



LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)

- ☐ Compatibility Review
- ☐ Lot Line Adjustment
- ☐ Non-Conforming Use Review
- ☐ Natural Resource (NROD) Verification
- ☐ Site Plan and Design Review
- ☐ Extension of Approval

Type II (OCMC 17.50.030.B)

- ☐ Detailed Development Review
- ☐ Geotechnical Hazards
- ☐ Minor Partition (<4 lots)
- ☐ Minor Site Plan & Design Review
- ☐ Non-Conforming Use Review
- ☐ Site Plan and Design Review
- ☐ Subdivision (4+ lots)
- ☐ Minor Variance
- ☐ Natural Resource (NROD) Review

Type III / IV (OCMC 17.50.030.C)

- ☐ Annexation
- ☐ Code Interpretation / Similar Use
- ☐ Concept Development Plan
- ☐ Conditional Use
- ☒ Comprehensive Plan Amendment (Text/Map)
- ☐ Detailed Development Plan
- ☐ Historic Review
- ☐ Municipal Code Amendment
- ☐ Variance
- ☐ Zone Change

File Number(s): _____

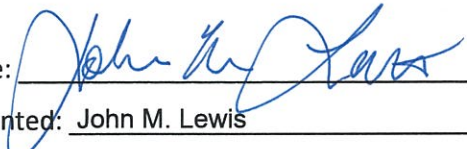
Proposed Land Use or Activity: Stormwater Master Plan Update

Project Name: Stormwater Master Plan Update Number of Lots Proposed (If Applicable): N/A

Physical Address of Site: N/A

Clackamas County Map and Tax Lot Number(s): N/A

Applicant(s):

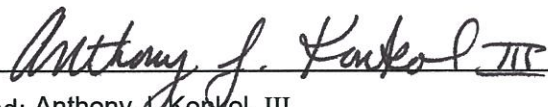
Applicant(s) Signature: 

Applicant(s) Name Printed: John M. Lewis Date: 1/31/2019

Mailing Address: 625 Center Street Oregon City, OR 97045

Phone: (503) 496-1545 Fax: N/A Email: jmlewis@orccity.org

Property Owner(s):

Property Owner(s) Signature: 

Property Owner(s) Name Printed: Anthony J. Konkol, III Date: 1/31/2019

Mailing Address: 625 Center Street Oregon City, OR 97045

Phone: (503) 657-0891 Fax: N/A Email: tkonkol@orccity.org

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: N/A Date: N/A

Mailing Address: N/A

Phone: N/A Fax: N/A Email: N/A

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

APPLICANT SUBMITTAL

FILE NO.: Adoption of a New Stormwater Master Plan and revised Stormwater and Grading Design Standards

APPLICANT: Oregon City Public Works Department
John Lewis, P.E., Public Works Director
Bob Balgos, P.E., Project Engineer
Josh Wheeler, P.E., Assistant City Engineer
625 Center Street, Oregon City, Oregon 97045

REPRESENTATIVE: Brown and Caldwell, Consulting Engineers
6500 SW Macadam Avenue, Suite 200, Portland, OR 97239

REQUEST: Update of the Stormwater Master Plan and Revised Stormwater and Grading Design Standards

LOCATION: City-wide.

Introduction

Stormwater management is a key element in maintaining and enhancing livability within the City of Oregon City (City). There is a direct link between stormwater runoff and the City's surface and ground water quality and quantity. As land is developed, creation of new impervious surfaces and loss of vegetation increases stormwater runoff during rainfall events, altering the natural hydrologic cycle. Without stormwater management, the increase in flows erodes stream channels and limits groundwater recharge. In addition, runoff that flows over roadways, parking areas, rooftops, and other impervious surfaces collects pollutants that are transported within the watershed to streams, rivers, and groundwater resources. Properly managing stormwater is vital to protecting our water resources for a great number of uses, including fish and wildlife habitat, recreation, and drinking water.

The City of Oregon City is seeking to adopt a new Stormwater Master Plan (SMP or Master Plan) to supersede all previously adopted city-wide and basin-specific drainage plans. The SMP identifies drainage system deficiencies and improvements necessary to address these deficiencies as capital improvements necessary to accommodate growth. The SMP will guide the City in planning for and expending funds allowing for orderly and efficient stormwater system improvements throughout the City and to the bounds of the urban growth boundary.

The City of Oregon City is also seeking to amend its 2015 Stormwater and Grading Design Standards (Design Standards). The Design Standards prescribe standards for the planning and design stormwater conveyance and management systems. As required by City Code, the Design Standards apply to the development of all public and private projects throughout the City.

The new SMP assumes that all future stormwater improvements will be developed consistent with the Design Standards.

The scope of the amendments to the Design Standards is limited to providing greater clarification and instruction to applicants in ways that is entirely consistent with the City's current implementation practices. No changes in applicable land uses prescribed by zoning regulations are proposed. Therefore, the Standards and the Master Plan do not allow any uses which are more intensive than currently allowed today. Rather, the update of the Plan and the Standards will allow the City to have plans and standards in place which will allow the City to manage present and future stormwater needs as development occurs.

Stormwater Master Plan

The City of Oregon City (City) developed the citywide Master Plan to guide stormwater-related priorities and capital improvement projects (CIPs) over the next 10 to 15 years.

The City is currently managing more than 174 miles of stormwater infrastructure, including significant areas of aging systems. At the same time, development rates and projections indicate that the stormwater system will require continued expansion to accommodate future growth. The City's previous Drainage Master Plan was completed in 1988 and is no longer relevant following nearly 30 years of development across the city. The City needs a proactive plan to address immediate capacity needs, replace aging infrastructure, and provide regional solutions to larger flooding and water quality challenges. The updated CIP list, adopted as part of the Master Plan, and selected programmatic approaches included in this Master Plan will facilitate a prioritization of the City's resources and support future resource and financial planning.

Examples of recommended Capital Improvement Projects from the CIP list are:

- John Adams Basin Capacity Improvements to alleviate flooding and replace aging infrastructure. The storm pipes in this basin are among the oldest in the City and well past their expected life.
- Rivercrest Neighborhood Infrastructure Improvements to address an insufficient storm drain system. Portions of the neighborhood currently conveys stormwater into the sanitary system.

- The Cove Water Quality Improvements to address water quality. Stormwater entering Clackamette Cove is primarily runoff from industrial, commercial and other land use that can generate high pollutant loads. The areas were developed prior to water quality requirements, so the discharge entering the cove is primarily untreated.
- Newall Canyon Outfall Assessment to evaluate the stormwater outfalls in the Newall Canyon area. This area has several locations where erosion, bank sloughing and landslides have occurred during and following storm events. The assessment will identify significant problem locations and concept plans will be developed to stabilize degrading systems

The Master Plan documents the means and methods used to evaluate the City's drainage infrastructure and natural systems. Results of the evaluations conducted provide the City with CIPs and programmatic stormwater actions for implementation. The study area for this Master Plan covers drainage areas to receiving water bodies including Abernethy Creek, the Clackamas River, Beaver Creek, and the Willamette River.

Upon approval, this Stormwater Master Plan shall be incorporated as ancillary to the Oregon City Comprehensive Plan.

Stormwater and Grading Design Standards

The City of Oregon City developed updated Stormwater and Grading Design Standards in 2015. These standards updated existing standards from 1999. The updated standards were created to change the methodology of stormwater requirements from peak flow modeling to flow duration modeling.

This revision of the 2015 Standards is to provide clarification to the existing standards where they have not been clear to staff and the development community. Examples of clarifications include:

- Replacing the Natural Resource notation from the abbreviation WQRA to the abbreviation NROD which is consistent with the references to natural resource areas in OCMC 17.49.
- More clearly define the exemptions from the stormwater requirements in 1.2.2 by providing further description and additional language.
- Changing the Checklist obligation to set forth a preliminary design checklist rather than a planning checklist to be in line with how engineers talk about this section of the standards.
- Clarify the stormwater management strategy hierarchy in Figure 2-2 that better explains how a designer should prioritize stormwater management options and alternatives.
- Explain how to use the BMP sizing tool for underground stormwater management.
- Change the minimum velocity requirements of storm sewers to be consistent with the Oregon Department of Transportation standards.

The City Commission has the ability to adopt revisions to these Standards as provided by OCMC 13.12.020.

The Standards also exist to keep the City in compliance with the National Pollution Discharge Elimination System Municipal Separate Storm and Sewer System (NPDES) MS-4 Permit which the City has been operating under since 1996.

Stormwater Master Plan Objectives

The goal of this Master Plan is to provide guidance in planning and designing stormwater conveyance and managing infrastructure to protect the natural and built environment for the next 10 to 15 years. The primary method for guidance is through a prioritized CIP list. This Master Plan is intended to be used in conjunction with both the City's National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit, and Stormwater Grading and Design Standards, which outline the City's stormwater quality and quantity related obligations and programs. The NPDES MS4 permit requires the City to implement a Stormwater Management Plan (SWMP1) that outlines programmatic water quality best management practices (BMPs) to reduce pollutants in urban stormwater discharges to receiving waters.

The City's Stormwater Grading and Design Standards require developers to address stormwater quality and quantity impacts associated with new development and redevelopment activities. In addition to addressing aging infrastructure, future growth, water quality, flooding, and capacity issues, the City values the natural systems and spaces available to the community. Protecting and maintaining a healthy environment is important to maintaining a livable and healthy city. This Master Plan was developed to support the City's healthy management of these resources, including natural channel and riparian areas, habitat, and water bodies with beneficial uses such as fishing and recreation.

Stormwater and Grading Design Standards Objectives

The goal of the update is to provide clarification and correct errors within the Standards.

Consistency with Oregon City Comprehensive Plan

The 2004 Oregon City Comprehensive Plan calls for the periodic review and updating of the Comprehensive Plan and contains criteria for approving changes to the comprehensive plan. See p 16. . Review of the comprehensive plan should consider:

1. *Plan implementation process.*
2. *Adequacy of the Plan to guide land use actions, including an examination of trends.*

3. *Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.*
4. *Addition of updated factual information including that made available to the City of regional, state and federal governmental agencies.*

1. *Plan implementation process.*

Finding – Stormwater Master Plan: The applicant, Oregon City Public Works Department, has presented the update for input by the Citizen Involvement Committee, engineering community, Planning Commission and City Commission in accordance with the recommended method described in the Comprehensive Plan and pursuant to the applicable process described in Oregon City Municipal Code section 17.50.170. The plan implementation process is consistent with the Comprehensive Plan.

Finding – Stormwater and Grading Design Standards: The applicant, Oregon City Public Works Department, has presented the update for input to the Development Stakeholders Group on May 9, 2019. The update was provided on the City's website during the months of February through May 2019. Local civil engineering consultants and developers were notified via email on February 5, 2019 and April 24, 2019. The standards were presented in a City Commission Work Session on May 7, 2019. The City Commission considered these standards for approval on July 17, 2019. These standards will also be presented before the Planning Commission in October 2019 prior to approval by the City Commission.

2. *Adequacy of the Plan to guide land use actions, including an examination of trends.*

Finding – Stormwater Master Plan: As an ancillary document to the Comprehensive Plan, the updated Master Plan provides an analysis of existing stormwater facilities and provides direction for future development, funding and needs. The plan provides a comprehensive review of the stormwater system and provides an adequate guide for future land use actions and the development of criteria to be utilized in development review.

The update includes updated construction cost estimates and contingencies for the planning and design of recommended stormwater system facilities for the City (See Appendix H).

Adoption of the document will assist with the guidance of land use actions and responds to new requirements for improved stormwater management as discussed above.

Finding – Stormwater and Grading Design Standards: The Standards created in 2015 were in response to the City's MS-4 Permit under the NPDES regulations. The Standards also moved to a Flow Duration model rather than Peak Stormwater Model to follow trends in climate as well as modeling trends in the

region. In 2015, Clackamas County's Department of Water Environment Services developed a BMP Sizing Tool for Flow Duration Stormwater Modeling. The City of Wilsonville and Oregon City adopted this tool and stormwater modeling method. That tool has or its regulations have not been changed with this 2019 Update of the Stormwater and Grading Design Standards.

The revised Standards also update the terminology of a Natural Resource Area from WQRA (Water Quality Resource Area) to NROD (Natural Resource Overlay District) to be consistent with City Code 17.49 as well as OCMC 13.12.

3. *Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.*

Finding – Stormwater Master Plan: As part of this effort, the consultant conducted technical analyses of the City's existing storm design standards. Since the manual is strictly an engineering document, any changes in demographic patterns and economics are reflected in the design requirements. For example, the stormwater design requirements for a dense multi-family development will differ from those for a low-density single-family residential lot. Adoption of the Stormwater and Grading Design Standards Manual will address necessary improvements to ensure the orderly review of stormwater, drainage and erosion control management to accommodate the projected growth envisioned in the City's Comprehensive Plan.

Finding – Stormwater and Grading Design Standards: As the Update to the Design Standards are for clarification and errors, not change in the actual technical standards, the Finding above for the Stormwater Master Plan also applies as a Finding to the Design Standards. With no structural changes in the Standards, the edits would not have any impact to demographic changes in the community.

4. *Addition of updated factual information including that made available to the City of regional, state and federal governmental agencies.*

Finding – Stormwater Master Plan: The consultant has included an analysis of the existing stormwater system based on available existing information provided by the City.

The projections of stormwater demand for existing and future service areas reflect updated population projections, recent comprehensive plan amendment areas (Park Place concept area and Beaver Creek Road concept area), and new regulatory requirements at the state and federal level.

The City of Oregon City maintains benchmarks for service quality that are used to measure performance of the stormwater utility. The service standards set forth in this master plan are derived from

regulations, rules, and recommendations established by a variety of sources including the Environmental Protection Agency (EPA).

The Master Plan includes updated criteria based on the direct requirements of the City's existing NPDES MS4 permit. The addition of this updated information will allow the City to keep the Stormwater Master Plan current.

Finding – Stormwater and Grading Design Standards: The 2015 Standards were created based on the direct requirements of the City's existing NPDES MS4 permit. The 2019 Update provides no technical changes, only clarification, and remain in line with the requirements of the MS4 permit.

"Ancillary Plans. – Page 15

Since 1982, several documents have been adopted as ancillary to the 1982 Comprehensive Plan: the *Public Facilities Plan* (1990), *Oregon City Transportation System Plan* (2001), *Oregon City Downtown Community Plan* (1999), *Oregon City Waterfront Master Plan* (2002), *City of Oregon City Water Master Plan* (2003), *City of Oregon City Sanitary Sewer Master Plan* (2003), *Drainage Master Plan* (1988, updated in 1999 as the *City of Oregon City Public Works Stormwater and Grading Design Standards*), *Caufield Basin Master Plan* (1997), *South End Basin Master Plan* (1997), *Molalla Avenue Boulevard and Bikeway Improvements Plan* (2001), the *Oregon City Park and Recreation Master Plan* (1999), and the *Oregon City Trails Master Plan* (2004)."

*Note that the references to the updated master plan documents, including the Stormwater Master Plan proposed here will be updated with the future revision to the Comprehensive Plan.

Goal 5.4 Natural Resources

Identify and seek strategies to conserve and restore Oregon City's natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.

Policy 5.4.1

Conserve and restore ecological structure, processes and functions within the city to closely approximate natural ecosystem structure, processes, and functions.

Finding – Stormwater Master Plan: Section 2 of the Master Plan identifies the natural systems within the City and describes the condition of these systems through assessments. Section 6 of the Master Plan outlines the assessments and field evaluations leading to capital project recommendations to address

hydromodification, stream stability, water quality and flooding. The recommended capital projects in the Master Plan assume application of the City's Stormwater and Grading Design Standards which sets forth the requirements as described briefly in the Finding below. As a result, the proposed Master Plan will help to protect and conserve existing natural areas consistent with this policy.

Finding – Stormwater and Grading Design Standards: The introduction of the Stormwater and Grading Design Standards states the goal of these standards is to provide local engineers, developers, builders, and City staff clear guidance in planning and designing stormwater conveyance and management systems that are appropriate to the local climate, hydrogeology, and geology. The General Thresholds in section 1.2.1 of the Standards requires development within a Natural Resource Overlay District (NROD) follow certain guidelines. These guidelines were established in the 2015 adopted standards and have not been changed as part of this revision. Therefore, these Standards will continue to protect and conserve existing natural areas.

Policy 5.4.8

Conserve natural resources that have significant functions and values related to flood protection, sediment and erosion control, water quality, groundwater recharge and discharge, education, vegetation and fish, and wildlife habitat.

Finding – Stormwater Master Plan: Section 2 of the Master Plan identifies the natural systems within the City and describes the condition of these systems through assessments. Section 6 of the Master Plan outlines the assessments and field evaluations leading to capital project recommendations to address hydromodification, stream stability, water quality and flooding. One recommended capital project for example is the Newell Canyon Outfall Assessment. The project will require further study to identify significant problem locations where erosion, bank sloughing and landslides have occurred during heavy storm events. The study will lead to a development of concept plans to stabilize the degrading systems. The recommended capital projects in the Master Plan is intended to apply the City's Stormwater and Grading Design Standards which sets forth the requirements as described briefly in the Finding below. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The introduction of the Stormwater and Grading Design Standards states the goal of these standards is to provide local engineers, developers, builders, and City staff clear guidance in planning and designing stormwater conveyance and management systems that are appropriate to the local climate, hydrogeology, and geology. The General Thresholds in section 1.2.1 of the Standards requires development within a Natural Resource Overlay District (NROD) should follow certain guidelines. The general design requirements establish water quality standards, stormwater management strategies, and LID Design criteria to protect the local environment. These guidelines were established in the 2015 adopted standards and have not been changed as part of this revision. Therefore, upon amendment, these Standards will remain consistent with this policy.

Policy 5.4.9

Protect and enhance riparian corridors along streams in Oregon City to increase shade, reduce streambank erosion and intrusion of sediments, and provide habitat for a variety of plants, animals, and fish.

Finding – Stormwater Master Plan: Section 2 of the Master Plan identifies the natural systems within the City and describes the condition of these systems through assessments. Section 6 of the Master Plan outlines the assessments and field evaluations leading to capital project recommendations to address hydromodification, stream stability, water quality and flooding. The recommended capital projects in the Master Plan is intended to apply the City’s Stormwater and Grading Design Standards which sets forth the requirements as described briefly in the Finding below. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The introduction of the Stormwater and Grading Design Standards states the goal of these standards is to provide local engineers, developers, builders, and City staff clear guidance in planning and designing stormwater conveyance and management systems that are appropriate to the local climate, hydrogeology, and geology. The General Thresholds in section 1.2.1 of the Standards requires development within a Natural Resource Overlay District (NROD) should follow certain guidelines. The general design requirements establish water quality standards, stormwater management strategies, and LID Design criteria to protect the local environment. Water Quality Requirements are also provided. These guidelines and requirements were established in the 2015 adopted standards and have not been changed as part of this revision. Therefore, upon amendment, these Standards will remain consistent with this policy.

Policy 5.4.12

Use a watershed-scale assessment when reviewing and planning for the potential effects from development, whether private or public, on water quality and quantity entering streams.

Finding – Stormwater Master Plan: Chapter 5 of Stormwater and Grading Design Standards address the requirements of a downstream analysis from development whether private or public. The Master Plan is intended to apply the City’s Stormwater and Grading Design Standards which sets forth the requirements as described in the Finding below. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The introduction of the Stormwater and Grading Design Standards states the goal of these standards is to provide local engineers, developers, builders, and City staff clear guidance in planning and designing stormwater conveyance and management systems that are appropriate to the local climate, hydrogeology, and geology. The general thresholds in section 1.2.1 provide direction on when the requirements apply to a project. The general design

requirements establish water quality standards, stormwater management strategies, and LID Design criteria to protect the local environment. Water Quality Requirements are also provided. A downstream analysis of existing systems is required these Standards. These guidelines and requirements were established in the 2015 adopted standards and have not been changed as part of this revision. Therefore, upon amendment, these Standards will remain consistent with this policy.

Policy 5.4.13

Adopt and/or establish standards for all new development that promote the use of pervious surfaces and prevent negative ecological effects of urban storm- water runoff on streams, creeks and rivers.

Finding – Stormwater Master Plan: Chapter 4 of Stormwater and Grading Design Standards describes the methods and criteria for selecting and designing stormwater management facilities including impervious area reduction techniques for all new development. The Master Plan is intended to apply the City’s Stormwater and Grading Design Standards which sets forth the requirements as described in the Finding below. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Standards provide a Stormwater Management Strategy Hierarchy which promotes the use of infiltration and Best Management Practice (BMP) solutions. This section of the Standards was revised to provide clarity and explanation to the existing adopted standards from 2015. The revision only provides clarity and does not add to or change the intent of the existing standards. Therefore, upon amendment, these Standards will remain consistent with this policy.

Policy 5.4.16

Protect surfacewater quality by:

- providing a vegetated corridor to separate protected water features from development
- maintaining or reducing stream temperatures with vegetative shading
- minimizing erosion and nutrient and pollutant loading into water
- providing infiltration and natural water purification by percolation through soil and vegetation

Finding – Stormwater Master Plan: Section 5 of the Master Plan describes water quality priorities, retrofit evaluations and the regulatory requirements of the NPDES MS4 Permit. The Master Plan identifies areas of water quality deficiencies within the City and provides recommended capital projects and the continuing use of programmatic actions. The Master Plan is intended to apply the City’s Stormwater and Grading Design Standards which outline the City’s stormwater quality and quantity related obligations and programs. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Standards provide a Stormwater Management Strategy Hierarchy which promotes the use of infiltration and Best Management Practice

(BMP) solutions. Note that the highest priority of the hierarchy is infiltration and the use of vegetated areas. Amendments are proposed for this section to provide clarity and explanation to the existing adopted standards from 2015. The revision only provides clarity and does not add to or change the intent or the City's practice of applying these existing standards. The Stormwater BMP Selection Guidance for Site Conditions Table 4-1 provides BMP solutions and alternatives. This table was not revised as part of this update. The Standards state a site must meet a specific water quality requirement that was adopted as part of the 2015 Standards. This revision does not change that requirement. The Standards provide a reference to the City of Oregon City Public Works Erosion and Sediment Control Standards. No change was made to this Standard as part of these revisions. Appendix A exists within the standards to provide guidance on facility plantings with plant lists and diagrams. This Appendix was revised for clarification and constructability and did not receive any structural changes, deletions or additions.

Goal 6.2 Water Quality

Control erosion and sedimentation associated with construction and development activities to protect water quality.

Policy 6.2.1

Prevent erosion and restrict the discharge of sediments into surface- and groundwater by requiring erosion prevention measures and sediment control practices.

Finding – Stormwater Master Plan: The Master Plan is intended to apply the City's Stormwater and Grading Design Standards. These standards provide a reference to the City of Oregon City Public Works Erosion and Sediment Control Standards in Chapter 7. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Standards provide a reference to the City of Oregon City Public Works Erosion and Sediment Control Standards in Chapter 7. No change was made to this Standard as part of these revisions. Therefore, upon amendment, these Standards will remain consistent with this policy.

Policy 6.2.2

Where feasible, use open, naturally vegetated drainage ways to reduce stormwater and improve water quality.

Finding – Stormwater Master Plan: Chapter 2 of Stormwater and Grading Design Standards describe the City's Stormwater Management Hierarchy Strategy whereas the highest priority is infiltration and use of vegetated areas. The Master Plan is intended to apply the City's Stormwater and Grading Design Standards which sets forth the requirements as described in the Finding below. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Standards provide a Stormwater Management Strategy Hierarchy which promotes the use of infiltration and Best Management Practice (BMP) solutions. This section of the Standards was revised to provide clarity and explanation to the existing adopted standards from 2015. The revision only provides clarity and does not add to or change the intent of the existing standards. The Stormwater BMP Selection Guidance for Site Conditions Table 4-1 provides BMP solutions and alternatives. This table was not revised as part of this update. Note that the highest priority of the hierarchy remains as infiltration and the use of vegetated areas.

Goal 11.1 Provision of Public Facilities

Comp Plan Goal 11.1 Provision of Public Facilities

Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.

Finding – Stormwater Master Plan: The Master Plan is necessary to maintain compliance with Statewide Planning Goal 11, Public Facilities. Goal 11 requires that public facilities and services be provided in a timely, orderly and efficient manner. The goal's central concept is that local governments should plan public services in accordance with the community's needs as a whole rather than be forced to respond to individual developments as they occur. This includes stormwater service. As shown in the findings below, the proposed update of the Stormwater Master Plan is consistent with Goal 11.1.

Finding – Stormwater and Grading Design Standards: The Design Standards were created to serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities. Public Facilities include, but are not limited to, stormwater detention, stormwater management areas, swales, ponds, storm sewers and appurtenances. These public facilities are designed by the technical standards found within the Stormwater and Grading Design Standards which were prepared to improve water quality, reduce flooding, convey stormwater to safe appropriate areas, prevent stagnation, and provide signage and fencing for education and safety where appropriate.

Comp Plan Policy 11.1.1

Ensure adequate public funding for the following public facilities and services, if feasible:

- *Stormwater management*

Finding – Stormwater Master Plan: The Master Plan includes a recommended Capital Improvement Program with a comprehensive and detailed discussion of cost estimates and options to assure that the existing and future stormwater facilities can be funded. The City will retain the financial consultant, FCS Group, to perform a stormwater utility rate and System Development Charge (SDC) analysis to determine if the current stormwater rates and SDCs need to be adjusted to finance the recommended

stormwater Capital Improvement Program. With respect to the maintenance and rehabilitation of the existing system, the plan includes a detailed Rehabilitation and Replacement Program.

Finding – Stormwater and Grading Design Standards: The technical design standards do not inherently use public funding; however, the facilities once built may become public facilities which are maintained by the public through Oregon City Public Works using funding as outlined through rates and system development charges related to the Stormwater Master Plan. In many cases, private development designs and constructs these facilities using private funding and after a two year maintenance period, the facilities become owned and maintained by the City.

Comp Plan Policy 11.1.2

Provide public facilities and services consistent with the goals, policies and implementing measures of the Comprehensive Plan, if feasible.

Finding – Stormwater Master Plan: As discussed in this staff report, the Master Plan provides guidance for the timely, efficient and economic provision of stormwater service within the existing city and to new development areas within the Urban Growth Boundary consistent with the relevant goals, policies and implementing measures of the Comprehensive Plan. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Stormwater and Grading Design Standards provide technical guidance to design and construct projects outlined in the Stormwater Master Plan. The Stormwater Master Plan is consistent with the policies and measures of the comprehensive plan; therefore, the Standards also are consistent with these policies by reference.

Comp Plan Policy 11.1.3

Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.

Finding – Stormwater Master Plan: Stormwater facilities are anticipated to be exclusively sited within city limits unless constrained by a unique or unanticipated situation.

Finding – Stormwater and Grading Design Standards: Stormwater and Grading Design Standards are only for use within the City Limits as stated within Chapter 1 of the Standards and as permitted through the City's MS4 permit.

Comp Plan Policy 11.1.4

Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.

Finding – Stormwater Master Plan: Chapter 7 of the Master Plan describes recommended Capital Improvement Projects for current and future needs to address water quality issues, capacity/flooding, asset management, and natural systems health. This analysis is based on future land use as shown on figure 2-6 and storm system capacity evaluation in Chapter 3. The analysis includes underdeveloped and vacant buildable land within the city and the urban growth boundary (See Figure ES-1). In most cases the extension of new stormwater services will occur in existing or planned public right-of-ways as part of development in accordance with applicable public works standards, land division laws and zoning regulations, including applicable environmental overlay district standards depending on where development occurs. The adopted city development code standards are sufficient to assure land use compatibility of proposed stormwater improvements are identified in the plan and are within the adopted land use categories in the City’s Comprehensive Plan. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Stormwater and Grading Design Standards provide technical guidance for the design and construction of stormwater and grading improvements on underdeveloped and vacant land. The General Thresholds as outlined in section 1.2.1 provide cases when the Standards apply. Section 1.2.2 provides Exemptions for when the Standards do not apply.

Comp Plan Policy 11.1.5

Design the extension or improvement of any major public facility and service to an area to complement other public facilities and services at uniform levels.

Finding – Stormwater Master Plan: The Master Plan is designed to meet system services standards for existing and future development within the UGB. The review of the system needs includes review of the following:

- 2. Study Area Characteristics
 - 2.1 Location
 - 2.2 Topography
 - 2.3 Soils
 - 2.4 Land Use
 - 2.5 Climate and Rainfall
 - 2.6 Natural Systems
 - 2.7 Stormwater Infrastructure System
 - 2.8 Recent Projects
 - 2.9 Stormwater Program Management

- 3. Storm System Capacity Evaluation
 - 3.1 Capacity Evaluation Approach
 - 3.2 Problem Area Identification
 - 3.3 Problem Area Classification
 - 3.4 Levels of Service
 - 3.5 Model Development Summary
 - 3.6 Model Results
 - 3.7 Capital Improvement Project Analysis
- 4. Storm System Condition Assessment
 - 4.1 Background
 - 4.2 System Assessment
 - 4.3 Repair and Replacement Program
- 5. Water Quality/Retrofit Assessment
 - 5.1 Water Quality Priorities
 - 5.2 Water Quality Treatment Overview
 - 5.3 Retrofit Evaluation
 - 5.4 Water Quality/Retrofit Recommendations

These analyses reflect typical stormwater system industry standards. The plan includes a detailed analysis of levels of service and existing and projected stormwater demand within the UGB based on the City's comprehensive plan. Pursuant to these requirements, stormwater facilities are typically required to be extended to a new development area at the same time as other public facilities such as sanitary sewer, domestic water, and emergency services. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Standards are established to provide consistent uniform requirements for stormwater and grading improvements which are either private or public facilities.

Comp Plan Policy 11.1.7

Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary.

Finding – Stormwater Master Plan: The plan includes a detailed Capital Improvements Program. The plan includes prioritization of capital improvement projects (CIPs) to serve capacity issues, environmental benefits and benefits to the stormwater system, although the exact timing of these improvements is currently unknown. The plan also provides a discussion of the factors that will affect the timing of the rehabilitation and replacement program for existing facilities. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: The Design Standards do not relate to Capital Improvement Plans; therefore, Comp Plan Policy 11.1.7 does not apply.

Goal 11.4 Stormwater Management

Comp Plan Goal 11.4 Stormwater Management

Seek the most efficient and economical means available for constructing, operating, and maintaining the City's stormwater management system while protecting the environment and meeting regional, state, and federal standards for protection and restoration of water resources and fish and wildlife habitat.

Finding – Stormwater Master Plan: A stormwater utility rate study and SDC analysis will be performed by the financial consultant to determine the most efficient and economic means to fund the Capital Improvement Program and the Repair and Replacement Program. The goal's central concept is that local governments should plan public services in accordance with the community's needs as a whole rather than be forced to respond to individual developments as they occur. As described in Section 5, the plan addresses meeting the regulatory requirements for protection of the fish and wildlife habitat by the implementation of the City's Stormwater and Grading Design Standards as described in the Finding below. The city is covered by an MS4 NPDES permit for stormwater discharges where evaluation is included to review the water quality treatment facilities across the city. The Oregon Department of Environmental Quality is required to conduct a water quality assessment of the state's water bodies every two years as part of the water quality standards program.

Finding – Stormwater and Grading Design Standards: Adoption of the Revised Stormwater and Grading Design Standards do not change what was approved in 2015 which ensured efficient and economical means available for constructing, operating, and maintaining the City's stormwater management system while protecting the environment and meeting regional, state, and federal standards for protection and restoration of water resources and fish and wildlife habitat. Design standards exist to guide developers and engineers how to provide stormwater management, conveyance, and grading. Design standards provide the technical guidance to design projects within a master plan or which are required based on thresholds directed by OCMC 13.12. The Design Standards provide the technical standards that do not change the degree by which the requirements are needed compared to the existing 2015 Stormwater and Grading Design Standards which precede this revision. Protection of properties, resources, and other items that are regulated by the Stormwater and Grading Design Standards do not reduce the protections to these systems in any way compared to the 2015 Standards that are currently adopted.

Comp Plan Policy 11.4.1

Plan, operate, and maintain the stormwater management system for all current and anticipated city residents within Oregon City's existing Urban Growth Boundary and plan strategically for future expansion areas.

Finding – Stormwater Master Plan: The purpose of updating the Master Plan is to assure that all current and anticipated city residents within the Urban Growth Boundary can receive a dependable and high-quality stormwater system as the city continues to develop. This includes maintenance, and where needed, upgrading the existing system as well as serving future expansion areas. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: Adoption of the Revised Stormwater and Grading Design Standards do not change what was approved in 2015 which explains in Chapter 8 how a Stormwater Management Facility is to be operated and maintained as referenced on OCMC 13.12.

Comp Plan Policy 11.4.2

Adopt "green streets" standards to reduce the amount of impervious surface and increase the use of bioswales for stormwater retention where practicable.

Finding – Stormwater Master Plan: As described in Section 5, implementing a green streets retrofit program for areas in need of additional treatment and opportunistically implementing along with roadway improvements by replacing landscape strips with stormwater planters to provide treatment for existing roadways and residential areas. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: Adoption of the Revised Stormwater and Grading Design Standards do not change what was approved in 2015 which describe site assessment and planning for stormwater management facilities which includes 'green' standards such as infiltration or bioswales and has a requirement for LID improvements (low impact development). The Design Standards do not specifically address 'green streets', only 'green' standards.

Comp Plan Policy 11.4.3

Ensure parking lot designs that mitigate stormwater impacts. Take measures to reduce waterflow and increase water absorption through the use of bioswales, vegetated landscaped islands with curb cuts to allow water inflow, and tree planting.

Finding – Stormwater Master Plan: Chapter 2 in the City's Stormwater and Grading Design Standards address site planning design objectives to reduce the impact of stormwater runoff from development including parking areas. Tables A-1 to A-3 in Appendix A from the Design Standards provide tree planting options through the use of stormwater planters, rain gardens and swales in parking areas.

Finding – Stormwater and Grading Design Standards: As described in the Finding above, the 2015 standards as well as the 2019 Update provide options for “LID Facilities”. Adoption of the Revised Stormwater and Grading Design Standards do not change what was approved in 2015.

Comp Plan Policy 11.4.4

Maintain existing drainageways in a natural state for maximum water quality, water resource preservation, and aesthetic benefits.

Finding – Stormwater Master Plan: The Master Plan is intended to apply the City’s Stormwater and Grading Design Standards which outline the City’s stormwater quality and quantity related obligations and programs to provide a comprehensive review of the City based on current Design Standards to determine system deficiencies. One of the purposes of the Stormwater and Grading Design Standards is to minimize the introduction of pollutants and provide water quality treatment of stormwater runoff to preserve the beneficial uses of drainageways, lakes, ponds, wetlands, and other sensitive areas; however, the Master Plan does not further restrict or more fully allow any changes to the environment and infrastructure. It only addresses existing deficiencies based on the Stormwater and Grading Design Standards. Another purpose is to maintain the pre-development stormwater runoff characteristics to minimize effects on the drainageways such as sediment transport, erosion, and degradation generally associated with urbanization, through the use of Low Impact Development (LID) facilities and/or flow controls to address hydromodification. Projects are established by the Master Plan which were determined by an analysis of the City based on the Stormwater and Grading Design Standards. This project lists consists of capital projects like Scattering Canyon Stormwater Improvement and Coffee Creek Stream Restoration. The Scattering Canyon Project will enhance a current outfall and channel at the canyon to reduce erosion while addressing the lack of water quality and enhancing aesthetics. The Coffee Creek Project addresses flooding issues, the lack of water quality and providing stream stability to the existing drainageway.

Finding – Stormwater and Grading Design Standards: Adoption of the Revised Stormwater and Grading Design Standards do not change what was approved in 2015 which requires maintaining of existing drainageways, easements, water resource preservation, and water quality on conjunction with OCMC 13.12 and OCMC 17.49 . Chapter 3 refers to OCMC 17.49 and Chapter 5 refers to drainageways and easements while Chapter 8 refers to maintenance.

Comp Plan Policy 11.4.5

Design stormwater facilities to discharge surface water at pre-development rates and enhance stormwater quality in accordance with criteria in City of Oregon City Public Works Stormwater and Grading Design Standards.

Finding – Stormwater Master Plan : Part of the objective of the Master Plan is to design stormwater facilities in accordance with the criteria in City of Oregon City’s Stormwater and Grading Design

Standards. Chapter 4 in the Design Standards describes the methods and criteria for selecting and designing stormwater management facilities for projects. A flow control requirement when discharging surface water shall be designed so that the duration of peak flow rates from post-development conditions shall be less than or equal to the duration of peak flow rates from pre-development conditions for all peak flows between 42 percent of the 2-year peak flow rate up to the 10-year peak flow rate. Water quality facilities shall be designed to capture and treat 80 percent of the average annual runoff volume to the MEP with the goal of 70 percent total suspended solids removal.

Finding – Stormwater and Grading Design Standards: Adoption of the Revised Stormwater and Grading Design Standards do not change what was approved in 2015 which describes how stormwater facilities shall discharge surface water at pre-development rates and enhance stormwater quality. Stormwater Management requirements and exemptions are stated in Chapter 1.

Comp Plan Policy 11.4.6

Regularly review and update the above standards to reflect evolving stormwater management techniques, maintenance practices, and environmental compatibility.

Finding – Stormwater Master Plan: Stormwater Management Implementation Plan establishes an annual program to inspect and assess the condition of the City's infrastructure and set the City up with a greater understanding of the system and the areas in need of imminent repair and replacement. Along with the implementation plan, current and future regulations and design standards will aid in ensuring that new development and redevelopment do not exacerbate any existing problems or place new stresses on the current system. Chapter 8 in the Stormwater and Grading Design Standards describes the requirement to perform regular maintenance to all stormwater management facilities.

Finding – Stormwater and Grading Design Standards: This revision of the 2015 Standards is to provide clarification to the existing standards where they have not been clear to staff and the development community. OCMC 13.12 provides direction to the City Commission to adopt updated standards from time to time. The goal of the update is to provide clarification and correct any errors within the Standards.

Comp Plan Policy 11.4.7

Provide stormwater management services and monitor, report and evaluate success of the services consistent with the NPDES MS-4 permit requirements.

Finding – Stormwater Master Plan: Section 2 of the Master Plan describes the City's Stormwater Program Management services that includes maintenance and programmatic stormwater activities. Program implementation is documented annually in the City's NPDES MS4 permit annual report. The

evaluation of stormwater discharge is included to review the water quality treatment facilities across the city under the NPDES MS4 permit. The Oregon Department of Environmental Quality is required to conduct a water quality assessment of the state's water bodies every two years as part of the water quality standards program. The proposed Master Plan is consistent with this policy.

Finding – Stormwater and Grading Design Standards: See above Finding. The Design Standards themselves do not apply to Comp Plan Policy 11.4.7. The NPDES requirements of the MS4 permit is what makes the City required to follow this Comp Plan Policy.