

CHAPTER 8

SERVICES, FACILITIES & UTILITIES

The Growth Management Act requires coordinated planning so that the services required by new residents and their homes and businesses are available as growth occurs. Needed services include many that are not provided by King County, such as water supply, local sanitary sewers, fire protection, schools, energy facilities, and telecommunications. King County does provide services such as regional wastewater treatment, regional solid waste management, regional human services, and local stormwater management. This chapter contains policies that guide service provision.

I. Regional Services

King County government is a regional and local service provider. Types of regional services provided include transit, wastewater treatment, human services, and solid waste management. Local services provided to citizens of unincorporated urban King County and the Rural Area include police, building permits, and health and human services. As annexations and incorporations of unincorporated urban areas continue, King County government will focus more on its role as the provider of regional services and protector of the county's Rural Area and Resource Lands. The following policies direct King County's evolving role as regional service provider.

F-101 King County, the cities, special purpose districts or local service providers shall plan as partners. King County's planning will focus on unclaimed urban unincorporated areas and cities' Potential Annexation Areas.

F-102 King County shall work with cities, special purpose districts, other local service providers and citizens to identify and distinguish local and countywide services. Over time, cities will assume primary responsibility for coordinating the provision of local services delivery. The county will assume primary responsibility for coordinating the provision of countywide services, including countywide services that must be delivered within city boundaries. The county will also work with cities, special purpose districts, and other counties to identify regional service and facility needs and develop strategies to provide them.

F-103 **King County will provide or manage countywide services which include but are not limited to:**

- a. **Affordable housing;**
- b. **Economic development;**
- c. **Flood warning and flood hazard management;**
- d. **Harborview Hospital;**
- e. **Hazardous waste management;**
- f. **Human Services**
- g. **Protection and preservation of natural resource lands;**
- h. **Public health;**
- i. **Regional law and criminal justice services (including law enforcement, courts, prosecution, public defense, and the detention of adults and juveniles);**
- j. **Regional park, trails and open space systems;**
- k. **Regional wastewater collection and treatment, and reclamation;**
- l. **Solid waste management and recycling;**
- m. **Surface water management;**
- n. **Transit; and**
- o. **Water resource management.**

Historically, in King County, housing affordable to very low- and low-income households has been concentrated in certain sub-areas while other sub-areas have very little housing affordable to these income groups. An over-concentration of low-income housing in certain areas can detract from the opportunity of those households to improve economically because of poor access to jobs and services and lack of options for better schools. Two complementary strategies can help to improve the opportunities of low-income households: 1) work to improve schools, services, public transportation options, and job opportunities in areas that have historically provided more affordable housing; and 2) provide many more affordable housing options in sub-areas of the County that already have good access to jobs and transportation and high-achieving schools.

F-104 **King County shall encourage new, rehabilitated, and preserved affordable housing development in areas with access to well-developed social, educational, and health services, as well as public transportation, sidewalks, and bicycle infrastructure.**

F-105 **King County should encourage partnerships among housing providers, neighborhood groups and schools at all levels from pre-school through college**

especially in areas that currently have an abundance of very low- to moderate income housing. King County should also promote collaboration with libraries, recreational and social service agencies. Among other strategies, these partnerships could involve mutually-supportive planning and sharing of facilities and services.

- F-106** To the extent feasible, after a disaster which significantly affects housing, King County shall:
- a. Coordinate efforts to assist households with housing inspection and repair resources;**
 - b. Help displaced households find interim housing; and**
 - c. Work with federal, state, and both public and private local agencies to identify ways that available resources can assist those affected by a disaster.**
- F-107** King County will, in cooperation with special purpose districts or local service providers, continue to plan for and provide public services to the Rural Area, consistent with rural standards and needs.
- F-108** To support the intent of the Growth Management Act, King County should work with cities and other service providers to establish priority areas for public funding of capital facilities, services and infrastructure.

II. Facilities and Services

A. Providing a Spectrum of Services

King County and numerous service providers need to coordinate planning and funding activities to ensure that needed facilities and services are provided in the region.

- F-201** All facilities and services should be provided in compliance with provisions and requirements of the Endangered Species Act and the Clean Water Act.
- F-202** King County should seek to create quality communities by defining the needs and proposing strategies for a full range of public facilities and services, including physical infrastructure and health, human and public safety services. King County should strive to provide an adequate supply of public facilities necessary to support all communities.
- F-203** When service providers are planning and designing facilities, King County should encourage them to use sustainable development practices.
- F-204** King County should work with the cities, special purpose districts and other service providers to define regional and local services and to determine the appropriate providers of those services.
- F-205** King County shall work with its neighboring counties, the state, Puget Sound Regional Council, special purpose districts, ports and the cities to identify areas of shared need and adequate land supply for public facilities. The county's capital acquisition budget shall reflect the jointly agreed-upon priorities and time schedule.
- F-206** Public and private community service providers should be encouraged to share or reuse facilities when appropriate to reduce costs, conserve land and provide convenience, access and amenity for the public and to reduce the generation of greenhouse gasses. Joint siting and shared use of facilities should be encouraged for schools, community centers, health facilities, cultural facilities, libraries, swimming pools and other social and recreational facilities.

F-207 King County should make its public facilities or properties available for use as a P-patch or community garden when such use is compatible with the primary public use of the facility.

B. Urban and Rural Services

Although growth will be directed to Urban Areas, it is recognized that Rural Areas have facility and service needs also.

F-208 Public spending to support growth should be directed to the Urban Growth Area and prioritized and coordinated through Capital Facility Plans to comply with the concurrency requirements of the Growth Management Act.

F-209 In the Rural Area, services provided by agencies should support a rural level of development and not facilitate urbanization.

C. Identifying Needs for Facilities and Services

Public facilities and services are vital to protect public health, safety and welfare and to protect and enhance community and environmental quality. Inadequate sewage disposal, for example, could directly threaten public health. Inadequate groundwater protection could result in unsafe drinking water and threaten stream flow. Deficiencies in other services, such as police protection or parks, might not raise severe obstacles to any single new development, but over time could cause general threats to public health, safety and welfare and deterioration of community quality.

King County government is responsible for assuring that adequate facilities and services are available or can be made available to support planned growth. This responsibility is carried out by identifying needs for facilities and services based on the planned amount and location of growth. The mechanism for identifying needs is capital improvement programming.

The Growth Management Act requires the county to prepare a capital facility plan that includes an inventory of existing capital facilities owned by public entities, a forecast of the future needs for capital facilities, including the proposed locations and capacities of expanded or new facilities, and a six-year plan that will finance the expanded or new facilities.

The Capital Facility Plan Element for King County is comprised of the following four components:

1. Technical Appendix A is an executive summary of documents containing inventories of facilities and services provided by King County (health and human services and law, safety and justice, transportation, stormwater and regional wastewater treatment and reclamation) and those provided by other entities (drinking water supply, sanitary sewer collection and treatment, schools, fire protection, libraries, natural gas, telecommunications, and electricity).
2. Technical Appendix A is an executive summary of documents containing the forecast of future needs for capital facilities, including the proposed locations and capacities of expanded or new facilities:
3. Six-year plan that will finance the expanded or new facilities:
 - a. Technical Appendix A is an executive summary of the finance plans for facilities and services provided by the county and other entities.
 - b. Technical Appendix A references the Transportation Needs Report, which includes an analysis of funding capability to judge needs against probable funding resources, and a 20-year financial forecast report based on identified needs.
 - c. Current adopted King County Capital Improvement Program for facilities other than transportation.
4. Requirement to reassess land use if funding is unavailable to meet existing and future needs:
 - a. Policies of Chapter 8 Section II (Facilities and Services), subparts B through F.
 - b. Chapter 7, Transportation, Section IV.

D. Capital Facility Planning

King County and other service providers are required to prepare six-year capital facility plans that describe needs for the six-year facility and propose funding to meet those needs.

- F-210 The capital facility plans and capital improvement programs prepared by all other agencies that provide services to unincorporated areas of the county should be consistent with the King County Comprehensive Plan.**
- F-211 To reduce overall public costs, noise, climate change impacts and disruption to the local area during construction, installation of new or maintenance of existing utility facilities should be timed and coordinated with other projects that utilize public rights-of-way and easements, where possible.**
- F-212 King County’s capital facility plans should identify financing strategies to support its adopted 20-year growth target and land use plan.**

- F-213** King County’s capital improvement program shall demonstrate that projected needs for facilities and services can be met within the Urban Growth Area and can be served in compliance with the concurrency requirements of the Growth Management Act or, if that is not possible, King County shall determine where and when deficits may occur and how needed facilities and services might be phased in and or financed to serve such deficit areas. Alternative phasing and financing strategies must be identified and determined to be infeasible prior to triggering a land use and zoning reassessment under Policy F-223.
- F-214** School districts that choose to have the county collect impact fees for them, and water and sewer utilities that provide their services to unincorporated King County, shall prepare capital facility plans consistent with requirements of the Growth Management Act and King County Code.
- F-215** Provision of an adequate supply of kindergarten through twelfth grade (K-12) public schools and K-12 public school facilities is essential to avoid overcrowding and to enhance the educational opportunities for our children. King County shall adopt regulations that are supportive of the permitting of K-12 public schools and K-12 facilities.

It is the goal of King County to work toward a model sustainable community to balance growth with natural resource protection while addressing climate change. Sustainable development seeks to achieve this goal by addressing the impacts of the built environment in which we live and work.

Traditional development practices can contribute significantly to the adverse impacts buildings and associated infrastructure have on our environment. These impacts include heavy consumption of energy and water, large-scale production of wastes, water pollution, degradation of habitats and other ecological resources, and contribution to greenhouse gas emissions. Implementing sustainable development involves incorporating green building practices into our policies through education, incentives and regulations to help reduce these negative impacts.

The elements of green building include: siting the project (to take advantage of existing services, to retain existing landscaping and natural features and to increase building energy performance); requiring energy efficiency (to reduce energy consumption, to increase occupants' comfort and to reduce greenhouse gas emissions); managing building construction and demolition materials efficiently to reduce greenhouse gas emissions and to increase the life-cycle of the building); increasing water efficiency (to reduce water

consumption and to reduce wastewater treatment); and implementing universal design to ensure for aging in place and to service diverse occupancy opportunities.

The incorporation of sustainable practices into the design, construction and operation of King County capital improvement projects can reduce greenhouse gas emissions, reduce pollution, reduce the use of natural resources, reduce energy and other operating costs, enhance asset value, optimize performance, promote cultural sustainability by preserving historic resources and create healthier and more appealing environments for the visiting public and for King County employees. The strategic energy management, efficiency and conservation program called for in F-312 will enable King County to monitor the effectiveness of sustainable development practices in improving energy efficiency. The Green Building and Sustainable Development Ordinance 16147, adopted in 2008, requires that county capital projects either apply for Leadership in Energy and Environmental Design (LEED) certification or integrate cost-effective sustainable development practices into infrastructure projects.

The LEED rating system is a nationally recognized system for rating the performance of buildings and to guide project design. The LEED rating system components include sustainable site design; water efficiency; energy and atmosphere; indoor environmental quality; materials and resources; innovation in design and regional priorities. For those projects that are not eligible for LEED certification, the county's Green Building Team, comprised of representatives from the various county department that have capital projects, developed a Sustainable Infrastructure Scorecard and guidelines to help such projects achieve measurable green building goals.

- F-216 King County capital facilities and county-funded projects should be designed and constructed using sustainable development practices, with consideration for long-term environmental and economic sustainability.**

- F-217 All eligible King County capital projects shall plan for and should achieve LEED Gold certification when the incremental cost impacts do not exceed the maximums allowed by King County code.**

- F-218 King County shall require those new county infrastructure projects ineligible for LEED certification to incorporate cost-effective sustainable development practices and document those practices by using the county's Sustainable Infrastructure Scorecard.**

- F-219** King County should leverage its purchasing power related to capital improvement projects to help expand the markets for green building products, including recycled-content materials and clean, renewable energy technologies.
- F-220** King County should explore incorporating proven alternative sustainable development certifications into its capital planning procedures to further promote the county's commitment to cost-effective green building and sustainable development practices.

E. Addressing Service Deficiencies

In the event that needed facilities and services are not available to support either existing development or growth, King County will work with other service providers, such as water, sewer or solid waste purveyors, to address the service deficiency.

- F-221** King County shall initiate a subarea planning process with any service provider that declares, through their capital facilities plan, an inability to accommodate projected service needs inside their service area.
- F-222** King County and its cities should coordinate planning for health and human service facilities and services. County investments in health and human service facilities should be targeted primarily to the designated Urban Centers and secondarily to other locations in the Urban Growth Area and Rural Towns.
- F-223** If a service deficiency is identified in a service provider's existing service area, King County and the applicable service provider shall remedy the deficiency through a joint planning process addressing capital improvement programs and long-term funding strategies. If financing and level of service remedies cannot solve the deficiency, King County shall not allow for expansion of the service provider's service area and shall consider regulations to mitigate the effect of the deficiency.

F. Financing Strategies

King County, cities, and other service providers will work together to address the financing needs of facilities and services.

F-224 King County shall work with the cities to create a financing partnership for areas of the Urban Growth Area that the cities will annex. This includes determining county/regional and city/municipal facilities and services and then committing to a shared financing strategy to build or provide these infrastructure improvements or services.

F-225 King County should, in cooperation with other jurisdictions, develop funding strategies for governmental infrastructure that take into account economic development goals and consider the costs to, and benefits for, the jurisdictions and the region.

G. Essential Public Facilities

The region will work cooperatively to site essential public facilities in an equitable manner. Essential public facilities are defined in the Growth Management Act and include large, usually difficult to site facilities such as prisons, solid waste facilities, wastewater facilities, and airports.

F-226 Proposed new or expansions to existing essential public facilities should be sited consistent with the King County Comprehensive Plan. Listed existing essential public facilities should be preserved and maintained until alternatives or replacements for such facilities can be provided.

F-227 King County and neighboring counties, if advantageous to both, should share essential public facilities to increase efficiency of operation. Efficiency of operation should take into account the overall value of the essential public facility to the region and the county and the extent to which, if properly mitigated, expansion of an existing essential public facility located in the county might be more economical and environmentally sound.

F-228 King County should strive to site essential public facilities equitably so that no racial, cultural, or socio-economic group is unduly impacted by essential public facility siting or expansion decisions. No single community should absorb an inequitable share of these facilities and their impacts. Siting should consider equity, environmental justice and environmental, economic, technical and service area factors. The net impact of siting new essential public facilities should be weighted against the net impact of expansion of existing essential

public facilities, with appropriate buffering and mitigation. Essential public facilities that directly serve the public beyond their general vicinity shall be discouraged from locating in the Rural Area.

F-229

A facility shall be determined to be an essential public facility if it has one or more of the following characteristics:

- a. The facility meets the Growth Management Act definition of an essential public facility;
- b. The facility is on a state, county or local community list of essential public facilities;
- c. The facility serves a significant portion of the county or metropolitan region or is part of a countywide service system; or
- d. The facility is the sole existing facility in the county for providing that essential public service.

F-230

Siting analysis for proposed new or expansions to existing essential public facilities shall consist of the following:

- a. An inventory of similar existing essential public facilities in King County and neighboring counties, including their locations and capacities;
- b. A forecast of the future needs for the essential public facility;
- c. An analysis of the potential social and economic impacts and benefits to jurisdictions receiving or surrounding the facilities;
- d. An analysis of the proposal's consistency with policies F-226 through F-229;
- e. An analysis of alternatives to the facility, including decentralization, conservation, demand management and other strategies;
- f. An analysis of economic and environmental impacts, including mitigation, of any existing essential public facility, as well as of any new site(s) under consideration as an alternative to expansion of an existing facility;
- g. Extensive public involvement; and
- h. Consideration of any applicable prior review conducted by a public agency, local government, or citizen's group.

F-231

King County supports coordination of regional water supply planning, sales of excess water supplies among municipalities in the region, water quality programs and water conservation, reuse and reclaimed water programs.

H. Water Supply

King County is not a water utility that provides potable water to citizens in the region. However, it plays an important role in the coordination or linking of water resources and growth and regional protection and management of water resources. This regional protection and management includes protection of the quantity and quality of groundwater, stormwater management, flood hazard management, protection of fish and wildlife habitat, and commitment to regional water strategies through such efforts as the Puget Sound Partnership, regional water supply planning, salmon recovery planning, and multiple groups engaged on climate change mitigation and adaptation. It carries out this role through its responsibilities for planning, permit issuance, and regulatory oversight. The King County Comprehensive Plan must demonstrate that projected needs for facilities and service can be met within the Urban Growth Area and can be served in compliance with the concurrency requirements of the Growth Management Act. Within Rural Areas, the Comprehensive Plan must provide for rural services, including domestic water service, needed to serve permitted densities and uses. The Utilities Technical Review Committee (UTRC), as authorized in King County Code chapter 13.24, assures that water system and water supply planning by water utilities in King County meet the requirements of the Growth Management Act and other applicable statutory requirements, as well as determining consistency with the King County Comprehensive Plan. The UTRC is responsible for identifying the elements and provisions of the Comprehensive Plan and development regulations, adopted by the county under the Growth Management Act, with which water system plans must be consistent, as prescribed in RCW 43.20.260. The UTRC is also responsible for ensuring that the purposes of chapter 13.24, as provided in KCC 13.24.005, are carried out. Water system plans are ultimately approved by ordinance by the King County Council and King County Executive.

King County has been working with water utility representatives for the last several years on refinements to the UTRC review process. The intent of the refinements has been to clarify the County's interests in reviewing water systems plans, create more transparency in the review process, provide clarity on what the County does with the information it gets from water purveyors and reduce overall processing time. King County will continue coordinating with water utilities to help ensure successful implementation of the UTRC review process refinements.

Water utility service areas in King County are described in Coordinated Water System Plans (CWSP's) developed under the Public Water System Coordination Act (chapter 70.116 RCW) and individual water system plans (WSP's) developed under State Board of Health rules adopted under chapter 43.20 RCW. CWSP's describe future service areas for water utilities within which they are provided the exclusive right to serve future customers, and are to include the means for meeting those needs in the most efficient manner possible. Other service providers may serve within the future service area of a designated water utility if the designated water utility is unable to provide service in a timely and reasonable manner.

Individual WSP's must include the water utility's retail service area, which includes existing customers and areas where the utility plans future service. Under state law (RCW 43.20.260), the water utility is required to provide service within its retail service area, provided it can meet the conditions prescribed in state law, including the ability to deliver such service in a timely and reasonable manner. The planned provision of service must be consistent with local government comprehensive plans, land use plans, and development regulations.

Washington State laws encourage the development and use of reclaimed water, require consideration of reclaimed water in wastewater planning, and recognize the importance of reclaimed water as a strategy for water resource management statewide (Chapters 90.46, 90.48, and 90.82 RCW). Reclaimed water is an important mechanism for improving water quality and reducing discharge of treated wastewater into Puget Sound and other sensitive areas. Reclaimed water is an important wastewater management tool that can also be used as a beneficial resource. King County has been producing and distributing reclaimed water since 1997. Reclaimed water is used for treatment process water and onsite landscaping at the County's wastewater treatment plants. In addition, some of the reclaimed water from the South Treatment Plant is used off-site for irrigation purposes and public works uses, such as street sweeping and sewer flushing. Reclaimed water from the Carnation Treatment Plant is sent to the wetlands at the Chinook Bend Natural Area in accordance with the County's commitment to use the wetlands as its primary discharge location rather than the Snoqualmie River. And by summer 2013, the Brightwater Treatment Plant will be producing reclaimed water that can be used in select locations in the Sammamish Valley and Bothell for irrigating golf courses, soccer fields, nurseries, farms and for commercial and industrial uses.

1. Potable Water Systems

Potable water is provided by Group A public water systems having 15 or more connections, Group B public water systems having 2 to 14 connections, and individual private wells serving one connection. Exempt wells refer to wells that do not require obtaining a water right permit from the state for withdrawal of water. These exempt wells are subject to all other rules and regulations other than the requirement to get a permit from the state to withdraw water. Water withdrawn from an exempt well for individual or group domestic water supply cannot exceed 5,000 gallons per day, nor may the water be used to irrigate more than a half acre of lawn or noncommercial garden. The type of water system required for new development will depend upon whether a proposed development is or is not located within the Urban Growth Area, is or is not within an approved service area of an existing public water system, and is or is not able to provide an adequate water supply as required under RCW 19.27.097 and RCW 58.17.110.

F-232 Water utilities that obtain water from, or distribute water in unincorporated King County, and water utilities formed as special purpose districts under Title 57 RCW are required to submit water system plans to the county for review and approval and shall describe in their plans how they intend to meet their duty to provide service within their retail service areas, and generally how they plan to meet water service needs in their future service.

F-233 In both the Urban Growth Area and Rural Areas of King County, all new construction and all new subdivisions shall be served by an existing Group A public water systems except in the circumstance when no Group A public water system can provide service in a timely and reasonable manner per RCW 70.116.060 and RCW 43.20.260 or when no existing system is willing and able to provide safe and reliable potable water with reasonable economy and efficiency per RCW 19.27.097.

F-234 In the Urban Growth Area, individual private wells are not permitted unless application of Policy F-233 to a proposal for a single-family residence on an individual lot would deny all reasonable use of the property. In that case, the well would be allowed only as an interim facility until service by a public water system can be provided. The individual well must meet the criteria of the King County Board of Health Title 13.

F-235 In the Urban Growth Area, if an existing Group A water provider cannot provide direct or indirect service to new development under Policy F-233, a new public water system may be established if it is owned or operated by the following, in order of preference:

- a. By a satellite management agency approved by the State Department of Health under contract with the Group A system in whose service area the system is located, provided that the existing Group A water system remains responsible for meeting the duty to serve the new system under RCW 43.20.260; or
- b. By a satellite management agency approved by both the State Department of Health and King County.

All new public water systems formed in the UGA shall connect to the Group A water system in whose service area the new system is located when direct service becomes available.

F-236

In the Rural Area, King County land use and water service decisions support the long-term integrity of Rural Area ecosystems. Within the Rural Area, individual private wells, rainwater catchment, Group B water systems, and Group A water systems are all allowed. If an existing Group A water provider cannot provide direct or indirect service to new development per the exceptions in Policy F-233, a new public water system or private well may be established if it is owned or operated by the following, in order of preference:

- a. By a satellite management agency approved by the state Department of Health under contract with the Group A system in whose service area the system is located, provided that the existing Group A water system remains responsible for meeting the duty to serve the new system under RCW 43.20.260; and**
- b. By a satellite management agency or an existing Group B system approved by both the State Department of Health and King County. If service cannot be obtained by means of the above stated options, then water service may be obtained by creation of a new system, use of private wells or rainwater catchment. All new public water systems formed in the Rural Area shall connect to the Group A water system in whose service area the new system is located when direct service becomes available.**

F-237

New public water systems established in the Rural Area shall be owned and operated by the following, in order of preference:

- a. By the Group A public water system in whose service area the system is located, by direct service or satellite management by the Group A system,**
- b. By a satellite management agency approved by the State Department of Health and providing service within the county and under contract with the Group A system if it is located in a Group A system service area; or**
- c. By the owners of the lots, which are provided water by a new Group A or B system if not within the service area of an existing Group A system or not within the area covered by a satellite management agency. Approval for any such system shall be conditioned for future ownership or management by a satellite management agency, when such service becomes available, and for periodic review of system operations, as required by RCW 70.119A.060(2).**

The State Department of Ecology has determined that the rivers and streams in the major river basins in King County have no water available for further consumptive appropriation without harmfully impacting instream values. For that reason, it has by regulation closed those basins to issuance of new water rights, and has directed that the natural interrelationships between surface and ground waters should be considered in future water allocation decisions in order to avoid adverse impacts to instream flows. The installation and use of wells that are exempt from ecology's water rights permitting process may further harm those rivers and streams when the wells are withdrawing groundwater that is directly connected to the water in the stream. The installation of new exempt wells may also create health and safety problems by interfering with the water supplied by existing wells, and by creating more holes in the ground that can lead to contamination of entire aquifers. Under K.C.C. chapter 9.14, the Department of Natural Resources and Parks is to act as lead agency in coordinating the activities of DDES and Public Health in order to ensure that groundwater quality and quantity are protected, and facilitate implementation of the plans that have been developed to protect groundwater in five groundwater management areas within King County.

- F-238** **New subdivisions with more than six single-family lots on Vashon-Maury Island and in basins with closed streams in the Rural Area (as defined in WAC 173-507,508, 509, 510, and 515) may not be served by a potable water system using an exempt well, or a combination of multiple exempt wells. Exempt wells are allowed only in the Rural Area and only under the following circumstances:**
- a. New subdivisions or short subdivisions with six or fewer lots;**
 - b. Except as otherwise provided in subsection c. of this policy only one exempt well per subdivision or short subdivision will be permitted unless more than one exempt well is needed to meet the water flow requirements for the subdivision or short subdivision;**
 - c. Individual private wells may be used in a subdivision or short subdivision when all lots in the subdivision or short subdivision are twenty acres in area or larger; and**
 - d. New developments in the Rural Area served by one or more exempt wells shall not exceed one-half acre of irrigation.**

- F-239** **King County shall work with water service providers, the State Department of Ecology and the State Department of Health to track and measure groundwater use and to meet the County's obligation to protect groundwater quality and quantity in rural areas, while supporting uses of groundwater that meet public**

health, resource protection, land use planning, and fish recovery objectives and obligations.

F-240 King County shall require any new or expanding Group B water system to have a totalizing source meter and make information from the meter available upon request of King County.

F-241 King County shall encourage the adoption of state or local laws and codes to limit the construction of new exempt wells within existing water utility service areas and promote the safe and timely decommissioning of wells no longer in service.

2. Regional Water Supply Planning

In recent years King County worked cooperatively with many of the larger water utilities in the region to gather information about regional water demand and supply. As a result of potential impacts from climate change on water demand and supply, this effort will become increasingly important in future years. King County would like to use this information to help develop a regional water supply plan.

F-242 King County supports initiation of a water planning process for the development of a regional water plan. The planning process should at a minimum cover all of King County, but may include a broader geographic area. The County will work in concert with water utilities and others that participate. Key components of this planning process should include:

- a. Involvement, oversight and support of elected officials in the region;
- b. Meaningful public participation including the involvement of the state and federally recognized tribes; and
- c. Recognition of, and making appropriate linkages with, other state, regional, or local planning processes.

F-243 King County recognizes that a regional water planning process will be a collaborative process. King County's objectives for the process and a resulting plan are that it:

- a. Be consistent with, and support, growth management objectives and decisions made by local and regional jurisdictions under the Growth Management Act;

- b. **Address the need for sufficient flows to achieve salmon recovery objectives of the approved regional recovery plan for species listed under the Endangered Species Act, and recognize tribal water rights;**
- c. **Be consistent with and support the approved water quality and quantity strategies adopted by the region, local governments, and other responsible entities (such as water utilities) in compliance with federal requirements under the Clean Water Act, Safe Drinking Water Act, and other authorities relevant to water quantity and quality;**
- d. **Include provisions for the efficient use of water, including reclaimed water;**
- e. **Consider the impacts of climate change on water demand and supply;**
- f. **Address the water needs of other specific sectors of the local economy, including agriculture and other industries with significant water uses;**
- g. **Include, to the extent possible, assigned accountability for implementing conservation and developing new supplies and related infrastructure; and**
- h. **Identify, and develop a strategy for, any legislative changes necessary or desirable to implement the plan.**

F-244 King County shall participate in the development of a regional water supply plan or plans addressing potable water supply service by multiple water purveyors to ensure that uses of reclaimed water intended to augment or replace potable water supplies will be considered in the development of any such plans, and for such other purposes as are authorized in the underlying authority for such a plan. King County’s participation in the development of such plans shall be carried out in accordance with RCW 90.46.120, and pursuant to processes provided in the underlying planning authority.

F-245 Prior to initiation of any process to develop a regional water plan as described in Policy F-243, King County shall work with utilities to conduct a joint assessment of the state of water planning and coordination in the region. Such an assessment should identify where current planning and coordination efforts by and among water utilities address County interests and where there are gaps. The assessment should be used to guide any efforts related to development of a regional water plan.

3. Utility System Interties

Water utilities obtain water supplies from many varying sources. Some water utilities receive the vast majority of their water supply from wells. Others receive substantial portions from municipal watersheds and reservoirs. The varying water supply sources can differ substantially in terms of dependability of output, so that while one water utility may have excess capacity, a neighboring water utility could be experiencing severe shortages and be unable to adequately serve their customers.

F-246 King County supports interties that allow the transfer of water resources among water utilities to meet the projected demands for growth where such interties meet the requirements of RCW 90.03.383 and are also consistent with any applicable locally adopted comprehensive plans, regional water supply plans, adopted groundwater management plans, watershed plans, approved Coordinated Water System Plans, Endangered Species Act response requirements and Clean Water Act requirements.

F-247 King County supports the development of appropriate regional water intertie capital projects, subject to approval from appropriate local, state, and federal agencies and consistent with Policy F-246.

4. Water Use Efficiency, Planning, and Management

Water is becoming an increasingly scarce resource, which calls for commitments to improved planning, more efficient water use, and better water management. The impacts of climate change on water demand and supply adds to the need to make efficient use of this scarce resource. As part of its resource management and land use planning responsibilities, the King County Utilities Technical Review Committee (UTRC) reviews water utility plans for those water utilities serving unincorporated King County or otherwise subject to the planning requirements of K.C.C. 13.24 and ensures the inclusion of elements related to reclaimed water, water use efficiency, and water conservation in the plans as may be called for under state law, the King County Code, or the King County Comprehensive Plan. As part of its evaluation process, the UTRC also encourages water purveyors to include conservation and reuse measures, where applicable, as well as development of new sources to support planned land use with reliable service at a reasonable cost. The Reclaimed Water Act of Washington State (RCW 90.46) recognizes the value of reclaimed water in the process to better manage, protect, and conserve our water resources. In addition, measures to increase water conservation and expand the use of reclaimed water for non-potable uses throughout the county are important elements in preparing for potential climate change impacts, and to address water as a recognized limiting factor for Puget Sound and salmon recovery efforts. The King

County Code also directs county programs to act as a clearinghouse for data related to groundwater quality and quantity in order to facilitate implementation by King County and others of the groundwater management plans that have been developed for major portions of King County.

- F-248** King County shall partner with utilities to publicize water conservation and encourage best management practices that conserve potable water supply through measures that include use of alternative supplies such as reclaimed water.
- F-249** Utilities with more than one thousand service connections required to submit water system plans for approval to King County shall include an evaluation of reclaimed water use opportunities by completing King County's Water Reclamation Evaluation Checklist.
- F250** The County shall encourage local developers with new projects in unincorporated King County to explore the possibility of using reclaimed water for nonpotable purposes when a plan for reclaimed water has been approved for the area.
- F-251** In its review of water system plans, the UTRC shall consider the criteria provided in K.C.C. 13.24.010, 13.24.060, and 13.24.070, and determine the plan's consistency with the following:
- a. Applicable provisions of the King County Comprehensive Plan, land use plans, and development regulations adopted under the Growth Management Act;
 - b. Approved or adopted regional water resource plans, such as basin plans, groundwater plans, watershed-based conservation and recovery plans developed under ESA, salmon recovery plans developed under chapter 77.85 RCW, water resource plans developed under chapter 90.54 RCW, watershed plans developed under chapter 90.82 RCW, and a regional water supply plan or water resource management plan;
 - c. The county's Regional Wastewater Services Plan; and
 - d. Other applicable provisions of countywide plans managed by King County, as specified in UTRC guidance or checklists.

The UTRC shall work with state agencies, water utilities, and other parties to develop any necessary rules, policies or checklists to provide clear information

and guidance as to the county's expectations for its reviews. For each plan submitted to the county for review, the UTRC should have the goal of providing an initial response and comments to the water utility within the same timeframes as the state Department of Health under RCW 43.20.250.

F-252

In reviewing proposals for modified and expanded service area boundaries for municipal water suppliers, the UTRC shall consider, in addition to Policy F-251:

- a. Compliance by the water system with its water system comprehensive plan, including water conservation elements;
- b. Whether it can meet its duty to provide service within its service area, as required under chapter 43.20 RCW; and
- c. Consistency with the service provisions of any applicable Coordinated Water System Plan, as adopted in King County Code Chapter 13.28.

The county shall not approve a water system plan with a proposed retail service area where the water system is unable to provide timely and reasonable service for one or more of the reasons identified in RCW 43.20.260. King County accepts and encourages timely and reasonable service by a water utility within its service area through the provision of satellite or remote ownership or management of facilities that are not physically connected with the water utility's other facilities. This does not preclude a modified or expanded service area boundary for the water system in order to correct problems and provide reliable potable water service to existing water users within the proposed modified service area. The UTRC is responsible for making determinations of timely and reasonable service, as provided for under RCW 70.116, and K.C.C. 13.24 and 13.28.

5. Resource Management and Protection

Water system reservoirs and watersheds often serve a number of functions. These functions can include open space, recreation, forestry, and resource management. However, each function must be weighed against the primary purpose of such reservoirs and watershed, which is to provide and protect supplies of potable drinking water.

F-253

Consistent with Countywide Planning Policies, public drinking water system surface water reservoirs and their watersheds should be managed primarily for the protection of drinking water, but should allow for multiple uses, including

recreation, when such uses do not jeopardize drinking water quality standards. Public watersheds must be managed to protect downstream fish and agriculture resources.

F-254 Groundwater-based public water supplies should be protected by preventing land uses that may adversely affect groundwater quality or quantity to the extent that the supply might be jeopardized. The county shall protect the quality and quantity of groundwater used as water supplies through implementation of Policies E-493 through E-497 where applicable.

I. Public Sewers and On-Site Wastewater Treatment and Disposal Systems

King County protects water quality and public health in the central Puget Sound region by providing high quality and effective treatment to wastewater collected from 34 local sewer utilities. The county's Wastewater Treatment Division (WTD) serves about 1.5 million people within a 420-square-mile service area, which includes most urban areas of King County and parts of south Snohomish County and northeast Pierce County. In addition to treating wastewater, King County also creates resources such as energy, reclaimed water and biosolids from byproducts of the treatment process.

The County's wastewater system includes:

- three large regional wastewater treatment plants (the West Point Plant in the City of Seattle, the South Plant in the City of Renton, and the Brightwater Plant in unincorporated Snohomish County),
- two small wastewater treatment plants (one on Vashon Island and one in the City of Carnation),
- one community septic system (Beulah Park and Cove on Vashon Island),
- four combined sewer overflow (CSO) treatment facilities (Alki, Carkeek, Mercer/Elliott West, and Henderson/Norfolk--all in the City of Seattle),
- over 350 miles of pipes,
- 19 regulator stations,
- 42 pump stations, and
- 38 CSO outfalls

King County adopted the Regional Wastewater Services Plan (RWSP) in 1999 to make sure the regional wastewater system keeps pace with growth and meets permitting standards. The RWSP includes a number of planned projects through 2030 to protect public health, the environment and the economy for both present and future wastewater customers, such as building the Brightwater Treatment System to

accommodate growth in the northern portion of the wastewater service area; improvements to the county's regional conveyance system to meet the 20-year peak storm design standard and accommodate increased wastewater flows; improvements to reduce existing and future levels of infiltration and inflow into local collection systems; and improvements to control combined sewer overflows (CSOs) so that an average of no more than one untreated discharge occurs per year at each CSO site by 2030. The adopted policies that guide implementation of the RWSP are in King County Code 28.86.010 through 28.86.180.

In addition to King County's role as the regional wastewater treatment provider, the Seattle-King County Department of Public Health is the agency responsible for permitting on-site wastewater treatment and disposal systems (septic systems). In addition, the UTRC and the King County Council review and approve sewer utility comprehensive plans.

F-255

In the Urban Growth Area, all new development shall be served by public sewers unless:

- a. Application of this policy to a proposal for a single-family residence on an individual lot would deny all reasonable use of the property; or**
- b. Sewer service is not available for a proposed short subdivision of urban property in a timely or reasonable manner as determined by the Utility Technical Review Committee. These on-site systems shall be managed by one of the following entities, in order of preference:**
 - 1. The sewer utility whose service area encompasses the proposed short subdivision; or**
 - 2. The provider most likely to serve the area; or;**
 - 3. An Onsite Sewage System Maintainer certified by the Seattle-King County Department of Health.**

The onsite system shall meet all state and county approval requirements. The approved short subdivision shall indicate how additional lots to satisfy the minimum density requirements of the zoning will be located on the subject property in case sewers become available in the future. There shall be no further subdivision of lots created under this policy unless served by public sewers.

F-256

In the Urban Growth Area, King County and sewer utilities should jointly prioritize the replacement of onsite systems that serve existing development with public sewers, based on the risk of potential failure. King County and sewer utilities should analyze public funding options for such conversion and

should prepare conversion plans that will enable quick and cost-effective local response to health and pollution problems that may occur when many on-site systems fail in an area.

- F-257** City-owned parks that are redesignated from Rural to Urban to allow future annexation by a city and that are subsequently served by public sewers shall be tightlined. This policy applies to parks that were redesignated from Rural to Urban on or after September 20, 2004.
- F-258** The existing public sewer system in the Town of Vashon cannot be expanded to serve land beyond the boundaries of the town, except as provided in Policy F-264 and as consistent with Title 57 RCW. Onsite systems, community on-site systems or decentralized treatment systems may be used as appropriate for planned growth in other Rural Towns.
- F-259** Sewer facilities such as pump stations, force mains and trunk lines that do not provide connections to the Rural Area may be located in the Rural Area only when they are identified in a King County-approved comprehensive sewage system plan and upon a finding by King County that it is technically necessary in providing service to the Urban Growth Area.
- F-260** Onsite wastewater treatment systems in the Rural Area and Resource Lands should be designed, built and operated as permanent methods of sewage disposal.
- F-261** King County should monitor onsite systems that have shown evidence of failure or potential for failure. The data should be used to correct existing problems and prevent future problems. King County should analyze public funding options for correcting on-site wastewater system failures which may include, where feasible and otherwise consistent with this plan, conversion to community sewage systems or installation of public sewers.
- F-262** Collective on-site systems may be used only in the following circumstances in the Rural Area and Resource Lands:
- a. Existing on-site systems are failing within an area and the Seattle/King County Department of Public Health concurs that long-term individual on-site system repairs are not feasible or water quality is threatened by

the presence of or potential for health hazards resulting from inadequate on-site wastewater disposal methods;

- b. An authorized public agency will manage the community system; and**
- c. The community system is designed only to serve existing structures and lots and cannot be used as a basis to increase density or to expand permitted nonresidential uses. Substandard vacant lots must be combined to the extent feasible to meet rural density policies. Management of the community system must be by an authorized public agency.**

Greywater is residential wastewater generated from bathtubs, showers, bathroom sinks, washing machines, dishwashers, and kitchen sinks. It includes sewage from any source in a residence or structure that has not come into contact with toilet wastes. Greywater comprises 50-80% of residential wastewater.

F-263 King County supports innovative technologies to process greywater for safe use on-site in the Agriculture and Rural Zones.

F-264 Except as otherwise provided for in this policy, public sewer service shall be prohibited in the Rural Area or on Natural Resource Lands.

- a. Public sewer service may be expanded to the Rural Area or to Natural Resource Lands, only:**
 - 1. Where needed to address specific health and safety problems threatening the use of existing structures; or**
 - 2. To serve a new school authorized to be located in the Rural Area by R-327.**
- b. Public sewers may be extended, pursuant to this policy, only if they are tightlined and only after a finding is made by King County that no reasonable alternative technologies are feasible.**
- c. Public sewers that are allowed in the Rural Area or on Natural Resource Lands pursuant to this policy shall not be used to convert Rural Area land or Natural Resource Lands to urban uses and densities or to expand permitted nonresidential uses.**

J. Solid Waste

King County's *Comprehensive Solid Waste Management Plan*, prepared by the Solid Waste Division of the Department of Natural Resources and Parks, guides the management of solid waste in the unincorporated county and for cities with which the county has interlocal agreements. The *Comprehensive Solid Waste Management Plan* presents policies, recommendations and goals for the following elements of solid waste management: system planning, waste prevention and recycling, solid waste collection and processing, the transfer system, landfill management and solid waste disposal, and system financing.

- F-265** **Regional solid waste planning should integrate the principles of environmental stewardship and sustainable development into all aspects of solid waste management.**

- F-266** **Solid waste should be collected, handled, processed, and disposed in ways that reduce waste, conserve resources, and protect public health and the environment.**

- F-267** **King County should achieve Zero Waste of Resources – to eliminate the disposal of materials with economic value – by 2030, through a combination of efforts in the following order of priority: a. waste prevention and reuse, b. product stewardship, recycling, and composting, c. beneficial use.**

- F-268** **Solid waste management should be planned, and transfer and disposal capacity provided, on a regional basis.**

- F-269** **King County shall operate a transfer system that is dispersed throughout the county to ensure access to safe, reliable, efficient, and affordable solid waste services.**

- F-270** **King County should maximize the capacity and lifespan of the Cedar Hills Regional Landfill, subject to environmental constraints, relative costs to operate, and stakeholder interests.**

- F-271** **King County shall encourage sustainable development and provide consumer education in the public and private sectors regarding green building practices, product stewardship, recycling, purchasing, and consumption in order to reduce the amount of waste disposed.**

K. Surface Water Management

Current development practices can adversely impact both the quantity and quality of water entering the natural environment. Urban areas are largely covered with impervious surfaces (e.g., buildings, streets, parking lots) that cause increased runoff and are a source of pollutants. Pervious and semi-pervious areas such as lawns and gardens can also be a source of pollutants from the application of fertilizers, insecticides, herbicides, and rodenticides. Management in the Rural Area is important, too, because of the potential adverse impacts of land clearing and impervious surface as well as potential pollutants in runoff from forestry, agricultural, and livestock practices.

Prevention or mitigation of flooding, erosion, sedimentation, and water quality and habitat degradation is important for both the built and natural environments. Surface water management activities address both the quantity and quality of water entering the natural environment. King County has been and will continue to be a leader in developing and implementing state-of-the-art stormwater management techniques including pollutants source control at businesses and homes, stormwater flow control and water quality treatment facilities, and low impact development (LID).

LID is an approach to land development that works to preserve a site's natural hydrological functions by protecting and enhancing native vegetation and soils, reducing impervious surface and managing stormwater at the sources. Similarly, King County also encourages the use of low-impact site design techniques to reduce impacts to aquatic resources. These techniques, where feasible, are well suited to development in rural residential zoned areas. LID is becoming an increasingly valuable tool for controlling polluted runoff that contributes to declining populations of federally protected aquatic species, meeting the requirements of the National Pollution Discharge Elimination System Municipal Stormwater Permit, and protecting and restoring the region's stream's, river and lakes and the Puget Sound.

The primary LID tools to be used in the Rural Area are forest retention and limiting impervious surface. King County shall continue to help limit impervious surface through code and incentive programs that help keep land in forest and agricultural use.

F-272 To reduce flooding, erosion and sedimentation, prevent and mitigate habitat loss, enhance groundwater recharge and prevent groundwater and surface water quality degradation, the surface waters of King County shall be managed through plans, programs and regulations developed by King County in cooperation with affected jurisdictions whenever possible.

- F-273** A watershed approach shall be taken to surface water management, with responsibility shared among King County and affected jurisdictions. This approach should emphasize prevention of water quality degradation through education programs and implementation of best management practices to reduce pollution entering the region's groundwater and surface waters, including Puget Sound.
- F-274** In the Rural Area, King County shall minimize the use of constructed facilities for surface water management and maximize the use of natural systems, provided that the ecological functions of the natural systems are not harmed. The county should provide incentives to keep these natural systems intact. Natural systems are also preferred in the Urban Growth Area, but it is recognized that structural systems will be needed to realize urban growth and density goals
- F-275** King County will plan and manage surface waters on a watershed basis pursuant to Policies E-463 and E-464. To accomplish this goal, surface waters should not be diverted from one watershed into another, nor from one drainage basin into another, unless no other reasonable alternative is available for managing surface water run-off within the same watershed and drainage basin. Where such diversions are permitted, King County will require such environmental analysis and mitigation as is needed to protect surface water resources from significant adverse impacts.)
- F-276** In the Urban Growth Area, regional and shared surface water management facilities should be encouraged to support infill development to preclude the need for individual on-site facilities, provide development incentives, encourage efficient use of land, and reduce overall facility maintenance costs. These facilities should be planned and financed through public and private partnerships.
- F-277** Stormwater programs including regional and shared stormwater facilities, retrofitting developed areas, and operations and maintenance programs should be funded through an adequate and equitable funding mechanism. Stormwater facilities required for new development, redevelopment and retrofitting should be designed and built for aesthetic value, as well as for low-cost, long-term maintenance.

- F-278** King County shall continue to encourage, support and require the use of low impact development as a part of its strategy to mitigate stormwater impacts from new development to the maximum extent feasible.
- F-279** King County should incorporate state-of-the art stormwater management techniques including low impact development principles and practices into the design, construction and operation of all county facilities and county-funded projects to the maximum extent feasible.
- F-280** King County shall continue to promote preservation of native vegetation and soils and restoration of disturbed soils on rural residential zoned parcels to the maximum extent feasible. Dispersion of runoff from impervious surfaces into native vegetation in accordance with the Surface Water Design Manual is the preferred method of stormwater management in the Rural Area.
- F-281** King County should work with residential and commercial developers to incorporate state-of-the art stormwater management techniques that protect native vegetation and soils, restore disturbed soils, facilitate reuse of resources, such as reclaimed water, reduce the carbon footprint of the project, and reduce impervious surface.
- F-282** When King County provides technical assistance and incentives for the use of state-of-the art stormwater management techniques, it shall be at no cost to any private sector development.
- F-283** King County shall identify and evaluate potential changes to land use development regulations and building codes to support and promote state-of-the art stormwater management techniques.
- F-284** King County should work cooperatively with other jurisdictions to develop and implement plans and programs that address the appropriate recycling, reuse, reclamation and disposal of the materials and wastes generated from maintenance of stormwater facilities.

F-285 **King County shall work with jurisdictions to ensure that storm and surface water management facilities are transferred from King County to the local jurisdiction that annexes or incorporates that portion of King County.**

L **Floodplain Management**

Six major river systems flow through King County – the South Fork Skykomish, Snoqualmie, Sammamish, Cedar, Green and White. These rivers, and their major tributaries, pass through lands ranging in use from forested to agricultural to urbanized cities. Each of these major river systems are unique in their geology and geomorphology as well as the extent in which the hydraulics of the rivers have been altered by dams, levees and bank hardening. All of these rivers are used by federally listed endangered species of salmonid.

Within unincorporated King County over 61 percent of the mapped floodplain is within land zoned for agriculture, forest or mining. Another 32 percent is zoned as rural leaving just under seven percent within the urban area, mainly contained within Potential Annexation Areas around the City of Carnation. Consequently much of the flood risk in unincorporated King County is to natural resource lands, primarily agriculture, and rural lands with a lower relative risk to residential and resource based commercial activities. Most of these rivers also pass through highly urbanized incorporated cities that are important economic centers for King County and the Puget Sound region. These river segments are often constrained by levee systems that provide varying level of flood risk reduction.

Both the Washington State Growth Management Act, chapter 36.70A of the Revised Code of Washington (RCW) and Title 86 RCW, Flood Control require interlocal coordination for effective flood hazard management. Counties are directed to prepare comprehensive flood hazard management plans with participation of the cities. Once King County adopts the plan it is binding on all jurisdictions within the county. Flooding is a countywide issue impacting public safety, regional economic centers, Agricultural Production Districts, transportation corridors, and public and private properties. As such, King County is a regional service provider for floodplain management.

F-286 **King County shall participate with cities to prepare, update and implement comprehensive flood hazard management plans that meet or exceed standards established by the National Flood Insurance Program and Washington State Flood Control statutes.**

Flooding affects all people equally regardless of race, income, language or age. In February 2008, King County launched the Equity and Social Justice Initiative to further the goals of assuring justice and equal

opportunity for all residents of King County. The King County Council supported this goal by unanimously adopting the ordinance that provided guidance for implementing the social justice principles of the 2010-2014 Strategic Plan.

F-287 King County shall consider equity and social justice in implementing the King County Flood Hazard Management Plan to assure floodplain property owners and residents are given equal access to flood risk reduction services. Outreach should consider vulnerable populations that may face barriers based on age, income, language, race or other factors.

In 2011 King County celebrated the 50th anniversary of the King County Flood Warning Program, which is responsible for the collection, analysis and dissemination of flood data and forecasts to individuals and organizations. The King County Strategic Plan directs the County to “Coordinate and provide direct response to crisis such as communicable disease outbreak, floods, earthquakes, severe weather events, and homeland security.” King County’s Flood Warning Program supports the Strategic Plan by coordinating response to flooding.

F-288 King County shall maintain a regional flood warning program in King County.

There is now evidence that climate change is resulting in important changes in temperatures; sea level rise; and timing and magnitude of stream and river flows, resulting in impacts on plant and animal species, water supply and humans. King County’s ability to adapt to these changing conditions will likely depend on the policy decisions made today. King County can expect to see more frequent and severe flooding and a shifting of when storm events occur during the winter months. The King County Strategic Plan directs the County to “Identify and adapt to the impacts of climate change on natural systems, human health, public safety, county operation, infrastructure and the economy.”

F-289 King County should continue to assess and revise current flood warning phases based on the most current data on hydrology and climate change predictions and modify the King County Flood Warning Program, as needed, to reflect these revised flood phases.

F-290 King County should assess the most appropriate level of service for flood risk reduction along river segments based on existing and predicted development density, land use, and hydrologic conditions.

F-291 King County will review available information on the potential impacts of climate change on winter floods, and consider those potential impacts when updating the flood risk reduction policies and capital improvement projects for the King County Flood Hazard Management Plan.

King County has prepared a climate change scenario map for Vashon-Maury Island based on studies from the University of Washington's Climate Impacts Group as well as the most current data on storm-induced velocity wave action. This map estimates an increase in total water level ranging from 0.5 to 6 feet based on an assumed two-foot sea level rise over the next 100 years.

F-292 King County should encourage property owners on Vashon-Maury Island to consider the estimated increase in water level reflected on the best available sea level mapping and information when constructing new structures or making substantial improvements to existing structures.

King County works with the U.S. Army Corps of Engineers (Corps) to construct and maintain flood levees along some of the major river systems. Under Public Law 84-99 (P.L. 84-99), the Corps is authorized to provide emergency assistance to cost-share and construct levee repairs following a flood disaster. However eligibility for this cost-sharing program requires that levee sponsors (often local jurisdictions) comply with the Corps' vegetation maintenance standards as outlined in the Rehabilitation and Inspection Program (RIP). The RIP national standard requires the removal of vegetation greater than two inches in diameter from levees and the area surrounding levee. King County believes this standard may adversely affect federally listed endangered species of salmonid that rely on riparian vegetation for refuge and to maintain cool water temperatures. While vegetation may pose a risk in some situations, King County has found through many years of experience that vegetation can be incorporated into levee designs and when properly maintained contribute to the resiliency of the levee system. The King County Strategic Plan recommends that King County "incorporate sustainable development practices into the design, construction and operation of county facilities and county-funded projects." King County believes that bioengineered techniques provide a stronger, more sustainable levee and revetment system that will reduce long-term maintenance and repair and contribute toward the recovery of endangered species.

F-293 King County shall continue to work with the U.S. Army Corps of Engineers, the Puget Sound Partnership, and other regional partners to develop a science-based vegetation management framework that provides for safe and effective levees, functional riparian habitat, and cost-effective use of limited resources.

The September 2008 National Marine Fisheries Service (NMFS) Biological Opinion on FEMA's National Flood Insurance Program (NFIP) raises specific concerns about the application of the Corps vegetation management standards in the Puget Sound region. The Biological Opinion directs FEMA to recognize only those vegetation standards that "enable the riparian vegetation to function in support of salmon habitat forming processes."

F-294 King County will assess participation in the U.S. Army Corps of Engineers P.L. 84-99 Program to ensure compliance with the National Marine Fisheries Services Biological Opinion on the Federal Emergency Management Agency (FEMA) National Flood Insurance Program standards for levee vegetation, as well as cost-effective maintenance and repair of levees.

The Biological Opinion for the NFIP established 'reasonable and prudent alternatives' that may be taken to reduce the adverse effects of development with the 100-year floodplain. Compliance with the Biological Opinion is required in order to participate in the NFIP.

F-295 King County will maintain compliance with the National Flood Insurance Program by:

- a. Assessing the projects and programmatic actions recommended in the King County Flood Hazard Management Plan for compliance with the Biological Opinion prepared for the Program; and**
- b. Making necessary amendments to the Plan and its implementing development regulations.**

In 2007 King County established the King County Flood Control District (District) to protect public health and safety, regional economic centers, public and private properties and transportation corridors. The District adopted the 2006 King County Flood Hazard Management Plan as its comprehensive plan. A private firm, ECONorthwest, was hired to study the economic benefits of implementing the plan. This report, the "Economic Connections Between the King County Floodplains and the Greater King County Economy," estimated that a one-day shutdown of economic activity in the King County floodplain areas would result in at least \$49 million in forgone economic output in the region (2007 dollars). The study also found that, 52,000 people in King County commute into or out of the 100-year floodplain for work. The King County Strategic Plan recommends that King County "maintain infrastructure that facilitates the efficient movement of freight and goods to promote trade across the region." Implementation of the 2006 King County Flood Hazard Management Plan has played a significant role in protecting King County's economic base. The 2006 Flood Hazard Management Plan is now being updated.

- F-296** King County will work cooperatively with the King County Flood Control District, cities and other stakeholders to implement the Flood Hazard Management Plan to protect public safety, prevent property damage, and help protect the greater King County economy.
- F-297** Consistent with guidance from FEMA and the USACOE, King County's risk reduction strategies should focus first on risk avoidance, followed by actions intended to reduce vulnerability in at risk areas. New levees and other flood facilities should be the last rather than the first line-of-defense.
- F-298** King County shall continue to promote the purchase of flood insurance to businesses located within the floodplain, including those businesses located behind accredited levees, to protect the economic value of the business and reduce the vulnerability to the region's economic activity from a larger but less frequent flood event.
- F-299** King County should continue to discourage new, at-risk development in mapped flood hazard areas.
- F-299a** King County should seek to site new critical public facilities outside of the 500-year floodplain.

Levee setbacks (moving levees away from the river channel) can provide a higher level of risk reduction, reduce future maintenance costs, enhance habitat, and provide open space benefits. However, levee setbacks require purchase of additional right-of-way and, in some cases, relocation of homes and businesses. The county has relocated homes from high hazard residential areas along the Tolt, Raging, Snoqualmie, Middle Green, and Cedar Rivers. Levee setbacks can be more challenging in urban areas with higher land costs, well established businesses, and more extensive relocation needs.

- F-299b** The county should work with cities, businesses, and landowners to evaluate the alternatives for levee setbacks that would provide a higher level of risk reduction, reduce long-term maintenance costs, and enhance habitat while promoting long-term economic resilience and vitality.

M. Human Services

King County has a regional role in human services, working with many partners, such as the federal, state, and other local governments, service providers, non-profit organizations, foundations, faith

communities, businesses, schools, and the criminal justice system, to help those most in need. King County's investments in human services are guided by the Framework Policies for Human Services and ultimately, the King County Strategic Plan. The Framework Policies are contained in Chapter 2.51 of the King County Code and "establish priorities and guide the future development of county human service programs." The purpose of the Framework Policies is to communicate King County government's role in human services, the goals we seek to achieve, and the principles that will underlie our investments.

Since their inception, the Framework Policies have led the county toward increasingly targeted and coordinated approaches to human services. Resources have been streamlined to focus on the priorities and priority populations identified in the policies. One clear directive is that the County focus its resources on those "most in need." This would include those who are low and very low-income, people who are chronically homeless, and people who cycle repeatedly through the mental health, chemical dependency and/or criminal justice systems.

Both the Framework Policies and the Strategic Plan place a strong emphasis on stabilizing people and diverting them from jails and emergency rooms by providing appropriate treatment and services. King County has grappled with unsustainable costs in criminal justice and emergency medical services and has taken steps to reduce cost growth in this primary area of service responsibility. A major component of these efforts has been jail diversion programs and coordination with health and human services, in order to prevent unnecessary engagement with law enforcement and the criminal justice system. These efforts have begun to show results and the Strategic Plan continues this emphasis.

F-299c King County will seek to build and sustain a coordinated regional human services system to provide services, supports, safety and opportunity to those most in need. In carrying out its role in human services, King County government will:

- a. Work with other jurisdictions and organizations to define a regional human services system and strengthen financing, access and overall effectiveness of services;**
- b. Collaborate with other funders to assure coordination in how funds are used, and continue to explore improvements to system design, contracting, data collection and analysis;**
- c. Retain responsibility for the development and implementation of mandated countywide specialty systems for mental health, drug and alcohol abuse and dependency, veterans, public health, and developmental disabilities services;**

- d. Define its regional role in other human service systems, including aging, domestic violence, sexual assault, and youth and family services;
- e. Assess and measure the health and needs of King County's citizens on an ongoing basis and modify strategies to respond to changing needs, outcomes, and new research; and
- f. Review the effectiveness and appropriateness of this policy framework periodically and revise if needed.

F-299d

King County's priorities for human service investments will be programs and services that help to stabilize and improve people's lives, and prevent or reduce emergency medical and criminal justice system involvement and costs. King County will focus resources and efforts on programs and services that continue to improve individual and community quality of life, improve equity and social justice, counterbalance growth in areas costly to communities and taxpayers, and preserve the resources necessary to collaborate as a true partner in regional human service systems. The following priority investment areas are consistent with other regional plans and initiatives:

- a. Effective intervention and prevention strategies;
- b. Job readiness and employment to increase self-sufficiency;
- c. Prevention and elimination of homelessness; and
- d. Services that reduce the growth of emergency medical and criminal justice system involvement and costs.

F-299e

King County will apply principles that promote effectiveness, accountability and social justice. King County embraces the following principles in its human service actions and investments:

- a. King County will provide information to the community on its human services planning and evaluation activities, funding processes and criteria, and the results of its investments in a transparent and accountable manner;
- b. King County will uphold federal, state and local laws against discrimination; promote culturally competent and relevant service delivery; and work to end disparities in social, health and economic status among people of different racial and ethnic backgrounds;
- c. King County will encourage service approaches that promote recovery and support individuals and families to achieve their full potential to live meaningful and productive lives in the community;

- d. King County will foster integration of systems of care through increased information sharing across agencies and programs for the purpose of improved service delivery, coordination and outcomes; and**
- e. Together with its partners, King County will assess and respond to changing human service needs and use data, research, innovation, analysis and evidence-based practices to drive its investments.**

III. Energy & Telecommunications

King County's economy and quality of life depend on readily available, inexpensive and clean energy and telecommunications resources. Energy and electronic communications systems provide important public services and their implementation must be coordinated with land use planning. The sustainable development and efficient use of energy resources can ensure their continued availability while minimizing long-term costs and impacts to the individual, society, and the shared environment.

In order to help mitigate global climate impacts resulting from human energy use, King County is planning its energy uses in ways that will reduce the release of greenhouse gases (GHGs).

Toward that goal, in 2010, King County implemented the 2010 King County Energy Plan, which includes the following key objectives for reducing energy use and greenhouse-gas emissions in King County:

1. Reduce energy use through continuous improvements in facility and equipment efficiency, procurement, construction practices, and resource conservation;
2. Increase transit use and provide transportation choices that reduce overall energy use and emissions in the county, while improving the efficiency of King County's fleet;
3. Be a leader in early adoption and promotion of innovative technology for buildings and vehicles with a focus on electric vehicles;
4. Increase production and use of renewable energy; and
5. Pursue sustainable funding strategies for energy efficiency, renewable energy projects, waste-to-energy projects and greenhouse-gas-reduction efforts.

The 2010 Energy Plan provided initial targets for reducing energy usage in operations and increasing the amount of renewable energy that the county produces or uses. These targets are measured for the county as a whole; divisions are directed to make policies and plans consistent with the King County Energy Plan and implement those as practical, considering the Plan and their other service priorities. Some divisions may exceed the targets, while others may not meet them in given years – but all divisions will use the Energy Plan as the basis for strategic energy planning and direction.

King County divisions are taking steps to translate countywide targets into agency specific plans and action. Agency specific plans are important steps that support progress towards countywide targets. If such plans or supporting targets are developed, they should be incorporated into updates of the Energy Plan.

The energy reduction targets adopted in the 2010 Energy Plan include an initial 2012 target of 10 percent for facilities and buildings. The goals and activities of the 2010 Energy Plan are integrally linked to King

County's strategies and activities for addressing climate change. In fact, it is not possible to describe the County's efforts to address climate change without discussing its efforts to reduce energy use and to increase the use of renewable energy. Therefore, in 2012, the County will initiate its Strategic Climate Action Plan (SCAP).

The SCAP will provide the mechanism by which the County will refine specific strategies and program activities to achieve the twin objectives of reducing greenhouse gas emissions and adapting to climate change impacts. Additionally, the SCAP would identify clear performance targets (how much change is the county attempting to achieve) for those strategies and priority activities. It will allow for the reporting of all strategies, program activities, and performance measures related to climate change in one location. By 2015, the county plans to combine SCAP and Energy Plan will be combined into one plan to allow for a more efficient and cohesive use of county resources dedicated to these interrelated issues.

Various local, state, and federal agencies regulate retail energy providers in King County. Gas and electric utility resource and conservation plans are approved by the utilities and other agencies through a public process. The Washington Utilities and Transportation Commission (UTC) reviews and accepts plans of investor-owned electric and gas utilities, the Seattle City Council approves the plans of Seattle City Light and Snohomish Public Utility District is governed by a utility board. Electric and gas utilities operate in King County under franchises with the county for use of the public right-of-way. The UTC also defines the costs that investor-owned utilities can recover, approves rates, sets service standards and resolves customer complaints.

Telecommunications services are regulated by several entities, including the Federal Communications Commission and the Washington Utilities and Transportation Commission. King County has some regulatory authority over telecommunications services through franchises and the development approval process.

A. Energy

1. Consistency with Land Use Plans

State law mandates that electric and gas public service companies provide the same level of service on a uniform basis, regardless of location. (RCW 80.28.110). Policies in this chapter encourage the utilities to prioritize capital improvements in a manner consistent with land use.

F-301 Energy providers' resource and facility plans should be consistent with the King County Comprehensive Plan and should provide for a reliable source of

energy in the event of natural disaster or other potential threats of disruption to service.

Disruption of traffic due to public and private road projects frequently occurs in King County. Policies in this chapter support existing programs to notify utilities of upcoming projects to build, expand, or maintain county roads so utility and road construction can be coordinated. Distribution systems for gas, electric and telecommunications installation in new construction now have separate permits. Permit consolidation is desirable as a means to expedite review while protecting the environment.

F-302 King County should coordinate public road construction and maintenance projects with utility construction and maintenance.

Appropriate planning, such as increased housing density, transit-oriented development and walk-to-work housing can significantly reduce regional energy use over time. Similarly, land use regulation can support increased availability and use of renewable energy. For example, consideration of solar access in land use codes and building siting can increase the potential for solar energy use. Policies in this chapter encourage such energy-conscious development.

F-303 King County should encourage land uses and development that will improve energy efficiency, and should support the expansion of renewable energy resources through development regulations, prudent variances and active incentive programs when the benefits of doing so outweigh the costs.

2. Energy Efficiency, Conservation and Alternative Energy Sources

King County Countywide Planning Policy CO-6 states that "aggressive conservation efforts shall be implemented to address the need for adequate supply for electrical energy and water resources, protect natural resources, and achieve improved air quality." King County has a continued commitment to energy efficiency, conservation, use of renewable resources and quality enforcement of the energy code. Recent recognition of climate change and other negative impacts of our energy infrastructure have brought the need to improve the county's energy use patterns and supplies into the forefront of policy discussions. King County's current energy use patterns and energy supplies could be modified and improved to reduce air pollution (including GHG emissions), conserve non-renewable resources important to future generations, and help to limit the growth in energy costs.

F-304 All King County departments and divisions shall use the Energy Plan as the basis for strategic energy planning and direction.

The 2010 King County Energy Plan sets the county's long term goal of reducing its greenhouse gas emissions from government operations, compared to a 2007 baseline, by at least at least 80% by 2050. In order to accomplish this goal, the county is dedicated to reducing its energy use, which most heavily contributes to its greenhouse gas emissions. Included in the 2010 Energy Plan were short term goals for energy reduction. For 2012, in its government operations for buildings and facilities, the county set a reduction goal of 10 percent normalized net energy use as measured against the 2007 baseline. In its vehicle operations, the county set a reduction goal of at least 10 percent of its normalized net energy use, again measured against a 2007 baseline

To measure its progress in reducing energy consumption, the county uses the process of "normalizing" energy use, which provides a measure of the energy use per unit of service value delivered (units of energy / units of service delivered). Application of this methodology is typically unique to each organization or enterprise; and the county has developed normalization factors for various energy end uses and functions. Normalization is intended to reflect actual energy use reductions under varying conditions.

Near term goals for energy reduction will be approved as part of the SCAP; setting the appropriate energy reduction targets in turn directly reduce the county's greenhouse gas emissions.

- F-305 King County shall plan for further reduction in its energy use from government operations by setting near term energy use reductions, consistent with its long term goals of reducing operating costs and environmental impacts, maximizing energy efficiency and minimizing waste.**

- F-306 King County shall continue to produce, use or procure renewable energy equal to at least 50 percent of total County net energy requirements on an ongoing basis.**

- F-307 King County should foster the development and increased use of clean, renewable and alternative fuel and energy technologies**

- F-308 King County shall:**
 - a. Continue to increase the use of renewable fuel in and the efficiency of county buses and vehicles where cost effective and environmentally sustainable, and shall support adoption and promotion of innovative technology vehicles with a focus on electric vehicles where appropriate; and**

- b. Consistent with policy E-203, collaborate with other local governments regionally, nationally and internationally to develop a common approach to accounting for the GHG emissions resulting from the operation of its public transportation system, and for claiming rights to any GHG reduction attributes associated with its operation.**

In support of its environmental, long-term sustainability and energy security goals, King County will provide leadership by shifting to the use of renewable resources. Renewable resources include those sources listed in RCW 19.285.030(20), now and as may be amended, as well as "service by-products", such as including methane gas generated from the operation of the county's landfill and wastewater treatment plants. Although renewable energy sources can be more expensive than traditional power sources on a per unit basis, careful choices of technology and expanded economic considerations including "triple bottom line" life-cycle cost analyses (LCA) show that in proper applications the benefits of some renewable energy technologies already exceed their costs. Additionally, subsidies and grants are available for some renewable power systems. For example, solar electric power is cost effective in some applications at county facilities and rapid cost changes in this technology will require regular reconsideration of its use as an addition or alternative to traditionally produced electricity.

F-309 King County shall maximize practical applications of electricity and heat production from renewable resources.

F-310 King County shall support the conversion of renewable resources and service by-products to energy for beneficial use consistent with E-208. King County shall claim rights to any and all renewable energy and greenhouse gas reduction attributes.

King County, working with its utility partners, has a long and successful history of energy efficiency and conservation projects. The combination of generally increasing energy costs and climate change mitigation goals will require that the county continuously increase its energy efficiency for many years to come.

F-311 King County should encourage its energy utilities to provide energy efficiency services and renewable energy options to all their customers. Additionally, the County should encourage the state and energy utilities to mitigate the environmental and greenhouse gas emissions impacts of energy and, as conservation and alternative energy sources demonstrate capacity to address

energy needs, phase out existing fossil fuel based power plants, especially coal based sources.

To achieve energy goals already set and more aggressive goals expected in the future, a coordinated, strategic approach to energy management and investment in energy efficiency is being implemented in the county.

- F-312 King County shall develop and adopt strategic energy management, efficiency and conservation programs in its own operations, including:**
- a. Consolidated energy accounting of county facilities to establish baseline energy performance for the county, benchmarking of facilities against comparable best practices where possible, setting goals for facility efficiency improvements, and measuring and reporting progress toward county energy goals;**
 - b. Energy efficiency audits of all significant county facilities and the creation of a prioritized action plan for reducing energy use at such facilities;**
 - c. Energy management plans for energy-intensive or special-purpose county facilities such as wastewater treatment plants, correctional facilities and transit bases that focus on least-cost management and that include specific approaches for each facility's use, as well as the production and sale of energy where appropriate;**
 - d. Mandatory energy efficiency and resource use guidelines for operation and maintenance of all county-occupied facilities, while recognizing the unique operating requirements of specialty facilities;**
 - e. Programs to encourage employees to implement energy conserving measures at work; and**
 - f. Incentives, including retaining a portion of energy cost savings, to county agencies and departments for achieving energy efficiency.**

F-313 King County should benchmark all applicable county buildings as a basis for measuring energy efficiency improvements.

F-314 King County should purchase only certified energy efficient appliances and office equipment (such as ENERGY-STAR labeled equipment) where available and shall require consideration of energy efficiency in all procurement decisions as an element of determining the lowest price bids.

Many energy efficiency, conservation and renewable energy projects have been deferred or not implemented due to lack of funds, despite their benefits and financial indicators. The value of energy projects are often at a disadvantage because they require capital outlay up-front to reduce operating costs over the project lifetime, and are rejected even though the projects could be effectively self-funding using standard discount rates on capital funds. One problem is that the capital and operating budgets are separate and competing parts of county finance, with laws separating their accounting. Investment in cost effective, energy saving projects can play a role in helping King County meet climate change mitigation and energy efficiency goals, while at the same time saving the county money. Using accepted life-cycle cost analyses and other methods, the county could develop credible criteria to evaluate energy projects and determine if the operations and maintenance cost savings over the life of an energy project's assets exceed the implementation costs. Standardized financing rules and mechanisms (such as 3rd party energy performance contracting or even "energy conservation bonds") for such qualified projects used in the budget process should greatly increase the likelihood of projects being funded. Meeting the County's energy goals will require a commitment to pursuing multiple funding strategies. Grants, loans, and utility rebates provide essential seed money for up-front investments in energy efficiency projects, and the County should seek them aggressively. In addition, the County should develop a long-term, sustainable framework for validating savings from energy efficiency investments and using a portion of savings to support future investments.

F-315 King County shall develop criteria to evaluate energy projects to determine if the operations and maintenance cost savings over the life of an energy project's assets exceed the implementation costs, taking into account alternative funding mechanisms available for energy efficiency and renewable energy projects.

F-316 Efficient energy consumption, conservation, the use of renewable technologies, and energy responsible land use decisions should be a priority in King County. King County promotes the maximum use of energy conservation and renewable energy resources now, while leaving options for increasing conservation and renewable technologies in the future.

District energy systems provide space and water heating and/or cooling to multiple buildings, through pipes originating from a central heating or cooling source – generally a central energy plant. King County government is unique in that it also has the ability to serve as a district heat supplier through the potential for buildings to utilize the energy value of the warmer-than-ambient water in the County's almost 400 miles of wastewater conveyance. Centralizing the generation of heat and/or cooling through a district

plant and/or delivering energy content to multiple facilities through a distribution network can eliminate the need for equipment in each individual building.

District heating and cooling plants can be constructed with energy efficiency in mind. Central plants that provide combined heat and power can offer increases in energy efficiency compared to on-site heat generation in individual buildings, and can be an effective method of cutting carbon emissions. The technologies used to generate energy from wastewater are emerging, and offer the potential to achieve environmental and economic benefits through the recovery of resources from wastewater.

F-317 King County should pursue district energy opportunities to maximize resource recovery efforts, in ways that can offer economic and environmental benefits to the county and community at large. This will be done by pursuing opportunities such as encouraging the use of wastewater for heat extraction and other forms of energy generation in the county's wastewater conveyance system.

F-318 King County should pursue combined heat and power district energy opportunities in its own facilities, as well as in partnership with other public and private entities, that result in reduced energy consumption, greenhouse gas reductions and financial savings to the county.

F-319 To implement the Countywide Planning Policy of aggressive conservation and promotion of regional air quality, King County should:

- a. Effectively enforce the energy code as part of the general permit process;**
- b. Provide density incentives through the zoning code for energy-efficient developments;**
- c. Continue to improve the fuel efficiency and emissions of the county-owned fleet of motor vehicles;**
- d. Work with utilities to become a model of energy efficiency in facilities owned or operated by Metropolitan King County; and**
- e. Seek cost-effective ways to capture energy from county operations which other-wise would be lost, such as methane gas from landfills and sewage treatment.**

Methane released from sewage treatment plants and landfills is a potential source of energy. In addition, methane is a potent GHG. As a result, capturing methane from these facilities and putting it to a productive use provides a dual benefit.

F-320 King County shall continue to explore and develop productive uses for and marketing of methane gas from its sewage treatment plants and landfills where appropriate.

The moderate climate of the Puget Sound region provides an opportunity for significant use of solar energy. Relatively low heating and cooling needs in much of the county allow passive and active solar technologies to meet most of our heating and cooling budgets with proper building design. Similarly, our mild climate and available solar energy allows growing some food year round, potentially decreasing the use of fossil fuels for a portion of our citizens' food needs. This opportunity for local investments in passive and active solar design and in local food production can only be realized if building and neighborhood site design provides for solar orientation and through the development of regulations to protect solar access.

Although permit staff attempt to accommodate solar design, current regulations do not typically take into account solar orientation or solar access protection from development on neighboring properties. In addition, regulations, such as building height and building setback allowances, road access requirements, and protections for critical areas, stormwater, and native vegetation, may limit suitable locations for providing solar access. Requirements to create and maintain view corridors may or may not provide solar gain. In order to protect solar access, landowners or developers enter into voluntary solar easements. As an alternative, some municipalities have incorporated measures to protect solar access in their comprehensive plans and development regulations. King County should study these measures and implement best practices in this area in support of the county's larger sustainability goals.

F-321 King County encourages:

- a. the use of solar energy;**
- b. the siting of roads, lots, landscaping and buildings for improved solar orientation;**
- c. the use of passive solar design and active solar technologies; and**
- d. the protection of solar access.**

F-322 King County should consider passive and active solar energy collection systems in all new facility designs and major rehabilitations. Solar electric generation systems interconnected with local utilities should be employed

where cost-benefit analysis shows net benefits, considering emergency power potential and capitalizing on utility net-metering and power production credit programs.

Gas and electric utilities offer low-income energy assistance programs. All feasible actions to increase the availability of conservation measures to low-income residents should be pursued, such as public-private cooperation and combining existing rehabilitation efforts with installation of energy efficiency measures.

F-323 King County should expand the availability of energy efficiency measures to low-income residents.

3. Electric Utilities

The four-state Fifth Northwest Electric Power and Conservation Plan (also called the 6th Power Plan) produced in 2010 by the Northwest Power and Conservation Council (NWPPCC) provides a blueprint for the development of electricity resources in the region. Bonneville Power Administration and other federal agencies, the region's utilities, state and local government, private businesses and the people of the Northwest all participate in implementing the council's goals. Electric utilities serving King County include Bonneville Power Administration, Seattle City Light, Snohomish Public Utility District and Tanner Electric Cooperative. Puget Sound Energy provides both electricity and natural gas service.

A number of significant events in the past years have influenced the electric power business in King County's power markets. These include:

- 1) Ongoing very large expenditures by hydropower utilities (notably BPA) to mitigate salmon habitat losses caused by dams;
- 2) The failure of Enron in 2001, with its devastating effects on several local utilities and the resultant retrenchment in Washington State from utility deregulation/restructuring;
- 3) The recognition of human-caused climate change, driven mostly by carbon dioxide release—a significant portion of which can be attributed to electric power generation;
- 4) The passage of State Initiative 937 codified at RCW chapter 19.285, requiring utilities to acquire an increasing portion of their electric supplies from qualified renewable resources (a so-called renewable resource portfolio standard);
- 5) North American natural gas resource supply limitations and competition for supply, caused in large part by major pipelines being completed from NW Canada to the US Midwest.

Hydropower is the largest single source of our existing electrical power, with the county's major electric resources located outside King County. These include the Grand Coulee, North Bonneville and Ross

Dams. No new large dam sites are available in the region, making hydropower a very small part of projected new regional power-generating resources.

Existing hydropower facilities in King County include Snoqualmie Falls, Cedar Falls, Twin Falls, Weeks Falls, and Black Creek. Proposed projects include expansion of Snoqualmie Falls and new facilities at South Fork Tolt River, Hancock Creek and Calligan Creek (both are tributaries of the North Fork Snoqualmie), the Upper South Fork Snoqualmie and Martin Creek near Stevens Pass. Few if any additional projects beyond these listed are expected to be built in King County, and some of those listed above, although licensed, may not be built.

The Federal Energy Regulatory Commission licenses such projects, but in doing so must consider existing plans and policies of public and private jurisdictions. While power generation benefits the public, care must be taken to ensure that small hydroelectric projects are constructed in an environmentally sound manner, directing new, small hydropower facilities, for example, to streams that do not have anadromous fish. Construction and operation must also be consistent with the intended functions and uses of forestlands, where most small hydroelectric projects are located.

The Northwest Power and Conservation Council's (NWPPCC) recommended Plan for the next 20 years consists largely of using aggressive conservation as a resource, supplemented with wind power, a small amount of coal, and an even smaller amount of natural gas-fired generation, in combustion turbines. Notably, cogeneration (employed at two King County wastewater treatment facilities) also figures in the mix, albeit contributing a relatively small amount of the region's total energy. No significant addition of hydropower resources is projected.

Electrical utilities supplying King County are required by Washington State law to plan for their electric power resources in an integrated resource planning process very similar to the process that the NWPPCC used for its 6th Power Plan. County suppliers Puget Sound Energy, Seattle City Light and Snohomish County Public Utility District are required by state law to regularly assess their power needs, supply strategies and impacts using Integrated Resource Plans (IRPs). The passage of the I-937 renewable resource portfolio standard has increased the demand (and attendant value of) qualified renewable resources.

F-324 To address the cumulative effects of multiple energy facilities, King County should continue to participate in the state and federal processes for licensing, authorizing or certifying, and any such renewals, of existing and proposed power generation projects within King County. King County's review of individual projects in the state and federal processes should consider

consistency with designated land uses and environmental protection goals.

Specifically, power generation projects should:

- a. Have climate change impacts considered and mitigated to the greatest extent practical;
- b. Be consistent with, and preferably directly incorporated in, utility integrated Resource Plans;
- c. Use renewable resources to the greatest extent practical;
- d. Include public engagement;
- e. Not significantly interfere with commercial forestry operations;
- f. Be located and operated in a manner such that impacts to salmonid fish and wildlife are minimized;
- g. Avoid unstable and erosion-prone areas;
- h. Include performance bonding to fund erosion control;
- i. Provide full mitigation for construction and operation impacts;
- j. Avoid, to the extent practicable, diminishing scenic values; and
- k. Incorporate adequate public safety measures.

F-325

King County and the utilities should identify and preserve corridors to accommodate future electric power transmission and distribution lines.

Corridor designation should include:

- a. Identification of appropriate shared uses and recognition of the values provided by nonutility uses, such as recreation;
- b. Recognition of county roads as utility corridors; and
- c. Evaluation of proposed facility plans on a system-wide basis, rather than project-by-project.

F-326

When new, expanded or upgraded transmission is required, use of existing corridors that have above-ground utilities should be evaluated first. King County should facilitate appropriate corridor sharing among different utility types and owners.

F-327

New electrical distribution lines should be installed underground where reasonably feasible and not a health or safety concern. The county should encourage underground placement of existing distribution lines through such tools as local improvement districts.

Public concern exists over the potential health effects of electrical power lines. The concern focuses on the effects of extremely low level electromagnetic fields, called ELF/EMF or simply EMF. Seattle-King County Department of Public Health currently responds to inquiries from citizens about EMF and keeps abreast of current research. The following policy recognizes the inconclusive nature of the data concerning EMF and the need to have an informed citizenry through public disclosure of available research about the potential health risks. Scientific evidence to-date does not support firm conclusions about the existence of adverse health effects related to EMF.

F-328 King County will monitor scientific research on potential human health effects of extremely low frequency electric and magnetic fields (EMF). If federal or state agencies promulgate rules to reduce exposure to EMF — through changes in the use of appliances, construction practices, the location of electrical infrastructure or other activities — the county shall inform its citizens and take appropriate actions.

4. Natural Gas

Generally, the most thermally efficient use of natural gas is in "direct applications." For example, to heat homes and businesses, the use of natural gas can reduce the demand for additional electricity. The choice of fuel shall be based on market conditions and the prudently weighted GHG impacts of using natural gas as compared with alternatives, with the customer comparing various fuels. Many homes and businesses in King County do not have the choice of natural gas, however, even within the Urban Growth Area.

Because of this, most multifamily housing is built with electric heat, a significant consideration given that they represent a large share of projected new housing units in urban King County.

King County has by far the largest resource of biologically produced methane in the region, from its wastewater treatment facilities and its solid waste landfills. The county is also developing pilot tests of farm animal waste digesters locally. King County should continue to develop and promote the development of biologically-derived sources of fuel gas and support the efficient marketing and use of such gas.

F-329 King County should work to remove barriers to the availability and efficient use of natural gas.

F-330 King County will provide leadership in and promotion of the use of biologically-sourced methane fuel gas to minimize climate change impacts, including that

from its own sources, as a substitute for fossil-sourced natural gas where practical.

5. Hazardous Liquid and Gas Transmission Pipelines

Hazardous liquid and gas transmission pipelines, as defined by RCW 81.88.040 and WAC 480-93-005, consecutively, provide a vital service of transporting hazardous materials from one location to another. Long-distance transmission pipelines move a variety of hazardous materials, including crude oil, petroleum products, natural gas and hazardous liquids, such as anhydrous ammonia. Pipeline rupture or failure can result in release of these materials, which are highly flammable, explosive or toxic. The policies in this chapter identify public values and goals to assure that the transmission of hazardous materials by pipeline address public health and safety.

The Federal Energy Regulatory Commission regulates the location, construction and operational conditions of interstate natural gas pipelines through its certification process. The state and federal government regulate the location, construction and operational conditions of hazardous liquid and intrastate gas pipelines through the Energy Facility Site Evaluation Council (EFSEC). In its review of pipeline applications, however, EFSEC must determine whether the pipelines are consistent with county land use plans and zoning codes. Thus, King County's authority to regulate the location of pipelines is through the comprehensive plan and development regulations.

F-331 King County recognizes that federal and state regulatory programs govern the design, construction, and operation of hazardous liquid and gas transmission pipelines. To preserve the safety and reliability of the hazardous liquid and gas transmission pipeline system, land use, zoning and regulations shall be consistent with state and federal requirements.

F-332 Any new hazardous liquid and gas transmission pipelines proposed for construction in King County shall meet the county's development regulations, including but not limited to, King County's zoning code, building code, grading code, and shoreline management code.

King County anticipates that few new hazardous liquid or gas transmission pipelines will be constructed in the near future. However, as existing pipelines age and the relationship between resources, refineries and markets changes over time, new pipelines will need to be constructed. Hazardous liquid and gas transmission pipelines are best constructed away from locations where large numbers of people assemble. King County recognizes however, that under some circumstances, new gas transmission

pipelines may need to locate in densely populated areas as the only practical alternative to meet the demand for service.

F-333 New hazardous liquid and gas transmission pipelines should be located away from high-density residential zones, Urban Activity and Business Centers, Office Parks, sports fields, schools and day care centers or other land uses where large numbers of people would assemble.

F-334 When new, expanded or upgraded hazardous liquid or gas transmission pipelines are required, use of existing corridors should be evaluated first. King County should facilitate appropriate corridor sharing among different utility types and owners.

F-335 Hazardous liquid and gas transmission pipelines should not be located in areas susceptible to soil disturbance or liquefaction or in aquifer recharge areas. When it is impractical to avoid such areas, special engineering precautions should be taken to protect public health, safety and welfare.

It is essential to map the location of existing hazardous liquid and gas transmission pipelines within King County so that developers know where they are and who to call for information before construction begins. Accurate maps will assist King County in reviewing land use applications for land uses located near pipelines.

F-336 King County should map the location of existing and new hazardous liquid and gas transmission pipelines. Maps shall not substitute the one-call locating system and shall not be used for any construction or maintenance activity.

Risks to life and property can be minimized by keeping land uses a safe distance from hazardous liquid and gas transmission pipelines. Pipelines transport a variety of materials, some of which flow under the force of gravity. While standard setbacks do not assure protection from materials that have the ability to migrate, setbacks may protect life and property from hazardous materials that are highly flammable, explosive or toxic. Limiting the allowable uses within pipeline rights-of-way can further reduce risks to life and property.

F-337 Structures designed for human occupancy shall not be located within hazardous liquid or gas transmission pipeline rights-of-way and should be set

back from the pipeline to protect public health, safety and property. No structures shall be located over the pipeline.

F-338 Land uses shall be restricted within hazardous liquid and gas transmission pipeline rights-of-way. Passive recreational uses, such as hiking trails, may be allowed if the risk to life and property is assessed and determined to be minimal.

Pipeline failure can result from damage caused by excavation near existing pipelines. Many existing pipelines initially were constructed in less-populated areas with little development. As demand for land grows, the risk of conflict between existing pipelines and land development increases.

F-339 King County should promote the safety and reliability of the hazardous liquid and natural gas transmission pipeline systems by requiring developers, contractors, and excavators to notify the state, pipeline operators and utilities through the one-number locator service, before beginning excavation or construction.

F-340 In the interest of safety and reliability of the hazardous liquid and natural gas interstate transmission pipeline systems, the county should take steps to protect and preserve the signs that mark pipelines.

6. Natural Gas Distribution Systems

Natural gas pipelines fall into two major categories: gas transmission lines that transport natural gas from production fields to local distribution companies and distribution systems that deliver natural gas from transmission pipelines to retail customers. The federal government may define certain parts of the natural gas distribution system that serve large volume gas users as part of the transmission system. Distribution systems for transporting natural gas are fundamentally different from transmission gas pipelines and should be regulated based on their design, use and location.

Gas distribution systems are owned and operated by local distribution utilities. Such systems consist of the pipelines that deliver natural gas to end users together with intermediate supply lines. The distribution system is constructed incrementally, with addition of new segments and upgrading of existing lines in numerous small projects. The distribution system is a network that is primarily located in road rights-of-way, where service is available. Local distribution companies are subject to the comprehensive safety regulations administered by the Washington Utilities and Transportation Commission (WUTC) under state

law and regulations and by the federal Office of Pipeline Safety under federal law and regulations. The rates and services of investor-owned utilities also are subject to comprehensive regulation by the WUTC under state law and regulations.

F-341 King County recognizes that the gas distribution system is primarily located in road rights-of-way.

F-342 In the interest of safety and reliability of the natural gas distribution pipeline systems, the county should take steps to protect and preserve the signs that mark pipelines.

F-343 Structures designed for human occupancy shall not be located within gas distribution pipeline rights-of-way and should be set back from the pipeline to protect public health, safety and property. No structures shall be located over the pipeline.

F-344 Permit requirements shall require excavators to ensure adequate protection of any facilities that are encountered during their work. This shall include but not be limited to adhering to the foreign facility owners requirements for separation and backfill, developing joint plans when drilling or boring parallel to foreign facilities, and potholing all facilities that will be crossed by drilling or boring.

King County's economy and quality of life depend on readily available, inexpensive and clean energy and telecommunications resources. Energy and electronic communications systems provide important public services and their implementation must be coordinated with land use planning. The sustainable development and efficient use of energy resources can ensure their continued availability while minimizing long-term costs and impacts to the individual, society, and the shared environment.

Various local, state and federal agencies regulate retail energy providers in King County. Gas and electric utility resource and conservation plans are approved by the utilities and other agencies through a public process. The Washington Utilities and Transportation Commission (UTC) reviews and accepts plans of investor-owned electric and gas utilities, and the Seattle City Council approves the plans of Seattle City Light. Electric and gas utilities operate in King County under franchises with the county for use of the public right-of-way. The UTC also defines the costs that investor-owned utilities can recover, approves rates, sets service standards and resolves customer complaints.

B. Telecommunications

1. Telecommunications

Telecommunication technologies are changing rapidly and will continue to change during the horizon of this plan. The future telecommunication system may make little distinction between cable, telephone and cellular. Telecommunication services include voice, data, video and other communication services on various mediums including, but not limited to, wire, fiber optic or radio wave. Effective telecommunications services are critical to citizens in several ways. They promote and enhance individual information exchange, contribute to a robust regional economy, and afford numerous public services, including delivery of emergency services, education and opportunities for citizen involvement.

- F-345** **Telecommunication services are to be encouraged as a means to mitigate the transportation impact of development and growth, including GHG emissions.**
- F-346** **King County encourages the telecommunication service providers to engage in long-term planning for telecommunications construction, reconstruction and facility upgrades, including provisions to ensure that the system’s capacity, design and equipment will allow users to take advantage of innovative uses, services and technology.**
- F-347** **Telecommunication companies and the county should coordinate activities when facilities are being installed or road construction projects are scheduled.**
- F-348** **Long-term planning for telecommunications systems by the telecommunication service providers should allow uninterrupted service during natural disasters.**
- F-349** **Collocation of telecommunication facilities is encouraged to reduce the unnecessary proliferation of individual, single-user towers. Collocation shall be required unless an applicant can demonstrate to the satisfaction of the county that collocation on an existing tower is not feasible and not consistent with service quality and access.**
- F-350** **Although visual impacts are always an important consideration in the decision to approve or deny a proposal, King County shall give greater weight to the visual impacts of telecommunication facilities proposed to be located on residentially-zoned lands or in the Rural Area. In addition, the visual impacts of**

proposals for an individual tower with a single user shall be given greater weight than proposals to collocate facilities.

F-351 King County considers the placement of telecommunication facilities within street rights-of-way as the preferred alternative to the construction of facilities on private property. Regulatory standards shall require placement in street rights-of-way, especially within residential neighborhoods and Rural Areas, unless such a location is not feasible or not consistent with service quality and access.

2. Cable Services

King County Ordinance No. 10159 dictates current policy for cable services. It states in part:

“it is the County’s policy to promote the widespread availability of cable service and diverse information to County residents and to encourage the development of cable systems and cable technology as a means of communication between and among members of the public and public institutions.”

The county’s cable-related needs are expressed in the following policies:

F-352 Long-term planning for cable systems should include service to all areas of the county which meet the minimum density established in the cable company’s franchise agreement and the county’s Cable Television Ordinance.

F-353 Cable companies should provide services that meet the cable-related needs and interests of all segments of the community, taking into account the cost of meeting such needs and interests.

F-354 Cable companies should take affirmative steps to ensure that reasonable services are available regardless of income or the income of other people in the person’s neighborhood.

F-355 The goal of long-term cable planning should be a high-capacity, state-of-the-art system. Two-way capacity should be installed and activated. Cable systems should be interconnected to other communications systems. They should be designed to be "open"; that is, the systems should be usable by many, for a variety of purposes.

F-356 **Public uses of the cable system should be expanded as the system is upgraded.**

3. Internet Access

Rapidly changing technologies are providing opportunities for alternative work environments and lifestyles as more people transmit and receive information through the internet. Although there is a growing interest in the use of computer technologies, few new developments are including high-speed internet access lines or home cabling. King County encourages private partnering between developers, builders and communication providers to expand the opportunities for access to the internet.

F-357 **Developers should collaborate with major employers to create developments that facilitate and encourage telecommuting by installing high-speed internet lines during construction of the project.**

F-358 **Builders and architects should work with the telecommunication industry to design state-of-the art cable-ready homes and offices.**

Wireless internet connections, also referred to as “hotspots,” first conceived in 1993, now number over 300,000 nationally. A hotspot is a location (park, coffee shop, airport, office building. etc.) that offers Wi-Fi access. Hotspots allow the public to use laptop computers, Wi-Fi phones or other suitable portable devices to access the Internet. Ninety percent of the hotspots in the nation are free. Of the estimated 150 million laptops and 14 million personal digital assistants (PDAs) sold annually, most include Wi-Fi capability.

F-359 **King County encourages public and private organizations to create wireless internet connections where the public can access the Internet. This will create additional opportunities to reduce traffic, lower GHG emissions and enhance convenient information exchange.**