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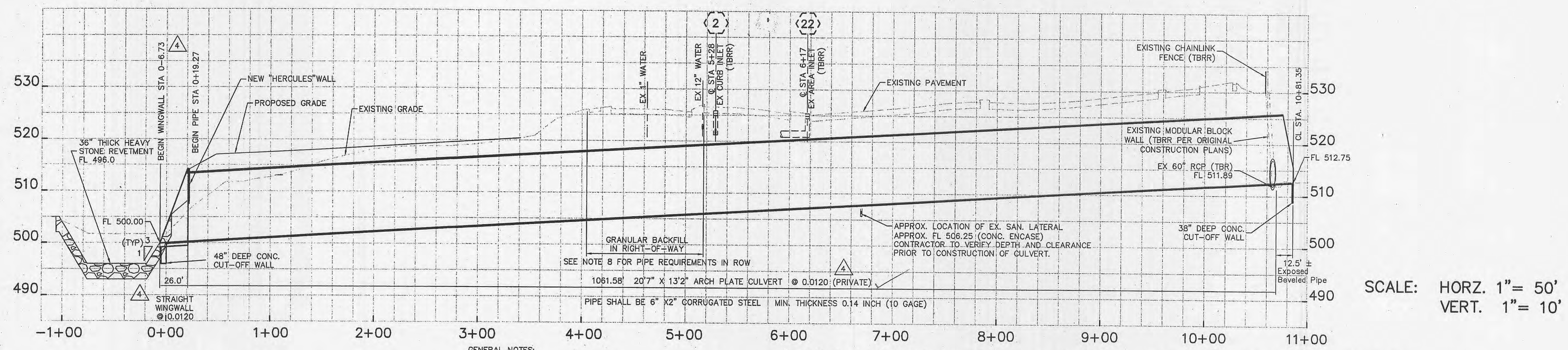
REITZ & JENS, INC. CONSULTING ENGINEERS
1055 CORPORATE SQUARE DRIVE
ST. LOUIS, MISSOURI 63132
(314) 993-4132

HOME DEPOT STORE #3015
1525 HWY 'K'
O'FALLON, MO
(972) 402-3844

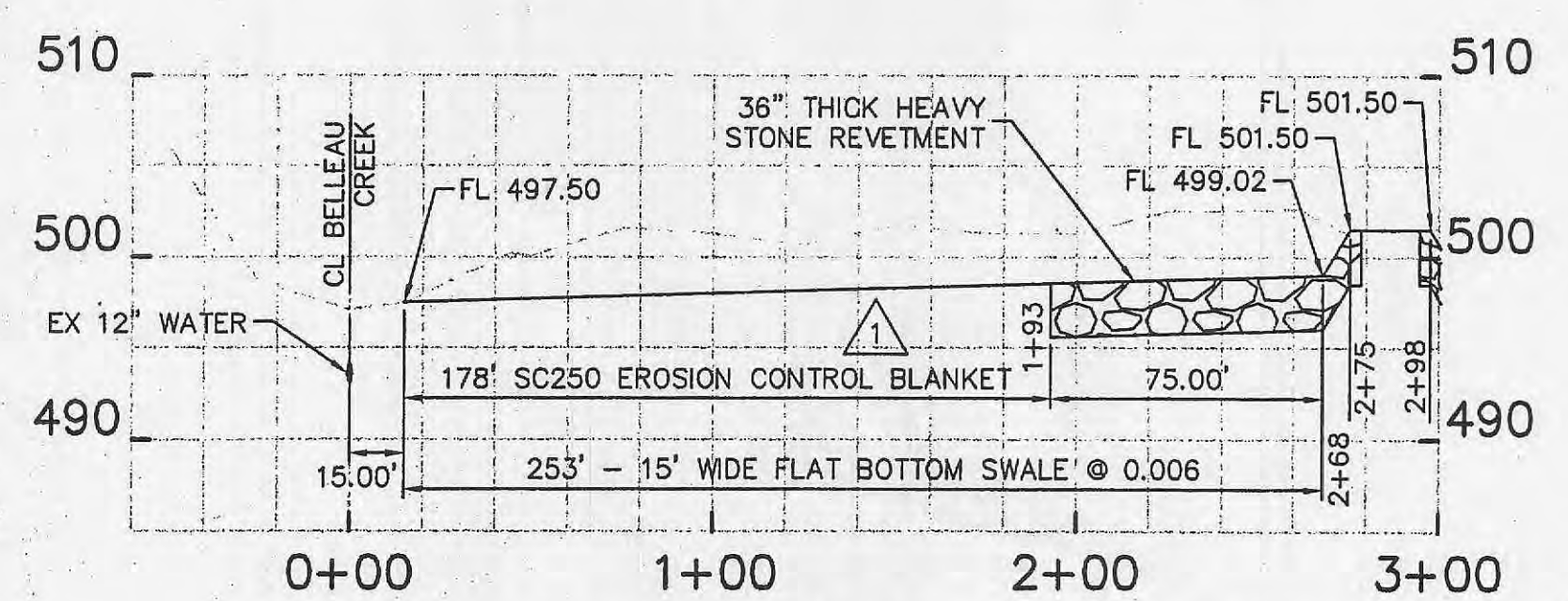
RELIEF CULVERT
PROFILE & SECTIONS
2002075602

REVISIONS	
7/15/02 L.W.L.	1
8/20/02 L.W.L.	2
11/21/02 Arch Pipe	
12/06/02 L.W.L.	4

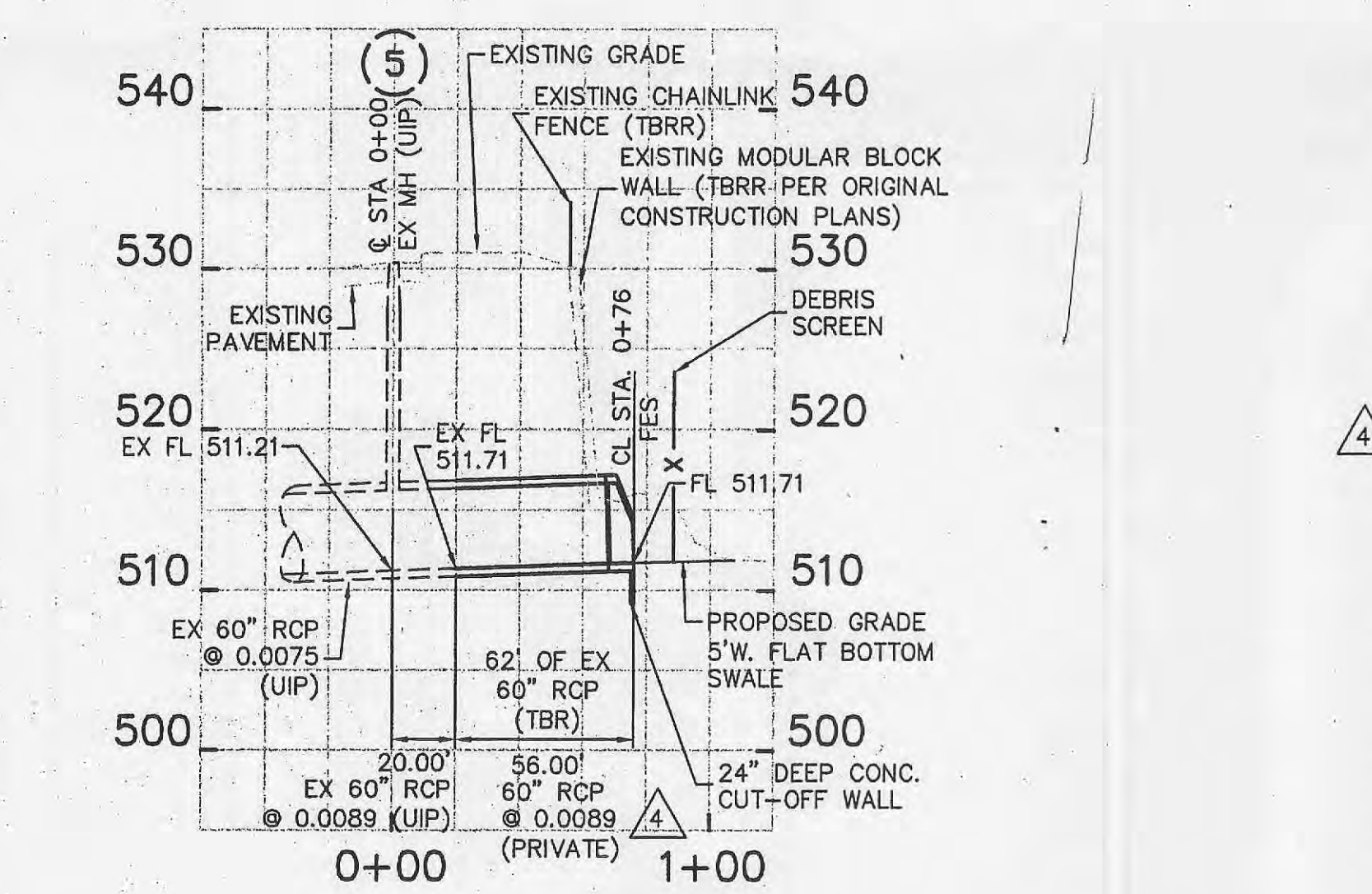
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SCALE: HORZ. 1" = 50'
VERT. 1" = 10'



CHANNEL DOWNSTREAM OF PLUNGE POOL



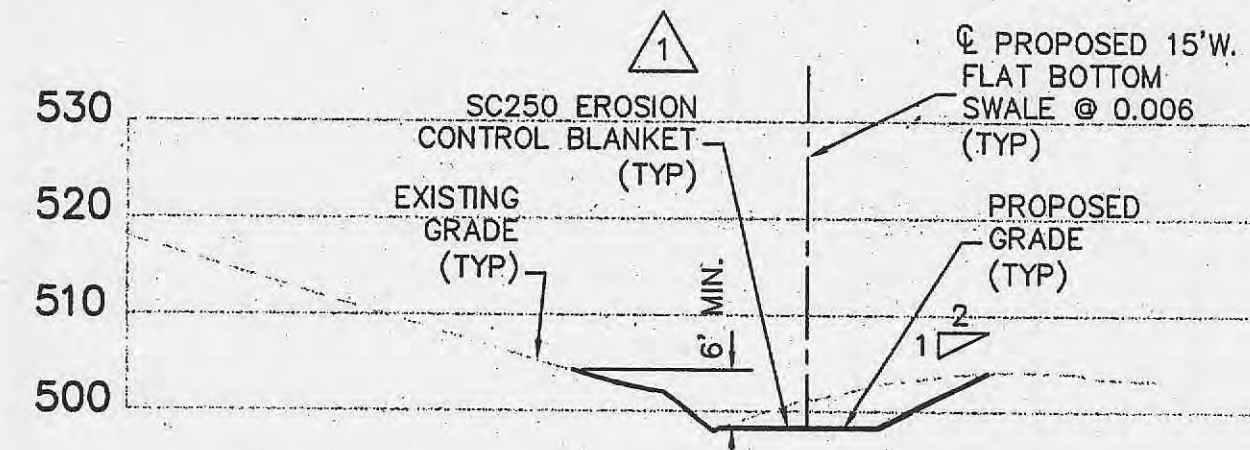
TYPICAL SECTION THRU FLAT BOTTOM SWALE WITH HEAVY STONE REVELTMENT

SCALE: HORZ. 1" = 20'
VERT. 1" = 20'

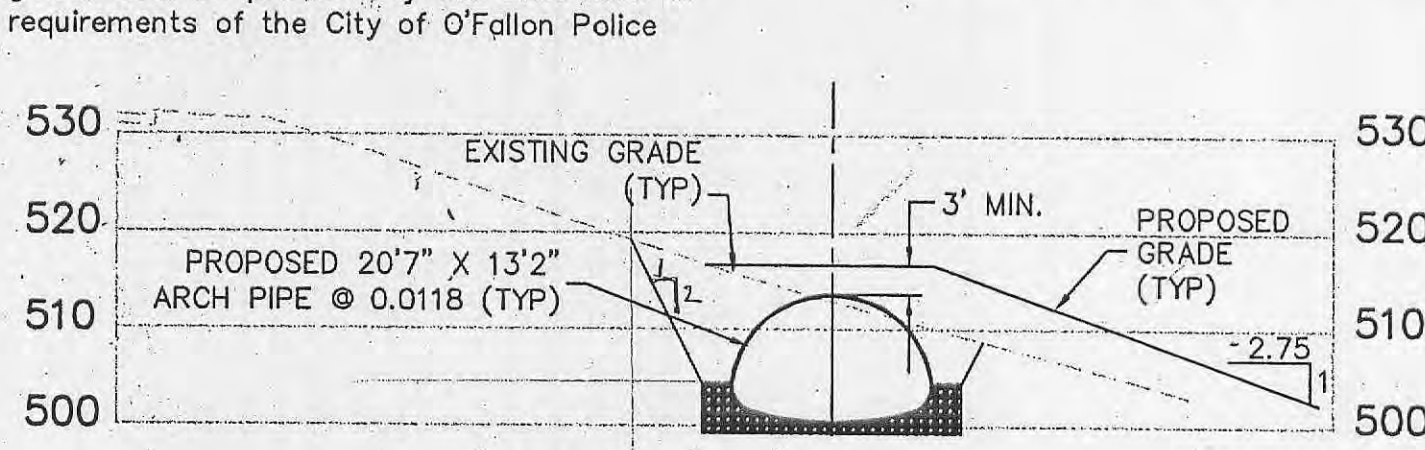
- GENERAL NOTES:
- Existing underground facilities, structures and utilities, if shown on these plans, shall be considered approximate only. Verification of the locations of all existing underground facilities, structures and utilities, either shown or not shown on these plans, shall be the responsibility of the Contractor, and shall be verified prior to any grading, excavation or construction of the improvements.
 - The contractor shall secure all required permits and notify the Inspection Department of the City of O'Fallon at least 48 hours prior to any construction.
 - All elevations are based on USGS datum, according to the bench mark described on the drawings. Proposed contours shown are to finished grade.
 - Field-verify all dimensions before construction. Property lines and fence lines are plotted as existing conditions. Out boundary survey may be required to verify property line locations.
 - All sewer construction and materials shall be in accordance with the Metropolitan St. Louis Sewer District Standard Construction Specifications for Sewer and Drainage Facilities, 2000 unless modified by these plans. At the completion of construction, the contractor shall submit one clean set of marked plans showing all changes and "as-built" information certified by a registered engineer or land surveyor in accordance with county regulations.
 - All construction methods and operations must be done in such a manner as to protect all adjacent existing building and site elements. Any existing elements damaged during construction must be repaired to preconstruction conditions at the contractor's sole expense.
 - Concrete for the wing walls and cutoff walls shall have a minimum compressive strength of at least 4000 psi after 28 days. Structural concrete shall have 6% plus or minus 2% air entrainment with a 5" maximum slump. Mix, design, placement, and procedures and methods of sampling and testing shall conform ASTM standards and ACI 318. Reinforcing steel shall conform to ASTM A615, Grade 60.
 - Corrugated Plate Pipe in public ROW shall be asphalt coated (inside and outside) in accordance with City of O'Fallon regulations, Section 405.230.5.a.
 - Strip vegetation and organic soil before placing fills.
 - The contractor shall perform all trenching and excavation work in strict compliance with all federal, state, and local laws, rules, or regulations encompassing same. The method of compliance shall be the sole responsibility of the contractor.
 - All existing organic contaminated or wet soils or other deleterious materials removed must be totally removed from site. Any existing soils adequate for use as fill may be retained, reprocessed, and reinstalled as compacted fill. All imported fill material shall be free from trash, lumber, deleterious, or frozen materials. All disposal of material removed from the site shall be done in accordance with all Federal, State, County and local regulations.
 - No slopes shall be graded steeper than 3:1 (horizontal:vertical) except where indicated in the plans.
 - The pipe bedding shall be well-graded granular material, conforming to MHTD Standard Specifications, Section 1007.2 and mechanically compacted to 90% maximum dry density (Modified Proctor) per ASTM D-1557-78. All excavation backfill within the loop road right-of-way shall conform to the above bedding requirement.

- All subgrade backfill beneath proposed parking areas shall consist of well-graded granular material up to 3 feet above the top of the arch culvert conforming to MHTD Standard Specifications, Section 1007.2 and mechanically compacted to 90% maximum dry density (Modified Proctor) per ASTM D-1557-78. Pavement subgrade backfill above 3 feet above the top of the arch culvert and outside of the loop road right-of-way shall be as specified above or suitable borrowed material mechanically compacted to 90% maximum dry density (Modified Proctor) per ASTM D-1557-78. No topsoil shall be used as fill in these areas. All fill placed under pavement shall be mechanically compacted from the bottom of fill up. Backfill compaction testing shall be provided by The Home Depot's soils engineer. The results of which shall be provided to the City of O'Fallon construction inspectors concurrent with backfill operations.
- The permanent and final repaving of all streets, driveways, sidewalks and parking lots where pavement has been removed, disturbed, settled, or damaged by or as a result of performance of the Contract, shall be performed by the Contractor to the pre-construction pavement section and grades. All new pavement must be sloped to drain. Manufacture and placement of the asphaltic concrete pavement shall be in accordance with the requirements of the Standard Specifications of the County of St. Charles Highway Department as referred to in Section 405.210 of the City of O'Fallon's Subdivision and Land Development ordinances. The top surface of the new pavement shall conform with the grade of existing adjacent pavement. An initial saw-cut of the pavement, coordinated with City inspectors, shall be made to allow excavation and placement of the pipe. After construction of the arch culvert through the Mexico Loop Road right-of-way, the Contractor shall complete the mechanically compacted granular backfill up to subgrade elevation as specified above. When backfilling in the Loop Road right-of-way is complete, the Contractor shall have ten (10) calendar days to replace the removed portion of pavement in the right-of-way in accordance with the 'Typical Section Mexico Loop Road' as shown on sheet 3 of the project plans. If weather or other conditions prevent the Contractor from completing the finished pavement in accordance with the Standard Specifications of the County of St. Charles Highway Department, the Contractor shall place temporary pavement consisting of four (4) inches of type 'X' asphaltic concrete base until such time as conditions permit the proper placement of the final pavement section as specified above. Five (5) additional calendar days of road closure will be allowed, if needed, to remove the temporary pavement and place the final pavement section. An additional full depth saw-cut will be required to provide straight and uniform edges with the new pavement being full depth to the limits shown in the 'Typical Section Mexico Loop Road' as shown on sheet 3 of the project plans. Curb and gutter work will not require road closure. Upon completion of the final pavement section in the Loop Road right-of-way, the Mexico Loop Road shall be kept open to traffic.
- 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 plans). 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 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 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 the City of O'Fallon and/or MoDOT.
- The streets surrounding the project area and any street used for construction access thereto shall be kept clean. All traffic control, including barricades and flagmen, shall be provided by the contractor in strict accordance with the requirements of the City of O'Fallon Police Department.

- All contractor's staging and material storage areas must be coordinated with the project representative. All such areas and construction methods must be done in such a manner as to create a minimum interference with Home Depot customers and store operations. Any staging areas must be restored to preconstruction conditions.
- Heavy stone revetment shall be placed at the locations and to the limits shown on the drawings. The revetment shall consist of a 36 inch layer of well-graded shot rock ranging from 1 inch to 36 inches in diameter placed on a 6 inch layer of MSD#2 bedding material over a layer of Miraf 500X or approved equal. The 50% stone size shall be 24 inches in diameter or greater. All fabric overlaps shall be a minimum of 18 inches in all directions. Prior to placing the rip rap, the existing soil shall be excavated as needed to accommodate the stone with a finished bottom width as called for on the drawings.
- The 15 foot wide flat bottom swale downstream of the heavy stone revetment shall be lined for a depth of 6 feet vertically with an erosion control blanket meeting the specifications of North American Green SC250, or approved equal, with a type 'E' staple pattern. Construction shall be in accordance with the manufacturer's recommendations. Those specifications and construction procedures, though not duplicated in these notes, shall be incorporated into these notes by reference.
- After the fine grading, seeding and channel lining has been installed, the first 4 feet (2 feet vertically) of the disturbed portions of channel bank will be planted with 3 rows of willow cuttings at 2 foot spacings parallel to the channel, and 1 foot offset spacing perpendicular to the channel.
- At the completion of fine-grading, all disturbed areas shall be fertilized and seeded. Prior to seed application, the areas will be graded to the finished grades shown and struck off to level the site and create a relatively smooth aesthetic surface. The area will be fertilized and disced to create a suitable seed bed and seeded using broadcast seeding methods. Fertilizer shall consist of a commercial fertilizer of the following proportions: Nitrogen 13%, Phosphoric Acid 13%, Soluble Potash 13% applied in accordance with manufacturer's instructions at a rate of 400 pounds per acre. Fertilizer will be applied prior to the application of seed and disced thoroughly to create a suitable seed bed. After fine grading and fertilizing, the disturbed areas shall be broadcast seeded at a rate of 8 pounds of seed per 1,000 square feet. The seed mixture will be 25% perennial Rye, 25% Switch Grass (Panicum Virgatum), 25% Big Blue Stem (Andropogon Gerardi) and 25% Little Blue Stem (Andropogon Scoparius) by weight. Immediately following seeding a 3/4 to 1 inch mulch layer will be applied to all areas receiving seed. All seeded areas shall be watered immediately after planting to saturate the top 4 inches of soil. Watering will continue as required to establish and maintain full vegetative cover.
- To replace trees larger than 3" caliper that will be removed or disturbed by construction, new trees shall be planted at an average spacing of 10 foot on center. 15 trees shall be planted in open portions of the upstream conservation area, and 25 trees shall be planted adjacent to the disturbed portion of the channel in the downstream mitigation area. Each tree will have a minimum 5/8-inch caliper, be at least 4 feet high, and be delivered to the site in individual 2 gallon containers. The trees will be "RPM container grown", construction grade or better supplied by Forest Keeling Nursery. Trees will be planted no closer than 5 feet from the outside edge of existing or proposed underground utilities. Trees will be an approximate mixture of the following species, depending on availability, mixed randomly and in small groups of 4 to 5:
Qty. 15 - Carya illinoensis (Pecan)
Qty. 15 - Fraxinus pennsylvanica (Green Ash)
Qty. 10 - Quercus texana (Nuttall Oak)



TYPICAL SECTION THRU FLAT BOTTOM SWALE



TYPICAL SECTION THRU PIPE CULVERT ON SLOPE

8/20/02
Profiling