

# MILAM MAZDA – REMODEL & ADDITION

608 River Road

Parcel Nos. 0420214017, 04020214015, 04020214060

Within the SW1/4 of SE1/4 S21, T20N, R04E, WM

## **Construction Stormwater Pollution Prevention Plan (SWPPP)** September 2025

**JKA** Civil Engineering

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# MILAM MAZDA – REMODEL & ADDITION

## SWPPP Report

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JKA Project No.: 2502  
JKA File No.: \\JKA2\Autocadd\Land Projects\2502\Reports\SWPPP



9/2/2025

### Project Engineer's Certification:

I hereby state that this **SWPPP** report for **MILAM MAZDA – REMODEL & ADDITION** has been prepared by me or under my supervision and meets the minimum standard of care and expertise which is usual and customary in this community for professional engineers. I understand that City of Puyallup does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me.

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- I - Erosion and Sediment Control Plans
- II - Best Management Practices

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## MILAM MAZDA - REMODEL & ADDITION SWPPP REPORT

(Note: This report has been prepared in accordance with the intent of the 2019 WSDOE Drainage Manual)

### **SECTION I – CONSTRUCTION SWPPP NARRATIVE**

#### **PROJECT DESCRIPTION**

The project proponents are applying for civil engineering approval and permit for onsite stormwater and grading improvements associated with building addition and remodel. The site is located at the southeast corner of River Road and 7<sup>th</sup> Street NW. Current zoning is CG – General Commercial, the site currently functions as a car dealership. The project is located in Section 21, Township 20N, Range 04E. Total area of the three parcel site is approximately 2.95 AC. The project will only impact a portion of the site, with a total disturbance area of 4,403 s.f.

The goal is to obtain City of Puyallup Site Development Permit approval to allow construction of a building addition with revised roof drain infiltration trench.

**Proposed Stormwater System** - (refer to JKA construction plan “C” sheets.)

The storm drainage concept for Milam Mazda is to fully infiltrate the stormwater runoff from the new roof building by virtue of:

- The runoff from the roof area of the building addition will be conveyed to the proposed infiltration trench just south of the building addition, where it will be fully infiltrated.

Per the Flow Chart for Determining Requirements for Redevelopment (Figure I-2.4.2) of the 2019 Ecology SWMMWW, this project is required to meet Minimum Requirements #1-#5 for all new and replaced hard surfaces and the land disturbed.

Onsite soils have been mapped by NRCS as Puyallup fine sandy loam (31A) on the northeastern portion of the site, and a Xerothents-fill areas (48A) on the remaining northwestern and southern portion of the site. As part of a 2019 remodel, two strategic soil test pits were excavated and logged to confirm the Puyallup series designation, and no fill areas were revealed. Additionally, infiltration tests were performed at the location of the then proposed infiltration trench. The proposed infiltration trench is approximately 25’ south of the existing trench.

The infiltration trench has been analyzed using WWHM2012 software. This modeling shows 100% infiltration for the roof areas and existing asphalt pavement. The WWHM calculations are presented in Appendix III . Per the Soils Report, a design infiltration rate of 7.19 inches per hour was used to size the infiltration trench. During infiltration trench construction, the groundwater depth will be verified by the project engineer prior to placement of drain rock.

The infiltration trench has been analyzed using WWHM2012 software. This modeling shows 100% infiltration for the roof areas and a portion of replaced and existing asphalt pavement. The WWHM calculations are presented in Appendix III . Per the Soils Report, a design infiltration rate of 7.19 inches per hour was used to size the infiltration trench. Ground water depth will be verified by the project engineer prior to placement of drain rock.

## **Construction Stormwater Pollution Prevention Elements**

### **Element #1: Mark Clearing Limits –**

Clearing limits will be marked in the field by the owner’s surveyor and contractor prior to beginning land disturbing activities, including clearing and grading, clearly mark all clearing limits. These limits are generally around the perimeter of the project site as shown on the construction SWPPP sheet.

These limits shall be clearly marked to prevent damage and offsite impacts.

Plastic, metal, or stake wire fence may be used to mark the clearing limits.

- Suggested BMPs
- BMP C103: High Visibility Plastic or Metal Fence

### **BMP C103: High Visibility Plastic or Metal Fence**

**Purpose** Fencing is intended to: (1) restrict clearing to approved limits; (2) prevent disturbance of sensitive areas, their buffers, and other areas required to be left undisturbed; (3) limit construction traffic to designated construction entrances or roads; and, (4) protect areas where marking with survey tape may not provide adequate protection.

**Conditions of Use** To establish clearing limits, plastic or metal fence may be used:

- At the boundary of sensitive areas, their buffers, and other areas required to be left uncleared.
- As necessary to control vehicle access to and on the site.

### **Design and Installation Specifications**

- High visibility plastic fence shall be composed of a high-density polyethylene material and shall be at least four feet in height. Posts for the fencing shall be steel or wood and placed every 6 feet on center (maximum) or as needed to ensure rigidity. The fencing shall be fastened to the post every six inches with a polyethylene tie. On long continuous lengths of fencing, a tension wire or rope shall be used as a top stringer to prevent sagging between posts. The fence color shall be high visibility orange. The fence tensile strength shall be 360 lbs./ft. using the ASTM D4595 testing method.
- Metal fences shall be designed and installed according to the manufacturer's specifications.
- Metal fences shall be at least 3 feet high and must be highly visible.
- Fences shall not be wired or stapled to trees.

### **Maintenance Standards**

- If the fence has been damaged or visibility reduced, it shall be repaired or replaced immediately and visibility restored.

**Element #2: Establish Construction Access** –

Construction access will be established pursuant to the erosion control plans. The sole construction access will be off of 7<sup>th</sup> Street NW utilizing one of the existing driveways. The contractor is required to minimize the tracking of sediment from the site to the adjacent paved surface.

Since the site is 100 percent impervious, there is little chance of debris being tracked off-site, and therefore no formal construction entrance is required.

Construction vehicle access and exit shall be limited to one route as described above and shown on the construction plan sheet.

If sediment is tracked off site, public roads shall be cleaned thoroughly at the end of each day, or more frequently during wet weather, if necessary to prevent sediment from entering waters of the state.

Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area. Street washing will be allowed only after sediment is removed in this manner.

Street wash wastewater shall be prevented from discharging into systems tributary to state surface waters.

**Element #3: Control Flow Rates** –

The BMP used for control of flow rates is the infiltration trench. A sediment trap is not a viable option for this site due to the flat grades, lack of receiving system for accepting flows from a sediment trap, and the 100 percent impervious coverage of the site.

**Element #4: Install Sediment Controls** –

Prior to leaving the construction site, stormwater runoff from disturbed areas shall pass through a sediment removal BMP.

Since the site is fully covered in impervious surfaces, the amount of disturbed soils will be minimal during construction. Also, the nature of the site does not allow for installation of silt fence or a sediment trap. To ensure sediment control, catch basin inserts will be installed within all existing and proposed catch basins that are within the vicinity of work to be performed.

• Suggested BMPs

BMP C220: Storm Drain Inlet Protection

**BMP C220: Storm Drain Inlet Protection**

***Purpose***

To prevent coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

***Conditions of Use*** Where storm drain inlets are to be made operational before permanent stabilization of the disturbed drainage area. Protection should be provided

for all storm drain inlets downslope and within 500 feet of a disturbed or construction area, unless the runoff that enters the catch basin will be conveyed to a sediment pond or trap. Inlet protection may be used anywhere to protect the drainage system. It is likely that the drainage system will still require cleaning.

*Block and Gravel Filter* - A barrier formed around the storm drain inlet with standard concrete blocks and gravel.

- Height 1 to 2 feet above inlet.
- Recess the first row 2 inches into the ground for stability.
- Support subsequent courses by placing a 2x4 through the block opening.
- Do not use mortar.
- Lay some blocks in the bottom row on their side for dewatering the pool.
- Place hardware cloth or comparable wire mesh with ½-inch openings over all block openings.
- Place gravel just below the top of blocks on slopes of 2:1 or flatter.
- An alternative design is a gravel donut.
- Inlet slope of 3:1.
- Outlet slope of 2:1.
- 1-foot wide level stone area between the structure and the inlet.
- Inlet slope stones 3 inches in diameter or larger.
- Outlet slope use gravel ½- to ¾-inch at a minimum thickness of 1-foot.

***Maintenance Standards***

- Catch basin filters should be inspected frequently, especially after storm events. If the insert becomes clogged, it should be cleaned or replaced.
- For systems using stone filters: If the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

**Element #5: Stabilize Soils –**

Due to the very low topographic relief on-site and minimal exposed soils during construction, temporary stabilizing of soils is limited to straw and/or mulch as necessary.

All exposed and unworked soils shall be stabilized by application of effective BMPs that protect the soil from the erosive forces of raindrop impact, flowing water, and wind.

From October 1 through April 30, no soils shall remain exposed and unworked for more than 2 days. From May 1 to September 30, no soils shall remain exposed and unworked for more than 7 days. This condition applies to all soils on site, whether at final grade or not.

Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.

Applicable practices include, but are not limited to, temporary and permanent seeding, sodding, mulching, plastic covering, erosion control fabrics and matting, soil application

of polyacrylamide (PAM), the early application of gravel base on areas to be paved, and dust control.

Soil stabilization measures should be appropriate for the time of year, site conditions, estimated duration of use, and potential water quality impacts that stabilization agents may have on downstream waters or ground water.

Soil stockpiles must be stabilized from erosion, protected with sediment trapping measures, and when possible, be located away from storm drain inlets, waterways and drainage channels.

Linear construction activities, including right-of-way and easement clearing, roadway development, pipelines, and trenching for utilities, shall be conducted to meet the soil stabilization requirement.

Contractors shall install the bedding materials, roadbeds, structures, pipelines, or utilities and re-stabilize the disturbed soils so that:

- from October 1 through April 30 no soils shall remain exposed and unworked for more than 2 days and
- from May 1 to September 30, no soils shall remain exposed and unworked for more than 7 days.

- Suggested BMPs

#### **BMP C123: Plastic Covering**

Alternate sediment control BMPs are included in SWPPP Appendix “II” as a reference for the onsite inspector in the event the BMP listed above is deemed ineffective or inappropriate during construction. To avoid potential erosion and sediment control issues, the project inspector will promptly initiate the implementation of one or more of the alternative BMPs after the first sign that existing BMPs are ineffective or failing.

The alternative BMP’s are: BMP C120: Temporary and Permanent Seeding, BMP C121 Mulching, BMP C140: Dust Control, BMP C180: Small Project Construction Stormwater Pollution Prevention

#### **Element #6: Protect Slopes –**

Due to the low topographic relief of the site and subtle grading proposed for final development, temporary stabilizing of soils will be limited to straw and/or mulch. There are no plans for cut or fill slopes exceeding 2:1.

#### **Element #7: Protect Drain Inlets –**

All proposed catch basins, as well as any existing catch basins within the project vicinity will be protected from sediment by installation of Storm Drain Inlet Protection per the City Standards as shown on the construction plans.

All storm drain inlets made operable during construction shall be protected so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.

All approach roads shall be kept clean. Sediment and street wash water shall not be allowed to enter storm drains without prior and adequate treatment unless treatment is provided before the storm drain discharges to waters of the state. Inlets should be inspected weekly at a minimum and daily during storm events. Inlet protection devices should be cleaned or removed and replaced when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

- Suggested BMPs
- BMP C220: Storm Drain Inlet Protection

### **BMP C220: Storm Drain Inlet Protection**

#### ***Purpose***

To prevent coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

***Conditions of Use*** Where storm drain inlets are to be made operational before permanent stabilization of the disturbed drainage area. Protection should be provided for all storm drain inlets downslope and within 500 feet of a disturbed or construction area, unless the runoff that enters the catch basin will be conveyed to a sediment pond or trap. Inlet protection may be used anywhere to protect the drainage system. It is likely that the drainage system will still require cleaning.

***Block and Gravel Filter*** - A barrier formed around the storm drain inlet with standard concrete blocks and gravel.

- Height 1 to 2 feet above inlet.
- Recess the first row 2 inches into the ground for stability.
- Support subsequent courses by placing a 2x4 through the block opening.
- Do not use mortar.
- Lay some blocks in the bottom row on their side for dewatering the pool.
- Place hardware cloth or comparable wire mesh with 1/2-inch openings over all block openings.
- Place gravel just below the top of blocks on slopes of 2:1 or flatter.
- An alternative design is a gravel donut.
- Inlet slope of 3:1.
- Outlet slope of 2:1.
- 1-foot wide level stone area between the structure and the inlet.
- Inlet slope stones 3 inches in diameter or larger.
- Outlet slope use gravel 1/2- to 3/4-inch at a minimum thickness of 1-foot.

#### ***Maintenance Standards***

- Catch basin filters should be inspected frequently, especially after storm events. If the insert becomes clogged, it should be cleaned or replaced.
- For systems using stone filters: If the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet.

- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

**Element #8: Stabilize Channels and Outlets –**

Not applicable to this project. Channels and outlets are no located near the project, and will not be created as part of the project.

**Element #9: Control Pollutants –**

Project plans and this SWPPP include instructions to the contractor regarding control of construction period pollutants such as heavy equipment and vehicle oil, hydraulic system fluids, etc. The contractor is required to control such pollutants during construction with the use of drip pans, proper vehicle maintenance, and other normal operational methods.

All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of stormwater. Woody debris may be chopped and spread on site.

Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and non-inert wastes present on the site (see Chapter 173-304 WAC for the definition of inert waste). On-site fueling tanks shall include secondary containment.

Maintenance and repair of heavy equipment and vehicles involving oil changes, hydraulic system drain down, solvent and de-greasing cleaning operations, fuel tank drain down and removal, and other activities which may result in discharge or spillage of pollutants to the ground or into stormwater runoff must be conducted using spill prevention measures, such as drip pans. Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.

Emergency repairs may be performed on-site using temporary plastic placed beneath and, if raining, over the vehicle.

Wheel wash or tire bath wastewater shall be discharged to the sanitary sewer (with prior City approval).

Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' recommendations for application rates and procedures shall be followed.

BMPs shall be used to prevent or treat contamination of stormwater runoff by pH modifying sources. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters. Stormwater discharges shall not cause or contribute to a violation of the water quality standard for pH in the receiving water.

Construction sites with significant concrete work shall adjust the pH of stormwater if necessary to prevent violations of water quality standards.

- Suggested BMPs
- BMP C151: Concrete Handling

**BMP C151: Concrete Handling**

**Purpose** Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. This BMP is intended to minimize and eliminate concrete process water and slurry from entering waters of the state.

**Conditions of Use** Any time concrete is used, these management practices shall be utilized.

**Design and Installation Specifications**

- Concrete truck chutes, pumps, and internals shall be washed out only into formed areas awaiting installation of concrete or asphalt.
- Unused concrete remaining in the truck and pump shall be returned to the originating batch plant for recycling.
- Hand tools including, but not limited to, screeds, shovels, rakes, floats, and trowels shall be washed off only into formed areas awaiting installation of concrete or asphalt.
- Equipment that cannot be easily moved, such as concrete pavers, shall only be washed in areas that do not directly drain to natural or constructed stormwater conveyances.
- Washdown from areas such as concrete aggregate driveways shall not drain directly to natural or constructed stormwater conveyances.
- When no formed areas are available, washwater and leftover product shall be contained in a lined container. Contained concrete shall be disposed of in a manner that does not violate groundwater or surface water quality standards.

**Maintenance**

**Standards**

Containers shall be checked for holes in the liner daily during concrete pours and repaired the same day.

If the BMP options listed are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the City permit, or if no BMPs are listed above but deemed necessary during construction, the project contractor shall implement one or more of alternative BMP's listed in SWPPP Appendix "II".

Alternate BMP: C106 Wheel Wash

**Element #10: Control Dewatering –**

Dewatering of groundwater during trenching operations is not likely due to shallow trenching. Neither groundwater nor seepage was revealed in the June 2019 soil test pit excavations down to a depth of 12 feet.

If dewatering is necessary, clean, non-turbid de-watering water, such as well-point ground water, can be discharged to systems tributary to state surface waters, as specified in Element #8, provided the de-watering flow does not cause erosion or flooding of receiving waters.

These clean waters should not be routed through stormwater sediment controls. Highly turbid or contaminated dewatering water from construction equipment operation, clamshell digging, concrete tremie pour, or work inside a cofferdam, shall be handled separately from stormwater.

Other disposal options, depending on site constraints, may include:

- Transport offsite in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters
- Ecology-approved on-site chemical treatment or other suitable treatment technologies
- Sanitary sewer discharge with local sewer district approval, if there is no other option

**Element #11: Maintain BMPs –**

All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. Maintenance and repair shall be conducted in accordance with each particular BMP's specifications (See 2019 SWMM WW, Vol II).

Visual monitoring of the BMPs will be conducted at least once every calendar week and within 24 hours of any rainfall event that causes a discharge from the site. If the site becomes inactive, and is temporarily stabilized, the inspection frequency will be reduced to once every month.

Maintenance and monitoring is the responsibility of the site general contractor.

All temporary erosion and sediment control BMPs shall be removed within 30 days after the final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil resulting from removal of BMPs or vegetation shall be permanently stabilized.

The contractor may elect to use other methods in addition to the BMPs that are dictated.

**Element #12: Manage the Project –**

The project is quite small, therefore phasing is not practical.

Clearing and grading activities will be permitted only per the approved construction plans. The site has no trees, therefore minimizing removal of existing trees is not a consideration. Minimizing disturbance/compaction of native soils is difficult due to the

small site amount of impervious coverage. Soil amendment is not required as there will be no pervious surfaces created as part of this project.

#### Seasonal Work Limitations

From October 1 through April 30, clearing, grading, and other soil disturbing activities shall only be permitted if shown to the satisfaction of the local permitting authority that silt-laden runoff will be prevented from leaving the site through a combination of the following:

1. Site conditions including existing vegetative coverage, slope, soil type, and proximity to receiving waters; and
2. Limitations on activities and the extent of disturbed areas; and
3. Proposed erosion and sediment control measures.

Based on the information provided and/or local weather conditions, the local permitting authority may expand or restrict the seasonal limitation on site disturbance. The local permitting authority shall take enforcement action - such as a notice of violation, administrative order, penalty, or stop-work order under the following circumstances:

- If, during the course of any construction activity or soil disturbance during the seasonal limitation period, sediment leaves the construction site causing a violation of the surface water quality standard; or
- If clearing and grading limits or erosion and sediment control measures shown in the approved plan are not maintained.

The following activities are exempt from the seasonal clearing and grading limitations:

1. Routine maintenance and necessary repair of erosion and sediment control BMPs;
2. Routine maintenance of public facilities or existing utility structures that do not expose the soil or result in the removal of the vegetative cover to soil; and
3. Activities where there is one hundred percent infiltration of surface water runoff within the site in approved and installed erosion and sediment control facilities.

#### Inspection and Monitoring

All BMPs shall be inspected, maintained, and repaired as needed to assure continued performance of their intended function. Site inspections shall be conducted by a person who is knowledgeable in the principles and practices of erosion and sediment control. The person must have the skills to 1) assess the site conditions and construction activities that could impact the quality of stormwater, and 2) assess the effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges.

This project does not require a CESL (Certified Erosion and Sediment Control Specialist) since the project falls under the threshold set for construction sites one acre or larger that discharge stormwater to surface waters of the state. If required, the owner understands that the CESL must be selected and his contact information submitted to the City prior to issuance of construction permits.

Whenever inspection and/or monitoring reveals that the BMPs identified in the Construction SWPPP are inadequate, due to the actual discharge of or potential to discharge a significant amount of any pollutant, appropriate BMPs or design changes shall be implemented as soon as possible.

The Construction SWPPP shall be retained on-site or within reasonable access to the site.

The SWPPP shall be modified if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP is ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site. The SWPPP shall be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP shall be completed within seven (7) days following the inspection.

**Element #13: Protect LID BMPs -**

Restore the BMPs to their fully functioning condition if they accumulate sediment during construction. Restoring the BMP must include removal of sediment and any sediment-laden Bioretention mix soils, and replacing the removed soils with soils meeting the design specification.

**Existing Site Conditions**

The irregular-shaped parcel is located on the southeast corner of River Road and 7<sup>th</sup> Street NW.

The site is currently a car dealership, consisting of three buildings and asphalt pavement. The existing site has 100 percent impervious coverage. This project site is bordered by River Road to the north and 7<sup>th</sup> Street NW to the west and a separate car dealership to the east and south.

Onsite soils have been mapped by NRCS as Puyallup fine sandy loam (31A) on the northeastern portion of the site, and a Xerothents-fill areas (48A) on the remaining northwestern and southern portion of the site.

Site topography is of low relief, generally sloping north to south at a gradient of less than 5%. The high point of the site is the NW corner (elevation 42.0) and the low is at the SE (elevation 37.5).

There is no significant offsite surface water contribution to the project site. Generally, onsite precipitation sheet flows to the existing storm system, where it is collected and conveyed to the City's storm system located within 7<sup>th</sup> Street NW.

**ADJACENT AREAS**

There is no significant offsite surface water contribution to the proposed developed area of the site.

It is the contractor's and owner's responsibility to ensure that no silt-laden or other pollutant-laden runoff leaves the site. This includes a prohibition on tracking any sediment from the construction site on to Pioneer.

## **CRITICAL AREAS**

No creeks, lakes, ravines, gullies, springs, steep slopes, or other environmentally sensitive areas appear on the property.

## **SOILS**

The Natural Resource Conservation Service (NRCS) Soil Survey of Pierce County maps the onsite soils as Puyallup fine sandy loam (31A).

Project-specific soil test pits were excavated throughout the developable portion of the site in June 2019 by JKA in conjunction with Parnell Engineering. Refer to SSP report Appendix II for soils information.

## **EROSION PROBLEM AREAS**

There are no known or predicted erosion problem areas on or immediately adjacent to this site. Appropriate erosion control and construction period BMPs have been selected for this project and are described herein and depicted on the civil plans.

## **CONSTRUCTION PHASING**

Project design includes site grading and erosion control measures to contain silt and soil within the project boundaries during construction until permanent erosion control is in place in the form of landscaping, hydroseeding, and roadway pervious paving. Erosion/sediment control shall be achieved by a combination of structural and vegetation cover measures and construction practices tailored to fit the site. Best management practices (BMPs) will be employed to properly clear and grade the site and to schedule construction activities. Before any construction begins on-site, appropriate erosion control shall first be installed. The planned construction sequence shall be as follows (also see JKA civil plans): The planned construction sequence shall be as follows:

1. Hold a preconstruction meeting with the City and obtain required permits.
2. Establish clearing and grading limits.
3. Install Inlet protection devices.
4. Schedule an erosion control inspection with the City.
5. Construct storm drainage infiltration trench.
6. Construct building addition and roof drain piping.
7. Install paving.
8. Remove inlet protection.

## **CONSTRUCTION SCHEDULE**

The owner intends to commence site work as early as possible, fall 2025.

### **FINANCIAL/OWNERSHIP RESPONSIBILITIES**

Financial guarantees, either by bond or Assignment of Funds, can be issued for this project:

A right of entry form can be signed by the property owner to give right to the city to enter onto the property.

A reclamation guarantee can be provided to the city to ensure that adequate erosion control measures are employed during the course of construction and that permanent stabilization is achieved at the conclusion of significant activity.

### **ENGINEERING CALCULATIONS**

Engineering calculations associated with the stormwater infiltration design have been prepared by JKA and are included in the final drainage report (SSP). There are no temporary erosion control facility sizing calculations for this project; no such temporary sediment control/storage facilities are proposed.

### **CERTIFIED EROSION CONTROL SPECIALIST**

A CESCL will be not be required for this < 1 AC project; If desired by the owner/contractor, a CESL must be registered in the State of Washington.

## **SECTION 2 – EROSION AND SEDIMENT CONTROL PLANS**

### **GENERAL**

A vicinity map for the project site is depicted on Sheet C1 of the civil plans. Erosion and sediment control notes are depicted on the civil plans.

### **SITE PLAN**

Please refer to the civil plan sheets for plan view and details on the project.

### **CONVEYANCE SYSTEMS**

Please refer to Civil Plan Sheets for information regarding erosion and stormwater BMPs, existing and finish grades, clearing limits, etc.

### **EROSION AND SEDIMENT CONTROL FACILITIES**

Please refer to civil plans for detailed discussion and specifications for all erosion and sediment control facilities.

The on-site soils belong primarily to the Puyallup fine sandy loam series. The soils have a potential for erosion. If sediment is tracked off-site, sediment shall be swept or shoveled from the public roadway on a daily basis. Washing down pavement is not allowed to remove sediment.

## **INSPECTION SEQUENCE**

In addition to City inspections for grading and erosion control, the contractor must notify the engineer (JKA) to observe facilities related to clearing, grading, and drainage improvements. At a minimum, the following items should be observed at the time specified:

1. Erosion control measures installed by the contractor and inspected by the City before the start of clearing and grading:
  - a. Clearing limits
2. The contractor must notify the project engineer (JKA) to observe construction of project drainage facilities to ensure the following are in working order:
  - a. Inlet protection devices.
  - b. Prepared sub-grade under pervious pavement installations (on-site roadway)

It is the responsibility of the contractor to inform the engineer (JKA) of the timing of the above construction phases. The owner is responsible for advising the contractor of his responsibility to notify the engineer regarding construction progress and inspection timing.

## **CONTROLLED POLLUTANTS OTHER THAN SEDIMENTS**

Wash out from concrete trucks shall not be dumped into any area that would drain directly to a part of the site stormwater system; nor shall such wash out be dumped onto any soil or pavement area which would carry stormwater runoff.

## **DETAILED DRAWINGS**

Details for BMPs and improvements are illustrated on civil plan sheets.

# **Appendix I**

## **Erosion and Sediment Control Plans**

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MILAM MAZDA – REMODEL & ADDITION  
 Within the SW 1/4, SE 1/4, SEC. 21,  
 T.20 N., R. 4 E., W.M. City of Puyallup, WA

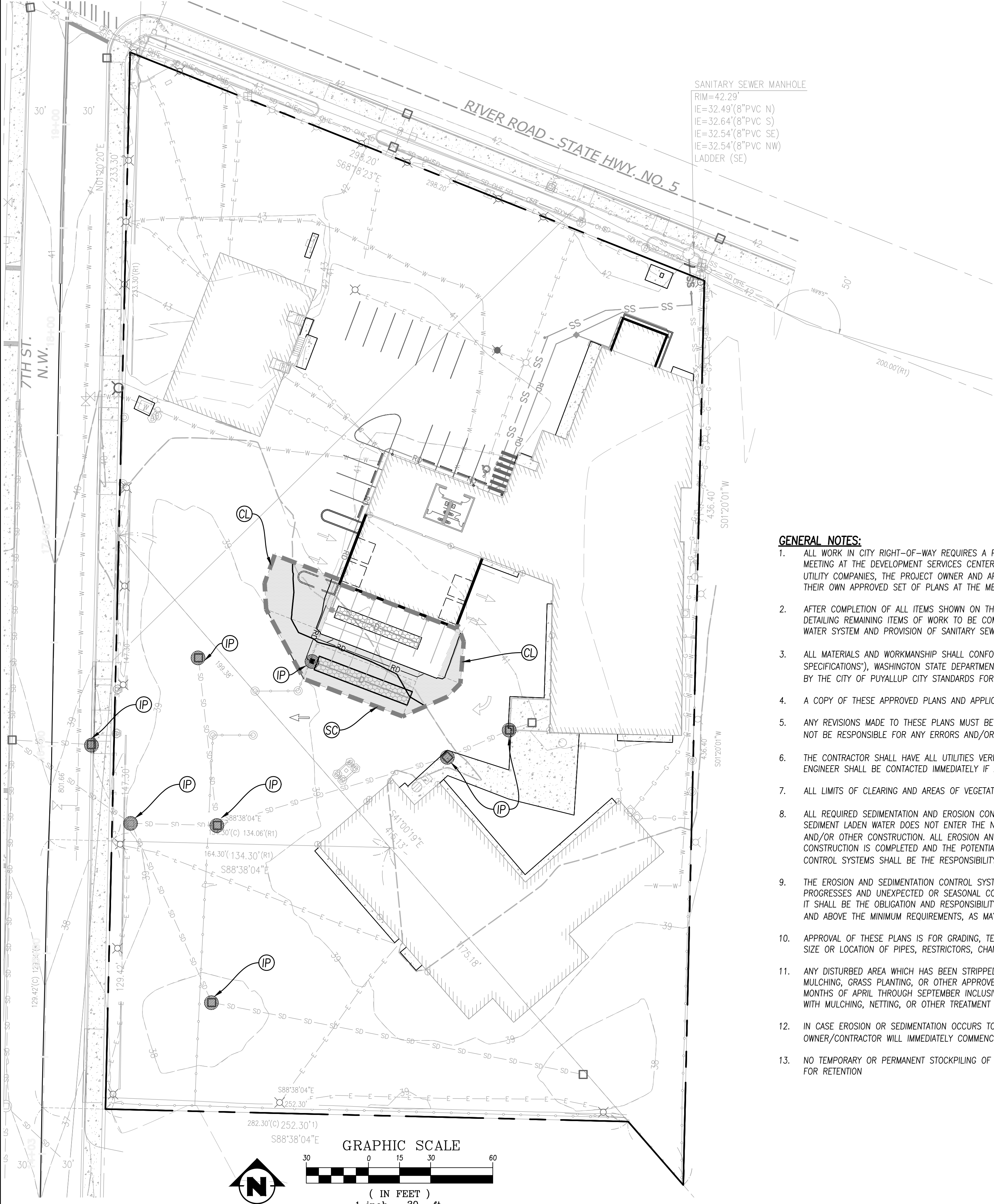
**CONTROL POLLUTANTS OTHER THAN SEDIMENTS**  
 WASH OUT FROM CONCRETE TRUCKS SHALL NOT BE DUMPED ONTO THE SITE. CONCRETE WASHOUT SHALL BE DONE BACK AT THE CONCRETE PLANT.

APPROVED  
 BY: CITY OF PUYALLUP  
 ENGINEERING SERVICES  
 DATE: \_\_\_\_\_  
 NOTE:  
 THIS APPROVAL IS VOID AFTER 1 YEAR FROM APPROVAL DATE.  
 THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS.  
 FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE ENGINEERING SERVICES MANAGER.

**INSPECTION SCHEDULE FOR TEMPORARY EROSION CONTROL:**  
 THE ESC CONTROL FACILITIES SHALL BE INSPECTED DURING AND AFTER RAINFALL EVENTS TO ENSURE PROPER OPERATION. NEEDED REPAIRS SHALL BE MADE WITHIN 24 HOURS OR IMMEDIATELY IF POSSIBLE. THE PROJECT OWNER (KEN DINSMORE, BERGEN-MORE LLC) IS THE PERSON RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF TESC.

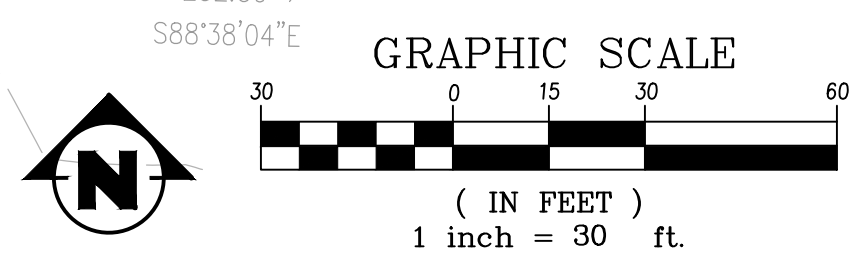
**CONSTRUCTION LEGEND**

- CL CLEARING LIMITS (0.1± ACRES)
- IP INSTALL INLET PROTECTION FOR EXISTING CATCH BASINS. REFER TO CITY STD 02.03.05 AND 02.03.06 ON SHT C4.0 (TYP OF 8)
- PR PAVEMENT RESTORATION LIMITS
- SC SAWCUT LINE



**GENERAL NOTES:**

- ALL WORK IN CITY RIGHT-OF-WAY REQUIRES A PERMIT FROM THE CITY OF PUYALLUP. PRIOR TO ANY WORK COMMENCING, THE GENERAL CONTRACTOR SHALL ARRANGE FOR A PRECONSTRUCTION MEETING AT THE DEVELOPMENT SERVICES CENTER TO BE ATTENDED BY ALL CONTRACTORS THAT WILL PERFORM WORK SHOWN ON THE ENGINEERING PLANS, REPRESENTATIVES FROM ALL APPLICABLE UTILITY COMPANIES, THE PROJECT OWNER AND APPROPRIATE CITY STAFF. CONTACT ENGINEERING SERVICES TO SCHEDULE THE MEETING (253) 841-5568. THE CONTRACTOR IS RESPONSIBLE TO HAVE THEIR OWN APPROVED SET OF PLANS AT THE MEETING.
- AFTER COMPLETION OF ALL ITEMS SHOWN ON THESE PLANS AND BEFORE ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL OBTAIN A "PUNCH LIST" PREPARED BY THE CITY'S INSPECTOR DETAILING REMAINING ITEMS OF WORK TO BE COMPLETED. ALL ITEMS OF WORK SHOWN ON THESE PLANS SHALL BE COMPLETED TO THE SATISFACTION OF THE CITY PRIOR TO ACCEPTANCE OF THE WATER SYSTEM AND PROVISION OF SANITARY SEWER SERVICE.
- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS"), WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND AMERICAN PUBLIC WORKS ASSOCIATION, WASHINGTON STATE CHAPTER, LATEST EDITION, UNLESS SUPERSEDED OR AMENDED BY THE CITY OF PUYALLUP CITY STANDARDS FOR PUBLIC WORKS ENGINEERING AND CONSTRUCTION (HEREINAFTER REFERRED TO AS THE "CITY STANDARDS").
- A COPY OF THESE APPROVED PLANS AND APPLICABLE CITY DEVELOPER SPECIFICATIONS AND DETAILS SHALL BE ON SITE DURING CONSTRUCTION.
- ANY REVISIONS MADE TO THESE PLANS MUST BE REVIEWED AND APPROVED BY THE DEVELOPER'S ENGINEER AND THE CITY ENGINEER PRIOR TO ANY IMPLEMENTATION IN THE FIELD. THE CITY SHALL NOT BE RESPONSIBLE FOR ANY ERRORS AND/OR OMISSIONS ON THESE PLANS.
- THE CONTRACTOR SHALL HAVE ALL UTILITIES VERIFIED ON THE GROUND PRIOR TO ANY CONSTRUCTION. CALL (811) AT LEAST TWO WORKING DAYS HOURS IN ADVANCE. THE OWNER AND HIS/HER ENGINEER SHALL BE CONTACTED IMMEDIATELY IF A CONFLICT EXISTS.
- ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS PRESCRIBED ON THE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD AND OBSERVED DURING CONSTRUCTION.
- ALL REQUIRED SEDIMENTATION AND EROSION CONTROL FACILITIES MUST BE CONSTRUCTED AND IN OPERATION PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE NATURAL DRAINAGE SYSTEM. THE CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE EROSION CONTROL FACILITIES PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION. ALL EROSION AND SEDIMENT FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION AS DETERMINED BY THE CITY, UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE EROSION AND SEDIMENTATION CONTROL SYSTEMS SHALL BE THE RESPONSIBILITY OF THE PERMITEE. CITY OF PUYALLUP - CITY STANDARDS GESC REVISED 06/06/12 500-6.
- THE EROSION AND SEDIMENTATION CONTROL SYSTEM FACILITIES DEPICTED ON THESE PLANS ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, FACILITIES WILL BE NECESSARY TO ENSURE COMPLETE SILTATION CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE PERMITEE TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE THE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEMS.
- APPROVAL OF THESE PLANS IS FOR GRADING, TEMPORARY DRAINAGE, EROSION AND SEDIMENTATION CONTROL ONLY. IT DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT STORM DRAINAGE DESIGN, SIZE OR LOCATION OF PIPES, RESTRICTORS, CHANNELS, OR RETENTION FACILITIES.
- ANY DISTURBED AREA WHICH HAS BEEN STRIPPED OF VEGETATION AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 30 DAYS OR MORE, MUST BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE TIME OF YEAR IN QUESTION. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF APRIL THROUGH SEPTEMBER INCLUSIVE. SEEDING MAY PROCEED OUTSIDE THE SPECIFIED TIME PERIOD WHENEVER IT IS IN THE INTEREST OF THE PERMITEE BUT MUST BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT APPROVED BY THE CITY.
- IN CASE EROSION OR SEDIMENTATION OCCURS TO ADJACENT PROPERTIES, ALL CONSTRUCTION WORK WITHIN THE DEVELOPMENT THAT WILL FURTHER AGGRAVATE THE SITUATION MUST CEASE, AND THE OWNER/CONTRACTOR WILL IMMEDIATELY COMMENCE RESTORATION METHODS. RESTORATION ACTIVITY WILL CONTINUE UNTIL SUCH TIME AS THE AFFECTED PROPERTY OWNER IS SATISFIED.
- NO TEMPORARY OR PERMANENT STOCKPILING OF MATERIALS OR EQUIPMENT SHALL OCCUR WITHIN CRITICAL AREAS OR ASSOCIATED BUFFERS, OR THE CRITICAL ROOT ZONE FOR VEGETATION PROPOSED FOR RETENTION



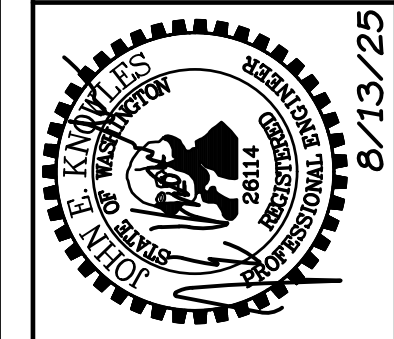
DRAWING TITLE:

SWPPP

PROJECT: MILAM MAZDA  
 REMODEL & ADDITION  
 608 RIVER ROAD  
 OWNER:  
 BERGEN-MORE LLC  
 608 RIVER ROAD  
 PUYALLUP, WA 98371

NO.	DATE	REVISIONS
		CHANGE

DESIGNED BY: JKA  
 DRAWN BY: SRD  
 CHECKED BY: WMS  
 SCALE: AS SHOWN  
 S.E. 1/4-21 T.20 N. R.4 E.  
 CITY/CO.: PUYALLUP, WA



**JKA CIVIL ENGINEERING**  
 950 Broadway, Suite 305  
 Tacoma, WA 98402  
 PH: (253) 538-1400  
 jka@jkaengineers.com

JKA PROJECT NO.  
 2502  
 DRAWING NAME  
 2502-SWPPP  
 SHT. C2.0 OF 5

**UTILITIES LOCATE NOTE:**  
 THE LOCATION OF EXISTING UTILITIES SHOWN HEREON IS BASED ON INFORMATION OBTAINED FROM THE FIELD AND FROM RECORDS. JKA ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITIES SHOWN OR NOT SHOWN HEREON. CONTRACTOR IS ADVISED TO VERIFY THE EXACT SIZE, DEPTH AND LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CALL FOR UNDERGROUND LOCATE AT 811 PRIOR TO CONSTRUCTION.

"CALL UNDERGROUND LOCATE  
 AT 811 BEFORE YOU DIG"

## **Appendix II**

### **Best Management Practices**

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## **BMP C151: Concrete Handling**

### ***Purpose***

Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. Concrete spillage or concrete discharge to surface waters of the State is prohibited. Use this BMP to minimize and eliminate concrete, concrete process water, and concrete slurry from entering waters of the State.

### ***Conditions of Use***

Any time concrete is used, utilize these management practices. Concrete construction projects include, but are not limited to, the following:

- Curbs
- Sidewalks
- Roads
- Bridges
- Foundations
- Floors
- Runways.

### ***Design and Installation Specifications***

Ensure that washout of concrete trucks, chutes, pumps, and internals is performed at an approved offsite location or in designated concrete washout areas, in accordance with BMP C154. Do not wash out concrete trucks onto the ground, or into storm drains, open ditches, streets, or streams.

Return unused concrete remaining in the truck and pump to the originating batch plant for recycling. Do not dump excess concrete onsite, except in designated concrete washout areas.

- Wash off hand tools including, but not limited to, screeds, shovels, rakes, floats, and trowels into formed areas only.
- Wash equipment difficult to move, such as concrete pavers in areas that do not directly drain to natural or constructed stormwater conveyances.
- Do not allow washdown from areas, such as concrete aggregate driveways, to drain directly to natural or constructed stormwater conveyances.

- Contain washwater and leftover product in a lined container when no formed areas are available. Dispose of contained concrete in a manner that does not violate groundwater or surface water quality standards.
- Always use forms or solid barriers for concrete pours, such as pilings, within 15 feet of surface waters.
- Refer to BMPs C252 and C253 for pH adjustment requirements.
- Refer to the Construction Stormwater General Permit for pH monitoring requirements if the project involves one of the following activities:
  - Significant concrete work (greater than 1,000 cubic yards poured concrete or recycled concrete used over the life of a project)
  - The use of engineered soils amended with (but not limited to) Portland cement-treated base, cement kiln dust or fly ash.
- Discharging stormwater to segments of water bodies on the 303(d) list (Category 5) for high pH.

***Maintenance Standards***

- Check containers for holes in the liner daily during concrete pours and repaired the same day.

## **BMP C152: Sawcutting and Surfacing Pollution Prevention**

### ***Purpose***

Sawcutting and surfacing operations generate slurry and process water that contains fine particles and high pH (concrete cutting), both of which can violate the water quality standards in the receiving water. Concrete spillage or concrete discharge to surface waters of the State is prohibited. Use this BMP to minimize and eliminate process water and slurry from entering waters of the State.

### ***Conditions of Use***

Utilize these management practices anytime sawcutting or surfacing operations take place. Sawcutting and surfacing operations include, but are not limited to, the following:

- Sawing
- Coring
- Grinding
- Roughening
- Hydro-demolition
- Bridge and road surfacing.

### ***Design and Installation Specifications***

- Vacuum slurry and cuttings during cutting and surfacing operations.
- Slurry and cuttings shall not remain on permanent concrete or asphalt pavement overnight.
- Slurry and cuttings shall not drain to any natural or constructed drainage conveyance including stormwater systems. This may require temporarily blocking catch basins.
- Dispose of collected slurry and cuttings in a manner that does not violate groundwater or surface water quality standards.
- Do not allow process water generated during hydro-demolition, surface roughening or similar operations to drain to any natural or constructed drainage conveyance including stormwater systems. Dispose process water in a manner that does not violate groundwater or surface water quality standards.
- Handle and dispose cleaning waste material and demolition debris in a manner that does not cause contamination of water. Dispose of sweeping material from a pick-up sweeper at an appropriate disposal site.

***Maintenance Standards***

Continually monitor operations to determine whether slurry, cuttings, or process water could enter waters of the State. If inspections show that a violation of water quality standards could occur, stop operations and immediately implement preventive measures such as berms, barriers, secondary containment, and vacuum trucks.

## BMP C220: Storm Drain Inlet Protection

### *Purpose*

Storm drain inlet protection prevents coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed area.

### *Conditions of Use*

Use storm drain inlet protection at inlets that are operational before permanent stabilization of the disturbed drainage area. Provide protection for all storm drain inlets downslope and within 500 feet of a disturbed or construction area, unless conveying runoff entering catch basins to a sediment pond or trap.

Also inlet protection for lawn and yard drains on new home construction. These small and numerous drains coupled with lack of gutters in new home construction can add significant amounts of sediment into the roof drain system. If possible delay installing lawn and yard drains until just before landscaping or cap these drains to prevent sediment from entering the system until completion of landscaping. Consider erosion protection methods around each finished lawn and yard drain until area is stabilized.

Table 3.11 lists several options for inlet protection. All of the methods for storm drain inlet protection tend to plug and require a high frequency of maintenance. Limit drainage areas to 1 acre or less. Possibly provide emergency overflows with additional end-of-pipe treatment where stormwater ponding would cause a hazard.

**Table 3.11. Storm Drain Inlet Protection.**

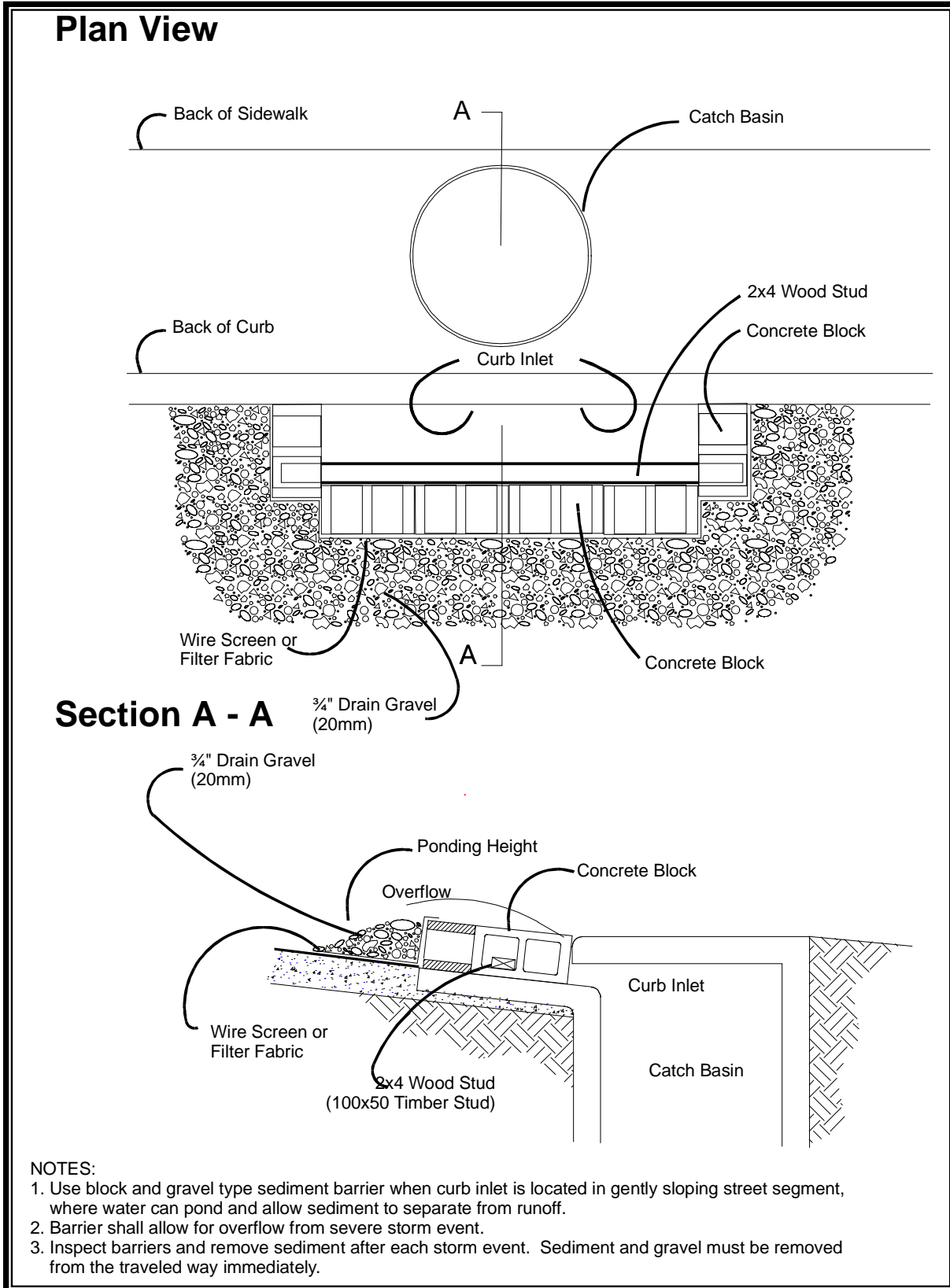
Type of Inlet Protection	Emergency Overflow	Applicable for Paved/Earthen Surfaces	Conditions of Use
<b>Drop Inlet Protection</b>			
Excavated drop inlet protection	Yes, temporary flooding will occur	Earthen	Applicable for heavy flows. Easy to maintain. Large area Requirement: 30 x 30-feet/acre
Block and gravel drop inlet protection	Yes	Paved or Earthen	Applicable for heavy concentrated flows. Will not pond.
Gravel and wire drop inlet protection	No		Applicable for heavy concentrated flows. Will pond. Can withstand traffic.
Catch basin filters	Yes	Paved or Earthen	Frequent maintenance required.
<b>Curb Inlet Protection</b>			
Curb inlet protection with a wooden weir	Small capacity overflow	Paved	Used for sturdy, more compact installation.
Lock and gravel curb inlet protection	Yes	Paved	Sturdy, but limited filtration.
<b>Culvert Inlet Protection</b>			
Culvert inlet sediment trap			18 month expected life.

***Design and Installation Specifications***

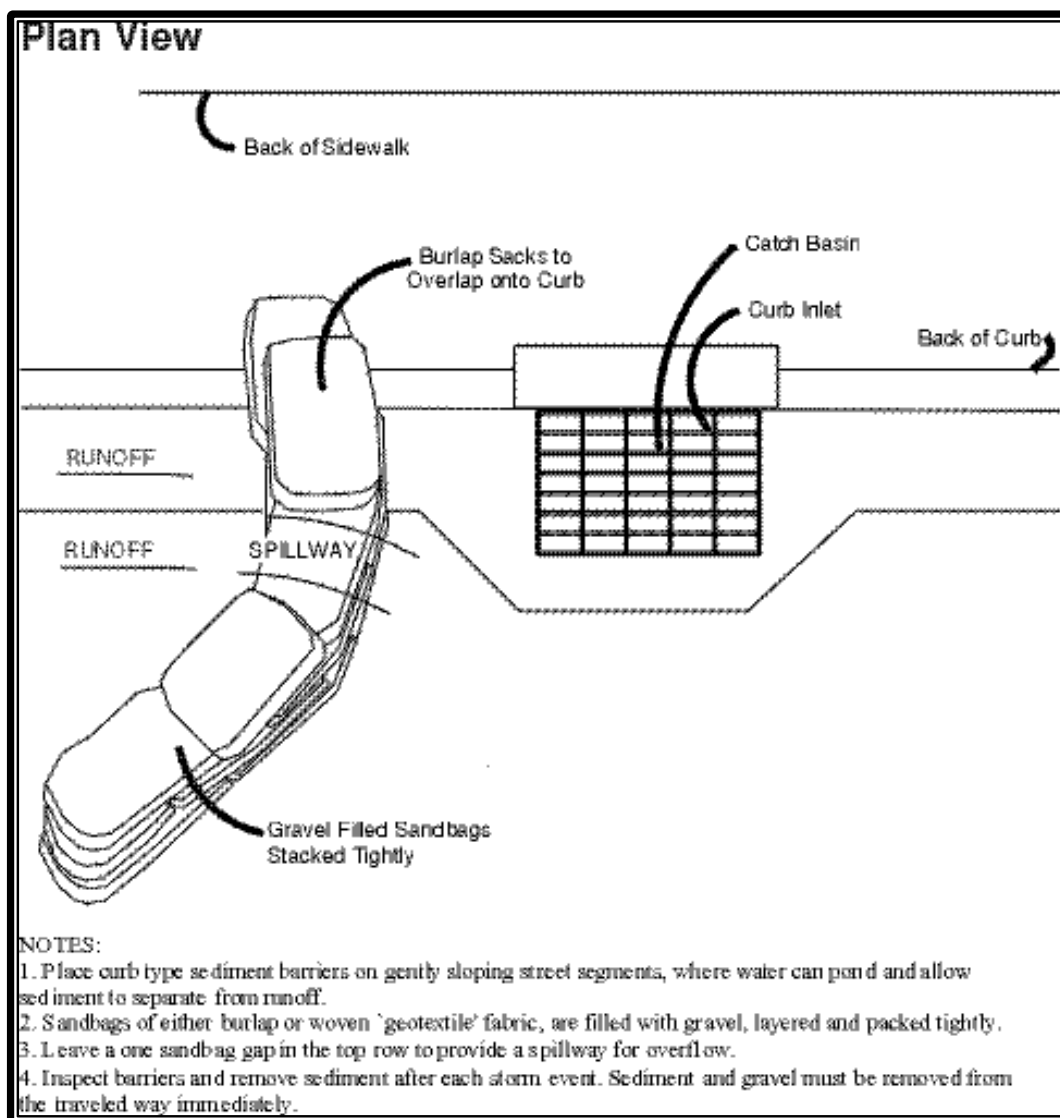
- **Excavated Drop Inlet Protection:** An excavated impoundment around the storm drain. Sediment settles out of the stormwater prior to entering the storm drain.
  - Provide a depth of 1 to 2 feet as measured from the crest of the inlet structure
  - Slope sides of excavation no steeper than 2H:1V
  - Minimum volume of excavation 35 cubic yards
  - Shape basin to fit site with longest dimension oriented toward the longest inflow area
  - Install provisions for draining to prevent standing water problems
  - Clear the area of all debris
  - Grade the approach to the inlet uniformly
  - Drill weep holes into the side of the inlet
  - Protect weep holes with screen wire and washed aggregate
  - Seal weep holes when removing structure and stabilizing area
  - Build a temporary dike, if necessary, to the down slope side of the structure to prevent bypass flow.
  
- **Block and Gravel Filter:** A barrier formed around the storm drain inlet with standard concrete blocks and gravel. See also Attachments Section C, Detail 2.0.
  - Provide a height of 1 to 2 feet above inlet
  - Recess the first row 2 inches into the ground for stability
  - Support subsequent courses by placing a 2 x 4 through the block opening
  - Do not use mortar
  - Lay some blocks in the bottom row on their side for dewatering the pool
  - Place hardware cloth or comparable wire mesh with one-half-inch openings over all block openings
  - Place washed rock, 0.75- to 3-inch diameter, just below the top of blocks on slopes of 2H:1V or flatter.

- **Gravel and Wire Mesh Filter:** A gravel barrier placed over the top of the inlet. This structure does not provide an overflow. See also Attachments Section C, Detail 3.0.
  - Use a hardware cloth or comparable wire mesh with one-half-inch openings
  - Use coarse aggregate
  - Provide a height 1 foot or more, 18 inches wider than inlet on all sides
  - Place wire mesh over the drop inlet so that the wire extends a minimum of 1 foot beyond each side of the inlet structure
  - Overlap the strips if more than one strip of mesh is necessary
  - Place coarse aggregate over the wire mesh
  - Provide at least a 12-inch depth of gravel over the entire inlet opening and extend at least 18 inches on all sides.
  
- **Curb Inlet Protection with Wooden Weir:** Barrier formed around a curb inlet with a wooden frame and gravel.
  - Wire mesh with one-half-inch openings
  - Extra strength filter cloth
  - Construct a frame.
  
- **Catch Basin Filters:** Use inserts designed by manufacturers for construction sites. The limited sediment storage capacity increases the amount of inspection and maintenance required, which may be daily for heavy sediment loads. To reduce maintenance requirements, combine a catch basin filter with another type of inlet protection. The combination of inlet protection and filters may provide flow bypass without overflow and therefore may be a better method for inlets located along active rights-of-way.
  - Provides 5 cubic feet of storage
  - Requires dewatering provisions
  - Provides a high-flow bypass that will not clog under normal use at a construction site
  - Insert the catch basin filter in the catch basin just below the grating.

- **Curb Inlet Protection with Wooden Weir:** Barrier formed around a curb inlet with a wooden frame and gravel.
  - Use wire mesh with one-half-inch openings
  - Use extra strength filter cloth
  - Construct a frame
  - Attach the wire and filter fabric to the frame
  - Pile coarse washed aggregate against wire/fabric
  - Place weight on frame anchors.
- **Block and Gravel Curb Inlet Protection:** Barrier formed around an inlet with concrete blocks and gravel. See Figure 3.11.
  - Use wire mesh with 0.5-inch openings.
  - Place two concrete blocks on their sides abutting the curb at either side of the inlet opening. These are spacer blocks.
  - Place a 2 x 4 stud through the outer holes of each spacer block to align the front blocks.
  - Place blocks on their sides across the front of the inlet and abutting the spacer blocks.
  - Place wire mesh over the outside vertical face.
  - Pile coarse aggregate against the wire to the top of the barrier.
- **Curb and Gutter Sediment Barrier:** Sandbag or rock berm (riprap and aggregate) 3 feet high and 3 feet wide in a horseshoe shape. See Figure 3.12.
  - Construct a horseshoe shaped berm, faced with coarse aggregate if using riprap, 3 feet high and 3 feet wide, at least 2 feet from the inlet
  - Construct a horseshoe shaped sedimentation trap on the outside of the berm sized to sediment trap standards for protecting a culvert inlet.
- **Inlet Fabric Fence Filter:** Attachments Section C, Detail 1.0 provides an illustration of the use of filter fabric as an inlet protection option.



**Figure 3.11. Block and Gravel Curb Inlet Protection.**



**Figure 3.12. Curb and Gutter Barrier.**

### ***Maintenance Standards***

- Inspect catch basin filters frequently, especially after storm events. Clean or replace clogged inserts. For systems with clogged stone filters pull away from the inlet and clean or replace. An alternative approach would be to use the clogged stone as fill and put fresh stone around the inlet.
- Do not wash sediment into storm drains while cleaning. Spread all excavated material evenly over the surrounding land area or stockpile and stabilize as appropriate.

### ***Approved as Equivalent***

Ecology has approved specific products as able to meet the requirements of BMP C220. The products did not pass through the Technology Assessment Protocol – Ecology

(TAPE) process. The county has reviewed these products for application in Pierce County, and has developed a county-specific list of the approved and prohibited products. This county-specific list can be obtained from Pierce County Planning and Land Services' (PALS) web site: <[piercecountywa.org/PALS](http://piercecountywa.org/PALS)>. The county web site is updated routinely, but the latest list from Ecology is available on Ecology's web site at <[www.ecy.wa.gov/programs/wq/stormwater/newtech/equivalent.html](http://www.ecy.wa.gov/programs/wq/stormwater/newtech/equivalent.html)>. Contact the county if a new Ecology approved product is not listed on the county web site.