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 LITTLESS FIELD LOCATES. UTILITIES FIELD LOCATED.
- 2.) 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 ENGINEER FOR THE CITY OF O'FALLON.
- 4.) ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY ENGINEER FOR THE CITY OF O'FALLON.
- 5.) 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.
- 7.) GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES. AND DEBRIS AT ALL TIMES.

 NOTE: MASS GRADING OF SITE INCLUDED IN SCOPE OF PLANS FOR

 "PROGRESS POINT — ROAD, SEWER, AND UTILITY PLANS", FINE GRADING
 OF SITE INCLUDED IN THIS SCOPE OF WORK.
- 8.) PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED
- 9.) NO GRADE SHALL EXCEED 3:1 SLOPE.
- 10.) GRADING AND STORM WATER PER THE CITY OF O'FALLON AND
- 11.) DRIVEWAYS AND ENTRANCES PER THE CITY OF O'FALLON, ST. CHARLES COUNTY, AND MISSOURI DEPT. OF TRANSPORTATION STANDARDS.
- 12.) FEMA MAP 29183C0430 E DATED 8/2/96 ZONE "X".
- 13.) ALL SLOPES TO BE STABILIZED IMMEDIATELY AFTER GRADING.
- 14.) ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER 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.
- 15.) ALL FILLED PLACES IN PROPOSED ROADS SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP TO 90% 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 TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- 16.) THE SEDIMENT CONTROL PLAN SHOULD BE IMPLEMENTED BEFORE GRADING BEGINS. EROSION CONTROL MEASURES HAVE BEEN INSTALLED UNDER THE "PROGRESS POINT ROAD, SEWER, AND UTILITY PLANS". IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THOSE MEASURES INSTALLED ON THE SUBJECT SITE, AS WELL AS INSTALLATION OF ANY ADDITIONAL MEASURES AS REQUIRED FOR SITE STABILIZATION.
- 17.) 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.
- 18.) 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.
- 19.) SPECIFICATIONS OF THE TREE PRESERVATION ORDINANCE WILL BE ADDRESSED W/ THE SUBMISSION OF THE SITE DEVELOPMENT PLANS WHICH WILL INCLUDE LANDSCAPING PLANS AND CALCULATIONS.
- 20.) THE DEVELOPER MUST SUPPLY THE CITY CONSTRUCTION INSPECTORS WITH SOIL REPORTS PRIOR TO OR DURING SITE SOIL TESTING.
- 21.) 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
 SEALON AND GOR MOORT.
- 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 PAYEMENT 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. CITY OF O'FALLON AND/OR MODOT.
- 22.) NO GRADED AREAS ARE TO REMAIN BARE FOR OVER 6 MONTHS WITHOUT BEING SEEDED AND MULCHED.
- 23.) THE GEOTECHNICAL REPORT PREPARED BY MIDWEST TESTING, DATED NOVEMBER 14, 2001, IS CONSIDERED PART OF THESE SPECIFICATIONS AND SHALL BE USED AS THE BASIS FOR CONSTRUCTION MEANS AND
- 24.) PARKING CALCULATIONS:
 - OFFICE = 515,000 SQ. FT. PARKING REQUIRED = 515,000 x (1/300) = 1,717 SPACES PARKING PROVIDED = 4,043 SPACES (INCLUDING H.C. STALLS) H.C. SPACES = 50 NOTE: PARKING PROVIDED EXCEEDS PARKING REQUIRED. QUANTITY OF STALLS BASED ON TENANT.
- 25.) LIGHTING VALUES WILL BE REVIEWED ON SITE PRIOR TO THE OCCUPANCY INSPECTION. CORRECTIONS WILL NEED TO BE MADE IF NOT IN COMPLIANCE WITH CITY STANDARDS.
- 26.) ALL UTILITIES SHALL BE LOCATED UNDERGROUND.

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 ST. CHARLES COUNTY HIGHWAY DEPARTMENT.
- 3.) TYPE "C" BEDDING IS REQUIRED FOR PIPES IN ROCK.
- 4.) 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 SHALL 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.
- 5.) JETTING IS NOT A PERMITTED METHOD OF COMPACTION ON SEWER TRENCHES BACKFILL MUST BE SUITABLE SOILS & COMPACTED TO 95 % OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.

 (APPLIES TO TRENCHES THAT DO NOT REQUIRE GRANULAR BACKFILL)
- 6.) ALL CURB INLETS AND AREA INLETS TO HAVE 5/8" TRASH BAR ACROSS INLET OPENINGS.
- 7.) "O" RING PIPE TO BE USED ON ALL STORM SEWERS.
- 8.) GRANULAR BACKFILL TO BE PLACED WITH A MINIMUM OF 1'H:1'V SLOPE FROM EDGE OF PAVEMENT.

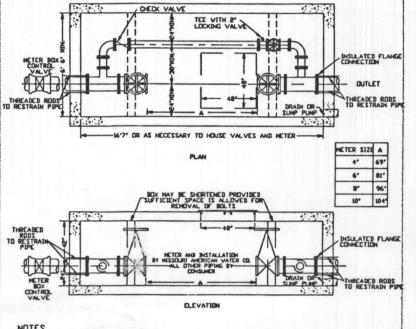
SANITARY SEWER NOTES

- 1.) UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION 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 IMPROVEMENTS.
- 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 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 ASAITO 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-YELDING AND NON PUMPING DURING PROOFROLLING AND COMPACTION.
- 5.) THE CONTRACTOR SHALL PREVENT ALL STORM, SURFACE WATER, MUD AND CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER SYSTEM.
- ALL SANITARY SEWER FLOWLINES AND TOPS BUILT WITHOUT ELEVATIONS
 FURNISHED BY THE ENGINEER WILL BE THE RESPONSIBILITY OF THE SEWER
 CONTRACTOR.
- 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 DUCKETT CREEK SANITARY DISTRICT.
- 9.) THE DUCKETT CREEK SANITARY DISTRICT 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 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 ALL PVC SANITARY SEWER PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM D-3034 STANDARD SPECIFICATION PSM POLYMINI. 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 PIPES SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLES. NO FLAT INVERT STRUCTURES ARE ALLOWED.
- 14.) ALL CREEK CROSSING SHALL BE GROUTED RIP-RAP AS DIRECTED BY DISTRICT INSPECTORS. (ALL GROUT SHALL BE HIGH SLUMP READY-MIX CONCRETE).
- 15.) BRICK SHALL NOT BE USED ON SANITARY SEWER MANHOLES.
- 16.) EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED. 17.) MAINTAIN ACCESS TO EXISTING RESIDENTIAL DRIVEWAYS AND STREETS.
- PRE-MANUFACTURED ADAPTERS SHALL BE USED AT ALL PVC TO DIP CONNECTIONS. RUBBER BOOT / MISSION-TYPE COUPUNGS WILL NOT BE ALLOWED.
- 19.) ANY PERMITS, LICENSES, EASEMENTS, OR APPROVALS REQUIRED TO WORK ON PUBLIC OR PRIVATE PROPERTIES OR ROADWAYS ARE THE RESPONSIBILITY OF THE DEVELOPER.

MISSOURI AMERICAN WATER LINE NOTES

- The service connection will require the plumber to purchase a tap at least two weeks prior to when he needs it. As a general rule Missouri American Water Co. makes the taps in the order in which they are received, and cannot guarantee two weeks during a busy time of the year. Once the tap is purchased the plumber has to schedule it with the District Supervisor. The plumber has the plumber nos to schedule it with the District Supervisor. The plumber nos to have all required information, plus Missouri American Water requires two sets of a site plans showing the proposed layout and valving. Along with this Missouri American Water Co. can insure that they are able to provide the required flow. The only fee is the octual cost of the top itself. The topping fee is different for every combination of pipe size and tap size and is based an previous
- The footing of the building must be in before Missouri American Water Ca. will make a tap. Missouri American Water does not make taps for vacant lots or previous to substantial building construction.
- A minimum Class 52 ductile iron pipe, conforming to applicable AWWA standards, is required an any service line that is 4° or greater in size before a meter. Copper piping is required for smaller services from the main through the meter box. For services smaller than 4° in size, flexible Type "K" copper is required through the stop box. After the stop box, flexible or rigid Type "K" or "1° copper is required to four feet beyond the meter box. For larger services, ductile iron pipe should run from the main to a point at least six feet beyond the meter box. From the building foundation, copper or ductile iron pipe must extend a minimum of ten feet outside the building wall. Once a fire line is past a detector check meter it is considered to be metered and any materials can be used that comply with the local plumbing codes (C-900 PVC is the minimum). A "Master Service" would not metered.
- The joints on copper service lines (excluding joints on pre-purchased "meter setters" shall be either flored, compression, or silver soldered.
- Existing services will have to be destroyed at the main unless they are being reused.
 Permission to reuse a service (either permanently or temporarily) must come from the District Supervisor.
- Missouri American Water does not own, operate, or maintain service lines. As a general rule Missouri American Water does not run a water main extension on a project which can be served by a service line.
- 7. Missouri American Water Co. requires a detector check valve on all fire protection lines for sprinkler systems. They also require a detector check valve on fire hydrants, with the possible exception of hydrants that are immediately adjacent to and visible from public streets. Missouri American Water also requires valves on both fire and domestic lines after they split from a combined service. Thus a typical split service would have valves on both fire and domestic lines after a tee. Of course this would also require a valve on a line going to a fire hydrant that came off of a "Master Water Service".

METER BOX FOR FIRE FLOW METER SERVICE



NOTES

L VALLT RODE TO BE OF COMUNETY.

2. VALLT RODE TO BE OF REINFOR "CONCRETE.

3. LIDS AND FRANCS OF OPENING ") HE SET IN PLACE, NOT IN CONCRETE.

1. LIDS AND FRANCS OF OPENING ") HE SET IN PLACE, NOT IN CONCRETE.

1. LIDS AND FRANCS OF OPENING ") HE SET IN PLACE, NOT IN CONCRETE.

4. VALVING HIST HAVE FLANGED SHALL BE IN ALIGNMENT, AND BE ABEQUATELY SECURED TO VITHSTAND VATER

THUST WITH HETER REMOVED.

5. SERVICE TO BE RUN AT RIGHT ANGLES FROM METER BOX TO STREET.

6. CLASS SE D. I. PIPING THROUGH BOX AND EXTENDED HIN 6' OUTSIDE BOX.

7. DUNCER SUBJECT TO SUBSIDY COST FOR METER.

8. HETER BOX CONTROL VALVE TO BE LOCATED AS NEAR TO METER BOX AS PRACTICAL.

9. TAPS VILL NOT BE HADE BEFORE METER PIT AND PIPING ARE COMPLETE AND PROPERTY LINE.

VALVE INSTALLED, UNLESS APPROVED BY OUTSTOKER SERVICE SUBPRIVISOR

10. ANY DEVIATION FROM PIPE DEPTH SHOWN MUST BE APPROVED BY DISTRICT SUPERVISOR PRIOR TO CONSTRUCTION

11. BOX TO BE SET VITH TOP OF BOX AT FINISHED GRADE VITH NO EXTENSION ALLOWED.

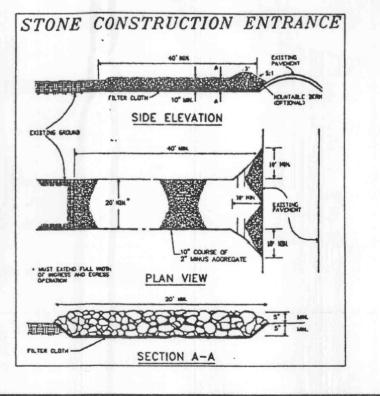
12. DRAINAGE FACILITIES MUST BE PROVIDED. OR BOX DITHERVISE KEPT FREE OF VATER NO FRONCH DRAINS ALLOWED.

13. BY-PASS SIZE SAME AS METER SIZE.

14. CHECK VALVE REQUIRED FOR EACH METER BOX INSTALLATION.

15. CUSTOMER SERVICE SUPERINTENDENT MUST APPROVE ALL MEGALUG UNIFLANGE TYPE JOINTS IN METER BOX.

METER BOX DETAIL



SILTATION NOTES

- Installation of perimeter sediment control shall be implemented as the first step of grading and within seven (7) days of grubbing the site.
- Inspection of siltation control devices shall take place once every seven days and within 24 hours of any 0.5°/24 hour roin event. Any siltation control in need of repair shall occur immediately.
- Any disturbed areas which will remain unworked for 45 days or more shall be stabilized with seeding and mulching per specifications within 7 days. If seasonal conditions prohibit seeding, mulching or matting shall be used.
- All slapes or drainage channels, once constructed to find grade, shall be seeded and mulched per specifications within seven (7) 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 reached final grade to prevent erasion.
- 3. Place silt fence around each storm sewer structure as it is
- 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
- 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
- 5. 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.

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

Maintenance

Vegetation

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 requiarly to ensure that they do not become clagged with sit or other dathrie.

EARTHWORK NOTES

BULK CUT.+ CUBIC YARD (INCLUDES 15% SHRINKAGE)

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

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 FOLLOWING TEMS REQUIRING EARTHWORK THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT: MISCELLANEOUS UNDERFOROUND 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 UNDERCROUND 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.

- 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 and
- 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 battams 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 proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked, the excavated sail 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 rebars 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 boles shall be chinked (filled by wedging) with strow to prevent water from escaping between the boles. (Loose strow scattered over the area immediately uphill from a straw bale barrier tends to increase barrier afficiency).
- 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 permonently 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
- The borrier shall be extended to such a length that the bottoms of the end boles are higher in elevation than the top of the lowest middle bole (see detail) to assure that sediment-laden runoff will flow either through or over the barrier but
- Maintenance

 1. 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, and runs and undercutting beneath fence.
- Necessary repairs to barriers or replacement of slit 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

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 boles, and 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.

VEGETATIVE ESTABLISHMENT For Urban Development Sites

OFFENDIA (

Persanenti fall Fescue - 30 lbs./ac.

combined: Fescue 9 15 lbs./ac. and Brome 9 10 lbs./ac.

theat or Rye - 130 lbs./ac. (3.5 lbs. per square foot) Bats - 120 lbs./ac. (2.75lbs. per square foot)

Fescue or Brone - March 1 to June 1 August 1 to October 5

Excilizar raissi Mitropen 30 lbs./ac. Phosphate 30 lbs./ac. Polassium 30 lbs./ac. Liee 800 lbs./ac. EMM

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

HITTE MISSON HATE OF MISSO GEORGE MICHAEL STOCK NUMBER was m583001 6/2 CONSULTING LANGUAGES
CONSULTING LANGUAGES
425 NORTH NEW BALLAS ROAD
SUITE 165
ST. LOUIS, MO. 63141
PH. (314) 432-8100
FAX (314) 432-8100

Forum Studio

Alper Audi

Plumbing Engineer

Machiniosi Engineer



St. Louis, MO 63114 Ph 314.429.5100 Fx 314.429.3165

TRISTAR TRISTAR BUSINESS COMMUNITIE 13397 Lakefront Drive St. Louis, MO, 63045

Ph 314,291,0814

C 0 Fallon, Ō

Progre

DRAWING ISSUE / REVISIO

SS

RESS SET I 1-07-02 01-18-02 01-31-02 03-15-02 PROGRESS SET 3

CITY COMMENTS

SPECIFICATION SHEET

Scale 1"=40" Dog By P.K.B. Check By G.M.B. Check 1-101-001 Consult 200-2180.1