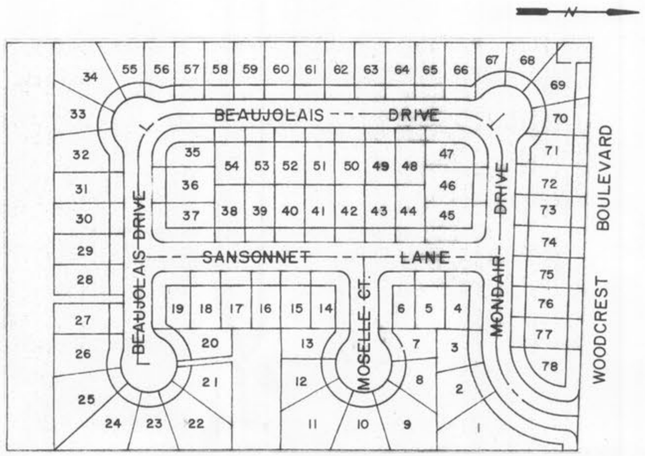
PLANS FOR CONSTRUCTION OF
SANITARY SEWERS, STORM SEWERS,
GRADING, PAVING, AND WATER MAINS
FOR

BRANDYWINE ESTATES

A TRACT OF LAND IN FRACTIONAL SECTION 5
T. 46 N., R. 3 E.
ST. CHARLES COUNTY, MISSOURI

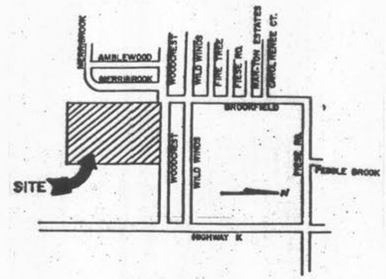
GENERAL NOTES

1. Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing and proposed sanitary and storm sewers including house laterals.
2. The existing underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, nonexistence, size, type, number, or location of these or other utilities. The general contractor shall be responsible for verifying the actual location of all underground utilities, shown or not shown, and shall be located in the field prior to any grading, excavation, or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.
3. All filled places in public right-of-way (State, County or City roads) shall be compacted to 90% of maximum density as determined by the "Standard Proctor Test A.A.S.H.T.O. T-99", Method C (A.S.T.M. D-698) unless otherwise specified by local governing authority specifications, or by soils report for this project. All test shall be verified by the inspecting soils engineer.
4. All filled places under buildings, proposed storm and sanitary 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" (A.S.T.M. D-1557) unless otherwise specified by local governing authority specifications, or by soils report for this project. All tests shall be verified by the inspecting soils engineer.
5. All trench backfills under paved areas shall be granular backfill, and shall be compacted to 90% of maximum density as determined by the "Modified A.A.S.H.T.O. T-180 compaction test," (A.S.T.M. D-1557. All trench backfills may be earth material free of large clods or stones) and will be water jetted.
6. No area shall be cleared without permission of the developer.
7. All grades shall be within 0.2 feet more or less of those shown on the grading plan.
8. No slope shall be greater than 3:1 and shall be either sodded or seeded and mulched.
9. Siltation control devices shall be as shown on plans, and approved by the local governing authority. Additional siltation control, if required, will be placed at the direction of the soils engineer on site and the local governing authority prior to placement.
10. Grading operations on this project shall comply with the soils report by Geotechnology, Inc.
11. All grading on *City or County* right-of-way shall be seeded and mulched and all disturbed right-of-way markers shall be reset at the completion of grading.
12. Polyvinyl chloride (PVC) sanitary sewer pipe shall meet the following requirements: A.S.T.M. D-3034 SDR-35, with wall thickness compression joint A.S.T.M. D-3212. An appropriate waterstop as approved by the *City of OFallon* shall be installed between PVC pipe and structure.
13. The minimum vertical distance from the low point of the basement or slab floor to the flowline of a sanitary sewer at the corresponding house or building connection shall not be less than the diameter of the main line sanitary sewer plus a vertical distance not less than two and one half feet (2-1/2").
14. All P.V.C sanitary sewer pipe to have crushed stone bedding uniformly graded between 1" and 1/4" size. This bedding shall extend from 4" below the pipe to 1/4 of the pipe diameter above the bottom of the pipe.
15. All sanitary sewer service shall be a minimum of 4" diameter for single-family developments.
16. Storm sewers 18" diameter or smaller shall be A.S.T.M. C-14, unless otherwise shown on plans.
17. Storm sewers 21" diameter or larger shall be A.S.T.M. C-76, Class II, unless otherwise shown on plans.
18. All storm sewer pipe under pavement, regardless of size, shall be reinforced concrete pipe (A.S.T.M. C-76, Class III) unless noted otherwise on the plans.
19. Corrugated metal pipe shall conform to the standard specifications for corrugated culvert pipe M36, A.A.S.H.T.O. See plans for gauge.
20. All manhole and inlet tops shall be built to the elevations shown on these plans. If no top elevation is shown, it will be the responsibility of the contractor to contact the engineer for such information prior to construction. 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.
21. All standard street curb inlets to have front of inlet 2 feet behind curb.
22. All sanitary and storm sewers shall meet all specifications and installation requirements of the local governing authority.
23. 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.
24. All P.V.C. water pipe shall have a minimum pressure rating of PR-200 or SDR-21.
25. All water lines shall be laid at least 10 feet horizontally, from any sanitary sewer, storm sewer, or manhole. Whenever water lines must cross sanitary sewers, laterals or storm drains the water lines shall be laid at such an elevation that the bottom of the water line is 18 inches above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet, horizontally, of any sewer or drain it crosses.
26. Water lines, valves, sleeves, meters and etc. shall meet all specifications and installation requirements of the local governing authority.
27. All *ductile* iron pipe for water mains shall conform to A.W.W.A. specifications C-106 and/or C-108. The *ductile* iron fittings shall conform to A.W.W.A. specification C-110. All rubber gasket joints for water *ductile* iron pressure pipe and fittings shall conform to A.W.W.A. specification C-111.
28. All Water hydrants and valves shall be *ductile* iron and installed in accordance with plans and details.
29. All streets within the public right-of-way must meet specifications and installation requirements of the City of O'Fallon.
30. Hazard markers will consist of three (3) Standard Specifications, "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.
31. The City of O'Fallon, shall be notified at least 48 hours prior to construction of sanitary sewers for coordination and inspection.



KEY MAP

N.T.S.



LOCATION MAP

N.T.S.

DEVELOPMENT NOTES

1. GROSS AREA OF TRACT = 16.629 Acres
   Single Family Area = 11.602 Acres
   Common Ground Area = 1.828 Acres
   Street R/W = 3.199 Acres
2. Present Zoning: R-3 Garden Apartment District
3. Total Lots Proposed = 78 Lots
   Average square feet per lot = $\frac{13.43 \times 3560}{78 \text{ Lots}}$ = 7500 Sq. Ft./Lot
4. Site is located in or served by the following:
   Fort Zumwalt School District
   Continental Telephone Company
   City of O'Fallon Sewers
   Water District No. 2
   Union Electric Company
   St. Charles Gas Company
   O'Fallon Fire Protection District
5. Proposed Height and Lot Area Requirements:
   Min. Front Yards: 25 feet
   Min. Side Yards 6 feet
   Min. Rear Yard 25 feet, which may be reduced to 15 feet on corner lots
   Max. Height of SFR Bldg: 2½ stories or 35 feet

LEGEND

EXISTING		PROPOSED
400	Contours	(400)
+481	Spot Elevation	+(456)
	Building Line	
	Property Line	
	Center Line	
	Structures	
Bush, 6" Tree	Tree or Bush	
Chain Link	Fence	Chain Link
8" RCP, 8" PVC P	Storm Sewer, Sanitary Sewer	
	Curb or Area Catch Basin	
	Grated Inlet	
	Manhole	
	Flared End Section	
C.O.	Cleanout	C.O.
UP, PP	Utility or Power Pole	UP, PP
FH	Fire Hydrant	FH
	Soil Boring	
	Railroad	
2"G	Gas Main	(2"G)
6"W	Water Main	(6"W)
T	Telephone	(T)
E	Electric	(E)
	Line in Place	(U.I.P.)
	To Be Removed	(T.B.R)
	To Be Removed & Relocated	(T.B.R.& R)
	Swale	
LS, OLS	Light Standard	
H	Handicapped	

INDEX

BENCH MARKS:

BENCH MARK - RM 68 - ELEVATION: 509.47 "L" chiseled on South end of West headwall of State Highway K bridge over Belleau Creek.

SITE BENCH MARK - ELEVATION: 578.57 "O" in open on fire hyrant located at Northeast property corner.

BAX ENGINEERING CO., INC.
221 Point West Blvd. St. Charles, Missouri 63301
946-6588 724-3330

STATE OF MISSOURI
HAROLD J. BAX
NUMBER E-17666
REGISTERED PROFESSIONAL ENGINEER

ENGINEER:
HAROLD J. BAX, P.E.

DEVELOPER:
TRAVIS SHANE CORP.
33910 Old Hwy 94 South
Suite 114
St. Charles, MO 63303
928-8108

DATE: OCT. 1988
R 11-2-88
E 12-4-88
V

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