

Ordinance 375 -2007

**Amending Kitsap County Code Chapter 12 relating to Low Impact Development
and other Technology Updates**

BE IT ORDAINED:

Section 1. Kitsap County Code Section 12.08.010 "Definitions", adopted by Ordinance 199-1996 and last amended by Ordinance 292-2002, is amended as follows:

The following definitions of terms shall apply to this title:

1. "Accepted performance of construction" means the written acknowledgment from the director of the satisfactory completion of all work accepted by Kitsap County, including all work shown on the accepted plans, accepted revisions to the plans, and accepted field changes.
2. "Applicant" means the person, party, firm, corporation or other legal entity that proposes to engage in site development activities in unincorporated Kitsap County by submitting an application for any of the activities covered by this ordinance on a form furnished by the county and paying the required application fees.
3. "Basin plan" means a plan and all implementing regulations and procedures including, but not limited to, land use management adopted by ordinance for managing surface and storm water quality and quantity management facilities and drainage features within individual sub-basins.
4. "Beneficial use" means any activity that allows the owner to gain the use intended by the development activity, as so stated by the applicant at the time of application for a Kitsap County site development activity permit.
5. "Best management practices" ("BMP") means physical, structural and/or managerial practices that, when used singly or in combination, prevent or reduce pollution of water, and have been approved by Kitsap County as accepted BMP's.
6. "Biofiltration/biofilter facilities" means vegetative BMP's which treat storm water by filtration through vegetation. Biofiltration facilities include, but are not limited to, grassed or vegetated swales and filter strips.
7. "Bioretention facilities" means shallow landscaped depressions with an engineered soil mix designed to filter runoff from a small contributing area. Bioretention facilities may be in the form of swales or cells. Bioretention facilities are commonly referred to as rain gardens.
8. "Board" means the Kitsap County board of commissioners or their assigns.

9. "Bond" means a financial guarantee, in the form of a surety bond, assignment of funds, or irrevocable bank letter of credit, that shall guarantee compliance with applicable provisions of this title.

10. "Clearing" or "land clearing" means the surface removal of vegetation.

11. "Closed depressions" means low-lying areas which have no surface outlet, or such a limited surface outlet that in most storm events the area acts as a retention basin, holding water for infiltration, evaporation or transpiration.

12. "Comprehensive drainage plan" means a detailed analysis, adopted by the board, for a drainage basin which assesses the capabilities and needs for runoff accommodation due to various combinations of development, land use, structural and nonstructural management alternatives. The plan recommends the form, location and extent of storm water quantity and quality control measures, which would satisfy legal constraints, water quality standards, and community standards, and identifies the institutional and funding requirements for plan implementation.

13. "Contiguous land" means land adjoining and touching other land regardless of whether or not portions of the parcels have separate assessor's tax numbers or were purchased at different times, lie in different sections, are in different government lots, or are separated from each other by private road or private rights-of-way.

14. "County" means Kitsap County.

15. "Critical drainage area" refers to those areas designated in Chapter 12.28 (Critical Drainage Areas), which have a high potential for storm water quantity or quality problems.

16. "Design storm event" means a theoretical storm event, of a given frequency interval and duration, used in the analysis and design of a storm water facility.

17. "Detention facilities" means storm water facilities designed to store runoff while gradually releasing it at a predetermined controlled rate. "Detention facilities" shall include all appurtenances associated with their designed function, maintenance and security.

18. "Developed site" means the condition of the development site following completion of construction of the development including all approved phases of construction.

19. "Director" means:

A. The director of the Kitsap County department of public works or his designee for the administration of the stormwater maintenance program; or

B. The director of the Kitsap County department of community development or his designee for all permit related activities.

20. "Dispersion" means the release of surface or stormwater runoff such that the flow spreads over a wide area and is located so as not to allow flow to concentrate anywhere upstream of a drainage channel with erodible underlying soils.

21. "Diversion" means the routing of storm water to other than its natural discharge location.

22. "Drainage feature" means any natural or manmade structure, facility, conveyance or topographic feature which has the potential to concentrate, convey, detain, retain, infiltrate or affect the flow rate of storm water runoff.

23. "Drainage plan" means a plan for the collection, transport, treatment and discharge of runoff, and may include both the plan and profile views of the site as well as construction details and notes.

24. "Easement" means an acquired privilege or right of use or enjoyment that a person, party, firm, corporation, municipality or other legal entity has in the land of another.

25. "Erosion control design storm" means the two-year frequency, twenty-four hour duration storm event used for analysis and design of sedimentation and erosion control facilities.

26. "Existing storm water facilities" means those facilities constructed or under permitted construction prior to the effective date of the ordinance codified in this chapter.

27. "Forested land" means "forested land" as defined in RCW 76.09.020, and shall include all land which is capable of supporting a merchantable stand of timber and that is being actively used in a manner compatible with timber growing.

28. "Geologist" means a person who is licensed in the State of Washington and meets all experience and training requirements in accordance with Chapter WAC 308-15, as now or hereafter amended.

29. "Geotechnical engineer" means a practicing geotechnical/civil engineer licensed as a professional civil engineer with the state of Washington, with professional training and experience in geotechnical engineering, including at least four years' professional experience in evaluating geologically hazardous areas.

30. "Geotechnical report" means a study of the effects of drainage and drainage facilities on soil characteristics, geology and groundwater. A geotechnical engineer or geologist shall prepare the geotechnical report.

31. "Grading" means any excavating, filling or embanking of earth materials.

32. "Grubbing" means the removal of vegetative matter from underground, such as sod, stumps, roots, buried logs or other debris, and shall include the incidental removal of topsoil to a depth not exceeding twelve inches.
33. "Hydrograph" means a graph of runoff rate, inflow rate or discharge rate, past a specific point over time.
34. "Hydrograph method" means a method of estimating a hydrograph using a mathematical simulation. Commonly accepted hydrograph methods include the Soft Conservation Service TR-55 Method and the Santa Barbara Urban Hydrograph Method.
35. "Illicit discharge" means all non-storm-water discharges to storm water drainage systems that cause or contribute to a violation of state water quality, sediment quality or ground water quality standards, including but not limited to, sanitary sewer connections, industrial process water, interior floor drains, and greywater systems.
36. "Impervious surface" means a hard surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development, and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel roads with compacted subgrade, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of storm water. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces. The initial 5,000 square feet of permeable pavement systems meeting the criteria set forth in Exhibit A (*Kitsap County Stormwater Design Manual*) shall not be considered impervious surfaces.
37. "Land disturbing activity" means any activity that results in a change in the existing soil cover (both vegetative and nonvegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to, demolition, construction, paving, clearing, grading and grubbing.
38. "Land use permits and approvals" means any use or development of land that requires Kitsap County action in legislation, administration or approval, including but not limited to, the following:
- (a) Preliminary plat subdivision;
 - (b) Final plat subdivision;
 - (c) Performance Based Development (PBD) including residential and commercial;
 - (d) Site plan review;
 - (e) Conditional use permit (CUP);
 - (f) Zoning variance;
 - (g) Short plat subdivision;

- (h) Large lot subdivision;
- (i) Grading permit;
- (j) Shoreline substantial development permit;
- (k) Shoreline conditional use permit;
- (l) SEPA and EIS reviews;
- (m) Binding site plan;
- (n) Building permit.

39. "Maintenance" means any activity which is necessary to keep a storm water facility in good working order so as to function as designed. Maintenance shall include complete reconstruction of a storm water facility if reconstruction is needed in order to return the facility to good working order. Maintenance shall also include the correction of any problem on the site property which may directly impair the functions of the storm water facilities.

40. "Maintenance covenant" means a binding agreement between Kitsap County and the person or persons holding title to a property served by a storm water facility whereby the property owner promises to maintain certain storm water facilities; grants Kitsap County the right to enter the subject property to inspect and to make certain repairs or perform certain maintenance procedures on the storm water control facilities when such repairs or maintenance have not been performed by the property owner; and promises to reimburse Kitsap County for the cost should the county perform such repairs or maintenance.

41. "Maintenance schedule" means a document detailing required storm water facility maintenance activities to be performed at specified intervals.

42. "Major development" means any new development or any redevelopment activity that:

- (a) For sites within a census defined urban area or an urban growth area includes the creation or cumulative addition of five thousand square feet or greater of impervious surface area from the pre-development conditions; or
- (b) For sites outside census defined urban areas or urban growth areas includes the creation or cumulative addition of impervious surface that results in 5.0% or greater of the development site being covered in impervious surface or the creation or cumulative addition of ten thousand square feet of impervious surface from the pre-development conditions, whichever is greater; or
- (c) includes land disturbing activity of one acre or greater; or
- (d) includes grading involving the movement of five thousand cubic yards or more of material.

43. "Manual" means Exhibit A of the ordinance codified in this chapter entitled the Kitsap County Stormwater Design Manual.

44. "Minor development" means any new development or redevelopment activity that does not meet the thresholds of a major development.

45. "Non-forestry use" means an active use of land which is incompatible with timber growing.

46. "Off-site drainage analysis" means a study of those land areas contributing surface runoff to a development site as well as a study of the existing and predicted impacts of surface runoff from the development site on properties and drainage features that have the potential to receive storm water from the development site.

47. "Oil/water separator" means a structure or device used to remove suspended, floating or dispersed oil and greasy solids from water.

48. "Operation and maintenance manual" means a written manual, prepared by a qualified civil engineer, that provides a description of operation and maintenance procedures for specific storm water control facilities, for use by operation and maintenance personnel.

49. "Owner" means any person or persons having a legal or equitable property right or interest, whether or not said right is legal or equitable in character, including a fee owner, contract purchaser or seller, mortgagor or mortgagee, optionor or optionee, and beneficiary or grantor of a trust or deed of trust.

50. "Pollution" means contamination or other alteration of the physical, chemical or biological properties of the waters of the state, including change in temperature, taste, color, turbidity or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful.

51. "Pre-development conditions" means site conditions as they existed prior to manmade alterations other than those alterations that have been made with a prior Kitsap County approved storm drainage plan, or alterations that existed prior to September 21, 1987.*

*Editor's Note: The original effective date of the material codified in this chapter was September 21, 1987.

52. "Professional engineer" means a person who, by reason of his or her special knowledge of the mathematical and physical sciences and the principles and methods of engineering analysis and design, acquired by professional education and practical

experience, is qualified to practice engineering as attested by his or her legal registration as a professional engineer in the state of Washington.

53. "Project engineer" means the professional engineer responsible for the design of the project, who will affix his/her seal on the project drainage plans and drainage analysis. The project engineer shall be licensed in the state of Washington and qualified by experience or examination.

54. "Redevelopment" means any land-disturbing activity occurring on existing developed property.

55. "Retention facilities" means drainage facilities designed to store runoff for gradual release by evaporation, plant transpiration or infiltration into the soil. Retention facilities shall include all such drainage facilities designed so that none of the runoff entering the facility will be discharged as surface water. Retention facilities shall include all appurtenances associated with their designed function, maintenance and security.

56. "SEPA" means the Washington State Environmental Policy Act.

57. "Shorelines of the state" means the total of all "shorelines" and "shorelines of state-wide significance" within the state, as defined in RCW 90.58.030, also known as the Shoreline Management Act.

58. "Site development activity" means the alteration of topography, clearing, paving, grading, construction, alteration of storm water systems, site preparation, or other activity commonly associated with site development. Site development includes those activities listed in the definition of "land use permits and approvals."

59. "Site development activity permit plan" means all documents submitted as part of a site development activity permit application, including but not limited to, drainage plans, grading plans, erosion and sedimentation control plans, hydrological analyses, geotechnical reports, soils investigation reports and design analyses related to a land development project.

60. "Soils investigation report" means a study of soils on a subject property with the primary purpose of characterizing and describing the soils. The soils investigation report shall be prepared by a qualified soils engineer or geologist, who shall be directly involved in the soil characterization either by performing the investigation or by directly supervising employees.

61. "Soils engineer" means a practicing engineer licensed as a professional engineer in the state of Washington who has at least four years of professional employment as an engineer dealing with soil descriptions and characterizations.

62. "Source control BMP" means a best management practice (BMP) that is intended to prevent pollutants from entering storm water. Examples include erosion control

practices, maintenance of storm water facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead end sump.

63. "Stabilized" means the application of BMP's sufficient to protect soil from the erosive forces of raindrop impact and flowing water. Examples include, but are not limited to, vegetative establishment, mulching, plastic covering, the early application of gravel base, and outlet and channel protection.

64. "Storm water" means the surface water runoff that results from all natural forms of precipitation.

65. "Storm water facility" means a component of a manmade drainage feature, or features, designed or constructed to perform a particular function or multiple functions, including, but not limited to, pipes, swales, bioretention facilities, ditches, culverts, street gutters, detention basins, retention basins, wetponds, constructed wetlands, infiltration devices, catch basins, oil/water separators and sediment basins. Storm water facilities shall not include building gutters, downspouts and drains serving one single-family residence.

66. "Storm water quality control" means the control of the introduction of pollutants into storm water and the process of separating pollutants from storm water. Storm water quality control facilities include, but are not limited to, source controls, biofiltration/biofilter facilities, wetponds, wetland forebays, oil/water separators, constructed wetlands and erosion and sedimentation control facilities.

67. "Storm water quantity control" means the control of the rate and/or volume of storm water released from a development site. Storm water quantity control facilities include, but are not limited to, detention and retention facilities.

68. "Technical deviation" means permission granted by the director to deviate from the provisions of the manual.

69. "Variance" means permission granted by the Kitsap County hearing examiner to deviate from the provisions of this title.

70. Water Quality Design Storm Event. The water quality design storm, used for the design of water quality treatment facilities, shall be the six-month, twenty-four-hour storm event. In that the precipitation data from isopluvial maps is not available for the six-month, twenty-four-hour storm event, the design engineer can use sixty-four percent of the two-year, twenty-four-hour precipitation as equivalent to the six-month, twenty-four-hour precipitation.

71. "Water quality sensitive area" means areas that are sensitive to a change in water quality, including but not limited to, lakes, groundwater management areas, groundwater special protection areas, sole source aquifers, critical aquifer recharge

areas, well head protection areas, closed depressions, fish spawning and rearing habitat, wildlife habitat and shellfish protection areas.

72. "Wetland" means those areas of Kitsap County that are defined by separate ordinance, regulation or statute as wetlands.

73. "Wetpond" means a storm water basin which is intended to maintain a permanent pool of water equal to the post-development runoff volume of the six-month frequency, twenty-four-hour duration design storm.

Section 2. Kitsap County Code Section 12.20.030, "Storm water quantity control", adopted by Ordinance 199-1996, is amended as follows:

12.20.030 Storm water quantity control - Engineered Flow Control

The following minimum requirements for storm water quantity control shall apply to all land developments that meet the definition of a major development and create ten thousand square feet or greater of new impervious surface:

- (1) All surface water and storm water entering the development site in its pre-development state shall be received at the naturally occurring or otherwise legally existing locations. All surface water and storm water leaving the development site shall be discharged at all times during and after development at the naturally occurring or otherwise legally existing locations so as not to be diverted onto or away from adjacent downstream properties, except, diversion which will correct an existing manmade downstream problem may be permitted by the director. For the purposes of this title, "naturally occurring location" means the location of those channels, swales and pre-existing and established systems as defined by the first documented topographic contours existing for the subject property, either from maps or photographs, site inspections, decisions of a court of law, or other means determined appropriate by the director.
- (2) The post-development peak storm water discharge rates from the development site for the two-, ten- and one-hundred-year, twenty-four-hour duration storm events shall at no time exceed the pre-development peak storm water runoff rates for the same design storm events, except as expressly permitted by this title. Also, where storm water directly or indirectly discharges to open channels or streams, streambank erosion protection is required; the post-development peak storm water discharge rate from the development site for the two-year, twenty-four-hour duration storm event shall not exceed fifty percent of the pre-development peak storm water runoff rate for the same design storm event. The director may require that runoff from a development site be controlled for additional design storm events.
- (3) Closed depressions shall be analyzed using hydrograph routing methods. Infiltration shall be addressed where appropriate. If a proposed project will discharge runoff to an

existing closed depression that has greater than five thousand square feet of water surface area at overflow elevation, the following requirements must be met:

(A) Case 1: The pre-development one-hundred-year, seven-day and twenty-four-hour duration design storms from the drainage basin tributary to the closed depression are routed into the closed depression using only infiltration as outflow. If the design storms do not overflow the closed depression, no runoff may leave the site for the same storm events following development of a proposed project. This may be accomplished by excavating additional volume in the closed depression subject to all applicable requirements. If a portion of the depression is located off the project site, impacts to adjacent properties shall be evaluated.

(B) Case 2: The pre-development one-hundred-year, seven-day and twenty-four-hour duration design storm events from the drainage basin tributary to the closed depression are routed to the closed depression using only infiltration as outflow, and overflow occurs. The closed depression shall then be analyzed as a detention/infiltration pond. The required performance, therefore, shall not exceed the pre-development runoff rates for fifty percent of the two-year and one hundred percent of the ten-year and one-hundred-year, twenty-four-hour duration and one-hundred-year, seven-day duration design storms. This will require that a control structure, emergency overflow spillway, access road, and other applicable design criteria be met. If the facility will be maintained by Kitsap County, the closed depression shall be placed in a dedicated tract. If the facility will be privately maintained, the tract shall be located within a drainage easement. If a portion of the depression is located off the project site, impacts to adjacent properties shall be evaluated.

(C) Case 3: When a proposed project is contributory to a closed depression located off-site, the volume of runoff discharged may not be increased for the two-, ten- and one-hundred-year, twenty-four-hour duration, and the one-hundred-year, seven-day duration storm events. The exception to this requirement is in the case where discharge would not result in an increase in water surface elevation of greater than 0.01-foot for the one-hundred-year storm events.

(4) Land developments shall provide storm water quantity control facilities designed to meet, as a minimum performance standard, the requirements of this chapter, except in the following circumstances:

(A) The development site discharges directly into Puget Sound, or directly into the tidally influenced areas of rivers and streams discharging into Puget Sound, where runoff quantity control is not required by other governmental agencies and streambank or shoreline erosion will not occur.

(B) The development site discharges to a regional storm water facility approved by the director to receive the developed site runoff.

(C) The development site discharges to a receiving body of water (lake, wetland, etc.) where it can be demonstrated by the applicant, to the satisfaction of the director, that storm water quantity control is not warranted.

(5) In the event that conditions downstream from a proposed development site are determined by the director to be exceptionally sensitive to potential storm water discharges from the subject site, the director may require a factor of safety be applied to the total retention/detention storage volume and/or a reduction of allowable storm water release rates.

(6) Submittals for all proposed development projects shall include an analysis of downstream water quantity impacts resulting from the project and shall provide for mitigation of these impacts. The analysis shall extend a minimum of one-fourth of a mile downstream from the project. The existing or potential impacts to be evaluated and mitigated shall include, but not be limited to, excessive streambank erosion, flooding, surcharging of existing closed drainage conveyance facilities, discharge to closed depressions, and discharge to existing off-site runoff control facilities.

(7) Retention facilities and open storm water quantity control facilities shall not be located in dedicated public road rights-of-way.

(8) Reasonable access for maintenance, as determined by the director, shall be provided to all storm water facilities.

(9) As the first priority, streambank erosion control BMP's shall utilize infiltration to the fullest extent practicable, only if site conditions are appropriate and ground water quality is protected. Streambank erosion control BMP's shall be selected, designed and maintained according to the manual. Streambank erosion control BMP's shall not be built within a natural vegetated buffer, except for necessary conveyance systems as approved by the Kitsap County department of community development.

(10) Where storm water detention is proposed to meet storm water quantity controls, volume correction factors as outlined in the manual shall be applied to increase pond size.

Section 3. Kitsap County Code Section 12.20.080, "Minimum Requirements", adopted by Ordinance 199-1996, is amended as follows:

Title 12.20.080 Minimum requirements – Major Developments.

The following minimum requirements for storm water quality control shall apply to all land developments that meet the definition of a major development:

(1) Source Control of Pollution. Source control BMP's shall be applied to all projects to the maximum extent practicable.

(2) Storm Water Treatment BMP's. Treatment BMP's shall be sized to capture and treat developed runoff from the water quality design storm, defined as the six-month, twenty-four-hour duration storm event. For the purpose of this title, the precipitation from a six-month, twenty-four-hour storm event shall be considered equivalent to sixty-four percent of the precipitation from a two-year, twenty-four-hour storm event. All treatment BMP's shall be selected, designed and maintained according to the manual.

Storm water treatment BMP's shall not be built within a natural vegetated buffer, except for necessary conveyance systems as approved by the Kitsap County department of community development.

All major developments shall provide treatment of storm water discharge utilizing wetponds, bioretention facilities, dispersion, and/or biofiltration BMP's. Other water quality BMP's may only be substituted subject to the granting by the director subject to the provisions of the Stormwater Design Manual.

(3) Wetponds or bioretention facilities shall be required for development sites with greater than five acres of new impervious surface subject to motor vehicle use, which: (a) discharges directly to a regional facility, receiving body of water, or closed depression without providing on-site storm water quantity control; or (b) discharges directly or indirectly to a Class 1, 2 or 3 stream, or a Class 1 or 2 wetland within one mile downstream of the site.

(4) Presettling Basin. All storm water, prior to discharge to a facility designed to utilize infiltration, shall pass through an appropriate storm water treatment BMP designed to remove suspended solids.

(5) Water Quality Sensitive Areas. Where the director determines that these major development minimum requirements do not provide adequate protection of water quality sensitive areas, either on-site or within the drainage basin in which the development is located, more stringent controls shall be required to protect water quality.

An adopted and implemented basin plan may be used to develop requirements for specific water quality sensitive areas.

(6) Downstream Analysis and Mitigation. All major developments shall conduct an analysis of downstream water quality impacts resulting from the project and shall provide for mitigation of these impacts. The analysis shall extend a minimum of one-fourth of a mile downstream from the project. The existing or potential impacts to be evaluated and mitigated shall include excessive sedimentation, streambank erosion, discharges to ground water contributing or recharge zones, violations of water quality standards, and spills and discharges of priority pollutants.

(7) Oil/Water Separators. All storm water from paved areas subject to motor vehicle traffic shall flow through a spill-containment type oil/water separator prior to discharge.

Development sites that include use, storage or maintenance of heavy equipment, and those development sites that include storage or transfer of petroleum products, shall utilize appropriately sized API or CPS-type oil/water separators or a Washington State Department of Ecology approved equivalent.

NEW SECTION. Section 4. A new section is added to Chapter 12.20 Kitsap County Code, "Storm Water Management," as follows:

12.20.35 Storm Water Quantity Control – Prescriptive Flow Control

All minor developments creating greater than 2000 square feet of new impervious surface and major developments creating less than 10,000 square feet of new impervious surface shall:

- (1) Implement either individual downspout infiltration or roof downspout dispersion per the *Kitsap County Stormwater Design Manual* to the maximum extent possible –or–
- (2) Discharge to a regional water quantity control facility designed to receive the developed site runoff.

Section 5. Kitsap County Code Section 12.30.040, "Pollution control device maintenance", adopted by Ordinance 199-1996, is amended as follows:

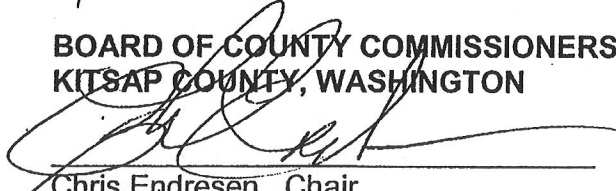
12.30.040 Pollution control device maintenance.

Owners and operators of oil/water separators, wet ponds, bioretention facilities, pervious pavement systems, biofiltration/biofilter facilities, sediment and erosion control systems, infiltration systems and any other pollution control devices shall operate and maintain such control devices to assure that performance meets the intended level of pollutant removal. Recommended maintenance schedules for these devices are included in the manual.

Section 6. Severability. If any provision of this ordinance, or its application to any person, entity or circumstance is for any reason held invalid, the remainder of the ordinance, or the application of the provision to other persons, entities or circumstances is not affected.

DATED this 12th day of February, 2007.

**BOARD OF COUNTY COMMISSIONERS
KITSAP COUNTY, WASHINGTON**



Chris Endresen, Chair



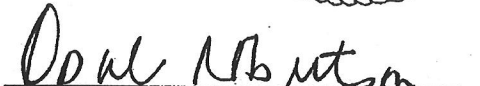
Jan Angel, Commissioner



Josh Brown, Commissioner



ATTEST


Opal Robertson, Clerk of the Board

Approved as to form only:

Deputy County Prosecutor