTENANCE EXCEPT FOR CROSSINGS SHOWN ON THE PLANS. CROSSING SHALL MEET THE FOLLOWING REQUIREMENT.

WATER AND SEWER CROSSING

SEWERS CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO MAINTAIN LINE AND GRADE.

WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, ONE OF THE FOLLOWING METHODS SHALL BE REQUIRED:

- THE SEWER SHALL BE DESIGNED AND CONSTRUCTED EQUAL TO WATER PIPE,
- EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENGAGED IN A WATERTIGHT CARRIER PIPE THAT EXTENDS 10 FEET ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE MADE OF MATERIALS APPROVED BY THE REGULATORY AGENCY FOR USE IN WATER MAIN CONSTRUCTION.

**GREER INDUSTRIAL PARK
PHASE 1 SANITARY SEWER EXTENSION
LONDON - LAUREL COUNTY
INDUSTRIAL DEVELOPMENT AUTHORITY
LAUREL COUNTY, KENTUCKY**

PROJECT NO.	4959-01
DESIGNED BY	D.S.T.
DRAWN BY	M.E.E.
CHECKED BY	D.S.T.
REVIEWED BY	D.S.T.
DATE	MAY 2018
SCALE	AS NOTED

msf
OF KENTUCKY, INC.
Engineers
Architects
Planners
624 Wellington Way
Lexington, KY 40503
www.msfa.com
Phone: (609)225-5694
Fax: (609)225-2607

DRAWING NO.

SD-1

SHEET OF