

**FEE STUDY**

**SECTION 1**

DRAFT

# HOW WE ASSESS THE CLARK COUNTY CLEAN WATER FEE

## Clark County Clean Water (stormwater) overview

Clark County is currently using a combination of methods for assessing the clean water fee, or what is commonly called the stormwater fee in most jurisdictions in America.

Jurisdictions throughout America must manage stormwater runoff. Stormwater is the water that flows off of roofs, roads, and other impervious surfaces. For centuries civilizations have created systems to convey and control stormwater. Stormwater systems are essential for protecting public and private property from flood damage during storm events.



Stormwater drainage spouts to a control area in the Forbidden City, Beijing, China. Constructed during the Ming Dynasty, 1420.

Over time we have learned that how we handle stormwater has enormous impacts on our water quality and our wildlife. In Washington State we know that if stormwater is released into the waterways too quickly the impact on fish and in particular on salmon can be catastrophic.

Stormwater management is a science and engineering field all by itself. Stormwater and stormwater management is an issue that has challenged civilizations for thousands of years.



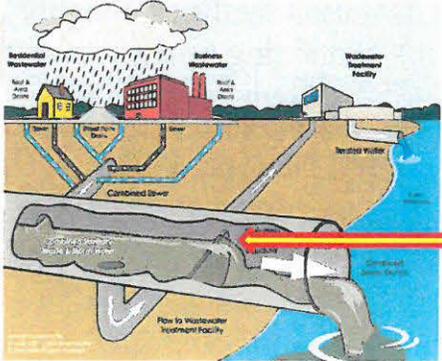
An ancient Chinese Stormwater control and treatment area at the Temple of the Sun in Beijing. Constructed during the Ming Dynasty, 1530. An almost 500 year old version of a modern bioswale.

A modern bioswale/amphitheater  
 Manassas Park, Virginia,  
 Manassas Park Elementary School



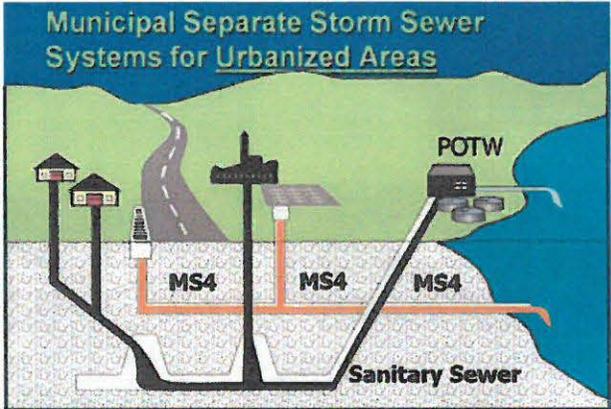
In Washington State, jurisdictions use one of two methods for controlling, treating, and discharging stormwater. One system combines stormwater and sewage effluent together in a single piping system and sends the combined waters to a centralized treatment facility. In Washington State this type of system is vulnerable during large rain events. A large volume of water can overwhelm the system and lead to untreated sewage being directly discharged into the public waterways (rivers, lakes, and or the ocean).

A combined sewer and stormwater system.



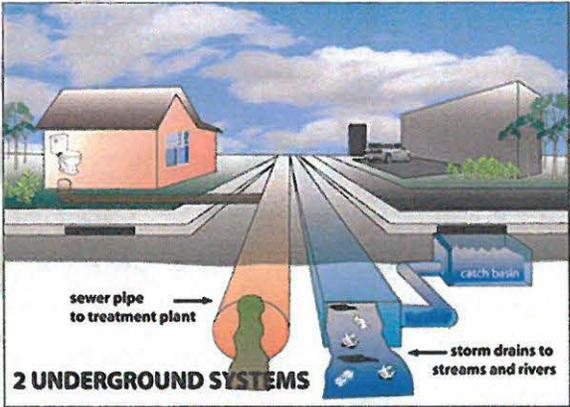
Untreated sewage and stormwater can discharge directly into the public waterway. This occurs during large storm events that overwhelm the system. (overflow)

In most jurisdictions in Washington State the most common method for controlling stormwater has been to construct a separate piping system from the sewer/sanitary system to control, collect, treat, and discharge stormwater. Systems that are separate from the sewage/sanitary system greatly reduce the risk of discharging untreated sewage into the public waters. These stormwater conveyance systems are called a Municipal Separate Storm Sewer System (MS4).



A separated sewage and stormwater system. (MS4)

In older systems the pipes directly discharge into the public waterways. This allows pollutants a direct pathway into our rivers, lakes, streams.



Clark County has an extensive MS4 system. Clark County maintains over 1,000 stormwater treatment and detention facilities, roughly 2,000 dry wells, and over 250 stormwater filter vaults containing roughly over 2,000 individual filter cartridges. The County’s MS4 system has over 400 miles of pipe connecting with over 170,000 individual assets. Along with maintaining our own system the County is obligated by the Federal National Pollution Discharge Elimination System Permit (NPDES) permit to inspect over 1,000 privately owned stormwater facilities, all private businesses, and an additional 1,000 publicly owned facilities.

## Federal and State Mandates

To discharge stormwater into public waters requires a Federal permit issued from the United States Environmental Protection Agency. This permit is called the National Pollution Discharge Elimination System Permit (NPDES) and is statutorily required by the Federal Water Pollution Control Act (the Clean Water Act), Title 33 United States Code, Section 1251 et seq. Most states in the United States implement the NPDES permit mandated by Federal law.



Stormwater  
being  
discharged into  
a public  
waterway.

In Washington State, a state permit is also required for discharging stormwater into public waters, or waters of the state. This is called a State Waste Discharge General Permit and is required under the provisions of The State of Washington Water Pollution Control Law, RCW 90.48. These sections of the RCW require Clark County to create and maintain a stormwater manual for builders of projects that would create stormwater discharge (homes, roads, commercial buildings, ect.) and other state obligations in addition to the Federal permit. In Washington State our DOE also serves as the manager of our Federal NPDES Permit.

The NPDES permit is about much more than just the physical retention, treatment, and discharging of stormwater. The permit requires:

- inspections and reports regarding all the stormwater facilities
- requires that county to create a stormwater manual for private developers outlining the standards necessary for constructing stormwater facilities
- mapping of all components of our stormwater system
- erosion control for new construction of any kind

- inspections for illicit discharges of pollutants into our stormwater system
- Education and outreach designed to inform people about our discharge system and make them more aware to reduce behaviors that pollute our surface water
- Monitoring stormwater discharges for pollutant levels
- Creating a plan for future maintenance and construction of the stormwater system
- Coordinating and planning with other local jurisdictions to improve surface water quality

Each NPDES permit issued by the Federal Government is valid for five years. Clark County has had three NPDES permits. With each new permit the requirements and obligations for maintaining compliance with the permit increase. Each permit renewal has increased responsibilities and increased costs to comply with the permit. Clark County will receive a new NPDES permit in 2018.

The Clark County clean water fee is an assessment on property owners in Clark County that is used to pay for our stormwater system and pay for the other unfunded Federal and State mandated obligations related to stormwater control and treatment.



A bioswale next to a busy roadway

The majority of the stormwater in unincorporated Clark County is passed through our MS4 system. Clark County conveys the stormwater through stormwater facilities, dry wells, or filters prior to being discharged into our creeks, rivers, or

lakes. When stormwater moves through these manmade structures that is called “treating” the stormwater. The “treatment” of the water in the system is designed to remove as most contaminants from the stormwater as is practically and fiscally possible prior to being discharged into our local public waterways. The system is also designed to capture and infiltrate or detain stormwater, preventing it from rapidly entering waterways. This infiltration or detention prevents erosion and flooding of both natural and manmade waterways.

In 1999 Clark County established the Clean Water Program and established an annual fee for all properties in unincorporated Clark County to pay for the legal obligations established by the Federal NPDES permit and the State discharge permit (combined as one permit). The program sent out billing notices on an annual basis to all property owners. This bill is similar to a utility bill and many stormwater programs nationally and locally are formed as utilities.

The Clean Water Program in Clark County is an enterprise fund and all revenue generated from the fee is mandated by state law to only be spent for purposes of controlling and treating stormwater, and our Clark County Clean Water Program. This includes maintenance of our stormwater facilities.

### **Methods for paying for stormwater control, nationally and locally\***

There are three basic methods that public entities use to calculate and assess residents for stormwater control and treatment. These are sometimes modified slightly to meet unique billing requirements or jurisdictional needs. Impervious area is the most important factor influencing stormwater runoff and is therefore a major element in each method utilized for assessing a stormwater fee.

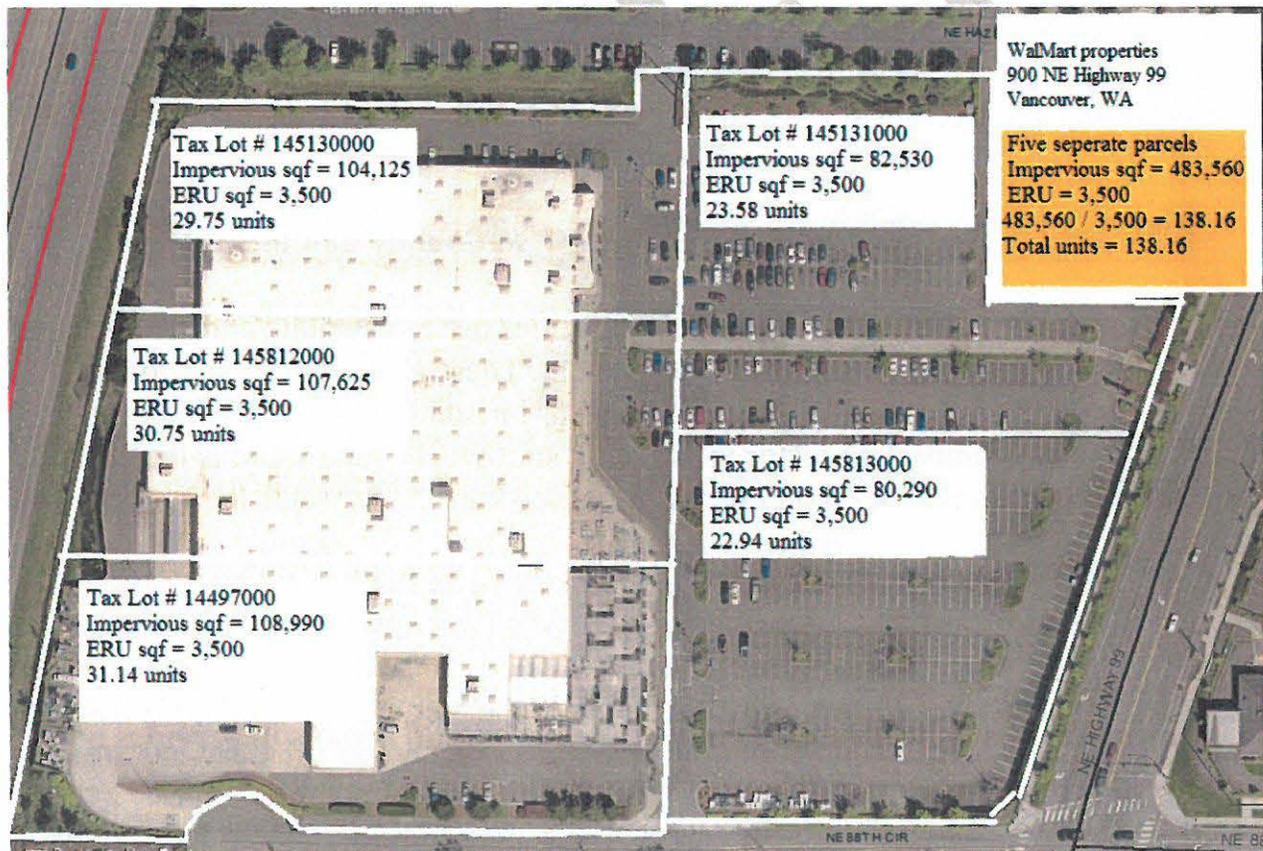
**Equivalent Residential Unit (ERU) (Also known as the Equivalent Service Unit (ESU) method):** More than 80 percent of all stormwater assessments use the ERU method. Parcels of land are billed on the basis of how much impervious area is on each parcel, regardless of the total area of the parcel. This method is based on the impact of a typical single family residential (SFR) home’s impervious area footprint. A sample of SFR parcels are studied to determine the average impervious area of a typical SFR parcel. The square footage amount is called an ERU. In most cases, all SFRs are billed a flat rate of one ERU.

In some cases several tiers of ERU rates are established on the basis of an analysis of SFR parcels within defined geographic area. Having such a tiered-SFR, flat-rate approach improves the equitability of the billing sent to homeowners.

For commercial properties the impervious area on each commercial property is measured and assessed. The amount of impervious square footage on a commercial property is then divided by the single ERU square footage to determine the number of units to be billed for that property.

Each non-SFR impervious area is divided by the ERU square footage number of the typical SFR parcel to determine the number of ERUs to be billed to the non SFR parcel.

Many commercial properties are set on more than one tax lot. An example of this and the actual equation used by Clark County for establishing the clean water fee is the Walmart property located at 900 NE Highway 99, Vancouver.



WALMART on NE Highway 99

**Intensity of Development (ID):** This stormwater cost allocation system is based on the percentage of impervious area relative to an entire parcel's size. All parcels (including vacant/undeveloped) are charged a fee on the basis of their *intensity of development*, which is defined as the percentage of impervious area of the parcel. Rates are calculated for several ID categories.

This method is utilized by a number of jurisdictions in Washington State. King, Pierce, and Snohomish County are just a few who utilize this methodology.

**Equivalent Hydraulic Area (EHA):** Parcels are billed on the basis of the combined impact of their impervious and pervious areas in generating stormwater runoff. The impervious area is charged at a much higher rate than the pervious area.

This method is the least commonly used since it requires more work and analysis to implement. With this method each individual property is measured and assessed.

**Development Impact fees** are charges collected at the time of permitting and planning to cover the projected costs of infrastructure and maintenance for stormwater facilities. When permits or plans are submitted the fee is calculated and collected prior to issuing construction permits.

This fee estimates the cost of maintaining a stormwater facility for a proposed project or building on an annual basis. The annual costs are then multiplied by twenty or twenty five and that is the amount charged to the project proponent for their impact fee.

An advantage to this method provides large amounts of money to the local jurisdiction for costs associated with stormwater maintenance. The draw back on this method is that it requires permit applicants to submit a substantial amount of money prior to getting any permits.

Almost all jurisdictions have a blending of both ERU and Intensity of Development methods. Many jurisdictions also include development impact fees when development is initially proposed and permitted. Clark County does not have any development impact fees.

Another factor in establishing fees for stormwater control is based upon the zoning of the properties. In Washington State Counties are divided into urban or rural

zoning. Urban zoning features smaller single family lots, dense housing, intense multi-family, large areas of commercial and manufacturing. Urban zoning has more developed infrastructure such as sewer, multi-lane roads, sidewalks. Rural zoning features large single family lots, farming, and minimal infrastructure (primarily septic, smaller roads, few sidewalks). Unincorporated Clark County is divided into urban or rural zone.

Some jurisdictions charge a higher stormwater fee for urban areas since the demands for stormwater control are highest within those more densely populated areas. Snohomish County charges different base rates for urban and rural areas. Clark County adopted this method as a component for calculating our stormwater fee in July, 2014.

As stated previously Clark County's MS4 system is primarily located within the urban zone of Clark County and roughly 70% of all the expenditures for stormwater control occur within the urban zone.

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INSERT MAP  
OF CLARK  
COUNTY

## The Clark County Fee

The method adopted by Clark County in 1999 to pay for stormwater control and treatment was and still is the Equivalent Residential Unit (ERU) method. Clark County calls an ERU a base unit.

“Base unit” means a single-family residential unit of three thousand five hundred (3,500) square feet of impervious surface.

*Clark County Code 13.30A.030 A*

The base unit (ERU) system establishes a method for creating a numeric value for the amount of impervious surface on a piece of property. That numeric value is then multiplied by the fiscal value placed upon each base unit to determine the fee for a property.

Clark County adopted the standard that 3,500 square feet of impervious surface would be the amount of square footage that would equal one base unit (ERU). As recommended by the EPA Clark County staff conducted a study of Clark County single family residential properties. Staff analyzed over 70 individual residential parcels and measured the square footage of impervious surface on each of those individual residential properties. The amount of impervious surface on the individual residential properties ranged from a low of 2,700 square feet to a high of over 4,900 square feet. The average amount of impervious surface from the sampling was slightly over 3,700 square feet per individual residential lot. The County Commissioners chose to make each base unit 3,500 square feet.

In 1999 the County placed the assessment rate at \$33.00 for each base unit. Discounts in the fee were set for larger lot sizes beginning at ½ acre to 1 acre, 1 to 5 acres, 5 to 20 acres, and 20 acres and above. Each step received a 10 reduction in the fee. There are other statutory exemptions from the fee that were required to be in the county code.

In 2014 the County increased the base rate to \$35.00 for properties in the rural zone, and \$47.00 for properties within the urban zone. All properties in the County are paying a \$5.00 surcharge to cover the cost of settling environmental litigation against the County for violations of the Clean Water Act. That \$5.00 surcharge will expire in 2019. All other discounts and exemptions remained unchanged in the code.

The 3,500 square feet per base unit amount of square footage for an individual base unit (ERU) means Clark County the fee amount of \$47 for the urban areas is a .01342 per square foot fee on impervious surface, and the \$35 rural fee is a .01 charge per square foot of impervious surface.

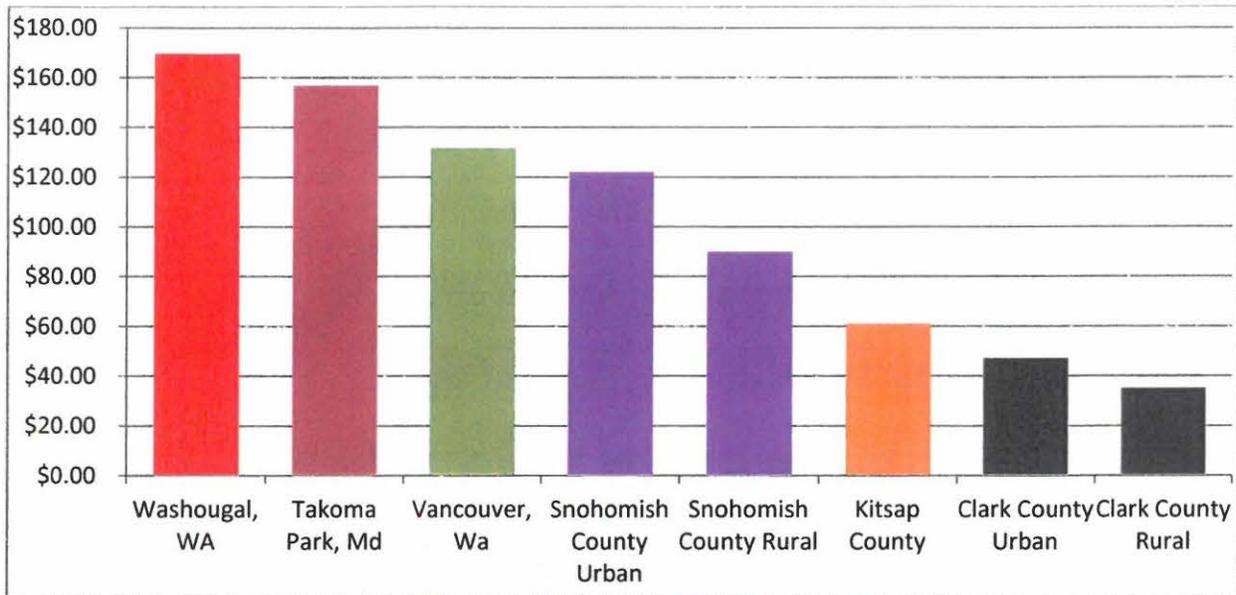
To determine how the Clark County fee compares with other jurisdictions one needs to divide the individual ERU amount in a jurisdiction by the square footage for their individual ERUs.

The Table below breaks down the fees from five other jurisdictions and calculates the charge per square foot their ERUs. That charge is then calculated into the

<b>JURISDICTION</b>	<b>ERU square feet per base unit</b>	<b>Charge per base unit (per year)</b>	<b>Comparable at 3,500 sqf per ERU</b>
Takoma Park, Maryland	1,228 sqf per unit	\$55 .0447 per square foot	\$156.73
Vancouver, Washington	2,500 sqf per unit	\$93.96 .03758 per square foot	\$131.46
<b>Clark County, Washington*</b>	<b>3,500 sqf per unit</b>	<b>Rural zone \$35</b> .01342 per square foot <b>Urban zone \$47</b> .01 per square foot	<b>Rural \$35</b> <b>Urban \$47</b>
Washougal, Washington	3,900 sqf per unit	\$188.88 .04843 per square foot	\$169.50
Kistap County, Washington	4,800 sqf per Unit	\$84 .0175 per square foot	\$61.25
Snohomish County, Washington	does not define base units by square footage	Rural zone \$90 Urban zone \$122 Per Residence	Rural \$90 Urban \$122

*\* All units in Clark County have a \$5 surcharge for a period of five years to cover the costs of the Clean Water litigation settlement*

Other jurisdictions have individually determined the square footage for their individual ERUs. Different jurisdictions charge different amounts for their individual ERUs. The graph below compares the ERU rates of different five other jurisdictions after calculating the square foot charge and using the 3,500 ERU Clark County ERU as the base line comparable.



To determine what is “impervious surface” Clark County adopted the language utilized by the EPA that was developed by the EPA and is contained within the NPDES permit. Impervious surface in Clark County is defined as follows:

“Impervious surfaces” means a hard surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces.

*County Code 13.30A.030(c)*

From 1999 the rate for single family residential property was \$33 per base unit. In 2014 the County increased the base unit fee to \$35 for property in the rural zone and \$47 per base unit for property in the urban zone.

For assessing the fee in Clark County the process is fairly straight forward. The county utilizes GIS mapping technology to determine the amount of impervious surface on an individual property based upon the definition of impervious surface found in the county code. The square footage of that impervious surface area is calculated. That number once determined is divided by 3,500. The resulting number represents the number of base units (ERUs) for that property. The number of base units is then multiplied by 35 or 47 depending if the property is located in the rural or urban zoned areas of Clark County.

The formula for calculating the Clark County clean water (stormwater) assessment is:

**SQF impervious surface :- 3,500 = Base unit**

**Base units X 35 if in the rural zone = Amount owed**

**Base units X 47 if in the urban zone = Amount owed**

**All units assessed a \$5.00 surcharge for litigation settlement (expires 2019)**

All single family residential properties are charged a single base unit.

Multi-family housing is charged one base unit for each individual housing unit on their property.

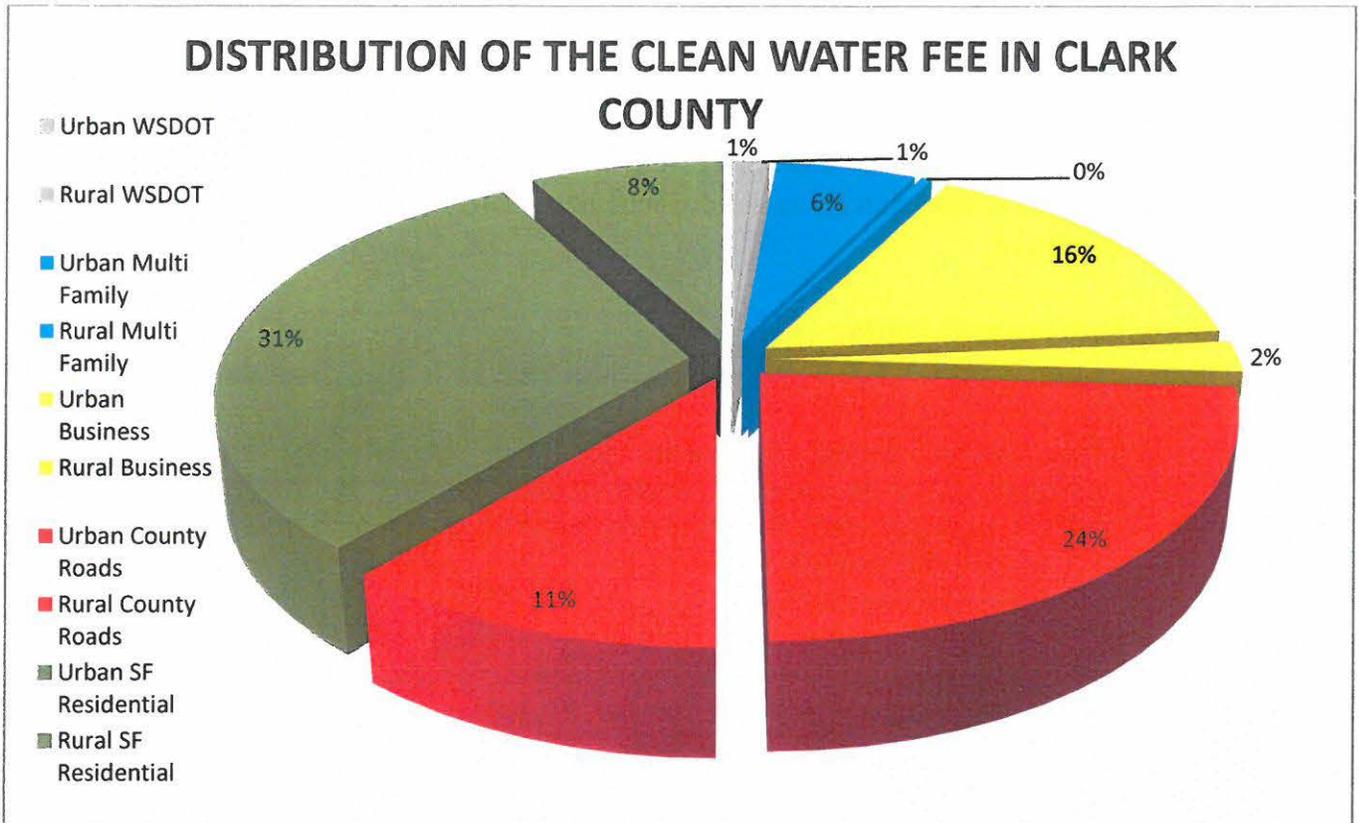
Commercial properties have their impervious surface calculated and they are charge based upon the number of base units existing on their properties. All properties in Clark County are charged a clean water (stormwater) fee in Clark County. Since this is a fee not a tax all properties are assessed the fee to cover the costs of controlling and treating stormwater in Clark County.

### **All impervious surfaces are billed**

The largest rate payer into the Clark County Clean Water program is Clark County. We charge the clean water fee to the County Fairgrounds, county roads, and all other county facilities.

Every year the County collects the clean water fee on a little over 168,000 ERUs. Clark County Public Works pays from the road fund over 2.6 million dollars a year in clean water fees. The county roads pay for nearly 60,000 of the total

ERUs charged in the county. This represents roughly 35% of the money collected annually for the clean water fee.



Since Clark County charges for the roads Washington State Department of Transportation is also charged for their impervious surface area. State law has created a mandatory 70% reduction in the fee for WSDOT. Currently Clark County collects on 9,000 ERU units from WSDOT. The annual fee for WSDOT comes out to a little over \$90,000 per year. If WSDOT were treated like all other rate payers they would pay nearly \$300,000 a year.

Due to the large amount of fee revenue charged locally and in combination with the large discount provided to WSDOT many jurisdictions do not charge a fee for their roads.

### Fee Reductions or Discounts

The clean water assessment is a fee not a tax. All properties pay the fee. There are only a few exceptions or discounts for the fee.

**Forestry:**

State law exempts property identified as forestry land from stormwater water fees.  
RCW 84.33.210

**Large Land Parcels:**

State law and county code allow for fee discounts based on the size of property and senior citizen discounts. Presently in Clark County properties receive increasing discounts for properties from ½ acre to 1 acre, 1 to 5 acres, 5 to 20 acres, and 20 acres or above.

**Low Income and Senior Discounts:**

Low income senior citizen property owners receive a 50% discount:

*The service charge for owner occupied, single-family residential property qualifying for a low-income senior citizen property tax exemption pursuant to RCW 84.36.381 shall be fifty percent (50%) of the amount specified in Section 13.30A.050(B)(1) or (2).*

*Clark County Code 13.30A.060*

State law and County code also provide for “hardship” reductions in the fee. If the property qualifies the fee is waived for that property.

*Single-family residential dwellings qualifying for hardship status, pursuant to Section 40.260.210(A) (as existing or hereafter amended), shall not be subject to a service charge; provided, the principal dwelling and any other dwellings on the property shall remain subject to service charges imposed by this chapter.*

*Clark County Code 13.30A.065*

**School Reduction Programs:**

State law and county code allow schools to receive reductions in the fee based upon service and educational work performed in education and outreach within the schools or the school district. This fee reduction program is discretionary.

*The board of county commissioners further finds that many of the difficulties in managing of surface and stormwater problems result in part from the general lack of public knowledge about the relationship between human actions and surface and stormwater management. In order to achieve a comprehensive approach to surface and stormwater management, the county should provide general information to the public about land use and human activities that affect surface and stormwater management. Pursuant to RCW 36.89.085, the board of county commissioners further finds that public and private schools can provide significant benefits to the county regarding surface and stormwater management through educational programs, on-site facilities, and community activities related*

*to protection and enhancement of the surface and stormwater management system. These programs, facilities and activities can provide students with an understanding of human activities and land use practices that create surface and stormwater problems by providing students firsthand exposure to the difficulties of such problems after they occur. Public and private schools providing such programs, and complying with best management practices for their facilities and activities as set forth in the county's best management practices manual, may apply to the county director of environmental services for a reduction of the applicable service charge. The reduction shall be based on the nature and extent of the programs, facilities and activities provided, the extent to which the programs, services and facilities mitigate the impacts of surface and stormwater runoff and any other matters that are relevant to managing surface and stormwater.*

*Clark County Code 13.30A.050 D*

Many jurisdictions in Washington State do not offer any fee reduction to schools. The City of Seattle and the City of Washougal do not offer any fee reduction program for schools and schools pay their stormwater fee in full to those Cities.



From left to right: Rob Guthrie, sustainability specialist, Pete Dubois Solid Waste Division Manager, and Don Benton Director of Clark County Environmental Services accept an award from the Washington State Green Schools Program

Currently Clark County is offering a clearly defined fee reduction program for schools in Clark County to receive a reduction in their stormwater fee. This program has resulted in the largest number of Certified Green schools of any County in Washington State. The new

fee reduction program for schools creates financial incentives for the school districts to partner with the Washington State Green Schools program. Clark County's award winning program is a model for incentivizing schools to meet the goals outlined in Federal, State, and County law.

### **Methods for collecting stormwater fees utilized by other County Phase I Permittees in Western Washington**

Along with Clark County there are three other counties in Washington State that have a Phase I NPDES permit, King, Pierce, and Snohomish County. Phase I permits were required for incorporated cities with a population over 100,000 and unincorporated counties with populations of more than 250,000 according to the 1990 census. The cities in Western Washington that have Phase I NPDES permits are Seattle and Tacoma. The Port of Seattle and the Port of Tacoma were also jurisdictions that were required to obtain a Phase I permit.

In 2003 EPA regulations expanded to include more jurisdictions that would be required to obtain an NPDES permit. These are called Phase II permits and they went into effect in 2007. This second round of new permits brought in over eighty cities and five counties in Western Washington. The City of Vancouver is a Phase II permittee.

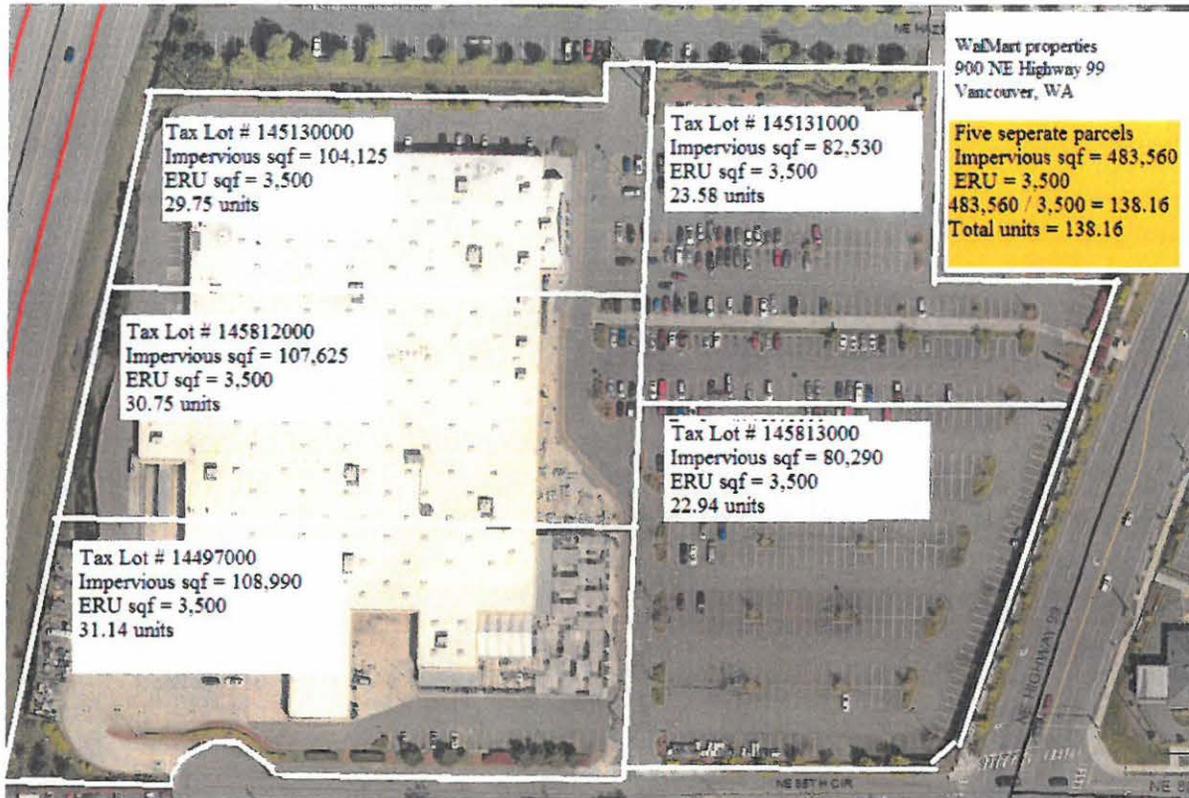
#### **King County**

King County has a flat rate for each residential unit, charging \$171.50 per residential parcel. For all other property King County utilizes the intensity of use methodology.

Each parcel is measured for total square footage and for total amount of impervious surface square feet. The percentage of impervious surface for the parcel is then determined. Calculating the percentage of impervious surface on a given lot the King County fee ranges from 171.50 ( $\leq 10\%$  impervious surface) for light use up to \$2,638.96 for very heavy use ( $\geq 85\%$ ) per acre.

The intensity of use methodology utilized by King County is more expensive for those properties in the urban zones on smaller lots that then have "very high" impervious surface coverage.

Comparing the Wal Mart property on Highway 99 if located in King County would have paid \$24,452.60 more in fees annually than they are currently paying to Clark County.



WALMART on NE Highway 99

Wal Mart Property	Tax Lot # 145813000 1.93 acres	Tax Lot # 145812000 2.47 acres	Tax Lot # 144947000 2.68 acres	Tax Lot # 145131000 2.14 acres	Tax Lot # 145130000 2.77 acres
Clark County	29.75 ERUs <b>\$1,195.48</b>	30.75 ERUs <b>\$1,599.87</b>	31.14 ERUs <b>\$1,619.67</b>	23.58 ERUs <b>\$1,226.38</b>	22.94 ERUs <b>\$1,547.13</b>
King County	<b>\$5,093.19</b>	<b>\$6,518.23</b>	<b>\$7,072.41</b>	<b>\$5,647.37</b>	<b>\$7,309.91</b>

Clark County clean water fee total = \$7,188.53  
King County stormwater fee total = \$31,641.13

**Pierce County**

Pierce County like Clark County and King County has a flat rate for residential housing units. The flat rate for a single family residence in Pierce County is \$108.98. This rate is 2.7 times higher than Clark County’s rural rate of \$40 (including surcharge) and is 2.09 times greater than Clark County’s urban residential rate of \$52 (including the surcharge).

Pierce County has a different rate for housing such as apartments, condominiums, townhouses and mobile homes. That rate is substantially higher than the rate charged for equivalent residential units.

With commercial property Pierce county charges based upon the square footage of the property. The fee rate is calculated at .04128 per square foot of a parcel.

Unlike Clark County, Pierce charges stormwater fee for vacant land parcels. There is a minimum charge of a little over \$20 per parcel minimum and for properties above 50 acres the fee is calculated at roughly 40 cents an acre.

Pierce County also charges a different rate for areas covered in gravel. Gravel is considered an impervious surface by definition in the NPDES Permit. While recognizing gravel is impervious, Pierce County charges around 10% less for each square foot of area covered by gravel.

The chart below compares the fee rates in Pierce County to the fee rates in Clark County using the Walmart on Highway 99 as a comparable.

WalMart Highway 99	Tax Lot # 145813000 104,125 square feet	Tax Lot # 145812000 107,625 square feet	Tax Lot # 144947000 108,990 square feet	Tax Lot # 145131000 82,530 square feet	Tax Lot # 145130000 80,290 square feet
Clark County	29.75 ERUs <b>\$1,195.48</b>	30.75 ERUs <b>\$1,599.87</b>	31.14 ERUs <b>\$1,619.67</b>	23.58 ERUs <b>\$1,226.38</b>	22.94 ERUs <b>\$1,547.13</b>
Pierce County	Square feet x .04128 = <b>\$4,298.28</b>	Square feet x .04128 = <b>\$4,442.76</b>	Square feet x .04128 = <b>\$4,499.10</b>	Square feet x .04128 = <b>\$3,406.83</b>	Square feet x .04128 = <b>\$3,314.37</b>

Clark County clean Water fee total = \$7,188.53

Pierce County stormwater fee total = \$15,961.34