

GENERAL NOTES:

- All construction methods, materials and practices shall conform to all current applicable specifications of governing agencies.
- Any destruction of existing improvements or features shall be repaired or replaced in kind by the contractor and shall remain the contractor's responsibility.
- It shall be distinctly understood that failure to mention specifically any work which would normally be required to complete the project shall not relieve the contractor of his responsibility to perform such work.
- Contractor shall keep road clear of mud and debris.
- Developer is notified that permit(s) from U.S. Army Corps of Engineers and Mo.D.N.R. may be required for this development.
- Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
- The 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 contractor shall be responsible for verifying the actual location of all underground utilities, shown or not shown, and said utilities 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. All proposed utilities will be located underground.
- Developer must supply City construction inspectors with soil reports prior to or during site soil testing.

GRADING NOTES:

- All fill areas are to be compacted to a minimum of 90 percent of maximum dry density as directed by the Modified AASHTO compaction Test, ASTM D1557-78, or as specified by a soils engineer.
- It shall be the grading contractor's responsibility to provide the location of any existing underground utilities by notifying utility companies prior to grading operations.
- The grading contractor shall cut or fill to subgrade elevation under all areas to be paved.
- All drainage swales to be sodded or seeded and mulched to prevent erosion.
- All rough grading is to be completed within ± 0.5' and all subgrade to be ± 0.1'.
- All stumps, limbs, and other debris are to be removed from the site unless a suitable dump area is approved in advance by the owner.
- If fill is to be placed in areas of soft soil, particularly in draws, drainage channels and other low lying areas, the soft soil shall be excavated until firm soil is encountered.
- 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 or the City of O'Fallon.
- The Contractor shall notify the Soils Engineer or the City of O'Fallon 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 without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silt up existing downstream storm drainage system.
- Soft soil in the bottom and banks of any existing or former pond altes or tributaries or on any sediment basins or traps should be removed, spread out and permitted to dry 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.
- Compaction equipment shall consist of tampering 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.
- 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 of 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. 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.
- Fill and backfill shall 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	95%

Measured as a percent of the maximum 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.

18. When mechanized land clearing activities are completed or suspended for more than 30 days, either temporary vegetation must be established or temporary siltation control measures must be put into place with the review and approval of the City Engineer.

19. All filled places under proposed storm and sanitary sewer, proposed roads, and/or paved areas shall be compacted to 90% of 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 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.

20. No slopes shall be steeper than 3 (horizontal) to 1 (vertical).

21. All erosion control systems shall be inspected and any necessary correction shall be made within 24 hours of any rainstorm resulting in one-half inch of rain or more.

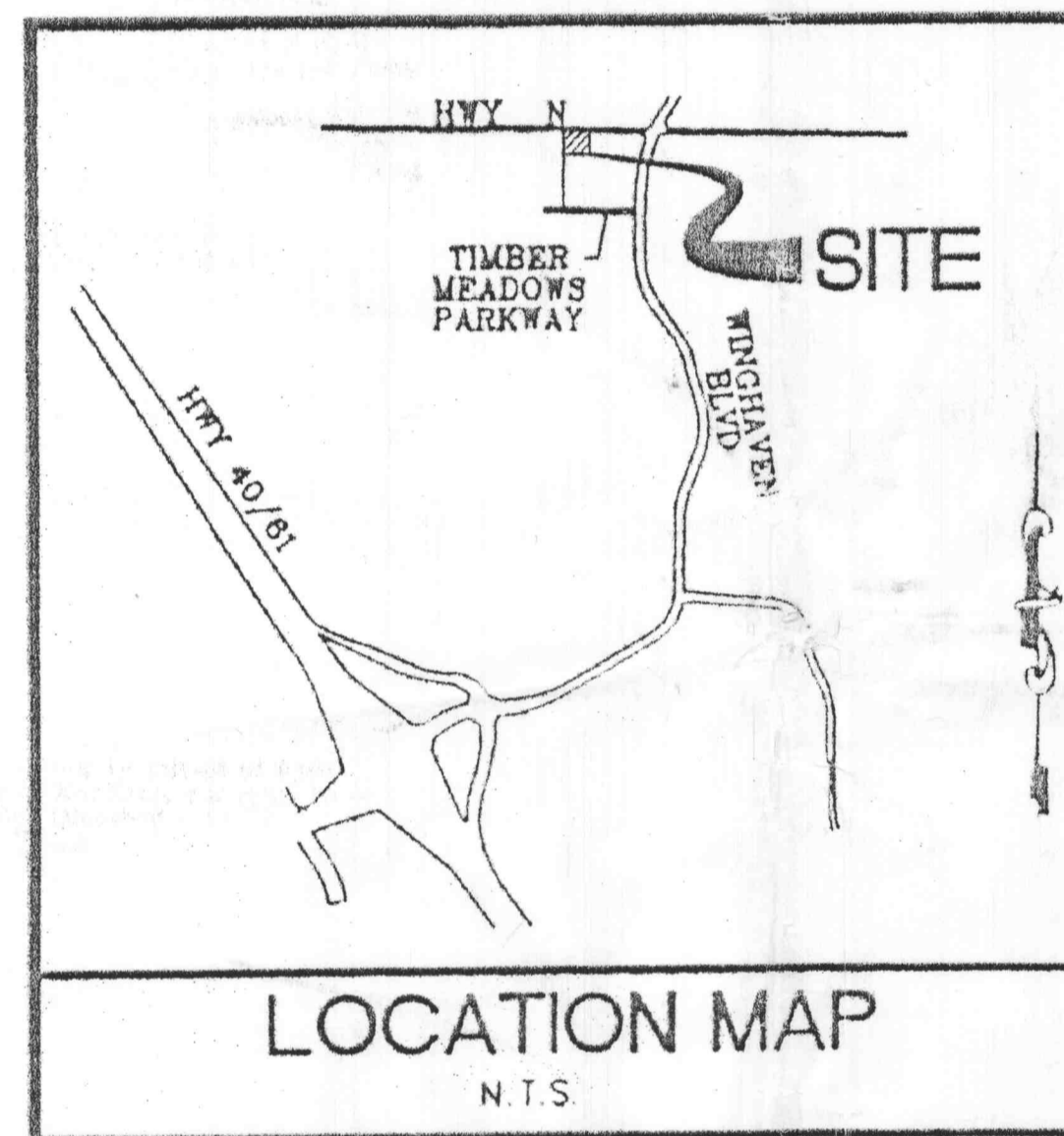
SILTATION NOTES:

- Siltation controls will be installed prior to any grading or construction operations and shall be inspected and maintained as necessary to insure their proper function until sufficient vegetation has been established to prevent erosion.
- The installation and maintenance of all siltation control shall be the responsibility of the developer.
- Additional siltation controls may be required as directed by the local governing authority.
- The 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 and/or MoDOT. The Contractor's responsibilities include the City of O'Fallon and/or MoDOT 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 or 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 City of O'Fallon and/or MoDOT.

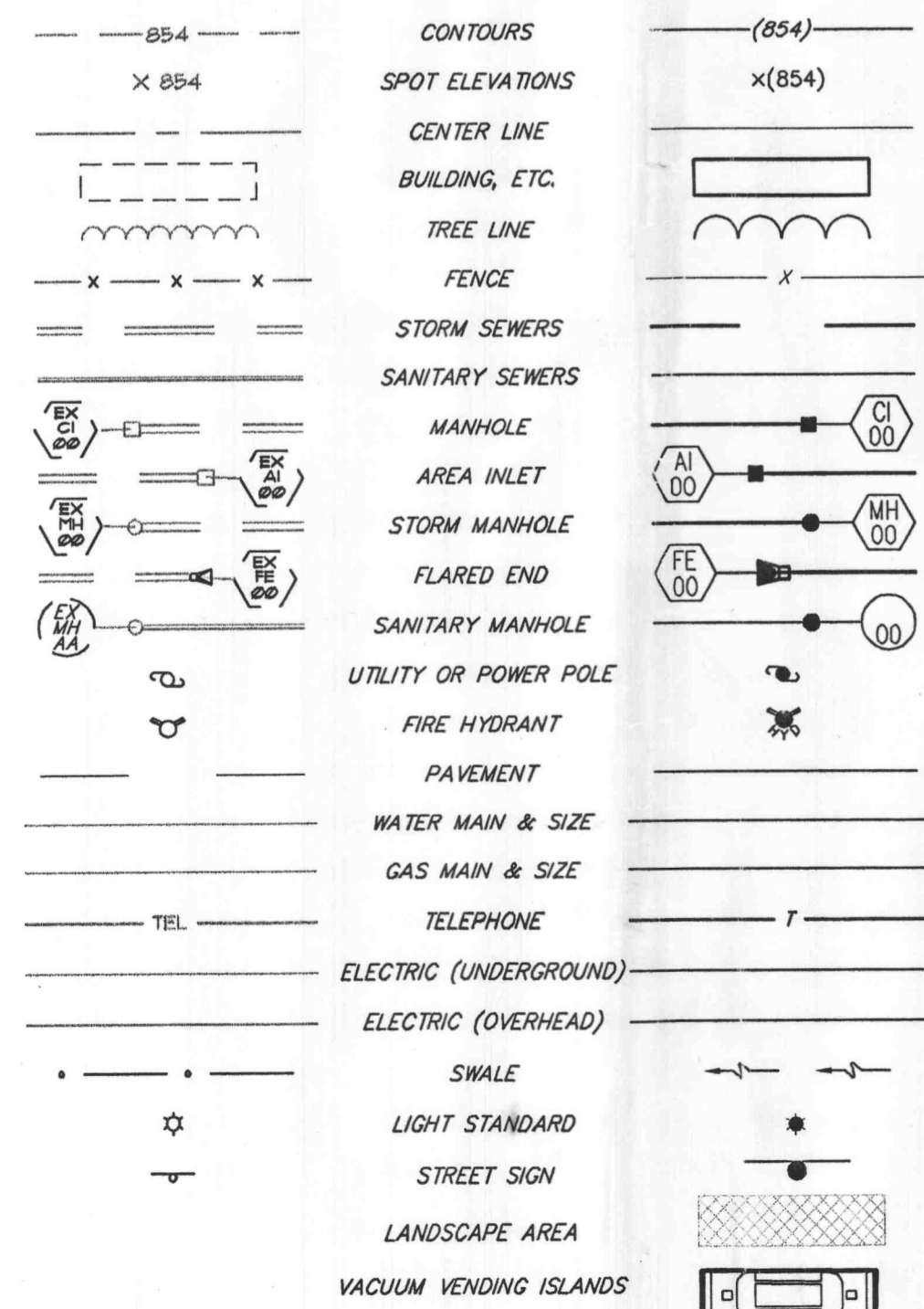
A SITE PLAN FOR FASTLANE - WINGHAVEN

A TRACT OF LAND BEING PART OF
LOT 3 OF "WINGHAVEN CENTRE"
IN SECTION 12, TOWNSHIP 46 NORTH, RANGE 2 EAST,
CITY OF O'FALLON, ST. CHARLES COUNTY, MISSOURI

SITE LOCATION MAP



LEGEND



Seeding Rates:
Permanent:
Tall Fescue - 30 lbs./ac.
Smooth Brome - 20 lbs./ac.
Combined Fescue @ 15 lbs./ac. and Brome @ 10 lbs./ac.

Temporary:
Wheat or Rye - 150 lbs./ac. (3.5 lbs. per square foot)
Oats - 120 lbs./ac. (2.75 lbs. per 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.

DEVELOPMENT NOTES

- Site Address:
7430 Highway N
O'Fallon, MO 63367
- Owner Address:
WINGHAVEN ASSOCIATES, LLC
c/o Joseph Reding
2460 Executive Drive, Suite 110
St. Charles, MO 63303
636-477-8288
- Area of Tract: 1.316 Acres (57,338 SF)
- Existing Zoning: C-2 Commercial
- Proposed Use: Convenience Store/Car Wash
- Building Sizes:
Retail Store 4663 SF
Accessory Building (Car Wash) 30' x 55' = 1650 SF
- Stormwater detention shall be provided by Winghaven Global Detention Plan. The Drainage system within the Subdivision shall be adequate to handle the development of this site.
- Parking Requirement:
Ten (10) spaces plus one (1) for each four hundred (400) square feet of floor area in excess of the first two thousand square feet of floor area.
4663 - 2000 = 2663, 2663/400 = 6.7=7, 10 + 7 = 17 required.
- Parking Provided:
16 spaces + 1 Handicap space = 17 Total = 17 required
- Parking landscaped islands:
17 spaces required x 270 = 4590 SF, 4590 x 10% = 459 SF
556 SF "interior area" landscape islands provided.
- Landscape Coverage:
(57,338 SF + 3,474 SF) x 15% required = 9122 SF
6434 SF + 556 SF + 3400 = 10390 SF provided (17%)
- At this time no significant natural features such as trees, streams, rivers, lakes, ponds, wetlands or floodplains exist on the site.
- Flood Plain Note:
As stated on the recorded subdivision plat, "There is no floodplain on this site as shown on the Flood Insurance Rate Map Number 29183C0240 E, dated August 2, 1996".
- Light shall not glare onto adjacent public roadways or adjacent properties. (See Lighting Plan)
- All utilities shall be located underground.
- It is the intention of this development to comply with Article XIII of the City of O'Fallon Zoning Code, Performance Standards and the Comprehensive Plan.
- This Site is served by the following utilities:
WATER: St. Charles County Public Water No. 2 636-561-3737
SANITARY SEWER: Duckett Creek Sewer District 636-441-1244
ELECTRIC: Ameren UE 636-925-3235
GAS: St. Charles Gas Company 636-946-6170
TELEPHONE: Verizon 636-332-7392
- PROJECT BENCHMARK: AT DARDENNE PRAIRIE, T46N, R2E, NEAR APPROXIMATE OF SECTIONS 1, 2, 11 & 12, 31' NORTH AND 20' WEST OF CROSSROADS, THE INTERSECTION OF STATE HIGHWAY "N" WITH POST ROAD AND HANLEY ROAD, 49' SOUTH OF SE CORNER OF CATHOLIC CHURCH, 2.0' NORTH OF SIDEWALK, AND IN CONCRETE POST, STANDARD TABLET STAMPED "TT 60 C 1966 616." ELEVATION = 616.50.

LEGAL DESCRIPTION

Lot 3 of WINGHAVEN CENTRE Subdivision, located in Section 12, Township 46 North, Range 2 East, City of O'Fallon, as recorded in Book 39, Page 177 of the St. Charles County, Missouri Records.

SEWER NOTES:

- All storm and sanitary sewer construction methods to conform to latest standards and specifications of the applicable codes and shall conform to all appropriate City of O'Fallon standards.
- All manhole tops built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
- All sanitary sewer mains are to be at least 8" PVC with a SDR35 rating or equal with clean 8" to 1" granular stone bedding uniformly graded. This bedding shall extend from 4" below the pipe to the springline of the pipe. Immediate backfill over pipe shall consist of some size "clean" or minus stone from springline of pipe to 12" above the top of the pipe.
- 8" PVC sanitary sewer pipe shall meet the following standards. A.S.T.M. D-3034 SDR35, with wall thickness compression joint A.S.T.M. D-3212. An appropriate rubber seal waterstop shall be installed between PVC pipe and manhole structures.
- All sanitary sewer manholes shall be waterproofed on the exterior in accordance with the Missouri D.N.R. Specification 10CSR-8, 120(7) (E).
- All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines and/or paved areas, shall be compacted to 90% maximum density as determined by the Modified AASHTO T-180 Compaction Test. All filled places within public roadways shall be compacted to 95% of maximum density as determined by the "Standard Proctor Test AASHTO T-99, Method C" (A.S.T.M. D-1557).
- All trench backfills under paved areas shall be granular backfill, and shall be compacted to 90% of the maximum density as determined by the Modified AASHTO T-180 Compaction Test. (A.S.T.M. D-1557). All other trench backfills may be earth material (free of large clods or stones). All trench backfills shall be water jetted.
- All pipes shall have positive drainage through manholes. No flat base structures are allowed. No brick structures are allowed.
- Concrete pipe for storm sewers shall be Class III, A.S.T.M. C-76.
- 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.
- The use of High Density Polyethylene Corrugated pipe, ADS N-12 or equal will be permitted as an acceptable alternative to reinforced concrete pipe except under roadways, ADS N-12 HC shall be used for all ADS pipe greater than 36". Pipe shall meet A.S.T.M. D-2321 and AASHTO M-294-291.
- When HDPE pipe is used, City of O'Fallon specifications or manufacturer's specifications, which ever are more stringent, shall be followed.
- All flared end sections and inlet structures will be concrete.
- 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.
- Deflection tests shall be performed on all flexible pipe. The test shall be run not less than thirty (30) days after final backfill has been placed. No pipe shall extend a deflection of five percent (5%). 10 CSR 20-8.120(6)(X)S
- Leakage tests shall be performed. This may include appropriate water or low pressure air testing. The leakage outward or inward (exfiltration or infiltration) shall not exceed two hundred (200) gallons per inch of pipe diameter per mile per day for any section of the system. An exfiltration or infiltration test shall be performed with a minimum positive head of two feet (2').

SHEET INDEX

1	COVER SHEET
2	SITE PLAN
3,4	DETAILS
5	GRADING
6	UTILITIES
7	DRAINAGE MAP

ISSUE	DATE	REMARKS
1	3-20-03	1st. Submittal
2	4-17-03	Revised per City Comments
3	4-30-03	

PREPARED FOR:
FASTLANE - WINGHAVEN
Warrenton Oil Company
2299 S. Spoeede Lane
Truesdale, MO 63383
(636) 456-3346

Professional Land Surveyors
and Professional Engineers

Lewis - Bade, Inc.
101 E. Walton St.
Warrenton, Missouri 63383
(636) 456-2615 (FAX) 456-7252

RECEIVED
MAY 05 2003
ENGINEERING DEPARTMENT

FASTLANE

SITE PLAN

PROJECT NO: **02229**

DESIGNED BY: BART

DRAWN BY: BART

CHECKED BY: L.P.B.

SHEET NO: **1** OF **7**