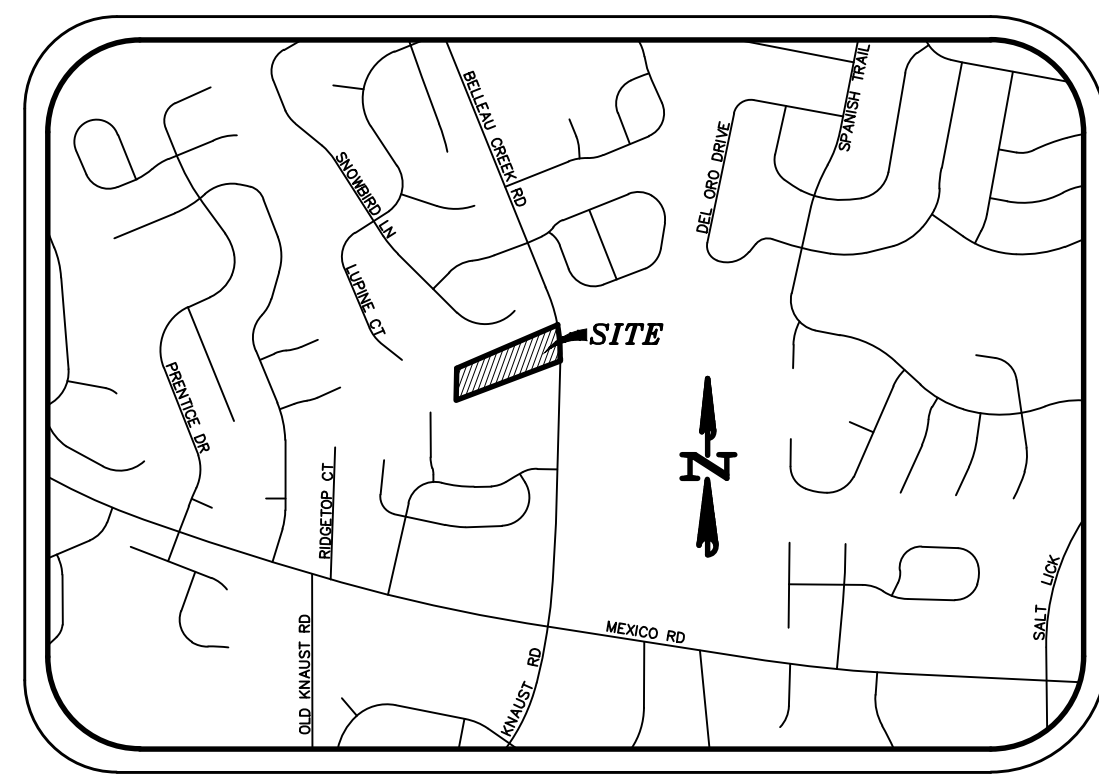


A SET OF CONSTRUCTION PLANS FOR SANITARY SEWER & WATER MAIN EXTENSIONS FOR *ALPINE WOODS*

A TRACT OF LAND IN THE
NORTHWEST QUARTER OF SECTION 34
TOWNSHIP 47 NORTH, RANGE 3 EAST
OF THE FIFTH PRINCIPAL MERIDIAN
ST. CHARLES COUNTY, MISSOURI



LOCATION MAP
NOT TO SCALE

SANITARY SEWER NOTES

- All sanitary sewer installation is to be in accordance with M.S.D. standards and specifications except as modified by the City of O'Fallon Ordinances.
- 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.
- Connections at all sanitary structures are to be made with A-Lock joint or equal.
- All sanitary laterals shall be a minimum of 4" residential, 6" commercial diameter pipe.
- All sanitary mains shall be a minimum of 8" diameter pipe.
- All sanitary sewer line with a slope greater than 2.0% will require concrete cradle or concrete collar at each pipe joint. Sanitary line with a slope greater than 5.0% will require a special approved design as shown on detail sheet.
- All manholes built within the 100 year flood plain must have lock type watertight manhole covers.
- All sanitary sewer mains must have a minimum of 42" cover.
- When sanitary mains cross over storm line the sanitary main must be ductile iron pipe for 10 feet on each side of the crossing.
- 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 flexible storm sewer when it is more than 18 inches above sanitary line. Show on profile sheet.
- The sanitary sewers should run diagonally through the side yards to minimize any additional utility easements required.
- All sanitary sewer structures shall be waterproofed on the exterior in accordance to Missouri DNR specifications 10CSR-8.120 (7)(E).
- All sanitary sewer pipe shall be SDR35 or equal. All sanitary sewer laterals shall be Schedule 40.
- 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.
- 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.

EROSION CONTROL NOTES

- 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, staked 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.
- All erosion control systems are to be inspected and corrected weekly, especially within 48 hours of any rain storm resulting in one-quarter 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.
- Erosion control devices (silt fence, sediment basin, etc.) shall be in accordance with Missouri Department of Natural Resources Protecting Water Quality - a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas.
- 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 maximum extent practical in compliance with Phase II Illicit Storm Water Discharge Guidelines. (Ord. 50B2, section 405.245)
- 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. 6496, Section 405.095

REFERENCE BENCHMARK

"SC-06" - ELEVATION 529.0
LOCATED ON THE EAST SHOULDER OF THE NORTHBOUND LANE OF MISSOURI HIGHWAY 79 ABOUT 1/2 MILE NORTH OF I-70 IN ST. CHARLES COUNTY. IT IS 280 FT NORTH OF THE NORTH END OF THE RAILROAD OVERPASS ON A LINE EXTENDED FROM THE NORTHERLY FENCE ENCLOSING THE LOADING DOCKS OF WAINWRIGHT INDUSTRIES, INC. AND 2.06 FT SOUTH OF A CARSONITE WITNESS POST.

SITE BENCHMARK

ELEVATION=540.90 - CUT "X" IN SQUARE ON CONCRETE CURB LOCATED NEAR NORTHEAST SIDE OF SUBJECT PROPERTY ALONG BELLEAU CREEK ROAD (ELEVATION=540.90) AND IS LOCATED AS SHOWN HEREON.



CALL BEFORE
YOU DIG!
1-800-DIG-RITE

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS 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 THE IMPROVEMENTS.

GENERAL NOTES

- Driveway locations shall not interfere with the sidewalk handicap ramps, or curb inlet sumps
- 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.
- Truncated domes for curb ramps located in public right of way shall meet PROWAG requirements and shall be constructed using red pre-cast truncated domes per pavement details.
- 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 (636) 379-3814 for the location of City maintained cable for street lights and traffic signals, all other utilities call Missouri One Call 1-800-DIG-RITE. 1-800-344-7483
- All proposed utilities and/or utility relocations shall be located underground.
- All proposed fencing requires a separate permit through the Building Safety Division.
- 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.
- Materials such as trees, organic debris, rubble, foundations, and other deleterious material 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 clearly amount, location, depth, etc. and be approved with the construction plans. Landfill tickets for such disposal shall be maintained on file by the developer. Burning on site shall be allowed only by permit from the local fire district. If a burn pit is proposed the location and mitigation shall be shown on the grading plan and documented by the soils engineer.
- 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.
- 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.
- All installations and construction shall conform to the approved engineering drawings. However, if the developer chooses to make minor modifications in design and/or specifications during construction, he/she shall make such changes at his/her own risk, without any assurance that the City Engineer will approve the completed installation or construction. It shall be the responsibility of the developer to notify the City Engineer of any changes from the approved drawings. The developer may be required to correct the installed improvements so as to conform to the approved engineering drawings. The developer may request a letter from the Construction Inspection Division regarding any field changes approved by the City Inspector.
- City approval of the construction site plans does not mean that any building can be constructed on the lots without meeting the building setbacks as required by the zoning code.

GRADING NOTES

- Developer must supply City Construction Inspectors with an Engineer's soil reports prior to and during site grading. The soil 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-1557) or from a minimum of 95% as determined by the "Standard Proctor Test ASSHTO 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.
- 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 ASSHTO 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.
- 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 layer under placement to freeze.
- All sediment and detention basins are to be constructed during the initial phase of the grading operation or in accordance with the approved SWPPP.
- 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. Between permanent grass seeding periods, temporary cover shall be provided according to Missouri Department of Natural Resources Protecting Water Quality - a field guide to erosion, sediment and stormwater best management practices for development sites in Missouri and Kansas. 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.
- 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.
- All low places whether on site or off shall be graded to provide drainage with temporary ditches.
- Any existing wells and/or springs which may exist on the property must be sealed in a manner acceptable to the City of O'Fallon Construction Inspection Department and following Missouri Department of Natural Resources standards and specifications.
- (INTENTIONALLY OMITTED)
- 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 tamping or water jetting. Granular material and earth material associated with new construction outside of pavements may be jetted, taking care to avoid damage to newly 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 re-jetted. Compaction of the materials within the sunken/jetted area shall be compacted such that no further surface subsidence occurs.
- 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.
- Access to the site from any other location other than the proposed construction entrance is strictly prohibited!

SHEET INDEX

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| 3 | SITE PLAN |
| 4 | WATER PLAN |
| 5 | SWPP PLAN |
| 6 | SIGHT DISTANCE |
| 7 | CONSTRUCTION DETAILS |
| 8 | CITY OF ST. PETERS DETAILS |

DEVELOPMENT NOTES:

- TOTAL GROSS AREA OF TRACT: 2.40 ACRES
- DISTURBED AREA: 0.08 ACRES
- EXISTING ZONING: "R-2" (CITY OF O'FALLON)
- PROPOSED USE: TWO-FAMILY RESIDENTIAL
- NUMBER OF LOTS PROPOSED: 4 LOTS
- OWNER/DEVELOPER:
TOM GLOSER
3032 SAWYER BOULEVARD
ST. CHARLES, MO 63301
- THIS PROPERTY IS SERVED BY THE FOLLOWING UTILITY COMPANIES:
CITY OF ST. PETERS 636-278-2221
CITY OF O'FALLON SANITARY 636-240-2000
AMEREN UE ELECTRIC 636-925-3206
SPIRE GAS COMPANY 800-887-4173
CENTURYLINK TELEPHONE CO. 636-332-7030
O'FALLON FIRE PROTECTION DISTRICT 636-272-3493
FORT ZUMWALT SCHOOL DISTRICT 636-240-2072
- ACCORDING TO THE FLOOD INSURANCE RATE MAP OF ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS (COMMUNITY - PANEL NUMBER 29183C0241G, DATED JANUARY 20, 2016), THIS TRACT LIES WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN).
- UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATIONS 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 IMPROVEMENTS.
- LOTS/HOMES WILL BE SERVED BY CITY OF ST. PETERS WATER.
- LOTS/HOMES WILL BE SERVED BY CITY OF O'FALLON SANITARY SEWER SYSTEM.
- TOPOGRAPHIC SURVEY PERFORMED BY BAX ENGINEERING DURING NOVEMBER OF 2022.
- THE ESTIMATED SANITARY FLOW IN GALLONS PER DAY IS 1,480 GPD.

CITY OF ST. PETERS NOTES:

- PUBLIC FIRE HYDRANTS SHALL BE PAINTED SILVER (BARREL) AND BLUE (BONNETS) PER CITY OF ST. PETERS STANDARDS.
- ALL WATER METER LOCATIONS MUST BE APPROVED BY THE CITY OF ST. PETERS UTILITY DEPARTMENT.
- SEPARATE APPROVAL IS REQUIRED BY O'FALLON FIRE PROTECTION DISTRICT.
- ALL WATER MAINS PROPOSED TO BE A MINIMUM OF 6" PVC.
- ANY DISTURBED AREA WITHIN BELLEAU CREEK ROAD RIGHT-OF-WAY MUST BE RESTORED AND SOODED TO ORIGINAL CONDITION AS SOON AS WORK IS COMPLETED.
- SILTATION CONTROLS SHALL BE INSTALLED AND INSPECTED BY THE CITY OF ST. PETERS CONSTRUCTION INSPECTOR PRIOR TO DISTURBANCE OF SITE. CONTACT JOE JACOBI AT EXT. 1326 48 HOURS PRIOR TO CONSTRUCTION.
- ALL TRAFFIC CONTROL OR LANE CLOSURES MUST FOLLOW MUTCD STANDARDS (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - CURRENT CONDITION).
- ALL CONTRACTORS AND SUBCONTRACTORS MUST HAVE A VALID ST. PETERS BUSINESS LICENSE.
- BELLEAU CREEK ROAD IS UNDER THE JURISDICTION OF THE CITY OF O'FALLON. ANY WORK IN THE RIGHT-OF-WAY INCLUDING DRIVEWAY PERMITS WILL REQUIRE A PERMIT FROM THE CITY OF O'FALLON.

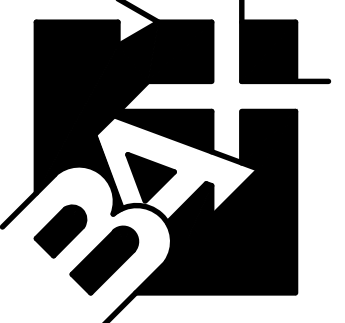
CITY OF O'FALLON
ENGINEERING DIVISION
ACCEPTED FOR CONSTRUCTION
BY: DATE: **May 2, 2024**
PROFESSIONAL ENGINEER'S SEAL
INDICATES RESPONSIBILITY FOR DESIGN

* City of O'Fallon Construction work hours per City Ordinance 3429 as shown in Section 500.420 of the Municipal Code of the City of O'Fallon are as follows:

October 1 through May 31
7:00 A.M. To 7:00 P.M. Monday Through Sunday
June 1 Through September 30
6:00 A.M. To 8:00 P.M. Monday Through Friday
7:00 A.M. to 8:00 P.M. Saturday and Sunday

A SET OF CONSTRUCTION PLANS FOR
SANITARY SEWER & WATER MAIN EXTENSIONS FOR
ALPINE WOODS
#1601 BELLEAU CREEK ROAD
ST. CHARLES COUNTY, MO 63366

PREPARED FOR:
TOM GLOSER
3032 SAWYER BOULEVARD
ST. CHARLES, MO 63301
636-397-4471



ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

Bax Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #00655
Missouri State Certificate of Authority
Surveying #00144

REVISIONS	
05/18/23	CITY COMMENTS
06/13/23	CLIENT COMMENTS
06/15/23	CLIENT COMMENTS
08/11/23	CITY OF O'FALLON & ST. PETERS COMMENTS
10/28/23	CITY OF O'FALLON & ST. PETERS COMMENTS
11/14/23	CITY OF O'FALLON & ST. PETERS COMMENTS
12/05/23	CITY OF ST. PETERS COMMENTS
04/16/24	CITY OF O'FALLON COMMENTS

DISCLAIMER OF RESPONSIBILITY
I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey other than those authenticated by my seal.



Jeffrey B. Simmons
Civil Engineer
2007030831

12/06/2022
DATE
22-18692
PROJECT NUMBER
18692CON.DWG
FILE NAME
CLM
DRAWN
JBS JBS
DESIGNED CHECKED

COVER SHEET

C-1