A CONSTRUCTION PLAN FOR

"LIBERTY

INDUSTRIAL PARK"

A TRACT OF LAND IN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 24, TOWNSHIP 47 NORTH, RANGE 3 EAST, OF THE FIFTH PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI

GRADING NOTES

- 1. 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.
- 2. The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical
- 3. The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
- 4. All greas shall be allowed to drain. All low points shall be provided with temporary ditches.
- 5. 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 silting up existing downstream storm drainage system.
- 6. 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.
- 7. All trash and debris on site, either existing or from construction, must be removed and properly disposed of off-site.
- B. Soft soil in the bottom and banks of any existing or former pond sites 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.
- 9. Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site; and the demolition and removal of any man-made structures. The material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing operation.
- 10. Compaction equipment shall consist of tamping 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
- 11. The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.
- 12. The Soils Engineer shall notify the Contractor of rejection of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.
- 13. 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.
- 14. The sequence of operation in the fill greas will be fill, compact, verify acceptable soil density, and repetition of the sequence. The acceptable moisture contents during the filling operation are those at which 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.
- 15. 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. If 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.
- 16. Fill and backfill should be compacted to the criteria specified in the following table:

CATEGORY

PERCENT COMPACTION

MINIMUM

Fill in building areas below footings 90% Fill under slabs, walks, and povement 90% Fill other than building areas 90% Natural subgrade Pavement subgrade Pavement base course

Measured as a percent of the maximum dry 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.

All site construction shall conform to the design recommendations as outlined above pending a future soils analysis/report.

PRINCIPALS & STANDARDS

- 1. All excavations, gracing 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 ecovation 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 Brilding Department. Permanent safety guards will be constructed in accordance with the appropriate section(s) of the adepted BOCA Codes.
- 2. Sediment and erosion control plans for sites that exceed 20,000 square feet if grading shall provide for sediment or debris basins, silt trips or filters, staked straw bales or other approved measures to remove sediment from run-off Temporary siltation ontrol measures shall be maintained until vegetative cover is established at a
- 3. Where natural vegetation is removed during grading, vegetation shall be re-established in such a density as to prevent erosion. Permanent tipe grasses shall be established as soon as possible during the next seeding period after grading has been completed.

sufficient density to rovide erosion control on the site.

4. When grading operations are completed or suspended for more than 30 days permarent grass must be established at sufficient density to provide ension control on the site. Between permanent grass seeding periods, temporary cover shall be

All finished grades (areas not to be disturbed by future improvement) in excess of 20% slopes (5:1) shall be mulched and tacked at the rate of 100 pounds per 1,000 square feet when seeded.

- 5. Provisions shall be node to accommodate the increased runoff caused by changed soils and surface conditions during and after grading. Unversitated open channels shall be designed so that gradients result is valocities of 2 fps (feet per second) or less. Open channels with velocities more than 2 fps and by use of commercial erosion control blankets or fined with rock ripras or concrete or other suitable materials. Detention basins, diversions or any other appropriate structures shall be constructed to prevent velocities above 5 fps.
- 6. The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased surface water, silt from erosion, and any other consequence of erosion. Run-off water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to eversions, detention basins, concrete gutters and/or underground outlet systems. Sufficiently anchored straw bales may be temporarily substituted.
- Development along natural watercourses shall have residential lot lines, commercial or industrial improvements, parking areas or driveways set back a minimum of 25 feet from the top of the existing stream bank. The watercourse shall be maintained and made the responsibility of the subdivision trustees or in the cast of a site plan by the property owner. Permanent vegetation should be left intact. Variances will include designed streambank erosion control measures. FEMA and U.S. Army Corps of Engineers gudelines shall be followed where applicable regarding site development areas designated as
- 8. All lots shall be seeded and mulched or sodded before an occupancy permit shall be issued except that a temporary occupancy permit maybe issued by the Building Department in cases of undue hadship because of unfavorable ground

flood plains and wetlaids.

- 9. The sediment control fan should be implemented before grading begins. This should follow the guidelines in the model sediment and erosion control regulations by St. Charles soil and water conservation
- 10. Erosion cantrol shall not be limited to what is shown on the plan. Whatever means necessary shall be taken to prevent siltation and erosion from entering natural streams and adjacent roadways, properties, and ditches.
- 11. All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rainstorm resulting in one-half inch of
- 12. No graded area is to ismain bare for over 6 months without being seeded

VEGETATIVE ESTABLISHMENT For Urban Development Sites APPENDIX A

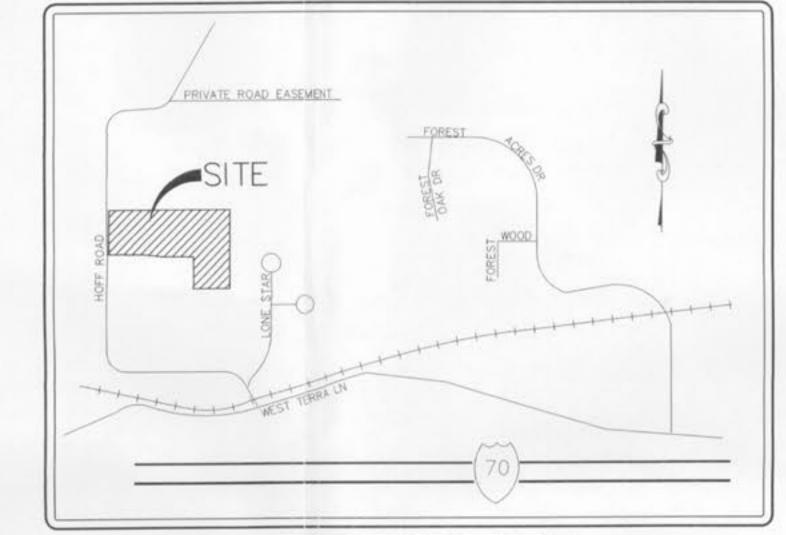
Seeding Rates: Permanent: Tall Fescue - 30 lbs./ac. Smooth Brome - 20 lbs./ac. Combined Fescue @ 15 lbs./ac. and Brome @ 10 lbs./ac.

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

Seeding Periods: Fescue or Brome - March 1 to June 1 August 1 to October 1 March 15 to November 1 March 15 to September 15

Mulch Rates: 100 lbs. per 1,000 sq. feet (4,356 lbs. per acre) Fertilizer Rates: Nitrogen 30 lbs./cc.

30 lbs./oc. Phosphate 30 lbs./oc. Potassium 600 lbs./oc. ENM* * ENM = effective neutralizing material as per State evaluation of quarried rock.



LOCATION MAP NOT TO SCALE

LANDSCAPE LEGEND

minimum 2" caliper

minimum 6 ft. height

GRADING QUANTITIES:

= SITE BALANCE

TO CONSTRUCTION

32.640 C.Y. CUT (INCLUDES SUBGRADE)

INDICATES PROPOSED HARDWOOD TREE

(ashes, oaks, maples, birches, sweet gums)

(mugho pines, yews, junipers, hollies, boxwood

(spireas, forsythia, barberries, privets, Macs)

INDICATES PROPOSED EVERGREEN TREES

5 INDICATES PROPOSED EVERGREEN SHRUBS

7 INDICATES PROPOSED ORNAMENTAL SHRUBS

**LANDSCAPING AS DEPICTED IS SUBJECT TO FINAL **

32,640 C.Y. FILL (INCLUDES 15% SHRINKAGE & UBGRADE)

THE ABOVE GRADING QUANTITY IS APPROXIMATE ONLY, NOT OR

BIDDING PURPOSES, CONTRACTOR SHALL VERIFY QUANTITIES RIOR

U.S.G.S. BENCHMARKS

ORIGINAL REFERENCE BENCHMARK - RM46 ELEV. 469.17 "CHISELED SQIARE" ON TOP OF

SITE BENCHMARK ELEV=569.20 OLD IRON ROD AT THE NORTHWEST CONER OF PROPERTY

CONVEYED TO PERMIAN HOLDINGS, INC., DEED BOOK 2349, PAGE 545, IT. CHARLES COUNTY

ABUTMENT AT SOUTHWEST CORNER OF HOFF ROAD BRIDGE OVER PERUIUE CREEK. THIS

BENCHMARK HAS BEEN REPLACED FROM NEW BRIDGE CONSTRUCTION & THIS TIME.

DESIGN BY A QUALIFIED LANDSCAPE DESIGNER

I-2 Heavy Industrial

Office/Worehouse

111,600 sq.ft.

1. Area of Tract: 18.936 Acres Lot 1 Area: 1.539 Acres 1.304 Acres 1.304 Acres Lot 3 Area: 1.304 Acres

2. Existing Zoning: Proposed Use: 4. Area of Proposed Buildings:

5. The required height and building setbacks are as follows: Minimum Front Yard 25 feet Minimum Side Yard: 50 feet Minimum Rear Yard: Maximum Height of Building: 50 feet

6. Site is served by:

City of O'Fallon Sewer 636-281-2858 636-639-8312 AmerenUE Company 636-946-8937 Laclede Gas Company 636-281-2858 City of O'Fallon Water 636-332-3011 Century Tel Telephone Company 636-272-3493 O'Fallon Fire Protection District Fort Zumwalt School District 636-272-6620

According to the Flood Insurance Rate Map of St. Charles County. (Community Panel number 290315 0240 E dated August 2, 1996) this property lies within zone X. Zone X is defined as an area outside the 500 year Flood Plain Limits. B. Parking Required: As Approved on Preliminary Plan

(1 space per 400 s.f. office space plus 1 space per employee)

Lot 1 2,730 sq. ft. / 400 sq. ft. = 6.82 10 Employees = 10 Spaces Total Parking Required: 17 spaces

Total Parking Provided: 18 spaces (Including 1 handicap spaces) Lot 2 2,320 sq ft / 400 sq ft = 5.8

5 Employees = 5 Spaces Total Parking Required: 11 spaces Total Parking Provided: 15 spaces (Including 1 handicap spaces) Lot 3

1,500 sq. ft. / 400 sq. ft. = 3.75 5 Employees = 5 Spaces Total Parking Required: 9 spaces Total Parking Provided: 16 spaces (Including 1 handicap spaces)

1,500 sq. ft. / 400 sq. ft. = 3.75 5 Employees = 5 Spaces Total Parking Required: 9 spaces Total Parking Provided: 16 spaces (Including 1 handicap spaces) Lot 5

2,400 sq. ft. / 400 sq. ft. = 6 5 Employees = 5 Spaces Total Parking Required: 11 spaces

Total Parking Provided: 11 spaces (Including 1 handicap spaces)

Landscape Required: 76 (spa.) x 270 = 20,520 S.F. 20,520 sq. ft. x 0.06 (%) = 1,231.20 Total Interior Landscape Required: 1,231.20 S.F. Total Interior Landscape Provided: 5,109.65 S.F. 519.76 LF. / 40 LF. = 12.99 ~ 13

Lot 4

Total Street Trees Required: 13 Trees Total Street Trees Provided: 13 Trees

10. Site Coverage Calculations: Building = 111,600 sq.ft. Pavement = 122,619.53 sq.ft. Green Space = 63,952.22 sq.ft.

GENERAL NOTES

- 1) LINDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL 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 ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.
- 2) ILL TRENCH BACKFILLS 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 TRENCH BACKFILLS UNDER PAVED AREAS INCLUDING SIDEWALKS SHALL BE GRANULAR FILL. ALL OTHER TRENCH BACK FILLS MAY BE EARTH MATERIAL (FREE OF LARGE CLODS OR STONES).
- 3) NO AREA SHALL BE CLEARED WITHOUT THE PERMISSION OF THE PROJECT
- 4) ALL GRADES SHALL BE WITHIN 0.2 FEET OF THOSE SHOWN ON THE GRADING PLAN.
- 5) NO SLOPE SHALL BE STEEPER THAN 3:1. ALL SLOPES SHALL BE SODDED
- 6) ALL CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO CURRENT CITY OF C'FALLON STANDARDS.
- 7) ALL UTILITIES SHOWN ARE EXISTING UNLESS OTHERWISE NOTED. ALL NEW UTILITIES SHALL BE LOCATED UNDERGROUND.
- 8): AL DIMENSIONS ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
- 9) THE DEVELOPER SHALL COMPLY WITH CURRENT ARTICLE 13 PERFORMANCE STANDARDS.
- 10) DNE LANE OF ROADWAY SHALL REMAIN OPEN AT ALL TIMES AND TRAFFIC CONTROL SHALL MEET MISSOURI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
- 11) ALL CONSTRUCTION METHODS AND PRACTICES TO CONFORM WITH OSHA STANDARDS.
- 12) DE ENION FOR THIS SITE WAS PROVIDED AS PART OF LONE STAR INDUSTRIAL PARK.
- 13) SITE EASEMENTS WILL BE REQUIRED WHERE THEY ARE NECESSARY.
- 14) THE DEVELOPER SHALL COMPLY WITH CURRENT TREE PRESERVATION ORDINANCE
- 689 AND PROVIDE LANDSCAPING AS SET FORTH IN ARTICLE 23 OF THE OF O'FALLON ZONING ORDINANCES.
- E rees per Acre Cleared: 1,026 Ac x 15 = 15.39 ~ 16 Trees (i) 1 Requirement = 4 Trees Required
- 2 Requirement = 3 Trees Required 3 Requirement = 1 Trees Required 0 4 Requirement = 1 Trees Required 3 5 Requirement = 3 Trees Required
- 6 Requirement = 4 Trees Required LANDSCAPE PLAN TO BE PROVIDED WITH DEVELEOPMENT OF EACH INDIVIDUAL LOT.
- 15) THE DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH SOIL REPORTS PRIOR TO OR DURING SITE SOIL TESTING.
- 16) THE CONTRACTOR SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SETATION 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 ME HODS OF CONTROL ARE DETAILED IN THE PLAN). CONTROL SHALL COMMENCE WIT SRADING 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 CINTRACTOR'S RESPONSIBILITIES DEPOSITING OF SILT. THE OWNER AND/OR THE CITY OF D'FALLON AND/OR MODOT MAY AT THEIR OPTION DIRECT THE CONTRACTOR IN HIS ME HODS 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 SEVERS OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE OWNER AND/OR THE CITY OF D'FALLON AND/OR MODOT
- 17) ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF THE MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHOT T-99. ALL FILLED 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.
- 18) ALL SIGN LOCATIONS AND SIZES MUST BE APPROVED SEPERATELY THROUGH THE PLANNING DIVISION. SIGN LOCATIONS NOT KNOWN AT THIS TIME.
- 18) ALL SIGN POST AND BACKS AND BRACKET ARMS SHALL BE PAINTED BLACK USING CARBOLINE RUSTBOND PENETRATING SEALER SG AND CARBOLINE 133 HB PAINT OR EQUIVALENT AS APPROVED BY CITY AND MoDOT), SIGNS DESIGNATING STREET NAME SHALL BE ON THE OPPOSITE SIDE OF THE STREET FROM TRAFFIC CONTROL SIGNS.
- 20) LIGHTING VALUES WILL BE REVIEWED ON SITE PRIOR TO FINAL OCCUPANCY INSPECTION. CORRECTIONS WILL NEED TO BE MADE IF NOT IN COMPLIANCE WITH CITY STANDARDS.
- 21) ALL STORM AND SANITARY STRUCTURES SHALL NOT BE CONSTRUCTED WITH BRICK, ALL STORM SEWER JOINTS SHALL BE GASKETED O-RING TYPE.
- 22) WHEN ELECTRIC SERVICE IS ESTABLISHED ALL TRANSFORMERS SHALL BE SCREENED FROM VIEW EXCEPT FOR ACCESS POINT ON TRANSFORMERS.
- 23) NO BRICK IS TO BE USED IN THE CONSTRUCTION OF THE SANITARY OR STORM MANHOLES.

SHEET INDEX

COVER SHEET GRADING PLAN DRAINAGE AREA MAP

PROFILES AND DETAILS PROFILES AND DETAILS CONSTRUCTION DETAILS

O'FALLON CITY NUMBER #7701

DAVIS 19 DROS CHARLE 6) 949

hereby specify that the documents intended be authenticated by my seal are limited to the sheet, and I hereby disclaim any respon-Staty for all other Drawings, Specifications, attendes, Reports or other documents or natruments relating to or intended to be us



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REVISIONS 6-19-03 REVISED PER CITY 7-18-03 CITY COMMENTS



ENGINEERING PLANNING SURVEYING

1052 South Cloverleaf Drive St. Peters, MO. 63376-6445 636-928-5552 FAX 928-1718

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