

# HILLSIDE DISTRICT PLAN – White Paper

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## ON-SITE REGULATIONS AND APPROVAL PROCESSES

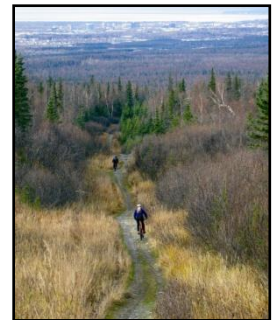
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# ON-SITE REGULATIONS AND APPROVAL PROCESSES

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*“Promote and protect On-Site systems; On-Site works well in the proper conditions.”*

## **Overview**

The goal of the Hillside District Plan (HDP) is to refine the broad policy direction of Anchorage 2020, replace the 1982 Hillside Wastewater Management Plan (HWWMP) and to provide a framework for future development on the Hillside.

This white paper provides an overview of the On-site regulations governing single family onsite wastewater systems and wells. It also provides a summary of the role of the On-Site Water and Waste Water Program and the Certificate of On-Site Systems Approval (COSA) approval process in maintaining public health.

## **Background**

The On-Site Water and Wastewater Program (OSWWP) regulates the design and installation of septic systems and water wells for single-family homes. The area within the HDP study boundary contains approximately 8000 on-site systems. Areawide there are over 15,000 on-site septic systems in the Municipality of Anchorage serving more than 50,000 residents. These systems produce an average of 4 million gallons of septic effluent per day. The OSWWP also actively promotes the testing and installation of innovative wastewater treatment systems.

## **Existing Context and Regulatory Framework**

The following Anchorage Municipal Codes govern design, installation and operation of individual onsite wastewater systems and water wells for single family residences within the municipality that are not licensed and/or regulated by the State of Alaska:

- Chapter 15.55 Water Wells (effective Jan 1, 2006, as amended by AO No. 2005-172). Governs design, installation and operation of individual onsite water wells for single family residences within the municipality that are not licensed or regulated by the State of Alaska.
- Chapter 15.65 Wastewater Disposal. Governs design, installation and operation of individual onsite wastewater systems for single family residences within the municipality that are not licensed or regulated by the State of Alaska
- MOA regulations and review authority govern single family OWS and Wells within the Municipal boundary. All multi-family or community systems (duplex, tri-plex and larger), including commercial and industrial development are reviewed and approved by the State of Alaska ADEC under the criteria of 18 AAC 72 Wastewater Disposal and 18 AAC 80 Water Quality.

- OSWWP regulations operate under the umbrella of the State of Alaska Department of Environmental Conservation (ADEC) 18 AAC 72 & 18 AAC 80 Regulations. The MOA regulations can be more, but not less stringent than the State regulations.

The On-Site Water and Wastewater Program primary oversight includes:

- **Septic System Permits**—new construction or system upgrades to a septic system for single family homes require a permit. System design must be done by an engineer registered in the State of Alaska. Refer to [Waste Water Permit](#).
- **Water System Permits**--new construction or system upgrades for single family homes require a permit. A site plan and system application package must be submitted for approval. Refer to [Well Permit](#).
- **Certificate of On-Site Systems Approval (COSA)** Municipal code requires a home served by a septic system or well must have COSA prior to the transfer of title or ownership. The test results and other data collected are submitted to the On-Site Program for review and issuance of Certificate. Refer to [Certificates of On-Site Systems Approval](#).
- **Waivers**--Some existing homes requiring an upgrade of their on-site systems cannot meet the separation requirements of the current Anchorage Municipal Code. These homes may be eligible for separation distance waivers for the new system. Refer to [Waiver Page](#).
- **Subdivision Plan Review**--New Subdivisions within MOA that will be served by On-Site Systems require a review. The subdivision review includes assessment of site conditions and the ability of the site to support on-site systems. See [Subdivision Information](#).
- **Public Education**--The OSWWP creates opportunities to educate the public regarding on-site systems and program activities. This includes training seminars for engineers, excavators, well drillers and pump installers working in the on-site field. Refer to [Seminar Page](#).

## Chapter 15.55 Water Wells

The intent of this ordinance is to ensure sources utilized for potable water within the MOA are constructed and maintained in a manner to provide a safe supply of water for domestic use. Title 15.55 was the subject of a recent rewrite by the MOA in coordination with the On-Site department technical review board. AO No. 2005-130 (effective Jan. 1, 2006) and as amended by AO No. 2005-172 (effective Jan. 1, 2006), amended Chapter 15.55 in its entirety. These regulations specify all permitting and installation criteria for domestic water wells.

## **Chapter 15.65 Wastewater Disposal**

The intent of this ordinance is to maintain public health and environmental quality through the regulation of on-site wastewater disposal practices within the MOA. OWS provide for economically efficient, relatively clean method of treatment and disposal in areas of the municipality not served by public sewer systems. These regulations specify design and installation criteria, including setbacks from structures, property lines and physical features that affect the OWS, or that can be affected by the OWS, both horizontally and vertically. Title 15.65 is currently under review for possible updates.

### **Certificate of Onsite System Approval Process**

As of August 18, 1998 a Certificate of On-Site Systems Approval (COSA) is required for all ***Title transfers*** (except between spouses) for properties served by single-family on-site wastewater disposal systems and/or wells.

An Alaska registered professional engineer certifies that the wastewater disposal system or well serving a property shall meet the code requirements in place at the time of construction permitting. Municipal Onsite department staff reviews the submitted application and will issue a COSA if all required information is provided.

Certificates are valid for one year from the date of issue for properties not served by single family or Class C well. For properties served by a single family or Class C well, certificates are valid for 90 days. They can be reissued at no charge with new nitrate and bacteria water sampling results, to the same owner for up to one year from date of original issue if the following are current:

- Septic tank pumping—within one year
- Absorption field adequacy test-- within two years.
- Well Flow test—within two years
- Arsenic sample results—within one year

The COSA serves as confirmation to both the buyer and the lending institution that the well and/or septic system serving a single family dwelling have been inspected and/or tested by a certified professional engineer and were found to be in compliance with the applicable standards established by the MOA.

The COSA process can be summarized as follows:

#### **a. Approval process**

- Records of the well and septic system are obtained from the MOA or the internet. Since 1987, the MOA has maintained microfiche copies of records in the On-Site program files. In 1999 the records were converted into an electronic format and are available to the public via the internet at [www.muni.org/onsite](http://www.muni.org/onsite).
- Provide a site evaluation to determine if the septic system shown in the MOA records matches the actual installation at the property.

- Locate standpipes. All of the septic system pipes shown in the MOA records are verified to be present. This also applies to any pipes that are buried in the snow.
- Field verify that separation distances between all impacted wells and septic systems are in compliance with the separation distances. If encroachments are found, applicant shall apply for waivers.
- Verify monitoring tube is functional so adequacy test can be performed.
- Verify that the well casing extends at least 12 inches above grade. Wells drilled after August of 1998 must extend to at least 18 inches above grade.
- Verify that the well wires are in conduit (protective pipe) where they extend above grade.
- Verify the well has a functional and removable sanitary seal.
- Verify from the well log and or field evaluation that the well is cased and unperforated to a minimum of 40 feet, or if shallower, seated into bedrock.
- Obtain water samples from the well and have them tested for nitrates, fecal coliform, bacteria and other bacteria.
- Verify that the septic tank has been pumped within the past 12 months. If not, arrange for tank to be pumped.
- Perform well and septic system adequacy tests. A four hour well yield test, by a certified well driller, pump installer or civil engineer, is required if one has not been performed within the past two years. Well must be capable of producing 150 gal/bedroom per day. Well pump rate and water level drawdown and recovery rates are recorded and a copy of the flow test data submitted. If well productivity is below one gallon per minute, additional testing may be required and an advisory stated on the COSA. Drainfield must be able to absorb the same 150 gal/bedroom per day.
- If the well and or septic system are undocumented then additional engineering services will be required in order to document them to the satisfaction of the MOA.

Items noted above which are absent or improperly installed must be brought into compliance prior to the issuance of the COSA. Once the above requirements are completed, the application forms and scaled as-built survey may be submitted to the Onsite Department for their review and approval.

## **Permitting and Enforcement Issues**

Compliance to regulations is in the hands of the engineers, installers and homeowners that are creating, installing and using the OWS or water well. Compliance is voluntary until enforced. Unless there is constant monitoring, regulators must accept the word of the engineer, installer and homeowner that certain tasks have been performed.

The intent of the COSA ordinance is to help protect the public health by verifying that septic systems are functional and are not creating a public health hazard. In addition, the COSA ensures that well water quality is safe to drink and in sufficient quantity to meet the basic needs of the family purchasing the house.

Full enforcement of the COSA is difficult due to the limited resources and staff within the Municipal On-Site Department. Homeowners that install Advanced Treatment Units (ATU) presently sign agreements with the MOA that they will pay for required monitoring and maintenance as a condition of system approval. Of the over 200 advanced wastewater systems that are being monitored, the On-Site department reports that no enforcement actions have had to be taken (MOA, 2007). Other enforcement issues include:

- Despite local ordinance requiring a COSA as a condition of title transfer, some homeowners are not submitting the COSA during title transfer. Onsite staff estimate that up to 1 out of 4 owners do not submit for new COSA.
- Some escrow companies may not be requiring COSA as a condition of closure (MOA, 2007). The Municipal Attorney is reviewing. Specific language may be added to sale disclosure documentation to help ensure COSA is completed before escrow closure.

The COSA process, used by the MOA for title transfer, is one of the only municipal certification processes of its kind in use today. The COSA process, properly submitted, ensures that the OSWWP has the ability to compile periodic updates on the functionality of individual OWS systems within the municipality. The data received provides important updates to the MOA data network and helps MOA identify the presence of potential contaminant indicators, such as nitrates.

## **Future Actions**

Title 15.55 underwent a recent rewrite by the MOA (effective Jan. 1, 2006). AMC Title 15.65 is currently under review by the OSWWP Department. Technical input and recommendations to the OSWWP are provided by a 4-person technical review board.

Recommendations for updates to Chapter 15.65 will be provided during the HDP development process.