

**STANDARD SYMBOLS & ABBREVIATIONS**

TREE OR BUSH	○
LIGHT POLE	*
SANITARY SEWER & MANHOLE	—○—
STORM SEWER & INLET	—□—
MAILBOX	□
ELECTRIC LINE	—E—
GAS LINE	—G—
WATER LINE	—W—
TELEPHONE LINE	—T—
CABLE TV LINE	—CATV—
OVERHEAD WIRE	—OHW—
UTILITY POLE	○
UTILITY POLE W/ DOWN GUY	○—
FIRE HYDRANT	⊕
WATER VALVE	⊕
WATER METER	⊕
GAS VALVE	⊕
ROAD SIGN	□
TELEPHONE PEDESTAL	—TCP—
FENCE	—X—

**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 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. The design to be approved by the Designated Official. Temporary siltation control measures (structural) 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 reestablished 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 according to the City Engineer's recommendations. 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 rip rap or concrete or other suitable materials as approved by the City Engineer. Detention basins, diversions, or other appropriate structures shall be constructed to prevent velocities above 5 fps.
- The adjoining ground to development sites (lots) shall be provided with protection 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 outlet systems. Sufficiently anchored straw bales may be temporarily substituted with the approval of the City Engineer.
- Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back a minimum of 25 feet from the top of the existing stream bank. 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 stream bank erosion control measures and shall be approved by the City Engineer, 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 at the minimum rates defined in Appendix A 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.

**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 — 150 lbs./ac. (3.5 lbs. per 1,000 square foot)  
Oats — 120 lbs./ac. (2.75 lbs. per 1,000 square foot)

Seeding Periods:  
Fescue or Brome — March 1 to June 1  
August 1 to October 1  
Wheat or Rye — March 15 to November 1  
Oats — March 15 to September 15

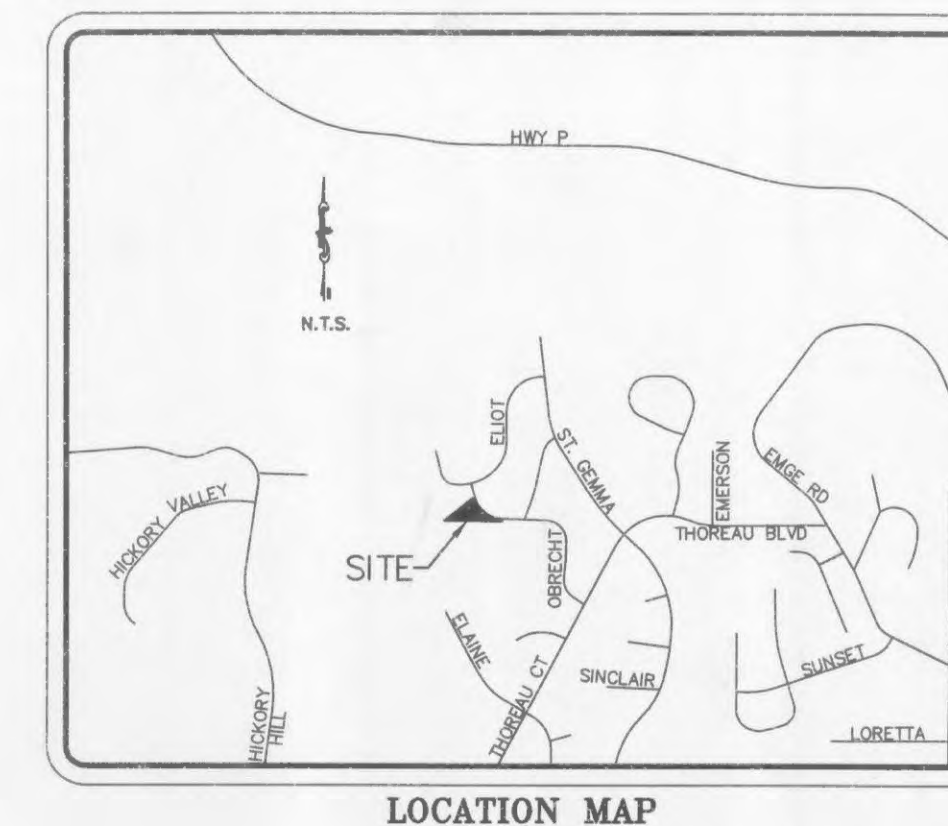
Mulch Rates:  
100 lbs. per 1,000 sq. feet (4,356 lbs. per acre)

Fertilizer Rates:  
Nitrogen 30 lbs./ac.  
Phosphate 30 lbs./ac.  
Potassium 30 lbs./ac.  
Lime 600 lbs./ac. ENM\*

\* ENM = effective neutralizing material as per State evaluation of quarried rock.

**A GRADING PLAN FOR  
TURPIN TRACT  
A TRACT OF LAND IN  
THE SOUTH ONE-HALF OF THE  
NORTHEAST QUARTER OF SECTION 19,  
TOWNSHIP 47 NORTH, RANGE 3 EAST  
OF THE FIFTH PRINCIPAL MERIDIAN  
ST. CHARLES COUNTY, MISSOURI**

**SHEET INDEX:**  
1 COVER SHEET  
2 GRADING PLAN



**O'FALLON 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.
- All filled places under proposed storm and sanitary sewer, proposed roads, and/or paved areas shall be compacted to 90% of the 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 tests shall be verified by a soils engineer concurrent with grading and backfilling operations and applied to the City of O'Fallon in a timely manner. All filled places in proposed roads shall be compacted from the bottom up. All test shall be verified by a soil engineer concurrent with grading and backfilling operations. Ensure the moisture content of the soil in the 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.
- No area shall be cleared without the permission of the Project Engineer.
- The City of O'Fallon shall be notified 48 hours prior to construction for coordination and inspection.
- All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match pre-construction conditions.
- All construction and materials shall conform to the current construction standards of the City of O'Fallon.
- Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
- No slopes shall exceed 3(Horizontal) : 1(Vertical).
- 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 the City of O'Fallon. The Permittee's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The City of O'Fallon 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 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 City of O'Fallon.
- Erosion control systems shall not be limited to what is shown on the plan. Whatever means necessary shall be taken to prevent siltation and erosion from entering natural streams and adjacent roadways, properties and ditches.
- All proposed fencing requires a separate permit through the Planning Division.
- All sign locations and sizes must be approved separately through the Planning Division.
- All new utility line shall be located underground.
- All erosion control systems shall be inspected and corrected weekly, especially within 48 hours of any rainstorm resulting in one-half inch of rain or more. Any silt or debris leaving the site and affecting public right-of-ways or storm water drainage facilities shall be cleaned up within 24 hours after the end of the storm.
- All graded areas that are to remain bare for over 2 weeks shall be seeded and mulched per DNR requirements.
- Developer must supply City Construction inspectors with soil reports prior to or during site soil testing. 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-1157) or from a minimum of 95% 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.
- 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 be 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.

**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 back filling operations.
- The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied therefrom, 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.
- 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 over the winter without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.
- Any existing trash and debris currently on this property must be removed and disposed of off-site.
- Soft soil in the bottom and banks of any existing or former pond sites or tributaries should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed right-of-way locations or on 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 unsuitable material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing 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 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.
- All siltation control devices shall be inspected by the contractor after any rain of 1/2" or more with any appreciable accumulation of mud to be removed and siltation measures repaired where necessary.
- No slope shall be steeper than 3(Horizontal):1(Vertical). All slopes shall be sodded or seeded and mulched.
- Any contaminated soil encountered during excavation shall be hauled and placed as directed by the owners environmental engineering representative.
- The location of and details for all siltation control devices (silt fences and sediment basins) must follow the "St. Charles County Soil and Water Conservation District Erosion and Sediment Control" guidelines.

**BENCHMARKS:**

REFERENCE BENCHMARK: MO GRS F-149 - ELEVATION 542.80 AS PUBLISHED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES. THE HORIZONTAL POSITION AS ADJUSTED FEBRUARY 2001. THE ELEVATION AS DETERMINED BY THE NATIONAL GEODETIC SURVEY IN JUNE 1991. NAVD83 DATUM (USGS). DESCRIBED AS A US&GS BRASS VERTICAL MARK DISK STAMPED "F 149 1935" SET IN A 6 INCH SQUARE CONCRETE MONUMENT, PROJECTING ABOUT 2.5" ABOVE THE GROUND SURFACE. LOCATED IN THE NORTHEAST ANGLE OF A RAILROAD CROSSING AT NORTH MAIN STREET, SOUTH OF THE ENTRANCE TO THE CITY OF O'FALLON MUNICIPAL CENTRE. IT IS 46.5 FEET NORTH OF THE CENTER OF THE TRACKS, 2.4 FEET EAST OF A POLE, 9.3 FEET EAST OF THE EAST EDGE OF SIDEWALK AND 5.7 FEET SOUTHEAST OF A PLASTIC BURIAL CABLE MARKER AND PEDESTAL.

SITE BENCHMARK: FOUND IRON PIPE - ELEVATION 539.07 LOCATED AT THE MOST EASTERN CORNER OF SUBJECT PROPERTY.

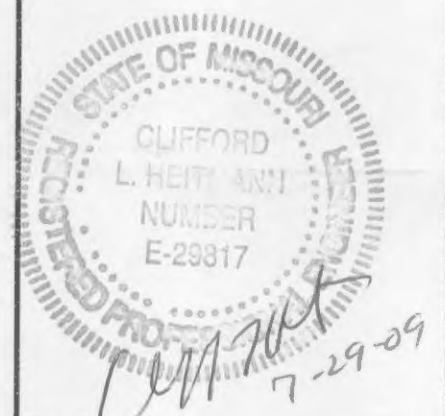
**DEVELOPMENT NOTES:**

- Area of tract: 0.24 Acres
- Disturbed Area: 0.17 Acres
- Existing Zoning: R1 (Residential) (City of O'Fallon)
- Required building & parking setbacks:  
Front yard 25 feet  
Side yard 8 feet  
Rear yard 25 feet  
Parking 10 feet along lot perimeter
- This property is served by the following utilities:  
Electric: AmerenUE Electric Co. (636) 639-8312  
Telephone: Centurytel Telephone Co. (636) 332-7318  
Gas: Laclede Gas Co. (314) 658-5417  
Water: City of O'Fallon (636) 281-2858  
Sewer: City of O'Fallon (636) 281-2858  
Fire District: O'Fallon Fire (636) 272-3493
- Flood Note:  
Per F.I.R.M. Flood Insurance Rate Map of the City of O'Fallon, Mo (Community Panel Number 29183C 0230 F Dated March 17, 2003). This property is within Zone X. Zone X is defined as an area outside the 500 year flood plain.
- Current Owner:  
Daniel & Linda Turpin  
756 Obrecht Lane  
O'Fallon, MO 63366  
(314) 749-4819
- A current Title Commitment was not furnished for the survey. Therefore the survey is subject to the following conditions and exceptions.
  - Easements of record.
  - Easements, or claims of easements not shown by the public records.
  - Rights or claims of parties in possession not shown by the public records.
  - Defects, encumbrances, adverse claims or other matters, if any.
- Above ground utilities which have been located are shown on this plan. Underground water, telephone, electric and gas have been shown based on a combination of marks made in the field by the respective utility company or their subcontractor and by scaling from utility base maps. Underground storm lines are shown by connecting above ground storm structures. These utilities should be shown before design or construction, if any, begins on this project.
- All siltation control devices will be in accordance with the St. Charles County Soil And Water Conservation District Erosion and Sediment Control guidelines.
- Underground utilities are to be relocated.
- Haul Route: Maryridge Estates Subdivision
- Access to Obrecht property to be maintained at all times.

**A GRADING PLAN FOR  
TURPIN TRACT**

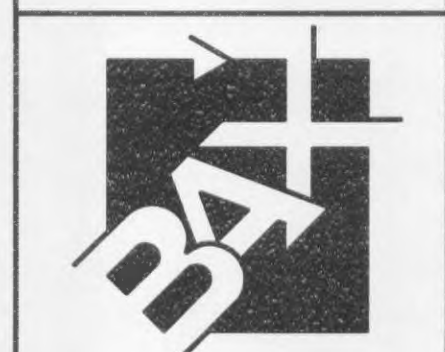
**PREPARED FOR:**  
LINDA TURPIN  
756 OBRECHT LANE  
O'FALLON, MO 63366  
(314) 749-7819

**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.



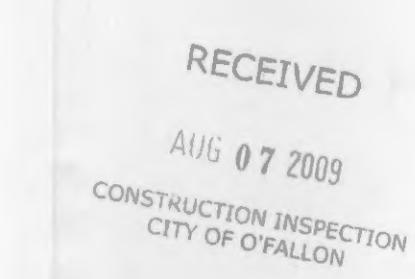
Signature: \_\_\_\_\_  
Printed: Clifford L. Heitmann  
Engineer:  
Date: \_\_\_\_\_  
License No. 029817  
Copyright 2009  
Box Engineering Company, Inc.  
Authority No. 000655  
All Rights Reserved

REVISIONS	
DATE	CITY COMMENTS
06/26/09	CITY COMMENTS
07/15/09	CITY COMMENTS



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

06-02-09  
DATE  
09-14-00  
PROJECT NUMBER  
1 OF 2  
SHEET OF  
14700CON.DWG  
FILE NAME  
CLM  
DRAWN  
DRB CLH  
DESIGNED CHECKED



CITY OF O'FALLON  
COMMUNITY DEVELOPMENT DEPARTMENT  
ACCEPTED FOR CONSTRUCTION  
BY: \_\_\_\_\_ DATE: 7/5/09  
PROFESSIONAL ENGINEER'S SEAL  
INDICATES RESPONSIBILITY FOR DESIGN



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