

City of Newberg TMDL Implementation Matrix 2018-2022 (Update 11/28/2018)

| Best Management Practice           | Strategy                | Measureable Goal  | Performance Measure   | Expected Implementation Timeline |      |      |               |      |               | Pollutant |          |             |
|------------------------------------|-------------------------|---|---|----------------------------------|------|------|---------------|------|---------------|-----------|----------|-------------|
|                                    |                         |   |   | Ongoing                          | 2018 | 2019 | 2020          | 2021 | 2022          | Mercury   | Bacteria | Temperature |
| Measure No. 1 – Public Education   |                         |   |   |                                  |      |      |               |      |               |           |          |             |
| PE-1 Stormwater Education          | Website Education       | Provide stormwater information on the City’s website.                                   | Provide general stormwater information and website links to the annual TMDL Implementation Plan.  | Ongoing                          |      |      |               |      |               | X         | X        | X           |
|                                    | Citizen Group Education | Present stormwater information to interested citizen groups at local venues.            | Track number of presentations, presentation messages, and number of participants (if available).  | Ongoing                          |      |      |               |      |               | X         | X        | X           |
|                                    | Water Quality Report    | Provide stormwater education in the City’s annual Water Quality Report.                 | Provide website links to the annual Water Quality Report, and track stormwater messages included in the report.   | Ongoing                          |      |      |               |      |               | X         | X        | X           |
| PE-2 Watershed Education           | Public Signage          | Develop public infrastructure signage program.  | Develop public infrastructure signage program to determine sign locations and messaging.  |                                  |      |      | December 2020 |      |               | X         | X        | X           |
|                                    |                         | Provide signage at stream crossings or LIDA infrastructure facilities.                  | Track number of signs installed and associated messages.  |                                  |      |      |               |      | December 2022 | X         | X        | X           |
|                                    |                         | Mark 50 unmarked catch basins a year with “No Dumping, Drains to Stream” type language. | Track number of catch basins marked per year. Prepare GIS map showing coverage of locations that are permanently marked or marked with after-market plastic labels. | Ongoing                          |      |      |               |      |               | X         | X        | X           |
|                                    | Student Education       | Provide watershed education to students.  | Track number of presentations, presentation messages, and number of participants (if available).  | Ongoing                          |      |      |               |      |               | X         | X        | X           |
| Measure No. 2 – Public Involvement |                         |   |   |                                  |      |      |               |      |               |           |          |             |

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|  |   |   |   | Ongoing                          | 2018 | 2019                  | 2020 | 2021                  | 2022 | Mercury   | Bacteria | Temperature |
| PI-1 Stormwater Utility Fee  | Participate in Citizen Rate Review Committee (CRR) Meetings                         | Present stormwater funding needs to CRR.  | Document meeting attendance, adopted rates, and effective dates of rate changes.  | Ongoing                          |      | Fall 2019/Spring 2020 |      | Fall 2021/Spring 2022 |      | X         | X        | X           |
| PI-2 Public Participation in Stormwater Management                         | Provide Grant Funding for Water Quality Improvement or Watershed Awareness Projects | Provide a minimum of \$2,000 in a grant program to fund non-profit projects that fulfill goals of the TMDL plan.  | Track number of funded projects, amount disbursed per project, stream affected, and either the number of stream miles affected or the number of participants.                           | Ongoing                          |      |                       |      |                       |      | X         | X        | X           |
| PI-3 Public Participation in Reporting Stormwater Issues                   | Public Participation in Stormwater, Illicit Discharge, and Erosion Control Issues   | Provide methods for citizens to report concerns during and after business hours. Notify public of available reporting methods.  | Document methods and frequency of public notifications.   | Ongoing                          |      |                       |      |                       |      | X         | X        | X           |
|  |   | Respond to public concerns.   | Document number of stormwater, erosion control, and illicit discharge complaints reported by citizens and note resolutions.   | Ongoing                          |      |                       |      |                       |      | X         | X        | X           |
| PI-4 Public Participation in Determining Stormwater Educational Focus      | Determine Focus of Stormwater Educational Messages to the Public                    | Conduct a public survey to revise and refine educational messages related to stormwater and the TMDL Implementation Plan.   | Provide copy or link to survey and report results of the survey.  |                                  |      | June/July 2019        |      |                       |      | X         | X        | X           |
| <b>Measure No. 3 – Illicit Discharged Detection and Elimination (IDDE)</b> |   |   |   |                                  |      |                       |      |                       |      |           |          |             |
| ID-1 Train Staff to Implement IDDE Plan                                    | Train Staff in Illicit Discharge Investigation and Spill Response                   | Train new staff members in illicit discharge investigation and spill response. Provide training in some aspect of illicit discharge investigation and spill response every five years for all applicable staff. | Track type of training (webcast, class, certification, on-the-job, etc.), number of employees trained, and the training subject (maintenance, response, investigation, sampling, etc.). | Ongoing                          |      |                       |      |                       |      | X         | X        | X           |

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|                                    |   |  |   | Ongoing                          | 2018 | 2019                            | 2020 | 2021 | 2022  | Mercury   | Bacteria | Temperature |
| ID-2<br>Implement IDDE Plan        | Conduct Illicit Discharge Inspections           | Fieldscreen outfalls.  | Inventory type, size, and location of public and private outfalls. Map existing and new development outfall locations in GIS.   | Ongoing                          |      | December 2019 (Initial Mapping) |      |      | December 2022 (Complete mapping and ongoing for new development.) | X         | X        | X           |
|                                    |   | Investigate outfalls for illicit discharges.   | Document location, number and types of samples taken, date, cause, and resolution.  | Ongoing                          |      |                                 |      |      |   | X         | X        | X           |
|                                    | Respond to Illegal Dumps                        | Clean up illegal dumps.  | Track number of illegal dumps, citations issued, and resolution.  | Ongoing                          |      |                                 |      |      |   | X         | X        | X           |
|                                    | Respond to Illicit Discharges/Spills            | Fire Department spill response.  | Track date and cause of spills that occur. Document whether the spill reached the stormwater system or a stream and if water sampling was conducted. Document response resolution.  | Ongoing                          |      |                                 |      |      |   | X         | X        | X           |
|                                    |   | Public Works illicit discharge/spill response.   | Track date and cause of illicit discharges/spills that occur, identified illicit discharges from private wastewater laterals or from failing public infrastructure. Document whether the pollutant reached the stormwater system or a stream and if water sampling was conducted. Document response resolution. | Ongoing                          |      |                                 |      |      |   | X         | X        | X           |
|                                    |   | Provide spill response cards and spill response kits on municipal trucks and sweepers. | Track number of municipal trucks and sweepers with spill response cards and spill kits. Document the number of spill kits used annually in response to spills.  | Ongoing                          |      |                                 |      |      |   | X         | X        | X           |
| ID-3<br>Hazardous Waste Collection | Provide Opportunity for Residents to Dispose of | Offer free hazardous waste collection service twice per year to City residents.        | Track volume of waste received during collection events.  | Ongoing                          |      |                                 |      |      |   | X         | X        | X           |

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|   |   |   |   | Ongoing                          | 2018 | 2019 | 2020 | 2021 | 2022 | Mercury   | Bacteria | Temperature |
|   | Hazardous Waste   |   |   |                                  |      |      |      |      |      |           |          |             |
| ID-4 Drug Take-Back Collection                          | Provide Opportunity for Residents to Dispose of Unused Medication           | Offer free unused medication collection service to City residents.  | Track the volume of unused medication collected annually.   | Ongoing                          |      |      |      |      |      | X         | X        | X           |
| Measure 4 – Construction Site Stormwater Runoff Control |   |   |   |                                  |      |      |      |      |      |           |          |             |
| CS-1 Train Staff in Erosion and Sediment Control (ESC)  | Train Staff in Plan Review, Site Inspection, and Enforcement of ESC Program | Train new staff whose responsibilities include erosion and sediment control plan review and enforcement. Provide refresher training to all staff involved in ESC every three years. | Document number of staff trained and type of training (on-the-job training, certification, or recertification).   | Ongoing                          |      |      |      |      |      | X         | X        | X           |
| CS-2 Implement Erosion and Sediment Control Program     | Implement ESC Program   | Conduct ESC plan review.  | Document location and type (commercial, industrial, single-family residential, etc.) of all construction project plan reviews. Document which project obtained a DEQ 1200-C permit. Develop and send a notice letter to applicants on wet weather best management practices as weather conditions change. | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|   |   | Conduct site inspections at least once during active construction by trained or experienced staff.  | Provide number of erosion and sedimentation control inspections for each project. Document location and type (commercial, industrial, single-family residential, etc.) of construction project.   | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|   |   | Enforce ECS ordinances.   | Report number of warning letters or non-compliance citations by project and resolution.   | Ongoing                          |      |      |      |      |      | X         | X        | X           |
| Measure No. 5 – Post-Construction Runoff Control        |   |   |   |                                  |      |      |      |      |      |           |          |             |

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|  |   |  |  | Ongoing                          | 2018 | 2019                                     | 2020  | 2021 | 2022 | Mercury   | Bacteria | Temperature |
| DS-1 Develop Stormwater Management Program   | Update Stormwater Development Manuals and Standard Details      | Update stormwater design standards manual and standard drawings. Notify development community of proposed new requirements before adoption.    | Provide summary of changes and link to new design standards when adopted.  |                                  |      | December 2019 (Standard Drawing Updates) | December 2020 (Standard Manual Amendments)                  |      |      | X         | X        | X           |
| DS-2 Train Staff in Stormwater Management    | Train Staff in Stormwater Management                            | Provide training opportunities for staff in watershed and stormwater management.   | Track type of training (webcast, class, on-the-job, certification, etc.), number of employees trained, and the training subject (plan review, inspection, enforcement, etc.) | Ongoing                          |      |  |   |      |      | X         | X        | X           |
| DS-3 Implement Stormwater Management Program | Require Stormwater Management for Development and Redevelopment | Require stormwater plan submittals and conduct plan reviews.   | Document number of construction plan submittals, plan reviews, project type (commercial, institutional, residential, etc.), size, and location.                              | Ongoing                          |      |  |   |      |      | X         | X        | X           |
|  |   | Require stormwater management per the Stormwater Development Manuals and Standard Details.   | Document number and type (detention basin, flow dissipater, raingarden, filtration swale, etc.) of stormwater facilities required for each project.                          | Ongoing                          |      |  |   |      |      | X         | X        | X           |
|  |   | Conduct pre-construction conferences to inform contractors about stormwater requirements.  | Document number of pre-construction conferences, project type (commercial, institutional, residential, etc.), size, and location.  | Ongoing                          |      |  |   |      |      | X         | X        | X           |
|  | Improve Watershed Management                                    | Evaluate stormwater projects for treatment opportunities (new installations vs. existing infrastructure upgrades) i.e. Stormwater Master Plan. | Summarize hierarchy used for screening. Document location and number of sites reviewed, drainage area, and result of evaluation.   | May 2014, and Ongoing            |      |  | June 2020 (Re-evaluate Stormwater Master Plan project list) |      |      | X         | X        | X           |
|  |   | Implement stormwater projects for treatment opportunities (new installations vs. existing infrastructure upgrades)                             | Document number of projects including location, size, type (LIDA, traditional, etc.), and drainage area.   | May 2014, and Ongoing            |      |  | June 2020   |      |      | X         | X        | X           |

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|  |  |  |   | Ongoing                          | 2018          | 2019  | 2020      | 2021 | 2022          | Mercury   | Bacteria | Temperature |
|  |  | i.e. Stormwater Master Plan.   |   |                                  |               |   |           |      |               |           |          |             |
|  | Optimize Water Quality   | Inspect public stormwater facilities post-construction.                    | Conduct a post-construction stormwater facility transfer. Complete final inspection at end of the two-year maintenance agreement. Document facility in GIS/asset management program, obtain and file stormwater as-built drawings, and facility maintenance plan. | Ongoing                          |               |   |           |      |               | X         | X        | X           |
| Measure No. 6 – Pollution Prevention in Municipal Operations |  |  |   |                                  |               |   |           |      |               |           |          |             |
| OM-1 Operations and Maintenance (O&M) Manual                 | Update O&M Policies  | Review existing O&M practices.   | Document current procedures in an O&M manual.   |                                  | December 2018 |   |           |      |               | X         | X        | X           |
|  |  | Update O&M manual to optimize water quality.                               | Document modifications to manual.   |                                  |               |   |           |      | December 2022 | X         | X        | X           |
|  | Update Infrastructure Procedures   | Review and evaluate the need to update the catch basin cleaning program.   | Document current procedures and any modifications to optimize water quality.  |                                  |               | July 2019   |           |      |               | X         | X        | X           |
|  |  | Implement revised catch basin cleaning program.                            | Track progress.   | Ongoing                          |               |   |           |      |               | X         | X        | X           |
|  | Update Street Sweeping Procedures  | Review and evaluate the need to update the street sweeping program.        | Document current procedures and any modifications to optimize water quality   |                                  |               |   | July 2020 |      |               | X         | X        | X           |
|  |  | Implement revised street sweeping program.                                 | Track progress.   | Ongoing                          |               |   |           |      |               | X         | X        | X           |
| OM-2 Operations and Maintenance Training                     | Train staff in infrastructure and street sweeping procedures that optimize water quality | Train new staff in stormwater maintenance duties in O&M procedures manual. | Track type of training (webcast, class, certification, on-the-job, etc.), number of employees trained, and the training subject (inspections, maintenance, repair, construction, etc.)  | Ongoing                          |               |   |           |      |               | X         | X        | X           |
|  |  | Train all staff in revised O&M procedures manual every three years.        | Track type of training (webcast, class, certification, on-the-job, etc.), number of employees trained, and the training subject (inspections, maintenance, repair, construction, etc.)  |                                  |               | February 2019 (following manual completion, then every three years) |           |      | August 2022   | X         | X        | X           |

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|  |   |   |  | Ongoing                          | 2018 | 2019 | 2020 | 2021 | 2022 | Mercury   | Bacteria | Temperature |
| OM-3 Stormwater Infrastructure Maintenance | Maintain stormwater infrastructure                                  | Clean catch basins.                                     | Track number of catch basins cleaned per year.   | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|  |   | Place trash racks over major inlets.                    | Track number and percentage of major inlets installed with trash racks.  | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|  |   | Inspect, clean, repair, replace, and install stormline. | Track length of stormline inspected. Document length of stormline cleaned. Document length and location of stormline repaired or replaced. Track length, diameter and location of stormline installed.           | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|  |   | Inspect, repair, and replace culverts.                  | Document location of repaired and replaced culverts and reason for repair or replacement. For newly installed culverts, document new culvert size, material, and elevation from culvert bottom to stream bottom. | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|  |   | Inspect and repair public stormwater facilities.        | Document number of inspections, type of facility (detention basin, LIDA facilities, vegetated swale, etc.) and whether facilities were categorized as excellent, fair, or poor condition.                        | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|  |   | Sweep streets every 4-6 weeks.                          | Track curb miles swept and debris collected per curb mile each year. Document disposal method.   | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|  |   | Temperature   |  |                                  |      |      |      |      |      |           |          |             |
| T-1 Maintain Existing Stream Vegetation    | Use Municipal Code and other Measures to Maintain Stream Vegetation | Update Municipal Code that can affect stream health.    | Update ordinances that affect stream vegetation.   | Ongoing                          |      |      |      |      |      | X         | X        | X           |
|  |   | Update Stream Corridor Overlay.                         | Document changes to the Stream Corridor Overlay map and code based on wetland inventory and property annexation.   | Ongoing                          |      |      |      |      |      |           | X        | X           |

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|                              |  |   |  | Ongoing                          | 2018 | 2019      | 2020     | 2021 | 2022 | Mercury   | Bacteria | Temperature |
| T-2 Increase Effective Shade | Increase Shade along Streams within the City | Continue with established Trees for Streams Program. Provide incentives (free or reduce cost native plant materials) for citizens to plant trees, shrubs, and grasses along tributaries or streams within the City limits.  | Document watershed and number of native plant types (trees, shrubs, grasses) planted per year. | Ongoing                          |      |           |          |      |      | X         | X        | X           |
| T-3 Stream Assessment        | Assess Stream Health and Canopy Coverage     | Assess at least one stream mile annually for vegetative ground cover, stream channel configuration, and canopy coverage.  | Document results of assessment.  | Ongoing                          |      |           |          |      |      | X         | X        | X           |
|                              |  | Complete a wetland inventory that encompasses the Urban Reserve areas. Update wetland inventory when Department of Land Conservation and Development (DLCD) provides funding for City's comprehensive plan periodic review. | Track progress. Provide link to wetland inventory and map.                                     | Ongoing                          |      |           |          |      |      | X         | X        | X           |
|                              |  | Develop stream temperature monitoring program.  | Document procedures and identify locations for sampling.                                       |                                  |      | July 2019 |          |      |      | X         | X        | X           |
|                              |  | Implement stream temperature monitoring program.  | Document sampling locations, dates, and results.   | May 2020, and Ongoing            |      |           | May 2020 |      |      | X         | X        | X           |