

# Septic System Operation and Maintenance Proposal For Nisqually Reach Watershed

## Draft Proposal – July 2010

The Risk-Based O&M Program project advisory committee began its work March 2010. The committee members are stakeholders representing the Shellfish Protection District committee, watershed residents, neighborhood associations, real estate industry, on-site sewage industry, State Departments of Health and Ecology, shellfish industry, and watershed residents. The committee has met four times for discussion of six program elements.

### Given that ...

- Such a program is the recommendation of -
  - ⊆ The Nisqually Watershed Shellfish Protection District
  - ⊆ The Thurston County On-site Management Plan
  - ⊆ Nisqually River Basin Fecal Coliform and Dissolved Oxygen Total Maximum Daily Load, Water Quality Implementation Plan), Washington State Department of Ecology, February 2007
- There are water quality problems
  - ⊆ History of water quality problems
  - ⊆ Formation of Shellfish Protection District due to water quality problems
  - ⊆ Near shore pollution causing current shellfish growing area classification restrictions
- Septic systems are identified as a pollution source

Understanding that the boundary, as well as the entire program, is adopted by the BOH by resolution, the following is a *DRAFT* Septic System Operation and Maintenance Proposal for the Nisqually Reach Watershed.

### 1. Boundary

- The boundary is adopted by Thurston County Board of Health by resolution.
- The program area includes the Nisqually Reach Shellfish Protection District that is north of the Lake St Clair area. This is the area most likely to affect Nisqually Reach water quality. See Appendix A: map.
- The boundary will be proofed to be accurate using the latest geographic data and technology of the Thurston County Geodata Center: 2-foot contours and LIDAR (Light Distance and Ranging) technology. Staff will verify this boundary in the field, where necessary.

### 2. Name of area where program would be implemented

**Recommendation:** The Nisqually Reach O&M Advisory Committee recommends that the area be called ***Nisqually Reach Watershed Protection Area***. It would be the designated name for this particular *marine recovery area* and enables the existing provisions of Article IV of the Thurston County Sanitary code to prescribe an enhanced operation and maintenance program.

### 3. Criteria for system inspections including intensity and frequency of inspections

- Required renewable Operational Certificates for all septic systems within the designated boundary.
- Septic systems must be inspected and all needed maintenance and repair completed.
- Septic tanks must be measured every renewal cycle to determine if pumping is needed, and pumped as needed.
- When inspections, maintenance and repairs are complete and accepted, an operational certificate is issued.

**Recommendation:** The committee recommends use of the ranking matrix included in Appendix B to determine intensity and frequency of inspection. The various pieces of the matrix define the risk factors to septic system failure. Points are tallied in each of the categories for both frequency and inspection type. The more points the greater the risk of failure and the more frequent and intensive the inspection.

Upland / inland / urban septic systems that are weighted as low risk can effectively be evaluated using a visual inspection. A dye-testing method can be effectively used on systems located on the shoreline or near water. The committee recommends that other methods (including new tools as they become available) should be used as needed to assess the functioning of septic systems in these areas.

#### 4. Level and methods of enforcement for the program renewal conditions

Acknowledging that failing septic systems are a source of pollution to Nisqually Reach and do impact water quality, enforcement is an integral part of the risk-based program.

- Homeowners are required to maintain a **current O&M certificate at all times**. Those owners who do not renew their required operational certificates would be in violation of the Sanitary Code. Renewal of certificates requires that all the conditions be met before a new certificate is issued.
- **Failing septic systems must be repaired in accordance with the County's Sanitary Code.** (A repair permit is valid for 1 year to accommodate possible problems with wet season installations.) If a septic system is in the process of repair, then the renewal cycle must be flexible in order to accommodate the repair. 'Systems in repair' are and tracked for renewal compliance. A certificate cannot be issued on a failing system nor on a repair until the repair is complete and a record drawing of the repair has been received and approved.

**Schedule** for compliance of O&M certificate renewals is ...

60 days prior to due date ... renewal notice sent  
30 days after due date ... warning letter sent  
60 days after due date ... notice of violation sent  
thereafter ... all enforcement options available to bring system into compliance

- Level of enforcement action is based on risk to public health and water quality.

#### 5. Service providers

**Low-risk systems:** Inspections for low risk systems are done by certified professionals with the option of a 'certified homeowner' program for gravity, pressure distribution, mound and Glendon systems. County staff conducts 10% quality control check on all inspections.

**High-risk systems:** Inspections the same as low risk plus dye-test evaluations conducted by county staff with the option of using a certified professional.

## 6. Funding formulas and billing mechanisms ... for discussion July 20, 2010

The **authority for an O&M program** is in the Thurston County **Sanitary Code**. Nisqually Reach Watershed Protection Area would be designated as a Marine Recovery Area.

The **authority for collection of rates and charges** exists under the **Shellfish Protection District** legislation. Costs of the program and fee amounts are calculated when actual program boundaries and rate formulas are determined.

Program fees are incorporated into the Stormwater charge on the property tax statement as an assessment for the Protection Area to support the Septic System Operation and Maintenance Program. This option is the most cost-effective means of billing.

*An annual fee system is recommended. Program costs, including field staff, equipment, laboratory costs, program administration, certificate renewal, clerical support, computer programming, technical diagnostic support of field staff, sanitarian support for system repairs, compliance, educational materials, and overhead, are determined and divided by the number of systems within the Protection Area. This establishes a baseline fee **per system** for the program. High risk systems, requiring the dye-test evaluation, are assessed a higher annual fee, i.e. an additional cost added to the baseline fee.*

### **Discussion needed: 'Community systems'**

*These systems include those that serve multiple units with a single system, as well as those parcels that have multiple systems, i.e. mobile home parks, apartments/multi-family housing, etc.*

*The complexity of a community system requires considerably more time to accurately set up in the tax roll, as well as in the O&M database. Due to the complexity more time is also needed to administer, review inspection reports and issue operational certificates. In the County's countywide O&M program community system certificates are required for the shared components of a community system, i.e. the drainfield and any other shared component. These system certificates are required to be renewed annually. Typically, the drainfield certificate costs are passed on to community members. In addition, each individual tank and its transport component is required to have an operational certificate that must be renewed every three years. The tank certificates are either high or low risk depending on the matrix tally. This fee is paid either by the system owner or an association.*

*Discussion is needed about how to establish a funding formula for these types of systems.*

**Incentives:** The County developed the following programs:

These are part of the program:

- **Senior and disabled exemption program** - for those who are in the program, the annual program fee is waived.
- **Homeowner inspection program** - homeowners take a 5.5 hour class to become certified to conduct the evaluations for their own septic systems.

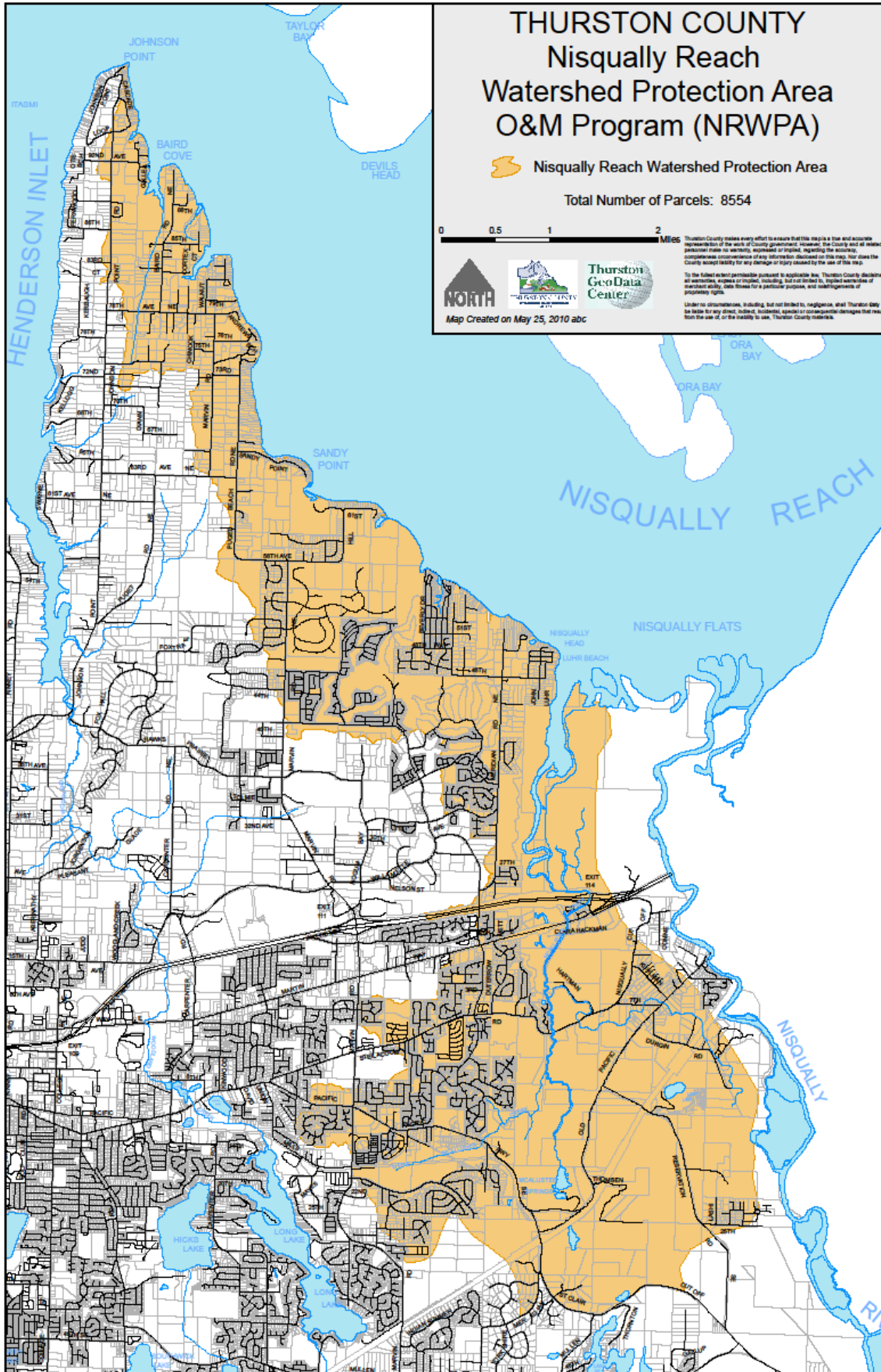
These incentives **cannot** legally be part of a program fee.

- **Riser rebate program** - rebates are awarded to homeowners who install access risers over their septic tanks, making future evaluations easier and less costly.
- **Low income grant program** – application must be submitted with bids for specific work. Grant recipients then contract for the work and the county pays the provider. The applicant cost share is 25% of the total cost.

## 7. Additional Features ... **Review July 20, 2010**

- ◆ **Sunset clause:** In order to keep the program, the Board of Health must take action to retain it after a specified number of years.
- ◆ A **5-year evaluation** of the program.
- ◆ **Adaptive management** in order to adjust program needs and fees.

Appendix A



Ranking for Evaluation Frequency	
Frequency	
<b>Dwelling Types</b>	Points
Single Family Residences	1
Multi-Family Unit [ $<1000$ gpd]	2
Community System [1000 - 3500 gpd]	6
Larger On-Site Systems [LOSS: $>3500$ gpd]	8
Commercial (sales and service) $< 500$ gpd	2
Commercial $> 500$ gpd	6
Industrial	10
<b>System Types</b>	Points
Gravity and pressure distribution	1
Alternate Systems: Mounds, sandfilters, proprietary (required yearly walkover)	3
Table 6 Repairs	8
Experimental	10
<b>Age of System</b>	Points
Less than 20 years old	0
Older than 20 years	4
<b>Frequency Tally Sheet</b>	Points
<b>Dwelling Type</b>	
<b>System Type</b>	
<b>Age of system</b>	
<b>Total</b>	
<b>Range of points for frequency of inspection</b>	
Every year	$> 20$
Every other year	9 - 20
Every 3 years	2 - 8

Ranking for Evaluation Type	
Type of Inspection	
<b>Soil Types</b>	Points
Class 1, 2, 3, non-restrictive layer 4's	0
Class 4 (with restrictive layer*), 5 and 6	10
* Restrictive soils: Alderwood, Cathcart, Delphi, Dystric Xerochrepts, Kapowsin, Katula, Pheeny, Schneider, Tenino	
<b>Area</b>	Points
Inland	1
Freshwater frontage	6
Marine waterfront	10
<b>Constructed Drainage where water flows</b>	Points
No	0
Yes	4
<b>Intensity Tally Sheet</b>	
<b>Soil Type</b>	Points
<b>Area</b>	
<b>Drainage System</b>	
<b>Total</b>	
<b>Range of points for intensity of inspection</b>	
Pump/stick report and walkover	$< 15$
Dye Trace alternate cycles	$\geq 15$
NOTE: There are special requirements for frequency and intensity for certain non-residential systems. Some requirements are based upon law; other requirements are determined by estimated flow, number of employees, materials used on-site, and system type. For example, restaurants are required by law to be inspected every year.	