

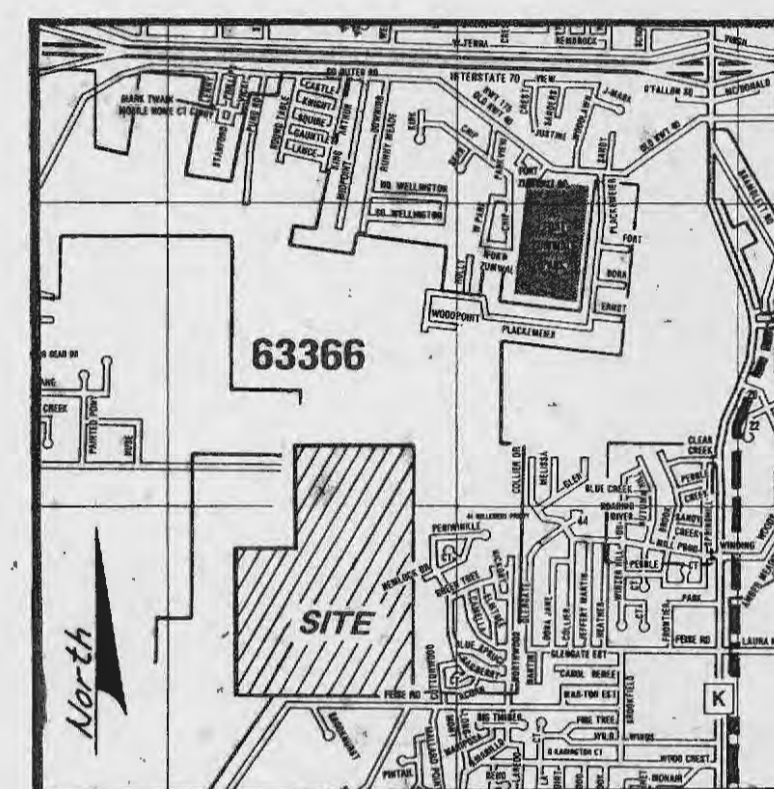
City of O'Fallon

General Notes

- Gas, water and other underground utilities shall not conflict with the depth or horizontal locations of existing and proposed sanitary and storm sewers, including house laterals.
- Underground utilities have been plotted from available information and, therefore, their locations must 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 grading or construction of improvements.
- Polyvinyl Chloride (PVC) shall conform to the requirements of ASTM D-3034 Standard Specifications for the PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings, SDR-35.
- Storm sewers 18" in diameter or smaller shall be ASTM C-14.
- Storm sewers 21" in diameter or larger shall be ASTM C-76, Class II.
- All storm sewer pipe under pavement, regardless of size, shall be reinforced concrete pipe (ASTM C-76, Class III) unless noted otherwise on the plans.
- Corrugated metal pipe shall conform to the standard specifications for corrugated culvert pipe M-36, A.A.S.H.O. See plans for gauge.
- All filled places under buildings, proposed sanitary and storm sewer lines, and/or paved areas including trench backfills shall be compacted to 90% of maximum density as determined by the "Modified A.A.S.H.O. T-180 Compaction Test" (ASTM D-1557) unless otherwise specified by the local governing authority specifications. All tests will be verified by a Soils Engineer. Fill placed within proposed street R.O.W. shall be compacted to 90% modified proctor. And the fill placed in this area shall be between 2% below or 5% above optimum moisture content.
- All earthen filled places within State, County, or City roads (Highways) shall be compacted to 95% of maximum density as determined by the "Standard Proctor Test A.A.S.H.O. T-99" (ASTM D-698) unless otherwise specified by local governing authority specifications. All tests will be verified by a Soils Engineer.
- All storm and sanitary trench backfills shall be water jetted. Granular fill will be used under paved areas.
- Easements shall be provided for storm sewers, sanitary sewers, and all utilities on the record plat. See record plat for location and size of easements. This does not apply to house laterals.
- No area shall be cleared without the permission of the developer.
- All grade shall be within 0.2 feet (more or less) of those shown on the grading plan.
- No slope shall be greater than 3:1 and shall be either sodded or seeded and mulched.
- Hazard markers will consist of three (3) standard specification, "Manual on Uniform Traffic Control Devices", end of roadway markers mounted on two (2) pound "U" channel sign post. Each marker shall consist of an eighteen (18) inch diamond reflectorized red panel. The bottom of each panel shall be mounted a minimum of four (4) feet above the elevation of the pavement surface.
- All manhole and curb inlet tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor. At the time of construction stake-out of the sewer lines, all curb and grate inlets will be face staked. If normal face stakes fall in line with sewer construction, the Engineer will set these stakes on a double offset. It shall be the responsibility of the sewer contractor to preserve all face stakes from destruction.
- All standard street curb inlets to have front of inlet 2 feet behind curb.
- The minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding house connection shall not be less than the diameter of the sanitary sewer plus a vertical distance of not less than 2-1/2 feet.
- Water Lines, valves, sleeves, meters and etc. shall meet all specifications and installation requirements of the local governing authority.
- All cast iron pipe for water mains shall conform to A.W.W.A. specification C-106 and/or C-108. The cast iron fittings shall conform to A.W.W.A. specification C-110. All rubber gasket joints for water cast iron pressure pipe and fittings shall conform to A.W.W.A. specification C-111.
- All water hydrants and valves shall be cast iron and installed in accordance with plans and details.
- All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
- All PVC water pipe shall have a minimum pressure rating of PR-200 or SDR-21.
- All PVC sanitary sewer pipe shall be DR-35 or equal with crushed stone bedding uniformly graded between 1" and 1/4" size. This bedding shall extend from 6" below the pipe to 12" above the top of the pipe.
- All grading on Missouri State Highway Right-of-Way shall be seeded and mulched and all disturbed Right-of-Way markers shall be reset at the completion of grading.
- All streets must meet the specifications and installation requirements of the City of O'Fallon.
- All sanitary manhole tops shall be set 0.2' higher than the proposed ground except in pavement areas.
- All sanitary manholes shall have a 31 mil thick coat of coal tar pitch waterproofing.
- All sanitary service lines shall have a 6" diameter for Multi-family and a 4" diameter for Single-family developments.
- Manhole frame and cover shall be Clay and Bailey No. 2008 for Neenah R-1736 or Deeter 1315 or approved equal.
- A drop of 0.2 feet is required through each sanitary manhole.
- The City of O'Fallon shall be notified at least 48 hours prior to construction of sanitary sewers for coordination and inspection.
- Brick shall not be used on manholes.
- Sewer contractor shall maintain 24" vertical separation between all storm sewers and the sludge force main. Contractor shall be responsible for verifying separation prior to storm sewer installation.
- This tract is served by:
  - Union Electric
  - GTE
  - St. Charles Co. Water District #2
  - St. Charles Gas Co.
  - Duckett Creek Sewer District / MMEI
  - O'Fallon Fire District
  - Fort Zumwalt School District
- Waterproofing: Waterproofing will be required on the exterior of all manholes. The bitumen shall consist of two coats of asphalt, coat-tar pitch, or a coating meeting American Society for Testing and Materials (ASTM) D-41. Asphalt shall conform to the requirements of ASTM D 449. Coal-tar pitch shall conform to the requirements of ASTM D 450. Coating shall be 31 mils thickness.



A TRACT OF LAND BEING PART OF SECTIONS  
5 AND 6, T. 46 N., R. 3 E., AND  
SECTIONS 32 AND 33, T. 47 N., R. 3 E.,  
ST. CHARLES COUNTY, MISSOURI



Location Map

SCALE: 1" = 2000'

GRADING PLANS

BID YARDAGE: 446,870 Cu. Yds. (excludes subgrade)

GRADING NOTES

I. GENERAL

- No area shall be cleared without authorization from the project engineer.
- All grading work performed shall be within a 0.2 feet tolerance of the grades shown on the grading plan.
- A Geotechnical Engineer shall be employed by the owner and be on site during grading 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.
- Before the grading begins, the Owner shall employ a competent, licensed surveyor to establish all lines and grades.
- The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
- Trench backfills within the road right-of-way will be water jetted and granular backfill will be used under paved areas.
- All areas will be allowed to drain. All low points should 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 here over the winter without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and siltting up existing downstream storm drainage systems.
- 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.
- No existing trash and debris currently on this property must be removed and disposed of off-site.
- Soil in the bottom and banks of any existing or former pond site 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.
- No slope shall be greater than 3:1 and shall be either sodded or seeded and mulched.

II. SPECIFICATIONS

- 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 discing 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 to at least 85 percent of the maximum density as determined by the Modified ASTM T-180 Compaction Test" (ASTM-D-1557). 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 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 pond 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.

Index

Sheet	Description
1	COVER SHEET
2-9	GRADING PLANS

Benchmark

TOP OFF WEST END ROLLED CONC. CURB  
AT THE N.W. INTERSECTION OF  
FEISE ROAD & COTTONWOOD LANE  
ELEV. 615.66

Legend

	Sanitary Sewer (Proposed)	C.I.	Curb Inlet
	Sanitary Sewer (Existing)	D.C.I.	Double Curb Inlet
	Storm Sewer (Proposed)	G.I.	Grate Inlet
	Storm Sewer (Existing)	A.I.	Area Inlet
	Water Line & Size	D.A.I.	Double Area Inlet
	Tee & Valve	C.C.	Concrete Collar
	Hydrant	F.E.	Flared End Section
	Cap	E.P.	End Pipe
	18 Lot or Building Number	E.D.	Energy Dissipator
	Existing Fence Line	M.H.	Manhole
	Existing Tree Line	C.P.	Concrete Pipe
	Street Sign	R.C.P.	Reinforced Concrete Pipe
	Direction of Proposed Residence	C.M.P.	Corrugated Metal Pipe
	Existing Contour	C.I.P.	Cast Iron Pipe
	Proposed Contour	P.V.C.	Polyvinyl Chloride
	Grouted Rip-Rap	V.C.P.	Vitrified Clay Pipe
	End of Lateral	C.O.	Clean Out
	Asphalt Pavement	V.T.	Vent Trap
	Concrete Pavement		
	Storm/Sanitary Structure		
	Test Hole		
	Power Pole		
	Light Standard		

REV. 3-1-94 J.L.K., CITY

PICKETT RAY & SILVER

Civil Engineers  
Planners  
Land Surveyors

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PREPARED FOR:  
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DRAWN: DWD/HAW DATE: Feb. 1994  
CHECKED: JDB/LJC DATE: Feb. 1994  
FIELD BOOK: 403 PROJECT #: 87-155  
JOB ORDER #: 30785

ENGINEERS AUTHENTICATION  
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authorized by the seal, signature and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in the project and specifically excludes revisions after this date unless reauthorized.

PICKETT, RAY & SILVER, INC.

HAROLD J. GARTCH  
Professional Engineer  
No. 17751

Signature: [Signature] Date: [Date]