

SITE GRADING SPECIFICATIONS:

SECTION 02110 – SITE CLEARING

PART 1 – GENERAL

SUMMARY

This Section includes the following:

Removing above-grade improvements.

Removing below-grade improvements.

PROJECT CONDITIONS

Traffic: Conduct site-clearing operations to ensure minimum interference with the roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction.

Protection of Existing Improvements: Provide protections necessary to prevent damage to existing improvements indicated to remain in place.

Improvements on Adjoining Property: Authority for performing removal and alteration work on property adjoining Owner's property will be obtained by Owner prior to award of contract.

Extent of work on adjacent property is indicated on Drawings.

EXISTING SERVICES

General: Indicated locations are approximate; determine exact locations before commencing work.

Arrange and pay for disconnecting, removing, capping, and plugging utility services. Notify affected utility companies in advance and obtain approval before starting this Work.

Place markers to indicate location of disconnected services. Identify service lines and capping locations on Project Record Documents.

PART 2 –EXECUTION

SITE CLEARING

General: Remove trees, shrubs, grass, and other vegetation, improvements, or obstructions, as required, to permit installation of new construction. Remove similar items elsewhere on site or premises as specifically indicated. The owner will identify any trees & shrubs to remain.

Trees indicated to remain shall have minor roots and branches cut in a clean and careful manner where such roots and branches obstruct installation of new construction.

Where existing trees are indicated to remain, leave existing topsoil in place within drip lines to prevent damage to prevent damage to root system.

Removal of Improvements: Remove existing above-grade and below-grade improvements as indicated and as necessary to facilitate new construction.

DISPOSAL OF WASTE MATERIALS

Burning on Owner's Property: Burning is not permitted on Owner's property.

Removal from Owner's Property: Remove waste materials and unsuitable or excess topsoil from Owner's property.

EARTHWORK

PART 1 – GENERAL

SUMMARY

This Section includes the following:

Preparing and grading subgrades for slabs-on-grade, walks, pavements, and landscaping.

Excavating and backfilling for buildings and structures.

Drainage and moisture-control fill course for slabs-on-grade.

Subbase course for walks and pavements.

Subsurface drainage backfill for walls and trenches.

Excavating and backfilling trenches within construction limits.

Excavating and backfilling for underground mechanical and electrical utilities and appurtenances.

DEFINITIONS

Excavation: consists of the removal of material encountered to subgrade elevations and the reuse or disposal of materials removed.

Subgrade: The uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

Borrow: Soil material obtained off site when sufficient approved soil material is not available from excavations.

Subbase Course: The layer placed between the subgrade and surface pavement or walk.

Drainage Fill: Course of washed granular material placed under slab-on-grade to cut off upward capillary flow of pore water toward slab.

Unauthorized excavation consists of removing materials beyond indicated subgrade elevations or dimensions without direction by the owner. Unauthorized excavation, as well as remedial work directed by the owner, shall be at the Contractor's expense.

Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below ground surface.

Utilities include on-site underground pipes, conduits, ducts, cables, and underground services within building lines.

QUALITY ASSURANCE

Codes and Standards: Perform earthwork complying with requirements of authorities with jurisdiction.

Testing and Inspection Service: Owner will employ a qualified independent geotechnical engineering testing agency to classify proposed on-site and borrow soils to verify that soils comply with specified requirements and to perform required field and laboratory testing.

PROJECT CONDITIONS

Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the Owner or others except when permitted in writing by the owner and then only after acceptable temporary utility services have been provided.

PART 2 – PRODUCTS

SOIL MATERIALS

General: Provide approved borrow soil materials from off site when sufficient approved soils material is not available from excavations.

Satisfactory Soil Materials: ASTM D 2487 soil classification groups GW, GP, GM, SW< SP, and SM; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation, or other deleterious matter.

Foundation and Fill Materials: Satisfactory soil materials.

Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand, ASTM D 2940, with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.

Bedding Material: Subbase materials with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, ASTM D 443, coarse aggregate grading size 57, with 100 percent passing a 1 1/2-inch sieve and not more than 5 percent passing a No. 8 sieve.

ACCESSORIES

Detectable Warning Tape: Polyethylene film warning tape encasing a metallic core, 6 inches wide and 4 mils thick minimum, continuously inscribed with a description of the utility shall be installed above all water mains as installed for this development.

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PART 3 – EXECUTION

PREPARATION

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

Provide erosion and sedimentation control measures.

DEWATERING

Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

Protect subgrades and foundation soils from softening and damage by rain or water accumulation and from freezing temperatures or frost.

EXCAVATION

Explosives: Do not use explosives.

Unclassified Excavation: Excavation is unclassified and includes excavation to required subgrade elevations regardless of character of materials and obstructions encountered.

Excavate for structures, pavements, and walks to indicated elevations and dimensions. Widen excavations to permit placing and removing concrete formwork, installing services and other construction, and for inspections. Trim subgrades to required lines and grades to leave solid base to receive other works.

Excavate utility trenches to indicated slopes, lines, depths, and invert elevations of uniform widths to provide a maximum 12 inches of working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than the top of pipe or conduit.

Excavate and shape trench subgrade to provide uniform bearing and continuous support for pipe and conduit. Where encountering rock or other unyielding bearing surface, carry trench excavation 6 inches below invert elevation to receive bedding course.

Approval of Subgrade: When Geotechnical Engineer determines that unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed. Payment will be made according to the Contract provisions for changes in the work.

The construction site is to be maintained so that the following conditions can be avoided, but if they occur, then the Contractor shall be responsible to Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities.

Fill unauthorized excavation under foundations or wall footings by extending indicated bottom elevation of concrete foundation or footing to excavation bottom, without altering required top elevation. Fill unauthorized excavations under other construction as directed by Geotechnical Engineer.

Store excavated and borrow soil materials acceptable for backfill and fill in shaped, graded, and covered stockpiles. Locate stockpiles away from edge of excavations and outside drip line of remaining trees.

BACKFILLING

Backfill excavations promptly following acceptance of affected work below final grade.

Utility Trench Backfill: Place, compact, and shape bedding course to provide continuous support for pipes and conduits over rock and other unyielding bearing surfaces and to fill unauthorized excavations.

Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch, to a height of 12 inches over the utility pipe or conduit. Place and compact final backfill of satisfactory soil material to final subgrade.

Coordinate backfilling with utilities testing.

Install warning tape directly above water lines, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

Fill Preparation: Plow strip or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing surface.

When subgrade or existing ground surface to receive fill has a density less than that required for fill, break up ground surface to depth required, pulverize, moisture-condition or aerate soil, and recompact to required density.

Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer to within 2 percent of optimum moisture content before compaction.

Remove and replace, or scarify or air dry, satisfactory soil material that is too wet to compact to specified density.

COMPACTION

Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers. Place evenly alongside structures and utilities to required elevations.

Compact soil to not less than the following percentages of maximum dry density according to Modified AASHTO T-180 Compaction Test:

Under structures, building slabs, steps, and pavements, compact the top 12 inches below subgrade and each layer of backfill or fill material to 95 percent.

Under lawn or unpaved areas, compact the top 6 inches below subgrade and each layer of backfill or fill material to 90 percent.

Under walkways, compact the top 6 inches below subgrade and each layer of backfill or fill material to 95 percent.

GRADING

Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated. Grade lawns, walks, and unpaved subgrades to tolerances of plus or minus 0.10 foot and pavements and areas within building lines to plus or minus 1/2 inch.

SUBBASE AND BASE COURSES

Sub base: Under pavements and walks, place sub base course material on prepared subgrades and compact at optimum moisture content to required grades, lines, cross sections, and thickness.

Place shoulders along edges of sub base to prevent lateral movement. Construct shoulders at least 12 inches wide of acceptable soil materials and compact simultaneously with each subbase layer.

Under slabs-on-grade, place drainage fill on prepared subgrade and compact to required cross sections and thickness.

FIELD QUALITY CONTROL (BY GENERAL CONTRACTOR)

Allow testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.

Perform field in-place density tests according to ASTM D 1556 (sand cone method), ASTM D 2157 (rubber balloon method), ASTM D 2922 (nuclear method) or ASTM D 2937 (drive cylinder method), as applicable.

Footing Subgrades: Test each soil stratum to verify design bearing capacities.

Paved Areas and Building Slabs: At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2,000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.

Foundation Wall Backfill: At each compacted backfill layer, perform at least one field in-place density test for each 100 feet or less of wall length, but in no case fewer than two tests.

Trench Backfill: In each compacted initial and final backfill layer, perform at least one field in-place density test for each 150 feet or less of trench, but in no case fewer than two tests.

When testing agency reports that subgrade, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact, and retest until obtaining required density.

PROTECTION

Repair and reestablish grades where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction.

Settling: Where settling occurs during the project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing.

DISPOSAL

Transport surplus satisfactory soil to designated stockpiles on the Owner's property. Remove waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off the Owner's property.

Dispose: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off the Owner's property.

Graded Areas That Are to Remain Bare for More Than Two Weeks Shall Be Seeded and Mulched.

GENERAL NOTES:

1.) THE UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, NONEXISTENCE, SIZE, TYPE, OR LOCATION OF THESE OR OTHER UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFYING THE ACTUAL LOCATION OF ALL UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY CONSTRUCTION OF IMPROVEMENTS.

CONTRACTOR MUST CONTACT "DIG-RITE" (1-800-344-7483) FOR UTILITY LOCATIONS BEFORE PERFORMING ANY EXCAVATION ON THE SITE.

CONTRACTOR TO CONTACT ALL SEWER, GAS, TELEPHONE, WATERLINE AND ANY OTHER UTILITIES PRIOR TO CONSTRUCTION. ALL CONNECTIONS OR REPAIRS ARE TO BE MADE IN ACCORDANCE WITH LOCAL CODES AND/OR UTILITY COMPANIES REQUIREMENTS.

- ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.
- BOUNDARY AND TOPOGRAPHIC SURVEY BY ENGINEERS J.R. GRIMES CONSULTING ENGINEERS.
- ALL SIDEWALKS, CURB RAMPS, RAMP AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICAN WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) ALONG WITH THE REQUIRED GRADES, CONSTRUCTION MATERIALS, SPECIFICATIONS AND SIGNAGE. IF ANY CONFLICT OCCURS BETWEEN THE ABOVE INFORMATION AND THE PLANS, THE ADAAG GUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR, PRIOR TO ANY CONSTRUCTION, SHALL NOTIFY THE PROJECT ENGINEER.
- ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH THE CITY OF O'FALLON.
- NO SLOPES SHALL EXCEED 3 (HORIZONTAL) TO 1 (VERTICAL), UNLESS JUSTIFIED BY GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY THE CITY OF O'FALLON AND THE OFFICE OF THE ENGINEER.
- STORMWATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT.
- REQUIRED ROADWAY IMPROVEMENTS MUST BE COMPLETED PRIOR TO ISSUANCE OF OCCUPANCY PERMIT.
- PRESENT ZONING – C2, PROPOSED USE – RESTAURANT/RETAIL.
- ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF O'FALLON.
- ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY OF O'FALLON. REFER TO SILTATION NOTES.
- PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE DEVELOPER FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
- ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
- GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
- PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS
- A GRADING PERMIT IS REQUIRED PRIOR TO ANY GRADING ON THE SITE. NO CHANGE IN WATERSHEDS SHALL BE PERMITTED.
- INTERIM STORMWATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
- THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORMWATER SYSTEMS IN ACCORDANCE WITH THE CITY OF O'FALLON STANDARDS.
- ADEQUATE TEMPORARY OFF-STREET PARKING SHALL BE PROVIDED FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVING CONDITIONS.
- ROAD IMPROVEMENTS SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT. IF DEVELOPMENT PHASING IS ANTICIPATED, THE DEVELOPER SHALL COMPLETE ROAD IMPROVEMENTS, RIGHT-OF-WAY DEDICATION, AND ACCESS REQUIREMENTS OF EACH PHASE OF DEVELOPMENT AS DIRECTED BY THE CITY OF O'FALLON PUBLIC WORKS DEPT. AS PREVIOUSLY NOTED, THE DELAYS DUE TO UTILITY RELOCATION AND ADJUSTMENTS WILL NOT CONSTITUTE A CAUSE TO ALLOW OCCUPANCY PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT.
- THE DEVELOPER IS ADVISED THAT UTILITY COMPANIES WILL REQUIRE COMPENSATION FOR RELOCATION OF THEIR UTILITY FACILITIES WITHIN PUBLIC ROAD RIGHT-OF-WAY. UTILITY RELOCATION COST SHALL BE CONSIDERED THE DEVELOPER'S RESPONSIBILITY. THE DEVELOPER SHOULD ALSO BE AWARE OF EXTENSIVE DELAYS IN UTILITY COMPANY RELOCATION AND ADJUSTMENTS. SUCH DELAYS WILL NOT CONSTITUTE A CAUSE TO ALLOW OCCUPANCY PRIOR TO COMPLETION OF ROAD IMPROVEMENTS.
- ROAD IMPROVEMENTS SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT. IF DEVELOPMENT PHASING IS ANTICIPATED, THE DEVELOPER SHALL COMPLETE ROAD IMPROVEMENTS, RIGHT-OF-WAY DEDICATION, AND ACCESS REQUIREMENTS OF EACH PHASE OF DEVELOPMENT AS DIRECTED BY THE CITY OF O'FALLON PUBLIC WORKS DEPT. AS PREVIOUSLY NOTED, THE DELAYS DUE TO UTILITY RELOCATION AND ADJUSTMENTS WILL NOT CONSTITUTE A CAUSE TO ALLOW OCCUPANCY PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT.
- ALL DISTURBED EARTH AREAS WITHIN THE CITY OF O'FALLON & MODOT RIGHT-OF-WAY SHALL BE SOODED
- ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF O'FALLON
- IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE WITH THE UTILITY COMPANIES THE REMOVAL OF EXISTING UTILITY FACILITIES THAT CONFLICT WITH THE NEW DEVELOPMENT AND THE INSTALLATION OF THE NEW SYSTEMS TO SERVE THE PROPOSED DEVELOPMENT.
- ALL CONSTRUCTION OF PUBLIC IMPROVEMENTS AND ALL CONSTRUCTION WITHIN CITY R.O.W. SHALL COMPLY WITH THE O'FALLON STANDARDS CONSTRUCTION SPECIFICATIONS FOR SUBDIVISIONS. THE CITY ENGINEER SHALL BE NOTIFIED AT LEAST 1 WEEK IN ADVANCE OF THE START OF SAID CONSTRUCTION AND ALL APPLICABLE CITY PERMITS SHALL BE OBTAINED PRIOR TO THE START OF SAID CONSTRUCTION.
- THE DEVELOPER MUST SUPPLY THE CITY CONSTRUCTION INSPECTORS WITH SOILS REPORTS PRIOR TO OR DURING SITE SOIL TESTING.
- ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER, PROPOSED ROADS, AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. ALL FILL PLACED IN PROPOSED ROADS SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS. THE MOISTURE CONTENT OF THE SOIL IN FILL AREAS IS TO CORRESPOND TO THE COMPACTIVE EFFORT AS DEFINED BY STANDARD OR MODIFIED PROCTOR TEST. OPTIMUM MOISTURE CONTENT SHALL BE DETERMINED USING THE SAME TEST THAT WAS USED FOR COMPACTION. SOIL COMPACTION CURVES SHALL BE SUBMITTED TO THE CITY OF O'FALLON PRIOR TO THE PLACEMENT OF FILL. PROOF ROLLING MAY BE REQUIRED TO VERIFY SOIL STABILITY AT THE DISCRETION OF THE CITY OF O'FALLON.
- ALL SIGN POSTS, BACKS, AND BRACKET ARMS SHALL BE PAINTED BLACK USING CARBOLINE RUSTBOND PENETRATING SEALER 30 AND CARBOLINE 133 HD PAINT (OR EQUIVALENT AS APPROVED BY THE CITY AND MODOT). SIGNS DESIGNATING STREET NAME SHALL BE ON THE OPPOSITE SIDE OF THE STREET FROM TRAFFIC CONTROL SIGNS.
- ALL PROPOSED FENCING REQUIRES A SEPARATE PERMIT THROUGH THE PLANNING DIVISION.
- ALL SIGN LOCATIONS AND SIZES MUST BE APPROVED SEPARATELY THROUGH THE PLANNING DIVISION.
- LIGHTING VALUES WILL BE REVIEWED ON SITE PRIOR TO THE FINAL OCCUPANCY INSPECTION. CORRECTIONS WILL NEED TO BE MADE IF NOT IN COMPLIANCE WITH CITY STANDARDS.
- ELECTRIC UTILITIES SHALL BE LOCATED UNDERGROUND
- ALL UTILITIES, PUBLIC AND PRIVATE, WILL BE FUNCTIONING AND AVAILABLE FOR USE PRIOR TO OCCUPANCY OF THE PROPOSED BUILDING.
- STREET TREES SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 400.420 OF THE CITY OF O'FALLON'S ZONING ORDINANCE.
- THE EXISTING 1.33 ACRE TREE MASS LOCATED ON THE SITE SHALL BE MITIGATED PER THE CITY OF O'FALLON'S TREE PRESERVATION ORDINANCE. 1.33 AC. @ 15 TREES/AC. = 20 TREES.
- ALL LANDSCAPE AREAS WITHIN THIS DEVELOPMENT REQUIRED TO BE IRRIGATED.
- WALL PACK LIGHTING SHALL NOT BE USED ON THIS BUILDING ON ELEVATIONS THAT ARE VISIBLE FROM THE PUBLIC RIGHT-OF-WAY.
- PRIOR TO CONSTRUCTION SITE PLAN APPROVAL, A PHOTOMETRIC LIGHTING PLAN SHALL BE SUBMITTED FOR REVIEW AND APPROVAL FOR ALL EXTERIOR LIGHTING.
- NO OUTDOOR DISPLAY OF MATERIALS OR PRODUCTS, TEMPORARY OR OTHERWISE, SHALL OCCUR BEYOND THE AREAS BETWEEN THE FRONT OF THE BUILDING AND THE DRIVE AISLE. NO SUCH MATERIALS SHALL BE ATTACHED OR FIXED TO ANY EXTERIOR WALL.
- DETENTION FOR THIS SITE SHALL BE PROVIDED IN ACCORDANCE WITH THE LATEST CITY OF O'FALLON REQUIREMENTS. THE PROPOSED DETENTION BASIN WILL PROVIDE DETENTION FROM THE AREA WITHIN WATERSHED #1. EACH INDIVIDUAL PARCEL SHALL PROVIDE UNDERGROUND DETENTION FOR AREAS WITHIN WATERSHED #2 AS THEY ARE DEVELOPED.
- ALL PAVING TO BE IN ACCORDANCE WITH ST. CHARLES COUNTY STANDARDS AND SPECIFICATIONS EXCEPT AS MODIFIED BY THE CITY OF O'FALLON'S ORDINANCE.
- GRADED AREAS THAT ARE TO REMAIN BARE FOR MORE THAN TWO WEEKS SHALL BE SEEDDED AND MULCHED.

DUCKETT CREEK SANITARY DISTRICT CONSTRUCTION NOTES

- 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.
- GAS, WATER AND OTHER UNDERGROUND UTILITIES SHALL NOT CONFLICT WITH DEPTH OR HORIZONTAL LOCATION OF EXISTING OR PROPOSED SANITARY AND STORM SEWERS, INCLUDING HOUSE LATERALS.
- ALL EXISTING SITE IMPROVEMENTS DISTURBED, DAMAGED OR DESTROYED SHALL BE REPAIRED OR REPLACED TO CLOSELY MATCH RECONSTRUCTION CONDITIONS.
- 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 THE MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST (ASTM D1557)" ALL TEST 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 PROOF ROLLING AND COMPACTION.
- THE CONTRACTOR SHALL PREVENT ALL STORM, SURFACE WATER, MUD AND CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER SYSTEM.
- ALL SANITARY SEWER FLOWLINES AND TOPS BUILT WITHOUT ELEVATIONS FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF SEWER CONTRACTOR.
- EASEMENTS SHALL BE PROVIDED FOR ALL SANITARY SEWERS, STORM SEWERS AND ALL UTILITIES ON THE RECORD PLAN.
- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS OF THE DUCKETT CREEK SANITARY DISTRICT.
- THE DUCKETT CREEK SANITARY DISTRICT SHALL BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION FOR COORDINATION INSPECTION.
- 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.
- ALL SANITARY SEWER MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR IN ACCORDANCE WITH MISSOURI DEPT. OF NATURAL RESOURCES SPECIFICATION 10 CR-8.120(7)(C).
- ALL PVC SANITARY SEWER PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034 STANDARD SPECIFICATION FOR PSM POLYETHYLENE CHLORIDE SEWER PIPE, SDR-35 OR EQUAL, WITH "CLEAN" 1/2" TO 1" GRANULAR STONE BEDDING UNIFORMLY GRADED. THIS BEDDING SHALL EXTEND FROM 4 INCHES BELOW THE PIPE TO THE SPRINGLINE OF PIPE. IMMEDIATE BACKFILL OVER THE PIPE SHALL CONSIST OF SAME SIZE "CLEAN" OR "MINUS" STONE FROM SPRINGLINE OF PIPE TO 6 INCHES ABOVE THE TOP OF PIPE.
- ALL SANITARY AND STORM SEWER TRENCH BACKFILLS SHALL BE WATER JETTED. GRANULAR BACKFILL WILL BE USED UNDER PAVEMENT AREAS.
- ALL PIPES SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLES. NO FLAT INVERT STRUCTURES ARE ALLOWED.
- ALL CREEK CROSSINGS SHALL BE GROUDED RIP-RAP AS DIRECTED BY THE DISTRICT INSPECTORS. (ALL GROUT SHALL BE HIGH SLUMP READY-MIX CONCRETE).
- BRICK SHALL NOT BE USED ON SANITARY SEWER MANHOLES.
- EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
- MAINTAIN ACCESS TO EXISTING RESIDENTIAL DRIVEWAYS AND STREETS.
- PRE-MANUFACTURED ADAPTERS SHALL BE USED AT ALL PVC TO DIP CONNECTIONS. RUBBER BOOT/MISSION-TYPE COUPLINGS WILL NOT BE ALLOWED.
- ANY PERMITS, LICENSES, EASEMENTS, OR APPROVALS REQUIRED TO WORK ON PUBLIC OR PRIVATE PROPERTIES OR ROADWAY ARE THE RESPONSIBILITY OF THE DEVELOPER.
- TYPE N' LOCK-TYPE COVER AND LOCKING DEVICE (LOCK-LUG) SHALL BE USED WHERE LOCK-TYPE COVERS ARE REQUIRED.

STORM SEWER NOTES:

- ALL MATERIALS AND METHODS OF CONSTRUCTION FOR STORM SEWERS TO MEET REQUIREMENTS AND SPECIFICATIONS OF THE CITY OF O'FALLON.
- ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH CITY OF O'FALLON STANDARDS.
- ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III PIPES UNLESS OTHERWISE NOTED
- CONTRACTOR TO START LAYING PIPE AT DOWNSTREAM MANHOLE AND WORK UPSTREAM.
- BRICK SHALL NOT BE USED IN THE CONSTRUCTION OF STORM SEWER STRUCTURES.
- PROVIDE 5/8" DIAMETER TRASH BAR FOR ALL INLETS.
- 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 THE MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST (ASTM D1557)" ALL TEST 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 PROOF ROLLING AND COMPACTION.
- ALL JOINTS SHALL BE GASKETED O-RINGS.

SILTATION MAINTENANCE NOTES:

- SILTATION CONTROL BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES OR FENCE.
- NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES OR FENCE SHALL BE ACCOMPLISHED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER SILTATION CONTROL BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDDED.
- ALL EXPOSED SLOPES WHETHER TEMPORARY OR PERMANENT SHALL BE SEEDDED PER SPECIFICATIONS IMMEDIATELY UPON COMPLETION. ALL FLOWLINES OF DIVERSION DITCHES AND SWALES SHALL BE PROTECTED AS NEEDED.
- THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION CONTROL OF THE PROJECT AREA. THE CONTRACTOR SHALL USE WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SILTATION INCLUDING, BUT NOT LIMITED TO, STAKED STRAW BALES AND/OR SILTATION FABRIC FENCES (POSSIBLE METHODS OF SILTATION CONTROL DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WITH THE GRADING AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY THE OWNER AND/OR THE CITY OF O'FALLON AND/OR MODOT. THE CONTRACTOR'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE OWNER AND/OR THE CITY OF O'FALLON AND/OR MODOT MAY AT THEIR OPTION DIRECT THE CONTRACTOR IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY POSTING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT OR IN NEW OR EXISTING SEWERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE OWNER AND/OR THE CITY OF O'FALLON AND/OR MODOT.

EARTHWORK NOTES:

BULK CUT.....72,000 C.Y.+ CUBIC YARD

BULK FILL.....72,000 C.Y. (w/9% SHRINKAGE