

A ROUGH GRADING & SEDIMENT EROSION CONTROL PLAN FOR  
**MUELLER TRACT**  
 A TRACT OF LAND BEING  
 PART OF FRACTIONAL SECTION 16,  
 TOWNSHIP 46 NORTH, RANGE 2 EAST  
 OF THE FIFTH PRINCIPAL MERIDIAN  
 ST. CHARLES COUNTY, MISSOURI

**GRADING NOTES**

- A Geotechnical Engineer shall be employed by the owner and be on site during grading operations. All soils tests shall be verified by the Geotechnical Engineer concurrent with the grading and backfilling operations.
- The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer.
- The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
- All areas shall be allowed to drain. All low points shall be provided with temporary ditches.
- All fill placed under proposed storm and sanitary sewer, proposed roads, and/or paved area shall be compacted to 95% of maximum density as determined by the Modified AASHTO T-180 Compaction Test or 100% 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.
- A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales should be implemented as soon as possible. No graded area is to be allowed to remain bare without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silt from existing downstream storm drainage systems. All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rain storm resulting in 1/2 inch of rain or more.
- Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be disposed of off-site.
- Trees, organic debris, rubble, foundations and other deleterious material shall be removed for the site and disposed in compliance with all applicable laws and regulations. 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.
- Soft soil in the bottom and banks of any existing or former pond sites or tributaries or on any sediment basins or traps should be removed, spread out and sufficiently to be used as fill. None of this material should be placed in proposed public right-of-way locations or on any storm sewer locations.
- Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site; and the demolition and removal of any man-made structures. The material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disked prior to the placement of any fill. The Soils Engineer shall approve the disk operation.
- Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory roller, or high speed impact type drum rollers acceptable to the Soils Engineer. The roller shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.
- The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.
- The Soils Engineer shall notify the Contractor of rejection of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.
- All areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted in accordance with the specifications given below. Natural slopes steeper than 1 vertical to 5 horizontal to receive fill shall have horizontal benches cut into the slopes before the placement of any fill. The width and height to be determined by the Soils Engineer. The fill shall be loosely placed in horizontal layers not exceeding 8 inches in thickness and compacted in accordance with the specifications given below. The Soils Engineer shall be responsible for determining the acceptability of soils placed. Any unacceptable soils placed shall be removed at the Contractor's expense.
- The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and repetition of the sequence. The acceptable moisture contents during the filling operation are those at which the satisfactory dry densities can be obtained. The acceptable moisture contents during the filling operation in the remaining areas are from 2 to 8 percent above the optimum moisture control.
- The surface of the fill shall be finished so that 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.
- Developer must supply City construction inspectors with soil reports prior to or during site soil testing.
- Fill and backfill should be compacted to the criteria specified in the following table:

CATEGORY	MINIMUM PERCENT COMPACTION
Fill in building areas below footings	90%
Fill under slabs, walks, and pavement	90%
Fill other than building areas	88%
Natural subgrade	88%
Pavement subgrade	90%
Pavement base course	90%

Measured as a percent of the maximum dry density as determined by modified Proctor Test (ASTM-D-1557).

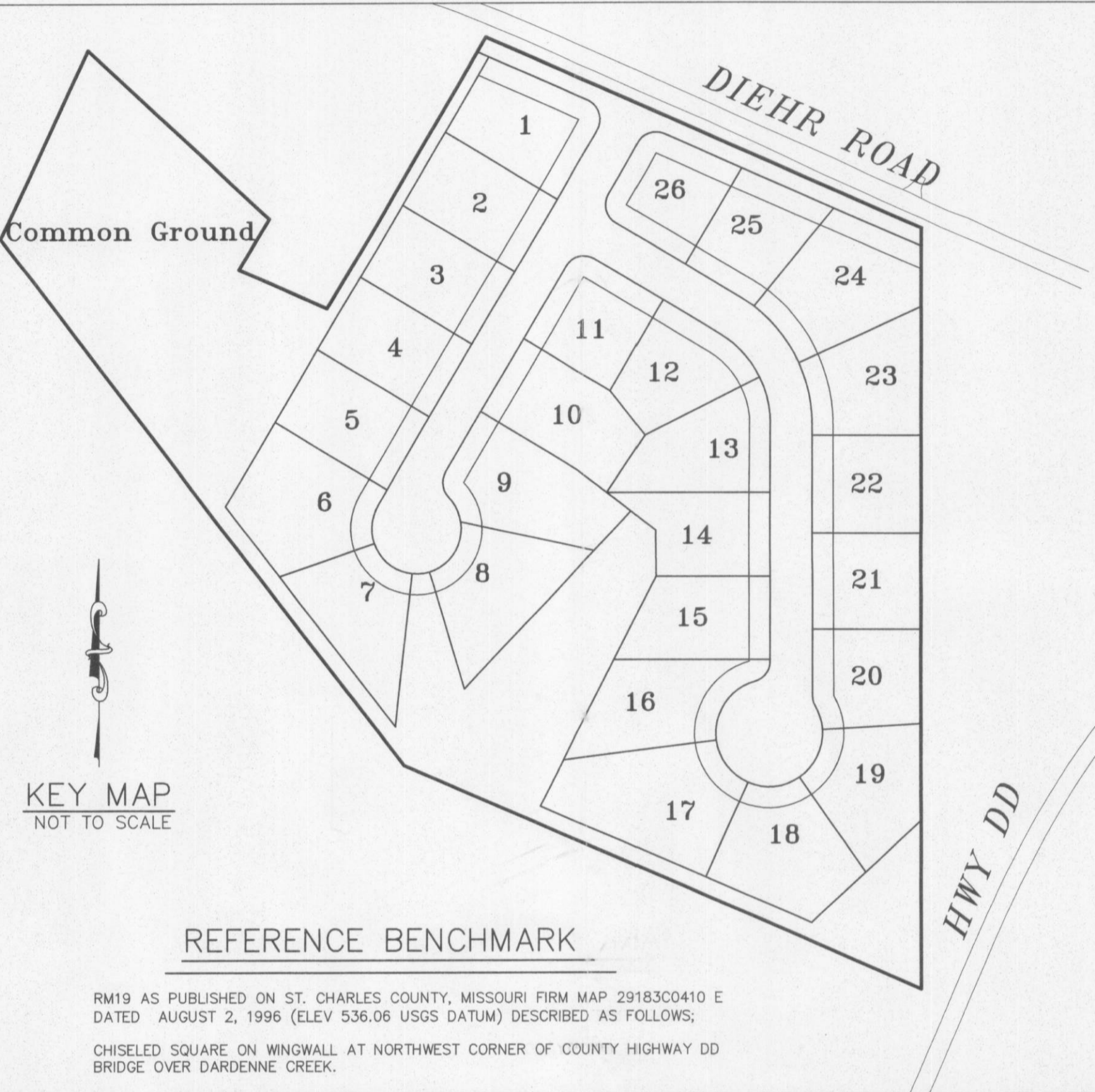
Moisture content must be within 2 percent below or 4 percent above optimum moisture content if fill is deeper than 10 feet.

**PRINCIPLES & STANDARDS**

- All excavations, grading, or filling shall have a finished grade not to exceed a 3:1 slope (33%). Steeper grades may be approved by the designated official if the excavation is through rock or the excavation or the fill is adequately protected (a designed head wall or toe wall may be required). Retaining walls that exceed a height of four (4) feet shall require the construction of safety guards as identified in the appropriate section(s) of the adopted BOCA Codes and must be approved by the City Building Department. Permanent safety guards will be constructed in accordance with the appropriate section(s) of the adopted BOCA Codes.
- Sediment and erosion control plans for sites that exceed 20,000 square feet of grading shall provide for sediment or debris basins, silt traps or filters, staked straw bales or other approved measures to remove sediment from run-off waters. Temporary siltation control measures shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.
- Where natural vegetation is removed during grading, vegetation shall be re-established in such a density as to prevent erosion. Permanent type grasses shall be established as soon as possible during the next seeding period after grading has been completed.
- When grading operations are completed or suspended for more than 14 days permanent grass must be established at sufficient density to provide erosion control on the site. Between permanent grass seeding periods, temporary cover shall be provided. All finished grades (areas not to be disturbed by future improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate of 100 pounds per 1,000 square feet when seeded.
- Provisions shall be made to accommodate the increased runoff caused by changed soils and surface conditions during and after grading. Unvegetated open channels shall be designed so that gradients result in velocities of 2 fps (feet per second) or less. Open channels with velocities more than 2 fps and less than 5 fps shall be established in permanent vegetation by use of commercial erosion control blankets or lined with rock riprap or concrete or other suitable materials. Detention basins, diversions or any other appropriate structures shall be constructed to prevent velocities above 5 fps. The adjoining ground to development sites (lots) shall be protected from accelerated and increased surface water, silt from erosion, and any other consequence of erosion. Run-off water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to diversions, detention basins, concrete gutters and/or underground utility systems. Sufficiently anchored straw bales may be temporarily substituted.
- Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back from the undisturbed drainage easement. The watercourse shall be maintained and made the responsibility of the subdivision trustees or in the case of a site plan by the property owner. Permanent vegetation should be left intact. Variances will include designed streambank erosion control measures. FEMA and U.S. Army Corps of Engineers guidelines shall be followed where applicable regarding site development areas designated as flood plains and wetlands.
- All lots shall be seeded and mulched or sodded before an occupancy permit shall be issued except that a temporary occupancy permit may be issued by the Building Department in cases of undue hardship because of unfavorable ground conditions.
- The grading and elevations shown on the grading plans are for construction purposes only. Finished grades and slopes will vary from those shown on the plans depending upon location, size, and type of house built on lot. However, care should be taken to insure that the finished grading conforms to the drainage area maps.
- All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rainstorm resulting in one-half inch of rain or more.
- Erosion control shall not be limited to what is shown on the plan. Whoever means necessary shall be taken to prevent siltation and erosion from entering natural streams and adjacent roadways, properties and ditches.
- Contractor shall assume complete responsibility for controlling all siltation and erosion 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 control are detailed in the plan). Control shall commence with grading and be maintained throughout the project until acceptance of the work by the owner and/or the City of O'Fallon. 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 may at their option direct the contractor 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 silt or mud in new or existing storm 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.
- The developer shall post a financial guarantee of performance (per an approved cost estimate) as required by the O'Fallon subdivision ordinance article 403.
- Graded areas that are to remain bare for two weeks are seeded and mulched.
- Traffic control is to be per MoDOT or MUTCD whichever is more stringent.

**VEGETATIVE ESTABLISHMENT  
 For Urban Development Sites  
 APPENDIX A**

- Seeding Rates:  
 Permanent:  
 Tall Fescue - 80 lbs./ac.  
 Smooth Brome - 100 lbs./ac.  
 Combined Fescue @ 40 lbs./ac. and Brome @ 50 lbs./ac.  
 Temporary:  
 Wheat or Rye - 90/120 lbs./ac. (2.0/2.5 lbs. per 1000 square feet)  
 Oats - 80 lbs./ac. (2 lbs. per 1000 square feet)
- Seeding Periods:  
 Fescue or Brome - February 1 to June 1  
 August 1 to November 1  
 Wheat or Rye - January 1 to June 1, July 15 to November 15  
 Oats - February 1 to June 1, August 1 to October 1  
 Mulch Rates: 70-115 lbs. per 1,000 sq. feet (3000-5000 lbs. per acre)
- Fertilizer Rates:  
 Nitrogen 30 lbs./ac.  
 Phosphate 60 lbs./ac.  
 Potassium 30 lbs./ac.  
 Lime 600 lbs./ac. ENM\*
- \* ENM = effective neutralizing material as per State evaluation of quarried rock.



**KEY MAP  
 NOT TO SCALE**

**REFERENCE BENCHMARK**

RM19 AS PUBLISHED ON ST. CHARLES COUNTY, MISSOURI FIRM MAP 29183C0410 E DATED AUGUST 2, 1996 (ELEV 536.06 USGS DATUM) DESCRIBED AS FOLLOWS:  
 CHISELED SQUARE ON WINGWALL AT NORTHWEST CORNER OF COUNTY HIGHWAY DD BRIDGE OVER DARDENNE CREEK.

**SITE BENCHMARK**

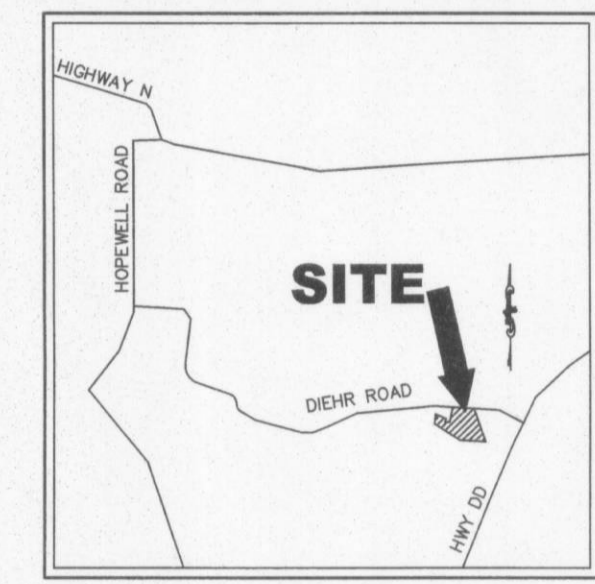
DESCRIBED AS FOUND IRON PIPE AT THE NORTHEAST CORNER OF SUBJECT PROPERTY. ELEVATION 617.37

**GENERAL NOTES**

- 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.
- No area shall be cleared without the permission of the Project Engineer.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match pre-construction conditions.
- The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
- Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
- The City of O'Fallon shall be notified 48 hours prior to construction for coordination and inspection.
- All construction and materials shall conform to the current construction standards of the City of O'Fallon.
- All trench backfills under paved areas shall be granular backfill. All other trench backfills may be earth material (free of large clods or stones). All trench backfills shall be water jetted or mechanically compacted.
- All tops & flowlines built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed.
- Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary or storm sewers, including house laterals.
- Concrete pipe for storm sewers shall be Class III, A.S.T.M. C-76 with a minimum diameter of 12" except in the R.O.W. it shall be 15".
- All flared end sections and inlet structures will be concrete.
- All storm inlets must be installed with a 5/8" trash bar across the opening.
- Concrete pipe joints shall be MSD type "A" approved compression-type joints and shall conform to the requirements of the specifications for joints for circular concrete sewer and culvert pipe, using flexible, watertight, rubber-type gaskets (A.S.T.M.-C-443). Band-type gaskets depending entirely on cement for adhesion and resistance to displacement during jointing shall not be used.
- All concrete pipe or ADS N-12 pipe shall be installed with "O-Ring" Rubber type gaskets per M.S.D. standard construction specifications or manufacturer.
- Discharge pipes at sediment basins are sized for future detention basin requirements, will remain after grading operations are completed and will be installed at developers own risk.
- Power poles are not to be disturbed during grading operations. Any adjustments to power poles will be made with the construction plans.
- Traffic control shall be per MoDOT or MUTCD, whichever is most stringent.

**DEVELOPMENT NOTES**

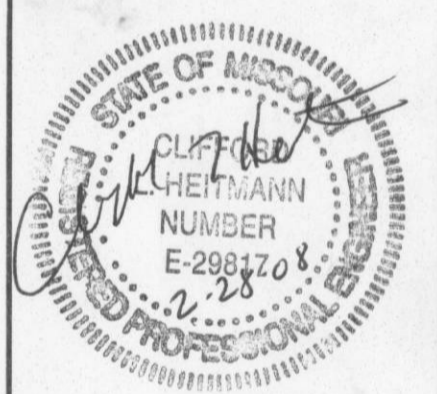
- Area of Tract: 16,864 Ac.
- Existing Zoning: R-1 (City of O'Fallon)
- Proposed Use: Single Family Homes
- Number of Lots Proposed: 26 Lots
- The proposed height and lot setbacks are as follows:  
 Minimum Front Yard: 25 feet  
 Minimum Side Yard: 6 feet  
 Minimum Rear Yard: 25 feet  
 Minimum Lot Area: 10,000 square feet  
 Maximum Height of Building: 2 1/2 stories or 35 feet
- Current Owner/Developer of Property:  
 First Land Company of St. Charles County  
 P.O. Box 176  
 St. Peters, MO 63376  
 (636) 928-4988
- Site is served by: Duckett Creek Sanitary District  
 Cuivre River Electric Cooperative  
 Laclede Gas Company  
 St. Charles County Public Water District No. 2  
 Century Tel. Inc.  
 Wentzville School District  
 New Melle Fire Protection District
- Floodplain exists on this tract per F.I.R.M. #29183 C 0410E, dated Aug. 2, 1996.
- One tree shall be planted for every lot. Two trees shall be planted for every corner lot. Street trees will be planted in the right-of-way.
- All local streets will be constructed to City of O'Fallon standards. Streets will consist of 26 foot wide concrete pavement with integral rolled curb centered in a 50 foot right-of-way. Minimum radius shall be 150 feet.
- All cul-de-sacs and bubbles will have pavement radii of 42 feet with right-of-way radii of 54 feet. Street intersections shall have a minimum rounding radius of 25 feet with pavement radii of 37 feet. %
- Minimum street grades shall be 2%.
- A 4 foot wide concrete sidewalk shall be constructed on both sides of streets where indicated.
- All homes shall have a minimum of 2 off-street parking places with 2-car garages.
- All proposed utilities must be located underground.
- The developer realizes that they will comply with current Tree Preservation Ordinance Section 230.040 and provide landscaping as set forth in the City of O'Fallon Zoning Ordinances.
- Additional lighting may be required by the City of O'Fallon.
- The following lots are susceptible to street inovement:  
 1, 2, 6-8, 16-19, 24, 23.
- Detention for this development to be provided by the on site Detention Basin.
- All existing creeks and streams will have an associated storm water easement that will be provided on the Record Plat.
- Maximum slope on grading shall be 3:1.
- Lots abutting Diehr Road shall be recorded with a 10' utility easement along the property line abutting Diehr Road
- All existing structures on the property are to be razed and disposed of properly.
- Improvements are to be made to the adjacent right-of-way of all developments to meet the City of O'Fallon standards and specification. Any adjustments in the grading of right-of-way whether it be existing conditions or caused by the construction of the development shall be approved by the City of O'Fallon upon inspection of the site.
- The homebuilder shall be required to provide, at the City of O'Fallon's discretion, engineering studies on lot 13-17 with extreme changes in topography showing that homes can be built without significant danger to health, life or property per section 405.140 of the City of O'Fallon's Subdivision Code. These studies must be supplied and approved prior to the issuance of Building Permits.
- All siltation control devices shall follow St. Charles County Soil and Water Conservation District Erosion and Sediment Control guidelines.
- Any proposed fencing will require a separate permit from the Planning Department.
- All sign locations and sizes must be approved separately through the Planning Division.
- The following lots may require extended foundations. 2-6, and 13-18.
- All existing easements are plotted on this plan based on recorded information.



**LOCATION MAP  
 NOT TO SCALE**

CITY OF O'FALLON  
 CONSTRUCTION INSPECTION  
 MAR 10 2008  
 RECEIVED

DISCLAIMER OF RESPONSIBILITY  
 I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and 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 architecture or engineering project or survey.



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REVISIONS	
1-22-08	CITY COMMENTS
2-12-08	CITY COMMENTS
2-28-08	BAX REVISIONS

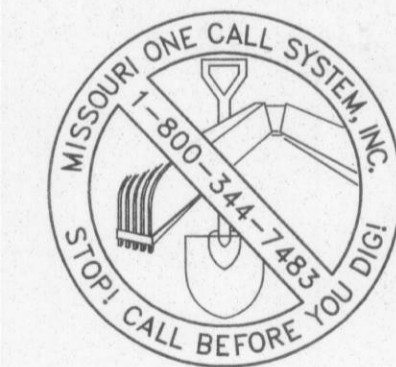
CITY OF O'FALLON  
 COMMUNITY DEVELOPMENT DEPARTMENT  
 ACCEPTED FOR CONSTRUCTION  
 BY: [Signature] DATE: 3/6/08  
 PROFESSIONAL ENGINEER'S SEAL  
 INDICATES RESPONSIBILITY FOR DESIGN

**LEGEND**

- |        |                               |  |
|--------|-------------------------------|--|
| C.I.   | CURB INLET                    | STREET LIGHT                               |
| D.C.I. | DOUBLE CURB INLET             | --- 582 --- EXISTING CONTOUR               |
| A.I.   | AREA INLET                    | (---) PROPOSED CONTOUR                     |
| M.H.   | MANHOLE                       | NO PARKING SIGN                            |
| F.E.S. | FLARED END SECTION            | WATER VALVE                                |
| E.P.   | END PIPE                      | --- BLOW OFF ASSEMBLY                      |
| C.P.   | CONCRETE PIPE                 | --- FLOWLINE ELEVATION OF HOUSE CONNECTION |
| R.C.P. | REINFORCED CONCRETE PIPE      | --- FLOWLINE ELEVATION OF SEWER MAIN       |
| C.M.P. | CORRUGATED METAL PIPE         | --- SILT FENCE                             |
| C.I.P. | CAST IRON PIPE                |  |
| P.V.C. | POLY VINYL CHLORIDE (PLASTIC) |  |
| C.O.   | CLEAN OUT                     |  |
| STD.   | STANDARD LOT                  |  |
| W.O.   | WALK OUT LOT                  |  |
| STB.   | STORM TRENCH                  |  |
| SS.    | SANITARY SEWER                |  |

**SHEET INDEX**

- COVER SHEET
- DEMOLITION SHEET
- GRADING PLANS
- SEDIMENT AND EROSION CONTROL PLANS
- PREDEVELOPED DRAINAGE AREA
- POSTDEVELOPED DRAINAGE AREA
- TREE PRESERVATION PLAN
- GRADING DETAILS



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

O'FALLON FILE NUMBER 3406.02

**ENGINEERING  
 PLANNING  
 SURVEYING**

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

12-4-07  
 DATE

05-13552  
 PROJECT NUMBER

1 OF 10  
 SHEET OF

13552CON.DWG  
 FILE NAME

MJT  
 DRAWN

MJT MGG  
 DESIGNED CHECKED

PREPARED FOR:  
 FIRST LAND CO OF ST. CHARLES COUNTY  
 P.O. BOX 176  
 ST. PETERS, MO 63376  
 636-928-4988

A ROUGH GRADING & SEDIMENT  
 EROSION CONTROL PLAN FOR  
**MUELLER TRACT**