

GENERAL NOTES

- GN #1 Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet slumps
- GN #2 Sidewalks, curb ramps, ramps 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.
- GN #3 Truncated domes for curb ramps located in public right of way shall meet ADA requirements and shall be constructed using red pre cast truncated domes per pavement details.
- GN #4 Any proposed pavilions or playground areas will need a separate permit from the Building Division.
- GN #5 The Contractor is responsible to call Missouri One Call and The City of O'Fallon for the location of utilities. Contact the City of O'Fallon at (636) 379-3814 for the location of City maintained cable for street lights and traffic signals. Call Missouri One Call 1-800-DIG-RITE (1-800-344-7483) for all other utilities.
- GN #6 All proposed utilities and/or utility relocations shall be located underground.
- GN #7 All proposed fencing requires a separate permit through the Building Division.
- GN #8 All construction operations and work zone traffic control within the right of way will follow MoDOT or M.U.T.C.D. standards whichever is more stringent.
- GN #9 All free standing signs shall be located a minimum of ten (10) feet away from any right of way line and/or property line and a minimum of three (3) feet from the back of curbing or sidewalk. All signs shall abide by the regulations for visibility at corners, including corners from driveways and the street it intersects per Section 400.260 of the O'Fallon Zoning Code
- GN #10 All identification or directional sign(s) must have the locations and sizes approved and permitted separately through the Planning and Development Division.
- GN #11 If materials such as trees, organic debris, rubble, foundations and other deleterious material that are not to be reused, shall be removed from the site and disposed of in compliance with all applicable laws and regulations. If the material listed previously are reused, a letter from a soil Engineer must clarify amount, location, depth, ect. and must be approved with the construction plans. Landfill tickets for such disposal shall be maintained on file by the developer.
- GN #12 Twenty-four (24) hours prior to starting any of the work covered by the above plans and after approval thereof, the developer shall make arrangements with the Construction Inspection Office to provide for inspection of the work, sufficient in the opinion of the City Engineer, to assure compliance with the plans and specifications as approved.
- GN #13 The City Engineer or their duly authorized representative shall make all necessary inspections of City infrastructure, escrow items or infrastructure located on the approved plans.

Additional General Notes

- The original of these drawings are on file at the office of The Clayton Engineering Company. Any modifications to these drawings shall release said Clayton Engineering Company and the Engineer and/or the Surveyor whose seal appears hereon from any liability resulting from said unauthorized modifications.
- All offsite property owners shall be given notice 48 hours in advance of any work by the Contractor.
- Any disturbed offsite property (e.g. bushes, fences, mailboxes, etc.) shall be replaced, in kind, at the developer's expense.
- All existing on-site structures, sidewalks, concrete or asphalt surfaces, curbing, utility poles, sewer structures, utility services, fences, trees, shrubs, and debris noted for removal on the drawings shall be demolished and removed from the site and properly disposed of all in a manner approved by the regulating governmental agencies.
- Contractor shall be responsible for determining the amount of removals, demolition, clearing and grubbing, stripping of vegetation, pavement breaking, and haul off.
- Contractor shall be responsible for coordinating and providing all services and fees necessary to obtain the required building demolition permits and for fees by the various utilities associated with the disconnection and termination of their services.
- Contractor shall obtain all necessary state and local permits required for hauling and disposal of demolition, clearing, and non-suitable materials from the project site. Hauling methods and conditions of the permit shall be strictly adhered to.
- Contractor shall preserve and protect from damage all existing improvements that are not to be removed within the project limits or adjacent thereto as a result of their activities in the performance of work.
- Underground facilities, structures and utilities have been plotted from available surveys, records and information and, therefore, do not necessarily reflect the actual existence, nonexistence, size, type, number, of location or depth of these facilities, structures and utilities. The Contractor shall be responsible for verifying the actual location of all underground facilities, structures and utilities, other shown or not shown on these plans. The underground facilities, structures and utilities shall be located in the field prior to any grading, excavation or construction of improvements. Should the actual location, size or depth of any underground facilities, structures or utilities differ from those indicated on these plans, the Contractor shall immediately notify Clayton Engineering prior to proceeding with the installation of any proposed improvements in the area where the difference exists. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMO.
- Contractor to verify horizontal and vertical location and flow line of all existing utilities prior to connection. All connections to be made in accordance with local codes and/or utility companies requirements.
- Contractor to notify Engineer as soon as possible if site conditions differ from those shown on plans.
- The developer is advised that utility companies will require compensation for relocation of their utility facilities within the 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.
- All storm water shall be discharged at an adequate natural discharge point.
- All landscape areas shall be irrigated.

Missouri Department of Transportation (MoDOT) Notes

- All proposed improvements adjacent to Highway K shall be constructed to MoDOT Standards.
- All grading and drainage adjacent to Highway K to be in conformance with MoDOT and City of O'Fallon Standards.
- No slopes within MoDOT right-of-way shall exceed 3 (horizontal) to 1 (vertical).

Erosion Control Notes

- EN #1 The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area. The Permittee shall use whatever means necessary to control erosion and siltation including, but not limited to, stacked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with the clearing operations and be maintained throughout the project until acceptance of the work by City of O'Fallon and as needed by MoDOT. The Permittee's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The City of O'Fallon and as required by MoDOT may at their option direct the Permittee in his methods as deemed fit to protect property and improvements. Any depositing of silt or mud on new or existing pavement shall be removed immediately. Any depositing of silts or mud in new or existing storm sewers and/or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the City of O'Fallon and as required by MoDOT.*
- EN #2 All erosion control systems or other control devices shall be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in one-half inch of rain or more. Any silt or debris leaving the site and affecting public right of way or storm water drainage facilities shall be cleaned up within 24 hours after the end of the storm.
- EN #3 Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with St. Charles County Soil and Water Conservation District Erosion and Sediment Control guidelines.
- EN #4 This development is required to provide long term post construction BMP's such as; low impact design, source control and treatment controls that protects water quality and controls run off to the maximum extent practical in compliance with Phase II Illinois Storm Water Discharge Guidelines. (Ord. 5082, section 405.0245)
- EN #5 Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities. Unless it can be shown to the City Engineer that weather conditions are not favorable, vegetative growth is to be established within 6 weeks of stopping grading work on the project. The vegetative growth established shall be sufficient to prevent erosion and the standard shall be as required by EPA and DNR (70% coverage per square foot) Ord. 5242, Section 405.070

Grading Notes

- GRN #1 Developer must supply City construction inspectors with an Engineer's soils report prior to and during site grading. The soils report will be required to contain the following information on soil test curves (Proctor reports) for projects within the City:
- Maximum dry density.
 - Optimum moisture content.
 - Maximum and minimum allowable moisture content.
 - Curve must be plotted to show density from a minimum of 90% compaction and above as determined by the "Modified AASHTO T-180 Compaction Test" (A.S.T.M.-D-157) or from a minimum of 95% compaction and above as determined by the "Standard Proctor Test AASHTO T-99, Method C" (A.S.T.M.-D-698). Proctor type must be designated on document.
 - Curve must have at least 5 density points with moisture content and sample locations listed on document.
 - Specific gravity.
 - Natural moisture content.
 - Liquid limit.
 - Plastic limit.
- Be advised that if this information is not provided to the City's Construction Inspector, the City will not allow grading or construction activities to proceed on any project site.
- GRN #2 All fill placed under proposed storm and sanitary sewers, proposed roads, and/or paved areas shall be compacted to 90% 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. Moisture content of the soil in fill areas is to correspond to the compactive effort as defined by the 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.
- GRN #3 All fill placed in areas other than proposed storm sewers, sanitary sewers, proposed roads, and paved areas shall be compacted from the bottom of the fill up in 8" lifts and compacted to 90% maximum density as determined by Modified AASHTO T-180 compaction test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-99. Ensure the moisture content of the soil in fill areas corresponds to the compactive effort as defined by the 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.
- GRN #4 The surface of the fill shall be finished so it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the lay or under placement to freeze.

Grading Notes Continued

- GRN #5 All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with the approved SWPPP
- GRN #6 When grading operations are complete or suspended for more than 14 days, permanent grass must be established at sufficient density to provide erosion control on site. No graded areas are to remain bare for over 14 days without being seeded and mulched. Between permanent grass seeding periods, temporary cover shall be provided according to St. Charles Soil and Water Conservation District - Model Sediment and Erosion Control Regulations. All finished grades (areas not to be disturbed by improvements) in excess of 20% slopes (5:1) shall be mulched and tacked at a rate of 100 pounds per 1000 square feet when seeded.
- GRN #7 No slopes shall exceed 3 (horizontal): 1 (vertical) unless otherwise approved by the soils report and specifically located on the plans and approved by the City Engineer.
- GRN #8 All low places whether on site or off shall be graded to provide drainage with temporary ditches.
- GRN #9 All existing wells on site shall be capped per DNR standards. No wells, cisterns and/or springs are known to exist on the property.
- GRN #10 All trench back fills under paved areas shall be granular back fill, and compacted mechanically. All other trench back fills may be earth material (free of large clods, or stones) and compacted using either mechanical or water jetting. Granular material and earth material associated with new construction outside of pavements may be jetted, taking care to avoid damage to nearby laid sewers. The jetting shall be performed with a probe route on not greater than 7.5 foot centers with the jetting probe centered over and parallel with the direction of the pipe. Trench widths greater than 10 feet will require multiple probes every 7.5 foot centers.
- Depth, Trench back fills less than 8 feet deep shall be probed to a depth extending half the depth of the trench back fill, but not less than 3 feet. Trench back fill greater than 8 feet in depth shall be probed to half the depth of the trench back fill but not greater than 8 feet.
 - Equipment, The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
 - Method, Jetting shall be performed from the lowest surface topographic point and proceed toward the highest point, and from the bottom of the trench back fill toward the surface. The flooding of each jetting probe shall be started slowly allowing slow saturation of the soil. Water is not allowed to flow away from the trench without first saturating the trench.
 - Surface Bridging, The contractor shall identify the locations of the surface bridging (the tendency for the upper surface to crust and arch over the trench rather than collapse and consolidate during the jetting process). The contractor shall break down the bridged areas using an appropriate method such as wheels or bucket of a backhoe. When surface crust is collapsed, the void shall be back filled with the same material used as trench back fill and rejected. Compaction of the materials within the sunken/jetted area shall be compacted such that no further surface subsidence occurs
- GRN #11 Site grading.
- Within City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed every two hundred fifty (250) feet along the centerline for each lift.
 - Outside of City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per the approved compaction requirements. One (1) compaction test will be performed at two (2) foot vertical intervals and approximately every one thousand (1,000) cubic yards.

Sanitary Sewer Notes

- SAN #1 All sanitary sewer installation is to be in accordance with M.S.D. 2007 standards and specifications except as modified by the City of O'Fallon Ordinances.
- SAN #2 Brick shall not be used in the construction of sanitary sewer structures. Pre cast concrete structures are to be used unless otherwise approved by the City of O'Fallon.
- SAN #3 Connections at all sanitary structures are to be made with A-Lock joint or equal
- SAN #4 All sanitary laterals shall be a minimum of 4" residential, 6" commercial diameter pipe.
- SAN #5 All sanitary mains shall be a minimum of 8" diameter pipe.
- SAN #6 All sanitary sewer line with a slope greater than 20% will require concrete cradle or concrete collar. Sanitary line with a slope greater than 50% will require a special approved design as shown on detail sheet.
- SAN #7 All manholes built within the 100 year flood plain must have lock type watertight manhole covers.
- SAN #8 All sanitary sewer mains must have a minimum of 42" cover.
- SAN #9 When sanitary mains cross over storm line the sanitary man must be ductile iron pipe for 10 feet on each side of the crossing.
- SAN #10 Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete cradle to only RCP storm sewer and encase HDPE storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
- SAN #11 The sanitary sewers should run diagonally through the side yards to minimize any additional utility easements required.
- SAN #12 All sanitary sewer structures shall be waterproofed on the exterior in accordance to Missouri DNR specifications 10CSR-8.120 (7)(E).
- SAN #13 All sanitary sewer pipe shall be SDR35 or equal.
- SAN #14 All sanitary sewer manholes and pipes will be tested to the following specifications. ASTM C1244, Standard testing method for Concrete Sewer Manhole by Negative Air Pressure (Vacuum), Latest revision ASTM F1417, Standard testing method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low Pressure Air, Latest revision.
- SAN #15 Add 1" minus rock back fill to all sanitary sewer and all other utilities that lie within the 1:1 shear plane of the road.
- SAN #16 All Sanitary laterals and sanitary mains crossing under pavement must have proper rock backfill and required compaction.

Storm Sewer Notes

- STM #1 All Storm Sewer installation is to be in accordance with M.S.D. 2007 standards and specifications except as modified by the City of O'Fallon ordinances.
- STM #2 Brick shall not be used in the construction of storm sewer structures. Pre cast concrete structures are to be used unless otherwise approved by the City of O'Fallon.
- STM #3 A 5/8" trash bar shall be installed horizontally in the center of the opening(s) in all curb inlets and area inlets.
- STM #4 HDPE pipe is to be N-12WT or equal and to meet ASTM F1417 water tight field test.
- STM #5 Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer. Add concrete cradle to only RCP storm sewer and encase HDPE storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
- STM #6 The storm sewers should run diagonally through the side yards to minimize any additional utility easements required.
- STM #7 All concrete pipes will be installed with O-ring rubber type gaskets. All concrete pipes to be Class III, unless noted otherwise.
- STM #8 Connections at all storm structures are to be made with A-lock joint or equal.
- STM #9 Pre cast concrete inlet covers are not to be used.
- STM #10 All storm sewer shall be reinforced concrete pipe or H.D.P.E. pipe. All structures and flared end sections must be concrete. Manufacturing specifications must be followed and details provided for the installation of H.D.P.E. pipe. H.D.P.E. pipe will not be allowed for detention basin outflows, final pipe run to detention basins, creek discharge or other approved means.
- STM #11 Add 1" minus rock back fill to all storm sewers within 10 ft. of the edge of pavement and that lie within the 1:1 shear plane of the road.

Additional Storm and Sanitary Sewer Notes

- All concrete pipe shall be reinforced concrete pipe and meet current A.S.T.M. Specification C-76 and shall be Class III unless otherwise noted on profiles.
- Joints for concrete pipe shall be rubber gasketed meeting ASTM C-443 with a main sealing surface of no less than 3 inches.
- All High Density Polyethylene Pipes (HDPE) shall meet the material requirements of ASTM F2306 and installation requirements of ASTM D2321. Minimum cover in traffic areas for 12" thru 24" pipe shall be one foot. HDPE shall be installed in accordance with current Metropolitan St. Louis Sewer District specifications.
- Manhole frames and covers shall be standard frames and cover, R-1775, as manufactured by Neenah Foundry Company, or equivalent approved by the Engineer.
- Cleanouts to consist of 4 inch on 8 inch wye turned up, 4 inch elbow and riser. Cap with a round frame and cover, Neenah Foundry Company R-1976 or equivalent approved by the Engineer. Frame to be set in concrete collar.

Water Notes

- WN #1 Fire hydrants shall be a maximum of 600' apart. Local fire district approval is required
- WN #2 Coordinate with the water company on the location of water meters.
- WN #3 All water main must have a minimum of 42" of cover. (City water mains)
- WN #4 Provide water valves to isolate the system.
- WN #5 All water mains shall be class 200 SDR 21 or equal with locator/tracer wires
- WN #6 DISINFECTING.

Disinfecting shall be accomplished by placing sufficient hypo chlorite granule (HTH) in each section of pipe to achieve a chlorine residual in the pipeline, upon initial filling, of 50 mg/L (PPM). HT tablets will not be allowed. Following completion of the pipeline, it shall be slowly filled with water and a sample will be taken immediately and the chlorine residual must be 50 mg/L or greater. The solution shall be allowed to stand for 24 hours and a sample shall then be taken. The chlorine residual after 24 hours shall be 30 mg/L or greater. If the piping shows insufficient chlorine residuals in either test, the piping shall be re-chlorinated by the injection of hypo chlorite solution until satisfactory results are achieved. All disinfecting shall be done by the contractor. Only the testing to determine the chlorine residual will be done by the City.

WN #7 PRESSURE TESTING:

Immediately following disinfection, the piping shall be pumped to a pressure (at the lowest point in the project) of 150 psi or higher where the working pressure is higher than 150 PSI as determined by the City. In such cases, the pressure shall be as specified by the City and two pressure tests shall be conducted. The first test shall be with the fire hydrant auxiliary valve open and be to 150 PSI. The second test shall be with the fire hydrant auxiliary valve closed and be to the higher pressure as directed by the City. All pumping equipment and pressure gauges shall be provided by the contractor. After achieving the test pressure, the piping shall be left closed for a period of two (2) hours. At the end of this time the pressure drop shall not exceed 2 psi. In addition, if the pressure appears, in judgment of the City's representative, to be continuing to drop, the test shall be continued for another two (2) hours and if any further drops occur, the test shall be considered a failure. If the pressure test fails, the contractor will be required to find and correct the source of the leakage. If this requires draining of the pipeline, when the leakage is corrected, the pipeline must be re-disinfected and the pressure tested again until satisfactory result are achieved. Any MDRN required dechlorination will be performed by the contractor.

WN #8 All tops for valves, meters, and manholes are to be constructed to within 1 inch (0.08") of finish grade. Grading around structure tops on slopes need to be accounted for.

WN #10 BACTERIOLOGICAL TESTING:

After satisfactory disinfection and pressure testing, a sample shall be taken by the contractor in the presence of a City representative and submitted to a laboratory approved by the Missouri Department of Natural Resources and the City for bacteriological analysis. After 24 hours, a second sample shall be taken in a like manner and submitted for analysis. The two samples taken on consecutive days, a minimum of 24 hours apart, must be found to be "safe" by the testing laboratory, and copies of the test results must be supplied to the City. If the samples are not found to be "safe", further flushing and/or disinfection as directed by the City shall be conducted by the contractor until "safe" samples on two consecutive test days are achieved. Following successful bacteriological testing and a determination by the City that the samples are "safe", the mains may be placed into service.

Additional Water Line Notes

- All materials and methods of construction for new water mains, service lines and appurtenances shall be installed in accordance with ANSI/AWWA C-600, latest edition or City of O'Fallon Plumbing Code or St. Charles County Plumbing Code.
- All water main pipe shall be PVC pipe with Ring-Tite couplings, conforming to A.S.T.M. tentative Specification D-2241 for 250 pounds working pressure at 73 degrees F.
- Adaptors, couplings and/or other accessories and materials shall be those recommended for the pipe being used. All pipe fittings shall be ductile iron with a pressure rating of 350 psi (minimum). Ductile-iron Fittings shall meet AWWA C110 and ANSI A21 10-87, latest edition.

Roadway Notes

- RN #1 All paving (public and private) to be in accordance with 2006 St. Charles County Standards and Specifications except as modified by the City of O'Fallon ordinances. Paving along Highway K to meet the requirements of MODOT.
- RN #2 If the intersecting road does not have a curb, then the curb on the new entrance shall begin 10' from the edge of the existing road.
- RN #3 Provide 8" of non-reinforced concrete over 4" of MoDOT type 1 or type 5 aggregate rock for all onsite concrete pavements. All non-reinforced concrete shall be 4,000 psi at 28 days.
- RN #4 Multi-use trail (when required) Shall have a minimum of 3" Type "C" Asphalt over 4" aggregate base per City requirements.
- RN #5 Type C (BP-1) Compaction requirements shall be 100% minimum density except according to St. Charles Co. Standard Specifications.
- RN #6 Provide pavement striping at any point where the multi-use trail crosses existing or proposed pavement
- RN #7 All aggregate base course is to be compacted to 100%
- RN #8 All sub grade in cut or fill will need to conform to the City of O'Fallon Compaction requirements
- RN #9 Material Testing And Frequency. Materials for construction shall be tested and inspected per the appropriate ASTM code or at the City Engineer's discretion. The developer's engineer shall perform the following quality control guidelines:
- Concrete.
 - Cylinders/compressive strength. One (1) set of four (4) cylinders within the first fifty (50) cubic yards and one (1) set per one hundred (100) cubic yards thereafter. One (1) cylinder must be tested at seven (7) days, one (1) at fourteen (14) days and two (2) at twenty-eight (28) days. If the first (1st) cylinder does not meet specifications at twenty-eight (28) days, then the second (2nd) cylinder must be held and tested at day fifty-six (56).
 - Percent air and temperature. First (1st) truck batch each day and two (2) thereafter until a consistency is encountered. Once a consistency is encountered, then tests will be performed in conjunction with the concrete cylinders.
 - Slump. First (1st) truck batch each day and two (2) thereafter until a consistency is encountered. Once a consistency is encountered, then tests will be performed in conjunction with the concrete cylinders.
 - If concrete is batched from more than one (1) plant, then the aforementioned guidelines will be applicable to each plant.
 - Sub grade and base.
 - Proof roll as described in Section 405.210(B).
 - One (1) compaction test per two hundred fifty (250) feet of mainline paving, three (3) tests per intersection, five (5) tests within cul-de-sacs and one (1) test per repair slab.
 - Gradation test for sub base material.
 - Asphalt.
 - One (1) set of compaction tests per two hundred fifty (250) feet of mainline. One (1) set includes three (3) tests across the paved lane at the same station.
 - One (1) bulk density test per paving operation.

- RN #10 Approval Of Sub grade And Base (Sub base). The City Engineer or representative shall approve the sub grade before any base is placed thereon and shall approve the base before concrete or surface course is placed. The sub grade and base shall be constructed that it will be uniform in density throughout.
- RN #11 In all fill areas in the roadways, soil tests shall be submitted and approved by the City Engineer for each foot of fill and at least one (1) test and an average of one (1) test within every two hundred fifty (250) feet.
- RN #12 No traffic will be allowed on new concrete pavement until it has cured for seven (7) days and it reaches three thousand five hundred (3,500) psi within 28 days. Concrete pavements shall not be approved unless it reaches a strength of four thousand (4,000) psi. Cylinders/compressive strength. One (1) set of four (4) cylinders within the first fifty (50) cubic yards and one (1) set per one hundred (100) cubic yards thereafter. One (1) cylinder must be tested at seven (7) days, one (1) at fourteen (14) days and two (2) at twenty-eight (28) days. If the first (1st) cylinder does not meet specifications at twenty-eight (28) days, then the second (2nd) cylinder must be held and tested at day fifty-six (56).
- RN #13 Prior to placement of aggregate base material on sub grade and prior to placement of pavement on base material, the sub grade and base must be proof-rolled with a fully loaded (ten (10) ton load) tandem truck or equivalent tire vehicle with one (1) pass down each driving lane no faster than three (3) miles per hour. If soft spots are detected, or pumping, rutting or heaving occurs greater than one (1) inch at the sub grade, the roadbed shall be considered unsatisfactory and the soil in these areas shall be remediated to the depth indicated by the contractor's testing firm and approved by a representative of the City Engineer.
- RN #14 Sub grade and base beneath pavements shall be compacted to St. Charles County Highway Department specifications. The moisture range shall be determined by the Standard or Modified Proctor Density Method AASHTO T-99 and within -2/4 percentage points of the optimum moisture content.
- RN #15 The entire width and length will conform to line, grade and cross section shown on the plans or as established by the engineer. If any settling or washing occurs, or where hauling results in ruts or other objectionable irregularities, the contractor shall improve the sub grade or base to the satisfaction of the City before the pavement is placed. Additional rolling or methods to verify compaction shall be at the discretion of the City Engineer. Tolerance allowed on all lines, grades and cross sections shall be plus or minus four-hundredths (0.04) feet.
- RN #16 Utility Work Prior To Base Construction. No base course work may proceed on any street until all utility excavations (storm and sanitary sewers, water, gas, electric, etc.) have been properly back filled with granular material, or crushed stone or gravel mechanically tamped in ten (10) inch lifts. Utilities installed after sub grade preparation shall be bored. Compaction requirements shall follow St. Charles County standards (2006).
- RN #17 Equipment calibration. The developer's contractors and subcontractors must have their equipment calibrated by the following minimum standards.
 - Air meter-weekly.
 - Cylinder compression-annually by independent calibration service.
 - Batch scales-monthly.
 - Nuclear testing devices-every six (6) months.
 - Proctor equipment-every six (6) months.
 - Slump cone-monthly.
- RN #18 All permanent traffic control will be per M.U.T.C.D. or MoDOT standards. S1-1 from the M.U.T.C.D. manual will be used at all crosswalk locations accompanied with other w16-9p or w16-7p signs
- RN #19 All traffic signals, street signs, sign post, backs and bracket arms shall be painted black using Carboline Rust Bond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by City of O'Fallon and MoDOT).

Additional Streets and Paving Notes

- Entire Right-of-Way shall be graded and compacted prior to paving. All fill in the right-of-way and the upper 18 inches of subgrade in cut areas where deemed necessary, shall be compacted. Shoulders shall be backfilled, compacted and shaped to finish grade as soon as curbs are in place and sufficiently set to remove forms.
- Type D joints will be required for all concrete pavement terminations at the end of a working day.
- All materials and methods of construction for the entrances on Highway K to meet the requirements of the Missouri Department of Transportation (MoDOT). All materials and methods of construction for the entrances on McDonald Lane to meet the requirements of the City of O'Fallon. Entrances, parking areas and service drives shall be paved with 8 inch concrete on a 4 inch type 5 aggregate base with integral 6 inch vertical concrete curb. Entire subgrade shall be shaped, compacted and rolled prior to placing base course. Local soft spots in subgrade encountered during pavement construction shall be undercut and replaced with a thicker rolled stone base section.
- All materials and methods of construction for Highway K to meet the requirements of the Missouri Department of Transportation (MoDOT). Work shall include adding a 6 inch x 36 inch concrete MODOT Type "E" barrier curb and gutter with a 2 inch type "C" bituminous concrete wearing surface. Install off the sawcut edge of pavement where previous entrances are being removed.
- All materials and methods of construction for McDonald Lane to meet the requirements of the City of O'Fallon. Roadway pavement shall consist of 2 inch type "C" asphaltic concrete wearing surface on 7 inch type "X" asphaltic concrete base on 4 inch type 5 aggregate base with a 6 inch x 24 inch concrete curb and gutter. Install concrete sidewalk at back of new curbs and gutter in locations indicated on the plans and details.
- Contractor shall guarantee paving for one year after final completion of construction and acceptance against settlement, low spots or ravelling out of surface. Contractor shall make any repairs necessary during guarantee period to maintain paving in original condition, including cost of repaving within repaired areas. Repairs shall include but not be limited to removing defective paving and replacing with new paving. (No overlays will be allowed).
- The Contractor shall repair any damage to the existing pavement that results from new construction.

Retaining Walls: Terraced and Vertical

- RW #1 A permit is required for all retaining walls that are 48 inches or taller in height, measured from the top of the footing to the top of the wall or for walls that support a surcharge load or that alters the channelized drainage of any lot or drainage area.
- RW #2 Retaining walls will not be allowed in public right-of-way without written approval from the City Engineer.
- RW #3 Any retaining wall more than thirty (30) inches tall which supports a walking surface that is within two (2) feet of the wall will require a guard on the retaining wall.
- RW #4 Retaining walls that alter the channelled drainage of any lot or drainage area shall not be constructed without prior approval and permitting from the City of O'Fallon Engineering Department regardless of the height of the wall.
- RW #5 See section 405.275 of the City code for additional design requirements.

Underground facilities, structures & utilities have been plotted from available survey records & information, and therefore, do not necessarily reflect the actual existence, nonexistence, size, type, number of, or location of these facilities, structures, & utilities.

The Contractor shall be responsible for verifying the actual location of all underground facilities, structures, & utilities, either shown or not shown on these plans. The underground facilities, structures, & utilities shall be located in the field prior to any grading, excavation or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMO.



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PROJECT TITLE:
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DIRT CHEAP OF O'FALLON
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O'FALLON, MISSOURI 63366**

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Plan Date: **November 8, 2013**

Revision Date: **April 28, 2014**

Revision Date: **May 22, 2014**

Revision Date: **August 1, 2014**

Revision Date: **Sept 4, 2014**

Developer / Owner Information:
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CONSTRUCTION NOTES

P+Z No.: **(23-13.02)**

Approval Date: **10/03/13**

City No.

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