

# DRAFT 7.2015

## Chapter 13.35

### ADEQUATE WATER SUPPLY DETERMINATION ~~FOR BUILDING PERMITS~~

#### Sections

- 13.35.010 Authority.
- 13.35.020 Applicability.
- 13.35.025 Interim Measures.
- 13.35.027 Permanent Measures.
- 13.35.028 Applicability Outside Yakima River Drainage.
- 13.35.030 Group A Public Water System Requirements.
- 13.35.040 Group B Water System Requirements.
- 13.35.050 Individual Water System Requirements.
- 13.35.060 Shared Water System Requirements.

#### 13.35.010 Authority.

The Health Officer of the Kittitas County Public Health Department has the authority, on behalf of the County, to ascertain whether there is evidence of an adequate water supply per [Section 19.27.097 RCW](#), including whether proposed water systems comply with all state and local engineering, design and construction standards as set forth in the Joint Plan of Responsibility between the State of Washington Department of Health and the Kittitas County Public Health Department. ([Ord. 2011-006](#), 2011)

#### 13.35.020 Applicability.

All new uses of water must comply with KCC [13.35.025-Interim Measures](#) or KCC [13.35.027-Permanent Measures](#) as applicable. An Adequate Water Supply Determination is required of all persons who are:

1. applying for a building permit with either:
  - a. a proposed new structure which will have potable water; or
  - [b. a proposed change in the number of dwelling units for any existing structures \(such as making a single family structure into a duplex\); or](#)
  - [c. a replacement or rebuild of a building with potable water; or](#)
  - ~~b-d.~~ [changes to a pre-existing water system that adds fixtures; or](#)
2. making applications for land uses ~~that require water~~, including but not limited to, long plats, short plats, binding site plans, large lot subdivisions, or conditional uses.\*

An Adequate Water Supply Determination shall not be required for building permits that do not require a change in the water system or structures which will not have potable water plumbing. Kittitas County hereby finds that new uses of groundwater that are not mitigated in the Yakima River drainage basin threaten to interfere with senior water rights and stream flows creating a public health and safety threat that warrants elimination of all vesting under [RCW 58.17.170\(3\)](#) for this chapter. Kittitas County hereby eliminates all such vesting pursuant to the authority granted in [RCW 58.17.170\(3\)](#) for this chapter. ([Ord. 2014-005](#), 2014; [Ord. 2011-006](#), 2011)

\* Publisher's note: Corrected a grammatical error.

#### 13.35.025 Interim Measures.

1. Effective Period - June 2, 2014 to December 1, 2015 and applicable to all areas within the Yakima River drainage.\*
2. All proposed land division and building permit applicants shall submit either: 1) a letter from a water purveyor stating that the purveyor has adequate water rights and will provide the necessary water for the applicant's project; 2) an adequate water right for the proposed project; or 3) a certificate of water budget neutrality from the Department of Ecology or other adequate interest in water rights from a water

## DRAFT 7.2015

bank. No project to which this chapter is applicable shall be approved without one of these required submissions.

3. All applicants for land divisions shall also submit information on "proximate parcels" held in "common ownership" as those terms are defined in [WAC 173-539A-030](#) and otherwise demonstrate how the proposed new use will not violate [RCW 90.44.050](#) as currently existing or hereafter amended.
4. All proposed new instances of groundwater use for non-commercial lawn or garden purposes shall need to demonstrate either (1) ownership of an adequate water right or (2) adequate mitigation has been purchased.
5. All new proposed commercial and industrial uses shall need to demonstrate either (1) ownership of an adequate water right, (2) connection to a municipal water purveyor, or (3) purchase of adequate mitigation.
6. All mitigation during the Interim Measures shall be for Total Water Supply Available at Parker (TWSA at Parker).
7. Failure to obtain mitigation before commencement of an activity requiring mitigation shall be a code violation subject to enforcement under [Title 18 KCC](#).
8. Violation of water limits involved in the mitigation agreement shall be a matter between the land owner and the provider of mitigation and enforceable as provided in said mitigation agreements.
9. Adequacy of mitigation shall be determined by the Department of Ecology and a letter to the purchasing applicant attesting to the adequacy of the mitigation purchased shall issue and be presented to Kittitas County.

(Ord. 2014-005, 2014)

\* Publisher's note: Interim dates were erroneously listed as becoming effective 3/31/2015 in Exhibit E. The effective dates have been corrected per [Ordinance 2014-005, page 19](#).

### 13.35.027 Permanent Measures

1. Effective Date ~~4/12/2~~15-onward and applicable to all areas in the Yakima River drainage.
2. All new uses of ground water shall require either: 1) a letter from a water purveyor stating that the purveyor has adequate water rights and will provide the necessary water for the new use; 2) an adequate water right for the proposed new use; or 3) a certificate of water budget neutrality from the Department of Ecology or other adequate interest in water rights from a water bank. No new use to which this chapter is applicable shall be approved without one of these required submissions.
3. All applicants for land divisions shall also submit information on "proximate parcels" held in "common ownership" as those terms are defined in [WAC 173-539A-030](#) and otherwise demonstrate how the proposed new use will not violate [RCW 90.44.050](#) as currently existing or hereafter amended.
4. Failure to obtain mitigation before commencement of an activity requiring mitigation shall be a code violation subject to enforcement under [Title 18 KCC](#).
5. Violation of water limits involved in the mitigation agreement shall be a matter between the land owner and the provider of mitigation and enforceable as provided in said mitigation agreements.
6. Adequacy of mitigation shall be determined by the Department of Ecology and a letter to the purchasing applicant attesting to the adequacy of the mitigation purchased shall issue and be presented to Kittitas County.
7. All mitigated water uses shall also demonstrate that they are metered and monitored annually in accord with the agreement between the land owner and the mitigation provider.
8. All mitigation during the Permanent Measures shall be for TWSA Parker and local tributary impairment.

(Ord. 2014-005, 2014)

### 13.35.028 Applicability Outside Yakima River Drainage

Applicants for land divisions within Kittitas County and outside the Yakima River drainage will need to comply with [KCC 13.35.025\(3\)](#) regardless of the date of project application.

(Ord. 2014-005, 2014)

# DRAFT 7.2015

## 13.35.030 Group A Public Water System.

Applicants for an Adequate Water Supply Determination where the source is a Group A public water system shall provide to KCPHD:

1. A completed water adequacy application signed by the water purveyor along with any applicable fees;
2. The final water system identification number from the Department of Health; and
3. Verification that the Department of Health operating permit is either in Yellow or Green status. Applicants for a building permit expecting to be supplied with drinking water from a purveyor with an operating permit in Red status (inadequate) or in Blue status (operating without design approval, or exceeded number of DOH-approved connections) will not be approved by KCPHD. (Ord. 2011-006, 2011)

## 13.35.040 Group B Public Water System.

Applicants for an Adequate Water Supply Determination where the source is a Group B public water system shall provide to KCPHD:

1. A completed application signed by the water purveyor along with any applicable fees;
2. The final water system identification number from the Department of Health; and
3. Certification that the Group B public water system has been constructed and maintained in accordance with the KCPHD or DOH approved plans and specifications, including up to date monitoring and financial information. (Ord. 2011-006, 2011)

## 13.35.050 Individual Water System.

Applicants for an Adequate Water Supply Determination with an individual water system shall meet the following requirements:

1. Application. Submit a completed application with any applicable fees to KCPHD.
2. Groundwater Well as Water Source. The water quality and quantity of the groundwater well shall be evaluated for an Adequate Water Supply Determination by KCPHD.
  - a. Water Quality. The water produced by the water source shall either:
    - i. Pass a water quality test with results submitted to KCPHD; or
    - ii. If the water fails the water quality test, then applicant shall
      1. Add a treatment system to raise the water quality to potable standards. The treatment system shall comply with all applicable federal, state and local regulations and shall protect the health and safety of the users of the system; and
      2. File a notice with the County Auditor describing the treatment system.
  - b. Water Quantity.
    - i. All wells to be used in an individual water system shall be constructed prior to the issuance of an Adequate Water Supply Determination.
    - ii. A well log recorded within the last ten (10) years demonstrating a minimum flow of two (2) gallons per minute (GPM) for at least a two (2) hour period shall be submitted to KCPHD.
      1. If a well log is not available or the well log indicates a flow of less than two (2) GPM for a two (2) hour period, then a four-hour draw down test shall be submitted to KCPHD.
      2. A well log that was recorded more than ten (10) years ago may be accepted at the discretion of the Health Officer.
    - iii. The minimum acceptable production level where the water source is a well is three hundred fifty (350) gallons per day for an individual water system.
3. Water Distribution System. When the water source is a well and produces less than two gallons per minute (2 GPM) according to the well log or four-hour draw down test, adequate flow equalization is required for periods of higher use within the dwelling unit. The water distribution system design shall meet the following requirements:
  - a. Flow equalization tank requirements shall be determined by the following:  $(150)(2-X \text{ gpm}) =$  gallons of tank capacity needed (where X = gallons per minute produced as determined by the

## DRAFT 7.2015

four-hour draw down test). The required tank capacity could be as much as 263 gallons depending on the flow of the well.

- b. A booster pump and pressure tank shall be included in the water distribution system.
- 4. Cistern as Water Source. When the proposed water source is a cistern, the applicant for a Water Supply Determination shall comply with [Chapter 13.25 KCC](#).

([Ord. 2014-015](#), 2014; [Ord. 2014-005](#), 2014; [Ord. 2011-006](#), 2011)

### **13.35.060 Shared Water System.**

Applicants for an Adequate Water Supply Determination with a connection to a shared water system shall meet the following requirements:

1. Application. Submit a completed application with any applicable fees to KCPHD. This includes a valid Shared Well Users Agreement signed by both users of the well that is recorded with the County Auditor.
2. Groundwater Well as Water Source. The water quality and quantity of the groundwater well shall be evaluated for an Adequate Water Supply Determination by KCPHD.
  - a. Water Quality. The water produced by the water source shall either:
    - i. Pass a water quality test with passing results submitted to KCPHD; or
    - ii. If the water fails the water quality test, then applicant shall:
      1. Add a treatment system to raise the water quality to potable standards. The treatment system shall comply with all applicable federal, state and local regulations and shall protect the health and safety of the users of the system; and
      2. File a notice with the County Auditor describing the treatment system.
  - b. Water Quantity.
    - i. All wells to be used in a shared water supply system shall be constructed prior to the issuance of an Adequate Water Supply Determination.
    - ii. A well log recorded within the last ten (10) years demonstrating a minimum flow of five (5) gallons per minute (GPM) for at least a two (2) hour period shall be submitted to KCPHD.
      1. If a well log is not available or the well log indicates a flow of less than five (5) GPM for the two (2) hour period, then a four-hour draw down test shall be submitted to KCPHD.
      2. A well log that was recorded more than ten (10) years ago may be accepted at the discretion of the Health Officer.
    - iii. The minimum acceptable production level for a shared water supply system is seven hundred (700) gallons per day.
3. Water Distribution System. When the water source produces less than five (5) gallons per minute according to the well log, adequate flow equalization is required for periods of higher use within the two dwelling units. The water distribution system design shall be submitted by a licensed engineer, bear the engineer's seal and signature, and meet the following requirements:
  - a. Flow equalization tank requirements shall be determined by the following:  $(150)(5-X \text{ gpm}) =$  gallons of tank capacity needed (where X = gallons per minute produced as determined by the four-hour draw down test). The required tank capacity could be as much as 675 gallons depending on the flow of the well.
  - b. A booster pump and pressure tank shall be included in the water distribution system. ([Ord. 2014-005](#), 2014; [Ord. 2011-006](#), 2011)

# DRAFT 7.2015

## **Chapter 13.40**

### **KITTITAS COUNTY MITIGATION AND METERING PROGRAM**

#### **13.40.010 Eligibility.**

Applicants for residential building permits requiring mitigation may use the publicly-operated Kittitas County Water Bank if certain qualifications are met. To be eligible to mitigate through the Kittitas County Water Bank, an applicant must meet the following requirements:

1. Be located within an area in which the Kittitas County Water Bank can provide adequate water mitigation, and
2. Submit an application for a residential building permit within one (1) year of issuance of the mitigation certificate. Commercial uses are not eligible.

Applicants must submit a project eligibility application, mitigation application, all applicable documentation, and all applicable fees (according to the Kittitas County Public Health Department fee schedule) to the Kittitas County Public Health Department (KCPHD) prior to submitting an Adequate Water Supply Determination application. Applicants will also be required to legally record the mitigation certificate and any applicable agreements on the title record associated with the property parcel.

#### **13.40.020 Water Usage Packages**

Applicants with access to outdoor irrigation (as determined by a signed affidavit) will be required to purchase mitigation Package A which consists of an annual average of 275 gallons per day of indoor domestic use only. The daily maximum withdrawal allowed on any given day is 825 gallons per day, as long as the annual average is not exceeded.

Applicants without access to outdoor irrigation (as determined by a signed affidavit) will be required to purchase mitigation Package B which consists of an annual average of 275 gallons per day of indoor domestic use only and up to an annual average of 25 gallons per day for outdoor irrigation of up to 500 square feet. The daily maximum withdrawal allowed on any given day is 900 gallons per day, as long as the annual average is not exceeded.

#### **13.40.030 Metering Requirements**

Participants in the Kittitas County Water Bank will be required to meter their mitigated water usage and pay an annual fee (according to the Kittitas County Public Health Department fee schedule) associated with the administration of a metering and monitoring program.

Participants will be responsible for the purchase and installation of all metering equipment as determined by the County's specifications. Meter installation must meet the following specifications and will be subject to inspection and applicable inspection fees:

1. The meter must be installed on the mainline prior to any residential lateral connections, spigots or pressure tanks in a well house.
2. Meters will not be permitted in secured structures and must be accessible.
3. The meter must be installed according to manufacturer specifications despite varying pipe-fitting, pipe size, well locations and landscape conditions.
4. Meter installation must have an even velocity profile. Installer must insure proper design and installation.
5. Meter must be installed in an accessible, weather resistant, meter box, and be appropriate for location and geographic area.

Proper installation of metering equipment and functional water flow must be complete prior to the inspection and issuance of the Certificate of Occupancy.

## DRAFT 7.2015

If metering equipment requires maintenance, repair, and/or replacement, the property owner is responsible for ensuring proper equipment functionality. If the property owner does not comply with any needed maintenance, repair, and/or replacement of the metering equipment, the County will complete the needed maintenance, repair, and/or replacement of the metering equipment at the cost of the property owner through either an invoice for costs or a lien on the property.

### **13.40.040 Well Requirements**

Wells being mitigated through the Kittitas County Water Bank that are drilled after 12/2/15 must meet the following conditions:

For wells 600 feet or closer to Type 1 and Type 2 stream and rivers, and natural wetlands, creeks, lakes, and ponds, the following criteria must be met:

1. When feasible, wells must be set back 100 feet or more from the surface water body and adhere to the following:
  - a. Wells must be cased a minimum depth of 5 feet into the first consolidated layer or formation, or until the casing is refused by the formation (casing refusal); and
  - b. Wells shall have a minimum bentonite or other equivalent seal of 18 feet; and
  - c. Wells must be drilled past the first consolidated layer or formation and into a water-bearing zone.
  
2. In instances where the 100 foot minimum set back requirement is infeasible, the following criteria must be met:
  - a. Wells must be cased a minimum depth of 5 feet into the first consolidated layer or formation, or until the casing is refused by the formation (casing refusal); and
  - b. Wells shall have a bentonite or other equivalent seal down to the first consolidated layer; and
  - c. Wells must be drilled past the first consolidated layer or formation and into a water bearing zone.

### **13.40.050 Septic Requirements**

Kittitas County Water Bank applicants must record with the Kittitas County Auditor's office a property covenant that restricts or prohibits trees or shrubs over a septic drain field on the parcel.

### **13.40.060 Monitoring and Enforcement**

Water usage will be monitored for annual average daily use, maximum daily use, outdoor usage, and intentional violations such as meter tampering, falsifying documents, etc. Violations of water usage restrictions may result in enforcement actions such as Orders to Correct Violations, Notices of Violation and Abatement, and/or Notices of Infraction per KCC Chapter 18.

# KITTITAS COUNTY PUBLIC HEALTH DEPARTMENT

## WATER BANK MITIGATION & METERING PROGRAM POLICY & PROCEDURES

### I. Purpose

It is the purpose of this policy to establish standards and procedures for the administration, monitoring, and enforcement of the water mitigation and metering program for all wells mitigated through the Kittitas County Water Bank.

### II. Policy

#### Mitigation and Metering Program Administration:

- A. All persons wishing to mitigate their water usage through the Kittitas County Water Bank shall first go through an eligibility review process and pay all applicable fees to determine well construction requirements and eligibility for the over-the-counter program.
- B. The Kittitas County Water Bank will have two packages available for water mitigation:
  1. Applicants with access to outdoor irrigation (as determined by a signed affidavit) will be required to purchase mitigation Package A which consists of an annual average of 275 gallons per day of indoor domestic use only. The daily maximum withdrawal allowed on any given day is 825 gallons per day, as long as the annual average is not exceeded.
  2. Applicants without access to outdoor irrigation (as determined by a signed affidavit) will be required to purchase mitigation Package B which consists of an annual average of 275 gallons per day of indoor domestic use only and up to an annual average of 25 gallons per day for outdoor irrigation of up to 500 square feet. The daily maximum withdrawal allowed on any given day is 900 gallons per day, as long as the annual average is not exceeded.
- C. Access to outdoor irrigation will be determined with a signed customer affidavit (Appendix A).
- D. The metering program and requirements will be initiated as a part of the application and issuance of the water bank certificate of mitigation, which will occur prior to submitting an application for Adequate Water Supply Determination.
- E. All customers will sign and comply with a metering agreement (Appendix B) and pay all applicable fees at the time of application for a water bank certificate of mitigation.
- F. The mitigation certificate and the metering agreement shall be legally recorded with the Kittitas County Auditor's office on the title record associated with the property parcel by the customer.
- G. The timely purchase, installation, monitoring, and replacement of all metering equipment in accordance with specifications and Kittitas County Code shall be the responsibility of the customer. All Kittitas County Water Bank customers must purchase the Badger Meter Company Recordall® Disc Series Meter and Orion Cellular Endpoint (meter reader) and all necessary materials for proper installation and function.



- H. The customer must have an active building permit approved within one year of approval of an Adequate Water Supply Determination (AWSD) that includes mitigation through the Kittitas County Water Bank. If an active building permit or an extension is not approved, the water mitigation certificate will no longer be valid, will be returned to the Kittitas County Water Bank, and will be documented on the property title. The portion of the fee that covers the cost of water will be refunded minus a processing fee and all other fees will be forfeited.
- I. If a customer who purchases water mitigation through the Kittitas County Water Bank is later required to connect to a municipal water source, the mitigation certificate associated with the parcel will be returned to the Kittitas County Water Bank and will be documented on the property title. The portion of the fee that covers the cost of water will be refunded minus a processing fee and all other fees will be forfeited.

Mitigation and Metering Program Monitoring and Enforcement:

- A. Allowed usage for Package A is 275 gallons per day to be measured on an annual average and 825 gallons per day for a daily maximum withdrawal. Allowed usage for Package B is 300 gallons per day to be measured on an annual average and 900 gallons per day for a daily maximum (this *includes* up to 500 square feet of outdoor use).
- B. Kittitas County Public Health Department (KCPHD) staff will monitor and analyze water usage data at least once during each of the following months: March, July, August, September, and October.
- C. KCPHD staff will ensure customers have access to their water usage data at least annually with the annual metering fee billing.
- D. Enforcement of water usage restrictions associated with the Kittitas County Water Bank will consist of the following primary approaches:
  - 1. KCPHD staff shall monitor and maintain the overall consumptive use of the water bank certificates sold by measuring overall average draw from the water bank. Overall water bank usage shall remain less than or equal to the sum of the recorded certificate volumes as a whole.
  - 2. Individual well usage will be measured and monitored for daily overages and annual average overages. KCPHD staff will work with customers to seek voluntary compliance before initiating code enforcement actions; however Kittitas County reserves the right to use Kittitas County Code enforcement procedures to rectify any compliance issues. In addition, in the case of drought conditions, the county may impose stricter compliance requirements and enforcement actions.
  - 3. KCPHD staff will respond to and investigate complaints or other indications that violations of water usage restrictions may be occurring.
  - 4. KCPHD staff will consider extenuating circumstances (including, but not limited to, household size, health issues, etc.) in determining potential violations and/or enforcement actions. These circumstances will be considered and addressed at the discretion of the KCPHD Environmental Health Supervisor, Administrator, or Health Officer or designee.



### III. Procedures

#### Mitigation and Metering Program Administration:

- A. KCPHD staff shall have available in the office and on the county website detailed and clear information about the mitigation and metering program policies, procedures, and specifications.
- B. Customers desiring to mitigate for ground water withdrawal using the Kittitas County Water Bank shall first submit an eligibility review application and all associated fees. KCPHD staff will notify applicant regarding eligibility status within ten business days.
- C. If determined to be eligible, KCPHD staff will notify customers to submit a mitigation application, metering agreement, and all associated fees for a water bank certificate and for the water metering program to KCPHD. Only applications complete with all of these items will be accepted.
- D. KCPHD staff will review and approve the mitigation certificate application, irrigation affidavit, and metering agreement; and issue the mitigation certificate to the customer within ten working days of receipt of the mitigation application. The customer then needs to legally record the mitigation certificate, irrigation affidavit, and the metering agreement with the Kittitas County Auditor's office on the title record associated with the property parcel.
- E. KCPHD staff will record the mitigation certificate in a database and set up a metering account in the metering program software as well as any accounts needed for billing of the annual metering fee.
- F. KCPHD staff will record an appropriate conveyance instrument under which the applicant obtains an interest in a Trust Water Right with the Kittitas County Auditor's office on the title record associated with the property parcel.
- G. The customer submits an application for an Adequate Water Supply Determination (AWSD) with the mitigation certificate, metering agreement, proof of legal recording on the property deed, and all other requirements associated with an AWSD to KCPHD.
- H. KCPHD staff will issue an approved AWSD to the customer and verify that the customer obtains an active building permit within one year.
- I. The customer purchases and installs all required metering equipment according to required specifications in Kittitas County Code and all manufacturer requirements prior to the inspection.
- J. KCPHD staff will inspect and sign off on customer compliance with meter installation specifications according to county code via the appropriate inspection form (Appendix C.) The customer must ensure that water flow is functional at the time of inspection.
- K. If an additional inspection is needed, additional fees may apply.
- L. Final Certificate of Occupancy will not be granted from Kittitas County Building Department until the installation and inspection process is complete and approved.

#### Mitigation and Metering Program Monitoring and Enforcement:

- A. Reporting of mitigation and metering data will be provided to the Washington State Department of Ecology annually and the Water Transfer Working Group in April and October of each year. Reporting will include the following:

1. Information as to whether the rate and location of building permit applications are below, at, or above the projections used during the over the counter approval process; and
  2. The number of permits issued, maps of the general locations of the permits, comparisons of projections versus actual data, and a list of the certificate numbers authorized by the Kittitas County Water Bank program and the corresponding parcel to which each is attached.
- B. During the required monitoring months, KCPHD staff will monitor metering data for both compliance with overall consumptive use of the water bank and daily individual usage.
- C. Annually, KCPHD will monitor metering data for both compliance with overall consumptive use of the water bank and average annual withdrawals per well.
- D. In the case that individual well usage exceeds the established *daily maximum*, the following actions will be taken by KCPHD staff at the time of scheduled monitoring:

<b>Excess Daily Maximum Usage</b>	<b>Compliance Action</b>
Any one day of excess usage during a monitoring period	Account flagged internally for future monitoring
Two days or more of excess usage during one monitoring period	Letter to customer notifying them of usage limitations (Appendix D)
Second repeat of at least two days of excess usage during one monitoring period within one year or less	Direct phone or face to face contact with customer to identify extenuating circumstances or any potential issues that can be remedied and seek voluntary compliance
Third repeat of at least two days of excess usage during one monitoring period within one year or less	Order to correct violation per Kittitas County Code (Appendix E)
Fourth repeat of at least two days of excess usage during one monitoring period within one year or less	Notice of Violation and Abatement or Notice of Infraction per Kittitas County Code

- E. In the case that individual well usage exceeds the established *annual average maximum*, the following actions will be taken by KCPHD staff:

<b>Excess Annual Average Usage</b>	<b>Compliance Action</b>
Any one year of excess usage	Letter to customer notifying them of usage limitations (Appendix D) and direct phone or face to face contact with customer to identify extenuating circumstances or any potential issues that can be remedied and seek voluntary compliance
Any two years of excess usage within a five year period	Order to correct violation per Kittitas County Code (Appendix E)
Any three years or more of excess usage within a five year period	Notice of Violation and Abatement or Notice of Infraction per Kittitas County Code

- F. In the case that that the limitation on square footage of lawn or garden (Package B only) is exceeded, the following compliance actions will be taken by KCPHD staff:

<b>Excess Lawn/Garden Usage</b>	<b>Compliance Action</b>
Any one instance of excess usage	Order to correct violation per Kittitas County Code (Appendix E)
Any second or more instance of excess usage, or lack of voluntary compliance after first instance	Notice of Violation and Abatement or Notice of Infraction per Kittitas County Code

- G. Intentional violations, such as but not limited to, meter tampering, falsifying irrigation affidavits, etc. will result in an immediate Notice of Violation and Abatement or Notice of Infraction per Kittitas County Code.

#### **IV. Applicability**

- A. This policy applies to all county staff working in the water mitigation and metering program; and all wells mitigated through the Kittitas County Water Bank.
- B. This policy is effective on the date both the Public Health Administrator and the Health Officer have signed.
- C. This policy is subject to review annually.

\_\_\_\_\_  
Public Health Administrator

\_\_\_\_\_  
Date

\_\_\_\_\_  
Health Officer

\_\_\_\_\_  
Date



## GMA Water Compliance Fact Sheet Permanent Measures

### BACKGROUND:

The Yakima River Drainage Basin, which comprises the majority of Kittitas County, is fully appropriated. There is no water available for new appropriations. Senior water rights are defined with priority dates prior to May 10, 1905. All later priority dates are junior may be at risk of curtailment during drought years, whether they are surface water or ground water uses.

Kittitas County recently settled a compliance order from the Growth Management Hearings Board which requires that the County, among other things, employ measures to protect the quality and quantity of surface water and ground water resources.

The County entered into a settlement agreement with the appellants in the Growth Management Hearings Board case, including the Department of Ecology (Ecology). The settlement agreement was signed on May 15, 2014 and required the County to consider regulations to require mitigation for new uses of ground water in the Yakima River Drainage Basin in Lower Kittitas County. Upper Kittitas County has been under an Ecology rule (WAC 173-539A) requiring mitigation and metering of all new uses of water since July 16, 2009.

As part of the settlement agreement, the county implemented an interim period of regulation beginning June 1, 2014 through December 1, 2015. Permanent regulations go into effect on December 2, 2015. The interim period rules ending December 1, 2015 are more flexible than the permanent regulations coming into effect. During the permanent measures, applicants for building permits have the option of obtaining mitigation from private water banks or from a county-operated public water bank.

### PERMANENT MEASURES:

- Replaces the interim measures beginning December 2, 2015.
- Water Budget Neutral (WBN) Mitigation is required for all new uses of ground water in all of Kittitas County within the Yakima River Drainage Basin.
- Kittitas County Water Bank will offer WBN mitigation for residents pursuing building permits in the green zones and yellow zones of the County Water Bank.
- Mitigation can also be provided through private water banks.
- Metering, monitoring and reporting of the water use is required for all new ground water uses in Kittitas County (including mitigation through private water banks).
- Private water banks will continue to provide WBN mitigation to interested applicants.
- Building permit applicants will continue to be required to record their water use restrictions as a deed restriction prior to a building permit being issued.

**Note:** As part of the Settlement Proposal, the County is also agreeing to obtain mitigating senior water rights for all current junior domestic ground water uses in the County and hold them in perpetuity.

**DEFINITIONS:**

**Appropriation-** The use of water for a beneficial purpose.

**Curtailment-** the action of reducing or restricting water use based on priority.

**Domestic Water Use-** Water used for household purposes, including human consumption, food preparation, household cleaning, personal hygiene, and watering lawns and gardens.

**Deed Restriction-** A restriction on how property may be used. In this case, it concerns the use of water on the property. This deed restriction would not impact other water rights which may also be attached to the property.

**Growth Management Hearings Board-** The Growth Management Hearings Board is a body appointed by the Governor that hears and determines allegations that a government agency is not in compliance with the Washington State Growth Management Act (Chapter 36.70A RCW).

**Ground Water-** Water beneath the earth's surface, often between saturated soils and rock, that supplies wells and springs.

**Junior Water Right-** A water right is the right to divert public waters of the state and put them to beneficial use. A junior water right is a "newer" water right that is inferior to senior or "older" water rights and may be curtailed during times of drought or impairment. Junior water rights are not allowed to use water when there is not enough water to satisfy senior water rights. In the Yakima River Drainage Basin, junior water rights are those issued after May 10, 1905.

**Mitigation-**To make something less severe or harmful. In this case, mitigation can be in the form of a portion of a water right purchased from a water bank. The adequacy of mitigation shall be determined by Ecology.

**Perpetuity-** The state of continuing forever or for a very long time.

**Senior Water Right-** A water right is the right to divert public waters of the state and put them to beneficial use. Senior water rights are "older" rights which were established first. Senior water rights have priority over junior water rights, especially during times of drought or impairment. Senior water rights must be fully satisfied before water is available for junior water rights holders. In the Yakima River Drainage Basin, senior water rights are those issued prior to May 10, 1905.

**Surface Water-** Water that is on the surface of the earth such as in a stream, river, lake, wetland, or ocean.

**Water Bank-** Water banking is an institutional mechanism used to facilitate the legal transfer, purchase, and market exchange of various types of surface, groundwater, and storage entitlements. Although water banking approaches may differ, the common goal is to move water to where it is needed most. In this case, it allows individuals to purchase a small percentage of an existing senior surface water right sufficient to mitigate for a new ground water use.

**Water-Budget Neutral (WBN) -** This is a withdrawal of water whose impact to area streams is offset by water from existing water rights being left in-stream. The consumptive use (amount of water not returned to rivers and streams) does not exceed the amount of water of these existing water rights. These existing rights can be purchased on your own or through water banks. Banked water is water put into the state trust water rights program as an "in stream flow water right" (water left in the stream for the benefit of the stream and all the life that depends on adequate stream flows).

**Yakima River Drainage Basin-** The land area which drains into the Yakima River main stem, a major tributary of the Columbia River. This is inclusive of all sub-basin tributaries to the Yakima River. The area of Kittitas County from Snoqualmie Pass on the western border to Ryegrass in the eastern part of the County resides in the Yakima River Drainage Basin.

**RESOURCES:**

What zone is my parcel in? Go to <http://gis.co.kittitas.wa.us/compas/default.aspx> and search your parcel, then critical areas; look for qualifying water banks.

For maps and contact information of all private water banks, go to Ecology's Yakima River Basin Exchange site at <http://www.ecy.wa.gov/programs/wr/cro/wtrxchg.html> or call the Washington State Department of Ecology at (509)575-2490 for general water bank and water use information.

For more information contact the Kittitas County Public Health Department at (509)962-7515 or visit our website at <http://www.co.kittitas.wa.us/health/programs/environmental-health/water-resources.aspx>

## PERMANENT MEASURES FREQUENTLY ASKED QUESTIONS July 2015

**1. What will change on December 2, 2015?**

On December 2, 2015 all new domestic uses of ground water in Kittitas County require mitigation and metering in lower Kittitas County and continued mitigation and metering in upper Kittitas County.

**2. If I have an existing residence served by a well or other water system, do I have to mitigate for my water usage?**

No. Existing uses will not be affected by these new regulations. New uses and (which includes expanded uses) will be required to mitigate.

**3. What if I have an interim mitigation certificate from the County?**

If you have an interim mitigation certificate and have submitted a complete building permit application before December 2, 2015 you have met mitigation requirements as long as your building permit remains active. An active building permit requires a passing inspection 365 days after the building permit has been issued, a passing inspection every 365 days thereafter, or a permit extension submitted to CDS prior to the expiration date (per Kittitas County Code Ch. 14.04.070).

**4. If I have a building permit but haven't finished building the house, do I need to put a meter on my well?**

No, only new uses on or after December 2, 2015 require metering water usage.

**5. What options for purchasing mitigation will be available on December 2, 2015?**

There are several private water banks that serve Kittitas County. Additionally, Kittitas County Public Health will process water mitigation for the Kittitas County Water Bank. You can identify which water banks serve your parcel by going to <http://www.ecy.wa.gov/programs/wr/cro/wtrxchg.html>. If you are in a green or yellow zone you may be able to purchase from private water banks or the County's water bank.

**6. How much water can I buy from water banks?**

There are two packages available from the Kittitas County Water Bank: Package A is 275 gallons per day for indoor residential use only (requires that irrigation is available through signed affidavit) and Package B is 275 gallons per day indoor residential use with 25 gallons per day outside use (requires that no irrigation is available through signed affidavit). Private water banks sell different packages and should be contacted directly for options.

**7. What if my parcel is in a yellow zone?**

- The Washington State Department of Ecology has identified zones by color indicating suitability for water exchange. Green zones indicate likely-suitable for Water Budget Neutral (WBN) exchange; yellow zones indicate more research is needed to determine suitability of WBN exchange; and red zones indicate that the area is unsuitable for WBN exchange.
- If your parcel is in a yellow zone, you may contact private water banks and inquire as to the process for determining whether mitigation is available for your parcel.
- If you are interested in using the Kittitas County Water Bank and you are in a yellow zone, Kittitas County is working on a process to provide mitigation for yellow zones. Additional review may be required prior to mitigation approval.

**8. What if I am in a red zone?**

If you are in a red zone, there are currently no water banks that serve your parcel. Options include finding a direct seller of water rights in the appropriate water basin, or the use of a cistern as is defined in Kittitas County Code Title XIII, Chapter 13.25. This code is available on the Kittitas County website.

**9. Do these new regulations change anything for the Upper Kittitas County area?**

The Permanent Measures will apply county-wide within the Yakima River Basin and they include the similar restrictions as the Upper County Rule (WAC 173-539A). Washington State Department of Ecology has agreed, as part of the settlement agreement, to consider beginning the process of withdrawing WAC 173-539A (Upper County Rule) within 180 days of the County implementing the Permanent Measures.

**10. Will I be able to water my lawn and /or have a garden and trees?**

Yes, if your property has deeded irrigation water rights available for use, then these regulations will not apply to your use of that water. If you have established beneficial use of an existing exempt well for irrigation, State Law allows you to continue to irrigate up to ½ acre of non-commercial lawn or garden. If you do not have an irrigation water right or have not used your well for prior irrigation, then your usage will be limited. However, you may be able to obtain additional mitigation specific to outdoor use from the well.

**11. Do I need to obtain mitigation before I can drill a well?**

No, you do not. However, without mitigation, you do not have a legal right to withdraw water from that well. Proof of mitigation is required prior to applying for a building permit.

**12. Where do I get information about obtaining mitigation?**

- For information about the Kittitas County Water Bank you can visit <http://www.co.kittitas.wa.us/health/programs/environmental-health/water-resources.aspx> or call the Kittitas County Public Health Department at (509) 962-7515.
- For information about private water banks, you can visit The Kittitas County Maps and Apps portal to determine what banks serve your parcel using the parcel number in the critical areas tab at <http://www.co.kittitas.wa.us/it/gis.aspx>.
- For information about obtaining mitigation you can visit the Washington State Department of Ecology's website at <http://www.ecy.wa.gov/programs/wr/cro/wtrxchg.html>. The cost of obtaining mitigation depends on which water bank you purchase from and the volume of water needed.

**13. I have a shared well, but have only built on one parcel. Do I need to mitigate for the second connection?**

Yes, mitigation will be required for any new uses.

**14. I had a house on my property that recently burned down. Will I need to obtain mitigation to rebuild?**

No. If you previously had a permitted home on your property with a well then a water right for domestic use was already established. Existing rights are not affected by these new regulations.

**15. I have an existing stock water well, is that going to be limited by the new regulations?**

No. Established water rights for various uses are not limited by the new regulations. Additionally, stock watering is primarily regulated by the state through the Department of Ecology, not the County. As long as you continue using the well for the established purpose, the county will not require you to mitigate.

**16. Will I have to meter my water usage if I obtain mitigation from a water bank?**

Yes, all new uses mitigated through water banks must be metered. The specifics of the metering requirements may differ depending on the water bank from which the mitigation was obtained.



## DEFINITIONS:

- **Domestic Water Use** -Water used for household purposes, including human consumption, food preparation, household cleaning, personal hygiene, and watering lawns and gardens.
- **Individual Well**- A water system serving one single family residential connection.
- **Interim Measures**-The 18 month period in which all new domestic, commercial, irrigation and industrial uses of ground water in the rural areas of Kittitas County not regulated by Chapter 173-539A Washington Administrative Code (WAC) will be water budget neutral with respect to the Total Water Supply Available (TWSA) as measured at the Parker Gauge on the main stem of the Yakima River.
- **Mitigation**-To make something less severe or harmful. In this case, mitigation can be in the form of a portion of a water right purchased from a water bank. The adequacy of mitigation shall be determined by Ecology.
- **Permanent Measures**-Period in which all new water uses in the Yakima River Drainage Basin (including area defined by chapter 173-539A WAC) are required to provide evidence of local (stream or creek tributaries) mitigation as a condition of final plat and building permit approval.
- **Shared Well**- A water system that serves two connections.
- **Water Bank**- Water banking is an institutional mechanism used to facilitate the legal transfer, purchase, and market exchange of various types of surface, groundwater, and storage entitlements. Although water banking approaches may differ, the common goal is to move water to where it is needed most. In this case, it allows individuals to purchase a small percentage of an existing senior surface water right sufficient to mitigate for a new ground water use.
- **Budget Neutral**- This is a withdrawal of water whose impact to area streams is offset by water from existing water rights being left in-stream. The consumptive use (amount of water not returned to rivers and streams) does not exceed the amount of water of these existing water rights. These existing rights can be purchased on your own or through [water banks](#). Banked water is water put into the state trust water rights program as an “in- stream flow water right” (water left in the stream for the benefit of the stream and all the life that depends on adequate stream flows).
- **Water Right**-A legal authorization to use a predefined quantity of public water for a designated purpose.
- **Yakima River Drainage Basin**- The land area which drains into the Yakima River main stem, a major tributary of the Columbia River. This is inclusive of all sub-basin tributaries to the Yakima River. The area of Kittitas County from Snoqualmie Pass on the western border to Ryegrass in the eastern part of the County resides in the Yakima River Drainage Basin.

## CONTACTS

For more information contact the Kittitas County Public Health Department at (509)962-7515 or <http://www.co.kittitas.wa.us/health/default.aspx> .

For additional water bank and water use information contact Washington State Department of Ecology at (509)575-2490 or at <http://www.ecy.wa.gov/programs/wr/wrhome.html>

# MEMORANDUM

Project No.: 140290-04

April 27, 2015

**To:** Kittitas County Commissioners

**cc:** Kittitas County Public Health Department

**From:** Dan Haller, PE, Senior Associate Water Resources Engineer  
Facilitator, on behalf of Citizen's Advisory Committee

**Re:** **Kittitas County Water Banking, Citizen's Advisory Committee Summary Report**

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## Executive Summary

In 2007, the Department of Ecology (Ecology) received a petition seeking the unconditional withdrawal from further use of all unappropriated groundwater in Kittitas County until enough information is known about potential effects on senior water rights and stream flows from the development of new groundwater uses (Ecology Publication: 10-11-021). From 2007 to 2014, there followed adoption of emergency and permanent groundwater rules (WAC 173-539A), community outreach, Attorney General Opinions and Court Rulings, USGS Studies, creation of private water banks, and a new mitigated-water framework for Kittitas County. On May 15, 2014, Kittitas County, Ecology, Futurewise, the Kittitas County Conservation Coalition, and RIDGE Association entered into a Settlement Agreement settling a case before the Growth Management Hearings Board, in which Kittitas County agreed to the phased integration of a Domestic Ground Water Mitigation Program (County Water Bank).

To begin implementing the County Water Bank, in 2014 Kittitas County committed approximately \$2.5 million dollars in funding to purchase approximately 105 acre-feet of senior consumptive use water rights as mitigation for new uses. In order to obtain advice on how best to establish the metrics for Mitigation Certificates that would be administered under the County Water Bank, in August 2014, Kittitas County accepted applications from 15 County residents who agreed to participate in a Citizen's Advisory Committee (Committee).

From October 2014 to March 2015, the Committee met five times in meetings facilitated by Dan Haller, an environmental engineer with Aspect Consulting, LLC (Aspect). The charter for the Committee was:

*"To gather information and formulate a recommendation on the quantity of water to be issued with a mitigation certificate for the Kittitas County Water Bank. Committee members will share resources and research issues affecting residential and outdoor water use to support an educated recommendation to the Board of County Commissioners on the quantity of water the county will offer with a mitigation certificate through the Water Bank".*

**MEMORANDUM**

140290-04

On March 27, 2015, the Committee submitted a Memorandum to the Kittitas County Commissioners entitled “*Recommendation on Water Quantities and Water Banking Framework*”. Key findings of the Memorandum included both a majority and minority opinion for a numeric standard for Mitigation Certificates, Terms of Offering for Mitigation Certificates, and Assumptions on Water Bank Customer Demographics.

The majority of the Committee recommended offering two Mitigation Certificates:

*“Package A”*: An indoor use package of approximately 275 gpd/house should be offered. Package A is mandatory for customers who have access to irrigation water supply for outdoor irrigation (e.g. irrigation district supply).

OR

*“Package B”*: An indoor use package of approximately 275 gpd/house with an outdoor use package of 500 square feet at 25 gpd, or 300 gpd/house (averaged for the calendar year) should be offered. Package B is mandatory for customers who do not have access to an irrigation water supply for outdoor irrigation.

The minority of the Committee believed Package A and B should be offered in all situations and an additional Package C offering a higher irrigation allowance of 1,500 square feet at 350 gpd/house.

The Committee’s recommendation was based on the following assumptions:

- The indoor use package is intended to include some small non-irrigation outdoor uses, such as car washing, window washing, etc.
- The County’s target customer will be households with full-time occupancy, will use modern and efficient fixtures and appliances, and will have a fixed household size.
- Other sources of mitigation water are available besides the County Water Bank in most areas.
- Compliance and enforcement efforts should be at the bank level instead of the customer level.
- Customer usage data will be based on a metering program. There will be daily, annual, and peak time readings and allotments. Enforcement will only be done for significant outliers (households using significantly more than allotted).
- Lawn will be used as a surrogate for other outdoor landscaping (e.g. garden, shrubs, trees).
- A single value for crop irrigation use should be used county-wide. This will likely result in a slight overestimation of use in the Upper County (about 12% compared to average county use) and a slight underestimation of use in the Lower County (about 12% compared to average).
- Stockwatering uses were not a part of the Committee’s charter and these recommendations do not reflect use for that purpose.
- The County should include clear and robust outreach materials for its water bank.

# MEMORANDUM

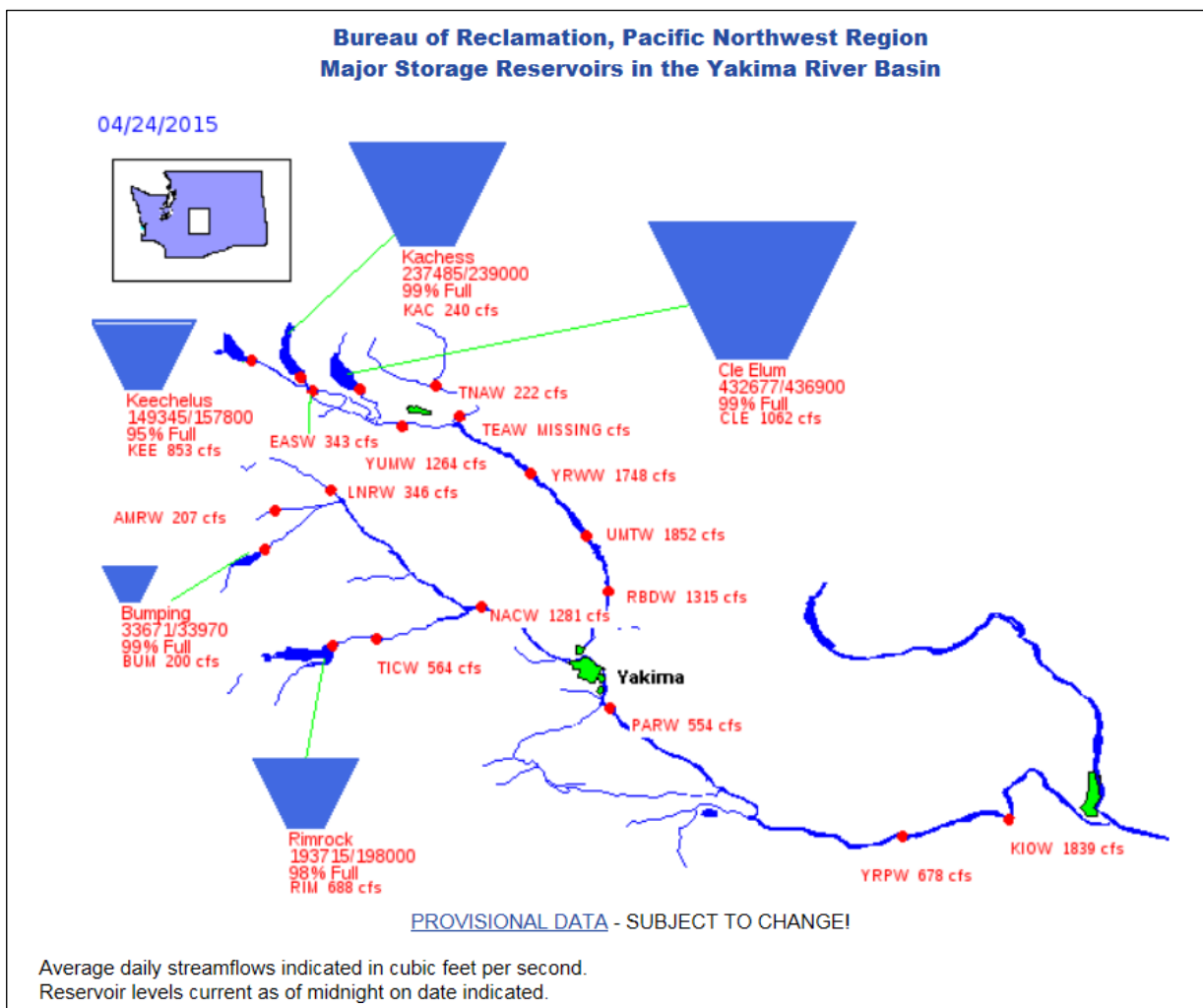
140290-04

## Background

This section provides a brief history of the background leading up to Kittitas County creating a Water Bank and forming the Committee to provide advice in establishing the metrics for Mitigation Certificates.

## Regulatory Framework

Yakima River Basin surface water has been overappropriated since 1905 when the Bureau of Reclamation reserved all remaining surface water supplies to aid in the construction of storage reservoirs to supply irrigation and municipal supplies in the greater Yakima Valley, including Lake Keechelus, Lake Kachess, Lake Cle Elum, Bumping Lake, and Rimrock Lake (see Figure 1, Reclamation, 2015). The supply from these reservoirs, along with estimates of natural flow, return flow, and other sources, form the metric of Total Water Supply Available (TWSA), which is used to manage supplies in the basin.



**Figure 1: Summary of Reservoir and TWSA Management in the Yakima Basin**

**MEMORANDUM**

140290-04

For decades, surface supplies have been managed by Ecology and Yakima Superior Court in the *Acquavella* Adjudication to prevent consumptive use increases that would diminish TWSA, and give rise to impairment of senior water rights. In 1999, the future potential for conjunctive use of surface and groundwater supplies in the Yakima Basin began with the adoption of a Memorandum of Agreement amongst Ecology, the Yakama Nation, and Reclamation (Ecology, 1999) to fund a comprehensive groundwater study in the basin. In 2010, the USGS estimated that Yakima River flows are reduced by as much as 200 cubic- feet- per- second (cfs) by the time the Yakima River drains into the Columbia River, due to groundwater withdrawals, and that that impact is significant when compared to federally mandated target flows at Sunnyside and Prosser dams, which range from 300 to 600 cfs (USGS, 2011). This study, coupled with droughts in 2001 and 2005, increased residential development during the mid-2000's, and increased clarity on the groundwater exemption under RCW 90.44.050 from the Courts, set the stage for increased regulatory scrutiny in the basin.

**Chronology of Key Events Leading to Kittitas County Water Bank Formation**

The following provides an overview of key events leading to the formation of the County Water Bank:

- On September 27, 2007, a petition was filed with Ecology by Aqua Permanente to “*withdraw all unappropriated groundwater resources of Kittitas County until adequate information on quantities and sustainability of withdrawal is available*” (Aqua Permanente, 2007).
- 2008-2010, Ecology adopted an emergency rule that established a partial withdrawal of groundwater within Upper Kittitas County, which included provisions for newly created residential developments, building structures on existing parcels, compliance with the 5,000 gpd exemption limit, and hydrogeologic assessments for new developments. This rule was adopted in part pursuant to an MOA between Ecology and Kittitas County on April 7, 2008. This rule was amended and extended nine times during this time period (Ecology, 2010).
- On September 21, 2009, in response to information requests from both Ecology and Kittitas County, the State Attorney General’s Office issued an Opinion (AGO, 2009) clarifying that domestic use and lawn watering were separate exemptions under RCW 90.44.050, Ecology did not have authority for a partial withdrawal of groundwater (only a complete withdrawal), and Ecology’s withdrawal authority included permitted and permit-exempt uses of groundwater.
- On January 22, 2011, Ecology’s permanent groundwater rule for Upper Kittitas County (WAC 173-539A) became final, requiring consumptive use mitigation for new building permits (except those vested prior to July 16, 2009), (Ecology, 2011).
- In 2011, the Supreme Court issued its decision in the case *Kittitas County et al v. Eastern Washington Growth Management Hearings Board et al*, ruling in part that counties had a role in considering legal availability of water (in addition to physical availability) under County comprehensive planning.
- On May 15, 2014, Kittitas County, Ecology, Futurewise, the Kittitas County Conservation Coalition, and RIDGE Association entered into a Settlement Agreement settling a case

**MEMORANDUM**

140290-04

before the Growth Management Hearings Board, in which Kittitas County agreed to the phased integration of a Domestic Ground Water Mitigation Program.

- In 2014 Kittitas County committed approximately \$2.5 million dollars in funding to purchase approximately 105 acre-feet of senior consumptive use water rights as mitigation for new groundwater withdrawals.

**Creating the Citizen's Advisory Committee**

In order to obtain advice on how best to establish the metrics for Mitigation Certificates that would be administered under the County Water Bank, in August 2014, Kittitas County accepted applications from 15 County residents who agreed to participate in a Citizen's Advisory Committee. The following describes the County's process for soliciting volunteers to participate on the Committee, Committee Membership, the Committee's Mission and Charter, Operating Procedures, and tenure.

***Soliciting Volunteers***

The County provided notice of the formation of the Committee and reached out to key agencies with knowledge or regulatory oversight on the subject matter, such as Ecology and the Department of Health (DOH). The process and meetings were public and anyone with interest could apply or attend. The composition of the Committee resulted in a well-rounded group of interests, which was what the County desired in obtaining a recommendation that embodied a diverse Committee. The membership of the Committee is described below, and staff from the County also attended so they could support the Committee's needs and be fully informed when implementing Committee recommendations:

1. Winston Norish, Central Washington University Geology Department
2. Anne Johansen, Central Washington University Chemistry Department
3. Roger Weaver, Kittitas Association of Realtors
4. David Bowen, Kittitas County Chamber of Commerce
5. Rory Savage, Kittitas Association of Realtors
6. Craig Sill, PE, Central Washington Home Builders Association
7. Mark Nelson, Evergreen Valley Utilities
8. Lance Ballew, Tumwater Drilling and Pump
9. Marc Kirkpatric, Encompass Engineering
10. Carey Gazis, Central Washington University Geology Department
11. Jeremy Bach, Bach Drilling
12. Jon Eaton, Agricultural Community
13. Cynthia Nelson, DOH Drinking Water
14. Sage Park, Ecology
15. Bob Barwin, Ecology

**MEMORANDUM**

140290-04

***Mission Statement and Charter***

Because there was interest and potential for the topic of metrics for Mitigation Certificates to introduce a far-ranging discussion of policy issues that could be tangential to the actual work of the Committee, the County established an initial Mission Statement and Charter in an effort to ensure the scope of the Committee was defined. Throughout the meetings, there emerged an openness by the County to the notion that the Committee (or something like it) may provide subsequent strategic input on this work or other questions as the County Water Bank began operating and some of the information around the policy positions matured.

The Mission and Charter of the Committee is described below:

*The mission of the Citizen's Advisory Committee is to develop a water quantity recommendation for a mitigation certificate for the Kittitas County Water Bank.*

*The water quantity citizen's advisory committee will discuss water related issues affecting future residents choosing to mitigate for water through the county owned water bank managed by Kittitas County Public Health Department. Committee members will share resources, gather information and formulate a recommendation on the quantity of water to be issued with a mitigation certificate from the future Kittitas County water bank. The committee will then make a recommendation to the Board of County Commissioners on the quantity of water the county will offer through the water bank.*

***Operating Procedures***

The Committee was introduced to the following proposed Operating Procedures establishing ground rules for Committee operation during the first meeting. Following review and endorsement by the Committee, these Operating Procedures were used throughout the process to develop the Final Recommendation, which consisted of a consensus recommendation on many policy points, and a majority and minority opinion recommendation on specific metrics for Mitigation Certificates.

**Governance and Decision Making:**

- All parties have equal representation and equal participation.
- Consensus outcomes are desired, but not required. If the Committee determines to seek consensus on certain points, consensus is defined as an outcome everyone on the Committee can live with and support. Where the Committee does not reach consensus, a range of perspectives will be carried forward (e.g. majority/minority opinions).
- Meetings will be facilitated and summary discussion points, recommendations and action items from meetings will be documented for review by the Committee.

**Expectations of Participants:**

- Participants will make every effort to attend meetings.
- Collaborative problem solving depends on mutual respect and careful listening among participants and on active participation by all. Meetings will be conducted in a respectful atmosphere where all parties seek to foster trust and understanding.



## MEMORANDUM

140290-04

- Comments and discussion during these meetings will be concise and relevant to the goals of the meeting and the issue at hand.
- Participants will represent their own personal views and expertise and the perspectives of their organizations.
- Participants will allow for open discussion and the right to disagree, and will look for opportunities to find common interests, agreements, and solutions.
- Participants will focus on clarifying their own views and interests, and will refrain from characterizing the views of other participants.

### ***Meeting Schedule***

The Committee's work was completed in five meetings ranging from 2 to 4 hours, with occasional correspondence and email discussion in between meetings. Meetings were held in Ellensburg at conference facilities at the Kittitas County Fairgrounds and Armory on the following dates:

- October 28, 2014
- November 17, 2014
- December 10, 2014
- January 12, 2015
- February 17, 2015

The initial three meetings consisted of presentations on background issues necessary for the Committee to be fully informed on the topic, with complimentary policy discussions and consensus points adopted as clarity in positions emerged. The final two meetings were largely focused on developing the metrics for indoor and outdoor water use for Mitigation Certificates.

### **Meeting Summary**

The following sections summarize key presentations provided to the Committee during its meetings, policy issues evaluated, consensus points decided, and other issues leading up to the Final Recommendation to the County Commissioners on March 27, 2015. Comprehensive meeting notes and presentation materials for each meeting are provided in the appendices to this Memo.

#### ***Committee Meeting 1***

Committee Meeting 1 included some initial open discussion time becoming acquainted with one another, their perspectives, followed by a review of the Mission, Charter and Operating Procedures so the Committee could focus its work. The Committee worked through an initial exercise called the "bullseye map" to clarify which topics the Committee should be focused on, which issues the Committee may be interested in but were tangentially related to their Mission, and which issues were off-topic.

**MEMORANDUM**

140290-04

**Table 1: Summary of Committee Bullseye Map Exercise**

<b>Committee Responsibilities</b>	<b>Tangential Issues</b>	<b>Off-Topic Issues</b>
Number of recommendations	Household population	Commercial use
Quantity needed for outdoor use	Existing metering data	TWSA
Unit of measurement	Water budget neutral	Hydraulic Continuity
Quantity needed for indoor use	Consumptive Use metrics	Compliance with metering program
	Minimum required for public health	USGS model
	Fire Protection/defensible space needs	Subdivision/development use
	Crop irrigation requirements	Yakima Basin Integrated Plan
		Pending litigation/court cases
		Cost of water bank quantity sold
		Conservation Measures
		GMA
		Stock Watering
		Other Mitigation sources
		Physical Water Availability

Presentations

The Committee heard two presentations on water use to begin the stage for an exercise that would be used throughout the Committee meetings, which was to set a range of indoor and outdoor water use numbers that could be agreed to by consensus, and then successively narrow that range until a final recommendation was achieved.

- Dr. Mark Larson, Health Officer from the Kittitas County Public Health Department provided a summary of his white paper recommending a minimum indoor use standard of 36 gpcd (gallon per capita per day).
- County staff led an exercise using an on-line water use calculator from the Southwest Florida Water Management District. Several committee members volunteered their use patterns to come up with a range of indoor uses of roughly 40 to 70 gpcd.

Key Open Discussion Items

Some of the key initial discussion items and consensus positions arrived at during Meeting 1 included:

1. There needs to be consensus on the mitigation metrics for the bank (e.g. gpcd, gpd/house, square feet of lawn) so we're all using the same units of measurement.
2. The water bank is not intended to make exceptions for seasonal occupancy, because residences can become full-time occupancy with no knowledge or notice to the County.
3. The Committee is interested in understanding the implications of its water quantity selection on bank operation and longevity, particularly as it pertains to consumptive use.

**MEMORANDUM**

140290-04

***Committee Meeting 2***

Committee Meeting 2 began with additional exercises with the on-line water use calculator for all the Committee Members, which yielded a fairly wide range of water use based on different assumptions on applicant efficiency, occupancy, and other factors. One of the issues that emerged was the need to define a “Target Customer” for the County Water Bank. This became an important concept throughout the remainder of the Committee meetings when policy issues arose, as the Committee sought to define the role of their recommendation within the context of a County-run bank in an area served by other private water banks or mitigation options.

The Committee agreed the County Water Bank target customer has the following attributes.

1. Full time occupancy for the home. Since occupancy can change from year-to-year with primary residence changes, college transitions, home sales, and other factors, it wasn’t as practical to use a population based metric.
2. Home will have modern energy-efficient appliances. The County’s current focus is mitigation for new uses, which implies modern construction.
3. A fixed household size assumption (e.g., average number of people). Since occupancy can change from year-to-year with vacations, births, deaths, home sales, and other factors, it wasn’t as practical to use a population based metric.

A policy exercise the Committee worked through in Meeting 2 was the pros and cons of having a higher or lower water bank number metric. These included implications on County Water Bank customer behavior, and on the County itself, which are summarized in Table 2.

**Table 2: Summary of Pros / Cons of Establishing a Larger or Smaller Mitigation Certificate**

<b>Larger Number</b>	<b>Smaller Number</b>
County acquisitions don’t serve as many houses	County acquisitions serve more houses
Residents have greater flexibility and use choices	Residents have less flexibility and use choices
Compliance may be easier	Compliance may be harder
Cost per residence is likely higher	Cost per residence is likely lower
More protective of senior rights	Less protective of senior rights
Potentially less risk to 3 <sup>rd</sup> party appeal	Potentially more risk to 3 <sup>rd</sup> party appeal
Less incentive to conserve water	Incentivizes conservation of water
Greater water utilization	Lesser water utilization

Presentations

The Committee heard the following two presentations on water use and water banking.

- Holly Duncan with Kittitas County Public Health provided a presentation of water use data based on metered water use and water system planning data for public and private water systems in Kittitas County and throughout Eastern Washington.
- Robert Barwin with Ecology provided a presentation of how other water banks are being operated and what water quantities they are selling associated with their Mitigation Certificates.

**MEMORANDUM**

140290-04

Key Open Discussion Items

Some of the key initial discussion items and consensus positions arrived at during Meeting 2 included:

1. Kittitas County is not the only option for residents. Other banks or self-mitigation options exist in nearly all areas that the County's water bank will serve.
2. The County Water Bank should be managed at the "bank-level" for most compliance activities rather than the "customer-level". For example, customer overage or underuse due to the myriad of assumptions the Committee discussed becomes less important if that variance can be aggregated at the bank level.
3. The Committee agreed that indoor water use should not be less than 150 gpd/house and not more than 350 gpd/house. Outdoor use would be additive.

**Committee Meeting 3**

Committee Meeting 3 began to focus on outdoor water use information to help round out that portion of the Mitigation Certificate recommendation.

Presentations

The Committee heard the following two presentations on outdoor water use.

- Tip Hudson from WSU Extension gave a presentation on lawn and landscaping water usage, evapotranspiration (ET), upper/lower county crop ET rates, and outdoor water demands.
- Suzanne Wade from Kittitas County Conservation District gave a presentation on defensible space and fire protection.

Additionally, the County followed up on their previous presentation about analogous water systems in Kittitas County and throughout the State. The indoor and outdoor average of all presented water systems was 272 gallons per day. This data was qualified that it included systems with part-time and full-time demographics, systems partially served by separate irrigation supplies, and systems reporting data at different times.

Key Open Discussion Items

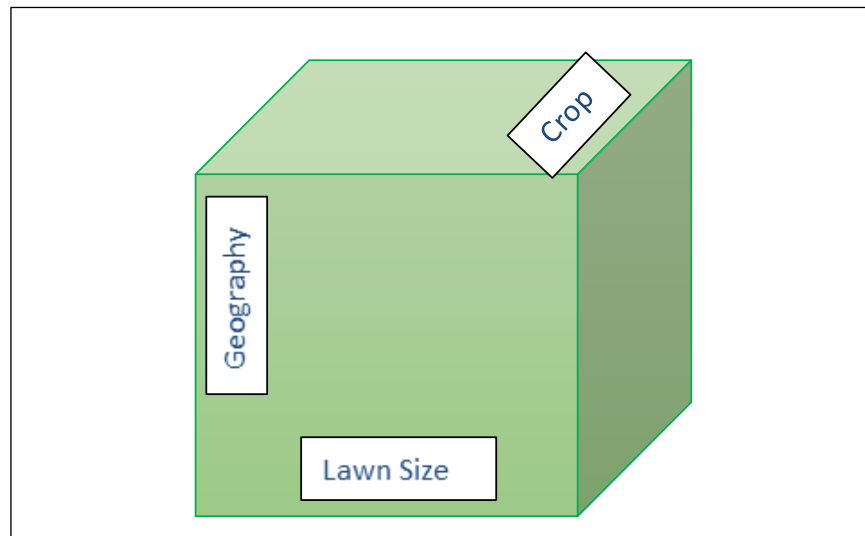
Some of the key initial discussion items and consensus positions arrived at during Meeting 3 included:

1. County metering would be used to track both customer and bank compliance. Customers would likely be expected to meet an average annual (per house) and peak monthly (per house) requirement, with significant deviations reported receiving some technical assistance to understand the reason. Some reasons would likely be readily acceptable (e.g. household size above the average, which would be balanced by low reports in other areas). Some would likely not be acceptable (e.g. leaking water lines, irrigating more lawn than permissible).

# MEMORANDUM

140290-04

2. Lawn is an appropriate surrogate for other outdoor uses. As shown in Figure 2, the metric for outdoor use can be affected by where you're at in the County (upper or lower, due to climate), what your outdoor use is for (e.g. lawn, ornamental trees, garden crops), and how much area you're irrigating. The Committee agreed that while they would still consider geographical factors and irrigation size in future meetings, only one ET rate would be used.



**Figure 2: Factors Affecting the Outdoor Water Use Recommendation**

### ***Committee Meeting 4***

Committee Meeting 4 began a process to finalize areas of concurrence, and prepare the recommendation to the Board of County Commissioners on metrics for the Mitigation Certificates. Areas of agreement were summarized, differences that still needed work noted, and data needs necessary to resolve these differences were identified.

### Presentations

The Committee heard the following two presentations on household size and a water use spreadsheet on bank longevity.

- Erin Moore from Kittitas County Public Health District reviewed a map of census areas and the percentage of households with 1-2 person households, 3-4 person households, 5+ person households in each area. This helped give the Committee some comfort that a single number per house was appropriate, as long as compliance was largely managed at the bank level.
- Erin Moore from Kittitas County Public Health District reviewed a spreadsheet that helped assess County Water Bank longevity as a function of indoor and outdoor use recommendations. This helped the Committee understand the implications of choosing a larger or smaller number for Mitigation Certificates.

**MEMORANDUM**

140290-04

Key Open Discussion Items

Some of the key initial discussion items and consensus positions arrived at during Meeting 4 included:

1. A lawn size option of 500 square feet should be offered (potentially with conditions).
2. An indoor—only package for water use should be offered (potentially with conditions).
3. A half-acre lawn size (as allowed under RCW 90.44.050) would not be recommended. This level of lawn size, owing to its high consumptive use, depleted the County Water Bank too rapidly, was not reflective of Kittitas County demographics, and made the packaged too expensive given the County's initial investment.
4. An average indoor recommendation across all Committee Members surveyed was 271 gpd/house.

***Committee Meeting 5 and Final Recommendation***

The final Committee meeting was focused on attempting to obtain a consensus across all the recommendations, or in short of that, a majority/minority opinion. All the previous consensus decisions were reviewed, after which the discussion focused largely on indoor water use assumptions and the terms under which Mitigation Certificates would be offered.

Key Open Discussion Items

The key discussion items and consensus positions arrived at during Meeting 5 included:

1. Stockwatering was not included in the Committee Mission, and should be explicitly excluded so there is no confusion that it was included in the metrics.
2. An average county ET rate should be used for consumptive use for lawn, rather than separate numbers for Upper and Lower County. The Committee felt a single number was easier to administer, while multiple numbers would divide County residents unnecessarily and was not appreciably more accurate.
3. De minimis, non-irrigation, outdoor use should be included in the indoor package. The Committee did not want the County to have to manage window washing, car washing, or other small outdoor uses as part of compliance activities, as long as they weren't irrigation in nature (which can be more easily tracked).
4. A consensus position on a single indoor number could not be reached after multiple votes and a good faith effort to get there, with the average being approximately 275 gpd/house. The Committee was roughly split with about half being more conservation-focused at an indoor level on the order of 250 gpd/house (or lower), with the balance being more quality of life focused in the 300 gpd/house range (or higher).
5. The majority of the Committee believed that some conditions should be attached to the Mitigation Certificate to maximize bank longevity. These conditions largely focused on whether a given parcel had access to separate irrigation supplies.

**MEMORANDUM**

140290-04

The majority of the Committee recommended offering two Mitigation Certificates:

*“Package A”*: An indoor use package of approximately 275 gpd/house should be offered. Package A is mandatory for customers who have access to irrigation water supply for outdoor irrigation (e.g. irrigation district supply).

OR

*“Package B”*: An indoor use package of approximately 275 gpd/house with an outdoor use package of 500 square feet at 25 gpd, or 300 gpd/house (averaged for the calendar year) should be offered. Package B is mandatory for customers who do not have access to an irrigation water supply for outdoor irrigation.

The minority of the Committee believed Package A and B should be offered in all situations and an additional Package C offering a higher irrigation allowance of 1,500 square feet at 350 gpd/house.

**Presentation to County Commissioners**

The final Committee meeting was presented to the Board of the County Commissioners on March 10, 2015. The Commissioners accepted the recommendation with a request for a recalculation and rewording of the “package” descriptions for each in administration and development of outreach materials. This request did not alter the substance of the recommendation from the Committee. A modified recommendation was circulated by the Facilitator to the Committee, and a final Recommendation Memo was provided to the County on March 27, 2015.

**References**

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- Ecology, Frequently Asked Questions on Upper Kittitas Groundwater Rule, Publication 10-11-021, August, 2013.



# MEMORANDUM

140290-04

Southwest Florida Water Management District, Water Use Calculator,  
<https://www.swfwmd.state.fl.us/conservation/thepowerof10/>, 2008.

USGS, Hydrologic Framework of the Yakima River Basin Aquifer System, Washington,  
<http://pubs.usgs.gov/sir/2009/5152/>, 2011.

## Limitations

Work for this project was performed for Kittitas County (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

## Appendices

### Appendix A: Committee Meeting #1 Materials

- Introductory Committee Email, Draft Operating Procedures
- Committee Contact List
- Committee Meeting 1 Notes
- Ecology – County Settlement Agreement
- County GMA Water Compliance Fact Sheet
- Kittitas County Public Health Water Quantity White Paper

### Appendix B: Committee Meeting #2 Materials

- Committee Meeting 2 Notes
- Water Banking Metrics Presentation
- Water Usage in Kittitas County Presentation

### Appendix C: Committee Meeting #3 Materials

- Committee Meeting 3 Notes
- Average Gallons Per Day Handout
- Kittitas County Conservation District Firewise Presentation
- Lawn Water Use Presentation by WSU Extension

### Appendix D: Committee Meeting #4 Materials

- Committee Meeting 4 Notes

### Appendix E: Committee Meeting #5 Materials

- Committee Meeting 5 Notes
- Committee Water Banking Final Recommendation Memo



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## **METERING PROGRAM REPORT AND RECOMMENDATION**

### **Background**

As of June 2, 2014, mitigation is required for all new uses of ground water in Kittitas County. Mitigation may include obtaining a portion of a senior (pre-1905) water right appropriate to offset the new ground water withdrawal. Kittitas County intends to offer water budget neutral mitigation through a County-owned and operated water bank starting December 2, 2015.

A requirement of this water bank is that residential connections will be metered and water usage data will be reported to the County and the Washington State Department of Ecology. Kittitas County Public Health Department (KCPHD) has researched metering companies that provide services to implement and operate a metering and monitoring program for the Kittitas County Water Bank.

### **Process**

In April 2015, KCPHD staff, Erin Moore, Holly Myers, Mark Larson, and Holly Duncan, scheduled and attended four metering presentations with Master Meter, Badger, Neptune, and Zenner metering companies to understand what type of meters, meter readers, equipment, and software are available.

During the presentations, Kittitas County staff gathered information about the types of meters, meter readers, equipment, software, maintenance, installation, customer service support, annual cost, etc. Kittitas County followed up with each of the vendors to obtain a more detailed report of the items listed above. Three out of the four presenters replied with a report. Zenner Meter Company did not return a request for further information.

The request for further information included the following data:

- 5/8" meter cost
- 5/8" meter type
- Automatic Meter Reading (AMR) unit compatibility
- AMR unit type
- AMR unit cost
- Reading equipment communication type
- Reading equipment cost
- Meter availability
- Customer service availability
- Software name
- Software/initial cost
- Software/upgrade annual cost
- References



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- Customer portal
- Software type (cloud or desktop)
- Software development (where)

Attachment A shows the comparison data of all four metering companies.

### **Recommendation: Badger Meter Company**

After review of the information presented, Kittitas County Public Health Department recommends that the County use Badger water meters for the Kittitas County Water Bank based on the following factors. Badger Meter Company (Badger) was founded in 1905 and has earned an international reputation as an innovator in flow measurement and control products.

#### *Meter Reading*

Badger Meter Company offers an Orion Cellular Endpoint technology for meter reading that eliminates the need for fixed network infrastructure or reading collection hardware. Badger is the only company we considered that offered this type of system. A fixed network system requires multiple data collection devices to be set up in the proximity of where the meters are going to be installed so that signal can bounce from the meters to the repeater towers and then to an additional collection tower before they can be read. The infrastructure alone can be tens of thousands of dollars. Fixed network infrastructure can be very costly both in terms of equipment purchases and maintenance, but also in terms of staffing needed for reading meter data. The other metering companies we considered would require fixed network infrastructure and field collection of meter readings. Out of the three companies we received responses from Badger offers the lowest price in reading equipment. Because Badger utilizes existing cellular towers, Badger meter reading only requires a handheld field collector, the Trimble Ranger 3 at \$4490.00, for potential outlier meters that do not have cellular reception and for programming initial installation of meters.

Orion Cellular Endpoints (meter reader installed on the meter) utilize existing cellular networks to broadcast their reading data multiple times per day. The Orion technology would allow Kittitas County to receive reads without needing someone in the field to physically read the meters or drive-by. The Cellular Endpoints can store 120 days of hourly data. These endpoints can be deployed in indoor, outdoor and in pit installations. The cost for the endpoints from the contracted distributor is \$93.50. The Orion Cellular Endpoints include:

- Leak detection
- Cut-wire indication
- Reverse flow indication
- No usage indication
- Encoder error
- Low battery indication



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- Remote programming
- Remote clock synchronization
- Firmware upgrades
- 10 year battery life

### *Meter Equipment*

Badger offers a Recordall® Disc Series Meter which combines the accuracy of positive displacement meters with the reliability and economy of nutating disc technology. The cost of the Recordall® meter from the contracted distributor is \$119.00 and it works with the Orion Cellular Endpoints, which together are a complete water metering package.

General Pacific, Inc. is Badger Meter Company's licensed distributor in Washington State for the meters and has a warehouse in Fairview, Oregon. Normal order time from the Badger Meter Company factory in Wisconsin or Oklahoma is 3-4 weeks, but due to the extended life of the battery and the product shipping in "Pause" mode, General Pacific, Inc. can stock the product at the warehouse in Oregon. UPS ground could ship the product to Kittitas County in one to two working days. Other establishments in Kittitas County could sell Badger Meter products as well (there are no restrictions on having multiple distributors within an area); however the price may be less competitive.

### *Software*

The Badger Recordall® meter and Orion Cellular Endpoint technology are part of a comprehensive system managed by Beacon Advanced Metering Analytics (Beacon). Beacon is a user-friendly, intuitive software that would allow Kittitas County to set up and manage accounts; and interpret meter reading data into customizable reports, queries and graphs to monitor our customer's water usage and identify problems quickly and easily. Beacon will host 2 years of metering data, with the option to upgrade to additional years of storage for additional cost. Beacon software is developed in Badger's Silicon Valley Innovation Center in Los Gatos, California. All software upgrades for the meter readers and software are developed there.

### *Support*

Badger Meter technical support is available Monday-Friday 5:00AM-3:00PM PST and also has after-hours support within a thirty minute response time. The support center is located in Milwaukie, Wisconsin. In addition, the contracted distributor, General Pacific, Inc. offers technical support Monday-Friday 7:00 AM- 5:00 PM PST. Support costs for the Orion Cellular technology and supporting Beacon software are built into a monthly fee of \$.89 per month per meter.

### *Customer Portal*

One attribute of Badger Meter's system that sets them apart from the other companies is its customer portal, Eye on Water. Customers can access their meter use information via a browser



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based web portal or smart phone application, using account data provided by Kittitas County. This application offers water management features including graphics showing recent usage with a comparison against average usage, usage trends, detailed charting of historical usage, leak alert function, and recommendations to conserve water. Customers would have the ability to set up a customized profile to receive personalized tips and access to a savings calculator. During our Water Metering Focus Group, one of the important notes was to have some sort of customer interface for metering data. The Eye on Water application would fulfill that request.

## **Summary**

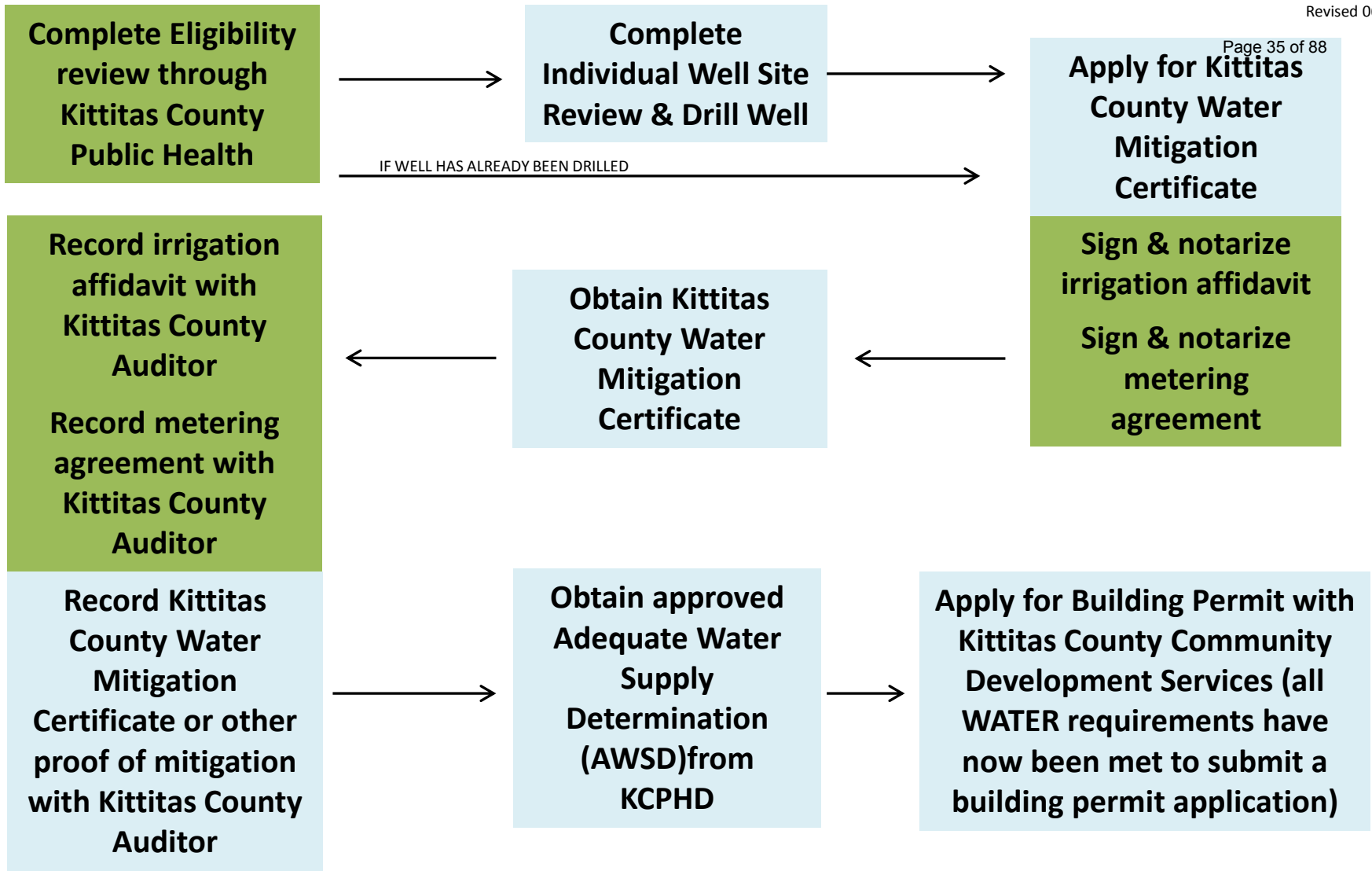
To fulfill the metering requirement of the Kittitas County Water Bank, Kittitas County Public Health Department recommends Badger Water Meters because they offer a simple solution with advanced technology to fit the needs of the water metering program. Their costs are comparable or lower than the other companies we researched and their technology would help keep the county's costs low as well.



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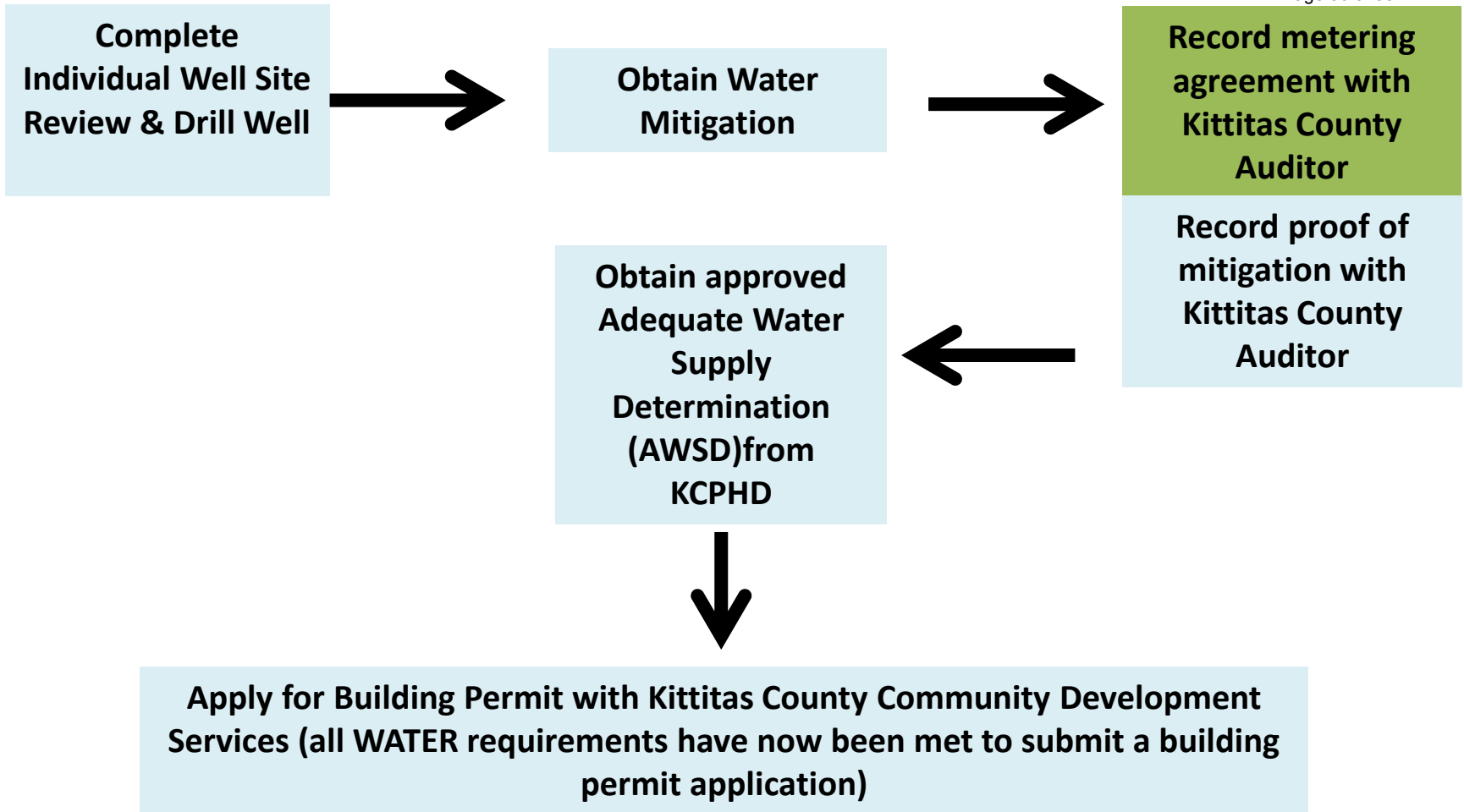
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- New process
- Existing process

# Kittitas County Water Bank Process Flow Chart

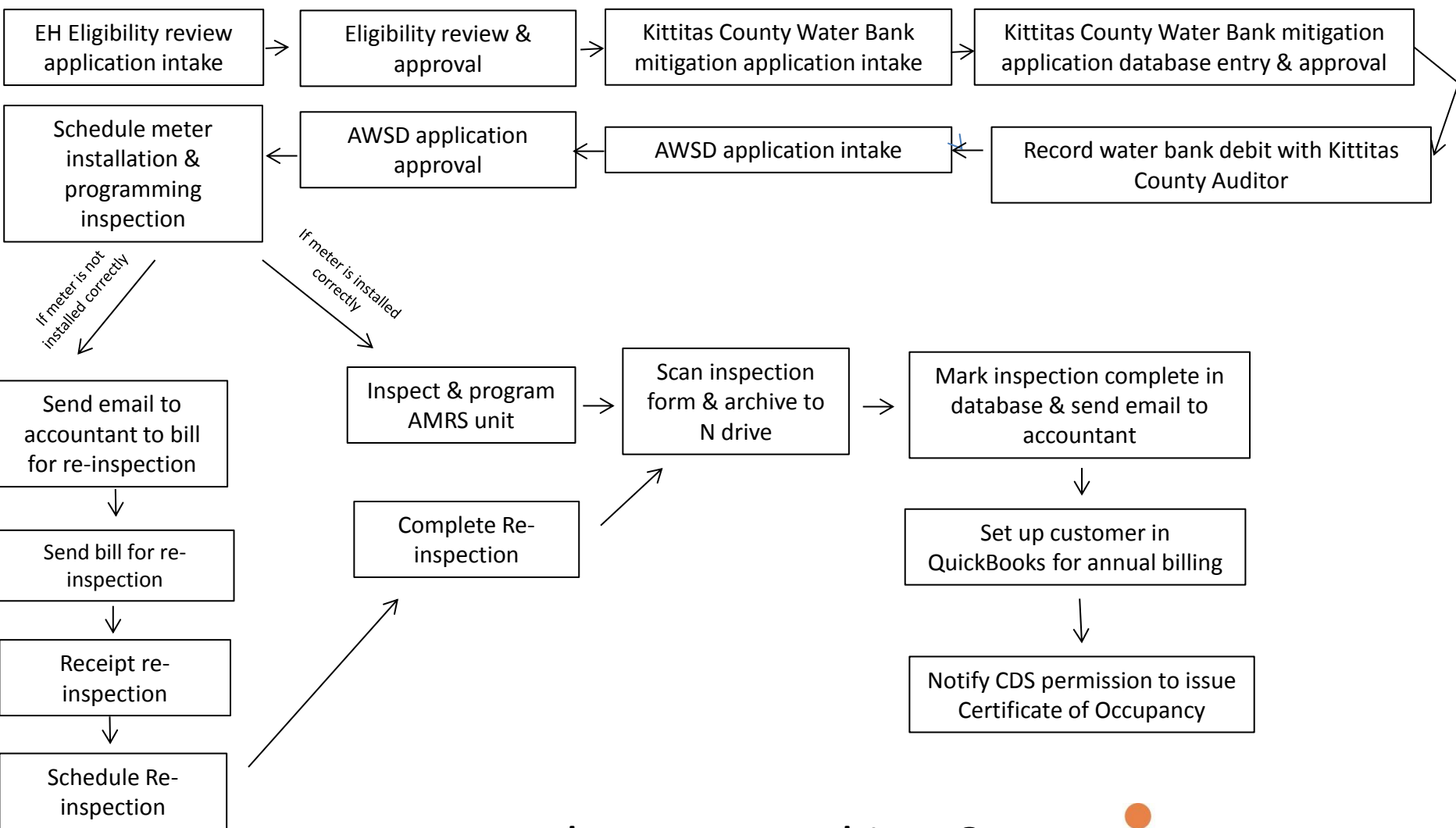




- New process
- Existing process

## Kittitas County Process For Private Water Banks





# Internal Water Banking & Metering Process







Tracking #: _____
Date Accepted: _____
Accepted By: _____

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## Kittitas County Water Bank Eligibility Review

**Incomplete applications, including applications without the proper documentation, will not be accepted. KCPHD will return incomplete applications to the applicant. All applicable fees may be non-refundable.**

- Please provide a parcel map
- Site plan following Unified Site Plan guidelines. Unified Site Plan can be found at <http://www.co.kittitas.wa.us/uploads/cds/building/informational-bulletins//Residential%20submittal%20requirements/B-002%20-%20Unified%20Site%20Plan.pdf>

<p>OWNER OF RECORD: _____</p> <p>MAILING ADDRESS: _____</p> <p>CITY, STATE, ZIP: _____</p> <p>PROJECT LOCATION: _____</p> <p>PROJECT CITY, STATE, ZIP: _____</p>	<p>PHONE #: _____</p> <p>PARCEL #: _____</p> <p>E-MAIL: _____</p> <p>LOT #: _____ ACREAGE SIZE: _____</p> <p>NAME OF SUBDIVISION (IF APPLICABLE): _____</p> <p>TYPE OF PROPOSED WELL: <input type="checkbox"/> INDIVIDUAL WELL <input type="checkbox"/> SHARED WELL</p>
<p><b>PROPOSED PROJECT DESCRIPTION:</b> _____</p>	

**The eligibility review remains valid only if the facts asserted and governing law do not change, and expires within (1) year of issuance. All applicable fees may be non-refundable.**

Revised 07.2015

**OFFICIAL USE ONLY**Review of Application:

TRACKING #: \_\_\_\_\_

Is the subject parcel part of green, yellow or red zone for the Kittitas County Water Bank?  Green  Yellow  RedParcel is in a Kittitas County Water Bank green zone and is eligible for Over the Counter mitigation.  Yes  NoParcel is in a Kittitas County Water Bank green zone and is required to obtain a groundwater permit for Kittitas County Water Bank mitigation.  Yes  NoParcel is in a Kittitas County Water Bank yellow zone and is required to go through the Water Transfer Working Group to obtain Kittitas County Water Bank mitigation.  Yes  NoParcel is in a Kittitas County Water Bank yellow zone and is required to obtain a ground water permit for Kittitas County Water Bank mitigation.  Yes  NoCOMMENTS:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_**Reviewed By:** \_\_\_\_\_ **Date:** \_\_\_\_\_**Based on the above information provided, this parcel is eligible for the following mitigation option:**

- Over the counter mitigation certificate**
- Ground water permit mitigation**
- Water Transfer Working Group review for mitigation**



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## Application for Individual Well Site Review

INCOMPLETE APPLICATIONS, INCLUDING APPLICATIONS WITHOUT THE PROPER DOCUMENTATION, WILL NOT BE ACCEPTED.

PLEASE PROVIDE A SITE PLAN FOLLOWING THE UNIFIED SITE PLAN GUIDELINES: THE UNIFIED SITE PLAN CAN BE FOUND AT

<http://www.co.kittitas.wa.us/cds/building.asp>

IT IS REQUIRED TO LABEL DISTANCES FROM PROPOSED WELL TO SURFACE WATER BODIES, PROPERTY LINES, AND PROPOSED OR EXISTING DRAIN FIELDS.

OWNER NAME: _____	PHONE #: _____
MAILING ADDRESS: _____	TAX PARCEL #: _____
CITY, STATE, ZIP: _____	E-MAIL: _____
PROJECT LOCATION (ADDRESS): _____	WELL DRILLER NAME: _____
SUBDIVISION NAME (IF APPLICABLE): _____	WELL DRILLER EMAIL: _____
	ACREAGE SIZE: _____ LOT #: _____
PLEASE DESCRIBE PROPOSED PROJECT: _____	
PURPOSE OF PROPOSED WELL: <input type="checkbox"/> NEW RESIDENTIAL/DOMESTIC USE <input type="checkbox"/> REPLACEMENT <input type="checkbox"/> STOCK WATERING OR INDUSTRIAL <input type="checkbox"/> OTHER: _____	DOES THE APPLICANT INTEND TO USE THE KITTITAS COUNTY WATER BANK FOR THIS PROPOSED WELL? <input type="checkbox"/> YES <input type="checkbox"/> NO
INDIVIDUAL WELL SITE REVIEW FEE : \$170	

**THE INDIVIDUAL WELL SITE REVIEW REMAINS VALID ONLY IF THE FACTS ASSERTED AND GOVERNING LAW DO NOT CHANGE, AND EXPIRES WITHIN (1) ONE YEAR OF ISSUANCE. ALL APPLICABLE FEES MAY BE NON-REFUNDABLE.**

**Official Use Only**Review of Application:Tracking #: \_\_\_\_\_

Is the proposed well site within 600 feet of a Type 1 or Type 2 stream, river, natural wetland, creeks, lakes?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the proposed well meet the 100 foot setback from a surface water body?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the proposed well location meet 50 foot setbacks from property lines?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA (Shared well)
Does the proposed well location meet 100 foot setback from drain field (existing or proposed)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the proposed well meet setbacks from drain fields on surrounding parcels?	<input type="checkbox"/> Yes <input type="checkbox"/> No

**Based on the information provided, the requirements for well construction are:** **Option A (listed below)**    **Option B (listed below)****Reviewed By:** \_\_\_\_\_ **Date:** \_\_\_\_\_**Option A:**

For wells 600 feet or closer to Type 1 and Type 2 stream and rivers, and natural wetlands, creeks, lakes, and ponds, the following criteria must be met:

Well must be set back 100 feet or more from the surface water body and adhere to the following:

- Wells must be cased a minimum depth of 5 feet into the first consolidated layer or formation, or until the casing is refused by the formation (casing refusal);
- Wells shall have a minimum surface seal of 18 feet; and
- Wells must be drilled past the first consolidated layer or formation and into a water-bearing zone.

**Option B:**

In instances where the 100 foot minimum set back requirement is infeasible, the following criteria must be met:

- Wells must be cased a minimum depth of 5 feet into the first consolidated layer or formation, or until the casing is refused by the formation (casing refusal);
- Wells must be drilled past the first consolidated layer or formation, into a water bearing zone; and
- Wells shall have a surface seal down to the first consolidated layer for optimal protection from hydraulic continuity with surface water.



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## Kittitas County Water Mitigation Certificate Application Guidelines

- For each Kittitas County Water Mitigation Certificate Application, all components must be present at the time of submittal.
- Please follow the checklists below to ensure you meet the application requirements.
- Please allow up to 10 business days for processing.
- **Incomplete applications will not be accepted and will be returned to the applicant. All applicable fees may be non-refundable.**

<input type="checkbox"/>	Complete all parts of application, including notarized statement.
<input type="checkbox"/>	If you need information pertaining to your parcel to assist you with the application, please visit the Kittitas County Assessor's website <a href="http://kittitaswa.taxesifter.com/taxesifter/T-Parcelsearch.asp">http://kittitaswa.taxesifter.com/taxesifter/T-Parcelsearch.asp</a> to conduct a parcel search.
<input type="checkbox"/>	Attach a full legal description of the parcel. Legal descriptions can be found on the property title. You may request copies at the Kittitas County Auditor's office.
<input type="checkbox"/>	Irrigation affidavit
<input type="checkbox"/>	Well log (if well drilled after December 2, 2015)
<input type="checkbox"/>	Submit completed application to Kittitas County Public Health Department (KCPHD). Payment for applicable fees must be in the form of check or cash. Package A cost: ( ) Package B cost: ( ) 1 <sup>st</sup> annual metering cost : ( )

**When review of Water Mitigation Certificate Application is complete and approved, KCPHD will issue a Mitigation Certificate for the subject parcel.**

<input type="checkbox"/>	Obtain Mitigation Certificate from the Kittitas County Public Health Department.
<input type="checkbox"/>	Record Mitigation Certificate and notary page with the Kittitas County Auditor.
<input type="checkbox"/>	Record Metering Agreement with the Kittitas County Auditor.
<input type="checkbox"/>	Check or cash for applicable fees at Kittitas County Auditor. Recording fees are available at : <a href="http://www.co.kittitas.wa.us/auditor/FeesList.pdf">http://www.co.kittitas.wa.us/auditor/FeesList.pdf</a>

**Once the Mitigation Certificate has been recorded with the Kittitas County Auditor, the applicant may:**

<input type="checkbox"/>	Apply for Adequate Water Supply Determination (AWSD) with the Kittitas County Public Health Department.
<input type="checkbox"/>	Apply for a Building Permit with Kittitas County Community Development Services. (After AWSD is complete)





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EDEN Tracking #: <u>Page 43 of 88</u>
Certificate ID #: _____
Date Accepted: _____
Accepted By: _____

## Kittitas County Water Mitigation Program Mitigation Certificate Application

INCOMPLETE APPLICATIONS, INCLUDING APPLICATIONS WITHOUT THE PROPER DOCUMENTATION, WILL NOT BE ACCEPTED.

PLEASE PROVIDE:

- A COPY OF THE PARCEL'S FULL LEGAL DESCRIPTION
- A COMPLETED KITTITAS COUNTY WATER METERING AGREEMENT
- IRRIGATION AFFIDAVIT
- AN APPROVED KITTITAS COUNTY PROJECT ELIGIBILITY REVIEW
- WELL LOG ( IF WELL DRILLED AFTER DECEMBER 2, 2015)

OWNER NAME: _____  MAILING ADDRESS: _____  CITY, STATE, ZIP: _____  PROJECT LOCATION (ADDRESS): _____	PHONE #: _____  TAX PARCEL #: _____  E-MAIL: _____  UNIQUE WELL TAG ID: _____
---	---

**PLEASE DESCRIBE PROPOSED PROJECT:** \_\_\_\_\_

IS THE WELL PART OF A PUBLIC WATER SYSTEM? <input type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, NAME OF PUBLIC WATER SYSTEM: _____  IS THE WELL PART OF A SHARED WELL? <input type="checkbox"/> YES <input type="checkbox"/> NO  IF YES, PARCEL# WHERE WELL IS LOCATED: _____	PLEASE CHOOSE <b>ONE</b> OF THE FOLLOWING:  <input type="checkbox"/> MY WELL WAS DRILLED BEFORE DECEMBER 2, 2015  <input type="checkbox"/> MY WELL WAS DRILLED AFTER DECEMBER 2, 2015
--	---

### KITTITAS COUNTY WATER BANK PACKAGES:

**PACKAGE A:**

Applicants with access to outdoor irrigation (as determined by a signed affidavit) will be required to purchase mitigation Package A.

Includes an annual average of 275 gallons per day of indoor domestic use only. The daily maximum withdrawal allowed on any given day is 825 gallons per day, as long as the annual average is not exceeded.

**PACKAGE B:**

Applicants without access to outdoor irrigation (as determined by a signed affidavit) will be required to purchase mitigation Package B.

Includes an annual average of 275 gallons per day of indoor domestic use only and up to an annual average of 25 gallons per day for outdoor irrigation of up to 500 square feet of non-commercial lawn and/or garden. The daily maximum withdrawal allowed on any given day is 900 gallons per day, as long as the annual average is not exceeded.

STATEMENTS OF UNDERSTANDING

<p>_____</p> <p>Initials</p>	<p>Water use on this parcel from the groundwater well with the tag number listed above should not exceed the use described in the package chosen.</p> <p>Mitigation is for use on the above mentioned parcel only and is not transferable for use at other locations or for any other uses.</p> <p>Mitigation for indoor domestic use applies to water for drinking, bathing, sanitary purposes, cooking and laundering. It also includes incidental uses such as washing windows, car washing, cleaning exterior structures, care of household pets, etc.</p> <p>I understand that if package A is purchased, then I am limited to an annual average of 275 gallons per day of indoor domestic use only. The daily maximum withdrawal allowed on any given day is 825 gallons per day, as long as the annual average is not exceeded.</p> <p>I understand that if package B is purchased, then I am limited to an annual average of 275 gallons per day of indoor domestic use only and up to an annual average of 25 gallons per day for outdoor irrigation of up to 500 square feet. The daily maximum withdrawal allowed on any given day is 900 gallons per day, as long as the annual average is not exceeded.</p> <p>I understand that if I am later required to connect to a municipal water source, the mitigation certificate associated with the parcel will be returned to the Kittitas County Water Bank and will be documented on the property title. The portion of the fee that covers the cost of water will be refunded minus a processing fee and all other fees will be forfeited.</p> <p>I agree not to plant any trees or shrubs over my septic drain field</p> <p>I understand that should I not comply with the statements above and all requirements in Kittitas County Code Title 13.2, enforcement action shall be taken through Kittitas County Code Title 18.</p>
<p>_____</p> <p>Initials</p>	<p>I have read and understand the statements listed above.</p>

Property Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_







**OFFICIAL USE ONLY**

**Review of Application:**

EDEN TRACKING #: \_\_\_\_\_

Application is complete?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Full legal description attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Metering agreement attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Irrigation affidavit attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Is Kittitas County Project Eligibility review attached?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If well drilled after December 2, 2015, well log/IWSR review completed?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Applicant Notified?	Date of Notification: _____	<input type="checkbox"/> Yes <input type="checkbox"/> No
Notification method: <input type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> In-Person <input type="checkbox"/> Phone		

**Evaluation Notes:**

Date: \_\_\_\_\_ Notes: \_\_\_\_\_

Date: \_\_\_\_\_ Notes: \_\_\_\_\_

**FINAL EVALUATION:**

REVIEWER: \_\_\_\_\_ APPROVAL DATE: \_\_\_\_\_

- Water Mitigation Package A Cost: ( \_\_\_\_\_ )
- Water Mitigation Package B Cost: ( \_\_\_\_\_ )
- Water Metering 1st year Cost: ( \_\_\_\_\_ )

**Total Fee Due: = \_\_\_\_\_ Receipt #: \_\_\_\_\_**



**AFFIDAVIT OF IRRIGATION WATER AVAILABILITY**

STATE OF WASHINGTON) ) ss.  
COUNTY OF KITTITAS )

I, \_\_\_\_\_, the undersigned, do hereby affirm and attest to the following:

- 1) I am a citizen of the United States of America and of the State of Washington, over the age of 18 years, and competent to make this affidavit.
- 2) I am the owner of certain real property located in Kittitas County, Washington, with a physical address and/or parcel number of:

Parcel Number: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

- 3) I declare that:
  - The above described property has access to an irrigation water supply for outdoor use (please check one of the boxes below). (Package "A")
    - Adequate water right for irrigation purposes
    - Accessible water shares from an irrigation district
    - Previously established beneficial use under permit exemption for irrigation purposes up to one half acre
  - The above described property does not have access to an irrigation water supply for outdoor use (please check one of the boxes below). (Package "B")
    - No water rights for irrigation purposes available
    - No access to water rights for irrigation purposes
- 4) I further declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

EXECUTED this \_\_\_ day of \_\_\_\_\_, 20 \_\_\_ at \_\_\_\_\_, Washington.

\_\_\_\_\_  
Affiant Signature

SUBSCRIBED and SWORN to (or affirmed) before me this \_\_\_ day of \_\_\_\_\_, 20 \_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC in and for the State of Washington,  
residing at \_\_\_\_\_  
My commission expires: \_\_\_\_\_

**RECORDING REQUESTED BY AND  
WHEN RECORDED RETURN TO:**

**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

\_\_\_\_\_

---

*(Space above this line is for Recorder's Use)*

**KITTITAS COUNTY PUBLIC HEALTH DEPARTMENT  
WATER METERING AGREEMENT**

This Water Metering Agreement (the "Agreement") is made and entered into by and between \_\_\_\_\_ (the "Owner") and the County of Kittitas, a municipal corporation of the State of Washington acting by and through the Kittitas County Public Health Department (the "County"), sometimes referred to herein jointly as "Parties" or individually as "Party".

**Recitals**

**WHEREAS**, Owner is the owner of, or has an interest in, certain real property (the "Property") located in Kittitas County, Washington, with a parcel number and/or address of:

Parcel Number: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

and as more fully described on the attached Exhibit "A" and incorporated by this reference; and

**WHEREAS**, Owner intends to extract groundwater from a mitigated well or wells (the "well") located on the property; and

**WHEREAS**, the parties desire to provide for the metering of each well through the installation of a water-measurement device (the "water meter") to measure the Owner's mitigated water usage; and

**NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:**

- 1. Purchase and Installation.** Owner shall purchase and install a water meter in accordance with the County's requirements for the Kittitas County Mitigation and Metering Program, including but not limited to, Kittitas County Code ("KCC") 13.40.030. Any and all costs of the purchase and installation of the water meter shall be the sole responsibility of the Owner.
- 2. Repair and Maintenance.** Owner shall be responsible for the cost of any and all maintenance, repair, or replacement of the water meter necessary to ensure proper water meter functionality. Owner shall notify the County if the water meter becomes damaged or requires replacement. In the event that Owner fails to ensure proper water meter functionality, the County shall perform the necessary maintenance, repair, or replacement of the water meter at the cost of the Owner.
- 3. Water Meter Reading.** The County shall monitor and analyze water usage data at least once during each of the following months: March, July, August, September, and October.
- 4. Ingress and Egress.** Owner hereby grants to the County or designee an irrevocable license for ingress and egress across the property, and shall make provision for access to the property by County personnel, for the purpose monitoring and analyzing water usage data from each water meter on the property, performing maintenance, repair, or replacement of the water meter, and ensuring compliance with the terms of this agreement.
- 5. Site Conditions.** Owner shall maintain the property in a manner to allow safe, reasonable access by County personnel to all water meters with or without prior notice, during regular County business hours, or at any time in the case of emergency.
- 6. Billing.** The County shall provide to Owner a billing statement for payment of fees set by the Kittitas County Public Health Department fee schedule.
- 7. Unpaid Fees.** Owner understands and agrees payments not received within 30 days of billing by the Kittitas County Public Health Department shall be delinquent and may incur a 10% late fee, accruing an additional 10% on the unpaid balance every 30 days thereafter. If payment is not made within 90 days, the department may terminate this agreement and/or attempt to recover payment through a collections agency.
- 8. No By-Pass.** Owner shall not by-pass the water meter or take any action which would affect the accuracy of the domestic use water meter readings or the proper functionality of the water meter.

- 9. Non-Compliance.** Failure to comply with the terms of this agreement shall be cause for termination of this agreement and for collection of any delinquent amounts due the County.
- 10. Data Collected.** Owner agrees that the County shall have the right to collect, monitor, analyze, and disseminate data on mitigated water usage for the purposes of evaluation and analysis. Mitigation and metering data will be provided to the Washington State Department of Ecology and the Water Transfer Working Group.
- 11. Agreement as Covenant Running With the Land.** This Agreement and the covenants contained herein shall be construed as running with the land, and shall be fully binding on all successors, heirs, and assigns of the Owner who acquire any right, title, or interest in or to the property, or any part thereof. Any person who acquires any right, title, or interest in or to the Property, or any part thereof, thereby agrees and covenants to abide by and fully perform the provisions of this agreement.
- 12. Recording.** Upon execution by the parties, Owner shall cause this agreement to be recorded in the real property records of the office of the Kittitas County Auditor.
- 13. Indemnity.** The Owner agrees to and shall defend, indemnify and hold harmless the County, its successors and assigns, appointed and elective officers, agents and employees, from and against all loss or expense, including but not limited to judgments, settlements, attorney's fees and costs by reason of any and all claims and demands upon the County, its successors and assigns, its elected or appointed officials, agents, or employees for damages because of personal or bodily injury, including death at any time resulting therefrom, damage to the property, including loss of use thereof, the water meter, other property damage or harms for which recovery of damages is sought by any person or persons whether such injury to persons or damage to property is due to the negligence of the Owner, its employees or agents, except only such injury or damage as shall have been occasioned by the sole negligence of the harmless the County, its successors and assigns, appointed or elected officials, agents, or employees.
- 14. Notices.** All notices, requests, demands, correspondence, and other communications to the respective parties of this Agreement shall be in writing and shall be deemed to have been duly given on the date personally served or within three (3) days after the date of mailing, if mailed, by first-class mail, registered or certified, and addressed to the address set forth below:

For the County: Public Health Department  
Attn: Water Metering Program  
507 N Nanum St., Suite 102  
Ellensburg, WA 98926

For the Owner: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**15. Legal Compliance.** The Owner shall comply with all applicable federal, state and local laws, rules, regulations and ordinances, including but not limited to, KCC Title 13.

**16. Severability.** If any term or condition of this agreement or the application thereof to any person(s) or circumstances is held invalid, such invalidity shall not affect other terms, conditions or applications which can be given effect without the invalid term, condition or application. To this end, the terms and conditions of this agreement are declared severable.

**17. Entire Agreement.** This agreement, including the recitals, section headings, and attached exhibit constitutes the entire agreement of the parties. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this agreement.

**18. Amendment.** No modification, change of terms, or amendment of this agreement shall bind either party unless in writing and signed by both parties.

**19. Assignment.** No portion of this agreement may be assigned to any other individual, firm or entity without the express and prior written approval of the County.

**20. Waiver.** Waiver of any breach or condition of this Agreement shall not be deemed a waiver of any prior or subsequent breach. No terms or conditions of this Agreement shall be held to be waived, modified or deleted except by an instrument, in writing, signed by the parties hereto.

**21. Venue and Choice of Law.** In the event that any litigation should arise concerning the construction or interpretation of any of the terms of this agreement, the venue of such action of litigation shall be in the Superior Court of the State of Washington in and for the County of Kittitas. This agreement shall be governed by the law of the State of Washington.

**IN WITNESS WHEREOF,** the parties have executed this agreement on the following two (2) signature pages on the dates as indicated, and hereby acknowledge that the parties have read this agreement, understand it, and agree to be bound by its terms and conditions.

**SIGNATURE PAGE:**

**FOR THE COUNTY**

\_\_\_\_\_  
Kittitas County Public Health Department

Dated: \_\_\_\_\_

STATE OF WASHINGTON                     )  
  ) ss.  
COUNTY OF KITTITAS                    )

I certify that I know or have satisfactory evidence that \_\_\_\_\_  
is the person who appeared before me, and said person acknowledged that he/she signed this  
instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes  
mentioned in the instrument.

Subscribed and sworn/affirmed to before me this this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

(Notary Seal)

\_\_\_\_\_  
Notary Public in and for the State of Washington

Residing at

**SIGNATURE PAGE:**

**FOR THE OWNER**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

Dated: \_\_\_\_\_

STATE OF WASHINGTON )  
 ) ss.  
COUNTY OF KITTITAS )

I certify that I know or have satisfactory evidence that \_\_\_\_\_  
is the person who appeared before me, and said person acknowledged that he/she signed this  
instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes  
mentioned in the instrument.

Subscribed and sworn/affirmed to before me this this \_\_\_\_ day of \_\_\_\_\_, 2015.

(Notary Seal)

\_\_\_\_\_  
Notary Public in and for the State of Washington

Residing at



**EXHIBIT "A"**  
**REAL PROPERTY DESCRIPTION**

DRAFT



Return To:

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<b>DATE ISSUED</b>	<input type="text"/>
<b>EDEN PERMIT #</b>	<input type="text" value="sample"/>
<b>CERTIFICATE ID #</b>	<input type="text" value="69"/>

## KITTITAS COUNTY WATER MITIGATION CERTIFICATE

<b>GRANTOR</b>	<input type="text" value="KITTITAS COUNTY"/>
<b>GRANTEE FIRST NAME</b>	<b>GRANTEE LAST NAME</b>
<input type="text" value="sample"/>	<input type="text" value="sample"/>
<b>MAP PARCEL #</b>	<input type="text" value="20-20-20000-0002"/>
<b>ABBREVIATED LEGAL DESCRIPTION</b>	<input type="text" value="sample"/>

Full legal description attached

<b>SITE ADDRESS</b>	<input type="text" value="sample"/>		
<b>CITY</b>	<input type="text" value="sample"/>	<b>STATE</b>	<input type="text" value="WA"/>
		<b>ZIP</b>	<input type="text" value="sample"/>

This Certificate is issued for an annual average of 275 gallons per day of indoor domestic use only. The daily maximum withdrawal allowed on any given day is 825 gallons per day, as long as the annual average is not exceeded.

This Certificate must be recorded with the Kittitas County Auditor's office.

This Certificate is issued for use on the above mentioned parcel only and is not transferable for use at other locations or for any other uses.

**ISSUED BY**

\_\_\_\_\_  
Regulatory Authority

\_\_\_\_\_  
Health Officer

DRAFT



Return To:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**DATE ISSUED**   
**EDEN PERMIT #**   
**CERTIFICATE ID #**

## KITTITAS COUNTY WATER MITIGATION CERTIFICATE

**GRANTOR**   
**GRANTEE FIRST NAME**  **GRANTEE LAST NAME**   
**MAP PARCEL #**   
**ABBREVIATED LEGAL DESCRIPTION**   
 Full legal description attached

**SITE ADDRESS**   
**CITY**  **STATE**  **ZIP**

This Certificate is issued for an annual average of 275 gallons per day of indoor domestic use only and up to an annual average of 25 gallons per day for outdoor irrigation of up to 500 square feet of non-commercial lawn and/or garden. The daily maximum withdrawal allowed on any given day is 900 gallons per day, as long as the annual average is not exceeded.

This Certificate must be recorded with the Kittitas County Auditor's office.

This Certificate is for use on the above mentioned parcel only and is not transferable for use at other locations or for any other uses.

**ISSUED BY**

\_\_\_\_\_  
 Regulatory Authority

\_\_\_\_\_  
 Health Officer

DRAFT



To Protect and Promote the Health and the Environment of the People of Kittitas County

## Kittiats County Water Meter Inspection Checklist

Date: \_\_\_\_\_ Parcel number: \_\_\_\_\_  
 Owner last name: \_\_\_\_\_ Meter serial number: \_\_\_\_\_  
 Address: \_\_\_\_\_ EH inspector name: \_\_\_\_\_

<input type="checkbox"/>	Water meter is installed according to Kittitas County Water Meter Specifications <input type="checkbox"/> (TBD list inserted here)
<input type="checkbox"/>	Flow direction is correct
<input type="checkbox"/>	Meter reader is installed
<input type="checkbox"/>	Meter coordinates GPS'd
<input type="checkbox"/>	Meter programed
<input type="checkbox"/>	Network communication text performed
<input type="checkbox"/>	Becon account created
<input type="checkbox"/>	Email sent to fiscal analyst for annual billing account
<input type="checkbox"/>	Email sent to CDS for building permit sign off
Notes: _____	
_____	
_____	
_____	





To Protect and Promote the Health and the Environment of the People of Kittitas County

**DATE**

**CUSTOMER NAME**

**ADDRESS**

**CITY, STATE, ZIP**

RE: WATER USAGE LIMITATIONS FOR **PARCEL #** \_\_\_\_\_

Dear **Mr./Ms.** \_\_\_\_\_,

Your ground water withdrawals are currently mitigated through the Kittitas County Water Mitigation Program under Package **A/B**. Your mitigation certificate for this package allows you to use up to **275/300** gallons per day on an annual average or a daily maximum of **825/900** gallons per day. **This includes up to 500 square feet of outdoor usage for lawns, gardens, etc.**

Kittitas County monitors water usage during the months of March, July, August, September, and October for daily maximums and annually for daily averages.

During the monitoring period of **DATE** through **DATE**, water usage at your residence exceeded the daily maximum of **825/900** gallons per day on the following dates: **TWO DATES**. This is the **first/second** instance within one year that water usage at your residence has exceeded the daily maximum withdrawal. Please contact us if you have extenuating circumstances causing the excess withdrawals or if you need assistance in solving this compliance issue. If this is not your first instance, we will be following up with you directly soon.

If your daily maximum is exceeded a third time within one year, you may receive an order to correct the violation per Kittitas County Code, Chapter 18. If your daily maximum is exceeded a fourth time within one year, you may receive a Notice of Violation and Abatement or a Notice of Infraction per Kittitas County Code, Chapter 18.

**OR**

During **YEAR**, water usage at your residence exceed the daily average of **275/300** gallons per day. Your average daily usage for **YEAR** was **XXX** gallons per day. Over the next few weeks, we will contact you directly to determine if there are extenuating circumstances causing the excess withdrawals or if you need assistance in solving this compliance issue.



507 N. Nanum St. Suite. 102 · Ellensburg, WA 98926

T: 509.962.7515 · F: 509.962.7581



*To Protect and Promote the Health and the Environment of the People of Kittitas County*

An additional year of exceeding the daily average may result in an order to correct the violation per Kittitas County Code, Chapter 18. A third year of exceeding the daily average may result in a Notice of Violation and Abatement or a Notice of Infraction per Kittitas County Code, Chapter 18.

Please notify us immediately if you have concerns or questions about water usage or metering issues.. We have attached information about the importance of water conservation and steps you may be able to take to reduce your water usage. Also, as a reminder, you can monitor your own water usage through the customer portal located at [WWW.....](#).

Please contact [NAME](#) at [PHONE](#) or [EMAIL](#) if you have any questions about this notification.

Thank you,

Kittitas County Public Health Department



507 N. Nanum St. Suite. 102 · Ellensburg, WA 98926

T: 509.962.7515 · F: 509.962.7581





To Protect and Promote the Health and the Environment of the People of Kittitas County

**DATE**

**CUSTOMER NAME**

**ADDRESS**

**CITY, STATE, ZIP**

RE: ORDER TO CORRECT VIOLATION FOR **PARCEL #** \_\_\_\_\_

Dear **Mr./Ms.** \_\_\_\_\_,

The above listed tax parcel is in violation of Kittitas County Code (KCC) Chapter 13.40.

**[INSERT RELEVANT CODE LANGUAGE]**

The purpose of this letter is to obtain your voluntary compliance within fifteen business days of your receipt of this notification. Failure to respond to this notice of correction and its corrective measures within the fifteen business days will result in the issuance of a Notice of Violation and Abatement or a Notice of Infraction and potentially a monetary penalty of \$500.00 will be assessed per day for each and every violation. In addition, please be advised that multi-day violations are chargeable as crimes under KCC Chapter 18.01.050 Crimes designated.

On **DATE(S)**, **[LIST PREVIOUS ACTIONS/COMMUNICATIONS TAKEN]**

**Corrective Measures required:**

**1. [LIST CORRECTIVE MEASURES]**

Your cooperation in this matter is appreciated. If you have additional questions or concerns you may contact **NAME** at **PHONE** or **EMAIL**.

Sincerely,

Kittitas County Public Health Department



507 N. Nanum St. Suite. 102 · Ellensburg, WA 98926

T: 509.962.7515 · F: 509.962.7581

[www.co.kittitas.wa.us/health/](http://www.co.kittitas.wa.us/health/)

# Kittitas County Water Mitigation and Metering Program

**Robin Read, Public Health Administrator**  
**Holly Myers, Environmental Health Supervisor**  
**Erin Moore, Environmental Health Specialist**  
**Dr. Mark Larson, Health Officer**

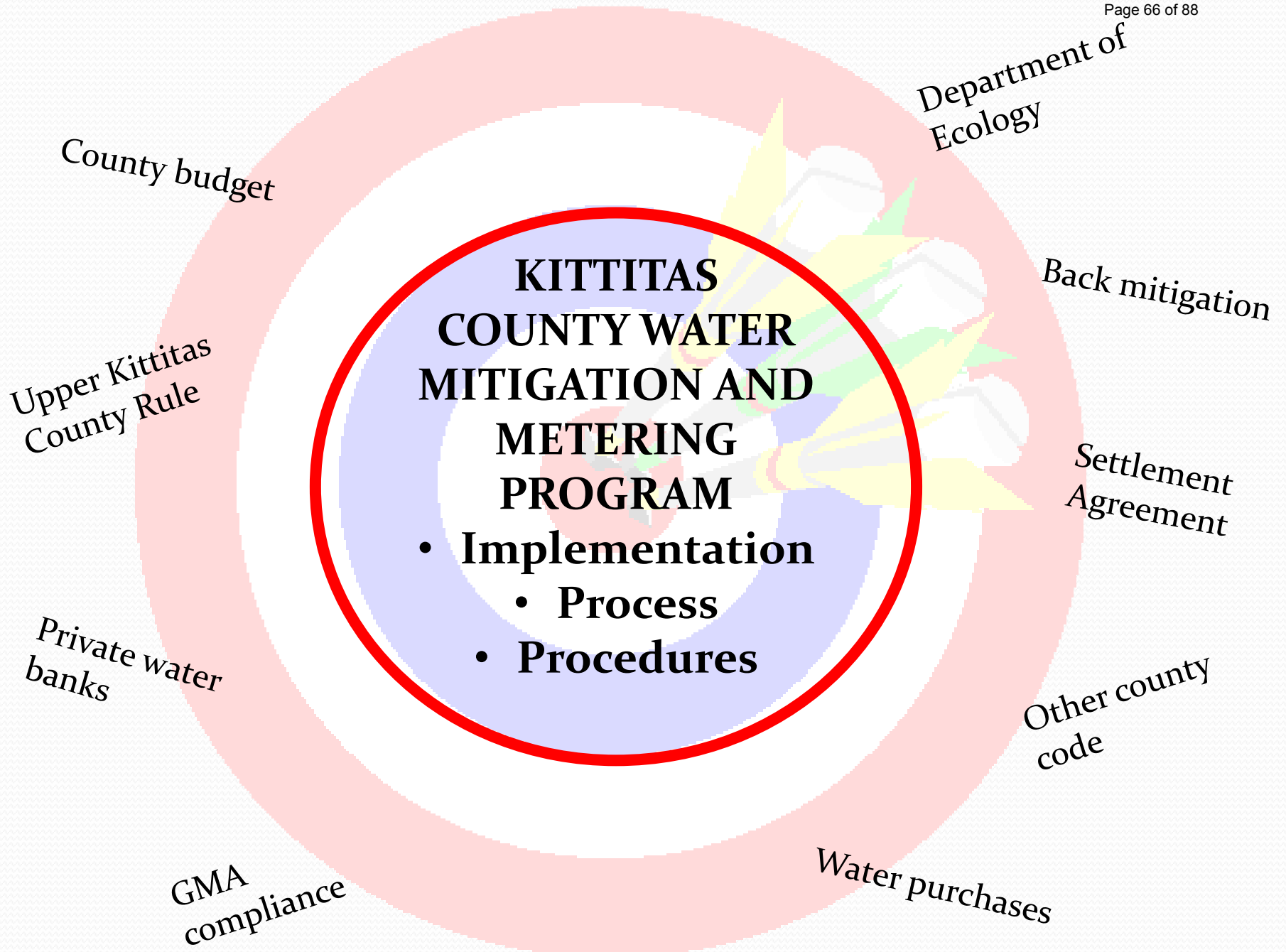


# OPEN HOUSE AGENDA

- 6:00 Welcome, Introductions, Agenda Review, Review Information Packets
- 6:15 Kittitas County Water Mitigation and Metering Program Presentation
- 6:45 BREAK
- 7:00 Breakout/listening sessions for questions/feedback

# SCOPE/PURPOSE

- To provide detailed **information** on new regulations becoming effective December 2, 2105 for domestic water use in Kittitas County and options for mitigation.
- To gather **feedback and suggestions** from the public before taking the proposal to the Board of County Commissioners for approval.



# HISTORY & BACKGROUND

- Kittitas County appealed to the Washington State Growth Management Hearings Board in 2007 for non-compliance with GMA. Appellants included Ecology, Commerce, Futurewise, KCCC, and RIDGE.
- Supreme Court declares that Kittitas County is responsible for implementing regulations to protect water resources as part of Growth Management Act (GMA) compliance on July 28, 2011.
- Settlement Agreement signed 5/15/14

# SETTLEMENT AGREEMENT

- New groundwater users will need to mitigate with an adequate senior water right.
- All new domestic uses (of mitigation programs) must be metered and recorded with the County and reported to the Washington State Department of Ecology.
- Kittitas County Water bank users will report to the County.
- Allowed a phased approach to implement.
  - Interim Requirements (ending December 1, 2015)
  - Permanent Requirements (beginning December 2, 2015)

# PERMANENT MEASURES

- Permanent Measures begin December 2, 2015
- Applicable to all of Kittitas County within the Yakima River Basin
- All new uses required to be water-budget neutral
- Meter requirements for all water banks

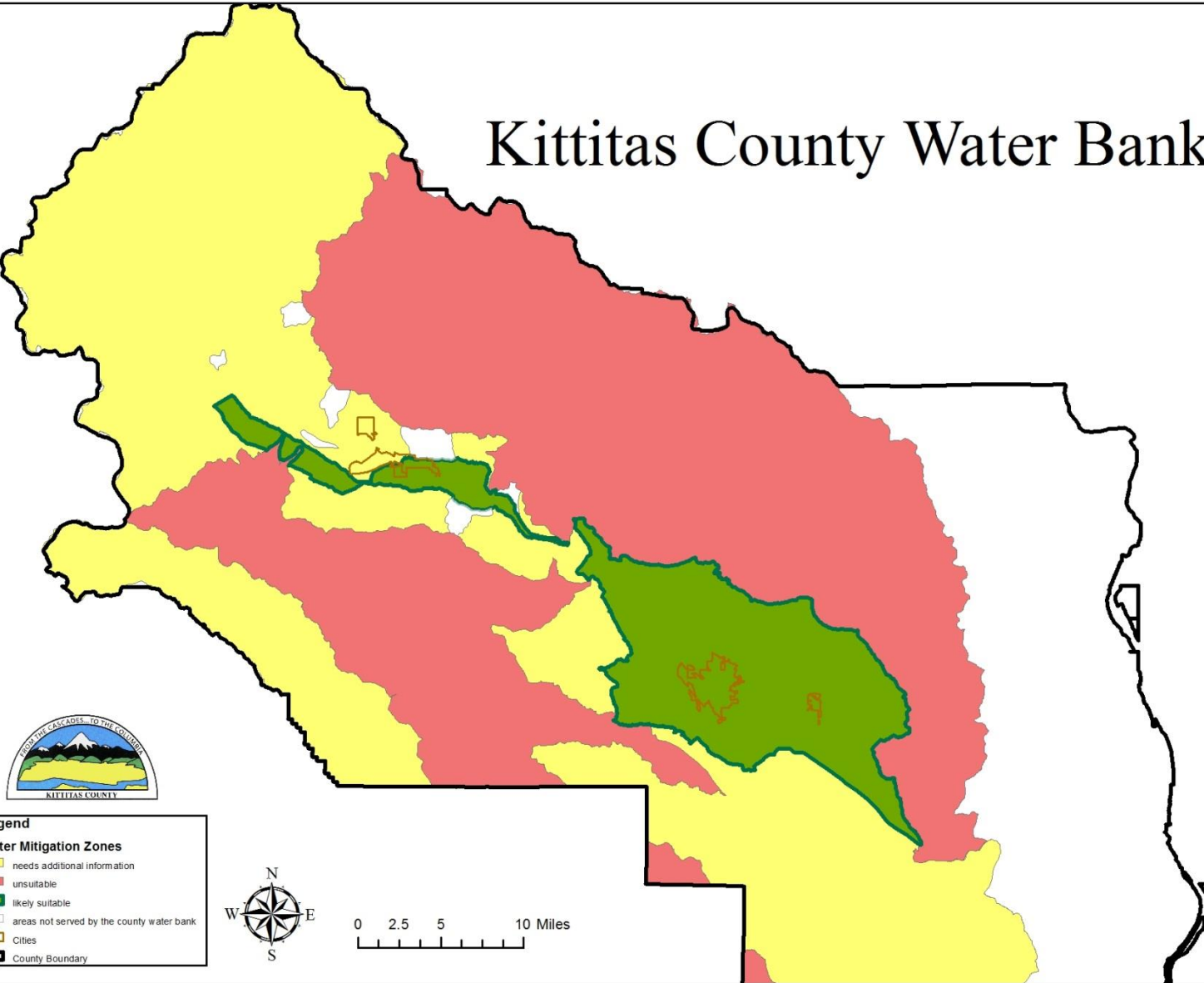


# KITTITAS COUNTY WATER BANK PURCHASE

Kittitas County purchased existing water banks

- Williams: 14.196 Acre feet/Year
- Amerivest: 67.203 Acre feet/Year
- Roth & Clennon: 23.783 Acre feet /Year

# Kittitas County Water Bank



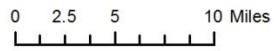
**Legend**

**Water Mitigation Zones**

- needs additional information
- unsuitable
- likely suitable
- areas not served by the county water bank

Cities

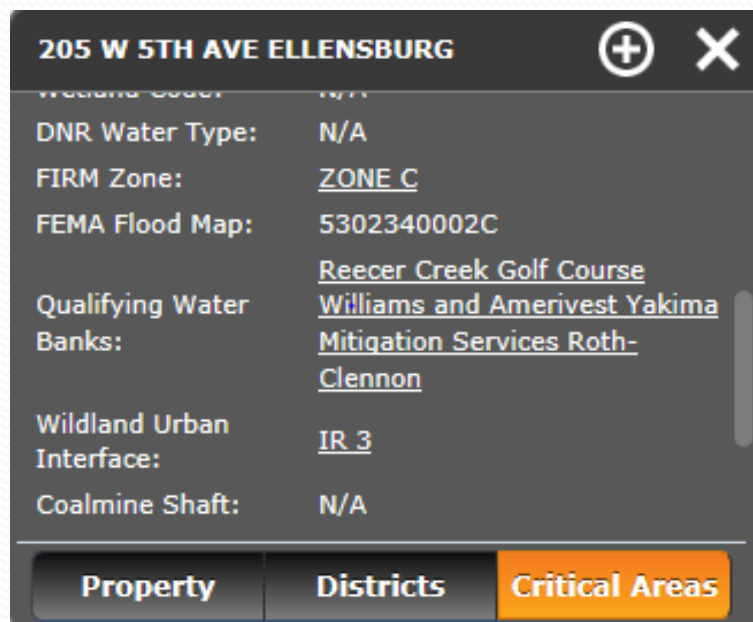
County Boundary



# PRIVATE WATER BANKS

- Maps of private water banks can be found :
  - Kittitas County Assessor website :  
<http://gis.co.kittitas.wa.us/compas/> under the critical areas tab

OR-



- <http://www.ecy.wa.gov/programs/wr/cro/wtrxchn.html>

# WATER QUANTITY ADVISORY COMMITTEE

- 12 members
- 5 meetings
- Professional facilitator
- Assumptions:
  - The indoor use includes small non-irrigation outdoor uses, such as car washing, window washing, etc.
  - Most households are full-time occupancy, will use modern and efficient fixtures and appliances.
  - Outdoor use includes lawns, gardens and other outdoor landscaping (e.g., shrubs, trees).

# WATER QUANTITY RECOMMENDATION

- PACKAGE A:
  - For parcels with access to irrigation water supply for outdoor irrigation
  - 275 gallons/day indoor domestic use ONLY
- PACKAGE B:
  - For parcels without access to irrigation water supply for outdoor irrigation
  - 275 gallons/day indoor domestic use
  - 25 gallons/day for up to 500 square feet of outdoor use

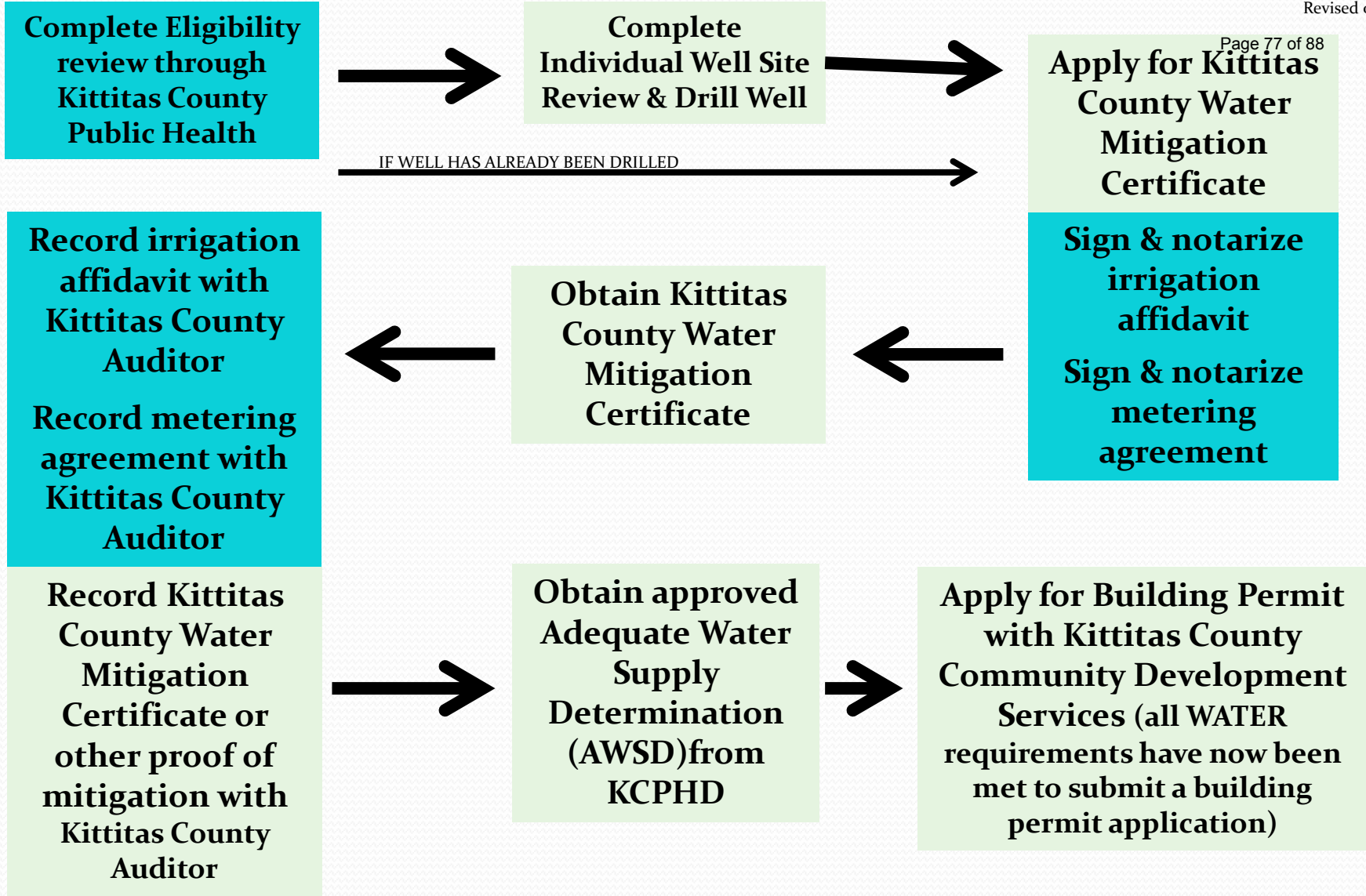
# WATER BANK ELIGIBILITY

(only Kittitas County Water Bank applicants)

- PROJECT ELIGIBILITY REVIEW APPLICATION
- WELL CONSTRUCTION REQUIREMENTS:
  - 100 foot setback from surface water
  - cased a minimum of 5 feet into the first consolidated layer or formation, or until the casing is refused by the formation
  - bentonite or other equivalent seals down to the first consolidated layer (for wells within 100 feet)
  - drilled past the first consolidated layer or formation and into a water bearing zone (for wells within 100 feet)

# KITTITAS COUNTY WATER BANK FEES

- MITIGATION FEE: \$2000-\$5000 (one time)
  - Public health application intake and processing
  - Meter inspection costs
  - Cost of water (depends on previous and potential future water purchases)
- METERING FEE: \$100-\$300 (annually)
  - Equipment, staff time, supplies for monitoring, reading, troubleshooting, compliance and enforcement.



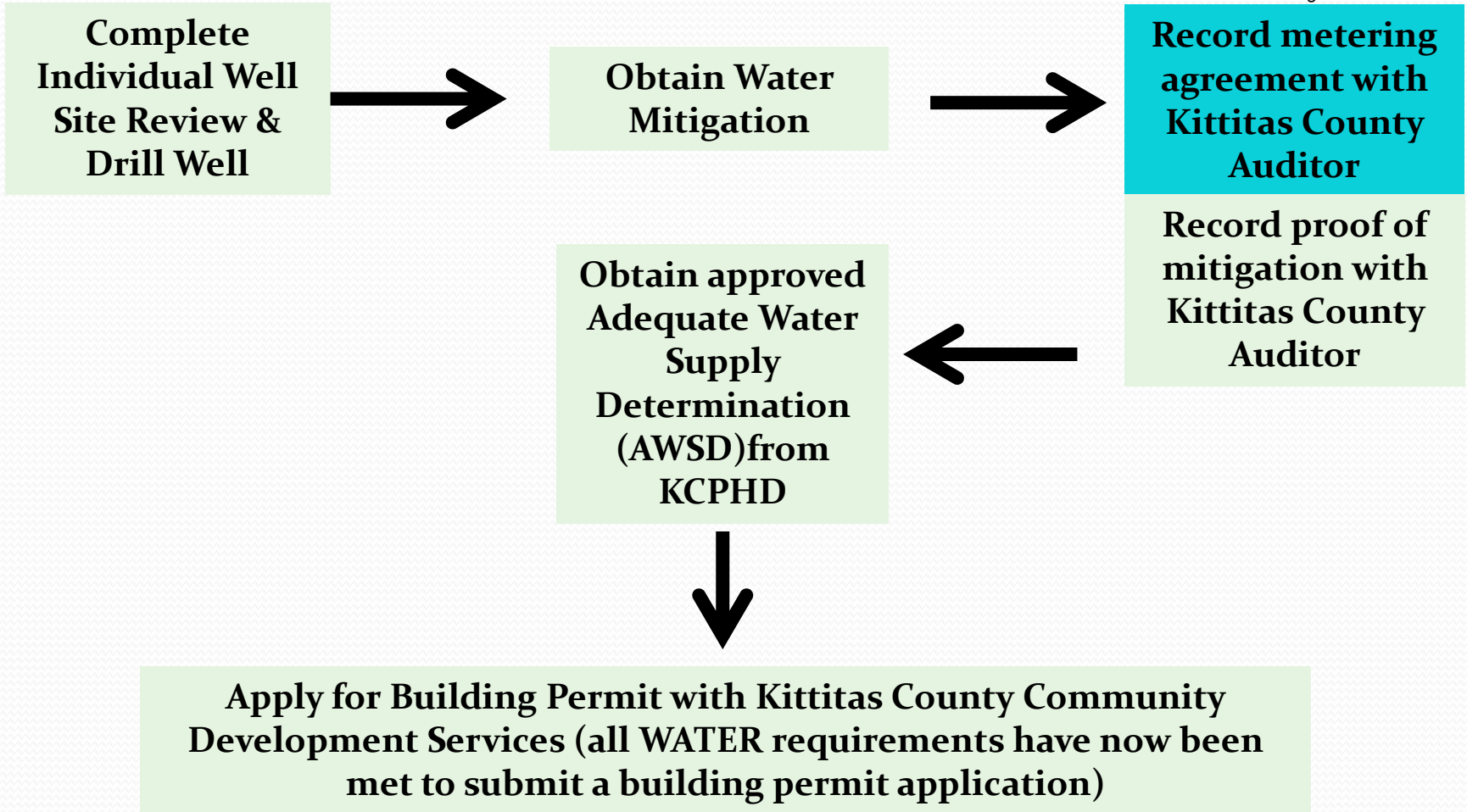
 New process

 Existing process

# Kittitas County Water Bank Process Flow Chart







- New process
- Existing process

# Kittitas County Process For Private Water Banks



# METERING PROGRAM OVERVIEW

- All new domestic uses of mitigation programs must be metered and recorded with the County and reported to the Washington State Department of Ecology.

This applies to water use from county owned banks as well as privately owned banks.

# METERING FOCUS GROUP

- Kittitas County Public Health Department held a metering focus group in April 2015. Common themes that emerged from the group discussion were:
  - *Good Information*
  - *Information Online*
  - *Staff Knowledge*
  - *Streamlined process*

# METERING AGREEMENT

- At time of mitigation application
- Recorded on title
- Customer responsibility for equipment
  - Purchase & installation
  - Repair and maintenance
- Accessibility of meter equipment to county staff
- Meter installation prior to residential connections
- Annual fee required (still being developed)

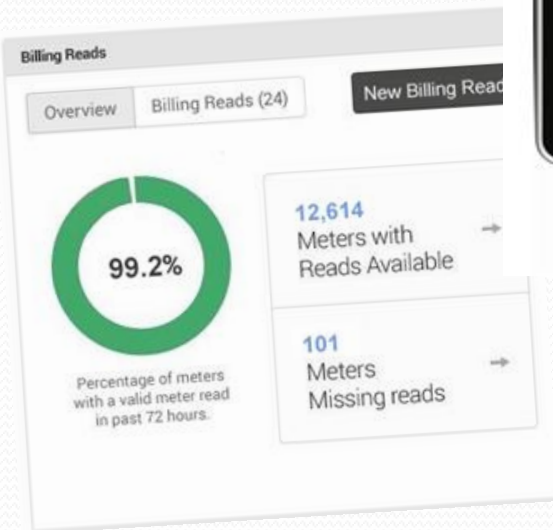
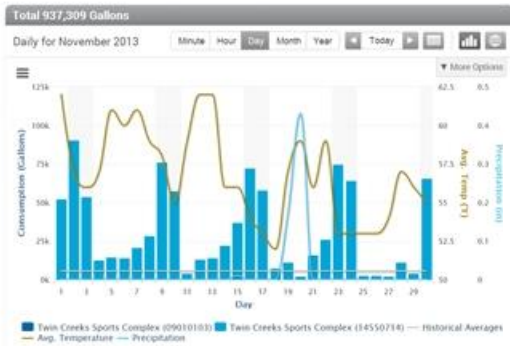
# Metering Company

- KCPHD interviewed multiple metering companies and has recommended to the BOCC that Kittitas County use Badger Meter Company for the Water Metering Program.
- Kittitas County Water Bank users will be required to purchase:
  - Badger Meter Company's Recordall® Disc Services Meter
  - Badger Meter Company's Orion® Cellular Endpoint

# METER HIGHLIGHTS

- Cellular technology
- Hourly data & notifications
- Comparable costs
- Minimize county staff costs
- Customer portal

# METER HIGHLIGHTS(continued)



# Badger Meter & Meter Reader





# MONITORING AND ENFORCEMENT

- Monitoring and analyzing water usage data in March, July, August, September, and October.
- Annual averages
- Daily maximums
- Outdoor usages
- Tampering, falsifying, etc.
  
- **BANK WIDE COMPLIANCE**
  
- **VOLUNTARY COMPLIANCE**

# Breakout/listening sessions for questions/feedback

- Water Banking & Permanent Measures
- Water Quantity
- Water metering/process
- Water policy/enforcement
- Parcel/property lookup

# MORE INFORMATION:

Kittitas County Public Health Department  
507 N. Nanum St, Suite 102  
Ellensburg , WA 98926



Come in or call us at:

509-962-7515

Visit our website :

<http://www.co.kittitas.wa.us/health/programs/environmental-health/water-resources.aspx>

# MEMORANDUM

Project No.: 140290-04

April 27, 2015

**To:** Kittitas County Commissioners

**cc:** Kittitas County Public Health Department

**From:** Dan Haller, PE, Senior Associate Water Resources Engineer  
Facilitator, on behalf of Citizen's Advisory Committee

**Re:** **Kittitas County Water Banking, Citizen's Advisory Committee Summary Report**

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## Executive Summary

In 2007, the Department of Ecology (Ecology) received a petition seeking the unconditional withdrawal from further use of all unappropriated groundwater in Kittitas County until enough information is known about potential effects on senior water rights and stream flows from the development of new groundwater uses (Ecology Publication: 10-11-021). From 2007 to 2014, there followed adoption of emergency and permanent groundwater rules (WAC 173-539A), community outreach, Attorney General Opinions and Court Rulings, USGS Studies, creation of private water banks, and a new mitigated-water framework for Kittitas County. On May 15, 2014, Kittitas County, Ecology, Futurewise, the Kittitas County Conservation Coalition, and RIDGE Association entered into a Settlement Agreement settling a case before the Growth Management Hearings Board, in which Kittitas County agreed to the phased integration of a Domestic Ground Water Mitigation Program (County Water Bank).

To begin implementing the County Water Bank, in 2014 Kittitas County committed approximately \$2.5 million dollars in funding to purchase approximately 105 acre-feet of senior consumptive use water rights as mitigation for new uses. In order to obtain advice on how best to establish the metrics for Mitigation Certificates that would be administered under the County Water Bank, in August 2014, Kittitas County accepted applications from 15 County residents who agreed to participate in a Citizen's Advisory Committee (Committee).

From October 2014 to March 2015, the Committee met five times in meetings facilitated by Dan Haller, an environmental engineer with Aspect Consulting, LLC (Aspect). The charter for the Committee was:

*"To gather information and formulate a recommendation on the quantity of water to be issued with a mitigation certificate for the Kittitas County Water Bank. Committee members will share resources and research issues affecting residential and outdoor water use to support an educated recommendation to the Board of County Commissioners on the quantity of water the county will offer with a mitigation certificate through the Water Bank".*

# MEMORANDUM

140290-04

On March 27, 2015, the Committee submitted a Memorandum to the Kittitas County Commissioners entitled “*Recommendation on Water Quantities and Water Banking Framework*”. Key findings of the Memorandum included both a majority and minority opinion for a numeric standard for Mitigation Certificates, Terms of Offering for Mitigation Certificates, and Assumptions on Water Bank Customer Demographics.

The majority of the Committee recommended offering two Mitigation Certificates:

*“Package A”*: An indoor use package of approximately 275 gpd/house should be offered. Package A is mandatory for customers who have access to irrigation water supply for outdoor irrigation (e.g. irrigation district supply).

OR

*“Package B”*: An indoor use package of approximately 275 gpd/house with an outdoor use package of 500 square feet at 25 gpd, or 300 gpd/house (averaged for the calendar year) should be offered. Package B is mandatory for customers who do not have access to an irrigation water supply for outdoor irrigation.

The minority of the Committee believed Package A and B should be offered in all situations and an additional Package C offering a higher irrigation allowance of 1,500 square feet at 350 gpd/house.

The Committee’s recommendation was based on the following assumptions:

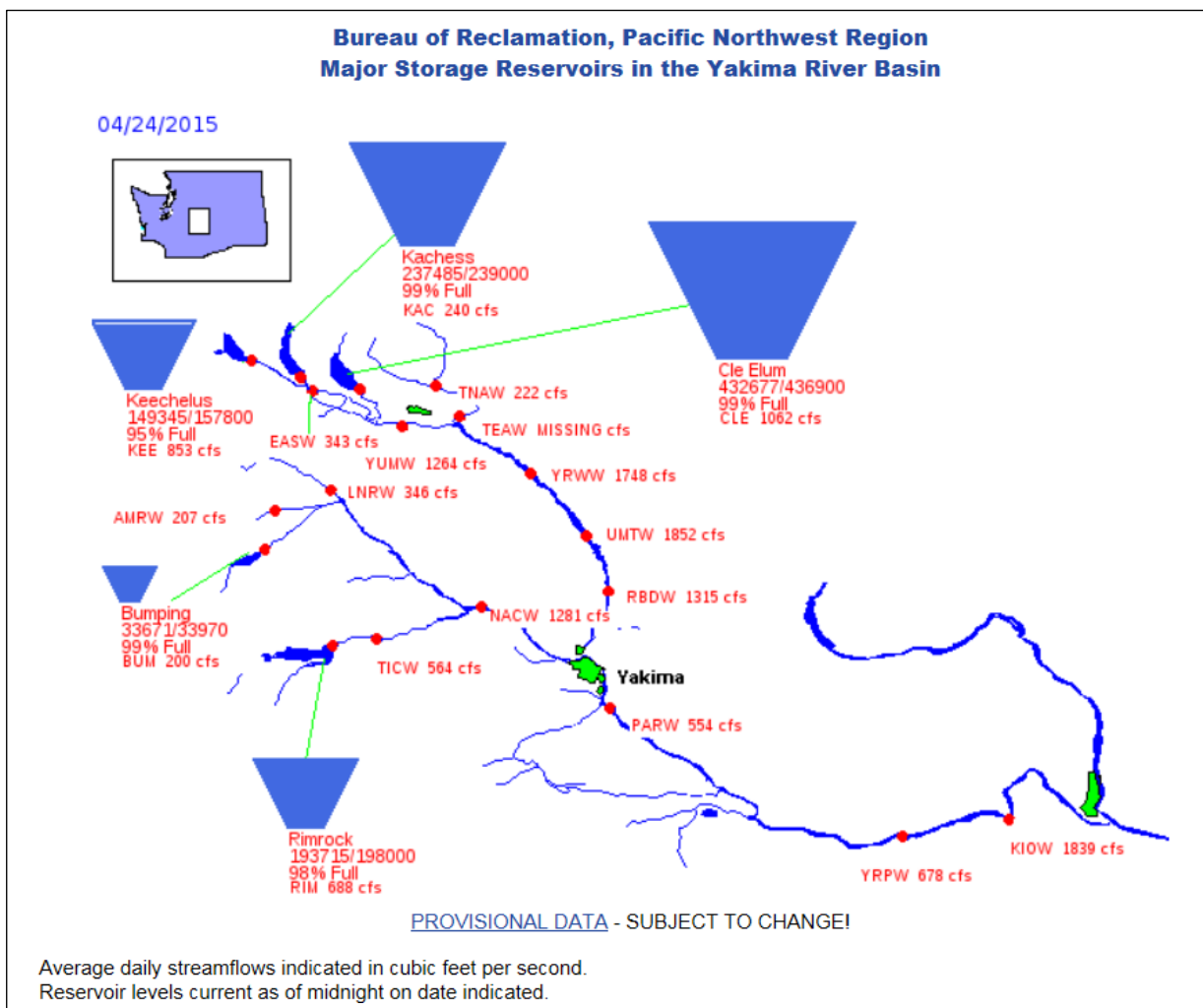
- The indoor use package is intended to include some small non-irrigation outdoor uses, such as car washing, window washing, etc.
- The County’s target customer will be households with full-time occupancy, will use modern and efficient fixtures and appliances, and will have a fixed household size.
- Other sources of mitigation water are available besides the County Water Bank in most areas.
- Compliance and enforcement efforts should be at the bank level instead of the customer level.
- Customer usage data will be based on a metering program. There will be daily, annual, and peak time readings and allotments. Enforcement will only be done for significant outliers (households using significantly more than allotted).
- Lawn will be used as a surrogate for other outdoor landscaping (e.g. garden, shrubs, trees).
- A single value for crop irrigation use should be used county-wide. This will likely result in a slight overestimation of use in the Upper County (about 12% compared to average county use) and a slight underestimation of use in the Lower County (about 12% compared to average).
- Stockwatering uses were not a part of the Committee’s charter and these recommendations do not reflect use for that purpose.
- The County should include clear and robust outreach materials for its water bank.

**Background**

This section provides a brief history of the background leading up to Kittitas County creating a Water Bank and forming the Committee to provide advice in establishing the metrics for Mitigation Certificates.

**Regulatory Framework**

Yakima River Basin surface water has been overappropriated since 1905 when the Bureau of Reclamation reserved all remaining surface water supplies to aid in the construction of storage reservoirs to supply irrigation and municipal supplies in the greater Yakima Valley, including Lake Keechelus, Lake Kachess, Lake Cle Elum, Bumping Lake, and Rimrock Lake (see Figure 1, Reclamation, 2015). The supply from these reservoirs, along with estimates of natural flow, return flow, and other sources, form the metric of Total Water Supply Available (TWSA), which is used to manage supplies in the basin.



**Figure 1: Summary of Reservoir and TWSA Management in the Yakima Basin**

For decades, surface supplies have been managed by Ecology and Yakima Superior Court in the *Acquavella* Adjudication to prevent consumptive use increases that would diminish TWSA, and give rise to impairment of senior water rights. In 1999, the future potential for conjunctive use of surface and groundwater supplies in the Yakima Basin began with the adoption of a Memorandum of Agreement amongst Ecology, the Yakama Nation, and Reclamation (Ecology, 1999) to fund a comprehensive groundwater study in the basin. In 2010, the USGS estimated that Yakima River flows are reduced by as much as 200 cubic- feet- per- second (cfs) by the time the Yakima River drains into the Columbia River, due to groundwater withdrawals, and that that impact is significant when compared to federally mandated target flows at Sunnyside and Prosser dams, which range from 300 to 600 cfs (USGS, 2011). This study, coupled with droughts in 2001 and 2005, increased residential development during the mid-2000's, and increased clarity on the groundwater exemption under RCW 90.44.050 from the Courts, set the stage for increased regulatory scrutiny in the basin.

## **Chronology of Key Events Leading to Kittitas County Water Bank Formation**

The following provides an overview of key events leading to the formation of the County Water Bank:

- On September 27, 2007, a petition was filed with Ecology by Aqua Permanente to “*withdraw all unappropriated groundwater resources of Kittitas County until adequate information on quantities and sustainability of withdrawal is available*” (Aqua Permanente, 2007).
- 2008-2010, Ecology adopted an emergency rule that established a partial withdrawal of groundwater within Upper Kittitas County, which included provisions for newly created residential developments, building structures on existing parcels, compliance with the 5,000 gpd exemption limit, and hydrogeologic assessments for new developments. This rule was adopted in part pursuant to an MOA between Ecology and Kittitas County on April 7, 2008. This rule was amended and extended nine times during this time period (Ecology, 2010).
- On September 21, 2009, in response to information requests from both Ecology and Kittitas County, the State Attorney General’s Office issued an Opinion (AGO, 2009) clarifying that domestic use and lawn watering were separate exemptions under RCW 90.44.050, Ecology did not have authority for a partial withdrawal of groundwater (only a complete withdrawal), and Ecology’s withdrawal authority included permitted and permit-exempt uses of groundwater.
- On January 22, 2011, Ecology’s permanent groundwater rule for Upper Kittitas County (WAC 173-539A) became final, requiring consumptive use mitigation for new building permits (except those vested prior to July 16, 2009), (Ecology, 2011).
- In 2011, the Supreme Court issued its decision in the case *Kittitas County et al v. Eastern Washington Growth Management Hearings Board et al*, ruling in part that counties had a role in considering legal availability of water (in addition to physical availability) under County comprehensive planning.
- On May 15, 2014, Kittitas County, Ecology, Futurewise, the Kittitas County Conservation Coalition, and RIDGE Association entered into a Settlement Agreement settling a case

before the Growth Management Hearings Board, in which Kittitas County agreed to the phased integration of a Domestic Ground Water Mitigation Program.

- In 2014 Kittitas County committed approximately \$2.5 million dollars in funding to purchase approximately 105 acre-feet of senior consumptive use water rights as mitigation for new groundwater withdrawals.

## **Creating the Citizen's Advisory Committee**

In order to obtain advice on how best to establish the metrics for Mitigation Certificates that would be administered under the County Water Bank, in August 2014, Kittitas County accepted applications from 15 County residents who agreed to participate in a Citizen's Advisory Committee. The following describes the County's process for soliciting volunteers to participate on the Committee, Committee Membership, the Committee's Mission and Charter, Operating Procedures, and tenure.

### ***Soliciting Volunteers***

The County provided notice of the formation of the Committee and reached out to key agencies with knowledge or regulatory oversight on the subject matter, such as Ecology and the Department of Health (DOH). The process and meetings were public and anyone with interest could apply or attend. The composition of the Committee resulted in a well-rounded group of interests, which was what the County desired in obtaining a recommendation that embodied a diverse Committee. The membership of the Committee is described below, and staff from the County also attended so they could support the Committee's needs and be fully informed when implementing Committee recommendations:

1. Winston Norish, Central Washington University Geology Department
2. Anne Johansen, Central Washington University Chemistry Department
3. Roger Weaver, Kittitas Association of Realtors
4. David Bowen, Kittitas County Chamber of Commerce
5. Rory Savage, Kittitas Association of Realtors
6. Craig Sill, PE, Central Washington Home Builders Association
7. Mark Nelson, Evergreen Valley Utilities
8. Lance Ballew, Tumwater Drilling and Pump
9. Marc Kirkpatric, Encompass Engineering
10. Carey Gazis, Central Washington University Geology Department
11. Jeremy Bach, Bach Drilling
12. Jon Eaton, Agricultural Community
13. Cynthia Nelson, DOH Drinking Water
14. Sage Park, Ecology
15. Bob Barwin, Ecology



## ***Mission Statement and Charter***

Because there was interest and potential for the topic of metrics for Mitigation Certificates to introduce a far-ranging discussion of policy issues that could be tangential to the actual work of the Committee, the County established an initial Mission Statement and Charter in an effort to ensure the scope of the Committee was defined. Throughout the meetings, there emerged an openness by the County to the notion that the Committee (or something like it) may provide subsequent strategic input on this work or other questions as the County Water Bank began operating and some of the information around the policy positions matured.

The Mission and Charter of the Committee is described below:

*The mission of the Citizen's Advisory Committee is to develop a water quantity recommendation for a mitigation certificate for the Kittitas County Water Bank.*

*The water quantity citizen's advisory committee will discuss water related issues affecting future residents choosing to mitigate for water through the county owned water bank managed by Kittitas County Public Health Department. Committee members will share resources, gather information and formulate a recommendation on the quantity of water to be issued with a mitigation certificate from the future Kittitas County water bank. The committee will then make a recommendation to the Board of County Commissioners on the quantity of water the county will offer through the water bank.*

## ***Operating Procedures***

The Committee was introduced to the following proposed Operating Procedures establishing ground rules for Committee operation during the first meeting. Following review and endorsement by the Committee, these Operating Procedures were used throughout the process to develop the Final Recommendation, which consisted of a consensus recommendation on many policy points, and a majority and minority opinion recommendation on specific metrics for Mitigation Certificates.

### Governance and Decision Making:

- All parties have equal representation and equal participation.
- Consensus outcomes are desired, but not required. If the Committee determines to seek consensus on certain points, consensus is defined as an outcome everyone on the Committee can live with and support. Where the Committee does not reach consensus, a range of perspectives will be carried forward (e.g. majority/minority opinions).
- Meetings will be facilitated and summary discussion points, recommendations and action items from meetings will be documented for review by the Committee.

### Expectations of Participants:

- Participants will make every effort to attend meetings.
- Collaborative problem solving depends on mutual respect and careful listening among participants and on active participation by all. Meetings will be conducted in a respectful atmosphere where all parties seek to foster trust and understanding.

# MEMORANDUM

140290-04

- Comments and discussion during these meetings will be concise and relevant to the goals of the meeting and the issue at hand.
- Participants will represent their own personal views and expertise and the perspectives of their organizations.
- Participants will allow for open discussion and the right to disagree, and will look for opportunities to find common interests, agreements, and solutions.
- Participants will focus on clarifying their own views and interests, and will refrain from characterizing the views of other participants.

## ***Meeting Schedule***

The Committee's work was completed in five meetings ranging from 2 to 4 hours, with occasional correspondence and email discussion in between meetings. Meetings were held in Ellensburg at conference facilities at the Kittitas County Fairgrounds and Armory on the following dates:

- October 28, 2014
- November 17, 2014
- December 10, 2014
- January 12, 2015
- February 17, 2015

The initial three meetings consisted of presentations on background issues necessary for the Committee to be fully informed on the topic, with complimentary policy discussions and consensus points adopted as clarity in positions emerged. The final two meetings were largely focused on developing the metrics for indoor and outdoor water use for Mitigation Certificates.

## **Meeting Summary**

The following sections summarize key presentations provided to the Committee during its meetings, policy issues evaluated, consensus points decided, and other issues leading up to the Final Recommendation to the County Commissioners on March 27, 2015. Comprehensive meeting notes and presentation materials for each meeting are provided in the appendices to this Memo.

### ***Committee Meeting 1***

Committee Meeting 1 included some initial open discussion time becoming acquainted with one another, their perspectives, followed by a review of the Mission, Charter and Operating Procedures so the Committee could focus its work. The Committee worked through an initial exercise called the "bullseye map" to clarify which topics the Committee should be focused on, which issues the Committee may be interested in but were tangentially related to their Mission, and which issues were off-topic.

**Table 1: Summary of Committee Bullseye Map Exercise**

<b>Committee Responsibilities</b>	<b>Tangential Issues</b>	<b>Off-Topic Issues</b>
Number of recommendations	Household population	Commercial use
Quantity needed for outdoor use	Existing metering data	TWSA
Unit of measurement	Water budget neutral	Hydraulic Continuity
Quantity needed for indoor use	Consumptive Use metrics	Compliance with metering program
	Minimum required for public health	USGS model
	Fire Protection/defensible space needs	Subdivision/development use
	Crop irrigation requirements	Yakima Basin Integrated Plan
		Pending litigation/court cases
		Cost of water bank quantity sold
		Conservation Measures
		GMA
		Stock Watering
		Other Mitigation sources
		Physical Water Availability

Presentations

The Committee heard two presentations on water use to begin the stage for an exercise that would be used throughout the Committee meetings, which was to set a range of indoor and outdoor water use numbers that could be agreed to by consensus, and then successively narrow that range until a final recommendation was achieved.

- Dr. Mark Larson, Health Officer from the Kittitas County Public Health Department provided a summary of his white paper recommending a minimum indoor use standard of 36 gpcd (gallon per capita per day).
- County staff led an exercise using an on-line water use calculator from the Southwest Florida Water Management District. Several committee members volunteered their use patterns to come up with a range of indoor uses of roughly 40 to 70 gpcd.

Key Open Discussion Items

Some of the key initial discussion items and consensus positions arrived at during Meeting 1 included:

1. There needs to be consensus on the mitigation metrics for the bank (e.g. gpcd, gpd/house, square feet of lawn) so we're all using the same units of measurement.
2. The water bank is not intended to make exceptions for seasonal occupancy, because residences can become full-time occupancy with no knowledge or notice to the County.
3. The Committee is interested in understanding the implications of its water quantity selection on bank operation and longevity, particularly as it pertains to consumptive use.

***Committee Meeting 2***

Committee Meeting 2 began with additional exercises with the on-line water use calculator for all the Committee Members, which yielded a fairly wide range of water use based on different assumptions on applicant efficiency, occupancy, and other factors. One of the issues that emerged was the need to define a “Target Customer” for the County Water Bank. This became an important concept throughout the remainder of the Committee meetings when policy issues arose, as the Committee sought to define the role of their recommendation within the context of a County-run bank in an area served by other private water banks or mitigation options.

The Committee agreed the County Water Bank target customer has the following attributes.

1. Full time occupancy for the home. Since occupancy can change from year-to-year with primary residence changes, college transitions, home sales, and other factors, it wasn’t as practical to use a population based metric.
2. Home will have modern energy-efficient appliances. The County’s current focus is mitigation for new uses, which implies modern construction.
3. A fixed household size assumption (e.g., average number of people). Since occupancy can change from year-to-year with vacations, births, deaths, home sales, and other factors, it wasn’t as practical to use a population based metric.

A policy exercise the Committee worked through in Meeting 2 was the pros and cons of having a higher or lower water bank number metric. These included implications on County Water Bank customer behavior, and on the County itself, which are summarized in Table 2.

**Table 2: Summary of Pros / Cons of Establishing a Larger or Smaller Mitigation Certificate**

<b>Larger Number</b>	<b>Smaller Number</b>
County acquisitions don’t serve as many houses	County acquisitions serve more houses
Residents have greater flexibility and use choices	Residents have less flexibility and use choices
Compliance may be easier	Compliance may be harder
Cost per residence is likely higher	Cost per residence is likely lower
More protective of senior rights	Less protective of senior rights
Potentially less risk to 3 <sup>rd</sup> party appeal	Potentially more risk to 3 <sup>rd</sup> party appeal
Less incentive to conserve water	Incentivizes conservation of water
Greater water utilization	Lesser water utilization

Presentations

The Committee heard the following two presentations on water use and water banking.

- Holly Duncan with Kittitas County Public Health provided a presentation of water use data based on metered water use and water system planning data for public and private water systems in Kittitas County and throughout Eastern Washington.
- Robert Barwin with Ecology provided a presentation of how other water banks are being operated and what water quantities they are selling associated with their Mitigation Certificates.

## Key Open Discussion Items

Some of the key initial discussion items and consensus positions arrived at during Meeting 2 included:

1. Kittitas County is not the only option for residents. Other banks or self-mitigation options exist in nearly all areas that the County's water bank will serve.
2. The County Water Bank should be managed at the "bank-level" for most compliance activities rather than the "customer-level". For example, customer overage or underuse due to the myriad of assumptions the Committee discussed becomes less important if that variance can be aggregated at the bank level.
3. The Committee agreed that indoor water use should not be less than 150 gpd/house and not more than 350 gpd/house. Outdoor use would be additive.

## **Committee Meeting 3**

Committee Meeting 3 began to focus on outdoor water use information to help round out that portion of the Mitigation Certificate recommendation.

## Presentations

The Committee heard the following two presentations on outdoor water use.

- Tip Hudson from WSU Extension gave a presentation on lawn and landscaping water usage, evapotranspiration (ET), upper/lower county crop ET rates, and outdoor water demands.
- Suzanne Wade from Kittitas County Conservation District gave a presentation on defensible space and fire protection.

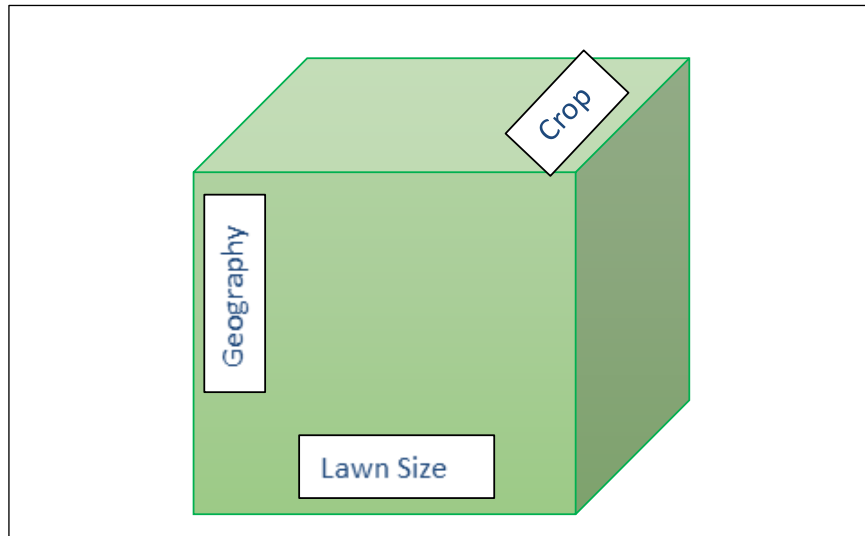
Additionally, the County followed up on their previous presentation about analogous water systems in Kittitas County and throughout the State. The indoor and outdoor average of all presented water systems was 272 gallons per day. This data was qualified that it included systems with part-time and full-time demographics, systems partially served by separate irrigation supplies, and systems reporting data at different times.

## Key Open Discussion Items

Some of the key initial discussion items and consensus positions arrived at during Meeting 3 included:

1. County metering would be used to track both customer and bank compliance. Customers would likely be expected to meet an average annual (per house) and peak monthly (per house) requirement, with significant deviations reported receiving some technical assistance to understand the reason. Some reasons would likely be readily acceptable (e.g. household size above the average, which would be balanced by low reports in other areas). Some would likely not be acceptable (e.g. leaking water lines, irrigating more lawn than permissible).

2. Lawn is an appropriate surrogate for other outdoor uses. As shown in Figure 2, the metric for outdoor use can be affected by where you're at in the County (upper or lower, due to climate), what your outdoor use is for (e.g. lawn, ornamental trees, garden crops), and how much area you're irrigating. The Committee agreed that while they would still consider geographical factors and irrigation size in future meetings, only one ET rate would be used.



**Figure 2: Factors Affecting the Outdoor Water Use Recommendation**

### ***Committee Meeting 4***

Committee Meeting 4 began a process to finalize areas of concurrence, and prepare the recommendation to the Board of County Commissioners on metrics for the Mitigation Certificates. Areas of agreement were summarized, differences that still needed work noted, and data needs necessary to resolve these differences were identified.

### **Presentations**

The Committee heard the following two presentations on household size and a water use spreadsheet on bank longevity.

- Erin Moore from Kittitas County Public Health District reviewed a map of census areas and the percentage of households with 1-2 person households, 3-4 person households, 5+ person households in each area. This helped give the Committee some comfort that a single number per house was appropriate, as long as compliance was largely managed at the bank level.
- Erin Moore from Kittitas County Public Health District reviewed a spreadsheet that helped assess County Water Bank longevity as a function of indoor and outdoor use recommendations. This helped the Committee understand the implications of choosing a larger or smaller number for Mitigation Certificates.

## Key Open Discussion Items

Some of the key initial discussion items and consensus positions arrived at during Meeting 4 included:

1. A lawn size option of 500 square feet should be offered (potentially with conditions).
2. An indoor—only package for water use should be offered (potentially with conditions).
3. A half-acre lawn size (as allowed under RCW 90.44.050) would not be recommended. This level of lawn size, owing to its high consumptive use, depleted the County Water Bank too rapidly, was not reflective of Kittitas County demographics, and made the packaged too expensive given the County's initial investment.
4. An average indoor recommendation across all Committee Members surveyed was 271 gpd/house.

## ***Committee Meeting 5 and Final Recommendation***

The final Committee meeting was focused on attempting to obtain a consensus across all the recommendations, or in short of that, a majority/minority opinion. All the previous consensus decisions were reviewed, after which the discussion focused largely on indoor water use assumptions and the terms under which Mitigation Certificates would be offered.

## Key Open Discussion Items

The key discussion items and consensus positions arrived at during Meeting 5 included:

1. Stockwatering was not included in the Committee Mission, and should be explicitly excluded so there is no confusion that it was included in the metrics.
2. An average county ET rate should be used for consumptive use for lawn, rather than separate numbers for Upper and Lower County. The Committee felt a single number was easier to administer, while multiple numbers would divide County residents unnecessarily and was not appreciably more accurate.
3. De minimis, non-irrigation, outdoor use should be included in the indoor package. The Committee did not want the County to have to manage window washing, car washing, or other small outdoor uses as part of compliance activities, as long as they weren't irrigation in nature (which can be more easily tracked).
4. A consensus position on a single indoor number could not be reached after multiple votes and a good faith effort to get there, with the average being approximately 275 gpd/house. The Committee was roughly split with about half being more conservation-focused at an indoor level on the order of 250 gpd/house (or lower), with the balance being more quality of life focused in the 300 gpd/house range (or higher).
5. The majority of the Committee believed that some conditions should be attached to the Mitigation Certificate to maximize bank longevity. These conditions largely focused on whether a given parcel had access to separate irrigation supplies.

The majority of the Committee recommended offering two Mitigation Certificates:

*“Package A”:* An indoor use package of approximately 275 gpd/house should be offered. Package A is mandatory for customers who have access to irrigation water supply for outdoor irrigation (e.g. irrigation district supply).

OR

*“Package B”:* An indoor use package of approximately 275 gpd/house with an outdoor use package of 500 square feet at 25 gpd, or 300 gpd/house (averaged for the calendar year) should be offered. Package B is mandatory for customers who do not have access to an irrigation water supply for outdoor irrigation.

The minority of the Committee believed Package A and B should be offered in all situations and an additional Package C offering a higher irrigation allowance of 1,500 square feet at 350 gpd/house.

### **Presentation to County Commissioners**

The final Committee meeting was presented to the Board of the County Commissioners on March 10, 2015. The Commissioners accepted the recommendation with a request for a recalculation and rewording of the “package” descriptions for each in administration and development of outreach materials. This request did not alter the substance of the recommendation from the Committee. A modified recommendation was circulated by the Facilitator to the Committee, and a final Recommendation Memo was provided to the County on March 27, 2015.

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# MEMORANDUM

140290-04

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## Limitations

Work for this project was performed for Kittitas County (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

## Appendices

### Appendix A: Committee Meeting #1 Materials

- Introductory Committee Email, Draft Operating Procedures
- Committee Contact List
- Committee Meeting 1 Notes
- Ecology – County Settlement Agreement
- County GMA Water Compliance Fact Sheet
- Kittitas County Public Health Water Quantity White Paper

### Appendix B: Committee Meeting #2 Materials

- Committee Meeting 2 Notes
- Water Banking Metrics Presentation
- Water Usage in Kittitas County Presentation

### Appendix C: Committee Meeting #3 Materials

- Committee Meeting 3 Notes
- Average Gallons Per Day Handout
- Kittitas County Conservation District Firewise Presentation
- Lawn Water Use Presentation by WSU Extension

### Appendix D: Committee Meeting #4 Materials

- Committee Meeting 4 Notes

### Appendix E: Committee Meeting #5 Materials

- Committee Meeting 5 Notes
- Committee Water Banking Final Recommendation Memo

## METERING PROGRAM REPORT AND RECOMMENDATION

### Background

As of June 2, 2014, mitigation is required for all new uses of ground water in Kittitas County. Mitigation may include obtaining a portion of a senior (pre-1905) water right appropriate to offset the new ground water withdrawal. Kittitas County intends to offer water budget neutral mitigation through a County-owned and operated water bank starting December 2, 2015.

A requirement of this water bank is that residential connections will be metered and water usage data will be reported to the County and the Washington State Department of Ecology. Kittitas County Public Health Department (KCPHD) has researched metering companies that provide services to implement and operate a metering and monitoring program for the Kittitas County Water Bank.

### Process

In April 2015, KCPHD staff, Erin Moore, Holly Myers, Mark Larson, and Holly Duncan, scheduled and attended four metering presentations with Master Meter, Badger, Neptune, and Zenner metering companies to understand what type of meters, meter readers, equipment, and software are available.

During the presentations, Kittitas County staff gathered information about the types of meters, meter readers, equipment, software, maintenance, installation, customer service support, annual cost, etc. Kittitas County followed up with each of the vendors to obtain a more detailed report of the items listed above. Three out of the four presenters replied with a report. Zenner Meter Company did not return a request for further information.

The request for further information included the following data:

- 5/8" meter cost
- 5/8" meter type
- Automatic Meter Reading (AMR) unit compatibility
- AMR unit type
- AMR unit cost
- Reading equipment communication type
- Reading equipment cost
- Meter availability
- Customer service availability
- Software name
- Software/initial cost
- Software/upgrade annual cost
- References



- Customer portal
- Software type (cloud or desktop)
- Software development (where)

Attachment A shows the comparison data of all four metering companies.

### **Recommendation: Badger Meter Company**

After review of the information presented, Kittitas County Public Health Department recommends that the County use Badger water meters for the Kittitas County Water Bank based on the following factors. Badger Meter Company (Badger) was founded in 1905 and has earned an international reputation as an innovator in flow measurement and control products.

#### *Meter Reading*

Badger Meter Company offers an Orion Cellular Endpoint technology for meter reading that eliminates the need for fixed network infrastructure or reading collection hardware. Badger is the only company we considered that offered this type of system. A fixed network system requires multiple data collection devices to be set up in the proximity of where the meters are going to be installed so that signal can bounce from the meters to the repeater towers and then to an additional collection tower before they can be read. The infrastructure alone can be tens of thousands of dollars. Fixed network infrastructure can be very costly both in terms of equipment purchases and maintenance, but also in terms of staffing needed for reading meter data. The other metering companies we considered would require fixed network infrastructure and field collection of meter readings. Out of the three companies we received responses from Badger offers the lowest price in reading equipment. Because Badger utilizes existing cellular towers, Badger meter reading only requires a handheld field collector, the Trimble Ranger 3 at \$4490.00, for potential outlier meters that do not have cellular reception and for programming initial installation of meters.

Orion Cellular Endpoints (meter reader installed on the meter) utilize existing cellular networks to broadcast their reading data multiple times per day. The Orion technology would allow Kittitas County to receive reads without needing someone in the field to physically read the meters or drive-by. The Cellular Endpoints can store 120 days of hourly data. These endpoints can be deployed in indoor, outdoor and in pit installations. The cost for the endpoints from the contracted distributor is \$93.50. The Orion Cellular Endpoints include:

- Leak detection
- Cut-wire indication
- Reverse flow indication
- No usage indication
- Encoder error
- Low battery indication



- Remote programming
- Remote clock synchronization
- Firmware upgrades
- 10 year battery life

### *Meter Equipment*

Badger offers a Recordall® Disc Series Meter which combines the accuracy of positive displacement meters with the reliability and economy of nutating disc technology. The cost of the Recordall® meter from the contracted distributor is \$119.00 and it works with the Orion Cellular Endpoints, which together are a complete water metering package.

General Pacific, Inc. is Badger Meter Company's licensed distributor in Washington State for the meters and has a warehouse in Fairview, Oregon. Normal order time from the Badger Meter Company factory in Wisconsin or Oklahoma is 3-4 weeks, but due to the extended life of the battery and the product shipping in "Pause" mode, General Pacific, Inc. can stock the product at the warehouse in Oregon. UPS ground could ship the product to Kittitas County in one to two working days. Other establishments in Kittitas County could sell Badger Meter products as well (there are no restrictions on having multiple distributors within an area); however the price may be less competitive.

### *Software*

The Badger Recordall® meter and Orion Cellular Endpoint technology are part of a comprehensive system managed by Beacon Advanced Metering Analytics (Beacon). Beacon is a user-friendly, intuitive software that would allow Kittitas County to set up and manage accounts; and interpret meter reading data into customizable reports, queries and graphs to monitor our customer's water usage and identify problems quickly and easily. Beacon will host 2 years of metering data, with the option to upgrade to additional years of storage for additional cost. Beacon software is developed in Badger's Silicon Valley Innovation Center in Los Gatos, California. All software upgrades for the meter readers and software are developed there.

### *Support*

Badger Meter technical support is available Monday-Friday 5:00AM-3:00PM PST and also has after-hours support within a thirty minute response time. The support center is located in Milwaukie, Wisconsin. In addition, the contracted distributor, General Pacific, Inc. offers technical support Monday-Friday 7:00 AM- 5:00 PM PST. Support costs for the Orion Cellular technology and supporting Beacon software are built into a monthly fee of \$.89 per month per meter.

### *Customer Portal*

One attribute of Badger Meter's system that sets them apart from the other companies is its customer portal, Eye on Water. Customers can access their meter use information via a browser





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based web portal or smart phone application, using account data provided by Kittitas County. This application offers water management features including graphics showing recent usage with a comparison against average usage, usage trends, detailed charting of historical usage, leak alert function, and recommendations to conserve water. Customers would have the ability to set up a customized profile to receive personalized tips and access to a savings calculator. During our Water Metering Focus Group, one of the important notes was to have some sort of customer interface for metering data. The Eye on Water application would fulfill that request.

## **Summary**

To fulfill the metering requirement of the Kittitas County Water Bank, Kittitas County Public Health Department recommends Badger Water Meters because they offer a simple solution with advanced technology to fit the needs of the water metering program. Their costs are comparable or lower than the other companies we researched and their technology would help keep the county's costs low as well.



507 N. Nanum St. Suite. 102 · Ellensburg, WA 98926

T: 509.962.7515 · F: 509.962.7581

[www.co.kittitas.wa.us/health/](http://www.co.kittitas.wa.us/health/)