



P.O. Box 218, Minden, NV 89423
775-782-9821 FAX: 775-782-6255

Douglas County Stormwater Advisory Committee

Meeting Agenda

Lawrence Werner, County Manager

Tuesday, November 15, 2016

6:30 p.m.

**Douglas County Community & Senior Center
1329 Waterloo Lane, Gardnerville, Nevada**

MISSION STATEMENT

Working together with integrity and accountability, the Douglas County team is dedicated to providing essential and cost-effective public services fostering a safe, healthy, scenic, and vibrant community for the enjoyment of our residents and visitors.

Copies of the finalized agenda are posted at the following locations prior to meeting day: Minden Inn, Administration Building (Historic Courthouse), Judicial and Law Enforcement Center, Gardnerville Post Office, Minden Post Office, Minden Library, Douglas County Administration Building and the Tahoe Transportation Center at Stateline, NV. Questions concerning the agenda should be referred to the County Manager's Office at 775-782-9821.

Agenda items may be taken out of order, may be combined for consideration, or may be removed from the agenda at any time. All items designated "for possible action" shall include discussion and possible action to approve, modify, deny, "no action," or continue the item.

It is the intent of the Stormwater Advisory Committee to protect the dignity of citizens who wish to comment before the Board. It is also the Committee's wish to provide the citizens of Douglas County with an environment that upholds the highest professional standards. Citizens should have the ability to freely comment on items and/or projects that are brought before the Committee for action without interference.

In order to ensure that every citizen desiring to speak before the Committee has the opportunity to express his/her opinion, it is requested that the audience refrain from making comments, hand clapping or making any remarks or gestures that may interrupt, interfere or prevent the speaker from commenting on any present or future project. Persons desiring an opportunity to address the Stormwater Advisory Committee and are not able to attend the meeting are requested to send an email to lpenny@douglasnv.us at the Douglas County Clerk's Office at least 24 hours prior to the convening of the Commission meeting.

Copies of supporting material can be requested in person from Laure Penny, Douglas County Clerk/Treasurer's Office, 1616 8th Street, Minden, Nevada or by calling 775-782-9020. Supporting material can also be found at <http://nv-douglascounty2.civicplus.com/agendacenter>. During the public hearing, supporting materials can be viewed in the Public Information Binder located at the entrance to the meeting room.

Notice to Persons with Disabilities: Members of the public who are disabled and require special assistance or accommodations at the meeting are requested to notify the Clerk's Office in writing at Post Office Box 218, Minden, Nevada 89423 or by calling 782-9821 at least 20 hours in advance.

DOUGLAS COUNTY STORMWATER ADVISORY COMMITTEE

FINAL AGENDA – GARDNERVILLE, NV

November 15, 2016

6:30 PM

Call to Order and Determination of Quorum

PLEDGE OF ALLEGIANCE

PUBLIC COMMENT (No Action)

At this time, public comment will be taken on those items that are within the jurisdiction and control of the Stormwater Advisory Committee or those agenda items where public comment will not be taken as a public hearing is not legally required.

Public Comment is limited to three minutes per speaker. The Stormwater Advisory Committee uses timing lights to ensure that everyone has an opportunity to speak. You will see a green light when you begin, and then a yellow light which indicates that you have thirty seconds left and should conclude your comments. Once the light turns red, please sit down.

If you are going to comment on a specific agenda item that the Stormwater Advisory Committee will take action on, please make your comments when the Stormwater Advisory Committee considers that item and the item is opened for public comment.

For members of the public not able to be present when an agenda item is heard, Speaker/Comment Forms are available from the Clerk and at the entrance to the meeting room. These cards should be completed and given to the Clerk.

APPROVAL OF AGENDA

For possible action. Approval of proposed agenda. The Stormwater Advisory Committee reserves the right to take items in a different order to accomplish business in the most efficient manner, to combine two or more agenda items for consideration, and to remove items from the agenda or delay discussion relating to items on the agenda.

APPROVAL OF PREVIOUS MINUTES

No Minutes to be approved.

ADMINISTRATIVE AGENDA

The Administrative Calendar will be handled as follows:

- (1.) The Chairman will read the agenda title into the public record.
- (2.) Staff will introduce the item and provide a report, if any.
- (3.) The applicant, if any, will have an opportunity to address the Committee.
- (4.) The Committee will then discuss the item. Once the Committee has concluded their discussion, public comment will be allowed.
- (5.) Public comment will be allowed and is limited to three minutes per speaker.
- (6.) Once public comment is completed, the Committee will then ask any follow-up questions and take action.

On agenda items that are agendized as a “presentation” with no action listed, public comment is not legally required and must be made at the beginning of the meeting.

1. Presentation on the user fee, credit exemptions, and interlocal agreements for the proposed Stormwater Program strategy. (Jeff House) 2 hr

CLOSING PUBLIC COMMENT (No Action)

At this time, public comment will be taken on those items that are within the jurisdiction and control of the Stormwater Advisory Committee or those agenda items where public comment has not already been taken.

THE TIMING FOR AGENDA ITEMS IS APPROXIMATE UNLESS OTHERWISE INDICATED AS A TIME SPECIFIC ITEM. ITEMS MAY BE CONSIDERED AHEAD OF OR AFTER THE SCHEDULE INDICATED BY THIS AGENDA.

ADJOURNMENT

Stormwater Advisory Committee

AGENDA ACTION SHEET

1. **Title:** Presentation on the user fee, credit exemptions, and interlocal agreements for the proposed Stormwater Program strategy. (Jeff House)
2. **Recommended Motion:** Presentation only.
3. **Financial Impact:** None
4. **Prepared by:** Debbie Beam, Admin. Services Manager
5. **Meeting Date:** November 15, 2016 **Time Required:** 2 hours
6. **Agenda:** Administration
7. **Background Information:** The Douglas County Stormwater Utility (SWU) Credit and Fee Adjustment Manual will be based on the assessment, discussion, and hopefully, consensus by the Stormwater Advisory Committee (SAC) regarding key SWU user fee modification strategies. Common components from numerous SWUs across the country have been compiled and combined into this initial set of preliminary policies. Based on previous experience, it is anticipated these policies can be finalized in one to two SAC meetings. The preliminary policies represent the basic and most commonly used SWU user fee modification strategies across the nation. None of the initial policies to be considered are innovative; accordingly, all concepts to be presented for consideration have been successfully incorporated by hundreds of SWUs across the country.

Agenda Item # 1

MEMORANDUM

TO: LARRY WERNER – DOUGLAS COUNTY MANAGER
FROM: JEFF HOUSE – CEO, HOUSE MORAN CONSULTING, INC.
SUBJECT: SWU CREDIT AND FEE ADJUSTMENT POLICIES OVERVIEW
DATE: NOVEMBER 1, 2016
CC: DEBBIE BEAM – DOUGLAS COUNTY ADMIN. SERVICES MANAGER

The Douglas County Stormwater Utility (SWU) Credit and Fee Adjustment Manual will be based on the assessment, discussion, and hopefully, consensus by the Stormwater Advisory Committee (SAC) regarding key SWU user fee modification strategies. Common components from numerous SWUs across the country have been compiled and combined into this initial set of preliminary policies. Based on previous experience, it is anticipated these policies can be finalized in one to two SAC meetings. The preliminary policies represent the basic and most commonly used SWU user fee modification strategies across the nation. None of the initial policies to be considered are innovative; accordingly, all concepts to be presented for consideration have been successfully incorporated by hundreds of SWUs across the country.

SWU NEED AND PURPOSE

Like many communities, Douglas County faces a number of challenges in providing stormwater management services, while ensuring public safety, environmental protection, and complying with a myriad of federal and state mandated regulatory requirements. Responsibility of management and maintenance of the stormwater drainage system is divided between a combination of County, General Improvement Districts (GIDs), and unincorporated Towns services. This current SWM Program is not adequately addressing flooding issues or water quality regulatory requirements. An equitable, stable, adequate, and flexible revenue stream will be required to administer an effective County SWM Program.

USER FEE METHODOLOGY

SWUs typically generate most of their revenue through "user" fees. "Use" of the stormwater system is defined as the demand a property places on that system, and the stormwater services and facilities provided which protect the property, downstream properties, and the receiving waters. Each property generates stormwater runoff that flows into the drainage system, and each property owner benefits, in some way, from safer streets, cleaner water, etc. The demand a property places on a system is traditionally measured in terms of the peak flow of stormwater runoff generated by the property. The greater the flow, the greater the use, and thus, the greater the user fee. Sometimes the volume of runoff and runoff pollution are also included in the rationale for the user fee structure.



The SWU method for collecting funds based on the burden placed upon the stormwater system by the individual users – specifically property owners, is comparable in many ways to more traditional municipal water and wastewater utilities. Each utility funds a complex conveyance system that is driven by operational and regulatory requirements. Each system requires significant capital investments. Similar to other utilities, the programmatic needs dictate the utility structure, function, and budget needs. In turn, these needs drive the user fee rate.

SWU RATE METHODOLOGY BASICS

STORMWATER RUNOFF

Stormwater runoff is the water that flows off roofs, driveways, parking lots, streets, and other hard surfaces during rainstorms. Rather than being absorbed into the ground, it pours into ditches, culverts, catch basins, and storm drains. It does NOT receive any qualitative treatment before eventually entering a community's streams and lakes.

IMPERVIOUS SURFACE

An impervious surface is land that has been compacted or covered so that it is highly resistant to infiltration by water. Examples of common impervious surfaces include: buildings, manmade structures, driveways, patio areas, roofs, concrete or asphalt sidewalks, parking lots or storage areas, and other bricked, oiled, macadam or hard-surfaced areas which impede passage of storm waters into the earth's surface are deemed to be impervious.

EQUIVALENT RESIDENTIAL UNIT (ERU)

An Equivalent Residential Unit (ERU) will be used as a base unit of measurement for all properties in the County. An ERU is determined by measuring the impervious area of the average residential property in the County, based on actual Geographic Information System (GIS) measurements and statistical sampling of several areas throughout the County. SWU user fees are calculated by the amount of impervious areas on each parcel to this standard ERU. To determine the ERU applied to your property, first the impervious areas of your property are calculated. Impervious areas include your roof, driveway, garage, parking, and any other hard surfaces on your property. Once the total number of ERUs in the County is calculated, a unit charge is assigned. The national SWU monthly charge varies greatly, ranging between \$<1.00 to \$69.25, with the average monthly residential bill being \$5.14/month. The unit billing rate for the County will be determined by the annual cost of the SWM Program.

USER FEE MODIFIERS

A statistical sampling of residential properties within the County determined that, on average, a developed single-family residential property has 2,500 square feet of impervious area. As a result, 2,500 square feet will be used as the base billing unit or ERU. Each property will be assigned an ERU value that is multiplied by the unit billing rate to yield the monthly SWU user fee for that particular property. The unit billing rate for all properties is independent of land use,



and derived by the annual SWM Program cost, determined to be approximately \$2M. Based on the number of parcels and associated impervious areas throughout the County, it is anticipated that one ERU will be approximately \$5.00 per month/\$60 per year. Additional consideration will be given to modifiers in the form of credits and adjustments to reduce the individual property's SWU user fee. These terms are defined as follows:

Credit – a percentage reduction applied to a customer's SWU user fee based upon an on-site constructed stormwater Best Management Practices (BMPs) (or multiple BMPs) that meets all of the requirements specified in the County's Credit and Adjustment Manual and other applicable County ordinances. Specifically, credits are based on constructed (man-made) features.

Adjustment - a percentage reduction applied to a customer's SWU user fee to reflect site-specific runoff characteristics that are substantially different from those attributed to the base billing unit. Specifically, adjustments are based on a natural site features. Examples include properties with natural wooded areas, wetlands, and depressional storage areas.

SAMPLE CREDITS AND ADJUSTMENTS GENERAL POLICIES

- A Credit is available to all property owners that have installed one or more on-site stormwater management BMPs in compliance with County design criteria.
- Credit is given to eligible properties only. A homeowner's association may apply for a credit for their privately owned and maintained stormwater management BMPs that serves their neighborhood. However, the credit will be prorated and awarded to the individual property owners in the homeowner's association.
- A Right-of-Entry or easement, as applicable for inspection, must be given to the County in order for a credit to be approved. See Form 2 at the end of this document.
- Credit applications for existing stormwater management BMPs may be submitted at any time. However, the credit will be applied retroactively to the first stormwater billing date only for those credit applications received within one year from the end of the month of the first stormwater billing. After that time, it will be applied in the next month after the credit has been approved and will not be retroactively applied. See Form 1 at the end of this document.
- Credit applications for new construction may be submitted once the stormwater management BMP is in place and stormwater billing begins, whichever is later.
- Engineering calculations that are somewhat complex are required in order to establish eligibility to receive a credit. Therefore, certain parts of the application are required to be performed by a registered professional engineer (PE) in Nevada. See Form 3 at the end of this document.



- The basic procedure is to download or pick up an application packet; have the required engineering analysis performed; fill out the application and submit the required information. If eligibility is approved, the credit will be instituted by the County.
- To be eligible to receive any credit towards their storm water service fee, the property owner must ensure that: (1) each facility meets design, construction and maintenance standards in effect at the time of construction; (2) a complete Stormwater Utility Fee Credit Application Form sealed by a professional engineer licensed to practice in Nevada has been submitted; and (3) a signed Right-of-Entry by the owner thereof has been provided to the County. See Forms 1-3 at the end of this document.
- The Rational Method may be used for detention/retention basins. For the pre-development condition peak rate calculation, a Rational Method C factor of 0.20 to 0.30, depending on slope, shall be used.
- The approach taken to determine a credit for detention facilities is to analyze the performance of the facility for the 100-year 24-hour storm, based on the present standards of the County's design criteria. Water quality BMPs use the 20-year, 2-hour storm.
- After the completed application is received, the County will pull the site plan (if available) and provide it and a checklist to an inspector. The inspector will check the stormwater management BMP to insure it meets minimum design and maintenance requirements. If approved the County will then grant the credit retroactively back to the last billing date. If the facility is pre-existing, and the application is made within one year from the end of the month the first bill is sent, the credit will be given retroactively to the date of the first billing or the date the facility was first put into service, whichever is shorter. See Form 3 at the end of this document.
- If the facility fails the inspection, the County will provide a letter explaining the failure and steps necessary to qualify for a credit and re-inspection. After a successful inspection, the County will notify the owner of the results and credit amount, the effective date and will make the changes to the database. The County will conduct periodic inspections to insure continued maintenance of the facility is being provided. Failure to adequately maintain the facility will result in the loss of the stormwater fee credit for the remainder of the billing cycle, and may result in the facility being in violation of the Stormwater Management Ordinance.
- If all requirements and conditions described and contained in this Manual are met, the credit will be available upon successful completion of an application process and successful completion of a County inspection. The credit shall remain in force as long as the facility is not altered and is maintained in a satisfactory condition. The following section describes required maintenance of stormwater management BMPs.



SAMPLE MAINTENANCE STANDARDS

Adequate maintenance must be routinely performed, in order for stormwater management BMPs to operate as they were intended. Improperly maintained BMPs do not reduce stormwater impacts effectively and may actually create drainage problems. The following items are the basic minimum maintenance requirements for all stormwater facilities:

1. Sediment shall be removed when about 20% of storage volume of the facility is filled.
2. Sediment traps, if existing, shall be cleaned out when filled.
3. No woody vegetation shall be allowed to grow on the embankment without special design provisions, such as providing additional storage capacity.
4. Other vegetation shall be cut when it exceeds 18 inches in height unless part of managed landscaping.
5. Debris shall be removed from blocking inlet and outlet structures and from areas of potential clogging. This is especially important immediately before and after major storms. Extended detention control devices should be checked often for debris accumulation and/or clogging.
6. The control structures shall be kept structurally sound, free from erosion, and functioning as designed.
7. No standing water is allowed within detention basins except as specifically designed.

AMOUNT OF CREDIT

The overall goal of the County is to give a credit to property owners that are reducing the impact of stormwater generated by their property. By reducing the peak discharge of stormwater from their property, and/or reducing pollutant loading, property owners are reducing the demands on the County's drainage system and helping to protect other properties downstream.

Credits for properties with stormwater management BMPs are available after having first satisfied the application and if existing, maintenance requirements previously mentioned. The amount of credit for a variety of situations and conditions will be discussed with the SAC in detail.

BIG PICTURE TOPICS FOR SAC DISCUSSION

With the goal of successfully implementing an equitable, stable, adequate, and flexible revenue stream to administer an effective County SW Program, it is vitally important to find resolutions for a few "big picture" issues. These challenges must be discussed by the SAC to determine a "best fit" design for the SWU framework, policies, user fee credits, and adjustments.

Specifically, the SAC must address the following topics:

1. **Properties in the Lake Tahoe Basin** – Residential and non-residential properties are already paying for compliance with Lake Tahoe Total Maximum Daily Load (TMDL) program requirements and associated pollutant load reduction requirements pursuant to the County's Stormwater Load Reduction Plan (SLRP). These properties in compliance would certainly get a credit toward their user fee, but how much?



2. **Properties in Towns and General Improvement Districts (GIDs)** - Residents in Towns and GIDs pay for services, but many of these entities do not provide stormwater services. However, some do. What would be an equitable resolution for a user fee credit-based repayment for stormwater services provided by certain entities? Along these lines, the question has to be asked - “What level of service (i.e., flood protection from specific design storms) is actually being provided?” The SAC will be tasked with resolving the structure of Interlocal Agreements that will define the complex financial interaction and policies between the County and these entities.
3. **Properties designated as Agriculture (AG)** – AG properties clearly make up the majority of the County land in area. Some of the many AG properties provide floodplain storage, based on the latest (2016 Flood Insurance Study (FIS) Restudy) FEMA Digital Flood Insurance Rate Maps (DFIRMs). As such, there should be an associated credit. But, how much? Additionally, a lot of stormwater is conveyed through AG irrigation ditches, in which many contain numerous control structures. Should there be a coordinated effort between the County and AG property owners to optimize the ditch network for handling stormwater? Additionally, with the SWU serving as an operational umbrella, there needs to be regulations established that protect the water quality entering the AG lands from adjacent towns and GIDs. The amount of trash, debris, and pollutants that are conveyed onto the AG properties is staggering.

The alternatives for these big picture items go to a level that is far too detailed for an “overview” type memo about SWU user fee credits and adjustments. However, it was important to introduce these topics at this stage. A detailed matrix of options for consideration and discussion will be provided for SAC Meeting #3.

Provided below are sample SWU user fee credit application forms for stormwater management BMPs.



Douglas County SWM Program
SAMPLE Stormwater Fee Credit Application Form

(Form 1)

Instructions:

Fill out this form completely. A separate application must be made for each separate property location. One application can be made for multiple stormwater management BMPs to be inspected on the same property. Attach a separate sheet giving BMP location and description for each additional facility on the same property for which you are requesting inspection. Please insure all detention/retention facilities are in a proper state of repair and maintained.

Fill out and attach a Right-of-Entry Form (Form 2). Mail the completed form, Maintenance Plan, and Right-of-Entry to: Douglas County, Attn: County Engineer, 1594 Esmeralda Avenue P. O. Box 218, Minden, NV 89423

Parcel Identification Number (if known): _____

Site Location: _____

Street Address

City State Zip

Authorized Contact:

Name & Title (last, first)

Contact Mailing Address:

Street Address

Phone/Fax

I hereby request Douglas County review this application for a stormwater user fee credit. I further authorize the County to inspect the above identified stormwater management BMPs for the purpose of assessment of eligibility for a stormwater user fee credit. I certify that I have



authority to make such a request and grant such authority for this property. The attached information is true and correct to the best of my knowledge and belief. (This form must be signed by the financially responsible person if an individual, or if not an individual by an officer, director, partner, or registered agent with authority to execute instruments for the financially responsible person). I agree to provide corrected information should there be any change in the information provided herein.

Type or print name

Title or Authority

Signature

Date

Closest Cross Street: _____ **Distance and Direction from Cross Street:** _____

Side of Street (North, South, etc.): _____ **Landmark(s):** _____

Generally where on the site is(are) the BMP(s) located? Attach sketch if appropriate.



Douglas County SWM Program
SAMPLE Right-of-Entry

(Form 2)

_____ Hereinafter termed "Owner" and Douglas County, hereinafter termed "County" in consideration of the mutual promises of the Owner and County hereinafter contained, agree upon the following terms for the entry of the County and its representatives as set forth herein upon the real estate hereinafter described: _____

Owner hereby grants to County, its employees, agents, consulting engineers, contractors and other representatives the right to enter upon the above described real estate on and after _____, for the purpose of inspecting on-site stormwater management BMPs which work shall be completed strictly in accordance with the standard practice of engineering.

Owner hereby covenants with County that he/she is/they are the true and lawful owner of the above described real estate and has/have lawfully seized of the same in fee simple and has/have the right and full power to grant this right of entry, which right of entry shall continue in full force and effect for these purposes as long as the facility is in place.

IN WITNESS WHEREOF, the parties have caused their respective names to be signed hereto on the ___ day of _____, 20__.

Owner

Representing Douglas County



Douglas County SWM Program
SAMPLE Inspector's Checklist for Detention/Retention Facility Inspection

(Form 3)

Instructions to Inspector:

Make contact with the authorized contact from Form 1 and notify of and coordinate site inspection. Authorized contact or owner need not be present for site inspection though inspector should make reasonable effort to accommodate authorized contact's availability to accompany inspector.

Fill out the form completely only if the facility is in proper state of maintenance and repair. If not in proper repair and maintenance fill out only the "General Information" and "Maintenance and Repair" sections and return to the County Engineer.

If site plans were supplied by Engineering and all dimensions and necessary site improvement details can be checked against the plans, then only deviations from the plans should be noted and annotated in red pen on the plans. If plans are used, check the blocks in the "Facility" and "Drainage Area" sections. If site plans are not available or not used, fill out all sections fully.

Attach Form 1 and return to the County Engineer.

General Information

Inspector's Name: _____ Date Inspected: _____

Attach Form 1 for General Information

Maintenance and Repair

Description	YES	NO ¹
Is facility clear of debris or vegetation that may block outlet?		
Is facility clear of sediment deposits which significantly reduce storage volume?		



Nevada Registration Number (PE): _____

TOTAL SITE CHARACTERISTICS SUMMARY (Site plan attached as Attachment _____)

Total Site Area: _____ acres

Total Site Impervious Area: _____ acres (sum of the three below)

Paved Area: _____ acres Roof Area: _____ acres

Other Impervious Area: _____ acres (explain)

TOTAL SITE Q_{pre} : _____ **TOTAL SITE Q_{post} :** _____

(All methods of analysis and calculations are contained in Attachment(s) _____)

STORMWATER MANAGEMENT BMP GENERAL INFORMATION

(for the following items attach separate sheet for each facility)

Facility ID: _____

Facility Location on Site: _____

Description of Facility: _____

HYDROLOGIC CHARACTERISTICS

(Area delineated as shown in Attachment(s) _____)

All values requested pertain to the drainage area into the Facility being analyzed only, not the whole site.

Pre-development

Method used (check one) Rational Method Other: (specify) _____

Drainage Area to Facility: _____ acres

Runoff Coefficient:

Time of Concentration: _____ min (5 minutes minimum)

Rainfall Intensity (Rational Method only) _____ in/hr

Q_{PRE} _____ cfs

Post-development

Method used (check one) Rational Method Other: (specify) _____

Drainage Area Impervious Acreage: _____ acres (sum of the three below)

Paved Area: _____ acres Roof Area: _____ acres

Other Impervious Area: _____ acres (explain)

Runoff Coefficient:

Time of Concentration: _____ min (5 minutes minimum)

Rainfall Intensity (Rational Method only) _____ in/hr

Storm Length (Rational Method only) _____ minutes



BMP DATA (All calculations are contained in Attachment(s) _____)

BMP Storage Volume at Overflow _____ ft³

Inflow Hydrograph Peak Flow _____ cfs

Q_{POST} = Routed Hydrograph Peak Flow _____ cfs

Flow through outlet _____ cfs

Flow over emergency spillway _____ cfs

Attach stage-discharge-storage information in tabular form, storage volume calculations, outlet description, overflow description, runoff calculations, and all other pertinent information necessary to perform a detailed review.

ENGINEER'S CERTIFICATION:

I hereby certify that the stormwater management BMP(s) has (have) been constructed in substantial conformance with pertinent design requirements and that the BMP(s) is(are) in an acceptable state of maintenance and repair. I also certify that these calculations, technical details and information provided reflect accurately the condition of the BMP at the time of my inspection.

I further certify that the overall site hydrologic and hydraulic calculations are in conformance with applicable County regulations.

Signature and Seal of PE

