Land Use Regulations in the Lake Whatcom Watershed

Lake Whatcom Joint Councils & Commissioners Meeting-Part 2

June 4, 2025

Land Use Regulations in the Lake Whatcom Watershed

- **History & Timeline**
- **Watershed Management, Development and the TMDL**
- **General Comparison of Codes**
- **Future Considerations**
- **Questions and Discussion**

Watershed Management Tools for the Built Environment

Management Tools for Public Property

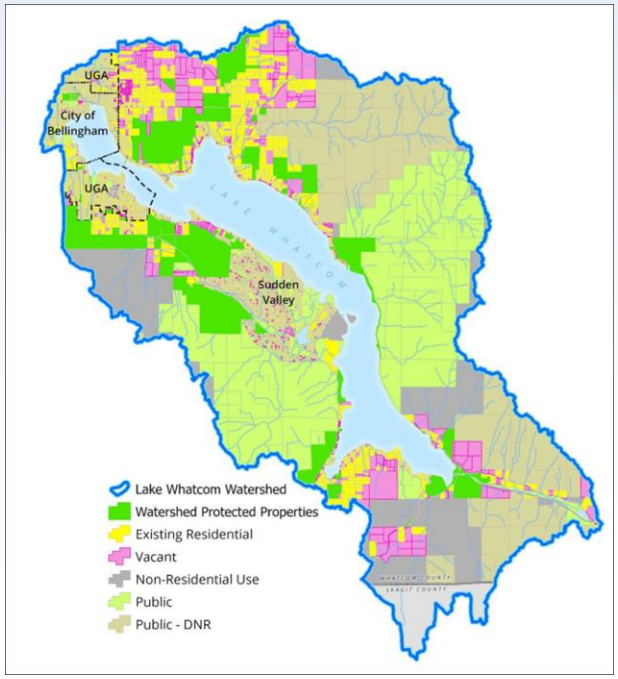
- Capital Projects
- Stormwater Conveyance
- Operations and Maintenance

Management Tools for Private Property

- **Land Use Regulations**
- Voluntary and Incentive Programs
- Property acquisition

Education and Outreach

- Website information on codes
- Events/campaigns
- Newsletters
- Technical support



History & Timeline

1992 - 1999

1992: Joint Resolution adopted to establish common goals for Lake Whatcom watershed
1992: City stormwater capital improvement program began
1993: Sudden Valley Community Association began density reduction program to remove 1,400 potential dwelling units
1998: Lake Whatcom Management Program (LWMP) established by Interlocal Agreement
1998: Lake Whatcom placed on Washington's list of polluted water bodies due to low dissolved oxygen levels; Tributary creeks listed for high bacteria levels; Total Maximum Daily Load (TMDL) process began
1999: County Water Resource Protection Overlay District and Stormwater Special District established
1999: LWMP 1999 Work Plan adopted

- Initial actions for private development management by Sudden Valley.
- County designation of Lake Whatcom needing special protections.

2000 - 2004

2000: LWMP 2000-2004 Work Plan adopted
2000: City stormwater capital improvement program expands to address phosphorus
2000: Interjurisdictional Coordinating Team (ICT) created to coordinate activities and programs between jurisdictions
2001: City adopted first land use regulations for new development on properties that drain to Basin 1 (Lake Whatcom Reservoir Regulatory Chapter [BMC 16.80])
2001: City stormwater utility established; provides funding for Lake Whatcom protection **2001:** City Lake Whatcom Watershed Land Acquisition and Preservation Program began **2001:** City Watershed Advisory Board established
2002: County rezone reduced 1,800 potential dwelling units
2004: Lake Whatcom Landscape Plan adopted by State Legislature that provides additional protections for harvesting on Department of Natural Resources lands in the watershed

- Dedicated and comprehensive regulations for development in City portion of watershed.
- County downzone to reduce substantial development.
  - Extensive public process.

Lake Whatcom Management Program 2025-2029 Work Plan-page 54 & 55

History & Timeline

2005 - 2009

2005: LWMP 2005-2009 Work Plan adopted
2005: City and County passed phosphorus fertilizer ban
2005: City and County banned boats with carbureted 2-stroke engines
2006: County stormwater capital improvement program with focus on phosphorus treatment began
2008: Lake Whatcom Joint Policy Group formed
2008: City Residential Stormwater Retrofit Program began
2009: City amended the Lake Whatcom Reservoir Regulatory Chapter

- City initiating tools for private property management.
- City adopting phosphorus loading limitations into code to meet TMDL reduction targets.

2010 - 2014

2010: LWMP 2010-2014 Work Plan adopted
2011: Homeowner Incentive Program launched
2012: Aquatic Invasive Species Prevention Program began
2013: County amended Title 20 to create the Lake Whatcom Watershed Overlay District to reduce impacts from development and land use activities
2014: Sudden Valley Community Association joined Joint Policy Group
2014: Department of Natural Resources (DNR) finalized reconveyance of 7,800 acres in the watershed to Whatcom County Parks

- County adopting phosphorus loading limitations.
  - Extensive stakeholder involvement with Engineering community.

Lake Whatcom Management Program 2025-2029 Work Plan-page 54 & 55

History & Timeline

2015 - 2019

2015: LWMP 2015-2019 Work Plan adopted
2016: Lake Whatcom TMDL for phosphorus and fecal coliform approved by Environmental Protection Agency (EPA)
2016: New phosphorus loading model developed
2017: Homeowner Incentive Program revised and expanded
2019: Update of lake response model initiated
2019: County Lake Whatcom Stormwater Utility established to provide funding for Lake Whatcom protection
2019: City and County National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permits issued (TMDL response requirements included in the new permit)

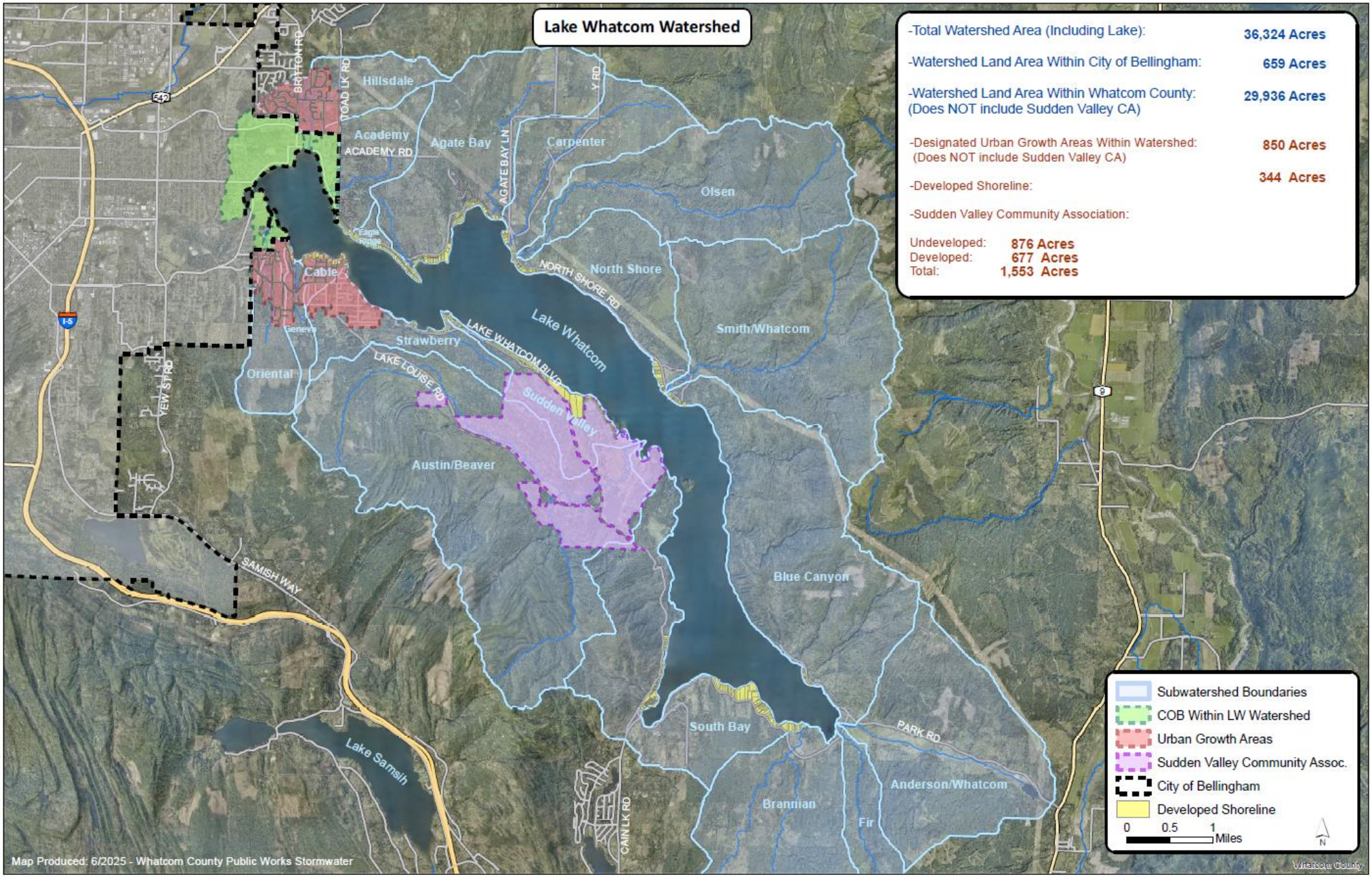
2020 - 2024

2020: LWMP 2020-2024 Work Plan adopted
2021: City-developed Phosphorus-Optimized Stormwater Treatment (POST) system formally approved for use by the Department of Ecology's Technical Assessment program
2021: Whatcom County Sheriff's Office implements regular boat patrols on Lake Whatcom and Lake Samish to enforce compliance with AIS permits and regulations
2022: Neighborhood Native Landscaping Program launches in unincorporated Whatcom County
2022: Park Place Water Quality Facility rebuilt to meet highest-known phosphorus reduction performance using POST media system
2023: City of Bellingham Water Resources Advisory Board established
2024: City and County National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permits issued

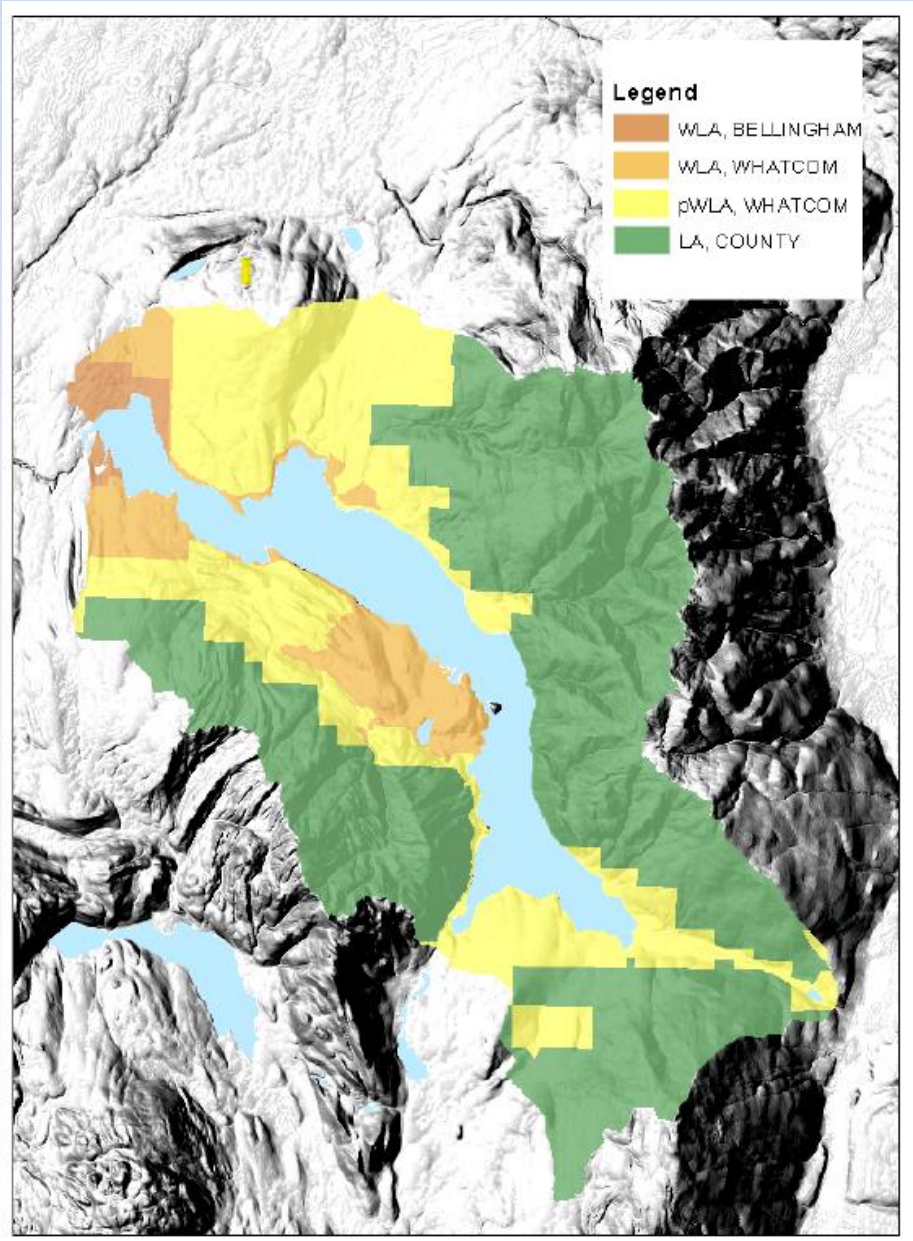
- New phosphorus management guidance for Sudden Valley.
- Continued implementation of adopted land use regulations with ongoing adjustments. (E.g. development thresholds, tree canopy, etc.)

Lake Whatcom Management Program 2025-2029 Work Plan-page 54 & 55

Lake Whatcom Watershed-Acreage



Lake Whatcom Total Maximum Daily Load (TMDL)



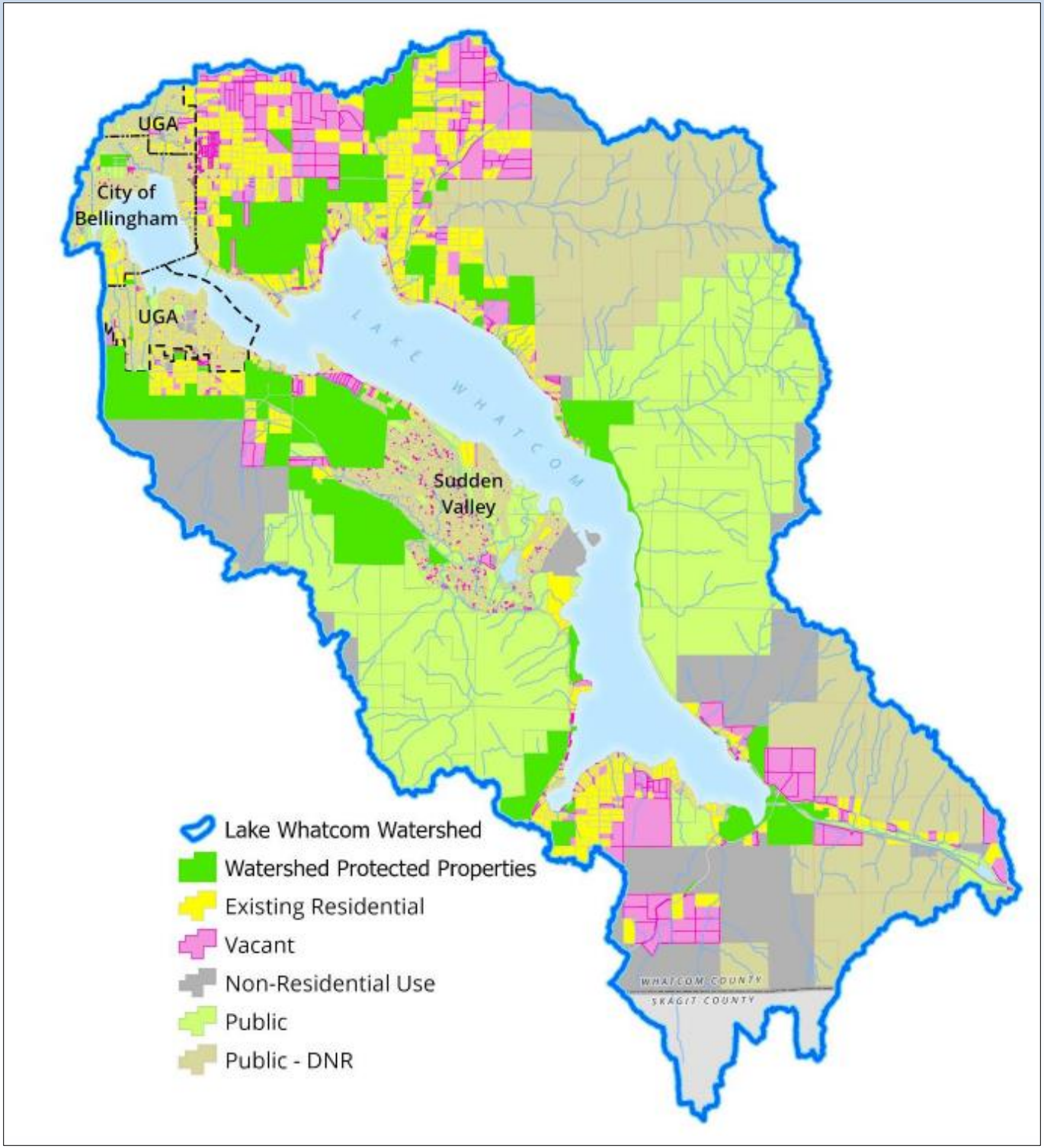
2016 Lake Whatcom Watershed Total Phosphorus and Bacteria Total Maximum Daily Loads : Volume 2

GREEN: Zoned commercial Forestry (not managed under TMDL).

DARK ORANGE: City of Bellingham

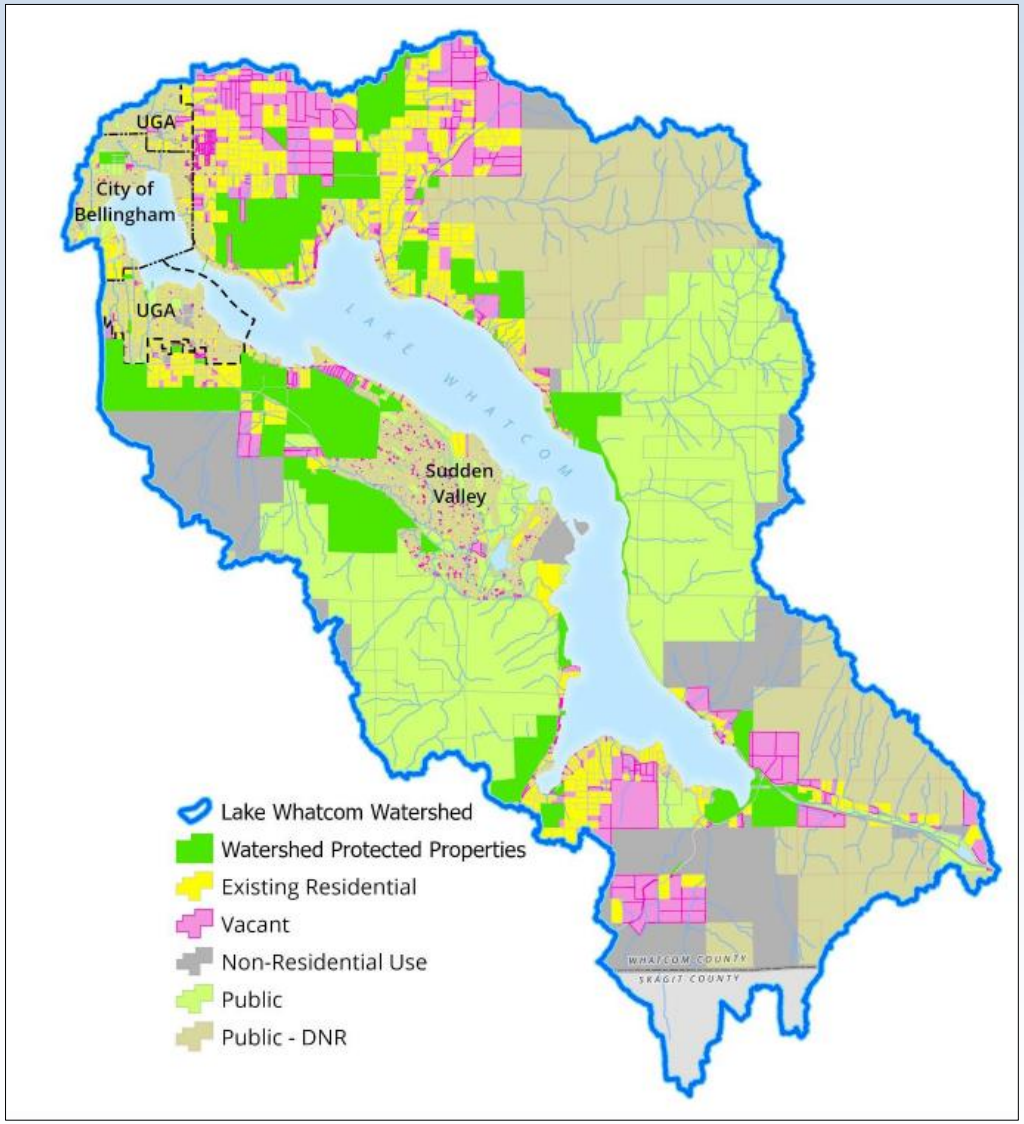
LIGHT ORANGE: Whatcom County urbanized areas regulated under Western Washington Phase II Municipal Stormwater Permit (NPDES).

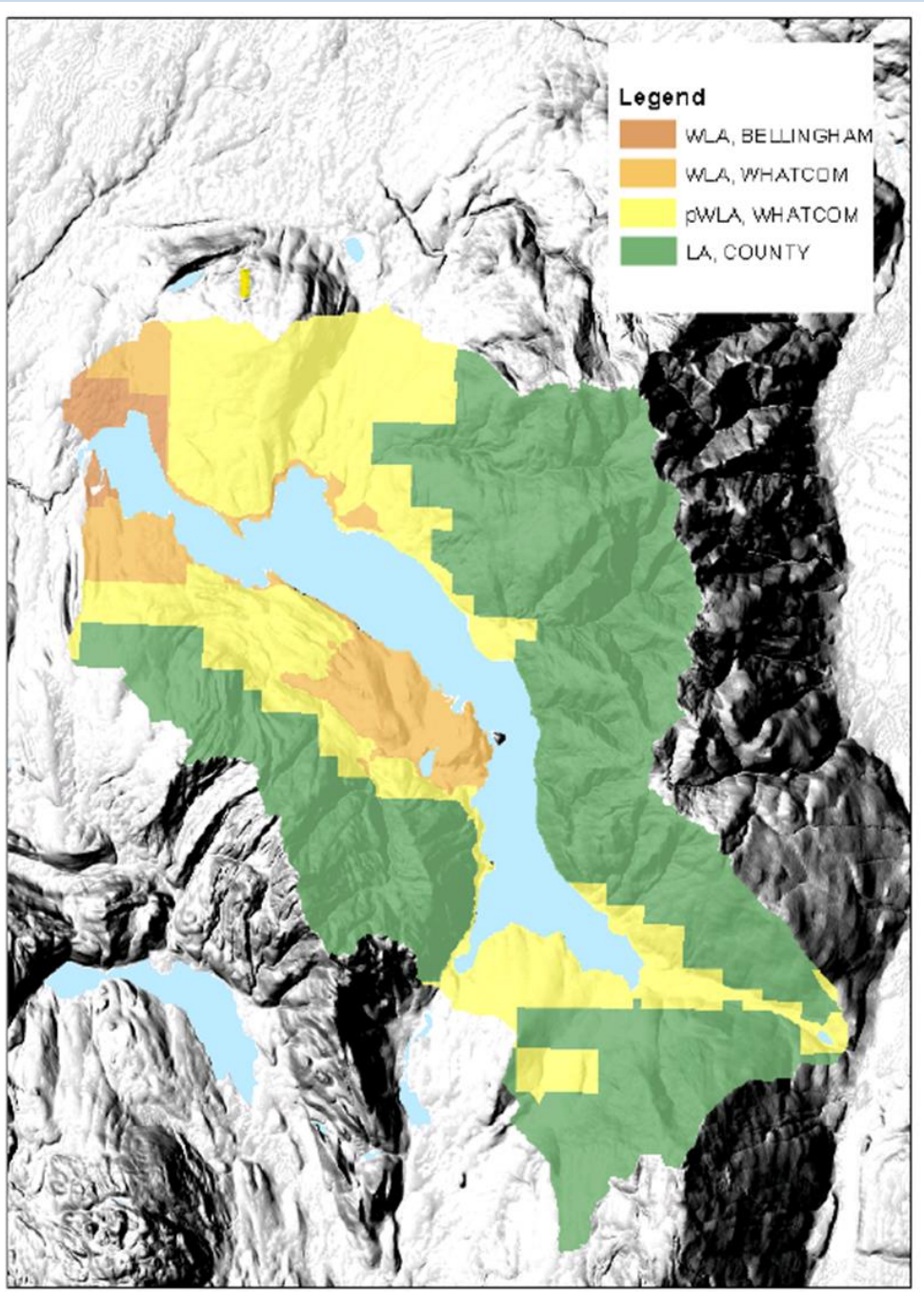
YELLOW: Whatcom County "rural" areas not under Permit, but still needs management options for phosphorus reductions.



2023 Lake Whatcom Watershed Buildout Analysis

Watershed Development and the TMDL





General Comparison of City and County Codes

Areas to Consider for Code Comparison
Land Disturbing Restrictions: When and how much?
Surface Types: • Hard Surface • Pervious Pavement • Partially Pervious Surfaces
Phosphorus Loading Limitations: How much phosphorus can leave a parcel?
Post Construction Requirements: What happens after construction is complete?

Keep in mind…

- Both jurisdictions follow the BMPs and definitions from Ecology's Stormwater Management Manual for Western Washington.

- Whatcom County land use regulations do not apply to parcels developing for forest practices. (E.g. commercial forestry)

General Comparison of City and County Codes

Land Disturbing Restrictions	
City: BMC 16.80.120	**County: WCC 20.51.410**
No land disturbing activities from October 1-May 31.	No land disturbing activities for more than 500 square feet during October 1-May 31. • If less 500 square feet of land disturbance occurs during seasonal closure, the site must still adhere to erosion and sediment control measures. • Disturbance cannot occur incrementally to equal more than 500 square feet.

Summary:

- Same seasonal clearing restriction dates.
- Different restrictions for exposed soils of less than 500 square feet.

General Comparison of City and Codes

Hard Surface	
City: BMC 15.42.060	**County: WCC 20.51.420**
120-300 square feet of new and/or replaced hard surface: • 10:1 ratio of onsite mitigation, or • Phosphorus and flow-limiting projects	More than 200 square feet of new and/or replaced hard surface: • Full dispersion-65% protected native growth area (PNGA), or • Full infiltration, or • Fully engineered stormwater system

Greater than 300 square feet of new and/or replaced hard surface surface:
• Engineered Method
  ○ 30% Native Vegetation Protection Area (NVPA),
  ○ Engineered Stormwater System, or
• Forested Method: 75% NVPA	

Summary:

- Similar hard surface thresholds.
- Both utilize engineered systems and/or vegetated areas approved for stormwater treatment defined by the Ecology manual.

General Comparison of City and County Codes

Pervious Pavement: Such as engineered systems consisting of permeable concrete, pavers, grid or open rock	
City: BMC 15.42.060	**County: WCC 20.51.420**
120-300 square feet of new and/or replaced pervious surface: • 10:1 ratio of onsite mitigation, or • Phosphorus and flow-limiting projects	More than 200 square feet of new and/or replaced hard surface: • Full dispersion-65% PNGA, or • Full infiltration, or • Fully engineered stormwater system

Greater than 300 square feet of new and/or replaced pervious surface:
• Engineered Method
  ○ 30% NVPA
  ○ Engineered Stormwater System
• Forested Method: 75% NVPA	

Summary:

- Similar pervious pavement thresholds.
- Both utilize engineered systems and/or vegetated areas approved for stormwater treatment defined by the Ecology manual.

General Comparison of City and County Codes

Partially Pervious Surface: Lawns, non-native vegetated areas, non-engineered pervious patios, etc.	
City: BMC 15.42.060	**County: WCC 20.51.420**
120-300 square feet of new and/or replaced partially pervious surface: • 10:1 ratio of onsite mitigation, or • Phosphorus and flow-limiting projects	Land disturbing activities of more than 5,000 square feet: • Full dispersion-PNGA, or • Full infiltration, or • Fully engineered stormwater system

Greater than 300 square feet of new and/or replaced partially pervious surface:
• Engineered Method
  ○ 30% NVPA
  ○ Engineered Stormwater System
• Forested Method: 75% NVPA
 	
*Exemption: 500 square foot garden or 5%
	* Typically addresses landscaping projects not associated with new development.

Summary:

- Different partially pervious surface thresholds.
- Both utilize engineered systems and/or vegetated areas approved for stormwater treatment defined by the Ecology manual.

General Comparison of City and County Codes

Phosphorus Loading Limitations	
City: BMC 15.42.060	**County: WCC 20.51.420**

New Development:
• Engineered Method
  ○ 30% NVPA
  ○ Engineered Stormwater System
  • 0.15 lb/ac/yr of phosphorus
• Forested Method: 75% NVPA
	New Development and redevelopment:
	• Full dispersion-PNGA
	• Fully engineered option
	  • 0.1875 lb/ac/yr of phosphorus

Redevelopment: If more than 300 square feet, entire site must be retrofitted to forest condition.
• Engineered Method
  ○ 30% NVPA
  ○ Engineered Stormwater System
  • 0.15 lb/ac/yr of phosphorus
• Forested Method: 75% NVPA
	• For new development, the whole site must meet phosphorus calculation.
	
	• For redevelopment, only the newly added or redeveloped portion of project has to meet the phosphorus calculation.

Summary:

- The "forested condition" loading rate of phosphorus is 0.15 lb/ac/year. The City adopted this loading rate into code.
- Whatcom County utilizes 25% above "forested condition" loading rate of 0.1875 lb/ac/yr.
- City requires retrofitting if more than 300 sq ft; County requires only newly added or redeveloped to meet phosphorus calculation.

General Comparison of City and County Codes

Post Construction Requirements	
City: 16.80 and 15.42.070	**County: WCC 20.51.420.(a-c)**
• Required Conservation Easement; • 5-years required monitoring for the NVPA • Financial surety for success of plantings. • Requires maintenance of engineered systems and NVPAs.	• Required Declaration of Covenant Grant of Easement (DCGE) for all permanent stormwater BMPs. • Requires maintenance of BMPs and PNGAs.
Follow-up inspections occur resulting from staff observations and/or outside inquiries.	Follow-up inspections occur resulting from staff observations and/or outside inquiries.

Summary:

- Both require easements that are recorded with the title of the property.
- Both utilize observations and complaint-based enforcement.

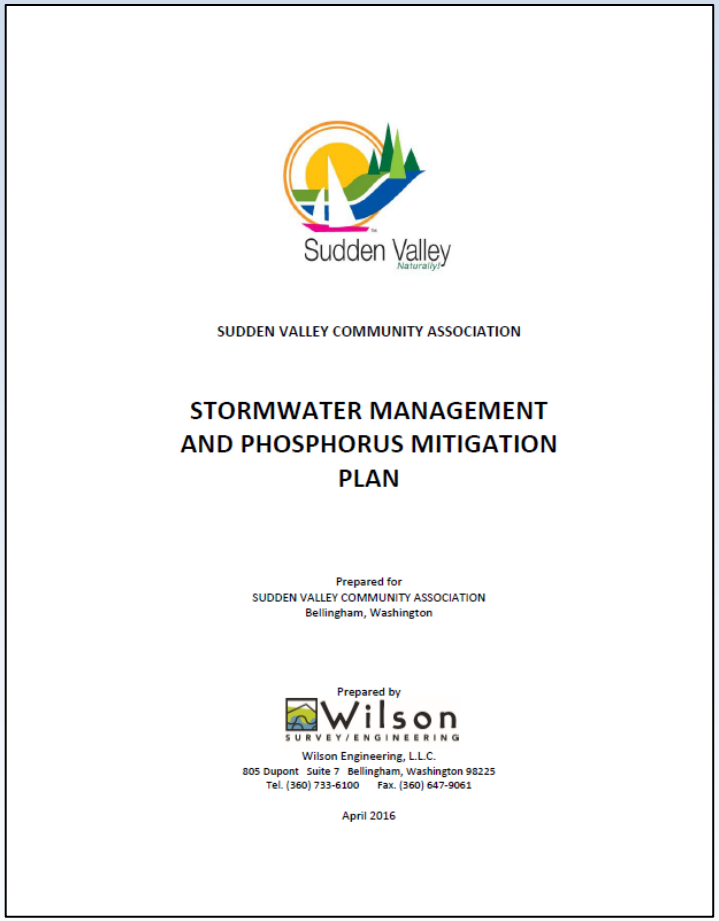
Supplemental Plan Pertaining to Sudden Valley

The Lake Whatcom Watershed Overlay District (WCC 20.51) allows for a homeowners' association to develop:

"…a stormwater runoff management and phosphorus mitigation plan that provides at least the same level of overall protection from and/or treatment of phosphorus runoff to Lake Whatcom…"

Sudden Valley has unique parcel limitations for a managed community versus a neighborhood HOA.

Sudden Valley submitted the phosphorus mitigation plan in April 2016. Whatcom County and the Sudden Valley Community Association signed a Memorandum of Understanding in June 2016.


Sudden Valley
Naturally

SUDDEN VALLEY COMMUNITY ASSOCIATION

STORMWATER MANAGEMENT AND PHOSPHORUS MITIGATION PLAN

Prepared for
SUDDEN VALLEY COMMUNITY ASSOCIATION
Bellingham, Washington

Prepared by
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April 2016

Future Considerations

- Policy Discussion based on Lake Whatcom Watershed Land Use Regulations Overview.
    - 2025-2029 Work Plan Task 3.1.1: *Coordinate with Lake Whatcom partners when developing or revising development regulations and create consistent development regulations between jurisdictions where feasible*
    - 2025-2029 Work Plan Task 3.1.5: *Evaluate how effectively changes to development regulations preserve and restore land is currently available for development or other land disturbance and use this evaluation to inform future revisions to regulations.*
    - Whatcom County is assessing resources, timing, and process for gathering data to inform an in-depth code analysis.

Land Use Regulations In The Lake Whatcom Watershed

Questions And Discussion

CITY	Zoning (Allowed Density)	# of Vacant Parcels	Potential Units	Percentage
	RS (6000 sf/unit density)	9	9	9%
	RS (7200 sf/unit density)	28	39	40%
	RS (10000 sf/unit density)	5	5	5%
	RS (12000 sf/unit density)	14	17	17%
	RS (15000 sf/unit density)	1	1	1%
	RS (20000 sf/unit density)	27	27	28%
TOTAL:		84	98	100%

UGA	Zoning (Allowed Density)	# of Vacant Parcels	Potential Units	Percentage
	UR (217800 sf density)	86	86	100%
TOTAL:		86	86	100%

SUDDEN VALLEY	Zoning (Allowed Density)	# of Vacant Parcels	Potential Units	Percentage
	RR3 (14520 sf density)	420	449	100%
	RR2 (21780 sf density)	1	1	0%
	R5A (217800 sf density)	1	1	0%
TOTAL:		422	451	100%

RURAL	Zoning (Allowed Density)	# of Vacant Parcels	Potential Units	Percentage
	RR2 (21780 sf density)	10	10	1%
	R2A (87120 sf density)	8	8	1%
	R5A (217800 sf density)	521	610	83%
	RR5A (217800 sf density)	18	19	3%
	RF (871200 sf density)	70	88	12%
TOTAL:		627	735	100%