

COMMERCIAL

GENERAL NOTES

- GN #1 Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet sums
GN #2 Sidewalks, curb ramps, ramps and accessible parking spaces shall be constructed in accordance with the current approved
GN #3 Truncated domes for curb ramps located in public right of way shall meet ADA requirements and shall be constructed using red
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
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
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
GN #10 All subdivision identification or directional sign(s) must have the locations and sizes approved and permitted separately through
GN #11 Materials such as trees, organic debris, rubble, foundations and other deleterious material that are not to be reused, shall be
GN #12 Twenty-four (24) hours prior to starting any of the work covered by the above plans and after approval thereof, the developer
GN #13 The City Engineer or their duly authorized representative shall make all necessary inspections of City infrastructure, escrow items

EROSION CONTROL NOTES

- EN #1 The Permittee shall assume complete responsibility for controlling all siltation and erosion of the project area. The Permittee shall
EN #2 All erosion control systems are to be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in
EN #3 Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with St. Charles County Soil and Water
EN #4 This development is required to provide long term post construction BMP's such as; low impact design, source control and
EN #5 Graded areas shall be seeded and mulched (strawed) within 14 days of stopping land disturbance activities. Unless it can be

GRADING NOTES

- GRN #1 Developer must supply City construction inspectors with an Engineer's soils report prior to and during site grading. The soils
GRN #2 All fill placed in areas other than proposed storm sewers, sanitary sewers, proposed roads, and paved areas shall be compacted
GRN #3 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
GRN #4 All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with
GRN #5 When grading operations are complete or suspended for more than 14 days, permanent grass must be established at sufficient
GRN #6 No slopes shall exceed 3 (horizontal): 1 (vertical) unless otherwise approved by the soils report and specifically located on the
GRN #7 All low places whether on site or off shall be graded to provide drainage with temporary ditches.
GRN #8 All existing wells on site shall be capped per DNR standards.

GRADING NOTES CONTINUED

- GRN #10 All trench back fills under paved areas shall be granular back fill, and compacted mechanically. All other trench back fills may
a) Depth, Trench back fills less than 8 feet deep shall be probed to a depth extending half the depth of the trench back
b) Equipment, The jetting probe shall be a metal pipe with an interior diameter of 1.5 to 2 inches.
c) Method, Jetting shall be performed from the lowest surface topographic point and proceed toward the highest point, and
d) Surface Bridging, The contractor shall identify the locations of the surface bridging (the tendency for the upper surface
GRN #11 Site grading.
a) Within City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted per
b) Outside of City right-of-way. Material is to be placed in eight (8) inch to twelve (12) inch loose lifts and compacted

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
SAN # 2 Brick shall not be used in the construction of sanitary sewer structures. Pre cast concrete structures are to be used unless
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
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 main must be ductile iron pipe for 10 feet on each side of the
SAN #10 Encase with concrete both sanitary and storm sewer at crossing when storm sewer is within 18 inches above sanitary sewer.
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
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
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.

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
STM # 2 Brick shall not be used in the construction of storm sewer structures. Pre cast concrete structures are to be used unless
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.
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 Q-ring rubber type gaskets.
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 The swale in the detention basins shall have a minimum 1% longitudinal slope and be lined with a permanent erosion control
STM #11 All storm sewer shall be reinforced concrete pipe or H.D.P.E. pipe. All structures and flared end sections must be concrete.
STM #12 The discharge point of all flared end sections shall be protected by rip rap or other approved means.
STM #13 Rip rap shown at flared end sections will be evaluated in the field by the Engineer, Contractor, and City Inspectors after
STM #14 Add 1" minus rock back fill to all storm sewer that lie within the 1:1 shear plane of the road.

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

WATER NOTES

- 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.

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.
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 6" of concrete over 4" of MoDot type 1 or type 5 aggregate rock or asphalt equivalent for minor residential streets per
City Code 405.370.
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 98% minimum density 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 street stub-outs over 250' in length will require a temporary turnaround.
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:
1. Concrete.
a. 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).
b. 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.
c. 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.
d. If concrete is batched from more than one (1) plant, then the aforementioned guidelines will be applicable to each
plant.
2. Sub grade and base.
a. Proof roll as described in Section 405.210(B).
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.
c. Gradation test for sub base material.
3. Asphalt.
a. 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.
b. 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 so
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 #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, 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.
a. Air meter--weekly.
b. Cylinder compression--annually by independent calibration service.
c. Batch scales--monthly.
d. Nuclear testing devices--every six (6) months.
e. Proctor equipment--every six (6) months.
f. 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).

FLOOD PLAIN INFORMATION

- FP #1 A flood plan development application from the City is required for any work within the flood plan limits.

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.

PROJECT TITLE

1228 BRYAN RD.

LAND PLANNING • CIVIL ENGINEERING

LDC ENGINEERING

1112 ROCK CREEK ELEMENTARY RD.

O'FALLON, MISSOURI 63366

PH: (636) 240-9696

FAX: (636) 240-4949

MO. CERT. OF AUTHORITY

FOR LAND SURVEYING

NO. 0001959

SERIAL NO. LB-367-D



INCORPORATED



WILLIAM AUGUST HEYSE P.E. PROFESSIONAL ENGINEER E-24297

Developer / Owner Information

SHREE GAYATHI

1687 REMBRANDT DR.

O'FALLON, MO. 63366

PH: 636-734-7812

City of O'Fallon Commercial Notes

P+Z No.

Approval Date

City No.

Page No.

C2