CONSTRUCTION NOTES

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 general 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 construction and materials used shall conform to current City of O'Fallon, MO, St. Charles County Dept. of Highways and Traffic, and latest Duckett Creek Sanitary District standards and construction specifications.

Consult Soils Engineer for soil compaction recommendations.

All utility relocations will be determined by the individual utility company.

No area shall be cleared without permission of the developer.

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. Ensure the moisture content of the soil in fill areas is to correspond to the compacted effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be determined by 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.

All grades shall be within 0.2 feet, plus or minus, of those shown on the grading plan.

All areas shall be allowed to drain. All low points shall be provided with temporary ditches.

All swales shall be sodded, unless otherwise noted on the plans.

No slope shall be steeper than 3 horizontal to 1 vertical.

Erosion and siltation control shall be installed prior to any grading and be maintained throughout the project until acceptance of the work by the owner and/or controlling regulatory agency and adequate vegetative growth insures no further erosion of soil.

Additional siltation control devices may be required as directed by The City of O'Fallon, MO.

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 backfilling operations. Grading shall comply with recommendations in the soils report by Jacobi Geotechnical Engineering, Inc..

The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.

Parking on non-surfaced areas is prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto the pavement causing hazardous roadway and driving conditions. Contractor shall keep road clear of mud and debris.

Storm water pipes, outlets and channels shall be protected by silt barriers and kept free of waste and silt at all times prior to final surface stabilization and/or paving.

Siltation fences shall be inspected periodically for damage and for the amount of sediment which has accumulated. Removal of sediment will be required when it reaches ½ the height of the fences.

Straw bales shall be inspected periodically for deterioration. Bales which have rotted or failed shall be replaced. Removal of sediment will be required when it reaches ½ the height of the bales.

If cut & fill operations occur during a season not favorable for immediate establishment of a permanent ground cover, a fast germinating annual such as rye grasses or sudan grasses shall be utilized to retard erosion.

Undercutting for treatment of plastic clay conditions for foundations has not been considered in grading computations shown. Contact soils engineer if this condition exists.

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 Engineeer. Contractor is responsible for monitoring grading operation and accuracy of final rough grades. Notify engineer of any discrepancies affecting final grading balance.

Contractor is responsible to maintain all siltation control devices shown, and provide additional siltation control devices as deemed neccessary due to field conditions. See approved grading plan set for location of devices.

All trench backfills under pavement within the public right-of-way shall be granular backfilled. Trench backfills under paved areas, outside of public right-of-way may be granular backfill in lieu of the earth backfill compacted to 90 percent of the Modified AASHTO T-180 compaction test A.S.T.M. D-1557.

P.V.C. gravity sanitary sewer pipe sizes 4" through 15" shall conform to the requirements of A.S.T.M. D-3034, for the PSM-PVC sewer pipe fittings, SDR-35 Large diameter plastic gravity sewer pipe and fittings shall conform to the requirements of A.S.T.M. F-679. All fittings for P.V.C. pipe shall be of the same material and strength requirements as the sewer pipe.

When P.V.C. pipe is used, appropriate rubber seal waterstop, as approved by the sewer district, shall be installed between P.V.C. pipe and masonry concrete and brick structure.

All sanitary laterals shown on plan are to be constructed of P.V.C. pipe.

All manhole and inlet tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor. At the time of construction stakeout of the sewer lines, all curb and grate inlets will be face staked, provided said stakes do not fall in the ditch line. If stakes fall within the ditch line, the sewer company or job superintendent shall notify the engineer by phone that stakes are needed and allow 48 hours for cuts.

All storm sewer pipe regardless of size shall be reinforced concrete pipe A.S.T.M. C-76, Class III Minimum, unless otherwise shown on the plans.

Maintenance of the sanitary sewers shall be the responsibility of the Duckett Creek Sanitary District upon dedication of the sewers to the District. Maintenance of the storm sewers shall be the responsibility of the City of O'Fallon, MO, upon acceptance by the city for these storm sewers.

All disturbed earth areas within City, County and State right-of-way shall be sodded.

Blasting will require a permit from the City of O'Fallon, MO.

A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales shall be implemented as soon as possible. No graded area is to be allowed to remain bare without being seeded and mulched. Care shall be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.

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.

All trash and debris on site, either existing or from construction, must be removed and properly disposed of off-site.

Soft soil in the bottom and banks of any existing or former pond sites or tributaries, or on any sediment basins or traps, shall be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material shall be placed in proposed public right-of-way locations or on any storm sewer locations.

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 all design and implementation as required to prevent erosion and the depositing of silt. The Owner and/or 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 silts 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 the City of O'Fallon and/or MODOT.

Sidewalks, curbs, ramps and accesible parking spaces shall be constructed in accordance with current approved "American with Disabilities Act Accessibility Guidelines" (ADAAC) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAC guidelines shall take precedence and the contractor prior to any construction shall notify the Project Engineer.

City approval of the construction site plans does not mean that single family and two family dwelling units can be constructed on the lots without meeting the building setbacks as required by the zonong code.

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REVEGETATIVE TABLE

VEGETATIVE ESTABLISHMENT
For Urban Development Sites

APPENDIX A

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)

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

Fertilizer rates: Nitrogen 30 lbs./ac.
Phoshpate 30 lbs./ac.
Potassium 30 lbs./ac.
Lime 600 lbs./ac. ENM*

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

ABBREVIATIONS

ATG	ADJUST TO GRADE
AI	AREA INLET
BF	BASEMENT FLOOR
℄	CENTERLINE
CC	CONCRETE COLLAR
CO	CLEAN OUT
CI	CURB INLET
CMP	CORRUGATED METAL PIPE
DCI	DOUBLE CURB INLET
ESMT	EASEMENT
EP	END OF PIPE
ED	ENERGY DISSIPATOR
EX	EXISTING
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FE	FLARED END
℄	FLOWLINE
2GISI	2 GRATE INLET WITH SIDE INTAKE
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
N/F	NOW OR FORMERLY
PVC	POLYVINYLCHLORIDE (PLASTIC PIPE)
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
STA	STATION
TBR	TO BE REMOVED
TBRBO	TO BE REMOVED BY OTHERS
TBR&R	TO BE REMOVED AND REPLACED
TF	TOP OF FOUNDATION
TYP	TYPICAL
UIP	USE IN PLACE
UP	UTILITY POLE
W	WIDE

LEGEND

—UC—	EXISTING UNDERGROUND CABLE TV
—UT—	EXISTING UNDERGROUND TELEPHONE
—UE—	EXISTING UNDERGROUND ELECTRIC
—OU—	EXISTING OVERHEAD UTILITY WIRES
—G—	EXISTING GAS MAIN
—W—	EXISTING WATER MAIN
—F—	PROPOSED FORCE MAIN
—F—	EXISTING FORCE MAIN
	BUILDING LINE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
510	EXISTING CONTOUR
520	PROPOSED CONTOUR
	EXISTING TREE LINE
	PROPOSED TREE LINE
	SILTATION CONTROL
	EX HIGH WATER OR DITCH
	GRADE BREAK
	STREET SIGN
	SWALE
	DIRECTION OF SHEET FLOW
	CLEARING AND GRADING LIMITS
	FIRE HYDRANT
	LIGHT STANDARD
	VALVE
	LATERAL
	ADDRESS
	TREE
	SANITARY SEWER DESIGNATOR
	STORM SEWER DESIGNATOR

REVISIONS

SHT. NO.	11-26-03 SUBMITTED TO O'FALLON, MO & DUCKETT CREEK	02-13-04 RESUBMITTED TO O'FALLON & DUCKETT CREEK							REMARKS
1	X	X							
2	X	X							
3	X	X							
4	X	X							
5	X	X							
6	X	X							
7	X	X							
8	X	X							
9	X	X							
10	X	X							
11	X	X							
12	X	X							

SOILS ENGINEER NOTES

Jacobi Geotechnical Engineering, Inc. and the undersigned engineer have not prepared any part of these plans. The seal of the undersigned professional engineer has been affixed at the request of The City of O'Fallon and is a professional opinion to indicate that the undersigned has reviewed the grading plans and revisions through the date given below and that in my opinion the grading and improvements as shown on the plans are compatible with the soil and geologic conditions at the site as described in the geotechnical report for the project dated January 14th, 2004. Roads and building foundations may be supported on naturally occurring or fill soil: slopes may be constructed as shown.

The above opinion is based on data from the geotechnical report(s) which were based on widely spaced explorations. Conditions may vary from those encountered in the explorations, or can change due to the construction activities or weather conditions. Therefore, the undersigned must be involved during the construction phase of this project in order to determine that subsurface conditions are as anticipated from the exploration data that recommendations relative to construction are implemented.

Jacobi Geotechnical Engineering, Inc. and the undersigned have no responsibility for services provided by others, except as they relate to the geotechnical aspects of the design. Services by others may include: establishment of grades , sewer plans and grades, drainage, boundary, and topographic surveys: all structural and electrical components: water, gas, electric and telephone services and distribution facilities: any and all other engineering plans, specifications,estimates, plats, reports, surveys: or other documents or instruments relating to or intended to be used for any part or parts of this project. Construction means and methods for implementation of the grading plan shall be left to the contractor.

Jacobi Geotechnical Engineering, Inc.

BENCH MARKS

U.S.G.S. DATUM BENCHMARK
(Provided by the Missouri Department of Transportation)

ELEVATION 616.50 At Dardenne Prairie, T. 46N., R. 2E., near approximate corner sections 1, 2, 11 & 12, 31' N. and 20' W. of crossroads, the intersection of State Highway "N" with Post Road and Hanley Road, 49' S. of S.E. Corner of Catholic Church, 2.0' N. of sidewalk, and in concrete post, standard tablet stamped "TT 60 C 1936 616."

SITE BENCH MARK

Elevation 615.16

West bolt, before "Mueller," on fire hydrant, on South side of Highway N, opposite house # 7501.

PROJECT INFORMATION

PREPARED FOR:

WINGHAVEN RESIDENTIAL L.L.C.

#1 McBRIDE & SON CENTER DRIVE
ST. LOUIS, MO 63005
PHONE: (636) 537-2000 FAX: (636) 537-2547

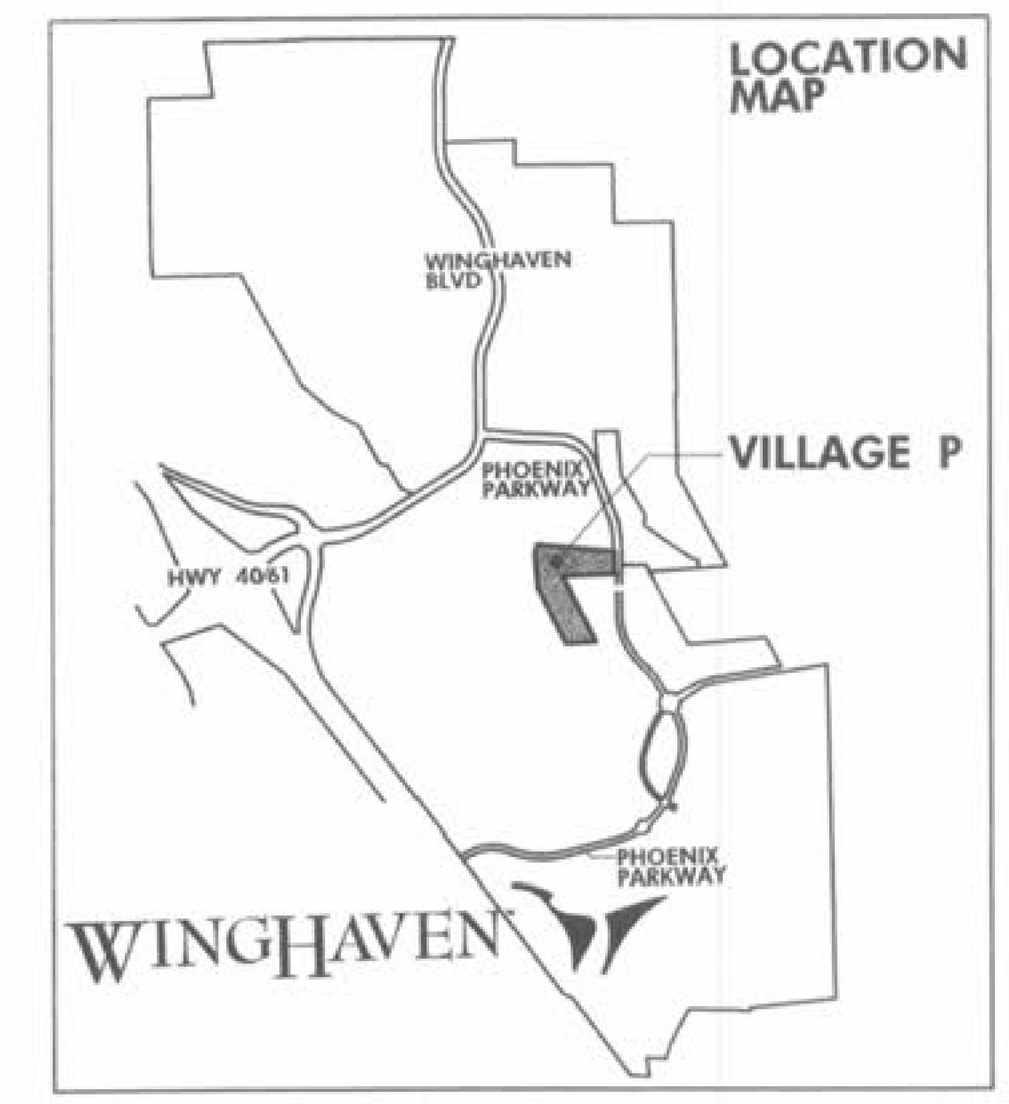
PREPARED BY:

VOLZ INCORPORATED

10849 INDIAN HEAD INDUSTRIAL BOULEVARD
ST. LOUIS, MISSOURI 63132-1166
PHONE: (314) 426-6212 FAX: (314) 890-1250

WUNNENBERG'S MAP:	PAGES 45 & 55
ZIP CODE:	63366
MUNICIPALITY:	O'FALLON, MO

LOCATION MAP



INDEX

APPLICABLE UTILITIES

St. Charles County Water District No. 2 and Missouri-American Water Company.

Duckett Creek Sanitary Sewer District.

Union Electric Company.

Southwestern Bell Telephone and GTE Telephone

Laclede Gas Company.

Wentzville Fire Protection District.

Wentzville School District and Fort Zumwalt School District.

REVISED: 2/13/04 P&Z #9831.45.03

WINGHAVEN RESIDENTIAL L.L.C.
#1 McBRIDE & SON CENTER DRIVE
ST. LOUIS, MISSOURI 63005
PHONE (636) 537-2000

VOLZ

STATE OF MISSOURI
TIMOTHY JOHN MEYER
NUMBER
PROFESSIONAL ENGINEER

KINGSGATE at WINGHAVEN™

GENERAL INFORMATION

Design By: D.R.K.
Drawn By: T.S.J.
Checked By: T.J.M.
7247

11-26-03

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