City of Albany, Oregon

Willamette Basin TMDL Implementation Plan

May 30, 2008

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BACKGROUND

The Oregon Department of Environmental Quality (DEQ) established a Total Maximum Daily Load (TMDL) for the Willamette Basin in an order signed on September 21, 2006. The TMDL requires designated agencies and municipalities to implement actions to improve water quality. The pollutants addressed in the 2006 Willamette Basin TMDL that specifically affect Albany are mercury, bacteria, and temperature. The TMDL requires Designated Management Agencies (DMAs) to implement the TMDL through both National Pollutant Discharge and Elimination System (NPDES) permitted and non-permitted programs.

Albany is required to comply with NPDES permits for discharge of wastewater and some stormwater discharges, and must develop strategies to reduce TMDL pollutants associated with these permitted discharges. The City operates a single wastewater treatment plant that releases treated effluent into the Willamette River at river mile 118.4 under an NPDES permit issued by DEQ. The City also has two sites that are covered under the NPDES 1200-Z stormwater permit. At this time, Albany does not have an NPDES permit for municipal stormwater management.

Under the TMDL, the City is also responsible for non-NPDES-permitted discharges to the Willamette River and tributaries within the City's jurisdictional boundaries. These discharges include municipal stormwater runoff, thermal warming within the city limits, and introduction of regulated pollutants by other means. The City of Albany is required to develop management strategies to reduce TMDL pollutant loads associated with these discharges.

LOCATION IN THE WATERSHED

The City of Albany occupies almost 17 square miles along the Willamette River from river mile 118.4 to 119.5 (see Figure 1). Albany falls into two sub-basins as defined by DEQ in the TMDL, the Upper Willamette and the Calapooia. The Calapooia River flows through the southwestern portion of the city and enters the Willamette River within the Albany city limits. Other waterbodies within the City's jurisdiction include the lower portions of Oak, Periwinkle, Cox, Burkhart, and Truax Creeks as well as Thornton Lake in North Albany. All of these smaller waterbodies are considered part of the Upper Willamette sub-basin for the purposes of this Plan. The streams and rivers within the city limits are receiving waters for stormwater runoff, with the exception of the Albany-Santiam Canal.

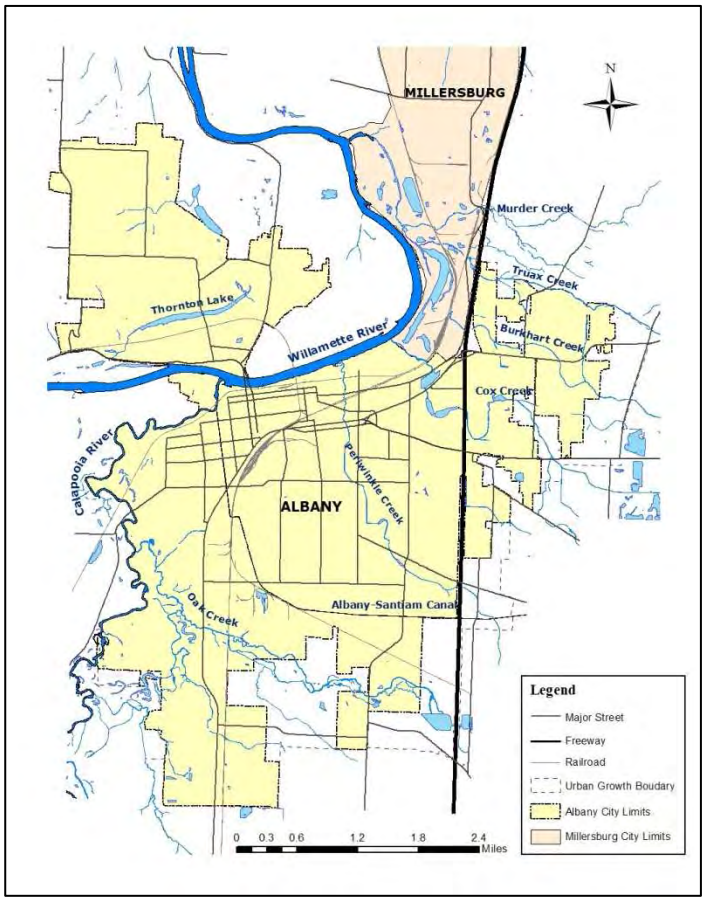

Figure 1. Map of Albany including local waterways.

The City oversees many activities that could potentially impact water quality in local streams. These activities include land use planning decisions, wastewater collection and treatment, street maintenance, utility maintenance, and parks maintenance

activities. Consequently, implementation of TMDL management strategies will require cooperation across City departments and functional groups.

Albany occupies portions of both Linn and Benton counties, which are also DMAs under the Willamette Basin TMDL. Building cooperative working relationships with both counties is one key to successfully implementing the TMDL requirements.

SCOPE AND SUMMARY OF TMDL IMPLEMENTATION PLAN

There are in essence two categories of three pollutants that Albany must address in order to comply with the TMDL. These categories are point source mercury, bacteria, and temperature and nonpoint source mercury, bacteria, and temperature. Point source (PS) discharges are generally defined as those that are carried by and emanate from a pipe or other similar structure. Nonpoint source (NPS) discharges are those that originate from diffuse areas with no well-defined source.

PS discharges are generally regulated by NPDES permits issued to the City by DEQ. Albany holds NPDES permits for discharge of treated wastewater effluent to the Willamette River, and for stormwater runoff at two regulated sites: the wastewater treatment plant and the municipal airport.

NPDES Permit #	Type	Location
102024	Wastewater	Albany WWTP
1200-Z	Stormwater	Albany WWTP
1200-Z	Stormwater	Albany Municipal Airport

Table 1. Summary of Albany's TMDL-related NPDES Permits.

NPS discharges are from diffuse sources that are not individually regulated or permitted. An example would be runoff from city parks that may contain bacteria from animal waste. Another example is Albany's Municipal Separate Storm Sewer System (MS4). The stormwater system consists of pipes, ditches and associated appurtenances in delineated drainage basins, but the City is not required to have an MS4 Stormwater NPDES permit. While nonpoint sources are not issued permits, the City works to reduce their negative effect on water quality by implementing Best Management Practices (BMPs) such as design requirements, community outreach programs, and other methods.

IMPLEMENTATION PLAN COMPONENTS

DEQ will include wasteload allocations for the TMDL pollutants in NPDES permits as they are renewed. The City contributes to the reduction of pollutants from these point sources by complying with the standards set by DEQ in the permit. Therefore, those activities currently covered by NPDES permits will not be described in detail in this TMDL Implementation Plan. Information related to permitted activities may be found by referencing the permit and associated reports submitted to DEQ in accordance with the respective permit requirements. This Plan will describe those activities related to pollutant reduction not currently covered by an NPDES permit, and will briefly describe changes to existing operations that result from new requirements under the TMDL.

Point Source Bacteria

The limitation on point source contribution of bacteria is included in the City's NPDES permit for the WWTP. The limit on bacteria in discharged effluent is not expected to change from the current requirements. The City plans to comply with the permit limit through routine operation of the WWTP. Similarly, the City will comply with the limit on bacteria in the 1200-Z permit for the WWTP site through routine operation of the WWTP and compliance with the Stormwater Pollution Control Plan submitted to DEQ for this site. Therefore management strategies to reduce point source bacteria are not specifically addressed in this Implementation Plan.

Point Source Mercury

In the 2006 Willamette Basin TMDL, point source mercury is treated differently than bacteria or temperature. DEQ intends to use this initial TMDL period to gather more data on mercury in the basin. DMAs are required to conduct additional sampling for mercury on a schedule that DEQ will provide. Additionally, the City is required to develop a mercury reduction manual using DEQ's requirements. The timeline and structure of the manual and the sampling program have yet to be established by DEQ, thus the implementation schedule for point source mercury will be different than the other TMDL requirements. DEQ will provide notification of any required timeline for mercury sampling and submittal of the City's mercury reduction manual. The City's management strategy matrix will be updated as necessary when these requirements are provided.

Point Source Temperature

Although the renewed NPDES permit with TMDL pollutant loading for the WWTP has not been issued by DEQ, the TMDL contains a target temperature WLA for the Albany WWTP. Compliance with the NPDES permit is of the utmost importance for the City. The City will work to meet the temperature WLA described in the TMDL through a combination of structural changes, reuse opportunities, and thermal credit trading opportunities. Design and implementation of projects intended to meet the City's permitted WLS for temperature will operate on a timescale independent from TMDL implementation. Information regarding these measures will be available through documentation required by the associated NPDES permit(s).

Nonpoint Source Bacteria

DEQ has established a TMDL for bacteria throughout the Willamette Basin. *Escherichia coli (E. coli)* is the bacterium that is monitored for compliance. *E. coli* is itself not a contaminant of importance but is an indicator of potential contamination by fecal coliform bacteria and other pathogens found in the waste of warm-blooded animals. These contaminants are a concern specifically for recreational use of the rivers and streams as they may cause infections of the eyes, ears, skin or gastrointestinal system of people who come in contact with them.

In the Calapooia and Upper Willamette sub-basins, the TMDL calls for an overall reduction in bacteria levels of 65%. The City of Albany is responsible for implementing management strategies to reduce bacteria levels in all rivers and streams within the city limits. This includes bacterial sources that are either publicly or privately owned, as well as bacteria in stormwater runoff from all property within the City. Implementation of the six stormwater control measures described below will help address bacteria that are closely associated with erosion and stormwater runoff. This section will primarily describe measures to address other nonpoint sources of bacteria.

Some sources of bacteria are regulated through NPDES permits. The City holds a NPDES permit for the wastewater treatment plant that places specific limits on bacteria levels in treated effluent. The City's NPDES 1200-Z stormwater permit for the wastewater treatment plant site also requires sampling for bacteria that may reach the river via stormwater runoff from the treatment plant site. Table 2 lists the potential sources of bacteria identified within the City, and the plan or permit that addresses each source.

Potential Source of *E. coli*	Plan / Permit
Treated wastewater effluent	NPDES wastewater permit
Untreated sewage from overflows or failure in the wastewater treatment plant or collection system	
Stormwater contaminated by *E. coli* at the wastewater treatment plant	NPDES 1200-Z permit
Untreated sewage or spills from private sanitary systems (septic tanks, private lines, etc)	TMDL Implementation Plan
Stormwater contaminated with *E. coli* from wildlife and pet sources	
Direct discharge of human or animal waste into surface water	
Stormwater contaminated with illicit discharge or dumping	

Table 2. Sources of bacteria and their control documents.

Onsite or private systems include septic systems and cesspools which are permitted through the respective county. The City's sewer use ordinance calls for connection to the public sanitary sewer when a sanitary sewer main is accessible for properties within city limits that have failing septic systems, have been declared a public health hazard, or are newly constructed.[1] Additionally, the City's surface water ordinance specifically prohibits the discharge of any pollutant (including bacteria) to waters of the State or the City's stormwater system.[2]

Implementation of management strategies to address bacteria from private systems will require a significant level of cooperation with the Environmental Health staff of Linn and Benton Counties because it is these agencies that have regulatory authority over privately owned sanitary systems. The City has adopted policies in support of the programs in place in both Linn and Benton Counties to minimize the contribution of bacteria in local waterways from private sanitary systems. The City's approach to dealing with private systems includes:

1. Identifying private systems. In 2007, Albany initiated an analysis to determine the approximate number of private sanitary systems within city limits. County records provided some data and city staff conducted a Geographic Information System (GIS) analysis to determine roughly how many parcels in Albany use a septic system. The resulting data serve as a starting point to more finely identify where private systems occur within the City.
2. Connection to public sewers. City ordinance requires private systems to be decommissioned and converted to City sanitary sewer connections in certain circumstances described above.
3. Education. In conjunction with County Environmental Health staff, the City will provide outreach and educational materials to private land owners within city limits who may contribute bacteria to our waterways. The outreach will include proper maintenance of private systems and legal information relating to private systems within the City.

The other nonpoint source of bacteria identified in the TMDL is that from pet and other animal waste. The City will address bacteria from animal waste by:

1. Educating the public. This includes outreach for the public in general as well as targeted outreach to individuals who have the potential to contribute bacteria to local waterways through ineffective manure management, improper handling of pet waste, and other means.
2. Pet waste stations. The City's Parks & Recreation Department has already installed pet waste stations in many Albany parks. One strategy is to increase the number of pet waste stations and optimize their locations.

[1] Albany Municipal Code 10.01.100
[2] Albany Municipal Code 12.10.010

3. Animal waste ordinance. City staff will research and, if necessary, revise the City's ordinance on animal waste and manure management.

Nonpoint Source Mercury

NPS mercury is primarily addressed by preventing the loss of sediment to rivers and lakes. Mercury that is naturally occurring and that which is deposited from atmospheric sources readily binds with soil particles. The most effective ways the City can reduce the addition of mercury to water from nonpoint sources are to implement effective erosion and sediment control measures and to protect and enhance riparian areas. NPS mercury control is addressed in this Plan through implementation of the six stormwater control measures discussed below.

Nonpoint Source Temperature

Radiant heating of local streams that have lost much of their natural riparian cover is one source of heat to the Willamette River system. DEQ has established a TMDL for temperature loading throughout the Willamette Basin. The water temperature standard is designed to be protective of the beneficial use in the basin related to fish and aquatic life. Native cold-habitat fish and other aquatic species are sensitive to stream temperature to varying degrees throughout their life cycle. To address exceedances of the temperature standard, DEQ requires a reduction in nonpoint source heat loads throughout the basin.

The Calapooia River and Upper Willamette Subbasins are on the 303(d) list as water quality limited for temperature for various life stages of native salmon and steelhead trout. The City has the potential to impact the temperature of the Upper Willamette River, the Calapooia River, Oak Creek, and other small streams within city limits by regulating modifications to the riparian areas of these waterbodies. Modification of the riparian area of the Willamette River itself as it flows through Albany probably will not significantly influence the temperature of the river; however any riparian buffer zones and floodplain management strategies that the City enacts would apply to the Willamette as well as smaller creeks and rivers in Albany.

Because heat load is relatively difficult to determine, the TMDL uses a surrogate measure for temperature reduction. The surrogate is effective shade which is used to translate solar radiation loads into streamside vegetation objectives[3]. Effective shade targets are established for each reach of a stream based on soil type and stream aspect. This means that, in general, effective shade targets are greater on the south and west banks of any particular stream than on the east or north banks.

DEQ has created graphs that describe the effective shade target for any stream in the basin based on the geomorphic unit, channel width, stream aspect, and vegetation type[4]. Using these graphs, individual stream reaches can be evaluated to determine the percent effective shade target and corresponding solar load allocation. DEQ requires DMAs to plant riparian vegetation that can reach the effective shade target within a time frame appropriate for the type and species of vegetation planted.

The City does not expect to receive a temperature load allocation for municipal stormwater discharge because DEQ states that stormwater runoff is not considered a major source of heat in the Willamette Basin[5]. Therefore, the management strategies adopted by the City in this Implementation Plan attempt to address an increase in heat load that is a result of loss or alteration of riparian vegetation only.

[3] September 2006 Willamette Basin TMDL, p. 4-73.
[4] September 2006 Willamette Basin TMDL, p. 10-37.
[5] September 2006 Willamette Basin TMDL, p. 4-30.

The City has some discussion of riparian habitat in its ordinances. Cluster development is an option in the Albany Development Code (ADC). Section 11.460 of the ADC requires 20% of the gross area of a cluster development to be set aside as a natural area. The first priority for land to set aside includes riparian areas. Proposed revisions of AMC Chapter 12 will include language to improve protection of riparian areas within the City. There are two reserved sections of the code that are applicable to riparian management: 12.60 Floodplain Preservation and Management and 12.70 Stream Buffers/Riparian Zone Protection. Activation of these sections, along with review of the existing code, will be discussed during the ordinance review process.

In addition to proposing revisions to AMC Chapter 12, the City has developed a management strategy to increase percent effective shade on both publicly and privately owned riparian areas. Percent effective shade is specific to individual stream reaches and relies on field measurements both before and after riparian management techniques have been enacted. The City's approach to increasing the percent effective shade on Albany's streams includes:

1. Determine the survey approach for Albany riparian areas
2. Conduct an assessment of current riparian conditions throughout the City
3. Prioritize stream reaches based on need for effective shade and potential to impact stream temperature
4. Conduct outreach to private land owners where effective shade is low
5. Develop a planting plan and budget for revegetation projects
6. Monitor plant survivability at two to three years after planting
7. Develop riparian reassessment plan for five to ten years after planting to measure changes in percent effective shade

Stormwater Control Measures

Depending on population size and density, municipal stormwater discharges may be regulated under the NPDES MS4 permit system. With some exceptions, cities with more than 100,000 residents are required to obtain a MS4 Phase I permit and smaller communities in a census-defined "urban area" must have a MS4 Phase II permit. The City of Albany has an MS4 stormwater system but has not been issued a Phase II permit. However, as one of the larger non-Phase II communities in the Willamette Basin, Albany is subject to special requirements defined in the TMDL.

The Willamette Basin TMDL specifically requires Albany to implement the six stormwater control measures similar to those required by MS4 Phase II permit holders.[6] The control measures are designed to reduce bacteria and mercury contamination of receiving waters. Specific requirements of each of the stormwater control measures are described in Attachment A.

The six control measures are:

1. Pollution prevention in municipal operations
2. Public education and outreach on stormwater impacts
3. Public involvement/participation
4. Illicit Discharge Detection and Elimination (IDDE)
5. Construction site stormwater runoff control
6. Post-construction stormwater management in new development and redevelopment

The City has already initiated some management strategies that directly relate to the six stormwater control measures. Others are more complicated and will require significant commitment from the Albany City Council and residents. Examples of related City programs and policies already underway include:

- A map of the City's stormwater system is maintained by City GIS staff and updated regularly

[6] September 2006 Willamette Basin TMDL, p. 14-22.

- Requirements for DEQ-issued NPDES 1200-C permits in accordance with state guidelines
- City grading permits required under the conditions listed in AMC 12.35
- Compliance with NPDES 1200-CA, DSL/USACE Section 404 Removal/Fill permits, and other state and federal permits related to water quality as applicable for City projects
- Open contact lines with citizens regarding ordinance or code violations through the City's main phone operator and website
- Compliance with NPDES 1200-Z stormwater permit bacteria sampling requirements at the Wastewater Treatment Plant

When the City is issued an NPDES MS4 Phase II stormwater permit, that permit will contain its own requirements and timelines. At that time the City may revise this TMDL Implementation Plan to separate MS4 Phase II permit requirements from the TMDL Implementation Plan requirements in a manner similar to all other NPDES permit requirements.

The City's approach to implementing the six stormwater control measures includes:

1. Revising the Albany Municipal Code Chapter 12 to address IDDE, construction site runoff and post-construction stormwater management and enforcement both for properties that are regulated under 1200-C permits and those that are not
2. Improving stormwater management strategies of municipal operations
3. Continuing public involvement and outreach activities
4. Developing procedures for more robust IDDE and erosion and sediment control programs
5. Revising the existing Stormwater Master Plan to include changes to the stormwater system and facilitate development of a stormwater System Development Charge (SDC)

MANAGEMENT STRATEGY MATRIX

The bulk of the City's Implementation Plan is found in the management strategy matrix located in Attachment B. This matrix was built to comply with OAR 340-042-0080.

The matrix lists the management strategies developed to meet pollutant load allocations, provides a timeline and resource estimate for each strategy, and includes interim goals as appropriate. Each management strategy has one or more interim goals that are intended to successfully implement the larger strategy. Sub-tasks and internal processes for each interim goal are not listed in the document, but will often include planning, budgeting and staff assignment. Those functions will be managed internally to meet the stated completion dates, and will be accomplished by budgeting of resources through the City's annual budget and Capital Improvement Program processes.

The matrix is designed to provide a clear summary to DEQ of the progress made toward each interim goal, and the corresponding management strategy, in the annual reports which will be due each year on the anniversary of the plan approval date from DEQ. In the annual reports, the City will highlight progress made on each interim goal by updating the "Status" column and providing any additional comments either in a text report or on the matrix itself. The annual reports will also highlight any new management strategies or interim goals the City develops either as part of adaptive management of the Implementation Plan or as a result of new or revised TMDL requirements from DEQ.

The City will complete a comprehensive review of TMDL Implementation activities and create a summary report every five years. The review will evaluate the effectiveness of this Implementation Plan in making progress toward the water quality goals of the TMDL. The review will provide the basis for revision of this Implementation Plan and will contribute to the adaptive management of TMDL-associated activities. The year five report will take the place of the annual report required for that year and will also

summarize the TMDL implementation results from the previous four years. This report will be due to DEQ five years from the DEQ plan approval date.

NPDES-permitted activities may operate on a separate schedule. NPDES permits are reviewed according to DEQ timetables which may or may not coincide with the scheduled review of the TMDL Implementation Plan. Any Adaptive Management strategies or other information associated with permitted activities may be found in the reports to DEQ associated with each of the NPDES permits.

PUBLIC INVOLVEMENT AND OUTREACH

The City is committed to an effective public involvement process. This Implementation Plan was presented to the Albany City Council on March 10, 2008. After approval from DEQ, it will be posted on the City's website and made available at the Albany Public Library, and copies will be provided to interested parties upon request. The Plan will be implemented as part of the annual capital and operating budget process, which are open to comment from the public. Comments from the public will recorded as input for the City's adaptive management of the TMDL Implementation Plan.

The Management Strategy Matrix references several items related to public involvement. Implementation of the six stormwater control measures in particular will require input from the City Council. The City will continue to follow all public meeting rules where applicable, including providing public notice for City Council meetings where TMDL-related policies or programs will be discussed.

Many outreach activities are currently underway and will continue throughout the period of this Plan including educational information for school children, adults, and specific focus groups. For more information, see the Management Strategy Matrix.

RESOURCES

While many of the management strategies identified by the City in this Implementation Plan can be accomplished with existing staff, the City will have to make some allocation for additional resources. The resources necessary for each management strategy are listed in Table 3. Resource requirements included in the matrix are estimates based on the City's current understanding of future tasks, requirements, staffing and funding levels. Because of this, the resource requirements for each step in the Action Plan will be more fully defined as the City moves forward. Significant changes to resource requirements will be identified in the annual and five-year progress reports to DEQ.

TMDL COMPLIANCE WITH LAND USE ACTIVITIES

The Albany Public Works Department has been coordinating their efforts with the City's Planning Division to ensure that the TMDL Implementation Plan is consistent with the City's land use policies and regulations. A general assessment of TMDL Implementation Plan compatibility with the Albany Comprehensive Plan (Comp Plan) per OAR 340-042-0080(3)(a) was conducted by a City of Albany long-range planner and is included below.

The majority of the TMDL Implementation Plan is not pertinent to land use regulations, such as data collection, program development, and education and outreach. This compliance review focuses on the following aspects of the TMDL Implementation Plan management strategies, which are deemed most relevant to land use:

- General water quality policies
- Stormwater management
- Protection of significant natural resources

Albany's Comprehensive Plan was acknowledged by the Land Conservation and Development Commission (LCDC) in 1982. The most recent version of the Comprehensive Plan is the result of a periodic review and update completed in 1989, as well as periodic review currently underway. Statewide Planning Goal 5 is one of the last tasks remaining to complete the City's periodic review work program, and those are the most applicable to the TMDL Implementation Plan.

Most of the activities listed in the TMDL Implementation Plan are not specifically discussed in the Comprehensive Plan; however they implement and support many of the general goals, policies, and implementation methods that relate to improving the quality of Albany's ground and surface waters. The following is a list of the Comprehensive Plan chapters and sections that are pertinent to the TMDL Implementation Plan (*Note: in some cases the entire section is directly relevant to the TMDL Implementation Plan, in other cases there are only a few policies or implementation measures that are directly relevant*):

- Chapter 1-Natural Resources-Vegetation and Wildlife Habitat includes:
    - Policy 1: *"Protect existing vegetation which possesses significant environmental, wildlife habitat, and aesthetic qualities, particularly along the Santiam Canal and the Willamette and Calapooia Rivers, their tributaries, and associated floodplains and drainageways.*"
    - Policy 4(a): *"Landscaping shall address the need to reduce water runoff and maintain soil stability."*
- Chapter 1-Natural Resources-Open Space Resources includes:
    - Implementation Measure 1: *"Apply the Open Space Comprehensive Plan and zoning designation to the following areas: Local lakes, canals, streams, drainageways, and associated floodways; areas designated as wetlands by the City; and important vegetation and wildlife habitat areas located in the flood fringe."*
- Chapter 1-Natural Resources-Water Quality includes policies and implementation methods that address the following goal:
    - Goal: *"Reduce water pollution in the Albany area and ensure that future land use activities enhance or at least maintain water quality."*
- Chapter 2-Special Areas-Willamette Greenway includes policies and implementation methods to address the following goal:
    - *"Protect, conserve, enhance, and maintain the natural, scenic, historic, economic, and recreational qualities of the Willamette River, its banks, and adjacent lands."*
- Chapter 2-Special Areas-Wetland Resources includes policies and implementation methods that address the following goal:
    - *"Protect wetlands to ensure their continued contribution as natural areas, open space, wildlife and vegetative habitat, and stormwater retention and conveyance."*
- Chapter 6-Public Facilities and Services-Storm Drainage includes policies and implementation methods to address the following goal:
    - *"Work toward the elimination of existing drainage problems and minimize future drainage problems within the Albany Urban Growth Boundary area."*

The TMDL Implementation Plan is consistent with the goals and policies in the City's Comprehensive Plan related to water quality and stormwater management. The Implementation Plan also includes some strategies and actions that are related to the Goal 5 task in the City's periodic review work program. When the work program is completed, it will result in amendments to the Comprehensive Plan and Albany Development Code to enhance protection of significant natural resources, including wetlands, riparian corridors, and wildlife habitat.

Attachment A

URBAN/RESIDENTIAL STORM WATER CONTROL MEASURES[7]

1. *Pollution Prevention in Municipal Operations*
    a. The DMA must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations; and
    b. Using training materials that are available from ODEQ, USEPA, or other organizations, the DMA's program must include employee training to prevent and reduce storm water pollution from activities including, but not limited to, park and open space maintenance, fleet and building maintenance, new municipal facility construction and related land disturbances, design and construction of street and storm drain systems, and storm water system maintenance.
2. *Public Education and Outreach on Storm Water Impacts*
    The DMA must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.
3. *Public Involvement/Participation*
    The DMA must at a minimum, comply with State, Tribal, and local public notice requirements when implementing a public involvement/participation program.
4. *Illicit Discharge Detection and Elimination*
    The DMA must:
    a. Develop, implement and enforce a program to detect and eliminate illicit discharges [as defined in 40 CFR §122.26(b)(2)] into the DMA's system;
    b. Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States and/or the State of Oregon that receive discharges from those outfalls;
    c. To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the DMA's storm sewer system and implement appropriate enforcement procedures and actions. Possible sanctions include non-monetary penalties (such a stop work orders), fines, bonding requirements, and/or permit denials for non-compliance.
    d. Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the DMA's system;
    e. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; and
    f. Address the following categories of non-storm water discharges or flows (illicit discharges) if the DMA identifies them as substantial contributors of pollutants to the DMA's system: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, de-chlorinated swimming pool discharges, and street wash water. Discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as substantial sources of pollutants to waters of the United States and the State of Oregon.
    g. The DMA must develop a process to respond to and document complaints relating to illicit discharges.
5. *Construction Site Storm Water Runoff Control*
    The DMA must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the DMA's system from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing

[7] September 2006 Willamette Basin TMDL, pp. 14-22 – 14-23.

less than one acre must be included in the DMA's program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. The DMA's program must include the development and implementation of, at a minimum:

a. An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;
b. Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
c. Requirements for construction site operators to prevent or control waste that may cause adverse impacts to water quality such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site;
d. Procedures for site plan review that incorporate measures to prevent or control potential water quality impacts;
e. Procedures for receipt and consideration of information submitted by the public; and
f. Procedures for site inspection and enforcement of control measures.

6. *Post-Construction Storm Water Management in New Development and Redevelopment*

The DMA must:

a. Develop, implement, and enforce a program to ensure reduction of pollutants in storm water runoff from new development and redevelopment projects that disturb one acre or more, or less than one acre if they are part of a larger common plan of development or sale, and discharge into the DMA's system. The DMA's program must ensure that controls are in place that would prevent or minimize water quality impacts.
b. Develop and implement strategies that include a combination of structural or non-structural BMPs appropriate for the DMA's community, and
    i. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;
    ii. Ensure adequate long-term operation and maintenance of BMPs; and
    iii. Ensure adequate enforcement of ordinance or alternative regulatory program.