

CITY OF LYNDEN

COMPREHENSIVE STORMWATER MANAGEMENT PLAN



NOVEMBER 2019

REICHHARDT & EBE ENGINEERING, INC. AND WELCH ECOLOGICAL SERVICES, LLC

CITY OF LYNDEN COMPREHENSIVE STORMWATER MANAGEMENT PLAN

November 2019



**Reichhardt & Ebe
ENGINEERING INC**

**Welch Ecological
Services, LLC**

Contents

| | |
|--|----|
| 1.0 Introduction | 5 |
| 2.0 Federal and State Regulations Pertaining to Stormwater | 5 |
| 2.1 NPDES Phase II | 5 |
| 2.2 Total Maximum Daily Load Studies (TMDLs) | 6 |
| 2.3 Endangered Species Act (ESA) | 6 |
| 2.4 Puget Sound Plan | 7 |
| 2.5 City of Lynden Regulations..... | 7 |
| 3.0 Study Area Physical Description..... | 7 |
| 3.1 Vicinity..... | 7 |
| 3.2 Drainage Basins..... | 9 |
| 3.3 Climate | 11 |
| 3.4 Soils | 11 |
| 4.0 Stormwater Service Area | 13 |
| 5.0 Stormwater Program Development..... | 13 |
| 5.1 NPDES Phase II Permit - Overview of Required Elements | 13 |
| 5.2 Lynden Municipal Code and Standards Revisions..... | 16 |
| 5.3 Local Coordination | 17 |
| 6.0 General Stormwater Issues..... | 17 |
| 6.1 Existing Drainage System Overview | 17 |
| 6.2 Operation, Maintenance and Ownership of Stormwater Facilities – Public and Private | 17 |
| 6.3 System Design Considerations and Retrofits | 18 |
| 6.3.1 Adjacent and Adjoining Jurisdictions | 18 |
| 6.3.2 Retrofits | 18 |
| 6.4 Low Impact Development Practices..... | 19 |
| 6.5 Groundwater Determination | 19 |
| 6.6 Fish Exclusion | 20 |
| 7.0 Stormwater Systems Analysis and Capital Improvement Plan | 20 |
| 7.1 Introduction | 20 |
| 7.2 Capital Improvement Projects | 21 |

7.2.1 SWO1 – B.C. Avenue 24

7.2.2 SWO2 – Cedar Drive..... 27

7.2.3 SWO3/SWO4 – Historic Business District Treatment and South Historic Business District
Tributary Conveyance 29

7.2.4 SWO5 – East Lynden Annexation..... 30

7.2.5 SWO6 - Lynden Industrial Stormwater Retrofit 31

7.2.6 SWO7 – Pepin Creek Phase 1 31

7.2.7 SWO8 – West Lynden Regional Facility 32

7.2.8 SWO9 - Woodcreek Neighborhood. 33

7.2.9 SWO10 – Low Impact Development from 7th to 10th Street and from Front to Judson Street 36

7.2.10 SWO11 – South Park & Parkview Drive 37

7.2.12 SWO12 – Groundwater Monitoring..... 37

7.2.13 SWO13 – Decant Facility at City Maintenance Shop 37

7.2.13a SWO13a – Material Storage at City Maintenance Shop..... 37

7.2.13b SWO13b – Vehicle Washing at City Maintenance Shop..... 37

7.2.13c SWO13c – Upgrade Storm Discharge at City Maintenance Shop Upgrade existing south
storm water discharge along southern access. 37

7.2.13d SWO13d- Runoff Treatment for City Shop North Parking Lot..... 37

8.0 Storm Water Utility Section 38

9.0 References Cited 38

Appendix A: Stormwater Capital Improvement Plan Exhibits 40