Section 3.400. <u>Storm and Surface Water Management Standards</u>

Purpose: Detention of stormwater collected from impervious surfaces on a given property, or within public rights-of-way, is essential to the management of stormwater in Curry County. This ordinance includes standards for conveyance of surface water to streams, creeks, and channels. It also addresses pollution reduction and flow control for stormwater generated from new and redevelopment. For the purpose of this ordinance, "new" and "redevelopment" refers to any man-made change to improved or unimproved real estate including, but not limited to the placement of buildings or other structures, dredging, filling, grading, or paving. The ordinance provides standards for addressing infiltration, treatment, and detention of stormwater separately as well as an option for a combined approach to mitigating the water quality impacts of developments that fall below a certain size threshold.

Section 3.401. <u>Applicability</u>

No permit for construction of new development or tenant improvements that results in impervious cover greater than 500 square feet for development activity on any land within Curry County that is not within the limits of an incorporated city, or under federal ownership, at the date of an application shall be issued until effects on stormwater management are evaluated. The level of review varies according to the affected area:

1. 500-1,999 square feet. No stormwater management measures beyond any mitigation measures for pollution reduction or flow control are required.

2. 2,000-4,999 square feet. Conceptual plans shall be submitted for approval.

3. 5,000+ square feet. A comprehensive stormwater management plan shall be submitted for approval.

4. Areas smaller than 500 square feet may require review, and a greater level of review for properties between 500 and 4,999 square feet may be necessary when the site is identified as having especially sensitive conditions, including but not limited to wetlands, steep slopes, and fish bearing streams.

Separate applicability thresholds for Pollution Reduction and Flow Control Standards are listed in Section 3.440 Pollution Reduction and Flow Control Standards. Development projects shall not be phased or segmented in such a manner to avoid the requirement of these Rules and Regulations.

The Oregon Department of Transportation (ODOT) shall require stormwater and water quality management plan coordination, design approval to state standards, and applicable permits for all development impacting state transportation drainage facilities.

Section 3.410. <u>Stormwater Management Plan Submittal</u>

1. Site plans shall included the following analyses and descriptions:

a) A description of stormwater mitigation strategies to increase infiltration, promote evapotranspiration (use of water by plants), and reduce the amount of stormwater runoff generated from the site.

b) Calculations of the amount of impervious surface before development and the amount of impervious surface after development. Impervious surface refers only to strictly impervious surfaces including roofs of buildings, impervious asphalt and concrete pavements, and other specifically impervious pavement materials such as mortared masonry and gravel.

c) An analysis of vegetative and other treatment methods used to reduce pollutants.

d) An analysis of flow reduction methods including infiltration, detention, and retention techniques.

e) Statement of consistency with County stormwater management and, if applicable, the watershed management plan for the basin and/or requirements of a pollutant load reduction plan for a water quality limited stream which may be affected by ground disturbance or increased or altered flow regime.

2. Post-construction plans shall include the following information:

a) As-built plans, stamped an engineer or geologist indicating all stormwater mitigation and management strategies are installed per approved plans and approved changes.

b) Maintenance plans for all stormwater treatment facilities installed to comply with this ordinance. The maintenance program shall be subject to a recorded agreement with the County that outlines the stormwater treatment facility responsibilities of property owners and the County.

Section 3.420. General Requirements

1. Intent and Purpose. All development shall be planned, designed, constructed and maintained to provide a system by which storm/surface water within the development will be managed without causing damage or harm to the natural environment, or to property or persons and to protect property from flood hazards.

2. Criteria. Plans shall be submitted to the Curry County Public Services Department for review. All plans and calculations for areas 5,000 square feet or larger must be stamped and signed by a hydrologist, civil engineer, or other qualified person recognized by the County. Plan approval will be based on the following criteria:

a) Design, construction and maintenance of proposed stormwater management plan will result in limiting as much as possible the increase

in post-development off-site stormwater flow over pre-development off-site stormwater flow.

b) All in-stream culvert installations must allow fish passage in accordance with Division of State Lands (DSL) and the US Army Corps of Engineering (COE) and any other authorized federal, state, or local agency.

c) Installation of culverts, spans, or stormwater outfalls along natural water features shall be designed to emphasize preservation of natural flow conditions and pursue stream enhancement opportunities.

d) Stormwater mitigation strategies, such as retention of existing trees, and use of porous paving surfaces, as well as stormwater treatment and flow control facilities used to meet the requirements of this code must be included in the plans.

e) Stormwater management plan shall be consistent with the County's most current Stormwater engineering practice.

f) In areas of high pollutant load, stormwater infiltration shall incorporate, or be preceded by treatment as necessary to prevent siltation of the infiltration facility, protect ground water, and prevent toxic accumulations of pollutants in the soil.

g) All storm conveyance pipes, vaults and stormwater infiltration, treatment and detention facilities shall be built to specifications of the County.

h) The plan shall demonstrate compliance with the standards of CCZO Section 3.430 - Surface Water Conveyance Standards.

i) The plan shall demonstrate compliance standards of CCZO Section 3.440 - Pollution Reduction and Flow Control Standards.

3. Infiltration Facilities. The County reserves the right to restrict the use of infiltration facilities in high risk areas including those in Natural Hazard Areas with steep slopes, unstable soils, high water tables, or sites known to be contaminated by hazardous substances.

a) Infiltration facilities which fall under the jurisdiction of DEQ's Underground Injection Control (UIC) Program must be registered with the state and meet the requirements of the UIC Program.

b) Security. Applicants shall provide cash or a letter of credit acceptable to the County to assure successful installation and initial maintenance of surface pollution reduction and flow control facilities.

c) Contingency for system failure. If the storm drainage system fails due to lack of maintenance or breakage, and there are impacts to downstream water quality or quantity as a result of the failure, the County may

perform the maintenance or repair and has the authority to charge the owner of the facility.

Section 3.430. <u>Surface Water Conveyance Standards</u>

1. The following measures are designed to efficiently convey stormwater.

   a) Culverts in and spans of streams, creeks, gulches, and other natural drainage channels shall maintain a single channel conveyance system.

   b) Culverts and/or spans are to be sized for the 24-hour post-developed tributary conditions of the 10-year storm on streams with an average flow less than 200 cfs.

   c) Conveyance calculations shall use the following methods for analysis:

      i) Projects smaller than 20 acres: The Rational Method, Santa Barbara Urban Hydrograph, SCS TR-55, HEC-1, or SWMM.

      ii) Projects 20 acres or larger: Any of the methods except the Rational Method. Exceptions must be documented and approved by the County.

   d) Credit will not be given for in-stream and in-line detention.

   e) It shall be the responsibility of the owner that the new drainage system shall not negatively impact any natural water conditions. The owner is responsible for providing a drainage system for all surface water, springs, and groundwater on site and for water entering the property as well as management of springs and groundwater that surface during construction.

Section 3.440. <u>Pollution Reduction and Flow Control Standards</u>

1. Applicability. These standards shall apply to all subdivisions or site plan applications creating greater than 500 square feet of impervious surface or redevelopment footprint area, unless eligible for an exemption or granted a waiver by the County. Additionally, these standards apply to land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development that meets the applicability criteria, even though multiple separate and distinct land development activities may take place at different times and at different schedules.

2. Waivers. The County at its discretion can waive in whole or in part minimum requirements for stormwater management, provided the applicant can prove with submitted findings that at least one of the following conditions applies:

   a) It can be demonstrated that the proposed development is not likely to impair attainment of the objectives or standards of this section, the

County's Stormwater Plan, or the County's Stormwater Management Program.

b) Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the County.

c) Provisions are made to manage stormwater by an off-site facility. The off-site facility is required to be in place, to be designed and adequately sized to provide a level of stormwater control that is equal to or greater than that which would be afforded by onsite practices and there is a legally obligated entity responsible for long-term operation and maintenance of the stormwater practice.

d) The County finds that meeting the minimum on-site management requirements is not feasible due to the nature or existing physical characteristics of a site.

e) Non-structural practices will be used on the site that reduce: a) the generation of stormwater from the site, b) the size and cost of stormwater storage and c) the pollutants generated at the site. These non-structural practices are explained in detail in the current design manual and the amount of credit available for using such practices shall be determined by the County.

Section 3.443. <u>Infiltration, Treatment, and Detention.</u>

Proper management of stormwater includes a combination of infiltration, treatment, and detention. This Section establishes the review standards for each method.

1. Infiltration

a) Infiltration systems are to infiltrate a minimum of one-half inch of rainfall in 24 hours.

b) Stormwater treatment, in accordance with Section 3.443(2), shall occur prior to or concurrent with infiltration.

c) Infiltration systems shall be designed to overflow to conveyance systems.

d) Infiltration may be waived, or reduced, if it can be demonstrated by an engineer or geologist that infiltration will destabilize the soil, cause structural problems, or provide negative impacts to the environment, or because of site constraints such as high groundwater or soil contamination. In such cases, findings shall demonstrate that stormwater runoff will not adversely affect adjacent properties or substantially change the flow characteristics of receiving water ways, or if runoff is determined to occur, the developer shall be responsible for in-lieu-of fees for regional treatment or off-site mitigation.

2. Treatment

a) Water quality treatment facilities shall be designed to capture and treat runoff for all flows up to the 80th percentile storm event.

b) The water quality system shall use vegetation for treatment. Alternative systems may be used with approval of the of the Director after consulting an engineer and shall be designed to provide equivalent treatment as is provided with a vegetated system.

c) Systems treating stormwater from over 5,000 square feet of impervious area and all systems must be designed by a registered engineer and be approved by the County.

3. Detention. On-site storm quantity detention facilities shall be designed to capture and detain runoff as follows:

a) 2-year, 24-hour, post-developed runoff rate to a 2-year, 24-hour pre-developed discharge rate;

b) Sites with infiltration systems designed to handle storms in excess of that specified by Section 3.443(3)(a) (above) of this Section will be permitted to reduce on-site detention requirements by a volume equal to 100% of the infiltration capacity.

4. Conveyance. Infiltration, treatment, and detention facilities shall be constructed to convey excess stormwater. Conveyance systems shall be sized to meet the following conditions:

a) Stormwater drainpipes draining less than 640 acres, 25-year 24-hour design storm.

b) Stormwater drain pipes draining greater than 640 acres, 50-year 24-hour design storm.

Section 3.450. <u>Review Process</u>

The requirements of this Chapter must be approved by the Public Services Director.