GENERAL NOTES

1. TOPOGRAPHIC SURVEY AND BOUNDARY INFORMATION PROVIDED BY STOCK AND ASSOCIATES.
2. ALL UTILITIES SHOWN HAVE BEEN LOCATED BY THE ENGINEER FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES, PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED.
3. NO GRADE SHALL EXCEED 3:1 SLOPE.
4. ALL SLOPES TO BE STABILIZED IMMEDIATELY AFTER GRADING.
5. ALL UTILITIES SERVING SITE ARE UNDERGROUND.
6. ALL OUTSIDE TRASH CONTAINERS, HVAC UNITS, ELECTRIC, TELEPHONE AND GAS METERS, SATELLITE DISHES, AND ROOFTOP MECHANICAL APPARATUS SHALL BE THOROUGHLY SCREENED WITH MATERIALS AND/OR LANDSCAPING TO CONCEAL THE VISIBILITY OF SUCH ITEMS FROM THE VIEW OF RIGHTS-OF-WAY AND/OR ADJACENT PROPERTIES AS REVIEWED AND APPROVED BY THE PLANNING DIVISION.
7. ALL CONSTRUCTION AND MATERIALS USED SHALL CONFORM TO CURRENT CITY OF O'FALLON STANDARDS.
8. SEE ARCHITECTURAL DRAWINGS FOR ALL BUILDING DIMENSIONS AND DETAILS.
9. BUILDING HEIGHT = 30'-0"
10. SITE CALCULATIONS:

BUILDING(FOOTPRINT)	6,010 S.F.	10.5%	(0.13 ACRES)
LANDSCAPING	18,436 S.F.	32.2%	(0.42 ACRES)
PAVEMENT	32,748 S.F.	57.3%	(0.76 ACRES)
TOTAL	57,194 S.F.	100.0%	(1.31 +/- ACRES)

11. PARKING CALCULATIONS (BASED ON CLASSIFICATION "OFFICE/BANK")
    3.0 SPACES PER 1,000 S.F.
    ONE SPACE FOR EVERY TWO EMPLOYEES
    TOTAL GROSS AREA=15,390 S.F.
    REQUIRED: BANK (1ST FLOOR) 6,010 GROSS S.F.
    3.33 X 6100/1000=20.3 SPACES
    OFFICES (2ND FLOOR) 9,380 GROSS S.F.
    3.33 X 9380/1000=31.2 SPACES
    : 7 EMPLOYEES (BANK)/2 = 3.5
    : 55 SPACES REQUIRED
    PROVIDED : 55 SPACES
12. FEMA MAP 29183C0239 E DATED 8/2/96 ZONE "X" (OUTSIDE 500 YR. FLOODPLAIN).
13. ALL SIGN LOCATIONS & SIZES SHALL BE APPROVED SEPARATELY THROUGH THE PLANNING DIVISION.
14. A TRASH ENCLOSURE WILL NOT BE PROVIDED FOR THIS SITE. A PRIVATE COMPANY HAS A CONTRACT TO CLEAN THE BANK ON A NIGHTLY BASIS. ONE OF THEIR RESPONSIBILITIES WILL BE TO REMOVE THE TRASH FROM THE PREMISE.
15. BICYCLE PARKING RACKS SHALL BE SECURELY ANCHORED TO THE GROUND AND BE OF VANDAL-RESISTANT CONSTRUCTION.
    1 BIKE SPACE PER 15 PARKING SPACES:
    55 / 15 = 4 REQ'D. ; 4 PROVIDED
16. TREE PRESERVATION CALCULATIONS: SEE LANDSCAPE PLAN.
17. PARKING LOT LANDSCAPE CALCULATIONS:
    55 SPACES (x) 270 s.f. = 14,850 s.f.
    14,850 (x) 6% = 891 s.f. REQ.
    PROVIDED = 1,625 s.f.
18. OWNER: HEARTLAND BANK (UNDER CONTRACT)
    212 SOUTH CENTRAL AVENEUE, SUITE 200
    CLAYTON, MO 63105
    PHONE: (314) 512-8500
    MS. LISA FREDERICK
19. NO OUTDOOR DISPLAY OF MATERIALS OR PRODUCTS, TEMPORARY OR OTHERWISE, SHALL OCCUR BEYOND THE AREA BETWEEN THE FRONT OF THE BUILDING AND THE DRIVEWAY AISLE. NO SUCH MATERIALS SHALL BE ATTACHED OR AFFIXED TO ANY EXTERIOR WALL.
20. ALL SIDEWALK, 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 EXISTS BETWEEN THE ABOVE INFORMATION AND THE PLANS, THE ADAAG GUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR PRIOR TO ANY CONSTRUCTION SHALL NOTIFY THE PROJECT ENGINEER.
21. CONSTRUCTION WITHIN THE CITY OF O'FALLON RIGHT OF WAY SHALL COMPLY WITH ST. CHARLES COUNTY PAVING SPECIFICATIONS EXCEPT AS MODIFIED BY CITY OF O'FALLON ORDINANCES.
22. REINFORCED CONCRETE PIPE SHALL BE CLASS III. ALL STORM DRAIN PIPE SHALL HAVE GASKETED JOINTS CONFORMING TO ASTM F-477.
23. STORMWATER DETENTION IS REQUIRED AND SHALL BE ACCOMMODATED VIA THE DETENTION SYSTEM ON IBT PROPERTY TO THE WEST OF LOT 3.
24. MINIMUM SETBACKS PER C2-ZONING ARE AS FOLLOWS:
    FRONT YARD (SOUTH) = 25 FEET SIDE YARD (EAST-ALONG HWY. K)=25 FEET
    SIDE YARD (WEST) = NO SETBACK REAR YARD = NO SETBACK
25. DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH SOIL REPORTS PRIOR TO OR DURING SITE SOIL TESTING. THE SOILS REPORT WILL BE REQUIRED TO CONTAIN THE FOLLOWING INFORMATION ON SOIL TEST CURVES (PROCTOR REPORTS) FOR PROJECTS WITHIN THE CITY:
    a) MAXIMUM DRY DENSITY
    b) OPTIMAL MOISTURE CONTENT
    c) MAXIMUM AND MINIMUM ALLOWABLE MOISTURE CONTENT
    d) CURVE MUST BE PLOTTED TO SHOW DENSITY FROM A MINIMUM OF 90% COMPACTION AND ABOVE AS DETERMINED BY THE "MODIFIED AASHTO T-18 COMPACTION TEST" (A.S.T.M.-D-1157) OR FROM A MINIMUM OF 95% AS DETERMINED BY THE "STANDARD PROCTOR TEST AASHTO T-99, METHOD C" (A.S.T.M.-D-698). PROCTOR TYPE MUST BE DESIGNATED ON DOCUMENT.
    e) CURVE MUST HAVE AT LEAST FIVE (5) DENSITY POINTS WITH MOISTURE CONTENT AND SAMPLE LOCATIONS LISTED ON DOCUMENT.
    f) SPECIFIC GRAVITY
    g) NATURAL MOISTURE CONTENT
    h) LIQUID AND PLASTIC LIMITS
    i) BE ADVISED THAT IF THIS INFORMATION IS NOT PROVIDED TO THE CITY'S CONSTRUCTION INSPECTOR THE CITY WILL NOT ALLOW GRADING OR CONSTRUCTION ACTIVITIES TO PROCEED ON ANY PROJECT SITE.
26. ALL FILL PLACED 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 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. ENSURE THE MOISTURE CONTENT OF THE SOIL IN FILL AREAS IS TO CORRESPOND TO THE COMPACTIVE EFFORT AS DEFINED BY THE STANDARD OR MODIFIED PROCTOR TEST. OPTIMUM MOISTURE CONTENT SHALL BE DETERMINED USING 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.
27. BRICK SHALL NOT BE USED IN THE CONSTRUCTION OF STORM OR SANITARY SEWER STRUCTURES.
28. A CONCRETE CRADLE FOR RCP AND ENCASEMENT FOR HDPE WILL BE REQUIRED FOR ALL STORM SEWER LINES WHEN CROSSING MORE THAN THREE FEET ABOVE SANITARY LINES.
29. 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.
30. ALL PROPOSED FENCING REQUIRES A SEPARATE PERMIT THROUGH THE PLANNING DIVISION.
31. ALL SIGN POSTS 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.**
32. ALL HPDE STORM DRAIN PIPE SHALL BE N-12WT OR EQUAL AND TO MEET **ASTM F1417 WATER TIGHT FIELD TEST.**
33. INSTALLATION OF WATER SERVICE SHALL MEET THE SPECIFICATIONS OF THE ST. CHARLES WATER NO. 2 DISTRICT.
34. ALL UTILITIES CROSSING EXISTING STREETS OF COLLECTOR SIZE AND GREATER SHALL BE IN CONDUIT OR CASING PIPE.
35. ALL PROPOSED UTILITIES UNDER EXISTING CITY OF O'FALLON STREETS ARE TO BE BORED.
36. TRAFFIC CONTROL IS TO BE PER MODOT OR MUTCD STANDARDS, WHICHEVER IS MORE STRINGENT.
37. SANITARY FLOW OF 1500 GALLONS PER DAY IS BASED ON THE OCCUPANCY RATE OF 7 PERSONS PER 1000 S.F. OF FLOOR SPACE AND 15 GALLONS PER DAY PER PERSON.
38. TREES, ORGANIC DEBRIS, RUBBLE, FOUNDATIONS, AND OTHER DELETRIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED IN COMPLIANCE WIH ALL APPLICABLE LAWS AND REGULATIONS. LANDFILL TICKETS FOR SUCH DISPOSAL SHALL BE MAINTAINED ON FILE BY THE DEVELOPER. BURNING ON SITE SHALL BE ALLOWED ONLY BY PERMIT FROM THE LOCAL FIRE DISTRICT. IF A BURN PIT IS PROPOSED, THE LOCATION AND MITIGATION SHALL BE SHOWN ON THE GRADING PLAN AND DOCUMENTED BY THE SOILS ENGINEER.
39. GRADES FOR ENTRANCES SHOULD NOT EXCEED 2% AT WALKS, 4% FROM STREET AND 10% OVERALL. TYPICALLY 2% FROM BACK OF CURB THROUGH THE RIGHT OF WAY IS DESIRED.

A = CONTACT BEARING AREA OF BLOCK WITH EARTH IN SQUARE FEET

PIPE DIA. IN.	PLUG	45° WYE	TEE CONNECTION	UP TO 22.5°	UP TO 45°	UP TO 90°
	A (SQ. FT.)	A (SQ.FT.)	A (SQ.FT.)	A (SQ.FT.)	A (SQ.FT.)	A (SQ.FT.)
4" and smaller	0.5	1.4	2.6	1.8	2.2	2.0
6"	1.5	3.0	6.0	4.0	4.5	4.5
8"	2.5	5.0	9.5	6.5	9.5	8.0
10"	4.1	8.0	13.0	9.5	12.5	12.5
12"	5.5	11.5	19.0	13.5	16.0	18.0
16"	9.0	18.0	33.0	23.0	27.0	32.0
20"	14.0	28.0	51.0	36.0	42.0	50.5

NOTES:
1. BEARING AREAS ARE BASED ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF 1,000 POUNDS PER SQUARE FOOT. FOR A LESSER SOIL BEARING CAPACITY THESE AREAS SHALL BE INCREASED ACCORDINGLY.
2. ALL CONCRETE THRUST BLOCKS SHALL BE 3000 p.s.i. CONCRETE.
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
4. NO JOINT SHALL BE COVERED WITH CONCRETE.
5. JOINTS THAT LOCATED AGAINST THRUST BLOCKS ARE TO BE WRAPPED IN A CLOTH MATERIAL.
6. APPROVED MECHANICAL JOINT RESTRAINTS ARE REQUIRED AT ALL VERTICAL BENDS AND MAY BE USED IN LIEU OF THRUST BLOCKS AT HORIZONTAL BENDS AT THE OPTION OF THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.

THRUST BLOCKING DETAILS

N.T.S.

CITY OF O'FALLON SEWER CONSTRUCTION NOTES

1. Underground utilities have been plotted from available information and therefore location 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 improvements.
2. Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary and storm sewers, including house laterals.
3. All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match preconstruction conditions.
4. All fill including places under proposed storm and sanitary sewer lines and paved areas including trench backfills within and off the road right-of-way shall be compacted to 90 percent of maximum density as determined by the "Modified AASHTO T-180 Compaction Test (ASTM-D1557)". All tests shall be verified by a Soils Engineer concurrent with grading and backfilling operations. The compacted fill shall be free of rutting and shall be non-yielding and non-pumping during profiling and compaction.
5. The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system
6. All sanitary sewer flowlines and tops built without elevations furnished by the engineer will be the responsibility of the sewer contractor.
7. Easements shall be provided for all sanitary sewers, storm sewers and all utilities on the record plat.
8. All construction and materials shall conform to the current construction standards of the City of O'Fallon.
9. The City of O'Fallon shall be notified at least 48 hours prior to construction for coordination of inspection.
10. All sanitary sewer building connections shall be designed so that the minimum vertical distance from the low point of the basement to the flowline of a sanitary sewer at the corresponding building connection shall not be less than the diameter of the pipe plus the vertical distance of 2-1/2 feet.
11. All sanitary sewer manholes shall be waterproofed on the exterior in accordance with Missouri Dept. of Natural Resources specification 10 CSR-8.120(7)(E).
12. All PVC sanitary sewer pipe shall conform to the requirements of ASTM D-3034 Standard Specification for PSM Polyvinyl Chloride Sewer Pipe, SDR-35 or equal, with "clean" 1/2 inch to 1 inch granular stone bedding uniformly graded. This bedding shall extend from 4 inches below the pipe to springline of pipe. Immediate backfill over pipe shall consist of same size "clean" or "minus" stone from springline of pipe to 6 inches above the top of pipe.
13. All sanitary and storm sewer trench backfills shall be per ASTM D2321, except jetting will not be permitted. Granular backfill will be used under pavement areas.
14. All pipes shall have positive drainage through manholes. No flat invert structures are allowed.
15. All creek crossings shall be grouted rip-rap as directed by City inspectors. (All grout shall be high slump ready-mix concrete).
16. Brick shall not be used on sanitary sewer manholes.
17. Existing sanitary sewer service shall not be interrupted.
18. Maintain access to existing residential driveways and streets.
19. Pre-manufactured adapters shall be used at all PVC to DIP connections. Rubber boot/Mission-type couplings will not be allowed.
20. Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
21. 'Type N' Lock-Type Cover and Locking Device (Lock-Lug) shall be used where lock-type covers are required.

BULK CUT= 3230 ± CUBIC YARDS

BULK FILL= 43 ± CUBIC YARDS (INCLUDES 15% SHRINKAGE)

10" BUILDING SUBGRADE
11" FOR ALL PVMT. AREAS
15% SHRINKAGE FACTOR FOR FILL

THE ABOVE QUANTITIES DO NOT INCLUDE TOPSOIL MATERIAL

THE ENGINEER HAS CALCULATED THE ABOVE QUANTITIES OF EARTHWORK TO BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT OR REDISTRIBUTION OF SOILS ON THIS PROJECT. AS AN ESTIMATE, THESE QUANTITIES ARE INTENDED FOR GENERAL USE, AND THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR SHORTAGES OF FILL.

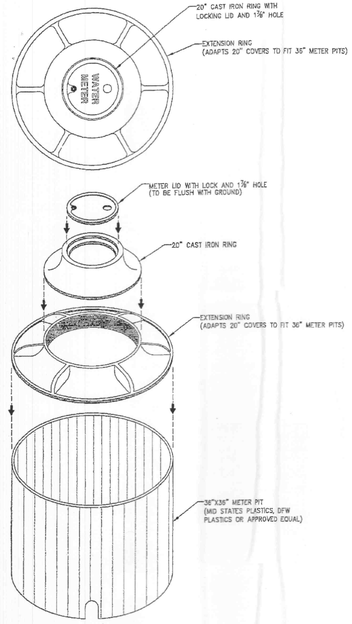
THE QUANTITIES ESTIMATED FOR EACH OF THE IMPROVEMENT ITEMS LISTED ABOVE ARE BASED UPON THE HORIZONTAL AND VERTICAL LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY STOCK AND ASSOCIATES CONSULTING ENGINEERS.

THE ENGINEER'S EARTHWORK ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS REQUIRING EARTHWORK THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT: MISCELLANEOUS UNDERGROUND CONDUITS, INCLUDING SEWER LINES AND WATER MAINS; STANDARD MANHOLES; PROCESS OR TRANSFER PIPING; ELECTRICAL OR TELEPHONE CONDUITS; BASES FOR LIGHT STANDARDS; BUILDING FOOTINGS AND FOUNDATIONS, ETC.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF UNDERGROUND STRUCTURES, AND AS SUCH, THE ACTUAL QUANTITIES OF EARTHWORK FROM SUCH ITEMS MAY VARY FROM THE ESTIMATE SHOWN ABOVE.

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED DUE TO UNSUITABLE MATERIAL WHICH MUST BE REMOVED FROM SITE.

THE ABOVE QUANTITIES ARE AN ESTIMATE AND SHOULD BE CONSIDERED AS SUCH. IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO PREPARE A QUANTITY TAKEOFF AND NOTE ANY DISCREPANCIES TO THE ENGINEER.



TYPICAL 1½" OR 2" WATER SERVICE METER PIT DETAIL "F"
NOT TO SCALE

SEE SHEET C7 FOR PLAN VIEW OF SERVICE CONNECTION

VEGETATION ESTABLISHMENT

TILLAGE PREPARATIONS
*TILL TOP 4" OF SOIL

FERTILIZER
* PER SOIL TEST OR FOLLOWING TABLE:

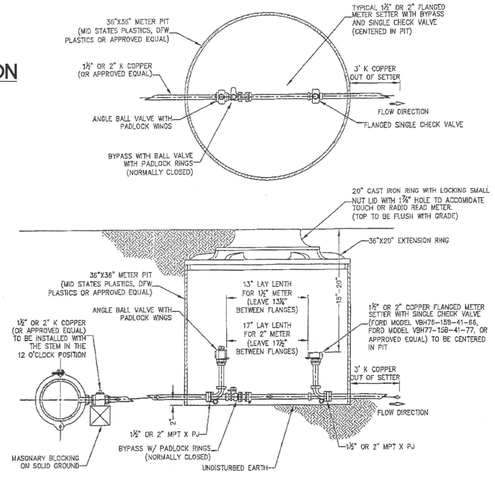
	LBS./1,000 S.F. N	P	K	LIME
TEMPORARY SEEDING	0.7	0.7	0.7	14 ENM+
PERMANENT	1.0	1.4	1.4	14 ENM+

+ SOIL TEST RESULTS TAKE PRECEDENCE, DUE TO HIGHLY VARIBALE SOIL pH.

SEEDING RATES

TEMPORARY:	
WHEAT OR RYE	150 LBS. / ACRE
PERMANENT	
FESCUES	150 LBS. / ACRE
KENTUCKY BLUEGRASS/ PERENNIAL RYEGRASS	6 LBS. / 1000 S.F. 8 LBS / 1000 S.F.
FINE FESCUE	
SEEDING PERIODS	MARCH 1 – JUNE 1
LISTED LEGUMES/GRASSES	AUGUST 1 – OCTOBER 1
WHEAT/RYE	MARCH 15 – NOVEMBER 1

1. Graded areas that are to remain bare for over 2 weeks are to be seeded and mulched.



DETAIL E (NOT TO SCALE)

1 1/2" & 2" WATER SERVICE DETAIL

(PUBLIC WATER SUPPLY DISTRICT NO. 2 OF ST. CHARLES COUNTY

8	02-08-07 ADDED WATER LINE EXHIBITS TO SHEET C5
7	01-22-07 REVISED GRADES AND WATER LINE AT NORTHEAST CORNER
6	10-09-06 RELOCATED LIGHT FIXTURES
5	06-28-06 REVISED PER CITY COMMENTS DATED 6-15-06
4	05-31-06 REVISED PER CITY COMMENTS FROM PLANNING AND ZONING MEETING ON 5-18-06
3	03-16-06 REVISED PER CITY COMMENTS-ADDED PEDESTRIAN ACCESS WALK/STAIR NEAR MONUMENT SIGN
2	02-09-06 ADDENDUM #1 COORDINATION-REVISED WATER LINE, ROOF DRAIN, SPOT ELEVATIONS
1	02-06-06 BID SET
0	01-23-06 REVISED BUILDING FOOTPRINT PER ACHITECT
	11-18-05 REVISED PER CITY COMMENT LETTER DATED 10-19-05

P&Z NOS: 98-126.06

STATE OF MISSOURI GEORGE MICHAEL STOCK NUMBER E-25116 REGISTERED PROFESSIONAL ENGINEER

2-08-07
GEORGE M. STOCK E-25116

SPECIFICATIONS

TERRA RETAIL DEVELOPMENT/HEARTLAND BANK

STOCK & ASSOCIATES Consulting Engineers, Inc.
257 Chesterfield Business Parkway
St. Louis, MO 63005
PH. (636) 530-9100
FAX (636) 530-9130
e-mail: general@stockassoc.com
Web: www.stockassoc.com

DRAWN BY:	DATE:	CHECKED BY:	DATE:	JOB NUMBER:	SHEET:
J.P.P.	9/27/05	G.M.S.	9/27/05	205-3584	C2 of 12

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