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, St. Charles County Dept. of Highways and Traffic, and 2000 M.S.D. standards and construction specifications.

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

Consult Soils Engineer for soil compaction recommendations.

No area shall be cleared without permission of the developer.

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

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

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

Grading shall comply with recommendations in the soils report by Midwest Engineering Services, Inc. dated August 9, 2002.

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.

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 Midwest Engineering Services, Inc. dated August 9, 2002.

The Contractor shall notify the Geotechnical 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.

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.

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 /2 the height of the fences.

Straw bales shall be inspected periodically for deterioration. Bales which have rotted or tailed snall be replaced. Kemoval of sediment will be required when reaches $\frac{1}{2}$ the height of the bales.

Undercutting for treatment of plastic clay conditions for foundations has not been considered in grading computations shown. Contact geotechnical 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 Engineer. Contractor is responsible for monitoring grading operation and accuracy of final rough grades. Notify Volz, Inc. 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 necessary due to field conditions. See approved grading plan set for location of devices.

A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales shall be implemented as soon as possible. Graded areas that are to remain for over 6 months must be seeded and mulched. Care shall be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage system.

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.

All filled places under proposed storm 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 concurrent with grading and backfill

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 structures.

All sanitary laterals shown on the plan are to be constructed of 6-inch 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 of 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.

Corrugated metal pipe shall conform to the standard specifications for corrugated iron or steel galvanized culvert pipe AASHTO M-36.

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

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Maintenance of the sanitary sewer mains 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.

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.

Lighting values will be reviewed on site prior to the final occupancy inspection. Corrections will need to be made if not in compliance with City standards.

A floodplain development permit will be required. Per Zone A, Map Number 29-183C0230E (dated August 2, 1996), St. Charles County, MO and incorporated areas.

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

Developer must supply City construction inspectors with soils reports prior to ordering site

All low place whether on site or off site should be graded to allow drainage. This can be accomplished with temporary ditches. Any off site drainage easements will be acquired before grading begins.

All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rainstorm resulting in 1/2 inches of rain or more.

ATTENTION SEWER CONTRACTOR

For Sewer Pipe (storm, sanitary, and combined) with a design grade less than one percent (1%), verification of the pipe grade will be required for each installed reach of sewer, prior to any surface restoration or installation of any surface improvements. The Contractor's field supervisor will be required to provide daily documentation verifying that the as-built pipe grade meets the design grade through the submittal of signed cut sheets to the MSD Inspector upon request.

Field surveyed verification must be made under the direction of a licensed land surveyor or registered engineer. The contractor will be required to <u>remove and replace any sewer reach having an as-built grade</u> which is flatter than design grade by more than 0.1%. Sewers with grades greater than the design slope may be left in place, provided no other sewer grade is reduced by this variance in the as-built grade.

MSD also reserves the right to require the Contractor to remove and replace any sewer (at any time prior to construction approval) for which the as-built grade does not comply with the grade tolerance stated in the above paragraph.

The Sewer Contractor shall be responsible for any additional costs associated with the field verification of the sewer grade, or removal and replacement of the sewer pipe or associated appurtenances.

ABBREVIATIONS

ATG	ADJUST TO GRADE
Al	AREA INLET
BF	BASEMENT FLOOR
©	CENTERLINE
CC	CONCRETE COLLAR
CO	CLEAN OUT
CI	CURB INLET
CMP	CORRUGATED METAL PIPE
DCI	DOUBLE CURB INLET
DS	DOWN SPOUT
ESMT	EASEMENT
EP	END OF PIPE
ED	ENERGY DISSIPATOR
EX	EXISTING
FF	FINISHED FLOOR
FH	FIRE HYDRANT
FE	FLARED END
E.	FLOWLINE
2GISI	2 GRATE INLET WITH SIDE INTAKE
MH	MANHOLE
MAX	MAXIMUM
MIN	MINIMUM
N/F	NOW OR FORMERLY
N.I.C.	NOT IN CONTRACT
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

SOILS ENGINEER NOTES

Midwest Engineering Services, 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 indicates that the undersigned has reviewed the improvement plans and revisions through the date given below and that in my opinion the grading and improvements 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 August 9, 2002. 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 which was 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 and that recommendations relative to construction are implemented.

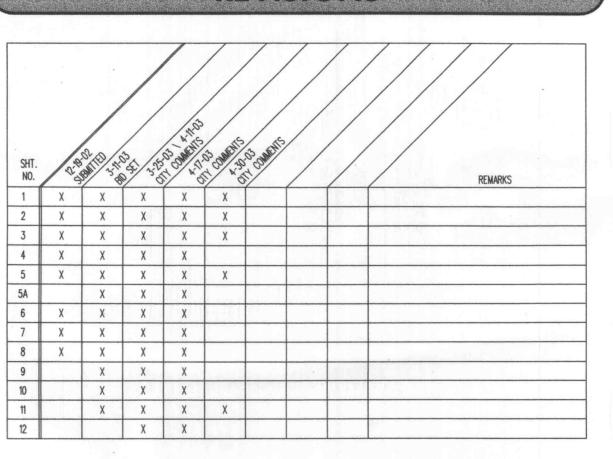
Midwest Engineering Services, Inc. and the undersigned have no responsibility for services provided by others, except as they relate to the geotechnical aspects of the design. Services by others may include: establishment of grades, sewer plans and grades, drainage, boundary, and topographic surveys: 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 improvement plans shall be left to the contractor with verification by the geotechnical engineer in writing.

Midwest Engineering Services, Inc.

LEGEND

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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	
(2348) ADDRESS	
• TREE	
SANITARY SEWER DESIGNATOR	
STORM SEWER DESIGNATOR	
AR RELIEF VALVE	
AIR RELIEF VALVE & C.O.	
COO MININELLE VALVE & C.O.	

REVISIONS



REVEGETATIVE TABLE

VEGETATIVE ESTABLISHMENT For Urban Development Sites APPENDIX A

Minimum 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) -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.

Phosphate 30 lbs./ac. Potassium 30 lbs./ac. Lime 600 lbs./ac. ENM*

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

TREE PRESERVATION CALCULATIONS

Tree area per Walker Survey Tree area to be removed 1.75 Ac. x 15 Trees/Ac. =

509,975 SF 76,000 SF 27 Trees

PROJECT INFORMATION

PREPARED FOR:

CHIODINI ASSOCIATES

700 CORPORATE PARK DRIVE SUITE 250

ST. LOUIS, MISSOURI 63105 PHONE: (314) 725-5588 FAX: (314) 725-4347

PREPARED BY:

VOLZ INCORPORATED

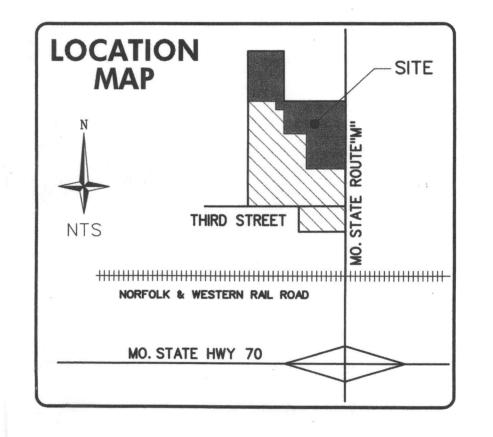
10849 INDIAN HEAD INDUSTRIAL BOULEVARD ST. LOUIS, MISSOURI 63132-1166 PHONE: (314) 426-6212 FAX: (314) 890-1250

WUNNENBERG'S MAP ZIP CODE: **MUNICIPALITY:**

PAGE 30, GRID SS-14, SS-15

63366 O"FALLON, MISSOURI

LOCATION MAP



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BENCH MARKS

USGS BENCH MARK

USGS DESIGNATION-F149 ELEVATION - 542.88 STD tablet stamped F 149 1935, Top concrete post, 40 feet East of Main Street centerline, 30 feet North of centerline of main tracks.

SITE BENCH MARK

ELEVATION - 516.54 Box on light base, Northwest corner of church parking lot.

homas N. Rothermich, P.E.

FILE NUMBER 1102.0

