

1. THESE PLANS ARE BASED ON A SURVEY PERFORMED BY COLE AND ASSOCIATES, DATED 12/06/2024. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT THE IMPROVEMENTS EXIST AS SHOWN ON THE SURVEY. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER AND COLE OF ANY DEVIATIONS OR OMISSIONS THAT MAY AFFECT THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
2. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
3. THE CONTRACTOR IS NOT TO START WORK UNTIL WRITTEN AUTHORIZATION FROM THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER HAS BEEN RECEIVED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES. AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A STATE OF MISSOURI PROFESSIONAL LAND SURVEYOR WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONTRADICT ANY AND/OR EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.
6. **FLOOD CERTIFICATION:**  
THE SUBJECT SITE IS LOCATED IN ZONE "X" (AREAS OF MINIMAL FLOODING) AS DETERMINED BY FEMA FLOOD INSURANCE RATE MAP FOR ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS, PANEL 410 OF 325, MAP NUMBER 219835C04100, EFFECTIVE DATE JANUARY 20, 2016.
7. **WETLANDS NOTE:**  
ANY DEVELOPMENT, EXCAVATION, CONSTRUCTION, OR FILLING IN A U.S. ARMY CORPS OF ENGINEERS DESIGNATED WETLAND IS SUBJECT TO LOCAL, STATE AND FEDERAL APPROVALS. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND/OR RESTRICTIONS AND ANY VIOLATION WILL BE SUBJECT TO FEDERAL PENALTY. THE CONTRACTOR SHALL HOLD THE OWNER/DEVELOPER, THE ENGINEER AND THE LOCAL GOVERNING AGENCIES HARMLESS AGAINST SUCH VIOLATION.
8. **WARRANTY/DISCLAIMER:**  
THE ENGINEER REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.
9. **SAFETY NOTICE TO CONTRACTOR:**  
IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.
10. **NOTICE TO BIDDERS:**  
ALL BIDDERS REGARDING THE PREPARATION OF THE CONTRACTOR'S BID SHALL BE DIRECTED TO THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER. SUBCONTRACTORS MUST DIRECT THEIR QUESTIONS THROUGH THE CONTRACTOR. THE CONSULTING ENGINEER SHALL NOT BE CONTACTED DIRECTLY WITHOUT PRIOR AUTHORIZATION FROM THE OWNER/DEVELOPER.

1. ALL EXISTING IMPROVEMENTS ARE TO REMAIN UNLESS NOTED OTHERWISE IN THESE PLANS.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND DISPOSAL OF (IN A LOCATION APPROVED BY ALL JURISDICTIONS HAVING AUTHORITY) ALL DEBRIS, STRUCTURES, PADS, WALLS, FLUMES, FOUNDATIONS, PARKING, DRIVES, DRAINAGE STRUCTURES, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL PER THE SPECIFICATIONS.
3. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
4. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES.
5. ALL EXISTING UTILITIES SHOWN ARE NOT TO BE INTERPRETTED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK. UTILITIES DETERMINED TO BE ABANDONED AND LEFT IN PLACE SHALL BE GROUDED IF UNDER BUILDINGS.
6. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES, INCLUDING IRIGATION, SPECIFIC TO THIS PROJECT PRIOR TO THE START OF ANY DEMOLITION OR CONSTRUCTION. SHOULD ANY UTILITY REQUIRE RELOCATION, CONTRACTOR SHALL COORDINATE WITH THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER AND THE ENGINEER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISCONNECTION OF UTILITY SERVICES TO ANY EXISTING BUILDINGS PRIOR TO DEMOLITION OF THE EXISTING BUILDINGS.
8. THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO ANY EXISTING BUILDINGS TO REMAIN AT ALL TIMES. UTILITY SERVICES SHALL NOT BE INTERRUPTED WITHOUT APPROVAL FROM AND COORDINATION WITH THE BUILDING OWNER.
9. ANY VALVES, BOXES, MANHOLES, METERS, AND OTHER SUCH ITEMS TO REMAIN SHALL BE ADJUSTED TO MATCH THE PROPOSED ELEVATION AND SLOPE.
10. THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
11. ANY DRY UTILITY LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION. CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN THE RIGHT OF WAY DURING CONSTRUCTION.
12. THE CONTRACTOR SHALL COORDINATE WATER MAIN WORK WITH THE FIRE DEPARTMENT AND THE UTILITY COMPANY TO PLAN PROPOSED IMPROVEMENTS AND TO ENSURE ADEQUATE FIRE PROTECTION IS CONSTANTLY AVAILABLE TO THE SITE THROUGHOUT THIS SPECIFIC WORK AND THROUGH ALL PHASES OF CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ARRANGING/PROVIDING ANY REQUIRED WATER MAIN SHUT OFFS WITH THE UTILITY COMPANY DURING CONSTRUCTION. ANY COSTS ASSOCIATED WITH WATER MAIN SHUT OFFS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
13. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY EXISTING IRRIGATION SYSTEMS IN THE AREAS OF PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL CAP ANY EXISTING IRRIGATION SYSTEMS TO REMAIN SUCH THAT THE REMAINING SYSTEMS SHALL CONTINUE TO FUNCTION PROPERLY.
14. CONTRACTOR SHALL PROVIDE CLEAN CUTS AT EDGES OF DEMOLITION OF HARDCAPE.

1. ALL CONSTRUCTION MATERIALS AND TECHNIQUES OF INSTALLATION SHALL MEET PERFORMANCE VALUES OF THE MATERIALS SPECIFIED AND COMPLY WITH ALL REGULATIONS AND CODES OF THE AUTHORITY HAVING JURISDICTION AND O.S.H.A. STANDARDS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THIS PROJECT IS CONSTRUCTED IN ACCORDANCE WITH THESE DOCUMENTS AND IN COMPLIANCE WITH CODES INDICATED HEREIN. THE QUALITY OF WORKMANSHIP AND INSTALLATION OF MATERIALS SPECIFIED IN THE EXISTING DRAWINGS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER WILL NOT BE HELD RESPONSIBLE FOR ANY SUBSTANDARD OR INSUFFICIENT WORKMANSHIP, MATERIALS, OR SERVICES PROVIDED IN THE EXECUTION OF ANY PHASE OF CONSTRUCTION OF THIS PROJECT.
3. ALL MATERIALS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL MANUFACTURER'S WARRANTIES WILL BE HONORED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF EXISTING FIELD CONDITIONS AND OF ALL DRAWINGS AND SPECIFICATIONS RELATED TO THEIR FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS PROJECT AND HIS FIELD OF SERVICE SHALL NOT RELIEVE HIM OF ANY RESPONSIBILITY FOR PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED DUE TO THE CONTRACTOR'S FAILURE TO CONVEY THE NECESSARY KNOWLEDGE TO FAMILIARIZE WORKERS AND SUBCONTRACTORS WITH THIS PROJECT.
5. ALL CONDITIONS SHOWN TO BE "EXISTING" SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION. ANY CHANGES TO BE MADE SHALL BE REVIEWED AND SUBMITTED TO THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER AND THE ENGINEER PRIOR TO REVIEW. CHANGES TO THE ORIGINAL DESIGN OF THE PROJECT DUE TO EXISTING SITE CONDITIONS MUST BE APPROVED BY BOTH THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER AND THE ENGINEER PRIOR TO MAKING ANY CHANGES.

6. SAWCUT AND REMOVE PORTIONS OF EXISTING PAVING ONLY AS REQUIRED TO INSTALL NEW UTILITIES OR TO CONSTRUCT PROPOSED FACILITIES PER THIS PLAN. REPLACE PORTIONS REMOVED TO MATCH EXISTING FLOOR AND SMOOTH.
7. CONTRACTOR SHALL MATCH PROPOSED CURB AND GUTTER, CONCRETE, AND PAVEMENT TO EXISTING IN GRADE AND ALIGNMENT.
8. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
11. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS.
12. THE CONTRACTOR SHALL PROVIDE DUMPSTERS, PORTABLE TOILETS AND TEMPORARY POWER FOR UNRESTRICTED PROJECT RELATED USE BY OTHERS FOR THE DURATION OF THE PROJECT.
13. THE CONTRACTOR IS RESPONSIBLE FOR RECEIVING, UNLOADING, STORING AND PROTECTING MATERIALS AND EQUIPMENT SUPPLIED BY THE OWNER/DEVELOPER UNTIL IT HAS BEEN INSTALLED AND ACCEPTED BY THE OWNER/DEVELOPER.
14. THE CONTRACTOR SHALL COORDINATE PROJECT PHASING AND STORAGE OF MATERIALS WITH THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE AREA CLEAN AND FREE OF DEBRIS AT ALL TIMES DURING CONSTRUCTION.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE SAFETY OF ALL PERSONS ON THE JOB SITE AT ALL TIMES INCLUDING (BUT NOT LIMITED TO) SUBCONTRACTORS, STAFF PERSONNEL, VENDORS, DESIGN STAFF PROFESSIONALS AND INSPECTION PERSONNEL.
17. NO MONUMENT SIGNS OR THEIR PROPOSED LOCATIONS CAN BE APPROVED WITH THESE DOCUMENTS. A SEPARATE SIGN APPLICATION MUST BE SUBMITTED TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL.
18. ANY REMAINING WALLS REFERRED TO IN THESE PLANS ARE SHOWN FOR REFERENCE ONLY AND ARE NOT TO BE INTERPRETTED AS THE DESIGN OF THE WALL SYSTEM. THE CONTRACTOR SHALL REFER TO STRUCTURAL PLANS PREPARED BY OTHERS FOR WALL DESIGN AND CONSTRUCTION DETAILS. A SEPARATE BUILDING PERMIT MAY BE REQUIRED FOR EACH WALL.

1. TOPOGRAPHIC INFORMATION IS TAKEN FROM A TOPOGRAPHIC SURVEY BY LAND SURVEYORS. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER/DEVELOPER FOR REVIEW.

2. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.

3. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.

4. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.

5. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.

6. ALL CUT OR FILL SLOPES SHALL BE 3H:1V OR FLATTER UNLESS OTHERWISE NOTED. THE ENGINEER ASSUMES NO LIABILITY FOR SLOPES EXCEEDING THOSE RECOMMENDED IN THE APPLICABLE GEOTECHNICAL REPORT.

7. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.

8. EXISTING DRAINAGE STRUCTURES AND STORM SEWER PIPES ARE TO BE INSPECTED, REPAIRED AS NEEDED, AND CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.

9. CONTRACTOR SHALL CLEAN ALL PROPOSED AND EXISTING IMPACTED DOWNSLOPE / DRAINAGE STRUCTURES AND PIPES UPON COMPLETION OF CONSTRUCTION.

10. STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

<u>PIPES DIAMETERS LESS THAN 12"</u>	
HIGH DENSITY POLYETHYLENE PIPE (HDPE):	TYPE S PER AASHTO M252 (SMOOTH INTERIOR WITH CORRUGATIONS EXTERIOR)
POLYVINYL CHLORIDE PIPE (PVC):	SDR35 PER ASTM D3034 (FOR PIPES LESS THAN 12" DEEP)
POLYVINYL CHLORIDE PIPE (PVC):	SDR26 PER ASTM D3034 (FOR PIPES MORE THAN 12" DEEP)
<u>PIPES DIAMETERS 12" OR GREATER</u>	
REINFORCED CONCRETE PIPE (RCP):	CLASS III PER ASTM C76
POLYPROPYLENE (PP):	SMOOTH INTERIOR WITH CORRUGATIONS EXTERIOR PER ASTM F2764

11. ALL STORM SEWER PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.

12. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT TO INVERT OUT.

13. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING AND COVERS. STORM MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE.

14. ALL PROPOSED CONTOURS SHOWN ARE TO FINISHED ELEVATIONS ON PAVED AREAS. THE CONTRACTOR SHALL GRADE ALL AREAS TO REQUIRED SUBGRADE.

15. ALL PROPOSED SLOPES SHOWN ARE TO FINISHED GRADE, FINISHED PAVEMENT, OR FINISHED BOTTOM FACE OF CURB UNLESS NOTED OTHERWISE.

16. ALL FILLS AND BACKFILLS SHALL CONSIST OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.

17. ALL FILL PLACED FOR PROPOSED STORM AND SANITARY SEWER LINES, PAVED AREAS, OR DRAINAGE BEDS SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY THE AASHTO T 99 MODIFIED PROCTOR COMPACTION TEST OR 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE AASHTO T 99 STANDARD PROCTOR COMPACTION TEST. ALL TESTS SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER CONCURRENT WITH THE GRADING AND BACKFILLING OPERATIONS.

18. ALL STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT.

19. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE REESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION. PERMANENT SOD SHALL BE ESTABLISHED AS SOON AS POSSIBLE.

20. REFER TO LANDSCAPE PLANS FOR ALL HARDSCAPE AND PAVING MATERIALS AND PATTERNS.

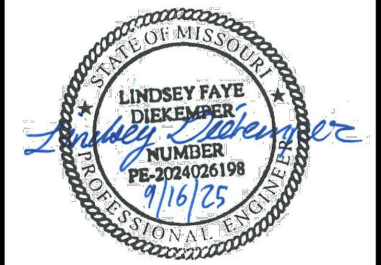
1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATIONS AND SIZES OF ALL EXISTING UTILITIES, WHETHER SHOWN OR NOT SHOWN IN THESE PLANS, PRIOR TO THE START OF ANY CONSTRUCTION. THE ENGINEER DOES NOT FIELD VERIFY EXISTING UTILITIES. THE UTILITIES SHOWN ON THESE PLANS HAVE BEEN TAKEN FROM RECORDS AND UTILITY MAPS MADE AVAILABLE TO THE ENGINEER AND THE LOCATIONS AND SIZES SHALL BE CONSIDERED APPROXIMATE ONLY. OTHER UTILITIES, NOT SHOWN ON THIS PLAN, MAY EXIST ON OR NEAR THE PROJECT SITE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SCHEDULE FOR INSTALLATION WITH THE UTILITY COMPANIES AND THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER. ALL EXISTING CONDITIONS THAT ARE REMOVED OR DISRUPTED DURING THE PLACEMENT OF NEW UTILITIES SHALL BE RESTORED OR REPAIRED TO MATCH ORIGINAL CONDITIONS. ANY EXISTING UTILITIES DISRUPTED DURING PLACEMENT OF NEW UTILITIES SHALL BE REPAIRED AND OPERATING NORMALLY THE SAME DAY OF DISRUPTION. ITEMS THAT NEED TO BE RESTORED OR REPAIRED INCLUDE, BUT ARE NOT LIMITED TO EXISTING ASPHALT PAVING, EXISTING CONCRETE PAVING, WATER LINES, IRRIGATION LINES, GRASS AREAS, LANDSCAPING, AND SITE LIGHTING. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING ITEMS THAT WILL BE DISRUPTED DURING THE PLACEMENT OF NEW UTILITIES AND PROVIDE THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER WITH A DETAILED SCHEDULE OUTLINING THE TIMELINE FOR INSTALLATION OF NEW UTILITIES INCLUDING THE PROPOSED TIMES THAT EXISTING UTILITIES WILL BE DISRUPTED.
3. THE NEW UTILITY TRENCH WIDTHS AND DEPTHS SHALL MEET ALL LOCAL AND STATE REQUIREMENTS.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT ANY "STUB OUTS" FOR POWER, TELEPHONE, FIBER OPTICS, WATER AND SEWER (IF APPLICABLE) HAVE BEEN PROVIDED BY OTHERS AT THE AREA ADJACENT TO THE SITE BUILDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL CONNECTIONS AT THE BUILDING.
5. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSLINGS AND INFORM THE ENGINEER AND THE OWNER/DEVELOPER'S CONSTRUCTION MANAGER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.
6. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE APPROPRIATE AUTHORITY HAVING JURISDICTION.
7. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS AT LEAST 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
8. EXISTING DRAINAGE STRUCTURES AND STORM SEWER PIPES ARE TO BE INSPECTED, REPAIRED AS NEEDED, AND CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
9. ALL UTILITY EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
10. ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
11. SANITARY SEWER PIPE SHALL BE AS FOLLOWS:  
POLYVINYL CHLORIDE PIPE (PVC): SDR35 PER ASTM D3034 (FOR PIPES LESS THAN 12" DEEP)  
POLYVINYL CHLORIDE PIPE (PVC): SDR26 PER ASTM D3034 (FOR PIPES MORE THAN 12" DEEP)
12. ALL SANITARY SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TIGHT BEARING RINGS AND COVERS. SANITARY MANHOLES IN UNPAVED AREAS SHALL BE 12" ABOVE FINISH GRADE WITH WATER TIGHT LIDS.

13. ALL WATER LINES SHALL BE AS FOLLOWS:
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|---|--|
| <u>PIPE DIAMETERS 1.5" OR LESS</u><br>COPPER (CPR):                     | TYPE K PER AWWA C800   |
| <u>PIPE DIAMETERS 2" THROUGH 3"</u><br>COPPER (CPR):                    | TYPE K PER AWWA C800   |
| POLYVINYL CHLORIDE PIPE (PVC):  | SDR21 PER ASTM D2241, CLASS 200  |
| <u>PIPE DIAMETERS 4" THROUGH 12"</u><br>POLYVINYL CHLORIDE PIPE (PVC):  | DR18 PER AWWA C900 (DOMESTIC SERVICE)  |
| POLYVINYL CHLORIDE PIPE (PVC):  | DR14 PER AWWA C900 (FIRE SERVICE IN LIEU OF DIP, WHERE ALLOWED BY LOCAL CODES) |
| DUCTILE IRON PIPE (DIP):  | PRESSURE CLASS 350 PER AWWA C151   |
| <u>PIPE DIAMETERS LARGER THAN 12"</u><br>POLYVINYL CHLORIDE PIPE (PVC): | DR18 PER AWWA C905   |
| DUCTILE IRON PIPE (DIP):  | PRESSURE CLASS 250 PER AWWA C151   |
14. ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING.
15. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
17. CONTRACTOR TO RELOCATE LIGHT POLES AND REPLACE LUMINAIRES AS INDICATED. CONTRACTOR TO BUILD NEW POLE BASES AND STUB WIRE AS NEEDED.
18. CONTRACTOR SHALL START LAYING PIPE AT DOWNSTREAM STRUCTURE AND WORK UPSTREAM.
19. CLEANOUTS SHALL BE LOCATED AT ALL HORIZONTAL AND VERTICAL CHANGES IN DIRECTION OF FLOW IN BUILDING LATERALS AND ANY SANITARY LATERAL OF 100 FEET OR LONGER.
20. ALL TRENCHES UNDER AREAS TO BE PAVED, EXISTING PAVED AREAS, OR PUBLIC RIGHT-OF-WAY SHALL BE GRANULARLY BACKFILLED WITH  $\frac{3}{4}$  INCH MINUS CRUSHED WHITE ROCK.
21. GAS, WATER AND OTHER UNDERGROUND UTILITIES SHALL NOT CONFLICT WITH THE DEPTH OR HORIZONTAL LOCATION OF EXISTING OR PROPOSED SANITARY AND STORM SEWERS.
22. THE CONTRACTOR SHALL PREVENT ALL STORM WATER, SURFACE WATER, MUD AND CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER SYSTEM.
23. THE EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
24. ALL SANITARY FLOW LINES AND TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER SHALL BE THE RESPONSIBILITY OF THE SEWER CONTRACTOR.
25. ALL SEWER PIPES SHALL HAVE POSITIVE DRAINAGE THROUGH STRUCTURES. NO FLAT INVERT STRUCTURES ARE ALLOWED.
26. ANY ABANDONED SEWERS SHALL BE REMOVED OR COMPLETELY GROUT FILLED.
27. CONTRACTOR SHALL SUPPORT AND PROTECT ALL EXISTING AND PROPOSED UTILITIES WHEN CONSTRUCTING NEW UTILITIES, INCLUDING SUPPORTING ELECTRICAL AND LIGHT POLES IF NEEDED.

1. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE LOCATION SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.
2. GAS, WATER AND OTHER UNDERGROUND UTILITIES SHALL NOT CONFLICT WITH THE DEPTH OR HORIZONTAL LOCATION OF EXISTING OR PROPOSED SANITARY AND STORM SEWERS, INCLUDING HOUSE LATERALS.
3. ALL EXISTING SITE IMPROVEMENTS DISTURBED, DAMAGED OR DESTROYED SHALL BE REPAIRED OR REPLACED TO CLOSELY MATCH PRE-CONSTRUCTION CONDITIONS.
4. ALL FILL INCLUDING PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND PAVED AREAS INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED ASHTO T-180 COMPACT TEST (ASTM D1557)". ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS. THE COMPACTED FILL SHALL BE FREE OF RUTTING AND SHALL BE NON-YIELDING AND NON-PUMPING DURING PROOFROLLING AND COMPACTION.
5. THE CONTRACTOR SHALL PREVENT ALL STORM, SURFACE WATER, MUD AND CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER SYSTEM. THE CONTRACTOR WILL BE REQUIRED TO INSTALL A BRICK BULKHEAD ON THE DOWNSTREAM SIDE OF THE FIRST NEW MANHOLE CONSTRUCTED WHEN CONNECTING INTO EXISTING SEWERS.
6. ALL SANITARY SEWER FLOWLINES AND TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE SEWER CONTRACTOR.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST ALL SANITARY SEWER MANHOLES (THAT ARE AFFECTED BY THE DEVELOPMENT) TO FINISH GRADE.
8. EASEMENTS SHALL BE PROVIDED FOR ALL SANITARY SEWERS, STORM SEWERS AND ALL UTILITIES ON THE RECORD PLAT.
9. ALL SANITARY SEWER CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS OF THE DUCKETT CREEK SANITARY DISTRICT.
10. THE DUCKETT CREEK SANITARY DISTRICT SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION FOR COORDINATION OF INSPECTION.
11. ALL SANITARY SEWER BUILDING CONNECTIONS SHALL BE DESIGNED SO THAT THE MINIMUM VERTICAL DISTANCE FROM THE LOW POINT OF THE BASEMENT TO THE FLOWLINE OF A SANITARY SEWER AT THE CORRESPONDING BUILDING CONNECTION SHALL NOT BE LESS THAN THE DIAMETER OF THE PIPE PLUS THE VERTICAL DISTANCE OF 2 1/2 FEET.
12. ALL SANITARY SEWER MANHOLES SHALL BE WATERTIGHT IN ACCORDANCE WITH MISSOURI DEPT. OF NATURAL RESOURCES SPECIFICATION TO CSR 20-8.120(6)(F) 1.
13. ALL PVC SANITARY SEWER PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034 STANDARD SPECIFICATION FOR PSM POLYVINYL CHLORIDE SEWER PIPE, SDR-35 OR EQUAL, WITH "CLEAN" 1/2 INCH TO 1 INCH GRANULAR STONE BEDDING UNFORMALLY GRADUATED. THIS BEDDING SHALL EXTEND FROM 4 INCHES BELOW THE PIPE TO SPRINGLINE OF PIPE. IMMEDIATE BACKFILL OVER PIPE SHALL BE OF SAME "CLEAN" OR "WASH" STONE FROM SPRINGLINE OF PIPE TO 6 INCHES ABOVE THE TOP OF PIPE. FINAL BACKFILL MATERIAL SHALL BE OF SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT AS OTHER MATERIAL IS SPECIFIED. DEBRIS, FROZEN MATERIAL, LARGE ROCKS OR STONES, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED WITHIN 2 FEET FROM TOP OF PIPE.
14. ALL SANITARY AND STORM SEWER TRENCH BACKFILLS SHALL BE WATER JETTED. GRANULAR BACKFILL WILL BE USED UNDER PAVEMENT AREAS.
15. ALL PIPES SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLES. FLAT INVERT STRUCTURES NOT ALLOWED.
16. EPOXY COATING SHALL BE USED ON ALL SANITARY SEWER MANHOLES THAT RECEIVE PRESSURIZED MANNS.
17. ALL CREEK CROSSINGS SHALL BE LINED WITH RIP-RAP AS DIRECTED BY DISTRICT INSPECTORS.
18. BRICK SHALL NOT BE USED ON SANITARY SEWER MANHOLES.
19. EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
20. MAINTAIN ACCESS TO EXISTING RESIDENTIAL DRIVEWAYS AND STREETS.
21. PRE-MANUFACTURED ADAPTERS SHALL BE USED ON ALL PVC TO DIP CONNECTIONS. RUBBER BOOT / MISSION-TYPE COUPLINGS WILL NOT BE ALLOWED.
22. ANY PERMITS, LICENSES, EASEMENTS, OR APPROVALS REQUIRED TO WORK ON PUBLIC OR PRIVATE PROPERTIES OR ROADWAYS ARE THE RESPONSIBILITY OF THE DEVELOPER.
23. TYPE "M" LOCK-TYPE COVER AND LOCKING DEVICE (LOCK-LUG) SHALL BE USED WHERE LOCK-TYPE COVERS ARE REQUIRED.
24. ALL SANITARY SEWER SYSTEM WORK SHALL BE CONDUCTED UNDER THE INSPECTION OF A REPRESENTATIVE OF THE DISTRICT. ALL WORK MAY NOT REQUIRE INSPECTION BUT THE DISTRICT'S REPRESENTATIVE MAY DESIGNATE SPECIFIC AREAS THAT MUST BE INSPECTED BEFORE THE WORK IS BACKFILLED. ALL TESTING MUST BE WITNESSED BY THE DISTRICT'S INSPECTOR AND THE CONTRACTOR SHALL FURNISH ALL TESTING EQUIPMENT AS APPROVED BY THE DISTRICT. TESTING SHALL INCLUDE:
  - 24.1. A MANHOLE TEST OF ALL GRAVITY SEWERS USING A MANHOLE WITH A DIAMETER THAT HAS A DIAMETER 95% OF THE INSIDE PIPE DIAMETER. IF THE MANHOLE TEST FAILS ON ANY SECTION OF PIPE, THAT SECTION OF PIPE SHALL BE UNCOVERED AND REPLACED. NO EXPANSION DEVICES WILL BE ALLOWED TO BE USED TO "FORCE" THE PIPE THAT IS DEFORMED BACK INTO ROUND. ANY STOPPING LINES USED TO STOP THE SEWER FROM BEING REMOVED AFTER TESTING IS COMPLETED. DEFLECTION TESTING CANNOT BE CONDUCTED PRIOR TO 30 DAYS AFTER FINAL BACKFILL.
  - 24.2. AN AIR PRESSURE TEST OF ALL GRAVITY SEWERS TO A PRESSURE OF 5 PSI WITH NO OBSERVED DROP IN PRESSURE DURING A TEST PERIOD OF 5 MINUTES.
  - 24.3. A VACUUM TEST OF ALL MANHOLES FOR A PERIOD OF 1 MINUTE AND THE VACUUM SHALL BE 10" OF MERCURY AND MAY NOT DROP BELOW 9" OF MERCURY AT THE END OF THE 1 MINUTE TEST.

[illegible]

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