

**Gorst Creek Watershed Plan
City of Bremerton**

**Regional Context
Map G-1**

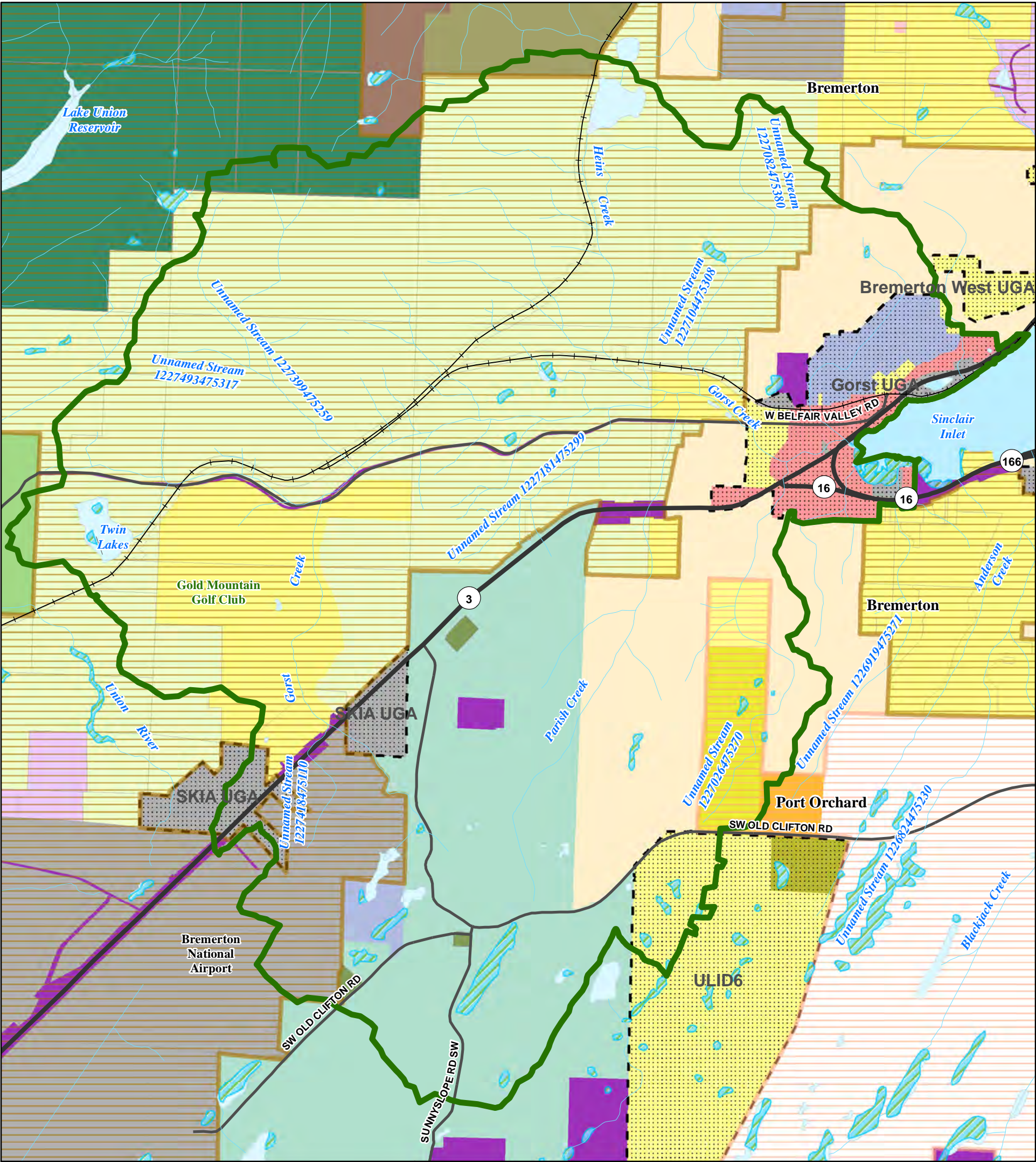


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation,

Legend

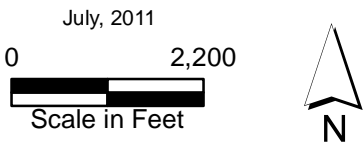
- Gorst Creek Watershed / Project Boundary
- County Boundary
- Water Resource Inventory Area (WRIA)
- City of Bremerton
- City of Port Orchard
- Railroad
- State Route
- Urban Growth Area
- Waterbody
- WRIA 15 Subbasins (Hydrologic Unit Code (HUC) Subbasin)
- Hood Canal
- Kitsap





Gorst Creek Watershed Plan
City of Bremerton

Land Use
Gorst Watershed Planning Area
Map LU-1

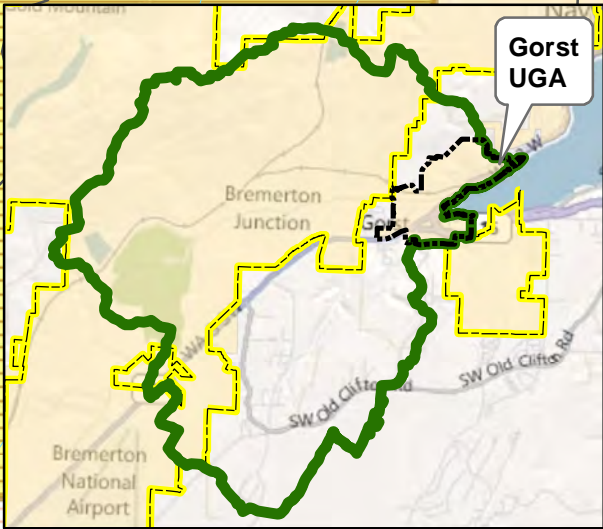
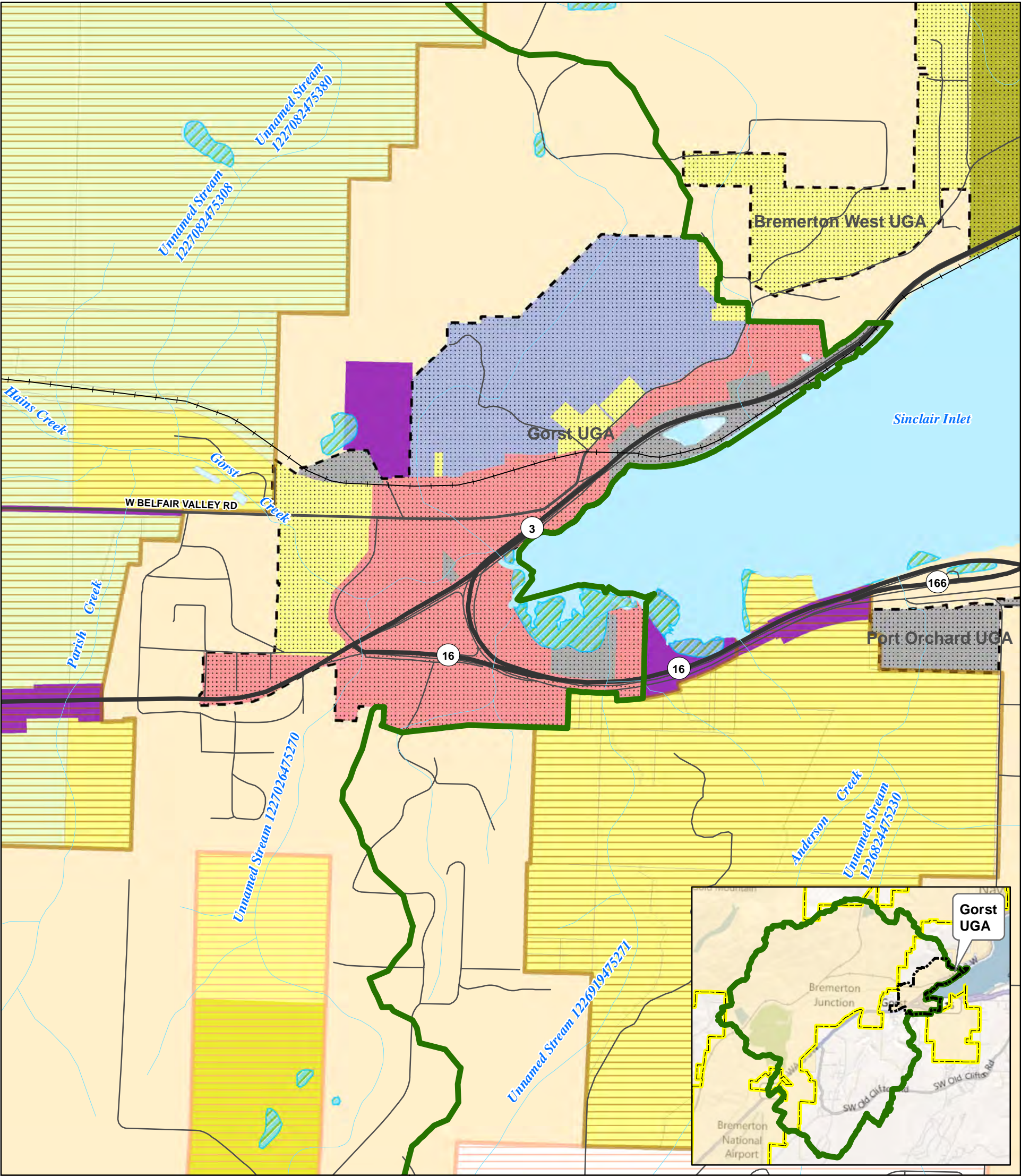


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI).



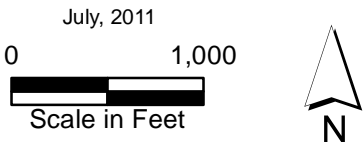
Legend

- Gorst Creek Watershed / Project Boundary
 - Urban Growth Area
 - City of Bremerton
 - City of Port Orchard
 - Road
 - Railroad
 - Stream
 - Wetland (WDFW/NWI)
 - Waterbody
 - City Parcel
 - Neighborhood Business
 - Freeway Corridor
 - Forest Resource Lands
 - Incorporated City
 - Industrial
 - Industrial Park
 - Mineral Resource
 - Rural Protection
 - Rural Residential
 - Rural Commercial
 - Rural Wooded
 - Urban Reserve
 - Watershed
 - City Utility Lands
 - Tranportation and Public Facilities
- Landuse (City and County)**
- Low Density Residential
 - Medium Density Residential
 - Medium/High Density Residential
 - High Density Residential
 - High Intensity Commercial Mixed Use



**Gorst Creek Watershed Plan
City of Bremerton**

**Land Use
Gorst UGA Planning Area
Map LU-2**



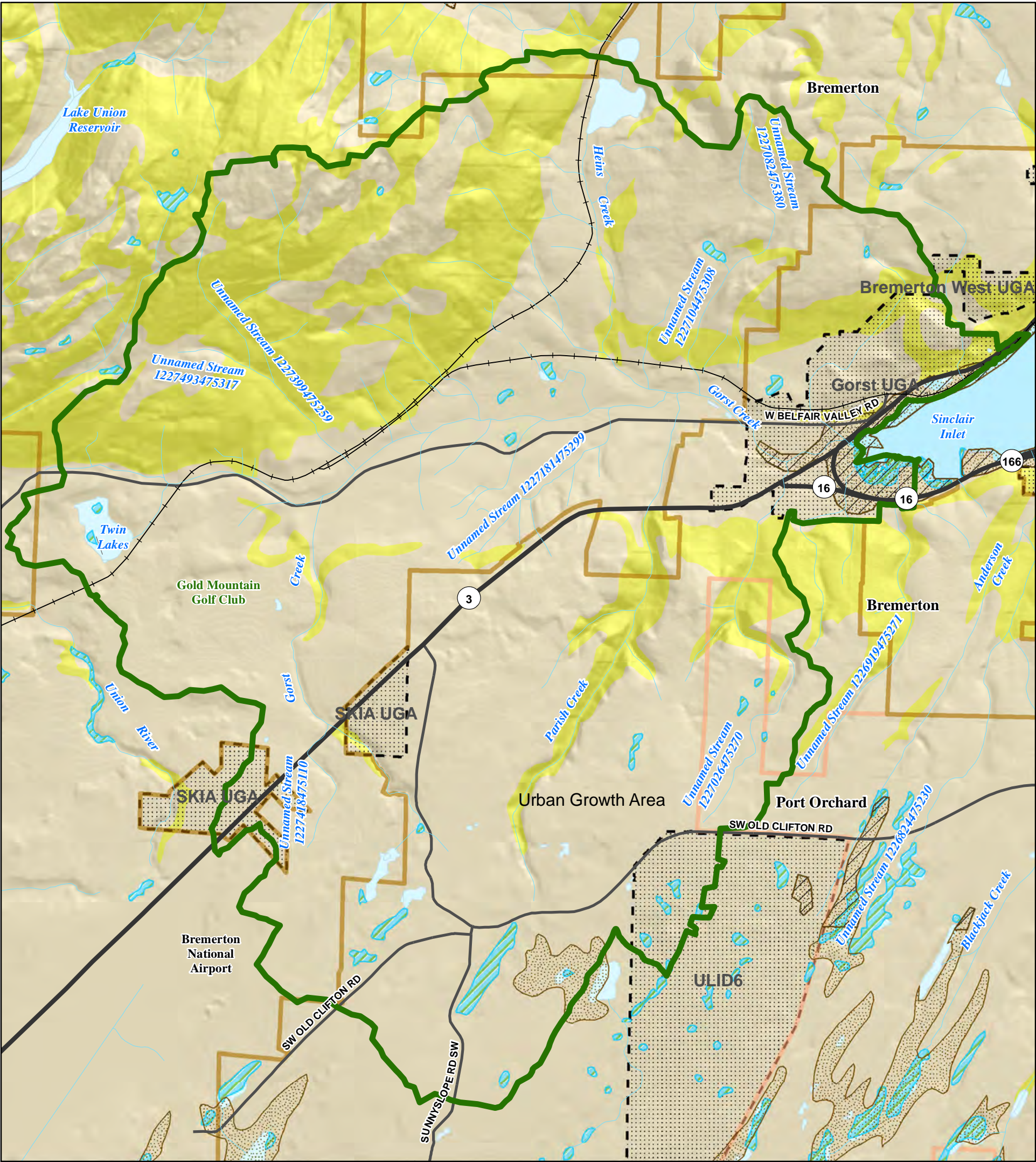
Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), Microsoft Virtual Earth.



Legend

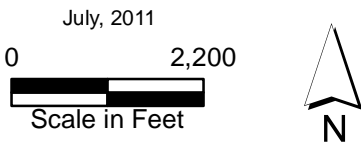
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- Road
- Railroad
- Stream
- Wetland (WDFW/NWI)
- Waterbody
- City Parcel

- Landuse (City and County)**
- Low Density Residential
 - Medium Density Residential
 - Medium/High Density Residential
 - High Intensity Commercial Mixed Use
 - Industrial
 - Mineral Resource
 - Urban Reserve
 - City Utility Lands
 - Tranportation and Public Facilities



**Gorst Creek Watershed Plan
City of Bremerton**

**Landslides and Seismic Hazard Areas
Map LU-3**



Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), United States Geological Survey (USGS).

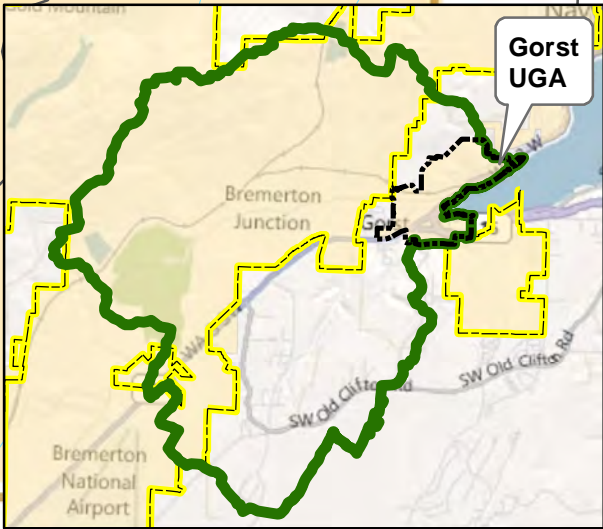
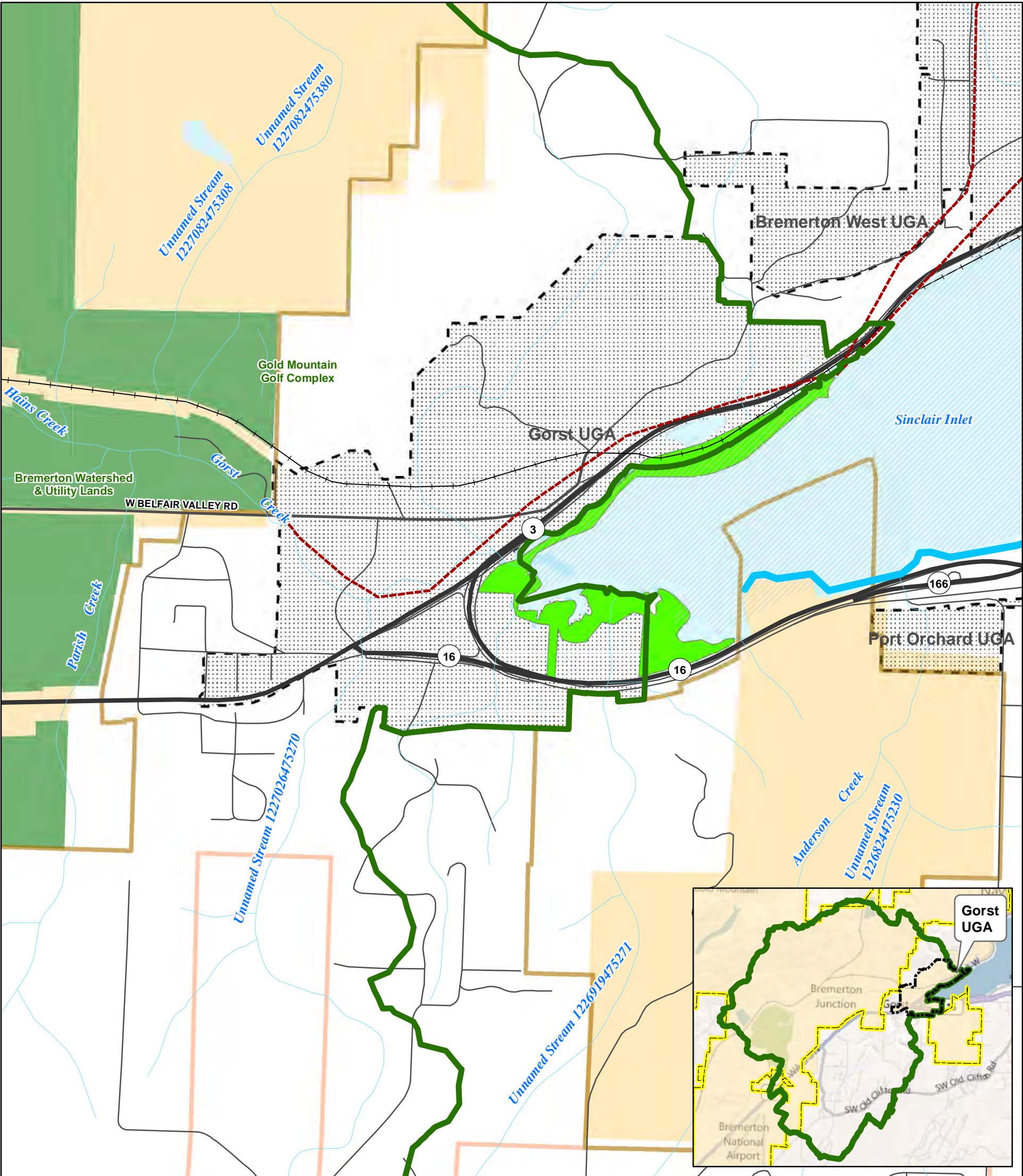


Legend

- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- Road
- Railroad
- Stream
- Wetland (WDFW/NWI)
- Waterbody
- Landslide Hazard (EKNI)
- Quaternary Fault Locations (DNR)
- Liquefaction Hazard
- Seismic Hazard

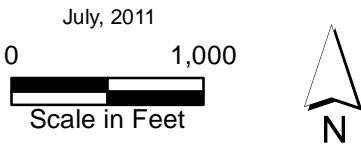
Erosion Hazard (Kitsap County)

- High (Historic or Active Landslide)
- Moderate (Slope 15-30% or Greater, Unstable Slope)
- Low to Very Low (Slope < 15%)



**Gorst Creek Watershed Plan
City of Bremerton**

**Parks, Open Space and Public Land
Map LU-4**



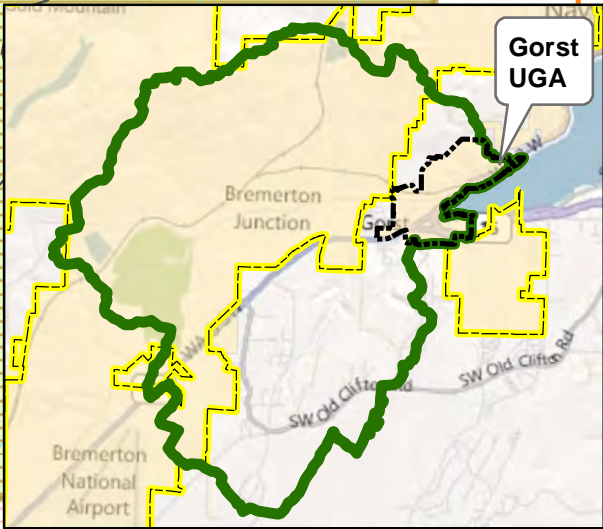
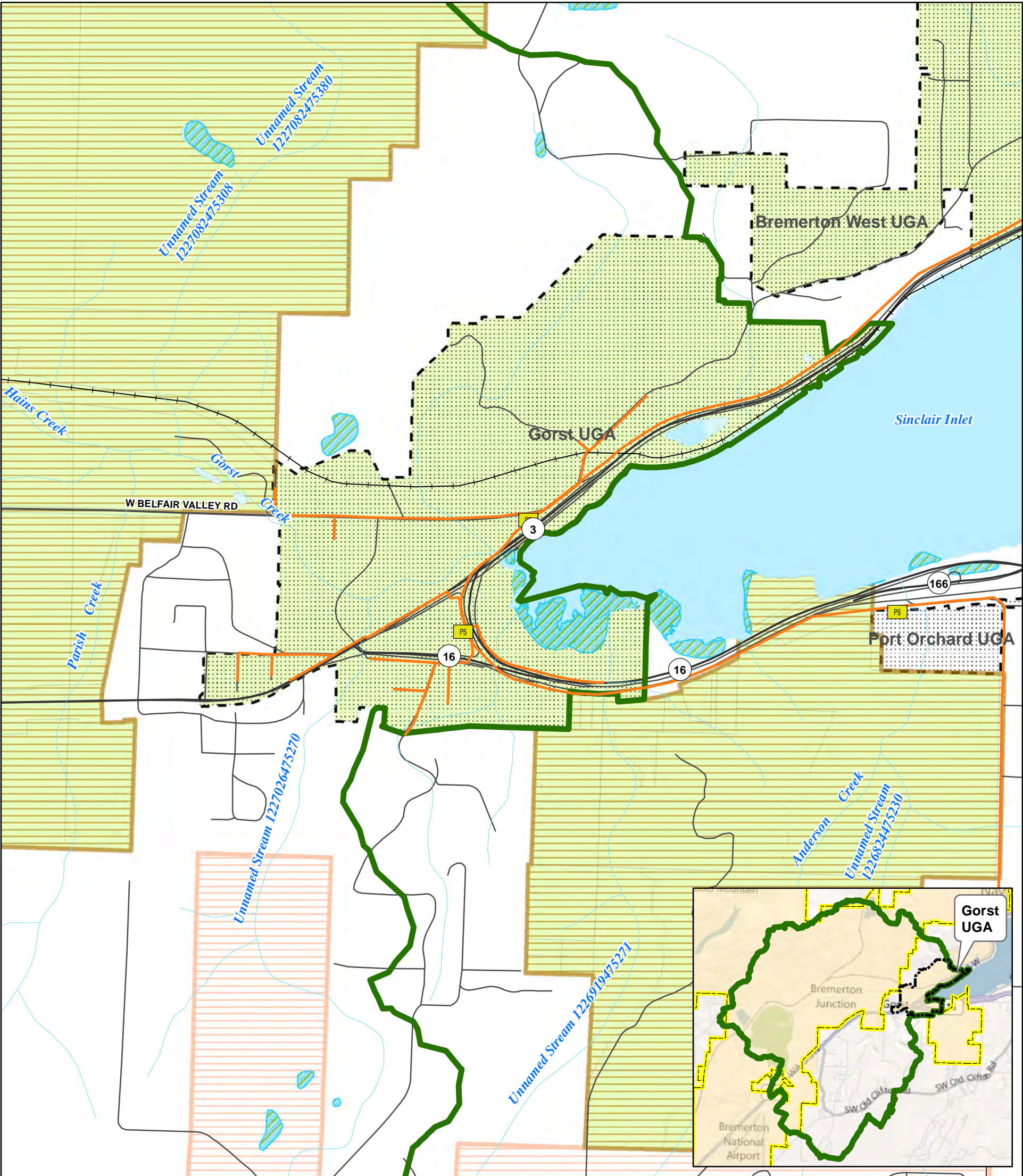
Data Sources: Kitsap County, City of Bremerton, Parametrix, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Microsoft Virtual Earth, East Kitsap Nearshore Inventory (EKNI).

Note: Shoreline jurisdiction boundaries depicted on this map are approximate and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/verify information shown on this map.



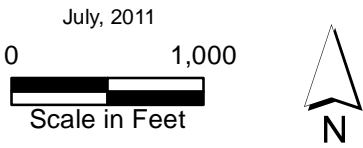
Legend

- | | |
|--|----------------------------------|
| Gorst Creek Watershed / Project Boundary | Urban Trail |
| Urban Growth Area | Shellfish Beach |
| City of Bremerton | DNR Owned Aquatic Land |
| City of Port Orchard | Open Space Corridor |
| Road | Park/Open Space |
| Railroad | Non-DNR Major Public Land |
| Stream | City or Municipal Government |
| Waterbody | |



**Gorst Creek Watershed Plan
City of Bremerton**

**Sanitary Sewer Infrastructure
Gorst UGA Planning Area
Map LU-5**

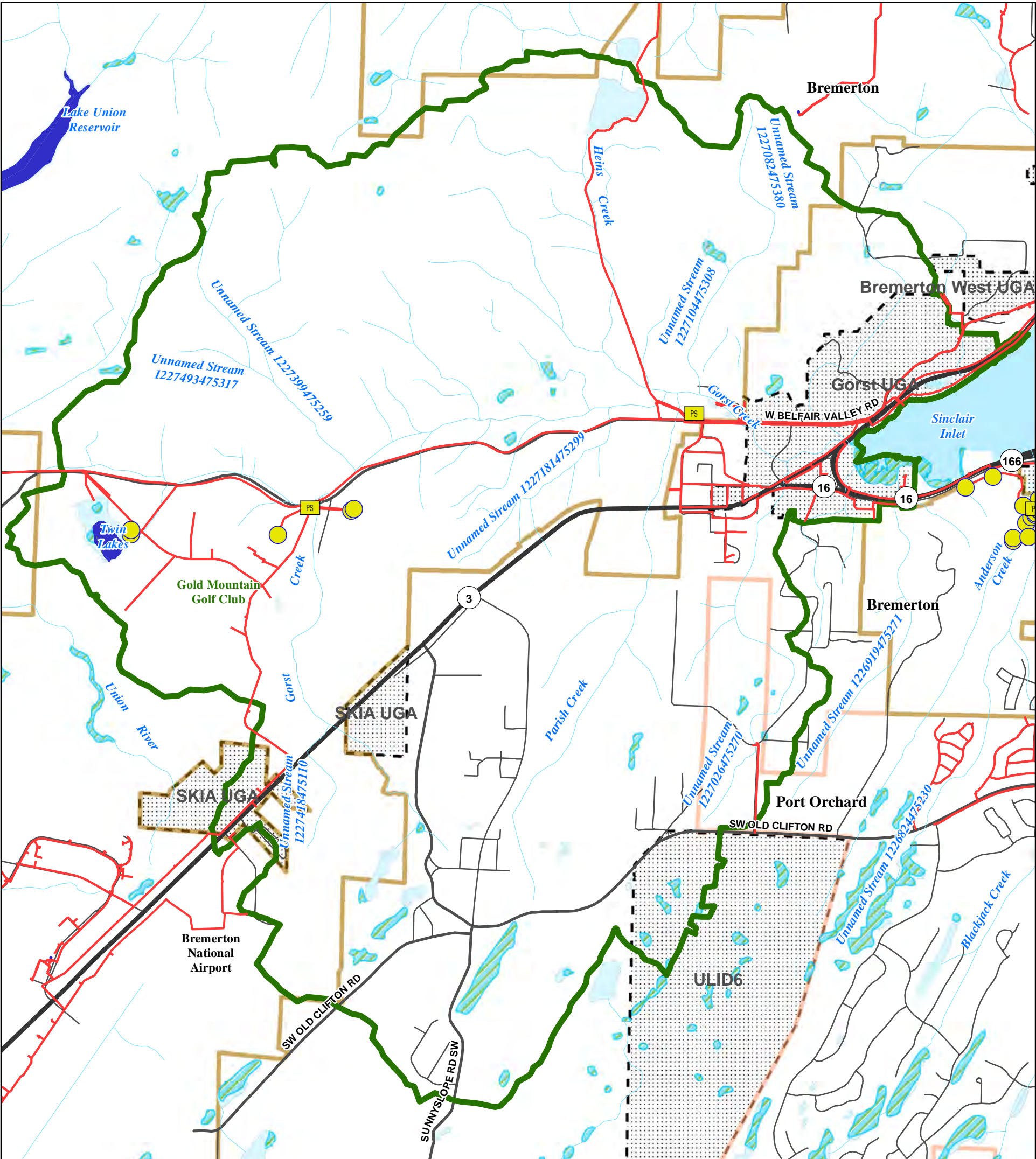


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), Microsoft Virtual Earth.

Legend

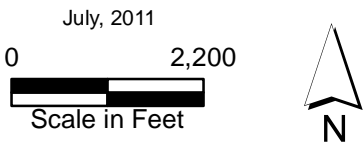
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- Road
- Railroad
- Stream
- Wetland (WDFW/NWI)
- Waterbody
- City Parcel
- Sewer main
- Sanitary Sewer Service Area
- SewerPumpStations





**Gorst Creek Watershed Plan
City of Bremerton**

**Potable Water Infrastructure
Map LU-6**

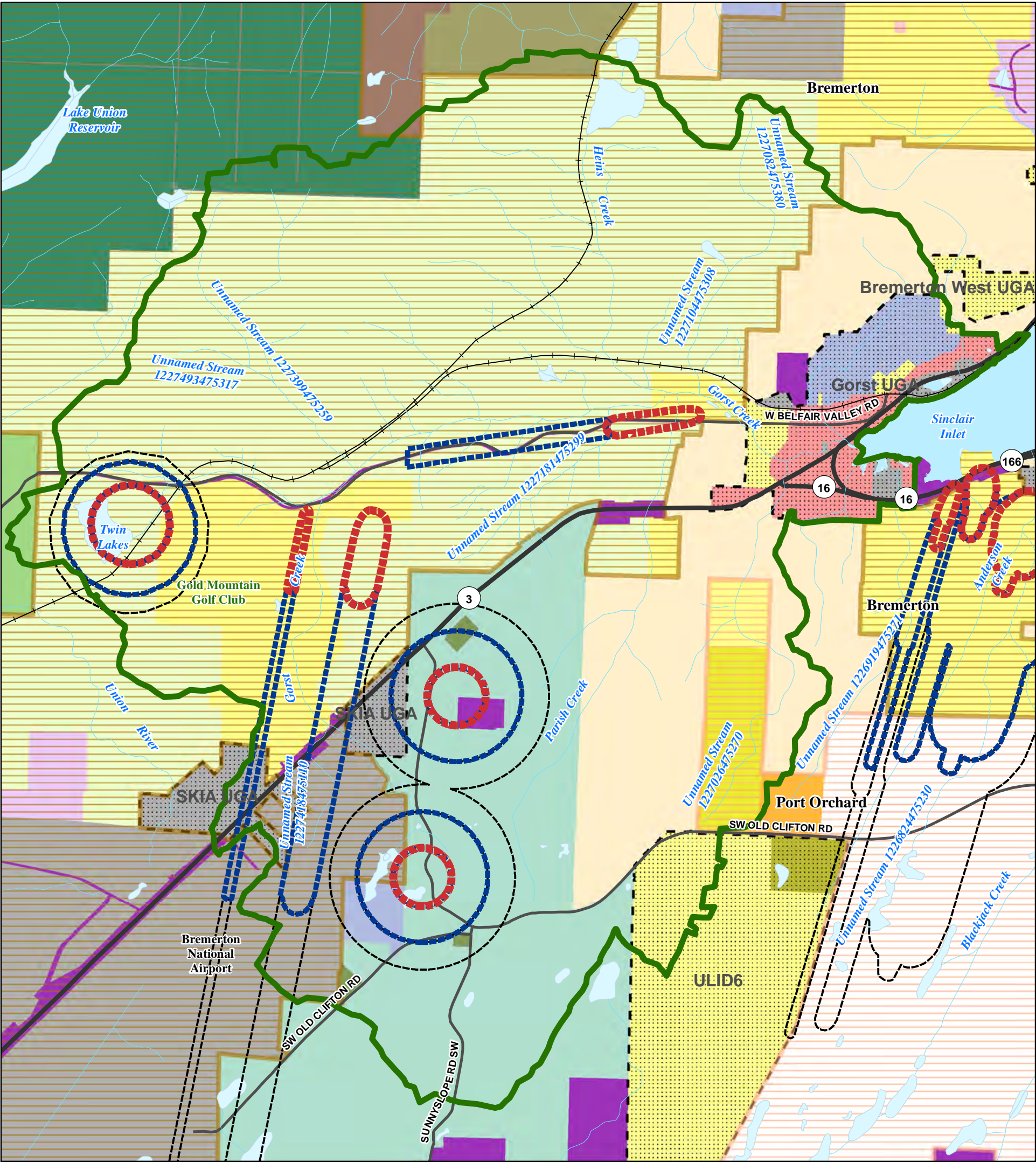


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI),



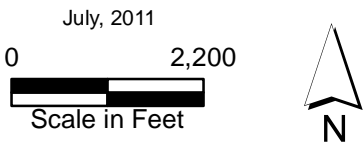
Legend

- | | | | |
|--|--|--|------------------|
| | Gorst Creek Watershed / Project Boundary | | WaterPumpStation |
| | Urban Growth Area | | Well |
| | City of Bremerton | | Water Main |
| | City of Port Orchard | | Reservoir |
| | Road | | |
| | Stream | | |
| | Wetland (WDFW/NWI) | | |
| | Waterbody | | |



**Gorst Creek Watershed Plan
City of Bremerton**

**Well Head Protection Areas
Map LU-7**

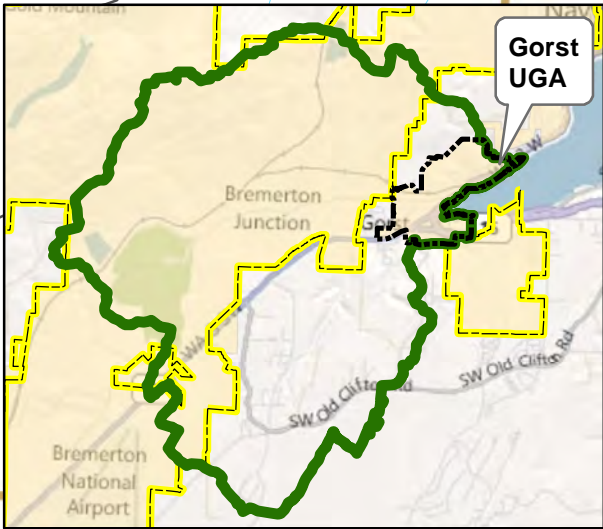
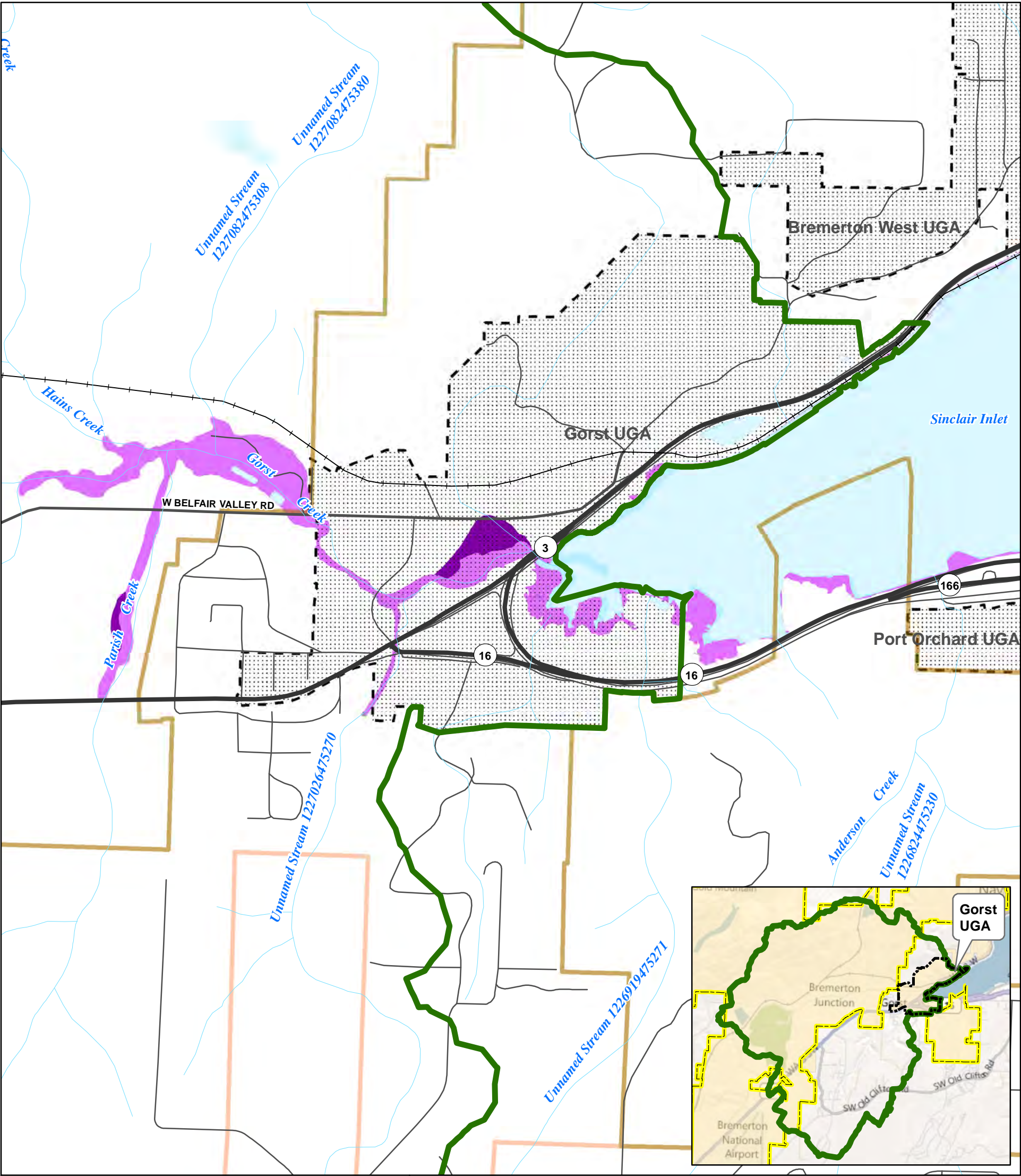


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI)



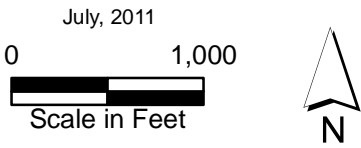
Legend

- | | |
|--|-------------------------------------|
| Gorst Creek Watershed / Project Boundary | High Intensity Commercial Mixed Use |
| Urban Growth Area | Neighborhood Business |
| City of Bremerton | Freeway Corridor |
| City of Port Orchard | Forest Resource Lands |
| Road | Incorporated City |
| Railroad | Industrial |
| Stream | Industrial Park |
| Waterbody | Mineral Resource |
| WHPA - 1 Year | Rural Protection |
| WHPA - 5 Year | Rural Residential |
| WHPA - 10 Year | Rural Commercial |
| Landuse (City and County) | |
| Low Density Residential | Rural Wooded |
| Medium Density Residential | Urban Reserve |
| Medium/High Density Residential | Watershed |
| High Density Residential | City Utility Lands |
| | Tranportation and Public Facilities |



**Gorst Creek Watershed Plan
City of Bremerton**

**FEMA Floodplain
Map LU-8**

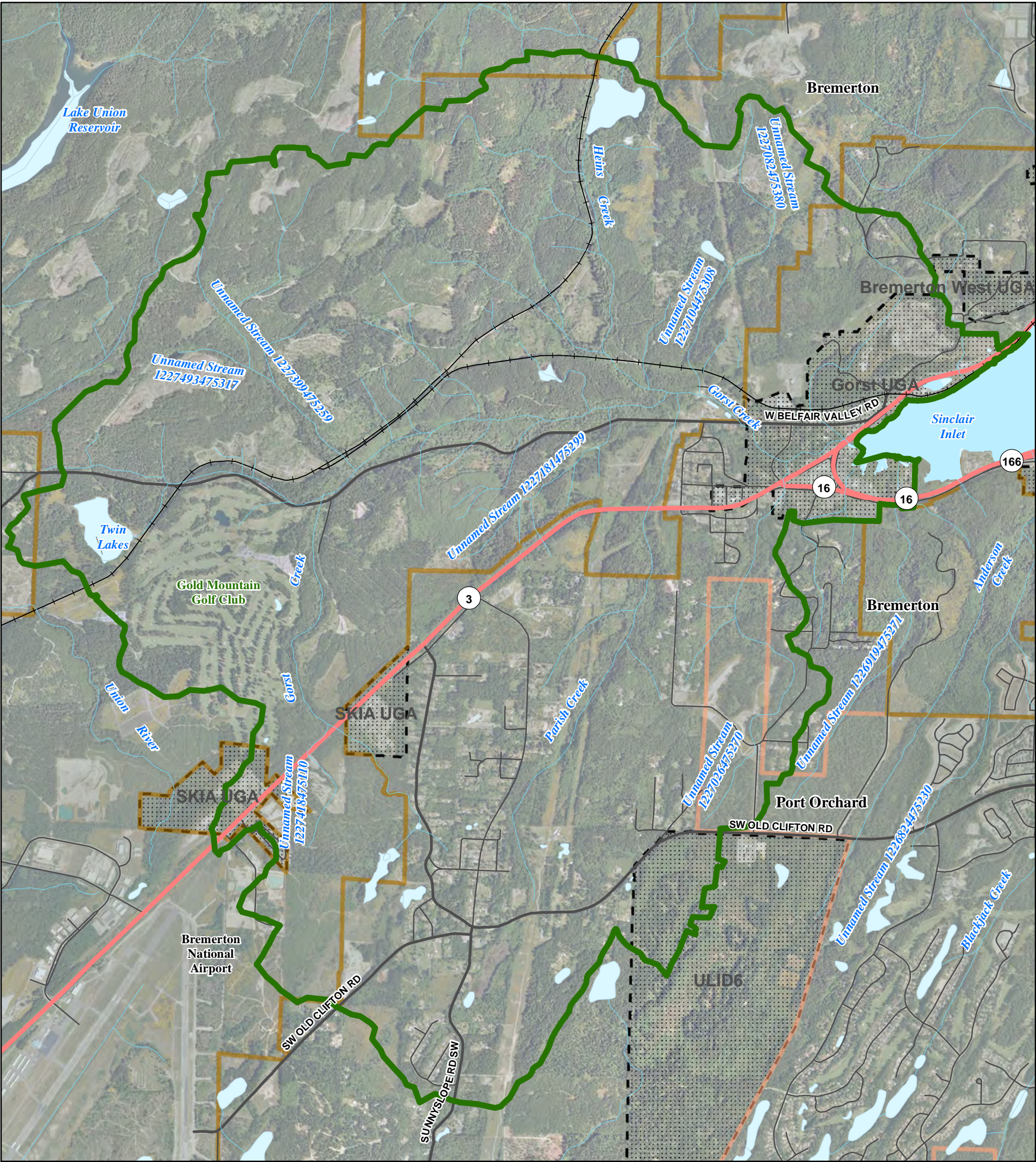


Data Sources: Kitsap County, City of Bremerton, FEMA,
Washington Department of Natural Resources, Washington Department of Ecology,
Washington Department of Transportation, Microsoft Virtual Earth.

Legend

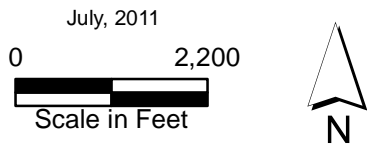
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- Road
- Railroad
- Stream
- Waterbody
- 100 Year Flood Zone
- 500 Year Flood Zone





**Gorst Creek Watershed Plan
City of Bremerton**

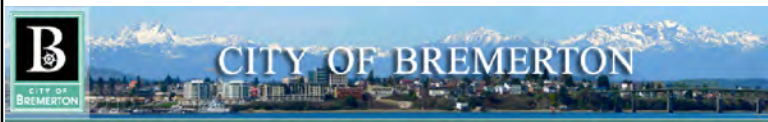
**Transportation
Map LU-9**

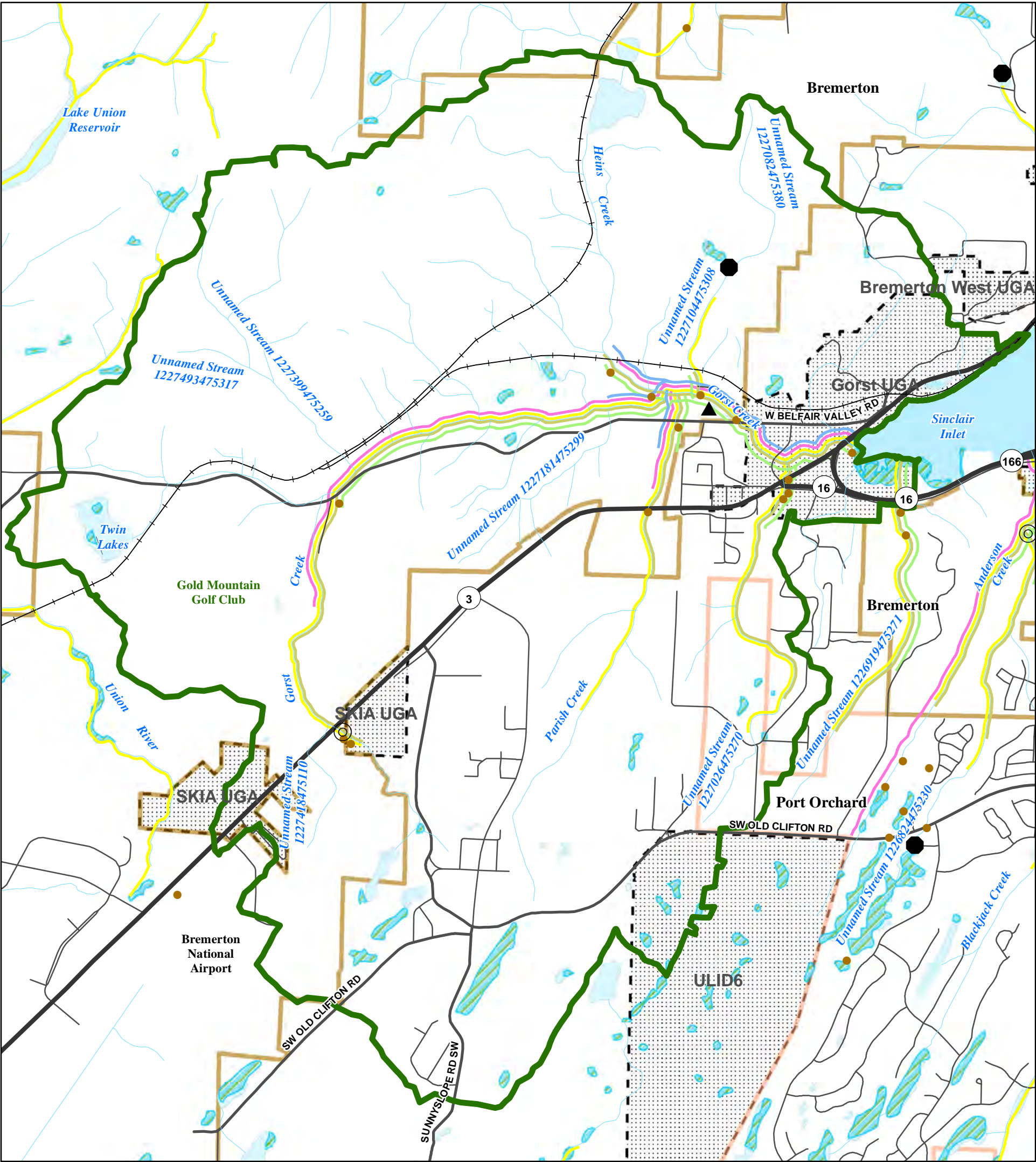


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), Aerial Express 2009.

Legend

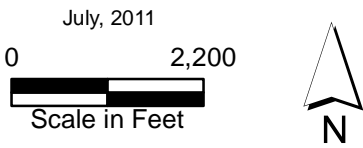
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- State Route
- Primary Road
- Secondary Road
- Railroad
- Stream
- Waterbody





**Gorst Creek Watershed Plan
City of Bremerton**

**Existing Fish Passage Barriers
Map FP-1**

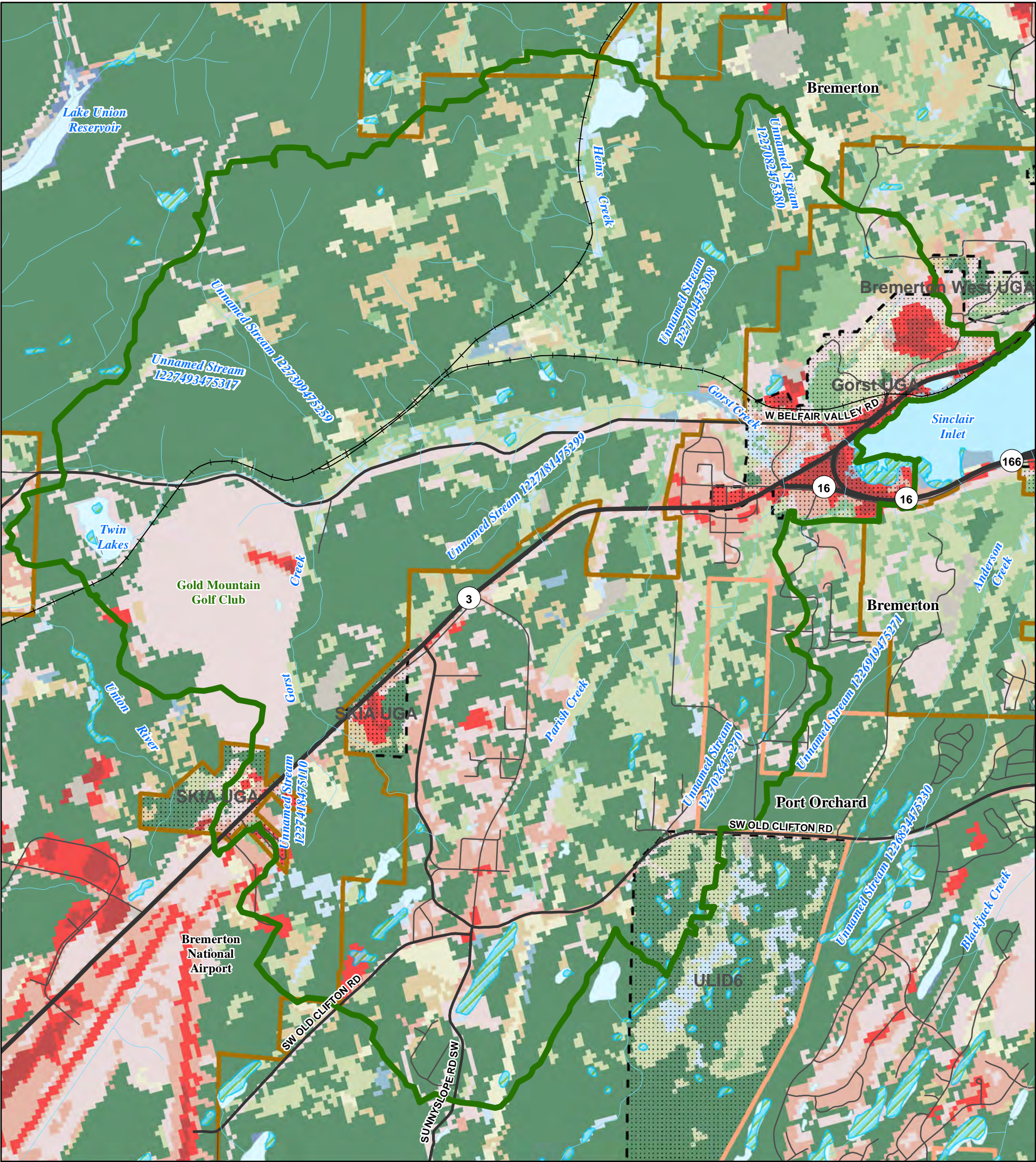


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), Streamnet 2010.



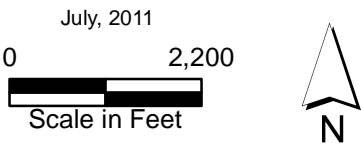
Legend

- | | |
|--|----------------------------|
| Gorst Creek Watershed / Project Boundary | Hatchery |
| Urban Growth Area | Dam |
| City of Bremerton | Barrier |
| City of Port Orchard | Culvert |
| Road | Other |
| Railroad | Presence |
| Stream | Chinook Salmon |
| Wetland (WDFW/NWI) | Chum Salmon |
| Waterbody | Coho Salmon |
| | Steelhead |
| | Coastal Resident Cutthroat |



**Gorst Creek Watershed Plan
City of Bremerton**

**Landcover
Map WC-1**

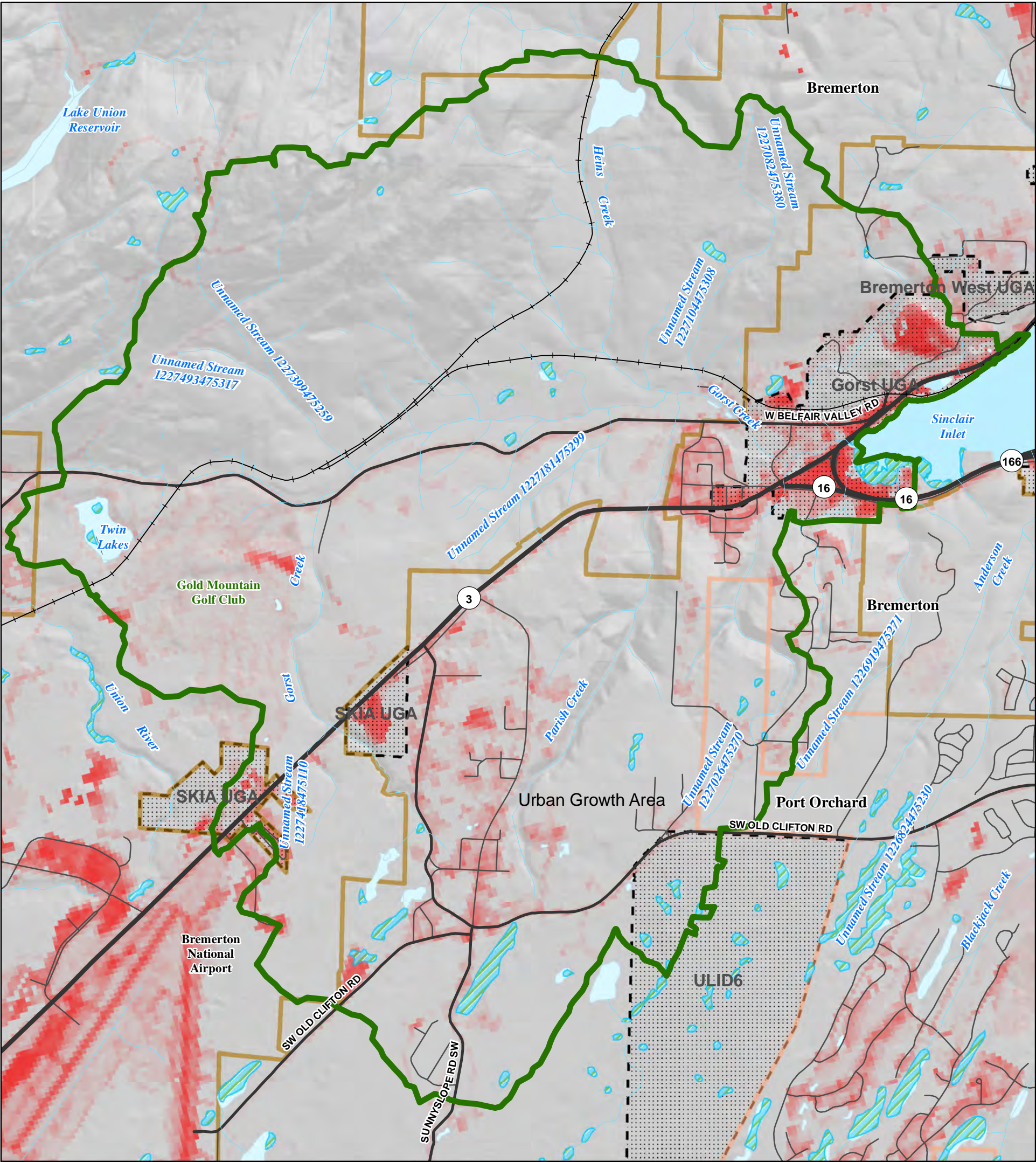


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), United States Geological Survey (USGS)



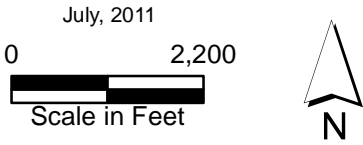
Legend

- | | |
|--|--|
| Gorst Creek Watershed / Project Boundary | Open Water |
| Urban Growth Area | Developed, Open Space |
| City of Bremerton | Developed, Low Intensity |
| City of Port Orchard | Developed, Medium Intensity |
| State Route | Developed, High Intensity |
| Primary Road | Bare rock, sand, quarry, strip mine, gravel pit, transitional barren |
| Secondary Road | Deciduous forest |
| Railroad | Evergreen forest |
| Stream | Mixed forest |
| Wetland (WDFW/NWI) | Scrub/Shrub |
| Waterbody | Grasslands, herbaceous |
| | Pasture, hay |
| | Cultivated Crops |



**Gorst Creek Watershed Plan
City of Bremerton**

**Impervious Surfaces
Map WC-2**



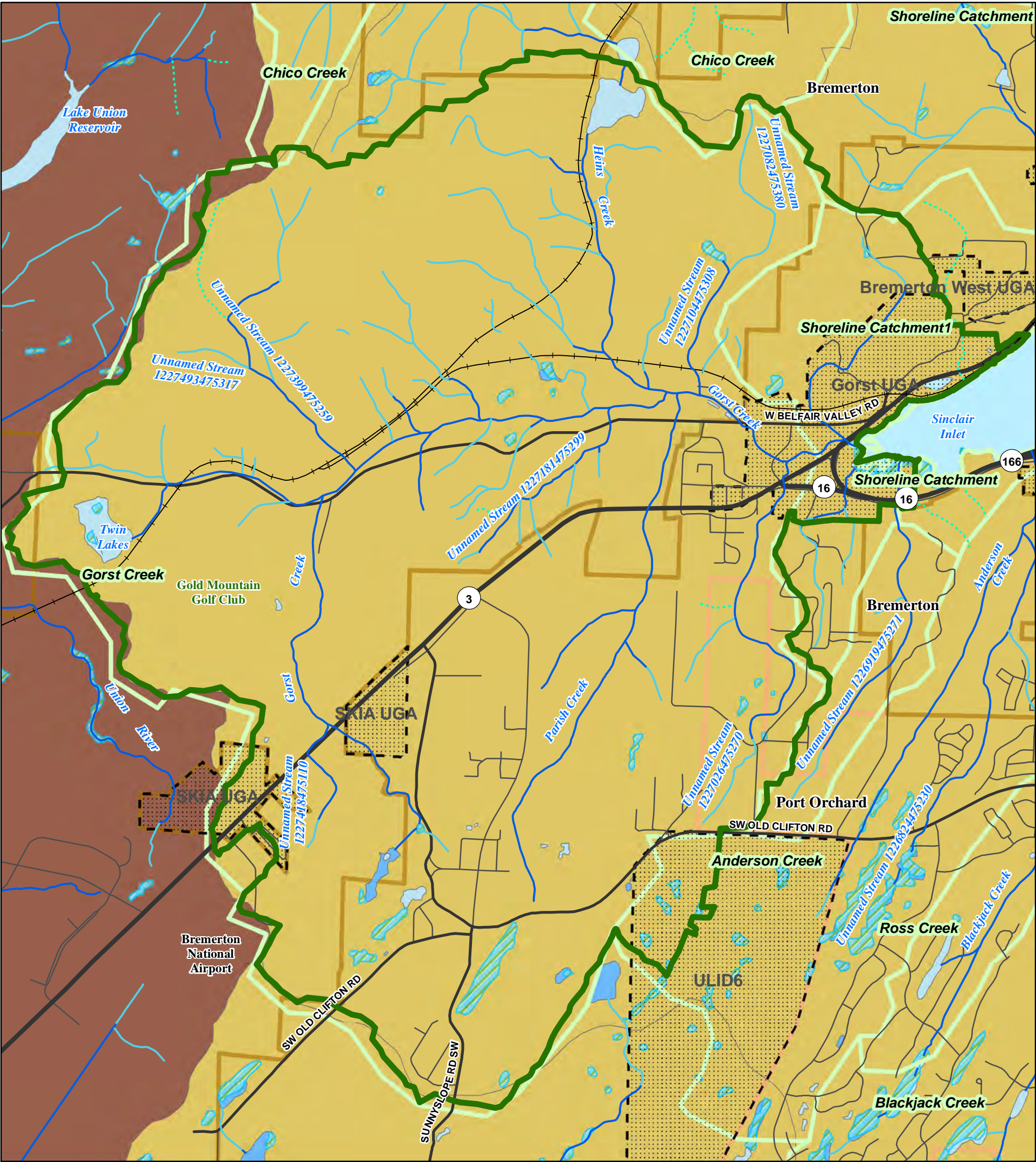
Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), United States Geological Survey (USGS).



Legend

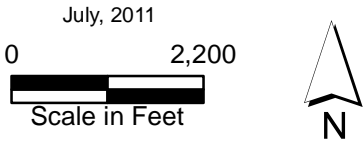
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- State Route
- Primary Road
- Secondary Road
- Railroad
- Stream
- Wetland (WDFW/NWI)
- Waterbody

Percent Impervious	
0% - 10%	
11% - 20%	
21% - 30%	
31% - 40%	
41% - 50%	
51% - 60%	
61% - 70%	
71% - 80%	
81% - 90%	
91% - 100%	



**Gorst Creek Watershed Plan
City of Bremerton**

**Waterbodies and Wetlands
Map WC-3**

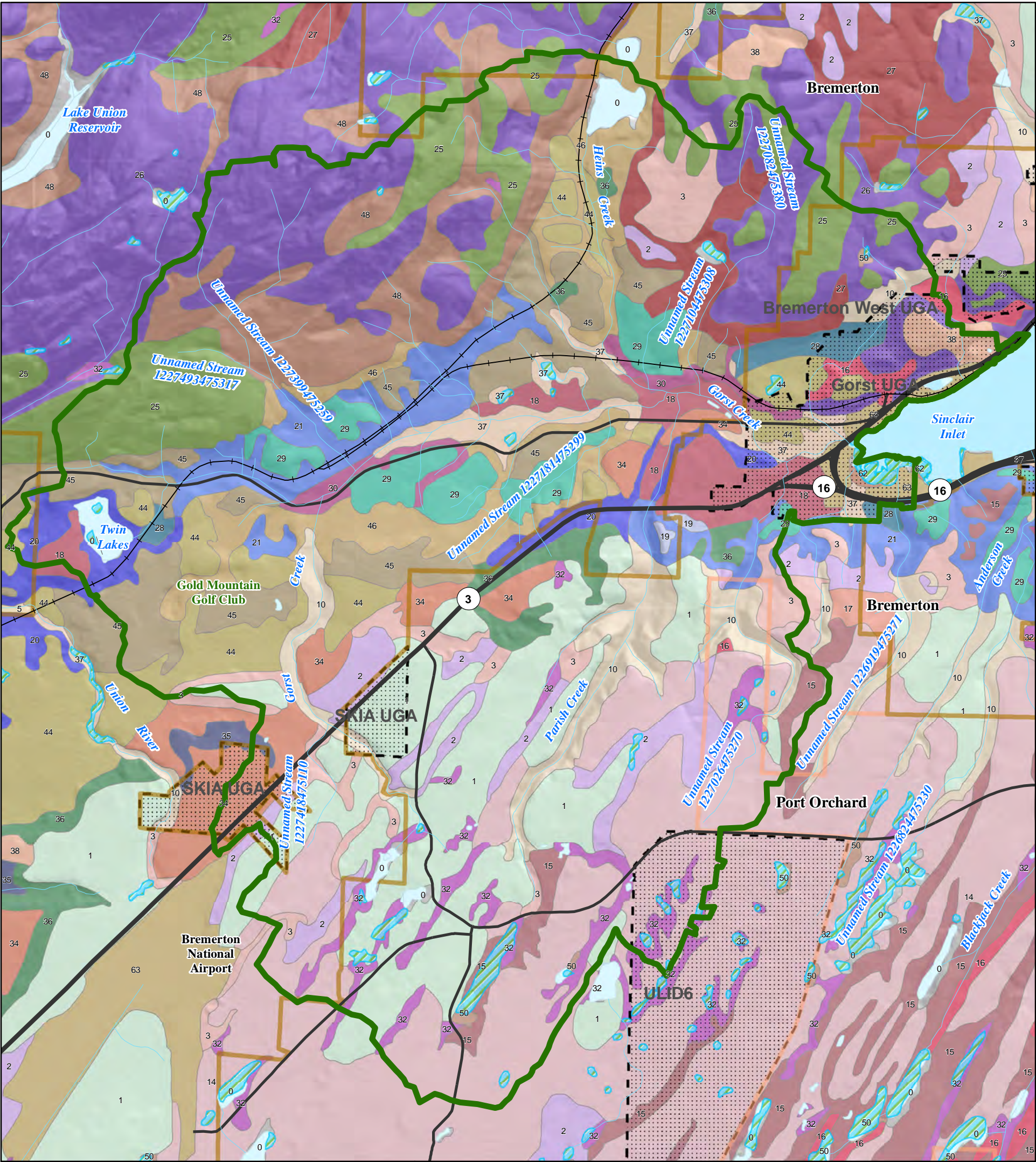


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), United States Geological Survey (USGS) National Hydrography Dataset (NHD).



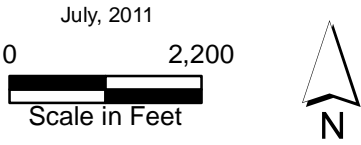
Legend

- | | | |
|--|-------------|---------------------|
| Gorst Creek Watershed / Project Boundary | Estuary | Subcatchment |
| Urban Growth Area | Lake/Pond | HUC Subbasin |
| City of Bremerton | Swamp/Marsh | Hood Canal |
| City of Port Orchard | | Kitsap |
| State Route | | |
| Primary Road | | |
| Secondary Road | | |
| Railroad | | |
| Fish Habitat Stream | | |
| Non Fish Habitat Stream | | |
| Unknown Water Type | | |
| Wetland (WDFW/NWI) | | |



Gorst Creek Watershed Plan
City of Bremerton

Soils
Map WC-4

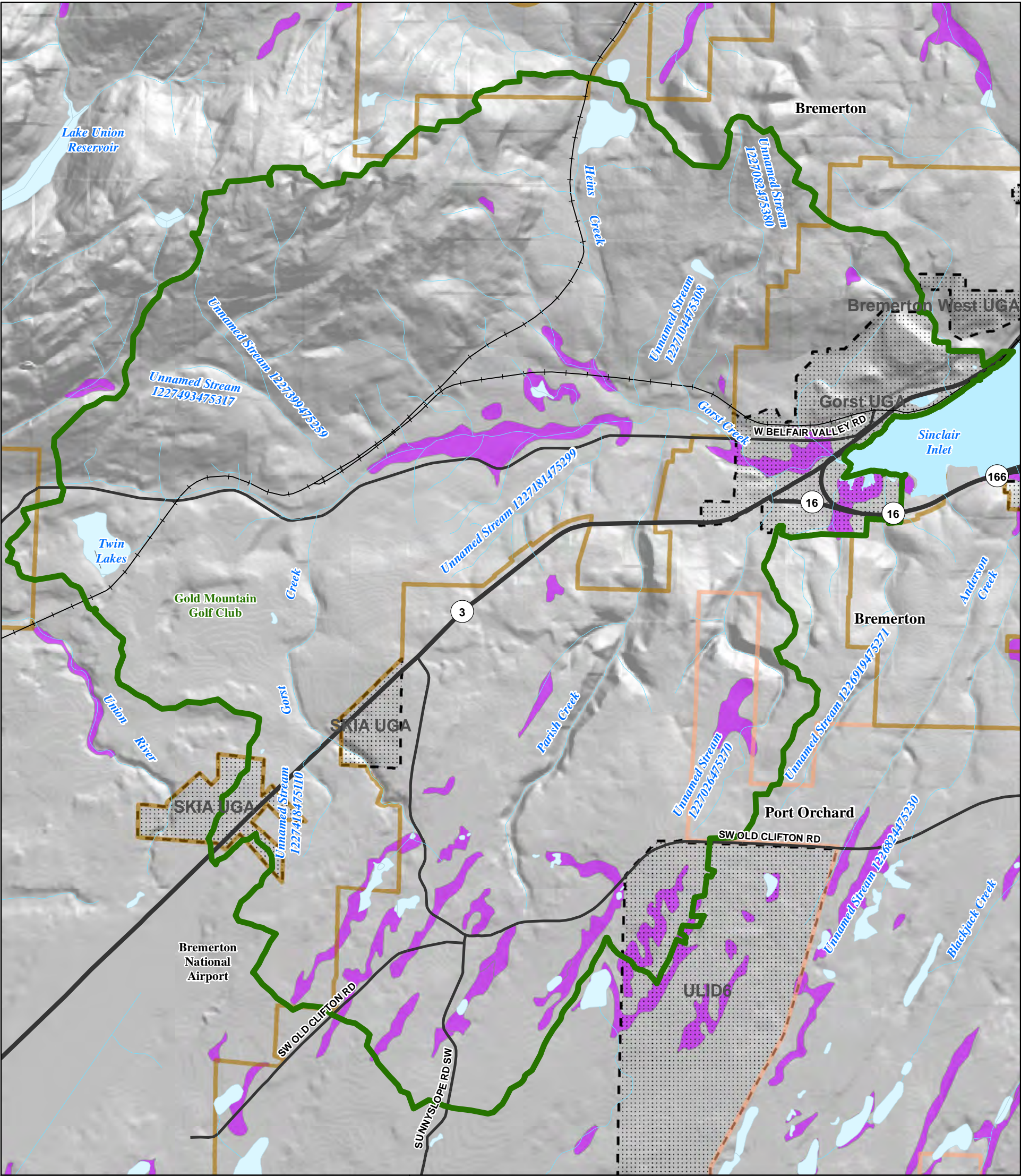


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), USDA Natural Resources Conservation Service (NRCS).



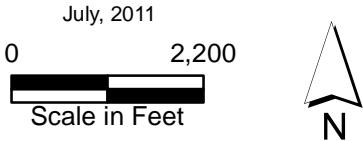
Legend

Gorst Creek Watershed / Project Boundary	GROVE, 11	MCKENNA, 32
Urban Growth Area	HARSTINE, 14	NEILTON, 34
City of Bremerton	HARSTINE, 15	NEILTON, 35
City of Port Orchard	HARSTINE, 16	NEILTON, 36
Road	HARSTINE, 17	NORMA, 37
Railroad	INDIANOLA, 18	PITS, 38
Stream	INDIANOLA, 19	RAGNAR, 44
Wetland (WDFW/NWI)	INDIANOLA, 20	RAGNAR, 45
Water- body	INDIANOLA-KITSAP, 21	RAGNAR, 46
Soils (DNR/NRCS)		
ALDERWOOD, 1	KILCHIS, 25	SCHNEIDER, 48
ALDERWOOD, 2	KILCHIS, 26	SEMIAHMOO, 49
ALDERWOOD, 3	KILCHIS-SHELTON, 27	SHALCAR, 50
BELFAST, 5	KITSAP, 28	TACOMA, 62
BELLINGHAM, 6	KITSAP, 29	URBANLAND-ALDERWOOD, 63
DYSTRIC XERORTHENTS, 10	KITSAP, 30	



**Gorst Creek Watershed Plan
City of Bremerton**

**Hydric Soils
Map WC-5**

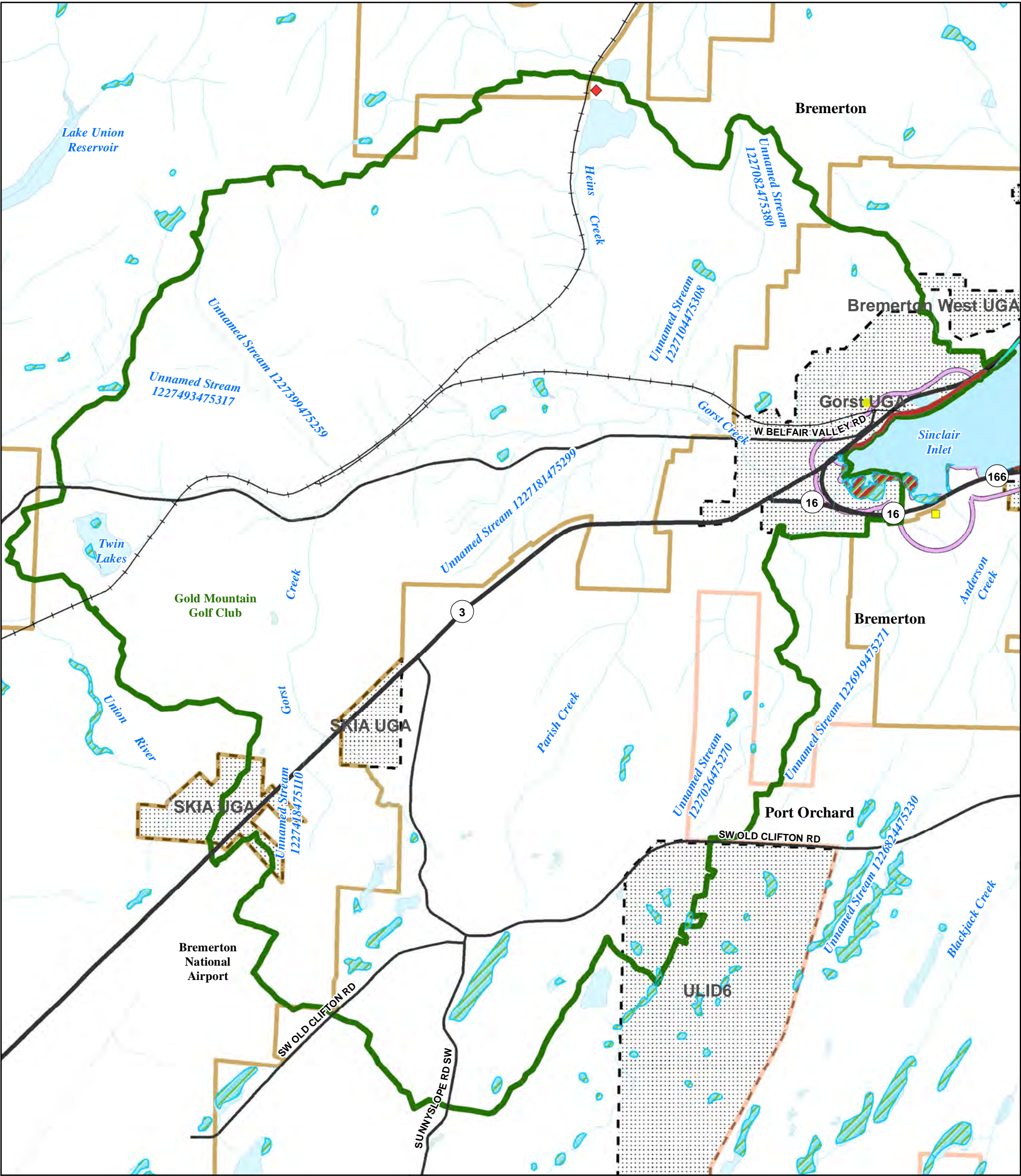


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), USDA Natural Resources Conservation Service (NRCS).

Legend

- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- State Route
- Primary Road
- Railroad
- Stream
- Waterbody
- Hydric Soils (Kitsap County/NRCS 2008)





Gorst Creek Watershed Plan

City of Bremerton

Wildlife

Bald Eagle, Osprey, Shorebird and Waterfowl

Map WC-6

July, 2011

0

2,200

Scale in Feet

N

Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI).

B

CITY OF BREMERTON

Legend

Gorst Creek Watershed / Project Boundary

Urban Growth Area

City of Bremerton

City of Port Orchard

State Route

Primary Road

Railroad

Stream

Wetland (WDFW/NWI)

Waterbody

Osprey Nest

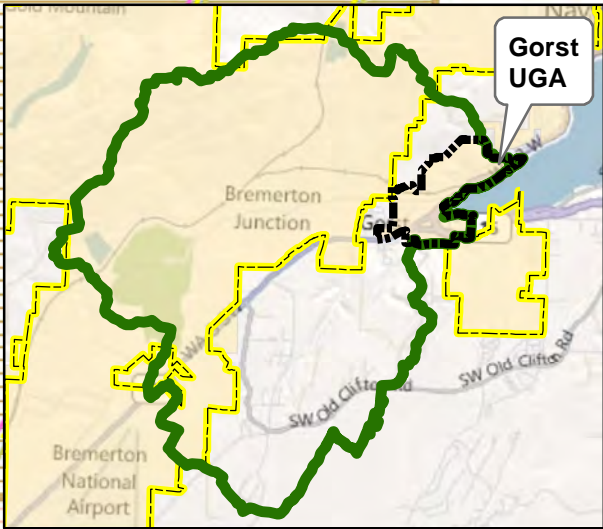
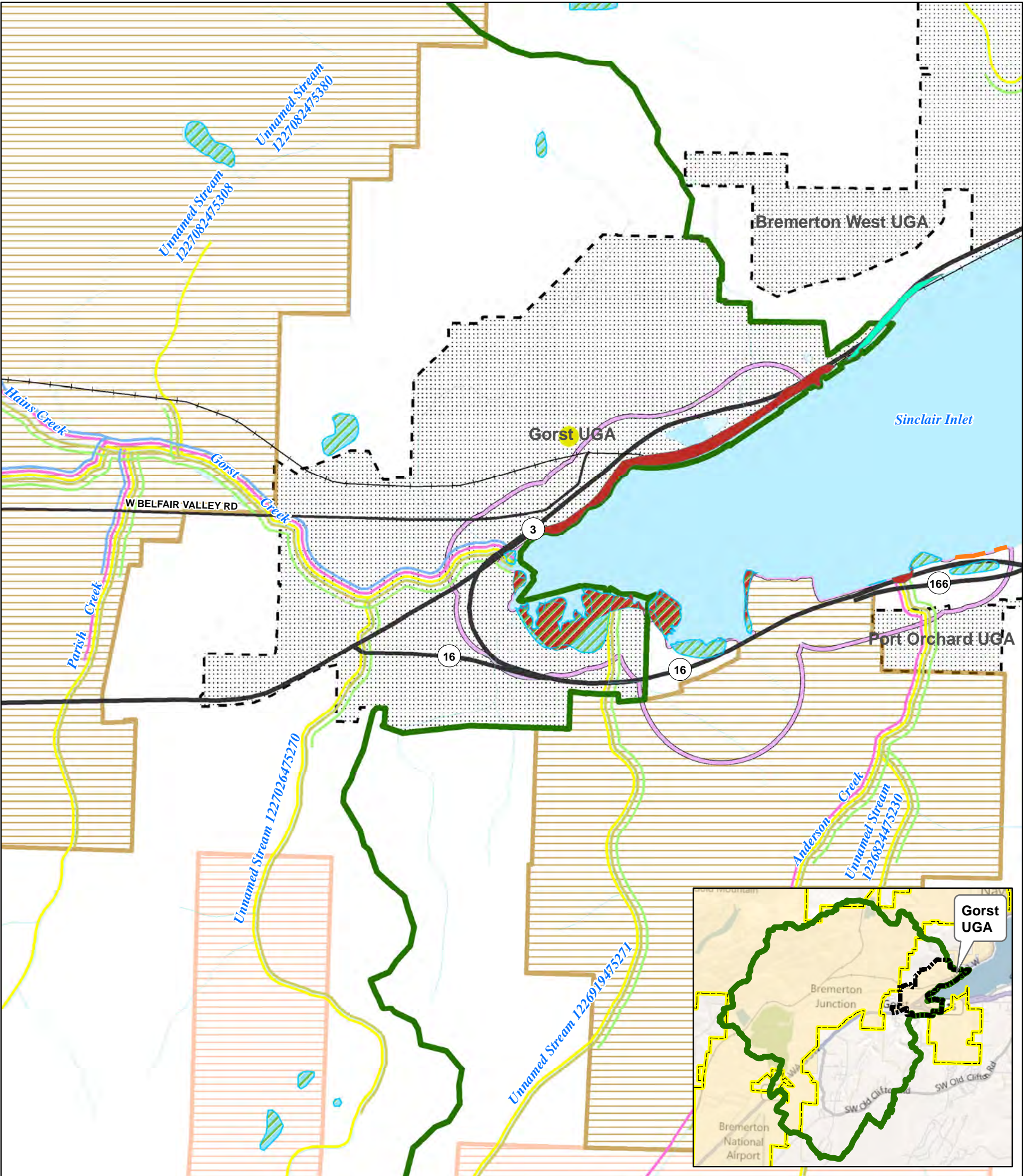
Bald Eagle Nest

Bald Eagle Buffer

Blue Herron Occurance

Shorebird Concentrations

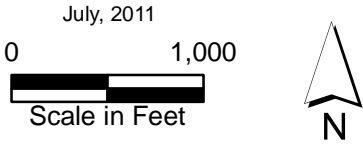
Waterfowl and Shorebird Concentrations



**Gorst Creek Watershed Plan
City of Bremerton**

**PHS and Marine Fish
Map WC-7**

DRAFT

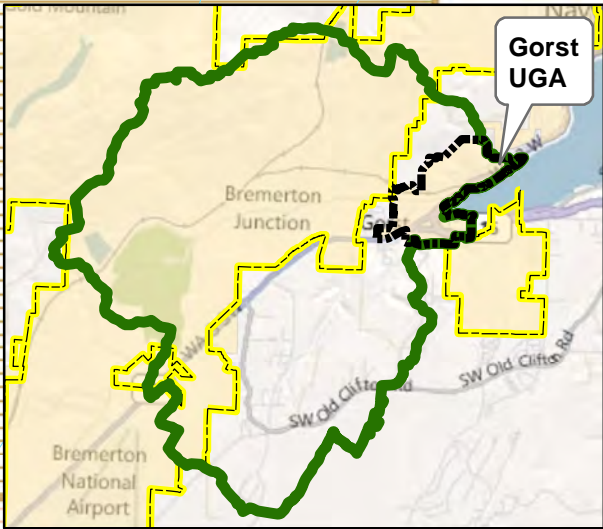
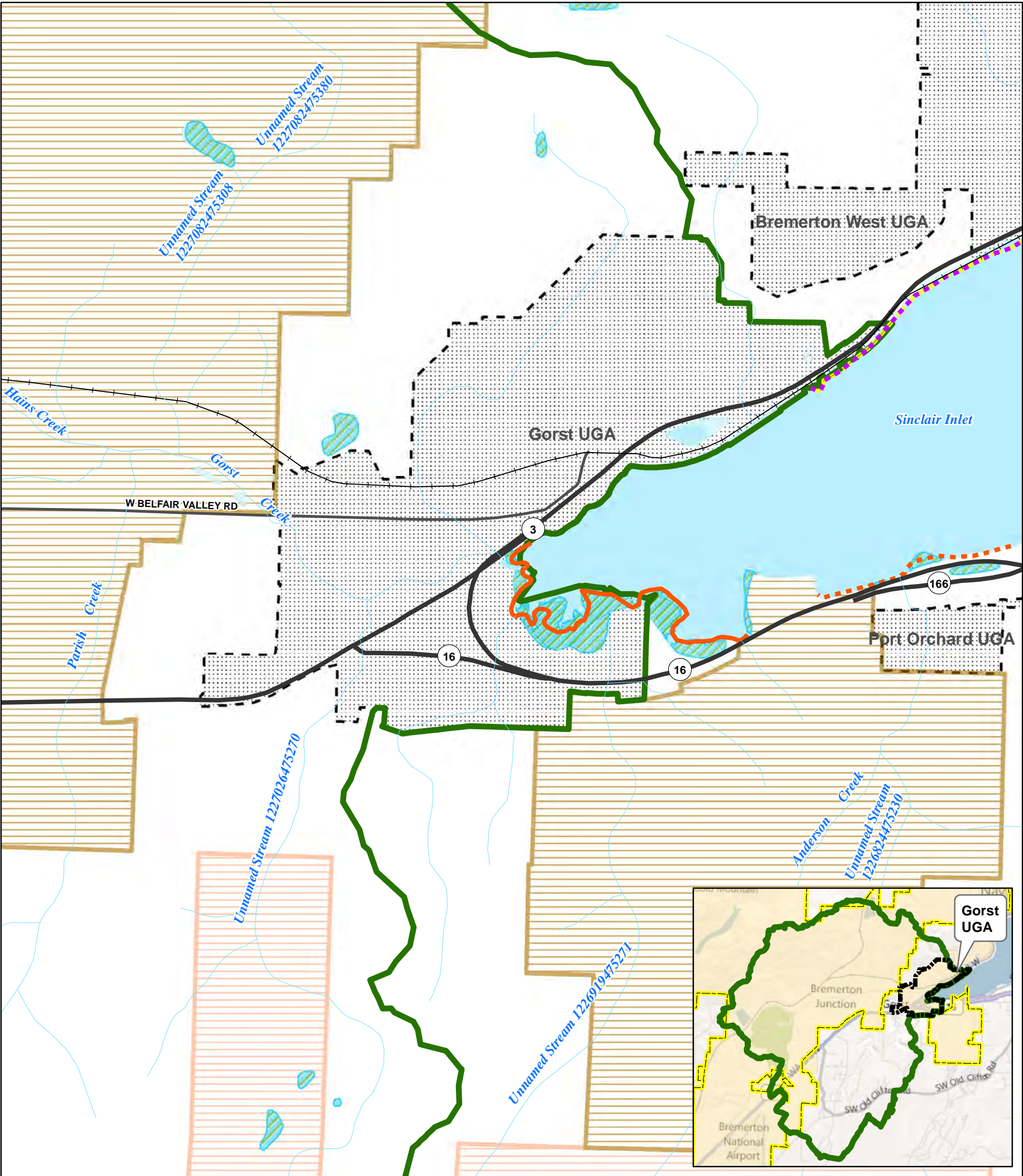


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI).



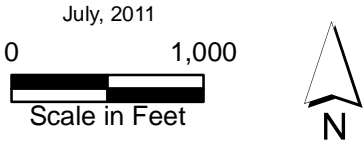
Legend

- Gorst Creek Watershed / Project Boundary
 - Urban Growth Area
 - City of Bremerton
 - City of Port Orchard
 - Railroad
 - State Route
 - Primary Road
 - Stream
 - Wetland (WDFW/NWI)
 - Waterbody
- Priority Habitats and Species (WDFW)**
- Shorebird Concentrations
 - Waterfowl and Shorebird Concentrations
 - Bald Eagle Buffer
 - Blue Herron Occurance
- Presence**
- Chinook Salmon
 - Chum Salmon
 - Coho Salmon
 - Steelhead
 - Coastal Resident Cutthroat
- Forage Fish Survey**
- No Smelt or Sand Lance Presence



Gorst Creek Watershed Plan
City of Bremerton

Nearshore Marsh
Map WC-8



Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI).

Legend

- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- State Route
- Primary Road
- Railroad
- Stream
- Wetland (WDFW/NWI)
- Waterbody

Salt Marsh

- Patchy Salt Marsh

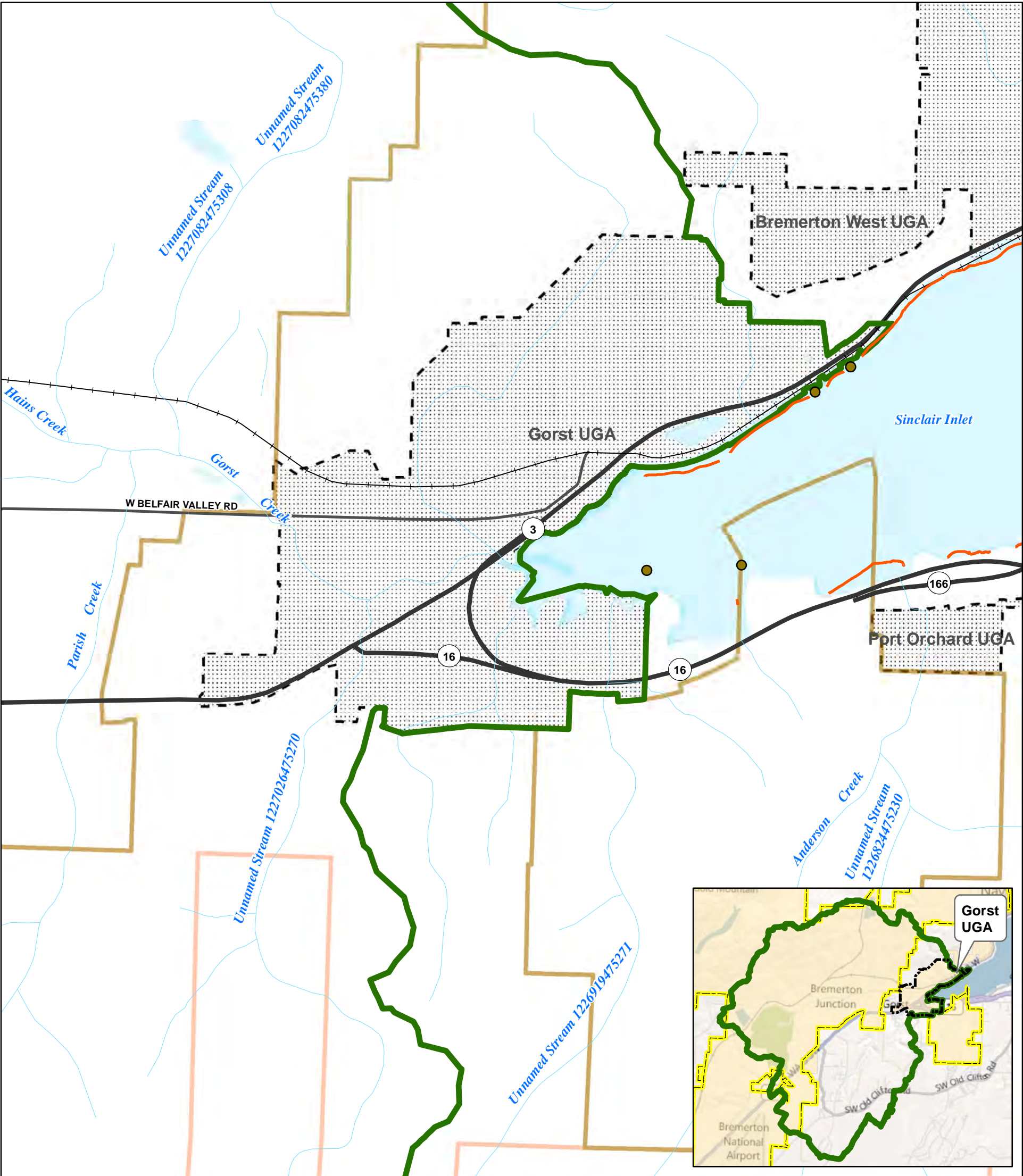
Low Marsh

- Patchy Low Marsh

Mixed Marsh

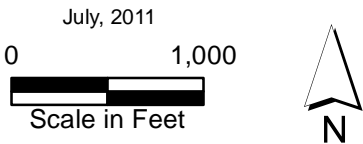
- Continuous Mixed Marsh
- Patchy Mixed Marsh







**Gorst Creek Watershed Plan
City of Bremerton**

**Shoreline Modifications
Armoring
Map WC-9**














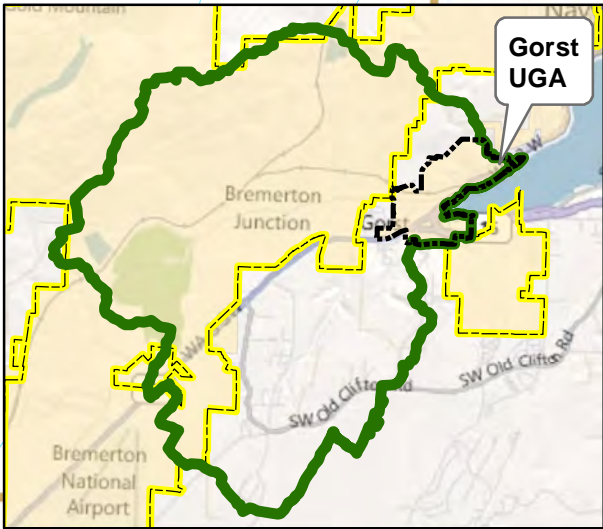
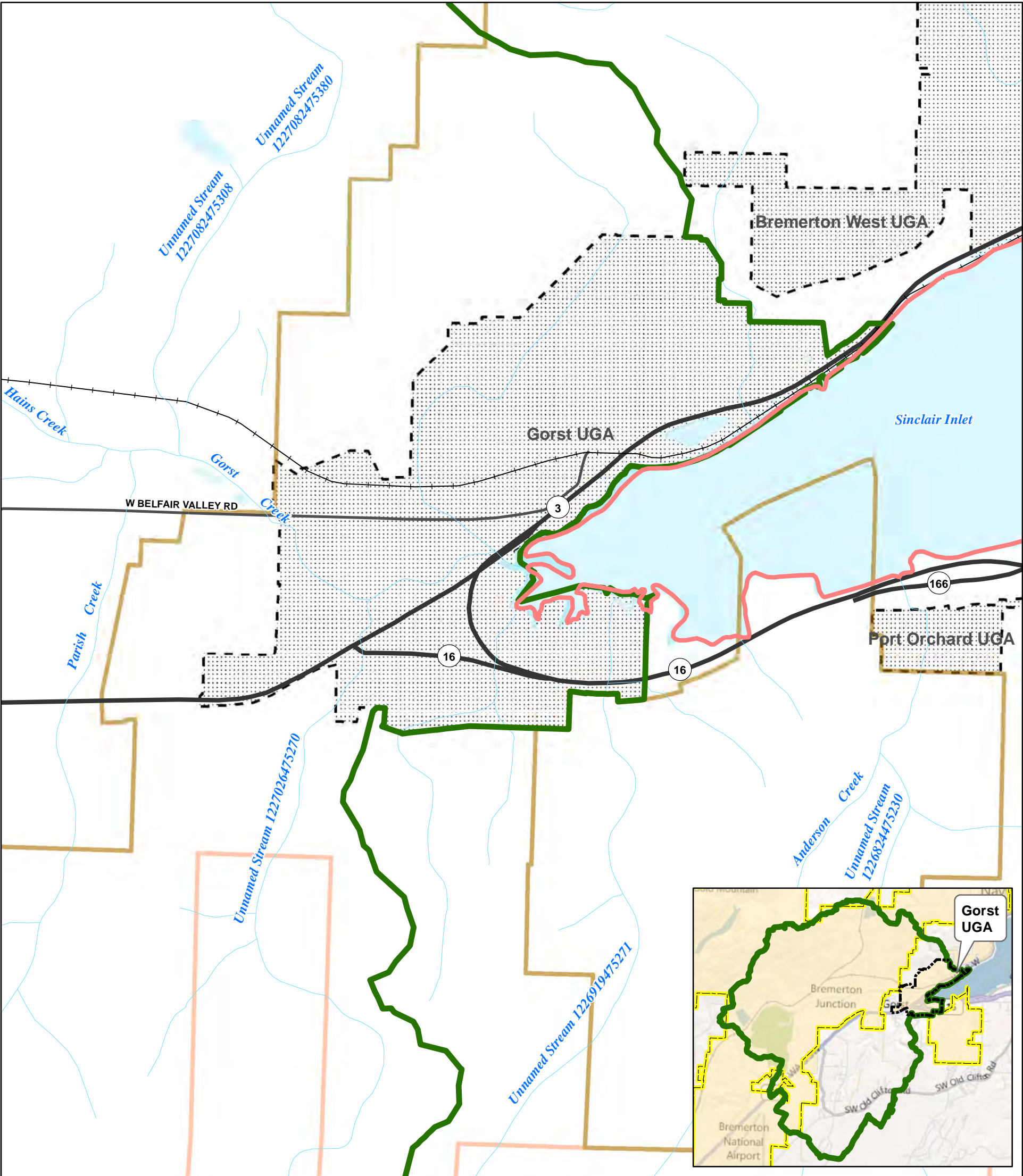
Data Sources: Kitsap County, City of Bremerton, Parametrix, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Microsoft Virtual Earth, East Kitsap Nearshore Inventory (EKNI).

Note: Shoreline jurisdiction boundaries depicted on this map are approximate and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/verify information shown on this map.



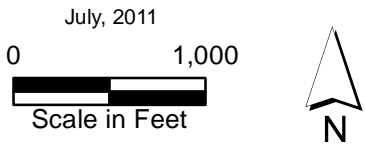
Legend

-  Gorst Creek Watershed / Project Boundary
-  Urban Growth Area
-  City of Bremerton
-  City of Port Orchard
-  State Route
-  Primary Road
-  Railroad
-  Stream
-  Waterbody
-  Pilings
-  Armoring



**Gorst Creek Watershed Plan
City of Bremerton**

**Marine Sediment Processes
Drift Cells
Map WC-10**

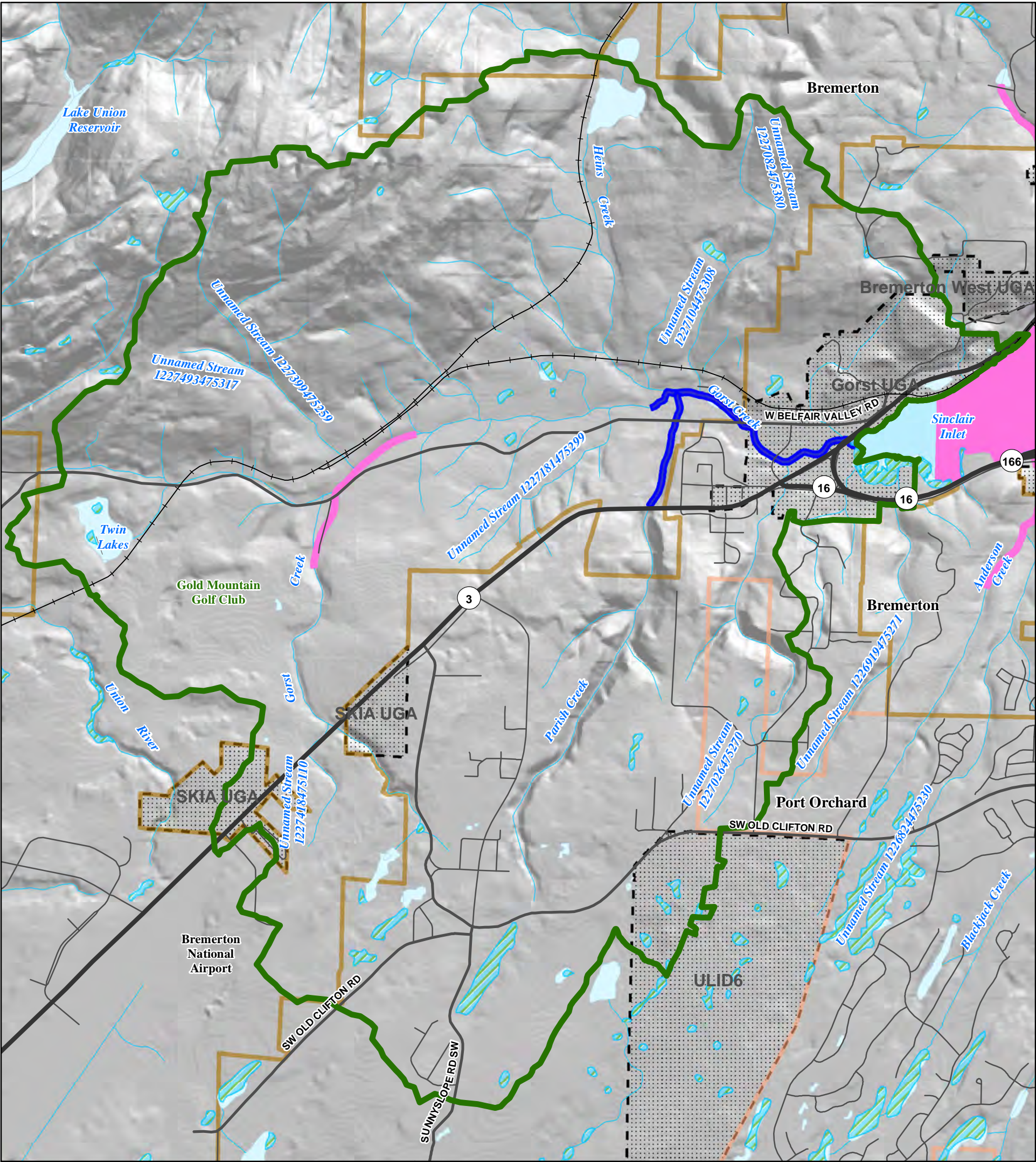


Data Sources: Kitsap County, City of Bremerton, Parametrix,
Washington Department of Natural Resources, Washington Department of Ecology,
Washington Department of Transportation, Microsoft Virtual Earth.

Legend

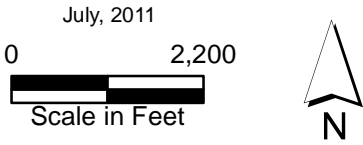
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- State Route
- Primary Road
- Railroad
- Stream
- Waterbody
- Ecology Drift Cell**
 - No Appreciable Drift





**Gorst Creek Watershed Plan
City of Bremerton**

**Water Quality Impairment and
Sediment Contamination
Map WC-11**



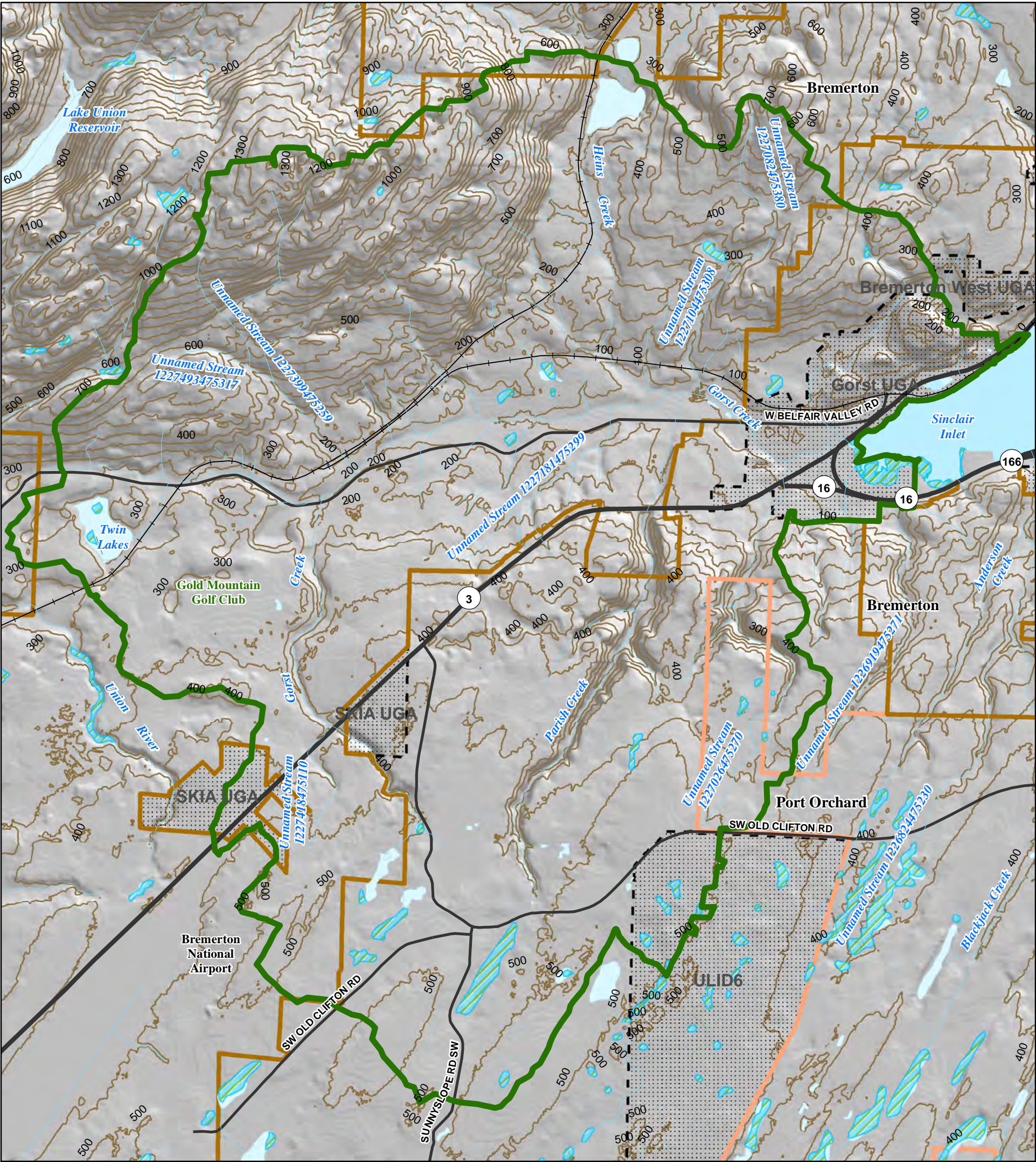
Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Ecology, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), East Kitsap Nearshore Inventory (EKNI).

Note: Shoreline jurisdiction boundaries depicted on this map are approximate and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/verify information shown on this map.



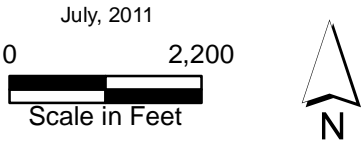
Legend

- Gorst Creek Watershed / Project Boundary
 - Urban Growth Area
 - City of Bremerton
 - City of Port Orchard
 - State Route
 - Primary Road
 - Secondary Road
 - Railroad
 - Stream
 - Wetland (WDFW/NWI)
 - Waterbody
- 303d Waterbodies**
- Fecal Coliform (Currently Category 4B)
- 305b Waterbodies**
- 2



**Gorst Creek Watershed Plan
City of Bremerton**

**Topography
Map WC-12**

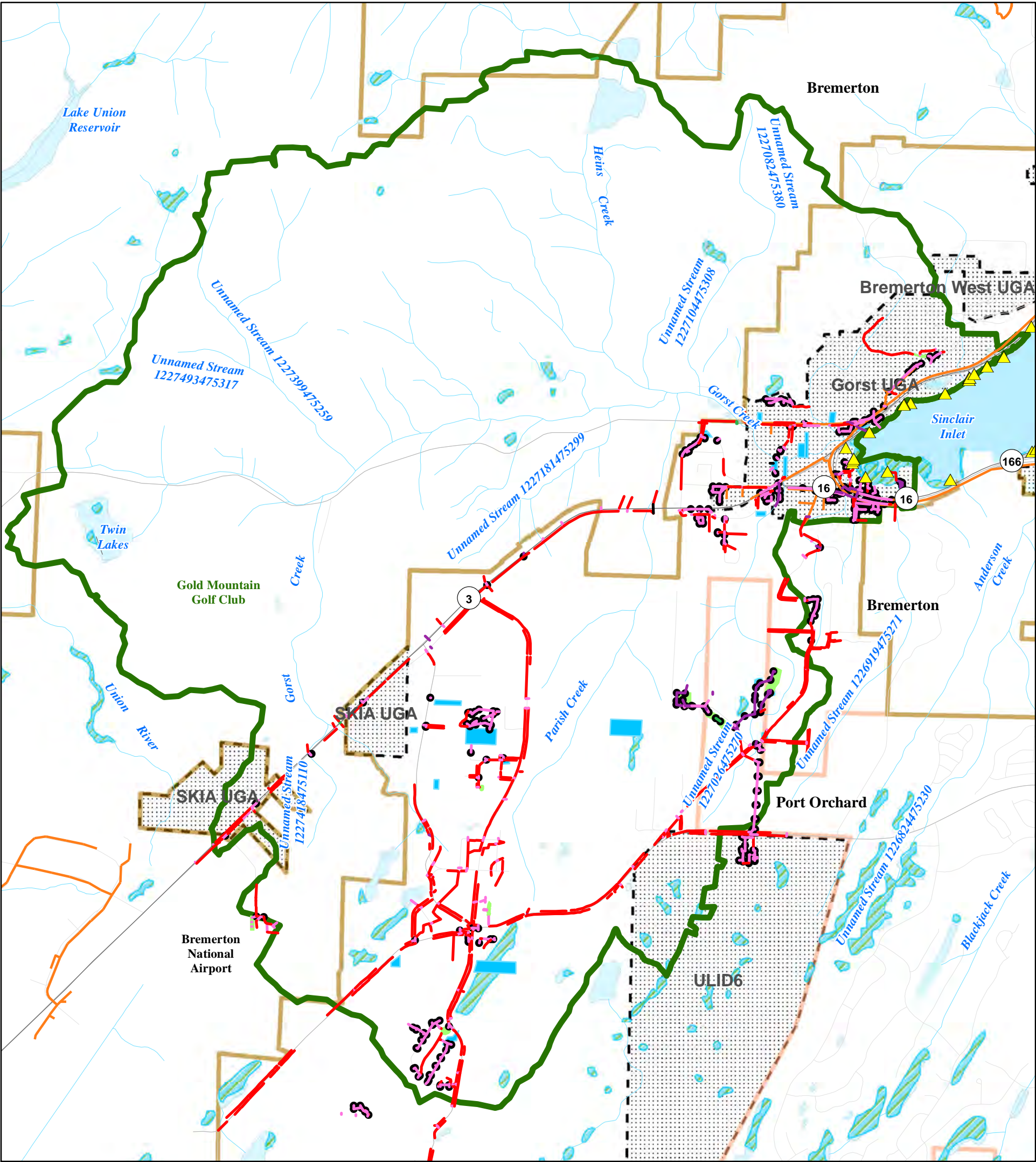


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), United States Geological Survey (USGS)

Legend

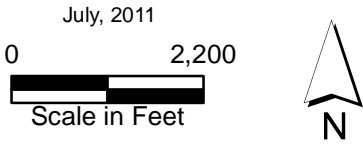
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- State Route
- Primary Road
- Railroad
- Stream
- Wetland (WDFW/NWI)
- Waterbody
- 50' Contour





**Gorst Creek Watershed Plan
City of Bremerton**

**Existing Stormwater Infrastructure
Map SW-1**

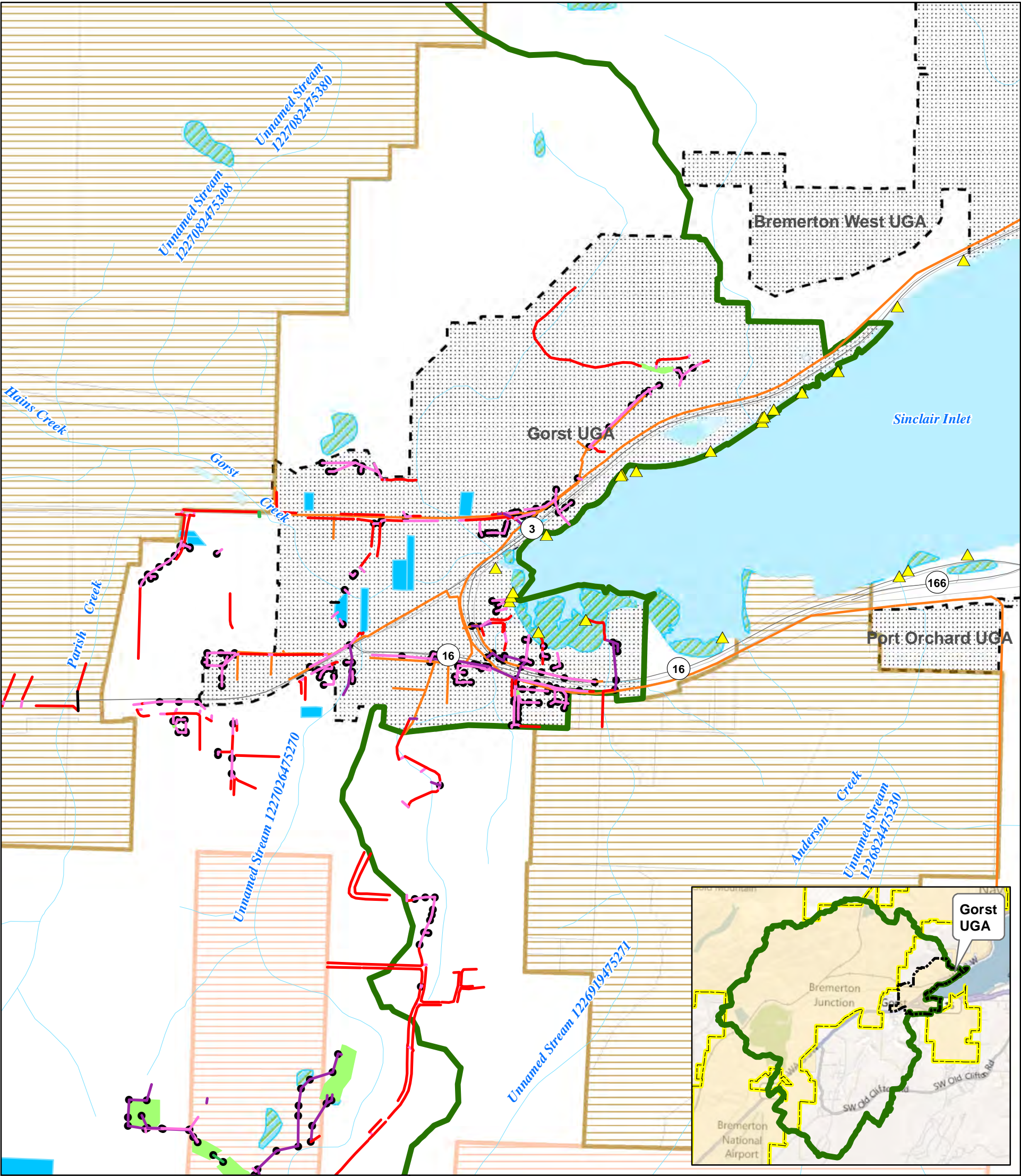


Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI),

Legend

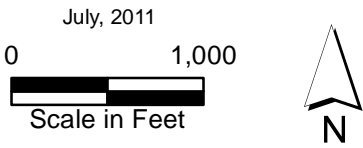
- Gorst Creek Watershed / Project Boundary
- Urban Growth Area
- City of Bremerton
- City of Port Orchard
- Stream
- Road
- Wetland (WDFW/NWI)
- Waterbody
- Outfall
- Catch Basin
- RFA
- Detention Pond
- Conveyance**
- No Pipe Diameter Info
- 4" to 20" Diameter
- 21" to 39" Diameter
- 41" to 80" Diameter
- Gt 100" Diameter
- Sewer main





**Gorst Creek Watershed Plan
City of Bremerton**

**Existing Stormwater Infrastructure
Gorst UGA Planning Area
Map SW-2**



Data Sources: Kitsap County, City of Bremerton, Washington Department of Natural Resources, Washington Department of Ecology, Washington Department of Transportation, Washington Department of Fish and Wildlife (WDFW), National Wetland Inventory (NWI), Microsoft Virtual Earth.



Legend

- | | |
|--|-----------------------|
| Gorst Creek Watershed / Project Boundary | Outfall |
| Urban Growth Area | Conveyance |
| City of Bremerton | No Pipe Diameter Info |
| City of Port Orchard | 4" to 20" Diameter |
| Stream | 21" to 39" Diameter |
| Road | 41" to 80" Diameter |
| Wetland (WDFW/NWI) | Gt 100" Diameter |
| Waterbody | Sewer main |
| City Parcel | Catch Basin |
| | RFA |
| | Detention Pond |