

GENERAL NOTES

- 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.
- BOUNDARY & TOPOGRAPHIC INFORMATION PROVIDED BY STOCK & ASSOCIATES CONSULTING ENGINEERS.
- ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS. THE CITY OF O'FALLON SHALL BE NOTIFIED OF CONSTRUCTION ACTIVITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
- ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
- ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
- GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
- PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
- NO GRADE SHALL EXCEED 3:1 SLOPE EXCEPT AT BOX CULVERTS HEADWALLS. STABILITY OF SLOPES STEEPER THAN 3:1 MUST BE VERIFIED BY A PROFESSIONAL GEOTECHNICAL ENGINEER.
- GRADING AND STORM WATER PER THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- DRIVEWAYS AND ENTRANCES PER THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- FEMA MAP 29183C0430 E DATED 8/2/96 ZONE "X" AND OTHER AREAS.
- ALL SLOPES TO BE STABILIZED IMMEDIATELY AFTER GRADING.
- ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR 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 D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- ALL FILLED PLACES IN PROPOSED AND EXISTING ST. CHARLES COUNTY ROADS (HIGHWAYS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL TO 93 PERCENT MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING OPERATIONS.
- THE SEDIMENT CONTROL PLAN SHOULD BE IMPLEMENTED BEFORE GRADING BEGINS.
- EROSION CONTROL 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.
- ALL EROSION CONTROL SYSTEMS SHALL BE INSPECTED AND NECESSARY CORRECTIONS MADE WITHIN 24 HOURS OF ANY RAINSTORM RESULTING IN ONE-HALF INCH OF RAIN OR MORE.
- 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, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS. 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, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS 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 CITY OF O'FALLON AND/OR MODOT.
- NO GRADED AREAS ARE TO REMAIN BARE FOR OVER 14 DAYS WITHOUT BEING SEEDDED AND MULCHED.
- THE GEOTECHNICAL REPORT PREPARED BY MIDWEST TESTING IS CONSIDERED PART OF THESE SPECIFICATIONS AND SHALL BE USED AS THE BASIS FOR CONSTRUCTION MEANS AND METHODS.
- ST. CHARLES COUNTY AND CITY OF O'FALLON PAVING SPECIFICATIONS SHALL APPLY EXCEPT FOR THE SURFACE ASPHALT MIX. THE SURFACE ASPHALT MIX SHALL MEET MODOT SPECIFICATIONS FOR SUPERPAVE MIX.
- PROPOSED TRAFFIC CONTROL MAY BE MODIFIED AFTER INSTALLATION AND EVALUATION OF EFFECTIVENESS.
- ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL SHALL BE PER MUTCD STANDARDS.
- LANDSCAPING & LIGHTING NOTES:
 - NO STREET TREES EAST OF ROUNDABOUT, STREETS TREES WEST OF ROUNDABOUT PER PROGRESS POINT SUBDIVISION.
 - NO IRRIGATION.
 - ROUNDABOUT LANDSCAPING PER DETAIL ON SHEET C7.
 - NO STREET LIGHTING EXCEPT AS PROVIDED IN PROGRESS POINT SUBDIVISION.
- THE CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES (BMP) FOR SILTATION CONTROL MEASURES. THESE MEASURES SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER.
- TEMPORARY ROCK DITCH CHECKS ARE NOT ALLOWED BY THE CITY OF O'FALLON.

STORM SEWER NOTES

- ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76-80 CLASS III UNLESS NOTED.
- ALL STORM SEWER STRUCTURES WITHIN PROJECT SITE TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- TYPE "C" BEDDING IS REQUIRED FOR PIPES IN ROCK.
- ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR 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 D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- ALL FILLED PLACES IN PROPOSED AND EXISTING ST. CHARLES COUNTY ROADS (HIGHWAYS) SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL TO 93 PERCENT MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING OPERATIONS.
- ALL CONNECTIONS TO PRE-CAST STRUCTURES SHALL HAVE MANUFACTURED OPENINGS.
- "O" RING PIPE TO BE USED ON ALL STORM SEWERS.
- NO BRICK STRUCTURES WILL BE ALLOWED IN THE CITY OF O'FALLON.
- CAST IRON COVERS ARE REQUIRED FOR ALL INLET TOPS IN THE CITY OF O'FALLON.

SILTATION NOTES

- Installation of perimeter sediment control shall be implemented as the first step of grading and within seven (7) days of beginning the site.
- Inspection of siltation control devices shall take place once every seven days and within 24 hours of any 0.5"/24 hour rain event. Any siltation control in need of repair shall occur immediately.
- Any disturbed areas which will remain unworked for 14 days or more shall be stabilized with seeding and mulching per specifications within 14 days. If seasonal conditions prohibit seeding, mulching or matting shall be used.
- All slopes or drainage channels, once constructed to final grade, shall be seeded and mulched per specifications within seven (14) days.
- Silt fences shall be installed immediately around each storm sewer structure once final construction of each individual structure is complete.
- All siltation control devices shall remain in place until upslope areas have been permanently stabilized.

Siltation Control Schedule Implementation

- Perimeter siltation control and construction entrances to be installed.
- Begin placing aggregate base in parking areas once area has received final grade to prevent erosion.
- Place silt fence around each storm sewer structure as it is completed.
- Immediately seed areas upon reaching final grade that are to be permanently seeded.

Temporary Access Roads and Parking Areas Specifications

- Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.
- Grades should be sufficient to provide drainage, but should not exceed 10 percent.
- Roadbeds shall be at least 24 feet wide.
- All cuts and fills shall be 3:1 or flatter to the extent possible.
- Drainage ditches shall be provided as needed.
- The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.
- A 10-inch course of 2" MINUS aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability in accordance with fabric manufacturer's specifications.

Vegetation

All roadside ditches, cuts, fills and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications.

Maintenance

Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures should be checked regularly to ensure that they do not become clogged with silt or other debris.

Straw Bale Siltation Control Specifications

Sheet Flow Applications

- Bales shall be placed in a single row, lengthwise on the contour, with both ends of adjacent bales tightly abutting one another.
- All bales shall be either wire-bound or string-tied. Straw bales shall be installed so that buildings are oriented around the sides rather than along the tops and bottoms of the bales (in order to prevent deterioration of the bindings). See Detail this sheet.
- The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the depositing barrier to a minimum depth of 4 inches. After the bales are staked and chinked, the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill and shall be built up to 4 inches against the uphill side of the barrier (See detail this sheet).
- Each bale shall be securely anchored by at least two stakes or rebar driven through the bale. The first stake in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or rebars shall be driven deep enough into the ground to securely anchor the bales.
- The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. (Loose straw scattered over the area immediately uphill from a straw bale barrier tends to increase barrier efficiency).
- Inspection shall be frequent and repair or replacement shall be made promptly as needed.
- Straw bale barriers shall be removed when they have served their usefulness, but not before the upslope areas have been permanently stabilized.

Channel Flow Applications

- Bales shall be placed in a single row, lengthwise, oriented perpendicular to the contour, with ends of adjacent bales tightly abutting one another.
- The remaining steps for installing a straw bale barrier for sheet flow applications apply here, with the following addition.
- The barrier shall be extended to such a length that the bottoms of the end bales are higher in elevation than the top of the lowest middle bale (See detail) to ensure that sediment-laden runoff will flow either through or over the barrier but not around it.

EXPLORER PIPELINE COMPANY (EPL) ENCROACHMENT SPECIFICATIONS

The following are minimum requirements for most proposed encroachments to avoid conflict with EPL's easement rights. It is not EPL's intent to convey that these are the only types of activities permitted; additional specifications may be required depending upon the proposed encroachments. For a review of your individual situation, please contact the nearest EPL area office, or call the Tulsa Office collect (918) 493-5100 ext. 153.

GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS

- Many states have laws that require 48 hours notice given to the utility companies prior to beginning excavation. This may be accomplished by contacting a "One Call" system (see bottom of back page for listings). If you are unable to contact the appropriate one call system, please call the nearest EPL area office a minimum of 48 hours prior to commencing work.
- EPL's easement restricts the placement of a structure, building, or pond within the right-of-way.
- An authorized EPL representative must be on site during use of power excavating equipment within the right-of-way.
- Any change in the amount of existing material (soil) on and over the right-of-way must be approved in advance.
- Encroaching party will be responsible for any future erosion repairs due to its activities, or lack of proper erosion control measures, which result in EPL having to relocate its pipeline or take corrective measures to prevent its pipeline from becoming exposed.

GENERAL REQUIREMENTS FOR BURIED LINE CROSSINGS

- All buried lines crossing EPL right-of-way shall be installed adhering to all applicable codes and requirements governing such installations.
- All buried lines crossing the right-of-way must cross on an angle that when measured between the proposed burial line and EPL right-of-way is between 90 and 45 degrees. This angle must be maintained across the entire width of the right-of-way.
- All buried lines crossing pipeline shall maintain a minimum separation of 24 inches between the two lines, with the same grade of depth carried across the entire right-of-way.
- All buried lines should cross under the pipeline. However, should the encroaching party be unable to comply with the 24" clearance requirements due to obstructions or unfavorable soil conditions, EPL's representative may approve special design and construction.
- No flange appurtenances (stators, poles, drop boxes, collection basins, etc.) shall be located on the right-of-way.
- A six inch wide burial warning tape shall be placed 12 to 18 inches above all non-metallic lines and extend across the entire right-of-way, as a protective measure.
- Signs shall be installed by encroaching party to locate and identify owner, type of service, and emergency phone numbers.

Maintenance

- Straw bale barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- Close attention shall be paid to the repair of damaged fence, end runs and undercutting beneath fence.
- Necessary repairs to barriers or replacement of silt fence shall be accomplished promptly.
- Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
- Any sediment deposits remaining in place after the straw bale barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

Silt Fence Specifications

- Silt Fence to be woven geotextile fabric Mirafi 100X or equal.
- Fabric to be supported by metal tee post with spade base spaced on 5' centers with 6 x 6/10 x 10 gage welded wire fence. See detail this sheet.
- Fabric shall be entrenched and backfilled. A trench shall be excavated a minimum of 6 inches deep for the length of the fence. The excavated soil shall be backfilled against the fence. See detail this sheet.
- Fence height shall be a minimum of 4 feet in height, with the fabric installed on the fence on the upstream side.
- Silt fences shall be used only on sheet flow conditions.
- Silt fences shall be installed around all storm sewer structures.

Maintenance

- Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall.
- Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales.
- Necessary repairs to barriers or replacement of bales shall be accomplished promptly.
- Sediment deposits should be removed after each rainfall. They must be removed when the level of deposition reaches approximately one-half the height of the barrier.
- Any sediment deposits remaining in place after the silt fence barrier is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

PARALLEL ENCROACHMENTS WITHIN EPL'S RIGHT-OF-WAY

- The requirements for parallel encroachments within EPL's right-of-way will be determined by EPL's encroachment Project Engineer (918) 493-5100 ext. 153.

1) EXCAVATION

- Plans for any excavation on the right-of-way must be approved before commencing work. Excavating closer than 18 inches to the pipeline or cathodic protection (C.P.) wires shall be done by hand until the pipeline and C.P. wires are exposed and shall be done only with the approval and in the presence of an authorized EPL representative. After EPL's pipeline and C.P. wires have been exposed, the excavation equipment should be positioned so that from the point of operation the equipment will not reach within 18 inches of the pipeline or C.P. wires.
- If a backhoe is used, the bucket should be curled under each inch it is removed in the ditch and shall have a plate covering all such to reduce the chance of gouges or punctures to the pipe.
- Any plowing or rippin of soil on the right-of-way, including agricultural, at depths greater than 18 inches will be handled on a case by case basis.

2) COMMUNICATION LINES (FIBER OPTIC, TELEPHONE, TV, OTHER DATA LINES)

- Shall meet all provisions GENERAL REQUIREMENTS -- BURIED LINE CROSSINGS.
- Fiber optics shall be encased in rigid steel conduit the full width of right-of-way except in directionally bored installations which will be evaluated on a case by case basis.

3) POWER LINES (Buried)

- Shall meet all provisions GENERAL REQUIREMENTS -- BURIED LINE CROSSINGS.
- Shall have minimum clearances between lines of 24 inches.
- Shall be encased in steel conduit with 6" of red concrete on top of the conduit. Concrete may be omitted when the following minimum clearances are obtained: 48 inches between EPL's pipeline and top of steel conduit or 72 inches for bored installations utilizing non-steel conduit.
- In the event a power line crosses over the pipeline, the steel conduit shall be the full width of the right-of-way and encased in a 12" minimum layer of red concrete.

E) Signs shall be placed at each edge of the right-of-way to mark the underground cable angle and path of crossing. The signs are to be furnished by the Power Company of the encroaching party.

4) LINE CROSSINGS (ABOVEGROUND)

- Shall maintain a minimum of 25 feet of clearance above and completely across the right-of-way.
- Shall have no poles or appurtenances located on the right-of-way.

5) SEWER AND WATER LINES

- Shall meet all provisions GENERAL REQUIREMENTS-BURIED LINE CROSSINGS.
- Septic tanks and drain fields are not permitted within the right-of-way.

6) METALLIC PIPE CROSSINGS

- At EPL's discretion all metallic pipe crossing EPL's pipeline shall have corrosion test leads installed on EPL's pipeline and on the encroaching pipe at points(s) of intersection and in areas of parallel encroachments at points(s) mutually agreeable to both companies.
- EPL personnel must install leads on EPL pipeline.

7) STREETS, ROADS, DRIVEWAYS AND RAILROADS

- Unpaved residential driveways will be allowed provided there shall be a minimum cover of 48" between the lowest point of road sub-grade and top of EPL's pipeline.
- An opportunity for EPL to make a pipe inspection must be given at least 48 hours prior to the start of any construction.
- Provisions A, C, D, & E of the GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS pertain to driveway crossings.
- Street, road, and railroad construction require a special encroachment agreement. Plans for such crossings should be submitted a minimum of 180 calendar days prior to work commencement to allow time for project impact review by the EPL's Engineering Department.

8) FENCES

- Fence posts shall not be installed within 3 feet of the center of the pipeline, and the first post either side of the pipe shall be set in hand dug holes.
- To perform normal maintenance, access through or around fences crossing the right-of-way must be provided.
- Installer shall adhere to provisions A & C of GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS.

9) LANDSCAPING

- Flower beds, lawns and vegetable gardens are permitted within the right-of-way, but may be damaged by routine or annual maintenance / testing, if planned directly over the pipeline. Heavy maintenance may require total clearing of the right-of-way.

B) The planting of trees or shrubbery on, or which hang over, EPL's right-of-way is prohibited unless specifically stated in right-of-way agreement or easement.

C) Provisions of GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS shall apply to landscaping.

10) OPEN WATERWAYS

- Open waterways smaller than 3 feet wide as the bottom are defined as "ditches" and must have a minimum of 3 feet of cover from the top of the pipe to the bottom of the ditch, or the ditch must be lined using an approved EPL method and material. Larger open waterways are defined as "canals" and are considered on a case by case basis.
- Anyone altering (clearing, re-grading or changing alignment) a waterway on EPL's right-of-way must obtain approval from EPL and shall meet Provisions A, C, D, & E of the GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS.

11) SUBSURFACE DRAINAGE TILE (NON METALLIC)

- Shall meet provisions A, B, E, F, & H of GENERAL REQUIREMENTS-BURIED LINE CROSSINGS.
- A minimum clearance of 12" shall be obtained at the crossing with a constant grade the full width of EPL's right-of-way.
- Field ditches that cross over the pipeline shall require special non-metallic support.

12) TEMPORARY HEAVY EQUIPMENT CROSSINGS

- Equipment such as construction, logging, etc., must cross the pipeline only with EPL approved crossing locations where the cross has been checked and determined adequate to meet bearing load requirements.
- Provisions A, C, D, & E of the GENERAL REQUIREMENTS FOR SURFACE ALTERATIONS also apply.

NOTE: These specifications are subject to change. Please contact your local EPL office prior to commencing any work on the right-of-way.

EPL AREA OFFICES (These ARE NOT emergency numbers)	
Hannam, Indiana (219) 989-8250	Greenville, Texas (903) 527-1250
Wood River, Illinois (815) 251-0250	Houston, Texas (281) 860-9250
Glenpool, OK (918) 291-5250	Port Arthur, Texas (409) 736-4250
One Call Systems	
Indiana	1-800-382-5544
Illinois	1-800-892-0123
Missouri	1-800-344-7483
Oklahoma	1-800-522-6543
Texas	1-800-344-8377
Texas	Statewide 1-800-245-4545
Louisiana	Statewide 1-800-669-8444
	(Or, for loc. S. of Palestine) 1-800-272-3020

IN CASE OF EMERGENCY
CALL COLLECT 1-918-493-5100

EARTHWORK NOTES

BULK CUT.....19,019.....+ CUBIC YARD
BULK FILL.....* 23,878.....+ CUBIC YARD (EXCLUDES SHRINKAGE)

* THIS NUMBER INCLUDES 2,500 CUBIC YARDS DITCH RECLAMATION SEE SHEET C6 FOR DITCH AREAS TO BE RECLAIMED.

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 LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR SHORTAGES OF

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 LESS THAN TWENTY-FOUR INCHES IN DIAMETER, STANDARD MANHOLES, PROCESS OR TRANSFER PIPING, ELECTRICAL OR TELEPHONE CONDUITS, BASES FOR LIGHT STANDARDS, BUILDING FOOTINGS AND FOUNDATIONS, STRIPPING OF TOPSOIL, 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 REMOVAL OF UNSUITABLE MATERIAL FROM SITE.

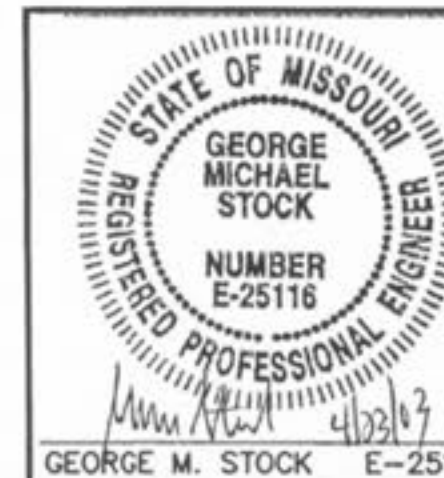
THE ABOVE QUANTITIES ARE AN ESTIMATE AND SHOULD BE CONSIDERED AS SUCH. IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO PREPARE A QUANTITY TAKEOFF AND NOTE ANY DISCREPANCIES TO THE ENGINEER.

04/23/03 - REVISED PER AGENCY COMMENTS
03/11/03 - REVISED PER AGENCY COMMENTS
01/14/03 - REVISED EARTHWORK NUMBERS.

TECHNOLOGY DRIVE / SIEDENTOP ROAD SPECIFICATION SHEET

STOCK & ASSOCIATES CONSULTING ENGINEERS, INC.

425 NORTH NEW BALLAS ROAD
SUITE 65
ST. LOUIS, MO. 63141
PH. (314) 432-8100
FAX (314) 432-8171
e-mail: general@stockassoc.com



GEORGE M. STOCK E-25118

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