

STORMWATER POLLUTION PREVENTION PLAN

for

COSTCO LEE'S SUMMIT

Owner /Developer:

COSTCO Wholesale
730 Lake Dr
Issaquah, WA 98027

Missouri State Operating Permit Number:

Estimated Project Dates:

Project Start Date:

April, 2026

Project Completion Date:

November, 2026

Prepared By:

Civil & Environmental Consultants, Inc
St. Louis, Missouri



CEC Project Number: 353-308

Prepared On: February 12, 2026

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Models of Best Management PracticesAppendix B

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THIS SWPPP INCLUDES AS PART OF IT:

1. “Design and Construction Manual Section 1010 – Sediment and Erosion Control” by the City of Lee’s Summit
2. “Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices” by the USEPA.
3. “Protecting Water Quality” by the Missouri Department of Natural Resources.
4. Erosion and Sediment Control Plans for **Costco Lee’s Summit Plans** by Civil and Environmental Consultants, Inc.

SECTION 1.0: STORMWATER POLLUTION PREVENTION PLAN

DESCRIPTION

This SWPPP is for the Costco Lee's Summit Grading Site.

This SWPPP is intended to assist with the National Pollutant Discharge Elimination System (NPDES) stormwater permit compliance during initial land disturbance, grading, construction, and final stabilization activities, at the referenced project site. This document is intended to be utilized prior to initial land disturbance and through construction completion. The permittee(s) and/or their appointed agent(s) are to:

1. Receive copies of all documents which (when compiled) comprise the Storm Water Pollution Prevention Plan.
2. Perform an inspection of the site and agree to proposed erosion & sediment control measures.
3. Sign an agreement to accept, maintain, and take over responsibility for the erosion & sediment control measures for the site.
4. Maintain a current copy of the SWPPP on the site at all times.
5. Notify and provide copies of the SWPPP to contractors and other entities who will perform work at the site, who are responsible for installation, operation or maintenance 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 Best Management Practices (BMPs).
6. Determine the need for training programs to familiarize site workers with practices in erosion control, material handling and storage, and housekeeping.
7. Keep a record of the dates when major ground-disturbing activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated. These records must be maintained until the Missouri Department of Natural Resources Form H, Notice of Termination is filed.
8. At least once every week and within 24 hours of a rainfall event of 0.5 inches or more, erosion and siltation control devices shall be inspected for damage and amount of sedimentation accumulated; if a deficiency has occurred, corrective actions will be taken

with in seven calendar days of the reported deficiency. Reports of these inspections and corrective actions shall be prepared for review; sample inspection/log sheets are included as Appendix C.

9. Completion of the Notice of Termination form is to be submitted to Missouri Department of Natural Resources upon completion and stabilization of the property. A Copy of the Notice of Termination, Form H is included as Appendix D.

SECTION 2.0: SITE DESCRIPTION

2.1 Owner/Developer

Costco Wholesale
730 Lake Dr
Issaquah, Washington 98027

2.2 24 Hour Contact

Mr. John Brehm
703-564-8420
John.Brehm@mg2.com

2.3 Project Name and Location

Latitude: 38.901849

Longitude: -94.374593

Source: USGS Topographical Map **Scale:** 1: 24,000

Costco Lee's Summit is bounded by US Highway 50 on the North, Hwy 291 on the west, Oldham road extension on the south and rail road right of way on the east in Lee's Summit, Jackson County, Missouri. A USGS location Map is included in Appendix A1.

2.4 Site Description

The approximate 22.5 acre site is a current mostly cleared with an existing drainage to the east and west of the tract. The area is bounded by highway right of way on the north and west and rail road right of way on the east. The site currently drains to the east and west.

2.5 Existing Vegetation

Onsite vegetation is composed of cleared ground with a few trees scattered.

2.6 Project Description

The project will provide a Costco Warehouse and fuel facility.

2.7 Site Area

The site is 22.5 acres, of which approximately 21 acres will be disturbed for grading.

2.8 Run-Off Coefficient

The approximate Pre-Construction run-off coefficient for the site is $c = 0.10$

The approximate Post-Construction run-off coefficient for the site will be $c = 0.30$

2.9 Receiving Waters

Stormwater will drain in sheet flow or through proposed stormwater systems to proposed detention basins before discharging into the existing offsite storm sewers. The site generally drains from highway 50 to the south with discharges located near the SW and SE corners of the lot.

2.10 Soils

According to the Soil Survey of Jackson County, Missouri prepared by the United States Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) website for Jackson County, Missouri, Version 27, August 13, 2025, the immediate area of the site was mapped as Arisburg-Urban, sloped at 1-5%, somewhat poorly drained soil. A copy of the soil survey map is included as Appendix A2.

2.11 Discharge Points

| Structure Number | Northing | Easting |
|------------------|------------|--------------|
| CI 1.1 | 995808.06 | 2,824,030.99 |
| CI 5.1 | 995,435.13 | 2,824,050.48 |
| FE 10.1 | 995,349.24 | 2,825,336.62 |

SECTION 3.0: SEQUENCE OF ACTIVITIES

1. Install and maintain stabilized construction entrance and vehicle wash down area off adjacent Oldham Parkway (See Appendix E- Plans).
2. Install and maintain inlet protection around existing storm sewer structures. Install and maintain silt fence and seed and mulch with reinforcing if needed, throughout construction activities.
3. Install fire hydrant for use as wash down. A water tank truck may also be used temporarily.
4. Clear/grub/grade site with all impacts being minimized, leaving natural vegetation when possible, and schedule/phase work to minimize bare soil areas limiting the time of exposure.
5. Upon completion of all construction activities contributing to a drainage area, and once the area is stabilized, remove unneeded sediment controls and reseed any disturbed areas.

SECTION 4.0: BEST MANAGEMENT PRACTICES

4.1 Stabilization, Structural Practices

All temporary and permanent stabilization of disturbed areas by vegetative cover shall be as outlined in the *Kansas City Metropolitan Chapter of APWA Construction and Material Specifications, City of Lee's Summit Design and Construction Manual Section 1010, "Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices"* by the USEPA, *"Protecting Water Quality"* by the Missouri Department of Natural Resources.

4.2 Temporary Stabilization

Disturbed portions of the site where construction activity temporarily ceases for more than 14 days shall be stabilized with mulch or other effective erosion control BMPs. No excavation or fill shall be made which creates an exposed embankment face steeper in slope than three horizontal to one vertical (3:1), unless otherwise approved. If the slope of the area is greater than three to one (3:1) or if the slope is greater than 3% and greater than 150 feet in length, then the permittee shall establish interim stabilization within 7 days of ceasing operations on that part of the site. Temporary siltation control measures (structural) shall be maintained until vegetative cover is established at a sufficient density to provide erosion control on the site.

Temporary stabilization BMPs recommended for this site are listed below, in approximate order and should be used as a beginning point to monitor effectiveness in controlling siltation deposits.

Construction Entrance - A stabilized entrance to a construction site designed to minimize the amount of sediment tracked from the site on vehicles and equipment. Stabilization generally consists of aggregate over fabric. Mud and sediment fall off of tires as they travel along the stabilized entrance; however, additional measures in the form of a washdown area may also be included on site. The stabilized entrance also distributes the axle load of vehicles over a larger area; thereby mitigating the rutting impact vehicles normally have on unpaved areas.

Wash Down Station - An area located at construction entrances designed to wash sediment, aggregate and concrete from the tires and undercarriage of exiting vehicles and prevent these materials from being tracked onto existing roadways.

Inlet Protection - Fabric Drop - A woven fabric barrier braced around an area inlet designed to prevent sediment from entering the storm sewer. Shallow temporary ponding, during and after rainfall, should be expected.

Silt Fence - A fence constructed of woven filter fabric which is stretched between posts and entrenched in the ground. Silt fencing is designed to pond stormwater runoff and cause sediment to settle out.

Seeding - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff.

Mulching - A layer of organic material designed to protect exposed soil or freshly seeded areas from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Mulch materials may include, but are not limited to, such things as grass, hay, straw, wood chips, wood fibers, and shredded bark.

4.3 Permanent Stabilization

Disturbed portions of the site where construction activities permanently cease shall be stabilized with permanent seed no later than **14** days after the last construction activity. Seeding, mulching and fertilization rates are shown on the erosion and sediment control plans, on the cover sheet, general notes, outlined in the ***“Section 5100 – Erosion and Sediment Control”*** by the Lee’s Summit MO.

Permanent stabilization BMPs recommended for this site are listed below and should be used as a beginning point to monitor effectiveness in controlling siltation deposits.

Seeding - Establishment of vegetation by spreading grass seed designed to protect exposed soil from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Once established, the vegetative cover will also filter pollutants from the runoff.

Sodding - A $\frac{3}{4}$ - 1 inch thick mat of vigorous turf, free of disease, insects and weeds. Sod prevents raindrops from disrupting the soil structure and thereby causing erosion. Sod slows water runoff and acts as a filter when sediment-laden runoff crosses over it.

4.4 Long-Term Pollutant Controls

A major goal of pollution prevention efforts during project construction is to control soil and pollutants that originate on the site and prevent them from flowing into surface and ground waters. An effective pollution prevention program relies upon careful inspection and adjustments during the construction process, and also considers long-term pollutant controls.

Disturbed areas of the project site which drain into creeks, tributaries, drainageways, ponds or lakes require special attention. **BMPs** may include multiple rows of erosion and sediment control barriers. These BMPs should remain in place until a proper vegetative cover has become established.

4.5 Permanent Stormwater Management

This SWPPP is designed for a residential development that, when construction is complete, will drain to an interior lake system.

SECTION 5.0: NON-SEDIMENT POLLUTION CONTROLS

Control measures designed to prohibit chemicals, hazardous materials, solid waste and construction debris from polluting stormwater. Pollutants carried in solution or as surface films or runoff will be carried through most erosion control and sediment capture BMPs. Keeping substances like fuel, oil, asphalt, paint, solvents, fertilizer, soil additives, concrete wash water, solid waste and construction debris from polluting runoff can be accomplished to a large extent through good housekeeping on the site and following the manufacturer's recommendations for disposal.

5.1 Petroleum Products

Onsite vehicles are to be monitored for leaks and maintained regularly. Petroleum products are to be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used onsite should be applied according to the manufacturer's recommendations. Lubricants are to be disposed of per manufacturer's recommendations by a licensed carrier. No fueling, servicing, maintenance, or repair of equipment or machinery should be done within 50 feet of a stream, or within 100 feet of a classified stream, losing stream or sinkhole.

All paint, solvents, petroleum products, petroleum waste products, and storage containers holding said items (such as drums, cans, or cartons) shall be stored according to best management practices. The materials shall be stored in watertight, structurally sound, closed containers. All containers shall be inspected for leaks or spillage during the once per week inspection of BMPs.

5.2 Concrete Trucks

Wash off is allowed only in areas where discharge is directed to a sediment basin or other settlement device. It is not permissible to discharge concrete wash directly to streams or storm drains.

5.3 Fertilizers

Fertilizers are to be applied only in the minimum amounts recommended by the supplier. Once applied, fertilizer will be worked into the soil to limit exposure to stormwater.

5.4 Heavy Equipment Maintenance Materials

Heavy equipment maintenance materials shall be stored off-site or in a locked container or semi trailer with the location noted on a site map.

SECTION 6.0: OTHER CONTROLS

6.1 Dust Control

Control measures designed to reduce the transport and production of dust, thereby preventing pollutants from infiltrating into stormwater. Examples for construction activities include vegetative cover, wind barriers, minimization of soil disturbance, spray on adhesives, tilling, chemical treatment and water sprays.

6.2 Waste Disposal

Waste materials and construction debris will be disposed of in appropriate containers and dumpsters. Trash and debris will be disposed of offsite by a licensed solid waste management company. Trash or debris is not to be buried onsite. Personnel will be instructed regarding the correct procedure for waste disposal by the site superintendent.

6.3 Materials Expected Onsite

The following materials or substances are expected to be on the project site during construction:

| | | |
|----------|---------------|-----------------------------|
| Concrete | Detergents | Petroleum Based Fertilizers |
| Masonry | Shingles | Cleaning Products |
| Solvents | Wood | Metal studs |
| Paints | Other: | |

6.4 Hazardous Waste Disposal

All hazardous waste materials will be disposed of in the manner specified by the local or state regulation or by the manufacturer. Site personnel including subcontractors will be instructed in these practices and the developer's site supervisor will be responsible for seeing that these practices are followed and adhered to.

Only the minimum amount of any hazardous material required during the job will be kept onsite.

Containment systems used to prevent hazardous wastes from exposure to stormwater shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater. In the event of a hazardous waste spill, all appropriate state and local government agencies are to be notified, regardless of size.

Substances regulated by federal law under the **Resource Conservation and Recovery Act (RCRA)** or the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)** which are transported; stored; or used for maintenance cleaning or repairs; shall be managed according to the provisions of RCRA and CERCLA.

Materials and equipment necessary to clean up a spill as recommended by the manufacturer shall be kept onsite. Site personnel will be aware of the procedures necessary.

The applicant shall notify by telephone and in writing the Department of Natural Resources, Water Pollution Control Program, Post Office Box 176, Jefferson City, MO 65102; 1-800-361-4827, of any spills or if hazardous substances are found during the prosecution of work under this permit.

6.5 Sanitary Waste

All sanitary waste will be collected from the portable units by a licensed sanitary waste management contractor as required by local regulation. Portable unit locations should be shown on base map provided and updated as needed.

6.6 Offsite Vehicle Tracking

Stabilized construction entrances have been provided to help reduce vehicle tracking of sediments into already developed areas. The paved streets adjacent to the site entrances will be swept as necessary to remove any excess mud, dirt, or rock tracked from the site to prevent personal injury, damage to personal property, and the contamination of offsite storm sewers.

6.7 Non-Stormwater Discharges

It is expected that water from line flushing, pavement wash water and uncontaminated groundwater will occur during the construction period. If contaminated with sediment non-stormwater discharges will be directed to the sediment basin prior to discharge. Allowable, non-contaminated, non-stormwater discharges may include the following:

1. Water used to wash vehicles where sediment is not involved, and solvents are not used.
2. Water used for dust control.
3. Potable water including uncontaminated water line flushing.
4. Routine external building wash down that does not use detergents.
5. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and detergents are not used.
6. Uncontaminated air conditioning or compressor condensate
7. Uncontaminated ground water or spring water
8. Foundation or footing drains where flows are not contaminated with processed materials such as solvents
9. Uncontaminated excavation dewatering
10. Landscape irrigation

6.8 Signage

A sign is to be posted near the construction entrance noting that all paperwork, including copies of the SWPPP, permits, construction plans, and inspection and maintenance records will be kept at the construction site and will be accessible upon request.

SECTION 7.0: INSPECTION AND MAINTENANCE

7.1 Inspection Personnel

Personnel selected for the inspection and maintenance responsibilities will be qualified and trained in practices necessary for keeping erosion and sediment controls in effective and functional. It is the responsibility of the inspector to identify effective BMPs and report any deficiencies in BMP performance to the site superintendent and/or permittee. The inspector must also report BMPs which require (or will soon require) maintenance. If a control measure is not functioning properly, the inspector shall recommend the measure is fixed or replaced with a more effective control measure. After reviewing with the permittee and/or site superintendent, it may become necessary to alter the control measures being used on site. If it becomes necessary to alter the control measures, the inspector will write up an inspection and maintenance form for the new measure and provide a specification sheet to be included as an addendum to this report.

7.2 Site Inspections

The permittee shall allow the project site to be inspected weekly. Additionally, the site must be inspected within 24 hours of a heavy rain event (0.5 inches of precipitation or greater). In a rain event, showers must occur concurrently within a 24 hour period. (A heavy rain event can occur as a single downpour or several days of steady rain). Weekly inspections may coincide with heavy rain event inspections. During site inspections, all installed BMPs and other pollution control measures shall be inspected for proper installation, operation, and maintenance. Locations where stormwater exits the site shall be inspected for evidence of erosion or sediment depositions. Deficiencies shall be noted in a report of the inspection and corrected within seven calendar days of the inspection. The permittee shall promptly notify the site contractors responsible for operation and maintenance of BMPs of deficiencies.

7.3 Corrective Action Log

A log of each inspection and corrective actions taken shall be kept. The report shall include the following minimum information: inspector's name, date of inspection, observations relative to the effectiveness of the BMPs, actions taken or necessary to correct deficiencies, and listing of areas where land disturbance operations have permanently or temporarily stopped. The report shall be signed by the permittee or by the person performing the inspection if duly authorized to do so. We have included a Sample Inspection Log Sheet as Appendix C.

7.4 Record Retention

The permittee shall retain copies of this permit, the SWPPP and amendments for the site named in the permit, results of monitoring and analysis, and site inspection records required by this permit. The permittee shall retain these records at a site which is readily accessible from the permitted site until final stabilization of the site is achieved. The local office of the permittee, their contractor or consultant is considered to be readily available from the project site if it is located in the same county as the project site. The records shall be accessible during normal business hours. After final stabilization, the records may be maintained at the location of the permittee's main office or other designated storage location.

7.5 Regular Maintenance

Sediment control devices (BMPs) are subject to inspection and analysis. Details about BMPs, their installation, and operation, are attached as **Appendix B**. Deficiencies shall be noted in a weekly inspection report that is available for viewing by appropriate agencies.

If an accumulation of sediment occurs over the capacity of a specific BMP, as noted in the BMPs detail sheet, **Appendix B**, then the accumulated sediment will be removed and placed in designated fill areas onsite. Again, it is the permittee's and the inspector's responsibility to properly document all activities pertaining to the maintenance and installation of BMPs.

SECTION 8.0: MODIFICATIONS AND CHANGES TO THE SWPPP

Amending/Updating the SWPPP: the permittee shall amend and update the SWPPP as appropriate during the term of the land disturbance activity. The permittee shall amend the SWPPP. At a minimum whenever the:

1. Design, operation, or maintenance of BMPs is changed;
2. Design of the construction project is changed that could significantly affect the quality of the stormwater discharges;
3. Permittee's inspections indicated deficiencies in the SWPPP or any BMP;
4. MDNR and/or another regulatory agency notify the permittee of deficiencies in the SWPPP;
5. MDNR or other regulatory agencies determines violations of Water Quality Standards may occur or have occurred.

*** Note:** This SWPPP must be amended as necessary during the course of construction in order to keep it current with the pollutant control measures utilized at the site. Amending the SWPPP does not mean that it has to be reprinted. It is acceptable to add addenda, sketches, new sections, and/or revised drawings.

SECTION 9.0: GENERAL NOTES

The project for which this plan has been prepared is a residential development. As such, it is constantly evolving and progressing towards its final state and is rarely in a static condition. As the development progresses, it may become necessary to remove, relocate and replace some of the erosion and sediment control measures.

The erosion and sediment control plan has been prepared as a beginning point for these measures, but it should evolve along with the site. **Best Management Practices (BMPs)** are the most effective way to meet the ultimate goal of improving water quality by reducing pollutants into stormwater discharges. BMPs are a team effort involving the developers, engineers, contractors and inspectors.

Notice to All Contractors: The permittee shall be responsible for notifying each contractor or entity (including utility crews and city employees or their agents) who will perform work at the site of the existence of the SWPPP and what action or precautions shall be taken while on site to minimize the potential for erosion and the potential for damaging any BMP. **The permittee is responsible for any damage a subcontractor may do to established BMPs and any subsequent water quality violation resulting from the damage.**

The legal owner of the property on which the site is located is ultimately responsible for compliance with this SWPPP and compliance with the associated land disturbance permit.

Copies of the erosion and sediment control plan shall be included with this SWPPP for use by the site superintendent or designated inspector to update BMP changes, locations of materials storage areas, and any other notations desired.

SECTION 10.0: SUMMARY

Erosion and sediment control measures shall include but not be limited to those shown on the erosion and sediment control plan(s) and referenced by this SWPPP. For optimum stormwater management, in-place BMPs may need adjustments, alternatives, maintenance, and/or additional measures performed as deemed necessary by the permittee, site superintendent, grading contractors, inspectors or governing agencies. Site maintenance and inspection reports will be available for inspection onsite.

The permittee shall provide a copy of this SWPPP to MDNR, USEPA, or any local agency or government representative requesting a copy while performing their official duties. The permittee, their representative, and/or the contractor(s) responsible for installation, operation, and maintenance of the BMPs shall have a current copy of the SWPPP on the project site.

SECTION 11.0: SWPPP CERTIFICATION

I certify under penalty of law that this stormwater pollution prevention plan (and its associated erosion and sediment control plan) has to the best of my knowledge been prepared in compliance with the requirements and regulations of the Missouri Department of Natural Resources and the approval of local governing agencies. Additionally, this plan has been prepared in accordance with the National Pollutant Discharge Elimination System (NPDES) Permit requirements of the United States Environmental Protection Agency. To the best of my knowledge and belief, the information contained in this plan is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fines and imprisonment for these violations.

Signed: _____ Date: _____

Company: _____

SECTION 12.0: CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) Permit which authorizes the stormwater discharges associated with construction of the project referenced as part of this certification.

Signed: _____ Date: _____

Company: _____

Construction Responsibilities: _____

Signed: _____ Date: _____

Company: _____

Construction Responsibilities: _____

Signed: _____ Date: _____

Company: _____

Construction Responsibilities: _____

SWPPP APPENDIX A

USGS LOCATION MAP – A1

SOIL SURVEY MAP – A2



USGS TOPO MAP

SCALE: 1" = 5000'

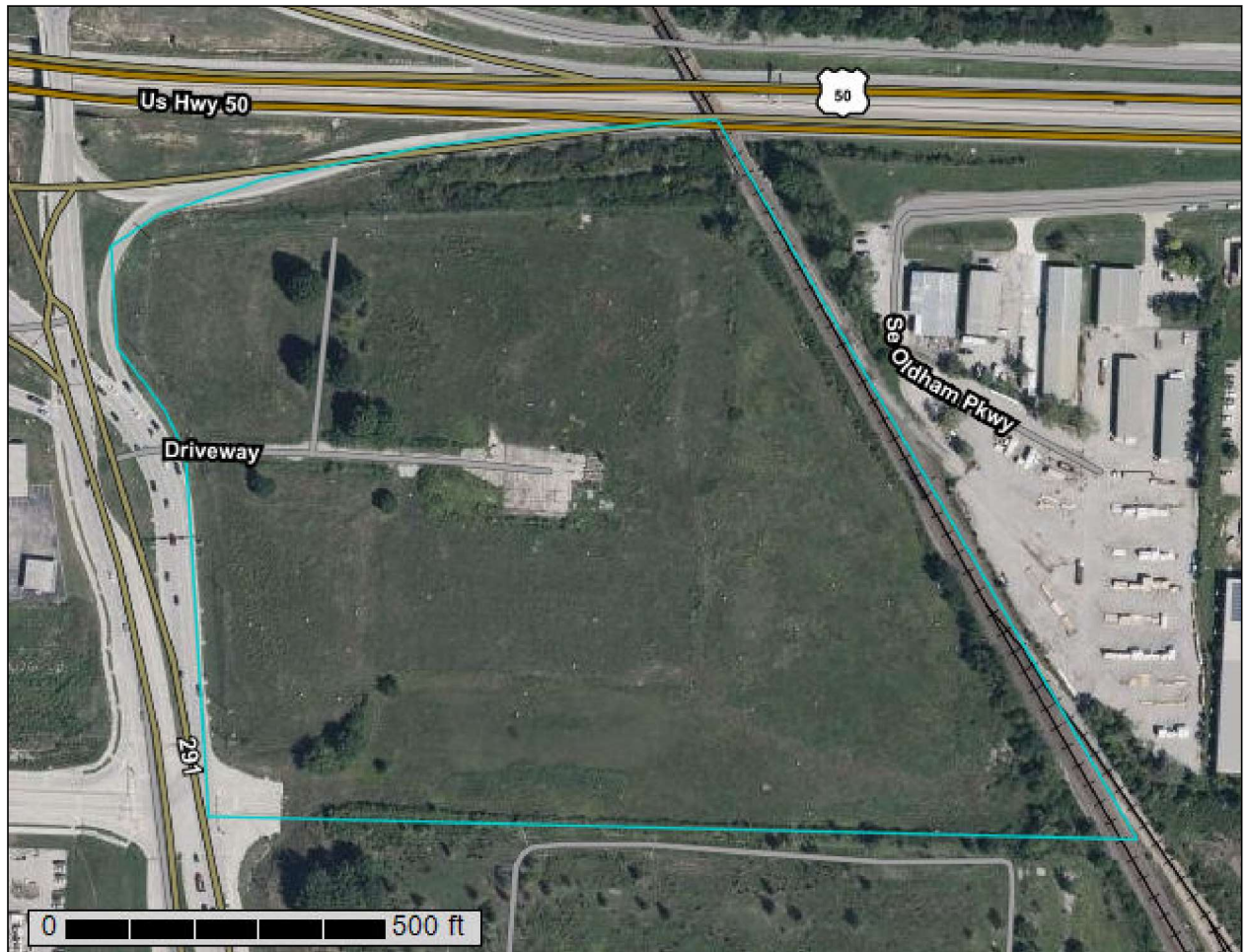
USGS US TOPO 7.5-MINUTE MAP FOR LEE'S SUMMIT & LAKE JACOMO, MO 2025

USGS MAP COURTESY OF THE NATIONAL MAP ©

<https://topobuilder.nationalmap.gov/> ACCESSED ON 12/04/2025

Custom Soil Resource Report for **Jackson County, Missouri**

Costco - Lees Summit



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

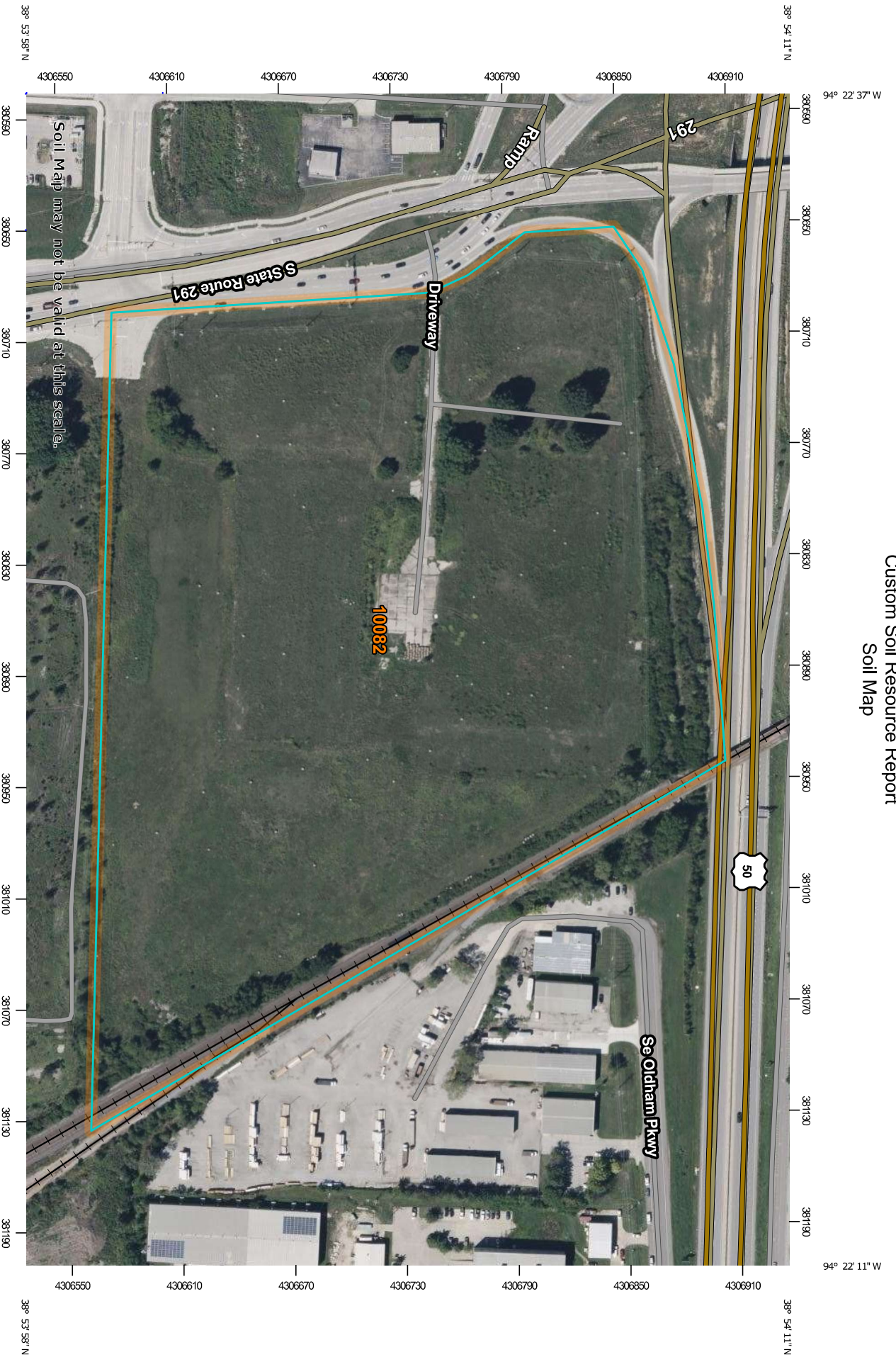
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

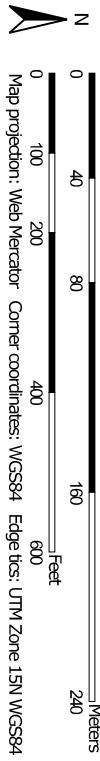
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



































Soil Map may not be valid at this scale.

Map Scale: 1:2,890 if printed on a landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

| | | | |
|---|-------------------------------|---|-----------------------|
|  | Area of Interest (AOI) |  | Spoil Area |
|  | Area of Interest (AOI) |  | Stony Spot |
|  | Soil Map Unit Polygons |  | Very Stony Spot |
|  | Soil Map Unit Lines |  | Wet Spot |
|  | Soil Map Unit Points |  | Other |
|  | Special Point Features |  | Special Line Features |
|  | Blowout |  | Streams and Canals |
|  | Borrow Pit |  | Transportation |
|  | Clay Spot |  | +++ Rails |
|  | Closed Depression |  | Interstate Highways |
|  | Gravel Pit |  | US Routes |
|  | Gravelly Spot |  | Major Roads |
|  | Landfill |  | Local Roads |
|  | Lava Flow |  | Background |
|  | Marsh or swamp |  | Aerial Photography |
|  | Mine or Quarry | | |
|  | Miscellaneous Water | | |
|  | Perennial Water | | |
|  | Rock Outcrop | | |
|  | Saline Spot | | |
|  | Sandy Spot | | |
|  | Severely Eroded Spot | | |
|  | Sinkhole | | |
|  | Slide or Slip | | |
|  | Sodic Spot | | |

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Jackson County, Missouri
 Survey Area Data: Version 27, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 30, 2022—Sep 8, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|------------------------------------|--|--------------|----------------|
| 10082 | Arisburg-Urban land complex, 1 to 5 percent slopes | 28.7 | 100.0% |
| Totals for Area of Interest | | 28.7 | 100.0% |

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Jackson County, Missouri

10082—Arisburg-Urban land complex, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2w7ld
Elevation: 750 to 1,130 feet
Mean annual precipitation: 39 to 45 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 177 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Arisburg and similar soils: 61 percent
Urban land: 30 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arisburg

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess

Typical profile

Ap - 0 to 6 inches: silt loam
A - 6 to 13 inches: silt loam
Bt - 13 to 19 inches: silty clay loam
Btg - 19 to 56 inches: silty clay loam
BCg - 56 to 79 inches: silty clay loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R107XB007MO - Loess Upland Prairie
Hydric soil rating: No

Description of Urban Land

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Minor Components

Sharpsburg

Percent of map unit: 3 percent

Landform: Ridges

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R109XY002MO - Loess Upland Prairie

Hydric soil rating: No

Sampsel

Percent of map unit: 3 percent

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Concave

Ecological site: R109XY010MO - Interbedded Sedimentary Upland Savanna

Hydric soil rating: Yes

Greenton

Percent of map unit: 3 percent

Landform: Hillslopes

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: R109XY002MO - Loess Upland Prairie

Hydric soil rating: No

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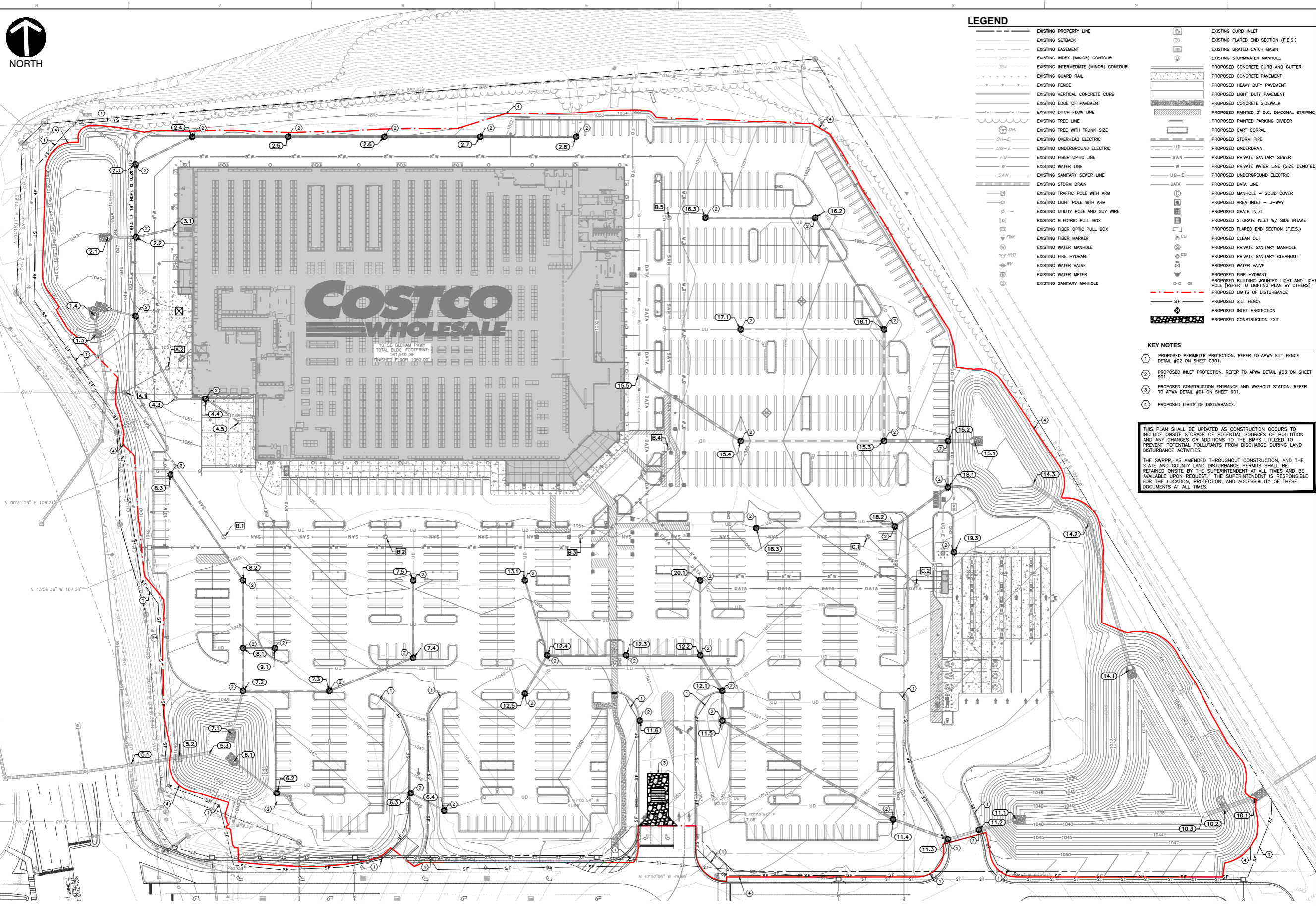
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SWPPP APPENDIX B

Models of Best Management Practices



LEGEND

| | | | |
|-----|---------------------------------------|-----|---|
| --- | EXISTING PROPERTY LINE | ⊕ | EXISTING CURB INLET |
| --- | EXISTING SETBACK | ⊕ | EXISTING FLARED END SECTION (F.E.S.) |
| --- | EXISTING EASEMENT | ⊕ | EXISTING GRATED CATCH BASIN |
| --- | EXISTING INDEX (MAJOR) CONTOUR | ⊕ | EXISTING STORMWATER MANHOLE |
| --- | EXISTING INTERMEDIATE (MINOR) CONTOUR | ⊕ | PROPOSED CONCRETE CURB AND GUTTER |
| --- | EXISTING GUARD RAIL | ⊕ | PROPOSED CONCRETE PAVEMENT |
| --- | EXISTING FENCE | ⊕ | PROPOSED HEAVY DUTY PAVEMENT |
| --- | EXISTING VERTICAL CONCRETE CURB | ⊕ | PROPOSED LIGHT DUTY PAVEMENT |
| --- | EXISTING EDGE OF PAVEMENT | ⊕ | PROPOSED CONCRETE SIDEWALK |
| --- | EXISTING DITCH FLOW LINE | ⊕ | PROPOSED PAINTED 2' O.C. DIAGONAL STRIPING |
| --- | EXISTING TREE LINE | ⊕ | PROPOSED PAINTED TRAFFIC DIVIDER |
| --- | EXISTING TREE WITH TRUNK SIZE | ⊕ | PROPOSED CART CORRAL |
| --- | EXISTING OVERHEAD ELECTRIC | ⊕ | PROPOSED STORM PIPE |
| --- | EXISTING UNDERGROUND ELECTRIC | ⊕ | PROPOSED UNDERDRAIN |
| --- | EXISTING FIBER OPTIC LINE | ⊕ | PROPOSED PRIVATE SANITARY SEWER |
| --- | EXISTING WATER LINE | ⊕ | PROPOSED PRIVATE WATER LINE (SIZE DENOTED) |
| --- | EXISTING SANITARY SEWER LINE | ⊕ | PROPOSED UNDERGROUND ELECTRIC |
| --- | EXISTING STORM DRAIN | ⊕ | PROPOSED DATA LINE |
| --- | EXISTING TRAFFIC POLE WITH ARM | ⊕ | PROPOSED MANHOLE - SOLID COVER |
| --- | EXISTING LIGHT POLE WITH ARM | ⊕ | PROPOSED AREA INLET - 3-WAY |
| --- | EXISTING UTILITY POLE AND GUY WIRE | ⊕ | PROPOSED GRATE INLET |
| --- | EXISTING ELECTRIC PULL BOX | ⊕ | PROPOSED 2 GRATE INLET W/ SIDE INTAKE |
| --- | EXISTING FIBER OPTIC PULL BOX | ⊕ | PROPOSED CLEAN END SECTION (F.E.S.) |
| --- | EXISTING FIBER MARKER | ⊕ | PROPOSED FLEED OUT |
| --- | EXISTING WATER MANHOLE | ⊕ | PROPOSED PRIVATE SANITARY MANHOLE |
| --- | EXISTING FIRE HYDRANT | ⊕ | PROPOSED PRIVATE SANITARY CLEANOUT |
| --- | EXISTING WATER VALVE | ⊕ | PROPOSED WATER VALVE |
| --- | EXISTING WATER METER | ⊕ | PROPOSED FIRE HYDRANT |
| --- | EXISTING SANITARY MANHOLE | ⊕ | PROPOSED BUILDING MOUNTED LIGHT AND LIGHT POLE [REFER TO LIGHTING PLAN BY OTHERS] |
| --- | | --- | PROPOSED LIMITS OF DISTURBANCE |
| --- | | --- | PROPOSED SILT FENCE |
| --- | | --- | PROPOSED INLET PROTECTION |
| --- | | --- | PROPOSED CONSTRUCTION EXIT |

KEY NOTES

1. PROPOSED PERIMETER PROTECTION. REFER TO APWA SILT FENCE DETAIL #02 ON SHEET C901.
2. PROPOSED INLET PROTECTION. REFER TO APWA DETAIL #03 ON SHEET 901.
3. PROPOSED CONSTRUCTION ENTRANCE AND WASHOUT STATION. REFER TO APWA DETAIL #04 ON SHEET 901.
4. PROPOSED LIMITS OF DISTURBANCE.

THIS PLAN SHALL BE UPDATED AS CONSTRUCTION OCCURS TO INCLUDE ONSITE STORAGE OF POTENTIAL SOURCES OF POLLUTION AND ANY CHANGES OR ADDITIONS TO THE BMPs UTILIZED TO PREVENT POTENTIAL POLLUTANTS FROM DISCHARGE DURING LAND DISTURBANCE ACTIVITIES.

THE SWPPP, AS AMENDED THROUGHOUT CONSTRUCTION, AND THE STATE AND COUNTY LAND DISTURBANCE PERMITS SHALL BE RETAINED ONSITE BY THE SUPERINTENDENT AT ALL TIMES AND BE AVAILABLE UPON REQUEST. THE SUPERINTENDENT IS RESPONSIBLE FOR THE LOCATION, PROTECTION, AND ACCESSIBILITY OF THESE DOCUMENTS AT ALL TIMES.

REFERENCE

1. ALTA SURVEY DATED 08-20-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
3. SITE DEVELOPMENT PLANS DATED 12-22-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES.

NOTES:

1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

SCALE IN FEET
0 40 80
KARL A. SCHOENIKE, PE
(MO PE# 203015039)

REVISION RECORD

| NO. | DATE | DESCRIPTION |
|-----|------------|---------------------------------------|
| 1 | 12/15/2025 | ISSUED FOR REVIEW OF PERMITS COMMENTS |
| 2 | 12/15/2025 | ISSUED FOR REVIEW OF PERMITS COMMENTS |

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Ph: 314.656.4566
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CEC
Civil & Environmental
Consultants, Inc.

COSTCO WHOLESALE
LEE'S SUMMIT, MISSOURI

FINAL DEVELOPMENT PLAN
EROSION CONTROL PLAN

DATE: DECEMBER 1, 2025 DRAWN BY: KAS
DWG SCALE: 1" = 40' CHECKED BY: DK
PROJECT NO: SSS-300.0014
APPROVED BY: AH

DRAWING NO.: **C900**
SHEET 20 OF 21

The seeded/sodded area shall be kept free of traffic until accepted. If at any time before acceptance of the completed contract, any portion of the seeded surface becomes gullied or otherwise damaged, or the seeding has been damaged or destroyed, the affected portion shall be repaired to re-establish the specified condition prior to the acceptance of the work.

2400.6 Acceptance of Seeding and Sodding

- A. **Acceptance:** Acceptance by the Owner will occur when areas seeded and/or sodded are determined to be established turf areas ready for mowing. Grass areas in excess of one (1) square foot that are dead or in poor condition regarding color and quality shall be replaced at the Contractor's expense prior to the initiation of the Maintenance Period.
- B. **Sod Watering:** Throughout the Maintenance Period, the Contractor shall be responsible for watering the installed sod until it is established and ready for mowing. In the absence of rainfall, watering shall be performed daily during the first week and shall be sufficient to maintain moist soil to a depth of at least 4 inches. Soil on sod pads shall be kept moist at all times. Watering may be done during the heat of the day to help prevent wilting. After the second week, the Contractor shall water the sod as required to maintain adequate moisture in the upper 4 inches of topsoil necessary for the promotion of deep root growth until final acceptance as established turf areas ready for mowing.
- C. **Seed Watering:** The Contractor shall be responsible for watering seeded areas, keeping all areas moist throughout the germination period, following the substantial germination of the seed, and during the occurrence of a dry or drought period. Continued watering will be required until final acceptance as established turf areas ready for mowing.
- D. **Acceptance Notification:** After acceptance of the seeded or sodded area by the Owner, the Contractor shall by door hangers or other approved methods, notify all affected property owners that the maintenance of the grassed areas is now their responsibility.

2400.7 Clean-up

During the progress of this work and upon completion, thoroughly clean the project area, remove and properly dispose of all resultant dirt, debris and other waste materials.

2400.8 Guarantee

The Contractor shall guarantee all work and materials for a period of one full growing season (Spring to Fall) after the date of final acceptance of the project. During the guarantee period, all turf which dies or exhibits weak growth or undesirable grasses, free of eroded areas, bare spots, diseases and insects, shall be replaced with like material at the expense of the Contractor. Contractor to replace as originally specified areas which have failed to survive, as often as required, to establish the seeded/sodded lawn area until accepted, at no additional compensation. Contractor to repair and replace to original condition all damages to property resulting from the sodding operation and all damages as a result from the removing of these defects, without additional compensation.

SECTION 2401 SEEDING

2401.1 Scope

This section governs furnishing of labor, materials and equipment necessary for complete installation of seeding in

American Public Works Association
Kansas City Metropolitan Chapter
3 February 2017

accordance with the Standard Drawings, the specifications and Special Provisions. The Contractor shall furnish all plants and materials and perform all operations in connection with the preparation, fertilizing, planting, watering, firming and establishment, of seeding areas, complete and in strict accordance with these specifications and applicable Plans, and subject to the terms and conditions of the Contract. The Contractor shall seed disturbed areas where shown on the Plans or by field inspection and as required by the Storm Water Pollution Prevention Plan. The Contractor shall be responsible for establishment of grass.

2401.2 Materials

- A. **Seed:** Seed shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under Federal Seed Act. All seed shall be furnished in sealed standard containers unless exception is granted in writing by the Owner. Seed shall be free from noxious weeds and noxious "Grass A" recent crop seed treated with appropriate fungicide at time of mixing. Seed which has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable. Seed mix to be used will be identified prior to sowing. The minimum percentage by weight of pure live seed in each lot of seed shall be as follows:
 - 1. **Seeding - Mix #1 (Turf Areas)**
 - Festuca arundinacea, Fineleaf Tall Fescue, Varieties: Houndog V, Rebel Jr., Rebel III, Rebel 3D, Barkless, Millennium, Southern Cross, Tar Heel, Wolf Pack, Bonus 2000, Shortstop II Coyote, or other pre-approved substitutes. 65.5%
 - Poa pratensis, Kentucky Bluegrass, Varieties: Baron, Nassau, Ram I, Nabuc, Rugby II, Award, Blackburg, Challenger, English, Limousine, Livington, Midnight, Nalgala, Presidential, Princeton 105, Quantum Leap, 1157 or other approved substitutes. 25.0%
 - Lolium multiflorum - annual ryegrass. 12.5%
 - 2. **Seeding - Mix #2 (Low Use Areas)**
 - Festuca ovina, Sheeps Fescue, Varieties: Azay, Big Horn, or other pre-approved substitutes. 15.0%
 - Festuca rubra subsp. Commutata, Chewings Fescue, Varieties: James town II, Victory, Tiffany, or other approved substitutes. 20.0%
 - Festuca longiloba, Hard Fescue, Varieties: Spartan, Tournament, Warwick, Discovery, Waldra, Aurora, 4 AG Astla, Rebel II, Scallio, or other pre-approved substitutes. 35.0%
 - Festuca rubra subsp. Rubra, Creeping Red Fescue, Varieties: Shademaster II, Jasper, Cindy, Penmarc, or other pre-approved substitutes. 30.0%
 - 3. **Seeding Rate:** Seed mixture shall be sown at the minimum rate of 10 pounds per 1000 square feet for new seeding. See Section 2400.3.E.1 for overseeding rates.
- B. **Inorganic Fertilizer:** Inorganic fertilizer shall be composed of a formula 12-12-12, 13-13-13 or other approved substitute, and shall conform to the applicable State fertilizer laws. Fertilizer shall be of a type that can be uniformly distributed by the application equipment. Fertilizer may be furnished in a dry (granulated) or liquid form. When applied dry, the fertilizer shall be a granular, non-burning chemically combined product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer. Granular or

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pellet form shall be uniform in composition, dry and free flowing and shall be delivered to the site in the original unopened containers each bearing the manufacturer's guarantee. Any fertilizer which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted. When applied in a liquid form, fertilizer may be chemically combined or may be furnished as separate ingredients.

C. Mulch

Mulch shall be the vegetative type, or wood cellulose fiber type, whichever is specified in the Special Provisions, or as approved by the Owner.

- 1. **Vegetative Type:** The vegetative type shall be cereal straw from stalks of oats, rye, wheat or barley and shall be free of prohibited and noxious weed seeds.
- 2. **Wood Cellulose Fiber Mulch:** Wood cellulose fiber shall contain no germination or growth inhibiting ingredients, and shall be dyed an appropriate color to aid in visual metering in its application. It shall be easily and evenly dispersed and suspended when applied in water, and when sprayed uniformly on the soil surface, shall form a bottle-like cover, which readily absorbs the water and allows infiltration to the underlying soil. The mulch material shall be supplied in packages of not more than 100 pounds gross weight, and shall be marked by the manufacturer to show the air dry weight content (air dry weight shall contain no more than 10 percent moisture).
- D. **Water:** Water, hose and other watering equipment required for the work shall be furnished by the Contractor.
- E. **Other Materials:** Other materials not specifically described but required for a complete and proper planting installation, shall be as selected by the Contractor subject to the approval by the Owner.
- F. **Equipment:** The seeding operation shall be accomplished with equipment suitable for preparing the seed bed, sowing the seed, fertilizing, spreading the vegetative type mulch, or spreading the wood cellulose fiber mulch in accordance with the applicable requirements of the following sub-section entitled "Construction".
- G. **Top Soil:** The Contractor shall make every reasonable effort to stockpile existing top soil prior to excavation and reuse it in the same general locations. No payment will be made for topsoil furnishing and placement necessary due to excessive hauling off of existing soil on the project site.
- H. **Qualifications of Workmen:** Provides at least one person, who shall be present at all times during the execution of this work, who is thoroughly familiar with all materials and installation procedures included in the Seeding and Sodding operations as specified herein.
- I. **Delivery Containers:** Deliver all items to the site in their original containers with all labels intact and legible at time of Owner inspection.
- J. **Protection:** Use all means necessary to protect all materials before, during and after installation, and to protect the installed work and materials of other trades.
- K. **Replacements:** In the event of damage or rejection, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- L. **Weather Conditions:** All sodding and seeding shall be performed during favorable weather conditions and only during normal and acceptable planting seasons when satisfactory growing conditions exist. The planting operations shall not be performed during times of extreme drought, when ground is frozen or during times of other unfavorable climatic conditions unless otherwise approved by the Owner. The Contractor assumes full and complete responsibility for all such plantings and operations.

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- M. **Planting Dates:** Recommended dates for all seeding and planting shall be March 15 through October 15 unless otherwise approved by the Owner.
- N. **Pre-planting Inspection:** Prior to the work of this section, the Contractor shall carefully inspect the installed work of all other trades and verify that all such work is complete to the point where installation may properly commence.
- O. **Discrepancies:** Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

2401.3 Construction

- A. All equipment used in the project and all workmanship shall meet the approval of the Owner.
- B. All areas to be seeded shall be filled or diked to a depth of 3-4 inches and raked or smoothed to remove debris, clods, surface stones, 2-inch diameter or larger and weeds. Grades on the areas to be sodded or seeded shall be maintained in true, even and compacted conditions to prevent the formations of depressions. Areas overseeded, to be seeded that have washed or eroded shall be brought to grade and compacted thoroughly by the Contractor prior to placing the seeding or overseeding. No grading shall be done when the soils are in a muddy or frozen condition.
- C. **Steel Edging:** The fresh sub-grade of areas to be planted shall be 2" below top of steel edging, if present, for grass sod and flush with top of steel edging for seeding.
- D. **Other Edges:** The finished sub-grade next to curbs, sidewalk and drive approaches shall allow for the seed to be placed level with the improvement. The sub-grade shall be finished level with the improvement for seeding.
- E. **Fertilizer Application:** For areas to be seeded, fertilizer shall be applied when area receives final grading and tilage.
- F. **Application of Fertilizer:** The Contractor has the option to obtain soil tests from a recognized testing laboratory, approved by Owner, to determine soil pH, nitrogen, phosphorus and potassium requirements and organic matter content. A pH of 5.8 to 7.0 and phosphorus and potassium levels of medium or higher range for the particular test used is required. Soils falling below these test levels must be supplemented with the appropriate materials to meet such test levels. If the above soil test is not performed a 13-13-13 fertilizer shall be applied at the rate of 400 pounds per acre.
- G. **Acceptance of Plant Bed:** Acceptance of the plant bed for seeding shall be obtained from the Owner for each section of area as indicated on the Plans. The Contractor shall be responsible for maintaining the accepted areas until the effective date for planting.
- H. **Sowing:** Sowing shall be accomplished by use of an approved mechanical seeder or drill (hand spreader can be used in small areas), making sure that successive seed strips overlap to provide uniform coverage. Seed should be diked to a depth of 1/2 inch.
 - 1. Seed mixed in proportions shown in Section 2405.2 may be broadcast by approved sowing equipment. The seed shall be uniformly distributed over the designated areas. The seed shall be covered to an average depth of 1/2 inch by means of a brush harrow, spike-tooth harrow, chain

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- harrow, cultipacker or other approved device.
- 2. Areas to be seeded shall be fertilized at rates specified in Section 2401.3.F. The seedbed shall be free of any irregularities in the surface, and shall be corrected in order to prevent formation of water pockets. All seeded areas are to be completely covered with hydromulch or with straw anchored to the soil a minimum depth of 3 inches by a disc harrow set nearly straight, to properly maintain soil moisture and to provide shade for the newly germinated chutes.
- 3. Promptly after mulching, wet the seedbed thoroughly, keeping all areas moist throughout the germination period. Protect all turf areas by erecting temporary fences, barriers, signs, etc. as necessary to prevent trampling and disturbance.
- 4. When delays in operations carry the work beyond the most favorable planting season for the grasses designated, or when conditions are such, by reason of drought, high winds, excessive moisture, or other factors that satisfactory results are not likely to be obtained, the seeding operation shall be stopped and work shall be resumed only when conditions are favorable again or when approved alternative or corrective measures and procedures have been put into effect. If inspection during seeding operations or after indicated there are areas which have been skipped, the sowing of additional seed on these areas will be required.
- 5. The seeded areas will be inspected for acceptable grass coverage and will be acceptable when grasses designated are growing and are in good condition and no area more than 1/2 of one percent of the total area shall be bare, of which no single area shall be more than one foot square in area. Any bare area larger than this will not be acceptable and shall be reseeded.

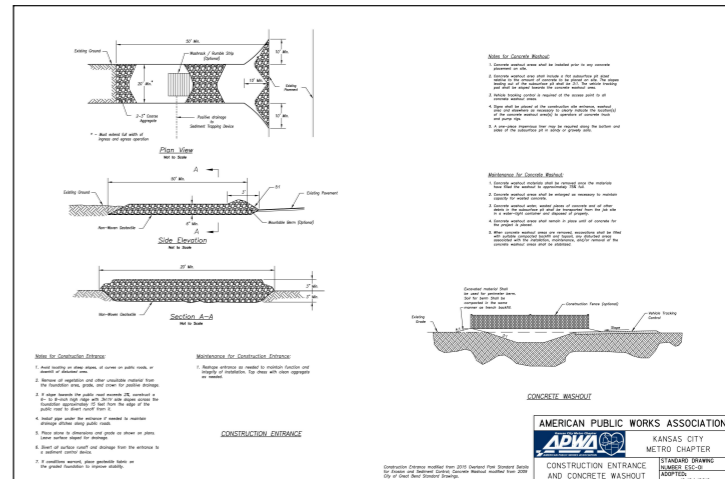
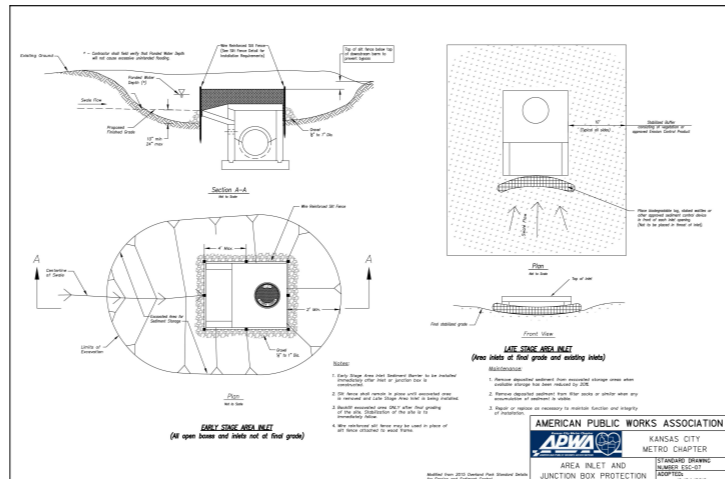
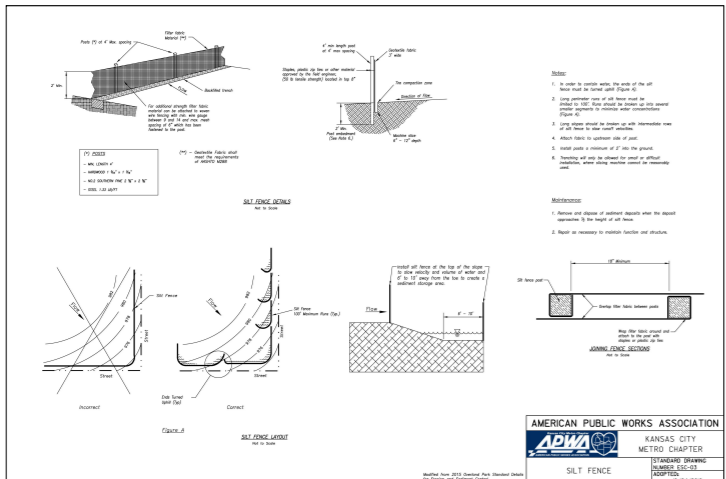
SECTION 2402 SODDING

2402.1 Scope

- L. **Compaction:** Immediately following the completion of seeding operations, the entire area shall be compacted by means of a roller weighing at least 60 but not more than 90 pounds per linear foot of roller.
- J. **Maintenance Period:** The Contractor shall be responsible for maintaining the installed grass seed and sod until all areas are complete and accepted by the Owner.
- K. **Mulching:** Mulching shall be done within 24 hours following the seeding operation except in the case of wood cellulose fiber type mulch.
 - 1. **Vegetative Type Mulch:** After compacting the surface, mulch shall be uniformly spread at the rate of 1.5 tons per acre by means of a mechanical spreader or other approved means. As soon as the mulch is spread it shall be anchored to the soil a minimum depth of 3 inches by use of a heavy disc harrow, set nearly straight, or a similar approved tool. Discs of the anchoring tool shall be set approximately 9 inches apart. Anchoring shall be accomplished by not more than two passes of the tool.
 - 2. **Wood Cellulose Fiber Type:** Wood cellulose fiber mulch shall be added to the hydraulic seeder after the proportional amounts of seed and fertilizer and other approved materials are added. These ingredients shall be mixed to form a slurry which shall be applied at the rate of 1,000 pounds per acre. The mulch shall make a uniform coverage of the soil surface that will be satisfactory to the Owner.

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DETAIL #01 APWA SEED & SOD REQUIREMENTS N.T.S.



SWPPP GENERAL NOTES

- 1. SEDIMENT AND EROSION CONTROL SHALL NOT BE LIMITED TO THE MEASURES SHOWN ON THE PLANS. THE CONTRACTOR, WITH THE APPROVAL OF JACKSON COUNTY SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT SEDIMENT FROM ENTERING ADJACENT PROPERTIES, ROADWAYS, STORM SEWERS, AND DRAINAGEWAYS.
- 2. ALL SILTATION CONTROL DEVICES SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY AND WITHIN 48 HOURS AFTER EACH RAINFALL EVENT. ANY APPRECIABLE ACCUMULATION OF MUD TO BE REMOVED AND SILTATION MEASURES REPAIRED WHERE NECESSARY.
- 3. SEDIMENT AND EROSION CONTROL PLANS FOR SITES THAT EXCEED 20,000 SQUARE FEET OF GRADING SHALL PROVIDE FOR SEDIMENT OR DEBRIS BASINS, SILT TRAPS OR FILTERS, OR OTHER APPROVED MEASURES TO REMOVE SEDIMENT FROM RUN-OFF WATERS. THE DESIGN TO BE APPROVED BY THE DESIGNATED OFFICIAL. TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
- 4. 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 DURING THE NEXT SEEDING PERIOD AFTER GRADING HAS BEEN COMPLETED.
- 5. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 14 DAYS PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO JACKSON COUNTY RECOMMENDATIONS. ALL FINISHED GRADES (AREAS NOT TO BE DISTURBED BY FUTURE IMPROVEMENT IN EXCESS OF 30% SLOPES (S:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDING.
- 6. PROVISIONS SHALL BE MADE TO ACCOMMODATE THE INCREASED RUNOFF CAUSED BY CHANGED SOILS AND SURFACE CONDITIONS DURING AND AFTER GRADING. UNVEGETATED OPEN CHANNELS SHALL BE DESIGNED SO THAT GRADIENTS RESULT IN VELOCITIES OF 2 FPS (FEET PER SECOND) OR LESS. OPEN CHANNELS WITH VELOCITIES MORE THAN 2 FPS AND LESS THAN 5 FPS SHALL BE ESTABLISHED IN PERMANENT VEGETATION BY USE OF COMMERICAL EROSION CONTROL BLANKETS OR LINED WITH ROCK RIP RAP OR CONCRETE OR OTHER SUITABLE MATERIALS AS APPROVED BY THE COUNTY ENGINEER. DETENTION BASINS, DIVERSIONS, OR OTHER APPROPRIATE STRUCTURES SHALL BE CONSTRUCTED TO PREVENT VELOCITIES ABOVE 5 FPS.
- 7. THE ADJOINING GROUND TO DEVELOPMENT SITES (LOTS) SHALL BE PROVIDED WITH PROTECTION FROM ACCELERATED AND INCREASED SURFACE WATER, SILT FROM EROSION, AND ANY OTHER CONSEQUENCE OF EROSION. RUN-OFF WATER FROM DEVELOPED AREAS (PARKING LOTS, PAVED SITES AND BUILDINGS) ABOVE THE AREA TO BE DEVELOPED SHALL BE DIRECTED TO DETENTION BASINS, DETENTION BASINS, CONCRETE GUTTERS AND/OR UNDERGROUND OUTLET SYSTEMS.
- 8. UPON COMPLETION OF STORM SEWERS, SILTATION CONTROL SHALL BE PROVIDED AROUND ALL OPEN SEWER INLETS AND SHALL REMAIN UNTIL THE DISTURBED DRAINAGE AREAS HAVE BEEN PROPERLY STABILIZED.
- 9. SEDIMENT SHALL BE WASHED FROM ALL VEHICLES AT WASH DOWN STATION PRIOR TO LEAVING THE SITE. NO TRACKING OF MUD ONTO PUBLIC ROADS SHALL BE ALLOWED.
- 10. ALL TRASH AND DEBRIS ON-SITE, EITHER EXISTING OR FROM CONSTRUCTION, MUST BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE.
- 11. SILTATION CONTROL MEASURES SHALL BE INSTALLED BEFORE GRADING ACTIVITIES BEGIN AND SHALL BE MAINTAINED UNTIL ALL SITEWORK THAT COULD GENERATE SILT IS COMPLETED.
- 12. ALL FEDERAL, STATE AND LOCAL PERMITS AND BMP INSPECTION REPORTS ARE TO BE LOCATED AT THE JOB TRAILER FOR VIEWING AT ALL TIMES.
- 13. THE PROJECT WILL NOT EMPLOY THE USE OF TEMPORARY, ON SITE, CONCRETE OR ASPHALT BATCH PLANTS.
- 14. THIS SITE DOES NOT REQUIRE 404/401 PERMITTING.
- 15. NO Dewatering methods are anticipated or proposed for this project.
- 16. NO CONSTRUCTION WASTE OR POTENTIAL POLLUTION SOURCES ARE PROPOSED TO BE STORED ON SITE DURING CONSTRUCTION OR LAND DISTURBANCES.
- 17. NO SINKHOLES, SPRINGS, SEEPS, OR KARST FEATURES ARE LOCATED ON THE SITE.
- 18. PRIOR TO ANY MAJOR LAND DISTURBANCE ACTIVITY, A LAND DISTURBANCE PERMIT FROM THE STATE OF MISSOURI DEPARTMENT OF NATURAL RESOURCES WILL BE REQUIRED. CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF SAID PERMIT.
- 19. THE LOSS OF ANY CONTAINED SEDIMENT OR OTHER POLLUTANT REQUIRES IMMEDIATE ACTION WHICH MUST BE DOCUMENTED AND REPORTED TO JACKSON COUNTY.
- 20. ROUTINE INSPECTIONS SHALL OCCUR WEEKLY AND NO LATER THAN 48 HOURS AFTER RUNOFF PRODUCING RAINFALL EVENT TO ENSURE THAT ALL BMPs ARE CONTINUALLY IMPLEMENTED AND ARE EFFECTIVE.
- 21. PROPOSED POST CONSTRUCTION SURFACE BMPs SHALL BE CONSTRUCTED AFTER SUBSTANTIAL COMPLETION OF LAND DISTURBANCE ACTIVITIES. ALL POST CONSTRUCTION BMPs ARE TO BE PROTECTED FROM RUNOFF, SEDIMENT, AND DAMAGE DURING CONSTRUCTION ACTIVITIES.
- 22. EPA ALLOWABLE NON-STORM WATER DISCHARGES:
 - WATERLINE FLUSHING
 - LANDSCAPE IRRIGATION
 - DIVERTED STREAM FLOWS
 - RISING GROUND WATERS
 - UNCONTAMINATED GROUND WATER INFILTRATION
 - UNCONTAMINATED PLUMBED GROUND WATER
 - FOUNDATION DRAINS
 - DISCHARGE FROM PORTABLE WATER SOURCES
 - AIR CONDITIONING CONDENSATION
 - IRRIGATION WATER, SPRINGS
 - WATER FROM CRAWL SPACE PUMPS
 - FOOTING DRAINS
 - LAWN WATERING
 - INDIVIDUAL RESIDENT CAR WASHING
 - FLOWS FROM RIPARIAN HABITATS AND WETLANDS
 - DE-CORATED SWIMMING POOL DISCHARGES
 - STREET WASH WATER
 - RESIDENTIAL BUILDING WASH WATERS, WITHOUT DETERGENTS
 - DISCHARGES FROM EMERGENCY FIRE FIGHTING ACTIVITIES

SWPPP Certification

I certify under penalty of law that this Storm Water Pollution Prevention Plan has been prepared in accordance with the requirements and regulations of the Missouri Department of Natural Resources and the approval of the local governing agency. Additionally, this plan has been prepared to substantially comply with the General Permit Requirements of the United States Environmental Protection Agency. To the best of my knowledge and belief, the information contained in this plan is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Signature: _____ Date: _____

NOTES:

- 1. CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THIS PROJECT.

KARL A. SCHOENKE, PE
(MO PE# 2003015039)

811 or 1-800-344-7483
http://missouri-811.org

REFERENCE

- EXISTING TOPOGRAPHIC DATA AND FEATURES ARE A COMBINATION OF THE FOLLOWING:
 - 1. ALTA SURVEY DATED 08-00-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
 - 2. DEVELOPMENT PLANS FOR OLDHAM VILLAGE (BY OTHER)
 - 3. SITE DEVELOPMENT PLANS DATED 12-22-2025 BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

NOTE TO CONTRACTOR: PRIOR TO ANY EXCAVATION FOR UNDERGROUND UTILITIES, CONTRACTOR SHALL EXPOSE AND VERIFY LOCATIONS (HORIZONTAL AND VERTICAL) OF ALL EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO GAS, WATER, BROADBAND, PHONE, SANITARY AND STORM SEWERS. ANY CONFLICT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND APPROPRIATE AUTHORITIES.

REVISION RECORD

| NO. | DATE | DESCRIPTION |
|-----|------------|--|
| 1. | 11/15/2024 | PROVIDED LIST OF BEST MANAGEMENT PRACTICES |
| 2. | 11/15/2024 | PROVIDED LIST OF BEST MANAGEMENT PRACTICES |
| 3. | 11/15/2024 | PROVIDED LIST OF BEST MANAGEMENT PRACTICES |

1450 Beale Street
Suite 305
St. Charles, MO 63303
Ph: 314.656.4566
www.cccinc.com

LEE
Civil & Environmental
Consultants, Inc.

COSTCO
WHOLESALE
LEE'S SUMMIT, MISSOURI

FINAL DEVELOPMENT PLAN

E&S DETAILS

DECEMBER 1, 2025 DRAWN BY: KAS
DWG SCALE: NONE CHECKED BY: DK
PROJECT NO: 315-300-0014
APPROVED BY: AH

DRAWING NO.:
C901
SHEET 21 OF 21

SWPPP APPENDIX C

Sample Inspection Log Sheets

EROSION AND SEDIMENT CONTROL INSPECTION REPORT

PROJECT: _____

DATE: _____ PURPOSE OF INSPECTION: Rainfall or Weekly

INSPECTOR: _____

INSPECTOR SIGNATURE: _____

| | OVERALL CONDITION | | | REPAIR NEEDED | | | COMMENTS |
|----------------------------|-------------------|---|---|---------------|---|----|----------|
| | G | F | P | Y | N | NA | |
| STRUCTURAL MEASURES | | | | | | | |
| Sediment Basins | | | | | | | |
| Other | | | | | | | |

| | G | F | P | Y | N | NA | COMMENTS |
|----------------|-----------------------------|---|---|---|---|----|----------|
| | SEDIMENT CONTAINMENT | | | | | | |
| Silt Fence | | | | | | | |
| Berms | | | | | | | |
| Sediment Traps | | | | | | | |

| | G | F | P | Y | N | NA | COMMENTS |
|-------------------------------|---------------------------------|---|---|---|---|----|----------|
| | DRAIN / INLET PROTECTION | | | | | | |
| Straw Logs | | | | | | | |
| Gutter Buddies | | | | | | | |
| Gravel or Rock bags | | | | | | | |
| Rock / gravel and screen wire | | | | | | | |

| | G | F | P | Y | N | NA | COMMENTS |
|-------------------|------------------------|---|---|---|---|----|----------|
| | CHANNEL DEVICES | | | | | | |
| Rock ditch checks | | | | | | | |
| Other: | | | | | | | |

| | G | F | P | Y | N | NA | COMMENTS |
|-----------------------------------|-----------------------------|---|---|---|---|----|----------|
| | MUD TRACKING CONTROL | | | | | | |
| Vehicle tracking at access/egress | | | | | | | |

| | G | F | P | Y | N | NA | COMMENTS |
|---------------------------------|--------------------------------|---|---|---|---|----|----------|
| | NON-STRUCTURAL MEASURES | | | | | | |
| Vegetation | | | | | | | |
| Mulch | | | | | | | |
| Hydraulically Applied Mulch | | | | | | | |
| Hydro-seeding | | | | | | | |
| Earth Guard Fiber Matrix | | | | | | | |
| Bonded Fiber Matrix | | | | | | | |
| Rolled Erosion Control Products | | | | | | | |

G=GOOD, F=FAIR, P=POOR, Y=YES, N=NO, NA=NOT APPLICABLE

Action taken or necessary to correct deficiencies:

Listing of area where land disturbance operations have temporarily or permanently stopped:
