

CITY ADMINISTRATOR
ROBERT OMANS

CITY CLERK
DEBBIE LEE

FINANCE DIRECTOR
ROBIN NEWCOMB

PUBLIC WORKS DIRECTOR
MATHEW BAILEY

POLICE CHIEF
RICH ALBO

FIRE CHIEF
ED MILLS

PLANNER
COLLEDA MONICK

Public Works & Community Development Committee

Agenda
December 3, 2025
8:30 AM



119 W FIRST STREET
CLE ELUM, WA 98922

MAYOR
MATTHEW LUNDH

MAYOR PRO TEM
STEVEN HARPER

PUBLIC WORKS &
COMMUNITY
DEVELOPMENT
COMMITTEE
STEVEN COOK
KEN RATLIFF - CHAIR
JERRED WEIS

CITY ATTORNEY
CURTIS CHAMBERS

Join Virtually via Zoom: <https://zoom.us/j/7573184018?pwd=dERndjBJVC9GdVQ1d2ISRExwZFhXZz09>

Meeting ID: 757 318 4018 Passcode: 98922

Join by Phone: 1-(253)215-8782, Meeting ID: 757 318 4018, Passcode: 98922

TextMyGov

Receive city text alerts: text CLEELUM to 91896

DISCLAIMER: The City does not guarantee that virtual or telephonic access to the City Council meeting will be available, and the City does not warrant audio quality. Attendees are encouraged to attend in person.

1. **Call to Order, Pledge of Allegiance**
2. **Unfinished Business**
 - a. Flag Pole Park Proposal — Gary Berndt — Rotary
 - b. UKC Baseball Further Discussion — (UPDATE)
 - c. Draft Storm Water Plan — Mathew Bailey — Public Works Director
 - d. Cle Elum Youth Art Project Overview — Shasta Marion — Cle Elum Visitor Center
3. **New Business**
 - a. Cle Elum Public Works & Community Development Committee — Meeting Minutes — November 5, 2025
4. **Other Committee Comments**
5. **Adjournment**

Upcoming Meetings:

Regular Council Meeting — December 9, 2025, at 6:00 p.m.

Lodging Tax & Events Committee Meeting — December 10, 2025, at 8:30 a.m.

Historic Preservation Commission Meeting — December 16, 2025, at 3:00 p.m.

Planning Commission Meeting — December 16, 2025, at 6:00 p.m.

Public Safety & Health Committee Meeting — December 17, 2025, at 1:00 p.m.

General Government Committee Meeting — December 25, 2025, at 8:30 a.m.

Public Works & Community Development Committee Agenda December 3, 2025

119 W FIRST STREET
CLE ELUM, WA 98922

Coal Mines Trail Commission Meeting — January 5, 2025, at 4:00 p.m.

Public Works & Community Development Committee Meeting — January 7, 2025, at 8:30 a.m.

**PARK USE AGREEMENT BETWEEN
CLE ELUM and UPPER KITTITAS COUNTY YOUTH BASEBALL AND SOFTBALL
ASSOCIATION**

for

MEMORIAL PARK

This Park Use Agreement (“Agreement”) is made and entered into by and between the City of Cle Elum (hereinafter “the City”) and the Upper Kittitas County Youth Baseball and Softball Association (hereinafter “UKCYBSA”) (hereinafter referred to individually as a “Party” and collectively, as the “Parties”), for the operation, maintenance, and use of baseball and softball fields (hereinafter “Baseball Facility”) located at Memorial Park in Cle Elum, Washington (hereinafter “Park”).

RECITALS

- A. ~~Cle Elum, The City~~, a municipal corporation organized under the laws of the State of Washington, is the owner of the Park, located ~~between Grant Street and the Yakima River, and east of South Cle Elum Way at 310 Grant Street, and~~ as described and depicted with greater particularity in Exhibits A and B to this Agreement. The Park consists of approximately 25 acres, which includes the Baseball Facility.
- B. UKCYBSA is a not-for-profit Washington corporation that is tax-exempt under ~~section~~ Section 501(c)(3) of the U.S. Internal Revenue Code (“the Code”). UKCYBSA is dedicated to fostering a love for baseball and softball within its community while instilling values of sportsmanship, teamwork, and personal growth for its players. UKCYBSA envisions an Upper Kittitas County where baseball and softball serve as unifying forces, to strengthen the community, enrich lives, and contribute to the well-being of all who participate.
- C. ~~The Parties previously entered into The City has had a long-standing informal agreement with UKYBSA to provide Baseball Facilities at Memorial Park for the youth baseball/softball program. Since 2003, Cle Elum and UKCYBSA were engaged in a Park Use Agreement (the “Original Agreement”) pursuant to which whereby Cle Elum granted UKCYBSA an exclusive twenty (20) year use of Memorial Park for its operation, maintenance, and use as a Baseball Facility. The Original Agreement term of twenty (20) years has since expired and Parties have continued to cooperate in the same manner as outlined in the Original Agreement.~~
- ~~C.D.~~ Allowing UKCYBSA to operate and maintain the Baseball Facility serves to provide a regional recreational need in the City and surrounding areas and provides a significant and unique public recreation value to the community.
- ~~D.E.~~ Cle Elum and UKCYBSA The Parties now desire to enter into ~~this a~~ new Agreement according to the terms below.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and promises described below, the Parties agree as follows:

1. USE AGREEMENT

- 1.1. **Grant.** Pursuant to RCW 35.21.278, ~~Cle Elum~~the City hereby authorizes UKCYBSA to operate and maintain ~~Memorial~~the Park as a Baseball Facility for the benefit of and use ~~of by~~ the public, subject to the terms and conditions set forth in this Agreement.
- 1.2. **Effective Date and Duration.** ~~The effective date of~~ this Agreement shall be effective is upon the signing of both parties. The term of this Agreement is twenty (20) years from the Effective Date, unless terminated at an earlier date in accordance with Section 6 of this Agreement.
- 1.3. **User Fees.** ~~UKCYBSA may charge fees to other organizations or individuals for the scheduled use of the Baseball Facility. However, UKCYBSA shall not charge fees to other organizations or individuals for the use of the Baseball Facility that exceed the amount charged for the use of comparable publicly accessible facilities of like kind and quality. UKCYBSA shall provide a fee schedule to the City for approval prior to implementing or charging any fees. UKCYBSA shall not charge fees for any allowed, unscheduled use of the Baseball Facility regardless of whether such use is passive recreation or active recreation. UKCYBSA may charge a reasonable fee for parking at the Baseball Facility for special events such as tournaments, but shall not charge a fee for incidental use of parking facilities on a day-to-day basis.~~
- 1.4. **Operating Rules.** Operations rules for the Baseball Facility shall be consistent with City ordinances and published policies relating to health and safety. Nothing contained in this Agreement shall be considered to diminish the governmental or police powers of the City.
 - 1.4.1. **Operating Park Hours.** ~~The Park operating opening~~ hours for the Baseball Facility shall be from dawn to dusk.
- 1.5. **Open Membership.** UKCYBSA's youth baseball and softball programs shall be open to all persons within its service area on a nondiscriminatory basis consistent with Federal and State law. UKCYBSA's service area is Upper Kittitas County, generally defined as Easton, Roslyn, Cle Elum, Teanaway, and west of Thorp Mountain Highway.
- 1.6. **Public Access.** UKCYBSA understands, acknowledges, and agrees that substantial public use and access to the Park and Baseball Facility are required and therefore is a material consideration for the City's execution of this Agreement. UKCYBSA agrees it shall make the Baseball Facility available to the general public for use by any organization or individual for reserved use or scheduled activities, consistent with Section 2 of this Agreement. UKCYBSA shall further make the Baseball Facility available to the general public without charge for use by individuals for informal,

unscheduled use, consistent with and pursuant to **Section 2** of this Agreement; provided that such use by the public shall not include any use that is inconsistent with the use of the Baseball Facility or could result in damage to the Baseball Facility other than ordinary wear and tear; and provided further that any such use complies with all applicable laws, ordinances, and regulations.

1.6.1.7. Tax Covenants. At all times from and after the effective date of this Agreement, UKCYBSA will:

- (a) Maintain its purposes and engage only in activities which are in furtherance of its purposes and which are permitted by the Washington State Nonprofit Act, RCW 24.03, or as hereafter amended (“the Act”);
- (b) Maintain its status as a nonprofit corporation under the Act and as an organization described in Section 501(c)(3) of the Code whose income does not inure to the benefit of any private person;
- (c) Not encumber, pledge, hypothecate or grant a security interest in all or any part of Park;
- (d) Not engage in any activities related to Park which would cause the transaction contemplated under this Agreement to constitute an unrelated trade or business under ~~section~~Section 513(a) of the Code; and
- (e) Not take any action or omit to take any action which, if taken or omitted, would adversely affect UKCYBSA’s nonprofit status or otherwise cause a tax lien to attach to the Park.

2. OPERATIONS

2.1. Authorized Uses and Priorities. The Baseball Facility shall be open for the following uses and in the indicated order of priority:

- 2.1.1. First, youth baseball and softball programs, giving preference to the members and players of UKCYBSA;
- 2.1.2. Second, any other scheduled athletic activity (subject to the requirements in **Section 2.3**) not constituting a “*prohibited use*”;
- 2.1.3. Third, any other scheduled non-athletic activity (subject to the requirements in **Section 2.3**) not constituting a “*prohibited use*”;
- 2.1.4. Fourth, any unscheduled use (unless constituting a “*prohibited use*”) that is not organized or coordinated by any recognized group.

“*Prohibited use*” means any use of the Park that (i) violates the City’s ordinances or regulations; or (ii) is inherently incompatible with the maintenance and care of the

grass, irrigation, fencing, bleachers, and structures at the Baseball Facility, such uses to be identified in the Maintenance Plan contemplated in **Section 3.3**, as may be revised from time to time.

2.2. Scheduling Considerations. ~~UKCYBSA shall have the sole authority to schedule use of the Park.~~ In scheduling the use of the ParkBaseball Facility, UKCYBSA shall:

- 2.2.1. Allow year-round, unscheduled access to the Baseball Facility by the general public engaged in “passive recreation” during Operating Hours if such use (i) does not otherwise interfere with any scheduled use and (ii) does not impact any area “closed” to all use for maintenance, safety, or other valid reasons;

“Passive recreation” means any activity not expected to appreciably impact grass, irrigation, fencing, bleachers, and structures at the Baseball Facility. Walking, lightly jogging, informally throwing a Frisbee, informally playing catch, informally playing with a soccer ball, flying small kites, or flying model aircraft are examples of “passive recreation.”

- 2.2.2. Seek to open the Baseball Facility for “active recreation” (whether scheduled or unscheduled) during Operating Hours by all users at the earliest possible calendar date, subject to and consistent with the specific criteria set forth in the Maintenance Plan, which criteria are intended to preserve the Baseball Facility and its grass, irrigation, fencing, bleachers, and structures.

“Active recreation” means any recreational activity that is neither a “prohibited use” or otherwise considered passive recreation. Playing soccer, playing ultimate Frisbee, and playing similar team sports are examples of “active recreation.”

- 2.2.3. Allow “in season,” unscheduled access to the Baseball Facility by users engaged in active recreation during Operating Hours if such use (i) is not affiliated with any organized sports organization (for which scheduled use and payment of the requisite fee shall always be mandatory); (ii) does not otherwise interfere with any scheduled use; (iii) does not impact any area “closed” to active recreation for rehabilitation; and (iv) does not impact any area “closed” to all use for maintenance, safety, or other valid reasons.

“In season” means the period of time between the date UKCYBSA “opens” the Baseball Facility to active recreation (generally early April) and the date UKCYBSA “closes” the Baseball Facility to active recreation (generally October) pursuant to the “Maintenance Plan” contemplated in **Section 3.3**.

- 2.2.4. To the maximum extent feasible, accommodate all users who desire to schedule any permitted use of the Baseball Facility during the season for active recreation during Operating Hours, resolving all scheduling conflicts between users in the order of priority set forth in **Section 2.1** above for scheduling requests made 30 days or more in advance and on a first-come, first-served basis for scheduling requests

made less than 30 days in advance. Any ~~field~~ **Baseball Facility** hours not scheduled shall be available for unscheduled use as provided in **Section 2.2.1**.

2.2.5. Not charge any fee for any allowed, unscheduled use of the Baseball Facility during Operating Hours (regardless whether such use is passive recreation or active recreation).

2.2.6. Charge fees for scheduled use of the Baseball Facility consistent with and subject to **Section 1.3** of this Agreement.

2.2.7. Seek to close the Baseball Facility to “active recreation” (whether scheduled or unscheduled) for all users at the latest possible calendar date, subject to and consistent with the specific criteria set forth in the Maintenance Plan, which criteria are intended to preserve the Baseball Facility and its grass, irrigation, fencing, bleachers, and structures.

~~2.2.8. Post clear information about the Baseball Facility scheduling process at the facility itself. The City will also make the facility schedule available on its website and allow scheduling requests to be made by phone or in person at the City of Cle Elum. Publicize the Baseball Facility scheduling process by posting information about that process in plain view at the SiteBaseball Facility, posting on the City’s website, and by enabling scheduling requests to be made via email to the UKCYBSA President (located on the UKCYBSA and City websites).~~

~~2.2.9.2.2.8.~~ At such intervals as the Parties may agree upon, give the City an updated Baseball Facility use schedule.

2.3. **Third-Party Use Form**. Any scheduled athletic activity or scheduled non-athletic activity, as described in **Sections 2.1.2 and 2.1.3**, are required to fill out a ~~Third-Party Use Form at the time of submitting its scheduling request.~~ [City of Cle Elum event application.](#)

2.4. **Amplification**. UKCYBSA shall ensure any amplification is employed in accordance with rules set forth for amplification in City parks.

2.5. **Concessions**. Food, souvenir, and product concessions will be contracted for by UKCYBSA; and concession rights and revenue from concessions shall belong to UKCYBSA, all subject to and consistent with **Section 1.6-7** of this Agreement.

2.6. **Security and Nuisance during Use**. UKCYBSA shall secure the Baseball Facility by locking the gates to the Baseball Facility during non-Operating Hours. UKCYBSA shall not use the Baseball Facility for any unlawful purpose or use or occupy the Baseball Facility in any manner that would constitute a public nuisance or otherwise violate federal, state or local laws.

2.7. **Advertising**. The grant of the use of the Baseball Facility to UKCYBSA in **Section 1** of this Agreement includes the right of UKCYBSA to advertise, ~~and~~ secure sponsorships,

~~and grant naming rights~~, provided the revenue generated from such is applied to the cost of improving and maintaining the Baseball Facility.

2.8. Incidental Uses. Subject to and consistent with ***Section 1.6-7*** of this Agreement, UKCYBSA may use the Baseball Facility to conduct tax-exempt fundraising activities to support the Baseball Facility or UKCYBSA's own beneficial or charitable mission as a not-for-profit Washington corporation; provided, that fundraising activities to support UKCYBSA will occur during times actually reserved or scheduled by UKCYBSA within the blocks of time allocated to UKCYBSA or allocable to UKCYBSA under ***Section 2.2*** above, and not during times that are reserved or scheduled by others.

2.8.2.9. City Authority to Resolve Issues. As the owner of Memorial Park, the City is accountable to its citizens/residents regarding the use and operation of the Park, including those uses contemplated under this Agreement. To that end, UKCYBSA agrees that it will make a good faith effort to resolve potential issues that arise between it and any third-party organizations or individuals as quickly as possible. UKCYBSA further agrees that the City, as property owner, maintains the right to resolve such disputes as it deems necessary, using dispute resolution methods of the City's choosing. Nothing in this Section 2.9 shall operate to limit the methods or options available to the City.

3. MAINTENANCE

3.1. Scope of Responsibility. Maintenance for which UKCYBSA shall have primary responsibility and over which it shall have control include, but are not limited to, aerification, thatching, fertilizing, liming, overseeding, topdressing, herbiciding, insecticiding, mowing, line trimming, irrigation repairs, winterizing of irrigation and irrigation of the grass; upkeep of fencing and gates; upkeep of restroom facilities; and policing of litter on the Baseball Facility. The cost of maintenance and the utilities serving the Baseball Facility shall be borne solely by UKCYBSA. The City shall have primary responsibility for parking area upkeep and organization; emptying of garbage and recycling containers at the Baseball Facility; and restroom maintenance/facility repairs.

3.2. Maintenance Guidelines. In maintaining the Baseball Facility, UKCYBSA shall:

- Schedule maintenance in a manner that maximizes both scheduled and unscheduled use of the Baseball Facility to the greatest extent practicable;
- Maintain the Baseball Facility in ~~as-the~~ highest quality manner as is feasible, given the effects of normal use and weather;
- Keep the Baseball Facility attractive and inviting to the public including all fence lines inside and out;
- Maintain sanitation and sanitary facilities in accordance with applicable State and local public health standards;

- Keep the Baseball Facility reasonably safe for public use; and
- Keep buildings and other structures and improvements in reasonable repair throughout their estimated lifetime, so as to prevent injury to individuals, undue deterioration, and not to discourage public use.

3.3. **Maintenance Plan.** UKCYBSA shall prepare a Maintenance Plan (the “Plan”) for the City’s approval, which approval shall not be unreasonably withheld. The Plan shall:

- Identify target dates for “opening” and “closing” the Baseball Facility to “active recreation,” consistent with the goal of opening at the earliest possible calendar date and closing at the latest possible calendar date, recognizing that the Baseball Facility is to be at all times maintained as a natural grass baseball and softball field facility;
- Describe UKCYBSA’s maintenance standards for the Baseball Facility, any planned field closures, and any field rotation schedule;
- Specify the criteria that UKCYBSA will use to determine whether, on a day-to-day basis, it is necessary to close all or part of the Baseball Facility to any type of use;
- Outline the process that UKCYBSA will use to notify the City if and when UKCYBSA decides it is necessary to close all or part of the Baseball Facility to any type of use, other than previously planned closures;
- Enumerate higher impact “uses” of the Baseball Facility that could potentially result in unacceptably severe wear and tear on the natural grass at the Park, and set forth the criteria upon which such higher impact uses will be allowed and for which higher fees will be charged;
- Enumerate any prohibited “uses” of the Baseball Facility, other than those uses prohibited under any City ordinance or regulation;
- Ensure that the City will not incur any new aggregate operations or maintenance costs requiring additional public funds, except as otherwise provided in this Agreement.
- Establish an irrigation plan, process, or schedule to maximize water use efficiency.

UKCYBSA may amend the Plan from time to time and will submit the change in writing to the City, for the City’s written approval, which shall not be unreasonably withheld.

3.4. **Site Inspection.** The City may inspect the Baseball Facility at any time, with or without notice. UKCYBSA staff are entitled to be present at that time and the City will take reasonable steps to exercise its right of inspection so as to avoid or minimize disturbance

of any activities taking place at the Baseball Facility. UKCYBSA shall provide the City with a key to any locked structures, gates, or storage containers. The City will take reasonable steps to provide notice of any use of such keys to UKCYBSA, provided that no notice shall be required for inspections or for emergency access purposes. The Parties agree for reasons of protection and safety to promptly secure and lock any doors or gates unlocked for activities, use, or access. The City has the right to use any and all means that the City deems proper to open doors and gates in an emergency, in order to obtain entry to the Baseball Facility. The Parties agree that nothing in this **Section 3.4** shall limit the governmental or police powers of the City. The Parties further agree that the Washington State Recreation and Conservation Office may inspect the Park at any time, with or without notice.

4. IMPROVEMENTS

4.1. Scope of Responsibility. UKCYBSA shall have primary responsibility and control over making any and all improvements to the Baseball Facility, including, but not limited to, securing requisite funding, hiring professional consultants, completing designs, obtaining requisite permits and approvals, contracting and overseeing the work, and complying with environmental and other development restrictions. Any and all improvements made to the Park, including the Baseball Facility, shall become the property of the City upon installation or construction. Title to such improvements shall vest in the City at no cost to the City.

4.1.4.2. Project Plans. UKCYBSA agrees to present a “Project Plan” to the City before making any material alterations to the Park or Baseball Facility, including any substantial changes to the landscaping. The Project Plan shall describe the planning process with a timeline and milestones; describe the principal features of the proposed improvement; provide conceptual design drawings, if applicable; describe in reasonable detail and rationale the goals and objectives of the proposed improvement; identify the party primarily responsible for supervising the project; and provide a schedule showing the sources and timing of the funding for the project. UKCYBSA agrees that no work shall be performed without the prior written approval of the Project Plan by the City, which approval shall not be unreasonably withheld. The City’s right of review and approval is in addition to and separate from any permits or other process that may be required by law, ordinance, or regulation.

4.2.4.3. No Financial Responsibility. UKCYBSA understands, acknowledges, and agrees that the City will be under no obligation directly or indirectly to pay for any labor, material, or improvement associated with the Baseball Facility. UKCYBSA agrees to notify, upon request, any inquiring person or entity that the City has no further financial obligations associated with labor, material, or improvements of the Baseball Facility.

4.3.4.4. No Liens. UKCYBSA acknowledges and agrees that it has no authority, express or implied, to create or place any lien or encumbrance of any kind or nature whatsoever upon, or in any manner to bind, the interest of the City in the fee interest in the Baseball Facility, or to charge fees for any claim in favor of any person or entity dealing with

UKCYBSA, including those who may furnish materials or perform labor for any construction, operation, repairs, or maintenance. If any such liens are filed, the City may, without waiving its rights and remedies for breach, and without releasing UKCYBSA from its obligations under this Agreement, require UKCYBSA to post security in the form and amount reasonably satisfactory to the City or to cause such liens to be released by any means the City deems proper, including payment upon satisfaction of the claim giving rise to the lien. UKCYBSA agrees to pay the City upon demand any sum paid by the City to remove said liens, which sum shall include all costs and attorneys' fees.

4.5. Licensed Contractors and Professional Service Providers. UKCYBSA will use only contractors and professional service providers that are licensed and authorized to do business in Washington State, consistent with RCW Chapter 39.06 RCW.

4.6. Contractor Indemnification and Hold Harmless. UKCYBSA will require its construction contractors and subcontractors to defend, indemnify, and hold the City, its officers, officials, employees, and volunteers harmless from any and all claims, injuries, damages, losses, or suits including attorneys' fees and costs, arising out of or in connection with the design, development, and construction of the Baseball Facility, except for injuries and damages caused by the negligence of the City. The indemnification and hold harmless language will be at least as broad as that set forth in Section 5.3 of this Agreement.

4.7. Contractor Insurance. UKCYBSA will require any construction contractors and subcontractors hired in connection with the design, construction, or improvement of the Baseball Facility to carry insurance meeting the requirements set forth in Section 5 of this Agreement. In addition, UKCYBSA will require its construction contractors and subcontractors to provide proof of Builders Risk insurance, valid through the periods of construction or improvement to the Baseball Facility, covering the interest of the City, UKCYBSA, and the construction contractor in the work, in the amount of the completed value of the Baseball Facility with no coinsurance provisions. The policy will be on an all-risk policy form and will insure against fire and physical loss or damage including flood and earthquake, theft, vandalism, malicious mischief, collapse, temporary buildings and debris removal. The insurance covering the work will have a deductible no larger than \$5,000 for each occurrence, which will be the responsibility of the construction contractor. Higher deductibles may be accepted by the City upon written request by UKCYBSA and written approval by the City; any increased deductibles accepted by the City will be the responsibility of the construction contractor. UKCYBSA shall provide copies of all insurance certificates of any construction contractors or subcontractors to be provide to the City upon request.

4.8. Professional Liability Errors and Omissions. If UKCYBSA directly or indirectly requires professional services in connection with the design, construction, or improvement of the Baseball Facility, then UKCYBSA shall require its professional service providers to carry insurance meeting all requirements set forth in Section 5 of this Agreement. In addition, UKCYBSA shall require its professional service providers

to carry Professional Liability Errors and Omissions insurance in an amount not less than \$1,000,000 per claim/aggregate. UKCYBSA shall require its professional service providers to provide the City with copies of all insurance certificates or policies upon request.

4.9. Payment and Performance Bonds. UKCYBSA shall require its construction contractor(s) to provide payment and performance bonds each for one hundred percent of the contract price, consistent with Chapter 39.08 RCW.

4.4.4.10. Prevailing Wage. UKCYBSA understands, acknowledges, and agrees that construction on the Baseball Facility in the Park constitutes a “public work” for purposes of the prevailing wage statute, Chapter 39.12 RCW, such that prevailing wages shall be paid as required under that statute.

5. INSURANCE

5.1. Minimum Scope of Insurance. At a minimum, UKCYBSA shall maintain insurance, in full force and effect for the duration of the term of this Agreement, that covers UKCYBSA’s activities and its usage of the Baseball Facility, including Commercial General Liability insurance with a limit of not less than \$1,000,000 combined single limit per occurrence, \$2,000,000 aggregate.

5.1.1. The City ~~may request that UKCYBSA use its best efforts to add the City and/or its officers as additional insureds on any such insurance policy,~~ its officers, officials, employees, and agents shall be covered as additional insureds with respect to liability arising out of activities and usage by UKCYBSA of the Baseball Facility and the Park.

5.1.2. UKCYBSA’s comprehensive general liability insurance coverage shall be primary insurance with respect to the City, its officers, officials, employees, and agents. Any insurance maintained by the City, its officers, officials, employees, and agents will not contribute with UKCYBSA’s insurance or benefit UKCYBSA in any way.

5.1.3. UKCYBSA’s insurance will apply separately to each insured against whom a claim is made and/or a lawsuit is brought, except with respect to the limits of the insurer’s policy.

5.1.4. Coverage will not be suspended, voided, canceled, reduced in coverage or in limits except by reduction of the applicable aggregate limits by claims paid, until after thirty (30) days’ prior written notice has been provided to UKCYBSA and the City.

~~5.1.4.~~5.1.5. If at any time the foregoing policies fail to meet the above minimum standards, then UKCYBSA will, upon notice to that effect to the City, promptly obtain a new policy, and submit the same to the City with certificates and endorsements for approval.

5.2. The City's Insurance. The City shall maintain land and liability insurance coverage for the Park.

5.2.5.3. Waiver of Subrogation. UKCYBSA and its insurance carriers will release and waive all rights of subrogation against the City to the extent a loss is covered by property insurance in force. UKCYBSA hereby releases from liability and waives all rights of recovery against the City for any loss from perils insured against or under their respective fire insurance policies, including any extended coverage endorsements thereto; provided that this provision shall be inapplicable if it would have the effect of invalidating any insurance coverage of UKCYBSA or the City.

5.3.5.4. Indemnification and Hold Harmless.

5.4.1. The City~~UKCYBSA~~ expressly agrees to protect, defend, indemnify and hold harmless ~~UKCYBSA~~the City, its officers, board members, employees, and agents from and against liability for any claims (including all demands, suits, and judgments) for damages arising out of injury to persons or damage to property where such injury or damage is caused by, arises out of, or is incidental to use by UKCYBSA or a third party's ~~use~~ (whether authorized or unauthorized, and/or during non-Operating Hours) of the Park or the Baseball Facility under this Agreement.

5.3.1.5.4.2. UKCYBSA expressly and specifically agrees that its obligations under this Agreement extend to any claim, demand, and/or cause of action brought by or on behalf of any of its employees, or agents. For this purpose, UKCYBSA hereby expressly and specifically waives, with respect to the City, any immunity that would otherwise be available against such claims under the Industrial Insurance provisions of Title 51 RCW.

6. TERMINATION

6.1. UKCYBSA Default. The occurrence of any one or more of the following events shall constitute a default by UKCYBSA under this Agreement:

6.1.1. UKCYBSA loses or changes its status: (i) as an active Washington not-for-profit corporation; or (ii) as a tax-exempt organization under ~~section~~Section 501(c)(3) of the Code as now or hereafter codified; provided that the City will not terminate the Agreement under this section if UKCYBSA cures any and all such loss or change of status within a reasonable time; or

6.1.2. UKCYBSA is in default of the performance of any covenants, conditions, or provisions of this Agreement, where such failure continues for a period of sixty (60) days after written notice is given by the City; provided that if the nature of UKCYBSA's breach is such that more than sixty (60) days are reasonably required for cure, then UKCYBSA will not be in default if UKCYBSA commences to cure within sixty (60) days of the City's notice and thereafter diligently pursues completion and completes performance within a reasonable time; or

6.1.3. UKCYBSA is adjudged bankrupt, makes a general assignment for the benefit of creditors, or takes the benefit of any insolvency act, or if a permanent receiver and trustee in bankruptcy is appointed for UKCYBSA's estate and such appointment is not vacated within sixty (60) days; or

6.1.4. This Agreement is assigned or the Park is used by UKCYBSA for activities other than in accordance with the terms of this Agreement, and such default is not cured within thirty (30) days after written notice from the City to UKCYBSA.

6.2. **City Default.** The occurrence of any one or more of the following events shall constitute a default by the City under this Agreement:

~~6.3. The City is adjudged bankrupt, makes a general assignment for the benefit of creditors, or takes the benefit of any insolvency act, or if a permanent receiver and trustee in bankruptcy is appointed for the City, and such appointment is not vacated within sixty (60) days.~~

~~6.3.1.~~ 6.2.1. The City ~~will is in default of the performance~~ fails to perform any covenants, conditions or provisions of this Agreement, where such failure continues for a period of sixty (60) days after written notice is given by UKCYBSA; provided that if the nature of the City's breach is such that more than sixty (60) days are reasonably required for cure, then the City will not be in default if the City commences to cure within sixty (60) days of UKCYBSA's notice and thereafter diligently pursues completion and completes performance within a reasonable time.

~~6.3. **Termination for Cause.** This Agreement may be terminated by either Party by reason of the default of the other (as set forth in **Sections 6.1** and **6.2**, respectively) by providing written notice of termination to the other, which notice shall take effect only upon completion of the dispute resolution procedures set forth in Section 6.5 below.~~

6.4. **Termination without Cause.** ~~UKCYBSA~~ Either Party may terminate this Agreement with respect to the entirety of the Park for any reason whatsoever upon twelve (12) months' notice in writing to the City. In the event of termination pursuant to this Section 6.4 or Section 6.3 above, UKCYBSA shall not be entitled to any compensation from the City for capital improvements made by UKCYBSA.

6.5. **Dispute Resolution.** The Parties agree to use their best efforts to resolve disputes regarding this Agreement in an economic and time efficient manner to advance the purposes of this Agreement. In the event that a dispute arises between UKCYBSA and the City, they shall attempt to resolve such dispute as expeditiously as possible and will cooperate so that the express purposes of this Agreement are not frustrated. If the Parties are unable to resolve the dispute between themselves within ninety (90) ~~calendar~~ days from the date the aggrieved ~~party~~ Party first notified the other ~~party~~ Party, then the Parties agree that they shall attempt to mediate the dispute with the first available mediator from Washington Arbitration and Mediation Service (WAMS) or Judicial Arbitration and Mediation Service (JAMS) or their successors. The Parties shall each pay one half of

the cost of such mediation. If such mediation shall fail then nothing in this ~~Section 7.4~~ **Section 6.5** shall otherwise limit the Parties' legal, equitable, or other rights or remedies.

6.6. **Jurisdiction and Venue.** The exclusive jurisdiction and venue for any disputes arising under this Agreement and not otherwise resolved by the dispute resolution required in ~~Section 6.5-Section 7.4~~, including matters of construction, validity, and performance, shall be in the Superior Court for Kittitas County.

6.7. **Liaisons and Notice.** UKCYBSA and the City shall each identify to the other a particular person who shall serve as its designated liaison for purposes of communicating about day-to-day matters involving the **Baseball Facility and** Park. Beyond this, any written notice that is required or permitted regarding this Agreement shall be given by email and either U.S. first class mail or personal delivery to the party which is the intended recipient of the notice at its address as follows:

If to UKCYBSA:

Upper Kittitas County Youth Baseball and Softball Association
Attention: President
[address]

Designated Liaison:

Email:
Telephone:

If to the City:

City of Cle Elum Public Works Department
Attention: Public Works Director
119 W First Street
Cle Elum, WA 98922

Designated Liaison: Mathew Bailey
Email: mbailey@cleelum.gov
Telephone (509) 674-5126

6.8. **Headings.** The headings in this Agreement are for convenience only and shall not be deemed to expand, limit, or otherwise affect the substantive terms of this Agreement.

6.9. **Neutral Authorship.** Each ~~party-Party~~ has been represented by counsel in connection with the negotiation, execution and delivery of this Agreement and its Attachments. Each of the provisions of this Agreement has been reviewed and negotiated, and represents the combined work product of both ~~parties-Parties~~ hereto. No presumption or other rules of construction which would interpret the provisions of this Agreement in favor of or against the ~~party-Party~~ preparing the same will apply in connection with the

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construction or interpretation of any of the provisions of this Agreement or its Attachments.

- 6.10. **Governing Law**. The laws of the State of Washington shall govern the interpretation and enforcement of this Agreement.
- 6.11. **Attorney Fees**. In the event of litigation between the ~~parties~~Parties to enforce their rights under this Agreement, ~~the prevailing party shall be awarded its reasonable attorney fees and costs, including any reasonable fees and costs that may be incurred on appeal.~~each Party shall bear their own costs and attorneys' fees, including all fees and costs incurred on appeal.
- 6.12. **Severability**. If any provision of this Agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable unless striking such provision materially alters the intention of the Parties. If a court finds that any provision of this Agreement is invalid or unenforceable, but that by limiting such provisions it would become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.
- 6.13. **Non-Waiver**. The failure of either ~~party~~Party to enforce any provision of this Agreement shall not be construed as a waiver or limitation of that ~~party's~~Party's right subsequently to enforce and compel strict compliance with every provision of this Agreement.
- 6.14. **Amendments**. This Agreement may be modified or amended only if the amendment is made in writing and is signed by both Parties.
- 6.15. **Entire Agreement**. This Agreement contains the entire agreement of the Parties and there are no other promises or conditions in any other agreement whether oral or written. This Agreement supersedes any prior written or oral agreements between the ~~parties~~Parties.

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Dated as of this _____ day of _____, 2025

CITY OF CLE ELUM:

(Signature)

(Printed Name)

(Title)

UPPER KITTITAS COUNTY YOUTH BASEBALL AND SOFTBALL ASSOCIATION:

(Signature)

(Printed Name)

(Title)

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Exhibit A – Legal Description

ACRES 25.68, CD. 6298-1-2; SEC. 27; TWP. 20; RGE. 15; NW1/4 SE1/4 TA X 11 & 12; S1/2 SE1/4 PTN. TAX 25; (CEMETERY & BALL PARK); (MUST BE SOLD WITH 20-15-27032-0002, P#143835 & 20-15-27040-0010, P#316336)

RM-12/3/98:ADD EX CODE (1)RM-5/1/97-SEG FROM 20-15-2732-0002 CD. 6298-1 97 FOR 98 ANNEXATION TO THE CITY OF CLE ELUM PER ORD. #1041, 12.42@ GOING FROM LEVY 043 TO 028

Exhibit B – Depiction of Park



**CITY OF
CLE ELUM**

STORMWATER MANAGEMENT PLAN



CITY OF CLE ELUM

STORMWATER MANAGEMENT PLAN



Prepared by:



PROJECT NO. 23104

OCTOBER 2025



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Introduction and Executive Summary





INTRODUCTION AND EXECUTIVE SUMMARY

INTRODUCTION

The City of Cle Elum is located within the western part of Kittitas County, as shown in Figure 1-1 Washington State Vicinity Map, owns and operates its own stormwater system that serves the core of the City. Much of the system was installed over 40 years ago and is comprised of catch basins and conveyance piping to infiltration ponds located southeast of the City, adjacent to the Yakima River.

This Stormwater Plan (Plan) includes the approximate location and description of existing catch basins, conveyance piping, and infiltration systems serving areas within the City. The sections of this Plan describe the basis for development of planning areas, growth projections, forecasted municipal stormwater flows, and design criteria for recommended stormwater system improvements. Maps showing the existing stormwater system are included in the Appendix.

Cle Elum recognizes the need to improve its stormwater system to properly collect, convey, and infiltrate stormwater from the impervious surfaces throughout the City, and to plan for expansion of the system as areas of the City are expanded. HLA Engineering and Land Surveying, Inc. (HLA), was authorized by the City of Cle Elum to prepare this Plan, which represents the culmination of planning and data collection efforts.

REQUIREMENTS

The Plan includes the following information.

- Purpose and need for the Plan.
- The existing and proposed service boundaries.
- Layout map, including existing and proposed catch basins, existing and proposed stormwater conveyance piping, topography and elevations, streams, lakes, and other bodies of water, and location of major water system components.
- Identified problem areas, needed upgrades and improvements, and future expansion/extension considerations.
- Financial evaluation, including the cost of proposed debt service and operation and maintenance costs.(Rate Study)
- The Stormwater Operations and Maintenance Plan





PURPOSE AND OBJECTIVE OF PLAN

This Plan has been developed to serve as a guide for the necessary improvements and expansion of the City of Cle Elum's stormwater collection, conveyance, and treatment facilities. The following major components are included in this Plan:

- Definition of the planning area, determination of the areas in and around Cle Elum most likely to grow, and the projected population increases.
- Development of estimates for the current quantity of stormwater and projected quantity to be generated within the planning area.
- Evaluation of capacity and condition of the existing stormwater system.

The sections of this Plan describe the basis for, stormwater flow rates, and design criteria for recommended improvements. Major City of Cle Elum stormwater system components are shown in Appendix A.

An equally important reason for developing this Plan is to ensure orderly growth of the system while maintaining reliable service. This Plan is intended to guide utility actions in a manner consistent with other activities taking place in the community.

SUMMARY OF SYSTEM ANALYSIS

A hydraulic analysis of the existing Cle Elum stormwater collection and conveyance system was performed to evaluate the capacity of the system and to identify specific hydraulic loading problem areas within the system. The computer-assisted analysis involves using pipe sizes and slopes of storm lines, swales, catch basins, manholes, and conveyances to model system deficiencies and show areas of present, and future, concern. The results of the analysis show:

- Existing System: Through video inspection and observation, it was found that the existing system is dilapidated and failing in a number of areas around the City. Much of the current system located along the First Street corridor from Billings Avenue to Peoh, and north of Sixth Street within the City Heights development were recently updated and installed. The remainder of the existing systems located within Fourth Street, Third Street, Second Street, First Street west of Peoh, First Street east of Billings, and along Rail Road Street are collapsed, antiquated, or are in poor shape.
- Future Buildout System: The future buildout system considers City and system growth within the next ten years. These system projections include completion of the 47th North (47N), and the complete build out of City Heights developments. With this increase in impervious area from new public roads and the current state of the storm water system, the system as a whole will fail.
- Year 2043 System: Two hydraulic analyses were completed to examine the existing and proposed future stormwater system at peak flows generated by the complete development within both the City and Urban Growth Area (UGA). With these developments, the future increase of impervious area led to increased runoff flows entering the system. These flows from future collection basins were modeled and routed through the existing collection and conveyance system to examine system loading capacity and to determine system size increases sufficient to alleviate surcharge or over-capacity conditions in the system. .





SUMMARY OF RECOMMENDED IMPROVEMENTS

Improvements to the existing collection and conveyance system, and expansion to accommodate future growth with their associated costs are identified within CHAPTER 6 of this Plan. The summary of the recommended improvements is tabulated under Table 6-1.

Maintenance Improvements:

Multiple areas of improvement have been proposed to correct areas within the existing collection system that have been identified as needing attention to address potential problems such as inadequate pipe slopes, collapsed or broken pipe, separated joints, root/debris intrusions and illicit connection to the storm system. The City recently embarked on an inventory and TV-inspection study of the collection system to identify additional areas in need of repair. These areas are described in more detail in CHAPTER 4.

Much of the City's collection system piping is at, or over, 50 years old, and has, or is reaching the end of, its service life. Therefore, it is expected that additional areas will be identified as needing replacement or repairs as the inspection program continues in the future.

SCHEDULE OF IMPROVEMENTS AND ESTIMATED COSTS

It is recommended that Cle Elum proceed with construction of improvements referenced in Table 6-1 of CHAPTER 6, and as shown in Figure 6-1 and 6-2. Estimated costs (in 2024 dollars) for construction of the improvements recommended in the previous section are presented in Table 6-1 of CHAPTER 6

ESTIMATED COSTS AND PROPOSED SEWER SYSTEM FINANCIAL PROGRAM

Developing a plan for project financing involves examining current system expenditures and revenues, integrating the schedule and costs of the recommended improvements into the City's financial structure, recommending funding sources, and developing a method to pay for the identified improvements. Most of the recommended stormwater system improvements are necessary to improve system performance for existing and future buildout system loading. A schedule and estimate of costs for recommended improvements are provided in Section 6.2 of this Plan. Timing of the improvements has been developed to allow the City to meet the most pressing needs yet maintain positive fund balances.

Revenue increases are necessary to fund recommended system improvements identified in the Plan. The City hopes to continue inspection of the system and additional projects will be identified over the next couple of years to replace dilapidated and broken pipe, replace and/or repair failing manholes, catch basins, and drywells, update and protect existing swales and conveyances, and to introduce new systems to better move storm water out of the public right of way. To fund these collection systems and storm water maintenance program projects identified in Table 6-1, it is recommended the City adequately increase and equitably establish user rates between its customer classes. A rate study has been conducted as discussed in CHAPTER 7, and a copy of the study can be found in Appendix D.

It is recommended the storm water utility rate be established as \$11.86 per month, per Equivalent Residential Unit (ERU). Due to unknowns related to operating expenses and growth, the City should also continue to monitor system finances and make necessary annual adjustments in rates to adequately fund expenses.

CHAPTER 1

Introduction and Description of Stormwater System





CHAPTER 1 – INTRODUCTION AND DESCRIPTION OF STORMWATER SYSTEM

1.1 BACKGROUND INFORMATION

1.1.1 Stormwater System Ownership

The City of Cle Elum, a municipal corporation located within the western part of Kittitas County, as shown in Figure 1-1 Washington State Vicinity Mapowns and operates its own stormwater system. Decisions regarding daily stormwater system operations are made by the Public Works Director. Financial decisions regarding major system improvements and the establishment of stormwater rates are made by the Cle Elum City Council.

The following parties are involved in the operation, maintenance, and planning for the Cle Elum stormwater infrastructure:

OWNER AND OPERATOR:

Owner:	City of Cle Elum
Mayor:	Matthew Lundh
Public Works Director:	Matthew Bailey

STORMWATER SYSTEM CONSULTING ENGINEER:

HLA Engineering and Land Surveying, Inc.
2803 River Road
Yakima, WA 98902
Phone: (509) 966-7000
Project Engineer: Dean P. Smith, PE

1.1.2 Background

Founded in the 1870s, Cle Elum was incorporated in 1902 and is currently the second largest community in Kittitas County. The population in Cle Elum peaked around 1915 as a center for coal mining, railroad, and logging activities. Today, recreation and tourism are the area's primary industries. The City of Cle Elum (City) has become a residential area for commuters working in the greater Seattle area and is central to north Kittitas County's shopping and services.

The City currently operates a stormwater system but does not have a stormwater utility established to support operations and maintenance or capital projects necessary to effectively manage the system. This Stormwater Management Plan (SMP) provides the City with a document identifying stormwater requirements and issues related to both the structural components of the stormwater system and establishing the new utility. During the development of this SMP, the City performed a systemwide inventory of stormwater system components to determine existing system capacity and where funds should be focused to create a capital improvement program for the new proposed stormwater utility. This Plan serves as the stormwater counterpart to the General Sewer Plan (GSP) and the Water System Plan (WSP).





1.1.3 Goals

The primary goals of this SMP are to:

- Assess available conveyance capacity in the existing stormwater system and identify Capital Improvement Projects (CIPs) to increase system capacity.
- Assess the as-built condition of the existing stormwater system to determine CIPs necessary to repair/replace damaged system components
- Develop a financial plan with recommended revenue (i.e., rate) levels that support the projected operations, maintenance, and capital needs of the City's proposed stormwater utility.

1.2 NEIGHBORING/ADJACENT STORMWATER SYSTEMS

The nearby communities of South Cle Elum, Roslyn, the unincorporated area of Ronald, and the Suncadia development are all located in the vicinity of Cle Elum. Despite providing wastewater treatment service to these communities, stormwater management is not shared between these entities, and the scope of this SMP includes assessment of stormwater generated only within Cle Elum parcels and roadways.

1.3 POPULATION

Population projections are not expected to impact the City's stormwater system since the growth areas with include independent stormwater system that are not tied into the existing system. As a result, this SMP evaluates the existing system condition and needs and only assesses potential improvements and expansion within the current use area.

1.4 RELATED PLANNING DOCUMENTS

1.4.1 Wastewater Plans

In 2003, the City of Cle Elum completed a *Comprehensive Sewer and Wastewater Facility Plan* for the City and its UGA. These documents include:

- Description of the existing City limits, future UGA sewer service area, and Suncadia master planned resort.
- Estimate of future sewer service population based upon the current population.
- Forecast of future wastewater loadings based on sewer service population predictions.
- Description and location of existing sewer system, WWTP, and potable water supply components.
- Design standards for recommended sewer system improvements and a financial plan.

The Plan provided Cle Elum with a component of its *Capital Improvement Plan* for providing future services within the City, the master planned resort, and the UGA.





1.4.2 Wastewater Facility Plan

In 2003, the City of Cle Elum received approval from Ecology for the *Facility Plan for the Regional WWTP*. This document included:

- Description of existing and future sewer service area, population projections, and regulatory requirements.
- Description of existing wastewater treatment facilities and wastewater flows and loadings.
- Presentation and evaluation of the selected Sequencing Batch Reactor (SBR) process to provide biological treatment to accommodate the City's projected 30-year growth and to meet pending regulatory requirements.

1.4.3 Urban Growth Area Comprehensive Plan

The City of Cle Elum's current *Comprehensive Plan* was adopted on June 25, 2019, with an updated Land Use Element adopted on December 10, 2019. The next Comprehensive Plan update is scheduled to be completed in 2026. The typical Comprehensive Plan describes current conditions, develops forecasts for a 20-year planning period, evaluates observed or predicted deficiencies, strategizes for addressing current and future challenges, and budgets for necessary improvements.

The Town of South Cle Elum, in cooperation with Kittitas County, completed and adopted the Town's most recent update to its Comprehensive Plan in 2019.

Comprehensive plans identify many of the physical, environmental, and economic elements within Cle Elum and the surrounding area (including the UGA). The *Comprehensive Plan* attempts to forecast anticipated changes within those geographical areas. Understanding and predicting future changes within the City and its future service areas provides critical background for forecasting future demands on the joint water system. As a result, the City of Cle Elum *Comprehensive Plan* was an important tool in the development of this Plan.

1.4.4 Water System Plans (WSP)

The City's WSP was most recently updated in 2024. This document provides Cle Elum with an in-depth look at their water system, its deficiencies, potential growth, and requirements to serve their own and the surrounding community's needs. Completion of the City's original Comprehensive Water Plan took place in 1997.



1.5 ORGANIZATION

The remainder of this SMP is organized into the following chapters:

- **CHAPTER 2 – Study Area Description.** Describes the physical attributes of the service area, encompassing the City and UGA boundaries, that affect stormwater planning and design.
- **CHAPTER 3 – Design Standards.** Provides a summary of the accepted design standards for use within the City, including design storms, rainfall distributions, and best management practices.
- **CHAPTER 4 – Existing Stormwater System Conditions.** Summarizes the existing stormwater infrastructure based on information available in the City's Geographic Information System (GIS).
- **CHAPTER 5 – Stormwater Conveyance System Analysis.** Describes existing and future capacity of the existing stormwater infrastructure through the use of a SewerGEMS model to assess system deficiencies.
- **CHAPTER 6 – Capital Improvement Plan.** Summarizes recommended CIPs and corresponding costs and schedules for implementation.
- **CHAPTER 7 – Financial Plan.** Identifies a proposed financial plan for the new stormwater utility, including a recommended utility rate.

Figure 1 - Washington State Vicinity Map



CHAPTER 2

Study Area Description





CHAPTER 2 – STUDY AREA DESCRIPTION

2.1 INTRODUCTION

The City is located on the eastern slopes of the Cascade Mountains in Kittitas County, approximately 30 miles east of Snoqualmie Pass. The majority of Cle Elum lies between the elevations of 1,890 and 2,070 feet, although the annexed Bullfrog Urban Growth Area (UGA) extends the City to an elevation of 2,170 feet.

The service area for this SMP is bounded by the City limits and the UGA boundary, and has a total area of approximately 2,800-acres. The remainder of this section focuses on the physical attributes of the service area that affect stormwater planning and design, as follows:

- **Section 2.2 – Topography.** Provides a brief summary of major topographic features that help define the study area drainage patterns.
- **Section 2.3 – Geology.** Describes soil types and hydrologic soil groups, and known geologic hazards in the area.
- **Section 2.4 – Climate and Rainfall Patterns.** Summarizes climate conditions and provides summary statistics of long-term monthly mean precipitation, temperature, and snowfall.
- **Section 2.5 – Land Use Distribution and Urban Growth Areas.** Defines major land use types and distributions inside and outside of the UGA.
- **Section 2.6 – Sensitive Areas.** Discusses wetlands, floodplains, and critical habitat areas that must be considered for stormwater planning purposes.
- **Section 2.7 – Drainage area Delineation.** Describes the delineation and drainage patterns of the two drainage areas that contribute flows to the City's stormwater management facilities.

2.2 TOPOGRAPHY

Cle Elum resides within the mountainous regions and foothills of the Cascade Mountain Range's eastern slopes. The river basin where the City mainly resides falls between the Cle Elum Ridge to the north, and the South Cle Elum Ridge, Peoh Point, and Taneum Point to the south. The Yakima River and Interstate 90 (I-90) pass by just south of the City. The slope of the mountains and ridges causes the City to generally slope down towards the southeast.

Across the City, slopes are predominantly flat with three percent or less in slope. However, on the north side of the City at the base of Cle Elum Ridge, slopes begin to increase and range from three to 15 percent. Elevations range from 1,890 feet to over 3,000 feet in the surrounding ridges and points.



2.3 CLIMATE AND RAINFALL PATTERNS

The City of Cle Elum averages 28.6 inches of precipitation per year. The distribution varies significantly throughout the year, with a distinct dry season during the summer months. The month with the most precipitation is December, with an average of 5.2 inches of precipitation.

The temperatures in Cle Elum vary significantly from season to season as well, with an average high temperature during the summer months of 72 degrees Fahrenheit. In contrast, the winter months have an average daily high temperature below 43 degrees Fahrenheit.

2.4 LAND USE DISTRIBUTION AND URBAN GROWTH AREAS

All future residential growth for Cle Elum is assumed to occur within the three major developments. Residential land within Zone 1 is assumed to be completely built out and unavailable for future construction. Another development, Cle Elum Pines West, constructed single- and multi-family units on the remaining available residential land in Zone 2, and most of the residential land within Zone 3 is within one of the three major proposed developments (Suncadia Resort, 47 degrees North, and City Heights) that have independent stormwater systems. Therefore, the growth for the area is not expected to impact the existing system within the City.

2.5 SENSITIVE AREAS

Chapter 18.01 of the Cle Elum Municipal Code (CEMC) covers sensitive areas and contains standards, guidelines, criteria, and requirements intended to identify, analyze, and mitigate probable impacts to the City's sensitive areas and geologic hazard areas and to enhance and restore them when possible. The categories of sensitive areas are: (1) wetlands; (2) frequently flooded areas; (3) fish and wildlife habitat conservation areas; (4) critical aquifer recharge areas; (5) geologically hazardous areas. For a more detailed review of the local environment and sensitive areas, refer to the City's 2019 Comprehensive Plan.

2.5.1 Wetlands

Wetlands are defined in CEMC 18.01.020 as "an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and other similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas created to mitigate the conversion of wetlands."

Surrounding wetlands, there are typically buffers, meaning "an area contiguous to and protecting a critical area that is required for the continued maintenance, functioning, and/or structural stability" of the wetland, and are intended to provide separation between a protected wetland and surrounding uses. There are five categories of wetlands. Categories I, II, III, and IV are defined by the Washington State Department of Ecology's Wetland Rating System for Eastern Washington, October 2014 (Publication No. 14-06-030). The fifth category includes "locally significant wetlands," which are wetlands deemed important to the City because they function as part of a water quality or flood mitigation program, are planned to be or can be integrated into an identified open space plan or system, or serve other substantial public purposes.



STORMWATER PLAN

The category of wetland determines the size of the buffer area around the wetland for low- and high-impact land use. “Low impact land use” means land uses that are typically associated with relatively low levels of human activity, disturbance, or development, and that are conducted in a manner as to minimize impacts to the buffer, such as passive recreation, agriculture, or conservation activities. “High impact land use” means land uses that are generally associated with relatively high levels of human activity or disturbance, development of structures, or substantial wetland habitat impacts. This would include permanent structures, commercial and industrial land uses, and impactful recreation activities.

The alteration or destruction of wetlands can reduce or eliminate the biological and hydrologic benefits they offer. Direct impact can result from site preparation activities, including clearing, grading, and filling, which can increase the volume of sediment-laden storm runoff entering wetlands.

This reduces the wetland’s natural capacity to remove nutrients, process chemical and organic wastes, and temporarily store floodwaters. Proper management of stormwater runoff in areas that contribute flows to wetlands is critical to maintaining proper wetland function.

The City has identified that the only wetlands that stormwater flows into are the Hansen Ponds (southeast of the City) and Crystal Creek. Both of these are part of the system discharge that eventually leads into the Yakima River.

2.5.2 Floodplains and Floodways

Federal Emergency Management Agency (FMEA) produces floor insurance rate maps (FIRMs) that indicate the probability of a flood event occurring. The National Flood Hazard Layer (NFHL) is a digital database that contains flood hazard mapping data from FEMA’s National Flood Insurance Program (NFIP). This map data is derived from FIRM databases and Letters of Map Revision (LOMRs).

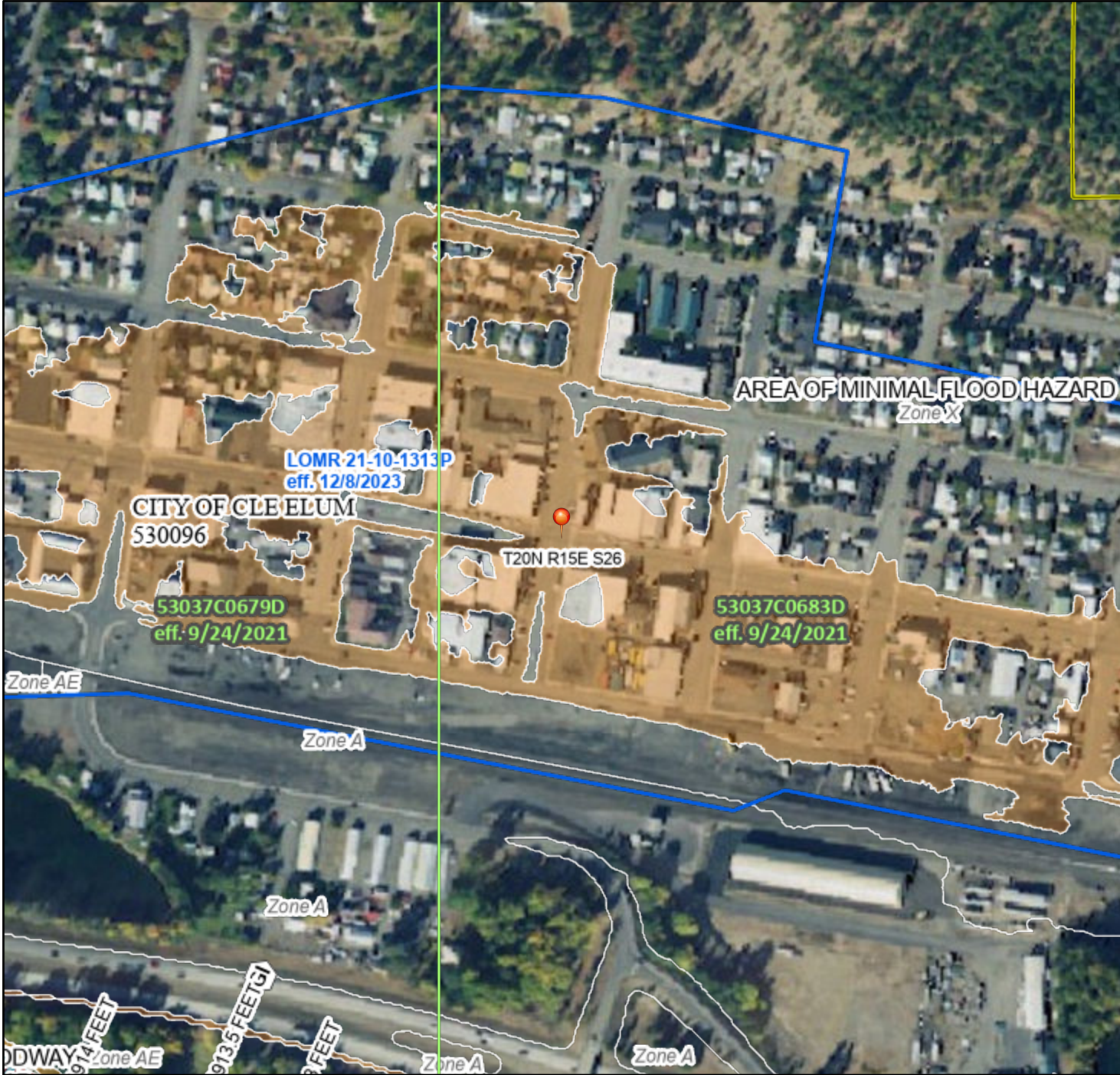
Data from the NFIP indicate that a significant portion of the City is currently located within a floodplain, and the limits of this floodplain were updated by LOMR 21-10-1313P, effective 12/8/2023. See Figure 2-1. Table 2-1 provides definitions of the flood zones shown in Figure 2-1.



National Flood Hazard Layer FIRMMette



120°56'30"W 47°11'53"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
MAP PANELS		Coastal Transect
		Base Flood Elevation Line (BFE)
OTHER FEATURES		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
OTHER FEATURES		Hydrographic Feature
		Digital Data Available
MAP PANELS		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/21/2025 at 9:02 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



TABLE 2-1 FIRM FLOOD ZONE TYPES

Zone Type	Description
Zone X	Areas inundated by 500-year flooding; inundated by 100-year flooding with average depths of less than 1 foot or with drainage areas less than 1 square mile.
Zone AE	Areas subjected to inundation by the 1% annual chance flood event. Base Flood Elevations (BFEs) are known.
Zone A	Areas subject to inundation by the 1% annual chance flood event. No Base Flood Elevations (BFEs) or flood depths have been determined.
Source: FEMA, 2023	

Development within the floodplain is further described in CEMC Chapter 15.24. State law prohibits permanent structures from being constructed in a floodway or having zero rise (i.e., no displacement of floodwaters). These lands are key natural resource areas for enhancing water quality, providing important fish and wildlife habitat, and serving as water retention and flood storage areas, and are therefore allowed only the most limited and regulated future development.

2.5.3 Fish and Wildlife Habitat Conservation Areas

Much of the remaining native habitat in Cle Elum is generally limited to streams, wetlands, forest lands, and steep slopes. The only river frontage areas within the City are found along the two river corridors. Most of the riverfront property is planned by the City to remain undeveloped, with limited managed dry camping and park properties. The Cle Elum and Yakima River floodplain areas provide habitat linkages with other riparian habitats beyond the City of Cle Elum.

2.5.4 Critical Aquifer Recharge Areas

Critical aquifer recharge areas are those areas that are important for returning water to underground aquifers for use as potable water. Because of the permeability of different soils within the City, there are some areas that require greater protection, as they are at risk of permeating water rapidly and/or with minimal treatment, thereby subsequently polluting groundwater. There have been no specific aquifers identified in the City, however, to protect the City's drinking water the City has categorized all areas that the Washington State Department of Health designates as Type A and B wellhead protection areas as a high risk of contamination. Due to high soil permeability, the remaining areas in the City are categorized as a moderate risk for contamination.

2.5.5 Geologically Hazardous Areas

Geologically hazardous areas are defined in CEMC 18.01.020 as "an area that is not suited to commercial, residential, or industrial development because of its susceptibility to erosion, sliding, earthquakes, or other geological events hazardous to public health or safety."

The Northern portion of the City and most of its UGA north of the City limits can be categorized as geologically hazardous. The soil within the City and UGA also could experience liquefaction, which can result in a landslide if an earthquake were to occur. However, no previous landslides have been identified within the City limits or UGA. Also, due to the City's coal mining past, hazardous gases and chemicals could be transmitted into the air and water near any decommissioned mines in the vicinity. There is also a risk of mine infrastructure collapse during a potential earthquake or other geologic hazard event.

For these reasons, the hazardous areas within the City are not desirable for development.



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2.6 DRAINAGE AREA DELINEATION

The City's stormwater system is divided into 2 drainage basins, which collectively cover an area of approximately 500-acres. One portion discharges to Icicle Creek and the other to Town Ditch which drains to the Hanson Ponds adjacent to the Yakima River. The drainage area was accounted for in the modeling of peak flow rates for sizing Capital Improvement Projects, as discussed in more detail in CHAPTER 5. Table 2-2 summarizes the individual drainage areas and their predominant land use and soil types based on City zoning and USDA National Resource Conservation Service mapping. Appendix A provides a drainage area map showing subbasin areas.

TABLE 2-2 DRAINAGE AREA SUMMARY			
Drainage Area	Size (acres)	Predominant Land Use	Predominant Hydrologic Soil Group and Soil Series ⁽¹⁾
Icicle Creek	150	Residential	
Town Ditch	350	Residential and Commercial	
Total	500		
1. Soil information based on National Resource Conservation Service (NRCS) for Kittitas County.			

More information describing the basins is described in CHAPTER 4.

CHAPTER 3

Design Standards





CHAPTER 3 – DESIGN STANDARDS

3.1 INTRODUCTION

This section provides an overview of the design standards and practices the City has incorporated regarding the construction and maintenance of stormwater infrastructure. This section is organized as follows:

- **Section 3.2 – Existing Stormwater Standards.** Reviews the City standards that regulate and guide the development and management of stormwater runoff.
- **Section 3.3 – Submittal, Permitting, Construction, and Inspection Procedures.** Provides an overview of the steps required for design and installation of stormwater infrastructure, including review and inspection during and after construction.

3.2 EXISTING STORMWATER STANDARDS

This section reviews important codes, ordinances, standards, and rules that affect stormwater management.

3.2.1 City Stormwater Codes and Ordinances

The 2024 City of Cle Elum Construction Standards for the Private Construction of Public Facilities (City Standards) were adopted by the city as stated in the Cle Elum Municipal Code section 15.08.010. These standards contain guidance for stormwater management and design in Chapter 6 of the City Standards and are applicable to all design and construction within the city. Supplementing the Stormwater Management Manual for Eastern Washington, City Standards state that design should be based off a minimum 25-year design storm. The standards also state that all stormwater runoff on all new lots and developments shall remain on site and no runoff from private property will be permitted to enter the public storm system.

3.2.2 Underground Injection Control (UIC)

As required by the US Environmental Protection Agency (EPA), the State has developed an Underground Injection Control (UIC) Rule and program that is administered by the Department of Ecology. The purpose of the program is to protect groundwater quality by regulating the use of UIC wells, which dispose of water underground.

A UIC well is defined as a “structure built to discharge fluids from the ground surface into the subsurface; a bored, drilled, or driven shaft whose depth is greater than the largest surface dimension; a dug hole whose depth is greater than the largest surface dimension; an improved sinkhole, which is a natural crevice that has been modified; or a subsurface fluid distribution system that includes an assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluid below the surface of the ground. Examples of UIC wells or surface infiltration systems include drywells, drain fields, infiltration trenches with perforated pipe, storm chamber systems with the intent to infiltrate, French drains, bioretention systems intended to infiltrate with perforated pipe installed below the treatment soil, and other similar devices that discharge to the ground.” (Ecology, 2019). Surface infiltration facilities and infiltration trenches lacking a perforated pipe or similar mechanism are not considered a UIC well.



STORMWATER PLAN

The two main requirements of the UIC Program are to (1) register UIC wells with Ecology, and (2) to ensure that groundwater quality is protected from pollutants that may be introduced through a manmade fluid distribution system. Registration can be completed through an online form available on the Ecology website. A well assessment is required for all UIC wells built and in use before February 2, 2006, and used to manage stormwater. Wells constructed after this date must be built to the current UIC Program rule, Chapter 173-218-WAC UIC Program, and the current stormwater management manual for the location of the well.

UIC wells typically require a form of pre-treatment before infiltrating stormwater runoff. The level of treatment is based on the pollutant loading of stormwater influent (which depends on the land use of the contributing basin) and the treatment capacity of the vadose zone of soil around the UIC well. If the contributing basin is prone to spills, such as high vehicle traffic areas, a spill control device (e.g., turn down elbow, tee section, etc.) is required upstream of the UIC well. Depending on treatment requirements, pretreatment may be accomplished through BMPs like swales, bio-infiltration, oil/water separators, catch basin inserts, and media filters. See the guidelines provided in Guidance for UIC Wells that Manage Stormwater (Ecology, 2006).

3.2.3 NPDES Construction Stormwater General Permit

The Construction Stormwater General Permit (CSWGP), administered by Ecology, applies to construction sites disturbing one acre or more and discharging stormwater to a water of the State (either directly or through a stormwater system) or for any size of construction project that has been determined by Ecology to pose a significant risk of degrading water quality. Section 3.3 provides further discussion on the City's implementation of the CSWGP.

3.2.4 Endangered Species Act

The Endangered Species Act (ESA) is a federal law with the purpose of protecting critically threatened fauna and flora. The law includes requirements that prevent endangered species from being killed or harmed. Criteria relating to ESA must be met in order to be eligible for coverage under the CSWGP or the 2008 Multi Sector General Permit (EPA 2015).

3.2.5 Water Quality Assessments and 303(d) List

The 303(d) list comprises State waters that have been polluted and have been impaired for beneficial uses such as drinking, recreation, aquatic habitat, and industrial use. Special requirements and restrictions, such as total maximum daily loads (TMDLs), take effect if discharging to a 303(d) water body. The reaches of the Yakima Rivers in the vicinity of the City are not on the 303(d) list, and therefore, the City currently does not have any TMDL or other 303(d) restrictions. Upriver from Cle Elum, between Nelson and Bullfrog Road is a section that is listed for temperature.





3.2.6 Existing City Design Standards

All stormwater conveyance, on-site management, flow control, and treatment facilities must be designed in accordance with the latest edition of the Stormwater Management Manual for Eastern Washington (SWMMEW) as modified by the latest edition of the City's Construction Standards.

A summary of key stormwater design requirements in the current Construction Standards includes:

- All stormwater systems shall be designed following the core elements defined in the SWMMEW.
- All storm drainage facilities, public or private, shall be designed by a Civil Engineer currently licensed in the State of Washington.
- Hydrologic analysis and design of conveyance systems must be designed as described in the SWMMEW using 25-year storms of both short and long duration using the Region 1 hydrographs.
- Volume-based treatment BMPs are to be sized the same, whether upstream or downstream of detention volume. The volume of runoff predicted for the proposed development condition is to be calculated using the 24-hour SCS Type 1A storm with a 6-month return frequency and must be capable of passing the 25-year short-duration storm either through or around the BMP, without damaging the BMP or dislodging pollutants from within it.
- Flow-rate-based treatment BMPs are sized differently depending on whether they are located upstream or downstream of detention volume. If located upstream or without detention, the runoff flow rate is to be calculated using the 3-hour short-duration storm with a 6-month return frequency. If the BMP is located downstream of a detention facility, it is to be sized for a full 2-year release from the detention facility.
- Precipitation event information is as follows:
 - 6-month, 3-hour storm event: 0.44 inches
 - 6-month, 24-hour storm event: 1.22 inches
 - 2-year, 24-hour storm event: 1.74 inches
 - 10-year, 24-hour storm event: 2.90 inches
 - 25-year, 3-hour storm event: 1.11 inches
 - 25-year, 3-hour storm event: 3.48 inches
 - 50-year, 24-hour storm event: 4.06 inches
 - 100-Year, 24-hour storm event: 4.64 inches
- The Santa Barbara Urban Hydrograph (SBUH) method may be used for all analyses regardless of the size of the drainage area. Input parameters shall be as described by Ecology or WSDOT for the design storms described above. Other computer models may also be used with prior approval by the City.
- Stormwater inlet spacing shall not exceed 30 feet.
- A manhole or Type 2 catch basin shall be installed at the intersection of two or more collector sewers.
- All public stormwater pipes or culverts must be a minimum of 12 inches in diameter. Pipes shall have a minimum slope of 0.5% and be designed with a minimum velocity of 2 ft/s.



3.3 SUBMITTAL, PERMITTING, CONSTRUCTION, AND INSPECTION PROCEDURES

Construction sites must adhere to City and State submittal, permitting, construction, and inspection procedures. Stormwater calculations and designs submitted to the City to obtain a building permit must be stamped by the licensed engineer.

Some construction sites may be required to obtain a Construction Stormwater General Permit (CSWGP) through Ecology. The current CSWGP became effective in 2021 and expires at the end of 2025. A new CSWGP will be issued at the start of 2026 which all current CSWGP holders must reapply for.

A CSWGP requires the contractor to do the following:

1. Apply for coverage by submitting a Notice of Intent (NOI) to Ecology.
2. Develop and use a Stormwater Pollution Prevention Plan (SWPPP).
3. Monitor stormwater discharges and inspect BMPs installed as part of SWPPP by a certified erosion and sediment control lead (CESCL).
4. Submit a monthly discharge monitoring report (DMR) to Ecology.
5. Submit a Notice of Termination (NOT) to Ecology when soils are stabilized on site and all temporary BMPs have been decommissioned.

The City also requires preparation of Erosion and Sedimentation Control (ESC) plans, Stormwater Site Plan, and SWPPP as outlined in the RMC 16.06 and Design Guidelines.

Post-Construction structural BMPs are inspected by the City at least once every 5 years or as necessary.

CHAPTER 4

Existing Stormwater System





CHAPTER 4 – EXISTING STORMWATER SYSTEM

This section is organized as follows:

- **Section 4.1 – Stormwater Utility.** Describes the City organization responsible for maintaining, operating, and preserving public stormwater infrastructure.
- **Section 4.2 – General Drainage Patterns.** Summarizes general drainage patterns that underlie the routing of stormwater runoff throughout the service area.
- **Section 4.3 – Existing Stormwater Management Facilities.** Provides an overview of existing collection and conveyance facilities, pumps, drywells, regional detention/water quality facilities, and regional outfalls.
- **Section 4.4 – Documented Drainage Problems.** Summarizes existing drainage problems based on known flooding issues and staff reports of frequent maintenance needs.
- **Section 4.5 – Low Impact Development.** Provides an overview of existing Low Impact Development (LID) infrastructure and discusses recommendations to develop LID standards and standard details, and use of LID more routinely in public infrastructure projects.

4.1 STORMWATER UTILITY

The City of Cle Elum Public Works Department primarily oversees the maintenance, operation, and preservation of the stormwater system within city limits. City crew also oversees the operation and maintenance of public streets and all street sweeping services where much of the system is located. All city crew and equipment are based out of the City shop.

Currently there is no separate division or personnel within Public Works who are solely responsible for the maintenance of the stormwater system. And previously, there has been no ordinance or fee dedicated for stormwater system operations or maintenance, or to hire for dedicated staffing. However, the City is currently considering the implementation of an ordinance and fee, with the fee cost dependent on this SMP and council acceptance.

4.2 GENERAL DRAINAGE PATTERNS

Within the service area, much of the stormwater runoff infiltrates into the ground via drywells and land surface infiltration. However, during peak rainfall events when infiltration capacity has been exceeded, excess rainfall contributes to stormwater runoff collected and conveyed via the City's drainage facilities to the Yakima River. Appendix A provides a drainage area map showing subbasin areas and their outfall locations.

4.3 EXISTING STORMWATER MANAGEMENT FACILITIES

This section provides an overview of the existing City stormwater management facilities, including collection and conveyance, pumps, UICs, regional detention and water quality facilities, and regional outfalls to surface receiving water bodies.





STORMWATER PLAN

4.3.1 Collection and Conveyance

Table 4-1 and Table 4-2 summarize the existing stormwater collection system structures and conveyance facilities, respectively. Pipe material is comprised mainly of PVC, concrete, corrugated metal, ductile iron, clay, and corrugated high density polyethylene pipe (CPEP). Through video inspection, it was found that pipe of nearly all material type is damaged or failing in some way (see Table 4-4). Notably, concrete and clay are the two materials where existing pipe was noted as collapsing. Much of the main stormwater conveyance line found in second street is constructed of clay or concrete, with the clay line already noted in City GIS maps as collapsed. This is a large vein of the stormwater system that directs runoff flow from the north half of the City to the Town Ditch conveyance. Current construction projects are planned to replace much of the clay and concrete pipe found in second street from Stafford Avenue to Wright Avenue. Some concrete and clay pipe will still remain within the second street main conveyance line after this existing project.

TABLE 4-1 EXISTING STORMWATER COLLECTION STRUCTURES				
Owner	Type 1 Catch Basins	Manholes and Type 2 (Manhole) Catch Basins	Manholes with Oil Water Separator	Drywells
City	318	90	3	31
Private	13	1	0	0
Total	331	91	3	31

Table 4-2 tabulates the linear feet in the existing stormwater system, classified by pipe material and pipe diameter. Approximately 44,333 linear feet, or 8.4 miles total of pipe makes up the stormwater conveyance network.





TABLE 4-2 EXISTING CONVEYANCE PIPES AND CULVERTS				
Pipe Material	Size (inches)	Linear Feet (LF) Public	Linear Feet (LF) Private	Total Linear Feet Per Pipe Material
PVC	24	505	8	6,883
	18	69	---	
	12	2,308	---	
	10	61	---	
	8	1,408	---	
	6	2,173	25	
	4	241	---	
	2	118	---	
CPEP	24	2,698	69	11,415
	18	1,369	---	
	16	391	---	
	12	6,468	310	
	8	299	---	
	6	190	---	
Corrugated Steel	36	408	---	4,886
	24	211	---	
	18	75	---	
	16	29	---	
	12	533	---	
	10	1,029	---	
	8	2,135	---	
	6	462	---	
	4	4	---	
Ductile Iron	24	63	---	1,550
	18	126	---	
	12	896	---	
	10	285	---	
	8	81	---	
	6	99	---	
Concrete	48	1,208	---	12,592
	36	934	---	
	30	3,185	---	
	24	4,169	---	
	21	272	---	
	16	85	---	
	12	425	---	
	10	36	---	
	8	1,802	---	
	6	476	---	
Concrete Box Culvert	48 x 48	425	---	425
Clay	12	6,447	---	6,582
	8	135	---	
Drainage Ditch	Varies	15,380	---	15,380
Total Linear Feet in System				44,333
Total Linear Feet in System with Drainage Ditches				59,713



STORMWATER PLAN

As discussed in CHAPTER 3, the City's construction standards currently require conveyance facilities to be designed to convey 25-year storm events. City engineering standards also prohibit the use of closed conveyance less than 12-inches in diameter. The City does not have records available to determine the age of all of its conveyance facilities, therefore it is unknown whether the majority of the stormwater infrastructure was constructed prior to or after these standards were adopted.

4.3.2 Pumps

The city does not own or operate any stormwater pump stations currently. With the City generally sloping downhill to the south and east, the system has used gravity flows to convey stormwater to designated outfalls.

4.3.3 Underground Injection Control Facilities (UICs)

While the City uses several drywells and infiltration galleries to percolate stormwater into the ground, there are no current UICs in place that distribute surface stormwater below the ground water level.

4.3.4 Regional Detention/Water Quality Facilities

The City's stormwater system includes the lower Hansen ponds, and approximately two (2) dedicated swales. Detailed information on the sizes and configurations of these facilities are generally unavailable through City records. Treatment capabilities of the Hansen ponds and the swales within the stormwater system are not a part of this study. Further evaluation of these locations will be necessary to determine if additional treatment within the stormwater system is required.

4.3.5 Regional Outfalls

Stormwater that does not infiltrate within the immediate surface or infiltrates through drywells is directed to regional outfalls. There are several regional outfalls across the city, with the main two depositing into the Yakima River. The regional outfalls known are listed below.

TABLE 4-3 REGIONAL OUTFALLS	
Regional Outfall	Outfall Route and Depository Location
"Town Ditch"	Collects flow from First, Second, Third, and Fourth Street east of Stafford Street. Town Ditch flows into the Hansen Ponds and is then discharged to the Yakima River.
"Crystal Creek"	Collects flow from Fifth and Sixth street, Flows south on the west side of Stafford Street then deposits into the Yakima River.

4.4 DOCUMENTED DRAINAGE ISSUES

This section presents a brief summary of documented drainage issues based on information from City Operations and Maintenance staff on known flooding areas and areas requiring frequent maintenance.

4.4.1 Known Flooding Areas

The city has not made note of areas experiencing frequent flooding at this time.





4.4.2 Areas Requiring Frequent Maintenance

There is currently no City record for known areas requiring frequent maintenance. Through record research and inquiring with Public Works personnel, no significant areas of flooding or frequent maintenance had been identified.

4.4.3 Known Damaged Pipes or Structures

An inventory and video inspection study was conducted to retrieve any missing information and collect updated information on pipe conditions and system connections. This study process involved a Vactor Truck sending a water jet down each pipe and removing any debris as best as possible. A video camera truck then could send a camera down the cleaned pipe to assess the condition, direction, and unseen connections of the pipes and structures. This study was completed over four weeks which uncovered areas of damage or severe corrosion. These corroded and damaged areas lead to dirt, rock, and other material pollutants infiltrating the pipe and causing other drainage issues. This damage is grouped by intersection and detailed in Table 4-4.



TABLE 4-4 KNOWN DAMAGED PIPES OR STRUCTURES			
Intersection Crossroads	GIS ObjectIDs ^a	Pipe Material and Size ^b	Comments
W Railroad St & N Oakes Ave	353 to 354	CPEP ^c , 8 in (North) PVC ^d , 18 in (South)	Line north collapsed.
W Railroad St & N Pennsylvania Ave	335 to 336	Corrugated Steel, 10 in	Gapping in joints, break in pipe, rock and dirt infiltration.
W Railroad St & N Harris Ave	336 to 220	Corrugated Steel, 10 in	Several minor dents, section of pipe with severe rust.
	636 to 220	Corrugated Steel, 10 in	Minor dents, cut in top of pipe, splitting in joints, rocks and dirt entering pipe through gaps, rust.
	220 to 338	DI ^e , 10 in	Severe rust, pipe rusted away.
	220 to 339	Corrugated Steel, 10 in	Severe dent in pipe.
	339 to 340	Corrugated Steel, 10 in	Severe dent in pipe.
W Railroad St & Wright Ave	342 to 343	Corrugated Steel, 12 in	Pipe punctured, severe rust, pipe rusted away.
W Railroad St & N Bullitt Ave	344	Corrugated Steel, 6 in	Pipe north is filled with gravel. Clear damage unknown, connects into previous pipe.
	345 to 525	Corrugated Steel, 6 in	Rust, gaps in joints.
	525 to 526	Corrugated Steel, 6 in	Minor rust, gaps in joints.
W Railroad St & N Peoh Ave	648 to 649	PVC, 8 in	Plugged with dirt and mud.
W 1st St & S Pine St	513 to 687	CPEP, 12 in	Manhole 687 is missing its lid and is filled with trash, dirt, and other pollutants. Pipe is plugged with similar.
W 1st St & Rossetti Way	11 to 9	PVC, 12 in	Severely clogged, clear damage unknown.
	13 to 12	PVC, 12 in	Gaps in joints, severely clogged.
E First St & N Teanaway Ave	173	PVC, 6 in	Pipe broke but not sealed off.
	174 to 653	PVC, 6 in	Gaps in joints.
E First St & N Montgomery Ave	523 to 371	Concrete, 6 in	Collapsed pipe.
E First St & Yakima Ave	177 to 176	Corrugated Steel, 8 in	Severe rust, pipe rusted away.
E First St & Columbia Ave	178 to 179	Corrugated Steel, 8 in	Heavy rust.
E First St & Floral Ave	181 to 182	PVC, 6 in	Gaps in joints, Pipe offset by approximately 3 inches at one joint.
	182 to 519	Corrugated Steel, 8 in	Severe rusting, pipe rusting through, catch basin 519 has broken lid.
	659 to 661	Concrete, 8 in	Pipe collapsed. Manhole 661 has been paved over.
E Second St & N Pennsylvania Ave	304 to 299	PVC, 8 in	Pipe broken, large portions missing. Large gaps in other joints.
E Second St & Harris Ave	517	DI, 6 in	Severe gaps in all joints, pipes offset from each other. Some rust.
E Second St & N Bullitt Ave	431	Concrete, 12 in	Pipe west collapsing. End of pipe location unknown.
	167	PVC, 8 in (1 st ft on North) Concrete, 12 in	Pipe cracked, collapsing in
E Second St & N Montgomery Ave	169	Concrete, 6 in	Pipe west collapsed. End unknown.
	169	Concrete, 6 in	Pipe south plugged with dirt, clear damage unknown. End unknown.
E Second St & N Peoh Ave	308	Concrete, 12 in	Pipe west collapsed. End unknown.
E Second St & N Teanaway Ave	382	Concrete, 6 in	Large gap in joint, dirt and rocks infiltrating pipe.
E Second St & N Teanaway Ave	668	PVC, 8 in (south 7 feet) Concrete, 8 in	Concrete pipe cracked and collapsing in. Dirt and rocks infiltrating pipe.
E Second St & Yakima Ave	286	PVC, 12 in	Pipe south broken. Dirt and rocks infiltrating pipe.
E Second St & Columbia Ave	502	Concrete, 6 in	Minor gaps in joint.
E Third St & N Oakes Ave	152 to 153	PVC, 6 in	Pipe clogged with rocks. Clear damage unknown, though evidence of illicit connections.
E Third St & N Oakes Ave	518	Corrugated Steel, 8 in	Rust.
E Third St & Short Ave	206 to 676	Corrugated Steel, 6 in	Pipe dented and broke. Dirt infiltrating the pipe. Catch basin 676 is paved over.
E Third St & Garden St	673 to 669	Corrugated Steel, 8 in	Pipe severely rusted, some parts rusted away.
E Third St & Garden St	669 to 670	Corrugated Steel, 8 in	Gaps in joints. Pipe dented and broken, dirt and rocks entering pipe. Roots growing into pipe.
E Third St & Columbia Ave	263 to 205	Corrugated Steel, 8 in	Pipe rusted. Catch Basin 205 has a broken lid.
E Fourth St & Wright Ave	156 to 499	Corrugated Steel, 8 in	Gaps in joints, severely dented causing some breaks in pipe.
E Fourth St & Wright Ave	499	Corrugated Steel, 8 in	South pipe has significant dents and breaks.
W Fifth St & N Oakes Ave	452 to 438	PVC, 6 in	Major rock blocking pipe, entered pipe due to break is unconfirmed.
	148 to 290	PVC, 8 in Clay, 8 in	Significant gaps in joints between pipe material changes.
	149 to 290	PVC, 8 in Clay, 8 in	Significant gaps in joints between pipe material changes.
	290 to 147	Corrugated Steel, 12 in	Major rusting.
Notes: a – Object IDs are for structures connected to the subject pipe. IDs based on City GIS data (City of Cle Elum, 2025). b – Based on 2025 inventory and inspection study record. c – Corrugated Polyethylene Pipe. d – Polyvinyl Chloride. e – Ductile Iron.			



Possible repair and replacement projects to these areas are outlined in CHAPTER 6.

4.5 LOW IMPACT DEVELOPMENT

While there are no clear Low Impact Development (LID) areas laid out within the City, there are several goals and policies newly established that promote the implementation of LIDs. Cle Elum Policy CE-8.1 aims to reduce stormwater impacts from transportation and development through watershed planning, redevelopment projects, and low-impact development practices. CE-7.1 also promotes the restoration of floodplains and connectivity to improve the resilience of streams and rivers and reduce flood risk.

The City will follow guidance for implementing LIDs outlined in the Stormwater Management Manual for Eastern Washington (SWMMEW) Appendix 3-D. In preserving or redeveloping natural hydrologic patterns and environments, Cle Elum maintains their surrounding ecosystems and environments, as well as increases the capacity for stormwater infiltration through the lowering of impervious areas.

CHAPTER 5

Stormwater Convenyance Model Analysis





CHAPTER 5 – STORMWATER CONVEYANCE MODEL ANALYSIS

5.1 INTRODUCTION

The City's hydrologic and hydraulic models were used to assess the stormwater system capacity for current and future condition flows, identify possible system deficiencies, and evaluate projects for inclusion in the Capital Improvement Plan (CIP). The remainder of this chapter is organized as follows:

- **Section 5.2 – Model Development.** Summarizes the model development for use in the SMP.
- **Section 5.3 – Model Analysis.** Documents the model analysis performed for the current and future build-out land use conditions for multiple design storm events.
- **Section 5.4 – Results.** Summarizes the modeling results and system deficiencies.
- **Section 5.5 – Recommendations.** Recommends additional model updates and validation that should be completed prior to detailed design of CIP projects or future planning efforts.

5.2 MODEL DEVELOPMENT

After completing video inspection and general field inventory of Cle Elum's stormwater system, HLA developed a model reflecting the existing City stormwater infrastructure and parcels within city limits. Record drawings were utilized to supplement any additional information that could not be gathered from the inventory inspection or the City GIS. The main objective of the model was to identify or confirm system sizing deficiencies and assess CIP project needs (CHAPTER 6).

Model development considered requirements of both Ecology's Stormwater Management Manual for Eastern Washington (SWMMEW) and the "2024 City of Cle Elum Construction Standards for the Private Construction of Public Facilities" that were adopted as construction standards for the City. Further detail regarding the components of model creation is found below.

5.2.1 Modeling Software

Software readily available and applicable for the development of the model was SewerGEMS Connect Edition, which also has the capability of integrating with ArcGIS and AutoCAD programs. This software program runs both hydrologic and hydraulic equations, so calculations for rainfall runoff and conveyance through the storm system could be analyzed simultaneously in a single model run. The software offers several methodologies for calculating hydrological and hydraulic outcomes, many of which are listed in the SWMMEW and affirmed by City construction standards.

5.2.2 Methodology

In further review of the SWMMEW, other modeling methods supported with local data could be approved by agencies or local jurisdictions for use (SMWWEW 4.2.1, 2024). As the software used can be fully dynamic, a dynamic method solver was used to give clearer detail of the system loadings over time. Approval from the City was sought out and granted in early October, 2025. The method solver selected was the Environmental Protection Agency (EPA) Stormwater Management Model (SWMM) Explicit solver. The EPA SWMM solver version five (5) can be used for both short and long-term events, and for hydrologic processes and hydraulic modeling.





The hydraulic capabilities of this solver include routing runoff and external inflows through a drainage network, using a variety of closed and open conduit or channel shapes, simulate various flow conditions such as backwater, surcharging, reverse flow, or surface ponding, and can run the simulation dynamically so each time-step can be viewed and analyzed individually. With the varied use of open channels or ditches and pipes within the City, and the desire to see how the existing city storm infrastructure operates, these capabilities proved sufficient.

Rainfall Runoff

The EPA SWMM runoff method was used to calculate rainfall runoff for each sub-basin. This method accounts for several hydrological processes that produce runoff in agricultural and range lands, and urban areas, such as rainfall interception from depression storage, or infiltration of rainfall into unsaturated soils. The SWMM solver utilizes dividing the study area into smaller sub-basins with their own fraction of pervious and impervious sub-basins. A hydrograph is created by the solver for these areas and the runoff is routed into the next downstream inlet in a drainage system.

One way the SWMM solver accounts for rate of infiltration in these areas is by use of the Soil Conservation Service (SCS) Runoff Curve Number (CN). SCS CN's are empirical values that encapsulate a sub-area's hydrologic response based on soil properties – ranging from well-draining soils to poorly draining soils – land use condition types such as grass, range, or imperviousness, and other hydrologic conditions. Tables 9-1, 9-2, and 9-5 in Part 630 of the National Engineering Handbook (NEH) (Natural Resources Conservation Service, 2009), and City land use denoted in the City GIS (Cle Elum, 2021) were both referenced when assessing CN values, as well as supplementing with the Natural Resources Conservation Service Web Soil Survey where needed for soil groups.

5.2.3 Conveyance System Attribute Information

The model was created based on available City GIS data and existing record drawing information. While this information provided locations, much of the system lacked records of pipe material type and conditions, invert elevations of the pipes, structure surface elevations and invert elevations, and other miscellaneous information necessary to create an effective model.

To gain missing information, a field inventory and video inspection was utilized to verify or update all pipe sizing material, directions and conditions, as well as verify or update structure conditions and locations, as well as the entire system configuration and connections. All missing information was collected from this effort and noted in the City GIS. Some new pipes and structures (catch basins, manholes, or drywells) were also discovered during this inventory and included in the City GIS. All existing and new information was entered as nodes and links into the model.

5.3 MODEL ANALYSIS

This section discusses a model run performed to compare existing conditions to future, and 2043 system buildouts. This section also discusses modeling the 2043 load conditions under a potential design scenario to alleviate any surcharge under these loads.





STORMWATER PLAN

5.3.1 Design Storms

Based on City construction standards, the 25-year storm warranting the largest storm sewer facility size shall be the controlling storm (Cle Elum, 2024). Scenarios were modeled using the 25-year, 3-hour storm, and the 25-year, 24-hour storm. Both storms have been adjusted from the SWMMEW in the City construction standards to a total precipitation amount of 1.11 inches, and 3.48 inches respectively, to consider the climate and rainfall records.

Tabulated hyetograph data for short and long duration storms was taken from the SWMMEW and adjusted accordingly for Cle Elum's construction standard requirements. The adjusted tabulated data was then entered into the modeling software's storm database to be used in rainfall and runoff calculations.

5.3.2 Scenarios

This section intends to describe the different conditions and differences between each scenario that is housed within the model. Generally, they are either under long-duration or short-duration storm conditions. Each of those storm conditions has an existing system scenario, a future buildout, and a 2043 estimated buildout. There is also a design scenario that analyzes different pipe configurations to alleviate any surcharge conditions experienced under the 2043 runoff loading. These scenarios are detailed in Table 5-1.

TABLE 5-1 MODEL SCENARIOS AND ASSOCIATED CONDITIONS			
Model Scenarios	Storm Event	Existing, Future, or 2043 Buildout Loading	Analysis or Design
25-Year, 24-Hour Long Duration Storm	25-Year, 24-Hour	Existing	Analysis
Future Buildout – Long Duration Storm	25-Year, 24-Hour	Future	Analysis
2043 Buildout – Long Duration Storm	25-Year, 24-Hour	2043	Analysis
Design – Long Duration Storm	25-Year, 24-Hour	Existing	Design
Design - 2043 Buildout – Long Duration Storm	25-Year, 24-Hour	2043	Design
25-Year, 3-Hour Short Duration Storm	25-Year, 3-Hour	Existing	Analysis
Future Buildout – Short Duration Storm	25-Year, 3-Hour	Future	Analysis
2043 Buildout – Short Duration Storm	25-Year, 3-Hour	2043	Analysis
Design - 2043 Buildout – Short Duration Storm	25-Year, 3-Hour	2043	Design



Existing, Future, and 2043 Buildouts

While it can be difficult to interpolate or accurately measure precipitation amounts a specified number of years into the future, estimating urban growth of a city can be done more effectively. As a city increases in size, so do public roads and thus stormwater conveyance systems. Cle Elum is a unique case however, in that any new lots or developments must be retained and disposed of on site per City construction standards (Cle Elum, 2024). Only new public streets have the potential of increasing loading to the current city system.

With this consideration and for conservative analysis, hypothetical future loading (in the next ten years) is assumed to increase by ten percent, and by fifteen percent in 2043. Percentage amounts were determined based off of existing infrastructure, and the projected future land use and urban growth area boundaries found in the City GIS.

5.3.3 Analysis 1 - Existing Buildout Compared to Future and 2043

A test was performed to compare model scenarios representing existing, future and 2043 flow estimates and loadings of the City stormwater infrastructure. The purpose of this comparison was to denote key differences in loading and surcharge conditions between scenarios and help prioritize CIP's later listed in CHAPTER 6.

As previously mentioned, both regional long and short duration storm data (adjusted for Cle Elum design storm requirements) were entered into the rain data library for use. As construction standards state that the storm warranting the largest facility size controls design, a prior test of both short (3-hour) and long (24-hour) duration design storms on existing infrastructure was performed to determine the controlling design storm. It was found that the short duration storm, while significantly less volume and duration length, surcharged more pipes in the existing, future, and 2043 buildouts, warranting larger facility increases. This is largely due to the intensity (0.37 inches/hour) of the short duration storm being greater than that of the long duration storm (0.145 inches/hour). Because of this, the short duration storm was selected as the controlling storm for design.

The existing, future, and 2043 buildouts were then computed as a batch under short duration storm loading. The rainfall runoff inflow computed runoff values of 3.26 million gallons (MG), 3.58 MG, and 3.74 MG respectively. With this loading variance, approximately 269 links returned as surcharged at some point in the simulation.

Another key difference showing difference in flow data between scenarios is the outflow from the second street main line to the Town Ditch conveyance. The main storm line located on second street collects runoff from second street itself, as well as all adjacent side streets from Billings Avenue to Columbia Avenue. Additionally, some lines on the northern side streets convey flow from third and fourth into the second street main line, making it a good representation of the increased flows between scenario changes. For existing, future, and 2043 scenarios, the model estimates flow during peak storm at 22.59 cubic feet per second (cfs), 34.90 cfs, and 36.39 cfs respectively. These flows were observed in the last pipe on the east end of the main line, just before depositing into the Town Ditch conveyance, providing a cumulative flow rate at peak storm runoff for comparison.



5.3.4 Analysis 2 - 2043 Design

Another model computation was run to compare projected 2043 flows through existing infrastructure, and through a potential design infrastructure that alleviates the surcharge conditions. The purpose of comparing these analysis and design scenarios is to identify and develop CIP projects that will improve the capability and capacity of the existing stormwater system in preparation for future 2043 loads.

With use of the EPA SWMM solver in the software, the model cannot automatically design or upsize system links unless the model components are duplicated and edited to work with a separate, static loading, in-software solver. This is addressed later in recommendations if the City does not desire to manually review and implement designs. For this analysis however, the model's surcharged areas and potential design solutions were manually reviewed and entered. Profiles were created within the model software to view energy and hydraulic grade lines for each area of concern.

After redesigning and model computation that resolved much of the surcharge conditions in pipes, a comparison table was ran to tabulate and highlight differences within the model from existing infrastructure to the design scenario. This table can be found in Appendix B. The completed design scenario guided the development of CIP's detailed further in CHAPTER 6.

5.4 RESULTS

A pipe or open channel is considered surcharged when the modeled depth of flow (d) is greater than the diameter or height of pipe or depth of open channel (D), or when the hydraulic grade line of the previous pipe is above the soffit of the following pipe. A pipe or open channel is considered to have insufficient capacity when the modeled flow (q) in the conduit is greater than the theoretical flow capacity (Q). The theoretical flow capacity of a conduit is calculated with Manning's equation, using the cross-sectional area, slope, and roughness to determine the maximum flow that could be conveyed through that conduit under gravity before becoming surcharged.

Structures are considered flooded when the modeled water surface elevation is above the rim elevation. Similarly, open channels are considered flooded when the modeled water surface elevation is above the set ground elevation for reporting flooding.

Through model analysis, there were some pipes that the model labeled as surcharged that were not considered in the CIPs. Through manual review, some areas were deemed as lower priority surcharging, indicating that while the hydraulic grade line of the previous pipe was above the soffit of the pipe in question, the surcharging was not significant enough to warrant complete pipe replacement. Some examples of this are detailed below:

- East 1st & Peoh Avenue: A line crossing from the northeast to southeast corner is surcharged less than 0.25 hours in the model.
- East 1st & Yakima Ave to Columbia Ave: The line is surcharged due to inconsistent sloping. With the remainder of the line to the outfall, and the remainder of the line west of Yakima Ave not being surcharged, there is no recommendation to upsize or re-grade this one segment unless note of significant flooding, or if the east end of the line is undergoing replacement.

Further results of the modeling were factored into CIP project identification, which was conducted in coordination with City staff (see CHAPTER 6).



5.5 RECOMMENDATIONS

The following recommendations are provided to further model development prior to more detailed CIP project planning or design use beyond the scope of this SMP:

- Implement United States Geological Survey (USGS) Digital Elevation Model (DEM) data for the area scope, which would allow for the software to more accurately delineate catchment areas and runoff routes based on existing topography.
- Prior to taking definitive action to address predicted flooding or predicted surcharged pipe conditions, refine the affected portions of the model and implement a downstream analysis to develop detailed information for sizing facilities and better understand how solving an upstream problem may affect the downstream portions of the system.
- As new projects or land use actions arise, update the model with any and all known future public street developments that will affect the loading of the public stormwater system, to ensure accurate future loading and locations of additional inflow in the future.
- If the City desires to allow the model to automatically design or upsize system components, a new scenario should be made and all components switched from the dynamic EPA SWMM solver to a static solver within the software, as the model will not automatically design links or nodes using a dynamic solver.

CHAPTER 6

Capital Improvement Plan





CHAPTER 6 – CAPITAL IMPROVEMENT PLAN

6.1 INTRODUCTION

This section describes the development of recommended CIP projects to address existing and future stormwater infrastructure needs throughout the service area. As identified in CHAPTER 5, the City has recently undertaken a systemwide review of existing stormwater infrastructure and identified projects that are required to damaged infrastructure, which represents the majority of the projects within the CIP. Systemwide hydraulic modeling efforts have also identified portions of the stormwater system that are undersized for meeting 25-year storms; it is anticipated that undersized components will be replaced with properly-sized infrastructure when these pipes are included in capital projects. Due to the number of projects that are required to address the physical condition of the system, the City has not prioritized pipe capacity as highly.

The projects identified herein are shown in Figure 6-1. Cost estimates for each project are included in Appendix C.

6.2 PROJECTS TO REPLACE DAMAGED INFRASTRUCTURE

The City has identified 29 locations where pipe sections need to be replaced due to corrosion, physical damage to the pipe, and/or pipe collapses. In some locations, new catch basins or sidewalk replacement will be required to adequately connect the new pipe to the stormwater system. Table 6-1 summarizes the costs for each project, including what components are included.

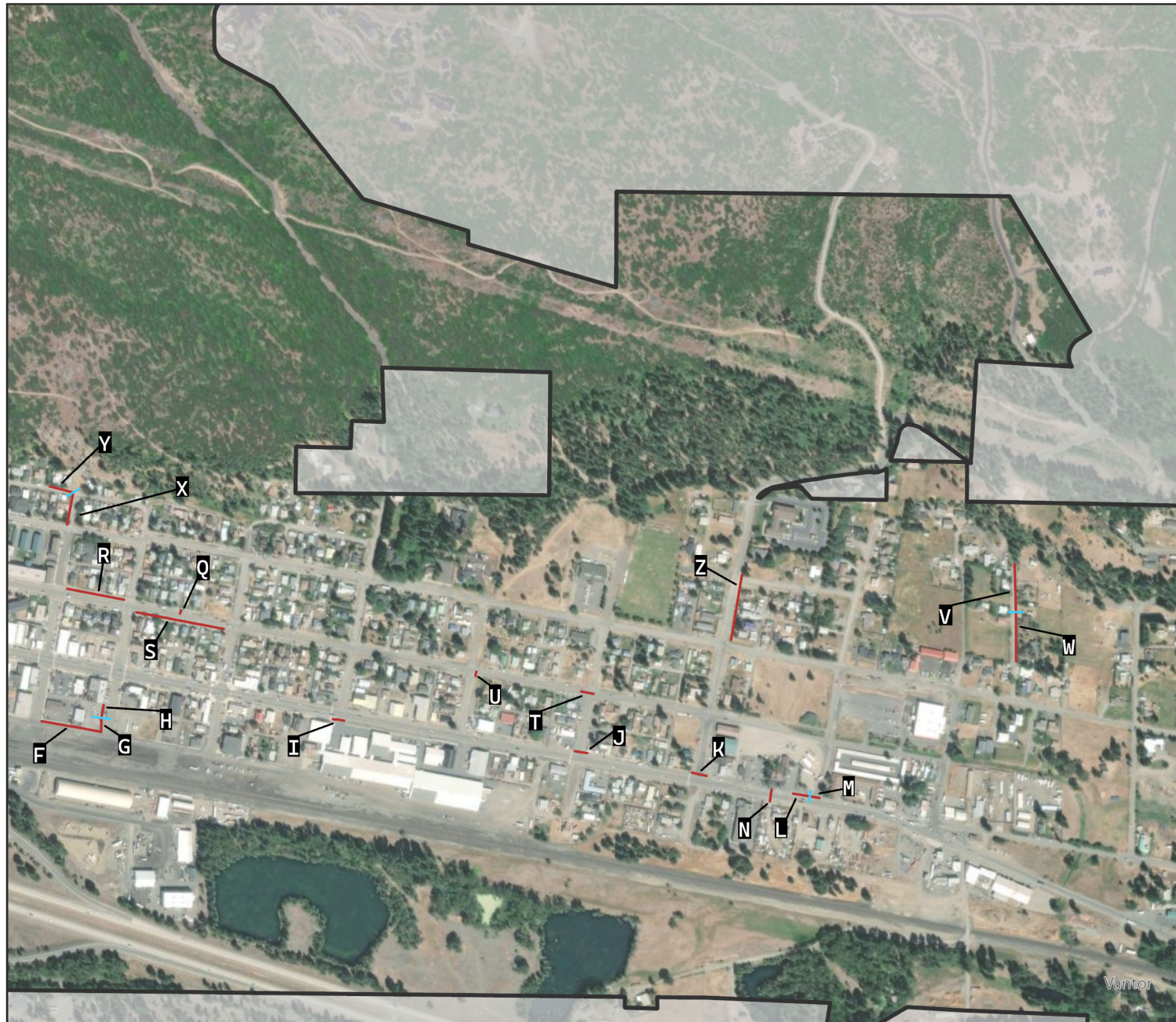


TABLE 6-1 PIPE REPLACEMENT CAPITAL IMPROVEMENT SUMMARY				
Project Name	Pipe Length (ft)	Additional Structures	Sidewalk/Curb Replacement	Project Cost
Schedule A: 353N	140	No	No	\$102,000
Schedule B: 335E	160	No	Yes	\$112,700
Schedule C: 220S	30	No	No	\$49,700
Schedule D: 336E	160	No	Yes	\$109,800
Schedule E: 636S	170	No	Yes	\$114,500
Schedule F: 342E	240	No	Yes	\$168,100
Schedule G: 345N	80	No	Yes	\$79,100
Schedule H: 525N	70	No	Yes	\$76,000
Schedule I: 371W	80	No	Yes	\$75,000
Schedule J: 176W	60	No	No	\$60,700
Schedule K: 178E	80	No	No	\$65,500
Schedule L: 182W	110	No	No	\$71,800
Schedule M: 519W	65	No	No	\$60,900
Schedule N: 659S	65	No	No	\$60,900
Schedule O: 304NE	60	No	Yes	\$70,900
Schedule P: 517S	40	No	No	\$52,300
Schedule Q: 167S	30	No	No	\$52,500
Schedule R: 431W	340	Yes	No	\$169,800
Schedule S: 308W	470	Yes	No	\$212,300
Schedule T: 286S	50	No	Yes	\$57,500
Schedule U: 668N	30	No	No	\$51,700
Schedule V: 669N	270	No	No	\$113,900
Schedule W: 670N	250	No	No	\$109,800
Schedule X: 499S	165	Yes	No	\$83,900
Schedule Y: 499W	130	No	No	\$70,100
Schedule Z: 205S	350	No	No	\$114,500
Schedule AA: 148SE	50	No	No	\$58,000
Schedule AB: 149SW	30	No	No	\$50,200
Schedule AC: 290E	530	No	No	\$274,600
Schedule AD: 518E	55	No	No	\$64,100
Schedule AE: 96N	60	No	Yes	\$86,300
Schedule AF: 220E	90	No	No	\$81,400
Schedule AG: 339E	80	No	Yes	\$82,300
Schedule AH: 340E	80	No	Yes	\$115,600
Schedule AI: 341E	170	No	Yes	\$195,500
Schedule AJ: 257E	70	No	No	\$74,800
Schedule AK: 515S	75	No	Yes	\$112,500
Schedule AL: 371N and CB-658	5	Yes	No	\$46,400
Schedule AM: 519S	65	No	No	\$69,000
Schedule AN: 432N	145	No	Yes	\$111,500
Schedule AO: 316W	400	No	No	\$258,000
Schedule AP: 316E	530	No	No	\$324,300
Schedule AQ: 317E	220	No	No	\$146,800
Schedule AR: 450E	450	Yes	No	\$243,500
Schedule AS: 249E	30	No	No	\$61,700
Schedule AT: CB-676	0	Yes	No	\$51,400
Schedule AU: CB-676	290	Yes	No	\$177,600
Total	7,120	---	---	\$5,405,400

Figure 6-1and Figure 6-2 both visually denote the project areas within the City system that Table 6-1 lists.

Figure 6-1

CITY OF CLE ELUM
Broken Pipes Exhibit



LEGEND

- OUTSIDE CITY LIMITS
- STORM LINES
 - PIPE TO TOWN DITCH
 - OPEN DITCH TO TOWN DITCH
 - PIPE TO CRYSTAL CREEK
 - OPEN DITCH TO CRYSTAL CREEK
 - PRIVATE
 - INFILTRATION
 - BROKEN PIPE
 - PIPE SEGMENT INDICATOR

0 350 700
Feet



Figure 6-2

CITY OF CLE ELUM
Broken Pipes Exhibit



LEGEND

- OUTSIDE CITY LIMITS
- STORM LINES
 - PIPE TO TOWN DITCH
 - OPEN DITCH TO TOWN DITCH
 - PIPE TO CRYSTAL CREEK
 - OPEN DITCH TO CRYSTAL CREEK
 - PRIVATE
 - INFILTRATION
 - BROKEN PIPE
 - PIPE SEGMENT INDICATOR

0 350 700
Feet

N





6.3 CAPITAL IMPROVEMENT PLAN

The City is currently reviewing the projects identified above and will prioritize them based upon the impact that the project would have on the remaining system. When feasible, the City will complete stormwater projects concurrently with road and utility projects to minimize costs associated with surface restoration and mobilization. Projects will also be combined to reduce the total number of construction contracts that the City will need to manage and efficiently address its project needs.

Table 6-2 showing projects and years will be included when appropriate direction and prioritization has been provided through City comment.

CHAPTER 7

Financial Plan





CHAPTER 7 – FINANCIAL PLAN

The City does not currently operate a dedicated stormwater utility, and there are not historical records to identify the cost to operate the system or what will be necessary to establish the utility. A stormwater rate analysis has been completed to establish the new rate structure and stormwater utility budget; a copy of the analysis is included in Appendix D.

The rate analysis assumes that projects will be completed on a consistent basis. This is a reasonable approach to take in the short term, before the fund has an established operation history. Once the utility is more established, the City may choose to complete large projects using competitive funding programs, financed with debt service. The need to complete projects in this manner will depend upon whether substantial projects are identified and whether the City is able to build sufficient reserves to complete large projects without the need for debt service. The projects identified in CHAPTER 6 are smaller in scope than other public works projects that the City often undertakes, although combining many smaller projects to reduce administrative burdens may increase total project costs to the point where outside financing may become necessary.

The stormwater utility rate recommended in the rate analysis is summarized as follows:

- \$11.86 per month, per Equivalent Residential Unit (ERU)
- An ERU is defined as 8,790 ft² of calculated impervious area within a parcel
- ERU calculation is to be rounded to the nearest tenth, and no utility account will be charged less than 1.0 ERU.

Appendix





CHAPTER 8 – APPENDIX

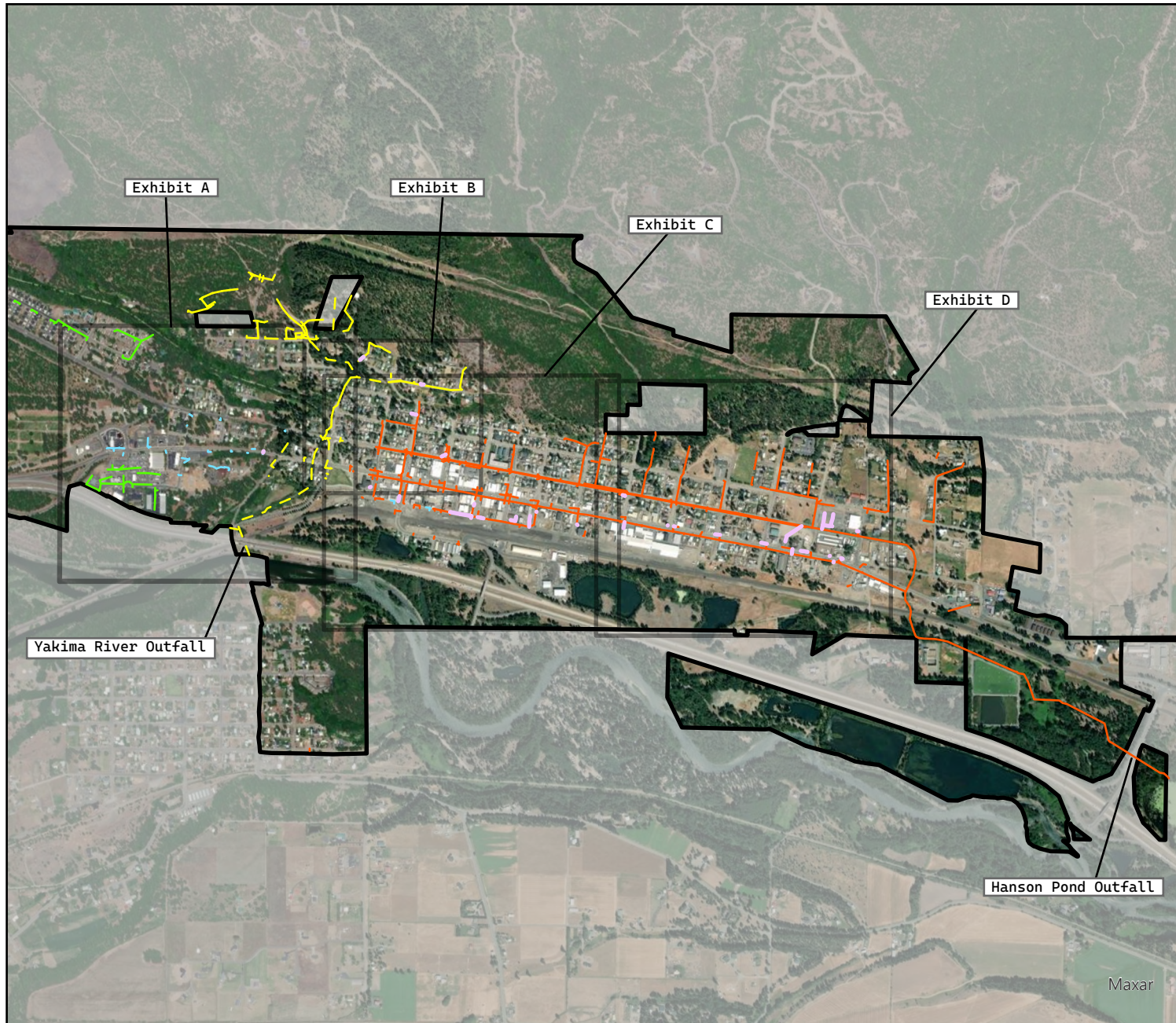
APPENDIX A – STORMWATER EXHIBITS
APPENDIX B – STORMWATER RATE ANALYSIS
APPENDIX C – COST ESTIMATES
APPENDIX D – STORMWATER RATE ANALYSIS
APPENDIX E – O & M MANUAL
APPENDIX F – USDA SOIL MAP

Appendix A

Stormwater Exhibits



CITY OF CLE ELUM Stormwater Flow Exhibit



LEGEND

- OUTSIDE CITY LIMITS
- EXHIBIT EXTENT

STORM LINES

- PIPE TO TOWN DITCH
- OPEN DITCH TO TOWN DITCH
- PIPE TO CRYSTAL CREEK
- OPEN DITCH TO CRYSTAL CREEK
- PRIVATE
- INFILTRATION
- ILLICIT PIPE



CITY OF CLE ELUM Stormwater Inventory Illicit Connection Exhibit A

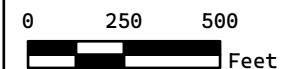


LEGEND

- Outside City Limits
- City Parcels
- Catch Basin Inlet
- Private Catch Basin
- Dry Well
- Illicit Basin Connection
- Failure Point
- Illicit Pipe Connection

Storm Lines

- PIPE TO TOWN DITCH
- PIPE TO CRYSTAL CREEK
- OPEN DITCH TO CRYSTAL CREEK
- PRIVATE
- INFILTRATION
- Illicit Pipe



CITY OF CLE ELUM Stormwater Inventory Illicit Connection Exhibit B

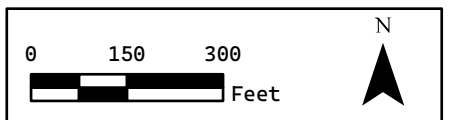


LEGEND

- Outside City Limits
- City Parcels
- Catch Basin Inlet
- ▲ Private Catch Basin
- ◆ Dry Well
- Illicit Basin Connection
- Failure Point
- + Illicit Pipe Connection

Storm Lines

- PIPE TO TOWN DITCH
- PIPE TO CRYSTAL CREEK
- OPEN DITCH TO CRYSTAL CREEK
- Illicit Pipe



CITY OF CLE ELUM Stormwater Inventory Illicit Connection Exhibit C

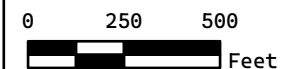


LEGEND

- Outside City Limits
- City Parcels
- Catch Basin Inlet
- Private Catch Basin
- Dry Well
- Illicit Basin Connection
- Failure Point
- Illicit Pipe Connection

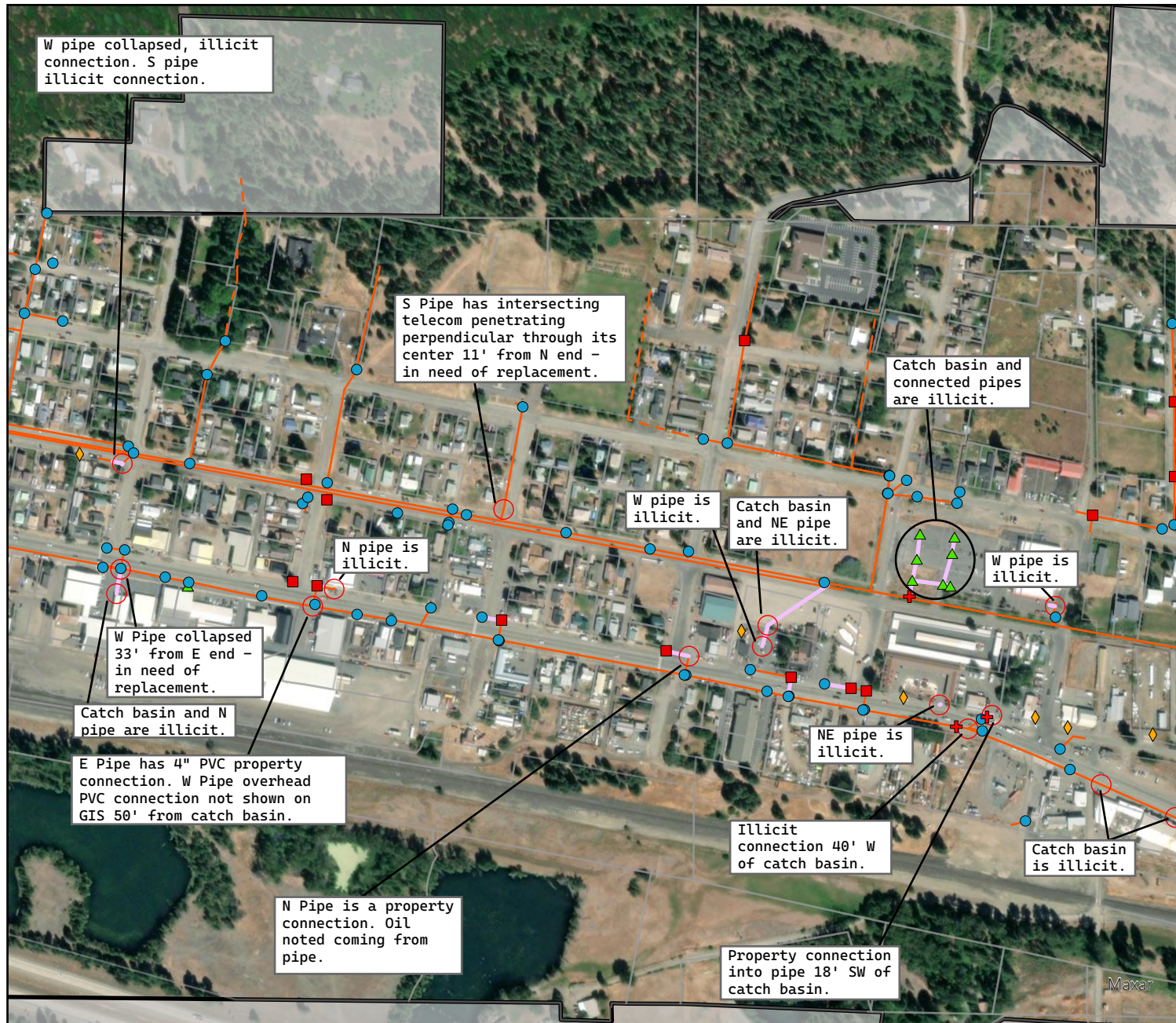
Storm Lines

- PIPE TO TOWN DITCH
- PIPE TO CRYSTAL CREEK
- OPEN DITCH TO CRYSTAL CREEK
- INFILTRATION
- Illicit Pipe



Maxar, Microsoft

CITY OF CLE ELUM Stormwater Inventory Illicit Connection Exhibit D

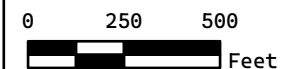


LEGEND

- Outside City Limits
- City Parcels
- Catch Basin Inlet
- ▲ Private Catch Basin
- ◆ Dry Well
- Illicit Basin Connection
- Failure Point
- + Illicit Pipe Connection

Storm Lines

- PIPE TO TOWN DITCH
- OPEN DITCH TO TOWN DITCH
- Illicit Pipe



Appendix B

Stormwater Modeling Output



2043 - Existing Design vs Potential Design

25-Year 24-Hour Long Duration Storm

Compared Alternative: Physical

Label	Element Type	Field	Unit	Value 2043 Buildout - Long Duration Storm	Value Design - 2043 Long Duration Loading
CO-9	Conduit	Is Diversion Link?		False	True
CO-9	Conduit	Diversion rating curve		<Collection: 0 items>	<Collection: 6 items>
CO-20	Conduit	Is Diversion Link?		False	True
CO-20	Conduit	Diversion rating curve		<Collection: 0 items>	<Collection: 5 items>
CO-57	Conduit	Invert (Start)	ft	0.00	1,926.56
CO-92	Conduit	Manning's n		0.013	0.010
CO-92	Conduit	Material			PVC
CO-96	Conduit	Conduit Description		Circle - 8.0 in	Circle - 12.0 in
CO-96	Conduit	Diameter	in	8.0	12.0
CO-98	Conduit	Conduit Description		Circle - 10.0 in	Circle - 12.0 in
CO-98	Conduit	Diameter	in	10.0	12.0
CO-99	Conduit	Conduit Description		Circle - 10.0 in	Circle - 12.0 in
CO-99	Conduit	Diameter	in	10.0	12.0
CO-100	Conduit	Invert (Stop)	ft	1,905.58	1,905.48
CO-100	Conduit	Conduit Description		Circle - 10.0 in	Circle - 12.0 in
CO-100	Conduit	Diameter	in	10.0	12.0
CO-101	Conduit	Invert (Start)	ft	1,905.58	1,905.41
CO-101	Conduit	Conduit Description		Circle - 8.0 in	Circle - 12.0 in
CO-101	Conduit	Diameter	in	8.0	12.0
CO-105	Conduit	Conduit Description		Circle - 6.0 in	Circle - 12.0 in
CO-105	Conduit	Diameter	in	6.0	12.0
CO-106	Conduit	Invert (Stop)	ft	1,904.88	1,904.38
CO-106	Conduit	Conduit Description		Circle - 6.0 in	Circle - 12.0 in
CO-106	Conduit	Diameter	in	6.0	12.0
CO-119	Conduit	Invert (Start)	ft	1,906.04	1,905.50
CO-119	Conduit	Invert (Stop)	ft	1,905.50	1,906.04
CO-123	Conduit	Invert (Start)	ft	1,907.19	1,901.90
CO-123	Conduit	Invert (Stop)	ft	1,901.90	1,907.19
CO-124	Conduit	Set Invert to Stop?		False	True
CO-124	Conduit	Conduit Description		Circle - 12.0 in	Circle - 30.0 in
CO-124	Conduit	Diameter	in	12.0	30.0
CO-126	Conduit	Set Invert to Start?		False	True
CO-126	Conduit	Set Invert to Stop?		False	True
CO-200	Conduit	Invert (Start)	ft	1,890.35	1,890.20
CO-200	Conduit	Invert (Stop)	ft	1,890.28	1,890.00
CO-200	Conduit	Conduit Description		Circle - 8.0 in	Circle - 12.0 in
CO-200	Conduit	Diameter	in	8.0	12.0
CO-222	Conduit	Manning's n		0.013	0.010
CO-222	Conduit	Material			PVC
CO-227	Conduit	Conduit Description		Circle - 12.0 in	Circle - 24.0 in
CO-227	Conduit	Diameter	in	12.0	24.0
CO-262	Conduit	Is Diversion Link?		False	True
CO-262	Conduit	Diversion rating curve		<Collection: 0 items>	<Collection: 4 items>
CO-94(1)	Conduit	Manning's n		0.013	0.010
CO-94(1)	Conduit	Material		Concrete	PVC
CO-94(1)	Conduit	Conduit Description		Circle - 8.0 in	Circle - 12.0 in
CO-94(1)	Conduit	Diameter	in	8.0	12.0
CO-327	Conduit	Manning's n		0.013	0.010
CO-327	Conduit	Material		Concrete	PVC

CO-327	Conduit	Invert (Start)	ft	1,900.43	1,899.93
CO-327	Conduit	Conduit Description		Circle - 6.0 in	Circle - 12.0 in
CO-327	Conduit	Diameter	in	6.0	12.0
CO-332	Conduit	Conduit Description		Circle - 12.0 in	Circle - 30.0 in
CO-332	Conduit	Diameter	in	12.0	30.0
CO-345	Conduit	Invert (Start)	ft	1,901.30	1,900.30
CO-345	Conduit	Conduit Description		Circle - 4.0 in	Circle - 12.0 in
CO-345	Conduit	Diameter	in	4.0	12.0
CO-356	Conduit	Set Invert to Start?		True	False
CO-356	Conduit	Invert (Start)	ft	1,908.06	1,907.56
CO-357	Conduit	Conduit Description		Circle - 6.0 in	Circle - 12.0 in
CO-357	Conduit	Diameter	in	6.0	12.0
CO-371	Conduit	Invert (Start)	ft	2,001.89	2,000.89
CO-371	Conduit	Invert (Stop)	ft	2,002.36	2,001.36
CO-371	Conduit	Conduit Description		Circle - 6.0 in	Circle - 12.0 in
CO-371	Conduit	Diameter	in	6.0	12.0
CO-372	Conduit	Invert (Start)	ft	2,012.31	2,011.31
CO-372	Conduit	Invert (Stop)	ft	2,001.89	2,000.89
CO-372	Conduit	Conduit Description		Circle - 6.0 in	Circle - 12.0 in
CO-372	Conduit	Diameter	in	6.0	12.0
CO-221(1)	Conduit	Conduit Description		Circle - 12.0 in	Circle - 24.0 in
CO-221(1)	Conduit	Diameter	in	12.0	24.0
CO-221(2)	Conduit	Conduit Description		Circle - 12.0 in	Circle - 24.0 in
CO-221(2)	Conduit	Diameter	in	12.0	24.0
CO-223(1)	Conduit	Conduit Description		Circle - 12.0 in	Circle - 24.0 in
CO-223(1)	Conduit	Diameter	in	12.0	24.0
CO-223(2)	Conduit	Conduit Description		Circle - 12.0 in	Circle - 24.0 in
CO-223(2)	Conduit	Diameter	in	12.0	24.0
CO-225(1)	Conduit	Conduit Description		Circle - 12.0 in	Circle - 24.0 in
CO-225(1)	Conduit	Diameter	in	12.0	24.0
CO-225(2)	Conduit	Conduit Description		Circle - 12.0 in	Circle - 24.0 in
CO-225(2)	Conduit	Diameter	in	12.0	24.0
CO-385	Conduit	Set Invert to Stop?		True	False
CO-385	Conduit	Invert (Stop)	ft	1,895.50	1,897.00
CO-452	Conduit	Invert (Start)	ft	1,890.37	1,890.10
CO-452	Conduit	Invert (Stop)	ft	1,890.43	1,889.93
CO-452	Conduit	Conduit Description		Circle - 6.0 in	Circle - 12.0 in
CO-452	Conduit	Diameter	in	6.0	12.0
CO-453	Conduit	Invert (Start)	ft	1,890.28	1,889.95
CO-453	Conduit	Conduit Description		Circle - 8.0 in	Circle - 12.0 in
CO-453	Conduit	Diameter	in	8.0	12.0
CO-460	Conduit	Conduit Description		Circle - 8.0 in	Circle - 12.0 in
CO-460	Conduit	Diameter	in	8.0	12.0
CO-545	Conduit	Manning's n		0.013	0.010
CO-545	Conduit	Material			PVC
CO-545	Conduit	Set Invert to Start?		True	False
CO-545	Conduit	Invert (Start)	ft	1,906.30	1,906.80
CO-545	Conduit	Set Invert to Stop?		True	False
CO-545	Conduit	Invert (Stop)	ft	1,903.50	1,906.30
CO-545	Conduit	Conduit Description			Circle - 12.0 in
Storm-Cle-Elum.stsw					
10/23/2025					
Bentley Systems, Inc. Haestad Methods Solution Center					
27 Siemon Company Drive Suite 200 W Watertown, CT 06795					
USA +1-203-755-1666					

Appendix C

Cost Estimates





Railroad Street Vicinity Projects

Railroad & Billings	
Object ID	Problem Description
133	Line plugged, in need of cleaning
Railroad & Oakes	
Object ID	Problem Description
CB 348 to CB 96	Pipe has no other outlet - slopes north. Water retained in pipe, near full capacity. Surcharge to be fixed connecting new pipe to first street main line. 12 in PVC
353	Line north collapsed, in need of replacement PVC, 18" south end (69.1 LF) CPEP, 8" North end (66.5 LF)
Railroad & Pennsylvania	
Object ID	Problem Description
335 to 336	Replacement of Pipe, Corrugated Steel, 10" (133 LF)

Railroad Street Vicinity Projects Cont.

Railroad & Harris	
Object ID	Problem Description
220	S Pipe rusted through - in need of replacement 10" DI (Length in GIS doesn't match Video) Replace pipe w/ 12" PVC
220	East pipe Undersized, Replace pipe w/ 12" PVC
339	E Pipe dented 30' from West end 10" Corrugated Steel Replace pipe w/ 12" PVC
340	W Pipe dented 36' from East end 10" Corrugated Steel
340	E pipe undersized, Replace pipe w/ 12" PVC
336	E Pipe rusted 36ft from west end 10" Corrugated Steel (142 LF) 10" DI (12 LF) Replace pipe w/ 12" PVC per city code
636	S Pipe rusting 25' of N end 10" Corrugated Steel (167.3 LF)
Railroad & Wright	
Object ID	Problem Description
341	E pipe undersized, Replace w/ 12" PVC
257	E pipe undersized, Replace w/ 12" PVC IE W down by 0.17
342	E Pipe punctured less than 1' from West end, heavy rusting through pipe 5'-8' from West end 12" Corrugated Steel (231 LF)

Railroad Street Vicinity Projects Cont.

Railroad & Bullitt	
Object ID	Problem Description
344	N Pipe large deposit of gravel obstruction 6" Corrugated Steel
345	N Pipe rusting 6" Corrugated Steel (73 LF)
525	N Pipe rusting 6" Corrugated Steel (68.5 LF) Replace w/ 12" PVC per City Code N IE increase by 0.5'
525	S Pipe undersized, Replace w/ 12" PVC
Railroad & Peoh	
Object ID	Problem Description
648	N Pipe filled with dirt entire length of recorded pipe. 8" PVC

First Street Vicinity Projects

Teanaway & First	
Object ID	Problem Description
173	S Pipe broken off but not sealed 6" PVC (What is the fate of this pipe? Still in use?)
174	E pipe large dirt deposit 41' from W end 6" PVC
Montgomery & First	
Object ID	Problem Description
658	Paved over Manhole - Needs to be saw cut around, uncovered, and raised to grade.
371	North Pipe surcharged/under pressure, Replace pipe w/ 12" PVC
371	W Pipe collapsed 33' from E end - in need of replacement 6" Concrete (59.3 LF) Replace w/ 12" PVC per City Code W IE increase by 0.5'
523	Structure potential for replacement (orig. 1.5 by 1.5 by 2')
Yakima & First	
Object ID	Problem Description
176	W pipe rusting through in various places - in need of replacement 8" Corrugated Steel (67.2 LF)
Columbia & First	
Object ID	Problem Description
178	E Pipe heavy rusting entire visible length of pipe - in need of replacement 8" Corrugated Steel (78 LF)

First Street Vicinity Projects Cont.

Floral & First	
Object ID	Problem Description
182	W Pipe joints separated. 6" PVC (89 LF) Replace w/ 12" PVC per City Code Increase IE W by 0.27', IE E by 0.5'
519	W Pipe rusting through - in need of replacement 8" Corrugated Steel (51.5 LF) Replace w/ 12" PVC per City Code Increase IE W by 0.15', IE E by 0.3'
519	S pipe not undersized, but lump in with rest of line to avoid surcharging from lines upstream. Replace pipe w/ 12" PVC per City Code Increase IE N by 0.3'
659	S Pipe collapsed - in need of replacement 8" Cement (64.5 LF) Replace w/ 12" PVC
661	Paved over Manhole - Needs to be saw cut around, uncovered, and raised to grade.

Second Street Vicinity Projects

Pine & First	
Object ID	Problem Description
513	S Pipe clogged less than 1' of N end 12" CPEP
Rosetti & First	
Object ID	Problem Description
11	N Pipe clogged less than 1' from S end 12" PVC
13	S Pipe large blockage 18' from N end 12" PVC
Pennsylvania & Second	
Object ID	Problem Description
304	NE Pipe broken 43' from East end - in need of replacement 8" PVC (59 LF)
299	W Pipe 7' length of pipe disconnected at joins starting 13" from East end. Broken 43" from East end - in need of replacement 8" PVC (59 LF)
Harris & Second	
Object ID	Problem Description
432	Culvert north burried/can't find north end. Pipe Breaking through surface with several punctures visible from surface. May warrant new or dropping structure (3' depth). Replace pipe w/ 12" PVC or Steel
517	S pipe rusting, gaps in joins 6" DI (36 LF)

Second Street Vicinity Projects Cont.

Bullitt & Second	
Object ID	Problem Description
167	S Pipe cracked, starting cave in 8" PVC (1 LF) 12" Concrete (17 LF)
316	W Pipe undersized (12"), Replace pipe w/ 30" PVC or Concrete
316	E Pipe undersized (12"), Replace pipe w/ 30" PVC or Concrete
431	W Pipe starting to cave in, dirt and gravel blockage 12" Concrete (8 LF)
Peoh & Second	
Object ID	Problem Description
317	E pipe IE's need adjusted. Increase IE W by 1', IE E by 1'. 30" Concrete
450	Manhole to be lowered approximately 1'.
450	E Pipe IE's need adjusted. Increase IE W by 1'. 30" Concrete
308	W Pipe collapsed from above - in need of replacement 12" Concrete (Length in GIS doesn't match Video)

Second Street Vicinity Projects Cont.

Montgomery & Second	
Object ID	Problem Description
169	W Pipe Collapsed less than 1ft from E end - in need of replacement 6" Concrete (81.2 LF)
169	S Pipe large dirt blockage less than 1ft from N end 6" Concrete
249	Structure needs to be replaced - undersized. SE Pipe undersized. Replace pipe w/ 12" PVC per City Code. Increase IE NW by 0.5'
Yakima & Second	
Object ID	Problem Description
286	S Pipe has intersecting telecom penetrating perpendicular through its center 11' from N end - in need of replacement 12" PVC (40 LF) (replace section, not whole?)
Teannaway & Second	
Object ID	Problem Description
382	S Pipe gap in joint and significant gravel/dirt blockage 6" Concrete
668	N Pipe broken and glogged at transition from PVC to Concrete 8' of S end. 8" PVC (7 LF) 8" Concrete (17 LF)
Columbia & Second	
Object ID	Problem Description
502	N Pipe gravel blockage 1' of S end 6" Concrete

Third Street Vicinity Projects

Oakes & Third	
Object ID	Problem Description
152	W Pipe clogged with rocks 5' from E end 6" PVC
518	E Pipe rusting 8" Corrugated Steel
Short & Third	
Object ID	Problem Description
206	E Pipe dented and large dirt deposits at least 8' from W end 6" Corrugated Steel
Garden & Third	
Object ID	Problem Description
669	N Pipe rusted through in multiple locations from 88' to 95' from S end - in need of replacement 8" Corrugated Steel
669	S Pipe clogged less than 1' from N end 8" Corrugated Steel
670	N Pipe dented, punctured, and collapsed 101' of S end - in need of replacement 8" Corrugated steel
676	Paved over Catchbasin - Saw cut around structure, uncover and raise to grade.
Columbia & Third	
Object ID	Problem Description
	N Pipe clogged and rusted in various locations along pipe 8" Corrugated Steel

Fourth Street Vicinity Projects

Wright & Fourth	
Object ID	Problem Description
499	S Pipe dented and broken 11.5' from north end 8' Corrugated Steel
499	W Pipe dented 63' from East end 8" Corrugated Steel
Columbia & Fourth	
Object ID	Problem Description
205	S Pipe multiple gravel blockages 8" Courrgated steel

Fifth Street Vicinity Projects

Fifth & Oakes	
Object ID	Problem Description
148	SE pipe large gap between transition from PVC to Clay 22' from NW end 8" PVC/Clay
149	SW pipe large gap between transition from PVC to Clay. PVC lightly crushed. 7' from NE end 8" PVC/Clay
452	N Pipe large blockage from single rock 95' from S end 6" PVC Replace w/ 12" PVC Increase both IEs by 1'
452	Structure Replacement, drop structure to 2' total depth min. S Pipe Undersized, Replace w/ 12" PVC Increase both IE's by 1'
309	W Pipe undersized, replace 8" steel culvert w/ 12" per City Code
290	E pipe rusted full circumference 12" Corrugated Steel

Illicit Connections

Billings & Railroad	
Catch basin/Manhole Object ID	Problem Description
258	SE pipe illicit connection to french drain
Montgomery & Second	
Catch basin/Manhole Object ID	Problem Description
169	W pipe is illicit
169	S pipe is illicit
Harris & Railroad	
Catch basin/Manhole Object ID	Problem Description
336	Illicit connection into W pipe 66' from E catch basin
Short & First	
Catch basin/Manhole Object ID	Problem Description
272	NE pipe is illicit
281	Illicit connection 40' W of catch basin
281	Illicit connection 190' E of catch basin
251	Property connection into main line halfway along length of SW Pipe.
376	Catch basin is illicit
378	Catch basin is illicit

Illicit Connections Cont.

Columbia & First	
Catch basin/Manhole Object ID	Problem Description
179	N Pipe is a property connection. Oil coming from pipe
Power & Pine	
Catch basin/Manhole Object ID	Problem Description
424	SE Pipe potential property connection. End could not be located
424	W Pipe potential property connection. Penetration from above 108' from basin. Connection from the south 125' from basin.
Wright & Railroad	
Catch basin/Manhole Object ID	Problem Description
638	Catch basin and S pipe are illicit, flows into main line 120' E of intersection
639	Catch basin and S pipe are illicit, flows into main line 120' E of intersection
640	Catch basin and E pipe are illicit, flows into main line 120' E of intersection
342	W Pipe, video shows 2 PVC penetrations starting 50' from E catch basin.

Illicit Connections Cont.

Oakes & Fifth	
Catch basin/Manhole Object ID	Problem Description
452	West of intersection on 5th, N Pipe shows overhead 90 down into main line not shown on GIS 62' NE of catch basin. It should be noted that this pipe runs under property.
Teannaway & First	
Catch basin/Manhole Object ID	Problem Description
652	E Pipe has 4" PVC connection less than 1' from catchbasin, supposedly to property
652	W Pipe overhead PVC connection not shown on GIS 50' from catch basin
653	N pipe is illicit
Bullitt & Railroad	
Catch basin/Manhole Object ID	Problem Description
641	E pipe is illicit
Peoh & Railroad	
Catch basin/Manhole Object ID	Problem Description
346	E pipe is illicit
Montgomery & First	
Catch basin/Manhole Object ID	Problem Description
650	Catch basin and N pipe are illicit

Illicit Connections Cont.

Floral & Second	
Catch basin/Manhole Object ID	Problem Description
660	Catch basin and N pipe are illicit
443	Catch basin and NE pipe are illicit
462	Catch basin and connected pipes are illicit
463	Catch basin and connected pipes are illicit
464	Catch basin and connected pipes are illicit
465	Catch basin and connected pipes are illicit
466	Catch basin and connected pipes are illicit
467	Catch basin and connected pipes are illicit
468	Catch basin and connected pipes are illicit
Short & Second	
Catch basin/Manhole Object ID	Problem Description
666	W pipe is illicit
Oakes & Third	
Catch basin/Manhole Object ID	Problem Description
152	W pipe contains illicit connection less than 1' from E catch basin
150	W pipe is illicit

Appendix D

Stormwater Rate Analysis





CITY OF CLE ELUM STORMWATER RATE ANALYSIS

Introduction

The City of Cle Elum currently operates a Public Works Department that is responsible for managing a variety of City facilities, including stormwater drainage infrastructure such as catch basins, swales, and conveyance pipelines. Stormwater utilities are a critical component of the City, but there is not currently a utility dedicated to the necessary operation and maintenance activities, or for the construction of capital projects necessary for addressing areas of the system that are damaged or undersized. The purpose of this analysis is to identify an estimated annual budget for operation and maintenance activities, building a reserve fund to complete capital projects, and to consider various approaches for developing a stormwater utility fee to adequately fund the stormwater management utility. The City's goal is to implement a rate structure that is equitable, easy for property owners to understand, and able to be billed by current City employees without creating a significant administrative burden.

Projected Revenues and Expenses

The City does not currently track expenses for maintenance activities specific to its stormwater infrastructure, therefore it is necessary to estimate future annual expenses for the proposed stormwater utility based upon the existing inventory and estimated maintenance frequency. It is assumed for planning purposes that on average, every structure and outfall in the stormwater system will be inspected and cleaned annually. Table 1 identifies the average cost to clean various categories of infrastructure and the resulting annual maintenance budget that must be supported by the proposed stormwater utility.

TABLE 1 STORMWATER FUND PROPOSED EXPENSES			
Category	Number in System	Cost to Clean, Each	Annual Maintenance Cost
Catch Basin	457	\$50	\$22,900
Manhole/French Drain	120	\$80	\$9,600
Storm Drain Line (per 100 ft)	700	\$135	\$94,500
Ditch/Swale	42	\$1,000	\$42,000
Grand Total			\$169,000

Another anticipated expense that the City will need to address in its rate structure is the completion of capital projects. During the development of the Stormwater Plan, the City identified approximately \$5,400,000 in capital projects that will need to be completed within the next 20 years, for a total annual capital project cost of \$270,000. See Table 2 for a summary of project cost estimates.





TABLE 2 CAPITAL IMPROVEMENTS SUMMARY

Project Name	Project Cost
Schedule A: 353N	\$102,000
Schedule B: 335E	\$112,700
Schedule C: 220S	\$49,700
Schedule D: 336E	\$109,800
Schedule E: 636S	\$114,500
Schedule F: 342E	\$168,100
Schedule G: 345N	\$79,100
Schedule H: 525N	\$76,000
Schedule I: 371W	\$75,000
Schedule J: 176W	\$60,700
Schedule K: 178E	\$65,500
Schedule L: 182W	\$71,800
Schedule M: 519W	\$60,900
Schedule N: 659S	\$60,900
Schedule O: 304NE	\$70,900
Schedule P: 517S	\$52,300
Schedule Q: 167S	\$52,500
Schedule R: 431W	\$169,800
Schedule S: 308W	\$212,300
Schedule T: 286S	\$57,500
Schedule U: 668N	\$51,700
Schedule V: 669N	\$113,900
Schedule W: 670N	\$109,800
Schedule X: 499S	\$83,900
Schedule Y: 499W	\$70,100
Schedule Z: 205S	\$114,500
Schedule AA: 148SE	\$58,000
Schedule AB: 149SW	\$50,200
Schedule AC: 290E	\$274,600
Schedule AD: 518E	\$64,100.00
Schedule AE: 96N	\$86,300.00
Schedule AF: 220E	\$81,400.00
Schedule AG: 339E	\$82,300.00
Schedule AH: 340E	\$115,600.00
Schedule AI: 341E	\$195,500.00
Schedule AJ: 257E	\$74,800.00
Schedule AK: 515S	\$112,500.00



Schedule AL: 371N and CB-658	\$46,400.00
Schedule AM: 519S	\$69,000.00
Schedule AN: 432N	\$111,500.00
Schedule AO: 316W	\$258,000.00
Schedule AP: 316E	\$324,300.00
Schedule AQ: 317E	\$146,800.00
Schedule AR: 450E	\$243,500.00
Schedule AS: 249E	\$61,700.00
Schedule AT: CB-676	\$51,400.00
Schedule AU: CB-676	\$177,600.00
Total	\$5,405,400

Beyond the annual costs already identified, the City would also like to dedicate one Public Works employee to the stormwater utility, resulting in an annual cost of approximately \$100,000.

It is recommended that operating funds for City utilities maintain a balance of at least six months of expenses for security and stability, therefore a six-year plan to achieve this goal is summarized in Table . This plan accounts for a projected annual growth rate of 1.4% and 5.0% annual inflation of expenses. As identified in Table 3, the rate structure selected as a result of this rate analysis should be developed to collect a minimum of \$600,000 per year, starting in 2026. The stormwater rates being collected each year should be reviewed prior to initiating annual rate increases, as growth within the City has a significant impact on the resulting system revenues. If growth does not sustain at the projected 1.4% annual rate, it may become necessary to implement stormwater rate increases to address the shortfall. Similarly, rapid growth in land development may allow the utility to build savings or allow the utility rate to be decreased.

TABLE 3 STORMWATER FUND FINANCIAL PROJECTION						
Category	2026	2027	2028	2029	2030	2031
System Operation & Maintenance	\$169,000	\$177,500	\$186,400	\$195,700	\$205,500	\$ 215,800
Dedicated Personnel Costs	\$100,000	\$105,000	\$110,300	\$115,800	\$121,600	\$127,700
Capital Projects	\$270,000	\$270,000	\$270,000	\$270,000	\$270,000	\$270,000
Utility Rates	\$600,000	\$ 608,400	\$616,900	\$625,500	\$634,300	\$ 643,200
Difference (+/-)	\$61,000	\$55,900	\$50,200	\$44,000	\$37,200	\$29,700
Starting Fund Balance ⁽¹⁾	\$0	\$ 61,000	\$116,900	\$167,100	\$211,100	\$248,300
Ending Fund Balance ⁽¹⁾	\$ 61,000	\$116,900	\$167,100	\$211,100	\$248,300	\$ 278,000
Percentage of Annual Expenditures	14%	26%	37%	45%	52%	57%
(1) Starting Fund Balances are equal to previous year's Ending Fund Balance.						

Rate Structure Alternatives

As identified above, the City's goal in establishing the new self-sustaining stormwater utility is to develop a rate structure that will reliably generate a minimum of \$600,000 per year beginning in





2026. There are multiple equally-reasonable approaches that can be taken in establishing the rate structure, and ultimately it is City preference as to which method is considered to be the most fair and equitable. Examples of factors that need to be considered include:

- Will every parcel be considered equal, or should parcel size impact the stormwater rate?
- Should zoning designation or property use impact the stormwater rate?
- Should owners of undeveloped property pay a reduced rate or be exempt?
- Should the properties zoned as “Forest” pay a reduced rate or be exempt?

A matrix of potential rate structures was developed for City consideration with five primary methodologies for the approach to collecting utility rates. Table 4 summarizes the five methodologies with subcategories for whether or not various property types would be discounted or exempt, as well as the monthly rate a single-family residence would be expected to pay in each scenario. After evaluating these alternatives, the City has selected Alternative 5B.



TABLE 4 STORMWATER RATE ALTERNATIVES

Approach Number	Description	Single-Family Residential Monthly Rate	% of Revenue from Single-Family Residential
1A	All parcels equal	\$29.29	56%
1B	All parcels equal, but no payment for Undeveloped or Forest	\$35.92	69%
1C	All Parcels Equal, but 50% payment for Undeveloped or Forest	\$22.27	62%
2A	Payment based on parcel area	\$4.74	9%
2B	Payment based on parcel area, but no payment for Undeveloped or Forest	\$14.15	27%
2C	Payment based on parcel area, but 50% payment for Undeveloped or Forest	\$7.10	14%
3A	Payment based on Area-Based ERUs	\$4.51	12%
3B	Payment based on Area-Based ERUs, but no payment for Undeveloped or Forest	\$12.34	33%
3C	Payment based on Area-Based ERUs, but 50% payment for Undeveloped or Forest	\$6.60	18%
4A	Payment based on impervious area for parcel	\$13.68	26%
4B	Payment based on impervious area for parcel, but 10% payment for Undeveloped	\$10.75	21%
5A	Payment based on Impervious Area-Based ERUs	\$4.44	12%
5B	Payment based on Impervious Area-Based ERUs, but no payment for Undeveloped or Forest	\$11.86	32%
5C	Payment based on Impervious Area-Based ERUs, but 50% payment for Undeveloped or Forest	\$6.46	17%

Selected Alternative

The selected alternative defines an equivalent residential unit (ERU) as a baseline determination for how much impervious area a typical single-family residential parcel includes. Property records identify that there are 940 SFR parcels with a total area of 13,797,000 ft², or approximately 14,650 ft² per parcel. Per Cle Elum Municipal Code 17.16.090, the City limits SFR parcels to a maximum impervious area of 60 percent. Therefore, an ERU will be defined as 8,790 ft² (14,650 * 60%) of impervious area.

The administrative burden to survey every property in the City and calculate the impervious area would be substantial. It is instead recommended that the City use property area and an impervious area factor to estimate impervious area in each parcel. The City's zoning categories used in this analysis are as follows:

- Residential (60% Impervious)





- Multi-Family Residential District (80% Impervious)
- Commercial (90% Impervious)
- Industrial (90% Impervious)
- Public Use (50% Impervious)
- Undeveloped/Agricultural (Exempt from Analysis)
- Forest (Exempt from Analysis)

To implement this approach, it is assumed that no property will be billed for less than 1.0 ERU. For properties with more than 8,790 ft² of calculated impervious area, the number of calculated ERUs will be equal to estimated impervious area divided by 8,790 ft², rounded to the nearest tenth. This results in 4,216 ERUs, and as previously identified, the City has targeted an annual rate income of \$600,000. The cost per ERU is therefore \$142.31 per year, or \$11.86 per month.

Appendix E

O & M Manual



Kittitas County

City of Cle-Elum Stormwater

Operation & Maintenance

Manual

October 2025



HLA Project No. 23104

Operation and Maintenance Manual

City of Cle Elum

October 2025

Project Information

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119 West First Street Cle Elum, WA 98922
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Reviewing Agency

Jurisdiction: Department Of Ecology

Project Engineer

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APPENDENCIES

Appendix A - Maintenance Program and Checklists

Appendix B - Source Control Best Management Practices

STORMWATER OPERATION & MAINTENANCE PLAN

SECTION 1 - Inspection & Maintenance of Stormwater Management Facilities

The City's primary method for stormwater management will be a conveyance system to two discharges into the Yakima River.

Stormwater management facilities must be properly maintained to ensure that they operate correctly and provide the water quality treatment for which they were designed. Routine maintenance performed on a regularly scheduled basis, can help avoid more costly rehabilitative maintenance that results when facilities are not adequately maintained.

Training and education can be useful tools in maintaining the stormwater facilities in the development. It is strongly encouraged that the Owner conducts periodic preventative maintenance discussions with the personnel to avoid costly maintenance in the future.

Inspecting Stormwater Management Facilities

The quality of stormwater entering the waters of the state relies heavily on the proper operations and maintenance of permanent best management practices. Stormwater management facilities must be periodically inspected to ensure that they function as designed. All stormwater management facilities are required to be inspected by a qualified individual at a minimum of twice per year. Inspections should follow the inspection guidelines found in Appendix A. The inspection will determine the appropriate maintenance that is required for the facility. A complete and thorough system inspection using the inspection and maintenance forms shall be completed on the following schedule:

1. Inspection should occur at least twice a year preferably in the spring when evidence of any erosion would be greatest and in the fall when excess debris could clog the downstream waterways causing flooding during the wet season.
2. After any major storm events that produce more than 1" of rainfall in 24 hours.

Inspection Forms and Maintenance Report

To use the *Inspection and Maintenance* form, found in Appendix A, identify the system components that compose your stormwater system. Photocopy the applicable *Inspection and Maintenance* forms and the *Inspection Cover Sheet*. Inspect each system design feature to determine if any of the conditions are present. Add comments or problems found or action taken. If the current condition of the drainage system feature matches the description on the *Inspection and Maintenance* form, place a checkmark in the appropriate column or use the following grading system. The system design features that have been checked will need maintenance if you determine a problem exists.

To use the Maintenance Report form, first complete any maintenance activities that were required for the stormwater system. Second, after you have maintained the stormwater system, fill out a Maintenance Report. Describe the maintenance activities, including descriptions of the type of work, completion dates, contractors used, time needed, and costs. Documenting the maintenance performed on a stormwater system will be useful in planning future maintenance activities.

Inspection Scoring

One method to itemize the condition of each facility is through the use of a score card. The following is one example of a method that could be instituted by the Owner or the Home Owner's Association.

0 = No deficiencies identified.

1 = Monitor – Although maintenance may not be required at this time, a potential problem exists that will most likely need to be addressed in the future. This can include items like minor erosion, concrete cracks/spalling, or minor sediment accumulation. This item should be revisited at the next inspection.

2 = Routine Maintenance Required – Some inspection items can be addressed through the routine maintenance program using the checklists in Appendix A. This can include items like vegetation management or debris/trash removal.

3 = Immediate Repair Necessary – This item needs immediate attention because failure is imminent or has already occurred. This could include items such as structural failure of a feature, significant erosion, or significant sediment accumulation. This score should be given to an item that can significantly affect the function of the facility.

N/A This is checked by an item that may not exist in a facility. Not all the items on the checklists are applicable to the individual facilities.

SECTION 2 - Responsible Organization

The property owner, their heirs or successors shall be responsible for the operation and maintenance of on-site drainage facilities. The maintenance schedule shall be kept on record by the owner.

Property owners are responsible for ensuring all stormwater facilities installed on the property are properly maintained and function as designed. In some cases, this maintenance responsibility may be assigned to others through special arrangements and as governed by the legal property owner. The maintenance responsibility for a stormwater facility may be designated on the site development plan, within the development's CCR's, and/or within a maintenance agreement for the property. Property owners should be aware of their responsibilities regarding stormwater facility maintenance.

At the time of development of this Operations and Maintenance Manual, it was understood that maintenance of the stormwater facilities located within the City right of way would be the sole responsibility of the City.

Maintenance required by the Owner is that outlined in the maintenance checklists located in Appendix A and applies to all private facilities. All facilities within the public right of way are the responsibility of City of Cle-Elum.

SECTION 3 - Safety

Keep safety considerations at the forefront of inspection procedures at all times. Likely hazards should be anticipated and avoided. Never enter a confined space (outlet structure, manhole, etc.) without proper training or equipment.

To report a spill or to determine if a spill is a substance of a reportable quantity, call the Washington State Department of Ecology Regional Office to speak with an oil spill operations or hazardous waste specialist:

Central Regional Office (509) 575-2490

Safety Information

1. Inspections

The inspector should have the proper safety equipment (e.g. heavy duty gloves, boots, and first aid kits) and training before conducting any inspections. If the stormwater system inspection reveals a safety problem, you may have to modify the site activities to reduce or eliminate the safety risk. The following is a list of safety precautions an inspector should be aware of when conducting stormwater system inspections.

Never enter a confined space without proper Occupational Health and Safety Administration (OSHA) training. Do not enter any confined space until the atmosphere has been checked and proper safety equipment is worn and/or erected.

Avoid entering pipes or conduits without another individual present. If the structural strength of a pipe or conduit is questionable, do not enter the pipe or conduit at all.

Check the ventilation in the stormwater system before using any type of ignitable materials. Some stormwater systems may be sealed and have poor ventilation, posing a safety risk to the inspector if the vapor comes in contact with an open flame.

Wear gloves if any mechanical parts or structural components are going to be handled. Wearing gloves not only reduces the risk of getting cuts and abrasions, but also reduces the exposure of pollutants to the skin.

Lift manhole covers, catch basin grates, or other structural covers (trash racks, access covers, etc.) carefully. These items can be very heavy and slippery if wet. Also, learn the correct way to lift heavy items to avoid back injury.

Check the water depth of the system before stepping in the water. The water may be deeper than it appears, or there may be steep slopes below the water line.

Check for poison ivy, poison oak, or other poisonous plants when inspecting ponds or other large stormwater systems. Inform the individual who will perform maintenance on the system if these plants are present.

2. Maintenance

All maintenance work needs to be done in accordance with OSHA regulations. Maintenance personnel will have the proper safety equipment (e.g. heavy duty gloves, steel toed boots, and first aid kits) and training before performing any maintenance on a stormwater system. The following is a list of safety precautions maintenance personnel should be aware of when they perform maintenance on stormwater systems:

Equipment should be operated safely and in accordance with manufacturers specifications. Equipment operators should be aware of site personnel at all times to avoid causing injury to others.

Utility companies should be contacted before excavating a site. Underground utility wires may be present. Excavated areas that cannot be filled by the end of the day should be covered or clearly marked to alert site employees of the potential risk.

Areas where removed sediment or wastes will be disposed should be identified prior to cleaning the storm water system. Use shovels, trowels, or a high-suction vacuum to remove wastes.

Sediment or waste should not be cleaned out with bare hands. The sediment or waste may be hazardous. Place the sediment or waste in an area where it cannot be washed into a storm drain or water body.

Gloves should be worn if any mechanical parts or structural components are going to be handled. Wearing gloves not only reduces the risk of getting cuts and abrasions, but also reduces the exposure of pollutants to the skin.

Caution should be taken when mowing any areas, that by design, have steep slopes.

SECTION 3 - Best Management Practices

Best Management Practices (BMPs) for the SFP, RV Park Revitalization Project

The following Best Management Practices (BMPs) will keep pollutants out of the stormwater runoff for the City. These BMPs are also known as source controls and were selected from the Stormwater Management Manual for Eastern Washington. Ensuring these source controls are followed is the responsibility of the City. These BMPs include the following:

- The private parking lot and concrete work area will be swept by a vacuum street sweeper.
- Lawn chemicals such as fertilizers and pesticides will be used in accordance with manufacturer's recommendations, and will be used only when less toxic ways to control insects or weeds are not effective.
- Dirt, grass, and other materials will be kept out of the street so they do not wash into a storm drain when it rains. Materials stored outdoors will be covered.
- Leaves and other yard debris will be kept out of the street to avoid clogging storm drains.
- Customers will be responsible for the proper handling and disposal of home and vehicle maintenance products so that these products will not enter the storm drain system.

See Appendix B for additional "Source Control Best Management Practices".

SECTION 4 - Vegetation Management Plan

All disturbed pervious area within the site will be landscaped in accordance with City of Cle Elum code requirements, and to prevent soil erosion. Vegetation management includes maintaining landscaping for roadway right-of-ways, on-site landscaping, controlling noxious weeds, pests, and unwanted vegetation growth. Disturbed soil, removed vegetation, and chemicals can all negatively impact receiving waters.

Landscaping and Irrigation BMPs

- Maintain vegetative cover on landscape areas, and embankments to prevent soil erosion. When vegetation is removed, apply mulch or other cover measures to prevent soil erosion.
- Dispose of lawn clippings, leaves, branches, and other vegetative material; landscape material should not be disposed of in streams or storm drains.
- Avoid loosening the soil during weed control.
- Inspect the irrigation system regularly to minimize excess watering and prevent the runoff of fertilizer.
- Repair leaks to the irrigation system as soon as they are observed or reported.
- Minimize the use of chemical fertilizers and calibrate the distributor to avoid excessive application.
- Store fertilizers in enclosed areas or in covered impervious containment. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

Pesticide and Herbicide BMPs

- Use mechanical methods of vegetation removal rather than herbicides.
- Use pesticides only if there is an actual pest problem (not as a regularly scheduled preventative maintenance measure).
- Use the least toxic pesticide for the job; avoid the use of copper-based pesticides if alternatives are available; select products with low water solubility and low persistence.
- Do not use pesticides or herbicides if rain is expected.
- Do not mix or prepare pesticides near storm drain inlets.
- Follow product labels for proper application of any pesticide.
- Use the minimum amount of chemical needed for the job.
- Avoid pesticide applications within 100 feet of a water body and avoid application on or near most stormwater collection and conveyance facilities, excluding dry roadside ditches.
- Use products specifically labeled for dry ditches when treating roadside ditches.

SECTION 5 - Winter Activities

Winter activities around municipal site includes anti-icing, deicing, sanding, and snow removal on sidewalks and small parking lots. These activities enhance protect public safety during inclement winter weather.

Deicing and Sanding

- Whenever possible, limit the use of chemical deicers. When chemical application is needed, select produces with the least adverse environmental impact while still providing for public safety.
- Apply sand and deicer at the lowest rate necessary to provide for public safety; avoid excessive application.
- Sweep parking lots in early spring to collect accumulated sand after the winter season.

Snow Removal

- Whenever possible, avoid piling snow over inlets of the stormwater collection and conveyance system so snow melt can drain.
- Snow removed from sidewalks and parking lots shall be deposited on adjacent landscaped areas, or within a seldom used parking stall for storage during melting.
- Avoid depositing snow within 25 feet of surface waters, 75 feet of private water supplies, 200 feet from any community water supply, or 400 feet from any municipal well.



Appendix A
Maintenance Program and Checklists

Inspection Forms and Maintenance Report

Inspection Cover Sheet

Date: _____

Facility Name: _____

Facility Address: _____

Facility Owner: _____

Inspector Name: _____

Inspector Phone Number: _____

Inspection Period: _____ Number of Sheets Attached: _____

Important Safety Information

Never enter a confined space or trench unless you have proper Occupational Health and Safety (OSHA) training. Do not enter any confined space unless the atmosphere has been checked and proper safety equipment is worn or erected. Check the ventilation in the stormwater system before using ignitable materials. Some stormwater systems have poor ventilation and can pose a safety risk to the inspector if the vapor comes in contact with an open flame.

Always cover or clearly mark excavated areas as potential safety risks if the areas cannot be filled by the end of a work day.

Inspection comments:

Maintenance Report Form

Date: _____

Facility Name: _____

Facility Address: _____

Facility Owner: _____

Name of Person Overseeing Maintenance: _____

Type of System: _____

Date of Last Inspection: _____

Describe maintenance activities, including type of work, completion dates, contractors, time needed to complete task, and cost.

O&M - Minimizing Directly Connected Impervious Areas (DCIAs)

Stormwater System Feature	✓	Are any of these conditions present?	Problem	Recommendation
Landscaped or Natural Area		Sediment accumulation exceeds 2" in depth	Sediment buildup on vegetation	Remove sediment carefully to avoid damaging the existing vegetation. Dispose of sediment properly.
		Grass becomes excessively tall or weeds invade the area	Tall grass or weeds	Mow vegetation regularly. Grass should be mowed to a height between 4-9" for best stormwater treatment. Remove weeds.
		Trash and debris are present	Trash and debris accumulation	Remove waste and dispose of properly.
		Offensive color, odor, or sludge is present	Unknown or uncharacteristic substance	Remove substance and eliminate its source. If unsure whether the substance is hazardous, take a sample or contact a qualified hazardous waste consultant for assistance.
		Erosion or scouring is evident	Excessive flows or flow channelization	Re-grade and re-seed area to eliminate high velocity or channelized flows. Overseed areas where bare spots are present.

O&M – Bio-Infiltration/ Infiltration / Basins

Stormwater System Feature	✓	Are any of these conditions present?	Problem	Recommendation
General		Standing water is present 72 hours after storm event	Sediment buildup on bottom or sides of infiltration system	Excavate infiltration system and remove excess sediment. Dispose of sediment properly. An engineer or geotechnical consultant should examine drain rock and filter fabric to determine if replacement is needed. Re-install infiltration system 12" into free draining material.
		Offensive odor, color, or sludge is present	Unknown or uncharacteristic substance	Remove substance and eliminate its source. If unsure whether the substance is hazardous, either take a sample or contact a qualified hazardous waste consultant for assistance.
		Propane, oil, or gasoline odor or puddle is present	Accumulation of petroleum products	Contact a qualified hazardous waste consultant for information on proper treatment and disposal of petroleum products.
		Excessive debris, sediment, and oil buildup is present	Pretreatment system not working properly	Clean out accumulated debris in pretreatment system and dispose of properly.
Inlet/outlet Pipes		Standing water is present 72 hours after storm event	Clogged pipes	Clean out sediment and debris from pipes. See O&M- Pipes, for more information.
Rock Filters		Sediment and debris	By visual inspection little or no water flows through filter during heavy rain storms	Replace gravel rock filter.
Storm Pure Filter		Replace Per Manuf. Spec. if excessive debris, sediment, and oil buildup is present	Filter is clogged	Replace filter cartridge.

O&M - Ponds (Detention, Extended Detention, Evaporation)

Stormwater system feature	✓	Are any of these conditions present?	Problem	Recommendation
General		Dumped yard wastes or nondegradable materials (glass, plastic, Styrofoam, etc.) are present in pond	Accumulation of trash and debris	Remove trash and debris and dispose of properly.
		Undesirable vegetation is invading the pond	nuisance, poisonous, or noxious weeds	Seek advice from the Kittitas County Noxious weed control before spraying pesticides. Certain pesticides should not be used near waterbodies.
		propane, oil, or gasoline odor or surface film is present	accumulation of petroleum products	Contact a qualified hazardous waste consultant for more information.
		bare spots or sparse vegetation is evident in the pond	compaction	Aerate and amend soils, re-seed, and mulch bare areas. Re-contour and re-seed pond to original design specifications.
			insect infestation	Seek advice from Washington State University Integrated Pest Management (IPM) regarding appropriate methods for controlling insects.
		grass is taller than 10"	overgrown vegetation	Mow grass regularly. Grass should be mowed to a height of 4-9" for best storm water control. Avoid over-applying fertilizers. Excessive fertilizer application may compound water quality problems.
		offensive color, odor, or sludge is present	unknown or uncharacteristic substance	Remove substance and eliminate its source. If you don't know if the substance is hazardous, either take a sample or contact a qualified hazardous waste consultant for more information.
		excessive mosquito population is present	mosquitos	Install predacious bird and bat nesting boxes to control insects. Mosquito fish (Gambusia) can be used and are available locally.
		water flows through holes in dam or berm; holes are present around pond	rodents	Destroy rodents and repair dam or berm. Contact the Idaho Department of Fish and Game for information on controlling rodents.
		large trees interfere with maintenance activities	overgrown trees	Remove trees that interfere with access or maintenance activities. Preserve trees that are not a problem.
				Clean out sediment to original shape and depth of the pond. Re-seed pond, if necessary, to control erosion.
Storage area		accumulated sediment exceeds 10% of the designed pond depth	excessive sediment	If the pond is designated as "waters of the U.S." or as a wetland by the U.S. Army Corps of Engineers (Corps), you must obtain a 404 (dredge and fill) permit. You must also obtain a Stream Channel Alteration permit from the Washington Department of Ecology. Contact the Corps and Ecology for more information.
Pond dike/berm		dike or berm has settled 4" lower than design elevation	dike/berm settlement	Repair dike/berm to original design specifications. Re-seed or sod.
Overflow spillway		bare soil is visible at top of spillway or outside slope	inadequate rock layer	Add enough rock to cover up bare soil.
Trash rack		debris covers at least 25% of the bar screen or bar screen is missing	trash rack is plugged or missing	Replace screen, if necessary. Remove trash and debris. Dispose of waste properly.

O&M - Biofiltration Swales

Stormwater System Feature	✓	Are any of these conditions present?	Problem	Recommendation
General		Dumped yard wastes or nondegradable materials (glass, plastic, Styrofoam, etc.) are present in pond	Accumulation of trash and debris	Remove trash and debris and dispose of properly.
		Offensive color, odor, or sludge is present	Unknown or uncharacteristic substance	Remove substance and eliminate its source. If unsure whether the substance is hazardous, either take a sample or contact a qualified hazardous waste consultant for assistance.
		Propane, oil, or gasoline odor or surface film is present	Accumulation of petroleum products	Contact a qualified hazardous waste consultant for more information.
		Grass is taller than 10"	Overgrown vegetation	Mow grass regularly. Grass should be mowed to a height of 4-9" for best storm water control. Avoid over-applying fertilizers. Excessive fertilizer application may compound water quality problems.
		Accumulated sediment exceeds 2" in depth	Sediment buildup on grass	Remove sediment so that no deposits remain on the buffer strip. Dispose of sediment properly.
		Poisonous or noxious vegetation that is a potential hazard to the public is present	Poisonous or noxious weed infestations	Remove poisonous or noxious vegetation either by digging up or hand-pulling the weeds. Seek advice from the Kittitas County Noxious Weed control regarding appropriate methods for controlling weeds. Re-seed to original design specifications.
		Presence of standing water in swale or flow velocity is slow and water becomes stagnant	Inadequate swale grade	Conduct a survey to check grades. Swale grades need to be between 2-4%. If the grades are less than 2%, re-grade, and re-seed the swale.
Side Slopes/bottom of Swale		Slope has areas where erosion is at least 2" deep and there is potential for further erosion	Soil erosion	Eliminate causes of erosion, if possible. If not possible, use erosion and sedimentation control Best Management Practices (BMPs) listed in the Stormwater Management Manual for Eastern Washington.
		Swale shows signs of active erosion; bottom of swale is scoured	High flow velocity flow channelization	Re-grade and re-seed swale to original design specifications. Install a rectangular weir to spread out the flow, if necessary. Overseed bare spots.
Inlet/outlet Pipe		Storm water is not flowing into or out of the swale; water is puddling near the pipe	Clogged pipe	Clean sediment and debris from inlet or outlet pipe.

O&M - Irrigated Grass Buffer Strips

Stormwater System Feature	✓	Are any of these conditions present?	Problem	Recommendation
General		Dumped yard wastes or nondegradable materials (glass, plastic, Styrofoam, etc.) are present in pond	Accumulation of trash and debris	Remove trash and debris and dispose of properly.
		Offensive color, odor, or sludge is present	Unknown or uncharacteristic substance	Remove substance and eliminate its source. If unsure whether the substance is hazardous, take a sample or contact a qualified hazardous waste consultant for assistance.
		Propane, oil, or gasoline odor or surface film is present	Accumulation of petroleum products	Contact a qualified hazardous waste consultant for more information.
		Grass is taller than 10"	Overgrown vegetation	Mow grass regularly. Grass should be mowed to a height of 4-9" for best storm water control. Avoid over-applying fertilizers. Excessive fertilizer application may compound water quality problems.
		Accumulated sediment exceeds 2" in depth	Sediment buildup on grass	Remove sediment so that no deposits remain on the buffer strip. Dispose of sediment properly.
		Poisonous or noxious vegetation that is a potential hazard to the public is present	Poisonous or noxious weed infestations	Remove poisonous or noxious vegetation either by digging up or hand-pulling the weeds. Seek advice from the Kittitas County noxious weed control appropriate methods for controlling weeds. Re-seed to original design specifications.
		Buffer strip shows signs of active erosion	High flow velocity flow channelization	Re-grade and re-seed buffer strip to original design specifications. Overseed bare spots. Provide other erosion protection as needed.

O&M - Sand Filters

Stormwater system feature	✓	Are any of these conditions present?	Problem	Recommendation
General		dumped yard wastes or nondegradable materials (glass, plastic, styrofoam, etc.) are present on sand filter bed	accumulation of trash and debris	Remove trash and debris and dispose of properly.
		offensive color, odor, or sludge is present	unknown or uncharacteristic substance	Remove substance and eliminate its source. If you don't know if the substance is hazardous, either take a sample or contact a qualified hazardous waste consultant for more information.
		propane, oil, or gasoline odor or surface film is present	accumulation of petroleum products	Contact a qualified hazardous waste consultant for more information.
		sediment accumulation exceeds 1/2" in depth	sediment buildup on grass layer (if applicable)	Remove sediment so that no deposits remain on the grass layer of the sand filter. Dispose of sediment properly
		concentrated water flow occurs over the sand filter	clogged or damaged weir	Clean or repair weir to that water flow is uniform across the sand filter.
		grass is taller than 6"; weeds begin to invade the filter	overgrown vegetation or nuisance weeds	Mow grass regularly. Seek advice from the Kittitas County noxious weed control regarding methods for controlling weeds.
		standing water around sand filter is present	clogged or damaged pipes	Repair or replace parts as needed.
		bare soil beneath the rock is visible	rock pad is missing or out of place	Replace or rebuild the rock pad to design specifications.
		slope has areas where erosion is at least 2" deep and there is potential for further erosion	soil erosion	Eliminate causes of erosion, if possible. If it isn't possible, use erosion and sedimentation control best management practices (BMPs) listed in the Kittitas Storm Water BMP Guidebook.
Sand filter media		water drawdown through sand filter takes longer than 24 hours; waterflow bypasses sand filter; or, concentrated water flow occurs over the sand filter	clogged sand filter media	Replace the top 6"-12" of sand media. Use a flat shovel to remove the sand. May require replacement of entire sand filter section. OR Replace sand filter media so that the flow and percolation of water through and across the sand filter is uniform.
Below ground vault (if applicable)		sediment accumulation exceeds 1/2" in depth on sand media section	excessive sediment	Vactor or shovel out sediment deposits on sand filter. Dispose of sediment properly.
		sediment accumulation exceeds 6" in depth in vault	excessive sediment	Vactor or shovel out sediment deposits in the first chamber of the vault and dispose of properly.
		yard wastes or non-degradable materials (glass, plastic, styrofoam, etc.) are present in the vault.	accumulation of trash and debris	Remove trash and debris from vault and inlet/outlet piping. Dispose of wastes properly.
Inlet/outlet pipe		drain pipes become clogged with sediment or debris	excessive sediment	Vactor or shovel out sediment or debris. You can also use a high pressure hose to clean out sediment or debris. See OM-10, Pipes, for more information.
Underdrain pipe		pipe is damaged, broken, cracked, or corroded	defective pipe	See OM-10, Pipes, for more information.

		sediment accumulation impedes water flow	excessive sediment	Remove sediment from pipe and dispose of properly. Repair or replace pipe to design specifications.
Trash rack		debris covers at least 25% of the bar screen or bar screen is missing	trash rack is plugged or missing	Replace screen, if necessary. Remove trash and debris and dispose of waste properly.
Cover crop		cover crop appears very dry or dead	cover crop lack water	Irrigate cover crop regularly during dry seasons or periods of drought.

O&M - Oil/Water Separator

Stormwater system feature	✓	Are any of these conditions present?	Problem	Recommendation
Conventional gravity separator		discharge water is discolored, turbid, or has an oil sheen	excessive sediment or oil accumulation	Check if separator has excess sediment or oil accumulation. If so, remove oil or sediment and dispose of properly.
			damaged baffle	Check baffle integrity. If damaged, repair or replace to design specifications.
			incorrectly designed	Contact the design engineer to check if the system is appropriately sized for the drainage basin. if it isn't, then upgrade system with an additional or larger separator.
	sediment accumulation exceeds 1' in bottom of vault	excessive sediment	Vactor or shovel out sediment. Dispose of sediment properly.	
standing water is present 24 hours after storm event			sediment buildup blocks flow through separator	Vactor or shovel out sediment. Dispose of sediment properly.
yard wastes or non degradable materials (glass, plastic, styrofoam, etc.) are present in the vault or inlet/outlet pipes			accumulation of trash and debris	Remove trash and debris from vault and inlet/outlet pipes. Dispose of wastes properly.
	oil accumulation exceeds 1" at water surface		excessive oil accumulation	Vactor or manually remove oil from water surface. Dispose of waste properly.
	pipes broken or damage; cracks in pipe are wider than 1/4" at the joint		damaged inlet/outlet pipes	Replace pipe or repair to original design specifications.
	cover cannot be opened; cover is corroded or damaged		defective access cover	Repair or replace cover to original design specifications.
	cracks in vault are wider than 1/2"; soil enters the vault through the cracks		structural damage to vault	Replace or rebuild the vault to design specifications.
	baffles are cracked, warped, or corroded		defective baffles	Repair or replace baffles to original design specifications
Coalescing plate separator	discharge water is discolored, turbid, or has an oil sheen	excessive sediment or oil accumulation	Check if separator has excess sediment or oil accumulation. If so, remove oil or sediment and dispose of properly.	
		damaged coalescing plate	Check coalescing plate integrity. If damaged, repair or replace to design specifications.	
	sediment accumulation exceeds 1' in depth in vault	excessive sediment	Vactor or shovel out sediment deposits on vault bottom. Dispose of sediment properly.	
	yard wastes or non-degradable materials (glass, plastic, styrofoam, etc.) are present in the vault.	accumulation of trash and debris	Remove trash and debris from vault and inlet/outlet piping. Dispose of wastes properly.	
	oil accumulation exceeds 1" at water surface	excessive oil accumulation	Vactor or manually remove oil from water surface. Dispose of waste properly.	

pipes are broken or damaged; pipe has cracks wider than 1/4" at the joint	damaged inlet/outlet pipe	Replace or repair pipe to original specifications.
standing water is present 24 hours after storm event	sediment buildup blocks flow through separator	Vactor or shovel out sediment. Dispose of sediment properly.
baffles are cracked, warped, or corroded	defective baffles	Repair or replace baffles to original design specifications
cracks in vault are wider than 1/2"; soil enters the vault through the cracks	structural damage to vault	Replace or rebuild the vault to design specifications.

O&M - Constructed Wetlands

Stormwater system feature	✓	Are any of these conditions present?	Problem	Recommendation
General		dumped yard wastes or nondegradable materials (glass, plastic, styrofoam, etc.) are present in pond	accumulation of trash and debris	Remove trash and debris and dispose of properly.
		offensive color, odor, or sludge is present propane, oil, or gasoline odor or surface film is present	unknown or uncharacteristic substance accumulation of petroleum products	Remove substance and eliminate its source. If you don't know if the substance is hazardous, either take a sample or contact a qualified hazardous waste consultant for more information. Contact a qualified hazardous waste consultant for more information.
		wetland vegetation grows into areas designated for other uses	overgrown wetland vegetation	Remove any vegetation which has grown outside the design boundaries as indicated in the landscape plan. Remove trees and bushes that interfere with maintenance activities
		accumulated sediment exceeds the designated pond bottom elevation by 6-12"	excess sediment accumulation	Clean out sediment to original shape, depth, and elevation of the wetland. Dispose of sediment properly. If the wetland is constructed in jurisdictional "waters of the U.S." you must obtain a 404 (dredge and fill) permit from the U.S. Army Corps of Engineers (Corps). You must also obtain a Stream Channel Alteration permit from the Washington Department of Ecology Contact the Corps and WSDE for more information.
		excessive mosquito population	mosquitos	Install predacious bird and bat nesting boxes to control insects. Mosquito fish (Gambusia) can be used are available locally.
		excessive debris, sediment, or oil buildup	pretreatment system not installed	Install a pretreatment system upgradient from the wetland. The pretreatment system should be approved by City of Cle Elum Public Works.
Side slopes/bottom of wetland		slope has areas where erosion is at least 2" deep and there is potential for further erosion	soil erosion	Eliminate causes of erosion, if possible. If it isn't possible, use erosion and sedimentation control best management practices (BMPs) listed in the Kittitas County Stormwater book.
Trash rack		debris covers at least 25% of the bar screen or bar screen is missing	trash rack is plugged or missing	Replace screen, if needed. Remove trash and debris. Dispose of waste properly.
Pond dike/berm		dike or berm has settled 4" lower than design elevation	dike/berm settlement	Repair dike/berm to original design specifications.
Inlet/outlet pipe		storm water is not flowing into or out of the wetland; puddles are present near the pipe	clogged pipe	Clean sediment and debris from inlet or outlet pipe. See OM-10 , Pipes, for more information.
Overflow spillway		bare soil is visible at top of spillway or outside slope	inadequate rock layer	Add enough rock to cover up bare soil.

O&M - Catch Basins

Stormwater System Feature	✓	Are any of these conditions present?	Problem	Recommendation
General		Yard wastes or non-degradable materials (glass, plastic, Styrofoam, etc.) are blocking the front of the catch basin or grate by 10%	Accumulation of trash and debris	Remove trash and debris from front of catch basin opening or grate. Dispose of waste properly.
		Frame has separated more than 3/4" from the top slab	Frame separation	Reset frame even with top of slab.
		Propane, oil, gasoline odor, offensive color or odor, or sludge is present	Accumulation of petroleum products or unknown or uncharacteristic substances	Contact a qualified hazardous waste consultant for more information.
		Top slab has cracks wider than 1/4" or holes larger than 2"	Defective top slab	Replace or repair slab to design specifications.
		Corner of frame extends more than 3/4" top slab past curb face into the street	Structural damage to frame or top of slab	Reset frame even with curb. Replace slab, if necessary.
		Catch basin has cracks wider than 1/2" and longer than 3"; soil is entering the catch basin through the cracks	Defective catch basin	Replace or repair catch basin to original design specifications. You may need to contact the design engineer to evaluate the structural integrity of the catch basin.
		Catch basin has settled more than 1' or has moved more than 2" out of alignment	Basin settlement/alignment	Replace or repair catch basin to original design specifications. You may need to contact the design engineer to evaluate the structural integrity of the catch basin.
		Grate bars are broken or grate is missing	Grate is damaged or missing	Replace or repair grate to design specifications.
Inlet/outlet pipes		Trash or sediment in the inlet/outlet pipe is blocking more than 1/3" of the diameter of the pipe	Trash or sediment accumulation	Remove trash and sediment from pipes. Dispose of wastes properly.
		Piping has cracks wider than 1/2" and longer than 1' at the joint; soil is entering the catch basin through the cracks	Cracked pipes	Replace or repair pipe to original design specifications.
		Vegetation is growing in inlet/outlet pipe joints	Overgrown vegetation	Remove vegetation from pipe joints.

O&M - Pipes

Stormwater System Feature	✓	Are any of these conditions present?	Problem	Recommendation
General		Accumulated sediment or trash exceeds 20% of the diameter of the pipe	Excess accumulation of sediment or trash	Clean out sediment and trash from pipe. Use a high pressure hose, vacuum suction, or other appropriate cleaning method. Contact the design engineer for information on appropriate cleaning methods for this type of drainage system.
		Vegetation is impeding water flow	Overgrown vegetation	Clean out sediment and trash from pipe. Use a high pressure hose, vacuum suction, or other appropriate cleaning method. Contact the design engineer for information on appropriate cleaning methods for this type of drainage system.
		Pipe is rusted; protected coating is damaged	Corroded pipe	Replace or repair pipe to original design specifications.
		Dent in pipe has reduced the pipe diameter by 20%; water flow is impeded; pipe is broken	Defective pipe	Replace or repair pipe to original design specifications.
		Water is leaking from pipe	Cracked pipe	Replace or repair pipe to original design specifications.

O&M - Ditches and Gates

Stormwater System Feature	✓	Are any of these conditions present?	Problem	Recommendation
Ditches		Dumped yard wastes or nondegradable materials (glass, plastic, Styrofoam, etc.) are present in the ditch	Accumulation of trash and debris	Remove trash and debris from ditch. Dispose of waste properly.
		Accumulated sediment exceeds 20% of the designed ditch depth	Excess sediment accumulation	Clean out sediment to original shape and depth of the ditch. Dispose of sediment properly.
		Vegetation reduces water movement through ditch	Overgrown vegetation	Remove any weedy shrubs or saplings that impede water flow. Preserve grass to control erosion.
		Slope has areas where erosion is at least 2" deep and there is a potential for further erosion	Soil erosion	Check around inlets and outlets for erosion. Eliminate causes of erosion, if possible. If it isn't possible, use erosion and sedimentation control best management practices (BMPs) as listed in the Kittitas Storm Water BMP Guidebook.
		Bare soil is visible beneath the rock lining	Inadequate rock layer	Add enough rock to meet design specifications.
Gates		Gate or gate parts are missing	Missing gate or gate parts	Replace gate or missing parts
		Gate cannot be opened or closed	Missing or defective gate hinges	Replace and lube hinges.
		Gate moved out of vertical alignment by more than 6" or more than 1' out of design alignment	Misaligned gate	Reset gate to original design specifications.



Appendix B
Source Control Best Management Practices

The following text is from the Stormwater Management Manual for Eastern Washington and was prepared by the Washington State Department of Ecology.

Note: Contact the local Air quality Authority for appropriate and required BMPs for dust control to implement at your project site.

Description of Pollutant Sources: Dust can cause air and water pollution problems, particularly in arid areas where reduced rainfall exposes soil particles to transport by air.

Pollutant Control Approach: Minimize dust generation and apply environmentally friendly and government approved dust suppressant chemicals, if necessary.

Applicable Operational BMPs:

- Sprinkle or wet down soil or dust with water as long as it does not result in a wastewater discharge.
- Apply stormwater containment to prevent the conveyance of stormwater TSS into storm drains or receiving waters.
- The use of motor oil for dust control is prohibited. Care should be taken when using lignin derivatives and other high BOD chemicals in excavations or areas easily accessible to surface water or groundwater.
- Consult with the Washington State Department of Ecology Regional Office in your area for discharge permit requirements, if the dust suppression process results in a wastewater discharge to the ground, groundwater storm drain, or surface water.

Recommended Additional Operational BMPs for Roadways and Other Trafficked Areas:

- Consider limiting use of off-road recreational vehicles on dust generating land.
- Consider paving unpaved permanent roads and other trafficked areas.
- Consider paving or stabilizing shoulders of paved roads with gravel, vegetation, or local government approved chemicals.
- Encourage use of alternate paved routes, if available.
- Vacuum or wet sweep fine dirt and skid control materials from paved roads soon after winter weather ends or when needed.
- Consider using traction sand that is pre-washed to reduce dust emissions.

Additional Recommended Operational BMPs for Dust Generating Areas:

- Prepare a dust control plan. Helpful references include: "Control of Open Fugitive Dust Sources" (EPA-450/3-88-088), and "Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures" (EPA-450/2-92-004).
- Limit exposure of soil (dust source) as much as feasible.

- Stabilize dust-generating soil by growing and maintaining vegetation mulching, topsoiling, and/or applying stone, sand, or gravel.
- Apply windbreaks in the soil, such as trees, board fences, tarp curtains, bales of hay, etc.
- Cover dust-generating piles with wind-impervious fabric or equivalent material.

BMPs for Illicit Connections to Storm Drains

Description of Pollutant Sources: Illicit connections are unpermitted sanitary or process wastewater discharges to a storm drain or to surface water rather than to a sanitary sewer, industrial process wastewater or other appropriate treatment. They can also include swimming pool water, filter backwash, cleaning solutions/wash waters, cooling water, etc. Experience has shown that illicit connections are common, particularly in older buildings.

Pollutant Control Approach: Identify and eliminate unpermitted discharges.

Applicable Operational BMPs:

- Eliminate unpermitted wastewater discharges to storm drains, groundwater, or surface water.
- Convey unpermitted discharges to a sanitary sewer if allowed by the local jurisdiction, or to other approved treatment.

BMPs for Landscaping and Lawn/Vegetation Management

Description of Pollutant Sources: Landscaping can include grading, soil transfer, vegetation removal, pesticide and fertilizer applications, and watering. Stormwater contaminants include toxic organic compounds, heavy metals, oils, total suspended solids, coliform bacteria, fertilizers, and pesticides.

Lawn and vegetation management can include control of objectionable weeds, insects, mold, bacteria and other pests with chemical pesticides and is conducted commercially at commercial, industrial, and residential sites. Examples include weed control on golf course lawns, access roads, utility corridors, and during landscaping; sap stain and insect control on fungicide application to patio decks, and residential lawn/plant care. Toxic pesticides such as pentachlorophenol, carbamates, and organometallics can be released to the environment by leaching and dripping from treated parts, container leaks, product misuse, and outside storage of pesticide contaminated materials and equipment. Poor management of the vegetation and poor application of pesticides or fertilizers can cause appreciable stormwater contamination.

Pollutant Control Approach: Control fertilizer and pesticide applications, soil erosion, and site debris to prevent contamination of stormwater. Develop and implement an Integrated Pest Management Plan (IPM) and use pesticides only as a last resort. If pesticides/herbicides are used, they must be carefully applied in accordance with label instructions on U.S. Environmental Protection Agency (EPA) registered materials. Maintain appropriate vegetation, with proper fertilizer application where practicable, to control erosion and the discharge of stormwater pollutants. Where practicable, grow plant species appropriate for the site, or adjust the soil properties of the subject site to grow desired plant species.

Applicable Operational BMPs for Landscaping:

- Install engineered soil/landscape systems to improve the infiltration and regulation of stormwater in landscaped areas.
- Do not dispose of collected vegetation into waterways or storm drainage systems.

Recommended Additional Operational BMPs for Landscaping:

- Conduct mulch-mowing whenever practicable.
- Dispose of grass clippings, leaves, sticks, or other collected vegetation, by composting, if feasible.
- Use mulch or other erosion control measures when soils are exposed for more than one week.
- If oil or other chemicals are handled, store and maintain appropriate oil and chemical spill cleanup materials in readily accessible locations. Ensure [the responsible parties] are familiar with proper spill cleanup procedures.
- Till fertilizers into the soil rather than dumping or broadcasting onto the surface. Determine the proper fertilizer application for the types of soil and vegetation encountered.
- Till a topsoil mix or composed organic materials into the soil to create a well-mixed transition layer that encourages deeper root systems and drought-resistant plants.
- Use manual and/or mechanical methods of vegetation removal rather than applying herbicides, where practical.
- Develop and implement an IPM and use pesticides only as a last resort.
- Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their specific uses; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping and public notice procedures. All procedures shall conform to the requirements of Chapter 17.21 RCW and Chapter 16-228 WAC.
- Choose the least toxic pesticide available that is capable of reducing the infestation to acceptable levels. The pesticide should readily degrade in the environment and/or have properties that strongly bind to the soil. Any pest control used should be conducted at the life stage when the pest is most vulnerable. For example, if it is necessary to use a *Bacillus thuringiensis* application to control tent caterpillars, it must be applied before the caterpillars cocoon or it will be ineffective. Any method used should be site-specific and not used wholesale over a wide area.
- Apply the pesticide according to label directions. Under no conditions shall pesticides be applied in quantities that exceed manufacturer's instructions.
- Mix the pesticides and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.
- Store pesticides in enclosed areas or in covered impervious containment. Ensure that pesticide contaminated stormwater or spills/leaks of pesticides are not discharged to storm

drains. Do not hose down the paved areas to a storm drain or conveyance ditch. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.

- Clean up any spilled pesticides and ensure that the pesticide contaminated waste materials are kept in designated covered and contained areas.
- The pesticide application equipment must be capable of immediate shutoff in the event of an emergency.
- Do not spray non-permitted pesticides within 100 feet of open waters including wetlands, ponds, and streams, soughs and any drainage ditch or channel that leads to open water except when approved by Washington State Department of Ecology or the local jurisdiction. All sensitive areas including wells, creeks, and wetlands must be flagged prior to spraying.
- As required by the local government or by Washington State Department of Ecology, complete public posting of the area to be sprayed prior to the application.
- Spray applications should only be conducted during weather conditions as specified in the label direction and applicable local and state regulations. Do not apply during rain or immediately before expected rain.

Recommended Additional Operational BMPs for the use of pesticides:

- Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.
- Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants, such as Pythium root rot, ashy stem blight, and parasitic nematodes. The following are three possible mechanisms for disease control by compost addition (USEPA Publication 530-F-0-044):
 1. Successful competition for nutrients by antibiotic production;
 2. Successful predation against pathogens by beneficial microorganism; and
 3. Activation of disease-resistant genes in plants by composts.

Installing an amended soil/landscape system can preserve both the plant system and the soil system more effectively. This type of approach provides a soil/landscape system with adequate depth, permeability, and organic matter to sustain itself and to continue working as an effective stormwater infiltration system and a sustainable nutrient cycle.

- Once a pesticide is applied, its effectiveness should be evaluated for possible improvement. Records should be kept showing the applicability and inapplicability of the pesticides considered.
- An annual evaluation procedure should be developed including a review of the effectiveness of pesticide applications, impact on buffers and sensitive areas (including potable wells), public concerns, and recent toxicological information on pesticides used/proposed for use. If individual or public potable wells are located in the proximity of commercial pesticide applications, contact the regional Washington State Department of Ecology hydrogeologist to determine if additional pesticide application control measures are necessary.

- Rinseate from equipment cleaning and/or triple-rinsing of pesticide containers should be used as product or recycled into product.
- The application equipment used should be capable of immediate shutoff in the event of an emergency.

For more information, contact the WSU Extension Home-Assist Program, (253) 445-4556, or Bio-Integral Resource Center (BIRC), P.O. Box 7414, Berkeley, CA, 94707, or the Washington Department of Ecology to obtain "Hazardous Waste Pesticides" (Publication #89-41); and/or EPA to obtain a publication entitled "Suspended, Canceled and Restricted Pesticides" which lists all restricted pesticides and the specific uses allowed. Valuable information from these sources may also be available on the internet.

Applicable Operational BMPs for Vegetation Management:

- Use at least an 8-inch topsoil layer with at least eight percent organic matter to provide a sufficient vegetation-growing medium. Amending existing landscapes and turf systems by increasing the percent organic matter and depth of topsoil can substantially improve the permeability of the soil, the disease and drought resistance of the vegetation, and reduce fertilizer demand. This reduces the demand for fertilizers, herbicides, and pesticides. Organic matter is the least water-soluble form of nutrients that can be added to the soil. Composted organic matter generally releases only between two and ten percent of its total nitrogen each year, and this release corresponds closely to the plant growth cycles. If natural plant debris and mulch are returned to the soil, this system can continue recycling nutrients indefinitely.
- Select the appropriate turf grass mixture for your climate and soil type. Certain tall fescues and rye grasses resist insect attack, because the symbiotic endophytic fungi found naturally in their tissues repel or kill common leaf and stem-eating lawn insects. They do not, however, repel root-feeding lawn pests such as Crane Fly larvae, and are toxic to ruminants such as cattle and sheep. The fungus causes no known adverse effects to the host plant or to humans. Endophytic grasses are commercially available and can be used in areas such as parks or golf courses where grazing does not occur. The local Cooperative Extension office can offer advice on which types of grass are best suited to the area and soil type.
- Use the appropriate seeding and planting BMPs in Chapter 7, or equivalent BMPs, to obtain information on grass mixtures, temporary and permanent seeding procedures, maintenance of recently planted area, and fertilizer application rates.
- Selection of desired plant species can be made by adjusting the soil properties of the subject site. For example, a constructed wetland can be designed to resist the invasion of reed canary grass by layering specific strata of organic matters (e.g., compost forest product residuals), and creating a mildly acidic pH and carbon-rich soil medium. Consult a soil restoration specialist for site-specific conditions.
- Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than ¾-inch deep.
- Mowing is a stress-creating activity for turf grass. When grass is mowed too short its productivity is decreased and there is less growth of roots and rhizomes. The turf becomes less tolerant of environmental stresses, more disease prone, and more reliant on outside means, such as pesticides, fertilizers, and irrigation to remain healthy. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress

on the turf. Generally, mowing only 1/3 of the grass blade height will prevent stressing the turf.

Irrigation:

- The depth from which a plant normally extracts water depends on the rooting depth of the plant. Appropriately irrigated lawn grasses normally root in the top six to twelve inches of soil; lawns irrigated on a daily basis often root only in the top one inch of soil. Improper irrigation can encourage pest problems, leach nutrients, and make a lawn completely dependent on artificial watering. The amount of water applied depends on the normal rooting depth of the turf grass species used, the available water holding capacity of the soil, and the efficiency of the irrigation system. Consult with the local water utility, Conservation District, or Cooperative Extension office to help determine optimum irrigation practices.

Fertilizer Management:

- Turf grass is most responsive to nitrogen fertilization, followed by potassium and phosphorus. Fertilization needs vary by site depending on plant, soil and climatic conditions. Evaluation of soil nutrient levels through regular testing ensures the best possible efficiency and economy of fertilization. For details on soils testing, contact the local Conservation District or Cooperative Extension Service.
- Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and groundwaters. Do not fertilize during a drought or when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
- Use slow release fertilizers such as methylene urea, IDBU, or resin coated fertilizers, when appropriate, generally in the spring. Use of slow release fertilizers is especially important in areas with sandy or gravelly soils.
- Time the fertilizer application to periods of maximum plant uptake. Generally, fall and spring applications are recommended.
- Properly trained persons should apply all fertilizers. At commercial and industrial facilities, fertilizers should not be applied to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the local jurisdiction.

Integrated Pest Management:

An IPM program might consist of the following steps:

- Step 1: Correctly identify problem pests and understand their life cycle.
- Step 2: Establish tolerance thresholds for pests.
- Step 3: Monitor to detect and prevent pest problems.
- Step 4: Modify the maintenance program to promote healthy plants and discourage pests.
- Step 5: Use cultural, physical, mechanical, or biological controls first when pests exceed the tolerance thresholds.
- Step 6: Evaluate and record the effectiveness of the control, and modify maintenance practices to support lawn or landscape recovery and prevent recurrence.

BMPs for Maintenance of Public and Private Utility Corridors and Facilities

Description of Pollutant Sources: Passageways at sewer pipelines, water pipelines, electrical power transmission corridors and rights-of-way can be sources of pollutants, such as herbicides used for vegetation management, and eroded soil particles from unpaved access roads. The following are potential pollutants: oil and grease, TSS, BOD, organics, PCB, pesticides, and heavy metals.

Pollutant Control Approach: Control of fertilizer and pesticide applications, soil erosion, and site debris that can contaminate stormwater.

Applicable Operational BMPs:

- Implement BMPs for landscaping and lawn/vegetation management.
- Within utility corridors, consider preparing maintenance procedures and an implementation schedule that provides for a vegetative, gravel, or equivalent cover that minimizes bare or thinly vegetated ground surfaces within the corridor, to prevent the erosion of soil.
- Provide maintenance practices to prevent stormwater from accumulating and drainage across and/or onto roadways. Stormwater should be conveyed through roadside ditches and culverts. The road should be crowned, outsloped, water barred or otherwise left in a condition not conducive to erosion. Appropriately maintaining grassy roadside ditches discharging to surface waters is an effective way of removing some pollutants associated with sediments carried by stormwater.
- Maintain ditches and culverts at an appropriate frequency to ensure that plugging and flooding across the roadbed, with resulting overflow erosion, does not occur.

BMPs for Maintenance of Roadside Ditches

Description of Pollutant Sources: Common road debris, including eroded soil, oils, vegetative particles, and heavy metals, can be a source of stormwater pollutants.

Pollutant Control Approach: Roadside ditches should be maintained to preserve the condition and capacity for which they were originally constructed, and to minimize bare or thinly vegetated ground surfaces. Maintenance practices should provide for erosion and sediment control. (Refer to BMP Landscaping and Lawn/Vegetation Management).

Applicable Operational BMPs:

- Inspect roadside ditches regularly, as needed, to identify sediment accumulations and localized erosion.
- Clean ditches on a regular basis, as needed. Ditches should be kept free of [trash] and debris.
- In situations where appropriate, vegetation in ditches often prevents erosion and cleanses runoff waters. Remove vegetation only when flow is blocked or excess sediments have accumulated. Conduct ditch maintenance (seeding, fertilizer application, harvesting) in late spring and/or early fall, when possible. This allows vegetative cover to be re-established by the next wet season, thereby minimizing erosion of the ditch as well as making the ditch effective as a biofilter.

- In the area between the edge of the pavement and the bottom of the ditch, commonly known as the “bare earth zone,” use grass vegetation, wherever possible. Vegetation should be established from the edge of the pavement, if possible, or at least from the top of the slope of the ditch.
- Diversion ditches on top of cut slopes that are constructed to prevent slope erosion by intercepting surface drainage must be maintained to retain their diversion shape and capability.
- Ditch cleanings are not to be left on the roadway surfaces. Sweep dirt and debris remaining on the pavement at the completion of ditch cleaning operations.
- Roadside ditch cleanings, not contaminated by spills or other releases and not associated with a stormwater treatment system, such as a bioswale, may be screened to remove litter and separated into soil and vegetative matter (leaves, grass, needles, braches, etc.). The soil fraction may be handled as “clean soils” and the vegetative matter can be composted or disposed of in a municipal waste landfill.
- Roadside ditch cleanings contaminated by spills or other releases known, or suspected, to contain dangerous waste must be handled following the Dangerous Waste Regulations (Chapter 173-303 WAC), unless testing determines it is not dangerous waste.
- Examine culverts on a regular basis for scour or sedimentation at the inlet and outlet and repair, as necessary. Give priority to those culverts conveying perennial and/or salmon-bearing streams and culverts near streams in areas of high sediment load, such as those near subdivisions during construction.

BMPs for Maintenance of Stormwater Drainage and Treatment Systems

Description of Pollutant Sources: Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities, such as ponds and vaults, oil and water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Chapter 5. Roadside catch basins can remove 5 to 15 percent of the pollutants present in stormwater. When catch basins are approximately 60 percent full of sediment, they cease removing sediments. Oil and grease, hydrocarbons, debris, heavy metals, sediments, and contaminated water are found in catch basins, oil and water separators, settling basins, etc.

Pollutant Control Approach: Provide maintenance and cleaning of debris, sediments, and oil from stormwater collection, conveyance, and treatment systems to obtain proper operation.

Applicable Operational BMPs: Maintain stormwater treatment facilities according to the operation and maintenance (O&M) procedures presented in this manual in addition to the following BMPs:

- Inspect and clean treatment BMPs, conveyance systems, as needed, and determine whether improvements in O&M are needed.
- Promptly repair any deterioration threatening the structural integrity of the facilities. This includes replacement of check dams and rock in drainage ways.
- Ensure that storm sewer capacities are not exceeded and that heavy sediment discharges to the sewer system are prevented.

- Regularly remove debris and sludge from BMPs used for peak rate control, treatment, etc., and discharge to a sanitary sewer, if approved by the local jurisdiction, or truck to a local or state government approved disposal site.
- Post warning signs; “Dump No Waste – Drains to Groundwater,” “Streams,” “Lakes,” or emboss on or adjacent to all storm drain inlets where practical.

Additional Applicable BMPs: Select additional applicable BMPs from this chapter depending on the pollutant sources and activities conducted at the facility. Those BMPs include:

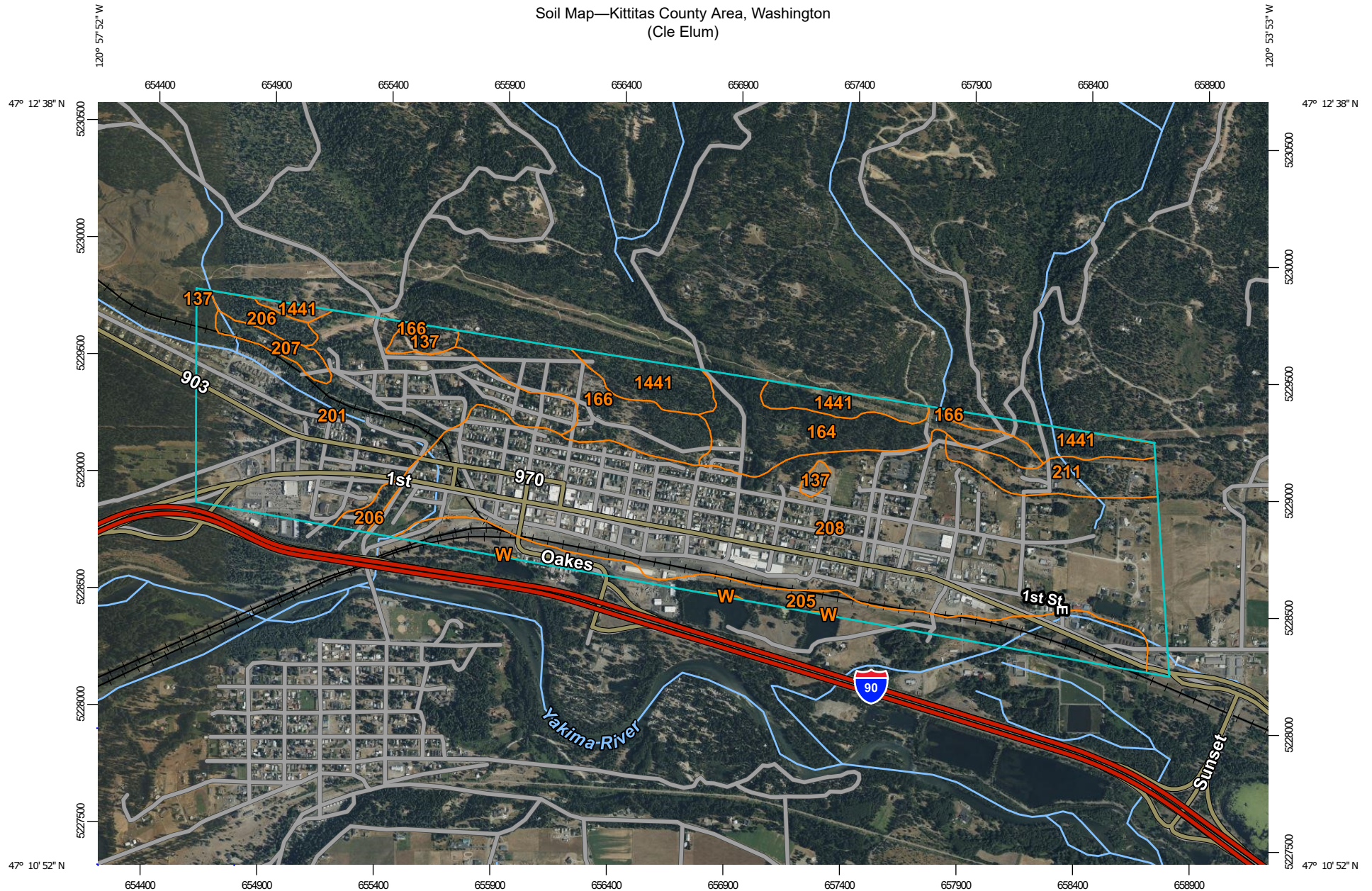
- BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers.
- BMPs for Illicit Connections to Storm Drains.

Appendix F

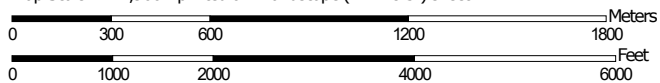
USDA Soil Map



Soil Map—Kittitas County Area, Washington (Cle Elum)



Map Scale: 1:22,900 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

10/27/2025
Page 1 of 3
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Soil Map—Kittitas County Area, Washington
(Cle Elum)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Kittitas County Area, Washington

Survey Area Data: Version 18, Aug 28, 2025

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

Date(s) aerial images were photographed: Aug 3, 2022—Sep 8, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
137	Dumps, mine	9.8	1.0%
164	Nard ashy loam, 25 to 45 percent slopes	64.9	6.6%
166	Ampad ashy sandy loam, warm, 5 to 30 percent slopes	56.5	5.8%
201	Roslyn ashy sandy loam, 0 to 5 percent slopes	212.5	21.7%
205	Xerofluvents, 0 to 5 percent slopes	81.4	8.3%
206	Dystroxerepts, 45 to 65 percent south slopes	16.5	1.7%
207	Quicksell loam, 0 to 5 percent slopes	10.2	1.0%
208	Patnish-Mippon-Myzel complex, 0 to 3 percent slopes	431.9	44.2%
211	Teanaway ashy loam, 0 to 3 percent slopes	31.1	3.2%
1441	Teanaway ashy loam, 10 to 25 percent slopes	61.9	6.3%
W	Water	0.9	0.1%
Totals for Area of Interest		977.9	100.0%

Approach	Description	What a SFR pays annually if utility budget is \$500,000	SFR	Multi-Family Residential	Commercial	Industrial	Public Use	Undeveloped	Forest
1a	Same Amount for Every Parcel	\$292.91	56.1%	3.3%	13.6%	0.9%	7.7%	17.5%	0.9%
1b	Same Amount for Every Parcel, but no payment for Undeveloped/Forest	\$359.20	68.8%	4.0%	16.7%	1.1%	9.4%	0.0%	0.0%
1c	Same Amount for Every Parcel, but 50% for Undeveloped/Forest	\$322.69	61.8%	3.6%	15.0%	1.0%	8.5%	9.6%	0.5%
2a	Based entirely on Parcel Area	\$47.36	9.1%	1.4%	4.2%	2.6%	16.2%	56.6%	10.0%
2b	Based entirely on Parcel Area, exempt undeveloped/forest	\$141.54	27.1%	4.1%	12.5%	7.8%	48.5%	0.0%	0.0%
2c	Based entirely on Parcel Area, 50% for undeveloped/forest	\$70.98	13.6%	2.1%	6.3%	3.9%	24.3%	42.4%	7.5%
3a	Based entirely on ERUs (Area Based)	\$44.66	12.1%	1.4%	4.8%	2.5%	15.7%	54.1%	9.4%
3b	Based entirely on ERUs, exempt undeveloped/forest	\$122.52	33.2%	3.8%	13.1%	6.9%	43.1%	0.0%	0.0%
3c	Based entirely on ERUs, 50% for undeveloped/forest	\$65.46	17.7%	2.1%	7.0%	3.7%	23.0%	39.7%	6.9%
4a	Based on assumed impervious area	\$136.82	26.2%	5.3%	18.1%	11.3%	39.0%	0.0%	0.0%
4b	Based entirely on assumed impervious area, Pay as 10% for Undeveloped	\$107.54	20.6%	4.2%	14.2%	8.9%	30.7%	21.4%	0.0%
5a	Based entirely on ERUs (Impervious Area Based)	\$44.01	11.9%	1.8%	7.0%	3.7%	12.9%	53.3%	9.3%
5b	Based entirely on ERUs, exempt undeveloped/forest	\$117.74	31.9%	4.9%	18.8%	9.9%	34.5%	0.0%	0.0%
5c	Based entirely on ERUs, 50% for undeveloped/forest	\$64.07	17.4%	2.7%	10.2%	5.4%	18.8%	38.8%	6.7%

Cle Elum Youth Art Banners & Downtown Statues

Cle Elum's Youth-Art Banners & Downtown Statues project showcases local youth creativity while adding a great attraction to our downtown core. Students will design colorful pole banners and four garden-bed statues to draw in visitors and residents. Together, these pieces add a welcoming appeal while showcasing community pride among our youth. This project will not use city funds or staff time and will not expose the City to ongoing maintenance or liability costs. The Cle Elum Visitor Center will be responsible for grant administration, insurance, maintenance, and the eventual removal or replacement of all installations. We will execute a Memorandum of Understanding (MOU) with the city to formalize this.

Primary Funding Source: T-Mobile Hometown Grant (\$50,000)

Estimated Project Cost: \$43,800

Estimated Project Completion:

Fall 2026



Applicant: Cle Elum Visitor Center

Contact: Email - Shasta@cleelumdowntown.org Phone - (509) 260-1202

Project Overview & Details

This project combines student creativity with downtown beautification. By engaging students to design statues and pole banners, we are creating a unique tourist attraction while giving them an opportunity to be part of a community project that showcases their artwork. It’s a powerful way to display pieces of Cle Elum’s rich history while including the vision of the youth who will shape its future.

Project Details

Banners:

The idea is to have local students design pole banners with the theme “Past, Present, and Future of Cle Elum.” The banners would be displayed on existing street poles. If banners are later replaced, original designs will be returned to student artists as keepsakes.

Statues:

The statues would have the same theme as the banners and would be designed using 3D-printed mockups created by local youth, fabricated with durable, weather-resistant materials. We are looking to install 4 statues, each with a small plaque that states the artist(s) name and a brief explanation of the artwork. Proposed statue sites will be coordinated with Public Works, focusing on high-visibility garden-bed areas in the downtown core.

Community Support:

- Cle Elum Downtown Association
- ‘The Shop’ Teen Center
- Community Builders
- The Visitor Center

Community & Tourism Impact

- Draws visitors and encourages longer downtown stays.
- Showcases student talent and fosters civic pride.
- Strengthens Cle Elum’s cultural and historical identity.

Timeline



Project Specs & Logistics

Banners:

- *Size:* 84 in x 30 in
- *Installation:* Public Works cannot guarantee installation or removal - The visitor center will arrange for a contractor to install and remove banners
- *Hardware:* Only general mounting hardware is expected.
- *Quantity:* 10

*Official Quote: pending
(anticipated Fall 2025)*

Statues:

- *Base & Anchoring:* 3/8 in thick flat steel base with four 1/2 in holes for anchoring to the sidewalk.
- *Material:* Mild Steel
- *Anchoring Supplies:* Concrete anchors recommended; available locally at different hardware stores.
- *Quantity:* 4

Official Quote: \$16,000

Plaques with students' names for the statues:

- *Installation:* Can be mounted to the base of the statues
- *Quantity:* 4

Official Quote: \$450

If, for any reason, full funding is not secured by June 2026, the project will be postponed or scaled to available funding. No city funds will be requested to complete or continue the project.

The project's primary funding goal is through the T-Mobile Hometown Grant (\$50,000). If awarded, this will fully fund fabrication, installation, and unveiling costs without additional city funding.

If not awarded, we plan to pursue alternative funding through the Kittitas County Lodging Tax Fund, Washington State Arts Commission, and local sponsorships to ensure completion at a similar scale.

All materials and finishes will be selected for durability and weather resistance to withstand Cle Elum's seasonal conditions

Selection & Youth Participation

Design Review Process:

The artwork will be judged using a rubric with a focus on creativity, originality, feasibility, and theme relevance. A panel of 4-5 community members (representing education, local art, and civic organizations) will serve as judges.

Eligibility:

- Banner Designs: Open to all K–12 students in the Upper Kittitas County area.
- Statues: Open to a smaller group from The Shop Teen Center, with a focus on youth interested in 3-D design and fabrication.

Supervision:

Students will complete designs under adult supervision — myself as the project manager, along with The Shop staff, at The Shop Teen Center.

Permissions & Rights:

All participants will sign a permission and artwork release form (parent/guardian signature required). The form clearly states that completed ownership of all installed artwork will remain with the Cle Elum Visitor Center for the duration of the MOU, ensuring maintenance and insurance responsibilities remain outside of city operations.

Funding

Preliminary Budget

Category	Estimated Cost
Banner fabrication & hardware	\$8,000 - <i>est</i>
Statue design & fabrication (4 pieces)	\$16,000 - <i>est</i>
Installation (banners + statues)	\$8,000 - <i>est</i>
Promotion / unveiling event	\$1,500 - <i>est</i>
Administrative Costs	\$4,500 - <i>est</i>
Contingency (10%)	\$4,300

All listed amounts are based on preliminary quotes provided by Public Works and outside vendors. Statue fabrication quotes are sourced from artist and fabricator CJ Rench, who operates a professional studio in Kennewick and has completed large-scale installations in over 29 states, as well as Europe and Canada. Banner fabrication quotes are pending confirmation as I'm currently securing a local contractor for installation and removal.

Primary Funding Source:

The project will be fully funded through the T-Mobile Hometown Grant, which supports small-town revitalization, beautification, and community engagement projects. If awarded, the grant will cover 100% of project costs, including materials, fabrication, installation, and the public reveal event. No city funds are requested or expected.

In the event the T-Mobile grant is not awarded, the Visitor Center will pursue alternative funding sources, such as:

- ArtsWA (Washington State Arts Commission) community arts grants
- Kittitas County Tourism Fund mini-grant program
- Local business sponsorships and service club donations (Rotary, Kiwanis, Lions)
- In-kind contributions of labor, printing, or materials from community partners

This ensures the project can still move forward without a financial impact on the City of Cle Elum.

We will not begin fabrication until the project is fully funded.

Maintenance & Liability

Maintenance & Liability

The Cle Elum Visitor Center will retain ownership and full responsibility for the Youth Art Banner & Statue Project installations.

- **Maintenance:** Routine cleaning, inspections, and touch-ups will be performed by the Visitor Center and supervised youth volunteers from The Shop Teen Center.
- **Insurance:** A public art liability insurance policy will be secured before installation. This policy will cover vandalism, damage, and injury associated with the installations. The City of Cle Elum will be listed as an additional insured on the policy.
- **City Costs:** The City of Cle Elum will not incur any financial responsibility for fabrication, installation, maintenance, or removal of the artwork.
- **Long-Term Stewardship:** Should any piece require removal, repair, or replacement, the Visitor Center will coordinate and fund that process using non-city resources.

Project Oversight & Reporting

The project will be managed by Shasta Marion, Cle Elum Visitor Center Representative, who will serve as the single point of contact between vendors, city departments, and participating youth.

- **Oversight:** The Visitor Center will oversee all project phases, from fabrication to installation, ensuring compliance with Public Works guidelines.
- **Reporting:** Written or verbal progress updates will be provided to the Public Works Department, Lodging Tax Committee, or City Council as appropriate to the project stage.
- **Accountability:** A formal Memorandum of Understanding (MOU) will be executed between the Visitor Center and the City to define responsibilities, risk management, and maintenance obligations.

Public Works Committee Request

The Visitor Center respectfully requests the Public Works Committee's review and preliminary approval to:

- Collaborate with the Cle Elum Public Works Department on identifying suitable and compliant installation locations for the proposed statues and pole banners within the downtown core; and
- Provide feedback on installation methods, anchoring requirements, and site logistics to ensure all work aligns with city standards and safety protocols.

All project costs, materials, insurance, and maintenance will remain the responsibility of the Cle Elum Visitor Center, with no financial or staffing impact to the City.

Following committee review and recommendation, the project will be presented to City Council for final authorization.

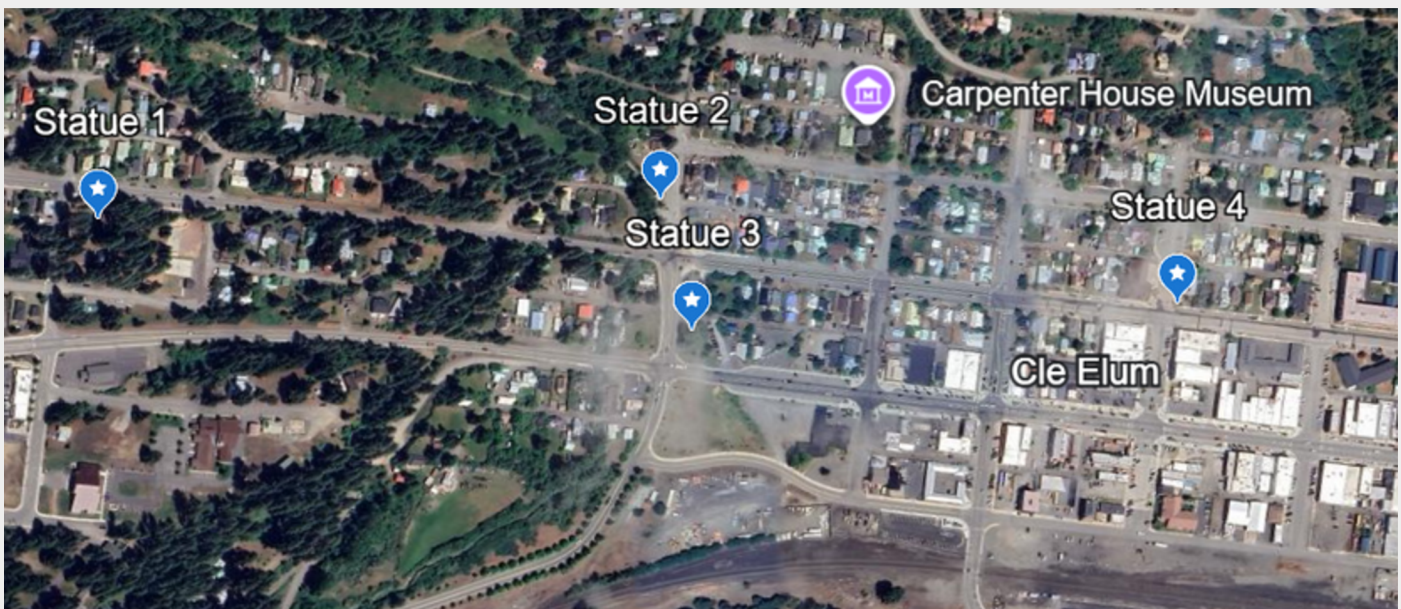
Possible Locations



Intersection of N Peoh Ave and E 1st St



- Statue #1 - N Wright + 1st St
- Statue #2 - N Harris + 1st St
- Statue #3 - N Oakes + W 1st St
- Statue #4 - N Pennsylvania + W 1st St



- Statue 1 - Cle Elum City Park
- Statue 2 - Coal Mines Trailhead
- Statue 3 - Flagpole Park
- Statue 4 - Carpenter Memorial Library

**CLE ELUM PUBLIC WORKS & COMMUNITY DEVELOPMENT
COMMITTEE**

MINUTES

NOVEMBER 5, 2025

8:30 AM

**119 W FIRST STREET
CLE ELUM, WA 98922**

1. Call to Order and Pledge of Allegiance

Committee Members Present:

Steven Cook
Jerred Weis via zoom
Ken Ratliff

Staff Present:

Matthew Lundh - Mayor
Rob Omans - City Administrator
Debbie Lee - Clerk
Colleda Monick - Planner
Mathew Bailey - Public Works Director
Ed Mills - Fire Chief
Audrey Casassa - Utility Clerk

2. Unfinished Business

a. Flag Pole Park Proposal — Gary Berndt — Rotary

The committee passed on this topic to see if Gary Berndt would show up in person later.

b. UKC Baseball Further Discussion — (UPDATE)

Rob Omans, City Administrator, provided an update on the Upper Kittitas County (UKC) Baseball contract. Both parties' attorneys have been in discussion and met last week. The UKC Baseball's attorney has expressed concerns regarding certain language in the agreement. An update is expected at next month's meeting once those issues are clarified. Omans noted that the contract should be returned to the committee for further review.

Ken Ratliff offered comments on the agreement. He stated that if both parties are satisfied with the terms, he is comfortable with the contract. However, he noted several points of concern:

- Youth baseball is a volunteer organization, and the agreement contains heavy legal language.
- On page 2, under the grant section, and in the redlined portions, Ratliff requested that the park name remain "Memorial Park." It was referenced as "Memorial Park"

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initially, Steven Cook pointed out it was referenced later simply as “the park.” This is a common practice in most contracts on the first instance.

- On page 5, under concessions, the contract currently states “contracted for Youth Baseball.” Ratliff suggested revising this to “managed by Youth Baseball.”
- On page 6, section 2.9, the wording “accountable to its citizens” should be revised to “accountable to its residents.” Steven Cook stated that is how the city refers to people here. Ratliff emphasized that the city should recognize the volunteer nature of youth baseball and empower volunteer efforts rather than impose unnecessary restrictions.

Jerred Weis agreed, noting that the park relies heavily on volunteers. Since the city does not manage park operations, he expressed concern about imposing too many rules on the volunteer group that keeps the park functioning.

Steven Cook pointed out we have a responsibility to all residents to manage public parks.

c. [Draft Storm Water Plan — Mathew Bailey — Public Works Director](#)

Mathew Bailey, Public Works Director, presented the first draft of the Stormwater Plan prepared by HLA. He is currently reviewing the plan, with the primary issue identified being the stormwater rate mechanism (referenced in Table 4 of the draft). This mechanism outlines how the city would charge residents and businesses to fund the stormwater program. Both HLA and Bailey believe that either Option 4A or 4B would be the most equitable approach.

Ken Ratliff noted that infiltration of rainwater into the sewer plant has been a continuing issue, as some roofs drain directly into the sewer system. It was discussed whether this is a Public Works concern.

Mike Hiet of HLA clarified that addressing this issue would require a sewer system study, not a stormwater system study, since it falls outside the stormwater plan’s scope.

Ken Ratliff expressed disagreement with the report.

Discussion was had that the current study is focused solely on the stormwater system. Since many roof drains are connected to the sewer, issues would appear in the sewer outfall, not as part of a separate storm line.

Public Works could perform the smoke testing in-house, prioritizing the sewer mains known to collect the most groundwater. They are already inspecting lines during repairs, and illicit connections (e.g., parking lot or rooftop connections to the storm system) would be identified through this work. Bailey will prepare a cost estimate for that effort. He emphasized the need to provide adequate public notice prior to testing.

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Bailey stated that selecting a rate mechanism would allow HLA to refine the plan to one or two funding approaches, including estimated monthly costs per resident. Although the Stormwater Fund has been established, a rate has not yet been set. A more detailed version of the plan will include a yearly budget with specific projects and amortized costs over time.

Ratliff suggested placing the project on hold temporarily, citing the city's current financial situation. Bailey encouraged everyone to read the draft plan and submit questions or feedback.

Mike Heit explained that Option 4A places a greater share of cost on multifamily and commercial properties, while reducing the rate for residential users. The city is responsible for all road storm systems and detention ponds. Heit also noted that most stormwater within the Blue Fern area stays on-site, while residential areas contribute more load to the street stormwater system. Since all road users impact the stormwater system, Heit emphasized that every user should contribute equitably to funding. The final destination for the city's stormwater is the Hanson Ponds complex, where most runoff infiltrates into the ground.

As part of the city's Department of Ecology grant/loan, the stormwater plan has a defined timeline. While the deadline has been extended, there is currently no updated timeline available. The next meeting is scheduled for December 5, 2025. Heit stated that Ecology has a long review process, so submitting the report by December would be ideal. The preferred funding method could be revised later, but selecting one soon would strengthen the city's funding position. A low-interest loan would begin repayment after the review period, allowing the city to start building reserves in the stormwater fund.

Bailey recommended that the city identify a funding method in the report by early December and begin funding the stormwater account at the start of the new year. The fee could be included as a utility bill line item or through property tax, though the latter would take longer to implement.

The estimated annual operating budget for the stormwater program is approximately \$600,000 per year.

3. New Business

- a. [October 1, 2025 — Cle Elum Public Works & Community Development Committee Meeting Minutes](#)

MOTION: Committee Member Cook made a motion to approve October 1, 2025, Public Works & Community Development Meeting Minutes; seconded by Committee Member Weis.

MOTION CARRIED: 3 yes 0 no.

- b. [Request for Leak Adjustment — Shirley Petrich](#)

Audrey Casassa, Utility Clerk, presented a leak adjustment request and provided an attached summary sheet. She noted that the issue was reported on September 26, 2025, and repairs

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were completed on October 8, 2025.

MOTION: Committee Member Cook made a motion to approve Shirley Pretrich request for leak adjustment in the amount of \$493.27; seconded by Councilmember Weis.

MOTION CARRIED: 3 yes 0 no.

c. [Cle Elum Youth Art Project Overview — Shasta Marion — Cle Elum Visitor Center](#)

Jordan Peterson, Cle Elum Downtown Association, stated that Shasta of the Cle Elum Visitor Center will attend the December meeting to provide the scheduled presentation.

d. [Bullfrog Flats Park Amenities — Discussion — Mathew Bailey — Public Works Director](#)

The committee members reviewed the follow-up presentation from New Home Co., at the previous Council Meeting as this served as the city's opportunity to provide comments and feedback to the developer.

Ken Ratliff stated he believes the project would be a good addition to the community.

Steven Cook expressed reservations, specifically concerning the concept of a private area within a city park. Cook noted that if the public were allowed access to the proposed food truck space, it would be less of a concern.

Jerred Weis asked whether the private area shown in the original presentation (previously on a separate parcel) had been moved into the public portion of the park.

Colleda Monick, Planner, clarified that the plan includes 16 private parking stalls, 54 public parking stalls, as well as some street parking throughout the park. Monick stated she would need to clarify whether the private area would be subdivided and leased back to the city and noted that a clear distinction between public and private spaces would be necessary.

The concept of a private clubhouse was discussed, originally intended for HOA members only. Cook reiterated his objection, emphasizing that a city-owned neighborhood park should remain fully public.

Committee members agreed there are still unanswered questions regarding how a private portion would operate within city-owned property. Monick confirmed that the entire development site is city property, unlike other developments such as Suncadia.

Mathew Bailey, Public Works Director, shared feedback from Councilmember Buechle-Curtis regarding recreational features:

- The proposed sand volleyball court may face weather-related and maintenance challenges, particularly given the wooded environment. Public Works expressed concerns about upkeep (e.g., pine needles, debris, and animal issues). A basketball court or multi-use court might serve residents better year-round.

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- Pickleball courts could be designed as multi-use courts (e.g., for tennis or handball) to provide greater flexibility.
- Similar concerns were raised regarding the HOA-only space and food truck area, with staff recommending that the food truck area remain part of the public park. This change may require a code amendment.
- Buechle-Curtis also asked about the amphitheater concept shown in the first presentation, noting it had positive community benefits and questioning why it was removed.

Monick, stated that this is the council's opportunity to provide final feedback to New Home Co. before staff communicates back to the applicant. The item will not return to council unless it is determined that the proposed changes constitute a major modification requiring further review.

Monick will further investigate the private section and incorporate the council's feedback into the city's official response to New Home Co.

e. 2026 Garbage Rate Increase — Mathew Bailey — Public Works Director

Mathew Bailey, Public Works Director, presented a proposal for a garbage rate increase for 2026. The increase is necessary due to higher costs from Waste Management (WM) and the city's depleted solid waste reserves. Bailey recommended a 19% rate increase, explaining that this adjustment would allow the city to begin rebuilding reserves at approximately \$76,000 per year.

Bailey noted that Waste Management implemented a 13.2% increase this year and that county tipping fees also rose. The city's break-even point is approximately 15%, and the additional increase would help establish a financial cushion for unexpected mid-year Consumer Price Index (CPI) or inflation adjustments. CPI inflation is projected at 2–3% for the year, but Bailey emphasized that the city is playing catch-up from several years of operating at a deficit.

MOTION: Committee Member Cook made a motion to recommend the proposed 2026 garbage rate increase to keep pace with Waste Management's increases and begin rebuilding reserves to the council for consideration; seconded by Committee Member Weis.

MOTION CARRIED: 2 yes 1 no. (Committee Member Ratliff)

Weis noted that while rate increases are unfortunate for residents, costs continue to rise. The proposed increase would not build an excessive reserve but create a \$76,820 annual surplus to stabilize the fund. Weis questioned whether a tiered increase might be an alternative, given the \$1.1 million annual budget.

Ratliff opposed the motion, stating that building a reserve is not the purpose of the garbage fund and that he could not support the proposed rate increase. Mathew Bailey, Public Works Director, added that it is challenging preparing a two-year budget without knowing future Waste Management rate changes. After five years of operating at a deficit, this

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adjustment would put the city back on track, with any future rate increases expected to be modest and aligned with WM and CPI contract adjustments. Bailey noted the current Waste Management contract runs for two years.

f. [2026 Water Rates — Discussion — Mathew Bailey — Public Works Director](#)

Mathew Bailey, Public Works Director, informed the committee that a 3% minimum rate increase for water and sewer utilities has already been codified for 2026. This adjustment is included in the upcoming budget and will go before the City Council as part of the regular budget process. No action was required, as this item was presented for information only.

MOTION: Committee Member Weis made a motion to recommend to the council an increase to both water and sewer rates for 2026 to 3%; seconded by Committee Member Cook.

MOTION CARRIED: 3 yes 0 no.

g. [2026 Sewer Rate — Discussion — Mathew Bailey — Public Works Director](#)

4. **Other Committee Comments**

5. **Adjournment**

The meeting was adjourned at 10:10 a.m.

Ken Ratliff, Chair

Debbie Lee, Clerk