MR. MARK SCHMIDT

SWPPP

Storm Water Pollution Prevention Plan

EVERGREEN PLACE 1st ADDITION

SWPPP Preparation Date: April 5, 2019

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

For:

Evergreen Place 1st Addition
Northwest 1/4 of Section 11-T8N-R8E
Village of Bennet
Lancaster Co., Nebraska

Operators/Certifying Officials:

Contractor
Varies

Owner
Mr. Mark Schmidt
2625 SW 12 St.
Lincoln, NE 68522
P: 402 429 4000

SWPPP Compliance Officer/Authorized Representative:

Mr. Mark Schmidt
Owner
2625 SW 12 St.
Lincoln, NE 68522
P: 402 429 4000

Emergency 24-Hour SWPPP Contact:

Mr. Mark Schmidt

SWPP Location:

Owners's vehicle or job trailer.

SWPPP Preparation Date:

April 5, 2019

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SECTION 1 - PROJECT/SITE INFORMATION

1.1 - Introduction

The purpose of this Storm Water Pollution Prevention Plan (SWPPP) is to delegate responsibility and demonstrate compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) for construction activities. The NPDES General Permit requires the preparation and implementation of the SWPPP to prevent, as much as possible, the release of pollutants in storm water runoff from the construction site to waters of the United States.

This SWPPP contains Best Management Practices (BMP's) and administrative requirements for implementation. However, the SWPPP will need to be kept updated and revised as necessary by the Operator/Contractor as it was developed prior to the commencement of construction activities.

1.2 - Owner/Operator and Contractor Responsibilities

Mr. Mark Schmidt ("Owner")

- General project oversight, including review of the SWPPP documentation;
- Advise employees of the SWPPP requirements;
- Participate in construction meetings addressing SWPPP compliance issues;
- Upon acceptance of the project, continue SWPPP implementation until acceptance of Notice of Termination (NOT); and
- Maintain a copy of the final signed SWPPP and all records and reports for a minimum of three years from acceptance of the NOT.

Varies ("Contractor")

- Obtain copy of NPDES permit, including any Notice of Transfer;
- Obtain copy of SWPPP;
- Update SWPPP documentation within seven days of inspection, occurrence, amendment, maintenance, etc.;
- Provide and maintain SWPPP location signs;
- Inspect the site prior to construction for existing or potential problem areas and provide special attention to all creeks, flood control ditches, canals, and Army Corps 404 permit areas;
- Conduct SWPPP inspections and monitoring;
- Attend construction meetings addressing the SWPPP requirements;
- Notify the owner immediately upon an incident of non-compliance;
- Construct and maintain temporary and permanent erosion control features and any additional BMP's to meet SWPPP requirements;
- Provide adequate washout and cleaning facilities;
- Maintain cleanliness of project and surrounding areas;

- Shall not store erodible or hazardous materials on the roadway;
- Submit the Notice of Termination , if applicable, prior to project acceptance and completion; and
- Advise employees, subcontractors, and suppliers of the SWPPP requirements, including their responsibilities and the need to not damage any BMP's.

Subcontractor List:

1.3 - Owners Represenative, Inspector, and SWPPP Designer

Owner's Representative:
Mr. Mark Schmidt

Contractors's Representative Responsible for SWPPP Inspections:
Mr. Mark Schmidt

SWPPP Designer:
CES Group
Mr. Anthony Duever, PE
1102 Broadway
Marysville, KS 66508
P: 785-562-5148

1.4 - Site Map

See Appendix A for a map that shows the location of the project.

1.5 - Nature of Construction Activity and Sequence

Mr. Mark Schmidt is planning to build a 15-acre residential subdivision located in the Village of Bennet, Lancaster Co, Nebraska. The subdivision will consist of 42 residential lots with paved road access. Mr. Mark Schmidt will be responsible for overall site development of the 42 lots including grading, infrastructure, and constructing houses/duplexes.

Estimated Project Start Date: 04/08/2019

Estimated Project Completion Date: unknown

Timeline of Activity: OWNER will follow the sequence of activities below for major construction activities and BMP installation.

Estimated timeline of activity	Construction activity and BMP descriptions
Week 1	*Before any site grading activities begin* 1. Install slope barriers. 2. Install inlet protection along Hackberry Street. 3. Install stabilized construction entrance.
Week 2 – Week 6	*Site Grading* 1. Begin clearing and grubbing operations. 2. Begin top soil clearing. 3. Establish topsoil stockpiles. 4. Install silt fences around stockpiles and temporarily stabilize the stockpiles and areas where construction will cease for more than 14 days.
Week 7 – Week 14	*Infrastructure (roads, utilities, etc.)* 1. Construct combined staging and materials storage area. 2. Install temporary sanitary facilities. 3. Install dumpsters for site. 4. Install utilities, sanitary sewers and water services. 5. Prepare pavement subgrade and install gutters, curbs, storm drain inlets. 6. Install street surfacing 7. Install inlet protection.
Week 14-Week 15	*Final Stabilization of ROW* 1. Seed and mulch all disturbed areas within the ROW. 2. Monitor until final stabilization is reached. 3. Remove all temporary BMP's.
Week 16-unknown	*Lot Development (each lot)* 1. Clear and grub lot. 2. Install perimeter control. 3. Perform lot grading. 4. Complete lot development. 5. Seed and mulch all disturbed areas. 6. Monitor until final stabilization is reached. 7. Remove all temporary BMP's.

1.6 - Soils, Slopes, Vegetation, and Current Drainage Patterns

Soil type(s):

According to a review of the USDA Natural Resource Conservation Service soils map for Lancaster County, Nebraska, on-site soils consist of Kennebec silt loam (7%), Judson silt loam (38%), Morrill clay loam (23%), Mayberry silty clay loam (20%), and Wymore silty clay loam (12%). These soils are classified as hydrologic groups C, C, C, D, and D soils, respectively. The area where most of the soil disturbance will occur consists of hydrologic groups C and D; therefore the site has high runoff potential.

Slopes:

General slopes throughout the project site vary from 2% to 15%.

Drainage Patterns:

Drainage for Blocks A and B is generally from southwest to northeast. An existing drainage channel lies on the north side of the development and drains southeast to the Little Nemaha River. Drainage for Block C is generally from north to south.

Vegetation:

The site currently consists of mostly uncultivated lands.

1.7 - Construction Site Estimates

The following are estimates of the construction site:

Total project area:	15.1 acres
Construction Area to be disturbed:	12.0 acres
Percentage impervious area before construction:	0%
Runoff coefficient before construction:	74
Percentage impervious area after construction:	37%
Runoff coefficient after construction:	86

1.8 - Receiving Waters

Stormwater drains to the southeast to an unnamed tributary which flows from north to south to the Little Nemaha River.

1.9 - Site Features and Sensitive Areas to be Protected

Description of unique features that are to be preserved:

This site does not contain any unique features or sensitive areas to be preserved.

1.10 - Endangered Species Certification

Are endangered or threatened species and critical habitats on or near the construction site? No

How was this determination made:

This project was submitted to the Nebraska Game and Parks Commission for review with current T&E species through the NOI process.

1.11 - Historic Preservation

Are there any historical sites on or near the construction site? No

How was this determination made:

To verify that there were no historic sites on or near this project area, CES Group reviewed the Nebraska State Register of Historic Places available on the History Nebraska website.

1.12 - Applicable Federal, Tribal, State or Local Programs

Describe any other federal, tribal, state or local requirements regarding storm water and this work.

None

SECTION 2 - EROSION AND SEDIMENT CONTROL BMPS

2.1 - Potential Sources of Pollution Inventory

Potential sources of sediment to storm water runoff:

- Clearing and grubbing operations.
- Grading and site excavation operations.
- Vehicle tracking
- Topsoil stripping and stockpiling.
- Landscaping

Potential pollutants and sources, other than sediment, to storm water runoff.

- Combined Staging Area – small fueling activities, minor equipment maintenance, sanitary facilities, and hazardous waste storage.
- Materials Storage Area – general building materials, solvents, adhesives, paving materials, paints, aggregates, trash, and so on.
- Construction Activity – paving, curb/gutter installation, concrete pouring/mortar/stucco, and building construction.

2.2 - Temporary Erosion and Sediment Control BMP's

Minimize Disturbed Area and Protect Natural Features and Soil	
BMP Description: Reduce amount of existing vegetation that is disturbed during the project. Place stockpiled soil and top soil inside of the protected areas.	
Installation Schedule:	Immediately upon start of construction.
Maintenance and Inspection:	Within 24 hours of storm events of 0.5 inches or greater to determine failures and removal of any debris or sediment.
Responsible Party:	Contractor

Erosion Checks	
BMP Description: Erosion checks shall be placed at all areas where sediment control is required and before start of any construction. Erosion checks shall be in accordance with the plans and consist of hay or stray bales.	
Installation Schedule:	Downstream erosion check should be installed prior to the start of any construction. Erosion checks on the downstream toe of the embankment shall be placed as the embankment is built up.

Maintenance and Inspection:	Every 14 calendar days and within 24 hours after a storm event of 0.5 inches or greater to determine failures and removal of any debris or sediment.
Responsible Party:	Contractor

Establish Perimeter Controls and Sediment Barriers	
BMP Description: Silt fence or biologs will be installed along the downhill side of all construction areas and around stockpile areas and as shown on the plans.	
Installation Schedule:	Infrastructure: Prior to clearing and grubbing of construction area. Lot Development: Prior to lot clearing.
Maintenance and Inspection:	Every 14 calendar days and within 24 hours after a storm event of 0.5 inches or greater to determine failures and removal of any debris or sediment.
Responsible Party:	Contractor

Temporary Soil Stabilization	
BMP Description: A) Temporary mulch cover or hydro-mulching shall be placed to protect exposed soils where construction ceases for more than 14 calendar days and over the winter months. Mulch shall be applied at a rate in accordance with the Final Design Plans, but not less than 2 tons per acre, and cover 75 to 90 percent of the surface. Mulch shall be dry-cured native prairie hay, native grass hay, or threshed grain straw. B) Cover crop seeding is the establishment of temporary vegetative cover on disturbed areas with appropriate, rapid-growing annual plants to reduce the risk of water runoff and wind erosion. Cover crop shall be in accordance with the Final Design Plans.	
Installation Schedule:	Immediately upon placement and grading of stockpile or anytime construction is delayed for more than 14 days.
Maintenance and Inspection:	Every 14 calendar days and within 24 hours after a storm event of 0.5 inches or greater to determine failures and removal of any debris or sediment.
Responsible Party:	Contractor

Stabilized Construction Entrances/Exits	
BMP Description: Anti-tracking pads shall consist of, at a minimum, crushed rock or stone varying from 1 inch to 3 inches in diameter for a minimum of 50 feet from the paved surface. The crushed material shall be placed over a temporary geotextile filter fabric to reduce the mitigation of sediment form the underlying soil. The pad shall be intentionally constructed with a rough surface to vibrate the construction equipment and vehicles and encourage the sediment to drop on the anti-tracking pad.	
Installation Schedule:	Prior to construction

Maintenance and Inspection:	Every 14 calendar days and within 24 hours after a storm event of 0.5 inches or greater to determine any BMP failures, maintenance, or additions. Construction entrances will need to be maintained and possibly replaced if temporarily torn out. Accumulated sediment shall be removed as required to keep the BMP from failure and tracking sediment off site.
Responsible Party:	Contractor

Storm Drain Inlet Protection	
BMP Description: Existing open throat and grate inlets shall be protected as described in the plans and details.	
Installation Schedule:	Prior to construction or following installation of new inlets.
Maintenance and Inspection:	Every 14 calendar days and within 24 hours after a storm event of 0.5 inches or greater to determine any BMP failures, maintenance, or additions. Repairs or placements of additional BMPs may be required. Accumulated sediment shall be removed and disposed of off site.
Responsible Party:	Contractor

Sediment Control Silt Fence	
BMP Description: Sediment control fence shall be placed at all areas where sediment control is required and before start of any construction. Silt fences shall be in accordance with the plans and details.	
Installation Schedule:	Prior to construction in any area and upon placement of topsoil areas and temporary soil stockpile areas.
Maintenance and Inspection:	Every 14 calendar days and within 24 hours after a storm event of 0.5 inches or greater to determine any BMP failures, maintenance, or additions. Silt fence may need to be replaced if torn or if decomposed over a period of time. Accumulated sediment shall be removed from the fence base to prevent undue stress on the filter fabric or provide a reason for BMP failure.
Responsible Party:	Contractor

Location of temporary BMP's are shown on the Erosion Control Plan and any addendums. However additional BMP's may need to be placed due to the General Contractor's construction means and methods, phasing or CE field determined.

Appendix B includes the erosion control plans and details.

2.3 - Good Housekeeping BMP's

Waste Materials	
BMP Description: All waste materials shall be collected in trash receptacles in the materials storage areas. Receptacles shall be secured with watertight lids and placed away from storm water conveyances. No construction waste shall be buried on site.	
Installation Schedule:	Upon establishment of storage area.
Maintenance and Inspection:	Every 14 days and within 24 hours after storm events of 0.5 inches or greater to be determine any BMP failures, maintenance, or additions. Dumpsters shall be emptied weekly and disposed of off-site at an acceptable facility.
Responsible Party:	Contractor

Material and Staging Storage Areas	
BMP Description: Construction equipment not in immediate use, maintenance materials, and construction materials shall be stored at a staging/materials storage area. This area shall be included in any temporary erosion and sediment control BMP's and other requirements of this SWPPP.	
Installation Schedule:	Upon need for on-site storage.
Maintenance and Inspection:	Every 14 days and within 24 hours after storm events of 0.5 inches or greater to be determine any BMP failures, maintenance, or additions. Staging and storage areas shall be kept well organized and have ample cleaning supplies immediately accessible.
Responsible Party:	Contractor

Designated Washout Areas	
BMP Description: Temporary concrete truck washout areas shall either be established on site or conducted off site at the concrete plant facility. Washout areas shall be in accordance with the Final Design Plans, but have sufficient volume to contain all liquid and concrete waste generated by washout operations. The washout area shall be properly signed for ease of locating, lined with non-permeable plastic sheeting, cleaned out or enlarged if needed, and completely removed upon project completion and disposed of at an approved location or facility.	
Installation Schedule:	Prior to any concrete being placed on the project.

Maintenance and Inspection:	Every 14 days and within 24 hours after storm events of 0.5 inches or greater to be determine any BMP failures, maintenance, or additions. The washout area shall be cleaned once it is filled to about 75 percent of its capacity or before a major pour event which may exceed its holding capacity.
Responsible Party:	Contractor

Establish Proper Equipment/Vehicle Fueling and Maintenance Practices	
BMP Description: All major fueling, maintenance, and washing shall be performed off site. Small scale fueling and maintenance shall be performed at the staging area. Absorbent and spill cleanup material kits shall be available at the site. Drip pans shall be placed under all equipment receiving maintenance and vehicle and equipment parked overnight or not in use for a period of time.	
Installation Schedule:	Upon need for such operations.
Maintenance and Inspection:	Every 14 days and within 24 hours after storm events of 0.5 inches or greater to be determine any BMP failures, maintenance, or additions. Equipment and vehicles which continue to have the potential for hazardous contamination shall be removed from the project site.
Responsible Party:	Contractor

2.4 - Permanent Erosion and Sediment Control

All permanent erosion and sediment control BMP's shall be in accordance with the Erosion Control Plan.

Permanent Seeding and Sodding	
BMP Description: Permanent seeding and sodding of all disturbed areas shall be completed in accordance with the final plans.	
Installation Schedule:	Upon final grading of each area. Permanent seeding and sodding shall occur within 14 days of the final grading.
Maintenance and Inspection:	All seeded areas will be inspected weekly during construction activities for failure and after storm events until a dense cover of vegetation has been established. IF failure is noticed at the seeded area, the area will be reseeded, fertilized, and mulched immediately. After construction is completed at the site, permanently stabilized areas will be monitored until final stabilization is reached.
Responsible Party:	Contractor until acceptance of project. Owner after acceptance.

2.5 - Allowable Non-Storm Water Discharge Management

- Water used for dust control
- Uncontaminated excavation dewatering
- Landscape irrigation
- Firefighting discharges
- Fire hydrant flushing
- Uncontaminated wash waters where spills or leaks of toxic or hazardous material have not occurred and where detergents are not used
- Uncontaminated air conditioning or compressor condensate
- Foundation or footing drains where flows are not contaminated with process materials such as solvents.

2.6 - SWPPP Project Completion and Final Stabilization

SWPPP construction completion is when all soil disturbing activities are complete and the site is stabilized with perennial vegetation. Most likely the site will not be adequately stabilized when the Contractor is released from the contract. The Owner's personnel will be responsible for maintaining the requirements of the SWPPP until Notice of Termination can be filed.

The Contractor or Owner shall be responsible for ensuring that final stabilization is accomplished on all non-impervious surfaces of the authorized construction site prior to submitting the NOT form.

1. Permit coverage may be terminated generally after:
   a. All soil disturbing construction activity has been completed;
   b. A uniform perennial vegetative cover with a minimum density of 70 percent of the native background vegetative cover has been established on all non-impervious surfaces and areas not covered by permanent structures, unless equivalent permanent stabilization such as riprap, gabions, and geotextile measures have been employed;
   c. All permanent drainages, constructed to drain water from the site, have been stabilized to prevent erosion;
   d. All temporary erosion protection and sediment control BMP's have been removed without compromising the permanent erosion protection and sediment control BMP's;
   e. All sediment build-up has been removed from conveyances and basins that are to be used as permanent water quality management BMP's; the cleanout of permanent basins used as temporary BMP's during construction shall be sufficient to return the basin to design capacity;
   f. Responsibility for long-term maintenance of permanent BMP's has been assigned; and
   g. Construction activity conducted on or through agricultural land shall be considered finally stabilized upon return to the preexisting agricultural use.

   The Notice of Termination form is located in Appendix G.

SECTION 3 - INSPECTIONS

3.1 - Inspections

1. *Personnel*

   Mr. Mark Schmidt, Owner, is responsible for site compliance with this SWPPP. Mark will conduct inspections for all areas of the site disturbed by construction activity, areas used for storage of materials that are exposed to precipitation, discharge points, and construction exits.

   Technical assistance regarding SWPPP inspections and modifications will be provided by Mr. Anthony Duever, PE, the designer of this SWPPP.

2. *Inspection Schedule and Procedures*

   Inspections of the site will be performed once every 14 days and within 24 hours of the end of a storm event of one-half inch or greater. The inspections will verify that all BMPs required in Section 2 are implemented, maintained, and effectively minimizing erosion and preventing storm water contamination from construction materials. For detailed inspection procedures, see Section 2.

   If corrective actions are identified during the inspection, the inspector will notify the person responsible for maintenance and note the corrections in the SWPPP reports.

3.2 - Delegation of Authority

Not required

3.3 - Corrective Action Log

See Appendix E – Corrective Action Log

SECTION 4 - RECORDKEEPING AND TRAINING

4.1 - Recordkeeping

Records will be retained for a minimum period of at least 3 years after the permit is terminated.

4.2 - Log of Changes to the SWPPP

See appendix F – SWPPP Amendment Log

4.3 - Training

Mr. Mark Schmidt will review the requirements of the SWPPP with all employees of contractors working on this site..

Due to the small nature of the project, no formal training will be required.

SECTION 5 - CERTIFICATION AND NOTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:_____ Title:_____

Signature:_____ Date:_____

APPENDIX A

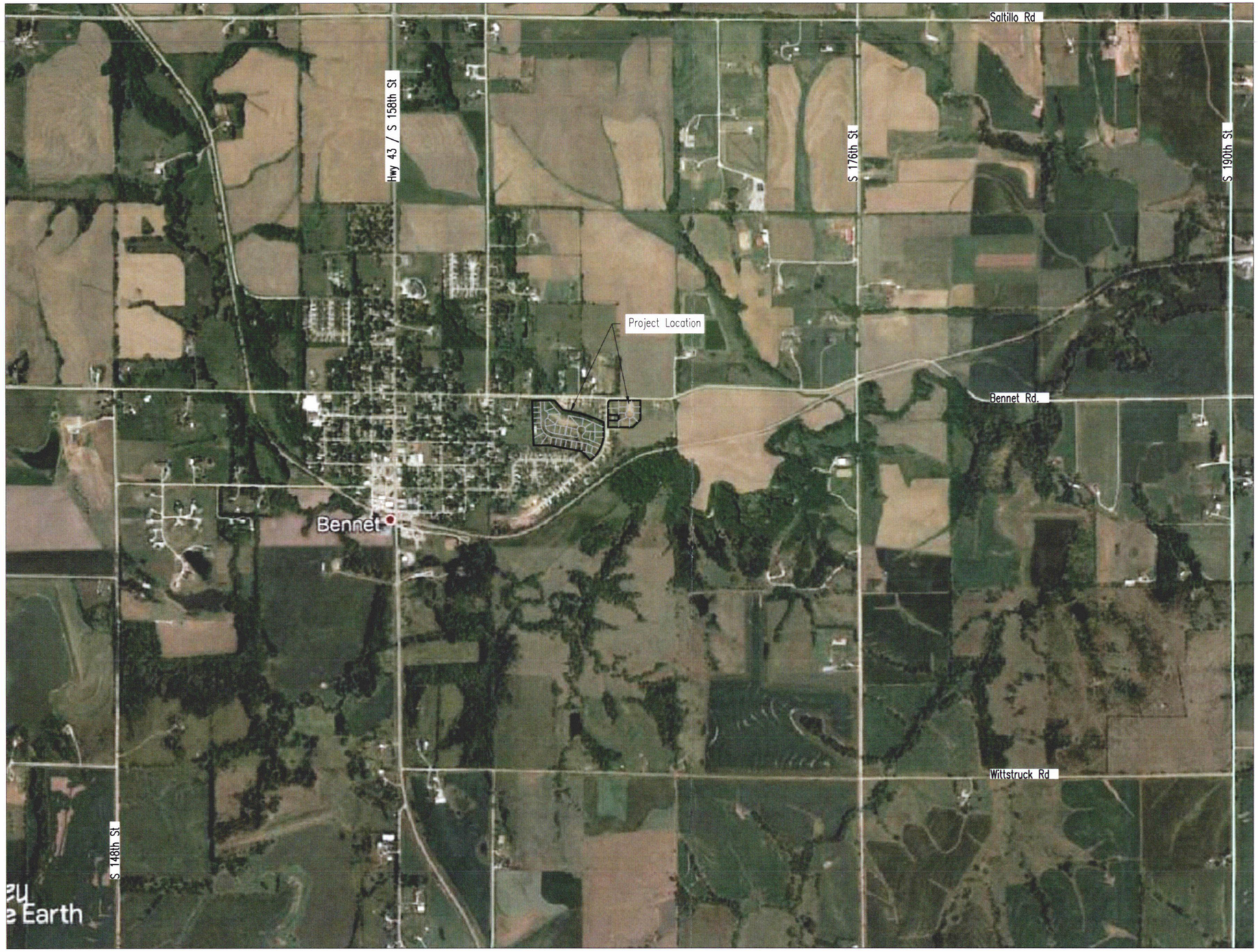
General Location Map

Mr. Mark Schmidt

Evergreen Place 1st Addition

VICINITY MAP

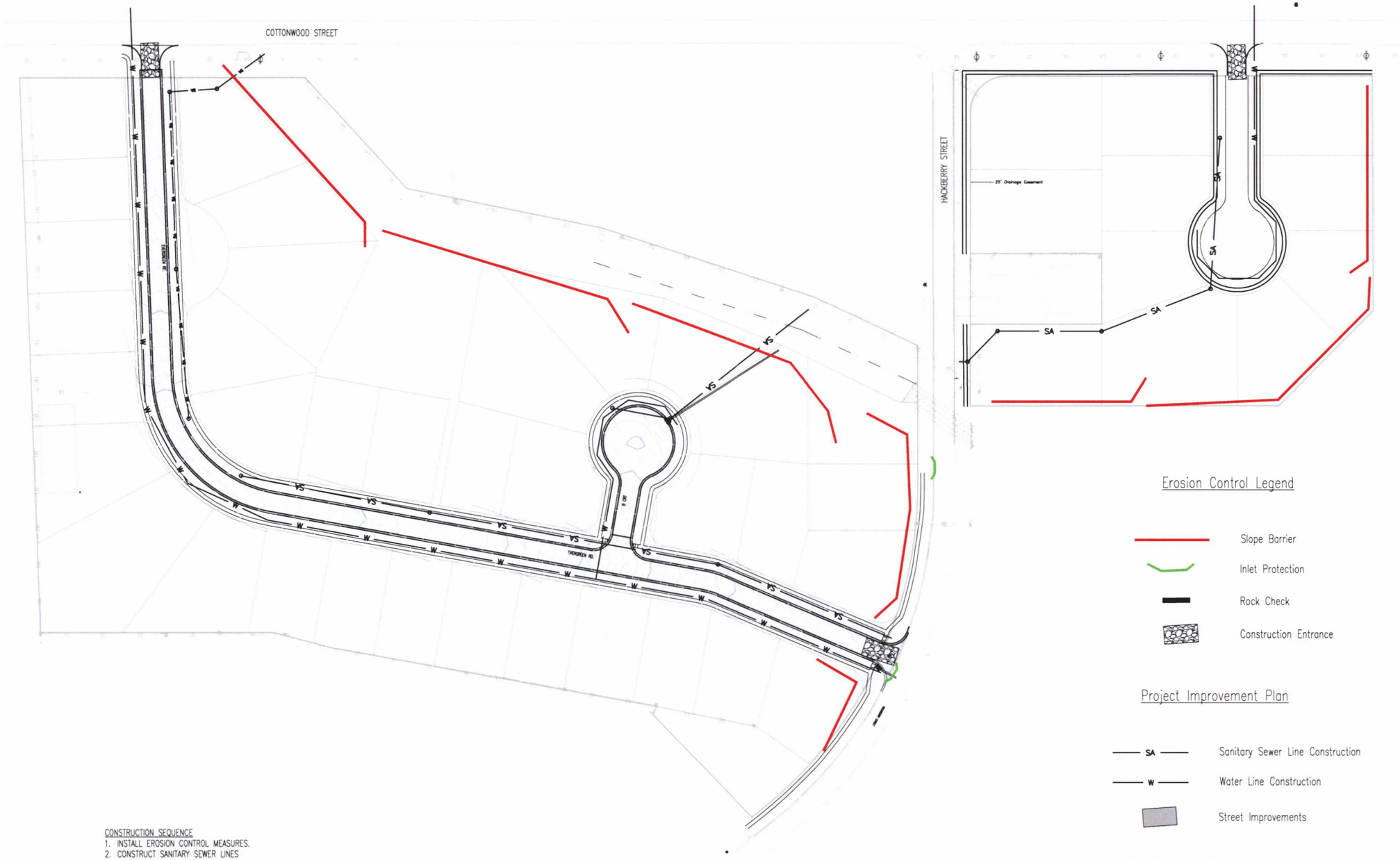
BENNET, NEBRASKA



APPENDIX B

Erosion Control Plans & Details

Storm Water Pollution Prevention Plan (SWPPP)
Evergreen Place 1st Addition



CONSTRUCTION SEQUENCE
1. INSTALL EROSION CONTROL MEASURES.
2. CONSTRUCT SANITARY SEWER LINES
3. CONSTRUCTION WATER LINES
4. ROAD GRADING AND CONSTRUCTION
5. FINAL GRADING OF ROAD R/W
6. FINAL STABILIZATION OF ROAD R/W AND UTILITY CONSTRUCTION AREAS.
7. INDIVIDUAL LOT DEVELOPMENT
8. INDIVIDUAL LOT STABILIZATION

Erosion Control Legend

- Slope Barrier
- Inlet Protection
- Rock Check
- Construction Entrance

Project Improvement Plan

- SA — Sanitary Sewer Line Construction
- W — Water Line Construction
- Street Improvements
- 1 / 0.67 Ac. / 29,336 sf — Individual Lot Developments

N W E S

0 60 120

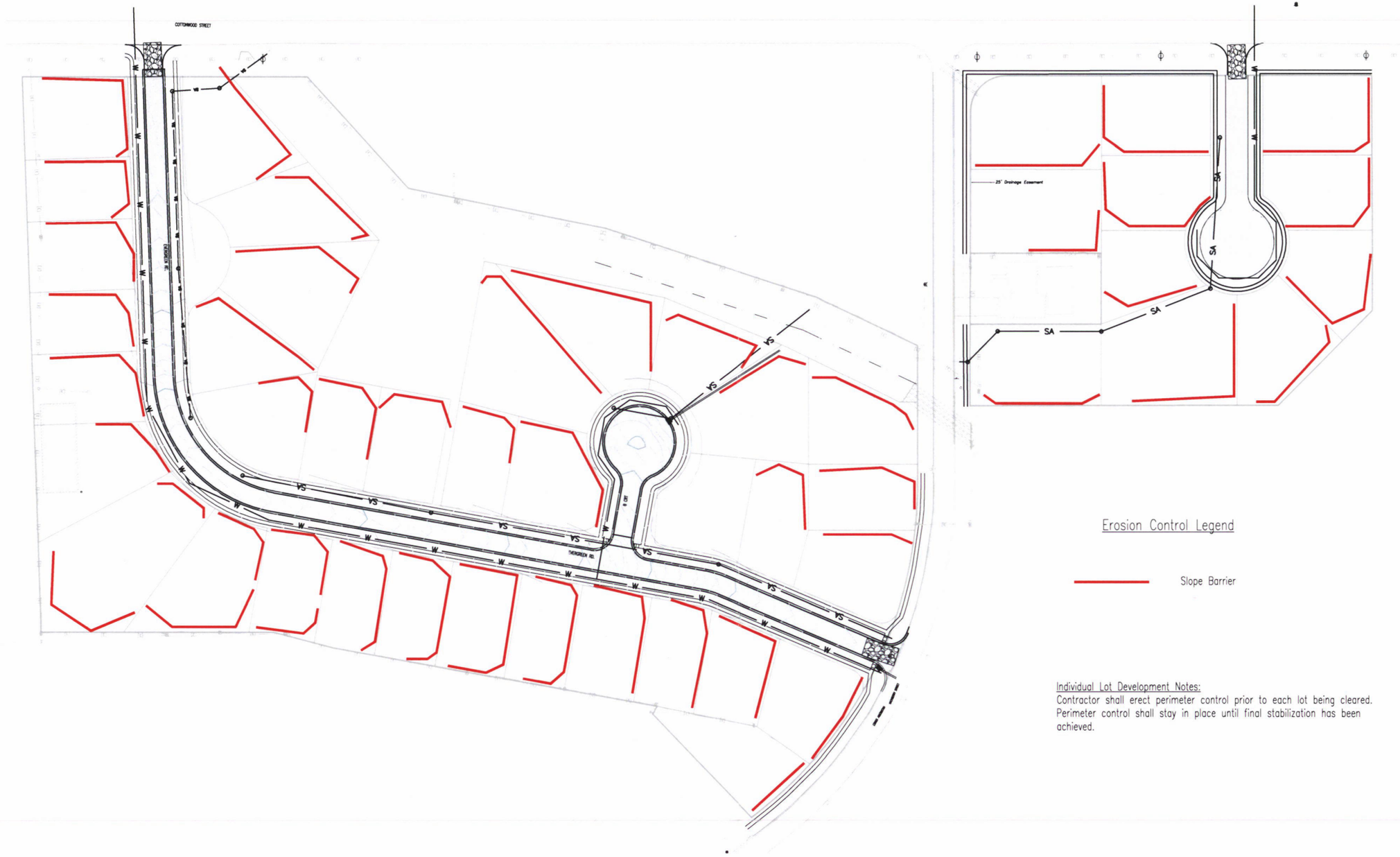
ENGINEERS ARCHITECTS SURVEYORS
1107 Broadway Marysville KS 785.562.5148

No.	Revisions	Date	Init.

Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

Erosion Control Plan - Infrastructure

Design :	AD
Detailed :	KO
Checked :	AD
W.O. #	172680
Issue Date :	11/6/18
Sheet No:	1
Total Sheets :	4



Erosion Control Legend

Slope Barrier

Individual Lot Development Notes:
Contractor shall erect perimeter control prior to each lot being cleared. Perimeter control shall stay in place until final stabilization has been achieved.

0 60 120

ENGINEERS
ARCHITECTS
SURVEYORS
1.07 Broadway Marysville KS 785.562.5148

No.	Revisions	Date	Init.

Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

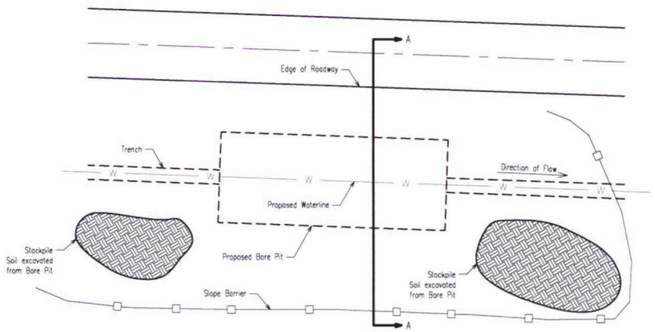
Erosion Control Plan - Lot Development

Design :	AD
Detailed :	KO
Checked :	AD
W.O. #	172680
Issue Date :	11/6/18

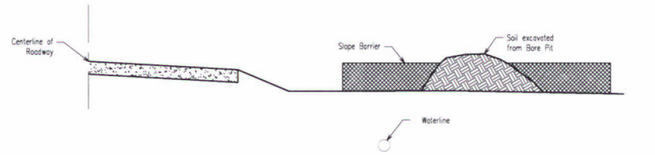
Sheet No:
2
Total Sheets : 4

EROSION CONTROL PLAN FOR PIPELINE INSTALLATIONS:

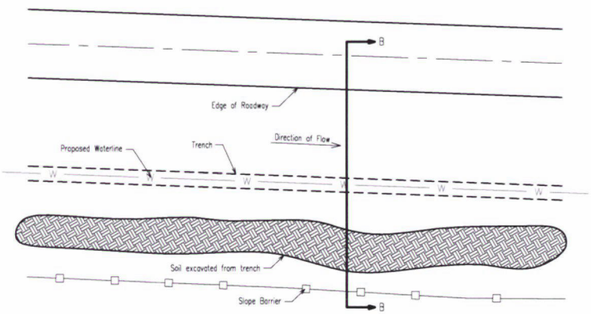
1. Existing vegetation and trees surrounding the disturbed areas shall be preserved and protected as much as practical to provide a natural buffer zone. Trees shall be removed as necessary to install pipeline except where noted on plan sheets to protect trees.
2. Temporary seeding shall be utilized along the pipelines on areas that have been disturbed by construction and will not be permanently seeded or stabilized for 30 days. Temporary seeding should take place as soon as practical after the area has been disturbed.
3. Mulching can be utilized alone in areas along the pipelines where temporary seeding cannot be used because of the season or climate.
4. Silt fence, or biodegradable log slope barriers shall be utilized along the pipelines where a sloped existing grade exists. Refer to specific slope barrier details.
5. Silt fence, or biodegradable ditch checks shall be utilized if pipeline is installed or adjacent to an existing ditch. Refer to specific ditch check details.
6. To minimize tracking of soil and gravel onto paved streets, stabilized construction entrances and/or a contractor operated street sweeper shall be used to control soil tracking.
7. Storm water control measures shall remain in place and properly maintained at all times during construction until the site is re-established with paving or grass (75% established grass). Contractor shall be responsible for removing all storm water control measures at that time.
8. Quantity of specific storm water control measures along pipeline depends on the construction sequence and amount of areas disturbed by pipeline construction.
9. All stockpiles shall be stabilized as necessary to minimize wind borne erosion of material from the project areas. Dust control measures may include but are not limited to pre-wetting, watering, mulch, re-vegetation, drift/silt fencing, wooden lathe snow fencing, ground covers, soil stabilizers, compaction to hard surface crust and halting soil disturbance activities.



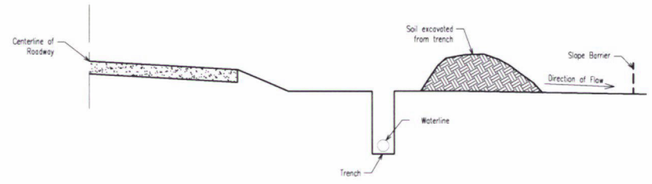
TYPICAL EROSION CONTROL AT BORE PIT



SECTION A – A

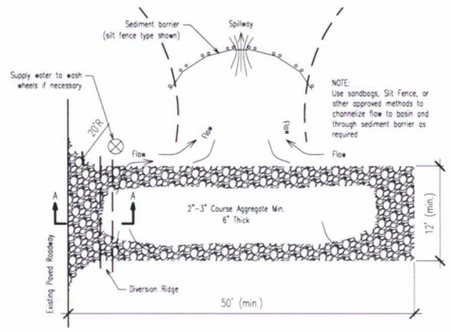


TYPICAL EROSION CONTROL AT TRENCH LOCATION



SECTION B – B

SECTION A – A



TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. A Temporary construction entrance shall be located at any point where traffic leaves a construction site and moves directly onto a public road or other paved are.
2. The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights-of-ways. This may require top dressing, repair and/or cleanout of any measures used to trap sediment.
3. All surface water flowing to or diverted toward construction entrances shall be piped under the entrance to maintain a positive drainage. Pipe installed under the construction entrance shall be protected with a mountable berm or other inlet protection. The pipe shall be sized according to the drainage with a minimum diameter being 12 inches. A pipe will not be necessary when the entrance is located at a high spot.
4. When necessary, wheels shall be cleaned prior to entrance onto public right-of-way or other paved road.
5. When washing is required, it shall be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin shown above.
6. Any mud tracked onto streets or adjacent property must be removed at the end of each work day.

ENGINEERS
ARCHITECTS
SURVEYORS
1107 Broadway Marysville KS 785.562.5318

No.	Revisions	Date	Int.

Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

Erosion Control Plan - Details

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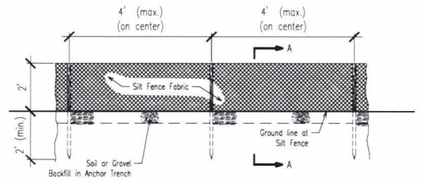
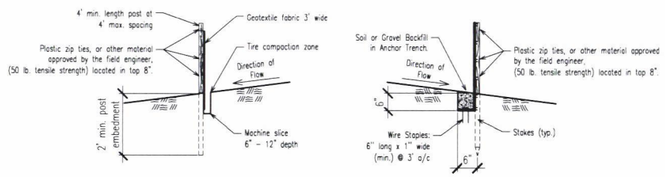
Total Sheets : 4



TYPICAL ELEVATION



SLOPE BARRIER INSTALLATION
SECTION A - A

SLOPE BARRIER INSTALLATION
SECTION A - A

SILT FENCE SLOPE BARRIER

NO SCALE

INSTALLATION NOTES

SILT FENCE:

1. Stakes shall be 4' (min.) long and of one of the following materials:
   a. Hardwood - 1 ⅜" x 1 ⅜";
   b. Southern Pine (No. 2) - 2 ⅜" x 2 ⅜";
   c. Steel U, T, L, or C Section - 1.25 lbs. per 1'-0";
   d. Synthetic - same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.

BIODEGRADABLE LOG BARRIERS:

1. Place biodegradable logs tightly together.
2. Wood stakes shall be 2" x 2" (nom.).
3. Wire staples shall be 6" long x 1" wide (min.) and placed on 4' (max.) centers.
4. Refer to plan sheets to estimate length of biodegradable log barriers required.
5. Logs should be keyed into the ground at a minimum of 25% of its height.
6. Length of stakes should be 2 times the height of the log at a minimum.

GENERAL NOTES:

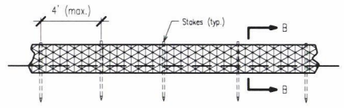
1. **The slope barriers shall be placed along contour lines, with a short section turned upgrade at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.**
2. **At culverts, the Silt Fence shall be placed over the culvert, not through the streambed flowline.**
3. **Barriers damaged by Contractor's negligence, including improper maintenance or lack of maintenance, shall be repaired immediately by Contractor at no additional cost to KDOT.**
4. **Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.**

BIODEGRADABLE LOGS, STRAW WATTLES & SEDIMENT LOGS

		PRODUCT		
		9" Sediment Log & 9" Straw Wattle (ft)	12" Sediment Log & 12" Straw Wattle (ft)	20" Sediment Log & 20" Straw Wattle (ft)
Slope Gradient	≤ 4H:1V	40	60	80
	3H:1V	30	45	60
	2H:1V	20	30	40
	1H:1V	10	15	20

9" and 12" material should only be used in areas which have been seeded and mulched.
20" material should be used in all other areas.
Deviations should be approved by the Field Engineer.

BIODEGRADABLE LOG MATERIAL		
	LOW FLOW	HIGH FLOW
9"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber
12"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber
18"-20"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber



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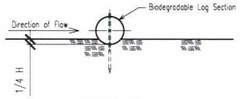
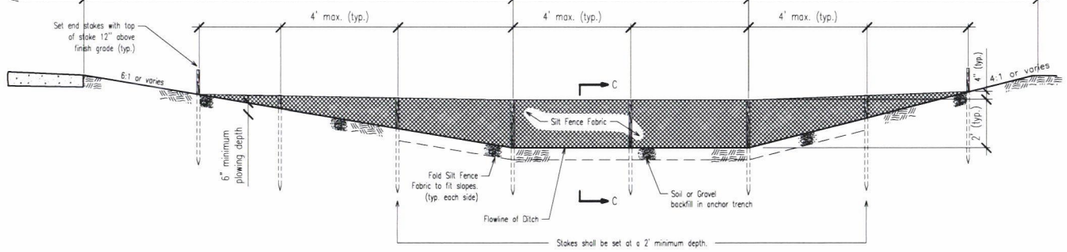


SECTION B - B

BIODEGRADABLE LOG SLOPE BARRIER

NO SCALE



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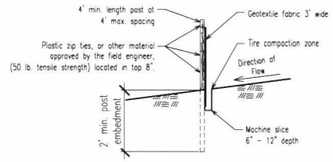
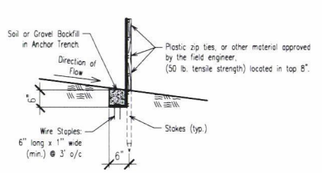


SILT FENCE INSTALLATION
SECTION C - C



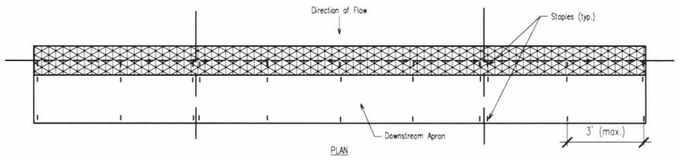
SILT FENCE INSTALLATION
SECTION C - C

SILT FENCE DITCH CHECK

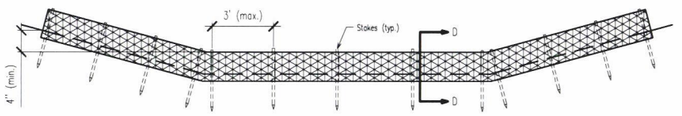
NO SCALE

SILT FENCE:

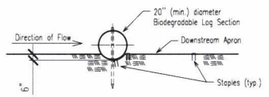
1. Stakes shall be 4' (min.) long and of one of the following materials:
   a. Hardwood - 1 ⅜" x 1 ⅜";
   b. Southern Pine (No. 2) - 2 ⅜" x 2 ⅜";
   c. Steel U, T, L, or C Section - 1.25 lbs. per 1'-0";
   d. Synthetic - same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.
6. Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
7. Silt fence plowing is acceptable at a 6" minimum depth. Trenching is acceptable in certain cases.



PLAN



TYPICAL ELEVATION



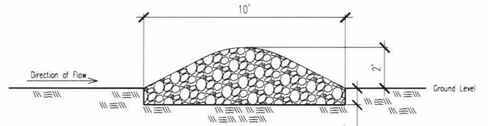
SECTION D - D

BIODEGRADABLE LOG DITCH CHECK

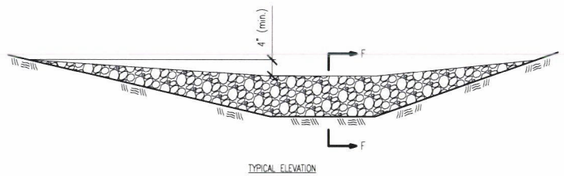
NO SCALE

BIODEGRADABLE LOG DIKE NOTES:

1. Place biodegradable logs tightly together, with apron material overlapping end-to-end by 6'.
2. Wire staples shall be 6" long by 1" wide, minimum.
3. Use as many biodegradable log sections as necessary to insure water does not flow around end of ditch check.
4. Wood stakes shall be 2" x 2" (nom.) x 4' (min.) long
5. Use silt fence material as the downstream apron to prevent scour below the ditch check.



SECTION F - F



TYPICAL ELEVATION

ROCK DITCH CHECK NOTES:

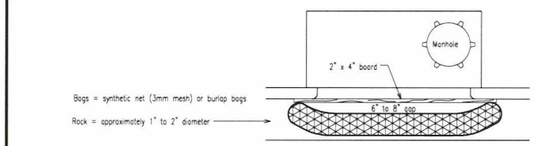
1. Rock shall be clean aggregate, D50 = 6".
2. Place rock in such manner that water will flow over, not around ditch check.
3. Do not use rock ditch checks in clear zone.
4. Excevation: The ditch area shall be reshaped to fill any eroded areas. Prior to placement of the rock, the ditch shall be excavated to the dimensions of the Rock Ditch Check and to a minimum depth of 6" (150mm). After placement of the rock, backfill and compact any over excavated soil to ditch grade. This work shall be subsidiary to the bid item "Temporary Ditch Check (Rock) (Set)."
5. Aggregate excavated on site may be used as an alternate to the 6" rock, if approved by the Engineer.
6. The Engineer may approve the use of larger aggregates when conditions warrant their use.

TEMPORARY ROCK DITCH CHECK SPACING	
DITCH G. SLOPE (%)	SPACING INTERVAL (FEET)
5.0	60
6.0	50
7.0	43
8.0	38
9.0	33
10.0	29

NOTE: Use this spacing only for Rock Ditch Checks.

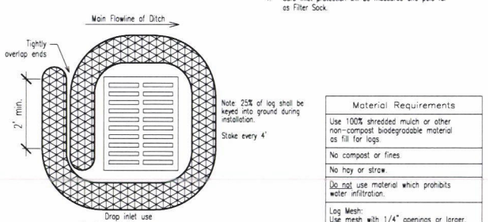
ROCK DITCH CHECK

NO SCALE



CURB INLET PROTECTION

1. If multiple gravel bags are required, place them in such a way that no gaps are evident.
2. Height of bags (8" minimum diameter) must not be above top of curb.
3. Alternative products may be used other than gravel bags such as the "Gutter Buddy". Products must be approved by the Engineer.
4. Curb inlet protection will be measured and paid for as Filter Sock.



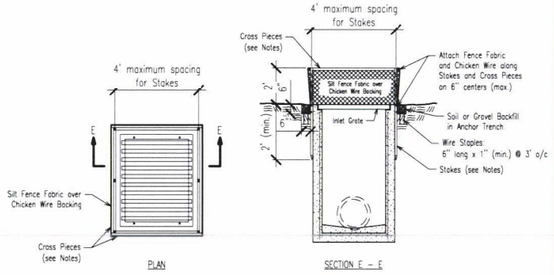
Material Requirements
Use 100% shredded mulch or other non-compost biodegradable material as fill for logs.
No compost or fines.
No hay or straw.
Do not use material which prohibits water infiltration.
Log Mesh: Use mesh with 1/4" openings or larger. Mesh must allow water infiltration but also hold fill material in place.

BIODEGRADABLE LOG / FILTER SOCK DROP INLET PROTECTION

NO SCALE

SILT FENCE:

1. Stakes shall be 4' (min.) long and of one of the following materials:
   a. Hardwood - 1 ⅜" x 1 ⅜";
   b. Southern Pine (No. 2) - 2 ⅜" x 2 ⅜";
   c. Steel U, T, L, or C Section - 1.25 lbs. per 1'-0";
   d. Synthetic - same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.



PLAN

SECTION E - E

TEMPORARY INLET SEDIMENT BARRIER (SILT FENCE METHOD)

NO SCALE

Plot Date: 9/1/2018 8:41 PM - File Name: I:\2018\Evergreen Place SWPPP\Drawings.dwg

ENGINEERS
ARCHITECTS
SURVEYORS
CES
1102 Broadway Marysville KS 785.562.5148

No.	Revisions	Date	Init.

Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

Erosion Control Plan - Details

Design :	AD
Detailed :	KO
Checked :	AD
W.O. #	172680
Issue Date :	11/6/18

Sheet No:

4

Total Sheets : 4

APPENDIX C

NOI and Permit Authorization Letter from State

DocuSign Envelope ID: CD4C027D-07EE-41E2-A095-C34719D0A1E1

NEBRASKA
Good Life. Great Environment.
DEPT. OF ENVIRONMENTAL QUALITY

Construction Storm Water Notice of Intent (CSW-NOI)

Permit Number: **CSW-201903475**

A. Project Description

Project Name: Evergreen Place 1st Addition
Physical Address: Northwest Quarter of Section 11, Township 8 North, Range 8 East
County: Lancaster

B. Certification

The appropriate individuals must sign information submitted on this **CSW-NOI** form as required in **NPDES** General Permit NER160000 Part VI.D.6, and below or the application will not be authorized. If more than one certifying official, submit multiple copies of the following information.

All permit applications shall be signed as per Title 119, Chapter 13 *Applications; Signatories* as follows:

002.01 For a corporation. By a **Responsible Corporate Officer**, which means:

- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or
- The manager of one of more manufacturing, production, or operating facilities, provided by the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

002.02 For a partnership or sole proprietorship: By a general partner or proprietor, respectively.

002.03 For a municipality, State, Federal, or other public agency.

- By either a principal executive officer of the agency, or
- A senior executive officer having responsibility for the operations of a principal geographic unit of the agency.

Certifying Official:

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

Certifying Official/Date: DocuSigned by: Mark Schmidt 27C76CEA87F347A... 3/21/2019

Department of Environmental Quality
P.O. Box 98922
1200 N Street, Suite 400
Lincoln, Nebraska 68509-8922
Mark Schmidt
deq.ne.gov
Jim Macy, Director
OFFICE 402-471-2186 FAX 402-471-2909
ndeq.moreinfo@nebraska.gov

Certifying Official, Company Name, Address, Email and Phone Number:

Mark Schmidt First and Last Name	Owner Company Name/Applicant
402-429-4000 Work Phone	Owner Title
402-429-4000 Cell Phone	mts9j@yahoo.com Email
2625 SW 12th Mailing Address	Lincoln, NE 68522 City, State, Zip Code

Certifying Official #2, Company Name, Address, Email, and Phone Number:

First and Last Name	Company Name/Applicant
Work Phone	Title
Cell Phone	Email
Mailing Address	, 0 City, State, Zip Code

Authorized Representative, Company Name, Address, Email and Phone Number:

First and Last Name	Company Name/Applicant
Work Phone	Title
Cell Phone	Email
Mailing Address	, 0 City, State, Zip Code

Project Proponent, Company Name, Address, Email and Phone Number:

First and Last Name	Company Name/Applicant
Work Phone	Title
Cell Phone	Email
Mailing Address	, 0 City, State, Zip Code

DocuSign Envelope ID: CD4C027D-07EE-41E2-A095-C34719D0A1E1

Readiness to Apply

Does a reasonable potential exist for permit authorization to be limited? ☐YES ☑NO

Storm Water Pollution Prevention Plan (SWPPP) Part III

a. Has a **Storm Water Pollution Prevention Plan** been developed for this project? ☑YES ☐NO
b. Has a qualified individual [Part III A] prepared the **SWPPP**? ☑YES ☐NO

Has the following been incorporated into the SWPPP?

c. Site and activity descriptions as per Part III B; ☑YES ☐NO
d. Sediment and pollution control measures and record keeping as per Part III C; ☑YES ☐NO
e. **Erosion prevention** measures and record keeping as per Part III C; ☑YES ☐NO
f. Inspections, maintenance of BMPs and associated record keeping as per Part III E, I-J; ☑YES ☐NO
g. **Final stabilization** addressed as per Part III M; ☑YES ☐NO
h. Does the SWPPP include documentation supporting a determination of permit eligibility with regards to endangered and threatened species and critical habitat? ☑YES ☐NO

C. Construction Site Description

a. **Project Name**: Evergreen Place 1st Addition
b. **Physical Address**: Northwest Quarter of Section 11, Township 8 North, Range 8 East
County: Lancaster
c. **Project Type**: Resdiential
d. **Project Size: Total Area (acres):** 16.5 **Area to be disturbed (acres):** 12.1
e. **Identify surface waters within ½ mile of project boundary that will receive storm water or discharge from permanent storm water management system.**
None
f. **Name of Receiving Waters**: Tributary to Little Nemaha River
g. **Waterbody Type** Ditch
h. **Legal Description: Quarter of the Quarter, Section, Township N, Range**
Northwest Quarter, Section 11, Township 8 North, Rnage 8 East
i. **SWPPP Designer, Company, Address and Phone Number:**
Anthony Duever
CES Group Inc.
1102 Braodway
785-562-5148 tduever@cesengineering.com
j. **SWPPP Location:** Owners Vehicle
k. **Project Start Date** (approximate): 4/1/2019 l. **Project End Date** (estimated): 12/1/2020
m. For sites previously authorized under a Construction Storm Water (CSW) permit **and** undergoing a transfer of **owner and/or certifying official.**
List the previous NPDES CSW Permit Number:

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THREATENED & ENDANGERED SPECIES
Guidance Checklist for
NPDES Construction Storm Water General Permit
#NER160000

Section I

1. Is this a renewable energy project (e.g., wind, solar, etc.)? N/A

2. Is this a new municipal, industrial, commercial, or residential water supply project, waste water treatment facility, ethanol plant, or other new water use/development project? N/A

3. Does the project discharge storm water to Salt Creek, Little Salt Creek, Rock Creek, or saline wetlands in Lancaster or Saunders County? N/A

Section II

1. Is the project outside designated city limits or urban areas? N/A

2. Is this project within 0.25 miles of a "Stream of Concern" or does it discharge to a "Stream of Concern"? N/A

3. Will the project occur in a non-urban, perennially vegetated plant community within the range of American Burying Beetle? N/A

4. Is the project located in mature woodlands along a river bluff within 5 miles of the Missouri River in the area stretching from the Kansas border to the Cedar-Dixon County Line? N/A

5. Will project construction occur in or directly adjacent to open sand blowouts within the range of Blowout Penstemon? N/A

6. Will project construction take place within 1 mile of Lodgepole Creek in Kimball County from the City of Kimball to the Wyoming-Nebraska state line? N/A

7. Will project construction take place between April 15 and August 15 within the range of interior least tern and piping plover AND occur within 1/4 mile of a river with N/A

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sandbars or active or recently active sand and gravel operation with bare sand substrate?

8. Will the project occur in a non-urban, perennially vegetated plant community within the range of Massasauga? N/A

9. Will project construction take place between April 1 and June 15 within the range of Mountain Plover **AND** within ¼ mile of heavily grazed/disturbed short grass prairies/grasslands or in areas with very little cover such as tilled cropland, fallow fields, or prairie dog towns? N/A

10. If the project is within the range of Northern Long-eared Bat, does it involve removing more than five trees which are equal to or greater than 3 inches in diameter at breast height (dbh), **OR** will the project occur within ½ mile of a known cave or a known active or inactive mine with tunnels? N/A

11. Will project construction take place in non-urban areas within ½ mile of rivers, streams, sloughs, backwaters, wetlands, lakes or ponds within the range of River Otter? N/A

12. Will project construction occur in or adjacent to wet meadows (including hay meadows), natively vegetated grasslands, or areas with sidehill seeps that would impact/alter the hydrology of such habitats within the range of Western Prairie Fringed Orchid? N/A

13. Will project construction occur in or adjacent to wet meadows (including hay meadows), natively vegetated grasslands, or areas with sidehill seeps that would impact/alter the hydrology of such habitats within the range of Small White Lady's Slipper? N/A

14. Will project construction occur in a prairie, grassland, pasture, roadside ditch or fallow field within the range of Swift Fox where the vegetation is less than 6 inches in height? N/A

15. Will project construction take place within the range of Ute ladies'-tresses **OR** alter the hydrology of wet meadows within the range of Ute ladies'-tresses? N/A

16. Will project construction take place in non-urban areas between March 23 and May 10 or September 16 and November 16 within 1 mile of the Republican, Platte, Loup, Middle Loup, North Loup, or Niobrara Rivers **OR** within 1 mile of a wetland within the primary Whooping Crane migration corridor? N/A

17. Further review needed by Nebraska Game & Parks Commission? N/A

Section III

1. Are federal funds being used to develop this project? N/A

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2. What is being constructed?

3. What is the current land use of the project area?

4. Is borrowed material needed? N/A

   a. If so, will it be obtained on-site or off-site? N/A

   b. If off-site, provide information regarding location, size, etc. N/A

5. Will a temporary plant site, stockpile site, waste/construction debris disposal site, stock yard, fly yard, laydown area, staging/storage site, vehicle/machinery parking area, etc. be needed? N/A

   a. If so, provide the same information for these sites as was requested above for borrow sites. N/A

6. Will access roads be developed as part of the project? N/A

7. Will the project be constructed at night under artificial lighting? N/A

8. Will new outdoor lighting be part of the project? If so, please explain and describe. N/A

9. Are other permits needed for the project? If so, list which permits are needed and indicate if they have already been obtained. N/A

APPENDIX D

Inspection Reports

Stormwater Construction Site Inspection Report

General Information			
Project Name	Evergreen Place 1st Addition		
NPDES Tracking No.	CSW-201903475	**Location**	Bennet, NE
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications	See SWPPP		
Describe present phase of construction			
Type of Inspection: ❑ Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event			
Weather Information			
Has there been a storm event since the last inspection? ❑Yes ❑No **If yes, provide:** Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):			
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:			
Have any discharges occurred since the last inspection? ❑Yes ❑No **If yes, describe:**			
Are there any discharges at the time of inspection? ❑Yes ❑No **If yes, describe:**			

Site-specific BMPs

- *Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.*

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1		❑Yes ❑No	❑Yes ❑No	
2		❑Yes ❑No	❑Yes ❑No	
3		❑Yes ❑No	❑Yes ❑No	
4		❑Yes ❑No	❑Yes ❑No	
5		❑Yes ❑No	❑Yes ❑No	
6		❑Yes ❑No	❑Yes ❑No	
7		❑Yes ❑No	❑Yes ❑No	
8		❑Yes ❑No	❑Yes ❑No	
9		❑Yes ❑No	❑Yes ❑No	
10		❑Yes ❑No	❑Yes ❑No	
11		❑Yes ❑No	❑Yes ❑No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
12		❑Yes ❑No	❑Yes ❑No	
13		❑Yes ❑No	❑Yes ❑No	
14		❑Yes ❑No	❑Yes ❑No	
15		❑Yes ❑No	❑Yes ❑No	
16		❑Yes ❑No	❑Yes ❑No	
17		❑Yes ❑No	❑Yes ❑No	
18		❑Yes ❑No	❑Yes ❑No	
19		❑Yes ❑No	❑Yes ❑No	
20		❑Yes ❑No	❑Yes ❑No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No	
4	Are discharge points and receiving waters free of any sediment deposits?	❑Yes ❑No	❑Yes ❑No	
5	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No	
6	Is the construction exit preventing sediment from being tracked into the street?	❑Yes ❑No	❑Yes ❑No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No	❑Yes ❑No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No	❑Yes ❑No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No	❑Yes ❑No	
12	(Other)	❑Yes ❑No	❑Yes ❑No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature:_____ **Date:**_____

APPENDIX E

Corrective Action Log

SWPPP Maintenance and Corrective Action Log

Project Name Evergreen Place 1st Addition			
Date	Location	Control Measure	Maintenance Activity/ Corrective Activity Description

APPENDIX F

SWPPP Amendment Log

Record of SWPPP Amendments

Project Name:	Evergreen Place 1st Addition	
Amendment Number	Date of Amendment	Description of Amendment

APPENDIX G

Notice of Termination Form

Nebraska Department of Environmental Quality

Construction Storm Water Notice of Termination (CSW-NOT)

1. **Termination Prerequisites**

   a. Have the **final stabilization** requirements been met on the entire site? [See Part III.M]; **YES** **NO**

   b. Has the entire **Construction Activity** been transferred to another **operator/permittee** who has received authorization under the conditions of a **NPDES** permit for **Storm Water** runoff? [See Part V] **OR** has coverage under an alternative NPDES permit been obtained by the same **operator/permittee**? **YES** **NO**

   What is the alternative **NPDES** Permit Number? NER___ ___ ___ ___ ___

*If any of the termination prerequisite questions are answered **Yes**, complete the remaining **NOT** form.*

Construction Storm Water – Notice of Termination (CSW - NOT)

2. **Project Information**

   NPDES General Permit Number: **NER110000** Permit **Authorization Number: NER**_____

   Project Name (from original **CSW-NOI**): _____

3. **Signature**

   *The appropriate individuals must sign information submitted on this **CSW-NOT** form as required in **NPDES** General Permit NER110000 Part VI.D.6 or the authorization will not be terminated.*

_____ _____

Certifying Official Signature Date

_____

Print **Certifying Official** Signature

Submit this form to:

Water Quality Division
Storm Water
Suite 400, The Atrium
1200 'N' Street
PO Box 98922
Lincoln NE 68509-8922
Telephone. 402/471-4220
Fax: 402/471-2909

Complete On-line

Storm Water Pollution Prevention Plan (SWPPP) Checklist

Project Name: Evergreen Place 1st Addition

NARRATIVE

Project Description – Briefly describes the nature and purpose of the land-disturbing activity, the location, and the areas (acres) to be disturbed.

Enter Comments Below:

The project consists of the development of a 47 lot housing development. Land disturbing activities include road and utility construction and lot grading.

Existing site conditions – A description of the existing topography, vegetation and drainage.

Enter Comments Below:

The area west of Hackberry Street is currently covered in thick grass vegetation and generally slopes north/east towards a drainage channel. The drainage channel drains to the Little Nemaha River. The east area drains south towards the same drainage channel.

Adjacent Areas – A description of neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance.

Enter Comments Below:

Nearby roads and streets may be affected by land disturbance activities. A drainage channel nearby could also be impacted.

Off-site areas – Describe any off-site land distrubing activities that will occur (including borrow sites, waste or surplus areas, etc.). Will any other areas be disturbed?

Enter Comments Below:

All disturbed areas are within the project boundary.

Soils – A brief description of the soils on the site, giving such information such as soil name, erodibility, permeability, depth, texture and soil structure.

Enter Comments Below:

The following tables lists the soil types contained within the project boundaries.

Soil Symbol	Soil Name	Erodibilit, K Factor
7231	Judson Silt Loam	.37

7418	Morrill Clay Loam	.24
7422	Morrill Clay Loam	.24
7668	Mayberry Sily Clay Loam	.28
7684	Wymore Silty Clay Loam	.32

Critical Areas – a description of areas on the site which have potentially serious erosion problems (steep slopes, channels, etc.).

Enter Comments Below:

Both the west and east sites contain general slopes that exceed 8%.

Erosion and sediment control measures – A description of the methods which will be used to control erosion and sedimentation on the site. (Controls shall meet the minimum specified requirements found in Chapter 9 of the City of Lincoln Drainage Criteria Manual).

Enter Comments Below:

Erosion and sediment control measures will include the following:

- Minimize disturbed areas.
- Phase construction.
- Establish perimeter controls.
- Establish stabilized construction exits.
- Protect storm drain inlets.
- Temporary and final seeding.

Permanent Stabilization – a brief description, including specifications, of how the site will be stabilized after construction is completed (Post Construction Best Management Practices).

Enter Comments Below:

Permanent stabilization will be accomplished by final seeding and mulching after lots are developed.

Stormwater runoff and management – Will the developed site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff.

Enter Comments Below:

The developed site will cause an increase in peak runoff rates. Some runoff will be collected in by curbs and storm sewers and transported to the nearby drainage channel. The drainage channel enters the Little Nemaha River within 1200 feet of the project site.

Spill Prevention & Response Plan – When developing a spill prevention and response plan, at a

minimum, include the following:

- Note the locations of chemical storage areas, storm drains, tributary drainage areas, surface water bodies on or near the site and measures to stop spills from leaving the site. Specify how to notify the property authorities to request assistance.
- Describe the procedures for cleanup for spills and proper disposal
- Identify the personnel responsible for implementing the plan in the event of a spill.

Enter Comments Below:

The above items are adressed in the SWPPP.

Erosion Control Legend

- Slope Barrier
- Inlet Protection
- Rock Check
- Construction Entrance

Project Improvement Plan

- SA — Sanitary Sewer Line Construction
- W — Water Line Construction
- Street Improvements
- 1 0.67 Ac 29,336 sf — Individual Lot Developments

CONSTRUCTION SEQUENCE

1. INSTALL EROSION CONTROL MEASURES.
2. CONSTRUCT SANITARY SEWER LINES
3. CONSTRUCTION WATER LINES
4. ROAD GRADING AND CONSTRUCTION
5. FINAL GRADING OF ROAD R/W
6. FINAL STABILIZATION OF ROAD R/W AND UTILITY CONSTRUCTION AREAS.
7. INDIVIDUAL LOT DEVELOPMENT
8. INDIVIDUAL LOT STABILIZATION

0 60 120

ENGINEERS ARCHITECTS SURVEYORS
1102 Broadway, Marysville KS - 785.562.5148

No.	Revisions	Date	Intl.

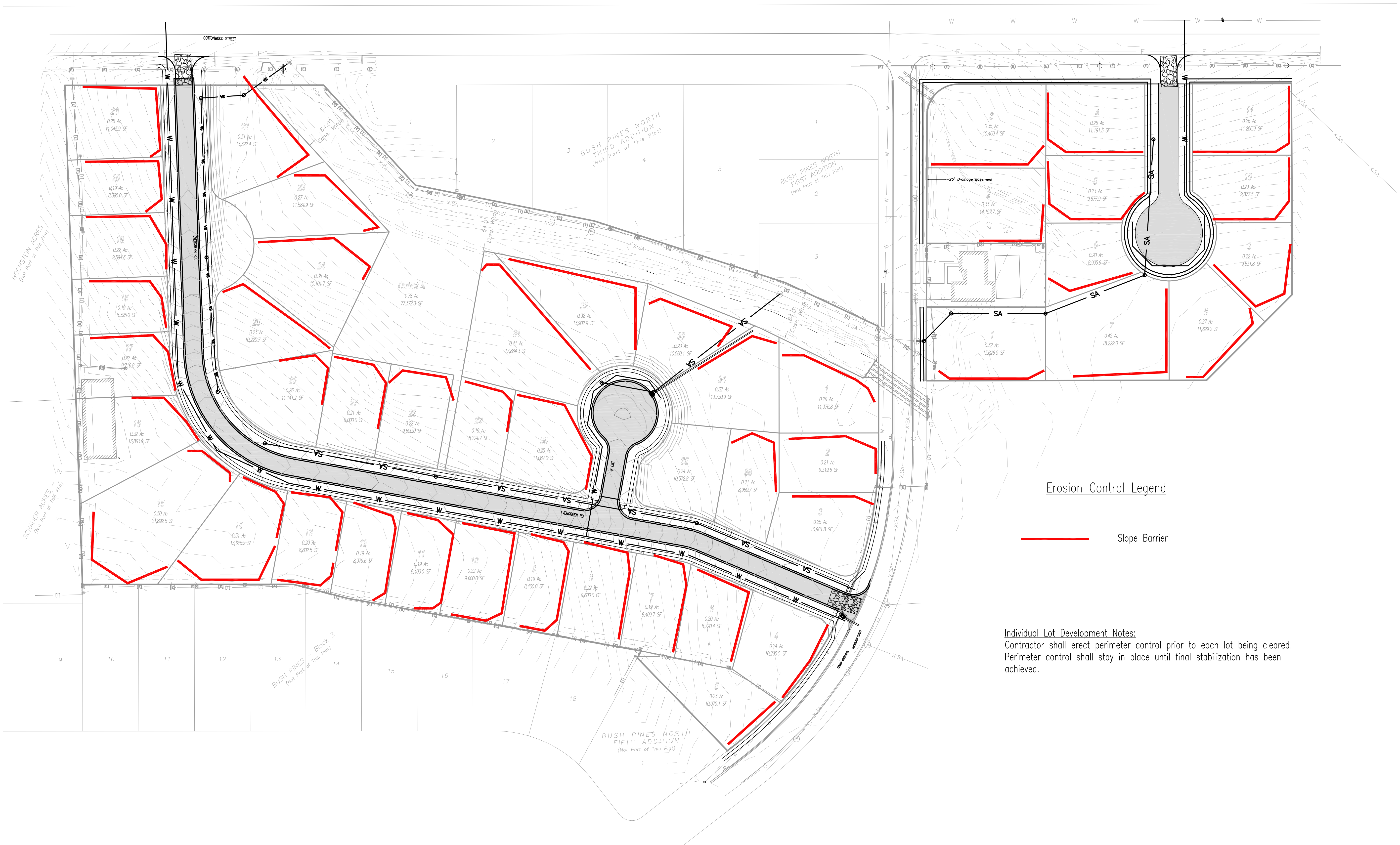
Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

Erosion Control Plan - Infrastructure

Design :	AD
Detailed :	KO
Checked :	AD
W.O. #	172680
Issue Date :	11/6/18

Sheet No: **1**

Total Sheets : 4



Erosion Control Legend

Slope Barrier

Individual Lot Development Notes:

Contractor shall erect perimeter control prior to each lot being cleared. Perimeter control shall stay in place until final stabilization has been achieved.

0 60 120

ENGINEERS ARCHITECTS SURVEYORS
1102 Broadway, Marysville KS - 785.562.5148

No.	Revisions	Date	Intl.

Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

Erosion Control Plan - Lot Development

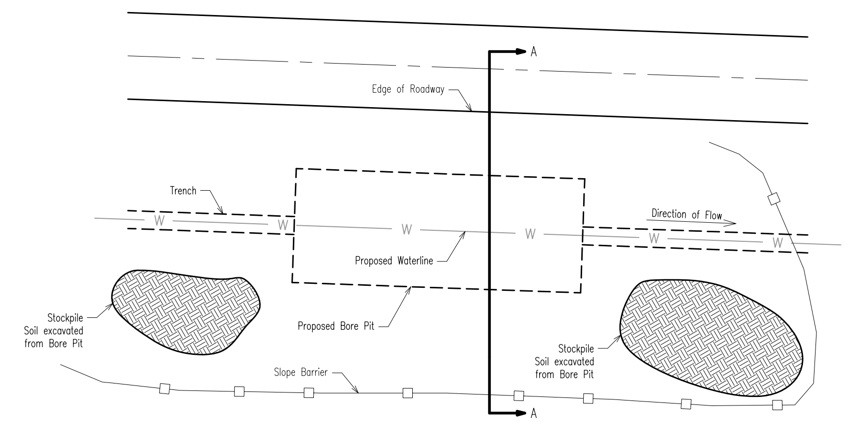
Design :	AD
Detailed :	KO
Checked :	AD
W.O. #	172680
Issue Date :	11/6/18

Sheet No: 2

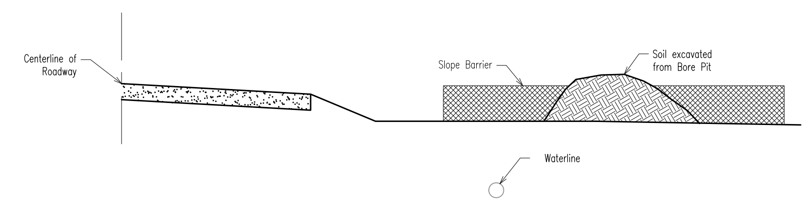
Total Sheets : 4

EROSION CONTROL PLAN FOR PIPELINE INSTALLATIONS:

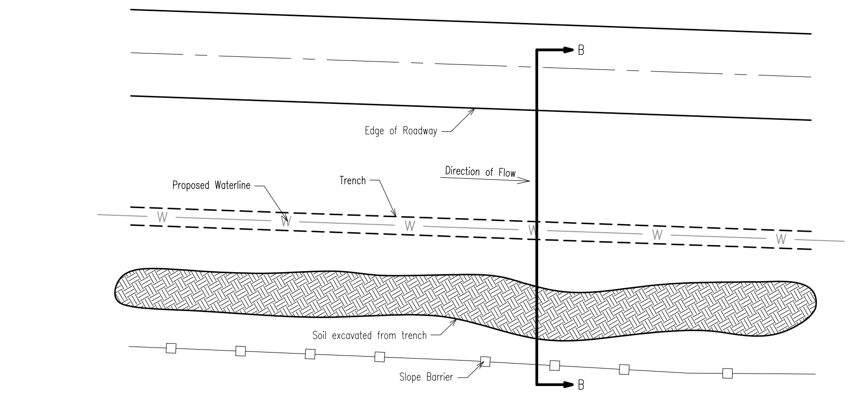
1. Existing vegetation and trees surrounding the disturbed areas shall be preserved and protected as much as practical to provide a natural buffer zone. Trees shall be removed as necessary to install pipeline except where noted on plan sheets to protect trees.
2. Temporary seeding shall be utilized along the pipelines on areas that have been disturbed by construction and will not be permanently seeded or stabilized for 30 days. Temporary seeding should take place as soon as practical after the area has been disturbed.
3. Mulching can be utilized alone in areas along the pipelines where temporary seeding cannot be used because of the season or climate.
4. Silt fence, or biodegradable log slope barriers shall be utilized along the pipelines where a sloped existing grade exists. Refer to specific slope barrier details.
5. Silt fence, or biodegradable ditch checks shall be utilized if pipeline is installed or adjacent to an existing ditch. Refer to specific ditch check details.
6. To minimize tracking of soil and gravel onto paved streets, stabilized construction entrances and/or a contractor operated street sweeper shall be used to control soil tracking.
7. Storm water control measures shall remain in place and properly maintained at all times during construction until the site is re-established with paving or grass (75% established grass). Contractor shall be responsible for removing all storm water control measures at that time.
8. Quantity of specific storm water control measures along pipeline depends on the construction sequence and amount of areas disturbed by pipeline construction.
9. All stockpiles shall be stabilized as necessary to minimize wind borne erosion of material from the project areas. Dust control measures may include but are not limited to pre-wetting, watering, mulch, re-vegetation, drift/silt fencing, wooden lathe snow fencing, ground covers, soil stabilizers, compaction to hard surface crust and halting soil disturbance activities.



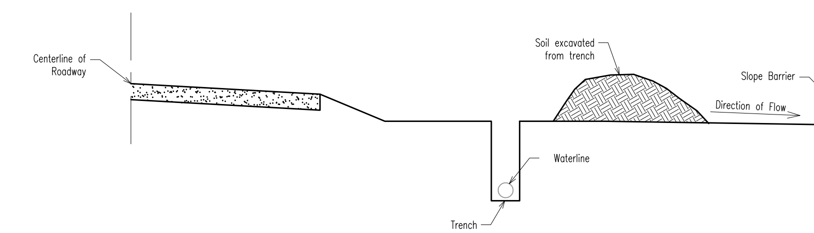
TYPICAL EROSION CONTROL AT BORE PIT



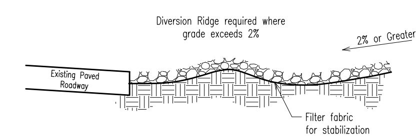
SECTION A – A



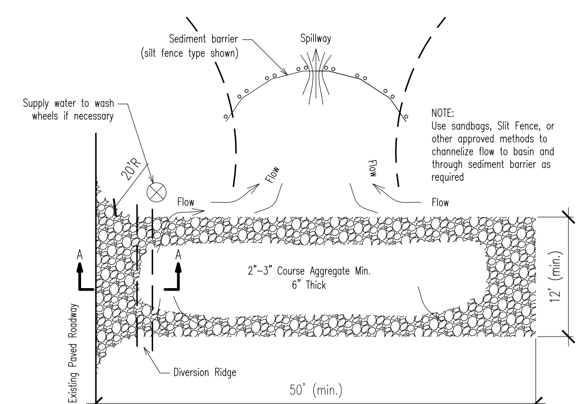
TYPICAL EROSION CONTROL AT TRENCH LOCATION



SECTION B – B



SECTION A – A



TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. A Temporary construction entrance shall be located at any point where traffic leaves a construction site and moves directly onto a public road or other paved are.
2. The entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights-of-ways. This may require top dressing, repair and/or cleanout of any measures used to trap sediment.
3. All surface water flowing to or diverted toward construction entrances shall be piped under the entrance to maintain a positive drainage. Pipe installed under the construction entrance shall be protected with a mountable berm or other inlet protection. The pipe shall be sized according to the drainage with a minimum diameter being 12 inches. A pipe will not be necessary when the entrance is located at a high spot.
4. When necessary, wheels shall be cleaned prior to entrance onto public right-of-way or other paved road.
5. When washing is required, it shall be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin shown above.
6. Any mud tracked onto streets or adjacent property must be removed at the end of each work day.

CES ENGINEERS ARCHITECTS SURVEYORS
1102 Broadway, Marysville KS - 785.562.5148

No.	Revisions	Date	Intl.

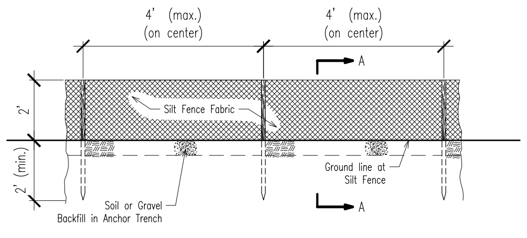
Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

Erosion Control Plan - Details

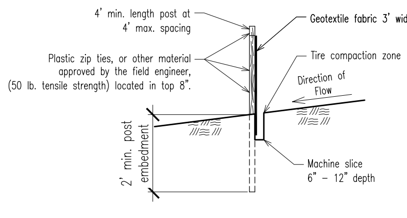
Design :	AD
Detailed :	KO
Checked :	AD
W.O. #	172680
Issue Date :	11/6/18

Sheet No: 3

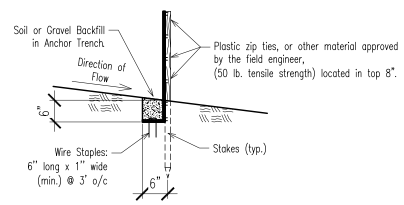
Total Sheets : 4



TYPICAL ELEVATION



SLOPE BARRIER INSTALLATION
SECTION A – A



SLOPE BARRIER INSTALLATION
SECTION A – A

INSTALLATION NOTES

SILT FENCE:

1. Stakes shall be 4' (min.) long and of one of the following materials:
   a. Hardwood – 1 3/16" x 1 3/16";
   b. Southern Pine (No. 2) – 2 5/8" x 2 5/8";
   c. Steel U, T, L, or C Section – 1.25 lbs. per 1'–0";
   d. Synthetic – same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.

BIODEGRADABLE LOG BARRIERS:

1. Place biodegradable logs tightly together.
2. Wood stakes shall be 2" x 2" (nom.).
3. Wire staples shall be 6" long x 1" wide (min.) and placed on 4' (max.) centers.
4. Refer to plan sheets to estimate length of biodegradable log barriers required.
5. Logs should be keyed into the ground at a minimum of 25% of its height.
6. Length of stakes should be 2 times the height of the log at a minimum.

GENERAL NOTES:

1. The slope barriers shall be placed along contour lines, with a short section turned upgrade at each end of the barrier. The maximum length of the slope barrier shall not exceed 250 feet, and the barrier ends need to be staggered.
2. At culverts, the Silt Fence shall be placed over the culvert, not through the streambed flowline.
3. Barriers damaged by Contractor's negligence, including improper maintenance or lack of maintenance, shall be repaired immediately by Contractor at no additional cost to KDOT.
4. Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.

SILT FENCE SLOPE BARRIER

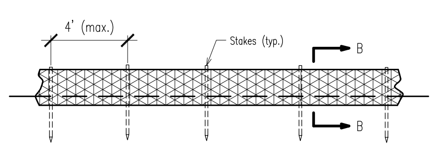
NO SCALE

BIODEGRADABLE LOGS, STRAW WATTLES & SEDIMENT LOGS

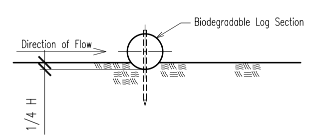
PRODUCT		9" Sediment Log & 9" Straw Wattle (ft)	12" Sediment Log & 12" Straw Wattle (ft)	20" Sediment Log & 20" Straw Wattle (ft)
Slope Gradient	≤ 4H:1V	40	60	80
	3H:1V	30	45	60
	2H:1V	20	30	40
	1H:1V	10	15	20

BIODEGRADABLE LOG MATERIAL	LOW FLOW	HIGH FLOW
9"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber
12"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber
18"–20"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber

9" and 12" material should only be used in areas which have been seeded and mulched.
20" material should be used in all other areas.
Deviations should be approved by the Field Engineer.



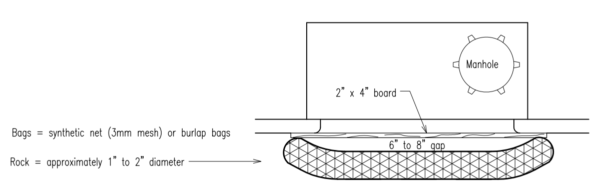
TYPICAL ELEVATION



SECTION B – B

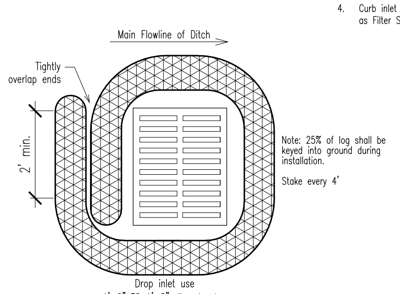
BIODEGRADABLE LOG SLOPE BARRIER

NO SCALE



CURB INLET PROTECTION

1. If multiple gravel bags are required, place them in such a way that no gaps are evident.
2. Height of bags (8" minimum diameter) must not be above top of curb.
3. Alternative products may be used other than gravel bags such as the "Gutter Buddy". Products must be approved by the Engineer.
4. Curb inlet protection will be measured and paid for as Filter Sock.



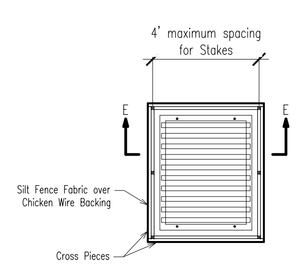
Material Requirements
Use 100% shredded mulch or other non–compost biodegradable material as fill for logs.
No compost or fines.
No hay or straw.
Do not use material which prohibits water infiltration.
Log Mesh: Use mesh with 1/4" openings or larger. Mesh must allow water infiltration but also hold fill material in place.

BIODEGRADABLE LOG / FILTER SOCK DROP INLET PROTECTION

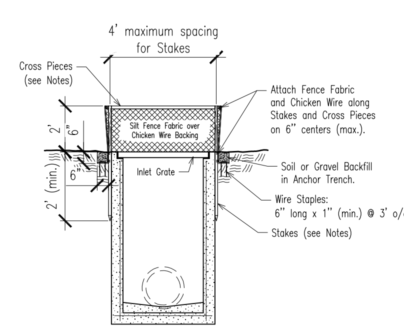
NO SCALE

SILT FENCE:

1. Stakes shall be 4' (min.) long and of one of the following materials:
   a. Hardwood – 1 3/16" x 1 3/16";
   b. Southern Pine (No. 2) – 2 5/8" x 2 5/8";
   c. Steel U, T, L, or C Section – 1.25 lbs. per 1'–0";
   d. Synthetic – same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.



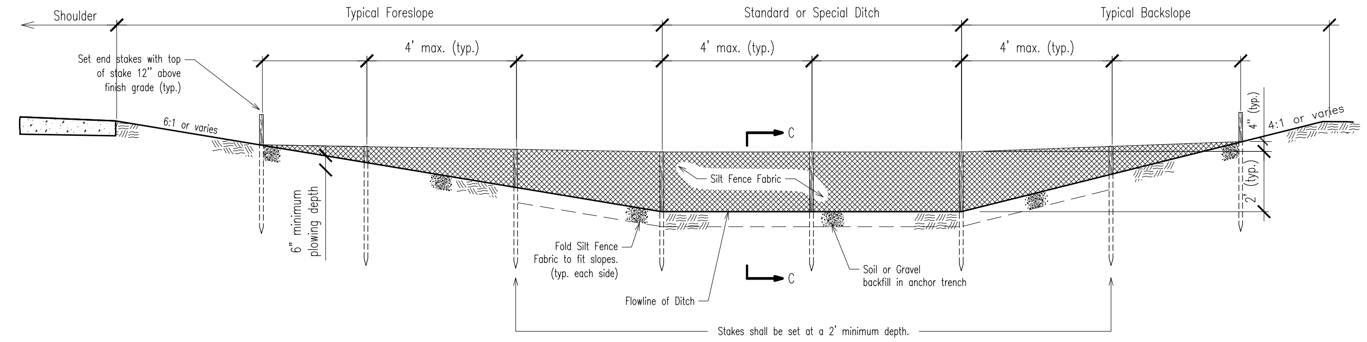
PLAN



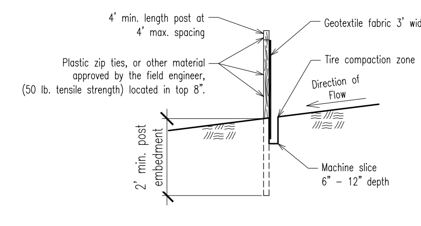
SECTION E – E

TEMPORARY INLET SEDIMENT BARRIER (SILT FENCE METHOD)

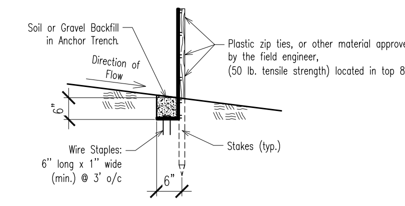
NO SCALE



TYPICAL ELEVATION



SILT FENCE INSTALLATION
SECTION C – C



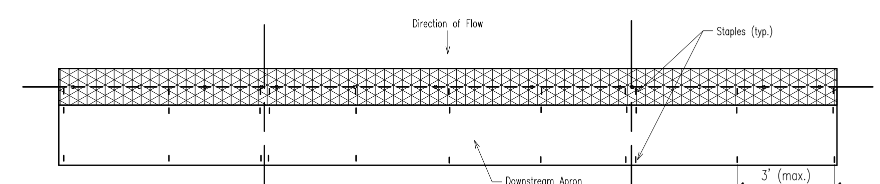
SILT FENCE INSTALLATION
SECTION C – C

SILT FENCE:

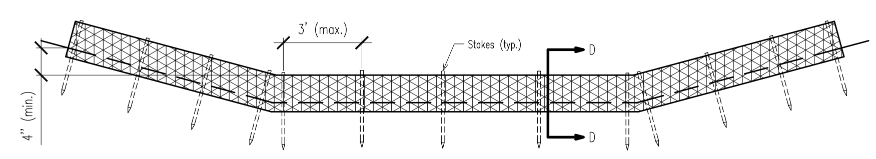
1. Stakes shall be 4' (min.) long and of one of the following materials:
   a. Hardwood – 1 3/16" x 1 3/16";
   b. Southern Pine (No. 2) – 2 5/8" x 2 5/8";
   c. Steel U, T, L, or C Section – 1.25 lbs. per 1'–0";
   d. Synthetic – same strength as wood stakes.
2. Cross pieces shall be of same material as stakes.
3. Attach fence fabric securely on 6" centers (max.).
4. Use of high flow material is acceptable.
5. Refer to plan sheets to estimate the length of silt fence required.
6. Use support fencing when tributary area is greater than 2.4 acres or when ditch gradient is greater than 2 percent.
7. Silt fence plowing is acceptable at a 6" minimum depth. Trenching is acceptable in certain cases.

SILT FENCE DITCH CHECK

NO SCALE



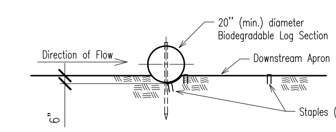
PLAN



TYPICAL ELEVATION

BIODEGRADABLE LOG DIKE NOTES:

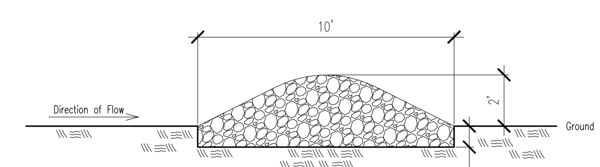
1. Place biodegradable logs tightly together, with apron material overlapping end–to–end by 6'.
2. Wire staples shall be 6" long by 1" wide, minimum.
3. Use as many biodegradable log sections as necessary to insure water does not flow around end of ditch check.
4. Wood stakes shall be 2" x 2" (nom.) x 4' (min.) long.
5. Use silt fence material as the downstream apron to prevent scour below the ditch check.



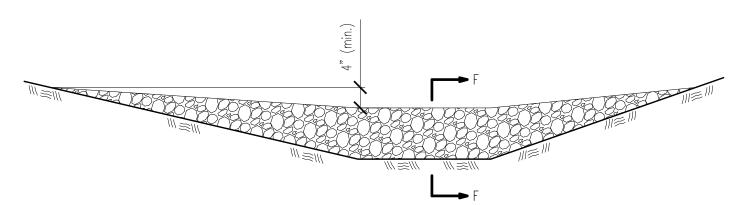
SECTION D – D

BIODEGRADABLE LOG DITCH CHECK

NO SCALE



SECTION F – F



TYPICAL ELEVATION

ROCK DITCH CHECK NOTES:

1. Rock shall be clean aggregate, D50 = 6".
2. Place rock in such manner that water will flow over, not around ditch check.
3. Do not use rock ditch checks in clear zone.
4. Excavation: The ditch area shall be reshaped to fill any eroded areas. Prior to placement of the rock, the ditch shall be excavated to the dimensions of the Rock Ditch Check and to a minimum depth of 6" (150mm). After placement of the rock, backfill and compact any over excavated soil to ditch grade. This work shall be subsidiary to the bid item "Temporary Ditch Check (Rock) (Set)."
5. Aggregate excavated on site may be used as an alternate to the 6" rock, if approved by the Engineer.
6. The Engineer may approve the use of larger aggregates when conditions warrant their use.

TEMPORARY ROCK DITCH CHECK SPACING	
DITCH CL SLOPE (%)	SPACING INTERVAL (FEET)
5.0	60
6.0	50
7.0	43
8.0	36
9.0	33
10.0	29
NOTE: Use this spacing only for Rock Ditch Checks.	

ROCK DITCH CHECK

NO SCALE

ENGINEERS ARCHITECTS SURVEYORS
1102 Broadway, Marysville KS - 785.562.5148

No.	Revisions	Date	Init.

Mr. Mark Schmidt
Evergreen Place 1st Addition - SWPPP

Erosion Control Plan - Details

Design :	AD
Detailed :	KO
Checked :	AD
W.O. #	172680
Issue Date :	11/6/18

Sheet No:
4

Total Sheets : 4