IMPROVEMENT PLANS

BERKSHIRE DOWNS

A TRACT OF LAND BEING PART OF THE S.W. 1/4
OF SECTION 3, TOWNSHIP 46 NORTH, RANGE 3 EAST
ST. CHARLES COUNTY, MISSOURI

110 LOTS

APPROVED
Contingent upon the following:
- Fire District approval,
- St. Charles PWSD #2 approval, and
- Duckett Creek approval.

7/23/97 Colleen Young

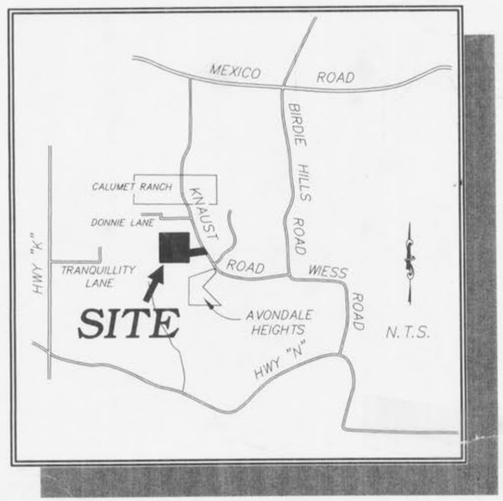
CITY OF O'FALLON GENERAL NOTES

1. 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.
2. 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.
3. 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.
4. Storm sewers 18" in diameter or smaller shall be RCP Class III.
5. Storm sewers 21" in diameter or larger shall be RCP Class III.
6. All storm sewer pipe under pavement, regardless of size, shall be reinforced concrete pipe (ASTM C-76, Class III) unless noted otherwise in the plans.
7. Corrugated metal pipe shall conform to the standard specifications for corrugated culvert pipe M-36, A.A.S.H.T.O. See plans for gauge.
8. 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.T.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.
9. 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.T.O. T-99" (ASTM D-698) unless otherwise specified by local governing authority specifications. All tests will be verified by a soils engineer.
10. All storm and sanitary trench backfills shall be water jetted. Granular fill will be used under paved areas.
11. 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.
12. No area shall be cleared without the permission of the developer.
13. All grades shall be within 0.2 feet (more or less) of those shown on the grading plan.
14. No slope shall be greater than 3:1 and shall be either sodded or seeded and mulched.
15. 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.
16. 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.
17. All standard street curb inlets to have front of inlet 2 feet behind curb.
18. 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 not less than two and one-half feet (2-1/2').
19. Water lines, valves, sleeves, meters and etc., shall meet all specifications and installation requirements of the local governing authority.
20. 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.
21. All water hydrants and valves shall be cast iron and installed in accordance with plans and details.
22. All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
23. All PVC water pipe shall have a minimum pressure rating of PR-200 or SDR-21.
24. All PVC sanitary sewer pipe is to be SDR-35 or equal with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate backfill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top of pipe.
25. All grading on Missouri State Highway Right-of-Way shall be seeded and mulched and all disturbed Right-of-Way markers shall be reest at the completion of grading.
26. All streets must meet the specifications and installation requirements of the City of O'Fallon.
27. All sanitary manholes top shall be set 0.2' higher than the proposed ground except in pavement areas.
28. All sanitary service lines shall have a 6" diameter for Multi-family and a 4" diameter for single-family developments.
29. Manhole frame and cover shall be Clay and Bailey No. 2008 or Neenah R-1736 or Deeter 1315 or approved equal.
30. A drop of 0.2 feet is required through each sanitary manhole.
31. The Duckett Creek Sanitary District shall be notified at least 48 hoursprior to construction of sanitary sewers for coordination and inspection.
32. Brick shall not be used on manholes.
33. 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.
34. All exterior sanitary sewer manholes shall be waterproofed on the exterior in accordance Missouri Dept. of Natural Resources specification 10 CSR-8.120(7)(E).

    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.
35. NOTE: 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 the location, size and type of house built on the lot. However, care should be taken to insure that finished grading conforms to drainage area maps.
36. The existing water well on site, will remain in place to serve the existing house (to remain) until such time that a new water line is extended to the house;

    The existing water well on site will then be permanently closed in accordance with plugging procedures and certification requirements of the Missouri well construction rules - Authorizing Statutes 256.600 to 256.640 RSMO.
37. 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.
38. All overhead power poles shall be removed, ~~except for those which serve other sites~~. CY 11/4/97
39. Proposed installation of expansion joints at the following locations for street slopes greater than 5% and other street creep conditions.
    A. The beginning and the end of curved sections of streets.
    B. Across the throat of cul-de-sacs.
    C. Every 1,000 linear feet on sections of streets where the street ends at a T-intersection and a driveway is constructed opposite the T-intersection. These joints should be 2 inches wide rather than the typical 1-inch-wide joint.
40. All existing site improvement disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
41. The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
42. All construction and materials shall conform to the current construction standards of the Duckett Creek Sanitary District.
43. The Duckett Creek Sanitary District shall be notified at least 48 hours prior to construction for coordination and inspection.
44. All sanitary sewer building connections have been designed so that the minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection is not less than the diameter of the pipe plus the vertical distance of 2-1/2 feet.
45. Existing sanitary sewer service shall not be interrupted.
46. Pre-manufactured adapters shall be used at all P.V.C. to DIP connections. Rubber boot/Mission-type couplings will not be allowed.

LOCATION MAP



SITE BENCH MARK #9
CHISLED BOX SOUTH SIDE OF CONC. ENTRANCE
DR. #437 KNAUST ROAD. BOX IS 16'± EAST
CL. OF KNAUST ROAD.

THIS TRACT IS SERVED BY:

WATER - ST. CHARLES PUBLIC WATER DIST. #2

ELECTRIC - UNION ELECTRIC CO.

TELEPHONE - G.T.E. MISSOURI

SEWERS - DUCKETT CREEK SANITARY DISTRICT

GAS - ST. CHARLES GAS

FIRE PROTECTION - O'FALLON FIRE PROTECTION DISTRICT

SCHOOL DISTRICT - FORT ZUMWALT

MAIL SERVICE - O'FALLON

DRAWING INDEX

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21-25	CONSTRUCTION DETAILS

LEGEND

Sanitary Sewer (Proposed)	Sanitary Structure	R.C.P.	Reinforced Concrete
Sanitary Sewer (Existing)	Storm Structure	C.M.P.	Corrugated Metal Pi
Storm Sewer (Proposed)	Test Hole	C.I.P.	Cast Iron Pipe
Storm Sewer (Existing)	Power Pole	P.V.C.	Polyvinyl Chloride
6"w Water Line & Size	Light Standard	V.C.P.	Vitrified Clay Pipe
EX W Existing water line	Double Water Meter Setting		
Tee & Valve	Single Water Meter Setting	C.O.	Clean Out
Hydrant	Curb Inlet	V.T.	Vent Trap
Cap	Skewed Curb Inlet	T.B.R.	To Be Removed
18 Lot or Building Number	Double Curb Inlet	T.B.R.&R	To Be Removed &
x Existing Fence Line	Grate Inlet	T.B.P.	To Be Protected
Existing Tree Line	Area Inlet	T.B.A.	To Be Abondoned
Street Sign	Double Area Inlet	B.C.	Base Of Curb
Existing Contour	Concrete Collar	T.C.	Top Of Curb
Proposed Contour	Flared End Section	T.W.	Top Of Wall
Grouted Rip-Rap	End Pipe	B.W.	Base Of Wall
End of Lateral	Energy Dissipator	(TYP)	Typical
Asphalt Pavement	Manhole	U.N.O.	Unless Noted Other
Concrete Pavement	Concrete Pipe	U.I.P.	Use in Place

REVISIONS

Rev. 07-14-97 Per City (Temp. Cul-De
Rev. 07/01/97 Per Duckett Creek San
REV. 06/19/97 PER CITY OF O'FALLON
REV. 05/28/97 PER CITY OF O'FALLON
REV. 05/01/97 PER CITY OF O'FALLON

PICKETT RAY & SILVER
Civil Engineers
Planners
Land Surveyors
333 Mid Rivers Mall Dr.
St. Peters, MO 63376
397-1211 FAX 397-1104

8521CVR PLOTTED: 05/01/97

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

PICKETT, RAY & SILVER, INC.

STATE OF MISSOURI RAY PICKETT NUMBER E-14395 REGISTERED PROFESSIONAL ENGINEER

Signature Date

DEVELOPER

GLENMARO FIVE
7283 HIGHWAY N
O'FALLON, MO. 63366

DRAWN R.D.W. DATE MARCH 199
CHECKED DATE

FIELD BOOK 635
PROJECT # 96-221
JOB ORDER # 36107