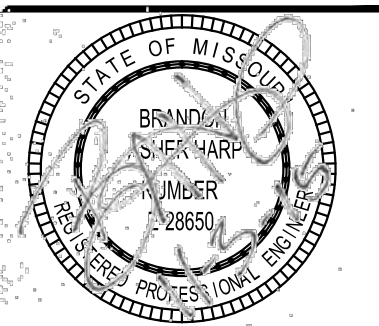


# SITE IMPROVEMENT PLANS

## for a PARKING LOT

BOUNDARY ADJUSTMENT PLAT OF A TRACT OF LAND BEING NEW LOT 4 AND NEW LOT 8 OF PHOENIX VILLAGE PLAT TWO ST. CHARLES COUNTY, MISSOURI



BRANDON A. HARP, P.E. E-28650  
PROFESSIONAL ENGINEER  
CEDC LICENSE NO.: 2003004674

11402 Gravois Road  
Suite 100  
Saint Louis, Missouri 63126  
314.729.1400  
Fax: 314.729.1404  
www.cedc.net

**CEDC**  
CIVIL ENGINEERING  
DESIGN CONSULTANTS

Site Improvement Plans for  
**New Parking Lot**  
9433 Phoenix Village Parkway  
O'Fallon, Missouri 63366

Proj. #	1478
No. Description	Date
City Submittal/Bid Set	09/01/15
2nd City Submittal	09/30/15
3rd City Submittal	10/15/15
4th Revision Submittal	11/03/15

TITLE SHEET

DRAWING NO.

**C01**

Permit No. 15-711

### INDEX OF SHEETS

C01	TITLE SHEET
C02	SPECIFICATION SHEET
C03	EXISTING CONDITIONS & FACILITIES REMOVAL PLAN
C04	SITE GRADING, GEOMETRY & UTILITY PLAN
C05	SITE DETAILS
C06	DRAINAGE AREA PLAN
C07	STORM WATER POLLUTION PREVENTION PLAN
C08	STORM WATER POLLUTION PREVENTION DETAILS
E100	PHOTOMETRIC PLAN
L1-L2	LANDSCAPING PLAN

**NOTE:**  
CIVIL ENGINEERING DESIGN CONSULTANTS, INC. AND THE UNDERSIGNED ENGINEER HAVE NO RESPONSIBILITY FOR SERVICES PROVIDED BY OTHERS TO IMPLEMENT THE IMPROVEMENTS SHOWN ON THIS PLAN AND ALL OTHER DRAWINGS WHERE THE UNDERSIGNED ENGINEER'S SEAL APPEARS. THE CONSTRUCTION MEANS, METHODS & MATERIALS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CIVIL ENGINEERING DESIGN CONSULTANTS, INC. HAS NO RESPONSIBILITY TO VERIFY FINAL IMPROVEMENTS AS SHOWN ON THIS PLAN UNLESS SPECIFICALLY ENGAGED AND AUTHORIZED TO DO SO BY THE OWNER OR CONTRACTOR.

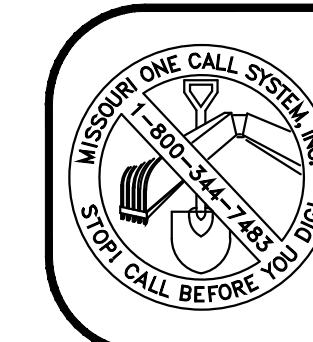
**UTILITY NOTE:**  
UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS, RECORDS AND INFORMATION, AND, THEREFORE DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE, SIZE, TYPE, NUMBER, OR LOCATION OF THESE FACILITIES, STRUCTURES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS. THE UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319 RSMo.

#### NOTES TO CONTRACTOR:

- CONTRACTOR/SUBCONTRACTOR SHALL INVESTIGATE, ASCERTAIN AND CONFORM TO ANY AND ALL PERMIT REQUIREMENTS OF THE (ANY) VARIOUS AFFECTED UTILITY COMPANIES AND/OR REGULATORY AGENCIES WITH REGARDS TO MAKING CONNECTIONS TO, OR CROSSINGS OF THEIR FACILITIES; WORKING WITHIN THEIR RIGHT-OF-WAY OR EASEMENTS; INSPECTIONS AND ASSOCIATED MONETARY CHARGES; AND/OR SPECIAL BACKFILL REQUIREMENTS. SUCH INVESTIGATION TO INCLUDE BUT NOT LIMITED TO THE MAKING OF NECESSARY APPLICATIONS AND PAYMENTS OF ALL REQUIRED FEES.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS OR PROFILES ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR/SUBCONTRACTOR TO VERIFY THE FIELD LOCATIONS, ANTICIPATED CLEARANCES AND THE EXISTENCE OF ANY FACILITIES NOT SHOWN HEREON, AS PART OF THE INVESTIGATIONS IN THE PARAGRAPH ABOVE.
- THE DEMOLITION PLAN IS FOR ILLUSTRATION OF THE GENERAL DEMOLITION ANTICIPATED FOR THIS PARTICULAR SITE. THE DEMOLITION PLAN DOES NOT REPRESENT ALL CONDITIONS THAT MAY BE ENCOUNTERED DURING DEMOLITION/CONSTRUCTION. THE CONTRACTOR SHALL MAKE HIMSELF THOROUGHLY FAMILIAR WITH THE SITE AND THE DEMOLITION/CONSTRUCTION REQUIREMENTS PRIOR TO BIDDING. THE INTENT OF THE DEMOLITION IS TO PROVIDE A CLEAN STABLE SITE, READY FOR CONSTRUCTION OF THE PROJECT IN CONFORMANCE WITH THE CONSTRUCTION PLANS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS THAT ARE IN KEEPING WITH THIS INTENT.
- PRIOR TO OBTAINING A CONSTRUCTION PERMIT FROM THE METROPOLITAN ST. LOUIS SEWER DISTRICT, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE DISTRICT WITH A COPY OF AN EXECUTED CERTIFICATE OF INSURANCE INDICATING THAT THE PERMITEE HAS OBTAINED AND WILL CONTINUE TO CARRY COMMERCIAL GENERAL LIABILITY AND COMPREHENSIVE AUTO LIABILITY INSURANCE. THE REQUIREMENTS AND LIMITS SHALL BE AS STATED IN THE "RULES AND REGULATIONS AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY AND STORMWATER DRAINAGE FACILITY", SECTION 10.090 (ADDENDUM).

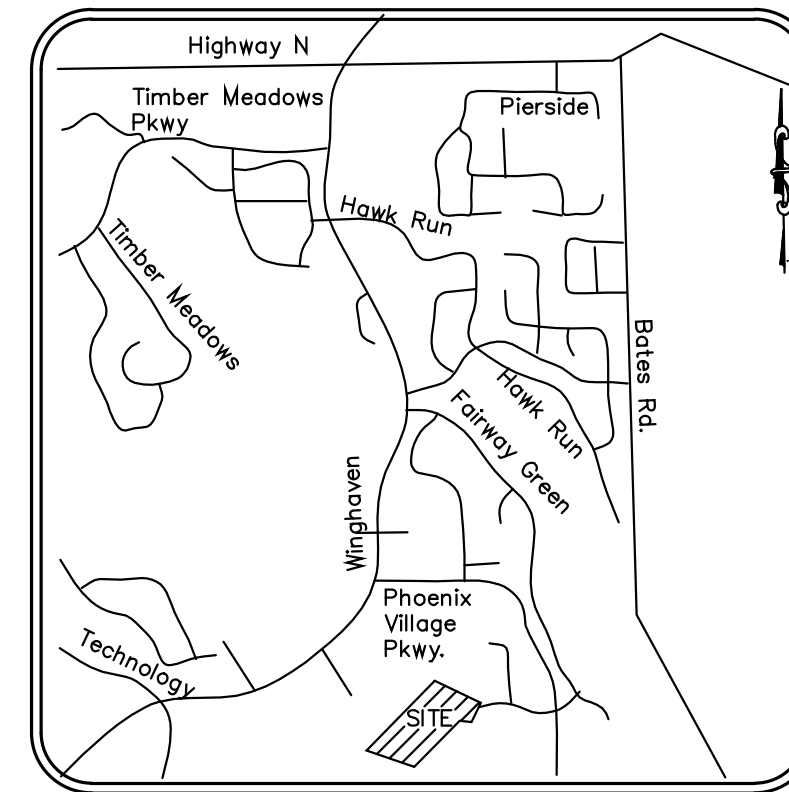
#### NOTE:

The underground utilities have been plotted from available sources and their locations must be considered approximate only. The verification of the actual locations of all underground utilities, either shown or not shown on this drawing, shall be the responsibility of the contractor and shall be located prior to grading or construction of improvements.



Call BEFORE you DIG  
TOLL FREE  
1-800-DIG-RITE  
MISSOURI ONE-CALL SYSTEM, INC.

MISSOURI ONE CALL TICKET NUMBER 152013047  
The services provided by Missouri One Call were Amren Missouri Electric, CTLO-Centurylink, Charter Communications, Laclede Gas Company, Phillips 66 Pipeline, LLC and St. Charles County PWSD 2.



LOCATION MAP  
(NOT TO SCALE)

### PROPERTY DATA

OWNER	= ORTHOPEDIC DEVELOPMENT, LLC.
ADDRESS	= 9433 PHOENIX VILLAGE PKWY
LOCATOR NO.	= 4-069B-A567-00-0008.0000000
ACREAGE	= 0.79 ACRES
EXISTING ZONING	= HTCD CITY OF O'FALLON
PROPOSED USE	= PARKING LOT
FIRE DISTRICT	= WENTZVILLE FIRE DISTRICT
SCHOOL DISTRICT	= WENTZVILLE SCHOOL DISTRICT
SEWER DISTRICT	= CITY OF O'FALLON
FEMA MAP	= 29183C0430 E and 29183C0240 E
ELECTRIC COMPANY	= AMERENUE
GAS COMPANY	= LACLEDE GAS COMPANY
PHONE COMPANY	= CENTURY TEL
WATER COMPANY	= DISTRICT 2

### UTILITY CONTACTS

SANITARY SEWER	= DUCKETT CREEK SANITARY DISTRICT O'FALLON, MO. 63368 MIKE MERKT 636-441-1244	ELECTRIC SERVICE	= AMEREN UE - Boone Trails Division 200 N. CALLAHAN ROAD WENTZVILLE, MO. 63385 DANIEL GIESSMANN PH. (636) 639-8336 CELL (636) 357-2978 FAX (636) 639-8256 EMAIL: DGiesmann@Ameren.com
STORM SEWER	= STORM SEWER CITY OF O'FALLON 100 N. MAIN ST. O'FALLON, MO. 63366 636-281-2858	GAS SERVICE	= LACLEDE GAS CO. 1999 TRADE CENTER DRIVE ST. PETERS, MO 63376 MARK DEMLING PH. (314) 575-9090
WATER DISTRICT	= PUBLIC WATER SUPPLY DISTRICT NO. 2 P.O. BOX 967 O'FALLON, MO. 63366 636-561-3737 EXT. 131	PHONE SERVICE	= TELEPHONE CENTURY TEL 1151 CENTURY TEL DR. WENTZVILLE, MO. 63385 636-332-7261
FIRE DISTRICT	= WENTZVILLE FIRE DISTRICT 209 WEST PEARCE BLVD. WENTZVILLE, MO. 63385 ATTN: MR. CHRIS CUDDHIE, FIRE MARSHAL PH. 636-332-9869		

### BENCHMARKS

NAVD 88 using the Trimble RS

### SITE BENCHMARKS

Elev. 556.47' - "O" in open on fire hydrant as shown on this survey.

### FLOOD ZONE NOTES

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE WITHIN ANY SPECIAL FLOOD ZONE AREAS ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL NUMBER 29183C0430 E AND 29183C0240 E AND COMMUNITY NUMBER 290316 (CITY OF O'FALLON) WHICH BEARS AN EFFECTIVE DATE OF AUGUST 2, 1996. THE PROPERTY LIES WITHIN UNSHADED ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOOD PLAIN).

### ZONING NOTES

Zoned: HTCD - High Tech Corridor with PUD

Existing site conditions may fall within permitted uses as listed in the City of O'Fallon zoning regulations. Zoning regulations are subject to change, interpretation and exception, for further information contact the City of O'Fallon planning and zoning department.

### CONDITIONS OF APPROVAL

- Parking in the lot shall be available solely to tenants of the buildings within Phoenix Village.  
Planning & Zoning Commission File Number: 9831.66

### LEGEND

EXISTING CONTOURS	— 433 —
PROPOSED CONTOURS	— 433 —
EXISTING STORM SEWER	— [Symbol] —
PROPOSED STORM SEWER	— [Symbol] —
EXISTING SANITARY SEWER	— [Symbol] —
PROPOSED SANITARY SEWER	— [Symbol] —
RIGHT-OF-WAY	— [Symbol] —
EASEMENT	— [Symbol] —
CENTERLINE	— [Symbol] —
EXISTING TREE	[Symbol]
EXISTING SPOT ELEVATION	× 433.28
PROPOSED SPOT ELEVATION	433.28
SWALE/DRAINAGE PATH	[Symbol]
UNDERGROUND TELEPHONE	— T — T —
OVERHEAD WIRE	— O.H. — O.H. —
UNDERGROUND ELECTRIC	— E — E —
WATER MAIN	— W — W —
GAS MAIN	— G — G —
FIRE HYDRANT	[Symbol]
POWER POLE	[Symbol]
WATER VALVE	[Symbol]
TO BE REMOVED	T.B.R.
TO BE REMOVED & RELOCATED	T.B.R. & R.
TO BE USED IN PLACE	U.I.P.
TO BE ADJUSTED	T.B.A.
BACK OF CURB	B.C.
FACE OF CURB	F.C.

### LAND DESCRIPTION

Adjusted Lot 8 of Boundary Adjustment Plat of a tract of land being New Lot 4, and New Lot 8 of Phoenix Village Plat Two, according to the plat thereof recorded in Plat Book 45 page 285 of the St. Charles County, Missouri, Records.

#### PREPARED FOR:

Ms. Judy E. O'Donnell  
Agent Construction Services (ACS)  
1441 Craig Drive  
St. Louis, MO 63122

#### PREPARED BY:

**CEDC**  
CIVIL ENGINEERING  
DESIGN CONSULTANTS

11402 Gravois Road  
Suite 100  
Saint Louis, Missouri 63126  
314.729.1400  
Fax: 314.729.1404  
www.cedc.net

CITY OF O'FALLON CONSTRUCTION WORK HOURS PER CITY ORDINANCE 3429 AS SHOWN IN SECTION 500.420 OF THE MUNICIPAL CODE OF THE CITY OF O'FALLON ARE AS FOLLOWS:

OCTOBER 1 THROUGH MAY 31 7:00 A.M. TO 7:00 P.M. MONDAY THROUGH SUNDAY  
JUNE 1 THROUGH SEPTEMBER 30 8:00 A.M. TO 8:00 P.M. MONDAY THROUGH FRIDAY  
7:00 A.M. TO 8:00 P.M. SATURDAY AND SUNDAY

- THE AREA OF THIS PHASE OF DEVELOPMENT IS 0.79 ACRES
- THE AREA OF LAND DISTURBANCE IS 1.8 ACRES
- NUMBER OF PROPOSED LOTS IS 1



GENERAL NOTES

- 1. 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. THE CONTRACTOR SHALL BE ON RECORD WITH THE MISSOURI ONE CALL SYSTEM.
2. ALL ELEVATIONS ARE BASED ON BENCHMARK NOTED ON THIS SHEET.
3. BOUNDARY AND TOPOGRAPHIC SURVEY BY MARLER SURVEYING COMPANY, INC.
4. ALL ON-SITE MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF O'FALLON DEPARTMENT OF PUBLIC WORKS.
5. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY.
6. PRIOR TO BEGINNING ANY WORK ON THE SITE, THE SUB-CONTRACTOR SHALL CONTACT THE GENERAL CONTRACTOR FOR SPECIFIC INSTRUCTIONS RELEVANT TO THE SEQUENCING OF WORK.
7. GRADING CONTRACTOR SHALL INSTALL SILTATION CONTROL PRIOR TO STARTING THE GRADING. ADDITIONAL SILTATION CONTROL DEVICES SHALL BE INSTALLED AS DIRECTED BY THE CITY.
8. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
9. GRADING CONTRACTOR SHALL KEEP EXISTING ROADWAYS CLEAN OF MUD AND DEBRIS AT ALL TIMES.
10. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
11. ALL GRADING & DRAINAGE TO BE IN CONFORMANCE WITH CITY STANDARDS.
12. DRIVE ENTRANCES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CITY.
13. SEEDING, SODDING, MULCHING AND PLANTINGS FOR ALL DISTURBED AREAS SHALL BE SPECIFIED ON THE LANDSCAPE PLAN.
14. SIDEWALKS ALONG THE ACCESSIBLE ROUTE SHALL NOT HAVE A SLOPE EXCEEDING 1'V:20'H. SLOPES GREATER THAN 1'V:20'H MUST BE DESIGNED AS A RAMP. SIDEWALKS TO BE CONSTRUCTED TO ADA STANDARDS.
15. SIDEWALKS, CURB RAMPS, RAMPS AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES" (ADAAG) ALONG WITH THE REQUIRED GRADES, CONSTRUCTION MATERIALS, SPECIFICATIONS AND SIGNAGE. IF ANY CONFLICT OCCURS BETWEEN THE ADAAG GUIDELINES AND THE INFORMATION ON THE PLANS, THE ADAAG GUIDELINES SHALL TAKE PRECEDENCE AND THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER PRIOR TO ANY CONSTRUCTION.
16. DRAINAGE PERMIT IS REQUIRED BY THE CITY DEPARTMENT OF PUBLIC WORKS FOR ALL PRIVATE STORM SEWERS.
17. BY GRAPHIC PLOTTING ONLY, THIS PROPERTY DOES NOT LIE WITHIN ANY SPECIAL FLOOD ZONE AREAS ACCORDING TO THE FLOOD INSURANCE RATE MAP PANEL NUMBER 291830240 E AND 291830240 E AND COMMUNITY NUMBER 290316 (CITY OF O'FALLON) WHICH BEARS AN EFFECTIVE DATE OF AUGUST 2, 1996. THE PROPERTY LIES WITHIN UNSHADED ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOOD PLAIN).
18. NO GRADE SHALL EXCEED 3:1 SLOPE.
19. STORMWATER SHALL BE DISCHARGED AT ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE NATURAL DISCHARGE POINTS.
20. ALL LANDSCAPE AREAS TO BE FILLED WITH A MINIMUM OF 6" OF TOPSOIL.
21. ALL LANDSCAPED AREAS DISTURBED BY OFF-SITE WORK SHALL BE IMMEDIATELY SEEDED OR SODDED, AS DIRECTED BY CITY DEPARTMENT OF PUBLIC WORKS UPON COMPLETION OF WORK IN AREA AFFECTED.
22. APRIORATE TEMPORARY OFF-STREET PARKING OR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS AND DRIEWAY CONDITIONS.
23. ALL PUBLIC SEWER CONSTRUCTION MUST CONFORM TO 2007 M.S.D. "STANDARD CONSTRUCTION SPECIFICATION & DETAILS", EXCEPT AS MODIFIED BY THE CITY OF O'FALLON ORDINANCES.
24. ALL PAVING TO BE TO ST. CHARLES COUNTY STANDARDS EXCEPT AS MODIFIED BY THE CITY OF O'FALLON.
25. THE SITE WILL BE IN COMPLIANCE WITH PHASE III ILLICIT STORM WATER DISCHARGE GUIDELINES PER ORD. 50B2 (TRITON CATCH BASIN INSERTS).
26. SETBACKS PER ZONING
BUILDING FRONT = N/A SIDE = N/A REAR = N/A
PARKING FRONT = 30' SIDE = 0' REAR = 0'

GENERAL NOTES

- 1. DRIVEWAY LOCATIONS SHALL NOT INTERFERE WITH THE SIDEWALK HANDICAP RAMPS, OR CURB INLET SUMPS
2. SIDEWALKS, CURB RAMPS, RAMPS AND ACCESSIBLE PARKING SPACES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT APPROVED "AMERICANS 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.
3. TRUNCATED DOMES FOR CURB RAMPS LOCATED IN PUBLIC RIGHT OF WAY SHALL MEET ADA REQUIREMENTS AND SHALL BE CONSTRUCTED USING RED PRE CAST TRUNCATED DOMES PER PAVEMENT DETAILS.
4. ANY PROPOSED PAVING OR PLAYGROUND AREAS WILL NEED A SEPARATE PERMIT FROM THE BUILDING DIVISION. THE CONTRACTOR IS RESPONSIBLE TO CALL MISSOURI ONE CALL AND THE CITY OF O'FALLON FOR THE LOCATION OF UTILITIES. CONTACT THE CITY OF O'FALLON (636) 379-3814 FOR THE LOCATION OF CITY MAINTAINED CABLE FOR STREET LIGHTS AND TRAFFIC SIGNALS. ALL OTHER UTILITIES CALL MISSOURI ONE CALL 1-800-DIG-RITE. 1-800-344-7483
5. ALL PROPOSED UTILITIES AND/OR UTILITY RELOCATIONS SHALL BE LOCATED UNDERGROUND.
6. ALL PROPOSED FENCING REQUIRE A SEPARATE PERMIT THROUGH THE PLANNING AND DEVELOPMENT DIVISION.
7. ALL CONSTRUCTION OPERATIONS AND WORK ZONE TRAFFIC CONTROL WITHIN THE RIGHT OF WAY WILL FOLLOW MODOOT OR M.U.T.C.D. STANDARDS WHICHEVER IS MORE STRINGENT.
8. ALL FREE STANDING SIGNS SHALL BE LOCATED A MINIMUM OF TEN (10) FEET AWAY FROM ANY RIGHT OF WAY LINE AND/OR PROPERTY LINE AND A MINIMUM OF THREE (3) FEET FROM THE BACK OF CURBING OR SIDEWALK. ALL SIGNS SHALL ADOBE BY THE REGULATIONS FOR VISIBILITY AT CORNERS, INCLUDING CORNERS FROM DRIVEWAYS AND THE STREET IT INTERSECTS PER SECTION 400.250 OF THE O'FALLON ZONING CODE.
9. ALL SUBDIVISION IDENTIFICATION OR DIRECTIONAL SIGN(S) MUST HAVE THE LOCATIONS AND SIZES APPROVED AND PERMITTED SEPARATELY THROUGH THE PLANNING AND DEVELOPMENT DIVISION.
10. MATERIALS SUCH AS TREES, ORGANIC DEBRIS, RUBBLE, FOUNDATIONS, AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IF THE MATERIALS ALREADY EXISTING ARE REUSED, A LETTER FROM A SOIL ENGINEER MUST CLARIFY AMOUNT, LOCATION, DEPTH, ETC. AND BE APPROVED WITH THE CONSTRUCTION PLANS. 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.
11. THE CITY ENGINEER OR THEIR DULY AUTHORIZED REPRESENTATIVE SHALL MAKE ALL NECESSARY INSPECTIONS OF CITY INFRASTRUCTURE LOCATED ON THE APPROVED PLANS.
12. ALL EXISTING CURB REMOVALS ARE TO BE TO THE NEXT JOINT.

EROSION CONTROL NOTES

- 1. THE PERMITTEE SHALL ASSUME COMPLETE RESPONSIBILITY FOR CONTROLLING ALL SILTATION AND EROSION OF THE PROJECT AREA. THE PERMITTEE 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 THE CLEARING OPERATIONS AND BE MAINTAINED THROUGHOUT THE PROJECT UNTIL ACCEPTANCE OF THE WORK BY CITY OF O'FALLON AND AS NEEDED BY MODOT. THE PERMITTEE'S RESPONSIBILITIES INCLUDE ALL DESIGN AND IMPLEMENTATION AS REQUIRED TO PREVENT EROSION AND THE DEPOSITING OF SILT. THE CITY OF O'FALLON AND AS REQUIRED BY MODOT MAY AT THEIR OPTION DIRECT THE PERMITTEE 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 SILTS OR MUD IN NEW OR EXISTING STORM SEWERS AND/OR SWALES SHALL BE REMOVED AFTER EACH RAIN AND AFFECTED AREAS CLEANED TO THE SATISFACTION OF THE CITY OF O'FALLON AND AS REQUIRED BY MODOT.
2. ALL EROSION CONTROL SYSTEMS ARE TO BE INSPECTED AND CORRECTED WEEKLY, ESPECIALLY WITHIN 48 HOURS OF ANY RAIN STORM RESULTING IN ONE-SILT OR INCH OF RAIN OR MORE. ANY SILT OR DEBRIS LEAVING THE SITE AND AFFECTING PUBLIC RIGHT OF WAY OR STORM WATER DRAINAGE FACILITIES SHALL BE CLEANED UP WITHIN 24 HOURS AFTER THE END OF THE STORM.
3. EROSION CONTROL DEVICES (SILT FENCE, SEDIMENT BASIN, ETC.) SHALL BE IN ACCORDANCE WITH ST. CHARLES COUNTY SOIL AND WATER CONSERVATION DISTRICT EROSION AND SEDIMENT CONTROL GUIDELINES.
4. THIS DEVELOPMENT IS REQUIRED TO PROVIDE LONG TERM POST CONSTRUCTION BMP'S SUCH AS: LOW IMPACT DESIGN, SOURCE CONTROL AND TREATMENT CONTROLS THAT PROTECTS WATER QUALITY AND CONTROLS RUN OFF TO MAXIMUM EXTENT PRACTICAL IN COMPLIANCE WITH PHASE III ILLICIT STORM WATER DISCHARGE GUIDELINES. (ORD. 50B2, SECTION 405.0245)
5. GRADED AREAS SHALL BE SEEDED AND MULCHED (STRAWED) WITHIN 14 DAYS OF STOPPING LAND DISTURBANCE ACTIVITIES. UNLESS IT CAN BE SHOWN TO THE CITY ENGINEER THAT WEATHER CONDITIONS ARE NOT FAVORABLE, VEGETATIVE GROWTH IS TO BE ESTABLISHED WITHIN 6 WEEKS OF STOPPING GRADING WORK ON THE PROJECT. THE VEGETATIVE GROWTH ESTABLISHED SHALL BE SUFFICIENT TO PREVENT EROSION AND THE STANDARD SHALL BE AS REQUIRED BY EPA AND DNR. (70% COVERAGE PER SQUARE FOOT) ORD. 5242, SECTION 405.070

GRADING NOTES

- 1. DEVELOPER MUST SUPPLY CITY CONSTRUCTION INSPECTORS WITH SOIL REPORTS PRIOR TO AND DURING SITE GRADING. THE SOIL REPORT WILL BE REQUIRED TO CONTAIN THE FOLLOWING INFORMATION ON SOIL TEST CURVES (PROCTOR REPORTS) FOR PROJECTS WITHIN THE CITY:
1. MAXIMUM DRY DENSITY
2. OPTIMUM MOISTURE CONTENT
3. MAXIMUM AND MINIMUM ALLOWABLE MOISTURE CONTENT
4. CURVE MUST BE PLOTTED TO SHOW DENSITY FROM A MINIMUM OF 90% COMPACTION AND ABOVE AS DETERMINED BY THE "MODIFIED PROCTOR TEST" (A.S.T.M.-D-1557) OR FROM A MINIMUM OF 95% AS DETERMINED BY THE "STANDARD PROCTOR TEST ASHTO T-99, METHOD C" (A.S.T.M.-D-698). PROCTOR TYPE MUST BE DESIGNATED ON DOCUMENT.
5. CURVE MUST HAVE AT LEAST 5 DENSITY POINTS WITH MOISTURE CONTENT AND SAMPLE LOCATIONS LISTED ON DOCUMENT
6. SPECIFIC GRAVITY
7. NATURAL MOISTURE CONTENT
8. LIQUID LIMIT
9. PLASTIC LIMIT
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.
2. ALL FILL PLACED IN AREAS OTHER THAN PROPOSED STORM SEWERS, SANITARY SEWERS, PROPOSED ROADS, AND PAVED AREAS SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP IN 8" LIFTS AND COMPACTED TO 90% MAXIMUM DENSITY AS DETERMINED BY MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST ASHTO T-99. ENSURE THE MOISTURE CONTENT OF THE SOIL IN FILL AREAS CORRESPOND TO THE COMPACTED CURVES AS DEFINED BY THE STANDARD 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.
3. THE SURFACE OF THE FILL SHALL BE FINISHED SO IT WILL NOT IRRADIATE WATER. IF AT THE END OF A DAYS WORK IT WOULD APPEAR THAT THERE MAY BE RAIN PRIOR TO THE NEXT WORKING DAY, THE SURFACE SHALL BE FINISHED SMOOTH. IF THE SURFACE IS NOT FINISHED SMOOTH FOR ANY REASON, IT SHALL BE SCARIFIED BEFORE PROCEEDING WITH THE PLACEMENT OF SUCCEEDING LIFTS. FILL SHALL NOT BE PLACED ON FROZEN GROUND, NOR SHALL FILLING OPERATIONS CONTINUE WHEN THE TEMPERATURE IS SUCH AS TO PERMIT THE LAYER UNDER PLACEMENT TO FREEZE.
4. ALL SEDIMENT AND DETENTION BASINS ARE TO BE CONSTRUCTED DURING THE INITIAL PHASE OF THE GRADING OPERATION OR IN ACCORDANCE WITH THE APPROVED SWPPP.
5. WHEN GRADING OPERATIONS ARE COMPLETE OR SUSPENDED FOR MORE THAN 14 DAYS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO ST. CHARLES SOIL AND WATER CONSERVATION DISTRICT - MODEL SEDIMENT AND EROSION CONTROL REGULATIONS. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY IMPROVEMENTS) IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT A RATE OF 100 POUNDS PER 1000 SQUARE FEET WHEN SEEDS.
6. NO SLOPES SHALL EXCEED 3 (HORIZONTAL): 1 (VERTICAL) UNLESS OTHERWISE APPROVED BY THE SOILS REPORT AND SPECIFICALLY LOCATED ON THE PLANS AND APPROVED BY THE CITY ENGINEER.
7. ALL LOW PLACES WHETHER ON SITE OR OFF SHALL BE GRADED TO PROVIDE DRAINAGE WITH TEMPORARY DITCHES.
8. ANY EXISTING WELLS AND/OR SPRINGS WHICH MAY EXIST ON THE PROPERTY MUST BE SEALED IN A MANNER ACCEPTABLE TO THE CITY OF O'FALLON CONSTRUCTION INSPECTION DEPARTMENT FOLLOWING MISSOURI DEPARTMENT OF NATURAL RESOURCES STANDARDS AND SPECIFICATIONS.
9. ALL TRENCH BACK FILLS UNDER BACKFILL AREAS SHALL BE GRANULAR BACKFILL AND COMPACTED MECHANICALLY. ALL OTHER TRENCH BACK FILLS MAY BE EARTH MATERIAL (FREE OF LARGE CLODS OR STONES) AND COMPACTED USING EITHER MECHANICAL OR WATER JETTING. GRANULAR MATERIAL AND EARTH MATERIAL ASSOCIATED WITH NEW CONSTRUCTION OUTSIDE OF PAVEMENTS MAY BE JETTED, TAKING CARE TO AVOID DAMAGE TO NEWLY LAID SEWERS. THE JETTING SHALL BE PERFORMED WITH A PROBE ROUTE ON NOT GREATER THAN 7.5 FOOT CENTERS WITH THE JETTING PROBE CENTERED OVER AND PARALLEL WITH THE DIRECTION OF THE PIPE. TRENCH WIDTHS GREATER THAN 10 FEET WILL REQUIRE MULTIPLE PROBES EVERY 7.5 FOOT CENTERS.
A) DEPTH, TRENCH BACK FILLS LESS THAN 8 FEET DEEP SHALL BE PROBED TO A DEPTH EXTENDING HALF THE DEPTH OF THE TRENCH BACK FILL, BUT NOT LESS THAN 3 FEET. TRENCH BACK FILL GREATER THAN 8 FEET IN DEPTH SHALL BE PROBED TO HALF THE DEPTH OF THE TRENCH BACK FILL BUT NOT GREATER THAN 8 FEET.
B) EQUIPMENT, THE JETTING PROBE SHALL BE A METAL PIPE WITH AN INTERIOR DIAMETER OF 1.5 TO 2 INCHES.
C) METHOD, JETTING SHALL BE PERFORMED FROM THE LOWEST SURFACE TOPOGRAPHIC POINT AND PROCEED TOWARD THE HIGHEST POINT, AND FROM THE BOTTOM OF THE TRENCH BACK FILL TOWARD THE SURFACE. THE FLOODING OF EACH JETTING PROBE SHALL BE STARTED SLOWLY ALLOWING SLOW SATURATION OF THE SOIL. WATER IS NOT ALLOWED TO FLOW AWAY FROM THE TRENCH WITHOUT FIRST SATURATING THE TRENCH.
D) SURFACE BRIDGING: THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF THE SURFACE BRIDGING (THE TENDENCY FOR THE UPPER SURFACE TO CRUST AND ARCH OVER THE TRENCH RATHER THAN COLLAPSE AND CONSOLIDATE DURING THE JETTING PROCESS). THE CONTRACTOR SHALL BREAK DOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS WHEELS OR BUCKET OF A BACKHOE. WHEN SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE BACK FILLED WITH THE SAME MATERIAL USED AS TRENCH BACK FILL AND REJETTED. COMPACTION OF THE MATERIALS WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS.

DENSITY CALCULATIONS

Table with 2 columns: Coverage Type and Percentage. Rows include Greenpace (13,745 s.f. total site, 39.8%), Pervious (20,811 s.f. total site, 60.2%), and Pavement (13,745 s.f. total site, 39.8%).

STORM SEWER NOTES

- 1. ALL STORM SEWER INSTALLATION IS TO BE IN ACCORDANCE WITH M.S.D. 2007 STANDARDS AND SPECIFICATIONS EXCEPT AS MODIFIED BY THE CITY OF O'FALLON ORDINANCES.
2. BRICK SHALL NOT BE USED IN THE CONSTRUCTION OF STORM SEWER STRUCTURES. PRE CAST CONCRETE STRUCTURES ARE TO BE USED UNLESS OTHERWISE APPROVED BY THE CITY OF O'FALLON.
3. A 5/8" TRASH BAR SHALL BE INSTALLED HORIZONTALLY IN THE CENTER OF THE OPENING(S) IN ALL CURBS AND AREA INLETS.
4. HOPE PIPE IS TO BE N-12W OR EQUAL AND TO MEET ASTM F1417 WATER TIGHT FIELD TEST.
5. ENCASE WITH CONCRETE BOTH SANITARY AND STORM SEWER AT CROSSING WHEN STORM SEWER IS WITHIN 18 INCHES ABOVE SANITARY SEWER. ADD CONCRETE CRADLE TO ONLY RCP STORM SEWER AND ENCASE HOPE STORM SEWER WHEN IT IS MORE THAN 18 INCHES ABOVE SANITARY LINE. SHOW ON PROFILE SHEET.
6. THE STORM SEWERS SHOULD RUN DIAGONALLY THROUGH THE SIDE YARDS TO MINIMIZE ANY ADDITIONAL UTILITY EASEMENTS REQUIRED.
7. ALL CONCRETE PIPES WILL BE INSTALLED WITH 0-RING RUBBER TIE GASKETS.
8. CONNECTIONS AT ALL STORM STRUCTURES ARE TO BE MADE WITH A-LOCK JOINT OR EQUAL.
9. PRE CAST CONCRETE MANHOLE COVERS ARE TO BE USED.
10. ALL STORM SEWER SHALL BE REINFORCED CONCRETE PIPE OR H.D.P.E. PIPE. ALL STRUCTURES AND FLARED END SECTIONS MUST BE CONCRETE. MANUFACTURING SPECIFICATIONS MUST BE FOLLOWED AND DETAILS PROVIDED FOR THE INSTALLATION OF H.D.P.E. PIPE. H.D.P.E. PIPE WILL NOT BE ALLOWED FOR DETENTION BASIN OUTFLOWS, FINAL PIPE RUN TO DETENTION BASINS, CREEK DISCHARGE OR OTHER APPROVED MEANS.
11. THE DISCHARGE POINT OF ALL FLARED END SECTIONS SHALL BE PROTECTED BY RIP RAP OR OTHER APPROVED MEANS.
12. RIP RAP SHOWN AT FLARED END SECTIONS WILL BE EVALUATED IN THE FIELD BY THE ENGINEER, CONTRACTOR, AND CITY INSPECTORS AFTER INSTALLATION FOR EFFECTIVENESS AND FIELD MODIFIED, IF NECESSARY TO REDUCE EROSION AND GULF SITE.
13. ADD 1" MINUS ROCK BACK FILL TO ALL STORM SEWER THAT LIE WITHIN THE 1:1 SHEAR PLANE OF THE ROAD.

RETAINING WALLS: TERRACED AND VERTICAL

- 1. A PERMIT IS REQUIRED FOR ALL RETAINING WALLS THAT ARE 48 INCHES OR TALLER IN WALLS THAT SUPPORT A SURCHARGE LOAD OR THAT ALTERS THE CHANNELIZED DRAINAGE OF ANY LOT OR DRAINAGE AREA.
2. RETAINING WALLS WILL NOT BE ALLOWED IN PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN APPROVAL FROM THE CITY ENGINEER.
3. ANY RETAINING WALL MORE THAN THIRTY (30) INCHES TALL WHICH SUPPORTS A WALKING SURFACE THAT IS WITHIN TWO (2) FEET OF THE WALL WILL REQUIRE A GUARD ON THE RETAINING WALL.
4. RETAINING WALLS THAT ALTER THE CHANNELLED DRAINAGE OF ANY LOT OR DRAINAGE AREA SHALL NOT BE CONSTRUCTED WITHOUT PRIOR APPROVAL AND PERMITTING FROM THE CITY OF O'FALLON ENGINEERING DEPARTMENT REGARDLESS OF THE HEIGHT OF THE WALL.
5. SEE SECTION 405.275 OF THE CITY CODE FOR ADDITIONAL DESIGN REQUIREMENTS.

ROADWAY NOTES

- 1. ALL PAVING (PUBLIC AND PRIVATE) TO BE IN ACCORDANCE WITH 2006 ST. CHARLES COUNTY STANDARDS AND SPECIFICATIONS EXCEPT AS MODIFIED BY THE CITY OF O'FALLON ORDINANCES.
2. IF THE INTERSECTING ROADWAY HAS A CURB, THEN THE CURB ON THE NEW ENTRANCE SHALL BEGIN 10' FROM THE EDGE OF THE EXISTING ROAD.
3. PROVIDE 6" OF CONCRETE OVER 4" OF MODOT TYPE 1 OR TYPE 5 AGGREGATE ROCK OR ASPHALT EQUIVALENT FOR MINOR RESIDENTIAL STREETS PER CITY CODE 405.370.
4. MULTI-USE TRAIL (WHEN REQUIRED) SHALL HAVE A MINIMUM OF 3" TYPE "C" ASPHALT OVER 4" AGGREGATE BASE PER CITY REQUIREMENTS.
5. TYPE C (BP-1) COMPACTION REQUIREMENTS SHALL BE 98% MINIMUM DENSITY ACCORDING TO ST. CHARLES CO. STANDARD SPECIFICATION.
6. PROVIDE PAVEMENT STRIPING AT ANY POINT WHERE THE MULTI-USE TRAIL CROSSES EXISTING OR PROPOSED PAVEMENT.
7. ALL STREET STUB-OUTS OVER 250' IN LENGTH WILL REQUIRE A TEMPORARY TURNAROUND.
8. ALL SUB GRADE IN CUT OR FILL WILL NEED TO CONFORM TO THE CITY OF O'FALLON COMPACTION REQUIREMENTS.
9. MATERIAL TESTING AND FREQUENCY. MATERIALS FOR CONSTRUCTION SHALL BE TESTED AND INSPECTED PER THE APPROPRIATE ASTM CODE OR AT THE CITY ENGINEER'S DISCRETION. THE DEVELOPER'S ENGINEER SHALL PERFORM THE FOLLOWING QUALITY CONTROL GUIDELINES:
1. CONCRETE.
A. CYLINDERS/COMPRESSIVE STRENGTH. ONE (1) SET OF FOUR (4) CYLINDERS WITHIN THE FIRST FIFTY (50) CUBIC YARDS AND ONE (1) SET PER ONE HUNDRED (100) CUBIC YARDS THEREAFTER. ONE (1) CYLINDER MUST BE TESTED AT SEVEN (7) DAYS, ONE (1) AT FOURTEEN (14) DAYS AND TWO (2) AT TWENTY-EIGHT (28) DAYS. IF THE FIRST (1ST) CYLINDER DOES NOT MEET SPECIFICATIONS AT TWENTY-EIGHT (28) DAYS, THEN THE SECOND (2ND) CYLINDER MUST BE HELD AND TESTED AT DAY FIFTY-SIX (56).
B. PERCENT AIR AND TEMPERATURE. FIRST (1ST) TRUCK BATCH EACH DAY AND TWO (2) THEREAFTER UNTIL A CONSISTENCY IS ENCOUNTERED. ONCE A CONSISTENCY IS ENCOUNTERED, THEN TESTS WILL BE PERFORMED IN CONJUNCTION WITH THE CONCRETE CYLINDERS.
C. SLUMP. FIRST (1ST) TRUCK BATCH EACH DAY AND TWO (2) THEREAFTER UNTIL A CONSISTENCY IS ENCOUNTERED. ONCE A CONSISTENCY IS ENCOUNTERED, THEN TESTS WILL BE PERFORMED IN CONJUNCTION WITH THE CONCRETE CYLINDERS.
D. IF CONCRETE IS BATCHED FROM MORE THAN ONE (1) PLANT, THEN THE AFOREMENTIONED GUIDELINES WILL BE APPLICABLE TO EACH PLANT.
2. SUB GRADE AND BASE.
A. PROOF ROLL AS DESCRIBED IN SECTION 405.210(9).
B. ONE (1) COMPACTION TEST PER TWO HUNDRED FIFTY (250) FEET OF MAINLINE PAVING, THREE (3) TESTS PER INTERSECTION, FIVE (5) TESTS WITHIN CUL-DE-SACS AND ONE (1) TEST PER REPAIR SLAB.
C. GRADATION TEST FOR SUB BASE MATERIAL.
3. ASPHALT.
A. ONE (1) SET OF COMPACTION TESTS PER TWO HUNDRED FIFTY (250) FEET OF MAINLINE. ONE (1) SET INCLUDES THREE (3) TESTS ACROSS THE PAVED LANE AT THE SAME STATION.
B. ONE (1) BULK DENSITY TEST PER PAVING OPERATION.

- 10. APPROVAL OF SUB GRADE AND BASE. THE CITY ENGINEER OR REPRESENTATIVE SHALL APPROVE THE SUB GRADE BEFORE ANY BASE IS PLACED THEREON AND SHALL APPROVE THE BASE BEFORE CONCRETE OR SURFACE COURSE IS PLACED. THE SUB GRADE AND BASE SHALL BE SO CONSTRUCTED THAT IT WILL BE UNIFORM IN DENSITY THROUGHOUT.
11. IN ALL FILL AREAS IN THE ROADWAYS, SOIL TESTS SHALL BE SUBMITTED AND APPROVED BY THE CITY ENGINEER FOR EACH FOOT OF FILL AND AT LEAST ONE (1) TEST AND AN AVERAGE OF ONE (1) TEST WITHIN EVERY TWO HUNDRED FIFTY (250) FEET.
12. NO TRAFFIC WILL BE ALLOWED ON PROPOSED PAVEMENT UNTIL IT HAS CURED FOR SEVEN (7) DAYS AND IT REACHES THREE THOUSAND FIVE HUNDRED (3,500) PSI WITHIN 28 DAYS. CONCRETE PAVEMENTS SHALL NOT BE APPROVED UNLESS IT REACHES A STRENGTH OF FOUR THOUSAND (4,000) PSI. CYLINDERS/COMPRESSIVE STRENGTH. ONE (1) SET OF FOUR (4) CYLINDERS WITHIN THE FIRST FIFTY (50) CUBIC YARDS AND ONE (1) SET PER ONE HUNDRED (100) CUBIC YARDS THEREAFTER. ONE (1) CYLINDER MUST BE TESTED AT SEVEN (7) DAYS, ONE (1) AT FOURTEEN (14) DAYS AND TWO (2) AT TWENTY-EIGHT (28) DAYS. IF THE FIRST (1ST) CYLINDER DOES NOT MEET SPECIFICATIONS AT TWENTY-EIGHT (28) DAYS, THEN THE SECOND (2ND) CYLINDER MUST BE HELD AND TESTED AT DAY FIFTY-SIX (56).
13. PRIOR TO PLACEMENT OF AGGREGATE BASE MATERIAL ON SUB GRADE AND PRIOR TO PLACEMENT OF PAVEMENT ON BASE MATERIAL, THE SUB GRADE AND BASE MUST BE PROOF-ROLLED WITH A FULLY LOADED (TEN (10) TON LOAD) TANDEM TRUCK OR EQUIVALENT TIRE VEHICLE WITH ONE (1) PASS DOWN EACH DRIVING LANE NO FASTER THAN THREE (3) MILES PER HOUR. IF SOFT SPOTS ARE DETECTED, OR PUMPING, RUTTING OR HEAVING OCCURS GREATER THAN ONE (1) INCH AT THE SUB GRADE, THE ROADBED SHALL BE CONSIDERED UNSATISFACTORY AND THE SOIL IN THESE AREAS SHALL BE REMEDIATED TO THE DEPTH INDICATED BY THE CONTRACTOR'S TESTING FIRM AND APPROVED BY A REPRESENTATIVE OF THE CITY ENGINEER.
14. SUB GRADE AND BASE BENEATH PAVEMENTS SHALL BE COMPACTED TO ST. CHARLES COUNTY HIGHWAY DEPARTMENT SPECIFICATIONS. THE MOISTURE RANGE SHALL BE DETERMINED BY THE STANDARD OR MODIFIED PROCTOR DENSITY METHOD ASHTO T-99.
15. THE ENTIRE WIDTH AND LENGTH WILL CONFORM TO LINE, GRADE AND CROSS SECTION SHOWN ON THE PLANS OR AS ESTABLISHED BY THE ENGINEER. IF ANY SETTLING OR WASHING OCCURS, OR WHEN HAULING RESULTS IN RUTS OR OTHER OBJECTIONABLE IRREGULARITIES, THE CONTRACTOR SHALL IMPROVE THE SUB GRADE OR BASE TO THE SATISFACTION OF THE CITY BEFORE THE PAVEMENT IS PLACED. ADDITIONAL ROLLING OR METHODS TO VERIFY COMPACTION SHALL BE AT THE DISCRETION OF THE CITY ENGINEER. TOLERANCE ALLOWED ON ALL LINES, GRADES AND CROSS SECTIONS SHALL BE PLUS OR MINUS FOUR-HUNDREDTHS (+/-0.04) FEET.
16. UTILITY WORK PRIOR TO BASE CONSTRUCTION. NO BASE COURSE WORK MAY PROCEED ON ANY STREET UNTIL ALL UTILITY EXCAVATIONS (STORM AND SANITARY SEWERS, WATER, GAS, ELECTRIC, ETC.) HAVE BEEN PROPERLY BACK FILLED WITH GRANULAR MATERIAL, CRUSHED STONE OR GRAVEL MECHANICALLY TAMPED IN TEN (10) INCH LIFTS. UTILITIES INSTALLED AFTER SUB GRADE PREPARATION SHALL BE BORED. COMPACTION REQUIREMENTS SHALL FOLLOW ST. CHARLES COUNTY STANDARDS (2006).
17. EQUIPMENT CALIBRATION. THE DEVELOPER'S CONTRACTORS AND SUBCONTRACTORS MUST HAVE THEIR EQUIPMENT CALIBRATED BY THE FOLLOWING MINIMUM STANDARDS.
A. AIR METER--WEEKLY.
B. CYLINDER COMPRESSION--ANNUALLY BY INDEPENDENT CALIBRATION SERVICE.
C. BATCH SCALES--MONTHLY.
D. NUCLEAR TESTING DEVICES--EVERY SIX (6) MONTHS.
E. PROCTOR EQUIPMENT--EVERY SIX (6) MONTHS.
F. SLUMP CONE--MONTHLY.

- 18. ALL PERMANENT TRAFFIC CONTROL WILL BE PER M.U.T.E.D. OR MODOT STANDARDS. S1-1 FROM THE M.U.T.E.D. MANUAL WILL BE USED AT ALL CROSSWALK LOCATIONS ACCOMPANIED WITH EITHER W16-9P OR W16-7P SIGNS.
19. ALL TRAFFIC SIGNALS, STREET SIGNS, SIGN POST, BACKS AND BRACKET ARMS SHALL BE PAINTED BLACK SURFACE BRIDGING: THE CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF THE SURFACE BRIDGING (THE TENDENCY FOR THE UPPER SURFACE TO CRUST AND ARCH OVER THE TRENCH RATHER THAN COLLAPSE AND CONSOLIDATE DURING THE JETTING PROCESS). THE CONTRACTOR SHALL BREAK DOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS WHEELS OR BUCKET OF A BACKHOE. WHEN SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE BACK FILLED WITH THE SAME MATERIAL USED AS TRENCH BACK FILL AND REJETTED. COMPACTION OF THE MATERIALS WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS.

ASSUMPTIONS:

- 1) IT IS ASSUMED THAT THE TOPSOIL, IF ANY, WILL BE REUSED ON-SITE WITHIN LANDSCAPING AREAS AND WILL NOT BE HAULED OFF.
2) SUBGRADE FOR ASPHALT PAVEMENT SECTIONS - 11"
3) SUBGRADE FOR CONCRETE PAVEMENT SECTIONS - 11"
4) ASSUMED 15% SHRINKAGE FACTOR
5) ASSUMED GRANULAR MATERIAL WILL BE USED AS BACKFILL FOR RETAINING WALL (WIDTH OF GRANULAR BACKFILL=HEIGHT OF WALL)
• INCLUDES XXX C.Y. OF GRANULAR MATERIAL TO BE USED AS BACKFILL FOR RETAINING WALLS.

DUCKETT CREEK SANITARY DISTRICT

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 PLACED UNDER PROPOSED STORM AND SANITARY SEWERS, 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 ASHTO 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. 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 STANDARD 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.
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. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST ALL SANITARY SEWER MANHOLES (THAT ARE AFFECTED BY THE DEVELOPMENT) TO FINISH GRADE.
8. EASEMENTS SHALL BE PROVIDED FOR ALL SANITARY SEWERS, STORM SEWERS AND ALL UTILITIES ON THE RECORD PLAT.
9. ALL SANITARY SEWER CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CURRENT CONSTRUCTION STANDARDS OF DUCKETT CREEK SANITARY DISTRICT.
10. THE DUCKETT CREEK SANITARY DISTRICT SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION FOR COORDINATION OF INSPECTION.
11. 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.
12. ALL SANITARY SEWER MANHOLES SHALL BE WATERPROOFED ON THE EXTERIOR IN ACCORDANCE WITH MISSOURI DEPARTMENT OF NATURAL RESOURCES SPECIFICATION TO CSR-8120(7)(1).
13. 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.
14. ALL SANITARY AND STORM TRENCH BACKFILLS SHALL BE WATER JETTED. GRANULAR BACKFILL WILL BE USED UNDER PAVEMENT AREAS.
15. ALL PIPES SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLES. FLAT INVERT STRUCTURES NOT ALLOWED.
16. EPOXY COATING SHALL BE USED ON ALL SANITARY SEWER MANHOLES THAT RECEIVE PRESSURED MAINS.
17. ALL CREEK CROSSINGS SHALL BE LINED WITH RIP-RAP AS DIRECTED BY DISTRICT INSPECTORS.
18. BRICK SHALL NOT BE USED ON SANITARY SEWER MANHOLES.
19. EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
20. MAINTAIN ACCESS TO EXISTING RESIDENTIAL DRIVEWAYS AND STREETS.
21. PRE-MANUFACTURED ADAPTERS SHALL BE USED AT ALL PVC TO DIP CONNECTIONS. RUBBER BOOT/MISSION-TYPE COUPLINGS WILL NOT BE ALLOWED.
22. ANY PERMITS, LICENSES, EASEMENTS, OR APPROVALS REQUIRED TO WORK ON PUBLIC OR PRIVATE PROPERTIES OR ROADWAYS ARE THE RESPONSIBILITY OF THE DEVELOPER.
23. ALL SANITARY LATERALS AND SANITARY MAINS CROSSING UNDER PAVEMENT MUST HAVE PROPER ROCK BACKFILL AND REQUIRED COMPACTION.
24. TYPE N' LOCK-TYPE COVER AND LOCKING DEVICE (LOCK-LUG) SHALL BE USED WHERE LOCK-TYPE COVERS ARE REQUIRED.
25. ALL SANITARY SEWER SYSTEM WORK SHALL BE CONDUCTED UNDER THE INSPECTION OF A REPRESENTATIVE OF THE DISTRICT. ALL WORK MAY NOT REQUIRE INSPECTION BUT THE DISTRICT'S REPRESENTATIVE MAY DESIGNATE SPECIFIC AREAS THAT MUST BE INSPECTED BEFORE THE WORK IS BACKFILLED. ALL TESTING MUST BE WITNESSED BY THE DISTRICT'S INSPECTOR AND THE CONTRACTOR SHALL FURNISH ALL TESTING EQUIPMENT AS APPROVED BY THE DISTRICT. TESTING SHALL INCLUDE:
• A MANDEL TEST OF ALL GRAVITY SEWERS USING A MANDEL WITH A DIAMETER THAT IS 95% OF THE INSIDE PIPE DIAMETER. IF THE MANDEL TEST FAILS ON ANY SECTION OF PIPE, THAT SECTION OF PIPE SHALL BE UNCOVERED AND REPLACED. NO EXPANSION DEVICES WILL BE ALLOWED TO FORCE THE PIPE THAT IS DEFORMED BACK INTO ROUND. ANY STRING LINES USED IN MANDEL TESTING SHALL BE REMOVED AFTER TESTING IS COMPLETED.
• AN AIR PRESSURE TEST OF ALL GRAVITY SEWERS TO A PRESSURE OF 5 PSI WITH NO OBSERVED DROP IN PRESSURE DURING A TEST PERIOD OF 5 MINUTES.
• A VACUUM TEST OF ALL MANHOLES FOR A PERIOD OF 1 MINUTE AND THE VACUUM SHALL BE A 10" OF MERCURY AND MAY NOT DROP BELOW 9" AT THE END OF THE 1 MINUTE TEST.

EARTHWORK NOTES

BULK CUT 20 +/- CUBIC YARD
BULK FILL 1800 +/- CUBIC YARD (INCLUDES 15% FOR SHRINKAGE)

THE CALCULATED EARTHWORK QUANTITIES SHOULD BE REGARDED AS AN ESTIMATE OF THE BULK MOVEMENT AND/OR REDISTRIBUTION OF SOILS FOR THE SUBJECT PROPERTY. THE CALCULATED QUANTITIES ARE INTENDED FOR GENERAL USE, AND SHOULD BE USED AS A COMPARISON WITH THE QUANTITIES CALCULATED BY THE EARTHWORK SUBCONTRACTOR. THE ENGINEER ASSUMES NO LIABILITY FOR COST OVERRUNS DUE TO EXCESS EXCAVATED MATERIALS OR FILL SHORTAGES. DISCREPANCIES BETWEEN THE ENGINEER'S CALCULATED QUANTITIES AND

THE EARTHWORK SUBCONTRACTOR'S ESTIMATE SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY. THE EARTHWORK QUANTITIES ESTIMATED FOR THE SUBJECT SITE ARE BASED UPON HORIZONTAL AND VERTICAL LOCATION OF THE IMPROVEMENTS AS PROPOSED ON THE SITE ENGINEERING PLANS PREPARED BY CIVIL ENGINEERING DESIGN CONSULTANTS, INC.

THE ENGINEER'S ESTIMATE DOES NOT INCLUDE ANY OF THE FOLLOWING ITEMS PERTAINING TO EARTHWORK QUANTITIES THAT MAY BE NECESSARY FOR COMPLETION OF THE PROJECT:
A.) MISCELLANEOUS UNDERGROUND CONDUITS AND MANHOLES
B.) WATER MAINS LESS THAN TWENTY-FOUR INCHES IN DIAMETER.
C.) BUILDING FOOTINGS AND FOUNDATIONS
D.) UTILITY AND/OR LIGHT STANDARD BASES

THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACTUAL SIZE OF THE FIELD EXCAVATIONS MADE FOR THE INSTALLATION OF UNDERGROUND STRUCTURES, AND THEREFORE, THE ACTUAL EARTHWORK QUANTITIES MAY VARY FROM THESE ESTIMATED QUANTITIES. THE ENGINEER ALSO ASSUMES NO RESPONSIBILITY FOR COSTS INCURRED DUE TO THE REMOVAL OF UNSUITABLE MATERIAL WHICH MUST BE REMOVED FROM THE SITE.

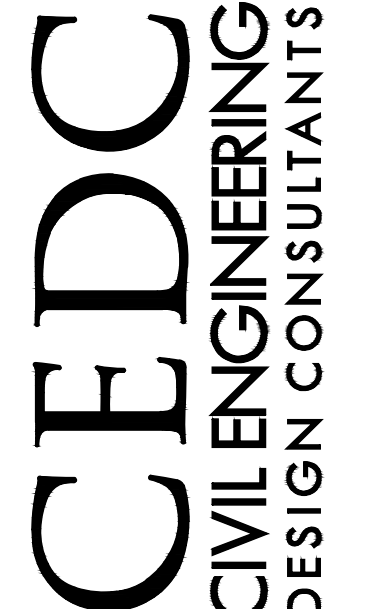
ASSUMPTIONS:

- 1) IT IS ASSUMED THAT THE TOPSOIL, IF ANY, WILL BE REUSED ON-SITE WITHIN LANDSCAPING AREAS AND WILL NOT BE HAULED OFF.
2) SUBGRADE FOR ASPHALT PAVEMENT SECTIONS - 11"
3) SUBGRADE FOR CONCRETE PAVEMENT SECTIONS - 11"
4) ASSUMED 15% SHRINKAGE FACTOR
5) ASSUMED GRANULAR MATERIAL WILL BE USED AS BACKFILL FOR RETAINING WALL (WIDTH OF GRANULAR BACKFILL=HEIGHT OF WALL)
• INCLUDES XXX C.Y. OF GRANULAR MATERIAL TO BE USED AS BACKFILL FOR RETAINING WALLS.



BRANDON A. HARP, P.E. E-28650
PROFESSIONAL ENGINEER
CEDC LICENSE NO.: 2003004674

11402 Gravois Road
Suite 100
Saint Louis, Missouri
314-729-1400
Fax: 314-729-1404
www.cedc.net



Site Improvement Plans for
New Parking Lot
9433 Phoenix Village Parkway
O'Fallon, Missouri 63366

Proj. No. 1478

Table with 3 columns: No., Description, Date. Rows include City Submittal/Bid Set (09/01/15), 2nd City Submittal (09/30/15), 3rd City Submittal (10/15/15), and 4th Revision Submittal (11/03/15).

SPECIFICATION SHEET

DRAWING NO.

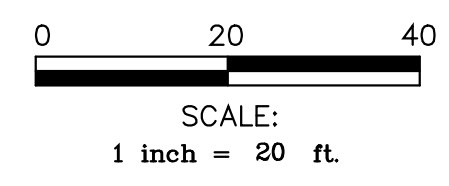
C02



Proj. #	1478
No. Description	Date
City Submittal/Bid Set	09/01/15
2nd City Submittal	09/30/15
3rd City Submittal	10/15/15
4th Revision Submittal	11/03/15

**EXISTING CONDITIONS & FACILITIES REMOVAL PLAN**

DRAWING NO.  
**C03**

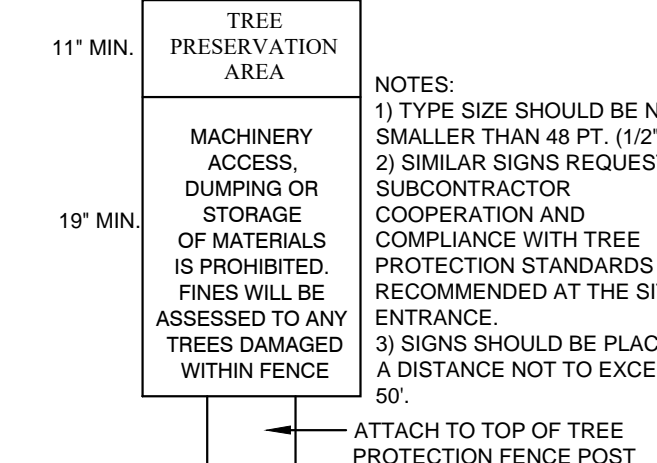


**GENERAL NOTES**

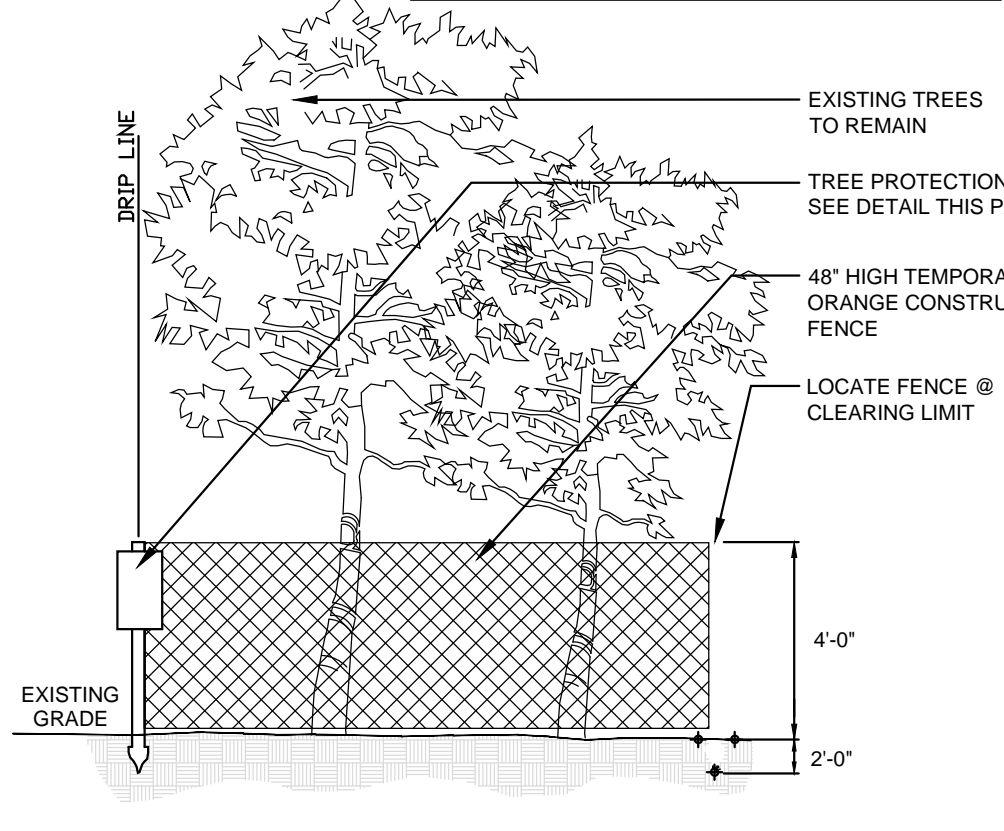
- 1.) ALL UTILITIES SHOWN HAVE BEEN LOCATED BY THE ENGINEER FROM AVAILABLE RECORDS. THEIR LOCATION SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR HAS THE RESPONSIBILITY TO NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION, TO HAVE EXISTING UTILITIES FIELD LOCATED. THE CONTRACTOR SHALL BE ON RECORD WITH THE MISSOURI ONE CALL SYSTEM. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND.
- 2.) BOUNDARY AND TOPOGRAPHIC SURVEY BY MARLER SURVEYING COMPANY.
- 3.) ALL ON-SITE MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF 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 OF O'FALLON.
- 5.) PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
- 6.) ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH THE CITY OF O'FALLON.
- 7.) ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
- 8.) ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE CITY OF O'FALLON AND DUCKETT CREEK SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES.
- 9.) THE CONTRACTOR SHALL BE REQUIRED TO VERIFY ALL EXISTING CONDITIONS AT THE SITE PRIOR TO SUBMITTING BID OR STARTING WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES THAT MAY EXIST BETWEEN THE CONTRACT DOCUMENTS AND REQUEST CLARIFICATION IN WRITING PRIOR TO THE BID.
- 10.) THE CONTRACTOR SHALL COORDINATE CONSTRUCTION PARKING WITH THE OWNER AND/OR THE CITY OF O'FALLON.
- 11.) CONTRACTOR SHALL VERIFY EXISTING UTILITY SERVICES ARE CAPPED OR REMOVED AND/OR ABANDONED AS REQUIRED PER THE SPECIFICATIONS OF THE APPROPRIATE GOVERNING AGENCY.
- 12.) PROVIDE PROTECTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS AND UTILITIES INDICATED TO REMAIN IN PLACE.
- 13.) LANDSCAPING IRRIGATION SYSTEMS TO BE CAPPED AND REMOVED IN AREAS OF CONSTRUCTION WITH SERVICE LINES AND CAPS FLAGGED OR PROPERLY MARKED FOR FUTURE TIE-INS, IF APPLICABLE.
- 14.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL PER THE CITY OF O'FALLON STANDARDS TO MINIMIZE TRAFFIC DISRUPTION WITHIN RIGHT-OF-WAY OF ADJACENT ROADS.
- 15.) ALL DEBRIS RESULTING FROM THE DEMOLITION OF PAVEMENTS, CURBING, STRUCTURES, FOUNDATION AND FOOTINGS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF UNLESS NOTED OTHERWISE IN THE PROJECT SPECIFICATIONS.
- 16.) PUBLIC UTILITY FACILITIES SUCH AS MANHOLES, METER AND VALVE BOXES OF GAS, ELECTRIC AND TELEPHONE WILL BE ADJUSTED OR RELOCATED BY THE VARIOUS UTILITY COMPANIES. ADJUSTMENT OF UTILITY AND SEWER FACILITIES NOT PROVIDED BY THE UTILITY COMPANIES WILL BE PROVIDED BY THE CONTRACTOR AS NECESSARY.
- 17.) DESIGN OF SHORING FOR UTILITY AND SEWER TRENCHES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 18.) NO BURNING OF TREES, OVERGROWTH, DEBRIS, BRUSH, OR ANY MATERIAL ALLOWED ON SITE.
- 19.) ANY ABANDONED SEWERS SHALL BE REMOVED OR COMPLETELY GROUT FILLED.
- 20.) NO WELLS, CISTERNS, AND/OR SPRINGS EXIST ON PROPERTY.
- 21.) ALL EXISTING CURB REMOVALS ARE TO BE TO THE NEXT JOINT.

**TREE PROTECTION & PRESERVATION NOTES:**

1. A PRE-CONSTRUCTION MEETING WILL BE HELD ON SITE DURING THIS MEETING TREE PROTECTION MEASURES WILL BE DISTRIBUTED TO OPERATORS, CONSTRUCTION SUPERVISORS, OWNER'S REPRESENTATIVE AND THE CITY ZONING INSPECTORS.
2. CLEARING LIMITS SHALL BE ROUGH STAKED BY CONTRACTOR IN ORDER TO FACILITATE LOCATION FOR TRENCHING AND FENCING INSTALLATION.
3. NO CLEARING OR GRADING SHALL BEGIN IN AREAS WHERE TREE TREATMENT AND PRESERVATION MEASURES HAVE NOT BEEN COMPLETED.
4. THE SEQUENCE OF TREE TREATMENT AND PRESERVATION MEASURES SHALL BE:
  - A. ROOT PRUNING
  - B. TRENCHING
  - C. TREE PROTECTION FENCING
  - D. TREE PRUNING
  - E. SIGN INSTALLATION
5. ALL TREATMENT AND PRESERVATION MEASURES SHALL BE DIRECTED IN THE FIELD BY THE PROJECT LANDSCAPE ARCHITECT OR "TREE PROTECTION SUPERVISOR."
6. TREE PROTECTION FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION. ONCE APPROVED BY THE CITY ZONING INSPECTOR, THE FENCE SHALL NOT BE ALTERED WITHOUT PRIOR APPROVAL BY THE CITY ZONING INSPECTOR.
7. ACCESS TO FENCED AREAS BY EQUIPMENT, MATERIALS, OR INDIVIDUALS THAT MAY CAUSE HARM TO THE PROTECTED TREES WILL ONLY BE PERMITTED WITH THE PRIOR APPROVAL OF THE CITY ZONING INSPECTOR.
8. TREES, SHRUBS, OR UNDERGROWTH SHALL BE REMOVED FROM PROTECTED AREAS ONLY WHEN NECESSARY AND SHALL BE PERFORMED WITH HAND TOOLS ONLY.
9. ATTACHMENT OF SIGNAGE, FENCING, ETC. TO ANY TREE TO BE SAVED IS PROHIBITED.
10. AFTER CONSTRUCTION, ALL TEMPORARY BARRIERS, FENCING, DEBRIS, ETC. SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.



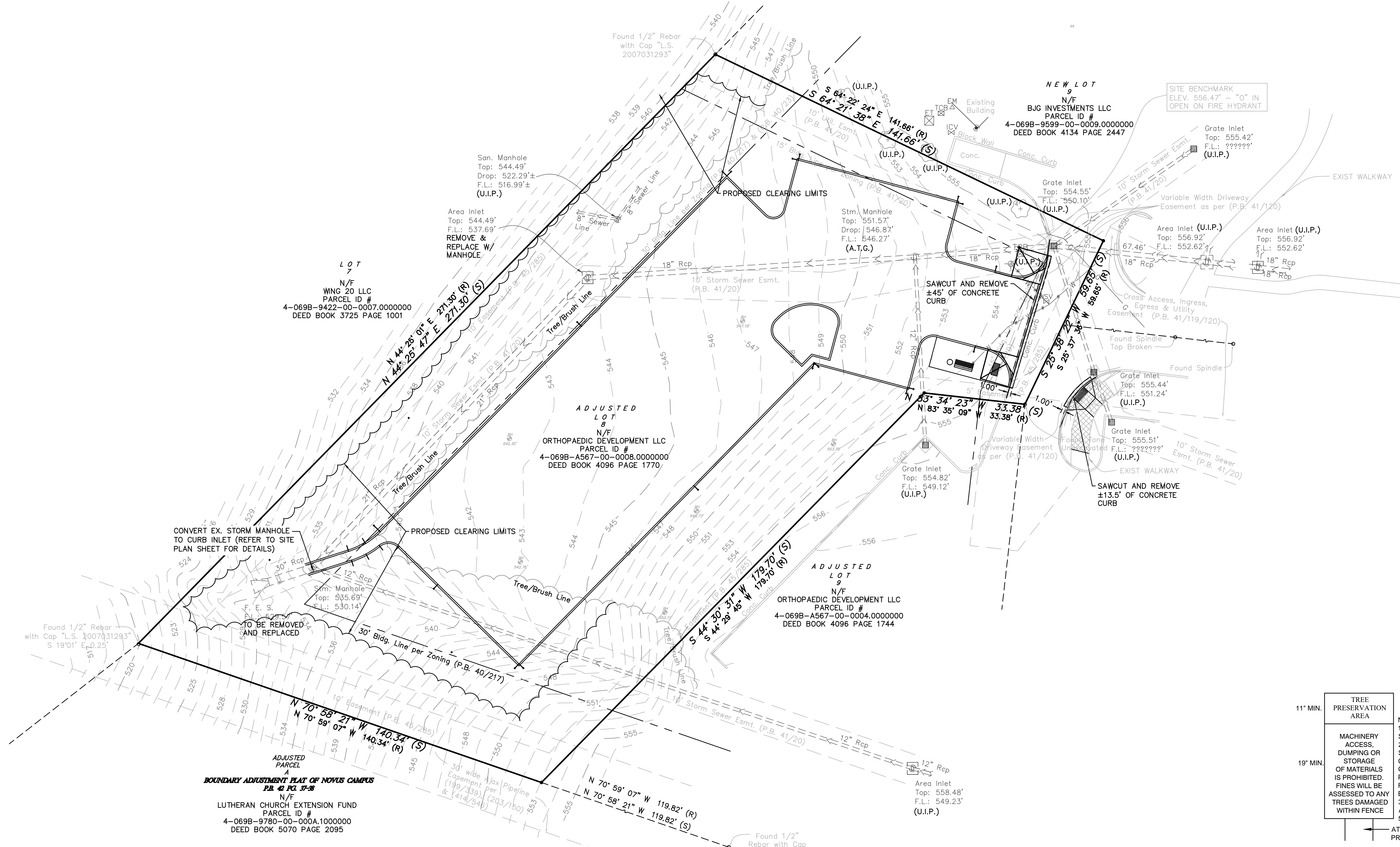
**TREE PROTECTION SIGN**



**TREE PROTECTION DETAIL**

**TREE PRESERVATION CALCULATION:**

TREE PRESERVATION CALCULATION  
 EXISTING TREE COVERAGE : 0.32 ACRES  
 PROPOSED TREE COVERAGE : 0.12 ACRES  
 PERCENTAGE OF TREE COVERAGE RETAINED  
 0.12 ACRES = 37.50%  
 0.32 ACRES



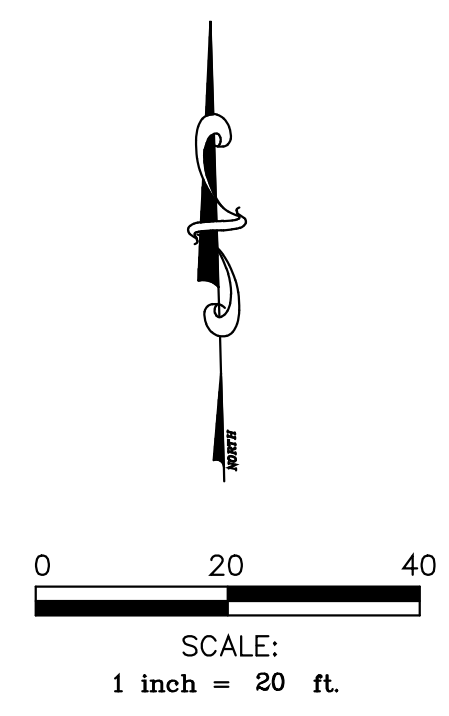


Proj. #	1478
No. Description	Date
City Submittal/Bid Set	09/01/15
2nd City Submittal	09/30/15
3rd City Submittal	10/15/15
4th Revision Submittal	11/03/15

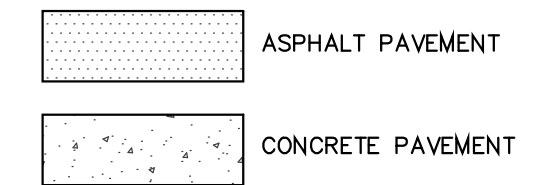
**SITE GRADING,  
 GEOMETRY &  
 UTILITY PLAN**

DRAWING NO.

**C04**



**LEGEND**

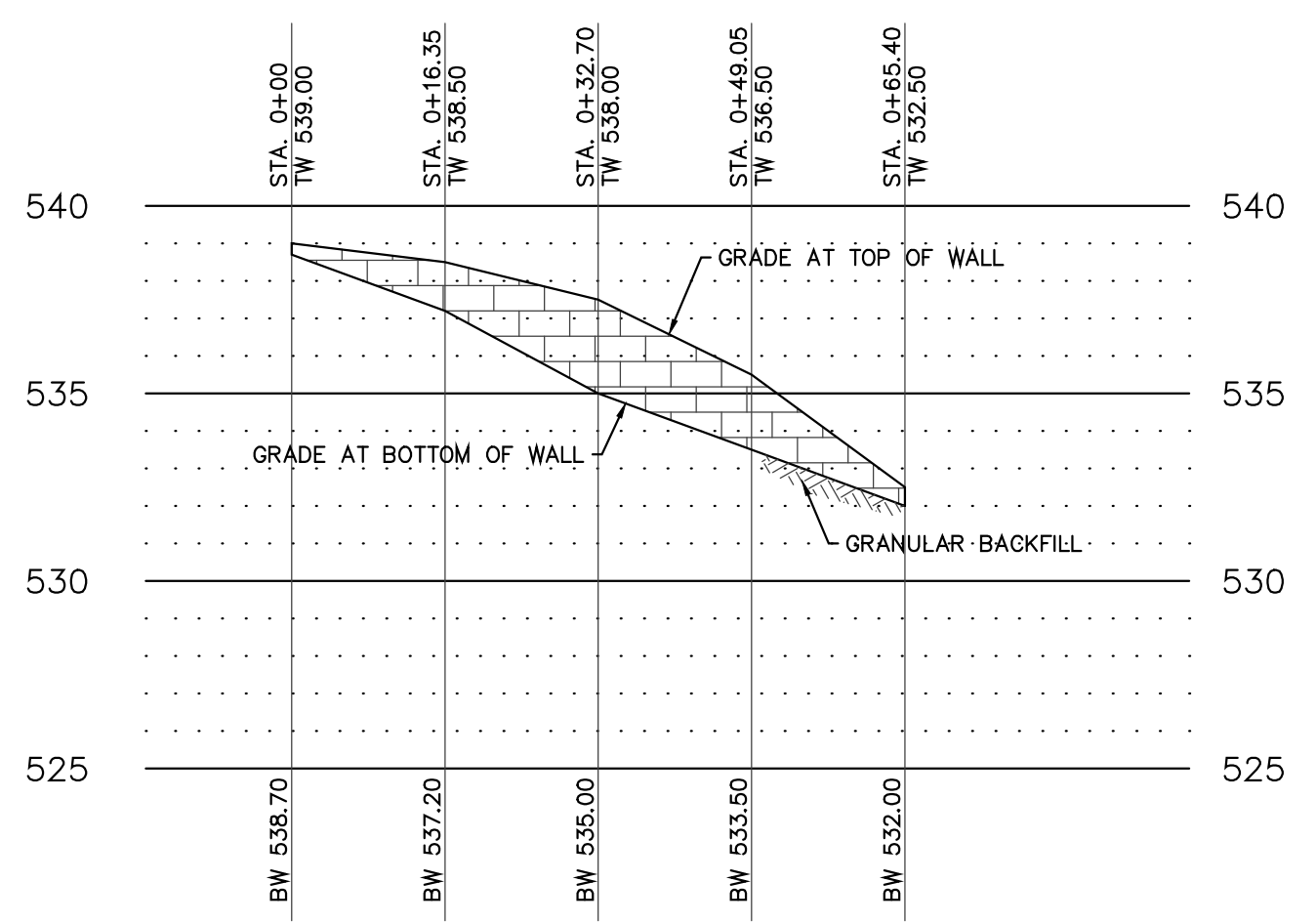


**GENERAL NOTES**

1. 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, THE CONTRACTOR SHALL BE ON RECORD WITH THE MISSOURI ONE CALL SYSTEM. ALL PROPOSED UTILITIES SHALL BE UNDERGROUND.
2. BOUNDARY AND TOPOGRAPHIC SURVEY BY MARLER SURVEYING COMPANY.
3. ALL ON-SITE MATERIALS AND METHODS OF CONSTRUCTION TO MEET THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF OFFALLOON.
4. ALL GRADED AREAS SHALL BE PROTECTED FROM EROSION BY EROSION CONTROL DEVICES AND/OR SEEDING AND MULCHING AS REQUIRED BY THE CITY OF OFFALLOON.
5. PROPOSED CONTOURS SHOWN ARE FINISHED ELEVATIONS ON PAVED AREAS.
6. ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH THE CITY OF OFFALLOON.
7. ADEQUATE TEMPORARY OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES SHALL BE PROVIDED. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEES' VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
8. ALL SEWER CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE CITY OF OFFALLOON AND DUCKETT CREEK SEWER DISTRICT STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWER AND DRAINAGE FACILITIES.
9. THE CONTRACTOR SHALL BE REQUIRED TO VERIFY ALL EXISTING CONDITIONS AT THE SITE. PRIOR TO SUBMITTING BID OR STARTING WORK THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES THAT MAY EXIST BETWEEN THE CONTRACT DOCUMENTS AND REQUEST CLARIFICATION IN WRITING PRIOR TO THE BID.
10. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION PARKING WITH THE OWNER AND/OR THE CITY OF OFFALLOON.
11. CONTRACTOR SHALL VERIFY EXISTING UTILITY SERVICES ARE CAPPED OR REMOVED AND/OR ABANDONED AS REQUIRED PER THE SPECIFICATIONS OF THE APPROPRIATE GOVERNING AGENCY.
12. PROVIDE PROTECTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS AND UTILITIES INDICATED TO REMAIN IN PLACE.
13. LANDSCAPING IRRIGATION SYSTEMS TO BE CAPPED AND REMOVED IN AREAS OF CONSTRUCTION WITH SERVICE LINES AND CAPS FLAGGED OR PROPERLY MARKED FOR FUTURE TIE-INS, IF APPLICABLE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL PER THE CITY OF OFFALLOON STANDARDS TO MINIMIZE TRAFFIC DISRUPTION WITHIN RIGHT-OF-WAY OF ADJACENT ROADS.
15. ALL DEBRIS RESULTING FROM THE DEMOLITION OF PAVEMENTS, CURBING, STRUCTURES, FOUNDATION AND FOOTINGS SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED OF UNLESS NOTED OTHERWISE IN THE PROJECT SPECIFICATIONS.
16. PUBLIC UTILITY FACILITIES SUCH AS MANHOLES, METER AND VALVE BOXES OF GAS, ELECTRIC AND TELEPHONE WILL BE ADJUSTED OR RELOCATED BY THE VARIOUS UTILITY COMPANIES. ADJUSTMENT OF UTILITY AND SEWER FACILITIES NOT PROVIDED BY THE UTILITY COMPANIES WILL BE PROVIDED BY THE CONTRACTOR AS NECESSARY.
17. DESIGN OF SHORING FOR UTILITY AND SEWER TRENCHES IS THE RESPONSIBILITY OF THE CONTRACTOR.
18. NO BURNING OF TREES, OVERGROWTH, DEBRIS, BRUSH, OR ANY MATERIAL ALLOWED ON SITE.
19. ANY ABANDONED SEWERS SHALL BE REMOVED OR COMPLETELY GROUT FILLED.

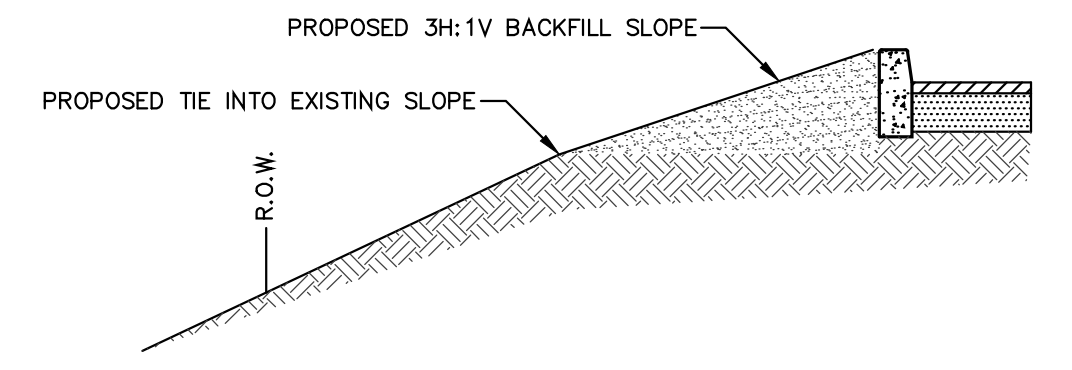
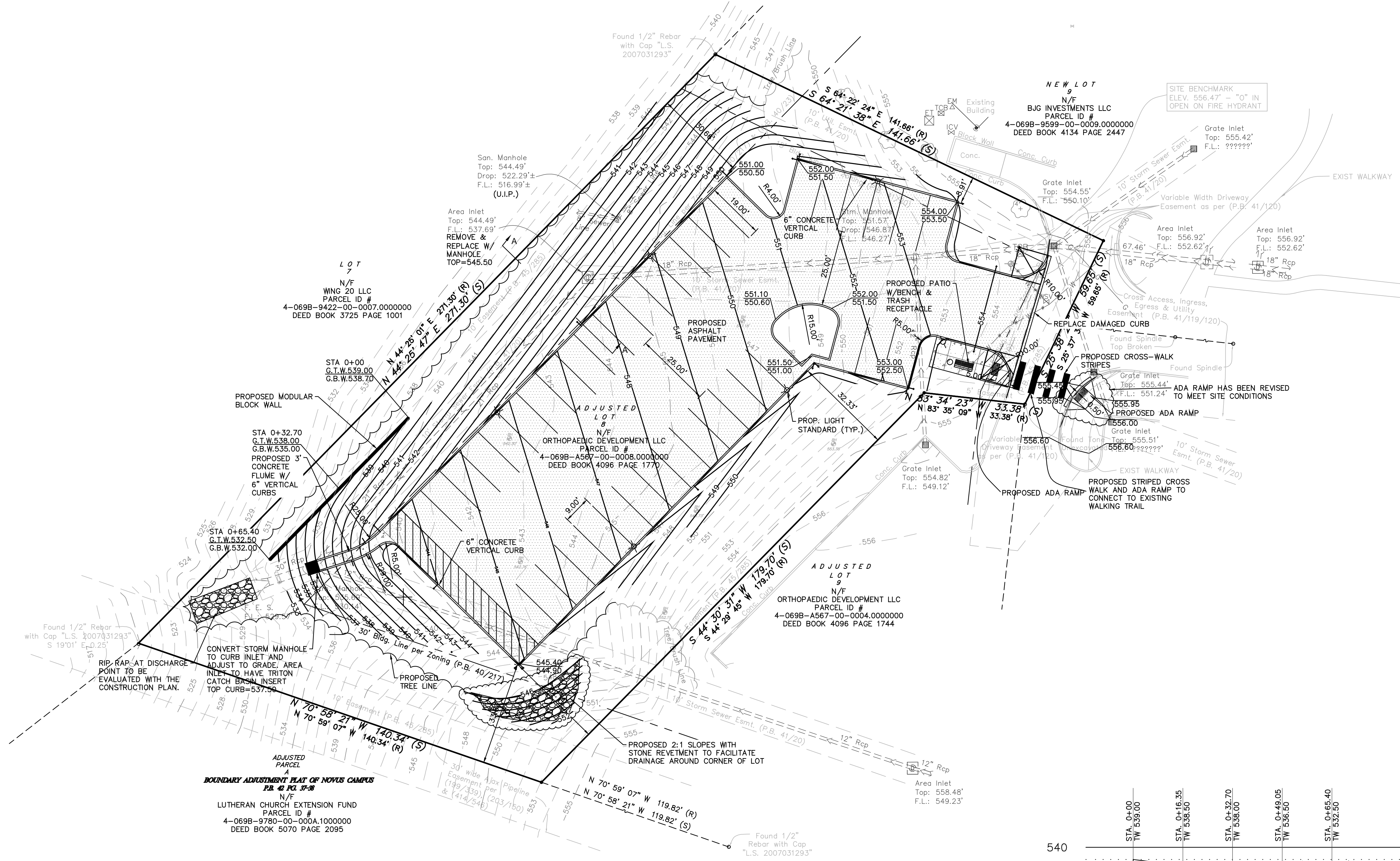
**DCSD NOTES**

1. EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
2. CONNECTION TO DCSD SEWER REQUIRES DCSD INSPECTION. CONTACT MR. STEVE OVERBEY, DCSD CHIEF INSPECTOR, AT 636-441-1244 TO SCHEDULE INSPECTION. 48 HOUR ADVANCED NOTICE IS REQUIRED.

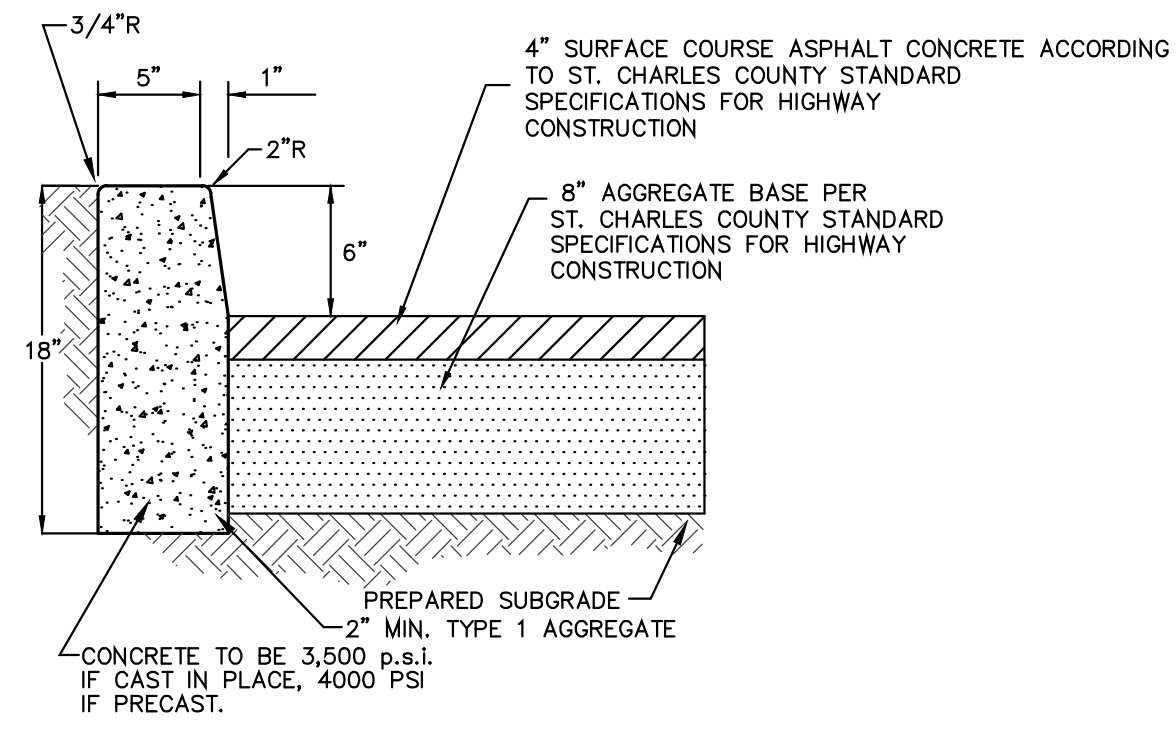


**RETAINING WALL PROFILE**

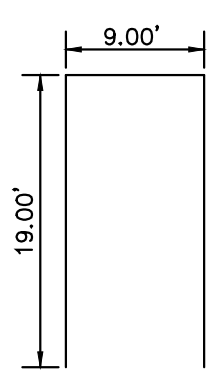
SCALE:  
 HORIZONTAL: 1"=20'  
 VERTICAL: 1"=5'



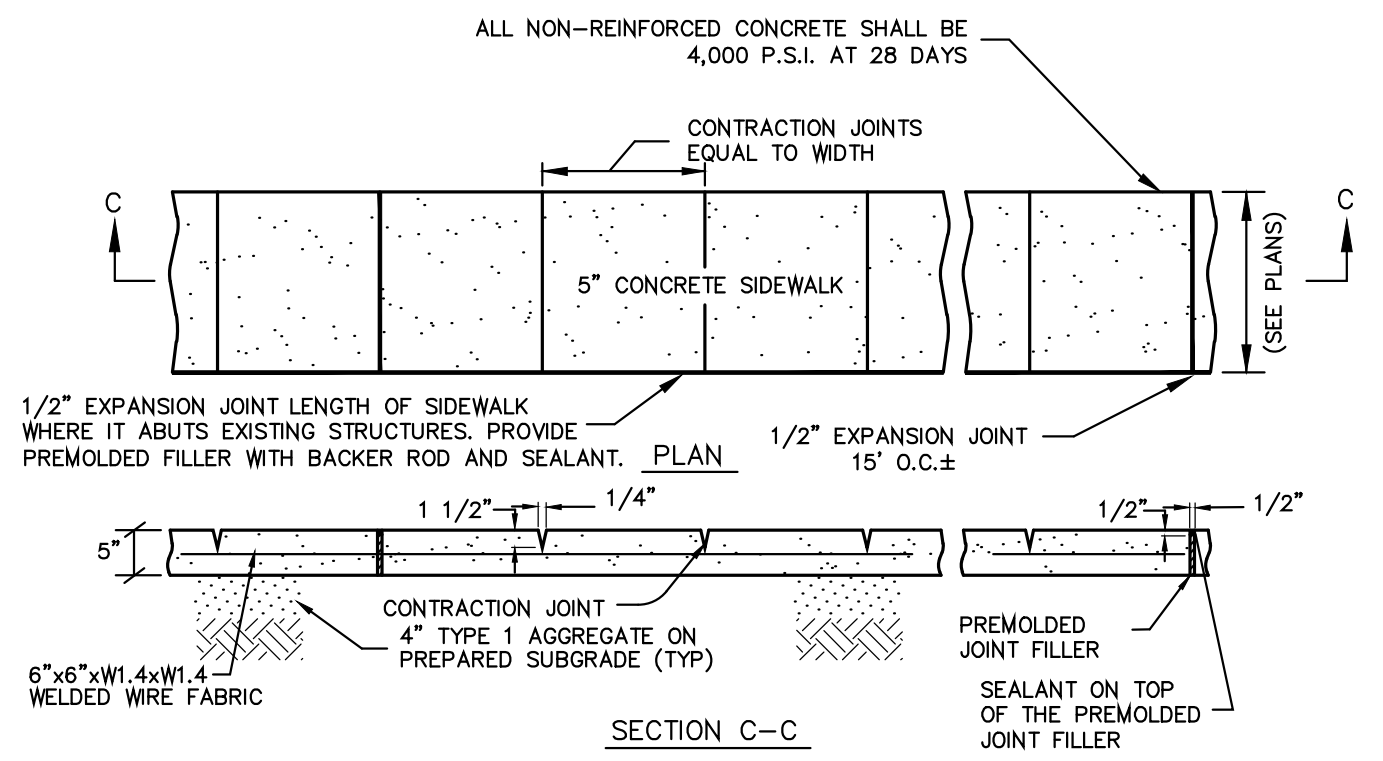
**SECTION A-A**  
 NOT TO SCALE



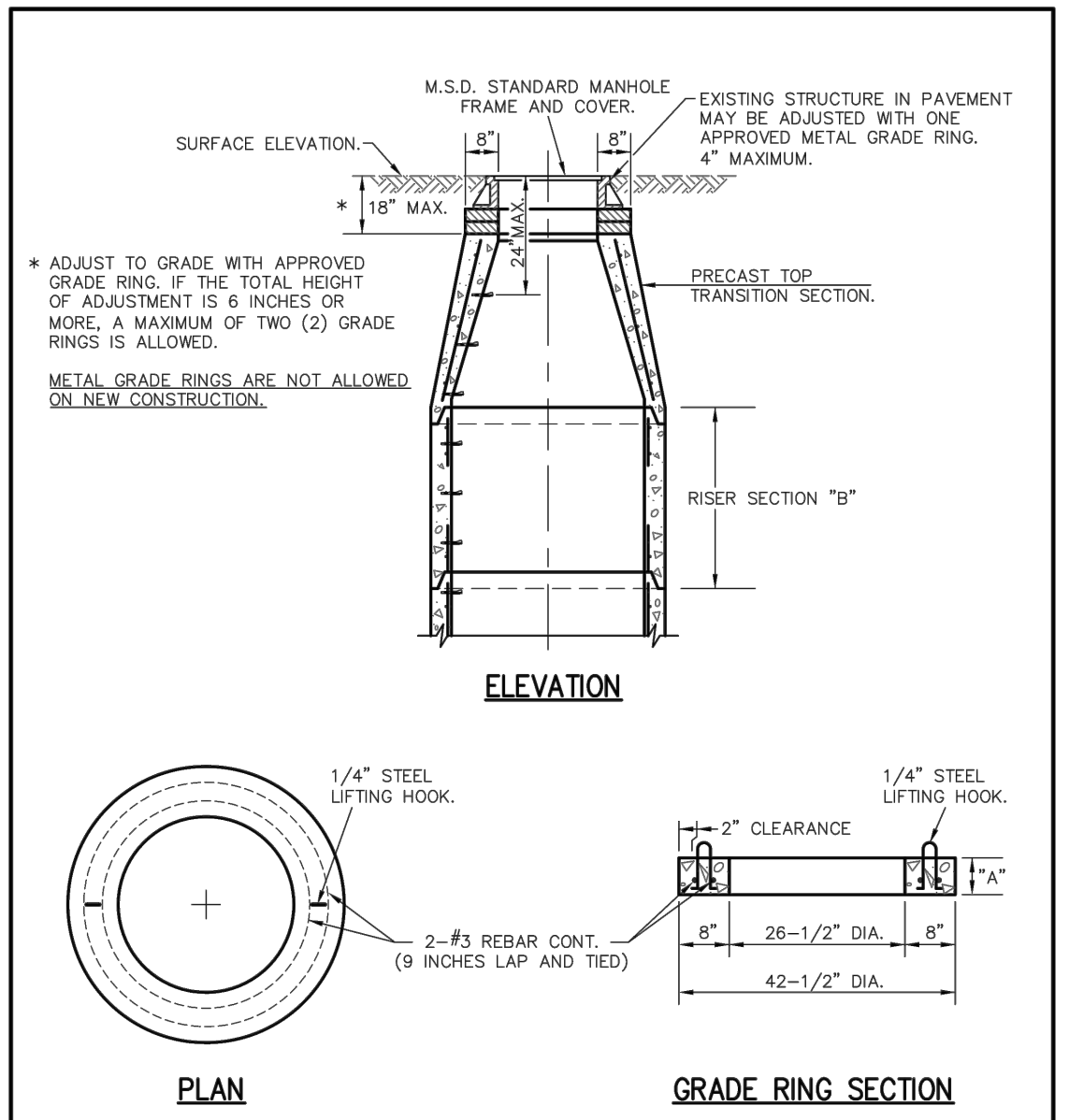
**CONCRETE VERTICAL CURB AND PAVEMENT SECTION**  
NOT TO SCALE



**TYPICAL PARKING STALLS**  
(n.t.s.)

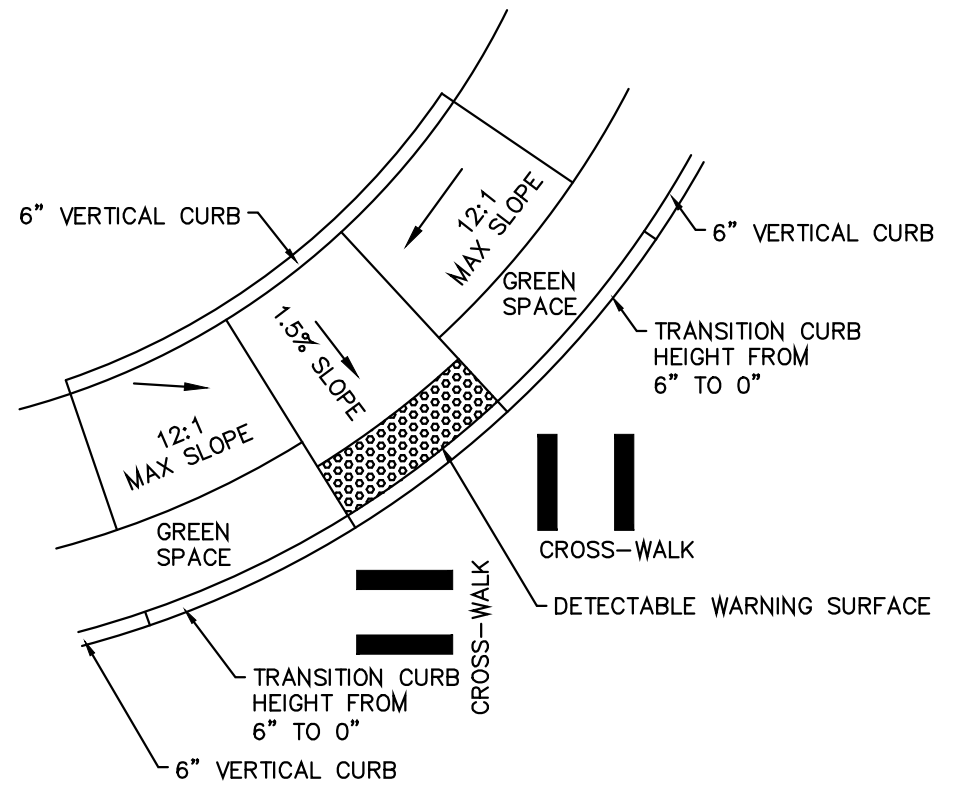


**DETAIL OF CONCRETE PATIO**  
NOT TO SCALE

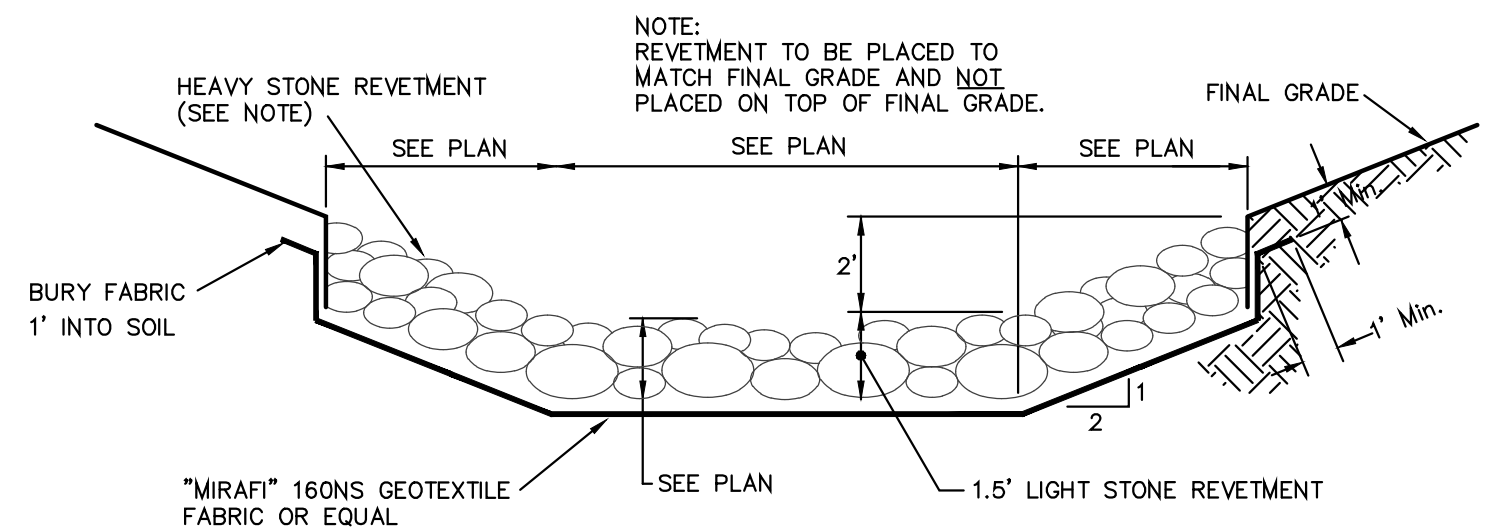


NOTES:  
1) IF BRICK IS USED DO NOT PLASTER INSIDE OF MANHOLE.  
2) IF MANHOLE IS BURIED MORE THAN 18 INCHES, A RISER SECTION WILL HAVE TO BE ADDED.  
3) DIMENSION "A" SHOWS GRADE RING HEIGHT OPTIONS. (3 INCHES MINIMUM TO 11 INCHES MAXIMUM.)  
4) DIMENSION "B" SHOWS RISER SECTION HEIGHT OPTIONS. (12 INCH, 24 INCH, 36 INCH AND 48 INCH)

ADJUST TO GRADE	METROPOLITAN ST. LOUIS SEWER DISTRICT Standard Details of Sewer Construction	
Dr. S.A.M. Ch. P.W.S.	2009	SHEET 23

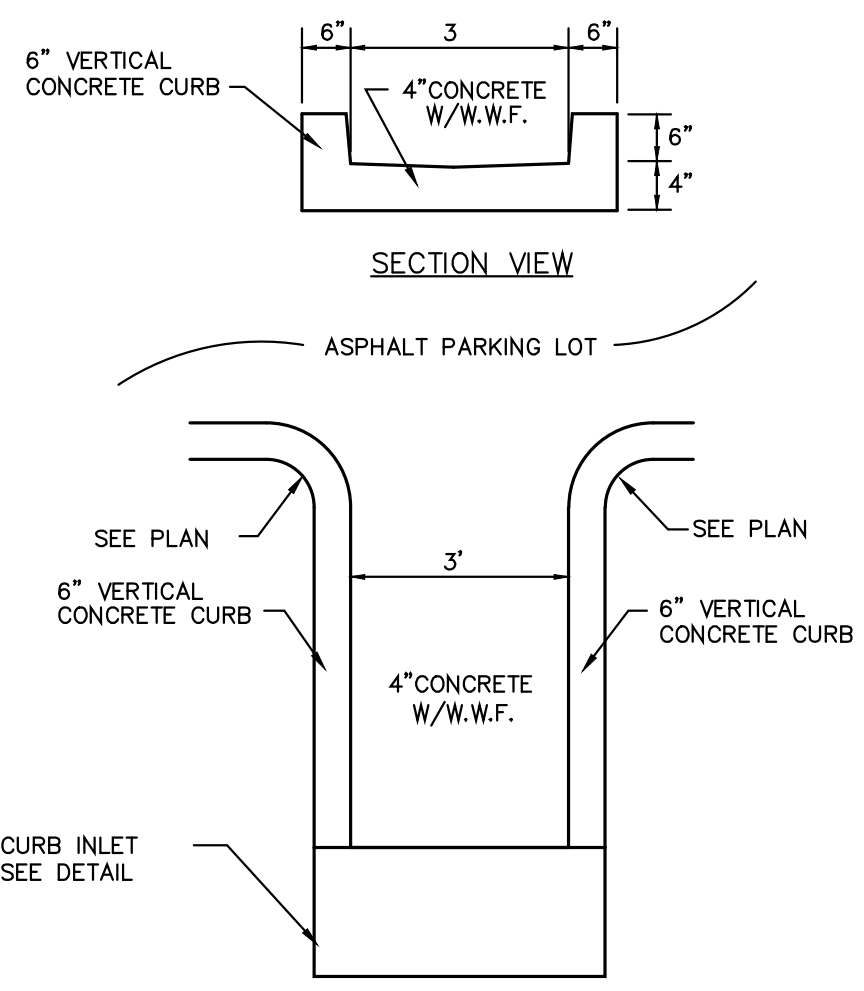


**CURB RAMP DETAIL**  
(N.T.S.)

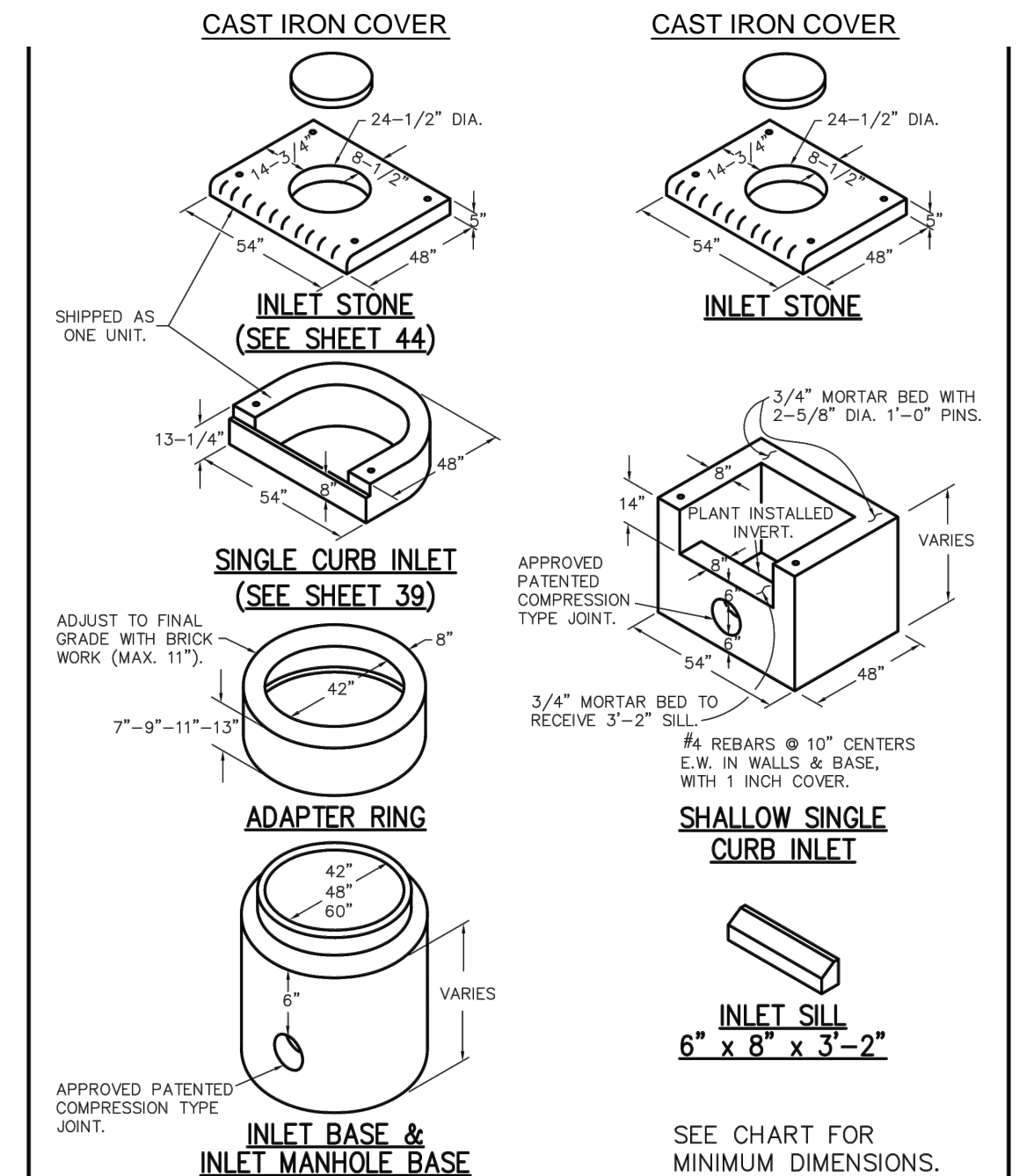


**ROCK BLANKET NOTES:**  
1. STONE FOR LIGHT STONE REVETMENT SHALL BE SOUND, DURABLE, AND FREE FROM CRACKS AND OTHER STRUCTURAL DEFECTS THAT WOULD CAUSE IT TO DETERIORATE. IT SHALL NOT CONTAIN ANY SOAPSTONE, SHALE, OR OTHER MATERIAL EASILY DISINTEGRATED.  
2. STONE FOR LIGHT STONE REVETMENT SHALL BE AT LEAST 6 INCH TO 8 INCH DIAMETER.

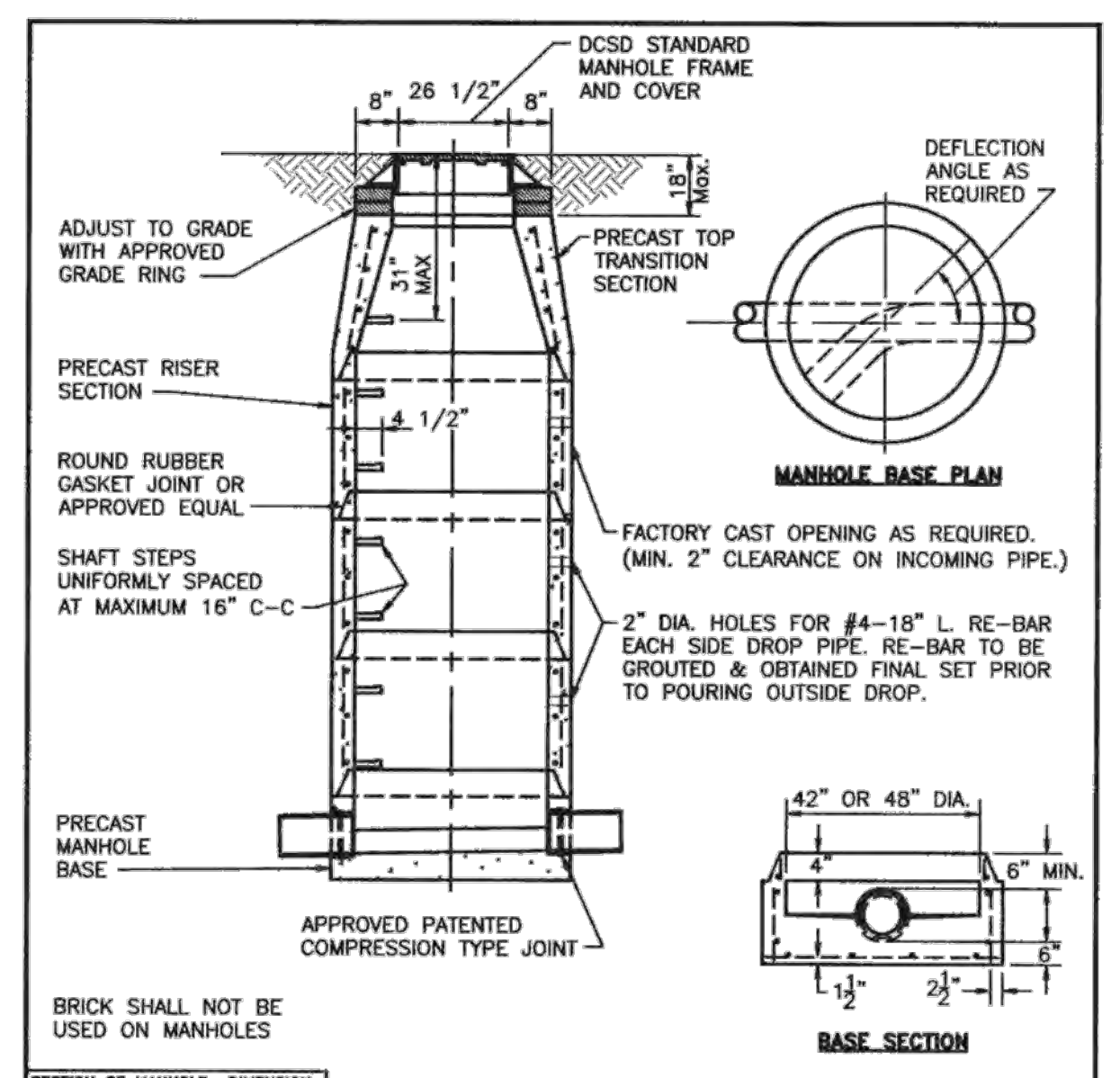
**ROCK BLANKET DETAIL**  
(FOR LOCATIONS SEE PLANS)  
N.T.S.



**TYPICAL FLUME DETAIL**  
(FOR LOCATIONS SEE PLANS)  
N.T.S.



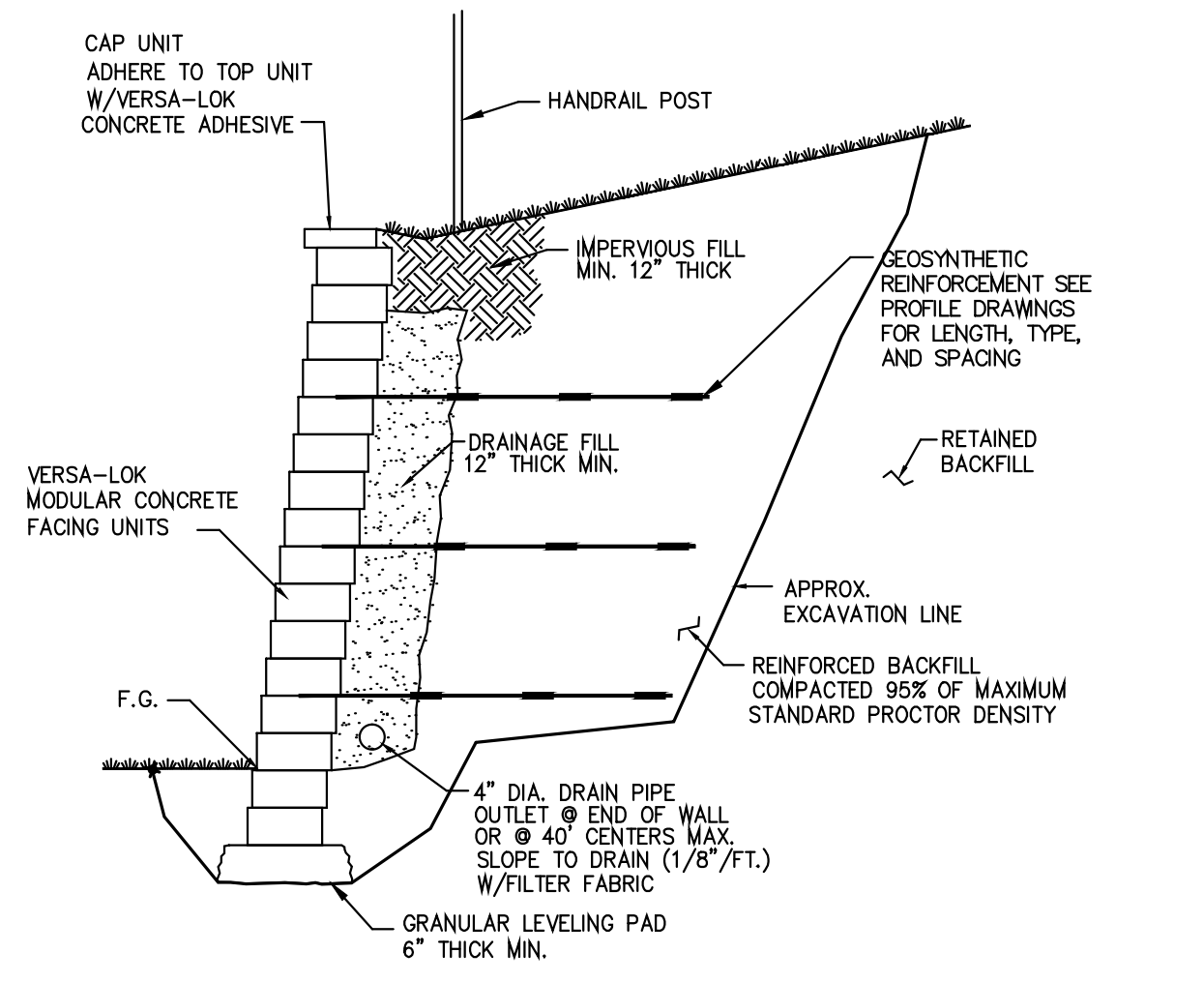
SINGLE STREET INLETS PRECAST CONCRETE	METROPOLITAN ST. LOUIS SEWER DISTRICT Standard Details of Sewer Construction	
Dr. J.L.G./S.A.M. Ch. J.C.K.	2009	SHEET 36



SECTION OF MANHOLE	DIAMETER
TOP UPPER	26 1/2" DIA.
LOWER	42" DIA.
BOTTOM SECTION	6" DIA. PIPE
BOTTOM SECTION	10" THRU 30" DIA. PIPE
BOTTOM SECTION	42" DIA.

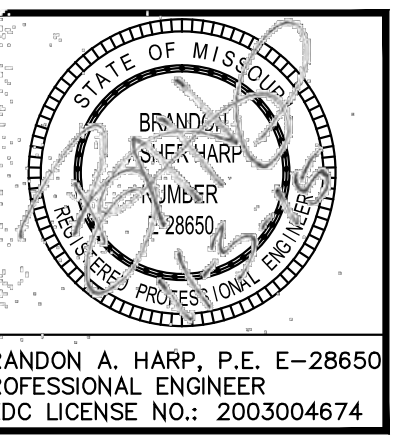
NOTE: ALL INVERTS SHALL HAVE POSITIVE DRAINAGE THROUGH MANHOLE.  
SEE A.S.T.M. C-478 FOR MINIMUM STEEL REQUIREMENTS.

<b>DUCKETT CREEK SANITARY DISTRICT</b>			
PRE-CAST CONCRETE MANHOLE FOR SEWERS 8" THROUGH 18"	Des. By: BSM	App. By: KLA	Detail No. 7
	Ch. By: MDOB	Date: 12-30-99	



**TYPICAL SECTION-REINFORCED RETAINING WALL**

MODULAR CONCRETE UNIT  
SCALE: NONE  
NOTES:  
1.) REFER TO THIS DRAWING FOR WALL PROFILE AND HEIGHT ONLY. DESIGN OF WALL SHALL BE BY OTHERS.  
2.) TYPE OF WALL TO BE DETERMINED BY OWNER AND ARCHITECT. FENCE TYPE, COLOR/STYLE, ETC. TO BE COORDINATED WITH ARCHITECT.  
3.) STRUCTURAL CALCULATIONS TO BE PROVIDED BY WALL MANUFACTURER OR STRUCTURAL ENGINEER. PERMITS FOR WALL TO BE OBTAINED BY CONTRACTOR.  
4.) THE WALL MANUFACTURER SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT IF ONE HAS BEEN PREPARED FOR THIS PROJECT AND COMPLY WITH THE REQUIREMENTS OUTLINED IN REPORT.  
5.) HORIZONTAL LOCATION OF BASE OF WALL IS SUBJECT TO FINAL WALL DESIGN AND WALL BATTER.  
6.) CONTRACTOR TO ACCOUNT FOR WALL BATTER WHEN STAKING OUT WALL AND BUILDING WALL.



BRANDON A. HARP, P.E. E-28650  
PROFESSIONAL ENGINEER  
CEDC LICENSE NO.: 2003004674

11402 Gravois Road  
Suite 100  
Saint Louis, Missouri 63126  
314-729-1400  
Fax: 314-729-1404  
www.cedc.net

**CEDC**  
CIVIL ENGINEERING  
DESIGN CONSULTANTS

Site Improvement Plans for  
New Parking Lot  
9433 Phoenix Village Parkway  
O'Fallon, Missouri 63366

Proj. #	1478
No. Description	Date
City Submittal/Bid Set	09/01/15
2nd City Submittal	09/30/15
3rd City Submittal	10/15/15
4th Revision Submittal	11/03/15

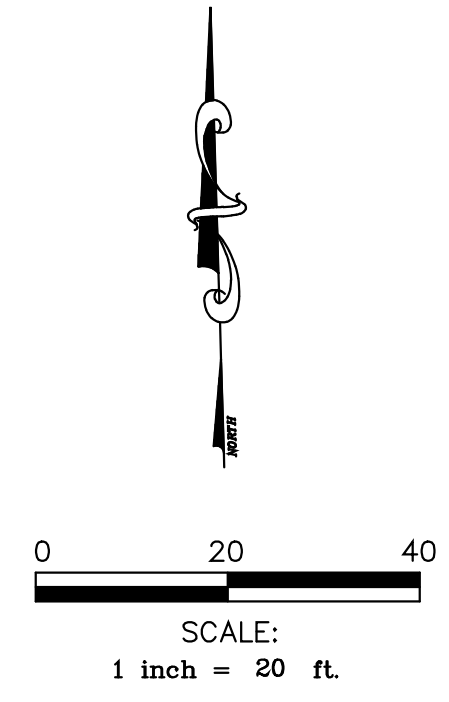
SITE DETAILS

DRAWING NO.  
**C05**





BRANDON A. HARP, P.E. E-28650  
 PROFESSIONAL ENGINEER  
 CEDC LICENSE NO.: 2003004674

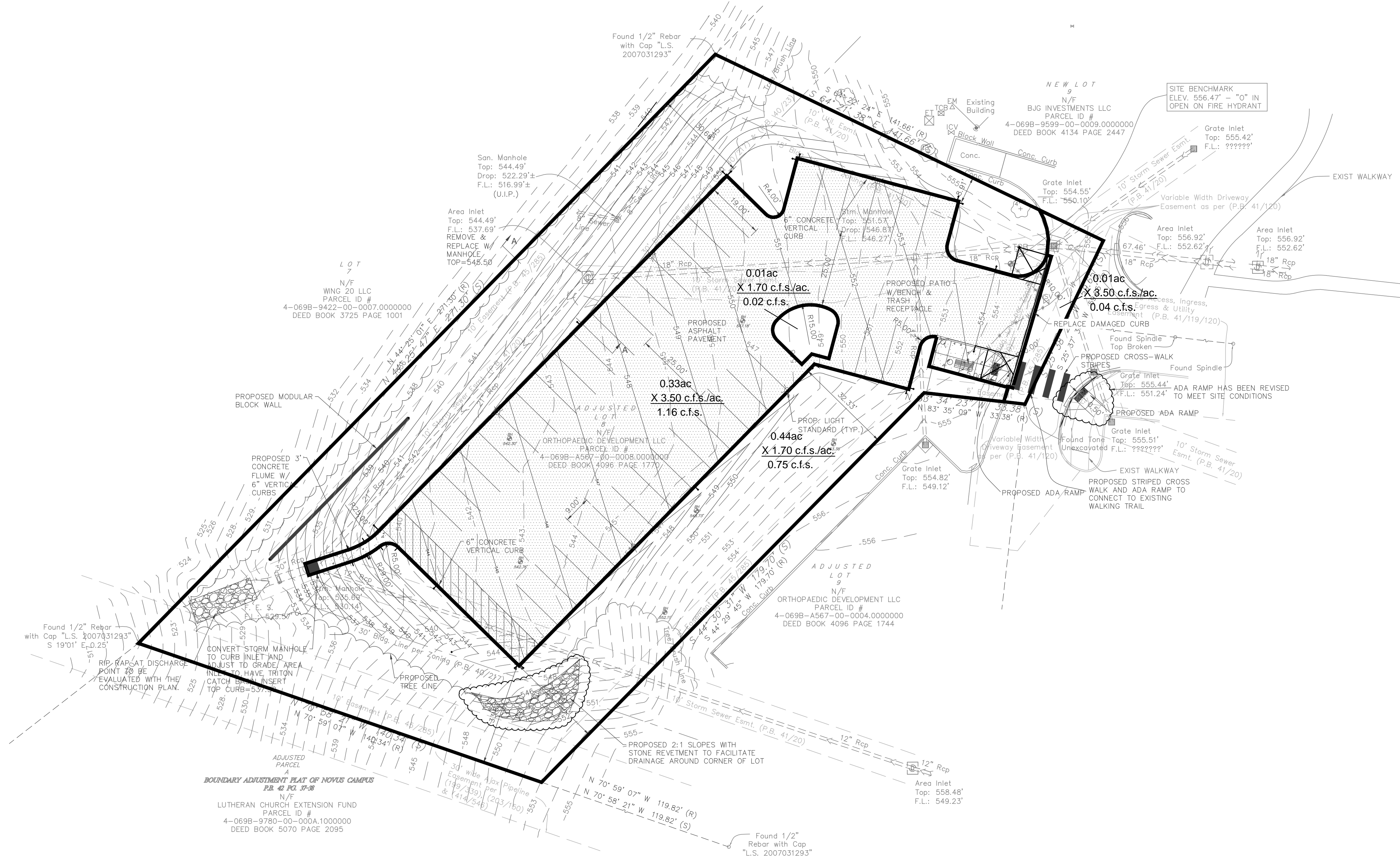


**DIFFERENTIAL RUNOFF CALCULATIONS**

EXISTING CONDITION			
PAVEMENT	= 0.02 ac. x 3.54 c.f.s./ac.	=	0.07 c.f.s.
GRASS	= 0.77 ac. x 1.70 c.f.s./ac.	=	1.31 c.f.s.
<b>TOTAL</b>	<b>0.79 ac.</b>		<b>1.38 c.f.s.</b>
PROPOSED CONDITION			
PAVEMENT	= 0.34 ac. x 3.54 c.f.s./ac.	=	1.20 c.f.s.
GRASS	= 0.45 ac. x 1.70 c.f.s./ac.	=	0.77 c.f.s.
<b>TOTAL</b>	<b>0.79 ac.</b>		<b>1.97 c.f.s.</b>
<b>DIFFERENTIAL RUNOFF</b>	<b>= 1.97 c.f.s. - 1.38 c.f.s.</b>		<b>= 0.59 c.f.s.</b>

**FLUME STORMWATER CALC.**

Q=1.19 C/FS (15 YR/20 MIN)  
 D=0.09'



11402 Gravois Road  
 Suite 100  
 Saint Louis, Missouri 63126  
 314.729.1400  
 Fax: 314.729.1404  
 www.cedc.net

**CEDC**  
**CIVIL ENGINEERING**  
**DESIGN CONSULTANTS**

Site Improvement Plans for  
**New Parking Lot**  
 9433 Phoenix Village Parkway  
 O'Fallon, Missouri 63366

Proj. # 1478		
No.	Description	Date
City Submittal/Bid Set		09/01/15
2nd City Submittal		09/30/15
3rd City Submittal		10/15/15
4th Revision Submittal		11/03/15

**DRAINAGE AREA PLAN**

DRAWING NO.

**C06**

**FOR DRAINAGE AREAS ONLY ~ NOT FOR CONSTRUCTION**



# STORM WATER MANAGEMENT NOTES

- 1.) SITE OWNER: ORTHOPAEDIC DEVELOPMENT, LLC.  
9433 PHOENIX VILLAGE PKWY  
O'FALLON, MO 63366
- EMERGENCY CONTACT TO BE DETERMINED (CONSTRUCTION)
- 2.) SITE ADDRESS: 9433 PHOENIX VILLAGE PKWY
- 3.) ALL FILL OR BACKFILL OPERATIONS SHALL BE EXECUTED UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL DETERMINE THE SUITABILITY AND ASCERTAIN COMPLIANCE WITH SPECIFICATION REQUIREMENTS OF ALL MATERIALS TO BE USED AS FILLS.
- 4.) TOTAL LAND ESTIMATED TO BE DISTURBED = 0.54 ac. ±
- 5.) EARTHWORK QUANTITIES  
BULK CUT  $\frac{+}{-}$  CUBIC YARD  
BULK FILL  $\frac{+}{-}$  CUBIC YARD (INCLUDES 15 PERCENT FOR SHRINKAGE)
- (SEE EARTHWORK NOTES ON SHEET C2).
- 6.) ACCORDING TO THE UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY, THE FOLLOWING SOILS ARE LOCATED ON-SITE:
- 7.) A CORPORATE SURETY BOND, CONDITIONED UPON CARRYING OUT EACH AND EVERY PART OF APPROVED PLANS FOR AT LEAST THE SUM ESTIMATED TO BE THE FULL COSTS OF CARRYING OUT SUCH PLANS OR A CASH ESCROW, UPON THE SAME CONDITIONS AND IN THE SAME AMOUNT, SHALL BE FURNISHED THE CITY WHENEVER SUCH COSTS EXCEED FIVE HUNDRED DOLLARS (\$500.00). THE BOND OR ESCROW SHALL BE RELEASED UPON PROPER COMPLETION OF ALL OF THE REQUIREMENTS OF SUCH APPROVED PLANS.
- 8.) THE PERMIT HOLDER IS TO ENSURE PROPER INSTALLATION, OPERATION AND MAINTENANCE OF BMP'S AND TO DETERMINE THE OVERALL EFFECTIVENESS OF THE SWPPP AS WELL AS THE NEED FOR ADDITIONAL CONTROL MEASURES TO THE COUNTY. THE PERMIT HOLDER SHALL ALSO BE RESPONSIBLE TO:
- a. NOTIFY THE SITE CONTRACTOR(S) RESPONSIBLE FOR ANY DEFICIENCIES IDENTIFIED SO THAT DEFICIENCIES CAN BE CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION REPORT. SUCH WEEKLY INSPECTION REPORTS SHALL IDENTIFY DEFICIENCIES AS WELL AS PROGRESS IN CORRECTING DEFICIENCIES.
  - b. NOTIFY ALL CONTRACTORS AND OTHER ENTITIES (INCLUDING UTILITY CREWS, COUNTY EMPLOYEES, OR THEIR AGENTS) THAT WILL PERFORM WORK AT THE SITE, OF THE EXISTENCE OF THE SWPPP AND WHAT ACTIONS OR PRECAUTIONS SHALL BE TAKEN WHILE ON SITE TO MINIMIZE THE POTENTIAL FOR EROSION AND THE POTENTIAL FOR DAMAGING ANY BMP'S.
  - c. DETERMINE THE NEED FOR AND ESTABLISH TRAINING PROGRAMS TO ENSURE THAT ALL SITE WORKERS HAVE BEEN TRAINED, AT A MINIMUM, IN EROSION CONTROL, MATERIAL HANDLING AND STORAGE, AND HOUSEKEEPING.
  - d. PROVIDE COPIES OF THE SWPPP TO ALL PARTIES WHO ARE RESPONSIBLE FOR INSTALLATION, OPERATION OR MAINTENANCE OF ANY BMP'S.
  - e. MAINTAIN A CURRENT COPY OF THE SWPPP AND PERMIT ON THE SITE AT ALL TIMES AND MADE AVAILABLE UPON REQUEST. IF CONDITIONS ARE NOT FAVORABLE TO MAINTAIN A CURRENT COPY OF THE SWPPP ON SITE, INSTALL A SIGN AT THE ENTRANCE TO THE SITE, PLAINLY VISIBLE TO THE TRAVELING PUBLIC, LISTING INFORMATION PERTINENT TO THE SWPPP'S LOCATION AND THE 24 HOURS A DAY / 7 DAYS PER WEEK PHONE NUMBER OF THE PERSON IN CHARGE OF THE SWPPP.
- 9.) PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES WILL BE REQUIRED.
- 10.) CONSTRUCTION SCHEDULE (TENTATIVE) - (starting date SEPT, 2015)
- | Oct | Nov                                |
|-----|------------------------------------|
|     | SEDIMENT/EROSION CONTROL INSTALL   |
|     | SITE GRADING (5 days)              |
|     | SEDIMENT/EROSION CONTROL MAINT.    |
|     | PAVING/CURBS/SEWERS etc. (1 month) |
|     | PERMANENT VEGETATION (5 days)      |
- 11.) DESCRIPTION OF B.M.P.'s (INTERIM & PERMANENT STABILIZATION PRACTICES/SCHEDULE)
- a. CONTRACTOR SHALL ESTABLISH PERIMETER SILTATION CONTROL PRIOR TO ANY CONSTRUCTION ACTIVITIES. AREAS REQUIRING MINOR CLEARING &/OR GRADING PRIOR TO INSTALLATION OF SILTATION CONTROL SHALL BE COMPLETED IN A TIMELY MANNER AND SILTATION CONTROL ESTABLISHED IMMEDIATELY FOLLOWING
  - b. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED WHERE THE ACCESS AREAS INTERSECT WITH PUBLIC ACCESS WAYS. DURING MUDDY CONDITIONS, DRIVERS OF VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE ENTERING THE ROADWAY. WHERE SEDIMENT IS TRANSPORTED ONTO PUBLIC ACCESS WAYS, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROAD BY SHOVELING OR SWEEPING. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
  - c. UPON COMMENCEMENT OF INITIAL CLEARING AND GRUBBING OPERATIONS, AS WELL AS FUTURE GRADING OPERATIONS, TOPSOIL MUST BE STRIPPED FROM GRADED AREAS AND STOCKPILED FOR USE IN FINAL GRADING AND/OR EXCESS REMOVAL. THE STOCKPILES WILL BE KEPT ON SITE BUT MUST STAY CLEAR OF ALL CONSTRUCTION ACTIVITY. THE STOCKPILE WILL BE STABILIZED WITH TEMPORARY VEGETATION TO PREVENT SOIL LOSS AND SEDIMENT TRANSPORT FROM THE STOCKPILE ITSELF UNTIL NEEDED.
  - d. TEMPORARY ROADS SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE. SLOPES SHALL NOT EXCEED 10 PERCENT SLOPE.
  - e. CONTRACTOR SHALL CLEAR AND GRUB THOSE AREAS OF THE SITE SCHEDULED FOR CONSTRUCTION. AREAS NOT SCHEDULED FOR IMMEDIATE CONSTRUCTION SHALL NOT BE CLEARED OF ESTABLISHED VEGETATION UNTIL REQUIRED. REMAINDER OF SITE SHALL BE GRADED, AS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF SILTATION CONTROL THROUGHOUT THE DURATION OF THE PROJECT.
  - f. STORM DRAINS SHALL BE INSTALLED AS EARLY AS POSSIBLE, PROVIDED THE INSTALLATION DOES NOT CONFLICT WITH OTHER CONSTRUCTION ACTIVITIES. SILT FENCE SHALL BE STAKED AROUND EACH INLET IMMEDIATELY, UPON COMPLETION OF CONSTRUCTION OF EACH INLET. INLETS MAY BE UTILIZED FOR STORMWATER CONTROL DURING CONSTRUCTION WITH THE SILT FENCE AND EROSION CONTROL MEASURES IN PLACE.
  - g. ALL PROPOSED TURF AREAS, ONCE CONSTRUCTED TO FINAL GRADE SHALL BE SEEDED / SODDED WITHIN 5 DAYS AFTER FINAL GRADING OF THE SITE. WHERE SHOWN ON THE PLAN, SHOULD WEATHER OR OTHER CAUSE DELAYS IN EARTHWORK OPERATIONS, ADDITIONAL SILTATION CONTROL MEASURES MAY BE REQUIRED.
  - h. ANY DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR 30 DAYS OR MORE SHALL BE STABILIZED WITH SEEDING AND MULCHING PER SPECIFICATIONS WITHIN 5 DAYS. IF SEASONAL CONDITIONS PROHIBIT SEEDING, MULCHING OR MATTING SHALL BE USED.
  - i. INSPECTION OF SILTATION CONTROL DEVICES SHALL TAKE PLACE ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS OF ANY HEAVY RAIN EVENT. ANY SILTATION CONTROL IN NEED OF REPAIR SHALL OCCUR IMMEDIATELY.
  - j. ALL GRADING OPERATIONS ARE SUBJECT TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT IF ONE HAS BEEN PREPARED FOR THIS PROJECT.
  - k. SEDIMENTATION CONTROLS SHALL ONLY BE REMOVED AFTER THE SITE IS COMPLETELY STABILIZED, VEGETATION IS WELL ESTABLISHED, AND ALL PAVEMENT AREAS ARE INSTALLED.
- 12.) PLANNED RESPONSE TO LOSS OF CONTAINED SEDIMENT
- a. B.M.P.'s SHALL BE REPAIRED AND/OR REPLACED IMMEDIATELY, AS REQUIRED, TO STABILIZE SITE AND CONTAIN SEDIMENT FROM RUNOFF. OFFSITE AREAS SHALL BE REVIEWED FOR EXTENT OF IMPACT FROM B.M.P. FAILURE. PERMIT HOLDER SHALL BE REQUIRED TO PROVIDE DOCUMENTATION OF THE B.M.P. MEASURES INSTALLED AND SCHEDULED MAINTENANCE AND REPAIRS. DOCUMENTATION OF ACTIONS AND MANDATORY REPORTING ARE REQUIRED TO BE PROVIDED TO CITY OF O'FALLON DEPARTMENT OF PUBLIC WORKS.
  - b. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ADDITIONAL B.M.P. MEASURES BEYOND THOSE SHOWN IF CONDITIONS DICTATE OR CURRENT MEASURES ARE INSUFFICIENT.
- 13.) DESCRIPTION OF PERMANENT B.M.P.'s TO REMAIN AFTER CONSTRUCTION
- a. STORM DRAINS - THE DEVELOPMENT WILL BE SERVED BY A STORMWATER SYSTEM CONSISTING OF REINFORCED CONCRETE PIPE (RCP) AND GRATED INLETS. THE STORM SYSTEM WILL CONVEY STORMWATER TO A CULVERT SEWER SYSTEM WITHIN DARDENNE CREEK WATERSHED. THE STORM DRAINAGE SYSTEM DESIGNATED AS "PRIVATE" SHALL BE OPERATED AND MAINTAINED BY THE OWNER. THE STORM DRAINAGE SYSTEM DESIGNATED AS "PUBLIC" SHALL BE MAINTAINED BY THE CITY OF O'FALLON UPON DEDICATION OF THE SEWERS TO THE CITY.
  - b. TURF AREAS - TURF AREAS SHALL BE MAINTAINED TO INSURE SITE AREAS REMAIN STABILIZED UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
  - c. PAVED AREAS AND WALKWAYS - AREAS SUBJECT TO FOOT AND VEHICLE TRAFFIC SHALL BE PAVED AND KEPT IN GOOD REPAIR FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES. MAINTENANCE SHALL BE THE OWNER'S RESPONSIBILITY.
- 14.) TABLE OF BEST MANAGEMENT PRACTICE QUANTITIES
- | ITEM                 | QUANTITY | STATUS    |
|----------------------|----------|-----------|
| SILT FENCE           | XX 1.1.  | TEMPORARY |
| INLET PROTECTION     | X        | TEMPORARY |
| WASHDOWN AREA        | X        | TEMPORARY |
| CONSTRUCTION PARKING | XX 5.1.  | TEMPORARY |

\* NOTE: CONTRACTOR RESPONSIBLE FOR VERIFYING ALL QUANTITIES.

15.) ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACKNOWLEDGES RESPONSIBILITY FOR COMPLIANCE WITH THE CITY OF O'FALLON EROSION AND STORM WATER RUNOFF CONTROL AND THE APPROVED STORM WATER POLLUTION PLAN AT THE SITE OF THE PERMITTED ACTIVITY.

16.) DESCRIPTION OF B.M.P.'s TO PREVENT POTENTIAL POLLUTANTS (CONSTRUCTION WASTES, TOXIC OR HAZARDOUS SUBSTANCES, PETROLEUM PRODUCTS, PESTICIDES, HERBICIDES, SITE LITTER, SANITARY WASTES, ETC.)

- a. SOLID NON-HAZARDOUS CONSTRUCTION WASTE - DISPOSE OF IN TRASH DUMPSTERS OR APPROVED EQUIVALENT IN A LOCATION APPROVED BY THE OWNER. POTENTIALLY SOLUBLE OR LEACHABLE SOLID WASTE SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. SOLID WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS.
- b. HAZARDOUS WASTE - HAZARDOUS WASTE SHALL BE SEGREGATED FROM NON-HAZARDOUS CONSTRUCTION SITE DEBRIS. LIQUID OR SEMI-LIQUID HAZARDOUS WASTE SHALL BE STORED IN APPROPRIATE CONTAINERS (CLOSED DRUMS OR SIMILAR) AND SHALL BE KEPT UNDER COVER. GRANULAR, SOLUBLE OR LEACHABLE HAZARDOUS WASTE MATERIALS SHALL BE STORED OFF THE GROUND AND IN COVERED LEAK-PROOF CONTAINERS. THE OWNER SHALL PROPERLY APPROVE ANY HAZARDOUS WASTE STORAGE AREA LOCATIONS.

c. HAZARDOUS WASTE SHALL BE PROPERLY DISPOSED OF OFF-SITE ON A REGULAR BASIS BY A REPUTABLE, LICENSED HAZARDOUS WASTE HAULER.

d. IT IS NOT THE INTENT OF THIS SWPPP TO SUPERSEDE OR REPLACE NORMAL SITE ASSESSMENT AND REMEDIATION PROCEDURES CONCERNING HAZARDOUS MATERIALS. SIGNIFICANT SPILLS AND/OR CONTAMINATION WARRANT AN IMMEDIATE RESPONSE BY TRAINED PROFESSIONALS. SUSPECTED JOB SITE CONTAMINATION SHOULD IMMEDIATELY BE REPORTED TO REGULATORY AUTHORITIES AND PROTECTIVE MEASURES TAKEN.

e. FRESH CONCRETE WASTE AND CONCRETE EQUIPMENT WASHDOWNS SHALL BE CONTAINED AND SHALL BE STORED AWAY FROM DRAINAGE DITCHES, SWALES AND DRAINAGE STRUCTURES. WHERE APPROPRIATE, CONTAINMENT BERMS SHALL BE PLACED AROUND WASTE STORAGE AREAS.

f. ON-SITE FUELING FACILITIES ARE REQUIRED TO ADHERE TO ALL APPLICABLE FEDERAL AND STATE REGULATIONS CONCERNING STORAGE AND DISPENSERS.

g. PROVISIONS SHALL BE MADE SO THAT A SUFFICIENT NUMBER OF TEMPORARY TOILET FACILITIES ARE AVAILABLE TO SERVE THE NUMBER OF WORKERS ON-SITE.

17.) SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO ROADS SHALL BE ALLOWED.

18.) LIST OF EPA ALLOWABLE NON-STORM WATER DISCHARGES (JAN. 2011). THE FOLLOWING NON-STORM WATER DISCHARGES ARE AUTHORIZED BY THE EPA PROVIDED IT HAS BEEN DETERMINED BY THE PERMITTEE THAT THEY ARE NOT SIGNIFICANT CONTRIBUTORS OF POLLUTANTS TO THE MUNICIPAL SEWER SYSTEM (MSS). IMPLEMENTATION OF POLLUTION PREVENTION MEASURES FOR NON-STORM WATER DISCHARGES IS REQUIRED FOR SIGNIFICANT CONTRIBUTORS.

- a.) WATER LINE FLUSHING
- b.) LANDSCAPE IRRIGATION
- c.) DIVERTED STREAM FLOWS
- d.) RISING GROUND WATERS
- e.) UNCONTAMINATED GROUND WATER INFILTRATION
- f.) UNCONTAMINATED PUMPED GROUND WATER
- g.) DISCHARGE FROM POTABLE WATER SOURCES
- h.) FOUNDATION DRAINS
- i.) AIR CONDITIONING CONDENSATION
- j.) IRRIGATION WATER, SPRINGS
- k.) WATER FROM CRAWL SPACE PUMPS
- l.) FOOTING DRAINS
- m.) LAWN WATERING
- n.) INDIVIDUAL RESIDENT CAR WASHING
- o.) FLOW FROM RIPARIAN HABITATS & WETLANDS (AS DEFINED AT 40 CFR 35.2005(20))
- p.) DECHLORINATED SWIMMING POOL DISCHARGE
- q.) STREET WASH WATER
- r.) RESIDENTIAL BUILDING WASH WATERS (WITHOUT DETERGENTS)

19.) ANTICIPATED DEWATERING METHODS (SUBJECT TO CONTRACTOR'S ANTICIPATED MEANS & METHODS)

a.) CONTRACTOR TO USE CARE WHEN PUMPING WATER FROM CONSTRUCTION EXCAVATIONS AND ATTENTION MUST BE PAID TO THE FINAL DESTINATION OF THIS WATER. SEDIMENT CONTAINED IN THE WATER MUST FIRST BE REMOVED. ONCE IT IS PUMPED OUT OF THE EXCAVATION, THIS WATER MUST THEN BE PREVENTED FROM ERODING SOIL.

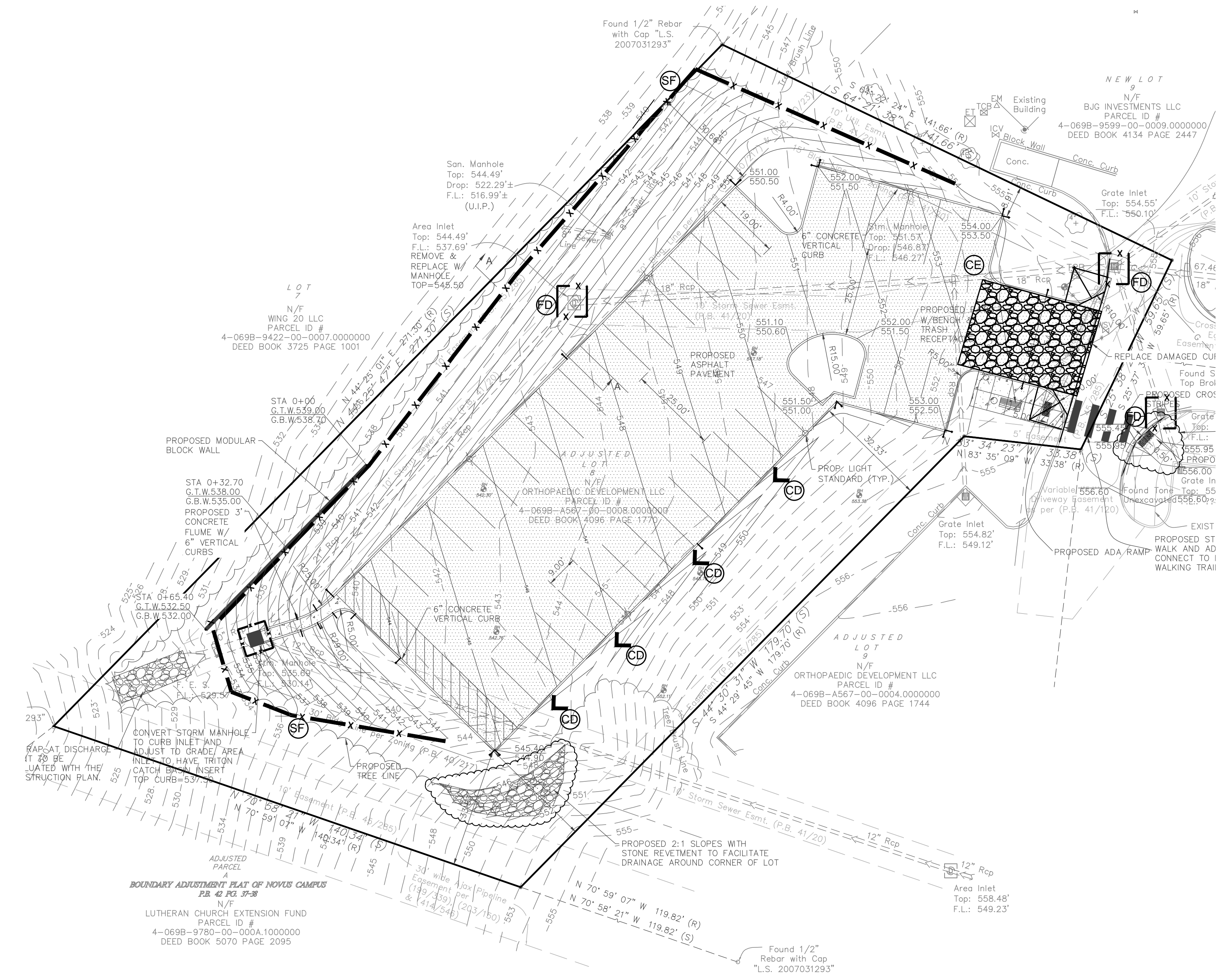
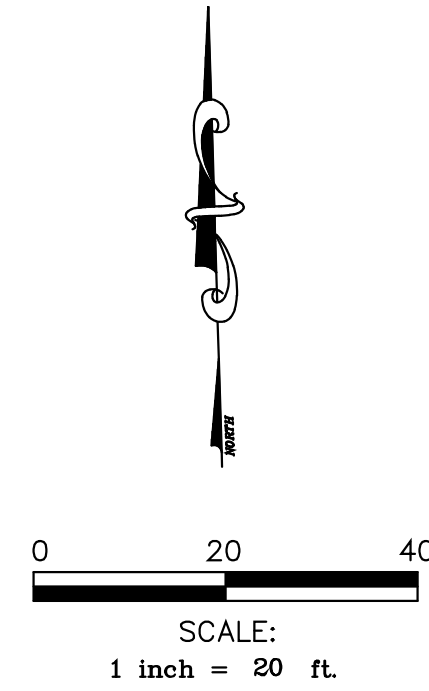
b.) AN OIL/WATER SEPARATOR OR OTHER SUITABLE FILTRATION METHOD WILL BE REQUIRED PRIOR TO DISCHARGE IF THE COLLECTED WATER HAS BEEN CONTAMINATED WITH PETROLEUM PRODUCTS, OIL OR GREASE. A LICENSED TRANSPORTER WILL BE REQUIRED TO BOTH CONTAIN AND TO TRANSPORT THE COLLECTED WATER AWAY FROM THE CONSTRUCTION SITE IF IT HAS BEEN CONTAMINATED BY HAZARDOUS OR TOXIC CHEMICALS. IN THE CASE OF CONTAMINATED WATER BEING TRUCKED FROM THE CONSTRUCTION SITE, THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL AGENCIES MUST BE ADHERED TO.

c.) THE DEWATERING METHODS OF EXCAVATED AREAS ANTICIPATED TO BE USED TO REMOVE WATER FROM THE CONSTRUCTION SITE ARE THE FOLLOWING:

1. BUCKET CONNECTED TO SPECIFIC PIECES OF CONSTRUCTION EQUIPMENT TO MECHANICALLY SCOOP THE WATER FROM THE EXCAVATIONS
2. PUMPING OR SIPHONING WATER FROM THE COLLECTION SITES
3. THE USE OF A GRAVITY DRAIN THROUGH CHANNELS

# EROSION CONTROL LEGEND

- | SYMBOL | B.M.P.                |
|--------|-----------------------|
|        | CONSTRUCTION ENTRANCE |
|        | SILT FENCE            |
|        | FABRIC DROP           |
|        | CHECK DAM             |



Brandon A. Harp, P.E. E-28650  
Professional Engineer  
CEDC License No.: 2003004674

**CEDC**  
CIVIL ENGINEERING  
DESIGN CONSULTANTS

11402 Gravois Road  
Suite 100  
Saint Louis, Missouri 63126  
314.729.1400  
Fax: 314.729.1404  
www.cedc.net

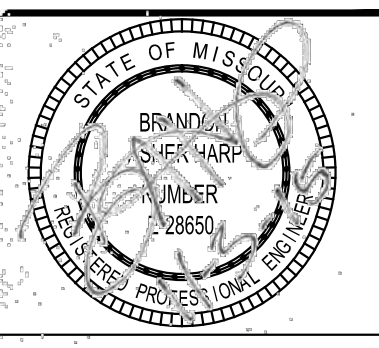
Site Improvement Plans for  
**New Parking Lot**  
9433 Phoenix Village Parkway  
O'Fallon, Missouri 63366

Proj. # 1478	
No. Description	Date
City Submittal/Bid Set	09/01/15
2nd City Submittal	09/30/15
3rd City Submittal	10/15/15
4th Revision Submittal	11/03/15

STORM WATER  
POLLUTION  
PREVENTION  
PLAN

DRAWING NO.  
**C07**





BRANDON A. HARP, P.E. E-28650  
 PROFESSIONAL ENGINEER  
 CEDC LICENSE NO.: 2003004674

11402 Gravois Road  
 Suite 100  
 Saint Louis, Missouri 63126  
 314-729-1400  
 Fax: 314-729-1404  
 www.cedc.net

**CEDC**  
 CIVIL ENGINEERING  
 DESIGN CONSULTANTS

Site Improvement Plans for  
 New Parking Lot  
 9433 Phoenix Village Parkway  
 O'Fallon, Missouri 63366

Proj. #	1478
No. Description	Date
City Submittal/Bid Set	09/01/15
2nd City Submittal	09/30/15
3rd City Submittal	10/15/15
4th Revision Submittal	11/03/15

STORM WATER  
 POLLUTION  
 PREVENTION  
 PLAN DETAILS

DRAWING NO.

C08

