GENERAL NOTES

1. BOUNDARY AND TOPOGRAPHIC SURVEY BY OTHERS.
2. ALL UNDERGROUND UTILITIES SHOWN HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF ALL UTILITIES SHOWN OR NOT SHOWN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF IMPROVEMENTS.
3. NO SHALL BE STEEPER THAN 3 (HORIZONTAL) TO 1 (VERTICAL).
4. ALL SLOPES TO BE STABILIZED IMMEDIATELY AFTER GRADING.
5. ALL UTILITIES SERVING SITE SHALL BE UNDERGROUND.
6. ALL EXTERNAL UTILITY EQUIPMENT SHALL BE SCREENED.
7. HANDICAP STALL LOCATIONS ARE TO BE DETERMINED AND COORDINATED WITH THE CITY OF O'FALLON.
8. DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH SOILS REPORTS PRIOR TO OR DURING SITE SOIL TESTING.
9. ALL FILLS PLACED 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 ASSHTO T-99. ALL FILL 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. NOTE THAT 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 CONTTENT SHALL BE DETERMIED 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.
10. ALL LOW PLACES 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.
11. CONTRACTOR REQUIRED TO GRADE SITE WITHIN 0.10 FT OF PROPOSED GRADES.
12. ALL MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS AS REQUIRED BY THE CITY OF O'FALLON.
13. ALL GRADED AREAS INDICATED SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES, SEEDING AND MULCHING AS INDICATED.
14. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE CONTRACTOR SHALL CONTACT THE OFFICE OF THE DEVELOPER FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
15. GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING PER SILTATION SPECIFICATIONS. ADDITIONAL SILTATION CONTROL DEVICES MAY BE REQUIRED AS DIRECTED BY THE CITY OF O'FALLON.
16. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
17. GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
18. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS. CONTRACTOR TO GRADE ALL AREAS TO REQUIRED SUBGRADE.
19. ALL SLOPES TO BE STABILIZED IMMEDIATELY AFTER GRADING.
20. ALL UTILITIES SERVING SITE SHALL BE UNDERGROUND.
21. SITE IS NOT IN FLOOD PLAIN PER FE.M.A. MAP No. 29183C0410 E.
22. 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.
23. EXISTING SITE CURRENTLY HAS NO TREES ON-SITE, THEREFORE NO REQUIREMENTS FOR TREE PRESERVATION ORDINANCE.
24. ALL GRADES ARE TO FINISH GRADE OR FINISH PAVEMENT. THE CONTRACTOR SHALL DEDUCT PAVEMENT THICKNESS IN BUILDING AREAS TO OBTAIN SUBGRADE ELEVATIONS.
25. ALL PAVING TO BE IN ACCORDANCE WITH ST. CHARLES COUNTY STANDARDS AND SPECIFICATIONS EXCEPT AS MODIFIED BY THE CITY OF O'FALLON ORDINANCES.
26. RIP RAP SHOWN AT FLARED ENDS WILL BE EVALUATED IN THE FIELD AFTER INSTALLATION FOR EFFECTIVENESS AND FIELD MODIFIED IF NECESSARY TO REDUCE EROSIION ON AND OFF SITE.
27. 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 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 MAY AT THEIR OPTION DIRECT THE CONTRACTOR IN HIS METHODS AS DEEMED FIT TO PROTECT PROPERTY AND IMPROVEMENTS. ANY DEPOSITING OF SILT OR MUD ON NEW OR EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY. ANY DEPOSITING OF SILT OR MUD 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.
28. ALL PAVING TO BE IN ACCORDANCE WITH ST. CHARLES COUNTY STANDARDS AND SPECIFICATIONS EXCEPT AS MODIFIED BY THE CITY OF O'FALLON ORDINANCES.
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 LOCATIONS AND SIZES MUST BE APPROVED SEPARATELY THROUGH THE PLANNING DIVISION.
32. 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). SIGNED DESIGNATING STREET NAME SHALL BE ON THE OPPOSITE SIDE OF THE STREET FROM TRAFFIC CONTROL SIGNS.
33. SIDEWALKS, CURB RAMPS, 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 THE PLANS, THE ADAAG GUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR PRIOR TO ANY CONSTRUCTION SHALL NOTIFY THE PROJECT ENGINEER.
34. A CONDITIONAL USE PERMIT IS NEEDED IN ORDER TO PROVIDE RETAIL SALES AND SERVICES IN THE HIGH-TECH CORRIDOR DISTRICT.

EARTHWORK NOTES (PHASE I)

BULK CUT= 55,345 ± CUBIC YARDS

BULK FILL= 80,848 ± CUBIC YARDS

ALL CONTOURS SHOWN TO FINAL GRADE.
CONTOURS SHOWN IN PROPOSED PAVEMENT AREA (DESIGNATED BY HATCH) CONTRACTOR TO ASSUME 11" FOR PAVEMENT THICKNESS AND GRADE ACCORDINGLY FOR SUBGRADE CONDITIONS.

15% SHRINKAGE FACTOR WAS APPLIED.

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 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, 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.

SILTATION CONTROL SPECIFICATIONS

SILTATION CONTROL GENERAL NOTES

1. INSTALLATION OF ALL PERIMETER SEDIMENT CONTROL SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN (7) DAYS OF GRUBBING THE SITE.
2. INSPECTION OF SILTATION CONTROL DEVICES SHALL TAKE PLACE ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY 0.5"/24 HOUR RAIN EVENT OR GREATER. ANY SILTATION CONTROL IN NEED OF REPAIR SHALL OCCUR IMMEDIATELY.
3. ALL SLOPES OR DRAINAGE CHANNELS, ONCE CONSTRUCTED TO FINAL GRADE, SHALL BE SEEDED AND MULCHED PER SPECIFICATIONS WITHIN SEVEN (7) DAYS.
4. SILT FENCES SHALL BE INSTALLED IMMEDIATELY AROUND EACH STORM SEWER STRUCTURE ONCE FINAL CONSTRUCTION OF EACH INDIVIDUAL STRUCTURE IS COMPLETE.
5. ALL SILTATION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILTATION CONTROL SCHEDULE IMPLEMENTATION

1. PERIMETER SILTATION CONTROL AND CONSTRUCTION ENTRANCES TO BE INSTALLED.
2. BEGIN PLACING AGGREGATE BASE IN PARKING AREAS ONCE AREA HAS REACHED FINAL GRADE TO PREVENT EROSION.
3. PLACE SILT FENCE AROUND EACH STORM SEWER STRUCTURE AS IT IS COMPLETED.
4. IMMEDIATELY SEED AREAS UPON REACHING FINAL GRADE THAT ARE TO BE PERMANENTLY SEEDED.

TEMPORARY ACCESS ROADS AND PARKING AREAS SPECIFICATIONS

1. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHOULD NOT EXCEED 10 PERCENT.
2. GRADES SHOULD BE SUFFICIENT TO PROVIDE DRAINAGE, BUT SHOULD NOT EXCEED 4 PERCENT.
3. ROADBEDS SHALL BE AT LEAST 24 FEET WIDE.
4. ALL CUTS AND FILLS SHALL BE 3:1 OR FLATTER TO THE EXTENT POSSIBLE.
5. DRAINAGE DITCHES SHALL BE PROVIDED AS NEEDED.
6. THE ROADBED OR PARKING SURFACE SHALL BE CLEARED OF ALL VEGITATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
7. AN 8-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 (MIRAFI 500X) MAY BE APPLIED TO THE ROADBED FOR ADDITIONAL STABILITY IN ACCORDANCE WITH FABRIC MANUFACTURER'S SPECIFICATIONS.

VEGETATION

OFFSITE AREAS:

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.

ONSITE:

STABILIZED WITH APPROPRIATE TEMPORARY OR PERMANENT VEGETATION ACCORDING TO THE APPLICABLE STANDARDS AND SPECIFICATIONS.

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)
OATS - 120 LBS./AC. (2.75 LBS. PER SQUARE FOOT)

SEEDING PERIODS:
FESCUE OR BROME - MARCH 1 TO JUNE 1
AUGUST 1 TO OCTOBER 1
WHEAT OR RYE - MARCH 15 TO NOVEMBER 1
OATS - MARCH 15 TO SEPTEMBER 15

MULCH RATES: 100 LBS. 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 NUETRALIZING MATERIAL AS PER STATE EVALUATION OF QUARRIED ROCK.

MAINTENANCE

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.

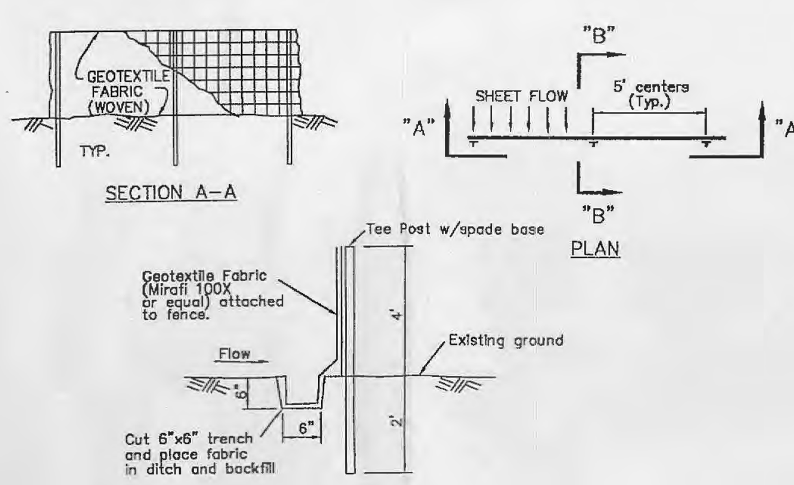
SILT FENCE SPECIFICATIONS

1. SILT FENCE TO BE WOVEN GEOTEXTILE FABRIC MIRAFI 100X OR EQUAL.
2. FABRIC TO BE SUPPORTED BY WOODEN POSTS SPACED ON 5' CENTERS.
3. 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.
4. FENCE HEIGHT SHALL BE A MINIMUM OF 4 FEET IN HEIGHT, WITH THE FABRIC INSTALLED ON THE FENCE ON THE UPSTREAM SIDE.
5. SILT FENCES SHALL BE USED ONLY ON SHEET FLOW CONDITIONS.
6. SILT FENCES SHALL BE INSTALLED AROUND ALL STORM SEWER STRUCTURES.

MAINTENANCE

1. SILT FENCE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.
3. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.
4. 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.
5. 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.

GENERAL NOTES:
1. Do not scale drawing. Follow Dimensions
2. Additional siltation control shall be provided as directed by the City of O'fallon.
3. Siltation Control Devices to remain in place until adequate vegetative growth insures no further erosion of the soil.
4. Siltation Fences shall be inspected periodically for damage and for the amount of sedimentation which has accumulated. Removal of sediment will be required when it reaches 1/2 of th height of the silitation fence.
6. Attachment of Fence and Geotextile Fabric to be in accordance with the manufacturer's recommendation.



SILTATION CONTROL SILTFENCE DETAIL
(n.t.s.)

GENERAL NOTES:
1. Do not scale drawing. Follow Dimensions
2. Additional siltation control shall be provided as directed by the City of O'fallon.
3. Siltation Control Devices to remain in place until adequate vegetative growth insures no further erosion of the soil.
4. Siltation Fences shall be inspected periodically for damage and for the amount of sedimentation which has accumulated. Removal of sediment will be required when it reaches 1/2 of th height of the silitation fence.
5. Attachment of Welded Wire Fence and Geotextile Fabric to be in accordance with the manufacturer's recommendation.

CHECK DAM SPECIFICATIONS

1. USE 4" DIA. STONE FOR CONSTRUCTION OF DAM.
2. EXTEND STONE TO TOP OF CHANNEL BANKS.
3. MAX. HT. OF DAM SHALL BE 18" AT CENTER OF DAM.
4. CENTER OF DAM MUST BE 6" LOWER THAN THE OUTER EDGES.
5. THE MAX. SPACING BETWEEN THE DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM.
6. STONE TO BE PLACED ACCORDING TO DETAIL. HAND OR MECHANICAL PLACEMENT WILL BE NECESSARY FOR COMPLETE COVERAGE AND CORRECT CONSTRUCTION.

MAINTENANCE

1. SEDIMENT SHOULD BE REMOVED FROM BEHIND THE CHECK DAMS WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE DAM.
2. THE CHECK DAMS SHALL NOT BE REMOVED UNTIL ALL UPSTREAM VEGETATION HAS BEEN RE-ESTABLIHED TO A SUFFICIENT DENSITY TO PREVENT EROSION.
3. THE AREA UNDERNEATH THE CHECK DAM(S) SHOULD BE REPAIRED AND RE-SEEDED AS NEEDED UPON DAM REMOVAL.

SANITARY SEWER 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 OF 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 PRE CONSTRUCTION CONDITIONS.

4.) ALL FILL INCLUDING PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND PAVED AREAS INCLUDING TRENCH BACK FILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED ASTHMA T-180 COMPACTION TEST (ASTM D1557)". ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACK FILLING OPERATIONS. THE COMPACTED FILL SHALL BE FREE OF RUTTING AND SHALL BE NON-YIELDING AND NON-PUMPING DURING PROOF ROLLING 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 FLOW LINES 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 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 FLOW LINE 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 THE 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 PVC POLYVINYL CHLORIDE SEWER PIPE, SDR-35 OR EQUAL, WITH "CLEAN" 3/4 INCH CRUSHED LIMESTONE BEDDING UNIFORMLY GRADED. THIS BEDDING SHALL EXTEND FROM 4 INCHES BELOW THE PIPE TO SPRING LINE OF PIPE. IMMEDIATE BACK FILL OVER PIPE SHALL CONSIST OF SAME SIZE "CLEAN" OR "MINUS" STONE FROM SPRING LINE OF PIPE TO 6 INCHES ABOVE THE TOP OF PIPE.

13.) ALL SANITARY AND STORM SEWER TRENCH BACK FILLS SHALL BE WATER JETTED. GRANULAR BACK FILL WILL BE USED UNDER PAVEMENT AREAS.

14.) ALL PIPES SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLES. FLAT INVERT STRUCTURES NOT ALLOWED.

15.) ALL CREEK CROSSINGS SHALL BE GROUTED RIP-RAP AS DIRECTED BY DISTRICT 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.

STORM SEWER NOTES

1.) ALL CONCRETE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76 CLASS III UNLESS NOTED.

2.) ALL STORM SEWER STRUCTURES WITHIN PROJECT SITE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF O'FALLON STANDARD CONSTRUCTION SPECIFICATIONS.

3.) TYPE "C" BEDDING IS REQUIRED FOR PIPES IN ROCK.

4.) ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH "CLEAN" 3/4" CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH THE CITY OF O'FALLON STANDARD CONSTRUCTION SPECIFICATIONS.

5.) 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 ALSO IN LIEU OF THE COMPACTED EARTH BACKFILL

6.) JETTING IS NOT AN ACCEPTABLE METHOD OF ACHIEVING BACKFILL COMPACTION. ALL BACKFILL MATERIAL SHALL BE MECHANICALLY COMPACTED TO AT LEAST 90 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.

7.) BRICK SHALL NOT BE USED IN THE CONSTRUCTION OF STORM SEWER STRUCTURES.

8.) ALL STORM SEWER JOINTS SHALL BE GASKETED O-RING TYPE.

WATER LINE NOTES

1.) ALL MATERIALS AND METHODS OF CONSTRUCTION FOR WATER MAINS TO MEET THE REQUIREMENTS OF THE PUBLIC WATER SUPPLY DISTRICT NO.2 SPECIFICATIONS AND STANDARDS APPROVED BY MDNR UNER REVIEW NO. 66196-04

2.) WATER MAINS SHALL BE POLY VINYL CHLORIDE (PVC) CLASS 200, SDR 21 PIPE CONFORMING TO A.S.T.M. SPECIFICATION D2241. THE PIPE SHALL BE PRESSURE RATED FOR A HYDROSTATIC WORKING PRESSURE OF 200 PSI AT 73.4 DEGREES F AND SHALL MEET ALL APPLICABLE REQUIREMENTS AS SET FORTH UNDER COMMERCIAL STANDARD (CS) 256-63.

3.) DUCTILE IRON PIPE MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL THE REQUIREMENTS OF U.S.A. STANDARD A2151 (A.W.W.A. C-151-65). THE PIPE SHALL BE FURNISHED WITH MECHANICAL, PUSH ON, OR FLANGE JOINTS AS REQUIRED. THE INTERIOR SURFACE OF PIPE SHALL BE COATED WITH A CEMENT-MORTAR LINING IN ACCORDANCE WITH U.S.A. STANDARD A 21.4 (A.W.W.A. C 104). AFTER DRYING, THE CEMENT LINING SHALL BE SEAL COATED WITH SIMILAR A.W.W.A. APPROVED BITUMINOUS VARNISH. ALL FITTINGS AND BENDS SHALL BE CONSTRUCTED OF CAST OR DUCTILE IRON.

4.) WATER MAIN TRACER TAPE TO BE INSTALLED WITH ALL WATER MAIN AND SHALL CONSIST OF THREE INCH WIDE TAPE MADE OF BONDED LAYER PLASTIC WITH A METALLIC FOIL CORE. TAPE SHALL BE "TERRA TAPE D" AS MANUFACTURED BY THE GRIFFOLYN COMPANY OF HOUSTON, TEXAS, OR APPROVED EQUAL.

5.) WATER MAIN LOCATOR WIRE SHALL BE INSTALLED WITH ALL WATER MAIN, FITTINGS, AND VALVE INSTALLATION AND SHALL CONSIST OF A STANDARD ELECTRIC SERVICE WIRE, A SINGLE NO. 12 U.L. APPROVED SOLID COPPER WIRE WITH INSULATION FOR 600 VOLTS.

6.) ALL VALVES FOR EXTERIOR USE SHALL BE BURIED GATE VALVES WITH A VALVE BOX AND TWO INCH SQUARE NUT ATTACHMENT FOR MANUAL OPERATION WITH STANDARD VALVE WRENCH. GATE VALVES SHALL BE IRON BODIED WITH BRASS OR BRONZE MOUNTED DOUBLE DISC GATE. GATE VALVES SHALL BE OF THE NON-RISING STEM TYPE, OPENED BY TURNING COUNTER-CLOCKWISE. THE VALVE STEM SHALL HAVE DOUBLE "O" RING SEALS AND TERMINATE AT TOP WITH TWO INCH SQUARE NUT. GATE VALVE CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE LATEST GOVERNING SPECIFICATIONS OF THE A.S.T.M. AND A.W.W.A. ALL GATE VALVES FOR USE SHALL BE "MUELLER" OR APPROVED EQUAL.

7.) VALVE BOXES FOR USE SHALL BE THE SCREW-TYPE, EXTENSION SLEEVE KIND, OR P.V.C. PIPE. ALL BOXES SHALL BE FITTED WITH A RECESSED COVER HAVING THE WORD "WATER" CAST IN THE TOP.

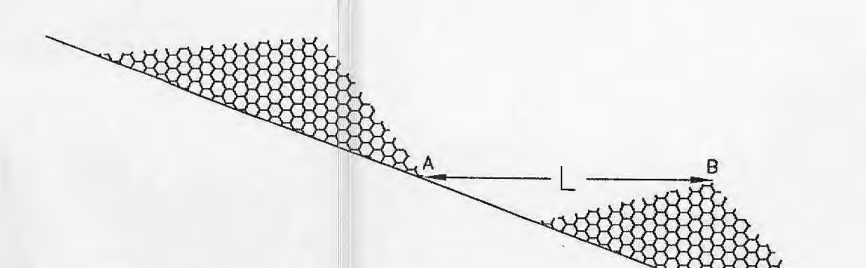
8.) FIRE HYDRANTS SHALL BE MUELLER "CENTURION" OR THE AMERICAN DARLING MODEL NO. "B-84-B". HYDRANTS SHALL BE TRAFFIC MODEL TYPE WITH A WORKING PRESSURE OF 150 PSI IN FULL COMPLIANCE WITH A.W.W.A. STANDARD SPECIFICATIONS C-502 OF THE LATEST REVISION. HYDRANTS TO BE THREE-WAY WITH TWO HOSE CONNECTIONS AND ONE PUMPER CONNECTION AND SHALL HAVE 5 1/4" VALVE OPENINGS. HYDRANT COLOR PER FIRE DISTRICT.

9.) CONCRETE FOR THRUST BLOCKING AT BENDS, TEES, VALVES, HYDRANTS, ETC., SHALL BE 3,500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

10.) BEFORE WATER MAINS SHALL BE ACCEPTED AND PUT INTO SERVICE THEY SHALL BE TESTED FOR TWO HOURS ON EACH SEGMENT BETWEEN END POINTS AT A TEST PRESSURE OF AT LEAST 50% IN EXCESS OF NORMAL MAXIMUM OPERATING PRESSURE, NOT TO EXCEED 200 PSI. WATER MAINS SHALL BE STERILIZED AND FLUSHED IN ACCORDANCE WITH THE PUBLIC WATER DISTRICT NO. 2. SPECIFICATIONS.

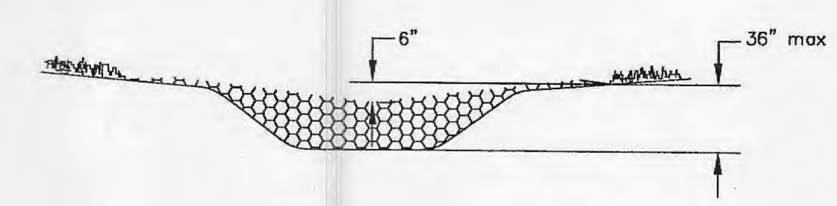
11.) ALL WATER LINES AND SERVICE LINES SHALL HAVE A MINIMUM OF 42" OF COVERAGE.

12.) VERTICAL CLEARANCE BETWEEN SEWERS AND WATER MAINS SHALL BE A MINIMUM OF 2' - 0".

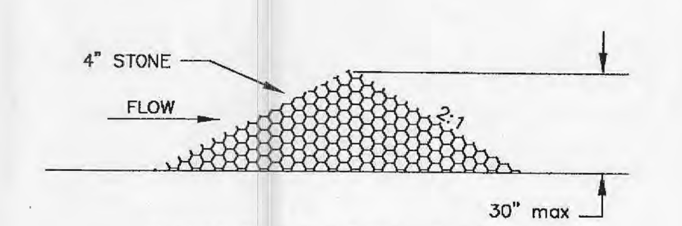


L = THE DISTANCE SUCH THAT POINTS A & B ARE OF EQUAL ELEVATION

SPACING BETWEEN CHECK DAMS
N.T.S.



STONE CHECK DAMS
N.T.S.



STONE CHECK DAMS
N.T.S.

CALL 1-800-DIG-RITE (MISSOURI ONE CALL) TO HAVE LOCATIONS MARKED IN THE FIELD (SUBSCRIBING UTILITIES REQUIRE 48 HOURS NOTICE PRIOR TO CONSTRUCTION).
ALSO CALL MODOT AT (314) 340-4100.

MISSOURI ONE CALL SYSTEM, INC. 1-800-344-7483 STOP-CALL BEFORE YOU DIG!

P&Z #5504

REVISIONS

DATE		DESC.
9/28/04	△	MCEAGLE D6.2
12/28/04	△	DUCKETT CREEK COMMENTS
1/3/05	△	CITY OF O'FALLON COMMENTS
1/26/05	△	DUCKETT CREEK COMMENTS
1/27/05	△	CITY OF O'FALLON COMMENTS
2/14/05	△	COLE - INTERNAL COORDINATION
2/16/05	△	CITY OF O'FALLON COMMENTS
2/16/05	△	DUCKETT CREEK COMMENTS
3/3/05	△	DUCKETT CREEK COMMENTS

DEVELOPER/OWNER:
WINGHAVEN LAND INVESTORS, L.L.C.
C/O MC EAGLE DEVELOPMENT COMPANY
1001 BOARDWALK SPRINGS PLACE
O'FALLON, MO 63366
(636) 561-9300

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SEAL:
STATE OF MISSOURI
JAMES T. ROTH
NUMBER E-2000150065
REGISTERED PROFESSIONAL ENGINEER
3/3/05

CALEDONIA
HIGHWAY 40/61 AND WINGHAVEN
O'FALLON, MO 63366

SPECIFICATIONS SHEET

planning • engineering • surveying • landscape architecture
Cole and ASSOCIATES INCORPORATED
10777 sunset office dr. suite 10
saint louis, missouri 63127
p: 314 984 9887 f: 314 984 0587

DESIGNED BY PMH
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DATE 11/5/04
Job Number 03-309
Sheet Number C2.0

DATE: Apr 20, 2005 - 10:59am
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