

HYDRODYNAMIC SEPARATOR MAINTENANCE

- INSPECTIONS SHOULD BE PERFORMED A MINIMUM OF TWICE PER YEAR (SPRING AND FALL)
- REMOVE TRASH ACCUMULATION AND ANY BLOCKAGES WITHIN THE SYSTEM
- INSPECTIONS SHOULD QUANTIFY THE ACCUMULATION OF HYDROCARBONS, TRASH AND SEDIMENT IN THE SYSTEM
- THE CASCADE HYDRODYNAMIC SEPARATOR SHOULD BE CLEANED BEFORE THE LEVEL OF SEDIMENT IN THE SUMP REACHES THE MAXIMUM SEDIMENT DEPTH AND/OR AN APPRECIABLE LEVEL OF HYDROCARBONS AND TRASH HAS ACCUMULATED
- SEDIMENT DEPTH CAN BE DETERMINED BY MEASURING FROM THE TOP OF THE STANDING WATER LEVEL TO THE TOP OF THE SEDIMENT PILE. THIS MEASUREMENT CAN BE COMPARED WITH THE MAINTENANCE

Cascade Separator Maintenance Indicators and Sediment Storage Capacities

Model Number	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y ³	m ³
CS-3	3	0.9	1.5	0.5	0.4	0.3
CS-4	4	1.2	2.5	0.8	0.7	0.5
CS-5	5	1.3	3	0.9	1.1	0.8
CS-6	6	1.8	3.5	1	1.6	1.2
CS-8	8	2.4	4.8	1.4	2.8	2.1
CS-10	10	3.0	6.2	1.9	4.4	3.3
CS-12	12	3.6	7.5	2.3	6.3	4.8

Note: The information in the chart is for standard units. Units may have been designed with non-standard sediment storage depth.

BMP MAINTENANCE NOTES

- INLET PROTECTION - FABRIC DROP**
- INSPECT EVERY WEEK AND AFTER EVERY STORM
 - REMOVE TRASH ACCUMULATION AND SEDIMENT ONCE IT REACHES DEPTH OF 6" AT INLET.
 - REPLACE LOOSE, TORN OR CLOGGED FABRIC
 - REPAIR ANY EROSION OR SETTLEMENT OF TEMPORARY BERM DOWNSTREAM OF INLET.
 - MAINTAIN DROP IN TYPE FILTER PER MANUFACTURER SPECIFICATIONS.
- SILT FENCE**
- INSPECT EVERY WEEK AND AFTER EVERY STORM
 - REMOVE SEDIMENT BUILDUP DEEPER THAN THE FENCE HEIGHT OR 12" WHICHEVER IS LESS
 - REPLACE TORN OR CLOGGED FABRIC; REPAIR LOOSE FABRIC
 - REPAIR UNSTABLE OR BROKEN POSTS
 - STABILIZE ANY AREAS SUSCEPTIBLE TO UNDERMINING
 - EXTEND FENCE OR ADD ADDITIONAL ROW(S) OF FENCE IF NECESSARY TO PROVIDE ADEQUATE PROTECTION

- CONSTRUCTION ENTRANCE**
- IMMEDIATELY REMOVE ANY MUD OR DEBRIS TRACKED ONTO PAVED SURFACES
 - REMOVE SEDIMENT AND CLODS OF DIRT FROM CONSTRUCTION ENTRANCE CONTINUOUSLY
 - REPLACE ROCK IF NECESSARY TO MAINTAIN CLEAN SURFACE
 - REPAIR SETTLED AREAS

- WASHDOWN STATION**
- REMOVE SEDIMENT DAILY
 - REPAIR SETTLED AREAS
 - REPLACE ROCK IF NECESSARY TO MAINTAIN CLEAN SURFACE

ALLOWABLE NON-STORM WATER DISCHARGES

- THE FOLLOWING NON-STORM WATER DISCHARGES ARE AUTHORIZED PROVIDED IT HAS BEEN DETERMINED BY THE PERMITTEE THAT THEY ARE NOT SIGNIFICANT CONTRIBUTORS OF POLLUTANTS TO THE MS4. IMPLEMENTATION OF POLLUTION PREVENTION MEASURES FOR NON-STORM WATER DISCHARGES IS REQUIRED FOR SIGNIFICANT CONTRIBUTORS.
1. WATER LINE FLUSHING
 2. LANDSCAPE IRRIGATION
 3. UNCONTAMINATED GROUND WATER INFILTRATION (AS DEFINED IN CHAPTER 350005006 UNCONTAMINATED PUMPED GROUND WATER)
 7. DISCHARGE FROM POTABLE WATER SOURCES
 8. FOUNDATION DRAINS
 9. AIR CONDITIONING CONDENSATION
 10. IRRIGATION WATER SPRINGS
 11. WATER FROM CRAWL SPACE PUMPS
 12. FOOTING DRAINS
 13. LAWN WATERING
 14. INDIVIDUAL RESIDENT CAR WASHING
 15. FLOWS FROM RIPARIAN HABITATS AND WETLANDS
 16. DECHLORINATED SWIMMING POOL DISCHARGES
 17. STREET WASH WATER
- DISCHARGES ARE PROHIBITED FROM FIRE FIGHTING SITUATIONS. THE PERMITTEE IS NOT EXPECTED TO EVALUATE FIRE FIGHTING DISCHARGES WITH REGARD TO POLLUTANT CONTRIBUTIONS. THEREFORE, THESE DISCHARGES ARE AUTHORIZED AS ALLOWABLE NON-STORM WATER DISCHARGES, UNLESS IDENTIFIED BY EPA AS SIGNIFICANT SOURCES OF POLLUTANTS TO WATERS OF THE U.S.**

ESTIMATED CONSTRUCTION SCHEDULE

- 12/06/2021 INSTALL TEMPORARY EROSION CONTROL DEVICES
- 12/07/2021 - 12/30/2021 GRADING
- 1/8/2022 - 2/5/2022 SITE CONSTRUCTION (BUILDING, PAVEMENT ETC)
- 2/04/2022 - 2/11/2022 FINISH GRADING, SEED AND MULCH
- 2/12/2022 - 2/20/2022 FINAL STABILIZATION AND REMOVE TEMPORARY EROSION CONTROL DEVICES

DISTURBED AREA

TOTAL SITE AREA - 706 AC (307836 SQFT)
 DISTURBED AREA - 294 AC (127898 SQFT)
 UNDISTURBED AREA - 412 AC (179938 SQFT)

CONTAINMENT FAILURE PLAN

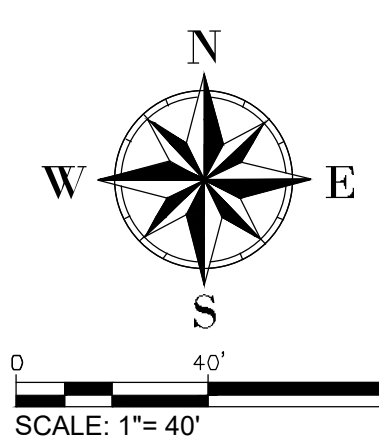
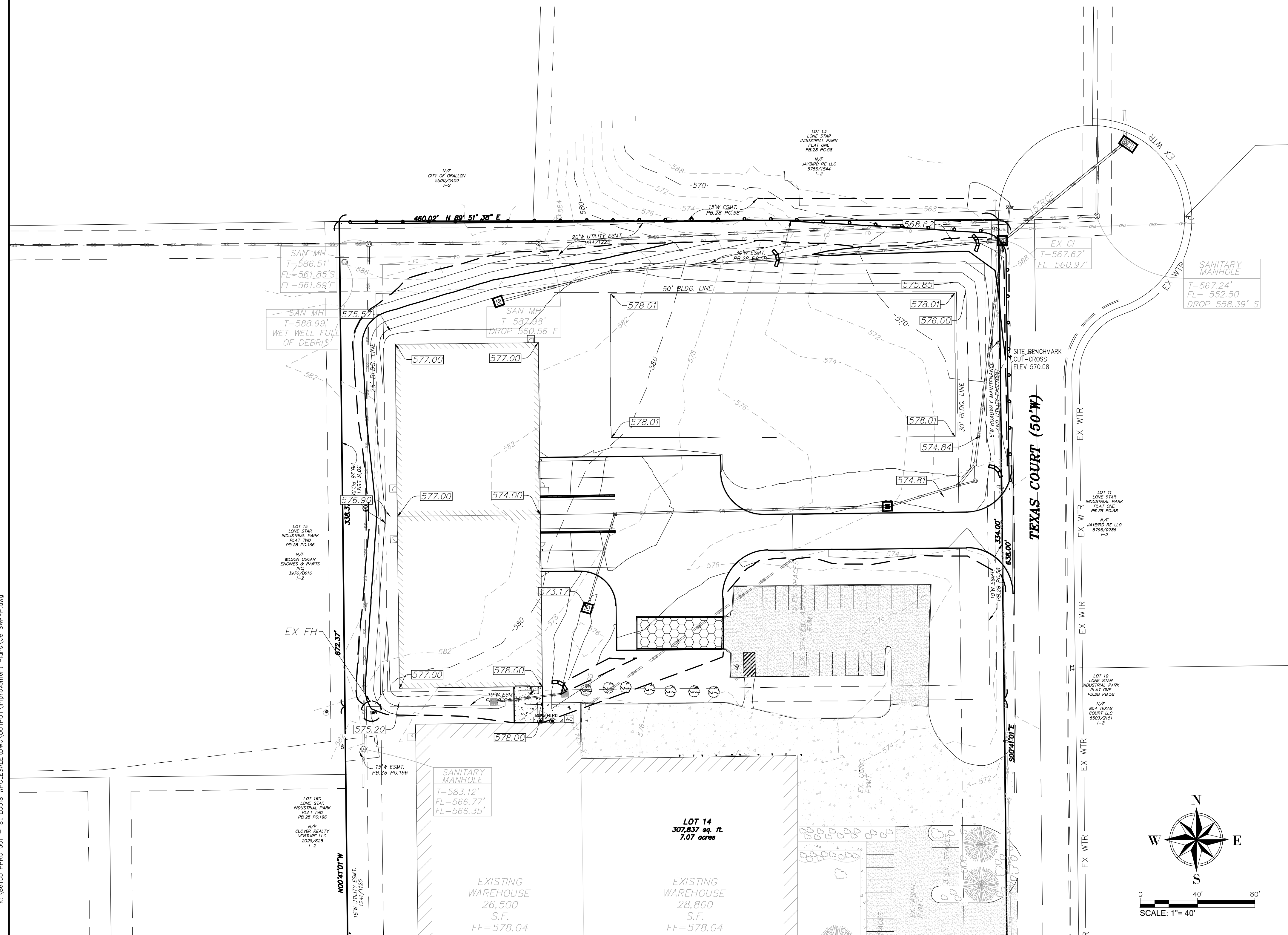
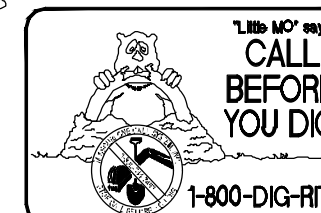
- IN THE EVENT OF ANY LOSS OF CONTAINED SEDIMENT:
1. REPAIR ANY DAMAGED SILTATION FENCES.
 2. CLEAN UP ANY NECESSARY SILTED AREAS.
 3. RESTORE ANY NECESSARY SILTED AREAS.
 4. PROVIDE DOCUMENTATION OF ACTIONS & MANDATORY REPORTING TO OFALLON.

SWPPP GENERAL NOTES

1. GAS, WATER AND OTHER UNDERGROUND UTILITIES SHALL NOT CONFLICT WITH THE DEPTH OR HORIZONTAL LOCATIONS OF EXISTING AND PROPOSED SANITARY AND STORM SEWERS, INCLUDING HOUSE LATERALS
2. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND, THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER BEFORE OR AFTER CONSTRUCTION, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO GRADING OR CONSTRUCTION OF IMPROVEMENTS.
3. ALL FILLED PLACES UNDER BUILDINGS, PROPOSED SANITARY AND STORM SEWER LINES, AND/OR PAVED AREAS INCLUDING TRENCHES SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED A.A.S.H.T.O. T-180 COMPACTION TEST (ASTM D-1557) UNLESS OTHERWISE SPECIFIED BY THE LOCAL GOVERNING AUTHORITY SPECIFICATIONS. ALL TESTS WILL BE VERIFIED BY A SOILS ENGINEER.
4. ALL FILLED PLACES IN PAVED STATE, COUNTY OR CITY ROADS (HIGHWAYS) SHALL BE COMPACTED TO AT LEAST 90% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED A.A.S.H.T.O. T-180 COMPACTION TEST (ASTM D-1557) UNLESS OTHERWISE SPECIFIED BY LOCAL GOVERNING AUTHORITY SPECIFICATIONS. ALL TESTS WILL BE VERIFIED BY A SOILS ENGINEER.
5. EARTH SUBGRADE FOR PAVED AREAS MUST BE COMPACTED TO 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED A.A.S.H.T.O. T-180 COMPACTION TEST (ASTM D-1557).
6. NO SLOPE SHALL BE GREATER THAN 3:1 UNLESS JUSTIFIED BY A GEOTECHNICAL REPORT WHICH HAS BEEN ACCEPTED/APPROVED BY THE CITY OF ST. LOUISI AND SHALL BE EITHER SODDED OR SEEDED AND MULCHED.
7. THE DEVELOPER SHALL CONTRACT WITH A SOIL CONSULTANT FIRM REGISTERED IN THE STATE OF MISSOURI DURING THE GRADING OPERATION TO MONITOR CUT AND FILLS AND TO VERIFY PROPER COMPACTION HAS BEEN ACHIEVED. A REPORT SHALL BE PREPARED BY THE SOILS CONSULTANT AND PROVIDED TO THE ENGINEER FOR VERIFICATION OF THE GRADING OPERATION.
8. OWNER/DEVELOPER ASSUMES FULL RESPONSIBILITY AS TO THE PERFORMANCE OF THE GRADING OPERATION AND ASSURANCE THAT ALL PROPERTIES AND ROADS WILL BE ADEQUATELY PROTECTED.
9. IF SILTATION CONTROL DEVICES OR SILTATION FENCE ARE DESTROYED BY HEAVY RAINS, VANDALISM, ETC. THEY ARE TO BE REPLACED PROMPTLY BY CONTRACTOR.
10. WHERE NATURAL VEGETATION IS REMOVED DURING GRADING VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION. PERMANENT TYPE GRASSES SHALL BE ESTABLISHED AS SOON AS POSSIBLE OR DURING THE NEXT SEEDING PERIOD AFTER GRADING HAS BEEN COMPLETED.
11. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL FROM THE SITE BETWEEN PERMANENT GRASS SEEDING PERIODS. TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO THE DESIGNATED OFFICIALS RECOMMENDATION.
12. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT IN EXCESS OF 20% SLOPES (6:1)) SHALL BE MULCHED AND TACKED IN ACCORDANCE WITH THE CITY OF ST. LOUISI STANDARDS WHEN SEEDING.
13. TREES, ORGANIC DEBRIS, RUBBLE FOUNDATIONS AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED IN COMPLIANCE WITH ALL APPLICABLE ORDINANCES AND REGULATIONS. LANDFILL TICKETS FOR SUCH DISPOSAL SHALL BE MAINTAINED ON FILE BY THE DEVELOPER.
14. THE DEVELOPER AND HIS CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING THE SILTATION CONTROL AS APPROVED BY THE CITY OF ST. LOUISI PRIOR TO THE COMMENCEMENT OF GRADING OPERATIONS.
15. SILTATION CONTROL DEVICES AND/OR SILT FENCES WILL BE INSTALLED, AS NECESSARY, IN FILL CONDITIONS, TO PREVENT ANY EROSION, SILT, OR SEDIMENT, FROM ESCAPING GRADING SITE
16. ALL EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE INSPECTED AT LEAST ONCE PER WEEK AND NO LATER THAN 24 HOURS AFTER A RAINFALL THAT CAUSES STORM WATER RUNOFF TO OCCUR ON-SITE.
17. EACH CONTRACTOR, SUBCONTRACTOR, AND/OR UTILITY COMPANY SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF ANY SILTATION CONTROL PLACED ON THE DEVELOPMENT BY THE DEVELOPER, AND SHALL NOT DISTURB THE SILTATION CONTROL EXCEPT AS ABSOLUTELY NECESSARY. IN THE EVENT OF ANY SUCH DISTURBANCE OF SILTATION CONTROL, THEN THE CONTRACTOR, SUBCONTRACTOR, OR UTILITY COMPANY, AS APPLICABLE, DISTURBING SUCH SILTATION CONTROL SHALL IMMEDIATELY REPLACE THE SAME AT SUCH CONTRACTOR'S, SUBCONTRACTOR'S, AND UTILITY COMPANY'S, AS APPLICABLE, EXPENSE. IN THE EVENT OF ANY FINES OR PENALTIES BEING LEVIED AS A RESULT OF THE DISTURBANCE OF ANY SUCH SILTATION CONTROL, THE PARTY DISTURBING SUCH SILTATION CONTROL SHALL BE LIABLE FOR PAYMENT OF SAME AND SHALL IMMEDIATELY HOLD CENTRAL DESIGN GROUP LLC, FROM ANY AND ALL LIABILITIES, DAMAGES, DEMANDS, PENALTIES, FINES, FEES, CLAIMS, CAUSES OF ACTION, JUDGMENTS, COSTS AND EXPENSES, INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, ARISING FROM OR IN CONNECTION WITH ANY SUCH DISTURBANCE.
18. THE SEDIMENT CONTROL PLAN MUST BE IMPLEMENTED BEFORE GRADING BEGINS. NO GRADED AREA IS TO REMAIN DISTURBED FOR MORE THAN THIRTY (30) DAYS WITHOUT BEING SEEDED AND MULCHED OR SODDED. TRANSPORTED SOIL MUST BE PREVENTED FROM DAMAGING ADJACENT PROPERTY AND BEING DEPOSITED IN THE FORM OF SILT IN STORM DRAINAGE SYSTEMS WHETHER ON-SITE OR OFF-SITE.
19. THE CITY OF OFALLON SHALL BE CONTACTED AFTER THE INSTALLATION OF THE SILTATION CONTROL DEVICES AND AT LEAST 24 HOURS PRIOR TO THE COMMENCEMENT OF ANY GRADING OPERATIONS.
20. ANY DEPOSITING OF SILTS OR MUD ONTO 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 CITY OF OFALLON.
21. THE DEVELOPER IS ADVISED THAT UTILITY COMPANIES WILL REQUIRE COMPENSATION FOR RELOCATION OF THEIR UTILITY FACILITIES WITHIN THE PUBLIC ROAD RIGHT-OF-WAY. UTILITY RELOCATION COST SHALL BE CONSIDERED THE DEVELOPER'S RESPONSIBILITY. THE DEVELOPER SHALL ALSO BE AWARE OF EXTENSIVE DELAYS IN UTILITY COMPANY RELOCATION AND ADJUSTMENTS. SUCH DELAYS WILL NOT CONSTITUTE A CAUSE TO ALLOW COMPENSATION PRIOR TO COMPLETION OF ROAD IMPROVEMENTS.
22. PROVIDE ADEQUATE OFF-STREET PARKING FOR CONSTRUCTION EMPLOYEES. PARKING ON NON-SURFACED AREAS SHALL BE PROHIBITED IN ORDER TO ELIMINATE THE CONDITION WHEREBY MUD FROM CONSTRUCTION AND EMPLOYEE VEHICLES IS TRACKED ONTO THE PAVEMENT CAUSING HAZARDOUS ROADWAY AND DRIVEWAY CONDITIONS.
23. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES IS REQUIRED.
24. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF OFALLON STANDARDS.
25. ALL OFFSITE AFFECTED PROPERTY OWNERS SHALL BE GIVEN NOTICE 48 HOURS IN ADVANCE OF ANY WORK.
26. ANY DISTURBED OFFSITE PROPERTY (I.E. BUSHES, FENCES, MAILBOXES, ETC) SHALL BE REPLACED, IN KIND, AT THE DEVELOPER'S EXPENSE.
27. SOILS ENGINEER WILL VERIFY THAT ALL COMPRESSIBLE MATERIAL HAS BEEN REMOVED PRIOR TO FILL PLACEMENT AND THAT ALL FILL UNDER SANITARY AND STORM SEWER LINES CONSTRUCTED ABOVE ORIGINAL GRADE, HAS BEEN COMPACTED TO 90% OF MODIFIED PROCTOR FILL IS TO BE PLACED IN A MAXIMUM OF 4-INCH LIFTS. TEST SHALL BE TAKEN AT A MAXIMUM OF 50-FOOT INTERVALS ALONG THE ROUTE OF THE PIPE, AT A MAXIMUM OF 2-FOOT VERTICALLY, AND LATERALLY ON EACH SIDE OF THE PIPE, AT A DISTANCE EQUAL TO THE DEPTH OF FILL OVER THE PIPE.
28. ALL CONSTRUCTION SHALL BE PER THE MOST CURRENT DETAILS FOR THE CITY OF OFALLON.
29. STORM WATER SHALL BE DISCHARGED AT AN ADEQUATE NATURAL DISCHARGE POINT. SINKHOLES ARE NOT ADEQUATE DISCHARGE POINTS.
30. A LAND DISTURBANCE PERMIT WILL NOT BE REQUIRED.
31. ALL DISTURBED EARTH AREA WITHIN PUBLIC RIGHT-OF-WAY SHALL BE SODDED.
32. ADDITIONAL SILTATION CONTROL SHALL BE INSTALLED AS REQUIRED BY THE CITY OF OFALLON.
33. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASHDOWN STATION PRIOR TO LEAVING SITE. NO TRACKING OF MUD ONTO PUBLIC ROADS SHALL BE ALLOWED.
34. THE CONTRACTOR SHALL PROVIDE, INSTALL, MAINTAIN, AND REMOVE A PUBLIC NOTIFICATION SIGN.
35. SWPPP INSPECTION MUST BE SCHEDULED AT LEAST ONCE PER WEEK AND NO LATER THAN 24 HOURS AFTER A RAINFALL THAT CAUSES STORM WATER RUNOFF TO OCCUR ON-SITE.
36. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF EARTH SHALL BE IN ACCORDANCE WITH THE STORM WATER POLLUTION PLAN, AND THE PERSON ISSUED A LAND DISTURBANCE PERMIT ASSUMES AND ACCEPTS ALL RESPONSIBILITIES FOR COMPLIANCE.
37. NO TEMPORARY IN-SITE CONCRETE OR ASPHALT BATCH PLANTS ARE ANTICIPATED TO BE UTILIZED.
38. NO ENDANGERED SPECIES OR HISTORIC PROPERTIES ARE AFFECTED BY THIS DEVELOPMENT.
39. NO DEMOLITION METHODS ARE ANTICIPATED TO BE NEEDED FOR THIS DEVELOPMENT.

UTILITIES NOTE

UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE, THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UTILITIES LOCATED IN THE FIELD PRIOR TO EXCAVATION OR CONSTRUCTION.

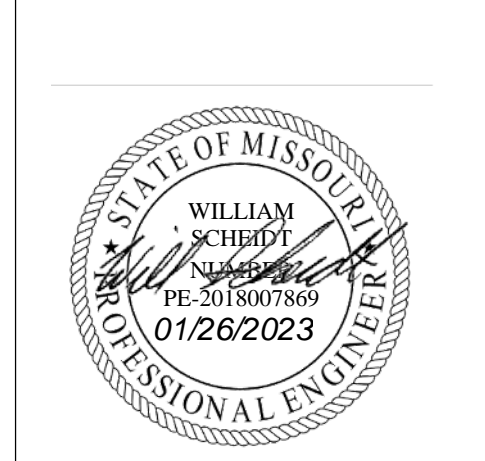


PROJECT TITLE
 IMPROVEMENT PLANS
 STL WHOLESALE
 SWPPP
 PPS No. 86165/PPRO001
 TASK 003

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ENGINEER'S AUTHORIZATION
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P+Z No. 21-003918
 City No.
 Approved 06-03-2021
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*** 2022/08/22 ***